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

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Addendum I

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

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

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

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

The following example illustrates the changes :-

September 2002

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

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

Epicentral Estimates

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

Observational Data

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

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

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

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

Addendum II

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

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

*IDC **01** 00:02:41.6±14.0, 37.46N×74.45E, h172km±168km, mb3.4/1, mb1 3.2/3, mb1mx2.8/23, mbtmp3.2/3, ML3.4/2, MS3.2/1, Ms1 3.2/1, ms1mx2.4/16, Error ellipse: s-maj=576.9km s-min=76.0km az=130.0*

*ISCJB **01** 00:02:42.3±0.8, 38.39N±0.06×73.0E±0.1, h144km±12km, mb3.6/2, Error ellipse: s-maj=15.8km s-min=7.3km az=30.7*

*NEIC **01** 00:02:42.4±0.9, 38.22N×73.31E, h129km±11km, mb3.9/2, Error ellipse: s-maj=21.2km s-min=8.8km az=125.0*

*NNC **01** 00:02:45.9±1.9, 38.63N×73.05E, h152km±28km, mb2.6, mpv3.6, Error ellipse: s-maj=20.1km s-min=8.8km az=4.0*

ISC 01 00:02:43.3±0.7**, 38.39N**±0.06×**73.0E**±0.1**, h141km**±11km**, n22, σ0^{s}93**/24**, mb3.6**/2**, 3C-1D, Tajikistan-Xinjiang border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**3.78**	**8**	P	**Pn**	**00 03 40.5**	**+0.3**
	SNR=290						
EKS2	**Erkin-Say**	**4.31**	**7**	P	**Pn**	**00 03 47.9**	**+0.6**
	SNR=35						
EKS2	**Erkin-Say**	**4.31**	**7**	*e*Pn	**Pn**	**00 03 47.9**	**+0.6**
AAK	**Ala-Archa**	**4.39**	**14**	P	**Pn**	**00 03 49.3**	**+1.0**
	SNR=23						
KBK	**Karagaybulak**	**4.51**	**18**	P	**Pn**	**00 03 51.1**	**+1.1**
	SNR=11						
ULHL	**Ulahol**	**4.58**	**32**	P	**Pn**	**00 03 50.8**	**0.0**
	SNR=9.7						
CHMS	**Chumysh**	**4.79**	**15**	P	**Pn**	**00 03 54.9**	**+1.2**
	SNR=6.4						
TKM2	**Tokmak 2**	**4.94**	**23**	⇓Pn	**Pn**	**00 03 55.3**	**-0.3**
	2.1nm,0.6s						
TKM2				⇑Sn	**Sn**	**00 04 50.6**	**-1.4**
	2.7nm,0.5s						
TKM2	**Tokmak 2**	**4.94**	**23**	P	**Pn**	**00 03 55.7**	**+0.1**
	SNR=5.5						
TKM2	**Tokmak 2**	**4.94**	**23**	*e*Pn	**Pn**	**00 03 55.6**	**0.0**
KBL	**Kabul**	**5.00**	**221**	*e*Pn	**Pn**	**00 03 56.3**	**-0.2**
	5.6nm,0.2s						
KBL				*e*Sn	**Sn**	**00 04 52.9**	**-0.5**
USP	**Ospenovka**	**5.00**	**13**	P	**Pn**	**00 03 56.9**	**+0.4**
	SNR=12						
KK31	**Karatay Array**	**5.08**	**339**	Pn	**Pn**	**00 03 57.9**	**+0.3**
	12nm,0.6s,baz=155,slow=12,SNR=124						
KK31				⇑Sn	**Sn**	**00 04 53.8**	**-1.6**
	11nm,0.3s,baz=156,slow=22,SNR=3.5						
MKAR	**Makanchi Array**	**10.83**	**36**	P	**Pn**	**00 05 14.1**	**-0.1**
	0.1nm,0.3s,baz=216,slow=12,SNR=6.1						
MKAR	**Makanchi Array**	**10.83**	**36**	P	**Pn**	**00 05 14.1**	**-0.1**
AB31	**Akbulak array**	**14.37**	**323**	P	**Pn**	**00 05 59.3**	**-0.6**
	0.1nm,0.3s,baz=134,slow=13,SNR=9.1						
BVA0	**Borovoye Array**	**14.75**	**354**	⇑P	**Pn**	**00 06 04.7**	**-0.1**
	1.0nm,1.2s,baz=162,slow=9.4,SNR=8.7						
ZAA0	**Zalesovo Array**	**17.54**	**24**	*e*P	**Pn**	**00 06 38.7**	**-0.1**
ZALV	**Zalesovo Beam**	**17.54**	**24**	P	**Pn**	**00 06 38.8**	**0.0**
	0.6nm,0.3s,baz=206,slow=11,SNR=16						
ENH	**Enshi**	**31.03**	**94**	*e*P	**P**	**00 08 45.5**	**-2.1**
	0.7nm,0.8s,mb3.4						
KSRS	**Korea Array**	**42.78**	**73**	LR	LR	00 31 43.0	
	comp=Z,29nm,18.2s,baz=287,slow=42						
TORD	**Torodi Ar. Bea**	**67.36**	**269**	P	**P**	**00 13 25.6**	**+2.1**
	0.7nm,0.6s,mb3.7,baz=48,slow=5.8,SNR=12						

IDC 01 00:05:32.1±71.0**, 17.07S**×**166.34E, h0km, mb3.9**/3**, mb1 4.1**/3**, mb1mx3.8**/15**, mbtmp3.9**/3**, Error ellipse: s-maj=1193.0km s-min=115.4km az=69.0, Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**26.83**	**232**	P	P	00 11 15.6	+1.2
	3.5nm,1.0s,baz=86,slow=10,SNR=3.2						
WRA	**Warramunga Arr**	**30.46**	**260**	P	P	00 11 47.5	+0.7
	0.5nm,0.4s,baz=91,slow=8.3,SNR=2.9						
ASAR	**Alice Springs**	**31.06**	**252**	P	P	00 11 50.9	-1.3
	1.5nm,0.8s,baz=80,slow=9.2,SNR=15						

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*ISCJB **01** 00:15:07.6±0.7, 49.30S±0.09×164.3E±0.1, h10km, mb4.4/9, MS4.2/7, Error ellipse: s-maj=15.8km s-min=9.0km az=138.8*

*IDC **01** 00:15:07.6±0.8, 49.27S×164.31E, h0km, mb4.3/6, mb1 4.5/7, mb1mx4.3/14, mbtmp4.3/7, ML3.5/1, MS4.1/9, Ms1 4.1/9, ms1mx3.8/17, Error ellipse: s-maj=30.2km s-min=22.2km az=69.0*

*NEIC **01** 00:15:09.5±0.5, 49.38S×164.00E, h10km, mb4.6/3, Error ellipse: s-maj=12.9km s-min=10.4km az=111.0*

ISC 01 00:15:09.7±0.7**, 49.31S**±0.09×**164.1E**±0.1**, h10km, n36, σ1^{s}01**/14**, mb4.4**/9**, MS4.2**/7**, Auckland Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DCZ	**Deep Cove**	**4.34**	**29**	P	**Pn**	**00 16 17.0**	**+1.4**
MLZ	**Mavora Lakes**	**4.81**	**36**	P	**Pn**	**00 16 24.1**	**+1.9**
RPZ	**Rata Peaks**	**7.34**	**43**	Pn	**Pn**	**00 16 54.0**	**-2.9**
	0.8nm,0.3s,baz=135,slow=22,SNR=2.8						
RPZ				Sn	**Sn**	**00 18 19.0**	**-1.2**
	5.2nm,0.3s,baz=41,slow=7.0,SNR=4.1						
RPZ				LR	LR	00 19 09.5	
	comp=Z,249nm,21.3s,baz=220,slow=33						
URZ	**Urewera**	**14.45**	**45**	LR	LR	00 24 40.0	
	comp=Z,1µm,18.6s,baz=229,slow=40						
RAO	**Raoul Island**	**24.25**	**41**	LR	LR	00 29 33.4	
	comp=Z,189nm,19.3s,MS3.6,baz=101,slow=36						
STKA	**Stephens Creek**	**24.27**	**307**	P	**P**	**00 20 27.9**	**+1.0**
	5.1nm,0.8s,mb4.0,baz=120,slow=12,SNR=7.9						
STKA				LR	LR	00 28 54.8	
	comp=Z,535nm,19.4s,MS4.0,baz=303,slow=34						
ASAR	**Alice Springs**	**34.89**	**306**	P	**P**	**00 22 01.3**	**+0.1**
	4.6nm,0.8s,mb4.5,baz=144,slow=8.3,SNR=40						
ASAR				PcP	PcP	00 24 33.1	-0.8
	1.9nm,0.9s,baz=154,slow=3.8,SNR=9.4						
WB2	**Warramunga Arr**	**37.75**	**310**	*e*P	**P**	**00 22 24.8**	**-0.8**
WB2				*e*		00 24 42.7	
WRA	**Warramunga Arr**	**37.75**	**310**	P	**P**	**00 22 25.0**	**-0.7**
	4.9nm,0.8s,mb4.3,baz=144,slow=7.9,SNR=22						
WRA				PcP	PcP	00 24 42.0	-0.5
	3.8nm,0.9s,baz=145,slow=2.5,SNR=12						
WRA				LR	LR	00 38 10.0	
	comp=Z,370nm,18.2s,MS4.2,baz=170,slow=37						
WRAB	**Tennant Creek**	**37.76**	**310**	*e*P	**P**	**00 22 25.1**	**-0.7**
	12nm,1.1s,mb4.5						
QSPA	**South Pole Qui**	**40.82**	**180**	P	**P**	**00 22 51.0**	**+0.3**
	3.6nm,0.9s,mb4.0,baz=9.7,slow=3.4,SNR=9.3						
QSPA				PcP	PcP	00 24 51.2	-0.1
	2.3nm,1.0s,baz=79,slow=1.2,SNR=3.8						
FITZ	**Fitzroy Crossi**	**43.89**	**301**	*e*P	**P**	**00 23 16.5**	**+0.1**
	9.2nm,0.8s,mb4.6						
TBI	**Tubuai**	**44.53**	**72**	*e*S	Sx	00 29 28.3	
	151nm,34.8s						
TBI				*e*LR	LR	00 35 43.0	
	258nm,31.0s						
PPT	**Papeete**	**48.83**	**66**	*e*LR	LR	00 37 46.3	
	244nm,23.2s						
PPT	**Papeete**	**48.83**	**66**	LR	LR	00 39 20.9	
	comp=Z,230nm,19.0s,MS4.2,baz=224,slow=30						
RKT	**Rikitea**	**53.96**	**84**	*e*LR	LR	00 40 05.5	
	268nm,29.5s						
SNAA	**Sanae**	**58.98**	**185**	*e*P	**P**	**00 25 08.2**	**-0.4**
	5.6nm,0.9s,mb4.6						
TAOE	**Nuku Hiva Isla**	**61.31**	**69**	*e*LR	LR	00 43 34.0	
	1µm,29.3s						
PLCA	**Paso Flores**	**78.23**	**141**	LR	LR	00 52 41.5	
	comp=Z,156nm,20.3s,MS4.3,baz=184,slow=29						
CMAR	**Chiang Mai Arr**	**88.70**	**300**	P	**P**	**00 28 02.9**	**-0.3**
	1.9nm,0.7s,mb4.6,baz=157,slow=2.8,SNR=12						
KSRS	**Korea Array**	**92.15**	**332**	P	**P**	**00 28 19.3**	**+0.5**
	0.4nm,0.3s,mb4.3,baz=162,slow=5.8,SNR=4.1						
LVC	**Limon Verde**	**94.27**	**132**	LR	LR	00 59 58.7	
	comp=Z,654nm,18.7s,MS5.1,baz=0.0,slow=29						
CPUP	**Villa Florida**	**96.12**	**143**	LR	LR	01 07 56.3	
	comp=Z,91nm,21.1s,MS4.2,baz=186,slow=33						
MKAR	**Makanchi Array**	**119.05**	**309**	PKP	PKPdf	00 33 57.4	-0.4
	0.7nm,0.8s,baz=75,slow=1.4,SNR=4.5						
ZALV	**Zalesovo Beam**	**122.56**	**316**	PKP	PKPdf	00 34 03.4	-0.9
	0.4nm,0.4s,baz=113,slow=3.3,SNR=2.7						
TORD	**Torodi Ar. Bea**	**141.15**	**208**	PKhKP		00 34 34.0	
	1.1nm,0.9s,baz=151,slow=2.7,SNR=8.1						
TORD				PKP	PKPdf	00 34 39.6	-0.9
	0.9nm,0.8s,baz=142,slow=3.2,SNR=5.1						
TORD	**Torodi Ar. Bea**	**141.15**	**208**	PKP		00 34 34.0	
TORD				PKP	PKPdf	00 34 39.6	-0.9
BR131	**Keskin Array S**	**144.01**	**274**	*e*PKPdf	PKPdf	00 34 42.8	-2.0
TAM	**Tamanrasset**	**148.61**	**220**	*e*PKPbc	PKPbc	00 34 57.8	+1.0
AKASG	**Malin Array Be**	**151.33**	**290**	PKPbc	PKPbc	00 35 01.8	-0.7
	6.6nm,0.8s,baz=85,slow=2.4,SNR=20						
AKASG	**Malin Array Be**	**151.33**	**290**	PKPbc	PKPbc	00 35 01.8	-0.7
AKBB	**Malin Array Si**	**151.33**	**290**	*e*PKPbc	PKPbc	00 35 01.4	-1.1
ARCES	**ARCESS Array B**	**151.70**	**331**	PKPbc	PKPbc	00 35 03.1	+0.3
	6.1nm,0.8s,baz=46,slow=3.5,SNR=12						
KEST	**Kesra**	**157.13**	**243**	PKPab	PKPab	00 35 35.6	-0.3
	1.8nm,1.0s,baz=313,slow=13,SNR=6.2						
GERES	**GERESS Array B**	**160.68**	**280**	PKPab	PKPab	00 35 50.1	-0.8
	0.3nm,0.5s,baz=204,slow=2.9,SNR=4.7						
NOA	**NORSAR Array B**	**160.75**	**318**	PKPab	PKPab	00 35 50.8	0.0
	1.2nm,0.8s,baz=66,slow=4.5,SNR=3.6						

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*ISCJB **01** 00:39:54.2±0.3, 37.16N±0.02×3.99W±0.01, h6km±2km, Error ellipse: s-maj=2.7km s-min=2.0km az=173.3*

*CSEM **01** 00:39:55.7±0.1, 37.03N×3.91W, h0km, ML3.9/27, Error ellipse: s-maj=1.6km s-min=1.0km az=168.0*

*MDD **01** 00:39:55.4±0.2, 37.05N×3.94W, h0km, mbLg3.3/45, Error ellipse: s-maj=2.1km s-min=1.4km az=7.0, PRIMO*

MDD EMS: IV INTENSIDAD MIMA.

*NEIC **01** 00:39:55.4, 37.03N×3.95W, h0km, MN3.2(MDD), After MDD.*

NEIC Felt [III] at Loja and Velez-Malaga.

*SFS **01** 00:39:55.0, 37.03N×3.95W, h0km, ML3.2*

*INMG **01** 00:39:55.5±1.0, 37.04N×3.95W, h0km±1km, MD3.1, ML3.3, Error ellipse: s-maj=1.4km s-min=1.1km az=165.0*

*LDG **01** 00:39:56.3±0.1, 36.93N×3.93W, h10km, Ml3.7/6, Error ellipse: s-maj=3.3km s-min=2.3km az=165.0*

*CNRM **01** 00:40:02.6, 36.83N×3.77W, h30km, MD3.7*

*STR **01** 00:40:08.7±1.1, 37.81N×3.27W, h10km, Ml3.7, Error ellipse: s-maj=0.0km s-min=0.0km az=0.0*

ISC 01 00:39:55.5±0.3**, 37.11N**±0.01×**3.97W**±0.01**, h7km**±2km**, n205, σ1^{s}18**/337**, 11C-10D, Spain**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ELOJ	**Sierra Loja**	**0.15**	**285**	⇓Pg	**Pg**	**00 39 59.0**	**+0.3**
	59nm,0.1s,SNR=18						
ERON	**Agron**	**0.16**	**125**	Pg	**Pg**	**00 39 58.0**	**-0.8**
	82nm,0.1s,SNR=4.0						
ECOG	**Cogollos-Vega**	**0.36**	**62**	⇓Pg	**Pg**	**00 40 02.1**	**-0.4**
	169nm,0.3s,SNR=18						
ECOG				Lg		00 40 06.9	
	258nm,0.2s,SNR=7.9						
EGUA	**Guajares**	**0.42**	**130**	⇑Pg	**Pg**	**00 40 02.2**	**-1.5**
	45nm,0.2s,SNR=18						
EQUE	**Quentar**	**0.43**	**77**	⇑Pg	**Pg**	**00 40 03.0**	**-0.8**
	303nm,0.4s,SNR=18						
EQUE				Lg		00 40 09.6	
	2µm,0.3s,SNR=7.9						
EMAL	**Malaga-Limoner**	**0.51**	**227**	Pg	**Pg**	**00 40 08.6**	**+3.3**
	172nm,0.1s,SNR=7.9						
EMAL				Lg		00 40 15.6	
	497nm,0.3s,SNR=7.9						
ELUQ	**Luque**	**0.51**	**332**	⇑Pg	**Pg**	**00 40 06.0**	**+0.7**
	22nm,0.4s,SNR=18						
EMIJ	**Mijas**	**0.84**	**230**	⇑Pg	**Pg**	**00 40 09.7**	**-2.0**
	185nm,0.6s,SNR=18						
EMIJ				Lg		00 40 21.5	
	612nm,0.3s,SNR=21						
EBER	**Berja**	**0.89**	**103**	⇑Pg	**Pg**	**00 40 11.5**	**-1.0**
	14nm,0.2s,SNR=18						
EBER				Lg		00 40 22.9	
	392nm,0.3s,SNR=7.9						
EBER	**Berja**	**0.89**	**103**	Pg	**Pg**	**00 40 11.5**	**-1.0**
	14nm,0.2s,SNR=18						
EQES	**Quesada**	**0.99**	**46**	⇓Pg	**Pg**	**00 40 13.8**	**-0.7**
	54nm,0.7s,SNR=18						
EQES				Lg		00 40 27.6	
	693nm,0.4s,SNR=7.2						
EQES	**Quesada**	**0.99**	**46**	Pg	**Pg**	**00 40 13.8**	**-0.8**
	54nm,0.7s,SNR=18						
EQES	**Quesada**	**0.99**	**46**	⇓Pg	**Pg**	**00 40 13.8**	**-0.7**
EQES				Lg		00 40 29.1	
EBAN	**Banos Encina**	**1.06**	**8**	⇑Pg	**Pg**	**00 40 16.1**	**+0.2**
	22nm,0.4s,SNR=18						
EBAN				Lg		00 40 31.5	
	355nm,0.4s,SNR=33						
EBAN	**Banos Encina**	**1.06**	**8**	⇑Pg	**Pg**	**00 40 16.1**	**+0.2**
EBAN				Lg		00 40 32.2	
EADA	**Adamuz**	**1.16**	**336**	⇑Pg	**Pg**	**00 40 18.1**	**+0.3**
	93nm,0.3s,SNR=18						
EADA				Lg		00 40 34.7	
	527nm,0.3s,SNR=30						
EADA	**Adamuz**	**1.16**	**336**	Pg	**Pg**	**00 40 18.1**	**+0.3**
	93nm,0.3s,SNR=18						
EADA	**Adamuz**	**1.16**	**336**	⇑Pg	**Pg**	**00 40 18.1**	**+0.3**
EADA				Lg		00 40 34.2	
LIJA	**Lijar**	**1.17**	**260**	⇑Pg	**Pg**	**00 40 19.8**	**+1.9**
LIJA				Lg		00 40 40.4	
LIJA	**Lijar**	**1.17**	**260**	*i* P	**Pg**	**00 40 19.8**	**+1.9**
LIJA				*e*S	**Sg**	**00 40 40.4**	**+7.4**
REAL	**Reales**	**1.18**	**238**	⇓Pg	**Pg**	**00 40 16.4**	**-1.6**
REAL				Lg		00 40 37.2	
REAL	**Reales**	**1.18**	**238**	*i* P	**Pg**	**00 40 16.4**	**-1.6**
REAL				*e*S	**Sg**	**00 40 37.2**	**+3.9**
EHUE	**Huescar**	**1.30**	**57**	⇓Pg	**Pg**	**00 40 20.1**	**-0.3**
	2.8nm,0.2s,SNR=18						
EHUE				Lg		00 40 37.3	
	377nm,0.4s,SNR=7.9						
EHUE	**Huescar**	**1.30**	**57**	⇓Pg	**Pg**	**00 40 20.1**	**-0.3**
EHUE				Lg		00 40 39.1	
EJIF	**Jimena Fronter**	**1.37**	**242**	Pg	**Pg**	**00 40 20.0**	**-1.8**
	7.9nm,0.6s,SNR=7.9						
EJIF				Lg		00 40 39.0	
	366nm,0.6s,SNR=7.9						
EALB	**Alboran**	**1.39**	**147**	Pn	**Pn**	**00 40 18.1**	**-3.1**
	5.5nm,0.2s,SNR=25						
EALB				Pg	**Pg**	**00 40 20.2**	**-1.9**
	71nm,0.4s,SNR=7.9						
EALB				Lg		00 40 36.8	
	367nm,0.5s,SNR=8.3						
EALB	**Alboran**	**1.39**	**147**	Pg	**Pg**	**00 40 18.1**	**-4.0**
	5.5nm,0.2s,SNR=25						
EALB	**Alboran**	**1.39**	**147**	Pg	**Pg**	**00 40 18.1**	**-4.0**
EALB				Lg		00 40 36.5	
ENIJ	**Nijar**	**1.42**	**95**	Pg	**Pg**	**00 40 20.7**	**-1.9**
	14nm,0.4s,SNR=44						
ENIJ				Lg		00 40 39.6	
	131nm,0.4s,SNR=6.5						
ESPR	**Espera**	**1.53**	**262**	Pg	**Pg**	**00 40 24.3**	**-0.6**
	9.0nm,0.4s,SNR=147						
ESPR				Lg		00 40 44.0	
	478nm,0.5s,SNR=4.0						
ESPR	**Espera**	**1.53**	**262**	Pg	**Pg**	**00 40 24.5**	**-0.3**
	9.0nm,0.4s,SNR=147						
ESPR	**Espera**	**1.53**	**262**	Pg	**Pg**	**00 40 24.5**	**-0.3**
ESPR				Lg		00 40 44.0	
MOMI	**Momias**	**1.61**	**242**	Pg	**Pg**	**00 40 26.5**	**+0.2**
MOMI				Lg		00 40 56.0	
MOMI	**Momias**	**1.61**	**242**	*e*P	**Pn**	**00 40 26.5**	**+2.2**
GIBL	**Gibalbin**	**1.63**	**261**	*e*P	**Pn**	**00 40 25.9**	**+1.4**
ECEU	**Ceuta**	**1.66**	**224**	Pn	**Pn**	**00 40 22.8**	**-2.2**
	2.9nm,0.1s,SNR=7.9						
ECEU				Pg	**Pg**	**00 40 25.5**	**-1.8**
	68nm,0.5s,SNR=14						
ECEU	**Ceuta**	**1.66**	**224**	Pg	**Pg**	**00 40 27.2**	**-0.1**
	68nm,0.5s,SNR=14						
CNIL	**Conil**	**1.83**	**247**	Pg	**Pg**	**00 40 31.8**	**+1.2**
CNIL				Lg		00 41 03.4	
CNIL	**Conil**	**1.83**	**247**	*e*P	**Pn**	**00 40 31.8**	**+4.5**
MPAL	**Palemas**	**1.88**	**179**	*e*P	**Pn**	**00 40 28.0**	**0.0**
MPAL				*e*S	**Sn**	**00 40 48.0**	**-3.9**
SFS	**San Fernando**	**1.91**	**251**	Pg	**Pg**	**00 40 36.0**	**+3.9**
SFS				Lg		00 41 08.8	
SFS	**San Fernando**	**1.91**	**251**	*e*P	**Pn**	**00 40 36.0**	**+7.6**
EVIA	**Vianos**	**1.92**	**37**	Pn	**Pn**	**00 40 28.8**	**+0.3**
	4.8nm,0.2s,SNR=208						
EVIA	**Vianos**	**1.92**	**37**	Pn	**Pn**	**00 40 28.8**	**+0.3**
DKH	**Dar Kharkhour**	**1.97**	**215**	*i* P	**Pn**	**00 40 32.0**	**+2.8**
DKH				*i* S	**Sn**	**00 40 52.0**	**-2.2**
TOU	**Touzarine**	**2.15**	**175**	Pn	**Pn**	**00 40 31.0**	**-0.7**
TOU				Sn	**Sn**	**00 40 53.0**	**-5.6**
TOU	**Touzarine**	**2.15**	**175**	*e*P	**Pn**	**00 40 31.0**	**-0.7**
EMIN	**Mina Concepcio**	**2.25**	**288**	⇑Pn	**Pn**	**00 40 32.9**	**-0.2**
	7.8nm,0.2s,SNR=18						
EMIN				Sn	**Sn**	**00 41 00.2**	**-0.9**
	2.0nm,0.5s,SNR=7.9						
EMIN				Lg		00 41 09.0	
	65nm,0.2s,SNR=7.9						
EMIN	**Mina Concepcio**	**2.25**	**288**	Pn	**Pn**	**00 40 32.9**	**-0.2**
	7.8nm,0.2s,SNR=18						
EMUR	**La Murta**	**2.29**	**71**	Pn	**Pn**	**00 40 33.8**	**+0.2**
	7.6nm,0.4s,SNR=29						
EMUR				Sn	**Sn**	**00 41 00.5**	**-1.5**
	33nm,0.4s,SNR=6.5						
EMUR				Lg		00 41 07.3	
	215nm,0.5s,SNR=7.9						
EMUR	**La Murta**	**2.29**	**71**	Pn	**Pn**	**00 40 34.8**	**+1.2**
	7.6nm,0.4s,SNR=29						
EMUR	**La Murta**	**2.29**	**71**	Pn	**Pn**	**00 40 34.8**	**+1.2**
EMUR				Sn	**Sn**	**00 41 04.1**	**+2.1**
EMUR				Lg		00 41 12.0	
ZAI	**Zaio**	**2.35**	**155**	Pn	**Pn**	**00 40 33.5**	**-1.0**
ZAI				Sn	**Sn**	**00 40 56.0**	**-7.6**
ZAI	**Zaio**	**2.35**	**155**	*i* P	**Pn**	**00 40 33.5**	**-1.0**
CART	**Cartagena**	**2.41**	**78**	*e*Pn	**Pn**	**00 40 35.8**	**+0.5**
CART				*e*Sn	**Sn**	**00 41 07.7**	**+2.6**
CART	**Cartagena**	**2.41**	**78**	*e*Pn	**Pn**	**00 40 35.8**	**+0.5**
CART				*e*Sn	**Sn**	**00 41 07.7**	**+2.6**
PAB	**San Pablo**	**2.45**	**353**	*e*Pn	**Pn**	**00 40 37.6**	**+1.7**
PAB				*e*Sn	**Sn**	**00 41 11.3**	**+5.3**
PAB	**San Pablo**	**2.45**	**353**	*e*Pn	**Pn**	**00 40 37.6**	**+1.7**
PAB				*e*Sn	**Sn**	**00 41 11.3**	**+5.3**
ETOB	**Tobarra**	**2.45**	**51**	Pn	**Pn**	**00 40 36.3**	**+0.4**
	1.0nm,0.1s,SNR=43						
ETOB				Pg	**Pg**	**00 40 40.4**	**-2.1**
	16nm,0.3s,SNR=7.9						
ETOB				Lg		00 41 14.1	
	476nm,0.7s,SNR=7.9						
ETOB	**Tobarra**	**2.45**	**51**	Pn	**Pn**	**00 40 36.4**	**+0.5**
	1.0nm,0.1s,SNR=43						
ETOB	**Tobarra**	**2.45**	**51**	Pg	**Pg**	**00 40 42.9**	**+0.4**
	16nm,0.3s,SNR=7.9						
ETOB	**Tobarra**	**2.45**	**51**	Pn	**Pn**	**00 40 36.4**	**+0.6**
ETOB				Pg	**Pg**	**00 40 42.9**	**+0.4**
ETOB				Lg		00 41 16.6	
ESDC	**Sonseca Array**	**2.56**	**0**	Pn	**Pn**	**00 40 37.3**	**-0.1**
	7.3nm,0.2s,baz=182,slow=12,SNR=66						
ESDC				Pg	**Pg**	**00 40 43.6**	**-1.0**
	54nm,0.3s,baz=179,slow=16,SNR=7.9						
ESDC				Lg		00 41 19.6	
	92nm,0.4s,baz=186,slow=27,SNR=17						
ESDC	**Sonseca Array**	**2.56**	**0**	Pn	**Pn**	**00 40 37.3**	**-0.1**
	7.3nm,0.2s,SNR=66						
ESDC	**Sonseca Array**	**2.56**	**0**	Pg	**Pg**	**00 40 43.6**	**-1.0**
	54nm,0.3s,SNR=7.9						
ESLA	**Sonseca Array**	**2.56**	**0**	*e*Pn	**Pn**	**00 40 39.5**	**+2.1**
ESLA	**Sonseca Array**	**2.56**	**0**	*e*Pn	**Pn**	**00 40 39.5**	**+2.2**
ERIP	**Rio Piedras**	**2.64**	**277**	Pn	**Pn**	**00 40 38.0**	**-0.4**
	8.9nm,0.2s,SNR=7.9						
ERIP				Sn	**Sn**	**00 41 10.4**	**-0.2**
	83nm,0.3s,SNR=7.9						
ERIP				Lg		00 41 19.7	
	73nm,0.3s,SNR=7.9						
ERIP	**Rio Piedras**	**2.64**	**277**	Pn	**Pn**	**00 40 38.0**	**-0.4**
	8.9nm,0.2s,SNR=7.9						
ERIP				Sn	**Sn**	**00 41 10.4**	**-0.2**
	83nm,0.3s,SNR=7.9						
PBAR	**Barrancos**	**2.66**	**294**	*e*Pn	**Pn**	**00 40 38.6**	**-0.1**
PBAR				*e*Sg	**Sg**	**00 41 19.9**	**-1.0**
PBAR				A		00 41 27.2	
	76nm,0.7s						
PBAR	**Barrancos**	**2.66**	**294**	*e*Pn	**Pn**	**00 40 38.6**	**-0.1**
PBAR				*e*Sg	**Sg**	**00 41 19.9**	**-1.0**
	76nm,0.7s						
RSA	**Sarsar**	**2.69**	**215**	*i* P	**Pn**	**00 40 41.0**	**+1.9**
RSA				*i* S	**Sn**	**00 41 09.0**	**-2.9**
EGRO	**El Granado**	**2.83**	**280**	⇓Pn	**Pn**	**00 40 40.8**	**-0.3**
	3.3nm,0.3s,SNR=18						
EGRO				Sn	**Sn**	**00 41 15.3**	**-0.2**
	32nm,0.4s,SNR=7.6						
EGRO				Lg		00 41 27.8	
	89nm,0.4s,SNR=7.9						
EGRO	**El Granado**	**2.83**	**280**	Pn	**Pn**	**00 40 40.8**	**-0.3**
	3.3nm,0.3s,SNR=18						
EGRO				Sn	**Sn**	**00 41 15.3**	**-0.2**
	32nm,0.4s,SNR=7.6						
EBAD	**Badajoz**	**2.92**	**305**	Pn	**Pn**	**00 40 42.2**	**0.0**
	2.9nm,0.2s,SNR=30						
EBAD				Pg	**Pg**	**00 40 50.4**	**-0.9**
	29nm,0.3s,SNR=7.9						
EBAD				Sn	**Sn**	**00 41 17.5**	**0.0**
	33nm,0.2s,SNR=7.9						
EBAD				Lg		00 41 30.8	
	71nm,0.2s,SNR=7.1						
EBAD	**Badajoz**	**2.92**	**305**	Pn	**Pn**	**00 40 42.2**	**0.0**
	2.9nm,0.2s,SNR=30						
EBAD	**Badajoz**	**2.92**	**305**	Pg	**Pg**	**00 40 50.4**	**-1.0**
	29nm,0.3s,SNR=7.9						
EBAD				Sn	**Sn**	**00 41 17.5**	**0.0**
	33nm,0.2s,SNR=7.9						
PVAQ	**Vaqueiros**	**3.01**	**277**	*e*Pn	**Pn**	**00 40 43.2**	**-0.3**
PVAQ				*e*Sn	**Sn**	**00 41 18.9**	**-0.8**
PVAQ				A		00 41 20.7	
	43nm,0.4s						
PVAQ	**Vaqueiros**	**3.01**	**277**	*e*Pn	**Pn**	**00 40 43.2**	**-0.3**
PVAQ				*e*Sn	**Sn**	**00 41 18.9**	**-0.8**
	43nm,0.4s						
TZK	**Tazeka**	**3.02**	**183**	Pn	**Pn**	**00 40 44.0**	**+0.3**
TZK				Sn	**Sn**	**00 41 14.0**	**-6.0**
TZK	**Tazeka**	**3.02**	**183**	*i* P	**Pn**	**00 40 44.0**	**+0.3**
PBDV	**Barranco-do-Ve**	**3.17**	**274**	*e*Pn	**Pn**	**00 40 45.8**	**+0.1**
PBDV				*e*Sn	**Sn**	**00 41 23.9**	**+0.2**
PBDV				A		00 41 44.0	
	59nm,0.5s						
PBDV	**Barranco-do-Ve**	**3.17**	**274**	*e*Pn	**Pn**	**00 40 45.8**	**+0.1**
PBDV				*e*Sn	**Sn**	**00 41 23.9**	**+0.2**
	59nm,0.5s						
PBEJ	**Beja**	**3.23**	**288**	*e*Pn	**Pn**	**00 40 46.8**	**+0.2**
PBEJ				*e*Sn	**Sn**	**00 41 25.4**	**+0.1**
PBEJ				A		00 41 45.8	
	46nm,0.6s						
PBEJ	**Beja**	**3.23**	**288**	*e*Pn	**Pn**	**00 40 46.8**	**+0.2**
PBEJ				*e*Sn	**Sn**	**00 41 25.4**	**+0.1**
	46nm,0.6s						
PESTR	**Estremoz**	**3.36**	**303**	*e*Pn	**Pn**	**00 40 48.4**	**+0.1**
PESTR				*e*Sn	**Sn**	**00 41 29.0**	**+0.6**
PESTR				*e*Sg	**Sg**	**00 41 44.8**	**+1.5**
PESTR				A		00 41 52.7	
	69nm,0.8s						
PESTR	**Estremoz**	**3.36**	**303**	*e*Pn	**Pn**	**00 40 48.4**	**+0.1**
PESTR				*e*Sn	**Sn**	**00 41 29.0**	**+0.6**
PESTR				*e*Sg	**Sg**	**00 41 44.8**	**+1.5**
	69nm,0.8s						
EBEN	**Beniarda**	**3.36**	**61**	⇓Pn	**Pn**	**00 40 48.9**	**+0.5**
	2.5nm,0.3s,SNR=18						
EBEN				Sn	**Sn**	**00 41 26.8**	**-1.7**
	32nm,0.4s,SNR=7.9						
EBEN	**Beniarda**	**3.36**	**61**	Pn	**Pn**	**00 40 49.1**	**+0.7**
	2.5nm,0.3s,SNR=18						
EBEN				Sn	**Sn**	**00 41 27.9**	**-0.6**
	32nm,0.4s,SNR=7.9						
EBEN	**Beniarda**	**3.36**	**61**	⇓Pn	**Pn**	**00 40 49.1**	**+0.7**
EBEN				Sn	**Sn**	**00 41 27.9**	**-0.6**
EVO	**Evora**	**3.50**	**295**	*e*Pn	**Pn**	**00 40 51.6**	**+1.3**
EVO				*e*Sg	**Sg**	**00 41 49.2**	**+1.2**
	212nm,0.6s						
EVO	**Evora**	**3.50**	**295**	*e*Pn	**Pn**	**00 40 50.4**	**+0.1**
EVO				*e*Sn	**Sn**	**00 41 32.1**	**+0.1**
EVO				A		00 41 59.2	
	62nm,0.6s						
EVO	**Evora**	**3.50**	**295**	*e*Pn	**Pn**	**00 40 50.4**	**+0.1**
EVO				*e*Sn	**Sn**	**00 41 32.1**	**+0.1**
	62nm,0.6s						
GUD	**Guadarrama**	**3.53**	**358**	Pn	**Pn**	**00 40 52.0**	**+1.3**
	1.5nm,0.2s,SNR=12						
GUD				Pg	**Pg**	**00 41 00.9**	**-2.2**
	1.3nm,0.2s,SNR=7.9						
GUD				Lg		00 41 45.9	
	70nm,0.5s,SNR=7.9						
GUD	**Guadarrama**	**3.53**	**358**	Pn	**Pn**	**00 40 52.0**	**+1.3**
GUD				Lg		00 41 51.6	
PMRV	**Marv??o**	**3.55**	**312**	*e*Pn	**Pn**	**00 40 52.4**	**+1.4**
PMRV				*e*Sg	**Sg**	**00 41 49.8**	**+0.2**
PMRV				A		00 42 03.6	
	57nm,0.5s						
PMRV	**Marv??o**	**3.55**	**312**	*e*Pn	**Pn**	**00 40 52.4**	**+1.4**
PMRV				*e*Sg	**Sg**	**00 41 49.8**	**+0.2**
	57nm,0.5s						
EVOP	**Sao Brissos**	**3.58**	**295**	*e*Pn	**Pn**	**00 40 51.6**	**+0.2**
EVOP				*e*Sg	**Sg**	**00 41 49.2**	**-1.4**
	106nm,0.6s						
MORF	**Marmelete**	**3.74**	**274**	*e*Pn	**Pn**	**00 40 53.2**	**-0.4**
MORF				*e*Sn	**Sn**	**00 41 37.4**	**-0.5**
MORF				A		00 42 00.6	
	27nm,0.4s						

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
MORF	**Marmelete**	**3.74**	**274**	*e*Pn	**Pn**	**00 40 53.2**	**-0.4**
MORF				*e*Sn	**Sn**	**00 41 37.4**	**-0.5**
	27nm,0.4s						
MOE	**Montemor**	**3.75**	**293**	*e*Pn	**Pn**	**00 40 54.3**	**+0.6**
MOE				*e*Sn	**Sn**	**00 41 37.9**	**-0.1**
MOE				*e*Sg	**Sg**	**00 41 55.8**	**0.0**
PTEO	**Sao Teotonio**	**3.82**	**278**	*e*Pn	**Pn**	**00 40 54.7**	**+0.1**
PTEO				*e*Sn	**Sn**	**00 41 39.4**	**-0.3**
PTEO				A		00 42 09.0	
	72nm,0.8s						
PTEO	**Sao Teotonio**	**3.82**	**278**	*e*Pn	**Pn**	**00 40 54.7**	**+0.1**
PTEO				*e*Sn	**Sn**	**00 41 39.4**	**-0.3**
	72nm,0.8s						
PCBR	**Castelo Branco**	**3.88**	**316**	*e*Pn	**Pn**	**00 40 56.6**	**+1.2**
PCBR				*e*Sn	**Sn**	**00 41 41.2**	**0.0**
PCBR				*e*Sg	**Sg**	**00 41 59.5**	**-0.4**
PCBR				A		00 42 12.4	
	44nm,0.2s						
PCBR	**Castelo Branco**	**3.88**	**316**	*e*Pn	**Pn**	**00 40 56.6**	**+1.2**
PCBR				*e*Sn	**Sn**	**00 41 41.2**	**0.0**
PCBR				*e*Sg	**Sg**	**00 41 59.5**	**-0.4**
	44nm,0.2s						
PFVI	**Vila Bisbo**	**3.88**	**272**	*e*Pn	**Pn**	**00 40 55.2**	**-0.4**
PFVI				*e*Sn	**Sn**	**00 41 39.7**	**-1.7**
PFVI				A		00 41 44.1	
	38nm,0.7s						
PFVI	**Vila Bisbo**	**3.88**	**272**	*e*Pn	**Pn**	**00 40 55.2**	**-0.4**
PFVI				*e*Sn	**Sn**	**00 41 39.7**	**-1.7**
	38nm,0.7s						
ETOR	**Torete**	**3.99**	**21**	Pn	**Pn**	**00 40 57.3**	**+0.3**
	21nm,0.4s,SNR=32						
ETOR				Pg	**Pg**	**00 41 09.7**	**-2.3**
	64nm,0.3s,SNR=7.9						
ETOR				Lg		00 42 04.1	
	154nm,0.6s,SNR=7.5						
ETOR	**Torete**	**3.99**	**21**	Pg	**Pg**	**00 41 07.9**	**-4.1**
	64nm,0.3s,SNR=7.9						
ETOR	**Torete**	**3.99**	**21**	Pn	**Pn**	**00 40 57.3**	**+0.3**
ETOR				Pg	**Pg**	**00 41 07.9**	**-4.1**
ETOR				Lg		00 42 04.1	
CZD	**Col de Zad**	**4.16**	**193**	Pn	**Pn**	**00 41 01.0**	**+1.6**
CZD				Sn	**Sn**	**00 41 43.0**	**-5.2**
CZD	**Col de Zad**	**4.16**	**193**	*i* P	**Pn**	**00 41 01.0**	**+1.6**
EMOS	**Mosqueruela**	**4.25**	**39**	Pn	**Pn**	**00 41 01.5**	**+1.0**
	4.5nm,0.5s,SNR=16						
EMOS				Pg	**Pg**	**00 41 12.6**	**-4.2**
	66nm,0.8s,SNR=7.9						
EMOS				Sn	**Sn**	**00 41 48.1**	**-2.2**
	2.1nm,0.3s,SNR=7.9						
EMOS				Lg		00 42 12.1	
	215nm,1.3s,SNR=7.9						
EMOS	**Mosqueruela**	**4.25**	**39**	Pn	**Pn**	**00 41 01.8**	**+1.3**
	4.5nm,0.5s,SNR=16						
EMOS				Sn	**Sn**	**00 41 51.8**	**+1.5**
	SNR=7.9						
EMOS	**Mosqueruela**	**4.25**	**39**	Pn	**Pn**	**00 41 01.8**	**+1.3**
EMOS				Pg	**Pg**	**00 41 16.1**	**-0.7**
EMOS				Sn	**Sn**	**00 41 51.8**	**+1.5**
EMOS				Lg		00 42 12.1	
PTOM	**Tomar**	**4.30**	**307**	*e*Pn	**Pn**	**00 41 02.2**	**+1.0**
PTOM				*e*Sn	**Sn**	**00 41 50.3**	**-1.3**
PTOM				*e*Sg	**Sg**	**00 42 14.1**	**+0.6**
PTOM				A		00 42 31.0	
	74nm,0.5s						
PTOM	**Tomar**	**4.30**	**307**	*e*Pn	**Pn**	**00 41 02.2**	**+1.0**
PTOM				*e*Sn	**Sn**	**00 41 50.3**	**-1.3**
PTOM				*e*Sg	**Sg**	**00 42 14.1**	**+0.6**
	74nm,0.5s						
MTE	**Manteigas**	**4.31**	**321**	*e*Pn	**Pn**	**00 41 02.5**	**+1.0**
MTE				*e*Sn	**Sn**	**00 41 52.0**	**0.0**
MTE				A		00 42 27.3	
	85nm,0.7s						
MTE	**Manteigas**	**4.31**	**321**	*e*Pn	**Pn**	**00 41 02.5**	**+1.0**
MTE				*e*Sn	**Sn**	**00 41 52.0**	**0.0**
	85nm,0.7s						
MTE	**Manteigas**	**4.31**	**321**	*e*Pn	**Pn**	**00 41 02.6**	**+1.1**
EIBI	**Ibiza**	**4.61**	**64**	Pn	**Pn**	**00 41 05.8**	**+0.3**
	1.7nm,0.2s,SNR=21						
EIBI				Sn	**Sn**	**00 41 57.1**	**-2.2**
	3.7nm,0.3s,SNR=7.9						
EIBI	**Ibiza**	**4.61**	**64**	Pn	**Pn**	**00 41 05.8**	**+0.3**
	1.7nm,0.2s,SNR=21						
EIBI				Sn	**Sn**	**00 41 58.4**	**-0.8**
	SNR=7.9						
EIBI	**Ibiza**	**4.61**	**64**	Pn	**Pn**	**00 41 05.8**	**+0.3**
EIBI				Sn	**Sn**	**00 41 58.4**	**-0.8**
MVO	**Moncorvo**	**4.70**	**330**	*e*Pn	**Pn**	**00 41 07.6**	**+0.9**
MVO				*e*Sn	**Sn**	**00 42 00.5**	**-0.9**
MVO				*e*Sg	**Sg**	**00 42 25.9**	**-0.4**
MVO				A		00 42 30.9	
	65nm,0.3s						
MVO	**Moncorvo**	**4.70**	**330**	*e*Pn	**Pn**	**00 41 07.6**	**+0.9**
MVO				*e*Sn	**Sn**	**00 42 00.5**	**-0.9**
MVO				*e*Sg	**Sg**	**00 42 25.9**	**-0.4**
	65nm,0.3s						
PVIS	**Viseu**	**4.73**	**321**	*e*Pn	**Pn**	**00 41 08.1**	**+1.0**
PVIS				*e*Sn	**Sn**	**00 42 01.4**	**-0.8**
PVIS				*e*Sg	**Sg**	**00 42 27.1**	**-0.2**
PVIS				A		00 42 41.5	
	26nm,0.7s						
PVIS	**Viseu**	**4.73**	**321**	*e*Pn	**Pn**	**00 41 08.1**	**+1.0**
PVIS				*e*Sn	**Sn**	**00 42 01.4**	**-0.8**
PVIS				*e*Sg	**Sg**	**00 42 27.1**	**-0.2**
	26nm,0.7s						
KIB	**El Ksiba**	**4.83**	**201**	Pn	**Pn**	**00 41 09.0**	**+0.4**
KIB				Sn	**Sn**	**00 41 59.0**	**-5.8**
KIB	**El Ksiba**	**4.83**	**201**	*i* P	**Pn**	**00 41 09.0**	**+0.4**
ZFT	**Errachidia**	**5.07**	**184**	Pn	**Pn**	**00 41 12.0**	**+0.1**
ZFT				Sn	**Sn**	**00 42 04.0**	**-6.7**
ZFT	**Errachidia**	**5.07**	**184**	*i* P	**Pn**	**00 41 12.0**	**+0.1**
PVRL	**Vila Real**	**5.08**	**326**	*e*Pn	**Pn**	**00 41 13.0**	**+1.1**
PVRL				*e*Sn	**Sn**	**00 42 08.3**	**-2.5**
PVRL				*e*Sg	**Sg**	**00 42 37.8**	**-0.7**
PVRL				A		00 42 46.8	
	35nm,0.5s						
PVRL	**Vila Real**	**5.08**	**326**	*e*Pn	**Pn**	**00 41 13.0**	**+1.1**
PVRL				*e*Sn	**Sn**	**00 42 08.3**	**-2.5**
PVRL				*e*Sg	**Sg**	**00 42 37.8**	**-0.7**
	35nm,0.5s						
ERTA	**Horta de San J**	**5.10**	**40**	Pn	**Pn**	**00 41 13.1**	**+0.9**
	1.7nm,0.5s,SNR=12						
ERTA				Sn	**Sn**	**00 42 08.6**	**-2.6**
	1.2nm,0.2s,SNR=7.9						
ERTA				Lg		00 42 39.0	
	42nm,0.6s,SNR=7.9						
ERTA	**Horta de San J**	**5.10**	**40**	Pn	**Pn**	**00 41 13.1**	**+0.9**
	1.7nm,0.5s,SNR=12						
ERTA				Sn	**Sn**	**00 42 10.9**	**-0.3**
	13nm,0.4s,SNR=7.9						
ERTA	**Horta de San J**	**5.10**	**40**	Pn	**Pn**	**00 41 13.1**	**+0.9**
ERTA				Sn	**Sn**	**00 42 10.9**	**-0.3**
ERTA				Lg		00 42 39.0	
PBRG	**Braganca**	**5.16**	**336**	*e*Pn	**Pn**	**00 41 13.5**	**+0.5**
PBRG				*e*Sn	**Sn**	**00 42 12.1**	**-0.7**
PBRG				*e*Sg	**Sg**	**00 42 40.7**	**-0.3**
PBRG				A		00 42 50.6	
	35nm,0.8s						
PBRG	**Braganca**	**5.16**	**336**	*e*Pn	**Pn**	**00 41 13.5**	**+0.5**
PBRG				*e*Sn	**Sn**	**00 42 12.1**	**-0.7**
PBRG				*e*Sg	**Sg**	**00 42 40.7**	**-0.3**
	35nm,0.8s						
ECAL	**Calabor**	**5.28**	**337**	Pn	**Pn**	**00 41 15.9**	**+1.2**
	3.0nm,0.3s,SNR=10						
ECAL				Lg		00 42 47.0	
	89nm,0.5s,SNR=7.9						
ECAL	**Calabor**	**5.28**	**337**	Pn	**Pn**	**00 41 15.9**	**+1.2**
	3.0nm,0.3s,SNR=10						
ESAC	**San Caprasio**	**5.34**	**29**	Pn	**Pn**	**00 41 17.0**	**+1.4**
	6.2nm,0.3s,SNR=7.9						
ESAC				Lg		00 42 48.5	
	165nm,0.6s,SNR=7.9						
ESAC	**San Caprasio**	**5.34**	**29**	Pn	**Pn**	**00 41 17.0**	**+1.4**
	6.2nm,0.3s,SNR=7.9						
PCAB	**Cabril**	**5.57**	**327**	*e*Pn	**Pn**	**00 41 20.1**	**+1.4**
PCAB				*e*Sn	**Sn**	**00 42 20.9**	**-1.9**
PCAB				*e*Sg	**Sg**	**00 42 53.5**	**-0.7**
PCAB				A		00 43 00.3	
	41nm,0.4s						
PCAB	**Cabril**	**5.57**	**327**	Pn	**Pn**	**00 41 20.1**	**+1.4**
PCAB				Sn	**Sn**	**00 42 20.9**	**-1.9**
PCAB				Lg		00 42 53.5	
	20nm,0.4s						
PCAB	**Cabril**	**5.57**	**327**	*e*Pn	**Pn**	**00 41 20.1**	**+1.4**
PCAB				*e*Sn	**Sn**	**00 42 20.9**	**-1.9**
ECRI	**Cripan**	**5.61**	**11**	Lg		00 42 56.1	
	17nm,0.5s,SNR=7.9						
ELOB	**Lobios**	**5.71**	**328**	Pn	**Pn**	**00 41 21.9**	**+1.3**
	1.0nm,0.1s,SNR=7.0						
ELOB				Sn	**Sn**	**00 42 23.8**	**-2.5**
	4.6nm,0.2s,SNR=7.9						
ELOB				Lg		00 42 59.7	
	47nm,0.5s,SNR=7.9						
ELOB	**Lobios**	**5.71**	**328**	Pn	**Pn**	**00 41 21.9**	**+1.3**
	1.0nm,0.1s,SNR=7.0						
EPOB	**Poblet**	**5.77**	**41**	Pn	**Pn**	**00 41 22.3**	**+0.8**
	8.0nm,0.5s,SNR=21						
EPOB				Sn	**Sn**	**00 42 24.5**	**-3.3**
	1.2nm,0.2s,SNR=7.9						
EPOB	**Poblet**	**5.77**	**41**	Pn	**Pn**	**00 41 22.3**	**+0.8**
	8.0nm,0.5s,SNR=21						
ETOS	**Mallorca**	**5.95**	**61**	Pn	**Pn**	**00 41 24.8**	**+0.8**
	0.7nm,0.3s,SNR=13						
ETOS				Sn	**Sn**	**00 42 28.7**	**-3.6**
	0.3nm,0.1s,SNR=7.9						
ETOS	**Mallorca**	**5.95**	**61**	Pn	**Pn**	**00 41 24.8**	**+0.9**
	0.7nm,0.3s,SNR=13						
ETOS				Sn	**Sn**	**00 42 28.7**	**-3.6**
	0.3nm,0.1s,SNR=7.9						
IUNC	**Unciti**	**5.95**	**18**	Pn	**Pn**	**00 41 26.1**	**+2.2**
	5.4nm,0.4s,SNR=7.9						
IZUN	**Zunzarren**	**6.06**	**18**	Pn	**Pn**	**00 41 25.3**	**-0.1**
	0.9nm,0.3s,SNR=7.9						
IZUN				Sn	**Sn**	**00 42 31.5**	**-3.5**
	7.8nm,0.5s,SNR=7.9						
IZUN				Lg		00 43 08.8	
	21nm,0.8s,SNR=7.9						
IZUN	**Zunzarren**	**6.06**	**18**	Pn	**Pn**	**00 41 27.4**	**+2.0**
	0.9nm,0.3s,SNR=7.9						
IZUN				Sn	**Sn**	**00 42 34.1**	**-0.9**
	7.8nm,0.5s,SNR=7.9						
IUSE	**Utxeti**	**6.12**	**17**	Pn	**Pn**	**00 41 27.9**	**+1.6**
	0.8nm,0.1s,SNR=7.9						
IUSE				Lg		00 43 12.1	
	13nm,0.7s,SNR=7.9						
IUSE	**Utxeti**	**6.12**	**17**	Pn	**Pn**	**00 41 28.6**	**+2.4**
	0.8nm,0.1s,SNR=7.9						
EORO	**Oroz-Betelu**	**6.13**	**19**	Pn	**Pn**	**00 41 27.7**	**+1.4**
	1.2nm,0.4s,SNR=12						
EORO				Sn	**Sn**	**00 42 33.5**	**-3.1**
	1.4nm,0.4s,SNR=7.9						
EORO				Lg		00 43 12.9	
	39nm,0.6s,SNR=7.9						
EORO	**Oroz-Betelu**	**6.13**	**19**	Pn	**Pn**	**00 41 27.7**	**+1.4**
	1.2nm,0.4s,SNR=12						
ELAN	**Lanestosa**	**6.13**	**4**	Pn	**Pn**	**00 41 27.5**	**+1.1**
	0.8nm,0.2s,SNR=10						
ELAN				Sn	**Sn**	**00 42 33.7**	**-3.0**
	0.6nm,0.3s,SNR=7.9						
ELAN				Lg		00 43 13.4	
	33nm,0.7s,SNR=7.9						
ELAN	**Lanestosa**	**6.13**	**4**	Pn	**Pn**	**00 41 28.0**	**+1.6**
	1.3nm,0.2s,SNR=10						
ELAN	**Lanestosa**	**6.13**	**4**	Pn	**Pn**	**00 41 28.0**	**+1.6**
ELAN				Lg		00 43 16.6	
EARI	**Arriondas**	**6.26**	**352**	Pn	**Pn**	**00 41 29.4**	**+1.3**
	1.2nm,0.3s,SNR=8.4						
EARI				Lg		00 43 17.2	
	46nm,0.9s,SNR=7.9						
EARI	**Arriondas**	**6.26**	**352**	Pn	**Pn**	**00 41 29.4**	**+1.3**
	1.2nm,0.3s,SNR=8.4						
ELIZ	**Elizondo**	**6.33**	**16**	Pn	**Pn**	**00 41 30.8**	**+1.6**
	5.3nm,0.3s,SNR=7.9						
ELIZ	**Elizondo**	**6.33**	**16**	Pn	**Pn**	**00 41 31.3**	**+2.2**
	5.3nm,0.3s,SNR=7.9						
ELIZ	**Elizondo**	**6.33**	**16**	Pn	**Pn**	**00 41 31.3**	**+2.2**
ETSF	**Etsaut**	**6.35**	**23**	*e*Pn	**Pn**	**00 41 30.5**	**+1.1**
ETSF				*e*Sn	**Sn**	**00 42 39.3**	**-2.7**
ETSF				*e*Sg	**Sg**	**00 43 20.6**	**+1.4**
	39nm,0.9s						
ETSF	**Etsaut**	**6.35**	**23**	Pn	**Pn**	**00 41 30.5**	**+1.1**
ETSF				Sn	**Sn**	**00 42 39.3**	**-2.7**
ETSF				Lg		00 43 20.6	
	20nm,0.9s						
ETSF	**Etsaut**	**6.35**	**23**	*e*Pn	**Pn**	**00 41 30.5**	**+1.1**
ETSF				*e*Sg	**Sg**	**00 43 20.6**	**+1.4**
	20nm,0.9s						
SJPF	**Ste Jean**	**6.35**	**18**	*e*Pn	**Pn**	**00 41 30.4**	**+0.9**
SJPF				*e*Sn	**Sn**	**00 42 40.1**	**-2.1**
SJPF				*e*Sg	**Sg**	**00 43 19.3**	**-0.1**
	20nm,0.6s						
SJPF	**Ste Jean**	**6.35**	**18**	*e*Pn	**Pn**	**00 41 30.4**	**+0.9**
SJPF				*e*Sn	**Sn**	**00 42 40.1**	**-2.1**
SJPF				*e*Sg	**Sg**	**00 43 19.3**	**-0.1**
	10nm,0.6s						
EALK	**Alkurruntz**	**6.39**	**16**	Pn	**Pn**	**00 41 30.8**	**+0.9**
	13nm,0.6s,SNR=18						
EALK				Sn	**Sn**	**00 42 41.5**	**-1.5**
	33nm,0.5s,SNR=7.9						
EALK	**Alkurruntz**	**6.39**	**16**	Pn	**Pn**	**00 41 31.7**	**+1.8**
	13nm,0.6s,SNR=18						
EALK				Sn	**Sn**	**00 42 41.5**	**-1.6**
	33nm,0.5s,SNR=7.9						
EALK	**Alkurruntz**	**6.39**	**16**	Pn	**Pn**	**00 41 31.7**	**+1.8**
EALK				Sn	**Sn**	**00 42 41.5**	**-1.6**
EBIE	**Bielsa**	**6.40**	**28**	Pn	**Pn**	**00 41 31.2**	**+1.1**
	3.4nm,0.4s,SNR=12						
EBIE				Sn	**Sn**	**00 42 40.5**	**-2.9**
	0.9nm,0.2s,SNR=7.9						
EBIE	**Bielsa**	**6.40**	**28**	Pn	**Pn**	**00 41 31.2**	**+1.1**
	3.4nm,0.4s,SNR=12						
EBIE				Sn	**Sn**	**00 42 42.4**	**-1.0**
	SNR=7.9						
EBIE	**Bielsa**	**6.40**	**28**	Pn	**Pn**	**00 41 31.2**	**+1.1**
EBIE				Sn	**Sn**	**00 42 42.4**	**-1.1**
EMIR	**Miracle**	**6.41**	**40**	Pn	**Pn**	**00 41 31.1**	**+0.9**
	8.7nm,0.5s,SNR=15						
EMIR				Lg		00 43 22.3	
	43nm,1.0s,SNR=4.0						
EMIR	**Miracle**	**6.41**	**40**	Pn	**Pn**	**00 41 31.1**	**+0.9**
	8.7nm,0.5s,SNR=15						
OSSF	**Osses**	**6.48**	**18**	P	**Pn**	**00 41 32.3**	**+1.1**
ORDF	**Ordiarp**	**6.52**	**20**	P	**Pn**	**00 41 33.2**	**+1.4**
REYF	**Montagne du Re**	**6.55**	**24**	P	**Pn**	**00 41 33.7**	**+1.5**
EPON	**Pontenova**	**6.67**	**340**	Pn	**Pn**	**00 41 35.3**	**+1.5**
	0.7nm,0.2s,SNR=7.9						
EPON				Lg		00 43 30.2	
	41nm,0.8s,SNR=7.9						
EPON	**Pontenova**	**6.67**	**340**	Pn	**Pn**	**00 41 35.3**	**+1.5**
	0.7nm,0.2s,SNR=7.9						
EPF	**Esparros**	**6.77**	**28**	*e*Pn	**Pn**	**00 41 36.1**	**+0.9**
EPF				*e*Sn	**Sn**	**00 42 49.4**	**-3.2**
EPF				*e*Sg	**Sg**	**00 43 32.4**	**-0.5**
	24nm,0.6s						
EPF	**Esparros**	**6.77**	**28**	Pn	**Pn**	**00 41 36.1**	**+0.9**
EPF				Sn	**Sn**	**00 42 49.4**	**-3.2**
EPF				Lg		00 43 32.4	
	12nm,0.6s						
EPF	**Esparros**	**6.77**	**28**	*e*Pn	**Pn**	**00 41 36.1**	**+0.9**
EPF				*e*Sg	**Sg**	**00 43 32.4**	**-0.5**
	12nm,0.6s						
MLS	**Moulis**	**7.01**	**32**	P	**Pn**	**00 41 39.0**	**+0.5**
MLS				S	**Sn**	**00 42 54.4**	**-4.1**
MTLF	**Montolieu**	**7.82**	**35**	*e*Sn	**Sn**	**00 43 13.9**	**-4.3**
MTLF				*e*Sg	**Sg**	**00 44 05.3**	**-1.0**
	4.9nm,0.6s						
MTLF	**Montolieu**	**7.82**	**35**	Sn	**Sn**	**00 43 13.9**	**-4.3**
MTLF				Lg		00 44 05.3	
	2.5nm,0.6s						
LFF	**La Frestale**	**8.59**	**23**	*e*Pn	**Pn**	**00 42 00.2**	**0.0**
CAF	**Calviac**	**9.04**	**28**	*e*Pn	**Pn**	**00 42 06.6**	**+0.3**
CAF				*e*Sn	**Sn**	**00 43 43.3**	**-5.0**
	3.7nm,0.5s						
CAF	**Calviac**	**9.04**	**28**	*e*Pn	**Pn**	**00 42 06.6**	**+0.3**
CAF				*e*Sn	**Sn**	**00 43 43.3**	**-5.0**
	1.9nm,0.5s						
RJF	**Les Rejaudoux**	**9.17**	**25**	*e*Pn	**Pn**	**00 42 06.5**	**-1.6**
SMRF	**Simiane la Rot**	**9.98**	**44**	*e*Pn	**Pn**	**00 42 17.9**	**-1.4**
TCF	**Toulx Ste Croi**	**10.26**	**25**	*e*Pn	**Pn**	**00 42 22.2**	**-0.9**
BGF	**Bois d'Agland**	**10.72**	**26**	*e*Pn	**Pn**	**00 42 29.1**	**-0.2**
QUIF	**Quistinic**	**10.82**	**3**	*e*Pn	**Pn**	**00 42 30.1**	**-0.5**
SGMF	**Saint Gilles**	**11.19**	**5**	*e*Pn	**Pn**	**00 42 35.3**	**-0.4**
ROSF	**Rostrenen**	**11.23**	**2**	*e*Pn	**Pn**	**00 42 35.7**	**-0.6**
SSF	**Saint Saulge**	**11.38**	**27**	*e*Pn	**Pn**	**00 42 37.6**	**-0.8**
FLN	**La Foliniere**	**11.92**	**11**	*e*Pn	**Pn**	**00 42 46.0**	**+0.3**
VRAC	**Vranov**	**19.25**	**44**	*e*Pn	**Pn**	**00 44 26.4**	**+5.2**
JAVC	**Velka Javorina**	**19.63**	**46**	*e*Pn	**Pn**	**00 44 26.5**	**+0.7**

*PGC **01** 00:51:29.2, 5002N×13030W, h10km, ML3.7, 218km Wsw*

of Pt. Hardy, Bc Vancouver Island Region

*IDC **01** 00:51:31.3±0.9, 5024N×13020W, h0km, mb4.0/6, mb1 4.2/13, mb1mx4.0/30, mbtmp4.0/13, ML3.7/7, MS3.6/12, Ms1 3.6/12, ms1mx3.3/41, Error ellipse: s-maj=18.2km s-min=10.4km az=71.0*

*ISCJB **01** 00:51:32.5±0.4, 5034N±003×12988W±005, h10km, mb4.4/13, MS3.6/7, Error ellipse: s-maj=5.5km s-min=3.7km az=139.8*

*NEIC **01** 00:51:34.4±0.5, 5032N×12994W, h10km, mb4.5/21, MW4.3(PGC), Error ellipse: s-maj=9.2km s-min=4.3km az=53.0*

ISC 01 00:51:34.6±0.4**, 5039N**±003×**12985W**±006**, h10km, n138,** σ1§**22**/146**, mb4.4**/13**, MS3.6**/7**, 16D, Vancouver Island region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
HOLB	**Holberg**	**1.13**	**76**	⇑Pn	**Pn**	**00 51 54.5**	**-2.0**
HOLB				⇑Sn	**Sn**	**00 52 12.3**	**+0.4**
HOLB	**Holberg**	**1.13**	**76**	⇑Pn	**Pn**	**00 51 54.5**	**-2.0**
HOLB				⇑Sn	**Sn**	**00 52 12.3**	**+0.4**
BPBC	**Brooks Peninsu**	**1.35**	**99**	Pn	**Pn**	**00 51 55.5**	**-4.0**
BPBC				⇓Sn	**Sn**	**00 52 14.5**	**-3.1**
BPBC	**Brooks Peninsu**	**1.35**	**99**	Pn	**Pn**	**00 51 55.5**	**-4.0**
BPBC				⇓Sn	**Sn**	**00 52 14.5**	**-3.1**
PHC	**Port Hardy**	**1.58**	**77**	⇑Pn	**Pn**	**00 52 00.8**	**-1.8**
PHC				⇓Sn	**Sn**	**00 52 23.0**	**-0.1**
PHC	**Port Hardy**	**1.58**	**77**	⇑Pn	**Pn**	**00 52 00.8**	**-1.8**
PHC				⇓Sn	**Sn**	**00 52 23.0**	**-0.1**
MAYB	**Maynard**	**1.72**	**88**	Pn	**Pn**	**00 52 01.8**	**-2.7**
MAYB				⇓Sn	**Sn**	**00 52 25.5**	**-0.9**
MAYB	**Maynard**	**1.72**	**88**	Pn	**Pn**	**00 52 01.8**	**-2.7**
MAYB				⇓Sn	**Sn**	**00 52 25.5**	**-0.9**
EDB	**Eliza Dome**	**1.83**	**105**	⇓Pn	**Pn**	**00 52 01.5**	**-4.6**
EDB				⇑Sn	**Sn**	**00 52 25.8**	**-3.6**
EDB	**Eliza Dome**	**1.83**	**105**	⇓Pn	**Pn**	**00 52 01.5**	**-4.6**
EDB				⇑Sn	**Sn**	**00 52 25.8**	**-3.6**
BBB	**Bella Bella**	**2.11**	**31**	Pn	**Pn**	**00 52 09.9**	**+0.1**
	104nm,0.3s,baz=228,slow=13,SNR=824						
BBB				Sn	**Sn**	**00 52 38.4**	**+2.3**
	139nm,0.3s,baz=318,slow=22,SNR=21						
BBB	**Bella Bella**	**2.11**	**31**	⇓Pn	**Pn**	**00 52 10.0**	**+0.1**
BBB				⇑Sn	**Sn**	**00 52 37.8**	**+1.7**
BBB	**Bella Bella**	**2.11**	**31**	⇓Pn	**Pn**	**00 52 10.0**	**+0.1**
BBB				⇑Sn	**Sn**	**00 52 37.8**	**+1.7**
BBB	**Bella Bella**	**2.11**	**31**	Pn	**Pn**	**00 52 09.9**	**+0.1**
BBB				Sn	**Sn**	**00 52 38.4**	**+2.3**
WOSB	**Woss**	**2.12**	**95**	Pn	**Pn**	**00 52 07.4**	**-2.6**
WOSB	**Woss**	**2.12**	**95**	Pn	**Pn**	**00 52 07.4**	**-2.6**
BNB	**Barry Inlet**	**2.49**	**332**	⇑Pn	**Pn**	**00 52 11.1**	**-4.1**
BNB	**Barry Inlet**	**2.49**	**332**	⇑Pn	**Pn**	**00 52 11.1**	**-4.1**
GDR	**Gold River**	**2.53**	**102**	⇑Pn	**Pn**	**00 52 12.3**	**-3.5**
GDR	**Gold River**	**2.53**	**102**	⇑Pn	**Pn**	**00 52 12.3**	**-3.5**
MOBC	**Moresby Island**	**3.06**	**335**	⇑Pn	**Pn**	**00 52 19.6**	**-3.4**
MOBC	**Moresby Island**	**3.06**	**335**	⇑Pn	**Pn**	**00 52 19.6**	**-3.4**
OZB	**Mount Ozzard**	**3.17**	**115**	⇓Pn	**Pn**	**00 52 18.7**	**-5.8**
OZB	**Mount Ozzard**	**3.17**	**115**	⇓Pn	**Pn**	**00 52 18.7**	**-5.8**
DIB	**Dawson Inlet,**	**3.26**	**331**	Pn	**Pn**	**00 52 22.3**	**-3.4**
DIB	**Dawson Inlet,**	**3.26**	**331**	⇓Pn	**Pn**	**00 52 21.7**	**-4.0**
DIB	**Dawson Inlet,**	**3.26**	**331**	⇓Pn	**Pn**	**00 52 21.7**	**-4.0**
VIB	**Van Inlet**	**3.32**	**331**	Pn	**Pn**	**00 52 23.2**	**-3.3**
VIB	**Van Inlet**	**3.32**	**331**	⇓Pn	**Pn**	**00 52 22.6**	**-4.0**
VIB	**Van Inlet**	**3.32**	**331**	⇓Pn	**Pn**	**00 52 22.6**	**-4.0**
NLWA	**Neilton Lookou**	**4.96**	**125**	*e*Pn	**Pn**	**00 52 48.8**	**-0.2**
RPW	**Rockport**	**5.78**	**106**	*e*Pn	**Pn**	**00 52 59.5**	**-0.8**
FMW	**Mount Fremont**	**6.43**	**119**	P	**Pn**	**00 53 08.3**	**-0.9**
LON	**Longmire**	**6.46**	**121**	*e*Pn	**Pn**	**00 53 09.7**	**+0.1**
	22nm,0.7s						
ETW	**Entiat**	**6.86**	**110**	*e*Pn	**Pn**	**00 53 15.7**	**+0.6**
TBM	**Table Mountain**	**6.91**	**114**	P	**Pn**	**00 53 15.4**	**-0.4**
ASR	**Mount Adams--S**	**6.95**	**124**	P	**Pn**	**00 53 16.1**	**-0.3**
WTV	**Waterville**	**7.04**	**109**	P	**Pn**	**00 53 17.2**	**-0.4**
EBG	**Ellensburg**	**7.07**	**116**	P	**Pn**	**00 53 17.6**	**-0.4**
EPH	**Ephrata**	**7.41**	**110**	P	**Pn**	**00 53 21.5**	**-1.2**
RSW	**Rattlesnake Hi**	**7.91**	**116**	*e*Pn	**Pn**	**00 53 30.1**	**+0.6**
OD2	**Odessa Site #2**	**7.93**	**108**	P	**Pn**	**00 53 28.6**	**-1.2**
HAWA	**Hanford**	**7.95**	**116**	*e*Pn	**Pn**	**00 53 30.3**	**+0.2**
DLBC	**Dease Lake**	**8.07**	**359**	Pn	**Pn**	**00 53 33.3**	**+1.6**
	baz=156,slow=19						
DLBC	**Dease Lake**	**8.07**	**359**	*e*Pn	**Pn**	**00 53 33.9**	**+2.2**
NEW	**Newport**	**8.58**	**99**	*e*Pn	**Pn**	**00 53 37.9**	**-0.9**
LNOR	**Lincton Mounta**	**8.96**	**116**	*e*Pn	**Pn**	**00 53 43.9**	**-0.1**
YBH	**Yreka Blue Hor**	**9.97**	**147**	Pn	**Pn**	**00 53 57.7**	**-0.2**
	0.1nm,0.3s,baz=251,slow=18,SNR=2.0						
YBH				LR	LR	00 57 24.6	
	comp=Z,411nm,18.3s,baz=329,slow=35						
BMO	**Blue Mountains**	**10.11**	**118**	*e*Pn	**Pn**	**00 54 00.3**	**+0.6**
WVOR	**Wild Horse Val**	**11.09**	**132**	*e*Pn	**Pn**	**00 54 13.5**	**+0.4**
	66nm,1.7s						
MSO	**Missoula**	**11.12**	**103**	*e*Pn	**Pn**	**00 54 12.7**	**-0.8**
CHMT	**Chamberlain Mo**	**11.52**	**101**	*e*Pn	**Pn**	**00 54 18.6**	**-0.4**
HRY	**Holter Researc**	**12.49**	**100**	*e*Pn	**Pn**	**00 54 31.4**	**-0.8**
HLID	**Hailey**	**12.55**	**117**	*e*Pn	**Pn**	**00 54 32.8**	**-0.2**
DLMT	**Dillon**	**12.62**	**107**	*e*Pn	**Pn**	**00 54 34.6**	**+0.6**
BMN	**Battle Mountai**	**13.31**	**134**	*e*Pn	**Pn**	**00 54 43.4**	**-0.2**
QLMT	**Earthquake Lak**	**13.60**	**107**	*e*Pn	**Pn**	**00 54 48.7**	**+1.2**
YMR	**Madison River**	**13.97**	**107**	*e*Pn	**Pn**	**00 54 52.9**	**+0.5**
	38nm,1.4s						
ELK	**Elko**	**14.04**	**128**	Pn	**Pn**	**00 54 57.7**	**+4.3**
	0.1nm,0.3s,baz=290,slow=11,SNR=12						
ELK				LR	LR	01 00 18.3	
	comp=Z,230nm,18.4s,baz=94,slow=37						
ELK	**Elko**	**14.04**	**128**	*e*Pn	**Pn**	**00 54 53.5**	**+0.1**
GCMT	**Greycliff**	**14.24**	**101**	*e*Pn	**Pn**	**00 54 57.6**	**+1.4**
DCID1	**Drake Creek**	**14.42**	**111**	*e*Pn	**Pn**	**00 54 59.0**	**+0.4**
RRI2	**Red Ridge**	**14.48**	**112**	*e*Pn	**Pn**	**00 55 01.1**	**+1.7**
NVAR	**Mina Array Bea**	**14.50**	**141**	Pn	**Pn**	**00 55 02.6**	**+2.9**
	0.1nm,0.3s,baz=314,slow=11,SNR=9.2						
MOOW	**Moose Ponds**	**14.60**	**110**	*e*Pn	**Pn**	**00 55 02.5**	**+1.5**
TPAW	**Teton Pass**	**14.62**	**111**	*e*Pn	**Pn**	**00 55 03.6**	**+2.3**
HVU	**Hansel Valley**	**14.62**	**120**	*e*Pn	**Pn**	**00 55 01.2**	**-0.1**
DAWY	**Dawson**	**14.63**	**343**	*e*Pn	**Pn**	**00 55 04.2**	**+2.9**
YKA	**Yellowknife Ar**	**14.72**	**29**	Pn	**Pn**	**00 55 01.9**	**-0.6**
	0.2nm,0.3s,baz=220,slow=12,SNR=4.1						
YKA				LR	LR	01 00 09.9	
	comp=Z,42nm,21.0s,baz=45,slow=35						
REDW	**Red Top Meadow**	**14.75**	**111**	*e*Pn	**Pn**	**00 55 05.2**	**+2.1**
SNOW	**Snow King Moun**	**14.75**	**111**	*e*Pn	**Pn**	**00 55 05.5**	**+2.5**
LOHW	**Long Hollow**	**14.76**	**110**	*e*Pn	**Pn**	**00 55 06.2**	**+3.0**
RLMT	**Red Lodge**	**14.80**	**103**	*e*Pn	**Pn**	**00 55 05.7**	**+2.0**
AHID	**Auburn Hatcher**	**14.95**	**113**	*e*Pn	**Pn**	**00 55 06.4**	**+0.5**
BGU	**Big Grassy Mou**	**15.06**	**122**	*e*Pn	**Pn**	**00 55 07.7**	**+0.3**
SPUT	**South Promonto**	**15.12**	**120**	*e*Pn	**Pn**	**00 55 09.3**	**+1.3**
KDAK	**Kodiak Island**	**15.20**	**308**	LR	LR	00 59 05.2	
	comp=Z,386nm,21.4s,baz=126,slow=30						
TPH	**Tonopah**	**15.25**	**139**	*e*Pn	**Pn**	**00 55 12.1**	**+2.3**
	13nm,0.8s						
MTUM	**Tungsten Hills**	**15.34**	**144**	*e*Pn	**Pn**	**00 55 10.7**	**-0.3**
HWUT	**Hardware Ranch**	**15.41**	**118**	*e*Pn	**Pn**	**00 55 13.2**	**+1.3**
DUG	**Dugway**	**15.70**	**124**	*e*Pn	**Pn**	**00 55 15.5**	**-0.2**
	29nm,1.3s						
BW06	**Boulder Array**	**15.87**	**111**	*e*Pn	**Pn**	**00 55 19.2**	**+1.4**
	26nm,1.1s						
PDAR	**Pinedale Array**	**15.87**	**111**	Pn	**Pn**	**00 55 19.1**	**+1.2**
	0.1nm,0.3s,baz=307,slow=9.1,SNR=26						
PDAR				LR	LR	01 01 31.9	
	comp=Z,245nm,20.1s,baz=341,slow=38						
LAO	**LASA Array**	**16.06**	**94**	*e*Pn	**Pn**	**00 55 20.8**	**+0.4**
	28nm,1.0s						
JLU	**Jordanelle**	**16.15**	**120**	*e*Pn	**Pn**	**00 55 21.6**	**+0.1**
NLU	**North Lily Min**	**16.27**	**123**	*e*Pn	**Pn**	**00 55 24.8**	**+1.8**
DAU	**Daniels Canyon**	**16.39**	**120**	*e*Pn	**Pn**	**00 55 24.3**	**-0.3**
MPU	**Maple Canyon**	**16.46**	**122**	*e*Pn	**Pn**	**00 55 25.6**	**+0.1**
TPNV	**Topopah Spring**	**16.61**	**139**	*e*Pn	**Pn**	**00 55 26.9**	**-0.5**
DGMT	**Dagmar**	**16.78**	**87**	*e*Pn	**Pn**	**00 55 30.4**	**+0.9**
ISA	**Isabella**	**16.87**	**146**	*e*Pn	**Pn**	**00 55 32.3**	**+1.5**
ARUT	**Antelope Range**	**17.20**	**131**	*e*Pn	**Pn**	**00 55 34.6**	**-0.3**
MSU	**Marysvale**	**17.27**	**127**	*e*Pn	**Pn**	**00 55 36.6**	**+0.9**
FFC	**Flin Flon**	**17.44**	**65**	*e*Pn	**Pn**	**00 55 38.7**	**+1.0**
SHPR	**Sheep Range**	**17.45**	**137**	*e*Pn	**Pn**	**00 55 38.7**	**+0.7**
SRU	**San Rafael**	**17.70**	**122**	*e*Pn	**Pn**	**00 55 42.2**	**+1.1**
BPAW	**Bear Paw Mtn.**	**17.75**	**329**	*e*Pn	**Pn**	**00 55 42.6**	**+1.1**
	11nm,1.0s						
GSC	**Goldstone**	**17.81**	**143**	*e*Pn	**Pn**	**00 55 44.1**	**+1.6**
CHUM	**Lake Minchumin**	**18.06**	**327**	*e*Pn	**Pn**	**00 55 47.0**	**+1.6**
	39nm,1.4s						
RSSD	**Black Hills**	**18.56**	**100**	*e*Pn	**Pn**	**00 55 52.3**	**+0.7**
LDFC	**Landfair**	**18.69**	**139**	*e*Pn	**Pn**	**00 55 51.8**	**-1.4**
PV10	**Paradox Valley**	**19.04**	**121**	*e*P	**Pn**	**00 55 57.0**	**-0.4**
PHWY	**Pilot Hill**	**19.20**	**109**	*e*Pn	**Pn**	**00 55 58.0**	**-1.3**
PFO	**Pinyon Flat Ob**	**19.45**	**144**	P	**Pn**	**00 55 58.8**	**-3.5**

	0.1nm,0.3s,baz=275,slow=11,SNR=3.3						
PV01	Paradox Valley	19.47	121	eP	Pn	00 56 00.9	-1.7
COLD	Coldfoot	19.73	336	eP	Pn	00 56 05.5	0.0
	67nm,1.1s						
IMA2	Indian Mountai	19.90	331	ePn	Pn	00 56 08.5	+1.0
WUAZ	Wupatki	20.01	131	eP	P	00 56 06.5	-0.8
	91nm,2.3s						
ISCO	Idaho Springs	20.03	113	ePn	P	00 56 08.2	+0.7
	23nm,1.5s						
MVCO	Mesa Verde	20.18	123	eP	P	00 56 08.2	-0.9
	74nm,1.5s						
GLA	Glamis	20.57	142	ePn	P	00 56 13.3	-0.1
	23nm,1.4s						
SDCO	Great Sand Dun	21.47	117	eP	P	00 56 22.4	-0.7
	16nm,1.3s,mb4.2						
OGNE	Ogallala	21.50	105	eP	P	00 56 23.3	-0.1
	81nm,1.4s,mb5.0						
ULM	Lac du Bonnet	21.59	77	P	P	00 56 24.3	0.0
	41nm,0.8s,mb4.9,baz=285,slow=11,SNR=12						
ULM	Lac du Bonnet	21.59	77	eP	P	00 56 24.4	+0.1
	63nm,1.0s,mb5.0						
AGMN	Agassiz Refuge	22.14	82	eP	P	00 56 30.7	+0.5
	67nm,1.8s,mb4.8						
TUC	Tucson	22.93	135	eP	P	00 56 39.0	+0.3
ANMO	Albuquerque	22.96	123	P	P	00 56 37.1	-1.9
	6.5nm,1.0s,mb4.0,baz=70,slow=23,SNR=17						
ANMO				LR	LR	01 05 17.6	
	comp=Z,86nm,21.2s,MS3.2,baz=337,slow=36						
ANMO	Albuquerque	22.96	123	eP	P	00 56 37.9	-1.2
LAZ	Ladron	23.02	125	eP	P	00 56 40.0	+0.4
LENM	Lemitar	23.29	125	eP	P	00 56 41.7	-0.8
LPM	Los Pinos Moun	23.36	125	P	P	00 56 40.8	-2.4
ECSD	EROS,Sioux Fal	23.46	94	eP	P	00 56 43.4	-0.8
BNM	Barren Site	23.49	125	eP	P	00 56 43.4	-1.2
AMTX	Amarillo	25.67	116	eP	P	00 57 03.5	-1.0
	18nm,0.9s,mb4.6						
WMOK	Wichita Mounta	27.46	113	eP	P	00 57 19.0	-1.7
	7.1nm,0.4s,mb4.5						
TXAR	Lajitas Array	28.83	127	P	P	00 57 30.9	-2.0
	2.4nm,0.9s,mb3.9,baz=337,slow=6.7,SNR=15						
TXAR				LR	LR	01 09 39.6	
	comp=Z,153nm,20.0s,MS3.6,baz=5.0,slow=38						
TXAR	Lajitas Array	28.83	127	P	P	00 57 30.9	-2.0
TXAR				LR	LR	01 09 39.6	
JCT	Junction City	29.99	120	eP	P	00 57 43.3	+0.1
	7.1nm,0.8s,mb4.5						
MIAR	Mount Ida	30.73	107	eP	P	00 57 49.7	+0.1
	11nm,1.1s,mb4.6						
SCHQ	Schefferville	37.38	58	LR	LR	01 14 38.8	
	comp=Z,295nm,18.5s,MS4.1,baz=323,slow=37						
PETK	Petropavlovsk-	43.17	303	P	P	00 59 32.9	-2.3
	1.9nm,0.7s,mb4.0,baz=62,slow=8.4,SNR=3.9						
PETK				LR	LR	01 15 28.1	
	comp=Z,47nm,18.4s,MS3.4,baz=277,slow=33						
SPITS	Spitsbergen Ar	50.06	9	LR	LR	01 20 33.6	
	comp=Z,53nm,21.9s,MS3.5,baz=160,slow=35						
KSRS	Korea Array	69.06	304	LR	LR	01 33 01.7	
	comp=Z,24nm,19.0s,MS3.5,baz=161,slow=36						
BVAR	Borovoye Array	75.56	348	P	P	01 03 17.0	-1.9
	0.8nm,0.8s,mb3.7,baz=44,slow=6.6,SNR=3.9						
AKASG	Malin Array Be	77.72	13	P	P	01 03 29.3	-1.9
	1.5nm,0.8s,mb4.0,baz=340,slow=5.4,SNR=4.3						
CMAR	Chiang Mai Arr	99.12	314	LR	LR	01 52 07.1	
	comp=Z,53nm,18.6s,MS4.1,baz=274,slow=37						
BOSA	Boshof	151.23	50	PKPbc	PKPbc	01 11 29.2	+1.3
	1.6nm,0.6s,baz=341,slow=11,SNR=4.8						

*IDC **01** 00:52:02.0±0.7, 3790N×10197E, h0km, mb4.2/14, mb1 4.3/18, mb1mx4.2/29, mbtmp4.2/18, ML4.2/3, MS3.4/7, Ms1 3.4/7, ms1mx3.1/38, Error ellipse: s-maj=20.6km s-min=13.7km az=49.0*

*MOS **01** 00:52:04.8±0.9, 3791N×10197E, h30km, mb4.7/22, Error ellipse: s-maj=13.1km s-min=5.8km az=109.1*

*BJI **01** 00:52:05.4, 3789N×10203E, h30km, mB4.5, mb4.4, ML4.4, Ms4.3, Msz3.8*

*ISCJB **01** 00:52:06.2±0.8, 3792N±004×102.11E±006, h46km±7km, mb4.3/37, MS3.5/7, Error ellipse: s-maj=7.7km s-min=6.1km az=9.7*

*NEIC **01** 00:52:07.9±0.7, 3793N×10201E, h39km±7km, mb4.6/19, Error ellipse: s-maj=8.5km s-min=5.6km az=64.0*

ISC 01 00:52:02.6±0.8**, 3796N**±003×**10204E**±004**, h0**km±6km**, n126, σ1§08**/130**, mb4.5**/36**, MS3.5**/7**, 1C, Gansu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
GTA	Gaotai	2.27	310	P	Pn	00 52 42.9	+1.7
GTA				PG	Pg	00 52 44.6	-1.4
GTA				SG	Sg	00 53 14.2	-1.2
GTA				Smax			
	comp=N,5μm,0.4s						
GTA				Smax			
	comp=E,4μm,0.4s						
LZH	Lanzhou	2.36	142	P	Pn	00 52 44.7	+2.2
LZH				PG	Pg	00 52 47.0	-0.8
LZH				SG	Sg	00 53 18.2	-0.2
LZH				Smax			
	comp=N,3μm,0.7s						
LZH				LR	LR		
	comp=Z,5μm,8.3s						
XAN	Xi'an	6.81	123	P	Pn	00 53 43.3	-0.4
XAN				PG	Pg	00 54 07.8	-5.2
XAN				SG	Sg	00 55 40.1	-1.2
XAN				Smax			
	comp=N,83nm,0.9s						
XAN				Smax			
	comp=E,147nm,0.9s						
CD2	Chengdu	7.17	168	eP	Pn	00 53 50.3	+1.7
CD2				SG	Sg	00 55 48.1	-4.8
CD2				Smax			
	comp=N,50nm,1.4s						
CD2				Smax			
	comp=E,50nm,1.7s						
CD2				LR	LR		
	comp=N,1μm,9.0s						
CD2				LR	LR		
	comp=E,1μm,7.8s						
SONM	Songino Array	10.37	17	Pn	Pn	00 54 34.3	+1.8
	comp=E,7.0nm,0.3s,baz=199,slow=14,SNR=122						
SONM				Lg		00 57 32.1	
	comp=E,2.6nm,0.3s,baz=212,slow=33,SNR=10						
SONM				LR	LR	00 59 05.0	
	comp=E,266nm,19.4s,baz=11,slow=40						
ULN	Ulaanbaatar	10.56	19	eP	Pn	00 54 36.9	+1.9
ULN				pmax	pmax		
	comp=Z,17nm,0.6s						
ULN	Ulaanbaatar	10.56	19	ePn	Pn	00 54 36.9	+1.8
	comp=Z,18nm,0.6s						
GYA	Guiyang	12.11	160	P	Pn	00 54 56.3	-0.1
GYA				AMB	AMB		
	comp=Z,40nm,0.8s						
WMQ	Urumqi	12.33	303	P	Pn	00 55 05.4	+6.2
ZAK	Zakamensk	12.45	4	⇑iP	Pn	00 55 03.2	+2.3
ZAK				pmax	pmax		
	comp=Z,32nm,0.7s						
MOY	Mondy	13.73	357	eP	Pn	00 55 21.5	+3.2
TLY	Talaya	13.77	4	eP	Pn	00 55 21.7	+2.8
TLY				pmax	pmax		
	comp=Z,15nm,0.5s						
TLY				MLR	MLR		
	comp=Z,203nm,11.0s						
TLY	Talaya	13.77	4	ePn	Pn	00 55 22.0	+3.2
	comp=Z,40nm,0.6s						
ODAN	Odare	16.57	232	eP	Pn	00 55 56.8	+0.5
	comp=Z,38nm,0.7s						
JIRN	Jiri	16.80	237	eP	Pn	00 56 00.5	+1.4
	comp=Z,16nm,0.7s						
GUN	Gumba	16.84	238	eP	Pn	00 56 01.0	+1.3
	comp=Z,25nm,0.4s						
RAMN	Ramite	17.01	234	eP	Pn	00 56 02.3	+0.5
	comp=Z,12nm,0.6s						
MK31	Makanchi Array	17.02	308	eP	Pn	00 56 04.3	+2.5
MKAR	Makanchi Array	17.02	308	P	Pn	00 56 00.3	-1.5
	comp=Z,0.1nm,0.3s,baz=115,slow=14,SNR=7.1						
MKAR				Lg		01 01 06.0	
	comp=Z,0.1nm,0.3s,baz=107,slow=20,SNR=3.6						
MKAR				LR	LR	01 03 10.1	
	comp=Z,97nm,18.1s,baz=261,slow=39						
KKN	Kakani	17.32	239	eP	Pn	00 56 06.7	+0.9
	comp=Z,30nm,0.8s						
DMN	Daman	17.56	239	eP	Pn	00 56 10.4	+1.7
	comp=Z,26nm,0.9s						
GKN	Gorkha	17.63	241	eP	Pn	00 56 10.8	+1.2
DANN	Dangsing	18.03	243	eP	Pn	00 56 15.1	+0.6
	comp=Z,11nm,0.4s						
KOLN	Koldanda	18.49	242	eP	Pn	00 56 21.2	+1.0
	comp=Z,7.7nm,0.6s						
CHTO	Chiang Mai	19.26	189	eP	Pn	00 56 28.8	-0.8
CHTO				pmax	pmax		
	comp=Z,9.0nm,0.7s						
CHTO	Chiang Mai	19.26	189	eP	Pn	00 56 28.8	-0.8
	comp=Z,8.7nm,0.7s						
CMAR	Chiang Mai Arr	19.62	189	P	Pn	00 56 32.0	-1.7
	comp=Z,0.6nm,0.3s,baz=356,slow=9.5,SNR=25						
CMAR	Chiang Mai Arr	19.62	189	P	Pn	00 56 32.1	-1.7
CMAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ZAA0	Zalesovo Array	19.89	329	eP	Pn	00 56 35.4	-1.4
ZALV	Zalesovo Beam	19.89	329	P	Pn	00 56 34.5	-2.3
	comp=Z,0.8nm,0.3s,baz=130,slow=12,SNR=19						
ZALV				Lg		01 02 32.0	
	baz=130,slow=24,SNR=2.7						
ZALV				LR	LR	01 04 30.6	
	comp=Z,58nm,18.0s,baz=138,slow=38						
ZALV	Zalesovo Beam	19.89	329	P	Pn	00 56 34.5	-2.3
ZALV				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ZALV				MLR	MLR		
	comp=Z,58nm,18.0s						
ZALV	Zalesovo Beam	19.89	329	P	Pn	00 56 34.5	-2.4
KSRS	Korea Array	20.47	83	P	P	00 56 42.9	+1.2
	comp=Z,3.2nm,0.5s,baz=277,slow=9.8,SNR=15						
KSRS				LR	LR	01 05 56.5	
	comp=Z,70nm,18.6s,MS3.0,baz=280,slow=41						
KSRS	Korea Array	20.47	83	P	P	00 56 42.9	+1.2
KSRS				pmax	pmax		
	comp=Z,3.0nm,0.5s						
KSRS				MLR	MLR		
	comp=Z,70nm,18.6s,MS3.0						
KURK	Kurchatov	20.95	315	P	P	00 56 46.7	-0.1
	comp=Z,14nm,0.5s,baz=129,slow=9.9,SNR=37						
KURK				Lg		01 03 08.1	
	comp=Z,1.1nm,0.9s,baz=109,slow=23,SNR=3.9						
KURK	Kurchatov	20.95	315	P	P	00 56 46.7	-0.1
NVS	Novosibirsk	21.18	329	iP	P	00 56 50.8	+1.6
NVS				pmax	pmax		
	comp=Z,14nm,1.3s,mb4.1						
NVS				pmax	pmax		
	comp=N,26nm,2.1s						
NVS				pmax	pmax		
	comp=E,10.0nm,1.0s						
BOD	Bodaibo	21.37	18	eP	P	00 56 52.2	+1.0
BOD				pmax	pmax		
	comp=Z,15nm,0.9s,mb4.3						
AML	Almayashu	22.05	290	eP	P	00 57 01.8	+3.1
	comp=Z,3.8nm,0.5s,mb4.1						
BVAR	Borovoye Array	26.55	315	P	P	00 57 42.3	+0.5
	comp=Z,4.4nm,0.7s,mb4.3,baz=107,slow=8.8,SNR=17						
BVAR				LR	LR	01 09 27.3	
	comp=Z,68nm,19.4s,MS3.2,baz=207,slow=39						
BVAR	Borovoye Array	26.55	315	P	P	00 57 42.3	+0.5
BVAR				pmax	pmax		
	comp=Z,4.0nm,0.7s						
BVAR				MLR	MLR		
	comp=Z,68nm,19.4s						
BRVK	Borovoye	26.62	315	eP	P	00 57 42.7	+0.3
BRVK				pmax	pmax		
	comp=Z,8.0nm,0.8s,mb4.5						
BRVK	Borovoye	26.62	315	eP	P	00 57 42.6	+0.2
	comp=Z,7.9nm,0.8s,mb4.5						
ASAJ	Asahikawa	30.97	66	LR	LR	01 11 26.3	
	comp=Z,55nm,20.3s,MS3.2,baz=160,slow=38						
AKTK	Aktyubinsk	33.45	306	P	P	00 58 41.3	-1.7
AKTK				LR	LR	01 13 18.3	
AKTO	Aktyubinsk	33.45	306	P	P	00 58 41.3	-1.7
	comp=Z,0.7nm,0.5s,mb3.9,baz=80,slow=9.9,SNR=2.7						
AKTO				LR	LR	01 13 18.3	
	comp=Z,90nm,18.8s,MS3.5,baz=142,slow=38						
AKTO	Aktyubinsk	33.45	306	P	P	00 58 41.3	-1.7
AKTO				pmax	pmax		
	comp=Z,1.0nm,0.5s,mb4.0						
AKTO				MLR	MLR		
	comp=Z,90nm,18.8s,MS3.5						
ARU	Arti	34.11	317	P	P	00 58 48.7	+0.1
ARU	Arti	34.11	317	eP	P	00 58 48.7	+0.1
	comp=Z,24nm,0.7s,mb5.2						
PETK	Petropavlovsk-	40.76	50	P	P	00 59 44.6	-0.3
	comp=Z,3.2nm,0.9s,mb4.0,baz=308,slow=7.0,SNR=4.0						
JOF	Joensuu	48.40	325	ep	P	01 00 46.7	+0.8
	comp=Z,0.5nm,0.3s,mb4.1						
JOF	Joensuu	48.40	325	eP	P	01 00 46.7	+0.8
JOF				pmax	pmax		
	comp=Z,1.0nm,0.3s,mb4.4						
KEV	Kevo	49.82	334	ep	P	01 00 56.4	-0.2
	comp=Z,1.1nm,0.3s,mb4.3						
KEV	Kevo	49.82	334	eP	P	01 00 56.4	-0.2
KEV				pmax	pmax		
	comp=Z,1.0nm,0.3s,mb4.2						
ARCES	ARCESS Array B	50.35	334	P	P	01 01 00.7	0.0
	comp=Z,6.6nm,0.8s,mb4.6,baz=79,slow=7.8,SNR=17						
ARCES	ARCESS Array B	50.35	334	P	P	01 01 00.7	0.0
ARCES				pmax	pmax		
	comp=Z,7.0nm,0.9s						
KAF	Kangasniemi	50.79	324	ep	P	01 01 03.5	-0.6
	comp=Z,0.6nm,0.4s,mb3.9						
KAF	Kangasniemi	50.79	324	eP	P	01 01 03.5	-0.6
KAF				pmax	pmax		
	comp=Z,1.0nm,0.4s,mb4.1						
AKASG	Malin Array Be	51.60	309	P	P	01 01 09.4	-1.0
	comp=Z,2.6nm,0.7s,mb4.3,baz=63,slow=7.5,SNR=3.9						
AKASG	Malin Array Be	51.60	309	P	P	01 01 09.4	-0.9
AKASG				pmax	pmax		
	comp=Z,3.0nm,0.7s						
BR131	Keskin Array S	52.10	295	eP	P	01 01 14.5	+0.3
	comp=Z,0.7nm,0.6s,mb3.8						
KWP	Kalwaria	55.91	310	eP	P	01 01 42.2	+0.2
KWP				pmax	pmax		
	comp=Z,12nm,0.9s,mb4.9						
KWP	Kalwaria	55.91	310	eP	P	01 01 42.2	+0.3
	comp=Z,12nm,0.9s,mb4.9						
NB2	NORSAR Subarra	58.03	325	P	P	01 01 55.6	-1.2
	comp=Z,3.4nm,0.7s,mb4.5,baz=70,slow=7.4						
NOA	NORSAR Array B	58.03	325	P	P	01 01 55.8	-1.0
	comp=Z,3.0nm,0.6s,mb4.5,baz=71,slow=7.1,SNR=10						
NOA	NORSAR Array B	58.03	325	P	P	01 01 55.8	-1.0
NOA				pmax	pmax		
	comp=Z,3.0nm,0.6s						
VRAC	Vranov	59.73	311	P	P	01 02 07.7	-1.1
	comp=Z,1.4nm,0.4s,mb4.3,baz=157,slow=15,SNR=2.3						
VRAC	Vranov	59.73	311	P	P	01 02 07.7	-1.1
VRAC				pmax	pmax		
	comp=Z,1.0nm,0.4s						
GERES	GERESS Array B	61.64	311	P	P	01 02 21.4	-0.5
	comp=Z,0.5nm,0.8s,mb3.8,baz=336,slow=2.2,SNR=1.5						
GERES	GERESS Array B	61.64	311	P	P	01 02 21.4	-0.5
GERES				pmax	pmax		
	comp=Z,1.0nm,0.8s						
COLA	College	64.03	26	eP	P	01 02 38.0	+0.5
COLA				pmax	pmax		
	comp=Z,10.0nm,0.8s,mb5.1						
COLA	College	64.03	26	eP	P	01 02 38.0	+0.5
	comp=Z,10nm,0.8s,mb5.1						
DAVOX	Davos/Dischmat	64.88	311	P	P	01 02 43.2	-0.2
	comp=Z,1.5nm,0.6s,mb4.4,baz=146,slow=18,SNR=3.2						
DAVOS	Davos	64.91	311	P	P	01 02 43.2	-0.3
WRA	Warramunga Arr	65.11	146	P	P	01 02 43.5	-1.5
	comp=Z,0.7nm,0.6s,mb4.1,baz=345,slow=6.9,SNR=6.7						
WRA	Warramunga Arr	65.11	146	P	P	01 02 43.5	-1.5
WRA				pmax	pmax		
	comp=Z,1.0nm,0.6s						
CDF	Champ du Feu	65.61	313	eP	P	01 02 47.4	-0.6
	comp=Z,7.2nm,0.9s,mb4.6						
CDF	Champ du Feu	65.61	313	eP	P	01 02 47.4	-0.6
CDF				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb4.7						
CDF	Champ du Feu	65.61	313	eP	P	01 02 47.4	-0.6
	comp=Z,3.6nm,0.9s,mb4.6						
HINF	Hinteralfeld	66.15	313	eP	P	01 02 50.3	-1.3
BAIF	Baives	66.49	316	eP	P	01 02 53.2	-0.5
	comp=Z,10nm,0.9s,mb4.8						
BAIF	Baives	66.49	316	eP	P	01 02 53.2	-0.5
BAIF				pmax	pmax		
	comp=Z,5.0nm,0.9s,mb4.7						
BAIF	Baives	66.49	316	eP	P	01 02 53.2	-0.5
	comp=Z,5.2nm,0.9s,mb4.8						
LPG	La Plagne	67.41	311	eP	P	01 02 59.7	+0.1
	comp=Z,10nm,0.7s,mb4.9						
LPG	La Plagne	67.41	311	eP	P	01 02 59.7	+0.1
LPG				pmax	pmax		
	comp=Z,5.0nm,0.7s,mb4.8						
LPG	La Plagne	67.41	311	eP	P	01 02 59.7	+0.1
	comp=Z,5.2nm,0.7s,mb4.9						
LPL	La Plagne	67.41	311	eP	P	01 02 59.7	+0.1
	comp=Z,8.5nm,0.8s,mb4.8						
LPL	La Plagne	67.41	311	eP	P	01 02 59.7	+0.1
LPL				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.7						
LPL	La Plagne	67.41	311	eP	P	01 02 59.7	+0.1
	comp=Z,4.3nm,0.8s,mb4.7						
MBDF	Montbardon	67.80	310	eP	P	01 03 02.4	+0.3
	comp=Z,27nm,1.3s,mb5.0						
MBDF	Montbardon	67.80	310	eP	P	01 03 02.4	+0.3
MBDF				pmax	pmax		
	comp=Z,13nm,1.3s,mb5.0						
MBDF	Montbardon	67.80	310	eP	P	01 03 02.4	+0.3
	comp=Z,13nm,1.3s,mb5.0						
LOR	Lormes	68.17	313	eP	P	01 03 04.1	-0.3
LOR				eMLR	MLR		
	comp=Z,53nm,17.2s,MS3.5						
LOR	Lormes	68.17	313	eP	P	01 03 04.1	-0.3
LOR				LR	LR		
	comp=Z,50nm,17.3s,MS3.8						
ASAR	Alice Springs	68.22	149	P	P	01 03 04.1	-0.7
	comp=Z,0.8nm,0.6s,mb4.2,baz=335,slow=6.8,SNR=11						
ASAR	Alice Springs	68.22	149	P	P	01 03 04.1	-0.7
ASAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
ORIF	Oris-en-Rattie	68.24	310	eP	P	01 03 04.3	-0.6
	comp=Z,10nm,0.8s,mb4.8						
ORIF				eMLR	MLR		
	comp=Z,92nm,19.5s,MS3.7						
ORIF	Oris-en-Rattie	68.24	310	eP	P	01 03 04.3	-0.6
ORIF				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.8						
ORIF	Oris-en-Rattie	68.24	310	eP	P	01 03 04.3	-0.6
	comp=Z,5.1nm,0.8s,mb4.8						
SSF	Saint Saulge	68.48	313	eP	P	01 03 06.2	-0.2
FRF	La Foret Royal	68.50	309	eP	P	01 03 06.1	-0.4
SMF	Signal de Mont	68.51	313	eP	P	01 03 06.4	-0.2
	comp=Z,5.0nm,0.7s,mb4.5						
SMF	Signal de Mont	68.51	313	eP	P	01 03 06.4	-0.2
SMF				pmax	pmax		
	comp=Z,3.0nm,0.7s,mb4.6						
SMF	Signal de Mont	68.51	313	eP	P	01 03 06.4	-0.2
	comp=Z,2.5nm,0.7s,mb4.5						
AVF	Avril sur Loir	68.72	313	eP	P	01 03 07.5	-0.3
VIVF	Saint-Julien-l	69.00	311	eP	P	01 03 09.1	-0.5
TCF	Toulx Ste Croi	69.65	313	eP	P	01 03 12.7	-0.9
	comp=Z,3.5nm,0.6s,mb4.4						
TCF	Toulx Ste Croi	69.65	313	eP	P	01 03 12.7	-0.9
	comp=Z,1.8nm,0.6s,mb4.4						
LDF	La Druitiere	69.67	316	eP	P	01 03 13.2	-0.5
	comp=Z,12nm,0.8s,mb4.8						
LDF	La Druitiere	69.67	316	eP	P	01 03 13.2	-0.5
LDF				pmax	pmax		
	comp=Z,6.0nm,0.8s,mb4.8						
LDF	La Druitiere	69.67	316	eP	P	01 03 13.2	-0.5
	comp=Z,6.0nm,0.8s,mb4.8						
GRR	Gorron	70.19	316	eP	P	01 03 16.2	-0.7
	comp=Z,14nm,0.7s,mb4.9						
GRR	Gorron	70.19	316	eP	P	01 03 16.2	-0.7
GRR				pmax	pmax		
	comp=Z,7.0nm,0.6s,mb5.0						
GRR	Gorron	70.19	316	eP	P	01 03 16.2	-0.7
	comp=Z,6.8nm,0.6s,mb5.0						
HYT	Haines Junctio	70.27	27	eP	P	01 03 17.5	+0.3
RJF	Les Rejaudoux	70.61	313	eP	P	01 03 19.1	-0.4
	comp=Z,22nm,1.2s,mb4.9						
RJF				eMLR	MLR		
	comp=Z,71nm,18.8s,MS3.6						
RJF	Les Rejaudoux	70.61	313	eP	P	01 03 19.1	-0.4
	comp=Z,11nm,1.2s,mb4.9						
RJF				LR	LR		
	comp=Z,70nm,18.8s,MS3.9						
MFF	Saint Martin d	70.82	314	eP	P	01 03 19.7	-1.1
	comp=Z,13nm,0.6s,mb5.0						
MFF	Saint Martin d	70.82	314	eP	P	01 03 19.7	-1.1
MFF				pmax	pmax		
	comp=Z,6.0nm,0.6s,mb4.9						
MFF	Saint Martin d	70.82	314	eP	P	01 03 19.7	-1.1
	comp=Z,6.4nm,0.6s,mb4.9						
SGMF	Saint Gilles	71.19	317	eP	P	01 03 22.4	-0.6
YKA	Yellowknife Ar	75.64	17	P	P	01 03 48.8	-0.2
	comp=Z,1.4nm,0.7s,mb4.2,baz=327,slow=4.4,SNR=3.1						
YKA	Yellowknife Ar	75.64	17	P	P	01 03 48.8	-0.2
YKA				pmax	pmax		
	comp=Z,1.0nm,0.7s						
ESDC	Sonseca Array	77.22	310	P	P	01 03 58.6	+0.3
	comp=Z,1.1nm,0.7s,mb4.1,baz=49,slow=5.2,SNR=9.7						
BDFB	Brasilia	145.49	302	PKPbc	PKPbc	01 11 44.0	+1.0
	comp=Z,3.8nm,0.8s,baz=165,slow=4.1,SNR=5.0						
BDFB	Brasilia	145.49	302	PKIKP	PKPdf	01 11 44.0	+1.0
BDFB				pmax	pmax		
	comp=Z,4.0nm,0.8s						

*ISCJB **01** 00:53:57.7±0.4, 5024N±003×1877E±003, h0km, Error ellipse: s-maj=4.5km s-min=2.2km az=12.3*

*NEIC **01** 00:53:59.5±0.8, 5028N×1881E, h5km, MG2.9(WAR), Error ellipse: s-maj=12.3km s-min=5.2km az=4.0*

*WAR **01** 00:53:59.3, 5025N×1890E, ML2.8, Mining Induced*

*CSEM **01** 00:53:59.5±0.1, 5024N×1883E, h0km, ML2.9/7, Error ellipse: s-maj=3.4km s-min=1.6km az=5.0*

*IPEC **01** 00:53:59.5±0.1, 5020N×1886E, h4km±1km, ML2.0/3, Error ellipse: s-maj=1.1km s-min=0.7km az=178.0*

*PRU **01** 00:53:59.5, 5024N×1881E, h0km*

*VIE **01** 00:54:01.7±0.7, 5000N×1883E, h0km, mb2.3/2, ML2.4/4, Error ellipse: s-maj=5.7km s-min=4.3km az=156.0, Suspected Mining induced.*

ISC 01 00:53:59.2±0.4**, 5024N**±003×**1881E**±002**, h0**km**, n45, σ1§25**/77**, 6C-12D, Poland**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
RAC	Raciborz	0.43	249	ePg	Pg	00 54 09.3	+1.9
RAC				eSg	Sg	00 54 16.3	+3.4
OKC	Ostrava-Krasne	0.59	227	ePG	Pg	00 54 11.5	+1.0
OKC				eSG	Sg	00 54 20.4	+2.3
	46nm,0.6s						
OJC	Ojcow	0.63	92	ePg	Pg	00 54 10.8	-0.5
OJC				eSg	Sg	00 54 19.1	-0.4
OJC	Ojcow	0.63	92	ePg	Pg	00 54 10.8	-0.5
OJC				eSg	Sg	00 54 18.8	-0.7
MORC	Moravsky Berou	0.94	241	⇓iP	Pg	00 54 17.4	+0.1
MORC	Moravsky Berou	0.94	241	ePg	Pg	00 54 17.5	+0.2
MORC				eSg	Sg	00 54 30.5	+1.1
	24nm,0.3s						
MORC				S	Sg	00 54 32.0	+2.5
MORC	Moravsky Berou	0.94	241	⇓P	Pg	00 54 17.4	+0.2
MORC				S	Sg	00 54 32.0	+2.5
NIE	Niedzica	1.27	130	ePg	Pg	00 54 23.1	-0.5
NIE				eSg	Sg	00 54 40.7	+0.6
JAVC	Velka Javorina	1.57	209	ePn	Pn	00 54 28.5	+0.2
DPC	Dobruska-Polom	1.60	275	ePn	Pn	00 54 28.4	-0.3
DPC	Dobruska-Polom	1.60	275	Pg	Pg	00 54 28.5	-1.4
DPC				Sg	Sg	00 54 50.7	+0.1
	22nm,0.5s						
DPC	Dobruska-Polom	1.60	275	ePG	Pg	00 54 28.5	-1.4
DPC				eSG	Sg	00 54 50.7	+0.1
	22nm,0.5s						
KOLL	Kolacno	1.69	189	iPG	Pg	00 54 31.2	-0.3
KOLL				eSG	Sg	00 54 53.7	+0.4
VRAC	Vranov	1.71	238	⇓iP	Pn	00 54 31.0	+0.7
VRAC	Vranov	1.71	238	ePn	Pn	00 54 30.1	-0.2
VRAC	Vranov	1.71	238	ePg	Pn	00 54 31.0	+0.7
VRAC				eSg	Sg	00 54 53.5	-0.8
	12nm,0.3s						
VRAC				S	Sn	00 54 54.3	+1.4
VRAC	Vranov	1.71	238	⇓P	Pn	00 54 31.0	+0.7
VRAC				S	Sn	00 54 54.4	+1.5
KSP	Ksiaz	1.72	292	ePn	Pn	00 54 31.1	+0.8
KSP				ePg	Pg	00 54 32.1	0.0
KSP				eSn	Sn	00 54 54.0	+1.1
KSP				eSg	Sg	00 54 55.0	+0.7
KSP	Ksiaz	1.72	292	ePn	Pn	00 54 31.5	+1.2
KSP	Ksiaz	1.72	292	⇓iPg	Pg	00 54 32.1	0.0
KSP				eSg	Sg	00 54 54.3	0.0
KSP	Ksiaz	1.72	292	⇓iPg	Pg	00 54 32.1	0.0
KSP				eSg	Sg	00 54 54.9	+0.6
VYHS	Vyhne	1.75	179	ePG	Pg	00 54 30.1	-2.6
VYHS				eSG	Sg	00 54 52.1	-3.3
STHS	Stebnicka Huta	1.78	117	iPG	Pg	00 54 32.5	-0.7
STHS				eSG	Sg	00 54 55.6	-0.7
UPC	Upice	1.81	280	eSG	Sg	00 54 56.0	-1.4
KRUC	Moravsky	1.96	234	ePn	Pn	00 54 33.3	-0.4

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KRUC				eSg	Sg	00 55 00.3	-2.0
	8.6nm,0.4s						
CRVS	Cervenica-Dubn	2.18	127	ePN	Pn	00 54 38.6	+1.9
PSZ	Piszkesteto	2.43	163	⇑iP	Pn	00 54 44.1	+4.0
PSZ	Piszkesteto	2.43	163	⇑P	Pn	00 54 44.1	+4.0
KWP	Kalwaria	2.59	102	ePn	Pn	00 54 42.1	-0.2
KWP				ePg	Pg	00 54 47.5	-1.3
KWP	Kalwaria	2.59	102	⇓iP	Pn	00 54 44.8	+2.5
KWP	Kalwaria	2.59	102	ePn	Pn	00 54 42.1	-0.2
KWP				ePg	Pg	00 54 47.5	-1.3
KOLS	Kolonicke sedl	2.60	119	ePN	Pn	00 54 42.2	-0.3
PRU	Pruhonice	2.76	266	ePG	Pg	00 54 48.9	-3.2
PRU				eSG	Sg	00 55 26.2	-1.7
	8.6nm,0.8s						
CONA	Conrad Observa	3.02	221	⇓iPn	Pn	00 54 48.3	+0.1
CONA				⇓iPg	Pg	00 54 56.4	-0.7
CONA				⇓iSg	Sg	00 55 36.4	+0.2
	4.0nm,0.4s						
BRG	Berggiesshubel	3.17	283	PG	Pg	00 54 58.2	-1.7
BRG				SG	Sg	00 55 40.8	-0.2
	9.5nm,0.8s						
KHC	Kasperske Hory	3.58	254	ePG	Pg	00 55 02.4	-5.3
KHC				eSN	Sn	00 55 35.0	-3.8
KHC				eSG	Sg	00 55 53.0	-1.0
	9.9nm,0.5s						
MOA	Molln	3.83	233	⇑iPn	Pn	00 55 00.5	+1.1
MOA				⇑iSg	Sg	00 56 00.3	-1.9
	5.9nm,0.5s						
CLL	Collm	3.84	288	ePg	Pg	00 55 12.0	-0.8
CLL				eSg	Sg	00 56 03.0	+0.5
	comp=Z,7.0nm,0.6s						
DRGR		4.32	142	⇑iP	Pn	00 55 08.6	+2.6
DRGR		4.32	142	⇑P	Pn	00 55 08.6	+2.5
MOX	Moxa	4.62	278	eSG	Sg	00 56 30.0	+2.5
BUR08	Bucovina Ar. S	4.95	119	ePn	Pn	00 55 15.8	+1.1
BUR08	Bucovina Ar. S	4.95	119	ePn	Pn	00 55 15.8	+1.1
BURAR	Bucovina Array	4.97	119	⇓iP	Pn	00 55 15.8	+0.8
BURAR	Bucovina Array	4.97	119	⇓P	Pn	00 55 15.8	+0.7

*IDC **01** 00:55:50.5±3.9, 1928S×16957E, h0^{km}, mb4.1/2, mb1 4.4/2, mb1mx3.9/14, mbtmp4.1/2, Error ellipse: s-maj=234.7km s-min=38.0km az=154.0*

*NEIC **01** 00:55:51.8±1.0, 1934S×16956E, h10^{km}, Error ellipse: s-maj=50.6km s-min=15.1km az=138.0*

*NOU **01** 00:56:08.1±0.7, 1927S×16892E, h10^{km}*

ISC 01 00:55:48.3±3.5, **194S**±03×**1700E**±05, **h10**^{km}, **n11**, σ**1^{s}00**/12, **mb4.2**/2, **Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
BAYA	Yate Dam	4.01	225	eP	Pb	00 57 00.5	+1.4
BAYA				eS	Sn	00 57 38.0	+1.1
DZM	Mont Dzumac	4.26	230	eP	Pb	00 57 02.5	-1.0
DZM				eS	Sn	00 57 43.0	-0.2
DZM	Mont Dzumac	4.26	230	ePb	Pb	00 57 02.0	-1.5
DZM				eSn	Sn	00 57 38.0	-5.2
NORM	Noumea	4.34	228	eP	Pb	00 57 03.8	-0.9
NORM				eS	Sn	00 57 44.7	-0.2
NOUC	Port Laguerre	4.39	231	eP	Pb	00 57 04.1	-1.4
NOUC				eS	Sn	00 57 46.6	+0.4
WRA	Warramunga Arr	33.52	263	P	P	01 02 28.0	-0.3
	0.7nm,0.5s,mb3.9,baz=101,slow=8.7,SNR=4.1						
ASAR	Alice Springs	33.77	256	P	P	01 02 31.9	+1.4
	3.8nm,0.6s,mb4.5,baz=84,slow=8.8,SNR=65						
VBMS	Vicksburg	107.88	61	ePKP	PKiKP	01 14 20.8	+4.2
ARCES	ARCESS Array B	125.35	345	PKP	PKPdf	01 14 52.8	+4.0
	3.2nm,1.1s,baz=61,slow=2.1,SNR=8.9						
GERES	GERESS Array B	144.91	332	PKP	PKPdf	01 15 29.1	+3.5
	0.5nm,0.6s,baz=41,slow=4.3,SNR=8.5						
DAVOX	Davos/Dischmat	148.15	334	PKPbc	PKPbc	01 15 36.4	+2.0
	baz=211,slow=5.9						

PGC 01 01:12:33.0, 5005N×13024W, h10^{km}, ML3.0, 18D, 212km Wsw of Pt. Hardy, Bc Vancouver Island Region, Vancouver Island region

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
HOLB	Holberg	1.47	65	Pn	Pn	01 12 57.8	-1.8
HOLB				⇑Sn	Sn	01 13 15.3	-3.6
HOLB	Holberg	1.47	65	Pn	Pn	01 12 57.8	-1.8
HOLB				⇑Sn	Sn	01 13 15.3	-3.6
BPBC	Brooks Peninsu	1.59	85	Pn	Pn	01 12 58.8	-2.4
BPBC				⇑Sn	Sn	01 13 17.7	-4.1
BPBC	Brooks Peninsu	1.59	85	Pn	Pn	01 12 58.8	-2.4
BPBC				⇑Sn	Sn	01 13 17.7	-4.1
PHC	Port Hardy	1.91	69	⇑Pn	Pn	01 13 04.0	-1.6
PHC				⇓Sn	Sn	01 13 25.4	-4.3
PHC	Port Hardy	1.91	69	⇑Pn	Pn	01 13 04.0	-1.6
PHC				⇓Sn	Sn	01 13 25.4	-4.3
MAYB	Maynard	2.00	79	⇓Pn	Pn	01 13 05.0	-1.8
MAYB				⇓Sn	Sn	01 13 27.7	-4.1
MAYB	Maynard	2.00	79	⇓Pn	Pn	01 13 05.0	-1.8
MAYB				⇓Sn	Sn	01 13 27.7	-4.1
EDB	Eliza Dome	2.02	94	⇑Pn	Pn	01 13 05.7	-1.4
EDB				⇓Sn	Sn	01 13 28.4	-3.9
EDB	Eliza Dome	2.02	94	⇑Pn	Pn	01 13 05.7	-1.4
EDB				⇓Sn	Sn	01 13 28.4	-3.9
WOSB	Woss	2.36	86	⇑Pn	Pn	01 13 10.8	-1.0
WOSB				⇓Sn	Sn	01 13 37.9	-3.0
WOSB	Woss	2.36	86	⇑Pn	Pn	01 13 10.8	-1.0
WOSB				⇓Sn	Sn	01 13 37.9	-3.0
BBB	Bella Bella	2.52	31	⇓Pn	Pn	01 13 13.2	-0.8
BBB				⇓Sn	Sn	01 13 40.8	-4.0
BBB	Bella Bella	2.52	31	⇓Pn	Pn	01 13 13.2	-0.8
BBB				⇓Sn	Sn	01 13 40.8	-4.0
BNB	Barry Inlet	2.71	340	⇑Pn	Pn	01 13 14.8	-1.8
BNB				⇑Sn	Sn	01 13 45.6	-3.7
BNB	Barry Inlet	2.71	340	⇑Pn	Pn	01 13 14.8	-1.8
BNB				⇑Sn	Sn	01 13 45.6	-3.7
GDR	Gold River	2.73	94	⇑Pn	Pn	01 13 14.2	-2.7
GDR	Gold River	2.73	94	⇑Pn	Pn	01 13 14.2	-2.7
MOBC	Moresby Island	3.29	341	⇓Pn	Pn	01 13 23.4	-1.1
MOBC				⇓Sn	Sn	01 14 00.9	-2.6
MOBC	Moresby Island	3.29	341	⇓Pn	Pn	01 13 23.4	-1.1
MOBC				⇓Sn	Sn	01 14 00.9	-2.6

*IDC **01** 01:13:28.4±0.9, 2939S×17605W, h0^{km}, mb3.9/5, mb1 4.2/7, mb1mx4.1/17, mbtmp4.0/7, ML3.9/2, MS3.7/2, Ms1 3.7/2, ms1mx3.1/20, Error ellipse: s-maj=33.8km s-min=19.2km az=164.0*

*ISCJB **01** 01:13:33.0±2.7, 2969S±008×1760W±02, h49^{km}±22^{km}, mb4.0/5, MS3.6/2, Error ellipse: s-maj=24.1km s-min=13.3km az=2.7*

ISC 01 01:13:31.8±4.7, **2955S**±009×**1760W**±01, **h25**^{km}±34^{km}, **n13**, σ**0^{s}90**/10, **mb4.0**/5, **MS3.6**/2, **Kermadec Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
RAO	Raoul Island	1.74	279	Pn	Pn	01 14 00.3	-0.1
	1μm,0.3s,baz=10,slow=0.6,SNR=134						
RAO				Sn	Sn	01 14 22.6	+0.8
	2μm,0.3s,baz=97,slow=23,SNR=20						
URZ	Urewera	10.42	212	Pn	Pn	01 15 59.1	-0.5
	0.5nm,0.3s,baz=277,slow=22,SNR=2.9						
URZ				Sn	Sn	01 17 55.7	+0.1
	9.3nm,0.3s,baz=129,slow=23,SNR=16						
RPZ	Rata Peaks	17.54	213	P	Pn	01 17 35.9	+1.4
	0.8nm,0.3s,baz=276,slow=12,SNR=2.6						
PPT	Papeete	26.89	70	LR	LR	01 28 10.6	
	comp=Z,120nm,18.2s,MS3.5,baz=259,slow=33						
STKA	Stephens Creek	36.41	255	P	P	01 20 32.8	-1.5
	0.9nm,0.5s,mb3.9,baz=98,slow=8.2,SNR=2.6						
STKA				LR	LR	01 33 27.4	
	comp=Z,152nm,18.9s,MS3.8,baz=183,slow=33						
ASAR	Alice Springs	44.94	265	P	P	01 21 43.6	-1.2
	0.8nm,0.6s,mb3.7,baz=106,slow=7.8,SNR=10						
WRA	Warramunga Arr	45.86	270	P	P	01 21 52.1	-0.1
	1.0nm,0.7s,mb3.9,baz=110,slow=6.2,SNR=5.4						
NVAR	Mina Array Bea	86.42	42	P	P	01 26 11.8	-0.2
	0.5nm,0.4s,mb4.1,baz=227,slow=10,SNR=4.8						
PDAR	Pinedale Array	94.30	43	P	P	01 26 50.0	+1.2
	0.4nm,0.4s,mb4.2,baz=67,slow=13,SNR=3.8						
NB2	NORSAR Subarra	148.15	353	PKP	PKPdf	01 33 14.8	+3.4
	comp=Z,1.4nm,0.6s,baz=9.8,slow=2.9						
NOA	NORSAR Array B	148.15	353	PKPbc	PKPbc	01 33 14.8	+0.2
	comp=Z,2.8nm,0.8s,baz=13,slow=4.4,SNR=7.3						
AKASG	Malin Array Be	151.66	325	PKPbc	PKPbc	01 33 23.4	-0.2
	comp=Z,1.0nm,0.6s,baz=44,slow=2.6,SNR=6.7						
TORD	Torodi Ar. Bea	163.53	172	PKP	PKPdf	01 33 34.0	+0.9
	comp=Z,0.5nm,0.9s,baz=8.7,slow=1.6,SNR=3.8						
TORD				PKPab	PKPab	01 34 26.9	+2.7
	comp=Z,1.3nm,1.0s,baz=187,slow=4.4,SNR=5.0						

*IDC **01** 01:19:05.2±1.1, 4889S×16421E, h0^{km}, mb4.0/6, mb1 4.2/7, mb1mx4.0/14, mbtmp4.0/7, ML4.0/1, MS3.8/5, Ms1 3.7/5, ms1mx3.5/15, Error ellipse: s-maj=30.0km s-min=24.9km az=62.0*

*NEIC **01** 01:19:06.8±0.7, 4901S×16413E, h10^{km}, mb4.2/1, Error ellipse: s-maj=17.8km s-min=8.4km az=149.0*

*ISCJB **01** 01:19:10.9±2.3, 489S±01×1644E±02, h55^{km}±26^{km}, mb3.9/6, MS3.7/3, Error ellipse: s-maj=23.1km s-min=21.6km az=38.7*

ISC 01 01:19:11.0±4.0, **489S**±01×**1642E**±02, **h35**^{km}±31^{km}, **n25**, σ**0^{s}87**/17, **mb3.9**/6, **MS3.7**/3, **Off west coast of South Island**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
WHZ	Wether Hill Ro	3.94	42	P	Pn	01 20 08.8	-0.1
DCZ	Deep Cove	3.98	32	P	Pn	01 20 09.9	+0.5
MLZ	Mavora Lakes	4.47	39	P	Pn	01 20 16.7	+0.5
TUZ	Tuapeka	4.72	53	P	Pn	01 20 18.9	-0.8
EAZ	Earnscleugh	5.07	46	P	Pn	01 20 25.0	+0.6
JCZ	Jackson Bay	5.76	35	P	Pn	01 20 35.6	+1.6
ODZ	Otahua Downs	5.86	51	P	Pn	01 20 33.8	-1.5
RPZ	Rata Peaks	7.03	45	Pn	Pn	01 20 50.7	-0.7
	2.9nm,0.3s,baz=178,slow=13,SNR=5.7						
RPZ				Sn	Sn	01 22 10.0	0.0
	5.6nm,0.3s,baz=41,slow=9.5,SNR=6.4						
RPZ				LR	LR	01 23 39.6	
	comp=Z,550nm,19.0s,baz=232,slow=39						
URZ	Urewera	14.15	46	LR	LR	01 28 28.9	
	comp=Z,389nm,19.5s,baz=232,slow=40						
RAO	Raoul Island	23.93	41	LR	LR	01 32 43.5	
	comp=Z,177nm,18.1s,MS3.6,baz=49,slow=34						
STKA	Stephens Creek	24.05	307	P	P	01 24 23.5	+0.8
	2.0nm,0.8s,mb3.6,baz=123,slow=14,SNR=3.0						
STKA	Stephens Creek	24.05	307	P	P	01 24 23.5	+0.8
ASAR	Alice Springs	34.68	306	P	P	01 25 57.4	+0.2
	1.2nm,0.6s,mb4.0,baz=139,slow=8.2,SNR=12						
WRA	Warramunga Arr	37.52	310	P	P	01 26 20.3	-1.2
	1.5nm,0.8s,mb3.8,baz=142,slow=8.2,SNR=7.0						
QSPA	South Pole Qui	41.22	180	P	P	01 26 52.2	+0.5
	2.0nm,0.9s,mb3.7,baz=19,slow=4.6,SNR=3.8						
FITZ	Fitzroy Crossi	43.71	301	eP	P	01 27 11.3	-1.3
	3.5nm,0.8s,mb4.1						
FITZ	Fitzroy Crossi	43.71	301	P	P	01 27 11.2	-1.4
	1.5nm,0.6s,mb3.9,baz=165,slow=7.3,SNR=6.9						
PPT	Papeete	48.64	67	LR	LR	01 45 39.3	
	comp=Z,141nm,18.4s,MS4.0,baz=224,slow=33						
MAW	Mawson	49.88	209	LR	LR	01 46 50.4	
	comp=Z,73nm,21.6s,MS3.6,baz=247,slow=33						
CMAR	Chiang Mai Arr	88.52	300	P	P	01 32 00.6	+0.8
	0.5nm,0.3s,mb4.3,baz=163,slow=4.4,SNR=4.9						
EDM	Edmonton	123.25	45	ePKPdf	PKPdf	01 38 01.9	-1.0
AKASG	Malin Array Be	151.21	291	PKPbc	PKPbc	01 38 58.1	-1.5
	0.6nm,0.5s,baz=80,slow=2.7,SNR=5.4						
ARCES	ARCESS Array B	151.36	331	PKPbc	PKPbc	01 38 58.4	-0.9
	2.3nm,0.8s,baz=64,slow=2.8,SNR=9.4						
ARCES	ARCESS Array B	151.36	331	PKPbc	PKPbc	01 38 58.4	-0.9
GERES	GERESS Array B	160.64	281	PKPab	PKPab	01 39 46.7	-1.5
	0.5nm,0.7s,baz=102,slow=4.5,SNR=7.1						

*CSEM **01** 01:41:32.3±0.2, 3729N×3463E, h2^{km}, MD3.0, Error ellipse: s-maj=4.1km s-min=2.5km az=153.0*

*DDA **01** 01:41:32.7, 3733N×3476E, h9^{km}±7^{km}, Md3.0*

*ISCJB **01** 01:41:33.3±0.8, 3732N±004×3468E±006, h2^{km}±8^{km}, Error ellipse: s-maj=8.5km s-min=5.7km az=28.6*

*ISK **01** 01:41:33.2, 3728N×3468E, h8^{km}, MD3.0*

ISC 01 01:41:33.9±0.8, **3731N**±004×**3470E**±006, **h8**^{km}±8^{km}, **n12**, σ**0^{s}92**/17, **Turkey**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KARA	Karaisali	0.29	100	ePG	Pg	01 41 39.6	-0.1
MERS	Mersin	0.47	197	ePG	Pg	01 41 41.9	-1.0
MERS				eSG	Sg	01 41 48.6	-0.4
NIG	Nigde	0.80	355	ePG	Pg	01 41 49.8	+0.5
MEST	Erdemli	0.85	211	eP	Pg	01 41 49.3	-0.9
MEST				iS	Sg	01 42 02.5	+1.3
YURE	YUREGIR	0.89	123	iP	Pg	01 41 51.9	+0.8
YURE				iS	Sg	01 42 07.0	+4.3
KOZT	Kozan	0.92	79	ePG	Pg	01 41 51.7	+0.2
IKL	Isikli	1.34	217	ePN	Pn	01 41 57.9	-1.1
AVNT	Avonos	1.47	5	iP	Pn	01 41 59.2	-1.6
AVNT				iS	Sn	01 42 20.5	+0.3
COBT	Iskenderun	1.48	122	iP	Pn	01 42 00.5	-0.4
ERMK	Ermenek	1.58	245	iP	Pn	01 42 04.2	+2.0
ERMK				iS	Sn	01 42 29.4	+6.6
HTY	Hatay	1.66	135	ePN	Pn	01 42 04.0	+0.6
HDMB	Hadim	1.80	259	ePN	Pn	01 42 05.4	+0.1

*ISCJB **01** 01:55:17.0±0.6, 3930N±004×2006E±005, h10^{km}, Error ellipse: s-maj=6.2km s-min=5.1km az=140.0*

*THE **01** 01:55:16.8, 3931N×2007E, h0^{km}±4^{km}, ML3.3/3, Error ellipse: s-maj=7.8km s-min=1.2km az=277.0*

*NEIC **01** 01:55:16.5, 39.14N×20.17E, h2^{km}, MD3.5(ATH), After ATH.*

*ATH **01** 01:55:16.5, 39.14N×20.17E, h2^{km}, MD3.5/5*

*CSEM **01** 01:55:17.8±0.1, 3924N×2030E, h2^{km}, ML3.3/3, Error ellipse: s-maj=3.2km s-min=2.5km az=48.0*

ISC 01 01:55:17.4±0.8, **3927N**±004×**2015E**±005, **h0**^{km}±6^{km}, **n27**, σ**1^{s}08**/32, **Greece-Albania border region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
IGT	Igoumenitsa	0.30	28	P	Pg	01 55 22.7	-0.5
IGT				S	Sg	01 55 27.4	+0.3
KEK	Kerkira	0.52	329	ePg	Pg	01 55 29.0	+1.6
KEK	Kerkira	0.52	329	ePG	Pg	01 55 29.0	+1.6
JAN	Janina	0.67	54	ePg	Pg	01 55 29.0	-1.2
JAN	Janina	0.67	54	ePG	Pg	01 55 29.0	-1.2
LKD	Levkas	0.68	145	P	Pg	01 55 30.6	+0.2
MEV	Metsovon	0.98	58	P	Pg	01 55 34.9	-1.3
VLS	Valsamata	1.14	162	P	Pg	01 55 38.6	-0.6
VLS				S	Sg	01 55 57.6	+3.7
VLS	Valsamata	1.14	162	ePg	Pg	01 55 36.0	-3.2
VLS	Valsamata	1.14	162	P	Pg	01 55 38.6	-0.6
VLS				S	Sg	01 55 57.6	+3.7
VLS	Valsamata	1.14	162	ePG	Pg	01 55 36.0	-3.2
KFL	Anninata	1.26	156	P	Pg	01 55 41.6	+0.2
EVR	Evrytania	1.34	105	ePn	Pn	01 55 41.5	-1.7
EVR	Evrytania	1.34	105	ePN	Pn	01 55 41.5	-1.7
THL	Klokotos Trika	1.47	78	P	Pn	01 55 44.0	-1.1
THL				S	Sg	01 56 06.1	+1.4
KZN	Kozani	1.62	50	ePb	Pb	01 55 49.0	+0.8
KZN	Kozani	1.62	50	ePB	Pb	01 55 49.0	+0.8
AGG	Agios Georgios	1.71	97	P	Pn	01 55 48.1	-0.3
AGG				S	Sn	01 56 12.8	+1.9
FNA	Florina	1.79	31	P	Pn	01 55 49.2	-0.2
LIT	Litokhoron	1.99	64	P	Pn	01 55 51.9	-0.3
TIR	Tirane	2.09	354	ePn	Pn	01 55 55.3	+1.7
TIR	Tirane	2.09	354	ePn	Pn	01 55 55.3	+1.6
SG1	Sgolgore (BA)	3.10	302	ePn	Pn	01 56 08.7	+1.3
BOJS	Bojanci	7.21	331	iPn	Pn	01 57 03.5	-0.5
CRES	Cresnjev	7.42	334	iPn	Pn	01 57 05.8	-0.9
SKDS	Skadanscina	7.75	326	iPn	Pn	01 57 10.3	-0.9
VOJS	Vojsko	8.19	328	iPn	Pn	01 57 17.1	-0.2

*NEIC **01** 02:03:52.2±6.4, 39.18N×14.69W, h10^{km}, MG4.4(MDD), Error ellipse: s-maj=72.1km s-min=9.8km az=77.0*

*IGIL **01** 02:03:58.2, 39.19N×14.43W, h27^{km}, ML3.5*

*MDD **01** 02:03:59.1±1.5, 3928N×1400W, h0^{km}, mb4.0/26, Error ellipse: s-maj=13.8km s-min=10.1km az=75.0, PRIMO*

*INMG **01** 02:04:00.3±1.7, 39.17N×14.48W, h10^{km}, MD3.3, ML3.1, Error ellipse: s-maj=6.9km s-min=4.4km az=82.0*

*CSEM **01** 02:04:00.3±0.2, 39.17N×14.29W, h30^{km}, ML4.3/18, Error ellipse: s-maj=4.6km s-min=3.9km az=81.0*

ISC 01 02:04:03.1±0.7, **3929N**±003×**1361W**±005, **h10**^{km}, **n100**, σ**1^{s}15**/188, **North Atlantic Ocean**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PMAFR	Mafra	3.38	94	ePn	Pn	02 04 56.7	+0.8
PMAFR				eSn	Sn	02 05 37.0	+0.9
PMAFR				A		02 05 43.6	
	84nm,0.2s						
ALMR	Almeirim	3.91	90	eP	Pn	02 05 03.9	+0.7
ALMR				eS	Sn	02 05 51.8	+2.7
ALMR				eS	Sn	02 05 51.8	+2.7
ALMR				AML	AML	02 05 54.4	
	comp=N,47nm,0.5s						
ALMR	Almeirim	3.91	90	eP	Pn	02 05 03.9	+0.7
ALMR				eS	Sn	02 05 51.8	+2.7
PTOM	Tomar	4.03	84	ePn	Pn	02 05 06.1	+1.2
PTOM				eSn	Sn	02 05 54.4	+2.2
PTOM				A		02 05 58.2	
	comp=N,49nm,0.1s						
PTOM	Tomar	4.03	84	ePn	Pn	02 05 06.1	+1.2
PTOM				eSn	Sn	02 05 54.4	+2.2
	comp=N,49nm,0.1s						
MOE	Montemor	4.17	99	ePn	Pn	02 05 06.9	+0.1
MOE				eSn	Sn	02 05 58.2	+2.6
PTEO	Sao Teotonio	4.21	113	ePn	Pn	02 05 06.3	-1.1
PTEO				eSn	Sn	02 05 55.9	-0.7
PTEO				A		02 05 59.0	
	comp=N,33nm,0.2s						
PTEO	Sao Teotonio	4.21	113	ePn	Pn	02 05 06.3	-1.1
PTEO				eSn	Sn	02 05 55.9	-0.7
	comp=N,33nm,0.2s						
PTO	Porto	4.25	63	ePn	Pn	02 05 07.8	-0.1
PTO				eSn	Sn	02 05 57.9	+0.4
PTO				A		02 06 02.9	
	comp=N,53nm,0.1s						
PTO	Porto	4.25	63	ePn	Pn	02 05 07.8	-0.1
PTO				eSn	Sn	02 05 57.9	+0.4
	comp=N,53nm,0.1s						
PFVI	Vila Bisbo	4.34	118	ePn	Pn	02 05 07.6	-1.5
PFVI				eSn	Sn	02 05 58.4	-1.3
PFVI				A		02 06 05.3	
	comp=N,14nm,0.2s						
PFVI	Vila Bisbo	4.34	118	ePn	Pn	02 05 07.6	-1.5
PFVI				eSn	Sn	02 05 58.4	-1.3
	comp=N,14nm,0.2s						
MORF	Marmelete	4.37	115	ePn	Pn	02 05 08.4	-1.2
MORF				eSn	Sn	02 06 00.1	-0.5
MORF				A		02 06 07.1	
	comp=N,30nm,0.2s						
MORF	Marmelete	4.37	115	ePn	Pn	02 05 08.4	-1.2
MORF				eSn	Sn	02 06 00.1	-0.5
	comp=N,30nm,0.2s						
EVO	Evora	4.43	98	ePn	Pn	02 05 10.2	-0.1
EVO				eSn	Sn	02 06 03.4	+1.5
EVO				A		02 06 08.0	
	comp=N,19nm,0.1s						
EVO	Evora	4.43	98	ePn	Pn	02 05 10.2	-0.1
EVO				eSn	Sn	02 06 03.4	+1.5
	comp=N,19nm,0.1s						
PVIS	Viseu	4.61	70	ePn	Pn	02 05 13.3	+0.5
PVIS				eSn	Sn	02 06 07.7	+1.3
PVIS				A		02 06 10.6	
	comp=N,23nm,0.1s						
PVIS	Viseu	4.61	70	ePn	Pn	02 05 13.3	+0.5
PVIS				eSn	Sn	02 06 07.7	+1.3
	comp=N,23nm,0.1s						
PBEJ	Beja	4.67	104	ePn	Pn	02 05 13.1	-0.5
PBEJ				eSn	Sn	02 06 07.9	+0.1
PBEJ				A		02 06 13.3	
	comp=N,10nm,0.3s						
PBEJ	Beja	4.67	104	ePn	Pn	02 05 13.1	-0.5
PBEJ				eSn	Sn	02 06 07.9	+0.1
	comp=N,10nm,0.3s						
PESTR	Estremoz	4.70	93	ePn	Pn	02 05 14.6	+0.5
PESTR				eSn	Sn	02 06 10.6	+1.9
PESTR				A		02 06 13.2	
	comp=N,13nm,0.2s						
PESTR	Estremoz	4.70	93	ePn	Pn	02 05 14.6	+0.5
PESTR				eSn	Sn	02 06 10.6	+1.9
	comp=N,13nm,0.2s						
PCBR	Castelo Branco	4.77	81	ePn	Pn	02 05 15.8	+0.8
PCBR				eSn	Sn	02 06 11.3	+1.0
PCBR				A		02 06 15.4	
	comp=N,14nm,0.1s						
PCBR	Castelo Branco	4.77	81	ePn	Pn	02 05 15.8	+0.8
PCBR				eSn	Sn	02 06 11.3	+1.0
	comp=N,14nm,0.1s						
MTE	Manteigas	4.79	75	ePn	Pn	02 05 16.3	+0.9
MTE				eSn	Sn	02 06 13.2	+2.2
MTE				A		02 06 19.5	
	comp=N,16nm,0.2s						
MTE	Manteigas	4.79	75	ePn	Pn	02 05 16.3	+0.9
MTE				eSn	Sn	02 06 13.2	+2.2
	comp=N,16nm,0.2s						
MTE	Manteigas	4.79	75	Pn	Pn	02 05 16.5	+1.2
PMRV	Marv??o	4.82	86	ePn	Pn	02 05 15.9	+0.2
PMRV				eSn	Sn	02 06 12.1	+0.6
PMRV				A		02 06 17.4	
	comp=N,18nm,0.2s						
PMRV	Marv??o	4.82	86	ePn	Pn	02 05 15.9	+0.2
PMRV				eSn	Sn	02 06 12.1	+0.6
	comp=N,18nm,0.2s						
PCAB	Cabril	4.89	59	ePn	Pn	02 05 16.1	-0.6
PCAB				eSn	Sn	02 06 13.5	+0.2
PCAB				A		02 06 19.2	
	comp=N,21nm,0.1s						
PCAB	Cabril	4.89	59	ePn	Pn	02 05 16.1	-0.6
PCAB				eSn	Sn	02 06 13.5	+0.2
	comp=N,21nm,0.1s						
PBDV	Barranco-do-Ve	4.91	113	ePn	Pn	02 05 16.5	-0.5
PBDV				eSn	Sn	02 06 12.8	-1.1
PBDV				A		02 06 19.3	
	comp=N,22nm,0.3s						
PBDV	Barranco-do-Ve	4.91	113	ePn	Pn	02 05 16.5	-0.5
PBDV				eSn	Sn	02 06 12.8	-1.1
	comp=N,22nm,0.3s						
PVRL	Vila Real	4.92	64	ePn	Pn	02 05 17.8	+0.7
PVRL				eSn	Sn	02 06 14.8	+0.8
PVRL				A		02 06 23.4	
	comp=N,21nm,0.2s						
PVRL	Vila Real	4.92	64	ePn	Pn	02 05 17.8	+0.7
PVRL				eSn	Sn	02 06 14.8	+0.8
	comp=N,21nm,0.2s						
ELOB	Lobios	4.94	57	P	Pn	02 05 16.8	-0.6
	comp=N,6.4nm,0.1s,SNR=64						
ELOB				S	Sn	02 06 14.1	-0.5
	comp=N,4.6nm,0.1s,SNR=8.9						
ELOB	Lobios	4.94	57	P	Pn	02 05 16.8	-0.6
	comp=N,6.4nm,0.1s,SNR=64						
ELOB				S	Sn	02 06 15.5	+0.9
	comp=N,4.6nm,0.1s,SNR=8.9						
ELOB	Lobios	4.94	57	P	Pn	02 05 16.8	-0.6
ELOB				S	Sn	02 06 15.5	+0.9
PVAQ	Vaqueiros	5.00	110	ePn	Pn	02 05 17.9	-0.3
PVAQ				eSn	Sn	02 06 15.1	-0.9
PVAQ				A		02 06 20.5	
	comp=N,14nm,0.2s						
PVAQ	Vaqueiros	5.00	110	ePn	Pn	02 05 17.9	-0.3
PVAQ				eSn	Sn	02 06 15.1	-0.9
	comp=N,14nm,0.2s						
EMAZ	Mazaricos	5.05	42	P	Pn	02 05 17.6	-1.3
	comp=N,4.9nm,0.1s,SNR=7.7						
EMAZ				S	Sn	02 06 14.7	-2.7
	comp=N,6.8nm,0.1s,SNR=7.9						
EMAZ	Mazaricos	5.05	42	P	Pn	02 05 17.6	-1.3
	comp=N,4.9nm,0.1s,SNR=7.7						
EGRO	El Granado	5.12	108	P	Pn	02 05 19.3	-0.6
	comp=N,1.2nm,0.1s,SNR=31						
EGRO				S	Sn	02 06 18.8	-0.2
	comp=N,3.9nm,0.1s,SNR=9.0						
EGRO	El Granado	5.12	108	P	Pn	02 05 19.3	-0.5
	comp=N,1.2nm,0.1s,SNR=31						
EGRO				S	Sn	02 06 18.8	-0.2
	comp=N,3.9nm,0.1s,SNR=9.0						
EBAD	Badajoz	5.16	94	P	Pn	02 05 20.2	-0.2
	comp=N,0.6nm,0.1s,SNR=23						
EBAD				S	Sn	02 06 19.5	-0.5
	comp=N,6.9nm,0.1s,SNR=12						
EBAD	Badajoz	5.16	94	P	Pn	02 05 20.2	-0.2
	comp=N,0.6nm,0.1s,SNR=23						
EBAD	Badajoz	5.16	94	P	Pn	02 05 20.2	-0.2
EBAD				S	Sn	02 06 21.8	+1.8
STS	Santiago	5.24	45	P	Pn	02 05 19.9	-1.5
	comp=N,2.5nm,0.2s,SNR=21						
STS				S	Sn	02 06 19.6	-2.3
	comp=N,5.8nm,0.2s,SNR=7.9						
STS	Santiago	5.24	45	P	Pn	02 05 19.9	-1.5
STS				S	Sn	02 06 20.9	-1.0
PBAR	Barrancos	5.25	100	ePn	Pn	02 05 21.9	+0.2
PBAR				eSn	Sn	02 06 22.3	0.0

PBAR				A		02 06 27.3	
	comp=N,7.0nm,0.1s						
PBAR	**Barrancos**	**5.25**	**100**	*e*Pn	**Pn**	**02 05 21.9**	**+0.2**
PBAR				*e*Sn	**Sn**	**02 06 22.3**	**0.0**
	comp=N,7.0nm,0.1s						
MVO	**Moncorvo**	**5.37**	**68**	*e*Pn	**Pn**	**02 05 23.4**	**+0.1**
MVO				*e*Sn	**Sn**	**02 06 24.5**	**-0.6**
MVO				A		02 06 31.9	
	comp=N,18nm,0.3s						
MVO	**Moncorvo**	**5.37**	**68**	*e*Pn	**Pn**	**02 05 23.4**	**+0.1**
MVO				*e*Sn	**Sn**	**02 06 24.5**	**-0.6**
	comp=N,18nm,0.3s						
EMIN	**Mina Concepcio**	**5.65**	**103**	P	**Pn**	**02 05 26.9**	**-0.2**
	comp=N,1.7nm,0.1s,SNR=23						
EMIN				S	**Sn**	**02 06 31.2**	**-0.7**
	comp=N,1.4nm,0.1s,SNR=8.1						
EMIN	**Mina Concepcio**	**5.65**	**103**	P	**Pn**	**02 05 26.9**	**-0.2**
	comp=N,1.7nm,0.1s,SNR=23						
ECAL	**Calabor**	**5.86**	**61**	P	**Pn**	**02 05 29.1**	**-0.9**
	comp=N,2.2nm,0.1s,SNR=22						
ECAL				S	**Sn**	**02 06 35.4**	**-1.8**
	comp=N,3.5nm,0.2s,SNR=7.9						
ECAL	**Calabor**	**5.86**	**61**	P	**Pn**	**02 05 29.1**	**-0.9**
ECAL				S	**Sn**	**02 06 37.6**	**+0.4**
EPON	**Pontenova**	**6.31**	**48**	P	**Pn**	**02 05 35.1**	**-1.1**
	comp=N,1.8nm,0.1s,SNR=7.9						
EPON				S	**Sn**	**02 06 44.9**	**-3.4**
	comp=N,6.2nm,0.3s,SNR=7.9						
EPON	**Pontenova**	**6.31**	**48**	P	**Pn**	**02 05 35.1**	**-1.1**
	comp=N,1.8nm,0.1s,SNR=7.9						
ESPR	**Espera**	**6.58**	**109**	P	**Pn**	**02 05 40.3**	**+0.4**
	comp=N,1.4nm,0.1s,SNR=12						
ESPR				S	**Sn**	**02 06 52.8**	**-2.0**
	comp=N,5.2nm,0.2s,SNR=7.9						
ESPR	**Espera**	**6.58**	**109**	P	**Pn**	**02 05 40.3**	**+0.5**
	comp=N,1.4nm,0.1s,SNR=12						
ESPR				S	**Sn**	**02 06 56.4**	**+1.6**
	comp=N,5.2nm,0.2s,SNR=7.9						
ESPR	**Espera**	**6.58**	**109**	P	**Pn**	**02 05 40.3**	**+0.5**
ESPR				S	**Sn**	**02 06 56.4**	**+1.6**
EJIF	**Jimena Fronter**	**7.03**	**111**	P	**Pn**	**02 05 46.7**	**+0.6**
	comp=N,0.5nm,0.2s,SNR=7.9						
EJIF				S	**Sn**	**02 07 04.3**	**-1.8**
	comp=N,0.5nm,0.2s,SNR=7.9						
EADA	**Adamuz**	**7.15**	**96**	P	**Pn**	**02 05 47.7**	**0.0**
	comp=N,0.4nm,0.1s,SNR=7.9						
EADA				S	**Sn**	**02 07 07.6**	**-1.3**
	comp=N,1.8nm,0.1s,SNR=7.9						
EADA	**Adamuz**	**7.15**	**96**	P	**Pn**	**02 05 47.7**	**0.0**
	comp=N,0.4nm,0.1s,SNR=7.9						
EADA				S	**Sn**	**02 07 09.6**	**+0.7**
	comp=N,1.8nm,0.1s,SNR=7.9						
EADA	**Adamuz**	**7.15**	**96**	P	**Pn**	**02 05 47.7**	**0.0**
EADA				S	**Sn**	**02 07 09.6**	**+0.7**
PAB	**San Pablo**	**7.17**	**85**	*e*Pn	**Pn**	**02 05 48.5**	**+0.5**
PAB	**San Pablo**	**7.17**	**85**	*e*Pn	**Pn**	**02 05 48.5**	**+0.5**
GUD	**Guadarrama**	**7.38**	**76**	P	**Pn**	**02 05 51.0**	**+0.1**
	comp=N,1.7nm,0.4s,SNR=7.3						
GUD				S	**Sn**	**02 07 12.3**	**-2.4**
	comp=N,0.8nm,0.2s,SNR=7.9						
GUD	**Guadarrama**	**7.38**	**76**	P	**Pn**	**02 05 52.0**	**+1.1**
	comp=N,1.7nm,0.4s,SNR=7.3						
GUD				S	**Sn**	**02 07 14.9**	**+0.2**
	comp=N,0.8nm,0.2s,SNR=7.9						
GUD	**Guadarrama**	**7.38**	**76**	P	**Pn**	**02 05 52.0**	**+1.1**
GUD				S	**Sn**	**02 07 14.8**	**+0.1**
ESDC	**Sonseca Array**	**7.47**	**84**	P	**Pn**	**02 05 52.7**	**+0.6**
	comp=N,0.8nm,0.2s,baz=271,slow=14,SNR=21						
ESDC	**Sonseca Array**	**7.47**	**84**	P	**Pn**	**02 05 52.7**	**+0.6**
	comp=N,0.8nm,0.2s,SNR=21						
EARI	**Arriondas**	**7.48**	**55**	P	**Pn**	**02 05 52.5**	**+0.2**
	comp=N,1.6nm,0.1s,SNR=39						
EARI				S	**Sn**	**02 07 14.3**	**-2.8**
	comp=N,0.5nm,0.2s,SNR=4.0						
EARI	**Arriondas**	**7.48**	**55**	P	**Pn**	**02 05 52.8**	**+0.5**
	comp=N,1.6nm,0.1s,SNR=39						
EARI				S	**Sn**	**02 07 17.3**	**+0.2**
	comp=N,0.5nm,0.2s,SNR=4.0						
EARI	**Arriondas**	**7.48**	**55**	P	**Pn**	**02 05 52.8**	**+0.5**
EARI				S	**Sn**	**02 07 17.3**	**+0.2**
EMIJ	**Mijas**	**7.49**	**109**	P	**Pn**	**02 05 51.7**	**-0.8**
	comp=N,0.6nm,0.3s,SNR=7.9						
EMIJ				S	**Sn**	**02 07 15.8**	**-1.6**
	comp=N,1.2nm,0.2s,SNR=7.9						
EMIJ	**Mijas**	**7.49**	**109**	P	**Pn**	**02 05 51.7**	**-0.8**
	comp=N,0.6nm,0.3s,SNR=7.9						
EMIJ				S	**Sn**	**02 07 18.6**	**+1.1**
	comp=N,1.2nm,0.2s,SNR=7.9						
EMIJ	**Mijas**	**7.49**	**109**	P	**Pn**	**02 05 51.7**	**-0.8**
EMIJ				S	**Sn**	**02 07 18.6**	**+1.2**
ELUQ	**Luque**	**7.53**	**100**	P	**Pn**	**02 05 54.0**	**+1.0**
	comp=N,0.5nm,0.2s,SNR=7.9						
ELUQ				S	**Sn**	**02 07 17.0**	**-1.4**
	comp=N,1.9nm,0.2s,SNR=7.9						
ELUQ	**Luque**	**7.53**	**100**	P	**Pn**	**02 05 54.2**	**+1.2**
	comp=N,0.5nm,0.2s,SNR=7.9						
ELUQ				S	**Sn**	**02 07 18.0**	**-0.4**
	SNR=7.9						
ELUQ	**Luque**	**7.53**	**100**	P	**Pn**	**02 05 54.2**	**+1.2**
ELUQ				S	**Sn**	**02 07 17.9**	**-0.5**
EBAN	**Banos Encina**	**7.76**	**95**	S	**Sn**	**02 07 22.3**	**-1.7**
	comp=N,1.2nm,0.2s,SNR=7.9						
EBAN	**Banos Encina**	**7.76**	**95**	S	**Sn**	**02 07 24.7**	**+0.7**
	comp=N,1.2nm,0.2s,SNR=7.9						
EQUE	**Quentar**	**8.27**	**101**	P	**Pn**	**02 06 03.1**	**+0.1**
	comp=N,0.2nm,0.1s,SNR=7.9						
EQUE				S	**Sn**	**02 07 34.4**	**-2.0**
	comp=N,1.1nm,0.3s,SNR=7.9						
EQUE	**Quentar**	**8.27**	**101**	S	**Sn**	**02 07 36.1**	**-0.4**
	comp=N,1.1nm,0.3s,SNR=7.9						
EQES	**Quesada**	**8.39**	**97**	P	**Pn**	**02 06 04.5**	**-0.2**
	comp=N,0.1nm,0.1s,SNR=4.0						
EQES				S	**Sn**	**02 07 36.6**	**-2.8**
	comp=N,0.4nm,0.2s,SNR=7.9						
EQES	**Quesada**	**8.39**	**97**	P	**Pn**	**02 06 04.5**	**-0.2**
	comp=N,0.1nm,0.1s,SNR=4.0						
EQES				S	**Sn**	**02 07 40.1**	**+0.6**
	comp=N,0.4nm,0.2s,SNR=7.9						
EQES	**Quesada**	**8.39**	**97**	P	**Pn**	**02 06 04.5**	**-0.2**
EQES				S	**Sn**	**02 07 40.1**	**+0.6**
ELAN	**Lanestosa**	**8.61**	**60**	P	**Pn**	**02 06 07.9**	**+0.2**
	comp=N,0.7nm,0.2s,SNR=7.9						
ELAN				S	**Sn**	**02 07 42.0**	**-2.8**
	comp=N,0.7nm,0.1s,SNR=7.9						
EHUE	**Huescar**	**8.75**	**96**	P	**Pn**	**02 06 10.9**	**+1.2**
	comp=N,0.2nm,0.2s,SNR=7.9						
EHUE				S	**Sn**	**02 07 45.8**	**-2.6**
	comp=N,0.3nm,0.2s,SNR=7.9						
EBER	**Berja**	**8.78**	**102**	P	**Pn**	**02 06 10.9**	**+0.8**
	comp=N,0.3nm,0.2s,SNR=7.9						
EBER				S	**Sn**	**02 07 47.3**	**-1.8**
	comp=N,0.3nm,0.3s,SNR=7.9						
ETOR	**Torete**	**8.99**	**77**	P	**Pn**	**02 06 13.9**	**+0.9**
	comp=N,1.3nm,0.2s,SNR=12						
ETOR				S	**Sn**	**02 07 50.7**	**-3.5**
	comp=N,3.0nm,0.2s,SNR=7.9						
ETOR	**Torete**	**8.99**	**77**	P	**Pn**	**02 06 14.3**	**+1.4**
	comp=N,1.3nm,0.2s,SNR=12						
ETOR				S	**Sn**	**02 07 54.3**	**+0.1**
	comp=N,3.0nm,0.2s,SNR=7.9						
ETOB	**Tobarra**	**9.41**	**90**	P	**Pn**	**02 06 20.6**	**+1.8**
	comp=N,0.3nm,0.2s,SNR=9.1						
ETOB				S	**Sn**	**02 08 02.4**	**-2.3**
	comp=N,1.1nm,0.3s,SNR=7.9						
ETOB	**Tobarra**	**9.41**	**90**	S	**Sn**	**02 08 05.9**	**+1.2**
	comp=N,1.1nm,0.3s,SNR=7.9						
ETOB	**Tobarra**	**9.41**	**90**	P	**Pn**	**02 06 20.6**	**+1.8**
ETOB				S	**Sn**	**02 08 05.9**	**+1.2**
EMOS	**Mosqueruela**	**10.16**	**80**	P	**Pn**	**02 06 30.7**	**+1.7**
	comp=N,0.1nm,0.1s,SNR=7.9						
EMOS				S	**Sn**	**02 08 19.9**	**-3.1**
	comp=N,0.7nm,0.2s,SNR=7.9						
ERTA	**Horta de San J**	**10.80**	**77**	P	**Pn**	**02 06 38.9**	**+1.1**
	comp=N,0.1nm,0.1s,SNR=7.9						
ERTA				S	**Sn**	**02 08 35.6**	**-3.2**
	comp=N,0.7nm,0.2s,SNR=7.9						
EBIE	**Bielsa**	**10.93**	**68**	P	**Pn**	**02 06 39.9**	**+0.4**
	comp=N,0.3nm,0.2s,SNR=7.9						
EBIE				S	**Sn**	**02 08 38.2**	**-3.6**
	comp=N,0.3nm,0.2s,SNR=7.9						

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*IDC **01** 02:12:04.6±1.6, 3928S×17631E, h0km, mb4.0/3, mb1 4.2/4, mb1mx4.0/15, mbtmp4.0/4, ML3.5/1, MS3.5/4, Ms1 3.5/4, ms1mx3.2/24, Error ellipse: s-maj=43.6km s-min=12.0km az=132.0*

*ISCJB **01** 02:12:06.6±0.3, 3893S±003×17599E±003, h7km±3km, mb4.0/3, MS3.4/4, Error ellipse: s-maj=5.4km s-min=3.4km az=140.8*

*NEIC **01** 02:12:06.9, 3895S×17594E, h5km, ML4.5(WEL), After WEL.*

NEIC Felt in the central part of the North Island.

ISC 01 02:12:06.8±0.4**, 3895S**±003×**17599E**±003**, h1**km±4km**, n60, σ0s85**/61**, mb4.0**/3**, MS3.4**/4**, North Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HATZ	**Hinemaiaia**	**0.09**	**55**	P	**Pg**	**02 12 08.8**	**+0.2**
HATZ				S	**Sg**	**02 12 10.7**	**+0.9**
RITZ	**Rihia Road**	**0.11**	**253**	P	**Pg**	**02 12 09.4**	**+0.5**
RITZ				S	**Sg**	**02 12 11.3**	**+0.9**
RATZ	**Rangitukua**	**0.19**	**294**	P	**Pg**	**02 12 10.6**	**+0.2**
KATZ	**Kakaramea**	**0.23**	**262**	P	**Pg**	**02 12 11.5**	**+0.2**
KATZ				S	**Sg**	**02 12 15.4**	**+1.1**
WHTZ	**Whakaora**	**0.28**	**354**	P	**Pg**	**02 12 12.9**	**+0.8**
WATZ	**Wairara**	**0.31**	**319**	P	**Pg**	**02 12 12.8**	**0.0**
WTVZ	**West Tongariro**	**0.36**	**241**	P	**Pg**	**02 12 13.7**	**0.0**
NGZ	**Ngauruhoe**	**0.38**	**233**	P	**Pg**	**02 12 14.3**	**+0.2**
WPVZ	**Whakapapa**	**0.43**	**233**	P	**Pg**	**02 12 14.9**	**-0.2**
BKZ	**Black Stump Fm**	**0.45**	**120**	P	**Pg**	**02 12 15.7**	**+0.3**
TWVZ	**Taurewa**	**0.45**	**254**	P	**Pg**	**02 12 15.2**	**-0.2**
FWVZ	**Far West T-bar**	**0.46**	**228**	P	**Pg**	**02 12 15.4**	**-0.3**
WNVZ	**Wahianoa**	**0.49**	**219**	P	**Pg**	**02 12 16.3**	**+0.1**
MOVZ	**Moawhango**	**0.50**	**202**	P	**Pg**	**02 12 16.3**	**0.0**
UTU	**Utuhina**	**0.78**	**12**	P	**Pg**	**02 12 21.9**	**+0.1**
TAZ	**Tarawera**	**0.82**	**30**	P	**Pg**	**02 12 22.5**	**0.0**
VRZ	**Vera Road**	**0.98**	**259**	P	**Pg**	**02 12 25.1**	**-0.5**
HIZ	**Hauiti**	**0.99**	**295**	P	**Pg**	**02 12 24.7**	**-1.0**
EDRZ	**Edgecumbe**	**1.02**	**35**	P	**Pg**	**02 12 26.0**	**-0.3**
URZ	**Urewera**	**1.11**	**52**	Pg	**Pg**	**02 12 27.5**	**-0.6**
	208nm,0.3s,baz=254,slow=11,SNR=342						
URZ				Lg		02 12 43.8	
	436nm,0.3s,baz=132,slow=21,SNR=26						
URZ	**Urewera**	**1.11**	**52**	P	**Pg**	**02 12 27.4**	**-0.7**
TSZ	**Takapari Road**	**1.11**	**181**	P	**Pg**	**02 12 28.1**	**0.0**
WAZ	**Wanganui**	**1.12**	**224**	P	**Pg**	**02 12 27.8**	**-0.6**
TOZ	**Tahuroa Road**	**1.27**	**342**	P	**Pg**	**02 12 28.9**	**-2.3**
RAEZ	**Rainy Point**	**1.29**	**254**	P	**Pg**	**02 12 31.3**	**-0.2**
KNZ	**Kokohu**	**1.31**	**94**	P	**Pg**	**02 12 32.8**	**+0.9**
MWZ	**Matawai**	**1.35**	**64**	P	**Pg**	**02 12 31.4**	**-1.2**
NEZ	**North Egmont**	**1.51**	**257**	P	**Pn**	**02 12 35.3**	**+0.3**
DFE	**Dawson Falls**	**1.52**	**255**	P	**Pn**	**02 12 32.3**	**-2.8**
PKE	**Pukeiti**	**1.58**	**260**	P	**Pn**	**02 12 36.4**	**+0.5**
NWEZ	**Newall Road**	**1.69**	**258**	P	**Pn**	**02 12 37.7**	**+0.3**
MRZ	**Mangatainoka R**	**1.74**	**190**	P	**Pn**	**02 12 38.9**	**+0.7**
MKAZ	**Moumakai**	**1.94**	**340**	P	**Pn**	**02 12 40.6**	**-0.3**
PUZ	**Puketiti**	**1.98**	**65**	P	**Pn**	**02 12 41.9**	**+0.5**
KIW	**Kapiti Island**	**2.09**	**203**	P	**Pn**	**02 12 43.7**	**+0.8**
KUZ	**Kuaotunu**	**2.21**	**354**	P	**Pn**	**02 12 48.6**	**+4.1**
MTW	**Mount Morrison**	**2.24**	**190**	P	**Pn**	**02 12 44.9**	**-0.1**
CAW	**Cannon Point**	**2.27**	**198**	P	**Pn**	**02 12 45.6**	**+0.1**
MRW	**Makara Radio**	**2.49**	**203**	P	**Pn**	**02 12 50.1**	**+1.7**
WEL	**Wellington**	**2.52**	**202**	P	**Pn**	**02 12 48.8**	**0.0**
MSWZ	**Moikau Station**	**2.53**	**193**	P	**Pn**	**02 12 48.5**	**-0.5**
SNZO	**South Karori**	**2.56**	**202**	*e*Pn	**Pn**	**02 12 49.3**	**-0.1**
BHW	**Baring Head**	**2.61**	**199**	P	**Pn**	**02 12 49.4**	**-0.6**
TCW	**Tory Channel**	**2.62**	**210**	P	**Pn**	**02 12 50.8**	**+0.6**
NNZ	**Nelson**	**3.03**	**221**	P	**Pn**	**02 12 56.3**	**+0.5**
BSWZ	**Blackbirch Sta**	**3.21**	**210**	P	**Pn**	**02 12 58.0**	**-0.2**
QRZ	**Quartz Range**	**3.26**	**234**	P	**Pn**	**02 13 00.6**	**+1.6**
THZ	**Tophouse**	**3.67**	**219**	P	**Pn**	**02 13 04.5**	**-0.2**
KHZ	**Kahutara**	**3.94**	**207**	P	**Pn**	**02 13 06.8**	**-1.5**
LTZ	**Lake Taylor**	**4.76**	**215**	P	**Pn**	**02 13 17.7**	**-1.9**
MQZ	**McQueen's Vall**	**5.38**	**207**	P	**Pn**	**02 13 25.0**	**-3.1**
RPZ	**Rata Peaks**	**6.04**	**216**	Pn	**Pn**	**02 13 33.8**	**-3.4**
	1.1nm,0.3s,baz=90,slow=10,SNR=4.6						
RPZ				Sn	**Sn**	**02 14 43.1**	**-3.9**
	4.6nm,0.3s,baz=261,slow=18,SNR=4.0						
RPZ	**Rata Peaks**	**6.04**	**216**	Pn	**Pn**	**02 13 33.8**	**-3.4**
RPZ				Sn	**Sn**	**02 14 43.1**	**-3.9**
STKA	**Stephens Creek**	**28.79**	**274**	LR	LR	02 27 22.2	
	comp=Z,87nm,19.5s,MS3.4,baz=22,slow=32						
CTA	**Charters Tower**	**31.77**	**298**	LR	LR	02 29 34.4	
	comp=Z,61nm,19.8s,MS3.3,baz=230,slow=33						
ASAR	**Alice Springs**	**38.70**	**281**	P	**P**	**02 19 32.5**	**+0.2**
	2.4nm,0.9s,mb3.8,baz=128,slow=7.3,SNR=16						
WRA	**Warramunga Arr**	**40.50**	**286**	P	**P**	**02 19 47.9**	**+0.6**
	2.5nm,1.0s,mb3.9,baz=129,slow=7.6,SNR=7.2						
WRA				LR	LR	02 37 24.3	
	comp=Z,70nm,20.3s,MS3.5,baz=140,slow=37						
FITZ	**Fitzroy Crossi**	**48.20**	**281**	P	**P**	**02 20 50.1**	**+1.1**
	2.6nm,1.0s,mb4.3,baz=170,slow=11,SNR=3.8						
FITZ				LR	LR	02 42 58.2	
	comp=Z,61nm,18.9s,MS3.6,baz=190,slow=38						
ARCES	**ARCESS Array B**	**145.56**	**342**	PKPbc	PKPbc	02 31 43.8	-1.9
	2.9nm,1.0s,baz=105,slow=19,SNR=3.2						
TORD	**Torodi Ar. Bea**	**153.81**	**193**	PKPbc	PKPbc	02 32 05.9	-2.2
	0.5nm,0.8s,baz=148,slow=3.1,SNR=4.7						

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*IDC **01** 02:40:06.4±2.2, 559S×15284E, h0km, mb4.1/7, mb1 4.3/7, mb1mx4.1/16, mbtmp4.1/7, MS3.3/4, Ms1 3.3/4, ms1mx2.7/26, Error ellipse: s-maj=73.3km s-min=21.7km az=105.0*

*ISCJB **01** 02:40:10.7±1.1, 55S±0.1×1526E±02, h33km, mb4.1/9, MS3.4/3, Error ellipse: s-maj=27.3km s-min=16.9km az=10.2*

*NEIC **01** 02:40:12.9±1.0, 552S×15258E, h35km, mb4.2/4, Error ellipse: s-maj=23.9km s-min=15.1km az=103.0*

ISC 01 02:40:12.9±1.1**, 56S**±01×**1526E**±02**, h35**km**, n21, σ0s92**/16**, mb4.1**/9**, MS3.4**/3**, New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**15.71**	**203**	LR	LR	02 49 25.0	
	comp=Z,91nm,18.6s,baz=230,slow=35						
KAKA	**Kakadu**	**21.13**	**249**	*e*P	**P**	**02 44 53.4**	**-1.5**
	13nm,0.5s,mb4.5						
KAKA	**Kakadu**	**21.13**	**249**	*e*P	**P**	**02 44 53.8**	**-1.1**
	113nm,0.5s,mb5.5						
WRAB	**Tennant Creek**	**22.79**	**230**	*e*P	**P**	**02 45 13.2**	**+0.6**
	4.8nm,0.7s,mb4.0						
WB2	**Warramunga Arr**	**22.80**	**229**	*e*P	**P**	**02 45 12.9**	**+0.2**
WB2	**Warramunga Arr**	**22.80**	**229**	*e*P	**P**	**02 45 13.3**	**+0.6**
WRA	**Warramunga Arr**	**22.81**	**230**	P	**P**	**02 45 13.0**	**+0.3**
	4.5nm,0.6s,mb4.0,baz=53,slow=9.8,SNR=34						
ASAR	**Alice Springs**	**25.47**	**223**	P	**P**	**02 45 38.8**	**+0.9**
	3.9nm,0.6s,mb4.1,baz=58,slow=8.9,SNR=47						
STKA	**Stephens Creek**	**28.15**	**200**	*e*P	**P**	**02 46 02.8**	**+1.0**
	1.8nm,0.6s,mb3.9						
STKA	**Stephens Creek**	**28.15**	**200**	P	**P**	**02 46 00.7**	**-1.2**
	2.5nm,0.6s,mb4.0,baz=34,slow=14,SNR=7.5						
FITZ	**Fitzroy Crossi**	**29.14**	**242**	*e*P	**P**	**02 46 09.8**	**-1.0**
	5.6nm,0.8s,mb4.3						
FITZ	**Fitzroy Crossi**	**29.14**	**242**	P	**P**	**02 46 09.9**	**-0.9**
	1.1nm,0.4s,mb4.0,baz=70,slow=7.9,SNR=10						
FITZ	**Fitzroy Crossi**	**29.14**	**242**	*e*P	**P**	**02 46 10.3**	**-0.5**
	14nm,0.8s,mb4.8						
WHZ	**Wether Hill Ro**	**42.34**	**164**	P	**P**	**02 48 03.0**	**-0.4**
MJAR	**Matsushiro Arr**	**43.99**	**343**	LR	LR	03 04 16.2	
	comp=Z,62nm,21.2s,MS3.5,baz=215,slow=33						
KSRS	**Korea Array**	**48.58**	**334**	LR	LR	03 07 42.6	
	comp=Z,15nm,19.4s,MS3.0,baz=135,slow=34						
SONM	**Songino Array**	**66.85**	**328**	P	**P**	**02 51 02.8**	**+1.6**
	0.7nm,0.6s,mb3.9,baz=150,slow=5.0,SNR=6.3						
MKAR	**Makanchi Array**	**80.76**	**319**	P	**P**	**02 52 22.9**	**+0.1**
	0.3nm,0.5s,mb3.5,baz=116,slow=6.6,SNR=2.5						
MKAR				LR	LR	03 29 23.8	
	comp=Z,30nm,18.2s,MS3.7,baz=359,slow=36						
ZALV	**Zalesovo Beam**	**81.66**	**326**	P	**P**	**02 52 26.1**	**-1.3**
	1.4nm,0.5s,mb4.1,baz=108,slow=6.1,SNR=6.1						
TORD	**Torodi Ar. Bea**	**150.34**	**287**	PKPbc	PKPbc	03 00 00.8	-0.8
	1.8nm,0.5s,baz=92,slow=2.5,SNR=58						
TORD	**Torodi Ar. Bea**	**150.34**	**287**	PKPbc	PKPbc	03 00 00.8	-0.8

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*ISCJB **01** 02:42:47.1±0.3, 1874N±003×9375W±003, h10km, mb4.1/11, MS4.4/3, Error ellipse: s-maj=4.0km s-min=3.9km az=161.0*

*BJI **01** 02:42:54.3, 1870N×9380W, h63km, mB5.0, Ms4.7, Msz4.4*

*MEX **01** 02:42:54.3±0.9, 1866N×9379W, h62km±17km, MD4.5*

*NEIC **01** 02:42:54.3, 1866N×9379W, h63km, mb4.5/6, MD4.5(MEX), After MEX.*

*IDC **01** 02:42:58.4±2.8, 1953N×9339W, h49km±26km, mb3.7/7, mb1 4.0/10, mb1mx3.7/24, mbtmp3.7/10, ML3.7/3, Error ellipse: s-maj=20.0km s-min=15.0km az=47.0*

ISC 01 02:42:48.8±0.3**, 1873N**±003×**9374W**±003**, h10**km**, n43, σ1s29**/55**, mb4.1**/11**, MS4.4**/3**, 3D, Bay of Campeche**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TUIG	**Tuzandepetl**	**0.94**	**223**	*i* P	**Pg**	**02 43 09.2**	**+2.3**
TUIG				*i* S	**Sg**	**02 43 21.0**	**+1.8**
CMIG	**Matias Romero**	**1.96**	**214**	⇓*i*P	**Pn**	**02 43 22.9**	**+0.9**
CMIG				*i* S	**Sn**	**02 43 45.0**	**-1.6**
TGIG		**2.02**	**163**	*i* P	**Pn**	**02 43 25.2**	**+2.2**
TGIG				*i* S	**Sn**	**02 43 48.2**	**-0.1**
SCX	**San Cristobal**	**2.24**	**152**	*i* P	**Pn**	**02 43 27.3**	**+1.3**
SCX				*i* S	**Sn**	**02 43 51.8**	**-1.9**
SCIG	**Sabancuy**	**2.43**	**84**	*i* P	**Pn**	**02 43 31.3**	**+2.7**
SCIG				*i* S	**Sn**	**02 43 58.2**	**-0.3**
CCIG	**Comitan**	**2.87**	**148**	⇓*i*P	**Pn**	**02 43 37.1**	**+2.5**
CCIG				*i* S	**Sn**	**02 44 07.4**	**-1.9**
VHO	**Vista Hermosa**	**3.29**	**240**	⇓*i*P	**Pn**	**02 43 41.7**	**+1.4**
VHO				*i* S	**Sn**	**02 44 18.3**	**-1.3**
TPIG	**Tehuac#an**	**3.45**	**266**	*i* P	**Pn**	**02 43 43.1**	**+0.6**
TPIG				*i* S	**Sn**	**02 44 23.0**	**-0.5**
HUIG	**Huatulco**	**3.71**	**218**	*e*P	**Pn**	**02 43 45.5**	**-0.7**
HUIG				*i* S	**Sn**	**02 44 28.5**	**-1.5**
UTMO	**Huajuapan**	**3.96**	**258**	*i* P	**Pn**	**02 43 50.5**	**+0.9**
UTMO				*i* S	**Sn**	**02 44 34.6**	**-1.5**
PPM	**Popocatepetl**	**4.64**	**275**	*i* P	**Pn**	**02 44 00.5**	**+1.6**
PPM				*i* S	**Sn**	**02 44 53.1**	**+0.2**
PPM	**Popocatepetl**	**4.64**	**275**	*i* P	**Pn**	**02 44 00.5**	**+1.6**
PPM				*i* S	**Sn**	**02 44 54.0**	**+1.1**
PNIG	**Pinotepa**	**4.78**	**242**	*i* P	**Pn**	**02 43 59.8**	**-1.1**
PNIG				*i* S	**Sn**	**02 44 53.1**	**-3.4**
TEIG	**Tepich**	**5.37**	**73**	P	**Pn**	**02 44 09.1**	**+0.1**
	63nm,0.3s,baz=255,slow=2.7,SNR=650						
TEIG				S	**Sn**	**02 45 05.4**	**-5.5**
	60nm,0.3s,baz=346,slow=22,SNR=12						
TEIG	**Tepich**	**5.37**	**73**	*e*Pn	**Pn**	**02 44 09.0**	**0.0**
TEIG				*e*Sn	**Sn**	**02 45 07.6**	**-3.3**
TGUH	**Tegucigalpa,Un**	**7.75**	**126**	*e*Pn	**Pn**	**02 44 42.5**	**+0.8**
LNIG	**Linares**	**8.12**	**320**	*i* P	**Pn**	**02 44 43.9**	**-2.9**
TXAR	**Lajitas Array**	**13.91**	**321**	P	**Pn**	**02 46 06.8**	**+0.7**
	0.4nm,0.3s,baz=330,slow=11,SNR=18						
WMOK	**Wichita Mounta**	**16.57**	**345**	*e*Pn	**Pn**	**02 46 41.8**	**+0.5**
	98nm,2.9s						
AMTX	**Amarillo**	**17.57**	**338**	*e*Pn	**Pn**	**02 46 53.0**	**-0.8**
TKL	**Tuckaleechee C**	**19.03**	**26**	P	**Pn**	**02 47 07.3**	**-4.4**
	0.1nm,0.3s,baz=222,slow=14,SNR=2.5						
TKL				S	**Sn**	**02 50 29.1**	**-16**
	0.7nm,0.3s,baz=72,slow=6.8,SNR=7.4						
CCM	**Cathedral Cave**	**19.38**	**6**	*e*Pn	**Pn**	**02 47 14.0**	**-1.9**
ANMO	**Albuquerque**	**19.71**	**328**	P	**Pn**	**02 47 19.2**	**-0.7**
	0.1nm,0.3s,baz=67,slow=23,SNR=5.4						
WCI	**Wyandotte Cave**	**20.49**	**17**	*e*P	**P**	**02 47 26.4**	**-0.5**
	18nm,0.8s						
MVCO	**Mesa Verde**	**22.51**	**328**	*e*P	**P**	**02 47 49.0**	**+0.5**
	55nm,2.3s,mb4.6						
DAU	**Daniels Canyon**	**26.34**	**329**	*e*P	**P**	**02 48 20.4**	**-4.5**
PDAR	**Pinedale Array**	**27.46**	**334**	P	**P**	**02 48 35.5**	**+0.6**
	0.6nm,0.9s,mb3.1,baz=133,slow=6.6,SNR=3.4						
REDW	**Red Top Meadow**	**28.49**	**333**	*e*P	**P**	**02 48 44.1**	**-0.1**
SNOW	**Snow King Moun**	**28.53**	**334**	*e*P	**P**	**02 48 45.0**	**+0.5**
	17nm,1.3s,mb4.6						
TPAW	**Teton Pass**	**28.63**	**333**	*e*P	**P**	**02 48 45.9**	**+0.4**
	12nm,1.4s,mb4.5						
RRI2	**Red Ridge**	**28.68**	**333**	*e*P	**P**	**02 48 46.1**	**+0.2**
	18nm,1.4s,mb4.6						
NVAR	**Mina Array Bea**	**29.01**	**318**	P	**P**	**02 48 50.9**	**+2.0**
	2.4nm,0.8s,mb4.0,baz=130,slow=9.1,SNR=12						
LRM	**Limekiln Ridge**	**31.15**	**334**	*e*P	**P**	**02 49 07.8**	**+0.1**
SCHQ	**Schefferville**	**41.48**	**23**	P	**P**	**02 50 33.3**	**-2.5**
	6.1nm,1.0s,mb4.2,baz=207,slow=13,SNR=4.8						
YKA	**Yellowknife Ar**	**46.07**	**347**	P	**P**	**02 51 11.3**	**-1.2**
	3.8nm,0.7s,mb4.5,baz=151,slow=7.3,SNR=5.9						
SIV	**San Ignacio**	**47.16**	**135**	P	**P**	**02 51 27.8**	**+6.1**
	0.4nm,0.6s,mb3.5,baz=297,slow=14,SNR=2.8						
NOA	**NORSAR Array B**	**80.81**	**28**	P	**P**	**02 55 02.9**	**+0.4**
	0.9nm,0.8s,mb3.8,baz=296,slow=5.4,SNR=2.9						
ARCES	**ARCESS Array B**	**82.19**	**18**	P	**P**	**02 55 09.3**	**-0.4**
	0.8nm,0.6s,mb3.9,baz=292,slow=5.1,SNR=10						
ARCES	**ARCESS Array B**	**82.19**	**18**	P	**P**	**02 55 09.3**	**-0.4**
HHC	**Hu-ho-hao-te**	**116.23**	**339**	*e*PKP	PKPdf	03 01 31.6	-1.2
HHC				PP	PP	03 02 38.9	+1.9
HHC				PKS		03 05 07.0	
HHC				SS	SS	03 18 37.2	-2.5
HHC				PP	PP		
	comp=Z,61nm,9.6s						
HHC				LR	LR		
	comp=N,145nm,19.0s,MS4.7						
HHC				LR	LR		
	comp=E,118nm,19.6s,MS4.7						
HHC				LR	LR		
	comp=Z,88nm,19.1s,MS4.4						
WMQ	**Urumqi**	**117.75**	**359**	*e*PKP	PKPdf	03 01 32.4	-3.2
WMQ				LR	LR		
	comp=N,23nm,17.5s,MS4.0						
WMQ				LR	LR		
	comp=E,26nm,22.3s,MS4.0						
WMQ				LR	LR		
	comp=Z,38nm,17.5s,MS4.1						
LZH	**Lanzhou**	**123.00**	**343**	*e*PKP	PKPdf	03 01 46.5	+0.6
LZH				LR	LR		
	comp=E,116nm,18.3s						
LZH				LR	LR		
	comp=Z,159nm,20.2s,MS4.7						
CD2	**Chengdu**	**127.86**	**341**	*e*PKP	PKPdf	03 01 54.4	-1.0
CD2				PP	PP	03 03 58.2	+2.2
CD2				PKS		03 05 29.6	
CD2				SKS	SKSdf	03 09 00.5	-7.0
CD2				SKKS	SKKSac	03 10 46.5	-8.8
CD2				SS	SS	03 21 03.5	-4.4
CD2				PP	PP		
	comp=Z,80nm,8.4s						

IDC 01 02:55:49.8±8.2**, 775S**×**15743E, h0**km**, mb3.8**/3**, mb1 3.9**/4**, mb1mx3.7**/16**, mbtmp3.8**/4**, ML3.7**/1**, MS3.2**/1**, Ms1 3.2**/1**, ms1mx2.7**/23**, Error ellipse: s-maj=174.5km s-min=33.7km az=9.0, Bougainville - Solomon Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**3.00**	**124**	Pn	Pn	02 56 38.6	0.0
	9.1nm,0.3s,baz=194,slow=17,SNR=2.2						
HNR				Sn	Sn	02 57 22.1	+6.8
	32nm,0.3s,baz=341,slow=22,SNR=2.9						
WRA	**Warramunga Arr**	**25.44**	**239**	P	P	03 01 19.6	0.0
	1.9nm,0.9s,baz=65,slow=9.5,SNR=6.9						
WRA				LR	LR	03 10 41.0	
	comp=Z,58nm,19.5s,baz=215,slow=35						
ASAR	**Alice Springs**	**27.56**	**232**	P	P	03 01 38.2	-0.5
	0.5nm,0.8s,baz=68,slow=9.7,SNR=4.7						
STKA	**Stephens Creek**	**28.18**	**209**	P	P	03 01 44.8	+0.7
	1.4nm,0.7s,baz=33,slow=14,SNR=4.6						

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*IDC **01** 03:01:44.6±3.8, 606N×9382E, h0km, mb3.6/5, mb1 3.7/5, mb1mx3.5/20, mbtmp3.6/5, Error ellipse: s-maj=154.6km s-min=22.9km az=62.0*

*ISCJB **01** 03:01:45.1±3.4, 57N±05×932E±08, h33km, mb3.6/6, Error ellipse: s-maj=132.5km s-min=16.5km az=151.1*

*NEIC **01** 03:01:47.5±2.3, 575N×9325E, h35km, mb3.9/1, Error ellipse: s-maj=94.8km s-min=11.8km az=61.0*

ISC 01 03:01:47.4±3.4**, 57N**±05×**932E**±08**, h35**km**, n7, σ0s08**/7**, mb3.6**/6**, Off west coast of northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**41.99**	**349**	P	**P**	**03 09 35.1**	**0.0**
	0.3nm,0.4s,mb3.2,baz=166,slow=8.6,SNR=4.3						
SONM	**Songino Array**	**43.46**	**13**	P	**P**	**03 09 47.0**	**0.0**
	0.2nm,0.5s,mb3.1,baz=193,slow=5.9,SNR=3.6						
WRA	**Warramunga Arr**	**47.82**	**123**	P	**P**	**03 10 22.0**	**+0.1**
	0.7nm,0.5s,mb3.9,baz=301,slow=9.2,SNR=8.1						
WRAB	**Tennant Creek**	**47.82**	**123**	*e*P	**P**	**03 10 21.9**	**0.0**
	0.9nm,0.7s,mb3.9						
WB2	**Warramunga Arr**	**47.83**	**123**	*e*P	**P**	**03 10 21.9**	**-0.1**
ZALV	**Zalesovo Beam**	**48.57**	**353**	P	**P**	**03 10 27.1**	**0.0**
	0.7nm,0.5s,mb4.0,baz=180,slow=9.7,SNR=3.9						
ASAR	**Alice Springs**	**49.29**	**128**	P	**P**	**03 10 33.2**	**0.0**
	0.3nm,0.6s,mb3.5,baz=320,slow=9.9,SNR=3.7						

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*TEH **01** 03:06:09.9, 3756N×5651E, h3km, ML3.5*

*THR **01** 03:07:08.6±0.3, 3766N×5652E, h19km±4km, ML3.2*

*ISCJB **01** 03:07:09.5±0.7, 3763N±005×5647E±003, h16km±8km,*

Error ellipse: s-maj=8.7km s-min=3.6km az=4.0
*CSEM **01** 03:07:09.1±0.1, 3759N×5649E, h16km, ML3.5, Error ellipse: s-maj=2.9km s-min=1.2km az=2.0*
ISC 01 03:07:09.5±0.8**, 3756N**±005×**5651E**±003**, h1**km±7km**, n37, σ0.80**/47**, 2C-2D, Northern and central Iran**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MRVT	Maraveh tapeh	0.35	287	ePg	Pg	03 07 15.9	-0.3
MRVT				eSg	Sg	03 07 21.2	+0.5
MRVT				AML	AML	03 07 27.4	
	comp=N,2μm,0.4s						
MRVT				AML	AML	03 07 28.6	
	comp=E,2μm,0.4s						
MRVT	Maraveh tapeh	0.35	287	ePg	Pg	03 07 15.9	-0.3
	SNR=105						
MRVT				eSg	Sg	03 07 21.2	+0.5
	SNR=105						
ISHV	Shirvan	0.95	91	⇑ePg	Pg	03 07 27.6	-0.1
ISHV				eSg	Sg	03 07 38.8	-1.2
ISHV				e		03 07 46.0	
ISFR	Sfrayin	1.29	112	ePg	Pn	03 07 32.3	-2.3
ISFR				eSg	Sg	03 07 51.6	+0.6
IEMG	Emamgholi	1.71	94	ePn	Pn	03 07 40.5	+0.1
IEMG				e		03 08 12.2	
IAKL	Akhelmad	2.03	117	ePn	Pn	03 07 45.6	+0.8
IAKL				eSn	Sn	03 08 11.0	+0.2
IAKL	Akhelmad	2.03	117	ePn	Pn	03 07 45.6	+0.8
IAKL				e		03 07 54.6	
IAKL				eSn	Sn	03 08 10.1	-0.7
IPAY	Payeh	2.28	118	ePn	Pn	03 07 48.9	+0.8
IPAY				e		03 08 36.2	
IGLO	Ghaloghah	2.39	245	ePn	Pn	03 07 48.2	-1.5
IGLO				eSn	Sn	03 08 19.6	+0.1
IGLO				e		03 08 35.5	
IKIA	Kiasar	2.63	240	ePn	Pn	03 07 53.2	+0.1
IKIA				e		03 08 38.8	
MHI	Mashad	2.68	117	ePn	Pn	03 07 54.8	+1.1
MHI				eSn	Sn	03 08 26.1	-0.6
MHI				e		03 08 40.8	
IMOG	Moghan	2.69	122	ePn	Pn	03 07 54.5	+0.6
IMOG				e		03 08 43.9	
IANJ	Anjilo	2.95	226	ePn	Pn	03 07 58.3	+0.9
IANJ				e		03 08 51.9	
ISHM	Shahmirzad	3.12	237	ePn	Pn	03 08 00.5	+0.8
ISHM				e		03 08 46.9	
IMYA	Miami	3.12	112	ePn	Pn	03 08 00.0	+0.2
IMYA				e		03 08 06.6	
IALA	Alasht	3.31	245	ePn	Pn	03 08 01.8	-0.6
IFIR	Firoozkooh	3.58	239	ePn	Pn	03 08 07.0	+1.0
IFIR				e		03 09 09.5	
DAMV	Damavand	4.13	244	ePn	Pn	03 08 13.8	+0.3
DAMV				AML	AML	03 09 28.4	
	comp=N,39nm,0.6s						
DAMV				AML	AML	03 09 30.2	
	comp=E,59nm,0.6s						
CHTH	Charan	4.62	251	ePn	Pn	03 08 20.3	-0.1
IVRN	Varamin	4.63	238	ePn	Pn	03 08 20.5	0.0
IVRN	Varamin	4.63	238	ePn	Pn	03 08 20.0	-0.5
IVRN				e		03 09 47.3	
ISFB	Sefidab	4.71	229	ePn	Pn	03 08 21.4	-0.2
ISFB				e		03 08 40.0	
ICHK	Chekchek	5.57	199	ePn	Pn	03 08 32.8	-0.7
ICHK				e		03 09 37.4	
NASN	Na'in	5.63	214	ePn	Pn	03 08 35.0	+0.8
NASN	Na'in	5.63	214	ePn	Pn	03 08 35.0	+0.7
	SNR=54						
IRAZ	Razeghan	5.72	250	ePn	Pn	03 08 35.2	-0.3
IRAZ				e		03 09 05.0	
IZEF	Zefreh	5.77	218	ePn	Pn	03 08 36.1	-0.1
IZEF	Zefreh	5.77	218	ePn	Pn	03 08 35.8	-0.4
IZEF				e		03 10 32.4	
IKLH	Kolahrood	5.84	225	ePn	Pn	03 08 36.6	-0.5
IKLH				e		03 10 37.7	
IBAF	Bafgh	6.00	188	ePn	Pn	03 08 38.7	-0.7
ZNJK	Zanjan	6.31	264	ePn	Pn	03 08 43.5	-0.1
IPIR	Pirpir	6.69	225	ePn	Pn	03 08 51.0	+2.2
IPIR				e		03 08 54.8	
ISRB	Sarab	7.02	275	ePn	Pn	03 08 52.2	-1.1
ISRB				e		03 08 54.5	
IHRS	Heris	7.52	279	ePn	Pn	03 08 59.2	-1.0
IHRS				e		03 09 07.0	
IMRD	Marand	8.59	281	ePn	Pn	03 09 14.4	-0.5
IMRD				e		03 09 22.5	
AB31	Akbulak array	11.96	11	Pn	Pn	03 10 01.9	+1.0
	comp=E,0.3nm,0.5s,baz=198,slow=13,SNR=7.1						
AB31				⇓Sn	Sn	03 12 04.7	-10
	comp=E,0.9nm,0.6s,baz=200,slow=24,SNR=5.3						
AKTO	Aktyubinsk	12.92	4	⇑Pn	Pn	03 10 14.6	+0.5
	comp=E,0.1nm,0.6s						
AKTO				⇓Sn	Sn	03 12 24.2	-14
	comp=E,0.4nm,0.9s						

*ISCJB **01** 03:31:06.5±0.6, 07S±0.1×2443W±009, h10km, mb3.9/12, MS3.8/17, Error ellipse: s-maj=16.5km s-min=12.7km az=165.1*
*IDC **01** 03:31:06.3±0.7, 076S×2450W, h0km, mb4.0/11, mb1 4.2/12, mb1mx4.0/25, mbtmp4.1/12, MS3.8/18, Ms1 3.8/18, ms1mx3.7/26, Error ellipse: s-maj=20.3km s-min=18.1km az=158.0*
*NEIC **01** 03:31:08.0±0.5, 074S×2449W, h10km, mb4.3/1, Error ellipse: s-maj=14.6km s-min=11.7km az=159.0*
ISC 01 03:31:08.4±0.6**, 07S**±01×**2448W**±009**, h10**km**, n33, σ0.92**/20**, mb3.9**/12**, MS3.8**/17**, Central Mid-Atlantic Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BBTS	Babate	17.18	27	P	Pn	03 35 07.2	-1.5
	baz=170,slow=12,SNR=2.2						
BBTS				LR	LR	03 40 26.8	
	comp=Z,315nm,21.1s,baz=209,slow=32						
DBIC	Dimbokro	20.91	69	P	P	03 35 51.6	+0.3
	37nm,1.1s,baz=224,slow=14,SNR=18						
DBIC				LR	LR	03 41 18.6	
	comp=Z,168nm,21.1s,MS3.4,baz=228,slow=29						
BDFB	Brasilia	27.56	236	LR	LR	03 47 07.1	
	comp=Z,321nm,18.1s,MS3.9,baz=63,slow=35						
TOA0	Torodi Ar. Sit	29.38	61	eP	P	03 37 12.9	+0.8
TORD	Torodi Ar. Bea	29.38	61	P	P	03 37 11.3	-0.8
	6.6nm,1.1s,mb4.3,baz=236,slow=9.8,SNR=12						
TORD				LR	LR	03 47 34.5	
	comp=Z,139nm,18.2s,MS3.6,baz=215,slow=34						
TORD	Torodi Ar. Bea	29.38	61	P	P	03 37 11.3	-0.8
TORD				LR	LR	03 47 34.5	
TAM	Tamanrasset	37.41	49	eP	P	03 38 22.2	+0.3
MDT	Midelt	38.26	28	P	P	03 38 28.1	-0.8
	1.3nm,1.1s,mb3.6,baz=300,slow=7.9,SNR=2.2						
CPUP	Villa Florida	40.59	228	LR	LR	03 54 32.6	
	comp=Z,165nm,18.9s,MS3.9,baz=49,slow=35						
ESDC	Sonseca Array	44.36	23	P	P	03 39 19.5	+0.5
	0.1nm,0.3s,mb3.0,baz=208,slow=8.1,SNR=2.6						
ESDC				LR	LR	03 56 44.8	
	comp=Z,58nm,18.7s,MS3.5,baz=115,slow=35						
LPAZ	La Paz	45.71	248	P	P	03 39 29.3	-0.8
	1.8nm,0.8s,mb4.0,baz=96,slow=5.6,SNR=10						
LPAZ				LR	LR	03 58 01.6	
	comp=Z,89nm,19.9s,MS3.7,baz=83,slow=35						
KEST	Kesra	48.03	38	LR	LR	04 01 32.3	
	comp=Z,102nm,19.0s,MS3.8,baz=308,slow=38						
ROSC	El Rosal	50.10	277	LR	LR	04 01 46.0	
	comp=Z,41nm,19.5s,MS3.5,baz=171,slow=37						
LSZ	Lusaka	53.95	108	P	P	03 40 33.9	+1.0
	0.8nm,0.5s,mb3.9,baz=141,slow=7.5,SNR=2.7						
LBTB	Lobatse	54.03	121	P	P	03 40 32.0	-1.3
	3.1nm,0.9s,mb4.2,baz=103,slow=7.6,SNR=3.1						
BOSA	Boshof	54.97	125	P	P	03 40 39.5	-0.6
	1.5nm,0.9s,mb4.0,baz=117,slow=16,SNR=1.7						
BOSA				LR	LR	03 59 24.7	
	comp=Z,113nm,18.0s,MS4.0,baz=351,slow=31						
DAVOX	Davos/Dischmat	56.06	28	LR	LR	04 04 56.7	
	comp=Z,54nm,18.9s,MS3.7,baz=256,slow=36						
PLCA	Paso Flores	57.64	220	LR	LR	04 06 56.1	
	comp=Z,195nm,18.6s,MS4.2,baz=261,slow=37						
GERES	GERESS Array B	59.34	28	P	P	03 41 09.7	-0.9
	0.3nm,0.2s,mb3.9,baz=271,slow=11,SNR=2.7						
GERES				LR	LR	04 04 44.2	
	comp=Z,36nm,21.8s,MS3.5,baz=254,slow=34						
VRAC	Vranov	61.05	29	LR	LR	04 06 53.6	
	comp=Z,59nm,18.2s,MS3.8,baz=235,slow=35						
AKASG	Malin Array Be	68.48	33	P	P	03 42 11.6	+0.8
	0.2nm,0.3s,mb3.6,baz=238,slow=5.8,SNR=3.4						
MALT	Malatya	69.47	48	eP	P	03 42 19.1	+1.8
	1.6nm,0.8s,mb4.0						
PARMO	Parma	70.79	309	eP	P	03 42 25.1	-0.2
ULM	Lac du Bonnet	78.73	322	LR	LR	04 11 48.4	
	comp=Z,105nm,18.2s,MS4.2,baz=237,slow=31						
TXAR	Lajitas Array	80.92	300	P	P	03 43 24.7	+1.2
	1.5nm,0.9s,mb3.9,baz=120,slow=6.8,SNR=14						
TXAR	Lajitas Array	80.92	300	P	P	03 43 24.7	+1.2
PV10	Paradox Valley	86.16	308	eP	P	03 43 51.0	+0.7
PDAR	Pinedale Array	86.86	313	P	P	03 43 52.9	-0.6
	0.5nm,0.7s,mb3.8,baz=99,slow=2.9,SNR=3.7						
PDAR				LR	LR	04 16 40.9	
	comp=Z,71nm,19.6s,MS4.1,baz=88,slow=32						
MAW	Mawson	88.33	157	LR	LR	04 17 22.6	
	comp=Z,55nm,20.3s,MS4.0,baz=246,slow=31						
YKA	Yellowknife Ar	90.68	332	LR	LR	04 19 08.5	
	comp=Z,44nm,18.8s,MS3.9,baz=145,slow=32						
STKA	Stephens Creek	145.01	159	PKP	PKPdf	03 50 43.8	-2.9
	2.2nm,0.7s,baz=246,slow=5.3,SNR=5.4						
ASAR	Alice Springs	147.93	140	PKPbc	PKPbc	03 50 53.1	-1.7
	1.9nm,0.8s,baz=214,slow=2.0,SNR=14						
WRA	Warramunga Arr	150.81	136	PKPbc	PKPbc	03 51 02.4	+0.3
	0.3nm,0.4s,baz=0.0,slow=4.0,SNR=8.2						

*ISK **01** 03:42:42.1, 3597N×3151E, h5km, MD3.5*
*ISCJB **01** 03:42:44.5±0.8, 3596N±007×3149E±005, h10km, Error ellipse: s-maj=9.8km s-min=5.7km az=12.2*
*CSEM **01** 03:42:44.2±0.3, 3604N×3153E, h10km, MD3.2, Error ellipse: s-maj=8.6km s-min=5.2km az=30.0*
*DDA **01** 03:42:48.0, 3627N×3153E, h28km±2km, Md3.2*
ISC 01 03:42:44.5±1.6**, 3599N**±007×**3150E**±006**, h5**km±10km**, n12, σ1.28**/17**, Cyprus region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
HDMB	Hadim	1.26	39	PN	Pn	03 43 06.7	-2.0
HDMB				SN	Sn	03 43 26.2	+0.3
ERMK	Ermenek	1.32	60	i P	Pg	03 43 10.4	+0.6
ERMK				i S	Sg	03 43 27.0	+0.2
LEF	Lefka	1.43	127	PN	Pn	03 43 09.5	-1.5
ELL	Elmali	1.49	301	ePN	Pn	03 43 11.9	0.0
BCK	Bucak	1.64	334	ePN	Pn	03 43 13.2	-0.8
IKL	Isikli	1.79	81	ePN	Pn	03 43 15.2	-0.8
LFK	Lefkose	1.80	112	ePN	Pn	03 43 16.0	-0.2
GOLH	Golhisar	2.00	309	i P	Pn	03 43 21.3	+2.5
GOLH				i S	Sn	03 43 45.1	+1.0
MEST	Erdemli	2.22	74	i P	Pn	03 43 24.1	+2.1
MEST				i S	Sn	03 43 52.2	+2.5
KDHN	Kadinhani	2.58	11	i P	Pn	03 43 26.2	-0.6
KDHN				i S	Sn	03 43 56.2	-2.3
MERS	Mersin	2.59	69	ePN	Pn	03 43 26.2	-0.8
KARA	Karaisali	3.13	65	ePN	Pn	03 43 34.7	+0.3

*ISCJB **01** 03:45:28.5±0.5, 4890N±002×12236W±003, h20km±8km, Error ellipse: s-maj=4.0km s-min=2.9km az=1.5*
*PGC **01** 03:45:28.4, 4888N×12227W, h25km, ML2.5*
PGC 19km south of Albertabotsford, Bc Washington Felt (I) in Albertabotsford.
*PNSN **01** 03:45:29.3, 4889N×12234W, h13km, MD2.4, Fault plane solution: NP1:φs65.00000°, δ60.00000°, NP2: φs294.00000°, δ41.00000°, Principal axes: T Plg62.0000°, Azm286.0000°; P Plg10.0000°, Azm176.0000°;*
ISC 01 03:45:28.4±0.3**, 4890N**±003×**12236W**±003**, h19**km±3km**, n23, σ0.50**/44**, 22C-13D, Washington**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
A05A	Maple Falls	0.21	61	⇑P	Pg	03 45 33.4	-0.2
	baz=0.2,SNR=211						
A05A				⇑S	Sg	03 45 37.0	0.0
	baz=0.2						
VDB	Vedder Mountai	0.21	52	⇑P	Pg	03 45 33.5	-0.1
VDB				⇓S	Sg	03 45 37.1	-0.1
A04A	Legoe Bay, Lum	0.29	233	⇓P	Pg	03 45 34.8	-0.1
	baz=0.3,SNR=85						
A04A				⇓S	Sg	03 45 39.4	+0.2
	baz=0.3						
HNB	Haney	0.40	339	⇓P	Pg	03 45 36.9	+0.1
HNB				⇓S	Sg	03 45 42.8	+0.3
SNB	Saturna Island	0.55	257	⇑P	Pg	03 45 39.7	+0.3
SNB				⇑S	Sg	03 45 47.7	+0.9
A06A	Chilliwack	0.61	70	⇓P	Pb	03 45 40.2	-0.2
	baz=0.6,SNR=86						
A06A				⇑S	Sb	03 45 48.3	-0.3
	baz=0.6						
B05A	Bryant	0.66	165	P	Pb	03 45 40.6	-0.6
	baz=0.6,SNR=127						
B05A				⇑S	Sb	03 45 49.8	-0.1
	baz=0.6						
B06A	Marblemount	0.69	123	⇑P	Pb	03 45 41.0	-0.8
	baz=0.7,SNR=57						
B06A				⇑S	Sb	03 45 50.2	-0.6
	baz=0.7						
GOBB	Galiano Island	0.76	274	⇓P	Pb	03 45 43.1	+0.2
GOBB				⇑S	Sb	03 45 53.4	+0.5
PGC	Sidney	0.77	252	⇑P	Pb	03 45 42.7	-0.3
PGC				⇑S	Sb	03 45 52.9	-0.1
VGZ	Gonzales	0.80	233	⇓P	Pb	03 45 43.3	-0.4
VGZ				⇑S	Sb	03 45 53.6	-0.5
BIB	Bowen Island	0.80	310	⇓P	Pb	03 45 43.7	0.0
BIB				⇑S	Sb	03 45 54.3	+0.1
B04A	Port Angeles	1.14	223	⇑P	Pn	03 45 48.6	-0.5
	baz=1.1						
B04A				⇑S	Sb	03 46 03.4	-0.3
	baz=1.1						
C04A	Brinnon	1.25	199	⇓P	Pn	03 45 50.3	-0.5
	baz=1.2						
C04A				⇑S	Sb	03 46 06.9	-0.1
	baz=1.2						
C05A	Tolt Reservoir	1.28	159	⇑Pb	Pb	03 45 51.4	-0.4
	baz=1.3,SNR=18						
C05A				⇓S	Sn	03 46 07.8	0.0
	baz=1.3						
A07A	Ashnola River,	1.31	83	⇑Pb	Pb	03 45 52.3	0.0
	baz=1.3,SNR=32						
A07A				⇑Sb	Sb	03 46 09.3	+0.6
	baz=1.3						
C06A	Tall Timber Ra	1.38	134	⇓Pb	Pb	03 45 52.9	-0.6
	baz=1.4,SNR=13						
C06A				⇑Sb	Sb	03 46 10.7	+0.1
	baz=1.4						
B07A	Winthrop	1.55	106	⇑Pb	Pb	03 45 56.2	-0.2
	baz=1.5,SNR=35						
B07A				⇑Sb	Sb	03 46 16.5	+1.1
	baz=1.5						
D05A	Enumclaw	1.73	172	⇑Pb	Pb	03 45 58.8	-0.6
	baz=1.7,SNR=24						
D05A				⇑Sb	Sb	03 46 21.5	+0.8
	baz=1.7						
D04A	Dobbs Creek Ra	1.81	190	⇑Pb	Pb	03 46 00.3	-0.6
	baz=1.8						
NLWA	Neilton Lookou	1.82	214	⇑Pb	Pb	03 46 00.4	-0.5
	baz=1.8,SNR=17						
NLWA				⇑Sb	Sb	03 46 24.5	+1.3
	baz=1.8						
C07A	Waterville	1.95	127	⇑Pb	Pb	03 46 03.3	+0.1
	baz=1.9						
C07A				⇓Sb	Sb	03 46 28.1	+0.9
	baz=1.9						
D06A	Cle Elum	1.98	149	⇑Sb	Sb	03 46 29.2	+1.2
	baz=2.0						

NEIC 01 04:25:52.5, 4350S×17006E, h2km, ML4.1(WEL)**, After WEL., South Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
FOZ	Fox Glacier	0.28	256	P	Pg	04 25 56.2	-1.6
FOZ				S	Sg	04 25 58.8	-2.6
WVZ	Waitaha Valley	0.65	50	P	Pg	04 26 04.8	-0.1
RPZ	Rata Peaks	0.75	107	P	Pg	04 26 07.4	+0.5
LBZ	Lake Benmore	0.89	174	P	Pg	04 26 09.8	+0.2
JCZ	Jackson Bay	1.10	238	P	Pg	04 26 12.4	-1.3
WKZ	Wanaka	1.53	209	P	Pn	04 26 19.8	-1.0
ODZ	Otahua Downs	1.60	165	P	Pn	04 26 21.9	+0.1
LTZ	Lake Taylor	1.77	67	P	Pn	04 26 24.1	0.0
EAZ	Earnscleugh	1.81	197	P	Pn	04 26 24.6	-0.1
CRLZ	Canterbury Las	1.86	93	P	Pn	04 26 24.5	-0.9
MQZ	McQueen's Vall	1.89	97	P	Pn	04 26 24.7	-1.1
MSZ	Milford Sound	1.93	232	P	Pn	04 26 27.3	+1.0
DSZ	Denniston Nort	2.17	37	P	Pn	04 26 28.7	-0.9
MLZ	Mavora Lakes	2.29	216	P	Pn	04 26 32.0	+0.7
TUZ	Tuapeka	2.48	187	P	Pn	04 26 33.8	0.0
THZ	Tophouse	2.72	51	P	Pn	04 26 36.4	-0.8
WHZ	Wether Hill Ro	2.83	211	P	Pn	04 26 38.0	-0.7
DCZ	Deep Cove	2.87	225	P	Pn	04 26 40.8	+1.6
QRZ	Quartz Range	3.24	35	P	Pn	04 26 43.0	-1.3
NNZ	Nelson	3.35	48	P	Pn	04 26 45.5	-0.4
TCW	Tory Channel	3.87	55	P	Pn	04 26 52.9	-0.1
MTW	Mount Morrison	4.66	62	P	Pn	04 27 02.4	-1.5
WAZ	Wanganui	5.25	46	P	Pn	04 27 12.4	+0.4
VRZ	Vera Road	5.62	41	P	Pn	04 27 16.4	-0.6
WPVZ	Whakapapa	5.95	46	P	Pn	04 27 22.0	+0.4

NEIC 01 04:40:03.2, 3689S×17755E, h157km, MG3.7(WEL)**, After WEL., Off east coast of North Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MXZ	Matakaoa Point	0.90	138	P	Pn	04 40 27.8	0.0
MXZ				S	Sn	04 40 46.5	-0.2
PUZ	Puketiti	1.31	155	P	Pn	04 40 31.4	+0.1
URZ	Urewera	1.41	194	P	Pn	04 40 32.6	+0.3
MWZ	Matawai	1.44	181	P	Pn	04 40 32.9	+0.2
KNZ	Kokohu	2.13	177	P	Pn	04 40 39.8	-0.4

PGC 01 05:11:59.7, 5004N×13029W, h10km, ML2.9, Mw3.5, 12D, 216km southwest of Pt. Hardy, Bc Vancouver Island Region, Vancouver Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
HOLB	Holberg	1.51	66	Pn	Pn	05 12 25.0	-1.7
HOLB				⇑Sn	Sn	05 12 42.8	-3.6
HOLB	Holberg	1.51	66	Pn	Pn	05 12 25.0	-1.7
HOLB				⇑Sn	Sn	05 12 42.8	-3.6
BPBC	Brooks Peninsu	1.62	85	⇑Pn	Pn	05 12 26.1	-2.2
BPBC				⇓Sn	Sn	05 12 45.0	-4.3
BPBC	Brooks Peninsu	1.62	85	⇑Pn	Pn	05 12 26.1	-2.2
BPBC				⇓Sn	Sn	05 12 45.0	-4.3
PHC	Port Hardy	1.95	69	Pn	Pn	05 12 31.3	-1.5
PHC				⇓Sn	Sn	05 12 52.9	-4.3
PHC	Port Hardy	1.95	69	Pn	Pn	05 12 31.3	-1.5
PHC				⇓Sn	Sn	05 12 52.9	-4.3
MAYB	Maynard	2.03	79	⇑Pn	Pn	05 12 32.1	-1.9
MAYB				⇑Sn	Sn	05 12 56.2	-3.2
MAYB	Maynard	2.03	79	⇑Pn	Pn	05 12 32.1	-1.9
MAYB				⇑Sn	Sn	05 12 56.2	-3.2
EDB	Eliza Dome	2.05	93	⇓Sn	Sn	05 12 55.8	-4.1
EDB	Eliza Dome	2.05	93	⇓Sn	Sn	05 12 55.8	-4.1
WOSB	Woss	2.40	86	⇑Pn	Pn	05 12 38.0	-1.0
WOSB				⇓Sn	Sn	05 13 05.2	-3.2
WOSB	Woss	2.40	86	⇑Pn	Pn	05 12 38.0	-1.0
WOSB				⇓Sn	Sn	05 13 05.2	-3.2
BBB	Bella Bella	2.55	32	Pn	Pn	05 12 40.4	-0.6
BBB				⇑Sn	Sn	05 13 08.1	-4.0
BBB	Bella Bella	2.55	32	Pn	Pn	05 12 40.4	-0.6
BBB				⇑Sn	Sn	05 13 08.1	-4.0
GDR	Gold River	2.76	94	⇓Pn	Pn	05 12 42.8	-1.2
GDR	Gold River	2.76	94	⇓Pn	Pn	05 12 42.8	-1.2
MOBC	Moresby Island	3.28	342	⇓Pn	Pn	05 12 50.7	-0.4
MOBC	Moresby Island	3.28	342	⇓Pn	Pn	05 12 50.7	-0.4

*BJI **01** 05:15:09.8, 923N×57.15E, h24km, mB4.8, mb4.7, Ms4.7, Msz4.5*
*IDC **01** 05:15:13.5±0.5, 985N×5764E, h0km, mb4.3/27, mb1 4.4/27, mb1mx4.4/29, mbtmp4.3/27, MS3.9/21, Ms1 3.9/21, ms1mx3.8/32, Error ellipse: s-maj=13.7km s-min=12.3km az=142.0*
*MOS **01** 05:15:13.2±1.0, 998N×5748E, h10km, mb5.0/22, MS4.0/7, Error ellipse: s-maj=9.5km s-min=5.8km az=117.4*
*CSEM **01** 05:15:13.4±0.1, 1004N×5747E, h10km, mb5.0/21, Ms3.6, Mw4.8, Error ellipse: s-maj=4.4km s-min=4.3km az=84.0*
*ISCJB **01** 05:15:13.5±0.3, 998N±005×5750E±004, h10km, mb4.7/72, MS4.0/30, Error ellipse: s-maj=7.0km s-min=5.5km az=3.0*
*NEIC **01** 05:15:14.8±0.3, 990N×5755E, h10km, mb5.0/21, Error ellipse: s-maj=7.7km s-min=7.5km az=29.0*
*GCMT **01** 05:15:14.8±0.3, 981N×5747E, h12km, MW4.8/67, Moment Tensor Solution. s16,c16; s67,c101; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-2.12±.07; $M_{\theta\theta}$1.92±.06; $M_{\phi\phi}$0.20±.08; $M_{r\theta}$0.62±.27; $M_{\theta\phi}$-0.63±.06; $M_{\phi r}$-0.67±.45; Best double couple: $M_0$2.31000×10^{16} NP1:φs98.00000°, δ36.00000°, λ-107.00000°. NP2: φs299.00000°, δ56.00000°, λ-78.00000°. Principal axes: T 2.2750, Plg10.0000°, Azm20.0000°; N 0.0710, Plg10.0000°, Azm112.0000°; P -2.3450, Plg75.0000°, Azm245.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*DJA **01** 05:15:19, 937N×5784E, h10km, mb4.8/7*
ISC 01 05:15:15.4±0.3**, 994N**±005×**5751E**±004**, h10**km**, (h17**km±1.2km**:pP-P), n184, σ0.99**/177**, mb4.7**/72**, MS4.0**/30**, 4C-4D, Carlsberg Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
POO	Poona	17.98	60	eP	Pn	05 19 22.5	-3.1
KBD	Kabd	21.24	336	eP	P	05 20 00.3	-1.3
	86nm,1.1s,mb5.0						
KBD	Kabd	21.24	336	eP	P	05 20 00.3	-1.3
	baz=336						
KBD				AMb	AMB	05 20 04.5	
	comp=Z,86nm,1.1s,mb5.0,baz=336						
NAY	Al-Naaiem	21.49	335	eP	P	05 20 03.0	-1.3
	comp=Z,26nm,1.2s,mb4.5						
NAY	Al-Naaiem	21.49	335	eP	P	05 20 03.0	-1.3
	baz=335						
NAY				AMb	AMB	05 20 07.0	
	comp=Z,26nm,1.2s,mb4.4,baz=335						
RST	Umm Al-Ruwaisa	21.81	335	eP	P	05 20 07.1	-0.7
	comp=Z,123nm,1.5s,mb5.1						
RST	Umm Al-Ruwaisa	21.81	335	eP	P	05 20 07.0	-0.7
	baz=334						
RST				AMb	AMB	05 20 18.7	
	comp=Z,123nm,1.5s,mb5.1,baz=334						
MIB	Mutribah	21.93	336	eP	P	05 20 07.8	-1.3
	comp=Z,78nm,1.6s,mb4.9						
MIB	Mutribah	21.93	336	eP	P	05 20 07.8	-1.2
	baz=336						
MIB				AMb	AMB	05 20 19.3	
	comp=Z,78nm,1.6s,mb4.9,baz=336						
DGAR	Diego Garcia	22.77	139	eP	P	05 20 17.3	-0.8
KMBO	Kilima Mbogo	22.96	243	P	P	05 20 21.1	+0.9
	comp=Z,12nm,1.1s,mb4.2,baz=48,slow=13,SNR=12						
KMBO				LR	LR	05 30 23.0	
	comp=Z,244nm,18.4s,MS3.7,baz=95,slow=40						
KMBO	Kilima Mbogo	22.96	243	P	P	05 20 21.1	+0.9
KMBO				LR	LR	05 30 23.0	
NDI	New Delhi	26.26	42	ex	x	05 20 51.0	
EIL	Elat	28.81	316	P	P	05 21 15.6	+1.8
	comp=Z,1.8nm,0.5s,mb4.1,baz=342,slow=22,SNR=2.3						
EIL				LR	LR	05 32 46.1	
	comp=Z,229nm,18.4s,MS3.8,baz=157,slow=36						
EIL	Elat	28.81	316	P	P	05 21 15.6	+1.8
EIL				LR	LR	05 32 46.1	
ASF	Jabal al Asfar	29.21	322	P	P	05 21 18.2	+0.9
	comp=Z,0.9nm,0.5s,mb3.8,baz=302,slow=16,SNR=3.5						
ASF				LR	LR	05 33 16.4	
	comp=Z,205nm,18.7s,MS3.8,baz=178,slow=37						
KOLN	Koldanda	30.29	51	eP	P	05 21 26.4	-0.5
	comp=Z,19nm,0.8s,mb4.8						
DANN	Dangsing	30.71	50	eP	P	05 21 31.6	+1.0
	comp=Z,31nm,0.8s,mb5.2						
GKN	Gorkha	31.20	51	eP	P	05 21 35.5	+0.5
DMN	Daman	31.37	52	eP	P	05 21 37.4	+0.9
	comp=Z,22nm,0.8s,mb5.0						
PKIN	Phulchoki	31.58	52	eP	P	05 21 39.1	+0.8
	comp=Z,14nm,0.6s,mb5.0						
KKN	Kakani	31.59	52	eP	P	05 21 39.8	+1.4
	comp=Z,34nm,0.9s,mb5.2						
GUN	Gumba	32.12	52	eP	P	05 21 44.1	+1.1
	comp=Z,80nm,1.3s,mb5.4						
GNI	Garni	32.16	341	P	P	05 21 44.7	+1.5
	comp=Z,6.9nm,0.5s,mb4.7,baz=100,slow=5.9,SNR=2.8						
JIRN	Jiri	32.24	53	eP	P	05 21 45.6	+1.5
	comp=Z,25nm,0.7s,mb5.2						
RAMN	Ramite	32.25	54	eP	P	05 21 45.3	+1.1
	comp=Z,16nm,0.7s,mb5.0						
ODAN	Odare	32.84	55	eP	P	05 21 50.1	+0.7
MALT	Malatya	33.04	332	eP	P	05 21 53.5	+2.5

MALT pmax pmax
comp=Z,8.0nm,1.0s,mb4.6
MALT Malatya 33.04 332 *eP* **P 05 21 53.5 +2.5**
comp=Z,8.0nm,1.0s,mb4.6
MALT Malatya 33.04 332 *eP* **P 05 21 53.5 +2.4**
comp=Z,7.6nm,1.0s,mb4.6
MAK Makhachkala 34.04 347 *eP* **P 05 22 06.6 +7.0**
MAK MLR MLR
comp=Z,502nm,21.0s,MS4.2
EKS2 Erkin-Say 35.57 21 *eP* **P 05 22 15.7 +2.8**
comp=Z,62nm,1.8s,mb5.2
EKS2 Erkin-Say 35.57 21 *eP* **P 05 22 15.7 +2.8**
comp=Z,62nm,1.8s,mb5.2
FRU Bishkek 36.02 22 *i* P **P 05 22 26.0 +9.2**
FRU pmax pmax
comp=Z,60nm,2.0s,mb5.2
KIV Kislovodsk 36.25 342 *eP* **P 05 22 24.8 +6.1**
KIV *eS* **S 05 28 02.9 +3.8**
KIV pmax pmax
comp=Z,4.0nm,0.6s,mb4.5
KIV MLR MLR
comp=Z,256nm,16.0s,MS4.1
LSA Lhasa 37.05 53 P **P 05 22 25.4 -0.3**
LSZ Lusaka 38.36 230 P **P 05 22 37.0 +0.1**
comp=Z,1.3nm,0.5s,mb4.0,baz=61,slow=8.8,SNR=4.8
IDI Anoyia 38.97 315 P **P 05 22 43.1 +1.2**
comp=Z,15nm,0.9s,mb4.7,baz=155,slow=12,SNR=3.9
IDI Anoyia 38.97 315 P **P 05 22 43.0 +1.1**
AKTK Aktyubinsk 40.38 1 P **P 05 22 53.9 +0.6**
AKTK Aktyubinsk 40.38 1 P **P 05 22 53.9 +0.6**
AKTO Aktyubinsk 40.38 1 P **P 05 22 53.9 +0.6**
comp=Z,4.4nm,0.7s,mb4.3,baz=176,slow=8.6,SNR=16
CMAR Chiang Mai Arr 40.97 73 P **P 05 22 59.2 +0.5**
comp=Z,12nm,1.1s,mb4.4,baz=264,slow=8.2,SNR=33
CMAR LR LR 05 37 54.6
comp=Z,72nm,20.2s,MS3.5,baz=89,slow=33
CMAR Chiang Mai Arr 40.97 73 *eP* **P 05 22 59.2 +0.5**
MK31 Makanchi Array 42.34 25 *eP* **P 05 23 10.1 +0.6**
MK31 Makanchi Array 42.34 25 *eP* **P 05 23 10.1 +0.6**
MKAR Makanchi Array 42.34 25 P **P 05 23 09.6 +0.1**
comp=Z,2.5nm,0.7s,mb3.9,baz=219,slow=7.5,SNR=11
MKAR LR LR 05 42 24.0
comp=Z,197nm,18.8s,MS4.0,baz=161,slow=38
VSR Storozhevoye 43.83 343 *eP* **P 05 23 21.1 -0.4**
VSR pmax pmax
comp=Z,2.0nm,0.6s,mb4.0
VSR pmax pmax
comp=N,4.0nm,0.7s
VSR pmax pmax
comp=E,5.0nm,0.6s
BVAR Borovoye Array 44.21 11 P **P 05 23 24.5 -0.1**
comp=E,3.1nm,0.7s,mb4.1,baz=190,slow=7.5,SNR=13
BVAR PP PP 05 25 08.1 +0.5
comp=E,0.7nm,0.5s,baz=173,slow=13,SNR=3.8
BVAR LR LR 05 43 51.3
comp=E,198nm,18.7s,MS4.1,baz=209,slow=39
BVAR Borovoye Array 44.21 11 P **P 05 23 24.5 0.0**
BVAR 05 25 08.1
BVAR Borovoye Array 44.21 11 PP PP 05 25 08.1 +0.5
KURK Kurchatov 44.23 19 P **P 05 23 24.5 -0.2**
comp=E,2.3nm,0.9s,mb3.9,baz=216,slow=8.2,SNR=9.5
KURK LR LR 05 42 46.8
comp=E,526nm,21.3s,MS4.4,baz=215,slow=37
PLOR Plostina 44.46 329⇑ *iP* **P 05 23 29.2 +2.5**
MLR Muntele Rosu 44.58 328⇓ *iP* **P 05 23 29.2 +1.6**
VOIR 45.01 328⇓ *iP* **P 05 23 32.5 +1.5**
KMI Kunming 45.47 65 P **P 05 23 34.9 -0.1**
KMI AMB AMB
comp=Z,15nm,1.5s,mb4.6
KMI LR LR
comp=Z,140nm,26.4s,MS3.8
ARU Arti 46.39 1 *d iP* **P 05 23 48.9 +7.1**
ARU *e* 05 25 32.9
ARU *eS* **S 05 30 34.6 +5.4**
ARU pmax pmax
comp=Z,26nm,1.7s,mb4.9
BURAR Bucovina Array 46.39 330⇓ *iP* **P 05 23 42.7 +0.7**
BUR08 Bucovina Ar. S 46.42 330 *eP* **P 05 23 42.7 +0.5**
BUR08 Bucovina Ar. S 46.42 330 *eP* **P 05 23 42.7 +0.6**
LBTB Lobatse 46.63 221 *eP* **P 05 23 45.5 +1.4**
LBTB pmax pmax
comp=Z,31nm,1.3s,mb5.1
LBTB Lobatse 46.63 221 *eP* **P 05 23 45.5 +1.4**
comp=Z,31nm,1.3s,mb5.1
LBTB Lobatse 46.63 221 *eP* **P 05 23 45.5 +1.3**
comp=Z,31nm,1.3s,mb5.1
AKASG Malin Array Be 46.84 336 P **P 05 23 45.1 -0.4**
comp=Z,0.6nm,0.5s,mb3.8,baz=144,slow=7.5,SNR=6.0
OBN Obninsk 48.01 344⇑ *eP* **P 05 24 00.6 +6.1**
OBN *e* 05 25 51.5
OBN *i* S **S 05 30 57.4 +5.0**
OBN pmax pmax
comp=Z,9.0nm,0.5s,mb5.1
OBN MLR MLR
comp=Z,200nm,21.0s,MS4.1
KOLS Kolonicke sedl 48.74 330 *eP* **P 05 24 00.1 -0.1**
ZAA0 Zalesovo Array 49.03 21 *eP* **P 05 24 02.1 -0.2**
ZAA0 Zalesovo Array 49.03 21 *eP* **P 05 24 02.1 -0.2**
ZALV Zalesovo Beam 49.03 21 P **P 05 24 01.6 -0.7**
comp=Z,4.9nm,0.8s,mb4.6,baz=220,slow=6.6,SNR=12
ZALV LR LR 05 45 26.9
comp=Z,89nm,18.7s,MS3.8,baz=192,slow=37
CRVS Cervenica-Dubn 49.12 329 *eP* **P 05 24 02.7 -0.4**
NVS Novosibirsk 49.22 19 *eP* **P 05 24 02.8 -0.9**
BOSA Boshof 49.39 218 P **P 05 24 06.1 +0.6**
comp=Z,12nm,0.8s,mb5.0,baz=43,slow=8.7,SNR=18
BOSA LR LR 05 42 24.2
comp=Z,392nm,20.8s,MS4.4,baz=46,slow=33
BOSA Boshof 49.39 218 P **P 05 24 06.1 +0.6**
BOSA LR LR 05 42 24.2
KEST Kesra 50.63 308 P **P 05 24 16.4 +1.6**
comp=Z,0.8nm,0.7s,mb3.8,baz=176,slow=6.7,SNR=3.8
KEST LR LR 05 47 45.0
comp=Z,33nm,18.2s,MS3.4,baz=327,slow=38
MODS Modra-Piesok 51.01 326 *eP* **P 05 24 17.7 +0.3**
TAM Tamanrasset 51.25 291 *eP* **P 05 24 20.3 +0.6**
MORC Moravsky Berou 51.68 328 *eP* **P 05 24 21.8 -0.7**
MORC pmax pmax
comp=Z,14nm,1.3s,mb4.7
MORC Moravsky Berou 51.68 328 *eP* **P 05 24 21.6 -0.9**
MORC Moravsky Berou 51.68 328 *eP* **P 05 24 21.8 -0.6**
comp=Z,14nm,1.3s,mb4.7
TREC Trest 52.50 326 *eP* **P 05 24 28.1 -0.5**
KLMR Klimovskoe 52.54 349 *eP* **P 05 24 29.2 +0.5**
KLMR pmax pmax
comp=Z,29nm,1.7s,mb4.9
DPC Dobruska-Polom 52.66 328 *eP* **P 05 24 30.2 +0.5**
DPC *epP* pP 05 24 33.9 +1.0
UPC Upice 52.91 328 *eP* **P 05 24 31.1 -0.5**
KSP Ksiaz 52.96 328 *eP* **P 05 24 33.6 +1.7**
GERES GERESS Array B 53.25 325 P **P 05 24 33.2 -0.9**
comp=Z,0.6nm,0.7s,mb3.6,baz=109,slow=7.2,SNR=4.5
GERES LR LR 05 48 02.9
comp=Z,61nm,18.5s,MS3.7,baz=113,slow=37
PRU Pruhonice 53.40 327 *eP* **P 05 24 39.2 +4.0**
PRU MLR MLR
comp=Z,100nm,7.5s
PRU Pruhonice 53.40 327 *epP* pP 05 24 39.2 +0.8
PRU AMS AMS 05 53 10.0
comp=Z,100nm,7.5s
KHC Kasperske Hory 53.47 325 *eP* **P 05 24 35.0 -0.7**
KHC *epP* pP 05 24 40.0 +1.1
PVCC Panska Ves 53.68 327 *eP* **P 05 24 36.3 -1.0**
PVCC *epP* pP 05 24 42.3 +1.9
BRG Berggiesshubel 54.20 327 *eP* **P 05 24 46.7 +5.6**
BRG pmax pmax
comp=Z,4.0nm,1.1s,mb4.3
BRG Berggiesshubel 54.20 327 *eP* **P 05 24 46.7 +5.7**
comp=Z,7.0nm,1.1s,mb4.5
NKC Novy Kostel 54.67 326 *eP* **P 05 24 44.6 +0.1**
NKC *epP* pP 05 24 49.3 +1.6
TOA0 Torodi Ar. Sit 54.69 279 *eP* **P 05 24 45.8 +0.6**
TOA0 Torodi Ar. Sit 54.69 279 *eP* **P 05 24 45.8 +0.5**
TORD Torodi Ar. Bea 54.69 279 P **P 05 24 46.0 +0.7**
comp=Z,12nm,0.8s,mb5.0,baz=90,slow=6.4,SNR=68
TORD LR LR 05 46 20.4
comp=Z,103nm,18.6s,MS3.9,baz=115,slow=34
CLL Collm 54.94 327 *eP* **P 05 24 46.0 -0.4**
CLL *i* pP 05 24 50.8 +1.2
CLL pmax pmax
comp=Z,9.0nm,1.2s,mb4.7
CLL Collm 54.94 327 *eP* **P 05 24 46.0 -0.4**
comp=Z,9.0nm,1.2s,mb4.7
CLL *i* (pP) pP 05 24 50.8 +1.2
CLL *ex* x 05 25 00.0

LMR La Mourre 55.28 316 *eP* **P 05 24 48.1 -0.9**
MBDF Montbardon 55.62 318 *eP* **P 05 24 50.5 -1.0**
comp=Z,11nm,0.9s,mb4.6
MBDF Montbardon 55.62 318 *eP* **P 05 24 50.5 -1.0**
MBDF pmax pmax
comp=Z,5.0nm,0.9s,mb4.5
MBDF Montbardon 55.62 318 *eP* **P 05 24 50.5 -1.0**
comp=Z,5.4nm,0.9s,mb4.6
SONM Songino Array 55.73 38 P **P 05 24 52.3 +0.1**
comp=Z,1.2nm,0.7s,mb4.1,baz=233,slow=7.9,SNR=11
SONM LR LR 05 50 31.2
comp=Z,116nm,19.7s,MS4.0,baz=121,slow=38
LPG La Plagne 55.93 319 *eP* **P 05 24 52.6 -1.1**
comp=Z,23nm,1.0s,mb4.9
LPG La Plagne 55.93 319 *eP* **P 05 24 52.6 -1.1**
LPG pmax pmax
comp=Z,11nm,1.0s,mb4.8
LPG La Plagne 55.93 319 *eP* **P 05 24 52.6 -1.1**
comp=Z,11nm,1.0s,mb4.9
LPL La Plagne 55.95 319 *eP* **P 05 24 52.8 -1.0**
comp=Z,21nm,0.8s,mb4.9
LPL La Plagne 55.95 319 *eP* **P 05 24 52.8 -1.0**
LPL pmax pmax
comp=Z,11nm,0.8s,mb4.9
LPL La Plagne 55.95 319 *eP* **P 05 24 52.8 -1.0**
comp=Z,11nm,0.8s,mb4.9
TLY Talaya 56.00 33 *eP* **P 05 24 55.2 +1.2**
TLY *e* 05 32 49.8
TLY pmax pmax
comp=Z,5.0nm,1.0s,mb4.5
TLY MLR MLR
comp=Z,120nm,15.0s,MS4.1
ULN Ulaanbaatar 56.14 38⇑ *eP* **P 05 24 55.5 +0.4**
CDF Champ du Feu 56.79 322 *eP* **P 05 24 59.0 -0.7**
comp=Z,25nm,1.0s,mb4.9
CDF Champ du Feu 56.79 322 *eP* **P 05 24 59.0 -0.7**
CDF pmax pmax
comp=Z,12nm,1.0s,mb4.9
CDF Champ du Feu 56.79 322 *eP* **P 05 24 59.0 -0.7**
comp=Z,12nm,1.0s,mb4.9
CABF La Chapelle 56.79 320 *eP* **P 05 24 59.5 -0.3**
comp=Z,125nm,1.2s,mb5.5
CABF La Chapelle 56.79 320 *eP* **P 05 24 59.5 -0.3**
CABF pmax pmax
comp=Z,63nm,1.2s,mb5.5
CABF La Chapelle 56.79 320 *eP* **P 05 24 59.5 -0.3**
comp=Z,63nm,1.2s,mb5.5
HINF Hinteralfeld 56.80 321 *eP* **P 05 24 58.7 -1.1**
HAU Haudompre 57.19 322 *eP* **P 05 25 01.4 -1.2**
HAU *eMLR MLR
comp=Z,81nm,19.5s,MS3.5
HAU Haudompre 57.19 322 *eP* **P 05 25 01.4 -1.2**
HAU LR LR
comp=Z,80nm,19.5s,MS3.8
MEZF Maizieres J'vi 58.18 322 *eP* **P 05 25 09.2 -0.3**
MTLF Montolieu 58.23 315 *eP* **P 05 25 09.0 -1.0**
LOR Lormes 58.45 320 *eP* **P 05 25 10.5 -1.0**
comp=Z,55nm,1.3s,mb5.1
LOR *eMLR MLR
comp=Z,70nm,19.0s,MS3.5
LOR Lormes 58.45 320 *eP* **P 05 25 10.5 -1.0**
LOR pmax pmax
comp=Z,28nm,1.3s,mb5.1
LOR MLR MLR
comp=Z,70nm,19.0s,MS3.8
LOR Lormes 58.45 320 *eP* **P 05 25 10.5 -1.0**
comp=Z,28nm,1.3s,mb5.1
LOR LR LR
comp=Z,70nm,19.0s,MS3.8
SSF Saint Saulge 58.60 320 *eP* **P 05 25 11.4 -1.1**
comp=Z,17nm,0.8s,mb4.8
SSF Saint Saulge 58.60 320 *eP* **P 05 25 11.4 -1.1**
SSF pmax pmax
comp=Z,9.0nm,0.8s,mb4.8
SSF Saint Saulge 58.60 320 *eP* **P 05 25 11.4 -1.1**
comp=Z,8.6nm,0.8s,mb4.8
AVF Avril sur Loir 58.60 319 *eP* **P 05 25 11.0 -1.5**
comp=Z,32nm,1.4s,mb4.9
AVF Avril sur Loir 58.60 319 *eP* **P 05 25 11.0 -1.5**
AVF pmax pmax
comp=Z,16nm,1.4s,mb4.9
AVF Avril sur Loir 58.60 319 *eP* **P 05 25 11.0 -1.5**
comp=Z,16nm,1.4s,mb4.9
CAF Calviac 58.83 317 *eP* **P 05 25 13.3 -0.8**
BGF Bois d'Agland 58.85 319 *eP* **P 05 25 13.6 -0.7**
comp=Z,30nm,0.9s,mb5.0
BGF Bois d'Agland 58.85 319 *eP* **P 05 25 13.6 -0.7**
BGF pmax pmax
comp=Z,15nm,0.9s,mb5.0
BGF Bois d'Agland 58.85 319 *eP* **P 05 25 13.6 -0.7**
comp=Z,15nm,0.9s,mb5.0
GIVF Givet 58.95 323 *eP* **P 05 25 14.3 -0.6**
TCF Toulx Ste Croi 59.17 318 *eP* **P 05 25 15.6 -0.9**
comp=Z,35nm,1.6s,mb4.8
TCF Toulx Ste Croi 59.17 318 *eP* **P 05 25 15.6 -0.9**
TCF pmax pmax
comp=Z,17nm,1.6s,mb4.8
TCF Toulx Ste Croi 59.17 318 *eP* **P 05 25 15.6 -0.9**
comp=Z,18nm,1.6s,mb4.8
BAIF Baives 59.30 323 *eP* **P 05 25 16.9 -0.4**
LFF La Frestale 59.73 317 *eP* **P 05 25 19.8 -0.6**
comp=Z,64nm,1.4s,mb5.2
LFF La Frestale 59.73 317 *eP* **P 05 25 19.8 -0.6**
LFF pmax pmax
comp=Z,32nm,1.4s,mb5.2
LFF La Frestale 59.73 317 *eP* **P 05 25 19.8 -0.6**
comp=Z,32nm,1.4s,mb5.2
BJI Beijing 59.79 49 P **P 05 25 20.4 -0.5**
BJI AMB AMB
comp=Z,18nm,0.5s,mb5.4
BJI LR LR
comp=N,223nm,14.9s,MS4.6
BJI LR LR
comp=E,196nm,12.9s,MS4.6
BJI LR LR
comp=Z,185nm,26.5s
ETSF Etsaut 60.05 314 *eP* **P 05 25 22.6 -0.1**
comp=Z,10.0nm,0.8s,mb4.6
ETSF Etsaut 60.05 314 *eP* **P 05 25 22.6 -0.1**
ETSF pmax pmax
comp=Z,5.0nm,0.8s,mb4.6
ETSF Etsaut 60.05 314 *eP* **P 05 25 22.6 -0.1**
comp=Z,5.0nm,0.8s,mb4.6
SJPF Ste Jean 60.58 314 *eP* **P 05 25 26.2 -0.1**
comp=Z,26nm,1.0s,mb5.0
SJPF Ste Jean 60.58 314 *eP* **P 05 25 26.2 -0.1**
SJPF pmax pmax
comp=Z,13nm,1.0s,mb5.0
SJPF Ste Jean 60.58 314 *eP* **P 05 25 26.2 -0.1**
comp=Z,13nm,1.0s,mb5.0
NOA NORAR Array B 61.25 336 P **P 05 25 32.2 +1.8**
comp=Z,1.3nm,0.9s,mb4.0,baz=122,slow=7.7,SNR=2.9
NOA LR LR 05 54 30.6
comp=Z,155nm,20.5s,MS4.2,baz=110,slow=38
LDF La Druitiere 61.42 320 *eP* **P 05 25 30.7 -1.2**
comp=Z,114nm,1.4s,mb5.5
LDF La Druitiere 61.42 320 *eP* **P 05 25 30.7 -1.2**
LDF pmax pmax
comp=Z,57nm,1.4s,mb5.5
LDF La Druitiere 61.42 320 *eP* **P 05 25 30.7 -1.2**
comp=Z,57nm,1.4s,mb5.5
DBIC Dimbokro 61.73 272 P **P 05 25 35.0 +0.4**
comp=Z,12nm,0.8s,mb5.1,baz=54,slow=5.2,SNR=15
DBIC LR LR 05 51 36.5
comp=Z,71nm,19.4s,MS3.8,baz=70,slow=35
DBIC Dimbokro 61.73 272 P **P 05 25 35.0 +0.4**
DBIC LR LR 05 51 36.5
ESDC Sonseca Array 61.83 310 P **P 05 25 34.9 +0.1**
comp=Z,6.1nm,0.8s,mb4.8,baz=87,slow=6.1,SNR=19
ESLA Sonseca Array 61.83 310 *eP* **P 05 25 35.0 +0.2**
comp=Z,4.1nm,1.0s,mb4.5
ESLA Sonseca Array 61.83 310 *eP* **P 05 25 35.0 +0.2**
comp=Z,4.1nm,1.0s,mb4.5
LIC Lamto 61.95 272 *eP* **P 05 25 36.4 +0.3**
comp=Z,29nm,0.8s,mb5.2
LIC *eMLR MLR
comp=Z,89nm,18.0s,MS3.7
LIC Lamto 61.95 272 *eP* **P 05 25 36.4 +0.3**
comp=Z,15nm,0.8s,mb5.2
LIC LR LR
comp=Z,40nm,18.0s,MS3.6
ARCES ARCESS Array B 62.98 348 P **P 05 25 42.3 +0.4**
comp=Z,2.9nm,0.9s,mb4.4,baz=27,slow=27,SNR=3.5
ARCES LR LR 05 56 02.5
comp=Z,80nm,18.7s,MS3.9,baz=271,slow=39
CN2 Changchun 67.28 47 *eP* **P 05 26 09.8 -0.6**
CN2 AMB AMB
comp=Z,10.0nm,0.6s,mb5.0
KSRS Korea Array 68.49 54 P **P 05 26 16.4 -1.8**
comp=Z,1.0nm,0.5s,mb4.2,baz=257,slow=7.3,SNR=6.3
KSRS LR LR 05 57 21.5
comp=Z,98nm,20.9s,MS4.0,baz=83,slow=37
KLR Kul'dur 72.25 41 *eP* **P 05 26 34.3 -6.6**
MJAR Matsushiro Arr 76.71 55 P **P 05 27 06.5 -0.6**
comp=Z,0.7nm,0.3s,mb4.0,baz=166,slow=41,SNR=3.0
MJAR LR LR 06 01 57.8
comp=Z,103nm,21.2s,MS4.1,baz=115,slow=37
MJAR Matsushiro Arr 76.71 55 P **P 05 27 06.5 -0.6**
MJAR LR LR 06 01 57.8
MAW Mawson 77.43 178 P **P 05 27 10.8 +0.4**
comp=Z,2.7nm,0.7s,mb4.3,baz=302,slow=13,SNR=7.7
MAW LR LR 05 56 40.5
comp=Z,110nm,19.6s,MS4.2,baz=53,slow=32
WRA Warramunga Arr 81.20 112 P **P 05 27 30.4 -1.5**
comp=Z,2.9nm,0.9s,mb4.2,baz=296,slow=4.3,SNR=14
WRA LR LR 06 00 15.2
comp=Z,48nm,19.8s,MS3.9,baz=265,slow=33
WRAB Tennant Creek 81.20 112 *eP* **P 05 27 29.4 -2.6**
comp=Z,0.5nm,0.5s,mb3.7
WRAB Tennant Creek 81.20 112 *eP* **P 05 27 29.4 -2.6**
comp=Z,0.5nm,0.5s,mb3.7
WB2 Warramunga Arr 81.21 112 *eP* **P 05 27 30.3 -1.7**
WB2 Warramunga Arr 81.21 112 *eP* **P 05 27 30.3 -1.7**
ASAR Alice Springs 81.72 116 P **P 05 27 32.9 -1.8**
comp=Z,3.0nm,0.9s,mb4.2,baz=290,slow=5.1,SNR=25
SEY Seymchan 83.45 27⇑ *eP* **P 05 27 49.5 +6.6**
PETK Petropavlovsk- 88.19 36 LR LR 06 08 49.8
comp=Z,100nm,21.7s,MS4.2,baz=108,slow=36
VNA2 Neumayer--Watz 91.40 197 *eP* **P 05 28 22.0 +0.8**
VNA1 Neumayer--Stat 91.54 198 *eP* **P 05 28 22.8 +1.0**
VNA3 Neumayer Olymp 92.21 197 *eP* **P 05 28 25.2 +0.3**
PLCA Paso Flores 124.96 227 PKP PKPdf 05 34 14.4 -1.7
comp=Z,3.0nm,1.1s,baz=242,slow=2.5,SNR=3.4
PLCA Paso Flores 124.96 227 PKIKP PKPdf 05 34 14.4 -1.7
PDAR Pinedale Array 126.24 348 PKP PKPdf 05 34 17.8 -0.8
comp=Z,1.7nm,0.8s,baz=60,slow=2.8,SNR=12
NVAR Mina Array Bea 131.73 356 PKP PKPdf 05 34 30.2 +1.1
comp=Z,1.1nm,0.7s,baz=51,slow=1.4,SNR=9.7
NVAR Mina Array Bea 131.73 356 PKIKP PKPdf 05 34 30.2 +1.0
TXAR Lajitas Array 136.95 336 PKP PKPdf 05 34 38.8 -0.4
comp=Z,1.2nm,1.0s,baz=75,slow=1.4,SNR=6.9

MAN 01 05:24:46,848N×12580E,h62km,mb4.2,ML3.0,MS2.8, 1C,Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
BIPH	**Bislig**	**0.63**	**118**⇑	*iP*		Pn	05 25 01.2	+1.6
BIPH				*i*	S	Sn	05 25 11.3	+1.7
BUKP	**Musuan**	**0.94**	**230**	*eP*		Pn	05 25 05.5	+2.1
BUKP				*eS*		Sn	05 25 19.3	+3.1
CGP	**Cagayan de Oro**	**1.09**	**269**	*eP*		Pn	05 25 06.6	+1.3
CGP				*i*	S	Sn	05 25 21.4	+1.8
TBP	**Tagbilaran**	**2.25**	**302**	*eP*		Pn	05 25 23.1	+2.1
TBP				*eS*		Sn	05 25 49.9	+2.2
BUSP	**Coron**	**6.52**	**303**	*eP*		Pn	05 26 15.0	-4.4

IDC 01 05:33:46.2±3.4,465S×10079E,h0km,mb3.9/7,mb1 4.1/7, mb1mx3.8/20,mbtmp3.9/7,Error ellipse: s-maj=138.0km s-min=17.7km az=56.0,Southwest of Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**23.03**	**356**	P		P	05 38 52.1	-0.9
	1.1nm,0.3s,baz=186,slow=7.2,SNR=5.6							
FITZ	**Fitzroy Crossi**	**27.73**	**121**	P		P	05 39 35.8	-0.9
	1.7nm,0.9s,baz=236,slow=15,SNR=2.3							
WRA	**Warramunga Arr**	**36.02**	**118**	P		P	05 40 49.5	+0.1
	0.5nm,0.4s,baz=303,slow=8.7,SNR=6.1							
ASAR	**Alice Springs**	**37.10**	**124**	P		P	05 40 58.7	+0.1
	0.7nm,0.5s,baz=298,slow=7.7,SNR=12							
SONM	**Songino Array**	**52.49**	**5**	P		P	05 43 01.9	+1.1
	1.1nm,0.8s,baz=182,slow=8.0,SNR=7.0							
MKAR	**Makanchi Array**	**53.77**	**344**	P		P	05 43 10.1	-0.2
	0.5nm,0.7s,baz=147,slow=8.1,SNR=1.8							
ZALV	**Zalesovo Beam**	**59.90**	**349**	P		P	05 43 53.2	-0.4
	1.4nm,0.6s,baz=180,slow=2.7,SNR=3.1							
TXAR	**Lajitas Array**	**146.25**	**41**	PKPbc		PKPbc	05 53 29.9	+0.5
	0.5nm,0.7s,baz=286,slow=2.0,SNR=5.8							

IDC 01 06:07:46.2±2.9,2435N×10966W,h0km,mb1 3.6/3, mb1mx3.5/21,mbtmp3.1/3,ML3.5/3,Error ellipse: s-maj=57.5km s-min=10.4km az=145.0,Gulf of California

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
LPIG	**La Paz**	**0.64**	**248**	Pg		Pg	06 07 58.8	+0.3
	269nm,0.3s,baz=8.8,slow=3.8,SNR=366							
LPIG				Lg			06 08 07.3	
	359nm,0.3s,baz=68,slow=10.0,SNR=29							
TXAR	**Lajitas Array**	**7.30**	**46**	Pn		Pn	06 09 34.8	+0.7
	0.1nm,0.3s,baz=225,slow=12,SNR=6.2							
TXAR				Sn		Sn	06 10 56.7	-0.9
	baz=210,slow=17,SNR=2.3							
NVAR	**Mina Array Bea**	**15.85**	**334**	Pn		Pn	06 11 34.3	+3.7
	0.1nm,0.3s,baz=160,slow=12,SNR=4.8							
PDAR	**Pinedale Array**	**18.37**	**0**	P		Pn	06 12 02.6	+0.4
	0.1nm,0.3s,baz=172,slow=13,SNR=5.2							

IDC 01 06:17:52.2±1.5,2413S×6661W,h170km±19km,mb2.9/1, mb1 2.7/4,mb1mx2.7/17,mbtmp2.7/4,Error ellipse: s-maj=28.3km s-min=14.0km az=89.0,Salta Province

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
LVC	**Limon Verde**	**2.60**	**305**	P		Pn	06 18 37.2	+1.7
	33nm,0.3s,baz=130,slow=8.8,SNR=635							
LVC				S		Sn	06 19 10.0	+1.0
	7.4nm,0.3s,baz=249,slow=21,SNR=12							
CFAA	**Coronel Fontan**	**7.59**	**191**	P		Pn	06 19 40.9	+0.9
	0.0nm,0.3s,baz=12,slow=9.2,SNR=8.3							
CFAA				S		Sn	06 21 02.8	-2.3
	0.1nm,0.3s,baz=139,slow=21,SNR=23							
LPAZ	**La Paz**	**7.93**	**349**	P		Pn	06 19 45.5	+0.9
	0.3nm,0.3s,baz=155,slow=15,SNR=10							
LPAZ				S		Sn	06 21 09.5	-3.9
	0.0nm,0.3s,baz=53,slow=22,SNR=2.2							
SIV	**San Ignacio**	**9.62**	**34**	P		Pn	06 20 08.0	+1.1
	0.3nm,0.3s,baz=236,slow=13,SNR=9.3							
TORD	**Torodi Ar. Bea**	**76.28**	**69**	P		P	06 29 22.7	+0.1
	0.2nm,0.7s,baz=245,slow=6.7,SNR=4.0							
WRA	**Warramunga Arr**	**131.68**	**207**	PKP		PKPdf	06 36 44.7	-0.9
	0.1nm,0.3s,baz=159,slow=1.7,SNR=4.7							
MKAR	**Makanchi Array**	**146.39**	**40**	PKPbc		PKPbc	06 37 12.7	-0.2
	0.3nm,0.6s,baz=296,slow=3.2,SNR=3.5							

*BJI **01** 06:22:47.3,2193S×170.18E,h23km,mB5.1,mb4.8,Ms4.8, Msz4.7*
*BGS **01** 06:22:48.9±2.4,2133S×16936E,h10km,mb4.8(NEIC)*
*ISCJB **01** 06:22:49.6±3.3,2140S×007×16934E×005,h9km±20km, mb4.7/35,MS4.3/16,Error ellipse: s-maj=12.9km s-min=6.8km az=160.3*
*IDC **01** 06:22:49.7±0.8,2140S×16939E,h0km,mb4.5/15, mb1 4.7/16,mb1mx4.7/19,mbtmp4.6/16,ML2.4/1,MS4.2/12, Ms1 4.1/12,ms1mx3.7/27,Error ellipse: s-maj=28.7km s-min=16.2km az=151.0*
*LDG **01** 06:22:50.5±0.4,2147S×16898E,h10km,Mb4.9/2,Error ellipse: s-maj=42.0km s-min=4.3km az=158.0*
*NEIC **01** 06:22:51.4±0.5,2133S×16936E,h10km,mb4.8/15,Error ellipse: s-maj=16.3km s-min=8.5km az=151.0*
*MOS **01** 06:22:52.3±1.0,2133S×16946E,h28km,mb5.1/10,Error ellipse: s-maj=14.3km s-min=12.5km az=163.2*
*NOU **01** 06:23:02.3±1.2,2124S×16840E,h10km*
ISC 01 06:22:49.6±3.7,2144S±008×16937E±005,h1km±23km, n259,⌀0°67/215,mb4.8/35,MS4.3/16,81C-69D,Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
BAYA	**Yate Dam**	**2.41**	**253**	*eP*		**Pn**	**06 23 30.0**	**-0.2**
LASL	**Noumea**	**2.74**	**253**	*eP*		**Pn**	**06 23 34.3**	**-0.5**
DZM	**Mont Dzumac**	**2.79**	**257**	*eP*		**Pn**	**06 23 34.4**	**-1.0**
DZM				*eS*		**Sn**	**06 23 57.2**	**-13**
DZM	**Mont Dzumac**	**2.79**	**257**	*ePn*		**Pn**	**06 23 35.9**	**+0.4**

DZM eSn Sn 06 24 10.1 +0.3
NOUC Port Laguerre 2.92 256 eP Pn 06 23 36.8 -0.5
NOUC eS Sn 06 24 04.0 -9.1
URZ Urewera 18.04 160 LR LR 06 32 58.6
comp=Z,408nm,18.7s,baz=178,slow=34
ARMA Armidale 18.27 237 eP Pn 06 27 08.3 +3.8
AFI Afiamalu 19.45 70 P Pn 06 27 18.6 -0.4
0.7nm,0.3s,baz=278,slow=5.2,SNR=5.1
AFI LR LR 06 33 24.0
comp=Z,564nm,18.6s,baz=250,slow=33
AFI Afiamalu 19.45 70 eP Pn 06 27 18.8 -0.2
AFI pmax pmax
comp=Z,100nm,1.1s
AFI Afiamalu 19.45 70 eP Pn 06 27 18.8 -0.2
comp=Z,100nm,1.1s
CTA Charters Tower 21.65 269⇓*i*P P 06 27 43.2 +1.5
comp=Z,17nm,0.9s,mb4.5
CTA Charters Tower 21.65 269 P P 06 27 43.8 +2.1
comp=Z,20nm,0.8s,mb4.6,baz=92,slow=11,SNR=13
CTA LR LR 06 35 11.5
comp=Z,308nm,21.8s,MS3.7,baz=79,slow=34
CTA Charters Tower 21.65 269⇓*i*P P 06 27 43.2 +1.5
CTA pmax pmax
comp=Z,17nm,0.9s
CTAO Charters Tower 21.65 269 eP P 06 27 43.5 +1.8
CTAO pmax pmax
comp=Z,29nm,1.0s,mb4.7
CTAO Charters Tower 21.65 269 eP P 06 27 43.5 +1.8
comp=Z,29nm,1.0s,mb4.7
RPZ Rata Peaks 22.25 177 LR LR 06 35 48.8
comp=Z,844nm,18.4s,MS4.2,baz=290,slow=35
CNB Canberra Magne 22.32 227 eP P 06 27 51.5 +2.8
CAN Canberra 22.57 228 eP P 06 27 54.7 +3.3
PMG Port Moresby 24.48 296 eP P 06 28 11.3 +0.8
PMG Port Moresby 24.48 296 eP P 06 28 11.8 +1.2
TOO Toolangi 26.16 227 eP P 06 28 27.8 +2.3
STKA Stephens Creek 26.84 241⇓*i*P P 06 28 32.9 +1.2
comp=Z,10nm,0.9s,mb4.6
STKA Stephens Creek 26.84 241 P P 06 28 33.1 +1.4
comp=Z,10nm,0.7s,mb4.6,baz=81,slow=9.6,SNR=17
STKA LR LR 06 38 49.0
comp=Z,613nm,18.8s,MS4.2,baz=36,slow=36
WB2 Warramunga Arr 32.75 266 eP P 06 29 23.5 -0.8
WRAB Tennant Creek 32.76 266 eP P 06 29 22.3 -2.0
WRAB Tennant Creek 32.76 266 eP P 06 29 22.9 -1.4
comp=Z,14nm,1.2s,mb4.8
WRA Warramunga Arr 32.76 266 P P 06 29 23.1 -1.3
comp=Z,3.2nm,0.8s,mb4.3,baz=101,slow=8.0,SNR=13
WRA LR LR 06 42 49.5
comp=Z,460nm,19.1s,MS4.2,baz=105,slow=37
ASAR Alice Springs 32.78 259 P P 06 29 24.1 -0.3
comp=Z,8.5nm,0.9s,mb4.7,baz=83,slow=9.0,SNR=73
TBI Tubuai 38.02 101 eLQ 06 38 55.7
comp=Z,450nm,25.8s
FORT Forrest 38.06 247 eP P 06 30 08.9 -1.0
comp=Z,7.7nm,0.6s,mb4.6
PPT Papeete 38.81 92 eLQ 06 39 13.0
comp=Z,556nm,29.0s
PPT eLR LR 06 41 03.0
comp=Z,103nm,23.0s
FITZ Fitzroy Crossi 41.19 267 eP P 06 30 36.0 -0.1
comp=Z,14nm,0.7s,mb4.8
FITZ e 06 30 45.1
FITZ Fitzroy Crossi 41.19 267 P P 06 30 36.3 +0.2
comp=Z,6.7nm,0.6s,mb4.5,baz=120,slow=9.3,SNR=26
FITZ LR LR 06 45 57.1
comp=Z,135nm,21.9s,MS3.8,baz=280,slow=34
MBWA Marble Bar 46.09 261 eP P 06 31 13.3 -2.2
comp=Z,23nm,0.9s,mb5.2
KLBR Kellerberrin 46.91 246 eP P 06 31 20.7 -1.2
comp=Z,20nm,1.1s,mb5.2
SBA Scott Base 56.47 181 eP P 06 32 34.1 +1.4
SBA pmax pmax
comp=Z,12nm,1.0s,mb4.9
SBA Scott Base 56.47 181 eP P 06 32 34.1 +1.4
comp=Z,12nm,1.0s,mb4.9
MJAR Matsushiro Arr 64.75 333 P P 06 33 29.7 0.0
comp=Z,4.9nm,0.9s,mb4.8,baz=161,slow=7.6,SNR=6.6
ASAJ Asahikawa 69.70 340 P P 06 34 01.0 +0.1
comp=Z,5.8nm,0.4s,mb5.1,baz=208,slow=13,SNR=4.8
ASAJ LR LR 07 00 16.7
comp=Z,196nm,19.6s,MS4.4,baz=176,slow=32
KSRS Korea Array 70.39 326 P P 06 34 05.4 0.0
comp=Z,1.7nm,0.9s,mb4.2,baz=141,slow=7.3,SNR=5.2
YSS Yuzh-Sakhalins 72.19 341 eP P 06 34 14.3 -1.7
YSS pmax pmax
comp=Z,30nm,1.0s,mb5.4
PETK Petropavlovsk- 74.92 353 P P 06 34 32.4 +0.4
comp=Z,5.7nm,0.9s,mb4.6,baz=126,slow=7.5,SNR=5.3
PETK LR LR 07 02 23.0
comp=Z,143nm,19.4s,MS4.3,baz=160,slow=32
MDJ Mudanjiang 75.11 332 P P 06 34 33.0 -0.2
MDJ AMB AMB
comp=Z,6.0nm,1.9s,mb4.3
MDJ AMB AMB
comp=Z,56nm,4.7s
CN2 Changchun 76.40 329 eP P 06 34 39.4 -1.2
CN2 eS S 06 44 23.9 -2.9
CN2 AMB AMB
comp=Z,10.0nm,0.8s,mb5.0
MAW Mawson 76.45 202 P P 06 34 41.3 +0.7
comp=Z,5.6nm,0.9s,mb4.7,baz=111,slow=6.3,SNR=7.8
MAW LR LR 07 04 00.7
comp=Z,164nm,21.1s,MS4.3,baz=71,slow=32
MAW Mawson 76.45 202 eP P 06 34 41.1 +0.4
MAW pmax pmax
comp=Z,10.0nm,1.1s
MAW Mawson 76.45 202 eP P 06 34 41.1 +0.4
comp=Z,9.6nm,1.1s,mb4.8
CMAR Chiang Mai Arr 79.52 295 P P 06 35 00.0 +1.4
comp=Z,0.8nm,0.4s,mb4.0,baz=141,slow=5.8,SNR=7.8
KMI Kunming 79.54 302 P P 06 35 01.1 +2.6
KMI S S 06 45 03.4 +1.9
KMI LR LR
comp=Z,69nm,16.7s,MS4.1
XAN Xi'an 79.68 313 P P 06 34 59.7 +0.6
XAN AP 06 35 11.5
XAN AMB AMB
comp=Z,9.0nm,1.2s,mb4.6
XAN AMB AMB
comp=Z,243nm,5.4s
XAN LR LR
comp=N,47nm,21.5s,MS4.0
XAN LR LR
comp=E,66nm,22.1s,MS4.0
XAN LR LR
comp=Z,47nm,27.6s
CD2 Chengdu 81.67 308 P P 06 35 11.3 +1.4
CD2 AP 06 35 16.0
CD2 XP sP 06 35 18.5 +8.4
CD2 PP PP 06 38 20.6 +3.8
CD2 AMB AMB
comp=Z,10.0nm,0.8s,mb5.0
CD2 AMB AMB
comp=Z,20nm,6.2s
CD2 LR LR
comp=E,580nm,10.8s
CD2 LR LR
comp=Z,260nm,13.2s,MS4.8
HHC Hu-ho-hao-te 81.97 320 eP P 06 35 12.9 +1.7
HHC S S 06 45 26.9 +0.6
HHC SKS 06 45 30.6
HHC SS SS 06 50 48.4 +2.9
HHC AMB AMB
comp=Z,9.0nm,1.0s,mb4.8
HHC AMB AMB
comp=Z,78nm,6.5s
HHC LR LR
comp=N,125nm,17.4s,MS4.5
HHC LR LR
comp=E,147nm,18.4s,MS4.5
HHC LR LR
comp=Z,146nm,19.0s,MS4.4
CHGN Chignik 82.09 17 eP P 06 35 13.2 +1.8
LZH Lanzhou 84.29 312 eP P 06 35 23.5 +0.2
LZH AP 06 35 28.3
LZH ePP PP 06 38 40.7 +2.5
LZH AMB AMB
comp=Z,21nm,1.5s,mb5.2
LZH AMB AMB
comp=Z,107nm,5.2s
LZH LR LR
comp=N,209nm,17.8s
LZH LR LR
comp=Z,356nm,19.7s,MS4.8
LZH Lanzhou 84.29 312 eP P 06 35 23.5 +0.2
LZH pP 06 35 28.3
LZH sP sP 06 35 30.6 +7.0
LZH ePP PP 06 38 40.7 +2.5
KDAK Kodiak Island 85.06 19 LR LR 07 08 13.8
comp=Z,147nm,18.3s,MS4.4,baz=107,slow=32
SEY Seymchan 85.16 352⇓eP P 06 35 25.0 -2.0
MCCM Marconi Confer 86.87 47⇓P P 06 35 36.7 +0.5
baz=87
SNAA Sanae 86.98 182 eP P 06 35 34.4 -1.8
SNAA e 06 35 37.1
SNAA e 06 35 40.6
SNAA Sanae 86.98 182 eP P 06 35 35.7 -0.5
SNAA pmax pmax
comp=Z,15nm,1.2s
SNAA Sanae 86.98 182 eP P 06 35 35.7 -0.4
comp=Z,15nm,1.2s,mb5.1
HOPS Hopland 87.17 46⇓P P 06 35 38.1 +0.6
baz=87
PKD Parkfield 87.42 50⇓P P 06 35 38.7 -0.2
baz=88
PKM Peak Mountain 87.44 51⇓P P 06 35 39.6 +0.6
baz=88
U04C Hernandez Rese 87.45 49⇑P P 06 35 40.1 +1.1
baz=88
VNA3 Neumayer Olymp 87.56 180 eP P 06 35 37.6 -1.4
VNA3 e 06 35 40.5
VNA3 e 06 35 44.6
Q03C Winters 87.71 47⇑P P 06 35 40.7 +0.5
baz=88
GASB Alder Springs 87.74 46⇓P P 06 35 41.2 +0.9
baz=88
VNA2 Neumayer--Watz 87.85 181 eP P 06 35 39.5 -0.9
baz=189,slow=4.1
VNA2 e 06 35 42.0
VNA2 e 06 35 46.1
O02C Red Bluff 87.96 45⇑P P 06 35 41.5 +0.2
baz=88
VNA1 Neumayer--Stat 88.14 181 eP P 06 35 40.8 -1.0
VNA1 e 06 35 42.9
VNA1 e 06 35 46.8
WDC Whiskeytown Da 88.32 45⇓P P 06 35 43.7 +0.7
baz=88
VES Vestal, Richgr 88.42 50⇓P P 06 35 44.0 +0.4
baz=88
ORV Oroville 88.51 46⇓P P 06 35 43.6 -0.3
baz=89,SNR=6.1
T06C Millerton Lake 88.52 49⇑P P 06 35 43.4 -0.7
baz=89,SNR=5.1
CMB Columbia Colle 88.53 48 eP P 06 35 43.4 -0.7
CMB pmax pmax
comp=Z,5.0nm,1.0s,mb4.7
CMB Columbia Colle 88.53 48⇓P P 06 35 43.4 -0.7
baz=89,SNR=6.2
CMB Columbia Colle 88.53 48 eP P 06 35 43.4 -0.7
comp=Z,4.9nm,1.0s,mb4.7
LAVA Lava Cap Winer 88.64 47⇓P P 06 35 44.1 -0.5
baz=89
ULN Ulaanbaatar 88.70 323⇑eP P 06 35 45.3 +0.7
ULN Ulaanbaatar 88.70 323 eP P 06 35 45.2 +0.6
comp=Z,3.3nm,0.9s,mb4.6
BFSC Mount Baldy St 88.72 52⇑P P 06 35 44.3 -0.8
baz=89
EDW2 Edwds Air Fo 88.76 52⇓P P 06 35 45.0 -0.3
baz=89
ISA Isabella 88.77 51⇓P P 06 35 45.2 -0.1
baz=89,SNR=6.1
YBH Yreka Blue Hor 88.79 44 P P 06 35 44.8 -0.4
comp=Z,3.8nm,1.0s,mb4.6,baz=260,slow=4.4,SNR=5.7
YBH Yreka Blue Hor 88.79 44⇑P P 06 35 45.6 +0.4
baz=89
S06C San Francisco 88.83 48⇑P P 06 35 45.2 -0.3
baz=88,SNR=6.5
HELL Mitchell Peak 88.85 50⇓P P 06 35 45.7 0.0
baz=89
KCC Kaiser Creek 88.94 49⇓P P 06 35 45.8 -0.2
baz=89
M03C McCloud 88.95 45⇑P P 06 35 46.2 +0.2
baz=89
P05C Yuba Gap, Truc 88.99 47⇓P P 06 35 46.5 +0.3
baz=89
YAK Yakutsk 89.00 342⇑eP P 06 35 45.0 -0.7
YAK pmax pmax
comp=Z,18nm,1.2s,mb5.2
SONM Songino Array 89.05 323 P P 06 35 46.1 -0.1
comp=Z,1.9nm,1.0s,mb4.3,baz=144,slow=5.7,SNR=9.0
R05C Kirkwood Meado 89.06 48⇑P P 06 35 47.1 +0.5
baz=89
J02A Umpqua 89.07 42⇑P P 06 35 46.9 +0.4
baz=89
HUMO Hull Mountain 89.08 43⇑P P 06 35 47.2 +0.6
baz=89
O05C Quincy 89.10 46⇑P P 06 35 47.2 +0.5
baz=89
I02A Mapleton 89.24 42⇑P P 06 35 47.8 +0.6
baz=89
BILL Bilibino 89.25 359⇓eP P 06 35 45.5 -1.2
BILL eS S 06 46 16.8 -20
BILL pmax pmax
comp=Z,18nm,1.1s,mb5.2
PFO Pinyon Flat Ob 89.33 53⇑P P 06 35 48.3 +0.4
baz=89
M04C Macdoel 89.38 44⇑P P 06 35 48.6 +0.6
baz=90
R06C Coleville 89.41 48⇑P P 06 35 48.4 +0.2
baz=90
MTUM Tungsten Hills 89.48 49 eP P 06 35 47.9 -0.7
SWSC Sam W. Stewart 89.53 54⇑P P 06 35 48.4 -0.5
baz=90
M05C Lookout 89.63 45⇑P P 06 35 49.0 -0.2
baz=90
MPMC Manual Prospec 89.66 51⇓P P 06 35 49.6 +0.1
baz=90,SNR=6.8
GSC Goldstone 89.82 52⇓P P 06 35 49.9 -0.3
baz=90
S08C White Mtn Res 89.83 49⇑P P 06 35 50.6 +0.4
baz=90,SNR=8.2
BELC Belle Mtn. 89.84 53⇑P P 06 35 50.1 -0.2
baz=90,SNR=5.9
O06A Flanigan 89.93 46⇑P P 06 35 50.2 -0.4
baz=90
HEC Hector,Ludlow 89.96 52⇑P P 06 35 50.8 -0.1
baz=90
M06C Likely Place G 89.99 45⇓P P 06 35 51.1 +0.2
baz=90
BC3 Big Chuckw Mtn 90.10 54⇑P P 06 35 51.0 -0.6
baz=90
NVAR Mina Array Bea 90.16 48 P P 06 35 51.4 -0.3
comp=Z,2.7nm,0.7s,mb4.6,baz=229,slow=8.6,SNR=21
NVAR Mina Array Bea 90.16 48 P P 06 35 51.4 -0.3
GRAC Grapevine Rang 90.17 50⇓P P 06 35 51.7 -0.1
baz=90
N06A Buffalo Meadow 90.20 46⇓P P 06 35 51.9 0.0
baz=90,SNR=6.1
R08A Mina 90.27 49⇓P P 06 35 52.3 +0.1
baz=90
FURC Furnace Creek, 90.30 51⇓P P 06 35 52.2 -0.3
baz=90,SNR=5.3
GLA Glamis 90.31 55⇑P P 06 35 52.8 +0.2
baz=90
GMRC Granite Mounta 90.43 53⇑P P 06 35 52.7 -0.4
baz=90
MOD Modoc 90.44 45⇑P P 06 35 52.5 -0.4
baz=90
K05A Summer Lake 90.46 44⇑P P 06 35 53.0 0.0
baz=90
SHOC Shoshone 90.47 51⇑P P 06 35 53.1 -0.2
baz=90
J05A Fort Rock 90.51 43⇓P P 06 35 53.3 +0.1
baz=91
TUQ Turquoise Moun 90.52 52⇓P P 06 35 53.4 -0.1
baz=91
IRM Iron Mountain 90.54 53⇑P P 06 35 53.3 -0.3
baz=91,SNR=6.7
O07A Toulon 90.57 47⇑P P 06 35 53.5 -0.1
baz=91
S09A Goldfield 90.60 49⇑P P 06 35 53.2 -0.6
baz=91
U10A Ash Meadows, A 90.66 51⇑P P 06 35 54.1 0.0
baz=91
G04A Mulino 90.69 41⇓P P 06 35 54.8 +0.8
baz=91
K06A Valley Falls 90.91 44⇓P P 06 35 55.3 +0.2
baz=91
I05A Bend 90.92 42⇑P P 06 35 54.9 -0.2
baz=91
R09A Tonopah 90.94 49⇓P P 06 35 55.3 -0.1
baz=91
TPNV Topopah Spring 90.95 51⇑P P 06 35 55.0 -0.5
baz=91
LDFC Landfair 90.97 53 eP P 06 35 56.0 +0.4
comp=Z,5.9nm,0.9s,mb4.9
113A Mohawk Valley, 91.00 55⇑P P 06 35 55.7 -0.1
baz=91
V11A Goodsprings 91.06 52⇓P P 06 35 56.1 +0.1
baz=91
F04A Amboy 91.09 40⇓P P 06 35 55.3 -0.6
baz=91
O08A Rochester Mine 91.12 47⇑P P 06 35 56.0 -0.1
baz=91,SNR=6.0
L07A Adell 91.13 45⇑P P 06 35 56.0 -0.2
baz=91
S10A Tonopah Range, 91.14 50⇑P P 06 35 55.9 -0.4
baz=91,SNR=6.9
H05A Madras 91.18 42⇑P P 06 35 56.2 -0.1
baz=91
J06A Christmas Vall 91.19 44⇑P P 06 35 56.4 0.0
baz=91
PDMCI Parker Dam,Lak 91.36 54⇓P P 06 35 57.3 -0.1
baz=91
214A Organ Pipe Nat 91.40 56⇓P P 06 35 57.1 -0.6
baz=92
V12A Nelson 91.44 52⇓P P 06 35 57.6 -0.2
baz=92
I06A Prineville 91.48 43⇑P P 06 35 57.8 +0.1
baz=92,SNR=5.4
M08A Happy Creek Ra 91.50 46⇓P P 06 35 57.9 0.0
baz=92
R10A Warm Springs 91.50 49⇑P P 06 35 58.1 +0.1
baz=92,SNR=6.6
K07A Rock Creek Ran 91.51 44⇑P P 06 35 58.2 +0.3
baz=92
C04A Brinnon 91.66 39⇓P P 06 35 58.7 +0.2
baz=92
Q10A Clear Creek Ra 91.67 49⇓P P 06 35 58.9 +0.2
baz=92
X13A Yucca 91.72 53⇑P P 06 35 58.9 -0.1
baz=92
O09A Fish Creek Ran 91.72 47⇑P P 06 35 59.2 +0.2
baz=92
H06A Lindquist Farm 91.78 42⇑P P 06 35 59.0 -0.1
baz=92
J07A Hines 91.79 44⇓P P 06 35 59.5 +0.3
baz=92
T11A Corn Creek, Al 91.82 51⇓P P 06 35 59.3 -0.2
baz=92,SNR=6.1
L08A Fields 91.87 45⇑P P 06 35 59.5 -0.1
baz=92
D05A Enumclaw 91.97 39⇑P P 06 36 00.3 +0.3
baz=92
I07A Izee 92.00 43⇑P P 06 36 00.0 -0.2
baz=92
Y14A Wickenburg 92.06 54⇓P P 06 36 00.5 -0.2
baz=92
V13A Grand Canyon W 92.13 52⇓P P 06 36 00.7 -0.2
baz=92
ZAK Zakamensk 92.14 324 eP P 06 36 00.0 -0.6
ZAK pmax pmax
comp=Z,3.0nm,1.4s,mb4.4
H07A Lands Inn, Kim 92.20 43⇑P P 06 36 00.8 -0.3
baz=92
Q11A Duckwater 92.20 49⇑P P 06 36 01.1 -0.1
baz=92
S12A Delamar Landin 92.24 50⇓P P 06 36 01.4 0.0
baz=92
J08A Circle Bar Ran 92.32 44⇑P P 06 36 01.6 -0.1
baz=92
X14A Yava 92.37 54⇓P P 06 36 02.2 +0.1
baz=92
C05A Tolt Reservoir 92.40 39⇓P P 06 36 02.2 +0.3
baz=92
G07A Ruggs Ranch, H 92.45 42⇑P P 06 36 02.1 -0.1
baz=92
K09A Rome 92.51 45⇓P P 06 36 02.3 -0.2
baz=93
I08A Drewsey 92.51 43⇑P P 06 36 02.5 -0.1
baz=93
W14A Seligman 92.53 53⇓P P 06 36 02.8 0.0
baz=93
Y15A Casa Rosa Ranc 92.58 55⇑P P 06 36 02.8 -0.3
baz=93
D06A Cle Elum 92.65 40⇓P P 06 36 03.8 +0.7
baz=93
T13A Saint George 92.67 51⇓P P 06 36 03.9 +0.4
baz=93
V14A Boquillas Ranc 92.69 53⇑P P 06 36 03.9 +0.4
baz=93
R12A Pony Springs, 92.72 50⇑P P 06 36 04.0 +0.4
baz=93
O11A Cowboy Ranch, 92.76 48⇑P P 06 36 04.1 +0.3
baz=93
M10A I.L. Ranch, Tu 92.77 46⇓P P 06 36 04.0 +0.2
baz=93
J09A Fry Pan Ranch, 92.78 44⇑P P 06 36 03.8 0.0
baz=93
X15A Humboldt 92.87 54⇓P P 06 36 04.5 +0.1
baz=93
G08A Pilot Rock 92.90 42⇑P P 06 36 04.1 -0.1
baz=93
S13A Holt Ranch, En 92.94 51⇑P P 06 36 04.9 +0.2
baz=93
U14A Mt Trumbull 92.96 52⇑P P 06 36 05.3 +0.5
baz=93
Z16A Peralta Trail, 93.03 55⇑P P 06 36 05.3 +0.2
baz=93
L10A Juniper Basin 93.06 46⇓P P 06 36 05.1 0.0
baz=93
Y16A Circle Bar Ran 93.20 55⇓P P 06 36 05.9 -0.1
baz=93
117A Oracle 93.25 56⇓P P 06 36 06.2 0.0
baz=93
T14A Hurricane 93.29 51⇑P P 06 36 06.3 0.0
baz=93
H09A Durkee 93.43 43⇑P P 06 36 06.4 -0.3
baz=94
X16A Lo Mia Camp, P 93.44 54⇓P P 06 36 07.0 -0.1
baz=94
V15A Kaibab Nationa 93.46 53⇑P P 06 36 07.3 +0.2
baz=94
218A Dragoon 93.56 57⇑P P 06 36 08.0 +0.3
baz=94
L11A Cat Creek Ranc 93.58 46⇑P P 06 36 07.8 +0.3
baz=94
Y17A Roosevelt 93.61 55⇑P P 06 36 07.9 0.0
baz=94
U15A North Rim 93.61 52⇑P P 06 36 07.9 +0.1
baz=94
P13A Bates Ranch, G 93.62 49⇑P P 06 36 07.7 0.0
baz=94
B07A Winthrop 93.69 39⇓P P 06 36 08.3 +0.4
baz=94
T15A Red Dirt Ranch 93.79 52⇑P P 06 36 08.6 0.0
baz=94
Q14A Sevier Lake (B 93.95 50⇓P P 06 36 09.2 0.0
baz=94
H10A Noah's Angus R 93.99 43⇓P P 06 36 08.3 -1.0
baz=94
D09A Jones Farm, Ri 94.12 41⇑P P 06 36 09.7 -0.1
baz=94
Y18A Canyon Day Jun 94.27 55⇑P P 06 36 10.4 -0.5
baz=94
F10A Beach Ranch, E 94.30 42⇓P P 06 36 10.0 -0.7
baz=94
M13A Montello 94.31 47⇓P P 06 36 10.9 0.0
baz=94
U16A Tuba City 94.36 53⇓P P 06 36 11.1 -0.2
baz=94
H11A Donnelly 94.51 44⇓P P 06 36 11.3 -0.4
baz=95
G11A Walters Elk Ra 94.65 43⇓P P 06 36 12.0 -0.3
baz=95
M14A Sheep Mountain 94.93 47⇑P P 06 36 14.7 +1.0
baz=95
H12A Diamond D Ranc 95.19 44⇓P P 06 36 14.5 -0.3
baz=95
O17A Robinson Place 96.22 49⇓P P 06 36 19.8 +0.1
baz=96
J15A Blackfoot 96.31 46⇓P P 06 36 20.2 +0.3
baz=96
ANMO Albuquerque 97.44 56⇑eP P 06 36 24.6 -0.7
TXAR Lajitas Array 97.71 62 LR LR 07 11 18.1
comp=Z,105nm,19.2s,MS4.3,baz=175,slow=30
PDAR Pinedale Array 98.02 47 P P 06 36 29.2 +1.5
comp=Z,1.0nm,1.0s,mb4.5,baz=52,slow=5.8,SNR=4.1
WMQ Urumqi 98.81 314 P P 06 36 30.7 -0.5
WMQ AMB AMB

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
	comp=Z,8.0nm,0.6s,mb5.6						
WMQ				LR	LR		
	comp=N,107nm,18.1s,MS4.4						
WMQ				LR	LR		
	comp=E,54nm,21.2s,MS4.4						
WMQ				LR	LR		
	comp=Z,156nm,17.5s,MS4.6						
ARCES	**ARCESS Array B**	**127.22**	**345**	PKP	PKPdf	06 41 53.8	-1.4
	comp=Z,1.8nm,0.8s,baz=47,slow=1.7,SNR=6.3						
BRG	**Berggiesshubel**	**144.88**	**333**	*e*PKP	PKPdf	06 42 26.9	-1.4
	comp=Z,9.9nm,1.1s						
BRG				*e*		06 47 49.5	
	comp=Z,8.0nm,1.3s						
CLL	**Collm**	**144.95**	**334**	*i* PKPdf	PKPdf	06 42 26.8	-1.6
	comp=Z,6.0nm,0.8s						
CLL				LmV		06 08 00.0	
	comp=Z,400nm,19.2s						
CLL				*i* (sPKiKP)		06 42 34.1	
EAB	**Aberfoyle**	**144.99**	**354**	*e*P	PKPdf	06 42 23.4	-5.0
ESY	**Stoneypath**	**145.06**	**352**	*e*P	PKPbc	06 42 25.0	-2.9
EBL	**Broad Law**	**145.25**	**352**	*e*P	PKPbc	06 42 25.3	-3.2
XSO	**Sourhope Farm**	**145.42**	**352**	*e*P	PKPbc	06 42 26.1	-3.0
ECK	**Cauldkaine Hil**	**145.84**	**352**	*e*P	PKPdf	06 42 27.2	-2.7
XAL	**Allendale**	**146.03**	**351**	*e*P	PKPdf	06 42 27.4	-2.8
CONA	**Conrad Observa**	**146.07**	**327**	⇓*i*PKPab	PKPab	06 42 31.8	0.0
	comp=Z,15nm,1.4s						
CSNA	**Conrad Observa**	**146.07**	**327**	⇑*i*PKPab	PKPab	06 42 31.9	0.0
	comp=Z,12nm,1.2s						
KHC	**Kasperske Hory**	**146.32**	**331**	*e*PKP	PKPdf	06 42 30.5	-0.4
GAL1	**Galloway**	**146.33**	**354**	*e*P	PKPdf	06 42 27.6	-3.1
GERES	**GERESS Array B**	**146.47**	**330**	PKPbc	PKPbc	06 42 32.1	-0.4
	comp=Z,2.5nm,0.6s,baz=41,slow=2.6,SNR=16						
GRF	**Grafenberg Arr**	**146.92**	**334**	*e*PKP	PKPdf	06 42 33.7	+1.9
MEM	**Membach**	**148.09**	**340**	⇑*e*PKPbc	PKPbc	06 42 38.5	+1.6
MEM	**Membach**	**148.09**	**340**	PKPbc	PKPbc	06 42 38.5	+1.6
GIVF	**Givet**	**148.90**	**341**	*e*PKP1	PKPbc	06 42 38.2	-0.8
DOU	**Dourbes**	**148.98**	**341**	⇑*e*PKPbc	PKPbc	06 42 38.7	-0.5
DOU	**Dourbes**	**148.98**	**341**	PKPbc	PKPbc	06 42 38.7	-0.5
BAIF	**Baives**	**149.13**	**341**	*e*PKP1	PKPbc	06 42 38.9	-0.7
	comp=Z,46nm,1.4s						
CDF	**Champ du Feu**	**149.50**	**336**	*e*PKP1	PKPbc	06 42 39.7	-0.9
HINF	**Hinteralfeld**	**150.16**	**336**	*e*PKP1	PKPbc	06 42 40.8	-1.4
HAU	**Haudompre**	**150.19**	**337**	*e*PKP1	PKPbc	06 42 41.3	-1.0
	comp=Z,12nm,0.7s						
MEZF	**Maizieres J'vi**	**150.22**	**339**	*e*PKP1	PKPbc	06 42 41.9	-0.5
CABF	**La Chapelle**	**151.45**	**335**	*e*PKP1	PKPbc	06 42 44.7	-0.6
	comp=Z,12nm,0.8s						
FLN	**La Foliniere**	**151.56**	**346**	*e*PKP1	PKPbc	06 42 44.3	-1.2
LDF	**La Druitiere**	**151.63**	**345**	*e*PKP1	PKPbc	06 42 44.3	-1.4
LOR	**Lormes**	**151.69**	**339**	*e*PKP1	PKPbc	06 42 44.8	-1.0
	comp=Z,7.6nm,0.7s						
SSF	**Saint Saulge**	**151.99**	**339**	*e*PKP1	PKPbc	06 42 45.6	-0.9
	comp=Z,4.7nm,0.7s						
GRR	**Gorron**	**152.00**	**346**	*e*PKP1	PKPbc	06 42 45.4	-1.1
LPL	**La Plagne**	**152.08**	**333**	*e*PKP1	PKPbc	06 42 46.3	-0.5
LPG	**La Plagne**	**152.09**	**333**	*e*PKP1	PKPbc	06 42 46.5	-0.3
SMF	**Signal de Mont**	**152.24**	**338**	*e*PKP1	PKPbc	06 42 45.8	-1.3
BGF	**Bois d'Agland**	**152.65**	**340**	*e*PKP1	PKPbc	06 42 47.6	-0.4
	comp=Z,32nm,1.2s						
MBDF	**Montbardon**	**152.70**	**332**	*e*PKP1	PKPbc	06 42 47.0	-1.2
	comp=Z,6.3nm,0.8s						
ORIF	**Oris-en-Rattie**	**152.92**	**334**	*e*PKP1	PKPbc	06 42 47.9	-0.8
	comp=Z,7.4nm,0.6s						
TCF	**Toulx Ste Croi**	**153.09**	**340**	*e*PKP1	PKPbc	06 42 47.9	-1.1
	comp=Z,16nm,1.0s						
PGF	**Pioggiola**	**153.29**	**326**	*e*PKP1	PKPbc	06 42 49.1	-0.5
VIVF	**Saint-Julien-l**	**153.46**	**335**	*e*PKP1	PKPbc	06 42 49.0	-0.9
	comp=Z,4.8nm,0.6s						
MFF	**Saint Martin d**	**153.49**	**344**	*e*PKP1	PKPbc	06 42 48.7	-1.2

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*ISCJB **01** 06:34:50.8±0.6, 3976N±003×2780E±003, h2km±5km, Error ellipse: s-maj=5.3km s-min=4.4km az=0.3*
*ISK **01** 06:34:50.9, 3973N×2784E, h11km, MD2.8*
*DDA **01** 06:34:50.6, 3976N×2779E, h4km±3km, Md2.8*
*CSEM **01** 06:34:50.4±0.1, 3975N×2782E, h8km, MD2.8, Error ellipse: s-maj=1.4km s-min=1.2km az=131.0*
ISC 01 06:34:51.3±0.5**, 3976N**±003×**2780E**±003**, h7**km±5km**, n17,** σ**0.68**/24**, 1C-1D, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BALB	**Balikesir**	**0.13**	**151**	*e*PG	**Pg**	**06 34 53.6**	**-0.5**
BALB				*e*SG	**Sg**	**06 34 56.2**	**+0.2**
BALY	**Balya**	**0.14**	**263**	⇓*i*P	**Pg**	**06 34 53.3**	**-0.8**
BALY				*i* S	**Sg**	**06 34 55.1**	**-1.0**
DURS	**Dursunbey**	**0.55**	**106**	⇑*i*P	**Pg**	**06 35 01.3**	**-0.5**
DURS				*i* S	**Sg**	**06 35 09.7**	**+0.8**
EDC	**Edincik**	**0.59**	**5**	*e*PG	**Pg**	**06 35 03.6**	**+0.9**
DST	**Dursunbey**	**0.66**	**103**	*e*PG	**Pg**	**06 35 03.2**	**-0.7**
KCT	**Karacabey**	**0.67**	**40**	*e*PG	**Pg**	**06 35 04.2**	**+0.1**
AKS	**Akhisar**	**0.88**	**179**	*e*PG	**Pg**	**06 35 07.6**	**-0.5**
AYVA	**Ayvalik**	**0.96**	**243**	*e*P	**Pg**	**06 35 10.1**	**+0.3**
AYVA				*e*S	**Sg**	**06 35 24.3**	**+2.0**
DEMI	**Demirci**	**1.01**	**135**	*e*P	**Pg**	**06 35 10.8**	**+0.2**
DEMI				*e*S	**Sg**	**06 35 24.0**	**+0.3**
ULDT	**Uludag**	**1.10**	**69**	*i* P	**Pg**	**06 35 12.2**	**-0.2**
ULDT				*i* S	**Sg**	**06 35 27.6**	**+0.9**
GEMT	**Gemlik**	**1.27**	**57**	*e*PN	**Pn**	**06 35 14.7**	**-0.7**
MANT	**Manisa**	**1.40**	**155**	*e*P	**Pn**	**06 35 17.9**	**+0.8**
MANT				*e*S	**Sb**	**06 35 35.3**	**-0.3**
KULA	**Kula-Manisa**	**1.41**	**151**	*e*PN	**Pn**	**06 35 17.0**	**-0.4**
YLV	**Yalova**	**1.46**	**56**	*e*PN	**Pn**	**06 35 17.1**	**-0.9**
GADA	**Gvkgeada**	**1.52**	**287**	*e*PN	**Pn**	**06 35 19.0**	**+0.1**
CTKS	**Kestanelik-??a**	**1.57**	**20**	*e*PN	**Pn**	**06 35 20.0**	**+0.4**
GULT	**Gulveren**	**2.19**	**71**	*e*PN	**Pn**	**06 35 28.0**	**-0.1**

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*NIED **01** 06:35:00, 4420N×149.10E, h17km, Mw4.3 Best double couple: $M_0$3.26000×10[15] NP1:ϕ_s25.00000°, δ55.00000°, λ86.00000°. NP2:ϕ_s211.00000°, δ35.00000°, λ96.00000°.*
*IDC **01** 06:35:37.2±0.6, 4403N×14894E, h0km, mb4.1/18, mb1 4.2/21, mb1mx4.2/28, mbtmp4.1/21, ML3.5/3, MS3.7/9, Ms1 3.7/9, ms1mx3.4/39, Error ellipse: s-maj=18.3km s-min=15.1km az=169.0*
*SZGRF **01** 06:35:38.5, 4405N×15375E, h48km, mb5.0, East of Kuril Islands, Russia*
*ISCJB **01** 06:35:40.6±0.4, 4402N±004×14896E±005, h33km, mb4.3/34, MS3.9/8, Error ellipse: s-maj=7.1km s-min=3.9km az=147.7*
*BJI **01** 06:35:40.6, 4399N×14925E, h46km, mB4.9, mb4.6*
*JMA **01** 06:35:40.3±0.5, 4425N×14908E, h30km, M4.3*
*MOS **01** 06:35:41.2±1.2, 44.10N×14899E, h38km, mb4.7/21, Error ellipse: s-maj=12.8km s-min=7.8km az=132.8*
*SKHL **01** 06:35:41.2±1.8, 4437N×14894E, h57km±21km, mb5.2/2, Ms3.8/1*
*NEIC **01** 06:35:42.2±2.5, 4401N×14900E, h32km±17km, mb4.5/6, Error ellipse: s-maj=11.3km s-min=7.6km az=150.0*
ISC 01 06:35:42.7±0.4**, 4402N**±004×**14895E**±005**, h35**km**, (h44**km±7.8km**:pP-P), n109,** σ**1.09**/119**, mb4.3**/34**, MS3.9**/8**, 3C-3D, Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**1.43**	**328**	*i* PN	**Pn**	**06 36 02.0**	**-4.2**
KUR				*i* S	**Sn**	**06 36 22.0**	**-1.8**
KUR				pmax	pmax		
	comp=N,840nm,0.6s						
KUR				pmax	pmax		
	comp=E,530nm,0.6s						
KUR				pmax	pmax		
	comp=Z,2μm,0.6s						
KUR				smax			
	comp=N,2μm,0.6s						
KUR				smax			
	comp=E,2μm,0.6s						
KUR				smax			
	comp=N,2μm,1.0s						
KUR				smax			
	comp=E,2μm,1.0s						
KUR				smax			
	comp=Z,8μm,1.0s						
KUR	**Kuril'sk**	**1.43**	**328**	⇑*i*P	**Pn**	**06 36 02.0**	**-4.2**
KUR				⇑*i*P		06 36 02.0	
KUR				AMB	AMB	06 36 04.0	
	comp=Z,2μm,1.0s						
KUR				AMB	AMB	06 36 04.0	
	comp=Z,8μm,1.0s						
KUR				AMB	AMB	06 36 04.0	
	comp=Z,836nm,0.6s						
KUR				AMB	AMB	06 36 04.0	
	comp=Z,532nm,0.6s						
KUR				AMB	AMB	06 36 04.0	
	comp=Z,2μm,0.6s						
KUR				A		06 36 23.5	
	comp=Z,18μm,2.0s						
KUR				A		06 36 23.5	
	comp=Z,10μm,2.0s						
YUK	**Yuzh-Kuril'sk**	**2.22**	**271**	*e*PN	**Pn**	**06 36 17.0**	**0.0**
YUK				*e*S	**Sn**	**06 36 45.7**	**+2.4**
YUK				pmax	pmax		
	comp=Z,320nm,0.4s						
YUK				pmax	pmax		
	comp=E,150nm,0.5s						
YUK				smax			
	comp=N,2μm,0.5s						
YUK				smax			
	comp=E,1μm,0.4s						
YUK				smax			
	comp=N,6μm,1.2s						
YUK				smax			
	comp=E,4μm,1.4s						
YUK				MLR	MLR		
	comp=Z,2μm,13.0s						
YUK				MLR	MLR		
	comp=E,2μm,14.0s						
YUK	**Yuzh-Kuril'sk**	**2.22**	**271**	*e*P	**Pn**	**06 36 17.0**	**0.0**
YUK				AMB	AMB	06 36 17.7	
	comp=E,150nm,0.5s						
YUK				AMB	AMB	06 36 17.7	
	comp=E,320nm,0.3s						
YUK				*e*S	**Sn**	**06 36 45.7**	**+2.4**
YUK				A		06 36 57.0	
	comp=E,1μm,0.4s						
YUK				A		06 36 57.0	
	comp=E,2μm,0.5s						
YUK				A		06 37 06.0	
	comp=E,6μm,1.2s						
YUK				A		06 37 06.0	
	comp=E,4μm,1.4s						
YUK				AMS	AMS	06 37 23.0	
	comp=E,2μm,13.0s						
YUK				AMS	AMS	06 37 23.0	
	comp=E,2μm,14.0s						
NEM2	**Nemuro 2**	**2.41**	**255**	P	**Pn**	**06 36 18.8**	**-0.8**
NEM2				*e*S	**Sn**	**06 36 47.6**	**-0.3**
JRA	**Rausu**	**2.76**	**270**	P	**Pn**	**06 36 25.1**	**+0.7**
JNK	**Nakash**	**3.09**	**263**	P	**Pn**	**06 36 29.0**	**+0.1**
JAK	**Akkeshi**	**3.26**	**253**	P	**Pn**	**06 36 30.7**	**-0.5**
JAK				*e*S	**Sn**	**06 37 08.2**	**-0.5**
JTKR	**Abashiri--Toko**	**3.63**	**271**	P	**Pn**	**06 36 37.4**	**+1.0**
JAR	**Ashorobuto**	**3.83**	**261**	P	**Pn**	**06 36 39.5**	**+0.5**
JOB	**Onbets**	**3.88**	**255**	P	**Pn**	**06 36 39.3**	**-0.6**
JOB				*e*S	**Sn**	**06 37 24.2**	**0.0**
JCH	**Churui**	**4.31**	**253**	P	**Pn**	**06 36 46.2**	**+0.5**
ASAJ	**Asahikawa**	**4.58**	**273**	Pn	**Pn**	**06 36 51.4**	**+2.0**
	comp=E,2.6nm,0.3s,baz=93,slow=18,SNR=6.2						
ASAJ				Sn	**Sn**	**06 37 53.9**	**+13**
	baz=18,slow=24,SNR=2.0						
ASAJ				LR	LR	06 38 52.1	
	comp=E,1μm,18.7s,baz=158,slow=43						
ASAJ	**Asahikawa**	**4.58**	**273**	PN	**Pn**	**06 36 51.4**	**+2.0**
ASAJ						06 37 53.9	
ASAJ				pmax	pmax		
	comp=Z,3.0nm,0.3s						
ASAJ				MLR	MLR		
	comp=Z,1μm,18.7s						
JFR	**Furan**	**4.69**	**262**	P	**Pn**	**06 36 52.6**	**+1.6**
ERM	**Erimo**	**4.69**	**247**	*e*P	**Pn**	**06 36 52.5**	**+1.5**
ERM	**Erimo**	**4.69**	**247**	⇓*i*Pn	**Pn**	**06 36 52.5**	**+1.5**
ERM				*e*Sn	**Sn**	**06 37 43.5**	**-0.6**
JEM	**Erimo**	**4.69**	**247**	P	**Pn**	**06 36 52.4**	**+1.4**
JNBK	**Urakawa-nobuka**	**4.85**	**251**	P	**Pn**	**06 36 53.1**	**-0.1**
JAB	**Ashibetsu**	**4.90**	**266**	P	**Pn**	**06 36 56.7**	**+2.9**
JBT2	**Biratori 2**	**4.95**	**258**	P	**Pn**	**06 36 54.6**	**0.0**
YSS	**Yuzh-Sakhalins**	**5.25**	**306**	*e*P	**Pn**	**06 36 58.5**	**-0.1**
YSS				*e*S	**Sn**	**06 37 56.7**	**-1.1**
YSS				AMS	AMS	06 39 08.0	
	comp=Z,600nm,16.0s						
YSS				AMS	AMS	06 39 08.0	
	comp=Z,600nm,17.0s						
YSS				AMS	AMS	06 39 08.0	
	comp=Z,500nm,16.0s						
YSS	**Yuzh-Sakhalins**	**5.25**	**306**	*e*Pn	**Pn**	**06 37 00.7**	**+2.1**
JKB	**Kayabe**	**6.19**	**253**	P	**Pn**	**06 37 11.6**	**+0.1**
JKB				*e*S	**Sn**	**06 38 17.9**	**-3.0**
JYM2	**Yakumo 2**	**6.56**	**256**	P	**Pn**	**06 37 16.9**	**+0.3**
JANG	**Nango**	**6.61**	**239**	P	**Pn**	**06 37 15.6**	**-1.7**
JANG				*e*S	**Sn**	**06 38 25.0**	**-6.4**
JTM	**Tenmabayashi**	**6.67**	**244**	P	**Pn**	**06 37 17.1**	**-1.0**
JTM				*e*S	**Sn**	**06 38 26.9**	**-5.9**
JOSM	**Okushiri--Mats**	**7.20**	**258**	P	**Pn**	**06 37 25.9**	**+0.5**
OFUJ	**Ofunato**	**7.36**	**230**	P	**Pn**	**06 37 25.2**	**-2.4**
OFUJ				*e*S	**Sn**	**06 38 42.0**	**-7.8**
JRG	**Rokugo**	**7.75**	**236**	P	**Pn**	**06 37 32.2**	**-0.7**
JRG				*e*S	**Sn**	**06 38 53.4**	**-5.9**
JIO	**Ouri**	**7.98**	**228**	*e*S	**Sn**	**06 38 56.2**	**-8.9**
TYV	**Tymovskoe**	**8.06**	**330**	*e*P	**Pn**	**06 37 32.0**	**-5.1**
JFK	**Kawauchi**	**9.04**	**225**	*e*S	**Sn**	**06 39 21.9**	**-9.2**
PETK	**Petropavlovsk-**	**10.78**	**29**	Pn	**Pn**	**06 38 12.2**	**-2.1**
	comp=Z,0.2nm,0.3s,baz=290,slow=22,SNR=4.2						
MJAR	**Matsushiro Arr**	**11.09**	**231**	Pn	**Pn**	**06 38 17.1**	**-1.5**
	comp=Z,0.4nm,0.3s,baz=34,slow=12,SNR=4.1						
KLR	**Kul'dur**	**12.91**	**300**	*e*PN	**Pn**	**06 38 46.0**	**+2.5**
KSRS	**Korea Array**	**17.21**	**255**	P	**Pn**	**06 39 39.0**	**-1.2**
	comp=Z,0.2nm,0.3s,baz=49,slow=12,SNR=7.2						
KSRS				LR	LR	06 46 55.7	
	comp=Z,175nm,18.3s,baz=60,slow=39						
CBIJ	**Chichi jima**	**17.75**	**200**	LR	LR	06 45 40.5	
	comp=Z,68nm,21.2s,baz=97,slow=34						
YAK	**Yakutsk**	**21.28**	**335**	*e*P	**P**	**06 40 23.2**	**-2.6**
YAK				pmax	pmax		
	comp=Z,30nm,0.8s,mb4.7						
YAK				MLR	MLR		
	comp=Z,257nm,17.0s,MS3.7						
YAK				MLR	MLR		
	comp=N,138nm,15.0s,MS3.6						
YAK				MLR	MLR		
	comp=E,124nm,14.0s,MS3.6						
BJI	**Beijing**	**24.57**	**272**	P	**P**	**06 40 59.4**	**+0.2**
BOD	**Bodaibo**	**25.65**	**315**	*e*P	**P**	**06 41 04.8**	**-3.9**
ULN	**Ulaanbaatar**	**29.12**	**292**	*e*P	**P**	**06 41 40.8**	**+0.8**
ULN				pmax	pmax		
	comp=Z,6.0nm,1.0s,mb4.3						
ULN	**Ulaanbaatar**	**29.12**	**292**	*e*P	**P**	**06 41 40.8**	**+0.8**
	comp=Z,6.0nm,1.0s,mb4.3						
SONM	**Songino Array**	**29.56**	**293**	P	**P**	**06 41 44.4**	**+0.5**
	comp=Z,1.3nm,0.3s,mb4.1,baz=84,slow=7.8,SNR=13						
SONM				LR	LR	06 54 55.1	
	comp=Z,231nm,18.1s,MS3.9,baz=100,slow=39						
SONM	**Songino Array**	**29.56**	**293**	P	**P**	**06 41 44.4**	**+0.5**
SONM				pmax	pmax		
	comp=Z,1.0nm,0.4s						
SONM				MLR	MLR		
	comp=Z,231nm,18.1s						
ZAK	**Zakamensk**	**31.27**	**298**	*e*P	**P**	**06 41 58.8**	**-0.1**
ZAK				pmax	pmax		
	comp=Z,2.0nm,1.2s,mb3.8						
LZH	**Lanzhou**	**35.06**	**273**	⇑P	**P**	**06 42 33.2**	**+1.1**
LZH				AP	pP	06 42 46.5	+4.2
LZH				XP	sP	06 42 51.7	+5.2
LZH				AMB	AMB		
	comp=Z,25nm,1.1s,mb5.1						
LZH				AMB	AMB		
	comp=Z,86nm,4.3s						
CD2	**Chengdu**	**37.72**	**265**	*e*P	**P**	**06 42 55.3**	**+0.4**
CD2				AMB	AMB		
	comp=Z,30nm,0.8s,mb5.1						
IMA2	**Indian Mountai**	**37.72**	**34**	*e*P	**P**	**06 42 55.1**	**+0.6**
KDAK	**Kodiak Island**	**38.11**	**48**	P	**P**	**06 42 57.1**	**-0.7**
	comp=Z,5.7nm,0.7s,mb4.4,baz=310,slow=4.2,SNR=4.5						
ZALV	**Zalesovo Beam**	**41.87**	**307**	P	**P**	**06 43 28.7**	**-0.4**
	comp=Z,0.7nm,0.4s,mb3.7,baz=57,slow=7.4,SNR=3.6						
ZALV				PcP	PcP	06 45 24.4	+0.1
	comp=Z,1.2nm,0.7s,baz=82,slow=3.1,SNR=4.6						
ZALV				LR	LR	07 02 07.2	
	comp=Z,67nm,18.4s,MS3.6,baz=59,slow=38						
ZALV	**Zalesovo Beam**	**41.87**	**307**	P	**P**	**06 43 28.7**	**-0.4**
ZALV						06 45 24.4	
ZALV				pmax	pmax		
	comp=Z,1.0nm,0.4s,mb3.8						
ZALV				pmax	pmax		
	comp=Z,1.0nm,0.7s,mb3.5						
ZALV				MLR	MLR		
	comp=Z,67nm,18.4s,MS3.5						
WMQ	**Urumqi**	**43.20**	**292**	P	**P**	**06 43 40.5**	**+0.5**
HYT	**Haines Junctio**	**45.27**	**41**	*e*P	**P**	**06 43 58.0**	**+1.7**
MK31	**Makanchi Array**	**45.61**	**298**	*e*P	**P**	**06 43 59.5**	**+0.3**
MKAR	**Makanchi Array**	**45.61**	**298**	P	**P**	**06 43 59.3**	**+0.1**
	comp=Z,5.9nm,0.6s,mb4.7,baz=90,slow=8.5,SNR=5.6						
MKAR				LR	LR	07 04 32.7	
	comp=Z,241nm,18.2s,MS4.2,baz=266,slow=38						
MKAR	**Makanchi Array**	**45.61**	**298**	P	**P**	**06 43 59.3**	**+0.1**
MKAR				pmax	pmax		
	comp=Z,6.0nm,0.6s						
MKAR				MLR	MLR		
	comp=Z,241nm,18.2s						
KURK	**Kurchatov**	**46.45**	**304**	P	**P**	**06 44 06.2**	**+0.4**
	comp=Z,2.2nm,0.6s,mb4.2,baz=73,slow=9.6,SNR=7.5						
KURK				LR	LR	07 04 55.5	
	comp=Z,74nm,18.7s,MS3.7,baz=85,slow=38						
KURK	**Kurchatov**	**46.45**	**304**	P	**P**	**06 44 06.2**	**+0.4**
KURK				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.2						
KURK				MLR	MLR		
	comp=Z,75nm,18.7s,MS3.7						
BVAR	**Borovoye Array**	**50.33**	**310**	P	**P**	**06 44 35.2**	**-0.5**
	comp=Z,1.9nm,0.8s,mb4.2,baz=65,slow=8.8,SNR=7.4						
BVAR	**Borovoye Array**	**50.33**	**310**	P	**P**	**06 44 35.2**	**-0.5**
BVAR				pmax	pmax		
	comp=Z,2.0nm,0.8s						
TKM2	**Tokmak 2**	**51.56**	**296**	*e*P	**P**	**06 44 45.3**	**+0.3**
TKM2				pmax	pmax		
	comp=Z,17nm,1.3s,mb4.8						
TKM2	**Tokmak 2**	**51.56**	**296**	*e*P	**P**	**06 44 45.3**	**+0.3**
	comp=Z,17nm,1.3s,mb4.8						
EKS2	**Erkin-Say**	**52.86**	**297**	*e*P	**P**	**06 44 55.4**	**+0.7**
	comp=Z,7.3nm,0.9s,mb4.6						
HNR	**Honiara**	**54.13**	**167**	LR	LR	07 06 04.1	
	comp=Z,83nm,18.1s,MS3.8,baz=165,slow=34						
YKA	**Yellowknife Ar**	**54.85**	**34**	P	**P**	**06 45 10.0**	**+1.1**
	comp=Z,2.6nm,0.8s,mb4.3,baz=186,slow=34,SNR=3.0						
YKA	**Yellowknife Ar**	**54.85**	**34**	P	**P**	**06 45 10.0**	**+1.1**
YKA				pmax	pmax		
	comp=Z,3.0nm,0.8s						
ARU	**Arti**	**55.03**	**317**	*d i*P	**P**	**06 45 07.4**	**-2.9**
ARU				*e*S	**S**	**06 52 45.9**	**-4.0**
ARU				*e*SS	SS	06 56 32.7	-0.5
ARU				pmax	pmax		
	comp=Z,13nm,2.5s,mb4.5						
AKTK	**Aktyubinsk**	**58.34**	**311**	P	**P**	**06 45 33.2**	**-0.7**
AKTK				LR	LR	07 12 45.5	
AKTO	**Aktyubinsk**	**58.34**	**311**	P	**P**	**06 45 33.2**	**-0.7**
	comp=Z,1.0nm,0.6s,mb4.1,baz=82,slow=7.3,SNR=4.2						
AKTO				LR	LR	07 12 45.5	
	comp=Z,67nm,18.2s,MS3.8,baz=248,slow=38						
AKTO	**Aktyubinsk**	**58.34**	**311**	P	**P**	**06 45 33.2**	**-0.7**
AKTO				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb4.0						
AKTO				MLR	MLR		
	comp=Z,67nm,18.2s,MS3.8						
ARCES	**ARCESS Array B**	**59.44**	**340**	P	**P**	**06 45 40.0**	**-1.3**
	comp=Z,3.8nm,1.1s,mb4.3,baz=56,slow=9.9,SNR=2.7						
ARCES	**ARCESS Array B**	**59.44**	**340**	P	**P**	**06 45 40.0**	**-1.3**
ARCES				pmax	pmax		
	comp=Z,4.0nm,1.1s						
KLMR	**Klimovskoe**	**60.90**	**328**	*e*P	**P**	**06 45 49.6**	**-1.8**
KLMR				pmax	pmax		
	comp=Z,8.0nm,1.1s,mb4.8						
JOF	**Joensuu**	**62.45**	**333**	*e*p	**P**	**06 46 00.7**	**-1.1**
	comp=Z,3.4nm,0.5s,mb4.7						
JOF	**Joensuu**	**62.45**	**333**	*e*P	**P**	**06 46 00.7**	**-1.1**
JOF				pmax	pmax		
	comp=Z,3.0nm,0.5s,mb4.7						
KAF	**Kangasniemi**	**64.64**	**334**	*e*p	**P**	**06 46 15.6**	**-0.7**
	comp=Z,4.2nm,0.9s,mb4.5						
KAF	**Kangasniemi**	**64.64**	**334**	*e*P	**P**	**06 46 15.6**	**-0.7**
KAF				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb4.5						
WRA	**Warramunga Arr**	**65.04**	**195**	P	**P**	**06 46 18.6**	**-0.7**
	comp=Z,0.4nm,0.6s,mb3.6,baz=15,slow=6.9,SNR=4.2						
NVAR	**Mina Array Bea**	**66.33**	**59**	P	**P**	**06 46 27.3**	**-0.3**
	comp=Z,0.5nm,0.7s,mb3.7,baz=286,slow=8.2,SNR=4.7						
VSR	**Storozhevoye**	**67.36**	**320**	*e*P	**P**	**06 46 33.2**	**-0.7**
VSR				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.3						
VSR				pmax	pmax		
	comp=N,7.0nm,0.8s						
VSR				pmax	pmax		
	comp=E,3.0nm,0.7s						
PDAR	**Pinedale Array**	**68.74**	**51**	P	**P**	**06 46 42.9**	**+0.2**
	comp=E,0.3nm,0.5s,mb3.5,baz=270,slow=1.0,SNR=3.5						
ASAR	**Alice Springs**	**68.75**	**195**	P	**P**	**06 46 43.2**	**+0.4**
	comp=E,0.5nm,0.8s,mb3.5,baz=5.6,slow=6.1,SNR=5.1						
ASAR	**Alice Springs**	**68.75**	**195**	P	**P**	**06 46 43.3**	**+0.5**
ASAR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
NB2	**NORSAR Subarra**	**69.81**	**340**	P	**P**	**06 46 48.0**	**-1.0**
	comp=Z,10nm,1.0s,mb4.7,baz=30,slow=6.5						
NOA	**NORSAR Array B**	**69.81**	**340**	P	**P**	**06 46 48.6**	**-0.4**
	comp=Z,4.8nm,0.8s,mb4.5,baz=33,slow=6.1,SNR=16						
NOA	**NORSAR Array B**	**69.81**	**340**	P	**P**	**06 46 48.6**	**-0.4**
NOA				pmax	pmax		
	comp=Z,5.0nm,0.8s						
KIV	**Kislovodsk**	**70.54**	**313**	*e*P	**P**	**06 46 55.2**	**+1.4**
KIV				pmax	pmax		
	comp=Z,12nm,1.0s,mb4.8						
KIV				MLR	MLR		
	comp=Z,177nm,18.0s,MS4.4						
AKASG	**Malin Array Be**	**72.12**	**325**	P	**P**	**06 47 02.2**	**-1.0**
	comp=Z,4.0nm,0.8s,mb4.4,baz=38,slow=6.5,SNR=14						
AKASG	**Malin Array Be**	**72.12**	**325**	P	**P**	**06 47 02.3**	**-0.9**
AKASG				pmax	pmax		
	comp=Z,4.0nm,0.8s						
MORC	**Moravsky Berou**	**77.41**	**330**	*e*P	**P**	**06 47 34.1**	**+0.3**
MORC				*e**PP	pP	06 47 43.4	-1.4
MORC				*e**SP	sP	06 47 48.0	-0.8
MORC				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb4.3						
MORC	**Moravsky Berou**	**77.41**	**330**	*e*P	**P**	**06 47 34.1**	**+0.3**
	comp=Z,4.3nm,0.9s,mb4.4						
MORC				*e*pP	pP	06 47 43.4	-1.4
MORC				*e*sP	sP	06 47 48.0	-0.8
CLL	**Collm**	**77.66**	**333**	*e*P	**P**	**06 47 35.0**	**-0.2**
CLL				⇓*i*sP	sP	06 47 48.8	-1.4
	comp=Z,13nm,0.9s						
VYHS	**Vyhne**	**78.00**	**329**	*e*P	**P**	**06 47 37.6**	**+0.5**
VRAC	**Vranov**	**78.14**	**330**	P	**P**	**06 47 38.7**	**+0.7**
	comp=Z,2.2nm,0.3s,mb4.6,baz=74,slow=7.4,SNR=3.1						
VRAC	**Vranov**	**78.14**	**330**	P	**P**	**06 47 38.7**	**+0.8**
VRAC				pmax	pmax		
	comp=Z,2.0nm,0.3s						
MODS	**Modra-Piesok**	**78.68**	**329**	*e*P	**P**	**06 47 41.7**	**+0.8**
MODS				pmax	pmax		
	comp=Z,3.0nm,1.1s,mb4.1						
MODS	**Modra-Piesok**	**78.68**	**329**	*e*P	**P**	**06 47 41.6**	**+0.7**
MODS	**Modra-Piesok**	**78.68**	**329**	*e*P	**P**	**06 47 41.7**	**+0.8**
	comp=Z,3.4nm,1.1s,mb4.2						
ZST	**Bratislava**	**78.89**	**329**	*e*P	**P**	**06 47 44.6**	**+2.5**
GERES	**GERESS Array B**	**79.54**	**332**	P	**P**	**06 47 46.4**	**+0.7**
	comp=Z,2.8nm,1.0s,mb4.2,baz=35,slow=4.9,SNR=8.9						
GERES	**GERESS Array B**	**79.54**	**332**	P	**P**	**06 47 46.4**	**+0.8**
GERES				pmax	pmax		
	comp=Z,3.0nm,1.0s						
GRF	**Grafenberg Arr**	**79.63**	**334**	*e*P	**P**	**06 47 46.9**	**+0.8**
GRF				*e**PP	pP	06 48 00.6	+3.5
GRF				pmax	pmax		
	comp=Z,15nm,1.0s,mb4.9						
GRF	**Grafenberg Arr**	**79.63**	**334**	*e*P	**P**	**06 47 46.9**	**+0.8**
	comp=Z,15nm,1.0s,mb4.9						
GRF				*e*pP	pP	06 48 00.6	+3.5
TXAR	**Lajitas Array**	**81.42**	**57**	P	**P**	**06 47 56.4**	**+0.3**
	comp=Z,0.7nm,0.7s,mb3.7,baz=299,slow=4.2,SNR=11						
TXAR	**Lajitas Array**	**81.42**	**57**	P	**P**	**06 47 56.4**	**+0.4**
TXAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
CFAA	**Coronel Fontan**	**148.38**	**80**	PKPbc	PKPbc	06 55 24.5	-0.7
	baz=288,slow=3.8						
PLCA	**Paso Flores**	**150.83**	**97**	PKPbc	PKPbc	06 55 31.3	+0.4
	comp=Z,1.3nm,0.9s,baz=271,slow=23,SNR=3.1						
PLCA	**Paso Flores**	**150.83**	**97**	PKIKP	PKPbc	06 55 31.3	+0.4
PLCA				pmax	pmax		
	comp=Z,1.0nm,0.9s						

IDC 01 06:48:39.3±3.4**, 714S**×**15486E, h0**km**, mb3.5**/4**, mb1 3.6**/4**, mb1mx3.5**/15**, mbtmp3.5**/4**, MS3.3**/3**, Ms1 3.3**/3**, ms1mx2.9**/26**, Error ellipse: s-maj=108.8km s-min=31.0km az=113.0, Bougainville - Solomon Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CTA	Charters Tower	15.34	212	LR	LR	06 57 08.5	
	comp=Z,66nm,20.4s,baz=49,slow=33						
GUMO	Guam	22.86	334	LR	LR	07 01 35.2	
	comp=Z,97nm,21.1s,baz=315,slow=34						
WRA	Warramunga Arr	23.62	235	P	P	06 53 51.7	-0.8
	0.6nm,0.9s,baz=60,slow=9.6,SNR=3.8						
ASAR	Alice Springs	25.97	228	P	P	06 54 14.6	+0.7
	0.3nm,0.8s,baz=55,slow=9.8,SNR=4.2						
STKA	Stephens Creek	27.54	205	LR	LR	07 05 58.4	
	comp=Z,84nm,18.5s,baz=26,slow=38						
SONM	Songino Array	69.39	327	P	P	06 59 49.6	+0.6
	0.3nm,0.4s,baz=116,slow=6.6,SNR=3.3						
MKAR	Makanchi Array	83.42	319	P	P	07 01 08.9	+0.2
	0.4nm,0.5s,baz=93,slow=4.9,SNR=4.7						
TORD	Torodi Ar. Bea	152.93	285	PKPbc	PKPbc	07 08 39.1	-0.6
	0.4nm,0.8s,baz=68,slow=1.8,SNR=3.0						

IDC 01 07:10:33.3±35.0, 1783S×17513E, h0km, mb4.1/4, mb1 4.2/4, mb1mx3.9/16, mbtmp4.1/4, Error ellipse: s-maj=601.8km s-min=127.5km az=72.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CTA	Charters Tower	27.39	261	P	P	07 16 20.3	-0.3
	2.1nm,0.5s,baz=90,slow=10,SNR=3.2						
STKA	Stephens Creek	33.34	239	P	P	07 17 13.2	+0.1
	1.4nm,0.7s,baz=84,slow=10,SNR=3.3						
WRA	Warramunga Arr	38.59	260	P	P	07 17 58.7	+0.4
	0.9nm,0.5s,baz=92,slow=8.5,SNR=36						
ASAR	Alice Springs	38.89	254	P	P	07 18 00.6	-0.2
	2.3nm,0.8s,baz=87,slow=8.9,SNR=25						

JMA 01 07:20:50.5±0.3, 2729N×14018E, h446km, M3.8, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CBIJ	Chichi jima	1.80	96	P	P	07 21 49.7	+0.2
CBIJ				eS	S	07 22 37.0	-0.4
JHHJ	Haha-jima-NKT	1.90	110	P	P	07 21 50.9	+0.8
JAG	Ashikaga	9.13	356	P	P	07 22 59.1	+1.2
JHO	Hitachi	9.30	2	P	P	07 23 01.8	+2.0

*ISCJB **01** 07:51:14.8±5.5, 490S±0.1×1644E±02, h7km±35km, mb4.1/6, MS3.6/6, Error ellipse: s-maj=24.7km s-min=12.4km az=147.1*
*IDC **01** 07:51:15.1±1.1, 4908S×16442E, h0km, mb4.2/6, mb1 4.3/7, mb1mx4.2/14, mbtmp4.1/7, ML3.6/1, MS3.6/6, Ms1 3.6/6, ms1mx3.4/21, Error ellipse: s-maj=29.9km s-min=26.0km az=58.0*
ISC 01 07:51:16.0±6.6, 490S±01×1643E±02, h2km±42km, n18, σ0s85/10, mb4.1/6, MS3.6/6, Auckland Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
RPZ	Rata Peaks	7.07	44	Pn	Pn	07 53 00.5	+0.1
	1.1nm,0.3s,baz=128,slow=20,SNR=3.3						
RPZ				Sn	Sn	07 54 21.3	0.0
	4.9nm,0.3s,baz=12,slow=22,SNR=11						
RAO	Raoul Island	23.98	41	LR	LR	08 05 38.0	
	comp=Z,146nm,19.0s,MS3.5,baz=298,slow=36						
STKA	Stephens Creek	24.19	307	P	P	07 56 35.4	+1.8
	3.4nm,0.8s,mb3.8,baz=153,slow=16,SNR=5.4						
CTA	Charters Tower	32.31	327	LR	LR	08 10 40.6	
	comp=Z,54nm,19.8s,MS3.2,baz=232,slow=36						
ASAR	Alice Springs	34.82	306	P	P	07 58 08.1	0.0
	1.8nm,0.7s,mb4.1,baz=138,slow=7.7,SNR=29						
WB2	Warramunga Arr	37.65	310	eP	P	07 58 30.7	-1.7
WRA	Warramunga Arr	37.66	310	P	P	07 58 31.8	-0.7
	1.8nm,0.7s,mb3.9,baz=137,slow=7.9,SNR=20						
WRA				PcP	PcP	08 00 49.6	-0.3
	0.8nm,0.9s,baz=156,slow=2.3,SNR=4.9						
NWAO	Narrogin (SRO)	38.34	277	LR	LR	08 11 02.0	
	comp=Z,157nm,19.5s,MS3.8,baz=219,slow=31						
HNR	Honiara	39.64	353	LR	LR	08 12 22.0	
	comp=Z,42nm,19.1s,MS3.3,baz=168,slow=32						
QSPA	South Pole Qui	41.09	180	P	P	07 59 00.3	-0.1
	2.4nm,1.0s,mb3.8,baz=304,slow=5.1,SNR=4.3						
FITZ	Fitzroy Crossi	43.84	301	eP	P	07 59 23.4	-0.1
	3.3nm,0.6s,mb4.2						
FITZ	Fitzroy Crossi	43.84	301	P	P	07 59 23.7	+0.2
	1.7nm,0.6s,mb4.0,baz=158,slow=10,SNR=9.9						
PPT	Papeete	48.62	66	LR	LR	08 16 22.6	
	comp=Z,102nm,20.6s,MS3.8,baz=185,slow=31						
MAW	Mawson	49.80	209	LR	LR	08 19 37.3	
	comp=Z,97nm,20.6s,MS3.8,baz=240,slow=34						
CMAR	Chiang Mai Arr	88.65	300	P	P	08 04 11.3	+0.6
	2.2nm,0.3s,mb4.9,baz=160,slow=2.9,SNR=3.2						
AKASG	Malin Array Be	151.33	291	PKPbc	PKPbc	08 11 07.4	-2.8
	1.2nm,0.6s,baz=84,slow=2.5,SNR=5.5						
ARCES	ARCESS Array B	151.52	331	PKPbc	PKPbc	08 11 09.7	-0.4
	2.5nm,0.7s,baz=101,slow=2.5,SNR=7.0						
GERES	GERESS Array B	160.74	281	PKPab	PKPab	08 11 58.4	-0.4
	0.9nm,0.6s,baz=117,slow=4.7,SNR=7.4						

*ISCJB **01** 07:52:14.2±0.5, 574N±0.1×33.1W±0.1, h10km, mb4.1/19, MS3.8/16, Error ellipse: s-maj=16.8km s-min=8.2km az=178.0*
*IDC **01** 07:52:14.1±0.7, 5743N×3309W, h0km, mb3.9/16, mb1 4.1/18, mb1mx4.0/31, mbtmp3.9/18, ML3.3/2, MS3.8/18, Ms1 3.8/18, ms1mx3.6/34, Error ellipse: s-maj=22.6km s-min=13.9km az=178.0*
*CSEM **01** 07:52:15.9, 5741N×3302W, h10km, mb4.5/3, After NEIC*
*NEIC **01** 07:52:15.9±0.4, 5741N×3302W, h10km, mb4.5/3, Error ellipse: s-maj=14.2km s-min=6.9km az=178.0*
ISC 01 07:52:16.0±0.5, 574N±01×330W±01, h10km, n46, σ0s77/31, mb4.1/19, MS3.8/16, Reykjanes Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
EKA	Eskdalemuir Ar	16.61	84	Pn	Pn	07 56 09.7	+1.0
	0.1nm,0.3s,baz=270,slow=8.9,SNR=5.3						
EKA	Eskdalemuir Ar	16.61	84	Pn	Pn	07 56 09.6	+1.0
JMIC	Jan Mayen	17.09	28	LR	LR	08 01 13.2	
	comp=Z,250nm,18.6s,baz=260,slow=32						
SCHQ	Schefferville	18.91	277	P	Pn	07 56 37.0	-0.1
	0.6nm,0.3s,baz=61,slow=14,SNR=6.0						
SCHQ				LR	LR	08 02 24.3	
	comp=Z,648nm,20.1s,baz=291,slow=32						
SCHQ	Schefferville	18.91	277	P	Pn	07 56 37.0	-0.1
SCHQ				LR	LR	08 02 24.3	
NOA	NORSAR Array B	22.59	62	P	P	07 57 15.8	-0.4
	2.5nm,0.8s,mb3.7,baz=280,slow=9.4,SNR=3.5						
NOA				LR	LR	08 04 38.6	
	comp=Z,143nm,21.5s,MS3.4,baz=270,slow=33						
HFS	Hagfors	23.98	64	P	P	07 57 29.7	-0.5
	7.0nm,0.9s,mb4.1,baz=283,slow=7.4,SNR=7.9						
HFS				LR	LR	08 05 20.8	
	comp=Z,156nm,21.6s,MS3.5,baz=286,slow=33						
ESDC	Sonseca Array	25.87	121	P	P	07 57 48.5	+0.9
	0.2nm,0.3s,mb3.1,baz=326,slow=6.7,SNR=2.8						
ESDC				LR	LR	08 05 47.6	
	comp=Z,162nm,20.0s,MS3.5,baz=270,slow=31						
ARCES	ARCESS Array B	27.56	40	P	P	07 58 03.1	+0.7
	1.4nm,0.7s,mb3.7,baz=275,slow=10,SNR=4.7						
ARCES				LR	LR	08 06 46.6	
	comp=Z,117nm,19.4s,MS3.5,baz=94,slow=32						
DAVOX	Davos/Dischmat	27.96	94	LR	LR	08 08 38.0	
	comp=Z,348nm,20.0s,MS3.9,baz=299,slow=35						
PVCC	Panska Ves	28.32	83	AMS	AMS	08 09 50.0	
	500nm,16.6s						
KHC	Kasperske Hory	28.56	87	AMS	AMS	08 09 00.0	
	300nm,23.1s						
PRU	Pruhonice	28.60	84	AMS	AMS	08 09 20.0	
	300nm,19.0s						
GERES	GERESS Array B	28.79	87	LR	LR	08 09 35.6	
	comp=Z,253nm,18.9s,MS3.9,baz=296,slow=36						
DPC	Dobruska-Polom	29.36	82	AMS	AMS	08 10 30.0	
	400nm,16.2s						
TREC	Trest	29.50	85	AMS	AMS	08 09 40.0	
	400nm,17.3s						
OKC	Ostrava-Krasne	30.62	82	AMS	AMS	08 11 20.0	
	500nm,19.1s						
KEST	Kesra	35.49	109	LR	LR	08 12 25.1	
	comp=Z,61nm,18.6s,MS3.4,baz=283,slow=34						
AKASG	Malin Array Be	35.98	73	P	P	07 59 15.9	-0.6
	1.2nm,0.5s,mb4.1,baz=303,slow=8.7,SNR=5.0						
ULM	Lac du Bonnet	36.55	286	LR	LR	08 12 56.8	
	comp=Z,298nm,18.5s,MS4.1,baz=31,slow=34						
YKA	Yellowknife Ar	38.59	313	P	P	07 59 37.3	-1.2
	3.1nm,0.9s,mb4.0,baz=60,slow=9.7,SNR=2.8						
YKA				LR	LR	08 14 52.9	
	comp=Z,232nm,18.3s,MS4.0,baz=90,slow=35						
YKA	Yellowknife Ar	38.59	313	P	P	07 59 37.3	-1.3
DAWY	Dawson	46.51	324	eP	P	08 00 43.7	+0.9
DAWY	Dawson	46.51	324	eP	P	08 00 43.7	+0.9
PDAR	Pinedale Array	48.57	287	P	P	08 00 58.3	-0.8
	1.1nm,0.7s,mb4.0,baz=71,slow=8.9,SNR=6.4						
PDAR				LR	LR	08 20 02.7	
	comp=Z,253nm,19.3s,MS4.2,baz=78,slow=34						
PDAR	Pinedale Array	48.57	287	P	P	08 00 58.2	-0.9
HWUT	Hardware Ranch	50.44	288	eP	P	08 01 13.7	+0.3
	4.0nm,1.0s,mb4.4						
HWUT	Hardware Ranch	50.44	288	eP	P	08 01 13.7	+0.4
	4.0nm,1.0s,mb4.4						
TORD	Torodi Ar. Bea	51.44	135	P	P	08 01 20.5	-0.7
	1.6nm,0.9s,mb4.0,baz=333,slow=7.9,SNR=8.1						
TORD				LR	LR	08 19 43.6	
	comp=Z,111nm,21.2s,MS3.9,baz=145,slow=32						
MVCO	Mesa Verde	52.07	282	eP	P	08 01 27.9	+2.2
	14nm,1.3s,mb4.8						
JCT	Junction City	52.51	269	eP	P	08 01 29.5	+0.5
	6.1nm,0.9s,mb4.5						
JCT	Junction City	52.51	269	eP	P	08 01 29.5	+0.5
	6.1nm,0.9s,mb4.5						
BVAR	Borovoye Array	53.53	47	P	P	08 01 37.1	+0.8
	2.5nm,0.8s,mb4.2,baz=330,slow=8.7,SNR=6.6						
DBIC	Dimbokro	55.19	145	LR	LR	08 23 12.9	
	comp=Z,142nm,20.1s,MS4.0,baz=346,slow=34						
TXAR	Lajitas Array	55.49	271	P	P	08 01 50.8	-0.1
	0.7nm,0.9s,mb3.7,baz=66,slow=4.3,SNR=5.3						
TXAR				LR	LR	08 25 06.7	
	comp=Z,77nm,19.6s,MS3.8,baz=185,slow=36						
NVAR	Mina Array Bea	56.25	290	P	P	08 01 56.2	0.0
	0.6nm,0.6s,mb3.8,baz=76,slow=6.3,SNR=3.0						
ZALV	Zalesovo Beam	58.07	38	LR	LR	08 30 60.0	
	comp=Z,24nm,18.6s,MS3.3,baz=24,slow=40						
KURK	Kurchatov	58.52	44	P	P	08 02 11.2	-0.7
	2.3nm,0.7s,mb4.3,baz=324,slow=7.1,SNR=6.0						
KURK	Kurchatov	58.52	44	P	P	08 02 11.2	-0.8
MKAR	Makanchi Array	63.13	44	P	P	08 02 43.1	-0.2
	1.1nm,0.6s,mb4.2,baz=333,slow=6.4,SNR=5.4						
MKAR				LR	LR	08 29 18.7	
	comp=Z,36nm,18.9s,MS3.6,baz=170,slow=35						
SONM	Songino Array	69.85	28	P	P	08 03 26.2	-0.1
	2.3nm,0.9s,mb4.1,baz=330,slow=5.6,SNR=9.5						
KSRS	Korea Array	84.14	15	P	P	08 04 46.4	-0.5
	3.1nm,0.9s,mb4.4,baz=357,slow=6.1,SNR=8.0						
CPUP	Villa Florida	85.89	202	P	P	08 04 54.7	-0.9
	0.8nm,0.6s,mb4.1,baz=322,slow=7.1,SNR=3.7						
CPUP	Villa Florida	85.89	202	P	P	08 04 54.7	-0.9
BOSA	Boshof	98.66	131	LR	LR	08 52 17.8	
	comp=Z,81nm,18.2s,MS4.3,baz=187,slow=36						
ASAR	Alice Springs	144.98	21	PKP	PKPdf	08 11 52.2	-0.8
	2.2nm,0.9s,baz=344,slow=2.5,SNR=13						

*ISCJB **01** 07:54:54.8±0.6, 575N±0.1×330W±0.1, h10km, mb3.9/17, MS3.6/4, Error ellipse: s-maj=17.4km s-min=9.7km az=2.2*
*IDC **01** 07:54:54.7±0.7, 5745N×3304W, h0km, mb3.9/16, mb1 4.1/17, mb1mx4.0/30, mbtmp3.9/17, ML3.9/1, MS3.6/4, Ms1 3.6/4, ms1mx3.1/35, Error ellipse: s-maj=23.6km s-min=14.2km az=178.0*
*NEIC **01** 07:54:56.6±0.5, 5747N×3299W, h10km, mb4.5/1, Error ellipse: s-maj=15.5km s-min=7.6km az=184.0*
*CSEM **01** 07:54:57.2±0.1, 5742N×3305W, h33km, mb4.5/1, Error ellipse: s-maj=9.3km s-min=4.8km az=177.0*
ISC 01 07:54:56.7±0.6, 575N±01×330W±01, h10km, n30, σ0s72/24, mb3.9/17, MS3.6/4, Reykjanes Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
EKA	Eskdalemuir Ar	16.59	85	Pn	Pn	07 58 50.5	+1.4
	0.2nm,0.3s,baz=292,slow=9.7,SNR=4.7						
NB2	NORSAR Subarra	22.56	62	P	P	07 59 57.3	+0.8
	comp=Z,10nm,1.2s,mb4.1,baz=282,slow=10						
NOA	NORSAR Array B	22.56	62	P	P	07 59 56.5	0.0
	comp=Z,2.9nm,0.9s,mb3.7,baz=281,slow=9.5,SNR=4.1						
HFS	Hagfors	23.95	64	P	P	08 00 10.5	-0.1
	comp=Z,4.4nm,0.8s,mb3.9,baz=270,slow=4.2,SNR=6.0						
ESDC	Sonseca Array	25.87	121	P	P	08 00 28.9	+0.6
	comp=Z,1.0nm,0.6s,mb3.5,baz=316,slow=8.2,SNR=4.6						
ARCES	ARCESS Array B	27.52	40	P	P	08 00 42.0	-0.9
	comp=Z,2.6nm,1.1s,mb3.8,baz=267,slow=7.3,SNR=3.7						
GERES	GERESS Array B	28.77	87	P	P	08 00 53.7	-0.5
	comp=Z,0.4nm,0.2s,mb3.7,baz=300,slow=9.9,SNR=2.5						
AKASG	Malin Array Be	35.95	73	P	P	08 01 56.2	-0.8
	comp=Z,1.9nm,0.6s,mb4.2,baz=307,slow=8.7,SNR=5.8						
YKA	Yellowknife Ar	38.58	313	P	P	08 02 18.9	-0.3
	comp=Z,1.2nm,0.8s,mb3.7,baz=75,slow=6.6,SNR=2.6						
DAWY	Dawson	46.49	324	eP	P	08 03 24.2	+0.8
DAWY	Dawson	46.49	324	eP	P	08 03 24.2	+0.8
PDAR	Pinedale Array	48.57	287	P	P	08 03 39.3	-0.5
	comp=Z,1.3nm,0.7s,mb4.1,baz=60,slow=7.8,SNR=8.7						
GNI	Garni	51.07	74	LR	LR	08 25 28.4	
	comp=Z,50nm,19.0s,MS3.6,baz=348,slow=36						
TORD	Torodi Ar. Bea	51.45	135	P	P	08 04 01.6	-0.3
	comp=Z,0.9nm,0.7s,mb3.8,baz=330,slow=8.0,SNR=5.5						
MVCO	Mesa Verde	52.08	282	eP	P	08 04 08.4	+2.0
MVCO	Mesa Verde	52.08	282	eP	P	08 04 08.4	+1.9
	comp=Z,7.0nm,1.2s,mb4.5						
ASF	Jabal al Asfar	52.89	87	LR	LR	08 26 43.2	
	comp=Z,56nm,20.1s,MS3.6,baz=55,slow=36						
BVAR	Borovoye Array	53.50	47	P	P	08 04 17.1	+0.4
	comp=Z,0.8nm,0.6s,mb3.9,baz=233,slow=41,SNR=3.7						
EIL	Elat	53.77	91	LR	LR	08 27 23.7	
	comp=Z,47nm,18.4s,MS3.6,baz=342,slow=36						
TXAR	Lajitas Array	55.51	271	P	P	08 04 31.6	0.0
	comp=Z,1.1nm,1.0s,mb3.9,baz=49,slow=4.3,SNR=6.4						
TXAR	Lajitas Array	55.51	271	P	P	08 04 31.6	-0.1
NVAR	Mina Array Bea	56.26	290	P	P	08 04 36.6	-0.3
	comp=Z,0.6nm,0.7s,mb3.8,baz=42,slow=6.1,SNR=4.8						
KURK	Kurchatov	58.48	44	P	P	08 04 52.4	0.0
	comp=Z,1.1nm,0.7s,mb4.0,baz=328,slow=6.9,SNR=3.3						
MKAR	Makanchi Array	63.09	44	P	P	08 05 23.9	+0.1
	comp=Z,0.6nm,0.5s,mb4.0,baz=329,slow=5.1,SNR=3.3						
SONM	Songino Array	69.81	28	P	P	08 06 06.1	-0.7
	comp=Z,1.2nm,0.7s,mb4.0,baz=335,slow=6.6,SNR=4.3						
SONM	Songino Array	69.81	28	P	P	08 06 06.1	-0.7
CPUP	Villa Florida	85.93	202	P	P	08 07 35.7	-0.7
	comp=Z,1.0nm,0.7s,mb4.1,baz=341,slow=9.2,SNR=4.1						
CMAR	Chiang Mai Arr	94.49	45	LR	LR	08 54 58.8	
	comp=Z,30nm,19.0s,MS3.8,baz=190,slow=38						
WRA	Warramunga Arr	141.40	19	PKP	PKPdf	08 14 26.8	-0.8
	comp=Z,0.6nm,1.1s,baz=343,slow=2.6,SNR=2.8						
ASAR	Alice Springs	144.94	21	PKP	PKPdf	08 14 31.8	-1.9
	comp=Z,1.5nm,0.8s,baz=336,slow=2.8,SNR=9.2						

*NEIC **01** 08:02:01.0, 16.19N×9740W, h25km, MD3.9(MEX), After MEX.*
MEX 01 08:02:01.0±0.5, 1619N×9740W, h24km±12km, MD3.9, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PNIG	Pinotepa	0.72	286	i P	Pb	08 02 12.6	-2.4
PNIG				i S	Sb	08 02 22.1	-2.4
VHO	Vista Hermosa	1.08	36	i P	Pn	08 02 17.9	-2.8
VHO				i S	Sb	08 02 31.3	-3.6
HUIG	Huatulco	1.31	108	eP	Pn	08 02 21.3	-2.5
HUIG				i S	Sn	08 02 36.5	-4.1
UTMO	Huajuapan	1.68	347	i P	Pn	08 02 27.1	-1.7
UTMO				i S	Sn	08 02 46.0	-3.5
TPIG	Tehuac#an	2.22	1	eP	Pn	08 02 35.1	-1.2
TPIG				i S	Sn	08 02 59.2	-3.7
CAIG	El Cayaco	2.88	288	i P	Pn	08 02 43.3	-2.1
CAIG				i S	Sn	08 03 15.8	-3.3
PLIG	Platanillo	2.97	318	eP	Pn	08 02 44.9	-1.7
PLIG				i S	Sn	08 03 18.4	-3.1
PPM	Popocatepetl	3.09	338	eP	Pn	08 02 47.5	-0.7
PPM				i S	Sn	08 03 21.9	-2.5
ZIIG	Zihuatanejo	4.14	290	eP	Pn	08 03 03.6	+1.0
ZIIG				i S	Sn	08 03 48.1	-2.2

CASC 01 08:29:55.9±2.7, 1331N×9136W, h11km±18km, MD4.0, 7C, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JAT	Jato	1.04	345	⇑iP	Pb	08 30 15.8	0.0
JAT				eS	Sg	08 30 29.9	+0.5
FUG	Fuego 3	1.24	24	⇑eP	Pn	08 30 18.1	-1.0
FUG				eS	Sb	08 30 33.8	-1.5
FG6		1.33	21	⇑eP	Pn	08 30 19.3	-1.1
FG6				eS	Sb	08 30 38.4	+0.5
NBG	Las Nubes	1.61	38	eP	Pn	08 30 24.4	+0.1
NBG				eS	Sn	08 30 47.2	+2.3
RTR	El Retiro	1.77	71	⇑eP	x	08 30 25.7	
RTR				eS	x	08 30 48.0	
SBLS	San Blas	1.77	73	eP	x	08 30 25.4	
SBLS				eS	x	08 30 49.6	
SNJE	San Jose	1.80	72	⇑eP	x	08 30 25.9	
SNJE				eS	x	08 30 49.6	
RBDL	Robledal	1.81	64	⇑eP	x	08 30 26.5	
RBDL				eS	x	08 30 52.0	
BOQS	Boqueron	2.07	78	eP	x	08 30 30.6	
BOQS				eP	x	08 30 30.7	
BOQS				eS	x	08 30 56.7	
BOQS				eS	x	08 30 58.6	
SNET	Serv Nac Est T	2.11	80	eP	x	08 30 30.6	
SNET				eS	x	08 30 57.8	
MTO2	Montecristo 2	2.23	61	eP	x	08 30 32.6	
MTO2				eS	x	08 31 04.0	
LFRS	El Faro	2.26	82	eP	x	08 30 33.4	
LFRS				eS	x	08 31 01.9	
LBRS	Las Brisas	2.30	79	eP	x	08 30 33.5	
SNVI	San Vicente	2.48	83	⇑eP	x	08 30 36.4	
SNVI				eS	x	08 31 07.7	
VSM	San Miguel	3.01	87	eP	x	08 30 44.2	
BLLM	Bellamira	3.04	87	eP	x	08 30 45.7	
CNCH	Conchagua	3.44	90	eP	x	08 30 49.5	

*ISCJB **01** 08:31:38.1±2.8, 549S±007×1416E±02, h18km±23km, mb3.8/3, Error ellipse: s-maj=28.1km s-min=10.8km az=12.8*
*IDC **01** 08:31:38.5±2.0, 524S×14155E, h0km, mb3.8/4, mb1 4.0/5, mb1mx3.8/12, mbtmp3.9/5, ML4.0/1, MS3.4/3, Ms1 3.4/3, ms1mx3.0/23, Error ellipse: s-maj=70.3km s-min=23.3km az=87.0*
*NEIC **01** 08:31:42.3±1.0, 549S×14159E, h35km, mb4.3/2, Error ellipse: s-maj=23.3km s-min=10.3km az=93.0*
ISC 01 08:31:44.0±1.5, 559S±008×1414E±01, h46km±14km, n16, σ0s92/20, mb3.8/3, New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
COEN	Coen	8.50	168	ePn	Pn	08 33 43.5	-1.1
KAKA	Kakadu	11.34	231	eP	Pn	08 34 23.9	+0.4
	28nm,0.4s						
KAKA	Kakadu	11.34	231	ePn	Pn	08 34 24.4	+0.9
KAKA				eSn	Sn	08 36 27.6	-1.3
CTA	Charters Tower	15.16	162	Pn	pP	08 35 25.9	-4.5
	0.3nm,0.3s,baz=342,slow=9.6,SNR=4.6						
CTA				Sn	Sn	08 37 57.3	-4.9
	0.2nm,0.3s,baz=254,slow=6.6,SNR=3.0						
CTA				Lg		08 39 47.0	
	0.7nm,0.3s,baz=74,slow=21,SNR=6.5						
CTA				LR	LR	08 40 44.5	
	comp=Z,151nm,18.5s,baz=18,slow=35						
WRAB	Tennant Creek	15.83	205	ePn	Pn	08 35 24.3	+0.4
	21nm,0.8s						
WB2	Warramunga Arr	15.84	205	eP	Pn	08 35 23.5	-0.5
WB2	Warramunga Arr	15.84	205	ePn	Pn	08 35 25.3	+1.3
WRA	Warramunga Arr	15.84	205	Pn	Pn	08 35 23.9	-0.1
	0.4nm,0.3s,baz=23,slow=14,SNR=19						
WRA				Sn	Sn	08 38 18.8	+0.1
	0.6nm,0.3s,baz=27,slow=22,SNR=4.6						
WRA				Lg		08 40 19.4	
	1.2nm,0.3s,baz=32,slow=25,SNR=6.7						
WRA				LR	LR	08 42 27.0	
	comp=Z,97nm,18.7s,baz=10.0,slow=40						
ASAR	Alice Springs	19.38	201	P	Pn	08 36 08.4	+0.9
	0.5nm,0.3s,baz=30,slow=11,SNR=52						
ASAR				S	S	08 39 42.7	-0.2
	0.2nm,0.3s,baz=12,slow=28,SNR=4.7						
ASAR				Lg		08 42 10.1	
	0.3nm,0.3s,baz=16,slow=31,SNR=4.4						
FITZ	Fitzroy Crossi	19.80	230	eP	Pn	08 36 12.9	+0.3
	11nm,0.7s						
FITZ				eS	S	08 39 53.1	+1.6
FITZ	Fitzroy Crossi	19.80	230	P	Pn	08 36 15.1	+2.5
	4.3nm,1.0s,baz=71,slow=13,SNR=6.3						
FITZ				S	S	08 39 49.1	-2.4
	3.9nm,0.7s,baz=166,slow=18,SNR=2.5						
FITZ				Lg		08 42 27.4	
	6.3nm,0.6s,baz=157,slow=23,SNR=5.2						
DAV	Davao City (W)	20.19	308	LR	LR	08 43 08.4	
	comp=Z,139nm,18.2s,baz=328,slow=34						
STKA	Stephens Creek	26.16	180	P	P	08 37 18.4	+4.3
	1.1nm,0.5s,mb3.6,baz=348,slow=14,SNR=1.5						
SONM	Songino Array	61.46	334	P	P	08 41 55.1	-0.7
	0.4nm,0.5s,mb3.9,baz=152,slow=6.4,SNR=3.6						
MK31	Makanchi Array	73.70	322	eP	P	08 43 12.7	-0.4
MKAR	Makanchi Array	73.70	322	P	P	08 43 13.2	+0.2
	1.7nm,0.8s,mb4.0,baz=118,slow=6.2,SNR=14						

*NEIC **01** 08:58:57.8±2.0, 4929S×16430E, h10km, Error ellipse: s-maj=43.1km s-min=10.7km az=156.0*
*IDC **01** 08:58:58.2±3.0, 4885S×16423E, h0km, mb3.9/4, mb1 4.1/5, mb1mx4.0/12, mbtmp3.9/5, ML3.8/1, Error ellipse: s-maj=70.7km s-min=30.5km az=164.0*
ISC 01 08:58:58.4±2.1, 492S±03×1643E±02, h10km, n17, σ1s20/16, mb3.9/4, Auckland Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WHZ	Wether Hill Ro	4.14	38	P	Pn	09 00 01.7	+0.1
DCZ	Deep Cove	4.20	29	P	Pn	09 00 02.5	0.0
MLZ	Mavora Lakes	4.68	36	P	Pn	09 00 10.1	+1.1
TUZ	Tuapeka	4.87	50	P	Pn	09 00 12.1	+0.5
MSZ	Milford Sound	5.17	30	P	Pn	09 00 17.5	+1.7
EAZ	Earnscleugh	5.24	43	P	Pn	09 00 16.7	-0.1
WKZ	Wanaka	5.44	38	P	Pn	09 00 21.2	+1.7
JCZ	Jackson Bay	5.98	33	P	Pn	09 00 28.9	+2.0
ODZ	Otahua Downs	6.01	49	P	Pn	09 00 26.6	-0.7
LBZ	Lake Benmore	6.29	42	P	Pn	09 00 29.7	-1.5
RPZ	Rata Peaks	7.21	43	Pn	Pn	09 00 41.2	-2.6
	1.6nm,0.3s,baz=167,slow=4.1,SNR=9.5						
RPZ				Sn	Sn	09 02 04.1	-1.5
	3.3nm,0.3s,baz=25,slow=19,SNR=5.8						
STKA	Stephens Creek	24.27	307	P	P	09 04 15.7	+0.1
	2.2nm,0.8s,mb3.6,baz=157,slow=11,SNR=3.9						
ASAR	Alice Springs	34.89	306	P	P	09 05 49.4	-0.6
	0.9nm,0.7s,mb3.8,baz=138,slow=8.4,SNR=12						
WRA	Warramunga Arr	37.75	310	P	P	09 06 13.0	-1.4
	1.1nm,0.7s,mb3.7,baz=138,slow=7.8,SNR=12						
CMAR	Chiang Mai Arr	88.72	300	P	P	09 11 52.7	+0.7
	1.1nm,0.5s,mb4.4,baz=155,slow=3.6,SNR=5.1						
ARCES	ARCESS Array B	151.65	331	PKPbc	PKPbc	09 18 52.0	+0.5
	2.8nm,0.9s,baz=52,slow=5.0,SNR=4.5						
ARCES	ARCESS Array B	151.65	331	PKPbc	PKPbc	09 18 52.0	+0.5

*IDC **01** 09:00:04.1±1.1, 3684N×6974E, h0km, mb3.6/5, mb1 3.8/9, mb1mx3.6/26, mbtmp3.7/9, ML3.8/4, Error ellipse: s-maj=25.3km s-min=19.9km az=89.0*
*MOS **01** 09:00:06.4±1.7, 3709N×6960E, h27km, mb4.1/1, Error ellipse: s-maj=29.2km s-min=11.8km az=75.1*
*NNC **01** 09:00:08.9±4.9, 3746N×6924E, h0km, mb3.9, mpv3.8, Error ellipse: s-maj=41.9km s-min=30.9km az=172.0*
*ISCJB **01** 09:00:10.9±1.9, 3725N±0.10×695E±0.1, h68km±18km, mb3.5/4, Error ellipse: s-maj=16.4km s-min=13.2km az=12.8*
*NEIC **01** 09:00:12.5±2.6, 3720N×6968E, h66km±22km, Error ellipse: s-maj=24.1km s-min=14.4km az=201.0*
ISC 01 09:00:09.7±1.6, 3709N±009×6935E±010, h43km±16km, n35, σ1s32/39, mb3.6/4, 3C-2D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
AML	Almayashu	6.05	32	P	Pn	09 01 37.0	+0.4
	SNR=20						
AML	Almayashu	6.05	32	ePn	Pn	09 01 37.2	+0.6
	29nm,0.5s						
AML				eSn	Sn	09 02 45.3	+0.9
KK31	Karatay Array	6.08	8	Pn	Pn	09 01 36.8	-0.1
	1.2nm,0.2s,baz=197,slow=15,SNR=34						
KK31				⇓Sn	Sn	09 02 43.0	-2.1
	5.7nm,0.3s,baz=188,slow=23						

EKS2	Erkin-Say	6.52	30	P	Pn	09 01 44.0	+0.9
	SNR=22						
EKS2	Erkin-Say	6.52	30	*e*Pn	Pn	09 01 43.2	+0.2
	7.4nm,0.6s						
KZA	Kyzart	6.75	41	P	Pn	09 01 48.1	+2.0
	SNR=5.0						
AAK	Ala-Archa	6.80	34	P	Pn	09 01 47.7	+0.8
	SNR=42						
KBK	Karagaybulak	7.03	36	P	Pn	09 01 51.4	+1.4
	SNR=12						
CHMS	Chumysh	7.21	33	P	Pn	09 01 52.8	+0.3
	SNR=12						
USP	Ospenovka	7.32	31	P	Pn	09 01 54.1	+0.1
	SNR=9.6						
ULHL	Ulahol	7.40	44	P	Pn	09 01 55.0	0.0
	SNR=10.0						
TKM2	Tokmak 2	7.54	37	⇑Pn	Pn	09 01 57.0	0.0
	8.1nm,0.6s						
TKM2				⇑Sn	Sn	09 03 20.5	-0.7
	9.5nm,0.8s						
TKM2	Tokmak 2	7.54	37	*e*P	Pn	09 01 57.3	+0.3
TKM2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
TKM2	Tokmak 2	7.54	37	P	Pn	09 01 57.2	+0.2
	SNR=18						
TKM2	Tokmak 2	7.54	37	*e*Pn	Pn	09 01 57.3	+0.3
	comp=Z,9.7nm,0.5s						
MK31	Makanchi Array	13.65	41	*e*P	Pn	09 03 18.9	-1.6
MKAR	Makanchi Array	13.65	41	Pn	Pn	09 03 18.7	-1.8
	comp=Z,0.2nm,0.3s,baz=232,slow=12,SNR=6.8						
AB31	Akbulak array	13.95	334	P	Pn	09 03 22.2	-2.3
	comp=Z,0.8nm,0.3s,baz=144,slow=13,SNR=79						
KURK	Kurchatov	15.15	23	Pn	Pn	09 03 35.8	-4.9
	comp=Z,0.1nm,0.3s,baz=187,slow=11,SNR=4.5						
KURK				Sn	Sn	09 06 29.6	+2.4
	comp=Z,0.1nm,0.3s,baz=9.0,slow=22,SNR=3.8						
AKTK	Aktyubinsk	15.63	332	Pn	Pn	09 03 47.7	+0.9
AKTO	Aktyubinsk	15.63	332	⇓P	Pn	09 03 45.0	-1.7
	comp=Z,2.1nm,1.2s						
AKTO	Aktyubinsk	15.63	332	Pn	Pn	09 03 47.7	+1.0
	comp=Z,0.8nm,0.3s,baz=146,slow=14,SNR=5.6						
AKTO	Aktyubinsk	15.63	332	P	Pn	09 03 47.7	+0.9
AKTO				pmax	pmax		
	comp=Z,1.0nm,0.3s						
VOSK	Vostochnaya	15.68	4	⇑P	Pn	09 03 46.9	-0.5
	comp=Z,3.3nm,1.1s						
BVA0	Borovoye Array	15.96	2	P	Pn	09 03 50.7	-0.2
	comp=Z,0.3nm,0.5s,baz=164,slow=12,SNR=7.8						
BVAR	Borovoye Array	15.96	2	Pn	Pn	09 03 50.4	-0.5
	comp=Z,0.7nm,0.3s,baz=166,slow=14,SNR=7.1						
BVAR	Borovoye Array	15.96	2	P	Pn	09 03 50.4	-0.5
BVAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ZAA0	Zalesovo Array	19.97	27	*e*P	Pn	09 04 36.5	-3.5
ZALV	Zalesovo Beam	19.97	27	P	Pn	09 04 36.9	-3.1
	comp=Z,1.5nm,0.5s,baz=223,slow=11,SNR=5.5						
ZALV	Zalesovo Beam	19.97	27	P	Pn	09 04 36.9	-3.1
ZALV				pmax	pmax		
	comp=Z,2.0nm,0.5s						
ARCES	ARCESS Array B	40.10	338	P	P	09 07 42.7	+2.1
	comp=Z,1.2nm,0.7s,mb3.7,baz=106,slow=8.9,SNR=5.5						
ARCES	ARCESS Array B	40.10	338	P	P	09 07 42.7	+2.1
ARCES				pmax	pmax		
	comp=Z,1.0nm,0.7s						
TORD	Torodi Ar. Bea	64.42	267	P	P	09 10 44.3	+2.5
	comp=Z,0.3nm,0.5s,mb3.6,baz=51,slow=6.1,SNR=5.1						
WRA	Warramunga Arr	83.42	121	P	P	09 12 32.2	-0.5
	comp=Z,0.3nm,0.5s,mb3.6,baz=324,slow=5.0,SNR=7.3						
ASAR	Alice Springs	85.67	124	P	P	09 12 42.7	-1.2
	comp=Z,0.3nm,0.7s,mb3.6,baz=324,slow=4.6,SNR=3.8						

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*ISCJB **01** 09:11:40.0±2.5, 2235S±005×7048W±006, h23^{km}±19^{km}, mb4.2/13, MS3.8/3, Error ellipse: s-maj=9.2km s-min=8.6km az=37.3*
*NEIC **01** 09:11:43.8±1.0, 2234S×7040W, h40^{km}±9^{km}, mb4.4/6, Error ellipse: s-maj=12.1km s-min=7.1km az=73.0*
*IDC **01** 09:11:45.0±2.3, 2234S×7031W, h50^{km}±21^{km}, mb3.8/8, mb1 3.9/12, mb1mx3.9/21, mbtmp3.8/12, ML4.1/3, MS3.7/4, Ms1 3.7/4, ms1mx3.3/31, Error ellipse: s-maj=20.0km s-min=14.5km az=57.0*
ISC 01 09:11:42.4±2.7**, 2229S**±005×**7041W**±007**, h26**^{km}±20^{km}**, n40,** σ0^{s}**89**/37**, mb4.2**/13**, MS3.8**/3**, Near coast of northern Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LVC	Limon Verde	1.42	104	P	Pn	09 12 06.9	+0.4
	523nm,0.3s,baz=273,slow=12,SNR=614						
LVC				S	Sn	09 12 24.1	-0.3
	624nm,0.3s,baz=288,slow=9.7,SNR=28						
ARE	Arequipa	5.88	350	*e*P	Pn	09 13 07.0	-0.9
ARE				*e*S	Sn	09 14 13.0	-1.5
LPAZ	La Paz	6.34	20	P	Pn	09 13 18.4	+4.2
	2.3nm,0.3s,baz=193,slow=3.2,SNR=36						
LPAZ				S	Sn	09 14 37.9	+12
	baz=22,slow=2.5,SNR=1.5						
CFAA	Coronel Fontan	9.48	169	P	Pn	09 13 56.7	-0.5
	0.1nm,0.3s,baz=358,slow=12,SNR=12						
CFAA				S	Sn	09 15 51.0	+8.0
	0.2nm,0.3s,baz=179,slow=9.0,SNR=9.7						
CFAA	Coronel Fontan	9.48	169	P	Pn	09 13 56.7	-0.5
CFAA				S	Sn	09 15 51.0	+8.0
SIV	San Ignacio	10.81	56	P	Pn	09 14 15.6	0.0
	7.7nm,0.3s,baz=245,slow=12,SNR=195						
SIV				S	Sn	09 16 20.8	+5.0
	baz=115,slow=21,SNR=3.4						
CPUP	Villa Florida	12.58	111	P	Pn	09 14 40.5	+0.8
	0.5nm,0.3s,baz=268,slow=12,SNR=14						
CPUP				LR	LR	09 20 06.8	
	comp=Z,278nm,21.7s,baz=248,slow=40						
CPUP	Villa Florida	12.58	111	*e*Pn	Pn	09 14 40.7	+0.9
CPUP				LR	LR	09 20 06.8	
TRQA	Tornquist	17.31	157	*e*Pn	Pn	09 15 42.4	+0.2
	5.9nm,0.7s						
PLCA	Paso Flores	18.39	180	P	Pn	09 15 54.7	-0.8
	0.1nm,0.3s,baz=267,slow=7.1,SNR=5.3						
PLCA	Paso Flores	18.39	180	P	Pn	09 15 54.7	-0.8
SPB	Sao Paulo	21.20	98	*e*P	P	09 16 27.2	+1.1
BDFB	Brasilia	22.17	77	P	P	09 16 37.0	+0.4
	2.5nm,0.5s,mb3.9,baz=236,slow=15,SNR=5.1						
ROSC	El Rosal	27.25	351	LR	LR	09 29 52.5	
	comp=Z,61nm,20.7s,MS3.1,baz=180,slow=40						
TEIG	Tepich	45.72	336	P	P	09 20 01.7	+0.2
	4.8nm,0.3s,mb4.9,baz=165,slow=9.5,SNR=7.9						
JCT	Junction City	59.58	331	*e*P	P	09 21 44.0	+0.1
	2.7nm,0.9s,mb4.3						
TXAR	Lajitas Array	60.50	327	P	P	09 21 50.2	0.0
	0.6nm,0.7s,mb3.8,baz=144,slow=8.4,SNR=9.9						
TXAR	Lajitas Array	60.50	327	P	P	09 21 50.2	0.0
SNAA	Sanae	62.00	161	*e*P	P	09 21 57.7	-2.2
	12nm,1.5s,mb4.8						
QSPA	South Pole Qui	67.91	180	P	P	09 22 38.6	+0.5
	1.4nm,0.6s,mb4.2,baz=6.6,slow=1.7,SNR=6.5						
QSPA	South Pole Qui	67.91	180	P	P	09 22 38.6	+0.5
MVCO	Mesa Verde	69.21	328	*e*P	P	09 22 47.3	+0.5
	2.1nm,0.5s,mb4.3						
SRU	San Rafael	71.69	328	*e*P	P	09 23 03.2	+1.2
	2.7nm,0.8s,mb4.2						
SRU				*e*pP	pP	09 23 11.0	+0.8
CCUT	Cedar City	71.94	325	*e*P	P	09 23 04.9	+1.4
PPT	Papeete	73.79	257	LR	LR	09 47 49.6	
	comp=Z,110nm,20.8s,MS4.1,baz=4.5,slow=29						
PDAR	Pinedale Array	74.11	331	P	P	09 23 16.1	-0.1
	0.3nm,0.5s,mb3.5,baz=138,slow=7.6,SNR=4.4						
NVAR	Mina Array Bea	75.27	323	P	P	09 23 24.5	+1.5
	1.3nm,0.7s,mb4.0,baz=156,slow=6.1,SNR=8.5						
RLMT	Red Lodge	75.86	333	*e*P	P	09 23 26.1	-0.1
	14nm,1.7s,mb4.6						
TOA0	Torodi Ar. Sit	78.92	71	*e*P	P	09 23 43.0	-1.1
TORD	Torodi Ar. Bea	78.92	71	P	P	09 23 42.7	-1.4
	1.3nm,0.6s,mb4.0,baz=253,slow=5.4,SNR=15						
TORD	Torodi Ar. Bea	78.92	71	P	P	09 23 42.7	-1.4
OD2	Odessa Site #2	81.84	329	*e*P	P	09 23 59.5	+0.5
OD2				*e*pP	pP	09 24 09.0	+1.6
MAW	Mawson	83.98	164	P	P	09 24 09.3	-0.6
	0.6nm,0.5s,mb4.0,baz=180,slow=3.0,SNR=6.7						
RAO	Raoul Island	93.45	237	LR	LR	09 57 33.0	
	comp=Z,83nm,18.9s,MS4.2,baz=263,slow=29						
ASAR	Alice Springs	128.57	209	PKP	PKPdf	09 30 46.4	-1.4
	0.3nm,0.7s,baz=135,slow=2.5,SNR=7.4						
WRA	Warramunga Arr	131.57	212	PKP	PKPdf	09 30 53.1	-0.4
	0.5nm,0.5s,baz=148,slow=1.6,SNR=15						
ZALV	Zalesovo Beam	143.25	24	PKP	PKPdf	09 31 13.8	-0.1
	0.8nm,0.4s,baz=347,slow=5.9,SNR=3.0						
MK31	Makanchi Array	147.08	35	*e*PKPbc	PKPbc	09 31 22.1	-0.8
MKAR	Makanchi Array	147.08	35	PKPbc	PKPbc	09 31 21.5	-1.3
	1.5nm,0.7s,baz=336,slow=2.7,SNR=8.0						
MKAR	Makanchi Array	147.08	35	PKPbc	PKPbc	09 31 21.5	-1.3

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*IDC **01** 09:11:56.6±1.2, 4929S×164.17E, h0^{km}, mb4.0/6, mb1 4.1/7, mb1mx4.0/14, mbtmp4.0/7, ML3.5/1, MS4.1/7, Ms1 4.1/7, ms1mx3.6/19, Error ellipse: s-maj=30.6km s-min=27.3km az=60.0*
*NEIC **01** 09:11:58.8±9.9, 4938S×16408E, h12^{km}±63^{km}, Error ellipse: s-maj=25.2km s-min=18.5km az=217.0*
*ISCJB **01** 09:12:01.6±2.4, 493S±0.1×1643E±02, h52^{km}±27^{km}, mb3.9/6, MS4.2/6, Error ellipse: s-maj=23.8km s-min=21.3km az=29.8*
ISC 01 09:12:01.9±3.9**, 493S**±01×**1641E**±02**, h33**^{km}±31^{km}**, n23,** σ**1^{s}01**/18**, mb3.9**/6**, MS4.2**/6**, Auckland Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WHZ	Wether Hill Ro	4.28	38	P	Pn	09 13 04.1	-0.5
MLZ	Mavora Lakes	4.82	36	P	Pn	09 13 12.3	+0.2
TUZ	Tuapeka	5.00	50	P	Pn	09 13 14.7	+0.1
EAZ	Earnscleugh	5.39	43	P	Pn	09 13 19.4	-0.4
WKZ	Wanaka	5.59	38	P	Pn	09 13 23.9	+1.3
JCZ	Jackson Bay	6.13	33	P	Pn	09 13 32.1	+2.1
ODZ	Otahua Downs	6.15	48	P	Pn	09 13 29.5	-0.8
RPZ	Rata Peaks	7.35	43	Pn	Pn	09 13 45.0	-1.8
	0.7nm,0.3s,baz=341,slow=21,SNR=3.6						
RPZ				Sn	Sn	09 15 08.9	-0.2
	0.5nm,0.3s,baz=81,slow=10,SNR=3.3						
RPZ	Rata Peaks	7.35	43	Pn	Pn	09 13 45.0	-1.8
RPZ				Sn	Sn	09 15 08.8	-0.2
SNZO	South Karori	10.92	47	Pn	Pn	09 14 36.0	+0.3
URZ	Urewera	14.46	45	LR	LR	09 21 30.0	
	comp=Z,394nm,20.0s,baz=224,slow=40						
STKA	Stephens Creek	24.28	307	P	P	09 17 17.1	+1.2
	2.7nm,0.9s,mb3.7,baz=169,slow=10,SNR=3.3						
STKA				LR	LR	09 25 19.6	
	comp=Z,430nm,20.3s,MS3.9,baz=302,slow=33						
ASAR	Alice Springs	34.90	306	P	P	09 18 49.5	-0.7
	1.0nm,0.7s,mb3.9,baz=139,slow=7.7,SNR=23						
WRA	Warramunga Arr	37.76	310	P	P	09 19 13.1	-1.5
	1.9nm,0.9s,mb3.8,baz=147,slow=7.8,SNR=11						
WRA				LR	LR	09 35 07.4	
	comp=Z,248nm,18.0s,MS4.1,baz=180,slow=37						
NWAO	Narrogin (SRO)	38.27	277	LR	LR	09 32 05.0	
	comp=Z,213nm,18.0s,MS4.0,baz=270,slow=32						
QSPA	South Pole Qui	40.81	180	P	P	09 19 39.5	0.0
	0.4nm,0.3s,mb3.5,baz=9.2,slow=6.1,SNR=3.3						
FITZ	Fitzroy Crossi	43.90	301	P	P	09 20 04.7	-0.5
	1.8nm,0.7s,mb3.9,baz=164,slow=7.2,SNR=6.2						
USHA	Ushuaia	67.25	150	LR	LR	09 45 41.0	
	comp=Z,285nm,21.3s,MS4.5,baz=39,slow=30						
PLCA	Paso Flores	78.23	141	LR	LR	09 53 48.4	
	comp=Z,136nm,18.6s,MS4.3,baz=184,slow=32						
CMAR	Chiang Mai Arr	88.70	300	P	P	09 24 53.2	+1.4
	0.8nm,0.3s,mb4.5,baz=120,slow=3.6,SNR=3.3						
CPUP	Villa Florida	96.11	143	LR	LR	10 00 54.1	
	comp=Z,128nm,21.7s,MS4.4,baz=39,slow=31						
AKASG	Malin Array Be	151.33	290	PKPbc	PKPbc	09 31 50.9	-0.2
	1.7nm,0.6s,baz=66,slow=1.8,SNR=4.6						
AKASG				PKPab	PKPab	09 31 57.4	-1.9
	1.7nm,0.6s,baz=71,slow=2.2,SNR=7.4						
ARCES	ARCESS Array B	151.71	331	PKPbc	PKPbc	09 31 51.7	+0.4
	2.3nm,0.9s,baz=303,slow=3.9,SNR=4.5						

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*BJI **01** 09:52:42.3, 999N×14653E, h10^{km}, mB5.0, mb4.8*
*IDC **01** 09:52:49.2±0.9, 1047N×14565E, h0^{km}, mb4.3/12, mb1 4.4/13, mb1mx4.3/22, mbtmp4.3/13, ML4.6/1, MS3.2/1, Ms1 3.2/1, ms1mx2.3/37, Error ellipse: s-maj=33.5km s-min=17.5km az=83.0*
*NEIC **01** 09:52:50.5±0.7, 1048N×14573E, h10^{km}, mb4.8/2, Error ellipse: s-maj=25.1km s-min=12.5km az=83.0*
*ISCJB **01** 09:52:52.7±0.9, 1057N±007×1457E±02, h33^{km}, mb4.4/14, Error ellipse: s-maj=29.7km s-min=9.9km az=174.9*
ISC 01 09:52:54.7±0.9**, 1060N**±007×**1457E**±02**, h35**^{km}**, n23,** σ**1^{s}31**/21**, mb4.4**/14**, South of Mariana Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
GUMO	Guam	3.09	344	Pn	Pn	09 53 39.6	-1.5
	64nm,0.3s,SNR=48						
GUMO				Sn	Sn	09 54 15.2	-1.7
	52nm,0.3s,SNR=4.9						
HNR	Honiara	24.41	144	LR	LR	10 06 16.0	
	comp=Z,47nm,18.1s,baz=147,slow=33						
MJAR	Matsushiro Arr	26.71	346	P	P	09 58 29.5	-1.3
	5.1nm,0.8s,mb4.1,baz=166,slow=10,SNR=10						
MAT	Matsushiro	26.71	346	P	P	09 58 29.5	-1.3
KSRS	Korea Array	31.18	332	P	P	09 59 10.8	+0.2
	5.8nm,0.8s,mb4.4,baz=144,slow=9.3,SNR=26						
WRA	Warramunga Arr	32.35	200	P	P	09 59 18.9	-2.1
	0.8nm,0.7s,baz=23,slow=9.4,SNR=6.1						
ASAR	Alice Springs	35.96	199	P	P	09 59 50.5	-1.8
	0.7nm,0.7s,mb3.7,baz=28,slow=7.5,SNR=9.9						
LZH	Lanzhou	45.57	311	*e*P	P	10 01 13.1	+1.7
LZH				AP	pP	10 01 19.0	-2.8
LZH				XP	sP	10 01 22.5	-3.5
LZH				AMB	AMB		
	comp=Z,18nm,1.2s,mb4.9						
LZH				AMB	AMB		
	comp=Z,79nm,4.4s						
LZH	Lanzhou	45.57	311	*e*P	P	10 01 13.1	+1.7
	comp=Z,18nm,1.2s,mb4.9						
LZH				pP	pP	10 01 19.0	-2.8
LZH				sP	sP	10 01 22.5	-3.5
CMAR	Chiang Mai Arr	45.86	285	P	P	10 01 11.7	-2.3
	comp=Z,5.8nm,0.8s,mb4.6,baz=88,slow=5.8,SNR=16						
ULN	Ulaanbaatar	49.32	326	*e*P	P	10 01 41.7	+1.3
	comp=Z,7.0nm,1.0s,mb4.7						
SONM	Songino Array	49.66	326	P	P	10 01 44.6	+1.6
	comp=Z,3.2nm,0.6s,mb4.5,baz=141,slow=8.2,SNR=20						
GTA	Gaotai	49.80	313	*e*P	P	10 01 45.5	+1.3
GTA				AP	pP	10 01 49.7	-5.0
GTA				XP	sP	10 01 53.0	-5.8
GTA				AMB	AMB		
	comp=Z,5.0nm,0.7s,mb4.7						
MKAR	Makanchi Array	64.23	317	P	P	10 03 27.4	+1.1
	comp=Z,1.7nm,0.6s,mb4.2,baz=90,slow=8.3,SNR=13						
ZALV	Zalesovo Beam	64.54	325	P	P	10 03 28.1	-0.1
	comp=Z,2.1nm,0.6s,mb4.4,baz=95,slow=6.6,SNR=6.9						
KURK	Kurchatov	67.41	321	P	P	10 03 47.2	+0.6
	comp=Z,5.6nm,0.7s,mb4.7,baz=107,slow=6.6,SNR=11						
KURK	Kurchatov	67.41	321	P	P	10 03 47.2	+0.6
BVAR	Borovoye Array	72.79	322	P	P	10 04 20.1	+0.5
	comp=Z,6.0nm,0.7s,mb4.7,baz=103,slow=7.8,SNR=19						
AKTK	Aktyubinsk	80.47	320	P	P	10 05 04.2	+1.1
AKTO	Aktyubinsk	80.47	320	P	P	10 05 04.2	+1.1
	comp=Z,1.5nm,0.8s,mb4.0,baz=114,slow=4.1,SNR=6.5						
NVAR	Mina Array Bea	88.12	51	P	P	10 05 42.5	+0.4
	comp=Z,0.8nm,0.6s,mb4.2,baz=271,slow=5.5,SNR=6.0						
DBIC	Dimbokro	146.06	299	PKPbc	PKPbc	10 12 32.4	+0.3
	comp=Z,4.4nm,0.8s,baz=123,slow=3.9,SNR=6.0						
LPAZ	La Paz	146.61	103	PKPbc	PKPbc	10 12 34.1	+0.5
	comp=Z,0.9nm,0.7s,baz=355,slow=4.8,SNR=4.9						

IDC 01 10:05:11.1±2.0**, 262N**×**12697E, h0**^{km}**, mb3.9**/4**, mb1 4.0**/4**, mb1mx3.9**/16**, mbtmp3.9**/4**, Error ellipse: s-maj=177.5km s-min=24.3km az=65.0, Northern Molucca Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRA	Warramunga Arr	23.56	162	P	P	10 10 23.1	-0.5
	2.7nm,0.7s,baz=342,slow=11,SNR=27						
WB2	Warramunga Arr	23.57	162	*e*P	P	10 10 23.2	-0.4
ASAR	Alice Springs	26.99	166	P	P	10 10 54.6	-0.1
	0.7nm,1.1s,baz=346,slow=8.3,SNR=4.1						
STKA	Stephens Creek	37.02	159	P	P	10 12 23.3	+0.7
	2.8nm,0.8s,baz=336,slow=10.0,SNR=5.1						
MKAR	Makanchi Array	58.59	326	P	P	10 15 09.6	-0.1
	0.7nm,0.6s,baz=120,slow=8.2,SNR=5.8						

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*MOS **01** 10:06:15.0±0.9, 2293N×14253E, h149^{km}, mb5.1/58, Error ellipse: s-maj=8.4km s-min=4.6km az=109.0*
*IDC **01** 10:06:16.1±0.5, 2285N×14262E, h154^{km}±3^{km}, mb4.7/35, mb1 4.7/36, mb1mx4.7/38, mbtmp4.7/36, MS3.7/16, Ms1 3.8/16, ms1mx3.4/42, Error ellipse: s-maj=10.3km s-min=6.0km az=77.0*
*BJI **01** 10:06:16.0, 2301N×14276E, h166^{km}, mB5.0, mb5.4*
*ISCJB **01** 10:06:16.4±0.1, 2288N±002×14253E±002, h160^{km}, mb5.1/158, Error ellipse: s-maj=3.4km s-min=2.3km az=178.0*
*JMA **01** 10:06:17.8±0.2, 2335N×14324E, h191^{km}, M5.4*
*NEIC **01** 10:06:18.4±0.4, 2283N×14255E, h170^{km}±4^{km}, mb5.0/74, Error ellipse: s-maj=3.9km s-min=3.6km az=108.0*
*GCMT **01** 10:06:18.4±0.3, 2293N×14275E, h143^{km}±2^{km}, MW5.1/89, Moment Tensor Solution. s38,c51; s89,c124; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}2.85±.14; $M_{\theta\theta}$-1.29±.16; $M_{\phi\phi}$-1.56±.20; $M_{r\theta}$-1.71±.11; $M_{\theta\phi}$0.68±.17; $M_{\phi r}$3.84±.12; Best double couple: $M_0$4.87300×10^{16} NP1:ϕ_s139.00000°, δ16.00000°, λ76.00000°. NP2: ϕ_s334.00000°, δ75.00000°, λ94.00000°. Principal axes: T 5.2780, Plg60.0000°, Azm249.0000°; N -0.8120, Plg4.0000°, Azm153.0000°; P -4.4670, Plg30.0000°, Azm60.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*DJA **01** 10:06:21, 2295N×14286E, h204^{km}, Mw5.6/11*
ISC 01 10:06:18.0±0.1**, 2288N**±002×**14257E**±002**, h162**^{km}**, h162**^{km}±1.2^{km}**:pP-P, n781,** σ**0^{s}74**/795**, mb5.1**/158**, 206C-197D, Volcano Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JHHJ	Haha-jima-NKT	3.75	355	P	Pn	10 07 12.2	-3.1
JHHJ				S	Sn	10 07 54.5	-5.4
CBIJ	Chichi jima	4.21	355	P	Pn	10 07 17.8	-3.4
	539nm,0.3s,baz=199,slow=3.5,SNR=342						
CBIJ				S	Sn	10 08 04.0	-6.6
	619nm,0.3s,baz=252,slow=24,SNR=29						
CBIJ				LR	LR	10 08 36.6	
	comp=Z,375nm,21.9s,baz=173,slow=33						
CBIJ	Chichi jima	4.21	355	P	Pn	10 07 17.9	-3.3
CBIJ				S	Sn	10 08 04.4	-6.2
GUMO	Guam	9.50	166	P	Pn	10 08 31.3	+0.1
	3.1nm,0.3s,baz=259,slow=0.0,SNR=9.8						
GUMO	Guam	9.50	166	*e*Pn	Pn	10 08 31.4	+0.2
JHJ2	Mitsune	10.48	347	P	Pn	10 08 40.8	-3.2
JHJ2				*e*S	Sn	10 10 31.0	-9.1
JHJ	Hachijo jima 2	10.49	347	P	Pn	10 08 39.8	-4.4
	21nm,0.3s,baz=102,slow=17,SNR=5.3						
JHJ				S	Sn	10 10 30.4	-10
	29nm,0.3s,baz=90,slow=20,SNR=3.1						
JKO	Kozu shima	11.66	346	P	Pn	10 08 54.7	-4.7
BSO1	Boso 1	11.81	354	P	Pn	10 08 57.1	-4.3
BSO1				S	Sn	10 10 59.3	-13
JWZ	Kozaga	12.20	332	P	Pn	10 09 06.2	-0.3
JIE	Ise	12.57	337	P	Pn	10 09 08.9	-2.2
JOD2	Odawara 2	12.71	347	P	Pn	10 09 08.3	-4.6
JOD2				S	Sn	10 11 21.5	-12
JAM	Amami Oshima	12.92	298	P	Pn	10 09 18.7	+3.0
JTO	Tosashimizu	13.16	321	P	Pn	10 09 18.6	-0.1
JRY	Ryogami san	13.47	347	P	Pn	10 09 17.8	-4.8
JRY				S	Sn	10 11 37.0	-15
JOW	Kunigami	13.56	290	P	Pn	10 09 25.4	+1.6
	5.0nm,0.3s,baz=119,slow=12,SNR=18						
MJAR	Matsushiro Arr	14.13	345	P	Pn	10 09 25.9	-4.9
	3.3nm,0.3s,baz=162,slow=12,SNR=26						
MJAR				S	Sn	10 11 57.5	-10
	1.2nm,0.3s,baz=303,slow=31,SNR=5.2						
MJAR				ScP	ScP	10 17 54.8	-1.6
	0.3nm,0.3s,baz=180,slow=1.6,SNR=9.3						
MJAR	Matsushiro Arr	14.13	345	P	Pn	10 09 26.0	-4.9
MJAR				S	Sn	10 11 57.5	-10
MAJO	Matsushiro	14.13	345	*e*P	Pn	10 09 27.4	-3.5
MAT	Matsushiro	14.13	345	P	Pn	10 09 26.9	-4.0
MAT				S	Sn	10 12 09.0	+1.2
MAT	Matsushiro	14.13	345	P	Pn	10 09 28.1	-2.8
JHS	Saijyo	14.62	328	P	Pn	10 09 36.3	-0.8
JTU	Tsushima	16.35	318	P	Pn	10 09 59.4	+1.0
JKB	Kayabe	19.00	356	P	P	10 10 26.9	-0.2
ERM	Erimo	19.09	1	P	P	10 10 29.7	+1.7
	386nm,0.7s,SNR=9.0						
ERM	Erimo	19.09	1	*c i*P	P	10 10 29.0	+1.0
ERM	Erimo	19.09	1	*e*P	P	10 10 29.4	+1.3
	52nm,0.8s						
KSRS	Korea Array	19.23	322	P	P	10 10 28.5	-1.2
	2.9nm,0.3s,baz=137,slow=10,SNR=22						
KSRS				S	S	10 14 08.7	+10
	0.1nm,0.3s,baz=153,slow=17,SNR=5.9						
KSRS				LR	LR	10 17 52.0	
	comp=Z,165nm,19.4s,baz=145,slow=36						
KSRS				ScP	ScP	10 18 06.7	+0.1
	0.2nm,0.3s,baz=124,slow=1.8,SNR=13						
KS15	Wonju Array Si	19.25	322	*e*Pn	Pn	10 10 30.8	-1.7
NACB	Ninganchiao	19.28	278	*e*P	P	10 10 30.4	+0.1
	156nm,0.5s						
JOSM	Okushiri--Mats	19.32	353	P	P	10 10 30.9	+0.3
YHNB	Yeheng	19.48	279	*e*P	P	10 10 32.4	-0.1
	59nm,0.6s						
PVCP	Virac	19.76	245	*e*P	P	10 10 38.0	+2.4
CNP	Catarman	19.91	242	*e*P	P	10 10 39.8	+2.5
INCN	Inchon	20.00	320	⇓P	P	10 10 39.9	+2.0
	SNR=6.5						
INCN	Inchon	20.00	320	*e*P	P	10 10 38.5	+0.5
	58nm,0.8s						
CAUP	Cauayan	20.37	257	*e*P	P	10 10 45.1	+3.0
APYP	Conner	20.60	260	*e*P	P	10 10 45.0	+0.4
SSE	Sheshan	20.71	298	P	P	10 10 46.0	+0.3
SSE				XP	sP	10 11 36.7	+2.4
SSE				S	S	10 14 22.7	-5.3
SSE				AMB	AMB		
	comp=Z,305nm,0.8s						
SSE				AMB	AMB		
	comp=Z,159nm,4.0s						
SSE				LR	LR		
	comp=N,337nm,17.0s						
SSE				LR	LR		
	comp=E,231nm,17.0s						
SSE				LR	LR		
	comp=Z,276nm,15.9s						
SSE	Sheshan	20.71	298	P	P	10 10 46.0	+0.3
	comp=Z,305nm,0.8s						
SSE				sP	sP	10 11 36.7	+2.4
SSE				S	S	10 14 22.7	-5.3
SSE				sS	sS	10 15 12.9	-2.6
SSE				LR	LR		
	comp=Z,280nm,15.9s						
BALP	Baler	21.03	254	*e*P	P	10 10 50.1	+0.9
MSLP	Maasin	21.16	236	*e*P	P	10 10 52.1	+1.5
ASAJ	Asahikawa	21.18	0	P	P	10 10 51.0	+0.5
	comp=Z,33nm,0.7s,mb4.8,baz=216,slow=11,SNR=18						
QZH	Quanzhou	22.01	280	⇓*i*P	P	10 11 00.5	+1.0
QZH				AMB	AMB		
	comp=Z,290nm,1.0s,mb5.7						
VLA	Vladivostok	22.04	339	*e*P	P	10 10 58.0	-1.6
VLA				*e*S	S	10 14 51.6	+0.6
VLA				pmax	pmax		
	comp=Z,224nm,1.5s,mb5.4						
TBP	Tagbilaran	22.20	237	*e*P	P	10 11 01.4	-0.1
BUKP	Musuan	22.49	231	*e*P	P	10 11 04.2	+0.1
DAV	Davao City (W)	22.68	229	LR	LR	10 18 27.9	
	comp=Z,199nm,18.5s,baz=42,slow=32						
SJMP	San Jose	22.89	247	*e*P	P	10 11 09.9	+2.2
NJ2	Nanjing	22.90	299	*e*P	P	10 11 07.9	+0.2
NJ2				AP		10 11 37.2	
NJ2				XP	sP	10 11 57.6	-0.3
NJ2				S	S	10 15 02.5	-2.7
NJ2				SS		10 15 58.5	
NJ2				AMB	AMB		
	comp=Z,220nm,1.1s,mb5.5						
NJ2				AMB	AMB		
	comp=Z,300nm,5.9s						
NJ2				LR	LR		
	comp=N,260nm,23.8s						
NJ2				LR	LR		
	comp=E,390nm,20.7s						
NJ2				LR	LR		
	comp=Z,390nm,20.7s						
DL2	Dalian	23.96	317	⇑*i*P	P	10 11 16.6	-0.7
DL2				S	S	10 15 21.3	-0.8
DL2				XS	sS	10 16 15.1	-4.8
DL2				AMB	AMB		
	comp=Z,70nm,0.8s,mb5.2						
DL2				AMB	AMB		
	comp=Z,100nm,4.5s						
YSS	Yuzh-Sakhalins	24.02	0	*e*P	P	10 11 17.3	-0.4
YSS				*e**PP		10 11 51.2	
YSS				*e*S	S	10 15 20.0	-2.8
YSS				*e**SS	sS	10 16 22.0	+1.1
YSS				pmax	pmax		

comp=N,30nm,1.0s
YSS pmax pmax
comp=Z,40nm,1.0s,mb4.9
YSS smax
comp=E,200nm,9.0s
YSS Yuzh-Sakhalins 24.02 0 *e*P **P 10 11 18.1 +0.4**
comp=E,40nm,0.5s,mb5.2
MDJ Mudanjiang 24.16 337 P **P 10 11 18.8 -0.2**
MDJ AP 10 11 50.3
MDJ XP sP 10 12 10.4 -0.7
MDJ S **S** **10 15 25.4 +0.3**
MDJ XS sS 10 16 23.4 -0.2
MDJ SCP ScP 10 18 17.3 -1.5
MDJ PCS PcS 10 18 33.9 -1.2
MDJ SCS ScS 10 22 05.7 -0.4
MDJ AMB AMB
comp=Z,34nm,1.1s,mb4.8
MDJ AMB AMB
comp=Z,63nm,4.8s
MDJ Mudanjiang 24.16 337 *e*P **P 10 11 19.1 +0.1**
comp=Z,30nm,0.8s,mb4.9
SNY Shenyang 24.69 324 ⇑P **P 10 11 23.1 -0.8**
SNY XS sS 10 16 25.5 -7.0
SNY AMB AMB
comp=Z,35nm,1.4s,mb4.7
SNY AMB AMB
comp=Z,107nm,5.5s
CN2 Changchun 25.20 330 *e*P **P 10 11 29.2 +0.7**
CN2 *e*XP sP 10 12 20.9 +0.2
CN2 PCP PcP 10 14 57.9 +0.2
CN2 *e*S **S** **10 15 41.7 +0.1**
CN2 *e*SS 10 16 59.0
CN2 AMB AMB
comp=Z,10.0nm,0.8s,mb4.4
CN2 AMB AMB
comp=Z,200nm,3.0s
CN2 LR LR
comp=N,200nm,10.0s
CN2 LR LR
comp=E,200nm,10.0s
CN2 LR LR
comp=Z,200nm,11.0s
TIA Tai'an 25.72 307 ⇑P **P 10 11 33.4 +0.1**
TIA AMB AMB
comp=Z,101nm,0.9s,mb5.5
HABR Khabarovsk 26.23 349⇑ *e*P **P 10 11 35.5 -2.2**
HABR *e* 10 12 26.6
HABR *e* 10 14 57.2
HABR *e*S **S** **10 15 54.6 -3.2**
HABR *e* 10 22 10.1
WHN Wuhan 26.29 293 ⇑P **P 10 11 39.1 +0.6**
KLR Kul'dur 27.65 345 *e*P **P 10 11 46.0 -4.4**
KLR pmax pmax
comp=E,33nm,1.4s
KLR pmax pmax
comp=Z,67nm,1.4s,mb5.2
BJT Baijiatuau 28.11 314 *e*P **P 10 11 54.3 -0.3**
BJT pmax pmax
comp=Z,31nm,0.5s
BJT Baijiatuau 28.11 314 *e*P **P 10 11 54.2 -0.4**
comp=Z,31nm,0.5s,mb5.3
BJI Beijing 28.12 314 P **P 10 11 54.2 -0.5**
BJI *SP sP 10 12 47.5 +0.3
BJI S **S** **10 16 29.1 +1.3**
BJI *SS sS 10 17 29.6 +2.1
BJI pmax pmax
comp=Z,14nm,1.1s,mb4.6
BJI MLR MLR
comp=Z,100nm,20.2s
BJI Beijing 28.12 314 P **P 10 11 54.2 -0.5**
comp=Z,14nm,1.1s,mb4.6
BJI sP sP 10 12 47.5 +0.3
BJI S **S** **10 16 29.1 +1.3**
BJI sS sS 10 17 29.6 +2.1
BJI LR LR
comp=Z,100nm,40.2s
XAN Xi'an 31.47 298 P **P 10 12 24.4 +0.1**
XAN AP pP 10 13 00.2 +1.8
XAN XP sP 10 13 16.2 -0.8
XAN PP PP 10 13 36.9 -1.7
XAN PCP PcP 10 15 13.6 +0.1
XAN S **S** **10 17 22.6 +2.2**
XAN AMB AMB
comp=Z,25nm,0.9s,mb4.9
XAN AMB AMB
comp=Z,119nm,5.5s
XAN LR LR
comp=N,105nm,27.6s
XAN LR LR
comp=E,58nm,27.3s
XAN LR LR
comp=Z,84nm,26.6s
HHC Hu-ho-hao-te 31.62 312 *e*P **P 10 12 25.7 +0.2**
HHC AP pP 10 12 59.2 -0.4
HHC XP sP 10 13 18.5 +0.2
HHC PP PP 10 13 36.9 -3.3
HHC PCP PcP 10 15 13.8 0.0
HHC S **S** **10 17 20.8 -1.7**
HHC XS sS 10 18 21.3 -1.2
HHC SCP ScP 10 18 41.6 -0.3
HHC PCS PcS 10 18 57.3 -1.1
HHC SS SS 10 19 23.1 -22
HHC SCS ScS 10 22 38.1 -2.0
HHC AMB AMB
comp=Z,23nm,1.2s,mb4.8
HHC AMB AMB
comp=Z,241nm,5.3s
HHC LR LR
comp=N,188nm,11.4s
HHC LR LR
comp=E,225nm,12.2s
HHC LR LR
comp=Z,201nm,14.6s
HIA Hailar 31.91 331⇓ *i*P **P 10 12 27.7 -0.2**
PEA0B Petropavlovsk- 32.31 17 *e*P **P 10 12 32.2 +0.8**
PETK Petropavlovsk- 32.31 17 P **P 10 12 31.4 0.0**
comp=Z,5.3nm,0.7s,mb4.4,baz=194,slow=5.4,SNR=7.1
PETK PcP PcP 10 15 14.7 -0.7
comp=Z,2.0nm,0.6s,baz=147,slow=3.4,SNR=4.4
PETK ScP ScP 10 18 42.4 -1.6
comp=Z,3.0nm,0.9s,baz=187,slow=1.9,SNR=4.0
PMG Port Moresby 32.40 172 *i* P **P 10 12 32.2 -0.4**
PET Petropavlovsk 32.50 18 *e*P **P 10 12 33.4 +0.4**
PET *e*PPP 10 13 44.4
PET *e*S **S** **10 17 37.9 +2.0**
PET pmax pmax
comp=Z,28nm,1.4s,mb4.8
PET MLR MLR
comp=Z,100nm,19.0s
GYA Guiyang 32.76 284⇑ *i*P **P 10 12 35.9 +0.2**
GYA AP pP 10 13 12.4 +2.6
GYA XP sP 10 13 32.0 +3.6
GYA PP PP 10 13 52.8 -0.2
GYA PCP PcP 10 15 18.9 +1.7
GYA S **S** **10 17 39.2 -1.3**
GYA XS sS 10 18 42.0 +1.3
GYA SCP ScP 10 18 45.6 -0.5
GYA PCS PcS 10 19 02.4 -0.4
GYA SCS ScS 10 22 44.2 -2.2
GYA AMB AMB
comp=Z,40nm,0.7s,mb5.3
GYA AMB AMB
comp=Z,130nm,4.6s
GYA LR LR
comp=N,580nm,16.4s
GYA LR LR
comp=E,640nm,15.8s
GYA LR LR
comp=Z,560nm,16.9s
CD2 Chengdu 35.39 292⇑ *i*P **P 10 12 58.6 +0.3**
CD2 AP pP 10 13 34.0 +1.2
CD2 XP sP 10 13 53.6 +2.3
CD2 PP PP 10 14 23.6 +1.6
CD2 PCP PcP 10 15 23.6 -1.1
CD2 S **S** **10 18 20.6 -0.3**
CD2 XS sS 10 19 22.6 +1.1
CD2 SS SS 10 20 50.3 -10
CD2 SCS ScS 10 22 57.0 -3.3
CD2 AMB AMB
comp=Z,190nm,0.8s,mb5.8
CD2 AMB AMB
comp=Z,280nm,6.0s
KAPI Kappang 35.58 222 P **P 10 12 59.1 -1.0**
comp=Z,415nm,0.7s,mb6.2,SNR=6.1
KAPI Kappang 35.58 222 P **P 10 12 59.4 -0.7**
comp=Z,42nm,0.6s,mb5.2,baz=57,slow=4.3,SNR=21
KAPI PcP PcP 10 15 23.9 -1.6
comp=Z,9.6nm,0.7s,baz=88,slow=4.4,SNR=3.8
KAPI Kappang 35.58 222 *e*P **P 10 12 58.9 -1.1**
comp=Z,26nm,0.6s,mb5.0
LZH Lanzhou 35.95 300 ⇑P **P 10 13 04.1 +1.1**
LZH AP pP 10 13 38.7 +1.1
LZH XP sP 10 13 57.3 +1.2
LZH PP PP 10 14 31.5 +3.4
LZH S **S** **10 18 30.2 +0.8**
LZH XS sS 10 19 30.5 +0.4
LZH SS SS 10 21 03.7 -9.0
LZH AMB AMB
comp=Z,78nm,1.2s,mb5.2
LZH AMB AMB
comp=Z,201nm,5.6s
LZH LR LR
comp=N,652nm,13.2s
LZH LR LR
comp=Z,793nm,16.7s
LZH Lanzhou 35.95 300 ⇑P **P 10 13 04.1 +1.1**
LZH *PP pP 10 13 38.7 +1.1
LZH *SP sP 10 13 57.3 +1.2
LZH 10 14 31.5
LZH S **S** **10 18 30.2 +0.8**
LZH *SS sS 10 19 30.5 +0.4
LZH SS SS 10 21 03.7 -9.0
LZH pmax pmax
comp=Z,78nm,1.2s,mb5.2
LZH MLR MLR
comp=Z,790nm,16.7s
LZH Lanzhou 35.95 300 ⇑P **P 10 13 04.1 +1.1**
comp=Z,78nm,1.2s,mb5.2
LZH pP pP 10 13 38.7 +1.1
LZH sP sP 10 13 57.3 +1.2
LZH PP PP 10 14 31.5 +3.4
LZH S **S** **10 18 30.2 +0.8**
LZH sS sS 10 19 30.5 +0.4
LZH SS SS 10 21 03.7 -9.0
LZH LR LR
comp=Z,790nm,16.7s
CLNS Chul'man 36.30 344 *e*P **P 10 13 06.0 +0.3**
CLNS pmax pmax
comp=Z,27nm,0.8s,mb4.9
CLNS pmax pmax
comp=E,6.0nm,0.8s
CLNS pmax pmax
comp=N,18nm,1.0s
HNR Honiara 36.34 150 LR LR 10 25 25.8
comp=N,69nm,18.7s,baz=327,slow=32
KMI Kunming 36.37 282 P **P 10 13 08.1 +1.4**
KMI PCP PcP 10 15 28.0 +0.3
KMI S **S** **10 18 35.3 -0.7**
KMI SCP ScP 10 18 55.2 -3.9
KMI SS SS 10 21 13.8 -8.0
KMI AMB AMB
comp=Z,47nm,1.2s,mb5.0
KMI LR LR
comp=Z,154nm,41.7s
KMI Kunming 36.37 282 P **P 10 13 08.1 +1.4**
KMI PPP 10 15 04.1
KMI 10 15 28.0
KMI S **S** **10 18 35.3 -0.7**
KMI SS SS 10 21 13.8 -8.0
KMI SSS 10 21 50.5
KMI pmax pmax
comp=Z,47nm,1.2s,mb5.0
KMI MLR MLR
comp=Z,150nm,21.7s
KMI Kunming 36.37 282 P **P 10 13 08.1 +1.4**
comp=Z,47nm,1.2s,mb5.0
KMI PPP 10 15 04.1
KMI PcP PcP 10 15 28.0 +0.3
KMI S **S** **10 18 35.3 -0.7**
KMI ScP ScP 10 18 55.2 -3.9
KMI SS SS 10 21 13.8 -8.0
KMI SSS 10 21 50.5
KMI LR LR
comp=Z,150nm,41.7s
COEN Coen 36.62 179 *e*P **P 10 13 08.2 -0.5**
comp=Z,6.9nm,0.8s,mb4.3
KAKA Kakadu 36.74 197 *e*P **P 10 13 09.1 -0.7**
comp=Z,13nm,0.6s,mb4.7
ULN Ulaanbaatar 37.69 320 ⇑P **P 10 13 18.3 +0.7**
SNR=27
ULN Ulaanbaatar 37.69 320 *e*P **P 10 13 18.0 +0.5**
comp=Z,40nm,0.8s,mb5.1
KSM Kuching 37.86 240 *e*P **P 10 13 19.3 -0.1**
KKTK Khon Kaen 37.92 267 ⇑P **P 10 13 21.0 +1.2**
comp=Z,864nm,0.5s
SONM Songino Array 38.07 320 P **P 10 13 20.8 +0.1**
comp=Z,27nm,0.6s,mb5.0,baz=127,slow=6.7,SNR=142
SONM PcP PcP 10 15 32.6 +0.1
comp=Z,6.8nm,0.7s,baz=134,slow=3.1,SNR=6.0
SONM ScP ScP 10 19 07.2 +2.2
comp=Z,1.2nm,0.7s,baz=134,slow=4.2,SNR=4.6
NANT Nan 39.25 272 ⇑P **P 10 13 29.0 -1.9**
comp=Z,586nm,1.0s,mb6.2
GTA Gaotai 39.73 305 P **P 10 13 34.8 +0.1**
GTA AP pP 10 14 12.2 +2.4
GTA XP sP 10 14 31.0 +2.8
GTA PP PP 10 15 12.7 +3.4
GTA PCP PcP 10 15 38.5 +0.6
GTA SCP ScP 10 19 12.5 +0.9
GTA S **S** **10 19 25.1 -1.2**
GTA PCS PcS 10 19 28.0 -0.2
GTA XS sS 10 20 26.5 -1.2
GTA SS SS 10 22 20.0 -8.7
GTA AMB AMB
comp=Z,30nm,1.6s,mb4.7
GTA AMB AMB
comp=Z,182nm,5.7s
GTA LR LR
comp=N,157nm,7.8s
GTA LR LR
comp=E,81nm,10.2s
GTA LR LR
comp=Z,122nm,11.1s
CHRT Chiangrai 39.86 274 ⇑P **P 10 13 37.0 +1.0**
comp=Z,50nm,0.6s,mb5.3
YAK Yakutsk 40.11 351 *e*P **P 10 13 35.3 -2.1**
YAK *e* 10 15 44.9
YAK *e*S **S** **10 19 26.1 -5.2**
YAK *e*SS SS 10 22 23.2 -12
YAK *e* 10 23 20.9
YAK pmax pmax
comp=Z,41nm,0.9s,mb5.1
YAK pmax pmax
comp=N,17nm,1.1s
YAK pmax pmax
comp=E,5.0nm,0.9s
YAK pmax pmax
comp=Z,2.0nm,0.2s,mb4.4
YAK smax
comp=E,125µm,2.2s
YAK smax
comp=N,99µm,1.7s
YAK Yakutsk 40.11 351 *e*P **P 10 13 37.2 -0.3**
comp=N,56nm,0.7s,mb5.3
BOD Bodaibo 40.53 337 *e*P **P 10 13 39.9 -1.0**
BOD pmax pmax
comp=Z,18nm,1.3s,mb4.5
SEY Seymchan 40.58 7⇑ *e*P **P 10 13 40.5 -0.8**
NST Nakhon Sawan 40.59 268 P **P 10 13 42.3 +0.3**
comp=Z,92nm,0.9s,mb5.4
CHG Chiang Mai 40.86 273 ⇑P **P 10 13 45.0 +0.8**
comp=Z,88nm,0.9s,mb5.4
CHTO Chiang Mai 40.86 273 ⇑P **P 10 13 45.1 +0.9**
SNR=11
CHTO Chiang Mai 40.86 273 *e*P **P 10 13 45.1 +0.9**
CHTO pmax pmax
comp=Z,84nm,0.9s,mb5.4
CHTO Chiang Mai 40.86 273 *e*P **P 10 13 45.1 +0.8**
comp=Z,84nm,0.9s,mb5.4
CM31 Chiang Mai Arr 40.95 272 *e*P **P 10 13 46.1 +1.2**
comp=Z,78nm,0.8s,mb5.4
CMAR Chiang Mai Arr 40.95 272 P **P 10 13 46.0 +1.1**
comp=Z,39nm,0.6s,mb5.2,baz=58,slow=8.5,SNR=150
CMAR ScP ScP 10 19 17.4 +0.6
comp=Z,2.4nm,0.7s,baz=74,slow=1.6,SNR=10
CMAR Chiang Mai Arr 40.95 272⇑ *e*P **P 10 13 46.0 +1.1**
BDT Bhumibol Dam 41.20 270 ⇓P **P 10 13 48.5 +1.5**
comp=Z,80nm,0.8s,mb5.4
IRK Irkutsk 41.42 325 *e*P **P 10 13 48.3 0.0**
IRK pmax pmax
comp=Z,114nm,1.2s,mb5.4
TLY Talaya 41.48 324 P **P 10 13 49.2 +0.4**
comp=Z,261nm,0.9s,mb5.9,SNR=8.3
TLY Talaya 41.48 324 ⇓P **P 10 13 49.9 +1.2**
SNR=20
TLY Talaya 41.48 324 *e*P **P 10 13 49.1 +0.3**
TLY *e* 10 19 48.0
TLY pmax pmax
comp=Z,42nm,1.0s,mb5.0
TLY Talaya 41.48 324 *e*P **P 10 13 49.2 +0.4**
comp=Z,40nm,0.9s,mb5.0
TLY *e*PcP PcP 10 15 43.6 +0.3
NNT Nongplab 41.93 263 P **P 10 13 54.9 +1.9**
ADK Adak 42.57 37 *e*P **P 10 13 57.5 -0.1**
CTA Charters Tower 42.86 175 *e*P **P 10 13 59.2 -1.1**
comp=Z,17nm,0.7s,mb4.8
CTA *e*SCP ScP 10 19 25.1 +1.0
CTA Charters Tower 42.86 175 *e*P **P 10 13 59.2 -1.1**
CTA pmax pmax
comp=Z,17nm,0.7s
CTAO Charters Tower 42.86 175 *e*P **P 10 13 59.8 -0.5**
CTAO pmax pmax
comp=Z,26nm,0.8s,mb4.9
CTAO Charters Tower 42.86 175 *e*P **P 10 13 59.8 -0.5**
comp=Z,26nm,0.8s,mb4.9
MOY Mondy 42.93 323 *e*P **P 10 14 01.2 +0.6**
MOY pmax pmax
comp=Z,77nm,2.2s,mb4.9
WRAB Tennant Creek 43.30 191 P **P 10 14 03.0 -0.8**
comp=Z,895nm,0.5s,SNR=81
WRAB Tennant Creek 43.30 191*c i*P **P 10 14 02.8 -1.0**
WRAB Tennant Creek 43.30 191 *e*P **P 10 14 02.8 -1.0**
comp=Z,78nm,0.9s,mb5.3
WRAB *e*ScP ScP 10 19 27.4 +1.4
WB2 Warramunga Arr 43.31 191⇑ *i*P **P 10 14 02.9 -1.0**
WB2 *e*SCP ScP 10 19 26.6 +0.6
WB2 *e*S **S** **10 20 16.2 -3.1**
WRA Warramunga Arr 43.31 191 P **P 10 14 02.8 -1.1**
comp=Z,39nm,0.4s,mb5.4,baz=7.4,slow=7.9,SNR=249
WRA ScP ScP 10 19 26.5 +0.5
comp=Z,8.8nm,0.9s,baz=5.4,slow=4.3,SNR=18
WRA S **S** **10 20 17.2 -2.1**
comp=Z,12nm,0.9s,baz=13,slow=14,SNR=16
WRA PKiKP PKiKP 10 22 50.2 -2.3
comp=Z,0.4nm,0.5s,baz=324,slow=1.5,SNR=7.6
WRA LR LR 10 33 15.3
comp=Z,68nm,19.0s,baz=10.0,slow=37
WRA Warramunga Arr 43.31 191 P **P 10 14 02.8 -1.1**
WRA ScP ScP 10 19 26.5 +0.5
WRA S **S** **10 20 17.2 -2.1**
FITZ Fitzroy Crossi 43.97 204⇑ *i*P **P 10 14 08.8 -0.4**
comp=Z,48nm,0.8s,mb5.2
FITZ *e*PCP PcP 10 15 51.9 -0.2
FITZ *e*SCP ScP 10 19 31.3 +2.6
FITZ *e*S **S** **10 20 26.0 -2.8**
IMP Imphal 44.35 283 *e*P **P 10 14 11.0 -1.3**
SHL Shillong 46.08 284 *ex* x 10 14 13.2
LSA Lhasa 46.29 290 P **P 10 14 29.8 +2.3**
LSA Lhasa 46.29 290 *e*P **P 10 14 29.2 +1.7**
LSA pmax pmax
comp=Z,80nm,0.7s,mb5.5
LSA Lhasa 46.29 290 *e*P **P 10 14 29.2 +1.7**
comp=Z,80nm,0.7s,mb5.5
ASAR Alice Springs 47.03 191 P **P 10 14 31.9 -1.3**
comp=Z,11nm,0.6s,mb4.7,baz=20,slow=11,SNR=93
ASAR PcP PcP 10 16 02.3 -0.4
comp=Z,3.7nm,0.8s,baz=10.0,slow=5.2,SNR=5.1
ASAR ScP ScP 10 19 42.4 +1.1
comp=Z,6.7nm,0.8s,baz=12,slow=4.4,SNR=18
ASAR S **S** **10 21 09.4 -3.2**
comp=Z,6.0nm,0.8s,baz=12,slow=15,SNR=28
ASAR Alice Springs 47.03 191 P **P 10 14 31.9 -1.3**
ASAR 10 16 02.3
ASAR S **S** **10 21 09.4 -3.2**
BILL Bilibino 47.48 12⇓ *e*P **P 10 14 36.0 -0.1**
BILL *e* 10 16 25.5
BILL *e*S **S** **10 21 18.0 0.0**
BILL pmax pmax
comp=Z,13nm,0.8s,mb4.6
EIDS Eidsvold 48.67 170 *e*P **P 10 14 45.2 -0.6**
XMIS Christmas Isla 49.06 231 *e*P **P 10 14 46.8 -2.2**
MBWA Marble Bar 49.11 209 ⇓P **P 10 14 49.3 +0.1**
SNR=5.2
MBWA Marble Bar 49.11 209 *e*P **P 10 14 49.0 -0.2**
comp=Z,55nm,0.9s,mb5.2
WMQ Urumqi 49.40 309⇑ *i*P **P 10 14 52.3 +1.1**
WMQ AP pP 10 15 28.8 +1.2
WMQ XP sP 10 15 47.3 +1.6
WMQ PCP PcP 10 16 12.8 +1.7
WMQ PP PP 10 16 49.3 +2.6
WMQ SCP ScP 10 19 50.8 -0.4
WMQ PCS PcS 10 20 07.8 0.0
WMQ S **S** **10 21 45.5 -0.1**
WMQ XS sS 10 22 49.3 +0.3
WMQ SCS ScS 10 24 24.3 -1.9
WMQ SS SS 10 25 16.3 -3.0
WMQ AMB AMB
comp=Z,77nm,0.9s,mb5.3
WMQ AMB AMB
comp=Z,44nm,10.6s
TIXI Tiksi 49.42 354⇑ *e*P **P 10 14 49.4 -1.5**
TIXI pmax pmax
comp=Z,11nm,1.3s,mb4.3
TIXI Tiksi 49.42 354 *e*P **P 10 14 50.6 -0.3**
ODAN Odare 49.90 286 *e*P **P 10 14 56.3 +1.1**
comp=Z,433nm,0.9s,mb6.1
RAMN Ramite 50.58 287 *e*P **P 10 15 01.3 +0.9**
comp=Z,317nm,0.9s,mb6.0
JIRN Jiri 50.84 288 *e*P **P 10 15 03.8 +1.5**
comp=Z,526nm,0.7s,mb6.3
GUN Gumba 51.08 288 *e*P **P 10 15 05.5 +1.4**
PKIN Phulchoki 51.55 288 *e*P **P 10 15 08.3 +0.7**
comp=Z,106nm,0.5s,mb5.7
KKN Kakani 51.62 288 *e*P **P 10 15 09.0 +0.9**
comp=Z,194nm,0.8s,mb5.8
BOK Bokaro 51.75 283 *e*P **P 10 15 09.1 0.0**
DMN Daman 51.80 288 *e*P **P 10 15 10.3 +0.9**
comp=Z,198nm,0.9s,mb5.8
GKN Gorkha 52.16 288 *e*P **P 10 15 12.7 +0.6**
comp=Z,380nm,0.9s,mb6.0
DANN Dangsing 52.87 289 *e*P **P 10 15 18.8 +1.5**
comp=Z,1µm,0.7s
ZAA0 Zalesovo Array 52.93 321 *e*P **P 10 15 16.9 -0.4**
ZAA0 *e*ScP ScP 10 20 06.0 -0.3
ZALV Zalesovo Beam 52.93 321 P **P 10 15 16.8 -0.6**
comp=Z,27nm,0.7s,mb5.1,baz=104,slow=6.9,SNR=49
ZALV PcP PcP 10 16 23.4 -0.7
comp=Z,18nm,0.8s,baz=97,slow=4.0,SNR=9.0
ZALV ScP ScP 10 20 05.8 -0.5
comp=Z,1.8nm,0.6s,baz=104,slow=3.8,SNR=5.1
ZALV LR LR 10 37 36.5
comp=Z,32nm,21.9s,baz=142,slow=36
ZALV Zalesovo Beam 52.93 321 P **P 10 15 16.8 -0.5**
ZALV 10 16 23.4
KOLN Koldanda 53.10 288 *e*P **P 10 15 19.9 +0.9**
comp=Z,238nm,0.7s,mb6.0
MK31 Makanchi Array 53.48 312 *e*P **P 10 15 22.0 +0.5**
MK31 *e* 10 16 26.2
MKAR Makanchi Array 53.48 312 P **P 10 15 21.6 +0.2**
comp=Z,38nm,0.7s,mb5.2,baz=93,slow=9.3,SNR=211
MKAR PcP PcP 10 16 26.3 0.0
comp=Z,14nm,0.7s,baz=90,slow=4.6,SNR=7.8
MKAR ScP ScP 10 20 08.4 -0.4
comp=Z,2.2nm,0.7s,baz=108,slow=4.1,SNR=4.1
MKAR S **S** **10 22 42.8 +1.3**
comp=Z,2.8nm,1.1s,baz=94,slow=13,SNR=8.5
MKAR Makanchi Array 53.48 312 P **P 10 15 21.7 +0.2**
MKAR 10 16 26.3
MKAR S **S** **10 22 42.8 +1.3**
ARMA Armidale 53.70 170 *e*P **P 10 15 22.5 -0.7**
NVS Novosibirsk 54.02 322 *e*P **P 10 15 23.4 -1.9**
NVS *e*S **S** **10 22 41.8 -6.7**
NVS pmax pmax
comp=N,12nm,1.4s
NVS pmax pmax
comp=E,34nm,1.4s
NVS pmax pmax
comp=Z,50nm,1.4s,mb5.0
NVS smax
comp=N,16nm,1.7s
NVS smax
comp=E,13nm,1.8s
STKA Stephens Creek 54.46 181 *e*P **P 10 15 27.0 -1.6**
comp=E,8.0nm,0.3s,mb4.9

STKA **Stephens Creek** 54.46 181 P P 10 15 27.1 -1.5
comp=E,10nm,0.3s,mb5.0,baz=10,slow=7.8,SNR=60
STKA S S 10 22 54.0 -0.7
comp=E,5.5nm,1.2s,baz=286,slow=18,SNR=2.8
FORT Forrest 55.14 195 *eP* P 10 15 32.7 -0.8
comp=E,85nm,0.7s,mb5.6
FORT *e*pP pP 10 16 17.2 +6.4
VIS Vishakhapatnam 55.49 276 *eP* P 10 15 36.2 -0.2
PTH Pithoragarh 55.77 291 *eP* P 10 15 39.0 +0.8
KURK Kurchatov 56.23 317 P P 10 15 41.4 +0.3
comp=E,641nm,0.9s,mb6.5,SNR=59
KURK Kurchatov 56.23 317 P P 10 15 41.1 0.0
comp=E,116nm,0.7s,mb5.8,baz=93,slow=7.8,SNR=271
KURK S S 10 23 18.4 +0.5
comp=E,4.6nm,1.2s,baz=94,slow=13,SNR=10
KURK LR LR 10 40 52.2
comp=E,96nm,18.3s,baz=200,slow=37
KURK PKP2bc 10 45 46.9
comp=E,0.7nm,0.8s,baz=283,slow=2.8,SNR=3.9
SVW2 Sparrevohn 56.68 31 *eP* P 10 15 44.7 +0.6
KDAK Kodiak Island 57.56 35 P P 10 15 49.0 -1.3
comp=E,157nm,0.9s,mb5.8,SNR=7.7
KDAK Kodiak Island 57.56 35 P P 10 15 48.8 -1.5
comp=E,6.1nm,0.3s,mb4.9,baz=274,slow=5.0,SNR=16
KDAK LR LR 10 40 49.5
comp=E,97nm,19.8s,baz=288,slow=36
ULHL Ulahol 57.73 306 P P 10 15 53.3 +1.5
SNR=19
AFI Afiamalu 57.75 125 P P 10 15 50.7 -1.5
comp=E,15nm,0.8s,mb4.9,baz=300,slow=8.1,SNR=3.7
AFI LR LR 10 36 50.9
comp=E,47nm,20.5s,baz=337,slow=32
SMLA Simla 58.13 293 *eP* P 10 15 55.2 +0.4
TKM2 Tokmak 2 58.17 307 *eP* P 10 15 56.1 +1.2
TKM2 pmax pmax
comp=Z,34nm,0.6s,mb5.3
TKM2 Tokmak 2 58.17 307 P P 10 15 56.4 +1.5
SNR=54
TKM2 Tokmak 2 58.17 307 *eP* P 10 15 56.1 +1.2
comp=Z,34nm,0.6s,mb5.3
CNB Canberra Magne 58.23 173⇑*iP* P 10 15 55.0 -0.3
KZA Kyzart 58.48 306 P P 10 15 59.5 +2.5
SNR=11
NDI New Delhi 58.50 291 *eP* P 10 15 56.0 -1.4
comp=Z,12nn,0.7s,mb4.8
NGP Nagpur 58.50 281 *eP* P 10 15 55.0 -2.5
KBK Karagaybulak 58.67 307 P P 10 15 59.8 +1.5
SNR=16
IMA2 Indian Mountai 58.71 25 *eP* P 10 15 58.5 +0.3
FRU Bishkek 58.90 307 *i* P P 10 16 00.0 +0.1
FRU pmax pmax
comp=Z,80nm,1.9s,mb5.2
USP Ospenovka 58.96 308 P P 10 16 01.2 +0.8
SNR=17
AAK Ala-Archa 59.00 307 P P 10 16 01.7 +1.0
SNR=18
THN Thein Dam 59.14 295 *eP* P 10 16 01.0 -0.8
KLBR Kellerberrin 59.15 205⇑*iP* P 10 16 00.9 -0.8
comp=Z,82nm,0.8s,mb5.6
SLKM Skilak Lake 59.15 32 *eP* P 10 16 00.3 -1.1
BPAW Bear Paw Mtn. 59.39 28 *eP* P 10 16 02.7 -0.2
comp=Z,22nm,0.8s,mb5.0
SEW Seward 59.48 33 *eP* P 10 16 02.6 -1.0
EKS2 Erkin-Say 59.53 307 P P 10 16 05.4 +1.1
SNR=13
EKS2 Erkin-Say 59.53 307 *eP* P 10 16 05.3 +1.0
comp=Z,16nn,0.9s,mb4.8
AML Almayashu 59.63 306 P P 10 16 07.0 +2.0
SNR=10.0
AML Almayashu 59.63 306 *eP* P 10 16 06.8 +1.8
comp=Z,49nm,1.0s,mb5.3
PMR Palmer 59.83 31 *eP* P 10 16 03.2 -2.8
PMR pmax pmax
comp=Z,31nm,1.0s,mb5.1
PMR Palmer 59.83 31 *eP* P 10 16 03.2 -2.8
comp=Z,31nm,1.0s,mb5.1
HYB Hyderabad 59.95 277 *eP* P 10 16 07.5 0.0
HYB pmax pmax
comp=Z,114nm,0.8s,mb5.8
HYB Hyderabad 59.95 277 *i* P P 10 16 07.5 0.0
comp=Z,114nm,0.8s,mb5.8
HYB Hyderabad 59.95 277 *eP* P 10 16 07.5 0.0
comp=Z,114nm,0.8s,mb5.8
MUN Mundaring 60.10 206⇓*iP* P 10 16 08.1 -0.1
TOO Toolangi 60.19 177⇑*iP* P 10 16 08.8 +0.1
COLD Coldfoot 60.33 24 *eP* P 10 16 09.9 +0.7
comp=Z,12nn,1.0s,mb4.7
AKL Akola 60.45 282 *eP* P 10 16 11.4 +0.5
NWAO Narrogin (SRO) 60.54 204 *eP* P 10 16 11.2 +0.1
NWAO pmax pmax
comp=Z,62nn,0.9s
NWAO Narrogin (SRO) 60.54 204 *eP* P 10 16 11.2 0.0
comp=Z,62nn,0.9s,mb5.4
COLA College 60.86 27 *eP* P 10 16 12.1 -0.8
comp=Z,6.2nn,0.8s,mb4.5
VOSK Vostochnaya 61.05 319 P P 10 16 13.8 -0.6
VOSK pmax pmax
comp=Z,148nn,1.7s,mb5.5
AJM Ajmer 61.18 289 *i* P P 10 16 15.0 -0.8
BVA0 Borovoye Array 61.41 319 *i* P P 10 16 17.0 +0.2
BVA0 pmax pmax
comp=Z,28nn,0.6s,mb5.3
BVAR Borovoye Array 61.41 319 P P 10 16 16.9 +0.1
comp=Z,134nn,0.6s,mb5.9,baz=92,slow=7.9,SNR=496
BVAR S S 10 24 26.0 +1.3
comp=Z,1.1nn,0.7s,baz=82,slow=12,SNR=5.3
BVAR LR LR 10 46 21.2
comp=Z,73nn,20.2s,baz=203,slow=39
BRVK Borovoye 61.47 319 P P 10 16 17.2 0.0
comp=Z,2um,0.8s,SNR=46
BRVK Borovoye 61.47 319 P P 10 16 17.7 +0.5
SNR=50
BRVK Borovoye 61.47 319 *eP* P 10 16 17.0 -0.2
BRVK pmax pmax
comp=Z,259nn,0.8s,mb6.1
BRVK Borovoye 61.47 319 *eP* P 10 16 17.0 -0.3
comp=Z,259nn,0.8s,mb6.1
KK31 Karatay Array 61.88 308 *i* P P 10 16 20.3 +0.1
KK31 pmax pmax
comp=Z,36nn,0.6s,mb5.4
KOD Kodaikanal 63.23 270 *eP* P 10 16 30.0 +0.4
KOD AMb AMB 10 16 31.3
comp=Z,108nn,1.1s,mb5.6
POO Poona 63.92 280 *eP* P 10 16 33.8 -0.2
POO AMb AMB 10 16 34.0
comp=Z,60nn,0.1s,mb6.3
KAD Karad 63.97 279 *eP* P 10 16 34.2 -0.1
KAD *eP* 10 16 34.2
KBL Kabul 64.27 299 *eP* P 10 16 36.7 +0.6
KBL pmax pmax
comp=Z,119nn,0.8s,mb5.8
KBL Kabul 64.27 299 *eP* P 10 16 36.7 +0.6
comp=Z,119nn,0.8s,mb5.8
DAWY Dawson 64.45 28 *eP* P 10 16 37.1 +0.4
HYT Haines Junctio 65.41 32 *eP* P 10 16 43.8 +0.8
SVE Sverdlovsk 66.79 324⇓*eP* P 10 16 51.9 +0.1
SVE pmax pmax
comp=Z,49nn,0.9s,mb5.3
ARU Arti 67.98 323 P P 10 16 59.6 +0.3
comp=Z,309nn,0.9s,mb6.0,SNR=9.4
ARU Arti 67.98 323*c iP* P 10 16 58.8 -0.5
ARU *e* 10 17 20.7
ARU *e**PP pP 10 17 34.4 -3.6
ARU *eS* S 10 25 44.5 -0.6
ARU pmax pmax
comp=Z,24nn,1.0s,mb4.9
ARU Arti 67.98 323 *eP* P 10 16 58.9 -0.4
comp=Z,36nn,0.8s,mb5.2
AB31 Akbulak array 68.31 316 P P 10 17 01.2 -0.3
AB31 pmax pmax
comp=Z,40nn,0.5s,mb5.4
URZ Urewera 68.92 151 P P 10 17 03.3 -2.0
comp=Z,12nn,0.8s,mb4.7,baz=255,slow=5.9,SNR=5.0
URZ LR LR 10 44 08.6
comp=Z,96nn,21.2s,baz=72,slow=33
AKTK Aktyubinsk 69.32 317 P P 10 17 07.2 -0.5
AKTO Aktyubinsk 69.32 317 P P 10 17 07.2 -0.5
comp=Z,17nn,0.7s,mb4.9,baz=90,slow=6.9,SNR=36
DLBC Dease Lake 69.46 34 *eP* P 10 17 09.4 +0.9
RPZ Rata Peaks 71.25 159 P P 10 17 16.5 -2.8
comp=Z,38nn,0.9s,mb5.1,baz=336,slow=2.5,SNR=10
ABKT Ailbek 72.11 304 P P 10 17 25.0 +0.2
comp=Z,231nn,1.0s,mb5.9,SNR=10
SPITS Spitsbergen Ar 74.57 350 P P 10 17 37.9 -0.7
comp=Z,2.9nn,0.4s,mb4.2,baz=52,slow=9.7,SNR=8.7
YKW3 Yellowknife Ar 75.65 28 *eP* P 10 17 45.0 +0.1

YKA Yellowknife Ar 75.68 28 P P 10 17 44.4 -0.7
comp=Z,7.4nn,0.6s,mb4.5,baz=292,slow=5.8,SNR=12
YKA pP pP 10 18 23.0 -1.5
comp=Z,2.1nn,0.6s,baz=291,slow=6.0,SNR=1.6
YKA LR LR 10 50 33.9
comp=Z,35nn,18.1s,baz=80,slow=35
YKA Yellowknife Ar 75.68 28 P P 10 17 44.4 -0.7
YKA *PP pP 10 18 23.1 -1.5
NLWA Neilton Lookou 75.83 44 ⇓P P 10 17 46.5 +0.2
baz=76
B04A Port Angeles 75.86 44 ⇑P P 10 17 47.0 +0.6
baz=76
WBK Wadi Bani Khal 75.95 289 ⇑P P 10 17 47.9 +0.5
SNR=6.6
APA Apatity 76.06 338⇑*iP* P 10 17 46.8 -0.4
APA *i* *PP pP 10 18 25.0 -1.7
APA pmax pmax
comp=Z,31nm,1.0s,mb4.9
APA MLR MLR
comp=Z,400nm,25.0s
E03A Lebam 76.30 45 ⇑P P 10 17 49.6 +0.7
baz=76
BIDO Bidbid 76.39 290 ⇑P P 10 17 50.9 +1.1
SNR=9.6
KLMR Klimovskoe 76.40 331 *i* P P 10 17 48.2 -1.0
KLMR pmax pmax
comp=Z,52nn,1.6s,mb4.9
JMDO Jabal Madar 76.78 289 P P 10 17 52.6 +0.5
SNR=7
A06A Chilliwack 76.79 42 ⇓P P 10 17 52.0 +0.3
baz=77
JCW Jim Creek 76.81 43 *eP* P 10 17 51.5 -0.2
JCW *e*pP pP 10 18 31.9 +0.6
KEV Kevo 77.06 341 *ep* P 10 17 51.9 -0.9
comp=Z,14nn,0.6s,mb4.8
KEV Kevo 77.06 341 *eP* P 10 17 51.9 -0.9
KEV pmax pmax
comp=Z,14nn,0.6s,mb4.8
HOQ Hoqain 77.07 290 ⇑P P 10 17 54.2 +0.5
SNR=13
H03A Soap Creek Ran 77.09 47 ⇓P P 10 17 54.1 +0.7
baz=77
D05A Enumclaw 77.11 44 ⇑P P 10 17 53.8 +0.3
baz=77
C05A Tolt Reservoir 77.13 44 ⇓P P 10 17 53.5 0.0
baz=77
F04A Amboy 77.25 45 ⇓P P 10 17 54.2 -0.1
baz=77
J02A Umpqua 77.33 48 ⇓P P 10 17 55.4 +0.6
baz=77
I03A Eugene 77.33 48 ⇓P P 10 17 55.2 +0.4
baz=77
BSY Bisya 77.45 289 P P 10 17 56.1 +0.3
SNR=7.5
M01C Crescent City 77.45 50 ⇓P P 10 17 55.6 +0.1
baz=77
G04A Mulino 77.46 46 ⇑P P 10 17 56.0 +0.5
baz=77
A07A Ashnola River, 77.48 42 ⇑P P 10 17 55.5 0.0
baz=77,SNR=5.1
PPT Papeete 77.55 115 *e*LR LR 10 41 08.4
comp=Z,188nm,34.0s
PPT Papeete 77.55 115 LR LR 10 49 06.4
comp=Z,151nm,19.1s,baz=307,slow=33
ARCES ARCESS Array B 77.62 341 P P 10 17 55.0 -0.9
comp=Z,21nn,0.6s,mb4.9,baz=73,slow=8.5,SNR=116
ARCES pP pP 10 18 32.4 -3.2
comp=Z,10nn,0.9s,baz=72,slow=7.8,SNR=2.0
ARE0 ARCESS Array S 77.62 341 *eP* P 10 17 55.6 -0.3
HATD Hatta, Dubai 77.67 292 ⇑P P 10 17 57.7 +0.7
SNR=9.4
L02A Cave Junction 77.72 49 ⇓P P 10 17 57.7 +0.7
baz=78
H04A Detroit Lake 77.83 47 ⇓P P 10 17 57.7 +0.2
baz=78
D06A Cle Elum 77.84 44 ⇓P P 10 17 57.7 +0.2
baz=78
B07A Winthrop 77.85 42 ⇓P P 10 17 57.6 +0.1
baz=78,SNR=6.8
F05A White Salmon 77.90 45 ⇓P P 10 17 58.0 +0.2
baz=78
E06A Yakima 77.98 45 ⇑P P 10 17 58.4 0.0
baz=78
I04A Tendick Farm, 77.98 48 ⇓P P 10 17 58.4 0.0
baz=78
HUMO Hull Mountain 78.02 49 ⇑P P 10 17 58.6 0.0
baz=78
HUMO Hull Mountain 78.02 49 *eP* P 10 17 59.0 +0.4
ETW Entiat 78.02 43 *eP* P 10 17 58.3 -0.2
C07A Waterville 78.16 43 ⇑P P 10 17 59.0 -0.3
baz=78
A08A Turner Farm, O 78.20 42 ⇓P P 10 17 59.8 +0.3
baz=78,SNR=5.8
G05A Wamic 78.22 46 ⇓P P 10 18 00.1 +0.5
baz=78
O01C Eel River Cons 78.25 51 ⇑P P 10 18 00.2 +0.3
baz=78
B08A Colville Reser 78.38 42 ⇓P P 10 18 00.3 -0.2
baz=78,SNR=8.6
N02C Big Bar 78.38 51 ⇓P P 10 18 00.7 +0.1
baz=78
J04A Umpqua Nationa 78.38 48 ⇑P P 10 18 00.9 +0.4
baz=78
D07A Quincy 78.40 44 ⇓P P 10 18 01.0 +0.4
baz=78
H05A Madras 78.48 46 ⇑P P 10 18 01.4 +0.3
baz=78
YBH Yreka Blue Hor 78.49 50 P P 10 18 01.3 +0.1
comp=Z,5.2nn,0.7s,mb4.2,baz=276,slow=2.3,SNR=8.8
YBH Yreka Blue Hor 78.49 50 ⇑P P 10 18 01.7 +0.5
baz=78
YBH Yreka Blue Hor 78.49 50 *eP* P 10 18 01.1 -0.1
YBH *e*pP pP 10 18 41.8 +0.8
M02C Callahan 78.50 50 ⇑P P 10 18 01.8 +0.5
baz=78
KCPM Cahto Peak 78.57 52 *eP* P 10 18 01.7 0.0
A09A Danville 78.62 42 ⇓P P 10 18 02.0 +0.3
baz=78
I05A Bend 78.63 47 ⇓P P 10 18 02.2 +0.3
baz=78
G06A Carlson Farm, 78.67 46 ⇑P P 10 18 02.6 +0.5
baz=79
E07A Sunnyside 78.70 44 ⇑P P 10 18 02.8 +0.5
baz=79
C08A Higginbotham F 78.77 43 ⇓P P 10 18 02.6 0.0
baz=79
K04A Chilquin 78.86 48 ⇑P P 10 18 03.3 +0.1
baz=79
F07A Phinny Hill Vi 78.89 45 ⇑P P 10 18 03.3 0.0
baz=79
L04A Klamath Falls 78.91 49 ⇑P P 10 18 03.8 +0.4
baz=79
RSW Rattlesnake Hi 78.93 44 *eP* P 10 18 04.1 +0.6
J05A Fort Rock 78.96 48 ⇑P P 10 18 04.1 +0.4
baz=79
HAWA Hanford 78.97 44 *eP* P 10 18 03.6 -0.2
comp=Z,41nn,1.8s,mb4.8
O02C Red Bluff 78.97 51 ⇓P P 10 18 04.0 +0.1
baz=79
JOF Joensuu 79.01 334 *ep* P 10 18 01.5 -2.1
comp=Z,35nn,0.7s,mb5.1
JOF Joensuu 79.01 334 *eP* P 10 18 01.5 -2.1
JOF pmax pmax
comp=Z,35nn,0.7s,mb5.1
WDC Whiskeytown Da 79.01 51 ⇑P P 10 18 04.4 +0.3
baz=79
H06A Lindquist Farm 79.05 46 ⇑P P 10 18 04.4 +0.3
baz=79
M03C McCloud 79.06 50 ⇓P P 10 18 04.4 +0.1
baz=79
VRHR Novokhopersk 79.07 321 *eP* P 10 18 03.2 -1.0
VRHR pmax pmax
comp=Z,90nn,0.6s,mb5.6
VRHR pmax pmax
comp=N,20nm,0.5s
VRHR pmax pmax
comp=E,30nm,0.6s
M04C Macdoel 79.08 49 ⇓P P 10 18 04.5 +0.1
baz=79
B09A Rice 79.09 42 ⇑P P 10 18 04.6 +0.3
baz=79
D08A Wollman Farm, 79.12 44 ⇓P P 10 18 04.5 0.0
baz=79,SNR=6.0
OD2 Odessa Site #2 79.12 43 *eP* P 10 18 03.9 -0.7
HOPS Hopland 79.18 52 ⇓P P 10 18 05.0 -0.1
baz=79
GASB Alder Springs 79.21 52 ⇑P P 10 18 05.5 +0.3
baz=79
E08A Dider Farm, El 79.24 44 ⇓P P 10 18 05.2 0.0
baz=79
A10A Northport 79.24 41 ⇑P P 10 18 05.7 +0.5
baz=79
C09A Chrisman Ranch 79.25 43 ⇓P P 10 18 05.1 -0.1
baz=79
G07A Ruggs Ranch, H 79.29 45 ⇓P P 10 18 05.8 +0.3
baz=79
MOS Moscow 79.38 326 *eP* P 10 18 02.4 -3.3
MOS pmax pmax
comp=Z,49nm,0.9s,mb5.1
K05A Summer Lake 79.40 48 ⇓P P 10 18 06.7 +0.6
baz=79
I06A Prineville 79.42 47 ⇑P P 10 18 06.4 +0.2
baz=79,SNR=6.0
D09A Jones Farm, Ri 79.50 43 ⇑P P 10 18 06.7 +0.1
baz=79,SNR=9.1
H07A Lands Inn, Kim 79.61 46 ⇑P P 10 18 07.6 +0.4
baz=80
F08A Pendleton 79.68 45 ⇓P P 10 18 08.0 +0.4
baz=80,SNR=7.8
MNRC McLaughlin Nat 79.68 52 ⇑P P 10 18 08.2 +0.4
baz=80
L05A Lakeview 79.69 49 ⇓P P 10 18 07.7 0.0
baz=80
NSHM Saint Helena R 79.69 53 *eP* P 10 18 07.8 0.0
FARB Farallon Islan 79.69 53 ⇑P P 10 18 07.8 -0.1
baz=80
B10A Chitwood Farm, 79.71 42 ⇑P P 10 18 08.2 +0.5
baz=80
J06A Christmas Vall 79.71 47 ⇑P P 10 18 08.0 +0.2
baz=80
M05C Lookout 79.72 50 ⇓P P 10 18 08.1 +0.2
baz=80
G08A Pilot Rock 79.75 45 ⇑P P 10 18 08.3 +0.4
baz=80
NEW Newport 79.78 42 *eP* P 10 18 08.3 +0.2
NEW pmax pmax
comp=Z,11nm,0.9s
NEW Newport 79.78 42 *eP* P 10 18 08.3 +0.2
comp=Z,11nn,0.9s,mb4.5
K06A Valley Falls 79.81 48 ⇓P P 10 18 08.4 +0.1
baz=80
C10A Spilker Farm, 79.84 42 ⇓P P 10 18 08.8 +0.4
baz=80
I07A Izee 79.84 46 ⇓P P 10 18 08.8 +0.4
baz=80
CVS Carmenet Viney 79.86 53 ⇑P P 10 18 08.8 +0.1
baz=80
LNOR Lincton Mounta 79.97 44 *eP* P 10 18 08.5 -0.6
A11A Hall Mountain, 79.98 41 ⇓P P 10 18 09.4 +0.3
baz=80
EDM Edmonton 79.98 36 *eP* P 10 18 09.2 +0.2
EDM *e**PP pP 10 18 49.9 +1.0
Q03C Winters 80.08 52 ⇓P P 10 18 10.3 +0.4
baz=80
MOD Modoc 80.11 49 ⇓P P 10 18 10.2 +0.2
baz=80
MOD Modoc 80.11 49 *eP* P 10 18 09.4 -0.6
comp=Z,12nn,1.2s,mb4.4
ORV Oroville 80.12 51 ⇑P P 10 18 10.0 -0.1
baz=80
O04C Chester 80.14 50 ⇑P P 10 18 10.4 +0.2
baz=80
D10A Wagner Farm, O 80.16 43 ⇓P P 10 18 09.9 -0.2
baz=80
B11A Sandpoint 80.18 42 ⇑P P 10 18 10.4 +0.1
baz=80
OBN Obninsk 80.19 326⇓*iP* P 10 18 10.0 -0.1
OBN *e* 10 21 15.2
OBN *i* S S 10 27 59.3 -2.1
OBN *e*SS SS 10 33 09.5 -5.5
OBN pmax pmax
comp=Z,79nm,1.6s,mb5.1
H08A Prairie City 80.23 46 ⇓P P 10 18 10.8 +0.2
baz=80
J07A Hines 80.24 47 ⇓P P 10 18 11.0 +0.3
baz=80,SNR=8.7
M06C Likely Place G 80.24 49 ⇓P P 10 18 11.0 +0.3
baz=80
F09A S2 Ranch, Elgi 80.27 45 ⇓P P 10 18 11.0 +0.2
baz=80
JRSC Jasper Ridge 80.36 54 ⇑P P 10 18 11.6 +0.2
baz=80
O05C Quincy 80.39 51 ⇑P P 10 18 11.6 +0.1
baz=80
A12A Yaak River Ran 80.42 41 ⇓P P 10 18 12.1 +0.6
baz=80,SNR=9.7
VSR Storozhevoye 80.44 322*c iP* P 10 18 11.1 -0.4
VSR *e**PP pP 10 18 52.6 +1.1
VSR *eS* S 10 28 02.2 -2.0
VSR *e*SS SS 10 33 16.4 -2.5
VSR pmax pmax
comp=Z,20nm,0.7s,mb4.9
VSR pmax pmax
comp=N,7.0nm,0.5s
VSR pmax pmax
comp=E,20nm,0.6s
VSR smax
comp=E,50nm,1.4s
VSR smax
comp=Z,10.0nm,2.5s
VSR smax
comp=N,40nm,1.4s
BDM Black Diamond 80.44 53 ⇓P P 10 18 12.0 +0.2
baz=80
TBI Tubuai 80.47 120 *e*LR LR 10 42 33.6
comp=N,94nm,39.0s
Q04C Lincoln 80.47 52 ⇑P P 10 18 12.2 +0.2
baz=80
C11A Tepee Creek (N 80.48 42 ⇑P P 10 18 12.0 +0.1
baz=80,SNR=8.0
E10A Myers Farm, Un 80.48 44 ⇓P P 10 18 12.1 +0.2
baz=80
G09A Cove 80.52 45 ⇓P P 10 18 12.1 0.0
baz=80
I08A Drewsey 80.53 46 ⇓P P 10 18 12.4 +0.2
baz=80,SNR=7.3
K07A Rock Creek Ran 80.54 48 ⇓P P 10 18 12.3 +0.1
baz=80,SNR=12
F10A Beach Ranch, E 80.61 44 ⇓P P 10 18 12.9 +0.4
baz=80
B12A Libby 80.64 41 ⇓P P 10 18 13.2 +0.5
baz=80
L07A Adell 80.73 48 ⇑P P 10 18 13.6 +0.3
baz=81,SNR=10.0
D11A Klaveano Farm, 80.75 43 ⇑P P 10 18 13.0 -0.3
baz=81,SNR=8.2
J08A Circle Bar Ran 80.81 47 ⇑P P 10 18 13.7 +0.1
baz=81,SNR=8.1
BEKR Beckwourth 80.83 51 ⇑P P 10 18 13.5 -0.3
baz=81,SNR=10
H09A Durkee 80.84 45 ⇑P P 10 18 13.6 -0.2
baz=81
P05C Yuba Gap, Truc 80.86 51 ⇓P P 10 18 13.9 -0.1
baz=81
N06A Buffalo Meadow 80.86 50 ⇑P P 10 18 14.1 +0.1
baz=81
G10A Bishop Farm, J 80.95 45 ⇑P P 10 18 14.2 -0.2
baz=81,SNR=21
BMO Blue Mountains 81.00 45 *eP* P 10 18 14.4 -0.3
BMO *e**PP pP 10 18 54.7 +0.1
BMO pmax pmax
comp=Z,17nm,1.4s,mb4.5
BMO Blue Mountains 81.00 45 *eP* P 10 18 14.4 -0.2
comp=Z,17nn,1.4s,mb4.5
BMO *e*pP pP 10 18 54.7 0.0
C12B Naegeli Ranch, 81.02 42 ⇓P P 10 18 14.9 +0.2
baz=81
K08A Mann Creek Ran 81.04 47 ⇑P P 10 18 15.0 +0.1
baz=81,SNR=16
WVOR Wild Horse Val 81.05 48 *eP* P 10 18 11.8 -3.2
WVOR pmax pmax
comp=Z,7.0nm,0.9s,mb4.3
WVOR Wild Horse Val 81.05 48 *eP* P 10 18 11.8 -3.2
comp=Z,7.1nm,0.9s,mb4.3
I09A Lost Marbles R 81.06 46 ⇓P P 10 18 15.1 +0.1
baz=81
O06A Flanigan 81.09 50 ⇑P P 10 18 15.3 0.0
baz=81,SNR=7.5
E11A Bogner Ranch, 81.11 43 ⇑P P 10 18 14.9 -0.3
baz=81,SNR=8.4
A13A Flathead Natio 81.16 41 ⇓P P 10 18 15.7 +0.3
baz=81
KIV Kislovodsk 81.19 314 *eP* P 10 18 16.1 +0.4
KIV *eS* S 10 28 13.6 +1.3

KIV pmax pmax
comp=Z,62nm,1.0s,mb5.2
KIV MLR MLR
comp=Z,75nm,20.0s
KIV Kislovodsk 81.19 314 ⇓ *i*P **P 10 18 16.7 +1.0**
KIV Kislovodsk 81.19 314 *e*P **P 10 18 16.3 +0.6**
comp=Z,80nm,1.1s,mb5.3
PACP Pacheco Peak 81.22 54 ⇓P **P 10 18 15.7 -0.2**
baz=81
GNI Garni 81.26 310 ⇓P **P 10 18 17.2 +1.1**
SNR=6.4
GNI Garni 81.26 310 P **P 10 18 15.8 -0.3**
comp=Z,5.3nm,0.3s,mb4.6,baz=8.6,slow=14,SNR=5.8
GNI Garni 81.26 310 ⇑ *e*P **P 10 18 16.9 +0.8**
GNI pmax pmax
comp=Z,35nm,1.6s
GNI Garni 81.26 310 *e*P **P 10 18 17.2 +1.1**
comp=Z,27nm,1.1s,mb4.8
J09A Fry Pan Ranch, 81.30 47 ⇑P **P 10 18 16.3 +0.1**
baz=81,SNR=10
F11A Grangeville 81.33 44 ⇑P **P 10 18 15.8 -0.5**
baz=81,SNR=7.1
L08A Fields 81.35 48 ⇓P **P 10 18 16.7 +0.2**
baz=81,SNR=11
B13A Whitefish 81.36 41 ⇓P **P 10 18 16.9 +0.4**
baz=81,SNR=11
D12A Red Ives Fores 81.36 43 ⇓P **P 10 18 16.5 0.0**
baz=81
WALA Waterton Lakes 81.41 40 *e*P **P 10 18 17.1 +0.4**
comp=Z,13nm,0.8s,mb4.6
KAF Kangasniemi 81.41 335 *ep* **P 10 18 14.4 -2.1**
comp=Z,10nm,0.6s,mb4.6,baz=55,slow=4.9
KAF Kangasniemi 81.41 335 *e*P **P 10 18 14.4 -2.1**
KAF pmax pmax
comp=Z,11nm,0.6s,mb4.7
G11A Walters Elk Ra 81.46 44 ⇓P **P 10 18 16.6 -0.4**
baz=81,SNR=12
R05C Kirkwood Meado 81.47 52 ⇑P **P 10 18 16.9 -0.3**
baz=81
H10A Noah's Angus R 81.47 45 ⇓P **P 10 18 16.6 -0.5**
baz=81
E12A Beaver Dam Sad 81.49 43 ⇓P **P 10 18 17.3 +0.1**
baz=81,SNR=9.9
CMB Columbia Colle 81.49 52 *e*P **P 10 18 17.5 +0.1**
CMB *e**PP pP 10 18 57.5 +0.1
CMB pmax pmax
comp=Z,57nm,1.5s,mb5.0
CMB Columbia Colle 81.49 52 ⇓P **P 10 18 17.2 -0.2**
baz=81,SNR=12
CMB Columbia Colle 81.49 52 *e*P **P 10 18 17.5 +0.1**
comp=Z,57nm,1.5s,mb5.0
CMB *ep*P pP 10 18 57.5 +0.1
K09A Rome 81.57 47 ⇑P **P 10 18 17.5 -0.2**
baz=82
PAHR Pah Rah Range 81.58 51 *e*P **P 10 18 18.1 +0.3**
V03C Hunter Liggett 81.62 55 ⇑P **P 10 18 18.0 -0.1**
baz=82
I10A Payette 81.64 46 ⇓P **P 10 18 18.1 +0.1**
baz=82
O07A Toulon 81.76 50 ⇓P **P 10 18 18.8 0.0**
baz=82
S05C Merced 81.80 53 ⇑P **P 10 18 18.5 -0.5**
baz=82,SNR=5.6
U04C Hernandez Rese 81.83 54 ⇑P **P 10 18 19.3 +0.1**
baz=82
L09A Wilkinson Ranc 81.88 48 ⇑P **P 10 18 19.4 0.0**
baz=82
D13A Huson 81.90 42 ⇑P **P 10 18 18.6 -0.8**
baz=82
H11A Donnelly 81.90 45 ⇑P **P 10 18 18.7 -0.7**
baz=82,SNR=8.8
RBK Rabkut 81.91 286 P **P 10 18 20.2 +0.3**
SNR=7.5
S06C San Francisco 81.94 52 ⇑P **P 10 18 19.8 0.0**
baz=82
F12A Elk City 81.96 44 ⇓P **P 10 18 19.6 0.0**
baz=82
R06C Coleville 81.99 52 ⇓P **P 10 18 19.6 -0.4**
baz=82
N08A GE Springer Mi 82.04 49 ⇑P **P 10 18 20.1 -0.1**
baz=82,SNR=6.3
C14A Swan Lake 82.06 41 ⇓P **P 10 18 20.1 0.0**
baz=82
B14A Marquette Ranc 82.09 41 ⇑P **P 10 18 20.3 0.0**
baz=82
K10A MacKenzie Ranc 82.11 47 ⇑P **P 10 18 20.6 0.0**
baz=82
A15A Johnson Ranch, 82.14 40 ⇓P **P 10 18 20.4 -0.1**
baz=82,SNR=12
WHFO Wadi Hawf 82.15 286 ⇓P **P 10 18 21.5 +0.3**
SNR=5.4
PKD Parkfield 82.17 54 ⇑P **P 10 18 20.9 -0.1**
baz=82,SNR=9.2
O08A Rochester Mine 82.22 50 ⇑P **P 10 18 21.2 0.0**
baz=82,SNR=11
I11A Placerville 82.26 46 ⇓P **P 10 18 21.1 -0.2**
baz=82
M09A Marrel Ranch, 82.26 48 ⇑P **P 10 18 21.3 -0.1**
baz=82
E13A Victor 82.35 43 ⇓P **P 10 18 21.8 +0.1**
baz=82
T06C Millerton Lake 82.39 53 ⇓P **P 10 18 21.7 -0.4**
baz=82,SNR=7.3
D14A Greenough 82.50 42 ⇑P **P 10 18 22.0 -0.4**
baz=82
F13A Darby 82.53 43 ⇑P **P 10 18 22.2 -0.4**
baz=82
B15A Bradely Ranch, 82.54 41 ⇓P **P 10 18 22.5 -0.2**
baz=82,SNR=8.0
KCC Kaiser Creek 82.55 53 ⇑P **P 10 18 22.5 -0.4**
baz=82
MFID Camas Ranch 82.55 46 ⇑P **P 10 18 22.9 0.0**
baz=82,SNR=15
L10A Juniper Basin 82.67 47 ⇑P **P 10 18 23.5 0.0**
baz=82,SNR=7.1
K11A Parker Ranch, 82.68 47 ⇑P **P 10 18 23.4 -0.1**
baz=83,SNR=10
H12A Diamond D Ranc 82.72 45 ⇓P **P 10 18 23.7 0.0**
baz=83
CHMT Chamberlain Mo 82.73 42 *e*P **P 10 18 24.0 +0.3**
C15A Salmond Ranch, 82.75 41 ⇓P **P 10 18 23.8 +0.1**
baz=83
ABTO Aybut 82.77 286 ⇑P **P 10 18 24.5 +0.1**
SNR=10
BMN Battle Mountai 82.82 49 *e*P **P 10 18 24.2 -0.1**
A16A West Butte Ran 82.83 40 ⇑P **P 10 18 24.1 0.0**
baz=83,SNR=17
M10A I.L. Ranch, Tu 82.85 48 ⇓P **P 10 18 24.2 -0.2**
baz=83
NVAR Mina Array Bea 82.85 51 P **P 10 18 24.3 -0.2**
comp=Z,3.6nm,0.7s,mb4.2,baz=286,slow=5.2,SNR=25
NVAR pP pP 10 19 02.3 -2.3
comp=Z,12nm,0.9s,baz=273,slow=5.8,SNR=4.9
G13A Cobalt 82.89 44 ⇓P **P 10 18 24.1 -0.4**
baz=83,SNR=18
O09A Fish Creek Ran 82.95 49 ⇑P **P 10 18 25.1 +0.1**
baz=83
Q08A Gabbs 82.95 51 ⇑P **P 10 18 25.1 +0.1**
baz=83
RCTC Rector, Farmer 83.00 54 ⇑P **P 10 18 25.1 -0.2**
baz=83
UMR Umm Al-Rimmam 83.01 299 *e*P **P 10 18 25.3 -0.2**
baz=299
UMR AMb AMB 10 18 26.0
comp=Z,96nm,0.5s,mb5.8,baz=299
HELL Mitchell Peak 83.02 53 ⇑P **P 10 18 24.8 -0.5**
baz=83
R08A Mina 83.03 51 ⇓P **P 10 18 25.2 -0.1**
baz=83
H13A Challis 83.10 45 ⇓P **P 10 18 25.4 -0.2**
baz=83
J12A Stokes Ranch, 83.11 46 ⇑P **P 10 18 25.3 -0.3**
baz=83
L11A Cat Creek Ranc 83.12 47 ⇑P **P 10 18 25.8 0.0**
baz=83,SNR=8.1
PKM Peak Mountain 83.12 55 ⇑P **P 10 18 25.9 0.0**
baz=83
KBD Kabd 83.17 299 *e*P **P 10 18 26.0 -0.3**
baz=299
KBD AMb AMB 10 18 26.9
comp=Z,65nm,0.4s,mb5.7,baz=299
MIB Mutribah 83.22 299 *e*P **P 10 18 26.3 -0.2**
baz=299
MIB AMb AMB 10 18 27.6
comp=Z,230nm,0.8s,mb6.0,baz=299
P09A Austin 83.23 50 ⇓P **P 10 18 26.4 0.0**
baz=83
VSU Vasula 83.24 332 *c i*P **P 10 18 24.6 -1.4**
C16A Fuhringer Ranc 83.25 41 ⇑P **P 10 18 26.1 -0.2**
baz=83,SNR=12
VES Vestal, Richgr 83.30 54 ⇓P **P 10 18 26.6 -0.3**
baz=83
SOC Sochi 83.31 314 *e*P **P 10 18 26.6 -0.1**
SOC *e**PP pP 10 19 06.2 -0.7
SOC *e*PPP 10 23 41.3
SOC *e*S S 10 28 29.4 -4.5
SOC *e**SS sS 10 29 40.6 -2.9
SOC *e*SS SS 10 34 03.7 +1.8
SOC *e*SSS 10 37 30.4
SOC pmax pmax
comp=Z,2µm,0.6s
E15A Deer Lodge 83.32 42 ⇓P **P 10 18 26.4 -0.3**
baz=83,SNR=13
S08C White Mtn Res 83.32 52 ⇓P **P 10 18 27.0 +0.1**
baz=83
O10A Cortez Mining, 83.38 49 ⇑P **P 10 18 27.5 +0.4**
baz=83
M11A Holland Ranch, 83.40 48 ⇑P **P 10 18 27.6 +0.4**
baz=83
HLID Hailey 83.43 45 ⇑P **P 10 18 27.4 +0.1**
baz=83
HLID Hailey 83.43 45 *e*P **P 10 18 27.6 +0.3**
I13A Wildhorse Cree 83.47 45 ⇓P **P 10 18 27.7 +0.1**
baz=83
K12A Draper Farm, C 83.50 46 ⇑P **P 10 18 27.9 +0.3**
baz=83
NAY Al-Naaiem 83.51 299 *e*P **P 10 18 27.7 -0.3**
baz=299
NAY AMb AMB 10 18 28.6
comp=Z,143nm,0.8s,mb5.8,baz=299
RST Umm Al-Ruwaisa 83.61 299 *e*P **P 10 18 28.0 -0.5**
baz=299
RST AMb AMB 10 18 28.9
comp=Z,198nm,0.7s,mb6.0,baz=299
L12A House Creek Ra 83.63 47 ⇑P **P 10 18 28.9 +0.5**
baz=84,SNR=8.9
H14A Leadore 83.65 44 ⇑P **P 10 18 28.8 +0.4**
baz=84
J13A Cove Ranch, Pi 83.65 46 ⇓P **P 10 18 28.6 +0.1**
baz=84
F15A Butte 83.67 43 ⇑P **P 10 18 28.5 0.0**
baz=84,SNR=8.8
P10A Eureka 83.68 50 ⇓P **P 10 18 28.8 +0.1**
baz=84
N11A Elko Archery C 83.69 48 ⇓P **P 10 18 28.5 -0.3**
baz=84
LRM Limekiln Ridge 83.70 43 *e*P **P 10 18 29.1 +0.4**
LRM *ep*P pP 10 19 10.2 +1.4
TPH Tonopah 83.78 51 *e*P **P 10 18 29.4 +0.2**
TPH *e**PP pP 10 19 10.7 +1.3
TPH pmax pmax
comp=Z,7.0nm,0.6s,mb4.6
TPH Tonopah 83.78 51 *e*P **P 10 18 29.4 +0.2**
comp=Z,7.1nm,0.6s,mb4.6
TPH *ep*P pP 10 19 10.7 +1.3
ARVC Arvin 83.78 55 ⇓P **P 10 18 29.3 +0.1**
baz=84
R09A Tonopah 83.82 51 ⇑P **P 10 18 29.5 +0.1**
baz=84,SNR=11
ISA Isabella 83.83 54 ⇓P **P 10 18 29.2 -0.3**
baz=84
ISA Isabella 83.83 54 *e*P **P 10 18 28.9 -0.6**
ISA *ep*P pP 10 19 08.3 -1.4
E16A East Helena 83.87 42 ⇑P **P 10 18 29.5 0.0**
baz=84
I14A Mackay 83.90 45 ⇑P **P 10 18 29.9 +0.3**
baz=84,SNR=9.1
S09A Goldfield 83.92 52 ⇓P **P 10 18 30.0 +0.1**
baz=84,SNR=16
C17A Wharram Farm, 83.92 41 ⇓P **P 10 18 29.4 -0.3**
baz=84
G15A Dillon 83.97 43 ⇑P **P 10 18 30.2 +0.1**
baz=84
M12A Wells 84.00 48 ⇓P **P 10 18 30.6 +0.4**
baz=84,SNR=16
O11A Cowboy Ranch, 84.03 49 ⇑P **P 10 18 30.4 0.0**
baz=84
K13A Stover Farm, H 84.03 46 ⇑P **P 10 18 31.0 +0.6**
baz=84
Q10A Clear Creek Ra 84.06 50 ⇓P **P 10 18 30.4 -0.2**
baz=84
ELK Elko 84.07 48 *e*P **P 10 18 31.1 +0.5**
ELK *e**PP pP 10 19 11.7 +0.8
GRAC Grapevine Rang 84.11 52 ⇓P **P 10 18 30.9 0.0**
baz=84
J14A Carey 84.12 45 ⇑P **P 10 18 31.3 +0.5**
baz=84,SNR=11
N12A Clover Valley, 84.16 48 ⇓P **P 10 18 30.8 -0.3**
baz=84
ANN Anapa 84.26 316 *e*P **P 10 18 29.0 -2.5**
ANN *e* 10 28 39.8
ANN pmax pmax
comp=Z,51nm,1.0s,mb5.2
S10A Tonopah Range, 84.29 51 ⇓P **P 10 18 32.0 +0.2**
baz=84
R10A Warm Springs 84.35 51 ⇑P **P 10 18 31.7 -0.4**
baz=84
L13A Double Diamond 84.37 47 ⇑P **P 10 18 31.6 -0.5**
baz=84
MPMC Manual Prospec 84.40 53 ⇓P **P 10 18 32.5 +0.1**
baz=84,SNR=9.2
E17A Martinsdale 84.40 42 ⇑P **P 10 18 31.6 -0.6**
baz=84
LRMC Laurel Mountai 84.49 54 ⇑P **P 10 18 32.5 -0.4**
baz=84
I15A Monteview 84.49 44 ⇑P **P 10 18 32.2 -0.5**
baz=84
EDW2 Edwards Air Fo 84.51 55 ⇓P **P 10 18 32.9 -0.1**
baz=84,SNR=8.8
M13A Montello 84.54 47 ⇑P **P 10 18 32.9 0.0**
baz=84,SNR=14
Q11A Duckwater 84.58 50 ⇑P **P 10 18 32.7 -0.5**
baz=84
O12A Currie 84.61 49 ⇓P **P 10 18 33.4 +0.1**
baz=84,SNR=15
K14A Jones Ranch, D 84.68 46 ⇑P **P 10 18 33.3 -0.4**
baz=84
FURC Furnace Creek, 84.70 53 ⇓P **P 10 18 33.7 -0.2**
baz=85,SNR=18
CIS Catalina Islan 84.79 56 ⇑P **P 10 18 34.3 -0.1**
baz=85
J15A Blackfoot 84.79 45 ⇑P **P 10 18 34.9 +0.7**
baz=85,SNR=13
QLMT Earthquake Lak 84.79 43 *e*P **P 10 18 35.1 +1.0**
QLMT *ep*P pP 10 19 16.5 +2.0
R11A Troy Canyon, C 84.83 51 ⇑P **P 10 18 34.6 +0.1**
baz=85,SNR=14
L14A Malta 84.87 46 ⇓P **P 10 18 34.7 +0.1**
baz=85
E18A Harlowton 84.93 41 ⇓P **P 10 18 35.2 +0.4**
baz=85
TPNV Topopah Spring 84.94 52 *e*P **P 10 18 35.4 +0.3**
TPNV pmax pmax
comp=Z,19nm,0.7s,mb4.9
TPNV Topopah Spring 84.94 52 ⇓P **P 10 18 35.3 +0.2**
baz=85
TPNV Topopah Spring 84.94 52 *e*P **P 10 18 35.4 +0.3**
comp=Z,19nm,0.7s,mb4.9
H16A Russell Place, 84.97 43 ⇓P **P 10 18 35.5 +0.5**
baz=85,SNR=13
S11A Rachel 85.02 51 ⇓P **P 10 18 35.5 +0.1**
baz=85
BFSC Mount Baldy St 85.02 55 ⇑P **P 10 18 35.7 +0.2**
baz=85
M14A Sheep Mountain 85.03 47 ⇑P **P 10 18 35.6 +0.2**
baz=85,SNR=20
K15A Arbon 85.05 46 ⇓P **P 10 18 35.4 -0.1**
baz=85
Q12A Willow Creek R 85.08 50 ⇓P **P 10 18 35.9 +0.2**
baz=85,SNR=5.3
U10A Ash Meadows, A 85.11 53 ⇑P **P 10 18 36.1 +0.2**
baz=85,SNR=19
FFC Flin Flon 85.12 32 *e*P **P 10 18 35.6 0.0**
FFC pmax pmax
comp=Z,30nm,0.9s,mb5.0
FFC Flin Flon 85.12 32 *e*P **P 10 18 35.6 0.0**
comp=Z,30nm,0.9s,mb5.0
YMR Madison River 85.16 43 *e*P **P 10 18 37.3 +1.3**
comp=Z,22nm,0.7s,mb5.0
I16A Newdale 85.19 44 ⇓P **P 10 18 36.3 +0.1**
baz=85
GSC Goldstone 85.22 54 *e*P **P 10 18 36.8 +0.3**
GSC pmax pmax
comp=Z,20nm,1.1s,mb4.8
GSC Goldstone 85.22 54 ⇓P **P 10 18 36.3 -0.2**
baz=85,SNR=12
GSC Goldstone 85.22 54 *e*P **P 10 18 36.8 +0.2**
comp=Z,20nm,1.1s,mb4.8
HVU Hansel Valley 85.29 47 *e*P **P 10 18 37.8 +1.1**
HVU pmax pmax
comp=Z,8.0nm,0.7s,mb4.6
HVU Hansel Valley 85.29 47 *e*P **P 10 18 37.8 +1.1**
comp=Z,7.7nm,0.7s,mb4.5
YNR Norris Junctio 85.32 43 *e*P **P 10 18 39.2 +2.4**
YNR *ep*P pP 10 19 21.0 +3.9
SHOC Shoshone 85.36 53 ⇓P **P 10 18 37.1 -0.1**
baz=85
F18A Big Timber 85.36 42 ⇑P **P 10 18 37.2 +0.2**
baz=85
J16A Bone 85.39 45 ⇓P **P 10 18 37.3 +0.1**
baz=85
N14A Grayback Hills 85.42 48 ⇑P **P 10 18 37.5 +0.1**
baz=85,SNR=19
L15A Malad City 85.45 46 ⇓P **P 10 18 37.5 0.0**
baz=85
P13A Bates Ranch, G 85.47 49 ⇑P **P 10 18 37.6 -0.1**
baz=85,SNR=11
BGU Big Grassy Mou 85.50 47 *e*P **P 10 18 37.8 +0.1**
R12A Pony Springs, 85.54 50 ⇓P **P 10 18 38.1 +0.1**
baz=85,SNR=5.4
RRI2 Red Ridge 85.54 45 *e*P **P 10 18 38.8 +0.9**
comp=Z,8.5nm,0.7s,mb4.6
T11A Corn Creek, Al 85.57 51 ⇑P **P 10 18 37.9 -0.3**
baz=85,SNR=16
K16A Soda Springs 85.60 45 ⇓P **P 10 18 38.3 +0.1**
baz=86
MURC Murrieta 85.63 55 ⇓P **P 10 18 38.2 -0.3**
baz=86
M15A Larsen Ranch, 85.65 47 ⇑P **P 10 18 38.3 -0.2**
baz=86
S12A Delamar Landin 85.68 51 ⇑P **P 10 18 38.9 +0.2**
baz=86
Q13A Wheeler Ranch, 85.68 50 ⇑P **P 10 18 38.5 -0.2**
baz=86
TPAW Teton Pass 85.71 44 *e*P **P 10 18 39.6 +0.9**
SPUT South Promonto 85.72 47 *e*P **P 10 18 40.9 +2.1**
MOOW Moose Ponds 85.73 44 *e*P **P 10 18 38.8 0.0**
comp=Z,22nm,1.6s,mb4.6
MOOW *ep*P pP 10 19 19.7 +0.4
HEC Hector,Ludlow 85.77 54 ⇓P **P 10 18 39.0 -0.2**
baz=86
TUQ Turquoise Moun 85.82 53 ⇓P **P 10 18 39.3 -0.2**
baz=86,SNR=6.4
REDW Red Top Meadow 85.84 44 *e*P **P 10 18 45.0 +5.6**
REDW *ep*P pP 10 19 21.7 +1.9
N15A Stansbury Isla 85.86 47 ⇑P **P 10 18 39.6 +0.1**
baz=86
LOHW Long Hollow 85.88 44 *e*P **P 10 18 40.7 +1.1**
SHPR Sheep Range 85.92 52 *e*P **P 10 18 40.2 +0.2**
DUG Dugway 85.97 48 *e*P **P 10 18 40.2 +0.1**
DUG pmax pmax
comp=Z,17nm,0.7s,mb4.9
DUG Dugway 85.97 48 ⇑P **P 10 18 40.1 -0.1**
baz=86
DUG Dugway 85.97 48 *e*P **P 10 18 40.2 +0.1**
comp=Z,17nm,0.7s,mb4.9
V11A Goodsprings 86.01 53 ⇑P **P 10 18 40.3 -0.1**
baz=86,SNR=12
RLMT Red Lodge 86.01 42 *e*P **P 10 18 41.4 +1.2**
comp=Z,23nm,0.6s,mb5.1
RLMT *ep*P pP 10 19 22.3 +1.7
R13A O'Grain Ranch, 86.06 50 ⇑P **P 10 18 40.1 -0.4**
baz=86
P14A Drum Mountains 86.06 49 ⇑P **P 10 18 40.4 -0.2**
baz=86
L16A Fish Haven 86.08 46 ⇑P **P 10 18 40.4 -0.2**
baz=86
T12A Moapa 86.15 52 ⇑P **P 10 18 40.9 -0.2**
baz=86
HWUT Hardware Ranch 86.18 46 *e*P **P 10 18 41.4 +0.3**
comp=Z,14nm,0.9s,mb4.7
Q14A Sevier Lake (B 86.19 49 ⇑P **P 10 18 41.1 -0.1**
baz=86
PFO Pinyon Flat Ob 86.19 55 *e*P **P 10 18 41.3 0.0**
PFO *e**PP pP 10 19 20.4 -1.4
PFO pmax pmax
comp=Z,13nm,1.0s,mb4.6
PFO Pinyon Flat Ob 86.19 55 ⇓P **P 10 18 41.1 -0.2**
baz=86
PFO Pinyon Flat Ob 86.19 55 *e*P **P 10 18 41.3 0.0**
comp=Z,13nm,1.0s,mb4.6
PFO *ep*P pP 10 19 20.4 -1.4
AKASG Malin Array Be 86.22 324 P **P 10 18 39.3 -1.8**
comp=Z,12nm,0.5s,mb4.8,baz=48,slow=5.1,SNR=40
AKASG Malin Array Be 86.22 324 *i* P **P 10 18 39.5 -1.6**
AKASG pmax pmax
comp=Z,12nm,0.5s
AKBB Malin Array Si 86.22 324 *e*P **P 10 18 39.8 -1.3**
KIEV Kiev 86.23 324 *e*P **P 10 18 39.5 -1.7**
KIEV pmax pmax
comp=Z,20nm,0.8s,mb4.9
KIEV Kiev 86.23 324 *e*P **P 10 18 39.5 -1.7**
comp=Z,20nm,0.8s,mb4.9
GMRC Granite Mounta 86.29 54 ⇓P **P 10 18 41.7 -0.1**
baz=86,SNR=12
BELC Belle Mtn. 86.37 55 ⇑P **P 10 18 42.0 -0.2**
baz=86
S13A Holt Ranch, En 86.39 51 ⇑P **P 10 18 42.2 -0.1**
baz=86
U12A Valley of Fire 86.41 52 ⇓P **P 10 18 42.2 -0.1**
baz=86,SNR=7.8
MALT Malatya 86.48 310 *e*P **P 10 18 48.1 +5.5**
MALT pmax pmax
comp=Z,17nm,0.8s,mb4.8
MALT Malatya 86.48 310 ⇓ *i*P **P 10 18 47.9 +5.3**
MALT Malatya 86.48 310 *e*P **P 10 18 48.1 +5.5**
comp=Z,17nm,0.8s,mb4.8
V12A Nelson 86.48 53 ⇓P **P 10 18 42.8 0.0**
baz=86,SNR=17
MONP Monument Peak 86.52 56 ⇑P **P 10 18 42.9 0.0**
baz=86
LDFC Landfair 86.57 53 *e*P **P 10 18 43.4 +0.3**
comp=Z,18nm,0.7s,mb5.0
LDFC *ep*P pP 10 19 21.9 -1.7
NLU North Lily Min 86.58 48 *e*P **P 10 18 42.0 -1.2**
ARUT Antelope Range 86.60 50 *e*P **P 10 18 43.4 +0.1**
T13A Saint George 86.61 51 ⇓P **P 10 18 43.7 +0.4**
baz=86,SNR=9.1
P15A Leamington 86.62 48 ⇓P **P 10 18 43.5 +0.2**
baz=86,SNR=9.2
JLU Jordanelle 86.72 47 *e*P **P 10 18 44.6 +0.9**
CCUT Cedar City 86.76 51 *e*P **P 10 18 44.4 +0.4**
CCUT *ep*P pP 10 19 25.4 +0.9
Q15A Fillmore 86.81 49 ⇓P **P 10 18 44.5 +0.3**
baz=87
S14A Cedar City 86.81 50 ⇓P **P 10 18 44.0 -0.2**
baz=87
U13A Pakoon Wash 86.83 52 ⇓P **P 10 18 44.5 +0.1**
baz=87,SNR=25
DVTC Desert V Tower 86.86 56 ⇓P **P 10 18 44.2 -0.4**
baz=87
MPU Maple Canyon 86.86 48 *e*P **P 10 18 47.9 +3.5**
MPU *ep*P pP 10 19 26.1 +1.1
O16A Springville 86.86 48 ⇑P **P 10 18 44.3 -0.2**
baz=87
BC3 Big Chuckw Mtn 86.93 55 ⇑P **P 10 18 44.8 -0.1**
baz=87,SNR=13
IRM Iron Mountain 86.94 54 ⇓P **P 10 18 45.0 0.0**
baz=87
BW06 Boulder Array 86.95 45 *ep*P pP 10 19 25.9 +0.6
PDAR Pinedale Array 86.95 45 P **P 10 18 44.3 -0.6**
comp=Z,2.0nm,0.8s,mb4.0,baz=273,slow=3.3,SNR=9.6
PDAR pP pP 10 19 23.3 -2.0
comp=Z,2.3nm,0.8s,baz=245,slow=3.1,SNR=4.9
PDAR PP PP 10 22 08.1 -1.6
comp=Z,1.6nm,1.0s,baz=290,slow=6.1,SNR=5.3
PDAR LR LR 10 55 55.2
comp=Z,92nm,18.8s,baz=273,slow=34
SWSC Sam W. Stewart 86.97 56 ⇑P **P 10 18 44.2 -1.0**
baz=87
N17A Moffit Pass 86.97 47 ⇓P **P 10 18 44.9 -0.1**
baz=87
P16A Fountain Green 87.03 48 ⇑P **P 10 18 45.2 -0.1**
baz=87
V13A Grand Canyon W 87.06 52 ⇓P **P 10 18 45.3 -0.2**
baz=87
NEE2 Needles Airpor 87.07 53 ⇓P **P 10 18 45.3 -0.2**
baz=87
LAO LASA Array 87.09 40 *e*P **P 10 18 46.5 +1.0**
LAO *ep*P pP 10 19 24.5 -1.5
MSU Marysvale 87.17 49 *e*P **P 10 18 46.5 +0.5**
T14A Hurricane 87.18 51 ⇓P **P 10 18 46.3 +0.3**

	baz=87						
R15A	Junction	87.23	50	⇓P	P	10 18 46.6	+0.3
	baz=87						
O17A	Robinson Place	87.39	47	⇑P	P	10 18 47.1	+0.2
	baz=87,SNR=8.3						
U14A	Mt Trumbull	87.40	51	⇓P	P	10 18 47.1	0.0
	baz=87						
S15A	Panguitch	87.42	50	⇓P	P	10 18 47.3	+0.1
	baz=87						
HFS	Hagfors	87.42	337	P	P	10 18 44.1	-2.6
	comp=Z,5.3nm,0.4s,mb4.8,baz=93,slow=3.3,SNR=38						
HFS				PP	PP	10 22 10.4	-2.4
	comp=Z,4.7nm,0.8s,baz=51,slow=7.6,SNR=5.4						
SUW	Suwalki	87.42	329	*e*P	P	10 18 45.5	-1.4
SUW	Suwalki	87.42	329	*e*P	P	10 18 45.5	-1.3
W13A	Hualapai Mount	87.47	53	⇑P	P	10 18 47.9	+0.4
	baz=87						
Y12C	Blythe	87.58	54	⇑P	P	10 18 47.9	-0.1
	baz=88						
PDMCI	Parker Dam,Lak	87.63	54	⇓P	P	10 18 48.4	+0.1
	baz=88						
NOA	NORSAR Array B	87.64	339	P	P	10 18 45.5	-2.2
	comp=Z,11nm,0.9s,mb4.7,baz=47,slow=4.6,SNR=26						
NOA				PP	PP	10 22 12.5	-2.1
	comp=Z,1.6nm,0.8s,baz=48,slow=7.2,SNR=3.5						
GLA	Glamis	87.66	55	*e*P	P	10 18 48.8	+0.4
GLA				pmax	pmax		
	comp=Z,16nm,0.8s,mb4.9						
GLA	Glamis	87.66	55	⇓P	P	10 18 48.5	+0.1
	baz=88,SNR=11						
GLA	Glamis	87.66	55	*e*P	P	10 18 48.8	+0.4
	comp=Z,16nm,0.8s,mb4.9						
Q16A	Castle Valley	87.68	49	⇓P	P	10 18 48.6	+0.1
	baz=88						
T15A	Red Dirt Ranch	87.70	51	⇑P	P	10 18 48.5	0.0
	baz=88,SNR=8.6						
P17A	Butcher Ranch,	87.72	48	⇓P	P	10 18 48.9	+0.3
	baz=88						
X13A	Yucca	87.73	53	⇓P	P	10 18 48.6	-0.1
	baz=88,SNR=13						
R16A	Teasdale	87.76	49	⇑P	P	10 18 49.2	+0.4
	baz=88						
V14A	Boquillas Ranc	87.80	52	⇑P	P	10 18 49.3	+0.2
	baz=88,SNR=14						
O18A	Roosevelt	87.84	47	⇓P	P	10 18 49.3	+0.1
	baz=88						
NAO01	NORSAR Array S	87.89	339	*e*P	P	10 18 47.5	-1.4
S16A	Weppner Ranch,	87.94	50	⇓P	P	10 18 49.9	+0.3
	baz=88						
P18A	Preston Nutter	87.98	48	⇓P	P	10 18 50.0	+0.1
	baz=88						
W14A	Seligman	88.01	53	⇑P	P	10 18 50.4	+0.4
	baz=88,SNR=15						
U15A	North Rim	88.03	51	⇑P	P	10 18 50.5	+0.4
	baz=88						
SRU	San Rafael	88.04	48	*e*P	P	10 18 50.5	+0.4
SRU				pmax	pmax		
	comp=Z,6.0nm,0.7s,mb4.5						
SRU	San Rafael	88.04	48	⇓P	P	10 18 50.5	+0.4
	baz=88						
SRU	San Rafael	88.04	48	*e*P	P	10 18 50.5	+0.4
	comp=Z,6.0nm,0.7s,mb4.5						
112A	Yuma	88.07	55	⇑P	P	10 18 50.0	-0.4
	baz=88						
Y13A	Salome	88.08	54	⇑P	P	10 18 50.4	0.0
	baz=88,SNR=18						
R17A	Hanksville Air	88.23	49	⇓P	P	10 18 50.9	-0.1
	baz=88						
Q18A	Rafter H Ranch	88.31	48	⇑P	P	10 18 50.9	-0.5
	baz=88						
T16A	Glen Canyon Da	88.34	50	⇓P	P	10 18 51.4	-0.1
	baz=88						
V15A	Kaibab Nationa	88.39	52	⇓P	P	10 18 52.0	+0.1
	baz=88						
O19A	Miners Draw (B	88.42	47	⇓P	P	10 18 51.6	-0.2
	baz=88						
X14A	Yava	88.48	53	⇑P	P	10 18 52.6	+0.4
	baz=88,SNR=13						
S17A	Black Ridge (B	88.53	50	⇑P	P	10 18 52.3	-0.1
	baz=88						
113A	Mohawk Valley,	88.58	55	⇑P	P	10 18 52.8	0.0
	baz=88,SNR=13						
W15A	Williams	88.62	52	⇓P	P	10 18 53.4	+0.5
	baz=88						
Y14A	Wickenburg	88.63	54	⇑P	P	10 18 53.2	+0.2
	baz=88,SNR=25						
R18A	Canyonlands Na	88.81	49	⇓P	P	10 18 53.6	-0.1
	baz=89						
T17A	Navajo Res., N	88.83	50	⇑P	P	10 18 54.2	+0.4
	baz=89						
Z14A	Wintersburg	88.94	54	⇑P	P	10 18 54.9	+0.5
	baz=89						
X15A	Humboldt	88.95	53	⇓P	P	10 18 54.8	+0.3
	baz=89,SNR=15						
U16A	Tuba City	89.00	51	⇓P	P	10 18 55.0	+0.3
	baz=89						
S18A	Hurst Farm, Bl	89.07	49	⇓P	P	10 18 54.7	-0.3
	baz=89						
WUAZ	Wupatki	89.11	52	⇓P	P	10 18 55.6	+0.3
	baz=89						
WUAZ	Wupatki	89.11	52	*e*P	P	10 18 56.1	+0.8
	comp=Z,18nm,1.1s,mb4.9						
WUAZ				*e*pP	pP	10 19 37.1	+1.2
U17A	Shonto	89.12	50	⇑P	P	10 18 55.4	+0.2
	baz=89						
BR131	Keskin Array S	89.12	313	*e*P	P	10 18 54.3	-0.9
Y15A	Casa Rosa Ranc	89.12	53	⇑P	P	10 18 55.8	+0.5
	baz=89,SNR=15						
TLCR		89.39	320	⇑*i*P	P	10 18 55.6	-0.7
TLCR		89.39	320	⇑P	P	10 18 55.6	-0.7
PV10	Paradox Valley	89.41	48	*e*P	P	10 18 57.3	+0.7
T18A	Mexican Hat	89.42	50	⇑P	P	10 18 56.6	0.0
	baz=89						
X16A	Lo Mia Camp, P	89.57	53	⇑P	P	10 18 57.3	0.0
	baz=90						
S19A	Harvey Farm, M	89.64	49	⇓P	P	10 18 57.4	-0.3
	baz=90						
214A	Organ Pipe Nat	89.67	55	⇓P	P	10 18 58.2	+0.3
	baz=90						
U18A	Rough Rock, Ch	89.77	50	⇓P	P	10 18 58.6	+0.3
	baz=90						
115A	Sonoran Desert	89.77	54	⇑P	P	10 18 58.6	+0.2
	baz=90						
Y16A	Circle Bar Ran	89.79	53	⇑P	P	10 18 58.9	+0.4
	baz=90						
PV01	Paradox Valley	89.85	48	*e*P	P	10 18 58.6	0.0
TIRR	Tirgusor	90.03	319	⇑*i*P	P	10 18 58.5	-0.8
TIRR	Tirgusor	90.03	319	⇑P	P	10 18 58.5	-0.8
V18A	Ganado	90.06	51	⇓P	P	10 18 60.0	+0.3
	baz=90						
Z16A	Peralta Trail,	90.08	54	⇓P	P	10 19 00.1	+0.3
	baz=90						
BUR08	Bucovina Ar. S	90.11	323	*e*P	P	10 18 59.0	-0.5
BURAR	Bucovina Array	90.11	323	⇓*i*P	P	10 18 59.2	-0.4
BURAR	Bucovina Array	90.11	323	⇓P	P	10 18 59.2	-0.5
T19A	Beclabito	90.17	50	⇑P	P	10 19 00.3	+0.2
	baz=90						
116A	Eloy	90.23	54	⇑P	P	10 19 00.9	+0.4
	baz=90						
VRI	Vrincioaia	90.25	321	⇓*i*P	P	10 18 59.4	-0.9
VRI	Vrincioaia	90.25	321	⇓P	P	10 18 59.4	-0.9
KWP	Kalwaria	90.28	326	*e*P	P	10 18 59.6	-0.7
KWP	Kalwaria	90.28	326	⇓*i*P	P	10 18 59.5	-0.8
KWP	Kalwaria	90.28	326	*e*P	P	10 18 59.6	-0.7
PHWY	Pilot Hill	90.33	44	*e*P	P	10 19 05.2	+4.4
Y17A	Roosevelt	90.34	53	⇓P	P	10 19 01.1	+0.1
	baz=90						
MVCO	Mesa Verde	90.35	49	⇓P	P	10 19 01.3	+0.3
	baz=90						
MVCO	Mesa Verde	90.35	49	*e*P	P	10 19 07.5	+6.5
	comp=Z,12nm,1.2s,mb4.7						
ASF	Jabal al Asfar	90.37	305	P	P	10 19 00.7	-0.5
	comp=Z,8.2nm,0.9s,mb4.7,baz=51,slow=0.6,SNR=12						
216A	Three Points,	90.67	55	⇓P	P	10 19 03.2	+0.7
	baz=91						
W19A	Sanders	90.73	51	⇓P	P	10 19 03.2	+0.4
	baz=91						
ULM	Lac du Bonnet	90.77	33	P	P	10 19 01.9	-0.7
	comp=Z,3.7nm,0.8s,mb4.5,baz=280,slow=6.1,SNR=2.9						
ULM	Lac du Bonnet	90.77	33	P	P	10 19 01.9	-0.7
Y18A	Canyon Day Jun	90.90	53	⇑P	P	10 19 04.1	+0.6
	baz=91						
MLR	Muntele Rosu	90.91	321	P	P	10 19 02.1	-1.3
	comp=Z,5.3nm,0.8s,mb4.7,baz=312,slow=7.3,SNR=4.7						
MLR	Muntele Rosu	90.91	321	⇑*i*P	P	10 19 02.6	-0.8
MLR	Muntele Rosu	90.91	321	⇑P	P	10 19 02.6	-0.8
KOLS	Kolonicke sedl	90.93	325	*i*P	P	10 19 02.9	-0.5
117A	Oracle	90.95	54	⇓P	P	10 19 03.9	0.0
	baz=91						
ISCO	Idaho Springs	91.01	46	*e*P	P	10 19 06.4	+2.5
ISCO				pmax	pmax		
	comp=Z,29nm,1.8s,mb5.0						
ISCO	Idaho Springs	91.01	46	*e*P	P	10 19 06.3	+2.4
	comp=Z,29nm,1.8s,mb5.0						
MMAI	Mount Meron Ar	91.09	307	P	P	10 19 03.9	-0.6
	comp=Z,8.1nm,0.6s,mb4.9,baz=61,slow=7.7,SNR=14						
X19A	St. Johns	91.13	52	⇓P	P	10 19 05.1	+0.4
	baz=91						
STHS	Stebnicka Huta	91.17	326	*i*P	P	10 19 05.0	+0.5
217A	Green Valley	91.26	55	⇓P	P	10 19 05.7	+0.4
	baz=91						
CRVS	Cervenica-Dubn	91.37	326	*i*P	P	10 19 05.1	-0.3
Y19A	Nutrioso	91.39	52	⇑P	P	10 19 06.6	+0.8
	baz=91						
OJC	Ojcow	91.40	327	*e*P	P	10 19 04.4	-1.1
118A	Homack Ranch,	91.49	54	⇓P	P	10 19 06.7	+0.4
	baz=91						
218A	Dragoon	91.75	54	⇓P	P	10 19 07.7	+0.2
	baz=92						
119A	Ashpeak Ranch,	91.92	53	⇓P	P	10 19 08.5	+0.2
	baz=92						
DRGR		91.98	323	⇓*i*P	P	10 19 07.1	-1.2
DRGR		91.98	323	⇓P	P	10 19 07.1	-1.2
318A	Bisbee	92.04	55	⇓P	P	10 19 08.8	-0.1
	baz=92						
SDCO	Great Sand Dun	92.14	47	*e*P	P	10 19 09.9	+0.7
219A	White Tail Can	92.32	54	⇑P	P	10 19 10.2	0.0
	baz=92						
319A	Douglas	92.60	54	⇑P	P	10 19 11.9	+0.4
	baz=92						
KSP	Ksiaz	92.69	329	*e*P	P	10 19 10.0	-1.5
MORC	Moravsky Berou	92.80	328	*e*P	P	10 19 11.1	-0.9
PSZ	Piszkesteto	92.80	325	*e*P	P	10 19 10.8	-1.3
PSZ				pmax	pmax		
	comp=Z,26nm,1.6s,mb5.1						
PSZ	Piszkesteto	92.80	325	*e*P	P	10 19 10.8	-1.2
	comp=Z,26nm,1.6s,mb5.1						
ANMO	Albuquerque	92.90	50	⇑*e*P	P	10 19 13.8	+1.0
ANMO				*i* *PP	pP	10 19 55.3	+1.7
ANMO	Albuquerque	92.90	50	*e*P	P	10 19 14.6	+1.8
	comp=Z,8.9nm,1.1s,mb4.8						
ANMO				*e*pP	pP	10 19 48.4	-5.2
VYHS	Vyhne	92.98	326	*i*P	P	10 19 12.5	-0.4
DPC	Dobruska-Polom	93.01	329	*e*P	P	10 19 12.2	-0.8
EIL	Elat	93.01	304	P	P	10 19 12.0	-1.4
	comp=Z,17nm,1.0s,mb5.1,baz=18,slow=3.5,SNR=11						
UPC	Upice	93.05	329	*e*P	P	10 19 12.3	-0.8
BRG	Berggiesshubel	93.77	330	*e*P	P	10 19 14.2	-2.3
	comp=Z,6.8nm,1.1s,mb4.7						
BRG				*e*		10 19 21.0	
	comp=Z,4.0nm,0.6s						
CLL	Collm	93.89	331	⇓*i*P	P	10 19 15.7	-1.3
CLL				pmax	pmax		
	comp=Z,17nm,1.1s,mb5.1						
CLL	Collm	93.89	331	⇓*i*P	P	10 19 15.7	-1.3
	comp=Z,17nm,1.1s,mb5.1						
PRU	Pruhonice	94.10	329	*e*P	P	10 19 16.9	-1.1
ECSD	EROS,Sioux Fal	94.37	39	*e*pP	pP	10 20 01.0	+0.9
PKSM	Moragy	94.55	325	⇓*i*P	P	10 19 18.5	-1.6
CONA	Conrad Observa	94.86	327	⇑*i*PcP	PcP	10 19 20.8	-1.0
	comp=Z,6.0nm,1.1s						
CSNA	Conrad Observa	94.86	327	⇓*i*PcP	PcP	10 19 20.9	-0.8
	comp=Z,6.5nm,1.2s						
NKC	Novy Kostel	94.89	330	*e*P	P	10 19 20.3	-1.3
KHC	Kasperske Hory	95.14	329	⇑*e*P	P	10 19 20.8	-2.0
KHC	Kasperske Hory	95.14	329	*e*P	P	10 19 21.3	-1.5
GERES	GERESS Array B	95.28	329	P	P	10 19 21.8	-1.6
	comp=Z,2.0nm,0.6s,mb4.5,baz=53,slow=5.2,SNR=16						
GERES				LR	LR	11 08 24.6	
	comp=Z,43nm,18.0s,baz=268,slow=39						
EKA	Eskdalemuir Ar	96.79	341	P	P	10 19 28.4	-1.7
	comp=Z,2.2nm,1.1s,mb4.4,baz=33,slow=6.3,SNR=4.1						
EKA				PP	PP	10 23 24.4	-1.8
	comp=Z,3.3nm,0.9s,baz=26,slow=7.1,SNR=6.2						
TXAR	Lajitas Array	97.82	54	P	P	10 19 35.9	+0.6
	comp=Z,0.5nm,0.5s,mb4.2,baz=328,slow=1.3,SNR=6.8						
TXAR				PP	PP	10 23 31.6	-3.6
	comp=Z,1.0nm,1.1s,baz=290,slow=3.6,SNR=3.7						
TXAR				PKKP	PKKPbc	10 36 09.4	+0.1
	comp=Z,0.7nm,0.7s,baz=124,slow=5.7,SNR=9.8						
TXAR				LR	LR	10 59 05.3	
	comp=Z,89nm,19.0s,baz=0.0,slow=32						
TXAR	Lajitas Array	97.82	54	P	P	10 19 35.9	+0.6
TXAR						10 23 31.6	
KMBO	Kilima Mbogo	104.55	275	*e*Pdif	Pdif	10 20 05.1	+0.3
MIV	Mineville/With	105.61	26	*e*Pdif	Pdif	10 20 18.4	+8.9
MAW	Mawson	107.09	203	PP	PP	10 24 42.6	-1.6
	comp=Z,2.7nm,1.0s,baz=75,slow=12,SNR=5.1						
QSPA	South Pole Qui	112.67	180	PKKPbc	PKKPbc	10 35 22.4	-3.6
	comp=Z,0.7nm,0.6s,baz=207,slow=1.6,SNR=6.3						
MDT	Midelt	116.37	329	PKP	PKPdf	10 24 42.8	+0.1
	comp=Z,1.9nm,0.9s,baz=56,slow=3.6,SNR=4.4						
LSZ	Lusaka	117.95	264	PKP	PKPdf	10 24 45.9	-0.2
	comp=Z,6.5nm,0.8s,baz=76,slow=3.5,SNR=11						
LSZ	Lusaka	117.95	264	*e*PKPdf	PKPdf	10 24 46.4	+0.3
LBTB	Lobatse	122.83	254	PKP	PKPdf	10 24 54.9	-0.3
	comp=Z,11nm,0.8s,baz=101,slow=4.4,SNR=14						
BOSA	Boshof	123.80	250	PKP	PKPdf	10 24 56.5	-0.5
	comp=Z,4.8nm,0.7s,baz=82,slow=3.0,SNR=6.1						
SNAA	Sanae	127.37	193	*e*PKPdf	PKPdf	10 25 01.6	-1.0
SNAA				*e*		10 25 07.0	
SNAA	Sanae	127.37	193	*e*PKPdf	PKPdf	10 25 01.7	-0.9
TOA0	Torodi Ar. Sit	127.56	309	*e*PKPdf	PKPdf	10 25 04.0	-0.7
TORD	Torodi Ar. Bea	127.56	309	PKP	PKPdf	10 25 03.5	-1.1
	comp=Z,3.1nm,0.5s,baz=48,slow=1.0,SNR=31						
TORD				PP	PP	10 27 03.7	-3.0
	comp=Z,1.8nm,0.9s,baz=45,slow=4.4,SNR=3.7						
TORD	Torodi Ar. Bea	127.56	309	PKP	PKPdf	10 25 03.5	-1.1
TORD				PP	PP	10 27 03.7	-3.0
VNA2	Neumayer--Watz	128.87	192	*e*PKPdf	PKPdf	10 25 05.2	-0.2
	baz=346,slow=0.3						
VNA2				*e*		10 25 10.5	
VNA3	Neumayer Olymp	129.04	191	*e*PKPdf	PKPdf	10 25 05.4	-0.3
VNA3				*e*		10 25 11.0	
VNA1	Neumayer--Stat	129.27	192	*e*PKPdf	PKPdf	10 25 06.2	0.0
VNA1				*e*		10 25 12.0	
DBIC	Dimbokro	136.67	309	PKP	PKPdf	10 25 19.6	-2.2
	comp=Z,9.1nm,0.8s,baz=81,slow=4.1,SNR=8.3						
DBIC				SKPbc	SKPbc	10 28 39.5	0.0
	comp=Z,2.4nm,0.6s,baz=43,slow=5.8,SNR=2.9						
USHA	Ushuaia	140.60	152	PKP	PKPdf	10 25 27.5	-0.2
	comp=Z,9.2nm,0.8s,baz=225,slow=4.3,SNR=4.1						
PLCA	Paso Flores	146.96	130	PKPbc	PKPbc	10 25 40.7	-0.8
	comp=Z,20nm,0.6s,baz=233,slow=3.4,SNR=78						
PLCA				pPKPbc	pPKPbc	10 26 21.7	-2.1
	comp=Z,12nm,0.9s,baz=247,slow=3.5,SNR=3.3						
PLCA				SKPbc	SKPbc	10 29 04.1	-0.6
	comp=Z,1.9nm,0.7s,baz=232,slow=3.3,SNR=3.7						
PLCA	Paso Flores	146.96	130	*e*PKPbc	PKPbc	10 25 41.0	-0.5
LPAZ	La Paz	150.38	83	PKP	PKPdf	10 25 46.5	+0.9
	comp=Z,3.1nm,0.8s,baz=260,slow=2.6,SNR=10						
LPAZ				PKPbc	PKPbc	10 25 51.1	+0.2
	comp=Z,7.5nm,0.5s,baz=303,slow=2.7,SNR=48						
LPAZ				pPKP	pPKPdf	10 26 25.6	-2.7
	comp=Z,7.1nm,0.8s,baz=360,slow=6.1,SNR=2.4						
LPAZ				pPKPbc	pPKPbc	10 26 31.4	-1.9
	comp=Z,12nm,0.7s,baz=310,slow=3.8,SNR=3.4						
LPAZ	La Paz	150.38	83	*e*PKPdf	PKPdf	10 25 46.3	+0.8
LPAZ				*e*PKPbc	PKPbc	10 25 51.6	+0.7
LVC	Limon Verde	150.99	96	*e*PKPbc	PKPbc	10 25 52.5	+0.2
CPUP	Villa Florida	161.58	105	PKP	PKPdf	10 25 58.2	-1.8
	comp=Z,1.3nm,0.6s,baz=225,slow=1.9,SNR=5.4						
CPUP	Villa Florida	161.58	105	PKP	PKPdf	10 25 58.2	-1.8

*ISCJB **01** 10:11:38.2±0.8, 3890N±002×2450E±002, h8^{km}±5^{km}, mb3.8/7, Error ellipse: s-maj=3.2km s-min=2.7km az=8.8*
*CSEM **01** 10:11:38.8±0.1, 3891N×2448E, h10^{km}, ML4.3, Error ellipse: s-maj=1.4km s-min=1.2km az=90.0*
*IDC **01** 10:11:38.6±1.1, 3887N×2437E, h0^{km}, mb3.8/7, mb1 3.9/11, mb1mx3.7/29, mbtmp3.8/11, ML3.7/4, Error ellipse: s-maj=26.6km s-min=11.1km az=101.0*
*NEIC **01** 10:11:39.9, 3889N×2448E, h11^{km}, ML4.3(THE), After THE.*
*THE **01** 10:11:39.9, 3889N×2448E, h11^{km}±1^{km}, ML4.2/9, Error ellipse: s-maj=1.5km s-min=0.6km az=37.0*
*ATH **01** 10:11:39.1, 3891N×2450E, h31^{km}±3^{km}, MD3.9/15, ML4.2*
ISC 01 10:11:39.2±0.7**, 3888N**±002×**2448E**±003**, h8**^{km}±5^{km}**, n102,** σ0s90/137**, mb3.8**/7**, 10C-7D, Aegean Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AOS	Alonnisos	0.55	303	P	Pg	10 11 49.9	+0.1
AOS	Alonnisos	0.55	303	P	Pg	10 11 49.9	+0.1
PTL	Penteli	0.95	210	*e*Pb	Pb	10 11 57.0	-0.9
PTL				*e*Sn	Sn	10 12 10.5	-2.1
PTL	Penteli	0.95	210	*e*PB	Pb	10 11 57.0	-0.9
PTL				*e*SN	Sn	10 12 10.5	-2.1
NEO	Neokhori	1.06	294	*e*Pn	Pn	10 11 59.4	-1.0
NEO				*e*Sn	Sn	10 12 13.7	-1.6
NEO	Neokhori	1.06	294	*e*PN	Pn	10 11 59.4	-1.0
NEO				*e*SN	Sn	10 12 13.7	-1.6
ATH	Athens Observa	1.08	214	*e*Pn	Pn	10 12 00.2	-0.4
ATH				*e*Sn	Sn	10 12 15.4	-0.3
ATH	Athens Observa	1.08	214	*e*PN	Pn	10 12 00.2	-0.4
ATH				*e*SN	Sn	10 12 15.4	-0.3
XOR	Xorichti	1.11	297	P	Pg	10 12 00.5	0.0
XOR	Xorichti	1.11	297	P	Pg	10 12 00.5	0.0
LKR	Lokris	1.18	259	P	Pb	10 12 01.5	-0.2
LKR				*e*Sn	Sn	10 12 18.4	+0.4
LKR				S	Sg	10 12 18.7	+1.7
LKR	Lokris	1.18	259	*e*Pn	Pn	10 12 01.0	-0.9
LKR				*e*Sn	Sn	10 12 18.4	+0.4
LKR	Lokris	1.18	259	*e*PN	Pn	10 12 01.0	-0.9
LKR				*e*SN	Sn	10 12 18.4	+0.4
KVR	Kavouri	1.18	208	*e*Sn	Sn	10 12 17.8	-0.4
KVR	Kavouri	1.18	208	*e*PN	Pn	10 12 01.3	-0.7
KVR				*e*SN	Sn	10 12 17.8	-0.4
PAIG	Paliouri	1.22	330	P	Pb	10 12 02.0	-0.4
PAIG				S	Sb	10 12 18.5	+0.2
CHOS	Chios island	1.33	111	P	Pn	10 12 04.0	0.0
CHOS				S	Sb	10 12 21.7	+0.2
NAIG	Nisos Aigina	1.36	215	*e*Pb	Pb	10 12 03.5	-1.3
NAIG				*e*Sn	Sn	10 12 23.0	+0.5
NAIG	Nisos Aigina	1.36	215	*e*PB	Pb	10 12 03.5	-1.3
NAIG				*e*SN	Sn	10 12 23.0	+0.5
PRK	Paraskevi	1.45	75	P	Pn	10 12 05.0	-0.6
PRK				S	Sn	10 12 25.5	+0.7
PRK	Paraskevi	1.45	75	*e*Pn	Pn	10 12 04.9	-0.7
PRK				*e*Sn	Sn	10 12 23.5	-1.3
PRK				S	Sn	10 12 25.5	+0.7
PRK	Paraskevi	1.45	75	*e*Pn	Pn	10 12 04.9	-0.7
PRK				*e*Sn	Sn	10 12 23.5	-1.3
PRK	Paraskevi	1.45	75	*e*PN	Pn	10 12 04.9	-0.7
PRK				*e*SN	Sn	10 12 23.5	-1.3
LTK	Loutraki	1.46	235	P	Pn	10 12 05.4	-0.4
LTK				S	Sn	10 12 25.4	+0.4
OUR	Ouranopolis	1.51	346	P	Pn	10 12 05.3	-1.1
AGG	Agios Georgios	1.68	276	P	Pn	10 12 08.3	-0.5
AGG				S	Sn	10 12 31.1	+0.6
DID	Didima	1.68	216	P	Pn	10 12 08.4	-0.4
DID				S	Sn	10 12 30.7	+0.2
PLG	Polygyros	1.69	332	P	Pn	10 12 08.0	-1.0
PLG	Polygyros	1.69	332	*e*Pb	Pb	10 12 08.2	-2.4
PLG	Polygyros	1.69	332	*e*PB	Pb	10 12 08.2	-2.4
LIT	Litokhoron	1.96	309	P	Pn	10 12 12.0	-0.7
LIT				S	Sn	10 12 37.4	-0.1
APE	Apeiranthos	1.99	155	P	Pn	10 12 12.8	-0.2
APE				S	Sn	10 12 37.9	-0.2
APE	Apeiranthos	1.99	155	⇓*i*P	Pn	10 12 13.1	+0.1
APE	Apeiranthos	1.99	155	*e*Pn	Pn	10 12 13.0	0.0
APE	Apeiranthos	1.99	155	*e*PN	Pn	10 12 13.0	0.0
HORT	Hortiatis	2.02	329	P	Pn	10 12 13.2	-0.3
HORT				S	Sn	10 12 39.2	+0.3
THL	Klokotos Trika	2.03	291	P	Pn	10 12 13.6	-0.1
THL				S	Sn	10 12 38.7	-0.5
THL	Klokotos Trika	2.03	291	*e*Pn	Pn	10 12 13.5	-0.1
THL				*e*Sn	Sn	10 12 37.7	-1.5
THL				S	Sn	10 12 38.7	-0.5
THL	Klokotos Trika	2.03	291	*e*PN	Pn	10 12 13.5	-0.1
THL				*e*SN	Sn	10 12 37.7	-1.5
EVR	Evrytania	2.08	272	*e*Pb	Pb	10 12 14.9	-2.2
EVR	Evrytania	2.08	272	*e*PB	Pb	10 12 14.9	-2.2
SOH	Sokhos	2.13	336	P	Pn	10 12 14.7	-0.3
SOH				S	Sn	10 12 41.6	0.0
SMG	Samos	2.19	121	*e*Pn	Pn	10 12 15.9	0.0
SMG	Samos	2.19	121	*e*PN	Pn	10 12 15.9	0.0
VLX	Vlachokerasia	2.23	228	P	Pn	10 12 16.9	+0.5
VLX				S	Sn	10 12 45.5	+1.3
ALN	Alexandroupoli	2.35	30	P	Pn	10 12 16.6	-1.5
ALN				S	Sn	10 12 47.0	-0.1
RDO	Rodhopi	2.41	19	*e*Pn	Pn	10 12 17.4	-1.5
RDO	Rodhopi	2.41	19	*e*PN	Pn	10 12 17.4	-1.5
VLI	Veliai	2.47	210	*e*Pn	Pn	10 12 19.5	-0.2
VLI	Veliai	2.47	210	*e*PN	Pn	10 12 19.5	-0.2
RLS	Riolos of Patr	2.50	252	*e*Pn	Pn	10 12 20.3	+0.2
RLS	Riolos of Patr	2.50	252	*e*PN	Pn	10 12 20.3	+0.2
KZN	Kozani	2.53	305	*e*Pn	Pn	10 12 20.9	+0.4
KZN	Kozani	2.53	305	*e*PN	Pn	10 12 20.9	+0.4
THR5	Thira Island,	2.55	164	P	Pn	10 12 21.1	+0.3
KNT	Kendrikon	2.58	333	P	Pn	10 12 21.3	0.0
GRG	Griva	2.62	323	P	Pn	10 12 22.2	+0.5
GRG				S	Sn	10 12 53.4	-0.3
ITM	Ithomi	2.63	231	*e*Pn	Pn	10 12 23.0	+1.1
ITM	Ithomi	2.63	231	*e*PN	Pn	10 12 23.0	+1.1
KYTH	Kithira	2.83	204	*e*Pn	Pn	10 12 25.0	+0.4
KYTH	Kithira	2.83	204	*e*PN	Pn	10 12 25.0	+0.4
FNA	Florina	3.05	310	P	Pn	10 12 28.2	+0.5
VLS	Valsamata	3.13	258	*e*Pn	Pn	10 12 30.3	+1.6
VLS	Valsamata	3.13	258	*e*PN	Pn	10 12 30.3	+1.6
VAM	Vamos	3.47	184	*e*Pn	Pn	10 12 34.1	+0.7
VAM	Vamos	3.47	184	*e*PN	Pn	10 12 34.1	+0.7
IDI	Anoyia	3.59	175	Pn	Pn	10 12 35.3	+0.2
	7.0nm,0.3s,baz=327,slow=13,SNR=23						
IDI				Lg		10 13 35.7	
	10nm,0.3s,baz=318,slow=17,SNR=3.6						
NPS	Neapolis	3.72	165	*e*Pn	Pn	10 12 37.5	+0.7
NPS	Neapolis	3.72	165	*e*PN	Pn	10 12 37.5	+0.7
KARP	Karpathos	3.95	146	*e*Pn	Pn	10 12 40.5	+0.4
KARP	Karpathos	3.95	146	*e*PN	Pn	10 12 40.5	+0.4
BARS	Barje	4.42	334	⇑*i*Pn	Pn	10 12 46.6	+0.1
TIP	Timpagrande	6.02	275	P	Pn	10 13 09.9	+1.5
DIVS	Divibare	6.21	329	⇑*i*Pn	Pn	10 13 11.8	+0.8
HARR	Harsova	6.36	23	⇓*i*P	Pn	10 13 14.3	+1.2
HARR	Harsova	6.36	23	⇓P	Pn	10 13 14.3	+1.3
GZR	Gura Zlata	6.63	350	⇑*i*P	Pn	10 13 16.7	-0.2
GZR	Gura Zlata	6.63	350	⇑P	Pn	10 13 16.7	-0.2
MLR	Muntele Rosu	6.70	9	Pn	Pn	10 13 18.5	+0.7
	0.9nm,0.3s,baz=176,slow=9.9,SNR=11						
MLR				Sn	Sn	10 14 37.0	+2.7
	0.2nm,0.3s,baz=171,slow=19,SNR=1.5						
MLR	Muntele Rosu	6.70	9	⇓*i*P	Pn	10 13 18.3	+0.5
MLR	Muntele Rosu	6.70	9	⇓P	Pn	10 13 18.3	+0.6
CUC	Castrocucco	6.80	282	P	Pn	10 13 21.9	+2.8
BZS	Buzias	7.06	343	⇑*i*P	Pn	10 13 22.0	-0.8
BZS	Buzias	7.06	343	⇑P	Pn	10 13 22.1	-0.7
PLOR	Plostina	7.16	12	⇓*i*P	Pn	10 13 25.9	+1.9
VRI	Vrincioaia	7.18	13	⇑*i*P	Pn	10 13 26.3	+1.9
VRI	Vrincioaia	7.18	13	⇑P	Pn	10 13 26.3	+1.9
PKSM	Moragy	8.50	331	⇓*i*P	Pn	10 13 41.5	-1.0
BURAR	Bucovina Array	8.75	3	⇑*i*P	Pn	10 13 46.8	+0.9
BURAR	Bucovina Array	8.75	3	⇑P	Pn	10 13 46.8	+0.8
BUR08	Bucovina Ar. S	8.78	3	*e*Pn	Pn	10 13 45.7	-0.6
BUR08	Bucovina Ar. S	8.78	3	*e*Pn	Pn	10 13 45.7	-0.6
AKASG	Malin Array Be	12.29	14	Pn	Pn	10 14 34.5	+0.2
	0.3nm,0.3s,baz=197,slow=12,SNR=4.1						
AKASG	Malin Array Be	12.29	14	Pn	Pn	10 14 34.5	+0.1
GERES	GERESS Array B	12.63	326	Pn	Pn	10 14 40.1	+1.2
	0.1nm,0.3s,baz=138,slow=14,SNR=4.6						
ESDC	Sonseca Array	22.00	281	P	P	10 16 34.0	+0.4
	2.0nm,0.5s,mb3.8,baz=74,slow=11,SNR=7.3						
HFS	Hagfors	22.34	346	P	P	10 16 37.6	+0.4
	1.5nm,0.5s,mb3.7,baz=170,slow=13,SNR=8.0						
NOA	NORSAR Array B	23.68	344	P	P	10 16 50.5	-0.6
	1.7nm,0.6s,mb3.7,baz=154,slow=11,SNR=7.4						
MDT	Midelt	24.28	265	P	P	10 16 57.6	+0.7
	3.3nm,0.9s,mb3.7,baz=81,slow=10,SNR=6.3						
EKA	Eskdalemuir Ar	24.75	321	P	P	10 17 01.6	+0.6
	1.1nm,0.9s,mb3.4,baz=117,slow=10,SNR=6.4						
TORD	Torodi Ar. Bea	32.61	224	P	P	10 18 11.5	+0.2
	0.9nm,0.4s,mb4.1,baz=34,slow=9.1,SNR=12						
DBIC	Dimbokro	41.58	227	P	P	10 19 26.4	-1.1
	1.9nm,0.6s,mb3.9,baz=54,slow=7.8,SNR=3.5						

*ISCJB **01** 10:14:53.5±0.5, 986N±009×5770E±009, h10^{km}, mb4.0/20, MS3.6/6, Error ellipse: s-maj=15.2km s-min=10.2km az=41.0*
*IDC **01** 10:14:53.6±0.6, 980N×5775E, h0^{km}, mb3.9/18, mb1 4.1/18, mb1mx4.0/25, mbtmp4.0/18, MS3.6/6,*

Ms1 3.6/6, ms1mx3.1/35, Error ellipse: s-maj=18.2km s-min=14.3km az=133.0

NEIC ***01*** *10:14:55.1±0.5, 982N×5766E, h10km, mb4.5/1, Error ellipse: s-maj=16.6km s-min=11.0km az=134.0*

ISC 01 10:14:55.2±0.5**, 983N**±009×**5772E**±009**, h10km, n36, σ0.95**/28**, mb4.0**/20**, MS3.6**/6**, Carlsberg Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMBO	Kilima Mbogo	23.10	243	P	P	10 20 00.7	-0.9
	2.9nm,0.9s,mb3.7,baz=41,slow=14,SNR=3.8						
KMBO	Kilima Mbogo	23.10	243	P	P	10 20 00.7	-0.9
ASF	Jabal al Asfar	29.42	322	LR	LR	10 32 39.1	
	comp=Z,75nm,18.2s,MS3.4,baz=182,slow=36						
EKS2	Erkin-Say	35.60	21	eP	P	10 21 53.5	+0.5
	9.3nm,1.3s,mb4.5						
AKTK	Aktyubinsk	40.48	0	P	P	10 22 33.0	-1.1
AKTO	Aktyubinsk	40.48	0	P	P	10 22 33.0	-1.1
	2.0nm,0.8s,mb3.9,baz=182,slow=10,SNR=3.4						
CMAR	Chiang Mai Arr	40.80	73	P	P	10 22 38.5	+1.2
	1.3nm,0.5s,mb3.8,baz=267,slow=8.7,SNR=13						
MK31	Makanchi Array	42.35	25	P	P	10 22 49.4	-0.1
MKAR	Makanchi Array	42.35	25	P	P	10 22 50.6	+1.1
	1.3nm,0.8s,mb3.6,baz=212,slow=5.1,SNR=4.0						
MKAR				LR	LR	10 41 13.7	
	comp=Z,70nm,20.1s,MS3.5,baz=5.6,slow=37						
KURK	Kurchatov	44.26	19	P	P	10 23 04.2	-0.6
	0.6nm,0.7s,mb3.4,baz=216,slow=8.4,SNR=3.1						
BVAR	Borovoye Array	44.28	11	P	P	10 23 05.3	+0.4
	0.8nm,0.6s,mb3.6,baz=202,slow=7.2,SNR=3.3						
LBTB	Lobatse	46.69	222	P	P	10 23 25.8	+1.3
	5.8nm,0.9s,mb4.5,baz=49,slow=6.9,SNR=5.0						
LBTB	Lobatse	46.69	222	P	P	10 23 25.8	+1.3
AKASG	Malin Array Be	47.02	336	P	P	10 23 28.7	+2.0
	0.4nm,0.3s,mb3.8,baz=134,slow=7.5,SNR=4.6						
TSUM	Tsumeb	48.96	234	LR	LR	10 43 28.8	
	comp=Z,81nm,18.5s,MS3.8,baz=327,slow=35						
ZALV	Zalesovo Beam	49.05	21	P	P	10 23 42.7	+0.3
	1.1nm,0.5s,mb4.1,baz=226,slow=8.1,SNR=5.1						
ZALV	Zalesovo Beam	49.05	21	P	P	10 23 42.7	+0.3
BOSA	Boshof	49.44	218	P	P	10 23 46.6	+0.9
	5.6nm,1.0s,mb4.5,baz=36,slow=9.0,SNR=4.6						
BOSA				LR	LR	10 41 30.8	
	comp=Z,98nm,21.0s,MS3.8,baz=348,slow=32						
SUR	Sutherland	54.80	218	LR	LR	10 44 32.5	
	comp=Z,88nm,21.1s,MS3.8,baz=15,slow=32						
TOA0	Torodi Ar. Sit	54.91	279	eP	P	10 24 26.7	-0.1
TORD	Torodi Ar. Bea	54.91	279	P	P	10 24 26.5	-0.2
	3.3nm,0.8s,mb4.4,baz=86,slow=6.4,SNR=22						
TORD	Torodi Ar. Bea	54.91	279	P	P	10 24 26.5	-0.2
SONM	Songino Array	55.68	38	P	P	10 24 32.2	+0.4
	0.4nm,0.5s,mb3.7,baz=254,slow=2.6,SNR=3.9						
MDT	Midelt	61.52	302	P	P	10 25 13.3	+0.5
	1.7nm,0.9s,mb4.2,baz=74,slow=6.5,SNR=2.5						
DBIC	Dimbokro	61.94	272	P	P	10 25 12.4	-3.5
	1.3nm,0.4s,mb4.4,baz=95,slow=5.3,SNR=4.2						
DBIC	Dimbokro	61.94	272	P	P	10 25 12.4	-3.5
ESDC	Sonseca Array	62.05	310	P	P	10 25 15.5	-0.7
	1.7nm,0.6s,mb4.3,baz=83,slow=5.9,SNR=6.8						
ARCES	ARCESS Array B	63.13	348	LR	LR	10 56 17.6	
	comp=Z,34nm,18.1s,MS3.6,baz=111,slow=39						
KSRS	Korea Array	68.39	54	P	P	10 25 55.4	-1.9
	0.5nm,0.4s,mb3.9,baz=280,slow=6.1,SNR=3.6						
MAW	Mawson	77.32	178	P	P	10 26 49.5	-0.2
	1.0nm,1.0s,mb3.7,baz=0.0,slow=6.1,SNR=3.6						
WRA	Warramunga Arr	80.96	112	P	P	10 27 10.0	-0.6
	0.8nm,0.8s,mb3.7,baz=295,slow=4.6,SNR=5.6						
ASAR	Alice Springs	81.48	116	P	P	10 27 12.7	-0.7
	0.9nm,0.8s,mb3.8,baz=297,slow=5.2,SNR=8.8						
PDAR	Pinedale Array	126.38	348	PKP	PKPdf	10 33 58.2	-0.6
	0.7nm,0.8s,baz=60,slow=2.4,SNR=5.4						
RWWY	Rawlins	126.90	346	ePKPdf	PKPdf	10 33 57.5	-2.3
JLU	Jordanelle	128.83	349	ePKPdf	PKPdf	10 34 05.0	+1.5
NVAR	Mina Array Bea	131.85	356	PKP	PKPdf	10 34 11.2	+1.9
	0.2nm,0.4s,baz=5.7,slow=1.8,SNR=3.5						

MAN 01 10:24:15, 922N×12222E, h22km, mb3.8, ML2.6, MS2.2, Negros

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNPH	Sibulan	1.01	83	i P	Pb	10 24 33.5	-0.3
GUIM	Jordan	1.45	15	eP	Pn	10 24 40.3	+0.4
GUIM				eS	Sn	10 24 59.4	+1.2
IPIL	Ipil	1.46	166	eP	Pn	10 24 40.2	+0.1
IPIL				eS	Sn	10 24 56.5	-2.1
PAGZ	Pagadian	1.78	140	eP	Pn	10 24 45.5	+1.0
PAGZ				eS	Sn	10 25 08.1	+1.6

ISCJB ***01*** *10:24:41.6±0.9, 4333N±002×12690W±007, h24km±13km, mb3.6/2, MS3.4/3, Error ellipse: s-maj=9.1km s-min=3.1km az=164.0*

IDC ***01*** *10:24:45.0±2.2, 4340N×12644W, h0km, mb3.7/3, mb1 3.9/9, mb1mx3.7/28, mbtmp3.8/9, ML3.7/6, MS3.4/5, Ms1 3.4/5, ms1mx3.0/32, Error ellipse: s-maj=37.7km s-min=13.1km az=55.0*

NEIC ***01*** *10:24:44.9±1.1, 4337N×12659W, h10km, ML3.5, Error ellipse: s-maj=13.4km s-min=5.1km az=73.0*

ISC 01 10:24:44.0±0.8**, 4330N**±002×**12679W**±008**, h17km**±8km**, n176, σ0.80**/210**, mb3.6**/2**, MS3.4**/3**, 66C-85D, Off coast of Oregon**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
K01A	Sixes	1.77	105	⇑P	Pn	10 25 11.8	-2.0
	baz=2.0						
K01A				⇓S	Sn	10 25 35.0	-1.0
	baz=2.0						
KEBM	Edson Butte	1.85	103	P	Pn	10 25 13.2	-1.7
I02A	Mapleton	2.26	71	⇓P	Pn	10 25 19.1	-1.5
	baz=2.6,SNR=404						
I02A				⇓S	Sn	10 25 48.4	+0.4
	baz=2.6						
RNO	Roman Nose	2.30	74	P	Pn	10 25 20.2	-0.9
J02A	Umpqua	2.35	87	⇓P	Pn	10 25 20.5	-1.2
	baz=2.6						
J02A				⇓S	Sn	10 25 49.7	-0.4
	baz=2.6						
H02A	Toledo	2.44	55	⇑P	Pn	10 25 21.7	-1.3
	baz=2.7,SNR=110						
H02A				⇑S	Sn	10 25 52.0	-0.4
	baz=2.7						
M01C	Crescent City	2.45	126	⇑P	Pn	10 25 21.8	-1.4
	baz=2.6						
M01C				⇓S	Sn	10 25 50.5	-2.2
	baz=2.6						
K02A	Glendale	2.48	101	⇓P	Pn	10 25 22.3	-1.2
	baz=2.7						
K02A				⇓S	Sn	10 25 52.6	-0.8
	baz=2.7						
DBO	Dodson Butte	2.60	93	P	Pn	10 25 24.3	-0.9
L02A	Cave Junction	2.61	115	⇓P	Pn	10 25 24.3	-1.1
	baz=2.8						
MPOR	Mary's Peak	2.63	62	P	Pn	10 25 24.7	-1.0
I03A	Eugene	2.63	74	⇑P	Pn	10 25 24.8	-1.0
	baz=2.9,SNR=1000						
I03A				⇑S	Sn	10 25 57.6	+0.3
	baz=2.9						
HSO	Harness Mounta	2.70	84	P	Pn	10 25 25.9	-0.8
EUO	Eugene	2.79	74	P	Pn	10 25 27.3	-0.6
COR	Corvallis	2.83	62	P	Pn	10 25 27.8	-0.5
H03A	Soap Creek Ran	2.87	60	⇓P	Pn	10 25 28.1	-0.9
	baz=3.2						
H03A				⇑S	Sn	10 26 03.8	+0.6
	baz=3.2						
HUMO	Hull Mountain	2.90	103	⇑P	Pn	10 25 28.3	-1.0
	baz=3.2						
HUMO				⇓S	Sn	10 26 03.9	+0.1
	baz=3.2						
HUMO	Hull Mountain	2.90	103	P	Pn	10 25 28.4	-1.0
HEBO	Mount Hebo	2.90	48	P	Pn	10 25 28.2	-1.1
BBOR	Butler Butte	3.04	96	P	Pn	10 25 31.2	-0.1
I04A	Tendick Farm,	3.22	80	⇑P	Pn	10 25 33.5	-0.3
	baz=3.5						
I04A				⇓S	Sn	10 26 12.2	+0.5
	baz=3.5						
G03A	Yamhill	3.22	50	⇓P	Pn	10 25 32.9	-0.9
	baz=3.5						
G03A				⇑S	Sn	10 26 12.4	+0.6
	baz=3.5						
BROR	Big Rock Looko	3.29	71	P	Pn	10 25 34.9	+0.3
KMOR	Kings Mountain	3.32	44	P	Pn	10 25 34.0	-1.1
YBH	Yreka Blue Hor	3.40	116	Pn	Pn	10 25 36.7	+0.5
	5.1nm,0.3s,baz=307,slow=11,SNR=112						
YBH				Sn	Sn	10 26 18.5	+2.3
	2.2nm,0.3s,baz=270,slow=19,SNR=4.3						
YBH	Yreka Blue Hor	3.40	116	⇑P	Pn	10 25 36.4	+0.2
	baz=3.6						
YBH	Yreka Blue Hor	3.40	116	ePn	Pn	10 25 36.3	+0.1
YBH				eSn	Sn	10 26 15.2	-0.9
J04A	Umpqua Nationa	3.42	89	⇓P	Pn	10 25 37.0	+0.6
	baz=3.7						
M02C	Callahan	3.48	122	⇓P	Pn	10 25 36.8	-0.6
	baz=3.7						
F03A	Seaside	3.50	40	⇓P	Pn	10 25 36.6	-1.0
	baz=3.8						
F03A				⇑S	Sn	10 26 19.5	+1.0
	baz=3.8						
N02C	Big Bar	3.59	133	⇓P	Pn	10 25 38.6	-0.2
	baz=3.7						
N02C				⇑S	Sn	10 26 19.3	-1.4
	baz=3.7						
H04A	Detroit Lake	3.60	66	⇓P	Pn	10 25 39.0	+0.1
	baz=3.9,SNR=674						
G04A	Mulino	3.63	57	⇓P	Pn	10 25 39.6	+0.1
	baz=3.9,SNR=197						
G04A				⇑S	Sn	10 26 23.6	+1.7
	baz=3.9						
GT2	Goat Mountain	3.74	59	P	Pn	10 25 41.5	+0.6
LHEM	Herd Peak	3.77	115	P	Pn	10 25 42.8	+1.5
K04A	Chilquin	3.78	99	⇑P	Pn	10 25 41.6	+0.2
	baz=4.0						
L04A	Klamath Falls	3.78	106	⇑P	Pn	10 25 41.5	0.0
	baz=4.0						
BKCOR	Black Crater	3.82	73	P	Pn	10 25 42.4	+0.4
M04C	Macdoel	3.96	111	⇑P	Pn	10 25 44.0	0.0
	baz=4.2						
E03A	Lebam	3.97	34	⇓P	Pn	10 25 42.9	-1.2
	baz=4.2						
E03A				⇑S	Sn	10 26 30.2	-0.1
	baz=4.2						
J05A	Fort Rock	4.05	88	⇑P	Pn	10 25 45.0	-0.2
	baz=4.3						
BMW	Boistfort Moun	4.06	37	ePn	Pn	10 25 44.4	-0.8
BMW				eSn	Sn	10 26 32.8	+0.4
F04A	Amboy	4.08	48	⇑P	Pn	10 25 45.8	+0.2
	baz=4.4						
F04A				⇓S	Sn	10 26 33.9	+0.9
	baz=4.4						
I05A	Bend	4.09	76	⇓P	Pn	10 25 45.8	0.0
	baz=4.4						
TDH	Tom, Dick, Har	4.10	59	P	Pn	10 25 46.7	+0.8
H05A	Madras	4.23	70	P	Pn	10 25 47.9	+0.2
	baz=4.5,SNR=30						
K05A	Summer Lake	4.36	96	⇓P	Pn	10 25 49.7	+0.3
	baz=4.6						
D03A	Wishkah Elem.	4.37	28	⇑P	Pn	10 25 48.7	-0.8
	baz=4.6						
D03A				⇓S	Sn	10 26 39.2	-0.9
	baz=4.6						
G05A	Wamic	4.38	62	P	Pn	10 25 50.2	+0.5
	baz=4.7,SNR=208						
L05A	Lakeview	4.57	104	⇑P	Pn	10 25 52.4	+0.2
	baz=4.8						
NLWA	Neilton Lookou	4.58	26	⇓P	Pn	10 25 51.3	-1.1
	baz=4.8						
NLWA				⇓S	Sn	10 26 42.7	-2.5
	baz=4.8						
NLWA	Neilton Lookou	4.58	26	ePn	Pn	10 25 51.2	-1.2
F05A	White Salmon	4.60	54	P	Pn	10 25 53.4	+0.6
	baz=4.9,SNR=222						
M05C	Lookout	4.61	113	⇑P	Pn	10 25 53.3	+0.4
	baz=4.8						
D04A	Dobbs Creek Ra	4.74	35	⇑P	Pn	10 25 54.5	-0.1
	baz=5.0						
D04A				⇓S	Sn	10 26 50.6	+1.5
	baz=5.0						
K06A	Valley Falls	4.82	94	⇑P	Pn	10 25 55.5	-0.2
	baz=5.1						
I06A	Prineville	4.82	80	⇓P	Pn	10 25 55.8	+0.1
	baz=5.1,SNR=9.6						
G06A	Carlson Farm,	4.82	64	P	Pn	10 25 55.9	+0.1
	baz=5.1,SNR=90						
J06A	Christmas Vall	4.84	88	⇑P	Pn	10 25 55.6	-0.5
	baz=5.1						
H06A	Lindquist Farm	4.87	71	⇓P	Pn	10 25 56.7	+0.3
	baz=5.2,SNR=403						
LON	Longmire	4.93	44	ePn	Pn	10 25 57.6	+0.3
LON				eSn	Sn	10 26 55.1	+1.1
MOD	Modoc	4.99	104	ePn	Pn	10 25 57.9	-0.2
D05A	Enumclaw	5.16	39	⇑P	Pn	10 26 00.7	+0.3
	baz=5.4						
D05A				⇓S	Sn	10 27 01.5	+2.1
	baz=5.4						
C04A	Brinnon	5.17	30	⇑P	Pn	10 25 59.6	-0.9
	baz=5.4						
C04A				⇑S	Sn	10 26 58.7	-1.0
	baz=5.4						
E06A	Yakima	5.25	50	P	Pn	10 26 02.4	+0.8
	baz=5.5,SNR=104						
B04A	Port Angeles	5.28	25	⇑P	Pn	10 26 01.5	-0.6
	baz=5.5						
B04A				⇑S	Sn	10 27 00.7	-1.9
	baz=5.5						
I07A	Izee	5.34	79	P	Pn	10 26 03.3	+0.4
	baz=5.6,SNR=28						
H07A	Lands Inn, Kim	5.37	74	⇑P	Pn	10 26 03.9	+0.6
	baz=5.7,SNR=151						
G07A	Ruggs Ranch, H	5.47	67	⇑P	Pn	10 26 05.0	+0.3
	baz=5.8						
F07A	Phinny Hill Vi	5.54	60	⇑P	Pn	10 26 05.7	0.0
	baz=5.8						
K07A	Rock Creek Ran	5.56	94	⇓P	Pn	10 26 05.8	-0.2
	baz=5.8						
L07A	Adell	5.64	101	⇓P	Pn	10 26 07.2	+0.2
	baz=5.9						
C05A	Tolt Reservoir	5.67	37	⇑P	Pn	10 26 07.4	0.0
	baz=5.9						
C05A				⇓S	Sn	10 27 12.8	+0.7
	baz=5.9						
D06A	Cle Elum	5.72	45	⇓P	Pn	10 26 08.8	+0.7
	baz=6.0						
NSHM	Saint Helena R	5.73	145	ePn	Pn	10 26 09.9	+1.6
PGC	Sidney	5.83	22	ePn	Pn	10 26 08.8	-0.9
E07A	Sunnyside	5.90	54	⇓P	Pn	10 26 10.9	+0.3
	baz=6.2,SNR=13						
MCCM	Marconi Confer	5.95	149	⇑P	Pn	10 26 11.9	+0.6
	baz=6.0						
B05A	Bryant	5.95	32	⇓P	Pn	10 26 10.8	-0.4
	baz=6.2						
B05A				⇑S	Sn	10 27 19.0	+0.1
	baz=6.2						
JCW	Jim Creek	5.96	33	ePn	Pn	10 26 11.3	-0.1
JCW				eSn	Sn	10 27 17.4	-1.7
G08A	Pilot Rock	5.96	68	⇓P	Pn	10 26 11.6	+0.2
	baz=6.2,SNR=46						
RSW	Rattlesnake Hi	5.98	56	ePn	Pn	10 26 12.2	+0.5
H08A	Prairie City	5.99	75	⇓P	Pn	10 26 12.0	+0.2
	baz=6.3,SNR=24						
HAWA	Hanford	6.01	57	ePn	Pn	10 26 12.2	+0.1
WVOR	Wild Horse Val	6.05	95	ePn	Pn	10 26 12.1	-0.6
K08A	Mann Creek Ran	6.11	93	⇓P	Pn	10 26 12.9	-0.6
	baz=6.4						
A04A	Legoe Bay, Lum	6.12	26	⇑P	Pn	10 26 13.2	-0.4
	baz=6.3						
A04A				⇓S	Sn	10 27 22.1	-1.0
	baz=6.3						
D07A	Quincy	6.19	49	⇓P	Pn	10 26 15.3	+0.8
	baz=6.5,SNR=8.4						
C06A	Tall Timber Ra	6.20	40	⇓P	Pn	10 26 15.2	+0.5
	baz=6.4						
C06A				⇓S	Sn	10 27 26.3	+1.2
	baz=6.4						
F08A	Pendleton	6.25	64	⇑P	Pn	10 26 14.9	-0.4
	baz=6.5,SNR=8.3						
ETW	Entiat	6.25	44	ePn	Pn	10 26 16.2	+0.8
ETW				eSn	Sn	10 27 24.8	-1.7
RPW	Rockport	6.33	34	ePn	Pn	10 26 16.3	-0.1
RPW				eSn	Sn	10 27 27.4	-0.8
E08A	Dider Farm, El	6.35	57	⇓P	Pn	10 26 16.9	+0.2
	baz=6.6						
B06A	Marblemount	6.39	33	⇓P	Pn	10 26 17.3	0.0
	baz=6.6						
B06A				⇓S	Sn	10 27 30.0	0.0
	baz=6.6						
C07A	Waterville	6.45	45	⇑P	Pn	10 26 18.4	+0.3
	baz=6.7						
A05A	Maple Falls	6.57	28	⇓P	Pn	10 26 19.7	0.0
	baz=6.8						
A05A				⇓S	Sn	10 27 34.2	+0.1
	baz=6.8						
LNOR	Lincton Mounta	6.59	64	ePn	Pn	10 26 19.6	-0.5
D08A	Wollman Farm,	6.71	53	⇓P	Pn	10 26 21.9	+0.3
	baz=7.0						
H09A	Durkee	6.72	75	⇑P	Pn	10 26 21.9	0.0
	baz=7.0						
G09A	Cove	6.76	70	⇑P	Pn	10 26 22.7	+0.3
	baz=7.0,SNR=26						
F09A	S2 Ranch, Elgi	6.79	66	⇑P	Pn	10 26 22.8	+0.1
	baz=7.1						
JRSC	Jasper Ridge	6.84	148	⇑P	Pn	10 26 23.7	+0.2
	baz=6.9						
A06A	Chilliwack	6.87	31	⇓P	Pn	10 26 23.5	-0.4
	baz=7.1						
A06A				⇓S	Sn	10 27 41.5	-0.1
	baz=7.1						
B07A	Winthrop	6.95	40	⇓P	Pn	10 26 24.4	-0.6
	baz=7.2						
BMO	Blue Mountains	7.00	74	ePn	Pn	10 26 25.3	-0.4
OD2	Odessa Site #2	7.01	52	ePn	Pn	10 26 25.8	+0.1
C08A	Higginbotham F	7.04	48	⇑P	Pn	10 26 26.4	+0.1
	baz=7.3,SNR=20						
D09A	Jones Farm, Ri	7.07	55	⇑P	Pn	10 26 26.2	-0.4
	baz=7.3						
G10A	Bishop Farm, J	7.22	71	⇑P	Pn	10 26 29.0	+0.3
	baz=7.5,SNR=13						
B08A	Colville Reser	7.26	43	⇓P	Pn	10 26 28.9	-0.3
	baz=7.5						
A07A	Ashnola River,	7.26	35	⇑P	Pn	10 26 28.8	-0.5
	baz=7.5						
A07A				⇑S	Sn	10 27 52.6	+1.3
	baz=7.5						
F10A	Beach Ranch, E	7.32	65	⇑P	Pn	10 26 30.0	-0.1
	baz=7.6						
H10A	Noah's Angus R	7.36	76	⇓P	Pn	10 26 30.7	+0.1
	baz=7.6,SNR=13						
C09A	Chrisman Ranch	7.48	50	⇓P	Pn	10 26 32.5	+0.2
	baz=7.7,SNR=20						
E10A	Myers Farm, Un	7.57	62	⇑P	Pn	10 26 32.9	-0.6
	baz=7.9						
A08A	Turner Farm, O	7.69	40	⇓P	Pn	10 26 35.8	+0.6
	baz=7.9						
L10A	Juniper Basin	7.70	96	⇓P	Pn	10 26 35.3	0.0
	baz=8.0						
S05C	Merced	7.73	138	⇓P	Pn	10 26 36.6	+0.9
	baz=7.8						
M10A	I.L. Ranch, Tu	7.79	100	⇑P	Pn	10 26 37.0	+0.5
	baz=8.0						
G11A	Walters Elk Ra	7.83	71	⇓P	Pn	10 26 37.5	+0.4
	baz=8.1,SNR=15						
I11A	Placerville	7.88	82	⇓P	Pn	10 26 37.9	0.0
	baz=8.2						
H11A	Donnelly	7.89	76	⇓P	Pn	10 26 38.8	+0.8
	baz=8.2,SNR=17						
K11A	Parker Ranch,	7.90	90	⇓P	Pn	10 26 38.2	+0.2
	baz=8.2						
B09A	Rice	7.91	47	⇑P	Pn	10 26 38.0	-0.2
	baz=8.2						
F11A	Grangeville	8.02	68	⇓P	Pn	10 26 40.0	+0.4
	baz=8.3,SNR=9.4						
A09A	Danville	8.04	42	⇓P	Pn	10 26 40.2	+0.3
	baz=8.3						
C10A	Spilker Farm,	8.04	53	⇑P	Pn	10 26 39.9	0.0
	baz=8.3						
NVAR	Mina Array Bea	8.06	124	Pn	Pn	10 26 42.9	+2.7
	0.4nm,0.3s,baz=297,slow=14,SNR=8.8						
NVAR	Mina Array Bea	8.06	124	Pn	Pn	10 26 42.9	+2.7
E11A	Bogner Ranch,	8.12	64	⇓P	Pn	10 26 40.8	-0.1
	baz=8.4,SNR=7.8						
L11A	Cat Creek Ranc	8.20	94	⇓P	Pn	10 26 42.2	0.0
	baz=8.5						
D11A	Klaveano Farm,	8.28	59	⇓P	Pn	10 26 43.0	-0.2
	baz=8.6						
B10A	Chitwood Farm,	8.34	50	⇓P	Pn	10 26 44.3	+0.2
	baz=8.6						
NEW	Newport	8.38	50	ePn	Pn	10 26 44.5	-0.1
E12A	Beaver Dam Sad	8.55	65	⇑P	Pn	10 26 46.8	-0.2
	baz=8.8						
A10A	Northport	8.56	45	⇓P	Pn	10 26 46.8	-0.2
	baz=8.8						
F12A	Elk City	8.60	69	⇓P	Pn	10 26 47.5	-0.1
	baz=8.9						
D12A	Red Ives Fores	8.90	61	⇑P	Pn	10 26 52.0	+0.3
	baz=9.2						
BBB	Bella Bella	8.93	355	Pn	Pn	10 26 53.4	+1.2
	1.2nm,0.3s,baz=198,slow=13,SNR=11						
ELK	Elko	8.97	103	Pn	Pn	10 26 56.4	+3.7
	0.1nm,0.3s,baz=294,slow=12,SNR=11						
ELK				LR	LR	10 30 38.1	
	comp=Z,126nm,19.0s,baz=284,slow=40						
HLID	Hailey	9.01	84	⇑P	Pn	10 26 54.2	+0.9
	baz=9.3						
HLID	Hailey	9.01	84	ePn	Pn	10 26 56.8	+3.5
C12B	Naegeli Ranch,	9.08	57	⇑P	Pn	10 26 55.4	+1.1
	baz=9.4						
H13A	Challis	9.13	78	⇑P	Pn	10 26 56.0	+1.1
	baz=9.4						
A11A	Hall Mountain,	9.18	48	⇑P	Pn	10 26 56.3	+0.7
	baz=9.4,SNR=21						
G13A	Cobalt	9.20	74	⇓P	Pn	10 26 56.9	+1.1
	baz=9.5						
F13A	Darby	9.24	70	⇑P	Pn	10 26 56.8	+0.5
	baz=9.5						
E13A	Victor	9.48	66	⇑P	Pn	10 26 59.5	-0.2
	baz=9.8						
D13A	Huson	9.49	62	⇓P	Pn	10 26 59.9	0.0
	baz=9.8						
A12A	Yaak River Ran	9.56	50	⇓P	Pn	10 27 02.1	+1.3
	baz=9.8						
MSO	Missoula	9.75	64	ePn	Pn	10 27 02.8	-0.6
F14A	Wisdom	9.90	71	⇓P	Pn	10 27 05.2	-0.3
	baz=10						
E14A	Clinton	9.94	67	⇓P	Pn	10 27 06.7	+0.7
	baz=10						
B13A	Whitefish	9.98	55	⇑P	Pn	10 27 07.1	+0.6
	baz=10						
D14A	Greenough	10.11	63	⇓P	Pn	10 27 08.0	-0.3
	baz=10						
C14A	Swan Lake	10.18	59	⇓P	Pn	10 27 09.3	0.0
	baz=10						
A13A	Flathead Natio	10.27	52	⇓P	Pn	10 27 11.1	+0.7
	baz=10						
F15A	Butte	10.51	71	⇓P	Pn	10 27 14.1	+0.2
	baz=11						
E15A	Deer Lodge	10.52	68	⇓P	Pn	10 27 14.0	+0.1
	baz=11						
D15A	Lincoln	10.74	65	⇓P	Pn	10 27 15.8	-1.2
	baz=11						
C15A	Salmond Ranch,	10.90	61	⇓P	Pn	10 27 18.8	-0.4
	baz=11						
B15A	Bradely Ranch,	11.12	58	⇓P	Pn	10 27 21.7	-0.4
	baz=11						
C16A	Fuhringer Ranc	11.46	62	⇓P	Pn	10 27 27.0	+0.1
	baz=12						
E17A	Martinsdale	11.74	69	⇑P	Pn	10 27 30.6	0.0
	baz=12						
A16A	West Butte Ran	11.95	57	⇓P	Pn	10 27 33.8	+0.4
	baz=12						
C17A	Wharram Farm,	12.05	63	⇑P	Pn	10 27 34.9	0.0
	baz=12						
E18A	Harlowton	12.40	69	⇑P	Pn	10 27 39.8	+0.2
	baz=13						
PDAR	Pinedale Array	12.62	87	Pn	Pn	10 27 45.1	+2.5
	0.1nm,0.3s,baz=277,slow=12,SNR=14						
PDAR				LR	LR	10 32 39.1	
	comp=Z,275nm,20.4s,baz=346,slow=38						
DLBC	Dease Lake	15.29	354	Pn	Pn	10 28 23.6	+4.7
	baz=178,slow=12						
ANMO	Albuquerque	17.81	111	P	Pn	10 28 52.8	+1.8
	0.1nm,0.3s,baz=292,slow=10,SNR=12						
YKA	Yellowknife Ar	20.51	16	P	P	10 29 23.4	+2.3
	2.8nm,0.8s,baz=206,slow=9.6,SNR=2.6						
ULM	Lac du Bonnet	22.17	61	P	P	10 29 39.1	+0.2
	5.0nm,0.5s,mb4.2,baz=265,slow=9.6,SNR=13						
ULM				LR	LR	10 38 24.2	
	comp=Z,107nm,21.0s,MS3.2,baz=227,slow=37						
TXAR	Lajitas Array	23.17	119	P	P	10 29 52.0	+2.3
	0.6nm,0.8s,mb3.1,baz=301,slow=8.8,SNR=7.2						
LPIG	La Paz	23.47	139	LR	LR	10 39 52.0	
	comp=Z,51nm,18.2s,MS3.0,baz=92,slow=39						
SCHQ	Schefferville	39.75	52	LR	LR	10 47 24.6	
	comp=Z,126nm,18.6s,MS3.8,baz=73,slow=34						
LSZ	Lusaka	144.82	45	PKP	PKPdf	10 44 22.7	+2.4
	2.3nm,0.8s,baz=359,slow=3.2,SNR=4.8						

ISCJB ***01*** *10:25:50.4±1.1, 208S±0.1×1787W±0.1, h561km±15km,*

mb3.9/18, Error ellipse: s-maj=21.0km s-min=9.5km az=142.6
*NEIC **01** 10:25:52.3±1.0, 2082S×17860W, h578km±11km, mb4.1/6, Error ellipse: s-maj=15.7km s-min=8.1km az=144.0*
*IDC **01** 10:25:56.4±2.0, 2099S×17872W, h622km±23km, mb3.3/15, mb1 3.5/16, mb1mx3.4/21, mbtmp3.3/16, Error ellipse: s-maj=14.6km s-min=10.4km az=155.0*
ISC 01 10:25:51.6±1.3, **208S**±01×**1786W**±01, **h562**km±16km, **n45**, σ0s**66**/34, **mb3.9**/18, **Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
AFI	Afiamalu	9.50	45	P	P	10 28 04.7	-0.1
	1.9nm,0.3s,baz=270,slow=13,SNR=3.3						
AFI				S	S	10 29 49.9	-4.0
	2.1nm,0.3s,baz=252,slow=20,SNR=3.7						
URZ	Urewera	17.75	191	P	P	10 29 26.0	-0.4
	1.1nm,0.3s,baz=32,slow=6.5,SNR=5.8						
URZ				S	S	10 32 14.5	-6.8
	0.2nm,0.3s,baz=38,slow=18,SNR=3.3						
CTA	Charters Tower	32.87	265	eP	P	10 31 41.0	+1.0
	3.2nm,0.4s,mb4.2						
CTA	Charters Tower	32.87	265	P	P	10 31 41.1	+1.1
	4.0nm,0.5s,mb4.2,baz=92,slow=10,SNR=12						
STKA	Stephens Creek	37.11	244	eP	P	10 32 16.2	+1.1
	3.5nm,0.9s,mb3.9						
STKA	Stephens Creek	37.11	244	P	P	10 32 15.9	+0.8
	2.9nm,1.0s,mb3.8,baz=127,slow=10,SNR=4.6						
ASAR	Alice Springs	43.87	257	P	P	10 33 08.7	-0.3
	2.1nm,0.7s,mb3.8,baz=94,slow=7.9,SNR=23						
ASAR				PcP	PcP	10 34 41.9	-0.9
	1.5nm,0.6s,baz=98,slow=4.4,SNR=14						
ASAR				S	S	10 38 56.1	-3.8
	1.2nm,0.9s,baz=92,slow=15,SNR=9.6						
WB2	Warramunga Arr	43.96	263	eP	P	10 33 09.8	+0.1
WB2	Warramunga Arr	43.96	263	eP	P	10 33 09.9	+0.2
WRA	Warramunga Arr	43.97	263	P	P	10 33 09.3	-0.5
	0.9nm,0.3s,mb3.8,baz=97,slow=6.9,SNR=55						
WRA				S	S	10 38 58.0	-3.4
	0.2nm,0.4s,baz=98,slow=13,SNR=8.5						
FORT	Forrest	48.62	247	eP	P	10 33 44.6	-0.2
	5.8nm,0.5s,mb4.4						
FITZ	Fitzroy Crossi	52.40	263	eP	P	10 34 12.6	+0.1
	1.9nm,0.5s,mb3.7						
FITZ	Fitzroy Crossi	52.40	263	P	P	10 34 12.5	0.0
	0.8nm,0.5s,mb3.3,baz=101,slow=4.2,SNR=9.0						
MBWA	Marble Bar	57.21	258	eP	P	10 34 45.6	-0.4
KLBR	Kellerberrin	57.38	245	eP	P	10 34 46.9	-0.2
	33nm,1.5s,mb4.3						
NWAO	Narrogin (SRO)	57.69	244	P	P	10 34 49.2	+0.1
	6.0nm,0.9s,mb3.8,baz=104,slow=8.0,SNR=3.1						
NWAO	Narrogin (SRO)	57.69	244	P	P	10 34 49.2	0.0
MUN	Mundaring	58.65	245	eP	P	10 34 56.0	+0.3
QSPA	South Pole Qui	69.23	180	P	P	10 36 02.3	+0.3
	1.3nm,0.4s,mb3.8,baz=128,slow=0.4,SNR=12						
QSPA				PcP	PcP	10 36 21.3	+0.1
	1.3nm,0.7s,baz=349,slow=0.8,SNR=3.8						
MJAR	Matsushiro Arr	70.14	324	P	P	10 36 07.6	-0.4
	0.6nm,0.5s,mb3.4,baz=160,slow=3.9,SNR=3.4						
PETK	Petropavlovsk-	76.45	346	P	P	10 36 43.6	0.0
	2.8nm,0.7s,mb3.8,baz=102,slow=9.2,SNR=9.1						
MAW	Mawson	81.05	200	P	P	10 37 07.0	-0.9
	3.1nm,1.1s,mb3.7,baz=146,slow=5.0,SNR=4.0						
NVAR	Mina Array Bea	81.67	44	P	P	10 37 12.4	+0.8
	2.0nm,0.6s,mb3.7,baz=220,slow=8.4,SNR=14						
TPNV	Topopah Spring	82.20	46	eP	P	10 37 14.7	+0.3
	3.0nm,0.9s,mb3.7						
BMO	Blue Mountains	85.94	39	P	P	10 37 31.9	-0.6
TXAR	Lajitas Array	87.73	58	P	P	10 37 42.0	+0.7
	1.8nm,0.8s,mb3.8,baz=221,slow=6.2,SNR=17						
ANMO	Albuquerque	88.07	51	P	P	10 37 43.0	+0.2
	1.0nm,0.7s,mb3.6,baz=252,slow=20,SNR=5.5						
COLA	College	88.66	13	eP	P	10 37 43.3	-1.4
PDAR	Pinedale Array	89.61	43	P	P	10 37 50.0	+0.3
	2.1nm,0.7s,mb4.1,baz=214,slow=3.3,SNR=19						
CMAR	Chiang Mai Arr	89.67	290	P	P	10 37 51.5	+0.9
	1.2nm,0.6s,mb3.9,baz=122,slow=2.8,SNR=7.4						
BVAR	Borovoye Array	118.96	320	PKP	PKPdf	10 43 34.6	-1.8
	2.0nm,0.4s,baz=107,slow=1.5,SNR=8.4						
BDFB	Brasilia	119.46	123	PKP	PKPdf	10 43 39.0	+0.5
	4.3nm,0.7s,baz=225,slow=5.7,SNR=4.0						
AKTK	Aktyubinsk	126.93	318	PKP	PKPdf	10 43 50.2	-1.6
AKTO	Aktyubinsk	126.93	318	PKP	PKPdf	10 43 50.2	-1.6
	1.1nm,0.6s,baz=63,slow=2.3,SNR=2.9						
ARCES	ARCESS Array B	129.14	349	PKP	PKPdf	10 43 53.5	-2.0
	2.0nm,0.6s,baz=52,slow=2.0,SNR=9.4						
ARCES	ARCESS Array B	129.14	349	PKP	PKPdf	10 43 53.5	-2.0
LSZ	Lusaka	135.49	218	PKP	PKPdf	10 44 08.2	-0.7
	0.9nm,0.6s,baz=117,slow=2.3,SNR=2.6						
LSZ	Lusaka	135.49	218	PKP	PKPdf	10 44 08.2	-0.7
NOA	NORSAR Array B	139.24	353	PKhKP		10 44 06.0	
	1.0nm,0.7s,baz=12,slow=2.3,SNR=3.9						
AKASG	Malin Array Be	143.02	330	PKP	PKPdf	10 44 18.0	-3.6
	7.2nm,0.6s,baz=40,slow=4.2,SNR=24						
ASF	Jabal al Asfar	146.41	297	PKPbc	PKPbc	10 44 29.9	-0.5
	3.1nm,0.8s,baz=333,slow=2.3,SNR=4.8						
BR131	Keskin Array S	146.63	312	ePKPbc	PKPbc	10 44 29.3	-1.4
BUR08	Bucovina Ar. S	147.05	330	ePKPbc	PKPbc	10 44 31.4	-0.2
EIL	Elat	148.47	293	PKPbc	PKPbc	10 44 34.6	-1.2
	2.0nm,0.4s,baz=83,slow=8.1,SNR=2.8						
GERES	GERESS Array B	150.36	343	PKPbc	PKPbc	10 44 38.3	-1.4
	1.3nm,0.5s,baz=36,slow=2.5,SNR=13						

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*ISCJB **01** 10:35:03.0±0.7, 99N±0.1×576E±0.1, h10km, mb3.8/13, MS3.3/6, Error ellipse: s-maj=18.5km s-min=16.2km az=43.9*
*IDC **01** 10:35:03.4±0.8, 987N×5766E, h0km, mb3.8/12, mb1 3.9/12, mb1mx3.7/25, mbtmp3.8/12, MS3.3/6, Ms1 3.4/6, ms1mx3.1/30, Error ellipse: s-maj=23.0km s-min=19.4km az=134.0*
*NEIC **01** 10:35:05.0±0.6, 990N×5763E, h10km, Error ellipse: s-maj=19.4km s-min=15.2km az=131.0*
ISC 01 10:35:04.9±0.7, **99N**±01×**576E**±01, **h10**km, **n20**, σ1s**04**/16, **mb3.8**/13, **MS3.3**/6, **1D, Carlsberg Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KMBO	Kilima Mbogo	23.05	243	LR	LR	10 48 16.0	
	comp=Z,48nm,21.5s,MS2.9,baz=281,slow=34						
ASF	Jabal al Asfar	29.30	322	LR	LR	10 52 37.3	
	comp=Z,28nm,18.4s,MS2.9,baz=268,slow=36						
AKTK	Aktyubinsk	40.41	0	P	P	10 42 42.5	-0.6
AKTO	Aktyubinsk	40.41	0	P	P	10 42 42.5	-0.6
	1.2nm,0.6s,mb3.8,baz=142,slow=12,SNR=6.0						
CMAR	Chiang Mai Arr	40.88	73	P	P	10 42 48.5	+1.0
	0.6nm,0.3s,mb3.7,baz=265,slow=8.2,SNR=7.6						
CMAR				LR	LR	11 00 59.8	
	comp=Z,40nm,18.1s,MS3.3,baz=270,slow=38						
MK31	Makanchi Array	42.33	25	eP	P	10 42 59.8	+0.9
MKAR	Makanchi Array	42.33	25	P	P	10 42 59.3	+0.4
	1.1nm,0.9s,mb3.5,baz=224,slow=6.8,SNR=5.1						
MKAR				LR	LR	11 00 57.9	
	comp=Z,65nm,19.4s,MS3.5,baz=162,slow=37						
KURK	Kurchatov	44.22	19	P	P	10 43 14.2	0.0
	0.4nm,0.7s,mb3.3,baz=215,slow=8.4,SNR=3.2						
BVAR	Borovoye Array	44.22	11	P	P	10 43 15.6	+1.4
	0.4nm,0.3s,mb3.6,baz=175,slow=5.4,SNR=3.3						
LBTB	Lobatse	46.68	221	P	P	10 43 36.0	+1.9
	3.2nm,0.9s,mb4.2,baz=30,slow=5.3,SNR=2.8						
ZALV	Zalesovo Beam	49.02	21	P	P	10 43 51.3	-0.4
	0.9nm,0.4s,mb4.2,baz=236,slow=6.9,SNR=5.0						
ZALV				LR	LR	11 05 14.1	
	comp=Z,27nm,18.6s,MS3.3,baz=74,slow=37						
BOSA	Boshof	49.43	218	LR	LR	11 02 55.2	
	comp=Z,88nm,18.6s,MS3.8,baz=238,slow=34						
TORD	Torodi Ar. Bea	54.80	279	P	P	10 44 35.4	-0.1
	1.3nm,0.9s,mb4.0,baz=93,slow=6.0,SNR=6.2						
CLL	Collm	55.02	327	⇓iPKPbc	P	10 44 33.9	-2.6
	comp=Z,11nm,0.9s,mb4.9						
CLL				ePKPab	P	10 44 38.0	+1.5
SONM	Songino Array	55.69	38	P	P	10 44 41.6	+0.2
	comp=Z,0.4nm,0.6s,mb3.6,baz=232,slow=7.1,SNR=3.0						
ESDC	Sonseca Array	61.93	310	P	P	10 45 23.9	-1.1
	comp=Z,0.9nm,0.6s,mb4.1,baz=85,slow=6.7,SNR=5.3						
WRA	Warramunga Arr	81.08	112	P	P	10 47 19.6	-1.3
	comp=Z,0.7nm,1.0s,mb3.5,baz=296,slow=4.7,SNR=3.2						
ASAR	Alice Springs	81.61	116	P	P	10 47 22.3	-1.3
	comp=Z,0.4nm,0.8s,mb3.4,baz=295,slow=4.8,SNR=3.9						
PDAR	Pinedale Array	126.29	348	PKP	PKPdf	10 54 08.9	+0.7
	comp=Z,0.3nm,0.6s,baz=40,slow=4.7,SNR=2.9						
NVAR	Mina Array Bea	131.77	356	PKP	PKPdf	10 54 20.7	+2.0
	comp=Z,0.2nm,0.3s,baz=50,slow=2.8,SNR=3.4						

MAN 01 10:37:41, 1083N×12568E, h82km, mb4.2, ML3.0, MS2.8, 1C, Leyte

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PLP	Palo	0.77	296	⇑eP	Pn	10 37 58.1	+0.6
PLP				eS	Sn	10 38 08.9	-0.9
BESP	Borongan	0.81	343	eP	Pn	10 38 00.2	+2.2
BESP				eS	Sn	10 38 11.5	+0.9
SCPH	Surigao	1.06	190	eS	Sn	10 38 15.0	-0.8
MSLP	Maasin	1.06	230	eP	Pn	10 38 02.5	+1.6
MSLP				eS	Sn	10 38 18.8	+2.9
CNP	Catarman	1.95	329	eP	Pn	10 38 15.3	+3.0
CNP				eS	Sn	10 38 37.6	+1.5

IDC 01 10:43:12.9±1.7, **148N**×**12599E**, **h0**km, **mb3.5**/4, **mb1 3.7**/4, **mb1mx3.5**/16, **mbtmp3.6**/4, **Error ellipse: s-maj=185.4km s-min=20.9km az=66.0, Northern Molucca Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRA	Warramunga Arr	22.81	159	P	P	10 48 16.1	-1.4
	0.8nm,0.7s,baz=337,slow=11,SNR=7.8						
ASAR	Alice Springs	26.16	163	P	P	10 48 50.3	+1.2
	0.3nm,0.8s,baz=354,slow=7.5,SNR=3.8						
MKAR	Makanchi Array	58.99	326	P	P	10 53 14.8	+0.5
	0.8nm,0.6s,baz=114,slow=7.9,SNR=9.5						
KURK	Kurchatov	63.24	328	P	P	10 53 42.6	-0.5
	0.8nm,0.5s,baz=125,slow=6.6,SNR=8.6						

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*ISCJB **01** 10:46:03.5±1.0, 4100S±004×17229E±006, h9km±8km, Error ellipse: s-maj=8.9km s-min=4.2km az=37.1*
*NEIC **01** 10:46:04.9, 4105S×17250E, h5km, ML3.9(WEL), After WEL.*
NEIC Felt in the Takaka area.
ISC 01 10:46:04.4±0.8, **4104S**±003×**17238E**±006, **h6**km±6km, **n43**, σ0s**85**/45, **South Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
QRZ	Quartz Range	0.24	28	P	Pg	10 46 09.3	+0.2
QRZ				S	Sg	10 46 12.1	-0.2
NNZ	Nelson	0.78	104	P	Pg	10 46 17.6	-1.7
THZ	Tophouse	0.82	152	P	Pg	10 46 19.3	-1.0
DSZ	Denniston Nort	0.83	211	P	Pg	10 46 21.5	+1.1
DSZ				S	Sg	10 46 32.7	+1.6
BSWZ	Blackbirch Sta	1.31	121	P	Pn	10 46 28.1	-1.2
TCW	Tory Channel	1.44	98	P	Pn	10 46 29.6	-1.5
CMWZ	Cape Campbell	1.55	118	P	Pn	10 46 33.2	+0.6
KHZ	Kahutara	1.63	148	P	Pn	10 46 34.7	+1.0
LTZ	Lake Taylor	1.75	183	P	Pn	10 46 35.5	+0.2
MRW	Makara Radio	1.76	97	P	Pn	10 46 35.7	+0.2
SNZO	South Karori	1.78	100	P	Pn	10 46 35.6	-0.1
BHW	Baring Head	1.92	102	P	Pn	10 46 37.8	+0.2
KIW	Kapiti Island	1.93	86	P	Pn	10 46 37.9	+0.2
CAW	Cannon Point	2.03	93	P	Pn	10 46 40.2	+0.9
NWEZ	Newall Road	2.10	33	P	Pn	10 46 39.7	-0.4
MSWZ	Moikau Station	2.20	101	P	Pn	10 46 41.8	+0.3
PKE	Pukeiti	2.22	34	P	Pn	10 46 41.3	-0.4
MTW	Mount Morrison	2.36	94	P	Pn	10 46 43.9	+0.1
WAZ	Wanganui	2.37	58	P	Pn	10 46 44.0	+0.2
WVZ	Waitaha Valley	2.38	210	P	Pn	10 46 44.4	+0.5
MRZ	Mangatainoka R	2.46	82	P	Pn	10 46 47.1	+2.0
CRLZ	Canterbury Las	2.54	176	P	Pn	10 46 45.7	-0.6
VRZ	Vera Road	2.64	44	P	Pn	10 46 47.4	-0.2
MQZ	McQueen's Vall	2.67	176	P	Pn	10 46 47.2	-0.9
RPZ	Rata Peaks	2.85	200	P	Pn	10 46 50.8	+0.3
TSZ	Takapari Road	2.90	71	P	Pn	10 46 51.6	+0.5
FWVZ	Far West T-bar	3.01	55	P	Pn	10 46 53.5	+0.8
MOVZ	Moawhango	3.05	59	P	Pn	10 46 55.5	+2.2
WTVZ	West Tongariro	3.12	53	P	Pn	10 46 55.4	+1.2
HIZ	Hauiti	3.16	38	P	Pn	10 46 53.7	-1.0
FOZ	Fox Glacier	3.22	217	P	Pn	10 46 54.4	-1.1
BKZ	Black Stump Fm	3.67	61	P	Pn	10 47 02.7	+1.0
LBZ	Lake Benmore	3.72	205	P	Pn	10 47 02.7	+0.3
JCZ	Jackson Bay	4.04	220	P	Pn	10 47 06.9	0.0
ODZ	Otahua Downs	4.20	197	P	Pn	10 47 08.5	-0.5
WTAZ	Waiatarua	4.44	23	P	Pn	10 47 12.1	-0.2
MKAZ	Moumakai	4.48	30	P	Pn	10 47 12.8	-0.1
WKZ	Wanaka	4.52	212	P	Pn	10 47 13.2	-0.2
EAZ	Earnscleugh	4.76	207	P	Pn	10 47 16.0	-0.7
MSZ	Milford Sound	4.89	221	P	Pn	10 47 18.6	+0.1
KUZ	Kuaotunu	5.01	32	P	Pn	10 47 19.3	-0.9
TUZ	Tuapeka	5.31	201	P	Pn	10 47 23.0	-1.2
WCZ	Waipu Caves	5.32	17	P	Pn	10 47 23.6	-0.8

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*NIED **01** 10:47:00, 4680N×15280E, h5km, Mw4.1 Best double couple: M0 1.57000×10^15 NP1:φs305.00000°, δ88.00000°, λ62.00000°. NP2:φs212.00000°, δ28.00000°, λ177.00000°.*
*ISCJB **01** 10:47:05.6±1.0, 4645N±0.10×1527E±0.1, h39km±11km, mb3.5/7, Error ellipse: s-maj=21.4km s-min=5.3km az=137.3*
*JMA **01** 10:47:05.8±0.7, 4681N×15278E, h30km, M4.9*
*SKHL **01** 10:47:06.9±0.6, 4660N×15260E, h55km±23km, mb5.1/3*
*MOS **01** 10:47:07.2±1.8, 4659N×15254E, h55km, mb4.0/4, Error ellipse: s-maj=22.3km s-min=10.4km az=47.1*
*IDC **01** 10:47:09.2±0.7, 4667N×15223E, h45km±6km, mb3.3/7, mb1 3.6/9, mb1mx3.5/22, mbtmp3.3/9, ML3.7/2, MS2.9/2, Ms1 2.9/2, ms1mx2.4/15, Error ellipse: s-maj=27.6km s-min=16.0km az=130.0*
*NEIC **01** 10:47:09.2±1.3, 4664N×15224E, h48km±14km, Error ellipse: s-maj=30.8km s-min=9.1km az=132.0*
ISC 01 10:47:07.8±0.8, **4649N**±009×**1527E**±01, **h39**km±10km, **h48**km±4.7km**:pP-P, n55,** σ1s**49**/67, **mb3.5**/7, **1D, Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KUR	Kuril'sk	3.62	251	i PN	Pn	10 47 59.5	-1.8
KUR				eS	Sn	10 48 44.0	+1.2
KUR				pmax	pmax		
	comp=N,90nm,0.6s						
KUR				pmax	pmax		
	comp=Z,150nm,0.6s						
KUR				smax			
	comp=N,490nm,0.5s						
KUR				smax			
	comp=E,150nm,0.5s						
KUR	Kuril'sk	3.62	251	⇓iP	Pn	10 47 59.5	-1.8
KUR				AMB	AMB	10 48 02.0	
	comp=E,91nm,0.6s						
KUR				AMB	AMB	10 48 02.0	
	comp=E,152nm,0.6s						
KUR				eS	Sn	10 48 44.0	+1.2
KUR				A		10 48 51.0	
	comp=E,494nm,0.5s						
KUR				A		10 48 51.0	
	comp=E,152nm,0.5s						
SKR	Severo-Kuril's	4.76	27	ePN	Pn	10 48 16.7	-0.3
SKR				eS	Sn	10 49 08.9	-2.0
SKR				pmax	pmax		
	comp=Z,80nm,0.5s						
SKR				smax			
	comp=N,170nm,0.5s						
SKR				smax			
	comp=E,90nm,0.5s						
SKR				smax			
	comp=Z,90nm,0.5s						
SKR	Severo-Kuril's	4.76	27	eP	Pn	10 48 16.7	-0.3
SKR				AMB	AMB	10 48 17.6	
	comp=Z,80nm,0.5s						
SKR				eS	Sn	10 49 08.9	-2.0
SKR				A		10 49 27.4	
	comp=Z,170nm,0.5s						
SKR				A		10 49 27.4	
	comp=Z,90nm,0.5s						
YUK	Yuzh-Kuril'sk	5.43	246	ePN	Pn	10 48 28.2	+2.0
YUK				S	Sn	10 49 29.5	+2.1
YUK				pmax	pmax		
	comp=Z,420nm,0.3s						
YUK				smax			
	comp=N,390nm,0.4s						
YUK				smax			
	comp=E,370nm,0.5s						
YUK	Yuzh-Kuril'sk	5.43	246	eP	Pn	10 48 28.2	+2.0
YUK				AMB	AMB	10 48 29.1	
	comp=E,420nm,0.2s						
YUK				eS	Sn	10 49 29.5	+2.1
YUK				A		10 49 56.0	
	comp=E,370nm,0.5s						
YUK				A		10 49 56.0	
	comp=E,390nm,0.4s						
NEM2	Nemuro 2	5.86	240	P	Pn	10 48 32.2	+0.1
NEM2				eS	Sn	10 49 36.4	-1.5
JRA	Rausu	5.95	247	P	Pn	10 48 36.4	+3.1
JNK	Nakash	6.37	246	P	Pn	10 48 41.2	+2.1
JAK	Akkeshi	6.70	241	P	Pn	10 48 43.8	+0.2
JAK				eS	Sn	10 49 56.7	-1.9
JTKR	Abashiri--Toko	6.72	251	P	Pn	10 48 46.9	+3.0
YSS	Yuzh-Sakhalins	6.87	278	eP	Pn	10 48 47.0	+1.0
JAR	Ashorobuto	7.12	247	P	Pn	10 48 51.4	+2.1
JOB	Onbets	7.28	244	P	Pn	10 48 52.5	+0.9
PEA0B	Petropavlovsk-	7.37	24	ePn	Pn	10 48 53.7	+1.0
PETK	Petropavlovsk-	7.37	24	P	Pn	10 48 52.9	+0.2
	comp=E,1.7nm,0.3s,baz=179,slow=11,SNR=50						
PETK				LR	LR	10 51 41.7	
	comp=E,84nm,18.5s,baz=85,slow=37						
JKK2	Kamakawa 2	7.52	253	P	Pn	10 48 58.0	+3.1
ASAJ	Asahikawa	7.53	255	P	Pn	10 48 58.2	+3.2
	comp=E,2.3nm,0.3s,baz=65,slow=11,SNR=23						
ASAJ				LR	LR	10 51 41.7	
	comp=E,103nm,18.8s,baz=76,slow=38						
ASAJ	Asahikawa	7.53	255	P	Pn	10 48 58.9	+3.9
ASAJ	Asahikawa	7.53	255	PN	Pn	10 48 58.2	+3.2
ASAJ				pmax	pmax		
	comp=Z,2.0nm,0.3s						
ASAJ				MLR	MLR		
	comp=Z,103nm,18.8s						
PET	Petropavlovsk	7.58	28	ePN	Pn	10 48 57.6	+1.9
PET				MLR	MLR		
	comp=Z,100nm,19.0s						
PET	Petropavlovsk	7.58	28	ePn	Pn	10 48 58.8	+3.2
	comp=Z,13nm,0.6s						
PET				eSn	Sn	10 50 18.4	-1.9
JCH	Churui	7.73	243	P	Pn	10 48 58.2	+0.5
JCH				eS	Sn	10 50 21.8	-2.1
JEM	Erimo	8.19	240	P	Pn	10 49 05.3	+1.2
ERM	Erimo	8.20	240	ePN	Pn	10 49 04.4	+0.3
ERM				pmax	pmax		
	comp=Z,42nm,0.6s						
ERM	Erimo	8.20	240	ePn	Pn	10 49 04.4	+0.3
	comp=Z,42nm,0.6s						
ERM				eSn	Sn	10 50 31.8	-3.6
JBT2	Biratori 2	8.27	247	P	Pn	10 49 06.2	+1.1
JNBK	Urakawa-nobuka	8.29	243	P	Pn	10 49 05.0	-0.4
JNB	Noboribetsu	9.27	249	P	Pn	10 49 19.2	+0.3
JKB	Kayabe	9.57	246	P	Pn	10 49 22.8	-0.2
JYM2	Yakumo 2	9.88	248	P	Pn	10 49 27.7	+0.6
JSR	Shiriuchi	10.16	245	P	Pn	10 49 30.2	-0.8
JANG	Nango	10.19	237	P	Pn	10 49 29.0	-2.4
JANG				eS	Sn	10 51 15.4	-8.8
JTM	Tenmabayashi	10.19	240	P	Pn	10 49 30.4	-1.0
JOSM	Okushiri--Mats	10.47	250	P	Pn	10 49 35.2	-0.1
OFUJ	Ofunato	10.98	232	P	Pn	10 49 40.2	-2.1
JRG	Rokugo	11.34	236	P	Pn	10 49 45.9	-1.3
JIO	Ouri	11.61	230	P	Pn	10 49 48.9	-2.0
MAJO	Matsushiro	14.71	233	eP	Pn	10 50 31.0	-2.1
MAJO				pmax	pmax		
	comp=Z,5.0nm,0.8s						
MAJO	Matsushiro	14.71	233	ePn	Pn	10 50 31.0	-2.1
	comp=Z,4.9nm,0.8s						
MJAR	Matsushiro Arr	14.71	233	P	Pn	10 50 30.4	-2.8
	comp=Z,0.2nm,0.3s,baz=35,slow=8.6,SNR=6.3						
MJAR				pP	pP	10 50 40.5	-7.7
	comp=Z,0.6nm,0.3s,baz=35,slow=9.0,SNR=9.0						
KSRS	Korea Array	20.46	253	P	P	10 51 43.5	+1.6
	comp=Z,1.6nm,0.6s,baz=56,slow=12,SNR=9.3						
KSRS	Korea Array	20.46	253	P	P	10 51 43.6	+1.6
KSRS				pmax	pmax		
	comp=Z,2.0nm,0.6s						
MKAR	Makanchi Array	46.83	297	P	P	10 55 31.5	-2.0
	comp=Z,0.2nm,0.5s,mb3.3,baz=61,slow=6.8,SNR=2.9						
NVAR	Mina Array Bea	62.79	62	P	P	10 57 33.5	+4.3
	comp=Z,0.1nm,0.3s,mb3.4,baz=317,slow=5.2,SNR=3.1						
NVAR				pP	pP	10 57 44.7	+4.0
	comp=Z,0.9nm,0.8s,baz=274,slow=10,SNR=3.8						
NVAR	Mina Array Bea	62.79	62	P	P	10 57 33.5	+4.3
NVAR				pP	pP	10 57 44.7	+4.0
PDAR	Pinedale Array	65.12	54	P	P	10 57 45.1	+0.8
	comp=Z,0.5nm,0.7s,mb3.7,baz=173,slow=1.2,SNR=4.0						
PDAR				pP	pP	10 57 57.6	+1.7
	comp=Z,0.5nm,0.7s,baz=16,slow=2.7,SNR=3.3						
WRA	Warramunga Arr	68.18	199	P	P	10 58 04.3	+0.4
	comp=Z,0.3nm,0.7s,mb3.4,baz=22,slow=7.0,SNR=4.7						
WRA				pP	pP	10 58 18.3	+2.7
	comp=Z,0.6nm,0.8s,baz=18,slow=6.5,SNR=3.7						
WRA	Warramunga Arr	68.18	199	P	P	10 58 04.3	+0.4
WRA				*PP	pP	10 58 18.3	+2.7
WRA				pmax	pmax		
	comp=Z,1.0nm,0.8s						
NOA	NORSAR Array B	68.39	341	P	P	10 58 03.7	-1.1
	comp=Z,0.3nm,0.4s,mb3.6,baz=28,slow=6.3,SNR=2.6						
NOA	NORSAR Array B	68.39	341	P	P	10 58 03.7	-1.1
ASAR	Alice Springs	71.88	198	P	P	10 58 27.9	+1.4
	comp=Z,0.5nm,0.7s,mb3.6,baz=13,slow=4.8,SNR=9.3						
ASAR	Alice Springs	71.88	198	P	P	10 58 28.0	+1.4
ASAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
TXAR	Lajitas Array	77.85	60	P	P	10 59 02.1	+0.8
	comp=Z,0.2nm,0.6s,mb3.2,baz=295,slow=4.6,SNR=3.6						
TXAR				pP	pP	10 59 17.6	+4.4
	comp=Z,1.8nm,0.6s,baz=297,slow=4.8,SNR=19						
TXAR	Lajitas Array	77.85	60	P	P	10 59 02.1	+0.8
TXAR				*PP	pP	10 59 17.6	+4.5
TXAR				pmax	pmax		
	comp=Z,2.0nm,0.6s						

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*IDC **01** 11:13:41.7±0.7, 4893S×16435E, h0km, mb4.3/7, mb1 4.4/9, mb1mx4.4/14, mbtmp4.3/9, ML4.1/2, MS4.2/10, Ms1 4.2/10, ms1mx3.9/21, Error ellipse: s-maj=27.8km s-min=19.8km az=78.0*
*ISCJB **01** 11:13:44.1±0.4, 4893S±005×16447E±007, h33km, mb4.4/11, MS4.2/9, Error ellipse: s-maj=8.8km s-min=5.3km az=141.9*
*NEIC **01** 11:13:45.3±3.2, 4894S×16438E, h27km±23km, mb4.7/6, Error ellipse: s-maj=13.2km s-min=9.2km az=193.0*
ISC 01 11:13:46.1±3.0, **4892S**±007×**16440E**±009, **h31**km±23km, **h31**km±1.2km**:pP-P, n61,** σ1s**15**/42, **mb4.4**/11, **MS4.2**/9, **1D, Off west coast of South Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WHZ	Wether Hill Ro	3.87	40	P	Pn	11 14 43.7	+0.4
DCZ	Deep Cove	3.92	30	P	Pn	11 14 44.6	+0.6
MLZ	Mavora Lakes	4.40	37	P	Pn	11 14 51.7	+1.1
TUZ	Tuapeka	4.62	52	P	Pn	11 14 53.9	+0.2
JCZ	Jackson Bay	5.70	33	eP	Pn	11 15 10.4	+1.9
ODZ	Otahua Downs	5.77	50	eP	Pn	11 15 08.8	-0.6
LBZ	Lake Benmore	6.03	43	P	Pn	11 15 12.0	-1.0
MCQ	Macquarie Isla	6.53	209	ePn	Pn	11 15 15.0	-4.8
RPZ	Rata Peaks	6.95	44	Pn	Pn	11 15 23.6	-2.0
	4.3nm,0.3s,baz=62,slow=19,SNR=16						
RPZ				Sn	Sn	11 16 43.3	-0.2
	16nm,0.3s,baz=138,slow=20,SNR=8.6						
WVZ	Waitaha Valley	7.32	39	P	Pn	11 15 33.0	+2.3
MQZ	McQueen's Vall	7.73	51	P	Pn	11 15 36.5	+0.2
LTZ	Lake Taylor	8.23	45	P	Pn	11 15 42.0	-1.2
DSZ	Denniston Nort	8.86	39	P	Pn	11 15 51.9	+0.1
THZ	Tophouse	9.32	43	P	Pn	11 15 59.3	+1.1
SNZO	South Karori	10.52	48	ePn	Pn	11 16 12.2	-2.4
URZ	Urewera	14.06	45	Pn	Pn	11 17 02.3	-0.7
	0.6nm,0.3s,baz=196,slow=15,SNR=3.3						
URZ				LR	LR	11 23 11.9	
	comp=Z,2μm,18.2s,baz=230,slow=40						
CNB	Canberra Magne	17.54	315	eP	Pn	11 17 48.0	-0.1
CAN	Canberra	17.71	314	ePn	Pn	11 17 50.7	+0.6
TOO	Toolangi	17.79	303	eP	Pn	11 17 51.6	+0.5
RAO	Raoul Island	23.85	41	LR	LR	11 27 48.8	
	comp=Z,473nm,18.4s,MS4.0,baz=224,slow=36						
STKA	Stephens Creek	24.18	306	eP	P	11 19 00.4	+1.0
	4.8nm,0.7s,mb4.0						
STKA	Stephens Creek	24.18	306	P	P	11 18 59.3	-0.1
	7.4nm,0.8s,mb4.1,baz=133,slow=14,SNR=7.7						
STKA				LR	LR	11 27 27.2	
	comp=Z,453nm,18.1s,MS4.0,baz=80,slow=34						
STKA	Stephens Creek	24.18	306	eP	P	11 18 58.7	-0.6
	41nm,1.6s,mb4.6						
SBA	Scott Base	29.05	179	eP	P	11 19 44.0	+1.1
	8.6nm,1.1s,mb4.4						

ASAR	Alice Springs	34.80	305	P	P	11 20 33.4	-0.4
	3.6nm,0.7s,mb4.4,baz=138,slow=8.0,SNR=60						
ASAR				PcP	PcP	11 23 07.2	+0.5
	1.9nm,1.0s,baz=147,slow=3.9,SNR=4.5						
WB2	Warramunga Arr	37.63	310	eP	P	11 20 57.0	-1.0
WB2				e	pP	11 21 05.2	-2.0
WB2				e		11 23 18.5	
WB2	Warramunga Arr	37.63	310	eP	P	11 20 56.1	-1.9
WB2				e	pP	11 21 05.2	-2.0
WB2				e		11 23 18.5	
WRA	Warramunga Arr	37.64	309	P	P	11 20 56.9	-1.1
	3.7nm,0.7s,mb4.2,baz=137,slow=7.6,SNR=24						
WRA				PcP	PcP	11 23 15.4	+0.3
	3.2nm,0.8s,baz=147,slow=2.7,SNR=12						
WRA				LR	LR	11 36 35.8	
	comp=Z,202nm,19.2s,MS3.9,baz=160,slow=36						
WRAB	Tennant Creek	37.64	310	eP	P	11 20 56.9	-1.2
	18nm,1.0s,mb4.8						
HNR	Honiara	39.54	353	LR	LR	11 35 06.9	
	comp=Z,239nm,19.9s,MS4.0,baz=142,slow=32						
QSPA	South Pole Qui	41.20	180	P	P	11 21 27.9	+0.7
	5.8nm,0.9s,mb4.2,baz=22,slow=4.6,SNR=13						
QSPA				PcP	PcP	11 23 25.7	+0.2
	3.8nm,1.0s,baz=2.7,slow=2.3,SNR=3.8						
FITZ	Fitzroy Crossi	43.84	301⇓	iP	P	11 21 48.9	-0.3
	12nm,0.6s,mb4.8						
FITZ				e	pP	11 21 56.9	-1.7
KAKA	Kakadu	44.73	313	eP	P	11 21 56.2	-0.1
PPT	Papeete	48.52	66	eS	Sx	11 29 46.0	
	73nm,27.8s						
PPT				eLR	LR	11 36 29.8	
	213nm,27.2s						
MAW	Mawson	49.93	209	eP	P	11 22 35.6	-0.6
	3.0nm,0.9s,mb4.3						
MAW	Mawson	49.93	209	P	P	11 22 35.7	-0.5
	3.2nm,0.9s,mb4.4,baz=116,slow=11,SNR=8.2						
MAW				LR	LR	11 41 28.7	
	comp=Z,155nm,18.9s,MS4.0,baz=291,slow=33						
BATI	Baumata	51.37	305	LR	LR	11 43 41.3	
	comp=Z,420nm,20.6s,MS4.5,baz=143,slow=35						
RKT	Rikitea	53.75	84	eS	S	11 30 56.7	+19
	168nm,31.2s						
RKT				eLR	LR	11 38 51.2	
	341nm,31.0s						
SNAA	Sanae	59.37	185	e	P	11 23 43.2	-1.4
SNAA				e		11 23 48.0	
SNAA				e	pP	11 23 53.1	-1.1
SNAA	Sanae	59.37	185	eP	P	11 23 43.6	-0.9
	6.2nm,1.1s,mb4.5						
VNA3	Neumayer Olymp	60.07	182	e	P	11 23 48.7	-0.7
VNA3				e		11 23 53.0	
VNA3				e		11 24 00.0	
VNA2	Neumayer--Watz	60.32	183	e	P	11 23 50.4	-0.7
	baz=159,slow=6.1						
VNA2				e		11 23 54.9	
VNA2				e		11 24 02.1	
VNA1	Neumayer--Stat	60.62	183	e	P	11 23 56.2	+3.0
VNA1				e		11 24 00.5	
VNA1				e	pP	11 24 05.8	+3.0
PLCA	Paso Flores	78.42	141	LR	LR	11 53 27.5	
	comp=Z,231nm,18.2s,MS4.5,baz=102,slow=30						
CMAR	Chiang Mai Arr	88.65	300	P	P	11 26 38.5	+2.4
	0.7nm,0.6s,mb4.2,baz=159,slow=4.2,SNR=6.1						
CMAR				LR	LR	12 08 06.4	
	comp=Z,89nm,18.3s,MS4.2,baz=329,slow=37						
KSRS	Korea Array	91.89	332	P	P	11 26 53.2	+2.5
	2.1nm,0.9s,mb4.5,baz=146,slow=5.2,SNR=8.3						
CPUP	Villa Florida	96.33	143	LR	LR	12 06 12.4	
	comp=Z,125nm,18.7s,MS4.4,baz=337,slow=33						
MKAR	Makanchi Array	118.94	309	PKP	PKPdf	11 32 30.5	0.0
	0.8nm,0.8s,baz=124,slow=4.2,SNR=3.9						
ZALV	Zalesovo Beam	122.39	316	PKP	PKPdf	11 32 37.5	+0.7
	0.6nm,0.5s,baz=106,slow=3.1,SNR=3.1						
KURK	Kurchatov	123.32	311	PKP	PKPdf	11 32 38.4	-0.4
	1.2nm,0.7s,baz=127,slow=1.4,SNR=6.3						
BVAR	Borovoye Array	128.82	309	PKP	PKPdf	11 32 51.4	+2.2
	0.8nm,0.5s,baz=134,slow=4.2,SNR=4.6						
TORD	Torodi Ar. Bea	141.57	208	PKhKP		11 33 06.5	
	0.6nm,0.8s,baz=186,slow=1.4,SNR=4.1						
TORD				PKP	PKPdf	11 33 13.8	-0.3
	1.3nm,0.7s,baz=172,slow=2.2,SNR=5.4						
BR131	Keskin Array S	144.16	274	ePKPdf	PKPdf	11 33 17.1	-0.9
TAM	Tamanrasset	149.02	220	ePKPbc	PKPbc	11 33 29.2	-1.6
AKASG	Malin Array Be	151.35	291	PKPbc	PKPbc	11 33 34.9	-0.6
	4.6nm,0.7s,baz=69,slow=2.1,SNR=11						
AKBB	Malin Array Si	151.35	291	ePKPbc	PKPbc	11 33 34.6	-0.9
KIEV	Kiev	151.36	291	ePKPbc	PKPbc	11 33 35.6	0.0
ARCES	ARCESS Array B	151.45	331	PKPbc	PKPbc	11 33 35.9	+0.7
	15nm,0.7s,baz=113,slow=2.8,SNR=29						
KEST	Kesra	157.46	244	PKPab	PKPab	11 34 11.9	+1.6
	1.8nm,0.9s,baz=263,slow=6.8,SNR=5.1						
NOA	NORSAR Array B	160.58	319	PKPab	PKPab	11 34 25.2	+2.2
	1.3nm,0.8s,baz=61,slow=4.5,SNR=3.6						
GERES	GERESS Array B	160.78	281	PKPab	PKPab	11 34 23.8	-0.6
	1.9nm,0.9s,baz=98,slow=4.1,SNR=7.6						

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*NIED **01** 11:19:00, 4680N×15300E, h20^{km}, Mw4.5 Best double couple: $M_0$5.35000×10^{15} NP1:ϕ_s235.00000°, δ52.00000°, λ109.00000°. NP2:ϕ_s26.00000°, δ42.00000°, λ67.00000°.*

*ISCJB **01** 11:19:29.6±0.5, 4676N±0.04×15289E±0.03, h42^{km}±5^{km}, mb4.7/68, MS3.7/14, Error ellipse: s-maj=7.2km s-min=2.9km az=164.7*

*SKHL **01** 11:19:29.1±0.3, 4674N×15304E, h58^{km}±20^{km}, mb5.0/5, Ms3.9/2*

*SZGRF **01** 11:19:29.0, 4678N×15482E, h33^{km}, mb5.0, East of Kuril Islands, Russia*

*MOS **01** 11:19:29.2±0.9, 4686N×15280E, h35^{km}, mb4.7/28, Error ellipse: s-maj=9.4km s-min=6.6km az=93.0*

*JMA **01** 11:19:30.4±0.8, 4680N×15301E, h30^{km}, M5.2*

*BJI **01** 11:19:32.3, 4673N×15282E, h64^{km}, mB4.7, mb4.7, Ms4.4, Msz4.2*

*NEIC **01** 11:19:33.9±0.6, 4682N×15284E, h64^{km}±5^{km}, mb4.7/30, Error ellipse: s-maj=7.8km s-min=4.0km az=155.0*

*IDC **01** 11:19:34.6±2.7, 4689N×15283E, h71^{km}±24^{km}, mb4.0/18, mb1 4.2/20, mb1mx4.2/25, mbtmp4.0/20, MS3.6/9, Ms1 3.6/9, ms1mx3.3/34, Error ellipse: s-maj=16.4km s-min=12.1km az=151.0*

ISC 01 11:19:32.4±0.4, **4678N**±0.04×**15282E**±0.03, **h49**^{km}±4^{km}, **h75**^{km}±3.6^{km}**:pP-P, n421,** σ0.80/435, **mb4.7**/68, **MS3.7**/14, **103C-105D, Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KUR	Kuril'sk	3.79	248	eP	Pn	11 20 26.0	-2.2
KUR				AMB	AMB	11 20 28.0	
	152nm,0.5s						
KUR				AMB	AMB	11 20 28.0	
	76nm,0.5s						
KUR				AMB	AMB	11 20 28.0	
	342nm,0.5s						
KUR				eS	Sn	11 21 09.0	-2.4
KUR				A		11 21 22.8	
	2µm,1.0s						
KUR				A		11 21 22.8	
	2µm,1.0s						
KUR				A		11 21 32.0	
	1µm,0.5s						
KUR				A		11 21 32.0	
	608nm,0.5s						
SKR	Severo-Kuril's	4.47	28	eP	Pn	11 20 35.1	-2.4
SKR				AMB	AMB	11 20 36.0	
	30nm,0.5s						
SKR				eS	Sn	11 21 21.6	-6.6
SKR				A		11 21 31.1	
	310nm,0.4s						
SKR				A		11 21 31.1	
	230nm,0.4s						
SKR				A		11 21 31.1	
	30nm,0.5s						
YUK	Yuzh-Kuril'sk	5.62	243	ePN	Pn	11 20 54.9	+1.6
YUK				i S	Sn	11 21 59.1	+2.6
YUK				pmax	pmax		
	comp=Z,570nm,0.5s						
YUK				pmax	pmax		
	comp=N,140nm,0.4s						
YUK				pmax	pmax		
	comp=E,170nm,0.4s						
YUK				smax			
	comp=E,1µm,0.6s						
YUK				smax			
	comp=N,1µm,0.5s						
YUK				smax			
	comp=N,4µm,0.8s						
YUK				smax			
	comp=E,3µm,0.8s						
YUK	Yuzh-Kuril'sk	5.62	243	eP	Pn	11 20 54.9	+1.6
YUK				AMB	AMB	11 20 56.5	
	comp=E,140nm,0.4s						
YUK				AMB	AMB	11 20 56.5	
	comp=E,170nm,0.4s						
YUK				AMB	AMB	11 20 56.5	
	comp=E,570nm,0.5s						
YUK				eS	Sn	11 21 59.1	+2.6
YUK				A		11 22 28.5	
	comp=E,1µm,0.5s						
YUK				A		11 22 28.5	
	comp=E,1µm,0.6s						
YUK				A		11 22 31.0	
	comp=E,4µm,0.8s						
YUK				A		11 22 31.0	
	comp=E,3µm,0.8s						
NEM2	Nemuro 2	6.07	238	P	Pn	11 20 58.6	-0.9
NEM2				eS	Sn	11 22 04.9	-2.6
JRA	Rausu	6.13	245	P	Pn	11 21 02.5	+2.2
JNK	Nakash	6.56	244	P	Pn	11 21 07.7	+1.5
JNK				eS	Sn	11 22 19.0	-0.6
JTKR	Abashiri--Toko	6.88	249	P	Pn	11 21 12.9	+2.3
JAK	Akkeshi	6.90	240	P	Pn	11 21 10.4	-0.5
JAK				eS	Sn	11 22 24.8	-3.2
YSS	Yuzh-Sakhalins	6.91	275⇑	eP	Pn	11 21 13.1	+2.2
YSS				AMB	AMB	11 21 16.8	
	comp=E,60nm,1.0s						
YSS				AMB	AMB	11 21 16.8	
	comp=E,60nm,1.0s						
YSS				epP		11 21 27.0	
YSS				eS	Sn	11 22 31.0	+2.9
YSS				AMS	AMS	11 23 36.0	
	comp=E,500nm,17.0s						
YSS				AMS	AMS	11 23 36.0	
	comp=E,300nm,16.0s						
YSS				AMS	AMS	11 23 36.0	
	comp=E,500nm,17.0s						
YSS	Yuzh-Sakhalins	6.91	275	ePn	Pn	11 21 14.8	+3.8
YSS				eSn	Sn	11 22 29.6	+1.5
PEA0B	Petropavlovsk-	7.07	25	ePn	Pn	11 21 13.1	-0.1
PETK	Petropavlovsk-	7.07	25	P	Pn	11 21 13.0	-0.2
	comp=E,0.7nm,0.3s,baz=181,slow=11,SNR=46						
PETK				LR	LR	11 24 30.9	
	comp=E,89nm,18.0s,baz=212,slow=42						
JMP	Maruseppu	7.22	251	P	Pn	11 21 18.3	+3.1
PET	Petropavlovsk	7.29	29	ePN	Pn	11 21 19.6	+3.4
PET	Petropavlovsk	7.29	29	ePn	Pn	11 21 18.3	+2.2
JAR	Ashorobuto	7.30	245	P	Pn	11 21 17.6	+1.3
JOB	Onbets	7.47	242	P	Pn	11 21 19.6	+0.9
UGL	Uglegorsk	7.58	292	eP	Pn	11 21 24.5	+4.3
UGL				AMB	AMB	11 21 26.5	
	comp=E,70nm,0.7s						
UGL				AMS	AMS	11 24 12.0	
	comp=E,500nm,18.0s						
UGL				AMS	AMS	11 24 12.0	
	comp=E,500nm,18.0s						
ASAJ	Asahikawa	7.67	253	P	Pn	11 21 25.2	+3.8
	comp=E,6.9nm,0.3s,baz=80,slow=11,SNR=62						
ASAJ				LR	LR	11 24 10.9	
	comp=E,266nm,20.1s,baz=170,slow=36						
ASAJ	Asahikawa	7.67	253	P	Pn	11 21 25.0	+3.6
JKK2	Kamakawa 2	7.67	251	P	Pn	11 21 24.4	+2.9
TYV	Tymovskoe	7.85	305⇑	iP	Pn	11 21 28.0	+4.1
TYV				AMS	AMS	11 25 28.0	
	comp=E,1µm,18.0s						
JCH	Churui	7.92	242	P	Pn	11 21 24.7	-0.2
JCH				eS	Sn	11 22 49.7	-3.4
JFR	Furan	8.11	247	P	Pn	11 21 29.2	+1.8
JAB	Ashibetsu	8.18	250	P	Pn	11 21 31.7	+3.3
JEM	Erimo	8.40	239	P	Pn	11 21 32.1	+0.7
ERM	Erimo	8.40	239c	iPN	Pn	11 21 32.3	+0.8
ERM	Erimo	8.40	239	ePn	Pn	11 21 32.3	+0.8
	comp=E,98nm,0.6s						
JBT2	Biratori 2	8.45	245	P	Pn	11 21 33.0	+0.9
JNBK	Urakawa-nobuka	8.48	242	P	Pn	11 21 31.8	-0.8
JNB	Noboribetsu	9.44	247	P	Pn	11 21 46.1	+0.4
JKB	Kayabe	9.76	244	P	Pn	11 21 48.7	-1.3
JKB				eS	Sn	11 23 30.9	-7.3
JYM2	Yakumo 2	10.05	247	P	Pn	11 21 54.0	0.0
NKL	Nikolayevsk	10.08	314	eL		11 25 17.0	
NKL				AMS	AMS	11 26 11.0	
	comp=E,800nm,17.0s						
JSR	Shiriuchi	10.34	244	P	Pn	11 21 57.0	-1.0
JSR				eS	Sn	11 23 46.9	-5.5
JTM	Tenmabayashi	10.39	239	P	Pn	11 21 56.3	-2.4
JTM				eS	Sn	11 23 45.3	-8.4
JANG	Nango	10.40	236	P	Pn	11 21 55.3	-3.5
JANG				eS	Sn	11 23 43.3	-11
JTH	Tanohata	10.50	233	eS	Sn	11 23 46.5	-10
JOSM	Okushiri--Mats	10.64	249	P	Pn	11 22 01.7	-0.3
OFUJ	Ofunato	11.22	231	P	Pn	11 22 06.4	-3.6
OFUJ				eS	Sn	11 24 03.1	-11
JRG	Rokugo	11.56	235	P	Pn	11 22 12.4	-2.3
JRG				eS	Sn	11 24 12.6	-10
JIO	Ouri	11.85	230	eS	Sn	11 24 17.0	-12
HABR	Khabarovsk	12.11	285	ePN	Pn	11 22 20.7	-1.4
JYA	Atsumi	12.64	234	P	Pn	11 22 26.3	-3.0
JFY	Yanaizu	13.50	231	P	Pn	11 22 39.7	-1.4
KLR	Kul'dur	14.31	288	eP	Pn	11 22 55.4	+3.4
MJAR	Matsushiro Arr	14.94	232	P	Pn	11 22 58.2	-2.2
	comp=E,0.5nm,0.3s,baz=30,slow=11,SNR=5.4						
MJAR	Matsushiro Arr	14.94	232	P	Pn	11 22 58.2	-2.2
MJAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
MAJO	Matsushiro	14.94	232	eP	Pn	11 23 00.0	-0.4
MAT	Matsushiro	14.94	232	P	Pn	11 23 00.4	0.0
VLA	Vladivostok	15.26	264	eP	Pn	11 23 06.8	+2.4
VLA				pmax	pmax		
	comp=Z,23nm,0.8s						
MDJ	Mudanjiang	16.36	271	P	Pn	11 23 19.2	+0.6
MDJ				AP	pP	11 23 35.4	+3.5
MDJ				XP	sP	11 23 44.6	+6.5
MDJ				S	S	11 26 19.9	-9.4
MDJ				SCP	ScP	11 31 36.8	-2.4
MDJ				PCS	PcS	11 31 44.6	+0.1
MDJ				AMB	AMB		
	comp=Z,5.0nm,1.4s						
MDJ				AMB	AMB		
	comp=Z,27nm,4.7s						
MDJ	Mudanjiang	16.36	271	ePn	Pn	11 23 20.1	+1.5
	comp=Z,11nm,0.6s						
CN2	Changchun	19.45	271	eP	Pn	11 23 54.6	-1.7
CN2				eXP	sP	11 24 19.3	+7.1
CN2				eS	S	11 27 24.4	-7.4
CN2				eSS		11 27 54.3	
CN2				AMB	AMB		
	comp=Z,10.0nm,0.6s						
CN2				AMB	AMB		
	comp=Z,200nm,5.0s						
CN2				LR	LR		
	comp=N,200nm,12.0s						
CN2				LR	LR		
	comp=E,200nm,12.0s						
CN2				LR	LR		
	comp=Z,200nm,13.0s						
YAK	Yakutsk	20.18	328	eP	P	11 24 03.1	+0.5
YAK				pmax	pmax		
	comp=Z,11nm,0.8s						
YAK				pmax	pmax		
	comp=N,5.0nm,1.0s						
YAK				pmax	pmax		
	comp=E,4.0nm,1.1s						
YAK	Yakutsk	20.18	328	eP	P	11 24 03.5	+1.0
	comp=E,23nm,0.6s						
KSRS	Korea Array	20.62	252	P	P	11 24 09.1	+1.6
	comp=E,5.8nm,0.6s,baz=58,slow=9.0,SNR=26						
KSRS				LR	LR	11 31 19.5	
	comp=E,56nm,18.5s,MS3.0,baz=55,slow=34						
KSRS	Korea Array	20.62	252	P	P	11 24 09.1	+1.7
KSRS				pmax	pmax		
	comp=Z,6.0nm,0.6s						
KSRS				MLR	MLR		
	comp=Z,56nm,18.5s,MS3.0						
KS15	Wonju Array Si	20.65	252	eP	P	11 24 08.7	+0.9
BILL	Bilibino	22.40	13⇑	eP	P	11 24 26.2	-0.1
BILL				pmax	pmax		
	comp=Z,4.0nm,1.0s,mb3.8						
BILL				MLR	MLR		
	comp=Z,100nm,18.0s,MS3.3						
BJI	Beijing	27.28	269	P	P	11 25 16.5	+4.5
BJI				S	S	11 29 47.6	-0.2
BJI				AMB	AMB		
	comp=Z,19nm,0.8s,mb4.7						
BJI				LR	LR		
	comp=N,101nm,20.0s,MS3.8						
BJI				LR	LR		
	comp=E,225nm,19.1s,MS3.8						
BJI	Beijing	27.28	269	P	P	11 25 16.5	+4.5
	comp=E,19nm,0.8s,mb4.7						
BJI				S	S	11 29 47.6	-0.2
BJI				LR	LR		
	comp=Z,100nm,19.5s,MS3.4						
ULN	Ulaanbaatar	30.70	289	eP	P	11 25 42.0	-0.2
	comp=Z,3.6nm,0.7s,mb4.3						
SONM	Songino Array	31.13	289	P	P	11 25 47.0	+0.9
	comp=Z,1.1nm,0.6s,mb3.9,baz=69,slow=8.1,SNR=5.9						
SONM				PcP	PcP	11 28 39.8	-0.4
	comp=Z,1.3nm,1.0s,baz=152,slow=3.4,SNR=3.7						
SONM				LR	LR	11 39 30.9	
	comp=Z,155nm,18.1s,MS3.7,baz=252,slow=38						
SONM	Songino Array	31.13	289	P	P	11 25 47.0	+0.9
SONM						11 28 39.8	
SONM				pmax	pmax		
	comp=Z,1.0nm,0.6s						
SONM				pmax	pmax		
	comp=Z,1.0nm,1.0s						
SONM				MLR	MLR		
	comp=Z,155nm,18.1s						
IMA2	Indian Mountai	33.90	36	eP	P	11 26 09.6	-0.4
BPAW	Bear Paw Mtn.	34.86	40	eP	P	11 26 18.4	0.0
	comp=Z,3.3nm,0.8s,mb4.3						
XAN	Xi'an	35.32	265	P	P	11 26 23.1	+0.4
XAN				AP	pP	11 26 34.4	-1.2
XAN				AMB	AMB		
	comp=Z,16nm,0.8s,mb5.0						
XAN				AMB	AMB		
	comp=Z,190nm,5.6s						
COLA	College	36.23	38d	iP	P	11 26 30.5	+0.3
COLA	College	36.23	38	eP	P	11 26 30.0	-0.2
	comp=Z,7.8nm,0.8s,mb4.7						
LZH	Lanzhou	37.69	272	eP	P	11 26 43.5	+0.6
LZH				AP	pP	11 27 01.8	+6.0
LZH				XP	sP	11 27 10.9	+9.4
LZH				ePP	PP	11 28 14.2	+4.7
LZH				AMB	AMB		
	comp=Z,22nm,1.3s,mb4.7						
LZH				AMB	AMB		
	comp=Z,58nm,5.2s						
LZH				LR	LR		
	comp=N,412nm,12.9s						
LZH				LR	LR		
	comp=Z,635nm,17.2s,MS4.5						
LZH	Lanzhou	37.69	272	eP	P	11 26 43.5	+0.6
LZH				*PP	pP	11 27 01.8	+6.0
LZH				e		11 28 14.2	
LZH				pmax	pmax		
	comp=Z,22nm,1.3s,mb4.7						
LZH				MLR	MLR		
	comp=Z,640nm,17.2s,MS4.5						
LZH	Lanzhou	37.69	272	eP	P	11 26 43.5	+0.6
	comp=Z,22nm,1.3s,mb4.7						
LZH				pP	pP	11 27 01.8	+6.0
LZH				sP	sP	11 27 10.9	+9.4
LZH				ePP	PP	11 28 14.2	+4.7
LZH				LR	LR		
	comp=Z,640nm,17.2s,MS4.5						
GTA	Gaotai	38.77	279	eP	P	11 26 53.5	+1.6
GTA				AP	pP	11 27 11.9	+7.0
GTA				XP	sP	11 27 21.0	+10
GTA				PP	PP	11 28 29.0	+7.8
GTA				PCP	PcP	11 29 03.5	+1.0
GTA				S	S	11 32 46.7	+1.0
GTA				XS	sS	11 33 17.9	+10
GTA				SS	SS	11 35 34.0	-3.7
GTA				AMB	AMB		
	comp=Z,5.0nm,1.1s,mb4.2						
GTA				AMB	AMB		
	comp=Z,68nm,6.5s						
GTA				LR	LR		
	comp=N,191nm,6.8s						
GTA				LR	LR		
	comp=E,86nm,7.4s						
GTA				LR	LR		
	comp=Z,98nm,8.0s						
CD2	Chengdu	40.68	265	P	P	11 27 08.2	+0.3
CD2				AP	pP	11 27 26.6	+5.7
CD2				XP	sP	11 27 35.4	+8.7
CD2				PP	PP	11 28 46.7	+4.5
CD2				S	S	11 33 13.3	-1.2
CD2				XS	sS	11 33 45.0	+8.6
CD2				SS	SS	11 36 12.3	-3.9
CD2				AMB	AMB		
	comp=Z,50nm,0.5s,mb5.4						
CD2				AMB	AMB		
	comp=Z,310nm,7.2s						
CD2				LR	LR		
	comp=E,240nm,12.0s						
CD2				LR	LR		
	comp=Z,380nm,8.4s						
ZALV	Zalesovo Beam	42.43	306	P	P	11 27 20.6	-1.3
	comp=Z,1.4nm,0.4s,mb4.0,baz=66,slow=7.4,SNR=5.3						
ZALV				PcP	PcP	11 29 13.9	-0.2
	comp=Z,1.2nm,0.3s,baz=56,slow=2.7,SNR=8.0						
ZALV				LR	LR	11 46 20.2	
	comp=Z,121nm,18.4s,MS3.8,baz=79,slow=38						
ZALV	Zalesovo Beam	42.43	306	P	P	11 27 20.7	-1.2
ZALV						11 29 13.9	
ZALV				pmax	pmax		
	comp=Z,1.0nm,0.4s,mb3.8						
ZALV				pmax	pmax		
	comp=Z,1.0nm,0.4s,mb3.8						
ZALV				MLR	MLR		
	comp=Z,121nm,18.5s,MS3.8						
KMI	Kunming	45.05	259	P	P	11 27 44.3	+0.9
KMI				AP	pP	11 28 02.7	+6.2
KMI				XP	sP	11 28 11.7	+9.5
KMI				S	S	11 34 17.5	-1.2
KMI				XS	sS	11 34 50.0	+9.2
KMI				SS	SS	11 37 30.7	-11
KMI				AMB	AMB		
	comp=Z,8.0nm,0.6s,mb4.7						
KMI				AMB	AMB		
	comp=Z,310nm,5.4s						
KMI				LR	LR		
	comp=Z,55nm,14.6s,MS3.6						
KMI	Kunming	45.05	259	P	P	11 27 44.3	+0.9
KMI				*PP	pP	11 28 02.7	+6.2
KMI				S	S	11 34 17.5	-1.2
KMI				SS	SS	11 37 30.7	-11
KMI				pmax	pmax		
	comp=Z,8.0nm,0.6s,mb4.7						
KMI				MLR	MLR		
	comp=Z,60nm,14.6s,MS3.7						
KMI	Kunming	45.05	259	P	P	11 27 44.3	+0.9
	comp=Z,8.0nm,0.6s,mb4.7						
KMI				pP	pP	11 28 02.7	+6.2
KMI				sP	sP	11 28 11.7	+9.5
KMI				S	S	11 34 17.5	-1.2
KMI				sS	sS	11 34 50.0	+9.2
KMI				SS	SS	11 37 30.7	-11
KMI				LR	LR		
	comp=Z,60nm,14.6s,MS3.7						
MK31	Makanchi Array	46.75	297	eP	P	11 27 55.5	-1.0
MKAR	Makanchi Array	46.75	297	P	P	11 27 55.5	-0.9
	comp=Z,1.9nm,0.6s,mb4.2,baz=69,slow=7.4,SNR=11						
MKAR				PcP	PcP	11 29 28.9	-0.2
	comp=Z,1.4nm,0.6s,baz=55,slow=5.0,SNR=5.7						
MKAR				LR	LR	11 48 45.2	
	comp=Z,145nm,19.6s,MS3.9,baz=0.2,slow=38						
MKAR	Makanchi Array	46.75	297	P	P	11 27 55.5	-1.0
MKAR						11 29 28.9	
MKAR				pmax	pmax		
	comp=Z,2.0nm,0.6s						
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
MKAR				MLR	MLR		
	comp=Z,145nm,19.6s						
KURK	Kurchatov	47.18	303	P	P	11 27 59.0	-0.7
	comp=Z,1.2nm,0.3s,mb4.3,baz=71,slow=9.1,SNR=5.9						
KURK	Kurchatov	47.18	303	P	P	11 27 59.0	-0.8
KURK				pmax	pmax		
	comp=Z,1.0nm,0.3s,mb4.2						
LSA	Lhasa	50.07	273	P	P	11 28 24.4	+2.1
BVAR	Borovoye Array	50.68	309	P	P	11 28 25.8	-0.8
	comp=Z,0.9nm,0.3s,mb4.2,baz=54,slow=9.5,SNR=5.3						
BVAR				PcP	PcP	11 29 43.0	-0.2

comp=Z,1.4nm,0.5s,baz=65,slow=3.2,SNR=6.6
BVAR Borovoye Array 50.68 309 P P 11 28 25.8 -0.7
BVAR 11 29 43.0
BVAR pmax pmax
comp=Z,1.0nm,0.3s
BVAR pmax pmax
comp=Z,1.0nm,0.5s
YKA Yellowknife Ar 51.02 37 P P 11 28 28.5 -0.4
comp=Z,3.6nm,0.8s,mb4.4,baz=294,slow=6.3,SNR=3.8
YKA Yellowknife Ar 51.02 37 P P 11 28 28.5 -0.4
YKA pmax pmax
comp=Z,4.0nm,0.8s
CHTO Chiang Mai 51.93 256 eP P 11 28 36.3 0.0
CHTO pmax pmax
comp=Z,7.0nm,0.7s,mb4.7
CHTO Chiang Mai 51.93 256 eP P 11 28 36.3 0.0
comp=Z,6.5nm,0.7s,mb4.7
SHL Shillong 52.17 268 i P P 11 28 38.5 +0.4
CMAR Chiang Mai Arr 52.19 256 P P 11 28 39.3 +1.1
comp=Z,5.0nm,0.8s,mb4.5,baz=36,slow=7.3,SNR=21
CMAR Chiang Mai Arr 52.19 256 i P P 11 28 39.9 +1.7
CMAR pmax pmax
comp=Z,5.0nm,0.9s
JIRN Jiri 54.74 274 eP P 11 28 58.1 +1.2
comp=Z,33nm,0.5s,mb5.6
GUN Gumba 54.80 275 eP P 11 28 58.2 +0.9
comp=Z,19nm,0.4s,mb5.4
ARU Arti 54.85 317 eP P 11 28 57.2 0.0
ARU 11 30 55.3
ARU eS S 11 36 34.0 -0.5
ARU eSS SS 11 40 18.2 +0.6
RAMN Ramite 54.91 273 eP P 11 28 59.1 +1.0
comp=Z,42nm,0.4s,mb5.8
A07A Ashnola River, 55.09 53 ⇑P P 11 28 58.3 -0.8
baz=55
KKN Kakani 55.29 275 eP P 11 29 01.8 +1.0
PKIN Phulchoki 55.34 275 eP P 11 29 02.7 +1.5
DMN Daman 55.52 275 eP P 11 29 03.8 +1.3
comp=Z,21nm,0.5s,mb5.4
B07A Winthrop 55.55 54 ⇓P P 11 29 02.0 -0.4
baz=55
GKN Gorkha 55.59 276 eP P 11 29 03.7 +0.7
comp=Z,24nm,0.6s,mb5.4
A08A Turner Farm, O 55.75 53 ⇑P P 11 29 03.0 -0.8
baz=56
DANN Dangsing 55.97 277 eP P 11 29 06.8 +1.1
comp=Z,25nm,0.5s,mb5.5
C07A Waterville 56.02 54 ⇑P P 11 29 05.2 -0.5
baz=56
B08A Colville Reser 56.05 53 ⇓P P 11 29 05.5 -0.4
baz=56
A09A Danville 56.11 53 ⇓P P 11 29 06.4 -0.1
baz=56
EDM Edmonton 56.44 46 eP P 11 29 08.7 +0.1
J02A Umpqua 56.44 60 ⇓P P 11 29 09.0 +0.2
baz=56
KOLN Koldanda 56.45 276 eP P 11 29 10.2 +1.1
comp=Z,22nm,0.6s,mb5.4
C08A Higginbotham F 56.53 54 ⇑P P 11 29 08.2 -1.2
baz=56
B09A Rice 56.66 53 ⇓P P 11 29 10.0 -0.3
baz=56
A10A Northport 56.66 52 ⇑P P 11 29 10.0 -0.3
baz=56
D08A Wollman Farm, 57.01 55 ⇑P P 11 29 12.0 -0.8
baz=57
H05A Madras 57.08 58 ⇓P P 11 29 13.6 +0.2
baz=57
KEV Kevo 57.24 340 ep P 11 29 12.5 -1.6
comp=Z,0.5nm,0.3s,mb4.0
KEV Kevo 57.24 340 eP P 11 29 12.5 -1.6
KEV pmax pmax
comp=Z,1.0nm,0.3s,mb4.3
A11A Hall Mountain, 57.32 52 ⇓P P 11 29 14.3 -0.7
baz=57
H06A Lindquist Farm 57.55 57 ⇑P P 11 29 16.4 -0.3
baz=57
ARCES ARCESS Array B 57.76 341 P P 11 29 17.1 -0.6
comp=Z,0.8nm,0.4s,mb4.1,baz=32,slow=7.1,SNR=10
ARCES LR LR 11 57 09.1
comp=Z,41nm,18.7s,MS3.6,baz=118,slow=39
ARCES ARCESS Array B 57.76 341 P P 11 29 17.2 -0.5
ARCES pmax pmax
comp=Z,1.0nm,0.4s
ARCES MLR MLR
comp=Z,41nm,18.7s
YBH Yreka Blue Hor 57.90 62 ⇓P P 11 29 19.9 +0.7
baz=58
D10A Wagner Farm, O 57.93 54 ⇓P P 11 29 19.0 -0.3
baz=58
M02C Callahan 58.02 62 ⇓P P 11 29 20.8 +0.8
baz=58
G08A Pilot Rock 58.02 56 ⇓P P 11 29 19.7 -0.2
baz=58
C11A Tepee Creek (N 58.03 53 ⇑P P 11 29 19.7 -0.3
baz=58
I06A Prineville 58.09 58 ⇓P P 11 29 20.5 +0.1
baz=58
E10A Myers Farm, Un 58.36 54 ⇑P P 11 29 21.9 -0.5
baz=58
A13A Flathead Natio 58.38 51 ⇓P P 11 29 22.3 -0.1
baz=58
I07A Izee 58.42 58 ⇑P P 11 29 23.0 +0.3
baz=58
D11A Klaveano Farm, 58.46 53 ⇓P P 11 29 22.8 -0.2
baz=58
J06A Christmas Vall 58.53 59 ⇓P P 11 29 23.5 -0.1
baz=58
C12B Naegeli Ranch, 58.54 52 ⇓P P 11 29 23.2 -0.3
baz=58
F10A Beach Ranch, E 58.60 55 ⇓P P 11 29 24.0 0.0
baz=58
H08A Prairie City 58.64 57 ⇓P P 11 29 24.0 -0.3
baz=58
B13A Whitefish 58.69 51 ⇑P P 11 29 24.6 0.0
baz=58,SNR=5.5
WDC Whiskeytown Da 58.69 63 ⇓P P 11 29 24.7 -0.1
baz=58
G09A Cove 58.70 56 ⇓P P 11 29 24.8 +0.2
baz=58
K06A Valley Falls 58.74 59 ⇑P P 11 29 25.6 +0.5
baz=58
L05A Lakeview 58.84 60 ⇑P P 11 29 26.5 +0.8
baz=59
E11A Bogner Ranch, 58.94 54 ⇓P P 11 29 25.6 -0.7
baz=59
D12A Red Ives Fores 58.99 53 ⇑P P 11 29 26.2 -0.5
baz=59
G10A Bishop Farm, J 59.06 55 ⇑P P 11 29 27.0 -0.2
baz=59,SNR=7.1
H09A Durkee 59.13 56 ⇓P P 11 29 28.1 +0.4
baz=59
BMO Blue Mountains 59.22 56 eP P 11 29 28.9 +0.6
BMO pmax pmax
comp=Z,7.0nm,1.5s,mb4.5
BMO Blue Mountains 59.22 56 eP P 11 29 28.9 +0.6
comp=Z,7.0nm,1.5s,mb4.5
A15A Johnson Ranch, 59.24 50 ⇑P P 11 29 27.9 -0.5
baz=59
MOD Modoc 59.25 60 ⇑P P 11 29 28.6 +0.1
baz=59
F11A Grangeville 59.25 54 ⇑P P 11 29 28.4 -0.1
baz=59
E12A Beaver Dam Sad 59.26 54 ⇓P P 11 29 28.3 -0.2
baz=59,SNR=5.4
K07A Rock Creek Ran 59.40 59 ⇑P P 11 29 29.2 -0.3
baz=59
C14A Swan Lake 59.44 51 ⇓P P 11 29 30.1 +0.4
baz=59
J08A Circle Bar Ran 59.45 58 ⇓P P 11 29 29.8 -0.1
baz=59
D13A Huson 59.46 52 ⇓P P 11 29 30.1 +0.1
baz=59
G11A Walters Elk Ra 59.48 55 ⇓P P 11 29 29.9 -0.2
baz=59
I09A Lost Marbles R 59.50 57 ⇑P P 11 29 30.2 -0.1
baz=59
B15A Bradely Ranch, 59.74 50 ⇓P P 11 29 31.6 -0.2
baz=60
L07A Adell 59.75 60 ⇑P P 11 29 32.4 +0.4
baz=60
K08A Mann Creek Ran 59.82 58 ⇓P P 11 29 32.5 0.0
baz=60
F12A Elk City 59.83 54 ⇑P P 11 29 32.3 -0.2
baz=60
A16A West Butte Ran 59.85 49 ⇑P P 11 29 32.5 -0.1
baz=60
J09A Fry Pan Ranch, 59.87 58 ⇓P P 11 29 33.1 +0.3
baz=60
ORV Oroville 59.95 63 ⇓P P 11 29 32.5 -0.9
baz=60
MCCM Marconi Confer 59.95 65 ⇑P P 11 29 32.2 -1.3
baz=60
D14A Greenough 59.98 52 ⇑P P 11 29 33.2 -0.4
baz=60,SNR=7.4
E13A Victor 60.00 53 ⇑P P 11 29 33.5 -0.1
baz=60
C15A Salmond Ranch, 60.04 51 ⇑P P 11 29 34.3 +0.4
baz=60,SNR=8.9
H11A Donnelly 60.05 55 ⇑P P 11 29 33.8 -0.2
baz=60
CHMT Chamberlain Mo 60.22 52 eP P 11 29 32.7 -2.5
N06A Buffalo Meadow 60.23 61 ⇓P P 11 29 35.5 +0.2
baz=60
F13A Darby 60.32 54 ⇓P P 11 29 36.1 +0.3
baz=60
E14A Clinton 60.40 53 ⇑P P 11 29 36.3 -0.1
baz=60
C16A Fuhringer Ranc 60.48 50 ⇑P P 11 29 36.9 0.0
baz=60,SNR=8.5
D15A Lincoln 60.54 52 ⇓P P 11 29 37.1 -0.2
baz=60
O06A Flanigan 60.59 61 ⇓P P 11 29 38.0 +0.2
baz=60
SUMG Sumit 60.68 4 eP P 11 29 38.2 +0.3
comp=Z,9.9nm,0.8s,mb5.0
K10A MacKenzie Ranc 60.73 58 ⇑P P 11 29 39.1 +0.4
baz=60
H12A Diamond D Ranc 60.79 55 ⇑P P 11 29 38.9 -0.2
baz=61
G13A Cobalt 60.80 54 ⇓P P 11 29 38.9 -0.2
baz=61,SNR=5.5
E15A Deer Lodge 60.85 52 ⇑P P 11 29 39.5 0.0
baz=61
LAVA Lava Cap Winer 60.90 63 ⇑P P 11 29 39.6 -0.3
baz=61
MFID Camas Ranch 60.94 56 ⇑P P 11 29 39.8 -0.4
baz=61
C17A Wharram Farm, 61.11 50 ⇑P P 11 29 41.1 -0.1
baz=61,SNR=7.7
H13A Challis 61.12 55 ⇓P P 11 29 41.4 +0.1
baz=61
O07A Toulon 61.16 61 ⇓P P 11 29 41.7 0.0
baz=61
JOF Joensuu 61.22 334 ep P 11 29 40.5 -1.2
comp=Z,1.1nm,0.3s,mb4.5
JOF Joensuu 61.22 334 eP P 11 29 40.5 -1.2
JOF pmax pmax
comp=Z,1.0nm,0.3s,mb4.4
K11A Parker Ranch, 61.22 57 ⇓P P 11 29 42.2 +0.1
baz=61
N08A GE Springer Mi 61.22 60 ⇓P P 11 29 41.9 -0.2
baz=61
M09A Marrel Ranch, 61.23 59 ⇑P P 11 29 42.3 +0.2
baz=61
F15A Butte 61.30 53 ⇑P P 11 29 42.5 0.0
baz=61,SNR=5.5
LRM Limekiln Ridge 61.33 53 eP P 11 29 43.3 +0.5
L10A Juniper Basin 61.40 58 ⇑P P 11 29 43.5 +0.3
baz=61
J12A Stokes Ranch, 61.46 56 ⇑P P 11 29 43.9 +0.3
baz=61
O08A Rochester Mine 61.52 60 ⇓P P 11 29 44.4 +0.3
baz=61
CMB Columbia Colle 61.57 64 ⇑P P 11 29 44.6 +0.2
baz=61
I13A Wildhorse Cree 61.60 55 ⇓P P 11 29 45.7 +1.1
baz=61,SNR=5.0
PACP Pacheco Peak 61.65 65 ⇑P P 11 29 45.2 +0.2
baz=62
HLID Hailey 61.66 56 ⇓P P 11 29 45.1 +0.1
baz=61
M10A I.L. Ranch, Tu 61.70 59 ⇓P P 11 29 46.1 +0.8
baz=62
G15A Dillon 61.73 53 ⇑P P 11 29 45.1 -0.2
baz=62
L11A Cat Creek Ranc 61.76 58 ⇑P P 11 29 46.1 +0.4
baz=62
E17A Martinsdale 61.79 51 ⇑P P 11 29 46.4 +0.6
baz=62
J13A Cove Ranch, Pi 61.89 56 ⇑P P 11 29 47.6 +1.0
baz=62
K12A Draper Farm, C 61.96 57 ⇓P P 11 29 47.0 0.0
baz=62
I14A Mackay 61.97 55 ⇓P P 11 29 47.4 +0.4
baz=62,SNR=5.1
H15A Lima 61.98 54 ⇑P P 11 29 47.0 -0.1
baz=62
S06C San Francisco 61.99 64 ⇓P P 11 29 47.3 -0.1
baz=62
S05C Merced 62.03 64 ⇓P P 11 29 46.5 -1.1
baz=62
O09A Fish Creek Ran 62.17 60 ⇑P P 11 29 48.5 0.0
baz=62
L12A House Creek Ra 62.20 57 ⇓P P 11 29 48.4 -0.2
baz=62
M11A Holland Ranch, 62.20 58 ⇑P P 11 29 49.3 +0.6
baz=62
E18A Harlowton 62.23 51 ⇓P P 11 29 48.9 +0.1
baz=62
J14A Carey 62.31 55 ⇑P P 11 29 50.0 +0.6
baz=62,SNR=6.4
NVAR Mina Array Bea 62.59 62 P P 11 29 51.6 +0.3
comp=Z,1.6nm,0.8s,mb4.2,baz=294,slow=6.8,SNR=10
T06C Millerton Lake 62.63 64 ⇑P P 11 29 51.4 -0.2
baz=62
KCC Kaiser Creek 62.67 64 ⇑P P 11 29 51.5 -0.3
baz=62
H16A Russell Place, 62.70 53 ⇓P P 11 29 52.4 +0.5
baz=62
M12A Wells 62.72 58 ⇓P P 11 29 52.6 +0.5
baz=62
F18A Big Timber 62.76 51 ⇓P P 11 29 52.4 +0.1
baz=62
L13A Double Diamond 62.85 57 ⇓P P 11 29 53.4 +0.4
baz=63
J15A Blackfoot 62.88 55 ⇓P P 11 29 53.8 +0.7
baz=63
I16A Newdale 63.10 54 ⇓P P 11 29 55.2 +0.6
baz=63
O11A Cowboy Ranch, 63.10 59 ⇓P P 11 29 54.9 +0.3
baz=63
M13A Montello 63.19 57 ⇓P P 11 29 55.9 +0.6
baz=63
HELL Mitchell Peak 63.27 64 ⇑P P 11 29 55.0 -0.8
baz=63
S08C White Mtn Res 63.27 63 ⇑P P 11 29 56.5 +0.7
baz=63
K15A Arbon 63.28 55 ⇑P P 11 29 55.8 0.0
baz=63
L14A Malta 63.29 56 ⇓P P 11 29 56.3 +0.4
baz=63
KAF Kangasniemi 63.33 335 ep P 11 29 54.5 -1.3
comp=Z,1.7nm,0.4s,mb4.5
KAF Kangasniemi 63.33 335 eP P 11 29 54.5 -1.3
KAF pmax pmax
comp=Z,2.0nm,0.4s,mb4.6
J16A Bone 63.41 54 ⇓P P 11 29 57.5 +0.9
baz=63
R09A Tonopah 63.46 62 ⇓P P 11 29 56.7 -0.3
baz=63
N13A Wendover, West 63.49 58 ⇑P P 11 29 57.4 +0.1
baz=63
RRI2 Red Ridge 63.53 54 eP P 11 29 58.8 +1.4
comp=Z,7.8nm,0.8s,mb4.8
O12A Currie 63.55 59 ⇓P P 11 29 57.9 +0.3
baz=63
M14A Sheep Mountain 63.57 57 ⇓P P 11 29 58.6 +0.9
baz=63
TPAW Teton Pass 63.64 54 eP P 11 29 59.6 +1.4
comp=Z,6.1nm,0.9s,mb4.6
S09A Goldfield 63.70 62 ⇑P P 11 29 58.7 0.0
baz=64
K16A Soda Springs 63.71 55 ⇑P P 11 29 59.8 +1.1
baz=64
LOHW Long Hollow 63.76 54 eP P 11 29 58.1 -0.8
comp=Z,3.9nm,1.4s,mb4.2
REDW Red Top Meadow 63.78 54 eP P 11 30 00.3 +1.2
FINES FINESS Array B 63.92 335 eP P 11 29 58.0 -1.7
Q11A Duckwater 63.93 60 ⇑P P 11 30 00.2 0.0
baz=64
DGMT Dagmar 63.93 46 eP P 11 30 00.5 +0.5
GRAC Grapevine Rang 64.08 63 ⇓P P 11 30 01.6 +0.5
baz=64
N14A Grayback Hills 64.08 57 ⇓P P 11 30 01.0 -0.1
baz=64
LAO LASA Array 64.09 49 eP P 11 30 00.1 -0.9
comp=Z,8.3nm,0.9s,mb4.8
M15A Larsen Ranch, 64.11 56 ⇑P P 11 30 01.4 +0.1
baz=64,SNR=6.5
R11A Troy Canyon, C 64.29 61 ⇓P P 11 30 02.5 0.0
baz=64
MPMC Manual Prospec 64.61 64 ⇑P P 11 30 04.7 +0.1
baz=64
S11A Rachel 64.65 61 ⇓P P 11 30 05.0 +0.2
baz=64
DUG Dugway 64.73 58 ⇑P P 11 30 05.2 -0.1
baz=64
DUG Dugway 64.73 58 eP P 11 30 05.9 +0.5
FURC Furnace Creek, 64.73 63 ⇓P P 11 30 05.2 -0.2
baz=64,SNR=5.2
TPNV Topopah Spring 64.79 62 ⇓P P 11 30 06.4 +0.5
baz=65
Q13A Wheeler Ranch, 64.83 59 ⇑P P 11 30 06.1 +0.1
baz=65
BW06 Boulder Array 64.89 54 eP P 11 30 06.3 0.0
PDAR Pinedale Array 64.89 54 P P 11 30 06.5 +0.1
comp=Z,2.6nm,0.8s,mb4.3,baz=347,slow=1.4,SNR=21
EDW2 Edwards Air Fo 65.07 65 ⇓P P 11 30 07.7 +0.1
baz=65
U10A Ash Meadows, A 65.09 63 ⇓P P 11 30 07.6 -0.2
baz=65
S12A Delamar Landin 65.21 61 ⇑P P 11 30 08.8 +0.3
baz=65
T11A Corn Creek, Al 65.23 61 ⇑P P 11 30 08.7 0.0
baz=65
Q14A Sevier Lake (B 65.24 59 ⇑P P 11 30 09.1 +0.4
baz=65
N17A Moffit Pass 65.37 56 ⇓P P 11 30 10.3 +0.7
baz=65
P15A Leamington 65.44 58 ⇓P P 11 30 10.0 0.0
baz=65
GSC Goldstone 65.53 64 ⇓P P 11 30 10.7 +0.1
baz=65
S13A Holt Ranch, En 65.82 60 ⇓P P 11 30 12.2 -0.2
baz=66
TUQ Turquoise Moun 65.98 63 ⇓P P 11 30 13.7 +0.2
baz=66
U13A Pakoon Wash 66.53 61 ⇓P P 11 30 16.9 -0.1
baz=66
ULM Lac du Bonnet 66.63 41 P P 11 30 16.4 -1.0
comp=Z,5.3nm,0.8s,mb4.6,baz=279,slow=8.7,SNR=6.2
SRU San Rafael 66.77 57 ⇓P P 11 30 18.6 +0.1
baz=66
RSSD Black Hills 66.95 50 eP P 11 30 19.4 -0.2
RSSD pmax pmax
comp=Z,7.0nm,1.0s,mb4.7
RSSD Black Hills 66.95 50 eP P 11 30 19.4 -0.2
comp=Z,6.8nm,1.0s,mb4.6
T15A Red Dirt Ranch 67.08 60 ⇑P P 11 30 20.4 -0.1
baz=67
R17A Hanksville Air 67.12 58 ⇑P P 11 30 20.8 0.0
baz=67
IRM Iron Mountain 67.30 64 ⇓P P 11 30 21.6 -0.4
baz=67
U15A North Rim 67.52 60 ⇑P P 11 30 23.7 +0.4
baz=67
V14A Boquillas Ranc 67.57 62 ⇓P P 11 30 24.0 +0.4
baz=67
S17A Black Ridge (B 67.59 59 ⇓P P 11 30 23.3 -0.5
baz=67,SNR=6.0
Q19A Hogan Spring (67.60 57 ⇑P P 11 30 23.4 -0.4
baz=67
R18A Canyonlands Na 67.62 57 ⇑P P 11 30 23.6 -0.3
baz=67
X13A Yucca 67.82 63 ⇑P P 11 30 24.8 -0.5
baz=68
PDMCI Parker Dam,Lak 67.83 63 ⇑P P 11 30 25.0 -0.3
baz=68
W14A Seligman 67.86 62 ⇓P P 11 30 25.6 +0.2
baz=68
V15A Kaibab Nationa 68.00 61 ⇑P P 11 30 26.4 0.0
baz=68
T17A Navajo Res., N 68.02 59 ⇑P P 11 30 26.5 0.0
baz=68
S18A Hurst Farm, Bl 68.03 58 ⇓P P 11 30 26.2 -0.3
baz=68
PV10 Paradox Valley 68.12 57 eP P 11 30 27.4 +0.4
NB2 NORSAR Subarra 68.13 341 P P 11 30 25.9 -0.8
comp=Z,11nm,0.6s,mb5.0,baz=27,slow=6.5
NOA NORSAR Array B 68.13 341 P P 11 30 25.9 -0.8
comp=Z,10nm,0.6s,mb5.0,baz=28,slow=6.3,SNR=41
NOA LR LR 12 04 45.2
comp=Z,27nm,18.9s,MS3.5,baz=335,slow=40
NOA NORSAR Array B 68.13 341 P P 11 30 26.0 -0.7
NOA pmax pmax
comp=Z,10.0nm,0.6s
NOA MLR MLR
comp=Z,27nm,18.9s
GLA Glamis 68.24 65 ⇑P P 11 30 27.6 -0.3
baz=68
NAO01 NORSAR Array S 68.38 341 eP P 11 30 27.9 -0.4
T18A Mexican Hat 68.48 58 ⇑P P 11 30 28.9 -0.4
baz=68
WRA Warramunga Arr 68.48 199 P P 11 30 28.6 -0.7
comp=Z,1.6nm,0.9s,mb4.1,baz=20,slow=6.9,SNR=13
WRA Warramunga Arr 68.48 199 P P 11 30 28.6 -0.7
WRA pmax pmax
comp=Z,2.0nm,0.9s
X14A Yava 68.48 62 ⇓P P 11 30 29.4 0.0
baz=68
S19A Harvey Farm, M 68.49 58 ⇑P P 11 30 29.3 -0.1
baz=68
WUAZ Wupatki 68.69 61 ⇑P P 11 30 30.7 0.0
baz=68
X15A Humboldt 68.86 62 ⇑P P 11 30 32.0 +0.3
baz=69
U18A Rough Rock, Ch 68.97 59 ⇑P P 11 30 32.6 +0.2
baz=69
Y15A Casa Rosa Ranc 69.17 62 ⇑P P 11 30 33.9 +0.3
baz=69
T19A Beclabito 69.18 58 ⇓P P 11 30 33.6 -0.1
baz=69
MVCO Mesa Verde 69.23 58 ⇓P P 11 30 33.7 -0.3
baz=69
X16A Lo Mia Camp, P 69.39 61 ⇑P P 11 30 35.6 +0.5
baz=69
V18A Ganado 69.41 60 ⇑P P 11 30 35.5 +0.4
baz=69
X17A Forest Lakes 69.83 61 ⇓P P 11 30 38.6 +0.9
baz=70
115A Sonoran Desert 70.09 63 ⇓P P 11 30 39.5 +0.2
baz=70
W19A Sanders 70.15 60 ⇓P P 11 30 39.3 -0.4
baz=70
X18A Snowflake 70.21 61 ⇓P P 11 30 39.8 -0.2
baz=70
Y17A Roosevelt 70.25 62 ⇓P P 11 30 40.2 -0.1
baz=70
X19A St. Johns 70.68 60 ⇓P P 11 30 43.0 +0.1
baz=70
ECSD EROS,Sioux Fal 71.01 46 eP P 11 30 43.8 -1.0
216A Three Points, 71.04 63 ⇑P P 11 30 44.8 -0.3
baz=71
117A Oracle 71.08 62 ⇓P P 11 30 45.3 -0.1
baz=71
AKASG Malin Array Be 71.41 326 P P 11 30 45.8 -1.3
comp=Z,12nm,0.4s,mb5.2,baz=35,slow=6.2,SNR=35
AKASG Malin Array Be 71.41 326 i P P 11 30 46.0 -1.0
AKASG pmax pmax
comp=Z,13nm,0.4s
AKBB Malin Array Si 71.41 326 eP P 11 30 45.7 -1.3
KIEV Kiev 71.42 326 eP P 11 30 45.8 -1.3
KIEV pmax pmax
comp=Z,11nm,0.6s,mb5.0
KIEV Kiev 71.42 326 eP P 11 30 45.8 -1.4
comp=Z,11nm,0.6s,mb5.0
118A Homack Ranch, 71.51 62 ⇑P P 11 30 48.1 +0.2
baz=71
217A Green Valley 71.59 63 ⇓P P 11 30 48.6 +0.2
baz=71
218A Dragoon 71.92 63 ⇑P P 11 30 50.6 +0.2
baz=72
ANMO Albuquerque 71.98 58 eP P 11 30 50.0 -0.8
ASAR Alice Springs 72.18 198 P P 11 30 52.5 +0.7
comp=Z,1.7nm,0.7s,mb4.1,baz=11,slow=5.2,SNR=32
ASAR Alice Springs 72.18 198 P P 11 30 52.5 +0.7
ASAR pmax pmax
comp=Z,2.0nm,0.7s
318A Bisbee 72.33 63 ⇑P P 11 30 53.1 +0.2
baz=72
219A White Tail Can 72.38 62 ⇓P P 11 30 53.6 +0.4
baz=72
319A Douglas 72.81 62 ⇑P P 11 30 55.9 +0.2

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
	baz=73						
KWP	**Kalwaria**	**74.69**	**329**	⇓*i*P	**P**	**11 31 06.7**	**+0.2**
KWP	**Kalwaria**	**74.69**	**329**	⇓P	**P**	**11 31 06.7**	**+0.2**
STHS	**Stebnicka Huta**	**75.39**	**330**	*i* P	**P**	**11 31 11.1**	**+0.6**
STHS				pmax	pmax		
	comp=Z,6.0nm,0.8s,mb4.6						
STHS	**Stebnicka Huta**	**75.39**	**330**	*i* P	**P**	**11 31 11.1**	**+0.6**
	comp=Z,5.9nm,0.8s,mb4.6						
BUR08	**Bucovina Ar. S**	**75.43**	**326**	*e*P	**P**	**11 31 10.7**	**-0.1**
KOLS	**Kolonicke sedl**	**75.43**	**329**	*i* P	**P**	**11 31 10.3**	**-0.5**
BURAR	**Bucovina Array**	**75.45**	**326**	⇓*i*P	**P**	**11 31 10.8**	**-0.1**
BURAR	**Bucovina Array**	**75.45**	**326**	⇓P	**P**	**11 31 10.8**	**-0.1**
CRVS	**Cervenica-Dubn**	**75.75**	**329**	*i* P	**P**	**11 31 11.7**	**-0.8**
UPC	**Upice**	**76.16**	**333**	*e*P	**P**	**11 31 14.6**	**-0.3**
DPC	**Dobruska-Polom**	**76.20**	**333**	*e*P	**P**	**11 31 15.0**	**-0.1**
VRI	**Vrincioaia**	**76.30**	**324**	⇓*i*P	**P**	**11 31 17.5**	**+1.7**
VRI	**Vrincioaia**	**76.30**	**324**	⇓P	**P**	**11 31 17.5**	**+1.7**
MORC	**Moravsky Berou**	**76.32**	**332**	⇑*i*P	**P**	**11 31 14.8**	**-1.0**
MORC	**Moravsky Berou**	**76.32**	**332**	*e*P	**P**	**11 31 15.2**	**-0.6**
	comp=Z,7.4nm,0.9s,mb4.6						
PLOR	**Plostina**	**76.35**	**325**	S		11 40 02.0	
CLL	**Collm**	**76.35**	**335**	*i* P	**P**	**11 31 15.0**	**-0.9**
CLL				pmax	pmax		
	comp=Z,13nm,1.0s,mb4.8						
CLL	**Collm**	**76.35**	**335**	*i* P	**P**	**11 31 15.0**	**-0.9**
	comp=Z,13nm,1.0s,mb4.8						
CLL				*e*PcP	PcP	11 31 28.0	+0.4
BRG	**Berggiesshubel**	**76.47**	**335**	*e*P	**P**	**11 31 15.9**	**-0.7**
BRG				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.3						
BRG	**Berggiesshubel**	**76.47**	**335**	*e*(P)	**P**	**11 31 15.9**	**-0.7**
	comp=Z,4.2nm,0.8s,mb4.4						
MLR	**Muntele Rosu**	**76.92**	**325**	⇑*i*P	**P**	**11 31 20.3**	**+1.0**
MLR	**Muntele Rosu**	**76.92**	**325**	⇑P	**P**	**11 31 20.3**	**+1.0**
MALT	**Malatya**	**76.98**	**313**	*e*P	**P**	**11 31 18.1**	**-1.6**
MALT				pmax	pmax		
	comp=Z,4.0nm,0.6s,mb4.5						
MALT	**Malatya**	**76.98**	**313**	⇑*i*P	**P**	**11 31 26.3**	**+6.5**
MALT	**Malatya**	**76.98**	**313**	*e*P	**P**	**11 31 18.1**	**-1.7**
	comp=Z,4.3nm,0.6s,mb4.6						
VYHS	**Vyhne**	**77.00**	**331**	*i* P	**P**	**11 31 19.6**	**0.0**
PRU	**Pruhonice**	**77.07**	**334**	*e*P	**P**	**11 31 19.1**	**-0.9**
DRGR		**77.08**	**327**	⇑*i*P	**P**	**11 31 19.8**	**-0.3**
DRGR		**77.08**	**327**	⇑P	**P**	**11 31 19.8**	**-0.4**
NKC	**Novy Kostel**	**77.47**	**335**	*e*P	**P**	**11 31 22.0**	**-0.3**
MODS	**Modra-Piesok**	**77.62**	**331**	*i* P	**P**	**11 31 23.6**	**+0.5**
TXAR	**Lajitas Array**	**77.65**	**60**	P	**P**	**11 31 23.2**	**-0.5**
	comp=Z,1.9nm,0.5s,mb4.3,baz=299,slow=4.7,SNR=70						
TXAR	**Lajitas Array**	**77.65**	**60**	P	**P**	**11 31 23.2**	**-0.4**
TXAR				pmax	pmax		
	comp=Z,2.0nm,0.5s						
TXAR	**Lajitas Array**	**77.65**	**60**	P	**P**	**11 31 23.2**	**-0.5**
KHC	**Kasperske Hory**	**78.12**	**334**	*e*P	**P**	**11 31 25.5**	**-0.4**
GZR	**Gura Zlata**	**78.23**	**327**	⇓*i*P	**P**	**11 31 26.2**	**-0.4**
GZR	**Gura Zlata**	**78.23**	**327**	⇓P	**P**	**11 31 26.2**	**-0.3**
GRA1	**Grafenberg Arr**	**78.31**	**336**	*e*P	**P**	**11 31 27.3**	**+0.4**
	comp=Z,13nm,0.8s,mb4.9						
GRF	**Grafenberg Arr**	**78.31**	**336**	*e*P	**P**	**11 31 27.3**	**+0.4**
GRF				pmax	pmax		
	comp=Z,13nm,0.8s,mb4.9						
GRF	**Grafenberg Arr**	**78.31**	**336**	*e*P	**P**	**11 31 27.3**	**+0.4**
GRF				pmax	pmax		
	comp=Z,13nm,0.8s,mb4.9						
GRF	**Grafenberg Arr**	**78.31**	**336**	*e*P	**P**	**11 31 27.3**	**+0.4**
	comp=Z,13nm,0.8s,mb4.9						
GERES	**GERESS Array B**	**78.34**	**334**	P	**P**	**11 31 26.9**	**-0.2**
	comp=Z,1.4nm,0.5s,mb4.1,baz=20,slow=4.3,SNR=12						
GERES	**GERESS Array B**	**78.34**	**334**	P	**P**	**11 31 26.9**	**-0.2**
GERES				pmax	pmax		
	comp=Z,1.0nm,0.5s						
UMR	**Umm Al-Rimmam**	**78.44**	**301**	*e*P	**P**	**11 31 27.9**	**-0.1**
	baz=301						
UMR				AMb	AMB	11 31 28.9	
	comp=Z,53nm,0.8s,mb5.5,baz=301						
CONA	**Conrad Observa**	**78.47**	**332**	⇑*i*P	**P**	**11 31 28.0**	**+0.2**
	comp=Z,6.1nm,0.7s,mb4.6						
CSNA	**Conrad Observa**	**78.47**	**332**	⇑*i*P	**P**	**11 31 28.1**	**+0.2**
	comp=Z,6.6nm,0.8s,mb4.6						
MIB	**Mutribah**	**78.48**	**301**	*e*P	**P**	**11 31 28.3**	**+0.1**
	baz=301						
MIB				AMb	AMB	11 31 29.2	
	comp=Z,65nm,0.8s,mb5.6,baz=301						
RST	**Umm Al-Ruwaisa**	**78.90**	**301**	*e*P	**P**	**11 31 30.1**	**-0.4**
	baz=301						
RST				AMb	AMB	11 31 31.3	
	comp=Z,51nm,0.7s,mb5.6,baz=301						
NAY	**Al-Naaiem**	**78.94**	**301**	*e*P	**P**	**11 31 30.4**	**-0.3**
	baz=301						
NAY				AMb	AMB	11 31 32.2	
	comp=Z,20nm,1.5s,mb4.8,baz=301						
RDF	**Al-Radifah**	**79.00**	**301**	*e*P	**P**	**11 31 31.2**	**+0.2**
	baz=301						
RDF				AMb	AMB	11 31 32.3	
	comp=Z,56nm,1.2s,mb5.4,baz=301						
MOA	**Molln**	**79.05**	**333**	⇑*i*P	**P**	**11 31 30.8**	**-0.2**
	comp=Z,6.0nm,1.0s,mb4.5						
SOKA	**Soboth**	**79.84**	**332**	⇑*i*P	**P**	**11 31 35.0**	**-0.3**
	comp=Z,7.9nm,0.9s,mb4.6						
KBA	**Koelnbreinsper**	**80.02**	**333**	⇓*i*P	**P**	**11 31 37.0**	**+0.7**
	comp=Z,7.9nm,0.6s,mb4.8						
RAR	**Rarotonga**	**80.06**	**136**	LR	LR	12 02 58.2	
	comp=Z,118nm,18.5s,MS4.3,baz=299,slow=32						
CDF	**Champ du Feu**	**80.55**	**338**	*e*P	**P**	**11 31 38.7**	**-0.4**
HAU	**Haudompre**	**81.17**	**338**	*e*P	**P**	**11 31 41.7**	**-0.7**
HAU				*e*MLR	MLR		
	comp=Z,75nm,22.0s,MS3.7						
HAU	**Haudompre**	**81.17**	**338**	*e*P	**P**	**11 31 41.7**	**-0.7**
HAU				LR	LR		
	comp=Z,80nm,22.0s,MS4.0						
TUE	**Stuetta**	**81.76**	**335**	*e*P	**P**	**11 31 46.0**	**+0.4**
	comp=Z,3.9nm,0.6s,mb4.5						
LOR	**Lormes**	**82.48**	**339**	*e*P	**P**	**11 31 48.8**	**-0.5**
LOR				*e*MLR	MLR		
	comp=Z,74nm,19.0s,MS3.8						
LOR	**Lormes**	**82.48**	**339**	*e*P	**P**	**11 31 48.8**	**-0.5**
LOR				LR	LR		
	comp=Z,70nm,19.0s,MS4.0						
AVF	**Avril sur Loir**	**83.05**	**339**	*e*P	**P**	**11 31 52.0**	**-0.3**
	comp=Z,9.1nm,0.7s,mb4.6						
AVF	**Avril sur Loir**	**83.05**	**339**	*e*P	**P**	**11 31 52.0**	**-0.3**
AVF				pmax	pmax		
	comp=Z,5.0nm,0.7s,mb4.7						
AVF	**Avril sur Loir**	**83.05**	**339**	*e*P	**P**	**11 31 52.0**	**-0.3**
	comp=Z,4.6nm,0.7s,mb4.6						
SMF	**Signal de Mont**	**83.06**	**339**	*e*P	**P**	**11 31 52.1**	**-0.3**
	comp=Z,17nm,1.0s,mb4.7						
SMF	**Signal de Mont**	**83.06**	**339**	*e*P	**P**	**11 31 52.1**	**-0.3**
SMF				pmax	pmax		
	comp=Z,8.0nm,1.0s,mb4.7						
SMF	**Signal de Mont**	**83.06**	**339**	*e*P	**P**	**11 31 52.1**	**-0.3**
	comp=Z,8.4nm,1.0s,mb4.7						
LPG	**La Plagne**	**83.38**	**337**	*e*P	**P**	**11 31 54.5**	**+0.5**
TCF	**Toulx Ste Croi**	**83.79**	**340**	*e*P	**P**	**11 31 55.9**	**-0.2**
MFF	**Saint Martin d**	**84.03**	**342**	*e*P	**P**	**11 31 58.0**	**+0.7**
ORIF	**Oris-en-Rattie**	**84.15**	**337**	*e*P	**P**	**11 31 58.2**	**+0.2**
	comp=Z,13nm,0.8s,mb4.8						
ORIF				*e*MLR	MLR		
	comp=Z,65nm,19.0s,MS3.7						
ORIF	**Oris-en-Rattie**	**84.15**	**337**	*e*P	**P**	**11 31 58.2**	**+0.2**
ORIF				pmax	pmax		
	comp=Z,6.0nm,0.8s,mb4.8						
ORIF	**Oris-en-Rattie**	**84.15**	**337**	*e*P	**P**	**11 31 58.2**	**+0.2**
	comp=Z,6.4nm,0.8s,mb4.8						
VIVF	**Saint-Julien-l**	**84.52**	**338**	*e*P	**P**	**11 31 59.9**	**0.0**
SMRF	**Simiane la Rot**	**85.10**	**337**	*e*P	**P**	**11 32 03.0**	**+0.2**
	comp=Z,18nm,1.0s,mb4.9						
SMRF	**Simiane la Rot**	**85.10**	**337**	*e*P	**P**	**11 32 03.0**	**+0.2**
	comp=Z,18nm,1.0s,mb5.2						
LMR	**La Mourre**	**85.44**	**336**	*e*P	**P**	**11 32 04.1**	**-0.4**
	comp=Z,11nm,0.8s,mb4.8						
LMR	**La Mourre**	**85.44**	**336**	*e*P	**P**	**11 32 04.1**	**-0.4**
LMR				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.7						
LMR	**La Mourre**	**85.44**	**336**	*e*P	**P**	**11 32 04.1**	**-0.4**
	comp=Z,5.4nm,0.8s,mb4.7						
TORD	**Torodi Ar. Bea**	**114.96**	**329**	PKP	PKiKP	11 38 06.5	-1.6
	comp=Z,0.3nm,0.6s,baz=26,slow=2.0,SNR=3.3						
PLCA	**Paso Flores**	**148.41**	**95**	PKPbc	PKPbc	11 39 12.1	-0.8
	comp=Z,3.2nm,0.8s,baz=253,slow=4.5,SNR=6.6						
PLCA	**Paso Flores**	**148.41**	**95**	PKP2	PKPbc	11 39 12.1	-0.8
PLCA				pmax	pmax		
	comp=Z,3.0nm,0.8s						
CPUP	**Villa Florida**	**148.62**	**60**	PKPbc	PKPbc	11 39 12.7	-1.2
	comp=Z,1.2nm,0.5s,baz=263,slow=3.8,SNR=5.8						
CPUP	**Villa Florida**	**148.62**	**60**	PKP2	PKPbc	11 39 12.7	-1.2
CPUP				pmax	pmax		
	comp=Z,1.0nm,0.5s						
SNAA	**Sanae**	**152.53**	**196**	*e*PKPdf	PKPbc	11 39 20.8	-1.0
SNAA				*e*		11 39 35.4	
VNA2	**Neumayer--Watz**	**153.99**	**195**	*e*PKPdf	PKPbc	11 39 24.6	-0.3
	baz=310,slow=0.8						
VNA2				*e*		11 39 39.1	
VNA2				*e*		11 39 53.1	
VNA3	**Neumayer Olymp**	**154.08**	**193**	*e*PKPdf	PKPbc	11 39 24.4	-0.7
VNA3				*e*		11 39 38.6	
VNA3				*e*		11 39 52.5	
VNA1	**Neumayer--Stat**	**154.37**	**194**	*e*PKPdf	PKPbc	11 39 26.0	+0.2
VNA1				*e*		11 39 40.0	
VNA1				*e*		11 39 55.2	

IDC 01 11:23:41.1±4.1**, 16.18S×178.12W, h0km, mb4.4**/3**, mb1 4.6**/3**, mb1mx3.9**/16**, mbtmp4.4**/3**, Error ellipse: s-maj=162.7km s-min=47.4km az=137.0, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**39.72**	**239**	*e*P	P	11 31 15.7	+0.2
	2.5nm,0.5s						
STKA	**Stephens Creek**	**39.72**	**239**	P	P	11 31 15.6	+0.1
	2.6nm,0.4s,baz=87,slow=11,SNR=21						
WB2	**Warramunga Arr**	**45.23**	**258**	*e*P	P	11 32 00.3	-0.2
WRA	**Warramunga Arr**	**45.24**	**258**	P	P	11 32 00.4	-0.1
	0.6nm,0.3s,baz=93,slow=7.8,SNR=38						
ASAR	**Alice Springs**	**45.55**	**253**	P	P	11 32 02.8	-0.1
	12nm,0.7s,baz=89,slow=7.9,SNR=171						
KAKA	**Kakadu**	**47.91**	**267**	*e*P	P	11 32 23.4	+1.8
	9.0nm,0.3s						
FORT	**Forrest**	**51.01**	**243**	*e*P	P	11 32 42.3	-2.8
	7.1nm,0.6s						
FITZ	**Fitzroy Crossi**	**53.60**	**259**	*e*P	P	11 33 04.2	-0.3
	2.9nm,0.8s						
GERES	**GERESS Array B**	**146.02**	**346**	PKPbc	PKPbc	11 43 22.1	-0.7
	0.4nm,0.2s,baz=20,slow=3.1,SNR=4.4						

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*ISCJB **01** 11:25:50.8±0.3, 50.00N±0.02×7.37E±0.03, h10km, Error ellipse: s-maj=2.7km s-min=2.3km az=165.4*
*LDG **01** 11:25:52.3±0.1, 50.05N×7.41E, h10km, Md2.6/1, Ml2.6/11, Error ellipse: s-maj=1.7km s-min=1.1km az=78.0*
*NEIC **01** 11:25:52.3, 50.05N×7.41E, h10km, ML2.6(LDG), After LDG.*
*BGR **01** 11:25:52.4±0.5, 49.96N×7.51E, h10km, ML1.6/2, Error ellipse: s-maj=7.8km s-min=4.4km az=158.0*
*CSEM **01** 11:25:52.1±0.1, 50.05N×7.43E, h12km, ML2.6/11, Error ellipse: s-maj=1.1km s-min=0.9km az=91.0*
*UCC **01** 11:25:52.3±0.6, 50.07N×7.43E, h16km±2km, ML1.7*
*STR **01** 11:25:53.1±0.6, 49.98N×7.43E, h10km, Ml1.9, Error ellipse: s-maj=0.0km s-min=0.0km az=0.0*
*BNS **01** 11:25:53.6±0.5, 50.13N×7.47E, h11km±2km, ML1.3*
ISC 01 11:25:51.7±0.3**, 50.03N**±0.02×**7.40E**±0.03**, h10km, n42, σ0.97**/75**, 4C-4D, Germany**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ABH	**Alteburg**	**0.17**	**146**	Pg	**Pg**	**11 25 57.0**	**+1.6**
ABH				Sg	**Sg**	**11 25 59.5**	**+1.6**
BGG	**Burgeitz**	**0.18**	**348**	⇓*i*Pg	**Pg**	**11 25 56.3**	**+0.7**
BGG				*i* Sg	**Sg**	**11 25 58.8**	**+0.5**
	131nm,0.1s						
RUP	**Ruppelstein**	**0.39**	**214**	Pg	**Pg**	**11 26 00.6**	**+1.3**
RUP				Sg	**Sg**	**11 26 05.7**	**+1.2**
KOE	**Koeppel**	**0.46**	**28**	*e*Pg	**Pg**	**11 26 00.3**	**-0.3**
KOE				*i* Sg	**Sg**	**11 26 05.3**	**-1.2**
	28nm,0.4s						
HILG	**Hillesheim**	**0.53**	**300**	*e*Pg	**Pg**	**11 26 03.9**	**+1.9**
HILG				*e*Sg	**Sg**	**11 26 10.7**	**+1.7**
	41nm,0.5s						
STB	**Steinbach**	**0.67**	**328**	*e*Pg	**Pg**	**11 26 04.9**	**+0.2**
STB				*e*Sg	**Sg**	**11 26 13.5**	**+0.1**
	16nm,0.4s						
TNS	**Taunus Mts**	**0.70**	**73**	*e*Pg	**Pg**	**11 26 04.8**	**-0.5**
	SNR=9.1						
TNS				*e*Sg	**Sg**	**11 26 13.7**	**-0.8**
WLF	**Walferdange**	**0.88**	**246**	⇑*e*P	**Pg**	**11 26 08.8**	**+0.1**
WLF	**Walferdange**	**0.88**	**246**	*e*Pg	**Pg**	**11 26 09.7**	**+1.1**
	SNR=1.6						
WLF				*e*Sg	**Sg**	**11 26 22.0**	**+1.9**
WLF	**Walferdange**	**0.88**	**246**	⇓P	**Pg**	**11 26 08.8**	**+0.1**
WLF	**Walferdange**	**0.88**	**246**	P	**Pg**	**11 26 08.7**	**+0.1**
WLF	**Walferdange**	**0.88**	**246**	Pg	**Pg**	**11 26 09.7**	**+1.1**
	SNR=1.6						
WLF				Sg	**Sg**	**11 26 22.0**	**+1.9**
KLL	**Kalltalsperre**	**0.93**	**312**	⇓*i*Pg	**Pg**	**11 26 10.1**	**+0.5**
KLL				*e*Sg	**Sg**	**11 26 22.3**	**+0.5**
	6.3nm,0.5s						
HOBG	**Hohbusch**	**0.96**	**358**	⇓*i*Pg	**Pg**	**11 26 09.6**	**-0.5**
DREG	**Dreilaegerbach**	**0.98**	**311**	*e*Pg	**Pg**	**11 26 10.9**	**+0.4**
DREG				*e*Sg	**Sg**	**11 26 23.2**	**-0.1**
	11nm,0.3s						
TOD	**Tromm**	**1.00**	**114**	Pg	**Pg**	**11 26 11.4**	**+0.4**
TOD				Sg	**Sg**	**11 26 24.3**	**+0.3**
MEM	**Membach**	**1.06**	**304**	⇑*e*P	**Pg**	**11 26 12.3**	**+0.2**
MEM				⇑*e*S	**Sg**	**11 26 24.9**	**-1.1**
	comp=N,11nm,0.5s						
MEM	**Membach**	**1.06**	**304**	⇑P	**Pg**	**11 26 12.3**	**+0.2**
MEM				S	**Sg**	**11 26 24.9**	**-1.1**
	comp=N,11nm,0.5s						
MEM	**Membach**	**1.06**	**304**	P	**Pg**	**11 26 12.3**	**+0.2**
MEM				S	**Sg**	**11 26 24.8**	**-1.2**
	comp=N,11nm,0.5s						
LANF	**Langenberg**	**1.08**	**166**	Pg	**Pg**	**11 26 13.0**	**+0.6**
CDF	**Champ du Feu**	**1.62**	**183**	*e*Pg	**Pg**	**11 26 23.0**	**+0.3**
CDF				*e*Sg	**Sg**	**11 26 42.9**	**-0.7**
	comp=N,7.5nm,0.3s						
CDF	**Champ du Feu**	**1.62**	**183**	*e*Pg	**Pg**	**11 26 23.0**	**+0.3**
CDF				*e*Sg	**Sg**	**11 26 42.9**	**-0.7**
	comp=N,3.8nm,0.3s						
GIVF	**Givet**	**1.66**	**274**	*e*Pg	**Pg**	**11 26 23.1**	**-0.4**
GIVF				*e*Sg	**Sg**	**11 26 44.3**	**-0.7**
	comp=N,9.4nm,0.3s						
GIVF	**Givet**	**1.66**	**274**	*e*Pg	**Pg**	**11 26 23.1**	**-0.4**
GIVF				*e*Sg	**Sg**	**11 26 44.3**	**-0.7**
	comp=N,4.7nm,0.3s						
BFO	**Black Forest**	**1.80**	**160**	*e*Sg	**Sn**	**11 26 46.8**	**+1.2**
RFYF	**Reffroy**	**1.88**	**223**	*e*Pg	**Pg**	**11 26 27.6**	**-0.1**
	baz=55						
RFYF				*e*Sg	**Sg**	**11 26 52.6**	**+0.6**
	comp=N,6.1nm,0.2s						
RFYF	**Reffroy**	**1.88**	**223**	*e*Pg	**Pg**	**11 26 27.6**	**-0.1**
RFYF				*e*Sg	**Sg**	**11 26 52.6**	**+0.6**
	comp=N,3.0nm,0.2s						
BAIF	**Baives**	**2.06**	**272**	*e*Pg	**Pg**	**11 26 30.7**	**-0.3**
BAIF				*e*Sg	**Sg**	**11 26 56.3**	**-1.4**
	comp=N,4.1nm,0.2s						
BAIF	**Baives**	**2.06**	**272**	*e*Pg	**Pg**	**11 26 30.7**	**-0.3**
BAIF				*e*Sg	**Sg**	**11 26 56.3**	**-1.4**
	comp=N,2.0nm,0.2s						
HAU	**Haudompre**	**2.14**	**199**	*e*Pg	**Pg**	**11 26 32.5**	**-0.1**
HAU				*e*Sg	**Sg**	**11 27 00.0**	**-0.3**
	comp=N,5.9nm,0.3s						
HAU	**Haudompre**	**2.14**	**199**	*e*Pg	**Pg**	**11 26 32.5**	**-0.1**
HAU				*e*Sg	**Sg**	**11 27 00.0**	**-0.3**
	comp=N,3.0nm,0.3s						
HAU	**Haudompre**	**2.14**	**199**	*e*Pn	**Pn**	**11 26 26.6**	**-0.7**
HAU				*e*Pg	**Pg**	**11 26 32.5**	**-0.1**
HAU				*e*Sg	**Sg**	**11 27 00.0**	**-0.3**
MEZF	**Maizieres J'vi**	**2.16**	**226**	*e*Sg	**Sg**	**11 27 00.9**	**-0.2**
	comp=N,5.3nm,0.3s						
MEZF	**Maizieres J'vi**	**2.16**	**226**	*e*Sg	**Sg**	**11 27 00.9**	**-0.2**
	comp=N,2.7nm,0.3s						
HINF	**Hinteralfeld**	**2.24**	**189**	*e*Pg	**Pg**	**11 26 34.4**	**-0.2**
HINF				*e*Sg	**Sg**	**11 27 01.8**	**-1.8**
	comp=N,3.2nm,0.2s						
HINF	**Hinteralfeld**	**2.24**	**189**	*e*Pg	**Pg**	**11 26 34.4**	**-0.2**
HINF				*e*Sg	**Sg**	**11 27 01.8**	**-1.8**
	comp=N,1.6nm,0.2s						
LOR	**Lormes**	**3.62**	**222**	*e*Pn	**Pn**	**11 26 46.7**	**-1.0**
	baz=44						
LOR				*e*Sn	**Sn**	**11 27 27.3**	**-3.2**
	comp=N,3.2nm,0.2s						
LOR	**Lormes**	**3.62**	**222**	*e*Pn	**Pn**	**11 26 46.7**	**-1.0**
LOR				*e*Sn	**Sn**	**11 27 27.3**	**-3.2**
	comp=N,1.6nm,0.2s						
SSF	**Saint Saulge**	**3.93**	**223**	*e*Pn	**Pn**	**11 26 50.7**	**-1.3**
SMF	**Signal de Mont**	**4.13**	**216**	*e*Pn	**Pn**	**11 26 53.2**	**-1.5**
SMF				*e*Sn	**Sn**	**11 27 39.2**	**-3.9**
	comp=N,2.4nm,0.2s						
SMF	**Signal de Mont**	**4.13**	**216**	*e*Pn	**Pn**	**11 26 53.2**	**-1.5**
SMF				*e*Sn	**Sn**	**11 27 39.2**	**-3.9**
	comp=N,1.2nm,0.2s						
AVF	**Avril sur Loir**	**4.21**	**221**	*e*Pn	**Pn**	**11 26 54.6**	**-1.2**

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*ISK **01** 11:26:41.9, 40.19N×28.13E, h5km, MD2.3*
*CSEM **01** 11:26:41.8±0.3, 40.19N×28.13E, h10km, MD2.3, Error ellipse: s-maj=11.3km s-min=1.9km az=7.0*
*ISCJB **01** 11:26:43.1±0.6, 40.28N±0.06×28.14E±0.04, h8km±7km, Error ellipse: s-maj=10.2km s-min=5.3km az=1.4*
*DDA **01** 11:26:43.3, 40.22N×28.15E, h7km±4km, Md2.6*
ISC 01 11:26:43.2±1.0**, 40.29N**±0.06×**28.15E**±0.04**, h13km**±11km**, n7, σ0.79**/12**, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KCT	**Karacabey**	**0.16**	**97**	*e*PG	**Pg**	**11 26 46.6**	**-0.3**
KCT				*e*SG	**Sg**	**11 26 49.2**	**-0.4**
EDC	**Edincik**	**0.23**	**285**	*e*PG	**Pg**	**11 26 47.3**	**-0.8**
EDC				*e*SG	**Sg**	**11 26 52.2**	**+0.8**
BALY	**Balya**	**0.68**	**217**	*i* P	**Pg**	**11 26 55.7**	**-0.7**
BALY				*i* S	**Sg**	**11 27 05.9**	**+0.5**
ULDT	**Uludag**	**0.77**	**100**	*i* P	**Pg**	**11 26 57.4**	**-0.6**
ULDT				*i* S	**Sg**	**11 27 11.1**	**+3.0**
SART	**Tekirdag**	**0.84**	**299**	*i* P	**Pg**	**11 26 59.7**	**+0.2**
SART				*i* S	**Sg**	**11 27 15.8**	**+5.3**
RKY	**Sarkoy-Tekirda**	**0.84**	**299**	*e*PG	**Pg**	**11 26 59.5**	**0.0**
YLV	**Yalova**	**0.97**	**73**	*e*PG	**Pg**	**11 27 02.2**	**+0.3**

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*NOU **01** 11:28:57.7±2.0, 21.11S×169.58E, h10km*
*ISCJB **01** 11:29:01.3±0.5, 21.5S±0.1×169.25E±0.06, h10km, mb4.4/17, Error ellipse: s-maj=18.1km s-min=5.7km az=164.2*
*IDC **01** 11:29:01.8±0.9, 21.41S×169.14E, h0km, mb4.2/9, mb1 4.4/9, mb1mx4.2/16, mbtmp4.2/9, MS3.5/1, Ms1 3.5/1, ms1mx2.6/22, Error ellipse: s-maj=45.7km s-min=20.2km az=156.0*
*NEIC **01** 11:29:03.0±0.4, 21.49S×169.15E, h10km, mb4.7/8, Error ellipse: s-maj=17.6km s-min=8.4km az=157.0*
ISC 01 11:29:02.8±0.5**, 21.5S**±0.1×**169.24E**±0.06**, h10km, n33, σ0.98**/32**, mb4.4**/17**, Southeast of Loyalty Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BAYA	**Yate Dam**	**2.28**	**253**	*e*P	**Pn**	**11 29 40.6**	**0.0**
LASL	**Noumea**	**2.61**	**253**	*e*P	**Pn**	**11 29 43.8**	**-1.3**
LASL				*e*S	**Sn**	**11 30 19.5**	**+2.7**
DZM	**Mont Dzumac**	**2.66**	**257**	*e*P	**Pn**	**11 29 44.1**	**-1.6**
DZM				*e*S	**Sn**	**11 30 19.2**	**+1.1**
DZM	**Mont Dzumac**	**2.66**	**257**	*e*Pn	**Pn**	**11 29 44.5**	**-1.2**
NORM	**Noumea**	**2.66**	**254**	*e*S	**Sn**	**11 30 19.8**	**+1.7**
ONTRN	**Noumea**	**2.71**	**252**	*e*P	**Pn**	**11 29 44.9**	**-1.5**
ONTRN				*e*S	**Sn**	**11 30 18.9**	**-0.4**
AFI	**Afiamalu**	**19.58**	**70**	LR	LR	11 39 23.6	
	comp=Z,150nm,19.3s,baz=212,slow=32						
CTA	**Charters Tower**	**21.53**	**270**	P	**P**	**11 33 52.3**	**0.0**
	9.5nm,1.1s,mb4.2,baz=60,slow=9.7,SNR=3.7						
CAN	**Canberra**	**22.45**	**228**	P	**P**	**11 34 02.7**	**+0.7**
STKA	**Stephens Creek**	**26.71**	**241**	P	**P**	**11 34 43.5**	**+1.1**
	2.8nm,1.1s,mb3.7,baz=86,slow=16,SNR=3.0						
WB2	**Warramunga Arr**	**32.63**	**266**	*e*P	**P**	**11 35 33.8**	**-1.2**
WRA	**Warramunga Arr**	**32.64**	**266**	P	**P**	**11 35 33.8**	**-1.3**
	2.3nm,0.9s,mb4.1,baz=97,slow=7.8,SNR=14						
ASAR	**Alice Springs**	**32.65**	**259**	P	**P**	**11 35 34.5**	**-0.6**
	3.2nm,0.8s,mb4.3,baz=83,slow=9.0,SNR=28						
FORT	**Forrest**	**37.93**	**247**	*e*P	**P**	**11 36 19.2**	**-1.4**
	11nm,0.8s,mb4.7						
FITZ	**Fitzroy Crossi**	**41.07**	**267**	*e*P	**P**	**11 36 47.1**	**+0.2**
	7.6nm,1.0s,mb4.3						
KLBR	**Kellerberrin**	**46.78**	**246**	*e*P	**P**	**11 37 31.8**	**-0.9**
	58nm,1.7s,mb5.2						
SBA	**Scott Base**	**56.42**	**181**	*e*P	**P**	**11 38 45.0**	**+0.9**
	4.1nm,0.9s,mb4.5						
SBA				*e*PcP	PcP	11 39 39.9	-1.1
MAW	**Mawson**	**76.36**	**202**	P	**P**	**11 40 52.3**	**+0.5**
	1.3nm,0.8s,mb3.9,baz=94,slow=9.1,SNR=4.8						
SNAA	**Sanae**	**86.92**	**183**	*e*	**P**	**11 41 47.8**	**+0.2**
SNAA				*e*	pP	11 41 52.2	+1.3
SNAA	**Sanae**	**86.92**	**183**	*e*P	**P**	**11 41 45.4**	**-2.2**
	4.4nm,1.1s,mb4.6						
VNA3	**Neumayer Olymp**	**87.51**	**180**	*e*	**P**	**11 41 50.2**	**-0.2**
VNA2	**Neumayer--Watz**	**87.80**	**181**	*e*	**P**	**11 41 51.5**	**-0.3**
VNA2				*e*		11 41 56.9	
VNA1	**Neumayer--Stat**	**88.09**	**181**	*e*	**P**	**11 41 52.8**	**-0.4**
VNA1				*e*	pP	11 41 57.6	+1.0
CMB	**Columbia Colle**	**88.65**	**48**	*e*P	**P**	**11 41 56.6**	**+0.3**
	3.1nm,0.8s,mb4.7						
YBH	**Yreka Blue Hor**	**88.91**	**44**	P	**P**	**11 41 57.9**	**+0.4**
	2.6nm,0.9s,mb4.6,baz=259,slow=5.2,SNR=3.6						
SONM	**Songino Array**	**89.01**	**323**	P	**P**	**11 41 58.2**	**+0.4**
	1.2nm,1.1s,mb4.2,baz=132,slow=4.4,SNR=4.7						
NVAR	**Mina Array Bea**	**90.29**	**48**	P	**P**	**11 42 04.8**	**+0.8**
	3.1nm,0.8s,mb4.7,baz=227,slow=8.5,SNR=18						
GLA	**Glamis**	**90.44**	**55**	*e*P	**P**	**11 42 05.8**	**+1.0**
	6.5nm,0.8s,mb5.0						
LDFC	**Landfair**	**91.09**	**53**	*e*P	**P**	**11 42 08.7**	**+0.8**
	7.9nm,0.9s,mb5.0						
TXAR	**Lajitas Array**	**97.83**	**62**	P	**P**	**11 42 39.0**	**+0.1**
	0.2nm,0.7s,mb3.7,baz=236,slow=6.4,SNR=3.0						
ARCES	**ARCESS Array B**	**127.23**	**345**	PKP	PKPdf	11 48 08.2	+1.4
	2.1nm,1.0s,baz=8.1,slow=2.6,SNR=4.1						
GERES	**GERESS Array B**	**146.46**	**330**	PKPbc	PKPbc	11 48 44.1	0.0
	0.5nm,0.4s,baz=46,slow=3.9,SNR=6.7						
TORD	**Torodi Ar. Bea**	**165.51**	**237**	PKP	PKPdf	11 49 09.7	+1.1
	0.9nm,1.1s,baz=56,slow=2.7,SNR=3.7						

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*ISCJB **01** 11:45:39.7±1.5, 21.04S±0.08×178.0W±0.1, h325km±18km, mb3.6/13, Error ellipse: s-maj=19.2km s-min=10.5km az=30.3*
*NEIC **01** 11:45:42.7±1.5, 21.11S×177.92W, h351km±17km, mb4.0/3, Error ellipse: s-maj=22.1km s-min=11.4km az=136.0*
*IDC **01** 11:45:43.5±2.4, 21.17S×177.93W, h357km±25km, mb3.4/11, mb1 3.7/13, mb1mx3.6/19, mbtmp3.5/13, Error ellipse: s-maj=19.5km s-min=12.1km az=127.0*
ISC 01 11:45:42.1±1.7**, 21.15S**±0.08×**178.0W**±0.1**, h338km**±19km**, n22, σ0.79**/22**, mb3.6**/13**, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**9.31**	**40**	P	**Pn**	**11 47 51.4**	**-0.4**
	2.8nm,0.3s,baz=245,slow=19,SNR=6.5						
AFI				S	**S**	**11 49 30.8**	**-7.1**
	8.0nm,0.3s,baz=32,slow=22,SNR=8.0						
AFI	**Afiamalu**	**9.31**	**40**	P	**Pn**	**11 47 51.4**	**-0.4**
AFI				S	**S**	**11 49 30.8**	**-7.1**
URZ	**Urewera**	**17.57**	**193**	P	**P**	**11 49 25.8**	**+0.8**
	2.8nm,0.3s,baz=251,slow=9.2,SNR=14						
URZ				S	**S**	**11 52 29.1**	**-0.8**
	1.1nm,0.3s,baz=160,slow=23,SNR=6.4						
RPZ	**Rata Peaks**	**24.29**	**200**	P	**P**	**11 50 31.1**	**+1.3**
	8.9nm,0.7s,mb4.1,baz=228,slow=16,SNR=7.8						
CTA	**Charters Tower**	**33.47**	**265**	P	**P**	**11 51 51.4**	**+0.6**
	2.7nm,0.4s,mb3.8,baz=90,slow=12,SNR=5.7						
STKA	**Stephens Creek**	**37.55**	**245**	*e*P	**P**	**11 52 25.9**	**+0.9**
	1.7nm,0.4s,mb3.6						
STKA	**Stephens Creek**	**37.55**	**245**	P	**P**	**11 52 25.2**	**+0.2**
	2.5nm,0.4s,mb3.8,baz=88,slow=11,SNR=19						
STKA	**Stephens Creek**	**37.55**	**245**	*e*P	**P**	**11 52 25.0**	**0.0**
	1.9nm,0.5s,mb3.6						
ASAR	**Alice Springs**	**44.41**	**257**	P	**P**	**11 53 19.8**	**-0.9**
	0.2nm,0.4s,mb2.6,baz=83,slow=8.0,SNR=7.0						
ASAR				PcP	PcP	11 54 56.5	-1.3
	0.7nm,0.7s,baz=112,slow=3.7,SNR=6.4						
WB2	**Warramunga Arr**	**44.54**	**263**	*e*P	**P**	**11 53 20.8**	**-0.9**
WRA	**Warramunga Arr**	**44.56**	**263**	P	**P**	**11 53 20.6**	**-1.2**
	2.3nm,0.8s,mb3.4,baz=96,slow=7.8,SNR=31						
WRA				PcP	PcP	11 54 56.6	-1.8
	0.6nm,0.9s,baz=96,slow=3.8,SNR=4.2						
FORT	**Forrest**	**49.08**	**247**	*e*P	**P**	**11 53 55.7**	**-0.6**
	24nm,0.6s,mb4.6						
FITZ	**Fitzroy Crossi**	**52.98**	**263**	*e*P	**P**	**11 54 25.8**	**+0.5**
	1.9nm,0.3s,mb3.9						
MJAR	**Matsushiro Arr**	**70.76**	**324**	P	**P**	**11 56 23.0**	**+0.6**
	1.0nm,0.8s,mb3.6,baz=104,slow=8.2,SNR=3.6						
PETK	**Petropavlovsk-**	**76.91**	**345**	P	**P**	**11 56 57.9**	**+0.5**
	2.2nm,0.6s,mb4.0,baz=120,slow=5.7,SNR=10						
NVAR	**Mina Array Bea**	**81.47**	**43**	P	**P**	**11 57 22.8**	**+0.6**
	0.5nm,0.7s,mb3.4,baz=229,slow=8.2,SNR=3.5						
TXAR	**Lajitas Array**	**87.37**	**57**	P	**P**	**11 57 50.9**	**-0.9**
	0.1nm,0.4s,mb3.0,baz=212,slow=4.4,SNR=3.5						
PDAR	**Pinedale Array**	**89.41**	**43**	P	**P**	**11 58 00.5**	**-0.5**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
	0.3nm,0.6s,mb3.3,baz=174,slow=0.9,SNR=2.9						
CMAR	**Chiang Mai Arr**	**90.37**	**290**	P	**P**	**11 58 07.0**	**+1.0**
	1.6nm,0.8s,mb4.0,baz=123,slow=2.8,SNR=9.7						
ARCES	**ARCESS Array B**	**129.57**	**350**	PKP	PKPdf	12 04 08.9	-1.4
	1.9nm,0.7s,baz=64,slow=2.8,SNR=5.0						
AKASG	**Malin Array Be**	**143.60**	**331**	PKP	PKPdf	12 04 33.1	-3.6
	0.8nm,0.3s,baz=32,slow=4.4,SNR=8.2						
GERES	**GERESS Array B**	**150.84**	**344**	PKPbc	PKPbc	12 04 53.2	-1.5
	0.6nm,0.5s,baz=29,slow=3.0,SNR=4.7						

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*ISCJB **01** 11:45:58.3±0.8, 135N±0.1×1445E±02, h135km±10km, mb3.5/6, Error ellipse: s-maj=37.6km s-min=22.4km az=175.2*
*IDC **01** 11:45:59.2±0.6, 1348N×14449E, h126km±8km, mb3.3/6, mb1 3.6/6, mb1mx3.3/19, mbtmp3.3/6, Error ellipse: s-maj=30.3km s-min=19.2km az=84.0*
*NEIC **01** 11:46:00.0±0.9, 1349N×14452E, h139km±8km, Error ellipse: s-maj=24.1km s-min=19.2km az=102.0*
ISC 01 11:45:59.8±0.8**, 135N**±01×**1445E**±02**, h135**km±9km**, n11,** σ**0.48**/11**, mb3.5**/6**, Mariana Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**0.35**	**69**	P	**Pn**	**11 46 19.1**	**+0.5**
	baz=102,slow=0.0						
GUMO				S	**Sn**	**11 46 32.1**	**-0.8**
	768nm,0.3s,baz=224,slow=0.0,SNR=16						
GUMO	**Guam**	**0.35**	**69**	*e*Pn	**Pn**	**11 46 19.4**	**+0.7**
GUMO				S	**Sn**	**11 46 32.1**	**-0.8**
GUMO				*e*Sn	**Sn**	**11 46 33.3**	**+0.3**
KSRS	**Korea Array**	**28.11**	**331**	P	**P**	**11 51 39.2**	**+0.2**
	0.9nm,0.5s,mb3.8,baz=136,slow=9.3,SNR=5.4						
WRA	**Warramunga Arr**	**34.68**	**197**	P	**P**	**11 52 36.4**	**-0.2**
	0.5nm,0.7s,mb3.2,baz=24,slow=9.9,SNR=8.3						
ASAR	**Alice Springs**	**38.34**	**196**	P	**P**	**11 53 08.1**	**+0.4**
	0.2nm,0.4s,mb3.1,baz=16,slow=6.9,SNR=9.6						
CMAR	**Chiang Mai Arr**	**44.02**	**283**	P	**P**	**11 53 53.6**	**-0.7**
	0.8nm,0.5s,mb3.6,baz=88,slow=6.0,SNR=5.8						
MKAR	**Makanchi Array**	**61.35**	**316**	P	**P**	**11 56 01.8**	**+0.4**
	0.4nm,0.4s,mb3.6,baz=88,slow=9.3,SNR=4.1						
POO	**Poona**	**67.76**	**285**	*e*x	x	11 56 48.5	
NVAR	**Mina Array Bea**	**87.26**	**51**	P	**P**	**11 58 31.1**	**-0.3**
	0.3nm,0.5s,mb3.4,baz=262,slow=6.3,SNR=3.8						
LHS	**Liberty Hill**	**115.76**	**41**	*e*PKPdf	PKPdf	12 04 25.6	-1.2
LPAZ	**La Paz**	**148.33**	**99**	PKPbc	PKPbc	12 05 32.8	+1.6
	0.4nm,0.4s,baz=297,slow=2.4,SNR=4.2						

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*CSEM **01** 11:59:47.7±0.1, 3920N×28.12E, h2km, MD3.1, Error ellipse: s-maj=1.4km s-min=1.3km az=95.0*
*ISK **01** 11:59:47.5, 39.19N×28.12E, h5km, MD3.1, ML3.2*
*DDA **01** 11:59:47.3, 39.17N×28.12E, h7km±6km, Md3.4, Ml3.7*
*NEIC **01** 11:59:47.0, 39.19N×28.12E, h5km, MD3.2(ISK), MD3.4(ATH), After ISK.*
*ATH **01** 11:59:48.1, 3928N×28.10E, h10km, MD3.4/3*
*ISCJB **01** 11:59:48.3±0.5, 39.17N±0.02×28.10E±0.03, h5km±4km, Error ellipse: s-maj=3.4km s-min=3.0km az=169.8*
ISC 01 11:59:48.8±0.4**, 3917N**±002×**2810E**±003**, h7**km±3km**, n54,** σ**0.96**/68**, Turkey**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
AKS	**Akhisar**	**0.36**	**218**	PG	**Pg**	**11 59 56.3**	**+0.5**
DEMI	**Demirci**	**0.49**	**104**	*i* P	**Pg**	**11 59 58.1**	**-0.2**
DEMI				*i* S	**Sg**	**12 00 04.8**	**+0.1**
BALB	**Balikesir**	**0.50**	**340**	PG	**Pg**	**11 59 58.5**	**-0.1**
BALB				*e*SG	**Sg**	**12 00 05.7**	**+0.5**
DURS	**Dursunbey**	**0.52**	**33**	*i* P	**Pg**	**11 59 57.9**	**-1.0**
DURS				*i* S	**Sg**	**12 00 09.9**	**+4.2**
DST	**Dursunbey**	**0.60**	**43**	PG	**Pg**	**11 59 59.5**	**-0.9**
BALY	**Balya**	**0.69**	**327**	*i* P	**Pg**	**12 00 01.2**	**-0.7**
BALY				*i* S	**Sg**	**12 00 10.5**	**-0.3**
KULA	**Kula-Manisa**	**0.78**	**146**	PG	**Pg**	**12 00 03.9**	**+0.1**
KDAG	**Bornova**	**1.00**	**221**	*i* P	**Pg**	**12 00 08.1**	**+0.1**
KDAG				*i* S	**Sg**	**12 00 20.3**	**-0.7**
GDZ	**Gediz**	**1.08**	**94**	*i* P	**Pg**	**12 00 08.5**	**-1.0**
GDZ				*i* S	**Sg**	**12 00 22.8**	**-0.6**
AYVA	**Ayvalik**	**1.10**	**278**	*i* P	**Pg**	**12 00 09.9**	**-0.1**
AYVA				*i* S	**Sg**	**12 00 25.8**	**+1.4**
KCT	**Karacabey**	**1.12**	**10**	*e*PN	**Pn**	**12 00 09.2**	**-1.7**
BLCB	**Balcova**	**1.14**	**227**	*e*PN	**Pn**	**12 00 10.8**	**-0.4**
EDC	**Edincik**	**1.19**	**351**	*e*PN	**Pn**	**12 00 10.8**	**-1.1**
BNT	**Bandirma**	**1.20**	**353**	*e*PN	**Pn**	**12 00 10.9**	**-1.1**
ULDT	**Uludag**	**1.26**	**39**	*i* P	**Pn**	**12 00 11.2**	**-1.7**
ULDT				*i* S	**Sg**	**12 00 29.1**	**-0.3**
KHL	**Karahalli**	**1.39**	**127**	*e*PN	**Pn**	**12 00 15.3**	**+0.6**
PRK	**Paraskevi**	**1.42**	**274**	*e*Pn	**Pn**	**12 00 14.8**	**-0.3**
PRK				*e*Sn	**Sn**	**12 00 32.3**	**-1.8**
PRK	**Paraskevi**	**1.42**	**274**	*e*PB	**Pn**	**12 00 14.8**	**-0.3**
MRMT	**Marmara Adasi**	**1.49**	**345**	*e*PN	**Pn**	**12 00 16.1**	**+0.1**
AYDN	**Tasoluk**	**1.51**	**187**	*i* P	**Pn**	**12 00 15.1**	**-1.2**
AYDN				*i* S	**Sn**	**12 00 35.3**	**-0.9**
GEMT	**Gemlik**	**1.52**	**33**	*e*PN	**Pn**	**12 00 16.3**	**-0.1**
EZN	**Ezine**	**1.52**	**296**	*e*PN	**Pn**	**12 00 16.7**	**+0.2**
ALT	**Altintas**	**1.57**	**93**	*e*PN	**Pn**	**12 00 17.4**	**+0.3**
GCAM	**G?zelcaml?**	**1.61**	**205**	*i* P	**Pn**	**12 00 17.5**	**-0.2**
GCAM				*i* S	**Sn**	**12 00 36.6**	**-2.1**
DNZL	**Cakiroluk**	**1.65**	**153**	*i* P	**Pn**	**12 00 17.6**	**-0.6**
DNZL				*i* S	**Sn**	**12 00 38.5**	**-1.2**
RKY	**Sarkoy-Tekirda**	**1.68**	**335**	*e*PN	**Pn**	**12 00 18.7**	**+0.1**
SART	**Tekirdag**	**1.68**	**335**	*i* P	**Pn**	**12 00 17.8**	**-0.8**
SART				*i* S	**Sn**	**12 00 38.8**	**-1.6**
CAVI	**Cavuskoy**	**1.70**	**52**	*e*PN	**Pn**	**12 00 19.1**	**+0.2**
YLV	**Yalova**	**1.71**	**35**	*e*PN	**Pn**	**12 00 18.4**	**-0.6**
MFT	**Murefte**	**1.74**	**339**	*e*PN	**Pn**	**12 00 20.4**	**+1.0**
SMG	**Samos**	**1.76**	**215**	*e*Pn	**Pn**	**12 00 22.1**	**+2.4**
SMG				*e*Sn	**Sn**	**12 00 45.8**	**+3.4**
SMG	**Samos**	**1.76**	**215**	*e*PN	**Pn**	**12 00 22.1**	**+2.4**
ADVT	**Abdulvahap**	**1.79**	**44**	*e*PN	**Pn**	**12 00 20.4**	**+0.3**
MLSB	**Milas**	**1.88**	**188**	*e*PN	**Pn**	**12 00 22.5**	**+1.1**
GADA	**Gvkgeada**	**1.98**	**302**	*e*PN	**Pn**	**12 00 23.5**	**+0.7**
SHUT	**Suhut-Afyon**	**2.01**	**107**	*e*PN	**Pn**	**12 00 24.2**	**+1.1**
YER	**Yerkesik**	**2.03**	**176**	*e*PN	**Pn**	**12 00 24.9**	**+1.4**
GPA	**Golpazari**	**2.04**	**56**	*e*PN	**Pn**	**12 00 24.2**	**+0.7**
HRT	**Hereke**	**2.05**	**36**	*e*PN	**Pn**	**12 00 24.5**	**+0.9**
SLVT	**Silivri**	**2.06**	**2**	*e*PN	**Pn**	**12 00 24.2**	**+0.3**
BGKT	**Bogazkoy**	**2.08**	**14**	*e*PN	**Pn**	**12 00 25.3**	**+1.1**
CTKS	**Kestanelik-??a**	**2.09**	**8**	*e*PN	**Pn**	**12 00 25.3**	**+1.0**
BDRM	**Kayabasi**	**2.16**	**194**	*i* P	**Pn**	**12 00 23.6**	**-1.6**
ENEZ	**Enez**	**2.17**	**317**	*e*PN	**Pn**	**12 00 25.9**	**+0.6**
BODT	**Bodrum**	**2.19**	**197**	*e*PN	**Pn**	**12 00 27.0**	**+1.3**
KLYT	**Kilyos**	**2.21**	**19**	*e*PN	**Pn**	**12 00 26.6**	**+0.8**
GULT	**Gulveren**	**2.25**	**55**	*e*PN	**Pn**	**12 00 26.6**	**+0.2**
SILT	**Sile**	**2.31**	**30**	*e*PN	**Pn**	**12 00 28.0**	**+0.7**
CTYL	**Yal??k??y-??at**	**2.31**	**4**	*e*PN	**Pn**	**12 00 27.3**	**0.0**
RDO	**Rodhopi**	**2.79**	**316**	*e*Pn	**Pn**	**12 00 34.1**	**+0.2**
RDO	**Rodhopi**	**2.79**	**316**	*e*PN	**Pn**	**12 00 34.1**	**+0.2**
ELL	**Elmali**	**2.80**	**149**	*e*PN	**Pn**	**12 00 34.9**	**+0.8**
EDRB	**Edirne**	**2.87**	**339**	*e*PN	**Pn**	**12 00 36.3**	**+1.3**
KIZT	**Kizilcal**	**2.96**	**94**	*e*PN	**Pn**	**12 00 38.0**	**+1.8**

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*IDC **01** 12:19:44.2±1.7, 576S×12987E, h0km, mb3.7/2, mb1 4.0/6, mb1mx3.7/17, mbtmp3.9/6, ML3.9/4, MS2.7/1, Ms1 2.7/1, ms1mx2.2/22, Error ellipse: s-maj=54.5km s-min=24.1km az=83.0*
*NEIC **01** 12:20:03.1±3.4, 656S×12904E, h169km±38km, Error ellipse: s-maj=38.0km s-min=26.3km az=61.0*
*ISCJB **01** 12:20:05.1±1.6, 679S±0.09×1290E±0.1, h210km±17km, mb3.4/2, Error ellipse: s-maj=19.2km s-min=10.4km az=144.0*
ISC 01 12:20:03.9±1.6**, 66S**±01×**1291E**±01**, h179**km±14km**, n10,** σ**0.80**/17**, mb3.5**/2**, Banda Sea**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
BATI	**Baumata**	**6.46**	**236**	Pn	**Pn**	**12 21 36.6**	**-0.3**
	4.7nm,0.3s,baz=136,slow=12,SNR=7.0						
BATI				LR	LR	12 24 00.8	
	comp=Z,51nm,20.2s,baz=126,slow=34						
KAKA	**Kakadu**	**6.87**	**152**	*e*Pn	**Pn**	**12 21 43.1**	**+0.7**
KAKA				*e*Sn	**Sn**	**12 22 58.6**	**-1.4**
FITZ	**Fitzroy Crossi**	**11.89**	**196**	Pn	**Pn**	**12 22 48.2**	**+0.2**
	0.4nm,0.3s,baz=22,slow=18,SNR=14						
FITZ				Sn	**Sn**	**12 24 54.2**	**-5.9**
	0.6nm,0.3s,baz=118,slow=22,SNR=9.4						
WRAB	**Tennant Creek**	**14.16**	**159**	*e*Pn	**Pn**	**12 23 17.2**	**+0.4**
WRAB				*e*Sn	**Sn**	**12 25 48.1**	**-6.4**
WRA	**Warramunga Arr**	**14.16**	**160**	Pn	**Pn**	**12 23 16.0**	**-0.8**
	0.4nm,0.3s,baz=346,slow=13,SNR=36						
WRA				Sn	**Sn**	**12 25 47.1**	**-7.5**
	0.6nm,0.3s,baz=340,slow=22,SNR=9.5						
WRA	**Warramunga Arr**	**14.16**	**160**	Pn	**Pn**	**12 23 16.0**	**-0.8**
WRA				Sn	**Sn**	**12 25 47.1**	**-7.5**
WB2	**Warramunga Arr**	**14.17**	**159**	*e*Pn	**Pn**	**12 23 18.7**	**+1.9**
WB2				*e*Sn	**Sn**	**12 25 46.5**	**-8.2**
ASAR	**Alice Springs**	**17.55**	**165**	P	**Pn**	**12 23 58.2**	**+0.4**
	0.5nm,0.3s,baz=348,slow=9.3,SNR=51						
ASAR				S	**S**	**12 27 09.1**	**-0.3**
	0.2nm,0.3s,baz=347,slow=24,SNR=5.2						
MKAR	**Makanchi Array**	**67.44**	**327**	P	**P**	**12 30 39.8**	**-0.4**
	0.6nm,0.5s,mb3.7,baz=127,slow=6.2,SNR=3.5						
KURK	**Kurchatov**	**71.75**	**329**	P	**P**	**12 31 06.2**	**-0.4**
	0.4nm,0.5s,mb3.4,baz=122,slow=4.5,SNR=3.5						

IDC 01 12:43:35.4±1.9**, 2785S**×**6693W, h155**km±21km**, mb3.2**/1**, mb1 2.8**/3**, mb1mx2.8**/17**, mbtmp2.8**/3**, Error ellipse: s-maj=51.7km s-min=11.5km az=89.0, Catamarca Province**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CFAA	**Coronel Fontan**	**3.91**	**197**	P	Pn	12 44 35.9	+1.3
	0.4nm,0.3s,baz=15,slow=12,SNR=26						
CFAA				S	Sn	12 45 20.7	+0.1
	1.3nm,0.3s,baz=124,slow=19,SNR=22						
LVC	**Limon Verde**	**5.52**	**341**	P	Pn	12 44 57.0	+1.2
	0.5nm,0.3s,baz=140,slow=16,SNR=8.4						
LVC				S	Sn	12 45 58.8	+0.2
	1.0nm,0.3s,baz=295,slow=20,SNR=9.1						
TORD	**Torodi Ar. Bea**	**77.92**	**68**	P	P	12 55 16.1	-0.4
	0.5nm,0.8s,baz=248,slow=6.1,SNR=4.4						
ASAR	**Alice Springs**	**124.98**	**203**	PKP	PKPdf	13 02 17.1	-0.6
	0.1nm,0.4s,baz=141,slow=2.0,SNR=4.5						
WRA	**Warramunga Arr**	**128.22**	**206**	PKP	PKPdf	13 02 23.9	0.0
	0.2nm,0.3s,baz=154,slow=2.0,SNR=9.6						
MKAR	**Makanchi Array**	**149.36**	**44**	PKPbc	PKPbc	13 03 05.9	+0.2
	0.4nm,0.7s,baz=302,slow=2.7,SNR=4.2						

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*ISCJB **01** 13:03:23.8±0.4, 29.17N±0.06×1400E±02, h422km±7km, mb3.5/8, Error ellipse: s-maj=24.8km s-min=6.5km az=164.1*
*IDC **01** 13:03:23.7±1.1, 2906N×13942E, h388km±14km, mb3.1/6, mb1 3.3/8, mb1mx3.1/21, mbtmp3.1/8, Error ellipse: s-maj=33.8km s-min=13.1km az=80.0*
*JMA **01** 13:03:24.4±0.3, 2920N×14003E, h420km±5km, M3.6*
*NEIC **01** 13:03:24.0±0.9, 2906N×13934E, h392km±10km, mb3.8/1, Error ellipse: s-maj=24.5km s-min=9.0km az=82.0*
ISC 01 13:03:24.8±0.4**, 2920N**±006×**1401E**±02**, h417**km±7km**, n31,** σ**0.77**/34**, mb3.5**/8**, Southeast of Honshu**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**2.80**	**138**	P	**P**	**13 04 27.9**	**+0.1**
	25nm,0.3s,baz=139,slow=22,SNR=69						
CBIJ				S	**S**	**13 05 18.1**	**-0.7**
	23nm,0.3s,baz=298,slow=23,SNR=5.9						
CBIJ	**Chichi jima**	**2.80**	**138**	P	**P**	**13 04 28.0**	**+0.2**
CBIJ				*e*S	**S**	**13 05 18.3**	**-0.5**
JHHJ	**Haha-jima-NKT**	**3.16**	**144**	P	**P**	**13 04 31.4**	**+0.7**
JHHJ				*e*S	**S**	**13 05 23.9**	**-0.1**
BSO3	**Boso 3**	**5.59**	**4**	*e*S	**S**	**13 06 05.8**	**-0.2**
JWZ	**Kozaga**	**5.71**	**320**	P	**P**	**13 04 54.3**	**-0.5**
JIE	**Ise**	**5.92**	**332**	P	**P**	**13 04 58.0**	**+1.0**
HMMJ	**Hamamatsu 2**	**5.98**	**341**	P	**P**	**13 04 58.5**	**+0.8**
JOD2	**Odawara 2**	**6.10**	**352**	P	**P**	**13 04 59.1**	**+0.2**
JNY	**Yasuok**	**6.42**	**344**	P	**P**	**13 05 03.2**	**+0.9**
JAO	**Obara**	**6.50**	**339**	P	**P**	**13 05 04.0**	**+0.8**
JHU	**Hanno**	**6.67**	**354**	P	**P**	**13 05 04.8**	**-0.2**
JRY	**Ryogami san**	**6.87**	**352**	P	**P**	**13 05 07.7**	**+0.5**
JYT	**Yasato**	**7.01**	**1**	*e*S	**S**	**13 06 31.2**	**-2.6**
JAG	**Ashikaga**	**7.22**	**356**	P	**P**	**13 05 10.6**	**-0.5**
JHO	**Hitachi**	**7.40**	**3**	P	**P**	**13 05 14.2**	**+1.2**
MJAR	**Matsushiro Arr**	**7.49**	**348**	P	**P**	**13 05 12.9**	**-1.1**
	2.5nm,0.3s,baz=160,slow=9.3,SNR=16						
MAJO	**Matsushiro**	**7.49**	**348**	*e*P	**P**	**13 05 13.6**	**-0.4**
	9.5nm,0.4s						
MAT	**Matsushiro**	**7.49**	**348**	P	**P**	**13 05 13.7**	**-0.3**
MAT	**Matsushiro**	**7.49**	**348**	P	**P**	**13 05 13.8**	**-0.2**
JHS	**Saijyo**	**8.26**	**316**	P	**P**	**13 05 22.5**	**-0.2**
MKAR	**Makanchi Array**	**47.71**	**308**	P	**P**	**13 11 20.5**	**-1.2**
	0.3nm,0.4s,mb3.0,baz=86,slow=9.6,SNR=5.7						
WRAB	**Tennant Creek**	**49.16**	**187**	*e*P	**P**	**13 11 32.4**	**-0.4**
WB2	**Warramunga Arr**	**49.17**	**187**	*e*P	**P**	**13 11 32.6**	**-0.3**
WRA	**Warramunga Arr**	**49.17**	**187**	P	**P**	**13 11 32.6**	**-0.3**
	0.9nm,0.4s,mb3.4,baz=3.9,slow=7.8,SNR=37						
ASAR	**Alice Springs**	**52.90**	**187**	P	**P**	**13 12 00.1**	**0.0**
	0.3nm,0.4s,mb2.8,baz=3.8,slow=7.1,SNR=16						
BRVK	**Borovoye**	**55.30**	**316**	*e*P	**P**	**13 12 15.8**	**-1.2**
ARCES	**ARCESS Array B**	**70.94**	**340**	P	**P**	**13 13 59.5**	**+1.4**
	1.4nm,0.4s,mb3.8,baz=67,slow=8.4,SNR=21						
JOF	**Joensuu**	**72.38**	**333**	*e*p	**P**	**13 14 06.9**	**+0.4**
	1.5nm,0.3s,mb4.0						
KAF	**Kangasniemi**	**74.77**	**334**	*e*p	**P**	**13 14 20.7**	**+0.4**
	0.9nm,0.4s,mb3.8						
NVAR	**Mina Array Bea**	**80.67**	**51**	P	**P**	**13 14 58.3**	**+5.4**
	0.7nm,0.8s,mb3.5,baz=283,slow=6.0,SNR=4.4						
NOA	**NORSAR Array B**	**80.97**	**337**	P	**P**	**13 14 54.6**	**+0.6**
	0.6nm,0.5s,mb3.6,baz=47,slow=5.2,SNR=3.4						

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*ISCJB **01** 13:03:53.6±0.9, 3528N±0.06×2783E±0.04, h10km, Error ellipse: s-maj=8.0km s-min=5.2km az=171.1*
*CSEM **01** 13:03:53.4±0.2, 3539N×2785E, h2km, MD3.4, Error ellipse: s-maj=4.8km s-min=2.8km az=177.0*
*DDA **01** 13:03:55.8, 3555N×2794E, h3km, Md3.4*
*NEIC **01** 13:03:57.4, 3562N×2766E, h9km, MD3.5(ATH), After ATH.*
*ATH **01** 13:03:57.4, 3562N×2766E, h9km±5km, MD3.5/5*
ISC 01 13:03:54.9±0.9**, 3533N**±006×**2782E**±004**, h10**km**, n27,** σ**1.12**/37**, Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KARP	**Karpathos**	**0.58**	**292**	*e*Pb	**Pg**	**13 04 05.4**	**-0.7**
KARP	**Karpathos**	**0.58**	**292**	*e*PB	**Pg**	**13 04 05.4**	**-0.7**
ARG	**Arkhangelos**	**0.92**	**16**	*e*Pb	**Pg**	**13 04 10.9**	**-1.7**
ARG	**Arkhangelos**	**0.92**	**16**	*e*PB	**Pg**	**13 04 10.9**	**-1.7**
TURN	**Turunc**	**1.67**	**22**	*i* P	**Pn**	**13 04 21.3**	**-2.8**
TURN				*i* S	**Sn**	**13 04 44.4**	**-1.2**
AKAS	**Kas**	**1.71**	**58**	*i* P	**Pn**	**13 04 23.9**	**-0.8**
AKAS				*i* S	**Sn**	**13 04 46.2**	**-0.4**
BDRM	**Kayabasi**	**1.76**	**350**	*i* P	**Pn**	**13 04 24.6**	**-0.7**
BDRM				*i* S	**Sn**	**13 04 46.8**	**-1.0**
BDRM	**Kayabasi**	**1.76**	**350**	*i* P	**Pn**	**13 04 24.6**	**-0.8**
BDRM				*i* S	**Sn**	**13 04 46.8**	**-1.1**
BODT	**Bodrum**	**1.78**	**347**	*e*PN	**Pn**	**13 04 24.8**	**-0.8**
BODT				*e*SN	**Sn**	**13 04 49.5**	**+1.2**
NPS	**Neapolis**	**1.81**	**269**	*e*Pg	**Pg**	**13 04 29.3**	**-0.2**
NPS	**Neapolis**	**1.81**	**269**	*e*PG	**Pg**	**13 04 29.3**	**-0.2**
YER	**Yerkesik**	**1.84**	**12**	*e*PN	**Pn**	**13 04 25.9**	**-0.7**
MLSB	**Milas**	**1.96**	**359**	*e*PN	**Pn**	**13 04 27.5**	**-0.7**
MLSB				*e*SN	**Sn**	**13 04 53.9**	**+1.1**
SANT	**Santorini**	**2.18**	**299**	*e*Pn	**Pn**	**13 04 33.0**	**+1.8**
SANT	**Santorini**	**2.18**	**299**	*e*Pn	**Pn**	**13 04 33.0**	**+1.8**
ELL	**Elmali**	**2.21**	**49**	*e*PN	**Pn**	**13 04 30.2**	**-1.3**
AYDN	**Tasoluk**	**2.33**	**1**	*i* P	**Pn**	**13 04 32.9**	**-0.3**
AYDN				*i* S	**Sn**	**13 05 03.5**	**+1.6**
GOLH	**Golhisar**	**2.37**	**36**	*i* P	**Pn**	**13 04 34.2**	**+0.5**
GOLH				*i* S	**Sb**	**13 05 06.3**	**-0.5**
SMG	**Samos**	**2.50**	**342**	*e*Pn	**Pn**	**13 04 36.5**	**+0.9**
SMG	**Samos**	**2.50**	**342**	*e*PN	**Pn**	**13 04 36.5**	**+0.9**
APE	**Apeiranthos**	**2.54**	**314**	*e*Pb	**Pn**	**13 04 36.3**	**+0.2**
APE	**Apeiranthos**	**2.54**	**314**	*e*PB	**Pn**	**13 04 36.3**	**+0.2**
DNZL	**Cakiroluk**	**2.56**	**22**	*i* P	**Pn**	**13 04 37.2**	**+0.8**
DNZL				*i* S	**Sn**	**13 05 10.4**	**+3.0**
BLCB	**Balcova**	**3.12**	**349**	*e*PN	**Pn**	**13 04 44.1**	**+0.1**
KHL	**Karahalli**	**3.29**	**24**	*e*P	**Pn**	**13 04 46.5**	**+0.1**
ERMK	**Ermenek**	**4.33**	**71**	*i* P	**Pn**	**13 05 02.7**	**+1.9**
ERMK				*i* S	**Sn**	**13 05 52.8**	**+1.5**
CSS	**Prodhromos**	**4.53**	**93**	P	**Pn**	**13 05 08.4**	**+4.9**

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*ISCJB **01** 13:15:06.5±0.9, 3534N±0.06×2782E±0.06, h10km, Error ellipse: s-maj=9.0km s-min=5.8km az=151.0*
*CSEM **01** 13:15:06.9±0.2, 3536N×2787E, h12km, MD3.5, Error ellipse: s-maj=5.6km s-min=2.9km az=158.0*
*ATH **01** 13:15:11.1, 3571N×2753E, h12km±4km, MD3.5/5*
*NEIC **01** 13:15:11.1, 3571N×2753E, h12km, MD3.5(ATH), After ATH.*
*DDA **01** 13:15:13.0, 3580N×2802E, h6km, Md3.4*
ISC 01 13:15:06.4±1.2**, 3532N**±006×**2784E**±006**, h4**km±6km**, n22,** σ**0.93**/32**, Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KARP	**Karpathos**	**0.59**	**292**	*e*Pb	**Pg**	**13 15 18.0**	**+0.1**
KARP	**Karpathos**	**0.59**	**292**	*e*PB	**Pg**	**13 15 18.0**	**+0.1**
ARG	**Arkhangelos**	**0.92**	**15**	*e*Pg	**Pg**	**13 15 24.3**	**+0.2**
ARG				*e*Sb	**Sg**	**13 15 34.7**	**-1.4**
ARG	**Arkhangelos**	**0.92**	**15**	*e*PG	**Pg**	**13 15 24.3**	**+0.2**
ARG				*e*SB	**Sg**	**13 15 34.7**	**-1.4**
TURN	**Turunc**	**1.67**	**22**	*i* P	**Pn**	**13 15 33.4**	**-2.9**
TURN				*i* S	**Sn**	**13 15 57.8**	**-0.4**
AKAS	**Kas**	**1.70**	**57**	*i* P	**Pn**	**13 15 36.2**	**-0.6**
AKAS				*i* S	**Sn**	**13 15 57.2**	**-1.8**
BDRM	**Kayabasi**	**1.77**	**350**	*i* P	**Pn**	**13 15 36.6**	**-1.1**
BDRM				*i* S	**Sn**	**13 16 04.9**	**+4.3**
BODT	**Bodrum**	**1.79**	**346**	*e*PN	**Pn**	**13 15 37.6**	**-0.4**
BODT				*e*SN	**Sn**	**13 16 00.7**	**-0.4**
NPS	**Neapolis**	**1.82**	**269**	*e*Pg	**Pg**	**13 15 41.7**	**+0.4**
NPS	**Neapolis**	**1.82**	**269**	*e*PG	**Pg**	**13 15 41.7**	**+0.4**
YER	**Yerkesik**	**1.84**	**11**	*e*PN	**Pn**	**13 15 38.9**	**+0.1**
MLSB	**Milas**	**1.97**	**359**	*e*PN	**Pn**	**13 15 39.9**	**-0.6**
MLSB				*e*SN	**Sn**	**13 16 05.9**	**+0.3**
ELL	**Elmali**	**2.20**	**49**	*e*PN	**Pn**	**13 15 44.3**	**+0.7**
AYDN	**Tasoluk**	**2.33**	**1**	*i* P	**Pn**	**13 15 45.4**	**-0.1**
AYDN				*i* S	**Sn**	**13 16 15.2**	**+0.6**
GOLH	**Golhisar**	**2.37**	**36**	*i* P	**Pn**	**13 15 46.9**	**+1.0**
GOLH				*i* S	**Sn**	**13 16 18.0**	**+2.6**
SMG	**Samos**	**2.51**	**342**	*e*Pn	**Pn**	**13 15 47.6**	**-0.4**
SMG	**Samos**	**2.51**	**342**	*e*PN	**Pn**	**13 15 47.6**	**-0.4**
APE	**Apeiranthos**	**2.55**	**314**	*e*Pn	**Pn**	**13 15 48.3**	**-0.2**
APE	**Apeiranthos**	**2.55**	**314**	*e*PN	**Pn**	**13 15 48.3**	**-0.2**
DNZL	**Cakiroluk**	**2.56**	**22**	*i* P	**Pn**	**13 15 48.9**	**+0.4**
DNZL				*i* S	**Sg**	**13 16 29.4**	**+0.9**
KULA	**Kula-Manisa**	**3.25**	**11**	*e*PN	**Pn**	**13 15 58.7**	**+0.5**
KHL	**Karahalli**	**3.29**	**24**	*e*P	**Pn**	**13 15 60.0**	**+1.4**

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*ISCJB **01** 13:15:29.2±2.4, 103S±02×786W±02, h43km±22km, mb3.7/4, MS3.3/2, Error ellipse: s-maj=46.2km s-min=13.0km az=146.2*
*NEIC **01** 13:15:30.9±1.7, 1044S×7863W, h47km±15km, mb3.7/1, Error ellipse: s-maj=30.5km s-min=9.6km az=57.0*
NEIC Felt [III] at Huarmey.
*IDC **01** 13:15:31.5±3.4, 1042S×7863W, h51km±35km, mb3.4/4, mb1 3.8/7, mb1mx3.6/21, mbtmp3.5/7, ML3.8/3, MS3.2/5, Ms1 3.2/5, ms1mx3.1/19, Error ellipse: s-maj=64.1km s-min=22.8km az=45.0*
ISC 01 13:15:32.1±2.0**, 104S**±02×**786W**±02**, h52**km±19km**, n21,** σ**0.83**/17**, mb3.7**/4**, MS3.3**/2**, Near coast of Peru**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
NNA	**Nana**	**2.34**	**134**	P	**Pn**	**13 16 06.5**	**-1.7**
	33nm,0.3s,baz=310,slow=12,SNR=46						
NNA				S	**Sn**	**13 16 36.3**	**+0.6**
	108nm,0.3s,baz=325,slow=20,SNR=9.7						
NNA	**Nana**	**2.34**	**134**	*e*Pn	**Pn**	**13 16 06.1**	**-2.0**
NNA				*e*Sn	**Sn**	**13 16 35.9**	**+0.2**
ARE	**Arequipa**	**9.18**	**132**	*e*P	**Pn**	**13 17 51.0**	**+9.2**
OTAV	**Otavalo**	**10.53**	**1**	P	**Pn**	**13 18 00.6**	**+0.2**
	6.5nm,0.8s						
LPAZ	**La Paz**	**11.74**	**121**	P	**Pn**	**13 18 18.5**	**+1.5**
	0.3nm,0.3s,baz=306,slow=14,SNR=11						
LPAZ				LR	LR	13 22 40.5	
	comp=Z,31nm,19.5s,baz=299,slow=36						
LPAZ	**La Paz**	**11.74**	**121**	*e*P	**Pn**	**13 18 17.8**	**+0.8**
	1.5nm,0.6s						
LPAZ				LR	LR	13 22 40.5	
LVC	**Limon Verde**	**15.29**	**144**	P	**Pn**	**13 19 08.6**	**+3.9**
	0.3nm,0.3s,baz=319,slow=8.8,SNR=4.1						
LVC				LR	LR	13 23 49.7	
	comp=Z,105nm,21.4s,baz=279,slow=33						
LVC	**Limon Verde**	**15.29**	**144**	*e*P	**Pn**	**13 19 10.2**	**+5.5**
	4.4nm,0.8s						
LVC				LR	LR	13 23 49.7	
ROSC	**El Rosal**	**15.70**	**16**	LR	LR	13 26 15.6	
	comp=Z,103nm,19.8s,baz=182,slow=41						
SIV	**San Ignacio**	**17.93**	**110**	P	**Pn**	**13 19 36.9**	**-0.9**
	0.2nm,0.3s,baz=291,slow=12,SNR=6.3						
SDV	**Santo Domingo**	**20.69**	**23**	LR	LR	13 29 31.5	
	comp=Z,92nm,20.8s,MS3.1,baz=105,slow=40						
PCRV	**Puerto La Cruz**	**24.66**	**35**	LR	LR	13 31 55.8	
	comp=Z,116nm,18.8s,MS3.4,baz=255,slow=40						
TXAR	**Lajitas Array**	**46.30**	**329**	P	**P**	**13 23 52.5**	**-0.3**
	0.5nm,0.8s,mb3.5,baz=152,slow=8.2,SNR=4.7						
TXAR	**Lajitas Array**	**46.30**	**329**	P	**P**	**13 23 52.5**	**-0.3**
PDAR	**Pinedale Array**	**59.98**	**334**	P	**P**	**13 25 33.2**	**0.0**
	0.6nm,1.0s,mb3.6,baz=138,slow=11,SNR=3.2						
NVAR	**Mina Array Bea**	**61.07**	**325**	P	**P**	**13 25 41.1**	**+0.4**
	0.7nm,0.6s,mb4.0,baz=142,slow=6.1,SNR=6.0						
TORD	**Torodi Ar. Bea**	**83.01**	**75**	P	**P**	**13 27 52.5**	**0.0**
	0.7nm,0.8s,mb3.7,baz=269,slow=4.3,SNR=5.5						
TORD	**Torodi Ar. Bea**	**83.01**	**75**	P	**P**	**13 27 52.5**	**0.0**
ASAR	**Alice Springs**	**133.61**	**223**	PKP	PKPdf	13 34 42.9	-0.8
	0.4nm,0.7s,baz=117,slow=1.8,SNR=9.3						
WRA	**Warramunga Arr**	**135.77**	**227**	PKP	PKPdf	13 34 47.1	-0.8
	0.4nm,0.5s,baz=123,slow=2.0,SNR=10						
KSRS	**Korea Array**	**144.00**	**323**	PKP	PKPdf	13 34 59.6	-2.6
	0.9nm,0.8s,baz=23,slow=4.1,SNR=4.4						

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*MOS **01** 13:24:01.5±2.7, 4220N×4703E, h9km, mb4.0/1, Error ellipse: s-maj=16.0km s-min=8.0km az=114.6*
CSEM 01 13:24:06.3±0.5**, 4248N**×**4713E, h2**km**, mb4.0, 3C, Error ellipse: s-maj=14.1km s-min=7.5km az=53.0, Eastern Caucasus**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
GNBR	**Gunib**	**0.15**	**235**	*i* PG	Pg	13 24 06.2	-3.1
GNBR				*e*S	Sg	13 24 11.5	+0.2
GNBR				pmax	pmax		
	comp=Z,209nm,0.3s						
GNBR	**Gunib**	**0.15**	**235**	*i* Pg	Pg	13 24 06.2	-3.1
	comp=Z,209nm,0.3s						
GNBR				*e*Sg	Sg	13 24 11.5	+0.2
KRNR	**Karanay**	**0.39**	**334**	⇑*i*PG	Pg	13 24 04.0	-10
KRNR				pmax	pmax		
	comp=Z,286nm,0.2s						
KRNR	**Karanay**	**0.39**	**334**	*i* Pg	Pg	13 24 04.0	-10
	comp=Z,286nm,0.2s						
MAK	**Makhachkala**	**0.56**	**29**	*e*PG	Pg	13 24 11.1	-5.8
MAK				pmax	pmax		
	comp=Z,355nm,0.6s						
MAK	**Makhachkala**	**0.56**	**29**	*e*Pg	Pg	13 24 11.1	-5.8
	comp=Z,355nm,0.6s						
DBC	**Dubki**	**0.59**	**338**	⇑*i*PG	Pg	13 24 07.5	-10
DBC				pmax	pmax		
	comp=Z,156nm,0.2s						
DBC	**Dubki**	**0.59**	**338**	*i* Pg	Pg	13 24 07.5	-10
	comp=Z,156nm,0.2s						
DLMR	**Dylym**	**0.70**	**328**	*i* PG	Pg	13 24 10.5	-9.2
DLMR				pmax	pmax		
	comp=Z,147nm,0.3s						
DLMR	**Dylym**	**0.70**	**328**	*i* Pg	Pg	13 24 10.5	-9.2
	comp=Z,147nm,0.3s						
AKT	**Akhty**	**1.09**	**156**	*i* PG	Pg	13 24 22.5	-4.7
AKT				pmax	pmax		
	comp=Z,54nm,0.3s						
AKT	**Akhty**	**1.09**	**156**	*i* Pg	Pg	13 24 22.5	-4.7
	comp=Z,54nm,0.3s						
SEKA	**Sheki**	**1.27**	**178**	P	Pg	13 24 32.0	+1.4
	SNR=6.2						
SIZA	**Siyzn**	**1.93**	**136**	P	Pn	13 24 41.0	+1.0
	SNR=3.8						
GANJ	**Ganja**	**1.93**	**199**	P	Pn	13 24 39.7	-0.4
	SNR=12						
GANJ				S	Sn	13 25 08.4	+3.5
PQL	**Pirkuli**	**2.01**	**147**	P	Pn	13 24 44.5	+3.3
	SNR=3.4						
PQL				S	Sn	13 25 15.5	+8.6
LACR	**Lac**	**2.12**	**280**	⇑*i*PN	Pn	13 24 40.3	-2.4
LACR				*e*S	Sn	13 25 08.4	-1.3
TRKR	**Terskaya**	**2.15**	**306**	*e*Pn	Pn	13 24 41.7	-1.5
TRKR				*e*Sn	Sn	13 25 10.8	+0.3
ARNR	**Ardon**	**2.22**	**290**	*e*Pn	Pn	13 24 41.8	-2.2
ARNR				*e*Sn	Sn	13 25 11.3	-0.7
KMSR	**Komsomolskaya**	**2.27**	**294**	*e*Pn	Pn	13 24 42.9	-1.9

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
KMSR				eSn	Sn	13 25 12.8	-0.5
ZEI	Tsey	2.41	278	ePn	Pn	13 24 44.2	-2.4
ZEI				eSn	Sn	13 25 15.0	-1.7
PRTR	Priterechnaya	2.44	302	ePn	Pn	13 24 45.5	-1.7
PRTR				eSn	Sn	13 25 17.4	-0.2
GNI	Garni	2.94	219	ePn	Pn	13 24 57.9	+3.9

ISCJB ***01*** *13:35:23.1±2.2, 49.14S±0.05×164.25E±0.07, h1^{km}±14^{km}, mb4.9/26, MS5.1/11, Error ellipse: s-maj=8.9km s-min=6.9km az=151.4*
IDC ***01*** *13:35:25.0±0.7, 49.06S×164.22E, h0^{km}, mb4.7/12, mb1 4.8/14, mb1mx4.8/16, mbtmp4.7/14, ML3.9/2, MS4.8/4, Ms1 4.7/4, ms1mx4.1/26, Error ellipse: s-maj=23.7km s-min=16.0km az=62.0*
BJI ***01*** *13:35:25.6, 49.10S×164.20E, h10^{km}, mB5.6, mb5.3, Ms5.4, Msz5.0*
NEIC ***01*** *13:35:26.7±0.3, 49.10S×164.18E, h10^{km}, mb5.0/14, MS5.0/1, Error ellipse: s-maj=7.2km s-min=4.4km az=151.0*
DJA ***01*** *13:35:29, 49.22S×164.02E, h10^{km}, mb5.3/9*
MOS ***01*** *13:35:31.3±2.4, 49.14S×163.60E, h37^{km}, mb5.1/6, Error ellipse: s-maj=17.5km s-min=9.6km az=102.9*
ISC 01 13:35:25.4±2.4**, 49.13S**±0.05×**164.20E**±0.07**, h3**^{km}±15^{km}**, h11**^{km}±2.0^{km}**:pP-P, n110,** σ**1^{s}20**/81**, mb4.9**/26**, MS5.1**/11**, 5C-7D, Auckland Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
WHZ	Wether Hill Ro	4.11	40	P	Pn	13 36 28.7	-0.4
DCZ	Deep Cove	4.17	30	P	Pn	13 36 29.4	-0.5
MLZ	Mavora Lakes	4.65	37	P	Pn	13 36 36.4	-0.1
TUZ	Tuapeka	4.86	51	P	Pn	13 36 39.2	-0.2
MSZ	Milford Sound	5.14	31	P	Pn	13 36 44.6	+1.4
EAZ	Earnscleugh	5.23	44	P	Pn	13 36 43.9	-0.5
WKZ	Wanaka	5.42	39	P	Pn	13 36 47.8	+0.7
JCZ	Jackson Bay	5.95	34	P	Pn	13 36 55.8	+1.4
ODZ	Otahua Downs	6.00	50	P	Pn	13 36 53.8	-1.3
LBZ	Lake Benmore	6.28	43	P	Pn	13 36 56.8	-2.0
MCQ	Macquarie Isla	6.28	209	eP	Pn	13 36 56.3	-2.6
FOZ	Fox Glacier	6.74	36	P	Pn	13 37 06.5	+1.4
RPZ	Rata Peaks	7.19	44	Pn	Pn	13 37 08.7	-2.7
	4.7nm,0.3s,baz=190,slow=2.9,SNR=32						
RPZ				Sn	Sn	13 38 42.1	+8.6
	5.7nm,0.3s,baz=201,slow=20,SNR=3.8						
RPZ	Rata Peaks	7.19	44	P	Pn	13 37 08.4	-3.0
WVZ	Waitaha Valley	7.57	39	P	Pn	13 37 17.4	+0.9
MQZ	McQueen's Vall	7.97	50	P	Pn	13 37 22.9	+0.9
CRLZ	Canterbury Las	8.04	50	P	Pn	13 37 23.2	+0.1
LTZ	Lake Taylor	8.47	45	P	Pn	13 37 27.0	-2.0
DSZ	Denniston Nort	9.11	39	P	Pn	13 37 37.7	0.0
DSZ	Denniston Nort	9.11	39	S	Pn	13 37 42.0	+4.3
THZ	Tophouse	9.57	43	P	Pn	13 37 44.1	+0.1
SNZO	South Karori	10.76	47	P	Pn	13 38 00.9	+0.6
TAU	Tasmania Unive	13.26	292	Pn	Pn	13 38 32.2	-2.3
	342nm,0.8s,SNR=8.2						
TAU	Tasmania Unive	13.26	292	eP	Pn	13 38 32.3	-2.2
TAU				pmax	pmax		
	comp=Z,84nm,1.0s						
TAU	Tasmania Unive	13.26	292	eP	Pn	13 38 32.2	-2.3
	comp=Z,84nm,1.0s						
URZ	Urewera	14.30	45	Pn	Pn	13 38 48.0	-0.7
	comp=Z,0.3nm,0.3s,baz=116,slow=7.4,SNR=2.2						
CNB	Canberra Magne	17.60	316	eP	Pn	13 39 32.3	+0.8
CAN	Canberra	17.76	315	eP	Pn	13 39 34.0	+0.5
TOO	Toolangi	17.79	303	eP	Pn	13 39 35.1	+1.2
ARMA	Armidale	20.98	328	eP	P	13 40 11.9	+2.2
RAO	Raoul Island	24.10	41	LR	LR	13 49 34.2	
	comp=Z,784nm,19.2s,MS4.2,baz=194,slow=35						
STKA	Stephens Creek	24.19	307	eP	P	13 40 44.3	+1.4
	comp=Z,17nm,0.8s,mb4.5						
STKA	Stephens Creek	24.19	307	P	P	13 40 43.6	+0.6
	comp=Z,19nm,0.8s,mb4.6,baz=133,slow=9.5,SNR=32						
STKA				LR	LR	13 49 12.5	
	comp=Z,2μm,18.6s,MS4.7,baz=106,slow=34						
SBA	Scott Base	28.85	179	eP	P	13 41 26.6	+2.1
SBA				pmax	pmax		
	comp=Z,47nm,1.2s,mb5.1						
SBA	Scott Base	28.85	179	eP	P	13 41 26.6	+2.1
	comp=Z,47nm,1.2s,mb5.1						
CTA	Charters Tower	32.35	327	eP	P	13 41 56.4	+0.5
	comp=Z,11nm,0.9s,mb4.7						
CTA	Charters Tower	32.35	327	eP	P	13 41 56.4	+0.5
CTA				pmax	pmax		
	comp=Z,11nm,0.9s						
CTAO	Charters Tower	32.35	327	eP	P	13 41 56.8	+0.9
FORT	Forrest	32.81	290	eP	P	13 41 59.5	-0.4
	comp=Z,12nm,0.7s,mb5.0						
FORT				e		13 43 01.1	
ASAR	Alice Springs	34.81	306	P	P	13 42 17.1	-0.3
	comp=Z,12nm,0.8s,mb4.9,baz=137,slow=8.0,SNR=186						
WB2	Warramunga Arr	37.66	310	eP	P	13 42 40.6	-1.1
WRA	Warramunga Arr	37.67	310	P	P	13 42 40.7	-1.1
	comp=Z,12nm,0.8s,mb4.7,baz=136,slow=7.8,SNR=107						
WRA				PcP	PcP	13 44 58.6	-0.6
	comp=Z,1.8nm,0.9s,baz=148,slow=2.7,SNR=3.8						
WRAB	Tennant Creek	37.67	310	P	P	13 42 40.9	-0.9
	comp=Z,176nm,0.8s,mb5.8,SNR=9.3						
WRAB	Tennant Creek	37.67	310	d iP	P	13 42 40.1	-1.7
WRAB	Tennant Creek	37.67	310	eP	P	13 42 40.8	-1.0
	comp=Z,16nm,0.8s,mb4.8						
NWAO	Narrogin (SRO)	38.29	277	P	P	13 42 46.8	-0.1
	comp=Z,10nm,0.9s,mb4.6,baz=103,slow=6.7,SNR=3.6						
NWAO	Narrogin (SRO)	38.29	277	eP	P	13 42 46.8	-0.1
NWAO				pmax	pmax		
	comp=Z,24nm,1.1s						
NWAO	Narrogin (SRO)	38.29	277	eP	P	13 42 46.8	-0.2
	comp=Z,24nm,1.1s,mb4.8						
COEN	Coen	39.10	326	eP	P	13 42 54.7	+0.8
	comp=Z,31nm,1.4s,mb4.8						
MIR	Mirnyy	39.12	217	⇑iP	P	13 42 54.0	+0.4
MIR				pmax	pmax		
	comp=Z,100nm,1.0s,mb5.5						
QSPA	South Pole Qui	40.99	180	P	P	13 43 10.6	+1.6
	comp=Z,28nm,1.0s,mb4.8,baz=12,slow=3.2,SNR=47						
QSPA				PcP	PcP	13 45 08.5	-0.3
	comp=Z,7.9nm,0.9s,baz=311,slow=1.1,SNR=5.2						
PMG	Port Moresby	42.09	334	c iP	P	13 43 15.7	-2.9
FITZ	Fitzroy Crossi	43.83	301	⇓iP	P	13 43 32.4	-0.3
	comp=Z,31nm,0.7s,mb5.1						
FITZ	Fitzroy Crossi	43.83	301	P	P	13 43 32.6	-0.1
	comp=Z,15nm,0.7s,mb4.8,baz=159,slow=10.0,SNR=68						
TBI	Tubuai	44.45	72	eS	S	13 50 07.4	-5.8
	comp=Z,141nm,28.8s						
TBI				eLQ		13 53 50.2	
	comp=Z,812nm,32.8s						
TBI				eLR	LR	13 56 10.2	
	comp=Z,222nm,23.5s						
KAKA	Kakadu	44.77	313	⇓iP	P	13 43 39.8	-0.5
	comp=Z,23nm,0.8s,mb5.1						
MBWA	Marble Bar	44.92	292	eP	P	13 43 40.7	-0.7
	comp=Z,23nm,1.1s,mb4.9						
PPT	Papeete	48.72	66	eS	S	13 51 12.3	-2.2
	comp=Z,271nm,30.8s						
PPT				eLR	LR	13 58 05.6	
	comp=Z,212nm,22.5s						
MAW	Mawson	49.69	210	eP	P	13 44 18.2	+0.2
	comp=Z,6.9nm,1.0s,mb4.6						
MAW				e		13 45 38.9	
MAW	Mawson	49.69	210	P	P	13 44 18.4	+0.4
	comp=Z,7.0nm,0.9s,mb4.7,baz=112,slow=9.1,SNR=15						
MAW				PcP	PcP	13 45 37.6	-1.4
	comp=Z,7.3nm,1.0s,baz=177,slow=0.4,SNR=5.4						
MAW				LR	LR	14 05 46.8	
	comp=Z,297nm,18.0s,MS4.3,baz=199,slow=37						
MAW	Mawson	49.69	210	eP	P	13 44 18.2	+0.2
MAW				e		13 45 38.9	
MAW				pmax	pmax		
	comp=Z,7.0nm,1.0s						
BATI	Baumata	51.38	305	LR	LR	14 08 28.7	
	comp=Z,25μm,19.4s,MS6.3,baz=91,slow=39						
SYO	Syowa Base	55.33	201	⇓iP	P	13 44 58.3	-1.5
SYO	Syowa Base	55.33	201	⇓epP	pP	13 45 00.4	-0.3
KAPI	Kappang	57.81	304	LR	LR	14 11 11.4	
	comp=Z,4μm,19.1s,MS5.6,baz=94,slow=37						
SNAA	Sanae	59.16	185	eP	P	13 45 26.3	-0.5
SNAA				e		13 45 29.8	
SNAA				e		13 45 32.6	
SNAA	Sanae	59.16	185	c iP	P	13 45 26.6	-0.2
SNAA	Sanae	59.16	185	eP	P	13 45 26.6	-0.2
	comp=Z,45nm,1.4s,mb5.3						
VNA3	Neumayer Olymp	59.86	182	eP	P	13 45 31.6	0.0
VNA3				e	pP	13 45 34.4	+1.8
VNA3				e		13 45 37.1	
VNA2	Neumayer--Watz	60.10	183	eP	P	13 45 33.4	+0.1
	baz=158,slow=6.8						
VNA2				e	pP	13 45 36.1	+1.8
VNA2				e		13 45 39.4	
VNA1	Neumayer--Stat	60.41	183	eP	P	13 45 36.1	+0.7
VNA1				e	pP	13 45 38.9	+2.5
VNA1				e		13 45 41.7	
PLCA	Paso Flores	78.35	141	P	P	13 47 27.9	+1.0
	comp=Z,13nm,1.1s,mb4.8,baz=193,slow=6.2,SNR=11						
MJAR	Matsushiro Arr	88.36	339	P	P	13 48 19.4	+1.3
	comp=Z,2.1nm,1.1s,mb4.3,baz=14,slow=27,SNR=3.5						
CMAR	Chiang Mai Arr	88.64	300	P	P	13 48 20.4	+0.6
	comp=Z,3.5nm,0.8s,mb4.7,baz=164,slow=3.6,SNR=11						
CMAR	Chiang Mai Arr	88.64	300	i P	P	13 48 16.3	-3.5
CMAR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
NJ2	Nanjing	90.35	323	eP	P	13 48 24.3	-3.2
NJ2				AP	pP	13 48 34.2	+5.7
NJ2				XP	sP	13 48 39.2	+10
NJ2				AMB	AMB		
	comp=Z,10.0nm,1.2s,mb5.0						
NJ2				AMB	AMB		
	comp=Z,260nm,5.9s						
NJ2				LR	LR		
	comp=N,2μm,20.8s,MS5.7						
NJ2				LR	LR		
	comp=E,2μm,17.4s,MS5.7						
NJ2				LR	LR		
	comp=Z,2μm,17.4s,MS5.5						
GYA	Guiyang	91.03	311	P	P	13 48 34.0	+3.1
GYA				PP	PP	13 52 13.0	+5.3
GYA				AMB	AMB		
	comp=Z,20nm,1.0s,mb5.4						
GYA				AMB	AMB		
	comp=Z,110nm,6.7s						
GYA				LR	LR		
	comp=N,590nm,20.4s,MS5.1						
GYA				LR	LR		
	comp=E,520nm,21.8s,MS5.1						
GYA				LR	LR		
	comp=Z,510nm,20.9s,MS4.9						
KMI	Kunming	91.94	307	P	P	13 48 39.3	+4.2
KMI				AMB	AMB		
	comp=Z,6.0nm,0.9s,mb4.9						
KMI	Kunming	91.94	307	P	P	13 48 39.3	+4.2
	comp=Z,6.0nm,0.9s,mb4.9						
KSRS	Korea Array	92.01	332	P	P	13 48 34.7	-0.4
	comp=Z,0.3nm,0.5s,mb3.9,baz=266,slow=37,SNR=2.8						
BOSA	Boshof	94.38	215	P	P	13 48 45.2	-1.3
	comp=Z,4.2nm,0.9s,mb4.9,baz=319,slow=3.8,SNR=4.0						
CD2	Chengdu	96.13	311	P	P	13 48 57.0	+2.8
CD2				AP	pP	13 49 01.5	+6.3
CD2				XP	sP	13 49 04.2	+8.6
CD2				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb5.3						
CD2				AMB	AMB		
	comp=Z,30nm,6.8s						
CD2				LR	LR		
	comp=N,180nm,18.2s,MS4.8						
CD2				LR	LR		
	comp=E,210nm,16.4s,MS4.8						
CD2				LR	LR		
	comp=Z,170nm,15.4s,MS4.6						
MDJ	Mudanjiang	98.14	336	P	P	13 49 04.2	+1.3
MDJ				AMB	AMB		
	comp=Z,5.0nm,1.4s,mb4.8						
MDJ				AMB	AMB		
	comp=Z,81nm,5.2s						
CN2	Changchun	98.58	333	eP	P	13 49 04.3	-0.6
CN2				eXP	sP	13 49 10.9	+4.7
LZH	Lanzhou	100.31	314	eP	Pdif	13 49 17.5	+4.1
LZH				AP		13 49 22.3	
LZH				XP		13 49 24.6	
LZH				ePP	PP	13 53 27.6	+8.1
LZH				AMB	AMB		
	comp=Z,17nm,1.5s						
LZH				AMB	AMB		
	comp=Z,82nm,8.7s						
LZH				LR	LR		
	comp=E,372nm,17.5s						
LZH				LR	LR		
	comp=Z,501nm,19.3s,MS5.0						
LZH	Lanzhou	100.31	314	eP	Pdif	13 49 17.5	+4.1
LZH				e		13 53 27.6	
LZH						13 59 54.7	
LZH				eS	Sdif	14 00 50.2	+0.2
LZH				eSS	SS	14 07 50.5	+5.7
LZH				pmax	pmax		
	comp=Z,17nm,1.5s						
LZH				MLR	MLR		
	comp=Z,500nm,19.3s,MS5.0						
LZH	Lanzhou	100.31	314	eP	Pdif	13 49 17.5	+4.1
	comp=Z,17nm,1.5s						
LZH				pP		13 49 22.3	
LZH				sP		13 49 24.6	
LZH				ePP	PP	13 53 27.6	+8.1
LZH				SKS		13 59 54.7	
LZH				eS	Sdif	14 00 50.2	+0.2
LZH				sS		14 00 58.3	
LZH				eSS	SS	14 07 50.5	+5.7
LZH				LR	LR		
	comp=Z,500nm,19.3s,MS5.0						
HHC	Hu-ho-hao-te	100.88	322	⇓P	Pdif	13 49 15.6	-0.3
HHC				AP		13 49 20.7	
HHC				PP	PP	13 53 26.5	+2.7
HHC				AMB	AMB		
	comp=Z,24nm,1.1s						
HHC				AMB	AMB		
	comp=Z,101nm,5.7s						
HHC				LR	LR		
	comp=N,1μm,19.6s,MS5.5						
HHC				LR	LR		
	comp=E,1μm,23.3s,MS5.5						
HHC				LR	LR		
	comp=Z,489nm,19.1s,MS5.0						
BILL	Bilibino	116.85	1	⇑iPKIKP	PKPdf	13 54 05.6	-4.2
BILL				e		13 55 23.7	
BILL				pmax	pmax		
	comp=Z,10.0nm,1.8s						
BILL				MLR	MLR		
	comp=Z,1μm,19.0s,MS5.5						
MKAR	Makanchi Array	118.97	309	PKP	PKPdf	13 54 13.7	-0.9
	comp=Z,0.9nm,0.9s,baz=90,slow=5.1,SNR=5.6						
DBIC	Dimbokro	136.69	196	PKP	PKPdf	13 54 50.3	+0.9
	comp=Z,5.5nm,0.9s,baz=207,slow=5.0,SNR=4.7						
TORD	Torodi Ar. Bea	141.32	208	PKhKP		13 54 50.7	
	comp=Z,1.7nm,1.0s,baz=146,slow=3.0,SNR=6.5						
TORD				PKP	PKPdf	13 54 57.9	+0.2
	comp=Z,3.3nm,1.0s,baz=155,slow=1.5,SNR=7.5						
TORD	Torodi Ar. Bea	141.32	208	PKP	PKPdf	13 54 50.7	-7.1
TORD				PKP	PKPdf	13 54 57.9	+0.2
VSR	Storozhevoye	145.42	295	ePKP2	PKPab	13 55 01.7	-2.3
VSR				pmax	pmax		
	comp=N,3.0nm,0.4s						
VSR				pmax	pmax		
	comp=Z,2.0nm,0.4s						
VSR				pmax	pmax		
	comp=E,2.0nm,0.3s						
VOR	Voronezh	145.56	296	PKIKP	PKPdf	13 55 04.0	0.0
VOR				pmax	pmax		
	comp=Z,160nm,2.0s						
KLMR	Klimovskoe	147.19	312	ePKP2	PKPbc	13 55 08.5	-0.2
OBN	Obninsk	147.95	301	⇓iPKP2	PKPbc	13 55 11.7	+0.7
OBN				e		13 58 36.3	
OBN				pmax	pmax		
	comp=Z,31nm,1.4s						
TAM	Tamanrasset	148.77	220	ePKP2	PKPbc	13 55 14.6	+0.4
APA	Apatity	149.42	325	⇑iPKP2	PKPbc	13 55 15.0	+0.6
APA				pmax	pmax		
	comp=Z,29nm,1.2s						
KEV	Kevo	151.00	331	ep	PKPbc	13 55 18.2	+0.1
	comp=Z,8.4nm,0.8s						
KEV	Kevo	151.00	331	ePKIKP	PKPbc	13 55 18.2	+0.1
KEV				pmax	pmax		
	comp=Z,8.0nm,0.8s						
JOF	Joensuu	151.04	316	ep	PKPbc	13 55 18.2	-0.2
	comp=Z,5.3nm,0.8s						
JOF	Joensuu	151.04	316	ePKIKP	PKPbc	13 55 18.2	-0.2
JOF				pmax	pmax		
	comp=Z,5.0nm,0.8s						
AKASG	Malin Array Be	151.30	290	PKPbc	PKPbc	13 55 19.0	-0.4
	comp=Z,5.0nm,0.8s,baz=70,slow=2.2,SNR=10						
AKASG	Malin Array Be	151.30	290	PKPbc	PKPbc	13 55 19.0	-0.4
KIEV	Kiev	151.31	290	ePKIKP	PKPbc	13 55 18.6	-0.8
ARCES	ARCESS Array B	151.56	331	PKPbc	PKPbc	13 55 19.9	+0.5
	comp=Z,9.3nm,0.8s,baz=92,slow=2.1,SNR=25						
KEST	Kesra	157.25	243	PKPab	PKPab	13 55 54.1	+0.9
	comp=Z,2.2nm,0.9s,baz=355,slow=4.8,SNR=7.2						
GERES	GERESS Array B	160.69	280	PKPab	PKPab	13 56 07.7	-0.2
	comp=Z,2.0nm,0.8s,baz=116,slow=3.1,SNR=8.9						
KHC	Kasperske Hory	160.82	281	ePKP	PKPab	13 56 02.5	-6.0

ISCJB ***01*** *13:36:29.7±1.3, 35.20N±0.09×27.84E±0.07, h2^{km}, Error ellipse: s-maj=13.1km s-min=6.8km az=159.8*
DDA ***01*** *13:36:29.5, 35.29N×27.88E, h4^{km}±2^{km}, Md3.4*
CSEM ***01*** *13:36:32.3±0.2, 35.39N×27.86E, h2^{km}, MD3.4, Error ellipse: s-maj=6.4km s-min=2.3km az=159.0*
ATH ***01*** *13:36:35.5, 35.70N×27.60E, h10^{km}, MD3.4/5*
NEIC ***01*** *13:36:35.5, 35.70N×27.60E, h10^{km}, MD3.4(ATH), After ATH.*
ISC 01 13:36:30.5±1.4**, 35.21N**±0.09×**27.87E**±0.07**, h2**^{km}**, n16,** σ**1^{s}32**/22**, Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KARP	Karpathos	0.67	300	ePb	Pg	13 36 43.0	-0.3
KARP	Karpathos	0.67	300	ePB	Pg	13 36 43.0	-0.3
ARG	Arkhangelos	1.02	12	ePb	Pb	13 36 48.5	-2.4
ARG	Arkhangelos	1.02	12	ePB	Pb	13 36 48.5	-2.4
AKAS	Kas	1.74	54	i P	Pn	13 37 02.6	+0.9
AKAS				i S	Sn	13 37 25.1	+0.6
AKAS	Kas	1.74	54	i P	Pn	13 37 02.6	+0.9
AKAS				i S	Sn	13 37 25.1	+0.6
TURN	Turunc	1.76	20	i P	Pn	13 36 59.7	-2.3
TURN				i S	Sn	13 37 23.0	-2.0
NPS	Neapolis	1.85	272	ePg	Pg	13 37 06.8	+0.9
NPS	Neapolis	1.85	272	ePG	Pg	13 37 06.8	+0.9
BDRM	Kayabasi	1.88	350	i P	Pn	13 37 03.7	0.0
BDRM				i S	Sn	13 37 29.8	+1.8
GOLH	Golhisar	2.44	34	i P	Pn	13 37 12.0	+0.7
GOLH				i S	Sn	13 37 44.7	+3.0
AYDN	Tasoluk	2.44	0	i P	Pn	13 37 11.3	0.0
AYDN				i S	Sn	13 37 43.0	+1.1
SMG	Samos	2.63	342	ePn	Pn	13 37 12.6	-1.3
SMG	Samos	2.63	342	ePN	Pn	13 37 12.6	-1.3
APE	Apeiranthos	2.65	315	ePn	Pn	13 37 14.3	+0.1
APE	Apeiranthos	2.65	315	ePN	Pn	13 37 14.3	+0.1

ISCJB ***01*** *13:46:01.9±0.7, 38.13N±0.04×20.72E±0.05, h10^{km}, Error ellipse: s-maj=7.0km s-min=4.2km az=38.4*
ATH ***01*** *13:46:01.6, 38.18N×20.74E, h12^{km}±2^{km}, MD3.4/8*
NEIC ***01*** *13:46:01.6, 38.18N×20.74E, h12^{km}, MD3.4(ATH), After ATH.*
CSEM ***01*** *13:46:02.1±0.1, 38.20N×20.78E, h2^{km}, ML3.4/4, Error ellipse: s-maj=2.0km s-min=1.8km az=14.0*
THE ***01*** *13:46:02.6, 38.20N×20.75E, h0^{km}±2^{km}, ML3.4/4, Error ellipse: s-maj=2.5km s-min=0.9km az=226.0*
ISC 01 13:46:02.4±0.6**, 38.19N**±0.03×**20.76E**±0.04**, h2**^{km}±6^{km}**, n23,** σ**0^{s}96**/36**, Greece**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KFL	Anninata	0.08	166	P	Pg	13 46 04.3	+0.4
KFL				S	Sg	13 46 06.0	+1.0
VLS	Valsamata	0.14	266	P	Pg	13 46 04.7	-0.3
VLS				S	Sg	13 46 07.6	+0.8
VLS	Valsamata	0.14	266	i Pg	Pg	13 46 04.9	-0.1
VLS				eSg	Sg	13 46 07.6	+0.8
VLS	Valsamata	0.14	266	⇑iPG	Pg	13 46 04.9	-0.1
VLS				eSG	Sg	13 46 07.6	+0.8
LKD	Levkas	0.53	350	P	Pg	13 46 11.4	-1.1
LKD				S	Sg	13 46 20.4	+1.1
RLS	Riolos of Patr	0.57	103	ePb	Pg	13 46 12.4	-0.9
RLS				eSb	Sg	13 46 21.8	+1.1
RLS	Riolos of Patr	0.57	103	ePB	Pg	13 46 12.4	-0.9
RLS				eSB	Sg	13 46 21.8	+1.1
EVR	Evrytania	1.10	48	ePn	Pn	13 46 23.2	-1.5
EVR	Evrytania	1.10	48	ePN	Pn	13 46 23.2	-1.5
ITM	Ithomi	1.36	137	ePb	Pb	13 46 27.3	-1.3
ITM	Ithomi	1.36	137	ePB	Pb	13 46 27.3	-1.3
IGT	Igoumenitsa	1.39	346	P	Pn	13 46 28.3	-0.3
IGT				S	Sg	13 46 47.4	+0.5
JAN	Janina	1.47	3	ePg	Pg	13 46 28.5	-2.0
JAN	Janina	1.47	3	ePG	Pg	13 46 28.5	-2.0
AGG	Agios Georgios	1.48	55	P	Pn	13 46 29.6	-0.4
AGG				S	Sg	13 46 51.1	+1.0
MEV	Metsovon	1.64	13	P	Pn	13 46 32.0	-0.1
THL	Klokotos Trika	1.69	35	P	Pn	13 46 32.3	-0.5
THL				S	Sn	13 46 56.4	+1.5
THL	Klokotos Trika	1.69	35	ePn	Pn	13 46 32.7	-0.1
THL				S	Sn	13 46 56.4	+1.5
THL	Klokotos Trika	1.69	35	ePN	Pn	13 46 32.7	-0.1
KEK	Kerkira	1.70	334	ePg	Pg	13 46 34.2	-0.7
KEK				eSn	Sn	13 46 56.4	+1.2
KEK	Kerkira	1.70	334	ePG	Pg	13 46 34.2	-0.7
KEK				eSN	Sn	13 46 56.4	+1.2
LKR	Lokris	1.82	75	ePn	Pn	13 46 34.4	-0.2
LKR	Lokris	1.82	75	ePN	Pn	13 46 34.4	-0.2

IDC ***01*** *13:49:05.5±0.8, 3.11S×148.32E, h0^{km}, mb4.7/15, mb1 4.8/16, mb1mx4.8/17, mbtmp4.7/16, ML4.1/1, MS5.5/1, Ms1 5.5/1, ms1mx3.7/15, Error ellipse: s-maj=27.9km s-min=13.9km az=103.0*
ISCJB ***01*** *13:49:06.3±0.3, 3.15S±0.04×148.31E±0.07, h15^{km}, mb5.0/61, MS5.3/13, Error ellipse: s-maj=9.9km s-min=5.4km az=5.8*
BJI ***01*** *13:49:07.4, 2.77S×148.44E, h14^{km}, mB5.3, mb4.9, Ms5.6, Msz5.4*
NEIC ***01*** *13:49:07.4±0.3, 3.10S×148.30E, h10^{km}, mb5.1/25, Error ellipse: s-maj=9.1km s-min=4.7km az=98.0*
MOS ***01*** *13:49:09.6±1.2, 3.10S×148.14E, h33^{km}, mb5.3/22, Error ellipse: s-maj=13.5km s-min=7.5km az=100.4*
DJA ***01*** *13:49:23, 3.47S×147.84E, h89^{km}, Mw5.6/13*
ISC 01 13:49:08.9±2.6**, 3.16S**±0.04×**148.33E**±0.07**, h19**^{km}±16^{km}**, h16**^{km}±3.5^{km}**:pP-P, n124,** σ**0^{s}96**/123**, mb5.0**/61**, MS5.3**/13**, 2C-3D, Bismarck Sea**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	6.31	191	eP	Pn	13 50 41.2	+0.2
PMG				pmax	pmax		
	comp=Z,144nm,0.9s						
PMG	Port Moresby	6.31	191	eP	Pn	13 50 41.2	+0.2
	comp=Z,144nm,0.9s						
COEN	Coen	11.88	205	ePn	Pn	13 51 58.2	+1.0
	comp=Z,29nm,1.3s						
CTA	Charters Tower	16.95	187	eP	Pn	13 53 06.1	+1.1
	comp=Z,34nm,1.1s						
CTA				eS	Sn	13 56 22.9	+10
CTA	Charters Tower	16.95	187	Pn	Pn	13 53 06.5	+1.5
	comp=Z,0.4nm,0.3s,baz=355,slow=13,SNR=5.7						
CTA	Charters Tower	16.95	187	eP	Pn	13 53 06.1	+1.1
CTA				pmax	pmax		
	comp=Z,34nm,1.1s						
CTAO	Charters Tower	16.95	187	eP	Pn	13 53 07.5	+2.5
CTAO				pmax	pmax		
	comp=Z,134nm,1.4s						
CTAO	Charters Tower	16.95	187	eP	Pn	13 53 07.5	+2.5
	comp=Z,134nm,1.4s						
KAKA	Kakadu	18.36	238	eP	Pn	13 53 22.2	-0.4
	comp=Z,37nm,0.6s						
WRAB	Tennant Creek	21.54	218	P	P	13 53 56.2	-1.0
	comp=Z,573nm,1.3s,mb5.8,SNR=26						
WRAB	Tennant Creek	21.54	218	eP	P	13 53 56.4	-0.8
WRAB				pmax	pmax		
	comp=Z,140nm,1.1s,mb5.3						
WRAB	Tennant Creek	21.54	218	eP	P	13 53 56.4	-0.8
	comp=Z,140nm,1.1s,mb5.3						
WB2	Warramunga Arr	21.55	218	eP	P	13 53 57.0	-0.3
WB2				eS	S	13 57 54.1	-1.3
WRA	Warramunga Arr	21.56	218	P	P	13 53 57.1	-0.2
	comp=Z,28nm,0.8s,mb4.7,baz=43,slow=11,SNR=96						
ASAR	Alice Springs	24.70	213	P	P	13 54 28.7	-0.2
	comp=Z,14nm,0.7s,mb4.6,baz=41,slow=7.4,SNR=168						
DAV	Davao City (W)	24.88	294	LR	LR	14 03 20.3	
	comp=Z,11μm,18.6s,MS5.4,baz=95,slow=34						
BATI	Baumata	25.47	253	P	P	13 54 36.1	+0.1
	comp=Z,76nm,0.9s,mb5.2,baz=258,slow=0.5,SNR=8.3						
FITZ	Fitzroy Crossi	26.74	235	eP	P	13 54 48.1	+0.7
	comp=Z,73nm,1.0s,mb5.2						

FITZ eS S 13 59 34.7 +12
FITZ Fitzroy Crossi 26.74 235 P P 13 54 48.0 +0.5
comp=Z,45nm,0.9s,mb5.0,baz=56,slow=10,SNR=50
ARMA Armidale 27.29 174 eP P 13 54 51.9 -0.3
STKA Stephens Creek 29.26 192 eP P 13 55 08.4 -1.4
comp=Z,9.1nm,0.9s,mb4.5
STKA Stephens Creek 29.26 192 P P 13 55 08.8 -1.1
comp=Z,4.9nm,0.7s,mb4.4,baz=347,slow=9.1,SNR=14
FORT Forrest 33.49 213 eP P 13 55 46.7 -0.4
comp=Z,21nm,0.6s,mb5.2
TOO Toolangi 34.34 184 eP P 13 55 54.2 -0.2
NACB Ninganchiao 37.61 318 eP P 13 56 22.5 -0.1
comp=Z,198nm,0.9s,mb5.8
YHNB Yeheng 38.10 318 eP P 13 56 26.2 -0.5
comp=Z,99nm,0.9s,mb5.5
KSM Kuching 38.29 276 eP P 13 56 28.9 +0.4
MJAR Matsushiro Arr 40.61 347 P P 13 56 44.8 -2.7
comp=Z,1.4nm,0.8s,baz=352,slow=17,SNR=4.6
SSE Sheshan 42.77 325 P P 13 57 05.7 +0.4
SSE AMB AMB
comp=Z,21nm,1.1s,mb4.8
SSE AMB AMB
comp=Z,229nm,5.2s
SSE Sheshan 42.77 325 P P 13 57 05.7 +0.4
comp=Z,21nm,1.1s,mb4.8
QIZ Qiongzhong 43.81 302 P P 13 57 13.0 -0.9
KSRS Korea Array 44.64 337 P P 13 57 19.6 -0.7
comp=Z,5.2nm,0.9s,mb4.3,baz=155,slow=9.0,SNR=20
WHN Wuhan 46.64 318 eP P 13 57 36.7 +0.5
VLA Vladivostok 48.40 344 eP P 13 57 50.6 +0.9
VLA pmax pmax
comp=Z,44nm,1.3s,mb5.3
DL2 Dalian 48.57 332 P P 13 57 53.1 +2.1
DL2 AMB AMB
comp=Z,20nm,1.1s,mb5.1
DL2 LR LR
comp=N,2μm,25.1s,MS5.1
DL2 LR LR
comp=E,2μm,22.0s,MS5.1
DL2 LR LR
comp=Z,3μm,22.5s,MS5.2
GYA Guiyang 49.88 309⇓iP P 13 58 03.2 +1.9
GYA AMB AMB
comp=Z,30nm,1.0s,mb5.3
GYA AMB AMB
comp=Z,140nm,5.4s
GYA LR LR
comp=N,790nm,18.4s,MS4.8
GYA LR LR
comp=E,620nm,19.8s,MS4.8
GYA LR LR
comp=Z,710nm,18.9s,MS4.7
SNY Shenyang 50.11 336 ⇓P P 13 58 02.1 -0.7
SNY AMB AMB
comp=Z,17nm,2.2s,mb4.7
SNY AMB AMB
comp=Z,183nm,6.3s
SNY LR LR
comp=N,3μm,19.2s,MS5.4
SNY LR LR
comp=E,2μm,18.6s,MS5.4
SNY LR LR
comp=Z,3μm,24.0s
MDJ Mudanjiang 50.43 343 P P 13 58 06.0 +0.8
MDJ AP pP 13 58 09.0 -2.2
MDJ XP sP 13 58 10.5 -3.1
MDJ AMB AMB
comp=Z,8.0nm,2.0s,mb4.4
MDJ AMB AMB
comp=Z,138nm,4.9s
MDJ LR LR
comp=N,5μm,31.4s
MDJ LR LR
comp=E,3μm,39.0s
MDJ LR LR
comp=Z,7μm,36.5s
CN2 Changchun 51.08 339 eP P 13 58 09.7 -0.3
NST Nakhon Sawan 51.22 293 P P 13 58 09.8 -1.8
comp=Z,72nm,1.2s,mb5.5
KMI Kunming 52.39 305 P P 13 58 22.2 +2.0
KMI AMB AMB
comp=Z,19nm,1.2s,mb4.9
KMI LR LR
comp=N,3μm,24.0s,MS5.4
KMI LR LR
comp=E,3μm,24.5s,MS5.4
KMI LR LR
comp=Z,7μm,22.0s,MS5.6
KMI Kunming 52.39 305 P P 13 58 22.2 +2.0
comp=Z,19nm,1.2s,mb4.9
KMI S S 14 05 46.1 +0.6
KMI LR LR
comp=Z,7μm,22.0s,MS5.6
XAN Xi'an 52.41 318 P P 13 58 19.6 -0.5
XAN XP sP 13 58 27.0 -1.6
XAN AMB AMB
comp=Z,11nm,1.7s,mb4.5
XAN LR LR
comp=E,3μm,29.6s
XAN LR LR
comp=Z,3μm,28.2s,MS5.2
CHRT Chiangrai 52.87 298 P P 13 58 25.5 +1.6
CM31 Chiang Mai Arr 53.15 296 eP P 13 58 26.3 +0.3
CMAR Chiang Mai Arr 53.15 296 P P 13 58 25.9 0.0
comp=Z,13nm,1.0s,mb4.8,baz=110,slow=5.5,SNR=45
CHTO Chiang Mai 53.27 296 eP P 13 58 27.2 +0.4
CHTO pmax pmax
comp=Z,28nm,1.4s,mb5.0
CHTO Chiang Mai 53.27 296 eP P 13 58 27.2 +0.4
comp=Z,28nm,1.4s,mb5.0
KLR Kul'dur 54.13 347 eP P 13 58 28.7 -3.8
CD2 Chengdu 54.31 312⇓iP P 13 58 35.5 +1.2
CD2 AP pP 13 58 40.1 -0.3
CD2 XP sP 13 58 43.0 +0.3
CD2 AMB AMB
comp=Z,30nm,0.7s,mb5.3
CD2 AMB AMB
comp=Z,80nm,6.2s
CD2 LR LR
comp=N,550nm,14.4s,MS4.9
CD2 LR LR
comp=E,610nm,16.2s,MS4.9
CD2 LR LR
comp=Z,420nm,17.2s,MS4.6
HHC Hu-ho-hao-te 55.17 326 eP P 13 58 42.1 +1.8
HHC AP pP 13 58 46.9 +0.5
HHC XP sP 13 58 49.3 +0.5
HHC PCP PcP 13 59 43.4 +2.1
HHC AMB AMB
comp=Z,14nm,1.1s,mb4.9
HHC AMB AMB
comp=Z,218nm,5.5s
HHC LR LR
comp=N,918nm,19.1s,MS5.2
HHC LR LR
comp=E,2μm,19.1s,MS5.2
HHC LR LR
comp=Z,2μm,19.0s,MS5.1
BTO Baotou 55.88 325 eP P 13 58 45.0 -0.3
PETK Petropavlovsk- 56.62 7 P P 13 58 50.3 -0.1
comp=Z,9.4nm,0.9s,mb4.8,baz=159,slow=3.9,SNR=7.7
PET Petropavlovsk 56.65 7 eP P 13 58 48.0 -2.6
PET eS S 14 06 45.2 +3.4
PET pmax pmax
comp=Z,33nm,1.4s,mb5.2
LZH Lanzhou 56.98 317 eP P 13 58 52.0 -1.4
LZH AP pP 13 59 02.1 +2.6
LZH XP sP 13 59 06.0 +4.2
LZH AMB AMB
comp=Z,41nm,1.4s,mb5.3
LZH AMB AMB
comp=Z,219nm,7.5s
LZH LR LR
comp=N,1μm,17.8s
LZH LR LR
comp=Z,2μm,18.9s,MS5.2
LZH Lanzhou 56.98 317 eP P 13 58 52.0 -1.4
LZH *PP pP 13 59 02.1 +2.6
LZH *SP sP 13 59 06.0 +4.2
LZH 14 01 00.3
LZH eS S 14 06 42.5 -4.4
LZH *SS sS 14 06 59.2 +2.2
LZH eSS SS 14 10 32.1 -3.7
LZH pmax pmax
comp=Z,41nm,1.4s,mb5.3
LZH MLR MLR
comp=Z,2μm,18.9s,MS5.2
LZH Lanzhou 56.98 317 eP P 13 58 52.0 -1.4
comp=Z,41nm,1.4s,mb5.3
LZH pP pP 13 59 02.1 +2.6
LZH sP sP 13 59 06.0 +4.2
LZH PP PP 14 01 00.3 +0.1
LZH eS S 14 06 42.5 -4.4
LZH sS sS 14 06 59.2 +2.2
LZH eSS SS 14 10 32.1 -3.7
LZH LR LR
comp=Z,2μm,18.9s,MS5.2
HIA Hailar 57.80 338 eP P 13 58 58.0 -0.8
HIA pmax pmax
comp=Z,36nm,1.1s
HIA Hailar 57.80 338 eP P 13 58 58.0 -0.8
comp=Z,36nm,1.1s,mb5.3
GTA Gaotai 61.46 319 P P 13 59 24.5 +0.2
GTA AP pP 13 59 28.6 -1.9
GTA XP sP 13 59 32.3 -0.5
GTA AMB AMB
comp=Z,14nm,1.4s,mb4.9
GTA AMB AMB
comp=Z,319nm,5.7s
GTA LR LR
comp=N,2μm,22.9s,MS5.6
GTA LR LR
comp=E,4μm,21.1s,MS5.6
GTA LR LR
comp=Z,5μm,21.7s,MS5.6
ULN Ulaanbaatar 62.30 330 eP P 13 59 29.8 0.0
ULN pmax pmax
comp=Z,19nm,1.1s,mb5.1
ULN Ulaanbaatar 62.30 330 eP P 13 59 29.8 0.0
comp=Z,19nm,1.1s,mb5.1
SONM Songino Array 62.62 330 P P 13 59 31.3 -0.5
comp=Z,3.4nm,0.6s,mb4.7,baz=146,slow=4.9,SNR=27
LSA Lhasa 63.65 305 P P 13 59 37.2 -1.9
LSA LR LR
comp=E,4μm,23.9s
LSA LR LR
comp=Z,4μm,26.7s,MS5.5
ZAK Zakamensk 65.83 330 i P P 13 59 52.8 -0.1
ZAK pmax pmax
comp=Z,18nm,1.2s,mb5.0
ODAN Odare 65.88 301 eP P 13 59 54.2 +0.5
comp=Z,74nm,1.2s,mb5.6
TLY Talaya 66.48 331 eP P 13 59 57.0 0.0
TLY pmax pmax
comp=Z,15nm,1.2s,mb4.9
TLY Talaya 66.48 331 eP P 13 59 57.5 +0.5
comp=Z,32nm,1.6s,mb5.1
IRK Irkutsk 66.55 332⇑iP P 13 59 58.4 +0.9
IRK pmax pmax
comp=Z,26nm,1.7s,mb5.0
YAK Yakutsk 66.56 351 eP P 13 59 57.1 -0.3
YAK pmax pmax
comp=Z,19nm,1.1s,mb5.0
YAK pmax pmax
comp=N,17nm,1.2s
YAK pmax pmax
comp=E,6.0nm,1.4s
YAK Yakutsk 66.56 351 eP P 13 59 57.2 -0.2
comp=E,53nm,1.5s,mb5.3
RAMN Ramite 66.58 301 eP P 13 59 58.7 +0.5
JIRN Jiri 67.14 302 eP P 14 00 02.3 +0.6
comp=E,52nm,1.2s,mb5.4
GUN Gumba 67.47 302 eP P 14 00 04.5 +0.6
comp=E,109nm,1.3s,mb5.7
MOY Mondy 67.76 330 eP P 14 00 06.1 +0.9
MOY pmax pmax
comp=Z,74nm,3.9s
KKN Kakani 67.95 302 eP P 14 00 07.0 +0.1
comp=Z,47nm,1.0s,mb5.5
DMN Daman 68.05 301 eP P 14 00 07.5 0.0
comp=Z,86nm,1.1s,mb5.7
GKN Gorkha 68.55 302 eP P 14 00 10.8 +0.1
comp=Z,73nm,1.2s,mb5.5
KOLN Koldanda 69.37 301 eP P 14 00 15.5 -0.3
comp=Z,36nm,1.0s,mb5.2
DANN Dangsing 69.39 302 eP P 14 00 16.1 +0.2
comp=Z,43nm,1.0s,mb5.3
WMQ Urumqi 71.54 318 P P 14 00 30.5 +1.8
WMQ AP pP 14 00 35.5 +0.5
WMQ XP sP 14 00 38.0 +0.7
WMQ PCP PcP 14 00 50.3 +2.3
WMQ AMB AMB
comp=Z,20nm,1.1s,mb5.0
WMQ AMB AMB
comp=Z,296nm,4.2s
WMQ LR LR
comp=N,1μm,19.3s,MS5.4
WMQ LR LR
comp=E,1μm,20.4s,MS5.4
WMQ LR LR
comp=Z,2μm,18.0s,MS5.4
HYB Hyderabad 71.75 289 i P P 14 00 31.0 +0.5
HYB Hyderabad 71.75 289 eP P 14 00 31.0 +0.5
SBA Scott Base 75.27 176 eP P 14 00 50.6 +0.5
SBA pmax pmax
comp=Z,31nm,1.6s,mb5.0
SBA Scott Base 75.27 176 eP P 14 00 50.6 +0.5
comp=Z,31nm,1.6s,mb5.0
MK31 Makanchi Array 76.19 320 eP P 14 00 55.8 0.0
MKAR Makanchi Array 76.19 320 P P 14 00 55.1 -0.8
comp=Z,10nm,1.0s,mb4.7,baz=101,slow=6.3,SNR=36
ZAA0 Zalesovo Array 77.35 327 eP P 14 01 01.4 -0.9
ZALV Zalesovo Beam 77.35 327 P P 14 01 01.2 -1.0
comp=Z,5.0nm,0.9s,mb4.5,baz=104,slow=6.3,SNR=14
ZALV PKKP PKKPbc 14 19 57.1 -13
comp=Z,0.5nm,0.4s,baz=176,slow=12,SNR=3.6
NVS Novosibirsk 78.55 328 eP P 14 01 06.8 -2.1
NVS pmax pmax
comp=N,26nm,1.7s
NVS pmax pmax
comp=E,37nm,1.7s
NVS pmax pmax
comp=Z,52nm,1.7s,mb5.2
SEW Seward 79.30 27 P P 14 01 12.9 0.0
RC01 Rabbit Creek A 79.61 26 eP P 14 01 14.8 +0.3
comp=Z,13nm,1.2s,mb4.7
KURK Kurchatov 79.76 323 P P 14 01 15.5 -0.1
comp=Z,114nm,1.1s,mb5.7,SNR=6.2
KURK Kurchatov 79.76 323 eP P 14 01 13.6 -2.0
KURK pmax pmax
comp=Z,34nm,1.2s,mb5.2
KURK Kurchatov 79.76 323 eP P 14 01 13.6 -2.0
comp=Z,34nm,1.2s,mb5.2
CHUM Lake Minchumin 79.85 23 eP P 14 01 15.6 -0.2
comp=Z,19nm,0.9s,mb5.0
FRU Bishkek 80.28 314⇑iP P 14 01 20.0 +1.4
FRU pmax pmax
comp=Z,80nm,2.3s,mb5.2
FRU MLR MLR
comp=Z,2μm,20.0s,MS5.4
IMA2 Indian Mountai 80.45 21 eP P 14 01 19.3 +0.3
COLA College 82.03 23 eP P 14 01 26.8 -0.7
COLA pmax pmax
comp=Z,7.0nm,1.0s,mb4.5
COLA College 82.03 23 eP P 14 01 26.8 -0.7
comp=Z,6.9nm,1.0s,mb4.5
KK31 Karatay Array 83.28 314 i P P 14 01 34.4 0.0
KK31 pmax pmax
comp=Z,11nm,0.9s,mb4.9
VOSK Vostochnaya 84.87 323 P P 14 01 41.3 -1.0
VOSK pmax pmax
comp=Z,200nm,3.0s
DAWY Dawson 85.16 25 eP P 14 01 44.4 +0.9
BVA0 Borovoye Array 85.28 324 i P P 14 01 44.0 -0.3
BVA0 pmax pmax
comp=Z,19nm,2.4s,mb4.8
BRVK Borovoye 85.35 324 eP P 14 01 44.9 +0.2
BRVK pmax pmax
comp=Z,46nm,1.5s,mb5.4
BRVK Borovoye 85.35 324 eP P 14 01 44.9 +0.2
comp=Z,46nm,1.5s,mb5.4
MAW Mawson 85.36 203 eP P 14 01 46.0 +1.5
comp=Z,3.0nm,1.1s,mb4.3
MAW Mawson 85.36 203 P P 14 01 43.3 -1.2
comp=Z,2.2nm,0.9s,mb4.3,baz=69,slow=3.3,SNR=5.8
MAW Mawson 85.36 203 eP P 14 01 46.0 +1.5
MAW pmax pmax
comp=Z,3.0nm,1.1s
AB31 Akbulak array 91.32 319 i P P 14 02 11.8 -1.5
AB31 pmax pmax
comp=Z,4.0nm,1.1s,mb4.7
ARU Arti 92.48 326 eP P 14 02 18.0 -0.5
ARU pmax pmax
comp=Z,5.0nm,0.8s,mb4.9
ARU Arti 92.48 326 eP P 14 02 18.0 -0.5
comp=Z,5.0nm,0.8s,mb4.9
AKTO Aktyubinsk 92.62 320 P P 14 02 16.6 -2.7
AKTO pmax pmax
comp=Z,1.0nm,1.5s,mb4.0
NVAR Mina Array Bea 94.58 52 P P 14 02 29.8 +1.2
comp=Z,1.7nm,0.9s,mb4.5,baz=255,slow=6.3,SNR=7.1
BMO Blue Mountains 95.31 45 P P 14 02 32.5 +0.7
YKA Yellowknife Ar 96.06 28 P P 14 02 34.8 0.0
comp=Z,4.8nm,0.7s,mb5.0,baz=272,slow=4.3,SNR=7.5
YKA Yellowknife Ar 96.06 28 P P 14 02 34.8 0.0
GERES GERESS Array B 120.30 327 PKP PKPdf 14 07 57.5 -1.4
comp=Z,0.3nm,0.2s,baz=323,slow=0.7,SNR=3.4
LPAZ La Paz 139.11 119 PKP PKPdf 14 08 37.7 +2.3
comp=Z,4.3nm,1.0s,baz=246,slow=2.5,SNR=9.4
CPUP Villa Florida 141.59 141 PKP PKPdf 14 08 41.3 +1.6
comp=Z,3.9nm,0.9s,baz=165,slow=3.2,SNR=4.7
CPUP Villa Florida 141.59 141 ePKPdf PKPdf 14 08 40.8 +1.1
TOA0 Torodi Ar. Sit 145.56 289 ePKP PKPdf 14 08 46.9 -0.1
TORD Torodi Ar. Bea 145.56 289 PKPbc PKPbc 14 08 47.3 +0.2
comp=Z,22nm,1.0s,baz=72,slow=3.4,SNR=62
DBIC Dimbokro 153.07 278 PKPbc PKPbc 14 09 06.2 -0.1
comp=Z,3.0nm,0.7s,baz=216,slow=4.2,SNR=4.9
DBIC PKPab PKPab 14 09 18.6 +0.8
comp=Z,9.1nm,0.9s,baz=49,slow=6.9,SNR=6.1

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*BJI **01** 13:50:18.7, 3.63S×149.10E, h25km, mB5.7, mb5.3, Ms5.8, Msz5.7*

*IDC **01** 13:50:23.2±0.6, 3.02S×148.26E, h0km, mb5.1/17, mb1 5.2/18, mb1mx5.2/19, mbtmp5.1/18, ML3.8/1, MS5.5/13, Ms1 5.5/13, ms1mx5.2/19, Error ellipse: s-maj=22.1km s-min=12.8km az=99.0*

*ISCJB **01** 13:50:24.1±0.2, 3.19S±0.03×148.33E±0.04, h17km, mb5.3/73, MS5.6/50, Error ellipse: s-maj=6.5km s-min=4.2km az=179.3*

*GCMT **01** 13:50:24.7±0.1, 3.05S×148.29E, h12km, MW5.9/108, Moment Tensor Solution. s95,c193; s108,c349; Duration: 2.1s Moment tensor: Scale 10^{18}Nm; M_{rr}0.03±.01; $M_{\theta\theta}$0.55±.01; $M_{\phi\phi}$-0.58±.01; $M_{r\theta}$-0.07±.01; $M_{\theta\phi}$0.62±.01; $M_{\phi r}$0.04±.02; Best double couple: $M_0$0.84800×10^{18} NP1:ϕ_s201.00000°,δ85.00000°, λ-180.00000°. NP2:ϕ_s111.00000°,δ90.00000°, λ-5.00000°. Principal axes: T 0.8340, Plg4.0000°, Azm156.0000°; N 0.0290, Plg85.0000°, Azm289.0000°; P -0.8630, Plg4.0000°, Azm66.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*

*NEIC **01** 13:50:24.7±0.2, 3.16S×148.22E, h10km, mb5.4/35, MS5.5/18, MW5.8 Error ellipse: s-maj=8.9km s-min=5.3km az=101.0, Moment Tensor Solution. s23 Moment tensor: Scale 10^{17}Nm; M_{rr}1.91; $M_{\theta\theta}$-1.38; $M_{\phi\phi}$-0.54; $M_{r\theta}$5.98; $M_{\theta\phi}$2.96; $M_{\phi r}$0.41; Best double couple: $M_0$6.90000×10^{17} NP1:ϕ_s345.00000°,δ27.00000°,λ161.00000°. NP2: ϕ_s93.00000°,δ81.00000°,λ64.00000°. Principal axes: T 7.0800, Plg47.0000°, Azm335.0000°; N -0.3900, Plg25.0000°, Azm96.0000°; P -6.7000, Plg31.0000°, Azm203.0000°;*

*MOS **01** 13:50:27.0±1.2, 3.13S×148.11E, h33km, mb5.6/22, MS5.6/19 Error ellipse: s-maj=12.2km s-min=6.9km az=101.0*

*DJA **01** 13:50:33, 3.23S×148.50E, h53km, Mw5.8/12*

ISC 01 13:50:24.9±1.0, **3.18S**±0.03×**148.30E**±0.05, **h11**km±6km, **h18**km±3.7km**:pP-P, n224,** σ1.**21**/197, **mb5.3**/73, **MS5.6**/50, **10C-5D, Bismarck Sea**

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

PMG Port Moresby 6.28 190 eP Pn 13 51 55.3 -2.4
HNR Honiara 13.13 119 LR LR 13 57 25.1
comp=Z,9μm,21.4s,baz=292,slow=32
CTA Charters Tower 16.92 187 eP Pn 13 54 22.7 +0.9
70nm,1.2s
CTA Charters Tower 16.92 187 P Pn 13 54 22.8 +0.9
0.2nm,0.3s,baz=0.6,slow=12,SNR=3.3
CTA LR LR 14 00 33.2
comp=Z,24μm,21.1s,baz=172,slow=36
CTA Charters Tower 16.92 187 eP Pn 13 54 22.7 +0.9
CTA pmax pmax
comp=Z,70nm,1.2s
CTAO Charters Tower 16.92 187 eP Pn 13 54 22.5 +0.7
CTAO pmax pmax
comp=Z,308nm,1.4s
CTAO Charters Tower 16.92 187 eP Pn 13 54 22.5 +0.6
comp=Z,308nm,1.4s
GUMO Guam 17.01 349 LR LR 14 00 12.5
comp=Z,9μm,18.1s,baz=315,slow=35
KAKA Kakadu 18.32 238 eP Pn 13 54 37.9 -1.4
comp=Z,318nm,0.7s
WRAB Tennant Creek 21.50 218 eP P 13 55 12.8 -1.2
WRAB MLR MLR
comp=Z,12μm,19.0s,MS5.3
WB2 Warramunga Arr 21.51 218 eP P 13 55 13.7 -0.4
WB2 eS S 13 59 10.2 -2.4
WRA Warramunga Arr 21.52 218 P P 13 55 14.0 -0.2
comp=Z,69nm,0.9s,mb5.1,baz=42,slow=11,SNR=12
ASAR Alice Springs 24.66 213 P P 13 55 45.6 -0.3
comp=Z,18nm,0.6s,mb4.8,baz=35,slow=6.6,SNR=12
DAV Davao City (W) 24.86 294⇑eP P 13 55 53.7 +5.8
BATI Baumata 25.43 253 P P 13 55 54.0 +1.0
comp=Z,163nm,0.9s,mb5.5,baz=19,slow=4.2,SNR=5.9
DZM Mont Dzumac 25.75 138 eP P 13 55 56.1 +0.3
FITZ Fitzroy Crossi 26.70 235 eP P 13 56 04.1 -0.3
comp=Z,250nm,1.2s,mb5.6
FITZ eS S 14 00 38.9 -1.0
FITZ Fitzroy Crossi 26.70 235 P P 13 56 04.9 +0.5
comp=Z,227nm,1.2s,mb5.6,baz=69,slow=8.6,SNR=19
FITZ LR LR 14 07 01.9
comp=Z,14μm,21.4s,MS5.5,baz=63,slow=37
ARMA Armidale 27.27 174 eP P 13 56 08.8 -0.6
ARMA eS S 14 00 53.9 +5.2
KAPI Kappang 28.53 265 P P 13 56 24.7 +3.8
comp=Z,37nm,0.9s,mb5.1,baz=112,slow=6.2,SNR=6.1
KAPI Kappang 28.53 265 P P 13 56 21.1 +0.1
comp=Z,296nm,1.8s,mb5.7
KAPI LR LR
comp=Z,5μm,21.0s,MS5.1
STKA Stephens Creek 29.23 192 eP P 13 56 28.4 +1.5
comp=Z,15nm,1.1s,mb4.6
STKA Stephens Creek 29.23 192 P P 13 56 28.5 +1.6
comp=Z,10.0nm,0.7s,mb4.7,baz=345,slow=9.4,SNR=5.4
STKA LR LR 14 09 14.7
comp=Z,24μm,18.6s,MS5.8,baz=132,slow=38
MBWA Marble Bar 33.04 235 eP P 13 56 58.2 -2.5
comp=Z,77nm,1.4s,mb5.4
FORT Forrest 33.45 213 eP P 13 57 04.9 +0.8
comp=Z,82nm,0.7s,mb5.8
TOO Toolangi 34.32 184 eP P 13 57 11.5 -0.1
TOO eS S 14 02 39.2 +0.3
JHJ Hachijo jima 2 36.99 348 LR LR 14 12 10.8
comp=Z,9μm,18.3s,MS5.6,baz=171,slow=36
NACB Ninganchiao 37.61 318 eP P 13 57 39.8 -0.2
comp=Z,682nm,1.1s,mb6.3
YHNB Yeheng 38.09 318 eP P 13 57 41.9 -2.1
comp=Z,53nm,0.9s,mb5.3
TATO Taipei 38.22 319 eP P 13 57 43.9 -1.3
comp=Z,205nm,0.9s,mb5.9
TATO LR LR
comp=Z,20μm,20.0s,MS5.9
KSM Kuching 38.26 276 eP P 13 57 45.6 0.0
QZH Quanzhou 40.17 316⇑iP P 13 58 01.5 +0.1
QZH S S 14 04 08.2 0.0
QZH AMB AMB
comp=Z,340nm,1.3s,mb5.9
QZH LR LR
comp=N,12μm,17.9s,MS5.9
QZH LR LR
comp=E,6μm,13.1s,MS5.9
QZH LR LR
comp=Z,26μm,35.9s
KLBR Kellerberrin 40.30 222 eP P 13 58 02.4 -0.1
comp=Z,51nm,1.1s,mb5.2
MJAR Matsushiro Arr 40.63 347 P P 13 58 03.5 -1.5
comp=Z,3.9nm,0.8s,mb4.1,baz=164,slow=9.4,SNR=7.5
MJAR LR LR 14 14 34.8
comp=Z,6μm,18.4s,baz=165,slow=36
MJAR Matsushiro Arr 40.63 347 P P 13 58 03.5 -1.5
MJAR LR LR 14 14 34.8
MAJO Matsushiro 40.63 347 eP P 13 58 04.9 -0.1

MAJO pmax pmax
comp=Z,12nm,0.8s,mb4.6
MAJO MLR MLR
comp=Z,5μm,20.0s,MS5.4
MAJO Matsushiro 40.63 347 *e*P **P 13 58 04.9 -0.1**
comp=Z,12nm,0.8s,mb4.6
MAJO LR LR
comp=Z,5μm,20.0s,MS5.4
MAT Matsushiro 40.63 347 P **P 13 58 03.5 -1.5**
MAT S **S 14 04 16.0 +1.3**
AFI Afiamalu 40.82 108 LR LR 14 13 32.5
comp=Z,5μm,18.4s,MS5.4,baz=283,slow=34
RAO Raoul Island 41.23 133 LR LR 14 12 31.8
comp=Z,6μm,21.8s,MS5.4,baz=314,slow=32
NWAO Narrogin (SRO) 41.48 221 P **P 13 58 12.4 +0.3**
comp=Z,21nm,0.9s,mb4.8,baz=73,slow=5.4,SNR=5.3
NWAO PP PP 13 59 48.1 +0.1
comp=Z,73nm,1.2s,baz=37,slow=12,SNR=5.6
MUN Mundaring 41.58 223 *e*P **P 13 58 14.8 +1.8**
SSE Sheshan 42.77 325 P **P 13 58 23.6 +0.9**
SSE S **S 14 04 47.9 +1.2**
SSE AMB AMB
comp=Z,83nm,1.1s,mb5.4
SSE AMB AMB
comp=Z,787nm,7.3s
SSE LR LR
comp=N,6μm,20.3s,MS5.6
SSE LR LR
comp=E,6μm,20.3s,MS5.6
SSE LR LR
comp=Z,11μm,18.2s,MS5.8
SSE Sheshan 42.77 325 P **P 13 58 23.6 +0.9**
comp=Z,83nm,1.1s,mb5.4
SSE sP sP 13 58 28.1 +0.7
SSE S **S 14 04 47.9 +1.2**
SSE sS sS 14 04 53.3 +1.0
SSE LR LR
comp=Z,11μm,18.2s,MS5.8
URZ Urewera 43.72 147 LR LR 14 13 43.3
comp=Z,14μm,21.3s,MS5.8,baz=319,slow=32
QIZ Qiongzhong 43.80 302 P **P 13 58 29.6 -1.6**
QIZ AMB AMB
comp=Z,118nm,2.1s,mb5.2
QIZ LR LR
comp=E,6μm,21.5s
QIZ LR LR
comp=Z,9μm,23.9s,MS5.6
QIZ Qiongzhong 43.80 302 *e*P **P 13 58 28.8 -2.3**
comp=Z,397nm,1.8s,mb5.8
KSRS Korea Array 44.65 337 P **P 13 58 37.0 -0.6**
comp=Z,16nm,0.9s,mb4.8,baz=153,slow=9.0,SNR=17
NJ2 Nanjing 44.83 324 *e*P **P 13 58 41.3 +2.1**
NJ2 AP pP 13 58 49.2 +6.5
NJ2 XP sP 13 58 55.9 +12
NJ2 S **S 14 05 16.5 -0.2**
NJ2 AMB AMB
comp=Z,50nm,1.1s,mb5.3
NJ2 AMB AMB
comp=Z,630nm,8.9s
NJ2 LR LR
comp=Z,7μm,15.7s,MS5.7
RPZ Rata Peaks 45.12 157 P **P 13 58 42.5 +1.1**
comp=Z,37nm,1.0s,mb5.2,baz=75,slow=11,SNR=2.6
RPZ LR LR 14 15 34.0
comp=Z,9μm,20.1s,MS5.7,baz=324,slow=33
WHN Wuhan 46.63 318 *e*P **P 13 58 54.7 +1.2**
WHN S **S 14 05 42.5 -0.3**
WHN LR LR
comp=N,10μm,16.8s,MS6.2
WHN LR LR
comp=E,21μm,19.4s,MS6.2
WHN LR LR
comp=Z,25μm,20.7s,MS6.2
YUK Yuzh-Kuril'sk 47.06 358 *e* PP 14 00 50.0 +2.6
YUK *e*PPP 14 01 27.0
YUK *e*S **S 14 05 49.0 +0.6**
YUK *e*SS SS 14 08 59.0 -17
YUK smax
comp=E,3μm,10.0s
VLA Vladivostok 48.41 344 *e*P **P 13 59 06.5 -0.7**
VLA *e* 14 01 01.0
VLA *e*S **S 14 06 07.9 +0.2**
VLA pmax pmax
comp=Z,120nm,2.5s,mb5.5
DL2 Dalian 48.57 332⇑ *i*P **P 13 59 08.4 -0.1**
DL2 S **S 14 06 09.5 -0.6**
DL2 SS SS 14 09 42.5 +2.1
DL2 AMB AMB
comp=Z,30nm,1.1s,mb5.2
DL2 AMB AMB
comp=Z,420nm,7.7s
DL2 LR LR
comp=N,2μm,22.3s,MS5.3
DL2 LR LR
comp=E,3μm,21.9s,MS5.3
DL2 LR LR
comp=Z,4μm,20.1s,MS5.4
TIA Tai'an 48.82 326 *e*P **P 13 59 10.0 -0.4**
TIA LR LR
comp=N,4μm,17.0s,MS5.6
TIA LR LR
comp=E,4μm,17.0s,MS5.6
KKTK Khon Kaen 48.94 295 P **P 13 59 15.0 +3.3**
GYA Guiyang 49.87 309⇑ *i*P **P 13 59 19.4 +0.8**
GYA PCP PcP 14 00 41.0 +1.8
GYA PP PP 14 01 15.8 +2.3
GYA S **S 14 06 29.4 +0.7**
GYA AMB AMB
comp=Z,40nm,1.0s,mb5.4
GYA AMB AMB
comp=Z,190nm,4.9s
GYA LR LR
comp=N,3μm,18.2s,MS5.3
GYA LR LR
comp=E,2μm,19.6s,MS5.3
GYA LR LR
comp=Z,3μm,18.7s,MS5.3
SNY Shenyang 50.12 336 ⇓P **P 13 59 18.8 -1.4**
SNY S **S 14 06 32.7 +1.0**
SNY AMB AMB
comp=Z,17nm,0.5s,mb5.3
SNY AMB AMB
comp=Z,693nm,11.4s
SNY LR LR
comp=N,3μm,31.2s,MS5.2
SNY LR LR
comp=E,2μm,30.6s,MS5.2
SNY LR LR
comp=Z,6μm,31.6s,MS5.4
YSS Yuzh-Sakhalins 50.16 355⇑ *e*P **P 13 59 20.0 -0.5**
YSS *e* 13 59 39.0
YSS *e* 14 00 36.0
YSS *e* 14 01 19.0
YSS *e*PPP 14 02 06.0
YSS *e*S **S 14 06 31.0 -1.1**
YSS *e*PS 14 06 42.0
YSS pmax pmax
comp=Z,40nm,1.0s,mb5.4
YSS MLR MLR
comp=Z,3μm,17.0s,MS5.3
YSS MLR MLR
comp=N,2μm,16.0s
YSS Yuzh-Sakhalins 50.16 355 *e*P **P 13 59 22.7 +2.3**
comp=N,39nm,1.2s,mb5.3
YSS LR LR
comp=Z,1μm,21.0s,MS4.9
MDJ Mudanjiang 50.45 343 P **P 13 59 24.1 +1.4**
MDJ AP pP 13 59 27.1 +1.0
MDJ XP sP 13 59 28.6 +1.2
MDJ PP PP 14 01 20.3 +1.8
MDJ PCS PcS 14 04 38.5 +0.6
MDJ S **S 14 06 40.1 +3.9**
MDJ AMB AMB
comp=Z,20nm,1.3s,mb5.0
MDJ AMB AMB
comp=Z,793nm,7.8s
MDJ LR LR
comp=N,5μm,26.5s,MS5.5
MDJ LR LR
comp=E,3μm,21.8s,MS5.5
MDJ LR LR
comp=Z,7μm,33.7s
MDJ Mudanjiang 50.45 343 P **P 13 59 23.9 +1.3**
comp=Z,18nm,1.0s,mb5.1
MDJ LR LR
comp=Z,4μm,20.0s,MS5.4

CN2 Changchun 51.08 339 *e*P **P 13 59 25.5 -2.0**
CN2 *e*PP PP 14 01 23.2 -1.1
CN2 *e*S **S 14 06 42.0 -3.1**
CN2 *e*SS SS 14 10 15.0 -5.5
CN2 AMB AMB
comp=Z,10.0nm,1.1s,mb4.7
CN2 AMB AMB
comp=Z,200nm,6.0s
CN2 LR LR
comp=N,4μm,20.0s,MS5.5
CN2 LR LR
comp=E,3μm,20.0s,MS5.5
CN2 LR LR
comp=Z,4μm,24.0s,MS5.4
BJI Beijing 52.13 329 P **P 13 59 35.6 +0.2**
BJI S **S 14 07 00.9 +1.3**
BJI AMB AMB
comp=Z,29nm,1.3s,mb5.0
BJI AMB AMB
comp=Z,719nm,5.0s
BJI LR LR
comp=N,6μm,27.7s,MS5.5
BJI LR LR
comp=E,4μm,27.2s,MS5.5
BJI LR LR
comp=Z,8μm,28.4s,MS5.6
BJI Beijing 52.13 329 P **P 13 59 35.6 +0.2**
comp=Z,29nm,1.3s,mb5.0
BJI S **S 14 07 00.9 +1.3**
BJI LR LR
comp=Z,8μm,28.4s,MS5.6
KMI Kunming 52.38 305 P **P 13 59 39.3 +1.8**
KMI AP pP 13 59 41.8 +0.8
KMI PCP PcP 14 00 50.5 +2.0
KMI PCS PcS 14 04 47.3 +0.3
KMI S **S 14 07 03.8 +0.3**
KMI AMB AMB
comp=Z,57nm,1.4s,mb5.3
KMI LR LR
comp=N,4μm,15.6s,MS5.7
KMI LR LR
comp=E,2μm,16.3s,MS5.7
KMI LR LR
comp=Z,4μm,18.4s,MS5.5
KMI Kunming 52.38 305 P **P 13 59 39.3 +1.8**
KMI 14 00 50.5
KMI PPP 14 02 42.7
KMI S **S 14 07 03.8 +0.3**
KMI SS SS 14 10 39.8 -1.8
KMI SSS 14 12 22.6
KMI pmax pmax
comp=Z,57nm,1.4s,mb5.3
KMI MLR MLR
comp=Z,4μm,18.4s,MS5.5
KMI Kunming 52.38 305 P **P 13 59 39.3 +1.8**
comp=Z,57nm,1.4s,mb5.3
KMI pP pP 13 59 41.8 +0.8
KMI PcP PcP 14 00 50.5 +2.0
KMI PPP 14 02 42.7
KMI ScP ScP 14 04 46.3 +0.4
KMI PcS PcS 14 04 47.3 +0.3
KMI S **S 14 07 03.8 +0.3**
KMI SS SS 14 10 39.8 -1.8
KMI SSS 14 12 22.6
KMI LR LR
comp=Z,4μm,18.4s,MS5.5
XAN Xi'an 52.40 318 P **P 13 59 38.4 +0.9**
XAN PCP PcP 14 00 45.2 -3.2
XAN PP PP 14 01 38.4 +2.0
XAN SCP ScP 14 04 43.1 -2.7
XAN PCS PcS 14 04 45.5 -1.3
XAN S **S 14 07 03.2 -0.3**
XAN SCS ScS 14 09 25.7 -2.1
XAN AMB AMB
comp=Z,48nm,1.3s,mb5.3
XAN AMB AMB
comp=Z,637nm,9.5s
XAN LR LR
comp=N,2μm,20.1s,MS5.4
XAN LR LR
comp=E,3μm,20.4s,MS5.4
XAN LR LR
comp=Z,9μm,18.5s,MS5.9
BDT Bhumibol Dam 52.70 294 P **P 13 59 41.0 +1.0**
HABR Khabarovsk 52.73 349 *e*P **P 13 59 40.7 +1.0**
HABR *e* 13 59 56.7
HABR *e* 14 00 52.1
HABR *e* 14 01 42.3
HABR *e* 14 02 44.9
HABR *e*S **S 14 07 07.9 +0.4**
HABR *e* 14 07 24.9
HABR *e* 14 09 26.9
HABR *e* 14 10 48.0
CMAR Chiang Mai Arr 53.13 296 P **P 13 59 42.6 -0.6**
comp=Z,34nm,1.0s,mb5.2,baz=118,slow=5.7,SNR=14
CHG Chiang Mai 53.25 296⇑ P **P 13 59 47.5 +3.5**
comp=Z,62nm,1.3s,mb5.4
CHG Chiang Mai 53.25 296 S **S 14 07 14.3 -1.2**
CHTO Chiang Mai 53.25 296 *e*P **P 13 59 43.1 -0.9**
RAR Rarotonga 53.53 114 LR LR 14 18 35.5
comp=Z,2μm,21.2s,MS5.1,baz=281,slow=32
CD2 Chengdu 54.30 312 P **P 13 59 53.2 +1.6**
CD2 AP pP 13 59 57.8 +2.7
CD2 XP sP 14 00 00.8 +4.4
CD2 PCP PcP 14 00 57.0 +1.3
CD2 PP PP 14 01 56.8 +3.1
CD2 S **S 14 07 29.5 0.0**
CD2 AMB AMB
comp=Z,50nm,1.0s,mb5.4
CD2 AMB AMB
comp=Z,750nm,9.6s
CD2 LR LR
comp=N,5μm,18.0s,MS5.8
CD2 LR LR
comp=E,7μm,20.2s,MS5.8
CD2 LR LR
comp=Z,7μm,22.8s,MS5.7
HHC Hu-ho-hao-te 55.17 326 *e*P **P 13 59 59.6 +1.9**
HHC AP pP 14 00 04.6 +3.4
HHC XP sP 14 00 06.6 +4.1
HHC PCP PcP 14 00 59.2 +0.4
HHC PP PP 14 02 05.5 +4.2
HHC PCS PcS 14 04 59.7 +1.1
HHC S **S 14 07 42.7 +1.8**
HHC SCS ScS 14 09 45.3 -1.8
HHC AMB AMB
comp=Z,28nm,1.1s,mb5.2
HHC AMB AMB
comp=Z,690nm,4.7s
HHC LR LR
comp=N,6μm,17.9s,MS5.8
HHC LR LR
comp=E,5μm,20.0s,MS5.8
HHC LR LR
comp=Z,8μm,18.4s,MS5.8
PEA0B Petropavlovsk- 56.64 7 *e*P **P 14 00 06.5 -1.5**
PETK Petropavlovsk- 56.64 7 P **P 14 00 06.7 -1.3**
comp=Z,14nm,0.6s,mb5.2,baz=166,slow=5.9,SNR=24
PET Petropavlovsk 56.68 7 *e*P **P 14 00 06.0 -2.2**
PET *e*S **S 14 07 58.9 -1.6**
PET *e*SS SS 14 11 41.9 -6.6
PET pmax pmax
comp=Z,300nm,5.8s
PET MLR MLR
comp=Z,2μm,19.0s,MS5.2
LZH Lanzhou 56.98 317⇑ P **P 14 00 12.0 +1.3**
LZH AP pP 14 00 22.3 +8.1
LZH XP sP 14 00 26.1 +11
LZH PP PP 14 02 20.5 +3.0
LZH S **S 14 08 02.7 -2.4**
LZH XS sS 14 08 19.6 +8.8
LZH AMB AMB
comp=Z,308nm,1.5s,mb6.1
LZH AMB AMB
comp=Z,1μm,9.0s
LZH LR LR
comp=N,4μm,16.5s
LZH LR LR
comp=Z,6μm,19.7s,MS5.7
LZH Lanzhou 56.98 317⇑ P **P 14 00 12.0 +1.3**
LZH AP pP 14 00 22.3 +8.1
LZH *PP pP 14 00 26.1 +11
LZH *SP sP 14 02 20.5
LZH S **S 14 08 02.7 -2.4**

LZH *SS sS 14 08 19.6 +8.8
LZH SS SS 14 11 43.1 -11
LZH pmax pmax
comp=Z,308nm,1.5s,mb6.1
LZH MLR MLR
comp=Z,6μm,19.7s,MS5.7
LZH Lanzhou 56.98 317⇑ P **P 14 00 12.0 +1.3**
comp=Z,308nm,1.5s,mb6.1
LZH pP pP 14 00 22.3 +8.1
LZH sP sP 14 00 26.1 +11
LZH PP PP 14 02 20.5 +3.0
LZH S **S 14 08 02.7 -2.4**
LZH sS sS 14 08 19.6 +8.8
LZH SS SS 14 11 43.1 -11
LZH LR LR
comp=Z,6μm,19.7s,MS5.7
HIA Hailar 57.80 338 *e*P **P 14 00 16.5 +0.2**
HIA pmax pmax
comp=Z,52nm,1.0s
HIA Hailar 57.80 338 *e*P **P 14 00 16.5 +0.3**
comp=Z,52nm,1.0s,mb5.5
IMP Imphal 59.62 301 *e*P **P 14 00 28.0 -1.4**
IMP *ex* x 14 08 11.0
GTA Gaotai 61.46 319 *e*P **P 14 00 41.1 -0.6**
GTA PP PP 14 02 58.4 +1.3
GTA S **S 14 09 02.6 -0.4**
GTA AMB AMB
comp=Z,8.0nm,1.4s,mb4.7
GTA AMB AMB
comp=Z,881nm,6.5s
GTA LR LR
comp=N,2μm,23.8s,MS5.5
GTA LR LR
comp=E,4μm,21.4s,MS5.5
GTA LR LR
comp=Z,5μm,21.7s,MS5.6
SHL Shillong 61.63 301 *i* P **P 14 00 44.0 +0.9**
SHL *ex* x 14 09 10.0
ULN Ulaanbaatar 62.31 330 *e*P **P 14 00 46.0 -1.2**
ULN LR LR
comp=Z,5μm,19.0s,MS5.7
CIT Chita 62.38 337 *e*P **P 14 00 41.9 -5.7**
PPT Papeete 62.49 108 *e*S **S 14 09 15.4 -1.4**
comp=Z,4μm,26.8s
PPT *e*LQ 14 16 38.3
comp=Z,18μm,32.8s
PPT *e*LR LR 14 19 34.7
comp=Z,6μm,28.2s
SONM Songino Array 62.62 330 P **P 14 00 48.0 -1.3**
comp=Z,27nm,0.9s,mb5.4,baz=146,slow=6.2,SNR=18
CLNS Chul'man 62.77 346 *e*P **P 14 00 50.5 +0.4**
CLNS *e* 14 01 28.5
CLNS *e* 14 03 08.6
CLNS *e*PPP 14 04 37.0
CLNS *e*S **S 14 09 20.2 +1.3**
CLNS pmax pmax
comp=Z,62nm,1.1s,mb5.7
CLNS pmax pmax
comp=N,23nm,1.0s
CLNS pmax pmax
comp=E,10.0nm,1.0s
CLNS smax
comp=E,642μm,10.8s
CLNS smax
comp=N,503μm,11.8s
TBI Tubuai 63.31 114 *e*S **S 14 09 23.5 -3.5**
comp=N,3μm,29.2s
TBI *e*LQ 14 17 09.5
comp=N,10μm,39.0s
TBI *e*LR LR 14 19 41.0
DRV Dumont d'Urvil 63.63 184 PP PP 14 03 03.0 -13
DRV S **S 14 09 42.0 +13**
DRV L 14 17 00.0
DRV R 14 21 00.0
LSA Lhasa 63.64 305 *e*P **P 14 00 58.4 +1.9**
LSA pmax pmax
comp=Z,55nm,1.3s,mb5.4
LSA MLR MLR
comp=Z,3μm,21.0s,MS5.5
LSA Lhasa 63.64 305 *e*P **P 14 00 58.4 +1.9**
comp=Z,55nm,1.3s,mb5.4
LSA LR LR
comp=Z,3μm,21.0s,MS5.5
CAL Calcutta 63.83 297 *e*P **P 14 01 00.1 +2.2**
CAL *e*S **S 14 09 37.4 +3.9**
BOK Bokaro 66.33 298 *e*P **P 14 01 16.7 +2.6**
BOK AMb AMB 14 01 21.9
comp=Z,107nm,1.3s,mb5.7
TLY Talaya 66.48 331 P **P 14 01 15.5 +1.0**
comp=Z,165nm,0.9s,mb6.1,SNR=7.7
TLY Talaya 66.48 331 *c i*P **P 14 01 14.6 +0.1**
TLY *e*S S 14 10 03.0 -1.9
TLY *e*PS 14 10 24.9
TLY *e* 14 11 10.0
TLY pmax pmax
comp=Z,34nm,1.0s,mb5.3
TLY Talaya 66.48 331 *e*P **P 14 01 15.1 +0.6**
comp=Z,39nm,1.1s,mb5.3
IRK Irkutsk 66.55 332 *e*P **P 14 01 15.4 +0.5**
IRK *e* 14 10 00.2
IRK pmax pmax
comp=Z,78nm,2.4s,mb5.3
YAK Yakutsk 66.58 351 *e*P **P 14 01 17.5 +2.6**
YAK *e**PP pP 14 01 27.7 +9.2
YAK *e* 14 01 47.3
YAK *e* 14 03 37.4
YAK *e*PPP 14 05 19.2
YAK *e*S S 14 10 06.0 +0.3
YAK *e*SSS 14 17 13.9
YAK pmax pmax
comp=Z,44nm,1.1s,mb5.4
YAK pmax pmax
comp=N,29nm,1.1s
YAK pmax pmax
comp=E,5.0nm,1.1s
YAK pmax pmax
comp=N,168nm,2.7s
YAK pmax pmax
comp=Z,249nm,3.5s
YAK pmax pmax
comp=E,97nm,2.8s
YAK smax
comp=N,245μm,3.7s
YAK smax
comp=E,266μm,2.6s
YAK Yakutsk 66.58 351 *e*P **P 14 01 14.9 0.0**
comp=E,40nm,1.0s,mb5.4
YAK LR LR
comp=Z,4μm,20.0s,MS5.6
BOD Bodaibo 66.74 341 *e*P **P 14 01 15.8 -0.2**
VIS Vishakhapatnam 67.30 291 *e*P **P 14 01 20.7 +0.3**
VIS *ex* x 14 11 08.4
MOY Mondy 67.76 330 *e*P **P 14 01 23.0 +0.4**
MOY pmax pmax
comp=Z,181nm,3.4s
JBP Jabalpur 71.46 296 *e*P **P 14 01 46.6 +0.5**
JBP *e*S S 14 11 02.0 -3.0
WMQ Urumqi 71.54 318 P **P 14 01 47.4 +1.3**
WMQ AP pP 14 01 52.4 +2.7
WMQ XP sP 14 01 54.9 +3.9
WMQ PCP PcP 14 02 07.2 +1.7
WMQ PP PP 14 04 27.9 +2.9
WMQ S S 14 11 03.9 -1.2
WMQ AMB AMB
comp=Z,37nm,1.0s,mb5.3
WMQ AMB AMB
comp=Z,779nm,3.8s
WMQ LR LR
comp=N,1μm,19.3s,MS5.4
WMQ LR LR
comp=E,1μm,20.4s,MS5.4
WMQ LR LR
comp=Z,2μm,18.0s,MS5.4
HYB Hyderabad 71.72 289 *i* P **P 14 01 47.0 -0.7**
HYB Hyderabad 71.72 289 *e*P **P 14 01 47.0 -0.7**
NGP Nagpur 71.91 293⇑ *e*P **P 14 01 45.7 -3.1**
NGP *ex* x 14 01 52.6
comp=Z,88nm,1.4s
NGP *e*S S 14 11 07.9 -2.4
TRD Trivandrum 72.07 280 *e*P **P 14 01 49.0 -0.9**
BILL Bilibino 72.17 7 *e*P **P 14 01 52.0 +2.6**
BILL *e* 14 04 26.2
BILL pmax pmax
comp=Z,19nm,1.2s,mb4.9
BILL Bilibino 72.17 7 *e*P **P 14 01 50.7 +1.3**

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
PTH	**Pithoragarh**	**72.68**	**302**	*e*P	**P**	**14 01 54.8**	**+1.5**
PTH				*e*x	x	14 09 39.0	
AKL	**Akola**	**73.70**	**293**	*e*P	**P**	**14 01 59.7**	**+0.2**
MIR	**Mirnyy**	**73.85**	**200**	*de*P	**P**	**14 02 00.0**	**+0.6**
MIR				*e*		14 02 08.0	
MIR				*e*S	S	14 12 10.0	+39
MIR				pmax	pmax		
	comp=Z,100nm,1.5s,mb5.5						
MIR				pmax	pmax		
	comp=Z,1µm,4.0s						
MIR				MLR	MLR		
	comp=Z,6µm,19.0s,MS5.9						
SBA	**Scott Base**	**75.25**	**176**	P	**P**	**14 02 09.0**	**+1.6**
SBA				pmax	pmax		
	comp=Z,225nm,2.3s,mb5.7						
SBA				MLR	MLR		
	comp=Z,2µm,20.0s,MS5.5						
SBA	**Scott Base**	**75.25**	**176**	P	**P**	**14 02 09.0**	**+1.6**
	comp=Z,225nm,2.3s,mb5.7						
SBA				LR	LR		
	comp=Z,2µm,20.0s,MS5.5						
SMLA	**Simla**	**75.61**	**303**	*e*P	**P**	**14 02 12.3**	**+1.9**
TIXI	**Tiksi**	**75.76**	**354**	*e*P	**P**	**14 02 14.2**	**+3.8**
TIXI				pmax	pmax		
	comp=Z,14nm,1.0s,mb4.8						
KAD	**Karad**	**75.83**	**289**	*e*P	**P**	**14 02 11.5**	**-0.4**
KAD				*e*x	x	14 09 00.1	
MK31	**Makanchi Array**	**76.18**	**320**	*e*P	**P**	**14 02 11.6**	**-1.7**
MKAR	**Makanchi Array**	**76.18**	**320**	P	**P**	**14 02 11.7**	**-1.6**
	comp=Z,31nm,1.0s,mb5.2,baz=100,slow=6.3,SNR=18						
MKAR				PP	PP	14 05 05.7	+1.3
	comp=Z,5.2nm,1.0s,baz=102,slow=8.4,SNR=3.7						
OHAK	**Old Harbor**	**76.22**	**28**	P	**P**	**14 02 14.5**	**+1.2**
POO	**Poona**	**76.32**	**290**	*e*P	**P**	**14 02 14.3**	**-0.4**
POO				AMb	AMB	14 02 21.0	
	comp=Z,100nm,1.5s,mb5.5						
RKT	**Rikitea**	**76.55**	**113**	*e*S	S	14 12 01.0	-1.4
	comp=Z,354nm,29.0s						
RKT	**Rikitea**	**76.55**	**113**	*e*LQ		14 22 55.7	
	comp=Z,9µm,36.0s						
RKT				*e*LR	LR	14 25 47.0	
	comp=Z,3µm,27.5s						
AJM	**Ajmer**	**76.86**	**298**	*e*P	**P**	**14 02 17.6**	**+0.1**
SVW2	**Sparrevohn**	**77.16**	**24**	*e*P	**P**	**14 02 20.4**	**+1.9**
ZAA0	**Zalesovo Array**	**77.35**	**327**	*e*P	**P**	**14 02 17.8**	**-1.9**
ZALV	**Zalesovo Beam**	**77.35**	**327**	P	**P**	**14 02 17.9**	**-1.8**
	comp=Z,18nm,0.9s,mb5.0,baz=104,slow=6.3,SNR=16						
KSH	**Kashi**	**78.49**	**311**	*e*P	**P**	**14 02 26.8**	**+0.4**
KSH				AP	pP	14 02 31.4	+1.4
KSH				XP	sP	14 02 33.9	+2.6
KSH				PCP	PcP	14 02 36.4	+0.9
KSH				*e*PP	PP	14 05 23.1	-0.9
KSH				*e*S	S	14 12 20.3	-2.5
KSH				*e*SKS		14 12 34.7	
KSH				*e*SCS	ScS	14 12 40.6	-6.8
KSH				AMB	AMB		
	comp=Z,21nm,0.4s,mb5.4						
KSH				AMB	AMB		
	comp=Z,3µm,7.7s						
KSH				LR	LR		
	comp=N,7µm,16.6s						
KSH				LR	LR		
	comp=E,3µm,10.1s						
KSH				LR	LR		
	comp=Z,6µm,16.2s,MS6.0						
NVS	**Novosibirsk**	**78.55**	**328**	*e*P	**P**	**14 02 23.7**	**-2.7**
NVS				*e*S	S	14 12 20.9	-1.9
NVS				pmax	pmax		
	comp=N,75nm,2.3s						
NVS				pmax	pmax		
	comp=E,128nm,2.3s						
NVS				pmax	pmax		
	comp=Z,186nm,2.3s,mb5.6						
NVS				smax			
	comp=N,148nm,3.8s						
NVS				smax			
	comp=E,368nm,4.9s						
AAA	**Alma-Ata**	**78.72**	**315**	*i* P	**P**	**14 02 27.6**	**0.0**
AAA				*i* S	S	14 12 16.0	-9.1
AAA				pmax	pmax		
	comp=Z,700nm,8.5s						
AAA				smax			
	comp=N,2µm,10.1s						
AAA				MLR	MLR		
	comp=Z,2µm,17.0s,MS5.5						
SLKM	**Skilak Lake**	**79.17**	**26**	*e*P	**P**	**14 02 30.5**	**+0.9**
SEW	**Seward**	**79.33**	**27**	P	**P**	**14 02 29.0**	**-1.5**
PPLA	**Purkeypile**	**79.46**	**24**	*e*P	**P**	**14 02 31.9**	**+0.7**
	comp=Z,119nm,1.7s,mb5.5						
RC01	**Rabbit Creek A**	**79.64**	**26**	*e*P	**P**	**14 02 30.9**	**-1.2**
	comp=Z,55nm,1.3s,mb5.3						
KURK	**Kurchatov**	**79.75**	**323**	P	**P**	**14 02 33.9**	**+0.8**
	comp=Z,292nm,0.9s,mb6.2,SNR=8.9						
KURK	**Kurchatov**	**79.75**	**323**	*e*P	**P**	**14 02 33.4**	**+0.3**
KURK				pmax	pmax		
	comp=Z,51nm,1.0s,mb5.4						
KURK				MLR	MLR		
	comp=Z,4µm,20.0s,MS5.8						
KURK	**Kurchatov**	**79.75**	**323**	*e*P	**P**	**14 02 33.4**	**+0.3**
	comp=Z,51nm,1.0s,mb5.4						
KURK				LR	LR		
	comp=Z,4µm,20.0s,MS5.8						
CHUM	**Lake Minchumin**	**79.89**	**23**	*e*P	**P**	**14 02 34.0**	**+0.5**
	comp=Z,28µm,1.2s						
KTH	**Kantishna Hill**	**80.28**	**23**	*e*P	**P**	**14 02 34.7**	**-0.9**
	comp=Z,56nm,1.2s,mb5.4						
IMA2	**Indian Mountai**	**80.48**	**21**	*e*P	**P**	**14 02 35.3**	**-1.3**
BPAW	**Bear Paw Mtn.**	**80.51**	**23**	*e*P	**P**	**14 02 36.9**	**0.0**
	comp=Z,36nm,1.3s,mb5.1						
BHJ	**Bhuj**	**80.84**	**294**	*e*P	**P**	**14 02 40.0**	**+0.5**
COLA	**College**	**82.07**	**23**	*e*P	**P**	**14 02 44.5**	**-0.6**
COLA	**College**	**82.07**	**23**	*e*P	**P**	**14 02 44.3**	**-0.8**
	comp=Z,19nm,1.1s,mb4.9						
COLA				LR	LR		
	comp=Z,2µm,20.0s,MS5.5						
KBL	**Kabul**	**82.96**	**305**	*e*P	**P**	**14 02 50.4**	**-0.1**
KBL				pmax	pmax		
	comp=Z,25nm,1.2s,mb5.1						
KBL	**Kabul**	**82.96**	**305**	*e*P	**P**	**14 02 50.4**	**-0.1**
	comp=Z,25nm,1.2s,mb5.1						
KK31	**Karatay Array**	**83.27**	**314**	*i* P	**P**	**14 02 50.6**	**-1.3**
KK31				pmax	pmax		
	comp=Z,116nm,1.5s,mb5.7						
VOSK	**Vostochnaya**	**84.86**	**323**	P	**P**	**14 02 55.0**	**-4.7**
VOSK				pmax	pmax		
	comp=Z,224nm,2.1s,mb5.9						
HYT	**Haines Junctio**	**85.12**	**28**	*e*P	**P**	**14 03 00.3**	**-0.5**
DAWY	**Dawson**	**85.19**	**25**	*e*P	**P**	**14 03 02.3**	**+1.2**
BVA0	**Borovoye Array**	**85.28**	**324**	*i* P	**P**	**14 03 01.3**	**-0.5**
BVA0				pmax	pmax		
	comp=Z,70nm,2.7s,mb5.3						
MAW	**Mawson**	**85.33**	**203**	*e*P	**P**	**14 03 02.3**	**+0.5**
	comp=Z,6.5nm,1.0s,mb4.7						
MAW	**Mawson**	**85.33**	**203**	P	**P**	**14 03 02.5**	**+0.7**
	comp=Z,12nm,1.1s,mb4.9,baz=66,slow=7.8,SNR=6.7						
MAW				LR	LR	14 39 58.6	
	comp=Z,3µm,20.6s,MS5.7,baz=78,slow=35						
MAW	**Mawson**	**85.33**	**203**	*e*P	**P**	**14 03 02.3**	**+0.5**
MAW				pmax	pmax		
	comp=Z,7.0nm,1.0s						
BRVK	**Borovoye**	**85.34**	**324**	P	**P**	**14 03 02.4**	**+0.2**
	comp=Z,169nm,0.8s,mb6.2,SNR=7.8						
BRVK	**Borovoye**	**85.34**	**324**	*e*P	**P**	**14 03 02.3**	**+0.1**
BRVK				pmax	pmax		
	comp=Z,401nm,2.1s,mb6.2						
BRVK				MLR	MLR		
	comp=Z,5µm,22.0s,MS5.9						
BRVK	**Borovoye**	**85.34**	**324**	*e*P	**P**	**14 03 02.3**	**+0.2**
	comp=Z,401nm,2.1s,mb6.2						
BRVK				LR	LR		
	comp=Z,5µm,22.0s,MS5.9						
AB31	**Akbulak array**	**91.31**	**319**	P	**P**	**14 03 27.0**	**-3.7**
AB31				pmax	pmax		
	comp=Z,20nm,1.4s,mb5.2						
ARU	**Arti**	**92.48**	**326**	*e*P	**P**	**14 03 37.5**	**+1.5**
ARU						14 07 19.4	
ARU				*e*PPP		14 09 18.3	
ARU				S	SKSac	14 14 08.2	-1.2
ARU				PS	PS	14 15 48.6	-3.5
ARU				SS	SS	14 20 55.5	+4.4
ARU				MLR	MLR		
	comp=Z,8µm,19.0s,MS6.2						
ARU	**Arti**	**92.48**	**326**	*e*P	**P**	**14 03 35.0**	**-1.0**
	comp=Z,19nm,1.1s,mb5.3						
AKTO	**Aktyubinsk**	**92.61**	**320**	P	**P**	**14 03 35.7**	**-1.0**
AKTO				pmax	pmax		
	comp=Z,3.0nm,1.5s,mb4.5						
ETW	**Entiat**	**93.26**	**43**	*e*P	**P**	**14 03 41.8**	**+2.0**
SYO	**Syowa Base**	**93.66**	**200**	⇓*e*pP	pP	14 03 45.0	+0.1
NVAR	**Mina Array Bea**	**94.63**	**52**	P	**P**	**14 03 47.4**	**+1.1**
	comp=Z,4.9nm,1.0s,mb4.9,baz=257,slow=5.9,SNR=8.8						
NVAR	**Mina Array Bea**	**94.63**	**52**	P	**P**	**14 03 47.4**	**+1.1**
YKA	**Yellowknife Ar**	**96.09**	**28**	P	**P**	**14 03 50.3**	**-2.1**
	comp=Z,8.4nm,0.8s,mb5.2,baz=273,slow=4.8,SNR=10						
MAK	**Makhachkala**	**100.06**	**313**	*e*P	Pdif	14 04 10.1	-0.3
MAK				*e*		14 08 12.9	
MAK				*e*S	SKSac	14 14 46.7	-3.1
MAK				pmax	pmax		
	comp=Z,262nm,1.6s						
PDAR	**Pinedale Array**	**101.07**	**47**	P	Pdif	14 04 14.3	-0.6
	comp=Z,0.4nm,0.5s,baz=180,slow=1.0,SNR=3.4						
MOS	**Moscow**	**104.17**	**327**	*e*P	Pdif	14 04 32.6	+3.9
MOS				*e*		14 08 41.6	
MOS				MLR	MLR		
	comp=Z,7µm,21.0s,MS6.2						
OBN	**Obninsk**	**104.92**	**326**	⇑*e*P	Pdif	14 04 32.8	+0.7
OBN				*e*		14 08 52.7	
OBN				pmax	pmax		
	comp=Z,11nm,1.3s						
OBN				MLR	MLR		
	comp=Z,6µm,22.0s,MS6.1						
KIS	**Kishinev**	**112.12**	**320**	*e*PKIKP	PKiKP	14 09 04.0	+3.2
KIS				*e*		14 09 46.0	
KIS				*e*PS	PS	14 19 14.0	-4.4
KIS				*e*PPS		14 20 22.0	
KIS				MLR	MLR		
	comp=N,2µm,20.0s,MS5.8						
KIS				MLR	MLR		
	comp=E,2µm,20.0s,MS5.8						
KIS				MLR	MLR		
	comp=Z,3µm,20.0s,MS5.9						
KIS				MLR	MLR		
	comp=Z,3µm,20.0s						
KIS	**Kishinev**	**112.12**	**320**	*e*PP	PP	14 09 46.0	+1.3
OKC	**Ostrava-Krasne**	**117.32**	**326**	*e*PP	PP	14 10 25.8	+4.6
OKC				*e*SP	SP	14 20 01.9	-1.7
DPC	**Dobruska-Polom**	**118.05**	**327**	*e*PP	PP	14 10 29.0	+2.8
DPC				*e*SP	SP	14 20 08.5	-1.6
DPC				*e*x	x	14 26 53.5	
BSEG	**Bad Segeberg**	**118.89**	**333**	*e*SP	SP	14 20 11.6	-5.8
BSEG				*e*L		15 01 42.0	
	comp=Z,3µm,21.3s						
BRG	**Berggiesshubel**	**119.01**	**329**	*e*PKIKP	PKPdf	14 09 17.9	+4.0
BRG				*i*		14 10 32.0	
BRG				S	SP	14 20 18.0	-0.7
BRG				pmax	pmax		
	comp=Z,10.0nm,1.4s						
BRG				MLR	MLR		
	comp=N,1µm,18.6s,MS5.7						
BRG				MLR	MLR		
	comp=E,1µm,19.5s,MS5.7						
BRG				MLR	MLR		
	comp=Z,3µm,19.6s,MS5.9						
BRG	**Berggiesshubel**	**119.01**	**329**	*e*SP	SP	14 20 16.6	-2.1
BRG				*e*L		15 02 47.3	
	comp=Z,5µm,20.2s						
BRG	**Berggiesshubel**	**119.01**	**329**	*e*P	PKPdf	14 09 17.9	+4.0
	comp=Z,17nm,1.4s						
BRG				*i*		14 10 32.0	
BRG				S	SP	14 20 18.0	-0.7
BRG				*i*		14 21 56.0	
BRG				SS	SS	14 26 37.0	-16
BRG							
	comp=N,2µm,18.6s						
BRG							
	comp=E,2µm,19.5s						
BRG							
	comp=Z,5µm,19.6s						
BRG	**Berggiesshubel**	**119.01**	**329**	*e*P	PKPdf	14 09 17.9	+4.0
BRG				*i*		14 10 32.0	
BRG				S	SP	14 20 18.0	-0.7
BRG				*i*		14 21 56.0	
BRG				SS	SS	14 26 37.0	-16
BRG				LR	LR		
	comp=Z,3µm,19.6s,MS5.9						
PRU	**Pruhonice**	**119.20**	**328**	*e*PP	PP	14 10 21.4	-13
PRU				*e*SP	SP	14 20 11.6	-8.9
PRU				*e*x	x	14 27 16.0	
CLL	**Collm**	**119.24**	**330**	*e*SP	SP	14 20 17.5	-3.2
CLL				*e*L		15 01 18.0	
	comp=Z,6µm,21.6s						
CLL	**Collm**	**119.24**	**330**	*e*PP	PP	14 10 36.0	+1.7
CLL				*e*PPP		14 13 12.0	
CLL				*e*SKKSac	SKKSac	14 17 38.0	+2.9
CLL				*e*x	x	14 19 14.0	
CLL				*e*PS	PS	14 20 21.0	-2.0
CLL				*e*x	x	14 21 15.0	
CLL				*e*x	x	14 22 05.0	
CLL				*e*SS	SS	14 27 03.0	+7.5
CLL				*e*SSS		14 31 20.0	
CLL				*e*(SSSS)		14 35 48.0	
CLL				Lm		15 01 00.0	
	comp=N,4µm,21.5s						
CLL				Lm		15 01 00.0	
	comp=E,2µm,20.9s						
CLL				Lm		15 01 00.0	
	comp=Z,6µm,21.6s						
NKC	**Novy Kostel**	**120.16**	**329**	*e*SP	SP	14 20 32.6	+3.6
NKC				*e*x	x	14 27 17.9	
CLZ	**Clausthal**	**120.20**	**331**	*e*SP	SP	14 20 23.3	-6.0
CLZ				*e*L		15 04 58.6	
	comp=Z,4µm,19.4s						
KHC	**Kasperske Hory**	**120.20**	**327**	*e*PKPDF	PKPdf	14 09 15.5	-0.7
KHC				*e*pPKP	pPKPdf	14 09 19.0	-1.0
KHC				*e*SP	SP	14 20 26.7	-2.8
KHC	**Kasperske Hory**	**120.20**	**327**	*e*PKP	PKPdf	14 09 15.5	-0.7
KHC				*e*		14 09 19.0	
GEC2	**GERESS Array S**	**120.30**	**327**	*e*L		15 02 06.0	
	comp=Z,5µm,21.0s						
GERES	**GERESS Array B**	**120.30**	**327**	PKP	PKPdf	14 09 14.4	-2.0
	comp=Z,0.6nm,0.4s,baz=12,slow=1.9,SNR=6.5						
MOX	**Moxa**	**120.34**	**330**	*e*SP	SP	14 20 30.9	+0.4
MOX				*e*L		15 02 00.9	
	comp=Z,5µm,21.5s						
ROTZ	**Rotzenmuhle**	**120.56**	**329**	*e*L		15 03 34.6	
	comp=Z,4µm,19.3s						
WET	**Wettzell**	**120.57**	**328**	*e*L		15 02 54.3	
	comp=Z,4µm,20.6s						
UBBA	**Unterbreizbach**	**121.03**	**330**	*e*SP	SP	14 20 35.9	-0.8
UBBA				*e*L		15 03 44.7	
	comp=Z,5µm,20.0s						
GRF	**Grafenberg Arr**	**121.12**	**329**	*e*PP	PP	14 10 41.6	-5.7
GRF				*e*L		15 02 24.1	
	comp=Z,4µm,21.1s						
IBBN	**Ibbenburen**	**121.12**	**333**	*e*SP	SP	14 20 39.2	+1.8
IBBN				*e*L		15 03 41.8	
	comp=Z,3µm,19.1s						
BUG	**Bochum--Univer**	**121.93**	**332**	*e*L		15 04 14.5	
	comp=Z,4µm,19.7s						
FUR	**Furstenfeldbru**	**122.01**	**327**	*e*L		15 02 58.4	
	comp=Z,4µm,20.2s						
TNS	**Taunus Mts**	**122.18**	**331**	*e*L		15 04 29.7	
	comp=Z,4µm,19.9s						
WTTA	**Wattenberg**	**122.34**	**326**	⇓*i*pPKPdf	pPKPdf	14 09 21.6	-2.6
	comp=Z,16nm,1.2s						
STU	**Stuttgart**	**122.73**	**329**	*e*L		15 03 21.6	
	comp=Z,4µm,21.0s						
FETA	**Feichten**	**122.99**	**327**	⇓*i*pPKiKP		14 09 25.1	
	comp=Z,8.4nm,1.1s						
BFO	**Black Forest**	**123.45**	**329**	*e*L		15 03 53.0	
	comp=Z,4µm,20.8s						
WLF	**Walferdange**	**123.66**	**331**	*e*L		15 06 06.5	
	comp=Z,3µm,18.8s						
PLCA	**Paso Flores**	**123.72**	**145**	PKP	PKPdf	14 09 24.9	+1.7
	comp=Z,3.4nm,0.7s,baz=282,slow=2.0,SNR=6.7						
PLCA	**Paso Flores**	**123.72**	**145**	PKP	PKPdf	14 09 24.9	+1.7
KEST	**Kesra**	**130.15**	**316**	PKP	PKPdf	14 09 37.4	+1.7
	comp=Z,2.1nm,1.0s,baz=319,slow=3.8,SNR=4.0						
LPAZ	**La Paz**	**139.13**	**119**	PKP	PKPdf	14 09 53.3	+0.3
	comp=Z,1.3nm,0.5s,baz=304,slow=3.9,SNR=4.0						
CPUP	**Villa Florida**	**141.59**	**141**	PKP	PKPdf	14 09 58.0	+0.8
	comp=Z,10nm,1.0s,baz=248,slow=0.8,SNR=7.3						
CPUP	**Villa Florida**	**141.59**	**141**	*e*PKPpre		14 09 51.1	
CPUP				PKP	PKPdf	14 09 58.0	+0.8
CPUP				LR	LR		
	comp=Z,200nm,20.0s,MS4.9						
TOA0	**Torodi Ar. Sit**	**145.54**	**289**	*e*PKP	PKPdf	14 10 04.3	-0.1
TORD	**Torodi Ar. Bea**	**145.54**	**289**	PKPbc	PKPbc	14 10 04.1	-0.4
	comp=Z,69nm,1.1s,baz=67,slow=3.5,SNR=23						
ANWB	**Willy Bob**	**147.18**	**62**	*e*PKPab	PKPab	14 10 12.0	+1.1
KIC	**Kosan Boka**	**152.95**	**278**	*e*P	PKPbc	14 10 26.2	+2.6
	comp=Z,352nm,1.4s						
DBIC	**Dimbokro**	**153.03**	**278**	PKPbc	PKPbc	14 10 23.9	+0.1
	comp=Z,10nm,0.8s,baz=81,slow=1.9,SNR=9.5						
DBIC				PKPab	PKPab	14 10 36.9	+1.7
	comp=Z,41nm,1.1s,baz=68,slow=5.3,SNR=8.2						
DBIC	**Dimbokro**	**153.03**	**278**	PKPbc	PKPbc	14 10 23.9	+0.1
DBIC				PKPab	PKPab	14 10 36.9	+1.7
TIC	**Toumodi**	**153.20**	**278**	*e*P	PKPbc	14 10 26.8	+2.7
	comp=Z,425nm,1.5s						
LIC	**Lamto**	**153.25**	**277**	*e*P	PKPbc	14 10 27.9	+3.6
	comp=Z,131nm,1.5s						

IDC 01 13:58:59.8±5.2**,366S**×**14802E,h0**km**,mb3.7**/3**,mb1 4.0**/3**, mb1mx3.6**/14**,mbtmp3.8**/3**,Error ellipse: s-maj=165.3km s-min=32.3km az=100.0,Bismarck Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WB2	**Warramunga Arr**	**20.97**	**218**	*e*P	P	14 03 46.7	+2.0
WRA	**Warramunga Arr**	**20.98**	**218**	P	P	14 03 46.4	+1.7
	2.7nm,0.8s,baz=44,slow=11,SNR=7.3						
ASAR	**Alice Springs**	**24.12**	**213**	P	P	14 04 16.4	-1.0
	1.3nm,0.7s,baz=37,slow=7.5,SNR=9.1						
TPI	**Tanjungpandan**	**40.31**	**270**	P	P	14 06 38.2	-1.2
	0.0nm,0.0s						
MKAR	**Makanchi Array**	**76.37**	**320**	P	P	14 10 51.2	+0.2
	1.1nm,1.1s,baz=83,slow=6.0,SNR=3.8						

ISCJB ***01*** *13:59:03.2±1.8,6.8S±0.1×154.65E±0.09,h99km±19km, mb4.1/14,Error ellipse: s-maj=21.2km s-min=13.3km az=152.4*

IDC ***01*** *13:59:05.1±3.2,6.96S×154.71E,h109km±32km,mb3.9/13, mb1 4.0/15,mb1mx4.0/19,mbtmp3.9/15,Error ellipse: s-maj=25.8km s-min=15.7km az=118.0*

NEIC ***01*** *13:59:05.7±1.2,6.89S×154.66E,h112km±12km,mb4.2/2, Error ellipse: s-maj=14.5km s-min=9.4km az=146.0*

ISC 01 13:59:05.2±1.5**,6.9S**±0.1×**154.68E**±0.09**,h107**km±15km**,n26, σ0.82**/25**,mb4.1**/14**,Bougainville - Solomon Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
HNR	**Honiara**	**5.79**	**116**	P	**Pn**	**14 00 28.0**	**-0.7**
	9.6nm,0.3s,baz=224,slow=1.5,SNR=4.6						
HNR	**Honiara**	**5.79**	**116**	*e*P	**Pn**	**14 00 29.8**	**+1.1**
PMG	**Port Moresby**	**7.85**	**251**	P	**Pn**	**14 00 56.0**	**-0.8**
CTA	**Charters Tower**	**15.45**	**211**	P	**Pn**	**14 02 37.8**	**+0.4**
	0.2nm,0.3s,baz=35,slow=10,SNR=5.2						
CTAO	**Charters Tower**	**15.45**	**211**	*e*P	**Pn**	**14 02 39.1**	**+1.7**
	7.3nm,0.8s						
WRAB	**Tennant Creek**	**23.60**	**235**	*e*P	**P**	**14 04 07.3**	**+0.8**
	11nm,0.7s,mb4.3						
WB2	**Warramunga Arr**	**23.61**	**235**	*e*P	**P**	**14 04 07.2**	**+0.6**
WB2	**Warramunga Arr**	**23.61**	**235**	*e*	**P**	**14 04 07.3**	**+0.7**
WRA	**Warramunga Arr**	**23.62**	**235**	P	**P**	**14 04 07.0**	**+0.3**
	12nm,0.7s,mb4.3,baz=58,slow=10,SNR=7.5						
WRA				PcP	PcP	14 07 49.0	+0.2
	1.0nm,0.6s,baz=59,slow=2.4,SNR=9.0						
ASAR	**Alice Springs**	**26.00**	**228**	P	**P**	**14 04 27.1**	**-1.3**
	2.8nm,0.7s,mb3.8,baz=65,slow=9.3,SNR=16						
STKA	**Stephens Creek**	**27.69**	**204**	*e*P	**P**	**14 04 40.5**	**-2.8**
	8.8nm,0.9s,mb4.3						
STKA	**Stephens Creek**	**27.69**	**204**	P	**P**	**14 04 41.7**	**-1.7**
	2.8nm,0.5s,mb4.0,baz=33,slow=14,SNR=8.7						
STKA	**Stephens Creek**	**27.69**	**204**	*e*P	**P**	**14 04 41.2**	**-2.1**
FITZ	**Fitzroy Crossi**	**30.41**	**246**	P	**P**	**14 05 08.0**	**+0.4**
	3.2nm,0.8s,mb4.0,baz=90,slow=11,SNR=3.9						
KSRS	**Korea Array**	**50.71**	**332**	P	**P**	**14 07 54.0**	**-0.1**
	0.6nm,0.5s,mb3.9,baz=148,slow=10,SNR=5.1						
PETK	**Petropavlovsk-**	**59.83**	**2**	P	**P**	**14 08 59.0**	**-0.2**
	1.9nm,0.8s,mb4.2,baz=167,slow=21,SNR=3.7						
CMAR	**Chiang Mai Arr**	**60.46**	**296**	P	**P**	**14 09 04.0**	**-0.1**
	6.3nm,0.7s,mb4.7,baz=125,slow=5.3,SNR=7.0						
SONM	**Songino Array**	**69.09**	**327**	P	**P**	**14 10 00.9**	**+1.3**
	2.0nm,0.9s,mb4.0,baz=126,slow=7.2,SNR=9.7						
MK31	**Makanchi Array**	**83.13**	**319**	*e*P	**P**	**14 11 19.2**	**0.0**
MKAR	**Makanchi Array**	**83.13**	**319**	P	**P**	**14 11 20.1**	**+0.8**
	1.1nm,0.7s,mb3.8,baz=105,slow=5.7,SNR=10						
ZALV	**Zalesovo Beam**	**83.93**	**326**	P	**P**	**14 11 22.7**	**-0.5**
	1.0nm,0.6s,mb3.9,baz=105,slow=4.2,SNR=4.1						
MAW	**Mawson**	**84.36**	**203**	P	**P**	**14 11 25.4**	**+0.2**
	2.7nm,0.8s,mb4.1,baz=84,slow=4.8,SNR=6.2						
HYT	**Haines Junctio**	**85.43**	**27**	*e*P	**P**	**14 11 30.6**	**0.0**
NVAR	**Mina Array Bea**	**91.91**	**52**	P	**P**	**14 12 01.6**	**-0.2**
	1.1nm,0.7s,mb4.2,baz=243,slow=6.6,SNR=6.2						
BVAR	**Borovoye Array**	**92.03**	**323**	P	**P**	**14 12 00.9**	**-1.2**
	0.5nm,0.6s,mb3.9,baz=95,slow=6.1,SNR=3.6						
TORD	**Torodi Ar. Bea**	**152.70**	**285**	PKPbc	PKPbc	14 18 51.0	+0.4
	1.7nm,0.8s,baz=54,slow=2.3,SNR=4.3						
TORD				PKPab	PKPab	14 18 58.5	-3.1
	1.6nm,0.8s,baz=69,slow=2.3,SNR=3.8						

IDC ***01*** *14:03:28.4±0.3,4.12N×96.58E,h0km,mb4.8/33, mb1 4.8/33,mb1mx4.8/34,mbtmp4.8/33,MS5.1/4, Ms1 5.2/4,ms1mx4.5/34,Error ellipse: s-maj=12.5km s-min=9.9km az=49.0*

BJI ***01*** *14:03:30.4,3.88N×96.56E,h18km,mB5.4,mb4.8,Ms5.3, Msz5.1*

ISCJB ***01*** *14:03:31.6±0.2,4.03N±0.03×96.49E±0.02,h31km, mb4.9/122,MS5.3/23,Error ellipse: s-maj=4.7km s-min=2.8km az=35.8*

SZGRF ***01*** *14:03:32.0,3.52N×96.46E,h33km,mb4.8,Northern Sumatera, Indonesia*

MOS ***01*** *14:03:32.0±1.1,4.12N×96.54E,h33km,mb5.1/47, MS5.7/10,Error ellipse: s-maj=9.6km s-min=4.7km az=118.8*

NEIC ***01*** *14:03:33.8±0.1,4.09N×96.59E,h35km,mb5.0/52,Error ellipse: s-maj=5.4km s-min=3.5km az=43.0*

NEIC Felt [III] at Meulaboh and [II] at Banda Aceh. Also felt [II] at Gunungsitoli, Nias.

DJA ***01*** *14:03:34.6±0.7,4N±10×96E±12,h50km,mB6.0/3, Mjma5.2/5,MLv5.8/5,Mw(mB)5.6/3,Mwp5.0/5*

ISC 01 14:03:33.7±0.2**,4.05N**±0.03×**96.47E**±0.03**,h33**km**, h33**km±.9km**:pP-P,n342,**σ**1.03**/343**,mb4.9**/122**,MS5.3**/23**, 34C-17D,Northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BSI	**Banda Aceh**	**1.86**	**321**	P	**Pn**	**14 04 03.2**	**0.0**
	0.0nm,0.0s						
BSI	**Banda Aceh**	**1.86**	**321**	P	**Pn**	**14 04 03.0**	**-0.2**
BSI	**Banda Aceh**	**1.86**	**321**	S	**Sn**	**14 04 31.6**	**+6.0**
TSI	**Tuntungan**	**2.16**	**104**	P	**Pn**	**14 04 08.2**	**+0.9**
	0.0nm,0.0s						
TSI	**Tuntungan**	**2.16**	**104**	P	**Pn**	**14 04 09.2**	**+1.9**
TRSI	**Tarutung**	**3.19**	**129**	P	**Pn**	**14 04 21.8**	**+0.2**
	0.0nm,0.0s						
TRSI	**Tarutung**	**3.19**	**129**	P	**Pn**	**14 04 21.6**	**0.0**
KULM	**Kulim**	**4.34**	**73**	⇑P	**Pn**	**14 04 39.5**	**+2.1**
IPM	**Ipoh**	**4.56**	**84**	⇓P	**Pn**	**14 04 42.0**	**+1.6**
SNG	**Songkhla**	**5.17**	**53**	P	**Pn**	**14 04 51.0**	**+2.2**
	2µm,1.0s						
FRIM	**Kepong**	**5.21**	**99**	⇑P	**Pn**	**14 04 50.6**	**+1.4**
PPI	**Padang Panjang**	**5.95**	**139**	P	**Pn**	**14 04 58.6**	**-0.9**
	0.0nm,0.0s						
PPI	**Padang Panjang**	**5.95**	**139**	P	**Pn**	**14 04 59.4**	**-0.1**
	215nm,1.0s,4µm1.8nm						
KTGM	**Kuala Trenggan**	**6.76**	**79**	⇓P	**Pn**	**14 05 12.5**	**+1.8**
KGM	**Kluang**	**7.13**	**106**	⇑P	**Pn**	**14 05 16.5**	**+0.8**
RGRI	**Rengat**	**7.30**	**127**	P	**Pn**	**14 05 18.2**	**+0.1**
	0.0nm,0.0s						
RGRI	**Rengat**	**7.30**	**127**	P	**Pn**	**14 05 18.8**	**+0.7**
	284nm,0.9s,3.4nm						
MYKOM	**Kota Tinggi**	**7.70**	**107**	⇑P	**Pn**	**14 05 24.3**	**+0.7**
NNT	**Nongplab**	**9.08**	**21**	P	**Pn**	**14 05 47.0**	**+4.5**
JMBI	**JAMBI**	**9.12**	**128**	P	**Pn**	**14 05 43.8**	**+0.7**
	0.0nm,0.0s						
KSI	**Kapahiang**	**9.79**	**141**	P	**Pn**	**14 05 50.3**	**-2.0**
	0.0nm,0.0s						
KSI	**Kapahiang**	**9.79**	**141**	P	**Pn**	**14 05 50.8**	**-1.5**
	791nm,0.8s						
PPBI	**Pangkal Pinang**	**11.46**	**122**	P	**Pn**	**14 06 16.8**	**+1.7**
	83nm,1.3s,2µm						
NST	**Nakhon Sawan**	**12.10**	**17**	P	**Pn**	**14 06 24.0**	**+0.1**
	98nm,1.3s						
KKTK	**Khon Kaen**	**13.72**	**27**	P	**Pn**	**14 06 51.0**	**+5.0**
	926nm,0.4s						
UBT	**Ubonrachathani**	**13.95**	**37**	⇑P	**Pn**	**14 06 55.0**	**+5.8**

KSM Kuching 14.05 100 ⇓P Pn 14 06 51.7 +1.1
KSM Kuching 14.05 100 eP Pn 14 06 54.3 +3.7
CMAR Chiang Mai Arr 14.53 9 Pn Pn 14 07 01.0 +4.0
0.9nm,0.3s,baz=206,slow=13,SNR=40
CMAR Lg 14 10 48.0
0.1nm,0.3s,baz=185,slow=30,SNR=4.8
CMAR ScP ScP 14 15 45.8 +3.8
0.1nm,0.3s,baz=223,slow=2.9,SNR=5.7
CBJI Citeko 14.68 135 P Pn 14 06 57.2 -1.9
0.0nm,0.0s
DBJI Dramaga 14.70 136 P Pn 14 06 55.7 -3.7
0.0nm,0.0s
CHTO Chiang Mai 14.88 9 eP Pn 14 07 06.2 +4.5
CHTO pmax pmax
comp=Z,30nm,1.0s
CHTO Chiang Mai 14.88 9 eP Pn 14 07 06.2 +4.5
comp=Z,30nm,1.0s
SBUM Sibu 15.80 95 ⇑P Pn 14 07 14.7 +0.8
PALK Pallekele 16.02 282 eP Pn 14 07 18.5 +1.9
comp=Z,54nm,0.9s
BTM Bintulu 16.60 92 ⇓P Pn 14 07 25.8 +1.7
PBKI Pangkalan Bun 16.60 114 P Pn 14 07 24.9 +0.8
comp=Z,0.0nm,0.0s
BJII Banjamegara 17.39 131 P Pn 14 07 30.6 -3.3
comp=Z,0.0nm,0.0s
SJI Sawahan 19.23 127 P Pn 14 07 53.4 -3.0
comp=Z,0.0nm,0.0s
KKM Kota Kinabalu 19.77 83 ⇓P Pn 14 08 00.1 -2.8
KKM Kota Kinabalu 19.77 83 P Pn 14 07 59.3 -3.5
QIZ Qiongzhong 19.81 40 P Pn 14 08 01.0 -2.3
BBKI Banjar Baru 19.81 112 P Pn 14 08 02.8 -0.6
comp=Z,0.0nm,0.0s
KDM Kudat 20.47 81 ⇑P P 14 08 07.6 -1.1
SDKM Sandakan 20.71 85 ⇓P P 14 08 12.7 +1.3
TSM Tawau 21.34 89 ⇑P P 14 08 19.1 +0.8
KMI Kunming 21.81 15 P P 14 08 28.0 +4.9
KMI AP 14 08 35.6
KMI PP 14 08 53.0
KMI S S 14 12 20.3 -2.2
KMI XS sS 14 12 32.6 -4.1
KMI SS 14 12 56.3
KMI AMB AMB
comp=Z,18nm,1.1s,mb4.4
KMI LR LR
comp=N,4μm,17.8s,MS4.9
KMI LR LR
comp=E,3μm,22.3s,MS4.9
KMI LR LR
comp=Z,7μm,21.2s,MS5.0
KMI Kunming 21.81 15 P P 14 08 28.0 +4.9
KMI 14 08 53.0
KMI S S 14 12 20.3 -2.2
KMI *SS sS 14 12 32.6 -4.1
KMI SS 14 12 56.3
KMI SSS 14 13 10.8
KMI pmax pmax
comp=Z,18nm,1.1s,mb4.4
KMI MLR MLR
comp=Z,7μm,21.2s,MS5.0
KMI Kunming 21.81 15 P P 14 08 28.0 +4.9
comp=Z,18nm,1.1s,mb4.4
KMI pP 14 08 35.6
KMI PP 14 08 53.0
KMI PPP 14 09 02.5
KMI S S 14 12 20.3 -2.2
KMI sS sS 14 12 32.6 -4.1
KMI SS 14 12 56.3
KMI SSS 14 13 10.8
KMI LR LR
comp=Z,7μm,21.2s,MS5.0
MYLDM Lahad Datu 21.98 86 ⇑P P 14 08 26.4 +1.2
HYB Hyderabad 22.02 308 eP P 14 08 26.0 +0.5
HYB pmax pmax
comp=Z,100nm,1.0s,mb5.2
HYB Hyderabad 22.02 308 i P P 14 08 26.0 +0.5
comp=Z,100nm,1.0s,mb5.2
HYB eS S 14 12 31.0 +4.2
HYB Hyderabad 22.02 308 eP P 14 08 26.0 +0.5
comp=Z,100nm,1.0s,mb5.2
KHKI Kahang-Kahang 22.72 123 P P 14 08 30.7 -2.2
comp=Z,0.0nm,0.0s
MTNI Mataram 23.34 123 P P 14 08 37.4 -2.0
comp=Z,0.0nm,0.0s
PCI Palu 23.86 101 P P 14 08 44.2 -0.2
comp=Z,0.0nm,0.0s
ODAN Odare 24.29 340 eP P 14 08 48.4 +0.3
GYA Guiyang 24.33 23 ⇑iP P 14 08 48.2 -0.3
GYA AP 14 08 58.4
GYA XP sP 14 09 02.8 +0.7
GYA PP 14 09 24.7
GYA PCP PcP 14 12 30.0 +2.2
GYA S S 14 13 03.2 -2.5
GYA XS sS 14 13 18.9 -2.6
GYA SS 14 13 58.2
GYA AMB AMB
comp=Z,20nm,0.8s,mb4.6
GYA AMB AMB
comp=Z,130nm,4.3s
GYA LR LR
comp=N,890nm,14.2s,MS4.5
GYA LR LR
comp=E,660nm,15.6s,MS4.5
GYA LR LR
comp=Z,740nm,13.7s,MS4.3
RAMN Ramite 24.66 338 eP P 14 08 52.0 +0.6
comp=Z,16nm,0.6s,mb4.8
KAPI Kappang 24.93 111 P P 14 08 53.6 -0.6
comp=Z,890nm,0.8s,SNR=7.8
KAPI Kappang 24.93 111 P P 14 08 53.5 -0.7
comp=Z,3μm,1.4s,SNR=7.8
KAPI Kappang 24.93 111 P P 14 08 53.1 -1.1
comp=Z,133nm,0.9s,mb5.5,baz=296,slow=12,SNR=14
KAPI LR LR 14 19 46.4
comp=Z,3μm,18.6s,MS4.8,baz=46,slow=39
KAPI Kappang 24.93 111 eP P 14 08 53.4 -0.7
comp=Z,133nm,0.9s,mb5.5
JIRN Jiri 25.45 338 eP P 14 08 58.4 -0.3
comp=Z,55nm,0.7s,mb5.2
GUN Gumba 25.79 338 eP P 14 09 01.3 -0.5
comp=Z,64nm,0.7s,mb5.3
DMN Daman 25.82 336 eP P 14 09 02.5 +0.5
KKN Kakani 25.91 337 eP P 14 09 01.8 -1.1
comp=Z,40nm,0.8s,mb5.0
LSA Lhasa 26.01 349 eP P 14 09 04.3 +0.6
LSA pmax pmax
comp=Z,27nm,0.7s,mb4.9
LSA Lhasa 26.01 349 eP P 14 09 04.2 +0.5
comp=Z,27nm,0.7s,mb4.9
GKN Gorkha 26.36 336 eP P 14 09 06.6 -0.3
comp=Z,60nm,0.8s,mb5.2
KOLN Koldanda 26.59 334 eP P 14 09 08.6 -0.4
comp=Z,54nm,0.6s,mb5.2
DANN Dangsing 27.03 335 eP P 14 09 11.8 -1.1
comp=Z,54nm,0.8s,mb5.2
CD2 Chengdu 27.59 14 P P 14 09 18.2 +0.3
CD2 AP pP 14 09 27.4 -0.2
CD2 XP sP 14 09 31.8 +0.2
CD2 PP 14 10 06.5
CD2 S S 14 13 55.6 -1.7
CD2 XS sS 14 14 11.4 -1.9
CD2 SS 14 15 15.1
CD2 AMB AMB
comp=Z,20nm,0.6s,mb4.9
CD2 AMB AMB
comp=Z,60nm,6.2s
CD2 LR LR
comp=N,6μm,20.4s,MS5.4
CD2 LR LR
comp=E,9μm,19.2s,MS5.4
CD2 LR LR
comp=Z,9μm,20.4s,MS5.3
MNI Manado 28.45 94 P P 14 09 28.1 +2.2
comp=Z,0.0nm,0.0s
BATI Baumata 30.56 118 P P 14 09 42.7 -1.8
comp=Z,0.0nm,0.0s
BATI Baumata 30.56 118 P P 14 09 42.0 -2.6
comp=Z,54nm,0.8s,mb5.4,baz=244,slow=1.7,SNR=8.8
LBMI Labuha 31.35 98 P P 14 09 51.9 +0.3
comp=Z,0.0nm,0.0s
XAN Xi'an 32.01 20 P P 14 09 57.2 +0.1
XAN AP pP 14 10 06.8 0.0
XAN AMB AMB
comp=Z,10.0nm,1.2s,mb4.5
XAN AMB AMB
comp=Z,323nm,9.6s
XAN LR LR
comp=N,3μm,22.3s,MS5.0
XAN LR LR
comp=E,1μm,18.3s,MS5.0
XAN LR LR
comp=Z,3μm,20.5s,MS5.0
LZH Lanzhou 32.60 11 eP P 14 10 04.0 +1.8
LZH AP pP 14 10 13.7 +1.8
LZH XP sP 14 10 17.5 +1.6
LZH PP PP 14 11 13.6 -2.7
LZH eS S 14 15 17.0 +1.2
LZH XS sS 14 15 32.8 +1.0
LZH eSS SS 14 17 17.3 -20
LZH AMB AMB
comp=Z,39nm,1.4s,mb5.1
LZH AMB AMB
comp=Z,161nm,6.6s
LZH LR LR
comp=N,2μm,16.7s
LZH LR LR
comp=Z,3μm,19.0s,MS5.0
LZH Lanzhou 32.60 11 eP P 14 10 04.0 +1.8
comp=Z,39nm,1.4s,mb5.1
LZH *PP pP 14 10 13.7 +1.8
LZH *SP sP 14 10 17.5 +1.6
LZH 14 11 13.6
LZH eS S 14 15 17.0 +1.2
LZH *SS sS 14 15 32.8 +1.0
LZH eSS SS 14 17 17.3 -20
LZH pmax pmax
comp=Z,39nm,1.4s,mb5.1
LZH MLR MLR
comp=Z,3μm,19.0s,MS5.0
LZH Lanzhou 32.60 11 eP P 14 10 04.0 +1.8
comp=Z,39nm,1.4s,mb5.1
LZH pP pP 14 10 13.7 +1.8
LZH sP sP 14 10 17.5 +1.6
LZH PP PP 14 11 13.6 -2.7
LZH eS S 14 15 17.0 +1.2
LZH sS sS 14 15 32.8 +1.0
LZH eSS SS 14 17 17.3 -20
LZH LR LR
comp=Z,3μm,19.0s,MS5.0
MBWA Marble Bar 33.87 139 eP P 14 10 12.2 -1.2
comp=Z,104nm,1.7s,mb5.5
SWI Sorong 35.10 97 P P 14 10 23.9 -0.4
comp=Z,0.0nm,0.0s
GTA Gaotai 35.33 4 eP P 14 10 25.1 -0.8
GTA AP pP 14 10 33.6 -2.0
GTA XP sP 14 10 38.3 -1.4
GTA PP PP 14 11 44.9 -1.6
GTA PCP PcP 14 12 59.9 +4.1
GTA S S 14 15 53.8 -4.2
GTA SCP ScP 14 16 42.0 +2.7
GTA SCS ScS 14 20 45.5 +2.0
GTA AMB AMB
comp=Z,6.0nm,1.3s,mb4.4
GTA AMB AMB
comp=Z,667nm,6.2s
GTA LR LR
comp=N,2μm,22.9s,MS5.2
GTA LR LR
comp=E,4μm,20.8s,MS5.2
GTA LR LR
comp=Z,5μm,21.4s,MS5.2
FITZ Fitzroy Crossi 36.21 128 eP P 14 10 31.6 -2.1
comp=Z,29nm,0.6s,mb5.4
FITZ Fitzroy Crossi 36.21 128 P P 14 10 31.7 -2.0
comp=Z,18nm,0.7s,mb5.1,baz=304,slow=5.3,SNR=24
FITZ LR LR 14 27 09.9
comp=Z,1μm,18.5s,MS4.7,baz=354,slow=39
JOW Kunigami 37.91 50 P P 14 10 48.1 0.0
comp=Z,14nm,0.6s,mb4.9,baz=174,slow=19,SNR=4.7
HHC Hu-ho-hao-te 39.08 18 eP P 14 10 58.7 +1.1
HHC AP pP 14 11 08.8 +1.3
HHC XP sP 14 11 12.6 +1.1
HHC PP PP 14 12 34.7 +7.0
HHC PCP PcP 14 13 10.0 +2.8
HHC SCP ScP 14 16 52.8 -0.5
HHC S S 14 16 56.5 +1.6
HHC XS sS 14 17 12.3 +1.2
HHC SS SS 14 19 42.0 -6.2
HHC SCS ScS 14 21 01.9 -2.6
HHC AMB AMB
comp=Z,14nm,1.3s,mb4.5
HHC AMB AMB
comp=Z,515nm,5.6s
HHC LR LR
comp=N,3μm,15.2s,MS5.4
HHC LR LR
comp=E,4μm,17.2s,MS5.4
HHC LR LR
comp=Z,6μm,16.5s,MS5.5
KAKA Kakadu 39.42 116 eP P 14 10 59.3 -1.6
comp=Z,17nm,0.6s,mb4.9
KBL Kabul 39.61 323 P P 14 11 01.4 -0.8
KBL pmax pmax
comp=Z,16nm,0.8s,mb4.8
KBL Kabul 39.61 323 P P 14 11 01.4 -0.8
comp=Z,16nm,0.8s,mb4.8
BJT Baijiatuau 39.99 24 eP P 14 11 06.0 +0.7
BJT pmax pmax
comp=Z,48nm,0.9s
BJT Baijiatuau 39.99 24 eP P 14 11 06.0 +0.7
comp=Z,48nm,0.9s,mb5.2
BJI Beijing 40.01 24 P P 14 11 06.7 +1.2
BJI AMB AMB
comp=Z,13nm,0.6s,mb4.8
BJI LR LR
comp=N,4μm,18.7s,MS5.4
BJI LR LR
comp=E,4μm,21.0s,MS5.4
BJI LR LR
comp=Z,4μm,19.6s,MS5.2
BJI Beijing 40.01 24 P P 14 11 06.7 +1.2
comp=Z,13nm,0.6s,mb4.8
BJI LR LR
comp=Z,4μm,19.6s,MS5.2
WMQ Urumqi 40.36 350 P P 14 11 07.5 -0.8
WMQ SCS ScS 14 21 08.5 -3.5
WMQ AMB AMB
comp=Z,37nm,0.6s,mb5.3
WMQ AMB AMB
comp=Z,503nm,4.9s
WMQ LR LR
comp=N,2μm,17.8s,MS5.2
WMQ LR LR
comp=E,2μm,17.0s,MS5.2
WMQ LR LR
comp=Z,3μm,18.6s,MS5.1
MUN Mundaring 40.45 154 eP P 14 11 08.4 -0.7
KLBR Kellerberrin 40.83 152 eP P 14 11 11.9 -0.4
comp=Z,16nm,0.6s,mb4.8
DL2 Dalian 41.55 30 P P 14 11 19.7 +1.5
DL2 AMB AMB
comp=Z,30nm,0.7s,mb5.0
NWAO Narrogin (SRO) 41.70 153 P P 14 11 18.6 -0.9
comp=Z,26nm,0.9s,mb4.8,baz=321,slow=9.0,SNR=10
NWAO Narrogin (SRO) 41.70 153 eP P 14 11 19.4 -0.1
NWAO pmax pmax
comp=Z,105nm,1.5s
NWAO Narrogin (SRO) 41.70 153 eP P 14 11 19.4 -0.1
comp=Z,105nm,1.5s,mb5.2
FRU Bishkek 43.24 336 eP pP 14 11 42.0 +0.3
FRU i 14 11 59.0
KSRS Korea Array 43.97 37 P P 14 11 37.8 -0.1
comp=Z,6.2nm,0.8s,mb4.4,baz=224,slow=9.0,SNR=28
KSRS PcP PcP 14 13 23.6 +0.3
comp=Z,1.5nm,0.7s,baz=257,slow=3.7,SNR=4.3
WRA Warramunga Arr 44.19 124 P P 14 11 38.7 -1.1
comp=Z,120nm,1.0s,mb5.6,baz=303,slow=9.3,SNR=250
WRA ScP ScP 14 17 18.7 +4.7
comp=Z,1.6nm,0.6s,baz=317,slow=3.6,SNR=11
WRAB Tennant Creek 44.19 124 P P 14 11 39.0 -0.8
comp=Z,903nm,0.9s
WRAB Tennant Creek 44.19 124 d iP P 14 11 39.3 -0.5
WRAB Tennant Creek 44.19 124 eP P 14 11 38.8 -1.1
comp=Z,110nm,0.8s,mb5.6
WB2 Warramunga Arr 44.20 124 eP P 14 11 38.9 -1.0
MK31 Makanchi Array 44.32 346 eP P 14 11 39.1 -1.4
MKAR Makanchi Array 44.32 346 P P 14 11 39.5 -1.0
comp=Z,8.5nm,0.5s,mb4.7,baz=148,slow=7.1,SNR=30
SONM Songino Array 44.45 10 P P 14 11 41.7 +0.2
comp=Z,6.3nm,0.7s,mb4.5,baz=189,slow=9.4,SNR=20
SONM PcP PcP 14 13 24.8 +0.1
comp=Z,5.3nm,0.9s,baz=196,slow=3.4,SNR=7.5
SONM ScP ScP 14 17 16.6 +2.1
comp=Z,1.3nm,0.9s,baz=206,slow=3.7,SNR=4.6
SONM Songino Array 44.45 10 P P 14 11 41.7 +0.2
SONM 14 13 24.8
ULN Ulaanbaatar 44.59 10 ⇑eP P 14 11 42.9 +0.3
ULN Ulaanbaatar 44.59 10 eP P 14 11 42.0 -0.6
comp=Z,7.6nm,0.8s,mb4.6
SNY Shenyang 44.75 29 ⇑P P 14 11 46.1 +2.1
SNY AMB AMB
comp=Z,19nm,1.1s,mb4.8
KK31 Karatay Array 45.20 333 P P 14 11 48.0 +0.4
KK31 pmax pmax
comp=Z,2.0nm,0.5s,mb4.2
ASAR Alice Springs 45.71 129 P P 14 11 50.6 -1.3
comp=Z,7.8nm,0.6s,mb4.8,baz=298,slow=7.5,SNR=140
ASAR ScP ScP 14 17 24.1 +3.9
comp=Z,0.5nm,0.6s,baz=298,slow=4.5,SNR=4.1
FORT Forrest 45.92 141 eP P 14 11 52.8 -0.6
comp=Z,41nm,0.6s,mb5.5
ZAK Zakamensk 46.53 6 eP P 14 11 57.7 -0.2
ZAK pmax pmax
comp=Z,8.0nm,1.4s,mb4.5
CN2 Changchun 47.14 29 eP P 14 12 04.1 +1.3
CN2 eXP sP 14 12 17.9 +1.1
CN2 PCP PcP 14 13 35.7 +1.5
CN2 eS S 14 18 53.9 +0.8
CN2 AMB AMB
comp=Z,20nm,0.8s,mb5.1
CN2 AMB AMB
comp=Z,200nm,6.0s
TLY Talaya 47.85 6 eP P 14 12 07.1 -1.1
TLY pmax pmax
comp=Z,7.0nm,0.9s,mb4.7
ABKT Ailbek 48.59 319 P P 14 12 14.4 +0.3
comp=Z,240nm,0.6s,SNR=11
KURK Kurchatov 48.87 345 P P 14 12 14.9 -1.2
comp=Z,3.6nm,0.5s,mb4.7,baz=224,slow=7.0,SNR=21
KURK Kurchatov 48.87 345 ⇑eP P 14 12 15.6 -0.5
KURK pmax pmax
comp=Z,9.0nm,1.2s,mb4.7
KURK Kurchatov 48.87 345 eP P 14 12 15.4 -0.7
HIA Hailar 49.21 20 P P 14 12 17.6 -1.1
HIA pmax pmax
comp=Z,12nm,0.8s
HIA Hailar 49.21 20 P P 14 12 17.6 -1.1
comp=Z,12nm,0.8s,mb5.0
COEN Coen 49.66 112 eP P 14 12 22.9 +0.2
comp=Z,12nm,1.1s,mb4.8
MDJ Mudanjiang 49.78 31 P P 14 12 22.0 -1.1
MDJ AP pP 14 12 31.1 -2.1
MDJ XP sP 14 12 35.0 -2.1
MDJ PP PP 14 14 16.8 -1.2
MDJ SCP ScP 14 17 39.5 -0.8
MDJ PCS PcS 14 17 39.5 -0.8
MDJ S S 14 19 28.4 -1.9
MDJ XS sS 14 19 45.0 -1.8
MDJ SCS ScS 14 22 11.1 -1.1
MDJ SS SS 14 23 03.6 +0.4
MDJ AMB AMB
comp=Z,4.0nm,2.0s,mb4.1
MDJ AMB AMB
comp=Z,1μm,9.8s
MDJ LR LR
comp=N,562nm,20.1s,MS4.9
MDJ LR LR
comp=E,1μm,19.3s,MS4.9
MDJ LR LR
comp=Z,1μm,17.1s,MS5.0
MDJ Mudanjiang 49.78 31 eP P 14 12 23.5 +0.3
comp=Z,15nm,1.0s,mb5.0
VLA Vladivostok 49.99 34 eP P 14 12 26.5 +1.8
VLA pmax pmax
comp=Z,41nm,1.3s,mb5.3
MJAR Matsushiro Arr 50.13 44 P P 14 12 24.8 -1.1
comp=Z,0.7nm,0.4s,mb4.0,baz=212,slow=8.5,SNR=4.0
ZAA0 Zalesovo Array 50.65 351 eP P 14 12 27.8 -1.7
ZALV Zalesovo Beam 50.65 351 P P 14 12 28.6 -1.0
comp=Z,5.0nm,0.6s,mb4.7,baz=179,slow=6.7,SNR=18
PMG Port Moresby 52.25 105 ⇑eP P 14 12 43.7 +1.5
PMG Port Moresby 52.25 105 eP P 14 12 41.7 -0.5
comp=Z,59nm,0.8s,mb5.6
VOSK Vostochnaya 52.89 341 P P 14 12 44.8 -1.5
VOSK pmax pmax
comp=Z,18nm,0.9s,mb5.0
BVA0 Borovoye Array 53.34 341 i P P 14 12 48.2 -1.4
BVA0 pmax pmax
comp=Z,5.0nm,1.5s,mb4.2
BVAR Borovoye Array 53.34 341 P P 14 12 48.4 -1.2
comp=Z,6.4nm,0.7s,mb4.7,baz=142,slow=7.5,SNR=22
BRVK Borovoye 53.40 341 P P 14 12 50.4 +0.3
comp=Z,134nm,0.7s,mb6.0,SNR=7.6
BRVK Borovoye 53.40 341 eP P 14 12 48.6 -1.5
BRVK pmax pmax
comp=Z,17nm,0.8s,mb5.0
BRVK Borovoye 53.40 341 eP P 14 12 48.6 -1.5
comp=Z,17nm,0.8s,mb5.0
OPO Ambohidratompo 53.48 243 P P 14 12 53.5 +2.2
comp=Z,3.3nm,0.8s,mb4.3,baz=52,slow=5.7,SNR=4.3
KLR Kul'dur 54.07 28 eP P 14 12 52.2 -2.8
KLR pmax pmax
comp=Z,80nm,1.6s,mb5.4
CTA Charters Tower 54.45 118 P P 14 12 58.5 +0.3
comp=Z,7.6nm,0.7s,mb4.7,baz=297,slow=11,SNR=6.5
AB31 Akbulak array 54.68 331 P P 14 12 58.4 -1.1
AB31 pmax pmax
comp=Z,3.0nm,0.5s,mb4.6
HABR Khabarovsk 55.16 30 eP P 14 13 01.3 -1.7
HABR e 14 13 14.9
HABR e 14 14 01.4
HABR e 14 15 04.1
HABR eS S 14 20 42.8 -1.0
HABR e 14 22 49.2
HABR e 14 24 29.0
BOD Bodaibo 55.37 11 eP P 14 13 04.4 +0.1
BOD pmax pmax
comp=Z,7.0nm,1.1s,mb4.6
STKA Stephens Creek 55.81 133 eP P 14 13 08.6 +0.7
comp=Z,8.1nm,0.7s,mb4.9
STKA Stephens Creek 55.81 133 P P 14 13 08.0 +0.1
comp=Z,11nm,0.7s,mb5.0,baz=314,slow=8.4,SNR=19
STKA Stephens Creek 55.81 133 eP P 14 13 07.4 -0.5
YSS Yuzh-Sakhalins 58.45 36 eP P 14 13 26.6 +0.3
YSS pmax pmax
comp=Z,31nm,1.7s,mb5.1
GNI Garni 58.76 315 P P 14 13 29.2 +0.6
comp=Z,6.2nm,0.3s,mb5.1,baz=106,slow=3.2,SNR=6.2
GNI Garni 58.76 315 ⇑eP P 14 13 28.6 0.0
GNI pmax pmax
comp=Z,29nm,1.1s
GNI Garni 58.76 315 eP P 14 13 28.7 +0.1
comp=Z,28nm,0.9s,mb5.3
KMBO Kilima Mbogo 59.40 266 P P 14 13 35.0 +1.4
comp=Z,5.1nm,0.8s,mb4.6,baz=55,slow=9.6,SNR=10
KMBO Kilima Mbogo 59.40 266 eP P 14 13 35.1 +1.5
KMBO pmax pmax
comp=Z,7.0nm,1.0s
KMBO Kilima Mbogo 59.40 266 eP P 14 13 35.1 +1.5
comp=Z,6.6nm,1.0s,mb4.6
SVE Sverdlovsk 59.79 338 eP P 14 13 36.0 +0.6
SVE e 14 15 46.5
SVE pmax pmax
comp=Z,19nm,0.9s,mb5.1
SVE MLR MLR
comp=Z,11μm,20.0s,MS6.0
ARU Arti 60.30 337 d iP P 14 13 38.0 -0.9
ARU e 14 14 18.3
ARU e 14 15 50.1
ARU eS S 14 21 50.4 -0.4
ARU eSS SS 14 25 43.0 -5.7
ARU pmax pmax
comp=Z,7.0nm,1.0s,mb4.7
KIV Kislovodsk 61.70 319 P P 14 13 48.3 -0.4
comp=Z,394nm,1.1s,SNR=6.8
KIV Kislovodsk 61.70 319 eP P 14 13 48.1 -0.6
KIV pmax pmax
comp=Z,75nm,1.0s,mb5.8
KIV Kislovodsk 61.70 319 eP P 14 13 48.7 0.0
comp=Z,90nm,1.1s,mb5.8
YAK Yakutsk 62.92 17 eP P 14 13 56.0 -0.5
YAK pmax pmax
comp=Z,40nm,0.9s,mb5.5
YAK pmax pmax
comp=N,16nm,1.0s
YAK pmax pmax
comp=E,15nm,1.2s

YAK Yakutsk 62.92 17 eP P 14 13 56.5 0.0
comp=E,44nm,0.9s,mb5.6
EIL Elat 63.35 301 P P 14 14 00.9 +0.9
comp=E,22nm,0.8s,mb5.3,baz=123,slow=1.4,SNR=19
SOC Sochi 63.54 317 eP P 14 14 00.2 -0.8
SOC pmax pmax
comp=Z,2μm,0.9s
VRHR Novokhopersk 65.38 325 eP P 14 14 11.4 -1.5
VRHR e*SP sP 14 14 22.2 -4.9
VRHR eS S 14 22 53.2 -1.6
VRHR pmax pmax
comp=Z,40nm,0.7s,mb5.6
VRHR pmax pmax
comp=N,40nm,1.2s
VRHR pmax pmax
comp=E,30nm,0.7s
VRHR smax
comp=N,130nm,2.6s
VRHR smax
comp=Z,10.0nm,0.5s
VRHR smax
comp=E,30nm,0.6s
ANN Anapa 65.51 318 eP P 14 14 08.0 -5.8
ANN pmax pmax
comp=Z,128nm,4.8s
CSS Prodhromos 65.79 307 eP P 14 14 15.2 -0.7
comp=Z,20nm,1.1s,mb5.1
VSR Storozhevoye 66.84 325 eP P 14 14 20.5 -1.7
VSR e*SP sP 14 14 32.6 -3.8
VSR eS S 14 23 08.3 -4.2
VSR pmax pmax
comp=Z,9.0nm,0.8s,mb4.8
VSR pmax pmax
comp=N,3.0nm,0.5s
VSR pmax pmax
comp=E,10.0nm,1.0s
VSR smax
comp=E,10.0nm,1.8s
VSR smax
comp=Z,4.0nm,1.5s
VSR smax
comp=N,10.0nm,1.2s
MOS Moscow 69.53 329 eP P 14 14 34.2 -4.8
MOS e 14 14 56.5
MOS pmax pmax
comp=Z,45nm,0.7s,mb5.5
PETK Petropavlovsk- 69.79 34 P P 14 14 39.0 -1.7
comp=Z,2.7nm,0.8s,mb4.2,baz=270,slow=3.0,SNR=4.2
OBN Obninsk 69.83 328⇑eP P 14 14 39.8 -1.1
OBN e 14 17 14.1
OBN eS S 14 23 45.5 -2.5
OBN pmax pmax
comp=Z,61nm,1.4s,mb5.3
OBN MLR MLR
comp=Z,6μm,22.0s,MS5.8
LSZ Lusaka 70.25 252 P P 14 14 44.8 +0.6
comp=Z,4.6nm,0.8s,mb4.5,baz=86,slow=8.1,SNR=7.5
LSZ Lusaka 70.25 252 eP P 14 14 44.8 +0.6
LSZ pmax pmax
comp=Z,7.0nm,1.0s,mb4.5
LSZ Lusaka 70.25 252 eP P 14 14 44.8 +0.6
comp=Z,6.7nm,1.0s,mb4.5
TIXI Tiksi 70.53 10⇑eP P 14 14 46.3 +1.4
TIXI pmax pmax
comp=Z,16nm,1.0s,mb4.9
TIXI Tiksi 70.53 10 eP P 14 14 43.8 -1.0
comp=Z,8.7nm,0.7s,mb4.8
KLMR Klimovskoe 70.89 334 eP P 14 14 45.9 -1.3
KLMR pmax pmax
comp=Z,21nm,1.1s,mb5.0
SEY Seymchan 71.45 24 eP P 14 14 52.3 +1.7
TLCR 71.47 316⇑iP P 14 14 51.2 +0.1
TLCR 71.47 316 ⇑P P 14 14 51.2 +0.1
TIRR Tirgusor 71.59 316⇑iP P 14 14 51.7 -0.1
TIRR Tirgusor 71.59 316 eP P 14 14 51.5 -0.3
comp=Z,36nm,1.1s,mb5.2
KIS Kishinev 71.90 318 eP P 14 14 55.0 +1.4
KIS Kishinev 71.90 318 eUNK P 14 14 55.0 +1.4
HARR Harsova 71.98 316⇑iP P 14 14 54.2 +0.1
HARR Harsova 71.98 316 ⇑P P 14 14 54.2 +0.1
AKASG Malin Array Be 72.58 322 P P 14 14 56.2 -1.3
comp=Z,11nm,0.7s,mb4.9,baz=86,slow=4.7,SNR=23
KIEV Kiev 72.59 322 eP P 14 14 55.5 -2.1
KIEV pmax pmax
comp=Z,22nm,1.0s,mb5.0
KIEV Kiev 72.59 322 eP P 14 14 55.5 -2.1
comp=Z,22nm,1.0s,mb5.0
VRI Vrincioaia 73.06 317⇑iP P 14 15 01.4 +0.9
VRI Vrincioaia 73.06 317 ⇑P P 14 15 01.4 +0.8
PLOR Plostina 73.11 317⇓iP P 14 15 01.8 +1.0
MLR Muntele Rosu 73.52 316⇓iP P 14 15 03.8 +0.5
MLR Muntele Rosu 73.52 316 ⇓P P 14 15 03.8 +0.5
MNK Minsk 74.40 326 eP P 14 15 06.0 -2.2
MNK eS S 14 24 34.0 -6.5
BURAR Bucovina Array 74.43 318⇓iP P 14 15 09.1 +0.6
BURAR Bucovina Array 74.43 318 ⇓P P 14 15 09.1 +0.6
BUR08 Bucovina Ar. S 74.44 318 eP P 14 15 08.9 +0.3
LBTB Lobatse 74.51 243 P P 14 15 10.5 +1.0
comp=Z,13nm,1.0s,mb4.8,baz=99,slow=5.3,SNR=8.7
LBTB Lobatse 74.51 243 eP P 14 15 10.0 +0.5
JOF Joensuu 75.28 335 ep P 14 15 11.7 -1.4
comp=Z,7.5nm,0.8s,mb4.7
JOF Joensuu 75.28 335 eP P 14 15 11.7 -1.4
JOF pmax pmax
comp=Z,8.0nm,0.8s,mb4.7
MAW Mawson 75.31 193 eP P 14 15 13.6 +0.5
comp=Z,3.6nm,0.6s,mb4.5
MAW Mawson 75.31 193 P P 14 15 13.7 +0.6
comp=Z,4.3nm,0.7s,mb4.5,baz=20,slow=5.7,SNR=21
MAW Mawson 75.31 193 eP P 14 15 13.6 +0.5
MAW pmax pmax
comp=Z,4.0nm,0.6s
BOSA Boshof 75.58 239 P P 14 15 16.2 +0.6
comp=Z,12nm,1.2s,mb4.7,baz=90,slow=3.0,SNR=3.2
LVV L'vov 75.62 320 eP P 14 15 13.5 -1.9
GZR Gura Zlata 75.70 316⇑iP P 14 15 17.2 +1.3
GZR Gura Zlata 75.70 316 ⇑P P 14 15 17.2 +1.3
DRGR 75.96 317⇑iP P 14 15 18.1 +0.7
DRGR 75.96 317 ⇑P P 14 15 18.1 +0.7
APA Apatity 76.22 339⇓iP P 14 15 19.0 +0.5
APA e 14 18 05.0
APA pmax pmax
comp=Z,30nm,1.3s,mb5.1
APA MLR MLR
comp=Z,2μm,21.0s,MS5.5
KWP Kalwaria 76.43 320 eP P 14 15 20.2 +0.3
KWP LMZ 14 54 49.9
comp=Z,5μm,25.9s
KWP Kalwaria 76.43 320 eP P 14 15 20.3 +0.3
UZH Uzhgorod 76.53 319 eP P 14 15 19.7 -0.9
KOLS Kolonicke sedl 76.60 319 iP P 14 15 21.3 +0.4
SUW Suwalki 76.95 325 eP P 14 15 22.2 -0.6
SUW LMZ 14 56 53.4
comp=Z,4μm,20.8s
SUW Suwalki 76.95 325 eP P 14 15 22.2 -0.6
CRVS Cervenica-Dubn 77.12 319 iP P 14 15 24.9 +1.0
KAF Kangasniemi 77.23 333 ep P 14 15 23.2 -1.0
comp=Z,7.1nm,0.8s,mb4.7,baz=100,slow=5.2
KAF Kangasniemi 77.23 333 eP P 14 15 23.2 -1.0
KAF pmax pmax
comp=Z,7.0nm,0.8s,mb4.6
STHS Stebnicka Huta 77.34 320 iP P 14 15 26.3 +1.2
STHS pmax pmax
comp=Z,7.0nm,0.7s,mb4.7
STHS Stebnicka Huta 77.34 320 iP P 14 15 26.3 +1.2
comp=Z,6.8nm,0.7s,mb4.7
PSZ Piszkesteto 78.02 318⇑eP P 14 15 29.1 +0.2
PSZ Piszkesteto 78.02 318⇑iP P 14 15 29.4 +0.5
PSZ Piszkesteto 78.02 318 eP P 14 15 28.3 -0.7
comp=Z,15nm,0.9s,mb4.9
OJC Ojcow 78.38 320 eP P 14 15 30.7 -0.2
OJC eS S 14 25 22.4 -1.9
OJC eSS SS 14 30 27.0 -0.4
OJC L 14 58 48.7
comp=Z,4.8nm,21.5s
OJC Ojcow 78.38 320 eP P 14 15 30.7 -0.2
OJC eS S 14 25 22.4 -1.9
OJC eSS SS 14 30 27.0 -0.4
PKSM Moragy 78.67 316⇓iP P 14 15 32.6 0.0
PKSM Moragy 78.67 316 ⇓P P 14 15 32.6 0.0
BILL Bilibino 78.78 21⇑eP P 14 15 34.0 +1.2
BILL eS S 14 25 17.1 -11
BILL pmax pmax
comp=Z,7.0nm,1.2s,mb4.5
VYHS Vyhne 78.79 319 iP P 14 15 33.1 -0.1
VYHS eS S 14 25 32.7 +4.0
VYHS eSS SS 14 30 30.4 -3.3
KEV Kevo 79.19 341 ep P 14 15 34.1 -0.9
comp=Z,5.4nm,0.7s,mb4.6
KEV Kevo 79.19 341 eP P 14 15 34.1 -0.9
KEV pmax pmax
comp=Z,5.0nm,0.7s,mb4.5
OKC Ostrava-Krasne 79.39 320 eP P 14 15 38.1 +1.7
OKC AMS AMS 14 59 00.0
comp=Z,3μm,22.7s
OKC Ostrava-Krasne 79.39 320 eP P 14 15 38.1 +1.7
ARCES ARCESS Array B 79.63 340 P P 14 15 35.9 -1.4
comp=Z,3.7nm,0.5s,mb4.6,baz=95,slow=5.0,SNR=40
ARCES LR LR 14 52 28.4
comp=Z,2μm,20.7s,MS5.5,baz=56,slow=37
ARE0 ARCESS Array S 79.63 340 eP P 14 15 37.6 +0.3
MORC Moravsky Berou 79.77 320 eP P 14 15 37.9 -0.6
MORC pmax pmax
comp=Z,4.0nm,0.6s,mb4.5
MORC Moravsky Berou 79.77 320 eP P 14 15 37.9 -0.6
comp=Z,4.0nm,0.6s,mb4.5
MODS Modra-Piesok 79.81 318 eS S 14 25 43.6 +4.1
MODS eSS SS 14 30 47.6 -1.4
ZST Bratislava 79.91 318 iP P 14 15 39.4 +0.1
ZST pmax pmax
comp=Z,13nm,0.9s,mb4.9
ZST Bratislava 79.91 318 iP P 14 15 39.4 +0.1
comp=Z,13nm,0.9s,mb4.9
ZST eS S 14 25 35.9 -4.7
SUR Sutherland 80.11 236 P P 14 15 41.8 +1.1
comp=Z,18nm,1.0s,mb5.0,baz=115,slow=4.1,SNR=3.1
CUC Castrocucco 80.25 310 eP P 14 15 41.3 -0.1
comp=Z,15nm,0.8s,mb5.0
DPC Dobruska-Polom 80.61 320 eP P 14 15 43.6 +0.6
DPC LR LR
comp=Z,5μm,20.4s,MS5.8
CONA Conrad Observa 80.72 318⇑iP P 14 15 43.8 +0.2
comp=Z,5.2nm,1.1s,mb4.4
TSUM Tsumeb 80.86 250 P P 14 15 45.8 +0.8
comp=Z,5.7nm,0.9s,mb4.5,baz=41,slow=6.1,SNR=6.8
BOJS Bojanci 80.97 315 iP P 14 15 45.1 +0.1
TREC Trest 81.07 319 eP P 14 15 45.7 +0.2
TREC AMS AMS 15 00 10.0
comp=Z,4μm,21.1s
PERS Pernice 81.14 316 iP P 14 15 46.0 +0.1
SOKA Soboth 81.20 316⇑iP P 14 15 46.1 -0.2
comp=Z,13nm,0.9s,mb4.9
VISS Visnje 81.28 316 iP P 14 15 46.8 +0.1
PRU Pruhonice 81.73 320 eP P 14 15 49.7 +0.7
PRU LR LR
comp=Z,4μm,20.0s,MS5.8
PVCC Panska Ves 81.74 320 eP P 14 15 49.2 +0.2
PVCC AMS AMS 15 01 30.0
comp=Z,4μm,19.2s
JAVS Javornik 81.83 316 iP P 14 15 49.3 -0.3
TRO Tromso 81.90 340 AMS AMS 14 53 56.3
comp=Z,2μm,21.1s,MS5.3
VOY Vojsko 81.95 316 eP P 14 15 50.0 -0.2
VOY e 14 15 52.5
VOY e 14 15 56.7
VOY e 14 16 07.9
BRG Berggiesshubel 82.16 321 eP P 14 15 51.5 +0.3
comp=Z,5.0nm,0.8s,mb4.5
GEC2 GERESS Array S 82.21 319 eP P 14 15 51.9 +0.4
GEC2 pmax pmax
comp=Z,6.0nm,0.9s,mb4.5
GEC2 GERESS Array S 82.21 319 eP P 14 15 51.9 +0.4
comp=Z,6.0nm,0.9s,mb4.5
GERES GERESS Array B 82.21 319 P P 14 15 51.8 +0.2
comp=Z,7.0nm,1.0s,mb4.5,baz=90,slow=6.7,SNR=21
KHC Kasperske Hory 82.31 319 eP P 14 15 51.5 -0.5
KHC LR LR
comp=Z,5μm,19.7s,MS5.8
WET Wettzell 82.77 319 eP P 14 15 54.6 +0.2
WET pmax pmax
comp=Z,5.0nm,0.8s,mb4.6
WET Wettzell 82.77 319 eP P 14 15 54.6 +0.2
comp=Z,5.0nm,0.8s,mb4.6
RJOB Jochberg 82.77 317 eP P 14 15 55.0 +0.5
comp=Z,7.0nm,0.8s,mb4.7
CLL Collm 82.78 321 eP P 14 15 54.3 -0.1
comp=Z,5.0nm,1.0s,mb4.5
NKC Novy Kostel 83.08 320 AMS AMS 15 03 00.0
comp=Z,4μm,18.7s
ROTZ Rotzenmuhle 83.22 319 eP P 14 15 57.5 +0.7
comp=Z,5.0nm,0.9s,mb4.5
MANZ Manzenberg 83.30 320 eP P 14 15 57.8 +0.7
comp=Z,6.0nm,1.0s,mb4.6
GRA1 Grafenberg Arr 83.86 319 eP P 14 16 00.7 +0.6
comp=Z,8.0nm,0.7s,mb5.0
GRF Grafenberg Arr 83.86 319 eP P 14 16 00.7 +0.6
GRF pmax pmax
comp=Z,8.0nm,0.7s,mb5.0
GRF Grafenberg Arr 83.86 319 eP P 14 16 00.7 +0.6
GRF pmax pmax
comp=Z,8.0nm,0.7s,mb5.0
GRF Grafenberg Arr 83.86 319 eP P 14 16 00.7 +0.6
comp=Z,8.0nm,0.7s,mb5.0
FETA Feichten 84.16 317⇑iP P 14 16 01.4 -0.2
comp=Z,6.1nm,0.9s,mb4.7
NB2 NORSAR Subarra 84.18 331 P P 14 16 00.4 -1.0
comp=Z,12nm,1.1s,mb4.9,baz=91,slow=5.3
NOA NORSAR Array B 84.18 331 P P 14 15 60.0 -1.5
comp=Z,7.3nm,1.0s,mb4.8,baz=92,slow=5.5,SNR=10
NOA LR LR 15 01 23.2
comp=Z,2μm,19.3s,MS5.6,baz=60,slow=41
NOA NORSAR Array B 84.18 331 P P 14 15 60.0 -1.5
NOA LR LR 15 01 23.2
CLZ Clausthal 84.43 322 eP P 14 16 03.2 +0.3
CLZ pmax pmax
comp=Z,7.0nm,0.7s,mb4.9
CLZ Clausthal 84.43 322 eP P 14 16 03.2 +0.3
comp=Z,7.0nm,0.7s,mb4.9
BSEG Bad Segeberg 84.49 324 eP P 14 16 03.6 +0.5
BSEG pmax pmax
comp=Z,8.0nm,1.1s,mb4.8
BSEG Bad Segeberg 84.49 324 eP P 14 16 03.6 +0.5
comp=Z,8.0nm,1.1s,mb4.8
DAVA Damuels 84.74 317⇓iP P 14 16 05.2 +0.6
comp=Z,13nm,1.0s,mb5.0
KBS Kingsbay 85.00 349 AMS AMS 14 58 54.6
comp=Z,1μm,18.5s,MS5.4
KEST Kesra 85.33 305 P P 14 16 09.1 +1.3
comp=Z,6.4nm,1.0s,mb4.7,baz=327,slow=1.1,SNR=9.9
BFO Black Forest 85.77 318 eP P 14 16 09.1 -0.6
BFO pmax pmax
comp=Z,6.0nm,0.8s,mb4.9
BFO Black Forest 85.77 318 eP P 14 16 09.1 -0.6
comp=Z,6.0nm,0.8s,mb4.9
MOL Molde 85.94 332 AMS AMS 14 56 03.4
comp=Z,1μm,23.2s,MS5.2
CDF Champ du Feu 86.47 318 eP P 14 16 12.2 -0.9
SBF Sospel 86.53 314 eP P 14 16 13.8 +0.2
LPG La Plagne 86.95 315 eP P 14 16 16.2 +0.6
comp=Z,26nm,0.8s,mb5.2
LPG La Plagne 86.95 315 eP P 14 16 16.2 +0.6
LPG pmax pmax
comp=Z,13nm,0.8s,mb5.2
LPG La Plagne 86.95 315 eP P 14 16 16.2 +0.6
comp=Z,13nm,0.8s,mb5.2
LPL La Plagne 86.96 315 eP P 14 16 16.2 +0.6
comp=Z,46nm,1.0s,mb5.3
LPL La Plagne 86.96 315 eP P 14 16 16.2 +0.6
LPL pmax pmax
comp=Z,23nm,1.0s,mb5.4
LPL La Plagne 86.96 315 eP P 14 16 16.2 +0.6
comp=Z,23nm,1.0s,mb5.4
MBDF Montbardon 86.97 314 eP P 14 16 16.4 +0.7
comp=Z,8.8nm,0.8s,mb4.7
MBDF Montbardon 86.97 314 eP P 14 16 16.4 +0.7
MBDF pmax pmax
comp=Z,4.0nm,0.8s,mb4.7
MBDF Montbardon 86.97 314 eP P 14 16 16.4 +0.7
comp=Z,4.4nm,0.8s,mb4.7
HAU Haudompre 87.11 318 eP P 14 16 15.3 -1.0
comp=Z,32nm,0.9s,mb5.2
HAU Haudompre 87.11 318 eP P 14 16 15.3 -1.0
HAU pmax pmax
comp=Z,16nm,0.9s,mb5.2
HAU Haudompre 87.11 318 eP P 14 16 15.3 -1.0
comp=Z,16nm,0.9s,mb5.2
LMR La Mourre 87.23 313 eP P 14 16 17.4 +0.4
CABF La Chapelle 87.36 316 eP P 14 16 18.0 +0.5
comp=Z,16nm,0.7s,mb5.0
CABF La Chapelle 87.36 316 eP P 14 16 18.0 +0.5
CABF pmax pmax
comp=Z,8.0nm,0.7s,mb5.1
CABF La Chapelle 87.36 316 eP P 14 16 18.0 +0.5
comp=Z,8.1nm,0.7s,mb5.1
SMRF Simiane la Rot 87.87 314 eP P 14 16 20.2 +0.2
BAIF Baives 88.39 320 eP P 14 16 23.0 +0.7
VIVF Saint-Julien-l 88.45 315 eP P 14 16 23.2 +0.4
LOR Lormes 88.83 317 eP P 14 16 24.0 -0.5
comp=Z,9.1nm,0.7s,mb4.9
LOR Lormes 88.83 317 eP P 14 16 24.0 -0.5
LOR pmax pmax
comp=Z,5.0nm,0.7s,mb5.0
LOR Lormes 88.83 317 eP P 14 16 24.0 -0.5
comp=Z,4.6nm,0.7s,mb4.9
SMF Signal de Mont 88.90 316 eP P 14 16 25.0 +0.2
comp=Z,34nm,1.1s,mb5.3
SMF Signal de Mont 88.90 316 eP P 14 16 25.0 +0.2
SMF pmax pmax
comp=Z,17nm,1.1s,mb5.3
SMF Signal de Mont 88.90 316 eP P 14 16 25.0 +0.2
comp=Z,17nm,1.1s,mb5.3
SSF Saint Saulge 89.09 317 eP P 14 16 26.5 +0.8
AVF Avril sur Loir 89.22 317 eP P 14 16 26.6 +0.3
TAM Tamanrasset 89.33 293 eP P 14 16 28.7 +1.3
BGF Bois d'Agland 89.59 316 eP P 14 16 28.1 0.0
CAF Calviac 90.30 315 eP P 14 16 32.5 +1.1
MTLF Montolieu 90.35 313 eP P 14 16 32.6 +0.9
LDF La Druitiere 91.36 319 eP P 14 16 36.8 +0.5
FLN La Foliniere 91.57 319 eP P 14 16 37.8 +0.6
MFF Saint Martin d 91.63 317 eP P 14 16 37.3 -0.3
ETSF Etsaut 92.42 313 eP P 14 16 41.7 +0.4
SJPF Ste Jean 92.87 313 eP P 14 16 43.9 +0.5
TOA0 Torodi Ar. Sit 93.73 283 eP P 14 16 48.2 +0.3
TORD Torodi Ar. Bea 93.73 283 P P 14 16 48.3 +0.4
comp=Z,5.4nm,1.0s,mb4.9,baz=84,slow=4.8,SNR=13
QSPA South Pole Qui 93.97 180 P P 14 16 48.1 +0.5
comp=Z,0.9nm,0.6s,mb4.3,baz=233,slow=1.3,SNR=11
QSPA South Pole Qui 93.97 180 P P 14 16 48.1 +0.5
ULM Lac du Bonnet 124.88 10 PKP PKPdf 14 22 29.7 -0.6
comp=Z,6.5nm,1.1s,baz=353,slow=15,SNR=4.0
NVAR Mina Array Bea 126.88 34 PKP PKPdf 14 22 35.1 +0.6
comp=Z,1.0nm,0.6s,baz=259,slow=2.8,SNR=5.7
TXAR Lajitas Array 141.59 29 PKhKP 14 22 56.8
comp=Z,0.5nm,0.6s,baz=341,slow=0.8,SNR=8.0
TXAR PKP PKPdf 14 23 03.1 +0.8
comp=Z,0.7nm,0.5s,baz=256,slow=0.4,SNR=8.2
TXAR SKPbc SKPbc 14 26 41.5 +4.2
comp=Z,3.1nm,1.2s,baz=8.5,slow=1.8,SNR=5.1
TXAR Lajitas Array 141.59 29 PKIKP PKPdf 14 22 56.8 -5.5
TXAR 14 23 03.1
PLCA Paso Flores 141.65 196 PKhKP 14 22 58.2
comp=Z,1.1nm,0.9s,baz=133,slow=13,SNR=3.2
CPUP Villa Florida 146.53 226 PKPbc PKPbc 14 23 12.2 -0.2
comp=Z,5.4nm,0.7s,baz=102,slow=2.7,SNR=9.5
CPUP Villa Florida 146.53 226 ePKPdf PKPdf 14 23 11.4 +0.4
LPAZ La Paz 160.59 230 PKP PKPdf 14 23 32.8 +1.7
comp=Z,1.1nm,0.7s,baz=13,slow=3.2,SNR=5.4
LPAZ PKPab PKPab 14 24 14.7 +2.1
comp=Z,2.0nm,0.7s,baz=212,slow=10,SNR=5.5

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*IDC **01** 14:07:53.4±1.2,2265S×17003E,h0km,mb4.2/7, mb1 4.5/7,mb1mx4.2/15,mbtmp4.2/7,MS4.6/1,Ms1 4.6/1, ms1mx3.7/35,Error ellipse: s-maj=58.0km s-min=25.9km az=168.0*
*NEIC **01** 14:07:55.1±1.0,2263S×16992E,h10km,mb4.7/1,Error ellipse: s-maj=52.2km s-min=18.4km az=178.0*
*NOU **01** 14:08:01.2±1.9,1986S×16848E,h10km*
*ISCJB **01** 14:08:02.1±2.3,217S±06×1695E±02,h49km±19km, mb4.2/7,Error ellipse: s-maj=94.3km s-min=17.9km az=168.4*
ISC 01 14:08:02.8±2.4,**216S**±06×**1695E**±02,**h38**km±22km,**n18**, σ**1^{s}15**/19,**mb4.2**/7,**Southeast of Loyalty Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NORM	Noumea	2.89	257	eP	Pn	14 08 45.8	-0.5
NORM				eS	Sn	14 09 19.4	-0.4
DZM	Mont Dzumac	2.90	260	eP	Pn	14 08 45.3	-1.1
DZM				eS	Sn	14 09 19.2	-0.8
DZM	Mont Dzumac	2.90	260	ePn	Pn	14 08 43.7	-2.7
DZM				eSn	Sn	14 09 21.3	+1.3
ONTRN	Noumea	2.93	255	eP	Pn	14 08 48.7	+1.8
ONTRN				eS	Sn	14 09 23.8	+2.9
NOUC	Port Laguerre	3.03	260	eP	Pn	14 08 48.6	+0.3
NOUC				eS	Sn	14 09 21.7	-1.6
CTAO	Charters Tower	21.79	270	P	P	14 12 52.7	+1.1
ASAR	Alice Springs	32.89	260	P	P	14 14 33.1	-0.3
	2.3nm,0.6s,mb4.3,baz=85,slow=9.3,SNR=8.8						
WRA	Warramunga Arr	32.90	266	P	P	14 14 31.9	-1.5
	1.1nm,0.7s,mb3.9,baz=98,slow=7.8,SNR=2.6						
FITZ	Fitzroy Crossi	41.32	267	eP	P	14 15 44.9	-0.1
	10.0nm,0.7s,mb4.5						
FITZ	Fitzroy Crossi	41.32	267	P	P	14 15 45.0	0.0
	4.7nm,0.6s,mb4.3,baz=134,slow=11,SNR=12						
GUMO	Guam	42.52	323	LR	LR	14 32 17.7	
	comp=Z,631nm,18.2s,baz=315,slow=34						
CMAR	Chiang Mai Arr	79.71	295	P	P	14 20 08.1	+1.0
	2.0nm,0.6s,mb4.2,baz=132,slow=4.0,SNR=13						
SONM	Songino Array	89.25	323	P	P	14 20 54.8	+0.3
	0.6nm,0.7s,mb4.0,baz=116,slow=6.8,SNR=5.0						
NVAR	Mina Array Bea	90.16	48	P	P	14 20 58.5	-0.5
	0.4nm,0.5s,mb4.0,baz=232,slow=8.4,SNR=3.7						
PLCA	Paso Flores	96.60	138	P	P	14 21 19.2	-10
	3.0nm,1.1s,mb4.6,baz=18,slow=3.4,SNR=3.3						
ARCES	ARCESS Array B	127.40	345	PKP	PKPdf	14 27 02.8	+0.1
	2.3nm,0.9s,baz=73,slow=4.1,SNR=4.9						
EKA	Eskdalemuir Ar	145.87	353	PKPbc	PKPbc	14 27 36.6	-1.0
	4.5nm,0.7s,baz=346,slow=2.3,SNR=19						
GERES	GERESS Array B	146.68	330	PKPbc	PKPbc	14 27 40.0	-0.2
	1.4nm,0.7s,baz=38,slow=2.4,SNR=7.3						

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*ORF **01** 14:41:29.0,1477N×9444W,h30km,mb5.8*
*MOS **01** 14:41:49.6±0.9,1742N×9414W,h142km,mb5.1/85,Error ellipse: s-maj=6.4km s-min=4.2km az=80.1*
*ISCJB **01** 14:41:51.2±0.2,1744N±003×9420W±002,h155km±2km, mb5.0/203,Error ellipse: s-maj=4.9km s-min=2.1km az=25.2*
*GCMT **01** 14:41:52.1±0.6,1768N×9441W,h154km±4km,MW5.3/59, Moment Tensor Solution. s14,c16; s59,c86; Duration: 1^{s}1 Moment tensor: Scale 10^{17}Nm; M_{rr}-0.45±.05; $M_{\theta\theta}$-0.29±.04; $M_{\phi\phi}$0.74±.05; $M_{r\theta}$0.38±.03; $M_{\theta\phi}$-0.20±.05; $M_{\phi r}$-0.66±.04; Best double couple: $M_0$1.00100×10^{17} NP1:ϕ_s200.00000°,δ26.00000°,λ-42.00000°. NP2: ϕ_s329.00000°,δ73.00000°,λ-110.00000°. Principal axes: T 1.1210, Plg25.0000°, Azm75.0000°; N -0.2400, Plg19.0000°, Azm335.0000°; P -0.8810, Plg58.0000°, Azm213.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*MEX **01** 14:41:52.4±0.9,1726N×9436W,h153km±6km,MD4.7*
*IDC **01** 14:41:52.1±0.5,1741N×9413W,h158km±3km,mb4.5/24, mb1 4.7/27,mb1mx4.6/30,mbtmp4.6/27,Error ellipse: s-maj=11.3km s-min=7.0km az=59.0*
*BJI **01** 14:41:52.0,1740N×9420W,h156km,mB5.4*
*NEIC **01** 14:41:52.1±0.1,1738N×9420W,mb5.1/179,MD4.7(MEX), Error ellipse: s-maj=4.0km s-min=2.6km az=31.0*
*CASC **01** 14:41:57.2±1.5,1752N×9358W,h22km±999km,MD4.7, ML4.3,mb5.1(NEIC)*
*SZGRF **01** 14:42:01.2,1805N×9213W,h154km,mb5.4,Bay of Campeche*
ISC 01 14:41:52.6±0.2,**1746N**±003×**9412W**±002,**h153**km±2km, **h157**km±1.5km**:pP-P**,**n950**,σ**0^{s}78**/923,**mb5.0**/203, **196C-204D,Chiapas**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TUIG	Tuzandepetl	0.64	333	iP	Pn	14 42 14.2	-0.7
TUIG				iS	Sn	14 42 31.2	-0.9
CMIG	Matias Romero	0.81	243	iP	Pn	14 42 12.9	-3.2
CMIG				iS	Sn	14 42 28.7	-5.4
TGIG		1.18	125	iP	Pn	14 42 19.0	-0.1
TGIG				iS	Sn	14 42 39.3	-0.1
SCX	San Cristobal	1.60	117	iP	Pn	14 42 23.7	+0.3
SCX				iS	Sn	14 42 46.7	-0.2
CCIG	Comitan	2.24	121⇓	iP	Pn	14 42 31.3	+0.7
VHO	Vista Hermosa	2.52	262⇑	iP	Pn	14 42 30.5	-3.6
VHO				iS	Sn	14 42 60.0	-6.1
HUIG	Huatulco	2.54	229	iP	Pn	14 42 27.7	-6.7
HUIG				iS	Sn	14 42 58.2	-8.3

SCIG **Sabancuy** 3.17 61 *i* P **Pn** 14 42 43.8 +1.6
SCIG *i* S **Sn** 14 43 25.1 +4.5
TPIG **Tehuac#an** 3.23 288 *i* P **Pn** 14 42 39.9 -3.0
TPIG *i* S **Sn** 14 43 16.7 -5.1
UTMO **Huajuapan** 3.53 277⇑ *i* P **Pn** 14 42 43.4 -3.4
UTMO *i* S **Sn** 14 43 23.2 -5.6
JAT **Jato** 3.94 142 *e* P **Pn** 14 42 53.4 +1.2
PNIG **Pinotepa** 3.98 255⇑ *i* P **Pn** 14 42 45.9 -6.7
PNIG *i* S **Sn** 14 43 31.7 -7.5
FG6 4.25 132 *e* P **Pn** 14 42 56.9 +0.7
FUG **Fuego 3** 4.35 133 *e* P **Pn** 14 42 58.3 +0.7
PPM **Popocatepetl** 4.57 291 *i* P **Pn** 14 42 58.8 -1.5
PPM *i* P 14 42 59.6
PPM *i* S **Sn** 14 43 50.6 -2.5
PPM **Popocatepetl** 4.57 291 *i* P **Pn** 14 42 59.6 -0.7
PPM *i* S **Sn** 14 43 50.6 -2.5
NBG **Las Nubes** 4.62 128 *e* P **Pn** 14 43 02.0 +1.0
YAIG **Yautepec** 4.90 287 *i* P **Pn** 14 43 02.1 -2.6
YAIG *i* S **Sn** 14 43 56.0 -5.0
UNM **Universidad Na** 5.14 292 *i* P **Pn** 14 43 05.9 -2.0
UNM *i* S **Sn** 14 44 03.0 -3.8
PLIG **Platanillo** 5.20 281 *i* P **Pn** 14 43 05.9 -2.8
PLIG *i* S **Sn** 14 44 00.6 -7.6
PLIG **Platanillo** 5.20 281 *i* P **Pn** 14 43 05.9 -2.8
PLIG *i* S **Sn** 14 43 57.8 -10
SZVM **Salazar** 5.32 291 *i* P **Pn** 14 43 05.9 -4.4
SZVM *i* S **Sn** 14 44 08.5 -2.6
DEIG **Demacu** 5.44 302 *i* P **Pn** 14 43 11.3 -0.6
DEIG *i* S **Sn** 14 44 12.7 -1.1
ACX **Acapulco** 5.57 265 *i* P **Pn** 14 43 05.7 -7.9
ACX *i* S **Sn** 14 44 16.2 -0.7
CAIG **El Cayaco** 5.88 267⇑ *i* P **Pn** 14 43 12.3 -5.4
BOQS **Boqueron** 5.96 128 *e* P x 14 43 19.9
TEIG **Tepich** 6.18 63 P **Pn** 14 43 22.1 +0.4
66nm,0.3s,baz=259,slow=8.4,SNR=442
TEIG S **Sn** 14 44 31.8 +0.3
32nm,0.3s,baz=357,slow=23,SNR=16
TEIG **Tepich** 6.18 63 *i* Pn **Pn** 14 43 22.2 +0.5
1µm,0.8s
TEIG *e* Sn **Sn** 14 44 33.9 +2.4
SNVI **San Vicente** 6.37 126 *e* P x 14 43 26.0
CAHU **Cacacuatique** 6.78 122 *e* P x 14 43 30.4
ZIIG **Zihuatanejo** 7.00 272⇑ *i* P **Pn** 14 43 28.8 -3.9
MOIG **Morelia** 7.05 289 *i* P **Pn** 14 43 29.8 -3.6
MOIG *i* S **Sn** 14 44 48.5 -3.9
MOIG **Morelia** 7.05 289 *i* P **Pn** 14 43 32.3 -1.0
MOIG *i* S **Sn** 14 44 51.1 -1.3
TGUH **Tegucigalpa,Un** 7.41 116 *e* P **Pn** 14 43 39.8 +1.6
TGUH AML AML 14 45 07.3
comp=N,281nm,0.6s
TGUH **Tegucigalpa,Un** 7.41 116 *e* Pn **Pn** 14 43 40.2 +2.0
comp=N,383nm,1.1s
TEL3 **Telica 3** 8.55 124 *e* P **Pn** 14 43 56.0 +2.7
LEON **Leon** 8.60 125 *e* P **Pn** 14 43 55.9 +1.8
CNGN **Cerro Negro** 8.71 124 *e* P **Pn** 14 43 57.6 +2.2
MIRN **Miramar** 8.73 124 *e* P **Pn** 14 43 57.5 +1.7
MMIG **Aquila** 8.82 277 *i* P **Pn** 14 43 54.0 -2.9
MMIG *i* S **Sn** 14 45 29.4 -5.5
MOMN **Momotombo** 8.88 123 *e* P **Pn** 14 44 10.7 +2.9
COPN **Copaltepe** 8.98 125⇑ *e* P **Pn** 14 44 01.2 +2.1
CSAN 9.11 124 *e* P **Pn** 14 44 03.2 +2.4
APYN **Apoyeque** 9.14 124 *e* P **Pn** 14 44 04.1 +2.9
CONN **Concepcion** 10.10 124 *e* P **Pn** 14 44 14.6 +0.7
HKT **Hockley** 12.53 353 P **Pn** 14 44 45.3 -0.3
HKT pmax pmax
comp=Z,66nm,1.4s
HKT **Hockley** 12.53 353 Pn **Pn** 14 44 45.3 -0.2
comp=Z,66nm,1.4s
JCT **Junction City** 13.95 339 *e* P **Pn** 14 45 02.5 -1.3
JCT pmax pmax
comp=Z,104nm,0.9s
JCT **Junction City** 13.95 339 *e* Pn **Pn** 14 45 02.5 -1.3
comp=Z,104nm,0.9s
HPIG 14.24 313 *e* P **Pn** 14 45 07.1 -0.4
NATX **Nacogdoches** 14.24 358 *e* Pn **Pn** 14 45 07.1 -0.2
comp=Z,299nm,1.3s
NATX *e* P 14 45 10.9
TXAR **Lajitas Array** 14.70 325 P **Pn** 14 45 13.5 +0.4
comp=Z,1.0nm,0.3s,baz=150,slow=14,SNR=334
TXAR ScP ScP 14 53 32.2 -2.1
baz=151,slow=2.9,SNR=3.9
TXAR **Lajitas Array** 14.70 325 P **Pn** 14 45 13.5 +0.4
TXAR ScP ScP 14 53 32.2 -2.1
BRAL **Brewton** 14.94 24 *e* Pn **Pn** 14 45 15.8 -0.3
comp=Z,240nm,1.1s
DWPF **Disney** 15.77 46 *e* P **Pn** 14 45 27.6 +1.1
comp=Z,369nm,1.0s
BCIP **Isla Barro Col** 16.16 119 *e* P **Pn** 14 45 30.8 -0.4
comp=Z,28nm,0.8s
LPIG **La Paz** 16.50 296 P **Pn** 14 45 35.8 +0.5
comp=Z,10nm,0.3s,baz=52,slow=4.5,SNR=10
LRAL **Lakeview Retre** 16.78 21 *e* P **Pn** 14 45 39.4 +0.7
comp=Z,33nm,0.6s
MIAR **Mount Ida** 17.02 2 *e* P **Pn** 14 45 41.5 0.0
MIAR pmax pmax
comp=Z,66nm,0.9s
MIAR **Mount Ida** 17.02 2 *e* P **Pn** 14 45 41.5 0.0
comp=Z,66nm,0.9s
UALR **University of** 17.32 5 *e* P **Pn** 14 45 45.6 +0.6
comp=Z,61nm,0.9s
OXF **Oxford** 17.50 13 *e* P **Pn** 14 45 46.4 -0.8
OXF pmax pmax
comp=Z,77nm,0.9s
OXF **Oxford** 17.50 13 *e* P **Pn** 14 45 46.4 -0.7
comp=Z,77nm,0.9s
WMOK **Wichita Mounta** 17.70 347 *e* P **Pn** 14 45 48.2 -1.4
WMOK pmax pmax
comp=Z,50nm,0.9s
WMOK **Wichita Mounta** 17.70 347 *e* P **Pn** 14 45 48.2 -1.4
comp=Z,50nm,0.9s
CGIG 18.01 318 *i* P **P** 14 45 52.8 +1.0
GOGA **Godfrey** 18.55 29 *e* P **P** 14 45 57.5 -0.1
GOGA pmax pmax
comp=Z,63nm,0.8s
GOGA **Godfrey** 18.55 29 *e* P **P** 14 45 57.5 -0.1
comp=Z,63nm,0.8s
AMTX **Amarillo** 18.61 340 *e* P **P** 14 45 58.3 0.0
comp=Z,146nm,0.7s
SWET **Sewanee** 19.13 21 *e* P **P** 14 46 03.5 -0.4
HSIG 19.24 310 *i* P **P** 14 46 04.1 -1.0
WVT **Waverly** 19.41 15 *e* P **P** 14 46 05.6 -1.3
WVT pmax pmax
comp=Z,20nm,0.7s
WVT **Waverly** 19.41 15 *e* P **P** 14 46 05.5 -1.4
comp=Z,20nm,0.7s
319A **Douglas** 19.52 318 ⇓P **P** 14 46 09.2 +1.1
baz=20,SNR=43
219A **White Tail Can** 19.93 319 ⇑P **P** 14 46 13.3 +0.8
baz=20,SNR=121
318A **Bisbee** 20.02 317 ⇑P **P** 14 46 14.3 +0.7
baz=20,SNR=114
BNM **Barren Site** 20.04 328 *e* P **P** 14 46 15.0 +1.3
LPM **Los Pinos Moun** 20.17 329 *e* P **P** 14 46 16.0 +0.9
LENM **Lemitar** 20.23 328 *e* P **P** 14 46 16.8 +1.1
TKL **Tuckaleechee C** 20.32 25 P **P** 14 46 16.2 -0.5
comp=Z,30nm,0.9s,baz=179,slow=12,SNR=10.0
TKL **Tuckaleechee C** 20.32 25 *e* P **P** 14 46 16.3 -0.5
JSC **Jenkinsville** 20.32 32 *e* P **P** 14 46 16.2 -0.6
218A **Dragoon** 20.41 318 ⇑P **P** 14 46 18.4 +0.8
baz=20,SNR=68
119A **Ashpeak Ranch,** 20.48 321 ⇑P **P** 14 46 19.4 +0.9
baz=20,SNR=58
LAZ **Ladron** 20.50 328 *e* P **P** 14 46 19.9 +1.3
ANMO **Albuquerque** 20.60 330 P **P** 14 46 19.6 -0.1
comp=Z,36nm,0.8s,baz=150,slow=12,SNR=68
ANMO **Albuquerque** 20.60 330⇑ *e* P **P** 14 46 20.2 +0.5
ANMO **Albuquerque** 20.60 330 *e* P **P** 14 46 20.1 +0.4
comp=Z,58nm,0.9s
SIUC **Southern Illin** 20.63 11 *e* P **P** 14 46 20.0 0.0
comp=Z,40nm,0.7s
CCM **Cathedral Cave** 20.67 6 *e* P **P** 14 46 18.4 -2.0
CCM pmax pmax
comp=Z,24nm,0.5s
CCM **Cathedral Cave** 20.67 6 *e* P **P** 14 46 18.4 -2.0
comp=Z,24nm,0.5s
FVM **French Village** 20.70 8 *e* P **P** 14 46 21.2 +0.5
FVM pmax pmax
comp=Z,22nm,1.1s
FVM **French Village** 20.70 8 *e* P **P** 14 46 21.2 +0.5
comp=Z,22nm,1.1s
217A **Green Valley** 20.78 316 ⇑P **P** 14 46 22.1 +0.5
baz=21,SNR=114
118A **Homack Ranch,** 20.80 320 ⇑P **P** 14 46 22.4 +0.5
baz=21,SNR=72
Z19A **T-Link Ranch,** 20.83 322 ⇓P **P** 14 46 22.9 +0.8
baz=21,SNR=13
Z18A **Geronimo** 21.15 320 ⇓P **P** 14 46 26.3 +0.7
baz=21,SNR=17
TZTN **Tazewell** 21.18 24 *e* P **P** 14 46 25.3 -0.6
comp=Z,29nm,0.6s,mb4.8
USIN **University of** 21.20 14 *e* P **P** 14 46 25.8 -0.2
comp=Z,30nm,0.7s,mb4.7
117A **Oracle** 21.24 318 ⇑P **P** 14 46 27.0 +0.5
baz=21,SNR=54
Y19A **Nutrioso** 21.30 323 ⇑P **P** 14 46 28.3 +1.1
baz=21,SNR=78
216A **Three Points,** 21.34 316 ⇓P **P** 14 46 27.9 +0.2
baz=21,SNR=51
SLM **Saint Louis** 21.37 8 *e* P **P** 14 46 27.6 -0.2
Z17A **San Carlos Hig** 21.56 320 ⇓P **P** 14 46 30.5 +0.6
baz=22,SNR=12
Y18A **Canyon Day Jun** 21.63 322 ⇓P **P** 14 46 31.2 +0.6
baz=22,SNR=42
X19A **St. Johns** 21.66 324 ⇑P **P** 14 46 31.8 +0.8
baz=22,SNR=17
KSU1 **Kansas State U** 21.67 355 P **P** 14 46 30.2 -0.8
comp=Z,73nm,0.7s,mb5.2
WCI **Wyandotte Cave** 21.80 17 *e* P **P** 14 46 31.3 -1.1
WCI pmax pmax
comp=Z,70nm,0.6s,mb5.3
WCI **Wyandotte Cave** 21.80 17 *e* P **P** 14 46 31.3 -1.0
comp=Z,70nm,0.6s,mb5.3
CBKS **Cedar Bluff** 21.83 348 *e* P **P** 14 46 32.8 +0.1
CBKS pmax pmax
comp=Z,127nm,1.3s,mb5.2
CBKS **Cedar Bluff** 21.83 348 *e* P **P** 14 46 32.8 +0.1
comp=Z,127nm,1.3s,mb5.2
OLIL **Olney** 21.84 13 *e* P **P** 14 46 31.8 -1.0
comp=Z,39nm,0.6s,mb5.0
116A **Eloy** 21.86 317 ⇓P **P** 14 46 32.8 -0.2
baz=22,SNR=6.8
Y17A **Roosevelt** 22.06 320 ⇑P **P** 14 46 35.2 0.0
baz=22,SNR=37
X18A **Snowflake** 22.11 323 ⇓P **P** 14 46 36.5 +0.8
baz=22,SNR=65
Z16A **Peralta Trail,** 22.18 319 ⇑P **P** 14 46 36.3 -0.1
baz=22,SNR=12
W19A **Sanders** 22.23 325 ⇓P **P** 14 46 37.6 +0.7
baz=22,SNR=32
214A **Organ Pipe Nat** 22.23 314 ⇑P **P** 14 46 36.7 -0.3
baz=22,SNR=24
115A **Sonoran Desert** 22.29 316 ⇑P **P** 14 46 37.5 0.0
baz=22,SNR=36
W18A **Petrified Fore** 22.42 325 ⇑P **P** 14 46 39.4 +0.6
baz=22,SNR=20
X17A **Forest Lakes** 22.47 322 ⇓P **P** 14 46 40.1 +0.9
baz=22,SNR=23
V19A **Window Rock** 22.50 327 ⇓P **P** 14 46 40.0 +0.5
baz=23,SNR=13
SDCO **Great Sand Dun** 22.54 336 *e* P **P** 14 46 40.3 +0.5
comp=Z,100nm,1.5s,mb5.0
SDCO *e* pP 14 47 12.3
Y16A **Circle Bar Ran** 22.57 320 ⇑P **P** 14 46 40.3 +0.2
baz=23,SNR=32
Z15A **Gila River Ind** 22.61 318 ⇑P **P** 14 46 39.8 -0.7
baz=23
BLO **Bloomington** 22.62 16 *e* P **P** 14 46 39.5 -1.0
BLO pmax pmax
comp=Z,52nm,0.4s,mb5.3
BLO **Bloomington** 22.62 16 *e* P **P** 14 46 39.5 -1.0
comp=Z,52nm,0.4s,mb5.3
X16A **Lo Mia Camp, P** 22.91 321 ⇑P **P** 14 46 43.9 +0.6
baz=23,SNR=148
W17A **Winslow** 22.94 323 ⇓P **P** 14 46 43.9 +0.4
baz=23,SNR=8.7
V18A **Ganado** 22.97 325 ⇓P **P** 14 46 44.1 +0.3
baz=23,SNR=11
OTAV **Otavalo** 23.04 136 *e* P **P** 14 46 46.7 +2.1
comp=Z,136nm,1.7s,mb5.1
BLA **Blacksburg** 23.08 29 *e* P **P** 14 46 43.4 -1.4
BLA *e* 14 47 12.0
BLA pmax pmax
comp=Z,44nm,0.9s,mb4.9
BLA **Blacksburg** 23.08 29 *e* P **P** 14 46 43.4 -1.4
comp=Z,44nm,0.9s,mb4.9
BLA *e* 14 47 11.9
Y15A **Casa Rosa Ranc** 23.15 319 ⇑P **P** 14 46 45.4 0.0
baz=23,SNR=80
Z14A **Wintersburg** 23.17 317 ⇑P **P** 14 46 45.6 0.0
baz=23,SNR=20
T19A **Beclabito** 23.35 329 ⇑P **P** 14 46 47.2 0.0
baz=23,SNR=26
113A **Mohawk Valley,** 23.36 314 ⇓P **P** 14 46 46.9 -0.4
baz=23,SNR=35
HDIL **Hopedale** 23.39 9 *e* P **P** 14 46 46.6 -0.9
comp=Z,20nm,0.5s,mb4.8
MVCO **Mesa Verde** 23.40 330 ⇑P **P** 14 46 48.2 +0.6
baz=24,SNR=48
MVCO **Mea Verde** 23.40 330 *e* P **P** 14 46 48.1 +0.5
comp=Z,72nm,0.8s,mb5.2
W16A **Flagstaff** 23.43 322 ⇓P **P** 14 46 48.5 +0.6
baz=24,SNR=19
X15A **Humboldt** 23.44 320 ⇓P **P** 14 46 48.3 +0.2
baz=24,SNR=64
U18A **Rough Rock, Ch** 23.47 327 ⇑P **P** 14 46 48.4 +0.1
baz=24,SNR=15
Y14A **Wickenburg** 23.57 318 ⇑P **P** 14 46 49.0 -0.3
baz=24,SNR=53
WUAZ **Wupatki** 23.63 323 ⇑P **P** 14 46 50.3 +0.5
baz=24,SNR=60
WUAZ **Wupatki** 23.63 323 *e* P **P** 14 46 50.3 +0.5
comp=Z,142nm,1.0s,mb5.5
112A **Yuma** 23.79 313 ⇓P **P** 14 46 51.1 -0.1
baz=24
X14A **Yava** 23.84 319 ⇓P **P** 14 46 51.7 0.0
baz=24,SNR=32
W15A **Williams** 23.92 321 ⇓P **P** 14 46 53.0 +0.5
baz=24,SNR=34
U16A **Tuba City** 23.94 324 ⇑P **P** 14 46 52.9 +0.2
baz=24,SNR=58
T18A **Mexican Hat** 24.02 328 ⇑P **P** 14 46 53.2 -0.1
baz=24,SNR=37
U17A **Shonto** 24.02 326 ⇓P **P** 14 46 53.8 +0.5
baz=24,SNR=19
Y13A **Salome** 24.03 316 ⇑P **P** 14 46 53.4 0.0
baz=24,SNR=9.4
S19A **Harvy Farm, M** 24.13 330 ⇑P **P** 14 46 54.5 +0.2
baz=24,SNR=11
PV01 **Paradox Valley** 24.18 331 *e* P **P** 14 46 55.4 +0.7
PV01 *e* pP 14 47 29.7
GLA **Glamis** 24.25 314 *e* P **P** 14 46 55.1 -0.4
GLA pmax pmax
comp=Z,85nm,0.8s,mb5.3
GLA **Glamis** 24.25 314 ⇑P **P** 14 46 55.3 -0.1
baz=24,SNR=26
GLA **Glamis** 24.25 314 *e* P **P** 14 46 55.1 -0.3
comp=Z,85nm,0.8s,mb5.3
V15A **Kaibab Nationa** 24.31 322 ⇓P **P** 14 46 56.5 +0.6
baz=24,SNR=30
OGNE **Ogallala** 24.38 345 *e* P **P** 14 46 56.7 +0.3
comp=Z,174nm,1.3s,mb5.4
SCIA **State Center** 24.38 2 *e* P **P** 14 46 54.9 -1.5
comp=Z,40nm,0.5s,mb5.2
SCIA *e* pP 14 47 30.2
SDV **Santo Domingo** 24.39 107 P **P** 14 46 55.5 -1.3
comp=Z,20nm,0.6s,mb4.8,baz=324,slow=3.9,SNR=10
SDV **Santo Domingo** 24.39 107 *e* P **P** 14 46 55.4 -1.5
comp=Z,29nm,0.8s,mb4.9
SDV *e* pP 14 47 29.7
ISCO **Idaho Springs** 24.39 338 *e* P **P** 14 46 57.0 +0.4
ISCO pmax pmax
comp=Z,28nm,0.8s,mb4.8
ISCO **Idaho Springs** 24.39 338 *e* P **P** 14 46 57.0 +0.4
comp=Z,28nm,0.8s,mb4.8
T17A **Navajo Res., N** 24.39 326 ⇑P **P** 14 46 57.2 +0.5
baz=24,SNR=12
W14A **Seman** 24.44 320 ⇓P **P** 14 46 57.4 +0.2
baz=24,SNR=39
Y12C **Blythe** 24.45 315 ⇑P **P** 14 46 57.7 +0.4
baz=24
S18A **Hurst Farm, Bl** 24.50 328 ⇑P **P** 14 46 57.8 0.0
baz=25,SNR=27
X13A **Yucca** 24.51 318 ⇓P **P** 14 46 57.8 0.0
baz=25,SNR=49
PDMCI **Parker Dam,Lak** 24.53 317 ⇑P **P** 14 46 57.9 -0.1
baz=25,SNR=19
PV10 **Paradox Valley** 24.59 331 *e* P **P** 14 46 57.9 -0.5
V14A **Boquillas Ranc** 24.74 321 ⇑P **P** 14 47 00.5 +0.6
baz=25,SNR=50
T16A **Glen Canyon Da** 24.76 325 ⇑P **P** 14 47 00.4 +0.3
baz=25,SNR=8.8
U15A **North Rim** 24.80 323 ⇓P **P** 14 47 01.1 +0.7
baz=25,SNR=22
SWSC **Sam W. Stewart** 24.86 312 ⇑P **P** 14 47 01.1 +0.1
baz=25,SNR=6.3
W13A **Hualapai Mount** 24.87 319 ⇓P **P** 14 47 01.3 +0.3
baz=25,SNR=25
S17A **Black Ridge (B** 24.87 327 ⇑P **P** 14 47 01.3 +0.2
baz=25,SNR=20
DVTC **Desert V Tower** 24.93 312 ⇓P **P** 14 47 02.1 +0.5
baz=25
R18A **Canyonlands Na** 25.00 330 ⇑P **P** 14 47 02.1 -0.1
baz=25,SNR=34
BC3 **Big Chuckw Mtn** 25.02 314 ⇓P **P** 14 47 02.6 +0.2
baz=25,SNR=27
IRM **Iron Mountain** 25.11 315 ⇓P **P** 14 47 03.5 +0.2
baz=25,SNR=13
NEE2 **Needles Airpor** 25.13 317 ⇑P **P** 14 47 03.5 +0.1
baz=25
Q19A **Hogan Spring (** 25.16 331 ⇑P **P** 14 47 03.7 +0.1
baz=25,SNR=21
T15A **Red Dirt Ranch** 25.27 324 ⇓P **P** 14 47 05.2 +0.5
baz=25,SNR=10
MONP **Monument Peak** 25.28 312 ⇓P **P** 14 47 05.0 +0.2
baz=25
U14A **Mt Trumbull** 25.31 322 ⇑P **P** 14 47 05.5 +0.4
baz=25,SNR=16
S16A **Weppner Ranch,** 25.36 326 ⇓P **P** 14 47 05.7 +0.3
baz=25,SNR=9.0
R17A **Hanksville Air** 25.43 329 ⇑P **P** 14 47 06.2 +0.2
baz=26,SNR=35
JFWS **Jewell Farm** 25.58 7 *e* P **P** 14 47 06.2 -1.2
JFWS pmax pmax
comp=Z,44nm,0.6s,mb5.3
JFWS **Jewell Farm** 25.58 7 *e* P **P** 14 47 06.2 -1.2
comp=Z,44nm,0.6s,mb5.3
BELC **Belle Mtn.** 25.59 314 ⇓P **P** 14 47 07.8 +0.1
baz=26,SNR=13
W12A **Cal Nev Ari** 25.62 318 ⇓P **P** 14 47 08.0 +0.1
baz=26,SNR=7.9
LDFC **Landfair** 25.64 317 *e* P **P** 14 47 09.0 +1.0
comp=Z,46nm,0.8s,mb5.2
Q18A **Rafter H Ranch** 25.68 330 ⇓P **P** 14 47 08.7 +0.4
baz=26,SNR=27
PFO **Pinyon Flat Ob** 25.69 313 P **P** 14 47 08.0 -0.5
comp=Z,141nm,1.2s,mb5.5,SNR=7.5
PFO **Pinyon Flat Ob** 25.69 313 P **P** 14 47 07.4 -1.1
comp=Z,17nm,0.9s,mb4.7,baz=120,slow=7.6,SNR=18
PFO **Pinyon Flat Ob** 25.69 313 *e* P **P** 14 47 08.7 +0.2
PFO pmax pmax
comp=Z,24nm,1.0s,mb4.8
PFO **Pinyon Flat Ob** 25.69 313 ⇓P **P** 14 47 08.7 +0.2
baz=26,SNR=11
PFO **Pinyon Flat Ob** 25.69 313 *e* P **P** 14 47 08.7 +0.1
comp=Z,24nm,1.0s,mb4.8
T14A **Hurricane** 25.70 323 ⇑P **P** 14 47 08.9 +0.3
baz=26,SNR=5.1
R16A **Teasdale** 25.72 327 ⇓P **P** 14 47 09.1 +0.5
baz=26,SNR=16
S15A **Panguitch** 25.73 325 ⇑P **P** 14 47 09.7 +0.9
baz=26,SNR=6.7
109C **Camp Elliot, M** 25.77 311 ⇓P **P** 14 47 09.3 +0.1
baz=26
U13A **Pakoon Wash** 25.78 321 ⇓P **P** 14 47 09.7 +0.5
baz=26,SNR=23
GMRC **Granite Mounta** 25.82 316 ⇓P **P** 14 47 09.8 +0.1
baz=26,SNR=19
SRU **San Rafael** 25.87 330 *e* P **P** 14 47 10.3 +0.2
SRU pmax pmax
comp=Z,17nm,1.0s,mb4.6
SRU **San Rafael** 25.87 330 ⇓P **P** 14 47 10.2 +0.2
baz=26,SNR=14
SRU **San Rafael** 25.87 330 *e* P **P** 14 47 10.3 +0.3
comp=Z,17nm,1.0s,mb4.6
V12A **Nelson** 25.88 319 ⇓P **P** 14 47 10.3 +0.2
baz=26,SNR=40
Q16A **Castle Valley** 26.04 329 ⇓P **P** 14 47 12.0 +0.5
baz=26,SNR=9.7
R15A **Junction** 26.08 326 ⇑P **P** 14 47 12.3 +0.4
baz=26
U12A **Valley of Fire** 26.13 320 ⇓P **P** 14 47 12.6 +0.1
baz=26,SNR=9.7
T13A **Saint George** 26.15 322 ⇑P **P** 14 47 13.2 +0.6
baz=26,SNR=9.5
P18A **Preston Nutter** 26.15 331 ⇓P **P** 14 47 12.7 +0.1
baz=26
O19A **Miners Draw (B** 26.20 333 ⇓P **P** 14 47 12.9 0.0
baz=26
CCUT **Cedar City** 26.20 324 *e* P **P** 14 47 13.4 +0.4
CCUT *e* pP pP 14 47 49.4 +4.5
MURC **Murrieta** 26.21 312 ⇑P **P** 14 47 13.4 +0.3
baz=26,SNR=6.7
S14A **Cedar City** 26.24 324 ⇓P **P** 14 47 14.3 +0.9
baz=26
MSU **Marysvale** 26.25 327 *e* P **P** 14 47 14.1 +0.7
MSU *e* 14 50 36.2
P17A **Butcher Ranch,** 26.26 330 ⇑P **P** 14 47 13.9 +0.3
baz=26,SNR=8.4
ECSD **EROS,Sioux Fal** 26.27 356 *e* P **P** 14 47 12.6 -1.0
comp=Z,52nm,0.8s,mb5.2
HEC **Hector,Ludlow** 26.29 315 ⇑P **P** 14 47 13.9 0.0
baz=26
V11A **Goodsprings** 26.31 318 ⇓P **P** 14 47 14.5 +0.4
baz=26
BBRC **Big Bear Sol-O** 26.37 314 ⇑P **P** 14 47 15.1 +0.5
baz=26
TUQ **Turquoise Moun** 26.38 317 ⇓P **P** 14 47 14.9 +0.2
baz=26,SNR=18
ARUT **Antelope Range** 26.41 324 *e* P **P** 14 47 15.8 +0.9
T12A **Moapa** 26.43 321 ⇓P **P** 14 47 15.5 +0.3
baz=26
S13A **Holt Ranch, En** 26.50 323 ⇑P **P** 14 47 16.9 +1.1
baz=27,SNR=24
O18A **Roosevelt** 26.56 332 ⇓P **P** 14 47 16.7 +0.5
baz=27
U11A **Corn Creek** 26.65 319 ⇓P **P** 14 47 17.4 +0.3
baz=27
Q15A **Fillmore** 26.72 327 ⇑P **P** 14 47 17.9 +0.2
baz=27,SNR=6.0
P16A **Fountain Green** 26.81 329 ⇓P **P** 14 47 19.4 +0.9
baz=27
O17A **Robinson Place** 26.83 331 ⇓P **P** 14 47 19.4 +0.8
baz=27,SNR=15
SCI **San Clemente I** 26.87 310 ⇑P **P** 14 47 19.7 +0.7
baz=27
BFSC **Mount Baldy St** 26.87 313 ⇓P **P** 14 47 19.1 0.0
baz=27,SNR=8.0
GSC **Goldstone** 26.88 316 ⇓P **P** 14 47 19.2 0.0
baz=27
CIS **Catalina Islan** 26.97 311 ⇓P **P** 14 47 20.2 +0.2
baz=27,SNR=5.3
R13A **O'Grain Ranch,** 26.98 324 ⇑P **P** 14 47 21.2 +1.1
baz=27,SNR=15
N18A **Larsen Ranch,** 26.99 333 ⇓P **P** 14 47 20.3 +0.2
baz=27
FMP **Fort Macarthur** 27.05 311 ⇑P **P** 14 47 21.0 +0.3
baz=27
T11A **Corn Creek, Al** 27.08 321 ⇑P **P** 14 47 21.1 +0.2
baz=27,SNR=11
P15A **Leamington** 27.09 328 ⇑P **P** 14 47 21.5 +0.5
baz=27,SNR=5.9
Q14A **Sevier Lake (B** 27.18 326 ⇓P **P** 14 47 22.3 +0.5
baz=27,SNR=11
O16A **Springville** 27.20 330 ⇓P **P** 14 47 22.4 +0.5
baz=27,SNR=5.4
MVL **Millersville** 27.23 31 *e* P **P** 14 47 21.7 -0.5
comp=Z,41nm,1.3s,mb4.9
U10A **Ash Meadows, A** 27.24 318 ⇓P **P** 14 47 23.0 +0.7
baz=27,SNR=13
DAU **Daniels Canyon** 27.25 331 P **P** 14 47 23.0 +0.7
DECC **Green Verdugo** 27.35 312 ⇑P **P** 14 47 24.1 +0.7
baz=27
R12A **Pony Springs,** 27.45 323 ⇑P **P** 14 47 24.8 +0.6
baz=28,SNR=15
EDW2 **Edwards Air Fo** 27.45 314 ⇓P **P** 14 47 24.0 -0.2
baz=28,SNR=10
N17A **Moffit Pass** 27.47 332 ⇑P **P** 14 47 25.3 +1.0
baz=28
P14A **Drum Mountains** 27.51 327 ⇑P **P** 14 47 25.5 +0.8
baz=28
TPNV **Topopah Spring** 27.52 319 *e* P **P** 14 47 25.6 +0.8
TPNV pmax pmax
comp=Z,21nm,0.9s,mb4.9
TPNV **Topopah Spring** 27.52 319 ⇓P **P** 14 47 25.6 +0.8
baz=28,SNR=16
TPNV **Topopah Spring** 27.52 319 *e* P **P** 14 47 25.6 +0.7
comp=Z,21nm,0.9s,mb4.9
Q13A **Wheeler Ranch,** 27.56 325 ⇓P **P** 14 47 25.9 +0.7
baz=28,SNR=11
LRMC **Laurel Mountai** 27.58 315 ⇑P **P** 14 47 26.1 +0.7

baz=28
FURC **Furnace Creek,** 27.61 318 ⇑P P 14 47 26.6 +0.9
baz=28
S11A **Rachel** 27.66 321 ⇑P P 14 47 27.0 +0.9
baz=28
N16A **Rees Ranch, Co** 27.70 331 ⇓P P 14 47 28.1 +1.7
baz=28
MPMC **Manual Prospec** 27.78 316 ⇑P P 14 47 27.2 +0.1
baz=28,SNR=25
BLG **Laguna Peak** 27.80 311 ⇓P P 14 47 27.3 -0.1
baz=28
OSI **Osito Adit** 27.82 313 ⇓P P 14 47 27.8 +0.3
baz=28
OSI **Osito Adit** 27.82 313 *eP* P 14 47 27.5 0.0
comp=Z,35nm,1.1s,mb5.0
DUG **Dugway** 27.83 328 *eP* P 14 47 28.1 +0.5
DUG pmax pmax
comp=Z,29nm,1.5s,mb4.8
DUG **Dugway** 27.83 328 ⇑P P 14 47 28.2 +0.6
baz=28,SNR=8.0
DUG **Dugway** 27.83 328 *eP* P 14 47 28.1 +0.6
comp=Z,29nm,1.5s,mb4.8
P13A **Bates Ranch, G** 27.91 326 ⇓P P 14 47 29.1 +0.8
baz=28,SNR=14
R11A **Troy Canyon, C** 28.03 322 ⇓P P 14 47 30.0 +0.7
baz=28,SNR=25
Q12A **Willow Creek R** 28.07 324 ⇓P P 14 47 30.5 +0.9
baz=28
BSC **Santa Cruz Isl** 28.15 311 ⇑P P 14 47 31.0 +0.5
baz=28
ARVC **Arvin** 28.16 313 ⇑P P 14 47 30.7 +0.2
baz=28,SNR=5.4
ISA **Isabella** 28.21 315 ⇑P P 14 47 31.5 +0.5
baz=28,SNR=9.6
N15A **Stansbury Isla** 28.22 330 ⇑P P 14 47 32.1 +1.1
baz=28
GRAC **Grapevine Rang** 28.26 318 ⇑P P 14 47 32.0 +0.6
baz=28,SNR=36
S10A **Tonopah Range,** 28.35 320 ⇓P P 14 47 33.1 +0.9
baz=28,SNR=33
Q11A **Duckwater** 28.40 323 ⇓P P 14 47 33.5 +0.9
baz=28,SNR=19
R10A **Warm Springs** 28.41 321 ⇑P P 14 47 33.7 +1.0
baz=28,SNR=12
GLMI **Grayling** 28.42 14 *eP* P 14 47 31.3 -1.4
PDAR **Pinedale Array** 28.44 336 P P 14 47 32.1 -0.8
comp=Z,5.6nm,1.0s,mb4.2,baz=138,slow=9.2,SNR=20
PDAR pP pP 14 48 05.0 -0.1
comp=Z,2.0nm,0.9s,baz=151,slow=11,SNR=2.0
PDAR PcP PcP 14 50 39.2 -2.0
comp=Z,2.6nm,0.6s,baz=126,slow=4.6,SNR=5.2
PDAR ScP ScP 14 54 05.7 -2.6
comp=Z,0.7nm,0.4s,baz=128,slow=2.4,SNR=3.9
N14A **Grayback Hills** 28.52 329 ⇑P P 14 47 34.1 +0.4
baz=29,SNR=19
L16A **Fish Haven** 28.60 332 ⇑P P 14 47 34.4 +0.1
baz=29,SNR=7.8
S09A **Goldfield** 28.61 319 ⇑P P 14 47 34.8 +0.2
baz=29,SNR=29
M15A **Larsen Ranch,** 28.63 330 ⇓P P 14 47 34.9 +0.3
baz=29,SNR=12
VES **Vestal, Richgr** 28.72 314 ⇑P P 14 47 36.3 +0.7
baz=29,SNR=15
PKM **Peak Mountain** 28.73 312 ⇓P P 14 47 35.9 +0.2
baz=29,SNR=12
Q10A **Clear Creek Ra** 28.82 322 ⇑P P 14 47 37.6 +1.3
baz=29,SNR=16
TPH **Tonopah** 28.83 320 *eP* P 14 47 37.0 +0.6
TPH pmax pmax
comp=Z,32nm,1.3s,mb4.9
TPH **Tonopah** 28.83 320 *eP* P 14 47 37.0 +0.5
comp=Z,32nm,1.3s,mb4.9
R09A **Tonopah** 28.84 320 ⇑P P 14 47 37.2 +0.7
baz=29,SNR=33
TIN **Tinemaha** 28.84 317 ⇑P P 14 47 37.2 +0.6
baz=29
O12A **Currie** 28.89 326 ⇑P P 14 47 37.7 +0.8
baz=29,SNR=8.9
P11A **Circle Ranch,** 28.94 324 ⇓P P 14 47 38.2 +0.8
baz=29
L15A **Malad City** 29.02 331 ⇑P P 14 47 38.1 0.0
baz=29,SNR=10
N13A **Wendover, West** 29.03 328 ⇓P P 14 47 38.9 +0.7
baz=29,SNR=9.5
AHID **Auburn Hatcher** 29.07 334 *eP* P 14 47 38.4 0.0
comp=Z,36nm,1.2s,mb5.0
S08C **White Mtn Res** 29.07 318 ⇓P P 14 47 39.4 +0.8
baz=29,SNR=27
SMMC **Simmler** 29.07 313 ⇑P P 14 47 39.1 +0.4
baz=29
RCTC **Rector, Farmer** 29.09 315 ⇓P P 14 47 39.7 +1.0
baz=29
M14A **Sheep Mountain** 29.09 329 ⇑P P 14 47 39.1 +0.4
baz=29,SNR=32
HELL **Mitchell Peak** 29.15 316 ⇑P P 14 47 39.6 +0.3
baz=29,SNR=26
O11A **Cowboy Ranch,** 29.28 325 ⇓P P 14 47 41.2 +0.8
baz=29,SNR=9.2
Q09A **Carvers** 29.29 321 ⇓P P 14 47 41.5 +1.1
baz=29
V05C **Boulder Hill,** 29.30 314 ⇓P P 14 47 41.4 +0.8
baz=29
K16A **Soda Springs** 29.33 333 ⇓P P 14 47 41.6 +0.8
baz=29
M13A **Montello** 29.39 328 ⇓P P 14 47 41.9 +0.5
baz=30,SNR=19
P10A **Eureka** 29.39 323 ⇓P P 14 47 42.3 +1.0
baz=29,SNR=10
L14A **Malta** 29.45 330 ⇑P P 14 47 42.2 +0.4
baz=30,SNR=28
REDW **Red Top Meadow** 29.46 335 *eP* P 14 47 42.2 +0.3
comp=Z,97nm,1.3s,mb5.4
N12A **Clover Valley,** 29.46 327 ⇑P P 14 47 42.6 +0.6
baz=30,SNR=5.1
ELK **Elko** 29.49 326 P P 14 47 42.9 +0.6
comp=Z,15nm,1.0s,mb4.7,baz=139,slow=7.5,SNR=48
ELK pP pP 14 48 16.4 +1.9
comp=Z,5.5nm,0.8s,baz=132,slow=5.5,SNR=4.8
ELK PcP PcP 14 50 41.7 -2.3
comp=Z,6.7nm,0.8s,baz=203,slow=0.8,SNR=9.6
ELK ScP ScP 14 54 11.0 -0.6
comp=Z,2.3nm,1.0s,baz=124,slow=3.8,SNR=5.0
ELK **Elko** 29.49 326 *eP* P 14 47 42.5 +0.2
ELK *e*PP pP 14 48 17.1 +2.6
ELK *e* 14 50 43.7
ELK pmax pmax
comp=Z,17nm,0.9s
ELK **Elko** 29.49 326 *eP* P 14 47 42.5 +0.2
comp=Z,17nm,0.9s,mb4.8
ELK *e*pP pP 14 48 17.1 +2.6
ELK *es*P sP 14 48 34.3 +2.2
ELK *e*PcP PcP 14 50 43.7 -0.2
SNOW **Snow King Moun** 29.50 335 *eP* P 14 47 42.5 +0.2
comp=Z,82nm,1.0s,mb5.4
PCRV **Puerto La Cruz** 29.51 100 pP pP 14 48 16.9 +1.9
comp=Z,15nm,0.9s,baz=321,slow=20,SNR=3.8
R08A **Mina** 29.54 320 ⇑P P 14 47 43.7 +0.9
baz=30,SNR=7.9
TPAW **Teton Pass** 29.60 335 *eP* P 14 47 43.0 -0.2
comp=Z,44nm,1.1s,mb5.1
K15A **Arbon** 29.63 332 ⇑P P 14 47 43.6 +0.2
baz=30,SNR=12
RRI2 **Red Ridge** 29.64 334 *eP* P 14 47 43.5 0.0
comp=Z,63nm,1.3s,mb5.2
J16A **Bone** 29.70 334 ⇓P P 14 47 44.3 +0.2
baz=30,SNR=5.3
KCC **Kaiser Creek** 29.71 317 ⇑P P 14 47 44.1 -0.1
baz=30,SNR=23
NVAR **Mina Array Bea** 29.71 320 P P 14 47 45.5 +1.2
comp=Z,54nm,0.8s,mb5.3,baz=135,slow=9.1,SNR=254
NVAR pP pP 14 48 18.6 +2.0
comp=Z,12nm,0.9s,baz=130,slow=8.0,SNR=3.1
NVAR PcP PcP 14 50 44.0 -0.6
comp=Z,7.4nm,0.8s,baz=141,slow=2.5,SNR=12
NVAR ScP ScP 14 54 12.4 0.0
comp=Z,3.6nm,1.0s,baz=136,slow=4.5,SNR=11
NVAR **Mina Array Bea** 29.71 320 P P 14 47 45.5 +1.2
NVAR pP pP 14 48 18.6 +2.0
NVAR PcP PcP 14 50 44.0 -0.6
NVAR ScP ScP 14 54 12.4 0.0
P09A **Austin** 29.73 322 ⇑P P 14 47 45.2 +0.8
baz=30
MOOW **Moose Ponds** 29.73 335 *eP* P 14 47 44.3 -0.1
comp=Z,18nm,1.0s,mb4.8
Q08A **Gabbs** 29.75 321 ⇓P P 14 47 45.2 +0.6
baz=30,SNR=5.6
PKD **Parkfield** 29.78 313 ⇓P P 14 47 44.9 +0.1
baz=30,SNR=17
T06C **Millerton Lake** 29.78 316 ⇑P P 14 47 44.7 -0.2
baz=30
M12A **Wells** 29.81 328 ⇓P P 14 47 45.5 +0.5
baz=30,SNR=29
N11A **Elko Archery C** 29.81 326 ⇑P P 14 47 46.0 +1.0
baz=30
I17A **Pilgram Creek** 29.81 336 ⇑P P 14 47 46.0 +1.0
baz=30
K14A **Jones Ranch, D** 29.81 331 ⇑P P 14 47 45.3 +0.2
baz=30,SNR=13
L13A **Double Diamond** 29.82 330 ⇑P P 14 47 45.8 +0.7
baz=30
O10A **Cortez Mining,** 29.86 324 ⇑P P 14 47 46.2 +0.7
baz=30,SNR=16
I16A **Newdale** 30.14 335 ⇑P P 14 47 48.8 +0.8
baz=30
J15A **Blackfoot** 30.15 333 ⇑P P 14 47 48.4 +0.3
baz=30,SNR=6.6
U04C **Hernandez Rese** 30.16 314 ⇑P P 14 47 48.0 -0.2
baz=30,SNR=14
O09A **Fish Creek Ran** 30.17 323 ⇓P P 14 47 49.1 +0.8
baz=30,SNR=22
M11A **Holland Ranch,** 30.27 327 ⇑P P 14 47 49.5 +0.4
baz=30,SNR=13
V03C **Hunter Liggett** 30.30 313 ⇑P P 14 47 49.8 +0.3
baz=30,SNR=6.8
K13A **Stover Farm, H** 30.32 330 ⇓P P 14 47 50.2 +0.7
baz=30
RLMT **Red Lodge** 30.35 339 *eP* P 14 47 50.1 +0.3
comp=Z,10nm,0.8s,mb4.6
BMN **Battle Mountai** 30.36 324 *eP* P 14 47 50.7 +0.8
BMN pmax pmax
comp=Z,34nm,1.0s,mb5.0
BMN **Battle Mountai** 30.36 324 *eP* P 14 47 50.7 +0.7
comp=Z,34nm,1.0s,mb5.0
S06C **San Francisco** 30.37 317 ⇓P P 14 47 50.3 +0.2
baz=30,SNR=11
S05C **Merced** 30.39 316 ⇑P P 14 47 50.4 +0.2
baz=30
EYMN **Ely** 30.48 3 *eP* P 14 47 48.6 -2.2
comp=Z,9.6nm,0.5s,mb4.8
R06C **Coleville** 30.49 319 ⇓P P 14 47 52.2 +1.1
baz=30,SNR=14
J14A **Carey** 30.58 332 ⇑P P 14 47 52.2 +0.4
baz=31,SNR=15
YMR **Madison River** 30.59 336 *eP* P 14 47 52.9 +1.0
comp=Z,72nm,1.3s,mb5.2
K12A **Draper Farm, C** 30.70 329 ⇓P P 14 47 53.0 +0.1
baz=31,SNR=7.5
M10A **I.L. Ranch, Tu** 30.73 326 ⇓P P 14 47 53.8 +0.5
baz=31,SNR=23
L11A **Cat Creek Ranc** 30.78 328 ⇑P P 14 47 53.9 +0.3
baz=31,SNR=41
AGMN **Agassiz Refuge** 30.79 358 *eP* P 14 47 52.8 -0.7
comp=Z,25nm,0.8s,mb5.0
CMB **Columbia Colle** 30.81 317 ⇓P P 14 47 53.9 0.0
baz=31,SNR=6.6
PACP **Pacheco Peak** 30.85 315 ⇓P P 14 47 54.2 -0.1
baz=31
QLMT **Earthquake Lak** 30.91 336 *eP* P 14 47 54.9 +0.2
J13A **Cove Ranch, Pi** 30.93 331 ⇓P P 14 47 54.8 -0.1
baz=31,SNR=9.0
R05C **Kirkwood Meado** 30.99 318 ⇑P P 14 47 56.6 +1.1
baz=31,SNR=12
I14A **Mackay** 31.02 332 ⇑P P 14 47 56.6 +0.9
baz=31,SNR=18
GCMT **Greycliff** 31.07 339 *eP* P 14 47 55.9 -0.2
L10A **Juniper Basin** 31.09 327 ⇓P P 14 47 56.6 +0.2
baz=31,SNR=26
N08A **GE Springer Mi** 31.11 323 ⇓P P 14 47 56.9 +0.4
baz=31,SNR=8.8
WCN **Washoe City** 31.14 320 ⇓P P 14 47 57.7 +0.9
baz=31,SNR=6.6
M09A **Marrel Ranch,** 31.16 325 ⇑P P 14 47 57.7 +0.7
baz=31,SNR=6.5
PAHR **Pah Rah Range** 31.16 320 *eP* P 14 47 57.5 +0.5
comp=Z,39nm,1.1s,mb5.0
HLID **Hailey** 31.17 331 ⇓P P 14 47 57.3 +0.3
baz=31,SNR=27
HLID **Hailey** 31.17 331 *eP* P 14 47 56.8 -0.3
comp=Z,24nm,1.1s,mb4.8
F18A **Big Timber** 31.19 339 ⇓P P 14 47 57.3 +0.1
baz=31
H15A **Lima** 31.23 334 ⇓P P 14 47 58.6 +1.1
baz=31,SNR=9.1
J12A **Stokes Ranch,** 31.26 330 ⇑P P 14 47 57.7 -0.1
baz=31,SNR=9.6
R04C **Big Horse Ranc** 31.29 317 ⇓P P 14 47 59.0 +0.9
baz=31,SNR=7.1
I13A **Wildhorse Cree** 31.31 332 ⇓P P 14 47 58.8 +0.5
baz=31,SNR=19
K11A **Parker Ranch,** 31.36 328 ⇓P P 14 47 58.7 -0.1
baz=31,SNR=7.8
LAVA **Lava Cap Winer** 31.44 318 ⇓P P 14 47 59.8 +0.3
baz=32,SNR=10
MCMT **McKenzie Canyo** 31.48 334 *eP* P 14 48 00.6 +0.9
WENL **Wente Vineyard** 31.49 315 ⇓P P 14 48 00.6 +0.7
baz=32,SNR=5.5
H14A **Leadore** 31.53 333 ⇓P P 14 48 01.2 +1.0
baz=32
N07B **Gerlach** 31.59 322 ⇑P P 14 48 01.7 +0.9
baz=32
G15A **Dillon** 31.61 335 ⇓P P 14 48 01.8 +1.0
baz=32,SNR=11
P05C **Yuba Gap, Truc** 31.68 319 ⇑P P 14 48 02.4 +0.8
baz=32,SNR=7.7
JRSC **Jasper Ridge** 31.70 314 ⇓P P 14 48 02.4 +0.6
baz=32
O06A **Flanigan** 31.71 321 ⇓P P 14 48 02.6 +0.8
baz=32,SNR=14
MFID **Camas Ranch** 31.74 329 ⇑P P 14 48 02.1 +0.1
baz=32,SNR=9.7
BDM **Black Diamond** 31.74 316 ⇑P P 14 48 03.1 +1.0
baz=32,SNR=6.0
K10A **MacKenzie Ranc** 31.80 327 ⇑P P 14 48 02.4 -0.1
baz=32,SNR=13
DLMT **Dillon** 31.81 335 *eP* P 14 48 03.0 +0.3
comp=Z,63nm,1.2s,mb5.2
E18A **Harlowton** 31.83 339 ⇑P P 14 48 02.9 +0.1
baz=32
BEKR **Beckwourth** 31.86 320 ⇑P P 14 48 03.6 +0.5
baz=32,SNR=27
H13A **Challis** 31.88 332 ⇓P P 14 48 03.7 +0.5
baz=32,SNR=33
LCCM **Lewis and Clar** 31.92 336 P P 14 48 04.1 +0.5
E17A **Martinsdale** 32.07 338 ⇑P P 14 48 05.1 +0.2
baz=32
G14A **Jackson** 32.07 334 ⇓P P 14 48 05.4 +0.5
baz=32,SNR=24
N06A **Buffalo Meadow** 32.08 322 ⇑P P 14 48 05.2 +0.2
baz=32,SNR=40
H12A **Diamond D Ranc** 32.14 332 ⇓P P 14 48 06.0 +0.6
baz=32,SNR=50
F15A **Butte** 32.16 336 ⇓P P 14 48 06.0 +0.3
baz=32,SNR=41
L08A **Fields** 32.17 325 ⇓P P 14 48 05.9 +0.1
baz=32,SNR=27
K09A **Rome** 32.19 326 ⇑P P 14 48 06.3 +0.3
baz=32,SNR=41
OHCM **Honcut** 32.25 318 *eP* P 14 48 06.4 -0.2
O05C **Quincy** 32.26 320 ⇑P P 14 48 07.4 +0.8
baz=32,SNR=6.4
G13A **Cobalt** 32.28 333 ⇓P P 14 48 06.8 +0.1
baz=32,SNR=16
CVS **Carmenet Viney** 32.34 316 ⇑P P 14 48 07.7 +0.4
baz=32
ORV **Oroville** 32.39 318 ⇑P P 14 48 08.2 +0.4
baz=32,SNR=11
E16A **East Helena** 32.43 337 ⇓P P 14 48 08.6 +0.6
baz=32
F14A **Wisdom** 32.49 335 ⇑P P 14 48 08.9 +0.3
baz=33,SNR=8.1
WVOR **Wild Horse Val** 32.50 325 *eP* P 14 48 08.4 -0.2
WVOR *e* 14 50 52.1
WVOR pmax pmax
comp=Z,65nm,1.3s,mb5.2
WVOR **Wild Horse Val** 32.50 325 *eP* P 14 48 08.3 -0.3
comp=Z,65nm,1.3s,mb5.2
WVOR *e*PcP PcP 14 50 52.1 +0.2
MCCM **Marconi Confer** 32.52 315 ⇑P P 14 48 08.8 -0.1
baz=33
O04C **Chester** 32.57 320 ⇓P P 14 48 10.1 +0.8
baz=33,SNR=7.9
L07A **Adell** 32.61 324 ⇑P P 14 48 09.8 +0.2
baz=33,SNR=41
K08A **Mann Creek Ran** 32.62 326 ⇑P P 14 48 10.2 +0.5
baz=33,SNR=12
MNRC **McLaughlin Nat** 32.62 317 ⇑P P 14 48 10.4 +0.6
baz=33
J09A **Fry Pan Ranch,** 32.66 327 ⇑P P 14 48 10.2 +0.2
baz=33,SNR=17
E15A **Deer Lodge** 32.71 336 ⇑P P 14 48 10.5 +0.1
baz=33,SNR=15
I10A **Payette** 32.71 329 ⇓P P 14 48 11.0 +0.6
baz=33
ULM **Lac du Bonnet** 32.74 358 P P 14 48 08.7 -2.0
comp=Z,10nm,0.8s,mb4.6,baz=178,slow=8.1,SNR=11
M06C **Likely Place G** 32.74 322 ⇓P P 14 48 11.0 +0.2
baz=33,SNR=19
H11A **Donnelly** 32.79 331 ⇑P P 14 48 11.1 -0.1
baz=33,SNR=18
F13A **Darby** 32.88 334 ⇑P P 14 48 11.7 -0.2
baz=33,SNR=26
K07A **Rock Creek Ran** 33.00 325 ⇑P P 14 48 13.4 +0.3
baz=33,SNR=48
E14A **Clinton** 33.03 335 ⇑P P 14 48 13.1 -0.1
baz=33,SNR=7.4
J08A **Circle Bar Ran** 33.04 327 ⇓P P 14 48 13.6 +0.3
baz=33,SNR=58
C17A **Wharram Farm,** 33.05 339 ⇓P P 14 48 13.3 0.0
baz=33,SNR=6.2
MOD **Modoc** 33.08 323 ⇑P P 14 48 14.1 +0.4
baz=33,SNR=12
MOD **Modoc** 33.08 323 *eP* P 14 48 13.3 -0.4
comp=Z,49nm,1.4s,mb5.0
HOPS **Hopland** 33.09 316 ⇑P P 14 48 13.7 -0.1
baz=33
I09A **Lost Marbles R** 33.09 328 ⇑P P 14 48 13.8 -0.1
baz=33,SNR=38
D15A **Lincoln** 33.17 337 ⇑P P 14 48 14.4 -0.1
baz=33,SNR=10
GASB **Alder Springs** 33.22 318 ⇓P P 14 48 16.3 +1.3
baz=33,SNR=16
M05C **Lookout** 33.24 321 ⇓P P 14 48 15.1 0.0
baz=33,SNR=22
LTIM **Timbered Crate** 33.33 321 P P 14 48 15.9 0.0
E13A **Victor** 33.34 334 ⇑P P 14 48 15.7 -0.2
baz=33,SNR=25
G11A **Walters Elk Ra** 33.43 331 ⇓P P 14 48 16.5 -0.2
baz=34,SNR=58
I08A **Drewsey** 33.47 327 ⇓P P 14 48 17.2 +0.1
baz=34,SNR=8.2
L05A **Lakeview** 33.48 323 ⇓P P 14 48 17.3 +0.2
baz=34,SNR=13
J07A **Hines** 33.49 326 ⇓P P 14 48 17.3 0.0
baz=34
BMO **Blue Mountains** 33.52 330 *eP* P 14 48 15.9 -1.5
comp=Z,39nm,1.4s,mb5.0
BMO *e*PcP PcP 14 50 54.0 -0.7
C16A **Fuhringer Ranc** 33.53 338 ⇑P P 14 48 17.7 +0.2
baz=34,SNR=16
MSO **Missoula** 33.55 335 *eP* P 14 48 16.3 -1.5
comp=Z,33nm,1.2s,mb4.9
H09A **Durkee** 33.55 329 ⇑P P 14 48 17.3 -0.5
baz=34,SNR=12
O02C **Red Bluff** 33.55 318 ⇓P P 14 48 17.1 -0.7
baz=34,SNR=5.3
D14A **Greenough** 33.59 336 ⇓P P 14 48 17.7 -0.3
baz=34,SNR=12
WDC **Whiskeytown Da** 33.63 319 ⇓P P 14 48 16.6 -1.9
baz=34
K06A **Valley Falls** 33.63 324 ⇓P P 14 48 18.0 -0.4
baz=34,SNR=8.0
LASM **Arnica Sink** 33.64 321 P P 14 48 18.9 +0.4
G10A **Bishop Farm, J** 33.75 330 ⇓P P 14 48 18.9 -0.5
baz=34,SNR=14
F11A **Grangeville** 33.75 332 ⇑P P 14 48 18.7 -0.8
baz=34,SNR=6.1
C15A **Salmond Ranch,** 33.82 337 ⇑P P 14 48 19.9 -0.1
baz=34,SNR=11
J06A **Christmas Vall** 33.87 325 ⇓P P 14 48 19.5 -1.1
baz=34,SNR=4.9
E12A **Beaver Dam Sad** 33.90 333 ⇑P P 14 48 20.3 -0.4
baz=34,SNR=26
M04C **Macdoel** 33.91 321 ⇑P P 14 48 20.8 -0.1
baz=34,SNR=21
K05A **Summer Lake** 33.94 324 ⇓P P 14 48 21.4 +0.2
baz=34
H08A **Prairie City** 33.95 328 ⇑P P 14 48 20.7 -0.5
baz=34,SNR=15
D13A **Huson** 33.97 335 ⇓P P 14 48 21.1 -0.3
baz=34,SNR=22
G09A **Cove** 34.05 330 ⇑P P 14 48 21.4 -0.7
baz=34,SNR=40
I07A **Izee** 34.08 327 ⇓P P 14 48 21.7 -0.6
baz=34,SNR=10
E11A **Bogner Ranch,** 34.14 332 ⇑P P 14 48 21.6 -1.2
baz=34,SNR=25
L04A **Klamath Falls** 34.18 322 ⇑P P 14 48 22.9 -0.3
baz=34,SNR=9.0
O01C **Eel River Cons** 34.20 317 ⇓P P 14 48 24.0 +0.6
baz=34,SNR=6.1
N02C **Big Bar** 34.24 319 ⇑P P 14 48 23.8 0.0
baz=34
B15A **Bradely Ranch,** 34.26 338 ⇓P P 14 48 23.3 -0.5
baz=34,SNR=5.9
M02C **Callahan** 34.29 320 ⇑P P 14 48 23.1 -1.1
baz=34
F10A **Beach Ranch, E** 34.31 331 ⇓P P 14 48 23.9 -0.4
baz=34,SNR=66
I06A **Prineville** 34.36 326 ⇓P P 14 48 24.3 -0.5
baz=34,SNR=6.4
YBH **Yreka Blue Hor** 34.40 321 ⇓P P 14 48 23.9 -1.2
baz=34
F09A **S2 Ranch, Elgi** 34.43 330 ⇑P P 14 48 25.0 -0.3
baz=34,SNR=18
BUOR **Burton Butte** 34.45 322 P P 14 48 25.5 0.0
H07A **Lands Inn, Kim** 34.46 327 ⇓P P 14 48 25.0 -0.7
baz=34,SNR=25
A16A **West Butte Ran** 34.47 340 ⇓P P 14 48 25.6 0.0
baz=34
J05A **Fort Rock** 34.49 324 ⇑P P 14 48 25.7 -0.2
baz=35
B14A **Marquette Ranc** 34.55 337 ⇑P P 14 48 26.6 +0.2
baz=35
E10A **Myers Farm, Un** 34.64 332 ⇑P P 14 48 26.8 -0.3
baz=35
G08A **Pilot Rock** 34.64 329 ⇓P P 14 48 26.3 -0.9
baz=35,SNR=7.6
JCC **Jacoby Creek** 34.70 318 ⇑P P 14 48 28.3 +0.6
baz=35
D11A **Klaveano Farm,** 34.73 333 ⇓P P 14 48 27.0 -0.8
baz=35
LNOR **Lincton Mounta** 34.73 330 *eP* P 14 48 26.6 -1.3
A15A **Johnson Ranch,** 34.88 338 ⇑P P 14 48 28.8 -0.3
baz=35,SNR=13
C12B **Naegeli Ranch,** 34.88 335 ⇓P P 14 48 28.7 -0.5
baz=35,SNR=6.1
F08A **Pendleton** 34.91 329 ⇑P P 14 48 28.2 -1.3
baz=35,SNR=5.5
H06A **Lindquist Farm** 34.96 327 ⇑P P 14 48 29.2 -0.7
baz=35,SNR=5.5
G07A **Ruggs Ranch, H** 34.98 328 ⇑P P 14 48 29.6 -0.5
baz=35
B13A **Whitefish** 35.02 336 ⇓P P 14 48 30.2 -0.1
baz=35,SNR=14
HUMO **Hull Mountain** 35.07 322 ⇓P P 14 48 30.4 -0.5
baz=35
I05A **Bend** 35.08 325 ⇓P P 14 48 30.8 -0.2
baz=35,SNR=5.6
A14A **Double T Ranch** 35.12 338 ⇑P P 14 48 31.0 -0.2
baz=35,SNR=15
D10A **Wagner Farm, O** 35.14 332 ⇓P P 14 48 30.1 -1.4
baz=35,SNR=5.5
C11A **Tepee Creek (N** 35.31 334 ⇓P P 14 48 32.4 -0.5
baz=35,SNR=45
M01C **Crescent City** 35.33 320 ⇓P P 14 48 33.2 +0.1
baz=35
A13A **Flathead Natio** 35.45 337 ⇑P P 14 48 34.0 0.0
baz=36
K02A **Glendale** 35.48 322 ⇓P P 14 48 34.0 -0.4
baz=36
I04A **Tendick Farm,** 35.48 324 ⇓P P 14 48 34.4 0.0
baz=36
B12A **Libby** 35.53 335 ⇑P P 14 48 34.8 0.0
baz=36,SNR=16
E08A **Dider Farm, El** 35.55 330 ⇑P P 14 48 33.9 -1.0
baz=36
F07A **Phinny Hill Vi** 35.55 328 ⇓P P 14 48 35.9 +1.0
baz=36
D09A **Jones Farm, Ri** 35.62 331 ⇓P P 14 48 34.6 -0.9
baz=36,SNR=21
HAWA **Hanford** 35.71 329 *eP* P 14 48 35.0 -1.3
comp=Z,13nm,0.8s,mb4.6
RSW **Rattlesnake Hi** 35.74 329 *eP* P 14 48 35.5 -1.1
BROR **Big Rock Looko** 35.80 324 P P 14 48 36.6 -0.5

G05A Wamic 35.82 327 ⇓P **P 14 48 37.2 0.0**
baz=36,SNR=5.4
B11A Sandpoint 35.82 334 ⇓P **P 14 48 36.9 -0.3**
baz=36,SNR=11
J02A Umpqua 35.88 322 ⇓P **P 14 48 37.6 -0.3**
baz=36
D08A Wollman Farm, 35.90 331 ⇑P **P 14 48 37.2 -0.7**
baz=36,SNR=16
H04A Detroit Lake 35.92 325 ⇓P **P 14 48 37.6 -0.4**
baz=36,SNR=16
A12A Yaak River Ran 35.93 336 ⇑P **P 14 48 38.3 +0.1**
baz=36,SNR=7.8
E07A Sunnyside 35.98 329 ⇓P **P 14 48 37.9 -0.7**
baz=36,SNR=5.1
NEW Newport 36.00 334 *eP* **P 14 48 38.0 -0.8**
NEW pmax pmax
comp=Z,16nm,0.8s,mb4.7
NEW Newport 36.00 334 *eP* **P 14 48 38.0 -0.8**
comp=Z,16nm,0.8s,mb4.7
OD2 Odessa Site #2 36.04 331 *eP* **P 14 48 38.5 -0.6**
I03A Eugene 36.08 323 ⇑P **P 14 48 39.0 -0.5**
baz=36,SNR=11
K01A Sixes 36.09 321 ⇓P **P 14 48 40.0 +0.5**
baz=36
TDH Tom, Dick, Har 36.10 326 P **P 14 48 40.3 +0.6**
C09A Chrisman Ranch 36.15 332 ⇓P **P 14 48 39.8 -0.2**
baz=36,SNR=19
A11A Hall Mountain, 36.23 335 ⇓P **P 14 48 40.9 +0.3**
baz=36,SNR=26
F05A White Salmon 36.32 327 ⇑P **P 14 48 41.9 +0.4**
baz=36,SNR=18
G04A Mulino 36.41 326 ⇓P **P 14 48 42.1 -0.1**
baz=36,SNR=8.0
I02A Mapleton 36.41 323 ⇓P **P 14 48 42.4 +0.1**
baz=36
C08A Higginbotham F 36.49 331 ⇓P **P 14 48 42.6 -0.2**
baz=37,SNR=29
D07A Quincy 36.49 330 ⇓P **P 14 48 42.8 -0.2**
baz=37
H03A Soap Creek Ran 36.52 324 ⇑P **P 14 48 43.1 -0.1**
baz=37,SNR=6.2
E06A Yakima 36.53 328 ⇓P **P 14 48 43.6 +0.4**
baz=37,SNR=17
B09A Rice 36.57 333 ⇓P **P 14 48 43.0 -0.5**
baz=37,SNR=44
A10A Northport 36.74 334 ⇓P **P 14 48 44.1 -0.9**
baz=37,SNR=6.4
C07A Waterville 36.89 331 ⇓P **P 14 48 46.0 -0.3**
baz=37,SNR=7.3
D06A Cle Elum 36.91 329 ⇑P **P 14 48 46.3 -0.2**
baz=37,SNR=10
G03A Yamhill 36.92 325 ⇑P **P 14 48 46.5 0.0**
baz=37,SNR=9.8
ETW Entiat 36.95 330 *eP* **P 14 48 47.0 +0.2**
B08A Colville Reser 37.04 332 ⇑P **P 14 48 46.9 -0.7**
baz=37,SNR=12
LON Longmire 37.09 328 *eP* **P 14 48 47.6 -0.4**
LON pmax pmax
comp=Z,51nm,1.3s,mb5.0
LON Longmire 37.09 328 *eP* **P 14 48 47.6 -0.3**
comp=Z,51nm,1.3s,mb5.0
A09A Danville 37.17 333 ⇑P **P 14 48 48.1 -0.5**
baz=37,SNR=13
E04A Onalaska 37.45 327 ⇓P **P 14 48 50.8 -0.2**
baz=38
C06A Tall Timber Ra 37.45 330 ⇑P **P 14 48 50.8 -0.2**
baz=38,SNR=9.7
A08A Turner Farm, O 37.46 333 ⇑P **P 14 48 50.3 -0.7**
baz=38,SNR=7.7
F03A Seaside 37.46 326 ⇑P **P 14 48 51.5 +0.4**
baz=38
B07A Winthrop 37.47 331 ⇓P **P 14 48 50.9 -0.3**
baz=38
D05A Enumclaw 37.47 328 ⇓P **P 14 48 51.4 +0.2**
baz=38
BMW Boistfort Moun 37.63 327 *eP* **P 14 48 52.3 -0.3**
C05A Tolt Reservoir 37.67 329 ⇑P **P 14 48 51.8 -1.1**
baz=38,SNR=5.1
E03A Lebam 37.86 326 ⇑P **P 14 48 54.5 0.0**
baz=38,SNR=6.2
A07A Ashnola River, 38.02 332 ⇓P **P 14 48 55.7 -0.1**
baz=38,SNR=23
RPW Rockport 38.11 330 *eP* **P 14 48 55.6 -1.0**
JCW Jim Creek 38.13 330 *eP* **P 14 48 55.5 -1.3**
B06A Marblemount 38.15 330 ⇑P **P 14 48 55.8 -1.0**
baz=38,SNR=7.3
B05A Bryant 38.26 330 ⇑P **P 14 48 56.3 -1.5**
baz=38,SNR=5.4
C04A Brinnon 38.32 328 ⇓P **P 14 48 57.3 -1.1**
baz=38,SNR=8.3
A06A Chilliwack 38.56 331 ⇓P **P 14 48 59.5 -0.7**
baz=39,SNR=13
NLWA Neilton Lookou 38.56 327 ⇓P **P 14 49 00.2 -0.1**
baz=39
NLWA Neilton Lookou 38.56 327 *eP* **P 14 49 00.4 +0.1**
comp=Z,55nm,1.1s,mb5.1
EDM Edmonton 38.72 342 P **P 14 49 00.0 -1.5**
A05A Maple Falls 38.77 330 ⇓P **P 14 49 01.2 -0.9**
baz=39,SNR=6.0
B04A Port Angeles 38.82 328 ⇑P **P 14 49 02.1 -0.3**
baz=39,SNR=5.0
A04A Legoe Bay, Lum 38.87 330 ⇓P **P 14 49 02.9 0.0**
baz=39
PGC Sidney 39.19 329 *eP* **P 14 49 04.9 -0.6**
comp=Z,135nm,1.1s,mb5.5
LPAZ La Paz 42.20 141 P **P 14 49 30.3 -0.2**
comp=Z,10nm,0.7s,mb4.5,baz=330,slow=5.8,SNR=57
LPAZ pP pP 14 50 04.0 -0.2
comp=Z,5.0nm,0.7s,baz=336,slow=12,SNR=3.5
LPAZ La Paz 42.20 141 *eP* **P 14 49 29.6 -1.0**
LPAZ pmax pmax
comp=Z,11nm,0.8s
LPAZ La Paz 42.20 141 *eP* **P 14 49 29.6 -0.9**
comp=Z,11nm,0.8s,mb4.5
SCHQ Schefferville 42.77 23 PcP PcP 14 51 22.0 -1.3
comp=Z,6.7nm,0.7s,baz=225,slow=0.7,SNR=3.6
SIV San Ignacio 46.54 134 P **P 14 50 03.6 -1.5**
comp=Z,18nm,0.9s,mb4.7,baz=312,slow=8.7,SNR=85
SIV pP pP 14 50 38.1 -1.3
comp=Z,5.5nm,0.8s,baz=306,slow=8.0,SNR=2.9
SIV PcP PcP 14 51 36.3 -0.7
comp=Z,8.2nm,0.8s,baz=325,slow=1.2,SNR=5.7
RPN Rapa Nui 46.72 199 P **P 14 50 05.6 -0.7**
comp=Z,425µm,1.0s,baz=7.1,slow=7.3,SNR=3.7
RPN Rapa Nui 46.72 199 P **P 14 50 05.6 -0.7**
LVC Limon Verde 46.85 147 P **P 14 50 08.0 +0.6**
comp=Z,19nm,0.8s,mb4.8,baz=305,slow=7.1,SNR=18
LVC Limon Verde 46.85 147 *eP* **P 14 50 07.6 +0.3**
comp=Z,18nm,0.8s,mb4.7
YKA Yellowknife Ar 47.21 347 P **P 14 50 08.5 -1.1**
comp=Z,9.5nm,0.8s,mb4.5,baz=148,slow=7.7,SNR=11
YKA pP pP 14 50 44.1 +0.1
comp=Z,4.1nm,0.7s,baz=148,slow=8.1,SNR=4.2
YKA Yellowknife Ar 47.21 347 P **P 14 50 08.5 -1.2**
YKA pP pP 14 50 44.1 +0.1
DLBC Dease Lake 48.67 336 *eP* **P 14 50 22.1 +1.2**
DLBC *e*pP pP 14 50 59.4 +3.9
HYT Haines Junctio 53.14 335 *eP* **P 14 50 53.0 -1.3**
CFAA Coronel Fontan 54.75 153 P **P 14 51 06.0 -0.4**
comp=Z,1.9nm,0.7s,mb3.9,baz=328,slow=6.5,SNR=27
CFAA pP pP 14 51 40.0 -1.7
comp=Z,1.3nm,0.8s,baz=322,slow=8.6,SNR=4.6
CFAA Coronel Fontan 54.75 153 P **P 14 51 06.0 -0.4**
CFAA pP pP 14 51 40.0 -1.7
FCH Farellones 55.40 156 ⇓*i*P **P 14 51 11.4 +0.5**
DAWY Dawson 55.72 338 *eP* **P 14 51 11.3 -1.6**
CPUP Villa Florida 56.33 140 P **P 14 51 15.5 -2.2**
comp=Z,4.3nm,0.6s,mb4.5,baz=314,slow=7.9,SNR=14
CPUP pP pP 14 51 49.8 -3.5
comp=Z,2.4nm,0.7s,baz=276,slow=5.2,SNR=2.9
CPUP Villa Florida 56.33 140 *eP* **P 14 51 15.0 -2.8**
CPUP *e* 14 52 11.9
CPUP pmax pmax
comp=Z,68nm,1.1s
CPUP Villa Florida 56.33 140 *eP* **P 14 51 15.0 -2.7**
comp=Z,68nm,1.1s,mb5.4
CPUP *e*PcP PcP 14 52 11.9 -1.3
PMR Palmer 58.42 333 *eP* **P 14 51 30.9 -1.0**
PMR pmax pmax
comp=Z,20nm,1.1s,mb4.9
PMR Palmer 58.42 333 *eP* **P 14 51 30.9 -0.9**
comp=Z,20nm,1.1s,mb4.8
RC01 Rabbit Creek A 58.49 332 *eP* **P 14 51 31.9 -0.4**
comp=Z,23nm,1.0s,mb5.0
COLA College 59.28 336 *eP* **P 14 51 37.2 -0.6**
COLA *i* *PP pP 14 52 23.4 +10
COLA College 59.28 336 *eP* **P 14 51 35.6 -2.2**
comp=Z,23nm,1.0s,mb5.0
KTH Kantishna Hill 59.95 334 *eP* **P 14 51 41.6 -0.8**
comp=Z,33nm,1.0s,mb5.1
KTH *e*pP pP 14 52 19.8 +1.5
BPAW Bear Paw Mtn. 60.19 335 *eP* **P 14 51 42.7 -1.3**
PPLA Purkeypile 60.24 333 *eP* **P 14 51 43.7 -0.7**
comp=Z,62nm,1.4s,mb5.2
CHUM Lake Minchumin 60.65 334 *eP* **P 14 51 45.8 -1.4**
comp=Z,28nm,1.3s,mb4.9
SVW2 Sparrevohn 61.17 331 *eP* **P 14 51 48.5 -2.1**
COLD Coldfoot 61.18 338 *eP* **P 14 51 50.7 +0.1**
comp=Z,21nm,1.2s,mb4.8
PLCA Paso Flores 61.90 160 P **P 14 51 54.6 -1.2**
comp=Z,24nm,0.8s,mb5.1,baz=334,slow=8.4,SNR=49
PLCA pP pP 14 52 31.6 -0.3
comp=Z,6.7nm,0.9s,baz=326,slow=7.3,SNR=2.9
TRQA Tornquist 62.94 152 *eP* **P 14 52 01.3 -1.5**
comp=Z,20nm,1.1s,mb4.9
EBAJ Bajamar 71.37 65 P **P 14 52 58.6 +2.4**
comp=Z,39nm,0.2s,mb5.8
RAR Rarotonga 74.93 242 P **P 14 53 14.6 -2.6**
comp=Z,24nm,0.8s,mb4.9,baz=183,slow=5.9,SNR=4.3
ELOB Lobios 75.69 50 P **P 14 53 20.2 -1.0**
comp=Z,30nm,0.8s,mb5.0
PCAB Cabril 75.74 50 *eP* **P 14 53 21.2 -0.3**
comp=Z,34nm,0.9s,mb5.0
PVIS Viseu 76.03 51 *eP* **P 14 53 22.9 -0.3**
PVRL Vila Real 76.05 51 *eP* **P 14 53 23.3 0.0**
comp=Z,25nm,2.0s,mb4.5
EPON Pontenova 76.07 49 P **P 14 53 22.5 -0.9**
comp=Z,87nm,1.0s,mb5.3
ERUA La Rua 76.26 50 P **P 14 53 23.7 -0.7**
ERUA pmax pmax
comp=Z,13nm,0.7s,mb4.7
ERUA La Rua 76.26 50 P **P 14 53 23.7 -0.8**
comp=Z,13nm,0.7s,mb4.7
MTE Manteigas 76.35 52 *eP* **P 14 53 24.7 -0.3**
comp=Z,47nm,0.8s,mb5.2
MTE Manteigas 76.35 52 *eP* **P 14 53 24.4 -0.6**
comp=Z,25nm,0.8s,mb4.9
ESK Eskdalemuir 76.35 36 P **P 14 53 24.3 -0.4**
comp=Z,253nm,0.7s,mb6.0,SNR=6.1
ESK Eskdalemuir 76.35 36 *eP* **P 14 53 23.2 -1.5**
ESK pmax pmax
comp=Z,28nm,0.7s,mb5.0
ESK Eskdalemuir 76.35 36 *eP* **P 14 53 23.2 -1.5**
comp=Z,28nm,0.7s,mb5.0
EVO Evora 76.36 54 ⇓*i*P **P 14 53 24.5 -0.6**
comp=Z,40nm,0.9s,mb4.8
PCBR Castelo Branco 76.51 52 *eP* **P 14 53 25.4 -0.5**
comp=Z,34nm,1.0s,mb4.9
PBEJ Beja 76.58 54 *eP* **P 14 53 26.5 +0.2**
comp=Z,24nm,1.6s,mb4.6
MVO Moncorvo 76.58 51 *eP* **P 14 53 26.3 0.0**
comp=Z,37nm,1.0s,mb5.0
PESTR Estremoz 76.62 53 *eP* **P 14 53 26.2 -0.3**
comp=Z,23nm,1.0s,mb4.8
ECAL Calabor 76.64 50 P **P 14 53 25.9 -0.7**
comp=Z,27nm,0.8s,mb4.9
PMRV Marv??o 76.66 53 *eP* **P 14 53 26.6 -0.1**
comp=Z,33nm,1.0s,mb4.9
PBAR Barrancos 77.18 54 *eP* **P 14 53 29.6 -0.1**
EARI Arriondas 77.47 48 P **P 14 53 30.2 -0.9**
comp=Z,21nm,0.7s,mb4.9
BILL Bilibino 77.50 338 ⇓*e*P **P 14 53 30.5 -0.4**
BILL *e**PP pP 14 54 09.6 +1.1
BILL *e* 14 56 26.5
BILL *e*SS SS 15 08 20.0 +9.3
BILL pmax pmax
comp=Z,25nm,1.0s,mb4.8
BILL Bilibino 77.50 338 *eP* **P 14 53 30.6 -0.3**
comp=Z,49nm,0.9s,mb5.1
EMIN Mina Concepcio 77.55 54 P **P 14 53 30.8 -1.0**
comp=Z,6.0nm,0.5s,mb4.5
ROSF Rostrenen 77.72 43 *eP* **P 14 53 31.4 -1.1**
comp=Z,37nm,0.8s,mb4.8
ROSF Rostrenen 77.72 43 *eP* **P 14 53 31.4 -1.1**
ROSF pmax pmax
comp=Z,19nm,0.8s,mb4.8
ROSF Rostrenen 77.72 43 *eP* **P 14 53 31.4 -1.1**
comp=Z,19nm,0.8s,mb4.8
QUIF Quistinic 77.88 43 *eP* **P 14 53 32.4 -1.0**
comp=Z,51nm,0.8s,mb4.9
QUIF Quistinic 77.88 43 *eP* **P 14 53 32.4 -1.0**
QUIF pmax pmax
comp=Z,25nm,0.8s,mb4.9
QUIF Quistinic 77.88 43 *eP* **P 14 53 32.4 -1.0**
comp=Z,25nm,0.8s,mb4.9
SGMF Saint Gilles 78.20 43 *eP* **P 14 53 33.8 -1.4**
comp=Z,49nm,1.1s,mb4.8
SGMF Saint Gilles 78.20 43 *eP* **P 14 53 33.8 -1.4**
SGMF pmax pmax
comp=Z,25nm,1.1s,mb4.8
SGMF Saint Gilles 78.20 43 *eP* **P 14 53 33.8 -1.4**
comp=Z,24nm,1.1s,mb4.8
ELAN Lanestosa 78.75 48 P **P 14 53 38.0 -0.3**
comp=Z,25nm,0.7s,mb5.0
EJIF Jimena Fronter 78.78 55 P **P 14 53 38.6 0.0**
EJIF pmax pmax
comp=Z,13nm,0.8s,mb4.6
EJIF Jimena Fronter 78.78 55 P **P 14 53 38.6 0.0**
comp=Z,13nm,0.8s,mb4.6
GUD Guadarrama 78.82 51 P **P 14 53 39.1 +0.4**
GUD pmax pmax
comp=Z,39nm,0.7s,mb5.2
GUD Guadarrama 78.82 51 P **P 14 53 39.1 +0.3**
comp=Z,39nm,0.7s,mb5.2
PAB San Pablo 78.93 52 *eP* **P 14 53 38.7 -0.6**
PAB pmax pmax
comp=Z,28nm,0.8s,mb4.9
PAB San Pablo 78.93 52 *eP* **P 14 53 38.7 -0.6**
comp=Z,28nm,0.8s,mb5.0
EADA Adamuz 79.08 53 P **P 14 53 39.0 -1.2**
comp=Z,31nm,0.9s,mb4.9
ESDC Sonseca Array 79.19 52 P **P 14 53 40.0 -0.7**
comp=Z,16nm,0.9s,mb4.7,baz=292,slow=5.6,SNR=44
ESDC pP pP 14 54 19.0 +0.5
comp=Z,2.0nm,0.7s,baz=288,slow=5.4,SNR=1.8
ESDC Sonseca Array 79.19 52 P **P 14 53 40.7 0.0**
comp=Z,13nm,0.8s,mb4.6
ESLA Sonseca Array 79.19 52 *eP* **P 14 53 39.1 -1.6**
comp=Z,6.4nm,1.0s,mb4.2
GRR Gorron 79.28 43 *eP* **P 14 53 40.2 -0.8**
comp=Z,108nm,0.8s,mb5.2
GRR Gorron 79.28 43 *eP* **P 14 53 40.2 -0.8**
GRR pmax pmax
comp=Z,54nm,0.8s,mb5.2
GRR Gorron 79.28 43 *eP* **P 14 53 40.2 -0.8**
comp=Z,54nm,0.8s,mb5.2
EMIJ Mijas 79.30 55 P **P 14 53 41.5 0.0**
comp=Z,29nm,1.4s,mb4.7
FLN La Foliniere 79.43 42 *eP* **P 14 53 41.1 -0.7**
comp=Z,120nm,0.9s,mb5.2
FLN La Foliniere 79.43 42 *eP* **P 14 53 41.1 -0.7**
FLN pmax pmax
comp=Z,60nm,0.9s,mb5.2
FLN La Foliniere 79.43 42 *eP* **P 14 53 41.1 -0.7**
comp=Z,60nm,0.9s,mb5.2
ECRI Cripan 79.55 49 P **P 14 53 41.7 -0.9**
ECRI pmax pmax
comp=Z,28nm,0.6s,mb5.1
ECRI Cripan 79.55 49 P **P 14 53 41.7 -0.9**
comp=Z,28nm,0.6s,mb5.1
ELOJ Sierra Loja 79.65 54 P **P 14 53 45.0 +1.7**
ELOJ pmax pmax
comp=Z,3.0nm,0.4s,mb4.3
ELOJ Sierra Loja 79.65 54 P **P 14 53 45.0 +1.7**
comp=Z,3.4nm,0.4s,mb4.3
EBAN Banos Encina 79.68 53 P **P 14 53 43.5 +0.1**
EBAN pmax pmax
comp=Z,14nm,0.7s,mb4.7
EBAN Banos Encina 79.68 53 P **P 14 53 43.5 0.0**
comp=Z,14nm,0.7s,mb4.7
LDF La Druitiere 79.70 42 *eP* **P 14 53 42.5 -0.8**
comp=Z,62nm,0.8s,mb5.0
LDF La Druitiere 79.70 42 *eP* **P 14 53 42.5 -0.8**
LDF pmax pmax
comp=Z,31nm,0.8s,mb5.0
LDF La Druitiere 79.70 42 *eP* **P 14 53 42.5 -0.8**
comp=Z,31nm,0.8s,mb5.0
ERON Agron 79.95 54 P **P 14 53 45.7 +0.8**
comp=Z,15nm,0.4s,mb5.0
ECOG Cogollos-Vega 80.07 54 P **P 14 53 46.7 +1.2**
ECOG pmax pmax
comp=Z,29nm,0.6s,mb5.1
ECOG Cogollos-Vega 80.07 54 P **P 14 53 46.7 +1.1**
comp=Z,29nm,0.6s,mb5.1
ELIZ Elizondo 80.12 48 P **P 14 53 45.4 -0.3**
ELIZ pmax pmax
comp=Z,10.0nm,0.8s,mb4.5
ELIZ Elizondo 80.12 48 P **P 14 53 45.4 -0.3**
comp=Z,10nm,0.8s,mb4.5
EALK Alkurruntz 80.12 48 P **P 14 53 45.3 -0.3**
comp=Z,59nm,1.0s,mb5.2
MFF Saint Martin d 80.19 44 *eP* **P 14 53 45.0 -1.0**
comp=Z,59nm,1.1s,mb4.8
MFF Saint Martin d 80.19 44 *eP* **P 14 53 45.0 -1.0**
MFF pmax pmax
comp=Z,30nm,1.1s,mb4.8
MFF Saint Martin d 80.19 44 *eP* **P 14 53 45.0 -1.0**
comp=Z,30nm,1.1s,mb4.8
OSSF Osses 80.28 48 *eP* **P 14 53 45.8 -0.7**
EQES Quesada 80.32 53 P **P 14 53 47.6 +0.7**
comp=Z,4.7nm,0.2s,mb4.8
ETOR Torete 80.33 50 P **P 14 53 47.0 +0.2**
ETOR pmax pmax
comp=Z,42nm,0.6s,mb5.2
ETOR Torete 80.33 50 P **P 14 53 47.0 +0.2**
comp=Z,42nm,0.6s,mb5.2
SJPF Ste Jean 80.34 48 *eP* **P 14 53 46.3 -0.6**
comp=Z,62nm,1.0s,mb4.9
SJPF Ste Jean 80.34 48 *eP* **P 14 53 46.3 -0.6**
SJPF pmax pmax
comp=Z,31nm,1.0s,mb4.9
SJPF Ste Jean 80.34 48 *eP* **P 14 53 46.3 -0.6**
comp=Z,31nm,1.0s,mb4.9
LARF Larrau 80.53 48 *eP* **P 14 53 48.2 +0.3**
EVIA Vianos 80.54 53 P **P 14 53 48.4 +0.4**
EVIA pmax pmax
comp=Z,28nm,0.6s,mb5.1
EVIA Vianos 80.54 53 P **P 14 53 48.4 +0.4**
comp=Z,28nm,0.6s,mb5.1
EHUE Huescar 80.68 53 P **P 14 53 49.7 +0.9**
EHUE pmax pmax
comp=Z,14nm,0.7s,mb4.7
EHUE Huescar 80.68 53 P **P 14 53 49.7 +0.8**
comp=Z,14nm,0.7s,mb4.7
EBER Berja 80.69 54 P **P 14 53 49.4 +0.6**
comp=Z,26nm,0.6s,mb5.0
ETSF Etsaut 80.87 48 *eP* **P 14 53 49.2 -0.5**
comp=Z,84nm,0.8s,mb5.1
ETSF Etsaut 80.87 48 *eP* **P 14 53 49.2 -0.5**
ETSF pmax pmax
comp=Z,42nm,0.8s,mb5.1
ETSF Etsaut 80.87 48 *eP* **P 14 53 49.2 -0.5**
comp=Z,42nm,0.8s,mb5.1
REYF Montagne du Re 80.94 48 *eP* **P 14 53 50.3 +0.2**
LFF La Frestale 81.23 46 *eP* **P 14 53 50.6 -0.9**
comp=Z,127nm,0.8s,mb5.3
LFF La Frestale 81.23 46 *eP* **P 14 53 50.6 -0.9**
LFF pmax pmax
comp=Z,63nm,0.8s,mb5.3
LFF La Frestale 81.23 46 *eP* **P 14 53 50.6 -0.9**
comp=Z,64nm,0.8s,mb5.3
ESAC San Caprasio 81.25 49 P **P 14 53 51.8 +0.1**
comp=Z,76nm,0.8s,mb5.4
ETOB Tobarra 81.26 52 P **P 14 53 52.4 +0.6**
comp=Z,32nm,0.8s,mb5.0
EBIE Bielsa 81.42 48 P **P 14 53 52.8 +0.2**
comp=Z,36nm,0.7s,mb5.1
ECHE Chera 81.45 51 P **P 14 53 53.0 +0.2**
ECHE pmax pmax
comp=Z,6.0nm,0.5s,mb4.5
ECHE Chera 81.45 51 P **P 14 53 53.0 +0.2**
comp=Z,6.4nm,0.5s,mb4.5
EPF Esparros 81.47 48 *eP* **P 14 53 52.0 -0.9**
comp=Z,40nm,0.7s,mb4.8
EPF Esparros 81.47 48 *eP* **P 14 53 52.0 -0.9**
EPF pmax pmax
comp=Z,20nm,0.7s,mb4.9
EPF Esparros 81.47 48 *eP* **P 14 53 52.0 -0.9**
comp=Z,20nm,0.7s,mb4.9
RESF Ens 81.53 48 *eP* **P 14 53 53.3 +0.1**
EMOS Mosqueruela 81.61 50 P **P 14 53 54.1 +0.4**
comp=Z,56nm,0.7s,mb5.3
RJF Les Rejaudoux 81.66 45 *eP* **P 14 53 52.8 -1.0**
comp=Z,95nm,0.8s,mb5.2
RJF Les Rejaudoux 81.66 45 *eP* **P 14 53 52.8 -1.0**
RJF pmax pmax
comp=Z,47nm,0.8s,mb5.2
RJF Les Rejaudoux 81.66 45 *eP* **P 14 53 52.8 -1.0**
comp=Z,47nm,0.8s,mb5.2
EMUR La Murta 81.71 53 P **P 14 53 53.9 -0.4**
comp=Z,32nm,0.7s,mb5.1
MELF Melles 81.81 48 *eP* **P 14 53 55.0 +0.4**
KONO Kongsberg 81.84 30 *eP* **P 14 53 54.3 -0.1**
TCF Toulx Ste Croi 81.84 44 *eP* **P 14 53 53.6 -1.1**
comp=Z,66nm,0.8s,mb5.0
TCF Toulx Ste Croi 81.84 44 *eP* **P 14 53 53.6 -1.1**
TCF pmax pmax
comp=Z,33nm,0.8s,mb5.0
TCF Toulx Ste Croi 81.84 44 *eP* **P 14 53 53.6 -1.1**
comp=Z,33nm,0.8s,mb5.0
HYF Humbligny 81.85 43 *eP* **P 14 53 54.1 -0.6**
UCC Uccle 81.89 39 P **P 14 53 54.5 -0.3**
comp=Z,40nm,0.9s,mb5.0
SNF Seneffe 81.93 40 P **P 14 53 54.8 -0.2**
comp=Z,8.4nm,0.9s,mb4.4
NAO01 NORSAR Array S 82.01 29 *eP* **P 14 53 55.6 +0.3**
comp=Z,11nm,0.8s,mb4.5
BAIF Baives 82.02 40 *eP* **P 14 53 55.0 -0.6**
comp=Z,72nm,0.9s,mb5.0
BAIF Baives 82.02 40 *eP* **P 14 53 55.0 -0.6**
BAIF pmax pmax
comp=Z,36nm,0.9s,mb5.0
BAIF Baives 82.02 40 *eP* **P 14 53 55.0 -0.6**
comp=Z,36nm,0.9s,mb5.0
MLS Moulis 82.02 48 *eP* **P 14 53 55.6 -0.2**
ERTA Horta de San J 82.04 50 P **P 14 53 55.4 -0.5**
comp=Z,18nm,0.7s,mb4.8
NB2 NORSAR Subarra 82.09 28 P **P 14 53 55.8 +0.1**
comp=Z,2.0nm,0.7s,mb3.9,baz=296,slow=5.6
NOA NORSAR Array B 82.09 28 P **P 14 53 55.8 +0.1**
comp=Z,14nm,0.8s,mb4.7,baz=292,slow=5.2,SNR=74
NOA pP pP 14 54 34.6 +0.9
comp=Z,6.9nm,0.9s,baz=290,slow=5.2,SNR=3.4
CAF Calviac 82.14 45 *eP* **P 14 53 55.2 -1.1**
comp=Z,49nm,0.7s,mb4.9
CAF Calviac 82.14 45 *eP* **P 14 53 55.2 -1.1**
CAF pmax pmax
comp=Z,25nm,0.7s,mb5.0
CAF Calviac 82.14 45 *eP* **P 14 53 55.2 -1.1**
comp=Z,25nm,0.7s,mb5.0
BGF Bois d'Agland 82.19 44 *eP* **P 14 53 55.5 -1.0**
comp=Z,129nm,0.8s,mb5.3
BGF Bois d'Agland 82.19 44 *eP* **P 14 53 55.5 -1.0**
BGF pmax pmax
comp=Z,65nm,0.8s,mb5.3
BGF Bois d'Agland 82.19 44 *eP* **P 14 53 55.5 -1.0**
comp=Z,65nm,0.8s,mb5.3
DOU Dourbes 82.24 40 P **P 14 53 56.9 +0.2**
comp=Z,16nm,0.9s,mb4.7
EBEN Beniarda 82.25 52 P **P 14 54 00.2 +3.2**
comp=Z,35nm,0.9s,mb5.0
GIVF Givet 82.38 40 *eP* **P 14 53 57.0 -0.5**
comp=Z,41nm,0.7s,mb4.8
GIVF Givet 82.38 40 *eP* **P 14 53 57.0 -0.5**
GIVF pmax pmax
comp=Z,21nm,0.7s,mb4.9
GIVF Givet 82.38 40 *eP* **P 14 53 57.0 -0.5**
comp=Z,21nm,0.7s,mb4.9
AVF Avril sur Loir 82.45 43 *eP* **P 14 53 56.5 -1.4**
comp=Z,63nm,0.8s,mb5.0
AVF Avril sur Loir 82.45 43 *eP* **P 14 53 56.5 -1.4**
AVF pmax pmax
comp=Z,31nm,0.8s,mb5.0
AVF Avril sur Loir 82.45 43 *eP* **P 14 53 56.5 -1.4**
comp=Z,31nm,0.8s,mb5.0
SSF Saint Saulge 82.47 43 *eP* **P 14 53 56.8 -1.2**
comp=Z,77nm,0.9s,mb5.0
SSF Saint Saulge 82.47 43 *eP* **P 14 53 56.8 -1.2**
SSF pmax pmax
comp=Z,38nm,0.9s,mb5.0
SSF Saint Saulge 82.47 43 *eP* **P 14 53 56.8 -1.2**
comp=Z,38nm,0.9s,mb5.0
AGO Saint Agoulin 82.53 44 *eP* **P 14 53 58.5 +0.2**
PYM Petit Puy Mans 82.53 44 *eP* **P 14 53 59.2 +0.9**
BCLA Clavier 82.58 40 P **P 14 53 58.7 +0.2**
comp=Z,31nm,1.1s,mb5.0
EMIR Miracle 82.63 48 P **P 14 53 59.0 +0.1**
comp=Z,16nm,0.2s,mb5.4
LOR Lormes 82.64 43 *eP* **P 14 53 57.9 -1.0**
comp=Z,113nm,1.1s,mb5.2
LOR Lormes 82.64 43 *eP* **P 14 53 57.9 -1.0**

LOR pmax pmax
comp=Z,56nm,1.1s,mb5.2
LOR Lormes 82.64 43 *eP* **P 14 53 57.9 -1.0**
comp=Z,56nm,1.1s,mb5.2
BEBN Eben Emael 82.68 39 P **P 14 53 59.2 +0.2**
comp=Z,13nm,0.9s,mb4.7
MTLF Montolieu 82.70 47 *eP* **P 14 53 58.3 -1.0**
comp=Z,73nm,0.8s,mb5.2
MTLF Montolieu 82.70 47 *eP* **P 14 53 58.3 -1.0**
MTLF pmax pmax
comp=Z,36nm,0.8s,mb5.2
MTLF Montolieu 82.70 47 *eP* **P 14 53 58.3 -1.0**
comp=Z,36nm,0.8s,mb5.2
SMF Signal de Mont 82.82 43 *eP* **P 14 53 58.4 -1.4**
comp=Z,64nm,0.9s,mb5.0
SMF Signal de Mont 82.82 43 *eP* **P 14 53 58.4 -1.4**
SMF pmax pmax
comp=Z,32nm,0.9s,mb5.0
SMF Signal de Mont 82.82 43 *eP* **P 14 53 58.4 -1.4**
comp=Z,32nm,0.9s,mb5.0
HGN Heimansgroeve 82.85 39 *eP* **P 14 54 00.1 +0.2**
comp=Z,57nm,0.6s,mb5.5
LBL Lubilhac 82.85 45 *eP* **P 14 54 01.1 +1.1**
PLDF La Plantade 82.88 44 *eP* **P 14 54 00.6 +0.5**
MEM Membach 82.94 39⇑ *eP* **P 14 53 54.5 -5.8**
comp=Z,40nm,0.9s,mb5.2
MEM Membach 82.94 39 P **P 14 54 00.7 +0.3**
comp=Z,28nm,0.9s,mb5.0
WTSB Winterswijk 82.97 38 *eP* **P 14 53 60.0 -0.5**
comp=Z,35nm,1.2s,mb5.0
MEZF Maizieres J'vi 83.02 41 *eP* **P 14 54 00.3 -0.5**
comp=Z,121nm,0.7s,mb5.4
MEZF Maizieres J'vi 83.02 41 *eP* **P 14 54 00.3 -0.5**
comp=Z,121nm,0.7s,mb5.7
FILF Fillols 83.17 48 *eP* **P 14 54 01.1 -0.6**
WLF Walferdange 83.34 40 P **P 14 54 02.0 -0.4**
comp=Z,26nm,0.9s,mb5.0
WLF Walferdange 83.34 40 *eP* **P 14 54 03.1 +0.7**
comp=Z,49nm,0.7s,mb5.0
IBBN Ibbenburen 83.41 37 *eP* **P 14 54 03.5 +0.8**
comp=Z,36nm,0.8s,mb5.2
EJON La Jonquera 83.44 48 P **P 14 54 02.7 -0.3**
comp=Z,40nm,0.9s,mb5.2
ARCES ARCESS Array B 83.50 18 P **P 14 54 02.4 -0.4**
comp=Z,15nm,0.7s,mb4.8,baz=300,slow=4.5,SNR=45
ARCES pP pP 14 54 41.5 +0.6
comp=Z,7.4nm,0.8s,baz=305,slow=4.3,SNR=3.6
ARCES ARCESS Array B 83.50 18 P **P 14 54 02.4 -0.4**
ARCES pP pP 14 54 41.5 +0.6
THEF They Montfort 83.70 41 *eP* **P 14 54 04.2 -0.1**
SSB Saint Sauveur 83.70 45 *eP* **P 14 54 03.7 -0.7**
SSB Saint Sauveur 83.70 45 *eP* **P 14 54 03.4 -0.9**
KEV Kevo 83.81 17 *ep* **P 14 54 03.6 -0.8**
comp=Z,9.4nm,0.7s,mb4.6
KEV Kevo 83.81 17 *eP* **P 14 54 03.6 -0.8**
KEV pmax pmax
comp=Z,9.0nm,0.7s,mb4.6
RUP Ruppelstein 83.88 40 *eP* **P 14 54 05.7 +0.5**
VIVF Saint-Julien-l 83.93 45 *eP* **P 14 54 05.1 -0.4**
comp=Z,68nm,0.9s,mb5.1
VIVF Saint-Julien-l 83.93 45 *eP* **P 14 54 05.1 -0.4**
VIVF pmax pmax
comp=Z,34nm,0.9s,mb5.1
VIVF Saint-Julien-l 83.93 45 *eP* **P 14 54 05.1 -0.4**
comp=Z,34nm,0.9s,mb5.1
HAU Haudompre 84.00 42 *eP* **P 14 54 05.2 -0.6**
comp=Z,89nm,0.6s,mb5.3
HAU Haudompre 84.00 42 *eP* **P 14 54 05.2 -0.6**
HAU pmax pmax
comp=Z,44nm,0.6s,mb5.4
HAU Haudompre 84.00 42 *eP* **P 14 54 05.2 -0.6**
comp=Z,44nm,0.6s,mb5.4
ABH Alteburg 84.12 40 *eP* **P 14 54 07.0 +0.6**
ETOS Mallorca 84.19 50 P **P 14 54 06.5 -0.5**
comp=Z,28nm,0.7s,mb5.1
BSEG Bad Segeberg 84.27 35 *eP* **P 14 54 07.5 +0.4**
BSEG pmax pmax
comp=Z,25nm,0.9s,mb4.9
BSEG Bad Segeberg 84.27 35 *eP* **P 14 54 07.5 +0.4**
comp=Z,25nm,0.9s,mb4.9
CABF La Chapelle 84.30 43 *eP* **P 14 54 06.8 -0.5**
comp=Z,23nm,0.8s,mb4.7
CABF La Chapelle 84.30 43 *eP* **P 14 54 06.8 -0.5**
CABF pmax pmax
comp=Z,11nm,0.8s,mb4.6
CABF La Chapelle 84.30 43 *eP* **P 14 54 06.8 -0.5**
comp=Z,11nm,0.8s,mb4.7
HINF Hinteralfeld 84.39 42 *eP* **P 14 54 06.9 -0.9**
comp=Z,45nm,0.8s,mb4.9
HINF Hinteralfeld 84.39 42 *eP* **P 14 54 06.9 -0.9**
HINF pmax pmax
comp=Z,22nm,0.8s,mb4.9
HINF Hinteralfeld 84.39 42 *eP* **P 14 54 06.9 -0.9**
comp=Z,22nm,0.8s,mb5.0
ECH Echery 84.44 41 *eP* **P 14 54 08.1 +0.1**
ECH Echery 84.44 41 *eP* **P 14 54 07.7 -0.3**
CDF Champ du Feu 84.45 41 *eP* **P 14 54 07.5 -0.6**
comp=Z,64nm,0.9s,mb5.0
CDF Champ du Feu 84.45 41 *eP* **P 14 54 07.5 -0.6**
CDF pmax pmax
comp=Z,32nm,0.9s,mb5.0
CDF Champ du Feu 84.45 41 *eP* **P 14 54 07.5 -0.6**
comp=Z,32nm,0.9s,mb5.0
LOMF Lomont 84.53 42 *eP* **P 14 54 07.9 -0.6**
TNS Taunus Mts 84.54 39 *eP* **P 14 54 09.0 +0.5**
TNS *e**PP pP 14 54 47.3 +0.6
TNS pmax pmax
comp=Z,62nm,1.0s,mb5.3
TNS Taunus Mts 84.54 39 *eP* **P 14 54 09.0 +0.5**
comp=Z,62nm,1.0s,mb5.3
TNS *ep*P pP 14 54 47.3 +0.6
MOF Molkenrain 84.55 42 *eP* **P 14 54 07.4 -1.2**
LANF Langenberg 84.58 40 *eP* **P 14 54 08.9 +0.2**
NRDL Niedersach Rie 84.69 37 *eP* **P 14 54 09.7 +0.5**
NRDL *ep*P pP 14 54 48.2 +0.8
ORIF Oris-en-Rattie 84.72 45 *eP* **P 14 54 09.3 -0.2**
comp=Z,27nm,0.7s,mb4.8
ORIF Oris-en-Rattie 84.72 45 *eP* **P 14 54 09.3 -0.2**
ORIF pmax pmax
comp=Z,13nm,0.7s,mb4.8
ORIF Oris-en-Rattie 84.72 45 *eP* **P 14 54 09.3 -0.2**
comp=Z,13nm,0.7s,mb4.8
LIBD Limburg 84.75 41 *eP* **P 14 54 09.4 -0.2**
SEY Seymchan 84.77 335 *i*↓*P* **P 14 54 09.0 -0.4**
SMRF Simiane la Rot 84.82 46 *eP* **P 14 54 10.2 +0.2**
comp=Z,54nm,0.7s,mb5.1
SMRF Simiane la Rot 84.82 46 *eP* **P 14 54 10.2 +0.2**
comp=Z,54nm,0.7s,mb5.4
TOD Tromm 84.98 40 *eP* **P 14 54 10.9 +0.2**
LPL La Plagne 85.08 44 *eP* **P 14 54 11.5 +0.2**
comp=Z,62nm,1.0s,mb5.0
LPL La Plagne 85.08 44 *eP* **P 14 54 11.5 +0.2**
LPL pmax pmax
comp=Z,31nm,1.0s,mb5.0
LPL La Plagne 85.08 44 *eP* **P 14 54 11.5 +0.2**
comp=Z,31nm,1.0s,mb5.0
CLZ Clausthal 85.09 37 *eP* **P 14 54 11.9 +0.7**
CLZ *e**PP pP 14 54 50.0 +0.6
CLZ pmax pmax
comp=Z,29nm,0.7s,mb5.1
CLZ Clausthal 85.09 37 *eP* **P 14 54 11.9 +0.7**
comp=Z,29nm,0.7s,mb5.1
CLZ *ep*P pP 14 54 50.0 +0.6
FELD Feldberg im Sc 85.09 41 *eP* **P 14 54 11.3 0.0**
LPG La Plagne 85.10 44 *eP* **P 14 54 11.8 +0.4**
comp=Z,61nm,1.0s,mb5.0
LPG La Plagne 85.10 44 *eP* **P 14 54 11.8 +0.4**
LPG pmax pmax
comp=Z,30nm,1.0s,mb5.0
LPG La Plagne 85.10 44 *eP* **P 14 54 11.8 +0.4**
comp=Z,30nm,1.0s,mb5.0
BFO Black Forest 85.14 41 P **P 14 54 11.0 -0.5**
comp=Z,144nm,1.1s,mb5.6,SNR=7.3
BFO Black Forest 85.14 41 *eP* **P 14 54 11.5 0.0**
BFO pmax pmax
comp=Z,31nm,1.1s,mb5.0
BFO Black Forest 85.14 41 *eP* **P 14 54 11.5 0.0**
comp=Z,31nm,1.1s,mb5.0
BNI Bardonecchia 85.21 44 *eP* **P 14 54 12.1 +0.2**
BNI pmax pmax
comp=Z,39nm,1.1s,mb5.0
BNI Bardonecchia 85.21 44 *eP* **P 14 54 12.1 +0.1**
comp=Z,39nm,1.1s,mb5.0
UBBA Unterbreizbach 85.25 38 *eP* **P 14 54 12.5 +0.5**
MBDF Montbardon 85.38 45 *eP* **P 14 54 12.6 -0.2**
comp=Z,59nm,0.8s,mb5.1
MBDF Montbardon 85.38 45 *eP* **P 14 54 12.6 -0.2**
MBDF pmax pmax
comp=Z,30nm,0.8s,mb5.1
MBDF Montbardon 85.38 45 *eP* **P 14 54 12.6 -0.2**
comp=Z,30nm,0.8s,mb5.1
SPAK Spaichingen-Ko 85.50 41 *eP* **P 14 54 13.3 0.0**
STU Stuttgart 85.52 40 *eP* **P 14 54 13.3 -0.1**
STU pmax pmax
comp=Z,56nm,0.8s,mb5.3
STU Stuttgart 85.52 40 *eP* **P 14 54 13.7 +0.3**
comp=Z,52nm,0.9s,mb5.3
STU Stuttgart 85.52 40 *eP* **P 14 54 13.3 -0.1**
comp=Z,56nm,0.8s,mb5.3
LMR La Mourre 85.67 46 *eP* **P 14 54 13.7 -0.6**
comp=Z,188nm,0.8s,mb5.6
LMR La Mourre 85.67 46 *eP* **P 14 54 13.7 -0.6**
LMR pmax pmax
comp=Z,94nm,0.8s,mb5.6
LMR La Mourre 85.67 46 *eP* **P 14 54 13.7 -0.6**
comp=Z,94nm,0.8s,mb5.6
FRF La Foret Royal 85.69 46 *eP* **P 14 54 13.8 -0.6**
comp=Z,137nm,0.9s,mb5.4
FRF La Foret Royal 85.69 46 *eP* **P 14 54 13.8 -0.6**
FRF pmax pmax
comp=Z,69nm,0.9s,mb5.4
FRF La Foret Royal 85.69 46 *eP* **P 14 54 13.8 -0.6**
comp=Z,69nm,0.9s,mb5.4
CALN Calern 85.79 45 *eP* **P 14 54 15.1 +0.2**
MVIF Mont Vial 85.92 45 *eP* **P 14 54 15.1 -0.4**
TOUF Mont Tournerai 85.94 45 *eP* **P 14 54 15.1 -0.5**
LUCF Luceram 86.05 45 *eP* **P 14 54 15.7 -0.4**
AUTN L'Aution 86.07 45 *eP* **P 14 54 15.4 -0.8**
REVF Revere 86.12 45 *eP* **P 14 54 16.2 -0.3**
SBF Sospel 86.12 45 *eP* **P 14 54 15.7 -0.8**
comp=Z,61nm,0.8s,mb5.1
SBF Sospel 86.12 45 *eP* **P 14 54 15.7 -0.8**
SBF pmax pmax
comp=Z,30nm,0.8s,mb5.1
SBF Sospel 86.12 45 *eP* **P 14 54 15.7 -0.8**
comp=Z,30nm,0.8s,mb5.1
SAOF Saorge 86.16 45 *eP* **P 14 54 16.0 -0.7**
MOX Moxa 86.27 38 *eP* **P 14 54 17.8 +0.8**
comp=Z,27nm,0.9s,mb5.0
MOX Moxa 86.27 38 *eP* **P 14 54 17.8 +0.8**
MOX pmax pmax
comp=Z,27nm,0.9s,mb5.0
MOX Moxa 86.27 38 *eP* **P 14 54 18.0 +1.0**
comp=Z,20nm,0.7s,mb5.0
GRA1 Grafenberg Arr 86.40 39 *eP* **P 14 54 18.7 +1.0**
comp=Z,29nm,0.8s,mb5.1
GRA1 *ep*P pP 14 54 56.8 +0.7
GRF Grafenberg Arr 86.40 39 *eP* **P 14 54 18.7 +1.0**
GRF *e**PP pP 14 54 56.8 +0.7
GRF pmax pmax
comp=Z,29nm,0.8s,mb5.1
GRF Grafenberg Arr 86.40 39 *eP* **P 14 54 18.7 +1.0**
GRF *e**PP pP 14 54 56.8 +0.7
GRF pmax pmax
comp=Z,29nm,0.8s,mb5.1
GRF Grafenberg Arr 86.40 39 *eP* **P 14 54 18.7 +1.0**
comp=Z,29nm,0.8s,mb5.1
GRF *ep*P pP 14 54 56.8 +0.7
TUE Stuetta 86.45 42 *eP* **P 14 54 18.3 +0.2**
comp=Z,48nm,0.9s,mb5.2
DAVA Damuels 86.49 41 ↓ *i*PcP PcP 14 54 18.4 -2.0
comp=Z,55nm,0.8s
PETK Petropavlovsk- 86.65 325 P **P 14 54 18.1 -0.8**
comp=Z,20nm,1.0s,mb4.9,baz=84,slow=8.5,SNR=15
WERD Werda 86.75 38 *eP* **P 14 54 20.4 +1.0**
comp=Z,11nm,0.8s,mb4.7
GUNZ Gunzen 86.80 38 *eP* **P 14 54 20.9 +1.3**
comp=Z,21nm,0.7s,mb5.1
CLL Collm 86.81 37 ↓ *i*P **P 14 54 20.6 +1.0**
CLL *e**PP pP 14 54 59.0 +1.0
CLL pmax pmax
comp=Z,19nm,0.8s,mb5.0
CLL Collm 86.81 37 *eP* **P 14 54 20.7 +1.1**
comp=Z,15nm,0.9s,mb4.8
CLL Collm 86.81 37 ↓ *i*P **P 14 54 20.6 +1.0**
comp=Z,19nm,0.8s,mb5.0
CLL *ep*P pP 14 54 59.0 +1.0
MANZ Manzenberg 86.82 38 *eP* **P 14 54 20.5 +0.8**
comp=Z,12nm,0.9s,mb4.7
WERN Wernitzgruen 86.85 38 *eP* **P 14 54 21.3 +1.4**
comp=Z,28nm,0.8s,mb5.1
NKC Novy Kostel 86.92 38 *eP* **P 14 54 21.8 +1.6**
ROTZ Rotzenmuhle 86.96 39 *eP* **P 14 54 21.5 +1.1**
comp=Z,9.0nm,0.9s,mb4.6
RETA Reutte 86.97 41 ↓ *i*PcP **P 14 54 20.3 -0.2**
comp=Z,43nm,0.8s,mb5.3,SNR=12
FETA Feichten 87.13 41 ↓ *i*PcP PcP 14 54 22.0 -1.3
comp=Z,29nm,0.8s,SNR=17
TIC Toumodi 87.19 84 *eP* **P 14 54 20.8 -1.4**
comp=Z,129nm,1.0s,mb5.7
MOTA Moosalm 87.24 41 ↓ *i*PcP PcP 14 54 22.2 -1.5
comp=Z,29nm,0.7s,SNR=13
LIC Lamto 87.30 84 *eP* **P 14 54 21.7 -1.1**
comp=Z,74nm,1.0s,mb5.2
LIC Lamto 87.30 84 *eP* **P 14 54 21.4 -1.4**
comp=Z,101nm,1.0s,mb5.6
LIC Lamto 87.30 84 *eP* **P 14 54 21.7 -1.1**
comp=Z,37nm,1.0s,mb5.2
DBIC Dimbokro 87.33 84 P **P 14 54 22.1 -0.8**
comp=Z,24nm,0.7s,mb5.1,baz=267,slow=4.6,SNR=27
DBIC Dimbokro 87.33 84 *eP* **P 14 54 21.6 -1.3**
DBIC pmax pmax
comp=Z,21nm,0.9s
DBIC Dimbokro 87.33 84 *eP* **P 14 54 21.6 -1.4**
comp=Z,21nm,0.9s,mb5.0
BRG Berggiesshubel 87.53 37 *eP* **P 14 54 24.4 +1.3**
BRG pmax pmax
comp=Z,5.0nm,0.7s,mb4.5
BRG Berggiesshubel 87.53 37 *eP* **P 14 54 24.5 +1.4**
comp=Z,8.0nm,0.7s,mb4.7
BRG Berggiesshubel 87.53 37 *eP* **P 14 54 24.4 +1.3**
comp=Z,7.8nm,0.7s,mb4.7
KIC Kosan Boka 87.53 84 *eP* **P 14 54 22.6 -1.3**
comp=Z,137nm,0.7s,mb5.9
WTTA Wattenberg 87.61 41 ⇑ *i*PcP PcP 14 54 23.6 -1.7
comp=Z,11nm,0.7s
PGF Pioggiola 87.66 46 *eP* **P 14 54 23.1 -0.8**
comp=Z,103nm,0.8s,mb5.4
PGF Pioggiola 87.66 46 *eP* **P 14 54 23.1 -0.8**
PGF pmax pmax
comp=Z,52nm,0.8s,mb5.4
PGF Pioggiola 87.66 46 *eP* **P 14 54 23.1 -0.8**
comp=Z,52nm,0.8s,mb5.4
CORF Corte 87.86 46 *eP* **P 14 54 24.5 -0.4**
PVCC Panska Ves 88.03 37 *eP* **P 14 54 27.0 +1.5**
KHC Kasperske Hory 88.04 39 *eP* **P 14 54 26.0 +0.4**
RJOB Jochberg 88.14 40 *eP* **P 14 54 26.6 +0.5**
comp=Z,15nm,0.7s,mb4.9
GEC2 GERESS Array S 88.23 39 *eP* **P 14 54 26.5 0.0**
GEC2 pmax pmax
comp=Z,6.0nm,0.8s,mb4.5
GEC2 GERESS Array S 88.23 39 *eP* **P 14 54 26.5 0.0**
comp=Z,6.0nm,0.8s,mb4.5
GERES GERESS Array B 88.23 39 P **P 14 54 26.7 +0.2**
comp=Z,5.8nm,0.8s,mb4.5,baz=316,slow=3.7,SNR=26
GERES pP pP 14 55 07.0 +1.9
comp=Z,0.7nm,0.3s,baz=294,slow=1.0,SNR=2.2
PRU Pruhonice 88.25 38 *eP* **P 14 54 27.5 +1.0**
KBA Koelnbreinsper 88.75 41 ↓ *i*PcP PcP 14 54 29.9 -0.5
comp=Z,16nm,0.7s,SNR=8.2
UPC Upice 88.87 37 *eP* **P 14 54 27.8 -1.7**
MOA Molln 88.99 40 ⇑ *i*PcP PcP 14 54 29.6 -1.9
comp=Z,13nm,0.8s
VSL Villasalto 89.06 49 *eP* **P 14 54 30.6 0.0**
comp=Z,96nm,0.8s,mb5.8
TREC Trest 89.10 38 *eP* **P 14 54 30.8 +0.2**
DPC Dobruska-Polom 89.12 37 *eP* **P 14 54 30.8 +0.2**
JOF Joensuu 89.32 22 *ep* **P 14 54 29.3 -2.0**
comp=Z,3.0nm,0.7s,mb4.3
JOF Joensuu 89.32 22 *eP* **P 14 54 29.3 -2.0**
JOF pmax pmax
comp=Z,3.0nm,0.7s,mb4.3
OBKA Obir 89.74 41 ↓ *i*PcP PcP 14 54 33.4 -1.4
comp=Z,14nm,0.7s
CONA Conrad Observa 89.92 39 ⇑ *i*PcP PcP 14 54 34.2 -1.4
comp=Z,6.1nm,0.7s
SOKA Soboth 89.97 41 ⇑ *i*PcP PcP 14 54 33.7 -2.1
comp=Z,7.7nm,0.9s
ARSA Arzberg 90.02 40 ⇑ *i*PcP PcP 14 54 34.9 -1.1
comp=Z,7.2nm,0.7s
KEST Kesra 90.43 52 P **P 14 54 36.9 -0.2**
comp=Z,9.5nm,0.9s,mb4.7,baz=196,slow=2.2,SNR=28
MODS Modra-Piesok 90.57 38 *i*P **P 14 54 38.5 +1.1**
OJC Ojcow 91.15 36 *eP* **P 14 54 40.5 +0.4**
VYHS Vyhne 91.43 38 *i*P **P 14 54 41.8 +0.4**
TOA0 Torodi Ar. Sit 91.54 76 *eP* **P 14 54 40.3 -2.2**
TORD Torodi Ar. Bea 91.54 76 P **P 14 54 41.0 -1.6**
comp=Z,4.6nm,0.7s,mb4.6,baz=288,slow=5.1,SNR=32
TORD PKKPbc PKKPbc 15 12 01.0 -0.5
comp=Z,1.4nm,0.7s,baz=81,slow=1.9,SNR=8.5
TAM Tamanrasset 91.88 66 *eP* **P 14 54 44.1 +0.1**
KOLS Kolonicke sedl 93.19 36 *i*P **P 14 54 49.1 -0.4**
UZH Uzhgorod 93.36 37 *eP* **P 14 54 50.5 +0.2**
UZH *e* pP 14 55 28.5 -0.5
CUC Castrocucco 93.39 46 *eP* **P 14 54 49.3 -1.4**
comp=Z,63nm,0.9s,mb5.7
YAK Yakutsk 93.54 341 *eP* **P 14 54 49.7 -1.2**
YAK pmax pmax
comp=Z,18nm,1.0s,mb5.2
YAK Yakutsk 93.54 341 *eP* **P 14 54 48.9 -1.9**
comp=Z,8.7nm,0.4s,mb5.2
BZS Buzias 94.50 39 ↓ *i*P **P 14 54 55.5 -0.1**
BZS Buzias 94.50 39 ↓ *i*P **P 14 54 55.5 -0.1**
DRGR 94.55 38 ⇑ *i*P **P 14 54 56.3 +0.5**
DRGR 94.55 38 ⇑ *i*P **P 14 54 56.3 +0.4**
GZR Gura Zlata 95.32 39 ↓ *i*P **P 14 54 59.7 +0.3**
GZR Gura Zlata 95.32 39 ↓ *i*P **P 14 54 59.7 +0.4**
BURAR Bucovina Array 95.56 36 ↓ *i*P **P 14 55 01.3 +0.9**
BURAR Bucovina Array 95.56 36 ↓ *i*P **P 14 55 01.3 +0.9**
AKASG Malin Array Be 95.94 32 P **P 14 55 01.0 -1.1**
comp=Z,1.2nm,0.4s,mb4.5,baz=289,slow=4.2,SNR=7.2
OBN Obninsk 96.51 26 ⇑ *eP* **P 14 55 02.2 -2.4**
OBN *eS* SKSac 15 05 27.6 +0.8
OBN pmax pmax
comp=Z,5.0nm,0.8s,mb4.9
MLR Muntele Rosu 97.15 38 ↓ *i*P **P 14 55 08.3 +0.6**
MLR Muntele Rosu 97.15 38 ↓ *i*P **P 14 55 08.3 +0.6**
KURK Kurchatov 111.82 5 PKKPbc PKKPbc 15 10 59.5 -4.6
comp=Z,1.2nm,0.8s,baz=191,slow=2.9,SNR=7.6
SONM Songino Array 112.45 345 PKiKP PKiKP 15 00 09.4 -1.2
comp=Z,0.8nm,0.8s,baz=5.7,slow=1.5,SNR=5.2
SONM PP PP 15 01 00.3 +2.7
comp=Z,0.2nm,0.4s,baz=329,slow=4.0,SNR=3.7
SONM PKKPbc PKKPbc 15 10 57.6 -4.4
comp=Z,0.9nm,0.8s,baz=132,slow=2.2,SNR=5.2
SONM Songino Array 112.45 345 PKiKP PKiKP 15 00 09.4 -1.2
SONM 15 01 00.3
KSRS Korea Array 112.55 325 PKiKP PKiKP 15 00 09.4 -1.6
comp=Z,1.0nm,0.6s,baz=356,slow=1.5,SNR=6.2
MKAR Makanchi Array 115.97 3 PKP PKPdf 15 00 14.9 -2.4
comp=Z,0.8nm,0.7s,baz=12,slow=1.7,SNR=6.5
MKAR PP PP 15 01 20.3 -2.0
comp=Z,0.5nm,0.7s,baz=22,slow=6.7,SNR=4.4
MKAR PKKPbc PKKPbc 15 10 44.9 -5.2
comp=Z,0.5nm,0.8s,baz=96,slow=1.2,SNR=3.6
MKAR Makanchi Array 115.97 3 PKP PKPdf 15 00 14.9 -2.4
MKAR PP PP 15 01 20.3 -2.0
MKAR PKKPbc PKKPbc 15 10 44.9 -5.2
HHC Hu-ho-hao-te 117.27 338 *e*PKP PKPdf 15 00 19.2 -0.8
HHC XPKP 15 01 18.3
HHC PP PP 15 01 35.6 +3.9
HHC PKS 15 03 54.7
HHC SKS SKSdf 15 07 13.8 -4.2
HHC SKKS SKKSac 15 08 11.2 -7.2
HHC SS SS 15 17 31.8 +3.1
HHC LR LR
comp=N,202nm,20.0s
HHC LR LR
comp=E,192nm,22.9s
HHC LR LR
comp=Z,165nm,18.6s
WMQ Urumqi 119.00 358 *e*PKP PKPdf 15 00 20.5 -2.8
GTA Gaotai 121.94 347 PKP PKPdf 15 00 27.9 -1.2
GTA PP PP 15 02 05.2 +1.6
GTA PKS 15 04 01.4
GTA SKS SKSdf 15 07 21.4 -5.5
GTA PP PP
comp=Z,294nm,10.1s
GTA LR LR
comp=N,199nm,11.9s
GTA LR LR
comp=E,173nm,12.2s
GTA LR LR
comp=Z,121nm,13.1s
CTA Charters Tower 123.04 257 *eP* PKPdf 15 00 29.4 -2.2
comp=Z,6.5nm,1.2s
CTA Charters Tower 123.04 257 PKP PKPdf 15 00 29.4 -2.3
comp=Z,3.0nm,0.6s,baz=73,slow=3.0,SNR=6.9
BOSA Boshof 123.63 113 PKP PKPdf 15 00 31.3 -1.2
comp=Z,7.8nm,0.8s,baz=195,slow=1.7,SNR=8.8
LZH Lanzhou 124.09 342 PKP PKPdf 15 00 32.5 -0.8
LZH XPKP 15 01 31.5
LZH *e*PP PP 15 02 22.6 +4.5
LZH SKKS SKKSac 15 08 57.2 -5.8
LZH SS SS 15 18 54.3 -1.4
LZH PP PP
comp=Z,112nm,8.3s
LZH LR LR
comp=N,145nm,18.0s
LZH LR LR
comp=Z,189nm,20.1s
LZH Lanzhou 124.09 342 PKIKP PKPdf 15 00 32.5 -0.8
LZH 15 01 14.7
LZH *e* 15 02 22.6
LZH SS SS 15 18 54.3 -1.4
LZH MLR MLR
comp=Z,190nm,20.1s
LZH Lanzhou 124.09 342 PKP PKPdf 15 00 32.5 -0.8
LZH pPKP pPKPdf 15 01 14.7 +1.0
LZH sPKP 15 01 31.5
LZH *e*PP PP 15 02 22.6 +4.5
LZH SKKS SKKSac 15 08 57.2 -5.8
LZH SS SS 15 18 54.3 -1.4
LZH LR LR
comp=Z,190nm,20.1s
XAN Xi'an 124.28 337 PKP PKPdf 15 00 31.9 -1.8
XAN PP PP
comp=Z,208nm,6.7s
MAW Mawson 127.75 169 PKP PKPdf 15 00 38.0 -1.2
comp=Z,3.5nm,0.6s,baz=250,slow=3.0,SNR=19
STKA Stephens Creek 127.89 243 *eP* PKPdf 15 00 39.1 -1.5
comp=Z,9.9nm,0.7s
STKA Stephens Creek 127.89 243 PKP PKPdf 15 00 39.3 -1.3
comp=Z,14nm,0.8s,baz=58,slow=1.9,SNR=26
CD2 Chengdu 128.93 340 *e*PKP PKPdf 15 00 41.0 -1.7
CD2 PP PP 15 02 54.0 +3.9
CD2 PKS 15 04 16.2
CD2 SKS SKSdf 15 07 34.8 -5.5
CD2 SS SS 15 19 55.9 -0.1
CD2 PP PP
comp=Z,120nm,10.8s
CD2 LR LR
comp=N,210nm,18.4s
CD2 LR LR
comp=Z,180nm,16.4s
GYA Guiyang 131.90 335 *e*PDIF Pdif 14 57 41.0 -1.0
GYA PKP PKPdf 15 00 47.2 -1.2
GYA XPKP 15 01 49.6
GYA PP PP 15 03 12.4 +2.9
GYA PP PP
comp=Z,130nm,6.9s
WB2 Warramunga Arr 134.14 259 *eP* PKPdf 15 00 51.1 -1.6
WRAB Tennant Creek 134.14 259 *e*PKIKP PKPdf 15 00 51.2 -1.5
WRA Warramunga Arr 134.15 259 PKhKP 15 00 36.1
comp=Z,0.7nm,0.6s,baz=88,slow=3.3,SNR=6.0
WRA PKP PKPdf 15 00 51.1 -1.6
comp=Z,8.6nm,0.6s,baz=82,slow=2.3,SNR=56
KMI Kunming 134.60 338 PKP PKPdf 15 00 52.9 -0.6
ASAR Alice Springs 134.78 254 PKhKP 15 00 35.8
comp=Z,1.1nm,0.8s,baz=82,slow=3.0,SNR=8.2
ASAR PKP PKPdf 15 00 51.8 -2.1
comp=Z,7.7nm,0.8s,baz=80,slow=1.9,SNR=32
ASAR SKPbc SKPbc 15 04 08.3 -1.7
comp=Z,1.8nm,0.9s,baz=117,slow=2.9,SNR=5.8
ASAR Alice Springs 134.78 254 PKHKP 15 00 35.8
ASAR 15 00 51.8
KAKA Kakadu 134.88 269 *eP* PKPdf 15 00 52.4 -1.8
comp=Z,8.3nm,0.6s
FORT Forrest 139.52 243 *eP* PKPdf 15 00 51.7 -11
comp=Z,12nm,0.7s
CMAR Chiang Mai Arr 142.06 340 PKhKP 15 01 01.4
comp=Z,1.7nm,0.8s,baz=335,slow=3.0,SNR=9.8
CMAR SKPbc SKPbc 15 04 30.3 -0.5
comp=Z,1.8nm,1.0s,baz=343,slow=2.5,SNR=8.0
FITZ Fitzroy Crossi 142.18 263 *eP* PKPdf 15 00 59.6 -7.9
comp=Z,11nm,0.5s

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KAPI	Kappang	144.62	286	ePKP	PKPdf	15 01 08.4	-3.6
NWAO	Narrogin (SRO)	147.87	235	PKPbc	PKPbc	15 01 17.9	-2.2
	comp=Z,29nm,0.9s,baz=158,slow=4.2,SNR=8.4						
MBWA	Marble Bar	147.87	258	ePKPbc	PKPbc	15 01 18.1	-2.3
KLBR	Kellerberrin	147.90	238	eP	PKPdf	15 01 17.7	+0.7
	comp=Z,27nm,0.7s						
MUN	Mundaring	149.02	236	eP	PKPdf	15 01 21.3	+2.5

*ISCJB **01** 14:45:03.9±0.8,495S±0.1×1647E±0.1,h10^{km},mb4.3/7, Error ellipse: s-maj=17.1km s-min=6.3km az=149.0*
*IDC **01** 14:45:05.7±1.9,4920S×16474E,h0^{km},mb4.2/5, mb1 4.3/6,mb1mx4.2/13,mbtmp4.2/6,ML3.8/1,MS4.0/1, Ms1 4.0/1,ms1mx3.4/28,Error ellipse: s-maj=50.8km s-min=30.9km az=165.0*
*NEIC **01** 14:45:06.8±0.9,4951S×16451E,h10^{km},mb4.6/2,Error ellipse: s-maj=20.0km s-min=11.7km az=128.0*
ISC 01 14:45:07.8±2.4**,495S**±01×**1647E**±01**,h21**^{km}±22^{km}**,n31, σ1^{s}19**/31**,mb4.3**/7**,Auckland Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
WHZ	Wether Hill Ro	4.21	33	P	Pn	14 46 10.3	-0.3
DCZ	Deep Cove	4.33	24	P	Pn	14 46 11.7	-0.7
MLZ	Mavora Lakes	4.76	31	P	Pn	14 46 18.2	0.0
TUZ	Tuapeka	4.85	45	P	Pn	14 46 20.1	+0.6
EAZ	Earnscleugh	5.28	38	P	Pn	14 46 25.1	-0.3
EAZ				S	Sn	14 47 23.6	-2.0
MSZ	Milford Sound	5.29	26	P	Pn	14 46 27.1	+1.6
WKZ	Wanaka	5.51	34	P	Pn	14 46 29.1	+0.6
ODZ	Otahua Downs	6.01	45	P	Pn	14 46 34.8	-0.6
JCZ	Jackson Bay	6.08	29	P	Pn	14 46 38.2	+1.8
MCQ	Macquarie Isla	6.15	213	ePn	Pn	14 46 36.4	-0.9
LBZ	Lake Benmore	6.33	39	P	Pn	14 46 38.0	-1.8
FOZ	Fox Glacier	6.84	32	P	Pn	14 46 48.2	+1.3
RPZ	Rata Peaks	7.24	40	Pn	Pn	14 46 49.1	-3.2
	1.9nm,0.3s,baz=203,slow=19,SNR=6.7						
RPZ				Sn	Sn	14 48 09.8	-4.1
	4.5nm,0.3s,baz=196,slow=23,SNR=9.7						
RPZ				LR	LR	14 49 01.9	
	comp=Z,1µm,18.1s,baz=214,slow=34						
WVZ	Waitaha Valley	7.65	36	P	Pn	14 46 59.3	+1.4
MQZ	McQueen's Vall	7.96	47	P	Pn	14 47 02.6	+0.4
CRLZ	Canterbury Las	8.05	46	P	Pn	14 47 03.8	+0.4
LTZ	Lake Taylor	8.52	41	P	Pn	14 47 09.3	-0.5
TAU	Tasmania Unive	13.68	292	eP	Pn	14 48 18.4	-2.0
TOO	Toolangi	18.24	303	eP	Pn	14 49 20.9	+1.4
RAO	Raoul Island	24.16	40	eP	P	14 50 18.1	-4.2
STKA	Stephens Creek	24.64	307	P	P	14 50 27.6	+0.8
	3.4nm,0.8s,mb3.9,baz=130,slow=10,SNR=6.1						
STKA	Stephens Creek	24.64	307	eP	P	14 50 28.0	+1.3
ASAR	Alice Springs	35.27	306	P	P	14 52 00.6	-0.3
	2.6nm,0.7s,mb4.2,baz=135,slow=8.1,SNR=66						
WB2	Warramunga Arr	38.12	310	eP	P	14 52 23.8	-1.4
WRA	Warramunga Arr	38.12	310	P	P	14 52 24.3	-0.9
	5.4nm,0.9s,mb4.3,baz=136,slow=7.9,SNR=48						
WRA				PcP	PcP	14 54 39.5	-0.4
	0.9nm,0.8s,baz=152,slow=2.7,SNR=8.2						
FITZ	Fitzroy Crossi	44.27	301	eP	P	14 53 15.9	+0.1
	5.2nm,0.6s,mb4.4						
KAKA	Kakadu	45.24	313	eP	P	14 53 22.8	-0.7
	6.4nm,0.6s,mb4.6						
CMAR	Chiang Mai Arr	89.08	300	P	P	14 58 02.9	+1.6
	0.9nm,0.8s,mb4.1,baz=161,slow=3.7,SNR=7.0						
KSRS	Korea Array	92.46	332	P	P	14 58 18.4	+1.8
	1.6nm,0.9s,mb4.3,baz=173,slow=7.9,SNR=6.2						
AKASG	Malin Array Be	151.71	290	PKPbc	PKPbc	15 04 59.6	-0.1
	1.6nm,0.7s,baz=65,slow=3.7,SNR=4.1						
ARCES	ARCESS Array B	152.01	331	PKPbc	PKPbc	15 05 01.4	+1.7
	4.2nm,0.7s,baz=64,slow=2.8,SNR=7.5						

IGQ 01 14:45:44.5,216S×7981W,h8^{km}±3^{km},Mb4.1,Ms3.9, 1C-5D,Error ellipse: s-maj=5.4km s-min=1.4km az=90.6, Near coast of Ecuador

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PORT	Chimborazo Vol	1.25	56	P	Pn	14 46 09.9	+1.6
IGUA	Igualata	1.35	60	⇓P	Pn	14 46 10.7	+1.1
IGUA	Igualata	1.35	60	⇓S	Sb	14 46 29.6	+2.1
CHIS	Cerro-Chispas-	1.43	320	P	Pn	14 46 11.1	+0.3
ARRY	Arrayan	1.50	64	P	Pn	14 46 12.5	+0.7
ARRY	Arrayan	1.50	64	S	Sn	14 46 32.6	+1.0
PATA	Patacocha	1.53	65	P	Pn	14 46 13.1	+1.0
PATA	Patacocha	1.53	65	S	Sn	14 46 34.4	+2.3
JUI6	Juive	1.53	61	⇓P	Pn	14 46 13.6	+1.4
QIL2	Quilotoa	1.57	35	P	Pn	14 46 13.7	+1.0
ULBA	Ulba	1.57	63	P	Pn	14 46 14.1	+1.4
ULBA	Ulba	1.57	63	S	Sn	14 46 35.6	+2.3
RUN5	Runtun	1.57	62	P	Pn	14 46 14.2	+1.4
PISA	Pisayambo	1.80	52	⇓P	Pn	14 46 18.6	+2.8
CAMI	Rancho Maria	1.97	42	⇓P	Pn	14 46 21.4	+3.2
TAMB	Tambo	2.05	45	P	Pn	14 46 22.2	+2.9
VC1	Cotopaxi 1	2.07	43	P	Pn	14 46 22.3	+2.8
GGP	Refugio Guagua	2.32	32	⇑P	Pn	14 46 25.7	+2.7
PINO	Pino	2.33	31	P	Pn	14 46 26.7	+3.6
ANTI	Antisana	2.37	44	P	Pn	14 46 27.4	+3.7

IDC 01 14:54:29.8±26.0**,2188S**×**17229W,h0**^{km}**,mb4.1**/4**, mb1 4.3**/4**,mb1mx3.9**/18**,mbtmp4.1**/4**,Error ellipse: s-maj=480.3km s-min=150.8km az=77.0,Tonga Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CTA	Charters Tower	38.66	265	P	P	15 01 56.1	+0.8
	3.3nm,0.3s,baz=94,slow=7.9,SNR=6.8						
STKA	Stephens Creek	42.05	246	P	P	15 02 21.6	-1.7
	2.0nm,1.0s,baz=111,slow=8.6,SNR=4.9						
ASAR	Alice Springs	49.40	257	P	P	15 03 21.4	-0.1
	0.4nm,0.3s,baz=94,slow=6.8,SNR=12						
WRA	Warramunga Arr	49.68	262	P	P	15 03 24.3	+0.5
	1.4nm,0.3s,baz=98,slow=8.3,SNR=24						

*IDC **01** 15:03:33.1±5.0,294S×13940E,h0^{km},mb3.3/2,mb1 3.6/3, mb1mx3.4/13,mbtmp3.4/3,ML3.6/1,Error ellipse: s-maj=199.7km s-min=29.5km az=87.0*
*NEIC **01** 15:03:38.8±2.1,307S×13922E,h35^{km},mb3.6/1,Error ellipse: s-maj=55.4km s-min=19.0km az=91.0*
*ISCJB **01** 15:03:39.9±1.4,31S±0.1×1385E±02,h33^{km},Error ellipse: s-maj=30.0km s-min=13.6km az=25.8*
ISC 01 15:03:41.4±1.5**,31S**±01×**1386E**±02**,h35**^{km}**,n8,**σ**1^{s}20**/12**, Irian Jaya**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KAKA	Kakadu	11.33	212	eP	Pn	15 06 22.9	+2.0
	12nm,0.6s						
KAKA				eS	Sn	15 08 25.1	-1.2
WRAB	Tennant Creek	17.22	194	eP	Pn	15 07 37.7	-1.6
WB2	Warramunga Arr	17.23	194	eP	Pn	15 07 39.2	-0.2
WB2				eS	Sn	15 10 39.1	-11
WB2	Warramunga Arr	17.23	194	ePn	Pn	15 07 40.2	+0.8
WB2				eS	Sn	15 10 39.1	-11
WRA	Warramunga Arr	17.23	194	P	Pn	15 07 39.2	-0.3
	0.2nm,0.3s,baz=18,slow=13,SNR=12						
FITZ	Fitzroy Crossi	19.59	220	eP	Pn	15 08 09.7	+1.5
	4.1nm,1.3s						
FITZ				eS	S	15 11 39.7	-6.4
ASAR	Alice Springs	20.92	192	P	P	15 08 21.8	+0.7
	0.6nm,0.5s,baz=21,slow=8.4,SNR=14						
MKAR	Makanchi Array	70.08	323	P	P	15 14 49.0	-0.9
	0.7nm,0.7s,baz=102,slow=8.4,SNR=6.9						

MAN 01 15:16:02,531N×12458E,h63^{km},mb4.4,ML3.3,MS3.1, 1C,Mindanao

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
GSPH	General Santos	0.86	25	⇑eP	Pn	15 16 21.5	+3.1
GSPH				eS	Sn	15 16 36.6	+6.2
PAGZ	Pagadian	2.79	335	eP	Pn	15 16 46.6	+2.3
PAGZ				eS	Sn	15 17 19.2	+2.4
IPIL	Ipil	3.17	321	eP	Pn	15 16 51.7	+2.2
IPIL				eS	Sn	15 17 28.1	+1.9

IDC 01 15:34:03.3±3.3**,1626S**×**17515W,h454**^{km}±270^{km}**, mb3.2**/4**,mb1 3.2**/5**,mb1mx3.0**/18**,mbtmp3.2**/5**,Error ellipse: s-maj=308.2km s-min=34.3km az=68.0,Tonga Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
AFI	Afiamalu	4.01	55	P	P	15 35 19.5	+0.7
	3.3nm,0.3s,baz=299,slow=24,SNR=8.9						
AFI				S	S	15 36 20.4	+0.3
	3.7nm,0.3s,baz=360,slow=22,SNR=6.6						
URZ	Urewera	22.95	196	P	P	15 38 31.2	+0.1
	3.7nm,0.4s,baz=179,slow=11,SNR=8.0						
STKA	Stephens Creek	42.15	240	P	P	15 41 13.9	-0.7
	0.7nm,0.5s,baz=80,slow=11,SNR=4.6						
WRA	Warramunga Arr	48.02	258	P	P	15 41 59.9	-0.2
	0.5nm,0.3s,baz=96,slow=6.2,SNR=33						
ASAR	Alice Springs	48.25	253	P	P	15 42 02.0	+0.2
	1.2nm,0.5s,baz=90,slow=7.5,SNR=75						

*ISCJB **01** 15:36:14.8±1.8,2781S±003×7142W±009,h10^{km}±11^{km}, mb4.4/14,Error ellipse: s-maj=13.5km s-min=4.5km az=173.0*
*IDC **01** 15:36:15.4±0.6,2789S×7119W,h0^{km},mb4.5/11, mb1 4.5/15,mb1mx4.4/21,mbtmp4.3/15,ML4.1/4,MS4.0/1, Ms1 4.0/1,ms1mx3.0/30,Error ellipse: s-maj=21.4km s-min=16.6km az=82.0*
*GUC **01** 15:36:16.0±0.8,2782S×7148W,h30^{km}±7^{km},ML4.8*
*NEIC **01** 15:36:16.5±0.3,2783S×7122W,h10^{km},mb4.9/3, ML4.8(GUC),Error ellipse: s-maj=10.1km s-min=4.8km az=83.0*
ISC 01 15:36:17.6±1.4**,2783S**±003×**7123W**±010**,h14**^{km}±8^{km}**, h13**^{km}±.6^{km}**:pP-P,n57,**σ**0^{s}89**/52**,mb4.4**/14**,4C-2D,Near coast of northern Chile**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
VACH	Vallenar	0.85	151	⇑iP	Pg	15 36 33.8	-0.3
VACH				iS	Sg	15 36 47.3	+1.9
VACH				AML	AML	15 36 50.8	
	comp=E,46µm,0.3s						
VACH	Vallenar	0.85	151	⇑iP	Pg	15 36 33.8	-0.3
VACH				iS	Sg	15 36 47.3	+1.9
LCO	Las Campanas	1.27	159	⇓iP	Pn	15 36 40.1	-0.7
LCO				iS	Sb	15 36 57.0	-0.4
LSCH	La Serena	2.07	180	eP	Pn	15 36 50.7	-1.2
LSCH				AML	AML	15 37 29.5	
	comp=E,2µm,0.4s						
TLL	Tololo Astrono	2.36	171	eP	Pn	15 36 55.9	0.0
TLL				iS	Sn	15 37 25.0	+0.4
TLL				AML	AML	15 37 36.6	
	comp=E,15µm,0.9s						
TLL	Tololo Astrono	2.36	171	eP	Pn	15 36 55.9	0.0
TLL				iS	Sn	15 37 25.0	+0.4
OVCH	Ovalle	2.77	179	eP	Pn	15 37 00.1	-1.5
OVCH				AML	AML	15 37 50.0	
	comp=N,10µm,0.1s						
CPN1	Cerro Paranal	3.27	13	⇓iP	Pn	15 37 08.3	-0.1
CPN1				iS	Sn	15 37 47.4	+0.2
CPN1				AML	AML	15 38 11.8	
	comp=E,2µm,0.7s						
CHNG	Los Chungos	4.05	183	eP	Pn	15 37 16.8	-2.3
CEN1	Los Morros	4.51	12	⇑iP	Pn	15 37 21.2	-4.3
CFAA	Coronel Fontan	4.58	146	Pn	Pn	15 37 29.7	+3.4
	comp=E,4.5nm,0.3s,baz=319,slow=12,SNR=151						
CFAA				Sn	Sn	15 38 27.4	+8.1
	comp=E,5.1nm,0.3s,baz=202,slow=14,SNR=5.8						
CFAA	Coronel Fontan	4.58	146	Pn	Pn	15 37 29.7	+3.4
CFAA				Sn	Sn	15 38 27.4	+8.1
PEL	Peldehue	5.32	175	⇑iP	Pn	15 37 37.6	+1.1
PEL				eS	Sn	15 38 38.3	+0.7
LVC	Limon Verde	5.60	23	Pn	Pn	15 37 41.4	+1.0
	comp=E,3.4nm,0.3s,baz=200,slow=9.2,SNR=39						
LVC				Lg		15 39 13.8	
	comp=E,61nm,0.3s,baz=284,slow=22,SNR=14						
LVC	Limon Verde	5.60	23	Pn	Pn	15 37 41.4	+1.0
LVC				Lg		15 39 13.8	
ARE	Arequipa	11.31	359	P	Pn	15 38 58.0	-0.8
LPAZ	La Paz	11.84	15	Pn	Pn	15 39 05.5	-0.5
	comp=E,0.4nm,0.3s,baz=208,slow=6.3,SNR=9.7						
CPUP	Villa Florida	12.48	86	Pn	Pn	15 39 13.1	-1.6
	comp=E,0.2nm,0.3s,baz=168,slow=12,SNR=1.7						
CPUP				Lg		15 42 43.4	
	comp=E,0.4nm,0.3s,baz=165,slow=20,SNR=2.9						
CPUP				LR	LR	15 44 26.7	
	comp=E,751nm,20.0s,baz=330,slow=40						
TRQA	Tornquist	12.81	145	ePn	Pn	15 39 18.9	-0.3
	comp=E,26nm,0.6s						
PLCA	Paso Flores	12.89	178	Pn	Pn	15 39 20.6	+0.4
	comp=E,0.1nm,0.3s,baz=316,slow=18,SNR=2.3						
PLCA				Lg		15 42 54.7	
	comp=E,0.1nm,0.3s,baz=57,slow=21,SNR=2.8						
PLCA	Paso Flores	12.89	178	Pn	Pn	15 39 20.6	+0.4
PLCA				Lg		15 42 54.7	
SIV	San Ignacio	15.07	41	Pn	Pn	15 39 45.2	-4.9
	comp=E,0.7nm,0.3s,baz=241,slow=8.1,SNR=10						
BDFB	Brasilia	24.69	65	P	P	15 41 38.1	-0.1
	comp=E,6.5nm,0.6s,mb4.3,baz=220,slow=14,SNR=3.5						
VNA3	Neumayer Olymp	54.84	160	e	P	15 45 46.6	-0.2
VNA3				e	pP	15 45 50.5	-0.9
VNA3				e		15 45 56.6	
VNA1	Neumayer--Stat	55.11	159	e	P	15 45 48.8	0.0
VNA1				e	pP	15 45 52.1	-1.3
VNA1				e		15 45 59.7	
VNA2	Neumayer--Watz	55.46	159	e	P	15 45 51.1	-0.2
	baz=290,slow=9.0						
VNA2				e	pP	15 45 55.2	-0.7
VNA2				e		15 46 01.5	
SNAA	Sanae	57.06	159	e	P	15 46 02.0	-0.7
SNAA				e	pP	15 46 06.0	-1.3
SNAA				e		15 46 11.0	
SNAA	Sanae	57.06	159	eP	P	15 46 02.1	-0.7
	comp=E,20nm,1.1s,mb5.1						
MAIT	Maitri	61.70	158	eP	P	15 46 35.2	+0.4
TXAR	Lajitas Array	64.76	329	P	P	15 46 56.5	+1.0
	comp=E,0.8nm,0.7s,mb3.8,baz=145,slow=8.9,SNR=6.8						
CCM	Cathedral Cave	68.17	343	P	P	15 47 15.4	-1.7
	comp=E,9.7nm,0.8s,mb4.9						
DBIC	Dimbokro	72.60	72	P	P	15 47 45.5	+0.7
	comp=E,21nm,0.9s,mb5.1,baz=215,slow=5.6,SNR=21						
PDAR	Pinedale Array	78.61	332	P	P	15 48 19.1	+0.5
	comp=E,0.8nm,0.7s,mb3.8,baz=152,slow=6.7,SNR=4.5						
MAW	Mawson	78.89	164	P	P	15 48 20.4	+0.5
	comp=E,2.5nm,0.7s,mb4.3,baz=234,slow=6.9,SNR=7.2						
NVAR	Mina Array Bea	79.26	324	P	P	15 48 24.0	+1.7
	comp=E,0.6nm,0.6s,mb3.7,baz=164,slow=7.7,SNR=4.4						
TSUM	Tsumeb	80.26	107	P	P	15 48 28.6	+0.3
	comp=E,2.9nm,0.7s,mb4.3,baz=222,slow=6.1,SNR=6.0						
ULM	Lac du Bonnet	80.75	344	P	P	15 48 30.8	+0.8
	comp=E,5.8nm,0.9s,mb4.5,baz=148,slow=4.0,SNR=4.3						
HLID	Hailey	81.34	330	eP	P	15 48 33.7	+0.3
	comp=E,1.5nm,0.8s,mb4.0						
TOA0	Torodi Ar. Sit	81.47	70	eP	P	15 48 34.6	-0.1
TORD	Torodi Ar. Bea	81.47	70	P	P	15 48 34.9	+0.2
	comp=E,8.7nm,0.9s,mb4.7,baz=254,slow=4.8,SNR=37						
TORD	Torodi Ar. Bea	81.47	70	P	P	15 48 34.9	+0.2
BOSA	Boshof	82.34	118	P	P	15 48 38.9	-0.3
	comp=E,7.3nm,0.9s,mb4.6,baz=220,slow=6.7,SNR=7.5						
LBTB	Lobatse	84.28	115	P	P	15 48 49.0	-0.3
	comp=E,5.1nm,0.7s,mb4.7,baz=255,slow=7.7,SNR=8.7						
ASAR	Alice Springs	123.36	208	PKP	PKPdf	15 55 13.7	-1.0
	comp=E,1.1nm,0.6s,baz=127,slow=1.5,SNR=38						
WB2	Warramunga Arr	126.45	210	eP	PKPdf	15 55 20.0	-0.7
WB2	Warramunga Arr	126.45	210	ePKPdf	PKPdf	15 55 19.7	-1.0
WB2				eP		15 55 20.0	
WRA	Warramunga Arr	126.45	210	PKP	PKPdf	15 55 19.9	-0.9
	comp=E,2.9nm,0.6s,baz=156,slow=1.7,SNR=57						
KURK	Kurchatov	147.70	37	ePKPbc	PKPbc	15 55 59.4	-2.0
EKS2	Erkin-Say	148.07	53	ePKPbc	PKPbc	15 56 00.8	-1.8
ZAA0	Zalesovo Array	148.54	27	ePKPdf	PKPdf	15 55 59.9	+0.1
ZAA0				ePKPbc	PKPbc	15 56 04.0	+0.5
ZAA0				ePKPab	PKPab	15 56 07.5	+0.6
ZALV	Zalesovo Beam	148.54	27	PKP	PKPdf	15 56 00.4	+0.6
	comp=E,14nm,0.8s,baz=267,slow=2.5,SNR=16						
ZALV				PKPbc	PKPbc	15 56 03.6	+0.1
	comp=E,14nm,0.8s,baz=266,slow=1.8,SNR=51						
TKM2	Tokmak 2	149.27	52	ePKPbc	PKPbc	15 56 06.1	+0.4
MK31	Makanchi Array	151.89	41	ePKPbc	PKPbc	15 56 11.4	-0.4
MKAR	Makanchi Array	151.89	41	PKP	PKPdf	15 56 05.5	+0.1
	comp=E,4.7nm,0.7s,baz=343,slow=3.8,SNR=4.0						
MKAR				PKPbc	PKPbc	15 56 11.8	0.0
	comp=E,4.7nm,0.7s,baz=321,slow=2.3,SNR=41						
MKAR	Makanchi Array	151.89	41	PKP	PKPdf	15 56 05.5	+0.1
MKAR				PKPbc	PKPbc	15 56 11.8	0.0
SONM	Songino Array	159.94	5	PKPab	PKPab	15 56 56.0	+0.7
	comp=E,0.8nm,0.8s,baz=311,slow=3.5,SNR=4.0						
CMAR	Chiang Mai Arr	167.02	134	PKP	PKPdf	15 56 22.1	-1.3
	comp=E,0.6nm,0.9s,baz=286,slow=1.4,SNR=4.2						
CMAR				PKPab	PKPab	15 57 26.4	-0.8
	comp=E,0.6nm,0.8s,baz=267,slow=1.7,SNR=3.4						

*CASC **01** 16:05:39.7±2.6,1277N×9067W,h118^{km}±50^{km},MD4.2, ML3.6,mb4.8(NEIC)*
*BJI **01** 16:05:41.9,1270N×9040W,h31^{km},mB5.3,Ms5.0,Msz4.6*
*NEIC **01** 16:05:41.2±0.6,1267N×9043W,mb4.8/29,MS4.6/2, Error ellipse: s-maj=14.0km s-min=11.0km az=51.0*
*ISCJB **01** 16:05:42.9±0.7,1291N±006×9044W±004,h38^{km}±6^{km}, mb4.7/32,MS4.2/13,Error ellipse: s-maj=11.6km s-min=4.1km az=28.9*
*IDC **01** 16:05:51.3±4.2,1311N×9038W,h102^{km}±33^{km},mb4.3/8, mb1 4.3/11,mb1mx4.0/23,mbtmp4.2/11,MS4.0/9, Ms1 4.0/9,ms1mx3.6/35,Error ellipse: s-maj=36.9km s-min=17.6km az=38.0*
ISC 01 16:05:41.5±1.5**,1303N**±006×**9041W**±003**,h8**^{km}±10^{km}**, n281,**σ**0^{s}79**/255**,mb4.7**/32**,MS4.2**/13**,113C-69D,Near coast of Guatemala**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SBLS	San Blas	1.11	44	⇑eP	x	16 06 06.7	
RTR	El Retiro	1.14	41	⇑iP	x	16 06 07.1	
RTR				eS	x	16 06 28.9	
SNJE	San Jose	1.14	43	⇑eP	x	16 06 07.1	
RBDL	Robledal	1.28	33	⇑eP	x	16 06 09.1	
BOQS	Boqueron	1.30	57	⇓eP	x	16 06 09.1	
SNET	Serv Nac Est T	1.32	60	eP	x	16 06 08.7	
SNET				eS	x	16 06 31.5	
PCG	Pacaya	1.36	352	eP	Pn	16 06 08.9	+2.0
LFRS	El Faro	1.44	66	⇑eP	x	16 06 10.2	
LFRS				eS	x	16 06 34.9	
FUG	Fuego 3	1.47	343	eP	Pn	16 06 09.5	+1.2
FUG				eS	Sn	16 06 34.6	+6.9
LBRS	Las Brisas	1.50	62	⇑eP	x	16 06 11.8	
FG6		1.58	343	⇑eP	Pn	16 06 11.1	+1.2
SNVI	San Vicente	1.63	69	⇓eP	x	16 06 13.1	
SNVI				eS	x	16 06 39.7	
SNVI				eS	x	16 06 39.9	
JAT	Jato	1.75	317	eP	Pn	16 06 11.4	-0.8
VSM	San Miguel	2.12	79	eP	x	16 06 19.7	
VSM				eS	x	16 06 51.1	
BLLM	Bellamira	2.15	79	⇓eP	x	16 06 20.0	
BLLM				eS	x	16 06 50.6	
CAHU	Cacacuatique	2.26	71	eP	x	16 06 21.8	
CNCH	Conchagua	2.52	84	eP	x	16 06 24.0	
CNCH				eS	x	16 06 59.1	
TGUH	Tegucigalpa,Un	3.21	71	ePn	Pn	16 06 34.3	+2.0
LEON	Leon	3.49	100	eP	Pn	16 06 35.3	-0.7
TEL3	Telica 3	3.51	97	eP	Pn	16 06 36.5	+0.1
TEL3				eS	Sn	16 07 21.8	+3.7
MIRN	Miramar	3.66	99	eP	Pn	16 06 37.9	-0.6
MIRN				eS	Sn	16 07 22.1	+0.3
CNGN	Cerro Negro	3.66	98	⇑eP	Pn	16 06 37.3	-1.1
CNGN				eS	Sn	16 07 22.9	+1.1
CNGN				AML	AML	16 07 27.3	
	comp=E,136nm,0.3s						
COPN	Copaltepe	3.82	102	⇓iP	Pn	16 06 40.4	-0.3
COPN				eS	Sn	16 07 25.3	-0.6
MOMN	Momotombo	3.83	99	eP	Pn	16 06 40.5	-0.2
MOMN				eS	Sn	16 07 27.4	+1.4
CSAN		3.98	102	eP	Pn	16 06 42.5	-0.4
CSAN				eS	Sn	16 07 30.5	+0.6
APYN	Apoyeque	4.04	101	eP	Pn	16 06 43.8	+0.1
APYN				eS	Sn	16 07 32.2	+0.9
XAVN	Gruta Xavier	4.08	102	eP	Pn	16 06 44.2	0.0
XAVN				eS	Sn	16 07 32.5	+0.2
TISN	Laguna Tiscapa	4.14	102	eP	Pn	16 06 45.0	0.0
TISN				eS	Sn	16 07 33.0	-0.6
HUEN		4.19	99	eP	Pn	16 06 45.3	-0.5
HUEN				eS	Sn	16 07 36.0	+1.0
SSN	San Juan del S	4.78	111	eP	Pn	16 06 53.0	-0.8
CONN	Concepcion	4.90	107	⇓eP	Pn	16 06 54.9	-0.7
JCR	Jicaral	6.08	121	eP	Pn	16 07 11.4	-0.4
PRS1	Puriscal	6.70	116	eP	Pn	16 07 20.9	+0.6
BUS	Buena Vista	7.38	117	eP	Pn	16 07 30.8	+1.1
TEIG	Tepich	7.44	16	P	Pn	16 07 34.8	+4.4
	comp=E,7.6nm,0.3s,baz=198,slow=9.1,SNR=25						
TEIG	Tepich	7.44	16	eP	Pn	16 07 34.3	+3.9
	comp=E,155nm,1.0s						
ACR	Cerro Adams	8.34	121	eP	Pn	16 07 43.6	+0.8
ROSC	El Rosal	17.83	116	P	Pn	16 09 54.0	+3.8
	comp=E,1.3nm,0.3s,baz=116,slow=22,SNR=13						
CHI2		18.45	115	eP	Px	16 06 34.6	
CHI2				eS	Sx	16 07 14.3	
CHI2				AML	AML	16 07 17.1	
	comp=Z,417nm,0.4s						
NATX	Nacogdoches	19.04	349	eP	Pn	16 10 03.7	-1.2
	comp=Z,41nm,0.7s						
JCT	Junction City	19.41	335	eP	Pn	16 10 08.4	-0.9
	comp=Z,9.0nm,0.6s						
SDV	Santo Domingo	19.84	100	P	Pn	16 10 14.0	-0.6
	comp=Z,1.4nm,0.3s,baz=298,slow=8.9,SNR=8.1						
LRAL	Lakeview Retre	20.15	8	eP	P	16 10 17.9	+1.6
	comp=Z,40nm,0.6s						
LRAL				e		16 10 30.4	
TXAR	Lajitas Array	20.36	325	P	P	16 10 19.7	+1.1
	comp=Z,12nm,0.8s,baz=152,slow=12,SNR=95						
TXAR	Lajitas Array	20.36	325	P	P	16 10 19.7	+1.1
MIAR	Mount Ida	21.61	353	eP	P	16 10 30.8	-1.2
	comp=Z,30nm,0.8s,mb4.8						
MIAR				e		16 10 40.0	
UALR	University of	21.72	356	eP	P	16 10 32.3	-0.9
	comp=Z,25nm,0.8s,mb4.7						
SWET	Sewanee	22.45	10	eP	P	16 10 40.4	-0.6
SWET				e		16 10 49.8	
WMOK	Wichita Mounta	22.90	342	eP	P	16 10 42.7	-3.1
	comp=Z,11nm,1.1s,mb4.2						
CPCT	Cooper Cave	22.94	12	eP	P	16 10 45.8	-0.4
TKL	Tuckaleechee C	23.31	14	P	P	16 10 50.2	+0.1
	comp=Z,37nm,1.0s,mb4.8,baz=191,slow=9.8,SNR=11						
TKL				LR	LR	16 20 16.6	
	comp=Z,465nm,21.0s,MS3.9,baz=239,slow=37						
AMTX	Amarillo	24.03	337	eP	P	16 10 53.7	-3.3
	comp=Z,10nm,0.6s,mb4.4						
SIUC	Southern Illin	24.60	2	eP	P	16 11 01.5	-0.8
	comp=Z,30nm,0.7s,mb4.9						
CCM	Cathedral Cave	24.93	358	eP	P	16 11 03.7	-1.5
	comp=Z,23nm,0.8s,mb4.8						
CCM				e		16 11 12.2	
USIN	University of	24.95	5	eP	P	16 11 05.8	+0.5
	comp=Z,36nm,0.8s,mb5.0						
USIN				e		16 11 14.7	
WCI	Wyandotte Cave	25.36	8	eP	P	16 11 08.2	-0.8
	comp=Z,74nm,0.8s,mb5.3						
WCI				e		16 11 17.3	
219A	White Tail Can	25.60	321	⇓P	P	16 11 13.9	+2.5
	baz=26						
OLIL	Olney	25.68	4	eP	P	16 11 11.4	-0.6
	comp=Z,14nm,0.3s,mb5.0						
OLIL				e		16 11 20.1	
X16A	Lo Mia Camp, P	28.59	322	⇓P	P	16 11 38.7	+0.5
	baz=29						
Y15A	Casa Rosa Ranc	28.83	320	⇓P	P	16 11 41.9	+1.6
	baz=29						
WUAZ	Wupatki	29.31	323	⇑P	P	16 11 45.8	+1.2
	baz=30						
WUAZ	Wupatki	29.31	323	eP	P	16 11 46.2	+1.6
	comp=Z,16nm,1.1s,mb4.7						
U16A	Tuba City	29.61	325	⇓P	P	16 11 48.4	+1.1
	baz=30						
S19A	Harvey Farm, M	29.74	329	⇓P	P	16 11 49.5	+1.0
	baz=30						
PV01	Paradox Valley	29.77	330	eP	P	16 11 48.8	+0.1
V15A	Kaibab Nationa	29.98	323	⇑P	P	16 11 51.7	+1.1
	baz=30						
W14A	Seligman	30.12	321	⇑P	P	16 11 52.2	+0.4
	baz=30						
S18A	Hurst Farm, Bl	30.14	328	⇑P	P	16 11 52.8	+0.9
	baz=30						
X13A	Yucca	30.18	319	⇓P	P	16 11 52.6	+0.2
	baz=30						
PV10	Paradox Valley	30.19	330	P	P	16 11 52.2	-0.2
PDMCI	Parker Dam,Lak	30.20	319	⇓P	P	16 11 53.0	+0.4
	baz=30						
V14A	Boquillas Ranc	30.41	322	⇑P	P	16 11 54.8	+0.4
	baz=31,SNR=8.5						

S17A Black Ridge (B 30.52 327 ⇓P P 16 11 55.8 +0.5
baz=31
R18A Canyonlands Na 30.62 329 ⇑P P 16 11 56.9 +0.8
baz=31
BC3 Big Chuckw Mtn 30.68 316 ⇑P P 16 11 56.2 -0.5
baz=31
Q19A Hogan Spring (30.75 330 ⇓P P 16 11 58.0 +0.7
baz=31
IRM Iron Mountain 30.77 317 ⇑P P 16 11 57.7 +0.1
baz=31
T15A Red Dirt Ranch 30.94 324 ⇓P P 16 11 59.4 +0.4
baz=31
U14A Mt Trumbull 30.99 323 ⇑P P 16 11 59.8 +0.3
baz=31
S16A Weppner Ranch, 31.01 326 ⇑P P 16 12 00.4 +0.8
baz=31
R17A Hanksville Air 31.06 328 ⇓P P 16 12 01.0 +1.0
baz=31
BELC Belle Mtn. 31.25 316 ⇓P P 16 12 01.2 -0.5
baz=32
Q18A Rafter H Ranch 31.29 330 ⇑P P 16 12 03.0 +0.9
baz=32
R16A Teasdale 31.36 327 ⇓P P 16 12 04.1 +1.4
baz=32,SNR=5.4
T14A Hurricane 31.37 324 ⇓P P 16 12 03.7 +0.8
baz=32
U13A Pakoon Wash 31.45 322 ⇑P P 16 12 04.2 +0.6
baz=32,SNR=9.8
GMRC Granite Mounta 31.48 318 ⇓P P 16 12 04.2 +0.3
baz=32
V12A Nelson 31.55 320 ⇑P P 16 12 04.7 +0.2
baz=32,SNR=11
U12A Valley of Fire 31.81 321 ⇑P P 16 12 07.1 +0.3
baz=32
CCUT Cedar City 31.87 324 *e*P P 16 12 08.1 +0.9
P17A Butcher Ranch, 31.87 329 ⇑P P 16 12 07.9 +0.6
baz=32
TUQ Turquoise Moun 32.05 318 ⇑P P 16 12 09.0 +0.2
baz=32
ARUT Antelope Range 32.08 324 *e*P P 16 12 10.0 +0.9
S13A Holt Ranch, En 32.18 324 ⇓P P 16 12 10.6 +0.6
baz=32
O17A Robinson Place 32.43 330 ⇓P P 16 12 13.3 +1.2
baz=33
SHOC Shoshone 32.56 319 ⇑P P 16 12 13.0 -0.3
baz=33
R13A O'Grain Ranch, 32.65 324 ⇓P P 16 12 15.2 +1.1
baz=33
T11A Corn Creek, Al 32.75 322 ⇑P P 16 12 15.4 +0.4
baz=33
S12A Delamar Landin 32.77 323 ⇓P P 16 12 15.9 +0.8
baz=33
Q14A Sevier Lake (B 32.83 326 ⇑P P 16 12 16.6 +1.0
baz=33,SNR=5.2
COWI Conover 32.98 2 *e*P P 16 12 14.7 -2.1
comp=Z,8.7nm,0.8s,mb4.7
COWI *e* 16 12 23.5
R12A Pony Springs, 33.12 324 ⇓P P 16 12 19.2 +1.1
baz=34
Q13A Wheeler Ranch, 33.22 325 ⇓P P 16 12 20.0 +0.9
baz=34
N16A Rees Ranch, Co 33.30 330 ⇓P P 16 12 20.6 +0.8
baz=34
S11A Rachel 33.34 322 ⇑P P 16 12 20.6 +0.5
baz=34
MPMC Manual Prospec 33.44 318 ⇓P P 16 12 20.6 -0.4
baz=34,SNR=12
P13A Bates Ranch, G 33.57 326 ⇑P P 16 12 22.7 +0.6
baz=34,SNR=8.1
R11A Troy Canyon, C 33.70 323 ⇓P P 16 12 23.6 +0.3
baz=34
ISA Isabella 33.87 317 ⇑P P 16 12 23.8 -1.0
baz=34
HWUT Hardware Ranch 33.92 331 *e*P P 16 12 25.1 0.0
comp=Z,9.4nm,1.0s,mb4.7
GRAC Grapevine Rang 33.93 319 ⇑P P 16 12 25.3 0.0
baz=34,SNR=11
PDAR Pinedale Array 33.95 334 PcP PcP 16 14 59.1 -4.5
comp=Z,0.7nm,0.8s,baz=141,slow=4.4,SNR=2.9
S10A Tonopah Range, 34.03 321 ⇑P P 16 12 26.2 +0.1
baz=34,SNR=7.6
Q11A Duckwater 34.07 324 ⇑P P 16 12 26.6 +0.2
baz=34,SNR=8.8
R10A Warm Springs 34.09 322 ⇑P P 16 12 27.0 +0.4
baz=34,SNR=5.7
N14A Grayback Hills 34.14 328 ⇑P P 16 12 27.6 +0.5
baz=34
L16A Fish Haven 34.17 332 ⇑P P 16 12 28.2 +0.9
baz=35
M15A Larsen Ranch, 34.23 330 ⇑P P 16 12 28.0 +0.2
baz=35
S09A Goldfield 34.29 321 ⇑P P 16 12 28.0 -0.3
baz=35,SNR=7.5
PKM Peak Mountain 34.36 314 ⇑P P 16 12 28.3 -0.8
baz=35
VES Vestal, Richgr 34.37 316 ⇓P P 16 12 28.8 -0.3
baz=35
Q10A Clear Creek Ra 34.49 323 ⇑P P 16 12 30.9 +0.7
baz=35
R09A Tonopah 34.52 321 ⇑P P 16 12 30.3 0.0
baz=35,SNR=7.5
O12A Currie 34.54 326 ⇑P P 16 12 32.2 +1.7
baz=35,SNR=5.6
P11A Circle Ranch, 34.61 324 ⇓P P 16 12 31.8 +0.7
baz=35
L15A Malad City 34.61 331 ⇑P P 16 12 31.0 -0.1
baz=35,SNR=6.2
M14A Sheep Mountain 34.71 329 ⇑P P 16 12 32.6 +0.7
baz=35
S08C White Mtn Res 34.74 319 ⇓P P 16 12 32.4 +0.1
baz=35
HELL Mitchell Peak 34.81 318 ⇓P P 16 12 32.6 -0.3
baz=35
EYMN Ely 34.82 359 P P 16 12 28.9 -3.9
comp=Z,9.2nm,0.8s,mb4.8
REDW Red Top Meadow 34.98 334 *e*P P 16 12 34.0 -0.3
comp=Z,12nm,0.8s,mb4.9
SNOW Snow King Moun 35.02 334 *e*P P 16 12 34.4 -0.2
comp=Z,16nm,0.7s,mb5.1
L14A Malta 35.05 330 ⇑P P 16 12 35.1 +0.3
baz=35
P10A Eureka 35.06 324 ⇓P P 16 12 35.2 +0.2
baz=35
LOHW Long Hollow 35.08 334 *e*P P 16 12 33.8 -1.3
comp=Z,5.7nm,0.8s,mb4.5
TPAW Teton Pass 35.13 334 *e*P P 16 12 35.2 -0.3
comp=Z,4.8nm,0.8s,mb4.5
K15A Arbon 35.21 331 ⇓P P 16 12 36.7 +0.5
baz=36
KCC Kaiser Creek 35.37 318 ⇓P P 16 12 37.4 -0.3
baz=36
NVAR Mina Array Bea 35.39 321 P P 16 12 38.5 +0.6
comp=Z,15nm,0.9s,mb4.9,baz=140,slow=8.4,SNR=53
NVAR PcP PcP 16 15 06.1 -1.8
comp=Z,1.3nm,0.7s,baz=134,slow=3.9,SNR=6.3
NVAR Mina Array Bea 35.39 321 P P 16 12 38.5 +0.6
NVAR PcP PcP 16 15 06.1 -1.8
K14A Jones Ranch, D 35.41 330 ⇑P P 16 12 38.0 +0.1
baz=36,SNR=5.6
PKD Parkfield 35.42 315 ⇑P P 16 12 37.0 -1.2
baz=36
Q08A Gabbs 35.43 322 ⇑P P 16 12 37.5 -0.8
baz=36
AGMN Agassiz Refuge 35.45 354 *e*P P 16 12 36.0 -2.2
comp=Z,23nm,0.8s,mb5.2
J15A Blackfoot 35.72 332 ⇑P P 16 12 40.6 0.0
baz=36
RLMT Red Lodge 35.79 337 *e*P P 16 12 40.4 -0.8
comp=Z,3.8nm,0.8s,mb4.4
O09A Fish Creek Ran 35.84 324 ⇑P P 16 12 41.7 0.0
baz=36
M11A Holland Ranch, 35.92 327 ⇑P P 16 12 43.7 +1.3
baz=36
S06C San Francisco 36.04 319 ⇑P P 16 12 43.4 -0.1
baz=36
J14A Carey 36.16 331 ⇓P P 16 12 44.7 +0.3
baz=37,SNR=5.9
R06C Coleville 36.16 320 ⇑P P 16 12 44.6 +0.1
baz=36
K12A Draper Farm, C 36.32 329 ⇓P P 16 12 46.3 +0.5
baz=37
M10A I.L. Ranch, Tu 36.39 326 ⇑P P 16 12 46.7 +0.3
baz=37
L11A Cat Creek Ranc 36.42 328 ⇑P P 16 12 47.3 +0.7
baz=37,SNR=5.3
CMB Columbia Colle 36.48 318 ⇑P P 16 12 46.8 -0.3
baz=37
LPAZ La Paz 36.52 142 *e*P P 16 12 41.6 -6.1
comp=Z,9.2nm,0.8s,mb4.7
J13A Cove Ranch, Pi 36.53 330 ⇓P P 16 12 48.3 +0.8
baz=37
I14A Mackay 36.59 332 ⇑P P 16 12 48.6 +0.5
baz=37
F18A Big Timber 36.62 337 ⇓P P 16 12 48.2 -0.1
baz=37
R05C Kirkwood Meado 36.66 320 ⇑P P 16 12 48.7 -0.1
baz=37
L10A Juniper Basin 36.74 327 ⇑P P 16 12 50.0 +0.6
baz=37
H15A Lima 36.76 333 ⇓P P 16 12 50.3 +0.8
baz=37
HLID Hailey 36.77 330 ⇑P P 16 12 49.8 +0.2
baz=37
N08A GE Springer Mi 36.78 324 ⇑P P 16 12 50.5 +0.8
baz=37
WCN Washoe City 36.82 321 ⇑P P 16 12 50.5 +0.4
baz=37
J12A Stokes Ranch, 36.87 329 ⇓P P 16 12 51.4 +0.9
baz=37
I13A Wildhorse Cree 36.89 331 ⇑P P 16 12 51.1 +0.4
baz=37
K11A Parker Ranch, 37.00 328 ⇑P P 16 12 52.1 +0.5
baz=37
MCMT McKenzie Canyo 37.02 333 *e*P P 16 12 52.5 +0.7
G15A Dillon 37.13 334 ⇑P P 16 12 52.8 +0.2
baz=38,SNR=7.1
E18A Harlowton 37.25 338 ⇓P P 16 12 53.6 0.0
baz=38
DLMT Dillon 37.33 334 *e*P P 16 12 54.6 +0.3
comp=Z,11nm,1.1s,mb4.6
JRSC Jasper Ridge 37.35 316 ⇑P P 16 12 53.4 -1.3
baz=38
ULM Lac du Bonnet 37.38 354 P P 16 12 52.2 -2.5
comp=Z,17nm,1.0s,mb4.8,baz=184,slow=9.5,SNR=11
ULM PcP PcP 16 15 10.4 -3.1
comp=Z,8.7nm,1.1s,baz=121,slow=5.9,SNR=3.6
ULM LR LR 16 29 10.1
comp=Z,252nm,21.4s,MS4.0,baz=222,slow=38
ULM Lac du Bonnet 37.38 354 *e*P P 16 12 52.0 -2.7
comp=Z,16nm,1.0s,mb4.8
ULM *e*pP pP 16 13 01.0 +4.0
O06A Flanigan 37.39 322 ⇑P P 16 12 54.8 -0.1
baz=38
H13A Challis 37.45 332 ⇑P P 16 12 55.2 -0.2
baz=38,SNR=8.4
E17A Martinsdale 37.52 337 ⇑P P 16 12 55.9 -0.1
baz=38
BEKR Beckwourth 37.53 321 ⇑P P 16 12 56.1 0.0
baz=38,SNR=8.6
F15A Butte 37.67 335 ⇑P P 16 12 57.4 +0.2
baz=38,SNR=6.8
H12A Diamond D Ranc 37.72 331 ⇓P P 16 12 58.0 +0.4
baz=38
N06A Buffalo Meadow 37.76 322 ⇓P P 16 12 57.5 -0.5
baz=38,SNR=17
L08A Fields 37.83 325 ⇓P P 16 12 58.5 -0.1
baz=38
K09A Rome 37.84 327 ⇑P P 16 12 58.8 +0.1
baz=38,SNR=20
G13A Cobalt 37.84 332 ⇓P P 16 12 58.5 -0.1
baz=38
E16A East Helena 37.90 336 ⇑P P 16 12 59.1 0.0
baz=38
FARB Farallon Islan 38.02 316 ⇓P P 16 12 59.0 -1.4
baz=38
ORV Oroville 38.06 320 ⇑P P 16 13 00.7 0.0
baz=38
WVOR Wild Horse Val 38.16 325 *e*P P 16 13 00.7 -0.7
comp=Z,9.0nm,1.1s,mb4.4
E15A Deer Lodge 38.20 335 ⇑P P 16 13 01.6 -0.1
baz=39
K08A Mann Creek Ran 38.27 326 ⇓P P 16 13 02.5 +0.2
baz=39
L07A Adell 38.28 324 ⇑P P 16 13 02.2 -0.2
baz=39
J09A Fry Pan Ranch, 38.30 327 ⇑P P 16 13 02.1 -0.5
baz=39,SNR=20
H11A Donnelly 38.39 330 ⇑P P 16 13 03.2 -0.1
baz=39
M06C Likely Place G 38.42 323 ⇓P P 16 13 03.1 -0.6
baz=39
F13A Darby 38.42 333 ⇓P P 16 13 03.2 -0.4
baz=39,SNR=5.9
D15A Lincoln 38.65 336 ⇑P P 16 13 05.7 +0.3
baz=39
K07A Rock Creek Ran 38.66 325 ⇑P P 16 13 05.7 0.0
baz=39,SNR=14
J08A Circle Bar Ran 38.69 327 ⇑P P 16 13 05.6 -0.3
baz=39,SNR=5.8
I09A Lost Marbles R 38.73 328 ⇓P P 16 13 06.0 -0.2
baz=39,SNR=12
MOD Modoc 38.76 324 ⇑P P 16 13 05.5 -0.9
baz=39
F12A Elk City 38.82 332 ⇓P P 16 13 06.6 -0.3
baz=39
E13A Victor 38.87 334 ⇓P P 16 13 07.0 -0.3
baz=39
GASB Alder Springs 38.89 319 ⇑P P 16 13 07.9 +0.3
baz=39
M05C Lookout 38.91 322 ⇑P P 16 13 07.1 -0.6
baz=39
C16A Fuhringer Ranc 38.97 337 ⇑P P 16 13 08.1 0.0
baz=39
G11A Walters Elk Ra 39.02 331 ⇑P P 16 13 08.5 -0.1
baz=39
D14A Greenough 39.08 335 ⇑P P 16 13 08.5 -0.6
baz=40
I08A Drewsey 39.12 327 ⇓P P 16 13 09.8 +0.4
baz=40
BMO Blue Mountains 39.13 329 P P 16 13 07.9 -1.6
comp=Z,4.0nm,1.2s,mb4.0
L05A Lakeview 39.15 323 ⇓P P 16 13 09.8 +0.1
baz=40
H09A Durkee 39.17 329 ⇑P P 16 13 09.9 0.0
baz=40
C15A Salmond Ranch, 39.28 336 ⇓P P 16 13 10.7 0.0
baz=40
K06A Valley Falls 39.30 325 ⇑P P 16 13 11.3 +0.4
baz=40
G10A Bishop Farm, J 39.35 330 ⇑P P 16 13 11.4 0.0
baz=40
E12A Beaver Dam Sad 39.46 332 ⇑P P 16 13 11.4 -0.8
baz=40
D13A Huson 39.49 334 ⇑P P 16 13 11.9 -0.6
baz=40
J06A Christmas Vall 39.53 325 ⇑P P 16 13 12.2 -0.7
baz=40
M04C Macdoel 39.58 322 ⇑P P 16 13 13.8 +0.4
baz=40
H08A Prairie City 39.59 328 ⇑P P 16 13 12.4 -0.9
baz=40
G09A Cove 39.67 329 ⇑P P 16 13 13.0 -1.0
baz=40,SNR=6.9
B15A Bradely Ranch, 39.70 337 ⇑P P 16 13 13.4 -0.8
baz=40
E11A Bogner Ranch, 39.70 332 ⇑P P 16 13 13.6 -0.7
baz=40
I07A Izee 39.73 327 ⇓P P 16 13 13.9 -0.7
baz=40
D12A Red Ives Fores 39.85 333 ⇑P P 16 13 14.4 -1.1
baz=40
F10A Beach Ranch, E 39.90 331 ⇑P P 16 13 15.2 -0.8
baz=40,SNR=11
F09A S2 Ranch, Elgi 40.04 330 ⇑P P 16 13 17.0 -0.1
baz=40
H07A Lands Inn, Kim 40.10 327 ⇑P P 16 13 17.4 -0.2
baz=40
J05A Fort Rock 40.16 325 ⇓P P 16 13 18.0 -0.1
baz=40
A15A Johnson Ranch, 40.31 337 ⇓P P 16 13 18.4 -0.8
baz=41
B13A Whitefish 40.50 335 ⇑P P 16 13 20.9 0.0
baz=41
F08A Pendleton 40.53 329 ⇓P P 16 13 21.3 +0.1
baz=41
A14A Double T Ranch 40.57 337 ⇑P P 16 13 20.9 -0.5
baz=41
C11A Tepee Creek (N 40.84 333 ⇑P P 16 13 24.1 +0.4
baz=41
G06A Carlson Farm, 41.10 327 ⇑P P 16 13 26.3 +0.5
baz=42
I04A Tendick Farm, 41.15 324 ⇑P P 16 13 25.7 -0.5
baz=42
K02A Glendale 41.15 322 ⇓P P 16 13 26.1 -0.2
baz=42
D08A Wollman Farm, 41.49 330 ⇓P P 16 13 28.8 -0.2
baz=42
J02A Umpqua 41.56 323 ⇓P P 16 13 28.9 -0.8
baz=42
H04A Detroit Lake 41.58 326 ⇓P P 16 13 29.6 -0.2
baz=42
OD2 Odessa Site #2 41.63 331 *e*P P 16 13 29.3 -0.9
C09A Chrisman Ranch 41.72 332 ⇓P P 16 13 30.7 -0.3
baz=42
A11A Hall Mountain, 41.75 334 ⇑P P 16 13 30.6 -0.5
baz=42
F05A White Salmon 41.96 327 ⇓P P 16 13 32.9 0.0
baz=42
C08A Higginbotham F 42.07 331 ⇑P P 16 13 33.8 0.0
baz=42
B09A Rice 42.12 332 ⇑P P 16 13 33.6 -0.6
baz=42
E06A Yakima 42.15 328 ⇑P P 16 13 34.4 -0.1
baz=42
LON Longmire 42.72 328 *e*P P 16 13 38.5 -0.6
comp=Z,11nm,0.8s,mb4.6
A09A Danville 42.73 333 ⇓P P 16 13 38.2 -0.9
baz=43
B07A Winthrop 43.06 331 ⇑P P 16 13 41.0 -0.8
baz=43
E03A Lebam 43.51 327 ⇓P P 16 13 44.3 -1.1
baz=44
NLWA Neilton Lookou 44.20 328 ⇑P P 16 13 50.4 -0.7
baz=45
SCHQ Schefferville 45.61 19 P P 16 14 00.1 -2.0
comp=Z,15nm,0.9s,mb4.9,baz=198,slow=3.4,SNR=5.2
SCHQ LR LR 16 32 51.2
comp=Z,237nm,18.1s,MS4.2,baz=111,slow=36
CPUP Villa Florida 50.66 141 LR LR 16 38 46.2
comp=Z,81nm,20.7s,MS3.7,baz=180,slow=39
PLCA Paso Flores 56.57 162 LR LR 16 33 14.2
comp=Z,260nm,19.8s,MS4.3,baz=108,slow=29
SFJD Kangerlussuaq 59.97 17 LR LR 16 41 22.8
comp=Z,260nm,18.1s,MS4.4,baz=120,slow=36
BILL Bilibino 82.92 338 P P 16 18 05.4 -1.3
comp=Z,23nm,1.3s,mb5.0
DBIC Dimbokro 84.21 85 P P 16 18 13.1 -1.2
comp=Z,9.6nm,1.0s,mb4.9,baz=306,slow=4.5,SNR=4.7
DBIC Dimbokro 84.21 85 P P 16 18 13.1 -1.2
NOA NORSAR Array B 84.25 29 LR LR 16 54 35.2
comp=Z,43nm,19.2s,MS3.8,baz=200,slow=35
ARCES ARCESS Array B 86.56 18 P P 16 18 22.3 -2.6
comp=Z,1.6nm,0.8s,mb4.3,baz=261,slow=5.4,SNR=4.2
ARCES LR LR 16 56 53.2
comp=Z,75nm,19.1s,MS4.1,baz=285,slow=35
ARCES ARCESS Array B 86.56 18 P P 16 18 22.3 -2.6
ARCES LR LR 16 56 53.2
TORD Torodi Ar. Bea 89.09 77 P P 16 18 36.2 -2.0
comp=Z,0.5nm,0.7s,mb3.9,baz=284,slow=4.9,SNR=4.9
GERES GERESS Array B 89.35 40 LR LR 16 55 40.7
comp=Z,72nm,18.7s,MS4.1,baz=340,slow=34
KURK Kurchatov 115.80 8 PKP PKPdf 16 24 21.5 -3.3
comp=Z,0.4nm,0.6s,baz=340,slow=1.6,SNR=4.1
KSRS Korea Array 118.21 326 PKP PKPdf 16 24 25.2 -4.6
comp=Z,0.6nm,0.7s,baz=304,slow=2.4,SNR=4.5
MKAR Makanchi Array 120.09 6 PKP PKPdf 16 24 27.5 -5.6
comp=Z,0.7nm,0.8s,baz=356,slow=8.5,SNR=4.0
HHC Hu-ho-hao-te 122.66 340 *e*PKP PKPdf 16 24 33.9 -4.4
HHC XPKP 16 24 48.2
HHC PP PP 16 26 16.7 +2.4
HHC PKS 16 28 09.7
HHC SKS SKSdf 16 31 40.9 -10
HHC PP PP
comp=Z,161nm,5.0s
HHC LR LR
comp=N,225nm,22.3s,MS4.9
HHC LR LR
comp=E,198nm,22.5s,MS4.9
HHC LR LR
comp=Z,196nm,19.5s,MS4.8
WMQ Urumqi 123.40 2 *e*PKP PKPdf 16 24 36.4 -3.2
LZH Lanzhou 129.32 345 *e*PKP PKPdf 16 24 48.0 -3.2
LZH XPKP 16 25 02.5
LZH *e*PP PP 16 27 02.1 +3.6
LZH PP PP
comp=Z,84nm,8.0s
LZH LR LR
comp=E,127nm,18.1s
LZH LR LR
comp=Z,173nm,20.3s,MS4.7
LZH Lanzhou 129.32 345 *e*PKP PKPdf 16 24 48.0 -3.2
LZH pPKP pPKPdf 16 24 59.0 +5.2
LZH sPKP 16 25 02.5
LZH *e*PP PP 16 27 02.1 +3.6
LZH *e*SS SS 16 44 18.2 -1.0
LZH LR LR
comp=Z,170nm,20.3s,MS4.7
CD2 Chengdu 134.24 343 *e*PKP PKPdf 16 24 55.6 -5.0
CD2 XPKP 16 25 10.0
CD2 PP PP 16 27 32.1 +1.8
CD2 PKS 16 28 30.4
CD2 SKS SKSdf 16 32 01.3 -11
CD2 PP PP
comp=Z,80nm,10.2s
CD2 LR LR
comp=N,180nm,21.2s
CD2 LR LR
comp=Z,100nm,18.4s,MS4.6
WRA Warramunga Arr 136.65 255 PKP PKPdf 16 25 00.9 -4.4
comp=Z,0.8nm,0.5s,baz=92,slow=2.5,SNR=8.2
GYA Guiyang 137.38 337 *e*PDIF Pdif 16 22 10.0 -3.4
GYA PKP PKPdf 16 25 02.1 -4.5
GYA XPKP 16 25 16.9
GYA PP PP 16 27 51.4 +1.2
GYA PP PP
comp=Z,110nm,7.2s
KMI Kunming 139.97 341 PKP PKPdf 16 25 05.9 -5.4
KMI XPKP 16 25 18.0
KMI LR LR
comp=Z,67nm,21.2s,MS4.4
FITZ Fitzroy Crossi 144.95 257 *e*P PKPdf 16 25 14.5 -5.8
comp=Z,8.4nm,1.2s
FITZ Fitzroy Crossi 144.95 257 PKP PKPdf 16 25 14.6 -5.7
comp=Z,4.5nm,1.0s,baz=238,slow=5.0,SNR=6.4
CHRT Chiangrai 145.80 343 P PKPdf 16 25 20.5 -1.3
NANT Nan 146.53 341 P PKPdf 16 25 20.0 -3.0
CHTO Chiang Mai 147.04 344 *e*PKPbc PKPbc 16 25 22.0 -3.9
CMAR Chiang Mai Arr 147.38 343 PKPbc PKPbc 16 25 24.4 -2.4
comp=Z,9.9nm,1.1s,baz=338,slow=3.2,SNR=25

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*ISCJB **01** 16:08:12.2±0.5, 1236N±008×1418E±0.1, h27km, mb4.2/12, Error ellipse: s-maj=14.6km s-min=10.9km az=177.6*
*NEIC **01** 16:08:14.0±0.4, 1237N×14188E, mb4.8/5, Error ellipse: s-maj=11.3km s-min=8.3km az=86.0*
*IDC **01** 16:08:14.2±0.9, 1239N×14189E, h25km±5km, mb3.6/7, mb1 3.9/8, mb1mx3.7/20, mbtmp3.7/8, ML4.1/1, Error ellipse: s-maj=24.2km s-min=15.5km az=76.0*
ISC 01 16:08:14.3±0.5, **1237N**±007×**1419E**±01, **h29**km, **h29**km±.7km**:pP-P, n19,** σ0s**72**/18, **mb4.2**/12, **South of Mariana Islands**

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
GUMO Guam 3.17 67 Pn Pn 16 09 02.6 +0.3
20nm,0.3s,SNR=11
GUMO Guam 3.17 67 *e*P Pn 16 09 02.3 -0.1
PMG Port Moresby 22.26 166 *e*P P 16 13 09.9 +0.7
WRAB Tennant Creek 32.94 193 *e*P P 16 14 45.6 -0.9
9.1nm,0.9s,mb4.7
WRAB *e* pP 16 14 54.3 -0.6
WB2 Warramunga Arr 32.95 193 *e*P P 16 14 46.0 -0.6
WB2 Warramunga Arr 32.95 193 *e*P P 16 14 46.2 -0.4
WB2 *e* pP 16 14 54.2 -0.8
WRA Warramunga Arr 32.95 193 P P 16 14 46.0 -0.6
1.6nm,0.6s,mb4.1,baz=15,slow=9.4,SNR=24
WRA pP pP 16 14 54.7 -0.3
7.5nm,0.9s,baz=12,slow=9.3,SNR=25
ASAR Alice Springs 36.65 192 P P 16 15 19.4 +0.9
0.8nm,0.8s,mb3.6,baz=16,slow=13,SNR=13
ASAR pP pP 16 15 27.2 +0.2
1.7nm,0.8s,baz=21,slow=11,SNR=12
CMAR Chiang Mai Arr 41.74 284 P P 16 16 02.1 +0.8
1.1nm,0.7s,mb3.6,baz=83,slow=6.1,SNR=8.2
CMAR pP pP 16 16 10.1 +0.2
2.6nm,0.7s,baz=86,slow=6.7,SNR=10
SONM Songino Array 46.10 327 P P 16 16 37.0 +1.1
0.2nm,0.5s,mb3.3,baz=120,slow=8.5,SNR=2.3
YAK Yakutsk 50.36 353 *e*P P 16 17 08.1 -0.4
15nm,0.7s,mb5.1
MK31 Makanchi Array 60.36 317 *e*P P 16 18 20.9 +0.2

MKAR	**Makanchi Array**	**60.36**	**317**	P	**P**	**16 18 20.9**	**+0.1**
	2.3nm,0.8s,mb4.3,baz=92,slow=8.6,SNR=17						
ZALV	**Zalesovo Beam**	**60.94**	**325**	P	**P**	**16 18 23.6**	**-1.0**
	0.5nm,0.5s,mb4.0,baz=106,slow=7.9,SNR=4.0						
ZALV				pP	pP	16 18 31.5	-2.0
	1.0nm,0.6s,baz=101,slow=7.7,SNR=3.3						
KURK	**Kurchatov**	**63.65**	**321**	*e*P	**P**	**16 18 42.4**	**-0.4**
	11nm,0.9s,mb4.9						
KURK				*e*	pP	16 18 50.3	-1.4
BRVK	**Borovoye**	**69.15**	**322**	*e*P	**P**	**16 19 17.7**	**-0.3**
	9.3nm,1.0s,mb4.7						
NVAR	**Mina Array Bea**	**89.96**	**51**	P	**P**	**16 21 12.4**	**+1.1**
	0.2nm,0.4s,mb3.8,baz=234,slow=4.3,SNR=2.1						
ELK	**Elko**	**91.57**	**48**	*e*P	**P**	**16 21 17.7**	**-1.1**
	1.0nm,0.6s,mb4.3						
LPAZ	**La Paz**	**150.69**	**101**	PKPbc	PKPbc	16 28 05.0	+0.3
	1.3nm,0.6s,baz=307,slow=5.1,SNR=6.7						

*IDC **01** 16:16:45.4±0.8, 9.78N×122.07E, h0km, mb3.9/10, mb1 4.1/10, mb1mx3.9/21, mbtmp3.9/10, Error ellipse: s-maj=37.2km s-min=14.6km az=66.0*

*ISCJB **01** 16:16:47.3±0.9, 9.97N±0.03×122.18E±0.02, h24km±8km, mb4.0/11, Error ellipse: s-maj=5.1km s-min=3.5km az=34.1*

*MAN **01** 16:16:47, 10.02N×122.21E, h21km, mb4.7, ML3.5, MS3.5*

*NEIC **01** 16:16:54.2±2.6, 9.72N×122.06E, h72km±25km, mb4.5/4, Error ellipse: s-maj=21.5km s-min=7.5km az=63.0*

ISC 01 16:16:47.2±1.0**, 9.97N**±0.03×**122.20E**±0.03**, h14**km±7km**, n48, σ1.26**/66**, mb4.0**/11**, 4C-5D, Negros**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUIM	**Jordan**	**0.75**	**30**	*e*P	**Pg**	**16 17 01.2**	**-0.6**
GUIM				*e*S	**Sg**	**16 17 10.4**	**-1.3**
SNPH	**Sibulan**	**1.20**	**121**⇑	*i*P	**Pn**	**16 17 09.0**	**-0.6**
SNPH				*i* S	**Sb**	**16 17 23.5**	**-1.5**
CUYO	**Cuyo Island**	**1.46**	**307**	*e*P	**Pn**	**16 17 12.8**	**-0.3**
CUYO				*e*S	**Sn**	**16 17 30.4**	**-1.7**
TBP	**Tagbilaran**	**1.66**	**100**	*e*P	**Pn**	**16 17 16.1**	**+0.2**
TBP				*e*S	**Sn**	**16 17 35.8**	**-1.3**
RCP	**Roxas**	**1.67**	**19**⇑	*e*P	**Pn**	**16 17 17.0**	**+1.0**
RCP				*e*S	**Sn**	**16 17 41.2**	**+4.0**
KALP	**Kalibo**	**1.70**	**4**⇓	*e*P	**Pn**	**16 17 19.0**	**+2.5**
LLP	**Lapu-Lapu**	**1.77**	**79**⇓	*i*P	**Pn**	**16 17 17.2**	**-0.2**
LLP				*i* S	**Sn**	**16 17 38.9**	**-0.9**
DCPH	**Dipolog City**	**1.79**	**141**⇑	*i*P	**Pn**	**16 17 17.4**	**-0.3**
DCPH				*i* S	**Sn**	**16 17 40.9**	**+0.6**
IPIL	**Ipil**	**2.20**	**170**	*e*P	**Pn**	**16 17 24.0**	**+0.5**
IPIL				*e*S	**Sn**	**16 17 48.4**	**-2.1**
OTRP	**Odiongan**	**2.38**	**356**	*e*P	**Pn**	**16 17 25.4**	**-0.5**
PAGZ	**Pagadian**	**2.41**	**151**	*e*P	**Pn**	**16 17 28.0**	**+1.7**
PAGZ				*e*S	**Sn**	**16 17 56.4**	**+0.7**
OCLP	**Ormoc**	**2.60**	**65**	*e*P	**Pn**	**16 17 29.4**	**+0.5**
OCLP				*e*S	**Sn**	**16 17 55.0**	**-5.3**
MSLP	**Maasin**	**2.62**	**86**	*e*P	**Pn**	**16 17 29.9**	**+0.7**
MSLP				*e*S	**Sn**	**16 18 04.3**	**+3.4**
SJMP	**San Jose**	**2.69**	**337**	*e*P	**Pn**	**16 17 29.9**	**-0.3**
SJMP				*e*S	**Sn**	**16 17 58.2**	**-4.4**
BUSP	**Coron**	**2.82**	**316**	*e*P	**Pn**	**16 17 31.7**	**-0.2**
BUSP				*e*S	**Sn**	**16 18 03.2**	**-2.5**
CGP	**Cagayan de Oro**	**2.88**	**121**⇑	*e*P	**Pn**	**16 17 31.0**	**-1.8**
CGP				*i* S	**Sn**	**16 18 09.5**	**+2.1**
PLP	**Palo**	**2.98**	**66**⇓	*e*P	**Pn**	**16 17 34.0**	**-0.1**
PLP				*e*S	**Sn**	**16 18 07.6**	**-2.0**
ENPP	**El Nido**	**2.99**	**294**	*e*P	**Pn**	**16 17 34.6**	**+0.3**
ZMPH	**Zamboanga City**	**3.00**	**183**⇓	*e*P	**Pn**	**16 17 35.0**	**+0.5**
SCPH	**Surigao**	**3.24**	**93**	*e*P	**Pn**	**16 17 37.5**	**-0.2**
PPR	**Puerto Princes**	**3.43**	**267**⇓	*i*P	**Pn**	**16 17 41.4**	**+1.1**
PPR				*i* S	**Sn**	**16 18 20.2**	**-0.6**
CNP	**Catarman**	**3.49**	**44**	*e*P	**Pn**	**16 17 42.6**	**+1.4**
BUKP	**Musuan**	**3.51**	**126**	*e*P	**Pn**	**16 17 43.0**	**+1.6**
BUKP				*e*S	**Sn**	**16 18 27.5**	**+4.7**
BUTP	**Butuan**	**3.52**	**106**	*e*P	**Pn**	**16 17 42.7**	**+1.2**
BATP	**Bataraza**	**4.50**	**255**	*e*P	**Pn**	**16 17 53.2**	**-1.8**
BATP				*e*S	**Sn**	**16 18 31.6**	**-16**
KKM	**Kota Kinabalu**	**7.10**	**237**	*e*Pn	**Pn**	**16 18 32.0**	**+1.2**
BATI	**Baumata**	**20.10**	**176**	P	**P**	**16 21 23.6**	**+2.9**
	2.8nm,0.3s,baz=322,slow=9.6,SNR=4.7						
CMAR	**Chiang Mai Arr**	**24.05**	**293**	P	**P**	**16 22 03.6**	**+1.4**
	1.7nm,0.9s,mb3.5,baz=118,slow=8.5,SNR=9.1						
KAKA	**Kakadu**	**24.72**	**156**	*e*P	**P**	**16 22 08.3**	**0.0**
	9.3nm,0.6s,mb4.5						
KAKA	**Kakadu**	**24.72**	**156**	*e*P	**P**	**16 22 07.2**	**-1.1**
	22nm,0.6s,mb4.9						
FITZ	**Fitzroy Crossi**	**28.10**	**173**	*e*P	**P**	**16 22 38.1**	**-0.7**
	3.1nm,1.1s,mb3.9						
FITZ	**Fitzroy Crossi**	**28.10**	**173**	P	**P**	**16 22 38.3**	**-0.5**
	1.6nm,0.9s,mb3.7,baz=358,slow=8.8,SNR=3.6						
WRAB	**Tennant Creek**	**32.03**	**158**	*e*P	**P**	**16 23 11.5**	**-2.1**
WRA	**Warramunga Arr**	**32.04**	**158**	P	**P**	**16 23 12.1**	**-1.5**
	0.5nm,0.4s,mb3.7,baz=332,slow=11,SNR=17						
WB2	**Warramunga Arr**	**32.04**	**158**	*e*P	**P**	**16 23 11.8**	**-1.9**
WB2	**Warramunga Arr**	**32.04**	**158**	*e*P	**P**	**16 23 11.7**	**-2.0**
ASAR	**Alice Springs**	**35.34**	**161**	P	**P**	**16 23 41.2**	**-1.1**
	1.6nm,0.4s,mb4.3,baz=339,slow=7.4,SNR=97						
SONM	**Songino Array**	**40.03**	**343**	P	**P**	**16 24 23.0**	**+1.3**
	0.4nm,0.6s,mb3.3,baz=162,slow=9.2,SNR=3.8						
STKA	**Stephens Creek**	**45.56**	**157**	*e*P	**P**	**16 25 06.5**	**-0.3**
	7.9nm,0.8s,mb4.7						
STKA	**Stephens Creek**	**45.56**	**157**	P	**P**	**16 25 06.4**	**-0.4**
	2.2nm,0.7s,mb4.2,baz=347,slow=7.8,SNR=4.5						
MK31	**Makanchi Array**	**49.90**	**325**	*e*P	**P**	**16 25 41.1**	**+0.7**
MKAR	**Makanchi Array**	**49.90**	**325**	P	**P**	**16 25 41.3**	**+0.9**
	0.9nm,0.7s,mb3.9,baz=124,slow=8.9,SNR=8.3						
PEA0B	**Petropavlovsk-**	**51.62**	**27**	*e*P	**P**	**16 25 56.0**	**+2.8**
PETK	**Petropavlovsk-**	**51.62**	**27**	P	**P**	**16 25 56.2**	**+2.9**
	3.6nm,0.6s,mb4.5,baz=201,slow=8.4,SNR=13						
KURK	**Kurchatov**	**54.09**	**327**	P	**P**	**16 26 11.6**	**0.0**
	0.9nm,0.5s,mb3.9,baz=121,slow=9.1,SNR=14						
KURK	**Kurchatov**	**54.09**	**327**	*e*P	**P**	**16 26 11.9**	**+0.4**
	1.9nm,0.6s,mb4.2						
AKTK	**Aktyubinsk**	**66.01**	**321**	P	**P**	**16 27 33.6**	**+0.2**
AKTO	**Aktyubinsk**	**66.01**	**321**	P	**P**	**16 27 33.6**	**+0.2**
	1.5nm,0.6s,mb4.2,baz=106,slow=8.7,SNR=6.1						

*BJI **01** 16:17:32.9, 22.60S×170.40E, h10km, mB5.2, mb4.9*

*IDC **01** 16:17:33.7±1.4, 22.61S×170.39E, h0km, mb4.3/11, mb1 4.4/11, mb1mx4.4/16, mbtmp4.3/11, MS3.6/2, Ms1 3.6/2, ms1mx3.2/30, Error ellipse: s-maj=44.6km s-min=21.6km az=145.0*

*ISCJB **01** 16:17:34.3±0.9, 22.5S±0.2×170.32E±0.09, h10km, mb4.4/16, Error ellipse: s-maj=27.1km s-min=9.8km az=167.0*

*NEIC **01** 16:17:34.9±0.6, 22.63S×170.45E, h10km, mb4.4/5, Error ellipse: s-maj=25.6km s-min=10.6km az=163.0*

*SZGRF **01** 16:17:48.4, 19.96S×170.50E, h33km, Vanuatu Islands*

ISC 01 16:17:35.9±0.9**, 22.5S**±0.2×**170.32E**±0.09**, h10**km**, n65, σ1.00**/28**, mb4.4**/16**, 2C, Southeast of Loyalty Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**3.62**	**276**	*e*P	**Pn**	**16 18 29.6**	**-2.3**
DZM				*e*S	**Sn**	**16 19 01.7**	**-13**
DZM	**Mont Dzumac**	**3.62**	**276**	*e*Pn	**Pn**	**16 18 32.7**	**+0.7**
NOUC	**Port Laguerre**	**3.74**	**275**	*e*P	**Pn**	**16 18 33.5**	**-0.2**
NOUC				*e*S	**Sn**	**16 19 17.9**	**+0.1**
HNR	**Honiara**	**16.36**	**321**	LR	LR	16 26 47.8	
	comp=Z,150nm,20.6s,baz=147,slow=34						
AFI	**Afiamalu**	**19.01**	**66**	LR	LR	16 27 17.3	
	comp=Z,230nm,20.0s,baz=66,slow=31						
CTA	**Charters Tower**	**22.55**	**272**	*e*P	**P**	**16 22 38.1**	**+1.9**
	8.9nm,1.0s,mb4.2						
CTA	**Charters Tower**	**22.55**	**272**	P	**P**	**16 22 36.9**	**+0.7**
	5.7nm,0.8s,mb4.0,baz=90,slow=4.3,SNR=3.6						
CTAO	**Charters Tower**	**22.55**	**272**	*e*P	**P**	**16 22 37.3**	**+1.1**
	20nm,1.2s,mb4.4						
STKA	**Stephens Creek**	**27.14**	**244**	*e*P	**P**	**16 23 20.0**	**+0.7**
	4.2nm,1.0s,mb3.9						
STKA	**Stephens Creek**	**27.14**	**244**	P	**P**	**16 23 18.3**	**-1.0**
	2.3nm,0.8s,mb3.8,baz=96,slow=16,SNR=3.3						
STKA	**Stephens Creek**	**27.14**	**244**	P	**P**	**16 23 17.8**	**-1.5**
ASAR	**Alice Springs**	**33.47**	**261**	P	**P**	**16 24 15.2**	**-0.2**
	4.9nm,0.8s,mb4.5,baz=88,slow=9.0,SNR=32						
WRA	**Warramunga Arr**	**33.59**	**268**	P	**P**	**16 24 15.8**	**-0.7**
	1.5nm,1.0s,mb3.9,baz=105,slow=8.9,SNR=5.9						
FITZ	**Fitzroy Crossi**	**42.02**	**268**	P	**P**	**16 25 26.3**	**-1.5**
	4.0nm,0.8s,mb4.1,baz=138,slow=10,SNR=6.4						
MJAR	**Matsushiro Arr**	**66.08**	**332**	P	**P**	**16 28 22.5**	**-0.6**
	2.9nm,0.9s,mb4.3,baz=167,slow=6.7,SNR=6.3						
MAJO	**Matsushiro**	**66.09**	**332**	*e*P	**P**	**16 28 22.4**	**-0.7**
MAT	**Matsushiro**	**66.09**	**332**	P	**P**	**16 28 22.3**	**-0.8**
KSRS	**Korea Array**	**71.75**	**326**	P	**P**	**16 28 58.8**	**+0.4**
	2.5nm,0.8s,mb4.2,baz=144,slow=6.3,SNR=14						
PETK	**Petropavlovsk-**	**76.08**	**352**	P	**P**	**16 29 23.1**	**-0.2**
	5.8nm,0.8s,mb4.5,baz=122,slow=5.8,SNR=6.2						
CN2	**Changchun**	**77.75**	**328**	*e*P	**P**	**16 29 32.7**	**-0.3**
CN2				AMB	AMB		
	comp=Z,10.0nm,0.7s,mb4.8						
CMAR	**Chiang Mai Arr**	**80.76**	**294**	P	**P**	**16 29 52.0**	**+2.0**
	comp=Z,3.2nm,0.8s,mb4.3,baz=136,slow=4.1,SNR=14						
KMI	**Kunming**	**80.84**	**302**	P	**P**	**16 29 51.8**	**+1.5**
KMI				AMB	AMB		
	comp=Z,11nm,1.5s,mb4.6						
CHTO	**Chiang Mai**	**80.92**	**295**	*e*P	**P**	**16 29 52.4**	**+1.5**
	comp=Z,5.8nm,1.0s,mb4.5						
LZH	**Lanzhou**	**85.64**	**312**	*e*P	**P**	**16 30 14.1**	**-0.8**
LZH				AP	pP	16 30 18.9	+0.7
LZH				XP	sP	16 30 21.3	+1.9
LZH				AMB	AMB		
	comp=Z,19nm,1.2s,mb5.2						
LZH				AMB	AMB		
	comp=Z,85nm,4.2s						
SHL	**Shillong**	**89.76**	**298**	*e*P	**P**	**16 30 36.5**	**+1.6**
ULN	**Ulaanbaatar**	**90.06**	**323**	*e*P	**P**	**16 30 35.0**	**-0.7**
	comp=Z,2.7nm,0.9s,mb4.6						
NVAR	**Mina Array Bea**	**90.20**	**48**	P	**P**	**16 30 36.2**	**-0.4**
	comp=Z,1.3nm,0.8s,mb4.3,baz=230,slow=8.4,SNR=6.6						
SONM	**Songino Array**	**90.41**	**323**	P	**P**	**16 30 37.8**	**+0.4**
	comp=Z,2.7nm,1.1s,mb4.5,baz=135,slow=4.2,SNR=11						
AKASG	**Malin Array Be**	**138.70**	**323**	PKP	PKPdf	16 37 00.9	-1.0
	comp=Z,0.7nm,0.6s,baz=53,slow=4.1,SNR=5.3						
CRVS	**Cervenica-Dubn**	**143.91**	**325**	*e*P	PKPdf	16 37 08.9	-2.5
CRVS	**Cervenica-Dubn**	**143.91**	**325**	*e*	PKPdf	16 37 08.9	-2.5
OKC	**Ostrava-Krasne**	**145.03**	**328**	*e*PKP	PKPdf	16 37 12.0	-1.3
BSEG	**Bad Segeberg**	**145.15**	**339**	*e*PKPab	PKPab	16 37 12.5	-0.4
KSP	**Ksiaz**	**145.21**	**331**	*e*P	PKPbc	16 37 12.6	-0.6
PSZ	**Piszkesteto**	**145.34**	**324**	*e*PKP	PKPdf	16 37 13.7	-0.2
MORC	**Moravsky Berou**	**145.36**	**329**	*e*PKP	PKPdf	16 37 13.7	-0.2
DPC	**Dobruska-Polom**	**145.54**	**330**	*e*PKP	PKPdf	16 37 14.3	+0.1
VYHS	**Vyhne**	**145.54**	**326**	*i* PKP	PKPdf	16 37 14.5	+0.3
VYHS	**Vyhne**	**145.54**	**326**	*e*P	PKPdf	16 37 14.5	+0.3
UPC	**Upice**	**145.58**	**331**	*e*PKP	PKPdf	16 37 14.2	0.0
VRAC	**Vranov**	**146.13**	**329**	PKPbc	PKPbc	16 37 17.5	+1.4
	comp=Z,3.2nm,0.3s,baz=99,slow=6.4,SNR=9.4						
PVCC	**Panska Ves**	**146.20**	**332**	*e*PKP	PKPdf	16 37 15.9	+0.6
BRG	**Berggiesshubel**	**146.22**	**333**	*e*PKPab	PKPab	16 37 17.1	+0.1
BRG	**Berggiesshubel**	**146.22**	**333**	*e*P	PKPbc	16 37 16.5	+0.2
	comp=Z,21nm,1.2s						
CLL	**Collm**	**146.28**	**334**	*e*PKPab	PKPab	16 37 17.2	0.0
CLL	**Collm**	**146.28**	**334**⇑	*i*PKPbc	PKPbc	16 37 15.2	-1.3
	comp=Z,31nm,1.6s						
CLL				*i* PKiKP	PKiKP	16 37 18.6	-1.0
MODS	**Modra-Piesok**	**146.42**	**327**	*e*PKP	PKPbc	16 37 17.4	+0.4
PRU	**Pruhonice**	**146.61**	**331**	*e*PKP	PKPdf	16 37 14.9	-1.1
TREC	**Trest**	**146.67**	**330**	*e*PKP	PKPbc	16 37 17.3	-0.4
NKC	**Novy Kostel**	**147.33**	**333**	*e*PKP	PKPbc	16 37 19.6	+0.1
MOX	**Moxa**	**147.34**	**335**	*e*PKP	PKPbc	16 37 19.0	-0.6
	comp=Z,22nm,1.6s						
MOX	**Moxa**	**147.34**	**335**	*e*PKPab	PKPab	16 37 21.8	+0.4
KHC	**Kasperske Hory**	**147.66**	**331**	*e*PKP	PKPbc	16 37 20.2	-0.3
ROTZ	**Rotzenmuhle**	**147.78**	**333**	*e*PKPab	PKPab	16 37 23.6	+0.4
GEC2	**GERESS Array S**	**147.81**	**331**	*e*PKPbc	PKPbc	16 37 20.0	-0.9
GERES	**GERESS Array B**	**147.81**	**331**	PKPbc	PKPbc	16 37 19.3	-1.6
	comp=Z,1.4nm,0.8s,baz=0.0,slow=1.3,SNR=10						
WTTA	**Wattenberg**	**149.92**	**330**⇑	*i*PKPbc	PKPbc	16 37 25.6	-0.8
	comp=Z,7.7nm,0.9s						
WLF	**Walferdange**	**150.14**	**339**	*e*PKPab	PKPab	16 37 33.2	+0.5
BFO	**Black Forest**	**150.48**	**335**	*e*PKPab	PKPab	16 37 34.1	-0.1
CDF	**Champ du Feu**	**150.81**	**337**	*e*PKP1	PKPbc	16 37 27.2	-1.2
	comp=Z,32nm,1.3s						
DAVOX	**Davos/Dischmat**	**151.07**	**332**	PKPbc	PKPbc	16 37 28.8	-0.3
	comp=Z,4.6nm,0.8s,baz=321,slow=0.8,SNR=5.7						
HINF	**Hinteralfeld**	**151.47**	**336**	*e*PKP1	PKPbc	16 37 29.4	-0.6
	comp=Z,13nm,1.0s						
MEZF	**Maizieres J'vi**	**151.51**	**339**	*e*PKP1	PKPbc	16 37 29.2	-0.9
TUE	**Stuetta**	**151.54**	**332**	*e*PKPbc	PKPbc	16 37 29.8	-0.4
TORD	**Torodi Ar. Bea**	**165.74**	**231**	PKPab	PKPab	16 38 40.0	-0.9
	comp=Z,1.1nm,0.9s,baz=99,slow=3.4,SNR=4.5						

*IDC **01** 16:19:55.9±0.8, 49.05S×163.93E, h0km, mb4.6/11, mb1 4.7/11, mb1mx4.7/14, mbtmp4.6/11, MS4.4/13, Ms1 4.4/13, ms1mx4.2/24, Error ellipse: s-maj=38.2km s-min=17.7km az=66.0*

*ISCJB **01** 16:19:55.7±0.4, 49.03S±0.05×164.34E±0.07, h12km, mb4.7/21, MS4.5/18, Error ellipse: s-maj=8.2km s-min=5.3km az=138.3*

*GCMT **01** 16:19:57.8±0.4, 48.99S×163.89E, h14km±2km, MW5.0/64, Moment Tensor Solution. s18,c22; s64,c84; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}1.17±.22; $M_{\theta\theta}$2.95±.15; $M_{\phi\phi}$-4.12±.19; $M_{r\theta}$-0.50±.45; $M_{\theta\phi}$1.23±.15; $M_{\phi r}$-0.62±.33; Best double couple: $M_0$3.85200×10^{16} NP1:ϕ_s306.00000°,δ75.00000°,λ7.00000°. NP2: ϕ_s214.00000°,δ83.00000°,λ165.00000°. Principal axes: T 3.3260, Plg16.0000°, Azm169.0000°; N 1.0530, Plg73.0000°, Azm10.0000°; P -4.3790, Plg5.0000°, Azm261.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*NEIC **01** 16:19:57.8±0.5, 49.26S×163.66E, h10km, mb4.9/10, MS4.8/1 Error ellipse: s-maj=17.3km s-min=10.7km az=62.0*

*BJI **01** 16:19:57.0, 49.30S×163.70E, h10km, mB5.5, mb5.3, Ms5.0, Msz4.6*

*MOS **01** 16:20:01.4±2.7, 48.96S×163.87E, h33km, mb5.1/7, Error ellipse: s-maj=23.3km s-min=10.8km az=106.6*

*DJA **01** 16:20:27, 47.80S×161.28E, h118km, mb5.2/9*

ISC 01 16:19:59.1±2.7**, 48.99S**±0.06×**164.33E**±0.09**, h21**km±20km**, n119, σ1.20**/60**, mb4.7**/21**, MS4.5**/18**, 9C-8D, Off west coast of South Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WHZ	**Wether Hill Ro**	**3.95**	**40**	P	**Pn**	**16 20 58.1**	**-0.3**
DCZ	**Deep Cove**	**4.01**	**30**	P	**Pn**	**16 20 59.0**	**-0.1**
DCZ				S	Px	16 21 06.8	
MLZ	**Mavora Lakes**	**4.49**	**37**	P	**Pn**	**16 21 05.8**	**0.0**
TUZ	**Tuapeka**	**4.71**	**52**	P	**Pn**	**16 21 08.6**	**-0.1**
MSZ	**Milford Sound**	**4.97**	**31**	P	**Pn**	**16 21 13.6**	**+1.2**
EAZ	**Earnscleugh**	**5.07**	**44**	P	**Pn**	**16 21 13.6**	**-0.1**
WKZ	**Wanaka**	**5.26**	**39**	P	**Pn**	**16 21 17.2**	**+0.9**
JCZ	**Jackson Bay**	**5.79**	**34**	P	**Pn**	**16 21 25.0**	**+1.4**
ODZ	**Otahua Downs**	**5.85**	**50**	P	**Pn**	**16 21 22.9**	**-1.5**
LBZ	**Lake Benmore**	**6.12**	**43**	P	**Pn**	**16 21 26.7**	**-1.4**
FOZ	**Fox Glacier**	**6.58**	**36**	P	**Pn**	**16 21 35.2**	**+0.8**
RPZ	**Rata Peaks**	**7.03**	**44**	Pn	**Pn**	**16 21 38.9**	**-1.8**
	6.3nm,0.3s,baz=219,slow=5.8,SNR=19						
RPZ				Sn	**Sn**	**16 22 57.5**	**-2.4**
	8.9nm,0.3s,baz=89,slow=22,SNR=4.9						
WVZ	**Waitaha Valley**	**7.41**	**39**	P	**Pn**	**16 21 47.5**	**+1.7**
MQZ	**McQueen's Vall**	**7.81**	**51**	P	**Pn**	**16 21 52.5**	**+1.1**
DSZ	**Denniston Nort**	**8.95**	**39**	P	**Pn**	**16 22 06.0**	**-1.0**
TWVZ	**Taurewa**	**12.72**	**43**	P	**Pn**	**16 23 07.6**	**+9.0**
URZ	**Urewera**	**14.15**	**45**	LR	LR	16 29 26.2	
	comp=Z,4μm,18.5s,baz=230,slow=40						
CNB	**Canberra Magne**	**17.56**	**316**	*e*P	**Pn**	**16 24 02.9**	**+0.6**
CAN	**Canberra**	**17.72**	**315**	*e*P	**Pn**	**16 24 04.1**	**-0.2**
TOO	**Toolangi**	**17.79**	**303**	*e*P	**Pn**	**16 24 05.3**	**+0.1**
ARMA	**Armidale**	**20.91**	**328**	*e*P	**P**	**16 24 41.5**	**+1.5**
STKA	**Stephens Creek**	**24.18**	**307**	LR	LR	16 33 20.6	
	comp=Z,811nm,18.9s,MS4.2,baz=106,slow=34						
SBA	**Scott Base**	**28.99**	**179**	*e*P	**P**	**16 25 58.9**	**+2.3**
SBA				pmax	pmax		
	comp=Z,12nm,1.3s,mb4.5						
SBA	**Scott Base**	**28.99**	**179**	*e*P	**P**	**16 25 58.9**	**+2.3**
	comp=Z,12nm,1.3s,mb4.5						
CTA	**Charters Tower**	**32.28**	**327**	*e*P	**P**	**16 26 26.4**	**+0.2**
	comp=Z,12nm,0.9s,mb4.7						
CTA	**Charters Tower**	**32.28**	**327**	P	**P**	**16 26 26.6**	**+0.4**
	comp=Z,14nm,0.8s,mb4.8,baz=175,slow=5.5,SNR=8.8						
CTA				PcP	PcP	16 29 14.0	0.0
	comp=Z,11nm,1.0s,baz=192,slow=2.0,SNR=3.9						
CTA				LR	LR	16 38 02.6	
	comp=Z,572nm,18.2s,MS4.3,baz=315,slow=34						
CTA	**Charters Tower**	**32.28**	**327**	*e*P	**P**	**16 26 26.4**	**+0.2**
CTA				pmax	pmax		
	comp=Z,12nm,0.9s						
ASAR	**Alice Springs**	**34.80**	**306**	P	**P**	**16 26 47.1**	**-1.0**
	comp=Z,6.6nm,0.7s,mb4.7,baz=138,slow=7.9,SNR=38						
ASAR				PcP	PcP	16 29 20.0	-1.2
	comp=Z,2.5nm,0.9s,baz=144,slow=3.6,SNR=5.9						
WB2	**Warramunga Arr**	**37.64**	**310**	*e*P	**P**	**16 27 10.5**	**-1.9**
WRA	**Warramunga Arr**	**37.64**	**310**	P	**P**	**16 27 10.7**	**-1.7**
	comp=Z,6.5nm,0.8s,mb4.4,baz=136,slow=7.7,SNR=25						
WRA				PcP	PcP	16 29 28.8	-0.8
	comp=Z,4.7nm,0.9s,baz=144,slow=2.6,SNR=12						
WRAB	**Tennant Creek**	**37.65**	**310**	*e*P	**P**	**16 27 10.7**	**-1.8**
WRAB				pmax	pmax		
	comp=Z,14nm,1.0s,mb4.7						
WRAB	**Tennant Creek**	**37.65**	**310**	*e*P	**P**	**16 27 10.7**	**-1.7**
	comp=Z,14nm,1.0s,mb4.6						
NWAO	**Narrogin (SRO)**	**38.35**	**277**	LR	LR	16 39 50.4	
	comp=Z,655nm,18.0s,MS4.5,baz=186,slow=31						
COEN	**Coen**	**39.04**	**326**	*e*P	**P**	**16 27 24.0**	**-0.2**
	comp=Z,68nm,2.1s,mb5.0						
HNR	**Honiara**	**39.60**	**353**	LR	LR	16 41 13.0	
	comp=Z,668nm,19.4s,MS4.5,baz=18,slow=32						
RAR	**Rarotonga**	**39.78**	**59**	LR	LR	16 41 46.5	
	comp=Z,405nm,18.3s,MS4.3,baz=224,slow=33						
QSPA	**South Pole Qui**	**41.13**	**180**	P	**P**	**16 27 41.1**	**+0.2**
	comp=Z,4.2nm,0.8s,mb4.1,baz=18,slow=3.4,SNR=12						
QSPA	**South Pole Qui**	**41.13**	**180**	P	**P**	**16 27 41.1**	**+0.2**
PMG	**Port Moresby**	**42.00**	**334**⇑	*e*P	**P**	**16 27 50.4**	**+1.7**
FITZ	**Fitzroy Crossi**	**43.83**	**301**⇑	*i*P	**P**	**16 28 02.7**	**-0.8**
	comp=Z,18nm,0.6s,mb5.0						
FITZ	**Fitzroy Crossi**	**43.83**	**301**	P	**P**	**16 28 02.7**	**-0.8**
	comp=Z,11nm,0.7s,mb4.7,baz=162,slow=9.4,SNR=26						
FITZ				LR	LR	16 45 07.2	
	comp=Z,468nm,18.4s,MS4.4,baz=316,slow=35						
TBI	**Tubuai**	**44.32**	**72**	*e*LR	LR	16 40 23.9	
	comp=Z,485nm,31.0s						
KAKA	**Kakadu**	**44.74**	**313**	*e*P	**P**	**16 28 09.4**	**-1.4**
	comp=Z,19nm,0.9s,mb4.9						
PPT	**Papeete**	**48.59**	**66**	*e*S	**S**	**16 35 36.6**	**-5.0**
	comp=Z,366nm,26.0s						
PPT				*e*LR	LR	16 42 26.6	
	comp=Z,857nm,31.0s,baz=207						
PPT	**Papeete**	**48.59**	**66**	LR	LR	16 45 17.9	
	comp=Z,212nm,20.9s,MS4.1,baz=245,slow=31						
MAW	**Mawson**	**49.85**	**209**	P	**P**	**16 28 49.0**	**-1.0**
	comp=Z,1.6nm,0.7s,mb4.1,baz=135,slow=6.2,SNR=4.9						
BATI	**Baumata**	**51.37**	**305**	LR	LR	16 49 14.2	
	comp=Z,724nm,18.4s,MS4.7,baz=61,slow=34						
RKT	**Rikitea**	**53.80**	**84**	*e*LR	LR	16 44 43.5	
	comp=Z,459nm,32.8s						
RKT				*e*LR	LR	16 44 51.1	
	comp=Z,640nm,30.2s						
SYO	**Syowa Base**	**55.48**	**201**⇓	*e*P	**P**	**16 29 28.6**	**-3.0**
SYO	**Syowa Base**	**55.48**	**201**⇓	*e*pP	pP	16 29 32.4	-5.9
SNAA	**Sanae**	**59.30**	**185**	*e*P	**P**	**16 29 58.1**	**-0.4**
SNAA				*e*		16 30 01.6	
SNAA				*e*		16 30 12.4	
SNAA	**Sanae**	**59.30**	**185**⇑	*e*P	**P**	**16 29 58.0**	**-0.5**
SNAA	**Sanae**	**59.30**	**185**	*e*P	**P**	**16 29 57.6**	**-0.9**
	comp=Z,16nm,1.4s,mb4.8						
VNA3	**Neumayer Olymp**	**60.00**	**182**	*e*P	**P**	**16 30 02.8**	**-0.5**
VNA3				*e*		16 30 06.2	
VNA3				*e*		16 30 17.4	
VNA2	**Neumayer--Watz**	**60.25**	**183**	*e*P	**P**	**16 30 05.1**	**+0.1**
VNA2				*e*		16 30 08.0	
VNA2				*e*		16 30 19.4	
VNA1	**Neumayer--Stat**	**60.55**	**183**	*e*P	**P**	**16 30 07.4**	**+0.3**
VNA1				*e*		16 30 10.4	
VNA1				*e*		16 30 20.6	
PLCA	**Paso Flores**	**78.40**	**141**	P	**P**	**16 32 00.9**	**+3.1**
	comp=Z,3.0nm,0.9s,mb4.2,baz=228,slow=6.9,SNR=4.0						
MJAR	**Matsushiro Arr**	**88.27**	**339**	P	**P**	**16 32 49.2**	**+1.0**
	comp=Z,7.6nm,1.1s,mb4.8,baz=171,slow=5.6,SNR=10						
MAJO	**Matsushiro**	**88.27**	**339**	*e*P	**P**	**16 32 48.5**	**+0.2**
MAJO				pmax	pmax		
	comp=Z,7.0nm,0.9s,mb4.9						
MAJO	**Matsushiro**	**88.27**	**339**	*e*P	**P**	**16 32 48.5**	**+0.3**
	comp=Z,6.8nm,0.9s,mb4.9						
CMAR	**Chiang Mai Arr**	**88.64**	**300**	P	**P**	**16 32 51.0**	**+0.6**
	comp=Z,5.2nm,1.0s,mb4.8,baz=159,slow=3.7,SNR=18						
CMAR				LR	LR	17 13 18.2	
	comp=Z,141nm,18.0s,MS4.4,baz=317,slow=36						
GYA	**Guiyang**	**91.01**	**311**	P	**P**	**16 33 03.2**	**+1.8**
GYA				PP	PP	16 36 43.2	+4.9
GYA				SKS		16 43 34.7	
GYA				S	S	16 43 59.2	+1.7
GYA				SS	SS	16 50 04.6	+2.7
GYA				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb5.1						
GYA				AMB	AMB		
	comp=Z,90nm,6.4s						
GYA				LR	LR		
	comp=N,490nm,20.2s,MS5.0						
GYA				LR	LR		
	comp=E,360nm,21.6s,MS5.0						
GYA				LR	LR		
	comp=Z,440nm,20.7s,MS4.9						
KMI	**Kunming**	**91.92**	**307**	P	**P**	**16 33 06.8**	**+1.2**
KMI				AP	pP	16 33 12.0	-0.7
KMI				XP	sP	16 33 14.0	-1.2
KMI				PP	PP	16 36 50.8	+5.3
KMI				S	S	16 44 08.1	+2.3
KMI				SS	SS	16 50 18.1	+2.9
KMI				AMB	AMB		
	comp=Z,7.0nm,1.6s,mb4.7						
KMI				AMB	AMB		
	comp=Z,155nm,4.2s						
KMI				LR	LR		
	comp=Z,233nm,30.9s,MS4.4						
KMI	**Kunming**	**91.92**	**307**	P	**P**	**16 33 06.8**	**+1.2**
	comp=Z,7.0nm,1.6s,mb4.7						
KMI				pP	pP	16 33 12.0	-0.7
KMI				sP	sP	16 33 14.0	-1.2
KMI				PP	PP	16 36 50.8	+5.3
KMI				S	S	16 44 08.1	+2.3
KMI				SS	SS	16 50 18.1	+2.9
KMI				LR	LR		
	comp=Z,230nm,30.9s,MS4.4						
KSRS	**Korea Array**	**91.93**	**332**	P	**P**	**16 33 06.8**	**+1.4**
	comp=Z,5.9nm,1.0s,mb4.9,baz=148,slow=6.0,SNR=17						
KSRS				LR	LR	17 12 16.3	
	comp=Z,100nm,19.6s,MS4.3,baz=145,slow=34						
BOSA	**Boshof**	**94.54**	**215**	P	**P**	**16 33 16.3**	**-1.6**
	comp=Z,3.6nm,0.9s,mb4.8,baz=133,slow=4.7,SNR=3.1						
BOSA	**Boshof**	**94.54**	**215**	P	**P**	**16 33 16.3**	**-1.6**
CD2	**Chengdu**	**96.11**	**311**	*e*P	**P**	**16 33 25.8**	**+1.1**
CD2				AP	pP	16 33 30.6	-1.2
CD2				XP	sP	16 33 33.2	-1.0
CD2				PP	PP	16 37 22.6	+4.4
CD2				SKS		16 44 00.5	
CD2				S	S	16 44 40.8	-1.5
CD2				XS	sS	16 44 49.5	-4.5
CD2				SS	SS	16 51 17.2	+2.4
CD2				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb5.3						
CD2				AMB	AMB		
	comp=Z,30nm,5.8s						
CD2				LR	LR		
	comp=N,130nm,14.8s						
CD2				LR	LR		
	comp=Z,150nm,16.2s,MS4.6						
CPUP	**Villa Florida**	**96.30**	**143**	LR	LR	17 08 51.8	
	comp=Z,113nm,21.7s,MS4.3,baz=188,slow=30						
YSS	**Yuzh-Sakhalins**	**97.38**	**345**⇑	*e*P	**P**	**16 33 35.1**	**+5.0**
YSS				pmax	pmax		
	comp=Z,13nm,1.3s,mb5.2						
NNA	**Nana**	**98.95**	**120**	LR	LR	17 08 26.8	
	comp=Z,124nm,21.6s,MS4.4,baz=337,slow=29						
LZH	**Lanzhou**	**100.28**	**314**	*e*P	Pdif	16 33 45.0	+1.2
LZH				AP		16 33 49.8	
LZH				XP		16 33 52.1	
LZH				*e*PP	PP	16 37 54.5	+4.5
LZH				SKS		16 44 22.3	
LZH				*e*S	Sdif	16 45 17.0	-1.3
LZH				XS		16 45 25.6	
LZH				*e*SS	SS	16 52 17.8	+4.5
LZH				AMB	AMB		
	comp=Z,15nm,1.5s						
LZH				AMB	AMB		
	comp=Z,76nm,9.3s						
LZH				LR	LR		
	comp=E,173nm,17.2s						
LZH				LR	LR		
	comp=Z,267nm,19.5s,MS4.8						
LZH	**Lanzhou**	**100.28**	**314**	*e*P	Pdif	16 33 45.0	+1.2
LZH				*e*		16 37 54.5	
LZH						16 44 22.3	
LZH				*e*S	Sdif	16 45 17.0	-1.3
LZH				*e*SS	SS	16 52 17.8	+4.5
LZH				pmax	pmax		
	comp=Z,15nm,1.5s						
LZH				MLR	MLR		
	comp=Z,270nm,19.5s,MS4.8						

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
LZH	**Lanzhou**	**100.28**	**314**	*e*P	Pdif	16 33 45.0	+1.2
	comp=Z,15nm,1.5s						
LZH				pP		16 33 49.8	
LZH				sP		16 33 52.1	
LZH				*e*PP	PP	16 37 54.5	+4.5
LZH				SKS		16 44 22.3	
LZH				*e*S	Sdif	16 45 17.0	-1.3
LZH				sS		16 45 25.6	
LZH				*e*SS	SS	16 52 17.8	+4.5
LZH				LR	LR		
	comp=Z,270nm,19.5s,MS4.8						
HHC	**Hu-ho-hao-te**	**100.83**	**322**	*e*P	Pdif	16 33 47.6	+1.3
HHC				AP		16 33 52.2	
HHC				PP	PP	16 37 59.2	+5.0
HHC				SKS		16 44 24.7	
HHC				S	Sdif	16 45 23.3	+0.3
HHC				XS		16 45 31.4	
HHC				SS	SS	16 52 26.5	+5.6
HHC				AMB	AMB		
	comp=Z,13nm,1.1s						
HHC				AMB	AMB		
	comp=Z,245nm,7.3s						
HHC				LR	LR		
	comp=N,231nm,21.6s,MS4.8						
HHC				LR	LR		
	comp=E,218nm,21.4s,MS4.8						
HHC				LR	LR		
	comp=Z,192nm,21.6s,MS4.6						
WMQ	**Urumqi**	**114.14**	**309**	*e*PKP	PKiKP	16 38 32.0	-3.9
BILL	**Bilibino**	**116.71**	**1**	⇑*i*PKIKP	PKPdf	16 38 40.2	+0.1
BILL				*e*		16 39 52.5	
BILL				*e*		16 42 16.2	
BILL				*e*		16 45 32.8	
BILL				*e*SS	SS	16 56 03.3	+9.2
BILL				pmax	pmax		
	comp=Z,8.0nm,1.2s						
BILL				MLR	MLR		
	comp=Z,100nm,16.0s,MS4.5						
MKAR	**Makanchi Array**	**118.95**	**309**	PKP	PKPdf	16 38 43.9	-1.2
	comp=Z,2.6nm,1.1s,baz=96,slow=2.4,SNR=8.3						
ZALV	**Zalesovo Beam**	**122.41**	**316**	PKP	PKPdf	16 38 49.8	-1.7
	comp=Z,0.7nm,0.5s,baz=159,slow=1.2,SNR=4.4						
KURK	**Kurchatov**	**123.33**	**311**	PKP	PKPdf	16 38 51.8	-1.5
	comp=Z,2.2nm,0.9s,baz=117,slow=1.8,SNR=14						
KURK	**Kurchatov**	**123.33**	**311**	⇑*i*PKIKP	PKPdf	16 38 51.5	-1.8
BVAR	**Borovoye Array**	**128.83**	**309**	PKP	PKPdf	16 39 03.8	0.0
	comp=Z,1.0nm,0.6s,baz=204,slow=2.9,SNR=8.1						
ANTO	**Ankara**	**144.74**	**274**	*e*PKIKP	PKPdf	16 39 31.6	-1.9
VSR	**Storozhevoye**	**145.44**	**295**	*e*PKP2	PKPab	16 39 33.6	-1.0
VSR				pmax	pmax		
	comp=Z,10.0nm,1.2s						
VSR				pmax	pmax		
	comp=N,2.0nm,0.4s						
VSR				pmax	pmax		
	comp=E,10.0nm,1.0s						
OBN	**Obninsk**	**147.95**	**301**	⇑*i*PKP2	PKPab	16 39 41.5	-2.8
OBN				*e*SS	SS	17 02 11.0	-3.6
OBN				pmax	pmax		
	comp=Z,35nm,1.5s						
TAM	**Tamanrasset**	**148.93**	**220**	*e*PKP2	PKPab	16 39 45.0	-4.1
KEV	**Kevo**	**150.92**	**331**	*e*p	PKPbc	16 39 47.9	-0.6
	comp=Z,10nm,0.7s						
JOF	**Joensuu**	**151.00**	**316**	*e*p	PKPbc	16 39 47.4	-1.5
	comp=Z,5.6nm,0.7s						
AKASG	**Malin Array Be**	**151.33**	**291**	PKPbc	PKPbc	16 39 48.9	-1.1
	comp=Z,7.3nm,0.6s,baz=84,slow=2.5,SNR=8.9						
AKASG	**Malin Array Be**	**151.33**	**291**	PKPbc	PKPbc	16 39 48.9	-1.1
AKBB	**Malin Array Si**	**151.33**	**291**	*e*PKIKP	PKPbc	16 39 48.6	-1.4
KIEV	**Kiev**	**151.34**	**291**	*e*PKIKP	PKPbc	16 39 48.4	-1.6
ARCES	**ARCESS Array B**	**151.49**	**331**	PKPbc	PKPbc	16 39 49.9	0.0
	comp=Z,16nm,0.8s,baz=98,slow=1.9,SNR=50						
MLR	**Muntele Rosu**	**151.79**	**279**	PKPbc	PKPbc	16 39 50.7	-0.5
	comp=Z,7.7nm,0.9s,baz=190,slow=3.5,SNR=7.9						
MLR	**Muntele Rosu**	**151.79**	**279**	⇓*i*P	PKPbc	16 39 50.5	-0.7
BURAR	**Bucovina Array**	**152.99**	**283**	⇓*i*P	PKPab	16 40 05.8	+0.4
BUR08	**Bucovina Ar. S**	**153.01**	**283**	*e*PKPbc	PKPbc	16 39 54.0	+0.1
DRGR		**154.35**	**280**	⇑*i*P	PKPab	16 40 10.7	-0.4
BZS	**Buzias**	**154.66**	**277**	⇓*i*P	PKPab	16 40 11.6	-0.9
KOLS	**Kolonicke sedl**	**155.25**	**284**	*i* PKP	PKPab	16 40 14.7	-0.2
PKSM	**Moragy**	**156.81**	**276**	⇓*i*P	PKPab	16 40 20.6	-1.1
VYHS	**Vyhne**	**157.35**	**282**	*e*PKP	PKPab	16 40 23.5	-0.5
KEST	**Kesra**	**157.38**	**243**	PKPab	PKPab	16 40 24.4	-0.1
	comp=Z,2.8nm,0.9s,baz=154,slow=2.9,SNR=8.3						
MODS	**Modra-Piesok**	**158.33**	**281**	*i* PKP	PKPab	16 40 27.8	-0.4
ZST	**Bratislava**	**158.40**	**280**	*e*PKP	PKPab	16 40 26.6	-1.9
ARSA	**Arzberg**	**159.17**	**277**	⇓*i*PKPab	PKPab	16 40 31.3	-0.6
	comp=Z,12nm,1.3s						
SOKA	**Soboth**	**159.33**	**275**	⇓*i*PKPab	PKPab	16 40 32.0	-0.7
	comp=Z,11nm,1.1s						
NOA	**NORSAR Array B**	**160.60**	**319**	PKPab	PKPab	16 40 35.6	-2.1
	comp=Z,1.6nm,0.9s,baz=60,slow=4.4,SNR=3.5						
GEC2	**GERESS Array S**	**160.74**	**281**	*e*PKPab	PKPab	16 40 37.9	-0.8
GERES	**GERESS Array B**	**160.74**	**281**	PKPab	PKPab	16 40 37.8	-0.9
	comp=Z,5.2nm,0.8s,baz=108,slow=4.3,SNR=21						
BRG	**Berggiesshubel**	**160.90**	**287**	*e*PKPab	PKPab	16 40 38.6	-0.7
BRG	**Berggiesshubel**	**160.90**	**287**	*e*	PKPab	16 40 39.1	-0.3
	comp=Z,6.0nm,1.0s						
WET	**Wettzell**	**161.33**	**281**	*e*PKPab	PKPab	16 40 40.6	-0.7
CLL	**Collm**	**161.53**	**288**	*e*PKPab	PKPab	16 40 42.4	+0.3
ROTZ	**Rotzenmuhle**	**161.87**	**283**	*e*PKPab	PKPab	16 40 43.6	0.0
RETA	**Reutte**	**162.35**	**275**	⇑*i*PKPab	PKPab	16 40 44.6	-1.3
	comp=Z,14nm,1.1s						
GRF	**Grafenberg Arr**	**162.49**	**282**	*e*PKPab	PKPab	16 40 46.0	-0.3
CLZ	**Clausthal**	**163.19**	**290**	*e*PKPab	PKPab	16 40 49.0	-0.3
TNS	**Taunus Mts**	**164.33**	**284**	*e*PKPab	PKPab	16 40 54.2	-0.2

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*ISCJB **01** 16:39:09.8±0.6, 38.44N±0.02×21.98E±0.03, h1km±4km, Error ellipse: s-maj=3.4km s-min=3.0km az=20.4*
*ATH **01** 16:39:10.2, 38.43N×21.97E, h17km±1km, MD3.5/15, ML3.5*
*NEIC **01** 16:39:10.2, 38.43N×21.97E, h17km, ML3.5(ATH), After ATH.*
*CSEM **01** 16:39:10.0±0.1, 38.43N×21.95E, h5km, ML3.5, Error ellipse: s-maj=1.9km s-min=1.6km az=68.0*
*THE **01** 16:39:10.4, 38.44N×21.99E, h0km±1km, ML3.9/7, Error ellipse: s-maj=1.4km s-min=0.6km az=199.0*
ISC 01 16:39:10.6±0.4**, 38.43N**±0.02×**21.98E**±0.02**, h4**km±3km**, n54,** σ**1.03**/86**, 2D, Greece**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
EVR	**Evrytania**	**0.51**	**344**	⇓*i*Pn	**Pg**	**16 39 19.9**	**-0.4**
EVR				*e*Sn	**Sg**	**16 39 27.7**	**+0.8**
EVR	**Evrytania**	**0.51**	**344**	⇓*i*PN	**Pg**	**16 39 19.9**	**-0.4**
EVR				*e*SN	**Sg**	**16 39 27.7**	**+0.8**
RLS	**Riolos of Patr**	**0.55**	**228**	*i* Pn	**Pg**	**16 39 20.9**	**-0.2**
RLS				*e*Sn	**Sg**	**16 39 28.7**	**+0.4**
RLS	**Riolos of Patr**	**0.55**	**228**	⇑*i*PN	**Pg**	**16 39 20.9**	**-0.2**
RLS				*e*SN	**Sg**	**16 39 28.7**	**+0.4**
AGG	**Agios Georgios**	**0.65**	**24**	P	**Pg**	**16 39 22.1**	**-1.0**
AGG				S	**Sg**	**16 39 32.2**	**+0.6**
LKR	**Lokris**	**0.83**	**74**	P	**Pg**	**16 39 26.1**	**-0.4**
LKR				S	**Sg**	**16 39 38.0**	**+0.8**
LKR	**Lokris**	**0.83**	**74**	*e*Pn	**Pn**	**16 39 26.0**	**-3.0**
LKR				*e*Sn	**Sg**	**16 39 37.9**	**+0.7**
LKR	**Lokris**	**0.83**	**74**	*e*PN	**Pn**	**16 39 26.0**	**-3.0**
LKR				*e*SN	**Sg**	**16 39 37.9**	**+0.7**
LTK	**Loutraki**	**0.87**	**117**	P	**Pg**	**16 39 27.2**	**-0.1**
LTK				S	**Sg**	**16 39 40.1**	**+1.4**
KFL	**Anninata**	**0.99**	**252**	P	**Pg**	**16 39 29.1**	**-0.5**
KFL				S	**Sg**	**16 39 44.5**	**+2.0**
LKD	**Levkas**	**1.08**	**285**	P	**Pg**	**16 39 30.1**	**-1.2**
LKD				S	**Sg**	**16 39 46.8**	**+1.5**
VLX	**Vlachokerasia**	**1.10**	**163**	P	**Pg**	**16 39 30.7**	**-1.0**
VLS	**Valsamata**	**1.12**	**258**	P	**Pg**	**16 39 30.7**	**-1.4**
VLS				S	**Sg**	**16 39 48.2**	**+1.5**
VLS	**Valsamata**	**1.12**	**258**	*e*Pn	**Pn**	**16 39 30.9**	**-2.1**
VLS				*e*Sn	**Sn**	**16 39 48.1**	**-0.8**
VLS	**Valsamata**	**1.12**	**258**	*e*PN	**Pn**	**16 39 30.9**	**-2.1**
VLS				*e*SN	**Sn**	**16 39 48.1**	**-0.8**
THL	**Klokotos Trika**	**1.14**	**1**	P	**Pg**	**16 39 31.2**	**-1.2**
THL				S	**Sg**	**16 39 48.1**	**+1.0**
THL	**Klokotos Trika**	**1.14**	**1**	*e*Pn	**Pn**	**16 39 31.3**	**-1.9**
THL				*e*Sn	**Sn**	**16 39 47.3**	**-1.9**
THL				S	**Sg**	**16 39 48.1**	**+1.0**
THL	**Klokotos Trika**	**1.14**	**1**	*e*PN	**Pn**	**16 39 31.3**	**-1.9**
THL				*e*SN	**Sn**	**16 39 47.3**	**-1.9**
ITM	**Ithomi**	**1.25**	**182**	*e*Pn	**Pn**	**16 39 33.4**	**-1.3**
ITM				*e*Sn	**Sn**	**16 39 51.8**	**-0.1**
ITM	**Ithomi**	**1.25**	**182**	*e*PN	**Pn**	**16 39 33.4**	**-1.3**
ITM				*e*SN	**Sn**	**16 39 51.8**	**-0.1**
NEO	**Neokhori**	**1.31**	**47**	*e*Pn	**Pn**	**16 39 35.0**	**-0.5**
NEO				*e*Sn	**Sn**	**16 39 53.5**	**+0.1**
NEO	**Neokhori**	**1.31**	**47**	*e*PN	**Pn**	**16 39 35.0**	**-0.5**
NEO				*e*SN	**Sn**	**16 39 53.5**	**+0.1**
XOR	**Xorichti**	**1.33**	**45**	P	**Pn**	**16 39 35.5**	**-0.4**
DID	**Didima**	**1.35**	**133**	P	**Pn**	**16 39 35.6**	**-0.6**
DID				S	**Sb**	**16 39 55.5**	**+1.5**
NAIG	**Nisos Aigina**	**1.36**	**119**	*e*Pn	**Pn**	**16 39 35.8**	**-0.5**
NAIG	**Nisos Aigina**	**1.36**	**119**	*e*PN	**Pn**	**16 39 35.8**	**-0.5**
ATH	**Athens Observa**	**1.44**	**108**	*e*Pn	**Pn**	**16 39 38.1**	**+0.7**
ATH				*e*Sn	**Sn**	**16 39 57.3**	**+0.6**
ATH	**Athens Observa**	**1.44**	**108**	*e*PN	**Pn**	**16 39 38.1**	**+0.7**
ATH				*e*SN	**Sn**	**16 39 57.3**	**+0.6**
MEV	**Metsovon**	**1.48**	**337**	P	**Pn**	**16 39 37.7**	**-0.2**
JAN	**Janina**	**1.51**	**325**	*e*Pn	**Pn**	**16 39 38.2**	**-0.2**
JAN	**Janina**	**1.51**	**325**	*e*PN	**Pn**	**16 39 38.2**	**-0.2**
PTL	**Penteli**	**1.53**	**104**	*e*Pn	**Pn**	**16 39 39.0**	**+0.4**
PTL	**Penteli**	**1.53**	**104**	*e*PN	**Pn**	**16 39 39.0**	**+0.4**
KVR	**Kavouri**	**1.53**	**113**	*e*Pn	**Pn**	**16 39 39.5**	**+0.9**
KVR	**Kavouri**	**1.53**	**113**	*e*PN	**Pn**	**16 39 39.5**	**+0.9**
PYL	**PYLOS**	**1.54**	**187**	P	**Pn**	**16 39 38.4**	**-0.4**
PYL				S	**Sn**	**16 40 01.0**	**+1.8**
AOS	**Alonnisos**	**1.66**	**63**	P	**Pn**	**16 39 39.7**	**-0.7**
LIT	**Litokhoron**	**1.72**	**13**	P	**Pn**	**16 39 40.6**	**-0.6**
LIT				S	**Sn**	**16 40 03.9**	**+0.4**
VLI	**Veliai**	**1.87**	**156**	*e*Pn	**Pn**	**16 39 43.5**	**+0.2**
VLI	**Veliai**	**1.87**	**156**	*e*PN	**Pn**	**16 39 43.5**	**+0.2**
KZN	**Kozani**	**1.88**	**355**	*e*Pn	**Pn**	**16 39 44.1**	**+0.6**
KZN				*e*Sn	**Sn**	**16 40 08.6**	**+1.0**
KZN	**Kozani**	**1.88**	**355**	*e*PN	**Pn**	**16 39 44.1**	**+0.6**
KZN				*e*SN	**Sn**	**16 40 08.6**	**+1.0**
PAIG	**Paliouri**	**2.00**	**41**	P	**Pn**	**16 39 43.6**	**-1.4**
PLG	**Polygyros**	**2.25**	**30**	P	**Pn**	**16 39 47.8**	**-0.7**
PLG	**Polygyros**	**2.25**	**30**	*e*Pn	**Pn**	**16 39 47.9**	**-0.6**
PLG	**Polygyros**	**2.25**	**30**	*e*PN	**Pn**	**16 39 47.9**	**-0.6**
HORT	**Hortiatis**	**2.33**	**21**	P	**Pn**	**16 39 49.0**	**-0.7**
HORT				S	**Sn**	**16 40 20.3**	**+1.6**
FNA	**Florina**	**2.40**	**349**	P	**Pn**	**16 39 51.2**	**+0.6**
FNA				S	**Sn**	**16 40 21.4**	**+1.0**
OUR	**Ouranopolis**	**2.45**	**39**	P	**Pn**	**16 39 50.8**	**-0.5**
GRG	**Griva**	**2.55**	**7**	P	**Pn**	**16 39 51.4**	**-1.2**
SOH	**Sokhos**	**2.61**	**23**	P	**Pn**	**16 39 53.3**	**-0.2**
SOH				S	**Sn**	**16 40 26.9**	**+1.2**
KNT	**Kendrikon**	**2.82**	**14**	P	**Pn**	**16 39 56.3**	**0.0**
BBLS	**Lazići**	**5.77**	**341**	*e*Pn	**Pn**	**16 40 38.1**	**+1.2**
DIVS	**Divibare**	**5.86**	**346**	*e*Pn	**Pn**	**16 40 40.0**	**+1.9**

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*IDC **01** 16:39:43.9±1.9, 7.60S×158.07E, h0km, mb3.9/4, mb1 4.1/5, mb1mx3.8/16, mbtmp4.0/5, ML4.6/1, Error ellipse: s-maj=37.5km s-min=30.4km az=34.0*
*NEIC **01** 16:39:45.0±1.2, 7.62S×158.15E, h10km, mb4.1/1, Error ellipse: s-maj=26.4km s-min=14.3km az=201.0*
*ISCJB **01** 16:39:48.0±1.5, 7.6S±0.2×157.9E±0.1, h33km, mb3.9/4, Error ellipse: s-maj=31.1km s-min=10.1km az=27.3*
ISC 01 16:39:49.7±1.6**, 7.6S**±0.2×**158.0E**±0.1**, h35**km**, n12,** σ**0.59**/13**, mb3.9**/4**, Bougainville - Solomon Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**2.67**	**133**	Pn	**Pn**	**16 40 26.7**	**-3.6**
	125nm,0.3s,baz=253,slow=3.6,SNR=43						
HNR				Lg		16 40 57.9	
	202nm,0.3s,baz=136,slow=22,SNR=6.6						
HNR	**Honiara**	**2.67**	**133**	*e*Pn	**Pn**	**16 40 25.9**	**-4.4**
HNR				Lg		16 40 57.9	
HNR				*e*Sg	**Sn**	**16 41 01.7**	**+0.2**
WRAB	**Tennant Creek**	**25.97**	**239**	*e*P	**P**	**16 45 19.8**	**+0.5**
	3.0nm,0.7s,mb3.9						
WB2	**Warramunga Arr**	**25.98**	**239**	*e*P	**P**	**16 45 19.8**	**+0.5**
WB2	**Warramunga Arr**	**25.98**	**239**	*e*P	**P**	**16 45 19.4**	**0.0**
WRA	**Warramunga Arr**	**25.99**	**239**	P	**P**	**16 45 20.0**	**+0.5**
	2.8nm,0.6s,mb4.0,baz=66,slow=9.6,SNR=25						
ASAR	**Alice Springs**	**28.08**	**233**	P	**P**	**16 45 37.6**	**-0.6**
	0.5nm,0.5s,baz=63,slow=9.5,SNR=18						
STKA	**Stephens Creek**	**28.58**	**210**	P	**P**	**16 45 42.7**	**+0.1**
	1.4nm,0.5s,mb3.9,baz=47,slow=14,SNR=5.2						
STKA	**Stephens Creek**	**28.58**	**210**	*e*P	**P**	**16 45 42.8**	**+0.2**
FITZ	**Fitzroy Crossi**	**33.15**	**248**	P	**P**	**16 46 22.4**	**-0.7**
	baz=77,slow=11						
FITZ	**Fitzroy Crossi**	**33.15**	**248**	*e*P	**P**	**16 46 22.1**	**-1.0**
MKAR	**Makanchi Array**	**85.81**	**318**	P	**P**	**16 52 25.9**	**+0.2**
	0.4nm,0.7s,mb3.8,baz=94,slow=6.4,SNR=3.0						

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*ISCJB **01** 16:42:05.9±0.4, 47.13N±0.01×76.83W±0.02, h13km±2km, MS4.4/2, Error ellipse: s-maj=2.3km s-min=1.9km az=173.4*
*BJI **01** 16:42:05.0, 47.10N×76.90W, h18km, mB4.9, mb4.5, Ms4.6, Msz4.4*
*OTT **01** 16:42:08.8±0.1, 47.06N×76.88W, h17km, MN4.0/41*
OTT 102km northwest from Maniwaki, Qc. Felt Western Quebec Seismic Zone. Felt in the Maniwaki region.
*NEIC **01** 16:42:08.0, 47.08N×76.88W, h18km, MD3.7(LDO), MN4.1(OTT), After OTT.*
NEIC Felt.
ISC 01 16:42:07.5±0.4**, 47.10N**±0.01×**76.85W**±0.02**, h13**km±2km**,** **n140,** σ**1.27**/255**, MS4.4**/2**, 5C-2D, Southern Quebec**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
GRQ	**Grand Remous**	**0.84**	**126**	⇑PG	**Pg**	**16 42 24.0**	**+0.3**
GRQ				SG	**Sg**	**16 42 35.1**	**+0.4**
GRQ				Trac		16 42 39.7	
	comp=Z,564nm,0.1s						
GRQ	**Grand Remous**	**0.84**	**126**	P	**Pg**	**16 42 24.0**	**+0.3**
GRQ				S	**Sg**	**16 42 35.1**	**+0.4**
VLDQ	**Val d'Or**	**1.09**	**338**	⇑PG	**Pg**	**16 42 32.1**	**+3.6**
VLDQ				SG	**Sg**	**16 42 48.0**	**+5.3**
VLDQ				Trac		16 42 48.3	
	comp=Z,429nm,0.1s						
VLDQ	**Val d'Or**	**1.09**	**338**	P	**Pb**	**16 42 32.1**	**+3.9**
VLDQ				S	**Sb**	**16 42 48.0**	**+5.6**
CRLO	**Chalk River**	**1.12**	**199**	PG	**Pg**	**16 42 28.2**	**-1.0**
CRLO				SG	**Sg**	**16 42 42.9**	**-0.9**
CRLO				Trac		16 42 44.4	
	comp=Z,1μm,0.1s						
CRLO	**Chalk River**	**1.12**	**199**	P	**Pb**	**16 42 28.2**	**-0.6**
CRLO				S	**Sb**	**16 42 42.8**	**-0.5**
BELQ	**Belleterre**	**1.29**	**284**	PG	**Pg**	**16 42 32.0**	**-0.2**
BELQ				SG	**Sg**	**16 42 48.6**	**-0.4**
BELQ				Trac		16 42 49.4	
	comp=Z,313nm,0.2s						
LSQ1	**Lac Sinclair,**	**1.40**	**160**	⇑PG	**Pg**	**16 42 33.2**	**-1.1**
LSQ1				SG	**Sg**	**16 42 51.4**	**-1.1**
ALGO	**Algonquin Park**	**1.42**	**216**	⇓PN	**Pn**	**16 42 33.1**	**+0.2**
ALGO				SG	**Sg**	**16 42 51.9**	**-1.1**
ALGO				Trac		16 42 54.2	
	comp=Z,4μm,0.1s						
ALGO	**Algonquin Park**	**1.42**	**216**	P	**Pn**	**16 42 33.0**	**+0.2**
ALGO				S	**Sn**	**16 42 51.9**	**+0.5**
PEMO	**Pembroke**	**1.45**	**191**	⇓PN	**Pn**	**16 42 33.4**	**0.0**
PEMO				SN	**Sn**	**16 42 52.0**	**-0.1**
PEMO				SG	**Sg**	**16 42 53.1**	**-1.1**
PEMO				Trac		16 42 54.3	
	comp=Z,618nm,0.1s						
PEMO	**Pembroke**	**1.45**	**191**	P	**Pn**	**16 42 33.4**	**0.0**
PEMO				S	**Sn**	**16 42 53.0**	**+0.8**
GAC	**Glen Almond**	**1.69**	**145**	⇑PN	**Pn**	**16 42 37.7**	**+1.0**
GAC				⇑PN	**Pn**	**16 42 37.7**	**+1.1**
GAC				SN	**Sn**	**16 42 58.3**	**+0.2**
GAC				SG	**Sg**	**16 43 00.1**	**-1.7**
GAC				SG	**Sg**	**16 43 00.4**	**-1.4**
GAC				Trac		16 43 01.8	
	comp=Z,316nm,0.2s						
GAC				Trac		16 43 01.8	
	comp=Z,314nm,0.2s						
GAC	**Glen Almond**	**1.69**	**145**	P	**Pn**	**16 42 37.7**	**+1.0**
GAC				S	**Sn**	**16 42 59.8**	**+1.7**
TRQ	**Mont Tremblant**	**1.81**	**118**	PN	**Pn**	**16 42 39.3**	**+1.0**
TRQ				SG	**Sg**	**16 43 05.2**	**-0.4**
TRQ				Trac		16 43 05.5	
	comp=Z,243nm,0.1s						
TRQ	**Mont Tremblant**	**1.81**	**118**	P	**Pn**	**16 42 39.3**	**+1.0**
TRQ				S	**Sn**	**16 43 03.1**	**+2.1**
OTT	**Ottawa**	**1.88**	**155**	PN	**Pn**	**16 42 39.8**	**+0.5**
OTT				PN	**Pn**	**16 42 39.8**	**+0.6**
OTT				SN	**Sn**	**16 43 03.1**	**+0.4**
OTT				SN	**Sn**	**16 43 03.4**	**+0.6**
OTT				SG	**Sg**	**16 43 05.8**	**-2.1**
OTT				Trac		16 43 07.5	
	comp=Z,289nm,0.1s						
OTT				Trac		16 43 07.5	
	comp=Z,362nm,0.1s						
OTT	**Ottawa**	**1.88**	**155**	P	**Pn**	**16 42 40.3**	**+1.0**
OTT				S	**Sn**	**16 43 04.7**	**+2.0**
ORHO	**Orleans, Herit**	**1.88**	**151**	SG	**Sg**	**16 43 06.0**	**-1.9**
HSMO	**Haileybury Sch**	**1.94**	**279**	PN	**Pn**	**16 42 41.3**	**+1.2**
HSMO				SN	**Sn**	**16 43 04.7**	**+0.5**
HSMO				LG		16 43 07.8	
HSMO				Trac		16 43 09.3	
	comp=Z,133nm,0.1s						
ALFO	**Alfred**	**2.00**	**137**	LG		16 43 09.4	
ALFO				Trac		16 43 09.8	
	comp=Z,172nm,0.1s						
PLVO	**Plevna**	**2.07**	**184**	PN	**Pn**	**16 42 42.3**	**+0.5**
PLVO				SN	**Sn**	**16 43 06.7**	**-0.7**
PLVO				LG		16 43 11.2	
PLVO				Trac		16 43 12.9	
	comp=Z,302nm,0.1s						
PLVO	**Plevna**	**2.07**	**184**	P	**Pn**	**16 42 42.7**	**+0.9**
PLVO				S	**Sn**	**16 43 08.7**	**+1.3**
MRHQ	**Morin Heights**	**2.19**	**123**	PN	**Pn**	**16 42 44.1**	**+0.6**
MRHQ				LG		16 43 14.8	
MRHQ				Trac		16 43 17.0	
	comp=Z,152nm,0.1s						
MRHQ	**Morin Heights**	**2.19**	**123**	P	**Pn**	**16 42 44.3**	**+0.8**
MRHQ				S	**Sn**	**16 43 12.4**	**+2.0**
BANO	**Bancroft**	**2.21**	**200**	PN	**Pn**	**16 42 44.9**	**+1.1**
BANO				SN	**Sn**	**16 43 10.6**	**-0.4**
BANO				LG		16 43 15.4	
BANO				Trac		16 43 18.8	
	comp=Z,260nm,0.1s						
BANO	**Bancroft**	**2.21**	**200**	P	**Pn**	**16 42 45.0**	**+1.2**
BANO				S	**Sn**	**16 43 12.4**	**+1.4**
RSPO	**Restoule Provi**	**2.25**	**244**	PN	**Pn**	**16 42 46.2**	**+1.8**
RSPO				LG		16 43 17.0	
RSPO				Trac		16 43 23.1	
	comp=Z,163nm,0.1s						
MPPO	**Murphy's Point**	**2.37**	**170**	PN	**Pn**	**16 42 46.5**	**+0.5**
MPPO				SN	**Sn**	**16 43 13.6**	**-1.2**
MPPO				LG		16 43 19.2	
MPPO				Trac		16 43 20.8	
	comp=Z,223nm,0.1s						
MPPO	**Murphy's Point**	**2.37**	**170**	P	**Pn**	**16 42 46.8**	**+0.8**
MPPO				S	**Sn**	**16 43 16.6**	**+1.8**
WBO	**Williamsburg**	**2.37**	**152**	PN	**Pn**	**16 42 46.7**	**+0.7**
WBO				SN	**Sn**	**16 43 15.4**	**+0.5**
WBO				LG		16 43 19.8	
WBO				Trac		16 43 25.4	
	comp=Z,105nm,0.1s						
WBO	**Williamsburg**	**2.37**	**152**	P	**Pn**	**16 42 46.8**	**+0.8**
WBO				S	**Sn**	**16 43 15.7**	**+0.8**
KILO	**Kirkland Lake**	**2.39**	**307**	PN	**Pn**	**16 42 47.9**	**+1.6**
KILO				LG		16 43 20.7	
BUKO	**Buck Lake**	**2.42**	**228**	PN	**Pn**	**16 42 48.0**	**+1.2**
BUKO				LG		16 43 21.0	
BUKO				Trac		16 43 23.6	
	comp=Z,180nm,0.1s						
DELO	**Deloro Mine**	**2.64**	**192**	PN	**Pn**	**16 42 50.5**	**+0.8**
DELO				SN	**Sn**	**16 43 20.5**	**-1.1**
DELO				LG		16 43 27.8	
MNT	**Montreal**	**2.75**	**124**	PN	**Pn**	**16 42 52.0**	**+0.7**
MNT				SN	**Sn**	**16 43 24.4**	**+0.1**
MNT				LG		16 43 31.9	
MNT				Trac		16 43 35.1	
	comp=Z,66nm,0.1s						
MNT	**Montreal**	**2.75**	**124**	P	**Pn**	**16 42 52.0**	**+0.8**
MNT				S	**Sn**	**16 43 26.4**	**+2.2**
LATQ	**La Tuque**	**2.79**	**83**	PN	**Pn**	**16 42 53.2**	**+1.5**
LATQ				SN	**Sn**	**16 43 26.4**	**+1.3**
LATQ				LG		16 43 36.2	
DPQ	**Saint Jean**	**2.82**	**97**	PN	**Pn**	**16 42 52.8**	**+0.5**
DPQ				SN	**Sn**	**16 43 25.8**	**-0.3**
DPQ				Trac		16 43 34.9	
	comp=Z,223nm,0.1s						
DPQ	**Saint Jean**	**2.82**	**97**	P	**Pn**	**16 42 52.7**	**+0.4**
DPQ				S	**Sn**	**16 43 28.5**	**+2.4**
SADO	**Sadowa**	**2.83**	**215**	PN	**Pn**	**16 42 53.1**	**+0.8**
SADO				LG		16 43 34.9	
SADO				Trac		16 43 37.1	
	comp=Z,118nm,0.1s						
SADO	**Sadowa**	**2.83**	**215**	P	**Pn**	**16 42 53.0**	**+0.7**
SADO				S	**Sn**	**16 43 27.9**	**+1.7**
PTN	**Potsdam (NY)**	**2.85**	**152**	PN	**Pn**	**16 42 53.0**	**+0.5**
PTN				SN	**Sn**	**16 43 27.1**	**+0.4**
PTN				LG		16 43 34.6	
PTN	**Potsdam (NY)**	**2.85**	**152**	P	**Pn**	**16 42 53.1**	**+0.5**
PTN				S	**Sn**	**16 43 27.0**	**+0.4**
KGNO	**Kingston**	**2.88**	**175**	PN	**Pn**	**16 42 53.2**	**+0.1**
KGNO				SN	**Sn**	**16 43 26.1**	**-1.5**
KGNO				LG		16 43 36.2	
KGNO				Trac		16 43 37.2	
	comp=Z,102nm,0.1s						
KGNO	**Kingston**	**2.88**	**175**	P	**Pn**	**16 42 53.6**	**+0.5**
KGNO				S	**Sn**	**16 43 28.4**	**+0.8**
KLBO	**Killbear Provi**	**2.91**	**234**	PN	**Pn**	**16 42 54.2**	**+0.7**
KLBO				SN	**Sn**	**16 43 30.1**	**+1.8**
KLBO				LG		16 43 38.1	
KLBO				Trac		16 43 40.1	
	comp=Z,156nm,0.2s						
LONY	**Lake Ozonia**	**2.94**	**147**	PN	**Pn**	**16 42 54.2**	**+0.3**
LONY				LG		16 43 38.0	
LONY	**Lake Ozonia**	**2.94**	**147**	P	**Pn**	**16 42 54.7**	**+0.8**
LONY				S	**Sn**	**16 43 31.7**	**+2.7**
SUNO	**Sudbury Onapin**	**3.12**	**263**	PN	**Pn**	**16 42 57.8**	**+1.5**
SUNO				SN	**Sn**	**16 43 32.8**	**-0.6**
SUNO				LG		16 43 44.3	
PECO	**Prince Edward**	**3.17**	**182**	PN	**Pn**	**16 42 57.8**	**+0.8**
PECO				SN	**Sn**	**16 43 32.8**	**-1.8**
PECO				LG		16 43 45.6	
PECO				Trac		16 43 49.1	
	comp=Z,162nm,0.2s						
PECO	**Prince Edward**	**3.17**	**182**	P	**Pn**	**16 42 57.9**	**+0.9**
PECO				S	**Sn**	**16 43 36.0**	**+1.4**
FRNY	**Flat Rock**	**3.21**	**134**	PN	**Pn**	**16 42 58.2**	**+0.7**
FRNY				SG	**Sg**	**16 43 45.5**	**-5.1**
FRNY	**Flat Rock**	**3.21**	**134**	P	**Pn**	**16 42 58.5**	**+1.0**
FRNY				S	**Sn**	**16 43 37.7**	**+2.1**
TIMO	**Timmins Ontari**	**3.30**	**296**	PN	**Pn**	**16 43 02.7**	**+3.9**
TIMO				LG		16 43 49.3	
TIMO				Trac		16 43 52.0	
	comp=Z,77nm,0.2s						
WLVO	**Wesleyville**	**3.36**	**199**	PN	**Pn**	**16 43 00.9**	**+1.3**
WLVO				SN	**Sn**	**16 43 39.8**	**+0.5**
WLVO				LG		16 43 52.6	
DREO	**Darlington Eas**	**3.48**	**203**	SN	**Sn**	**16 43 39.5**	**-2.8**
DREO				SN	**Sn**	**16 43 40.1**	**-2.2**
DREO				LG		16 43 54.3	
DREO				LG		16 43 54.6	
DREO				Trac		16 44 02.5	
	comp=Z,294nm,0.1s						
PKRO	**Pickering**	**3.50**	**207**	PN	**Pn**	**16 43 01.2**	**-0.3**
PKRO				SN	**Sn**	**16 43 42.2**	**-0.6**
PKRO				LG		16 43 57.3	
PKRO				Trac		16 43 59.9	
	comp=Z,448nm,0.2s						
MALO	**McAlpine Lake**	**3.51**	**328**	PN	**Pn**	**16 43 03.4**	**+1.7**
MALO				LG		16 43 56.0	
MALO				Trac		16 43 58.3	
	comp=Z,49nm,0.2s						
CLWO	**Collingwood**	**3.59**	**224**	PN	**Pn**	**16 43 03.4**	**+0.6**
CLWO				SN	**Sn**	**16 43 44.3**	**-0.6**
CLWO				LG		16 43 57.5	
CLWO				Trac		16 44 05.8	
	comp=Z,156nm,0.2s						
NCB	**Newcomb**	**3.63**	**149**	PN	**Pn**	**16 43 04.0**	**+0.6**
NCB				SN	**Sn**	**16 43 44.3**	**-1.7**
NCB				LG		16 43 59.2	
NCB	**Newcomb**	**3.63**	**149**	*e*Pn	**Pn**	**16 43 03.8**	**+0.4**
NCB				*e*		16 43 11.7	
NCB				*e*Sn	**Sn**	**16 43 47.0**	**+0.9**
NCB				*e*Sg	**Sg**	**16 43 54.8**	**-9.4**
MOQ	**Mont Orford**	**3.66**	**118**	PN	**Pn**	**16 43 04.3**	**+0.6**
MOQ				SN	**Sn**	**16 43 45.0**	**-1.7**
MOQ				LG		16 43 59.0	
MOQ				Trac		16 44 01.8	
	comp=Z,45nm,0.2s						
MOQ	**Mont Orford**	**3.66**	**118**	P	**Pn**	**16 43 04.7**	**+1.0**
MOQ				S	**Sn**	**16 43 48.8**	**+2.1**
TOBO	**Tobermory, Bru**	**3.75**	**242**	PN	**Pn**	**16 43 05.6**	**+0.7**
TOBO				SN	**Sn**	**16 43 47.2**	**-1.7**
TOBO				LG		16 44 05.0	

TOBO				Trac		16 44 11.8	
	comp=Z,139nm,0.3s						
MIV	**Mineville/With**	**3.82**	**141**	PN	**Pn**	**16 43 06.2**	**+0.3**
MIV				LG		16 44 05.7	
MIV	**Mineville/With**	**3.82**	**141**	P	**Pn**	**16 43 06.7**	**+0.7**
MIV				S	**Sn**	**16 43 52.3**	**+1.7**
QCQ	**Quebec**	**3.83**	**93**	PN	**Pn**	**16 43 07.2**	**+1.1**
QCQ				SN	**Sn**	**16 43 50.0**	**-0.9**
QCQ				LG		16 44 06.8	
QCQ				Trac		16 44 09.0	
	comp=Z,142nm,0.2s						
DAQ	**Lac Daran**	**3.90**	**75**	PN	**Pn**	**16 43 07.0**	**0.0**
DAQ				SN	**Sn**	**16 43 51.2**	**-1.3**
DAQ				LG		16 44 09.7	
DAQ				Trac		16 44 11.1	
	comp=Z,101nm,0.2s						
TORO	**Toronto--Lesli**	**3.91**	**208**	SN	**Sn**	**16 43 50.8**	**-1.9**
TORO				LG		16 44 07.5	
TORO				Trac		16 44 12.4	
	comp=Z,186nm,0.1s						
MDV	**Middlebury**	**4.03**	**139**	P	**Pn**	**16 43 09.4**	**+0.6**
MDV				S	**Sn**	**16 43 58.2**	**+2.3**
MEDO	**Medina**	**4.10**	**197**	PN	**Pn**	**16 43 10.4**	**+0.7**
MEDO				SN	**Sn**	**16 43 55.0**	**-2.5**
MEDO				LG		16 44 12.5	
MEDO				Trac		16 44 17.9	
	comp=Z,100nm,0.2s						
MEDO	**Medina**	**4.10**	**197**	P	**Pn**	**16 43 10.8**	**+1.1**
MEDO				S	**Sn**	**16 43 58.2**	**+0.7**
ACTO	**Acton**	**4.16**	**214**	PN	**Pn**	**16 43 12.0**	**+1.3**
ACTO				SN	**Sn**	**16 43 57.5**	**-1.6**
ACTO				LG		16 44 15.1	
STCO	**Saint Catharin**	**4.22**	**204**	SN	**Sn**	**16 43 58.5**	**-2.1**
STCO				LG		16 44 20.4	
BWLO	**Walkerton**	**4.24**	**227**	PN	**Pn**	**16 43 12.9**	**+1.3**
BWLO				SN	**Sn**	**16 43 58.9**	**-2.1**
BWLO				LG		16 44 17.0	
BWLO				Trac		16 44 24.6	
	comp=Z,56nm,0.2s						
BRCO	**Bruce Peninsul**	**4.30**	**230**	PN	**Pn**	**16 43 12.5**	**-0.1**
BRCO				SN	**Sn**	**16 44 02.5**	**0.0**
BRCO				LG		16 44 21.3	
BRCO				Trac		16 44 24.3	
	comp=Z,246nm,0.2s						
ACCN	**Adirondack Com**	**4.34**	**148**	*e*Pn	**Pn**	**16 43 13.8**	**+0.7**
ACCN				*e*S	**Sn**	**16 44 18.1**	**+15**
EFO	**Effingham**	**4.37**	**204**	PN	**Pn**	**16 43 13.5**	**0.0**
EFO				SN	**Sn**	**16 44 01.8**	**-2.5**
EFO				LG		16 44 20.7	
EFO				Trac		16 44 25.1	
	comp=Z,48nm,0.1s						
A54	**Misere**	**4.40**	**83**	PN	**Pn**	**16 43 13.9**	**0.0**
A54				SN	**Sn**	**16 44 02.8**	**-2.0**
A54				LG		16 44 22.9	
A54				Trac		16 44 27.6	
	comp=Z,61nm,0.2s						
OTRO	**Otter Rapids**	**4.42**	**316**	SN	**Sn**	**16 44 07.1**	**+1.6**
KAPO	**Kapuskasing**	**4.45**	**304**	PN	**Pn**	**16 43 16.8**	**+2.2**
KAPO				SN	**Sn**	**16 44 05.4**	**-0.7**
KAPO				LG		16 44 24.0	
KAPO				Trac		16 44 30.4	
	comp=Z,36nm,0.2s						
LMQ	**La Malbaie**	**4.46**	**82**	PN	**Pn**	**16 43 14.4**	**-0.3**
LMQ				SN	**Sn**	**16 44 04.5**	**-1.8**
LMQ				LG		16 44 26.7	
LMQ				Trac		16 44 29.6	
	comp=Z,104nm,0.2s						
LBNH	**Lisbon**	**4.48**	**128**	PN	**Pn**	**16 43 15.2**	**+0.1**
LBNH				SN	**Sn**	**16 44 05.0**	**-1.9**
LBNH				LG		16 44 26.1	
LBNH	**Lisbon**	**4.48**	**128**	*e*Pn	**Pn**	**16 43 15.9**	**+0.9**
LBNH				*e*S	**Sn**	**16 44 20.5**	**+13**
A11	**Saint Roch-des**	**4.54**	**86**	PN	**Pn**	**16 43 17.2**	**+1.4**
A11				SN	**Sn**	**16 44 07.2**	**-1.2**
A11				LG		16 44 27.9	
A11				Trac		16 44 34.2	
	comp=Z,27nm,0.2s						
TYNO	**Tyneside**	**4.54**	**209**	SN	**Sn**	**16 44 06.3**	**-2.1**
TYNO				LG		16 44 27.5	
BASO	**Ashfield**	**4.58**	**229**	PN	**Pn**	**16 43 16.4**	**+0.1**
BASO				SN	**Sn**	**16 44 08.1**	**-1.3**
BASO				LG		16 44 29.7	
BASO				Trac		16 44 38.5	
	comp=Z,81nm,0.2s						
A61	**Sainte Mathild**	**4.63**	**80**	PN	**Pn**	**16 43 17.1**	**+0.1**
A61				SN	**Sn**	**16 44 09.5**	**-1.0**
A61				LG		16 44 30.4	
A61				Trac		16 44 39.7	
	comp=Z,49nm,0.2s						
HNH	**Hanover**	**4.67**	**135**	*e*S	**Sn**	**16 44 22.8**	**+11**
A64	**Saint Simeon**	**4.78**	**79**	PN	**Pn**	**16 43 18.5**	**-0.5**
A64				SN	**Sn**	**16 44 13.1**	**-1.1**
A64				LG		16 44 37.3	
A64				Trac		16 44 41.2	
	comp=Z,45nm,0.2s						
MSNO	**Moosonee Ontar**	**4.87**	**331**	SN	**Sn**	**16 44 14.5**	**-1.9**
MSNO				Trac		16 44 47.0	
	comp=Z,73nm,0.2s						
A21	**Saint Andre**	**4.90**	**80**	PN	**Pn**	**16 43 20.7**	**0.0**
A21				SN	**Sn**	**16 44 15.3**	**-1.9**
A21				LG		16 44 41.4	
A21				Trac		16 44 41.8	
	comp=Z,64nm,0.2s						
BINY	**Binghamton**	**4.94**	**173**	PN	**Pn**	**16 43 21.2**	**-0.1**
BINY				SN	**Sn**	**16 44 16.6**	**-1.7**
BINY				LG		16 44 38.9	
BINY	**Binghamton**	**4.94**	**173**	Pn	**Pn**	**16 43 21.7**	**+0.3**
BINY				*e*Sn	**Sn**	**16 44 11.7**	**-6.6**
BINY				*e*Sg	**Sg**	**16 44 33.8**	**-12**
ELFO	**Elginfield**	**5.02**	**221**	PN	**Pn**	**16 43 23.4**	**+0.9**
ELFO				SN	**Sn**	**16 44 19.1**	**-1.2**
ELFO				LG		16 44 39.6	
ELFO				Trac		16 44 48.4	
	comp=Z,97nm,0.2s						
FFD	**Franklin Falls**	**5.16**	**133**	Pn	**Pn**	**16 43 25.3**	**+1.0**
	74nm,0.3s						
FFD				*e*S	**Sn**	**16 44 38.4**	**+15**
ERPA	**Erie**	**5.46**	**205**	PN	**Pn**	**16 43 26.6**	**-1.9**
ERPA				SN	**Sn**	**16 44 28.8**	**-2.4**
ERPA				LG		16 44 53.4	
ERPA	**Erie**	**5.46**	**205**	P	**Pn**	**16 43 31.9**	**+3.4**
ERPA				*e*S	**Sn**	**16 44 50.3**	**+19**
PKME	**Peaks-Kenny Pk**	**5.56**	**107**	PN	**Pn**	**16 43 29.9**	**+0.1**
PKME				SN	**Sn**	**16 44 30.9**	**-2.6**
PKME				LG		16 44 57.7	
PKME				Trac		16 45 07.2	
	comp=Z,32nm,0.2s						
PKME	**Peaks-Kenny Pk**	**5.56**	**107**	*e*Pn	**Pn**	**16 43 29.2**	**-0.6**
PKME				*e*Sn	**Sn**	**16 44 31.2**	**-2.3**
PKME				*e*Sg	**Sg**	**16 44 53.9**	**-12**
QUA2	**Belchertown**	**5.79**	**145**	Pn	**Pn**	**16 43 34.2**	**+1.3**
QUA2				Pg	**Pg**	**16 43 50.6**	**-7.7**
QUA2				Sn	Sn	16 44 18.4	-21
HRV	**Adam Dziewonsk**	**5.94**	**139**	LG		16 45 09.1	
HRV	**Adam Dziewonsk**	**5.94**	**139**	*e*Sn	**Sn**	**16 44 43.2**	**+0.3**
	29nm,0.6s						
HRV				*e*Sg	**Sg**	**16 45 03.3**	**-15**
WEMQ	**Wemindji, Queb**	**6.00**	**353**	PN	**Pn**	**16 43 36.1**	**+0.2**
WEMQ				SN	**Sn**	**16 44 40.8**	**-3.6**
WEMQ				LG		16 45 11.9	
WEMQ				Trac		16 45 16.2	
	comp=Z,26nm,0.2s						
WES	**Weston**	**6.14**	**138**	*e*Sg	**Sg**	**16 45 11.5**	**-13**
CNQ	**Baie Comeau**	**6.27**	**66**	PN	**Pn**	**16 43 40.2**	**+0.7**
CNQ				SN	**Sn**	**16 44 47.0**	**-3.9**
CNQ				Trac		16 45 34.5	
	comp=Z,31nm,0.2s						
MNQ	**Manicouagan**	**6.34**	**54**	PN	**Pn**	**16 43 41.1**	**+0.6**
MNQ				SN	**Sn**	**16 44 49.7**	**-3.0**
MNQ				LG		16 45 28.0	
MNQ				Trac		16 45 31.8	
	comp=Z,24nm,0.2s						
BRYW	**Bryant College**	**6.42**	**142**	*e*Sg	**Sg**	**16 45 23.5**	**-10**
PAL	**Palisades**	**6.45**	**160**	*e*Sg	**Sg**	**16 45 21.8**	**-13**
SSPA	**Standing Stone**	**6.51**	**187**	*e*Pn	**Pn**	**16 43 41.9**	**-0.9**
	64nm,0.7s						
SSPA				*e*Sn	**Sn**	**16 44 51.7**	**-5.2**
SSPA				*e*Sg	**Sg**	**16 45 21.3**	**-15**
PNPO	**Pukaskwa Natio**	**6.52**	**287**	PN	**Pn**	**16 43 44.5**	**+1.4**
PNPO				SN	**Sn**	**16 45 00.0**	**+2.8**
PNPO				Trac		16 45 31.5	
	comp=Z,10nm,0.2s						
CPNY	**Central Park**	**6.64**	**161**	*e*S	Sx	16 45 27.1	
PLIO	**Pelee Island,**	**6.76**	**220**	PN	**Pn**	**16 43 45.2**	**-1.1**
PLIO				SN	**Sn**	**16 44 57.5**	**-5.6**
PLIO				LG		16 45 33.2	
PLIO				Trac		16 45 44.9	
	comp=Z,20nm,0.2s						
LG4Q	**La Grande 4**	**6.77**	**14**	PN	**Pn**	**16 43 46.1**	**-0.2**
LG4Q				SN	**Sn**	**16 44 59.5**	**-3.7**
LG4Q				LG		16 45 36.5	
LG4Q				Trac		16 45 43.5	
	comp=Z,28nm,0.3s						
GSQ	**Grosses Roches**	**6.78**	**71**	PN	**Pn**	**16 43 46.5**	**-0.1**
GSQ				SN	**Sn**	**16 44 59.9**	**-3.7**
GSQ				LG		16 45 37.6	
GSQ				Trac		16 45 51.3	
	comp=Z,11nm,0.2s						
ICQ	**Pointe Anglais**	**6.83**	**66**	PN	**Pn**	**16 43 45.8**	**-1.5**
ICQ				SN	**Sn**	**16 45 00.8**	**-4.0**
ICQ				LG		16 45 38.9	
ICQ				Trac		16 45 41.6	
	comp=Z,19nm,0.2s						
GTO	**Geraldton**	**7.23**	**295**	PN	**Pn**	**16 43 54.1**	**+1.4**
GTO				SN	**Sn**	**16 45 09.7**	**-4.9**
GTO				Trac		16 46 00.8	
	comp=Z,15nm,0.2s						
GGN	**Saint George**	**7.23**	**102**	PN	**Pn**	**16 43 52.6**	**-0.2**
GGN				SN	**Sn**	**16 45 10.6**	**-4.2**
GGN				Trac		16 46 00.8	
	comp=Z,9.4nm,0.3s						
VIMO	**Victor Mine**	**7.25**	**325**	PN	**Pn**	**16 43 53.9**	**+0.9**
VIMO				SN	**Sn**	**16 45 12.7**	**-2.3**
BATG	**Bathurst New B**	**7.36**	**85**	PN	**Pn**	**16 43 55.3**	**+0.9**
BATG				SN	**Sn**	**16 45 11.8**	**-5.9**
SMQ	**Clarke City**	**7.41**	**61**	PN	**Pn**	**16 43 53.9**	**-1.3**
SMQ				SN	**Sn**	**16 45 15.0**	**-4.0**
SMQ				LG		16 45 59.2	
GASG	**Gaspe, Quebec**	**7.43**	**72**	PN	**Pn**	**16 43 54.8**	**-0.7**
GASG				SN	**Sn**	**16 45 16.4**	**-3.2**
NANO	**Nakina Ontario**	**7.44**	**300**	PN	**Pn**	**16 43 56.0**	**+0.4**
NANO				SN	**Sn**	**16 45 16.5**	**-3.3**
NANO				LG		16 45 56.8	
SDMD	**Soldier's Deli**	**7.69**	**180**	*e*S	Sx	16 45 55.0	
MCWV	**Mont Chateau**	**7.75**	**197**	P	**Pn**	**16 44 02.1**	**+2.1**
MCWV				*e*S	Sn	16 45 59.7	+32
LMN	**Caledonia Moun**	**8.41**	**94**	PN	**Pn**	**16 44 10.1**	**+1.2**
LMN				SN	**Sn**	**16 45 38.1**	**-5.4**
TBO	**Thunder Bay**	**8.59**	**285**	PN	**Pn**	**16 44 07.3**	**-4.0**
TBO				SN	**Sn**	**16 45 41.9**	**-6.0**
SILO	**Sutton Inlier**	**8.97**	**328**	PN	**Pn**	**16 44 17.4**	**+0.8**
SILO				SN	**Sn**	**16 45 55.5**	**-2.0**
SILO				LG		16 46 43.0	
MALG	**Malagash, Nova**	**9.43**	**93**	PN	**Pn**	**16 44 22.9**	**0.0**
SCHQ	**Schefferville**	**9.98**	**35**	PN	**Pn**	**16 44 28.0**	**-2.5**
JFWS	**Jewell Farm**	**10.37**	**251**	PN	**Pn**	**16 44 33.8**	**-2.0**
JFWS				SN	**Sn**	**16 46 27.0**	**-4.7**
SOLO	**Sioux Lookout**	**10.51**	**292**	PN	**Pn**	**16 44 37.1**	**-0.6**
SOLO				SN	**Sn**	**16 46 28.5**	**-6.7**
GBN	**Guysborough**	**10.76**	**93**	PN	**Pn**	**16 44 40.4**	**-0.7**
GBN				SN	**Sn**	**16 46 35.1**	**-6.2**
ULM	**Lac du Bonnet**	**12.96**	**291**	PN	**Pn**	**16 45 09.3**	**-1.8**
ULM				SN	**Sn**	**16 47 28.6**	**-6.5**
ULM				LG		16 48 48.0	
DRLN	**Deer Lake**	**13.09**	**73**	PN	**Pn**	**16 45 09.4**	**-3.6**
MDJ	**Mudanjiang**	**85.74**	**341**	P	**P**	**16 54 45.3**	**-0.7**
MDJ				AMB	AMB		
	comp=Z,2.0nm,0.8s						
MDJ				AMB	AMB		
	comp=Z,53nm,4.5s						
HHC	**Hu-ho-hao-te**	**92.11**	**354**	*e*P	**P**	**16 55 15.9**	**-0.4**
HHC				AP	pP	16 55 22.6	+1.9
HHC				XP	sP	16 55 25.1	+2.8
HHC				PP	PP	16 58 57.3	+2.2
HHC				SKS		17 05 44.9	
HHC				S	S	17 06 13.4	-4.8
HHC				XS	sS	17 06 24.6	-0.9
HHC				SS	SS	17 12 24.1	-1.4
HHC				LR	LR		
	comp=N,108nm,18.2s,MS4.4						
HHC				LR	LR		
	comp=E,98nm,22.0s,MS4.4						
HHC				LR	LR		
	comp=Z,80nm,23.7s,MS4.1						
LZH	**Lanzhou**	**97.19**	**359**	*e*P	**P**	**16 55 37.5**	**-2.1**
LZH				AP	pP	16 55 44.1	+0.1
LZH				XP	sP	16 55 46.7	+1.1
LZH				*e*PP	PP	16 59 35.4	+0.7
LZH				LR	LR		
	comp=N,112nm,18.0s						
LZH				LR	LR		
	comp=Z,157nm,20.0s,MS4.5						
CD2	**Chengdu**	**102.35**	**359**	*e*P	Pdif	16 56 01.9	-0.9

TAP ***01*** *16:48:54.7, 2447N×12262E, h93km±1km, ML3.1, C*
ISCJB ***01*** *16:48:55.2±0.8, 2443N±007×12267E±002, h80km±9km, Error ellipse: s-maj=11.3km s-min=3.6km az=1.5*
JMA ***01*** *16:48:55.4±0.1, 2467N×12273E, h81km±2km, M2.3*
ISC 01 16:48:55.5±0.8**, 2445N**±007×**12267E**±002**, h81**km±9km**, n27,** $\sigma 0^s65$/41**, Taiwan region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
YOJ	**Yonaguni jima**	**0.31**	**87**	P	**Pn**	**16 49 08.0**	**+0.1**
YOJ				S	**Sn**	**16 49 17.4**	**+0.3**
TWC	**Suao**	**0.76**	**282**	P	**Pn**	**16 49 11.6**	**-0.3**
	baz=285						
TWC				S	**Sn**	**16 49 23.6**	**-0.5**
	baz=285						
EGS		**0.78**	**301**	*e*P	**Pn**	**16 49 12.0**	**-0.1**
	baz=292						
TWB1	**Santiao Chiao**	**0.83**	**312**	*e*P	**Pn**	**16 49 13.5**	**+0.8**
	baz=309						
ENA	**Nanau**	**0.85**	**269**	*e*P	**Pn**	**16 49 13.1**	**+0.3**
	baz=265						
ENA				*e*S	**Sn**	**16 49 25.2**	**-0.5**
	baz=265						
ILA	**Ilan**	**0.90**	**291**	*e*P	**Pn**	**16 49 14.1**	**+0.7**
	baz=287						
TWE	**Neicheng**	**0.95**	**287**	P	**Pn**	**16 49 14.1**	**+0.1**
	baz=286						
TWE				S	**Sn**	**16 49 27.6**	**-0.3**
	baz=286						
IRIF	**Iriomote-Funau**	**0.97**	**96**	P	**Pn**	**16 49 14.2**	**-0.1**
IRIF				S	**Sn**	**16 49 28.3**	**0.0**
NWF	**Wu-fen Shan**	**1.02**	**308**	*e*P	**Pn**	**16 49 14.7**	**-0.1**
	baz=305						
ENTT	**Nioudou**	**1.02**	**281**	*e*P	**Pn**	**16 49 15.3**	**+0.4**
	baz=283						
ENTT				*e*S	**Sn**	**16 49 29.5**	**+0.1**
	baz=283						
TWD	**Chiawan**	**1.04**	**250**	*e*P	**Pn**	**16 49 14.2**	**-1.0**
	baz=248						
HWA	**Hwalien**	**1.08**	**245**	*e*P	**Pn**	**16 49 14.6**	**-0.9**
	baz=249						
HATJ	**Hateruma jima**	**1.11**	**110**	*e*S	**Sn**	**16 49 32.8**	**+1.6**
NNS	**Nan Shan**	**1.18**	**270**	*e*P	**Pn**	**16 49 17.1**	**+0.3**
	baz=269						
NNS				*e*S	**Sn**	**16 49 32.8**	**0.0**
	baz=269						
NSK	**Sanguang**	**1.22**	**281**	*e*P	**Pn**	**16 49 17.3**	**0.0**
	baz=283						
NSK				*e*S	**Sn**	**16 49 33.2**	**-0.3**
	baz=283						
JKRS	**Kuro-shima**	**1.24**	**99**	P	**Pn**	**16 49 17.8**	**+0.3**
JKRS				*e*S	**Sn**	**16 49 34.8**	**+0.7**
ESL	**Shilin**	**1.29**	**241**	P	**Pn**	**16 49 17.6**	**-0.6**
	baz=246						
ESL				*e*S	**Sn**	**16 49 33.9**	**-1.4**
	baz=246						
WHF	**Hehuan Shan**	**1.31**	**257**	*e*P	**Pn**	**16 49 18.7**	**+0.2**
	baz=253						
JIJ	**Ishigaki jima**	**1.35**	**93**	P	**Pn**	**16 49 18.7**	**-0.2**
JIJ				S	**Sn**	**16 49 35.6**	**-0.9**
TWT	**Tachien**	**1.38**	**262**	P	**Pn**	**16 49 20.1**	**+0.9**
	baz=262						
TWT				S	**Sn**	**16 49 37.5**	**+0.4**
	baz=262						
EHY	**Hungye**	**1.55**	**233**	*e*P	**Pn**	**16 49 20.6**	**-0.9**
	baz=239						
TWF1	**Yuli**	**1.66**	**229**	P	**Pn**	**16 49 22.4**	**-0.6**
	baz=222						
SMLT	**Sun Moon Lake**	**1.71**	**251**	*e*P	**Pn**	**16 49 24.0**	**+0.4**
	baz=244						
TYC	**Yuchr**	**1.74**	**252**	*e*P	**Pn**	**16 49 24.2**	**+0.2**
	baz=246						
TYC				*e*S	**Sn**	**16 49 46.3**	**+0.7**
	baz=246						
JTJ	**Tarama**	**1.86**	**84**	*e*S	**Sn**	**16 49 47.1**	**-1.4**
ALS	**Alishan**	**1.94**	**242**	*e*P	**Pn**	**16 49 27.3**	**+0.6**
	baz=235						
ALS				*e*S	**Sn**	**16 49 51.8**	**+1.4**
	baz=235						
ELDTW	**Lidau**	**1.96**	**231**	P	**Pn**	**16 49 26.4**	**-0.5**
	baz=229						

IDC ***01*** *17:31:08.6±0.5, 1995S×17449W, h0km, mb4.4/14, mb1 4.6/16, mb1mx4.5/23, mbtmp4.5/16, ML4.0/2, MS3.6/7, Ms1 3.6/7, ms1mx3.4/24, Error ellipse: s-maj=24.8km s-min=14.2km az=135.0*
BJI ***01*** *17:31:09.4, 1980S×17470W, h10km, mB5.2, mb4.9, Ms4.9, Msz4.5*
ISCJB ***01*** *17:31:09.8±0.3, 2001S±007×17455W±008, h15km, mb4.6/29, MS4.0/11, Error ellipse: s-maj=12.1km s-min=8.3km az=135.6*
NEIC ***01*** *17:31:10.5±0.2, 1981S×17465W, h10km, mb4.7/9, Error ellipse: s-maj=13.2km s-min=6.2km az=133.0*
SZGRF ***01*** *17:31:14.0, 2021S×17384W, h33km, Tonga Islands*
MOS ***01*** *17:31:15.3±3.1, 1990S×17471W, h37km, mb4.8/7, Error ellipse: s-maj=16.2km s-min=14.5km az=138.4*
ISC 01 17:31:11.5±0.3**, 2003S**±007×**17451W**±008**, h16**km**, h16**km±.9km**:pP-P, n172,** $\sigma 1^s11$/68**, mb4.6**/29**, MS4.0**/11**, 26C-12D, Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**6.62**	**24**	Pn	**Pn**	**17 32 45.1**	**-3.1**
	26nm,0.3s,baz=157,slow=1.5,SNR=24						
AFI	**Afiamalu**	**6.62**	**24**	*e*P	**Pn**	**17 32 44.7**	**-3.5**
AFI				pmax	pmax		
	comp=Z,74nm,0.4s						
AFI	**Afiamalu**	**6.62**	**24**	*e*P	**Pn**	**17 32 44.7**	**-3.5**
	comp=Z,74nm,0.4s						
AFI				*e*S	**Sn**	**17 33 47.6**	**-16**
RAR	**Rarotonga**	**13.85**	**97**	Pn	**Pn**	**17 34 20.7**	**-6.5**
	comp=Z,6.6nm,0.3s,baz=229,slow=8.7,SNR=16						
RAR				LR	LR	17 38 04.3	
	comp=Z,267nm,19.6s,baz=294,slow=30						
DZM	**Mont Dzumac**	**17.90**	**260**	*e*Pn	**Pn**	**17 35 24.4**	**+4.5**
URZ	**Urewera**	**19.57**	**200**	P	**Pn**	**17 35 39.6**	**-0.4**
	comp=Z,2.9nm,0.3s,baz=12,slow=10,SNR=11						
TBI	**Tubuai**	**23.50**	**103**	*e*LQ		17 40 52.7	
	comp=Z,344nm,26.8s						
TBI				*e*LR	LR	17 41 40.9	
	comp=Z,221nm,28.2s						
PPT	**Papeete**	**23.72**	**88**	*e*LQ		17 40 52.0	
	comp=Z,411nm,25.5s						
PPT				*e*LR	LR	17 41 56.3	
	comp=Z,278nm,24.8s						
PPT	**Papeete**	**23.72**	**88**	LR	LR	17 43 05.1	
	comp=Z,202nm,18.8s,MS3.6,baz=245,slow=30						
RPZ	**Rata Peaks**	**26.53**	**204**	P	**P**	**17 36 50.5**	**+2.1**
	comp=Z,26nm,0.6s,mb4.9,baz=34,slow=1.3,SNR=12						
RPZ	**Rata Peaks**	**26.53**	**204**	P	**P**	**17 36 50.5**	**+2.1**
HNR	**Honiara**	**26.82**	**289**	LR	LR	17 44 22.2	
	comp=Z,34nm,18.0s,MS3.0,baz=107,slow=30						
TAOE	**Nuku Hiva Isla**	**35.00**	**76**	*e*LR	LR	17 47 01.2	
	comp=Z,1μm,29.6s						
CTA	**Charters Tower**	**36.80**	**263**	*e*P	**P**	**17 38 18.3**	**-0.6**
	comp=Z,5.0nm,0.4s,mb4.7						
RKT	**Rikitea**	**36.82**	**102**	*e*LR	LR	17 48 02.7	
	comp=Z,181nm,27.0s						
PMG	**Port Moresby**	**38.46**	**280**	*e*P	**P**	**17 38 32.8**	**-0.2**
STKA	**Stephens Creek**	**40.94**	**244**	*e*P	**P**	**17 38 52.9**	**-0.6**
	comp=Z,2.3nm,0.5s,mb4.1						
STKA	**Stephens Creek**	**40.94**	**244**	P	**P**	**17 38 53.0**	**-0.5**
	comp=Z,5.0nm,1.0s,mb4.1,baz=78,slow=6.3,SNR=7.0						
STKA				LR	LR	17 54 59.3	
	comp=Z,136nm,19.2s,MS3.8,baz=24,slow=35						
ASAR	**Alice Springs**	**47.81**	**256**	P	**P**	**17 39 47.5**	**-1.1**
	comp=Z,2.4nm,0.6s,mb4.4,baz=95,slow=7.8,SNR=59						
ASAR				PcP	PcP	17 41 17.1	-0.3
	comp=Z,1.8nm,0.6s,baz=108,slow=3.8,SNR=7.2						
WB2	**Warramunga Arr**	**47.90**	**261**	*e*P	**P**	**17 39 47.9**	**-1.4**
WRAB	**Tennant Creek**	**47.90**	**261**	*e*P	**P**	**17 39 48.1**	**-1.2**
WRA	**Warramunga Arr**	**47.91**	**261**	P	**P**	**17 39 48.0**	**-1.4**
	comp=Z,1.3nm,0.4s,mb4.3,baz=98,slow=8.4,SNR=23						
KAKA	**Kakadu**	**51.25**	**270**	*e*P	**P**	**17 40 13.7**	**-1.2**
	comp=Z,6.0nm,0.7s,mb4.6						
SBA	**Scott Base**	**58.58**	**185**	*e*P	**P**	**17 41 09.3**	**+2.3**
SBA				pmax	pmax		
	comp=Z,11nm,1.2s,mb4.8						
SBA	**Scott Base**	**58.58**	**185**	*e*P	**P**	**17 41 09.2**	**+2.2**
	comp=Z,11nm,1.2s,mb4.8						
CBIJ	**Chichi jima**	**62.89**	**317**	LR	LR	18 02 08.2	
	comp=Z,30nm,21.6s,MS3.4,baz=102,slow=30						
MJAR	**Matsushiro Arr**	**71.83**	**321**	P	**P**	**17 42 33.2**	**-0.3**
	comp=Z,3.1nm,0.5s,mb4.5,baz=157,slow=6.0,SNR=13						
MJAR	**Matsushiro Arr**	**71.83**	**321**	P	**P**	**17 42 33.2**	**-0.3**
MAT	**Matsushiro**	**71.83**	**321**	P	**P**	**17 42 33.1**	**-0.4**
PET	**Petropavlovsk**	**76.38**	**344**	*e*P	**P**	**17 42 57.9**	**-1.8**
PET				pmax	pmax		
	comp=Z,15nm,1.3s,mb4.8						
ISA	**Isabella**	**76.69**	**44**	*e*P	**P**	**17 43 01.8**	**-0.1**
ISA				pmax	pmax		
	comp=Z,7.0nm,1.0s,mb4.5						
ISA	**Isabella**	**76.69**	**44**	*e*P	**P**	**17 43 01.8**	**-0.1**
	comp=Z,6.6nm,1.0s,mb4.5						
PEA0B	**Petropavlovsk-**	**76.71**	**343**	P	**P**	**17 43 03.7**	**+2.1**
PETK	**Petropavlovsk-**	**76.71**	**343**	LR	LR	18 09 14.1	
	comp=Z,30nm,21.4s,MS3.6,baz=304,slow=30						
YBH	**Yreka Blue Hor**	**77.91**	**37**	P	**P**	**17 43 07.8**	**-0.8**
	comp=Z,2.7nm,0.7s,mb4.3,baz=311,slow=0.7,SNR=7.2						
NVAR	**Mina Array Bea**	**78.46**	**42**	P	**P**	**17 43 11.8**	**+0.1**
	comp=Z,6.5nm,0.7s,mb4.7,baz=225,slow=9.4,SNR=30						
KSRS	**Korea Array**	**78.75**	**317**	P	**P**	**17 43 14.6**	**+1.3**
	comp=Z,4.9nm,1.0s,mb4.4,baz=136,slow=6.8,SNR=18						
TPH	**Tonopah**	**78.93**	**43**	*e*P	**P**	**17 43 14.2**	**-0.1**
TPH				pmax	pmax		
	comp=Z,6.0nm,0.9s,mb4.5						
TPH	**Tonopah**	**78.93**	**43**	*e*P	**P**	**17 43 14.2**	**-0.2**
	comp=Z,5.6nm,0.9s,mb4.5						
TUC	**Tucson**	**80.13**	**50**	*e*P	**P**	**17 43 21.3**	**+0.3**
TUC				*e*		17 43 36.1	
TUC				pmax	pmax		
	comp=Z,3.0nm,1.1s,mb4.1						
TUC	**Tucson**	**80.13**	**50**	*e*P	**P**	**17 43 21.3**	**+0.3**
	comp=Z,2.7nm,1.1s,mb4.1						
TUC				*e*		17 43 36.1	
ELK	**Elko**	**81.74**	**41**	P	**P**	**17 43 29.0**	**-0.4**
	comp=Z,1.5nm,0.8s,mb4.0,baz=207,slow=4.9,SNR=6.4						
MDJ	**Mudanjiang**	**82.06**	**323**	P	**P**	**17 43 31.9**	**+0.9**
MDJ				AP	pP	17 43 35.3	-1.0
MDJ				XP	sP	17 43 36.3	-1.9
MDJ				AMB	AMB		
	comp=Z,6.0nm,1.1s,mb4.4						
MDJ				AMB	AMB		
	comp=Z,95nm,7.0s						
ETW	**Entiat**	**83.00**	**34**	*e*P	**P**	**17 43 35.4**	**-0.4**
MAW	**Mawson**	**83.10**	**199**	P	**P**	**17 43 36.0**	**-0.1**
	comp=Z,1.7nm,0.6s,mb4.2,baz=152,slow=6.6,SNR=6.9						
MAW	**Mawson**	**83.10**	**199**	*e*P	**P**	**17 43 36.0**	**-0.1**
MAW				pmax	pmax		
	comp=Z,5.0nm,1.2s						
MAW	**Mawson**	**83.10**	**199**	*e*P	**P**	**17 43 36.0**	**-0.1**
	comp=Z,5.4nm,1.2s,mb4.5						
TMUT	**Trail Mountain**	**83.51**	**44**	*e*P	**P**	**17 43 38.3**	**-0.3**
LAZ	**Ladron**	**83.82**	**50**	*e*P	**P**	**17 43 40.7**	**+0.3**
HLID	**Hailey**	**83.86**	**39**	*e*P	**P**	**17 43 40.3**	**0.0**
	comp=Z,5.9nm,0.9s,mb4.7						
HLID				*e*		17 43 55.0	
CN2	**Changchun**	**83.96**	**321**	*e*P	**P**	**17 43 41.6**	**+0.7**
TXAR	**Lajitas Array**	**84.06**	**56**	P	**P**	**17 43 41.8**	**0.0**
	comp=Z,1.2nm,0.8s,mb4.1,baz=225,slow=8.5,SNR=11						
ANMO	**Albuquerque**	**84.57**	**50**	P	**P**	**17 43 44.4**	**+0.2**
	comp=Z,5.0nm,1.0s,mb4.6,baz=235,slow=17,SNR=7.1						
ANMO	**Albuquerque**	**84.57**	**50**	*e*P	**P**	**17 43 44.0**	**-0.2**
ANMO				*e*		17 43 59.3	
ANMO				pmax	pmax		
	comp=Z,8.0nm,1.1s						
ANMO	**Albuquerque**	**84.57**	**50**	*e*P	**P**	**17 43 44.0**	**-0.2**
	comp=Z,8.1nm,1.1s,mb4.8						
ANMO				*e*		17 43 59.3	
MCMT	**McKenzie Canyo**	**85.50**	**39**	*e*P	**P**	**17 43 49.2**	**+0.6**
PDAR	**Pinedale Array**	**86.40**	**42**	P	**P**	**17 43 52.6**	**-0.5**
	comp=Z,1.2nm,0.8s,mb4.2,baz=208,slow=6.0,SNR=5.8						
COLA	**College**	**87.08**	**11**	*d i*P	**P**	**17 43 55.4**	**-0.5**
SYO	**Syowa Base**	**87.88**	**192**	⇓ *e*sP	sP	17 44 05.6	-1.6

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
DAWY	**Dawson**	**88.14**	**15**	eP	**P**	**17 44 00.9**	**-0.1**
SNAA	**Sanae**	**88.36**	**177**	eP	**P**	**17 44 01.7**	**-0.5**
SNAA				e		17 44 02.9	
SNAA				e	pP	17 44 06.8	-0.7
SNAA	**Sanae**	**88.36**	**177**	⇑eP	**P**	**17 44 00.1**	**-2.1**
VNA3	**Neumayer Olymp**	**88.37**	**175**	eP	**P**	**17 44 01.5**	**-0.7**
VNA3				e		17 44 02.8	
VNA3				e	pP	17 44 07.3	-0.3
VNA2	**Neumayer--Watz**	**88.85**	**176**	eP	**P**	**17 44 04.2**	**-0.3**
	baz=206,slow=3.6						
VNA2				e		17 44 05.7	
VNA2				e	pP	17 44 09.9	+0.1
VNA1	**Neumayer--Stat**	**89.05**	**175**	eP	**P**	**17 44 05.4**	**-0.1**
VNA1				e		17 44 07.1	
VNA1				e	pP	17 44 10.4	-0.4
GYA	**Guiyang**	**89.29**	**298**	P	**P**	**17 44 09.6**	**+2.3**
GYA				PP	PP	17 47 43.2	+4.8
GYA				S	S	17 54 58.6	+1.9
GYA				AMB	AMB		
	comp=Z,10.0nm,1.2s,mb5.0						
GYA				AMB	AMB		
	comp=Z,80nm,6.9s						
GYA				LR	LR		
	comp=N,460nm,20.8s,MS5.0						
GYA				LR	LR		
	comp=E,380nm,21.4s,MS5.0						
GYA				LR	LR		
	comp=Z,470nm,20.2s,MS4.9						
HHC	**Hu-ho-hao-te**	**91.39**	**313**	eP	**P**	**17 44 19.5**	**+2.7**
HHC				AP	pP	17 44 24.4	+2.2
HHC				XP	sP	17 44 26.8	+2.7
HHC				PP	PP	17 47 58.8	+4.0
HHC				S	S	17 55 18.3	+2.8
HHC				XS	sS	17 55 25.0	+0.6
HHC				AMB	AMB		
	comp=Z,22nm,1.2s,mb5.4						
HHC				AMB	AMB		
	comp=Z,237nm,5.7s						
HHC				LR	LR		
	comp=N,157nm,19.6s,MS4.6						
HHC				LR	LR		
	comp=E,169nm,18.0s,MS4.6						
HHC				LR	LR		
	comp=Z,142nm,19.0s,MS4.4						
KMI	**Kunming**	**92.08**	**296**	P	**P**	**17 44 22.2**	**+1.9**
KMI				AP	pP	17 44 27.2	+1.5
KMI				XP	sP	17 44 29.6	+2.0
KMI				PP	PP	17 48 04.9	+4.4
KMI				S	S	17 55 23.2	+0.9
KMI				AMB	AMB		
	comp=Z,6.0nm,1.1s,mb4.8						
KMI				AMB	AMB		
	comp=Z,279nm,4.5s						
KMI				LR	LR		
	comp=Z,52nm,13.7s,MS4.1						
KMI	**Kunming**	**92.08**	**296**	P	**P**	**17 44 22.2**	**+1.9**
KMI				*SP	sP	17 44 29.6	+2.0
KMI						17 48 04.9	
KMI				S	S	17 55 23.2	+0.9
KMI				SS	SS	18 01 35.2	+3.1
KMI	**Kunming**	**92.08**	**296**	P	**P**	**17 44 22.2**	**+1.9**
KMI				pP	pP	17 44 27.2	+1.5
KMI				sP	sP	17 44 29.6	+2.0
KMI				PP	PP	17 48 04.9	+4.4
KMI				S	S	17 55 23.2	+0.9
KMI				SS	SS	18 01 35.2	+3.1
KMI				SSS		18 05 19.0	
CMAR	**Chiang Mai Arr**	**93.06**	**288**	P	**P**	**17 44 26.2**	**+1.2**
	comp=Z,2.4nm,0.8s,mb4.7,baz=129,slow=4.6,SNR=15						
CMAR	**Chiang Mai Arr**	**93.06**	**288**	⇑eP	**P**	**17 44 26.3**	**+1.3**
CD2	**Chengdu**	**93.31**	**302**	eP	**P**	**17 44 28.4**	**+2.5**
CD2				AP	pP	17 44 32.2	+0.9
CD2				XP	sP	17 44 35.8	+2.6
CD2				SKS		17 55 01.1	
CD2				S	S	17 55 33.7	+0.6
CD2				XS	sS	17 55 41.9	-0.1
CD2				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb5.3						
CD2				AMB	AMB		
	comp=Z,40nm,9.2s						
CD2				LR	LR		
	comp=N,150nm,18.4s						
CD2				LR	LR		
	comp=Z,130nm,16.2s,MS4.5						
LZH	**Lanzhou**	**95.11**	**306**	eP	**P**	**17 44 35.0**	**+1.0**
LZH				AP	pP	17 44 39.8	+0.4
LZH				XP	sP	17 44 42.2	+0.9
LZH				ePP	PP	17 48 28.7	+4.6
LZH				AMB	AMB		
	comp=Z,19nm,1.5s,mb5.3						
LZH				AMB	AMB		
	comp=Z,56nm,8.4s						
LZH				LR	LR		
	comp=N,149nm,17.9s						
LZH				LR	LR		
	comp=Z,173nm,19.8s,MS4.5						
LZH	**Lanzhou**	**95.11**	**306**	eP	**P**	**17 44 35.0**	**+1.0**
LZH				pP	pP	17 44 39.8	+0.4
LZH				sP	sP	17 44 42.2	+0.9
LZH				ePP	PP	17 48 28.7	+4.6
ULM	**Lac du Bonnet**	**98.17**	**39**	LR	LR	18 21 38.8	
	comp=Z,100nm,20.9s,MS4.3,baz=6.2,slow=31						
TIXI	**Tiksi**	**99.15**	**344**	eP	**P**	**17 44 49.6**	**-1.9**
TIXI				pmax	pmax		
	comp=Z,7.0nm,1.3s,mb5.0						
TLY	**Talaya**	**100.57**	**321**	eP	Pdif	17 44 59.3	+0.9
TLY				pmax	pmax		
	comp=Z,2.0nm,1.0s						
ZALV	**Zalesovo Beam**	**112.18**	**321**	PKiKP	PKiKP	17 49 44.5	-1.6
	comp=Z,0.6nm,0.4s,baz=226,slow=1.2,SNR=5.9						
MKAR	**Makanchi Array**	**113.26**	**313**	PKiKP	PKiKP	17 49 46.8	-1.5
	comp=Z,0.5nm,0.4s,baz=64,slow=1.7,SNR=6.9						
MKAR	**Makanchi Array**	**113.26**	**313**	⇑iPKIKP	PKiKP	17 49 46.7	-1.6
ARU	**Arti**	**126.65**	**326**	i PKIKP	PKPdf	17 50 12.9	-0.9
ARU						17 57 14.9	
ARCES	**ARCESS Array B**	**129.01**	**351**	PKP	PKPdf	17 50 16.8	-1.2
	comp=Z,2.0nm,0.5s,baz=24,slow=1.4,SNR=20						
AKASG	**Malin Array Be**	**144.11**	**334**	PKP	PKPdf	17 50 43.0	-3.3
	comp=Z,1.6nm,0.4s,baz=39,slow=4.3,SNR=14						
BSEG	**Bad Segeberg**	**145.95**	**355**	ePKPbc	PKPbc	17 50 50.2	+0.1
MALT	**Malatya**	**146.20**	**310**	⇓iP	PKiKP	17 50 57.2	+2.6
MALT	**Malatya**	**146.20**	**310**	⇓P	PKiKP	17 50 57.2	+2.6
STHS	**Stebnicka Huta**	**148.08**	**340**	ePKP	PKPab	17 50 57.2	-1.8
BURAR	**Bucovina Array**	**148.16**	**334**	⇓iP	PKPab	17 50 57.0	-2.4
BURAR	**Bucovina Array**	**148.16**	**334**	⇓P	PKPab	17 50 57.0	-2.4
KOLS	**Kolonicke sedl**	**148.16**	**339**	ePKP	PKPab	17 51 00.3	+0.9
CLL	**Collm**	**148.23**	**351**	ePKIKP	PKPdf	17 50 54.0	+0.7
CLL				i		17 50 56.0	
CLL				i		17 50 58.7	
CLL				i		17 51 10.5	
CLL	**Collm**	**148.23**	**351**	ePKPbc	PKPbc	17 50 56.4	-0.2
CLL	**Collm**	**148.23**	**351**	ePKPdf	PKPdf	17 50 54.0	+0.7
CLL				⇑iPKPbc	PKPbc	17 50 56.0	-0.6
	comp=Z,12nm,1.0s						
CLL				i PKPab	PKPab	17 50 58.7	-0.8
	comp=Z,6.0nm,0.8s						
CLL	**Collm**	**148.23**	**351**	ePKP	PKPdf	17 50 54.0	+0.7
CLL				⇑iPKP	PKPbc	17 50 56.0	-0.6
CLL				i PKP	PKPab	17 50 58.7	-0.8
CLL				i pPKP	pPKPdf	17 51 10.5	+12
CLL				i		17 51 12.0	
TLCR		**148.35**	**328**	⇑iP	PKPbc	17 50 56.3	-0.8
TLCR		**148.35**	**328**	⇑P	PKPbc	17 50 56.3	-0.8
UZH	**Uzhgorod**	**148.42**	**339**	ePKHKP	PKPdf	17 50 51.6	-2.1
CRVS	**Cervenica-Dubn**	**148.46**	**340**	ePKP	PKPbc	17 50 57.5	+0.2
UPC	**Upice**	**148.46**	**347**	ePKPbc	PKPbc	17 50 57.3	+0.1
UPC				ex	x	17 51 13.4	
BRG	**Berggiesshubel**	**148.50**	**350**	ePKPbc	PKPbc	17 50 57.3	0.0
BRG	**Berggiesshubel**	**148.50**	**350**	ePKP	PKPbc	17 50 56.9	-0.5
	comp=Z,8.9nm,1.1s						
BRG				e		17 51 11.0	
	comp=Z,5.3nm,0.9s						
DPC	**Dobruska-Polom**	**148.54**	**347**	ePKPbc	PKPbc	17 50 57.4	-0.1
DPC				ex	x	17 51 13.9	
FBE	**Freiberg**	**148.55**	**350**	ePKPbc	PKPbc	17 50 57.7	+0.2
BUG	**Bochum--Univer**	**148.62**	**358**	ePKPbc	PKPbc	17 50 57.3	-0.3
ODB	**Odobesti**	**148.78**	**330**	⇑iP	PKPbc	17 50 58.4	+0.2
ODB	**Odobesti**	**148.78**	**330**	⇑P	PKPbc	17 50 58.4	+0.1
VRI	**Vrincioaia**	**148.86**	**331**	⇑iP	PKPbc	17 50 57.6	-0.8
VRI	**Vrincioaia**	**148.86**	**331**	⇑P	PKPbc	17 50 57.6	-0.8
MOX	**Moxa**	**149.06**	**352**	ePKPbc	PKPbc	17 50 58.6	-0.2
HARR	**Harsova**	**149.15**	**328**	⇓iP	PKPbc	17 50 59.0	-0.2
HARR	**Harsova**	**149.15**	**328**	⇓P	PKPbc	17 50 59.0	-0.1
WERD	**Werda**	**149.17**	**351**	ePKPbc	PKPbc	17 50 59.1	+0.1
TANN	**Tannenbergstha**	**149.18**	**351**	ePKPbc	PKPbc	17 50 58.8	-0.3
GUNZ	**Gunzen**	**149.25**	**351**	ePKPbc	PKPbc	17 50 59.4	+0.2
PRU	**Pruhonice**	**149.25**	**349**	ePKPbc	PKPbc	17 50 59.2	-0.1
PRU				ex	x	17 51 12.4	
WERN	**Wernitzgruen**	**149.31**	**351**	ePKPbc	PKPbc	17 50 59.5	+0.1
NKC	**Novy Kostel**	**149.36**	**351**	ePKPbc	PKPbc	17 50 59.6	+0.1
VRAC	**Vranov**	**149.46**	**346**	⇑iP	PKPab	17 51 04.4	-0.2
VRAC	**Vranov**	**149.46**	**346**	⇑P	PKPab	17 51 04.4	-0.2
MEM	**Membach**	**149.48**	**359**	PKPbc	PKPbc	17 50 59.2	-0.7
MLR	**Muntele Rosu**	**149.51**	**331**	⇑iP	PKPbc	17 50 59.5	-0.5
MLR	**Muntele Rosu**	**149.51**	**331**	⇑P	PKPbc	17 50 59.5	-0.6
VYHS	**Vyhne**	**149.63**	**342**	i PKP	PKPbc	17 51 00.0	-0.2
MANZ	**Manzenberg**	**149.65**	**352**	ePKPbc	PKPbc	17 51 00.3	+0.1
TREC	**Trest**	**149.72**	**347**	ePKPbc	PKPbc	17 51 00.2	-0.2
TREC				ex	x	17 51 14.4	
TNS	**Taunus Mts**	**149.78**	**356**	ePKPbc	PKPbc	17 51 00.6	0.0
DRGR		**149.82**	**336**	⇓iP	PKPbc	17 51 00.5	-0.3
DRGR		**149.82**	**336**	⇓P	PKPbc	17 51 00.5	-0.3
ROTZ	**Rotzenmuhle**	**149.85**	**351**	ePKPbc	PKPbc	17 51 01.0	+0.3
VOIR		**149.95**	**332**	⇑iP	PKPbc	17 51 01.1	0.0
GIVF	**Givet**	**149.99**	**1**	ePKP1	PKPbc	17 51 00.5	-0.6
DOU	**Dourbes**	**149.99**	**1**	PKPbc	PKPbc	17 51 00.6	-0.5
BAIF	**Baives**	**150.02**	**2**	ePKP1	PKPbc	17 51 00.8	-0.3
	comp=Z,44nm,1.3s						
GRA1	**Grafenberg Arr**	**150.05**	**353**	ePKPbc	PKPbc	17 51 01.6	+0.4
GRF	**Grafenberg Arr**	**150.05**	**353**	ePKPbc	PKPbc	17 51 01.6	+0.4
MODS	**Modra-Piesok**	**150.16**	**344**	i PKP	PKPbc	17 51 02.2	+0.6
KHC	**Kasperske Hory**	**150.25**	**349**	ePKPbc	PKPbc	17 51 01.4	-0.3
KHC				ex	x	17 51 16.1	
WET	**Wettzell**	**150.35**	**350**	ePKPbc	PKPbc	17 51 01.9	-0.1
WLF	**Walferdange**	**150.42**	**359**	PKPbc	PKPbc	17 51 02.7	+0.5
WLF	**Walferdange**	**150.42**	**359**	ePKPbc	PKPbc	17 51 02.6	+0.5
GEC2	**GERESS Array S**	**150.50**	**349**	ePKPbc	PKPbc	17 51 02.3	0.0
GERES	**GERESS Array B**	**150.50**	**349**	PKPbc	PKPbc	17 51 02.1	-0.2
	comp=Z,4.3nm,0.9s,baz=45,slow=2.1,SNR=27						
ROSF	**Rostrenen**	**150.88**	**12**	ePKP1	PKPbc	17 51 02.0	-1.3
	comp=Z,23nm,1.1s						
CONA	**Conrad Observa**	**150.93**	**346**	⇑iPKiKP	PKiKP	17 51 03.2	-0.8
	comp=Z,7.0nm,0.8s						
FLN	**La Foliniere**	**150.93**	**8**	ePKP1	PKPbc	17 51 02.4	-1.0
	comp=Z,19nm,0.6s						
GZR	**Gura Zlata**	**150.95**	**334**	⇓iP	PKPbc	17 51 02.9	-0.6
GZR	**Gura Zlata**	**150.95**	**334**	⇓P	PKPbc	17 51 02.9	-0.6
SGMF	**Saint Gilles**	**151.10**	**11**	ePKP1	PKPbc	17 51 02.5	-1.3
	comp=Z,30nm,0.9s						
LDF	**La Druitiere**	**151.14**	**8**	ePKP1	PKPbc	17 51 02.7	-1.2
	comp=Z,37nm,1.0s						
BZS	**Buzias**	**151.22**	**336**	⇑iP	PKPbc	17 51 03.4	-0.7
BZS	**Buzias**	**151.22**	**336**	⇑P	PKPbc	17 51 03.4	-0.8
GRR	**Gorron**	**151.25**	**9**	ePKP1	PKPbc	17 51 03.1	-1.0
	comp=Z,37nm,0.7s						
QUIF	**Quistinic**	**151.31**	**12**	ePKP1	PKPbc	17 51 03.0	-1.3
	comp=Z,17nm,0.9s						
MOA	**Molln**	**151.35**	**348**	⇑iPKPbc	PKPbc	17 51 03.4	-0.9
	comp=Z,3.8nm,0.8s						
CDF	**Champ du Feu**	**151.65**	**357**	ePKP1	PKPbc	17 51 04.4	-0.6
	comp=Z,16nm,0.9s						
BFO	**Black Forest**	**151.67**	**356**	ePKPbc	PKPbc	17 51 04.9	-0.2
RJOB	**Jochberg**	**151.73**	**350**	ePKPbc	PKPbc	17 51 04.8	-0.4
RJOB				ePKPab	PKPab	17 51 13.8	-0.2
PKSM	**Moragy**	**151.74**	**341**	⇑iP	PKPbc	17 51 04.2	-1.1
PKSM	**Moragy**	**151.74**	**341**	⇑P	PKPbc	17 51 04.2	-1.1
HAU	**Haudompre**	**152.08**	**359**	ePKP1	PKPbc	17 51 05.2	-0.8
	comp=Z,14nm,0.8s						
HINF	**Hinteralfeld**	**152.26**	**358**	ePKP1	PKPbc	17 51 05.4	-1.0
	comp=Z,5.8nm,0.7s						
KBA	**Koelnbreinsper**	**152.27**	**348**	⇑iPKiKP	PKiKP	17 51 06.0	-0.7
	comp=Z,4.2nm,0.7s						
WTTA	**Wattenberg**	**152.37**	**351**	⇑iPKiKP	PKiKP	17 51 06.1	-0.9
	comp=Z,9.2nm,0.6s						
ABTA	**Abfaltersbach**	**152.74**	**349**	⇑iPKPbc	PKPbc	17 51 06.2	-1.3
	comp=Z,4.9nm,0.6s						
FETA	**Feichten**	**152.74**	**352**	⇑iPKiKP	PKiKP	17 51 07.2	-0.6
	comp=Z,5.0nm,0.9s						
LOR	**Lormes**	**152.79**	**2**	ePKP1	PKPbc	17 51 06.9	-0.8
SSF	**Saint Saulge**	**152.99**	**3**	ePKP1	PKPbc	17 51 07.5	-0.6
	comp=Z,14nm,0.9s						
MFF	**Saint Martin d**	**153.09**	**9**	ePKP1	PKPbc	17 51 07.3	-1.0
BGF	**Bois d'Agland**	**153.45**	**4**	ePKP1	PKPbc	17 51 08.2	-0.9
	comp=Z,13nm,0.7s						
CABF	**La Chapelle**	**153.48**	**359**	ePKP1	PKPbc	17 51 07.6	-1.6
TORD	**Torodi Ar. Bea**	**172.25**	**151**	PKP	PKPdf	17 51 18.1	-2.5
	comp=Z,0.7nm,0.8s,baz=225,slow=1.9,SNR=3.5						
TORD				PKPab	PKPab	17 52 43.4	-0.8
	comp=Z,1.2nm,1.0s,baz=192,slow=3.9,SNR=3.9						

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*IDC **01** 17:41:12.8±1.8, 46.40N×153.62E, h0km, mb3.7/3, mb1 3.8/5, mb1mx3.5/23, mbtmp3.7/5, ML3.2/2, Error ellipse: s-maj=57.3km s-min=29.6km az=110.0*
*ISCJB **01** 17:41:19.2±2.1, 46.4N±0.2×153.1E±0.3, h56km±16km, mb3.7/3, Error ellipse: s-maj=41.1km s-min=10.5km az=40.4*
*MOS **01** 17:41:19.8±0.9, 46.51N×153.00E, h64km, mb4.5/1, Error ellipse: s-maj=30.3km s-min=21.3km az=60.2*
ISC 01 17:41:21.5±1.9**, 46.4N**±0.2×**153.1E**±0.3**, h60**km±14km**, n12, σ0.90**/13**, mb3.7**/3**, Kuril Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**3.83**	**254**	ePN	**Pn**	**17 42 10.5**	**-7.4**
KUR				pmax	pmax		
	comp=Z,110nm,0.8s						
SKR	**Severo-Kuril's**	**4.72**	**24**	ePN	**Pn**	**17 42 29.0**	**-1.0**
SKR				eS	**Sn**	**17 43 24.0**	**+0.6**
SKR				pmax	pmax		
	comp=N,30nm,0.5s						
SKR				pmax	pmax		
	comp=Z,40nm,0.5s						
SKR				smax			
	comp=E,40nm,0.6s						
SKR				smax			
	comp=Z,30nm,0.6s						
YUK	**Yuzh-Kuril'sk**	**5.63**	**248**	PN	**Pn**	**17 42 42.0**	**-0.5**
PETK	**Petropavlovsk-**	**7.33**	**22**	Pn	**Pn**	**17 43 00.3**	**-5.5**
	comp=Z,0.1nm,0.3s,baz=241,slow=11,SNR=4.2						
ASAJ	**Asahikawa**	**7.75**	**256**	Pn	**Pn**	**17 43 12.6**	**+1.1**
	comp=Z,0.6nm,0.3s,baz=86,slow=15,SNR=6.2						
ASAJ	**Asahikawa**	**7.75**	**256**	PN	**Pn**	**17 43 12.6**	**+1.1**
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
KURK	**Kurchatov**	**47.53**	**304**	i P	**P**	**17 49 48.8**	**-1.7**
NB2	**NORSAR Subarra**	**68.53**	**341**	P	**P**	**17 52 18.2**	**+1.1**
	comp=Z,0.6nm,0.5s,mb3.8,baz=29,slow=6.5						
NOA	**NORSAR Array B**	**68.53**	**341**	P	**P**	**17 52 17.7**	**+0.6**
	comp=Z,0.4nm,0.5s,mb3.6,baz=28,slow=6.3,SNR=3.9						
AKASG	**Malin Array Be**	**71.81**	**326**	P	**P**	**17 52 37.7**	**+0.3**
	comp=Z,1.2nm,0.4s,mb4.2,baz=33,slow=6.5,SNR=4.1						
AKASG	**Malin Array Be**	**71.81**	**326**	P	**P**	**17 52 37.7**	**+0.4**
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.4s						
ASAR	**Alice Springs**	**71.89**	**198**	P	**P**	**17 52 38.2**	**+0.2**
	comp=Z,0.2nm,0.7s,mb3.2,baz=0.8,slow=6.5,SNR=4.0						

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*CSEM **01** 18:09:01.9±0.4, 38.43N×39.33E, h2km, MD2.8, Error ellipse: s-maj=9.1km s-min=7.3km az=95.0*
*ISK **01** 18:09:02.3, 38.44N×39.24E, h5km, MD2.8*
*DDA **01** 18:09:02.2, 38.40N×39.32E, h7km±5km, Md2.7*
*ISCJB **01** 18:09:03.1±0.6, 38.40N±0.04×39.28E±0.05, h8km±5km, Error ellipse: s-maj=8.2km s-min=5.7km az=39.8*
ISC 01 18:09:03.4±0.6**, 38.40N**±0.04×**39.28E**±0.05**, h8**km±5km**, n8, σ0.74**/14**, Turkey**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SVRC	**Sivrice-ELAZID**	**0.03**	**142**	PG	**Pg**	**18 09 04.4**	**-0.5**
SVRC				SG	**Sg**	**18 09 05.7**	**-0.3**
ELZG	**Elazig**	**0.25**	**292**	i P	**Pg**	**18 09 08.7**	**+0.2**
ELZG				i S	**Sg**	**18 09 12.0**	**+0.1**
PTK	**Pertek**	**0.50**	**10**	ePG	**Pg**	**18 09 12.3**	**-0.8**
PTK				eSG	**Sg**	**18 09 20.5**	**+1.0**
MYA	**Malataya**	**0.68**	**264**	ePG	**Pg**	**18 09 15.7**	**-0.8**
DIYA	**Diyarbakir**	**0.81**	**126**	i P	**Pg**	**18 09 18.6**	**-0.5**
DIYA				i S	**Sg**	**18 09 30.6**	**+1.0**
URFA	**Urfa**	**1.03**	**201**	ePG	**Pg**	**18 09 24.4**	**+1.2**
AKCD	**Akcadag**	**1.07**	**265**	i P	**Pg**	**18 09 23.6**	**-0.5**
AKCD				i S	**Sg**	**18 09 41.7**	**+3.7**
MARD	**Mardin**	**1.61**	**132**	i P	**Pn**	**18 09 32.0**	**-0.1**
MARD				i S	**Sn**	**18 09 52.5**	**-0.5**

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*IDC **01** 18:16:14.9±2.9, 1.96S×100.28E, h0km, mb3.9/7, mb1 4.1/7, mb1mx3.8/19, mbtmp3.9/7, Error ellipse: s-maj=123.1km s-min=17.3km az=59.0*
*ISCJB **01** 18:16:18.3±1.9, 1.8S±0.3×100.4E±0.5, h33km, mb4.1/7, Error ellipse: s-maj=82.6km s-min=14.0km az=148.2*
*NEIC **01** 18:16:20.4±1.3, 1.89S×100.39E, h35km, mb4.3/1, Error ellipse: s-maj=57.4km s-min=9.9km az=58.0*
ISC 01 18:16:20.6±1.8**, 1.9S**±0.3×**100.4E**±0.5**, h35**km**, n9, σ0.42**/9**, mb4.1**/7**, Southern Sumatera**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**20.27**	**356**	P	**P**	**18 20 53.4**	**+0.1**
	1.7nm,0.6s,baz=186,slow=9.8,SNR=14						
WRA	**Warramunga Arr**	**37.70**	**121**	P	**P**	**18 23 32.6**	**-0.4**
	0.9nm,0.4s,mb3.9,baz=305,slow=9.1,SNR=19						
ASAR	**Alice Springs**	**38.99**	**126**	P	**P**	**18 23 44.1**	**+0.3**
	0.7nm,0.4s,mb3.7,baz=302,slow=8.3,SNR=25						
STKA	**Stephens Creek**	**48.92**	**132**	P	**P**	**18 25 03.6**	**+0.2**
	1.0nm,0.6s,mb4.0,baz=318,slow=14,SNR=3.3						
SONM	**Songino Array**	**49.79**	**5**	P	**P**	**18 25 10.2**	**+0.4**
	0.9nm,0.4s,mb4.1,baz=187,slow=10,SNR=9.0						
TKM2	**Tokmak 2**	**49.89**	**336**	eP	**P**	**18 25 11.1**	**+0.5**
	1.1nm,0.3s,mb4.4						
MKAR	**Makanchi Array**	**51.03**	**344**	P	**P**	**18 25 19.3**	**+0.2**
	2.2nm,0.6s,mb4.3,baz=150,slow=8.1,SNR=23						
ZAA0	**Zalesovo Array**	**57.13**	**349**	eP	**P**	**18 26 02.9**	**-0.7**
ZALV	**Zalesovo Beam**	**57.13**	**349**	P	**P**	**18 26 03.0**	**-0.6**
	1.1nm,0.3s,mb4.3,baz=174,slow=5.1,SNR=14						

KRSC 01 18:16:25.9±0.7**, 53.62N×160.76E, h24**km±24km**, ML3.9, Near east coast of Kamchatka Peninsula**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SPN	**Mys Shipunski**	**0.69**	**220**	eP	Pb	18 16 39.9	+0.8
SPN				i S	Sb	18 16 49.7	+1.5
KII	**Karymskiy**	**0.88**	**299**	eP	Pb	18 16 43.0	+0.5
KII				i S	Sb	18 16 54.6	+0.8
NLC	**Nalytchevo**	**0.96**	**243**	eP	Pb	18 16 43.9	+0.1
NLC				i S	Sb	18 16 56.5	+0.5
MKZ	**Mys Kozlova**	**1.10**	**31**	eP	Pn	18 16 45.9	+0.2
MKZ				i S	Sb	18 16 59.7	-0.4
AVH	**Avacha**	**1.26**	**254**	eP	Pn	18 16 49.0	+1.0
AVH				i S	Sn	18 17 05.7	+1.6
PET	**Petropavlovsk**	**1.40**	**246**	eP	Pn	18 16 50.0	+0.2
PET				i S	Sn	18 17 07.8	+0.3
GNL	**Ganaly**	**1.68**	**274**	eP	Pn	18 16 54.9	+1.2
RUS	**Russkaya**	**1.80**	**230**	eP	Pn	18 16 56.3	+0.9
RUS				i S	Sn	18 17 18.9	+1.4
KMNR	**Kamenistaya**	**2.16**	**352**	eP	Pn	18 17 02.4	+2.0
BZMR	**Bezymyannaya**	**2.33**	**356**	eP	Pn	18 17 04.5	+1.9
BZWR	**Bezymyannyi-We**	**2.35**	**356**	eP	Pn	18 17 05.5	+2.5
KPT	**Kopyto**	**2.37**	**353**	eP	Pn	18 17 05.3	+2.1
KOZ	**Kozyrevsk**	**2.50**	**349**	eP	Pn	18 17 06.6	+1.7
SRDR	**Sredinnyy**	**2.77**	**348**	eP	Pn	18 17 09.9	+1.2

IDC 01 18:34:49.8±5.6**, 8.33S×156.15E, h0**km**, mb3.7**/3**, mb1 3.9**/3**, mb1mx3.5**/15**, mbtmp3.7**/3**, MS3.2**/2**, Ms1 3.2**/2**, ms1mx2.7**/29**, Error ellipse: s-maj=96.0km s-min=76.0km az=4.0, Bougainville - Solomon Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.06**	**239**	P	P	18 40 06.8	-0.2
	0.9nm,0.8s,baz=65,slow=9.5,SNR=5.7						
WRA				LR	LR	18 47 59.4	
	comp=Z,45nm,21.2s,baz=265,slow=33						
ASAR	**Alice Springs**	**26.20**	**232**	P	P	18 40 26.2	-0.2
	1.3nm,0.8s,baz=61,slow=10.0,SNR=12						
STKA	**Stephens Creek**	**27.06**	**208**	P	P	18 40 34.6	+0.6
	2.4nm,0.9s,baz=31,slow=15,SNR=6.5						
AFI	**Afiamalu**	**31.93**	**103**	LR	LR	18 52 33.3	
	comp=Z,59nm,19.1s,baz=166,slow=33						

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*ISCJB **01** 18:35:14.1±1.5, 35.3N±0.1×27.85E±0.05, h1km±9km, Error ellipse: s-maj=17.6km s-min=6.9km az=170.9*
*DDA **01** 18:35:14.4, 35.07N×27.74E, h22km, Md3.1*
*CSEM **01** 18:35:15.8±0.2, 35.35N×27.88E, h5km, MD3.1, Error ellipse: s-maj=5.1km s-min=2.2km az=159.0*
*NEIC **01** 18:35:20.1, 35.87N×27.48E, h5km, MD3.1(ATH), After ATH.*
*ATH **01** 18:35:20.1, 35.87N×27.48E, h5km, MD3.1/5*
ISC 01 18:35:15.1±1.5**, 35.3N**±0.1×**27.84E**±0.06**, h5**km±8km**, n14, σ0.69**/20**, Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KARP	**Karpathos**	**0.62**	**297**	ePg	**Pg**	**18 35 27.5**	**+0.4**
KARP				eSb	**Sg**	**18 35 35.2**	**0.0**
KARP	**Karpathos**	**0.62**	**297**	ePG	**Pg**	**18 35 27.5**	**+0.4**
KARP				eSB	**Sg**	**18 35 35.2**	**0.0**
ARG	**Arkhangelos**	**0.98**	**14**	ePb	**Pg**	**18 35 32.6**	**-1.3**
ARG	**Arkhangelos**	**0.98**	**14**	ePB	**Pg**	**18 35 32.6**	**-1.3**
AKAS	**Kas**	**1.73**	**55**	i P	**Pn**	**18 35 45.8**	**-0.1**
AKAS				i S	**Sg**	**18 36 11.6**	**+0.8**
NPS	**Neapolis**	**1.82**	**271**	ePg	**Pg**	**18 35 50.4**	**+0.4**
NPS	**Neapolis**	**1.82**	**271**	ePG	**Pg**	**18 35 50.4**	**+0.4**
BDRM	**Kayabasi**	**1.83**	**350**	i P	**Pn**	**18 35 47.1**	**-0.1**
BDRM				i S	**Sn**	**18 36 11.8**	**+1.0**
AYDN	**Tasoluk**	**2.39**	**1**	i P	**Pn**	**18 35 55.1**	**+0.1**
AYDN				i S	**Sn**	**18 36 24.6**	**-0.1**
AYDN	**Tasoluk**	**2.39**	**1**	i P	**Pn**	**18 35 55.1**	**+0.1**
AYDN				i S	**Sn**	**18 36 24.5**	**-0.2**
SMG	**Samos**	**2.57**	**342**	ePn	**Pn**	**18 35 56.0**	**-1.4**
SMG	**Samos**	**2.57**	**342**	ePN	**Pn**	**18 35 56.0**	**-1.4**
APE	**Apeiranthos**	**2.60**	**315**	ePn	**Pn**	**18 35 57.9**	**+0.1**
APE	**Apeiranthos**	**2.60**	**315**	ePN	**Pn**	**18 35 57.9**	**+0.1**

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*BJI **01** 18:35:11.5, 0.08N×96.99E, h39km, mB5.0, mb4.7*
*IDC **01** 18:35:12.6±1.3, 0.72N×96.94E, h0km, mb4.0/10, mb1 4.1/11, mb1mx3.9/21, mbtmp4.0/11, ML4.2/1, Error ellipse: s-maj=49.1km s-min=15.7km az=59.0*
*NEIC **01** 18:35:17.9±0.6, 0.73N×97.00E, h35km, mb4.2/2, Error ellipse: s-maj=26.2km s-min=6.7km az=59.0*
*ISCJB **01** 18:35:18.5±6.6, 0.8N±0.2×97.1E±0.3, h56km±55km, mb4.1/15, Error ellipse: s-maj=52.2km s-min=12.1km az=147.8*
ISC 01 18:35:20.0±6.3**, 0.8N**±0.2×**97.1E**±0.3**, h52**km±54km**, n21, σ0.59**/21**, mb4.1**/15**, Northern Sumatera**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**17.67**	**6**	P	**Pn**	**18 39 22.1**	**-0.5**
	0.3nm,0.3s,baz=196,slow=11,SNR=25						
KMI	**Kunming**	**24.82**	**12**	P	**P**	**18 40 38.3**	**+0.9**
KMI				AMB	AMB		
	comp=Z,11nm,1.1s,mb4.3						
SHL	**Shillong**	**25.16**	**349**	eP	**P**	**18 40 41.0**	**+0.5**
LSA	**Lhasa**	**29.32**	**349**	P	**P**	**18 41 18.5**	**+0.7**
LSA	**Lhasa**	**29.32**	**349**	eP	**P**	**18 41 18.6**	**+0.8**
	comp=Z,5.3nm,0.8s,mb4.3						
FITZ	**Fitzroy Crossi**	**33.78**	**125**	P	**P**	**18 41 57.0**	**-0.2**
	comp=Z,1.5nm,0.9s,mb3.9,baz=288,slow=16,SNR=5.1						
LZH	**Lanzhou**	**35.70**	**9**	eP	**P**	**18 42 17.0**	**+3.5**
LZH				AP	pP	18 42 21.3	-5.6
LZH				AMB	AMB		
	comp=Z,17nm,1.2s,mb4.8						
LZH				AMB	AMB		
	comp=Z,69nm,4.4s						
GTA	**Gaotai**	**38.54**	**3**	eP	**P**	**18 42 36.4**	**-1.1**
GTA				AMB	AMB		
	comp=Z,2.0nm,0.8s,mb3.9						
WRA	**Warramunga Arr**	**41.92**	**121**	P	**P**	**18 43 05.6**	**-0.3**
	comp=Z,1.8nm,0.6s,mb3.9,baz=303,slow=9.0,SNR=18						
WB2	**Warramunga Arr**	**41.93**	**121**	eP	**P**	**18 43 05.6**	**-0.3**
ASAR	**Alice Springs**	**43.24**	**127**	P	**P**	**18 43 16.6**	**+0.1**
	comp=Z,1.8nm,0.9s,mb3.8,baz=300,slow=7.8,SNR=19						
KSRS	**Korea Array**	**46.27**	**34**	P	**P**	**18 43 40.2**	**-0.2**
	comp=Z,1.4nm,0.8s,mb3.9,baz=221,slow=9.0,SNR=12						
SONM	**Songino Array**	**47.57**	**9**	P	**P**	**18 43 50.5**	**+0.2**
	comp=Z,1.2nm,0.7s,mb4.1,baz=188,slow=9.8,SNR=11						
MK31	**Makanchi Array**	**47.62**	**346**	eP	**P**	**18 43 50.8**	**-0.1**
MKAR	**Makanchi Array**	**47.62**	**346**	P	**P**	**18 43 50.9**	**+0.1**
	comp=Z,3.1nm,0.5s,mb4.6,baz=163,slow=8.7,SNR=36						
KURK	**Kurchatov**	**52.17**	**345**	eP	**P**	**18 44 24.7**	**-0.5**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
	comp=Z,2.3nm,0.9s,mb4.1						
STKA	**Stephens Creek**	**53.16**	**132**	P	**P**	**18 44 33.8**	**+0.8**
	comp=Z,1.3nm,0.6s,mb4.0,baz=293,slow=9.2,SNR=5.3						
ZAA0	**Zalesovo Array**	**53.96**	**351**	*e*P	**P**	**18 44 38.2**	**-0.1**
ZALV	**Zalesovo Beam**	**53.96**	**351**	P	**P**	**18 44 38.3**	**-0.1**
	comp=Z,5.4nm,0.5s,mb4.7,baz=178,slow=6.3,SNR=32						
ARCES	**ARCESS Array B**	**82.89**	**340**	P	**P**	**18 47 38.0**	**-0.7**
	comp=Z,1.3nm,0.9s,mb4.0,baz=91,slow=4.9,SNR=7.2						
GERES	**GERESS Array B**	**85.05**	**319**	P	**P**	**18 47 50.3**	**+0.2**
	comp=Z,0.6nm,0.8s,mb3.8,baz=148,slow=6.0,SNR=3.6						

*ISCJB **01** 18:35:49.0±0.4, 4935N±002×680E±003, h0km, Error ellipse: s-maj=3.2km s-min=2.5km az=12.4*
*LDG **01** 18:35:50.6±0.1, 4937N×687E, h1km, Md2.5/1, Ml2.5/8, Error ellipse: s-maj=1.4km s-min=1.1km az=101.0, Suspected Mining induced.*
*BGR **01** 18:35:50.3±0.5, 4934N×682E, h1km, ML1.7/2, Error ellipse: s-maj=7.8km s-min=4.4km az=35.0*
*NEIC **01** 18:35:50.6, 4937N×687E, h1km, ML1.8(STR), ML2.5(LDG), After LDG.*
*CSEM **01** 18:35:50.6±0.1, 4937N×686E, h1km, ML2.5/7, Error ellipse: s-maj=1.4km s-min=1.1km az=99.0*
ISC 01 18:35:50.0±0.4**, 4936N**±002×**681E**±003**, h0km, n26, σ0s73**/49**, Germany**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
RUP	**Ruppelstein**	**0.38**	**25**	Pg	**Pg**	**18 35 57.2**	**0.0**
RUP				Sg	**Sg**	**18 36 02.1**	**-0.1**
WLF	**Walferdange**	**0.53**	**306**	*e*Pg	**Pg**	**18 36 00.9**	**+0.9**
	SNR=1.4						
WLF				*e*Sg	**Sg**	**18 36 06.9**	**0.0**
ABH	**Alteburg**	**0.71**	**42**	Pg	**Pg**	**18 36 03.5**	**-0.1**
ABH				Sg	**Sg**	**18 36 13.6**	**+0.8**
LANF	**Langenberg**	**0.76**	**120**	Pg	**Pg**	**18 36 04.4**	**0.0**
CDF	**Champ du Feu**	**1.00**	**162**	*e*Pn	**Pn**	**18 36 10.0**	**-1.2**
CDF				*e*Sg	**Sg**	**18 36 22.2**	**+0.3**
	8.1nm,0.2s						
CDF	**Champ du Feu**	**1.00**	**162**	*e*Pn	**Pn**	**18 36 10.0**	**-1.2**
CDF				*e*Sg	**Sg**	**18 36 22.2**	**+0.3**
	4.1nm,0.2s						
CDF	**Champ du Feu**	**1.00**	**162**	*e*Pg	**Pg**	**18 36 09.6**	**+0.6**
CDF				*e*Pn	**Pn**	**18 36 10.0**	**-1.2**
CDF				*e*Sg	**Sg**	**18 36 22.2**	**+0.3**
RFYF	**Reffroy**	**1.14**	**231**	*e*Pn	**Pn**	**18 36 13.0**	**-0.2**
	baz=61						
RFYF				*e*Sn	**Sn**	**18 36 28.6**	**-0.9**
	23nm,0.3s						
RFYF	**Reffroy**	**1.14**	**231**	*e*Pn	**Pn**	**18 36 13.0**	**-0.2**
RFYF				*e*Sn	**Sn**	**18 36 28.6**	**-0.9**
	12nm,0.3s						
ECH	**Echery**	**1.17**	**168**	Pg	**Pg**	**18 36 12.9**	**+0.6**
ECH				Sg	**Sg**	**18 36 28.3**	**+0.9**
THEF	**They Montfort**	**1.26**	**206**	Pg	**Pg**	**18 36 13.4**	**-0.6**
THEF				Sg	**Sg**	**18 36 30.8**	**+0.5**
TNS	**Taunus Mts**	**1.37**	**50**	*e*Pg	**Pg**	**18 36 16.6**	**+0.4**
	SNR=1.1						
TNS				*e*Sg	**Sg**	**18 36 33.7**	**-0.2**
HAU	**Haudompre**	**1.39**	**193**	*e*Pg	**Pg**	**18 36 16.6**	**+0.1**
HAU				*e*Sg	**Sg**	**18 36 35.5**	**+1.0**
	8.9nm,0.2s						
HAU	**Haudompre**	**1.39**	**193**	*e*Pg	**Pg**	**18 36 16.6**	**+0.1**
HAU				*e*Sg	**Sg**	**18 36 35.5**	**+1.0**
	4.4nm,0.2s						
BFO	**Black Forest**	**1.44**	**135**	*e*Pg	**Pg**	**18 36 17.6**	**+0.1**
	SNR=2.2						
BFO				*e*Sg	**Sg**	**18 36 34.9**	**-1.2**
GIVF	**Givet**	**1.49**	**301**	*e*Sg	**Sg**	**18 36 38.6**	**+0.9**
	6.6nm,0.3s						
GIVF	**Givet**	**1.49**	**301**	*e*Sg	**Sg**	**18 36 38.6**	**+0.9**
	3.3nm,0.3s						
MOF	**Molkenrain**	**1.52**	**172**	Pg	**Pg**	**18 36 19.4**	**+0.3**
MOF				Sg	**Sg**	**18 36 39.6**	**+0.7**
HINF	**Hinteralfeld**	**1.54**	**179**	*e*Pg	**Pg**	**18 36 19.4**	**-0.1**
HINF				*e*Sg	**Sg**	**18 36 39.5**	**0.0**
	8.9nm,0.2s						
HINF	**Hinteralfeld**	**1.54**	**179**	*e*Pg	**Pg**	**18 36 19.4**	**-0.1**
HINF				*e*Sg	**Sg**	**18 36 39.5**	**0.0**
	4.4nm,0.2s						
SFTF	**Sexfontaines**	**1.65**	**226**	*e*Sg	**Sg**	**18 36 43.9**	**+1.1**
	3.8nm,0.2s,baz=46						
SFTF	**Sexfontaines**	**1.65**	**226**	*e*Sg	**Sg**	**18 36 43.9**	**+1.1**
	1.9nm,0.2s						
BAIF	**Baives**	**1.83**	**294**	*e*Pn	**Pn**	**18 36 21.8**	**-0.8**
BAIF				*e*Pg	**Pg**	**18 36 25.1**	**+0.1**
LOR	**Lormes**	**2.87**	**224**	*e*Pn	**Pn**	**18 36 36.1**	**-0.8**
	baz=42						
LOR				*e*Sn	**Sn**	**18 37 10.0**	**-2.2**
	baz=45						
LOR				*e*Sg	**Sg**	**18 37 22.4**	**+0.2**
	2.1nm,0.3s,baz=43						
LOR	**Lormes**	**2.87**	**224**	*e*Pn	**Pn**	**18 36 36.1**	**-0.8**
LOR				*e*Sn	**Sn**	**18 37 10.0**	**-2.2**
LOR				*e*Sg	**Sg**	**18 37 22.4**	**+0.2**
	1.0nm,0.3s						
SMF	**Signal de Mont**	**3.37**	**217**	*e*Pn	**Pn**	**18 36 42.4**	**-1.4**

*CSEM **01** 19:02:19.2, 6467N×1741W, h2km, ML3.5, After REY*
REY 01 19:02:19.2, 6467N×1741W, h2km, ML3.5, ML2.9, Iceland

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
IGRF	**Grimsfjall**	**0.27**	**166**	P	Pg	19 02 24.6	+0.2
IGRF				S	Sg	19 02 29.3	+1.5
ISKR	**Skrokkalda**	**0.43**	**256**	P	Pg	19 02 27.4	-0.1
ISKR				S	Sg	19 02 33.7	+0.6
IBRU	**Bruarjokull**	**0.59**	**74**	P	Pg	19 02 30.1	-0.4
IBRU				S	Sg	19 02 38.5	+0.4
ISVA	**Svartarkot**	**0.67**	**6**	P	Pg	19 02 31.4	-0.7
ISVA				S	Sg	19 02 40.6	-0.2
IHVA	**Hvannstoosfjol**	**0.72**	**66**	P	Pg	19 02 32.2	-0.8
IHVA				S	Sg	19 02 42.2	-0.1
IKAL	**Kalfafell**	**0.73**	**189**	P	Pg	19 02 32.5	-0.7
IKAL				S	Sg	19 02 42.9	+0.2
IVSH	**V-Sauoahnukur**	**0.74**	**78**	P	Pg	19 02 32.5	-0.8
IVSH				S	Sg	19 02 42.6	-0.2
IVAT	**Vatnsfell**	**0.81**	**234**	P	Pg	19 02 34.0	-0.7
IVAT				S	Sg	19 02 45.2	0.0
IADA	**Aoalbol**	**0.86**	**65**	P	Pg	19 02 34.5	-1.2
IADA				S	Sg	19 02 46.2	-0.6
IFAG	**Fagurholsmyri**	**0.86**	**157**	P	Pg	19 02 34.6	-1.1
IFAG				S	Sg	19 02 47.1	+0.2
IREN	**Reynihlio**	**1.00**	**12**	P	Pg	19 02 37.0	-1.4
IREN				S	Sg	19 02 50.5	-0.9
IGLU	**Glumsstadir**	**1.04**	**72**	P	Pg	19 02 37.5	-1.7
IGLU				S	Sg	19 02 51.6	-1.1
IKVO	**Krokottuvotn**	**1.07**	**12**	P	Pg	19 02 38.0	-1.7
IKVO				S	Sg	19 02 52.4	-1.2
ISNB	**Snabyli**	**1.08**	**210**	P	Pg	19 02 38.2	-1.6
ISNB				S	Sg	19 02 53.0	-0.7
IGRS	**Grimsstaoir**	**1.11**	**29**	P	Pg	19 02 38.8	-1.7
IGRS				S	Sg	19 02 54.3	-0.7
IGRA	**Granastaoir**	**1.26**	**357**	P	Pg	19 02 40.8	-2.4
IGRA				S	Sg	19 02 57.3	-2.2
IGYG	**Gygjarholskot**	**1.27**	**253**	P	Pg	19 02 41.2	-2.4
IGYG				S	Sg	19 02 58.1	-2.0
IHVO	**Lagu-Hvolar**	**1.31**	**209**	P	Pg	19 02 42.4	-1.8
IHVO				S	Sg	19 03 00.0	-1.2
IHAU	**Haukadalur**	**1.31**	**239**	P	Pg	19 02 42.0	-2.4
IHAU				S	Sg	19 02 58.6	-2.8
IHLA	**Hella**	**1.34**	**343**	P	Pg	19 02 42.6	-2.3
IHLA				S	Sg	19 03 00.0	-2.3
IHED	**Heoinshofoi**	**1.42**	**2**	P	Pn	19 02 43.4	-2.6
IHED				S	Sg	19 03 02.4	-2.3
IESK	**Eystri-Skogar**	**1.46**	**219**	P	Pn	19 02 44.3	-2.2
IESK				S	Sg	19 03 03.3	-2.6
ISAU	**Saurbar**	**1.47**	**244**	P	Pn	19 02 44.3	-2.4
ISAU				S	Sb	19 03 03.8	-2.6
IBRE	**Brettingsstaoi**	**1.48**	**352**	P	Pn	19 02 44.3	-2.5
IBRE				S	Sb	19 03 03.6	-2.9
IGIL	**Gilhagi**	**1.48**	**17**	P	Pn	19 02 44.5	-2.4
IGIL				S	Sb	19 03 03.9	-2.8
IMID	**Miomork**	**1.48**	**228**	P	Pn	19 02 45.2	-1.7
IMID				S	Sb	19 03 04.6	-2.1
IFLA	**Flatey**	**1.51**	**353**	P	Pn	19 02 45.2	-2.0
IFLA				S	Sn	19 03 05.0	-2.5
ISIG	**Siglufjorour**	**1.60**	**338**	P	Pn	19 02 46.2	-2.3
ISIG				S	Sn	19 03 07.0	-2.6
IASM	**Asmuli**	**1.63**	**240**	P	Pn	19 02 47.0	-1.9
IASM				S	Sn	19 03 08.5	-1.9
IASB	**`sbjarnarst**	**1.68**	**274**	P	Pn	19 02 47.5	-2.1
IASB				S	Sn	19 03 09.7	-2.0
ISOL	**Solvholt**	**1.71**	**246**	P	Pn	19 02 48.1	-1.9
ISOL				S	Sn	19 03 10.6	-1.8
IKRO	**Krokur**	**1.71**	**252**	P	Pn	19 02 47.8	-2.2
IKRO				S	Sn	19 03 10.8	-1.6
IHEI	**Heioarbar**	**1.72**	**256**	P	Pn	19 02 48.5	-1.7
IHEI				S	Sn	19 03 10.7	-2.0
ILEI	**Leirhofn**	**1.79**	**12**	P	Pn	19 02 49.2	-1.9
ILEI				S	Sn	19 03 12.8	-1.5
IHRN	**Hraun**	**1.84**	**323**	P	Pn	19 02 49.9	-1.9
IHRN				S	Sn	19 03 13.8	-1.8
IBJA	**Bjarnastaoir**	**1.84**	**249**	P	Pn	19 02 50.5	-1.3
IBJA				S	Sn	19 03 14.0	-1.7
IGRI	**Grimsey**	**1.90**	**353**	P	Pn	19 02 50.6	-2.0
IGRI				S	Sn	19 03 15.5	-1.5
ISAN	**Sandskeio**	**1.91**	**253**	P	Pn	19 02 51.4	-1.3
ISAN				S	Sn	19 03 15.9	-1.4
IKUD	**Kuludalsa**	**1.96**	**262**	P	Pn	19 02 51.9	-1.6
IKUD				S	Sn	19 03 17.5	-1.1
IKAS	**Kald??rsel**	**2.04**	**253**	P	Pn	19 02 53.7	-0.8
IVOS	**Vogsosar**	**2.04**	**248**	P	Pn	19 02 53.2	-1.4
IVOG	**Vogar**	**2.28**	**254**	P	Pn	19 02 57.0	-0.8

MAN 01 19:19:14, 842N×12618E, h65km, mb3.9, ML2.6, MS2.3, 1C, Mindanao

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
BIPH	**Bislig**	**0.30**	**143**⇑	*e*P	Pn	19 19 25.0	+0.4
BIPH				*e*S	Sn	19 19 28.6	-3.8
BUTP	**Butuan**	**0.77**	**315**	*e*P	Pn	19 19 32.0	+2.5
BUKP	**Musuan**	**1.23**	**244**	*e*P	Pn	19 19 37.0	+1.8
BUKP				*e*S	Sn	19 19 53.8	+2.6
MATI	**Mati**	**1.47**	**177**	*e*P	Pn	19 19 40.4	+2.0

*CSEM **01** 19:23:05.6, 3803N×2004E, h10km, MD3.0/3, After ATH*
ATH 01 19:23:05.6, 3803N×2004E, h10km, MD3.0/3**, Greece**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KEK	**Kerkira**	**1.69**	**354**	*e*Pb	Pb	19 23 37.3	+0.5
KEK	**Kerkira**	**1.69**	**354**	*e*PB	Pb	19 23 37.3	+0.5
JAN	**Janina**	**1.74**	**21**	*e*Pn	Pn	19 23 37.3	+1.4
JAN	**Janina**	**1.74**	**21**	*e*PN	Pn	19 23 37.3	+1.4
THL	**Klokotos Trika**	**2.17**	**45**	*e*Pn	Pn	19 23 44.4	+2.6
THL	**Klokotos Trika**	**2.17**	**45**	*e*PN	Pn	19 23 44.4	+2.6

*ROM **01** 19:32:19.6±0.4, 3708N×1628E, h18km±3km, Md2.6/19, Ml2.7/13, Error ellipse: s-maj=5.8km s-min=2.2km az=124.0*
*CSEM **01** 19:32:20.4±0.3, 3706N×1625E, h40km, ML3.9/6, Error ellipse: s-maj=7.5km s-min=2.7km az=138.0*
ISC 01 19:32:17.3±1.6**, 3705N**±006×**1636E**±008**, h2km**±8km**, n24, σ0s73**/31**, 5D, Ionian Sea**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MPAZ	**Palizzi**	**0.94**	**343**	Pn	**Pn**	**19 32 37.0**	**-0.6**
HAGA	**Augusta**	**0.99**	**284**⇓	*i*Pg	**Pg**	**19 32 36.8**	**+0.5**
HAVL	**Avola**	**0.99**	**265**	Pg	**Pg**	**19 32 37.5**	**+1.2**
HAVL				Sg	**Sg**	**19 32 49.8**	**+0.6**
	388nm,0.3s						
SSY	**Sortino**	**1.03**	**276**	Pg	**Pg**	**19 32 37.7**	**+0.6**
SSY				Sg	**Sg**	**19 32 50.7**	**+0.2**
	271nm,0.2s						
SOI	**Samo**	**1.05**	**347**	Pg	**Pg**	**19 32 38.6**	**+1.1**
	33nm,0.5s						
MTTG	**Motta San Giov**	**1.09**	**331**⇓	*i*Pg	**Pg**	**19 32 38.9**	**+0.7**
MTTG				Sg	**Sg**	**19 32 52.9**	**+0.6**
	46nm,0.6s						
MMME	**Mongiuffi-Meli**	**1.25**	**316**⇓	*i*Pg	**Pg**	**19 32 41.1**	**-0.1**
MMME				Sg	**Sg**	**19 32 57.5**	**+0.1**
	36nm,0.2s						
HMDC	**Modica**	**1.27**	**266**⇓	*i*Pg	**Pg**	**19 32 41.4**	**-0.2**
HMDC				Sg	**Sg**	**19 32 56.6**	**-1.4**
	353nm,0.3s						
SCLL	**Scilla**	**1.31**	**337**	Pg	**Pg**	**19 32 42.2**	**-0.2**
	7.0nm,0.2s						
ATN	**Antennamare**	**1.31**	**328**	Pg	**Pg**	**19 32 40.7**	**-1.9**
	234nm,0.2s						
HVZN	**Vizzini**	**1.32**	**276**	Pg	**Pg**	**19 32 42.1**	**-0.5**
HVZN				Sg	**Sg**	**19 32 58.5**	**-1.2**
	440nm,0.2s						
MSRU	**Castanea**	**1.39**	**331**	Pg	**Pg**	**19 32 43.7**	**-0.2**
	48nm,0.5s						
PLAC	**Placanica**	**1.40**	**3**	Pg	**Pg**	**19 32 44.1**	**-0.1**
ECNV	**Catenanuova**	**1.42**	**293**	Pg	**Pg**	**19 32 44.5**	**-0.1**
MILZ	**Milazzo**	**1.51**	**324**	Pn	**Pn**	**19 32 45.2**	**-0.2**
	35nm,0.4s						
GALF	**Gagliano Caste**	**1.57**	**295**	Pn	**Pn**	**19 32 46.8**	**+0.6**
	83nm,0.3s						
JOPP	**Joppolo**	**1.60**	**347**	Pn	**Pn**	**19 32 46.8**	**+0.2**
RAFF	**Raffo Rosso**	**1.60**	**277**⇓	*i*Pn	**Pn**	**19 32 46.8**	**+0.1**
VPL	**Vulcano Piano**	**1.72**	**321**	Pn	**Pn**	**19 32 48.4**	**+0.2**
	106nm,0.4s						
LLI	**Lipari**	**1.79**	**322**	Pn	**Pn**	**19 32 49.7**	**+0.5**
	172nm,0.8s						
GIB	**Gibilmanna**	**2.08**	**298**	Pn	**Pn**	**19 32 54.1**	**+0.9**
	8µm,13.0s						
TIP	**Timpagrande**	**2.15**	**8**	Pn	**Pn**	**19 32 54.2**	**0.0**
SG1	**Sgolgore (BA)**	**3.79**	**4**	*e*Pn	**Pn**	**19 33 16.6**	**-0.2**
SG1				*e*Sn	**Sn**	**19 33 54.9**	**-7.0**
PE1	**Pezze di Greco**	**3.84**	**12**	*e*Pn	**Pn**	**19 33 15.7**	**-1.7**

IDC 01 19:35:10.8±2.4**, 690S**×**15016E, h35km**±9km**, mb3.2**/3**, mb1 3.5**/3**, mb1mx3.2**/15**, mbtmp3.3**/3**, Error ellipse: s-maj=83.9km s-min=32.1km az=120.0, New Britain region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**20.10**	**228**	P	P	19 39 41.6	0.0
	1.5nm,0.9s,baz=51,slow=10,SNR=11						
WRA				pP	pP	19 39 51.3	+0.5
	1.1nm,0.5s,baz=57,slow=11,SNR=6.6						
ASAR	**Alice Springs**	**22.85**	**221**	P	P	19 40 10.3	-0.7
	0.6nm,1.0s,baz=56,slow=9.2,SNR=7.5						
ASAR				pP	pP	19 40 20.4	0.0
	1.1nm,0.9s,baz=52,slow=9.6,SNR=6.0						
FITZ	**Fitzroy Crossi**	**26.37**	**243**	P	P	19 40 43.8	-0.1
	0.7nm,0.5s,baz=51,slow=12,SNR=4.1						
TORD	**Torodi Ar. Bea**	**148.36**	**284**	PKPbc	PKPbc	19 54 54.5	-0.1
	0.9nm,0.9s,baz=79,slow=2.6,SNR=8.8						
TORD				pPKPbc	pPKPbc	19 55 05.3	-0.7
	0.6nm,0.6s,baz=89,slow=2.8,SNR=3.4						

*SZGRF **01** 19:44:56.1, 1955S×17861W, h33km, Fiji Islands region*
*DJA **01** 19:45:50, 1761S×17872W, h444km, mb4.8/12*
*ISCJB **01** 19:45:55.8±0.7, 1746S±006×17894W±006, h517km±8km, mb4.5/52, Error ellipse: s-maj=10.2km s-min=6.8km az=140.5*
*BJI **01** 19:45:55.8, 1728S×17799W, h547km, mB4.7, mb4.6*
*MOS **01** 19:45:56.3±1.4, 17.18S×179.16W, h506km, mb4.6/10, Error ellipse: s-maj=12.8km s-min=11.3km az=27.3*
*BGS **01** 19:45:57.2±3.6, 1750S×17891W, h523km, mb4.6(NEIC)*
*NEIC **01** 19:45:57.2±0.7, 1750S×17891W, h523km±7km, mb4.6/23, Error ellipse: s-maj=8.7km s-min=5.6km az=137.0*
*IDC **01** 19:45:57.4±1.4, 1752S×17885W, h526km±15km, mb4.2/24, mb1 4.2/25, mb1mx4.2/28, mbtmp4.2/25, Error ellipse: s-maj=11.4km s-min=9.8km az=112.0*
ISC 01 19:45:56.5±0.7**, 1747S**±006×**17888W**±006**, h514km**±8km**, n296, σ1s06**/100**, mb4.5**/52**, 22C-29D, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**7.70**	**64**	P	**P**	**19 47 50.7**	**+0.4**
	19nm,0.3s,baz=54,slow=3.2,SNR=24						
AFI				S	**S**	**19 49 21.7**	**-1.9**
	3.7nm,0.3s,baz=162,slow=20,SNR=3.1						
AFI	**Afiamalu**	**7.70**	**64**	P	**P**	**19 47 50.7**	**+0.4**
AFI				S	**S**	**19 49 21.7**	**-1.9**
FUNA	**Funafuti**	**9.08**	**348**	*e*P	**P**	**19 48 06.2**	**+1.6**
	95nm,0.5s						
DZM	**Mont Dzumac**	**14.55**	**249**	*e*P	**P**	**19 49 01.1**	**-0.7**
URZ	**Urewera**	**21.01**	**189**	P	**P**	**19 50 02.1**	**-1.3**
	37nm,0.3s,mb5.5,baz=307,slow=1.8,SNR=48						
URZ				S	**S**	**19 53 16.4**	**-6.9**
	18nm,1.1s,baz=227,slow=19,SNR=1.9						
HNR	**Honiara**	**22.07**	**288**	P	**P**	**19 50 15.4**	**+2.1**
	38nm,0.4s,mb5.3,baz=165,slow=12,SNR=3.5						
RPZ	**Rata Peaks**	**27.52**	**196**	P	**P**	**19 51 00.3**	**-0.9**
	15nm,0.6s,mb4.8,baz=268,slow=0.6,SNR=5.5						
PPT	**Papeete**	**27.93**	**95**	*e*LR	LR	19 57 39.2	
	98nm,26.8s						
TBI	**Tubuai**	**28.16**	**107**	*e*LR	LR	19 57 46.6	
	95nm,30.0s						
ARMA	**Armidale**	**29.77**	**239**⇑	*i*P	**P**	**19 51 22.2**	**+1.1**
CTA	**Charters Tower**	**33.08**	**260**	*e*P	**P**	**19 51 49.4**	**-0.1**
	12nm,0.8s,mb4.5						
CTA	**Charters Tower**	**33.08**	**260**	P	**P**	**19 51 49.5**	**0.0**
	16nm,0.8s,mb4.6,baz=84,slow=10,SNR=9.8						
CTA	**Charters Tower**	**33.08**	**260**	*e*P	**P**	**19 51 49.4**	**-0.1**
CTA				pmax	pmax		
	comp=Z,12nm,0.8s						
CNB	**Canberra Magne**	**33.34**	**232**⇑	*i*P	**P**	**19 51 52.6**	**+1.1**
CAN	**Canberra**	**33.62**	**232**	*e*P	**P**	**19 51 53.9**	**+0.1**
PMG	**Port Moresby**	**33.94**	**279***d*	*i*P	**P**	**19 51 57.7**	**+0.8**
PMG	**Port Moresby**	**33.94**	**279**	*e*P	**P**	**19 51 58.2**	**+1.3**
	comp=Z,49nm,0.9s,mb5.0						
TOO	**Toolangi**	**37.10**	**230**	*e*P	**P**	**19 52 23.6**	**+0.8**
STKA	**Stephens Creek**	**38.45**	**241**⇑	*i*P	**P**	**19 52 34.7**	**+0.8**
	comp=Z,14nm,0.5s,mb4.8						
STKA	**Stephens Creek**	**38.45**	**241**	P	**P**	**19 52 34.7**	**+0.8**
	comp=Z,20nm,0.6s,mb4.8,baz=88,slow=9.0,SNR=62						
WB2	**Warramunga Arr**	**44.26**	**259**	*e*P	**P**	**19 53 19.1**	**-1.1**
WRAB	**Tennant Creek**	**44.26**	**259**	*e*P	**P**	**19 53 18.1**	**-2.1**
WRAB	**Tennant Creek**	**44.26**	**259**	*e*P	**P**	**19 53 18.9**	**-1.3**
	comp=Z,6.0nm,0.8s,mb4.2						
WRA	**Warramunga Arr**	**44.27**	**259**	P	**P**	**19 53 19.2**	**-1.2**
	comp=Z,6.8nm,0.7s,mb4.3,baz=93,slow=7.4,SNR=92						
WRA				S	**S**	**19 59 09.6**	**-7.0**
	comp=Z,1.7nm,0.9s,baz=91,slow=14,SNR=6.4						
ASAR	**Alice Springs**	**44.48**	**254**	P	**P**	**19 53 21.6**	**-0.3**
	comp=Z,45nm,0.6s,mb5.2,baz=87,slow=8.1,SNR=522						
ASAR				S	**S**	**19 59 14.3**	**-5.1**
	comp=Z,6.7nm,1.1s,baz=84,slow=17,SNR=21						
KAKA	**Kakadu**	**47.14**	**269**	*e*P	**P**	**19 53 41.8**	**-0.5**
	comp=Z,46nm,0.4s,mb5.4						
GUMO	**Guam**	**47.25**	**308**	P	**P**	**19 53 43.2**	**+0.1**
	comp=Z,77nm,0.5s,mb5.5,baz=51,slow=0.0,SNR=12						
FORT	**Forrest**	**49.79**	**244**	*e*P	**P**	**19 54 01.1**	**-0.7**
	comp=Z,33nm,0.7s,mb4.9						
FITZ	**Fitzroy Crossi**	**52.66**	**260**⇓	*i*P	**P**	**19 54 22.9**	**+0.1**
	comp=Z,18nm,0.9s,mb4.4						
FITZ	**Fitzroy Crossi**	**52.66**	**260**	P	**P**	**19 54 23.3**	**+0.4**
	comp=Z,4.1nm,0.4s,mb4.1,baz=86,slow=7.1,SNR=55						
BATI	**Baumata**	**56.09**	**269**	P	**P**	**19 54 48.7**	**+1.7**
	comp=Z,18nm,0.4s,mb4.6,baz=129,slow=5.7,SNR=9.4						
MBWA	**Marble Bar**	**57.74**	**256**	*e*P	**P**	**19 54 57.4**	**-0.9**
CBIJ	**Chichi jima**	**58.22**	**319**	P	**P**	**19 55 01.6**	**+0.3**
	comp=Z,28nm,0.7s,mb4.6,baz=107,slow=19,SNR=4.4						
KLBR	**Kellerberrin**	**58.62**	**243**	*e*P	**P**	**19 55 03.1**	**-1.0**
	comp=Z,13nm,0.6s,mb4.3						
SBA	**Scott Base**	**60.83**	**183**	*e*P	**P**	**19 55 20.1**	**+2.1**
SBA				pmax	pmax		
	comp=Z,63nm,1.6s,mb4.7						
SBA	**Scott Base**	**60.83**	**183**	*e*P	**P**	**19 55 20.1**	**+2.1**
	comp=Z,63nm,1.6s,mb4.7						
MJAR	**Matsushiro Arr**	**67.29**	**324**	P	**P**	**19 55 59.1**	**-0.6**
	comp=Z,6.7nm,0.5s,mb4.5,baz=149,slow=5.4,SNR=33						
MAJO	**Matsushiro**	**67.29**	**324**	*e*P	**P**	**19 55 59.2**	**-0.6**
MAJO				pmax	pmax		
	comp=Z,13nm,0.4s,mb4.8						
MAJO	**Matsushiro**	**67.29**	**324**	*e*P	**P**	**19 55 59.2**	**-0.5**
	comp=Z,13nm,0.4s,mb4.8						
MAT	**Matsushiro**	**67.29**	**324**	P	**P**	**19 55 59.2**	**-0.6**
JOW	**Kunigami**	**67.59**	**310**	P	**P**	**19 56 03.3**	**+1.4**
	comp=Z,14nm,0.8s,mb4.5,baz=107,slow=26,SNR=6.8						
ASAJ	**Asahikawa**	**70.68**	**332**	P	**P**	**19 56 21.4**	**+1.3**
	comp=Z,8.3nm,0.4s,mb4.6,baz=211,slow=11,SNR=18						
QSPA	**South Pole Qui**	**72.58**	**180**	P	**P**	**19 56 31.5**	**+0.9**
	comp=Z,26nm,0.9s,mb4.6,baz=35,slow=1.2,SNR=94						
QSPA	**South Pole Qui**	**72.58**	**180**	P	**P**	**19 56 31.5**	**+0.9**
PETK	**Petropavlovsk-**	**73.14**	**345**	P	**P**	**19 56 33.7**	**-0.4**
	comp=Z,27nm,0.9s,mb4.7,baz=126,slow=9.0,SNR=30						
PETK	**Petropavlovsk-**	**73.14**	**345**	P	**P**	**19 56 33.7**	**-0.4**
KSRS	**Korea Array**	**74.08**	**318**	P	**P**	**19 56 40.4**	**+0.5**
	comp=Z,8.8nm,1.1s,mb4.1,baz=135,slow=6.4,SNR=25						
VLA	**Vladivostok**	**75.33**	**325**	*i* P	**P**	**19 56 46.5**	**-0.3**
VLA				pmax	pmax		
	comp=Z,17nm,1.0s,mb4.4						
HABR	**Khabarovsk**	**77.41**	**331**	*e*P	**P**	**19 56 54.3**	**-3.8**
HABR				*e*		20 00 00.5	
HABR				*e*S	S	20 05 58.0	-8.4
HABR				*e*		20 06 20.2	
HABR				*e*		20 11 14.8	
HABR				*e*		20 14 44.8	
MDJ	**Mudanjiang**	**77.57**	**325**	P	**P**	**19 56 59.4**	**+0.4**
MDJ				AMB	AMB		
	comp=Z,29nm,1.2s,mb4.5						
MDJ				AMB	AMB		
	comp=Z,81nm,5.5s						
MDJ	**Mudanjiang**	**77.57**	**325**	*e*P	**P**	**19 56 59.8**	**+0.7**
	comp=Z,25nm,0.9s,mb4.5						
CN2	**Changchun**	**79.40**	**323**	*e*P	**P**	**19 57 08.9**	**0.0**
CN2				AMB	AMB		
	comp=Z,30nm,1.1s,mb4.5						
NVAR	**Mina Array Bea**	**79.42**	**44**	P	**P**	**19 57 10.2**	**+1.0**
	comp=Z,5.5nm,0.7s,mb4.0,baz=225,slow=8.9,SNR=33						
KLR	**Kul'dur**	**79.51**	**330**	*e*P	**P**	**19 57 05.7**	**-3.6**
SEW	**Seward**	**80.90**	**14**	*e*P	**P**	**19 57 14.9**	**-1.4**
TUC	**Tucson**	**81.79**	**53**	*e*P	**P**	**19 57 23.2**	**+1.6**
TUC				pmax	pmax		
	comp=Z,5.0nm,1.1s,mb3.9						
TUC	**Tucson**	**81.79**	**53**	*e*P	**P**	**19 57 23.2**	**+1.6**
	comp=Z,5.3nm,1.1s,mb3.9						
BJI	**Beijing**	**83.16**	**316**	P	**P**	**19 57 28.4**	**+0.1**
BJI				AMB	AMB		
	comp=Z,30nm,1.0s,mb4.8						
SEY	**Seymchan**	**83.25**	**347**	*i* P	**P**	**19 57 25.9**	**-2.3**
ETW	**Entiat**	**83.26**	**36**	*e*P	**P**	**19 57 28.9**	**+0.2**
BMO	**Blue Mountains**	**83.49**	**39**	*e*P	**P**	**19 57 29.8**	**0.0**
BMO				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb3.8						
BMO	**Blue Mountains**	**83.49**	**39**	*e*P	**P**	**19 57 29.8**	**-0.1**
	comp=Z,2.0nm,0.6s,mb3.8						
MAW	**Mawson**	**84.12**	**200**	*e*P	**P**	**19 57 32.6**	**0.0**
	comp=Z,7.1nm,0.8s,mb4.2						
MAW	**Mawson**	**84.12**	**200**	P	**P**	**19 57 33.1**	**+0.5**
	comp=Z,7.4nm,0.7s,mb4.3,baz=123,slow=6.5,SNR=21						
MAW	**Mawson**	**84.12**	**200**	*e*P	**P**	**19 57 32.6**	**0.0**
MAW				pmax	pmax		
	comp=Z,7.0nm,0.8s						
HLID	**Hailey**	**84.60**	**41**	*e*P	**P**	**19 57 36.6**	**+1.3**
	comp=Z,5.0nm,0.7s,mb4.2						
SRU	**San Rafael**	**85.04**	**47**	*e*P	**P**	**19 57 37.9**	**+0.3**
SRU				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb3.8						
SRU	**San Rafael**	**85.04**	**47**	*e*P	**P**	**19 57 37.9**	**+0.3**
	comp=Z,2.1nm,0.6s,mb3.8						
IMA2	**Indian Mountai**	**85.42**	**10**	*e*P	**P**	**19 57 37.5**	**-1.3**
COLA	**College**	**85.45**	**13**	*e*P	**P**	**19 57 37.4**	**-1.6**
XAN	**Xi'an**	**85.64**	**308**	P	**P**	**19 57 41.2**	**+0.6**
XAN				AMB	AMB		
	comp=Z,37nm,1.2s,mb4.9						
XAN				AMB	AMB		
	comp=Z,343nm,5.4s						
HIA	**Hailar**	**85.75**	**325**	*i* P	**P**	**19 57 39.3**	**-1.5**
BILL	**Bilibino**	**85.95**	**354**⇓	*e*P	**P**	**19 57 39.9**	**-1.4**
BILL				*e*		20 01 09.5	
BILL				*e*SS	SS	20 13 22.5	-2.3
BILL				pmax	pmax		
	comp=Z,15nm,0.8s,mb4.7						
TXAR	**Lajitas Array**	**86.14**	**58**	P	**P**	**19 57 44.8**	**+1.6**
	comp=Z,3.6nm,0.7s,mb4.1,baz=217,slow=6.1,SNR=27						
MCMT	**McKenzie Canyo**	**86.20**	**41**	*e*P	**P**	**19 57 44.1**	**+1.1**
RRI2	**Red Ridge**	**86.46**	**42**	*e*P	**P**	**19 57 45.7**	**+1.4**
	comp=Z,14nm,0.8s,mb4.7						
LOHW	**Long Hollow**	**87.05**	**43**	*e*P	**P**	**19 57 48.0**	**+0.9**
	comp=Z,3.3nm,0.6s,mb4.1						
COLD	**Coldfoot**	**87.07**	**11**	*e*P	**P**	**19 57 46.5**	**-0.1**
	comp=Z,8.0nm,1.0s,mb4.3						
KMI	**Kunming**	**87.23**	**297**	P	**P**	**19 57 49.8**	**+1.4**
KMI				AMB	AMB		
	comp=Z,16nm,1.5s,mb4.4						
PDAR	**Pinedale Array**	**87.34**	**44**	P	**P**	**19 57 48.9**	**+0.4**
	comp=Z,3.8nm,0.5s,mb4.2,baz=217,slow=3.1,SNR=26						
CMAR	**Chiang Mai Arr**	**88.31**	**290**	P	**P**	**19 57 54.1**	**+0.5**
	comp=Z,6.5nm,1.0s,mb4.3,baz=103,slow=3.0,SNR=28						
CHTO	**Chiang Mai**	**88.43**	**290**	*e*P	**P**	**19 57 54.8**	**+0.7**
CHTO				pmax	pmax		
	comp=Z,8.0nm,1.0s,mb4.4						

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CHTO	Chiang Mai	88.43	290	eP	P	19 57 54.8	+0.7
	comp=Z,8.4nm,1.0s,mb4.4						
YAK	Yakutsk	89.00	338	i P	P	19 57 53.7	-2.1
YAK				pmax	pmax		
	comp=Z,6.0nm,0.8s,mb4.5						
LZH	Lanzhou	90.27	308	⇑P	P	19 58 02.5	+0.2
LZH				AMB	AMB		
	comp=Z,20nm,1.0s,mb4.9						
LZH				AMB	AMB		
	comp=Z,85nm,4.3s						
SNAA	Sanae	91.05	179	eP	P	19 58 04.2	-1.0
SNAA				e		19 58 05.8	
SNAA	Sanae	91.05	179	⇑iP	P	19 58 04.0	-1.2
SNAA	Sanae	91.05	179	eP	P	19 58 04.2	-1.1
	comp=Z,13nm,1.3s,mb4.7						
VNA3	Neumayer Olymp	91.20	177	eP	P	19 58 05.2	-0.8
VNA3				e		19 58 07.0	
VNA2	Neumayer--Watz	91.64	177	eP	P	19 58 07.9	-0.1
	baz=201,slow=3.2						
VNA2				e		19 58 09.6	
VNA1	Neumayer--Stat	91.87	177	eP	P	19 58 09.2	+0.2
VNA1				e		19 58 10.8	
ULN	Ulaanbaatar	92.53	320	eP	P	19 58 10.6	-1.8
ULN	Ulaanbaatar	92.53	320	eP	P	19 58 12.3	-0.1
	comp=Z,14nm,1.4s,mb4.8						
SONM	Songino Array	92.93	319	P	P	19 58 13.6	-0.7
	comp=Z,0.9nm,0.4s,mb4.1,baz=124,slow=3.3,SNR=13						
SONM				PP	PP	20 02 03.5	-2.5
	comp=Z,0.7nm,0.9s,baz=114,slow=4.9,SNR=5.1						
YKA	Yellowknife Ar	94.12	25	P	P	19 58 19.1	-0.3
	comp=Z,2.4nm,0.6s,mb4.5,baz=241,slow=4.7,SNR=3.7						
GTA	Gaotai	94.41	310	eP	P	19 58 21.6	+0.4
GTA				AMB	AMB		
	comp=Z,5.0nm,0.9s,mb4.6						
ZAK	Zakamensk	95.77	321	eP	P	19 58 25.2	-1.9
ZAK				pmax	pmax		
	comp=Z,2.0nm,1.1s,mb4.3						
ZALV	Zalesovo Beam	107.61	322	PKiKP	PKiKP	20 03 23.4	-1.1
	comp=Z,0.8nm,0.6s,baz=197,slow=1.5,SNR=4.5						
ZALV				PP	PP	20 04 00.8	+5.4
	comp=Z,0.3nm,0.5s,baz=88,slow=10,SNR=3.5						
ZALV	Zalesovo Beam	107.61	322	PKPdf	PKiKP	20 03 23.4	-1.1
ZALV				PP	PP	20 04 00.8	+5.4
MKAR	Makanchi Array	108.51	314	PKiKP	PKiKP	20 03 24.8	-1.6
	comp=Z,0.7nm,0.6s,baz=153,slow=0.5,SNR=8.0						
KURK	Kurchatov	111.20	318	PKiKP	PKiKP	20 03 29.6	-1.7
	comp=Z,1.1nm,0.7s,baz=95,slow=1.8,SNR=12						
BVAR	Borovoye Array	116.22	321	PKP	PKPdf	20 03 39.6	-1.3
	comp=Z,1.6nm,0.3s,baz=39,slow=0.9,SNR=15						
KBL	Kabul	117.68	300	ePKIKP	PKPdf	20 03 43.6	-0.7
ARU	Arti	122.24	326	PKIKP	PKPdf	20 03 51.1	-1.3
ARU	Arti	122.24	326	eP	PKPdf	20 03 51.3	-1.1
ARCES	ARCESS Array B	125.81	350	PKP	PKPdf	20 03 58.1	-0.8
	comp=Z,4.9nm,0.9s,baz=332,slow=0.9,SNR=19						
OBN	Obninsk	133.70	333	⇓iPKIKP	PKPdf	20 04 13.4	-0.8
OBN				i		20 06 52.4	
OBN				e		20 09 54.3	
OBN				ePS	PS	20 17 08.0	-10
OBN				pmax	pmax		
	comp=Z,6.0nm,0.8s						
VSR	Storozhevoye	134.81	327	ePKIKP	PKPdf	20 04 14.8	-1.6
VSR				e		20 06 56.5	
VSR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
VSR				pmax	pmax		
	comp=N,3.0nm,1.1s						
VSR				pmax	pmax		
	comp=E,2.0nm,0.9s						
VSR				pmax	pmax		
	comp=Z,4.0nm,1.3s						
VSR				pmax	pmax		
	comp=N,2.0nm,0.8s						
VSR				pmax	pmax		
	comp=E,2.0nm,0.6s						
NOA	NORSAR Array B	135.89	353	PKP	PKPdf	20 04 18.7	+0.6
	comp=E,1.1nm,0.7s,baz=13,slow=4.1,SNR=6.4						
NOA				SKPab		20 07 06.6	
	comp=E,2.1nm,0.9s,baz=10,slow=3.0,SNR=5.4						
AKASG	Malin Array Be	139.97	332	PKP	PKPdf	20 04 25.2	-0.7
	comp=E,0.2nm,0.2s,baz=50,slow=2.3,SNR=8.0						
AKASG				SKPbc	SKPbc	20 07 10.7	-2.6
	comp=E,2.6nm,0.8s,baz=39,slow=3.0,SNR=7.6						
GAL1	Galloway	142.41	6	eP	PKPdf	20 04 24.6	-5.6
XAL	Allendale	142.59	3	eP	PKPdf	20 04 26.8	-3.7
LVV	L'vov	142.82	335	ePKHKP	PKPdf	20 04 27.9	-3.1
BSEG	Bad Segeberg	142.91	351	ePKPbc	PKPdf	20 04 28.0	-3.1
KWP	Kalwaria	143.49	336	ePKP	PKPdf	20 04 30.4	-1.9
KWP	Kalwaria	143.49	336	⇓iP	PKPdf	20 04 30.3	-1.9
KWP	Kalwaria	143.49	336	ePKP	PKPdf	20 04 30.4	-1.8
WME	Myndd Eilian	143.90	6	eP	PKPdf	20 04 30.4	-2.4
LHO	Holmfirth	143.92	3	eP	PKPdf	20 04 31.9	-0.9
TLCR		143.96	326	⇓iP	PKPdf	20 04 32.4	-0.8
TLCR		143.96	326	P	PKPdf	20 04 32.7	-0.5
WLF1	Llynfaes	144.00	6	eP	PKPdf	20 04 31.2	-1.8
BUR08	Bucovina Ar. S	144.00	332	ePKPbc	PKPdf	20 04 32.5	-0.6
BURAR	Bucovina Array	144.02	332	⇓iP	PKPdf	20 04 32.8	-0.4
BURAR	Bucovina Array	144.02	332	⇓P	PKPdf	20 04 32.8	-0.4
YRC	Rhoscolyn	144.02	6	eP	PKPdf	20 04 31.3	-1.8
OJC	Ojcow	144.05	339	ePKP	PKPdf	20 04 32.0	-1.2
WPM1	Penmaenmawr	144.07	5	eP	PKPdf	20 04 31.7	-1.4
YLL	Llanberis	144.16	5	eP	PKPdf	20 04 30.7	-2.5
STHS	Stebnicka Huta	144.22	337	i PKP	PKPdf	20 04 33.1	-0.4
KOLS	Kolonicke sedl	144.22	336	i PKP	PKPdf	20 04 32.7	-0.8
KBI1	Birley Grange	144.23	3	eP	PKPdf	20 04 31.9	-1.4
YRE	Yr Eifl	144.30	6	eP	PKPdf	20 04 32.0	-1.5
NRDL	Niedersach Rie	144.34	351	ePKPbc	PKPdf	20 04 32.6	-1.0
KWE	Weaver Farm	144.45	3	eP	PKPdf	20 04 32.9	-0.9
UZH	Uzhgorod	144.46	336	ePKIKP	PKPdf	20 04 32.5	-1.4
ODB	Odobesti	144.47	328	⇑iP	PKPdf	20 04 35.2	+1.2
ODB	Odobesti	144.47	328	⇑P	PKPdf	20 04 35.2	+1.1
NIE	Niedzica	144.55	338	ePKP	PKPdf	20 04 34.3	+0.2
CRVS	Cervenica-Dubn	144.56	337	i PKP	PKPdf	20 04 33.9	-0.2
KSP	Ksiaz	144.56	343	ePKPdf	PKPdf	20 04 34.0	0.0
KSP	Ksiaz	144.56	343	ePKP	PKPdf	20 04 34.1	+0.1
VRI	Vrincioaia	144.57	329	⇑iP	PKPdf	20 04 33.8	-0.4
VRI	Vrincioaia	144.57	329	P	PKPdf	20 04 34.8	+0.5
PLOR	Plostina	144.62	329	PKIKP	PKPdf	20 04 35.7	+1.4
PLOR	Plostina	144.62	329	⇑iP	PKPdf	20 04 34.2	-0.1
ANTO	Ankara	144.65	316	⇑iP	PKPdf	20 04 34.2	-0.4
TIRR	Tirgusor	144.65	325	⇓iP	PKPdf	20 04 34.9	+0.5
BMR	Baia Mare	144.72	334	⇓iP	PKPdf	20 04 35.0	+0.6
BMR	Baia Mare	144.72	334	⇓P	PKPdf	20 04 35.0	+0.5
CWF	Charnwood Fore	144.75	3	eP	PKPdf	20 04 33.9	-0.4
HARR	Harsova	144.76	326	⇑iP	PKPdf	20 04 35.3	+0.7
HARR	Harsova	144.76	326	P	PKPdf	20 04 35.3	+0.7
IBBN	Ibbenburen	144.85	353	ePKPbc	PKPdf	20 04 34.5	0.0
OKC	Ostrava-Krasne	144.91	341	ePKP	PKPdf	20 04 35.0	+0.3
CLZ	Clausthal	144.93	350	ePKPbc	PKPdf	20 04 35.2	+0.6
CLL	Collm	144.94	347	ePKPbc	PKPdf	20 04 34.8	+0.1
CLL	Collm	144.94	347	⇓iPKPbc	PKPdf	20 04 34.7	0.0
	comp=Z,91nm,1.4s						
UPC	Upice	144.94	343	ePKP	PKPdf	20 04 35.4	+0.7
DPC	Dobruska-Polom	145.00	343	ePKP	PKPdf	20 04 35.6	+0.8
BRG	Berggiesshubel	145.13	346	ePKPbc	PKPbc	20 04 35.6	-0.2
BRG	Berggiesshubel	145.13	346	i PKP	PKPdf	20 04 35.5	+0.5
	comp=Z,21nm,0.9s						
MORC	Moravsky Berou	145.15	341	⇓iP	PKPdf	20 04 35.9	+0.8
MORC	Moravsky Berou	145.15	341	⇓P	PKPdf	20 04 35.9	+0.8
FBE	Freiberg	145.22	346	ePKPbc	PKPbc	20 04 36.0	-0.1
MLR	Muntele Rosu	145.23	329	⇓iP	PKPdf	20 04 35.4	+0.1
MLR	Muntele Rosu	145.23	329	P	PKPdf	20 04 36.1	+0.7
KSDI	Kefar Szold	145.27	303	P	PKPdf	20 04 36.5	+0.7
WTSB	Winterswijk	145.29	354	eP	PKPdf	20 04 34.6	-0.6
	comp=Z,41nm,0.9s						
PVCC	Panska Ves	145.30	345	ePKP	PKPbc	20 04 36.4	+0.1
MCH1	Michaelchurch	145.40	4	eP	PKPdf	20 04 35.8	+0.3
HMDT	Nahal Hemdat	145.66	302	⇓P	PKPbc	20 04 37.8	-0.2
MMLI	Mount Malkishu	145.69	302	P	PKPbc	20 04 37.9	-0.2
VOIR		145.70	330	⇑iP	PKPdf	20 04 36.9	+0.7
VOIR		145.70	330	⇑P	PKPdf	20 04 36.9	+0.7
DRGR		145.75	333	⇓iP	PKPbc	20 04 37.3	-0.5
DRGR		145.75	333	P	PKPbc	20 04 37.8	0.0
PRU	Pruhonice	145.81	345	ePKP	PKPbc	20 04 37.5	-0.3
VYHS	Vyhne	145.85	339	i PKP	PKPbc	20 04 37.4	-0.6
MOX	Moxa	145.85	348	ePKPbc	PKPbc	20 04 37.6	-0.3
VRAC	Vranov	145.86	342	⇑iP	PKPbc	20 04 37.6	-0.4
VRAC	Vranov	145.86	342	P	PKPbc	20 04 38.2	+0.2
TANN	Tannenbergstha	145.90	347	ePKPbc	PKPbc	20 04 37.8	-0.2
WERD	Werda	145.90	347	ePKPbc	PKPbc	20 04 37.7	-0.4
KOLL	Kolacno	145.92	339	i PKP	PKPbc	20 04 38.5	+0.3
PSZ	Piszkesteto	145.96	337	⇓ePKP	PKPbc	20 04 38.0	-0.3
PSZ	Piszkesteto	145.96	337	⇓iP	PKPbc	20 04 37.9	-0.4
PSZ	Piszkesteto	145.96	337	⇓P	PKPbc	20 04 37.9	-0.4
DSI	Dead Sea	145.97	301	P	PKPbc	20 04 38.3	-0.6
GUNZ	Gunzen	145.97	347	ePKPbc	PKPbc	20 04 38.2	-0.1
UBBA	Unterbreizbach	145.98	350	ePKPbc	PKPbc	20 04 37.3	-1.0
WERN	Wernitzgruen	146.03	347	ePKPbc	PKPbc	20 04 38.4	0.0
SLTI	Sal'it	146.06	302	P	PKPbc	20 04 38.7	-0.4
SLTI				P		20 04 39.3	
NKC	Novy Kostel	146.07	347	ePKP	PKPbc	20 04 38.7	+0.2
WOL	Wolverton	146.18	3	eP	PKPdf	20 04 37.4	+0.6
TREC	Trest	146.19	343	ePKP	PKPbc	20 04 38.6	-0.3
MANZ	Manzenberg	146.38	347	ePKPbc	PKPbc	20 04 39.2	-0.2
ZFRI	Zfri	146.41	299	⇓P	PKPbc	20 04 39.9	-0.3
CSS	Prodhromos	146.46	308	eP	PKPdf	20 04 38.3	+0.6
MODS	Modra-Piesok	146.47	340	i PKP	PKPbc	20 04 40.4	+0.7
BEBN	Eben Emael	146.55	355	PKPab	PKPab	20 04 41.6	-0.7
HGN	Heimansgroeve	146.56	354	eP	PKPdf	20 04 38.7	+1.2
	comp=Z,16nm,1.0s						
ROTZ	Rotzenmuhle	146.56	347	ePKPbc	PKPbc	20 04 39.9	0.0
PRNI	Paran	146.61	299	PKP2	PKPbc	20 04 40.5	-0.2
UCC	Uccle	146.65	356	PKPbc	PKPbc	20 04 40.0	-0.1
HRFI	Mount Harif	146.66	298	⇓P	PKPbc	20 04 40.4	-0.4
RTMI	Retamim	146.68	300	P	PKPdf	20 04 40.2	+1.9
ZST	Bratislava	146.68	340	i PKP	PKPbc	20 04 40.2	-0.1
MEM	Membach	146.71	354	PKPbc	PKPbc	20 04 40.1	-0.2
TNS	Taunus Mts	146.80	351	ePKPbc	PKPbc	20 04 40.4	-0.1
TNS				ePKPab	PKPab	20 04 43.4	+0.1
GZR	Gura Zlata	146.80	332	⇑iP	PKPdf	20 04 39.0	+1.0
GZR	Gura Zlata	146.80	332	P	PKPbc	20 04 40.5	-0.2
EIL	Elat	146.82	298	⇓P	PKPbc	20 04 41.0	-0.3
GRA1	Grafenberg Arr	146.84	348	ePKPbc	PKPbc	20 04 40.7	0.0
GRF	Grafenberg Arr	146.84	348	ePKPbc	PKPbc	20 04 40.7	0.0
KHC	Kasperske Hory	146.84	345	ePKP	PKPbc	20 04 40.5	-0.2
CSA1	St Austell	146.84	7	eP	PKPdf	20 04 39.2	+1.3
BCLA	Clavier	146.96	355	PKPab	PKPab	20 04 43.1	-0.9
CCA1	Carnmenellis	146.97	7	eP	PKPdf	20 04 39.0	+0.9
WET	Wettzell	147.00	346	ePKPbc	PKPbc	20 04 40.9	-0.2
WET				ePKPab	PKPab	20 04 44.8	+0.6
GEC2	GERESS Array S	147.07	345	ePKPbc	PKPbc	20 04 41.1	-0.2
GEC2				ePKPab	PKPab	20 04 45.0	+0.5
GERES	GERESS Array B	147.07	345	PKPbc	PKPbc	20 04 41.0	-0.3
	comp=Z,9.7nm,0.7s,baz=29,slow=3.0,SNR=21						
BZS	Buzias	147.14	333	⇑iP	PKPdf	20 04 39.6	+1.0
BZS	Buzias	147.14	333	P	PKPbc	20 04 40.9	-0.7
CONA	Conrad Observa	147.31	342	i PKPbc	PKPbc	20 04 42.1	+0.1
	comp=Z,24nm,0.8s,SNR=17						
CSNA	Conrad Observa	147.31	342	⇑iPKPbc	PKPbc	20 04 42.0	0.0
	comp=Z,22nm,0.7s						
GIVF	Givet	147.31	356	ePKP1	PKPbc	20 04 41.1	-0.8
	comp=Z,68nm,1.0s						
DOU	Dourbes	147.33	356	PKPbc	PKPbc	20 04 41.6	-0.3
BAIF	Baives	147.40	356	ePKP1	PKPbc	20 04 41.4	-0.7
	comp=Z,68nm,1.1s						
WLF	Walferdange	147.63	354	PKPbc	PKPbc	20 04 42.8	0.0
WLF	Walferdange	147.63	354	ePKPbc	PKPbc	20 04 42.9	+0.2
WLF	Walferdange	147.63	354	ePKPbc	PKPbc	20 04 43.0	+0.3
MOA	Molln	147.84	343	⇓iPKPbc	PKPbc	20 04 43.2	-0.2
	comp=Z,14nm,1.1s						
PKSM	Moragy	147.86	337	⇑iP	PKPbc	20 04 43.0	-0.5
PKSM	Moragy	147.86	337	⇑P	PKPbc	20 04 43.0	-0.5
ARSA	Arzberg	148.02	341	⇓iPKPbc	PKPbc	20 04 43.2	-0.6
	comp=Z,9.9nm,1.1s						
STU	Stuttgart	148.09	350	ePKPab	PKPab	20 04 48.5	-0.1
LANF	Langenberg	148.10	352	PKP	PKPbc	20 04 44.1	+0.1
FUR	Furstenfeldbru	148.28	347	ePKPbc	PKPbc	20 04 44.3	-0.1
FUR				ePKPab	PKPab	20 04 49.9	+0.5
RJOB	Jochberg	148.33	345	ePKPbc	PKPbc	20 04 44.1	-0.5
RJOB				ePKPab	PKPab	20 04 50.5	+0.9
BFO	Black Forest	148.66	351	ePKPbc	PKPbc	20 04 45.0	-0.4
BFO				ePKPab	PKPab	20 04 50.9	-0.1
SOKA	Soboth	148.68	341	⇓iPKPbc	PKPbc	20 04 44.7	-0.7
	comp=Z,13nm,0.9s						
SOKA				⇓iPKPbc	PKPbc	20 04 44.9	-0.6
CDF	Champ du Feu	148.73	352	ePKP1	PKPbc	20 04 44.7	-0.9
	comp=Z,31nm,0.8s						
FLN	La Foliniere	148.76	2	ePKP1	PKPbc	20 04 44.5	-1.1
	comp=Z,100nm,0.9s						
KBA	Koelnbreinsper	148.80	344	⇑iPKPbc	PKPbc	20 04 45.0	-0.7
	comp=Z,14nm,0.8s						
MEZF	Maizieres J'vi	148.88	355	ePKP1	PKPbc	20 04 45.2	-0.7
	comp=Z,42nm,1.0s						
ECH	Echery	148.94	352	PKP	PKPbc	20 04 45.8	-0.3
ECH	Echery	148.94	352	ePKPbc	PKPbc	20 04 45.5	-0.6
LDF	La Druitiere	148.94	2	ePKP1	PKPbc	20 04 44.7	-1.4
ROSF	Rostrenen	149.01	6	ePKP1	PKPbc	20 04 44.9	-1.3
	comp=Z,16nm,0.6s						
WTTA	Wattenberg	149.05	346	⇓iPKPbc	PKPbc	20 04 46.2	-0.2
	comp=Z,36nm,0.9s						
THEF	They Montfort	149.07	354	PKP	PKPbc	20 04 46.4	0.0
GRR	Gorron	149.12	3	ePKP1	PKPbc	20 04 45.5	-1.0
	comp=Z,59nm,0.7s						
MYKA	Terra Mystica	149.13	343	⇓iPKPbc	PKPbc	20 04 45.6	-1.0
	comp=Z,19nm,0.8s						
SGMF	Saint Gilles	149.15	5	ePKP1	PKPbc	20 04 45.4	-1.2
	comp=Z,54nm,0.8s						
HAU	Haudompre	149.25	353	ePKP1	PKPbc	20 04 45.9	-0.9
	comp=Z,25nm,0.8s						
ABTA	Abfaltersbach	149.32	345	⇑iPKPbc	PKPbc	20 04 45.8	-1.3
	comp=Z,32nm,1.1s						
HINF	Hinteralfeld	149.37	352	ePKP1	PKPbc	20 04 46.0	-1.1
	comp=Z,24nm,1.0s						
DAVA	Damuels	149.40	348	⇑iPKPbc	PKPbc	20 04 47.2	-0.1
	comp=Z,21nm,0.8s						
QUIF	Quistinic	149.43	6	ePKP1	PKPbc	20 04 46.0	-1.3
	comp=Z,190nm,1.8s						
LOMF	Lomont	149.83	352	PKP	PKPbc	20 04 48.0	-0.2
LOR	Lormes	150.20	356	ePKP1	PKPbc	20 04 48.3	-0.8
	comp=Z,59nm,0.9s						
HYF	Humbligny	150.26	358	ePKP1	PKPbc	20 04 48.8	-0.4
TUE	Stuetta	150.28	348	ePKPbc	PKPbc	20 04 49.2	-0.1
SSF	Saint Saulge	150.43	357	ePKP1	PKPbc	20 04 48.8	-0.8
	comp=Z,68nm,1.0s						
CABF	La Chapelle	150.65	353	ePKP1	PKPbc	20 04 49.9	-0.3
	comp=Z,49nm,0.9s						
KARP	Karpathos	150.69	313	P	PKPbc	20 04 50.6	0.0
AVF	Avril sur Loir	150.70	357	ePKP1	PKPbc	20 04 49.0	-1.3
	comp=Z,15nm,0.8s						
SMF	Signal de Mont	150.82	356	ePKP1	PKPbc	20 04 49.4	-1.2
	comp=Z,18nm,0.9s						
MFF	Saint Martin d	150.93	2	ePKP1	PKPbc	20 04 49.7	-1.1
	comp=Z,58nm,1.0s						
BGF	Bois d'Agland	150.96	358	ePKP1	PKPbc	20 04 50.0	-0.9
	comp=Z,36nm,0.7s						
NEO	Neokhori	150.97	323	P	PKPbc	20 04 50.2	-0.9
TCF	Toulx Ste Croi	151.25	358	ePKP1	PKPbc	20 04 50.4	-1.2
	comp=Z,27nm,0.9s						
OG05	Jujurieux	151.28	354	PKP	PKPbc	20 04 51.7	+0.1
AGO	Saint Agoulin	151.45	357	PKP	PKPbc	20 04 53.0	+1.0
PLDF	La Plantade	151.51	356	PKP	PKPbc	20 04 53.2	+1.1
LKR	Lokris	151.53	322	P	PKPbc	20 04 51.8	-0.7
LPL	La Plagne	151.65	352	ePKP1	PKPbc	20 04 52.3	-0.2
	comp=Z,37nm,1.2s						
LPG	La Plagne	151.66	352	ePKP1	PKPbc	20 04 52.5	0.0
	comp=Z,15nm,0.8s						
PYM	Petit Puy Mans	151.76	357	PKP	PKPbc	20 04 53.7	+1.0
NPS	Neapolis	151.92	314	P	PKPbc	20 04 54.9	+1.5
LAST	Lasithi	152.06	314	P	PKPbc	20 04 54.1	+0.4
BNI	Bardonecchia	152.11	352	ePKPbc	PKPbc	20 04 53.2	-0.3
RJF	Les Rejaudoux	152.25	359	ePKP1	PKPbc	20 04 52.6	-1.2
	comp=Z,10.0nm,0.7s						
LBL	Lubilhac	152.26	357	PKP	PKPbc	20 04 55.3	+1.5
ORIF	Oris-en-Rattie	152.34	353	ePKP1	PKPbc	20 04 53.3	-0.7
	comp=Z,11nm,0.7s						
MBDF	Montbardon	152.41	351	ePKP1	PKPbc	20 04 53.5	-0.7
	comp=Z,16nm,0.6s						
VIVF	Saint-Julien-l	152.53	355	ePKP1	PKPbc	20 04 53.7	-0.8
	comp=Z,11nm,0.9s						
LFF	La Frestale	152.61	1	ePKP1	PKPbc	20 04 53.5	-1.1
	comp=Z,10nm,0.9s						
CAF	Calviac	152.62	359	ePKP1	PKPbc	20 04 53.7	-0.9
	comp=Z,15nm,0.9s						
SBF	Sospel	153.15	350	ePKP1	PKPbc	20 04 54.3	-1.5
	comp=Z,22nm,0.8s						
SMRF	Simiane la Rot	153.31	353	ePKP1	PKPbc	20 04 55.8	-0.4
	comp=Z,23nm,1.1s						
FRF	La Foret Royal	153.57	351	ePKP1	PKPbc	20 04 55.6	-1.1
	comp=Z,22nm,1.2s						
ESDC	Sonseca Array	157.44	10	PKPab	PKPab	20 05 27.4	-1.1
	comp=Z,1.3nm,0.7s,baz=342,slow=3.5,SNR=6.2						
KEST	Kesra	160.40	340	PKPab	PKPab	20 05 40.8	-0.8
	comp=Z,1.7nm,0.9s,baz=52,slow=3.0,SNR=4.3						
TORD	Torodi Ar. Bea	175.67	187	PKP	PKPdf	20 05 06.5	-1.7
	comp=Z,1.0nm,0.8s,baz=303,slow=0.6,SNR=7.1						
TORD				PKPab	PKPab	20 06 49.4	0.0
	comp=Z,0.7nm,0.7s,baz=160,slow=2.9,SNR=5.1						

*NEIC **01** 19:52:48.9, 16.20N×98.41W, h7km, MD4.5(MEX), After MEX.*

MEX 01 19:52:48.8±0.9**, 16.21N×98.42W, h6km**±7km**, MD4.5, Near coast of Guerrero**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PNIG	Pinotepa	0.33	57	i P	Pg	19 52 55.0	-0.3
PNIG				eS	Sg	19 52 59.6	-0.1
ACX	Acapulco	1.58	295	i P	Pn	19 53 13.0	-4.4
ACX				i S	Sn	19 53 33.0	-5.1
VHO	Vista Hermosa	1.83	62	i P	Pn	19 53 17.9	-2.9
VHO				i S	Sn	19 53 40.0	-4.2
CAIG	El Cayaco	1.96	295	i P	Pn	19 53 20.6	-2.0
CAIG				i S	Sn	19 53 41.6	-5.9
HUIG	Huatulco	2.26	101	i P	Pn	19 53 23.7	-3.1
HUIG				eS	Sn	19 53 48.8	-6.2
PLIG	Platanillo	2.41	335	eP	Pn	19 53 26.4	-2.3
PLIG				i S	Sn	19 53 54.3	-4.2
PPM	Popocatepetl	2.85	356	eP	Pn	19 53 33.5	-1.3
PPM				i S	Sn	19 54 06.3	-3.2
MZVM		3.06	345	eP	Pn	19 53 42.0	+4.3
MZVM				i S	Sn	19 54 17.8	+3.1
SZVM	Salazar	3.23	344	i P	Pn	19 53 39.5	-0.6
SZVM				i S	Sn	19 54 15.7	-3.2
ZIIG	Zihuatanejo	3.23	296	eP	Pn	19 53 37.5	-2.6
ZIIG				i S	Sn	19 54 16.2	-2.7
PBVM	Pinon	3.28	349	eP	Pn	19 53 43.2	+2.5
PBVM				i S	Sn	19 54 15.3	-4.7
PBVM	Pinon	3.28	349	eP	Pn	19 53 43.7	+3.0
PBVM				i S	Sn	19 54 15.3	-4.7
IIO	Organos	3.38	355	eP	Pn	19 53 44.1	+2.0
IIO				i S	Sn	19 54 21.1	-1.4
PTVM	Pico Tres Padr	3.43	349	i P	Pn	19 53 46.2	+3.3
PTVM				i S	Sn	19 54 25.2	+1.4

*ISCJB **01** 20:01:14.3±0.4, 50.17N±0.02×18.68E±0.02, h0km, Error ellipse: s-maj=3.5km s-min=2.0km az=10.6*
*WAR **01** 20:01:15.4, 50.26N×18.86E, ML2.9, Mining Induced*
*IPEC **01** 20:01:15.7±0.1, 50.22N×18.82E, h4km±1km, ML2.6/3, Error ellipse: s-maj=1.5km s-min=0.8km az=171.0*
*CSEM **01** 20:01:16.6±0.2, 50.23N×18.75E, h4km, ML3.4/11, Error ellipse: s-maj=5.1km s-min=3.1km az=2.0*
*PRU **01** 20:01:16.1, 50.22N×18.78E, h0km*
*VIE **01** 20:01:18.0±0.7, 49.97N×18.77E, h0km, mb2.1/3, ML2.8/6, Error ellipse: s-maj=5.5km s-min=4.0km az=138.0 35 km SSW of Katowice Suspected Mining induced.*

ISC 01 20:01:15.6±0.4**, 50.21N**±0.02×**18.77E**±0.02**, h0km, n36, σ1.17/66, 3C-5D, Poland**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
RAC	Raciborz	0.39	251	ePg	Pg	20 01 25.2	+2.2
RAC				eSg	Sg	20 01 32.0	+4.0
OKC	Ostrava-Krasne	0.55	227	ePg	Pg	20 01 27.7	+1.7
OKC				Sg	Sg	20 01 36.6	+3.5
OKC	Ostrava-Krasne	0.55	227	ePG	Pg	20 01 27.8	+1.8
OKC				eSG	Sg	20 01 36.6	+3.5
OJC	Ojcow	0.66	89	ePg	Pg	20 01 27.4	-0.9
OJC				eSg	Sg	20 01 35.2	-1.6
OJC	Ojcow	0.66	89	ePg	Pg	20 01 27.3	-1.0
OJC				eSg	Sg	20 01 36.0	-0.8
MORC	Moravsky Berou	0.90	242	ePg	Pg	20 01 33.4	+0.6
MORC				eSg	Sg	20 01 46.2	+1.7
	103nm,0.2s						
NIE	Niedzica	1.28	128	ePg	Pg	20 01 39.5	-0.5
NIE				eSg	Sg	20 01 57.4	+0.8
JAVC	Velka Javorina	1.53	208	ePn	Pn	20 01 44.9	+0.8
DPC	Dobruska-Polom	1.57	276	ePG	Pg	20 01 44.3	-1.4
DPC				eSG	Sg	20 02 06.2	+0.1
	72nm,0.6s						
KOLL	Kolacno	1.65	188	eSG	Sg	20 02 09.1	+0.6
VRAC	Vranov	1.67	238	ePn	Pn	20 01 46.7	+0.6
VRAC				eSg	Sg	20 02 08.5	-0.8
	69nm,0.2s						
KSP	Ksiaz	1.70	293	ePn	Pn	20 01 46.2	-0.2
KSP				ePg	Pg	20 01 47.8	-0.3
KSP				eSn	Sn	20 02 08.5	-0.4
KSP				eSg	Sg	20 02 10.7	+0.6
VYHS	Vyhne	1.72	178	ePG	Pg	20 01 46.6	-1.9
VYHS				eSG	Sg	20 02 09.8	-0.9
VYHS	Vyhne	1.72	178	ePg	Pg	20 01 46.6	-1.9
VYHS				eSg	Sg	20 02 09.2	-1.5
UPC	Upice	1.79	281	ePG	Pg	20 01 49.0	-0.8
STHS	Stebnicka Huta	1.79	115	ePN	Pn	20 01 47.2	-0.5
STHS				eSG	Sg	20 02 15.7	+2.7
KRUC	Moravsky	1.92	234	eSg	Sg	20 02 16.8	-0.5
	27nm,0.2s						
MODS	Modra-Piesok	2.08	209	ePN	Pn	20 01 52.7	+1.0
MODS				eSN	Sn	20 02 14.4	-3.8
CRVS	Cervenica-Dubn	2.19	126	ePN	Pn	20 01 53.9	+0.7
CRVS				eSN	Sn	20 02 20.5	-0.4
ZST	Bratislava	2.29	209	eSN	Sn	20 02 22.4	-1.1
KWP	Kalwaria	2.61	101	ePn	Pn	20 02 00.4	+1.4
KWP				ePg	Pg	20 02 06.7	+1.1
KWP				eSg	Sg	20 02 43.6	+4.2
KWP	Kalwaria	2.61	101	ePg	Pg	20 02 06.7	+1.1
KWP				eSg	Sg	20 02 43.6	+4.2
KOLS	Kolonicke sedl	2.62	118	ePN	Pn	20 01 58.0	-1.0
PRU	Pruhonice	2.73	267	ePG	Pg	20 02 05.0	-2.8
PRU				eSG	Sg	20 02 43.1	-0.1
	18nm,0.6s						
CONA	Conrad Observa	2.98	221	⇑iPn	Pn	20 02 04.2	+0.2
CONA				⇓iSg	Sg	20 02 51.0	-0.1
	23nm,0.5s						
CSNA	Conrad Observa	2.98	221	⇓iPn	Pn	20 02 04.2	+0.2
CSNA				⇓iSg	Sg	20 02 51.2	0.0
	7.5nm,0.2s						
BRG	Berggiesshubel	3.15	284	PG	Pg	20 02 14.6	-1.3
BRG				SG	Sg	20 02 56.6	0.0
	13nm,0.6s						
KHC	Kasperske Hory	3.54	254	ePN	Pn	20 02 11.8	+0.1
KHC				ePG	Pg	20 02 21.0	-2.3
KHC				eSG	Sg	20 03 09.0	-0.2
	39nm,0.9s						
ARSA	Arzberg	3.66	217	⇓iSg	Sg	20 03 12.6	-0.4
	9.5nm,0.6s						
MOA	Molln	3.79	233	⇑iPg	Pg	20 02 28.1	0.0
MOA				⇑iSg	Sg	20 03 15.2	-2.0
	13nm,0.4s						
MOA	Molln	3.79	233	Pg	Pg	20 02 28.1	0.0
MOA				Sg	Sg	20 03 15.2	-2.0
	13nm,0.4s						
CLL	Collm	3.82	289	ePg	Pg	20 02 29.0	+0.3
CLL				eSg	Sg	20 03 21.0	+2.8
	comp=Z,20nm,0.9s						
NKC	Novy Kostel	4.06	273	ePG	Pg	20 02 29.9	-3.4
NKC				eSG	Sg	20 03 25.3	-0.5
	comp=Z,22nm,0.5s						
MOX	Moxa	4.59	278	eSG	Sg	20 03 44.8	+1.8
KBA	Koelnbreinsper	4.77	231	⇓iSg	Sg	20 03 50.4	+1.8
	comp=Z,7.6nm,0.5s						
KBA	Koelnbreinsper	4.77	231	Sg	Sg	20 03 50.4	+1.8
	comp=Z,7.6nm,0.5s						

*ISCJB **01** 20:13:12.7±2.2, 10.4S±0.1×78.3W±0.2, h48km±19km, mb4.2/10, MS3.1/2, Error ellipse: s-maj=30.7km s-min=13.7km az=146.0*
*NEIC **01** 20:13:14.5±1.4, 10.51S×78.33W, h51km±14km, mb4.6/1, Error ellipse: s-maj=23.8km s-min=11.1km az=222.0*
NEIC Felt [III] at Barranca and [II] at Huarmey.
*IDC **01** 20:13:14.6±2.6, 10.53S×78.30W, h52km±26km, mb3.9/10, mb1 4.0/13, mb1mx4.0/22, mbtmp3.8/13, ML3.8/3, MS3.1/4, Ms1 3.1/4, ms1mx2.9/35, Error ellipse: s-maj=45.3km s-min=16.2km az=41.0*

ISC 01 20:13:14.7±2.0**, 10.5S**±0.1×**78.3W**±0.2**, h48km**±17km**, n29, σ0.43/22, mb4.2/10, MS3.1/2, Near coast of Peru**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
NNA	Nana	2.07	137	P	Pn	20 13 46.7	-0.2
	64nm,0.3s,baz=323,slow=14,SNR=120						
NNA				S	Sn	20 14 11.3	-0.2
	541nm,0.3s,baz=298,slow=17,SNR=24						
LPAZ	La Paz	11.44	122	P	Pn	20 15 55.7	+0.2
	0.2nm,0.3s,baz=342,slow=12,SNR=4.3						
LPAZ				LR	LR	20 20 32.4	
	comp=Z,41nm,19.0s,baz=348,slow=38						

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
LPAZ	La Paz	11.44	122	P	Pn	20 15 55.7	+0.2
LPAZ				LR	LR	20 20 32.4	
ROSC	El Rosal	15.71	15	LR	LR	20 23 45.0	
	comp=Z,71nm,20.4s,baz=199,slow=40						
SIV	San Ignacio	17.62	110	P	Pn	20 17 17.1	+0.3
	0.2nm,0.3s,baz=280,slow=7.0,SNR=5.2						
SDV	Santo Domingo	20.66	22	LR	LR	20 26 35.5	
	comp=Z,58nm,18.3s,MS3.0,baz=97,slow=39						
PCRV	Puerto La Cruz	24.58	34	LR	LR	20 29 22.4	
	comp=Z,84nm,20.1s,MS3.2,baz=9.9,slow=39						
CPUP	Villa Florida	25.32	131	P	P	20 18 37.0	-0.1
	1.7nm,0.5s,mb3.8,baz=305,slow=11,SNR=6.8						
CPUP	Villa Florida	25.32	131	eP	P	20 18 37.8	+0.8
	13nm,0.7s,mb4.6						
TXAR	Lajitas Array	46.53	329	P	P	20 21 38.2	+0.6
	1.3nm,0.7s,mb4.0,baz=150,slow=9.8,SNR=17						
TXAR	Lajitas Array	46.53	329	P	P	20 21 38.2	+0.6
PDAR	Pinedale Array	60.20	334	P	P	20 23 17.2	-0.5
	0.6nm,0.8s,mb3.7,baz=144,slow=5.5,SNR=4.0						
NVAR	Mina Array Bea	61.32	325	P	P	20 23 26.5	+1.1
	1.2nm,0.8s,mb4.1,baz=140,slow=7.0,SNR=6.0						
NVAR	Mina Array Bea	61.32	325	P	P	20 23 26.5	+1.1
ULM	Lac du Bonnet	62.38	347	P	P	20 23 31.6	-0.7
	5.3nm,0.7s,mb4.8,baz=170,slow=8.2,SNR=5.6						
YBH	Yreka Blue Hor	66.04	325	P	P	20 23 56.2	-0.3
	2.7nm,0.7s,mb4.4,baz=111,slow=8.8,SNR=5.1						
VNA3	Neumayer Olymp	73.34	162	e	P	20 24 40.9	-0.1
VNA3				e		20 24 43.6	
VNA1	Neumayer--Stat	73.61	161	e	P	20 24 43.0	+0.4
VNA1				e		20 24 46.0	
VNA2	Neumayer--Watz	73.97	161	e	P	20 24 44.7	0.0
	baz=287,slow=6.7						
VNA2				e		20 24 47.9	
VNA2				e	pP	20 25 00.0	+1.6
DBIC	Dimbokro	75.04	80	P	P	20 24 52.2	+0.2
	3.8nm,0.6s,mb4.5,baz=267,slow=7.1,SNR=7.5						
SNAA	Sanae	75.56	162	e	P	20 24 53.5	-0.4
SNAA				e		20 24 56.4	
SNAA				e	pP	20 25 10.1	+2.4
YKA	Yellowknife Ar	77.98	344	P	P	20 25 07.2	-0.4
	2.8nm,0.6s,mb4.4,baz=142,slow=6.0,SNR=6.4						
TORD	Torodi Ar. Bea	82.75	75	P	P	20 25 33.8	-0.4
	1.6nm,0.9s,mb4.1,baz=297,slow=5.2,SNR=20						
ESDC	Sonseca Array	84.80	48	P	P	20 25 44.3	+0.1
	0.5nm,0.5s,mb3.9,baz=253,slow=4.7,SNR=5.2						
ASAR	Alice Springs	133.74	223	PKP	PKPdf	20 32 25.8	-1.3
	0.4nm,0.5s,baz=119,slow=1.7,SNR=5.8						
ZALV	Zalesovo Beam	134.56	14	PKP	PKPdf	20 32 26.8	-0.8
	0.6nm,0.4s,baz=182,slow=5.3,SNR=5.1						
WRA	Warramunga Arr	135.92	227	PKP	PKPdf	20 32 30.4	-0.8
	1.2nm,0.6s,baz=130,slow=1.9,SNR=7.8						
SONM	Songino Array	142.54	355	PKhKP		20 32 38.0	
	0.3nm,0.7s,baz=346,slow=1.5,SNR=3.1						
KSRS	Korea Array	144.25	323	PKP	PKPdf	20 32 43.5	-2.3
	4.2nm,0.7s,baz=55,slow=3.3,SNR=19						

NEIC 01 20:16:39.1, 1676N×9501W, h104km, MD4.0(MEX), After MEX.

MEX 01 20:16:39.3±0.9, 1676N×9500W, h100km±14km, MD4.0, Oaxaca

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
TUIG	Tuzandepetl	1.38	23	i P	Pn	20 17 02.6	-1.6
TUIG				i S	Sn	20 17 20.7	-2.2
HUIG	Huatulco	1.45	227	i P	Pn	20 17 02.9	-2.0
HUIG				i S	Sn	20 17 23.1	-1.2
VHO	Vista Hermosa	1.69	281	i P	Pn	20 17 07.5	-0.4
VHO				i S	Sn	20 17 29.1	-0.6
TGIG		1.80	89	i P	Pn	20 17 08.6	-0.6
TGIG				i S	Sn	20 17 30.5	-1.6
SCX	San Cristobal	2.27	90	i P	Pn	20 17 14.5	-0.8
SCX				i S	Sn	20 17 41.6	-1.3
SCX	San Cristobal	2.27	90	i P	Pn	20 17 14.1	-1.2
SCX				i S	Sn	20 17 39.3	-3.6
CCIG	Comitan	2.79	99	i P	Pn	20 17 22.0	-0.2
CCIG				i S	Sn	20 17 54.6	-0.5
CCIG	Comitan	2.79	99	i P	Pn	20 17 22.0	-0.2
CCIG				i S	Sn	20 17 56.6	+1.5
TPIG	Tehuac#an	2.80	307	i P	Pn	20 17 21.7	-0.6
TPIG				i S	Sn	20 17 53.6	-1.8
UTMO	Huajuapan	2.88	292	i P	Pn	20 17 23.0	-0.5
UTMO				i S	Sn	20 17 55.7	-1.9
PNIG	Pinotepa	3.02	264	i P	Pn	20 17 22.9	-2.5
PNIG				i S	Sn	20 17 58.3	-2.5
PPM	Popocatepetl	4.15	304	eP	Pn	20 17 39.9	-0.6
PPM				i S	Sn	20 18 26.8	-1.1

IDC 01 20:25:19.1±0.8, 260N×12684E, h0km, mb3.9/9, mb1 4.0/9, mb1mx3.9/18, mbtmp3.9/9, Error ellipse: s-maj=71.3km s-min=14.8km az=73.0
ISCJB 01 20:25:22.0±0.6, 26N±0.1×1270E±03, h33km, mb4.0/11, Error ellipse: s-maj=44.2km s-min=9.6km az=161.0
NEIC 01 20:25:23.5±0.6, 273N×12731E, h35km, mb4.2/3, Error ellipse: s-maj=40.9km s-min=7.5km az=69.0

ISC 01 20:25:24.0±0.6, 26N±01×1271E±03, h35km, n15, σ0.68/15, mb4.0/11, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	20.66	184	P	P	20 30 01.8	+1.0
	0.6nm,0.5s,baz=12,slow=14,SNR=5.4						
WRAB	Tennant Creek	23.52	163	eP	P	20 30 30.4	-0.8
	4.7nm,0.7s,mb4.0						
WRA	Warramunga Arr	23.53	163	P	P	20 30 30.8	-0.4
	3.1nm,0.5s,mb4.0,baz=345,slow=11,SNR=49						
WB2	Warramunga Arr	23.53	163	eP	P	20 30 30.8	-0.5
ASAR	Alice Springs	26.96	166	P	P	20 31 02.5	+0.1
	0.8nm,0.6s,mb3.5,baz=351,slow=7.8,SNR=20						
ASAR				PcP	PcP	20 34 25.0	+1.2
	0.3nm,0.5s,baz=350,slow=1.8,SNR=5.3						
KSRS	Korea Array	34.66	1	P	P	20 32 11.4	+1.3
	0.7nm,0.6s,mb3.8,baz=174,slow=9.8,SNR=4.7						
STKA	Stephens Creek	36.97	159	P	P	20 32 30.9	+0.8
	2.0nm,0.7s,mb4.1,baz=141,slow=4.5,SNR=5.7						
LSA	Lhasa	43.45	312	eP	P	20 33 24.7	+0.9
	1.8nm,0.8s,mb3.9						
SONM	Songino Array	48.45	341	P	P	20 34 03.0	+0.1
	0.2nm,0.5s,mb3.4,baz=157,slow=8.4,SNR=4.0						
SONM				PcP	PcP	20 35 30.0	+1.2
	0.5nm,0.7s,baz=174,slow=3.0,SNR=3.9						
MKAR	Makanchi Array	58.67	325	P	P	20 35 17.5	-0.4
	1.3nm,0.5s,mb4.2,baz=120,slow=8.2,SNR=19						
KURK	Kurchatov	62.87	328	eP	P	20 35 45.8	-0.6
	3.5nm,0.6s,mb4.7						
AKTK	Aktyubinsk	74.75	322	P	P	20 36 60.0	-0.4
AKTO	Aktyubinsk	74.75	322	P	P	20 36 60.0	-0.4
	2.0nm,0.6s,mb4.2,baz=104,slow=9.6,SNR=10						
ARCES	ARCESS Array B	91.60	340	P	P	20 38 26.3	-0.7
	1.4nm,0.9s,mb4.3,baz=64,slow=5.5,SNR=3.7						
ARCES	ARCESS Array B	91.60	340	P	P	20 38 26.3	-0.7

ISCJB 01 20:42:36.3±0.4, 859S±004×11845E±004, h145km±5km, mb4.3/14, Error ellipse: s-maj=8.0km s-min=5.9km az=37.3
NEIC 01 20:42:37.7±1.6, 852S×11852E, h140km±16km, mb4.5/7, Error ellipse: s-maj=20.8km s-min=8.2km az=70.0
IDC 01 20:42:38.5±1.6, 850S×11840E, h143km±13km, mb3.9/11, mb1 4.0/14, mb1mx3.9/19, mbtmp3.9/14, MS3.2/1, Ms1 3.2/1, ms1mx2.4/31, Error ellipse: s-maj=20.5km s-min=9.4km az=78.0
DJA 01 20:42:40, 896S×11840E, h70km, MLv4.8/5

ISC 01 20:42:37.4±0.4, 861S±004×11844E±004, h136km±5km, n45, σ1.14/52, mb4.3/14, Sumbawa region

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
BMNI	Bima	0.26	75	P	Pn	20 42 55.4	-0.6
	0.0nm,0.0s						
KHKI	Kahang-Kahang	2.81	275	P	Pn	20 43 20.4	-1.4
	0.0nm,0.0s						
KHKI	Kahang-Kahang	2.81	275	P	Pn	20 43 20.9	-0.9
DNP	Denpasar	3.20	268	P	Pn	20 43 27.5	+0.8
	0.0nm,0.0s						
DNP	Denpasar	3.20	268	P	Pn	20 43 27.4	+0.7
IGBI	Denpasar	3.27	266	P	Pn	20 43 26.8	-0.8
	0.0nm,0.0s						
NBBI	Negara	3.79	273	P	Pn	20 43 34.2	-0.3
	0.0nm,0.0s						
KAPI	Kappang	3.80	20	P	Pn	20 43 34.9	+0.3
	24nm,0.3s,baz=205,slow=7.4,SNR=63						
KAPI				S	Sn	20 44 20.2	+1.1
	4.2nm,0.3s,baz=53,slow=20,SNR=2.5						
KMMI	Kalianget	4.70	289	P	Pn	20 43 48.9	+2.4
	0.0nm,0.0s						
BATI	Baumata	5.39	108	P	Pn	20 43 56.8	+1.0
	0.0nm,0.0s						
BATI	Baumata	5.39	108	P	Pn	20 43 57.0	+1.2
	63nm,0.3s,baz=298,slow=5.0,SNR=90						
BATI				S	Sn	20 44 56.5	-0.5
	73nm,0.3s,baz=316,slow=21,SNR=9.9						
BATI	Baumata	5.39	108	P	Pn	20 43 57.0	+1.2
	91nm,0.5s,2μm0.5nm						
BBKI	Banjar Baru	6.24	325	P	Pn	20 44 09.2	+2.0
	0.0nm,0.0s						
BBKI	Banjar Baru	6.24	325	P	Pn	20 44 12.5	+5.3
	72nm,1.1s,0.3nm						
SJI	Sawahan	6.67	277	P	Pn	20 44 12.8	-0.1
	0.0nm,0.0s						
SJI	Sawahan	6.67	277	P	Pn	20 44 17.2	+4.3
PCI	Palu	7.77	10	P	Pn	20 44 37.2	+9.3
FITZ	Fitzroy Crossi	11.75	144	eP	Pn	20 45 19.6	-1.2
	15nm,0.8s						
FITZ				eS	Sn	20 47 21.1	-9.4
FITZ	Fitzroy Crossi	11.75	144	P	Pn	20 45 19.7	-1.1
	1.3nm,0.3s,baz=333,slow=8.8,SNR=46						
FITZ				S	Sn	20 47 22.5	-8.0
	2.5nm,0.3s,baz=172,slow=21,SNR=8.8						
FITZ	Fitzroy Crossi	11.75	144	P	Pn	20 45 20.1	-0.7
	36nm,0.7s						
MBWA	Marble Bar	12.54	174	ePn	Pn	20 45 29.4	-1.7
	24nm,0.6s						
KAKA	Kakadu	14.35	108	eP	Pn	20 45 53.1	-1.2
	14nm,0.6s						
KAKA				eS	Sn	20 48 18.7	-15
WRA	Warramunga Arr	19.07	128	P	P	20 46 49.8	+0.5
	1.1nm,0.3s,baz=301,slow=12,SNR=94						
WRA				S	S	20 50 13.8	-4.8
	0.6nm,0.3s,baz=302,slow=22,SNR=6.0						
WRA				ScP	ScP	20 54 31.1	-0.7
	0.1nm,0.3s,baz=322,slow=2.1,SNR=4.7						
WRA				LR	LR	20 55 36.9	
	comp=Z,70nm,21.2s,baz=265,slow=41						
WRA	Warramunga Arr	19.07	128	P	P	20 46 49.8	+0.5
WRA				S	S	20 50 13.8	-4.8
WRA				ScP	ScP	20 54 31.1	-0.7
WRA				LR	LR	20 55 36.9	
WRAB	Tennant Creek	19.07	128	ePn	Pn	20 46 49.9	-1.7
	9.1nm,0.6s						
WB2	Warramunga Arr	19.08	128	eP	P	20 46 49.9	+0.5
WB2				eS	S	20 50 12.9	-5.9
ASAR	Alice Springs	21.06	137	P	P	20 47 11.9	+1.2
	7.0nm,0.5s,mb4.2,baz=310,slow=9.2,SNR=198						
ASAR				S	S	20 50 58.7	+1.1
	1.6nm,0.9s,baz=313,slow=19,SNR=4.3						
ASAR				ScP	ScP	20 54 36.6	+0.1
	1.5nm,0.8s,baz=330,slow=1.9,SNR=5.9						
KLBR	Kellerberrin	22.88	182	eP	P	20 47 29.5	+0.2
	9.3nm,0.6s,mb4.4						
FORT	Forrest	23.82	159	eP	P	20 47 38.6	+0.7
	59nm,0.6s,mb5.3						
NWAO	Narrogin (SRO)	24.23	182	P	P	20 47 42.6	+1.0
	12nm,0.7s,mb4.5,baz=359,slow=8.5,SNR=11						
STKA	Stephens Creek	31.61	140	eP	P	20 48 48.9	+1.5
	4.0nm,0.6s,mb4.3						
STKA	Stephens Creek	31.61	140	P	P	20 48 49.0	+1.7
	5.5nm,0.6s,mb4.5,baz=332,slow=9.9,SNR=12						
STKA				PcP	PcP	20 51 37.5	+0.9
	2.4nm,0.4s,baz=344,slow=3.5,SNR=5.2						
CMAR	Chiang Mai Arr	33.07	324	P	P	20 49 00.8	+0.6
	1.1nm,0.6s,mb3.8,baz=157,slow=7.0,SNR=12						
CBIJ	Chichi jima	42.30	32	P	P	20 50 17.4	-0.3
	46nm,0.8s,mb5.2,baz=232,slow=18,SNR=3.7						
KSRS	Korea Array	46.67	10	P	P	20 50 53.0	+0.7
	3.3nm,0.9s,mb4.0,baz=192,slow=8.0,SNR=12						
KSRS				PcP	PcP	20 52 24.8	+1.0
	0.7nm,0.5s,baz=204,slow=4.6,SNR=4.0						
MJAR	Matsushiro Arr	48.60	21	P	P	20 51 05.8	-1.4
	1.5nm,0.9s,mb3.6,baz=206,slow=7.4,SNR=4.2						
SONM	Songino Array	57.20	350	P	P	20 52 09.6	-0.5
	1.6nm,0.6s,mb4.1,baz=169,slow=8.0,SNR=18						
MK31	Makanchi Array	63.86	333	eP	P	20 52 53.7	-1.5
MKAR	Makanchi Array	63.86	333	P	P	20 52 53.9	-1.4
	0.9nm,0.6s,mb3.8,baz=149,slow=6.0,SNR=11						
ZALV	Zalesovo Beam	68.48	339	P	P	20 53 22.6	-2.1
	2.6nm,0.6s,mb4.1,baz=145,slow=4.7,SNR=13						
MAW	Mawson	69.42	200	P	P	20 53 32.3	+2.0
	2.7nm,0.7s,mb4.1,baz=75,slow=11,SNR=7.9						
PETK	Petropavlovsk-	69.94	24	P	P	20 53 34.0	+0.4
	3.9nm,0.7s,mb4.3,baz=247,slow=3.1,SNR=9.5						
PETK	Petropavlovsk-	69.94	24	P	P	20 53 34.0	+0.4
TORD	Torodi Ar. Bea	117.85	280	PKP	PKPdf	21 01 08.4	-0.3
	1.4nm,0.5s,baz=47,slow=1.8,SNR=38						
CPUP	Villa Florida	145.03	187	PKPbc	PKPbc	21 02 00.4	+1.4
	1.9nm,0.4s,baz=97,slow=2.0,SNR=12						

IDC 01 21:23:51.5±1.4, 232N×12710E, h0km, mb3.7/6, mb1 3.9/6, mb1mx3.6/17, mbtmp3.7/6, Error ellipse: s-maj=99.9km s-min=17.8km az=68.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	20.34	184	P	P	21 28 30.6	+1.1
	0.9nm,0.5s,baz=12,slow=14,SNR=5.9						
WRA	Warramunga Arr	23.24	163	P	P	21 29 00.2	-0.4
	2.0nm,0.3s,baz=341,slow=11,SNR=59						
ASAR	Alice Springs	26.67	166	P	P	21 29 31.8	-0.5
	0.4nm,0.5s,baz=352,slow=7.7,SNR=9.1						
STKA	Stephens Creek	36.69	159	P	P	21 31 00.7	+0.4
	1.7nm,0.3s,baz=342,slow=7.7,SNR=14						
MKAR	Makanchi Array	58.91	326	P	P	21 33 50.7	-1.8
	0.3nm,0.6s,baz=118,slow=8.7,SNR=3.7						
KURK	Kurchatov	63.12	328	P	P	21 34 22.5	+1.5
	0.3nm,0.5s,baz=128,slow=6.4,SNR=2.3						

BJI 01 21:47:34.4, 1265N×14432E, h100km, mB4.8, mb4.6
ISCJB 01 21:47:42.3±0.8, 1295N±005×14367E±007, h130km±7km, mb4.4/32, Error ellipse: s-maj=10.5km s-min=9.0km az=170.1
IDC 01 21:47:44.0±0.8, 1294N×14383E, h135km±8km, mb3.8/13, mb1 4.0/13, mb1mx3.9/19, mbtmp3.8/13, Error ellipse: s-maj=17.1km s-min=10.8km az=82.0
NEIC 01 21:47:44.1±0.8, 1297N×14374E, h134km±7km, mb4.7/14, Error ellipse: s-maj=7.6km s-min=6.4km az=81.0

ISC 01 21:47:43.8±0.8, 1295N±005×14373E±007, h131km±7km, n60, σ0.88/57, mb4.4/32, 1C, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
GUMO	Guam	1.27	60	P	Pn	21 48 09.9	+0.4
	611nm,0.3s,baz=157,slow=15,SNR=339						
GUMO				S	Sn	21 48 28.4	+5.0
	370nm,0.3s,baz=16,slow=21,SNR=9.7						
JOW	Kunigami	20.02	316	P	P	21 52 08.4	+2.0
	26nm,0.8s,baz=167,slow=9.4,SNR=5.4						
PMG	Port Moresby	22.47	171	eP	P	21 52 33.1	+0.5
NACB	Ninganchiao	23.73	301	eP	P	21 52 42.8	-1.2
MJAR	Matsushiro Arr	24.01	349	P	P	21 52 44.9	-1.5
	2.8nm,0.6s,mb3.9,baz=169,slow=9.0,SNR=12						
MAJO	Matsushiro	24.01	349	eP	P	21 52 45.2	-1.3
	7.0nm,0.8s,mb4.2						
YHNB	Yeheng	24.12	302	eP	P	21 52 49.0	+1.4
	28nm,1.0s,mb4.8						
KSRS	Korea Array	28.19	333	P	P	21 53 23.5	-0.6
	2.1nm,0.8s,mb3.9,baz=137,slow=10,SNR=9.8						
CTAO	Charters Tower	32.93	176	eP	P	21 54 05.0	-0.9
	12nm,1.0s,mb4.6						
YSS	Yuzh-Sakhalins	33.90	359	P	P	21 54 14.1	0.0
WRAB	Tennant Creek	33.96	196	eP	P	21 54 15.2	+0.3
	2.6nm,0.6s,mb4.1						
WB2	Warramunga Arr	33.97	196	eP	P	21 54 15.0	+0.1
WB2	Warramunga Arr	33.97	196	eP	P	21 54 15.4	+0.4
WRA	Warramunga Arr	33.97	196	P	P	21 54 14.9	-0.1
	2.8nm,0.8s,mb4.0,baz=18,slow=9.6,SNR=38						
WRA				S	S	21 59 28.1	-2.4
	1.5nm,1.1s,baz=8.9,slow=15,SNR=4.6						
WRA				ScP	ScP	22 00 21.7	-1.5
	0.8nm,0.8s,baz=16,slow=3.7,SNR=6.4						
ASAR	Alice Springs	37.64	195	P	P	21 54 46.3	0.0
	1.7nm,0.5s,mb4.0,baz=19,slow=12,SNR=45						
ASAR				PcP	PcP	21 57 01.4	+0.3
	1.0nm,0.9s,baz=3.6,slow=4.0,SNR=4.6						
ASAR				ScP	ScP	22 00 35.5	-1.0
	0.3nm,0.8s,baz=12,slow=6.4,SNR=4.8						
ASAR	Alice Springs	37.64	195	P	P	21 54 46.3	0.0
ASAR				PcP	PcP	21 57 01.4	+0.3
ASAR				ScP	ScP	22 00 35.5	-1.0
CD2	Chengdu	40.89	302	⇑iP	P	21 55 13.2	-0.1
CD2				AMB	AMB		
	comp=Z,40nm,1.0s,mb5.0						
CD2				AMB	AMB		
	comp=Z,120nm,6.8s						
HIA	Hailar	41.26	336	eP	P	21 55 14.1	-1.8
	comp=Z,3.3nm,0.4s,mb4.3						
CM31	Chiang Mai Arr	43.38	283	eP	P	21 55 34.2	+0.6
CMAR	Chiang Mai Arr	43.38	283	P	P	21 55 34.9	+1.2
	comp=Z,7.5nm,0.5s,mb4.6,baz=80,slow=6.9,SNR=77						
CMAR				PcP	PcP	21 57 20.6	+0.6
	comp=Z,1.6nm,0.8s,baz=96,slow=1.2,SNR=7.0						
CHTO	Chiang Mai	43.38	284	eP	P	21 55 33.9	+0.3
STKA	Stephens Creek	44.62	183	P	P	21 55 42.6	-0.6
	comp=Z,1.2nm,0.4s,mb3.9,baz=360,slow=7.3,SNR=7.7						
STKA	Stephens Creek	44.62	183	eP	P	21 55 42.3	-0.9
SONM	Songino Array	46.62	326	P	P	21 55 59.6	+0.8
	comp=Z,1.1nm,0.6s,mb3.7,baz=146,slow=8.2,SNR=13						
SONM				PcP	PcP	21 57 29.9	-0.7
	comp=Z,1.1nm,0.7s,baz=135,slow=3.9,SNR=5.6						
GTA	Gaotai	46.77	312	eP	P	21 56 01.2	+1.1
GTA				AMB	AMB		
	comp=Z,6.0nm,0.8s,mb4.3						
LSA	Lhasa	51.30	298	P	P	21 56 37.0	+2.2
LSA	Lhasa	51.30	298	eP	P	21 56 36.1	+1.2
MKAR	Makanchi Array	61.18	316	P	P	21 57 45.0	+0.3
	comp=Z,2.2nm,0.6s,mb4.2,baz=91,slow=8.5,SNR=20						
MKAR	Makanchi Array	61.18	316	P	P	21 57 45.0	+0.3
ZALV	Zalesovo Beam	61.50	325	P	P	21 57 45.8	-0.8
	comp=Z,0.7nm,0.5s,mb3.8,baz=119,slow=4.6,SNR=3.8						
KURK	Kurchatov	64.36	320	eP	P	21 58 04.4	-1.2
	comp=Z,17nm,1.5s,mb4.7						
BRVK	Borovoye	69.81	322	eP	P	21 58 39.9	-0.1
	comp=Z,3.9nm,0.4s,mb4.5						
KBL	Kabul	70.23	302	eP	P	21 58 42.4	-0.6
	comp=Z,8.4nm,0.8s,mb4.5						
YKA	Yellowknife Ar	83.93	27	P	P	21 59 58.3	-0.6
	comp=Z,3.3nm,0.6s,mb4.2,baz=284,slow=5.1,SNR=6.3						
YKA	Yellowknife Ar	83.93	27	P	P	21 59 58.3	-0.6
YBH	Yreka Blue Hor	84.12	49	eP	P	22 00 01.0	+0.6
HAWA	Hanford	85.32	44	eP	P	22 00 06.4	+0.2
NEW	Newport	86.43	41	eP	P	22 00 11.4	-0.3
	comp=Z,13nm,0.8s,mb4.7						
BMO	Blue Mountains	87.22	45	eP	P	22 00 15.7	+0.1
	comp=Z,12nm,0.8s,mb4.8						
ARCES	ARCESS Array B	87.34	342	P	P	22 00 13.9	-1.8
	comp=Z,0.6nm,0.6s,mb3.6,baz=68,slow=9.6,SNR=5.2						
NVAR	Mina Array Bea	88.18	51	P	P	22 00 20.8	+0.5
	comp=Z,8.3nm,0.8s,mb4.6,baz=261,slow=6.0,SNR=36						
NVAR	Mina Array Bea	88.18	51	P	P	22 00 20.8	+0.5
TPH	Tonopah	89.09	51	eP	P	22 00 25.3	+0.7
	comp=Z,7.1nm,0.8s,mb4.7						
MIB	Mutribah	89.10	300	eP	P	22 00 24.3	-0.5
	baz=300						
MIB				AMb	AMB	22 00 25.2	
	comp=Z,20nm,1.1s,mb5.0,baz=300						
NAY	Al-Naaiem	89.31	300	eP	P	22 00 25.0	-0.8
	baz=299						
NAY				AMb	AMB	22 00 27.0	
	comp=Z,13nm,0.8s,mb4.9,baz=299						
RST	Umm Al-Ruwaisa	89.46	300	eP	P	22 00 25.9	-0.6
	baz=300						
RST				AMb	AMB	22 00 31.3	
	comp=Z,15nm,1.2s,mb4.8,baz=300						
HLID	Hailey	89.58	45	eP	P	22 00 27.3	+0.5
ELK	Elko	89.82	48	eP	P	22 00 28.6	+0.7
TPNV	Topopah Spring	90.15	52	eP	P	22 00 30.1	+0.6
	comp=Z,6.9nm,0.8s,mb4.6						
GSC	Goldstone	90.17	54	eP	P	22 00 30.0	+0.3
RRI2	Red Ridge	91.78	45	eP	P	22 00 37.7	+0.7
	comp=Z,6.8nm,0.8s,mb4.7						
IMW	Indian Meadow	91.86	44	eP	P	22 00 38.3	+1.0
	comp=Z,6.1nm,0.8s,mb4.7						
PDAR	Pinedale Array	93.19	45	P	P	22 00 43.3	-0.2
	comp=Z,0.7nm,0.7s,mb3.9,baz=225,slow=2.7,SNR=6.3						
LAO	LASA Array	93.92	40	eP	P	22 00 47.0	+0.2
PHWY	Pilot Hill	96.57	45	eP	P	22 01 03.0	+4.0
TORD	Torodi Ar. Bea	134.30	303	PKP	PKPdf	22 06 47.3	+0.1
	comp=Z,1.2nm,0.6s,baz=38,slow=2.3,SNR=22						
KIC	Kosan Boka	143.27	300	ePKP1	PKPdf	22 07 00.1	-3.5
	comp=Z,94nm,1.6s						
TIC	Toumodi	143.35	300	ePKP1	PKPdf	22 07 00.2	-3.6
	comp=Z,7.4nm,0.2s						
LIC	Lamto	143.58	300	ePKP1	PKPdf	22 07 01.0	-3.2
	comp=Z,72nm,1.0s						
LPAZ	La Paz	149.01	100	PKPbc	PKPbc	22 07 18.6	+1.2
	comp=Z,1.5nm,0.7s,baz=267,slow=5.6,SNR=11						

MAN 01 22:09:18, 1151N×12441E, h7km, mb4.5, ML3.4, MS3.3, 1C-2D, Leyte

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
OCLP	Ormoc	0.49	157	eP	Pg	22 09 28.1	+0.5
OCLP				eS	Sg	22 09 35.9	+1.8
PLP	Palo	0.65	122	⇓eP	Pg	22 09 30.5	-0.1
PLP				eS	Sg	22 09 39.3	+0.2
CNP	Catarman	1.02	14	eP	Pg	22 09 37.8	+0.1
CNP				eS	Sg	22 09 51.5	+0.5
LLP	Lapu-Lapu	1.26	200	⇑eP	Pn	22 09 40.9	-1.2
LLP				eS	Sb	22 09 58.3	-0.4
MSLP	Maasin	1.44	162	eP	Pn	22 09 44.8	+0.3
MSLP				eS	Sn	22 10 04.8	+1.2
RCP	Roxas	1.64	272	⇓eP	Pn	22 09 46.9	-0.3
RCP				eS	Sn	22 10 09.4	+0.9
TBP	Tagbilaran	1.89	197	eP	Pn	22 09 50.4	-0.3
TBP				eS	Sn	22 10 11.4	-3.3
GUIM	Jordan	1.99	244	eP	Pn	22 09 52.5	+0.3
GUIM				eS	Sn	22 10 18.9	+1.5
PVCP	Virac	2.09	353	eP	Pn	22 09 53.3	-0.1
OTRP	Odiongan	2.49	290	eP	Pn	22 09 59.0	0.0
OTRP				eS	Sn	22 10 21.4	-8.2

ISCJB 01 22:28:55.2±0.7, 6503N±006×1337W±0.1, h10km, mb3.7/2, Error ellipse: s-maj=8.0km s-min=6.8km az=168.8
IDC 01 22:28:57.8±3.6, 6545N×13372W, h0km, mb3.7/2, mb1 4.0/3, mb1mx3.5/24, mbtmp3.8/3, ML4.0/1, Error ellipse: s-maj=101.9km s-min=15.5km az=26.0
PGC 01 22:28:57.7, 6508N×134.10W, h1km, ML3.6, 262km south of Fort McPherson, Nt Northern Yukon Territory, Canada
NEIC 01 22:28:57.0, 6508N×134.10W, h1km, ML3.5(AEIC), ML3.6(PGC), After PGC.

ISC 01 22:28:57.5±0.6, 6494N±004×13363W±009, h10km, n17, σ1.43/27, mb3.7/2, 5D, Southern Yukon Territory

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
DAWY	Dawson	2.64	253	⇑Pn	Pn	22 29 40.0	-0.1
DAWY				⇑Sg	Sg	22 30 14.6	-7.6
BCA3	Beaver Creek A	4.05	246	P	Pn	22 29 59.0	-0.4
BCA3				S	Sn	22 30 51.2	+4.4
HYT	Haines Junctio	4.49	205	⇓Pn	Pn	22 30 06.6	+1.1
HYT				⇑Sn	Sn	22 30 58.1	+0.5
HYT				⇑Sg	Sg	22 31 18.2	-3.3
DOT	Dot Lake	4.72	259	P	Pn	22 30 08.2	-0.5
DOT				S	Sn	22 31 04.8	+1.4
MENT	Mentasta	4.88	250	P	Pn	22 30 11.1	+0.3
BM3	Burnt Mountain	5.10	304	P	Pn	22 30 10.0	-3.8
SKAG	Skagway	5.55	189	P	Pn	22 30 22.6	+2.6
PAX	Paxson	5.58	255	P	Pn	22 30 20.9	+0.6
PLBC	Pleasant Camp	5.65	194	⇓Pn	Pn	22 30 23.6	+2.3
PLBC				⇓Sn	Sn	22 31 26.1	0.0
PLBC				⇑Sg	Sg	22 31 56.7	-1.8
IL1	Eielson Array	5.66	274	P	Pn	22 30 19.8	-1.7
DLBC	Dease Lake	6.74	164	⇑Pn	Pn	22 30 39.7	+3.4
DLBC				⇓Sg	Sg	22 32 32.6	-1.0
YKW3	Yellowknife Ar	8.75	97	⇓P	Pn	22 31 05.5	+1.7
YKA	Yellowknife Ar	8.78	97	Pn	Pn	22 31 05.4	+1.2
	2.3nm,0.3s,baz=297,slow=13,SNR=42						
YKA				Sn	Sn	22 32 40.9	-2.2
	1.8nm,0.3s,baz=294,slow=22,SNR=11						
YKA	Yellowknife Ar	8.78	97	Pn	Pn	22 31 05.5	+1.2
YKA				Sn	Sn	22 32 40.9	-2.2
AKASG	Malin Array Be	63.94	12	P	P	22 39 28.9	-1.1
	0.3nm,0.3s,mb3.8,baz=356,slow=6.4,SNR=4.6						
MKAR	Makanchi Array	65.14	334	P	P	22 39 36.2	-1.8
	0.6nm,0.7s,mb3.7,baz=25,slow=5.0,SNR=4.0						
MKAR	Makanchi Array	65.14	334	P	P	22 39 36.2	-1.8

IDC 01 22:33:27.9±5.6, 327S×10094E, h0km, mb3.6/4, mb1 3.8/4, mb1mx3.5/19, mbtmp3.6/4, Error ellipse: s-maj=269.1km s-min=23.2km az=53.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRA	Warramunga Arr	36.55	120	P	P	22 40 35.3	-0.4
	0.5nm,0.4s,baz=295,slow=8.4,SNR=14						
ASAR	Alice Springs	37.76	125	P	P	22 40 46.4	+0.4
	0.2nm,0.4s,baz=289,slow=8.7,SNR=4.4						
MKAR	Makanchi Array	52.49	344	P	P	22 42 43.2	+0.5
	0.3nm,0.6s,baz=161,slow=9.2,SNR=4.6						
ZALV	Zalesovo Beam	58.58	349	P	P	22 43 25.9	-0.5
	1.6nm,0.7s,baz=157,slow=4.7,SNR=7.8						
TXAR	Lajitas Array	145.11	39	PKPbc	PKPbc	22 53 07.1	-0.5
	0.2nm,0.7s,baz=272,slow=2.5,SNR=3.0						

IDC 01 22:45:50.6±9.0, 2972S×17831W, h0km, mb3.3/2, mb1 3.5/2, mb1mx3.5/14, mbtmp3.3/2, Error ellipse: s-maj=323.5km s-min=49.6km az=28.0, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ASAR	Alice Springs	42.88	266	P	P	22 53 50.9	0.0
	0.2nm,0.7s,baz=104,slow=7.7,SNR=2.9						
WRA	Warramunga Arr	43.81	272	P	P	22 53 58.4	-0.1
	0.2nm,0.3s,baz=110,slow=8.2,SNR=8.1						
TORD	Torodi Ar. Bea	163.51	180	PKPab	PKPab	23 06 46.7	-0.3
	0.2nm,0.5s,baz=168,slow=4.2,SNR=4.8						

NEIC 01 22:51:12.7, 3758S×17624E, h272km, MG4.0(WEL), After WEL., North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
URZ	Urewera	0.97	135	P	Pn	22 51 49.9	+0.1
MWZ	Matawai	1.27	127	P	Pn	22 51 51.8	+0.3
MWZ				S	S	22 52 22.5	+0.3
WNVZ	Wahianoa	1.82	196	P	Pn	22 51 55.9	+0.5
KNZ	Kokohu	1.83	142	P	Pn	22 51 55.4	-0.1
KNZ				S	S	22 52 28.3	-1.1
MOVZ	Moawhango	1.86	192	P	Pn	22 51 55.8	0.0
MRZ	Mangatainoka R	3.12	189	P	Pn	22 52 06.2	-1.5
MRZ				S	S	22 52 49.4	-2.1
KIW	Kapiti Island	3.44	197	P	Pn	22 52 09.5	-1.6
CAW	Cannon Point	3.64	194	P	Pn	22 52 11.5	-1.8
MRW	Makara Radio	3.83	198	P	Pn	22 52 13.6	-1.9
MSWZ	Moikau Station	3.91	191	P	Pn	22 52 14.0	-2.3
SNZO	South Karori	3.91	197	P	Pn	22 52 14.4	-1.9
NNZ	Nelson	4.26	210	P	Pn	22 52 17.9	-2.4
QRZ	Quartz Range	4.34	220	P	Pn	22 52 18.5	-2.8
THZ	Tophouse	4.91	211	P	Pn	22 52 25.6	-2.4
KHZ	Kahutara	5.26	202	P	Pn	22 52 29.7	-2.4
DSZ	Denniston Nort	5.39	218	P	Pn	22 52 30.3	-3.4
LTZ	Lake Taylor	6.02	209	P	Pn	22 52 38.4	-3.0
WVZ	Waitaha Valley	6.91	216	P	Pn	22 52 49.2	-3.2

*IDC **01** 23:10:51.7±0.9, 1301S×7052W, h0km, mb3.6/2, mb1 3.6/6, mb1mx3.5/21, mbtmp3.4/6, ML3.9/3, Error ellipse: s-maj=34.6km s-min=16.5km az=49.0*
*ISCJB **01** 23:10:56.0±1.5, 1304S±008×7041W±009, h44km±18km, mb4.0/4, Error ellipse: s-maj=17.1km s-min=10.0km az=138.1*
*NEIC **01** 23:10:57.9±0.9, 1305S×7043W, h45km±10km, mb4.4/2, Error ellipse: s-maj=11.1km s-min=8.2km az=60.0*
ISC 01 23:10:58.0±1.2, 1305S±008×7042W±009, h42km±15km, n22, σ0.76/18, mb4.0/4, Central Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ARE	Arequipa	3.55	197	eP	Pn	23 11 51.0	+0.4
LPAZ	La Paz	3.91	146	Pn	Pn	23 11 56.6	+1.1
	1.0nm,0.3s,baz=327,slow=8.4,SNR=25						
LPAZ				Lg		23 12 57.2	
	15nm,0.3s,baz=187,slow=20,SNR=14						
LPAZ	La Paz	3.91	146	Pn	Pn	23 11 56.6	+1.1
LPAZ				eSn	Sn	23 12 40.3	+0.1
LPAZ				Lg		23 12 57.2	
NNA	Nana	6.36	279	Pn	Pn	23 12 30.1	+0.9
SIV	San Ignacio	9.51	109	Pn	Pn	23 13 11.8	-0.7
	0.7nm,0.3s,baz=301,slow=12,SNR=17						
SIV				Lg		23 15 57.0	
	1.5nm,0.3s,baz=202,slow=22,SNR=4.0						
LVC	Limon Verde	9.62	172	ePn	Pn	23 13 12.6	-1.3
LCO	Las Campanas	15.89	181	ePn	Pn	23 14 37.8	-0.8
CPUP	Villa Florida	18.05	139	P	Pn	23 15 06.4	+0.8
	0.4nm,0.3s,baz=316,slow=12,SNR=4.3						
CFAA	Coronel Fontan	18.58	174	P	Pn	23 15 10.8	-1.2
	0.0nm,0.3s,baz=349,slow=11,SNR=3.9						
SDV	Santo Domingo	21.79	359	eP	P	23 15 45.8	-0.7
	8.1nm,1.6s,mb3.9						
TRQA	Tornquist	26.02	165	P	P	23 16 27.7	+0.7
MTP	Monte Pirata	31.32	9	P	P	23 17 14.1	-0.2
BBSR	BB Station	45.49	7	P	P	23 19 12.9	-0.3
TXAR	Lajitas Array	52.97	323	P	P	23 20 10.1	-0.3
	0.2nm,0.5s,mb3.3,baz=161,slow=5.7,SNR=3.4						
TXAR	Lajitas Array	52.97	323	P	P	23 20 10.1	-0.3
DBIC	Dimbokro	68.00	77	eP	P	23 21 54.2	+0.8
	13nm,1.2s,mb4.8						
TORD	Torodi Ar. Bea	76.06	73	P	P	23 22 42.1	+0.5
	1.1nm,0.7s,mb3.9,baz=262,slow=4.6,SNR=16						
AKTK	Aktyubinsk	124.05	37	P	Pdif	23 26 30.6	+5.2
ASAR	Alice Springs	136.44	213	PKP	PKPdf	23 30 16.6	+0.6
	0.2nm,0.5s,baz=141,slow=1.9,SNR=2.5						
SONM	Songino Array	145.22	4	PKPbc	PKPbc	23 30 30.9	+0.2
	0.7nm,0.5s,baz=342,slow=4.1,SNR=4.2						
FITZ	Fitzroy Crossi	145.23	207	PKPbc	PKPbc	23 30 30.8	-0.8
	0.9nm,0.4s,baz=157,slow=7.7,SNR=3.9						
MJAR	Matsushiro Arr	145.27	317	PKPbc	PKPbc	23 30 29.0	-2.3
	0.9nm,0.5s,baz=70,slow=4.1,SNR=4.1						

*BJI **01** 23:16:40.0, 1035N×14609E, h23km, mB5.2, mb5.1, Ms4.8, Msz4.5*
*ISCJB **01** 23:16:41.3±1.1, 1042N±003×14566E±004, h16km±7km, mb5.1/90, MS4.4/40, Error ellipse: s-maj=6.6km s-min=5.2km az=162.1*
*IDC **01** 23:16:41.1±0.5, 1035N×14541E, h0km, mb4.8/21, mb1 4.9/21, mb1mx4.8/25, mbtmp4.8/21, ML5.9/1, MS4.3/21, Ms1 4.3/21, ms1mx4.2/28, Error ellipse: s-maj=18.3km s-min=11.1km az=87.0*
*DJA **01** 23:16:42, 1066N×14618E, h19km, Mw5.3/5*
*MOS **01** 23:16:43.6±1.1, 1039N×14568E, h33km, mb5.3/37, MS4.3/15, Error ellipse: s-maj=11.3km s-min=5.8km az=109.3*
*NEIC **01** 23:16:46.2±0.6, 1041N×14566E, h38km±5km, mb5.2/32, Error ellipse: s-maj=6.8km s-min=4.9km az=84.0*
*GCMT **01** 23:16:46.2±0.1, 1057N×14563E, h27km, MW5.3/86, Moment Tensor Solution. s67,c110; s86,c156; Duration: 1.1 Moment tensor: Scale 10^{17}Nm; M_{rr}-0.09±.02; $M_{\theta\theta}$0.87±.02; $M_{\phi\phi}$-0.78±.02; $M_{r\theta}$0.32±.03; $M_{\theta\phi}$0.52±.02; $M_{\phi r}$0.23±.04; Best double couple: $M_0$1.04200×10^{17} NP1:ϕ_s120.00000°, δ71.00000°, λ5.00000°. NP2:ϕ_s29.00000°, δ85.00000°, λ161.00000°. Principal axes: T 1.1350, Plg17.0000°, Azm343.0000°; N -0.1860, Plg70.0000°, Azm194.0000°; P -0.9490, Plg9.0000°, Azm76.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
ISC 01 23:16:44.7±1.2, 1041N±003×14569E±004, h27km±8km, h37km±1.6km:pP-P, n224, σ1.00/224, mb5.1/90, MS4.4/40, 14C-6D, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
GUMO	Guam	3.26	346	Pn	Pn	23 17 31.9	-2.2
	1μm,0.3s,baz=169,slow=10,SNR=113						
GUMO				Sn	Sn	23 18 08.8	-3.2
	1μm,0.3s,baz=185,slow=23,SNR=10						
GUMO				LR	LR	23 18 41.9	
	comp=Z,3μm,20.1s,baz=240,slow=37						
GUMO	Guam	3.26	346	ePn	Pn	23 17 31.8	-2.4
PMG	Port Moresby	19.74	176c	iP	Pn	23 21 12.5	-1.7
PMG	Port Moresby	19.74	176	eP	Pn	23 21 12.9	-1.3
DAV	Davao City (W)	20.16	262	P	P	23 21 17.9	+0.7
	56nm,0.3s,baz=86,slow=3.6,SNR=7.0						
DAV				LR	LR	23 27 33.5	
	comp=Z,605nm,19.1s,MS4.0,baz=77,slow=33						
TBP	Tagbilaran	21.51	270	eP	P	23 21 32.0	+0.1
JOW	Kunigami	23.17	317	P	P	23 21 48.6	-0.8
	61nm,1.0s,mb5.0,baz=151,slow=12,SNR=16						
JOW				LR	LR	23 28 46.1	
	comp=Z,616nm,20.4s,MS4.0,baz=121,slow=32						
HNR	Honiara	24.29	144	P	P	23 21 58.2	-1.9
COEN	Coen	24.34	186	eP	P	23 22 00.4	-0.1
	66nm,1.5s,mb4.8						
KAKA	Kakadu	26.48	210	eP	P	23 22 18.9	-1.0
	15nm,0.6s,mb4.7						
NACB	Ninganchiao	26.71	304	eP	P	23 22 21.5	-0.5
MJAR	Matsushiro Arr	26.88	347	P	P	23 22 21.4	-2.0
	48nm,1.0s,mb5.0,baz=171,slow=10,SNR=40						
MJAR				LR	LR	23 31 35.2	
	comp=Z,713nm,21.6s,MS4.2,baz=160,slow=33						
MJAR	Matsushiro Arr	26.88	347	P	P	23 22 21.4	-2.0
MJAR				pmax	pmax		
	comp=Z,48nm,1.0s						
MJAR				MLR	MLR		
	comp=Z,713nm,21.6s						
MAJO	Matsushiro	26.88	347	eP	P	23 22 22.0	-1.4
MAT	Matsushiro	26.88	347	P	P	23 22 21.1	-2.3
MAT				S	S	23 26 54.0	-4.5
YHNB	Yeheng	27.11	305	eP	P	23 22 25.6	-0.1
	comp=Z,102nm,1.3s,mb5.2						
TATO	Taipei	27.16	305	P	P	23 22 24.4	-1.6
BATI	Baumata	30.00	228	P	P	23 22 51.3	-0.1
	comp=Z,30nm,0.7s,mb5.1,baz=28,slow=2.8,SNR=6.6						
KAPI	Kappang	30.04	241	P	P	23 22 50.3	-1.5
	comp=Z,18nm,0.8s,mb4.8,baz=67,slow=7.7,SNR=3.5						
KAPI	Kappang	30.04	241	P	P	23 22 50.3	-1.5
CTA	Charters Tower	30.31	179	eP	P	23 22 52.6	-1.5
	comp=Z,16nm,1.1s,mb4.7						
CTA	Charters Tower	30.31	179	P	P	23 22 53.9	-0.2
	comp=Z,9.5nm,0.5s,mb4.8,baz=2.5,slow=9.9,SNR=12						
CTA				LR	LR	23 35 15.9	
	comp=Z,375nm,18.2s,MS4.1,baz=357,slow=37						
CTA	Charters Tower	30.31	179	eP	P	23 22 52.6	-1.5
CTA				pmax	pmax		
	comp=Z,16nm,1.1s						
CTAO	Charters Tower	30.31	179	eP	P	23 22 53.3	-0.8
CTAO				pmax	pmax		
	comp=Z,32nm,1.1s,mb5.0						
CTAO	Charters Tower	30.31	179	eP	P	23 22 53.3	-0.8
	comp=Z,32nm,1.1s,mb5.0						
SSE	Sheshan	30.67	316	P	P	23 22 59.3	+2.1
SSE				S	S	23 27 58.5	+0.3
SSE				XS	sS	23 28 16.8	+5.6
SSE				AMB	AMB		
	comp=Z,14nm,1.0s,mb4.8						
SSE				AMB	AMB		
	comp=Z,292nm,5.0s						
SSE				LR	LR		
	comp=N,634nm,22.6s,MS4.4						
SSE				LR	LR		
	comp=E,647nm,22.6s,MS4.4						
SSE				LR	LR		
	comp=Z,291nm,19.5s,MS3.9						
SSE	Sheshan	30.67	316	P	P	23 22 59.3	+2.1
	comp=Z,14nm,1.0s,mb4.8						
SSE				sP	sP	23 23 15.5	+7.2
SSE				S	S	23 27 58.5	+0.3
SSE				sS	sS	23 28 16.8	+5.6
SSE				LR	LR		
	comp=Z,290nm,19.5s,MS3.9						
KSRS	Korea Array	31.32	332	P	P	23 23 01.9	-1.0
	comp=Z,25nm,0.8s,mb5.1,baz=146,slow=9.7,SNR=68						
KSRS	Korea Array	31.32	332	P	P	23 23 01.9	-1.0
KSRS				pmax	pmax		
	comp=Z,25nm,0.8s,mb5.1						
KS15	Wonju Array Si	31.33	332	eP	P	23 23 02.6	-0.3
INCN	Inchon	31.95	331	P	P	23 23 07.7	-0.7
WRAB	Tennant Creek	32.16	200	P	P	23 23 10.0	-0.4
	comp=Z,239nm,1.3s,mb5.9,SNR=23						
WRAB	Tennant Creek	32.16	200	eP	P	23 23 10.0	-0.3
WB2	Warramunga Arr	32.17	200	eP	P	23 23 10.0	-0.4
WB2	Warramunga Arr	32.17	200	eP	P	23 23 10.0	-0.4
WB2				epP	pP	23 23 20.5	+2.1
WB2				PcP	PcP	23 25 56.0	-3.1
WRA	Warramunga Arr	32.17	200	P	P	23 23 10.3	-0.2
	comp=Z,22nm,0.9s,mb5.0,baz=19,slow=9.5,SNR=57						
WRA				LR	LR	23 35 11.8	
	comp=Z,503nm,22.0s,MS4.2,baz=15,slow=35						
WRA	Warramunga Arr	32.17	200	P	P	23 23 10.3	-0.2
WRA				pmax	pmax		
	comp=Z,22nm,0.9s						
WRA				MLR	MLR		
	comp=Z,503nm,22.0s						
NJ2	Nanjing	32.84	315	eP	P	23 23 15.9	-0.4
NJ2				AP	pP	23 23 24.3	+0.1
NJ2				XP	sP	23 23 28.3	+0.9
NJ2				S	S	23 28 27.5	-4.6
NJ2				AMB	AMB		
	comp=Z,60nm,1.1s,mb5.4						
NJ2				AMB	AMB		
	comp=Z,610nm,5.1s						
NJ2				LR	LR		
	comp=N,360nm,24.4s						
NJ2				LR	LR		
	comp=E,580nm,16.2s						
NJ2				LR	LR		
	comp=Z,570nm,16.2s						
FITZ	Fitzroy Crossi	34.57	215	eP	P	23 23 31.2	-0.2
	comp=Z,9.4nm,0.9s,mb4.7						
FITZ	Fitzroy Crossi	34.57	215	P	P	23 23 30.6	-0.8
	comp=Z,7.9nm,1.1s,mb4.6,baz=44,slow=8.5,SNR=7.9						
FITZ				LR	LR	23 37 29.8	
	comp=Z,235nm,18.4s,MS4.0,baz=218,slow=36						
FITZ	Fitzroy Crossi	34.57	215	eP	P	23 23 34.0	+2.6
	comp=Z,26nm,1.2s,mb5.0						
VLA	Vladivostok	34.73	342	eP	P	23 23 33.0	+0.4
VLA				pmax	pmax		
	comp=Z,209nm,1.8s,mb5.8						
VLA				MLR	MLR		
	comp=Z,600nm,16.7s,MS4.4						
WHN	Wuhan	35.35	309	⇑P	P	23 23 39.0	+0.9
DL2	Dalian	35.59	327	P	P	23 23 41.1	+1.0
DL2				S	S	23 29 15.5	+1.0
DL2				AMB	AMB		
	comp=Z,50nm,1.0s,mb5.4						
DL2				AMB	AMB		
	comp=Z,240nm,5.5s						
DL2				LR	LR		
	comp=N,270nm,15.0s,MS4.2						
DL2				LR	LR		
	comp=E,180nm,14.7s,MS4.2						
DL2				LR	LR		
	comp=Z,310nm,17.1s,MS4.1						
QIZ	Qiongzhong	35.66	288	P	P	23 23 40.5	-0.4
QIZ				eS	S	23 29 15.7	-0.3
QIZ				LR	LR		
	comp=N,754nm,24.8s						
QIZ				LR	LR		
	comp=E,319nm,30.8s						
ASAR	Alice Springs	35.78	199	P	P	23 23 41.8	0.0
	comp=E,44nm,1.1s,mb5.3,baz=23,slow=6.9,SNR=133						
ASAR	Alice Springs	35.78	199	P	P	23 23 41.8	0.0
ASAR				pmax	pmax		
	comp=Z,45nm,1.1s						
EIDS	Eidsvold	35.95	172	eP	P	23 23 47.8	+4.6
TIA	Tai'an	36.45	319	eP	P	23 23 47.2	-0.3
YSS	Yuzh-Sakhalins	36.50	357	eP	P	23 23 46.8	-0.9
YSS				e		23 32 19.0	
YSS				MLR	MLR		
	comp=E,300nm,18.0s						
YSS				MLR	MLR		
	comp=Z,500nm,18.0s,MS4.3						
MDJ	Mudanjiang	36.80	341	P	P	23 23 50.1	-0.2
MDJ				AP	pP	23 23 59.0	+0.7
MDJ				XP	sP	23 24 02.9	+1.4
MDJ				PP	PP	23 25 14.0	-0.4
MDJ				S	S	23 29 31.0	-1.8
MDJ				XS	sS	23 29 47.5	+1.5
MDJ				SCP	ScP	23 29 56.6	-0.7
MDJ				PCS	PcS	23 30 00.2	+0.2
MDJ				AMB	AMB		
	comp=Z,61nm,1.5s,mb5.2						
MDJ				AMB	AMB		
	comp=Z,110nm,3.6s						
MDJ				LR	LR		
	comp=N,369nm,24.7s,MS4.3						
MDJ				LR	LR		
	comp=E,509nm,28.4s,MS4.3						
MDJ				LR	LR		
	comp=Z,461nm,34.7s						
MDJ	Mudanjiang	36.80	341	eP	P	23 23 49.8	-0.5
	comp=Z,109nm,1.3s,mb5.5						
CN2	Changchun	37.61	336	eP	P	23 23 56.9	-0.3
CN2				ePP	PP	23 25 26.3	+3.0
CN2				eS	S	23 29 44.8	-0.4
CN2				eSS	SS	23 32 21.2	-10
CN2				AMB	AMB		
	comp=Z,40nm,1.1s,mb5.1						
CN2				AMB	AMB		
	comp=Z,200nm,6.0s						
CN2				LR	LR		
	comp=N,400nm,15.0s,MS4.5						
CN2				LR	LR		
	comp=E,500nm,15.0s,MS4.5						
CN2				LR	LR		
	comp=Z,600nm,17.0s,MS4.5						
DZM	Mont Dzumac	38.16	148	eP	P	23 24 01.4	-0.7
HABR	Khabarovsk	38.97	349	eP	P	23 24 07.3	-1.3
HABR				e		23 24 17.1	
HABR				e		23 24 20.7	
HABR				e		23 25 37.5	
HABR				e		23 25 58.3	
HABR				eS	S	23 30 04.8	-0.8
HABR				e		23 30 21.6	
HABR				e		23 33 16.4	
HABR				e		23 34 11.0	
BJT	Baijiatuau	39.43	323	eP	P	23 24 12.7	+0.1
BJT				pmax	pmax		
	comp=Z,34nm,0.5s						
BJT	Baijiatuau	39.43	323	eP	P	23 24 12.7	+0.1
	comp=Z,34nm,0.5s,mb5.3						
BJI	Beijing	39.44	323	P	P	23 24 12.9	+0.3
BJI				XP	sP	23 24 26.1	+2.2
BJI				S	S	23 30 13.8	+0.8
BJI				XS	sS	23 30 29.3	+3.2
BJI				SS	SS	23 33 08.6	+0.9
BJI				AMB	AMB		
	comp=Z,48nm,1.2s,mb5.1						
BJI				AMB	AMB		
	comp=Z,238nm,3.4s						
BJI				LR	LR		
	comp=N,832nm,18.4s						
BJI				LR	LR		
	comp=E,663nm,24.0s						
BJI				LR	LR		
	comp=Z,419nm,31.5s						
BJI	Beijing	39.44	323	P	P	23 24 12.9	+0.3
	comp=Z,48nm,1.2s,mb5.1						
BJI				sP	sP	23 24 26.1	+2.2
BJI				S	S	23 30 13.8	+0.8
BJI				sS	sS	23 30 29.3	+3.2
BJI				SS	SS	23 33 08.6	+0.9
BJI				LR	LR		
	comp=Z,420nm,31.5s,MS4.1						
GYA	Guiyang	40.13	299⇓	iP	P	23 24 18.6	+0.1
GYA				AP	pP	23 24 31.6	+5.0
GYA				XP	sP	23 24 35.8	+6.0
GYA				PP	PP	23 25 56.4	+5.3
GYA				PCP	PcP	23 26 24.2	+1.4
GYA				SCP	ScP	23 30 09.0	-1.4
GYA				S	S	23 30 22.2	-1.4
GYA				SS	SS	23 33 19.4	-2.4
GYA				AMB	AMB		
	comp=Z,30nm,1.0s,mb5.0						
GYA				AMB	AMB		
	comp=Z,140nm,5.8s						
GYA				LR	LR		
	comp=N,740nm,18.6s,MS4.7						
GYA				LR	LR		
	comp=E,660nm,19.4s,MS4.7						
GYA				LR	LR		
	comp=Z,780nm,18.5s,MS4.6						
KLR	Kul'dur	40.40	346⇓	iP	P	23 24 16.2	-4.3
KLR				pmax	pmax		
	comp=Z,110nm,2.0s,mb5.2						
MBWA	Marble Bar	40.44	219	eP	P	23 24 21.3	+0.2
	comp=Z,58nm,1.4s,mb5.1						
ARMA	Armidale	40.99	172	eP	P	23 24 25.2	-0.4
XAN	Xi'an	41.03	311	P	P	23 24 25.9	0.0
XAN				AP	pP	23 24 35.0	+1.1
XAN				XP	sP	23 24 38.9	+1.8
XAN				PP	PP	23 26 01.0	+0.2
XAN				S	S	23 30 37.1	+0.3
XAN				SS	SS	23 33 41.0	+1.4
XAN				AMB	AMB		
	comp=Z,8.0nm,0.9s,mb4.3						
XAN				AMB	AMB		
	comp=Z,13nm,12.7s						
XAN				LR	LR		
	comp=N,530nm,39.0s,MS4.2						
XAN				LR	LR		
	comp=E,296nm,38.3s,MS4.2						
XAN				LR	LR		
	comp=Z,191nm,26.0s						
KKTK	Khon Kaen	42.06	283	P	P	23 24 36.0	+1.4
STKA	Stephens Creek	42.23	185	eP	P	23 24 34.6	-1.1
	comp=Z,9.8nm,0.9s,mb4.4						
STKA	Stephens Creek	42.23	185	P	P	23 24 34.6	-1.1
	comp=Z,6.6nm,0.5s,mb4.5,baz=353,slow=7.8,SNR=13						
STKA				LR	LR	23 42 26.1	
	comp=Z,445nm,18.5s,MS4.4,baz=0.7,slow=37						
HHC	Hu-ho-hao-te	42.72	321	⇑P	P	23 24 40.4	+0.8
HHC				AP	pP	23 24 50.9	+3.3
HHC				XP	sP	23 24 55.0	+4.1
HHC				PP	PP	23 26 21.5	+2.6
HHC				PCP	PcP	23 26 32.6	+1.6
HHC				SCP	ScP	23 30 19.6	-0.8
HHC				PCS	PcS	23 30 24.3	+1.2
HHC				S	S	23 31 02.2	+0.6
HHC				XS	sS	23 31 17.1	+2.3
HHC				SS	SS	23 34 04.9	-7.8
HHC				SCS	ScS	23 34 37.7	-1.5
HHC				AMB	AMB		
	comp=Z,17nm,1.2s,mb4.7						
HHC				AMB	AMB		
	comp=Z,207nm,7.5s						
HHC				LR	LR		
	comp=N,567nm,15.9s,MS4.7						
HHC				LR	LR		
	comp=E,554nm,15.8s,MS4.7						
HHC				LR	LR		
	comp=Z,493nm,17.6s,MS4.5						
KMI	Kunming	43.24	296	P	P	23 24 46.2	+2.1
KMI				AP	pP	23 24 55.2	+3.1
KMI				XP	sP	23 24 59.8	+4.4
KMI				PP	PP	23 26 28.3	+3.5
KMI				S	S	23 31 10.8	+1.0
KMI				XS	sS	23 31 25.8	+2.8
KMI				SS	SS	23 34 17.9	-5.6
KMI				AMB	AMB		
	comp=Z,22nm,1.1s,mb4.8						
KMI				AMB	AMB		
	comp=Z,381nm,4.0s						
KMI				LR	LR		
	comp=N,797nm,13.7s,MS4.9						
KMI				LR	LR		
	comp=E,730nm,15.5s,MS4.9						
KMI				LR	LR		
	comp=Z,536nm,17.9s,MS4.5						
KMI	Kunming	43.24	296	P	P	23 24 46.2	+2.1
KMI				*PP	pP	23 24 55.2	+3.1
KMI				*SP	sP	23 24 59.8	+4.4
KMI						23 26 28.3	
KMI				S	S	23 31 10.8	+1.0
KMI				*SS	sS	23 31 25.8	+2.8
KMI				SS	SS	23 34 17.9	-5.6
KMI				pmax	pmax		
	comp=Z,22nm,1.1s,mb4.8						
KMI				MLR	MLR		
	comp=Z,540nm,17.9s,MS4.5						
KMI	Kunming	43.24	296	P	P	23 24 46.2	+2.1
	comp=Z,22nm,1.1s,mb4.8						
KMI				pP	pP	23 24 55.2	+3.1
KMI				sP	sP	23 24 59.8	+4.4
KMI				PP	PP	23 26 28.3	+3.5
KMI				S	S	23 31 10.8	+1.0
KMI				sS	sS	23 31 25.8	+2.8
KMI				SS	SS	23 34 17.9	-5.6
KMI				LR	LR		
	comp=Z,540nm,17.9s,MS4.5						
BTO	Baotou	43.54	320	eP	P	23 24 45.9	-0.4
PETK	Petropavlovsk-	43.66	10	P	P	23 24 47.0	-0.1
	comp=Z,6.0nm,1.0s,mb4.3,baz=7.1,slow=6.0,SNR=3.9						

PETK LR LR 23 44 01.2
comp=Z,321nm,18.8s,MS4.2,baz=200,slow=38
PET Petropavlovsk 43.76 11 *e*P **P 23 24 49.8 +2.0**
PET *e*S **S 23 31 16.1 -0.4**
PET 23 34 31.6
PET MLR MLR
comp=Z,300nm,16.0s,MS4.3
CD2 Chengdu 43.88 304⇑ *i*P **P 23 24 49.5 +0.3**
CD2 AP pP 23 25 00.5 +3.3
CD2 XP sP 23 25 04.8 +4.3
CD2 PP PP 23 26 33.4 +1.8
CD2 PCS PcS 23 30 27.8 -0.4
CD2 S **S 23 31 17.5 -1.5**
CD2 XS sS 23 31 35.0 +2.7
CD2 SCS ScS 23 34 43.6 -3.3
CD2 AMB AMB
comp=Z,40nm,0.9s,mb5.2
CD2 AMB AMB
comp=Z,660nm,7.2s
CD2 LR LR
comp=N,590nm,18.0s,MS4.7
CD2 LR LR
comp=E,500nm,15.6s,MS4.7
CD2 LR LR
comp=Z,490nm,14.4s,MS4.6
NANT Nan 44.23 286 ⇓P **P 23 24 51.0 -1.1**
comp=Z,288nm,1.0s,mb6.0
FORT Forrest 44.32 202 *e*P **P 23 24 52.5 -0.1**
comp=Z,47nm,0.6s,mb5.4
HIA Hailar 44.35 336 *c i*P **P 23 24 52.5 -0.1**
HIA Hailar 44.35 336 *e*P **P 23 24 51.0 -1.6**
comp=Z,33nm,0.8s,mb5.1
NST Nakhon Sawan 44.63 282 P **P 23 24 56.0 +0.7**
CHRT Chiangrai 45.18 288 P **P 23 25 08.0 +8.3**
comp=Z,105nm,1.0s,mb5.6
CNB Canberra Magne 45.61 176 *e*P **P 23 25 03.0 +0.2**
LZH Lanzhou 45.66 311 ⇓P **P 23 25 04.5 +1.2**
LZH AP pP 23 25 14.6 +3.2
LZH XP sP 23 25 18.3 +3.7
LZH PP PP 23 26 51.6 +1.1
LZH *e*S **S 23 31 44.1 -0.6**
LZH XS sS 23 32 00.5 +2.5
LZH SS SS 23 34 59.6 -10
LZH AMB AMB
comp=Z,56nm,1.5s,mb5.3
LZH AMB AMB
comp=Z,197nm,6.3s
LZH LR LR
comp=E,512nm,15.0s
LZH LR LR
comp=Z,967nm,17.9s,MS4.8
LZH Lanzhou 45.66 311 ⇓P **P 23 25 04.5 +1.2**
LZH *PP pP 23 25 14.6 +3.2
LZH *SP sP 23 25 18.3 +3.7
LZH 23 26 51.6
LZH *e*S **S 23 31 44.1 -0.6**
LZH *SS sS 23 32 00.5 +2.5
LZH SS SS 23 34 59.6 -10
LZH pmax pmax
comp=Z,56nm,1.5s,mb5.3
LZH MLR MLR
comp=Z,970nm,17.9s,MS4.8
LZH Lanzhou 45.66 311 ⇓P **P 23 25 04.5 +1.2**
comp=Z,56nm,1.5s,mb5.3
LZH pP pP 23 25 14.6 +3.2
LZH sP sP 23 25 18.3 +3.7
LZH PP PP 23 26 51.6 +1.1
LZH *e*S **S 23 31 44.1 -0.6**
LZH sS sS 23 32 00.5 +2.5
LZH SS SS 23 34 59.6 -10
LZH LR LR
comp=Z,970nm,17.9s,MS4.8
BDT Bhumibol Dam 45.76 284 P **P 23 25 06.0 +1.7**
CM31 Chiang Mai Arr 45.87 286 *e*P **P 23 25 00.1 -5.1**
CMAR Chiang Mai Arr 45.87 286 P **P 23 25 06.8 +1.6**
comp=Z,16nm,0.8s,mb5.0,baz=85,slow=6.0,SNR=64
CMAR LR LR 23 43 25.2
comp=Z,249nm,18.7s,MS4.2,baz=267,slow=35
CMAR Chiang Mai Arr 45.87 286⇑ *e*P **P 23 25 07.0 +1.8**
CHTO Chiang Mai 45.89 286 *e*P **P 23 25 06.7 +1.4**
CHTO pmax pmax
comp=Z,81nm,2.3s,mb5.2
CHTO Chiang Mai 45.89 286 *e*P **P 23 25 06.7 +1.4**
comp=Z,81nm,2.3s,mb5.2
ULN Ulaanbaatar 49.45 326 *e*P **P 23 25 33.2 +0.7**
ULN Ulaanbaatar 49.45 326 *e*P **P 23 25 33.0 +0.5**
SONM Songino Array 49.79 326 P **P 23 25 35.9 +0.9**
comp=Z,23nm,1.1s,mb5.1,baz=137,slow=8.5,SNR=56
SONM LR LR 23 44 45.5
comp=Z,358nm,19.6s,MS4.4,baz=128,slow=34
GTA Gaotai 49.90 313 P **P 23 25 35.9 -0.2**
GTA AP pP 23 25 45.6 +1.3
GTA XP sP 23 25 49.3 +1.8
GTA PP PP 23 27 33.5 +2.4
GTA S **S 23 32 43.1 -1.6**
GTA XS sS 23 33 00.9 +2.7
GTA SS SS 23 36 13.7 -4.1
GTA AMB AMB
comp=Z,19nm,1.6s,mb4.9
GTA AMB AMB
comp=Z,250nm,6.5s
GTA LR LR
comp=N,304nm,17.3s,MS4.5
GTA LR LR
comp=E,358nm,17.8s,MS4.5
GTA LR LR
comp=Z,387nm,20.5s,MS4.4
MUN Mundaring 50.72 213 *e*P **P 23 25 41.0 -1.3**
SEY Seymchan 52.65 4⇑ *e*P **P 23 25 56.9 +0.6**
YAK Yakutsk 52.83 351 *e*P **P 23 25 56.3 -1.3**
YAK pmax pmax
comp=Z,69nm,0.8s,mb5.6
YAK pmax pmax
comp=N,22nm,1.1s
YAK Yakutsk 52.83 351 *e*P **P 23 25 56.9 -0.8**
ZAK Zakamensk 52.92 327 *e*P **P 23 25 58.7 +0.2**
ZAK pmax pmax
comp=Z,26nm,1.2s,mb5.0
TAU Tasmania Unive 53.08 179 P **P 23 26 00.0 +0.3**
BOD Bodaibo 53.15 339 *e*P **P 23 25 59.8 -0.3**
BOD pmax pmax
comp=Z,16nm,1.3s,mb4.8
TLY Talaya 53.46 329 P **P 23 26 03.2 +0.7**
comp=Z,208nm,0.7s,mb6.2,SNR=5.0
TLY Talaya 53.46 329 *e*P **P 23 26 02.5 0.0**
TLY *e*S **S 23 33 28.4 -5.0**
TLY pmax pmax
comp=Z,38nm,1.4s,mb5.1
TLY MLR MLR
comp=Z,214nm,16.0s,MS4.3
TLY Talaya 53.46 329 *e*P **P 23 26 02.7 +0.2**
IRK Irkutsk 53.47 330 *e*P **P 23 26 02.7 +0.1**
IRK pmax pmax
comp=Z,43nm,0.8s,mb5.4
LSA Lhasa 54.20 299 P **P 23 26 10.1 +1.8**
LSA Lhasa 54.20 299 *e*P **P 23 26 09.7 +1.4**
LSA *e**PP pP 23 26 19.8 +3.3
LSA *e* 23 27 13.2
LSA pmax pmax
comp=Z,18nm,0.8s,mb5.0
LSA Lhasa 54.20 299 *e*P **P 23 26 09.7 +1.4**
comp=Z,18nm,0.8s,mb5.0
LSA *e*pP pP 23 26 19.8 +3.3
LSA *e*PcP PcP 23 27 13.2 +0.7
ODAN Odare 57.15 295 *e*P **P 23 26 30.1 +0.6**
comp=Z,114nm,1.1s,mb5.8
POHA Pohakuloa 57.27 73 P **P 23 26 30.7 +0.2**
RAMN Ramite 57.86 295 *e*P **P 23 26 35.2 +0.7**
comp=Z,86nm,1.1s,mb5.7
JIRN Jiri 58.28 296 *e*P **P 23 26 38.5 +1.0**
comp=Z,82nm,1.1s,mb5.7
GUN Gumba 58.58 296 *e*P **P 23 26 40.7 +1.2**
comp=Z,231nm,1.0s,mb6.2
RPZ Rata Peaks 58.61 159 P **P 23 26 39.1 -0.2**
comp=Z,6.5nm,0.3s,mb5.1,baz=318,slow=14,SNR=3.1
RPZ LR LR 23 48 52.3
comp=Z,360nm,18.8s,MS4.5,baz=238,slow=33
PKIN Phulchoki 58.98 296 *e*P **P 23 26 42.4 +0.1**
KKN Kakani 59.10 296 *e*P **P 23 26 43.7 +0.6**
comp=Z,70nm,1.1s,mb5.6
BILL Bilibino 59.15 9⇑ *e*P **P 23 26 43.4 +0.6**
BILL *e*S **S 23 34 52.6 +4.3**
BILL *e*SS SS 23 38 46.7 +4.1
BILL pmax pmax
comp=Z,20nm,1.2s,mb5.0
BILL MLR MLR
comp=Z,200nm,17.0s,MS4.3
BILL Bilibino 59.15 9 *e*P **P 23 26 43.1 +0.4**
DMN Daman 59.24 296 *e*P **P 23 26 44.8 +0.7**
comp=Z,76nm,1.0s,mb5.7
GKN Gorkha 59.68 296 *e*P **P 23 26 47.6 +0.4**
comp=Z,167nm,1.3s,mb5.9
WMQ Urumqi 59.92 315⇑ *i*P **P 23 26 49.1 +0.6**
WMQ AP pP 23 26 59.1 +2.3
WMQ XP sP 23 27 03.1 +3.1
WMQ PCP PcP 23 27 35.1 +0.4
WMQ PP PP 23 29 03.1 +2.3
WMQ SCP ScP 23 31 32.1 -2.0
WMQ PCS PcS 23 31 36.1 -0.7
WMQ S **S 23 34 56.5 -2.5**
WMQ XS sS 23 35 13.1 +0.4
WMQ XS sS 23 35 16.1 +3.4
WMQ SCS ScS 23 36 33.1 -4.2
WMQ SS SS 23 38 54.1 -1.5
WMQ AMB AMB
comp=Z,41nm,1.0s,mb5.4
WMQ LR LR
comp=N,188nm,19.0s,MS4.4
WMQ LR LR
comp=E,220nm,22.5s,MS4.4
WMQ LR LR
comp=Z,296nm,22.5s,MS4.4
DANN Dangsing 60.48 297 *e*P **P 23 26 53.4 +0.8**
comp=Z,77nm,0.6s,mb5.9
TIXI Tiksi 62.06 354 *e*P **P 23 27 03.1 +0.6**
TIXI pmax pmax
comp=Z,17nm,1.7s,mb4.9
MK31 Makanchi Array 64.34 317 *e*P **P 23 27 18.5 +0.4**
MK31 pmax pmax
comp=Z,13nm,0.7s,mb5.1
MK31 Makanchi Array 64.34 317 *e*P **P 23 27 18.8 +0.6**
MKAR Makanchi Array 64.34 317 P **P 23 27 18.4 +0.3**
comp=Z,6.1nm,0.6s,mb4.8,baz=91,slow=8.8,SNR=49
MKAR LR LR 23 53 30.2
comp=Z,184nm,19.5s,MS4.3,baz=297,slow=34
MKAR Makanchi Array 64.34 317⇑ *e*P **P 23 27 18.7 +0.6**
MKAR Makanchi Array 64.34 317 P **P 23 27 18.4 +0.3**
MKAR LR LR 23 53 30.2
ZAA0 Zalesovo Array 64.67 325 *e*P **P 23 27 19.8 -0.3**
ZALV Zalesovo Beam 64.67 325 P **P 23 27 19.6 -0.6**
comp=Z,4.1nm,0.5s,mb4.7,baz=108,slow=6.9,SNR=20
ZALV LR LR 23 53 45.5
comp=Z,201nm,21.4s,MS4.3,baz=285,slow=34
ZALV Zalesovo Beam 64.67 325 P **P 23 27 19.6 -0.5**
ZALV pmax pmax
comp=Z,4.0nm,0.5s,mb4.7
ZALV MLR MLR
comp=Z,201nm,21.4s,MS4.3
HYB Hyderabad 65.28 284 *i* P **P 23 27 25.0 +0.3**
HYB Hyderabad 65.28 284 *e*P **P 23 27 25.0 +0.3**
NVS Novosibirsk 65.82 326⇑ *i*P **P 23 27 26.3 -1.3**
NVS pmax pmax
comp=N,5.0nm,1.2s
NVS pmax pmax
comp=E,15nm,1.2s
NVS pmax pmax
comp=Z,31nm,1.2s,mb5.2
SMLA Simla 66.35 299 *i* P **P 23 27 32.2 +0.7**
SMLA *ex* x 23 27 49.9
comp=N,63nm,0.4s
SMLA *ex* x 23 27 51.3
comp=E,43nm,0.4s
KURK Kurchatov 67.53 321 P **P 23 27 38.7 +0.1**
comp=E,11nm,0.5s,mb5.1,baz=106,slow=6.2,SNR=34
KURK Kurchatov 67.53 321 P **P 23 27 38.7 +0.1**
KURK pmax pmax
comp=Z,11nm,0.5s,mb5.1
SLKM Skilak Lake 68.36 29 *e*P **P 23 27 42.9 -0.7**
FRU Bishkek 69.13 312 *i*P **P 23 27 49.0 +0.3**
FRU *i* 23 28 03.0
FRU *e* 23 30 30.0
PMR Palmer 69.19 28 *e*P pP 23 28 02.2 +5.0
PMR Palmer 69.19 28 *e*pP pP 23 28 02.2 +5.0
PPT Papeete 69.71 113 *e*S S 23 36 57.4 -3.0
comp=Z,937nm,37.5s
PPT *e*LQ 23 45 25.8
comp=Z,1μm,30.8s
PPT *e*LR LR 23 48 43.0
comp=Z,448nm,30.5s
PPT Papeete 69.71 113 LR LR 23 52 49.5
comp=Z,254nm,20.2s,MS4.5,baz=292,slow=31
TBI Tubuai 71.73 119 *e*LQ 23 46 26.6
comp=Z,552nm,38.2s
KK31 Karatay Array 72.15 312 P **P 23 28 06.4 -0.8**
KK31 pmax pmax
comp=Z,12nm,1.0s,mb4.8
BVA0 Borovoye Array 72.91 322 P **P 23 28 10.5 -1.0**
BVA0 pmax pmax
comp=Z,5.0nm,0.8s,mb4.5
BVAR Borovoye Array 72.91 322 P **P 23 28 11.7 +0.2**
comp=Z,11nm,0.6s,mb5.0,baz=101,slow=7.7,SNR=39
BVAR Borovoye Array 72.91 322 P **P 23 28 11.7 +0.2**
BVAR pmax pmax
comp=Z,11nm,0.6s
BRVK Borovoye 72.98 322 P **P 23 28 12.1 +0.2**
comp=Z,301nm,0.7s,SNR=6.2
BRVK Borovoye 72.98 322 *e*P **P 23 28 12.2 +0.3**
KBL Kabul 73.21 303 *e*P **P 23 28 13.6 -0.1**
KBL *e**PP pP 23 28 24.9 +2.8
KBL pmax pmax
comp=Z,30nm,1.0s,mb5.2
KBL Kabul 73.21 303 *e*P **P 23 28 13.6 -0.1**
comp=Z,30nm,1.0s,mb5.2
KBL *e*pP pP 23 28 24.9 +2.8
DAWY Dawson 74.11 26 *e*pP pP 23 28 25.4 -1.4
HYT Haines Junctio 74.54 30 *e*P **P 23 28 20.2 -0.7**
HYT *e*pP pP 23 28 33.5 +4.1
DLBC Dease Lake 78.21 32 P **P 23 28 44.0 +2.2**
baz=230,slow=7.9
SVE Sverdlovsk 78.66 326 *e*P **P 23 28 44.3 0.0**
SVE *e*S S 23 38 31.1 -8.5
SVE *e*SSS 23 47 09.8
SVE pmax pmax
comp=Z,16nm,0.7s,mb5.1
AB31 Akbulak array 79.43 318 P **P 23 28 46.8 -1.9**
AB31 pmax pmax
comp=Z,7.0nm,0.7s,mb4.7
ARU Arti 79.83 326 *c i*P **P 23 28 50.4 -0.2**
ARU *e* 23 31 47.8
ARU *e*S S 23 38 52.0 0.0
ARU pmax pmax
comp=Z,13nm,1.7s,mb4.6
ARU Arti 79.83 326 *e*P **P 23 28 50.0 -0.6**
AKTK Aktyubinsk 80.59 320 P **P 23 28 54.9 0.0**
AKTO Aktyubinsk 80.59 320 P **P 23 28 54.9 0.0**
comp=Z,8.0nm,0.7s,mb4.3,baz=103,slow=6.5,SNR=11
AKTO Aktyubinsk 80.59 320 P **P 23 28 54.9 0.0**
AKTO pmax pmax
comp=Z,3.0nm,0.7s,mb4.3
ABKT Ailbek 81.79 307 P **P 23 29 02.9 +1.3**
comp=Z,99nm,1.4s,mb5.5,SNR=7.7
ETW Entiat 85.06 43 *e*P **P 23 29 17.9 -0.3**
YKA Yellowknife Ar 85.29 27 P **P 23 29 22.3 +3.3**
comp=Z,2.6nm,0.7s,mb4.5,baz=290,slow=4.8,SNR=3.1
YKA LR LR 00 06 57.4
comp=Z,90nm,18.9s,MS4.2,baz=135,slow=35
YKA Yellowknife Ar 85.29 27 P **P 23 29 22.3 +3.3**
YKA pmax pmax
comp=Z,3.0nm,0.7s
YKA MLR MLR
comp=Z,90nm,18.9s
CMB Columbia Colle 86.73 52 *e*P **P 23 29 27.2 +0.5**
NEW Newport 87.05 42 *e*P **P 23 29 27.4 -0.6**
NEW pmax pmax
comp=Z,14nm,1.0s
NEW Newport 87.05 42 *e*P **P 23 29 27.4 -0.6**
comp=Z,14nm,1.0s,mb5.1
PAHR Pah Rah Range 87.18 50 *e*P **P 23 29 29.7 +0.8**
comp=Z,18nm,1.4s,mb5.1
WVOR Wild Horse Val 87.20 48 *e*P **P 23 29 25.7 -3.2**
WVOR *e**PP pP 23 29 41.0 +3.5
WVOR pmax pmax
comp=Z,13nm,1.1s,mb5.1
WVOR Wild Horse Val 87.20 48 *e*P **P 23 29 25.7 -3.2**
comp=Z,13nm,1.1s,mb5.1
WVOR *e*pP pP 23 29 41.0 +3.5
WAKR Walker 87.37 51 *e*P **P 23 29 31.0 +1.2**
BMO Blue Mountains 87.65 45 *e*P **P 23 29 31.4 +0.4**
BMO pmax pmax
comp=Z,17nm,1.1s,mb5.2
BMO Blue Mountains 87.65 45 *e*P **P 23 29 31.4 +0.4**
comp=Z,17nm,1.1s,mb5.2
NVAR Mina Array Bea 88.26 51 P **P 23 29 35.0 +0.9**
comp=Z,2.8nm,0.6s,mb4.7,baz=275,slow=5.2,SNR=17
KLMR Klimovskoe 88.72 332 *e*P **P 23 29 33.0 -2.7**
KLMR pmax pmax
comp=Z,27nm,1.5s,mb5.4
TPH Tonopah 89.17 52 *e*P **P 23 29 39.2 +0.9**
TPH *e* 23 29 49.9
TPH pmax pmax
comp=Z,10.0nm,1.0s,mb5.1
TPH Tonopah 89.17 52 *e*P **P 23 29 39.2 +0.9**
comp=Z,10nm,1.0s,mb5.1
TPH *e* 23 29 49.9
MWC Mount Wilson 89.32 55 *e*P **P 23 29 38.3 -0.8**
MWC pmax pmax
comp=Z,16nm,1.0s,mb5.3
MWC Mount Wilson 89.32 55 *e*P **P 23 29 38.3 -0.8**
comp=Z,16nm,1.0s,mb5.3
HLID Hailey 89.97 46 *e*P **P 23 29 42.8 +0.9**
ELK Elko 90.06 49 *e*P **P 23 29 43.6 +1.2**
GSC Goldstone 90.10 54 *e*P pP 23 29 55.2 +3.8
GSC Goldstone 90.10 54 *e*pP pP 23 29 55.2 +3.8
TPNV Topopah Spring 90.17 52 *e*P **P 23 29 43.9 +0.9**
TPNV *e* 23 33 15.7
TPNV pmax pmax
comp=Z,10.0nm,0.9s,mb5.2
TPNV Topopah Spring 90.17 52 *e*P **P 23 29 43.9 +0.9**
comp=Z,9.7nm,0.9s,mb5.1
TPNV *e*PP PP 23 33 15.7 -0.9
ARCES ARCESS Array B 90.34 342 LR LR 00 11 51.9
comp=Z,184nm,21.4s,MS4.5,baz=235,slow=37
ARE0 ARCESS Array S 90.34 342 P **P 23 29 40.7 -2.4**
PFO Pinyon Flat Ob 90.76 56 P **P 23 29 49.3 +3.5**
comp=Z,2.6nm,0.8s,mb4.6,baz=356,slow=14,SNR=3.3
PFO Pinyon Flat Ob 90.76 56 *e*P **P 23 29 46.5 +0.7**
DLMT Dillon 90.77 44 *e*P **P 23 29 44.8 -0.8**
comp=Z,9.5nm,0.9s,mb5.1
BAR Barrett 90.78 57 *e*P **P 23 29 46.1 +0.1**
comp=Z,12nm,1.1s,mb5.2
SHPR Sheep Range 91.12 53 *e*P **P 23 29 48.9 +1.5**
SHPR *e*pP pP 23 30 00.9 +4.7
SHPR *e*PP PP 23 33 21.3 -2.9
DUG Dugway 91.99 49 *e*P **P 23 29 53.1 +1.7**
DUG pmax pmax
comp=Z,14nm,1.3s,mb5.1
DUG Dugway 91.99 49 *e*P **P 23 29 53.1 +1.7**
comp=Z,14nm,1.3s,mb5.1
KIV Kislovodsk 92.05 315 *e*P **P 23 29 51.5 -0.1**
KIV *e* 23 40 21.0
KIV pmax pmax
comp=Z,5.0nm,0.8s,mb4.9
KIV MLR MLR
comp=Z,150nm,20.0s,MS4.4
KIV Kislovodsk 92.05 315 *e*P **P 23 29 51.4 -0.2**
KIV *e* 23 30 02.1
OBN Obninsk 92.19 327⇑ *e*P **P 23 29 51.5 -0.5**
OBN *e*S SKSac 23 40 14.7 -8.7
OBN *i* PS PS 23 41 56.3 -10
OBN pmax pmax
comp=Z,23nm,1.7s,mb5.2
OBN MLR MLR
comp=Z,300nm,19.0s,MS4.8
HWUT Hardware Ranch 92.52 47 *e*P **P 23 29 53.2 -0.6**
comp=Z,9.7nm,1.2s,mb5.1
PDAR Pinedale Array 93.61 46 P **P 23 30 01.9 +3.0**
comp=Z,0.3nm,0.6s,baz=323,slow=2.3,SNR=3.1
PDAR LR LR 00 06 57.5
comp=Z,134nm,19.5s,baz=181,slow=32
WUAZ Wupatki 94.34 53 *e*P **P 23 30 02.8 +0.4**
comp=Z,16nm,1.4s,mb5.2
LAO LASA Array 94.59 41 *e*P **P 23 30 04.2 +1.0**
ANN Anapa 95.36 317 *e*P **P 23 30 03.0 -3.8**
ANN *e*S SKSac 23 40 35.8 -5.4
ANN pmax pmax
comp=Z,79nm,1.3s,mb6.0
MAW Mawson 96.82 203 LR LR 00 10 36.1
comp=Z,127nm,21.4s,MS4.4,baz=62,slow=34
AKASG Malin Array Be 98.06 325 PP PP 23 34 19.6 +2.0
comp=Z,0.3nm,0.3s,baz=52,slow=7.1,SNR=4.5
AKASG LR LR 00 20 04.1
comp=Z,184nm,18.4s,MS4.6,baz=40,slow=39
ANMO Albuquerque 98.35 52 *e*P **P 23 30 20.1 -0.5**
ULM Lac du Bonnet 99.38 35 LR LR 00 15 12.4
comp=Z,205nm,18.8s,MS4.7,baz=278,slow=35
CLL Collm 106.19 331 *e*P Pdif 23 30 54.0 -1.0
CLL *i* 23 35 18.5
CLL pmax pmax
comp=Z,8.0nm,1.3s
CLL MLR MLR
comp=Z,200nm,17.9s,MS4.7
CLL Collm 106.19 331 *e*Pdif Pdif 23 30 54.0 -1.0
CLL *i* PP PP 23 35 18.5 0.0
comp=Z,8.0nm,1.3s
CLL *e*PS PS 23 44 35.0 -2.0
CLL *e*PPS 23 45 27.0
CLL *e*SS SS 23 50 42.0 +24
CLL *e*SSS 23 54 30.0
CLL Collm 106.19 331 *e*Pdif Pdif 23 30 54.0 -1.0
comp=Z,8.0nm,1.3s
CLL *i* PP PP 23 35 18.5 0.0
CLL LR LR
comp=Z,200nm,17.9s,MS4.7
MOX Moxa 107.29 331 *e*PKP PP 23 35 28.9 +2.3
comp=Z,10.0nm,1.5s
TORD Torodi Ar. Bea 137.28 302 PKP PKPdf 23 36 06.5 -0.3
comp=Z,1.1nm,1.0s,baz=45,slow=2.2,SNR=4.2
TORD PP PP 23 38 50.9 -0.4
comp=Z,1.6nm,1.0s,baz=60,slow=6.0,SNR=4.7
LVC Limon Verde 144.77 115 PKPbc PKPdf 23 36 21.2 +1.1
comp=Z,7.5nm,0.7s,baz=128,slow=4.4,SNR=3.7
DBIC Dimbokro 146.12 299 PKPbc PKPbc 23 36 23.4 -0.1
comp=Z,8.0nm,0.8s,baz=19,slow=5.3,SNR=8.6
DBIC Dimbokro 146.12 299 PKP2 PKPbc 23 36 23.4 -0.1
DBIC pmax pmax
comp=Z,8.0nm,0.9s
KIC Kosan Boka 146.17 298 *e*P PKPdf 23 36 22.1 -0.6
comp=Z,57nm,0.8s
TIC Toumodi 146.27 299 *e*P PKPdf 23 36 23.8 +0.9
comp=Z,47nm,0.8s
LIC Lamto 146.49 298 *e*P PKPdf 23 36 24.3 +1.1
comp=Z,98nm,1.4s
LPAZ La Paz 146.61 104 PKPbc PKPbc 23 36 25.9 +1.1
comp=Z,1.4nm,0.5s,baz=328,slow=4.1,SNR=8.0
LPAZ La Paz 146.61 104 PKP2 PKPab 23 36 25.9 0.0
LPAZ pmax pmax
comp=Z,1.0nm,0.5s
LPAZ La Paz 146.61 104 PKPbc PKPbc 23 36 25.9 +1.1
SIV San Ignacio 153.37 105 PKPbc PKPbc 23 36 44.8 +3.3
comp=Z,0.5nm,0.6s,baz=201,slow=17,SNR=3.9

ISCJB ***01*** *23:16:44.9±0.4,2772N±004×1400E±0.1, h499km±7km, mb4.0/28, Error ellipse: s-maj=16.5km s-min=6.3km az=174.8*
IDC ***01*** *23:16:45.0±0.5,2768N×13987E, h484km±8km, mb3.5/14, mb1 3.5/17, mb1mx3.5/25, mbtmp3.4/17, Error ellipse: s-maj=20.4km s-min=11.9km az=68.0*
BJI ***01*** *23:16:46.5,27.32N×139.47E, h514km, mB4.6, mb4.3*
NEIC ***01*** *23:16:46.8±1.3,2777N×13986E, h504km±14km, mb4.0/6, Error ellipse: s-maj=16.7km s-min=9.6km az=82.0*
JMA ***01*** *23:16:47.1±0.1,2791N×14048E, h497km, M3.7*
ISC 01 23:16:46.0±0.4, 2776N±004×1400E±01, h493km±6km, n52, σ0.95/60, mb4.0/28, 1D, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
					Op	ISC	h m s	ISC
CBIJ	**Chichi jima**	**2.09**	**108**	P	**P**		**23 17 51.2**	**+0.4**
	130nm,0.3s,baz=267,slow=21,SNR=69							
CBIJ				S	**S**		**23 18 41.3**	**-2.3**
	122nm,0.3s,baz=300,slow=23,SNR=18							
CBIJ	**Chichi jima**	**2.09**	**108**	P	**P**		**23 17 51.2**	**+0.3**
CBIJ				*e*S	**S**		**23 18 40.2**	**-3.4**
JHHJ	**Haha-jima-NKT**	**2.28**	**119**	P	**P**		**23 17 52.3**	**+0.4**
JHHJ				*e*S	**S**		**23 18 44.8**	**-0.6**
BSO1	**Boso 1**	**6.93**	**7**	P	**P**		**23 18 32.4**	**+1.3**
BSO1				*e*S	**S**		**23 19 56.7**	**-0.5**
BSO3	**Boso 3**	**7.04**	**4**	P	**P**		**23 18 33.2**	**+1.1**
BSO3				*e*S	**S**		**23 19 57.4**	**-1.8**
JIE	**Ise**	**7.18**	**338**	P	**P**		**23 18 36.3**	**+2.7**
BSO4	**Boso 4**	**7.22**	**3**	*e*S	**S**		**23 20 02.1**	**-0.5**
JOD2	**Odawara 2**	**7.52**	**355**	P	**P**		**23 18 39.1**	**+2.0**
JHU	**Hanno**	**8.09**	**356**	*e*S	**S**		**23 20 13.4**	**-5.7**

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
JRY	**Ryogami san**	**8.28**	**354**	P	**P**	**23 18 45.6**	**+0.6**
JRY				*e*S	**S**	**23 20 21.1**	**-1.6**
JAG	**Ashikaga**	**8.65**	**357**	P	**P**	**23 18 49.0**	**+0.2**
JAG				*e*S	**S**	**23 20 25.5**	**-4.3**
JHO	**Hitachi**	**8.84**	**3**	P	**P**	**23 18 51.8**	**+1.0**
JHO				*e*S	**S**	**23 20 32.0**	**-1.5**
MJAR	**Matsushiro Arr**	**8.88**	**351**	P	**P**	**23 18 51.5**	**+0.2**
	0.6nm,0.3s,baz=164,slow=9.9,SNR=4.0						
MJAR				S	**S**	**23 20 35.3**	**+1.0**
	0.5nm,0.3s,baz=167,slow=15,SNR=4.9						
JFK	**Kawauchi**	**9.61**	**4**	P	**P**	**23 19 00.9**	**+1.9**
KSRS	**Korea Array**	**14.00**	**317**	P	**P**	**23 19 45.2**	**-0.4**
	0.3nm,0.3s,baz=136,slow=8.2,SNR=4.2						
BUKP	**Musuan**	**24.28**	**218**	*e*P	**P**	**23 21 22.6**	**-1.0**
DAV	**Davao City (W)**	**24.68**	**216**	*e*P	**P**	**23 21 28.5**	**+1.3**
	0.2nm,1.2s						
LZH	**Lanzhou**	**31.61**	**294**	*e*P	**P**	**23 22 26.5**	**-1.0**
LZH				AMB	AMB		
	comp=Z,103nm,5.0s						
LZH	**Lanzhou**	**31.61**	**294**	*e*P	**P**	**23 22 26.5**	**-1.0**
	comp=Z,19nm,1.4s,mb4.3						
ULN	**Ulaanbaatar**	**32.49**	**317**	*e*P	**P**	**23 22 35.3**	**+0.5**
	comp=Z,3.1nm,0.7s,mb3.9						
SONM	**Songino Array**	**32.87**	**317**	P	**P**	**23 22 38.2**	**+0.2**
	comp=Z,1.2nm,0.5s,mb3.5,baz=125,slow=8.4,SNR=11						
GTA	**Gaotai**	**35.14**	**300**	*e*P	**P**	**23 22 56.8**	**-0.5**
GTA				AMB	AMB		
	comp=Z,5.0nm,0.9s,mb3.9						
CMAR	**Chiang Mai Arr**	**38.69**	**265**	P	**P**	**23 23 26.2**	**-0.7**
	comp=Z,0.9nm,0.3s,mb3.6,baz=52,slow=8.4,SNR=6.0						
LSA	**Lhasa**	**42.59**	**285**	*e*P	**P**	**23 23 59.0**	**+1.0**
	comp=Z,2.3nm,0.5s,mb3.9						
ODAN	**Odare**	**46.42**	**282**	*e*P	**P**	**23 24 27.6**	**0.0**
	comp=Z,24nm,0.8s,mb4.7						
RAMN	**Ramite**	**47.08**	**282**	*e*P	**P**	**23 24 32.9**	**+0.3**
	comp=Z,24nm,0.8s,mb4.7						
JIRN	**Jiri**	**47.27**	**283**	*e*P	**P**	**23 24 34.7**	**+0.7**
	comp=Z,32nm,0.6s,mb5.0						
GUN	**Gumba**	**47.48**	**284**	*e*P	**P**	**23 24 36.3**	**+0.7**
	comp=Z,21nm,0.4s,mb4.9						
ZALV	**Zalesovo Beam**	**47.69**	**319**	P	**P**	**23 24 36.3**	**-0.5**
	comp=Z,2.6nm,0.4s,mb4.0,baz=104,slow=7.4,SNR=16						
ZALV				PcP	PcP	23 25 55.6	-1.1
	comp=Z,1.2nm,0.4s,baz=132,slow=1.8,SNR=5.4						
WRA	**Warramunga Arr**	**47.73**	**187**	P	**P**	**23 24 36.7**	**-0.7**
	comp=Z,1.9nm,0.3s,mb3.9,baz=3.3,slow=7.8,SNR=5.9						
KKN	**Kakani**	**48.02**	**284**	*e*P	**P**	**23 24 39.4**	**-0.3**
DMN	**Daman**	**48.22**	**283**	*e*P	**P**	**23 24 41.2**	**+0.1**
	comp=Z,11nm,0.5s,mb4.5						
MKAR	**Makanchi Array**	**48.53**	**309**	P	**P**	**23 24 43.1**	**0.0**
	comp=Z,1.8nm,0.4s,mb3.8,baz=88,slow=10,SNR=42						
MKAR				PcP	PcP	23 25 59.4	-0.4
	comp=Z,0.9nm,0.6s,baz=94,slow=6.2,SNR=4.5						
GKN	**Gorkha**	**48.53**	**284**	*e*P	**P**	**23 24 43.0**	**-0.5**
DANN	**Dangsing**	**49.20**	**285**	*e*P	**P**	**23 24 48.9**	**+0.4**
	comp=Z,32nm,0.7s,mb4.7						
KURK	**Kurchatov**	**51.11**	**314**	P	**P**	**23 25 02.3**	**+0.2**
	comp=Z,16nm,0.6s,mb4.5,baz=92,slow=8.0,SNR=66						
ASAR	**Alice Springs**	**51.45**	**187**	P	**P**	**23 25 04.2**	**-0.7**
	comp=Z,4.5nm,0.8s,mb3.8,baz=13,slow=8.7,SNR=3.0						
BVAR	**Borovoye Array**	**56.21**	**317**	P	**P**	**23 25 38.4**	**+0.1**
	comp=Z,3.5nm,0.5s,mb3.9,baz=114,slow=9.9,SNR=7.8						
STKA	**Stephens Creek**	**59.32**	**178**	P	**P**	**23 26 00.2**	**+0.5**
KBL	**Kabul**	**59.95**	**296**	*e*P	**P**	**23 26 03.5**	**-0.5**
	comp=Z,5.0nm,0.8s,mb4.0						
ARU	**Arti**	**62.69**	**322**	*e*P	**P**	**23 26 20.8**	**-0.8**
	comp=Z,7.9nm,1.0s,mb4.2						
AKTO	**Aktyubinsk**	**64.17**	**315**	P	**P**	**23 26 30.6**	**-0.7**
	comp=Z,2.8nm,0.7s,mb3.9,baz=81,slow=14						
ARCES	**ARCESS Array B**	**72.26**	**340**	P	**P**	**23 27 20.8**	**+0.6**
	comp=Z,1.9nm,0.7s,mb3.8,baz=59,slow=7.2,SNR=6.0						
JOF	**Joensuu**	**73.61**	**333**	*e*p	**P**	**23 27 27.6**	**-0.4**
	comp=Z,0.9nm,0.3s,mb3.8						
KAF	**Kangasniemi**	**76.01**	**334**	*e*p	**P**	**23 27 41.0**	**-0.5**
	comp=Z,1.5nm,0.4s,mb3.9						
AKASG	**Malin Array Be**	**80.91**	**323**	P	**P**	**23 28 07.3**	**-0.8**
	comp=Z,0.6nm,0.3s,mb3.6,baz=52,slow=5.2,SNR=8.6						
MALT	**Malatya**	**81.56**	**309**	⇓*i*P	**P**	**23 28 17.6**	**+5.9**
NVAR	**Mina Array Bea**	**81.66**	**51**	P	**P**	**23 28 14.4**	**+2.3**
	comp=Z,0.4nm,0.6s,mb3.1,baz=297,slow=6.0,SNR=3.0						
NB2	**NORSAR Subarra**	**82.25**	**337**	P	**P**	**23 28 13.9**	**-0.8**
	comp=Z,1.1nm,0.5s,mb3.6,baz=49,slow=4.6						
NOA	**NORSAR Array B**	**82.25**	**337**	P	**P**	**23 28 14.1**	**-0.6**
	comp=Z,2.1nm,0.6s,mb3.8,baz=46,slow=5.0,SNR=11						
GERES	**GERESS Array B**	**89.91**	**328**	P	**P**	**23 28 50.7**	**-1.1**
	comp=Z,0.3nm,0.5s,mb3.4,baz=46,slow=5.6,SNR=3.2						
TORD	**Torodi Ar. Bea**	**122.65**	**310**	PKP	PKPdf	23 34 44.6	-1.2
	comp=Z,0.5nm,0.8s,baz=8.0,slow=2.2,SNR=6.9						

ISCJB ***01*** *23:22:05.6±1.0, 24.09S±0.07×66.9W±0.1, h156km±13km, mb3.7/3, Error ellipse: s-maj=20.1km s-min=11.1km az=176.9*
IDC ***01*** *23:22:05.5±1.2, 24.35S×67.47W, h186km±16km, mb3.1/1, mb1 3.5/4, mb1mx3.2/18, mbtmp3.3/4, Error ellipse: s-maj=36.7km s-min=18.4km az=67.0*
NEIC ***01*** *23:22:05.4±1.1, 24.24S×66.84W, h118km±14km, mb3.9/4, Error ellipse: s-maj=18.9km s-min=12.0km az=79.0*
ISC 01 23:22:05.8±1.1**, 24.14S**±0.08**×67.0W**±0.2**, h168**km±14km**, n16, σ0.71**/18**, mb3.7**/3**, Chile-Argentina border region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
LVC	**Limon Verde**	**2.32**	**311**	P	**Pn**	**23 22 45.9**	**+0.1**
	18nm,0.3s,baz=131,slow=7.9,SNR=329						
LVC				S	**Sn**	**23 23 16.3**	**-0.3**
	51nm,0.3s,baz=285,slow=23,SNR=62						
LVC	**Limon Verde**	**2.32**	**311**	P	**Pn**	**23 22 45.9**	**+0.1**
LVC				S	**Sn**	**23 23 16.3**	**-0.3**
CFAA	**Coronel Fontan**	**7.52**	**188**	P	**Pn**	**23 23 48.1**	**-4.6**
	0.1nm,0.3s,baz=356,slow=11,SNR=8.1						
LPAZ	**La Paz**	**7.88**	**352**	P	**Pn**	**23 23 59.4**	**+1.7**
	2.2nm,0.3s,baz=169,slow=8.8,SNR=64						
LPAZ				S	**Sn**	**23 25 25.2**	**-0.8**
	0.1nm,0.3s,baz=337,slow=16,SNR=4.6						
CPUP	**Villa Florida**	**9.03**	**106**	P	**Pn**	**23 24 18.5**	**+5.8**
	0.8nm,0.3s,baz=270,slow=10,SNR=6.6						
SIV	**San Ignacio**	**9.84**	**36**	P	**Pn**	**23 24 23.4**	**0.0**
	1.6nm,0.3s,baz=227,slow=13,SNR=20						
TRQA	**Tornquist**	**14.52**	**164**	*e*Pn	**Pn**	**23 25 23.1**	**-0.3**
	2.2nm,0.6s						
PLCA	**Paso Flores**	**16.81**	**189**	P	**Pn**	**23 25 55.8**	**+4.5**
	0.2nm,0.3s,baz=6.3,slow=13,SNR=6.0						
PLCA	**Paso Flores**	**16.81**	**189**	*e*P	**Pn**	**23 25 56.1**	**+4.8**
	2.3nm,0.5s						
PAYG	**Puerto Ayora**	**32.45**	**313**	P	**P**	**23 28 25.1**	**+4.8**
BBGH	**Gun Hill**	**37.76**	**12**	P	**P**	**23 29 11.5**	**+5.8**
SNAA	**Sanae**	**59.22**	**161**	*e*P	**P**	**23 31 53.5**	**+4.6**
	6.7nm,1.6s,mb4.2						
TORD	**Torodi Ar. Bea**	**76.62**	**69**	P	**P**	**23 33 37.9**	**-0.4**
	0.2nm,0.4s,mb3.1,baz=259,slow=5.5,SNR=17						
TORD	**Torodi Ar. Bea**	**76.62**	**69**	P	**P**	**23 33 37.9**	**-0.4**
CMB	**Columbia Colle**	**79.59**	**320**	P	**P**	**23 33 54.2**	**0.0**
	2.8nm,0.9s,mb3.9						
MKAR	**Makanchi Array**	**146.63**	**40**	PKPbc	PKPbc	23 41 27.6	+0.1
	0.7nm,0.7s,baz=304,slow=3.3,SNR=5.7						

IDC 01 23:28:12.0±3.3**, 4.30S**×**100.96E, h0**km**, mb3.7**/6**, mb1 3.8**/6**, mb1mx3.6**/20**, mbtmp3.7**/6**, Error ellipse: s-maj=145.1km s-min=21.1km az=52.0, Southwest of Sumatera**

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
WRA	**Warramunga Arr**	**36.03**	**118**	P	P	23 35 14.8	-0.5
	0.5nm,0.4s,baz=303,slow=9.8,SNR=3.9						
ASAR	**Alice Springs**	**37.15**	**124**	P	P	23 35 24.9	0.0
	0.3nm,0.5s,baz=297,slow=8.3,SNR=4.3						
SONM	**Songino Array**	**52.14**	**5**	P	P	23 37 24.0	-0.1
	1.0nm,0.6s,baz=189,slow=9.2,SNR=6.2						
MKAR	**Makanchi Array**	**53.49**	**344**	P	P	23 37 34.5	+0.5
	0.3nm,0.3s,baz=156,slow=9.1,SNR=12						
ZALV	**Zalesovo Beam**	**59.59**	**349**	P	P	23 38 17.0	-0.4
	0.6nm,0.5s,baz=180,slow=5.3,SNR=4.3						
BVAR	**Borovoye Array**	**62.66**	**340**	P	P	23 38 37.7	-0.6
	0.8nm,0.5s,baz=148,slow=10,SNR=5.8						
TXAR	**Lajitas Array**	**145.88**	**40**	PKPbc	PKPbc	23 47 54.6	+0.6
	0.9nm,0.5s,baz=266,slow=1.0,SNR=12						

IGQ 01 23:54:05.6, 1.87S×80.33W, h12km±5km**, Mb4.1, Ms3.9, 9C, Error ellipse: s-maj=5.3km s-min=2.2km az=127.1, Near coast of Ecuador**

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
CHIS	**Cerro-Chispas-**	**0.90**	**334**	⇑P	Pg	23 54 22.2	-0.8
CHIS	**Cerro-Chispas-**	**0.90**	**334**	⇑S	Sg	23 54 36.2	+1.3
JAMA	**Jama**	**1.60**	**4**	P	Pn	23 54 34.4	+0.7
PORT	**Chimborazo Vol**	**1.60**	**76**	P	Pn	23 54 35.6	+1.8
QIL2	**Quilotoa**	**1.72**	**55**	⇑P	Pn	23 54 36.3	+0.9
QIL2	**Quilotoa**	**1.72**	**55**	⇑S	Sn	23 55 02.4	+5.1
IGUA	**Igualata**	**1.73**	**78**	P	Pn	23 54 37.5	+2.0
MAG1	**Magdalena**	**1.86**	**17**	P	Pn	23 54 37.5	+0.2
BIL2	**Estacion Bilba**	**1.87**	**77**	P	Pn	23 54 40.7	+3.3
BIL2	**Estacion Bilba**	**1.87**	**77**	S	Sn	23 55 04.8	+3.9
ARRY	**Arrayan**	**1.90**	**79**	⇑P	Pn	23 54 40.3	+2.4
ARRY	**Arrayan**	**1.90**	**79**	⇑S	Sn	23 55 04.4	+2.5
JUI6	**Juive**	**1.91**	**77**	P	Pn	23 54 41.0	+3.0
PATA	**Patacocha**	**1.93**	**79**	⇑P	Pn	23 54 41.0	+2.7
RUN5	**Runtun**	**1.95**	**77**	P	Pn	23 54 41.7	+3.1
RUN5	**Runtun**	**1.95**	**77**	S	Sn	23 55 07.5	+4.4
ULBA	**Ulba**	**1.96**	**78**	P	Pn	23 54 41.6	+2.9
ULBA	**Ulba**	**1.96**	**78**	S	Sn	23 55 07.2	+4.0
PISA	**Pisayambo**	**2.10**	**68**	P	Pn	23 54 43.9	+3.3
CAMI	**Rancho Maria**	**2.17**	**57**	P	Pn	23 54 45.2	+3.6
VC1	**Cotopaxi 1**	**2.27**	**58**	⇑P	Pn	23 54 46.7	+3.7
TAMB	**Tambo**	**2.28**	**59**	⇑P	Pn	23 54 46.4	+3.3
JUA2	**San Juan 2**	**2.38**	**46**	P	Pn	23 54 47.1	+2.6
TERV	**Terraza Guagua**	**2.40**	**46**	P	Pn	23 54 47.6	+2.8
GGP	**Refugio Guagua**	**2.41**	**46**	P	Pn	23 54 46.6	+1.7
PINO	**Pino**	**2.41**	**45**	P	Pn	23 54 47.5	+2.6
PINO	**Pino**	**2.41**	**45**	S	Sn	23 55 19.5	+5.0
YANA	**Yana**	**2.47**	**45**	P	Pn	23 54 47.6	+2.0
ANTI	**Antisana**	**2.58**	**57**	P	Pn	23 54 51.0	+3.8
COTA	**Cotacachi**	**2.95**	**42**	P	Pn	23 54 55.8	+3.4
COTA	**Cotacachi**	**2.95**	**42**	S	Sn	23 55 38.3	+11
CAYA	**Cayambe**	**3.02**	**51**	P	Pn	23 54 57.7	+4.3

DHMR ***02*** *00:25:56.8±2.9, 10.34N×40.73E, h6km±999km, mb4.3*
ISCJB ***02*** *00:26:01.6±1.2, 10.5N±0.3×41.0E±0.2, h10km, Error ellipse: s-maj=53.4km s-min=5.1km az=140.8*
ISC 02 00:26:04.3±1.2**, 10.5N**±0.3**×40.9E**±0.3**, h10**km**, n5, σ0.73**/8**, Ethiopia**

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
FURI	**Furi**	**2.71**	**235**	*e*P	**Pn**	**00 26 47.6**	**-0.4**
FURI				S	**Sg**	**00 27 31.8**	**+0.4**
UDYN	**Al 'Udayn**	**4.58**	**40**	*i* S	**Sn**	**00 28 07.2**	**+0.2**
UDYN				AML	AML	00 28 36.1	
	comp=N,422nm,0.6s						
DHBB	**Dhamar BB**	**5.30**	**39**	*i* P	**Pn**	**00 27 20.1**	**-3.6**
DHBB				*i* S	**Sn**	**00 28 24.9**	**0.0**
LBOS		**5.42**	**51**	*i* P	**Pn**	**00 27 21.3**	**-3.9**
LBOS				AMb	AMB	00 27 22.5	
	comp=Z,22nm,1.4s						
LBOS				*i* S	**Sn**	**00 28 28.3**	**+0.6**
BDHA	**Al Bayda'**	**5.73**	**52**	*i* S	**Sn**	**00 28 35.4**	**+0.1**

BJI ***02*** *00:40:39.2, 13.32N×121.31E, h145km, mB4.9, mb4.7*
MOS ***02*** *00:40:39.6±1.1, 13.60N×121.07E, h122km, mb4.5/15, Error ellipse: s-maj=14.8km s-min=7.4km az=120.4*
NEIC ***02*** *00:40:40.6±1.3, 13.58N×121.11E, h118km±12km, mb4.6/15, Error ellipse: s-maj=10.4km s-min=6.0km az=67.0*
ISCJB ***02*** *00:40:42.0±0.3, 13.50N±0.03×120.84E±0.05, h140km±3km, mb4.5/54, Error ellipse: s-maj=8.2km s-min=4.3km az=172.1*
MAN ***02*** *00:40:43, 13.51N×120.67E, h106km, mb4.9, ML3.9, MS3.9*
IDC ***02*** *00:40:45.6±2.4, 13.55N×121.00E, h160km±22km, mb3.9/17, mb1 4.0/19, mb1mx4.0/23, mbtmp3.9/19, MS3.0/3, Ms1 3.0/3, ms1mx2.6/23, Error ellipse: s-maj=17.7km s-min=8.5km az=71.0*
DJA ***02*** *00:40:50, 13.58N×121.51E, h197km, mb4.6/11*
ISC 02 00:40:43.0±0.3**, 13.50N**±0.03**×120.82E**±0.05**, h132**km±3km**, n124, σ1.07**/123**, mb4.5**/54**, 8C-4D, Mindoro**

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
LUBP	**Lubang**	**0.60**	**293**	*e*P	**Pn**	**00 41 00.9**	**-2.0**
LUBP				*e*S	**Sn**	**00 41 13.7**	**-4.3**
LBPH	**Los Banos**	**0.74**	**28**	⇑*e*P	**Pn**	**00 41 03.4**	**-0.5**
SJMP	**San Jose**	**1.07**	**164**	*e*P	**Pn**	**00 41 06.5**	**-0.3**
SJMP				*e*S	**Sn**	**00 41 22.8**	**-2.1**
NBP	**Mount Natib**	**1.30**	**342**	⇑*e*P	**Pn**	**00 41 07.1**	**-1.9**
NBP				*e*S	**Sn**	**00 41 22.4**	**-6.4**
OTRP	**Odiongan**	**1.63**	**134**	*e*P	**Pn**	**00 41 12.8**	**+0.1**
OTRP				*e*S	**Sn**	**00 41 31.0**	**-4.4**
GQP	**Guinayangan**	**1.63**	**76**	⇓*e*P	**Pn**	**00 41 13.3**	**+0.6**
POLP	**Polilio Island**	**1.63**	**42**	*e*P	**Pn**	**00 41 13.2**	**+0.5**
AUQP	**San Andres**	**1.81**	**95**	*e*P	**Pn**	**00 41 17.3**	**+2.5**
BALP	**Baler**	**2.35**	**18**	*e*P	**Pn**	**00 41 21.7**	**+0.3**
BALP				*e*S	**Sn**	**00 41 51.4**	**+0.5**
SCZP	**Santa Cruz**	**2.43**	**339**	*e*P	**Pn**	**00 41 20.3**	**-2.0**
CUYO	**Cuyo Island**	**2.64**	**176**	*e*P	**Pn**	**00 41 25.5**	**+0.4**
CUYO				*e*S	**Sn**	**00 41 57.4**	**-0.1**
ENPP	**El Nido**	**2.66**	**211**	*e*P	**Pn**	**00 41 25.3**	**0.0**
RCP	**Roxas**	**2.69**	**136**	⇓*e*P	**Pn**	**00 41 27.2**	**+1.4**
BOLP	**Bolinao**	**3.00**	**343**	*e*P	**Pn**	**00 41 28.8**	**-0.9**
BOLP				*e*S	**Sn**	**00 42 00.7**	**-4.9**
PVCP	**Virac**	**3.24**	**88**	*e*P	**Pn**	**00 41 34.5**	**+1.7**
GUIM	**Jordan**	**3.34**	**149**	*e*P	**Pn**	**00 41 36.2**	**+2.0**
CAUP	**Cauayan**	**3.56**	**16**	*e*P	**Pn**	**00 41 37.0**	**+0.1**
APYP	**Conner**	**4.36**	**5**	*e*P	**Pn**	**00 41 48.5**	**+0.9**
APYP				*e*S	**Sn**	**00 42 39.2**	**+1.5**
DAV	**Davao City (W)**	**7.92**	**143**	LR	LR	00 46 37.1	
	comp=Z,147nm,19.0s,baz=357,slow=45						
DAV	**Davao City (W)**	**7.92**	**143**	Pn	**Pn**	**00 42 30.9**	**-4.5**
JOW	**Kunigami**	**14.99**	**27**	P	**Pn**	**00 44 09.3**	**+1.2**
	1.4nm,0.3s,baz=183,slow=18,SNR=3.7						
JOW				LR	LR	00 50 26.6	
	comp=Z,26nm,20.3s,baz=59,slow=39						
KAPI	**Kappang**	**18.42**	**183**	P	**P**	**00 44 50.2**	**+1.9**
	3.5nm,0.3s,baz=351,slow=6.5,SNR=20						
KAPI	**Kappang**	**18.42**	**183**	*e*Pn	**Pn**	**00 44 50.0**	**+0.1**
NJ2	**Nanjing**	**18.55**	**355**	*e*P	**P**	**00 44 46.7**	**-2.8**
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.6s						
CMAR	**Chiang Mai Arr**	**21.59**	**286**	P	**P**	**00 45 23.8**	**+1.4**
	comp=Z,7.0nm,0.8s,mb4.2,baz=95,slow=8.3,SNR=24						
CMAR				PcP	PcP	00 49 20.4	+1.2
	comp=Z,1.1nm,0.3s,baz=133,slow=0.5,SNR=7.3						
XAN	**Xi'an**	**23.13**	**334**	P	**P**	**00 45 37.2**	**-0.2**
XAN				AMB	AMB		
	comp=Z,17nm,0.8s,mb4.5						
XAN				AMB	AMB		
	comp=Z,470nm,5.1s						
GUMO	**Guam**	**23.38**	**87**	*e*P	**P**	**00 45 35.6**	**-4.3**
CD2	**Chengdu**	**23.39**	**321**	P	**P**	**00 45 40.0**	**+0.1**
CD2				AMB	AMB		
	comp=Z,20nm,0.7s,mb4.7						
CD2				AMB	AMB		
	comp=Z,60nm,6.2s						
BATI	**Baumata**	**23.72**	**173**	P	**P**	**00 45 43.9**	**+0.9**
	comp=Z,142nm,0.4s,baz=77,slow=1.1,SNR=26						
CBIJ	**Chichi jima**	**24.12**	**53**	LR	LR	00 54 22.7	
	comp=Z,61nm,18.1s,baz=119,slow=34						
KSRS	**Korea Array**	**24.68**	**14**	P	**P**	**00 45 50.6**	**-0.9**
	comp=Z,2.1nm,0.6s,mb3.8,baz=194,slow=11,SNR=12						
LZH	**Lanzhou**	**27.18**	**329**	⇓P	**P**	**00 46 14.5**	**+0.5**
LZH				AMB	AMB		
	comp=Z,25nm,1.1s,mb4.8						
LZH				AMB	AMB		
	comp=Z,110nm,4.3s						
LZH	**Lanzhou**	**27.18**	**329**	⇓P	**P**	**00 46 14.5**	**+0.5**
	comp=Z,25nm,1.1s,mb4.8						
LZH				pP	pP	00 46 19.3	-23
LZH				sP	sP	00 46 21.6	-36
MJAR	**Matsushiro Arr**	**27.74**	**31**	P	**P**	**00 46 18.1**	**-0.9**
	comp=Z,1.3nm,0.5s,mb3.9,baz=216,slow=9.2,SNR=5.6						
SHL	**Shillong**	**29.72**	**298**	*e*P	**P**	**00 46 39.4**	**+2.6**
FITZ	**Fitzroy Crossi**	**31.76**	**171**	*e*P	**P**	**00 46 54.7**	**0.0**
	comp=Z,12nm,1.3s,mb4.5						
GTA	**Gaotai**	**31.77**	**328**	P	**P**	**00 46 55.6**	**+1.0**
GTA				AMB	AMB		
	comp=Z,18nm,1.0s,mb4.8						
LSA	**Lhasa**	**31.82**	**305**	P	**P**	**00 46 56.7**	**+1.5**
ODAN	**Odare**	**33.96**	**298**	*e*P	**P**	**00 47 14.3**	**+0.4**
	comp=Z,48nm,0.7s,mb5.3						
MBWA	**Marble Bar**	**34.46**	**182**	*e*P	**P**	**00 47 18.1**	**-0.1**
	comp=Z,13nm,0.4s,mb5.0						
RAMN	**Ramite**	**34.66**	**298**	*e*P	**P**	**00 47 20.7**	**+0.8**
	comp=Z,44nm,0.8s,mb5.2						
JIRN	**Jiri**	**35.21**	**299**	*e*P	**P**	**00 47 25.6**	**+1.0**
	comp=Z,49nm,0.4s,mb5.5						
GUN	**Gumba**	**35.54**	**299**	*e*P	**P**	**00 47 28.5**	**+1.0**
	comp=Z,34nm,0.3s,mb5.4						
WRAB	**Tennant Creek**	**35.79**	**158**	*e*P	**P**	**00 47 28.4**	**-1.2**
WRAB				pmax	pmax		
	comp=Z,15nm,1.0s,mb4.6						
WRAB	**Tennant Creek**	**35.79**	**158**	*e*P	**P**	**00 47 28.4**	**-1.1**
	comp=Z,15nm,1.0s,mb4.6						
WRA	**Warramunga Arr**	**35.80**	**158**	P	**P**	**00 47 28.7**	**-0.9**
	comp=Z,6.3nm,0.4s,mb4.6,baz=335,slow=9.8,SNR=65						
WRA				PcP	PcP	00 49 54.4	-0.1
	comp=Z,0.6nm,0.8s,baz=347,slow=3.4,SNR=2.6						
WRA				S	**S**	**00 52 53.7**	**-3.6**
	comp=Z,1.2nm,1.0s,baz=333,slow=16,SNR=3.8						
WB2	**Warramunga Arr**	**35.80**	**158**	*e*P	**P**	**00 47 28.6**	**-1.1**
PKIN	**Phulchoki**	**35.86**	**299**	*e*P	**P**	**00 47 30.3**	**+0.1**
	comp=Z,18nm,0.4s,mb5.0						
KKN	**Kakani**	**36.02**	**299**	*e*P	**P**	**00 47 32.3**	**+0.8**
	comp=Z,15nm,0.4s,mb5.0						
DMN	**Daman**	**36.12**	**299**	*e*P	**P**	**00 47 32.9**	**+0.5**
	comp=Z,20nm,0.6s,mb5.0						
ULN	**Ulaanbaatar**	**36.13**	**344**	⇑*e*P	**P**	**00 47 30.3**	**-1.9**
ULN	**Ulaanbaatar**	**36.13**	**344**	*e*P	**P**	**00 47 31.9**	**-0.3**
	comp=Z,1.6nm,0.4s,mb4.0						
SONM	**Songino Array**	**36.28**	**344**	P	**P**	**00 47 33.6**	**+0.1**
	comp=Z,2.4nm,0.6s,mb4.0,baz=162,slow=10,SNR=10						
SONM				PcP	PcP	00 49 55.9	+0.3
	comp=Z,0.4nm,0.5s,baz=163,slow=5.4,SNR=2.7						
GKN	**Gorkha**	**36.62**	**299**	*e*P	**P**	**00 47 36.5**	**-0.2**
	comp=Z,24nm,0.7s,mb4.9						
DANN	**Dangsing**	**37.46**	**299**	*e*P	**P**	**00 47 44.0**	**+0.2**
	comp=Z,20nm,0.3s,mb5.2						
ASAR	**Alice Springs**	**39.09**	**161**	P	**P**	**00 47 57.0**	**-0.3**
	comp=Z,4.1nm,0.4s,mb4.4,baz=338,slow=6.8,SNR=82						
ASAR				PcP	PcP	00 50 05.1	+0.5
	comp=Z,0.7nm,0.5s,baz=335,slow=2.5,SNR=4.6						
PALK	**Pallekele**	**39.90**	**265**	*e*P	**P**	**00 48 06.0**	**+1.7**
TLY	**Talaya**	**40.52**	**344**	*e*P	**P**	**00 48 08.6**	**-0.3**
TLY				pmax	pmax		
	comp=Z,2.0nm,0.5s,mb4.0						
TLY	**Talaya**	**40.52**	**344**	*e*P	**P**	**00 48 08.6**	**-0.3**
	comp=Z,2.5nm,0.5s,mb4.1						
KLBR	**Kellerberrin**	**44.93**	**184**	⇑*i*P	**P**	**00 48 44.2**	**-0.4**
	comp=Z,20nm,0.5s,mb5.0						
MK31	**Makanchi Array**	**46.26**	**324**	*i* P	**P**	**00 48 55.4**	**+0.4**
MK31				pmax	pmax		
	comp=Z,2.0nm,0.3s,mb4.2						
MK31	**Makanchi Array**	**46.26**	**324**	*e*P	**P**	**00 48 55.8**	**+0.8**
MKAR	**Makanchi Array**	**46.26**	**324**	P	**P**	**00 48 55.6**	**+0.6**
	comp=Z,4.7nm,0.5s,mb4.3,baz=123,slow=8.8,SNR=32						
MKAR				PcP	PcP	00 50 27.8	-0.5
	comp=Z,1.0nm,0.6s,baz=143,slow=3.6,SNR=3.0						
ZAA0	**Zalesovo Array**	**49.29**	**333**	*e*P	**P**	**00 49 17.8**	**-0.4**
ZALV	**Zalesovo Beam**	**49.29**	**333**	P	**P**	**00 49 17.4**	**-0.8**
	comp=Z,3.3nm,0.4s,mb4.4,baz=119,slow=7.2,SNR=14						
STKA	**Stephens Creek**	**49.32**	**157**	*e*P	**P**	**00 49 17.9**	**-0.8**
	comp=Z,1.4nm,0.4s,mb3.9						
STKA	**Stephens Creek**	**49.32**	**157**	P	**P**	**00 49 17.9**	**-0.8**
	comp=Z,1.9nm,0.5s,mb4.0,baz=343,slow=7.1,SNR=7.9						
STKA	**Stephens Creek**	**49.32**	**157**	*e*P	**P**	**00 49 17.9**	**-0.8**
	comp=Z,1.9nm,0.4s,mb4.1						
KURK	**Kurchatov**	**50.42**	**326**	*e*P	**P**	**00 49 27.2**	**+0.4**
KURK				pmax	pmax		
	comp=Z,27nm,0.8s,mb4.9						
KURK	**Kurchatov**	**50.42**	**326**	*e*P	**P**	**00 49 27.2**	**+0.4**
	comp=Z,27nm,0.8s,mb4.9						
NVS	**Novosibirsk**	**50.57**	**333**	*e*P	**P**	**00 49 25.9**	**-2.0**
NVS				pmax	pmax		
	comp=N,5.0nm,1.2s						
NVS				pmax	pmax		
	comp=E,5.0nm,1.2s						
NVS				pmax	pmax		
	comp=Z,8.0nm,1.2s,mb4.2						
KBL	**Kabul**	**51.12**	**304**	*e*P	**P**	**00 49 33.0**	**+0.7**
KBL				pmax	pmax		
	comp=Z,12nm,0.8s,mb4.6						
KBL	**Kabul**	**51.12**	**304**	*e*P	**P**	**00 49 33.0**	**+0.7**
	comp=Z,12nm,0.8s,mb4.6						
KK31	**Karatay Array**	**52.20**	**314**	*i* P	**P**	**00 49 40.0**	**-0.2**
KK31				pmax	pmax		
	comp=Z,5.0nm,0.7s,mb4.2						
SEY	**Seymchan**	**54.17**	**17**	⇑*e*P	**P**	**00 49 54.6**	**+0.4**
BVA0	**Borovoye Array**	**56.00**	**326**	P	**P**	**00 50 07.0**	**-0.6**
BVA0				pmax	pmax		
	comp=Z,2.0nm,1.2s,mb3.8						
BRVK	**Borovoye**	**56.08**	**326**	*e*P	**P**	**00 50 08.2**	**+0.1**
BRVK				pmax	pmax		
	comp=Z,10.0nm,0.7s,mb4.8						
BRVK	**Borovoye**	**56.08**	**326**	*e*P	**P**	**00 50 08.2**	**+0.1**
	comp=Z,9.8nm,0.7s,mb4.8						
TIXI	**Tiksi**	**58.33**	**3**	⇑*e*P	**P**	**00 50 22.8**	**-0.8**
TIXI				pmax	pmax		
	comp=Z,10.0nm,0.9s,mb4.7						
AB31	**Akbulak array**	**60.96**	**319**	*i* P	**P**	**00 50 41.6**	**-0.4**
AB31				pmax	pmax		
	comp=Z,4.0nm,0.6s,mb4.4						
BILL	**Bilibino**	**61.86**	**18**	*e*P	**P**	**00 50 48.4**	**+0.6**
BILL				pmax	pmax		
	comp=Z,7.0nm,1.2s,mb4.4						
AKTO	**Aktyubinsk**	**62.44**	**320**	P	**P**	**00 50 51.0**	**-1.0**
AKTO				pmax	pmax		
	comp=Z,1.0nm,0.7s,mb3.8						
ARU	**Arti**	**63.61**	**327**	*c i*P	**P**	**00 50 58.6**	**-1.0**
ARU				*e*		00 53 18.8	
ARU				*e*PPP		00 54 48.7	
ARU				*e*S	**S**	**00 59 25.3**	**+2.4**
ARU				*e*SS	SS	01 03 34.9	+2.4
ARU				pmax	pmax		
	comp=Z,6.0nm,1.0s,mb4.4						
ARU	**Arti**	**63.61**	**327**	*e*P	**P**	**00 50 58.7**	**-0.9**
	comp=Z,4.3nm,0.6s,mb4.5						
RDF	**Al-Radifah**	**69.08**	**296**	*e*P	**P**	**00 51 34.5**	**-0.4**
	baz=296						
RDF				AMb	AMB	00 51 35.3	
	comp=Z,54nm,0.6s,mb5.5,baz=296						
MIB	**Mutribah**	**69.20**	**297**	*e*P	**P**	**00 51 35.2**	**-0.5**
	baz=297						
MIB				AMb	AMB	00 51 35.9	
	comp=Z,53nm,0.6s,mb5.5,baz=297						
NAY	**Al-Naaiem**	**69.32**	**296**	*e*P	**P**	**00 51 35.5**	**-1.0**
	baz=296						
NAY				AMb	AMB	00 51 36.7	
	comp=Z,18nm,0.6s,mb5.0,baz=296						
RST	**Umm Al-Ruwaisa**	**69.52**	**297**	*e*P	**P**	**00 51 36.6**	**-1.0**
	baz=297						
RST				AMb	AMB	00 51 38.5	
	comp=Z,28nm,1.1s,mb4.9,baz=297						
KIV	**Kislovodsk**	**72.25**	**312**	*e*P	**P**	**00 51 54.1**	**+0.2**
KIV				pmax	pmax		
	comp=Z,12nm,1.1s,mb4.5						
KIV	**Kislovodsk**	**72.25**	**312**	*e*P	**P**	**00 51 52.6**	**-1.2**
	comp=Z,12nm,1.1s,mb4.5						
MALT	**Malatya**	**75.85**	**306**	*e*P	**P**	**00 52 16.7**	**+1.8**
COLA	**College**	**78.46**	**26**	P	**P**	**00 52 25.5**	**-3.4**
OPO	**Ambohidratompo**	**79.25**	**248**	P	**P**	**00 52 35.1**	**+1.0**
	comp=Z,2.1nm,0.5s,mb4.0,baz=70,slow=5.6,SNR=10						
ARCES	**ARCESS Array B**	**79.31**	**339**	P	**P**	**00 52 32.8**	**-0.7**
	comp=Z,1.8nm,0.7s,mb3.8,baz=87,slow=7.2,SNR=17						
EIL	**Elat**	**79.91**	**298**	P	**P**	**00 52 37.4**	**-0.2**
	comp=Z,10nm,1.0s,mb4.4,baz=63,slow=2.3,SNR=9.5						
AKASG	**Malin Array Be**	**80.69**	**320**	P	**P**	**00 52 39.6**	**-1.6**
	comp=Z,0.2nm,0.3s,baz=62,slow=6.4,SNR=4.0						
BUR08	**Bucovina Ar. S**	**83.89**	**317**	*e*P	**P**	**00 52 57.9**	**-0.1**
KMBO	**Kilima Mbogo**	**84.01**	**267**	P	**P**	**00 53 01.5**	**+2.3**
	comp=Z,3.6nm,0.8s,mb4.1,baz=62,slow=7.7,SNR=21						
KMBO	**Kilima Mbogo**	**84.01**	**267**	*e*P	**P**	**00 53 01.4**	**+2.1**
KOLS	**Kolonicke sedl**	**85.47**	**319**	*e*P	**P**	**00 53 07.2**	**+1.3**
STHS	**Stebnicka Huta**	**85.99**	**320**	*e*P	**P**	**00 53 09.2**	**+0.8**
CRVS	**Cervenica-Dubn**	**85.99**	**319**	*i* P	**P**	**00 53 09.0**	**+0.5**
SIT	**Sitka**	**86.16**	**32**	*e*P	**P**	**00 53 07.0**	**-2.1**
NIE	**Niedzica**	**86.57**	**320**	*e*P	**P**	**00 53 11.7**	**+0.4**
OJC	**Ojcow**	**86.66**	**321**	*e*P	**P**	**00 53 11.1**	**-0.6**
PSZ	**Piszkesteto**	**87.27**	**319**	*e*P	**P**	**00 53 12.6**	**-2.1**
PSZ				pmax	pmax		
	comp=Z,1.0nm,0.4s,mb4.0						
PSZ	**Piszkesteto**	**87.27**	**319**	*e*P	**P**	**00 53 12.6**	**-2.1**
	comp=Z,1.4nm,0.4s,mb4.1						
NB2	**NORSAR Subarra**	**87.49**	**333**	P	**P**	**00 53 14.1**	**-1.4**
	comp=Z,1.4nm,0.8s,mb3.8,baz=65,slow=4.8						
NOA	**NORSAR Array B**	**87.49**	**333**	P	**P**	**00 53 13.9**	**-1.5**
	comp=Z,1.8nm,0.8s,mb4.0,baz=67,slow=4.6,SNR=7.4						
MORC	**Moravsky Berou**	**88.18**	**321**	P	**P**	**00 53 18.8**	**-0.2**
BRG	**Berggiesshubel**	**89.97**	**323**	*e*P	**P**	**00 53 27.8**	**+0.4**
BRG				pmax	pmax		
	comp=Z,4.0nm,1.4s,mb4.2						

BRG	Berggiesshubel	89.97	323	eP	P	00 53 27.8	+0.5
	comp=Z,6.8nm,1.4s,mb4.4						
CLL	Collm	90.36	323	eP	P	00 53 25.0	-4.2
GERES	GERESS Array B	90.86	321	P	P	00 53 30.6	-0.9
	comp=Z,1.1nm,0.8s,mb4.0,baz=57,slow=4.9,SNR=5.7						
MAW	Mawson	90.94	199	P	P	00 53 31.1	-0.2
	comp=Z,0.8nm,0.6s,mb3.9,baz=86,slow=4.7,SNR=8.2						
WALA	Waterton Lakes	101.23	33	Pdif	Pdif	00 54 16.7	-1.8
OSI	Osito Adit	105.99	48	PKiKP	PKiKP	00 58 51.1	-0.6
SNAA	Sanae	112.99	197	⇑iPKIKP	PKiKP	00 59 12.6	+8.9
TORD	Torodi Ar. Bea	114.13	291	PKP	PKiKP	00 59 06.9	-0.7
	comp=Z,0.6nm,0.6s,baz=30,slow=2.1,SNR=13						
VNA2	Neumayer--Watz	114.64	197	ePKPdf	PKiKP	00 59 07.2	+0.3
	baz=69,slow=0.9						
VNA3	Neumayer Olymp	115.08	196	ePKPdf	PKiKP	00 59 08.1	+0.4
TXAR	Lajitas Array	119.53	45	PKP	PKPdf	00 59 18.4	+0.7
	comp=Z,0.6nm,0.5s,baz=139,slow=0.7,SNR=12						
PLCA	Paso Flores	151.10	162	PKPbc	PKPbc	01 00 21.2	+0.5
	comp=Z,5.4nm,1.2s,baz=225,slow=4.3,SNR=4.6						
PLCA	Paso Flores	151.10	162	PKPbc	PKPbc	01 00 21.2	+0.5

*ISCJB **02** 01:18:12.4±0.6, 2484N±003×12202E±003, h106km±4km, Error ellipse: s-maj=5.5km s-min=3.5km az=156.5*
*JMA **02** 01:18:12.5±0.2, 2500N×12207E, h102km, M2.5*
*TAP **02** 01:18:12.3, 2487N×12202E, h107km±1km, ML3.9, D*
ISC 02 01:18:12.7±0.7**, 2485N**±003×**12202E**±003**, h105**km±4km**, n44,** σ**0^{s}62**/86**, Taiwan region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
EGS		0.08	267	P	Pn	01 18 27.4	+0.1
	baz=252						
EGS				S	Sn	01 18 38.6	+0.4
	baz=252						
TWB1	Santiao Chiao	0.16	348	i P	Pn	01 18 27.3	-0.1
	baz=348						
TWB1				i S	Sn	01 18 38.1	-0.4
	baz=348						
TWC	Suao	0.29	214	i P	Pn	01 18 27.9	0.0
	baz=210						
TWC				i S	Sn	01 18 39.0	-0.2
	baz=210						
NWF	Wu-fen Shan	0.31	315	P	Pn	01 18 27.6	-0.3
	baz=312						
NWF				S	Sn	01 18 39.2	-0.2
	baz=312						
TWE	Neicheng	0.35	249	P	Pn	01 18 28.7	+0.6
	baz=245						
TWE				i S	Sn	01 18 39.5	-0.2
	baz=245						
TWA	Mucha	0.42	288	P	Pn	01 18 28.8	+0.2
	baz=285						
TWA				S	Sn	01 18 39.8	-0.6
	baz=285						
ENTT	Nioudou	0.47	244	i P	Pn	01 18 29.2	+0.4
	baz=240						
ENTT				eS	Sn	01 18 41.8	+0.9
	baz=240						
ENA	Nanau	0.49	212	P	Pn	01 18 29.3	+0.3
	baz=209						
ENA				S	Sn	01 18 42.3	+1.1
	baz=209						
TAP1	Taipei	0.49	293	eP	Pn	01 18 28.9	-0.1
	baz=290						
TAP1				eS	Sn	01 18 41.2	-0.1
	baz=290						
TWY	Chenhua	0.57	318	P	Pn	01 18 28.9	-0.7
	baz=316						
TWY				S	Sn	01 18 41.7	-0.6
	baz=316						
TWS1	Kuangyinshan	0.60	295	i P	Pn	01 18 29.7	-0.1
	baz=292						
TWS1				i S	Sn	01 18 43.0	+0.3
	baz=292						
NSK	Sanguang	0.63	254	P	Pn	01 18 29.6	-0.4
	baz=252						
NSK				S	Sn	01 18 42.3	-0.7
	baz=252						
NNS	Nan Shan	0.72	236	P	Pn	01 18 31.0	+0.2
	baz=233						
NNS				eS	Sn	01 18 45.0	+0.6
	baz=233						
NCU	National Centr	0.77	279	eP	Pn	01 18 31.0	-0.2
	baz=277						
NCU				eS	Sn	01 18 45.2	0.0
	baz=277						
TWD	Chiawan	0.86	207	i P	Pn	01 18 31.6	-0.5
	baz=206						
TWD				i S	Sn	01 18 46.2	-0.4
	baz=206						
HWA	Hwalien	0.95	204	eP	Pn	01 18 32.9	-0.2
	baz=203						
HWA				eS	Sn	01 18 49.1	+0.8
	baz=203						
NSTT	Nanjuang	0.96	257	P	Pn	01 18 32.6	-0.5
	baz=255						
NSTT				eS	Sn	01 18 47.5	-0.9
	baz=255						
TWT	Tachien	0.97	233	i P	Pn	01 18 33.9	+0.7
	baz=232						
TWT				S	Sn	01 18 49.9	+1.2
	baz=232						
YOJ	Yonaguni jima	0.98	113	P	Pn	01 18 33.3	0.0
YOJ				S	Sn	01 18 49.0	+0.2
WHF	Hehuan Shan	0.98	225	i P	Pn	01 18 33.8	+0.4
	baz=223						
WHF				i S	Sn	01 18 50.0	+1.1
	baz=223						
ESL	Shilin	1.16	208	eP	Pn	01 18 34.2	-1.2
	baz=206						
ESL				eS	Sn	01 18 51.4	-1.0
	baz=206						
NSY	Sanyi	1.23	250	P	Pn	01 18 35.9	-0.1
	baz=248						
NSY				S	Sn	01 18 53.9	+0.2
	baz=248						
TWQ1	Liyutan	1.24	247	eP	Pn	01 18 35.9	-0.3
	baz=245						
TWQ1				eS	Sn	01 18 53.4	-0.6
	baz=245						
SMLT	Sun Moon Lake	1.41	227	eP	Pn	01 18 38.5	+0.3
	baz=226						
SMLT				eS	Sn	01 18 58.0	+0.6
	baz=226						
TYC	Yuchr	1.42	229	eP	Pn	01 18 38.3	0.0
	baz=227						
TYC				eS	Sn	01 18 57.8	+0.1
	baz=227						
EHY	Hungye	1.48	206	P	Pn	01 18 39.1	0.0
	baz=205						
EHY				S	Sn	01 18 57.9	-1.2
	baz=205						
TWF1	Yuli	1.63	204	eP	Pn	01 18 40.2	-0.7
	baz=203						
TWF1				eS	Sn	01 19 01.5	-0.8
	baz=203						
IRIF	Iriomote-Funau	1.64	108	P	Pn	01 18 40.8	-0.1
IRIF				S	Sn	01 19 02.3	0.0
YUS	Yu-Shan	1.67	216	P	Pn	01 18 42.5	+1.2
	baz=215						
YUS				eS	Sn	01 19 04.0	+0.8
	baz=215						
ALS	Alishan	1.74	220	eP	Pn	01 18 42.9	+0.7
	baz=219						
ALS				eS	Sn	01 19 05.7	+1.1
	baz=219						
CHN5	Tsauling	1.75	225	P	Pn	01 18 42.4	+0.1
	baz=224						
CHN5				S	Sn	01 19 05.3	+0.4
	baz=224						
HATJ	Hateruma jima	1.80	116	eS	Sn	01 19 07.2	+1.1
CHKT	Chengkung	1.84	199	eP	Pn	01 18 43.1	-0.5
	baz=198						
CHKT				eS	Sn	01 19 05.5	-1.4
	baz=198						
ELDTW	Lidau	1.89	209	eP	Pn	01 18 43.8	-0.3
	baz=208						
ELDTW				eS	Sn	01 19 08.6	+0.6
	baz=208						
JKRS	Kuro-shima	1.91	108	P	Pn	01 18 44.7	+0.4
JKRS				S	Sn	01 19 08.4	0.0
CHN4	Tsaushan	1.98	222	eP	Pn	01 18 46.0	+0.7
	baz=220						
CHN4				eS	Sn	01 19 09.8	-0.3
	baz=220						
JIJ	Ishigaki jima	1.99	104	P	Pn	01 18 45.1	-0.2
JIJ				S	Sn	01 19 09.3	-1.0
STYT	Tauyuan	2.04	215	eP	Pn	01 18 46.2	+0.1
	baz=214						
STYT				eS	Sn	01 19 11.5	0.0
	baz=214						
WTP	Ta-pu	2.05	219	P	Pn	01 18 46.4	+0.2
	baz=218						
WTP				S	Sn	01 19 10.5	-1.2
	baz=218						
TWK	Hsinying	2.11	222	P	Pn	01 18 48.0	+1.1
	baz=221						
TWK				S	Sn	01 19 13.6	+0.6
	baz=221						
CHN1	Nanshi	2.15	220	P	Pn	01 18 47.7	+0.3
	baz=219						
CHN1				S	Sn	01 19 13.3	-0.6
	baz=219						
SGST	Jiashian	2.20	217	eP	Pn	01 18 48.5	+0.5
	baz=216						
SGST				eS	Sn	01 19 15.3	+0.2
	baz=216						
TWG	Pinlang	2.20	204	eP	Pn	01 18 47.9	-0.2
	baz=203						
TWG				eS	Sn	01 19 13.3	-1.9
	baz=203						
JTJ	Tarama	2.44	94	eS	Sn	01 19 21.0	+0.2

*NEIC **02** 01:23:18.5, 3262S×7177W, h24km, ML2.9(GUC), After GUC.*
GUC 02 01:23:18.5±0.8**, 3262S**×**7177W, h24**km±7km**, MD3.8, ML2.9, 5C-8D, Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PACH	Papudo	0.29	73	⇓iP	Pb	01 23 25.6	+0.4
PACH				i S	Sb	01 23 30.5	+0.7
IHA	Instituto Hidr	0.42	166	eP	Pb	01 23 25.6	-1.8
ROCH	El Roble	0.72	119	⇑iP	Pb	01 23 32.1	-0.3
CHNG	Los Chungos	0.77	17	⇓iP	Pb	01 23 32.5	-0.7
CHNG				i S	Sb	01 23 43.1	-0.1
CHNG				AML	AML	01 23 44.6	
	comp=E,490nm,0.4s						
PTCH	Petorca	0.79	64	⇑iP	Pb	01 23 33.4	-0.2
PTCH				i S	Sb	01 23 44.3	+0.4
PTCH				AML	AML	01 23 47.2	
	comp=E,486nm,0.1s						
PTCH	Petorca	0.79	64	⇑iP	Pb	01 23 33.4	-0.2
PTCH				i S	Sb	01 23 44.3	+0.4
LCCH	Las Cruces	0.87	169	eP	Pb	01 23 34.0	-0.9
LCCH				i S	Sb	01 23 45.6	-0.5
JACH	Jahuel	0.99	94	⇑iP	Pn	01 23 36.0	-0.9
JACH				i S	Sb	01 23 49.5	-0.1
PEL	Peldehue	1.05	120	⇑iP	Pn	01 23 37.3	-0.4
PEL				i S	Sb	01 23 51.6	+0.3
PEL				AML	AML	01 23 52.0	
	comp=E,2μm,0.2s						
RCDM	Rinconada Maip	1.18	137	eP	Pn	01 23 39.3	-0.3
RCDM				AML	AML	01 23 58.4	
	comp=N,440nm,0.2s						
TACH	Talagante	1.24	146	⇓iP	Pn	01 23 40.2	-0.2
TACH				i S	Sn	01 23 56.1	-0.3
SAN	Santiago	1.25	132	AML	AML	01 24 00.5	
	comp=E,475nm,0.6s						
CLCH	Cerro Calan	1.29	127	⇓iP	Pn	01 23 40.9	-0.1
CLCH				i S	Sn	01 23 58.3	+0.7
CLCH				AML	AML	01 23 59.8	
	comp=N,608nm,0.3s						
CLCH				AML	AML	01 24 00.4	
	comp=N,655nm,0.3s						
ANTU	Antumapu	1.34	135	AML	AML	01 24 03.9	
	comp=N,324nm,0.4s						
LNV	Longovilo	1.36	168	eP	Pn	01 23 41.1	-1.0
LNV				i S	Sn	01 23 59.1	-0.3
FCH	Farellones	1.43	120	⇓iP	Pn	01 23 43.0	+0.1
FCH				i S	Sn	01 24 01.9	+1.0
FCH				AML	AML	01 24 04.9	
	comp=E,308nm,0.2s						
PCH	Pirque	1.45	134	eP	Pn	01 23 43.4	+0.2
PCH				i S	Sn	01 24 02.8	+1.3
CHCH	Chadas Angostu	1.61	145	⇓iP	Pn	01 23 46.5	+1.1
CHCH				eS	Sn	01 24 07.4	+2.0
LMEL	Las Melosas	1.79	134	⇓iP	Pn	01 23 49.2	+1.2
LMEL				AML	AML	01 24 19.2	
	comp=N,266nm,0.1s						
CICH	Cipreses	2.03	147	⇓iP	Pn	01 23 52.9	+1.6

IDC 02 01:53:23.0±3.1**, 539S**×**15316E, h0**km**, mb3.6**/4**, mb1 3.7**/4**, mb1mx3.6**/16**, mbtmp3.6**/4**, MS3.1**/1**, Ms1 3.1**/1**, ms1mx2.5**/24**, Error ellipse: s-maj=107.2km s-min=31.3km az=117.0, New Ireland region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CTA	Charters Tower	16.08	204	LR	LR	02 02 17.9	
	comp=Z,68nm,20.9s,baz=231,slow=33						
WRA	Warramunga Arr	23.34	230	P	P	01 58 33.3	+0.1
	0.6nm,0.8s,baz=55,slow=10,SNR=4.2						
ASAR	Alice Springs	25.97	224	P	P	01 58 57.6	+0.1
	0.7nm,0.9s,baz=55,slow=9.4,SNR=4.5						
FITZ	Fitzroy Crossi	29.70	242	P	P	01 59 31.3	+0.3
	1.3nm,0.9s,baz=90,slow=10,SNR=2.6						
ZALV	Zalesovo Beam	81.84	326	P	P	02 05 44.6	+0.6
	1.1nm,0.7s,baz=117,slow=5.5,SNR=3.6						
TORD	Torodi Ar. Bea	150.83	287	PKPbc	PKPbc	02 13 17.5	-1.1
	0.9nm,0.8s,baz=51,slow=2.0,SNR=8.7						

*ISCJB **02** 01:54:16.9±0.7, 310S±0.1×1800W±02, h357km±11km, mb3.1/3, Error ellipse: s-maj=37.0km s-min=9.5km az=25.3*
*IDC **02** 01:54:18.0±1.3, 3103S×17993W, h358km±15km, mb2.9/3, mb1 3.4/6, mb1mx3.3/17, mbtmp3.3/6, Error ellipse: s-maj=29.6km s-min=16.5km az=128.0*
ISC 02 01:54:17.4±0.7**, 310S**±01×**1799W**±03**, h353**km±11km**, n12,** σ**1^{s}09**/9**, mb3.1**/3**, Kermadec Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
RAO	Raoul Island	2.48	44	P	Pn	01 55 14.6	+2.0
	33nm,0.3s,baz=106,slow=22,SNR=3.5						
RAO				S	S	01 55 54.9	-2.1
	199nm,0.3s,baz=266,slow=23,SNR=6.7						
URZ	Urewera	7.61	198	P	Pn	01 56 07.2	+0.3
	14nm,0.3s,baz=321,slow=4.0,SNR=33						
URZ				S	S	01 57 36.7	+0.6
	8.0nm,0.3s,baz=251,slow=3.1,SNR=7.3						
RPZ	Rata Peaks	14.54	207	S	S	02 00 02.0	-1.5
	0.6nm,0.3s,baz=248,slow=15,SNR=5.7						
AFI	Afiamalu	18.62	25	P	P	01 58 10.4	-0.4
	1.4nm,0.3s,baz=360,slow=10,SNR=3.2						
ASAR	Alice Springs	41.45	269	P	P	02 01 31.4	+0.4
	0.2nm,0.4s,mb2.7,baz=114,slow=6.8,SNR=4.1						
WRA	Warramunga Arr	42.50	274	P	P	02 01 39.2	-0.3
	0.6nm,0.4s,mb3.1,baz=111,slow=8.1,SNR=15						
NVAR	Mina Array Bea	89.82	44	P	P	02 06 37.1	+0.6
	0.3nm,0.5s,mb3.5,baz=251,slow=8.4,SNR=2.6						
KAF	Kangasniemi	144.58	339	ep	PKPdf	02 13 09.4	-2.0
	4.0nm,0.6s						
NB2	NORSAR Subarra	149.11	349	PKP	PKPdf	02 13 22.5	+3.5
	comp=Z,0.9nm,0.6s,baz=17,slow=2.6						
NOA	NORSAR Array B	149.11	349	PKPbc	PKPbc	02 13 22.9	-0.7
	comp=Z,1.3nm,0.7s,baz=15,slow=4.2,SNR=7.2						
AKASG	Malin Array Be	150.79	321	PKPbc	PKPbc	02 13 27.5	-0.3
	comp=Z,1.1nm,0.5s,baz=54,slow=2.0,SNR=5.6						
TORD	Torodi Ar. Bea	162.13	185	PKPab	PKPab	02 14 26.7	+0.6
	comp=Z,0.4nm,0.8s,baz=166,slow=5.7,SNR=2.8						

*ISCJB **02** 02:06:09.3±0.7, 3891N±002×2448E±002, h11km±4km, Error ellipse: s-maj=3.3km s-min=2.8km az=178.5*
*CSEM **02** 02:06:09.6±0.0, 3891N×2446E, h15km, ML3.5/10, Error ellipse: s-maj=1.0km s-min=0.9km az=13.0*
*NEIC **02** 02:06:09.9, 3890N×2447E, h35km, ML3.5(ATH), After ATH.*
*ATH **02** 02:06:09.9, 3890N×2447E, h35km±2km, MD3.5/18, ML3.5*
*THE **02** 02:06:10.6, 3891N×2446E, h14km±1km, ML3.5/10, Error ellipse: s-maj=1.2km s-min=0.6km az=205.0*
*DDA **02** 02:06:16.2, 3925N×2488E, h14km, Md3.4*
*ISK **02** 02:06:21.7, 3932N×2511E, h5km, ML3.0*
ISC 02 02:06:09.5±0.6**, 3889N**±002×**2448E**±002**, h11**km±4km**, n81,** σ**0^{s}83**/119**, 4C-2D, Aegean Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
AOS	Alonnisos	0.54	301	P	Pg	02 06 20.3	+0.3
AOS				S	Sg	02 06 28.2	+1.1
PTL	Penteli	0.97	210	ePn	Pn	02 06 28.0	-1.1
PTL	Penteli	0.97	210	ePN	Pn	02 06 28.0	-1.1
NEO	Neokhori	1.06	293	⇓iPn	Pn	02 06 29.6	-0.7
NEO				eSn	Sn	02 06 44.3	-0.7
NEO	Neokhori	1.06	293	⇓iPN	Pn	02 06 29.6	-0.7
NEO				eSN	Sn	02 06 44.3	-0.7
ATH	Athens Observa	1.10	213	ePn	Pn	02 06 30.5	-0.3
ATH				eSn	Sn	02 06 45.8	-0.2
ATH	Athens Observa	1.10	213	ePN	Pn	02 06 30.5	-0.3
ATH				eSN	Sn	02 06 45.8	-0.2
XOR	Xorichti	1.10	296	P	Pb	02 06 30.3	-0.3
XOR				S	Sb	02 06 45.5	+0.5
LOS	Limnos	1.14	24	P	Pb	02 06 31.1	-0.2
LKR	Lokris	1.18	259	P	Pb	02 06 31.3	-0.6
LKR				S	Sb	02 06 47.5	+0.3
LKR	Lokris	1.18	259	i Pn	Pn	02 06 31.5	-0.5
LKR				S	Sb	02 06 47.5	+0.3
LKR				eSn	Sn	02 06 48.0	0.0
LKR	Lokris	1.18	259	⇑iPN	Pn	02 06 31.5	-0.5
LKR				eSN	Sn	02 06 48.0	0.0
KVR	Kavouri	1.20	208	ePn	Pn	02 06 32.0	-0.3
KVR				eSn	Sn	02 06 48.5	0.0
KVR	Kavouri	1.20	208	ePN	Pn	02 06 32.0	-0.3
KVR				eSN	Sn	02 06 48.5	0.0
PAIG	Paliouri	1.20	329	P	Pn	02 06 31.6	-0.7
PAIG				S	Sb	02 06 48.5	+0.6
CHOS	Chios island	1.34	112	P	Pn	02 06 34.4	+0.2
CHOS				S	Sb	02 06 52.2	+0.4
NAIG	Nisos Aigina	1.37	215	ePb	Pb	02 06 34.0	-1.2
NAIG	Nisos Aigina	1.37	215	ePB	Pb	02 06 34.0	-1.2
PRK	Paraskevi	1.44	75	P	Pn	02 06 35.3	-0.3
PRK				S	Sn	02 06 55.1	+0.6
PRK	Paraskevi	1.44	75	ePn	Pn	02 06 35.4	-0.2
PRK				eSn	Sn	02 06 54.4	-0.1
PRK				S	Sn	02 06 55.1	+0.6
PRK	Paraskevi	1.44	75	ePn	Pn	02 06 35.4	-0.2
PRK				eSn	Sn	02 06 54.4	-0.1
PRK	Paraskevi	1.44	75	ePN	Pn	02 06 35.4	-0.2
PRK				eSN	Sn	02 06 54.4	-0.1
LTK	Loutraki	1.47	234	P	Pn	02 06 35.8	-0.2
LTK				S	Sn	02 06 56.4	+1.2
OUR	Ouranopolis	1.49	345	P	Pn	02 06 35.7	-0.5
AGG	Agios Georgios	1.68	275	P	Pn	02 06 38.6	-0.2
AGG				S	Sn	02 07 00.3	0.0
PLG	Polygyros	1.68	332	P	Pn	02 06 38.2	-0.6
PLG				S	Sn	02 06 59.9	-0.4
PLG	Polygyros	1.68	332	ePn	Pn	02 06 38.3	-0.5
PLG				eSn	Sn	02 06 58.4	-1.9
PLG				S	Sn	02 06 59.9	-0.4
PLG	Polygyros	1.68	332	ePn	Pn	02 06 38.3	-0.5
PLG				eSn	Sn	02 06 58.4	-1.9
PLG	Polygyros	1.68	332	ePN	Pn	02 06 38.3	-0.5
PLG				eSN	Sn	02 06 58.4	-1.9
DID	Didima	1.69	216	P	Pn	02 06 38.7	-0.4
GADA	Gvkgeada	1.70	40	ePG	Pg	02 06 42.4	+0.2
GADA	Gvkgeada	1.70	40	ePg	Pg	02 06 43.0	+0.9
EZN	Ezine	1.71	56	ePN	Pn	02 06 42.9	+3.6
EZN				eSN	Sn	02 06 59.8	-1.4
AYVA	Ayvalik	1.77	76	i P	Pn	02 06 40.4	+0.2
AYVA				i S	Sn	02 07 03.4	+0.7
LIT	Litokhoron	1.95	309	P	Pn	02 06 42.4	-0.2
LIT				S	Sn	02 07 06.7	-0.4
APE	Apeiranthos	2.00	155	P	Pn	02 06 43.2	-0.1
APE	Apeiranthos	2.00	155	ePn	Pn	02 06 43.4	+0.1
APE	Apeiranthos	2.00	155	ePN	Pn	02 06 43.4	+0.1
HORT	Hortiatis	2.00	329	P	Pn	02 06 43.6	+0.3
HORT				S	Sn	02 07 08.2	-0.2
THL	Klokotos Trika	2.02	290	P	Pn	02 06 43.8	+0.2
THL				S	Sn	02 07 08.7	-0.2
THL	Klokotos Trika	2.02	290	ePb	Pb	02 06 44.1	-2.2
THL				eSn	Sn	02 07 08.1	-0.8
THL	Klokotos Trika	2.02	290	ePB	Pb	02 06 44.1	-2.2
THL				eSN	Sn	02 07 08.1	-0.8
EVR	Evrytania	2.08	271	ePb	Pb	02 06 45.2	-2.1
EVR	Evrytania	2.08	271	ePB	Pb	02 06 45.2	-2.1
SOH	Sokhos	2.11	336	P	Pn	02 06 45.0	+0.2
SOH				S	Sn	02 07 10.7	-0.3
SMG	Samos	2.20	122	ePn	Pn	02 06 46.0	-0.1
SMG	Samos	2.20	122	ePN	Pn	02 06 46.0	-0.1
ENEZ	Enez	2.25	35	ePN	Pg	02 06 52.9	+0.2
ALN	Alexandroupoli	2.34	31	P	Pn	02 06 47.2	-0.7
ALN				S	Sn	02 07 16.1	-0.5
VLI	Veliai	2.49	210	ePn	Pn	02 06 50.0	0.0
VLI	Veliai	2.49	210	ePN	Pn	02 06 50.0	0.0
RLS	Riolos of Patr	2.50	251	ePn	Pn	02 06 49.8	-0.4
RLS	Riolos of Patr	2.50	251	ePN	Pn	02 06 49.8	-0.4
KZN	Kozani	2.52	305	ePn	Pn	02 06 51.0	+0.6
KZN	Kozani	2.52	305	ePN	Pn	02 06 51.0	+0.6
KNT	Kendrikon	2.57	332	P	Pn	02 06 51.6	+0.5
GRG	Griva	2.60	323	P	Pn	02 06 52.3	+0.7
GRG				S	Sn	02 07 23.7	+0.5
ITM	Ithomi	2.64	230	ePn	Pn	02 06 53.1	+1.0
ITM	Ithomi	2.64	230	ePN	Pn	02 06 53.1	+1.0
BALB	Balikesir	2.75	73	ePN	Pn	02 07 00.1	+6.6
RKY	Sarkoy-Tekirda	2.75	48	ePN	Pn	02 06 58.3	+4.8
MFT	Murefte	2.87	48	ePN	Pn	02 07 01.2	+6.0
JAN	Janina	2.91	286	ePn	Pn	02 06 56.2	+0.4
JAN	Janina	2.91	286	ePN	Pn	02 06 56.2	+0.4
FNA	Florina	3.04	309	P	Pn	02 06 58.3	+0.7
FNA				S	Sn	02 07 34.1	+0.1
VLS	Valsamata	3.13	258	ePn	Pn	02 06 59.7	+0.9
VLS	Valsamata	3.13	258	ePN	Pn	02 06 59.7	+0.9
KULA	Kula-Manisa	3.30	95	ePN	Pg	02 07 10.6	-2.1
DST	Dursunbey	3.30	76	ePN	Pn	02 07 08.3	+7.2
EDRB	Edirne	3.42	30	ePN	Pn	02 07 10.2	+7.4
KEK	Kerkira	3.72	284	P	Pn	02 07 10.2	+3.3
ULDT	Uludag	3.81	69	i P	Pn	02 07 10.2	+2.0
ULDT				i S	Sg	02 08 11.8	-0.3
ULDT	Uludag	3.81	69	i P	Pn	02 07 10.2	+2.0
KARP	Karpathos	3.97	146	P	Pn	02 07 11.7	+1.3
YLV	Yalova	4.13	65	eP	Pn	02 07 18.9	+6.4
BARS	Barje	4.41	334	⇑iPn	Pn	02 07 16.9	+0.6
BOLS	Boljevac	5.28	340	⇑iPn	Pn	02 07 28.5	+0.1
GRUS	Gruza	5.73	332	⇑iPn	Pn	02 07 34.0	-0.6
TIP	Timpagrande	6.01	275	P	Pn	02 07 40.0	+1.6
DIVS	Divibare	6.19	329	⇑iPn	Pn	02 07 41.8	+0.9
CUC	Castrocucco	6.79	282	P	Pn	02 07 52.5	+3.4

JMA 02 02:06:51.1±0.1**, 2998N**×**13976E, h416**km**, M3.5, Southeast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CBIJ	Chichi jima	3.58	143	P	P	02 08 00.5	+0.1
CBIJ				eS	S	02 08 55.5	-1.1
JHHJ	Haha-jima-NKT	3.96	147	eS	S	02 09 02.4	-0.5
BSO1	Boso 1	4.77	12	P	P	02 08 12.9	+1.5
BSO1				eS	S	02 09 17.8	+0.9
BSO3	Boso 3	4.85	7	eS	S	02 09 17.7	-0.6
BSO4	Boso 4	5.02	5	eS	S	02 09 21.9	+0.5
JIE	Ise	5.10	330	P	P	02 08 15.6	+0.8
JHU	Hanno	5.87	356	P	P	02 08 22.8	+0.1
JRY	Ryogami san	6.06	353	P	P	02 08 25.6	+0.8
JAG	Ashikaga	6.43	358	P	P	02 08 28.5	-0.3
JAG				eS	S	02 09 42.7	-5.9
JHO	Hitachi	6.65	6	P	P	02 08 32.7	+1.6
JHO				eS	S	02 09 50.8	-2.1

TAP 02 02:33:15.7, 2125N×**12211E, h20**km±1km**, ML3.2, D, Taiwan region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LAY	Lan-yu	0.95	327	i P	Pb	02 33 33.8	+0.4
	baz=326						
LAY				S	Sb	02 33 47.3	+1.7
	baz=326						
HEN	Hengchun	1.49	301	P	Pn	02 33 41.8	+0.5
	baz=300						
HEN				S	Sn	02 34 00.8	+0.7
	baz=300						
EAST	Anshuo	1.63	314	eP	Pn	02 33 43.5	+0.2
	baz=313						
EAST				S	Sn	02 34 04.4	+0.7
	baz=313						

ECL	**Taimali**	**1.72**	**322**	*e*P	Pn	02 33 45.0	+0.5
	baz=321						
ECL				S	Sn	02 34 06.3	+0.4
	baz=321						
SCZT	**Fangliau**	**1.78**	**309**	P	Pn	02 33 46.4	+1.0
	baz=308						
SCZT				*e*S	Sn	02 34 07.5	0.0
	baz=308						
TWG	**Pinlang**	**1.84**	**329**	P	Pn	02 33 46.9	+0.8
	baz=328						
TWG				*e*S	Sn	02 34 09.6	+0.7
	baz=328						
CHKT	**Chengkung**	**1.97**	**340**	P	Pn	02 33 48.7	+0.8
	baz=339						
SSD	**Sandimen**	**2.03**	**318**	P	Pn	02 33 49.4	+0.7
	baz=317						
SSD				*e*S	Sn	02 34 13.7	+0.2
	baz=317						
STYT	**Tauyuan**	**2.29**	**327**	*e*P	Pn	02 33 53.0	+0.7
	baz=326						
STYT				*e*S	Sn	02 34 20.6	+0.8
	baz=326						
EHY	**Hungye**	**2.37**	**342**	*e*P	Pn	02 33 54.2	+0.8
	baz=341						
EHY				*e*S	Sn	02 34 22.7	+0.9
	baz=341						
CHN1	**Nanshi**	**2.43**	**323**	*e*P	Pn	02 33 55.1	+0.9
	baz=322						
CHN1				*e*S	Sn	02 34 24.1	+0.8
	baz=322						
WTP	**Ta-pu**	**2.43**	**325**	*e*P	Pn	02 33 55.1	+0.9
	baz=325						
WTP				*e*S	Sn	02 34 24.2	+0.8
	baz=325						
YUS	**Yu-Shan**	**2.48**	**335**	*e*P	Pn	02 33 56.3	+1.4
	baz=334						
YUS				*e*S	Sn	02 34 25.3	+0.7
	baz=334						
ALS	**Alishan**	**2.56**	**332**	P	Pn	02 33 56.8	+0.7
	baz=331						
ALS				S	Sn	02 34 27.4	+0.8
	baz=331						
CHN5	**Tsauling**	**2.69**	**331**	*e*P	Pn	02 33 58.9	+1.0
	baz=330						
CHN5				*e*S	Sn	02 34 30.5	+0.7
	baz=330						

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*ISCJB **02** 02:42:57.1±1.9, 5.0S±0.1×151.1E±0.2, h218km±16km, mb4.6/10, Error ellipse: s-maj=33.4km s-min=14.9km az=37.9*

*NEIC **02** 02:42:58.0±2.0, 4.99S×151.04E, h215km±18km, mb4.9/8, Error ellipse: s-maj=24.0km s-min=13.7km az=128.0*

*IDC **02** 02:42:58.2±2.0, 4.97S×151.01E, h212km±16km, mb3.9/7, mb1 4.2/7, mb1mx3.8/15, mbtmp3.9/7, MS4.0/1, Ms1 4.0/1, ms1mx2.4/24, Error ellipse: s-maj=32.9km s-min=12.4km az=117.0*

ISC 02 02:42:57.9±1.5**, 5.0S**±0.1×**151.1E**±0.2**, h212**km±12km**, n21, σ0.80**/21**, mb4.6**/10**, 1D, New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.86**	**221**	*e*Pn	**Pn**	**02 44 23.3**	**-0.3**
	48nm,0.6s						
PMG				*e*S	**S**	**02 45 32.2**	**+0.6**
KAKA	**Kakadu**	**19.93**	**246**	*e*P	**P**	**02 47 13.1**	**-0.8**
	18nm,0.4s						
WRAB	**Tennant Creek**	**22.04**	**226**	*e*P	**P**	**02 47 35.5**	**0.0**
	24nm,0.4s,mb5.1						
WB2	**Warramunga Arr**	**22.04**	**226**	⇓*i*P	**P**	**02 47 35.6**	**0.0**
WRA	**Warramunga Arr**	**22.05**	**226**	P	**P**	**02 47 35.7**	**+0.1**
	33nm,0.4s,mb5.2,baz=52,slow=10,SNR=364						
WRA				S	**S**	**02 51 24.9**	**+1.5**
	1.5nm,0.8s,baz=57,slow=15,SNR=6.4						
WRA				ScP	ScP	02 54 43.4	+0.7
	0.7nm,0.5s,baz=50,slow=2.9,SNR=14						
ASAR	**Alice Springs**	**24.88**	**220**	P	**P**	**02 48 01.8**	**+0.4**
	7.5nm,0.3s,mb4.7,baz=52,slow=9.1,SNR=211						
ASAR				S	**S**	**02 52 08.0**	**-0.6**
	0.5nm,0.8s,baz=34,slow=17,SNR=2.7						
ASAR				ScP	ScP	02 54 51.5	+1.2
	1.5nm,0.7s,baz=56,slow=2.9,SNR=12						
FITZ	**Fitzroy Crossi**	**28.07**	**240**	*e*P	**P**	**02 48 29.3**	**-0.6**
	6.9nm,0.4s,mb4.6						
FITZ	**Fitzroy Crossi**	**28.07**	**240**	P	**P**	**02 48 29.7**	**-0.2**
	3.7nm,0.4s,mb4.4,baz=65,slow=9.4,SNR=30						
STKA	**Stephens Creek**	**28.19**	**197**	*e*P	**P**	**02 48 31.5**	**+0.7**
	3.3nm,0.6s,mb4.1						
STKA	**Stephens Creek**	**28.19**	**197**	P	**P**	**02 48 31.7**	**+0.8**
	4.3nm,0.7s,mb4.2,baz=0.5,slow=9.9,SNR=12						
FORT	**Forrest**	**33.58**	**217**	*e*P	**P**	**02 49 17.2**	**-0.9**
	23nm,0.6s,mb4.9						
JOW	**Kunigami**	**38.56**	**326**	LR	LR	03 03 19.0	
	comp=Z,222nm,21.7s,baz=140,slow=32						
KLBR	**Kellerberrin**	**40.94**	**226**	*e*P	**P**	**02 50 18.9**	**-1.0**
	88nm,1.7s,mb4.9						
SONM	**Songino Array**	**65.57**	**329**	P	**P**	**02 53 20.2**	**+1.4**
	0.9nm,0.7s,mb3.5,baz=147,slow=5.6,SNR=6.1						
ZALV	**Zalesovo Beam**	**80.35**	**327**	P	**P**	**02 54 45.0**	**-0.4**
	0.4nm,0.4s,baz=112,slow=3.9,SNR=2.4						
ISA	**Isabella**	**93.24**	**55**	*e*P	**P**	**02 55 49.5**	**+0.9**
	28nm,0.2s						
NVAR	**Mina Array Bea**	**93.55**	**52**	P	**P**	**02 55 50.6**	**+0.6**
	0.4nm,0.6s,mb3.6,baz=263,slow=6.3,SNR=3.5						
NVAR	**Mina Array Bea**	**93.55**	**52**	P	**P**	**02 55 50.6**	**+0.6**
GSC	**Goldstone**	**94.58**	**55**	*e*P	**P**	**02 55 53.1**	**-1.7**
	2.5nm,0.2s,mb5.0						
PDAR	**Pinedale Array**	**100.25**	**48**	P	Pdif	02 56 19.2	-0.6
	0.5nm,0.5s,baz=246,slow=1.2,SNR=4.6						
TORD	**Torodi Ar. Bea**	**148.72**	**287**	PKPbc	PKPbc	03 02 20.4	-0.7
	0.8nm,0.7s,baz=91,slow=2.3,SNR=17						

KRSC 02 02:51:28.8±0.5**, 52.55N**×**159.81E, h24**km±23km**, ML3.8, Off east coast of Kamchatka Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	**Mys Shipunski**	**0.56**	**13**	*e*P	Pb	02 51 40.4	+0.4
SPN				*i*S	Sb	02 51 48.2	+0.5
NLC	**Nalytchevo**	**0.68**	**336**	*e*P	Pb	02 51 42.6	+0.6
NLC				*i*S	Sb	02 51 52.6	+1.5
RUS	**Russkaya**	**0.80**	**262**	*e*P	Pb	02 51 44.1	+0.1
RUS				*i*S	Sb	02 51 54.9	+0.5
PET	**Petropavlovsk**	**0.85**	**305**	*e*P	Pb	02 51 44.6	-0.2
PET				*i*S	Sb	02 51 55.9	+0.1
AVH	**Avacha**	**0.97**	**318**	*e*P	Pn	02 51 47.0	+0.2
AVH				*i*S	Sb	02 51 59.8	+0.6
GRL	**Gorelyy**	**1.06**	**271**	P	Pn	02 51 49.0	+0.9
GRL				*i*S	Sb	02 52 03.1	+1.2
KII	**Karymskiy**	**1.50**	**352**	P	Pn	02 51 54.3	+0.1
GNL	**Ganaly**	**1.61**	**316**	*e*P	Pn	02 51 56.7	+1.1
GNL				*i*S	Sn	02 52 17.5	+1.9
MIPR	**Malaya Ipel'ka**	**1.89**	**263**	*e*P	Pn	02 52 01.3	+1.8
MIPR				*i*S	Sn	02 52 25.4	+2.9
KMNR	**Kamenistaya**	**3.22**	**4**	P	Pn	02 52 20.7	+2.9
BZMR	**Bezymyannaya**	**3.42**	**6**	P	Pn	02 52 22.4	+1.9
BZWR	**Bezymyannyi-We**	**3.44**	**6**	P	Pn	02 52 23.8	+2.9
CIRR	**Tsirk**	**3.62**	**8**	P	Pn	02 52 26.0	+2.8
KRSR	**Krestovskiy**	**3.70**	**7**	P	Pn	02 52 26.0	+1.6
SRDR	**Sredinnyy**	**3.78**	**359**	P	Pn	02 52 27.9	+2.5
KBTR	**Krutoberegovo**	**4.07**	**24**	P	Pn	02 52 30.8	+1.4
KBTR				*i*S	Sn	02 53 17.5	+1.3

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*ISCJB **02** 03:41:26.2±0.4, 31.76S±0.02×69.54W±0.05, h120km±5km, mb3.5/3, Error ellipse: s-maj=7.1km s-min=3.8km az=0.8*

*GUC **02** 03:41:26.6±0.8, 31.79S×69.75W, h138km±7km, MD3.6, ML4.2*

*IDC **02** 03:41:26.7±1.9, 31.94S×69.44W, h111km±13km, mb3.3/3, mb1 3.5/6, mb1mx3.4/17, mbtmp3.3/6, Error ellipse: s-maj=35.3km s-min=24.6km az=123.0*

*NEIC **02** 03:41:26.6, 31.79S×69.75W, h138km, MG4.2(GUC), After GUC.*

ISC 02 03:41:27.1±0.4**, 31.77S**±0.02×**69.53W**±0.05**, h114**km±6km**, n50, σ0.91**/79**, mb3.5**/3**, 14C-15D, San Juan Province**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CFAA	**Coronel Fontan**	**1.11**	**82**	P	**Pn**	**03 41 49.9**	**+0.1**
	37nm,0.3s,baz=251,slow=9.6,SNR=280						
CFAA				S	**Sn**	**03 42 05.7**	**-1.2**
	62nm,0.3s,baz=245,slow=13,SNR=93						
JACH	**Jahuel**	**1.28**	**224**	⇑*i*P	**Pn**	**03 41 52.0**	**+0.4**
PTCH	**Petorca**	**1.29**	**247**	⇓*i*P	**Pn**	**03 41 51.5**	**-0.2**
PTCH				*i*S	**Sn**	**03 42 10.3**	**0.0**
PTCH				AML	AML	03 42 10.9	
	comp=E,3μm,0.1s						
CHNG	**Los Chungos**	**1.68**	**265**	⇑*i*P	**Pn**	**03 41 55.8**	**-0.5**
CHNG				*i*S	**Sn**	**03 42 17.2**	**-1.3**
CHNG				AML	AML	03 42 25.5	
	comp=E,794nm,0.4s						
FCH	**Farellones**	**1.69**	**202**	⇑*i*P	**Pn**	**03 41 57.4**	**+1.0**
FCH				*i*S	**Sn**	**03 42 20.5**	**+1.9**
FCH				AML	AML	03 42 21.5	
	comp=E,3μm,0.3s						
PEL	**Peldehue**	**1.69**	**215**	⇑*i*P	**Pn**	**03 41 56.2**	**-0.1**
PEL				*i*S	**Sn**	**03 42 18.5**	**-0.2**
PEL				AML	AML	03 42 20.3	
	comp=N,9μm,0.5s						
ROCH	**El Roble**	**1.74**	**226**	*i*P	**Pn**	**03 41 56.7**	**-0.3**
ROCH				*i*S	**Sn**	**03 42 19.7**	**-0.1**
PACH	**Papudo**	**1.79**	**244**	⇓*i*P	**Pn**	**03 41 56.7**	**-1.0**
PACH				*i*S	**Sn**	**03 42 19.7**	**-1.3**
CLCH	**Cerro Calan**	**1.83**	**207**	⇓*i*P	**Pn**	**03 41 58.4**	**+0.2**
CLCH				*i*S	**Sn**	**03 42 22.3**	**+0.4**
CLCH				AML	AML	03 42 24.5	
	comp=E,5μm,0.5s						
CLCH				AML	AML	03 42 25.0	
	comp=E,6μm,0.6s						
OVCH	**Ovalle**	**1.84**	**308**	⇓*i*P	**Pn**	**03 41 58.6**	**+0.3**
OVCH				*i*S	**Sn**	**03 42 22.5**	**+0.5**
OVCH				AML	AML	03 42 25.3	
	comp=N,3μm,0.4s						
OVCH	**Ovalle**	**1.84**	**308**	⇓*i*P	**Pn**	**03 41 58.6**	**+0.3**
OVCH				*i*S	**Sn**	**03 42 22.5**	**+0.5**
FSR	**Penalolen**	**1.90**	**206**	⇑*i*P	**Pn**	**03 41 59.5**	**+0.4**
FSR				*i*S	**Sn**	**03 42 24.6**	**+1.1**
FSR				AML	AML	03 42 26.9	
	comp=E,454nm,0.6s						
FSR	**Penalolen**	**1.90**	**206**	⇑*i*P	**Pn**	**03 41 59.5**	**+0.4**
FSR				*i*S	**Sn**	**03 42 24.6**	**+1.1**
TLL	**Tololo Astrono**	**1.93**	**325**	⇑*i*P	**Pn**	**03 42 00.6**	**+1.1**
TLL				*i*S	**Sn**	**03 42 25.6**	**+1.5**
TLL				AML	AML	03 42 28.9	
	comp=N,2μm,0.4s						
TLL	**Tololo Astrono**	**1.93**	**325**	⇑*i*P	**Pn**	**03 42 00.6**	**+1.1**
TLL				*i*S	**Sn**	**03 42 25.6**	**+1.5**
SAN	**Santiago**	**1.94**	**209**	⇓*i*P	**Pn**	**03 41 59.5**	**0.0**
SAN				*i*S	**Sn**	**03 42 24.1**	**0.0**
YECH	**El Yeso**	**1.95**	**194**	*e*P	**Pn**	**03 42 01.0**	**+1.3**
YECH				*e*S	**Sn**	**03 42 26.6**	**+2.1**
YECH				AML	AML	03 42 32.5	
	comp=N,584nm,0.6s						
SJCH	**San Jose de Ma**	**2.00**	**200**	*i*P	**Pn**	**03 42 00.6**	**+0.3**
SJCH				*i*S	**Sn**	**03 42 26.9**	**+1.4**
SJCH				AML	AML	03 42 30.5	
	comp=E,766nm,0.5s						
SJCH	**San Jose de Ma**	**2.00**	**200**	*i*P	**Pn**	**03 42 00.6**	**+0.3**
SJCH				*i*S	**Sn**	**03 42 26.9**	**+1.4**
ANTU	**Antumapu**	**2.02**	**207**	*e*P	**Pn**	**03 42 00.5**	**0.0**
ANTU				*i*S	**Sn**	**03 42 26.3**	**+0.2**
ANTU				AML	AML	03 42 27.8	
	comp=E,3μm,0.4s						
ANTU	**Antumapu**	**2.02**	**207**	*e*P	**Pn**	**03 42 00.5**	**0.0**
ANTU				*i*S	**Sn**	**03 42 26.3**	**+0.2**
PCH	**Pirque**	**2.03**	**204**	*e*P	**Pn**	**03 42 00.7**	**+0.1**
RCDM	**Rinconada Maip**	**2.03**	**212**	⇓*i*P	**Pn**	**03 42 00.3**	**-0.3**
RCDM				*i*S	**Sn**	**03 42 26.2**	**-0.1**
RCDM				AML	AML	03 42 27.5	
	comp=E,3μm,0.1s						
RCDM	**Rinconada Maip**	**2.03**	**212**	⇓*i*P	**Pn**	**03 42 00.3**	**-0.3**
RCDM				*i*S	**Sn**	**03 42 26.2**	**-0.1**
LMEL	**Las Melosas**	**2.15**	**195**	⇑*i*P	**Pn**	**03 42 02.6**	**+0.4**
LMEL				AML	AML	03 42 37.0	
	comp=N,1μm,0.2s						
IHA	**Instituto Hidr**	**2.18**	**234**	⇑*i*P	**Pn**	**03 42 01.3**	**-1.3**
TACH	**Talagante**	**2.23**	**212**	⇑*i*P	**Pn**	**03 42 02.3**	**-0.8**
TACH				*i*S	**Sn**	**03 42 29.8**	**-0.9**
CHCH	**Chadas Angostu**	**2.36**	**203**	⇓*i*P	**Pn**	**03 42 04.8**	**-0.1**
LSCH	**La Serena**	**2.37**	**321**	⇓*i*P	**Pn**	**03 42 05.0**	**0.0**
LSCH				AML	AML	03 42 35.2	
	comp=N,1μm,0.5s						
LCCH	**Las Cruces**	**2.42**	**225**	⇓*i*P	**Pn**	**03 42 04.7**	**-1.0**
CACH	**El Canelo**	**2.51**	**201**	⇓*i*P	**Pn**	**03 42 07.1**	**+0.3**
CACH				*i*S	**Sn**	**03 42 38.2**	**+0.9**
CICH	**Cipreses**	**2.66**	**196**	⇑*i*P	**Pn**	**03 42 08.9**	**+0.3**
LNV	**Longovilo**	**2.70**	**215**	⇓*i*P	**Pn**	**03 42 07.3**	**-1.9**
LNV				*i*S	**Sn**	**03 42 39.1**	**-2.6**
LCO	**Las Campanas**	**2.92**	**339**	⇑*i*P	**Pn**	**03 42 12.8**	**+0.5**
LCO				*i*S	**Sn**	**03 42 46.9**	**-0.1**
SFDO	**San Fernando**	**3.10**	**203**	⇑*i*P	**Pn**	**03 42 13.1**	**-1.4**
VACH	**Vallenar**	**3.35**	**341**	⇓*i*P	**Pn**	**03 42 18.1**	**+0.1**
VACH				*i*S	**Sn**	**03 42 57.2**	**0.0**
VACH				AML	AML	03 42 59.5	
	comp=N,2μm,0.1s						
VACH	**Vallenar**	**3.35**	**341**	⇓*i*P	**Pn**	**03 42 18.1**	**+0.1**
VACH				*i*S	**Sn**	**03 42 57.2**	**0.0**
TRQA	**Tornquist**	**8.82**	**137**	*e*Pn	**Pn**	**03 43 30.4**	**-1.3**
	comp=N,27nm,0.9s						
PLCA	**Paso Flores**	**8.99**	**185**	P	**Pn**	**03 43 29.9**	**-4.0**
	comp=N,0.2nm,0.3s,baz=357,slow=14,SNR=5.8						
LVC	**Limon Verde**	**9.13**	**4**	P	**Pn**	**03 43 34.4**	**-1.6**
	comp=N,0.5nm,0.3s,baz=183,slow=2.3,SNR=11						
LVC				S	**Sn**	**03 45 10.5**	**-6.5**
	comp=N,0.6nm,0.3s,baz=2.4,slow=20,SNR=3.0						
LVC	**Limon Verde**	**9.13**	**4**	P	**Pn**	**03 43 34.4**	**-1.6**
LVC				S	**Sn**	**03 45 10.5**	**-6.5**
CPUP	**Villa Florida**	**11.97**	**66**	P	**Pn**	**03 44 10.0**	**-4.0**
	comp=N,1.4nm,0.3s,baz=227,slow=12,SNR=15						
LPAZ	**La Paz**	**15.46**	**5**	P	**Pn**	**03 45 00.5**	**+1.4**
	comp=N,0.2nm,0.3s,baz=180,slow=12,SNR=16						
SIV	**San Ignacio**	**17.49**	**28**	P	**Pn**	**03 45 23.5**	**-0.5**
	comp=N,0.3nm,0.3s,baz=208,slow=11,SNR=10						
BDFB	**Brasilia**	**25.34**	**56**	P	**P**	**03 46 43.4**	**-0.1**
	comp=N,1.9nm,0.6s,mb3.7,baz=220,slow=7.1,SNR=3.3						
VNA3	**Neumayer Olymp**	**50.65**	**159**	*e*	**P**	**03 50 19.6**	**+5.4**
VNA3				*e*		03 50 22.2	
VNA3				*e*	pP	03 50 42.5	+1.5
VNA2	**Neumayer--Watz**	**51.27**	**158**	*e*	**P**	**03 50 24.9**	**+6.0**
	baz=288,slow=8.5						
VNA2				*e*		03 50 27.5	
VNA2				*e*	pP	03 50 46.9	+1.2
TXAR	**Lajitas Array**	**68.88**	**328**	P	**P**	**03 52 20.8**	**+1.3**
	comp=N,0.2nm,0.6s,mb3.1,baz=164,slow=10,SNR=3.8						
TORD	**Torodi Ar. Bea**	**81.45**	**69**	P	**P**	**03 53 32.1**	**+0.2**
	comp=N,0.3nm,0.3s,mb3.5,baz=259,slow=5.8,SNR=12						
ZALV	**Zalesovo Beam**	**151.22**	**32**	PKPbc	PKPbc	04 01 07.1	+0.5
	comp=N,1.3nm,0.5s,baz=336,slow=3.2,SNR=3.5						

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*BJI **02** 03:43:32.0, 4.96S×101.13E, h30km, mB6.2, mb5.6, Ms6.2, Msz6.0*

*IDC **02** 03:43:35.1±0.3, 4.18S×101.21E, h0km, mb5.3/35, mb1 5.3/36, mb1mx5.3/36, mbtmp5.3/36, ML4.9/1, MS5.7/20, Ms1 5.7/20, ms1mx5.6/33, Error ellipse: s-maj=12.0km s-min=9.5km az=41.0*

*ISCJB **02** 03:43:38.4±0.1, 4.27S±0.02×101.20E±0.02, h31km, mb5.7/163, MS5.9/230, Error ellipse: s-maj=3.7km s-min=2.3km az=30.1*

*NEIC **02** 03:43:38.9±0.1, 4.24S×101.21E, h22km, mb5.7/49, ME5.6, MS5.9/175, MW5.8, Error ellipse: s-maj=6.3km s-min=4.0km az=38.0, Moment Tensor Solution. s41 Moment tensor: Scale 10^17Nm; M_{rr}5.74; $M_{\theta\theta}$-3.79; $M_{\phi\phi}$-1.95; $M_{r\theta}$4.18; $M_{\theta\phi}$3.13; $M_{\phi r}$-1.20; Best double couple: $M_0$7.40000×10^17 NP1:ϕ_s115.00000°, δ63.00000°, λ78.00000°. NP2:ϕ_s319.00000°, δ29.00000°, λ112.00000°. Principal axes: T 7.3100, Plg69.0000°, Azm0.0000°; N 0.1000, Plg10.0000°, Azm119.0000°; P -7.4200, Plg17.0000°, Azm213.0000°; Depth from synthetics of broadband displacement seismograms. Energy computed from CMT mechanism.*

NEIC Felt [III] at Bengkulu and Mukomuko.

*DJA **02** 03:43:39, 4.30S×101.06E, h22km, Mw6.2/51*

*MOS **02** 03:43:39.3±1.2, 4.10S×101.29E, h33km, mb6.0/50, MS5.8/58, Error ellipse: s-maj=8.4km s-min=4.5km az=114.0*

*SZGRF **02** 03:43:40.1, 4.76S×101.06E, h39km, mb5.7, MS5.7, Southern Sumatera, Indonesia*

*GCMT **02** 03:43:40.3±0.1, 4.63S×100.92E, h24km, MW5.9/105, Moment Tensor Solution. s105,c211; s89,c221; Duration: 2.3 Moment tensor: Scale 10^17Nm; M_{rr}4.99±.07; $M_{\theta\theta}$-2.95±.05; $M_{\phi\phi}$-2.04±.06; $M_{r\theta}$6.42±.17; $M_{\theta\phi}$3.02±.05; $M_{\phi r}$-2.92±.12; Best double couple: $M_0$8.81500×10^17 NP1:ϕ_s325.00000°, δ20.00000°, λ116.00000°. NP2:ϕ_s118.00000°, δ72.00000°, λ81.00000°. Principal axes: T 8.6890, Plg62.0000°, Azm14.0000°; N 0.2510, Plg9.0000°, Azm120.0000°; P -8.9400, Plg26.0000°, Azm215.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*

ISC 02 03:43:40.5±0.1**, 4.27S**±0.02×**101.18E**±0.02**, h33**km**, h33**km±.7km**:pP-P, n1259, σ1.04**/687**, mb5.7**/163**, MS5.9**/230**, 281C-232D, Southern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSI	**Kapahiang**	**1.54**	**66**	P	**Pn**	**03 44 05.9**	**+0.2**
	0.0nm,0.0s						
KSI	**Kapahiang**	**1.54**	**66**	P	**Pn**	**03 44 07.1**	**+1.4**
JMBI	**JAMBI**	**3.60**	**43**	P	**Pn**	**03 44 36.8**	**+2.8**
PPI	**Padang Panjang**	**3.87**	**348**	P	**Pn**	**03 44 37.0**	**-0.7**
	0.0nm,0.0s						
PPI	**Padang Panjang**	**3.87**	**348**	P	**Pn**	**03 44 36.7**	**-1.0**
PPI	**Padang Panjang**	**3.87**	**348**	P	**Pn**	**03 44 37.0**	**-0.7**
RGRI	**Rengat**	**4.07**	**17**	P	**Pn**	**03 44 41.9**	**+1.5**
	0.0nm,0.0s						
RGRI	**Rengat**	**4.07**	**17**	P	**Pn**	**03 44 41.6**	**+1.2**
BLSI	**Bandar Lampung**	**4.20**	**105**	P	**Pn**	**03 44 44.5**	**+2.3**
DSRI	**Dabo**	**5.07**	**42**	P	**Pn**	**03 44 55.4**	**+1.1**
	0.0nm,0.0s						
DSRI	**Dabo**	**5.07**	**42**	P	**Pn**	**03 44 54.8**	**+0.5**
	1μm,1.5s,8.7nm						
SBJI	**Serang**	**5.26**	**111**	P	**Pn**	**03 44 57.0**	**+0.1**
	0.0nm,0.0s						
SBJI	**Serang**	**5.26**	**111**	P	**Pn**	**03 44 58.7**	**+1.8**
	3μm,1.0s,15nm						
SBJI	**Serang**	**5.26**	**111**	P	**Pn**	**03 44 58.0**	**+1.1**
	2μm,1.0s,17nm						
PPBI	**Pangkal Pinang**	**5.38**	**67**	P	**Pn**	**03 44 59.6**	**+1.2**
	499nm,1.2s,15nm						
TNG	**Tangerang**	**5.76**	**109**	P	**Pn**	**03 45 04.7**	**+0.9**
	0.0nm,0.0s						
TNG	**Tangerang**	**5.76**	**109**	P	**Pn**	**03 45 05.3**	**+1.5**
	5μm,0.9s,24nm						
DBJI	**Dramaga**	**5.99**	**112**	P	**Pn**	**03 45 07.4**	**+0.5**
	0.0nm,0.0s						
DBJI	**Dramaga**	**5.99**	**112**	P	**Pn**	**03 45 07.3**	**+0.4**
	2μm,0.9s,19nm						
SKJI	**Sukabumi**	**6.00**	**117**	P	**Pn**	**03 45 06.6**	**-0.4**
	0.0nm,0.0s						
SKJI	**Sukabumi**	**6.00**	**117**	P	**Pn**	**03 45 07.3**	**+0.3**
	2μm,1.0s,15nm						
CBJI	**Citeko**	**6.04**	**111**	P	**Pn**	**03 45 10.0**	**+2.5**
	8μm,1.0s,32nm						
MYKOM	**Kota Tinggi**	**6.59**	**24**	⇑P	**Pn**	**03 45 17.7**	**+2.6**
KGM	**Kluang**	**6.60**	**19**	⇓P	**Pn**	**03 45 18.1**	**+2.8**
TPI	**Tanjungpandan**	**6.64**	**77**	P	**Pn**	**03 45 16.9**	**+1.1**
	0.0nm,0.0s						
TPI	**Tanjungpandan**	**6.64**	**77**	P	**Pn**	**03 45 17.9**	**+2.1**
	253nm,1.4s,3.0nm						
TPI	**Tanjungpandan**	**6.64**	**77**	P	**Pn**	**03 45 17.0**	**+1.2**
	212nm,1.1s,6.3nm						
LEM	**Lembang**	**6.89**	**112**	P	**Pn**	**03 45 20.3**	**+1.0**
	0.0nm,0.0s						
LEM	**Lembang**	**6.89**	**112**	P	**Pn**	**03 45 21.4**	**+2.1**
	2μm,1.0s,11nm						
JCJI	**Jatiwangi**	**7.40**	**108**	P	**Pn**	**03 45 28.1**	**+1.9**
	0.0nm,0.0s						
JCJI	**Jatiwangi**	**7.40**	**108**	P	**Pn**	**03 45 27.6**	**+1.4**
	1μm,0.8s,9.8nm						
FRIM	**Kepong**	**7.47**	**3**	⇑P	**Pn**	**03 45 28.3**	**+1.0**
XMIS	**Christmas Isla**	**7.60**	**145**	*e*P	**Pn**	**03 45 21.7**	**-7.3**
XMIS				*e*S	**Sn**	**03 46 38.8**	**-15**
XMIS	**Christmas Isla**	**7.60**	**145**	P	**Pn**	**03 45 35.3**	**+6.3**
	370nm,1.0s,0.0nm6.7nm						
XMIS	**Christmas Isla**	**7.60**	**145**	P	**Pn**	**03 45 35.3**	**+6.3**
	370nm,1.0s,0.0nm6.7nm						
XMIS	**Christmas Isla**	**7.60**	**145**	*e*Pn	**Pn**	**03 45 29.0**	**0.0**
XMIS				*e*pPn		03 45 35.6	
TSI	**Tuntungan**	**8.15**	**341**	P	**Pn**	**03 45 38.2**	**+1.6**
	0.0nm,0.0s						
TSI	**Tuntungan**	**8.15**	**341**	P	**Pn**	**03 45 36.4**	**-0.2**
	685nm,1.0s						
CLJI	**Cilicap**	**8.51**	**114**	P	**Pn**	**03 45 43.2**	**+1.7**
	0.0nm,0.0s						
CLJI	**Cilicap**	**8.51**	**114**	P	**Pn**	**03 45 46.9**	**+5.4**
	3μm,1.1s,9.5nm						
COCO	**West Island**	**8.96**	**208**	P	**Pn**	**03 45 42.9**	**-4.8**
	2μm,0.9s,5.4nm						
COCO	**West Island**	**8.96**	**208**	P	**Pn**	**03 45 42.6**	**-5.1**
	2μm,0.9s						
COCO	**West Island**	**8.96**	**208**	*e*Pn	**Pn**	**03 45 42.5**	**-5.2**
BJII	**Banjamegara**	**9.02**	**110**	P	**Pn**	**03 45 48.9**	**+0.5**
	0.0nm,0.0s						
BJII	**Banjamegara**	**9.02**	**110**	P	**Pn**	**03 45 48.5**	**+0.1**
KULM	**Kulim**	**9.51**	**357**	⇑P	**Pn**	**03 45 55.7**	**+0.4**
SMRI	**Semarang**	**9.62**	**107**	P	**Pn**	**03 45 57.9**	**+1.2**
	1μm,0.9s						
KTGM	**Kuala Trenggan**	**9.73**	**12**	⇑P	**Pn**	**03 46 00.1**	**+1.8**
UGM	**Wanagama**	**9.97**	**112**	P	**Pn**	**03 46 00.3**	**-1.2**
	929nm,0.9s						
PBKI	**Pangkalan Bun**	**10.59**	**82**	P	**Pn**	**03 46 13.2**	**+3.2**
	804nm,1.0s						
KSM	**Kuching**	**10.76**	**58**	⇑P	**Pn**	**03 46 17.5**	**+5.1**
SJI	**Sawahan**	**11.08**	**109**	P	**Pn**	**03 46 16.6**	**-0.1**
	0.0nm,0.0s						
STKI	**Sintang**	**11.16**	**68**	P	**Pn**	**03 46 21.8**	**+4.0**
	251nm,1.4s						
BSI	**Banda Aceh**	**11.34**	**329**	P	**Pn**	**03 46 16.7**	**-3.7**
	0.0nm,0.0s						
BSI	**Banda Aceh**	**11.34**	**329**	P	**Pn**	**03 46 19.1**	**-1.3**
	750nm,1.1s,6μm						
BSI	**Banda Aceh**	**11.34**	**329**	P	**Pn**	**03 46 18.6**	**-1.8**
	636nm,1.0s,6μm						
SNG	**Songkhla**	**11.39**	**357**	P	**Pn**	**03 46 19.0**	**-2.0**
	980nm,1.0s						
SBUM	**Sibu**	**12.90**	**59**	⇑P	**Pn**	**03 46 46.0**	**+4.4**
PLKI	**Palangkaraya**	**12.91**	**81**	P	**Pn**	**03 46 45.7**	**+3.9**
	878nm,1.3s						
BBKI	**Banjar Baru**	**13.66**	**87**	P	**Pn**	**03 46 53.3**	**+1.3**
	0.0nm,0.0s						
BBKI	**Banjar Baru**	**13.66**	**87**	P	**Pn**	**03 46 55.0**	**+3.0**
	602nm,1.8s						
NBBI	**Negara**	**13.96**	**108**	P	**Pn**	**03 47 02.5**	**+6.3**
	620nm,1.0s						
BTM	**Bintulu**	**14.02**	**58**	⇑P	**Pn**	**03 47 00.9**	**+3.9**
IGBI	**Denpasar**	**14.59**	**109**	P	**Pn**	**03 47 02.9**	**-1.8**
	0.0nm,0.0s						
IGBI	**Denpasar**	**14.59**	**109**	P	**Pn**	**03 47 02.3**	**-2.4**
	557nm,0.9s,9μm						
DNP	**Denpasar**	**14.61**	**108**	P	**Pn**	**03 47 05.3**	**+0.3**
	649nm,0.8s						
KHKI	**Kahang-Kahang**	**14.90**	**107**	P	**Pn**	**03 47 07.9**	**-1.1**
	0.0nm,0.0s						
KHKI	**Kahang-Kahang**	**14.90**	**107**	P	**Pn**	**03 47 08.3**	**-0.7**
KHKI	**Kahang-Kahang**	**14.90**	**107**	P	**Pn**	**03 47 08.2**	**-0.8**
MTNI	**Mataram**	**15.51**	**107**	P	**Pn**	**03 47 12.9**	**-4.0**
	0.0nm,0.0s						
MTNI	**Mataram**	**15.51**	**107**	P	**Pn**	**03 47 13.6**	**-3.3**
	255nm,0.9s,4μm						
SMKI	**Samarinda**	**16.46**	**77**	P	**Pn**	**03 47 32.0**	**+2.9**
	1μm,1.0s						
NNT	**Nongplab**	**16.81**	**355**	P	**Pn**	**03 47 32.0**	**-1.6**
KKM	**Kota Kinabalu**	**18.18**	**56**	⇓P	**Pn**	**03 47 51.6**	**+1.0**
KKM	**Kota Kinabalu**	**18.18**	**56**	*e*Pn	**Pn**	**03 47 51.3**	**+0.8**
	6μm,2.4s						
KAPI	**Kappang**	**18.53**	**93**	P	**Pn**	**03 47 53.6**	**-1.2**
	2μm,1.0s,SNR=21						
KAPI	**Kappang**	**18.53**	**93**	⇓P	**Pn**	**03 47 50.7**	**-4.1**
	SNR=28						
KAPI	**Kappang**	**18.53**	**93**	P	**Pn**	**03 47 52.7**	**-2.1**
	3.4nm,0.3s,baz=274,slow=9.5,SNR=25						
KAPI				S	**Sn**	**03 51 22.4**	**+1.3**
	3.3nm,0.3s,baz=140,slow=15,SNR=2.7						
KAPI				LR	LR	03 55 45.9	
	comp=Z,19μm,21.4s,baz=279,slow=40						
KAPI	**Kappang**	**18.53**	**93**	P	**Pn**	**03 47 53.1**	**-1.7**
	370nm,1.1s,8μm						
KAPI	**Kappang**	**18.53**	**93**	P	**Pn**	**03 47 53.4**	**-1.4**
	304nm,1.0s,8μm						
KAPI	**Kappang**	**18.53**	**93**	*e*P	**Pn**	**03 47 52.8**	**-2.0**
TSM	**Tawau**	**18.72**	**63**	⇓P	**Pn**	**03 47 58.6**	**+1.5**
SDKM	**Sandakan**	**18.78**	**59**	⇑P	**Pn**	**03 47 59.0**	**+1.1**
PCI	**Palu**	**18.93**	**80**	P	**Pn**	**03 47 59.6**	**-0.1**
	0.0nm,0.0s						
PCI	**Palu**	**18.93**	**80**	P	**Pn**	**03 48 00.3**	**+0.6**
	1μm,1.9s						

KDM	Kudat	19.18	55	⇓P	Pn	03 48 03.4	+0.8
MYLDM	Lahad Datu	19.69	62	⇑P	Pn	03 48 08.2	-0.5
UBT	Ubonrachathani	19.76	11	P	Pn	03 48 08.0	-1.5
NST	Nakhon Sawan	19.84	357	P	Pn	03 48 11.0	+0.5
KKTK	Khon Kaen	20.54	5	P	P	03 48 15.8	-0.6
	3µm,0.5s						
BATP	Bataraza	21.05	52	eP	P	03 48 22.2	+0.2
BBSI	Bau Bau	21.35	94	P	P	03 48 25.2	0.0
	0.0nm,0.0s						
BBSI	Bau Bau	21.35	94	P	P	03 48 25.7	+0.5
	916nm,1.0s,8µm,mb6.1						
KDI	Kendari	21.39	90	P	P	03 48 25.1	-0.5
	0.0nm,0.0s						
KDI	Kendari	21.39	90	P	P	03 48 25.3	-0.3
	513nm,1.2s,mb5.7						
KDI	Kendari	21.39	90	P	P	03 48 25.7	+0.1
	446nm,1.2s,mb5.7						
BDT	Bhumibol Dam	21.49	354	P	P	03 48 25.5	-1.0
	91nm,0.9s,mb5.1						
CMAR	Chiang Mai Arr	22.69	354	P	P	03 48 36.6	-2.8
	57nm,0.8s,mb5.1,baz=183,slow=8.7,SNR=70						
CMAR				S	S	03 52 43.9	-2.2
	8.4nm,0.9s,baz=201,slow=3.6,SNR=4.9						
CMAR				LR	LR	03 59 26.2	
	comp=Z,34µm,18.1s,MS5.8,baz=182,slow=42						
CMAR	Chiang Mai Arr	22.69	354	P	P	03 48 36.6	-2.8
CMAR				S	S	03 52 43.9	-2.2
CMAR	Chiang Mai Arr	22.69	354	P	P	03 48 36.6	-2.8
CMAR				S	S	03 52 43.9	-2.2
CMAR				LR	LR	03 59 26.2	
CHG	Chiang Mai	23.05	355	⇑P	P	03 48 42.2	-0.9
	190nm,0.9s,mb5.5						
CHTO	Chiang Mai	23.05	355	⇓P	P	03 48 43.1	0.0
	SNR=35						
CHTO	Chiang Mai	23.05	355	P	P	03 48 42.3	-0.8
	246nm,1.1s,7µm,mb5.5						
BATI	Baumata	23.06	106	P	P	03 48 41.0	-2.4
	0.0nm,0.0s						
BATI	Baumata	23.06	106	P	P	03 48 41.1	-2.2
	209nm,0.8s,mb5.6,baz=239,slow=1.4,SNR=20						
BATI				S	S	03 52 49.0	-3.3
	207nm,0.9s,baz=133,slow=17,SNR=7.2						
BATI	Baumata	23.06	106	P	P	03 48 41.9	-1.5
	263nm,0.8s,4µm,mb5.7						
PALK	Pallekele	23.43	299	PFAKE		03 49 00.0	+13
PALK				LR	LR		
	comp=Z,16µm,19.0s,MS5.5						
CHRT	Chiangrai	24.03	357	P	P	03 48 52.0	-0.6
	comp=Z,2µm,0.7s,mb6.7						
CHRT				S	S	03 52 55.2	-13
MNI	Manado	24.32	77	P	P	03 48 56.5	+1.1
	comp=Z,590nm,0.9s,comp=Z,9µm,mb6.0						
MBWA	Marble Bar	24.63	135	P	P	03 48 58.5	+0.4
	SNR=5.5						
MBWA	Marble Bar	24.63	135	P	P	03 48 58.4	+0.3
	comp=Z,131nm,1.5s,comp=Z,4µm,mb5.2						
MBWA	Marble Bar	24.63	135	P	P	03 48 58.2	+0.1
	comp=Z,83nm,1.1s,comp=Z,4µm,mb5.2						
QIZ	Qiongzhong	24.68	20	P	P	03 48 58.9	+0.4
QIZ				AP		03 49 08.2	
QIZ				S	S	03 53 24.1	+5.8
QIZ				XS	sS	03 53 33.9	+0.1
QIZ				AMB	AMB		
	comp=Z,407nm,2.0s,mb5.6						
QIZ				AMB	AMB		
	comp=Z,5µm,8.7s						
QIZ				LR	LR		
	comp=N,14µm,23.3s						
QIZ				LR	LR		
	comp=Z,19µm,23.3s,MS5.5						
QIZ	Qiongzhong	24.68	20	eP	P	03 48 60.0	+1.4
	comp=Z,2µm,2.0s,mb6.2						
QIZ				LR	LR		
	comp=Z,21µm,22.0s,MS5.6						
CUYO	Cuyo Island	24.81	53	eP	P	03 48 59.6	-0.3
BUSP	Coron	24.88	49	eP	P	03 49 00.2	-0.3
PAGZ	Pagadian	25.21	62	eP	P	03 49 04.5	+1.0
OTRP	Odiongan	26.50	51	eP	P	03 49 15.0	-0.1
LBMI	Labuha	26.54	83	P	P	03 49 15.0	-0.6
	comp=Z,0.0nm,0.0s						
LBMI	Labuha	26.54	83	P	P	03 49 16.0	+0.4
	comp=Z,527nm,1.0s,comp=Z,8µm,mb6.0						
RCP	Roxas	26.60	54	⇑eP	P	03 49 15.6	-0.5
BUKP	Musuan	26.71	63	eP	P	03 49 16.6	-0.5
DAV	Davao City (W)	26.83	65	P	P	03 49 16.7	-1.5
	comp=Z,204nm,0.4s,mb6.0,baz=203,slow=5.7,SNR=6.0						
DAV	Davao City (W)	26.83	65	⇑eP	P	03 49 16.5	-1.7
AAI	Ambon	26.96	90	P	P	03 49 27.5	+8.2
	comp=Z,108nm,0.9s,comp=Z,3µm,mb5.4						
MDRS	Chennai	27.00	310	⇑iP	P	03 49 19.7	+0.1
MDRS				AMb	AMB	03 49 30.0	
	comp=Z,90nm,0.9s,mb5.3						
MDRS				ex	x	03 50 07.0	
MDRS				eS	S	03 53 57.0	+1.7
TRD	Trivandrum	27.29	298	eP	P	03 49 23.1	+0.9
FITZ	Fitzroy Crossi	27.60	122	⇑iP	P	03 49 24.0	-1.0
	comp=Z,186nm,0.8s,mb5.8						
FITZ				eS	S	03 54 00.1	-4.5
FITZ	Fitzroy Crossi	27.60	122	P	P	03 49 24.1	-0.9
	comp=Z,114nm,0.8s,mb5.5,baz=306,slow=9.2,SNR=137						
FITZ				S	S	03 54 02.0	-2.6
	comp=Z,5.8nm,0.9s,baz=300,slow=19,SNR=1.7						
FITZ				LR	LR	04 01 03.2	
	comp=Z,3µm,20.1s,MS4.9,baz=138,slow=38						
FITZ	Fitzroy Crossi	27.60	122	P	P	03 49 24.2	-0.8
	comp=Z,339nm,1.0s,comp=Z,4µm,mb6.0						
FITZ	Fitzroy Crossi	27.60	122	P	P	03 49 24.7	-0.3
	comp=Z,283nm,0.9s,comp=Z,4µm,mb5.9						
VIS	Vishakhapatnam	28.07	322	⇑iP	P	03 49 29.9	+0.7
VIS				AMb	AMB	03 49 40.2	
	comp=Z,102nm,1.2s,mb5.3						
VIS				eS	S	03 54 12.3	+0.3
DGAR	Diego Garcia	28.74	262	PFAKE		03 49 50.0	+15
DGAR				LR	LR		
	comp=Z,11µm,20.0s,MS5.5						
KMI	Kunming	29.26	3	P	P	03 49 40.2	+0.5
KMI				AP	pP	03 49 48.9	-0.2
KMI				XP	sP	03 49 52.9	-0.2
KMI				PP	PP	03 50 39.1	-7.1
KMI				PCP	PcP	03 52 46.3	0.0
KMI				S	S	03 54 35.5	+4.9
KMI				XS	sS	03 54 50.7	+4.5
KMI				SS	SS	03 56 13.5	-22
KMI				AMB	AMB		
	comp=Z,159nm,1.5s,mb5.5						
KMI				AMB	AMB		
	comp=Z,2µm,5.3s						
KMI				LR	LR		
	comp=N,26µm,17.9s,MS6.1						
KMI				LR	LR		
	comp=E,31µm,16.5s,MS6.1						
KMI				LR	LR		
	comp=Z,24µm,14.4s,MS6.0						
KMI	Kunming	29.26	3	P	P	03 49 40.2	+0.5
KMI				*PP	pP	03 49 48.9	-0.2
KMI				*SP	sP	03 49 52.9	-0.2
KMI						03 50 39.1	
KMI				PPP		03 50 53.5	
KMI						03 52 46.3	
KMI				S	S	03 54 35.5	+4.9
KMI				*SS	sS	03 54 50.7	+4.5
KMI				SS	SS	03 56 13.5	-22
KMI				pmax	pmax		
	comp=Z,159nm,1.5s,mb5.5						
KMI				MLR	MLR		
	comp=Z,24µm,14.4s,MS6.0						
KMI	Kunming	29.26	3	P	P	03 49 40.2	+0.5
	comp=Z,159nm,1.5s,mb5.5						
KMI				pP	pP	03 49 48.9	-0.2
KMI				sP	sP	03 49 52.9	-0.2
KMI				PP	PP	03 50 39.1	-7.1
KMI				PPP		03 50 53.5	
KMI				PcP	PcP	03 52 46.3	0.0
KMI				S	S	03 54 35.5	+4.9
KMI				sS	sS	03 54 50.7	+4.5
KMI				SS	SS	03 56 13.5	-22
KMI				SSS		03 56 33.8	
KMI				LR	LR		
	comp=Z,24µm,14.4s,MS6.0						
HKC	Hong Kong Obse	29.31	25	i P	P	03 49 40.0	-0.2
CAL	Calcutta	29.46	335	eP	P	03 49 39.0	-2.5
CAL				ex	x	03 54 42.4	
IMP	Imphal	29.73	347	eP	P	03 49 44.0	+0.2
SWI	Sorong	30.24	84	P	P	03 49 46.2	-2.4
	comp=Z,0.0nm,0.0s						
SWI	Sorong	30.24	84	P	P	03 49 46.6	-2.0
	comp=Z,124nm,1.3s,comp=Z,3µm,mb5.5						
MUN	Mundaring	30.96	155	eP	P	03 49 54.4	-0.3
SHL	Shillong	31.00	344	eP	P	03 49 54.0	-1.1
SHL				ex	x	03 55 08.0	
GYA	Guiyang	31.01	10	⇑iP	P	03 49 59.8	+4.7
GYA				AP	pP	03 50 09.4	+4.8
GYA				PP	PP	03 51 04.3	-1.3
GYA				S	S	03 55 02.0	+4.0
GYA				XS	sS	03 55 19.4	+5.8
GYA				SS	SS	03 56 50.4	-21
GYA				AMB	AMB		
	comp=Z,240nm,1.0s,mb6.0						
GYA				AMB	AMB		
	comp=Z,7µm,5.2s						
GYA				LR	LR		
	comp=N,43µm,15.9s,MS6.2						
GYA				LR	LR		
	comp=E,16µm,15.8s,MS6.2						
GYA				LR	LR		
	comp=Z,43µm,17.2s,MS6.2						
HYB	Hyderabad	31.04	315	eP	P	03 49 54.5	-1.0
HYB				e	pP	03 50 04.0	-1.0
HYB				eS	S	03 55 00.0	+1.3
HYB	Hyderabad	31.04	315	i P	P	03 49 54.5	-1.0
HYB				e	pP	03 50 04.0	-1.0
HYB				eS	S	03 55 00.0	+1.3
HYB				LR	LR	04 03 58.0	
	comp=Z,13nm,18.0s						
HYB	Hyderabad	31.04	315	eP	P	03 49 54.5	-1.0
HYB				e	pP	03 50 04.0	-1.0
HYB				eS	S	03 55 00.0	+1.3
HYB				e		04 03 58.0	
BOK	Bokaro	31.63	333	⇑iP	P	03 50 02.6	+2.0
BOK				AMb	AMB	03 50 05.1	
	comp=Z,156nm,0.7s,mb5.9						
KAKA	Kakadu	32.00	107	eP	P	03 50 01.1	-3.0
	comp=Z,107nm,0.8s,mb5.7						
KAKA	Kakadu	32.00	107	P	P	03 50 02.0	-2.1
	comp=Z,315nm,0.9s,comp=Z,2µm,mb6.2						
KAKA	Kakadu	32.00	107	P	P	03 50 02.0	-2.1
	comp=Z,315nm,0.9s,comp=Z,2µm,mb6.2						
NWAO	Narrogin (SRO)	32.22	154	P	P	03 50 05.8	+0.1
	comp=Z,53nm,0.9s,mb5.4,baz=324,slow=9.4,SNR=12						
NWAO				S	S	03 55 15.8	-1.0
	comp=Z,12nm,1.0s,baz=142,slow=22,SNR=1.8						
NGP	Nagpur	33.30	320	⇑iP	P	03 50 13.1	-2.3
NGP				ex	x	03 50 26.1	
	comp=Z,101nm,1.0s						
NGP				ex	x	03 55 31.0	
GOA	Goa	33.45	307	⇑eP	P	03 50 17.1	+0.3
GOA				eS	S	03 55 39.6	+3.2
QZH	Quanzhou	33.61	29	⇑iP	P	03 50 17.7	-0.3
QZH				PP	PP	03 51 32.5	-2.0
QZH				S	S	03 55 41.0	+2.3
QZH				AMB	AMB		
	comp=Z,3µm,7.9s						
QZH				LR	LR		
	comp=N,31µm,14.6s,MS6.2						
QZH				LR	LR		
	comp=E,11µm,15.0s,MS6.2						
QZH				LR	LR		
	comp=Z,30µm,15.2s,MS6.1						
ODAN	Odare	33.70	337	eP	P	03 50 19.4	+0.6
	comp=Z,474nm,0.8s,mb6.5						
RAMN	Ramite	34.09	336	eP	P	03 50 23.1	+1.0
	comp=Z,302nm,0.8s,mb6.3						
KAD	Karad	34.21	310	eP	P	03 50 24.0	+0.7
JBP	Jabalpur	34.23	324	eP	P	03 50 23.9	+0.5
JBP				eS	S	03 55 49.0	+0.7
AKL	Akola	34.33	317	eP	P	03 50 24.7	+0.4
AKL				eS	S	03 55 49.6	-0.2
JIRN	Jiri	34.89	336	eP	P	03 50 29.9	+0.9
	comp=Z,667nm,0.8s,mb6.6						
CD2	Chengdu	35.07	4	⇓iP	P	03 50 29.7	-0.9
CD2				AP	pP	03 50 41.3	+1.2
CD2				XP	sP	03 50 47.3	+3.3
CD2				PP	PP	03 51 51.7	+1.1
CD2				PCP	PcP	03 52 56.9	-5.1
CD2				S	S	03 56 02.2	+1.2
CD2				XS	sS	03 56 22.1	+5.4
CD2				PCS	PcS	03 56 44.1	-4.8
CD2				SS	SS	03 58 22.9	-11
CD2				SCS	ScS	04 00 42.4	-6.9
CD2				AMB	AMB		
	comp=Z,170nm,1.0s,mb5.9						
CD2				AMB	AMB		
	comp=Z,3µm,5.0s						
CD2				LR	LR		
	comp=N,39µm,14.4s						
CD2				LR	LR		
	comp=E,45µm,20.4s						
CD2				LR	LR		
	comp=Z,28µm,20.4s						
LSA	Lhasa	35.12	345	P	P	03 50 33.2	+2.2
LSA				S	S	03 56 02.3	+0.5
LSA				LR	LR		
	comp=E,14µm,30.8s						
LSA	Lhasa	35.12	345	eP	P	03 50 31.6	+0.6
LSA				e*PP	pP	03 50 41.2	+0.7
LSA				pmax	pmax		
	comp=Z,545nm,1.7s,mb6.2						
LSA				MLR	MLR		
	comp=Z,11µm,21.0s,MS5.6						
LSA	Lhasa	35.12	345	eP	P	03 50 31.6	+0.6
	comp=Z,545nm,1.7s,mb6.2						
LSA				epP	pP	03 50 41.2	+0.7
LSA				LR	LR		
	comp=Z,11µm,21.0s,MS5.6						
PKIN	Phulchoki	35.14	335	eP	P	03 50 31.9	+0.7
TATO	Taipei	35.14	33	PFAKE		03 50 40.0	+8.7
TATO				LR	LR		
	comp=Z,8µm,19.0s,MS5.5						
POO	Poona	35.19	311	⇑iP	P	03 50 32.1	+0.3
POO				AMb	AMB	03 50 37.4	
	comp=Z,59nm,2.0s,mb5.2						
GUN	Gumba	35.23	336	eP	P	03 50 32.8	+0.8
	comp=Z,544nm,0.7s,mb6.6						
ENH	Enshi	35.26	13	PFAKE		03 50 40.0	+7.8
ENH				LR	LR		
	comp=Z,1.0nm,21.0s						
DMN	Daman	35.29	335	eP	P	03 50 33.0	+0.5
	comp=Z,278nm,1.0s,mb6.2						
KKN	Kakani	35.37	335	eP	P	03 50 33.4	+0.2
	comp=Z,678nm,1.2s,mb6.4						
GKN	Gorkha	35.83	335	eP	P	03 50 37.4	+0.2
	comp=Z,1µm,1.4s,mb6.7						
WRA	Warramunga Arr	35.86	119	P	P	03 50 36.2	-1.3
	comp=Z,116nm,0.9s,mb5.8,baz=291,slow=10,SNR=160						
WRA				PcP	PcP	03 53 05.5	+0.9
	comp=Z,13nm,0.9s,baz=292,slow=2.0,SNR=3.8						
WRA				S	S	03 56 10.2	-3.2
	comp=Z,10nm,1.0s,baz=302,slow=9.6,SNR=2.3						
WRAB	Tennant Creek	35.86	119	c iP	P	03 50 36.2	-1.4
WRAB	Tennant Creek	35.86	119	P	P	03 50 36.8	-0.8
	comp=Z,251nm,1.0s,comp=Z,2µm,mb6.1						
WRAB	Tennant Creek	35.86	119	P	P	03 50 37.1	-0.5
	comp=Z,209nm,0.9s,comp=Z,2µm,mb6.0						
WRAB	Tennant Creek	35.86	119	eP	P	03 50 36.6	-1.0
	comp=Z,146nm,0.8s,mb6.0						
WRAB				LR	LR		
	comp=Z,18µm,22.0s,MS5.8						
WB2	Warramunga Arr	35.87	119	eP	P	03 50 36.3	-1.3
WB2				eS	S	03 56 11.2	-2.4
KOLN	Koldanda	36.09	333	eP	P	03 50 39.8	+0.4
	comp=Z,195nm,0.8s,mb6.1						
BOM	Bombay	36.20	310	ex	S	03 56 16.1	-2.5
DANN	Dangsing	36.51	334	eP	P	03 50 43.4	+0.4
	comp=Z,1µm,1.3s,mb6.6						
FORT	Forrest	36.56	139	eP	P	03 50 43.5	+0.1
	comp=Z,52nm,0.8s,mb5.4						
WHN	Wuhan	36.84	19	⇑P	P	03 50 46.0	+0.3
WHN				AP	pP	03 51 00.1	+4.8
WHN				PP	PP	03 52 12.2	+2.1
WHN				S	S	03 56 33.6	+5.5
WHN				AMB	AMB		
	comp=Z,104nm,1.1s,mb5.6						
WHN				AMB	AMB		
	comp=Z,5µm,8.7s						
WHN				LR	LR		
	comp=N,37µm,12.9s,MS6.5						
WHN				LR	LR		
	comp=E,38µm,16.5s,MS6.5						
WHN				LR	LR		
	comp=Z,46µm,15.2s,MS6.4						
ASAR	Alice Springs	36.99	125	P	P	03 50 46.5	-0.6
	comp=Z,50nm,0.8s,mb5.4,baz=297,slow=7.7,SNR=192						
ASAR				PcP	PcP	03 53 08.8	+0.9
	comp=Z,14nm,0.8s,baz=299,slow=3.1,SNR=5.1						
ASAR				S	S	03 56 29.8	-0.9
	comp=Z,4.7nm,1.0s,baz=284,slow=15,SNR=4.7						
XAN	Xi'an	38.80	10	P	P	03 51 01.3	-0.9
XAN				AP	pP	03 51 11.7	-0.1
XAN				XP	sP	03 51 14.8	-1.0
XAN				PP	PP	03 52 37.6	+6.0
XAN				PCP	PcP	03 53 09.1	-4.1
XAN				SCP	ScP	03 56 52.5	-6.7
XAN				PCS	PcS	03 56 56.5	-6.2
XAN				S	S	03 57 03.6	+5.8
XAN				SS	SS	03 59 50.5	+0.8
XAN				SCS	ScS	04 01 05.4	-4.6
XAN				AMB	AMB		
	comp=Z,135nm,1.4s,mb5.5						
XAN				AMB	AMB		
	comp=Z,2µm,8.9s						
XAN				LR	LR		
	comp=N,16µm,14.1s,MS6.1						
XAN				LR	LR		
	comp=E,17µm,17.6s,MS6.1						
XAN				LR	LR		
	comp=Z,60µm,15.1s,MS6.5						
PTH	Pithoragarh	39.18	330	eP	P	03 51 05.7	+0.2
PTH				eS	S	03 57 04.9	+1.2
JAY	Jayapura	39.49	89	P	P	03 51 06.6	-1.8
	comp=Z,77nm,2.0s,mb5.1						
NJ2	Nanjing	39.85	24	eP	P	03 51 13.1	+2.1
NJ2				AP	pP	03 51 22.8	+2.2
NJ2				XP	sP	03 51 26.9	+2.3
NJ2				PP	PP	03 52 51.5	+8.5
NJ2				S	S	03 57 06.5	-7.0
NJ2				AMB	AMB		
	comp=Z,30nm,0.8s,mb5.1						
NJ2				AMB	AMB		
	comp=Z,1µm,7.6s						
NJ2				LR	LR		
	comp=N,8µm,18.3s,MS5.9						
NJ2				LR	LR		
	comp=E,14µm,21.1s,MS5.9						
NJ2				LR	LR		
	comp=Z,14µm,21.1s,MS5.8						
AJM	Ajmer	39.93	321	⇑iP	P	03 51 12.3	+0.5
AJM				AMb	AMB	03 51 22.4	
	comp=Z,137nm,1.8s,mb5.4						
AJM				i PP	PP	03 52 45.4	+1.4
SSE	Sheshan	40.02	27	P	P	03 51 13.2	+0.7
SSE				AP	pP	03 51 24.4	+2.3
SSE				PP	PP	03 52 47.0	+2.0
SSE				S	S	03 57 20.1	+3.9
SSE				XS	sS	03 57 38.9	+6.8
SSE				AMB	AMB		
	comp=Z,94nm,1.0s,mb5.5						
SSE				AMB	AMB		
	comp=Z,2µm,9.9s						
SSE				LR	LR		
	comp=N,21µm,15.4s,MS6.2						
SSE				LR	LR		
	comp=E,13µm,15.4s,MS6.2						
SSE				LR	LR		
	comp=Z,12µm,13.0s,MS5.9						
SSE	Sheshan	40.02	27	P	P	03 51 13.2	+0.7
	comp=Z,94nm,1.0s,mb5.5						
SSE				pP	pP	03 51 24.4	+2.3
SSE				PP	PP	03 52 47.0	+2.0
SSE				S	S	03 57 20.1	+3.9
SSE				sS	sS	03 57 38.9	+6.8
SSE				LR	LR		
	comp=Z,12µm,13.0s,MS5.9						
NDI	New Delhi	40.06	326	eP	P	03 51 11.0	-1.8
NDI				ex	x	03 57 14.0	
LZH	Lanzhou	40.23	3	⇑P	P	03 51 14.7	+0.6
LZH				AP	pP	03 51 24.5	+0.8
LZH				XP	sP	03 51 28.7	+1.1
LZH				PP	PP	03 52 52.3	+5.2
LZH				S	S	03 57 21.4	+2.3
LZH				XS	sS	03 57 37.2	+2.2
LZH				SS	SS	04 00 15.6	-2.6
LZH				AMB	AMB		
	comp=Z,1µm,1.5s,mb6.3						
LZH				AMB	AMB		
	comp=Z,4µm,8.2s						
LZH				LR	LR		
	comp=E,22µm,15.2s						
LZH				LR	LR		
	comp=Z,34µm,17.5s,MS6.3						
LZH	Lanzhou	40.23	3	⇑P	P	03 51 14.7	+0.6
LZH				*PP	pP	03 51 24.5	+0.8
LZH				*SP	sP	03 51 28.7	+1.1
LZH						03 52 52.3	
LZH				S	S	03 57 21.4	+2.3
LZH				*SS	sS	03 57 37.2	+2.2
LZH				SS	SS	04 00 15.6	-2.6
LZH				pmax	pmax		
	comp=Z,1µm,1.5s,mb6.3						
LZH				MLR	MLR		
	comp=Z,34µm,17.5s,MS6.3						
LZH	Lanzhou	40.23	3	⇑P	P	03 51 14.7	+0.6
	comp=Z,1µm,1.5s,mb6.3						
LZH				pP	pP	03 51 24.5	+0.8
LZH				sP	sP	03 51 28.7	+1.1
LZH				PP	PP	03 52 52.3	+5.2
LZH				S	S	03 57 21.4	+2.3
LZH				sS	sS	03 57 37.2	+2.2
LZH				SS	SS	04 00 15.6	-2.6
LZH				LR	LR		
	comp=Z,34µm,17.5s,MS6.3						
JOW	Kunigami	40.53	39	P	P	03 51 16.7	-0.1
	comp=Z,27nm,0.8s,mb4.9,baz=117,slow=24,SNR=5.5						
JOW				S	S	03 57 24.8	+0.8
	comp=Z,4.5nm,0.3s,baz=168,slow=22,SNR=3.5						
SMLA	Simla	42.00	329	i P	P	03 51 28.3	-0.5
SMLA				ex	x	03 51 32.7	
	comp=Z,270nm,0.8s						
SMLA				i S	S	03 57 45.7	0.0
SDNR	Sundarnagar	42.40	329	eP	P	03 51 31.0	-1.0
SDNR				eS	S	03 57 51.5	0.0
COEN	Coen	42.50	106	P	P	03 51 31.9	-1.2
	comp=Z,56nm,1.0s,comp=Z,1µm,mb5.1						
COEN	Coen	42.50	106	P	P	03 51 31.7	-1.4
	comp=Z,48nm,1.1s,comp=Z,1µm,mb5.0						
BHK	Bhakra	42.62	328	ex	x	03 51 48.2	
TIA	Tai'an	42.95	19	eP	P	03 51 35.4	-1.0
TIA				S	S	03 58 04.0	+4.5
TIA				AMB	AMB		
	comp=Z,26nm,0.9s,mb5.0						
TIA				AMB	AMB		
	comp=Z,1µm,5.0s						
TIA				LR	LR		
	comp=N,6µm,17.0s,MS6.2						
TIA				LR	LR		
	comp=E,28µm,18.0s,MS6.2						
TIY	Taiyuan	43.06	13	⇑P	P	03 51 38.8	+1.5
TIY				S	S	03 58 11.2	+10
TIY				AMB	AMB		
	comp=Z,2µm,7.8s						
TIY				LR	LR		
	comp=N,11µm,13.0s						
TIY				LR	LR		
	comp=E,3µm,9.9s						
TIY				LR	LR		
	comp=Z,12µm,15.7s,MS5.9						
GTA	Gaotai	43.48	358	P	P	03 51 40.3	-0.4
GTA				AP	pP	03 51 49.5	-0.9
GTA				XP	sP	03 51 53.5	-0.8
GTA				PP	PP	03 53 23.4	+1.1
GTA				S	S	03 58 06.0	-1.2
GTA				SCS	ScS	04 01 36.4	-1.7
GTA				AMB	AMB		
	comp=Z,67nm,1.7s,mb5.1						
GTA				AMB	AMB		
	comp=Z,3µm,7.1s						
GTA				LR	LR		
	comp=N,14µm,15.2s,MS6.3						
GTA				LR	LR		
	comp=E,29µm,19.0s,MS6.3						
GTA				LR	LR		
	comp=Z,21µm,15.2s,MS6.2						
THN	Thein Dam	43.79	328	eP	P	03 51 40.7	-2.5
BTO	Baotou	45.39	9	eP	P	03 51 55.6	-0.3
BTO				AMB	AMB		
	comp=Z,46nm,2.0s,mb5.0						

MSEY Mahe Island 45.56 268 PFAKE 03 52 10.0 +12
MSEY LR LR
comp=Z,9μm,19.0s,MS5.7
PMG Port Moresby 45.91 99⇑*e*P **P** **03 51 59.8 -0.7**
PMG Port Moresby 45.91 99 P **P** **03 51 59.9 -0.6**
comp=Z,270nm,1.1s,comp=Z,5μm,mb6.1
PMG Port Moresby 45.91 99 P **P** **03 51 59.9 -0.6**
comp=Z,270nm,1.1s,comp=Z,5μm,mb6.1
PMG Port Moresby 45.91 99 *e*P **P** **03 51 58.7 -1.8**
PMG LR LR
comp=Z,9μm,22.0s,MS5.7
BJT Baijiatuau 46.18 16 *e*P **P** **03 52 01.9 -0.2**
BJT *e**PP pP 03 52 12.3 +0.4
BJT pmax pmax
comp=Z,106nm,0.6s
BJT MLR MLR
comp=Z,15μm,20.0s
BJT Baijiatuau 46.18 16 *e*P **P** **03 52 01.9 -0.3**
comp=Z,106nm,0.6s,mb6.0
BJT *e*pP pP 03 52 12.3 +0.4
BJT LR LR
comp=Z,15μm,20.0s,MS5.9
BJI Beijing 46.20 16 P **P** **03 52 02.0 -0.3**
BJI PP PP 03 53 52.7 +1.5
BJI S **S** **03 58 50.0 +3.4**
BJI AMB AMB
comp=Z,108nm,1.4s,mb5.6
BJI AMB AMB
comp=Z,3μm,4.5s
BJI LR LR
comp=N,11μm,17.7s,MS6.2
BJI LR LR
comp=E,19μm,17.0s,MS6.2
BJI LR LR
comp=Z,10μm,20.8s,MS5.8
BJI Beijing 46.20 16 P **P** **03 52 02.0 -0.3**
comp=Z,108nm,1.4s,mb5.6
BJI PP PP 03 53 52.7 +1.5
BJI S **S** **03 58 50.0 +3.4**
BJI SS SS 04 02 19.4 +7.0
BJI LR LR
comp=Z,10μm,20.8s,MS5.8
ADE Adelaide 46.23 136 P **P** **03 52 03.6 +0.9**
CTA Charters Tower 46.59 114 *e*P **P** **03 52 05.1 -0.7**
comp=Z,91nm,1.1s,mb5.6
CTA *e*S **S** **03 58 50.6 -2.3**
CTA Charters Tower 46.59 114 P **P** **03 52 06.0 +0.3**
comp=Z,114nm,1.1s,mb5.7,baz=286,slow=8.7,SNR=34
CTA S **S** **03 58 54.5 +1.7**
comp=Z,7.1nm,1.0s,baz=33,slow=19,SNR=5.0
CTA Charters Tower 46.59 114 *e*P **P** **03 52 05.1 -0.7**
CTA *e*S **S** **03 58 50.6 -2.3**
CTA pmax pmax
comp=Z,91nm,1.1s
CTAO Charters Tower 46.59 114 P **P** **03 52 06.2 +0.4**
comp=Z,236nm,1.4s,comp=Z,4μm,mb5.9
CTAO Charters Tower 46.59 114 PFAKE 03 52 20.0 +14
CTAO LR LR
comp=Z,8μm,20.0s,MS5.7
STKA Stephens Creek 46.78 131 *e*P **P** **03 52 07.1 +0.1**
comp=Z,60nm,0.8s,mb5.6
STKA *e*S **S** **03 58 53.8 -1.4**
STKA Stephens Creek 46.78 131 P **P** **03 52 07.3 +0.3**
comp=Z,76nm,0.8s,mb5.7,baz=307,slow=7.8,SNR=88
STKA S **S** **03 58 55.9 +0.7**
comp=Z,2.4nm,0.8s,baz=234,slow=19,SNR=2.1
STKA LR LR 04 13 24.6
comp=Z,15μm,21.1s,MS5.9,baz=297,slow=38
GUMO Guam 46.85 67 P **P** **03 52 05.8 -2.0**
comp=Z,23nm,0.3s,mb5.5,baz=239,slow=21,SNR=2.0
GUMO S **S** **03 58 59.6 +3.0**
comp=Z,19nm,0.3s,baz=10.0,slow=22,SNR=2.4
GUMO Guam 46.85 67 P **P** **03 52 05.8 -2.0**
GUMO S **S** **03 58 59.6 +3.0**
GUMO LR LR
comp=Z,3μm,21.0s,MS5.2
DL2 Dalian 46.94 22⇑*i*P **P** **03 52 08.2 +0.1**
DL2 PP PP 03 53 52.5 -6.5
DL2 S **S** **03 58 59.6 +2.4**
DL2 AMB AMB
comp=Z,80nm,0.9s,mb5.7
DL2 AMB AMB
comp=Z,1μm,5.6s
DL2 LR LR
comp=N,5μm,17.2s,MS5.7
DL2 LR LR
comp=E,6μm,18.1s,MS5.7
DL2 LR LR
comp=Z,7μm,18.1s,MS5.7
INCN Inchon 47.82 27 ⇓P **P** **03 52 11.7 -3.3**
SNR=12
INCN Inchon 47.82 27 *e*P **P** **03 52 13.8 -1.2**
comp=Z,409nm,2.2s,mb6.1
INCN LR LR
comp=Z,7μm,21.0s,MS5.6
KSRS Korea Array 48.40 29 P **P** **03 52 18.9 -0.6**
comp=Z,59nm,0.9s,mb5.6,baz=218,slow=7.9,SNR=109
WBK Wadi Bani Khal 49.13 305 ⇓P **P** **03 52 30.6 +5.2**
SNR=15
KSH Kashi 49.38 334 P **P** **03 52 26.8 -0.2**
KSH *e*AP pP 03 52 36.6 -0.2
KSH *e*XP sP 03 52 40.5 -0.2
KSH *e*PCP PcP 03 53 50.8 +1.7
KSH PP PP 03 54 20.3 -1.0
KSH *e*SCP ScP 03 57 41.7 -0.5
KSH *e*S **S** **03 59 27.3 -4.4**
KSH *e*XS sS 03 59 44.8 -3.0
KSH *e*SCS ScS 04 02 13.3 -3.2
KSH AMB AMB
comp=Z,50nm,0.1s,mb6.5
KSH AMB AMB
comp=Z,13μm,3.2s
KSH LR LR
comp=N,35μm,21.8s,MS6.4
KSH LR LR
comp=E,18μm,17.4s,MS6.4
KSH LR LR
comp=Z,30μm,19.7s,MS6.3
WMQ Urumqi 49.39 347⇑*i*P **P** **03 52 27.7 +0.7**
WMQ AP pP 03 52 40.2 +3.4
WMQ PCP PcP 03 53 49.2 +0.1
WMQ PP PP 03 54 23.2 +1.8
WMQ SCP ScP 03 57 39.2 -3.0
WMQ PCS PcS 03 57 44.2 -1.3
WMQ S **S** **03 59 31.7 0.0**
WMQ XS sS 03 59 52.7 +4.8
WMQ SCS ScS 04 02 12.2 -4.2
WMQ SS SS 04 03 00.2 -3.8
WMQ AMB AMB
comp=Z,293nm,1.0s,mb6.3
WMQ AMB AMB
comp=Z,4μm,5.2s
WMQ LR LR
comp=N,7μm,16.6s,MS6.0
WMQ LR LR
comp=E,13μm,19.0s,MS6.0
WMQ LR LR
comp=Z,9μm,21.6s,MS5.7
JMDO Jabal Madar 49.74 304 ⇓P **P** **03 52 34.9 +4.9**
SNR=13
SMDO Samad 50.09 305 ⇑P **P** **03 52 37.9 +5.1**
SNR=12
SNY Shenyang 50.21 22 ⇑P **P** **03 52 32.6 -0.7**
SNY PP PP 03 54 30.3 +1.4
SNY S **S** **03 59 52.8 +10**
SNY XS sS 03 59 59.6 +0.1
SNY AMB AMB
comp=Z,89nm,1.7s,mb5.5
SNY AMB AMB
comp=Z,2μm,6.2s
SNY LR LR
comp=N,11μm,18.6s,MS6.1
SNY LR LR
comp=E,10μm,15.0s,MS6.1
SNY LR LR
comp=Z,14μm,14.4s,MS6.1
BSY Bisya 50.65 304 ⇓P **P** **03 52 42.2 +5.2**
SNR=35
HOQ Hoqain 50.94 305 ⇓P **P** **03 52 44.1 +5.1**
SNR=10
RBK Rabkut 51.16 296 ⇑P **P** **03 52 46.8 +6.0**
SNR=5.5
ULHL Ulahol 51.55 336 P **P** **03 52 44.1 +0.9**
SNR=7.7
WHFO Wadi Hawf 51.69 297 ⇓P **P** **03 52 50.1 +5.4**
SNR=5.4

ABTO Aybut 51.92 296⇑P **P** **03 52 51.9 +5.4**
SNR=6.7
SONM Songino Array 52.09 4 P **P** **03 52 47.4 +0.1**
comp=Z,114nm,0.8s,mb5.9,baz=186,slow=8.4,SNR=162
SONM PcP PcP 03 54 00.5 +1.5
comp=Z,12nm,0.6s,baz=184,slow=4.7,SNR=4.5
SONM S **S** **04 00 11.0 +2.0**
comp=Z,0.2nm,0.4s,baz=76,slow=37,SNR=2.6
JHJ Hachijo jima 2 52.14 42 P **P** **03 52 46.6 -1.3**
comp=Z,343nm,1.1s,mb6.2,baz=241,slow=20,SNR=2.1
AAA Alma-Ata 52.14 338 *i*P **P** **03 52 46.4 -1.3**
AAA *i*S **S** **04 00 06.8 -3.1**
AAA pmax pmax
comp=Z,4μm,4.9s
AAA smax
comp=N,4μm,6.9s
ULN Ulaanbaatar 52.17 5⇑P **P** **03 52 47.0 -0.8**
SNR=90
ULN Ulaanbaatar 52.17 5 P **P** **03 52 47.7 -0.2**
comp=N,152nm,2.0s,comp=N,4μm,mb5.6
ULN Ulaanbaatar 52.17 5⇑*e*P **P** **03 52 47.6 -0.3**
ULN LR LR
comp=Z,10μm,19.0s,MS5.9
EIDS Eidsvold 52.22 119 *e*P **P** **03 52 46.8 -1.9**
TOO Toolangi 52.27 135 *e*P **P** **03 52 51.0 +2.2**
TKM2 Tokmak 2 52.37 336 P **P** **03 52 49.0 -0.5**
SNR=88
KBK Karagaybulak 52.41 336 P **P** **03 52 51.1 +1.4**
SNR=34
HATD Hatta, Dubai 52.46 306⇓P **P** **03 52 55.0 +4.6**
SNR=13
AML Almayashu 52.51 334 P **P** **03 52 53.3 +2.9**
SNR=12
AAK Ala-Archa 52.58 335 P **P** **03 52 52.1 +1.1**
SNR=13
CN2 Changchun 52.61 22 *e*P **P** **03 52 49.3 -1.9**
CN2 *e*XP sP 03 53 03.6 -1.3
CN2 *e*PP PP 03 54 50.7 +0.1
CN2 *e*S **S** **04 00 15.2 -1.1**
CN2 *e*SS SS 04 03 53.6 -1.5
CN2 AMB AMB
comp=Z,20nm,1.0s,mb5.0
CN2 AMB AMB
comp=Z,200nm,4.0s
CN2 LR LR
comp=N,13μm,20.0s,MS6.1
CN2 LR LR
comp=E,10μm,20.0s,MS6.1
CN2 LR LR
comp=Z,12μm,20.0s,MS6.0
FRU Bishkek 52.70 336⇑*e*P **P** **03 52 51.5 -0.3**
FRU *e* 03 54 58.0
FRU *i*S **S** **04 00 18.0 +0.5**
FRU pmax pmax
comp=Z,1μm,2.8s,mb6.4
FRU smax
comp=N,5μm,15.0s
FRU MLR MLR
comp=Z,12μm,21.0s,MS5.9
CHMS Chumysh 52.78 336 P **P** **03 52 52.8 +0.4**
SNR=14
EKS2 Erkin-Say 52.91 335 P **P** **03 52 53.3 -0.1**
SNR=132
USP Ospenovka 53.10 336 P **P** **03 52 55.2 +0.4**
SNR=35
MAJO Matsushiro 53.33 37 *e*P **P** **03 52 54.8 -1.8**
MAJO LR LR
comp=Z,5μm,21.0s,MS5.5
MAT Matsushiro 53.33 37 P **P** **03 52 53.9 -2.7**
MAT S **S** **04 00 31.0 +4.7**
MJAR Matsushiro Arr 53.33 37 P **P** **03 52 54.4 -2.2**
comp=Z,49nm,0.9s,mb5.4,baz=220,slow=7.3,SNR=83
MJAR Matsushiro Arr 53.33 37 P **P** **03 52 54.4 -2.2**
MK31 Makanchi Array 53.52 344 *e*P **P** **03 52 57.4 -0.4**
MKAR Makanchi Array 53.52 344 P **P** **03 52 56.9 -1.0**
comp=Z,110nm,0.7s,mb5.9,baz=146,slow=7.4,SNR=104
MKAR S **S** **04 00 29.4 +0.8**
comp=Z,0.3nm,0.4s,baz=198,slow=23,SNR=2.6
CNB Canberra Magne 54.10 131 *e*P **P** **03 53 03.0 +0.6**
ARMA Armidale 54.14 125 *e*P **P** **03 53 04.0 +1.3**
ARMA *e*S **S** **04 00 43.3 +5.7**
ZAK Zakamensk 54.47 2 *e*P **P** **03 53 03.9 -0.8**
ZAK pmax pmax
comp=Z,55nm,2.0s,mb5.1
OPO Ambohidratompo 54.58 250 P **P** **03 53 05.8 -0.3**
comp=Z,7.9nm,0.8s,mb4.8,baz=66,slow=7.1,SNR=10
OPO S **S** **04 00 48.3 +4.4**
comp=Z,3.1nm,1.0s,baz=220,slow=10,SNR=1.8
ABPO Ambohimpanom 54.60 250 *e*P **P** **03 53 04.0 -2.3**
comp=Z,18nm,1.0s,mb5.0
ABPO LR LR
comp=Z,6μm,21.0s,MS5.6
VLA Vladivostok 54.73 27*d*iP **P** **03 53 07.2 +0.4**
VLA *i**SP sP 03 53 18.5 -2.0
VLA *e*S **S** **04 01 00.2 +15**
VLA pmax pmax
comp=Z,327nm,1.9s,mb6.0
VLA MLR MLR
comp=Z,4μm,15.3s,MS5.6
VLA Vladivostok 54.73 27⇑*i*P **P** **03 53 06.5 -0.3**
MDJ Mudanjiang 54.93 25 P **P** **03 53 07.2 -0.9**
MDJ AP pP 03 53 16.2 -1.8
MDJ XP sP 03 53 20.1 -1.8
MDJ PCS PcS 03 58 09.4 -0.1
MDJ AMB AMB
comp=Z,88nm,1.7s,mb5.5
MDJ AMB AMB
comp=Z,2μm,9.0s
MDJ LR LR
comp=N,10μm,17.8s,MS6.1
MDJ LR LR
comp=E,9μm,16.9s,MS6.1
MDJ LR LR
comp=Z,11μm,15.3s,MS6.0
MDJ Mudanjiang 54.93 25 *e*P **P** **03 53 07.7 -0.4**
comp=Z,212nm,1.5s,mb6.0
MDJ *e*pP pP 03 53 18.0 -0.1
MDJ LR LR
comp=Z,8μm,21.0s,MS5.8
HIA Hailar 55.71 15 *e*P **P** **03 53 13.4 -0.3**
HIA pmax pmax
comp=Z,48nm,0.9s
HIA MLR MLR
comp=Z,16μm,19.0s
HIA Hailar 55.71 15 *e*P **P** **03 53 13.4 -0.3**
comp=Z,48nm,0.9s,mb5.5
HIA LR LR
comp=Z,16μm,19.0s,MS6.1
MOY Mondy 55.72 360 *e*P **P** **03 53 13.8 +0.1**
MOY pmax pmax
comp=Z,343nm,2.9s,mb5.9
TLY Talaya 55.78 2 *i*P **P** **03 53 14.7 +0.6**
SNR=68
TLY Talaya 55.78 2*c* *i*P **P** **03 53 14.0 -0.1**
TLY *e* pP 03 53 22.8 -1.2
TLY *e*S **S** **04 01 02.2 +3.5**
TLY *e*PS 04 01 19.1
TLY *e* 04 03 01.3
TLY pmax pmax
comp=Z,90nm,1.0s,mb5.8
TLY MLR MLR
comp=Z,17μm,17.0s,MS6.2
TLY Talaya 55.78 2 *e*P **P** **03 53 14.3 +0.2**
comp=Z,51nm,0.8s,mb5.6
TLY LR LR
comp=Z,5μm,19.0s,MS5.6
TAU Tasmania Unive 56.09 140 PFAKE 03 53 30.0 +13
TAU LR LR
comp=Z,10μm,19.0s,MS5.9
IRK Irkutsk 56.36 2⇑*i*P **P** **03 53 18.7 +0.4**
IRK *e* pP 03 53 27.7 -0.5
IRK pmax pmax
comp=Z,312nm,2.0s,mb6.0
CIT Chita 57.06 9 *e*P **P** **03 53 24.0 +0.8**
CIT *e* pP 03 53 32.6 -0.6
CIT *e* 03 53 40.9
CIT pmax pmax
comp=Z,568nm,2.8s,mb6.1
ABKT Ailbek 57.94 320 P **P** **03 53 29.5 -0.2**
comp=Z,380nm,0.8s,mb6.5,SNR=19
KURK Kurchatov 58.11 343 P **P** **03 53 29.1 -1.5**
comp=Z,46nm,0.8s,mb5.6,baz=162,slow=5.4,SNR=84
KURK S **S** **04 01 31.7 +2.2**
comp=Z,0.5nm,0.6s,baz=85,slow=11,SNR=3.3
KURK LR LR 04 22 56.0
comp=Z,11μm,19.8s,MS6.0,baz=160,slow=41

KURK Kurchatov 58.11 343 P **P** **03 53 29.1 -1.5**
KURK S **S** **04 01 31.7 +2.2**
KURK Kurchatov 58.11 343 P **P** **03 53 29.1 -1.5**
KURK S **S** **04 01 31.7 +2.2**
KURK LR LR 04 22 56.0
HNR Honiara 58.52 98 P **P** **03 53 33.1 -1.2**
comp=Z,423nm,1.1s,mb6.4,baz=221,slow=2.9,SNR=23
HNR S **S** **04 01 33.2 -3.0**
comp=Z,48nm,0.4s,baz=227,slow=4.3,SNR=2.5
HNR Honiara 58.52 98 P **P** **03 53 33.1 -1.2**
HNR S **S** **04 01 33.2 -3.0**
HNR LR LR
comp=Z,5μm,21.0s,MS5.6
KLR Kul'dur 59.54 23 *e*P **P** **03 53 35.5 -5.1**
KLR *e*S **S** **04 01 58.0 +10**
KLR pmax pmax
comp=E,150nm,2.0s
KLR pmax pmax
comp=Z,570nm,2.0s,mb6.2
KLR pmax pmax
comp=Z,2μm,7.0s
KLR smax
comp=N,3μm,10.0s
KLR smax
comp=E,900nm,10.0s
ZALV Zalesovo Beam 59.61 349 P **P** **03 53 39.7 -1.3**
comp=E,112nm,0.8s,mb6.0,baz=182,slow=4.2,SNR=103
ZALV S **S** **04 01 44.1 -4.8**
comp=E,0.8nm,0.5s,baz=42,slow=4.6,SNR=2.6
ZALV LR LR 04 23 24.5
comp=E,6μm,19.0s,MS5.7,baz=168,slow=40
ZALV Zalesovo Beam 59.61 349 P **P** **03 53 39.7 -1.3**
ZALV S **S** **04 01 44.1 -4.8**
ZALV Zalesovo Beam 59.61 349 P **P** **03 53 39.7 -1.3**
ZALV S **S** **04 01 44.1 -4.8**
ZALV LR LR 04 23 24.5
ERM Erimo 59.79 35*d* *i*P **P** **03 53 41.6 -0.9**
ERM Erimo 59.79 35 *e*P **P** **03 53 41.4 -1.2**
comp=E,53nm,0.8s,mb5.6
ERM LR LR
comp=Z,4μm,21.0s,MS5.5
HABR Khabarovsk 60.28 25⇓*e*P **P** **03 53 43.8 -1.9**
HABR *e* pP 03 53 52.5 -3.2
HABR *e* 03 54 28.1
HABR *e* 03 55 55.9
HABR *e* 04 02 07.4
HABR *e* 04 03 31.1
HABR *e* 04 05 51.9
KRAR Krasnoyarsk 60.47 355 *e*P **P** **03 53 46.8 0.0**
KRAR pmax pmax
comp=Z,422nm,2.5s,mb6.0
KRAR MLR MLR
comp=Z,8μm,19.0s,MS5.9
NVS Novosibirsk 60.76 348⇓*i*P **P** **03 53 46.4 -2.5**
NVS *e* 03 56 02.2
NVS *e*S **S** **04 01 53.9 -10**
NVS pmax pmax
comp=N,320nm,2.2s
NVS pmax pmax
comp=E,144nm,2.2s
NVS pmax pmax
comp=Z,329nm,2.2s,mb6.1
NVS pmax pmax
comp=Z,104nm,2.2s,mb5.6
NVS pmax pmax
comp=N,75nm,2.0s
NVS pmax pmax
comp=E,49nm,2.0s
NVS smax
comp=N,100nm,2.0s
NVS smax
comp=E,220nm,2.6s
ASAJ Asahikawa 60.84 33 P **P** **03 53 48.8 -0.8**
comp=E,47nm,0.7s,mb5.7,baz=238,slow=11,SNR=25
RDF Al-Radifah 61.13 306 *e*P **P** **03 53 51.7 -0.2**
baz=306
RDF AMb AMB 03 54 04.5
comp=Z,203nm,1.2s,mb6.1,baz=306
UMR Umm Al-Rimmam 61.25 307 *e*P **P** **03 53 52.6 -0.1**
baz=307
UMR AMb AMB 03 54 05.4
comp=Z,180nm,1.1s,mb6.1,baz=307
NAY Al-Naaiem 61.51 307 *e*P **P** **03 53 54.1 -0.4**
baz=307
NAY AMb AMB 03 54 06.8
comp=Z,79nm,1.3s,mb5.7,baz=307
MIB Mutribah 61.65 307 *e*P **P** **03 53 54.9 -0.5**
baz=307
MIB AMb AMB 03 54 08.2
comp=Z,160nm,1.0s,mb6.1,baz=307
CASY Casey 62.24 176 PFAKE 03 54 10.0 +11
CASY LR LR
comp=Z,10μm,19.0s,MS6.0
MIR Mirnyy 62.43 184*d*e P **P** **03 54 00.0 0.0**
MIR *i* pP 03 54 10.0 0.0
MIR *e* 03 56 20.0
MIR *i*S **S** **04 02 28.0 +3.5**
MIR *i*PS 04 03 00.0
MIR pmax pmax
comp=Z,100nm,1.5s,mb5.7
MIR pmax pmax
comp=Z,1μm,4.0s
MIR MLR MLR
comp=Z,6μm,18.0s,MS5.8
YUK Yuzh-Kuril'sk 62.60 35 P **P** **03 54 00.5 -1.0**
YUK *e*S **S** **04 02 25.0 -2.4**
YUK *i*PS 04 02 45.0
YUK *e* 04 03 50.0
YUK pmax pmax
comp=N,2μm,2.0s
YUK pmax pmax
comp=E,2μm,2.0s
YUK pmax pmax
comp=Z,4μm,2.0s
YUK smax
comp=E,2μm,3.0s
YUK smax
comp=N,3μm,2.5s
YUK MLR MLR
comp=Z,8μm,18.0s,MS5.9
YUK MLR MLR
comp=N,3μm,15.0s,MS5.8
YUK MLR MLR
comp=E,5μm,17.0s,MS5.8
BVAR Borovoye Array 62.71 340 P **P** **03 54 00.3 -1.7**
comp=E,51nm,0.7s,mb5.8,baz=144,slow=8.3,SNR=64
BVAR S **S** **04 02 25.8 -2.6**
comp=E,0.5nm,0.4s,baz=292,slow=43,SNR=2.7
BVAR LR LR 04 27 11.3
comp=E,6μm,19.1s,MS5.8,baz=300,slow=42
BVAR Borovoye Array 62.71 340 P **P** **03 54 00.3 -1.7**
BVAR S **S** **04 02 25.8 -2.6**
BOD Bodaibo 62.75 8 *e*P **P** **03 54 01.4 -0.8**
BOD pmax pmax
comp=Z,113nm,1.8s,mb5.7
BRVK Borovoye 62.77 340⇓P **P** **03 54 03.3 +0.8**
SNR=40
BRVK Borovoye 62.77 340 *e*P **P** **03 54 00.9 -1.6**
BRVK LR LR
comp=Z,7μm,20.0s,MS5.8
YSS Yuzh-Sakhalins 62.80 31*c* *e*P **P** **03 54 01.0 -1.8**
YSS *e**PP pP 03 54 09.0 -3.8
YSS *e**SP sP 03 54 13.0 -3.7
YSS *e* 03 56 26.0
YSS *e*S **S** **04 02 25.0 -4.7**
YSS *e*PS 04 02 42.0
YSS pmax pmax
comp=Z,390μm,1.4s
YSS pmax pmax
comp=E,190nm,1.4s
YSS Yuzh-Sakhalins 62.80 31 *e*P **P** **03 54 02.2 -0.5**
comp=E,100nm,0.8s,mb6.0
YSS *e*pP pP 03 54 10.8 -2.0
CLNS Chul'man 63.90 14 *e*P **P** **03 54 09.9 +0.1**
CLNS *e**PP pP 03 54 17.9 -2.0
CLNS *e* 03 54 48.3
CLNS *e* 03 56 27.5
CLNS *e*S **S** **04 02 41.8 -1.3**
CLNS *e* 04 03 50.6
CLNS *e*SS SS 04 06 48.0 -4.0
CLNS pmax pmax
comp=Z,65nm,1.1s,mb5.6
CLNS pmax pmax
comp=E,35nm,1.2s
CLNS pmax pmax

comp=N,46nm,1.2s
CLNS smax
comp=N,1160µm,13.5s
CLNS smax
comp=E,495µm,12.5s
CLNS MLR MLR
comp=E,8µm,16.0s,MS6.2
CLNS MLR MLR
comp=N,11µm,18.0s,MS6.2
CLNS MLR MLR
comp=Z,14µm,18.0s,MS6.2
KMBO Kilima Mbogo 63.92 271 ⇓P **P 03 54 18.3 +7.5**
SNR=5.1
KMBO Kilima Mbogo 63.92 271 P **P 03 54 11.2 +0.4**
comp=Z,3.3nm,0.8s,mb4.4,baz=94,slow=23,SNR=5.9
KMBO S **S 04 02 47.4 +2.5**
comp=Z,0.7nm,0.8s,baz=54,slow=24,SNR=2.8
KMBO LR LR 04 20 23.7
comp=Z,3µm,19.5s,MS5.5,baz=92,slow=34
KMBO Kilima Mbogo 63.92 271 P **P 03 54 11.3 +0.4**
KMBO S **S 04 02 47.4 +2.5**
KMBO Kilima Mbogo 63.92 271 P **P 03 54 11.2 +0.4**
KMBO S **S 04 02 47.4 +2.5**
KMBO LR LR 04 20 23.7
BHD Baghdad 65.35 310 *ex* x 03 54 17.0
BHD *ex* x 04 02 55.0
DZM Mont Dzumac 65.50 112 *eP* **P 03 54 20.3 -0.7**
DZM *eP* 03 54 24.0
AKTK Aktyubinsk 65.90 331 P **P 03 54 21.6 -1.4**
AKTK S S 04 03 04.1 -3.9
AKTK LR LR 04 27 46.8
AKTO Aktyubinsk 65.90 331 P **P 03 54 21.6 -1.4**
comp=Z,12nm,1.0s,mb4.9,baz=127,slow=6.2,SNR=41
AKTO S S 04 03 04.1 -3.9
comp=Z,0.5nm,0.3s,baz=244,slow=16,SNR=4.5
AKTO LR LR 04 27 46.8
comp=Z,4µm,18.9s,MS5.6,baz=240,slow=40
AKTO Aktyubinsk 65.90 331 P **P 03 54 21.6 -1.4**
AKTO S S 04 03 04.1 -3.9
MAK Makhachkala 67.45 320 *eP* **P 03 54 32.8 -0.3**
MAK *i* 03 55 00.4
MAK *i* 03 57 01.3
MAK *e*PPP 03 58 34.7
MAK *i* S S 04 03 26.5 -0.6
MAK *i* 04 04 30.2
MAK pmax pmax
comp=Z,377nm,1.5s,mb6.2
MAK MLR MLR
comp=Z,3µm,20.0s,MS5.6
MSL Mosul 67.55 312 *ex* x 03 54 33.0
MSL *ex* x 04 03 26.0
MSL *ex* x 04 04 28.0
HAKT HAKKARI 67.59 314 *i* P **P 03 54 34.0 0.0**
DRV Dumont d'Urvil 67.83 164 P pP 03 54 47.0 +1.8
DRV S S 04 03 36.0 +5.2
DRV SS SS 04 07 58.0 +5.3
DRV L 04 11 00.0
DRV R 04 15 00.0
GNI Garni 67.97 316 ⇓P **P 03 54 38.9 +2.5**
SNR=17
GNI Garni 67.97 316 P **P 03 54 35.8 -0.6**
comp=Z,3.9nm,0.4s,mb4.8,baz=32,slow=9.9,SNR=7.2
GNI S S 04 03 37.4 +4.0
comp=Z,2.8nm,0.3s,baz=332,slow=12,SNR=1.9
GNI LR LR 04 25 40.9
comp=Z,2µm,21.6s,MS5.3,baz=332,slow=37
GNI Garni 67.97 316 P **P 03 54 35.8 -0.6**
GNI S S 04 03 37.4 +4.0
DGRG David-gareji 68.13 318 P **P 03 54 38.8 +1.4**
DGRG S S 04 03 39.8 +4.6
MAW Mawson 68.39 195 P **P 03 54 39.3 +0.7**
comp=Z,16nm,0.9s,mb5.0,baz=34,slow=8.2,SNR=20
MAW S S 04 03 40.6 +3.2
comp=Z,0.7nm,0.7s,baz=193,slow=17,SNR=1.9
MAW LR LR 04 18 46.0
comp=Z,11µm,20.0s,MS6.1,baz=37,slow=31
MAW Mawson 68.39 195 *eP* **P 03 54 38.1 -0.4**
MAW pmax pmax
comp=Z,37nm,0.9s
MAW MLR MLR
comp=Z,17µm,20.0s
MAW Mawson 68.39 195 *eP* **P 03 54 38.1 -0.4**
comp=Z,37nm,0.9s,mb5.4
MAW LR LR
comp=Z,17µm,20.0s,MS6.3
DYDN Diyadin 68.44 315 *i* P **P 03 54 39.8 +0.5**
MTA Mtatsminda 68.63 318 P **P 03 54 41.0 +0.5**
MTA S S 04 03 41.2 0.0
TBLG Delisi 68.68 318 P **P 03 54 41.7 +0.9**
TBLG S S 04 03 42.9 +1.2
DIGO Kars 69.03 316 *i* P **P 03 54 43.4 +0.4**
GOR Gori 69.22 318 P **P 03 54 44.3 +0.2**
SVE Sverdlovsk 69.22 338⇑ *eP* **P 03 54 43.3 -0.5**
SVE *e* pP 03 54 52.3 -1.7
SVE *e* 03 57 16.0
SVE *e*S S 04 03 47.1 -0.4
SVE *e* 04 04 30.8
SVE pmax pmax
comp=Z,152nm,1.0s,mb5.9
SVE MLR MLR
comp=Z,11µm,20.0s,MS6.1
MARD Mardin 69.63 312 *i* P **P 03 54 47.5 +0.6**
YAK Yakutsk 69.64 14 *eP* **P 03 54 44.9 -1.4**
YAK *e*PP pP 03 55 09.8 +13
YAK *e* 03 57 19.7
YAK *e*PPP 03 59 02.0
YAK *e*S S 04 03 45.2 -7.1
YAK *e* 04 04 39.5
YAK *e*SS SS 04 08 16.2 -4.7
YAK pmax pmax
comp=Z,93nm,1.0s,mb5.7
YAK pmax pmax
comp=E,39nm,1.3s
YAK pmax pmax
comp=N,43nm,1.4s
YAK pmax pmax
comp=Z,202nm,3.5s
YAK pmax pmax
comp=N,151nm,2.7s
YAK pmax pmax
comp=E,42nm,1.2s
YAK smax
comp=N,550µm,5.8s
YAK smax
comp=E,285µm,4.4s
YAK Yakutsk 69.64 14⇑ *eP* **P 03 54 44.8 -1.5**
YAK LR LR
comp=Z,7µm,21.0s,MS5.9
ARU Arti 69.75 336*c* *i*P **P 03 54 46.9 -0.2**
ARU *e* 03 55 08.6
ARU *e* 03 57 17.4
ARU *e*PPP 03 59 06.2
ARU *e*S S 04 03 55.0 +1.2
ARU 04 04 48.8
ARU SS SS 04 08 24.0 +1.2
ARU pmax pmax
comp=Z,195nm,2.5s,mb5.6
ARU MLR MLR
comp=Z,7µm,22.0s,MS5.9
ARU Arti 69.75 336 *eP* **P 03 54 46.2 -0.9**
comp=Z,268nm,1.5s,mb6.0
ARU LR LR
comp=Z,7µm,22.0s,MS5.9
ONI Oni 69.92 318 P **P 03 54 49.7 +1.2**
ONI S S 04 03 57.3 +1.0
BNGL BINGOL 69.99 314 *i* P **P 03 54 50.0 +1.0**
DAGI Agillar 70.31 316 *i* P **P 03 54 51.0 +0.1**
DIYA Diyarbakir 70.34 313 *i* P **P 03 54 52.0 +0.8**
ARTV Artvin 70.35 316 *i* P **P 03 54 51.4 +0.3**
DDEM Demirkent 70.35 316 *i* P **P 03 54 51.5 +0.4**
DBAD Bademkaya 70.44 316 *i* P **P 03 54 50.9 -0.8**
DBOC Borcka 70.59 317 *i* P **P 03 54 51.5 -1.1**
ASF Jabal al Asfar 70.86 306 LR LR 04 27 12.3
comp=Z,8µm,18.6s,MS6.0,baz=335,slow=37
KOPT Kop Dagi 70.88 315 *i* P **P 03 54 55.7 +1.3**
KIV Kislovodsk 71.02 319 ⇓P **P 03 54 57.2 +2.1**
SNR=20
KIV Kislovodsk 71.02 319*c* *i*P **P 03 54 55.2 0.0**
KIV *e* 03 55 16.7
KIV *e*S S 04 04 07.6 -1.6
KIV pmax pmax
comp=Z,26nm,0.8s,mb5.2
KIV MLR MLR
comp=Z,3µm,20.0s,MS5.5
KIV Kislovodsk 71.02 319⇑ *i*P **P 03 54 55.4 +0.2**
KIV Kislovodsk 71.02 319 *e*P **P 03 54 55.2 0.0**
comp=Z,76nm,1.1s,mb5.5
KIV LR LR
comp=Z,3µm,20.0s,MS5.5
ELZG Elazig 71.39 313 *i* P **P 03 54 58.4 +0.9**
ATAB Bozova 71.53 312 *i* P **P 03 54 59.2 +0.8**
MALT Malatya 71.73 313 *i*P **P 03 55 05.1 +5.5**
MALT Malatya 71.73 313 P **P 03 55 04.9 +5.3**
comp=Z,63nm,2.1s,comp=Z,1µm,mb5.2
MALT Malatya 71.73 313 *eP* **P 03 55 04.3 +4.7**
comp=Z,63nm,1.1s,mb5.5
MALT LR LR
comp=Z,3µm,22.0s,MS5.5
EIL Elat 71.73 303 P **P 03 55 00.3 +0.5**
HRFI Mount Harif 71.76 303 P **P 03 55 00.7 +0.7**
ZFRI Zfri 71.79 304 P **P 03 55 00.9 +0.8**
PRNI Paran 71.88 304 P **P 03 55 01.3 +0.6**
DSI Dead Sea 71.92 305 P **P 03 55 01.5 +0.6**
HMDT Nahal Hemdat 72.00 306 P **P 03 55 02.0 +0.7**
GZT Gaziantep 72.03 311 *i* P **P 03 55 01.2 -0.2**
AKCD Akcadag 72.09 312 *i* P **P 03 55 02.5 +0.7**
SKR Severo-Kuril's 72.10 33 *eP* **P 03 55 01.2 -0.3**
SKR *e* pP 03 55 10.0 -1.7
SKR *e* 03 57 38.0
SKR *e*S S 04 04 26.0 +4.7
SKR *e* 04 04 58.0
SKR pmax pmax
comp=E,2µm,4.0s
SKR pmax pmax
comp=Z,3µm,4.0s
SKR pmax pmax
comp=Z,120nm,0.8s,mb5.9
SKR smax
comp=N,2µm,12.0s
SKR smax
comp=E,4µm,12.0s
SKR MLR MLR
comp=N,7µm,18.0s,MS6.2
SKR MLR MLR
comp=E,7µm,18.0s,MS6.2
SKR MLR MLR
comp=Z,11µm,18.0s,MS6.2
MMLI Mount Malkishu 72.14 306 P **P 03 55 03.0 +0.8**
RMNI Mount Ramon 72.15 304 P **P 03 55 04.0 +1.7**
KSDI Kefar Szold 72.17 307 P **P 03 55 03.4 +1.1**
MMAI Mount Meron Ar 72.32 306 LR LR 04 28 10.7
comp=Z,8µm,18.3s,MS6.0,baz=125,slow=37
RTMI Retamim 72.33 304 P **P 03 55 03.6 +0.2**
SLTI Sal'it 72.39 306 P **P 03 55 04.4 +0.7**
LSZ Lusaka 72.49 255 ⇓P **P 03 55 10.7 +6.1**
SNR=6.9
LSZ Lusaka 72.49 255 P **P 03 55 04.5 0.0**
comp=Z,11nm,1.1s,mb4.7,baz=82,slow=7.0,SNR=11
LSZ S S 04 04 28.8 +1.7
comp=Z,0.4nm,0.4s,baz=311,slow=15,SNR=3.5
RPZ Rata Peaks 72.56 134 S S 04 04 28.5 +1.6
comp=Z,5.7nm,0.5s,baz=304,slow=12,SNR=2.4
RPZ LR LR 04 25 56.2
comp=Z,13µm,21.3s,MS6.2,baz=277,slow=35
SOC Sochi 72.82 318*c* *i*P **P 03 55 05.1 -0.9**
SOC *e*PP pP 03 55 14.6 -1.6
SOC *e*SP sP 03 55 18.3 -1.7
SOC *e* 03 55 20.9
SOC *e* 03 57 45.3
SOC *e*PPP 03 59 35.0
SOC *i* S S 04 04 26.8 -3.1
SOC *e* 04 05 08.9
SOC *e*SS SS 04 09 06.9 -3.6
SOC pmax pmax
comp=Z,39nm,0.7s,mb5.5
SOC pmax pmax
comp=Z,156µm,4.2s
SOC MLR MLR
comp=Z,390nm,21.0s,MS4.7
SOC Sochi 72.82 318 *i* P **P 03 55 08.3 +2.3**
ANDN Andirin 73.02 311 *i* P **P 03 55 07.8 +0.5**
YURE YUREGIR 73.32 310 *i* P **P 03 55 08.3 -0.8**
PINB Pinarbasi 73.35 312 *i* P **P 03 55 09.4 +0.2**
PETK Petropavlovsk- 74.18 32 P **P 03 55 12.7 -1.1**
comp=Z,12nm,0.8s,mb4.9,baz=212,slow=3.1,SNR=9.9
PETK LR LR 04 32 56.6
comp=Z,2µm,18.3s,MS5.5,baz=254,slow=40
MEST Erdemli 74.38 310 *i* P **P 03 55 14.8 -0.5**
CSS Prodhromos 74.54 308 *eP* **P 03 55 16.5 +0.2**
comp=Z,77nm,1.1s,mb5.5
CSS *e*pP pP 03 55 26.7 +0.2
PET Petropavlovsk 74.64 32*c* *i*P **P 03 55 16.0 -0.4**
PET *e* 03 58 04.7
PET *e*S S 04 04 50.0 0.0
PET *e*PS 04 05 25.6
PET pmax pmax
comp=Z,99nm,1.2s,mb5.6
PET pmax pmax
comp=Z,2µm,5.4s
PET pmax pmax
comp=Z,2µm,19.1s
PET pmax pmax
comp=Z,1µm,18.4s
PET MLR MLR
comp=Z,4µm,21.0s,MS5.7
PET MLR MLR
comp=Z,3µm,15.0s
PET Petropavlovsk 74.64 32⇑ *eP* **P 03 55 16.1 -0.3**
PET LR LR
comp=Z,3µm,20.0s,MS5.6
ANN Anapa 74.81 319 *eP* **P 03 55 15.0 -2.6**
ANN *e*S S 04 04 48.9 -3.3
ANN *e* 04 05 24.9
ANN pmax pmax
comp=Z,797nm,8.4s
ANN Anapa 74.81 319 *eP* **P 03 55 15.5 -2.1**
SNZO South Karori 74.83 132 PFAKE 03 55 30.0 +12
SNZO LR LR
comp=Z,12µm,22.0s,MS6.1
VRHR Novokhopersk 74.86 326 *eP* **P 03 55 16.8 -0.9**
VRHR *e*PP pP 03 55 26.9 -1.1
VRHR pmax pmax
comp=Z,110nm,1.3s,mb5.6
VRHR pmax pmax
comp=N,20nm,0.6s
VRHR pmax pmax
comp=E,70nm,1.3s
CDAG Cicekdag 75.15 313 *i* P **P 03 55 19.0 -0.7**
CTKT Corum 75.17 314 *i* P **P 03 55 19.7 0.0**
ERMK Ermenek 75.34 309 *i* P **P 03 55 23.5 +2.6**
BOSA Boshof 75.61 242 P **P 03 55 23.0 +0.4**
comp=E,10nm,0.9s,mb4.7,baz=73,slow=4.4,SNR=7.1
BOSA S S 04 05 03.6 +1.8
comp=E,2.2nm,0.9s,baz=160,slow=16,SNR=1.7
BOSA LR LR 04 22 54.3
comp=E,7µm,19.9s,MS6.0,baz=88,slow=31
BOSA Boshof 75.61 242 *eP* **P 03 55 22.3 -0.3**
BOSA *e*PP pP 03 55 31.0 -1.9
BOSA pmax pmax
comp=Z,23nm,0.8s,mb5.2
BOSA MLR MLR
comp=Z,7µm,20.0s,MS6.0
BOSA Boshof 75.61 242 *eP* **P 03 55 22.3 -0.3**
comp=Z,23nm,0.8s,mb5.2
BOSA *e*pP pP 03 55 31.0 -1.9
BOSA LR LR
comp=Z,7µm,20.0s,MS6.0
ILGA Ilgaz 76.07 314 *i* P **P 03 55 25.0 0.0**
SYO Syowa Base 76.11 199⇓ *eP* **P 03 55 22.5 -2.1**
VSR Storozhevoye 76.30 325 *eP* **P 03 55 24.0 -2.0**
VSR *e*PP pP 03 55 32.4 -3.9
VSR *e*S S 04 05 02.1 -6.4
VSR pmax pmax
comp=Z,20nm,1.3s,mb4.9
VSR pmax pmax
comp=N,4.0nm,0.5s
VSR pmax pmax
comp=E,30nm,1.3s
VSR smax
comp=E,1µm,8.2s
VSR smax
comp=Z,60nm,4.6s
VSR smax
comp=N,720nm,5.4s
VSR MLR MLR
comp=Z,2µm,23.0s,MS5.3
VSR MLR MLR
comp=N,640nm,14.0s
VSR MLR MLR
comp=E,2µm,21.0s
URZ Urewera 76.32 128 S S 04 05 08.4 -0.9
comp=E,5.4nm,0.7s,baz=324,slow=23,SNR=1.7
ANTO Ankara 76.38 313⇑ P **P 03 55 29.0 +2.2**
SNR=10
ANTO Ankara 76.38 313 PFAKE 03 55 40.0 +13
ANTO LR LR
comp=Z,4µm,19.0s,MS5.8
BALT Daday 76.46 314 *i* P **P 03 55 26.9 -0.3**
KDHN Kadinhani 76.49 311 *i* P **P 03 55 26.8 -0.6**
SIM Simferopol' 77.06 318*ce* P **P 03 55 30.9 +0.4**
SIM 03 58 20.5
SIM *e*S S 04 05 14.9 -2.2
SIM pmax pmax
comp=Z,29nm,0.7s,mb5.3
SIM pmax pmax
comp=Z,450nm,12.0s
SIM Simferopol' 77.06 318 *i* P **P 03 55 30.7 +0.2**
SEY Seymchan 77.29 21⇑ *eP* **P 03 55 31.7 +0.4**
ESKT Eskisehir 77.72 312 *i* P **P 03 55 33.6 -0.7**
AKAS Kas 77.80 308 *i* P **P 03 55 33.5 -1.3**
TIXI Tiksi 77.91 9⇑ *eP* **P 03 55 32.2 -2.4**
TIXI pmax pmax
comp=Z,243nm,2.3s,mb5.7
TIXI MLR MLR
comp=Z,11µm,20.0s,MS6.2
TIXI Tiksi 77.91 9⇑ *eP* **P 03 55 32.3 -2.3**
TIXI LR LR
comp=Z,12µm,19.0s,MS6.3
HENT Hendek 78.04 313 *i* P **P 03 55 35.3 -0.7**
BORA Eskisehir 78.11 312 *i* P **P 03 55 35.9 -0.6**
DNZL Cakiroluk 78.60 310 *i* P **P 03 55 38.5 -0.7**
GDZ Gediz 78.62 311 *i* P **P 03 55 38.7 -0.6**
MOS Moscow 79.04 329 *eP* **P 03 55 39.0 -2.2**
MOS *e* pP 03 55 48.1 -3.4
MOS *e* 03 58 36.8
MOS *e*S S 04 05 33.8 -4.1
MOS *e* 04 05 48.6
MOS *e* 04 06 04.3
MOS *e*PS 04 06 28.0
MOS pmax pmax
comp=Z,185nm,1.7s,mb5.7
MOS pmax pmax
comp=Z,1200µm,3.1s
MOS MLR MLR
comp=Z,7µm,23.0s,MS5.9
OBN Obninsk 79.33 328*c* *i*P **P 03 55 42.6 -0.2**
OBN *i* pP 03 55 51.6 -1.5
OBN *i* 03 55 58.7
OBN *e* 03 58 46.5
OBN *i* S S 04 05 39.2 -1.9
OBN *i* 04 05 51.8
OBN *i* PS 04 06 28.7
OBN *e*SS SS 04 10 45.4 -3.2
OBN pmax pmax
comp=Z,156nm,1.7s,mb5.7
OBN MLR MLR
comp=Z,4µm,21.0s,MS5.7
OBN Obninsk 79.33 328 *eP* **P 03 55 42.6 -0.2**
comp=Z,255nm,1.4s,mb6.0
OBN LR LR
comp=Z,5µm,20.0s,MS5.9
AYDN Tasoluk 79.49 309 *i* P **P 03 55 44.6 +0.5**
DURS Dursunbey 79.51 311 *i* P **P 03 55 43.5 -0.7**
SUR Sutherland 79.59 238 PFAKE 03 56 00.0 +15
SUR LR LR
comp=Z,3µm,19.0s,MS5.7
RAO Raoul Island 79.99 119 PFAKE 03 56 00.0 +13
RAO LR LR
comp=Z,4µm,20.0s,MS5.8
KDAG Bornova 80.13 310 *i* P **P 03 55 48.1 +0.6**
BALY Balya 80.18 311 *i* P **P 03 55 47.5 -0.2**
KLMR Klimovskoe 80.37 334⇑ *i*P **P 03 55 48.3 0.0**
KLMR *e* 03 55 55.0
KLMR *e* 03 58 49.3
KLMR *e*S S 04 05 50.7 -1.1
KLMR pmax pmax
comp=Z,122nm,1.6s,mb5.6
TIRR Tirgusor 80.80 316⇓ *i*P **P 03 55 50.7 -0.3**
TIRR Tirgusor 80.80 316 *eP* **P 03 55 50.3 -0.7**
comp=Z,36nm,1.0s,mb5.2
SBA Scott Base 80.81 169 PFAKE 03 56 00.0 +10
SBA LR LR
comp=Z,2µm,19.0s,MS5.6
SANT Santorini 81.09 308 PFAKE 03 56 00.0 +7.3
SANT LR LR
comp=Z,3µm,20.0s,MS5.6
KIS Kishinev 81.21 319 *eP* **P 03 55 52.0 -1.1**
KIS *e* 03 56 10.0
KIS *e* 03 58 58.0
KIS *e*S S 04 05 58.0 -3.1
KIS *e* 04 06 10.0
KIS pmax pmax
comp=Z,350nm,2.5s,mb5.8
KIS pmax pmax
comp=Z,1µm,10.0s
KIS pmax pmax
comp=Z,1µm,16.0s
KIS Kishinev 81.21 319 *eP* **P 03 55 52.0 -1.1**
comp=Z,400nm,2.5s,mb5.9
KIS Kishinev 81.21 319 *e*PP PP 03 58 58.0 -0.8
JMB Yambol 81.59 314 P **P 03 55 55.8 +0.6**
AKASG Malin Array Be 81.99 322 P **P 03 55 55.6 -1.6**
comp=Z,8.2nm,0.7s,mb4.8,baz=86,slow=5.2,SNR=24
AKASG PP PP 03 59 14.3 +9.2
comp=Z,2.4nm,0.7s,baz=94,slow=6.2,SNR=5.4
AKASG S S 04 06 07.6 -1.4
comp=Z,0.4nm,0.4s,baz=63,slow=5.2,SNR=2.7
AKASG LR LR 04 40 37.3
comp=Z,2µm,19.1s,MS5.5,baz=95,slow=42
AKASG Malin Array Be 81.99 322 P **P 03 55 55.6 -1.5**
AKASG S S 04 06 07.6 -1.4
AKBB Malin Array Si 81.99 322 *eP* **P 03 55 56.7 -0.4**
KIEV Kiev 82.00 322 PFAKE 03 56 10.0 +13
KIEV LR LR
comp=Z,3µm,20.0s,MS5.7
SZH Strazhica 82.24 315 P **P 03 55 58.4 -0.2**
VRI Vrincioaia 82.31 317⇑ *i*P **P 03 55 59.6 +0.7**
VRI Vrincioaia 82.31 317 P **P 03 55 60.0 +1.0**
PLOR Plostina 82.36 317⇑ *i*P **P 03 55 59.8 +0.6**
TSUM Tsumeb 82.57 251 PFAKE 03 56 10.0 +9.1
TSUM LR LR
comp=Z,5µm,20.0s,MS5.9
ZIMR 82.73 315 P pP 03 56 11.6 +0.1
MLR Muntele Rosu 82.75 317 P **P 03 56 01.1 -0.2**
comp=Z,17nm,0.9s,mb5.1
MLR Muntele Rosu 82.75 317⇑ *i*P **P 03 56 01.7 +0.5**
MLR Muntele Rosu 82.75 317 P **P 03 56 02.1 +0.9**
SMY Shemya 83.14 36 PFAKE 03 56 10.0 +6.9
SMY LR LR
comp=Z,2µm,22.0s,MS5.4
VOIR 83.35 317⇓ *i*P **P 03 56 04.1 -0.2**
VOIR 83.35 317 P **P 03 56 04.4 0.0**
MMB Musomiste 83.48 313 P **P 03 56 04.4 -0.7**
BURAR Bucovina Array 83.73 319⇑ *i*P **P 03 56 06.3 +0.1**
BURAR Bucovina Array 83.73 319⇑ P **P 03 56 06.3 +0.1**
MNK Minsk 83.88 326 *eP* **P 03 56 05.0 -1.8**
MNK *e*S S 04 06 23.0 -5.1
MNK *e*PS 04 07 44.0
KKB Krupnik 84.00 313 P **P 03 56 07.1 -0.7**
VTS Vitosha 84.05 313 P **P 03 56 07.8 -0.2**
VTS Vitosha 84.05 313⇓ *i*P **P 03 56 07.9 -0.1**
VTS Vitosha 84.05 313 P **P 03 56 08.3 +0.3**
MIDW Midway 84.49 61 PFAKE 03 56 20.0 +9.4
MIDW LR LR
comp=Z,2µm,22.0s,MS5.5
JOF Joensuu 84.76 334 *ep* **P 03 56 10.8 -0.3**
comp=Z,15nm,0.8s,mb5.2
JOF Joensuu 84.76 334 *eP* **P 03 56 10.8 -0.3**
JOF pmax pmax
comp=Z,15nm,0.8s,mb5.2
BILL Bilibino 84.87 20*c* *i*P **P 03 56 11.3 -0.3**
BILL *i* 03 56 18.8
BILL *e* 03 59 29.5
BILL *i* PS 04 07 49.8
BILL pmax pmax
comp=Z,194nm,2.5s,mb5.8
BILL Bilibino 84.87 20⇑ *i*P **P 03 56 11.4 -0.2**
BILL LR LR
comp=Z,6µm,21.0s,MS6.0
GZR Gura Zlata 84.91 316 P **P 03 56 12.8 +0.5**
LVV L'vov 84.99 321 *eP* **P 03 56 11.5 -1.1**
LVV *e* 04 06 34.1

LVV *e*S S 04 06 37.9 -1.5
LVV *i* 04 07 40.7
DRGR 85.23 318⇓ *i*P **P** **03 56 14.5 +0.7**
DRGR 85.23 318 P **P** **03 56 14.3 +0.5**
LVZ Lovozero 85.31 340 PFAKE 03 56 20.0 +6.2
LVZ LR LR
comp=Z,9µm,22.0s,MS6.1
VSU Vasula 85.55 329*c* *i*P **P** **03 56 15.0 -0.2**
APA Apatity 85.62 339*b* *i*P **P** **03 56 15.6 +0.3**
APA *i*S S 04 06 37.0 -7.9
APA pmax pmax
comp=Z,450nm,2.4s,mb6.3
APA pmax pmax
comp=Z,2µm,13.0s
APA MLR MLR
comp=Z,7µm,21.0s,MS6.0
QSPA South Pole Qui 85.70 180 LR LR 04 32 43.8
comp=Z,6µm,18.4s,MS6.0,baz=135,slow=34
BZS Buzias 85.75 316⇑⇑ *i*P **P** **03 56 16.6 +0.1**
BZS Buzias 85.75 316⇑ *i*P **P** **03 56 16.5 0.0**
BZS Buzias 85.75 316 P **P** **03 56 16.9 +0.4**
NVL N'lazarevskaya 85.78 199 *e*P **P** **03 56 18.6 +2.5**
NVL *e*S S 04 06 37.4 -9.1
NVL pmax pmax
comp=Z,68nm,1.8s,mb5.6
KWP Kalwaria 85.79 320 *e*P **P** **03 56 17.2 +0.6**
KWP *e*S S 04 06 46.7 -0.5
KWP LMZ 04 41 24.7
comp=Z,3µm,23.2s
KWP Kalwaria 85.79 320 *e*P **P** **03 56 16.5 -0.1**
KWP *e**PP pP 03 56 26.8 -0.2
KWP pmax pmax
comp=Z,71nm,1.3s,mb5.7
KWP MLR MLR
comp=Z,3µm,22.0s,MS5.7
KWP Kalwaria 85.79 320⇓⇓ *i*P **P** **03 56 17.0 +0.4**
KWP Kalwaria 85.79 320 *e*P **P** **03 56 16.4 -0.1**
comp=Z,71nm,1.3s,mb5.7
KWP *e*pP pP 03 56 26.8 -0.1
KWP LR LR
comp=Z,3µm,22.0s,MS5.7
MAIT Maitri 85.81 199 *e*P **P** **03 56 18.9 +2.6**
UZH Uzhgorod 85.86 319 *e*P **P** **03 56 19.0 +2.0**
UZH *i* 03 56 33.7
UZH *e* 03 59 41.0
UZH *e*S S 04 06 52.0 +4.0
UZH *i*PS 04 08 02.0
KOLS Kolonicke sedl 85.93 320 *i*P **P** **03 56 17.6 +0.3**
KOLS *i*S S 04 06 50.1 +1.4
KOLS *e*SS SS 04 12 28.1 +1.3
AFI Afiamalu 86.12 104 S S 04 06 48.3 -3.6
comp=Z,4.6nm,0.3s,baz=204,slow=20,SNR=1.6
AFI Afiamalu 86.12 104 *e*P **P** **03 56 20.7 +1.7**
AFI pmax pmax
comp=Z,77nm,1.0s,mb5.9
AFI Afiamalu 86.12 104 *e*P **P** **03 56 20.7 +1.7**
comp=Z,77nm,1.0s,mb5.9
TIR Tirane 86.29 312 PFAKE 03 56 30.0 +11
TIR LR LR
comp=Z,3µm,20.0s,MS5.7
SUW Suwalki 86.41 325 *e*P **P** **03 56 19.4 -0.1**
SUW *e*S S 04 06 50.5 -2.7
SUW LMZ 04 38 37.6
comp=Z,2µm,26.3s
SUW Suwalki 86.41 325 *e*P **P** **03 56 19.5 0.0**
SUW *e**PP pP 03 56 29.7 -0.2
SUW pmax pmax
comp=Z,195nm,1.0s,mb6.3
SUW Suwalki 86.41 325 *e*P **P** **03 56 19.5 0.0**
comp=Z,195nm,1.0s,mb6.3
SUW *e*pP pP 03 56 29.7 -0.2
CRVS Cervenica-Dubn 86.45 319 *i*P **P** **03 56 20.2 +0.3**
CRVS *e*PP PP 03 59 41.0 -0.6
CRVS *i*S S 04 06 53.3 -0.5
STHS Stebnicka Huta 86.69 320 *i*P **P** **03 56 22.0 +1.0**
STHS pmax pmax
comp=Z,9.0nm,1.1s,mb4.9
STHS Stebnicka Huta 86.69 320 *i*P **P** **03 56 22.0 +1.0**
comp=Z,8.9nm,1.1s,mb4.9
KAF Kangasniemi 86.73 333 *e*p **P** **03 56 20.6 -0.3**
comp=Z,17nm,0.7s,mb5.4,baz=100,slow=4.4
KAF Kangasniemi 86.73 333 *e*P **P** **03 56 20.6 -0.3**
KAF pmax pmax
comp=Z,17nm,0.7s,mb5.4
NIE Niedzica 87.29 320 *e*P **P** **03 56 14.6 -9.3**
NIE *e*pP pP 03 56 34.3 0.0
NIE Niedzica 87.29 320 *e*P **P** **03 56 24.6 +0.7**
NIE *e**PP pP 03 56 34.3 0.0
PSZ Piszkesteto 87.31 318⇑ *e*P **P** **03 56 24.4 +0.3**
PSZ Piszkesteto 87.31 318⇑ *i*P **P** **03 56 24.2 +0.1**
WAR Warsaw 87.34 323 *e*P **P** **03 56 24.9 +0.8**
WAR *e*S S 04 06 51.3 -11
WAR LMZ 04 40 07.7
comp=Z,4µm,23.0s
OJC Ojcow 87.75 321 *i*P **P** **03 56 26.3 +0.2**
OJC *e*pP pP 03 56 35.0 -1.5
OJC *e*sP sP 03 56 43.1 +2.8
OJC *e*PP PP 03 59 50.7 -1.3
OJC *e*S S 04 07 04.6 -1.6
OJC L 04 42 35.2
comp=Z,2.2nm,20.4s
OJC Ojcow 87.75 321⇑ *i*P **P** **03 56 26.3 +0.2**
OJC *e**PP pP 03 56 35.0 -1.5
OJC *e**SP sP 03 56 43.1 +2.8
OJC *e* 03 59 50.7
OJC *e*S S 04 07 04.6 -1.6
BUD Budapest 87.83 318⇑ *e*PcP PcP 03 56 27.3 -1.1
PKSM Moragy 87.90 316⇑ *i*P **P** **03 56 27.0 +0.1**
PKSM Moragy 87.90 316⇑ *e*P **P** **03 56 27.1 +0.2**
VYHS Vyhne 88.10 319 *i*P **P** **03 56 27.4 -0.4**
VYHS *i*S S 04 07 08.1 -1.6
TIP Timpagrande 88.35 309 *e*P **P** **03 56 28.4 -0.9**
comp=Z,21nm,1.0s,mb5.3
TIP LR LR
comp=Z,2µm,21.0s,MS5.5
KOLL Kolacno 88.40 319 *i*P **P** **03 56 30.1 +0.9**
ADK Adak 88.48 38 PFAKE 03 56 40.0 +10
ADK LR LR
comp=Z,2µm,20.0s,MS5.5
KEV Kevo 88.55 340 *e*P **P** **03 56 29.4 -0.1**
comp=Z,11nm,0.7s,mb5.3
KEV LR LR
comp=Z,9µm,22.0s,MS6.2
OKC Ostrava-Krasne 88.74 320 *e*P **P** **03 56 31.6 +0.8**
OKC *e**PP pP 03 56 40.5 -0.8
OKC *e* 03 59 59.5
OKC *e*S S 04 07 15.6 -0.1
OKC *e*PS 04 08 24.5
OKC MLR MLR
comp=Z,2µm,17.6s,MS5.6
OKC Ostrava-Krasne 88.74 320 *e*P **P** **03 56 31.6 +0.8**
OKC *e*pP pP 03 56 40.5 -0.8
OKC *e*PP PP 03 59 59.5 -0.5
OKC *e*S S 04 07 15.6 -0.1
OKC *e*PS 04 08 24.5
OKC *e*x x 04 19 57.5
OKC AMS AMS 04 43 50.0
comp=Z,2µm,17.6s
OKC Ostrava-Krasne 88.74 320 *e*P **P** **03 56 31.6 +0.8**
OKC *e*pP pP 03 56 40.5 -0.8
OKC *e*PP PP 03 59 59.5 -0.5
OKC *e*S S 04 07 15.6 -0.1
OKC *e*PS 04 08 24.5
OKC *e* 04 19 57.5
RAC Raciborz 88.75 320 *e*P **P** **03 56 30.9 +0.1**
RAC *e*S S 04 07 13.2 -2.5
RAC Raciborz 88.75 320 *e*P **P** **03 56 30.9 +0.1**
RAC *e*S S 04 07 13.2 -2.5
RAC LR LR
comp=Z,2µm,20.0s,MS5.5
CEL Celeste 88.92 308 PFAKE 03 56 40.0 +8.1
CEL LR LR
comp=Z,56µm,21.0s,MS7.0
ARCES ARCESS Array B 89.00 340 P **P** **03 56 30.9 -0.7**
comp=Z,20nm,0.8s,mb5.5,baz=87,slow=0.4,SNR=32
ARCES S S 04 07 00.1 -17
comp=Z,2.9nm,1.0s,baz=310,slow=17,SNR=2.4
ARCES LR LR 04 40 48.6
comp=Z,8µm,22.0s,MS6.1,baz=104,slow=39
ARCES ARCESS Array B 89.00 340 P **P** **03 56 31.0 -0.6**
ARCES S S 04 07 00.1 -17
ARE0 ARCESS Array S 89.00 340 *e*P **P** **03 56 31.4 -0.3**
ARE0 *e*pP pP 03 56 41.9 -0.2

MODS Modra-Piesok 89.11 318 *i*P **P** **03 56 31.5 -1.1**
MODS *e*PP PP 04 00 01.6 -1.4
MODS *i*S S 04 07 18.0 -1.2
MORC Moravsky Berou 89.12 320⇑ *i*P **P** **03 56 33.4 +0.8**
MORC Moravsky Berou 89.12 320 *e*P **P** **03 56 32.6 0.0**
CUC Castrocucco 89.17 310 *e*P **P** **03 56 30.8 -2.3**
comp=Z,23nm,0.8s,mb5.6
CUC LR LR
comp=Z,4µm,22.0s,MS5.7
ZST Bratislava 89.21 318 *i*P **P** **03 56 33.6 +0.6**
ZST *i*S S 04 07 17.3 -2.8
SOP Sopron 89.51 318⇑ *e*PcP PcP 03 56 34.8 -1.0
KOGS Kog 89.57 316 *e*P **P** **03 56 35.2 +0.4**
VRAC Vranov 89.68 319 P **P** **03 56 35.4 +0.2**
comp=Z,2.4nm,0.7s,mb4.7,baz=115,slow=7.5,SNR=9.6
VRAC Vranov 89.68 319⇑ *i*P **P** **03 56 35.8 +0.6**
VRAC Vranov 89.68 319 *e*P **P** **03 56 35.0 -0.2**
GKP Gorka Klasztor 89.77 323 *e*P **P** **03 56 36.0 +0.5**
GKP *i*S S 04 07 24.3 -0.8
GKP LMZ 04 42 46.2
comp=Z,4µm,23.0s
DPC Dobruska-Polom 89.97 320 *e*P **P** **03 56 36.8 +0.2**
DPC *e**PP pP 03 56 46.5 -0.5
DPC *e* 04 00 06.9
DPC *e*S S 04 07 28.9 +1.7
DPC *e*PS PS 04 08 40.6 +3.3
DPC MLR MLR
comp=Z,3µm,20.3s,MS5.7
DPC Dobruska-Polom 89.97 320 *e*P **P** **03 56 36.8 +0.2**
DPC *e*pP pP 03 56 46.5 -0.5
DPC *e*PP PP 04 00 06.9 -2.9
DPC *e*S S 04 07 28.9 +1.7
DPC *e*PS PS 04 08 40.6 +3.3
DPC *e*x x 04 20 22.5
DPC AMS AMS 04 45 50.0
comp=Z,3µm,20.3s
CONA Conrad Observa 90.00 318⇑ *i*P **P** **03 56 36.9 +0.1**
comp=Z,573nm,6.0s
CSNA Conrad Observa 90.00 318⇑ *i*P **P** **03 56 36.8 0.0**
comp=Z,561nm,6.0s
KSP Ksiaz 90.05 321 *e*P **P** **03 56 38.0 +1.0**
KSP *e*S S 04 07 22.8 -5.0
KSP LMZ 04 41 41.2
comp=Z,5µm,23.0s
KSP Ksiaz 90.05 321⇓⇓ *e*P **P** **03 56 37.5 +0.6**
KSP *e**PP pP 03 56 46.3 -1.1
KSP *e*S S 04 07 22.5 -5.3
KSP Ksiaz 90.05 321⇓⇓ *e*P **P** **03 56 37.5 +0.6**
KSP *e*pP pP 03 56 46.3 -1.1
KSP *e*PP PP 04 00 03.5 -6.9
KSP *e*S S 04 07 22.5 -5.3
KSP LR LR
comp=Z,6µm,23.0s,MS5.9
DOBS Dobrina 90.08 316 *e*P **P** **03 56 37.7 +0.6**
ARSA Arzberg 90.16 317⇑ *i*PcP PcP 03 56 38.1 -0.6
comp=Z,452nm,3.1s
BOJS Bojanci 90.16 315 *i*P **P** **03 56 38.0 +0.5**
BOJS *e* 03 56 53.0
BOJS *e*PP PP 04 00 07.7 -3.8
BOJS *e*S S 04 07 25.5 -3.6
BOJS *e*SKSac sS 04 07 40.9 -5.6
UPC Upice 90.19 320 *e*P **P** **03 56 38.5 +0.9**
UPC *e*pP pP 03 56 47.4 -0.6
SNAA Sanae 90.36 198 *e*P **P** **03 56 39.1 +1.1**
SNAA *e* pP 03 56 47.3 -1.1
SNAA *e* 03 56 54.0
SNAA Sanae 90.36 198⇑ *e*P **P** **03 56 39.6 +1.6**
SNAA Sanae 90.36 198 *e*P **P** **03 56 38.2 +0.2**
comp=Z,55nm,1.1s,mb5.8
PERS Pernice 90.37 317 *i*P **P** **03 56 39.1 +0.6**
TREC Trest 90.39 319 *e*P **P** **03 56 39.1 +0.5**
TREC *e**PP pP 03 56 48.1 -0.9
TREC *e* 04 00 15.0
TREC *e*S S 04 07 31.9 +0.8
TREC *e*PS PS 04 08 41.1 -0.9
TREC MLR MLR
comp=Z,3µm,18.4s,MS5.7
TREC Trest 90.39 319 *e*P **P** **03 56 39.1 +0.5**
TREC *e*pP pP 03 56 48.1 -0.9
TREC *e*PP PP 04 00 15.0 +1.8
TREC *e*S S 04 07 31.9 +0.8
TREC *e*PS PS 04 08 41.1 -0.9
TREC *e*x x 04 20 22.5
TREC AMS AMS 04 47 10.0
comp=Z,3µm,18.4s
SOKA Soboth 90.43 317⇑ *i*PcP PcP 03 56 39.5 -0.4
LJU Ljubljana 90.72 316 *i*P **P** **03 56 40.9 +0.7**
LJU *e* pP 03 56 51.9 +1.3
LJU *e*S S 04 07 33.2 -1.0
LJU Ljubljana 90.72 316 *i*P **P** **03 56 40.9 +0.7**
LJU *e* pP 03 56 51.9 +1.3
LJU *e*S S 04 07 33.1 -1.1
LJU *e*SKSac sS 04 07 48.8 -2.7
OBKA Obir 90.75 316⇑ *i*PcP PcP 03 56 40.9 -0.4
comp=Z,508nm,3.1s
JAVS Javornik 91.03 316 *i*P **P** **03 56 41.5 -0.1**
MOA Molln 91.06 318⇑ *i*P **P** **03 56 41.6 -0.1**
comp=Z,365nm,3.9s
PRU Pruhonice 91.08 320 *e*P **P** **03 56 42.3 +0.6**
PRU *e**PP pP 03 56 53.6 +1.4
PRU *e* 04 00 20.0
PRU *e*S S 04 07 37.7 +0.4
PRU *e*PS PS 04 08 52.4 +2.9
PRU MLR MLR
comp=Z,2µm,22.9s,MS5.5
PRU Pruhonice 91.08 320 *e*P **P** **03 56 42.3 +0.6**
PRU *e*pP pP 03 56 53.6 +1.4
PRU *e*PP PP 04 00 16.2 -2.4
PRU *e*x x 04 00 20.0
PRU *e*S S 04 07 37.7 +0.4
PRU *e*PS PS 04 08 52.4 +2.9
PRU *e*x x 04 20 36.8
PRU AMS AMS 04 41 40.0
comp=Z,2µm,22.9s
PVCC Panska Ves 91.11 320 *e*P **P** **03 56 42.6 +0.7**
PVCC *e**PP pP 03 56 51.5 -0.8
PVCC *e* 04 00 20.6
PVCC *e*S S 04 07 39.8 +2.2
PVCC *e*PS PS 04 08 51.4 +1.5
PVCC MLR MLR
comp=Z,3µm,18.2s,MS5.7
PVCC Panska Ves 91.11 320 *e*P **P** **03 56 42.6 +0.7**
PVCC *e*pP pP 03 56 51.5 -0.8
PVCC *e*PP PP 04 00 20.6 +1.8
PVCC *e*S S 04 07 39.8 +2.2
PVCC *e*PS PS 04 08 51.4 +1.5
PVCC *e*x x 04 20 36.4
PVCC AMS AMS 04 44 30.0
comp=Z,3µm,18.2s
VOY Vojsko 91.16 316 *e*P **P** **03 56 43.0 +0.8**
VOY *e* pP 03 56 54.0 +1.3
VOY *e* 03 57 00.1
TRO Tromso 91.28 340 *e*P **P** **03 56 40.5 -1.8**
TRO *e*pP pP 03 56 51.3 -1.4
TRO AMb AMB 03 56 55.8
comp=Z,76nm,3.8s
TRO *e*PP PP 04 00 19.1 -0.5
TRO *i* 04 02 15.2
TRO *e*SKS 04 07 09.3
TRO *e*SKS 04 07 15.5
TRO AMS AMS 04 43 04.0
comp=Z,5µm,19.6s,MS6.0
MYKA Terra Mystica 91.38 316⇓⇓ *i*P **P** **03 56 43.5 +0.2**
comp=Z,3µm,3.1s
GEC2 GERESS Array S 91.52 319 *e*P **P** **03 56 44.3 +0.5**
GEC2 *e*S S 04 07 42.1 +0.7
GEC2 pmax pmax
comp=Z,162nm,2.2s,mb6.0
GEC2 GERESS Array S 91.52 319 *e*P **P** **03 56 44.3 +0.5**
comp=Z,162nm,2.2s,mb6.0
GEC2 *e*S S 04 07 42.1 +0.7
GERES GERESS Array B 91.52 319 P **P** **03 56 43.0 -0.9**
comp=Z,4.2nm,0.7s,mb4.9,baz=90,slow=3.3,SNR=39
GERES S S 04 07 15.6 -26
comp=Z,0.2nm,0.4s,baz=16,slow=38,SNR=2.6
BRG Berggiesshubel 91.53 321 *i*P **P** **03 56 44.2 +0.4**
BRG *e* pP 03 56 52.9 -1.4
BRG 04 00 26.0
BRG 04 07 16.0
BRG S S 04 07 44.0 +2.6
BRG PS PS 04 08 59.0 +4.4
BRG pmax pmax
comp=Z,87nm,2.2s,mb5.7
BRG MLR MLR
comp=Z,2µm,18.6s,MS5.5
BRG MLR MLR
comp=N,1µm,19.2s,MS5.6
BRG MLR MLR
comp=E,2µm,19.2s,MS5.6
BRG Berggiesshubel 91.53 321 *e*P **P** **03 56 44.2 +0.4**
comp=Z,145nm,2.2s,mb5.9
BRG *e**PP pP 04 00 22.7 +0.5
BRG *e*S S 04 07 41.9 +0.5
BRG Berggiesshubel 91.53 321 *i*P **P** **03 56 44.2 +0.4**
comp=Z,145nm,2.2s,mb5.9
BRG *e* pP 03 56 52.9 -1.4
comp=Z,90nm,2.1s
BRG PP PP 04 00 26.0 +3.8
BRG SKS 04 07 16.0
BRG S S 04 07 44.0 +2.6
BRG PS PS 04 08 59.0 +4.4
BRG *e* 04 20 04.0
BRG
comp=Z,3µm,18.6s
BRG
comp=N,2µm,19.2s
BRG
comp=E,3µm,19.2s
BRG Berggiesshubel 91.53 321 *i*P **P** **03 56 44.2 +0.4**
comp=E,87nm,2.2s,mb5.7
BRG *e* pP 03 56 52.9 -1.4
BRG PP PP 04 00 26.0 +3.8
BRG SKS 04 07 16.0
BRG S S 04 07 44.0 +2.6
BRG PS PS 04 08 59.0 +4.4
BRG *e* 04 20 04.0
BRG LR LR
comp=Z,2µm,18.6s,MS5.5
KBA Koelnbreinsper 91.62 317⇑ *i*P **P** **03 56 44.0 -0.3**
comp=Z,378nm,6.0s
KHC Kasperske Hory 91.63 319 *e*P **P** **03 56 44.5 +0.2**
KHC *e**PP pP 03 56 53.3 -1.5
KHC *e*S S 04 07 42.5 +0.2
KHC *e*PS PS 04 08 56.7 +1.0
KHC MLR MLR
comp=Z,3µm,16.5s,MS5.8
KHC Kasperske Hory 91.63 319 *e*P **P** **03 56 44.5 +0.2**
KHC *e*pP pP 03 56 53.3 -1.5
KHC *e*S S 04 07 42.5 +0.2
KHC *e*PS PS 04 08 56.7 +1.0
KHC *e*x x 04 20 32.9
KHC AMS AMS 04 48 00.0
comp=Z,3µm,16.5s
BJO Bjornoya 91.94 345 *e*P **P** **03 56 43.4 -1.9**
BJO *e* 03 59 58.5
BJO *e*SKS 04 07 18.5
BJO AMS AMS 04 46 05.6
comp=Z,6µm,20.3s,MS6.0
VNA2 Neumayer--Watz 91.98 198 *e*P **P** **03 56 47.5 +2.0**
baz=80,slow=3.8
VNA2 *e* 03 56 55.1
VNA2 *e* 03 57 01.4
RJOB Jochberg 92.04 318 *e*P **P** **03 56 45.6 -0.7**
comp=Z,88nm,2.3s,mb5.7
RJOB *e**PP PP 04 00 27.1 +0.9
RJOB *e*S S 04 07 43.5 -2.6
WET Wettzell 92.09 319 *e*P **P** **03 56 46.6 +0.2**
WET *e*S S 04 07 46.2 -0.3
WET pmax pmax
comp=Z,85nm,2.0s,mb5.7
WET Wettzell 92.09 319 *e*P **P** **03 56 46.6 +0.2**
comp=Z,85nm,2.0s,mb5.7
WET *e*S S 04 07 46.2 -0.3
CLL Collm 92.16 321 *i*P **P** **03 56 46.6 -0.1**
CLL *i**PP pP 03 56 58.1 +0.9
CLL *e*S S 04 07 45.0 -2.0
CLL pmax pmax
comp=Z,116nm,2.4s,mb5.8
CLL MLR MLR
comp=Z,3µm,20.1s,MS5.7
CLL Collm 92.16 321 *e*P **P** **03 56 46.6 -0.1**
comp=Z,119nm,2.4s,mb5.8
CLL *e*S S 04 07 45.7 -1.3
CLL Collm 92.16 321 *i*P **P** **03 56 46.6 -0.1**
comp=Z,116nm,2.4s,mb5.8
CLL *i*pP pP 03 56 58.1 +0.9
CLL *i*x x 03 57 36.1
CLL *e*PP PP 04 00 33.0 +5.9
CLL *e*PPP 04 02 36.0
CLL *e*PPPP 04 04 00.0
CLL *e*SKKSac SKKSac 04 07 25.0 -10
CLL *e*S S 04 07 45.0 -2.0
CLL *e*PS PS 04 09 02.0 +0.5
CLL *e*SS SS 04 14 14.0 +17
CLL *e*SSS 04 17 42.0
CLL *e*SSSS 04 21 02.0
CLL LmH 04 44 00.0
comp=N,4µm,19.6s
CLL LmH 04 44 00.0
comp=E,1µm,19.4s
CLL LmV 04 45 00.0
comp=Z,3µm,20.1s
CLL Collm 92.16 321 *i*P **P** **03 56 46.6 -0.1**
comp=Z,116nm,2.4s,mb5.8
CLL *i*pP pP 03 56 58.1 +0.9
CLL *e*S S 04 07 45.0 -2.0
CLL LR LR
comp=Z,3µm,20.1s,MS5.7
VNA1 Neumayer--Stat 92.34 198 *e*P **P** **03 56 48.2 +1.0**
VNA1 *e* pP 03 56 57.0 -0.7
VNA1 *e* 03 57 03.4
HFS Hagfors 92.42 330 P **P** **03 56 47.1 -0.6**
baz=108,slow=1.8
NKC Novy Kostel 92.44 320 *e*P **P** **03 56 48.0 0.0**
NKC *e* 04 00 26.3
NKC *e*S S 04 07 51.3 +1.7
NKC *e*PS PS 04 09 07.1 +2.5
NKC MLR MLR
comp=Z,3µm,22.3s,MS5.7
NKC Novy Kostel 92.44 320 *e*P **P** **03 56 48.0 0.0**
NKC *e**PP PP 04 00 26.3 -3.0
NKC *e*S S 04 07 51.3 +1.7
NKC *e*PS PS 04 09 07.1 +2.5
NKC *e*x x 04 20 20.2
NKC AMS AMS 04 42 20.0
comp=Z,3µm,22.3s
NKC Novy Kostel 92.44 320 *e*P **P** **03 56 48.0 0.0**
NKC *e*PP PP 04 00 26.3 -3.0
NKC *e*S S 04 07 51.3 +1.7
NKC *e*PS PS 04 09 07.1 +2.5
NKC *e* 04 20 20.2
TANN Tannenbergstha 92.44 320 *e*P **P** **03 56 48.4 +0.4**
comp=Z,56nm,2.2s,mb5.5
TANN *e*S S 04 07 49.5 -0.1
ROTZ Rotzenmuhle 92.56 320 *e*P **P** **03 56 49.3 +0.7**
comp=Z,103nm,2.2s,mb5.9
ROTZ *e**PP PP 04 00 31.5 +1.2
ROTZ *e*S S 04 07 51.2 +0.5
VNA3 Neumayer Olymp 92.57 198 *e*P **P** **03 56 49.4 +1.2**
VNA3 *e* pP 03 56 57.3 -1.4
VNA3 *e* 03 57 04.0
MANZ Manzenberg 92.64 320 *e*P **P** **03 56 49.8 +0.8**
comp=Z,114nm,2.1s,mb5.9
MANZ *e*S S 04 07 52.2 +0.8
COP Copenhagen 92.79 325⇑ *i*P **P** **03 56 49.9 +0.4**
COP *i* 04 02 35.3
COP *i*S S 04 07 52.2 -0.2
COP MLR MLR
comp=Z,2µm,20.0s,MS5.5
COP Copenhagen 92.79 325⇑ *i*P **P** **03 56 49.9 +0.4**
COP *i* 04 02 35.3
COP *i*S S 04 07 32.6 -20
COP *i*S S 04 07 52.2 -0.2
COP
comp=Z,2µm,20.0s
WTTA Wattenberg 92.80 317⇑ *i*P **P** **03 56 49.5 -0.2**
comp=Z,226nm,2.8s,mb6.1
MOX Moxa 92.99 320 *e*P **P** **03 56 51.5 +0.9**
comp=Z,135nm,2.5s,mb5.9
MOX *e* 04 00 32.5
MOX
comp=Z,2µm,20.0s
MOX Moxa 92.99 320 *e*P **P** **03 56 51.5 +0.9**
MOX *e* 04 00 32.5
MOX pmax pmax
comp=Z,135nm,2.5s,mb5.9

MOX MLR MLR
comp=Z,2µm,20.0s,MS5.6
MOX Moxa 92.99 320 *e*P **P 03 56 51.0 +0.4**
comp=Z,154nm,2.8s,mb5.9
MOX *e*S S 04 07 53.4 -1.1
FUR Furstenfeldbru 93.09 318 *e*PP PP 04 00 35.4 +1.0
FUR *e*S S 04 07 54.9 -0.5
GRA1 Grafenberg Arr 93.20 319 *e*P **P 03 56 52.2 +0.6**
comp=Z,140nm,2.3s,mb6.0
GRA1 *e*pP pP 03 57 03.4 +1.4
GRA1 *e*PP PP 04 00 40.2 +4.9
GRA1 *e*S S 04 07 55.6 -0.7
GRA1 *e*SS SS 04 14 11.7 -0.4
GRA1 LR LR
comp=Z,3µm,19.7s,MS5.7
GRF Grafenberg Arr 93.20 319 *e*P **P 03 56 52.2 +0.6**
GRF *e**PP pP 03 57 03.4 +1.4
GRF *e* 04 00 40.2
GRF *e*S S 04 07 55.6 -0.7
GRF *e*SS SS 04 14 11.7 -0.4
GRF pmax pmax
comp=Z,140nm,2.3s,mb6.0
GRF MLR MLR
comp=Z,3µm,19.7s,MS5.7
GRF Grafenberg Arr 93.20 319 *e*P **P 03 56 52.2 +0.6**
comp=Z,140nm,2.3s,mb6.0
GRF *e*pP pP 03 57 03.4 +1.4
GRF *e*PP PP 04 00 40.2 +4.9
GRF *e*S S 04 07 55.6 -0.7
GRF *e*SS SS 04 14 11.7 -0.4
GRF *e*L 04 48 33.3
comp=Z,3µm,19.7s
RETA Reutte 93.40 317⇑ *i*P **P 03 56 52.4 -0.1**
comp=Z,180nm,2.9s,mb6.0
FETA Feichten 93.40 317⇓ *i*P **P 03 56 52.5 -0.1**
comp=Z,319nm,3.4s
NSS Namsos 93.49 334 *e*P **P 03 56 51.8 -0.7**
NSS AMb AMB 03 57 07.9
comp=Z,38nm,3.0s,mb5.3
NSS *e*PP PP 04 00 33.6 -3.5
NSS *e*SS SS 04 14 16.7 +1.3
NSS AMS AMS 04 44 25.9
comp=Z,3µm,19.9s,MS5.8
VLC Villacollemand 93.52 314 PFAKE 03 57 00.0 +6.8
VLC LR LR
comp=Z,3µm,21.0s,MS5.7
NB2 NORSAR Subarra 93.69 331 P **P 03 56 51.9 -1.7**
comp=Z,16nm,1.2s,mb5.3,baz=95,slow=4.6
NOA NORSAR Array B 93.69 331 P **P 03 56 53.0 -0.5**
comp=Z,2.7nm,0.8s,mb4.7,baz=95,slow=5.0,SNR=8.1
NOA PP PP 04 00 45.3 +6.5
comp=Z,5.0nm,0.9s,baz=96,slow=7.5,SNR=6.7
NOA S SKSac 04 07 22.0 -3.6
comp=Z,0.6nm,0.8s,baz=16,slow=4.7,SNR=2.5
NOA LR LR 04 43 51.8
comp=Z,3µm,21.5s,MS5.7,baz=90,slow=39
NOA NORSAR Array B 93.69 331 P **P 03 56 53.1 -0.5**
NOA 04 00 45.3
NOA S SKSac 04 07 22.0 -3.6
NOA NORSAR Array B 93.69 331 P **P 03 56 53.0 -0.5**
NOA PP PP 04 00 45.3 +6.5
NOA S SKSac 04 07 22.0 -3.6
NOA LR LR 04 43 51.8
CLZ Clausthal 93.83 322 *e*P **P 03 56 54.8 +0.4**
CLZ *e*S S 04 08 00.2 -1.6
CLZ pmax pmax
comp=Z,87nm,2.3s,mb5.8
CLZ Clausthal 93.83 322 *e*P **P 03 56 54.8 +0.4**
comp=Z,87nm,2.3s,mb5.8
CLZ *e*S S 04 08 00.2 -1.6
NAO01 NORSAR Array S 93.84 331 PFAKE 03 57 00.0 +5.7
NAO01 LR LR
comp=Z,4µm,22.0s,MS5.8
BSEG Bad Segeberg 93.93 324 *e*P **P 03 56 55.4 +0.6**
BSEG *e*S S 04 08 01.1 -1.5
BSEG pmax pmax
comp=Z,79nm,2.1s,mb5.8
BSEG Bad Segeberg 93.93 324 *e*P **P 03 56 55.4 +0.6**
comp=Z,79nm,2.1s,mb5.8
BSEG *e*S S 04 08 01.1 -1.5
KEST Kesra 93.95 305 P **P 03 56 56.6 +1.2**
comp=Z,1.0nm,0.7s,mb4.4,baz=64,slow=0.9,SNR=4.7
KEST S SKSac 04 07 34.0 +5.8
comp=Z,0.8nm,0.8s,baz=297,slow=21,SNR=2.3
DAVOX Davos/Dischmat 93.97 316 P **P 03 56 55.6 +0.4**
comp=Z,1.6nm,0.6s,mb4.6,baz=194,slow=16,SNR=6.2
DAVOX S SKSac 04 07 31.4 +3.7
comp=Z,2.1nm,0.8s,baz=323,slow=22,SNR=3.1
DAVA Damuels 93.99 317⇑ *i*P **P 03 56 54.9 -0.3**
comp=Z,309nm,3.4s
NRDL Niedersach Rie 94.01 322 *e*P **P 03 56 55.9 +0.7**
comp=Z,99nm,2.3s,mb5.8
NRDL *e*S S 04 08 01.9 -1.5
KBS Kingsbay 94.02 349 *e*P **P 03 56 54.6 -0.1**
KBS *e*PP PP 04 00 40.5 -0.5
KBS *e*SKS 04 07 25.1
KBS AMS AMS 04 48 23.9
comp=Z,7µm,18.0s,MS6.2
KBS Kingsbay 94.02 349 PFAKE 03 57 00.0 +5.2
KBS LR LR
comp=Z,8µm,19.0s,MS6.2
UBBA Unterbreizbach 94.03 321 *e*P **P 03 56 55.2 -0.1**
comp=Z,61nm,2.1s,mb5.7
UBBA *e*S S 04 08 02.0 -1.6
DAVOS Davos 94.03 317 P **P 03 56 55.6 +0.1**
DAVOS S SKSac 04 07 31.5 +3.4
VSL Villasalto 94.08 309 PFAKE 03 57 10.0 +14
VSL LR LR
comp=Z,1µm,20.0s,MS5.3
TUE Stuetta 94.33 316 PFAKE 03 57 10.0 +13
TUE LR LR
comp=Z,3µm,20.0s,MS5.7
PGF Pioggiola 94.47 312 *e*P **P 03 56 57.2 -0.4**
comp=Z,46nm,1.6s,mb5.4
PGF Pioggiola 94.47 312 *e*P **P 03 56 57.2 -0.4**
PGF pmax pmax
comp=Z,23nm,1.6s,mb5.4
PGF Pioggiola 94.47 312 *e*P **P 03 56 57.2 -0.4**
comp=Z,23nm,1.6s,mb5.4
STU Stuttgart 94.49 318 *e*S S 04 08 05.4 -2.3
MUD Monsted U'grnd 94.64 326⇑ *i*P **P 03 56 58.6 +0.6**
MUD *i* S S 04 08 06.0 -2.7
MUD MLR MLR
comp=Z,3µm,20.0s,MS5.8
MUD Monsted U'grnd 94.64 326⇑ *i*P **P 03 56 58.6 +0.6**
MUD *i* S S 04 08 06.0 -2.7
MUD *i* S sS 04 08 28.0 +1.9
MUD
comp=Z,3µm,20.0s
MUD Monsted U'grnd 94.64 326⇑ *i*P **P 03 56 58.6 +0.6**
MUD *i* S S 04 08 06.0 -2.7
MUD *i* S sS 04 08 28.0 +1.9
TNS Taunus Mts 95.00 320 *e*P **P 03 56 59.9 +0.1**
TNS *e*S S 04 08 10.3 -1.8
TNS pmax pmax
comp=Z,18nm,1.3s,mb5.3
TNS Taunus Mts 95.00 320 *e*P **P 03 56 59.9 +0.1**
comp=Z,18nm,1.3s,mb5.3
TNS *e*S S 04 08 10.3 -1.8
BFO Black Forest 95.06 318 *e*S S 04 08 10.5 -2.2
BFO Black Forest 95.06 318 PFAKE 03 57 10.0 +10
BFO LR LR
comp=Z,2µm,20.0s,MS5.5
MOL Molde 95.44 332 AMS AMS 04 45 35.8
comp=Z,3µm,19.0s,MS5.8
IBBN Ibbenburen 95.45 322 *e*S S 04 08 14.2 -1.7
BUG Bochum--Univer 95.75 321 *e*S S 04 08 17.2 -1.4
CDF Champ du Feu 95.76 318 *e*P **P 03 57 03.1 -0.3**
HINF Hinteralfeld 96.05 317 *e*P **P 03 57 04.2 -0.5**
LPG La Plagne 96.13 315 *e*P **P 03 57 04.7 -0.4**
LPL La Plagne 96.14 315 *e*P **P 03 57 05.3 +0.2**
comp=Z,36nm,1.5s,mb5.3
LPL La Plagne 96.14 315 *e*P **P 03 57 05.3 +0.2**
LPL pmax pmax
comp=Z,18nm,1.5s,mb5.3
LPL La Plagne 96.14 315 *e*P **P 03 57 05.3 +0.2**
comp=Z,18nm,1.5s,mb5.3
BNI Bardonecchia 96.18 315 PFAKE 03 57 20.0 +15
BNI LR LR
comp=Z,2µm,20.0s,MS5.7
HAU Haudompre 96.39 318 *e*P **P 03 57 05.9 -0.3**
WLF Walferdange 96.49 319 PFAKE 03 57 20.0 +13
WLF LR LR
comp=Z,3µm,20.0s,MS5.7
BER Bergen 96.58 330 *e*P **P 03 57 05.9 -0.9**
BER *e*PP PP 04 00 59.9 -1.4
BER *e*SKS 04 07 39.3
BER *e* 04 09 49.4
BER AMS AMS 04 45 51.6
comp=Z,3µm,22.4s,MS5.7
RAR Rarotonga 96.88 112 PFAKE 03 57 20.0 +11
RAR LR LR
comp=Z,3µm,21.0s,MS5.7
GIVF Givet 97.34 320 *e*P **P 03 57 10.7 +0.2**
LOR Lormes 98.09 317 *e*P **P 03 57 13.4 -0.5**
SSF Saint Saulge 98.34 317 *e*P **P 03 57 14.7 -0.3**
TCF Toulx Ste Croi 99.27 316 *e*P **P 03 57 19.3 +0.1**
IMA2 Indian Mountai 100.01 24 *e*P Pdif 03 57 21.7 -0.6
TORD Torodi Ar. Bea 100.18 283 P Pdif 03 57 24.0 +0.9
comp=Z,1.0nm,1.1s,baz=235,slow=5.2,SNR=3.7
TORD PP PP 04 01 39.2 +9.1
comp=Z,1.4nm,1.1s,baz=101,slow=6.2,SNR=4.4
TORD PKiKP PKiKP 04 01 49.8 -1.8
comp=Z,1.5nm,1.2s,baz=89,slow=4.2,SNR=3.6
TORD S SKSac 04 08 00.2 -0.9
comp=Z,0.6nm,1.1s,baz=235,slow=9.4,SNR=2.3
TORD PKKPbc PKKPbc 04 13 41.5 +0.1
comp=Z,1.1nm,0.9s,baz=288,slow=3.7,SNR=5.5
TORD Torodi Ar. Bea 100.18 283 P Pdif 03 57 24.0 +0.9
TORD PP PP 04 01 39.2 +9.1
JMIC Jan Mayen 100.37 342 P Pdif 03 57 24.3 +0.4
comp=Z,46nm,0.5s,baz=23,slow=18,SNR=2.5
JMIC Jan Mayen 100.37 342 *e*PP PP 04 01 29.0 -0.9
JMIC AMS AMS 04 48 01.8
comp=Z,3µm,21.6s,MS5.8
XMAS Kiritimati 101.49 89 PFAKE 03 57 40.0 +11
XMAS LR LR
comp=Z,3µm,19.0s,MS5.8
ESK Eskdalemuir 101.67 326 PFAKE 03 57 40.0 +10
ESK LR LR
comp=Z,3µm,21.0s,MS5.7
KDAK Kodiak Island 102.23 32 PFAKE 03 57 40.0 +7.8
KDAK LR LR
comp=Z,804nm,21.0s,MS5.2
COLA College 102.67 24 PFAKE 03 57 40.0 +5.9
COLA LR LR
comp=Z,2µm,19.0s,MS5.8
PMR Palmer 103.04 28 PFAKE 03 57 50.0 +14
PMR LR LR
comp=Z,4µm,20.0s,MS5.9
POHA Pohakuloa 103.93 71 PFAKE 03 57 50.0 +10
POHA LR LR
comp=Z,3µm,20.0s,MS5.8
ESLA Sonseca Array 104.37 310 PFAKE 03 57 50.0 +8.3
ESLA LR LR
comp=Z,8µm,20.0s,MS6.3
SHEL Horse Pasture 105.01 252 PFAKE 04 02 10.0 +10
SHEL LR LR
comp=Z,4µm,19.0s,MS6.0
TRIS Tristan da Cun 105.88 230 PFAKE 04 02 10.0 +8.6
TRIS LR LR
comp=Z,4µm,21.0s,MS5.9
TBI Tubuai 105.94 116 *e*PP PP 04 02 07.1 -5.8
comp=Z,245nm,26.5s
TBI *e*S Sdif 04 09 44.3 +0.1
comp=Z,2µm,28.0s
TBI Tubuai 105.94 116 *e*PS PS 04 11 35.3 +4.4
comp=Z,665nm,25.8s
TBI *e*SS SS 04 17 17.1 +5.7
comp=Z,3µm,27.2s
TBI Tubuai 105.94 116 *e*LR LR 04 32 56.4
comp=Z,7µm,22.8s
TBI Tubuai 105.94 116 *e*PP PP 04 02 07.1 -5.8
TBI *e*S Sdif 04 09 44.3 +0.1
TBI *e*PS PS 04 11 35.3 +4.4
TBI *e*SS SS 04 17 17.1 +5.7
DBIC Dimbokro 106.39 276 PFAKE 04 02 10.0 +7.0
DBIC LR LR
comp=Z,4µm,19.0s,MS5.9
SFS San Fernando 106.50 307 PFAKE 04 02 10.0 +7.5
SFS LR LR
comp=Z,3µm,20.0s,MS5.8
PPT Papeete 106.94 110 *e*PP PP 04 02 09.5 -11
comp=Z,337nm,25.8s
PPT *e*S Sdif 04 09 44.1 -8.4
comp=Z,3µm,25.2s
PPT Papeete 106.94 110 *e*PS PS 04 11 45.6 +4.2
comp=Z,969nm,27.8s
PPT *e*SS SS 04 17 21.5 -3.8
comp=Z,2µm,26.2s
PPT Papeete 106.94 110 *e*LR LR 04 33 27.2
comp=Z,3µm,22.0s
MTE Manteigas 106.99 311 PFAKE 04 02 10.0 +6.7
MTE LR LR
comp=Z,2µm,21.0s,MS5.5
RTC Rabat Centre 107.32 304 PFAKE 04 02 10.0 +5.9
RTC LR LR
comp=Z,2µm,19.0s,MS5.8
HYT Haines Junctio 108.57 26 *e*PKP PKiKP 04 02 05.9 +0.3
PMSA Palmer Station 110.27 187 PFAKE 04 02 20.0 +11
PMSA LR LR
comp=Z,6µm,20.0s,MS6.2
SIT Sitka 111.27 29 PFAKE 04 02 20.0 +9.2
SIT LR LR
comp=Z,5µm,21.0s,MS6.1
HOPE Hope Point 111.86 205 PFAKE 04 02 20.0 +7.9
HOPE LR LR
comp=Z,5.0nm,21.0s
WRAK Wrangell Islan 113.02 29 PFAKE 04 02 20.0 +5.8
WRAK LR LR
comp=Z,3µm,20.0s,MS5.8
SFJD Kangerlussuaq 114.42 348 PFAKE 04 02 30.0 +13
SFJD LR LR
comp=Z,3µm,21.0s,MS5.9
TAOE Nuku Hiva Isla 117.49 102 *e*PS PS 04 13 22.9 +1.5
comp=Z,3µm,23.8s
TAOE *e*SS SS 04 19 43.3 -2.6
comp=Z,8µm,25.7s
TAOE Nuku Hiva Isla 117.49 102 *e*LR LR 04 38 20.1
comp=Z,13µm,23.9s
RKT Rikitea 118.85 119 *e*PS PS 04 13 36.9 +3.7
comp=Z,886nm,26.2s
RKT *e*SS SS 04 20 09.4 +6.7
comp=Z,3µm,27.5s
RKT Rikitea 118.85 119 *e*LR LR 04 39 01.7
comp=Z,5µm,22.0s
CMLA Cha da Macela 121.17 312 *e*PP PP 04 04 02.0 +1.5
CMLA Cha da Macela 121.17 312 *e*P PS 04 14 11.9 +18
CMLA *e*SS SS 04 20 34.3 +2.6
CMLA Cha da Macela 121.17 312 *e*LQ 04 34 09.5
CMLA *e*LR LR 04 40 13.9
CMLA Cha da Macela 121.17 312 PFAKE 04 02 40.0 +10
CMLA LR LR
comp=Z,2µm,19.0s,MS5.8
NLWA Neilton Lookou 122.21 35 PFAKE 04 02 40.0 +7.9
NLWA LR LR
comp=Z,2µm,20.0s,MS5.8
A05A Maple Falls 122.28 32⇑P PKPdf 04 02 32.3 +0.1
baz=122
PTCN Pitcairn Islan 122.32 123 PFAKE 04 02 40.0 +7.0
PTCN LR LR
comp=Z,7µm,22.0s,MS6.3
C04A Brinnon 122.53 34⇑P PKPdf 04 02 33.6 +0.8
baz=123
A06A Chilliwack 122.54 32⇓P PKPdf 04 02 33.2 +0.5
baz=123
B05A Bryant 122.70 33⇑P PKPdf 04 02 33.5 +0.4
baz=123
JCW Jim Creek 122.83 33 *e*PKPdf PKPdf 04 02 33.7 +0.4
E03A Lebam 122.85 35⇓P PKPdf 04 02 34.0 +0.7
baz=123
B06A Marblemount 122.88 32⇑P PKPdf 04 02 33.8 +0.4
baz=123
RPW Rockport 122.91 33 P PKPdf 04 02 34.0 +0.6
A07A Ashnola River, 123.14 31⇑P PKPdf 04 02 34.2 +0.3
baz=123
F03A Seaside 123.19 36⇓P PKPdf 04 02 34.5 +0.4
baz=123
C05A Tolt Reservoir 123.25 33⇑P PKPdf 04 02 34.7 +0.5
baz=124
E04A Onalaska 123.31 35⇑P PKPdf 04 02 34.4 +0.1
baz=124
D05A Enumclaw 123.38 34⇓P PKPdf 04 02 35.0 +0.7
baz=124
C06A Tall Timber Ra 123.55 33⇓P PKPdf 04 02 35.1 +0.4
baz=124
EDM Edmonton 123.58 24 *e*PKIKP PKPdf 04 02 34.0 -0.6
H02A Toledo 123.60 37⇓P PKPdf 04 02 35.2 +0.4
baz=124
B07A Winthrop 123.64 32⇓P PKPdf 04 02 35.1 +0.3
baz=124
G03A Yamhill 123.69 36⇑P PKPdf 04 02 35.4 +0.4
baz=124
FL2 Flat Top 2 123.74 35 P PKPdf 04 02 36.8 +1.7
A08A Turner Farm, O 123.77 31⇓P PKPdf 04 02 35.4 +0.3
baz=124
F04A Amboy 123.85 35⇓P PKPdf 04 02 35.7 +0.4
baz=124
E05A Randle 123.87 34⇓P PKPdf 04 02 35.6 +0.3
baz=124
D06A Cle Elum 124.01 33⇑P PKPdf 04 02 35.9 +0.3
baz=124
H03A Soap Creek Ran 124.03 37⇓P PKPdf 04 02 36.7 +1.0
baz=124
ETW Entiat 124.05 33 P PKPdf 04 02 36.4 +0.7
I02A Mapleton 124.06 38⇑P PKPdf 04 02 36.5 +0.7
baz=124
A09A Danville 124.11 31⇑P PKPdf 04 02 36.1 +0.4
baz=124
B08A Colville Reser 124.11 32⇓P PKPdf 04 02 35.7 -0.1
baz=124
C07A Waterville 124.14 33⇑P PKPdf 04 02 35.9 0.0
baz=124
ASR Mount Adams--S 124.20 35 P PKPdf 04 02 37.3 +1.3
G04A Mulino 124.22 36⇓P PKPdf 04 02 36.8 +0.7
baz=124
K01A Sixes 124.27 40⇑P PKPdf 04 02 37.3 +1.0
baz=124
E06A Yakima 124.32 34⇑P PKPdf 04 02 36.7 +0.5
baz=124
EBG Ellensburg 124.33 34 P PKPdf 04 02 37.4 +1.2
I03A Eugene 124.41 38⇓P PKPdf 04 02 36.8 +0.3
baz=125
F05A White Salmon 124.43 35⇓P PKPdf 04 02 37.3 +0.8
baz=125
D07A Quincy 124.49 33⇓P PKPdf 04 02 37.4 +0.9
baz=125
J02A Umpqua 124.55 39⇑P PKPdf 04 02 37.2 +0.4
baz=125
C08A Higginbotham F 124.62 32⇓P PKPdf 04 02 36.6 -0.1
baz=125
A10A Northport 124.62 30⇓P PKPdf 04 02 37.1 +0.4
baz=125
H04A Detroit Lake 124.69 37⇓P PKPdf 04 02 37.0 +0.1
baz=125
B09A Rice 124.69 31⇑P PKPdf 04 02 37.1 +0.3
baz=125
G05A Wamic 124.88 36⇑P PKPdf 04 02 37.4 +0.1
baz=125
F06A Goldendale 124.89 35⇑P PKPdf 04 02 38.0 +0.7
baz=125,SNR=5.6
K02A Glendale 124.92 39⇑P PKPdf 04 02 37.8 +0.3
baz=125
E07A Sunnyside 124.94 34⇓P PKPdf 04 02 37.9 +0.5
baz=125
C09A Chrisman Ranch 125.02 32⇑P PKPdf 04 02 37.8 +0.2
baz=125
I04A Tendick Farm, 125.04 38⇑P PKPdf 04 02 37.7 +0.1
baz=125
OD2 Odessa Site #2 125.05 32 P PKPdf 04 02 38.5 +0.9
D08A Wollman Farm, 125.14 33⇓P PKPdf 04 02 37.9 +0.1
baz=125
L02A Cave Junction 125.16 40⇑P PKPdf 04 02 38.5 +0.5
baz=125
WRD Warden 125.18 33 P PKPdf 04 02 39.0 +1.2
RSW Rattlesnake Hi 125.18 34 *e*PKPdf PKPdf 04 02 38.3 +0.4
RSW *ep*PKPdf pPKPdf 04 02 49.5 +0.9
A11A Hall Mountain, 125.23 29⇑⇑P PKPdf 04 02 38.5 +0.6
baz=125
H05A Madras 125.27 36⇓P PKPdf 04 02 38.7 +0.6
baz=126
G06A Carlson Farm, 125.28 35⇓P PKPdf 04 02 38.9 +0.8
baz=126,SNR=5.6
F07A Phinny Hill Vi 125.29 34⇑P PKPdf 04 02 38.4 +0.3
baz=126
NEW Newport 125.31 30 *e*PKIKP PKPdf 04 02 38.2 +0.1
NEW MLR MLR
comp=Z,4µm,20.0s
HUMO Hull Mountain 125.33 39⇑P PKPdf 04 02 39.0 +0.8
baz=126,SNR=10
HUMO Hull Mountain 125.33 39 *e*PKPdf PKPdf 04 02 39.2 +0.9
HUMO LR LR
comp=Z,2µm,21.0s,MS5.8
E08A Dider Farm, El 125.41 33⇑P PKPdf 04 02 38.8 +0.5
baz=126
KTRM Thompson Ridge 125.43 40 P PKPdf 04 02 40.3 +1.8
D09A Jones Farm, Ri 125.47 32⇓P PKPdf 04 02 39.0 +0.6
baz=126
C10A Spilker Farm, 125.51 31⇑P PKPdf 04 02 38.8 +0.4
baz=126
I05A Bend 125.52 37⇑P PKPdf 04 02 39.3 +0.7
baz=126
J04A Umpqua Nationa 125.52 38⇑P PKPdf 04 02 39.1 +0.5
baz=126,SNR=11
B11A Sandpoint 125.58 30⇓P PKPdf 04 02 39.0 +0.5
baz=126
A12A Yaak River Ran 125.59 29⇑P PKPdf 04 02 38.7 +0.1
baz=126
VIPM Ingram Point 125.71 36 PKIKP PKPdf 04 02 40.0 +1.1
H06A Lindquist Farm 125.74 36⇓P PKPdf 04 02 39.3 +0.3
baz=126
G07A Ruggs Ranch, H 125.81 35⇓P PKPdf 04 02 39.4 +0.3
baz=126
E09A Wood Farm, Sta 125.90 33⇓P PKPdf 04 02 39.6 +0.3
baz=126
B12A Libby 125.94 29⇓P PKPdf 04 02 39.6 +0.4
baz=126
YBH Yreka Blue Hor 125.95 40⇓P PKPdf 04 02 39.7 +0.2
baz=126
YBH Yreka Blue Hor 125.95 40 PFAKE 04 02 50.0 +11
YBH LR LR
comp=Z,2µm,19.0s,MS5.7
F08A Pendleton 125.99 34⇑P PKPdf 04 02 39.6 +0.2
baz=126
D10A Wagner Farm, O 126.02 32⇑P PKPdf 04 02 39.8 +0.3
baz=126
N02C Big Bar 126.03 41⇑P PKPdf 04 02 40.1 +0.5
baz=126
C11A Tepee Creek (N 126.03 30⇓P PKPdf 04 02 39.5 +0.1
baz=126
M02C Callahan 126.03 40⇑P PKPdf 04 02 40.3 +0.6
baz=126
J05A Fort Rock 126.03 38⇑P PKPdf 04 02 40.6 +1.0
baz=126,SNR=10
K04A Chiloquin 126.10 38⇓P PKPdf 04 02 39.9 +0.1
baz=126
A13A Flathead Natio 126.19 28⇓P PKPdf 04 02 39.7 0.0
baz=126
G08A Pilot Rock 126.20 34⇓P PKPdf 04 02 40.6 +0.8
baz=126,SNR=8.2
LNOR Lincton Mounta 126.22 33 *e*PKIKP PKPdf 04 02 40.5 +0.6
LNOR *e* 04 02 50.4
L04A Klamath Falls 126.23 39⇓P PKPdf 04 02 40.5 +0.5
baz=126,SNR=5.5
H07A Lands Inn, Kim 126.27 35⇑P PKPdf 04 02 40.8 +0.8
baz=126
I06A Prineville 126.27 36⇑P PKPdf 04 02 41.4 +1.4
baz=126
FFC Flin Flon 126.31 16 PFAKE 04 02 50.0 +10
FFC LR LR
comp=Z,5µm,21.0s,MS6.1
LHEM Herd Peak 126.31 40 P PKPdf 04 02 41.5 +1.3
E10A Myers Farm, Un 126.47 32⇑P PKPdf 04 02 40.8 +0.4
baz=127,SNR=6.7
M04C Macdoel 126.47 39⇓P PKPdf 04 02 41.2 +0.7
baz=127,SNR=9.7
C12B Naegeli Ranch, 126.51 30⇓P PKPdf 04 02 40.9 +0.6
baz=127
D11A Klaveano Farm, 126.51 31⇑P PKPdf 04 02 40.1 -0.3
baz=127,SNR=5.4
F09A S2 Ranch, Elgi 126.53 33⇓P PKPdf 04 02 40.8 +0.3
baz=127,SNR=13
B13A Whitefish 126.55 29⇓P PKPdf 04 02 40.8 +0.3
baz=127
K05A Summer Lake 126.55 38⇓P PKPdf 04 02 42.0 +1.4
baz=127,SNR=14
M03C McCloud 126.56 40⇓P PKPdf 04 02 41.3 +0.6
baz=127
I07A Izee 126.61 36⇓P PKPdf 04 02 40.8 +0.1
baz=127
A14A Double T Ranch 126.63 28⇓P PKPdf 04 02 40.8 +0.2
baz=127
WDC Whiskeytown Da 126.65 41⇑P PKPdf 04 02 40.8 -0.1
baz=127
WDC Whiskeytown Da 126.65 41 PFAKE 04 02 50.0 +9.1
WDC LR LR
comp=Z,2µm,20.0s,MS5.7

O02C	**Red Bluff** baz=127	126.69	42	⇑P		PKPdf	04 02 41.5 +0.6
J06A	**Christmas Vall** baz=127,SNR=11	126.70	37	⇓P		PKPdf	04 02 41.8 +0.9
F10A	**Beach Ranch, E** baz=127,SNR=13	126.73	33	⇓P		PKPdf	04 02 41.0 +0.2
LASM	**Arnica Sink**	126.74	39	P		PKPdf	04 02 41.7 +0.7
H08A	**Prairie City** baz=127	126.83	35	⇓P		PKPdf	04 02 42.1 +1.0
G09A	**Cove** baz=127	126.87	34	⇓P		PKPdf	04 02 41.4 +0.3
K06A	**Valley Falls** baz=127,SNR=12	126.90	38	⇑P		PKPdf	04 02 41.9 +0.6
A15A	**Johnson Ranch,** baz=127	126.94	27	⇓P		PKPdf	04 02 41.1 0.0
L05A	**Lakeview** baz=127	126.96	39	⇑P		PKPdf	04 02 41.6 +0.2
GASB	**Alder Springs** baz=127	127.00	42	⇑P		PKPdf	04 02 41.7 +0.2
D12A	**Red Ives Fores** baz=127	127.01	31	⇓P		PKPdf	04 02 41.5 +0.2
E11A	**Bogner Ranch,** baz=127,SNR=14	127.03	32	⇑P		PKPdf	04 02 41.1 -0.3
HOPS	**Hopland** baz=127	127.09	43	⇓P		PKPdf	04 02 42.2 +0.4
HOPS	**Hopland** comp=Z,2µm,20.0s,MS5.7	127.09	43	PFAKE LR	LR		04 02 50.0 +8.2
B14A	**Marquette Ranc** baz=127	127.13	28	⇑P		PKPdf	04 02 41.8 +0.3
J07A	**Hines** baz=127,SNR=9.0	127.14	36	⇓P		PKPdf	04 02 42.4 +0.7
M05C	**Lookout** baz=127	127.14	39	⇑P		PKPdf	04 02 42.5 +0.7
G10A	**Bishop Farm, J** baz=127	127.22	33	⇓P		PKPdf	04 02 42.1 +0.3
I08A	**Drewsey** baz=128	127.25	35	⇑P		PKPdf	04 02 43.0 +1.1
H09A	**Durkee** baz=128	127.31	34	⇓P		PKPdf	04 02 42.4 +0.4
C14A	**Swan Lake** baz=128	127.32	29	⇓P		PKPdf	04 02 42.1 +0.2
E12A	**Beaver Dam Sad** baz=128	127.32	31	⇑P		PKPdf	04 02 42.1 +0.2
F11A	**Grangeville** baz=128,SNR=9.7	127.36	32	⇓P		PKPdf	04 02 41.7 -0.4
MOD	**Modoc** baz=128	127.37	38	⇓P		PKPdf	04 02 42.5 +0.3
MOD	**Modoc**	127.37	38	*e*PKPdf		PKPdf	04 02 43.0 +0.8
MOD				*ep*PKPdf		pPKPdf	04 02 53.8 +0.8
MOD	comp=Z,2µm,20.0s,MS5.8			LR	LR		
BMO	**Blue Mountains**	127.39	34	*e*PKIKP		PKPdf	04 02 42.1 -0.1
BMO	comp=Z,2µm,20.0s,MS5.8			MLR	MLR		
D13A	**Huson** baz=128,SNR=8.6	127.43	30	⇓P		PKPdf	04 02 41.4 -0.7
A16A	**West Butte Ran** baz=128	127.48	27	⇑P		PKPdf	04 02 42.4 +0.2
B15A	**Bradely Ranch,** baz=128,SNR=9.5	127.50	28	⇑P		PKPdf	04 02 42.2 -0.1
K07A	**Rock Creek Ran** baz=128,SNR=13	127.57	37	⇑P		PKPdf	04 02 43.1 +0.6
MNRC	**McLaughlin Nat** baz=128	127.57	43	⇑P		PKPdf	04 02 43.2 +0.5
G11A	**Walters Elk Ra** baz=128	127.61	33	⇓P		PKPdf	04 02 42.7 +0.1
MCCM	**Marconi Confer** baz=128	127.63	44	⇓P		PKPdf	04 02 42.9 +0.1
MCCM	**Marconi Confer** comp=Z,2µm,21.0s,MS5.7	127.63	44	PFAKE LR	LR		04 02 50.0 +7.2
J08A	**Circle Bar Ran** baz=128,SNR=27	127.64	36	⇓P		PKPdf	04 02 43.8 +1.1
NSHM	**Saint Helena R**	127.64	43	*e*PKPdf		PKPdf	04 02 43.3 +0.5
NSHM				*ep*PKPdf		pPKPdf	04 02 54.0 +0.4
M06C	**Likely Place G** baz=128	127.65	39	⇑P		PKPdf	04 02 43.7 +0.9
I09A	**Lost Marbles R** baz=128	127.69	35	⇓P		PKPdf	04 02 43.4 +0.6
O04C	**Chester** baz=128	127.73	41	⇓P		PKPdf	04 02 43.7 +0.8
FARB	**Farallon Islan** baz=128	127.76	44	⇓P		PKPdf	04 02 43.9 +0.9
ELFS	**Eagle Lake Fie** baz=128	127.81	40	⇑P		PKPdf	04 02 43.9 +0.8
B16A	**M & M Farms, S** baz=128	127.82	27	⇑P		PKPdf	04 02 43.0 +0.2
CVS	**Carmenet Viney** baz=128	127.83	43	⇑P		PKPdf	04 02 43.7 +0.5
C15A	**Salmond Ranch,** baz=128,SNR=7.0	127.86	28	⇑P		PKPdf	04 02 43.0 0.0
ORV	**Oroville** baz=128,SNR=8.2	127.86	42	⇑P		PKPdf	04 02 43.0 -0.2
MSO	**Missoula**	127.87	30	*e*PKPdf		PKPdf	04 02 42.4 -0.6
MSO	comp=Z,2µm,20.0s,MS5.8			LR	LR		
L07A	**Adell** baz=128,SNR=8.9	127.90	38	⇓P		PKPdf	04 02 44.3 +1.1
D14A	**Greenough** baz=128,SNR=8.2	127.91	30	⇑P		PKPdf	04 02 43.0 -0.1
Q03C	**Winters** baz=128	127.98	43	⇑P		PKPdf	04 02 44.4 +0.9
OHCM	**Honcut**	127.99	42	*e*PKPdf		PKPdf	04 02 43.9 +0.4
OHCM				*ep*PKPdf		pPKPdf	04 02 54.5 +0.3
K08A	**Mann Creek Ran** baz=128,SNR=13	128.00	37	⇑P		PKPdf	04 02 44.1 +0.7
E13A	**Victor** baz=128,SNR=19	128.01	31	⇑P		PKPdf	04 02 43.2 -0.1
O05C	**Quincy** baz=128	128.03	41	⇑P		PKPdf	04 02 44.4 +0.9
J09A	**Fry Pan Ranch,** baz=128,SNR=16	128.06	36	⇓P		PKPdf	04 02 44.1 +0.6
WVOR	**Wild Horse Val**	128.09	37	*e*PKIKP		PKPdf	04 02 44.7 +1.1
WVOR				*e*			04 02 55.3
I10A	**Payette** baz=128	128.15	34	⇓P		PKPdf	04 02 44.0 +0.3
H11A	**Donnelly** baz=128	128.20	33	⇑P		PKPdf	04 02 44.3 +0.6
C16A	**Fuhringer Ranc** baz=128	128.25	28	⇓P		PKPdf	04 02 43.6 -0.1
N06A	**Buffalo Meadow** baz=129	128.30	39	⇓P		PKPdf	04 02 45.0 +1.0
Q04C	**Lincoln** baz=129	128.31	42	⇑P		PKPdf	04 02 44.7 +0.6
M07A	**Soldier Meadow** baz=129	128.36	38	⇑P		PKPdf	04 02 45.1 +1.0
E14A	**Clinton** baz=129,SNR=6.2	128.38	30	⇑P		PKPdf	04 02 44.2 +0.2
F13A	**Darby** baz=129	128.38	31	⇓P		PKPdf	04 02 44.7 +0.7
L08A	**Fields** baz=129,SNR=27	128.41	37	⇓P		PKPdf	04 02 45.8 +1.7
D15A	**Lincoln** baz=129	128.42	29	⇑P		PKPdf	04 02 44.5 +0.5
BDM	**Black Diamond** baz=129	128.42	44	⇓P		PKPdf	04 02 45.2 +0.8
JRSC	**Jasper Ridge** baz=129	128.44	44	⇑P		PKPdf	04 02 45.3 +1.0
BEKR	**Beckwourth** baz=129,SNR=11	128.45	41	⇑P		PKPdf	04 02 44.5 +0.1
K09A	**Rome** baz=129,SNR=18	128.47	36	⇑P		PKPdf	04 02 45.6 +1.3
P05C	**Yuba Gap, Truc** baz=129	128.58	41	⇓P		PKPdf	04 02 45.8 +1.2
J10A	**Berg Farm, Mel** baz=129,SNR=6.8	128.58	35	⇓P		PKPdf	04 02 45.5 +1.1
O06A	**Flanigan** baz=129	128.63	40	⇓P		PKPdf	04 02 45.8 +1.1
WENL	**Wente Vineyard** baz=129	128.66	44	⇓P		PKPdf	04 02 45.6 +0.8
SCHQ	**Schefferville** comp=Z,6.9nm,1.0s,baz=239,slow=5.8,SNR=4.6	128.67	351	PKP		PKPdf	04 02 44.9 +0.6
SCHQ	**Schefferville** comp=Z,6µm,22.0s,MS6.3	128.67	351	PKP LR	LR	PKPdf	04 02 44.9 +0.6
I11A	**Placerville** baz=129,SNR=7.5	128.74	34	⇑P		PKPdf	04 02 45.4 +0.7
LAVA	**Lava Cap Winer** baz=129	128.78	42	⇑P		PKPdf	04 02 45.8 +0.9
E15A	**Deer Lodge** baz=129	128.80	30	⇓P		PKPdf	04 02 44.9 +0.1
M08A	**Happy Creek Ra** baz=129	128.82	38	⇓P		PKPdf	04 02 46.5 +1.5
C17A	**Wharram Farm,** baz=129,SNR=9.5	128.82	27	⇑P		PKPdf	04 02 44.5 -0.2
N07B	**Gerlach** baz=129	128.83	39	⇓P		PKPdf	04 02 46.3 +1.3
P06A	**Stead Airport,** baz=129	128.85	41	⇓P		PKPdf	04 02 46.2 +1.1
F14A	**Wisdom** baz=129,SNR=6.8	128.86	31	⇑P		PKPdf	04 02 45.5 +0.6
D16A	**Dana Ranch, Ca** baz=129,SNR=12	128.89	28	⇓P		PKPdf	04 02 45.3 +0.4
G13A	**Cobalt** baz=129	128.90	32	⇑P		PKPdf	04 02 45.4 +0.3
R04C	**Big Horse Ranc** baz=129	128.91	43	⇑P		PKPdf	04 02 46.1 +0.8
L09A	**Wilkinson Ranc** baz=129,SNR=8.2	128.91	37	⇑P		PKPdf	04 02 46.4 +1.3
K10A	**MacKenzie Ranc** baz=129,SNR=15	128.93	36	⇑P		PKPdf	04 02 46.8 +1.7
H12A	**Diamond D Ranc** baz=129	128.93	33	⇓P		PKPdf	04 02 45.9 +0.8
MFID	**Camas Ranch**	129.12	34	⇑P		PKPdf	04 02 46.4 +0.9
WCN	**Washoe City** baz=129	129.14	41	⇑P		PKPdf	04 02 46.9 +1.2
PAHR	**Pah Rah Range**	129.16	40	*e*PKPdf		PKPdf	04 02 46.3 +0.6
PAHR				*ep*PKPdf		pPKPdf	04 02 57.5 +1.0
E16A	**East Helena** baz=129	129.19	29	⇓P		PKPdf	04 02 46.0 +0.5
G14A	**Jackson** baz=129	129.20	31	⇑P		PKPdf	04 02 46.4 +0.8
H13A	**Challis** baz=129	129.24	32	⇑P		PKPdf	04 02 46.4 +0.7
R05C	**Kirkwood Meado** baz=130	129.25	42	⇑P		PKPdf	04 02 46.7 +0.8
F15A	**Butte** baz=130	129.28	30	⇑P		PKPdf	04 02 46.4 +0.7
PACP	**Pacheco Peak** baz=130	129.29	44	⇓P		PKPdf	04 02 46.7 +0.7
SAO	**San Andreas Ge** comp=Z,1µm,20.0s,MS5.6	129.30	45	PFAKE LR	LR		04 03 00.0 +14
N08A	**GE Springer Mi** baz=130	129.35	38	⇓P		PKPdf	04 02 47.1 +1.1
CMB	**Columbia Colle** baz=130	129.39	43	⇑P		PKPdf	04 02 46.6 +0.5
CMB	**Columbia Colle**	129.39	43	*e*PKPdf		PKPdf	04 02 46.8 +0.7
CMB				*ep*PKPdf		pPKPdf	04 02 57.2 +0.2
CMB	comp=Z,2µm,21.0s,MS5.7			LR	LR		
M09A	**Marrel Ranch,** baz=130,SNR=5.9	129.40	37	⇑P		PKPdf	04 02 47.5 +1.4
K11A	**Parker Ranch,** baz=130,SNR=8.9	129.41	35	⇑P		PKPdf	04 02 47.2 +1.2
DLMT	**Dillon**	129.56	31	*e*PKPdf		PKPdf	04 02 47.2 +0.9
P07A	**Fallon** baz=130	129.57	40	⇑P		PKPdf	04 02 47.7 +1.2
L10A	**Juniper Basin** baz=130,SNR=16	129.59	36	⇑P		PKPdf	04 02 48.1 +1.6
O08A	**Rochester Mine** baz=130	129.62	39	⇓P		PKPdf	04 02 47.8 +1.2
E17A	**Martindale** baz=130	129.63	28	⇓P		PKPdf	04 02 47.3 +1.0
J12A	**Stokes Ranch,** baz=130,SNR=10	129.64	34	⇑P		PKPdf	04 02 47.8 +1.3
H14A	**Leadore** baz=130	129.68	32	⇓P		PKPdf	04 02 47.6 +1.0
I13A	**Wildhorse Cree** baz=130,SNR=10	129.75	33	⇓P		PKPdf	04 02 47.8 +1.2
G15A	**Dillon** baz=130	129.75	31	⇓P		PKPdf	04 02 47.8 +1.2
R06C	**Coleville** baz=130	129.76	42	⇑P		PKPdf	04 02 48.2 +1.3
S05C	**Merced** baz=130	129.78	43	⇑P		PKPdf	04 02 48.1 +1.2
MCMT	**McKenzie Canyo**	129.80	31	P		PKPdf	04 02 47.9 +1.1
V03C	**Hunter Liggett** baz=130	129.81	45	⇑P		PKPdf	04 02 48.6 +1.5
HLID	**Hailey** comp=Z,2µm,20.0s,MS5.9	129.82	33	PFAKE LR	LR		04 03 00.0 +13
S06C	**San Francisco** baz=130	129.83	43	⇓P		PKPdf	04 02 48.0 +0.9
M10A	**I.L. Ranch, Tu** baz=130	129.88	37	⇓P		PKPdf	04 02 48.6 +1.6
L11A	**Cat Creek Ranc** baz=130,SNR=21	129.95	36	⇑P		PKPdf	04 02 48.6 +1.5
U04C	**Hernandez Rese** baz=130	129.96	45	⇑P		PKPdf	04 02 48.6 +1.3
E18A	**Harlowton**	130.00	28	⇓P		PKPdf	04 02 48.3 +1.2
P08A	**Dixie Valley** baz=130	130.01	40	⇓P		PKPdf	04 02 48.8 +1.5
H15A	**Lima** baz=130	130.05	31	⇓P		PKPdf	04 02 48.5 +1.3
G16A	**Moss Hill, Enn** baz=130	130.06	30	⇑P		PKPdf	04 02 48.4 +1.2
J13A	**Cove Ranch, Pi** baz=130,SNR=16	130.06	33	⇑P		PKPdf	04 02 48.5 +1.3
I14A	**Macay** baz=130	130.10	32	⇓P		PKPdf	04 02 48.6 +1.3
BMN	**Battle Mountai** comp=Z,1µm,20.0s,MS5.7	130.12	38	PFAKE LR	LR		04 03 00.0 +13
K12A	**Draper Farm, C** baz=130,SNR=7.0	130.14	35	⇓P		PKPdf	04 02 48.5 +1.0
O09A	**Fish Creek Ran** baz=130	130.29	39	⇑P		PKPdf	04 02 49.0 +1.2
PKD	**Parkfield** baz=131	130.34	45	⇓P		PKPdf	04 02 49.3 +1.3
T06C	**Millerton Lake** baz=131	130.38	43	⇓P		PKPdf	04 02 49.0 +0.9
M11A	**Holland Ranch,** baz=131	130.39	36	⇓P		PKPdf	04 02 49.8 +1.8
L12A	**House Creek Ra** baz=131,SNR=16	130.39	35	⇓P		PKPdf	04 02 49.6 +1.6
J14A	**Carey** baz=131,SNR=6.8	130.47	33	⇑P		PKPdf	04 02 49.5 +1.5
QLMT	**Earthquake Lak**	130.52	30	*e*PKPdf		PKPdf	04 02 49.4 +1.3
I15A	**Monteview** baz=131	130.56	32	⇓P		PKPdf	04 02 49.8 +1.6
NVAR	**Mina Array Bea** comp=Z,5.3nm,0.7s,baz=266,slow=2.4,SNR=18	130.57	41	PKP		PKPdf	04 02 49.5 +1.1
NVAR	**Mina Array Bea**	130.57	41	PKP		PKPdf	04 02 49.5 +1.1
Q08A	**Gabbs** baz=131	130.57	40	⇓P		PKPdf	04 02 49.6 +1.2
F18A	**Big Timber** baz=131	130.58	28	⇓P		PKPdf	04 02 49.5 +1.3
K13A	**Stover Farm, H** baz=131	130.60	34	⇓P		PKPdf	04 02 50.3 +2.0
MLAC	**Mammoth Lakes** baz=131	130.65	42	⇓P		PKPdf	04 02 50.4 +1.8
O10A	**Cortez Mining,** baz=131	130.65	38	⇓P		PKPdf	04 02 50.1 +1.6
P09A	**Austin** baz=131	130.68	39	⇓P		PKPdf	04 02 49.8 +1.2
H16A	**Russell Place,** baz=131	130.71	30	⇑P		PKPdf	04 02 50.1 +1.6
R08A	**Mina** baz=131	130.74	41	⇓P		PKPdf	04 02 49.8 +1.0
N11A	**Elko Archery C** baz=131	130.80	37	⇓P		PKPdf	04 02 50.6 +1.8
V05C	**Boulder Hill,** baz=131	130.82	45	⇑P		PKPdf	04 02 50.2 +1.2
YMR	**Madison River** comp=Z,3µm,19.0s,MS6.0	130.87	30	*e*PKPdf		PKPdf	04 02 50.6 +1.8
YMR				LR	LR		
M12A	**Wells** baz=131,SNR=17	130.91	36	⇓P		PKPdf	04 02 50.7 +1.7
DGMT	**Dagmar** comp=Z,3µm,19.0s,MS6.0	130.91	22	*e*PKPdf		PKPdf	04 02 49.5 +0.8
DGMT				LR	LR		
MTUM	**Tungsten Hills**	130.98	42	*e*PKPdf		PKPdf	04 02 50.3 +1.1
J15A	**Blackfoot** baz=131,SNR=10	131.00	32	⇑P		PKPdf	04 02 50.5 +1.5
HELL	**Mitchell Peak** baz=131	131.02	43	⇑P		PKPdf	04 02 50.4 +1.1
SMMC	**Simmler** baz=131	131.03	46	⇓P		PKPdf	04 02 49.9 +0.5
L13A	**Double Diamond** baz=131,SNR=9.6	131.04	35	⇓P		PKPdf	04 02 50.6 +1.5
P10A	**Eureka** baz=131	131.07	39	⇑P		PKPdf	04 02 50.4 +1.1
Q09A	**Carvers** baz=131	131.07	40	⇑P		PKPdf	04 02 50.0 +0.7
ELK	**Elko**	131.14	37	*e*PKIKP		PKPdf	04 02 50.7 +1.3
ELK				*e*			04 03 01.4
ELK	comp=Z,2µm,19.0s			MLR	MLR		
S08C	**White Mtn Res** baz=131	131.16	42	⇓P		PKPdf	04 02 50.6 +1.0
I16A	**Newdale** baz=131	131.17	31	⇓P		PKPdf	04 02 50.2 +0.9
K14A	**Jones Ranch, D** baz=131,SNR=8.3	131.17	34	⇓P		PKPdf	04 02 50.4 +1.0
N12A	**Clover Valley,** baz=131	131.19	37	⇓P		PKPdf	04 02 50.3 +0.8
LKWY	**Lake** comp=Z,5µm,20.0s,MS6.2	131.23	30	PFAKE LR	LR		04 03 00.0 +11
LKWY							
O11A	**Cowboy Ranch,** baz=132	131.26	38	⇓P		PKPdf	04 02 51.0 +1.3
PKM	**Peak Mountain** baz=132	131.37	46	⇓P		PKPdf	04 02 50.9 +0.9
RLMT	**Red Lodge** comp=Z,3µm,20.0s,MS6.0	131.37	29	*e*PKPdf		PKPdf	04 02 51.7 +2.0
RLMT				LR	LR		
M13A	**Montello** baz=132	131.38	35	⇑P		PKPdf	04 02 51.0 +1.2
VES	**Vestal, Richgr** baz=132	131.41	44	⇓P		PKPdf	04 02 50.1 0.0
K15A	**Arbon** baz=132	131.43	33	⇑P		PKPdf	04 02 51.0 +1.1
L14A	**Malta** baz=132,SNR=8.3	131.47	34	⇓P		PKPdf	04 02 51.3 +1.3
TPH	**Tonopah** comp=Z,1µm,20.0s,MS5.6	131.47	41	*e*PKIKP		PKPdf	04 02 52.2 +2.1
TPH				MLR	MLR		
R09A	**Tonopah** baz=132	131.48	41	⇓P		PKPdf	04 02 50.7 +0.5
J16A	**Bone** baz=132	131.52	32	⇑P		PKPdf	04 02 50.6 +0.6
LAO	**LASA Array**	131.54	25	*e*PKPdf		PKPdf	04 02 51.3 +1.3
LAO				*ep*PKPdf		pPKPdf	04 03 01.4 +0.6
LAO	comp=Z,2µm,20.0s,MS5.8			LR	LR		
P11A	**Circle Ranch,** baz=132	131.55	38	⇓P		PKPdf	04 02 50.9 +0.7
Q10A	**Clear Creek Ra** baz=132	131.57	40	⇑P		PKPdf	04 02 51.2 +0.9
I17A	**Pilgram Creek** baz=132	131.60	31	⇓P		PKPdf	04 02 51.2 +1.0
RRI2	**Red Ridge**	131.62	32	*e*PKPdf		PKPdf	04 02 51.6 +1.4
SBC	**Santa Barbara** baz=132	131.66	46	⇑P		PKPdf	04 02 51.8 +1.2
S09A	**Goldfield** baz=132	131.67	41	⇑P		PKPdf	04 02 51.1 +0.6
N13A	**Wendover, West** baz=132	131.68	36	⇑P		PKPdf	04 02 51.4 +0.9
TPAW	**Teton Pass**	131.71	31	*e*PKPdf		PKPdf	04 02 51.1 +0.7
TPAW				*ep*PKPdf		pPKPdf	04 03 01.3 +0.2
O12A	**Currie** baz=132	131.73	37	⇑P		PKPdf	04 02 51.3 +0.8
M14A	**Sheep Mountain** baz=132,SNR=13	131.76	35	⇑P		PKPdf	04 02 51.9 +1.3
CWC	**Cottonwood Cre** baz=132	131.79	43	⇓P		PKPdf	04 02 51.1 +0.4
LOHW	**Long Hollow**	131.81	31	*e*PKPdf		PKPdf	04 02 51.5 +1.0
LOHW				*ep*PKPdf		pPKPdf	04 03 02.4 +1.1
SNOW	**Snow King Moun**	131.84	31	*e*PKPdf		PKPdf	04 02 52.3 +1.6
K16A	**Soda Springs** baz=132	131.84	32	⇑P		PKPdf	04 02 51.1 +0.5
REDW	**Red Top Meadow**	131.85	31	*e*PKPdf		PKPdf	04 02 51.3 +0.6
REDW				*ep*PKPdf		pPKPdf	04 03 02.5 +1.1
HVU	**Hansel Valley**	131.90	34	*e*PKIKP		PKPdf	04 02 52.4 +1.6
HVU				*e*			04 03 02.0
ISA	**Isabella** baz=132	131.93	44	⇓P		PKPdf	04 02 51.8 +0.7
ISA	**Isabella** comp=Z,1µm,19.0s,MS5.7	131.93	44	*e*PKPdf		PKPdf	04 02 52.2 +1.2
ISA				LR	LR		
BSC	**Santa Cruz Isl** baz=132	131.94	47	⇓P		PKPdf	04 02 52.1 +0.9
R10A	**Warm Springs** baz=132	131.95	40	⇓P		PKPdf	04 02 52.1 +1.1
ARVC	**Arvin** baz=132	131.95	45	⇓P		PKPdf	04 02 51.7 +0.6
L15A	**Malad City** baz=132,SNR=8.7	131.97	34	⇑P		PKPdf	04 02 51.9 +0.9
S10A	**Tonopah Range,** baz=132	131.97	41	⇑P		PKPdf	04 02 51.6 +0.5
GRAC	**Grapevine Rang** baz=132	131.97	42	⇓P		PKPdf	04 02 52.7 +1.6
ULM	**Lac du Bonnet** comp=Z,9.0nm,0.8s,baz=336,slow=1.4,SNR=10	131.98	15	PKP		PKPdf	04 02 50.4 -0.3
ULM	**Lac du Bonnet** comp=Z,4µm,20.0s,MS6.2	131.98	15	PKP LR	LR	PKPdf	04 02 50.4 -0.3
Q11A	**Duckwater** baz=132	132.03	39	⇑P		PKPdf	04 02 51.9 +0.8
AHID	**Auburn Hatcher** comp=Z,2µm,22.0s,MS5.8	132.14	32	PFAKE LR	LR		04 03 00.0 +8.8
AHID							
DAC	**Darwin (Calif)** comp=Z,2µm,21.0s,MS5.7	132.21	43	PFAKE LR	LR		04 03 00.0 +8.4
DAC							
N14A	**Grayback Hills** baz=132	132.28	35	⇓P		PKPdf	04 02 52.5 +0.9
BLG	**Laguna Peak** baz=133	132.29	46	⇓P		PKPdf	04 02 53.2 +1.4
M15A	**Larsen Ranch,** baz=132	132.29	34	⇑P		PKPdf	04 02 52.9 +1.3
R11A	**Troy Canyon, C** baz=133	132.37	40	⇑P		PKPdf	04 02 52.8 +1.0
SNCC	**San Nicolas Is** comp=Z,2µm,21.0s,MS5.8	132.37	48	PFAKE LR	LR		04 03 00.0 +8.0
SNCC							
MPMC	**Manual Prospec** baz=133,SNR=9.5	132.40	43	⇑P		PKPdf	04 02 53.5 +1.6
Q12A	**Willow Creek R** baz=133	132.43	38	⇑P		PKPdf	04 02 53.7 +1.7
L16A	**Fish Haven** baz=133	132.48	33	⇓P		PKPdf	04 02 53.2 +1.3
LRMC	**Laurel Mountai** baz=133	132.57	44	⇓P		PKPdf	04 02 53.6 +1.3
FURC	**Furnace Creek,** baz=133	132.60	42	⇓P		PKPdf	04 02 53.9 +1.6
N15A	**Stansbury Isla** baz=133	132.63	35	⇓P		PKPdf	04 02 53.5 +1.3
EDW2	**Edwards Air Fo** baz=133	132.67	45	⇓P		PKPdf	04 02 53.9 +1.4
P13A	**Bates Ranch, G** baz=133	132.67	37	⇑P		PKPdf	04 02 53.8 +1.5
S11A	**Rachel** baz=133	132.68	40	⇑P		PKPdf	04 02 54.0 +1.6
HWUT	**Hardware Ranch** comp=Z,2µm,20.0s,MS5.8	132.69	33	*e*PKPdf		PKPdf	04 02 53.6 +1.3
HWUT				LR	LR		
TPNV	**Topopah Spring** comp=Z,2µm,19.0s,MS5.8	132.75	42	*e*PKIKP		PKPdf	04 02 53.4 +0.8
TPNV				MLR	MLR		
DECC	**Green Verdugo** baz=133	132.75	46	⇑P		PKPdf	04 02 54.1 +1.4
DUG	**Dugway**	132.92	36	*e*PKIKP		PKPdf	04 02 54.3 +1.5
BW06	**Boulder Array** comp=Z,2µm,20.0s,MS5.9	132.94	31	PFAKE LR	LR		04 03 00.0 +7.2
BW06							
PDAR	**Pinedale Array** comp=Z,2.3nm,0.7s,baz=154,slow=1.3,SNR=9.7	132.94	31	PKP		PKPdf	04 02 53.0 +0.3
MWC	**Mount Wilson** comp=Z,2µm,20.0s,MS5.8	132.96	46	PFAKE LR	LR		04 03 00.0 +6.9
MWC							
Q13A	**Wheeler Ranch,** baz=133	132.98	38	⇑P		PKPdf	04 02 54.4 +1.5
U10A	**Ash Meadows, A** baz=133	132.99	42	⇓P		PKPdf	04 02 55.0 +1.9
R12A	**Pony Springs,** baz=133	133.00	39	⇓P		PKPdf	04 02 54.6 +1.6
FMP	**Fort Macarthur** baz=133	133.04	46	⇓P		PKPdf	04 02 55.1 +1.9
O15A	**The Old Anders** baz=133	133.06	35	⇓P		PKPdf	04 02 54.9 +1.9
CIS	**Catalina Islan** baz=133	133.12	47	⇓P		PKPdf	04 02 55.0 +1.6
P14A	**Drum Mountains** baz=133	133.16	37	⇓P		PKPdf	04 02 55.0 +1.7
BFSC	**Mount Baldy St** baz=134	133.24	45	⇑P		PKPdf	04 02 54.8 +1.3
N16A	**Rees Ranch, Co** baz=134	133.25	34	⇑P		PKPdf	04 02 54.8 +1.4
T11A	**Corn Creek, Al** baz=134	133.25	41	⇑P		PKPdf	04 02 55.2 +1.7
S12A	**Delamar Landin** baz=134	133.28	40	⇑P		PKPdf	04 02 55.2 +1.7
GSC	**Goldstone** baz=134,SNR=10.0	133.28	44	⇑P		PKPdf	04 02 55.2 +1.5
GSC	**Goldstone** comp=Z,2µm,20.0s,MS5.7	133.28	44	*e*PKPdf		PKPdf	04 02 54.1 +0.5
GSC				LR	LR		
SHOC	**Shoshone**	133.31	43	⇓P		PKPdf	04 02 55.3 +1.7

baz=134
RRX Edison Barstow 133.37 44 ⇑P PKPdf 04 02 55.2 +1.4
baz=134
Q14A Sevier Lake (B 133.41 37 ⇑P PKPdf 04 02 55.2 +1.5
baz=134
JLU Jordanelle 133.43 34 *e*PKPdf PKPdf 04 02 54.7 +1.0
JLU *ep*PKPdf pPKPdf 04 03 06.1 +1.7
R13A O'Grain Ranch, 133.49 39 ⇓P PKPdf 04 02 55.8 +1.8
baz=134
NLU North Lily Min 133.50 36 *e*PKPdf PKPdf 04 02 54.8 +0.9
NLU *ep*PKPdf pPKPdf 04 03 06.0 +1.4
N17A Moffit Pass 133.54 34 ⇓P PKPdf 04 02 55.4 +1.5
baz=134
U11A Corn Creek 133.62 42 ⇑P PKPdf 04 02 55.6 +1.4
baz=134
P15A Leamington 133.63 36 ⇓P PKPdf 04 02 55.8 +1.6
baz=134
O16A Springville 133.67 35 ⇓P PKPdf 04 02 55.7 +1.5
baz=134
DAU Daniels Canyon 133.67 34 *e*PKIKP PKPdf 04 02 55.1 +0.9
MPU Maple Canyon 133.72 35 *e*PKPdf PKPdf 04 02 57.0 +2.7
MPU *ep*PKPdf pPKPdf 04 03 06.6 +1.5
MPU LR LR
comp=Z,3μm,19.0s,MS6.0
BBRC Big Bear Sol-O 133.75 45 ⇓P PKPdf 04 02 56.3 +1.8
baz=134
TUQ Turquoise Moun 133.81 43 ⇑P PKPdf 04 02 56.6 +2.0
baz=134
HEC Hector,Ludlow 133.86 44 ⇑P PKPdf 04 02 56.6 +1.9
baz=134
T12A Moapa 133.88 41 ⇓P PKPdf 04 02 56.6 +1.9
baz=134
MURC Murrieta 133.89 46 ⇓P PKPdf 04 02 56.6 +1.8
baz=134
V11A Goodsprings 133.92 42 ⇓P PKPdf 04 02 56.3 +1.5
baz=134
S13A Holt Ranch, En 133.92 39 ⇑P PKPdf 04 02 56.3 +1.6
baz=134
Q15A Fillmore 133.94 37 ⇓P PKPdf 04 02 56.5 +1.7
baz=134
P16A Fountain Green 133.97 36 ⇓P PKPdf 04 02 56.6 +1.8
baz=134
R14A James Farms, M 134.00 38 ⇑P PKPdf 04 02 56.6 +1.7
baz=134
O17A Robinson Place 134.11 34 ⇓P PKPdf 04 02 55.9 +0.8
baz=134
N18A Larsen Ranch, 134.15 33 ⇑P PKPdf 04 02 56.1 +1.0
baz=134
U12A Valley of Fire 134.17 41 ⇑P PKPdf 04 02 56.8 +1.5
baz=134
T13A Saint George 134.23 40 ⇑P PKPdf 04 02 57.3 +1.9
baz=134
S14A Cedar City 134.24 39 ⇑P PKPdf 04 02 56.9 +1.5
baz=134
CCUT Cedar City 134.25 39 *e*PKPdf PKPdf 04 02 57.6 +2.2
109C Camp Elliot, M 134.32 47 ⇑P PKPdf 04 02 57.5 +1.8
baz=135
GMRC Granite Mounta 134.35 44 ⇓P PKPdf 04 02 57.5 +1.9
baz=135,SNR=16
MVU Marysvale 134.36 37 PFAKE 04 03 10.0 +14
MVU LR LR
comp=Z,2μm,21.0s,MS5.9
V12A Nelson 134.37 42 ⇓P PKPdf 04 02 57.5 +1.9
baz=135
MSU Marysvale 134.38 37 *e*PKIKP PKPdf 04 02 56.4 +0.8
PFO Pinyon Flat Ob 134.42 46 ⇓P PKPdf 04 02 57.4 +1.6
baz=135,SNR=7.6
PFO Pinyon Flat Ob 134.42 46 *e*PKPdf PKPdf 04 02 56.0 +0.2
PFO *ep*PKPdf pPKPdf 04 03 07.0 +0.4
PFO LR LR
comp=Z,2μm,20.0s,MS5.8
TMUT Trail Mountain 134.44 36 *e*PKPdf PKPdf 04 02 57.5 +1.8
O18A Roosevelt 134.47 34 ⇑P PKPdf 04 02 57.1 +1.4
baz=135
N19A John Jarvie Ra 134.48 32 ⇑P PKPdf 04 02 56.2 +0.5
baz=135
R15A Junction 134.51 38 ⇑P PKPdf 04 02 57.5 +1.7
baz=135
RSSD Black Hills 134.52 25 *e*PKIKP PKPdf 04 02 53.3 -2.4
RSSD MLR MLR
comp=Z,3μm,20.0s,MS5.9
BELC Belle Mtn. 134.53 45 ⇓P PKPdf 04 02 57.6 +1.6
baz=135,SNR=8.9
U13A Pakoon Wash 134.55 41 ⇑P PKPdf 04 02 57.6 +1.6
baz=135
LDFC Landfair 134.56 43 *e*PKPdf PKPdf 04 02 54.6 -1.4
PLCA Paso Flores 134.58 189 PFAKE 04 03 10.0 +14
PLCA LR LR
comp=Z,4μm,20.0s,MS6.1
P17A Butcher Ranch, 134.59 35 ⇑P PKPdf 04 02 57.3 +1.3
baz=135
W12A Cal Nev Ari 134.60 43 ⇓P PKPdf 04 02 57.6 +1.5
baz=135
Q16A Castle Valley 134.71 36 ⇑P PKPdf 04 02 57.6 +1.4
baz=135
T14A Hurricane 134.73 39 ⇓P PKPdf 04 02 58.3 +2.0
baz=135
BAR Barrett 134.74 47 *e*PKPdf PKPdf 04 02 57.4 +0.9
BAR LR LR
comp=Z,2μm,20.0s,MS5.8
P18A Preston Nutter 134.77 35 ⇑P PKPdf 04 02 57.7 +1.4
baz=135
S15A Panguitch 134.80 38 ⇓P PKPdf 04 02 58.5 +2.2
baz=135
MONP Monument Peak 134.81 46 ⇓P PKPdf 04 02 58.4 +1.8
baz=135
V13A Grand Canyon W 134.87 41 ⇑P PKPdf 04 02 58.5 +1.9
baz=135
O19A Miners Draw (B 134.93 33 ⇑P PKPdf 04 02 57.5 +0.9
baz=135
R16A Teasdale 134.94 37 ⇓P PKPdf 04 02 58.3 +1.7
baz=135
SRU San Rafael 134.96 35 *e*PKIKP PKPdf 04 02 57.9 +1.2
IRM Iron Mountain 135.04 44 ⇓P PKPdf 04 02 58.6 +1.6
baz=135
U14A Mt Trumbull 135.06 40 ⇑P PKPdf 04 02 58.3 +1.4
baz=135
NEE2 Needles Airpor 135.07 43 ⇑P PKPdf 04 02 58.5 +1.5
baz=135
TRQA Tornquist 135.08 199 PFAKE 04 03 10.0 +13
TRQA LR LR
comp=Z,3μm,21.0s,MS5.9
BC3 Big Chuckw Mtn 135.10 45 ⇑P PKPdf 04 02 58.6 +1.5
baz=135,SNR=8.0
EYMN Ely 135.15 12 *e*PKPdf PKPdf 04 02 57.5 +0.7
DVTC Desert V Tower 135.16 46 ⇓P PKPdf 04 02 58.6 +1.3
baz=136
Q18A Rafter H Ranch 135.19 35 ⇓P PKPdf 04 02 58.5 +1.4
baz=135
T15A Red Dirt Ranch 135.19 39 ⇑P PKPdf 04 02 58.7 +1.5
baz=135
S16A Weppner Ranch, 135.24 38 ⇓P PKPdf 04 02 58.7 +1.5
baz=136
SWSC Sam W. Stewart 135.24 46 ⇑P PKPdf 04 02 58.8 +1.4
baz=136,SNR=5.4
R17A Hanksville Air 135.31 36 ⇑P PKPdf 04 02 58.6 +1.3
baz=136
W13A Hualapai Mount 135.37 42 ⇑P PKPdf 04 02 59.4 +1.8
baz=136
V14A Boquillas Ranc 135.57 41 ⇓P PKPdf 04 02 59.9 +2.0
baz=136
U15A North Rim 135.62 39 ⇓P PKPdf 04 02 60.0 +2.0
baz=136
PDMCI Parker Dam,Lak 135.66 43 ⇓P PKPdf 04 02 59.3 +1.2
baz=136
Y12C Blythe 135.70 44 ⇓P PKPdf 04 02 59.2 +0.9
baz=136
X13A Yucca 135.70 43 ⇑P PKPdf 04 02 59.8 +1.6
baz=136
T16A Glen Canyon Da 135.76 38 ⇓P PKPdf 04 02 59.2 +1.0
baz=136
S17A Black Ridge (B 135.77 37 ⇑P PKPdf 04 02 59.1 +0.9
baz=136
Q19A Hogan Spring (135.78 35 ⇑P PKPdf 04 02 59.3 +1.1
baz=136
R18A Canyonlands Na 135.81 36 ⇓P PKPdf 04 02 59.4 +1.1
baz=136
W14A Seligman 135.84 41 ⇑P PKPdf 04 03 00.3 +1.8
baz=136
GLA Glamis 135.87 45 ⇑P PKPdf 04 03 00.1 +1.6
baz=136,SNR=5.4
GLA Glamis 135.87 45 PFAKE 04 03 10.0 +11
GLA LR LR
comp=Z,1μm,20.0s,MS5.7
V15A Kaibab Nationa 136.07 40 ⇓P PKPdf 04 03 01.0 +2.2
baz=136
PHWY Pilot Hill 136.08 29 *e*PKPdf PKPdf 04 02 58.7 0.0

Y13A Salome 136.14 44 ⇑P PKPdf 04 03 00.5 +1.4
baz=136
T17A Navajo Res., N 136.19 38 ⇓P PKPdf 04 03 00.7 +1.7
baz=136
S18A Hurst Farm, BI 136.22 36 ⇓P PKPdf 04 03 00.2 +1.1
baz=136
PV10 Paradox Valley 136.31 35 *e*PKPdf PKPdf 04 03 00.2 +1.0
112A Yuma 136.32 46 ⇑P PKPdf 04 03 01.2 +1.8
baz=137
W15A Williams 136.40 41 ⇑P PKPdf 04 03 01.5 +2.1
baz=137
X14A Yava 136.40 42 ⇓P PKPdf 04 03 01.4 +1.9
baz=137
U16A Tuba City 136.53 39 ⇓P PKPdf 04 03 01.2 +1.6
baz=137
U17A Shonto 136.53 38 ⇓P PKPdf 04 03 01.6 +2.0
baz=137
Y14A Wickenburg 136.64 43 ⇑P PKPdf 04 03 01.2 +1.3
baz=137
T18A Mexican Hat 136.66 37 ⇑P PKPdf 04 03 01.2 +1.3
baz=137
S19A Harvey Farm, M 136.68 36 ⇑P PKPdf 04 03 01.5 +1.6
baz=137
PV01 Paradox Valley 136.74 35 *e*PKPdf PKPdf 04 03 01.0 +1.0
WUAZ Wupatki 136.76 40 *e*PKPdf PKPdf 04 03 01.5 +1.4
WUAZ LR LR
comp=Z,2μm,20.0s,MS5.8
113A Mohawk Valley, 136.77 45 ⇑P PKPdf 04 03 01.2 +1.0
baz=137
X15A Humboldt 136.83 42 ⇑P PKPdf 04 03 02.1 +1.8
baz=137
W16A Flagstaff 136.92 40 ⇑P PKPdf 04 03 02.1 +1.7
baz=137
Z14A Wintersburg 137.01 44 ⇓P PKPdf 04 03 02.5 +1.9
baz=137
Y15A Casa Rosa Ranc 137.08 42 ⇑P PKPdf 04 03 02.2 +1.4
baz=137
U18A Rough Rock, Ch 137.13 38 ⇑P PKPdf 04 03 02.5 +1.7
baz=137
ISCO Idaho Springs 137.14 31 *e*PKIKP PKPdf 04 03 01.1 +0.4
ISCO MLR MLR
comp=Z,2μm,19.0s,MS5.9
T19A Beclabito 137.37 37 ⇓P PKPdf 04 03 02.5 +1.3
baz=138
COWI Conover 137.38 11 *e*PKPdf PKPdf 04 03 01.0 +0.1
COWI LR LR
comp=Z,3μm,20.0s,MS6.0
X16A Lo Mia Camp, P 137.40 41 ⇓P PKPdf 04 03 03.4 +2.0
baz=138
MVCO Mesa Verde 137.42 36 *e*PKPdf PKPdf 04 03 02.2 +0.9
MVCO LR LR
comp=Z,2μm,20.0s,MS5.9
W17A Winslow 137.46 40 ⇓P PKPdf 04 03 03.1 +1.7
baz=138
V18A Ganado 137.55 39 ⇓P PKPdf 04 03 03.4 +1.8
baz=138
Z15A Gila River Ind 137.59 43 ⇓P PKPdf 04 03 03.2 +1.5
baz=138
ECSD EROS,Sioux Fal 137.67 19 PFAKE 04 03 10.0 +8.4
ECSD LR LR
comp=Z,4μm,19.0s,MS6.2
Y16A Circle Bar Ran 137.70 42 ⇑P PKPdf 04 03 03.9 +2.0
baz=138
X17A Forest Lakes 137.86 41 ⇑P PKPdf 04 03 04.0 +1.8
baz=138
214A Organ Pipe Nat 137.89 45 ⇓P PKPdf 04 03 03.7 +1.4
baz=138
OGNE Ogallala 137.96 26 PFAKE 04 03 10.0 +7.8
OGNE LR LR
comp=Z,3μm,20.0s,MS6.0
Z16A Peralta Trail, 138.05 42 ⇑P PKPdf 04 03 04.1 +1.5
baz=138
W18A Petrified Fore 138.06 39 ⇓P PKPdf 04 03 04.4 +1.9
baz=138
V19A Window Rock 138.09 38 ⇓P PKPdf 04 03 04.6 +2.0
baz=138
Y17A Roosevelt 138.23 42 ⇑P PKPdf 04 03 04.4 +1.5
baz=138
W19A Sanders 138.28 39 ⇓P PKPdf 04 03 04.4 +1.5
baz=138
X18A Snowflake 138.29 40 ⇓P PKPdf 04 03 04.5 +1.5
baz=138
116A Eloy 138.32 44 ⇓P PKPdf 04 03 04.7 +1.6
baz=139
PKME Peaks-Kenny Pk 138.33 350 PFAKE 04 03 10.0 +7.3
PKME LR LR
comp=Z,3μm,19.0s,MS6.0
Y18A Canyon Day Jun 138.71 41 ⇓P PKPdf 04 03 06.0 +2.2
baz=139
Z17A San Carlos Hig 138.72 42 ⇑P PKPdf 04 03 05.6 +1.8
baz=139
SDCO Great Sand Dun 138.72 33 *e*PKPdf PKPdf 04 03 04.4 +0.8
SDCO LR LR
comp=Z,3μm,20.0s,MS6.0
X19A St. Johns 138.78 39 ⇑P PKPdf 04 03 06.0 +2.1
baz=139
216A Three Points, 138.81 44 ⇓P PKPdf 04 03 05.8 +1.8
baz=139
117A Oracle 138.97 43 ⇓P PKPdf 04 03 05.9 +1.6
baz=139
TUC Tucson 139.10 43 *e*PKIKP PKPdf 04 03 04.5 0.0
Y19A Nutrioso 139.10 40 ⇓P PKPdf 04 03 06.3 +1.8
baz=139
Z18A Geronimo 139.13 42 ⇑P PKPdf 04 03 06.3 +1.7
baz=139
217A Green Valley 139.39 44 ⇑P PKPdf 04 03 06.9 +1.8
baz=140
118A Homack Ranch, 139.45 42 ⇓P PKPdf 04 03 06.8 +1.7
baz=140
Z19A T-Link Ranch, 139.51 41 ⇑P PKPdf 04 03 06.8 +1.6
baz=140
LBNH Lisbon 139.74 352 PFAKE 04 03 20.0 +15
LBNH LR LR
comp=Z,4μm,20.0s,MS6.1
218A Dragoon 139.80 43 ⇑P PKPdf 04 03 07.6 +1.8
baz=140
119A Ashpeak Ranch, 139.82 41 ⇑P PKPdf 04 03 07.6 +1.8
baz=140
LAZ Ladron 140.13 38 *e*PKPdf PKPdf 04 03 06.7 +0.3
318A Bisbee 140.16 44 ⇓P PKPdf 04 03 08.0 +1.5
baz=140
ANMO Albuquerque 140.17 37 *e*PKHKP 04 03 00.5
ANMO MLR MLR
comp=Z,3μm,20.0s
JFWS Jewell Farm 140.21 13 *e*PKIKP PKPdf 04 03 05.9 -0.3
JFWS MLR MLR
comp=Z,3μm,20.0s,MS6.1
NCB Newcomb 140.26 355 PFAKE 04 03 20.0 +14
NCB LR LR
comp=Z,4μm,21.0s,MS6.1
219A White Tail Can 140.32 42 ⇑P PKPdf 04 03 08.5 +1.8
baz=141
LENM Lemitar 140.39 38 *e*PKPdf PKPdf 04 03 08.5 +1.7
LPM Los Pinos Moun 140.50 37 *e*PKPdf PKPdf 04 03 08.0 +1.0
BNM Barren Site 140.62 38 *e*PKPdf PKPdf 04 03 06.5 -0.8
319A Douglas 140.68 43 ⇑P PKPdf 04 03 09.7 +2.2
baz=141
CBKS Cedar Bluff 140.71 26 PFAKE 04 03 20.0 +13
CBKS LR LR
comp=Z,3μm,19.0s,MS6.1
HRV Adam Dziewonsk 141.38 351 PFAKE 04 03 20.0 +12
HRV LR LR
comp=Z,2μm,19.0s,MS5.9
WES Weston 141.47 351 PFAKE 04 03 20.0 +11
WES LR LR
comp=Z,3μm,20.0s,MS6.0
KSU1 Kansas State U 141.76 23 PFAKE 04 03 20.0 +11
KSU1 LR LR
comp=Z,5μm,21.0s,MS6.2
BINY Binghamton 142.15 357 *e*PKPdf PKPdf 04 03 09.6 -0.1
BINY LR LR
comp=Z,5μm,20.0s,MS6.3
ERPA Erie 142.31 1 PFAKE 04 03 20.0 +10
ERPA LR LR
comp=Z,3μm,20.0s,MS6.1
HDIL Hopedale 142.67 13 *e*PKPdf PKPdf 04 03 09.0 -1.7
HDIL LR LR
comp=Z,3μm,21.0s,MS6.0
AMTX Amarillo 142.90 32 *e*PKPdf PKPdf 04 03 08.8 -2.5
AMTX LR LR
comp=Z,4μm,21.0s,MS6.1
MNTX Cornudas Mount 143.04 39 PFAKE 04 03 20.0 +8.4
MNTX LR LR
comp=Z,4.0nm,20.0s
CPUP Villa Florida 143.14 213 PKP PKPdf 04 03 10.1 -1.9
comp=Z,5.2nm,0.8s,baz=85,slow=2.4,SNR=11
CPUP Villa Florida 143.14 213 PKP PKPdf 04 03 10.1 -1.9
CPUP LR LR
comp=Z,487nm,21.0s,MS5.2
BDFB Brasilia 143.65 236 PKP PKPdf 04 03 10.8 -2.3
comp=Z,3.0nm,0.8s,baz=175,slow=0.9,SNR=3.7
SSPA Standing Stone 143.79 359 *e*PKPdf PKPdf 04 03 09.9 -2.8
SSPA LR LR
comp=Z,4μm,20.0s,MS6.1
ACSO Alum Creek Sta 144.01 5 *e*PKPdf PKPdf 04 03 10.1 -3.0
SLM Saint Louis 144.25 15 *e*PKIKP PKPdf 04 03 11.7 -1.9
WMOK Wichita Mounta 144.48 29 *e*PKIKP PKPdf 04 03 11.5 -2.6
WMOK MLR MLR
comp=Z,3μm,20.0s,MS6.1
CCM Cathedral Cave 144.51 17 *e*PKIKP PKPdf 04 03 11.0 -3.0
CCM MLR MLR
comp=Z,2μm,19.0s,MS6.0
BLO Bloomington 144.56 10 *e*PKIKP PKPdf 04 03 12.9 -1.2
OLIL Olney 144.68 13 *e*PKPdf PKPdf 04 03 12.2 -2.1
MCWV Mont Chateau 144.76 1 *e*PKPdf PKPdf 04 03 12.6 -1.8
MCWV LR LR
comp=Z,5μm,21.0s,MS6.3
FVM French Village 144.81 16 *e*PKIKP PKPdf 04 03 12.2 -2.4
SDMD Soldier's Deli 144.98 357 *e*PKPdf PKPdf 04 03 12.6 -2.2
SIUC Southern Illin 145.38 15 *e*PKPbc PKPbc 04 03 14.1 -1.3
USIN University of 145.51 12 *e*PKPbc PKPbc 04 03 15.2 -0.6
WCI Wyandotte Cave 145.52 10 *e*PKIKP PKPdf 04 03 14.7 -1.1
WCI MLR MLR
comp=Z,3μm,21.0s,MS6.1
TXAR Lajitas Array 145.72 41 PKPbc PKPbc 04 03 17.1 +0.4
comp=Z,102nm,1.0s,baz=270,slow=1.3,SNR=251
LCO Las Campanas 146.00 193 PFAKE 04 03 30.0 +13
LCO LR LR
comp=Z,5μm,19.0s,MS6.3
CBN Corbin 146.20 358 *e*PKPdf PKPdf 04 03 18.6 +1.6
CBN LR LR
comp=Z,3μm,22.0s,MS6.1
PARMO Parma 146.24 16 *e*PKPdf PKPdf 04 03 18.1 +1.1
PARMO *ep*PKPdf pPKPdf 04 03 28.8 +1.0
PARMO *es*PKPdf 04 03 31.7
GLAT Glass 146.73 16 *e*PKPdf PKPdf 04 03 17.7 -0.2
GLAT *e*PKPbc PKPbc 04 03 19.8 +0.3
UTMT University of 146.77 15 *e*PKPdf PKPdf 04 03 19.0 +1.1
UTMT *e*PKPbc PKPbc 04 03 20.2 +0.6
GNAR Gosnell 146.81 17 *e*PKPdf PKPdf 04 03 19.1 +1.1
URVA University of 146.84 358 *e*PKPdf PKPdf 04 03 18.7 +0.6
MIAR Mount Ida 146.91 23 *e*PKPdf PKPdf 04 03 18.5 +0.2
MIAR *e*PKPbc PKPbc 04 03 20.5 +0.4
MIAR LR LR
comp=Z,3μm,19.0s,MS6.1
HBAR Harrisburg 147.01 18 *e*PKPdf PKPdf 04 03 18.9 +0.5
HALT Halls 147.06 16 *e*PKPdf PKPdf 04 03 19.5 +1.1
HALT *ep*PKPdf pPKPdf 04 03 29.7 +0.5
ELN Prospectdale 147.16 3 *e*PKPdf PKPdf 04 03 19.2 +0.6
UALR University of 147.16 21 *e*PKPdf PKPdf 04 03 18.8 +0.1
BLA Blacksburg 147.19 2 *e*PKIKP PKPdf 04 03 17.9 -0.7
BLA *e* 04 03 20.4
BLA MLR MLR
comp=Z,3μm,21.0s,MS6.0
WVT Waverly 147.23 14 *e*PKPdf PKPdf 04 03 18.9 +0.2
WVT *e*PKPbc PKPbc 04 03 21.4 +0.4
WVT *ep*PKPdf pPKPdf 04 03 30.7 +1.2
WVT LR LR
comp=Z,3μm,19.0s,MS6.1
JCT Junction City 147.27 35 *e*PKP2 PKPab 04 03 19.1 -3.9
JCT MLR MLR
comp=Z,2μm,20.0s,MS6.0
TZTN Tazewell 147.59 7 *e*PKPdf PKPdf 04 03 19.9 +0.6
TZTN *e*PKPbc PKPbc 04 03 22.0 0.0
TZTN *ep*PKPdf pPKPdf 04 03 31.4 +1.4
TZTN LR LR
comp=Z,5μm,19.0s,MS6.3
OXF Oxford 148.35 17 *e*PKPdf PKPdf 04 03 22.3 +1.7
OXF *ep*PKPdf pPKPdf 04 03 32.7 +1.3
OXF LR LR
comp=Z,3μm,20.0s,MS6.0
SWET Sewanee 148.51 11 *e*PKPdf PKPdf 04 03 21.2 +0.4
SWET *e*PKPbc PKPbc 04 03 24.2 -0.2
CPCT Cooper Cave 148.53 9 *e*PKPdf PKPdf 04 03 21.0 +0.1
CPCT *e*PKPbc PKPbc 04 03 24.4 -0.1
NATX Nacogdoches 148.87 27 *e*PKPdf PKPdf 04 03 19.3 -2.3
NATX *e*PKPbc PKPbc 04 03 25.7 +0.2
NATX LR LR
comp=Z,4μm,19.0s,MS6.2
BBSR BB Station 149.07 336 *e*PKPdf PKPdf 04 03 22.0 +0.2
BBSR *e*PKPbc PKPbc 04 03 25.9 0.0
BBSR LR LR
comp=Z,2μm,19.0s,MS6.0
CNNC Cliffs of the 149.18 359 *e*PKPdf PKPdf 04 03 22.9 +1.0
HKT Hockley 149.82 30 PFAKE 04 03 30.0 +6.9
HKT LR LR
comp=Z,4μm,21.0s,MS6.2
JSC Jenkinsville 150.06 4 *e*PKP2 PKPbc 04 03 27.7 -0.6
VBMS Vicksburg 150.12 20 *e*PKPbc PKPbc 04 03 28.1 -0.4
VBMS LR LR
comp=Z,3μm,21.0s,MS6.1
LRAL Lakeview Retre 150.38 14 PFAKE 04 03 30.0 +6.1
LRAL LR LR
comp=Z,4μm,21.0s,MS6.2
KVTX Kingsville 150.57 36 *e*PKPbc PKPbc 04 03 31.1 +1.4
ZAIG Zacatecas 150.58 49 *e*P PKPdf 04 03 26.6 +2.1
GOGA Godfrey 150.69 8 *e*PKIKP PKPbc 04 03 28.8 -1.1
COW Cow Castle Cre 150.99 3 *e*PKPbc PKPbc 04 03 30.7 +0.1
NHSC New Hope 151.29 2 PFAKE 04 03 40.0 +15
NHSC LR LR
comp=Z,4μm,20.0s,MS6.2
SFJM Santa Fe 151.45 54 *i* P PKPdf 04 03 33.8 +7.9
LVC Limon Verde 151.58 200 PFAKE 04 03 40.0 +14
LVC LR LR
comp=Z,2μm,20.0s,MS6.0
BRAL Brewton 152.29 15 PFAKE 04 03 40.0 +13
BRAL LR LR
comp=Z,4μm,20.0s,MS6.3
MOIG Morelia 153.36 53 *e*P PKPdf 04 03 30.4 +1.7
DWPF Disney 156.16 6 PFAKE 04 03 40.0 +7.6
DWPF LR LR
comp=Z,4μm,22.0s,MS6.2
LPAZ La Paz 157.00 207 PKP PKPdf 04 03 33.5 -0.3
comp=Z,1.6nm,0.9s,baz=35,slow=4.8,SNR=6.7
LPAZ PKPab PKPab 04 04 04.7 +0.9
comp=Z,7.5nm,1.1s,baz=128,slow=4.9,SNR=6.2
LPAZ La Paz 157.00 207 PKP PKPdf 04 03 33.5 -0.3
LPAZ PKPab PKPab 04 04 04.7 +0.9
LPAZ LR LR
comp=Z,2μm,20.0s,MS6.0
BBGH Gun Hill 159.04 296 PFAKE 04 03 50.0 +14
BBGH LR LR
comp=Z,4μm,22.0s,MS6.2
TEIG Tepich 161.66 29 PFAKE 04 03 50.0 +11
TEIG LR LR
comp=Z,3μm,20.0s
NNA Nana 163.73 187 PFAKE 04 03 50.0 +8.7
NNA LR LR
comp=Z,4μm,21.0s
TGUH Tegucigalpa,Un 167.19 40 PFAKE 04 03 50.0 +5.9
TGUH LR LR
comp=Z,3μm,20.0s
PAYG Puerto Ayora 167.53 113 PFAKE 04 03 50.0 +5.5
PAYG LR LR
comp=Z,3μm,20.0s
SDV Santo Domingo 170.66 300 PFAKE 04 04 00.0 +14
SDV LR LR
comp=Z,1μm,19.0s
ROSC El Rosal 175.49 278 PKP PKPdf 04 03 47.4 -0.9
comp=Z,1.8nm,0.5s,baz=266,slow=24,SNR=4.5
OTAV Otavalo 175.97 185 *e*PKPdf PKPdf 04 03 47.7 -0.8

ISCJB ***02*** *03:58:48.4±2.5, 197S±02×1692E±0.1, h160km±18km, mb4.0/7, Error ellipse: s-maj=29.1km s-min=20.1km az=26.3*

IDC ***02*** *03:58:51.5±9.1, 1956S×169.19E, h179km±84km, mb3.8/7, mb1 4.0/8, mb1mx3.8/17, mbtmp3.8/8, Error ellipse: s-maj=49.1km s-min=20.8km az=15.0*

ISC 02 03:58:49.0±2.5, 196S±02×1692E±01, h155km±18km, n16, σ0$77/15, mb4.0/7, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LASL	**Noumea**	**3.59**	**224**	*e*P	**Pn**	**03 59 44.2**	**+0.2**
NOUC	**Port Laguerre**	**3.66**	**228**	*e*P	**Pn**	**03 59 44.3**	**-0.7**
NOUC				*e*S	**Sn**	**04 00 28.1**	**-0.3**
URZ	**Urewera**	**19.78**	**161**	P		**04 03 08.8**	**+1.7**
	2.1nm,0.3s,baz=315,slow=7.4,SNR=10						
CTA	**Charters Tower**	**21.60**	**265**	P	**P**	**04 03 28.0**	**+1.3**

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
	2.7nm,0.5s,mb4.0,baz=68,slow=10,SNR=5.0						
STKA	**Stephens Creek**	**27.61**	**238**	P	**P**	**04 04 22.6**	**+0.7**
	3.3nm,0.5s,mb4.3,baz=95,slow=6.2,SNR=15						
WRA	**Warramunga Arr**	**32.78**	**263**	P	**P**	**04 05 06.6**	**-1.0**
	1.2nm,0.4s,mb4.0,baz=92,slow=8.3,SNR=24						
WRA				PcP	PcP	04 07 48.8	-0.5
	0.2nm,0.6s,baz=95,slow=3.3,SNR=3.1						
ASAR	**Alice Springs**	**33.01**	**257**	P	**P**	**04 05 09.4**	**-0.2**
	8.3nm,0.4s,mb4.8,baz=84,slow=8.9,SNR=139						
FITZ	**Fitzroy Crossi**	**41.18**	**265**	P	**P**	**04 06 19.2**	**+0.7**
	2.8nm,0.5s,mb4.1,baz=140,slow=9.2,SNR=6.9						
SONM	**Songino Array**	**87.53**	**323**	P	**P**	**04 11 19.3**	**+0.2**
	0.2nm,0.3s,mb3.4,baz=142,slow=5.4,SNR=3.3						
SNAA	**Sanae**	**88.76**	**183**	*e*	**P**	**04 11 23.8**	**-0.9**
NVAR	**Mina Array Bea**	**89.08**	**49**	P	**P**	**04 11 26.5**	**-0.2**
	0.8nm,0.8s,mb3.7,baz=226,slow=9.1,SNR=5.8						
VNA3	**Neumayer Olymp**	**89.35**	**180**	*e*	**P**	**04 11 26.6**	**-0.8**
VNA2	**Neumayer--Watz**	**89.64**	**181**	*e*	**P**	**04 11 28.6**	**-0.2**
	baz=174,slow=3.6						
VNA1	**Neumayer--Stat**	**89.93**	**181**	*e*	**P**	**04 11 29.8**	**-0.4**
ARCES	**ARCESS Array B**	**125.45**	**345**	PKP	PKPdf	04 17 29.4	-1.4
	0.8nm,0.4s,baz=84,slow=2.1,SNR=4.5						
GERES	**GERESS Array B**	**144.83**	**332**	PKP	PKPdf	04 18 06.2	-1.1
	1.0nm,0.6s,baz=35,slow=4.9,SNR=11						

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*NEIC **02** 04:02:04.1, 29.53N×15.00W, h0km, MN2.6(MDD), After MDD.*
*CSEM **02** 04:02:04.1±0.4, 29.53N×15.00W, h0km, ML2.6, Error ellipse: s-maj=4.6km s-min=1.4km az=174.0, After MDD*
MDD 02 04:02:04.9±0.5**, 29.62N×15.00W, h47**km±35km**, mb4.3**/7**, 2C, Error ellipse: s-maj=8.0km s-min=1.8km az=162.0, PRIMO TT-MODEL: CANARY, Canary Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CFUE	**Fuerteventura**	**1.34**	**136**	⇑P	Pn	04 02 25.7	-1.5
	57nm,0.1s,SNR=18						
CFUE				S	Sn	04 02 41.9	-1.9
	75nm,0.1s,SNR=7.9						
EFAM	**Famara**	**1.37**	**110**	S	Sn	04 02 42.1	-2.4
	11nm,0.2s,SNR=7.9						
EFAM	**Famara**	**1.37**	**110**	S	Sn	04 02 42.1	-2.5
	11nm,0.2s,SNR=7.9						
CFTV	**Fuerteventura**	**1.44**	**146**	⇑P	Pn	04 02 27.2	-1.3
	5.0nm,0.1s,SNR=18						
CFTV				S	Sn	04 02 43.4	-2.9
	13nm,0.1s,SNR=15						
EBAJ	**Bajamar**	**1.59**	**228**	P	Pn	04 02 28.7	-1.9
	6.0nm,0.2s,SNR=7.9						
EBAJ				S	Sn	04 02 47.7	-2.3
	19nm,0.1s,SNR=7.9						
EBAJ	**Bajamar**	**1.59**	**228**	P	Pn	04 02 28.7	-1.9
	6.0nm,0.2s,SNR=7.9						
EBAJ				S	Sn	04 02 47.7	-2.3
	19nm,0.1s,SNR=7.9						
EOSO	**Osorio**	**1.61**	**198**	P	Pn	04 02 29.8	-1.1
	2.9nm,0.1s,SNR=18						
EOSO				S	Sn	04 02 47.6	-2.9
	19nm,0.2s,SNR=10						
EOSO	**Osorio**	**1.61**	**198**	P	Pn	04 02 29.8	-1.1
	2.9nm,0.1s,SNR=18						
EOSO				S	Sn	04 02 50.1	-0.4
	19nm,0.2s,SNR=10						
EOSO	**Osorio**	**1.61**	**198**	P	Pn	04 02 29.8	-1.1
EOSO				S	Sn	04 02 50.1	-0.4
CICO	**Icod de los Vi**	**1.97**	**231**	S	Sn	04 02 57.3	-1.9
	2.5nm,0.2s,SNR=7.9						
CCAN	**Las Canadas**	**1.98**	**226**	P	Pn	04 02 33.8	-2.0
	1.4nm,0.1s,SNR=7.9						
CCAN				S	Sn	04 02 56.7	-2.7
	1.1nm,0.1s,SNR=7.9						
CHIO	**Chio**	**2.10**	**230**	P	Pn	04 02 35.0	-2.5
	7.9nm,0.1s,SNR=5.5						
CHIO				S	Sn	04 02 59.4	-3.1
	34nm,0.1s,SNR=14						
EGOM	**La Gomera**	**2.42**	**234**	P	Pn	04 02 39.9	-2.0
	10nm,0.3s,SNR=8.0						
EGOM				S	Sn	04 03 06.3	-4.1
	27nm,0.1s,SNR=7.9						
EHIG	**Higuera**	**2.67**	**247**	S	Sn	04 03 11.6	-5.0
	6.2nm,0.1s,SNR=7.9						

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*IDC **02** 04:16:44.4±6.8, 36.11N×70.89E, h90km±61km, mb3.9/9, mb1 4.0/12, mb1mx3.8/25, mbtmp3.9/12, ML4.0/3, Error ellipse: s-maj=33.8km s-min=17.9km az=16.0*
*MOS **02** 04:16:49.2±1.2, 36.47N×71.07E, h133km, mb4.1/8, Error ellipse: s-maj=16.9km s-min=7.8km az=88.7*
*ISCJB **02** 04:16:50.0±0.4, 36.45N±0.03×71.06E±0.05, h149km±6km, mb3.9/9, Error ellipse: s-maj=7.3km s-min=4.4km az=166.0*
*NEIC **02** 04:16:51.4±1.0, 36.41N×71.00E, h150km±10km, Error ellipse: s-maj=14.4km s-min=9.8km az=128.0*
*NNC **02** 04:16:55.0±12.0, 36.85N×70.47E, h150km±131km, mb3.5, mpv4.8, Error ellipse: s-maj=97.0km s-min=58.9km az=20.0*
ISC 02 04:16:51.1±0.4**, 36.44N**±0.03×**71.07E**±0.05**, h144**km±6km**, n67, σ0s92**/82**, mb3.9**/9**, 6C-5D, Afghanistan-Tajikistan border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBL	**Kabul**	**2.51**	**222**	*e*Pn	**Pn**	**04 17 32.6**	**+0.6**
KBL				*e*Sn	**Sn**	**04 18 03.8**	**+0.2**
THN	**Thein Dam**	**5.54**	**135**	*e*P	**Pn**	**04 18 11.2**	**-0.3**
THN				*e*x	x	04 19 16.3	
AML	**Almayashu**	**6.04**	**19**	P	**Pn**	**04 18 19.0**	**+0.9**
	SNR=59						
EKS2	**Erkin-Say**	**6.56**	**18**	P	**Pn**	**04 18 25.7**	**+0.6**
	SNR=53						
KK31	**Karatay Array**	**6.67**	**356**	P	**Pn**	**04 18 26.5**	**-0.1**
	54nm,0.4s,baz=184,slow=13,SNR=848						
KK31				⇓S	**Sn**	**04 19 38.2**	**-3.2**
	48nm,0.5s,baz=190,slow=24,SNR=16						
KK31	**Karatay Array**	**6.67**	**356**	*e*PN	**Pn**	**04 18 26.5**	**-0.1**
KK31				pmax	pmax		
	comp=Z,67nm,0.3s						
AAK	**Ala-Archa**	**6.73**	**22**	P	**Pn**	**04 18 28.3**	**+1.0**
	SNR=20						
KBK	**Karagaybulak**	**6.89**	**25**	P	**Pn**	**04 18 30.6**	**+1.0**
	SNR=14						
SDNR	**Sundarnagar**	**6.95**	**133**	*e*P	**Pn**	**04 18 30.1**	**-0.3**
SDNR				*e*S	**Sn**	**04 19 43.1**	**-5.0**
CHMS	**Chumysh**	**7.14**	**22**	P	**Pn**	**04 18 33.4**	**+0.5**
	SNR=14						
USP	**Ospenovka**	**7.31**	**20**	P	**Pn**	**04 18 34.8**	**-0.4**
	SNR=25						
SMLA	**Simla**	**7.33**	**134**	*i* P	**Pn**	**04 18 36.0**	**+0.5**
SMLA				*i* S	**Sn**	**04 19 51.6**	**-5.8**
SMLA				*e*x	x	04 20 02.7	
	comp=E,592nm,0.3s						
SMLA				*e*x	x	04 20 02.8	
	comp=N,884nm,0.4s						
TKM2	**Tokmak 2**	**7.36**	**27**	⇓P	**Pn**	**04 18 36.1**	**+0.4**
	comp=N,15nm,0.5s						
TKM2				⇓S	**Sn**	**04 19 57.2**	**-0.6**
	comp=N,34nm,0.9s						
TKM2	**Tokmak 2**	**7.36**	**27**	P	**Pn**	**04 18 36.0**	**+0.3**
	SNR=34						
JOSI	**Joshimath**	**9.20**	**127**	*e*x	x	04 20 42.4	
KHET	**Khetri**	**9.25**	**153**	*e*P	**Pn**	**04 19 00.1**	**-1.1**
KHET				*e*S	**Sn**	**04 20 37.1**	**-6.6**
KHET				AML	AML	04 20 41.0	
	comp=E,44nm,0.4s						
KHET				AML	AML	04 20 41.2	
	comp=N,31nm,0.2s						
NDI	**New Delhi**	**9.31**	**144**	*e*P	**Pn**	**04 19 03.0**	**+1.1**
NDI				*e*S	**Sn**	**04 20 40.0**	**-5.1**
KUDL	**Kundal**	**9.45**	**149**	*e*P	**Pn**	**04 19 02.9**	**-1.0**
KUDL				*e*S	**Sn**	**04 20 42.7**	**-5.9**
KUDL				AML	AML	04 20 49.7	
	comp=N,26nm,0.3s						
SONA	**Sohna**	**9.62**	**146**	*e*P	**Pn**	**04 19 06.2**	**+0.1**
SONA				*e*S	**Sn**	**04 20 45.1**	**-7.4**
MK31	**Makanchi Array**	**13.31**	**36**	*i* P	**Pn**	**04 19 53.3**	**-0.9**
MK31				pmax	pmax		
	comp=Z,1.0nm,0.4s						
MK31	**Makanchi Array**	**13.31**	**36**	*e*Pn	**Pn**	**04 19 55.8**	**+1.6**
MKAR	**Makanchi Array**	**13.31**	**36**	P	**Pn**	**04 19 54.1**	**-0.1**
	comp=Z,0.3nm,0.3s,baz=216,slow=12,SNR=7.3						
DANN	**Dangsing**	**13.41**	**123**	*e*P	**Pn**	**04 19 55.2**	**-0.4**
	comp=Z,24nm,0.3s						
KOLN	**Koldanda**	**13.68**	**126**	*e*P	**Pn**	**04 19 58.5**	**-0.6**
	comp=Z,9.3nm,0.3s						
GKN	**Gorkha**	**14.22**	**122**	*e*P	**Pn**	**04 20 05.1**	**-0.9**
	comp=Z,63nm,0.7s						
DMN	**Daman**	**14.79**	**123**	*e*P	**Pn**	**04 20 13.3**	**+0.2**
	comp=Z,16nm,0.4s						
KKN	**Kakani**	**14.80**	**122**	*e*P	**Pn**	**04 20 12.9**	**-0.3**
	comp=Z,36nm,0.5s						
GUN	**Gumba**	**15.14**	**120**	*e*P	**Pn**	**04 20 17.1**	**-0.3**
	comp=Z,19nm,0.4s						
KURBB	**Kurchatov Arra**	**15.16**	**18**	⇑P	**Pn**	**04 20 15.5**	**-2.0**
	comp=Z,1.1nm,0.6s						
AB31	**Akbulak array**	**15.17**	**331**	⇓P	**Pn**	**04 20 16.0**	**-1.5**
	comp=Z,2.9nm,0.4s,baz=144,slow=12,SNR=124						
AB31				⇑S	**Sn**	**04 22 52.6**	**-13**
	comp=Z,6.4nm,0.7s,baz=158,slow=23,SNR=7.2						
AB31	**Akbulak array**	**15.17**	**331**	*i* P	**Pn**	**04 20 16.0**	**-1.6**
AB31				*e*S	**Sn**	**04 22 52.6**	**-13**
AB31				pmax	pmax		
	comp=Z,5.0nm,0.3s						
AB31				smax			
	comp=N,3.0nm,0.4s						
KURK	**Kurchatov**	**15.27**	**18**	P	**Pn**	**04 20 15.7**	**-3.2**
	comp=N,0.2nm,0.3s,baz=209,slow=11,SNR=10						
KURK	**Kurchatov**	**15.27**	**18**	*e*Pn	**Pn**	**04 20 18.3**	**-0.5**
JIRN	**Jiri**	**15.51**	**120**	*e*P	**Pn**	**04 20 22.5**	**+0.5**
	comp=N,60nm,0.4s						
RAMN	**Ramite**	**16.23**	**121**	*e*P	**Pn**	**04 20 31.4**	**+0.5**
	comp=N,18nm,0.4s						
VOSK	**Vostochnaya**	**16.29**	**360**	⇑P	**Pn**	**04 20 29.6**	**-1.7**
	comp=N,10nm,1.1s						
VOSK	**Vostochnaya**	**16.29**	**360**	P	**Pn**	**04 20 29.6**	**-1.7**
VOSK				pmax	pmax		
	comp=Z,10.0nm,1.1s						
BVA0	**Borovoye Array**	**16.59**	**359**	⇑P	**Pn**	**04 20 35.3**	**+0.3**
	comp=Z,1.2nm,1.0s,baz=188,slow=11,SNR=24						
BVA0	**Borovoye Array**	**16.59**	**359**	*i* P	**Pn**	**04 20 35.0**	**0.0**
BVA0				pmax	pmax		
	comp=Z,1.0nm,0.7s						
BVAR	**Borovoye Array**	**16.59**	**359**	P	**Pn**	**04 20 34.2**	**-0.8**
	comp=Z,1.0nm,0.3s,baz=172,slow=12,SNR=14						
BVAR				S	**S**	**04 23 32.1**	**-7.4**
	comp=Z,0.5nm,0.3s,baz=162,slow=22,SNR=6.2						
BVAR	**Borovoye Array**	**16.59**	**359**	P	**Pn**	**04 20 34.2**	**-0.8**
BVAR				S	**S**	**04 23 32.2**	**-7.3**
BVAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
BVAR				smax			
	comp=N,1.0nm,0.3s						
ODAN	**Odare**	**16.84**	**120**	*e*P	**Pn**	**04 20 38.9**	**+0.6**
	comp=N,8.2nm,0.3s						
AKTK	**Aktyubinsk**	**16.86**	**330**	P	**Pn**	**04 20 38.1**	**-0.2**
AKTO	**Aktyubinsk**	**16.86**	**330**	⇑P	**Pn**	**04 20 38.1**	**-0.2**
	comp=N,1.6nm,0.8s						
AKTO				⇑S	**S**	**04 23 34.4**	**-11**
	comp=N,1.1nm,0.8s						
AKTO	**Aktyubinsk**	**16.86**	**330**	P	**Pn**	**04 20 38.1**	**-0.2**
	comp=N,1.1nm,0.3s,baz=139,slow=8.6,SNR=24						
AKTO				S	**Sn**	**04 23 32.9**	**-14**
	comp=N,0.2nm,0.3s,baz=85,slow=11,SNR=3.9						
AKTO	**Aktyubinsk**	**16.86**	**330**	P	**Pn**	**04 20 38.2**	**-0.1**
AKTO				S	**Sn**	**04 23 32.9**	**-14**
AKTO				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ZAA0	**Zalesovo Array**	**19.95**	**24**	*e*P	**P**	**04 21 12.3**	**+0.8**
ZALV	**Zalesovo Beam**	**19.95**	**24**	P	**P**	**04 21 12.2**	**+0.7**
	comp=Z,6.5nm,0.3s,baz=214,slow=9.9,SNR=13						
ZALV	**Zalesovo Beam**	**19.95**	**24**	P	**P**	**04 21 12.3**	**+0.7**
ZALV				pmax	pmax		
	comp=Z,7.0nm,0.3s						
GNI	**Garni**	**20.97**	**288**	*e*P	**P**	**04 21 24.3**	**+1.7**
GNI				pmax	pmax		
	comp=Z,11nm,1.3s						
ARU	**Arti**	**21.71**	**341**	*d i*P	**P**	**04 21 31.3**	**+1.0**
ARU				*e*		04 22 00.0	
ARU				*e*SS		04 26 06.3	
ARU				pmax	pmax		
	comp=Z,15nm,1.7s,mb4.2						
SONM	**Songino Array**	**28.32**	**55**	P	**P**	**04 22 33.2**	**+2.2**
	comp=Z,0.2nm,0.4s,mb3.2,baz=246,slow=11,SNR=4.3						
AKASG	**Malin Array Be**	**33.03**	**309**	P	**P**	**04 23 12.4**	**+0.1**
	comp=Z,1.7nm,0.5s,mb4.0,baz=80,slow=7.3,SNR=9.6						
AKASG	**Malin Array Be**	**33.03**	**309**	P	**P**	**04 23 12.4**	**+0.1**
AKASG				pmax	pmax		
	comp=Z,2.0nm,0.5s						
ARCES	**ARCESS Array B**	**41.22**	**338**	P	**P**	**04 24 22.3**	**+1.1**
	comp=Z,2.2nm,0.6s,mb4.0,baz=116,slow=7.8,SNR=21						
ARCES	**ARCESS Array B**	**41.22**	**338**	P	**P**	**04 24 22.3**	**+1.1**
ARCES				pmax	pmax		
	comp=Z,2.0nm,0.6s						
NB2	**NORSAR Subarra**	**44.47**	**323**	P	**P**	**04 24 47.3**	**-0.1**
	comp=Z,4.8nm,0.5s,mb4.4,baz=95,slow=7.9						
NOA	**NORSAR Array B**	**44.47**	**323**	P	**P**	**04 24 47.1**	**-0.3**
	comp=Z,6.3nm,0.7s,mb4.4,baz=97,slow=7.8,SNR=30						
NOA	**NORSAR Array B**	**44.47**	**323**	P	**P**	**04 24 47.1**	**-0.3**
NOA				pmax	pmax		
	comp=Z,6.0nm,0.7s						
TORD	**Torodi Ar. Bea**	**65.77**	**269**	P	**P**	**04 27 18.9**	**-1.9**
	comp=Z,1.6nm,0.5s,mb4.1,baz=48,slow=5.8,SNR=45						
YKA	**Yellowknife Ar**	**81.31**	**3**	P	**P**	**04 28 51.8**	**+1.0**
	comp=Z,1.6nm,0.8s,mb3.7,baz=350,slow=5.4,SNR=4.8						
YKA	**Yellowknife Ar**	**81.31**	**3**	P	**P**	**04 28 51.8**	**+1.0**
YKA				pmax	pmax		
	comp=Z,2.0nm,0.8s						
YKA	**Yellowknife Ar**	**81.31**	**3**	P	**P**	**04 28 51.8**	**+1.0**
WRA	**Warramunga Arr**	**81.91**	**122**	P	**P**	**04 28 54.0**	**-0.6**
	comp=Z,1.4nm,0.4s,mb3.9,baz=325,slow=5.0,SNR=12						
WRA	**Warramunga Arr**	**81.91**	**122**	P	**P**	**04 28 54.0**	**-0.6**
WRA				pmax	pmax		
	comp=Z,1.0nm,0.4s						
ASAR	**Alice Springs**	**84.17**	**125**	P	**P**	**04 29 05.6**	**-0.5**
	comp=Z,1.4nm,0.6s,mb3.9,baz=314,slow=4.7,SNR=9.7						
ASAR	**Alice Springs**	**84.17**	**125**	P	**P**	**04 29 05.6**	**-0.5**
ASAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						

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*IDC **02** 04:18:20.9±1.3, 3.94S×130.00E, h0km, mb4.1/5, mb1 4.3/8, mb1mx4.1/17, mbtmp4.1/8, ML4.2/2, Error ellipse: s-maj=106.6km s-min=18.8km az=73.0*
*NEIC **02** 04:18:22.5±0.6, 3.93S×130.00E, h10km, mb4.2/1, Error ellipse: s-maj=21.3km s-min=9.6km az=72.0*
*ISCJB **02** 04:18:29.0±0.7, 4.10S±0.05×130.13E±0.06, h88km±9km, mb4.0/6, Error ellipse: s-maj=10.5km s-min=8.0km az=177.6*
*DJA **02** 04:18:35, 3.49S×129.66E, h115km, MLv4.0/5*
ISC 02 04:18:29.9±0.7**, 4.19S**±0.05×**130.13E**±0.07**, h82**km±9km**, n20, σ1s28**/24**, mb4.0**/6**, Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSAI	**Masohi**	**1.46**	**305**	P	**Pn**	**04 18 55.5**	**+0.7**
AAI	**Ambon**	**1.99**	**284**	P	**Pn**	**04 19 02.0**	**+0.3**
AAI	**Ambon**	**1.99**	**284**	S	**Sn**	**04 19 23.9**	**-2.1**
AAI	**Ambon**	**1.99**	**284**	P	**Pn**	**04 19 02.0**	**+0.3**
AAI	**Ambon**	**1.99**	**284**	S	**Sn**	**04 19 23.9**	**-2.1**
SWI	**Sorong**	**3.49**	**19**	P	**Pn**	**04 19 22.8**	**+0.8**
SWI	**Sorong**	**3.49**	**19**	S	**Sn**	**04 19 59.6**	**-2.6**
KAKA	**Kakadu**	**8.77**	**165**	*e*P	**Pn**	**04 20 35.3**	**+1.3**
	6.3nm,0.3s						
KAKA				*e*S	**Sn**	**04 22 08.3**	**-3.0**
KAPI	**Kappang**	**10.37**	**265**	Pn	**Pn**	**04 20 57.9**	**+2.0**
	1.3nm,0.3s,baz=129,slow=6.5,SNR=5.5						
FITZ	**Fitzroy Crossi**	**14.51**	**197**	Pn	**Pn**	**04 21 50.4**	**-0.8**
	0.4nm,0.3s,baz=23,slow=13,SNR=12						
WRA	**Warramunga Arr**	**16.19**	**166**	Pn	**Pn**	**04 22 12.8**	**+0.3**
	1.2nm,0.3s,baz=351,slow=11,SNR=30						
WRA				Sn	**Sn**	**04 25 02.3**	**-9.3**
	0.8nm,0.3s,baz=350,slow=23,SNR=9.1						
WB2	**Warramunga Arr**	**16.19**	**166**	*e*P	**Pn**	**04 22 12.8**	**+0.2**
WB2				*e*S	**Sn**	**04 25 02.2**	**-9.5**
PMG	**Port Moresby**	**17.68**	**108**	*e*P	**Pn**	**04 22 31.4**	**+0.3**
	23nm,1.3s						
ASAR	**Alice Springs**	**19.71**	**170**	P	**Pn**	**04 22 56.2**	**+1.2**
	2.9nm,0.3s,baz=350,slow=10,SNR=264						
ASAR				S	**S**	**04 26 28.7**	**-2.0**
	0.3nm,0.3s,baz=355,slow=27,SNR=6.6						
GUMO	**Guam**	**22.94**	**39**	*e*P	**P**	**04 23 19.4**	**-8.0**
	144nm,1.5s,mb5.1						
STKA	**Stephens Creek**	**29.57**	**160**	P	**P**	**04 24 29.4**	**+2.3**
	1.0nm,0.3s,mb3.9,baz=336,slow=6.3,SNR=5.1						
SONM	**Songino Array**	**55.84**	**341**	P	**P**	**04 27 59.1**	**+0.4**
	0.2nm,0.4s,mb3.5,baz=168,slow=7.6,SNR=3.7						
MKAR	**Makanchi Array**	**65.97**	**326**	P	**P**	**04 29 06.9**	**-0.5**
	1.3nm,0.5s,mb4.1,baz=104,slow=9.2,SNR=3.8						
ZALV	**Zalesovo Beam**	**69.14**	**333**	P	**P**	**04 29 27.0**	**-0.3**
	0.5nm,0.3s,mb3.8,baz=95,slow=3.3,SNR=3.0						
KURK	**Kurchatov**	**70.20**	**328**	P	**P**	**04 29 33.6**	**-0.3**
	1.7nm,0.8s,mb4.0,baz=128,slow=5.4,SNR=4.1						

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*IDC **02** 04:39:06.5±1.3, 8.10N×72.42W, h0km, mb3.2/1, mb1 3.1/2, mb1mx3.1/20, mbtmp3.2/2, ML2.1/1, MS3.5/1, Ms1 3.5/1, ms1mx3.1/13, Error ellipse: s-maj=72.4km s-min=19.7km az=129.0*
*ISCJB **02** 04:39:09.8±1.2, 7.45N±0.05×72.25W±0.10, h23km±12km, Error ellipse: s-maj=16.3km s-min=7.6km az=168.3*
*FUNV **02** 04:39:10.7, 7.48N×72.29W, h5km, MW3.4*
ISC 02 04:39:11.0±1.1**, 7.49N**±0.04×**72.14W**±0.07**, h6**km±12km**, n19, σ1s14**/30**, 1C-3D, Northern Colombia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAPV	**Capacho**	**0.41**	**334**	⇓*i*P	**Pg**	**04 39 18.2**	**-0.8**
CAPV				*e*S	**Sg**	**04 39 23.6**	**-0.7**
SOCV	**Socops**	**1.49**	**58**	⇓*e*P	**Pn**	**04 39 38.9**	**+0.5**
SOCV				*e*S	**Sb**	**04 40 00.2**	**+1.9**
VIGV	**El Vigia**	**1.54**	**30**	⇓*e*P	**Pn**	**04 39 39.6**	**+0.6**
VIGV				*e*S	**Sn**	**04 40 01.3**	**+1.9**
ELOV	**Elorza**	**2.68**	**100**	*e*P	**Pn**	**04 39 55.6**	**+1.0**
ELOV				*e*S	**Sn**	**04 40 29.2**	**+1.8**
QARV	**Quebrada Arrib**	**3.13**	**30**	*e*P	**Pn**	**04 40 01.6**	**+0.7**
QARV				*e*S	**Sn**	**04 40 38.6**	**0.0**
SANV	**Sanarito**	**3.25**	**52**	*e*P	**Pn**	**04 40 03.8**	**+1.2**
CURV	**Curarigua**	**3.30**	**40**	*e*P	**Pn**	**04 40 03.4**	**+0.1**
CURV				*e*S	**Sn**	**04 40 43.0**	**+0.3**
ROSC	**El Rosal**	**3.41**	**220**	Pn	**Pn**	**04 40 07.2**	**+2.4**
	3.0nm,0.3s,baz=90,slow=16,SNR=9.9						
ROSC				Pg	**Pg**	**04 40 15.6**	**-0.8**
	7.6nm,0.3s,baz=90,slow=19,SNR=18						
ROSC				Lg		04 41 04.0	
	7.6nm,0.3s,baz=101,slow=21,SNR=4.9						
ROSC				LR	LR	04 41 50.4	
	comp=Z,741nm,20.4s,baz=23,slow=44						
DABV	**Dabajuro**	**3.71**	**23**	*e*P	**Pn**	**04 40 09.0**	**+0.1**
DABV				*e*S	**Sn**	**04 40 51.7**	**-1.3**
TEPV	**Terepaima**	**3.81**	**50**	*e*P	**Pn**	**04 40 11.3**	**+1.1**
TEPV				*e*S	**Sn**	**04 40 54.8**	**-0.5**
SIQV	**Siquisique**	**3.89**	**36**	*e*P	**Pn**	**04 40 11.3**	**-0.1**
SIQV				*e*S	**Sn**	**04 40 55.7**	**-1.6**
BAUV	**El Baul**	**4.30**	**70**	⇑*e*P	**Pn**	**04 40 16.4**	**-0.6**
BAUV				*e*S	**Sn**	**04 41 06.8**	**-0.7**
PAYV	**Puerto Ayacuch**	**4.91**	**115**	*e*P	**Pn**	**04 40 25.1**	**-0.3**
PAYV				*e*S	**Sn**	**04 41 20.8**	**-1.6**
TURV	**Turiamo**	**5.16**	**55**	*e*P	**Pn**	**04 40 29.0**	**+0.2**
CAOV	**Caicara del Or**	**5.77**	**91**	*e*P	**Pn**	**04 40 36.6**	**-0.6**
CAOV				*e*S	**Sn**	**04 41 41.0**	**-2.7**
CUPV	**Cœpira**	**6.77**	**67**	*e*P	**Pn**	**04 40 50.7**	**-0.3**
TORD	**Torodi Ar. Bea**	**72.64**	**79**	P	**P**	**04 50 37.7**	**-2.5**
	0.2nm,0.9s,baz=286,slow=7.3,SNR=2.8						
ASAR	**Alice Springs**	**150.30**	**234**	PKPbc	PKPbc	04 59 00.3	-3.7
	0.4nm,0.6s,baz=124,slow=3.5,SNR=4.4						
WRA	**Warramunga Arr**	**151.52**	**242**	PKPbc	PKPbc	04 59 03.6	-3.4
	1.0nm,0.7s,baz=105,slow=2.6,SNR=12						

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*IDC **02** 04:45:08.9±1.4, 4.50S×101.42E, h0km, mb4.2/11, mb1 4.3/11, mb1mx4.1/21, mbtmp4.2/11, Error ellipse: s-maj=53.6km s-min=17.2km az=55.0*
*BJI **02** 04:45:10.8, 4.65S×101.26E, h24km, mB4.9, mb4.7*
*ISCJB **02** 04:45:12.1±1.1, 4.5S±0.2×101.5E±0.2, h33km, mb4.2/14, Error ellipse: s-maj=42.0km s-min=11.6km az=144.7*
*NEIC **02** 04:45:15.4±1.1, 4.23S×101.88E, h35km, mb4.6/2, Error ellipse: s-maj=47.2km s-min=10.7km az=55.0*
ISC 02 04:45:14.6±1.1**, 4.5S**±0.2×**101.6E**±0.2**, h35**km**, n19, σ0s91**/17**, mb4.2**/14**, Southern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**22.92**	**354**	P	**P**	**04 50 15.2**	**-0.5**
	6.4nm,0.7s,mb4.2,baz=186,slow=8.7,SNR=22						
FITZ	**Fitzroy Crossi**	**27.16**	**122**	P	**P**	**04 50 54.7**	**-0.2**
	1.8nm,0.8s,mb3.7,baz=325,slow=11,SNR=6.4						
WB2	**Warramunga Arr**	**35.43**	**119**	*e*P	**P**	**04 52 06.9**	**-0.7**
ASAR	**Alice Springs**	**36.55**	**125**	P	**P**	**04 52 17.6**	**+0.4**
	0.5nm,0.5s,mb3.6,baz=306,slow=8.4,SNR=5.5						
GTA	**Gaotai**	**43.68**	**358**	*e*P	**P**	**04 53 17.4**	**+1.4**
GTA				AP	pP	04 53 21.1	-5.3
GTA				XP	sP	04 53 24.6	-6.0
GTA				AMB	AMB		
	comp=Z,7.0nm,1.0s,mb4.3						
STKA	**Stephens Creek**	**46.35**	**131**	P	**P**	**04 53 37.9**	**+0.4**
	comp=Z,1.0nm,0.6s,mb3.9,baz=321,slow=13,SNR=2.0						
STKA	**Stephens Creek**	**46.35**	**131**	P	**P**	**04 53 37.9**	**+0.4**
KSRS	**Korea Array**	**48.38**	**28**	P	**P**	**04 53 54.0**	**+1.0**
	comp=Z,2.2nm,0.8s,mb4.3,baz=216,slow=8.2,SNR=8.6						
ULN	**Ulaanbaatar**	**52.33**	**5**	*e*P	**P**	**04 54 19.2**	**-3.5**
	comp=Z,4.5nm,0.7s,mb4.5						
MJAR	**Matsushiro Arr**	**53.24**	**37**	P	**P**	**04 54 29.2**	**-0.5**
	comp=Z,3.0nm,0.8s,mb4.3,baz=217,slow=7.3,SNR=5.6						
MKAR	**Makanchi Array**	**53.81**	**344**	P	**P**	**04 54 33.5**	**-0.2**
	comp=Z,3.2nm,0.8s,mb4.3,baz=148,slow=8.2,SNR=14						
KURK	**Kurchatov**	**58.40**	**343**	P	**P**	**04 55 05.8**	**-0.6**
	comp=Z,0.9nm,0.6s,mb4.0,baz=163,slow=7.1,SNR=4.3						
ZAA0	**Zalesovo Array**	**59.87**	**349**	*e*P	**P**	**04 55 16.8**	**+0.3**
ZALV	**Zalesovo Beam**	**59.87**	**349**	P	**P**	**04 55 15.9**	**-0.6**
	comp=Z,4.8nm,0.7s,mb4.6,baz=165,slow=4.6,SNR=18						
BVAR	**Borovoye Array**	**63.02**	**339**	P	**P**	**04 55 36.5**	**-1.4**
	comp=Z,1.3nm,0.5s,mb4.3,baz=138,slow=9.0,SNR=7.2						
BRVK	**Borovoye**	**63.09**	**339**	*e*P	**P**	**04 55 40.3**	**+2.0**
	comp=Z,3.2nm,0.7s,mb4.6						
ARCES	**ARCESS Array B**	**89.31**	**340**	P	**P**	**04 58 07.1**	**+0.3**
	comp=Z,1.2nm,0.8s,mb4.3,baz=80,slow=10,SNR=4.2						
TXAR	**Lajitas Array**	**145.60**	**41**	PKPbc	PKPbc	05 04 51.0	+0.9
	comp=Z,2.2nm,0.8s,baz=298,slow=1.6,SNR=28						
JCT	**Junction City**	**147.19**	**36**	*e*PKPbc	PKPbc	05 04 55.8	+1.1

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*ISCJB **02** 04:45:48.7±4.9, 10.52N±0.08×140.12E±0.07, h13km±30km, mb4.6/25, Error ellipse: s-maj=15.3km s-min=9.8km az=142.4*
*IDC **02** 04:45:48.5±0.6, 10.49N×140.20E, h0km, mb4.5/16, mb1 4.6/17, mb1mx4.5/23, mbtmp4.5/17, ML4.8/1, MS4.3/1, Ms1 4.3/1, ms1mx2.9/31, Error ellipse: s-maj=20.6km s-min=14.6km az=92.0*
*NEIC **02** 04:45:50.1±0.4, 10.50N×140.14E, h10km, mb5.0/1, Error ellipse: s-maj=14.0km s-min=10.3km az=123.0*
*MOS **02** 04:45:51.9±1.6, 10.67N×140.05E, h33km, mb4.8/4, Error ellipse: s-maj=17.5km s-min=12.5km az=93.5*
*BJI **02** 04:45:52.3, 10.77N×140.53E, h34km, mB5.4, mb4.5*
ISC 02 04:45:51.6±5.8**, 10.52N**±0.08×**140.11E**±0.07**, h20**km±35km**, n38, σ1s02**/33**, mb4.6**/25**, Western Caroline Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**5.57**	**56**	Pn	**Pn**	**04 47 13.5**	**+0.1**
	31nm,0.3s,baz=195,slow=8.8,SNR=12						
GUMO				Sn	**Sn**	**04 48 17.2**	**+0.3**
	2.9nm,0.3s,baz=25,slow=23,SNR=3.0						
MJAR	**Matsushiro Arr**	**25.97**	**357**	P	**P**	**04 51 22.3**	**-0.7**
	2.3nm,0.7s,mb3.8,baz=178,slow=11,SNR=4.1						
WRA	**Warramunga Arr**	**30.79**	**191**	P	**P**	**04 52 05.7**	**-0.5**
	0.8nm,0.5s,mb3.8,baz=8.5,slow=9.8,SNR=19						
WRA				PcP	PcP	04 55 03.2	-0.2
	1.4nm,0.7s,baz=359,slow=2.8,SNR=6.8						
ASAR	**Alice Springs**	**34.51**	**190**	P	**P**	**04 52 38.5**	**-0.1**
	1.2nm,0.7s,mb4.0,baz=36,slow=8.4,SNR=12						
ASAR				PcP	PcP	04 55 13.5	-0.1
	1.5nm,0.8s,baz=19,slow=3.2,SNR=6.8						
KLR	**Kul'dur**	**39.22**	**351**	*e*P	**P**	**04 53 16.0**	**-2.4**
CD2	**Chengdu**	**39.33**	**307**	*e*P	**P**	**04 53 22.0**	**+2.3**
CD2				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.6						
CD2				AMB	AMB		
	comp=Z,40nm,4.2s						
CMAR	**Chiang Mai Arr**	**40.55**	**286**	P	**P**	**04 53 32.5**	**+2.5**
	comp=Z,4.2nm,0.7s,mb4.2,baz=93,slow=6.7,SNR=13						
PETK	**Petropavlovsk-**	**44.78**	**15**	P	**P**	**04 54 03.9**	**0.0**
	comp=Z,6.4nm,1.0s,mb4.4,baz=232,slow=7.1,SNR=3.3						
PETK				LR	LR	05 12 52.3	
	comp=Z,319nm,18.6s,baz=62,slow=36						
SONM	**Songino Array**	**46.75**	**329**	P	**P**	**04 54 21.0**	**+1.6**
	comp=Z,5.4nm,0.8s,mb4.5,baz=142,slow=7.9,SNR=20						
NWAO	**Narrogin (SRO)**	**48.40**	**206**	P	**P**	**04 54 32.3**	**-0.1**
	comp=Z,13nm,1.0s,mb4.9,baz=63,slow=4.5,SNR=2.6						
ZAK	**Zakamensk**	**49.96**	**330**	*e*P	**P**	**04 54 40.2**	**-4.0**
ZAK				pmax	pmax		
	comp=Z,8.0nm,1.1s,mb4.7						

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BOD	Bodaibo	51.26	342	eP	P	04 54 52.3	-1.6
BOD				pmax	pmax		
	comp=Z,4.0nm,2.4s,mb3.9						
MKAR	Makanchi Array	60.55	318	P	P	04 56 01.6	+1.0
	comp=Z,2.9nm,0.8s,mb4.4,baz=113,slow=9.3,SNR=5.8						
ZALV	Zalesovo Beam	61.49	326	P	P	04 56 06.0	-0.9
	comp=Z,1.9nm,0.5s,mb4.5,baz=111,slow=6.7,SNR=4.9						
NVS	Novosibirsk	62.69	327	eP	P	04 56 13.8	-1.1
NVS				pmax	pmax		
	comp=N,8.0nm,1.2s						
NVS				pmax	pmax		
	comp=E,8.0nm,1.2s						
NVS				pmax	pmax		
	comp=Z,10.0nm,1.2s,mb4.8						
KURK	Kurchatov	64.00	322	P	P	04 56 24.3	+0.6
	comp=Z,4.5nm,0.3s,mb4.9,baz=108,slow=2.7,SNR=10						
BVAR	Borovoye Array	69.48	323	P	P	04 56 59.2	+0.6
	comp=Z,5.2nm,0.6s,mb4.6,baz=104,slow=8.0,SNR=16						
PMR	Palmer	71.69	28	eP	P	04 57 11.5	-0.4
PMR				pmax	pmax		
	comp=Z,9.0nm,0.7s,mb4.8						
PMR	Palmer	71.69	28	eP	P	04 57 11.5	-0.4
	comp=Z,8.8nm,0.7s,mb4.8						
DAWY	Dawson	76.45	26	eP	P	04 57 40.7	+1.0
HYT	Haines Junctio	77.18	30	eP	P	04 57 45.0	+1.1
RDF	Al-Radifah	87.20	299	eP	P	04 58 36.9	-0.2
	baz=299						
RDF				AMb	AMB	04 58 41.0	
	comp=Z,44nm,1.1s,mb5.6,baz=299						
MIB	Mutribah	87.22	300	eP	P	04 58 37.1	-0.1
	baz=300						
MIB				AMb	AMB	04 58 39.0	
	comp=Z,29nm,0.7s,mb5.6,baz=300						
NAY	Al-Naaiem	87.41	299	eP	P	04 58 37.7	-0.4
	baz=299						
NAY				AMb	AMB	04 58 39.8	
	comp=Z,22nm,0.8s,mb5.4,baz=299						
RST	Umm Al-Ruwaisa	87.57	299	eP	P	04 58 37.9	-1.0
	baz=299						
RST				AMb	AMB	04 58 40.4	
	comp=Z,28nm,0.7s,mb5.6,baz=299						
YKA	Yellowknife Ar	87.70	27	P	P	04 58 38.0	-0.7
	comp=Z,3.0nm,0.6s,mb4.7,baz=289,slow=5.3,SNR=5.5						
YKA	Yellowknife Ar	87.70	27	P	P	04 58 38.0	-0.7
YBH	Yreka Blue Hor	88.39	48	P	P	04 58 43.3	+0.9
	comp=Z,3.2nm,0.9s,mb4.6,baz=248,slow=3.5,SNR=7.0						
ARCES	ARCESS Array B	88.52	341	P	P	04 58 41.2	-1.4
	comp=Z,2.7nm,0.8s,mb4.6,baz=72,slow=7.8,SNR=6.1						
ARCES	ARCESS Array B	88.52	341	P	P	04 58 41.2	-1.4
NVAR	Mina Array Bea	92.46	50	P	P	04 59 02.3	+0.7
	comp=Z,1.8nm,0.7s,mb4.5,baz=262,slow=5.6,SNR=14						
MAW	Mawson	94.83	202	P	P	04 59 11.6	-0.1
	comp=Z,1.3nm,0.8s,mb4.4,baz=53,slow=5.1,SNR=4.1						
VNA2	Neumayer--Watz	116.36	191	e	PKiKP	05 04 33.6	+0.3
VNA2				e		05 04 40.9	
VNA3	Neumayer Olymp	116.52	190	e	PKPdf	05 04 33.4	-0.2
VNA3				e		05 04 40.7	
TORD	Torodi Ar. Bea	132.49	299	PKP	PKPdf	05 05 05.4	-0.4
	comp=Z,0.4nm,0.8s,baz=54,slow=1.1,SNR=2.7						
PLCA	Paso Flores	139.53	143	PKP	PKPdf	05 05 18.3	+0.2
	comp=Z,1.1nm,0.8s,baz=226,slow=3.9,SNR=3.7						
LPAZ	La Paz	151.96	105	PKP	PKPdf	05 05 40.9	+1.1
	comp=Z,0.7nm,0.8s,baz=126,slow=7.8,SNR=4.0						
LPAZ				PKPbc	PKPbc	05 05 47.1	+0.8
	comp=Z,3.2nm,0.6s,baz=288,slow=2.7,SNR=22						
LPAZ	La Paz	151.96	105	PKP	PKPdf	05 05 40.9	+1.1
LPAZ				PKPbc	PKPbc	05 05 47.1	+0.8

IDC 02 04:56:25.1±40.0,1834S×17001E,h0^{km},mb4.0/4, mb1 4.2/4,mb1mx3.9/16,mbtmp4.0/4,Error ellipse: s-maj=694.5km s-min=121.5km az=77.0,Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
STKA	Stephens Creek	28.94	237	P	P	05 02 26.7	+0.5
	1.2nm,0.6s,baz=61,slow=10,SNR=3.0						
WRA	Warramunga Arr	33.70	261	P	P	05 03 07.7	-0.5
	0.3nm,0.3s,baz=97,slow=8.4,SNR=6.6						
ASAR	Alice Springs	34.06	255	P	P	05 03 11.1	-0.3
	3.3nm,0.4s,baz=83,slow=8.9,SNR=74						
FITZ	Fitzroy Crossi	42.06	263	P	P	05 04 19.5	+0.5
	1.4nm,0.8s,baz=108,slow=3.2,SNR=4.0						

MEX 02 05:24:13.2±1.5,1439N×9292W,h14^{km}±106^{km},MD3.9, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
THIG		0.82	51	iP	Pg	05 24 25.4	-3.7
THIG				iS	Sg	05 24 37.7	-2.3
CCIG	Comitan	2.03	22	iP	Pn	05 24 44.8	-2.2
CCIG				iS	Sn	05 25 07.0	-5.1
SCX	San Cristobal	2.35	7	eP	Pn	05 24 48.8	-2.6
SCX				iS	Sn	05 25 16.0	-4.1
TGIG		2.38	355	iP	Pn	05 24 49.3	-2.6
TGIG				iS	Sn	05 25 16.2	-4.7

MAN 02 05:35:41,1386N×12068E,h60^{km},mb4.1,ML2.9,MS2.6, 1C,Mindoro

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LUBP	Lubang	0.44	253	eP	Pn	05 35 54.5	+2.1
LUBP				eS	Sn	05 36 04.1	+3.5
NBP	Mount Natib	0.91	344⇑	eP	Pn	05 35 59.1	+1.2
NBP				eS	Sn	05 36 12.6	+2.3
SJMP	San Jose	1.46	163	eP	Pn	05 36 06.0	+0.8
SJMP				eS	Sn	05 36 25.1	+1.8

IDC 02 05:35:55.3±3.3,1159S×16613E,h32^{km}±7^{km},mb3.7/5, mb1 3.8/5,mb1mx3.6/17,mbtmp3.7/5,Error ellipse: s-maj=113.1km s-min=38.1km az=136.0,Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CTA	Charters Tower	20.89	244	P	P	05 40 36.4	+1.4
	2.8nm,0.6s,baz=79,slow=15,SNR=2.6						
STKA	Stephens Creek	30.32	224	pP	pP	05 42 15.2	+2.0
	2.5nm,0.8s,baz=32,slow=15,SNR=3.2						
WRA	Warramunga Arr	31.66	251	P	P	05 42 15.2	-0.7
	1.5nm,0.8s,baz=81,slow=9.1,SNR=7.5						
WRA				pP	pP	05 42 25.7	+0.5
	4.8nm,0.8s,baz=83,slow=8.8,SNR=21						
ASAR	Alice Springs	32.89	244	P	P	05 42 26.4	-0.4
	0.3nm,0.6s,baz=72,slow=9.0,SNR=3.8						
ASAR				pP	pP	05 42 36.1	+0.2
	1.3nm,0.8s,baz=78,slow=9.4,SNR=8.0						
FITZ	Fitzroy Crossi	39.61	256	P	P	05 43 24.0	-0.2
	1.5nm,1.1s,baz=72,slow=9.6,SNR=2.6						
FITZ				pP	pP	05 43 32.8	-0.8
	2.4nm,0.9s,baz=107,slow=11,SNR=3.6						
MKAR	Makanchi Array	94.17	317	P	P	05 49 10.9	0.0
	1.1nm,0.8s,baz=90,slow=3.6,SNR=4.6						
ARCES	ARCESS Array B	116.95	346	PKP	PKPdf	05 54 36.4	+0.2
	3.2nm,0.9s,baz=90,slow=1.3,SNR=3.8						

IDC 02 05:44:54.0±1.4,725S×15580E,h0^{km},mb3.8/4,mb1 4.0/5, mb1mx3.8/16,mbtmp4.0/5,ML4.4/1,MS4.1/1,Ms1 4.1/1, ms1mx3.0/30,Error ellipse: s-maj=33.7km s-min=27.8km az=14.0,Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
HNR	Honiara	4.63	118	Pn	Pn	05 46 05.4	+0.1
	17nm,0.3s,baz=3.3,slow=4.1,SNR=3.0						
HNR				Sn	Sn	05 47 01.0	+1.1
	24nm,0.3s,baz=148,slow=14,SNR=4.7						
WRA	Warramunga Arr	24.34	237	P	P	05 50 14.1	+0.4
	1.0nm,0.6s,baz=62,slow=9.1,SNR=17						
ASAR	Alice Springs	26.61	230	P	P	05 50 33.9	-0.4
	0.3nm,0.6s,baz=58,slow=8.4,SNR=4.9						
ASAJ	Asahikawa	52.51	348	LR	LR	06 13 50.7	
	comp=Z,165nm,18.9s,baz=337,slow=33						
MKAR	Makanchi Array	84.13	319	P	P	05 57 27.2	+0.2
	1.7nm,0.7s,baz=98,slow=6.0,SNR=8.5						
ZALV	Zalesovo Beam	84.84	326	P	P	05 57 30.5	+0.1
	1.1nm,0.5s,baz=132,slow=6.2,SNR=3.8						

NIED 02 05:47:00,2420N×12520E,h35^{km},Mw4.0 Best double couple: $M_0$1.19000×10^{15} NP1:ϕ_s34.00000°,δ65.00000°, λ60.00000°. NP2:ϕ_s269.00000°,δ38.00000°,λ138.00000°.
IDC 02 05:47:08.9±1.2,2422N×12499E,h0^{km},mb3.9/6, mb1 4.0/8,mb1mx3.9/22,mbtmp3.9/8,ML3.4/2,MS3.4/1, Ms1 3.4/1,ms1mx2.8/34,Error ellipse: s-maj=35.2km s-min=24.3km az=68.0
ISCJB 02 05:47:13.2±0.9,2430N±009×12525E±006,h46^{km}±7^{km}, mb3.8/6,Error ellipse: s-maj=16.0km s-min=6.1km az=153.7
JMA 02 05:47:13.1±0.2,2422N×12520E,h24^{km},M3.9
ISC 02 05:47:13.2±1.5,2424N±010×12523E±005,h28^{km}±9^{km}, n18,σ0^{s}86/23,mb3.8/6,Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JOGS	Gusukube	0.54	17	P	Pb	05 47 24.3	+0.1
JOGS				S	Sb	05 47 32.8	+1.2
JMJ	Miyako jima 2	0.57	6	P	Pb	05 47 24.6	-0.1
JMJ				S	Sb	05 47 32.6	0.0
JTJ	Tarama	0.63	310	P	Pb	05 47 24.9	-0.7
JTJ				S	Sb	05 47 33.0	-1.0
JIJ	Ishigaki jima	1.00	277	P	Pn	05 47 30.7	-0.7
JIJ				S	Sn	05 47 45.4	+0.8
JKRS	Kuro-shima	1.12	270	P	Pn	05 47 32.8	-0.1
HATJ	Hateruma jima	1.32	262	P	Pn	05 47 35.9	+0.2
HATJ				S	Sn	05 47 52.7	+0.4
IRIF	Iriomote-Funau	1.37	274	P	Pn	05 47 36.6	+0.1
YOJ	Yonaguni jima	2.04	277	P	Pn	05 47 45.7	+0.1
YOJ				S	Sn	05 48 12.0	+1.9
JOW	Kunigami	3.77	46	Pn	Pn	05 48 10.1	+0.6
	2.6nm,0.3s,baz=176,slow=15,SNR=11						
JTK	Tokunoshima	4.86	43	P	Pn	05 48 23.7	-0.8
MJAR	Matsushiro Arr	16.58	39	Pn	Pn	05 51 06.7	+3.0
	0.5nm,0.3s,baz=222,slow=11,SNR=3.5						
GUMO	Guam	21.36	116	LR	LR	05 58 48.3	
	comp=Z,112nm,21.8s,baz=176,slow=32						
SONM	Songino Array	27.89	332	P	P	05 53 00.8	+0.1
	0.3nm,0.3s,mb3.4,baz=138,slow=11,SNR=4.4						
MKAR	Makanchi Array	40.91	314	P	P	05 54 52.0	-0.9
	1.5nm,0.4s,mb4.0,baz=100,slow=9.7,SNR=15						
ZALV	Zalesovo Beam	42.26	325	P	P	05 55 02.0	-1.9
	1.1nm,0.4s,mb3.8,baz=113,slow=8.6,SNR=4.9						
WRA	Warramunga Arr	44.80	168	P	P	05 55 24.9	+0.2
	0.8nm,0.6s,mb3.7,baz=348,slow=8.7,SNR=3.6						
ARCES	ARCESS Array B	70.86	338	P	P	05 58 26.6	-0.5
	2.0nm,0.9s,mb4.0,baz=63,slow=6.2,SNR=3.0						
NOA	NORSAR Array B	79.87	333	P	P	05 59 18.7	-0.3
	0.8nm,0.7s,mb3.8,baz=56,slow=5.6,SNR=3.7						

IDC 02 05:47:16.0±1.4,727S×15584E,h0^{km},mb3.9/3,mb1 4.0/4, mb1mx3.7/16,mbtmp4.0/4,ML4.2/1,MS4.0/1,Ms1 4.0/1, ms1mx3.1/26,Error ellipse: s-maj=42.1km s-min=28.3km az=25.0,Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
HNR	Honiara	4.60	118	Pn	Pn	05 48 26.9	+0.1
	10nm,0.3s,baz=243,slow=4.5,SNR=2.6						
HNR				Sn	Sn	05 49 22.1	+1.1
	5.5nm,0.3s,baz=190,slow=17,SNR=4.0						
WRA	Warramunga Arr	24.36	237	P	P	05 52 36.1	+0.2
	0.1nm,0.3s,baz=64,slow=9.5,SNR=10.0						
AFI	Afiamalu	32.48	104	LR	LR	06 05 14.7	
	comp=Z,270nm,18.9s,baz=253,slow=33						
MKAR	Makanchi Array	84.16	319	P	P	05 59 49.9	+0.8
	1.0nm,0.7s,baz=95,slow=4.8,SNR=5.5						
ZALV	Zalesovo Beam	84.87	326	P	P	05 59 51.9	-0.6
	0.6nm,0.3s,baz=92,slow=3.6,SNR=3.6						

IDC 02 06:02:20.6±1.7,2380N×9398E,h0^{km},mb3.6/6,mb1 3.8/6, mb1mx3.6/23,mbtmp3.6/6,Error ellipse: s-maj=85.0km s-min=19.6km az=65.0
ISCJB 02 06:02:26.5±2.0,238N±0.1×938E±0.1,h66^{km}±15^{km}, mb3.5/6,Error ellipse: s-maj=26.6km s-min=16.1km az=29.6
ISC 02 06:02:27.8±2.0,238N±01×938E±01,h57^{km}±16^{km},n8, σ0^{s}91/10,mb3.6/6,Myanmar-India border region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
IMP	Imphal	0.96	7	iP	Pn	06 02 45.0	-0.2
IMP				iS	Sn	06 02 58.0	0.0
SHL	Shillong	2.46	315	ePN	Pn	06 03 07.5	+1.9
SHL				eSN	Sn	06 03 32.5	-2.0
MKAR	Makanchi Array	24.71	341	P	P	06 07 43.9	+0.3
	0.8nm,0.7s,mb3.4,baz=146,slow=8.8,SNR=6.6						
SONM	Songino Array	25.97	20	P	P	06 07 54.9	-0.1
	0.5nm,0.6s,mb3.2,baz=202,slow=9.9,SNR=4.0						
KURK	Kurchatov	29.32	340	P	P	06 08 25.7	+0.9
	0.3nm,0.3s,mb3.5,baz=157,slow=7.8,SNR=2.9						
ZALV	Zalesovo Beam	30.83	350	P	P	06 08 38.1	-0.1
	0.7nm,0.4s,mb3.8,baz=178,slow=11,SNR=3.1						
WRA	Warramunga Arr	58.76	134	P	P	06 12 19.6	-0.7
	0.4nm,0.4s,mb3.8,baz=322,slow=7.4,SNR=17						
ASAR	Alice Springs	61.19	138	P	P	06 12 36.6	-0.2
	0.4nm,0.4s,mb3.9,baz=314,slow=6.8,SNR=6.8						

CSEM 02 06:02:27.3,3237N×6013E,h16^{km},ML3.8,After TEH
TEH 02 06:02:27.3,3230N×6020E,h4^{km},ML3.8
ISCJB 02 06:03:05.0±1.2,324N±0.1×6001E±006,h10^{km},mb3.6/5, Error ellipse: s-maj=14.6km s-min=6.8km az=173.6
IDC 02 06:03:04.9±3.1,3225N×5993E,h0^{km},mb3.6/5,mb1 3.7/5, mb1mx3.5/25,mbtmp3.6/5,Error ellipse: s-maj=82.7km s-min=24.0km az=148.0
ISC 02 06:03:07.1±1.2,3244N±010×5997E±006,h10^{km},n12, σ1^{s}31/15,mb3.6/5,1D,Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
IDAH	Dahanechah	0.31	344⇓	ePg	Pg	06 03 12.2	-1.0
IDAH				e		06 03 19.1	
IMON	Monand	0.79	341	ePg	Pg	06 03 20.7	-1.6
IMON				e		06 03 35.2	
IKOO	Kooshah	0.81	269	ePg	Pg	06 03 21.7	-1.1
IKOO				eSg	Sg	06 03 34.2	+0.8
IKOO	Kooshah	0.81	269	ePg	Pg	06 03 21.7	-1.1
IKOO				eSg	Sg	06 03 34.2	+0.8
IKOO				e		06 03 37.7	
ITEG	Tejag	1.12	294	ePg	Pg	06 03 26.7	-1.9
ITEG				eSg	Sg	06 03 45.7	+2.5
ITEG				e		06 03 50.3	
IBAF	Bafgh	3.83	258	e	Sg	06 05 20.1	+10
ISFR	Sfrayin	4.88	341	ePn	Pn	06 04 21.4	+1.0
ISFR				e		06 04 51.9	
BVAR	Borovoye Array	21.90	17	P	P	06 07 59.7	-0.4
	2.3nm,0.8s,mb3.7,baz=187,slow=10,SNR=6.6						
MKAR	Makanchi Array	22.28	43	P	P	06 08 05.3	+1.1
	0.7nm,0.6s,mb3.3,baz=222,slow=13,SNR=3.5						
KURK	Kurchatov	22.86	32	P	P	06 08 11.9	+1.5
	1.0nm,0.7s,mb3.3,baz=231,slow=14,SNR=6.4						
GERES	GERESS Array B	38.10	309	P	P	06 10 26.8	+0.9
	0.4nm,0.2s,mb3.7,baz=108,slow=6.3,SNR=3.9						
TORD	Torodi Ar. Bea	56.37	264	P	P	06 12 47.5	-1.3
	1.3nm,0.8s,mb4.0,baz=58,slow=6.6,SNR=8.1						

CSEM 02 06:05:41.5,3233N×6018E,h10^{km},ML3.8,After TEH
TEH 02 06:05:41.5,3235N×6014E,h4^{km},ML3.6
ISC 02 06:07:44.6±4.1,3233N±010×6011E±03,h10^{km},n5,σ0^{s}38/7, 1D,Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
IDAH	Dahanechah	0.46	332	eSg	Sg	06 07 59.6	-0.1
IDAH	Dahanechah	0.46	332⇓	ePg	Pg	06 07 54.0	+0.4
IDAH				eSg	Sg	06 07 59.6	-0.1
IMON	Monand	0.94	336	ePg	Pg	06 08 02.4	-0.3
IMON				eSg	Sg	06 08 15.2	+0.2
IMON				e		06 08 16.9	
IKOO	Kooshah	0.95	276	ePg	Pg	06 08 03.4	+0.4
IKOO				e		06 08 19.3	
ITEG	Tejag	1.29	296	ePg	Pg	06 08 08.8	-0.6
ITEG				e		06 08 32.3	

ISCJB 02 06:23:31.8±3.0,182N±0.1×953E±02,h97^{km}±28^{km}, mb3.5/5,Error ellipse: s-maj=34.1km s-min=18.6km az=146.1
IDC 02 06:23:32.5±7.0,1821N×9531E,h86^{km}±64^{km},mb3.3/5, mb1 3.4/6,mb1mx3.2/22,mbtmp3.3/6,ML3.8/1,Error ellipse: s-maj=63.1km s-min=20.5km az=52.0
ISC 02 06:23:30.3±2.3,183N±01×952E±01,h65^{km}±22^{km},n9, σ1^{s}01/12,mb3.5/5,Myanmar

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	3.60	86	P	Pn	06 24 24.9	+1.3
	2.5nm,0.3s,baz=262,slow=14,SNR=28						
CMAR				S	Sn	06 25 04.2	-0.7
	4.0nm,0.3s,baz=268,slow=17,SNR=10						
CHG	Chiang Mai	3.63	81	PG	Pn	06 24 25.4	+1.3
CHG				SG	Sn	06 25 05.5	-0.3
BDT	Bhumibol Dam	3.80	105	PG	Pn	06 24 26.5	0.0
BDT				SG	Sn	06 25 09.5	-0.5
SHL	Shillong	7.87	338	eS	Sn	06 26 48.0	-1.7
MKAR	Makanchi Array	30.36	342	P	P	06 29 37.3	+1.4
	0.3nm,0.5s,mb3.2,baz=148,slow=9.4,SNR=3.3						
ZALV	Zalesovo Beam	36.50	350	P	P	06 30 30.3	+1.2
	0.6nm,0.4s,mb3.8,baz=173,slow=5.8,SNR=2.9						
ZALV				sP	sP	06 31 02.0	+9.4
	0.9nm,0.5s,baz=177,slow=7.4,SNR=3.6						
WRA	Warramunga Arr	54.04	133	P	P	06 32 47.0	-1.3
	0.4nm,0.6s,mb3.6,baz=321,slow=7.2,SNR=7.2						
ASAR	Alice Springs	56.28	136	P	P	06 33 04.0	-0.5
	0.2nm,0.4s,mb3.5,baz=319,slow=7.3,SNR=4.6						
TORD	Torodi Ar. Bea	89.17	283	P	P	06 36 19.2	-0.4
	0.4nm,0.7s,mb3.6,baz=41,slow=4.1,SNR=3.2						

CSEM 02 06:25:40.7±0.1,4025N×2527E,h2^{km},ML3.8/5,Error ellipse: s-maj=1.5km s-min=0.9km az=19.0
SOF 02 06:25:41.0,4032N×2516E,h2^{km},MD3.1
DDA 02 06:25:42.3,4032N×2551E,h7^{km}±6^{km},Md3.4
NEIC 02 06:25:42.2,4031N×2535E,h45^{km},MD3.7(ATH),After ATH.
ATH 02 06:25:42.2,4031N×2535E,h45^{km},MD3.7/6
ISK 02 06:25:42.9,4024N×2545E,h5^{km},ML3.4
THE 02 06:25:42.5,4029N×2531E,h9^{km}±1^{km},ML3.8/5,Error ellipse: s-maj=1.0km s-min=0.6km az=70.0
ISCJB 02 06:25:42.2±0.2,4030N±002×2526E±002,h10^{km},Error ellipse: s-maj=2.8km s-min=2.1km az=9.5
ISC 02 06:25:42.0±0.4,4028N±002×2525E±002,h2^{km}±3^{km},n75, σ1^{s}12/100,4C-3D,Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LOS	Limnos	0.37	201	P	Pg	06 25 49.8	+0.8
LOS				S	Sg	06 25 56.1	+2.3
GADA	Gvkgeada	0.50	100	PG	Pg	06 25 51.0	-0.7
ENEZ	Enez	0.83	56	PG	Pg	06 25 57.5	-0.4
ENEZ				eSG	Sg	06 26 09.3	+0.8
ALN	Alexandroupoli	0.87	44	P	Pg	06 25 58.1	-0.5
ALN				S	Sg	06 26 09.8	-0.1
RDO	Rodhopi	0.90	14	eP	Pg	06 25 58.7	-0.5
RDO				eS	Sg	06 26 10.6	-0.2
RDO	Rodhopi	0.90	14	eP	Pg	06 25 58.7	-0.5
RDO				eS	Sg	06 26 10.6	-0.2
EZN	Ezine	0.94	118	PG	Pg	06 25 58.7	-1.3
OUR	Ouranopolis	0.97	274	P	Pg	06 26 01.4	+0.7
OUR				S	Sg	06 26 15.7	+2.4
PAIG	Paliouri	1.25	254	P	Pg	06 26 05.0	-1.1
PAIG				S	Sg	06 26 24.5	+2.2
PRK	Paraskevi	1.29	142	P	Pg	06 26 05.5	-1.3
PRK				S	Sg	06 26 23.4	-0.2
PRK	Paraskevi	1.29	142	eP	Pg	06 26 05.4	-1.4
PRK				S	Sg	06 26 23.4	-0.2
PRK	Paraskevi	1.29	142	eP	Pg	06 26 05.4	-1.4
PRK				eS	Sg	06 26 20.9	-2.7
PRK	Paraskevi	1.29	142	eP	Pg	06 26 05.4	-1.4
PRK				eS	Sg	06 26 20.9	-2.7
KDZ	Kurdzhali	1.38	5	P	Pn	06 26 06.6	-1.7
KDZ				Pg	Pg	06 26 07.6	-0.8
PLG	Polygyros	1.38	275	P	Pn	06 26 07.4	-0.9
PLG				S	Sg	06 26 27.0	+0.5
PLG	Polygyros	1.38	275	eP	Pn	06 26 07.3	-1.0
PLG				S	Sg	06 26 27.0	+0.5
PLG	Polygyros	1.38	275	eP	Pn	06 26 07.3	-1.0
RZN	Rozhen	1.47	344	P	Pn	06 26 08.9	-0.6
RZN				Pg	Pg	06 26 10.6	+0.5
AYVA	Ayvalik	1.47	131	iP	Pn	06 26 08.1	-1.5
AYVA				iS	Sb	06 26 27.7	-1.5
RKY	Sarkoy-Tekirda	1.52	74	ePN	Pn	06 26 10.8	+0.5
SART	Tekirdag	1.53	74	iP	Pn	06 26 08.0	-2.3
SART				iS	Sn	06 26 29.1	-1.6
SOH	Sokhos	1.54	291	P	Pn	06 26 09.9	-0.7
SOH				S	Sn	06 26 31.4	+0.2
MFT	Murefte	1.63	71	ePN	Pn	06 26 12.8	+1.1
HORT	Hortiatis	1.67	282	P	Pn	06 26 11.5	-0.8
HORT				S	Sn	06 26 34.8	+0.4
MMB	Musomiste	1.75	319	Pg	Pn	06 26 12.4	-0.9
DIM	Dimitrovgrad	1.79	7	Pg	Pg	06 26 15.3	-0.9
MRMT	Marmara Adasi	1.82	79	ePN	Pn	06 26 15.2	+0.9
NEO	Neokhori	1.84	239	eP	Pn	06 26 12.8	-1.8
NEO	Neokhori	1.84	239	eP	Pn	06 26 12.8	-1.8
PLD	Plovdiv	1.87	347	Pg	Pg	06 26 18.4	+0.5
TKR	Tekirdag	1.88	67	ePN	Pn	06 26 16.3	+1.2
BALY	Balya	1.90	106	iP	Pn	06 26 13.0	-2.3
BALY				iS	Sn	06 26 40.1	+0.3
EDRB	Edirne	1.93	35	ePN	Pn	06 26 16.9	+1.0
CHOS	Chios island	1.99	161	P	Pn	06 26 15.3	-1.3
CHOS				S	Sn	06 26 41.3	-0.8
KNT	Kendrikon	2.00	297	P	Pn	06 26 16.6	-0.2
KNT				S	Sn	06 26 42.9	+0.6
EDC	Edincik	2.00	87	ePN	Pn	06 26 16.8	0.0
BNT	Bandirma	2.04	87	ePN	Pn	06 26 17.2	-0.2
BALB	Balikesir	2.12	107	ePN	Pn	06 26 17.7	-0.7
LIT	Litokhoron	2.12	266	P	Pn	06 26 18.5	0.0
GRG	Griva	2.27	288	P	Pn	06 26 20.1	-0.5
KKB	Krupnik	2.28	315	P	Pn	06 26 20.2	-0.5
LKR	Lokris	2.38	228	eP	Pn	06 26 20.8	-1.3
LKR	Lokris	2.38	228	eP	Pn	06 26 20.8	-1.3
AKS	Akhisar	2.42	124	ePN	Pn	06 26 23.6	+1.0
IZM	Izmir	2.44	140	ePN	Pn	06 26 23.2	+0.3
SLVT	Silivri	2.44	66	ePN	Pn	06 26 24.5	+1.7
CTT	Catalca	2.57	69	ePN	Pn	06 26 25.0	+0.4
DURS	Dursunbey	2.57	104	iP	Pn	06 26 22.1	-2.5
DURS				iS	Sn	06 27 01.3	+4.9
THL	Klokotos Trika	2.59	255	eP	Pn	06 26 24.1	-0.8
THL	Klokotos Trika	2.59	255	eP	Pn	06 26 24.1	-0.8
CTYL	Yal??k??y-??at	2.60	62	ePN	Pn	06 26 26.4	+1.4
CTKS	Kestanelik-??a	2.65	68	ePN	Pn	06 26 26.8	+1.1
DST	Dursunbey	2.68	103	ePN	Pn	06 26 25.9	-0.3
BGKT	Bogazkoy	2.82	70	ePN	Pn	06 26 29.6	+1.4
DEMI	Demirci	2.94	114	iP	Pn	06 26 28.9	-0.9
DEMI				iS	Sn	06 27 07.2	+1.5
KLYT	Kilyos	3.04	70	ePN	Pn	06 26 31.9	+0.8
YLV	Yalova	3.16	83	ePN	Pn	06 26 34.3	+1.5
KULA	Kula-Manisa	3.17	123	ePN	Pn	06 26 34.6	+1.7
HRT	Hereke	3.41	79	ePN	Pn	06 26 37.5	+1.3
ADVT	Abdulvahap	3.43	86	ePN	Pn	06 26 37.8	+1.3
BARS	Barje	3.62	316	ePn	Pn	06 26 39.2	+0.1
BARS				eSg	Sg	06 27 38.3	+0.1
KHL	Karahalli	3.84	119	ePN	Pn	06 26 43.3	+1.1
GULT	Gulveren	4.03	86	ePN	Pn	06 26 46.0	+1.4
TIR	Tirane	4.23	286	P	Pn	06 26 41.0	-6.4
TIRR	Tirgusor	4.79	28⇓	iP	Pn	06 26 54.4	-0.7
KDZE	Karadeniz Ereo	4.81	76	ePN	Pn	06 26 57.9	+2.5
HARR	Harsova	4.83	23⇑	iP	Pn	06 26 55.2	-0.6
GRUS	Gruza	4.94	318	ePn	Pn	06 26 55.7	-1.5
VOIR		5.16	358⇓	iP	Pg	06 27 20.2	-0.7
MLR	Muntele Rosu	5.24	5⇑	iP	Pn	06 27 02.1	+0.8
KIZT	Kizilcal	5.31	103	ePN	Pn	06 27 03.9	+1.6
GZR	Gura Zlata	5.43	341⇓	iP	Pn	06 27 03.7	-0.2
DIVS	Divibare	5.46	316	ePn	Pn	06 27 03.9	-0.5
PLOR	Plostina	5.67	10⇑	iP	Pn	06 27 11.4	+4.2
VRI	Vrincioaia	5.69	10⇑	iP	Pn	06 27 12.5	+5.0

ISCJB 02 06:51:32.3±2.6,4800S±005×16506E±007,h13^{km}±17^{km}, mb4.7/14,MS4.4/20,Error ellipse: s-maj=9.7km s-min=7.2km az=146.0
IDC 02 06:51:32.1±0.9,4798S×16506E,h0^{km},mb4.6/9, mb1 4.7/11,mb1mx4.6/16,mbtmp4.6/11,ML4.1/2,MS4.4/20,

Ms1 4.4/20, ms1mx4.2/32, Error ellipse: s-maj=27.1km s-min=19.3km az=68.0

*GCMT **02** 06:51:33.4±0.3, 4791S×16474E, h16km±1km, MW5.1/74, Moment Tensor Solution. s30,c41; s74,c110; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}0.11±.21; $M_{\theta\theta}$5.13±.18; $M_{\phi\phi}$-5.24±.17; $M_{r\theta}$0.68±.50; $M_{\theta\phi}$0.54±.17; $M_{\phi r}$-1.77±.52; Best double couple: $M_0$5.52500×10^{16} NP1: ϕ_s43.00000°, δ73.00000°, λ-173.00000°. NP2: ϕ_s311.00000°, δ83.00000°, λ-17.00000°. Principal axes: T 5.2300, Plg7.0000°, Azm358.0000°; N 0.5860, Plg72.0000°, Azm110.0000°; P -5.8200, Plg17.0000°, Azm266.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*NEIC **02** 06:51:33.4±0.4, 4801S×16501E, h10km, mb5.0/4 Error ellipse: s-maj=10.1km s-min=5.2km az=153.0*

*MOS **02** 06:51:40.3±2.6, 4844S×16357E, h33km, mb5.2/4, Error ellipse: s-maj=29.1km s-min=13.9km az=117.1*

ISC 02 06:51:34.3±3.1**, 4797S**±006×**16504E**±007**, h13**km±20km**, n87, σ1^{s}06**/59**, mb4.7**/14**, MS4.4**/20**, 3D, Off west coast of South Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WHZ	Wether Hill Ro	2.88	45	P	Pn	06 52 19.7	-0.1
WHZ				S	Sn	06 52 53.5	-0.8
DCZ	Deep Cove	2.89	31	P	Pn	06 52 19.5	-0.4
MLZ	Mavora Lakes	3.40	41	P	Pn	06 52 27.0	0.0
TUZ	Tuapeka	3.74	59	P	Pn	06 52 31.8	+0.2
MSZ	Milford Sound	3.86	32	P	Pn	06 52 34.8	+1.5
EAZ	Earnscleugh	4.02	49	P	Pn	06 52 35.2	-0.3
WKZ	Wanaka	4.18	43	P	Pn	06 52 38.6	+0.9
JCZ	Jackson Bay	4.68	35	P	Pn	06 52 46.2	+1.6
ODZ	Otahua Downs	4.85	55	P	Pn	06 52 45.4	-1.5
LBZ	Lake Benmore	5.06	47	P	Pn	06 52 48.2	-1.6
FOZ	Fox Glacier	5.48	38	P	Pn	06 52 58.2	+2.7
RPZ	Rata Peaks	5.98	47	Pn	Pn	06 52 60.0	-2.4
	6.4nm,0.3s,baz=240,slow=23,SNR=17						
RPZ				Sn	Sn	06 54 06.5	-4.2
	29nm,0.3s,baz=7.7,slow=23,SNR=3.0						
RPZ				LR	LR	06 55 23.8	
	comp=Z,5μm,21.0s,baz=218,slow=39						
RPZ	Rata Peaks	5.98	47	P	Pn	06 52 59.7	-2.7
WVZ	Waitaha Valley	6.32	41	eP	Pn	06 53 08.0	+0.9
MQZ	McQueen's Vall	6.82	54	eP	Pn	06 53 11.8	-2.1
LTZ	Lake Taylor	7.27	47	eP	Pn	06 53 21.3	+1.2
DSZ	Denniston Nort	7.86	40	eP	Pn	06 53 29.4	+1.2
THZ	Tophouse	8.35	45	eP	Pn	06 53 34.9	0.0
QRZ	Quartz Range	8.93	40	eP	Pn	06 53 43.3	+0.4
URZ	Urewera	13.10	47	Pn	Pn	06 54 38.4	-1.6
	0.7nm,0.3s,baz=257,slow=14,SNR=3.0						
URZ				Sn	Sn	06 56 56.3	-9.1
	0.6nm,0.3s,baz=95,slow=22,SNR=2.6						
TAU	Tasmania Unive	13.42	286	eP	Pn	06 54 40.8	-3.5
TAU				pmax	pmax		
	comp=Z,35nm,0.6s						
TAU	Tasmania Unive	13.42	286	ePn	Pn	06 54 40.8	-3.5
	comp=Z,34nm,0.6s						
CNB	Canberra Magne	17.20	312	eP	Pn	06 55 33.5	-0.6
TOO	Toolangi	17.67	299	eP	Pn	06 55 39.6	-0.4
ARMA	Armidale	20.32	325	eP	P	06 56 11.7	+1.6
	comp=Z,1.2nm,1.4s						
STKA	Stephens Creek	23.98	304	eP	P	06 56 49.6	+1.3
	comp=Z,15nm,0.6s,mb4.6						
STKA	Stephens Creek	23.98	304	P	P	06 56 49.1	+0.7
	comp=Z,18nm,0.7s,mb4.6,baz=132,slow=11,SNR=36						
STKA				LR	LR	07 05 30.6	
	comp=Z,759nm,18.6s,MS4.2,baz=16,slow=35						
STKA	Stephens Creek	23.98	304	eP	P	06 56 48.2	-0.2
SBA	Scott Base	30.00	179	eP	P	06 57 42.3	+0.3
SBA				pmax	pmax		
	comp=Z,21nm,1.2s,mb4.7						
SBA	Scott Base	30.00	179	eP	P	06 57 42.3	+0.3
	comp=Z,21nm,1.2s,mb4.7						
CTA	Charters Tower	31.70	325	P	P	06 57 58.4	+0.8
	comp=Z,11nm,0.8s,mb4.7,baz=132,slow=12,SNR=3.4						
CTA				LR	LR	07 09 40.9	
	comp=Z,556nm,18.3s,MS4.3,baz=150,slow=34						
ASAR	Alice Springs	34.62	303	P	P	06 58 22.6	-0.5
	comp=Z,14nm,0.9s,mb4.9,baz=134,slow=8.1,SNR=74						
WB2	Warramunga Arr	37.37	308	⇓iP	P	06 58 45.8	-0.8
WRA	Warramunga Arr	37.38	308	P	P	06 58 45.9	-0.8
	comp=Z,10nm,0.7s,mb4.8,baz=148,slow=9.5,SNR=249						
WRA				LR	LR	07 13 43.4	
	comp=Z,364nm,20.2s,MS4.2,baz=135,slow=36						
WRAB	Tennant Creek	37.38	308	eP	P	06 58 45.9	-0.8
WRAB				pmax	pmax		
	comp=Z,43nm,1.2s,mb5.2						
WRAB	Tennant Creek	37.38	308	eP	P	06 58 45.9	-0.8
	comp=Z,43nm,1.2s,mb5.2						
HNR	Honiara	38.65	352	LR	LR	07 12 50.4	
	comp=Z,949nm,18.3s,MS4.7,baz=168,slow=33						
AFI	Afiamalu	39.04	37	LR	LR	07 13 53.8	
	comp=Z,211nm,18.7s,MS4.0,baz=203,slow=34						
KLBR	Kellerberrin	39.19	277	eP	P	06 59 01.4	-0.5
QSPA	South Pole Qui	42.15	180	P	P	06 59 26.2	+0.4
	comp=Z,13nm,1.0s,mb4.5,baz=19,slow=3.5,SNR=20						
QSPA				PcP	PcP	07 01 22.6	+2.9
	comp=Z,6.5nm,0.9s,baz=153,slow=0.9,SNR=3.3						
QSPA	South Pole Qui	42.15	180	P	P	06 59 26.2	+0.4
QSPA				PcP	PcP	07 01 22.6	+2.9
TBI	Tubuai	43.55	72	eS	Sx	07 06 26.6	
	comp=Z,188nm,28.2s						
TBI				eLR	LR	07 12 40.9	
	comp=Z,663nm,24.5s,baz=229						
FITZ	Fitzroy Crossi	43.73	299	⇓iP	P	06 59 39.1	-0.1
	comp=Z,14nm,1.9s,mb4.3						
FITZ	Fitzroy Crossi	43.73	299	P	P	06 59 39.0	-0.2
	comp=Z,9.2nm,1.0s,mb4.5,baz=162,slow=8.9,SNR=13						
FITZ				LR	LR	07 18 23.4	
	comp=Z,608nm,19.1s,MS4.5,baz=149,slow=37						
KAKA	Kakadu	44.41	311	⇓iP	P	06 59 44.5	-0.2
	comp=Z,19nm,0.8s,mb4.9						
KAKA	Kakadu	44.41	311	eP	P	06 59 44.3	-0.3
PPT	Papeete	47.75	67	eS	S	07 07 22.6	+16
	comp=Z,182nm,31.5s						
PPT				eLR	LR	07 14 46.1	
	comp=Z,480nm,22.0s,baz=213						
PPT	Papeete	47.75	67	LR	LR	07 16 15.8	
	comp=Z,470nm,18.7s,MS4.5,baz=224,slow=31						
MAW	Mawson	50.97	209	P	P	07 00 32.8	-2.1
	comp=Z,3.2nm,1.0s,mb4.2,baz=127,slow=15,SNR=4.6						
MAW				PcP	PcP	07 01 54.6	+3.7
	comp=Z,3.3nm,0.8s,baz=113,slow=4.2,SNR=4.4						
MAW				LR	LR	07 19 47.6	
	comp=Z,328nm,22.0s,MS4.3,baz=294,slow=33						
MAW	Mawson	50.97	209	P	P	07 00 32.8	-2.2
MAW						07 01 54.6	
BATI	Baumata	51.19	303	LR	LR	07 21 53.6	
	comp=Z,970nm,18.1s,MS4.9,baz=140,slow=36						
KAPI	Kappang	57.64	303	LR	LR	07 25 36.6	
	comp=Z,523nm,20.0s,MS4.6,baz=158,slow=36						
NVL	N'lazarevskaya	60.00	190	P	P	07 01 40.6	+0.7
NVL				pmax	pmax		
	comp=Z,20nm,1.4s,mb5.0						
NVL				MLR	MLR		
	comp=N,669nm,17.0s,MS4.9						
NVL				MLR	MLR		
	comp=E,469nm,17.0s,MS4.9						
NVL				MLR	MLR		
	comp=Z,1μm,17.0s,MS5.2						
MAIT	Maitri	60.01	190	eP	P	07 01 39.9	0.0
SNAA	Sanae	60.35	184	e	P	07 01 42.7	+0.4
SNAA				e		07 01 49.2	
SNAA				e		07 01 53.0	
SNAA	Sanae	60.35	184	eP	P	07 01 41.6	-0.7
SNAA				pmax	pmax		
	comp=Z,43nm,1.4s						
SNAA	Sanae	60.35	184	eP	P	07 01 41.6	-0.6
	comp=Z,43nm,1.4s,mb5.3						
VNA3	Neumayer Olymp	61.03	182	e	P	07 01 46.9	0.0
VNA3				e		07 01 53.5	
VNA3				e		07 01 57.0	
VNA2	Neumayer--Watz	61.29	183	e	P	07 01 49.0	+0.3
	baz=164,slow=5.9						
VNA2				e	pP	07 01 54.8	+2.0
VNA2				e		07 01 58.3	
VNA2				e		07 02 09.2	
VNA1	Neumayer--Stat	61.59	183	e	P	07 01 51.9	+1.2
VNA1				e	pP	07 01 57.5	+2.6
VNA1				e		07 02 01.4	
VNA1				e		07 02 11.5	
DAV	Davao City (W)	64.89	316	LR	LR	07 29 53.1	
	comp=Z,174nm,21.9s,MS4.2,baz=105,slow=36						
CBIJ	Chichi jima	77.50	339	LR	LR	07 33 38.4	
	comp=Z,124nm,19.5s,MS4.2,baz=168,slow=33						
PLCA	Paso Flores	78.89	140	LR	LR	07 35 13.6	
	comp=Z,187nm,18.4s,MS4.5,baz=214,slow=33						
JOW	Kunigami	81.46	327	LR	LR	07 37 28.1	
	comp=Z,192nm,19.0s,MS4.5,baz=100,slow=34						
CMAR	Chiang Mai Arr	88.54	300	P	P	07 04 26.9	+0.3
	comp=Z,0.8nm,0.3s,mb4.5,baz=152,slow=4.1,SNR=4.7						
CMAR				LR	LR	07 48 42.0	
	comp=Z,109nm,19.4s,MS4.3,baz=319,slow=39						
KSRS	Korea Array	91.26	331	P	P	07 04 40.4	+1.6
	comp=Z,0.3nm,0.3s,mb4.1,baz=138,slow=6.0,SNR=3.3						
KSRS				LR	LR	07 43 59.1	
	comp=Z,90nm,18.7s,MS4.2,baz=275,slow=34						
ASAJ	Asahikawa	93.81	344	LR	LR	07 41 33.6	
	comp=Z,272nm,21.9s,MS4.7,baz=183,slow=32						
BOSA	Boshof	95.64	215	LR	LR	07 41 20.7	
	comp=Z,144nm,19.2s,MS4.5,baz=287,slow=31						
CPUP	Villa Florida	96.83	142	LR	LR	07 44 02.4	
	comp=Z,166nm,18.8s,MS4.5,baz=90,slow=32						
NVAR	Mina Array Bea	109.67	54	PKKPbc	PKKPbc	07 21 16.1	+8.7
	comp=Z,0.5nm,0.8s,baz=62,slow=2.3,SNR=3.8						
IMA2	Indian Mountai	118.04	18	ePKPdf	PKPdf	07 10 17.7	-1.7
EDM	Edmonton	122.19	45	ePKIKP	PKPdf	07 10 31.4	+3.7
WCI	Wyandotte Cave	128.74	73	ePKIKP	PKPdf	07 10 41.7	+0.9
TORD	Torodi Ar. Bea	142.61	207	PKhKP		07 11 02.6	
	comp=Z,1.4nm,0.7s,baz=167,slow=1.5,SNR=9.9						
OBN	Obninsk	147.81	302	ePKP2	PKPab	07 11 18.8	-1.6
OBN				pmax	pmax		
	comp=Z,16nm,1.0s						
OBN	Obninsk	147.81	302	ePKPbc	PKPbc	07 11 19.2	+1.4
KEV	Kevo	150.25	332	ep	PKPbc	07 11 24.0	+0.5
	comp=Z,5.9nm,0.8s						
JOF	Joensuu	150.58	318	ep	PKPbc	07 11 25.1	+0.6
	comp=Z,9.7nm,0.7s						
ARCES	ARCESS Array B	150.82	332	PKPbc	PKPbc	07 11 24.7	-0.2
	comp=Z,7.5nm,0.9s,baz=86,slow=2.1,SNR=14						
ARE0	ARCESS Array S	150.82	332	ePKPab	PKPab	07 11 31.9	-0.3
AKASG	Malin Array Be	151.40	292	PKPbc	PKPbc	07 11 26.1	-0.8
	comp=Z,2.6nm,0.5s,baz=80,slow=2.5,SNR=15						
AKBB	Malin Array Si	151.40	292	ePKIKP	PKPab	07 11 31.8	-3.4
KIEV	Kiev	151.41	292	ePKIKP	PKPbc	07 11 26.8	0.0
KAF	Kangasniemi	153.01	317	ep	PKPab	07 11 33.9	-7.7
	comp=Z,4.5nm,0.8s						
BUR08	Bucovina Ar. S	153.23	284	ePKPab	PKPab	07 11 43.7	+0.7
GERES	GERESS Array B	160.99	283	PKPab	PKPab	07 12 16.0	-0.4
	comp=Z,0.9nm,0.7s,baz=99,slow=4.2,SNR=5.1						
BRG	Berggiesshubel	161.03	290	e(P)	PKPab	07 12 18.2	+1.7
	comp=Z,2.8nm,0.9s						
BRG				e		07 12 23.1	
	comp=Z,17nm,1.7s						

KRSC 02 07:04:07.0±0.6**, 5423N**×**16089E, h70**km±70km**, ML3.8, Near east coast of Kamchatka Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKZ	Mys Kozlova	0.59	56	P	Pn	07 04 22.0	+1.3
KII	Karymskiy	0.87	258	eP	Pn	07 04 25.6	+1.8
KII				eS	Sn	07 04 39.0	+2.7
TUMR	Tumrok	1.14	338	P	Pn	07 04 29.0	+1.8
TUMR				S	Sn	07 04 44.6	+2.3
SPN	Mys Shipunski	1.25	205	eP	Pn	07 04 30.0	+1.4
SPN				eS	Sn	07 04 46.7	+2.0
NLC	Nalytchevo	1.40	222	eP	Pn	07 04 32.6	+2.0
NLC				eS	Sn	07 04 51.3	+2.9
KMNR	Kamenistaya	1.57	346	eP	Pn	07 04 35.0	+2.1
KMNR				eS	Sn	07 04 55.7	+3.3
AVH	Avacha	1.60	234	eP	Pn	07 04 35.9	+2.6
AVH				eS	Sn	07 04 57.0	+3.9
BZMR	Bezymyannaya	1.72	352	P	Pn	07 04 37.0	+2.1
BZMR				S	Sn	07 04 58.9	+2.9
BZWR	Bezymyannyi-We	1.75	353	P	Pn	07 04 37.2	+2.0
KIRR	Kirishev	1.75	350	P	Pn	07 04 37.0	+1.7
KPT	Kopyto	1.78	348	eP	Pn	07 04 37.2	+1.6
KPT				eS	Sn	07 04 59.2	+1.8
ZLN	Zelenaya	1.79	358	eP	Pn	07 04 38.0	+2.2
ZLN				eS	Sn	07 05 01.0	+3.4
PET	Petropavlovsk	1.80	229	eP	Pn	07 04 38.3	+2.4
PET				eS	Sn	07 05 00.7	+2.9
GNL	Ganaly	1.82	254	eP	Pn	07 04 38.5	+2.3
CIRR	Tsirk	1.89	358	eP	Pn	07 04 39.4	+2.3
CIRR				eS	Sn	07 05 03.2	+3.2
KOZ	Kozyrevsk	1.92	343	P	Pn	07 04 39.4	+1.9
KOZ				S	Sn	07 05 03.5	+2.7
KRSR	Krestovskiy	2.00	355	eP	Pn	07 04 39.9	+1.3
KRSR				eS	Sn	07 05 04.0	+1.4
KLY	Klyuchi	2.09	356	S	Sn	07 05 06.8	+2.0
SRDR	Sredinnyy	2.20	343	eP	Pn	07 04 42.4	+1.2
KBTR	Krutoberegovo	2.27	28	P	Pn	07 04 43.9	+1.7
KBTR				S	Sn	07 05 10.5	+1.4
RUS	Russkaya	2.30	219	eP	Pn	07 04 44.3	+1.7
RUS				eS	Sn	07 05 11.6	+1.8
SRKR	Sorokina	2.44	4	P	Pn	07 04 46.7	+2.3
SRKR				S	Sn	07 05 16.4	+3.3

*ISCJB **02** 07:05:41.1±2.0, 193S±03×1776W±02, h530km±32km, mb3.5/6, Error ellipse: s-maj=54.2km s-min=18.5km az=164.6*

*IDC **02** 07:05:43.6±2.4, 1874S×17778W, h546km±22km, mb3.0/6, mb1 3.2/7, mb1mx3.1/19, mbtmp3.1/7, Error ellipse: s-maj=98.0km s-min=15.2km az=154.0*

ISC 02 07:05:41.6±1.9**, 193S**±03×**1775W**±02**, h524**km±30km**, n11, σ0^{s}58**/10**, mb3.5**/6**, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	Afiamalu	7.72	46	P	P	07 07 36.1	+0.3
	3.6nm,0.3s,baz=255,slow=19,SNR=4.7						
AFI				S	S	07 09 09.1	-0.3
	5.0nm,0.3s,baz=108,slow=20,SNR=4.7						
CTA	Charters Tower	34.06	263	P	P	07 11 42.5	+0.2
	2.7nm,0.5s,mb4.1,baz=95,slow=11,SNR=3.1						
STKA	Stephens Creek	38.70	243	P	P	07 12 21.6	+1.2
	1.2nm,0.6s,mb3.6,baz=113,slow=13,SNR=2.6						
WRA	Warramunga Arr	45.21	261	P	P	07 13 11.2	-0.7
	0.7nm,0.3s,mb3.6,baz=97,slow=7.6,SNR=50						
WRA				PcP	PcP	07 14 39.6	-1.5
	0.2nm,0.5s,baz=91,slow=3.8,SNR=5.4						
ASAR	Alice Springs	45.23	256	P	P	07 13 11.9	-0.1
	0.9nm,0.4s,mb3.7,baz=85,slow=8.1,SNR=22						
ASAR				PcP	PcP	07 14 39.8	-1.3
	0.7nm,0.6s,baz=98,slow=4.1,SNR=6.2						
FITZ	Fitzroy Crossi	53.63	261	P	P	07 14 13.5	-0.6
	1.1nm,0.8s,mb3.2,baz=102,slow=9.3,SNR=3.8						
TXAR	Lajitas Array	86.06	57	P	P	07 17 27.6	+0.7
	0.4nm,0.6s,mb3.2,baz=213,slow=6.5,SNR=6.8						
VNA3	Neumayer Olymp	89.27	176	e	P	07 17 40.7	-0.5
VNA2	Neumayer--Watz	89.71	177	e	P	07 17 43.0	-0.2
	baz=200,slow=4.5						
ARCES	ARCESS Array B	127.86	350	PKP	PKPdf	07 23 44.8	-2.0
	3.1nm,1.0s,baz=349,slow=1.2,SNR=6.8						
GERES	GERESS Array B	149.20	345	PKPbc	PKPbc	07 24 29.0	-1.7
	0.7nm,0.5s,baz=46,slow=3.9,SNR=4.8						

*ISCJB **02** 07:20:26.7±1.3, 3625N±006×717E±01, h82km±18km, mb3.4/3, Error ellipse: s-maj=20.7km s-min=6.2km az=157.7*

*NNC **02** 07:20:38.4±3.2, 3747N×7128E, h0km, mb3.7, mpv3.4, Error ellipse: s-maj=25.1km s-min=22.8km az=6.0*

*IDC **02** 07:20:48.0±7.5, 3711N×7174E, h259km±75km, mb3.0/3, mb1 3.1/7, mb1mx2.9/25, mbtmp3.0/7, Error ellipse: s-maj=43.8km s-min=21.4km az=6.0*

ISC 02 07:20:28.4±1.1**, 3625N**±006×**716E**±01**, h75**km±15km**, n17, σ0^{s}93**/25**, mb3.4**/3**, 3C-4D, Afghanistan-Tajikistan border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THN	Thein Dam	5.08	137	eP	Pn	07 21 47.7	+5.7
THN				eS	Sn	07 22 43.5	+4.1
SMLA	Simla	6.88	136	i P	Pn	07 22 12.9	+6.5
SMLA				i S	Sn	07 23 23.7	+0.4
SMLA				ex	x	07 23 30.1	
	comp=N,264nm,0.4s						
SMLA				ex	x	07 23 31.8	
	comp=E,293nm,0.3s						
KK31	Karatay Array	6.90	353	Pn	Pn	07 22 07.1	+0.3
	comp=E,1.6nm,0.3s,baz=175,slow=13,SNR=28						
KK31				⇓Sn	Sn	07 23 16.5	-7.2
	comp=E,2.7nm,0.3s,baz=173,slow=23,SNR=5.8						
TKM2	Tokmak 2	7.33	23	⇓Pn	Pn	07 22 13.2	+0.5
	comp=E,2.0nm,0.8s						
TKM2				⇓Sn	Sn	07 23 27.6	-6.6
	comp=E,2.6nm,0.7s						
JOSI	Joshimath	8.72	128	eP	Pn	07 22 32.9	+1.2
JOSI				eS	Sn	07 24 04.0	-4.3
JOSI				AML	AML	07 24 12.3	
	comp=N,62nm,0.4s						
JOSI				AML	AML	07 24 12.4	
	comp=E,62nm,0.3s						
KHET	Khetri	8.88	155	eS	Sn	07 24 12.9	+0.6
KHET				AML	AML	07 24 17.1	
	comp=N,4.6nm,0.1s						
KHET				AML	AML	07 24 17.9	
	comp=E,7.2nm,0.1s						
KUDL	Kundal	9.06	152	eS	Sn	07 24 15.4	-1.4
KUDL				AML	AML	07 24 22.6	
	comp=N,5.4nm,1.0s						
SONA	Sohna	9.21	148	eS	Sn	07 24 19.4	-0.9
SONA				AML	AML	07 24 28.0	
	comp=N,10nm,0.3s						
SONA				AML	AML	07 24 29.4	
	comp=E,16nm,0.2s						
MKAR	Makanchi Array	13.20	34	P	Pn	07 23 37.1	+4.6
	comp=E,0.2nm,0.3s,baz=214,slow=13,SNR=3.9						
KURK	Kurchatov	15.31	17	P	Pn	07 23 59.2	-0.7
	comp=E,0.1nm,0.3s,baz=204,slow=10,SNR=6.7						
AB31	Akbulak array	15.56	330	⇑Pn	Pn	07 24 01.5	-1.5
	comp=E,0.8nm,0.3s,baz=150,slow=11,SNR=38						
AB31				⇓Sn	Sn	07 26 38.4	-16
	comp=E,0.4nm,0.4s,baz=159,slow=23,SNR=4.8						
AKTO	Aktyubinsk	17.26	329	⇑Pn	Pn	07 24 24.8	+0.6
	comp=E,0.5nm,0.5s						
AKTO				⇑Sn	Sn	07 27 24.4	-11
	comp=E,0.3nm,0.9s						
AKTO	Aktyubinsk	17.26	329	P	Pn	07 24 24.6	+0.4
	comp=E,0.7nm,0.3s,baz=134,slow=9.8,SNR=16						
AKTO				S	S	07 27 24.3	-16
	comp=E,0.1nm,0.3s,baz=38,slow=19,SNR=3.7						
ZALV	Zalesovo Beam	19.93	23	P	Pn	07 24 51.3	-4.9
	comp=E,0.3nm,0.3s,baz=219,slow=11,SNR=8.7						
SONM	Songino Array	28.05	55	P	P	07 26 11.5	-0.9
	comp=E,0.7nm,0.5s,mb3.4,baz=261,slow=9.1,SNR=5.2						
TORD	Torodi Ar. Bea	66.23	269	P	P	07 31 09.2	+0.6
	comp=E,0.4nm,0.5s,mb3.5,baz=47,slow=6.1,SNR=12						
WRA	Warramunga Arr	81.42	122	P	P	07 32 38.1	+0.9
	comp=E,0.2nm,0.4s,mb3.3,baz=325,slow=5.0,SNR=5.0						

*MOS **02** 07:27:14.1±0.9, 2984N×13868E, h397km, mb4.4/43, Error ellipse: s-maj=10.9km s-min=6.9km az=107.8*

*BJI **02** 07:27:16.0, 2967N×13878E, h429km, mB4.8, mb4.6*

*ISCJB **02** 07:27:16.7±0.3, 2979N±003×13869E±004, h423km±3km, mb4.4/74, Error ellipse: s-maj=5.6km s-min=4.8km az=150.3*

*JMA **02** 07:27:17.1±0.3, 2987N×13917E, h449km±4km, M4.2*

*IDC **02** 07:27:18.1±0.7, 2984N×13875E, h432km±7km, mb3.9/20, mb1 4.0/25, mb1mx4.0/29, mbtmp3.9/25, Error ellipse: s-maj=11.3km s-min=7.3km az=79.0*

*NEIC **02** 07:27:19.1±0.7, 2987N×13872E, h435km±7km, mb4.4/28, Error ellipse: s-maj=6.9km s-min=5.3km az=118.0*

ISC 02 07:27:17.9±0.4**, 2982N**±004×**13875E**±004**, h421**km±3km**, h430**km±5.4km**:pP-P, n178, σ0^{s}97**/193**, mb4.4**/74**, 11C-4D, Southeast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ	Hachijo jima 2	3.40	15	P	P	07 28 26.9	+1.1
	136nm,0.3s,baz=242,slow=22,SNR=18						
JHJ				S	S	07 29 21.4	+0.2
	214nm,0.3s,baz=75,slow=22,SNR=14						
JHJ2	Mitsune	3.40	15	eS	S	07 29 21.2	0.0
CBIJ	Chichi jima	4.06	131	P	P	07 28 31.1	-0.8
	75nm,0.3s,baz=357,slow=4.0,SNR=57						
CBIJ				S	S	07 29 28.6	-3.3
	231nm,0.3s,baz=295,slow=23,SNR=15						
CBIJ	Chichi jima	4.06	131	P	P	07 28 31.2	-0.7
CBIJ				eS	S	07 29 28.6	-3.4
JHHJ	Haha-jima-NKT	4.39	136	P	P	07 28 34.2	-0.8
JHHJ				eS	S	07 29 34.5	-3.1
JWZ	Kozaga	4.51	326	P	P	07 28 38.9	+2.9
JIE	Ise	4.88	340	P	P	07 28 42.5	+3.0
JOD2	Odawara 2	5.43	3	P	P	07 28 45.5	+0.4
JOD2				eS	S	07 29 54.4	-2.0
JTO	Tosashimizu	5.92	302	P	P	07 28 53.7	+3.4
JTO				eS	S	07 30 10.2	+4.4
JRY	Ryogami san	6.18	1	P	P	07 28 53.3	+0.3
JRY				eS	S	07 30 06.9	-3.8
MJAR	Matsushiro Arr	6.72	356	P	P	07 28 58.6	-0.1
	6.0nm,0.3s,baz=168,slow=11,SNR=30						
MJAR				S	S	07 30 18.5	-2.8
	2.5nm,0.3s,baz=170,slow=13,SNR=5.7						
MJAR	Matsushiro Arr	6.72	356	P	P	07 28 58.6	-0.1
MJAR				S	S	07 30 18.5	-2.8
MJAR				pmax	pmax		
	comp=Z,6.0nm,0.3s						
MJAR				smax			
	comp=N,3.0nm,0.3s						
MAJO	Matsushiro	6.72	356	eP	P	07 28 59.4	+0.7
MAJO				pmax	pmax		
	comp=Z,37nm,0.8s						
MAJO	Matsushiro	6.72	356	eP	P	07 28 59.4	+0.6
	comp=Z,37nm,0.8s						
MAT	Matsushiro	6.72	356	P	P	07 28 58.8	+0.1
MAT				eS	S	07 30 20.5	-0.8
MAT	Matsushiro	6.72	356	P	P	07 28 59.2	+0.5
JHS	Saijyo	7.02	319	P	P	07 29 05.1	+3.0
JMK	Ichinoseki	9.33	12	P	P	07 29 27.9	+0.4
JMK				eS	S	07 31 09.6	-4.6
JOW	Kunigami	9.70	255	P	P	07 29 35.3	+3.5
	comp=Z,5.3nm,0.3s,baz=80,slow=8.2,SNR=15						
JOT	Ohata	11.68	9	P	P	07 29 54.4	+1.0
KSRS	Korea Array	11.80	313	P	P	07 29 56.8	+2.1
	comp=Z,3.3nm,0.3s,baz=129,slow=11,SNR=66						
KSRS				ScP	ScP	07 37 55.2	-1.8
	comp=Z,0.3nm,0.3s,baz=228,slow=0.9,SNR=7.6						
KS15	Wonju Array Si	11.82	313	eP	P	07 29 56.9	+1.9
ERM	Erimo	12.68	15	⇑iP	P	07 30 01.9	-2.4
ASAJ	Asahikawa	14.59	11	P	P	07 30 26.1	+1.0
	comp=Z,1.2nm,0.3s,baz=219,slow=18,SNR=7.6						
ASAJ	Asahikawa	14.59	11	P	P	07 30 26.1	+1.1
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
MDJ	Mudanjiang	16.45	336	P	P	07 30 45.4	+0.4
MDJ				AMB	AMB		
	comp=Z,10.0nm,0.8s						
MDJ				AMB	AMB		
	comp=Z,56nm,5.1s						
NJ2	Nanjing	17.22	282	eP	P	07 30 51.1	-2.2
NJ2				XP	sP	07 32 33.7	-10
NJ2				S	S	07 33 44.5	-6.8
NJ2				AMB	AMB		
	comp=Z,30nm,0.7s						
NJ2				AMB	AMB		
	comp=Z,320nm,5.6s						
YSS	Yuzh-Sakhalins	17.39	9	⇑iP	P	07 30 54.2	-0.6
CN2	Changchun	17.52	326	eP	P	07 30 56.7	+0.4
CN2				AMB	AMB		
	comp=Z,10.0nm,0.8s						
BJI	Beijing	21.08	305	P	P	07 31 29.8	-0.8
BJI				AMB	AMB		
	comp=Z,43nm,1.0s,mb4.8						
BJI				AMB	AMB		
	comp=Z,176nm,4.5s						
WHN	Wuhan	21.10	278	eP	P	07 31 30.6	-0.4
XAN	Xi'an	25.62	287	P	P	07 32 11.6	+0.1
XAN				AMB	AMB		
	comp=Z,56nm,0.9s,mb5.0						
XAN				AMB	AMB		
	comp=Z,207nm,5.6s						
PETK	Petropavlovsk-	27.09	25	P	P	07 32 24.1	-0.2
	comp=Z,4.0nm,0.7s,mb4.0,baz=130,slow=2.2,SNR=9.0						
LZH	Lanzhou	29.84	291	⇑P	P	07 32 49.0	+0.3
LZH				AMB	AMB		
	comp=Z,26nm,1.1s,mb4.5						
LZH				AMB	AMB		
	comp=Z,115nm,5.3s						
CD2	Chengdu	30.14	281	⇓iP	P	07 32 51.2	-0.2
CD2				AMB	AMB		
	comp=Z,60nm,0.5s,mb5.2						
CD2				AMB	AMB		
	comp=Z,120nm,5.2s						
ULN	Ulaanbaatar	30.27	315	⇑eP	P	07 32 52.5	+0.3

ULN *i* *PP pP 07 34 10.7 +2.7
ULN Ulaanbaatar 30.27 315 *e*P **P 07 32 52.8 +0.6**
comp=Z,20nm,1.2s,mb4.3
SONM Songino Array 30.66 315 P **P 07 32 55.9 +0.3**
comp=Z,2.7nm,0.4s,mb3.9,baz=125,slow=8.5,SNR=23
SONM PcP PcP 07 35 41.5 +0.1
comp=Z,0.6nm,0.7s,baz=140,slow=4.8,SNR=2.9
SONM ScP ScP 07 38 41.0 -2.4
comp=Z,0.5nm,0.7s,baz=110,slow=3.0,SNR=4.0
BOD Bodaibo 32.83 336 *e*P **P 07 33 13.8 -0.3**
BOD pmax pmax
comp=Z,7.0nm,1.0s,mb4.0
GTA Gaotai 33.23 297 P **P 07 33 17.9 +0.1**
GTA AMB AMB
comp=Z,35nm,1.0s,mb4.6
ZAK Zakamensk 33.57 318⇓ *i* P **P 07 33 20.8 +0.2**
ZAK pmax pmax
comp=Z,13nm,1.1s,mb4.2
TLY Talaya 33.92 320 *e*P **P 07 33 24.0 +0.5**
TLY pmax pmax
comp=Z,11nm,0.7s,mb4.3
TLY Talaya 33.92 320 *e*P **P 07 33 24.3 +0.7**
comp=Z,12nm,0.8s,mb4.3
SEY Seymchan 34.28 11⇑ *e*P **P 07 33 26.5 +0.1**
CHTO Chiang Mai 37.73 262 *e*P **P 07 33 56.4 +0.6**
CHTO pmax pmax
comp=Z,20nm,0.7s,mb4.6
CHTO Chiang Mai 37.73 262 *e*P **P 07 33 56.4 +0.5**
comp=Z,20nm,0.7s,mb4.6
CMAR Chiang Mai Arr 37.88 262 P **P 07 33 57.6 +0.5**
comp=Z,6.2nm,0.7s,mb4.0,baz=58,slow=6.2,SNR=26
CMAR Chiang Mai Arr 37.88 262 *i* P **P 07 33 57.5 +0.4**
CMAR pmax pmax
comp=Z,6.0nm,0.7s
LSA Lhasa 41.09 282 P **P 07 34 21.7 -1.4**
SHL Shillong 41.50 276 *e*P **P 07 34 36.0 +10**
BILL Bilibino 41.55 15⇓ *i* P **P 07 34 26.2 0.0**
BILL pmax pmax
comp=Z,11nm,0.8s,mb4.2
KAKA Kakadu 42.72 189 *e*P **P 07 34 35.7 -0.4**
comp=Z,14nm,0.6s,mb4.5
ODAN Odare 45.00 279 *e*P **P 07 34 54.1 +0.1**
comp=Z,89nm,0.7s,mb5.2
ZAA0 Zalesovo Array 45.45 318 *e*P **P 07 34 56.5 -0.5**
ZALV Zalesovo Beam 45.45 318 P **P 07 34 56.1 -0.9**
comp=Z,7.1nm,0.6s,mb4.2,baz=98,slow=7.2,SNR=22
ZALV PcP PcP 07 36 25.7 -2.0
comp=Z,3.3nm,0.7s,baz=109,slow=2.7,SNR=6.7
ZALV Zalesovo Beam 45.45 318 P **P 07 34 56.1 -0.9**
ZALV 07 36 25.7
ZALV pmax pmax
comp=Z,7.0nm,0.6s,mb4.2
ZALV pmax pmax
comp=Z,3.0nm,0.7s,mb3.7
ZALV Zalesovo Beam 45.45 318 P **P 07 34 56.1 -0.9**
ZALV PcP PcP 07 36 25.7 -2.0
RAMN Ramite 45.65 280 *e*P **P 07 34 59.7 +0.7**
comp=Z,75nm,0.4s,mb5.3
JIRN Jiri 45.81 281 *e*P **P 07 35 01.5 +1.3**
comp=Z,138nm,0.4s
GUN Gumba 46.01 281 *e*P **P 07 35 02.8 +1.1**
comp=Z,141nm,0.7s,mb5.4
MK31 Makanchi Array 46.42 308 P **P 07 35 04.0 -0.6**
MK31 pmax pmax
comp=Z,2.0nm,0.3s,mb3.9
MK31 Makanchi Array 46.42 308 *e*P **P 07 35 04.5 -0.1**
MKAR Makanchi Array 46.42 308 P **P 07 35 04.3 -0.3**
comp=Z,3.2nm,0.3s,mb4.1,baz=86,slow=9.6,SNR=39
MKAR PcP PcP 07 36 29.8 -1.5
comp=Z,2.1nm,0.7s,baz=86,slow=5.0,SNR=6.3
MKAR Makanchi Array 46.42 308 P **P 07 35 04.3 -0.3**
MKAR pP 07 36 29.8 +2.8
MKAR pmax pmax
comp=Z,3.0nm,0.3s
MKAR pmax pmax
comp=Z,2.0nm,0.7s
PKIN Phulchoki 46.51 281 *e*P **P 07 35 05.8 +0.2**
comp=Z,33nm,0.8s,mb4.7
NVS Novosibirsk 46.51 319 *e*P **P 07 35 03.3 -1.8**
NVS pmax pmax
comp=N,5.0nm,1.0s
NVS pmax pmax
comp=E,10.0nm,1.0s
NVS pmax pmax
comp=Z,10.0nm,1.0s,mb4.1
KKN Kakani 46.55 281 *e*P **P 07 35 06.5 +0.6**
DMN Daman 46.75 281 *e*P **P 07 35 07.9 +0.5**
comp=Z,41nm,0.5s,mb5.0
GKN Gorkha 47.04 282 *e*P **P 07 35 10.1 +0.5**
comp=Z,26nm,0.4s,mb4.9
DANN Dangsing 47.69 283 *e*P **P 07 35 15.7 +1.2**
comp=Z,114nm,0.5s,mb5.4
KOLN Koldanda 47.98 282 *e*P **P 07 35 17.4 +0.6**
comp=Z,110nm,0.8s,mb5.2
KURK Kurchatov 48.92 313 P **P 07 35 22.9 -0.5**
comp=Z,8.7nm,0.3s,mb4.5,baz=103,slow=11,SNR=46
KURK Kurchatov 48.92 313 P **P 07 35 23.0 -0.4**
KURK pmax pmax
comp=Z,9.0nm,0.3s,mb4.6
FITZ Fitzroy Crossi 49.29 197 *e*P **P 07 35 26.9 +0.4**
comp=Z,10nm,0.8s,mb4.2
WRAB Tennant Creek 49.65 185⇑ *i* P **P 07 35 28.8 -0.3**
WRAB *i* *PP pP 07 36 51.1 -2.0
WRAB Tennant Creek 49.65 185 *e*P **P 07 35 29.0 -0.1**
comp=Z,10.0nm,0.7s,mb4.2
WB2 Warramunga Arr 49.66 185 *e*P **P 07 35 29.0 -0.2**
WRA Warramunga Arr 49.66 185 P **P 07 35 29.0 -0.2**
comp=Z,10nm,0.6s,mb4.3,baz=2.2,slow=7.7,SNR=190
WRA ScP ScP 07 39 55.7 -2.0
comp=Z,0.2nm,0.5s,baz=359,slow=4.7,SNR=5.2
WRA S **S** **07 42 01.7 -3.6**
comp=Z,0.6nm,0.8s,baz=359,slow=18,SNR=4.6
WRA Warramunga Arr 49.66 185 P **P 07 35 29.0 -0.2**
WRA S **S** **07 42 01.7 -3.6**
WRA pmax pmax
comp=Z,11nm,0.6s
WRA smax
comp=N,1.0nm,0.8s
SVW2 Sparrevohn 52.67 34 *e*P **P 07 35 48.4 -2.3**
NDI New Delhi 53.12 285 *ex* x 07 35 53.0
ASAR Alice Springs 53.38 186 P **P 07 35 56.4 0.0**
comp=N,4.4nm,0.6s,mb3.9,baz=11,slow=8.7,SNR=64
ASAR S **S** **07 42 53.2 -2.3**
comp=N,1.0nm,0.8s,baz=20,slow=19,SNR=6.2
ASAR Alice Springs 53.38 186 P **P 07 35 56.4 0.0**
ASAR S **S** **07 42 53.2 -2.3**
ASAR pmax pmax
comp=Z,4.0nm,0.6s
ASAR smax
comp=N,1.0nm,0.8s
VOSK Vostochnaya 53.65 316 P **P 07 35 56.7 -1.3**
VOSK pmax pmax
comp=Z,10.0nm,0.6s,mb4.2
BVA0 Borovoye Array 53.99 316 *i* P **P 07 35 59.8 -0.6**
BVA0 pmax pmax
comp=Z,4.0nm,0.5s,mb3.9
BVAR Borovoye Array 53.99 316 P **P 07 36 00.1 -0.3**
comp=Z,20nm,0.5s,mb4.6,baz=94,slow=8.3,SNR=100
BVAR PcP PcP 07 36 58.6 -0.7
comp=Z,3.6nm,0.6s,baz=103,slow=4.7,SNR=6.7
BVAR ScP ScP 07 40 13.3 -2.9
comp=Z,0.9nm,0.5s,baz=94,slow=4.5,SNR=4.4
BVAR S **S** **07 42 59.0 -4.0**
comp=Z,0.7nm,0.5s,baz=86,slow=23,SNR=2.9
BVAR Borovoye Array 53.99 316 P **P 07 36 00.1 -0.3**
BVAR 07 36 58.6
BVAR S **S** **07 42 59.0 -4.0**
BVAR pmax pmax
comp=Z,20nm,0.5s
BVAR pmax pmax
comp=Z,4.0nm,0.6s
BVAR pmax pmax
comp=N,1.0nm,0.5s
BVAR smax
comp=N,1.0nm,0.5s
KDAK Kodiak Island 54.04 38 P **P 07 36 00.2 -0.4**
comp=N,18nm,0.9s,mb4.3,baz=106,slow=13,SNR=8.4
KDAK Kodiak Island 54.04 38 P **P 07 36 00.2 -0.4**
BRVK Borovoye 54.06 316 *e*P **P 07 36 00.7 -0.1**
BRVK pmax pmax
comp=Z,12nm,0.5s,mb4.4
BRVK Borovoye 54.06 316 *e*P **P 07 36 00.7 -0.1**
comp=Z,12nm,0.5s,mb4.4
KK31 Karatay Array 55.05 304 *i* P **P 07 36 07.7 -0.4**
KK31 pmax pmax
comp=Z,9.0nm,0.4s,mb4.3
PMR Palmer 55.80 33 *e*P **P 07 36 12.6 -0.3**
MCK McKinley 55.90 31 *e*P **P 07 36 13.2 -0.4**
comp=Z,18μm,1.2s
COLA College 56.40 29⇑ *i* P **P 07 36 17.1 0.0**
POO Poona 59.60 275 *ex* x 07 36 39.0
ARU Arti 60.42 321 *d* *i* P **P 07 36 43.8 -0.8**
ARU *e* 07 38 59.7
ARU *eS* **S** **07 44 27.8 +2.1**
ARU *eSS* SS 07 48 36.5 +4.8
ARU pmax pmax
comp=Z,13nm,0.5s,mb4.6
ARU Arti 60.42 321 *e*P **P 07 36 43.9 -0.8**
comp=Z,16nm,0.5s,mb4.7
AB31 Akbulak array 61.03 313 *i* P **P 07 36 48.1 -0.7**
AB31 pmax pmax
comp=Z,12nm,0.5s,mb4.6
FORT Forrest 61.12 191 *e*P **P 07 36 50.0 +0.5**
comp=Z,36nm,0.5s,mb5.1
STKA Stephens Creek 61.42 177 *e*P **P 07 36 51.8 +0.3**
comp=Z,5.5nm,0.6s,mb4.2
STKA Stephens Creek 61.42 177 P **P 07 36 51.3 -0.2**
comp=Z,6.4nm,0.5s,mb4.3,baz=344,slow=6.7,SNR=20
AKTK Aktyubinsk 61.98 314 P **P 07 36 54.4 -0.6**
AKTO Aktyubinsk 61.98 314 P **P 07 36 54.4 -0.6**
comp=Z,9.3nm,0.6s,mb4.5,baz=84,slow=6.4,SNR=35
AKTO Aktyubinsk 61.98 314 P **P 07 36 54.4 -0.6**
AKTO pmax pmax
comp=Z,9.0nm,0.6s,mb4.5
KLBR Kellerberrin 64.25 200 *e*P **P 07 37 10.0 +0.1**
comp=Z,91nm,1.9s,mb5.0
KLMR Klimovskoe 68.70 329 *e*P **P 07 37 35.7 -1.7**
KLMR pmax pmax
comp=Z,19nm,1.4s,mb4.5
KEV Kevo 69.40 340 *ep* **P 07 37 40.7 -0.8**
comp=Z,0.5nm,0.3s,mb3.6
KEV Kevo 69.40 340 *e*P **P 07 37 40.7 -0.8**
KEV pmax pmax
comp=Z,1.0nm,0.3s,mb3.9
ARCES ARCESS Array B 69.97 340 P **P 07 37 44.0 -0.8**
comp=Z,4.4nm,0.6s,mb4.1,baz=71,slow=8.3,SNR=16
ARCES ARCESS Array B 69.97 340 P **P 07 37 44.1 -0.8**
ARCES pmax pmax
comp=Z,4.0nm,0.6s
YKA Yellowknife Ar 71.18 28 P **P 07 37 51.1 -1.1**
comp=Z,2.8nm,0.5s,mb4.0,baz=298,slow=5.8,SNR=14
YKA Yellowknife Ar 71.18 28 *i* P **P 07 37 51.5 -0.7**
YKA pmax pmax
comp=Z,3.0nm,0.5s
JOF Joensuu 71.29 333 *ep* **P 07 37 51.7 -1.2**
comp=Z,2.0nm,0.4s,mb4.0
JOF Joensuu 71.29 333 *ep* **P 07 37 51.5 -1.4**
comp=Z,14nm,0.7s,mb4.6
JOF Joensuu 71.29 333 *e*P **P 07 37 51.7 -1.2**
JOF pmax pmax
comp=Z,2.0nm,0.4s,mb4.0
JOF Joensuu 71.29 333 *e*P **P 07 37 51.5 -1.4**
OBN Obninsk 72.57 324⇑ *i*P **P 07 37 58.8 -1.7**
OBN pmax pmax
comp=Z,16nm,1.0s,mb4.5
KAF Kangasniemi 73.70 333 *ep* **P 07 38 05.7 -1.2**
comp=Z,1.7nm,0.3s,mb4.2
KAF Kangasniemi 73.70 333 *ep* **P 07 38 05.8 -1.1**
comp=Z,4.0nm,0.5s,mb4.3
KAF Kangasniemi 73.70 333 *e*P **P 07 38 05.8 -1.1**
KAF pmax pmax
comp=Z,4.0nm,0.5s,mb4.3
KIV Kislovodsk 73.98 312 *e*P **P 07 38 09.2 +0.3**
KIV pmax pmax
comp=Z,18nm,1.1s,mb4.6
GNI Garni 74.27 307⇑ *e*P **P 07 38 10.9 +0.4**
GNI pmax pmax
comp=Z,15nm,1.3s
EDM Edmonton 76.42 36 *e*P **P 07 38 22.6 +0.2**
NEW Newport 76.92 42 *e*P **P 07 38 25.3 +0.1**
NEW pmax pmax
comp=Z,7.0nm,1.0s
NEW Newport 76.92 42 *e*P **P 07 38 25.3 +0.1**
comp=Z,7.3nm,1.0s,mb4.3
MOD Modoc 78.11 49 *e*P **P 07 38 32.4 +0.5**
BMO Blue Mountains 78.53 45 *e*P **P 07 38 34.3 +0.2**
BMO pmax pmax
comp=Z,13nm,1.6s,mb4.3
BMO Blue Mountains 78.53 45 *e*P **P 07 38 34.3 +0.2**
comp=Z,12nm,1.6s,mb4.3
AKASG Malin Array Be 78.63 322 P **P 07 38 33.1 -1.3**
comp=Z,2.9nm,0.5s,mb4.2,baz=51,slow=5.6,SNR=17
AKASG Malin Array Be 78.63 322 *i* P **P 07 38 33.4 -1.1**
AKASG pmax pmax
comp=Z,3.0nm,0.5s
MALT Malatya 79.46 308 *e*P **P 07 38 37.2 -2.0**
MALT *e* 07 38 45.0
MALT pmax pmax
comp=Z,8.0nm,1.0s,mb4.3
MALT Malatya 79.46 308 *e*P **P 07 38 37.2 -2.0**
comp=Z,7.9nm,1.0s,mb4.3
MALT *e*PcP PcP 07 38 45.0 -0.6
PAHR Pah Rah Range 79.80 50 *e*P **P 07 38 41.7 +0.7**
comp=Z,7.1nm,0.9s,mb4.3
NB2 NORSAR Subarra 79.95 337 P **P 07 38 40.2 -1.1**
comp=Z,6.7nm,0.8s,mb4.3,baz=47,slow=5.1
NOA NORSAR Array B 79.95 337 P **P 07 38 40.2 -1.1**
comp=Z,5.1nm,0.7s,mb4.3,baz=45,slow=5.3,SNR=20
NOA NORSAR Array B 79.95 337 P **P 07 38 40.2 -1.1**
NOA pmax pmax
comp=Z,5.0nm,0.7s
CMB Columbia Colle 79.96 52 *e*P **P 07 38 42.1 +0.2**
CMB pmax pmax
comp=Z,10.0nm,1.0s,mb4.4
CMB Columbia Colle 79.96 52 *e*P **P 07 38 42.1 +0.2**
comp=Z,10nm,1.0s,mb4.4
WAKR Walker 80.37 51 *e*P **P 07 38 45.0 +1.0**
LRM Limekiln Ridge 80.92 42 *e*P **P 07 38 47.2 +0.5**
DLMT Dillon 81.09 43 *e*P **P 07 38 48.4 +0.8**
comp=Z,6.5nm,1.0s,mb4.3
NVAR Mina Array Bea 81.18 51 P **P 07 38 49.1 +0.9**
comp=Z,5.5nm,0.7s,mb4.4,baz=289,slow=5.8,SNR=50
MTUM Tungsten Hills 81.56 52 *e*P **P 07 38 50.4 +0.2**
ELK Elko 81.98 48 *e*P **P 07 38 53.3 +1.0**
TPH Tonopah 82.09 51 *e*P **P 07 38 53.7 +0.8**
TPH pmax pmax
comp=Z,8.0nm,0.9s,mb4.5
TPH Tonopah 82.09 51 *e*P **P 07 38 53.7 +0.7**
comp=Z,8.5nm,0.9s,mb4.5
IMW Indian Meadow 82.89 43 *e*P **P 07 38 58.2 +1.3**
comp=Z,5.4nm,0.8s,mb4.3
HVU Hansel Valley 82.97 46 *e*P **P 07 38 58.3 +1.0**
RRI2 Red Ridge 82.97 44 *e*P **P 07 38 58.6 +1.3**
TPAW Teton Pass 83.11 43 *e*P **P 07 38 59.0 +1.0**
comp=Z,4.4nm,0.8s,mb4.2
TPNV Topopah Spring 83.34 51 *e*P **P 07 38 59.5 +0.2**
TPNV pmax pmax
comp=Z,11nm,0.8s,mb4.6
TPNV Topopah Spring 83.34 51 *e*P **P 07 38 59.5 +0.2**
comp=Z,11nm,0.8s,mb4.6
HWUT Hardware Ranch 83.81 45 *e*P **P 07 39 02.4 +0.8**
comp=Z,7.7nm,0.8s,mb4.5
DUG Dugway 83.83 47 *e*P **P 07 39 01.8 +0.1**
DUG pmax pmax
comp=Z,10.0nm,1.1s,mb4.5
DUG Dugway 83.83 47 *e*P **P 07 39 01.8 +0.1**
comp=Z,9.9nm,1.1s,mb4.5
GSC Goldstone 83.84 53 *e*P **P 07 39 01.8 0.0**
GSC pmax pmax
comp=Z,11nm,0.9s,mb4.6
GSC Goldstone 83.84 53 *e*P **P 07 39 01.8 0.0**
comp=Z,11nm,0.9s,mb4.6
SHPR Sheep Range 84.32 51 *e*P **P 07 39 04.9 +0.7**
BW06 Boulder Array 84.36 43 *e*P **P 07 39 04.5 +0.2**
PDAR Pinedale Array 84.36 43 P **P 07 39 04.1 -0.2**
comp=Z,3.1nm,1.0s,mb4.0,baz=302,slow=3.2,SNR=16
NLU North Lily Min 84.43 47 *e*P **P 07 39 05.0 +0.4**
JLU Jordanelle 84.45 46 *e*P **P 07 39 06.1 +1.3**
MPU Maple Canyon 84.67 47 *e*P **P 07 39 06.7 +0.9**
PFO Pinyon Flat Ob 84.98 54 *e*P **P 07 39 07.6 +0.1**
PFO pmax pmax
comp=Z,7.0nm,0.7s,mb4.5
PFO Pinyon Flat Ob 84.98 54 *e*P **P 07 39 07.6 0.0**
comp=Z,6.6nm,0.7s,mb4.5
SRU San Rafael 85.89 47 *e*P **P 07 39 12.5 +0.6**
SRU pmax pmax
comp=Z,2.0nm,0.6s,mb4.0
SRU San Rafael 85.89 47 *e*P **P 07 39 12.5 +0.6**
comp=Z,1.7nm,0.6s,mb4.0
RSSD Black Hills 86.73 40 *e*P **P 07 39 15.7 0.0**
KHC Kasperske Hory 87.46 327⇑ *e*P **P 07 39 17.7 -1.4**
GERES GERESS Array B 87.61 327 P **P 07 39 18.1 -1.6**
comp=Z,0.9nm,0.5s,mb3.8,baz=38,slow=6.8,SNR=6.9
GERES GERESS Array B 87.61 327 P **P 07 39 18.1 -1.7**
GERES pmax pmax
comp=Z,1.0nm,0.5s
ANMO Albuquerque 90.98 48⇑ *e*P **P 07 39 36.3 +0.5**
ANMO Albuquerque 90.98 48 *e*P **P 07 39 36.8 +1.1**
comp=Z,3.8nm,0.9s,mb4.2
TXAR Lajitas Array 96.33 51 P **P 07 39 59.9 -0.4**
comp=Z,1.3nm,0.8s,mb4.1,baz=298,slow=3.4,SNR=14
TXAR pP pP 07 41 39.0 +1.8
comp=Z,0.5nm,0.7s,baz=318,slow=3.0,SNR=5.2
TXAR Lajitas Array 96.33 51 P **P 07 39 59.9 -0.4**
TXAR pmax pmax
comp=Z,1.0nm,0.8s
TXAR pmax pmax
comp=Z,1.0nm,0.7s
QSPA South Pole Qui 119.58 180 PKP PKPdf 07 45 16.3 -1.0
comp=Z,0.6nm,0.5s,baz=98,slow=2.9,SNR=10.0
TORD Torodi Ar. Bea 120.52 310 PKP PKPdf 07 45 18.6 -2.5
comp=Z,0.4nm,0.6s,baz=29,slow=1.5,SNR=5.1
TORD pPKP pPKPdf 07 47 07.3 +4.1
comp=Z,0.7nm,0.9s,baz=61,slow=4.3,SNR=3.9

*ISCJB **02** 07:42:29.6±0.7,2104S∧005×6857W∧007,h106km±7km, mb3.6/5,Error ellipse: s-maj=11.2km s-min=8.4km az=3.6*
*IDC **02** 07:42:31.9±1.1,2121S×6858W,h113km±9km,mb3.5/6, mb1 3.7/10,mb1mx3.6/20,mbtmp3.5/10,Error ellipse: s-maj=22.4km s-min=13.3km az=110.0*
*NEIC **02** 07:42:32.4±0.6,2120S×6856W,h118km±6km,Error ellipse: s-maj=10.4km s-min=8.0km az=85.0*
ISC 02 07:42:31.1±0.6,2107S∧005×6856W∧007,h103km±7km, n20,σ0§96/24,mb3.6/5,Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**1.57**	**192**	P		**Pn**		**07 42 58.6**	**+0.2**
	68nm,0.3s,baz=8.4,slow=8.6,SNR=207								
LVC				S		**Sn**		**07 43 18.4**	**-0.7**
	204nm,0.3s,baz=254,slow=22,SNR=122								
LVC	**Limon Verde**	**1.57**	**192**	P		**Pn**		**07 42 58.6**	**+0.2**
LVC				S		**Sn**		**07 43 18.4**	**-0.7**
LPAZ	**La Paz**	**4.78**	**5**	P		**Pn**		**07 43 46.0**	**+5.1**
	1.2nm,0.3s,baz=204,slow=5.0,SNR=56								
LPAZ				S		**Sn**		**07 44 32.3**	**-2.8**
	0.7nm,0.3s,baz=193,slow=13,SNR=3.7								
ARE	**Arequipa**	**5.36**	**328**	*e*P		**Pn**		**07 43 52.0**	**+3.2**
ARE				*e*S		**Sn**		**07 44 48.0**	**-1.4**
SIV	**San Ignacio**	**8.72**	**56**	P		**Pn**		**07 44 35.2**	**+0.8**
	12nm,0.3s,baz=252,slow=11,SNR=428								
SIV				S		**Sn**		**07 46 09.7**	**-1.2**
	baz=298,slow=20,SNR=2.1								
CFAA	**Coronel Fontan**	**10.49**	**178**	P		**Pn**		**07 44 52.7**	**-5.7**
	0.0nm,0.3s,baz=6.5,slow=14,SNR=20								
CFAA				S		**Sn**		**07 46 43.7**	**-10**
	0.1nm,0.3s,baz=180,slow=15,SNR=6.1								
CFAA	**Coronel Fontan**	**10.49**	**178**	P		**Pn**		**07 44 52.7**	**-5.7**
CFAA				S		**Sn**		**07 46 43.7**	**-10**
CPUP	**Villa Florida**	**11.54**	**119**	P		**Pn**		**07 45 13.4**	**+0.8**
	0.4nm,0.3s,baz=277,slow=7.4,SNR=4.6								
PLCA	**Paso Flores**	**19.67**	**185**	P		**P**		**07 46 51.3**	**-0.6**
	0.1nm,0.3s,baz=32,slow=9.5,SNR=2.6								
BDFB	**Brasilia**	**20.23**	**78**	P		**P**		**07 46 58.9**	**+0.7**
	6.1nm,0.5s,baz=238,slow=14,SNR=3.5								
TXAR	**Lajitas Array**	**60.47**	**325**	P		**P**		**07 52 30.3**	**+0.1**
	0.3nm,1.0s,mb3.3,baz=169,slow=10,SNR=3.1								
QSPA	**South Pole Qui**	**69.12**	**180**	P		**P**		**07 53 25.3**	**-0.4**
	1.2nm,0.9s,mb3.7,baz=187,slow=3.1,SNR=7.7								
NVAR	**Mina Array Bea**	**75.36**	**322**	P		**P**		**07 54 03.5**	**+0.2**
	0.4nm,0.6s,mb3.3,baz=127,slow=6.3,SNR=4.0								
TOA0	**Torodi Ar. Sit**	**76.90**	**70**	*e*P		**P**		**07 54 12.4**	**-0.2**
TORD	**Torodi Ar. Bea**	**76.90**	**70**	P		**P**		**07 54 12.3**	**-0.3**
	1.1nm,0.6s,mb3.8,baz=257,slow=5.2,SNR=24								
TORD	**Torodi Ar. Bea**	**76.90**	**70**	P		**P**		**07 54 12.3**	**-0.3**
MAW	**Mawson**	**84.64**	**163**	P		**P**		**07 54 52.7**	**-0.2**
	0.8nm,0.7s,mb3.8,baz=230,slow=7.9,SNR=3.4								
ASAR	**Alice Springs**	**130.44**	**207**	PKP		PKPdf		08 01 29.1	-1.2
	0.6nm,1.0s,baz=180,slow=5.6,SNR=2.6								
WRA	**Warramunga Arr**	**133.49**	**210**	PKP		PKPdf		08 01 35.0	-1.2
	0.4nm,0.6s,baz=157,slow=1.6,SNR=7.9								
MKAR	**Makanchi Array**	**145.10**	**36**	PKPbc		PKPbc		08 01 56.0	-0.1
	1.1nm,0.9s,baz=343,slow=3.8,SNR=3.6								

*DHMR **02** 07:52:43.9±2.7,1267N×4080E,h12km±219km,ML3.9*
*ISCJB **02** 07:52:47.4±1.2,126N∧01×41.1E∧01,h10km,Error ellipse: s-maj=20.7km s-min=8.0km az=138.1*
ISC 02 07:52:49.5±1.2,126N∧01×410E∧01,h10km,n7,σ1§32/13, 1C,Ethiopia

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
UDYN	**Al 'Udayn**	**3.15**	**65**	*i* P		**Pn**		**07 53 38.5**	**-0.7**
UDYN				*i* S		**Sn**		**07 54 21.8**	**+5.0**
UDYN				AML		AML		07 54 44.5	
	comp=N,638nm,0.6s								
DHBB	**Dhamar BB**	**3.79**	**59**	*i* P		**Pn**		**07 53 47.1**	**-0.9**
DHBB				*i* S		**Sn**		**07 54 37.1**	**+4.4**
HAJJ	**Hajjah**	**3.94**	**39**	*i* P		**Pn**		**07 53 48.6**	**-1.4**
HAJJ				*i* S		**Sn**		**07 54 38.6**	**+2.3**
	comp=N,168nm,0.6s								
HAJJ	**Hajjah**	**3.94**	**39**	*i* P		**Pn**		**07 53 48.6**	**-1.4**
HAJJ				*i* S		**Sn**		**07 54 38.6**	**+2.3**
HAJJ				AML		AML		07 54 56.4	
	comp=Z,335nm,0.6s								
LBOS		**4.29**	**73**⇑	*i* P		**Pn**		**07 53 52.8**	**-2.0**
LBOS				*i* S		**Sn**		**07 54 45.0**	**+0.1**
FURI	**Furi**	**4.37**	**212**	*e*P		**Pg**		**07 54 14.4**	**+1.1**
FURI				S		**Sg**		**07 55 22.7**	**+13**
BDHA	**Al Bayda'**	**4.61**	**73**	*i* S		**Sn**		**07 54 53.9**	**+1.0**

IDC 02 08:01:43.2±17.0,4959S×16425E,h0km,mb3.8/4, mb1 4.0/5,mb1mx3.9/14,mbtmp3.9/5,ML3.3/1,MS3.5/2, Ms1 3.4/2,ms1mx2.8/23,Error ellipse: s-maj=352.7km s-min=40.5km az=161.0,Auckland Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
RPZ	**Rata Peaks**	**7.51**	**41**	Pn		Pn		08 03 34.2	+0.4
	0.4nm,0.3s,baz=188,slow=3.1,SNR=2.5								
RPZ				Sn		Sn		08 04 56.6	-3.1
	1.0nm,0.3s,baz=8.1,slow=19,SNR=3.8								
STKA	**Stephens Creek**	**24.50**	**308**	P		P		08 07 05.9	+2.0
	2.5nm,1.0s,baz=119,slow=12,SNR=3.1								
STKA				LR		LR		08 15 00.0	
	comp=Z,100nm,20.9s,baz=46,slow=32								
ASAR	**Alice Springs**	**35.11**	**306**	P		P		08 08 38.2	+0.1
	0.9nm,0.7s,baz=137,slow=8.2,SNR=16								
WRA	**Warramunga Arr**	**37.99**	**310**	P		P		08 09 01.4	-1.3
	1.0nm,0.7s,baz=145,slow=8.3,SNR=10								
FITZ	**Fitzroy Crossi**	**44.09**	**301**	P		P		08 09 53.1	0.0
	0.5nm,0.5s,baz=186,slow=10,SNR=5.6								
FITZ				LR		LR		08 27 07.9	
	comp=Z,61nm,21.9s,baz=327,slow=35								

*IDC **02** 08:16:25.1±3.0,1107N×8497W,h0km,mb4.0/5,mb1 4.2/5, mb1mx3.8/20,mbtmp4.0/5,Error ellipse: s-maj=61.9km s-min=52.0km az=167.0*
*ISCJB **02** 08:16:47.1±0.7,116N∧02×854W∧02,h173km±10km, mb3.8/5,Error ellipse: s-maj=44.2km s-min=9.0km az=141.4*
*CASC **02** 08:16:50.4±2.5,1066N×8669W,h0km±6km,MD4.2*
ISC 02 08:16:48.1±0.7,116N∧02×854W∧02,h166km±11km,n22, σ0§99/16,mb3.8/5,4C,Nicaragua

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SSN	**San Juan del S**	**0.57**	**238**⇑	*e*P		**Pn**		**08 17 12.0**	**+0.3**
CUI	**Cuipilapa**	**0.95**	**169**⇑	*i*P		**Pn**		**08 17 15.8**	**+1.8**
CUI				*e*S		**Sn**		**08 17 35.7**	**+1.7**
2RIO	**Dos Rios de Up**	**1.08**	**174**⇑	*e*P		**Pn**		**08 17 13.9**	**-1.2**
2RIO				*e*S		**Sn**		**08 17 33.1**	**-2.7**
COPN	**Copaltepe**	**1.34**	**295**	*e*P		**Pn**		**08 17 17.6**	**+0.2**
COPN				*e*S		**Sn**		**08 17 39.8**	**0.0**
LEON	**Leon**	**1.71**	**298**	*e*P		**Pn**		**08 17 21.1**	**0.0**
LEON				*e*S		**Sn**		**08 17 45.8**	**-0.6**
JCR	**Jicaral**	**1.76**	**172**	*e*P		**Pn**		**08 17 22.0**	**+0.3**
JCR				*e*S		**Sn**		**08 17 46.9**	**-0.6**
CNCH	**Conchagua**	**2.94**	**305**	*e*P		x		08 17 36.1	
BLLM	**Bellamira**	**3.35**	**303**	*e*P		x		08 17 42.8	
VSM	**San Miguel**	**3.38**	**303**	*e*P		x		08 17 40.0	
VSM				*e*S		x		08 18 23.2	

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SNVI	**San Vicente**	**3.94**	**301**	*e*P	x	08 17 49.2	
LFRS	**El Faro**	**4.14**	**299**	*e*P	x	08 17 50.8	
SNET	**Serv Nac Est T**	**4.31**	**299**	*e*P	x	08 17 52.4	
SNET				*e*S	x	08 18 38.8	
SBLS	**San Blas**	**4.72**	**299**	*e*P	x	08 17 58.2	
RTR	**El Retiro**	**4.76**	**299**	*e*P	x	08 17 59.6	
LAPE	**La Pedrera**	**14.17**	**105**⇑	*e*P	Px	08 17 13.8	
LAPE				*e*S	Sx	08 17 32.5	
TXAR	**Lajitas Array**	**24.54**	**319**	P	**P**	**08 21 52.6**	**+0.1**
	1.4nm,0.4s,mb3.8,baz=143,slow=9.2,SNR=33						
ULM	**Lac du Bonnet**	**39.49**	**349**	P	**P**	**08 24 01.8**	**-0.5**
	4.7nm,1.1s,mb4.0,baz=171,slow=9.4,SNR=3.8						
NVAR	**Mina Array Bea**	**39.69**	**318**	P	**P**	**08 24 05.6**	**+1.5**
	0.9nm,0.7s,mb3.5,baz=134,slow=7.6,SNR=10						
NVAR				PcP	PcP	08 26 07.3	-0.2
	0.5nm,0.7s,baz=120,slow=5.3,SNR=4.2						
SCHQ	**Schefferville**	**45.53**	**15**	P	**P**	**08 24 50.4**	**-0.5**
	2.7nm,0.5s,mb4.1,baz=221,slow=8.8,SNR=6.1						
YKA	**Yellowknife Ar**	**54.97**	**344**	P	**P**	**08 26 01.1**	**-0.6**
	0.5nm,0.6s,mb3.5,baz=133,slow=8.0,SNR=3.3						
ASAR	**Alice Springs**	**140.84**	**247**	PKhKP		08 35 51.0	
	0.3nm,0.7s,baz=110,slow=3.2,SNR=3.5						
ASAR				PKP	PKPdf	08 35 58.6	-0.4
	0.3nm,0.5s,baz=110,slow=2.2,SNR=6.1						
WRA	**Warramunga Arr**	**140.99**	**253**	PKhKP		08 35 53.4	
	0.3nm,0.7s,baz=97,slow=3.5,SNR=6.4						
WRA				PKP	PKPdf	08 35 59.1	-0.2
	0.8nm,0.7s,baz=92,slow=2.5,SNR=13						

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*IDC **02** 08:49:44.4±1.0, 1152S×162.11E, h0km, mb4.3/10, mb1 4.3/12, mb1mx4.2/21, mbtmp4.2/12, ML4.2/2, MS3.6/4, Ms1 3.6/4, ms1mx3.1/30, Error ellipse: s-maj=33.6km s-min=20.1km az=133.0*
*ISCJB **02** 08:49:47.7±0.8, 1167S±008×162.1E±0.1, h33km, mb4.2/10, MS3.6/4, Error ellipse: s-maj=14.6km s-min=11.2km az=156.6*
ISC 02 08:49:49.4±0.8, **1162S**±008×**1622E**±01, **h35km, n22, σ1s05**/16, **mb4.2**/10, **MS3.6**/4, **Bougainville - Solomon Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**3.08**	**315**	Pn	**Pn**	**08 50 34.1**	**-1.5**
	16nm,0.3s,baz=178,slow=8.7,SNR=12						
HNR				Sn	**Sn**	**08 51 12.8**	**+1.5**
	107nm,0.3s,baz=321,slow=22,SNR=9.1						
CTA	**Charters Tower**	**17.46**	**239**	*e*P	**Pn**	**08 53 50.7**	**+0.3**
	7.4nm,0.7s						
CTA	**Charters Tower**	**17.46**	**239**	P	**Pn**	**08 53 49.8**	**-0.6**
	0.7nm,0.3s,baz=63,slow=14,SNR=6.7						
RAO	**Raoul Island**	**25.54**	**136**	LR	LR	09 02 48.0	
	comp=Z,144nm,18.2s,MS3.5,baz=275,slow=30						
STKA	**Stephens Creek**	**27.68**	**220**	*e*P	**P**	**08 55 34.9**	**+0.6**
	8.6nm,1.5s,mb4.2						
STKA	**Stephens Creek**	**27.68**	**220**	P	**P**	**08 55 34.5**	**+0.3**
	3.5nm,1.0s,mb3.9,baz=59,slow=16,SNR=3.9						
WB2	**Warramunga Arr**	**27.99**	**249**	*e*P	**P**	**08 55 37.9**	**+0.8**
WRA	**Warramunga Arr**	**28.00**	**249**	P	**P**	**08 55 37.0**	**-0.3**
	1.3nm,0.7s,mb3.6,baz=79,slow=9.5,SNR=13						
WRA				PcP	PcP	08 58 51.9	0.0
	0.7nm,0.6s,baz=88,slow=2.9,SNR=5.8						
ASAR	**Alice Springs**	**29.42**	**242**	P	**P**	**08 55 49.5**	**-0.3**
	2.5nm,0.7s,mb4.0,baz=65,slow=9.9,SNR=34						
RPZ	**Rata Peaks**	**32.89**	**168**	LR	LR	09 07 08.5	
	comp=Z,180nm,18.9s,MS3.8,baz=44,slow=32						
ASAJ	**Asahikawa**	**58.26**	**344**	P	**P**	**08 59 38.1**	**-2.2**
	2.4nm,0.4s,mb4.6,baz=86,slow=13,SNR=3.4						
KSRS	**Korea Array**	**58.44**	**328**	LR	LR	09 20 58.6	
	comp=Z,32nm,19.4s,MS3.4,baz=145,slow=32						
PETK	**Petropavlovsk-**	**64.58**	**357**	LR	LR	09 29 29.0	
	comp=Z,30nm,18.6s,MS3.5,baz=343,slow=37						
SONM	**Songino Array**	**77.09**	**325**	P	**P**	**09 01 40.1**	**+1.0**
	1.0nm,0.7s,mb3.9,baz=147,slow=5.8,SNR=5.9						
NVAR	**Mina Array Bea**	**89.08**	**51**	P	**P**	**09 02 42.1**	**+0.9**
	1.0nm,0.6s,mb4.3,baz=234,slow=7.6,SNR=11						
MKAR	**Makanchi Array**	**91.56**	**317**	P	**P**	**09 02 52.6**	**+0.1**
	1.2nm,0.6s,mb4.4,baz=90,slow=7.8,SNR=7.1						
ELK	**Elko**	**91.95**	**49**	P	**P**	**09 02 55.9**	**+1.3**
	1.9nm,0.9s,mb4.4,baz=257,slow=4.1,SNR=8.9						
ZALV	**Zalesovo Beam**	**91.98**	**325**	P	**P**	**09 02 53.1**	**-1.2**
	0.8nm,0.5s,mb4.3,baz=111,slow=7.9,SNR=3.4						
KURK	**Kurchatov**	**94.85**	**321**	P	**P**	**09 03 06.9**	**-0.7**
	0.5nm,0.5s,mb4.2,baz=104,slow=4.0,SNR=2.6						
ARCES	**ARCESS Array B**	**115.97**	**344**	PKP	PKPdf	09 08 28.2	+0.2
	2.0nm,0.9s,baz=70,slow=2.1,SNR=5.0						
KEST	**Kesra**	**145.64**	**319**	PKPbc	PKPbc	09 09 25.5	+0.7
	2.9nm,0.8s,baz=322,slow=7.2,SNR=7.5						
TORD	**Torodi Ar. Bea**	**160.87**	**277**	PKPab	PKPab	09 10 30.1	+0.6
	0.8nm,1.0s,baz=64,slow=3.4,SNR=4.1						

IDC 02 08:55:39.8±15.0, **2088S**×**16919E, h0km, mb3.9**/5, **mb1 4.0**/5, **mb1mx3.8**/16, **mbtmp3.9**/5, **MS3.3**/2, **Ms1 3.3**/2, **ms1mx2.7**/31, **Error ellipse: s-maj=250.8km s-min=106.5km az=71.0, Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**2.82**	**245**	*e*P	Pn	08 56 24.7	-1.5
DZM				*e*S	Sn	08 56 53.5	-7.4
ONTRN	**Noumea**	**2.92**	**240**	*e*P	Pn	08 56 28.6	+1.0
NOUC	**Port Laguerre**	**2.96**	**245**	*e*P	Pn	08 56 27.0	-1.1
AFI	**Afiamalu**	**19.43**	**72**	LR	LR	09 06 10.4	
	comp=Z,70nm,19.0s,baz=217,slow=32						
CTA	**Charters Tower**	**21.50**	**268**	P	P	09 00 30.2	-0.2
	3.9nm,0.7s,baz=85,slow=12,SNR=2.2						
STKA	**Stephens Creek**	**26.97**	**240**	P	P	09 01 23.4	+0.1
	2.0nm,1.0s,baz=82,slow=14,SNR=3.1						
WRA	**Warramunga Arr**	**32.64**	**265**	P	P	09 02 13.3	-0.4
	0.7nm,0.9s,baz=98,slow=7.3,SNR=5.5						
ASAR	**Alice Springs**	**32.73**	**258**	P	P	09 02 14.6	+0.1
	1.2nm,0.7s,baz=87,slow=9.4,SNR=16						
FITZ	**Fitzroy Crossi**	**41.06**	**266**	P	P	09 03 25.7	+0.3
	2.4nm,0.8s,baz=137,slow=11,SNR=5.9						
FITZ				LR	LR	09 19 52.1	
	comp=Z,57nm,19.2s,baz=30,slow=35						

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*NIED **02** 08:57:00, 2940N×12990E, h65km, Mw3.9 Best double couple: $M_0$9.09000×10^14 NP1:ϕ_s33.00000°, δ83.00000°, λ164.00000°. NP2:ϕ_s125.00000°, δ74.00000°, λ8.00000°.*
*IDC **02** 08:57:16.5±3.9, 2934N×13002E, h40km±36km, mb3.5/4, mb1 3.7/6, mb1mx3.5/24, mbtmp3.7/6, ML3.6/2, Error ellipse: s-maj=35.3km s-min=17.3km az=92.0*
*ISCJB **02** 08:57:17.2±0.4, 2933N±004×12992E±009, h64km±6km, mb3.8/4, Error ellipse: s-maj=14.0km s-min=3.8km az=21.0*
*JMA **02** 08:57:17.5, 2935N×12991E, h63km±2km, M4.1*
ISC 02 08:57:18.1±0.4, **2932N**±004×**12995E**±009, **h55**km±7km, **n19, σ0s69**/30, **mb3.8**/4, **Ryukyu Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
JNN	**Nakanoshima**	**0.52**	**353**	P	**Pn**	**08 57 29.6**	**-0.4**
JNN				*e*S	**Sn**	**08 57 38.2**	**-0.4**
JAM	**Amami Oshima**	**0.95**	**198**	P	**Pn**	**08 57 35.1**	**-0.3**
JAM				*e*S	**Sn**	**08 57 47.7**	**-0.4**
JZK	**Kikaishima**	**1.00**	**179**	P	**Pn**	**08 57 36.7**	**+0.7**
JKC	**Kuchinoerabu**	**1.16**	**11**	P	**Pn**	**08 57 37.7**	**-0.4**
JKC				*e*S	**Sn**	**08 57 52.6**	**-0.4**
JTN	**Tanegashima 3**	**1.60**	**34**	P	**Pn**	**08 57 44.2**	**+0.1**
JTN				*e*S	**Sn**	**08 58 05.0**	**+1.3**
JTK	**Tokunoshima**	**1.76**	**210**	P	**Pn**	**08 57 46.2**	**-0.1**
JTK				*e*S	**Sn**	**08 58 06.9**	**-0.7**
JTSR	**Tashiro 2**	**2.02**	**24**	P	**Pn**	**08 57 49.9**	**0.0**
JTSR				*e*S	**Sn**	**08 58 13.4**	**-0.6**
JSU	**Suzuyama**	**2.22**	**11**	P	**Pn**	**08 57 52.6**	**0.0**
JSJ	**Shimokoshiki**	**2.36**	**355**	P	**Pn**	**08 57 54.5**	**+0.1**
JSJ				*e*S	**Sn**	**08 58 22.0**	**-0.2**
JNAR	**Kushima--Naru**	**2.48**	**27**	P	**Pn**	**08 57 56.7**	**+0.6**
JNAR				*e*S	**Sn**	**08 58 25.2**	**+0.1**
JIH	**Iheya**	**2.87**	**218**	P	**Pn**	**08 58 02.0**	**+0.6**
JIH				*e*S	**Sn**	**08 58 35.3**	**+0.5**
JOW	**Kunigami**	**2.88**	**211**	P	**Pn**	**08 58 01.6**	**0.0**
	17nm,0.3s,baz=61,slow=9.5,SNR=35						
JOW				S	**Sn**	**08 58 34.8**	**-0.4**
	25nm,0.3s,baz=75,slow=20,SNR=7.2						
JOW	**Kunigami**	**2.88**	**211**	P	**Pn**	**08 58 02.0**	**+0.3**
JOW				*e*S	**Sn**	**08 58 35.3**	**+0.2**
KSRS	**Korea Array**	**8.29**	**349**	P	**Pn**	**08 59 17.5**	**+1.9**
	0.1nm,0.3s,baz=168,slow=15,SNR=17						
ASAJ	**Asahikawa**	**17.88**	**31**	P	**Pn**	**09 01 20.6**	**-2.2**
	0.3nm,0.3s,baz=210,slow=12,SNR=5.6						
SONM	**Songino Array**	**25.92**	**322**	P	**P**	**09 02 45.5**	**+0.5**
	1.0nm,0.5s,mb3.6,baz=138,slow=10,SNR=5.5						
BVAR	**Borovoye Array**	**49.04**	**316**	P	**P**	**09 05 58.9**	**-0.5**
	0.4nm,0.4s,mb3.8,baz=84,slow=13,SNR=4.2						
WRA	**Warramunga Arr**	**49.16**	**175**	P	**P**	**09 05 59.9**	**-0.6**
	0.8nm,0.6s,mb3.9,baz=354,slow=8.2,SNR=13						
ASAR	**Alice Springs**	**52.82**	**175**	P	**P**	**09 06 28.6**	**+0.6**
	0.5nm,0.6s,mb3.6,baz=7.8,slow=13,SNR=7.5						

IDC 02 09:04:34.5±2.2, **959N**×**9361E, h0km, mb3.6**/4, **mb1 3.8**/5, **mb1mx3.6**/22, **mbtmp3.6**/5, **ML4.0**/1, **Error ellipse: s-maj=73.9km s-min=23.8km az=67.0, Nicobar Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**10.22**	**30**	Pn	Pn	09 07 00.8	-1.7
	0.4nm,0.3s,baz=223,slow=14,SNR=5.2						
SONM	**Songino Array**	**39.62**	**14**	P	P	09 12 08.7	+1.0
	0.6nm,0.8s,baz=216,slow=8.7,SNR=3.1						
KURK	**Kurchatov**	**42.83**	**346**	P	P	09 12 33.4	-0.7
	0.3nm,0.3s,baz=164,slow=8.2,SNR=2.3						
WRA	**Warramunga Arr**	**49.69**	**126**	P	P	09 13 28.4	-0.1
	0.8nm,0.6s,baz=306,slow=8.6,SNR=8.4						
ASAR	**Alice Springs**	**51.42**	**131**	P	P	09 13 41.5	-0.1
	0.9nm,0.9s,baz=298,slow=6.6,SNR=6.1						

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*DHMR **02** 09:06:21.8±1.3, 1329N×4047E, h2km±7km, ML4.5*
*ISCJB **02** 09:06:30.3±0.4, 1346N±005×4088E±003, h10km, mb4.1/13, MS4.1/16, Error ellipse: s-maj=7.7km s-min=4.3km az=158.5*
*IDC **02** 09:06:30.6±1.3, 1350N×4084E, h0km, mb3.9/11, mb1 4.0/12, mb1mx3.9/24, mbtmp3.9/12, MS4.1/19, Ms1 4.1/19, ms1mx4.0/28, Error ellipse: s-maj=34.5km s-min=18.8km az=162.0*
*NEIC **02** 09:06:31.8±0.8, 1344N×4083E, h10km, mb4.1/2, Error ellipse: s-maj=19.1km s-min=13.3km az=166.0*
*CSEM **02** 09:06:31.4±0.2, 1319N×4097E, h30km, mb4.1/2, Mw5.0, Error ellipse: s-maj=10.5km s-min=4.2km az=177.0*
*GCMT **02** 09:06:31.8±0.4, 1355N×4099E, h14km±1km, MW5.0/59, Moment Tensor Solution. s20,c23; s59,c84; Duration: 0 Moment tensor: Scale 10^16Nm; M_{rr}-1.36±.17; $M_{\theta\theta}$-0.82±.12; $M_{\phi\phi}$2.17±.17; $M_{r\theta}$-1.07±.32; $M_{\theta\phi}$-2.67±.12; $M_{\phi r}$-0.26±.30; Best double couple: $M_0$3.40200×10^16 NP1:ϕ_s10.00000°, δ65.00000°, λ-21.00000°. NP2: ϕ_s110.00000°, δ71.00000°, λ-153.00000°. Principal axes: T 3.7560, Plg4.0000°, Azm239.0000°; N -0.7150, Plg58.0000°, Azm143.0000°; P -3.0470, Plg32.0000°, Azm331.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
ISC 02 09:06:31.6±0.4, **1336N**±005×**4099E**±004, **h10km, n64, σ1s08**/54, **mb4.1**/13, **MS4.1**/16, **2C-5D, Ethiopia**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
UDYN	**Al ‘Udayn**	**2.95**	**78**	*i* P	**Pn**	**09 07 20.2**	**+1.6**
UDYN				*i* S	**Sg**	**09 08 04.8**	**-1.8**
UDYN				AML	AML	09 08 14.2	
	comp=E,4μm,0.6s						
HAJJ	**Hajjah**	**3.43**	**47**⇓	*i*P	**Pn**	**09 07 24.4**	**-0.8**
HAJJ				*i* S	**Sb**	**09 08 14.7**	**+0.3**
HAJJ				AML	AML	09 08 51.8	
	comp=Z,1μm,1.0s						
DHBB	**Dhamar BB**	**3.51**	**70**	*i* P	**Pn**	**09 07 26.3**	**0.0**
DHBB				*i* S	**Sb**	**09 08 18.0**	**+1.4**
SANA	**San‘a**	**3.71**	**57**	*i* P	**Pn**	**09 07 29.2**	**+0.2**
SANA				*i* S	**Sb**	**09 08 21.2**	**-1.1**
LBOS		**4.17**	**83**	*i* P	**Pn**	**09 07 34.0**	**-1.4**
LBOS				*i* S	**Sn**	**09 08 30.4**	**+6.2**
BDHA	**Al Bayda’**	**4.49**	**82**	*i* P	**Pn**	**09 07 38.6**	**-1.2**
BDHA				*i* S	**Sn**	**09 08 37.2**	**+5.2**
FURI	**Furi**	**4.98**	**207**	*e*P	**Pn**	**09 07 47.1**	**+0.5**
FURI	**Furi**	**4.98**	**207**	S	**Pb**	**09 07 59.3**	**+0.3**
MUKL	**Al Mukalla**	**7.89**	**81**	*i* P	**Pn**	**09 08 24.1**	**-2.4**
MUKL				*i* S	**Sn**	**09 10 00.8**	**+4.9**
MRKH	**Merkhyat**	**8.67**	**287**	*i* S	Sx	09 10 39.8	
KMBO	**Kilima Mbogo**	**14.86**	**195**	⇓P	**Pn**	**09 10 05.6**	**+3.6**
	SNR=6.3						
KMBO	**Kilima Mbogo**	**14.86**	**195**	LR	LR	09 16 04.9	
	comp=Z,801nm,19.9s,baz=351,slow=38						
RDF	**Al-Radifah**	**16.64**	**20**	*e*P	**Pn**	**09 10 26.9**	**+1.8**
	comp=Z,67nm,1.5s						
RDF	**Al-Radifah**	**16.64**	**20**	*e*P	**Pn**	**09 10 26.9**	**+1.8**
	baz=20						
RDF				AMb	AMB	09 10 34.9	
	comp=Z,67nm,1.5s,baz=20						
NAY	**Al-Naaiem**	**16.84**	**19**	*e*P	**Pn**	**09 10 30.1**	**+2.5**
	comp=Z,38nm,1.5s						
NAY	**Al-Naaiem**	**16.84**	**19**	*e*P	**Pn**	**09 10 30.1**	**+2.5**
	baz=19						
NAY				AMb	AMB	09 10 32.9	
	comp=Z,38nm,1.5s,baz=19						
EIL	**Elat**	**17.17**	**342**	LR	LR	09 15 44.2	
	comp=Z,658nm,18.7s,baz=335,slow=33						
MIB	**Mutribah**	**17.39**	**19**	*e*P	**Pn**	**09 10 36.2**	**+1.8**
	comp=Z,52nm,1.3s						
MIB	**Mutribah**	**17.39**	**19**	*e*P	**Pn**	**09 10 36.2**	**+1.8**
	baz=19						
MIB				AMb	AMB	09 10 51.1	
	comp=Z,52nm,1.3s,baz=19						
ASUD	**Al Ashush, Dub**	**17.57**	**48**	P	**Pn**	**09 10 37.3**	**+0.5**
	SNR=7.2						
FAQ	**Al Faqa, Dubai**	**17.83**	**48**	P	**Pn**	**09 10 40.2**	**+0.2**
	SNR=11						
BSY	**Bisya**	**18.00**	**56**	⇓P	**Pn**	**09 10 42.8**	**+0.7**
	SNR=16						
BSYO	**Bisya**	**18.03**	**57**	P	**Pn**	**09 10 42.8**	**+0.4**
	SNR=16						
NAZ	**Nazwa, Dubai**	**18.03**	**48**	P	**Pn**	**09 10 42.2**	**-0.2**
	SNR=13						
HATD	**Hatta, Dubai**	**18.27**	**49**	⇓P	**Pn**	**09 10 45.4**	**-0.1**
	SNR=29						
JMDO	**Jabal Madar**	**18.57**	**59**	⇑P	**Pn**	**09 10 49.3**	**+0.1**
	SNR=9.3						
SMDO	**Samad**	**18.84**	**57**	⇓P	**Pn**	**09 10 52.3**	**0.0**
	SNR=12						
ASF	**Jabal al Asfar**	**19.10**	**349**	P	**Pn**	**09 10 54.3**	**-1.1**
	baz=59,slow=7.4,SNR=6.2						
ASF				LR	LR	09 17 10.8	
	comp=Z,447nm,18.6s,baz=217,slow=34						
WBK	**Wadi Bani Khal**	**19.40**	**59**	⇑P	**Pn**	**09 10 58.8**	**-0.3**
	SNR=13						
BHD	**Baghdad**	**20.06**	**8**	*e*x	x	09 10 57.0	
BHD				*e*x	x	09 14 30.0	
MMAI	**Mount Meron Ar**	**20.22**	**346**	LR	LR	09 17 54.1	
	comp=Z,318nm,20.3s,MS3.7,baz=140,slow=34						
IDI	**Anoyia**	**26.23**	**329**	LR	LR	09 23 54.6	
	comp=Z,163nm,18.2s,MS3.6,baz=262,slow=40						
GNI	**Garni**	**26.89**	**6**	LR	LR	09 23 45.3	
	comp=Z,245nm,18.0s,MS3.8,baz=152,slow=39						
KEST	**Kesra**	**36.13**	**314**	P	**P**	**09 13 34.6**	**+0.5**
	comp=Z,1.3nm,0.7s,mb4.0,baz=260,slow=5.4,SNR=4.9						
KEST				LR	LR	09 30 51.2	
	comp=Z,367nm,18.0s,MS4.2,baz=260,slow=41						
TORD	**Torodi Ar. Bea**	**38.22**	**274**	P	**P**	**09 13 52.0**	**-0.2**
	comp=Z,3.7nm,1.1s,mb4.0,baz=91,slow=7.9,SNR=12						
TORD				LR	LR	09 29 57.0	
	comp=Z,283nm,19.1s,MS4.1,baz=105,slow=37						
AKASG	**Malin Array Be**	**38.45**	**348**	P	**P**	**09 13 51.5**	**-2.0**
	comp=Z,0.5nm,0.5s,mb3.5,baz=172,slow=8.1,SNR=5.9						
CRVS	**Cervenica-Dubn**	**38.94**	**339**	*i* P	**P**	**09 13 57.9**	**+0.3**
STHS	**Stebnicka Huta**	**39.45**	**340**	*e*P	**P**	**09 14 00.9**	**-1.0**
	comp=Z,3.1nm,0.8s,mb4.1						
AKTK	**Aktyubinsk**	**39.49**	**17**	P	**P**	**09 14 02.8**	**+0.5**
AKTK	**Aktyubinsk**	**39.49**	**17**	P	**P**	**09 14 02.9**	**+0.6**
AKTO	**Aktyubinsk**	**39.49**	**17**	P	**P**	**09 14 02.9**	**+0.6**
	comp=Z,1.3nm,0.5s,mb3.9,baz=130,slow=3.3,SNR=8.4						
VYHS	**Vyhne**	**39.55**	**337**	*i* P	**P**	**09 14 02.9**	**+0.1**
MODS	**Modra-Piesok**	**40.07**	**335**	*i* P	**P**	**09 14 06.6**	**-0.5**
MODS	**Modra-Piesok**	**40.07**	**335**	*i* P	**P**	**09 14 06.7**	**-0.4**
	comp=Z,7.9nm,1.3s,mb4.3						
GERES	**GERESS Array B**	**41.95**	**333**	LR	LR	09 33 44.2	
	comp=Z,88nm,19.3s,MS3.6,baz=303,slow=39						
BOSA	**Boshof**	**44.42**	**200**	LR	LR	09 34 16.6	
	comp=Z,410nm,18.5s,MS4.4,baz=27,slow=37						
DBIC	**Dimbokro**	**45.58**	**266**	P	**P**	**09 14 49.9**	**-2.5**
	comp=Z,1.7nm,0.7s,mb4.1,baz=95,slow=10.0,SNR=4.3						
DBIC				LR	LR	09 36 00.2	
	comp=Z,111nm,18.3s,MS3.8,baz=64,slow=39						
ESDC	**Sonseca Array**	**47.34**	**312**	LR	LR	09 34 27.2	
	comp=Z,121nm,21.7s,MS3.8,baz=135,slow=36						
MKAR	**Makanchi Array**	**47.99**	**38**	P	**P**	**09 15 11.0**	**+0.3**
	comp=Z,3.0nm,0.9s,mb4.3,baz=235,slow=5.7,SNR=9.5						
MKAR				LR	LR	09 38 09.9	
	comp=Z,520nm,20.2s,MS4.5,baz=241,slow=40						
KURK	**Kurchatov**	**48.14**	**31**	P	**P**	**09 15 11.6**	**-0.2**
	comp=Z,1.5nm,0.8s,mb4.1,baz=234,slow=7.1,SNR=7.5						
NOA	**NORSAR Array B**	**52.28**	**342**	P	**P**	**09 15 41.0**	**-2.0**
	comp=Z,1.9nm,1.0s,mb4.0,baz=137,slow=7.7,SNR=2.9						
NOA				LR	LR	09 37 30.3	
	comp=Z,48nm,19.8s,MS3.5,baz=125,slow=36						
NOA	**NORSAR Array B**	**52.28**	**342**	P	**P**	**09 15 41.0**	**-2.0**
NOA				LR	LR	09 37 30.3	
ZAA0	**Zalesovo Array**	**53.11**	**31**	*e*P	**P**	**09 15 49.9**	**+0.6**
ZAA0	**Zalesovo Array**	**53.11**	**31**	*e*P	**P**	**09 15 49.9**	**+0.7**
ZALV	**Zalesovo Beam**	**53.11**	**31**	P	**P**	**09 15 48.9**	**-0.4**
	comp=Z,8.9nm,1.2s,mb4.6,baz=220,slow=6.9,SNR=6.7						
CMAR	**Chiang Mai Arr**	**55.77**	**77**	P	**P**	**09 16 11.3**	**+2.1**
	comp=Z,0.9nm,0.3s,mb4.3,baz=294,slow=6.8,SNR=4.3						
SONM	**Songino Array**	**63.73**	**43**	P	**P**	**09 17 03.5**	**0.0**
	comp=Z,1.4nm,1.0s,mb3.9,baz=271,slow=7.0,SNR=7.5						
SONM				LR	LR	09 48 36.5	
	comp=Z,492nm,18.2s,MS4.7,baz=265,slow=40						
KSRS	**Korea Array**	**79.60**	**54**	LR	LR	09 59 45.0	
	comp=Z,157nm,18.2s,MS4.4,baz=80,slow=40						
MAW	**Mawson**	**82.30**	**172**	LR	LR	09 52 09.0	
	comp=Z,118nm,18.9s,MS4.3,baz=57,slow=33						
MJAR	**Matsushiro Arr**	**87.84**	**53**	LR	LR	10 02 26.7	
	comp=Z,140nm,21.2s,MS4.3,baz=220,slow=38						
SCHQ	**Schefferville**	**89.15**	**327**	LR	LR	09 58 42.3	
	comp=Z,72nm,20.2s,MS4.1,baz=31,slow=35						
NVAR	**Mina Array Bea**	**124.95**	**340**	PKP	PKPdf	09 25 34.2	+1.7
	comp=Z,0.3nm,0.7s,baz=175,slow=2.3,SNR=3.6						
NVAR	**Mina Array Bea**	**124.95**	**340**	PKP	PKPdf	09 25 34.2	+1.7
TXAR	**Lajitas Array**	**125.54**	**322**	PKP	PKPdf	09 25 33.9	0.0
	comp=Z,0.3nm,0.8s,baz=36,slow=1.7,SNR=3.3						

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*IDC **02** 09:23:30.4±3.8, 4888S×16492E, h0km, mb3.9/4, mb1 4.0/5, mb1mx3.9/14, mbtmp3.9/5, ML3.4/1, MS3.7/6, Ms1 3.7/6, ms1mx3.6/22, Error ellipse: s-maj=83.6km s-min=31.0km az=161.0*
ISC 02 09:23:32.6±4.0, **492S**±04×**1650E**±04, **h35km, n11, σ1s10**/7, **mb3.8**/4, **MS3.6**/5, **Auckland Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
RPZ	**Rata Peaks**	**6.92**	**39**	Pn	**Pn**	**09 25 09.7**	**-1.7**
	0.7nm,0.3s,baz=101,slow=20,SNR=4.2						
RPZ				Sn	**Sn**	**09 26 29.6**	**+0.8**
	2.6nm,0.3s,baz=304,slow=9.2,SNR=3.2						
URZ	**Urewera**	**14.01**	**43**	LR	LR	09 32 58.6	
	comp=Z,500nm,18.5s,baz=236,slow=41						
TOO	**Toolangi**	**18.31**	**302**	*e*P	**Pn**	**09 27 41.8**	**-1.9**
STKA	**Stephens Creek**	**24.70**	**306**	P	**P**	**09 28 51.0**	**+0.8**
	2.3nm,0.9s,mb3.7,baz=154,slow=16,SNR=2.0						
STKA				LR	LR	09 36 05.9	
	comp=Z,246nm,20.3s,MS3.7,baz=206,slow=31						
CTA	**Charters Tower**	**32.74**	**326**	LR	LR	09 41 03.8	
	comp=Z,104nm,20.0s,MS3.5,baz=55,slow=32						
ASAR	**Alice Springs**	**35.33**	**305**	P	**P**	**09 30 25.1**	**+0.7**
	1.5nm,0.9s,mb3.9,baz=134,slow=7.6,SNR=13						
WRA	**Warramunga Arr**	**38.16**	**309**	P	**P**	**09 30 48.6**	**+0.1**
	1.9nm,0.8s,mb3.9,baz=141,slow=7.9,SNR=13						
WRA				LR	LR	09 44 36.6	
	comp=Z,110nm,18.9s,MS3.7,baz=125,slow=33						
AFI	**Afiamalu**	**40.06**	**36**	LR	LR	09 46 57.8	
	comp=Z,51nm,18.3s,MS3.4,baz=241,slow=35						
FITZ	**Fitzroy Crossi**	**44.36**	**300**	P	**P**	**09 31 40.3**	**+0.9**
	1.0nm,0.7s,mb3.6,baz=168,slow=9.3,SNR=4.0						
PPT	**Papeete**	**48.27**	**66**	LR	LR	09 48 39.0	
	comp=Z,127nm,21.0s,MS3.9,baz=230,slow=31						
ARCES	**ARCESS Array B**	**151.93**	**331**	PKPbc	PKPbc	09 43 24.8	+2.5
	3.1nm,0.9s,baz=57,slow=3.3,SNR=2.9						

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*SOF **02** 09:29:29.1, 4030N×25.18E, h2km, MD2.7*
*DDA **02** 09:29:29.0, 4033N×2531E, h13km±2km, Md3.2*
*ATH **02** 09:29:30.0, 4025N×2527E, h10km, MD3.6/3*
*THE **02** 09:29:31.1, 4026N×2530E, h10km, ML3.6/4, Error ellipse: s-maj=1.0km s-min=0.6km az=46.0*
*ISCJB **02** 09:29:31.0±0.3, 4027N±002×2527E±002, h10km, Error ellipse: s-maj=3.3km s-min=2.4km az=5.7*
*ISK **02** 09:29:33.6, 4027N×2557E, h3km, ML3.2*
ISC 02 09:29:30.5±0.4, **4026N**±002×**2525E**±002, **h1**km±4km, **n45, σ1s02**/60, **Aegean Sea**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
LOS	**Limnos**	**0.35**	**202**	P	**Pg**	**09 29 38.4**	**+1.1**
LOS				S	**Sg**	**09 29 42.8**	**+1.0**
GADA	**Gvkgeada**	**0.50**	**98**	PG	**Pg**	**09 29 40.0**	**-0.1**
ENEZ	**Enez**	**0.83**	**55**	*e*PG	**Pg**	**09 29 46.6**	**+0.1**
ENEZ				*e*SG	**Sg**	**09 29 56.6**	**-0.7**
ALN	**Alexandroupoli**	**0.88**	**43**	P	**Pg**	**09 29 46.7**	**-0.6**
ALN				S	**Sg**	**09 29 59.2**	**+0.5**
RDO	**Rodhopi**	**0.91**	**14**	*e*PB	**Pb**	**09 29 47.4**	**-1.7**
EZN	**Ezine**	**0.93**	**118**	*e*PG	**Pg**	**09 29 48.4**	**0.0**
EZN				*e*SG	**Sg**	**09 29 59.1**	**-1.3**
OUR	**Ouranopolis**	**0.97**	**275**	P	**Pg**	**09 29 50.0**	**+0.8**
OUR				S	**Sg**	**09 30 05.1**	**+3.2**
LPK	**Lapseki**	**1.16**	**84**	*e*PG	**Pg**	**09 29 51.7**	**-1.0**
PAIG	**Paliouri**	**1.25**	**255**	P	**Pg**	**09 29 53.6**	**-0.9**
PAIG				S	**Sg**	**09 30 11.7**	**+0.9**
PRK	**Paraskevi**	**1.28**	**142**	P	**Pg**	**09 29 54.1**	**-1.0**
PRK				S	**Sg**	**09 30 11.9**	**+0.2**
PRK	**Paraskevi**	**1.28**	**142**	*e*PB	**Pb**	**09 29 53.8**	**-1.6**
PLG	**Polygyros**	**1.39**	**275**	P	**Pn**	**09 29 56.0**	**-1.0**
PLG				S	**Sg**	**09 30 15.5**	**+0.4**
PLG	**Polygyros**	**1.39**	**275**	*e*PB	**Pb**	**09 29 55.9**	**-1.3**
KDZ	**Kurdzhali**	**1.39**	**5**	Pg	**Pn**	**09 29 56.1**	**-1.0**
AYVA	**Ayvalik**	**1.46**	**130**	*i* P	**Pn**	**09 29 56.7**	**-1.3**
AYVA				*i* S	**Sb**	**09 30 15.5**	**-2.1**
RZN	**Rozhen**	**1.48**	**344**	Pg	**Pn**	**09 29 57.7**	**-0.6**
RKY	**Sarkoy-Tekirda**	**1.53**	**73**	*e*PN	**Pn**	**09 29 59.0**	**0.0**
SART	**Tekirdag**	**1.53**	**73**	*i* P	**Pn**	**09 29 55.1**	**-3.8**
SART				*i* S	**Sn**	**09 30 19.3**	**-0.2**
SOH	**Sokhos**	**1.55**	**292**	P	**Pn**	**09 29 58.5**	**-0.8**
SOH				S	**Sn**	**09 30 19.7**	**-0.3**
MFT	**Murefte**	**1.63**	**71**	*e*PN	**Pn**	**09 30 00.3**	**-0.1**
HORT	**Hortiatis**	**1.68**	**282**	P	**Pn**	**09 30 00.2**	**-0.8**
HORT				S	**Sn**	**09 30 23.4**	**+0.3**
MMB	**Musomiste**	**1.76**	**319**	Pg	**Pn**	**09 30 00.9**	**-1.2**
DIM	**Dimitrovgrad**	**1.80**	**7**	Pg	**Pg**	**09 30 04.3**	**-0.7**
MRMT	**Marmara Adasi**	**1.82**	**78**	*e*PN	**Pn**	**09 30 03.3**	**+0.3**
TKR	**Tekirdag**	**1.88**	**67**	*e*PN	**Pn**	**09 30 04.3**	**+0.4**
PLD	**Plovdiv**	**1.89**	**347**	P	**Pg**	**09 30 07.4**	**+0.7**
BALY	**Balya**	**1.89**	**105**	*i* P	**Pn**	**09 30 04.8**	**+0.8**
BALY				*i* S	**Sn**	**09 30 29.3**	**+0.9**
EDRB	**Edirne**	**1.94**	**35**	*e*PN	**Pn**	**09 30 05.7**	**+1.0**
CHOS	**Chios island**	**1.97**	**161**	P	**Pn**	**09 30 03.7**	**-1.4**
CHOS				S	**Sn**	**09 30 29.3**	**-1.1**
KNT	**Kendrikon**	**2.00**	**297**	P	**Pn**	**09 30 05.2**	**-0.3**
BALB	**Balikesir**	**2.11**	**106**	*e*PN	**Pn**	**09 30 07.8**	**+0.8**
URLA	**Izmir**	**2.17**	**151**	*i* P	**Pn**	**09 30 02.0**	**-5.7**
URLA				*i* S	**Sn**	**09 30 31.1**	**-4.0**
KKB	**Krupnik**	**2.29**	**315**	P	**Pn**	**09 30 08.8**	**-0.7**
BLCB	**Balcova**	**2.33**	**143**	*e*PN	**Pn**	**09 30 12.0**	**+2.0**
AKS	**Akhisar**	**2.41**	**124**	*e*PN	**Pn**	**09 30 12.7**	**+1.6**
JMB	**Yambol**	**2.42**	**24**	P	**Pn**	**09 30 10.7**	**-0.5**
SLVT	**Silivri**	**2.44**	**66**	*e*PN	**Pn**	**09 30 12.7**	**+1.1**
CTT	**Catalca**	**2.57**	**69**	*e*PN	**Pn**	**09 30 14.1**	**+0.8**
CTYL	**Yal??k??y-??at**	**2.60**	**61**	*e*PN	**Pn**	**09 30 15.1**	**+1.4**
CTKS	**Kestanelik-??a**	**2.66**	**67**	*e*PN	**Pn**	**09 30 15.5**	**+1.0**
VTS	**Vitosha**	**2.79**	**327**	*e*P	**Pn**	**09 30 16.5**	**+0.2**
BGKT	**Bogazkoy**	**2.83**	**70**	*e*PN	**Pn**	**09 30 18.3**	**+1.5**
KLYT	**Kilyos**	**3.04**	**70**	*e*PN	**Pn**	**09 30 20.7**	**+0.9**
YLV	**Yalova**	**3.16**	**83**	*e*PN	**Pn**	**09 30 22.4**	**+1.0**
KULA	**Kula-Manisa**	**3.17**	**122**	*e*PN	**Pn**	**09 30 23.5**	**+2.1**

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*CSEM **02** 09:33:11.7±0.1, 3699N×3587E, h25km, MD3.3, Error ellipse: s-maj=2.3km s-min=1.7km az=148.0*
*ISCJB **02** 09:33:13.0±0.5, 3705N±004×3582E±005, h26km±5km, Error ellipse: s-maj=7.1km s-min=6.1km az=136.0*
*ISK **02** 09:33:12.6, 3701N×3578E, h23km, MD3.3*
*DDA **02** 09:33:12.6, 3708N×3593E, h7km±7km, Md2.8*
ISC 02 09:33:13.1±0.5, **3704N**±004×**3582E**±005, **h24**km±6km, **n15, σ0s94**/19, **Turkey**

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

CEYT	**Ceyhan**	**0.07**	**240**	PG	**Pb**	**09 33 16.8**	**-0.5**
YURE	**YUREGIR**	**0.27**	**215**	iP	**Pb**	**09 33 19.3**	**-0.2**
YURE				iS	**Sb**	**09 33 26.4**	**+2.5**
KOZT	**Kozan**	**0.44**	**0**	PG	**Pb**	**09 33 23.3**	**+1.1**
KRTS	**Karatas**	**0.59**	**218**	ePG	**Pb**	**09 33 24.0**	**-0.7**
COBT	**Iskenderun**	**0.63**	**146**	iP	**Pb**	**09 33 24.1**	**-1.3**
COBT				iS	**Sb**	**09 33 34.3**	**+0.5**
KARA	**Karaisali**	**0.65**	**290**	ePG	**Pb**	**09 33 25.2**	**-0.6**
ANDN	**Andirin**	**0.68**	**38**	iP	**Pb**	**09 33 24.3**	**-1.9**
ANDN				iS	**Sb**	**09 33 35.4**	**+0.2**
HTY	**Hatay**	**0.95**	**164**	ePG	**Pb**	**09 33 31.5**	**+0.6**
KMRS	**Kahramanmaras**	**0.97**	**62**	ePG	**Pn**	**09 33 31.1**	**-0.1**
MERS	**Mersin**	**1.06**	**261**	ePG	**Pn**	**09 33 32.0**	**-0.4**
GAZ	**Gaziantep**	**1.12**	**83**	ePN	**Pn**	**09 33 33.5**	**+0.3**
GZT	**Gaziantep**	**1.43**	**77**	iP	**Pn**	**09 33 36.5**	**-0.9**
GZT				iS	**Sn**	**09 33 56.1**	**+0.7**
NIG	**Nigde**	**1.44**	**318**	ePN	**Pn**	**09 33 37.8**	**+0.2**
BNN	**Bunyan**	**1.81**	**1**	ePN	**Pn**	**09 33 44.2**	**+1.5**
IKL	**Isikli**	**1.90**	**246**	ePN	**Pn**	**09 33 43.6**	**-0.3**

IDC 02 09:37:59.7±3.2**, 2299S×17643W, h0^{km}, mb4.1**/4**, mb1 4.3**/4**, mb1mx3.9**/17**, mbtmp4.1**/4**, Error ellipse: s-maj=127.7km s-min=48.2km az=149.0, South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**34.77**	**268**	P	P	09 44 53.6	+1.6
	8.3nm,0.8s,baz=94,slow=11,SNR=7.9						
STKA	**Stephens Creek**	**38.10**	**247**	P	P	09 45 19.6	-0.8
	0.7nm,0.3s,baz=68,slow=6.1,SNR=5.6						
ASAR	**Alice Springs**	**45.42**	**259**	P	P	09 46 20.1	-0.4
	1.2nm,0.8s,baz=94,slow=7.6,SNR=11						
ASAR				PcP	PcP	09 47 59.5	-0.4
	0.3nm,0.9s,baz=123,slow=3.4,SNR=4.1						
WB2	**Warramunga Arr**	**45.74**	**264**	eP	P	09 46 22.6	-0.4
WRA	**Warramunga Arr**	**45.75**	**264**	P	P	09 46 22.7	-0.4
	1.1nm,0.3s,baz=96,slow=8.4,SNR=64						
AKASG	**Malin Array Be**	**145.89**	**331**	PKPbc	PKPbc	09 57 40.2	-0.6
	0.8nm,0.3s,baz=39,slow=4.4,SNR=6.8						

*IDC **02** 09:39:46.1±1.2, 968N×9374E, h0^{km}, mb4.1/8, mb1 4.2/9, mb1mx3.9/23, mbtmp4.0/9, ML3.9/1, MS3.4/1, Ms1 3.4/1, ms1mx2.5/30, Error ellipse: s-maj=52.8km s-min=16.6km az=60.0*
*ISCJB **02** 09:39:49.4±0.8, 98N±0.1×939E±02, h33^{km}, mb4.2/8, Error ellipse: s-maj=27.6km s-min=11.4km az=151.4*
*NEIC **02** 09:39:51.7±0.7, 980N×9389E, h35^{km}, mb4.5/2, Error ellipse: s-maj=25.0km s-min=10.2km az=64.0*
ISC 02 09:39:51.6±0.8**, 98N**±01×**939E**±02**, h35^{km}, n15, σ0^{s}85**/15**, mb4.2**/8**, Nicobar Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**9.93**	**29**	Pn	**Pn**	**09 42 10.9**	**-0.9**
	0.3nm,0.3s,baz=225,slow=15,SNR=8.5						
MK31	**Makanchi Array**	**38.17**	**347**	eP	**P**	**09 47 07.8**	**+0.2**
MKAR	**Makanchi Array**	**38.17**	**347**	P	**P**	**09 47 08.0**	**+0.4**
	1.6nm,0.7s,mb3.9,baz=168,slow=6.2,SNR=5.0						
MKAR	**Makanchi Array**	**38.17**	**347**	P	**P**	**09 47 08.0**	**+0.4**
SONM	**Songino Array**	**39.37**	**13**	P	**P**	**09 47 19.2**	**+1.6**
	0.9nm,0.6s,baz=193,slow=8.7,SNR=6.8						
SONM				LR	LR	10 06 34.8	
	comp=Z,52nm,18.2s,baz=47,slow=41						
BVAR	**Borovoye Array**	**47.10**	**341**	P	**P**	**09 48 19.2**	**-0.8**
	0.7nm,0.5s,mb3.9,baz=120,slow=5.2,SNR=3.3						
WRA	**Warramunga Arr**	**49.61**	**127**	P	**P**	**09 48 40.1**	**+0.3**
	2.2nm,0.8s,mb4.3,baz=306,slow=8.7,SNR=13						
WRAB	**Tennant Creek**	**49.62**	**127**	eP	**P**	**09 48 39.8**	**0.0**
	3.9nm,0.8s,mb4.5						
WB2	**Warramunga Arr**	**49.62**	**127**	eP	**P**	**09 48 40.0**	**+0.1**
AKTK	**Aktyubinsk**	**50.14**	**331**	P	**P**	**09 48 42.5**	**-0.9**
AKTO	**Aktyubinsk**	**50.14**	**331**	P	**P**	**09 48 42.5**	**-0.9**
	1.5nm,0.6s,mb4.2,baz=89,slow=15,SNR=4.5						
ASAR	**Alice Springs**	**51.37**	**131**	P	**P**	**09 48 52.4**	**-0.6**
	2.1nm,0.8s,mb4.1,baz=305,slow=7.4,SNR=15						
STKA	**Stephens Creek**	**61.63**	**134**	eP	**P**	**09 50 06.0**	**0.0**
	3.2nm,0.9s,mb4.5						
STKA	**Stephens Creek**	**61.63**	**134**	P	**P**	**09 50 05.8**	**-0.2**
	5.0nm,0.8s,mb4.7,baz=320,slow=9.9,SNR=9.1						
ARCES	**ARCESS Array B**	**73.38**	**340**	P	**P**	**09 51 21.4**	**+1.8**
	2.7nm,1.0s,mb4.1,baz=72,slow=5.8,SNR=3.2						

*ISK **02** 09:52:39.4, 3451N×3326E, h23^{km}, MD3.3, ML3.1*
*CSEM **02** 09:52:40.2±0.4, 3452N×3326E, h30^{km}, Mw3.1, Error ellipse: s-maj=7.8km s-min=4.2km az=1.0*
*NIC **02** 09:52:41.5±0.2, 3460N×3334E, h10^{km}, ML3.1, MW3.1*
*NEIC **02** 09:52:41.5, 3460N×3334E, h10^{km}, ML3.1(NIC), After NIC.*
ISC 02 09:52:41.5±1.5**, 3455N**±009×**3329E**±007**, h25^{km}**±9^{km}**, n16, σ0^{s}85**/22**, Cyprus region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SZAC	**Souni-Zanaja**	**0.39**	**302**	P	**Pb**	**09 52 50.1**	**+0.2**
SZAC				S	**Sb**	**09 52 55.7**	**+0.1**
CSS	**Prodhromos**	**0.41**	**5**	P	**Pb**	**09 52 49.1**	**-1.2**
	21nm,0.3s						
CSS				S	**Sb**	**09 52 54.9**	**-1.4**
MAMC	**Mammari**	**0.62**	**355**	P	**Pb**	**09 52 52.9**	**-0.9**
LEF	**Lefka**	**0.66**	**330**	PG	**Pb**	**09 52 53.9**	**-0.4**
LEF				eSG	**Sb**	**09 53 03.4**	**+0.4**
LFK	**Lefkose**	**0.76**	**16**	ePG	**Pb**	**09 52 55.6**	**-0.4**
LFK				eSG	**Sb**	**09 53 07.7**	**+1.8**
PHNC	**Paralimni**	**0.77**	**53**	P	**Pb**	**09 52 59.0**	**+2.9**
	7.5nm,0.5s						
PHNC				S	**Sb**	**09 53 11.6**	**+5.5**
ALFC	**Alevga**	**0.83**	**317**	P	**Pb**	**09 52 57.0**	**-0.2**
	15nm,0.3s						
ALFC				S	**Sb**	**09 53 08.8**	**+0.8**
PPCY	**Paphos**	**0.84**	**294**	P	**Pb**	**09 52 57.9**	**+0.4**
EREN	**Erenkoy**	**1.22**	**36**	ePN	**Pn**	**09 53 01.9**	**-1.0**
IKL	**Isikli**	**1.72**	**11**	ePN	**Pn**	**09 53 09.8**	**+0.1**
HDMB	**Hadim**	**2.50**	**345**	ePN	**Pn**	**09 53 19.9**	**-0.5**
MERS	**Mersin**	**2.52**	**23**	ePN	**Pn**	**09 53 21.0**	**+0.2**
KARA	**Karaisali**	**3.06**	**27**	ePN	**Pn**	**09 53 28.4**	**+0.2**
CEYT	**Ceyhan**	**3.17**	**38**	ePN	**Pn**	**09 53 30.6**	**+0.9**
KOZT	**Kozan**	**3.58**	**34**	ePN	**Pn**	**09 53 34.8**	**-0.5**
GAZ	**Gaziantep**	**4.13**	**49**	eP	**Pn**	**09 53 42.8**	**0.0**

*ISCJB **02** 10:05:29.5±1.1, 12.15N±0.02×125.96E±0.04, h32^{km}±7^{km}, mb4.9/58, MS3.7/10, Error ellipse: s-maj=6.2km s-min=4.0km az=172.3*
*BJI **02** 10:05:29.4, 1186N×12577E, h35^{km}, mB5.1, mb4.6, Ms4.4, Msz4.2*
*MAN **02** 10:05:29, 1220N×12595E, h30^{km}, mb5.0, ML4.0, MS4.1*
*MOS **02** 10:05:30.0±1.0, 1207N×12577E, h33^{km}, mb5.1/18, Error ellipse: s-maj=21.4km s-min=7.6km az=118.3*
*IDC **02** 10:05:30.4±3.2, 1204N×12581E, h22^{km}±19^{km}, mb4.5/15, mb1 4.5/16, mb1mx4.4/22, mbtmp4.5/16, ML4.4/1, MS3.6/11, Ms1 3.7/11, ms1mx3.5/30, Error ellipse: s-maj=32.8km s-min=10.5km az=76.0*
*NEIC **02** 10:05:32.4±2.5, 1206N×12589E, h41^{km}±22^{km}, mb4.9/14, Error ellipse: s-maj=17.7km s-min=5.3km az=66.0*
*DJA **02** 10:05:50, 1201N×12547E, h184^{km}, mb4.8/14*
ISC 02 10:05:31.2±1.0**, 1213N**±002×**12590E**±004**, h30^{km}**±7^{km}**, n127, σ0^{s}94**/132**, mb4.9**/58**, MS3.7**/10**, 13C-3D, Samar**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BESP	**Borongan**	**0.69**	**221**	eP	**Pb**	**10 05 43.6**	**-1.2**
BESP				eS	**Sb**	**10 05 53.9**	**-0.2**
CNP	**Catarman**	**1.27**	**288**	eP	**Pn**	**10 05 51.2**	**-1.7**
CNP				eS	**Sn**	**10 06 07.9**	**-1.2**
PLP	**Palo**	**1.32**	**224**	⇓eP	**Pn**	**10 05 52.6**	**-1.0**
PLP				eS	**Sn**	**10 06 10.2**	**0.0**
OCLP	**Ormoc**	**1.66**	**230**	eP	**Pn**	**10 05 58.6**	**+0.3**
OCLP				eS	**Sn**	**10 06 15.9**	**-2.7**
MSLP	**Maasin**	**2.23**	**207**	eP	**Pn**	**10 06 07.6**	**+1.4**
MSLP				eS	**Sn**	**10 06 32.9**	**+0.1**
MMPH	**Masbate**	**2.24**	**276**	⇑iP	**Pn**	**10 06 06.8**	**+0.5**
MMPH				iS	**Sn**	**10 06 37.8**	**+4.8**
PVCP	**Virac**	**2.25**	**311**	eP	**Pn**	**10 06 04.8**	**-1.6**
PVCP				eS	**Sn**	**10 06 34.5**	**+1.3**
SCPH	**Surigao**	**2.36**	**190**	eP	**Pn**	**10 06 07.7**	**-0.4**
SCPH				eS	**Sn**	**10 06 24.1**	**-12**
LLP	**Lapu-Lapu**	**2.62**	**227**	⇑eP	**Pn**	**10 06 11.5**	**0.0**
LLP				eS	**Sn**	**10 06 43.6**	**+1.3**
TBP	**Tagbilaran**	**3.14**	**220**	eP	**Pn**	**10 06 19.5**	**+0.8**
RCP	**Roxas**	**3.14**	**260**	⇑eP	**Pn**	**10 06 18.7**	**-0.1**
RCP				eS	**Sn**	**10 06 58.6**	**+3.4**
BUTP	**Butuan**	**3.15**	**185**	eP	**Pn**	**10 06 19.0**	**+0.1**
AUQP	**San Andres**	**3.37**	**291**	eP	**Pn**	**10 06 23.6**	**+1.7**
KALP	**Kalibo**	**3.52**	**263**	⇑eP	**Pn**	**10 06 28.4**	**+4.5**
GUIM	**Jordan**	**3.58**	**246**	eP	**Pn**	**10 06 25.3**	**+0.6**
OTRP	**Odiongan**	**3.80**	**274**	eP	**Pn**	**10 06 26.9**	**-0.9**
CGP	**Cagayan de Oro**	**3.84**	**198**	eP	**Pn**	**10 06 28.5**	**+0.2**
CGP				iS	**Sn**	**10 07 13.6**	**+1.2**
BUKP	**Musuan**	**4.30**	**191**	eP	**Pn**	**10 06 35.9**	**+1.2**
DCPH	**Dipolog City**	**4.32**	**216**	⇑eP	**Pn**	**10 06 35.5**	**+0.5**
SJMP	**San Jose**	**4.69**	**275**	eP	**Pn**	**10 06 41.7**	**+1.7**
PAGZ	**Pagadian**	**4.92**	**211**	eP	**Pn**	**10 06 44.6**	**+1.3**
CUYO	**Cuyo Island**	**4.95**	**256**	eP	**Pn**	**10 06 45.1**	**+1.4**
DAV	**Davao City (W)**	**5.03**	**184**	LR	LR	10 08 53.2	
	comp=Z,555nm,19.5s,baz=342,slow=41						
BALP	**Baler**	**5.53**	**311**	eP	**Pn**	**10 06 50.8**	**-0.8**
PCPH	**Palayan**	**5.79**	**307**	⇓eP	**Pn**	**10 06 54.7**	**-0.4**
CAUP	**Cauayan**	**6.21**	**321**	eP	**Pn**	**10 07 00.5**	**-0.4**
CAUP				eS	**Sn**	**10 07 58.1**	**-13**
APYP	**Conner**	**7.27**	**322**	eP	**Pn**	**10 07 15.0**	**-0.4**
QIZ	**Qiongzhong**	**16.92**	**296**	P	**Pn**	**10 09 25.0**	**-0.9**
QIZ				eS	**Sn**	**10 12 32.2**	**-1.0**
QIZ				LR	LR		
	comp=Z,294nm,20.6s						
KAPI	**Kappang**	**18.09**	**200**	P	**Pn**	**10 09 40.3**	**-0.2**
	comp=Z,1.1nm,0.3s,baz=17,slow=8.6,SNR=8.8						
KAPI				LR	LR	10 17 51.3	
	comp=Z,178nm,18.4s,baz=37,slow=41						
GUMO	**Guam**	**18.55**	**83**	LR	LR	10 15 44.7	
	comp=Z,132nm,20.7s,baz=265,slow=33						
NJ2	**Nanjing**	**20.87**	**343**	eP	**P**	**10 10 12.6**	**+1.7**
NJ2				AMB	AMB		
	comp=Z,10.0nm,1.0s						
WHN	**Wuhan**	**21.22**	**331**	⇑P	**P**	**10 10 17.2**	**+2.5**
WHN				AP		10 10 21.9	
WHN				AMB	AMB		
	comp=Z,135nm,1.4s,mb5.1						
CBIJ	**Chichi jima**	**21.34**	**43**	LR	LR	10 17 43.3	
	comp=Z,146nm,19.1s,MS3.4,baz=195,slow=34						
BATI	**Baumata**	**22.30**	**186**	P	**P**	**10 10 26.4**	**+0.1**
	comp=Z,118nm,0.6s,mb5.5,baz=288,slow=0.4,SNR=15						
KSRS	**Korea Array**	**25.29**	**4**	P	**P**	**10 10 56.4**	**+1.3**
	comp=Z,2.8nm,0.7s,mb3.9,baz=183,slow=10,SNR=9.9						
KSRS				LR	LR	10 20 34.4	
	comp=Z,86nm,19.0s,MS3.3,baz=7.4,slow=36						
KAKA	**Kakadu**	**25.51**	**165**	eP	**P**	**10 10 56.5**	**-0.8**
	comp=Z,22nm,0.6s,mb4.9						
MJAR	**Matsushiro Arr**	**26.72**	**22**	LR	LR	10 21 08.5	
	comp=Z,220nm,18.1s,MS3.8,baz=220,slow=35						
CMAR	**Chiang Mai Arr**	**26.74**	**287**	P	**P**	**10 11 08.0**	**-0.4**
	comp=Z,8.2nm,0.8s,mb4.3,baz=100,slow=7.9,SNR=23						
CMAR				PcP	PcP	10 14 32.1	+0.6
	comp=Z,1.1nm,0.5s,baz=118,slow=0.2,SNR=5.2						
CMAR				LR	LR	10 22 34.9	
	comp=Z,100nm,18.7s,MS3.4,baz=90,slow=38						
CMAR	**Chiang Mai Arr**	**26.74**	**287**	P	**P**	**10 11 08.0**	**-0.4**
CMAR						10 14 32.1	
XAN	**Xi'an**	**26.75**	**327**	P	**P**	**10 11 07.9**	**-0.4**
XAN				AP	pP	10 11 16.1	-0.9
XAN				XP	sP	10 11 20.8	+0.2
XAN				AMB	AMB		
	comp=Z,13nm,1.2s,mb4.3						
XAN				AMB	AMB		
	comp=Z,311nm,5.9s						
CD2	**Chengdu**	**27.72**	**316**	eP	**P**	**10 11 17.4**	**+0.3**
CD2				AMB	AMB		
	comp=Z,30nm,0.7s,mb5.0						
CD2				AMB	AMB		
	comp=Z,140nm,6.2s						
FITZ	**Fitzroy Crossi**	**30.04**	**181**	eP	**P**	**10 11 37.3**	**-0.4**
	comp=Z,12nm,0.9s,mb4.6						
FITZ	**Fitzroy Crossi**	**30.04**	**181**	P	**P**	**10 11 37.0**	**-0.8**
	comp=Z,3.0nm,0.6s,mb4.2,baz=3.8,slow=12,SNR=15						
WRAB	**Tennant Creek**	**32.92**	**165**	⇑iP	**P**	**10 12 06.1**	**+3.0**
WRAB	**Tennant Creek**	**32.92**	**165**	eP	**P**	**10 12 02.1**	**-1.1**
	comp=Z,10nm,1.2s,mb4.6						
WRA	**Warramunga Arr**	**32.93**	**165**	P	**P**	**10 12 01.9**	**-1.3**
	comp=Z,1.5nm,0.8s,mb4.0,baz=349,slow=9.1,SNR=13						
WRA				PcP	PcP	10 14 48.2	+0.9
	comp=Z,3.7nm,0.7s,baz=340,slow=3.3,SNR=15						
WB2	**Warramunga Arr**	**32.93**	**165**	eP	**P**	**10 12 01.9**	**-1.3**
GTA	**Gaotai**	**35.67**	**324**	eP	**P**	**10 12 28.0**	**+1.2**
GTA				AP	pP	10 12 33.0	-2.5
GTA				XP	sP	10 12 36.8	-2.3
GTA				AMB	AMB		
	comp=Z,6.0nm,1.2s,mb4.4						
ASAR	**Alice Springs**	**36.42**	**168**	P	**P**	**10 12 32.5**	**-0.9**
	comp=Z,3.1nm,0.6s,mb4.4,baz=342,slow=6.8,SNR=66						
ASAR				PcP	PcP	10 14 58.0	+0.8
	comp=Z,3.0nm,0.6s,baz=344,slow=2.6,SNR=11						
ASAR				S	**S**	**10 18 13.9**	**+0.7**
	comp=Z,0.9nm,0.8s,baz=339,slow=13,SNR=5.8						
ASAR				ScP	ScP	10 18 42.2	+0.3
	comp=Z,1.1nm,0.9s,baz=337,slow=4.0,SNR=5.0						
ASAR	**Alice Springs**	**36.42**	**168**	P	**P**	**10 12 32.5**	**-0.9**
ASAR						10 14 58.1	
ASAR				S	**S**	**10 18 14.0**	**+0.8**
LSA	**Lhasa**	**36.68**	**304**	P	**P**	**10 12 36.0**	**+0.4**
LSA	**Lhasa**	**36.68**	**304**	eP	**P**	**10 12 37.0**	**+1.4**
LSA				pmax	pmax		
	comp=Z,12nm,0.8s,mb4.8						
LSA	**Lhasa**	**36.68**	**304**	eP	**P**	**10 12 37.0**	**+1.4**
	comp=Z,12nm,0.8s,mb4.8						
ULN	**Ulaanbaatar**	**38.97**	**340**	⇑eP	**P**	**10 12 55.5**	**+0.9**
ULN	**Ulaanbaatar**	**38.97**	**340**	eP	**P**	**10 12 55.6**	**+1.0**
	comp=Z,3.0nm,0.6s,mb4.2						
ODAN	**Odare**	**38.98**	**298**	eP	**P**	**10 12 54.7**	**-0.3**
	comp=Z,68nm,0.8s,mb5.4						
SONM	**Songino Array**	**39.17**	**339**	P	**P**	**10 12 56.8**	**+0.5**
	comp=Z,4.5nm,0.9s,mb4.2,baz=155,slow=9.0,SNR=16						
SONM				LR	LR	10 29 45.3	
	comp=Z,96nm,19.8s,MS3.6,baz=156,slow=37						
RAMN	**Ramite**	**39.68**	**298**	eP	**P**	**10 13 00.3**	**-0.6**
	comp=Z,80nm,1.1s,mb5.4						
JIRN	**Jiri**	**40.21**	**299**	eP	**P**	**10 13 05.5**	**+0.2**
	comp=Z,54nm,0.8s,mb5.3						
GUN	**Gumba**	**40.54**	**299**	eP	**P**	**10 13 08.1**	**+0.1**
	comp=Z,75nm,0.8s,mb5.4						
KKN	**Kakani**	**41.02**	**299**	eP	**P**	**10 13 11.3**	**-0.7**
	comp=Z,69nm,1.0s,mb5.2						
DMN	**Daman**	**41.13**	**298**	eP	**P**	**10 13 12.4**	**-0.5**
	comp=Z,70nm,1.1s,mb5.2						
GKN	**Gorkha**	**41.63**	**299**	eP	**P**	**10 13 16.3**	**-0.7**
	comp=Z,67nm,1.1s,mb5.2						
DANN	**Dangsing**	**42.46**	**299**	eP	**P**	**10 13 23.5**	**-0.3**
	comp=Z,75nm,0.9s,mb5.3						
KOLN	**Koldanda**	**42.47**	**298**	eP	**P**	**10 13 23.5**	**-0.4**
	comp=Z,46nm,0.9s,mb5.1						
FORT	**Forrest**	**42.71**	**177**	eP	**P**	**10 13 25.8**	**+0.2**
	comp=Z,19nm,0.6s,mb5.0						
WMQ	**Urumqi**	**45.55**	**321**	P	**P**	**10 13 50.0**	**+1.6**
NWAO	**Narrogin (SRO)**	**45.56**	**190**	P	**P**	**10 13 47.5**	**-1.0**
	comp=Z,13nm,0.8s,mb4.9,baz=12,slow=1.0,SNR=6.1						
NWAO	**Narrogin (SRO)**	**45.56**	**190**	P	**P**	**10 13 47.5**	**-1.0**
STKA	**Stephens Creek**	**46.26**	**161**	eP	**P**	**10 13 55.0**	**+1.0**
	comp=Z,5.9nm,0.6s,mb4.7						
STKA	**Stephens Creek**	**46.26**	**161**	P	**P**	**10 13 53.6**	**-0.4**
	comp=Z,6.9nm,0.6s,mb4.7,baz=345,slow=8.3,SNR=11						
BOD	**Bodaibo**	**46.49**	**351**	eP	**P**	**10 13 56.7**	**+1.2**
BOD				pmax	pmax		
	comp=Z,5.0nm,1.4s,mb4.2						
PETK	**Petropavlovsk-**	**48.11**	**25**	LR	LR	10 32 52.8	
	comp=Z,53nm,19.2s,MS3.5,baz=78,slow=34						
YAK	**Yakutsk**	**49.90**	**2**	⇑iP	**P**	**10 14 21.7**	**-0.1**
YAK				pmax	pmax		
	comp=Z,18nm,1.0s,mb5.1						
MK31	**Makanchi Array**	**50.35**	**322**	iP	**P**	**10 14 26.3**	**+0.9**
MK31				pmax	pmax		
	comp=Z,18nm,0.8s,mb5.2						
MK31	**Makanchi Array**	**50.35**	**322**	eP	**P**	**10 14 26.4**	**+0.9**
MKAR	**Makanchi Array**	**50.35**	**322**	P	**P**	**10 14 26.5**	**+1.1**
	comp=Z,17nm,0.8s,mb5.1,baz=116,slow=8.3,SNR=70						
MKAR	**Makanchi Array**	**50.35**	**322**	P	**P**	**10 14 26.5**	**+1.1**
ZAA0	**Zalesovo Array**	**52.84**	**331**	eP	**P**	**10 14 43.0**	**-0.9**
ZALV	**Zalesovo Beam**	**52.84**	**331**	P	**P**	**10 14 43.8**	**-0.1**
	comp=Z,3.0nm,0.6s,mb4.4,baz=114,slow=6.6,SNR=12						
NVS	**Novosibirsk**	**54.11**	**331**	eP	**P**	**10 14 52.7**	**-0.5**
KURK	**Kurchatov**	**54.35**	**325**	eP	**P**	**10 14 55.6**	**+0.6**
KURK				pmax	pmax		
	comp=Z,49nm,0.9s,mb5.4						
KURK	**Kurchatov**	**54.35**	**325**	eP	**P**	**10 14 55.6**	**+0.6**
	comp=Z,49nm,0.9s,mb5.4						
KBL	**Kabul**	**56.00**	**304**	eP	**P**	**10 15 07.4**	**+0.1**
KBL				pmax	pmax		
	comp=Z,8.0nm,0.7s,mb4.9						
KBL	**Kabul**	**56.00**	**304**	eP	**P**	**10 15 07.4**	**+0.1**
	comp=Z,8.3nm,0.7s,mb4.9						
KK31	**Karatay Array**	**56.71**	**314**	iP	**P**	**10 15 12.4**	**+0.2**
KK31				pmax	pmax		
	comp=Z,10.0nm,0.7s,mb5.0						
VOSK	**Vostochnaya**	**59.50**	**325**	P	**P**	**10 15 31.0**	**-0.5**
VOSK				pmax	pmax		
	comp=Z,12nm,0.9s,mb4.9						
TIXI	**Tiksi**	**59.51**	**1**	⇓iP	**P**	**10 15 32.1**	**+0.8**
TIXI				pmax	pmax		
	comp=Z,10.0nm,1.7s,mb4.6						
BVA0	**Borovoye Array**	**59.95**	**325**	iP	**P**	**10 15 34.7**	**+0.1**
BVA0				pmax	pmax		
	comp=Z,4.0nm,1.0s,mb4.4						
BRVK	**Borovoye**	**60.02**	**325**	eP	**P**	**10 15 35.8**	**+0.7**
BRVK				pmax	pmax		
	comp=Z,42nm,0.9s,mb5.5						
BRVK	**Borovoye**	**60.02**	**325**	eP	**P**	**10 15 35.8**	**+0.7**
	comp=Z,42nm,0.9s,mb5.5						
AB31	**Akbulak array**	**65.25**	**319**	iP	**P**	**10 16 09.9**	**-0.2**
AB31				pmax	pmax		
	comp=Z,5.0nm,0.6s,mb4.7						
SVE	**Sverdlovsk**	**66.47**	**327**	eP	**P**	**10 16 17.6**	**-0.2**
SVE				pmax	pmax		
	comp=Z,19nm,0.8s,mb5.2						
ARU	**Arti**	**67.49**	**326c**	iP	**P**	**10 16 24.3**	**0.0**
ARU				e		10 18 53.4	
ARU				eS	S	10 25 07.1	-11
ARU				pmax	pmax		
	comp=Z,16nm,1.0s,mb5.0						
ARU	**Arti**	**67.49**	**326**	eP	**P**	**10 16 24.2**	**-0.1**
	comp=Z,8.5nm,0.6s,mb5.0						
RDF	**Al-Radifah**	**74.13**	**297**	eP	**P**	**10 17 04.0**	**-1.2**
	baz=297						
RDF				AMb	AMB	10 17 04.8	
	comp=Z,55nm,1.1s,mb5.4,baz=297						
MIB	**Mutribah**	**74.23**	**298**	eP	**P**	**10 17 04.7**	**-1.2**
	baz=298						
MIB				AMb	AMB	10 17 05.8	
	comp=Z,30nm,0.9s,mb5.2,baz=298						
NAY	**Al-Naaiem**	**74.37**	**297**	eP	**P**	**10 17 05.0**	**-1.6**
	baz=297						
NAY				AMb	AMB	10 17 08.2	
	comp=Z,13nm,1.1s,mb4.8,baz=297						
RST	**Umm Al-Ruwaisa**	**74.56**	**297**	eP	**P**	**10 17 06.0**	**-1.7**
	baz=297						
RST				AMb	AMB	10 17 18.5	
	comp=Z,37nm,1.5s,mb5.1,baz=297						
IMA2	**Indian Mountai**	**75.11**	**25**	eP	**P**	**10 17 09.7**	**-0.4**
GNI	**Garni**	**75.57**	**309**	⇑iP	**P**	**10 17 14.2**	**+0.9**
GNI				pmax	pmax		
	comp=Z,14nm,1.3s						
KIV	**Kislovodsk**	**76.83**	**313**	eP	**P**	**10 17 21.5**	**+1.1**
KIV				pmax	pmax		
	comp=Z,16nm,1.2s,mb4.8						
KIV				MLR	MLR		
	comp=Z,74nm,18.0s,MS4.0						
COLA	**College**	**77.52**	**26**	⇑iP	**P**	**10 17 24.8**	**+0.9**
KLMR	**Klimovskoe**	**77.75**	**330**	eP	**P**	**10 17 25.1**	**-0.1**
KLMR				pmax	pmax		
	comp=Z,34nm,1.5s,mb5.1						
OBN	**Obninsk**	**79.78**	**324**	⇑iP	**P**	**10 17 35.9**	**-0.6**
OBN				pmax	pmax		
	comp=Z,29nm,1.3s,mb5.0						
OBN				MLR	MLR		
	comp=Z,100nm,18.0s,MS4.2						
ANN	**Anapa**	**80.49**	**314**	eP	**P**	**10 17 38.0**	**-2.6**
ANN				pmax	pmax		
	comp=Z,104nm,1.2s,mb5.6						
JOF	**Joensuu**	**81.39**	**333**	ep	**P**	**10 17 44.7**	**-0.2**
	comp=Z,6.1nm,0.7s,mb4.6						
ARCES	**ARCESS Array B**	**82.34**	**340**	P	**P**	**10 17 50.9**	**+1.1**
	comp=Z,17nm,0.8s,mb5.0,baz=69,slow=6.6,SNR=22						
ARCES	**ARCESS Array B**	**82.34**	**340**	P	**P**	**10 17 50.9**	**+1.1**
ARE0	**ARCESS Array S**	**82.34**	**340**	eP	**P**	**10 17 50.1**	**+0.2**
KAF	**Kangasniemi**	**83.83**	**332**	ep	**P**	**10 17 57.3**	**-0.4**
	comp=Z,7.9nm,0.8s,mb4.9,baz=73,slow=4.7						
KAF	**Kangasniemi**	**83.83**	**332**	eP	**P**	**10 17 57.3**	**-0.4**
KAF				pmax	pmax		
	comp=Z,8.0nm,0.8s,mb4.9						
AKASG	**Malin Array Be**	**84.91**	**321**	P	**P**	**10 18 03.0**	**-0.3**
	comp=Z,6.6nm,0.8s,mb4.8,baz=65,slow=4.7,SNR=16						
AKASG	**Malin Array Be**	**84.91**	**321**	iP	**P**	**10 18 03.0**	**-0.4**
AKASG				pmax	pmax		
	comp=Z,7.0nm,0.8s						
AKBB	**Malin Array Si**	**84.91**	**321**	eP	**P**	**10 18 03.2**	**-0.2**
KIEV	**Kiev**	**84.92**	**321**	eP	**P**	**10 18 02.2**	**-1.2**
KIEV				pmax	pmax		
	comp=Z,15nm,1.1s,mb5.0						
KIEV	**Kiev**	**84.92**	**321**	eP	**P**	**10 18 02.2**	**-1.2**
	comp=Z,15nm,1.1s,mb5.0						
CSS	**Prodhromos**	**85.24**	**305**	eP	**P**	**10 18 05.8**	**+0.4**
	comp=Z,25nm,0.9s,mb5.3						
BUR08	**Bucovina Ar. S**	**88.23**	**318**	eP	**P**	**10 18 20.3**	**+0.6**
NB2	**NORSAR Subarra**	**90.94**	**334**	P	**P**	**10 18 31.1**	**-1.0**
	comp=Z,1.0nm,0.6s,mb4.3,baz=64,slow=5.3						
NOA	**NORSAR Array B**	**90.94**	**334**	P	**P**	**10 18 31.6**	**-0.5**
	comp=Z,2.3nm,0.8s,mb4.5,baz=65,slow=4.7,SNR=7.2						
NOA				LR	LR	11 01 23.2	
	comp=Z,79nm,19.1s,MS4.2,baz=30,slow=37						
MAW	**Mawson**	**91.31**	**200**	P	**P**	**10 18 32.7**	**-0.8**
	comp=Z,0.8nm,0.9s,mb4.1,baz=250,slow=12,SNR=2.7						
GERES	**GERESS Array B**	**95.02**	**322**	LR	LR	11 08 43.4	
	comp=Z,38nm,18.3s,MS3.9,baz=156,slow=40						
TXAR	**Lajitas Array**	**116.88**	**48**	PKP	PKPdf	10 24 14.6	+1.0
	comp=Z,0.4nm,0.9s,baz=180,slow=0.4,SNR=4.2						
TORD	**Torodi Ar. Bea**	**119.24**	**293**	PKP	PKPdf	10 24 17.9	-0.6
	comp=Z,0.8nm,0.8s,baz=95,slow=1.9,SNR=5.1						
PLCA	**Paso Flores**	**148.04**	**156**	PKPbc	PKPbc	10 25 13.4	-0.7
	comp=Z,4.4nm,0.9s,baz=232,slow=4.5,SNR=6.2						
LPAZ	**La Paz**	**165.78**	**109**	PKP	PKPdf	10 25 35.9	+1.8
	comp=Z,0.5nm,0.5s,baz=9.1,slow=8.7,SNR=3.9						

MAN 02 10:22:06, 1355N×12033E, h36^{km}, mb4.0, ML2.8, MS2.5, 1C, Mindoro

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUBP	**Lubang**	**0.20**	**337**	eP	Pn	10 22 15.0	+2.0
LUBP				eS	Sn	10 22 20.8	+3.1
NBP	**Mount Natib**	**1.19**	**4**	⇑eP	Pn	10 22 26.5	+0.3
NBP				eS	Sn	10 22 41.5	+0.4
SJMP	**San Jose**	**1.33**	**144**	eP	Pn	10 22 29.5	+1.5
SJMP				eS	Sn	10 22 45.2	+0.7
BUSP	**Coron**	**1.54**	**185**	eP	Pn	10 22 32.1	+1.1
BUSP				eS	Sn	10 22 50.2	+0.4
ENPP	**El Nido**	**2.49**	**201**	eP	Pn	10 22 45.1	+1.0
ENPP				eS	Sn	10 23 11.3	-1.9
CNP	**Catarman**	**4.35**	**103**	eP	Sn	10 24 01.6	+2.5
PLP	**Palo**	**5.12**	**117**	eS	Sn	10 24 18.1	-0.1

*ISCJB **02** 10:34:20.7±2.0, 13.1N±0.3×41.2E±0.2, h10^{km}, Error ellipse: s-maj=41.7km s-min=8.8km az=149.0*
*DHMR **02** 10:34:21.3±1.3, 1329N×4139E, h5^{km}±15^{km}, ML3.6*
ISC 02 10:34:21.5±2.1**, 132N**±03×**411E**±02**, h10^{km}, n6, σ0^{s}66**/8**, Ethiopia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UDYN	**Al 'Udayn**	**2.86**	**75**	iP	**Pn**	**10 35 06.7**	**-0.6**
UDYN				iS	**Sn**	**10 35 42.1**	**+0.3**
UDYN				AML	AML	10 35 56.1	
	comp=N,293nm,0.5s						
DHBB	**Dhamar BB**	**3.44**	**67**	iP	**Pn**	**10 35 14.9**	**-0.3**
DHBB				iS	**Sn**	**10 35 56.8**	**+0.7**
LBOS		**4.07**	**81**	iS	**Sn**	**10 36 12.2**	**+0.7**
BDHA	**Al Bayda'**	**4.39**	**80**	iS	**Sn**	**10 36 18.2**	**-1.2**
	comp=N,102nm,0.6s						
BDHA	**Al Bayda'**	**4.39**	**80**	iS	**Sn**	**10 36 18.2**	**-1.2**
BDHA				AML	AML	10 36 43.1	
	comp=N,204nm,0.6s						
FURI	**Furi**	**4.94**	**209**	eP	**Pn**	**10 35 36.0**	**+0.3**
FURI				SG	Px	10 35 41.3	

*IDC **02** 10:38:58.3±1.1, 1041N×14571E, h0^{km}, mb3.9/9, mb1 4.1/10, mb1mx4.0/19, mbtmp3.9/10, ML4.6/1, MS3.5/8, Ms1 3.5/8, ms1mx3.1/33, Error ellipse: s-maj=38.0km s-min=17.8km az=85.0*

*NEIC **02** 10:38:59.9±0.8, 1040N×14574E, h10^{km}, mb4.6/2, Error ellipse: s-maj=27.4km s-min=13.0km az=86.0*
*ISCJB **02** 10:39:01.5±0.9, 1045N±007×1456E±02, h33^{km}, mb4.0/11, MS3.5/7, Error ellipse: s-maj=32.4km s-min=9.6km az=175.8*
ISC 02 10:39:03.6±0.9**, 1047N**±007×**1457E**±02**, h35**^{km}**, n20, σ1ˢ19**/16**, mb4.0**/11**, MS3.5**/7**, South of Mariana Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
GUMO	Guam	3.21	345	Pn	Pn	10 39 49.9	-1.7
	60nm,0.3s,baz=159,slow=5.9,SNR=41						
GUMO				Sn	Sn	10 40 27.8	-0.8
	227nm,0.3s,baz=227,slow=23,SNR=12						
GUMO				LR	LR	10 40 59.9	
	comp=Z,350nm,20.8s,baz=34,slow=37						
JOW	Kunigami	23.14	317	LR	LR	10 50 27.1	
	comp=Z,123nm,21.2s,MS3.3,baz=95,slow=30						
MJAR	Matsushiro Arr	26.83	347	P	P	10 44 39.6	-1.1
	4.7nm,0.9s,mb4.0,baz=175,slow=10,SNR=9.2						
MJAR				LR	LR	10 53 43.6	
	comp=Z,118nm,20.4s,MS3.4,baz=185,slow=33						
MAJO	Matsushiro	26.83	347	eP	P	10 44 42.6	+1.8
	17nm,1.2s,mb4.4						
MAT	Matsushiro	26.83	347	P	P	10 44 40.3	-0.5
KSRS	Korea Array	31.28	332	P	P	10 45 19.7	-0.6
	4.5nm,0.9s,mb4.3,baz=144,slow=9.5,SNR=16						
KSRS				LR	LR	10 57 25.5	
	comp=Z,34nm,21.0s,MS3.0,baz=115,slow=35						
WRA	Warramunga Arr	32.23	200	P	P	10 45 27.1	-1.7
	0.4nm,0.6s,mb3.5,baz=25,slow=9.7,SNR=10						
ASAR	Alice Springs	35.83	199	P	P	10 45 59.0	-1.1
	0.4nm,0.6s,mb3.5,baz=31,slow=7.6,SNR=8.7						
STKA	Stephens Creek	42.29	185	LR	LR	11 04 55.0	
	comp=Z,104nm,18.6s,MS3.8,baz=205,slow=37						
PETK	Petropavlovsk-	43.61	10	LR	LR	11 05 21.7	
	comp=Z,23nm,18.8s,MS3.1,baz=175,slow=36						
CMAR	Chiang Mai Arr	45.87	286	P	P	10 47 24.6	+1.7
	0.4nm,0.3s,mb3.8,baz=92,slow=6.3,SNR=2.9						
CMAR	Chiang Mai Arr	45.87	286	P	P	10 47 24.6	+1.7
SONM	Songino Array	49.75	326	P	P	10 47 54.2	+1.7
	2.5nm,1.0s,mb4.2,baz=132,slow=7.1,SNR=10						
SONM				LR	LR	11 08 11.1	
	comp=Z,45nm,18.3s,MS3.5,baz=294,slow=35						
MKAR	Makanchi Array	64.31	317	P	P	10 49 35.6	-0.1
	0.3nm,0.4s,mb3.7,baz=98,slow=8.4,SNR=4.3						
ZALV	Zalesovo Beam	64.63	325	P	P	10 49 38.2	+0.6
	1.0nm,0.4s,mb4.2,baz=97,slow=12,SNR=2.5						
ZALV	Zalesovo Beam	64.63	325	P	P	10 49 38.2	+0.6
KURK	Kurchatov	67.50	321	eP	P	10 49 57.2	+1.1
	3.6nm,0.8s,mb4.5						
NVAR	Mina Array Bea	88.22	51	P	P	10 51 52.4	+1.0
	0.2nm,0.5s,mb3.6,baz=294,slow=5.6,SNR=3.6						
PDAR	Pinedale Array	93.56	46	LR	LR	11 27 08.4	
	comp=Z,157nm,20.1s,MS4.5,baz=283,slow=31						
LPAZ	La Paz	146.60	104	PKPbc	PKPbc	10 58 44.1	+1.6
	0.8nm,0.9s,baz=173,slow=4.5,SNR=3.7						

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*HLW **02** 10:50:52.9, 3136N×3556E, h20^{km}, Mb3.1*
*GII **02** 10:50:54.3±0.6, 31.13N×35.18E, h0^{km}, ML2.5/9, EXPLOSION*
*ISCJB **02** 10:50:55.7±0.3, 31.13N±002×35.17E±004, h0^{km}, Error ellipse: s-maj=5.4km s-min=2.3km az=16.9*
ISC 02 10:50:56.1±0.3**, 3113N**±002×**3517E**±004**, h0**^{km}**, n24, σ1ˢ11**/38**, 3C, Dead Sea region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
YTIR	Yattir	0.23	348	Pg	Pg	10 51 00.8	+0.2
MZDA	Masada	0.24	43	Pg	Pg	10 51 00.5	-0.3
MZDA				Sg	Sg	10 51 05.0	+1.1
RTMI	Retamim	0.42	259	Pg	Pg	10 51 04.6	+0.4
RTMI				Sg	Sg	10 51 11.6	+2.0
DSI	Dead Sea	0.47	22	Pg	Pg	10 51 05.3	+0.2
DSI				Sg	Sg	10 51 14.4	+3.1
ZFRI	Zfri	0.58	179	Pg	Pg	10 51 07.5	+0.3
ZFRI				Sg	Sg	10 51 16.3	+1.6
RMNI	Mount Ramon	0.64	213	Pg	Pg	10 51 08.5	+0.1
PRNI	Paran	0.79	190	Pg	Pg	10 51 11.1	-0.1
KRMI	Paran Flat	1.08	201	Pg	Pg	10 51 16.3	-0.6
KRMI				Sg	Sg	10 51 33.1	+2.2
HRFI	Mount Harif	1.10	186	Pg	Pg	10 51 16.5	-0.7
HRFI				Sg	Sg	10 51 33.6	+2.2
SLTI	Sal'it	1.11	354	Pg	Pg	10 51 16.6	-0.9
SLTI				Sg	Sg	10 51 32.9	+1.1
HMDT	Nahal Hemdat	1.16	15	Pg	Pg	10 51 17.8	-0.6
HMDT				Sg	Sg	10 51 35.0	+1.7
RSH		1.25	263	P	Pg	10 51 19.1	-1.1
MMLI	Mount Malkishu	1.32	9	Pn	Pn	10 51 20.2	-1.6
MMLI				Sn	Sn	10 51 39.8	-0.4
MBRI	Mt Berech	1.35	190	Pn	Pn	10 51 20.9	-1.4
MBRI				Sn	Sn	10 51 41.6	+0.7
AQBJ	Aqaba	1.40	184	Pn	Pn	10 51 22.1	-0.8
EIL	Elat	1.47	187	Pn	Pn	10 51 22.6	-1.3
EIL				Sn	Sn	10 51 43.9	+0.1
OFRI	'Ofer	1.49	354	Pn	Pn	10 51 23.4	-0.7
HRSH	Kfar Ka'horesh	1.57	3	⇑P	Pn	10 51 19.1	-6.1
HNKL	Nakhl	1.58	221	⇑P	Pn	10 51 23.9	-1.5
HNKL				S	Sn	10 51 46.6	+0.1
AMAG	Maghara	1.76	254	⇑P	Pn	10 51 26.3	-1.5
AMAG				S	Sn	10 51 51.4	+0.5
MMA0	Mount Meron ar	1.89	6	Pn	Pn	10 51 29.5	-0.1
MMA0				Sn	Sn	10 51 56.1	+2.0
KSHT	Keshet	1.92	16	Pn	Pn	10 51 29.8	-0.3
KSDI	Kefar Szold	2.10	11	Pn	Pn	10 51 31.3	-1.2
HKAT	Jabal Katrina	2.79	202	P	Pn	10 51 40.9	-1.2

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*BUC **02** 10:56:51.3±0.3, 4672N×2304E, h5^{km}, MD2.7/2, Error ellipse: s-maj=6.1km s-min=2.6km az=114.0*
BEO 02 10:56:52.3±0.6**, 4413N**×**2211E, ML1.5**/2**, 4C-1D, Romania**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BARS	Barje	1.33	189	⇑*i*Pg	Pg	10 57 16.3	-1.5
BARS				*e*Sg	Sg	10 57 34.4	-0.6
GZR	Gura Zlata	1.35	20	⇑*i*P	Pg	10 57 17.1	-1.1
GZR				*i* S	Sg	10 57 36.1	+0.4
GZR	Gura Zlata	1.35	20	S	Sg	10 57 36.1	+0.4
DIVS	Divibare	1.53	270	*e*Pg	Pg	10 57 19.7	-1.8
DIVS				*e*Sg	Sg	10 57 40.8	-0.5
BZS	Buzias	1.53	347	*e*Pg	Pg	10 57 19.9	-1.7
BZS				*e*Sg	Sg	10 57 40.4	-1.0
BZS	Buzias	1.53	347	⇑*i*P	Pn	10 57 19.0	-1.8
BZS				*i* S	Sb	10 57 40.5	-0.9
BZS	Buzias	1.53	347	⇓*i*P	Pn	10 57 19.0	-1.8
BZS	Buzias	1.53	347	S	Sb	10 57 40.5	-0.9
PKSM	Moragy	3.22	312	⇑*i*P	Pn	10 57 42.2	-1.8

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*PGC **02** 11:17:06.0, 5005N×13023W, h10^{km}, ML3.6, Mw4.2, 212km southwest of Pt. Hardy, Bc Vancouver Island Region*
*NEIC **02** 11:17:06.0, 5004N×13023W, h10^{km}, mb4.2/15, MW4.2(PGC), After PGC.*
*IDC **02** 11:17:06.7±1.2, 50.15N×130.17W, h0^{km}, mb4.0/4, mb1 4.1/9, mb1mx3.8/27, mbtmp3.9/9, ML3.5/5, MS3.6/21, Ms1 3.6/21, ms1mx3.5/33, Error ellipse: s-maj=19.4km s-min=10.6km az=70.0*
*ISCJB **02** 11:17:07.1±1.4, 5030N±004×13001W±006, h13^{km}±10^{km}, mb4.1/9, MS3.6/16, Error ellipse: s-maj=7.9km s-min=3.8km az=135.6*
ISC 02 11:17:10.7±1.6**, 5036N**±004×**12997W**±006**, h28**^{km}±14^{km}**, n102, σ1ˢ21**/110**, mb4.1**/9**, MS3.6**/16**, 14D, Vancouver Island region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
HOLB	Holberg	1.20	76	Pn	Pn	11 17 30.5	-1.1
HOLB				⇓Sn	Sn	11 17 47.8	+0.8
HOLB	Holberg	1.20	76	Pn	Pn	11 17 30.5	-1.1
HOLB				⇓Sn	Sn	11 17 47.8	+0.8
BPBC	Brooks Peninsu	1.42	97	⇑Pn	Pn	11 17 31.4	-3.2
BPBC	Brooks Peninsu	1.42	97	⇑Pn	Pn	11 17 31.4	-3.2
PHC	Port Hardy	1.65	77	Pn	Pn	11 17 36.7	-1.1
PHC				⇑Sn	Sn	11 17 58.8	+0.7
PHC	Port Hardy	1.65	77	Pn	Pn	11 17 36.7	-1.1
PHC				⇑Sn	Sn	11 17 58.8	+0.7
MAYB	Maynard	1.79	88	⇑Pn	Pn	11 17 37.9	-1.7
MAYB				⇑Sn	Sn	11 18 00.7	-0.6
MAYB	Maynard	1.79	88	⇑Pn	Pn	11 17 37.9	-1.7
MAYB				⇑Sn	Sn	11 18 00.7	-0.6
EDB	Eliza Dome	1.90	104	⇓Pn	Pn	11 17 37.5	-3.6
EDB				⇓Sn	Sn	11 18 01.5	-2.5
EDB	Eliza Dome	1.90	104	⇓Pn	Pn	11 17 37.5	-3.6
EDB				⇓Sn	Sn	11 18 01.5	-2.5
BBB	Bella Bella	2.17	32	Pn	Pn	11 17 46.0	+1.2
	57nm,0.3s,baz=226,slow=13,SNR=368						
BBB				Sn	Sn	11 18 13.8	+3.2
	140nm,0.3s,baz=314,slow=22,SNR=32						
BBB				LR	LR	11 18 47.1	
	comp=Z,768nm,21.0s,baz=216,slow=42						
BBB	Bella Bella	2.17	32	⇓Pn	Pn	11 17 46.1	+1.3
BBB				⇑Sn	Sn	11 18 14.2	+3.5
BBB	Bella Bella	2.17	32	⇓Pn	Pn	11 17 46.1	+1.3
BBB				⇑Sn	Sn	11 18 14.2	+3.5
BBB	Bella Bella	2.17	32	Pn	Pn	11 17 46.0	+1.2
BBB				Sn	Sn	11 18 13.8	+3.2
BBB				LR	LR	11 18 47.1	
WOSB	Woss	2.19	94	⇑Pn	Pn	11 17 43.4	-1.7
WOSB				⇑Sn	Sn	11 18 10.2	-1.0
WOSB	Woss	2.19	94	⇑Pn	Pn	11 17 43.4	-1.7
WOSB				⇑Sn	Sn	11 18 10.2	-1.0
BNB	Barry Inlet	2.48	334	⇑Pn	Pn	11 17 47.6	-1.5
BNB				⇑Sn	Sn	11 18 18.7	+0.2
BNB	Barry Inlet	2.48	334	⇑Pn	Pn	11 17 47.6	-1.5
BNB				⇑Sn	Sn	11 18 18.7	+0.2
GDR	Gold River	2.60	101	⇑Pn	Pn	11 17 48.5	-2.3
GDR	Gold River	2.60	101	⇑Pn	Pn	11 17 48.5	-2.3
MOBC	Moresby Island	3.05	337	⇓Pn	Pn	11 17 56.5	-0.5
MOBC				⇑Sn	Sn	11 18 33.2	+0.7
MOBC	Moresby Island	3.05	337	⇓Pn	Pn	11 17 56.5	-0.5
MOBC				⇑Sn	Sn	11 18 33.2	+0.7
DIB	Dawson Inlet,	3.25	332	Pn	Pn	11 17 58.6	-1.0
DIB	Dawson Inlet,	3.25	332	⇓Pn	Pn	11 17 58.8	-0.8
DIB				⇑Sn	Sn	11 18 37.5	+0.3
DIB	Dawson Inlet,	3.25	332	⇓Pn	Pn	11 17 58.8	-0.8
DIB				⇑Sn	Sn	11 18 37.5	+0.3
VIB	Van Inlet	3.31	332	Pn	Pn	11 17 59.7	-0.8
VIB	Van Inlet	3.31	332	⇓Pn	Pn	11 17 59.6	-0.9
VIB	Van Inlet	3.31	332	⇓Pn	Pn	11 17 59.6	-0.9
RPW	Rockport	5.84	106	*e*P	Pn	11 18 34.2	-1.1
LON	Longmire	6.51	121	*e*P	Pn	11 18 44.6	+0.1
	16nm,0.9s						
TDL	Tradedollar La	6.54	125	P	Pn	11 18 45.6	+0.7
TWW	Teanaway	6.82	115	P	Pn	11 18 50.0	+1.2
ETW	Entiat	6.91	110	*e*P	Pn	11 18 50.4	+0.4
TBM	Table Mountain	6.97	114	P	Pn	11 18 51.5	+0.7
EBG	Ellensburg	7.12	115	P	Pn	11 18 53.1	+0.2
OD2	Odessa Site #2	7.99	108	*e*P	Pn	11 19 03.1	-1.7
HAWA	Hanford	8.00	116	*e*P	Pn	11 19 04.2	-0.8
	32nm,1.4s						
DLBC	Dease Lake	8.09	360	Pn	Pn	11 19 10.3	+4.1
	baz=193,slow=14						
DLBC				Sn	Sn	11 20 42.4	+5.9
	baz=186,slow=18						
DLBC	Dease Lake	8.09	360	Pn	Pn	11 19 10.3	+4.1
DLBC				Sn	Sn	11 20 42.4	+5.9
NEW	Newport	8.65	99	*e*P	Pn	11 19 13.6	-0.2
	6.0nm,0.9s						
LNOR	Lincton Mounta	9.01	115	*e*P	Pn	11 19 19.7	+1.0
YBH	Yreka Blue Hor	9.99	147	Pn	Pn	11 19 36.1	+3.9
	0.1nm,0.3s,baz=72,slow=1.8,SNR=6.5						
YBH				LR	LR	11 22 49.2	
	comp=Z,480nm,18.9s,baz=327,slow=35						
YBH				T		11 29 15.3	
	0.3nm,0.3s,baz=337,slow=4.4,SNR=6.0						
YBH	Yreka Blue Hor	9.99	147	Pn	Pn	11 19 36.1	+3.9
YBH				LR	LR	11 22 49.2	
WVOR	Wild Horse Val	11.13	131	*e*P	Pn	11 19 47.8	0.0
	24nm,1.4s						
MCMT	McKenzie Canyo	12.80	109	*e*P	Pn	11 20 10.1	-0.5
ELK	Elko	14.08	127	Pn	Pn	11 20 29.0	+0.9
	0.1nm,0.3s,baz=234,slow=17,SNR=4.2						
ELK				LR	LR	11 25 52.5	
	comp=Z,221nm,18.1s,baz=110,slow=37						
IMW	Indian Meadow	14.46	109	*e*P	Pn	11 20 33.5	+0.3
	19nm,0.9s						
NVAR	Mina Array Bea	14.53	141	Pn	Pn	11 20 36.0	+1.8
	0.0nm,0.3s,baz=334,slow=13,SNR=9.1						
RRI2	Red Ridge	14.54	112	*e*P	Pn	11 20 36.5	+2.2
	7.9nm,0.9s						
DAWY	Dawson	14.63	343	*e*P	Pn	11 20 40.6	+5.1
MOOW	Moose Ponds	14.65	109	*e*P	Pn	11 20 38.2	+2.3
	20nm,0.9s						
MOOW				*e*		11 20 45.0	
TPAW	Teton Pass	14.68	111	*e*P	Pn	11 20 40.1	+4.0
	36nm,0.9s						
TPAW				*e*		11 20 45.4	
YKA	Yellowknife Ar	14.78	29	Pn	Pn	11 20 38.0	+0.6
	0.2nm,0.3s,baz=147,slow=12,SNR=4.4						
YKA				LR	LR	11 27 12.3	
	comp=Z,14nm,20.2s,baz=170,slow=40						
YKA	Yellowknife Ar	14.78	29	Pn	Pn	11 20 38.0	+0.6
YKA				LR	LR	11 27 12.3	
REDW	Red Top Meadow	14.81	111	*e*P	Pn	11 20 40.4	+2.5
	22nm,0.9s						
REDW				*e*		11 20 46.3	
SNOW	Snow King Moun	14.81	110	*e*P	Pn	11 20 46.1	+8.1
	26nm,0.9s						
LOHW	Long Hollow	14.81	110	*e*P	Pn	11 20 40.4	+2.3
	14nm,0.9s						
LOHW				*e*		11 20 46.4	
RLMT	Red Lodge	14.86	103	*e*P	Pn	11 20 46.3	+7.6
	53nm,1.8s						
AHID	Auburn Hatcher	15.01	113	*e*P	Pn	11 20 44.6	+3.9
	18nm,1.0s						
BGU	Big Grassy Mou	15.11	122	*e*P	Pn	11 20 42.7	+0.7
KDAK	Kodiak Island	15.16	308	LR	LR	11 25 04.8	
	comp=Z,422nm,20.2s,baz=116,slow=32						
TPH	Tonopah	15.28	139	*e*P	Pn	11 20 43.6	-0.6
	18nm,1.0s						
HWUT	Hardware Ranch	15.47	117	*e*P	Pn	11 20 45.7	-0.9
	34nm,1.9s						
DUG	Dugway	15.74	124	*e*P	Pn	11 20 49.4	-0.9
	14nm,1.1s						
PDAR	Pinedale Array	15.93	111	Pn	Pn	11 20 54.7	+2.1
	0.1nm,0.3s,baz=306,slow=9.2,SNR=19						
JLU	Jordanelle	16.20	120	*e*P	Pn	11 20 56.8	+0.7
NLU	North Lily Min	16.31	123	*e*P	Pn	11 21 01.2	+3.6
TPNV	Topopah Spring	16.64	138	*e*Pn	Pn	11 20 59.8	-1.9
	21nm,1.3s						
ARUT	Antelope Range	17.24	131	*e*Pn	Pn	11 21 09.1	-0.2
MSU	Marysvale	17.32	126	*e*Pn	Pn	11 21 10.8	+0.7
SRU	San Rafael	17.75	122	*e*P	Pn	11 21 16.4	+0.8
	10nm,1.0s						
GSC	Goldstone	17.84	143	*e*Pn	Pn	11 21 13.6	-3.0
	10nm,1.2s						
LDFC	Landfair	18.72	139	*e*P	Pn	11 21 26.4	-1.0
	16nm,1.0s						
PV10	Paradox Valley	19.09	121	*e*P	Pn	11 21 33.1	+1.3
PFO	Pinyon Flat Ob	19.47	144	LR	LR	11 29 19.3	
	comp=Z,140nm,18.8s,baz=130,slow=38						
PV01	Paradox Valley	19.52	121	*e*P	Pn	11 21 36.0	-1.0
IMA2	Indian Mountai	19.89	331	*e*P	Pn	11 21 42.1	+1.0
WUAZ	Wupatki	20.05	131	*e*P	P	11 21 41.5	+0.1
	7.5nm,1.1s						
SDCO	Great Sand Dun	21.52	117	*e*P	P	11 21 55.0	-2.3
	11nm,1.2s,mb4.2						
ULM	Lac du Bonnet	21.67	77	P	P	11 21 58.9	+0.1
	4.7nm,0.8s,mb4.0,baz=312,slow=12,SNR=2.8						
ULM				LR	LR	11 30 31.7	
	comp=Z,197nm,21.6s,MS3.5,baz=310,slow=37						
ULM	Lac du Bonnet	21.67	77	*e*P	P	11 21 58.5	-0.3
	55nm,1.5s,mb4.8						
ULM				P		11 21 58.9	
ULM				LR	LR	11 30 31.7	
TUC	Tucson	22.96	135	*e*P	P	11 22 12.8	+0.2
	5.9nm,1.1s,mb3.9						
ANMO	Albuquerque	23.01	123	P	P	11 22 13.9	+0.7
	3.4nm,1.0s,mb3.8,baz=315,slow=13,SNR=10.0						
ANMO				LR	LR	11 31 41.5	
	comp=Z,93nm,18.3s,MS3.3,baz=67,slow=38						
LAZ	Ladron	23.07	125	*e*P	P	11 22 13.9	+0.1
ECSD	EROS,Sioux Fal	23.53	93	*e*P	P	11 22 17.4	-1.0
	9.5nm,0.8s,mb4.3						
BNM	Barren Site	23.53	125	*e*P	P	11 22 18.4	-0.1
AMTX	Amarillo	25.72	116	*e*P	P	11 22 38.0	-0.4
	17nm,0.9s,mb4.6						
WMOK	Wichita Mounta	27.52	113	*e*P	P	11 22 55.0	+0.3
	4.8nm,1.0s,mb4.1						
TXAR	Lajitas Array	28.87	127	P	P	11 23 08.3	+1.5
	0.8nm,0.9s,mb3.5,baz=332,slow=7.3,SNR=8.0						
TXAR				LR	LR	11 35 13.7	
	comp=Z,120nm,20.5s,MS3.5,baz=25,slow=38						
LPIG	La Paz	30.34	143	LR	LR	11 36 01.1	
	comp=Z,62nm,19.1s,MS3.3,baz=146,slow=38						
TKL	Tuckaleechee C	36.22	96	LR	LR	11 39 30.7	
	comp=Z,292nm,18.0s,MS4.1,baz=86,slow=37						
SCHQ	Schefferville	37.45	58	LR	LR	11 39 37.6	
	comp=Z,112nm,19.6s,MS3.7,baz=318,slow=36						
PETK	Petropavlovsk-	43.12	303	P	P	11 25 07.4	-0.7
	5.1nm,1.1s,mb4.2,baz=74,slow=12,SNR=3.2						
PETK				LR	LR	11 40 13.0	
	comp=Z,45nm,20.0s,MS3.4,baz=50,slow=32						
ARCES	ARCESS Array B	59.07	10	LR	LR	11 52 17.1	
	comp=Z,42nm,18.2s,MS3.6,baz=258,slow=36						
NOA	NORSAR Array B	64.66	20	LR	LR	11 57 22.4	
	comp=Z,32nm,19.0s,MS3.5,baz=345,slow=37						
KSRS	Korea Array	69.02	304	LR	LR	12 00 24.8	
	comp=Z,34nm,18.2s,MS3.6,baz=37,slow=38						
PPT	Papeete	69.81	200	LR	LR	11 51 09.0	
	comp=Z,70nm,21.4s,MS3.9,baz=84,slow=29						
SONM	Songino Array	70.83	324	LR	LR	11 59 30.7	
	comp=Z,78nm,20.1s,MS4.0,baz=22,slow=36						
ZALV	Zalesovo Beam	72.03	339	LR	LR	12 03 50.8	
	comp=Z,25nm,18.6s,MS3.5,baz=351,slow=39						
GERES	GERESS Array B	76.37	24	LR	LR	12 07 43.2	
	comp=Z,36nm,18.2s,MS3.7,baz=343,slow=40						
GUMO	Guam	76.60	275	LR	LR	11 56 35.2	
	comp=Z,49nm,19.8s,MS3.8,baz=89,slow=31						
MKAR	Makanchi Array	79.29	338	LR	LR	12 07 52.3	
	comp=Z,34nm,20.9s,MS3.7,baz=194,slow=38						

IDC 02 11:37:55.1±5.3**, 1647S**×**17495W, h242**^{km}±25^{km}**, mb2.9**/4**, mb1 3.3**/5**, mb1mx3.1**/17**, mbtmp3.0**/5**, Error ellipse: s-maj=273.8km s-min=21.0km az=150.0, Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
AFI	Afiamalu	3.98	51	P	Pn	11 39 00.1	+1.6
	4.8nm,0.3s,baz=6.3,slow=8.2,SNR=8.9						
AFI				S	S	11 39 48.4	-0.2
	8.2nm,0.3s,baz=22,slow=22,SNR=8.2						
WRA	Warramunga Arr	48.16	258	P	P	11 46 10.8	-0.6
	0.4nm,0.9s,baz=98,slow=6.1,SNR=2.9						
ASAR	Alice Springs	48.37	253	P	P	11 46 13.0	+0.1
	0.4nm,1.0s,baz=88,slow=7.8,SNR=5.9						
NVAR	Mina Array Bea	76.12	43	P	P	11 49 16.9	+0.6
	0.7nm,0.7s,baz=224,slow=9.1,SNR=4.4						
PDAR	Pinedale Array	84.05	42	P	P	11 49 58.9	+0.3
	0.4nm,0.6s,baz=205,slow=4.0,SNR=2.6						

IDC 02 11:45:44.6±10.0**, 598S**×**14946E, h138**^{km}±94^{km}**, mb3.5**/4**, mb1 3.6**/4**, mb1mx3.2**/15**, mbtmp3.5**/4**, MS2.9**/1**, Ms1 2.9**/1**, ms1mx2.5**/18**, Error ellipse: s-maj=102.9km s-min=30.7km az=118.0, New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CTA	Charters Tower	14.36	192	LR	LR	11 53 44.5	
	comp=Z,48nm,19.4s,baz=263,slow=33						
WB2	Warramunga Arr	20.21	225	*e*P	P	11 50 08.5	-0.3
WRA	Warramunga Arr	20.21	225	P	P	11 50 08.8	-0.1
	1.2nm,0.4s,baz=48,slow=10,SNR=18						
ASAR	Alice Springs	23.09	219	P	P	11 50 38.0	-0.4
	1.2nm,0.5s,baz=53,slow=8.5,SNR=30						
FITZ	Fitzroy Crossi	26.18	241	P	P	11 51 07.1	+0.6
	0.9nm,0.8s,baz=85,slow=18,SNR=5.7						
PETK	Petropavlovsk-	59.28	6	P	P	11 55 31.5	0.0
	7.5nm,1.1s,baz=170,slow=5.9,SNR=4.9						
TORD	Torodi Ar. Bea	147.46	285	PKPbc	PKPbc	12 05 12.8	-0.6
	0.2nm,0.5s,baz=88,slow=2.7,SNR=6.2						

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*ISCJB **02** 12:23:43.9±0.2, 5740N±007×33.18W±005, h10^{km}, mb4.4/43, MS4.1/36, Error ellipse: s-maj=9.5km s-min=4.0km az=9.3*
*CSEM **02** 12:23:43.7±0.1, 5736N×33.19W, h10^{km}, mb4.7/20, Ms4.2, Mw4.9, Error ellipse: s-maj=5.5km s-min=1.6km az=10.0*
*IDC **02** 12:23:43.9±0.5, 5751N×33.13W, h0^{km}, mb4.2/19, mb1 4.3/21, mb1mx4.2/30, mbtmp4.2/21, ML3.4/2, MS4.1/34, Ms1 4.1/34, ms1mx4.0/48, Error ellipse: s-maj=18.5km s-min=12.0km az=7.0*
*NEIC **02** 12:23:45.7±0.2, 5738N×33.15W, h10^{km}, mb4.6/26, MS4.3/4, Error ellipse: s-maj=8.0km s-min=3.4km az=190.0*
*GCMT **02** 12:23:45.7±0.3, 5768N×3290W, h12^{km}, MW5.0/81, Moment Tensor Solution. s14,c14; s81,c110; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-2.85±.11; $M_{\theta\theta}$0.37±.13; $M_{\phi\phi}$2.48±.08; $M_{r\theta}$1.77±.50; $M_{\theta\phi}$0.93±.09; $M_{\phi r}$-0.24±.33; Best double couple: $M_0$3.27900×10^{16} NP1:ϕ_s359.00000°, δ46.00000°, λ-126.00000°. NP2: ϕ_s225.00000°, δ55.00000°, λ-59.00000°. Principal axes: T 2.8670, Plg5.0000°, Azm294.0000°; N 0.8270, Plg25.0000°, Azm26.0000°; P -3.6900, Plg65.0000°, Azm193.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*SZGRF **02** 12:24:14.7, 5698N×2809W, h33^{km}, mb4.1, North Atlantic Ocean*
ISC 02 12:23:45.9±0.2**, 5744N**±005×**3313W**±005**, h10**^{km}**, n141, σ0ˢ94**/119**, mb4.4**/43**, MS4.1**/36**, 2C-2D, Reykjanes Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BORG	Borgarnes	9.28	33	Pn	Pn	12 26 01.6	+2.1
	1.2nm,0.3s,baz=215,slow=5.7,SNR=4.6						
BORG				Sn	Sn	12 27 42.1	-1.6
	0.6nm,0.3s,baz=84,slow=18,SNR=2.2						
BORG				LR	LR	12 28 40.3	
	comp=Z,3µm,18.2s,baz=148,slow=32						
BORG	Borgarnes	9.28	33	Pn	Pn	12 26 01.6	+2.1
BORG				Sn	Sn	12 27 42.1	-1.6
EKA	Eskdalemuir Ar	16.66	85	Pn	Pn	12 27 40.1	+1.0
	0.2nm,0.3s,baz=289,slow=10,SNR=5.6						
JMIC	Jan Mayen	17.09	28	LR	LR	12 32 43.8	
	comp=Z,369nm,21.8s,baz=288,slow=32						
SCHQ	Schefferville	18.85	276	P	Pn	12 28 06.5	+0.3
	0.5nm,0.3s,baz=72,slow=9.7,SNR=10						
SCHQ				LR	LR	12 34 14.8	
	comp=Z,1µm,18.9s,baz=130,slow=34						
ROSF	Rostrenen	20.04	104	*e*P	P	12 28 19.8	+1.1
DAG	Danmarks Havn	20.09	10	*i* P	P	12 28 20.0	+0.9
	47nm,1.6s						
DAG	Danmarks Havn	20.09	10	*e*P	P	12 28 20.0	+0.9
	47nm,1.6s						
QUIF	Quistinic	20.36	105	*e*P	P	12 28 22.7	+0.6
	45nm,1.2s						
QUIF	Quistinic	20.36	105	*e*P	P	12 28 22.7	+0.6
	23nm,1.2s						
SGMF	Saint Gilles	20.46	104	*e*P	P	12 28 23.8	+0.5
FLN	La Foliniere	21.25	100	*e*P	P	12 28 31.5	-0.4
	115nm,1.5s,mb4.7						
FLN				*e*MLR	MLR		
	comp=Z,841nm,17.0s,MS3.9						
FLN	La Foliniere	21.25	100	*e*P	P	12 28 31.5	-0.4
	comp=Z,58nm,1.5s,mb4.7						
FLN				LR	LR		
	comp=Z,840nm,17.0s,MS4.2						
LDF	La Druitiere	21.55	100	*e*P	P	12 28 34.6	-0.4
NB2	NORSAR Subarra	22.62	62	P	P	12 28 47.2	+0.8
	comp=Z,29nm,1.2s,mb4.6,baz=281,slow=10						
NOA	NORSAR Array B	22.62	62	LR	LR	12 36 08.6	
	comp=Z,319nm,21.5s,MS3.7,baz=270,slow=33						
BAIF	Baives	23.04	93	*e*P	P	12 28 50.5	-0.3
HFS	Hagfors	24.02	64	P	P	12 29 00.1	-0.3
	comp=Z,8.5nm,0.9s,mb4.2,baz=261,slow=8.6,SNR=9.5						
HFS				LR	LR	12 37 10.6	
	comp=Z,317nm,19.2s,MS3.8,baz=282,slow=34						
TCF	Toulx Ste Croi	24.22	102	*e*P	P	12 29 02.2	-0.2
LOR	Lormes	24.48	99	*e*P	P	12 29 04.1	-0.6
	comp=Z,30nm,1.2s,mb4.3						
LOR				*e*MLR	MLR		
	comp=Z,679nm,21.2s,MS3.8						
LOR	Lormes	24.48	99	*e*P	P	12 29 04.1	-0.6
	comp=Z,15nm,1.2s,mb4.3						
LOR				LR	LR		
	comp=Z,680nm,21.3s,MS4.1						
RJF	Les Rejaudoux	24.50	105	*e*P	P	12 29 05.0	0.0
RJF				*e*MLR	MLR		
	comp=Z,2µm,19.0s,MS4.3						
RJF	Les Rejaudoux	24.50	105	*e*P	P	12 29 05.0	0.0
RJF				LR	LR		
	comp=Z,2µm,19.0s,MS4.6						

AVF Avril sur Loir 24.51 100 eP P 12 29 04.5 -0.5
comp=Z,18nm,1.2s,mb4.2
AVF Avril sur Loir 24.51 100 eP P 12 29 04.5 -0.5
comp=Z,9.2nm,1.2s,mb4.2
SJPF Ste Jean 24.63 112 eP P 12 29 06.4 +0.2
comp=Z,16nm,1.1s,mb4.2
SJPF Ste Jean 24.63 112 eP P 12 29 06.4 +0.2
comp=Z,8.1nm,1.1s,mb4.2
SMF Signal de Mont 24.86 100 eP P 12 29 08.1 -0.1
comp=Z,28nm,1.0s,mb4.4
SMF Signal de Mont 24.86 100 eP P 12 29 08.1 -0.1
comp=Z,14nm,1.0s,mb4.4
CAF Calviac 25.05 105 eP P 12 29 08.8 -1.1
PKME Peaks-Kenny Pk 25.33 257 eP P 12 29 09.8 -2.7
comp=Z,27nm,1.1s,mb4.7
HAU Haudompre 25.36 95 eP P 12 29 12.0 -0.8
HAU eMLR MLR
comp=Z,2μm,19.8s,MS4.2
HAU Haudompre 25.36 95 eP P 12 29 12.0 -0.8
HAU LR LR
comp=Z,2μm,19.8s,MS4.5
CDF Champ du Feu 25.62 93 eP P 12 29 14.4 -0.8
PAB San Pablo 25.85 121 eP P 12 29 12.8 -4.5
comp=Z,5.5nm,1.0s,mb4.0
ESDC Sonseca Array 25.93 121 P P 12 29 17.7 -0.2
comp=Z,2.3nm,0.9s,mb3.7,baz=318,slow=9.7,SNR=8.3
ESDC LR LR 12 37 37.3
comp=Z,358nm,18.7s,MS3.9,baz=300,slow=32
CABF La Chapelle 26.08 98 eP P 12 29 19.4 +0.1
MOX Moxa 26.72 85 eP P 12 29 25.8 +0.8
comp=Z,14nm,1.4s,mb4.3
MOX
comp=Z,700nm,17.0s
GRA1 Grafenberg Arr 27.03 87 eP P 12 29 28.6 +0.8
comp=Z,9.0nm,1.3s,mb4.1
GRF Grafenberg Arr 27.03 87 eP P 12 29 28.6 +0.8
comp=Z,9.0nm,1.3s,mb4.1
CLL Collm 27.12 83 eP P 12 29 29.0 +0.4
CLL ex x 12 29 36.0
CLL e(PP) 12 30 06.0
CLL eS S 12 34 18.0 +11
CLL Lm 12 40 00.0
comp=Z,800nm,18.1s
ARCES ARCESS Array B 27.57 40 P P 12 29 30.8 -1.7
comp=Z,6.0nm,1.0s,mb4.2,baz=279,slow=9.3,SNR=7.7
ARCES LR LR 12 38 16.4
comp=Z,290nm,19.1s,MS3.9,baz=278,slow=32
TUE Stuetta 27.92 95 eP P 12 29 40.4 +4.6
comp=Z,9.7nm,1.0s,mb4.4
DAVOX Davos/Dischmat 28.02 94 LR LR 12 40 17.4
comp=Z,808nm,19.1s,MS4.3,baz=266,slow=36
GERES GERESS Array B 28.85 87 P P 12 29 44.9 +0.9
comp=Z,0.4nm,0.6s,mb3.3,baz=310,slow=8.3,SNR=4.0
GERES LR LR 12 41 05.5
comp=Z,498nm,18.3s,MS4.2,baz=308,slow=36
VRAC Vranov 30.14 84 LR LR 12 42 00.7
comp=Z,666nm,18.7s,MS4.3,baz=314,slow=36
MDT Midelt 31.37 129 P P 12 30 07.2 +0.7
comp=Z,1.8nm,0.9s,mb3.9,baz=308,slow=11,SNR=3.6
PKSM Moragy 33.10 87⇑iP P 12 30 21.4 -0.2
BZS Buzias 35.09 86⇓iP P 12 30 33.5 -5.3
COWI Conover 35.46 276 eP P 12 30 38.1 -4.0
comp=Z,16nm,0.9s,mb4.9
KEST Kesra 35.55 109 P P 12 30 44.5 +1.6
comp=Z,1.6nm,0.8s,mb4.0,baz=81,slow=5.1,SNR=5.7
KEST LR LR 12 43 45.0
comp=Z,126nm,19.9s,MS3.7,baz=198,slow=34
BURAR Bucovina Array 35.76 80⇑iP P 12 30 46.3 +1.7
GZR Gura Zlata 35.86 85⇓iP P 12 30 45.9 +0.5
AKASG Malin Array Be 36.02 73 P P 12 30 46.0 -0.8
comp=Z,2.3nm,0.6s,mb4.3,baz=307,slow=8.8,SNR=9.4
AKASG Malin Array Be 36.02 73 P P 12 30 46.0 -0.8
ULM Lac du Bonnet 36.49 286 P P 12 30 50.0 -0.9
comp=Z,3.9nm,0.8s,mb4.4,baz=342,slow=9.6,SNR=2.5
ULM LR LR 12 44 27.2
comp=Z,728nm,18.8s,MS4.5,baz=266,slow=34
VAE Valguarnera 36.86 102 LR LR 12 44 25.8
comp=Z,447nm,19.2s,MS4.3,baz=132,slow=34
YKA Yellowknife Ar 38.54 313 P P 12 31 07.0 -1.0
comp=Z,4.8nm,0.7s,mb4.3,baz=56,slow=9.0,SNR=3.3
YKA LR LR 12 46 23.0
comp=Z,623nm,18.2s,MS4.5,baz=95,slow=35
YKA Yellowknife Ar 38.54 313 P P 12 31 07.0 -1.0
YKA LR LR 12 46 23.0
TKL Tuckaleechee C 39.88 259 LR LR 12 46 50.5
comp=Z,864nm,18.7s,MS4.6,baz=97,slow=35
EDM Edmonton 43.34 300 eP P 12 31 47.4 -0.2
EDM Edmonton 43.34 300 eP P 12 31 47.4 -0.2
WALA Waterton Lakes 46.33 296 eP P 12 32 12.8 +1.3
comp=Z,11nm,1.1s,mb4.7
WALA Waterton Lakes 46.33 296 eP P 12 32 12.8 +1.3
comp=Z,11nm,1.1s,mb4.7
DAWY Dawson 46.46 324 eP P 12 32 09.1 -3.2
HYT Haines Junctio 48.13 320 eP P 12 32 26.3 +1.0
HYT Haines Junctio 48.13 320 eP P 12 32 26.3 +1.0
PDAR Pinedale Array 48.51 287 P P 12 32 27.9 -0.7
comp=Z,2.8nm,0.7s,mb4.4,baz=62,slow=6.9,SNR=17
ISCO Idaho Springs 48.57 282 eP P 12 32 30.3 +1.2
comp=Z,11nm,1.2s,mb4.8
ISCO Idaho Springs 48.57 282 eP P 12 32 30.3 +1.3
comp=Z,11nm,1.2s,mb4.8
WMOK Wichita Mounta 48.65 272 eP P 12 32 29.7 0.0
comp=Z,15nm,1.2s,mb4.9
WMOK Wichita Mounta 48.65 272 eP P 12 32 29.7 +0.1
comp=Z,15nm,1.2s,mb4.9
MCMT McKenzie Canyo 48.73 291 eP P 12 32 30.8 +0.6
MCMT McKenzie Canyo 48.73 291 eP P 12 32 30.8 +0.6
AKTO Aktyubinsk 50.22 56 LR LR 12 53 37.5
comp=Z,300nm,18.1s,MS4.3,baz=139,slow=36
HWUT Hardware Ranch 50.38 287 eP P 12 32 42.3 -0.5
comp=Z,7.4nm,1.0s,mb4.7
HWUT Hardware Ranch 50.38 287 eP P 12 32 42.3 -0.5
comp=Z,7.4nm,1.0s,mb4.7
BMO Blue Mountains 50.93 294 eP P 12 32 45.7 -1.2
comp=Z,6.7nm,1.1s,mb4.5
BMO Blue Mountains 50.93 294 eP P 12 32 45.6 -1.3
comp=Z,6.7nm,1.1s,mb4.5
JLU Jordanelle 51.05 287 eP P 12 32 44.8 -3.1
DAU Daniels Canyon 51.09 286 eP P 12 32 48.5 +0.3
DAU Daniels Canyon 51.09 286 eP P 12 32 48.5 +0.4
GNI Garni 51.15 74 LR LR 12 54 50.6
comp=Z,150nm,19.7s,MS4.0,baz=313,slow=36
PV01 Paradox Valley 51.36 282 eP P 12 32 50.8 +0.6
PV01 Paradox Valley 51.36 282 eP P 12 32 50.8 +0.6
PV10 Paradox Valley 51.43 283 eP P 12 32 51.6 +0.9
PV10 Paradox Valley 51.43 283 eP P 12 32 51.6 +0.9
TOA0 Torodi Ar. Sit 51.50 135 eP P 12 32 50.3 -1.2
TOA0 Torodi Ar. Sit 51.50 135 eP P 12 32 50.3 -1.2
TORD Torodi Ar. Bea 51.50 135 P P 12 32 50.5 -1.0
comp=Z,4.8nm,1.0s,mb4.4,baz=337,slow=7.0,SNR=12
TORD LR LR 12 51 49.0
comp=Z,162nm,18.7s,MS4.1,baz=345,slow=33
MMAI Mount Meron Ar 51.50 87 LR LR 12 56 07.3
comp=Z,174nm,21.7s,MS4.0,baz=315,slow=38
NLU North Lily Min 51.85 286 eP P 12 32 54.3 +0.4
NLU North Lily Min 51.85 286 eP P 12 32 54.3 +0.4
MVCO Mesa Verde 52.01 281 eP P 12 32 56.3 +1.2
comp=Z,11nm,1.0s,mb4.8
MVCO Mesa Verde 52.01 281 eP P 12 32 56.3 +1.2
comp=Z,11nm,1.0s,mb4.8
JCT Junction City 52.46 269 eP P 12 32 58.1 -0.4
comp=Z,22nm,1.0s,mb5.0
JCT Junction City 52.46 269 eP P 12 32 58.1 -0.4
comp=Z,22nm,1.0s,mb5.0
ELK Elko 52.90 289 LR LR 12 54 36.1
comp=Z,577nm,19.0s,MS4.6,baz=78,slow=35
ASF Jabal al Asfar 52.96 87 LR LR 12 58 13.4
comp=Z,94nm,18.6s,MS3.9,baz=1.2,slow=39
MSU Marysvale 52.97 285 eP P 12 33 02.1 -0.1
MSU Marysvale 52.97 285 eP P 12 33 02.1 -0.1
BNM Barren Site 53.32 277 eP P 12 33 05.6 +0.8
BNM Barren Site 53.32 277 eP P 12 33 05.6 +0.8
LAZ Ladron 53.40 278 eP P 12 33 06.8 +1.4
LAZ Ladron 53.40 278 eP P 12 33 06.8 +1.4
BVAR Borovoye Array 53.56 47 LR LR 12 54 09.8
comp=Z,159nm,20.1s,MS4.1,baz=136,slow=34
EIL Elat 53.84 90 LR LR 12 59 41.2
comp=Z,94nm,18.4s,MS3.9,baz=3.1,slow=40
WUAZ Wupatki 54.81 282 eP P 12 33 16.4 +0.7
comp=Z,14nm,1.2s,mb4.9
WUAZ Wupatki 54.81 282 eP P 12 33 16.4 +0.7
comp=Z,14nm,1.2s,mb4.9
DBIC Dimbokro 55.24 145 P P 12 33 17.7 -1.3
comp=Z,6.7nm,1.0s,mb4.6,baz=28,slow=5.5,SNR=3.1
DBIC LR LR 12 54 03.5
comp=Z,272nm,20.0s,MS4.3,baz=328,slow=33

KDAK Kodiak Island 55.40 325 LR LR 12 57 57.9
comp=Z,176nm,18.4s,MS4.2,baz=290,slow=37
TXAR Lajitas Array 55.44 271 P P 12 33 20.5 +0.2
comp=Z,1.5nm,0.9s,mb4.0,baz=57,slow=5.3,SNR=7.6
LIC Lamto 55.61 145 eP P 12 33 21.5 -0.1
comp=Z,61nm,1.4s,mb5.1
LIC eMLR MLR
comp=Z,397nm,21.8s,MS4.2
LIC Lamto 55.61 145 eP P 12 33 21.5 -0.1
comp=Z,31nm,1.4s,mb5.1
LIC LR LR
comp=Z,200nm,21.8s,MS4.2
YBH Yreka Blue Hor 55.89 295 LR LR 12 56 13.6
comp=Z,432nm,20.4s,MS4.5,baz=18,slow=35
TPH Tonopah 55.91 289 eP P 12 33 22.7 -0.9
comp=Z,6.8nm,0.9s,mb4.7
TPH Tonopah 55.91 289 eP P 12 33 22.7 -0.9
comp=Z,6.8nm,0.9s,mb4.7
NVAR Mina Array Bea 56.19 290 P P 12 33 25.5 -0.1
comp=Z,1.4nm,0.7s,mb4.1,baz=52,slow=5.9,SNR=12
TUC Tucson 56.95 279 eP P 12 33 31.9 +0.8
comp=Z,0.6nm,0.9s,mb3.6
TUC Tucson 56.95 279 eP P 12 33 31.9 +0.8
comp=Z,0.6nm,0.9s,mb3.6
OHCM Honcut 57.11 293 eP P 12 33 31.3 -0.8
OHCM Honcut 57.11 293 eP P 12 33 31.3 -0.8
ZALV Zalesovo Beam 58.08 38 LR LR 12 58 43.4
comp=Z,50nm,18.9s,MS3.6,baz=91,slow=36
GLA Glamis 58.52 283 eP P 12 33 41.7 -0.4
comp=Z,19nm,1.1s,mb5.0
GLA Glamis 58.52 283 eP P 12 33 41.7 -0.5
comp=Z,19nm,1.1s,mb5.0
KURK Kurchatov 58.54 44 LR LR 12 58 14.3
comp=Z,95nm,20.0s,MS3.9,baz=330,slow=35
ROSC El Rosal 61.57 228 P P 12 34 05.0 +1.8
comp=Z,4.7nm,0.4s,mb5.0,baz=92,slow=22,SNR=8.1
MKAR Makanchi Array 63.15 44 LR LR 13 01 50.7
comp=Z,73nm,18.9s,MS3.9,baz=323,slow=36
SONM Songino Array 69.85 28 P P 12 34 55.7 -0.5
comp=Z,1.6nm,0.9s,mb4.0,baz=324,slow=6.6,SNR=5.2
SONM LR LR 13 07 10.6
comp=Z,63nm,19.0s,MS3.9,baz=332,slow=37
LBOS 72.17 92 i S S 12 44 27.4 -5.6
LPAZ La Paz 78.99 214 P P 12 35 49.2 -0.5
comp=Z,1.5nm,1.1s,mb3.8,baz=6.4,slow=5.9,SNR=4.0
LPAZ La Paz 78.99 214 P P 12 35 49.2 -0.5
KMBO Kilima Mbogo 80.50 107 LR LR 13 11 10.7
comp=Z,99nm,19.3s,MS4.2,baz=274,slow=35
KSRS Korea Array 84.13 15 P P 12 36 15.7 -1.1
comp=Z,2.2nm,0.8s,mb4.3,baz=347,slow=4.8,SNR=8.5
CPUP Villa Florida 85.90 202 P P 12 36 24.5 -0.9
comp=Z,0.6nm,0.3s,mb4.3,baz=339,slow=5.1,SNR=6.2
CPUP LR LR 13 09 40.7
comp=Z,96nm,21.6s,MS4.2,baz=150,slow=32
CPUP Villa Florida 85.90 202 P P 12 36 24.5 -0.9
CPUP LR LR 13 09 40.6
CMAR Chiang Mai Arr 94.54 45 LR LR 13 21 08.9
comp=Z,74nm,18.2s,MS4.2,baz=149,slow=36
BOSA Boshof 98.71 131 LR LR 13 21 10.1
comp=Z,97nm,18.5s,MS4.3,baz=352,slow=35
PPT Papeete 118.82 283 eLR LR 13 19 01.3
comp=Z,209nm,23.5s
TBI Tubuai 123.50 279 eLR LR 13 21 07.0
comp=Z,142nm,28.0s
ASAR Alice Springs 144.98 21 PKP PKPdf 12 43 21.1 -1.8
comp=Z,4.7nm,1.0s,baz=352,slow=2.6,SNR=19

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*NNC **02** 12:24:59.0±3.3, 4000N×7204E, h0km, mb4.7, mpv4.9, Error ellipse: s-maj=29.5km s-min=14.3km az=15.0*
*ISCJB **02** 12:25:05.3±0.2, 4031N±002×7239E±004, h19km, mb4.5/52, MS3.9/14, Error ellipse: s-maj=4.5km s-min=3.4km az=157.1*
*BJI **02** 12:25:07.6, 4069N×7252E, h24km, mB5.0, mb4.6, ML4.8, Ms4.1, Msz4.1*
*IDC **02** 12:25:07.4±0.5, 4041N×7242E, h20km±2km, mb4.1/20, mb1 4.2/25, mb1mx4.2/30, mbtmp4.1/25, ML4.2/5, MS3.7/12, Ms1 3.8/12, ms1mx3.5/46, Error ellipse: s-maj=10.2km s-min=9.3km az=154.0*
*MOS **02** 12:25:08.9±1.3, 4061N×7243E, h39km, mb4.8/31, Error ellipse: s-maj=8.1km s-min=5.5km az=94.5*
*SZGRF **02** 12:25:09.2, 4082N×7328E, h20km, mb4.3, MS4.4, Kyrgyzstan*
*NEIC **02** 12:25:09.6±2.0, 4059N×7245E, h33km±14km, mb4.6/17, MS4.4/2, Error ellipse: s-maj=7.2km s-min=5.9km az=184.0*
ISC 02 12:25:07.4±0.2**, 4035N**±002×**7243E**±004**, h20**km±1.2km**:pP-P, n194,** σ1.41/192**, mb4.5**/52**, MS3.9**/14**, 21C-14D, Kyrgyzstan**

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
AML Almayashu 2.02 28 P Pn 12 25 41.4 +1.2
SNR=488
EKS2 Erkin-Say 2.52 23 P Pn 12 25 48.6 +1.4
SNR=171
AAK Ala-Archa 2.76 33 P Pn 12 25 52.3 +1.9
SNR=138
FRU Bishkek 2.97 33⇑iPN Pn 12 25 55.0 +1.6
FRU eS Sn 12 26 31.0 +2.6
FRU pmax pmax
comp=Z,2μm,1.1s
FRU pmax pmax
comp=Z,2μm,1.2s
FRU smax
comp=E,17μm,1.0s
KBK Karagaybulak 2.98 38 P Pn 12 25 56.1 +2.6
SNR=129
KK31 Karatay Array 3.11 333 ⇑Pn Pn 12 25 55.6 +0.4
comp=E,10nm,0.3s,baz=138,slow=12,SNR=1652
KK31 ⇓Pg Pn 12 26 01.4 +6.2
comp=E,225nm,0.5s,baz=131,slow=14,SNR=9.4
KK31 ⇑Sn Sn 12 26 38.5 +6.8
comp=E,1μm,0.6s,baz=144,slow=30,SNR=7.0
KK31 Karatay Array 3.11 333 ePN Pn 12 25 55.6 +0.4
KK31 12 26 38.4
KK31 pmax pmax
comp=Z,117nm,0.2s
KK31 smax
comp=N,587nm,0.3s
CHMS Chumysh 3.17 32 P Pn 12 25 57.8 +1.7
SNR=75
USP Ospenovka 3.30 27 P Pn 12 25 59.1 +1.2
SNR=34
TKM2 Tokmak 2 3.50 42 ⇓Pn Pn 12 26 02.5 +1.9
comp=N,590nm,0.8s
TKM2 ⇑Sn Sn 12 26 51.7 +10
comp=N,533nm,0.5s
TKM2 Tokmak 2 3.50 42 P Pn 12 26 02.8 +2.2
SNR=177
KNDC Almaty 4.44 48 ⇑Pn Pn 12 26 16.4 +2.9
comp=N,396nm,0.6s
KNDC ⇓Lg 12 27 27.0
comp=N,1μm,0.8s
AAA Alma-Ata 4.46 48 ePN Pn 12 26 26.7 +13
AAA pmax pmax
comp=Z,766nm,0.4s
KBL Kabul 6.39 206 ePN Pn 12 26 46.2 +5.8
KBL pmax pmax
comp=Z,98nm,0.7s
KBL Kabul 6.39 206 eP Pn 12 26 46.2 +5.8
comp=Z,98nm,0.7s
THN Thein Dam 8.33 160 eP Pn 12 27 11.5 +4.5
THN ex x 12 28 43.1
BHK Bhakra 9.48 159 eS Sn 12 29 07.2 -1.5
SDNR Sundarnagar 9.56 156 eP Pn 12 27 27.1 +3.2
SDNR ex x 12 29 12.5
MK31 Makanchi Array 9.62 45 Pn Pn 12 27 24.9 +0.3
comp=Z,11nm,0.5s,baz=229,slow=13,SNR=21
MK31 ⇑Lg 12 30 14.8
comp=Z,36nm,0.7s,baz=227,slow=26,SNR=3.5
MK31 Makanchi Array 9.62 45 eP Pn 12 27 24.5 -0.1
MKAR Makanchi Array 9.62 45 Pn Pn 12 27 25.1 +0.5
comp=Z,0.6nm,0.3s,baz=222,slow=14,SNR=25
MKAR Lg 12 30 04.8
comp=Z,4.7nm,0.3s,baz=241,slow=26,SNR=5.1
MKAR LR LR 12 31 22.3
comp=Z,403nm,18.7s,baz=226,slow=39
SMLA Simla 9.97 156⇓iP Pn 12 27 34.0 +4.5
SMLA i S Sn 12 29 19.4 -1.3
SMLA ex x 12 29 27.1
comp=N,555nm,0.4s
SMLA ex x 12 29 27.5
comp=E,440nm,0.4s

KURBB Kurchatov Arra 11.12 21 ⇓Pn Pn 12 27 43.2 -2.0
comp=E,1.8nm,0.4s
KURBB ⇓Lg 12 31 03.7
comp=E,54nm,0.7s
KURK Kurchatov 11.23 21 ⇑Pn Pn 12 27 44.4 -2.3
comp=E,16nm,0.9s
KURK ⇑Lg 12 31 06.7
comp=E,330nm,1.6s
KURK Kurchatov 11.23 21 Pn Pn 12 27 42.3 -4.4
comp=E,1.1nm,0.3s,baz=217,slow=12,SNR=18
KURK Sn Sn 12 29 45.0 -6.4
comp=E,0.5nm,0.3s,baz=202,slow=27,SNR=3.5
KURK Lg 12 30 56.8
comp=E,2.2nm,0.3s,baz=18,slow=3.9,SNR=8.5
KURK LR LR 12 32 16.4
comp=E,310nm,21.0s,baz=215,slow=39
KURK Kurchatov 11.23 21 P Pn 12 27 42.3 -4.3
KURK 12 29 45.0
KURK pmax pmax
comp=Z,1.0nm,0.3s
KURK smax
comp=N,1.0nm,0.3s
KURK MLR MLR
comp=Z,311nm,21.0s
WMQ Urumqi 11.86 68 P Pn 12 27 53.0 -2.2
NDI New Delhi 12.28 160 eP Pn 12 28 04.0 +2.9
NDI eS Sn 12 30 12.0 -5.4
VOSK Vostochnaya 12.42 356 ⇑Pn Pn 12 28 00.0 -2.8
comp=Z,7.5nm,0.6s
VOSK ⇑Lg 12 31 38.2
comp=Z,144nm,1.0s
AB31 Akbulak array 12.55 319 ⇑Pn Pn 12 28 01.6 -3.1
comp=Z,5.5nm,0.5s,baz=132,slow=11,SNR=127
AB31 ⇓Sn Sn 12 30 16.7 -7.2
comp=Z,12nm,0.5s
AB31 Akbulak array 12.55 319 i P Pn 12 28 02.1 -2.6
AB31 pmax pmax
comp=Z,6.0nm,0.3s
KHET Khetri 12.56 166 eS Sn 12 30 17.7 -6.4
KUDL Kundal 12.62 163 eP Pn 12 28 07.1 +1.3
KUDL eS Sn 12 30 20.2 -5.6
KUDL AML AML 12 30 29.1
comp=N,25nm,0.6s
SONA Sohna 12.66 161 eP Pn 12 28 09.1 +2.8
SONA eS Sn 12 30 19.1 -7.6
SONA AML AML 12 30 29.1
comp=E,53nm,0.6s
SONA AML AML 12 30 30.8
comp=N,28nm,0.4s
BVA0 Borovoye Array 12.76 354 ⇑Pn Pn 12 28 04.7 -2.7
comp=N,1.7nm,0.6s,baz=153,slow=14,SNR=15
BVA0 ⇑Sn Sn 12 30 31.1 +2.3
comp=N,7.3nm,0.9s,baz=167,slow=22,SNR=3.9
BVA0 ⇑Lg 12 31 51.2
comp=N,28nm,1.2s,baz=133,slow=34,SNR=3.6
BVA0 Borovoye Array 12.76 354 i P Pn 12 28 04.4 -3.1
BVA0 pmax pmax
comp=Z,1.0nm,0.3s
BVAR Borovoye Array 12.76 354 Pn Pn 12 28 05.0 -2.5
comp=Z,0.7nm,0.3s,baz=167,slow=14,SNR=14
BVAR Sn Sn 12 30 33.2 +4.5
comp=Z,1.5nm,0.3s,baz=158,slow=23,SNR=4.1
BVAR Lg 12 31 38.5
comp=Z,3.5nm,0.3s,baz=151,slow=24,SNR=3.2
BVAR LR LR 12 33 14.6
comp=Z,445nm,20.2s,baz=17,slow=38
BVAR Borovoye Array 12.76 354 P Pn 12 28 05.0 -2.5
BVAR 12 30 33.2
BVAR pmax pmax
comp=Z,1.0nm,0.3s
BVAR smax
comp=N,2.0nm,0.3s
BVAR MLR MLR
comp=Z,445nm,20.2s
BRVK Borovoye 12.80 354 eP Pn 12 28 03.8 -4.2
BRVK pmax pmax
comp=Z,26nm,0.8s
BRVK Borovoye 12.80 354 eP Pn 12 28 03.8 -4.2
comp=Z,26nm,0.8s
AJM Ajmer 13.95 172 ex x 12 30 55.0
AKTK Aktyubinsk 14.27 320 Pn Pn 12 28 25.8 -2.3
AKTK Sn Sn 12 30 56.9 -8.8
AKTK LR LR 12 34 25.5
AKTO Aktyubinsk 14.27 320 ⇑Pn Pn 12 28 25.0 -3.1
comp=Z,1.4nm,0.6s
AKTO ⇓Sn Sn 12 31 00.8 -4.8
comp=Z,3.8nm,0.8s
AKTO Aktyubinsk 14.27 320 Pn Pn 12 28 25.8 -2.3
comp=Z,2.5nm,0.3s,baz=108,slow=13,SNR=11
AKTO Sn Sn 12 30 56.9 -8.8
baz=18,slow=19,SNR=3.1
AKTO LR LR 12 34 25.5
comp=Z,457nm,19.5s,baz=133,slow=39
AKTO Aktyubinsk 14.27 320 P Pn 12 28 25.8 -2.3
AKTO 12 30 56.9
AKTO pmax pmax
comp=Z,3.0nm,0.3s
AKTO MLR MLR
comp=Z,457nm,19.5s
DANN Dangsing 15.17 139 eP Pn 12 28 39.2 -1.2
comp=Z,62nm,0.4s
KOLN Koldanda 15.57 140 eP Pn 12 28 43.8 -1.9
comp=Z,28nm,0.5s
GKN Gorkha 15.90 137 eP Pn 12 28 48.5 -1.5
comp=Z,74nm,0.5s
ZAA0 Zalesovo Array 15.97 27 eP Pn 12 28 47.7 -2.9
ZALV Zalesovo Beam 15.97 27 Pn Pn 12 28 48.0 -2.7
comp=Z,0.9nm,0.3s,baz=220,slow=12,SNR=21
ZALV Sn Sn 12 31 56.5 +10
comp=Z,0.3nm,0.3s,baz=227,slow=21,SNR=3.4
ZALV Lg 12 33 21.5
comp=Z,0.4nm,0.3s,baz=222,slow=23,SNR=2.1
ZALV LR LR 12 35 11.4
comp=Z,288nm,18.5s,baz=276,slow=38
ZALV Zalesovo Beam 15.97 27 Pn Pn 12 28 48.0 -2.7
ZALV Sn Sn 12 31 56.5 +10
ZALV Lg 12 33 21.5
ZALV LR LR 12 35 11.4
NVS Novosibirsk 16.20 23 eP Pn 12 28 52.9 -0.6
KKN Kakani 16.41 136 eP Pn 12 28 55.7 -0.8
comp=Z,44nm,0.4s
KKN Kakani 16.41 136 eP PKiKP 12 41 42.1 +0.3
comp=Z,29nm,0.5s
DMN Daman 16.47 137 eP Pn 12 28 55.9 -1.3
comp=Z,60nm,0.7s
DMN Daman 16.47 137 eP PKiKP 12 41 42.2 +0.4
comp=Z,14nm,0.4s
GUN Gumba 16.64 134 eP Pn 12 28 58.9 -0.5
comp=Z,43nm,0.5s
JIRN Jiri 17.01 134 eP Pn 12 29 03.0 -1.0
comp=Z,85nm,0.7s
RAMN Ramite 17.79 134 eP Pn 12 29 11.7 -2.1
comp=Z,67nm,0.7s
SVE Sverdlovsk 18.20 339 eP Pn 12 29 16.4 -2.1
SVE pmax pmax
comp=Z,13nm,0.9s
SVE MLR MLR
comp=Z,453nm,10.0s
ODAN Odare 18.30 133 eP Pn 12 29 17.8 -2.2
comp=Z,58nm,0.6s
ARU Arti 18.48 335c iP Pn 12 29 19.8 -2.2
ARU eS Sn 12 32 44.6 -3.2
ARU pmax pmax
comp=Z,12nm,1.7s
ARU MLR MLR
comp=Z,371nm,15.0s
ARU Arti 18.48 335 eP Pn 12 29 19.0 -3.0
comp=Z,27nm,1.0s
LSA Lhasa 18.61 119 P Pn 12 29 27.8 +4.0
LSA Lhasa 18.61 119 eP Pn 12 29 27.7 +3.9
LSA pmax pmax
comp=Z,16nm,0.9s
LSA Lhasa 18.61 119 eP Pn 12 29 27.7 +3.9
comp=Z,16nm,0.9s
MAK Makhachkala 18.79 286 eP Pn 12 29 22.0 -3.9
MAK MLR MLR
comp=Z,897nm,14.0s
KRAR Krasnoyarsk 20.64 34⇓iP P 12 29 45.4 0.0
KRAR pmax pmax
comp=Z,29nm,1.3s
GTA Gaotai 21.01 84 P P 12 29 50.7 +1.2
GTA AP 12 29 54.6
GTA XP sP 12 29 57.8 0.0
GTA AMB AMB
comp=Z,16nm,1.2s,mb4.2
GNI Garni 21.11 278 P P 12 29 51.1 +0.5

comp=Z,2.4nm,0.3s,mb4.0,baz=164,slow=22,SNR=4.4
GNI LR LR 12 39 45.6
comp=Z,142nm,18.0s,MS3.4,baz=13,slow=42
GNI Garni 21.11 278 *c iP* **P 12 29 52.5 +1.9**
GNI pmax pmax
comp=Z,17nm,1.3s
GOF Gofitskoye 22.05 292 *eP* **P 12 30 05.5 +4.9**
GOF pmax pmax
comp=Z,50nm,0.7s,mb5.0
KIV Kislovodsk 22.29 289 *eP* **P 12 30 05.2 +2.0**
KIV *eS* **S 12 34 08.8 +1.3**
KIV pmax pmax
comp=Z,16nm,0.7s,mb4.6
KIV MLR MLR
comp=Z,117nm,12.0s,MS3.5
MOY Mondy 22.69 51 *eP* **P 12 30 08.5 +1.2**
MOY pmax pmax
comp=Z,45nm,1.6s,mb4.7
UMR Umm Al-Rimmam 22.87 250 *eP* **P 12 30 12.5 +3.0**
baz=249
UMR AMb AMB 12 30 18.8
comp=Z,40nm,1.1s,mb4.8,baz=249
MIB Mutribah 23.00 251 *eP* **P 12 30 13.0 +2.1**
baz=250
MIB AMb AMB 12 30 23.3
comp=Z,40nm,0.8s,mb4.9,baz=250
NAY Al-Naaiem 23.39 250 *eP* **P 12 30 17.6 +2.7**
baz=249
NAY AMb AMB 12 30 43.4
comp=Z,15nm,1.0s,mb4.4,baz=249
HYB Hyderabad 23.46 165 *i P* **P 12 30 17.5 +1.8**
HYB Hyderabad 23.46 165 *eP* **P 12 30 17.5 +1.8**
ZAK Zakamensk 23.73 55⇓ *iP* **P 12 30 18.3 +0.3**
ZAK *e* 12 30 55.9
ZAK *e* 12 34 34.2
ZAK pmax pmax
comp=Z,30nm,1.1s,mb4.6
IMP Imphal 23.77 124 *ex* x 12 30 20.0
TLY Talaya 24.27 52 *eP* **P 12 30 24.2 +1.3**
TLY *e* 12 31 02.8
TLY pmax pmax
comp=Z,11nm,0.7s,mb4.4
TLY MLR MLR
comp=Z,143nm,15.0s,MS3.6
TLY Talaya 24.27 52 *eP* **P 12 30 23.5 +0.6**
comp=Z,10.0nm,0.7s,mb4.3
SONM Songino Array 25.36 61 P **P 12 30 33.6 +0.8**
comp=Z,7.3nm,0.8s,mb4.2,baz=270,slow=9.9,SNR=43
SONM Songino Array 25.36 61 P **P 12 30 33.6 +0.7**
SONM pmax pmax
comp=Z,7.0nm,0.8s
ULN Ulaanbaatar 25.80 62 *c iP* **P 12 30 37.6 +0.7**
ULN Ulaanbaatar 25.80 62 *eP* **P 12 30 37.5 +0.6**
comp=Z,14nm,0.9s,mb4.5
ANN Anapa 26.03 291 *eP* **P 12 30 46.6 +7.6**
ANN pmax pmax
comp=Z,75nm,1.0s,mb5.2
ANN MLR MLR
comp=N,199nm,12.0s,MS4.0
ANN MLR MLR
comp=E,130nm,12.0s,MS4.0
ANN MLR MLR
comp=Z,258nm,12.0s,MS4.0
MALT Malatya 26.29 277⇑ *iP* **P 12 30 50.1 +8.7**
CD2 Chengdu 27.03 101 P **P 12 30 50.4 +2.2**
CD2 AMB AMB
comp=Z,20nm,1.1s,mb4.6
CD2 AMB AMB
comp=Z,40nm,4.8s
OBN Obninsk 27.91 314 *d iP* **P 12 30 57.2 +1.4**
OBN *i* 12 31 42.8
OBN pmax pmax
comp=Z,38nm,1.6s,mb4.8
OBN MLR MLR
comp=Z,400nm,19.0s,MS4.0
CMAR Chiang Mai Arr 31.56 126 P **P 12 31 28.9 +0.5**
comp=Z,0.5nm,0.3s,mb3.8,baz=322,slow=9.2,SNR=5.4
CMAR PcP PcP 12 34 21.6 +0.7
comp=Z,1.4nm,0.7s,baz=313,slow=4.2,SNR=5.9
CMAR LR LR 12 46 46.4
comp=Z,70nm,19.3s,MS3.4,baz=295,slow=41
CMAR Chiang Mai Arr 31.56 126 P **P 12 31 28.9 +0.5**
CMAR 12 34 21.6
CMAR pmax pmax
comp=Z,1.0nm,0.3s
CMAR pmax pmax
comp=Z,1.0nm,0.7s
CMAR MLR MLR
comp=Z,70nm,19.3s
AKASG Malin Array Be 31.58 304 P **P 12 31 27.5 -0.8**
comp=Z,0.3nm,0.3s,mb3.6,baz=37,slow=4.4,SNR=3.1
AKASG Malin Array Be 31.58 304 *i P* **P 12 31 33.4 +5.1**
AKASG pmax pmax
comp=Z,1.0nm,0.4s
BOD Bodaibo 31.70 43 *eP* **P 12 31 28.5 -0.8**
BOD pmax pmax
comp=Z,15nm,0.9s,mb4.8
WHN Wuhan 35.24 93⇓ P **P 12 32 02.1 +1.6**
WHN AP pP 12 32 09.7 +3.1
WHN AMB AMB
comp=Z,50nm,0.8s,mb5.5
OJC Ojcow 37.61 303 *eP* **P 12 32 26.6 +6.2**
NJ2 Nanjing 38.00 88 *eP* **P 12 32 25.8 +1.8**
NJ2 AMB AMB
comp=Z,20nm,1.1s,mb4.8
ARCES ARCESS Array B 38.07 335 P **P 12 32 23.4 -0.6**
comp=Z,1.8nm,0.7s,mb3.9,baz=111,slow=8.4,SNR=12
ARCES pP pP 12 32 29.5 -0.8
comp=Z,3.4nm,0.5s,baz=109,slow=8.1,SNR=4.4
ARCES ARCESS Array B 38.07 335 P **P 12 32 23.5 -0.6**
ARCES pmax pmax
comp=Z,2.0nm,0.7s
ARCES pmax pmax
comp=Z,3.0nm,0.5s
ARCES ARCESS Array B 38.07 335 P **P 12 32 23.4 -0.6**
ARCES pP pP 12 32 29.5 -0.8
OKC Ostrava-Krasne 38.71 303 AMS AMS 12 42 50.0
comp=Z,1μm,15.9s
DPC Dobruska-Polom 39.81 304 *eP* **P 12 32 43.2 +4.3**
DPC *epP* pP 12 32 45.8 +0.7
DPC AMS AMS 12 42 00.0
comp=Z,800nm,16.5s
UPC Upice 39.98 304 *eP* **P 12 32 45.1 +4.8**
UPC epP pP 12 32 47.3 +0.7
YAK Yakutsk 40.21 38 *eP* **P 12 32 40.8 -1.3**
YAK pmax pmax
comp=Z,63nm,0.8s,mb5.4
YAK pmax pmax
comp=E,22nm,1.4s
YAK Yakutsk 40.21 38 *eP* **P 12 32 41.5 -0.6**
comp=E,79nm,0.8s,mb5.5
TREC Trest 40.50 302 AMS AMS 12 41 20.0
comp=E,700nm,18.2s
HFS Hagfors 40.82 319 P **P 12 32 46.6 -0.5**
comp=E,1.4nm,0.4s,mb3.9,baz=97,slow=12,SNR=6.7
HFS pP pP 12 32 52.8 -0.5
comp=E,7.2nm,0.7s,baz=98,slow=11,SNR=12
HFS LR LR 12 50 34.5
comp=E,204nm,18.5s,MS4.0,baz=348,slow=38
HFS Hagfors 40.82 319 P **P 12 32 46.6 -0.5**
HFS *PP pP 12 32 52.8 -0.5
HFS pmax pmax
comp=Z,1.0nm,0.4s
HFS pmax pmax
comp=Z,7.0nm,0.7s
HFS MLR MLR
comp=Z,204nm,18.5s
PVCC Panska Ves 40.89 304 AMS AMS 12 41 20.0
comp=Z,1μm,15.1s
PRU Pruhonice 40.99 304 AMS AMS 12 41 40.0
comp=Z,700nm,12.9s
BRG Berggiesshubel 41.23 305 *i P* **P 12 32 57.1 +6.4**
BRG pmax pmax
comp=Z,2.0nm,0.6s,mb3.9
BRG MLR MLR
comp=Z,584nm,16.1s,MS4.5
BRG MLR MLR
comp=N,301nm,16.5s,MS4.5
BRG MLR MLR
comp=E,460nm,16.5s,MS4.5
BRG Berggiesshubel 41.23 305 *i P* **P 12 32 57.1 +6.4**
comp=E,4.0nm,0.6s,mb4.2
BRG
comp=Z,975nm,16.1s
BRG
comp=N,503nm,16.5s
BRG
comp=E,768nm,16.5s
MDJ Mudanjiang 41.63 65 P **P 12 32 53.7 -0.3**
MDJ AMB AMB
comp=Z,5.0nm,0.8s,mb4.2
MDJ AMB AMB
comp=Z,112nm,5.2s
GERES GERESS Array B 41.74 302 P **P 12 32 55.7 +0.9**
comp=Z,0.9nm,0.6s,mb3.6,baz=74,slow=5.7,SNR=6.1
GERES pP pP 12 33 02.0 +0.9
comp=Z,4.0nm,0.7s,baz=69,slow=7.3,SNR=11
GERES GERESS Array B 41.74 302 P **P 12 32 55.7 +0.9**
GERES *PP pP 12 33 02.0 +0.9
GERES pmax pmax
comp=Z,1.0nm,0.6s
GERES pmax pmax
comp=Z,4.0nm,0.7s
KHC Kasperske Hory 41.76 302 *eP* **P 12 32 58.7 +3.7**
KHC *epP* pP 12 33 01.9 +0.6
KHC AMS AMS 12 40 40.0
comp=Z,700nm,15.9s
TIXI Tiksi 41.79 23⇑ *eP* **P 12 32 54.3 -0.7**
TIXI pmax pmax
comp=Z,12nm,0.9s,mb4.5
TIXI Tiksi 41.79 23 *eP* **P 12 32 52.7 -2.2**
NB2 NORSAR Subarra 42.06 320 P **P 12 32 56.2 -1.1**
comp=Z,2.7nm,0.7s,mb4.0,baz=91,slow=8.6
NOA NORSAR Array B 42.06 320 P **P 12 32 56.8 -0.5**
comp=Z,1.6nm,0.8s,mb3.7,baz=91,slow=8.1,SNR=5.5
NOA pP pP 12 33 02.9 -0.7
comp=Z,3.4nm,0.7s,baz=91,slow=8.2,SNR=11
NOA LR LR 12 51 13.1
comp=Z,149nm,19.5s,MS3.9,baz=100,slow=37
NOA NORSAR Array B 42.06 320 P **P 12 32 56.8 -0.5**
NOA pmax pmax
comp=Z,2.0nm,0.8s
NOA pmax pmax
comp=Z,3.0nm,0.7s
NOA MLR MLR
comp=Z,149nm,19.5s
NKC Novy Kostel 42.28 304 AMS AMS 12 40 30.0
comp=Z,900nm,17.5s
KSRS Korea Array 42.68 75 P **P 12 33 02.4 -0.3**
comp=Z,6.0nm,1.1s,mb4.2,baz=283,slow=6.7,SNR=15
KSRS PcP PcP 12 34 53.8 -0.5
comp=Z,1.9nm,1.0s,baz=303,slow=3.7,SNR=4.9
KSRS LR LR 12 54 07.5
comp=Z,49nm,21.5s,MS3.4,baz=290,slow=41
KSRS Korea Array 42.68 75 P **P 12 33 02.4 -0.3**
KSRS 12 34 53.8
KSRS pmax pmax
comp=Z,6.0nm,1.1s,mb4.2
KSRS pmax pmax
comp=Z,2.0nm,1.0s,mb3.8
KSRS MLR MLR
comp=Z,49nm,21.5s,MS3.4
GRA1 Grafenberg Arr 43.16 304 *eP* **P 12 33 08.1 +1.7**
comp=Z,7.0nm,1.1s,mb4.3
GRA1 *epP* pP 12 33 13.4 +0.8
GRA1 LR LR
comp=Z,400nm,18.3s,MS4.3
GRF Grafenberg Arr 43.16 304 *eP* **P 12 33 08.1 +1.7**
GRF pmax pmax
comp=Z,7.0nm,1.1s,mb4.3
GRF MLR MLR
comp=Z,400nm,18.3s,MS4.3
GRF Grafenberg Arr 43.16 304 *eP* **P 12 33 08.1 +1.7**
comp=Z,7.0nm,1.1s,mb4.3
GRF *epP* pP 12 33 13.4 +0.8
GRF *eL* 12 39 40.7
comp=Z,432nm,18.3s
DAVOX Davos/Dischmat 44.72 300 P **P 12 33 18.5 -0.4**
comp=Z,1.7nm,0.4s,mb4.2,baz=112,slow=7.6,SNR=3.2
DAVOX pP pP 12 33 24.9 -0.3
comp=Z,8.2nm,0.5s,baz=108,slow=7.0,SNR=8.5
DAVOS Davos 44.76 300 P **P 12 33 18.5 -0.8**
DAVOS *PP pP 12 33 24.9 -0.6
LPL La Plagne 47.18 299 *eP* **P 12 33 38.5 +0.1**
BNI Bardonecchia 47.36 299 *eP* **P 12 33 40.4 +0.6**
BNI pmax pmax
comp=Z,6.0nm,0.9s,mb4.5
BNI Bardonecchia 47.36 299 *eP* **P 12 33 40.4 +0.6**
comp=Z,6.3nm,0.9s,mb4.5
MBDF Montbardon 47.41 298 *eP* **P 12 33 40.7 +0.6**
comp=Z,16nm,0.9s,mb4.6
MBDF Montbardon 47.41 298 *eP* **P 12 33 40.7 +0.6**
MBDF pmax pmax
comp=Z,8.0nm,0.9s,mb4.7
MBDF Montbardon 47.41 298 *eP* **P 12 33 40.7 +0.6**
comp=Z,8.0nm,0.9s,mb4.7
LMR La Mourre 48.05 296 *eP* **P 12 33 44.8 -0.3**
comp=Z,12nm,0.8s,mb4.7
LMR La Mourre 48.05 296 *eP* **P 12 33 44.8 -0.3**
LMR pmax pmax
comp=Z,6.0nm,0.8s,mb4.7
LMR La Mourre 48.05 296 *eP* **P 12 33 44.8 -0.3**
comp=Z,5.9nm,0.8s,mb4.7
VIVF Saint-Julien-l 48.77 299 *eP* **P 12 33 51.6 +0.9**
AVF Avril sur Loir 49.00 302 *eP* **P 12 33 51.6 -0.8**
comp=Z,24nm,1.4s,mb4.7
AVF Avril sur Loir 49.00 302 *eP* **P 12 33 51.6 -0.8**
AVF pmax pmax
comp=Z,12nm,1.4s,mb4.7
AVF Avril sur Loir 49.00 302 *eP* **P 12 33 51.6 -0.8**
comp=Z,12nm,1.4s,mb4.7
YSS Yuzh-Sakhalins 49.75 58 *eP* **P 12 33 57.0 -1.1**
YSS pmax pmax
comp=Z,20nm,1.0s,mb5.1
EKA Eskdalemuir Ar 50.36 314 P **P 12 34 02.2 -0.5**
comp=Z,0.3nm,0.3s,mb3.8,baz=92,slow=8.8,SNR=3.4
EKA pP pP 12 34 08.6 -0.4
comp=Z,1.2nm,0.5s,baz=79,slow=8.6,SNR=6.4
EKA Eskdalemuir Ar 50.36 314 P **P 12 34 02.2 -0.5**
EKA *PP pP 12 34 08.6 -0.4
EKA pmax pmax
comp=Z,1.0nm,0.5s
MAJO Matsushiro 50.59 72 *eP* **P 12 34 03.9 -0.7**
MAJO pmax pmax
comp=Z,14nm,0.8s,mb4.9
MAJO Matsushiro 50.59 72 *eP* **P 12 34 03.9 -0.8**
comp=Z,14nm,0.8s,mb4.9
MAT Matsushiro 50.59 72 P **P 12 34 03.7 -0.9**
MJAR Matsushiro Arr 50.59 72 P **P 12 34 04.5 -0.1**
comp=Z,11nm,0.8s,mb4.8,baz=291,slow=9.5,SNR=37
MJAR Matsushiro Arr 50.59 72 P **P 12 34 04.5 -0.2**
MJAR pmax pmax
comp=Z,11nm,0.8s
MTLF Montolieu 50.97 298 *eP* **P 12 34 08.0 +0.6**
KMBO Kilima Mbogo 52.27 227 P **P 12 34 18.8 +1.4**
comp=Z,1.7nm,0.7s,mb4.1,baz=58,slow=15,SNR=4.5
KMBO Kilima Mbogo 52.27 227 P **P 12 34 18.8 +1.4**
KMBO pmax pmax
comp=Z,2.0nm,0.7s
BILL Bilibino 54.67 27⇓ *iP* **P 12 34 34.8 +0.4**
BILL *e* 12 35 37.5
BILL pmax pmax
comp=Z,14nm,1.2s,mb4.9
BILL MLR MLR
comp=Z,200nm,17.0s,MS4.3
ESDC Sonseca Array 56.72 296 P **P 12 34 49.1 -0.3**
comp=Z,0.5nm,0.4s,mb3.9,baz=45,slow=6.2,SNR=4.2
DAV Davao City (W) 57.74 110 LR LR 13 05 07.5
comp=Z,99nm,19.5s,MS3.9,baz=10,slow=42
TOA0 Torodi Ar. Sit 66.96 268 *eP* **P 12 35 58.1 -0.7**
TOA0 *epP* pP 12 36 04.6 -0.7
TORD Torodi Ar. Bea 66.96 268 P **P 12 35 58.2 -0.6**
comp=Z,3.6nm,0.7s,mb4.5,baz=50,slow=5.0,SNR=22
TORD pP pP 12 36 04.1 -1.2
comp=Z,7.1nm,0.5s,baz=42,slow=6.0,SNR=27
TORD Torodi Ar. Bea 66.96 268 P **P 12 35 58.2 -0.6**
TORD pP pP 12 36 04.1 -1.2
IMA2 Indian Mountai 68.12 18 *eP* **P 12 36 04.2 -1.1**
COLA College 70.47 17⇑ *iP* **P 12 36 19.8 -0.1**
COLA College 70.47 17 *eP* **P 12 36 19.5 -0.4**
comp=Z,17nm,0.8s,mb5.0
PMR Palmer 72.97 19 *eP* **P 12 36 33.8 -1.2**
PMR pmax pmax
comp=Z,15nm,1.0s,mb4.9
PMR Palmer 72.97 19 *eP* **P 12 36 33.8 -1.2**
comp=Z,15nm,1.0s,mb4.9
SLKM Skilak Lake 73.60 20 *eP* **P 12 36 36.9 -1.8**
DBIC Dimbokro 76.03 267 P **P 12 36 53.5 0.0**
comp=Z,5.2nm,0.8s,mb4.5,baz=8.4,slow=11,SNR=5.0
DBIC pP 12 36 59.8 -0.3
comp=Z,6.1nm,0.8s,baz=43,slow=7.6,SNR=4.2
DBIC Dimbokro 76.03 267 P **P 12 36 53.5 0.0**
DBIC *PP pP 12 36 59.8 -0.3
DBIC pmax pmax
comp=Z,5.0nm,0.8s
DBIC pmax pmax
comp=Z,6.0nm,0.8s
HYT Haines Junctio 76.25 15 *eP* **P 12 36 54.4 +0.4**
FITZ Fitzroy Crossi 76.34 128 *eP* **P 12 36 55.4 +0.4**
comp=Z,5.6nm,1.3s,mb4.3
LIC Lamto 76.44 267 *eP* **P 12 36 55.6 -0.3**
comp=Z,18nm,0.8s,mb4.8
LIC Lamto 76.44 267 *eP* **P 12 36 55.6 -0.3**
comp=Z,8.9nm,0.8s,mb4.8
YKA Yellowknife Ar 77.35 3 P **P 12 36 59.9 -0.3**
comp=Z,6.9nm,0.7s,mb4.7,baz=351,slow=5.9,SNR=15
YKA pP pP 12 37 06.6 -0.2
comp=Z,3.6nm,0.6s,baz=350,slow=5.6,SNR=6.4
YKA Yellowknife Ar 77.35 3 P **P 12 36 59.9 -0.3**
YKA *PP pP 12 37 06.6 -0.2
YKA pmax pmax
comp=Z,7.0nm,0.7s
YKA pmax pmax
comp=Z,4.0nm,0.6s
SCHQ Schefferville 78.99 337 LR LR 13 12 38.4
comp=Z,83nm,18.2s,MS4.1,baz=322,slow=36
BOSA Boshof 81.40 221 pP pP 12 37 29.8 +0.5
comp=Z,1.8nm,0.7s,baz=44,slow=6.9,SNR=2.1
WRA Warramunga Arr 83.11 123 P **P 12 37 31.9 +0.1**
comp=Z,3.2nm,0.8s,mb4.4,baz=330,slow=5.1,SNR=24
WRA PKKPbc PKKPbc 12 55 57.5 +5.1
comp=Z,0.5nm,0.9s,baz=177,slow=1.6,SNR=6.1
WRA Warramunga Arr 83.11 123 P **P 12 37 31.9 +0.1**
WRA pmax pmax
comp=Z,3.0nm,0.8s
WRA pmax pmax
comp=Z,1.0nm,0.9s
WRAB Tennant Creek 83.11 123⇓ *iP* **P 12 37 32.0 +0.2**
WB2 Warramunga Arr 83.12 123 *eP* **P 12 37 31.7 -0.1**
ASAR Alice Springs 85.57 126 P **P 12 37 44.2 0.0**
comp=Z,3.3nm,0.8s,mb4.6,baz=314,slow=4.9,SNR=37
ASAR Alice Springs 85.57 126 P **P 12 37 44.2 0.0**
ASAR pmax pmax
comp=Z,3.0nm,0.8s
EDM Edmonton 86.67 3 *eP* **P 12 37 48.6 -0.7**
PDAR Pinedale Array 97.25 1 P **P 12 38 39.0 +0.4**
comp=Z,0.5nm,0.8s,mb4.0,baz=48,slow=2.2,SNR=3.4
PDAR pP pP 12 38 45.6 +0.3
comp=Z,0.8nm,0.8s,baz=58,slow=5.6,SNR=5.5
SNAA Sanae 123.39 201 *e*PKPdf PKPdf 12 44 02.3 +0.7
SNAA *e* 12 44 09.8
VNA2 Neumayer--Watz 124.38 203 *e*PKPdf PKPdf 12 44 04.8 +1.2
baz=359,slow=3.7
VNA2 *e* 12 44 10.9
VNA1 Neumayer--Stat 124.53 204 *e*PKPdf PKPdf 12 44 05.2 +1.4
VNA1 *e* 12 44 11.9
VNA3 Neumayer Olymp 125.19 203 *e*PKPdf PKPdf 12 44 05.7 +0.6
VNA3 *e* 12 44 12.1
SIV San Ignacio 133.05 287 PKP PKPdf 12 44 21.4 -0.3
comp=Z,0.5nm,0.6s,baz=270,slow=1.0,SNR=4.0
SIV pPKP pPKPdf 12 44 28.6 +0.1
comp=Z,0.8nm,0.8s,baz=127,slow=23,SNR=2.9
CPUP Villa Florida 136.32 273 PKP PKPdf 12 44 26.6 -0.9
comp=Z,0.3nm,0.3s,baz=64,slow=1.1,SNR=5.1
LPAZ La Paz 138.30 294 PKP PKPdf 12 44 32.9 +1.4
comp=Z,0.4nm,0.6s,baz=301,slow=5.9,SNR=4.1
PLCA Paso Flores 152.00 257 PKPbc PKPbc 12 45 00.4 -0.3
comp=Z,4.4nm,0.8s,baz=91,slow=4.1,SNR=9.6
PLCA pPKPbc pPKPbc 12 45 08.0 +0.5
comp=Z,4.8nm,0.9s,baz=16,slow=1.4,SNR=7.0
PLCA Paso Flores 152.00 257 PKIKP PKPbc 12 45 00.4 -0.3
PLCA 12 45 08.0
PLCA pmax pmax
comp=Z,4.0nm,0.8s
PLCA pmax pmax
comp=Z,5.0nm,0.9s

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*ISCJB **02** 12:38:10.6±0.8, 3622N±005×6988E±008, h153km±10km, mb3.7/3, Error ellipse: s-maj=11.3km s-min=7.0km az=157.0*
*NEIC **02** 12:38:11.9±0.9, 3635N×6970E, h133km±19km, mb3.6/1, Error ellipse: s-maj=25.3km s-min=12.8km az=137.0*
*IDC **02** 12:38:12.9± 19.0, 3628N×6974E, h147km± 131km, mb3.5/4, mb1 3.4/8, mb1mx3.2/27, mbtmp3.4/8, ML3.8/4, Error ellipse: s-maj=172.1km s-min=51.8km az=177.0*
*NNC **02** 12:38:16.5±8.9, 37.18N×6961E, h0km, mb3.7, mpv3.8, Error ellipse: s-maj=70.7km s-min=66.3km az=130.0*

ISC 02 12:38:11.4±0.8, 3620N±005×6988E±008, h146km±10km, n31, σ0°82/36, mb3.7/3, 6C-2D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase	ID	Time h m s	Res ISC
				Op	ISC		
KBL	**Kabul**	**1.79**	**203**	*eP*	**Pn**	**12 38 44.9**	**+0.9**
AML	**Almayashu** SNR=12	**6.62**	**25**	P	**Pn**	**12 39 46.3**	**+0.1**
KK31	**Karatay Array** 3.4nm,0.4s,baz=179,slow=14,SNR=24	**6.91**	**4**	⇑Pn	**Pn**	**12 39 49.4**	**-0.8**
KK31	4.6nm,0.3s,baz=172,slow=21,SNR=8.7			⇑Sn	**Sn**	**12 41 01.2**	**-6.3**
EKS2	**Erkin-Say** SNR=6.8	**7.12**	**24**	P	**Pn**	**12 39 53.2**	**+0.3**
KBK	**Karagaybulak** SNR=6.2	**7.54**	**30**	P	**Pn**	**12 39 59.9**	**+1.3**
CHMS	**Chumysh** SNR=6.7	**7.76**	**27**	P	**Pn**	**12 40 01.7**	**+0.2**
USP	**Ospenovka** SNR=12	**7.90**	**25**	P	**Pn**	**12 40 03.0**	**-0.4**
TKM2	**Tokmak 2** 4.4nm,0.6s	**8.03**	**32**	⇑Pn	**Pn**	**12 40 05.3**	**+0.2**
TKM2	6.7nm,0.7s			⇑Sn	**Sn**	**12 41 33.2**	**-1.2**
TKM2	**Tokmak 2** SNR=5.9	**8.03**	**32**	P	**Pn**	**12 40 06.0**	**+0.8**
MKAR	**Makanchi Array** 0.1nm,0.3s,baz=212,slow=11,SNR=4.6	**14.07**	**37**	P	**Pn**	**12 41 26.0**	**+1.9**
DANN	**Dangsing** 18nm,0.4s	**14.10**	**120**	*eP*	**Pn**	**12 41 24.4**	**-0.3**
KOLN	**Koldanda** 6.7nm,0.3s	**14.35**	**122**	*eP*	**Pn**	**12 41 26.5**	**-1.3**
GKN	**Gorkha** 28nm,0.4s	**14.93**	**119**	*eP*	**Pn**	**12 41 34.5**	**-0.6**
AB31	**Akbulak array** 0.2nm,0.2s,baz=156,slow=13,SNR=52	**14.93**	**334**	⇓Pn	**Pn**	**12 41 33.9**	**-1.1**
AB31	1.4nm,0.3s,baz=148,slow=24,SNR=9.3			⇑Sn	**Sn**	**12 44 07.3**	**-13**
KURK	**Kurchatov** 0.2nm,0.3s,baz=208,slow=10,SNR=4.5	**15.82**	**21**	P	**Pn**	**12 41 46.6**	**+0.7**
KURK	**Kurchatov** 1.5nm,0.5s	**15.82**	**21**	P	**Pn**	**12 41 44.7**	**-1.1**
GUN	**Gumba** 28nm,0.4s	**15.87**	**117**	*eP*	**Pn**	**12 41 47.5**	**+0.8**
JIRN	**Jiri** 30nm,0.3s	**16.24**	**117**	*eP*	**Pn**	**12 41 51.9**	**+0.7**
AKTK	**Aktyubinsk**	**16.61**	**333**	P	**Pn**	**12 41 54.8**	**-0.7**
AKTK				S	**S**	**12 44 46.4**	**-14**
AKTO	**Aktyubinsk** 0.7nm,1.0s	**16.61**	**333**	⇓Pn	**Pn**	**12 41 54.2**	**-1.3**
AKTO	0.5nm,0.6s			⇑Sn	**Sn**	**12 44 50.3**	**-10**
AKTO	**Aktyubinsk** 0.4nm,0.3s,baz=140,slow=11,SNR=4.7	**16.61**	**333**	P	**Pn**	**12 41 54.8**	**-0.7**
AKTO	0.2nm,0.3s,baz=315,slow=16,SNR=2.9			S	**S**	**12 44 46.4**	**-14**
BVA0	**Borovoye Array** 0.2nm,0.6s,baz=0.0,slow=0.1,SNR=6.7	**16.82**	**1**	Pn	**Pn**	**12 41 58.6**	**+0.5**
BVAR	**Borovoye Array** 0.7nm,0.3s,baz=178,slow=9.8,SNR=7.7	**16.82**	**1**	P	**Pn**	**12 41 57.6**	**-0.5**
RAMN	**Ramite** 19nm,0.6s	**16.95**	**118**	*eP*	**Pn**	**12 41 59.0**	**-0.9**
ODAN	**Odare** 10nm,0.4s	**17.57**	**117**	*eP*	**Pn**	**12 42 06.7**	**-0.6**
ZAA0	**Zalesovo Array**	**20.57**	**26**	*eP*	**P**	**12 42 39.0**	**+0.5**
ZALV	**Zalesovo Beam** 3.3nm,0.4s,baz=222,slow=10,SNR=13	**20.57**	**26**	P	**P**	**12 42 39.3**	**+0.9**
KIS	**Kishinev**	**32.21**	**302**	*eL*		**12 43 20.0**	
KIS	700nm,16.0s			LRM		**12 48 34.0**	
ARCES	**ARCESS Array B** 3.0nm,0.9s,mb3.9,baz=107,slow=8.7,SNR=6.1	**41.08**	**338**	P	**P**	**12 45 41.1**	**+1.0**
HFS	**Hagfors** 0.8nm,0.4s,mb3.7,baz=123,slow=10,SNR=5.0	**42.75**	**322**	P	**P**	**12 45 54.2**	**+0.4**
NOA	**NORSAR Array B** 0.5nm,0.5s,mb3.4,baz=98,slow=7.8,SNR=3.1	**44.08**	**323**	P	**P**	**12 46 04.2**	**-0.2**

IDC 02 12:41:28.2±23.0, 950N×9314E, h0km, mb3.7/3, mb1 3.9/3,

mb1mx3.4/20, mbtmp3.7/3, Error ellipse: s-maj=508.9km s-min=278.1km az=157.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRA	Warramunga Arr	50.00	126	P	P	12 50 24.6	0.0
	0.4nm,0.6s,baz=306,slow=8.4,SNR=6.4						
ASAR	Alice Springs	51.71	130	P	P	12 50 36.9	-0.5
	0.5nm,0.8s,baz=304,slow=6.9,SNR=7.3						
STKA	Stephens Creek	61.93	134	P	P	12 51 50.4	+0.4
	2.9nm,0.9s,baz=315,slow=8.6,SNR=3.3						

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*ISCJB **02** 12:42:43.3±0.2, 1751N±002×9881W±002, h53km, mb4.5/58, MS3.7/14, Error ellipse: s-maj=3.6km s-min=2.7km az=31.9*
*IDC **02** 12:42:45.5±0.5, 1764N×9867W, h53km±3km, mb4.1/20, mb1 4.2/22, mb1mx4.2/26, mbtmp4.1/22, MS3.7/12, Ms1 3.7/12, ms1mx3.5/28, Error ellipse: s-maj=19.1km s-min=9.3km az=59.0*
*NEIC **02** 12:42:45.2±0.3, 1757N×9870W, mb4.7/46, MD4.7(MEX), Error ellipse: s-maj=6.3km s-min=5.2km az=224.0*
*MEX **02** 12:42:46.3±2.0, 1749N×9890W, h26km±13km, MD4.6*
ISC 02 12:42:45.5±0.3, **1756N**±003×**9878W**±002, **h55km, h55km**±1.1km**:pP-P, n163,** σ**1s30**/155, **mb4.5**/56, **MS3.7**/14, **Guerrero**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
UTMO	Huajuapan	0.96	74	iP	Pn	12 43 03.9	+1.1
UTMO				iS	Sn	12 43 17.5	+1.8
ACX	Acapulco	1.29	238	iP	Pn	12 43 03.6	-3.6
ACX				iS	Sn	12 43 18.4	-5.0
ACX	Acapulco	1.29	238	iP	Pn	12 43 03.6	-3.6
ACX				iS	Sn	12 43 16.8	-6.6
PNIG	Pinotepa	1.32	152	iP	Pn	12 43 07.0	-0.5
PNIG				iS	Sn	12 43 22.2	-1.9
PNIG	Pinotepa	1.32	152	iP	Pn	12 43 07.0	-0.5
PNIG				iS	Sn	12 43 21.3	-2.8
PPM	Popocatepetl	1.50	5	eP	Pn	12 43 09.9	-0.2
PPM				iP		12 43 10.7	
PPM				iS	Sn	12 43 29.2	+0.5
PPM				iS	Sn	12 43 30.4	+1.8
PPM	Popocatepetl	1.50	5	eP	Pn	12 43 09.9	-0.2
PPM				iP		12 43 10.7	
PPM				iS	Sn	12 43 29.2	+0.5
PPM				iS	Sn	12 43 31.0	+2.3
CAIG	El Cayaco	1.51	251	iP	Pn	12 43 07.8	-2.4
CAIG				iS	Sn	12 43 23.0	-5.9
CAIG	El Cayaco	1.51	251	iP	Pn	12 43 07.8	-2.4
CAIG				iS	Sn	12 43 22.5	-6.3
MZVM		1.68	345	eP	Pn	12 43 12.1	-0.3
MZVM				iS	Sn	12 43 32.5	-0.4
SZVM	Salazar	1.84	342	iP	Pn	12 43 14.8	0.0
SZVM				iS	Sn	12 43 36.9	0.0
PBVM	Pinon	1.89	351	eP	Pn	12 43 15.9	+0.5
PBVM				iS	Sn	12 43 38.4	+0.2
VHO	Vista Hermosa	2.01	104	eP	Pn	12 43 18.7	+1.7
VHO				iS	Sn	12 43 42.8	+1.7
IIO	Organos	2.02	1	eP	Pn	12 43 17.8	+0.7
IIO				iS	Sn	12 43 42.8	+1.6
PTVM	Pico Tres Padr	2.05	351	eP	Pn	12 43 18.0	+0.5
PTVM				iS	Sn	12 43 41.9	0.0
ZIIG	Zihuatanejo	2.56	271	eP	Pn	12 43 22.9	-1.7
ZIIG				iS	Sn	12 43 50.4	-4.2
LVIG	Laguna Verde	3.10	46	iP	Pn	12 43 30.6	-1.4
LVIG				iS	Sn	12 44 11.0	+3.2
CMIG	Matias Romero	3.75	97	eP	Pn	12 43 41.7	+0.9
CMIG				iS	Sn	12 44 23.7	0.0
MMIG	Aquila	4.41	280	iP	Pn	12 43 48.4	-1.4
EZ5V		4.96	293	eP	Pn	12 43 58.9	+1.5
EZ5V				iS	Sn	12 44 52.6	-0.9
SFJM	Santa Fe	4.97	306	eP	Pn	12 44 01.9	+4.4
R15V		5.20	289	eP	Pn	12 44 01.1	+0.4
R15V				eS	Sn	12 45 00.6	+1.3
TGIG		5.46	97	eP	Pn	12 44 08.8	+4.5
CCIG	Comitan	6.48	100	iP	Pn	12 44 20.3	+2.0
CCIG				iS	Sn	12 45 33.1	+2.1
THIG		6.79	112	iP	Pn	12 44 28.7	+6.2
THIG				iS	Sn	12 45 41.2	+2.7
LNIG	Linares	7.33	355	eP	Pn	12 44 29.7	-0.2
TEIG	Tepich	10.29	73	P	Pn	12 45 09.0	-1.4
	18nm,0.3s,baz=84,slow=1.7,SNR=30						
TEIG				S	Sn	12 46 56.3	-7.9
	11nm,0.3s,baz=336,slow=20,SNR=4.9						
TEIG				LR	LR	12 49 49.5	
	comp=Z,241nm,20.9s,baz=308,slow=42						
TEIG	Tepich	10.29	73	P	Pn	12 45 09.0	-1.4
TEIG				S	Sn	12 46 56.3	-7.9
TEIG				LR	LR	12 49 49.5	
HPIG		11.30	327	eP	Pn	12 45 24.9	+0.7
TXAR	Lajitas Array	12.55	340	P	Pn	12 45 42.9	+1.7
	0.1nm,0.3s,baz=163,slow=15,SNR=42						
TXAR				LR	LR	12 51 09.2	
	comp=Z,349nm,21.2s,baz=295,slow=40						
LPIG	La Paz	12.59	303	LR	LR	12 50 29.7	
	comp=Z,210nm,20.6s,baz=139,slow=37						
LPIG	La Paz	12.59	303	eP	Pn	12 45 41.8	-0.1
HKT	Hockley	12.62	12	eP	Pn	12 45 42.6	+0.3
	60nm,1.5s						
JCT	Junction City	12.89	356	eP	Pn	12 45 46.9	+0.9
	42nm,1.0s						
NATX	Nacogdoches	14.62	14	eP	Pn	12 46 08.4	-0.8
	113nm,0.9s						
CGIG		15.26	328	iP	Pn	12 46 17.7	+0.2
HSIG		15.96	318	iP	Pn	12 46 24.9	-1.6
WMOK	Wichita Mounta	17.11	360	eP	Pn	12 46 38.7	-2.0
	58nm,1.4s						
AMTX	Amarillo	17.45	352	eP	Pn	12 46 44.2	-0.7
	60nm,1.0s						
MIAR	Mount Ida	17.54	14	eP	Pn	12 46 44.5	-1.6
	83nm,0.9s						
BNM	Barren Site	17.95	338	eP	Pn	12 46 52.0	+0.8
UALR	University of	18.08	17	eP	Pn	12 46 51.6	-1.1
	60nm,0.9s						
LENM	Lemitar	18.09	338	eP	Pn	12 46 55.5	+2.6
LPM	Los Pinos Moun	18.10	339	eP	Pn	12 46 53.8	+0.8
TUC	Tucson	18.26	326	eP	Pn	12 46 55.1	+0.2
	8.5nm,0.8s						
LAZ	Ladron	18.36	338	eP	Pn	12 46 56.7	+0.5
ANMO	Albuquerque	18.62	340	P	Pn	12 46 60.0	+0.6
	0.3nm,0.3s,baz=150,slow=12,SNR=23						
LRAL	Lakeview Retre	18.70	32	eP	Pn	12 46 58.5	-1.8
	30nm,0.9s						
OXF	Oxford	18.84	25	eP	Pn	12 46 59.2	-2.8
	60nm,0.8s						
PARMO	Parma	20.63	21	eP	P	12 47 20.5	+0.1
WVT	Waverly	20.89	26	eP	P	12 47 21.3	-1.9
	60nm,0.6s						
GOGA	Godfrey	20.94	38	eP	P	12 47 21.4	-2.3
	31nm,0.8s						
SDCO	Great Sand Dun	20.96	345	eP	P	12 47 24.0	+0.1
	7.2nm,0.9s						
SWET	Sewanee	20.98	31	eP	P	12 47 22.4	-1.7
WUAZ	Wupatki	21.10	330	eP	P	12 47 27.5	+2.0
	48nm,1.0s,mb4.8						
WUAZ				epP		12 47 40.2	
GLA	Glamis	21.13	320	eP	P	12 47 27.2	+1.4
	3.6nm,0.9s,mb3.7						
GLA				epP		12 47 40.0	
CBKS	Cedar Bluff	21.19	358	eP	P	12 47 28.5	+2.1
	207nm,1.3s,mb5.3						
MVCO	Mesa Verde	21.37	338	eP	P	12 47 28.6	+0.3
	18nm,0.9s,mb4.4						
CCM	Cathedral Cave	21.46	16	eP	P	12 47 27.2	-2.0
	43nm,0.8s,mb4.8						
KSU1	Kansas State U	21.55	5	eP	P	12 47 29.6	-0.5
	65nm,0.8s,mb5.1						
FVM	French Village	21.62	18	eP	P	12 47 28.9	-2.2
	24nm,0.8s,mb4.7						
FVM				epP		12 47 45.4	
SIUC	Southern Illin	21.76	21	eP	P	12 47 30.9	-1.6
	70nm,1.0s,mb5.0						
CPCT	Cooper Cave	21.87	33	eP	P	12 47 31.0	-2.7
BAR	Barrett	22.07	316	P	P	12 47 36.6	+0.8
	6.4nm,0.9s,mb4.0						
BAR				epP		12 47 48.5	
PV01	Paradox Valley	22.22	339	eP	P	12 47 38.0	+0.7
TKL	Tuckaleechee C	22.42	34	P	P	12 47 37.4	-2.1
	13nm,0.7s,mb4.5,baz=198,slow=13,SNR=7.7						
TKL	Tuckaleechee C	22.42	34	P	P	12 47 37.4	-2.1
USIN	University of	22.54	23	eP	P	12 47 39.8	-1.1
	150nm,1.0s,mb5.4						
PV10	Paradox Valley	22.60	339	eP	P	12 47 41.0	-0.4
COW	Cow Castle Cre	22.63	42	eP	P	12 47 42.5	+0.7
LDFC	Landfair	22.72	323	P	P	12 47 41.1	-1.6
	37nm,0.9s,mb4.8						
NHSC	New Hope	22.79	44	eP	P	12 47 44.1	+0.6
	293nm,1.4s,mb5.5						
JSC	Jenkinsville	22.86	40	eP	P	12 47 44.2	0.0
ISCO	Idaho Springs	22.94	346	eP	P	12 47 44.5	-0.5
	8.4nm,0.9s,mb4.2						
ISCO				epP		12 47 55.5	
OLIL	Olney	23.06	22	eP	P	12 47 43.8	-2.5
	41nm,0.9s,mb4.9						
TZTN	Tazewell	23.21	32	eP	P	12 47 45.5	-2.4
	21nm,0.8s,mb4.6						
WCI	Wyandotte Cave	23.31	25	eP	P	12 47 46.9	-1.8
	134nm,0.9s,mb5.4						
CCUT	Cedar City	23.68	330	eP	P	12 47 55.1	+2.9
CCUT				epP		12 48 07.2	
SRU	San Rafael	23.79	337	eP	P	12 47 53.9	+0.8
	13nm,1.0s,mb4.3						
ARUT	Antelope Range	23.91	330	eP	P	12 47 56.6	+2.3
MSU	Marysvale	23.94	333	eP	P	12 47 55.6	+1.2
MSU				epP		12 48 08.3	
BLO	Bloomington	24.03	24	eP	P	12 47 53.9	-1.4
	54nm,0.6s,mb5.2						
TMUT	Trail Mountain	24.21	336	eP	P	12 47 58.4	+1.4
HDIL	Hopedale	24.34	18	eP	P	12 47 56.8	-1.3
	16nm,0.8s,mb4.5						
TPNV	Topopah Spring	24.71	325	P	P	12 48 04.6	+3.1
	4.0nm,1.1s,mb3.9						
TPNV				epP		12 48 17.6	
NLU	North Lily Min	25.12	335	eP	P	12 48 04.4	-0.8
DAU	Daniels Canyon	25.20	337	eP	P	12 48 07.7	+1.7
DAU				epP	pP	12 48 21.0	+1.4
BLA	Blacksburg	25.38	36	eP	P	12 48 06.7	-0.9
	43nm,1.0s,mb4.9						
DUG	Dugway	25.62	335	eP	P	12 48 09.8	+0.1
	14nm,0.9s,mb4.5						
ECSD	EROS,Sioux Fal	26.16	4	eP	P	12 48 13.2	-1.4
	21nm,0.8s,mb4.7						
ECSD				epP	pP	12 48 26.0	-2.2
ECSD				esP	sP	12 48 32.4	-2.3
JFWS	Jewell Farm	26.29	14	eP	P	12 48 15.0	-0.8
	20nm,0.7s,mb4.8						
HWUT	Hardware Ranch	26.36	338	eP	P	12 48 17.3	+0.9
	3.2nm,0.8s,mb3.9						
HWUT				epP	pP	12 48 30.1	0.0
ACSO	Alum Creek Sta	26.40	28	eP	P	12 48 15.3	-1.5
	67nm,1.1s,mb5.1						
PDAR	Pinedale Array	26.75	342	P	P	12 48 20.1	+0.2
	2.7nm,0.8s,mb3.8,baz=133,slow=8.7,SNR=15						
PDAR				pP	pP	12 48 34.2	+0.6
	2.5nm,0.5s,baz=142,slow=12,SNR=7.8						
PDAR				PcP	PcP	12 51 41.5	-0.5
	0.2nm,0.4s,baz=103,slow=4.1,SNR=2.6						
NVAR	Mina Array Bea	26.90	325	P	P	12 48 23.1	+1.7
	2.1nm,0.9s,mb3.7,baz=146,slow=11,SNR=10						
NVAR				pP	pP	12 48 36.4	+1.3
	5.7nm,0.7s,baz=146,slow=11,SNR=19						
NVAR				PcP	PcP	12 51 43.5	+1.0
	1.1nm,0.8s,baz=155,slow=3.0,SNR=4.8						
NVAR				pPcP		12 51 59.1	
	0.8nm,0.7s,baz=145,slow=3.6,SNR=3.6						
ELK	Elko	27.12	332	P	P	12 48 25.1	+1.9
	1.2nm,0.7s,mb3.5,baz=133,slow=4.1,SNR=7.6						
MCWV	Mont Chateau	27.47	33	eP	P	12 48 25.8	-0.6
	34nm,0.9s,mb4.9						
TPAW	Teton Pass	27.83	341	eP	P	12 48 30.8	+1.2
	16nm,1.1s,mb4.6						
LOHW	Long Hollow	27.83	341	eP	P	12 48 29.8	+0.2
	5.7nm,0.8s,mb4.2						
MOOW	Moose Ponds	28.00	341	eP	P	12 48 31.2	+0.1
	2.9nm,0.7s,mb4.0						
SDV	Santo Domingo	28.69	104	P	P	12 48 38.9	+1.4
	4.1nm,0.2s,mb4.7,baz=180,slow=20,SNR=2.4						
SDV				LR	LR	13 01 15.6	
	comp=Z,175nm,21.3s,MS3.6,baz=173,slow=39						
SDV	Santo Domingo	28.69	104	P	P	12 48 39.0	+1.4
SDV				LR	LR	13 01 15.6	
HLID	Hailey	29.10	336	eP	P	12 48 41.7	+0.8
	4.7nm,1.0s,mb4.2						
HLID				epP	pP	12 48 55.5	+0.8
MCMT	McKenzie Canyo	29.64	340	eP	P	12 48 47.4	+1.8
WVOR	Wild Horse Val	30.02	330	eP	P	12 48 52.0	+3.0
	7.8nm,1.1s,mb4.3						
WVOR				epP	pP	12 49 02.1	-0.8
DLMT	Dillon	30.03	340	eP	P	12 48 50.5	+1.3
	11nm,1.2s,mb4.5						
DLMT				epP	pP	12 49 04.2	+1.3
MOD	Modoc	30.46	327	eP	P	12 48 54.0	+1.1
	8.4nm,0.8s,mb4.5						
MOD				epP	pP	12 49 06.2	-0.6
AGMN	Agassiz Refuge	30.75	4	eP	P	12 48 53.8	-1.6
	11nm,0.9s,mb4.7						
AGMN				epP	pP	12 49 07.8	-1.4
YBH	Yreka Blue Hor	31.62	325	P	P	12 49 02.4	-0.8
	0.7nm,0.3s,mb3.9,baz=225,slow=4.3,SNR=2.8						
YBH				pP	pP	12 49 15.7	-1.4
	1.1nm,0.6s,baz=224,slow=13,SNR=3.2						
ULM	Lac du Bonnet	32.69	3	P	P	12 49 10.2	-2.3
	7.9nm,1.0s,mb4.6,baz=200,slow=11,SNR=5.3						
ULM				pP	pP	12 49 24.9	-1.5
	5.2nm,0.8s,baz=193,slow=11,SNR=6.1						
ULM				sP	sP	12 49 31.1	-1.7
	13nm,0.9s,baz=192,slow=8.5,SNR=6.2						
ULM				LR	LR	13 03 29.4	
	comp=Z,93nm,21.4s,MS3.5,baz=201,slow=38						
ULM	Lac du Bonnet	32.69	3	P	P	12 49 10.2	-2.3
ULM				pP	pP	12 49 24.9	-1.5
ULM				sP	sP	12 49 31.1	-1.7
ULM				LR	LR	13 03 29.4	
ACCN	Adirondack Com	33.38	34	eP	P	12 49 17.7	-0.9
	17nm,1.1s,mb4.9						
ETW	Entiat	34.79	334	eP	P	12 49 31.9	+1.1
ETW				epP	pP	12 49 44.7	0.0
EDM	Edmonton	37.37	346	P	P	12 49 52.1	-0.6
SCHQ	Schefferville	44.52	26	P	P	12 50 50.8	-0.7
	12nm,0.9s,mb4.7,baz=198,slow=7.6,SNR=6.5						
SCHQ				pP	pP	12 51 04.7	-1.2
	13nm,0.6s,baz=239,slow=8.8,SNR=5.8						
LPAZ	La Paz	45.20	136	P	P	12 50 57.6	+0.3
	3.9nm,0.8s,mb4.3,baz=324,slow=8.9,SNR=18						
LPAZ				PP	PP	12 52 38.2	-5.8
	1.0nm,0.8s,baz=0.0,slow=7.1,SNR=3.5						
LPAZ				LR	LR	13 09 25.3	
	comp=Z,96nm,18.3s,MS3.8,baz=79,slow=35						
YKA	Yellowknife Ar	46.23	350	P	P	12 51 03.7	-1.2
	2.3nm,0.8s,mb4.1,baz=154,slow=7.5,SNR=3.5						
YKA				pP	pP	12 51 17.4	-1.8
	4.1nm,0.6s,baz=156,slow=7.6,SNR=12						
YKA				LR	LR	13 12 17.8	
	comp=Z,33nm,19.1s,MS3.3,baz=150,slow=38						
YKA	Yellowknife Ar	46.23	350	P	P	12 51 03.7	-1.2
YKA				pP	pP	12 51 17.4	-1.8
YKA				LR	LR	13 12 17.8	
LVC	Limon Verde	49.47	143	P	P	12 51 31.0	+0.5
	2.2nm,0.6s,mb4.4,baz=310,slow=5.5,SNR=4.9						
LVC				LR	LR	13 09 52.3	
	comp=Z,141nm,20.2s,MS4.0,baz=43,slow=33						
SIV	San Ignacio	49.92	130	P	P	12 51 33.8	-0.2
	7.6nm,1.0s,mb4.7,baz=308,slow=8.4,SNR=25						
RKT	Rikitea	53.72	222	eLR	LR	13 07 25.3	
	156nm,26.0s						
CFAA	Coronel Fontan	57.00	149	P	P	12 52 26.8	+1.2
	0.9nm,0.7s,mb3.9,baz=332,slow=6.5,SNR=11						
PMOR	Pomariorio Ree	58.25	239	eT		13 54 37.0	
	2.1nm,0.2s						
CPUP	Villa Florida	59.37	136	P	P	12 52 41.2	-1.2
	5.2nm,0.7s,mb4.7,baz=315,slow=7.1,SNR=9.6						
BDFB	Brasilia	59.93	120	P	P	12 52 46.9	+0.5
	5.2nm,0.7s,mb4.7,baz=288,slow=10,SNR=7.6						
BDFB				pP	pP	12 53 01.9	+0.7
	2.1nm,0.6s,baz=277,slow=9.3,SNR=3.5						
PPT	Papeete	60.97	238	eLR	LR	13 10 34.1	
	159nm,25.2s						
PLCA	Paso Flores	63.65	156	P	P	12 53 11.1	+0.2
	3.0nm,0.9s,mb4.3,baz=318,slow=8.7,SNR=5.1						
PLCA				LR	LR	13 15 50.7	
	comp=Z,161nm,18.7s,MS4.2,baz=121,slow=31						
TBI	Tubuai	64.06	232	eLR	LR	13 12 05.9	
	110nm,27.8s						
TBI	Tubuai	64.06	232	eT		14 01 53.9	
	3.0nm,0.2s						
EVO	Evora	79.86	53	eP	pP	12 55 04.1	+0.2
	36nm,1.0s						
EVO				eMLR	MLR		
	comp=Z,46nm,17.0s,MS3.6						
GRR	Gorron	82.19	42	eP	pP	12 55 16.8	+0.6
	comp=Z,52nm,1.3s						
FLN	La Foliniere	82.31	41	eP	pP	12 55 17.6	+0.8
	comp=Z,39nm,1.2s						
FLN				eMLR	MLR		
	comp=Z,105nm,21.5s,MS3.9						
ESDC	Sonseca Array	82.59	51	pP	pP	12 55 17.8	-0.7
	comp=Z,0.9nm,0.5s,baz=298,slow=4.9,SNR=2.7						
MFF	Saint Martin d	83.19	43	eP	pP	12 55 22.0	+0.5
	comp=Z,41nm,1.4s						
SJPF	Ste Jean	83.55	47	eP	pP	12 55 25.3	+1.9
PETK	Petropavlovsk-	83.99	324	P	P	12 55 09.8	0.0
	comp=Z,3.5nm,0.8s,mb4.5,baz=84,slow=9.2,SNR=3.7						
PETK				pP	pP	12 55 25.6	+0.2
	comp=Z,3.1nm,0.7s,baz=119,slow=7.4,SNR=2.7						
NOA	NORSAR Array B	84.08	27	pP	pP	12 55 27.4	+1.7
	comp=Z,7.7nm,0.9s,baz=300,slow=5.1,SNR=17						
NOA				LR	LR	13 32 40.8	
	comp=Z,32nm,19.1s,MS3.7,baz=300,slow=36						
ETSF	Etsaut	84.08	47	eP	pP	12 55 26.9	+0.8
	comp=Z,17nm,1.0s						
LFF	La Frestale	84.31	45	eP	pP	12 55 27.8	+0.5
EPF	Esparros	84.66	47	eP	pP	12 55 29.6	+0.5
RJF	Les Rejaudoux	84.71	44	eP	pP	12 55 29.8	+0.5
RJF				eMLR	MLR		
	comp=Z,71nm,18.5s,MS3.8						
ARCES	ARCESS Array B	84.74	17	P	P	12 55 14.8	+1.5
	comp=Z,5.1nm,1.0s,mb4.6,baz=308,slow=6.0,SNR=4.3						
ARCES				pP	pP	12 55 29.6	+0.7
	comp=Z,8.0nm,0.9s,baz=289,slow=3.7,SNR=4.6						
ARCES				LR	LR	13 34 09.7	
	comp=Z,54nm,18.3s,MS4.0,baz=161,slow=36						
ARCES	ARCESS Array B	84.74	17	P	P	12 55 14.8	+1.5
ARCES				pP	pP	12 55 29.6	+0.7
ARCES				LR	LR	13 34 09.7	
BAIF	Baives	84.77	39	eP	pP	12 55 30.4	+0.9
TCF	Toulx Ste Croi	84.84	43	eP	pP	12 55 30.3	+0.4
	comp=Z,42nm,1.3s						
GIVF	Givet	85.13	39	eP	pP	12 55 32.1	+0.8
AVF	Avril sur Loir	85.40	42	eP	pP	12 55 32.6	-0.1
	comp=Z,17nm,1.0s						
SSF	Saint Saulge	85.41	42	eP	pP	12 55 33.0	+0.3
	comp=Z,40nm,1.2s						
LOR	Lormes	85.56	42	eP	pP	12 55 34.0	+0.5
	comp=Z,66nm,1.3s						
LOR				eMLR	MLR		
	comp=Z,29nm,22.3s,MS3.3						
SMF	Signal de Mont	85.77	42	eP	pP	12 55 34.5	0.0
MTLF	Montolieu	85.85	46	eP	pP	12 55 35.5	+0.5
	comp=Z,24nm,1.2s						
HAU	Haudompre	86.84	40	eP	pP	12 55 40.4	+0.6
	comp=Z,13nm,0.9s						
HAU				eMLR	MLR		
	comp=Z,61nm,18.5s,MS3.7						
SMRF	Simiane la Rot	87.89	44	eP	pP	12 55 46.3	+1.3
GERES	GERESS Array B	90.91	38	pP	pP	12 55 59.5	+0.5
	comp=Z,0.6nm,0.7s,baz=332,slow=2.0,SNR=2.0						
DBIC	Dimbokro	91.73	83	P	P	12 55 47.4	-0.5
	comp=Z,2.6nm,0.7s,mb4.7,baz=260,slow=6.1,SNR=2.7						
DBIC				pP	pP	12 56 03.5	-0.1
	comp=Z,3.9nm,1.0s,baz=334,slow=1.6,SNR=2.9						
TORD	Torodi Ar. Bea	95.80	74	P	P	12 56 05.3	-1.2
	comp=Z,0.5nm,0.8s,mb4.0,baz=327,slow=5.2,SNR=2.6						
TORD				pP	pP	12 56 21.0	-1.3
	comp=Z,0.9nm,0.7s,baz=268,slow=6.1,SNR=4.7						
TORD				LR	LR	13 32 37.7	
	comp=Z,55nm,20.9s,MS4.0,baz=170,slow=31						
TORD	Torodi Ar. Bea	95.80	74	P	P	12 56 05.3	-1.3
TORD				pP	pP	12 56 21.0	-1.3
TORD				LR	LR	13 32 37.7	
STKA	Stephens Creek	123.97	243	PKP	PKPdf	13 01 37.3	-0.7
	comp=Z,2.9nm,0.8s,baz=93,slow=7.2,SNR=3.8						
STKA				pPKP	pPKPdf	13 01 54.0	-0.3
	comp=Z,3.5nm,0.9s,baz=90,slow=7.1,SNR=2.4						
STKA	Stephens Creek	123.97	243	PKP	PKPdf	13 01 37.3	-0.7
STKA				pPKP	pPKPdf	13 01 54.0	-0.4
MAW	Mawson	128.61	171	PKP	PKPdf	13 01 46.2	+0.4
	comp=Z,1.5nm,0.8s,baz=180,slow=1.0,SNR=4.7						
MAW				pPKP	pPKPdf	13 02 02.7	+0.6
	comp=Z,2.4nm,0.9s,baz=88,slow=4.7,SNR=4.5						
WRA	Warramunga Arr	129.82	258	PKP	PKPdf	13 01 49.2	-0.4
	comp=Z,2.7nm,0.9s,baz=83,slow=2.6,SNR=19						
WRA				pPKP	pPKPdf	13 02 05.5	-0.3
	comp=Z,1.8nm,0.8s,baz=16,slow=0.9,SNR=6.2						
ASAR	Alice Springs	130.54	254	PKP	PKPdf	13 01 49.5	-1.3
	comp=Z,2.2nm,1.0s,baz=88,slow=1.6,SNR=7.8						
ASAR				pPKP	pPKPdf	13 02 06.1	-1.0
	comp=Z,1.3nm,0.9s,baz=74,slow=2.2,SNR=3.8						
CMAR	Chiang Mai Arr	140.19	333	PKP	PKPdf	13 02 07.5	-1.5
	comp=Z,0.8nm,0.5s,baz=346,slow=2.4,SNR=4.6						

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*IDC **02** 13:05:16.9±3.4, 153S×9946E, h0km, mb3.4/4, mb1 3.6/5, mb1mx3.5/19, mbtmp3.4/5, Error ellipse: s-maj=134.9km s-min=22.8km az=59.0*
*ISCJB **02** 13:05:21.4±2.5, 13S±04×998E±06, h33km, mb3.5/4, Error ellipse: s-maj=98.0km s-min=14.8km az=148.8*
*NEIC **02** 13:05:22.4±1.6, 147S×9954E, h35km, Error ellipse: s-maj=64.4km s-min=11.6km az=59.0*
ISC 02 13:05:24.2±2.4, **12S**±03×**999E**±05, **h35km, n9,** σ**0s65**/8, **mb3.5**/4, **Southern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	19.54	357	P	Pn	13 09 49.6	-0.8
	0.2nm,0.3s,baz=189,slow=9.5,SNR=5.2						
WRA	Warramunga Arr	38.46	121	P	P	13 12 42.6	-0.5
	0.2nm,0.5s,mb3.1,baz=303,slow=9.1,SNR=5.4						
WB2	Warramunga Arr	38.47	121	eP	P	13 12 43.7	+0.6
ASAR	Alice Springs	39.78	127	P	P	13 12 53.7	-0.3
	0.7nm,0.8s,mb3.4,baz=304,slow=8.3,SNR=6.4						
SONM	Songino Array	49.14	6	P	P	13 14 09.7	+1.2
	0.4nm,0.7s,mb3.6,baz=194,slow=10,SNR=2.7						
MK31	Makanchi Array	50.23	344	eP	P	13 14 16.9	+0.2
MKAR	Makanchi Array	50.23	344	P	P	13 14 16.4	-0.3
	0.6nm,0.5s,mb3.9,baz=161,slow=9.1,SNR=6.8						
MKAR	Makanchi Array	50.23	344	P	P	13 14 16.4	-0.3
TXAR	Lajitas Array	144.09	37	PKP	PKPdf	13 24 55.3	-1.7
	0.3nm,0.5s,baz=148,slow=0.9,SNR=5.9						

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*IDC **02** 13:32:29.4±3.3, 2030S×16880E, h0km, mb3.8/3, mb1 4.1/3, mb1mx3.7/14, mbtmp3.8/3, Error ellipse: s-maj=241.3km s-min=33.1km az=159.0*
*ISCJB **02** 13:32:31.0±0.9, 212S±02×169.1E±0.1, h33km, mb3.9/4, Error ellipse: s-maj=35.2km s-min=10.5km az=165.2*
ISC 02 13:32:32.9±0.9, **213S**±02×**16917E**±010, **h35km, n9,** σ**0s63**/11, **mb3.9**/4, **Southeast of Loyalty Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
DZM	Mont Dzumac	2.65	252	eP	Pn	13 33 11.9	-1.2
DZM				eS	Sn	13 33 44.0	0.0
NOUC	Port Laguerre	2.78	253	eS	Sn	13 33 49.2	+1.9
NOUC				eS	Sn	13 33 52.8	+5.5
WRA	Warramunga Arr	32.59	266	P	P	13 39 00.7	-0.5
	0.4nm,0.9s,mb3.3,baz=96,slow=8.0,SNR=5.4						
ASAR	Alice Springs	32.62	259	P	P	13 39 01.7	+0.2
	1.1nm,0.8s,mb3.9,baz=82,slow=9.0,SNR=13						
FITZ	Fitzroy Crossi	41.01	267	eP	P	13 40 12.8	-0.1
	4.3nm,0.7s,mb4.2						
SNAA	Sanae	87.12	183	e	P	13 45 14.7	0.0
VNA3	Neumayer Olymp	87.71	180	e	P	13 45 17.4	-0.2
VNA3				e	pP	13 45 26.8	-1.9
VNA2	Neumayer--Watz	88.00	181	e	P	13 45 19.2	+0.2
	baz=186,slow=4.5						
VNA2				e	pP	13 45 28.7	-1.4
NVAR	Mina Array Bea	90.20	49	P	P	13 45 30.4	+0.6
	0.7nm,0.7s,mb4.1,baz=231,slow=9.4,SNR=6.4						

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*ISCJB **02** 13:47:50.4±0.7, 575N±02×333W±02, h10km, mb3.8/12, Error ellipse: s-maj=23.8km s-min=12.8km az=8.3*
*IDC **02** 13:47:50.5±0.9, 5762N×33.16W, h0km, mb3.8/10, mb1 4.0/10, mb1mx3.8/26, mbtmp3.8/10, MS3.5/2, Ms1 3.5/2, ms1mx2.7/35, Error ellipse: s-maj=30.8km s-min=18.7km az=14.0*
*CSEM **02** 13:47:51.8, 5751N×3333W, h10km, mb4.1/1, After NEIC*
*NEIC **02** 13:47:51.8±0.7, 5751N×3333W, h10km, mb4.1/1, Error ellipse: s-maj=26.6km s-min=13.9km az=186.0*
ISC 02 13:47:52.4±0.7, **576N**±02×**332W**±02, **h10km, n18,** σ**1s03**/15,

mb3.8/12**, Reykjanes Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SFJD	**Kangerlussuaq**	**12.37**	**327**	LR	LR	13 54 53.0	
	comp=Z,188nm,21.3s,baz=323,slow=34						
SCHQ	**Schefferville**	**18.79**	**276**	P	**Pn**	**13 52 15.4**	**+3.5**
	0.3nm,0.3s,baz=82,slow=12,SNR=6.2						
SCHQ				LR	LR	13 58 00.4	
	comp=Z,199nm,18.4s,baz=108,slow=32						
NOA	**NORSAR Array B**	**22.59**	**62**	P	**P**	**13 52 55.4**	**+2.8**
	0.9nm,0.7s,mb3.3,baz=281,slow=6.7,SNR=4.1						
HFS	**Hagfors**	**23.99**	**64**	P	**P**	**13 53 06.4**	**-0.2**
	4.6nm,1.0s,mb3.9,baz=213,slow=5.0,SNR=5.6						
ESDC	**Sonseca Array**	**26.05**	**121**	P	**P**	**13 53 26.4**	**+0.9**
	0.8nm,0.5s,mb3.5,baz=320,slow=8.1,SNR=5.6						
YKA	**Yellowknife Ar**	**38.40**	**312**	P	**P**	**13 55 13.0**	**-0.3**
	1.0nm,0.6s,mb3.7,baz=57,slow=8.9,SNR=2.8						
BW06	**Boulder Array**	**48.42**	**287**	eP	**P**	**13 56 32.9**	**-1.4**
	1.4nm,0.8s,mb4.0						
BW06	**Boulder Array**	**48.42**	**287**	eP	**P**	**13 56 32.9**	**-1.4**
	1.4nm,0.8s,mb4.0						
PDAR	**Pinedale Array**	**48.42**	**287**	P	**P**	**13 56 34.1**	**-0.2**
	0.8nm,0.7s,mb3.9,baz=55,slow=7.8,SNR=7.2						
TORD	**Torodi Ar. Bea**	**51.64**	**135**	P	**P**	**13 56 57.7**	**-1.3**
	1.0nm,0.7s,mb3.9,baz=342,slow=6.8,SNR=6.0						
TORD	**Torodi Ar. Bea**	**51.64**	**135**	P	**P**	**13 56 57.7**	**-1.3**
TXAR	**Lajitas Array**	**55.39**	**271**	P	**P**	**13 57 27.5**	**+1.1**
	0.5nm,0.7s,mb3.6,baz=72,slow=5.8,SNR=3.3						
NVAR	**Mina Array Bea**	**56.10**	**289**	P	**P**	**13 57 31.7**	**+0.3**
	0.3nm,0.3s,mb3.9,baz=61,slow=4.2,SNR=3.7						
MKAR	**Makanchi Array**	**63.07**	**44**	P	**P**	**13 58 18.8**	**-0.6**
	0.7nm,0.9s,mb3.8,baz=335,slow=6.5,SNR=2.3						
SONM	**Songino Array**	**69.73**	**28**	P	**P**	**13 59 02.1**	**+0.1**
	1.2nm,1.0s,mb3.8,baz=343,slow=4.5,SNR=6.1						
KSRS	**Korea Array**	**83.99**	**15**	P	**P**	**14 00 22.1**	**-0.4**
	1.4nm,0.8s,mb4.1,baz=344,slow=5.2,SNR=7.2						
WRA	**Warramunga Arr**	**141.29**	**19**	PKP	PKPdf	14 07 20.9	-2.1
	0.5nm,0.8s,baz=329,slow=2.9,SNR=3.8						
ASAR	**Alice Springs**	**144.85**	**21**	PKP	PKPdf	14 07 27.2	-2.0
	2.2nm,0.9s,baz=342,slow=1.7,SNR=13						

*ISCJB **02** 13:59:14.3±0.3, 1126N±002×6159W±003, h33km, Error ellipse: s-maj=3.6km s-min=2.8km az=9.2*
*TRN **02** 13:59:14.1, 1128N×6152W, h27km, MD3.1*
*NEIC **02** 13:59:14.1, 1128N×6152W, h27km, MD3.1(TRN), After TRN.*
*FUNV **02** 13:59:14.6, 11.17N×6142W, h35km, MW3.2*
ISC 02 13:59:14.1±0.6**, 1126N**±002×**6157W**±003**, h28**km±5km**, n26,** σ**0s82**/46**, 3C-1D, Windward Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TCE	**Chacachacare**	**0.59**	**198**	eP	**Pn**	**13 59 27.2**	**+0.5**
TCE				eS	**Sn**	**13 59 36.8**	**+1.4**
TRN	**Trinidad (W)**	**0.63**	**165**	⇑eP	**Pb**	**13 59 26.9**	**+0.3**
TRN				eS	**Sb**	**13 59 35.7**	**+0.5**
TPR	**Prospect**	**0.78**	**95**	eP	**Pn**	**13 59 28.6**	**-0.7**
TPR				eS	**Sb**	**13 59 39.7**	**+0.3**
GRGR	**Grenville**	**0.87**	**354**	⇓iPg	**Pn**	**13 59 30.3**	**-0.2**
GRGR				S	**Sb**	**13 59 41.7**	**-0.2**
GUIV	**Guiria**	**0.89**	**227**	⇑eP	**Pn**	**13 59 30.8**	**0.0**
GUIV				eS	**Sb**	**13 59 43.5**	**+1.0**
GRW	**Mount Saint Ca**	**0.90**	**354**	⇑eP	**Pn**	**13 59 31.2**	**+0.3**
GRW				eS	**Sb**	**13 59 42.3**	**-0.4**
TBH	**Brigand Hill**	**0.92**	**147**	eP	**Pn**	**13 59 31.9**	**+0.7**
TBH				eS	**Sn**	**13 59 44.5**	**+1.1**
TPP	**Pointe-a-Pierr**	**0.95**	**173**	eP	**Pn**	**13 59 31.4**	**-0.2**
TPP				eS	**Sn**	**13 59 44.9**	**+0.8**
GRHS	**Sauteurs**	**0.96**	**356**	eP	**Pn**	**13 59 31.2**	**-0.5**
GRHS				eS	**Sn**	**13 59 44.9**	**+0.4**
TOSP	**Speyside**	**1.01**	**88**	eP	**Pn**	**13 59 31.9**	**-0.6**
TOSP				eS	**Sn**	**13 59 45.3**	**-0.5**
GRIC	**Isle de Caille**	**1.02**	**359**	eP	**Pn**	**13 59 31.8**	**-0.7**
GRIC				eS	**Sn**	**13 59 46.8**	**+0.9**
GRSS	**Sisters**	**1.03**	**358**	eP	**Pn**	**13 59 32.3**	**-0.5**
GRSS				eS	**Sn**	**13 59 47.2**	**+1.0**
GRCU	**Cariacou**	**1.21**	**5**	eP	**Pn**	**13 59 34.5**	**-0.6**
GRCU				eS	**Sn**	**13 59 51.3**	**+0.7**
ITEV	**Isla Los Testi**	**1.54**	**274**	eP	**Pn**	**13 59 40.2**	**+0.6**
ITEV				eS	**Sn**	**14 00 00.3**	**+1.6**
GUNV	**Guanoco**	**1.74**	**231**	eP	**Pn**	**13 59 42.9**	**+0.5**
GUNV				eS	**Sn**	**14 00 02.7**	**-1.0**
CRUV	**Carupano**	**1.74**	**251**	eP	**Pn**	**13 59 42.7**	**+0.3**
CRUV				eS	**Sn**	**14 00 02.8**	**-0.9**
IBAV	**Isla La Blanqu**	**3.00**	**281**	eP	**Pn**	**14 00 00.3**	**+0.5**
IBAV				eS	**Sn**	**14 00 35.6**	**+0.7**
RIOV	**Rio Grande**	**3.18**	**184**	eP	**Pn**	**14 00 00.9**	**-1.4**
RIOV				eS	**Sn**	**14 00 34.7**	**-4.7**
PCRV	**Puerto La Cruz**	**3.20**	**251**	eP	**Pn**	**14 00 02.8**	**+0.2**
GURV	**El Guri**	**3.79**	**203**	eP	**Pn**	**14 00 09.0**	**-1.7**
PRGV	**PARIAGUAN**	**3.92**	**231**	eP	**Pn**	**14 00 12.0**	**-0.5**
CUPV	**Cœpira**	**4.32**	**254**	eP	**Pn**	**14 00 18.0**	**+0.1**
CUPV				eS	**Sn**	**14 01 05.8**	**-1.6**
BIRV	**Birongo**	**4.68**	**261**	eP	**Pn**	**14 00 23.4**	**+0.4**
LUEV	**Luepa**	**5.38**	**179**	eP	**Pn**	**14 00 29.1**	**-3.6**
LUEV				eS	**Sn**	**14 01 24.1**	**-10**
CAOV	**Caicara del Or**	**6.11**	**231**	eP	**Pn**	**14 00 41.1**	**-1.5**
BAUV	**El Baul**	**6.78**	**251**	eP	**Pn**	**14 00 51.3**	**-0.5**

*ISCJB **02** 14:00:53.1±0.6, 5791N±006×1563W±0.1, h109km±7km, mb3.7/7, Error ellipse: s-maj=10.9km s-min=8.2km az=137.0*
*IDC **02** 14:00:53.6±2.0, 5822N×15623W, h92km±18km, mb3.4/8, mb1 3.6/8, mb1mx3.4/24, mbtmp3.4/8, MS3.5/1, Ms1 3.4/1, ms1mx2.4/21, Error ellipse: s-maj=34.6km s-min=16.5km az=17.0*
*NEIC **02** 14:00:55.5, 5782N×156.18W, h112km, MG3.1(AEIC), After AEIC.*
ISC 02 14:00:54.4±0.6**, 5788N**±006×**1562W**±01**, h103**km±7km**, n27,** σ**0s88**/29**, mb3.7**/7**, Alaska Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
OHAK	**Old Harbor**	**1.72**	**111**	eP	**Pn**	**14 01 22.9**	**-0.6**
OHAK				S	**Sn**	**14 01 44.6**	**-1.0**
KDAK	**Kodiak Island**	**1.96**	**91**	P	**Pn**	**14 01 26.6**	**+0.2**
	28nm,0.3s,baz=273,slow=6.3,SNR=343						
KDAK				S	**Sn**	**14 01 50.2**	**-0.8**
	27nm,0.3s,baz=38,slow=23,SNR=6.3						
KDAK	**Kodiak Island**	**1.96**	**91**	P	**Pn**	**14 01 26.7**	**+0.2**
KDAK				S	**Sn**	**14 01 50.5**	**-0.4**
CHGN	**Chignik**	**1.98**	**218**	eP	**Pn**	**14 01 26.9**	**+0.1**
SVW2	**Sparrevohn**	**3.24**	**6**	eP	**Pn**	**14 01 44.6**	**+1.3**
SDPT	**Sand Point**	**3.45**	**224**	P	**Pn**	**14 01 46.4**	**+0.2**
SLKM	**Skilak Lake**	**4.06**	**47**	P	**Pn**	**14 01 54.7**	**+0.3**
SEW	**Seward**	**4.16**	**55**	P	**Pn**	**14 01 55.8**	**+0.1**
RC01	**Rabbit Creek A**	**4.62**	**43**	P	**Pn**	**14 02 02.7**	**+0.9**
PMR	**Palmer**	**5.17**	**41**	eP	**Pn**	**14 02 08.7**	**-0.6**
MID	**Middleton Isla**	**5.40**	**69**	eP	**Pn**	**14 02 12.4**	**+0.1**
SML	**Sawmill**	**5.60**	**42**	P	**Pn**	**14 02 14.7**	**-0.4**
EYAK	**Cordova Ski Ar**	**6.01**	**59**	P	**Pn**	**14 02 20.6**	**-0.1**
TRF	**Thorofare Moun**	**6.30**	**25**	P	**Pn**	**14 02 25.7**	**+1.1**
RAGM	**Ragged Mountai**	**6.46**	**62**	P	**Pn**	**14 02 27.2**	**+0.5**
ILB	**Eielson Array**	**8.24**	**29**	P	**Pn**	**14 02 50.3**	**-0.5**
IL1	**Eielson Array**	**8.24**	**29**	P	**Pn**	**14 02 50.5**	**-0.3**
BCA3	**Beaver Creek A**	**8.82**	**48**	P	**Pn**	**14 02 58.9**	**+0.1**
YKA	**Yellowknife Ar**	**20.92**	**60**	P	**P**	**14 05 28.0**	**-0.2**
	0.9nm,0.6s,baz=277,slow=10,SNR=5.8						
PETK	**Petropavlovsk-**	**26.11**	**279**	P	**P**	**14 06 17.8**	**-0.4**
	2.9nm,1.0s,mb3.7,baz=70,slow=13,SNR=8.0						
NVAR	**Mina Array Bea**	**31.33**	**112**	P	**P**	**14 07 06.8**	**+2.2**
	1.0nm,0.7s,mb3.7,baz=302,slow=8.9,SNR=7.8						
PDAR	**Pinedale Array**	**32.67**	**97**	P	**P**	**14 07 17.4**	**+1.1**
	0.6nm,0.6s,mb3.6,baz=308,slow=4.9,SNR=5.2						
TXAR	**Lajitas Array**	**45.93**	**105**	P	**P**	**14 09 07.3**	**+0.8**
	0.4nm,0.7s,mb3.3,baz=308,slow=5.8,SNR=5.1						
TXAR				LR	LR	14 29 46.9	
	comp=Z,50nm,20.5s,baz=5.0,slow=38						
SONM	**Songino Array**	**54.65**	**305**	P	**P**	**14 10 11.9**	**-0.1**
	0.9nm,0.4s,mb4.1,baz=47,slow=6.1,SNR=11						
NOA	**NORSAR Array B**	**61.01**	**7**	P	**P**	**14 10 53.9**	**-2.3**
	0.9nm,0.8s,mb3.9,baz=354,slow=6.7,SNR=3.6						
HFS	**Hagfors**	**62.06**	**6**	P	**P**	**14 11 01.2**	**-2.1**
	0.6nm,0.4s,mb4.0,baz=46,slow=6.4,SNR=4.9						
BOSA	**Boshof**	**150.72**	**357**	PKPbc	PKPbc	14 20 32.6	-1.3
	1.3nm,0.6s,baz=79,slow=1.1,SNR=3.8						

RSPR 02 14:01:37.3, 1894N×6733W, h125km±8km**, MD3.6**/3**, 2C, Mona Passage**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
AGPR	**Aguadilla, PR**	**0.51**	**156**	eS	Sn	14 02 09.6	-0.4
AOPR	**Arecibo Observ**	**0.81**	**137**	⇑eP	Pn	14 01 57.0	-1.0
AOPR	**Arecibo Observ**	**0.81**	**137**	eS	Sn	14 02 13.3	-0.4
CBYP	**Canovanas**	**1.55**	**115**	eS	Sn	14 02 28.2	+1.0
CBYP	**Canovanas**	**1.55**	**115**	⇑eP	Pn	14 02 05.3	-0.3
HUMP	**Col San Antoni**	**1.61**	**119**	eS	Sn	14 02 28.9	+0.3
CPD	**Cerro la Pandu**	**1.62**	**123**	eS	Sn	14 02 27.8	-0.9
MTP	**Monte Pirata**	**1.89**	**116**	eS	Sn	14 02 34.2	-0.2
MTP	**Monte Pirata**	**1.89**	**116**	⇑iP	Pn	14 02 09.4	-0.2

IDC 02 14:06:06.8±1.3**, 1269N**×**14372E, h0**km**, mb3.4**/3**, mb1 3.6**/3**, mb1mx3.4**/19**, mbtmp3.4**/3**, MS2.9**/1**, Ms1 2.9**/1**, ms1mx2.2**/19**, Error ellipse: s-maj=43.3km s-min=22.6km az=116.0, South of Mariana Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
GUMO	**Guam**	**1.44**	**51**	Pn	Pn	14 06 34.2	+0.1
	6.1nm,0.3s,baz=198,slow=9.6,SNR=3.3						
CBIJ	**Chichi jima**	**14.41**	**354**	LR	LR	14 13 57.4	
	comp=Z,40nm,18.2s,baz=37,slow=33						
WRA	**Warramunga Arr**	**33.71**	**196**	P	P	14 12 49.5	-0.4
	0.3nm,0.5s,baz=19,slow=9.6,SNR=7.4						
ASAR	**Alice Springs**	**37.38**	**195**	P	P	14 13 21.9	+0.4
	0.2nm,0.6s,baz=22,slow=11,SNR=5.9						
SONM	**Songino Array**	**46.83**	**326**	P	P	14 14 38.4	0.0
	0.2nm,0.4s,baz=134,slow=6.7,SNR=3.5						

*NEIC **02** 14:07:28.0±0.9, 467N×128.19E, h35km, Error ellipse: s-maj=44.8km s-min=10.7km az=68.0*
*ISCJB **02** 14:07:31.1±2.2, 459N±0.10×1267E±02, h46km±21km, mb3.6/7, Error ellipse: s-maj=42.7km s-min=12.6km az=165.9*
*IDC **02** 14:07:36.5±3.1, 460N×127.18E, h84km±28km, mb3.3/7, mb1 3.4/8, mb1mx3.4/19, mbtmp3.4/8, Error ellipse: s-maj=69.1km s-min=13.6km az=73.0*
*MAN **02** 14:07:36, 472N×12629E, h56km, mb4.8, ML3.7, MS3.8*
ISC 02 14:07:32.5±1.9**, 456N**±009×**1267E**±03**, h39**km±20km**, n19,** σ**1s03**/22**, mb3.6**/7**, Talaud Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MATI	**Mati**	**2.40**	**350**	eP	**Pn**	**14 07 59.0**	**-10**
DAV	**Davao City (W)**	**2.72**	**336**	P	**Pn**	**14 08 19.7**	**+6.1**
	72nm,0.3s,baz=31,slow=6.2,SNR=2.9						
DAV				S	**Sn**	**14 08 56.1**	**+11**
	56nm,0.3s,baz=124,slow=23,SNR=6.8						
DAV	**Davao City (W)**	**2.72**	**336**	P	**Pn**	**14 08 19.7**	**+6.1**
DAV				S	**Sn**	**14 08 56.1**	**+11**
BUKP	**Musuan**	**3.66**	**334**	eP	**Pn**	**14 08 26.1**	**-0.5**
BUKP				eS	**Sn**	**14 09 06.9**	**-1.7**
PAGZ	**Pagadian**	**4.62**	**315**	eP	**Pn**	**14 08 40.3**	**+0.5**
IPIL	**Ipil**	**5.18**	**308**	eP	**Pn**	**14 08 47.6**	**+0.1**
SCPH	**Surigao**	**5.32**	**347**	eP	**Pn**	**14 08 52.2**	**+2.8**
FITZ	**Fitzroy Crossi**	**22.55**	**183**	P	**P**	**14 12 28.7**	**-0.5**
	1.0nm,0.7s,mb3.4,baz=357,slow=11,SNR=5.2						
FITZ	**Fitzroy Crossi**	**22.55**	**183**	eP	**P**	**14 12 28.5**	**-0.8**
WRAB	**Tennant Creek**	**25.49**	**163**	P	**P**	**14 12 49.4**	**-7.8**
WRA	**Warramunga Arr**	**25.49**	**163**	P	**P**	**14 12 57.1**	**-0.1**
	0.8nm,0.6s,mb3.5,baz=342,slow=10,SNR=10						
WRA	**Warramunga Arr**	**25.49**	**163**	P	**P**	**14 12 57.1**	**-0.1**
WB2	**Warramunga Arr**	**25.50**	**163**	eP	**P**	**14 12 50.2**	**-7.1**
ASAR	**Alice Springs**	**28.93**	**166**	P	**P**	**14 13 27.9**	**-0.2**
	0.3nm,0.6s,mb3.2,baz=336,slow=7.9,SNR=9.1						
ASAR	**Alice Springs**	**28.93**	**166**	P	**P**	**14 13 27.9**	**-0.2**
KSRS	**Korea Array**	**32.75**	**2**	P	**P**	**14 14 00.4**	**-1.3**
	0.4nm,0.5s,mb3.6,baz=176,slow=10.0,SNR=4.3						
SONM	**Songino Array**	**46.49**	**341**	P	**P**	**14 15 55.7**	**-0.1**
	0.2nm,0.5s,mb3.3,baz=159,slow=8.1,SNR=2.6						
MKAR	**Makanchi Array**	**56.84**	**325**	P	**P**	**14 17 14.8**	**+1.7**
	1.2nm,0.4s,mb4.2,baz=114,slow=8.4,SNR=6.5						
ZALV	**Zalesovo Beam**	**59.82**	**333**	P	**P**	**14 17 34.2**	**+0.4**
	0.5nm,0.3s,mb4.0,baz=116,slow=5.0,SNR=3.5						

MAN 02 14:31:54, 922N×12559E, h7km**, mb4.0, ML2.8, MS2.5, Mindanao**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BUTP	**Butuan**	**0.26**	**173**	eP	Pg	14 32 00.5	+1.5
BUTP				eS	Sg	14 32 05.3	+2.8
SCPH	**Surigao**	**0.56**	**350**	eP	Pg	14 32 06.0	+1.1
SCPH				eS	Sg	14 32 14.8	+2.5
MSLP	**Maasin**	**1.16**	**322**	eP	Pg	14 32 15.8	-0.5
BUKP	**Musuan**	**1.44**	**201**	eP	Pn	14 32 20.8	+0.3
BUKP				eS	Sn	14 32 40.6	+1.1
PAGZ	**Pagadian**	**2.58**	**238**	eP	Pn	14 32 37.3	+1.1

*BJI **02** 14:39:52.3, 245S×9979E, h33km, mB5.2, mb5.1, Ms4.8, Msz4.6*
*ISCJB **02** 14:39:56.7±0.2, 188S±003×9962E±003, h30km, mb5.2/107, MS4.4/33, Error ellipse: s-maj=4.9km s-min=3.5km az=33.3*
*MOS **02** 14:39:57.3±1.0, 173S×9986E, h33km, mb5.4/39, MS4.3/9, Error ellipse: s-maj=10.6km s-min=5.7km az=102.8*
*IDC **02** 14:39:58.2±0.6, 184S×9993E, h27km±4km, mb4.6/25, mb1 4.7/25, mb1mx4.7/25, mbtmp4.7/25, MS4.2/18, Ms1 4.2/18, ms1mx4.1/29, Error ellipse: s-maj=14.1km s-min=8.4km az=48.0*
*NEIC **02** 14:39:58.9±0.2, 185S×9978E, h35km, mb5.1/33, Error ellipse: s-maj=6.9km s-min=5.0km az=46.0*
NEIC Felt [III] at Padang, Sumatra. Also felt at Bengkulu.
*DJA **02** 14:39:59.4±0.7, 2S±6×100E±, h20km, mB5.9/2, Mjma4.9/7, MLv5.5/10, Mw(mB)5.5/2, Mwp4.4/6*
*SZGRF **02** 14:40:08.2, 145S×97.15E, h33km, mb5.0, Southwest of Sumatera, Indonesia*
ISC 02 14:39:58.7±0.2**, 192S**±003×**9960E**±003**, h32**km±1.6km**: pP-P, n307,** σ**1s17**/311**, mb5.2**/107**, MS4.4**/33**, 41C-16D, Southern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PPI	**Padang Panjang**	**1.65**	**29**	P	**Pn**	**14 40 26.6**	**+1.1**
	0.0nm,0.0s						
RGRI	**Rengat**	**3.14**	**60**	P	**Pn**	**14 40 47.7**	**+1.7**
	0.0nm,0.0s						
RGRI	**Rengat**	**3.14**	**60**	P	**Pn**	**14 40 48.1**	**+2.1**
KSI	**Kapahiang**	**3.45**	**120**	P	**Pn**	**14 40 51.0**	**+0.8**
	0.0nm,0.0s						
KSI	**Kapahiang**	**3.45**	**120**	P	**Pn**	**14 40 52.5**	**+2.3**
JMBI	**JAMBI**	**4.05**	**86**	P	**Pn**	**14 41 00.1**	**+1.6**
	0.0nm,0.0s						
JMBI	**JAMBI**	**4.05**	**86**	P	**Pn**	**14 41 01.4**	**+2.9**
DSRI	**Dabo**	**5.18**	**74**	P	**Pn**	**14 41 14.9**	**+0.9**
	0.0nm,0.0s						
DSRI	**Dabo**	**5.18**	**74**	P	**Pn**	**14 41 15.5**	**+1.5**
	500nm,0.5s,2.5nm						
KGM	**Kluang**	**5.39**	**44**	⇓P	**Pn**	**14 41 18.8**	**+1.8**
KGM	**Kluang**	**5.39**	**44**	⇑P	**Pn**	**14 41 19.3**	**+2.4**
TSI	**Tuntungan**	**5.48**	**349**	P	**Pn**	**14 41 18.3**	**+0.1**
	0.0nm,0.0s						
TSI	**Tuntungan**	**5.48**	**349**	P	**Pn**	**14 41 18.1**	**-0.1**
	2μm,0.8s,5.0nm						
FRIM	**Kepong**	**5.50**	**22**	⇓P	**Pn**	**14 41 20.1**	**+1.6**
FRIM	**Kepong**	**5.50**	**22**	⇓P	**Pn**	**14 41 20.5**	**+2.0**
MYKOM	**Kota Tinggi**	**5.62**	**49**	⇑P	**Pn**	**14 41 21.9**	**+1.8**
MYKOM	**Kota Tinggi**	**5.62**	**49**	⇑P	**Pn**	**14 41 22.3**	**+2.2**
IPM	**Ipoh**	**6.51**	**13**	⇑P	**Pn**	**14 41 34.6**	**+2.3**
PPBI	**Pangkal Pinang**	**6.54**	**92**	P	**Pn**	**14 41 36.9**	**+4.2**
	49nm,0.9s,0.7nm						
KULM	**Kulim**	**7.23**	**8**	⇑P	**Pn**	**14 41 43.3**	**+1.0**
KTGM	**Kuala Trenggan**	**8.01**	**26**	⇑P	**Pn**	**14 41 54.4**	**+1.4**
TPI	**Tanjungpandan**	**8.09**	**96**	P	**Pn**	**14 41 56.6**	**+2.6**
	0.0nm,0.0s						
TPI	**Tanjungpandan**	**8.09**	**96**	P	**Pn**	**14 41 58.4**	**+4.4**
	91nm,0.9s,0.2nm						
DBJI	**Dramaga**	**8.49**	**123**	P	**Pn**	**14 42 01.2**	**+1.7**
	0.0nm,0.0s						
DBJI	**Dramaga**	**8.49**	**123**	P	**Pn**	**14 42 02.1**	**+2.6**
	225nm,1.0s,0.6nm						
CBJI	**Citeko**	**8.50**	**122**	P	**Pn**	**14 42 03.0**	**+3.3**
	0.0nm,0.0s						
CBJI	**Citeko**	**8.50**	**122**	P	**Pn**	**14 42 05.5**	**+5.8**
BSI	**Banda Aceh**	**8.53**	**330**	P	**Pn**	**14 41 58.2**	**-1.8**
	0.0nm,0.0s						
BSI	**Banda Aceh**	**8.53**	**330**	P	**Pn**	**14 42 00.7**	**+0.7**
	179nm,0.9s,3μm1.4nm						
LEM	**Lembang**	**9.36**	**122**	P	**Pn**	**14 42 13.9**	**+2.4**
	0.0nm,0.0s						
LEM	**Lembang**	**9.36**	**122**	P	**Pn**	**14 42 15.6**	**+4.1**
	204nm,1.0s						
XMIS	**Christmas Isla**	**10.42**	**145**	Pn	**Pn**	**14 42 21.7**	**-4.3**
KSM	**Kuching**	**11.22**	**73**	⇓P	**Pn**	**14 42 39.1**	**+2.1**
BJII	**Banjamegara**	**11.42**	**118**	P	**Pn**	**14 42 37.5**	**-2.2**
	0.0nm,0.0s						
BJII	**Banjamegara**	**11.42**	**118**	P	**Pn**	**14 42 41.3**	**+1.6**
STKI	**Sintang**	**12.04**	**81**	P	**Pn**	**14 42 54.4**	**+6.3**
SBUM	**Sibu**	**13.34**	**71**	⇓P	**Pn**	**14 43 08.7**	**+2.8**
SJI	**Sawahan**	**13.43**	**116**	P	**Pn**	**14 43 05.4**	**-1.7**
	0.0nm,0.0s						
SJI	**Sawahan**	**13.43**	**116**	P	**Pn**	**14 43 06.8**	**-0.3**
PLKI	**Palangkaraya**	**14.34**	**91**	P	**Pn**	**14 43 27.6**	**+8.0**
BBKI	**Banjar Baru**	**15.30**	**96**	P	**Pn**	**14 43 33.5**	**+1.0**
	0.0nm,0.0s						
KHKI	**Kahang-Kahang**	**17.17**	**112**	P	**Pn**	**14 43 55.7**	**-0.7**
	0.0nm,0.0s						
NST	**Nakhon Sawan**	**17.48**	**2**	P	**Pn**	**14 44 00.0**	**-0.2**
SMKI	**Samarinda**	**17.66**	**85**	P	**Pn**	**14 44 03.7**	**+1.2**
	0.0nm,0.0s						
KKM	**Kota Kinabalu**	**18.38**	**64**	⇑P	**Pn**	**14 44 11.5**	**+0.3**
KKM	**Kota Kinabalu**	**18.38**	**64**	ePn	**Pn**	**14 44 11.3**	**0.0**
KKTK	**Khon Kaen**	**18.41**	**10**	P	**Pn**	**14 44 08.5**	**-3.1**
	247nm,0.9s						
BDT	**Bhumibol Dam**	**19.05**	**358**	P	**Pn**	**14 44 18.0**	**-1.3**
SDKM	**Sandakan**	**19.11**	**67**	⇑P	**Pn**	**14 44 19.8**	**-0.3**
TSM	**Tawau**	**19.27**	**71**	⇑P	**Pn**	**14 44 21.9**	**-0.2**
KDM	**Kudat**	**19.31**	**63**	⇓P	**Pn**	**14 44 21.8**	**-0.7**
PCI	**Palu**	**20.25**	**87**	P	**P**	**14 44 31.8**	**+0.2**
	0.0nm,0.0s						
CM31	**Chiang Mai Arr**	**20.25**	**358**	eP	**P**	**14 44 30.9**	**-0.6**
CMAR	**Chiang Mai Arr**	**20.25**	**358**	P	**P**	**14 44 28.9**	**-2.6**
	15nm,0.5s,baz=187,slow=10.0,SNR=78						
CMAR				PcP	PcP	14 48 45.8	+0.9
	2.7nm,0.9s,baz=226,slow=2.8,SNR=6.0						
CMAR				LR	LR	14 52 34.7	
	comp=Z,1μm,20.4s,MS4.2,baz=188,slow=38						
CMAR	**Chiang Mai Arr**	**20.25**	**358**	P	**P**	**14 44 29.0**	**-2.5**
CMAR						14 48 45.8	
KAPI	**Kappang**	**20.34**	**99**	P	**P**	**14 44 31.8**	**-0.8**
	753nm,0.8s,SNR=6.6						
KAPI	**Kappang**	**20.34**	**99**	P	**P**	**14 44 30.1**	**-2.5**
	107nm,0.9s,baz=240,slow=8.1,SNR=8.9						
CHTO	**Chiang Mai**	**20.61**	**358**	eP	**P**	**14 44 32.3**	**-3.1**
CHTO				pmax	pmax		
	comp=Z,23nm,0.8s						
CHTO	**Chiang Mai**	**20.61**	**358**	eP	**P**	**14 44 32.2**	**-3.1**
	comp=Z,23nm,0.8s						
CHRT	**Chiangrai**	**21.65**	**0**	⇓P	**P**	**14 44 46.0**	**-0.6**
	comp=Z,290nm,0.9s,mb5.7						
KDI	**Kendari**	**23.08**	**96**	P	**P**	**14 45 01.7**	**-0.2**
	comp=Z,0.0nm,0.0s						
QIZ	**Qiongzhong**	**23.12**	**25**	P	**P**	**14 45 02.0**	**-0.2**
QIZ				S	**S**	**14 49 12.0**	**+0.5**
QIZ				AMB	AMB		
	comp=Z,129nm,0.9s,mb5.4						
QIZ				LR	LR		
	comp=Z,650nm,19.2s,MS4.1						
BATI	**Baumata**	**25.29**	**110**	P	**P**	**14 45 18.7**	**-3.8**
	comp=Z,17nm,0.6s,mb4.8,baz=225,slow=4.8,SNR=5.1						
BATI				S	**S**	**14 49 41.0**	**-5.5**
	comp=Z,4.9nm,0.4s,baz=29,slow=19,SNR=2.9						
MNI	**Manado**	**25.45**	**83**	P	**P**	**14 45 25.2**	**+1.1**
	comp=Z,0.0nm,0.0s						
KMI	**Kunming**	**27.05**	**6**	P	**P**	**14 45 38.7**	**+0.4**
KMI				AP	pP	14 45 50.1	+2.6
KMI				XP	sP	14 45 54.2	+2.8
KMI				PP		14 46 28.4	
KMI				S	**S**	**14 50 17.0**	**+2.8**
KMI				XS	sS	14 50 31.5	+2.0
KMI				SS		14 51 32.9	
KMI				AMB	AMB		
	comp=Z,14nm,0.9s,mb4.5						
KMI				AMB	AMB		
	comp=Z,373nm,5.2s						
KMI				LR	LR		
	comp=N,534nm,21.1s,MS4.5						
KMI				LR	LR		
	comp=E,1μm,17.7s,MS4.5						
KMI				LR	LR		
	comp=Z,757nm,21.1s,MS4.2						
KMI	**Kunming**	**27.05**	**6**	P	**P**	**14 45 38.7**	**+0.4**
KMI				*PP	pP	14 45 50.1	+2.6
KMI						14 46 28.4	
KMI				S	**S**	**14 50 17.0**	**+2.8**
KMI				*SS	sS	14 50 31.5	+2.0
KMI				pmax	pmax		
	comp=Z,14nm,0.9s,mb4.5						
KMI				MLR	MLR		
	comp=Z,760nm,21.1s,MS4.2						
KMI	**Kunming**	**27.05**	**6**	P	**P**	**14 45 38.7**	**+0.4**
	comp=Z,14nm,0.9s,mb4.5						
KMI				pP	pP	14 45 50.1	+2.6
KMI				sP	sP	14 45 54.2	+2.8
KMI				PP		14 46 28.4	
KMI				S	**S**	**14 50 17.0**	**+2.8**
KMI				sS	sS	14 50 31.5	+2.0
KMI				SS		14 51 32.9	
KMI				LR	LR		
	comp=Z,760nm,21.1s,MS4.2						
IMP	**Imphal**	**27.10**	**349**	eP	**P**	**14 45 39.0**	**+0.2**
DAV	**Davao City (W)**	**27.42**	**71**	LR	LR	14 58 01.4	
	comp=Z,490nm,20.8s,MS4.1,baz=266,slow=40						
LBMI	**Labuha**	**27.92**	**88**	P	**P**	**14 45 45.0**	**-1.3**
	comp=Z,0.0nm,0.0s						
SHL	**Shillong**	**28.32**	**345**	eP	**P**	**14 45 50.0**	**+0.3**
SHL				ex	x	14 50 51.0	
FITZ	**Fitzroy Crossi**	**30.19**	**124**	eP	**P**	**14 46 05.0**	**-1.4**
	comp=Z,18nm,0.9s,mb4.8						
FITZ	**Fitzroy Crossi**	**30.19**	**124**	P	**P**	**14 46 04.9**	**-1.4**
	comp=Z,11nm,0.9s,mb4.6,baz=311,slow=6.7,SNR=22						
ODAN	**Odare**	**30.94**	**338**	eP	**P**	**14 46 13.7**	**+0.8**
	comp=Z,108nm,0.6s,mb5.8						
RAMN	**Ramite**	**31.32**	**337**	eP	**P**	**14 46 17.2**	**+1.0**
	comp=Z,81nm,0.7s,mb5.7						
SWI	**Sorong**	**31.67**	**89**	P	**P**	**14 46 17.5**	**-2.0**
	comp=Z,0.0nm,0.0s						
JIRN	**Jiri**	**32.11**	**337**	eP	**P**	**14 46 24.5**	**+1.3**
	comp=Z,182nm,0.7s,mb6.0						
GUN	**Gumba**	**32.46**	**337**	eP	**P**	**14 46 27.4**	**+1.2**
	comp=Z,164nm,0.6s,mb6.0						
LSA	**Lhasa**	**32.46**	**346**	P	**P**	**14 46 27.8**	**+1.6**
LSA	**Lhasa**	**32.46**	**346**	eP	**P**	**14 46 27.5**	**+1.3**
LSA				pmax	pmax		
	comp=Z,61nm,0.9s,mb5.4						
LSA	**Lhasa**	**32.46**	**346**	eP	**P**	**14 46 27.5**	**+1.3**
	comp=Z,61nm,0.9s,mb5.4						
DMN	**Daman**	**32.50**	**336**	eP	**P**	**14 46 27.3**	**+0.7**
	comp=Z,62nm,0.8s,mb5.6						
KKN	**Kakani**	**32.59**	**336**	eP	**P**	**14 46 28.0**	**+0.6**
	comp=Z,83nm,0.8s,mb5.7						
CD2	**Chengdu**	**32.88**	**7**	⇓iP	**P**	**14 46 28.4**	**-1.5**
CD2				AP	pP	14 46 38.0	-1.2
CD2				XP	sP	14 46 42.0	-1.1
CD2				PP	PP	14 47 39.3	-5.4
CD2				PCP	PcP	14 49 11.4	-2.7
CD2				S	**S**	**14 51 43.9**	**-1.6**
CD2				XS	sS	14 52 00.4	-0.5
CD2				PCS	PcS	14 52 55.4	-4.1
CD2				SS	SS	14 53 46.4	-22
CD2				AMB	AMB		
	comp=Z,20nm,0.7s,mb5.2						
CD2				AMB	AMB		
	comp=Z,80nm,4.2s						
CD2				LR	LR		
	comp=N,760nm,15.6s,MS4.8						
CD2				LR	LR		
	comp=E,1μm,14.4s,MS4.8						
CD2				LR	LR		
	comp=Z,770nm,13.2s,MS4.6						
GKN	**Gorkha**	**33.04**	**335**	eP	**P**	**14 46 33.0**	**+1.7**
	comp=Z,114nm,1.1s,mb5.7						
KOLN	**Koldanda**	**33.29**	**334**	eP	**P**	**14 46 34.4**	**+0.9**
	comp=Z,70nm,0.7s,mb5.7						
DANN	**Dangsing**	**33.72**	**334**	eP	**P**	**14 46 37.9**	**+0.7**
	comp=Z,98nm,0.8s,mb5.8						
KAKA	**Kakadu**	**34.24**	**110**	eP	**P**	**14 46 38.0**	**-4.0**
	comp=Z,7.0nm,0.6s,mb4.8						
NWAO	**Narrogin (SRO)**	**35.01**	**154**	P	**P**	**14 46 48.6**	**+0.3**
	comp=Z,8.9nm,0.9s,mb4.7,baz=323,slow=8.8,SNR=3.8						

NWAO LR LR 14 58 42.7
comp=Z,756nm,21.0s,MS4.4,baz=315,slow=32
WHN Wuhan 35.21 22 ⇑P **P 14 46 49.2 -0.9**
PTH Pithoragarh 36.37 331 *eP* **P 14 46 57.9 -2.2**
XAN Xi'an 36.82 13 P **P 14 47 01.9 -2.0**
XAN AP pP 14 47 11.8 -1.4
XAN XP sP 14 47 15.5 -1.6
XAN PCP PcP 14 49 26.1 +0.6
XAN S **S 14 52 46.9 +0.7**
XAN SCP ScP 14 53 08.5 -1.7
XAN PCS PcS 14 53 12.8 -0.8
XAN SCS ScS 14 57 14.1 -3.1
XAN AMB AMB
comp=Z,59nm,0.8s,mb5.5
XAN AMB AMB
comp=Z,180nm,5.6s
XAN LR LR
comp=N,470nm,15.0s,MS4.7
XAN LR LR
comp=E,691nm,14.4s,MS4.7
XAN LR LR
comp=Z,2μm,15.1s,MS5.0
SONA Sohna 36.98 326 *eP* **P 14 47 04.7 -0.6**
AYAN Aya Nagar 37.13 326 *eP* **P 14 47 06.2 -0.4**
AYAN AMb AMB 14 47 07.1
comp=Z,12nm,0.6s,mb4.9
KUDL Kundal 37.23 325 *eP* **P 14 47 05.8 -1.6**
KUDL AMb AMB 14 47 07.7
comp=Z,10.0nm,0.5s,mb4.9
NDI New Delhi 37.24 326 *eP* **P 14 47 06.0 -1.5**
JOSI Joshimath 37.52 331 *eP* **P 14 47 09.3 -0.6**
JOSI AMb AMB 14 47 17.4
comp=Z,220nm,1.1s,mb5.8
KHET Khetri 37.58 324 *eP* **P 14 47 09.8 -0.5**
LZH Lanzhou 38.01 6 *eP* **P 14 47 13.0 -0.9**
LZH *e*PP PP 14 48 44.2 +3.0
LZH *e*S **S 14 53 04.1 -0.1**
LZH XS sS 14 53 20.0 +0.3
LZH *e*SS SS 14 55 43.3 -8.9
LZH AMB AMB
comp=Z,27nm,1.3s,mb4.8
LZH AMB AMB
comp=Z,135nm,5.7s
LZH LR LR
comp=N,537nm,13.6s
LZH LR LR
comp=Z,897nm,17.2s,MS4.6
LZH Lanzhou 38.01 6 *eP* **P 14 47 13.0 -0.9**
LZH *SP sP 14 47 20.1 -7.1
LZH *e* 14 48 44.2
LZH *e*S **S 14 53 04.1 -0.1**
LZH *SS sS 14 53 20.0 +0.3
LZH *e*SS SS 14 55 43.3 -8.9
LZH pmax pmax
comp=Z,27nm,1.3s,mb4.8
LZH MLR MLR
comp=Z,900nm,17.2s,MS4.6
LZH Lanzhou 38.01 6 *eP* **P 14 47 13.0 -0.9**
comp=Z,27nm,1.3s,mb4.8
LZH pP pP 14 47 17.6 -5.7
LZH sP sP 14 47 20.1 -7.1
LZH *e*PP PP 14 48 44.2 +3.0
LZH *e*S **S 14 53 04.1 -0.1**
LZH sS sS 14 53 20.0 +0.3
LZH *e*SS SS 14 55 43.3 -8.9
LZH LR LR 15 05 33.0
comp=Z,900nm,17.2s,MS4.6
WRA Warramunga Arr 38.38 120 P **P 14 47 15.8 -1.4**
comp=Z,30nm,0.8s,mb5.1,baz=302,slow=9.0,SNR=130
WRA PcP PcP 14 49 30.8 +0.2
comp=Z,3.8nm,0.6s,baz=314,slow=2.6,SNR=6.4
WRA S **S 14 53 04.8 -5.5**
comp=Z,4.6nm,1.0s,baz=292,slow=16,SNR=9.8
WRA LR LR 15 05 33.0
comp=Z,179nm,18.4s,baz=290,slow=40
WRA Warramunga Arr 38.38 120 P **P 14 47 15.8 -1.5**
WRA 14 49 30.8
WRA S **S 14 53 04.8 -5.4**
WRAB Tennant Creek 38.38 120 P **P 14 47 16.6 -0.7**
comp=Z,290nm,0.8s,mb6.1,SNR=13
WRAB Tennant Creek 38.38 120*c iP* **P 14 47 15.8 -1.5**
WB2 Warramunga Arr 38.39 120⇑*iP* **P 14 47 15.7 -1.7**
NJ2 Nanjing 38.40 27 *eP* **P 14 47 17.8 +0.6**
NJ2 AMB AMB
comp=Z,10.0nm,0.5s,mb4.8
SSE Sheshan 38.72 30 P **P 14 47 19.9 -0.1**
SSE S **S 14 53 15.7 +0.6**
SSE XS sS 14 53 30.9 +0.3
SSE AMB AMB
comp=Z,32nm,1.0s,mb5.0
SSE AMB AMB
comp=Z,362nm,4.8s
SSE LR LR
comp=N,549nm,17.5s,MS4.7
SSE LR LR
comp=E,737nm,17.5s,MS4.7
SSE LR LR
comp=Z,741nm,17.4s,MS4.6
SSE Sheshan 38.72 30 P **P 14 47 19.9 -0.1**
comp=Z,32nm,1.0s,mb5.0
SSE S **S 14 53 15.7 +0.6**
SSE sS sS 14 53 30.9 +0.3
SSE LR LR
comp=Z,740nm,17.4s,MS4.6
FORT Forrest 39.36 140 *eP* **P 14 47 32.3 +6.9**
comp=Z,24nm,0.7s,mb5.0
ASAR Alice Springs 39.62 126 P **P 14 47 27.1 -0.6**
comp=Z,18nm,0.6s,mb5.0,baz=301,slow=7.6,SNR=120
ASAR PcP PcP 14 49 34.9 +0.5
comp=Z,8.3nm,0.9s,baz=310,slow=3.9,SNR=7.7
ASAR S **S 14 53 25.3 -3.6**
comp=Z,3.5nm,0.8s,baz=296,slow=14,SNR=14
THN Thein Dam 40.97 329 *eP* **P 14 47 37.0 -1.6**
GTA Gaotai 41.12 0 P **P 14 47 39.7 -0.1**
GTA AP pP 14 47 48.8 -0.5
GTA XP sP 14 47 53.0 -0.1
GTA PP PP 14 49 21.0 +5.9
GTA PCP PcP 14 49 39.7 +0.8
GTA S **S 14 53 52.7 +1.9**
GTA XS sS 14 54 08.3 +1.9
GTA SS SS 14 56 51.9 -2.5
GTA AMB AMB
comp=Z,17nm,1.4s,mb4.5
GTA AMB AMB
comp=Z,153nm,5.4s
GTA LR LR
comp=N,477nm,15.9s,MS4.6
GTA LR LR
comp=E,333nm,14.4s,MS4.6
GTA LR LR
comp=Z,612nm,15.0s,MS4.6
HHC Hu-ho-hao-te 43.94 13 *eP* **P 14 48 04.5 +1.9**
HHC AP pP 14 48 14.0 +1.8
HHC XP sP 14 48 18.3 +2.3
HHC PP PP 14 49 47.7 +2.3
HHC SCP ScP 14 53 36.8 -1.1
HHC PCS PcS 14 53 42.3 +1.2
HHC S **S 14 54 35.4 +3.2**
HHC XS sS 14 54 51.3 +3.4
HHC SS SS 14 57 44.8 -4.9
HHC SCS ScS 14 57 59.4 +0.1
HHC AMB AMB
comp=Z,22nm,1.2s,mb4.8
HHC AMB AMB
comp=Z,135nm,7.5s
HHC LR LR
comp=N,1μm,14.7s,MS4.9
HHC LR LR
comp=E,572nm,14.5s,MS4.9
HHC LR LR
comp=Z,868nm,14.9s,MS4.8
BJT Baijiatuan 44.41 18 *eP* **P 14 48 05.6 -0.8**
BJT pmax pmax
comp=Z,24nm,0.8s
BJT Baijiatuan 44.41 18 *eP* **P 14 48 05.6 -0.8**
comp=Z,24nm,0.8s,mb5.0
BJI Beijing 44.43 18 P **P 14 48 05.9 -0.7**
BJI AMB AMB
comp=Z,34nm,0.8s,mb5.1
BJI LR LR
comp=N,491nm,21.6s
BJI LR LR
comp=E,364nm,15.9s
BJI LR LR
comp=Z,208nm,20.4s
BJI Beijing 44.43 18 P **P 14 48 05.9 -0.7**
comp=Z,34nm,0.8s,mb5.1
BJI PP PP 14 50 12.4 +22
BJI S S 14 55 12.2 +33
BJI SS SS 14 58 28.4 +29
BJI LR LR
comp=Z,210nm,20.4s,MS4.0
KBL Kabul 46.23 324 *eP* **P 14 48 20.8 -0.2**
WMQ Urumqi 46.77 348⇑*iP* **P 14 48 26.2 +1.2**
WMQ AP pP 14 48 36.2 +1.6
WMQ XP sP 14 48 40.2 +1.8
WMQ PCP PcP 14 49 59.7 +1.7
WMQ PP PP 14 50 16.2 +0.8
WMQ SCP ScP 14 53 49.2 -0.3
WMQ PCS PcS 14 53 53.2 +0.5
WMQ S **S 14 55 13.3 +0.3**
WMQ XS sS 14 55 29.7 +1.0
WMQ AMB AMB
comp=Z,102nm,0.7s,mb5.9
WMQ AMB AMB
comp=Z,26nm,7.0s
WMQ LR LR
comp=N,167nm,27.5s
WMQ LR LR
comp=E,146nm,22.0s
WMQ LR LR
comp=Z,181nm,25.2s,MS3.9
KSRS Korea Array 47.15 31 P **P 14 48 27.4 -0.7**
comp=Z,22nm,0.8s,mb5.2,baz=224,slow=8.5,SNR=143
KSRS PcP PcP 14 49 58.6 -0.9
comp=Z,1.6nm,0.7s,baz=242,slow=4.5,SNR=4.8
KSRS LR LR 15 08 38.8
comp=Z,278nm,19.9s,MS4.2,baz=221,slow=37
GUMO Guam 47.45 70 P **P 14 48 27.2 -3.7**
comp=Z,30nm,0.5s,mb5.5,baz=163,slow=15,SNR=4.6
GUMO LR LR 15 08 23.5
comp=Z,102nm,20.4s,baz=95,slow=36
SNY Shenyang 48.67 24⇑P **P 14 48 38.0 -1.8**
SNY AMB AMB
comp=Z,7.0nm,0.9s,mb4.7
CTA Charters Tower 48.99 115 *eP* **P 14 48 41.2 -1.5**
comp=Z,14nm,0.8s,mb5.0
CTA Charters Tower 48.99 115 P **P 14 48 41.6 -1.1**
comp=Z,18nm,0.8s,mb5.1,baz=279,slow=9.9,SNR=12
CTA Charters Tower 48.99 115 *eP* **P 14 48 41.2 -1.5**
CTA pmax pmax
comp=Z,14nm,0.8s
CTAO Charters Tower 48.99 115 *eP* **P 14 48 41.3 -1.4**
CTAO pmax pmax
comp=Z,26nm,1.0s,mb5.2
CTAO Charters Tower 48.99 115 *eP* **P 14 48 41.3 -1.4**
comp=Z,26nm,1.0s,mb5.2
STKA Stephens Creek 49.50 132 *eP* **P 14 48 46.5 +0.1**
comp=Z,15nm,0.6s,mb5.2
STKA Stephens Creek 49.50 132 P **P 14 48 46.8 +0.3**
comp=Z,18nm,0.7s,mb5.2,baz=295,slow=7.2,SNR=17
STKA LR LR 15 11 11.0
comp=Z,463nm,21.6s,MS4.5,baz=111,slow=38
TKM2 Tokmak 2 49.60 337 P **P 14 48 47.8 +0.9**
SNR=55
KBK Karagaybulak 49.63 336 P **P 14 48 48.6 +1.4**
SNR=18
AML Almayashu 49.72 335 P **P 14 48 49.2 +1.3**
SNR=9.3
AAK Ala-Archa 49.80 336 P **P 14 48 49.6 +1.2**
SNR=7.7
SONM Songino Array 49.90 6 P **P 14 48 49.4 +0.3**
comp=Z,18nm,0.7s,mb5.2,baz=190,slow=8.7,SNR=158
SONM PcP PcP 14 50 09.4 +0.3
comp=Z,7.4nm,0.6s,baz=185,slow=4.7,SNR=7.2
SONM ScP ScP 14 54 03.0 +0.3
comp=Z,1.0nm,0.8s,baz=181,slow=4.9,SNR=4.5
SONM LR LR 15 12 37.4
comp=Z,531nm,18.6s,MS4.6,baz=188,slow=39
SONM Songino Array 49.90 6 P **P 14 48 49.4 +0.3**
SONM 14 50 09.4
CHMS Chumysh 50.00 336 P **P 14 48 50.5 +0.6**
SNR=13
ULN Ulaanbaatar 50.00 7⇑*eP* **P 14 48 49.0 -0.9**
ULN Ulaanbaatar 50.00 7 *eP* **P 14 48 50.0 +0.1**
comp=Z,30nm,1.1s,mb5.2
EKS2 Erkin-Say 50.12 335 P **P 14 48 52.0 +1.1**
SNR=36
MK31 Makanchi Array 50.84 345 *eP* **P 14 48 56.5 +0.2**
MKAR Makanchi Array 50.84 345 P **P 14 48 56.6 +0.4**
comp=Z,48nm,0.7s,mb5.5,baz=152,slow=8.2,SNR=148
MKAR LR LR 15 14 31.3
comp=Z,107nm,21.7s,baz=162,slow=41
MKAR Makanchi Array 50.84 345⇑*eP* **P 14 48 56.5 +0.2**
CN2 Changchun 51.07 24 *eP* **P 14 48 56.4 -1.6**
CN2 *eXP* sP 14 49 10.2 -1.3
CN2 *eS* **S 14 56 09.8 -3.7**
CN2 AMB AMB
comp=Z,50nm,1.0s,mb5.4
CN2 AMB AMB
comp=Z,500nm,10.0s
CN2 LR LR
comp=N,500nm,17.0s,MS4.8
CN2 LR LR
comp=E,500nm,17.0s,MS4.8
CN2 LR LR
comp=Z,600nm,15.0s,MS4.7
KK31 Karatay Array 51.90 333 *iP* **P 14 49 03.7 -0.5**
KK31 pmax pmax
comp=Z,7.0nm,0.7s,mb4.7
ZAK Zakamensk 52.19 3⇓*iP* **P 14 49 05.9 -0.4**
ZAK pmax pmax
comp=Z,12nm,0.9s,mb4.8
MAJO Matsushiro 52.46 39 *eP* **P 14 49 07.0 -1.6**
MAJO pmax pmax
comp=Z,20nm,0.6s,mb5.2
MAJO Matsushiro 52.46 39 *eP* **P 14 49 07.0 -1.5**
comp=Z,20nm,0.6s,mb5.2
MAT Matsushiro 52.46 39 P **P 14 49 07.0 -1.6**
MAT S **S 14 56 36.4 +3.5**
MJAR Matsushiro Arr 52.46 39 P **P 14 49 07.4 -1.2**
comp=Z,31nm,0.9s,mb5.2,baz=222,slow=7.4,SNR=59
MJAR LR LR 15 12 47.0
comp=Z,289nm,19.4s,MS4.3,baz=230,slow=38
MOY Mondy 53.40 1 *eP* **P 14 49 15.6 +0.5**
MOY pmax pmax
comp=Z,33nm,2.1s,mb4.9
VLA Vladivostok 53.41 29 *eP* **P 14 49 13.3 -2.2**
VLA *eS* **S 14 56 45.8 +0.1**
VLA pmax pmax
comp=Z,37nm,1.3s,mb5.2
VLA MLR MLR
comp=Z,200nm,14.1s,MS4.3
VLA Vladivostok 53.41 29 *iP* **P 14 49 14.3 -1.2**
MDJ Mudanjiang 53.49 26 P **P 14 49 16.0 0.0**
MDJ PCP PcP 14 50 22.5 -0.2
MDJ PP PP 14 51 18.7 +1.9
MDJ S **S 14 56 49.5 +2.9**
MDJ XS sS 14 57 04.4 +1.8
MDJ SS SS 15 00 30.8 +3.5
MDJ AMB AMB
comp=Z,23nm,1.0s,mb5.1
MDJ LR LR
comp=N,357nm,18.8s
MDJ LR LR
comp=Z,356nm,18.1s,MS4.5
TLY Talaya 53.51 3 P **P 14 49 16.1 +0.1**
comp=Z,222nm,0.7s,mb6.2,SNR=11
TLY Talaya 53.51 3 *eP* **P 14 49 16.7 +0.7**
TLY *e* 14 51 14.7
TLY *eS* **S 14 56 58.2 +12**
TLY pmax pmax
comp=Z,28nm,0.8s,mb5.2
TLY MLR MLR
comp=Z,237nm,15.0s,MS4.4
TLY Talaya 53.51 3⇑*iP* **P 14 49 16.4 +0.4**
HIA Hailar 53.87 16 *eP* **P 14 49 17.0 -1.7**
HIA pmax pmax
comp=Z,9.0nm,0.9s
HIA Hailar 53.87 16 *eP* **P 14 49 17.0 -1.7**
comp=Z,8.6nm,0.9s,mb4.7
OPO Ambohidratompo 53.93 248 P **P 14 49 21.8 +2.1**
comp=Z,3.0nm,0.9s,mb4.2,baz=27,slow=6.8,SNR=3.3
OPO pP pP 14 49 30.4 +1.0
comp=Z,7.2nm,0.8s,baz=74,slow=8.2,SNR=7.1
IRK Irkutsk 54.10 4 *eP* **P 14 49 20.1 -0.2**
IRK pmax pmax
comp=Z,38nm,1.3s,mb5.2
ABKT Ailbek 55.13 320 P **P 14 49 27.1 -1.0**
comp=Z,96nm,0.9s,mb5.8,SNR=5.8
KURK Kurchatov 55.42 344 P **P 14 49 30.7 +0.8**
comp=Z,388nm,0.9s,mb6.4,SNR=42
KURK Kurchatov 55.42 344 *eP* **P 14 49 29.9 0.0**
KURK pmax pmax
comp=Z,60nm,0.9s,mb5.6
KURK Kurchatov 55.42 344 *eP* **P 14 49 29.9 0.0**
comp=Z,60nm,0.9s,mb5.6
ARMA Armidale 56.77 126 *eP* **P 14 49 37.7 -2.3**
ZAA0 Zalesovo Array 57.01 350 *eP* **P 14 49 41.2 0.0**
ZALV Zalesovo Beam 57.01 350 P **P 14 49 41.3 +0.1**
comp=Z,135nm,0.8s,mb6.0,baz=177,slow=5.6,SNR=405
ZALV S **S 14 57 31.9 -1.6**
comp=Z,1.9nm,0.8s,baz=153,slow=10.0,SNR=5.2
ZALV LR LR 15 18 31.5
comp=Z,118nm,18.2s,MS4.0,baz=174,slow=41
ZALV Zalesovo Beam 57.01 350 P **P 14 49 41.3 +0.1**
ZALV S **S 14 57 31.9 -1.6**
KRAR Krasnoyarsk 58.00 356⇑*iP* **P 14 49 47.9 -0.2**
KLR Kul'dur 58.02 24⇓*eP* **P 14 49 44.0 -4.4**
KLR pmax pmax
comp=E,34nm,1.2s
KLR pmax pmax
comp=Z,86nm,1.2s,mb5.7
NVS Novosibirsk 58.16 349⇑*iP* **P 14 49 47.9 -1.3**
NVS *eS* **S 14 57 39.8 -8.6**
NVS pmax pmax
comp=Z,45nm,0.9s,mb5.5
NVS pmax pmax
comp=N,38nm,1.1s
NVS pmax pmax
comp=E,19nm,1.1s
NVS smax
comp=E,62nm,3.0s
ERM Erimo 58.83 37 *eP* **P 14 49 53.9 -0.3**
HABR Khabarovsk 58.87 27 *eP* **P 14 49 51.3 -3.0**
HABR *e* 14 50 40.6
HABR *eS* **S 14 57 54.2 -3.7**
HABR *e* 14 58 06.6
HABR *e* 14 59 38.2
HABR *e* 15 01 48.3
BRVK Borovoye 60.03 340 P **P 14 50 01.2 -1.1**
comp=E,214nm,0.8s,mb6.2,SNR=9.4
BRVK Borovoye 60.03 340*i iP* **P 14 50 01.5 -0.8**
BOD Bodaibo 60.66 9 *eP* **P 14 50 06.2 -0.3**
BOD pmax pmax
comp=Z,53nm,0.9s,mb5.7
AB31 Akbulak array 61.38 332 *i* P **P 14 50 10.3 -1.2**
AB31 pmax pmax
comp=Z,35nm,0.8s,mb5.5
YSS Yuzh-Sakhalins 61.62 32⇑*iP* **P 14 50 11.5 -1.7**
YSS pmax pmax
comp=N,30nm,1.0s
YSS pmax pmax
comp=Z,120nm,1.0s,mb6.0
YSS Yuzh-Sakhalins 61.62 32 *eP* **P 14 50 12.5 -0.7**
comp=Z,139nm,1.1s,mb6.0
CLNS Chul'man 62.04 15 *eP* **P 14 50 15.2 -0.6**
CLNS *e**PP pP 14 50 24.4 -1.3
CLNS *e* 14 50 53.9
CLNS *e* 14 52 28.7
CLNS *e*PPP 14 53 58.5
CLNS *eS* **S 14 58 39.8 +1.6**
CLNS pmax pmax
comp=Z,43nm,0.8s,mb5.6
CLNS pmax pmax
comp=E,17nm,0.8s
CLNS pmax pmax
comp=N,22nm,0.8s
CLNS smax
comp=E,60μm,15.0s
CLNS smax
comp=N,65μm,12.1s
CLNS MLR MLR
comp=N,154nm,14.0s,MS4.5
CLNS MLR MLR
comp=Z,269nm,14.0s,MS4.6
CLNS MLR MLR
comp=E,193nm,14.0s,MS4.5
KMBO Kilima Mbogo 62.33 270 P **P 14 50 21.4 +2.7**
comp=E,1.2nm,0.6s,mb4.2,baz=77,slow=17,SNR=4.9
KMBO pP pP 14 50 29.6 +1.0
comp=E,8.9nm,1.0s,baz=51,slow=10,SNR=9.4
KMBO LR LR 15 14 03.5
comp=E,305nm,18.7s,MS4.5,baz=98,slow=33
KMBO Kilima Mbogo 62.33 270 P **P 14 50 20.5 +1.8**
KMBO *e**PP pP 14 50 28.9 +0.4
KMBO pmax pmax
comp=Z,10.0nm,1.0s
KMBO Kilima Mbogo 62.33 270 P **P 14 50 20.5 +1.8**
comp=Z,10.0nm,1.0s,mb4.9
KMBO *ep*P pP 14 50 28.9 +0.4
AKTK Aktyubinsk 63.09 332 *i* P **P 14 50 21.5 -1.5**
AKTO Aktyubinsk 63.09 332 P **P 14 50 21.5 -1.5**
AKTO pmax pmax
comp=Z,3.0nm,1.0s,mb4.4
GNI Garni 65.19 316*c iP* **P 14 50 37.2 +0.2**
GNI pmax pmax
comp=Z,9.0nm,1.0s
GNI Garni 65.19 316⇑*iP* **P 14 50 37.3 +0.3**
SVE Sverdlovsk 66.45 338⇓*eP* **P 14 50 44.6 -0.2**
SVE *eS* S 14 59 29.3 -3.6
SVE pmax pmax
comp=Z,49nm,0.9s,mb5.5
SVE MLR MLR
comp=Z,288nm,22.0s,MS4.4
ARU Arti 66.97 337 P **P 14 50 47.2 -0.9**
comp=Z,144nm,0.6s,mb6.2,SNR=8.4
ARU Arti 66.97 337*c iP* **P 14 50 47.3 -0.8**
ARU *e* 14 51 14.6
ARU *e* 14 53 13.1
ARU *eS* S 14 59 39.1 0.0
ARU *eSS* SS 15 03 52.0 -6.2
ARU pmax pmax
comp=Z,32nm,1.2s,mb5.2
ARU MLR MLR
comp=Z,173nm,21.0s,MS4.2
ARU Arti 66.97 337⇑*eP* **P 14 50 47.3 -0.8**
YAK Yakutsk 67.76 15 *eP* **P 14 50 51.1 -1.9**
YAK pmax pmax
comp=Z,119nm,0.8s,mb6.0
YAK pmax pmax
comp=N,40nm,1.1s
YAK pmax pmax
comp=E,26nm,1.1s
YAK Yakutsk 67.76 15 *eP* **P 14 50 51.6 -1.4**
comp=E,190nm,0.8s,mb6.2
KIV Kislovodsk 68.22 319 *eP* **P 14 50 56.0 -0.2**
KIV *eS* S 14 59 54.5 -0.1
KIV *eSS* SS 15 04 20.7 +2.6
KIV pmax pmax
comp=Z,20nm,0.8s,mb5.2
KIV Kislovodsk 68.22 319⇑*iP* **P 14 50 56.0 -0.2**
SOC Sochi 70.03 318 *eP* **P 14 51 05.2 -2.2**
SOC *eS* S 15 00 10.1 -5.9
SOC *eSS* SS 15 04 50.2 +4.2
SOC *eSSS* 15 07 51.5
SOC pmax pmax
comp=Z,16nm,0.8s,mb5.0
MAW Mawson 70.27 194⇑*iP* **P 14 51 10.0 +1.5**
comp=Z,4.9nm,0.9s,mb4.4
MAW Mawson 70.27 194 P **P 14 51 10.1 +1.7**
comp=Z,3.0nm,0.9s,mb4.2,baz=34,slow=8.5,SNR=7.5
MAW LR LR 15 14 15.0
comp=Z,291nm,21.3s,MS4.5,baz=46,slow=29
MAW Mawson 70.27 194⇑*iP* **P 14 51 10.0 +1.5**
MAW pmax pmax
comp=Z,5.0nm,0.9s
BR131 Keskin Array S 72.97 313 *eP* **P 14 51 23.7 -1.6**
comp=Z,3.7nm,0.7s,mb4.4
PETK Petropavlovsk- 73.03 32 P **P 14 51 24.7 -0.6**
comp=Z,12nm,0.8s,mb4.9,baz=167,slow=0.6,SNR=21
PETK LR LR 15 28 50.4
comp=Z,53nm,18.9s,baz=266,slow=40
VSR Storozhevoye 73.48 325 *eP* **P 14 51 26.7 -1.4**
VSR *e**PP pP 14 51 34.5 -3.6
VSR pmax pmax
comp=N,10.0nm,0.7s
VSR pmax pmax
comp=Z,10.0nm,0.7s,mb4.8
VSR pmax pmax
comp=E,30nm,1.0s
PET Petropavlovsk 73.50 33 *eP* **P 14 51 27.6 -0.5**
PET *eS* S 15 00 53.7 -1.9
PET pmax pmax
comp=Z,47nm,0.6s,mb5.6
PET MLR MLR

comp=Z,200nm,19.0s,MS4.4
PET Petropavlovsk 73.50 33 *e*P P **14 51 27.4 -0.8**
comp=Z,15nm,0.4s,mb5.3
BOSA Boshof 75.35 241 pP pP 14 51 49.6 +0.1
comp=Z,7.8nm,0.9s,baz=69,slow=8.0,SNR=5.8
BOSA LR LR 15 20 07.3
comp=Z,233nm,18.3s,MS4.5,baz=131,slow=32
SEY Seymchan 75.70 22⇑ *e*P P **14 51 40.6 -0.1**
TIXI Tiksi 75.84 9⇑ *e*P P **14 51 39.8 -1.5**
TIXI pmax pmax
comp=Z,36nm,2.0s,mb5.0
TIXI Tiksi 75.84 9 *e*P P **14 51 39.8 -1.5**
comp=Z,8.5nm,0.5s,mb4.9
MOS Moscow 76.22 329 *e*P P **14 51 42.4 -1.4**
MOS pmax pmax
comp=Z,52nm,0.9s,mb5.5
OBN Obninsk 76.51 328*c i*P P **14 51 44.8 -0.7**
OBN *i* pP 14 51 55.6 +0.1
OBN pmax pmax
comp=Z,48nm,1.6s,mb5.2
OBN Obninsk 76.51 328⇑ *i*P P **14 51 44.9 -0.6**
KLMR Klimovskoe 77.58 334 *e*P P **14 51 48.3 -3.0**
KLMR pmax pmax
comp=Z,26nm,1.3s,mb5.0
SYO Syowa Base 77.82 199⇓ *e*P P **14 51 52.4 -0.2**
SYO Syowa Base 77.82 199⇓ *e*PcP PcP 14 52 01.6 -0.8
SYO Syowa Base 77.82 199⇓ *e*pP pP 14 52 03.6 +0.9
HARR Harsova 78.41 316⇑ *i*P P **14 51 54.6 -1.7**
AKASG Malin Array Be 79.17 322 P P **14 51 59.7 -0.7**
comp=Z,1.5nm,0.5s,mb4.2,baz=90,slow=4.8,SNR=5.5
AKASG LR LR 15 31 02.0
comp=Z,78nm,21.0s,MS4.0,baz=60,slow=39
SUR Sutherland 79.51 238 P P **14 52 04.1 +1.5**
comp=Z,5.4nm,0.8s,mb4.5,baz=71,slow=11,SNR=2.8
VRI Vrincioaia 79.52 317⇑ *i*P P **14 52 03.2 +0.8**
PLOR Plostina 79.57 317⇑ *i*P P **14 52 04.0 +1.4**
MLR Muntele Rosu 79.97 317⇑ *i*P P **14 52 05.3 +0.5**
BURAR Bucovina Array 80.93 319⇑ *i*P P **14 52 10.9 +0.9**
TSUM Tsumeb 81.83 251 P P **14 52 17.0 +1.6**
comp=Z,1.4nm,0.8s,mb4.0,baz=233,slow=20,SNR=3.5
JOF Joensuu 81.97 335 *e*p P **14 52 15.1 0.0**
comp=Z,6.8nm,0.6s,mb4.8
JOF Joensuu 81.97 335 *e*P P **14 52 15.1 0.0**
JOF pmax pmax
comp=Z,7.0nm,0.6s,mb4.8
LVV L'vov 82.18 321 *e*P P **14 52 20.7 +4.2**
DRGR 82.44 318⇑ *i*P P **14 52 18.6 +0.7**
LVZ Lovozero 82.56 340 P P **14 52 26.2 +8.1**
comp=Z,695nm,0.4s,SNR=57
VSU Vasula 82.73 330⇑ *i*P P **14 52 19.0 -0.2**
APA Apatity 82.87 339⇓ *e*P P **14 52 16.0 -3.7**
APA *i* pP 14 52 26.2 -3.7
APA pmax pmax
comp=Z,43nm,1.3s,mb5.3
APA MLR MLR
comp=Z,400nm,19.0s,MS4.8
BZS Buzias 82.97 316⇓ *i*P P **14 52 21.3 +0.6**
KOLS Kolonicke sedl 83.13 320 *i* P P **14 52 22.4 +0.9**
SUW Suwalki 83.59 325 *e*P P **14 52 23.8 +0.1**
CRVS Cervenica-Dubn 83.65 319 *e*P P **14 52 24.8 +0.7**
CRVS *e* 14 52 57.1
STHS Stebnicka Huta 83.88 320 *i* P P **14 52 26.1 +0.8**
STHS pmax pmax
comp=Z,5.0nm,0.9s,mb4.6
STHS Stebnicka Huta 83.88 320 *i* P P **14 52 26.1 +0.8**
comp=Z,5.0nm,0.9s,mb4.6
KAF Kangasniemi 83.93 333 *e*p P **14 52 24.9 -0.4**
comp=Z,18nm,0.6s,mb5.4,baz=100,slow=4.7
KAF Kangasniemi 83.93 333 *e*P P **14 52 24.9 -0.4**
KAF pmax pmax
comp=Z,19nm,0.6s,mb5.4
VYHS Vyhne 85.30 319 *e*P P **14 52 32.6 +0.1**
KEV Kevo 85.82 341 *e*p P **14 52 34.0 -0.6**
comp=Z,8.2nm,0.8s,mb5.0
KEV Kevo 85.82 341 *e*P P **14 52 34.0 -0.6**
KEV pmax pmax
comp=Z,8.0nm,0.8s,mb5.0
ARCES ARCESS Array B 86.26 340 P P **14 52 37.1 +0.3**
comp=Z,14nm,0.8s,mb5.2,baz=97,slow=5.3,SNR=21
ARCES LR LR 15 35 14.0
comp=Z,178nm,19.1s,MS4.5,baz=274,slow=38
DPC Dobruska-Polom 87.17 320 *e*P P **14 52 42.7 +1.0**
DPC AMS AMS 15 39 10.0
BOJS Bojanci 87.39 316 *i* P P **14 52 43.1 +0.3**
PERS Pernice 87.59 317 *i* P P **14 52 44.6 +0.8**
TREC Trest 87.59 319 *e*P P **14 52 43.3 -0.4**
TREC AMS AMS 15 37 50.0
VISS Visnje 87.70 316 *i* P P **14 52 44.5 +0.2**
PRU Pruhonice 88.27 320 AMS AMS 15 39 00.0
comp=Z,100nm,6.7s
GEC2 GERESS Array S 88.72 319 *e*P P **14 52 49.6 +0.5**
GEC2 pmax pmax
comp=Z,18nm,1.7s,mb5.1
GEC2 GERESS Array S 88.72 319 *e*P P **14 52 49.6 +0.5**
comp=Z,18nm,1.7s,mb5.1
GERES GERESS Array B 88.72 319 P P **14 52 49.2 +0.1**
comp=Z,2.2nm,0.7s,mb4.6,baz=98,slow=4.0,SNR=17
GERES pP pP 14 52 59.0 -0.4
comp=Z,1.1nm,0.7s,baz=108,slow=4.3,SNR=3.9
BRG Berggiesshubel 88.72 321 *i* P P **14 52 49.5 +0.4**
BRG *e* pP 14 52 59.5 +0.2
BRG pmax pmax
comp=Z,4.0nm,0.9s,mb4.8
BRG Berggiesshubel 88.72 321 *e*P P **14 52 49.5 +0.4**
comp=Z,7.0nm,0.9s,mb5.0
BRG Berggiesshubel 88.72 321 *i* P P **14 52 49.5 +0.5**
comp=Z,7.3nm,0.9s,mb5.0
BRG *e* pP 14 52 59.5 +0.2
comp=Z,11nm,1.3s
KHC Kasperske Hory 88.83 319⇑ *i*P P **14 52 50.1 +0.5**
KHC Kasperske Hory 88.83 319 *e*P P **14 52 48.7 -0.9**
KHC AMS AMS 15 41 30.0
RUE Ruedersdorf 88.95 322 *e*P P **14 52 51.2 +1.1**
comp=Z,34nm,0.7s,mb5.8
FBE Freiberg 89.10 321 *e*P P **14 52 51.5 +0.7**
comp=Z,8.0nm,0.8s,mb5.1
RJOB Jochberg 89.25 318 *e*P P **14 52 51.4 -0.2**
comp=Z,7.0nm,1.1s,mb4.9
WET Wettzell 89.29 319 *e*P P **14 52 52.3 +0.6**
WET pmax pmax
comp=Z,9.0nm,0.3s,mb5.6
WET Wettzell 89.29 319 *e*P P **14 52 52.3 +0.6**
comp=Z,9.0nm,0.3s,mb5.6
CLL Collm 89.35 321 *e*P P **14 52 52.4 +0.4**
comp=Z,7.0nm,1.2s,mb4.9
CLL Collm 89.35 321 *e*P P **14 52 52.0 0.0**
CLL *ex* x 14 53 00.0
CLL *e*pP pP 14 53 04.0 +1.8
CLL *e*PP PP 14 56 25.0 +1.9
CLL Collm 89.35 321 *e*P P **14 52 52.0 0.0**
CLL *e*pP pP 14 53 00.0 -2.2
TANN Tannenbergstha 89.63 320 *e*P P **14 52 53.9 +0.6**
comp=Z,25nm,2.2s,mb5.2
WERN Wernitzgruen 89.68 320 *e*P P **14 52 54.0 +0.4**
comp=Z,8.0nm,1.2s,mb4.9
GUNZ Gunzen 89.71 320 *e*P P **14 52 54.1 +0.4**
comp=Z,5.0nm,0.8s,mb4.9
ROTZ Rotzenmuhle 89.76 320 *e*P P **14 52 54.8 +0.8**
comp=Z,6.0nm,1.0s,mb4.9
MANZ Manzenberg 89.84 320 *e*P P **14 52 55.2 +0.9**
comp=Z,9.0nm,1.1s,mb5.0
MOX Moxa 90.19 320 *e*P P **14 52 56.7 +0.8**
MOX Moxa 90.19 320 *e*P P **14 52 56.4 +0.5**
comp=Z,4.0nm,0.9s,mb4.8
GRA1 Grafenberg Arr 90.39 320 *e*P P **14 52 57.5 +0.6**
comp=Z,11nm,0.9s,mb5.2
GRF Grafenberg Arr 90.39 320 *e*P P **14 52 57.5 +0.6**
GRF pmax pmax
comp=Z,11nm,0.9s,mb5.2
GRF Grafenberg Arr 90.39 320 *e*P P **14 52 57.5 +0.6**
GRF pmax pmax
comp=Z,11nm,0.9s,mb5.2
GRF Grafenberg Arr 90.39 320 *e*P P **14 52 57.5 +0.6**
comp=Z,11nm,0.9s,mb5.2
NB2 NORSAR Subarra 90.88 331 P P **14 52 58.3 -0.6**
comp=Z,3.3nm,0.8s,mb4.7,baz=95,slow=4.6
NOA NORSAR Array B 90.88 331 P P **14 52 58.7 -0.2**
comp=Z,1.8nm,0.7s,mb4.5,baz=93,slow=4.7,SNR=7.9
NOA LR LR 15 38 53.4
comp=Z,60nm,20.8s,MS4.0,baz=60,slow=39
NOA NORSAR Array B 90.88 331 P P **14 52 58.7 -0.2**
NOA LR LR 15 38 53.4
KEST Kesra 91.31 306 P P **14 53 03.1 +1.5**
comp=Z,2.7nm,0.8s,mb4.6,baz=250,slow=1.7,SNR=8.6
KEST pP pP 14 53 10.8 -1.0
comp=Z,3.4nm,0.9s,baz=344,slow=5.0,SNR=6.0
SNAA Sanae 92.10 198⇑ *i*P P **14 53 05.4 +1.0**
TNS Taunus Mts 92.20 320 *e*P P **14 53 05.7 +0.4**
TNS pmax pmax
comp=Z,12nm,1.0s,mb5.2
TNS Taunus Mts 92.20 320 *e*P P **14 53 05.7 +0.4**
comp=Z,12nm,1.0s,mb5.2
MBDF Montbardon 93.35 315 *e*P P **14 53 14.1 +3.4**
LPG La Plagne 93.36 315 *e*P P **14 53 10.9 +0.2**
comp=Z,7.3nm,0.7s,mb4.9
LPG La Plagne 93.36 315 *e*P P **14 53 10.9 +0.2**
LPG pmax pmax
comp=Z,4.0nm,0.7s,mb5.0
LPG La Plagne 93.36 315 *e*P P **14 53 10.9 +0.2**
comp=Z,3.7nm,0.7s,mb4.9
LPL La Plagne 93.37 315 *e*P P **14 53 10.9 +0.1**
TORD Torodi Ar. Bea 98.13 283 pP pP 14 53 42.5 -1.0
comp=Z,1.0nm,1.0s,baz=110,slow=3.9,SNR=4.2
TBI Tubuai 108.37 115 *e*LR LR 15 30 12.3
comp=Z,135nm,22.8s
PPT Papeete 109.20 109 *e*LR LR 15 30 34.9
comp=Z,106nm,22.8s
SCHQ Schefferville 126.10 350 PKhKP 14 58 54.9
comp=Z,3.4nm,0.7s,baz=27,slow=6.2,SNR=4.1
NVAR Mina Array Bea 129.79 39 PKP PKPdf 14 59 06.9 +1.6
comp=Z,1.5nm,0.7s,baz=261,slow=2.7,SNR=11
ULM Lac du Bonnet 130.08 13 PKP PKPdf 14 59 05.3 -0.1
comp=Z,5.1nm,0.5s,baz=322,slow=5.0,SNR=8.5
PDAR Pinedale Array 131.70 29 PKP PKPdf 14 59 07.9 -0.9
comp=Z,0.9nm,0.7s,baz=48,slow=2.2,SNR=6.3
WMOK Wichita Mounta 143.12 26 *e*PKIKP PKPdf 14 59 25.5 -4.5
CPUP Villa Florida 144.15 217 PKP PKPdf 14 59 31.6 -0.5
comp=Z,2.1nm,0.6s,baz=141,slow=3.1,SNR=6.1
CPUP pPKP pPKPdf 14 59 40.1 -2.5
comp=Z,18nm,0.8s,baz=111,slow=4.0,SNR=12
CPUP Villa Florida 144.15 217 *e*PKPdf PKPdf 14 59 31.1 -1.0
CPUP *e* 14 59 39.4
TXAR Lajitas Array 144.88 37 PKP PKPdf 14 59 33.0 -0.3
comp=Z,30nm,0.7s,baz=282,slow=1.2,SNR=381
TXAR Lajitas Array 144.88 37 PKP PKPdf 14 59 33.0 -0.3
MIAR Mount Ida 145.29 19 *e*PKIKP PKPdf 14 59 33.2 -0.6
TZTN Tazewell 145.42 4 *e*PKP PKPdf 14 59 33.1 -0.9
UALR University of 145.47 17 *e*PKP PKPdf 14 59 33.4 -0.8
JCT Junction City 146.16 31 *e*PKP2 PKPab 14 59 35.9 -1.1
OXF Oxford 146.50 14 *e*PKP2 PKPab 14 59 35.9 -2.3
NATX Nacogdoches 147.41 23 *e*PKPbc PKPbc 14 59 39.0 -1.0
JSC Jenkinsville 147.79 1 *e*PKP2 PKPab 14 59 40.1 -3.1

IDC 02 14:55:58.9±3.7, 515S×15315E, h0km, mb3.1/2, mb1 3.4/2, mb1mx3.2/15, mbtmp3.1/2, MS4.2/1, Ms1 4.2/1, ms1mx3.0/13, Error ellipse: s-maj=180.5km s-min=46.9km az=122.0, New Ireland region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.48**	**230**	P	P	P	15 01 10.2	-0.4
	0.3nm,0.5s,baz=53,slow=9.9,SNR=4.7							
ASAR	**Alice Springs**	**26.13**	**223**	P	P	P	15 01 35.1	+0.3
	0.3nm,0.7s,baz=60,slow=9.6,SNR=7.9							
RAO	**Raoul Island**	**36.38**	**135**	LR	LR	LR	15 15 43.5	
	comp=Z,351nm,21.6s,baz=286,slow=33							
TORD	**Torodi Ar. Bea**	**150.74**	**288**	PKPbc	PKPbc	PKPbc	15 15 54.1	-0.2
	0.2nm,0.4s,baz=75,slow=1.6,SNR=3.7							

DDA ***02*** *14:56:55.1, 3889N×2636E, h7km±4km, Md2.9*
CSEM 02 14:56:58.3±0.2, 3893N×2676E, h2km, MD2.9, Error ellipse: s-maj=5.8km s-min=2.7km az=76.0, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
AYVA	**Ayvalik**	**0.39**	**351**	*i* P	Pg	Pg	14 57 06.4	+0.7
AYVA				*i* S	Sg	Sg	14 57 11.7	+1.0
BLCB	**Balcova**	**0.58**	**158**	*e*PG	Pg	Pg	14 57 10.5	+1.0
BLCB				*e*SG	Sg	Sg	14 57 19.8	+2.7
IZM	**Izmir**	**0.66**	**143**	*e*PG	Pg	Pg	14 57 13.0	+2.1
AKS	**Akhisar**	**0.82**	**93**	*e*PG	Pg	Pg	14 57 14.8	+0.8
BALY	**Balya**	**1.05**	**39**	*i* P	Pg	Pg	14 57 20.2	+1.8
BALY				*i* S	Sg	Sg	14 57 37.4	+5.4

ISCJB ***02*** *15:13:26.2±2.8, 215S±0.1×1765W±0.3, h106km±40km, mb4.1/6, Error ellipse: s-maj=43.0km s-min=22.8km az=12.0*
NEIC ***02*** *15:13:29.9±2.2, 2143S×17627W, h143km±27km, mb4.3/1, Error ellipse: s-maj=28.8km s-min=19.1km az=116.0*
IDC ***02*** *15:13:30.0±4.2, 2135S×17635W, h138km±47km, mb3.8/5, mb1 3.9/7, mb1mx3.6/18, mbtmp3.8/7, MS3.7/1, Ms1 3.7/1, ms1mx2.6/40, Error ellipse: s-maj=37.4km s-min=33.5km az=145.0*
ISC 02 15:13:27.7±2.4, 215S±01×1765W±0.3, h106km±37km, n13, σ0s76/14, mb4.1/6, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**8.79**	**31**	P	Pn	Pn	**15 15 32.0**	**+0.1**
	0.4nm,0.3s,baz=195,slow=20,SNR=3.0							
AFI				S	Sn	Sn	**15 17 03.0**	**-6.2**
	1.7nm,0.3s,baz=99,slow=19,SNR=3.8							
URZ	**Urewera**	**17.58**	**197**	P	Pn	Pn	**15 17 25.6**	**-0.3**
	1.3nm,0.3s,baz=340,slow=20,SNR=7.8							
URZ				S	S	S	**15 20 24.1**	**-18**
	0.3nm,0.3s,baz=143,slow=10,SNR=4.0							
CTA	**Charters Tower**	**34.84**	**265**	*e*P	P	P	**15 20 09.9**	**+1.1**
	4.5nm,0.8s,mb4.3							
CTA	**Charters Tower**	**34.84**	**265**	P	P	P	**15 20 09.4**	**+0.6**
	6.1nm,0.8s,mb4.5,baz=325,slow=20,SNR=7.0							
CTA				LR	LR	LR	15 31 00.6	
	comp=Z,125nm,19.2s,baz=215,slow=30							
STKA	**Stephens Creek**	**38.66**	**246**	P	P	P	**15 20 42.6**	**+1.6**
	1.4nm,0.4s,mb4.2,baz=99,slow=12,SNR=5.0							
ASAR	**Alice Springs**	**45.70**	**257**	P	P	P	**15 21 38.2**	**-0.1**
	2.8nm,0.8s,mb4.0,baz=99,slow=8.2,SNR=19							
WB2	**Warramunga Arr**	**45.89**	**263**	*e*P	P	P	**15 21 38.9**	**-0.9**
WB2	**Warramunga Arr**	**45.89**	**263**	*e*P	P	P	**15 21 38.5**	**-1.3**
WRA	**Warramunga Arr**	**45.90**	**263**	P	P	P	**15 21 39.2**	**-0.7**
	0.9nm,0.5s,mb3.8,baz=90,slow=8.3,SNR=80							
FITZ	**Fitzroy Crossi**	**54.33**	**263**	*e*P	P	P	**15 22 43.2**	**-0.4**
	2.4nm,0.9s,mb4.2							
FITZ	**Fitzroy Crossi**	**54.33**	**263**	*e*P	P	P	**15 22 43.3**	**-0.3**
MAW	**Mawson**	**81.09**	**199**	P	P	P	**15 25 31.0**	**+0.2**
	0.9nm,0.6s,mb3.8,baz=128,slow=11,SNR=4.1							
AKASG	**Malin Array Be**	**144.60**	**332**	PKP	PKPdf		15 32 48.3	-3.3
	0.7nm,0.3s,baz=38,slow=4.7,SNR=4.5							

GUC ***02*** *15:32:59.6±0.8, 2597S×7031W, h18km±6km, ML4.9*
LDG ***02*** *15:32:59.5±0.8, 2530S×7043W, h10km, Mb5.3/10, Ms4.1/1, Error ellipse: s-maj=51.3km s-min=45.5km az=33.0*
ISCJB ***02*** *15:33:00.2±0.1, 2589S±002×7052W±004, h29km, mb5.0/71, Error ellipse: s-maj=5.0km s-min=3.5km az=166.6*
NEIC ***02*** *15:33:01.6±0.2, 2585S×7056W, mb5.0/50, ML4.9(GUC), Error ellipse: s-maj=6.4km s-min=4.0km az=76.0*
NEIC Felt [II] at Copiapo, Taltal and Tierra Amarilla.
IDC ***02*** *15:33:01.7±0.4, 2585S×7061W, h29km±2km, mb4.7/16, mb1 4.7/21, mb1mx4.7/25, mbtmp4.6/21, ML4.7/4, Error ellipse: s-maj=15.1km s-min=11.6km az=77.0*
MOS ***02*** *15:33:01.0±1.2, 2574S×7058W, h33km, mb5.3/24, Error ellipse: s-maj=13.3km s-min=7.7km az=93.4*
BJI ***02*** *15:33:03.6, 2590S×7060W, h29km, mB5.2, Ms5.3, Msz5.0*
ISC 02 15:33:02.3±0.1, 2589S±002×7050W±004, h31km, h31km±4km: pP-P, n482, σ0s66/423, mb5.0/71, 142C-119D, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
CPN1	**Cerro Paranal**	**1.26**	**4**	*e*P	Pn	Pn	**15 33 23.7**	**-0.1**
CPN1				*i* S	Sn	Sn	**15 33 41.1**	**+1.4**
CPN1				AML	AML	AML	15 33 45.1	
	comp=N,39μm,0.6s							
ANCH	**Antofagasta**	**2.20**	**2**	*e*P	Pn	Pn	**15 33 35.4**	**-1.4**
ANCH				*i* S	Sn	Sn	**15 34 04.0**	**+1.1**
ANCH				AML	AML	AML	15 34 11.2	
	comp=N,15μm,0.6s							
ANCH	**Antofagasta**	**2.20**	**2**	*e*P	Pn	Pn	**15 33 35.4**	**-1.4**
ANCH				*i* S	Sn	Sn	**15 34 04.0**	**+1.1**
CEN1	**Los Morros**	**2.50**	**6**	*e*P	Pn	Pn	**15 33 38.6**	**-2.3**
CEN1				*i* S	Sn	Sn	**15 34 09.1**	**-1.2**
CEN1				AML	AML	AML	15 34 17.8	
comp=E,4μm,0.6s
VACH Vallenar 2.69 185 *e*P Pn **15 33 42.3 -1.1**
VACH *i* S Sn **15 34 14.6 -0.3**
VACH AML AML 15 34 28.5
comp=N,6μm,0.4s
VACH Vallenar 2.69 185 *e*P Pn **15 33 42.3 -1.1**
VACH *i* S Sn **15 34 14.6 -0.3**
LCO Las Campanas 3.12 183 *e*P Pn **15 33 48.6 -0.8**
LCO Las Campanas 3.12 183 *e*Pn Pn **15 33 48.5 -0.8**
LVC Limon Verde 3.57 24 Pn Pn **15 33 56.8 +1.2**
comp=N,30nm,0.3s,baz=226,slow=9.7,SNR=157
LVC Pg Pn **15 34 06.9 +11**
comp=N,200nm,0.3s,baz=225,slow=12,SNR=93
LVC Lg 15 34 50.7
comp=N,202nm,0.3s,baz=163,slow=18,SNR=5.4
LVC Limon Verde 3.57 24 *e*Pn Pn **15 33 57.5 +2.0**
CFAA Coronel Fontan 6.03 161 Pn Pn **15 34 31.3 +1.9**
comp=N,1.0nm,0.3s,baz=331,slow=13,SNR=61
CFAA Sn **Sn** **15 35 47.2 +10**
comp=N,9.0nm,0.3s,baz=203,slow=13,SNR=10
CFAA Coronel Fontan 6.03 161 Pn Pn **15 34 31.3 +1.9**
CFAA Sn **Sn** **15 35 47.2 +10**
ARE Arequipa 9.42 354 *e*P Pn **15 35 13.0 -3.0**
ARE Arequipa 9.42 354 *e*S Sx 15 37 53.0
LPAZ La Paz 9.80 14 Pn Pn **15 35 21.9 +0.6**
comp=N,2.7nm,0.3s,baz=209,slow=7.2,SNR=71
LPAZ La Paz 9.80 14 *e*P Pn **15 35 21.5 +0.3**
LPAZ pmax pmax
comp=Z,1.0nm,0.9s
LPAZ La Paz 9.80 14 *e*Pn Pn **15 35 21.5 +0.3**
comp=Z,0.9nm,0.9s
CPUP Villa Florida 11.85 95 Pn Pn **15 35 50.1 +1.0**
comp=Z,1.5nm,0.3s,baz=262,slow=12,SNR=17
CPUP Villa Florida 11.85 95 *e*P Pn **15 35 50.0 +0.8**
CPUP pmax pmax
comp=Z,160nm,0.7s
CPUP Villa Florida 11.85 95 *e*Pn Pn **15 35 50.0 +0.8**
comp=Z,160nm,0.7s
SIV San Ignacio 13.21 44 Pn Pn **15 36 05.1 -2.7**
comp=Z,3.1nm,0.3s,baz=241,slow=12,SNR=62
SIV Sn **Sn** **15 38 35.2 +1.6**
baz=284,slow=15,SNR=6.2
TRQA Tornquist 14.12 151 *e*P Pn **15 36 19.3 -0.7**
comp=Z,39nm,0.7s
TRQA *e*S Sn **15 39 01.1 +5.5**
PLCA Paso Flores 14.80 180 Pn Pn **15 36 29.5 +0.1**
comp=Z,0.4nm,0.3s,baz=3.9,slow=13,SNR=18
PLCA Lg 15 40 39.1
comp=Z,0.2nm,0.3s,baz=338,slow=7.7,SNR=3.4
PLCA Paso Flores 14.80 180 Pn Pn **15 36 29.5 +0.1**
PLCA Lg 15 40 39.1
SPB Sao Paulo 21.08 89 *e*P P **15 37 45.3 +1.2**
VAO Valinhos 21.61 87 *e*P P **15 37 49.9 0.0**
VAO *i* 15 37 51.0
VAO *i* 15 37 52.8
VAO *i* 15 37 55.5
VAO *i* 15 38 01.4
VAO *i* 15 38 04.5
BDFB Brasilia 23.34 68 P P **15 38 07.2 -1.0**
comp=Z,59nm,0.9s,mb5.0,baz=230,slow=15,SNR=26
BDFB pP 15 38 17.4
comp=Z,57nm,0.8s,baz=239,slow=14,SNR=12
OTAV Otavalo 27.08 342 *e*P P **15 38 42.0 -0.3**
comp=Z,6.5nm,0.9s,mb4.2
CAM3 Guarapari 27.98 86⇓ *i*P P **15 38 51.0 +0.6**
CAM3 *i* pP 15 38 58.5 -0.9
CAM3 *i* 15 39 03.6
CAM3 *i* 15 39 08.9
CAM3 *i* 15 39 25.5
CAM3 *i* 15 39 28.7
USHA Ushuaia 28.95 178 P P **15 38 57.7 -0.9**
comp=Z,13nm,0.9s,mb4.7,baz=272,slow=7.8,SNR=6.2
SDV Santo Domingo 34.56 360 P P **15 39 47.0 -1.3**
comp=Z,4.3nm,0.3s,mb4.9,baz=186,slow=20,SNR=3.5
SJG San Juan 43.94 6 *e*P P **15 41 03.7 -2.8**
SJG pmax pmax
comp=Z,21nm,0.6s
SJG San Juan 43.94 6 *e*P P **15 41 03.6 -2.8**
comp=Z,21nm,0.6s,mb5.0
TEIG Tepich 48.98 338 P P **15 41 44.6 -1.4**
comp=Z,12nm,0.8s,mb5.0,baz=144,slow=3.8,SNR=5.9
TEIG Tepich 48.98 338 P P **15 41 44.6 -1.4**
VNA3 Neumayer Olymp 56.43 160 *e*P P **15 42 40.3 -0.3**
VNA3 *e* pP 15 42 50.2 +0.1
VNA3 *e* 15 42 54.4
VNA3 *e* 15 42 58.2
VNA1 Neumayer--Stat 56.69 159 *e*P P **15 42 42.4 0.0**
VNA1 *e* pP 15 42 53.0 +1.1
VNA1 *e* 15 42 56.5
VNA1 *e* 15 43 00.3
VNA2 Neumayer--Watz 57.04 160 *e*P P **15 42 44.7 -0.2**
baz=288,slow=9.7
VNA2 *e* pP 15 42 54.4 0.0
VNA2 *e* 15 42 58.7
VNA2 *e* 15 43 02.6
SNAA Sanae 58.65 160 *e*P P **15 42 55.5 -0.7**
SNAA *e* 15 43 09.5
SNAA *e* 15 43 13.4
SNAA Sanae 58.65 160*c i*P P **15 42 55.4 -0.8**
SNAA Sanae 58.65 160 *e*P P **15 42 55.6 -0.6**
comp=Z,7.8nm,0.7s,mb4.8
CPCT Cooper Cave 62.43 347 *e*P P **15 43 20.5 -1.8**
CPCT *e*pP pP 15 43 29.6 -2.4
TKL Tuckaleechee C 62.48 348 *e*P P **15 43 20.7 -2.0**
SWET Sewanee 62.50 346 *e*P P **15 43 21.0 -1.8**
JCT Junction City 62.67 332 *e*P P **15 43 23.0 -1.1**
JCT pmax pmax
comp=Z,13nm,0.7s,mb5.2
JCT Junction City 62.67 332 *e*P P **15 43 23.0 -1.0**
comp=Z,13nm,0.7s,mb5.2
MAIT Maitri 63.26 158 *e*P P **15 43 27.7 +0.3**
TXAR Lajitas Array 63.46 328 P P **15 43 28.7 -0.6**
comp=Z,1.1nm,0.7s,mb4.1,baz=149,slow=7.1,SNR=13
WVT Waverly 63.81 344 *e*P P **15 43 29.2 -2.3**
WVT *e* pP 15 43 37.9 -3.3
WVT pmax pmax
comp=Z,18nm,0.8s,mb5.2
WVT Waverly 63.81 344 *e*P P **15 43 29.2 -2.3**
comp=Z,18nm,0.8s,mb5.1
WVT *e* pP 15 43 37.9 -3.3
MIAR Mount Ida 63.96 339 *e*P P **15 43 31.3 -1.2**
MIAR pmax pmax
comp=Z,14nm,1.1s,mb4.9
MIAR Mount Ida 63.96 339 *e*P P **15 43 31.3 -1.2**
comp=Z,14nm,1.1s,mb4.9
QSPA South Pole Qui 64.32 180 P P **15 43 34.9 +0.5**
comp=Z,32nm,0.8s,mb5.4,baz=156,slow=2.1,SNR=292
WCI Wyandotte Cave 65.48 346 *e*P P **15 43 40.1 -2.2**
WCI pmax pmax
comp=Z,24nm,0.8s,mb5.3
WCI Wyandotte Cave 65.48 346 *e*P P **15 43 40.1 -2.2**
comp=Z,24nm,0.8s,mb5.3
FVM French Village 66.23 343 *e*P P **15 43 45.7 -1.4**
FVM *e**PP pP 15 43 54.4 -2.5
FVM pmax pmax
comp=Z,32nm,1.0s,mb5.3
FVM French Village 66.23 343 *e*P P **15 43 45.7 -1.5**
comp=Z,32nm,1.0s,mb5.3
FVM *e*pP pP 15 43 54.4 -2.4
CCM Cathedral Cave 66.52 342 *e*P P **15 43 47.2 -1.8**
CCM *e**PP pP 15 43 56.5 -2.2
CCM pmax pmax
comp=Z,11nm,0.8s,mb4.9
CCM Cathedral Cave 66.52 342 *e*P P **15 43 47.1 -1.8**
comp=Z,11nm,0.8s,mb5.0
CCM *e*pP pP 15 43 56.5 -2.2
BRYW Bryant College 67.47 359 *e*P P **15 43 55.1 +0.1**
comp=Z,109nm,1.0s,mb5.8
BRYW *e*pP pP 15 44 04.1 -0.6
319A Douglas 67.93 325⇑ P P **15 43 58.2 +0.1**
baz=68
HRV Adam Dziewonsk 68.06 359 *e*P P **15 43 57.4 -1.2**
HRV pmax pmax
comp=Z,21nm,0.8s,mb5.2
HRV Adam Dziewonsk 68.06 359 *e*P P **15 43 57.4 -1.2**
comp=Z,21nm,0.8s,mb5.2
318A Bisbee 68.36 324⇓ P P **15 44 00.9 +0.2**
baz=69,SNR=9.4
219A White Tail Can 68.42 325⇓ P P **15 44 01.4 +0.3**
baz=69,SNR=8.7
218A Dragoon 68.80 325⇑ P P **15 44 04.0 +0.4**
baz=69
LPM Los Pinos Moun 68.99 328 *e*P P **15 44 05.0 +0.3**
LPM *e*pP pP 15 44 14.3 -0.1
ACCN Adirondack Com 68.99 358 *e*P P **15 44 04.2 -0.2**

comp=Z,11nm,0.8s,mb4.8
119A **Ashpeak Ranch,** 69.05 326 ⇑P P 15 44 05.3 +0.2
baz=69
217A **Green Valley** 69.05 324 ⇓P P 15 44 05.2 +0.1
baz=69,SNR=6.9
118A **Homack Ranch,** 69.29 325 ⇓P P 15 44 06.6 0.0
baz=70,SNR=7.5
ANMO **Albuquerque** 69.43 329 *eP* P 15 44 07.5 +0.1
ANMO *e**PP pP 15 44 16.7 -0.4
ANMO pmax pmax
comp=Z,16nm,1.4s
ANMO Albuquerque 69.43 329 *eP* P 15 44 07.5 +0.1
comp=Z,16nm,1.4s,mb4.8
ANMO *epP* pP 15 44 16.7 -0.4
Z19A **T-Link Ranch,** 69.45 326 ⇓P P 15 44 08.2 +0.7
baz=70
TUC **Tucson** 69.45 324 *eP* P 15 44 07.6 0.0
TUC *e**PP pP 15 44 16.9 -0.5
TUC pmax pmax
comp=Z,3.0nm,1.0s,mb4.2
TUC Tucson 69.45 324 *eP* P 15 44 07.6 0.0
comp=Z,3.2nm,1.0s,mb4.2
TUC *epP* pP 15 44 16.9 -0.5
216A **Three Points,** 69.57 324 ⇑P P 15 44 08.3 0.0
baz=70
MDV **Middlebury** 69.59 358 *eP* P 15 44 07.7 -0.4
NCB **Newcomb** 69.60 357 *eP* P 15 44 07.6 -0.6
comp=Z,8.8nm,0.8s,mb4.7
117A **Oracle** 69.64 324 ⇑P P 15 44 08.6 -0.1
baz=70
Y19A **Nutrioso** 69.97 326 ⇑P P 15 44 10.8 +0.1
baz=70,SNR=11
116A **Eloy** 70.14 324 ⇓P P 15 44 11.7 0.0
baz=70
LONY **Lake Ozonia** 70.26 357 *eP* P 15 44 11.8 -0.4
comp=Z,14nm,0.8s,mb5.0
LONY *e* pP 15 44 21.0 -1.0
214A **Organ Pipe Nat** 70.27 323 ⇑P P 15 44 13.0 +0.4
baz=70,SNR=8.2
X19A **St. Johns** 70.36 327 ⇑P P 15 44 13.3 +0.1
baz=71
Y17A **Roosevelt** 70.57 325 ⇑P P 15 44 14.6 +0.2
baz=71,SNR=7.5
X18A **Snowflake** 70.77 326 ⇓P P 15 44 16.2 +0.5
baz=71
LIC **Lamto** 71.04 73 ⇑*iP* P 15 44 17.9 +0.2
comp=Z,63nm,0.8s,mb5.3
LIC **Lamto** 71.04 73 *eP* P 15 44 17.6 -0.1
comp=Z,97nm,0.8s,mb5.8
LIC **Lamto** 71.04 73 ⇑*iP* P 15 44 17.9 +0.2
comp=Z,31nm,0.8s,mb5.3
Y16A **Circle Bar Ran** 71.04 325 ⇓P P 15 44 17.5 +0.2
baz=71
X17A **Forest Lakes** 71.05 326 ⇑P P 15 44 17.8 +0.4
baz=71
W18A **Petrified Fore** 71.14 327 ⇑P P 15 44 18.3 +0.5
baz=71
TIC **Toumodi** 71.25 73 *eP* P 15 44 19.1 +0.1
comp=Z,105nm,0.8s,mb5.8
SBA **Scott Base** 71.27 191 *eP* P 15 44 18.3 +0.2
SBA *e**PP pP 15 44 27.5 -0.4
SBA pmax pmax
comp=Z,27nm,1.5s,mb5.0
SBA Scott Base 71.27 191 *eP* P 15 44 18.3 +0.2
comp=Z,26nm,1.5s,mb5.0
SBA *epP* pP 15 44 27.5 -0.4
V19A **Window Rock** 71.28 328 ⇓P P 15 44 19.5 +0.8
baz=72
SDCO **Great Sand Dun** 71.32 331 *eP* P 15 44 19.1 +0.2
comp=Z,13nm,1.3s,mb4.7
SDCO *epP* pP 15 44 27.3 -1.3
KIC **Kosan Boka** 71.35 73 *eP* P 15 44 20.0 +0.4
comp=Z,220nm,0.7s
DBIC **Dimbokro** 71.41 73 P P 15 44 20.4 +0.4
comp=Z,53nm,0.7s,mb5.6,baz=216,slow=6.2,SNR=70
DBIC **Dimbokro** 71.41 73 *eP* P 15 44 20.1 +0.1
DBIC pmax pmax
comp=Z,54nm,0.8s
DBIC Dimbokro 71.41 73 *eP* P 15 44 20.1 +0.2
comp=Z,54nm,0.8s,mb5.5
113A **Mohawk Valley,** 71.41 322 ⇑P P 15 44 19.7 +0.1
baz=72
X16A **Lo Mia Camp, P** 71.44 325 ⇑P P 15 44 19.8 +0.2
baz=72,SNR=6.0
Y15A **Casa Rosa Ranc** 71.55 324 ⇓P P 15 44 20.7 +0.4
baz=72
W17A **Winslow** 71.59 326 ⇓P P 15 44 21.2 +0.6
baz=72
X15A **Humboldt** 71.91 325 ⇑P P 15 44 22.8 +0.3
baz=72
W16A **Flagstaff** 72.02 326 ⇓P P 15 44 23.9 +0.8
baz=72,SNR=5.8
T19A **Beclabito** 72.16 328 ⇓P P 15 44 24.0 0.0
baz=72,SNR=8.1
MVCO **Mesa Verde** 72.22 329 *eP* P 15 44 24.5 +0.2
comp=Z,8.7nm,1.1s,mb4.6
MVCO *epP* pP 15 44 33.9 -0.2
X14A **Yava** 72.24 324 ⇑P P 15 44 24.4 0.0
baz=72
Y13A **Salome** 72.24 323 ⇓P P 15 44 24.9 +0.4
baz=72
U18A **Rough Rock, Ch** 72.24 328 ⇑P P 15 44 24.8 +0.4
baz=72
WUAZ **Wupatki** 72.27 326 *eP* P 15 44 24.7 +0.1
comp=Z,21nm,1.2s,mb4.9
WUAZ *epP* pP 15 44 34.0 -0.4
W15A **Williams** 72.46 325 ⇑P P 15 44 26.3 +0.5
baz=73
Y12C **Blythe** 72.57 323 ⇑P P 15 44 26.8 +0.3
baz=73
DVTC **Desert V Tower** 72.63 321 ⇑P P 15 44 27.3 +0.4
baz=73
U16A **Tuba City** 72.64 326 ⇑P P 15 44 27.1 +0.3
baz=73
U17A **Shonto** 72.77 327 ⇑P P 15 44 27.6 +0.1
baz=73
T18A **Mexican Hat** 72.81 328 ⇓P P 15 44 27.9 +0.1
baz=73,SNR=11
X13A **Yucca** 72.83 324 ⇑P P 15 44 28.2 +0.2
baz=73,SNR=8.6
V15A **Kaibab Nationa** 72.91 326 ⇓P P 15 44 29.0 +0.5
baz=73,SNR=7.2
W14A **Seligman** 72.91 325 ⇓P P 15 44 28.6 +0.2
baz=73
SYO **Syowa Base** 72.93 159 ⇓*eP* P 15 44 26.2 -2.0
SYO **Syowa Base** 72.93 159 ⇑*epP* pP 15 44 33.4 -4.6
S19A **Harvey Farm, M** 72.95 329 ⇓P P 15 44 28.9 +0.2
baz=73,SNR=12
MONP **Monument Peak** 72.99 321 ⇓P P 15 44 29.2 +0.2
baz=73
BC3 **Big Chuckw Mtn** 73.01 322 ⇓P P 15 44 29.5 +0.5
baz=73,SNR=6.3
PV01 **Paradox Valley** 73.01 329 *eP* P 15 44 30.0 +1.0
T17A **Navajo Res., N** 73.15 327 ⇑P P 15 44 30.5 +0.7
baz=73
IRM **Iron Mountain** 73.22 323 ⇓P P 15 44 30.6 +0.3
baz=73
V14A **Boquillas Ranc** 73.25 325 ⇓P P 15 44 31.1 +0.7
baz=74,SNR=8.8
W13A **Hualapai Mount** 73.25 324 ⇑P P 15 44 30.8 +0.3
baz=74
ECSD **EROS,Sioux Fal** 73.31 341 *eP* P 15 44 29.3 -1.3
comp=Z,23nm,1.0s,mb5.1
ECSD *epP* pP 15 44 38.7 -1.7
S18A **Hurst Farm, Bl** 73.31 328 ⇑P P 15 44 31.0 +0.2
baz=74,SNR=24
PV10 **Paradox Valley** 73.42 329 *eP* P 15 44 31.4 +0.1
U15A **North Rim** 73.44 326 ⇑P P 15 44 31.9 +0.3
baz=74,SNR=10.0
T16A **Glen Canyon Da** 73.48 327 ⇑P P 15 44 32.1 +0.3
baz=74
PFO **Pinyon Flat Ob** 73.53 321 ⇑P P 15 44 32.3 +0.2
baz=74
BELC **Belle Mtn.** 73.57 322 ⇓P P 15 44 32.6 +0.2
baz=74
COWI **Conover** 73.62 347 *eP* P 15 44 30.7 -1.6
comp=Z,8.5nm,0.9s,mb4.7
S17A **Black Ridge (B** 73.66 328 ⇓P P 15 44 32.8 0.0
baz=74
R18A **Canyonlands Na** 73.82 329 ⇓P P 15 44 33.2 -0.5
baz=74
V13A **Grand Canyon W** 73.87 324 ⇑P P 15 44 34.2 +0.1
baz=74,SNR=7.7
U14A **Mt Trumbull** 73.89 325 ⇑P P 15 44 34.7 +0.5
baz=74,SNR=6.0
T15A **Red Dirt Ranch** 73.95 326 ⇓P P 15 44 35.6 +1.1
baz=74
MURC **Murrieta** 73.95 321 ⇓P P 15 44 34.8 +0.1
baz=74
GMRC **Granite Mounta** 73.96 323 ⇓P P 15 44 34.9 +0.2
baz=74,SNR=8.7
Q19A **Hogan Spring (** 73.99 329 ⇓P P 15 44 35.0 +0.3
baz=74
S16A **Weppner Ranch,** 74.11 327 ⇑P P 15 44 35.8 +0.4
baz=74
V12A **Nelson** 74.23 324 ⇑P P 15 44 36.5 +0.3
baz=74
R17A **Hanksville Air** 74.23 328 ⇑P P 15 44 36.2 0.0
baz=74,SNR=5.5
U13A **Pakoon Wash** 74.29 325 ⇓P P 15 44 37.4 +0.9
baz=74
T14A **Hurricane** 74.33 326 ⇓P P 15 44 37.6 +0.8
baz=75
HEC **Hector,Ludlow** 74.36 322 ⇑P P 15 44 37.3 +0.3
baz=75,SNR=7.3
R16A **Teasdale** 74.50 328 ⇑P P 15 44 37.9 +0.2
baz=75
Q18A **Rafter H Ranch** 74.51 329 ⇑P P 15 44 37.2 -0.5
baz=75,SNR=8.0
TUQ **Turquoise Moun** 74.59 323 ⇑P P 15 44 38.8 +0.5
baz=75
U12A **Valley of Fire** 74.60 324 ⇓P P 15 44 38.9 +0.5
baz=75
V11A **Goodsprings** 74.63 323 ⇓P P 15 44 38.6 +0.1
baz=75
BFSC **Mount Baldy St** 74.67 321 ⇑P P 15 44 39.1 +0.3
baz=75
SRU **San Rafael** 74.70 329 *eP* P 15 44 38.9 +0.1
SRU *e**PP pP 15 44 48.1 -0.6
SRU pmax pmax
comp=Z,9.0nm,1.2s,mb4.6
SRU San Rafael 74.70 329 ⇑P P 15 44 38.9 +0.1
baz=75,SNR=9.2
SRU San Rafael 74.70 329 *eP* P 15 44 38.9 +0.1
comp=Z,9.3nm,1.2s,mb4.6
SRU *epP* pP 15 44 48.1 -0.6
T13A **Saint George** 74.72 325 ⇑P P 15 44 39.6 +0.6
baz=75
Q16A **Castle Valley** 74.85 328 ⇓P P 15 44 40.3 +0.6
baz=75,SNR=6.8
CCUT **Cedar City** 74.85 326 *eP* P 15 44 40.8 +1.0
GSC **Goldstone** 74.98 322 ⇓P P 15 44 41.2 +0.7
baz=75
P18A **Preston Nutter** 74.98 329 ⇑P P 15 44 40.9 +0.4
baz=75
MSU **Marysvale** 75.01 327 *eP* P 15 44 41.2 +0.5
MSU *e**PP pP 15 44 50.5 0.0
O19A **Miners Draw (B** 75.02 330 ⇑P P 15 44 40.6 0.0
baz=75
P17A **Butcher Ranch,** 75.09 329 ⇑P P 15 44 41.3 +0.2
baz=75
S13A **Holt Ranch, En** 75.13 326 ⇑P P 15 44 41.9 +0.6
baz=75
EDW2 **Edwards Air Fo** 75.33 321 ⇓P P 15 44 43.1 +0.5
baz=76
O18A **Roosevelt** 75.39 330 ⇓P P 15 44 43.0 +0.3
baz=76
BLG **Laguna Peak** 75.39 320 ⇓P P 15 44 43.7 +0.8
baz=76
N19A **John Jarvie Ra** 75.52 331 ⇑P P 15 44 43.5 0.0
baz=76
U10A **Ash Meadows, A** 75.54 323 ⇓P P 15 44 44.2 +0.5
baz=76
T11A **Corn Creek, Al** 75.57 325 ⇓P P 15 44 44.2 +0.3
baz=76,SNR=14
LRMC **Laurel Mountai** 75.59 322 ⇓P P 15 44 44.5 +0.4
baz=76
R13A **O'Grain Ranch,** 75.64 326 ⇑P P 15 44 44.9 +0.6
baz=76,SNR=7.4
O17A **Robinson Place** 75.66 329 ⇓P P 15 44 45.1 +0.7
baz=76,SNR=8.8
N18A **Larsen Ranch,** 75.81 330 ⇑P P 15 44 45.7 +0.5
baz=76
EYMN **Ely** 75.88 346 *eP* P 15 44 43.9 -1.5
comp=Z,33nm,1.3s,mb5.1
P15A **Leamington** 75.89 328 ⇑P P 15 44 45.8 +0.1
baz=76
TPNV **Topopah Spring** 75.89 324 *eP* P 15 44 45.9 +0.1
TPNV pmax pmax
comp=Z,18nm,1.4s,mb4.8
TPNV Topopah Spring 75.89 324 *eP* P 15 44 45.9 +0.1
comp=Z,18nm,1.4s,mb4.8
MPMC **Maual Prospec** 75.91 322 ⇓P P 15 44 46.1 +0.2
baz=76
Q14A **Sevier Lake (B** 75.92 327 ⇓P P 15 44 46.6 +0.7
baz=76,SNR=14
DAU **Daniels Canyon** 76.08 329 *eP* P 15 44 47.6 +0.9
R12A **Pony Springs,** 76.08 326 ⇑P P 15 44 47.3 +0.5
baz=76,SNR=14
ISA **Isabella** 76.17 321 ⇑P P 15 44 47.5 +0.2
baz=76,SNR=6.5
Q13A **Wild Ranch,** 76.26 326 ⇑P P 15 44 48.3 +0.5
baz=76,SNR=8.4
P14A **Drum Mountains** 76.29 327 ⇑P P 15 44 48.2 +0.3
baz=76,SNR=12
N17A **Moffit Pass** 76.31 330 ⇑P P 15 44 48.3 +0.3
baz=77,SNR=6.1
PKM **Peak Mountain** 76.38 320 ⇑P P 15 44 49.2 +0.6
baz=77
CWC **Cottonwood Cre** 76.51 322 ⇓P P 15 44 49.7 +0.4
baz=77
N16A **Rees Ranch, Co** 76.54 329 ⇑P P 15 44 49.7 +0.4
baz=77
R11A **Troy Canyon, C** 76.60 325 ⇑P P 15 44 50.2 +0.5
baz=77,SNR=11
DUG **Dugway** 76.64 328 *eP* P 15 44 49.3 -0.6
DUG pmax pmax
comp=Z,9.0nm,0.9s,mb4.7
DUG Dugway 76.64 328 *eP* P 15 44 49.3 -0.6
comp=Z,8.9nm,0.9s,mb4.7
VES **Vestal, Richgr** 76.64 321 ⇑P P 15 44 50.2 +0.2
baz=77
P13A **Bates Ranch, G** 76.65 327 ⇓P P 15 44 50.6 +0.6
baz=77,SNR=12
Q12A **Willow Creek R** 76.73 326 ⇑P P 15 44 50.9 +0.4
baz=77
SMMC **Simmler** 76.78 320 ⇓P P 15 44 51.3 +0.5
baz=77
S10A **Tonopah Range,** 76.80 324 ⇓P P 15 44 50.8 -0.1
baz=77,SNR=7.2
S09A **Goldfield** 76.99 324 ⇑P P 15 44 52.2 +0.3
baz=77
Q11A **Duckwater** 77.01 325 ⇓P P 15 44 52.4 +0.3
baz=77,SNR=7.6
HWUT **Hardware Ranch** 77.17 330 *eP* P 15 44 52.8 -0.1
comp=Z,7.3nm,0.8s,mb4.7
HWUT *epP* pP 15 45 01.8 -1.0
PDAR **Pinedale Array** 77.21 332 P P 15 44 52.6 -0.4
comp=Z,13nm,0.8s,mb3.9,baz=115,slow=7.0,SNR=8.8
AGMN **Agassiz Refuge** 77.27 343 *eP* P 15 44 51.8 -1.5
comp=Z,16nm,0.8s,mb5.0
AGMN *e* pP 15 45 01.4 -1.8
R09A **Tonopah** 77.29 324 ⇓P P 15 44 53.8 +0.2
baz=78,SNR=5.3
S08C **White Mtn Res** 77.33 323 ⇑P P 15 44 54.3 +0.4
baz=78
Q10A **Clear Creek Ra** 77.37 325 ⇓P P 15 44 54.5 +0.4
baz=78
L16A **Fish Haven** 77.43 330 ⇑P P 15 44 53.5 -0.8
baz=78
M15A **Larsen Ranch,** 77.46 329 ⇓P P 15 44 54.7 +0.3
baz=78
P11A **Circle Ranch,** 77.59 326 ⇑P P 15 44 55.1 -0.2
baz=78
O12A **Currie** 77.63 327 ⇑P P 15 44 55.7 +0.2
baz=78
SUR **Sutherland** 77.65 120 P P 15 44 57.2 +1.2
comp=Z,15nm,0.8s,mb5.0,baz=229,slow=7.2,SNR=11
Q09A **Carvers** 77.79 324 ⇓P P 15 44 56.5 +0.1
baz=78
N13A **Wendover, West** 77.82 328 ⇓P P 15 44 56.4 -0.1
baz=78
L15A **Malad City** 77.86 329 ⇑P P 15 44 56.1 -0.6
baz=78,SNR=7.4
HVU **Hansel Valley** 77.86 329 *eP* P 15 44 56.2 -0.5
HVU pmax pmax
comp=Z,6.0nm,0.8s,mb4.6
HVU Hansel Valley 77.86 329 *eP* P 15 44 56.2 -0.5
comp=Z,6.0nm,0.8s,mb4.6
M14A **Sheep Mountain** 77.91 329 ⇓P P 15 44 56.7 -0.4
baz=78,SNR=12
P10A **Eureka** 78.00 325 ⇑P P 15 44 58.3 +0.7
baz=78,SNR=5.1
NVAR **Mina Array Bea** 78.08 324 P P 15 44 58.4 +0.3
comp=Z,2.2nm,0.7s,mb4.2,baz=150,slow=5.7,SNR=14
NVAR pP pP 15 45 07.7 -0.3
comp=Z,1.2nm,0.6s,baz=175,slow=6.7,SNR=6.1
K16A **Soda Springs** 78.15 330 ⇑P P 15 44 58.8 +0.5
baz=78,SNR=11
Q08A **Gabbs** 78.20 324 ⇑P P 15 44 58.8 +0.1
baz=78
N12A **Clover Valley,** 78.22 327 ⇑P P 15 44 58.8 +0.1
baz=78
R07C **Lee Vining** 78.24 323 ⇓P P 15 44 59.2 +0.3
baz=78
REDW **Red Top Meadow** 78.25 331 *eP* P 15 44 59.0 +0.2
comp=Z,15nm,1.2s,mb4.8
L14A **Malta** 78.27 329 ⇑P P 15 44 59.0 -0.1
baz=78,SNR=6.7
LOHW **Long Hollow** 78.34 331 *eP* P 15 44 59.4 +0.1
comp=Z,10nm,1.1s,mb4.7
TPAW **Teton Pass** 78.40 331 *eP* P 15 45 00.1 +0.4
comp=Z,15nm,1.3s,mb4.8
RRI2 **Red Ridge** 78.44 331 *eP* P 15 45 00.1 +0.2
comp=Z,15nm,1.1s,mb4.8
K15A **Arbon** 78.46 330 ⇑P P 15 45 00.0 0.0
baz=79,SNR=6.3
S06C **San Francisco** 78.53 322 ⇑P P 15 45 00.9 +0.3
baz=79
I17A **Pilgram Creek** 78.58 332 ⇑P P 15 45 01.2 +0.5
baz=79
M12A **Wells** 78.59 328 ⇑P P 15 45 00.5 -0.3
baz=79,SNR=5.5
K14A **Jones Ranch, D** 78.64 329 ⇓P P 15 45 01.0 0.0
baz=79
L13A **Double Diamond** 78.65 329 ⇓P P 15 45 01.0 -0.1
baz=79,SNR=8.5
IMW **Indian Meadow** 78.72 331 *eP* P 15 45 01.4 -0.1
comp=Z,13nm,1.1s,mb4.8
R06C **Coleville** 78.77 323 ⇑P P 15 45 02.3 +0.4
baz=79
O09A **Fish Creek Ran** 78.78 325 ⇓P P 15 45 02.1 +0.3
baz=79
I16A **Newdale** 78.94 331 ⇑P P 15 45 02.4 -0.2
baz=79
J15A **Blackfoot** 78.98 330 ⇓P P 15 45 02.9 0.0
baz=79,SNR=7.9
M11A **Holland Ranch,** 79.03 327 ⇑P P 15 45 03.3 +0.1
baz=79,SNR=11
ULM **Lac du Bonnet** 79.07 344 P P 15 45 01.7 -1.5
comp=Z,11nm,0.8s,mb4.9,baz=166,slow=5.0,SNR=9.7
ULM Lac du Bonnet 79.07 344 P P 15 45 01.7 -1.5
L12A **House Creek Ra** 79.20 328 ⇑P P 15 45 04.4 +0.3
baz=79
R05C **Kirkwood Meado** 79.24 323 ⇑P P 15 45 05.1 +0.6
baz=80
J14A **Carey** 79.41 330 ⇓P P 15 45 05.4 +0.2
baz=80,SNR=6.0
M10A **I.L. Ranch, Tu** 79.47 327 ⇓P P 15 45 06.1 +0.6
baz=80
WCN **Washoe City** 79.50 323 ⇓P P 15 45 05.8 0.0
baz=80
H16A **Russell Place,** 79.50 332 ⇑P P 15 45 06.0 +0.4
baz=80
K12A **Draper Farm, C** 79.52 328 ⇑P P 15 45 05.9 0.0
baz=80,SNR=6.4
JRSC **Jasper Ridge** 79.54 321 ⇑P P 15 45 05.8 -0.2
baz=80
L11A **Cat Creek Ranc** 79.57 328 ⇓P P 15 45 06.2 +0.1
baz=80,SNR=8.6
PAHR **Pah Rah Range** 79.59 324 *eP* P 15 45 06.5 +0.3
comp=Z,25nm,1.1s,mb5.0
J13A **Cove Ranch, Pi** 79.77 329 ⇓P P 15 45 07.2 0.0
baz=80,SNR=6.8
F18A **Big Timber** 79.83 333 ⇑P P 15 45 07.4 -0.1
baz=80
M09A **Marrel Ranch,** 79.85 326 ⇑P P 15 45 07.6 0.0
baz=80
L10A **Juniper Basin** 79.85 327 ⇑P P 15 45 07.7 0.0
baz=80,SNR=18
I14A **Mackay** 79.85 330 ⇑P P 15 45 07.7 +0.1
baz=80,SNR=11
P05C **Yuba Gap, Truc** 79.96 323 ⇑P P 15 45 08.4 +0.1
baz=80
J12A **Stokes Ranch,** 80.08 329 ⇑P P 15 45 08.8 0.0
baz=80,SNR=12
I13A **Wildhorse Cree** 80.14 330 ⇑P P 15 45 09.4 +0.2
baz=80,SNR=16
N07B **Gerlach** 80.15 325 ⇓P P 15 45 09.3 -0.1
baz=80,SNR=18
K11A **Parker Ranch,** 80.16 328 ⇓P P 15 45 09.1 -0.2
baz=80,SNR=5.8
FARB **Farallon Islan** 80.18 320 ⇑P P 15 45 10.1 +0.6
baz=80
TSUM **Tsumeb** 80.19 107 *eP* P 15 45 10.2 0.0
comp=Z,32nm,1.2s,mb5.1
TOA0 **Torodi Ar. Sit** 80.20 70 *eP* P 15 45 10.2 0.0
TORD **Torodi Ar. Bea** 80.20 70 P P 15 45 10.3 +0.1
comp=Z,63nm,0.8s,mb5.6,baz=261,slow=5.0,SNR=310
TORD pP pP 15 45 19.4 -0.8
comp=Z,12nm,0.6s,baz=260,slow=5.0,SNR=6.4
BEKR **Beckwourth** 80.23 323 ⇓P P 15 45 09.7 0.0
baz=80
MCMT **McKenzie Canyo** 80.29 331 *eP* P 15 45 10.6 +0.6
M08A **Happy Creek Ra** 80.34 326 ⇓P P 15 45 10.5 +0.2
baz=81
H14A **Leadore** 80.35 330 ⇑P P 15 45 10.8 +0.5
baz=81
G15A **Dillon** 80.40 331 ⇑P P 15 45 10.1 -0.4
baz=81,SNR=5.4
E18A **Harlowton** 80.45 334 ⇑P P 15 45 11.0 +0.2
baz=81
MFID **Camas Ranch** 80.55 328 ⇑P P 15 45 11.6 +0.2
baz=81
MAW **Mawson** 80.56 164 P P 15 45 11.2 0.0
comp=Z,20nm,0.8s,mb5.1,baz=214,slow=6.5,SNR=72
MAW **Mawson** 80.56 164 *eP* P 15 45 11.1 -0.1
MAW pmax pmax
comp=Z,27nm,0.9s
MAW Mawson 80.56 164 *eP* P 15 45 11.1 -0.1
comp=Z,27nm,0.9s,mb5.2
N06A **Buffalo Meadow** 80.58 324 ⇑P P 15 45 11.8 +0.2
baz=81,SNR=9.6
DLMT **Dillon** 80.60 331 *eP* P 15 45 11.6 0.0
comp=Z,16nm,1.3s,mb4.8
ORV **Oroville** 80.62 322 ⇓P P 15 45 12.3 +0.4
baz=81
H13A **Challis** 80.71 330 ⇑P P 15 45 12.4 +0.2
baz=81,SNR=15
E17A **Martinsdale** 80.75 333 ⇓P P 15 45 12.4 +0.1
baz=81
L08A **Fields** 80.86 326 ⇓P P 15 45 12.5 -0.6
baz=81,SNR=12
K09A **Rome** 80.93 327 ⇑P P 15 45 13.1 -0.3
baz=81,SNR=7.6
F15A **Butte** 80.94 332 ⇑P P 15 45 13.1 -0.3
baz=81,SNR=7.5
O04C **Chester** 80.94 323 ⇓P P 15 45 13.8 +0.2
baz=81
ELFS **Eagle Lake Fie** 80.96 324 ⇑P P 15 45 14.0 +0.3
baz=81,SNR=7.0
H12A **Diamond D Ranc** 80.97 330 ⇓P P 15 45 13.5 -0.1
baz=81,SNR=5.7
G13A **Cobalt** 81.11 330 ⇓P P 15 45 14.5 +0.2
baz=81,SNR=27
E16A **East Helena** 81.14 333 ⇑P P 15 45 14.9 +0.4
baz=81
WVOR **Wild Horse Val** 81.19 326 *eP* P 15 45 14.3 -0.5
WVOR pmax pmax
comp=Z,7.0nm,1.2s,mb4.5
WVOR Wild Horse Val 81.19 326 *eP* P 15 45 14.3 -0.6
comp=Z,6.8nm,1.2s,mb4.5
L07A **Adell** 81.24 325 ⇑P P 15 45 15.6 +0.5
baz=82
M06C **Likely Place G** 81.25 324 ⇑P P 15 45 15.1 -0.1
baz=82,SNR=5.1
F14A **Wisdom** 81.29 331 ⇑P P 15 45 15.4 +0.1
baz=82
K08A **Mann Creek Ran** 81.33 326 ⇑P P 15 45 15.7 +0.2
baz=82
GASB **Alder Springs** 81.37 322 ⇑P P 15 45 16.9 +1.0
baz=82
J09A **Fry Pan Ranch,** 81.43 327 ⇓P P 15 45 16.6 +0.5
baz=82
E15A **Deer Lodge** 81.46 332 ⇑P P 15 45 16.2 +0.1
baz=82
D16A **Dana Ranch, Ca** 81.49 333 ⇓P P 15 45 16.8 +0.5
baz=82,SNR=7.6
MOD **Modoc** 81.66 325 ⇑P P 15 45 17.2 -0.1
baz=82,SNR=6.3
MOD **Modoc** 81.66 325 *eP* P 15 45 17.2 -0.1
comp=Z,14nm,1.0s,mb4.8
C17A **Wharram Farm,** 81.66 334 ⇓P P 15 45 16.6 -0.6

baz=82
K07A **Rock Creek Ran** 81.69 326 ⇑P P 15 45 17.6 +0.1
baz=82,SNR=12
F13A **Darby** 81.69 331 ⇑P P 15 45 17.4 0.0
baz=82,SNR=18
M05C **Lookout** 81.71 324 ⇓P P 15 45 17.8 +0.2
baz=82
J08A **Circle Bar Ran** 81.79 327 ⇑P P 15 45 17.8 -0.1
baz=82,SNR=8.8
E14A **Clinton** 81.82 332 ⇓P P 15 45 18.0 0.0
baz=82,SNR=5.3
I09A **Lost Marbles R** 81.89 328 ⇑P P 15 45 18.2 -0.3
baz=82
D15A **Lincoln** 81.90 332 ⇑P P 15 45 18.0 -0.4
baz=82
WDC **Whiskeytown Da** 81.91 323 ⇓P P 15 45 17.4 -1.3
baz=82
L05A **Lakeview** 82.03 325 ⇑P P 15 45 19.9 +0.6
baz=82,SNR=5.7
E13A **Victor** 82.14 331 ⇑P P 15 45 19.4 -0.3
baz=82,SNR=5.8
C16A **Fuhringer Ranc** 82.19 333 ⇑P P 15 45 19.3 -0.7
baz=82,SNR=7.1
I08A **Drewsey** 82.24 327 ⇑P P 15 45 20.8 +0.5
baz=82
G11A **Walters Elk Ra** 82.27 329 ⇑P P 15 45 20.2 -0.3
baz=82,SNR=14
K06A **Valley Falls** 82.27 325 ⇑P P 15 45 20.8 +0.3
baz=82,SNR=6.1
BMO **Blue Mountains** 82.33 328 *e*P P 15 45 19.8 -1.0
BMO pmax pmax
comp=Z,6.0nm,1.3s,mb4.4
BMO **Blue Mountains** 82.33 328 *e*P P 15 45 19.8 -1.0
comp=Z,5.8nm,1.3s,mb4.3
D14A **Greenough** 82.34 332 ⇓P P 15 45 20.6 -0.2
baz=83
M04C **Macdoel** 82.38 324 ⇓P P 15 45 20.8 -0.3
baz=83,SNR=5.4
N02C **Big Bar** 82.50 322 ⇓P P 15 45 22.2 +0.5
baz=83
C15A **Salmond Ranch,** 82.52 333 ⇓P P 15 45 21.3 -0.4
baz=83,SNR=8.9
J06A **Christmas Vall** 82.55 326 ⇑P P 15 45 20.9 -1.1
baz=83,SNR=7.4
K05A **Summer Lake** 82.55 325 ⇑P P 15 45 22.4 +0.4
baz=83,SNR=5.7
G10A **Bishop Farm, J** 82.58 329 ⇓P P 15 45 22.0 -0.1
baz=83
F11A **Grangeville** 82.58 330 ⇓P P 15 45 21.8 -0.2
baz=83
M02C **Callahan** 82.65 323 ⇓P P 15 45 22.1 -0.4
baz=83
B16A **M & M Farms, S** 82.66 334 ⇑P P 15 45 22.1 -0.3
baz=83
L04A **Klamath Falls** 82.68 324 ⇑P P 15 45 22.7 0.0
baz=83
BOSA **Boshof** 82.68 118 P P 15 45 22.8 -0.4
comp=Z,17nm,1.0s,mb5.0,baz=288,slow=5.1,SNR=11
BOSA **Boshof** 82.68 118 *e*P P 15 45 22.8 -0.4
BOSA pmax pmax
comp=Z,21nm,1.1s,mb5.1
BOSA **Boshof** 82.68 118 *e*P P 15 45 22.8 -0.4
comp=Z,22nm,1.1s,mb5.1
E12A **Beaver Dam Sad** 82.72 330 ⇓P P 15 45 22.7 -0.1
baz=83
H08A **Prairie City** 82.74 327 ⇑P P 15 45 22.9 0.0
baz=83
D13A **Huson** 82.76 331 ⇓P P 15 45 23.0 0.0
baz=83,SNR=6.7
YBH **Yreka Blue Hor** 82.81 323 ⇓P P 15 45 21.9 -1.5
baz=83
I07A **Izee** 82.83 327 ⇑P P 15 45 23.5 +0.1
baz=83
G09A **Cove** 82.88 328 ⇓P P 15 45 23.3 -0.3
baz=83,SNR=8.2
B15A **Bradely Ranch,** 82.92 333 ⇑P P 15 45 22.9 -0.9
baz=83,SNR=8.1
E11A **Bogner Ranch,** 82.96 330 ⇓P P 15 45 23.4 -0.6
baz=83
A16A **West Butte Ran** 83.05 334 ⇑P P 15 45 24.2 -0.2
baz=83,SNR=12
J05A **Fort Rock** 83.12 325 ⇓P P 15 45 25.1 +0.2
baz=83
F10A **Beach Ranch, E** 83.14 329 ⇑P P 15 45 24.9 -0.1
baz=83
H07A **Lands Inn, Kim** 83.23 327 ⇓P P 15 45 25.2 -0.3
baz=84
B14A **Marquette Ranc** 83.25 333 ⇓P P 15 45 25.4 -0.1
baz=84
E10A **Myers Farm, Un** 83.47 330 ⇓P P 15 45 26.7 0.0
baz=84
A15A **Johnson Ranch,** 83.52 334 ⇑P P 15 45 26.2 -0.6
baz=84
L02A **Cave Junction** 83.58 323 ⇓P P 15 45 27.1 -0.2
baz=84
H06A **Lindquist Farm** 83.71 327 ⇓P P 15 45 28.4 +0.5
baz=84
B13A **Whitefish** 83.76 332 ⇑P P 15 45 27.6 -0.4
baz=84
I05A **Bend** 83.77 326 ⇑P P 15 45 27.9 -0.3
baz=84
G07A **Ruggs Ranch, H** 83.77 327 ⇑P P 15 45 28.1 -0.2
baz=84
A14A **Double T Ranch** 83.80 333 ⇓P P 15 45 27.7 -0.6
baz=84
K02A **Glendale** 83.94 324 ⇓P P 15 45 29.2 0.0
baz=84
WALA **Waterton Lakes** 84.06 333 *e*P P 15 45 29.2 -0.4
comp=Z,11nm,0.8s,mb5.0
I04A **Tendick Farm,** 84.09 325 ⇑P P 15 45 29.3 -0.6
baz=84
A13A **Flathead Natio** 84.17 333 ⇓P P 15 45 30.0 -0.2
baz=84,SNR=20
G06A **Carlson Farm,** 84.22 327 ⇓P P 15 45 30.7 +0.2
baz=84
J02A **Umpqua** 84.40 324 ⇓P P 15 45 31.3 -0.2
baz=85
D09A **Jones Farm, Ri** 84.45 329 ⇓P P 15 45 31.1 -0.5
baz=85
H04A **Detroit Lake** 84.60 326 ⇓P P 15 45 31.5 -1.0
baz=85
F06A **Goldendale** 84.67 327 ⇓P P 15 45 32.6 -0.2
baz=85
C09A **Chrisman Ranch** 84.98 330 ⇑P P 15 45 34.1 -0.1
baz=85
A11A **Hall Mountain,** 85.01 332 ⇑P P 15 45 33.4 -1.0
baz=85,SNR=8.4
F05A **White Salmon** 85.09 327 ⇓P P 15 45 34.8 0.0
baz=85
H03A **Soap Creek Ran** 85.16 325 ⇓P P 15 45 35.4 +0.2
baz=85
B09A **Rice** 85.39 330 ⇓P P 15 45 35.8 -0.5
baz=86
H02A **Toledo** 85.52 325 ⇓P P 15 45 36.4 -0.7
baz=86
A10A **Northport** 85.55 331 ⇓P P 15 45 36.7 -0.4
baz=86
MORF **Marmelete** 85.60 45 *e*P P 15 45 39.2 +1.6
comp=Z,58nm,2.0s,mb5.5
PTEO **Sao Teotonio** 85.69 45 *e*P P 15 45 40.0 +1.9
comp=Z,125nm,1.1s,mb6.1
C07A **Waterville** 85.72 329 ⇓P P 15 45 37.9 -0.1
baz=86
B08A **Colville Reser** 85.87 330 ⇓P P 15 45 38.3 -0.4
baz=86
A09A **Danville** 85.99 331 ⇓P P 15 45 38.4 -0.9
baz=86
PBDV **Barranco-do-Ve** 86.02 45 *e*P P 15 45 41.0 +1.3
comp=Z,123nm,1.1s,mb6.0
PVAQ **Vaqueiros** 86.25 45 *e*P P 15 45 42.2 +1.3
comp=Z,37nm,1.1s,mb5.5
A08A **Turner Farm, O** 86.28 330 ⇑P P 15 45 40.3 -0.4
baz=86
B07A **Winthrop** 86.31 329 ⇓P P 15 45 40.1 -0.8
baz=86
PBEJ **Beja** 86.53 45 *e*P P 15 45 43.5 +1.3
comp=Z,30nm,1.2s,mb5.4
EVO **Evora** 86.74 44 *e*P P 15 45 43.8 +0.6
comp=Z,28nm,0.9s,mb5.2
EVO **Evora** 86.74 44 *e*P P 15 45 44.8 +1.6
EDM **Edmonton** 87.12 336 *e*P P 15 45 42.7 -2.0
EDM *e* pP 15 45 52.6 -2.1
PBAR **Barrancos** 87.14 45 *e*P P 15 45 45.8 +0.6
comp=Z,22nm,1.4s,mb5.2
ESDC **Sonseca Array** 89.96 45 P P 15 45 58.6 0.0
comp=Z,0.3nm,0.3s,mb4.1,baz=256,slow=4.7,SNR=7.3
SJPF **Ste Jean** 93.57 43 *e*P P 15 46 15.6 +0.4
YKA **Yellowknife Ar** 94.83 341 P P 15 46 18.9 -1.6

comp=Z,3.0nm,0.8s,mb4.8,baz=140,slow=4.0,SNR=6.3
MTLF **Montolieu** 95.84 44 *e*P P 15 46 25.3 -0.3
comp=Z,9.7nm,1.1s,mb4.8
MTLF **Montolieu** 95.84 44 *e*P P 15 46 25.3 -0.3
MTLF pmax pmax
comp=Z,5.0nm,1.1s,mb4.9
MTLF **Montolieu** 95.84 44 *e*P P 15 46 25.3 -0.3
comp=Z,4.8nm,1.1s,mb4.8
MFF **Saint Martin d** 96.07 41 *e*P P 15 46 26.1 -0.4
comp=Z,18nm,1.1s,mb5.1
MFF **Saint Martin d** 96.07 41 *e*P P 15 46 26.1 -0.4
MFF pmax pmax
comp=Z,9.0nm,1.1s,mb5.1
MFF **Saint Martin d** 96.07 41 *e*P P 15 46 26.1 -0.4
comp=Z,8.9nm,1.1s,mb5.1
GRR **Gorron** 96.59 39 *e*P P 15 46 27.9 -1.0
LDF **La Druitiere** 97.12 39 *e*P P 15 46 30.4 -0.8
comp=Z,18nm,1.0s,mb5.1
LDF **La Druitiere** 97.12 39 *e*P P 15 46 30.4 -0.8
LDF pmax pmax
comp=Z,9.0nm,1.0s,mb5.2
LDF **La Druitiere** 97.12 39 *e*P P 15 46 30.4 -0.8
comp=Z,9.0nm,1.0s,mb5.2
TCF **Toulx Ste Croi** 97.31 42 *e*P P 15 46 31.5 -0.7
VIVF **Saint-Julien-l** 98.12 44 *e*P P 15 46 36.2 +0.3
SSF **Saint Saulge** 98.47 42 *e*P P 15 46 36.4 -0.9
SMF **Signal de Mont** 98.47 42 *e*P P 15 46 37.0 -0.4
LOR **Lormes** 98.78 42 *e*P P 15 46 37.9 -0.8
comp=Z,7.5nm,0.9s,mb4.9
LOR **Lormes** 98.78 42 *e*P P 15 46 37.9 -0.8
LOR pmax pmax
comp=Z,4.0nm,0.9s,mb5.0
LOR **Lormes** 98.78 42 *e*P P 15 46 37.9 -0.8
comp=Z,3.8nm,0.9s,mb4.9
ORIF **Oris-en-Rattie** 98.91 44 *e*P P 15 46 40.2 +0.8
comp=Z,9.9nm,0.9s,mb5.0
ORIF **Oris-en-Rattie** 98.91 44 *e*P P 15 46 40.2 +0.8
ORIF pmax pmax
comp=Z,5.0nm,0.9s,mb5.0
ORIF **Oris-en-Rattie** 98.91 44 *e*P P 15 46 40.2 +0.8
comp=Z,4.9nm,0.9s,mb5.0
LPL **La Plagne** 99.72 44 *e*P Pdif 15 46 43.9 +0.8
LPG **La Plagne** 99.72 44 *e*P Pdif 15 46 44.1 +1.0
GIVF **Givet** 100.68 39 *e*P Pdif 15 46 46.8 -0.6
ARCES **ARCESS Array B** 116.08 23 PKKPbc PKKPbc 16 02 11.9 -1.9
comp=Z,11nm,1.1s,baz=64,slow=4.1,SNR=4.8
BR131 **Keskin Array S** 116.50 57 *e*PKPdf PKPdf 15 51 42.5 -0.6
ANN **Anapa** 120.16 52 *i* PKIKP PKPdf 15 51 48.9 -1.1
ANN pmax pmax
comp=Z,26nm,1.4s
OBN **Obninsk** 120.49 40 *i* PKIKP PKPdf 15 51 49.9 -0.3
OBN pmax pmax
comp=Z,10.0nm,0.6s
KLMR **Klimovskoe** 121.98 33 *e*PKIKP PKPdf 15 51 52.5 -0.4
GNI **Garni** 124.98 58⇑*i* PKIKP PKPdf 15 51 59.3 -0.1
RST **Umm Al-Ruwaisa** 125.12 71 *e*P PKPdf 15 51 59.8 -0.1
baz=71
RST AMb AMB 15 52 00.7
comp=Z,44nm,0.8s,baz=71
NAY **Al-Naaiem** 125.28 71 *e*P PKPdf 15 51 59.7 -0.6
baz=71
NAY AMb AMB 15 51 59.9
comp=Z,19nm,1.9s,baz=71
ASAR **Alice Springs** 125.37 208 PKP PKPdf 15 51 59.3 -1.4
comp=Z,2.8nm,0.8s,baz=138,slow=2.1,SNR=12
ASAR pPKP pPKPdf 15 52 08.9 -2.1
comp=Z,3.8nm,0.8s,baz=153,slow=1.8,SNR=12
MIB **Mutribah** 125.48 71 *e*P PKPdf 15 52 00.3 -0.3
baz=71
MIB AMb AMB 15 52 02.6
comp=Z,17nm,1.2s,baz=71
WB2 **Warramunga Arr** 128.44 210 *e*PKPdf PKPdf 15 52 05.8 -0.9
WB2 *e*pPKPdf pPKPdf 15 52 14.4 -2.6
WRA **Warramunga Arr** 128.45 210 PKP PKPdf 15 52 05.6 -1.1
comp=Z,6.0nm,0.8s,baz=158,slow=1.6,SNR=21
WRA pPKP pPKPdf 15 52 15.1 -1.9
comp=Z,7.9nm,0.8s,baz=156,slow=1.7,SNR=15
WRAB **Tennant Creek** 128.45 210 *e*PKIKP PKPdf 15 52 05.7 -1.0
WRAB *e* 15 52 15.3
ARU **Arti** 132.57 36 *i* PKIKP PKPdf 15 52 11.0 -2.3
ARU 15 54 33.9
FITZ **Fitzroy Crossi** 133.54 201 PKP PKPdf 15 52 15.5 -0.9
comp=Z,1.4nm,0.7s,baz=232,slow=4.9,SNR=3.9
YAK **Yakutsk** 141.40 345⇑*i* PKIKP PKPdf 15 52 31.4 +2.0
BHJ **Bhuj** 143.76 85 *e*P PKPdf 15 52 33.3 -1.6
KBL **Kabul** 144.19 66 *e*PKIKP PKPdf 15 52 32.5 -2.8
NVS **Novosibirsk** 145.24 27⇑*i* PKIKP PKPdf 15 52 35.5 -0.9
NVS pmax pmax
comp=Z,32nm,0.9s
KURK **Kurchatov** 145.76 35 *e*PKP2 PKPab 15 52 37.2 -1.1
KOD **Kodaikanal** 145.93 111 *e*P PKPdf 15 52 36.7 -2.1
KAD **Karad** 146.16 97 *e*P PKPdf 15 52 38.2 -0.9
POO **Poona** 146.27 95‖ *e*P PKPdf 15 52 34.8 -4.4
YSS **Yuzh-Sakhalins** 146.34 317 *e*PKP2 PKPdf 15 52 38.7 +0.2
EKS2 **Erkin-Say** 146.37 51 P PKPdf 15 52 39.9 +1.2
SNR=36
AML **Almayashu** 146.48 52 P PKPab 15 52 42.2 +0.8
SNR=14
ZAA0 **Zalesovo Array** 146.52 27 *e*PKPdf PKPdf 15 52 38.2 -0.4
ZALV **Zalesovo Beam** 146.52 27 PKPbc PKPbc 15 52 38.6 -1.4
comp=Z,52nm,0.8s,baz=311,slow=3.2,SNR=110
ZALV pPKPbc pPKPbc 15 52 48.6 -1.7
comp=Z,41nm,0.8s,baz=315,slow=2.9,SNR=13
USP **Ospenovka** 146.68 50 P PKPdf 15 52 40.4 +1.2
SNR=26
AAK **Ala-Archa** 146.88 51 P PKPdf 15 52 40.8 +1.1
SNR=53
FRU **Bishkek** 146.90 50 *e*PKP2 PKPab 15 52 42.0 -1.0
FRU pmax pmax
comp=Z,120nm,1.1s
CHMS **Chumysh** 146.94 50 P PKPbc 15 52 42.6 +1.0
SNR=20
KBK **Karagaybulak** 147.19 51 P PKPab 15 52 44.1 0.0
SNR=29
TKM2 **Tokmak 2** 147.55 50 P PKPdf 15 52 41.9 +1.2
SNR=23
KAPI **Kappang** 147.71 199 PKPbc PKPbc 15 52 46.0 +1.4
comp=Z,23nm,0.7s,baz=228,slow=1.8,SNR=6.5
BOD **Bodaibo** 147.93 355 *e*PKP2 PKPdf 15 52 42.6 +1.8
BOD pmax pmax
comp=Z,18nm,0.9s
AKL **Akola** 149.77 93 *e*P PKPdf 15 52 43.7 -1.3
THN **Thein Dam** 149.88 70 *ex* x 15 52 49.0
MK31 **Makanchi Array** 149.99 39 *e*PKP2 PKPbc 15 52 49.1 -0.4
MKAR **Makanchi Array** 149.99 39 PKPbc PKPbc 15 52 49.3 -0.2
comp=Z,22nm,0.8s,baz=319,slow=2.3,SNR=88
MKAR pPKPbc pPKPbc 15 52 58.8 -0.9
comp=Z,17nm,0.8s,baz=320,slow=3.4,SNR=14
HYB **Hyderabad** 150.09 100 *i* PKP PKPbc 15 52 50.5 -0.1
HYB **Hyderabad** 150.09 100 *e*P PKPbc 15 52 50.5 -0.1
KLR **Kul'dur** 150.98 329 *e*PKIKP PKPdf 15 52 42.0 -4.0
SMLA **Simla** 151.18 72 *i* P PKPdf 15 52 46.2 -0.7
SMLA *ex* x 15 52 54.2
comp=Z,114nm,0.7s
NDI **New Delhi** 151.22 77 *ex* x 15 52 52.0
NGP **Nagpur** 151.72 93 *e*P PKPdf 15 52 46.6 -1.4
MJAR **Matsushiro Arr** 153.34 300 PKPbc PKPbc 15 52 55.6 -1.9
comp=Z,2.5nm,0.9s,baz=105,slow=2.0,SNR=5.7
MJAR pPKPbc pPKPbc 15 53 06.3 -1.5
comp=Z,3.8nm,0.9s,baz=63,slow=0.8,SNR=6.2
MAT **Matsushiro** 153.34 300 APKP PKPbc 15 52 56.1 -1.4
WMQ **Urumqi** 154.82 39 *e*PKP PKPdf 15 52 49.3 -2.5
ZAK **Zakamensk** 155.08 9 *e*PKIKP PKPdf 15 52 51.4 -0.5
ZAK pmax pmax
comp=Z,2.0nm,1.0s
MDJ **Mudanjiang** 155.25 324 PKP PKPdf 15 52 50.6 -1.7
MDJ APKP 15 53 00.6
CN2 **Changchun** 157.91 328 *e*PKP PKPdf 15 52 53.8 -2.0
SONM **Songino Array** 157.96 6 PKP PKPdf 15 52 55.7 -0.1
comp=Z,3.1nm,0.9s,baz=302,slow=1.0,SNR=20
SONM pPKP pPKPdf 15 53 05.2 -0.9
comp=Z,3.4nm,1.0s,baz=205,slow=0.7,SNR=8.8
SONM PKPab PKPab 15 53 28.1 -0.8
comp=Z,2.9nm,0.8s,baz=325,slow=3.7,SNR=8.9
SONM PP PP 15 57 07.8 0.0
comp=Z,1.1nm,1.0s,baz=336,slow=5.8,SNR=5.6
ULN **Ulaanbaatar** 157.98 4 *e*PKIKP PKPdf 15 52 55.8 0.0
ULN *e* 15 53 05.0
KSRS **Korea Array** 160.57 311 PKP PKPdf 15 52 58.4 -0.7
comp=Z,2.9nm,1.1s,baz=126,slow=1.8,SNR=11
KSRS pPKP pPKPdf 15 53 08.5 -1.0
comp=Z,4.0nm,1.1s,baz=117,slow=0.8,SNR=9.1
KSRS PKPab PKPab 15 53 40.0 -0.7
comp=Z,1.0nm,0.7s,baz=53,slow=3.7,SNR=4.2
SHL **Shillong** 164.12 87⇑*i x* x 15 50 28.5

GTA **Gaotai** 164.26 29 PKP PKPdf 15 53 03.0 +0.3
GTA APKP 15 53 13.1
GTA XPKP 15 53 17.5
GTA PKS 15 56 34.4
GTA PP PP 15 57 49.7 +7.6
GTA PP PP
comp=Z,171nm,7.5s
GTA LR LR
comp=N,81nm,9.0s
GTA LR LR
comp=E,137nm,9.6s
GTA LR LR
comp=Z,108nm,9.6s
BJI **Beijing** 164.82 340 PKP PKPdf 15 53 03.1 -0.1
BJI LR LR
comp=N,240nm,22.5s
BJI LR LR
comp=E,156nm,24.7s
BJI LR LR
comp=Z,138nm,28.0s
HHC **Hu-ho-hao-te** 164.98 354 *e*PKP PKPdf 15 53 01.9 -1.4
HHC APKP 15 53 12.9
HHC XPKP 15 53 17.2
HHC PKS 15 56 33.5
HHC PP PP 15 57 48.7 +3.4
HHC PP PP
comp=Z,105nm,5.8s
HHC LR LR
comp=N,236nm,19.6s
HHC LR LR
comp=E,205nm,20.7s
HHC LR LR
comp=Z,236nm,21.8s
CMAR **Chiang Mai Arr** 167.75 125 PKP PKPdf 15 53 06.2 0.0
comp=Z,3.1nm,0.9s,baz=263,slow=2.4,SNR=16
CMAR pPKP pPKPdf 15 53 15.8 -0.7
comp=Z,2.7nm,0.9s,baz=261,slow=2.6,SNR=7.6
CMAR PKPab PKPab 15 54 12.0 -0.7
comp=Z,1.3nm,0.8s,baz=233,slow=5.8,SNR=5.7
NJ2 **Nanjing** 169.76 309 *e*PKP PKPdf 15 53 05.3 -1.8
CD2 **Chengdu** 172.89 44 *e*PKP PKPdf 15 53 06.2 -2.5
CD2 PP PP 15 58 27.7 +1.3
CD2 PP PP
comp=Z,80nm,10.2s
CD2 LR LR
comp=N,220nm,18.4s
CD2 LR LR
comp=Z,180nm,20.4s
KMI **Kunming** 173.85 96 PKP PKPdf 15 53 07.4 -1.8
KMI APKP 15 53 17.2
KMI XPKP 15 53 21.0
KMI LR LR
comp=Z,229nm,22.6s
KMI **Kunming** 173.85 96 PKP PKPdf 15 53 07.4 -1.8
KMI pPKP pPKPdf 15 53 17.2 -2.4
KMI sPKP 15 53 21.0
KMI PP PP 15 58 32.8 +0.5
KMI SS SS 16 19 48.0 -1.0
GYA **Guiyang** 177.39 77 PKP PKPdf 15 53 08.9 -1.2
GYA XPKP 15 53 20.4
GYA PKP2 PKPab 15 54 55.6 +0.1
GYA PKS 15 56 39.7
GYA PP PP
comp=Z,120nm,8.4s

LDG ***02*** *15:38:23.9±0.6,2515S×7074W,h10km,Mb5.5/30, Ms4.6/10,Error ellipse: s-maj=42.4km s-min=28.6km az=12.0*
GUC ***02*** *15:38:24.9±0.8,2593S×7053W,h26km±9km,ML5.6*
ISCJB ***02*** *15:38:25.0±0.1,2587S±002×7055W±003,h29km, mb5.3/137,MS4.7/27,Error ellipse: s-maj=4.5km s-min=3.3km az=153.7*
GCMT ***02*** *15:38:26.4±0.2,2587S×7128W,h42km±1km,MW5.2/65, Moment Tensor Solution. s58,c84; s65,c100; Duration: 1s0 Moment tensor: Scale 10^{17}Nm; M_{rr}0.61±.03; $M_{\theta\theta}$0.12±.02; $M_{\phi\phi}$-0.72±.02; $M_{r\theta}$0.18±.02; $M_{\theta\phi}$-0.08±.02; $M_{\phi r}$-0.54±.02; Best double couple: M0.88300×10^{17} NP1:ϕ_s23.00000°,δ28.00000°,λ121.00000°. NP2: ϕ_s169.00000°,δ66.00000°,λ75.00000°. Principal axes: T 0.8510, Plg66.0000°, Azm52.0000°; N 0.0660, Plg14.0000°, Azm176.0000°; P -0.9160, Plg19.0000°, Azm271.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
NEIC ***02*** *15:38:26.4±0.1,2585S×7057W,mb5.4/112,MS4.7/8, ML5.6(GUC) Error ellipse: s-maj=4.8km s-min=3.3km az=72.0*
NEIC Felt [IV] at Diego de Almagro and [III] at Chanaral, Copiapo, El Salvador, Taltal and Tierra Amarilla.
IDC ***02*** *15:38:26.3±0.5,2587S×7067W,h29km±3km,mb5.0/18, mb1 5.0/21,mb1mx5.0/22,mbtmp5.0/21,ML4.9/3,MS4.7/19, Ms1 4.7/19,ms1mx4.5/31,Error ellipse: s-maj=16.2km s-min=11.4km az=76.0*
MOS ***02*** *15:38:27.5±0.8,2553S×7058W,h38km,mb5.5/57, MS4.8/8,Error ellipse: s-maj=10.2km s-min=6.9km az=81.7*
BJI ***02*** *15:38:28.9,2580S×7060W,h28km,mB5.3,Ms5.3,Msz5.2*
DJA ***02*** *15:38:28,2633S×7058W,h10km,mb5.4/3*
ISC 02 15:38:27.0±0.1,2587S±002×7050W±003,h30km, h30km±.3km:pP-P,n707,σ0s64/580,mb5.3/137,MS4.7/27, 178C-162D,Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CPN1	**Cerro Paranal**	**1.24**	**4**	⇑*iP*	**Pn**	**15 38 48.2**	**0.0**
CPN1				*i* S	**Sn**	**15 39 05.7**	**+1.7**
CPN1				AML	AML	15 39 09.1	
comp=E,236μm,0.6s							
ANCH	**Antofagasta**	**2.18**	**2**	⇑*iP*	**Pn**	**15 39 00.0**	**-1.1**
ANCH				*i* S	**Sn**	**15 39 28.4**	**+1.3**
ANCH				AML	AML	15 39 36.3	
comp=N,40μm,0.7s							
ANCH	**Antofagasta**	**2.18**	**2**	⇑*iP*	**Pn**	**15 39 00.0**	**-1.1**
ANCH				*i* S	**Sn**	**15 39 28.4**	**+1.3**
CEN1	**Los Morros**	**2.48**	**6**	*eP*	**Pn**	**15 38 59.0**	**-6.3**
CEN1				*i* S	**Sn**	**15 39 32.6**	**-2.1**
CEN1				AML	AML	15 39 42.9	
comp=E,28μm,0.8s							
VACH	**Vallenar**	**2.71**	**185**	*eP*	**Pn**	**15 39 06.7**	**-1.8**
VACH				*i* S	**Sn**	**15 39 39.1**	**-1.0**
VACH				AML	AML	15 39 49.7	
comp=E,37μm,0.4s							
VACH	**Vallenar**	**2.71**	**185**	*eP*	**Pn**	**15 39 06.7**	**-1.8**
VACH				*i* S	**Sn**	**15 39 39.1**	**-1.0**
LCO	**Las Campanas**	**3.13**	**183**	*e*Pn	**Pn**	**15 39 13.4**	**-0.9**
LVC	**Limon Verde**	**3.55**	**24**	Pn	**Pn**	**15 39 22.5**	**+2.4**
comp=E,24nm,0.3s,baz=222,slow=9.9,SNR=10							
LVC				Pg	**Pn**	**15 39 31.5**	**+11**
comp=E,270nm,0.3s,baz=200,slow=11,SNR=45							
LVC				Lg		15 40 15.2	
comp=E,3μm,0.3s,baz=338,slow=17,SNR=20							
LVC				LR	LR	15 40 56.5	
comp=E,15μm,19.1s,baz=206,slow=42							
LVC	**Limon Verde**	**3.55**	**24**	*e*Pn	**Pn**	**15 39 22.7**	**+2.6**
TLL	**Tololo Astrono**	**4.29**	**183**	*eP*	**Pn**	**15 39 29.6**	**-0.6**
CFAA	**Coronel Fontan**	**6.05**	**161**	Pn	**Pn**	**15 39 56.7**	**+2.3**
comp=E,5.8nm,0.3s,baz=330,slow=11,SNR=14							
CFAA				Sn	**Sn**	**15 41 10.3**	**+7.7**
comp=E,5.5nm,0.3s,baz=328,slow=11,SNR=4.1							
CFAA				LR	LR	15 42 29.4	
comp=E,948nm,18.6s,baz=339,slow=40							
ARE	**Arequipa**	**9.40**	**354**	*eP*	**Pn**	**15 40 38.0**	**-2.5**
LPAZ	**La Paz**	**9.79**	**14**	Pn	**Pn**	**15 40 46.6**	**+0.9**
comp=E,1.7nm,0.3s,baz=194,slow=8.3,SNR=14							
LPAZ	**La Paz**	**9.79**	**14**	*e*Pn	**Pn**	**15 40 45.8**	**+0.1**
CPUP	**Villa Florida**	**11.85**	**95**	Pn	**Pn**	**15 41 16.1**	**+2.1**
comp=E,3.0nm,0.3s,baz=259,slow=11,SNR=5.5							
CPUP				LR	LR	15 46 20.4	
comp=E,7μm,19.2s,baz=252,slow=40							
CPUP	**Villa Florida**	**11.85**	**95**	*e*Pn	**Pn**	**15 41 18.2**	**+4.2**
SIV	**San Ignacio**	**13.19**	**44**	Pn	**Pn**	**15 41 30.2**	**-2.1**
comp=E,3.4nm,0.3s,baz=246,slow=11,SNR=17							
SIV				Sn	**Sn**	**15 43 57.4**	**-0.6**
comp=E,3.5nm,0.3s,baz=260,slow=15,SNR=3.7							
LPA	**La Plata**	**14.09**	**133**	*ce*P	**Pn**	**15 41 45.0**	**+0.5**
LPA				*e*pP		15 41 50.0	
LPA				*e*SS		15 44 36.0	
LPA				*e*PCP	PcP	15 47 07.0	+3.7
TRQA	**Tornquist**	**14.13**	**151**	*eP*	**Pn**	**15 41 46.3**	**+1.3**
PLCA	**Paso Flores**	**14.82**	**180**	Lg		15 46 04.3	

comp=E,0.1nm,0.3s,baz=318,slow=6.8,SNR=3.5
PLCA LR LR 15 47 52.2
comp=E,5µm,18.6s,baz=352,slow=38
NNA Nana 15.05 335 Lg 15 46 09.2
comp=E,0.4nm,0.3s,baz=223,slow=19,SNR=4.1
NNA LR LR 15 46 43.2
comp=E,2µm,21.0s,baz=162,slow=33
SPB Sao Paulo 21.07 89 eP **P 15 43 09.4 +0.5**
VAO Valinhos 21.61 87⇑ eP **P 15 43 14.7 0.0**
VAO *i* 15 43 15.8
VAO *i* 15 43 20.4
VAO *i* 15 43 26.2
BDFB Brasilia 23.33 69 P **P 15 43 32.3 -0.6**
comp=E,163nm,0.9s,mb5.4,baz=231,slow=15,SNR=45
BDFB LR LR 15 53 39.3
comp=E,2µm,21.1s,MS4.5,baz=57,slow=39
OTAV Otavalo 27.06 342 eP **P 15 44 07.3 +0.3**
comp=E,20nm,1.0s,mb4.6
OTAV LR LR
comp=Z,618nm,19.0s,MS4.2
USHA Ushuaia 28.97 178 P **P 15 44 22.1 -1.5**
comp=Z,25nm,1.0s,mb4.9,baz=316,slow=5.0,SNR=9.4
USHA LR LR 15 56 21.3
comp=Z,3µm,18.4s,MS4.9,baz=342,slow=37
ROSC El Rosal 30.77 353 P **P 15 44 39.9 +0.1**
comp=Z,8.9nm,0.6s,mb4.8,baz=101,slow=23,SNR=5.7
ROSC LR LR 15 57 44.0
comp=Z,829nm,19.5s,MS4.4,baz=20,slow=38
ROSC El Rosal 30.77 353 eP **P 15 44 39.6 -0.3**
SDV Santo Domingo 34.54 360 P **P 15 45 10.8 -2.1**
comp=Z,5.6nm,0.3s,mb5.0,baz=188,slow=19,SNR=6.9
SJG San Juan 43.92 6 eP **P 15 46 28.2 -2.9**
SJG pmax pmax
comp=Z,71nm,0.8s
SJG San Juan 43.92 6 eP **P 15 46 28.2 -2.9**
comp=Z,71nm,0.8s,mb5.5
TEIG Tepich 48.96 338 P **P 15 47 08.4 -2.3**
comp=Z,30nm,1.0s,mb5.3,baz=131,slow=4.2,SNR=7.1
VNA3 Neumayer Olymp 56.45 160 eP **P 15 48 05.1 -0.4**
VNA3 *e* pP 15 48 14.2 -0.6
VNA3 *e* 15 48 19.2
VNA3 *e* 15 48 45.3
VNA1 Neumayer--Stat 56.70 159 eP **P 15 48 07.4 +0.1**
VNA1 *e* pP 15 48 16.3 -0.3
VNA1 *e* 15 48 20.7
VNA2 Neumayer--Watz 57.06 160 eP **P 15 48 09.4 -0.4**
baz=288,slow=9.5
VNA2 *e* pP 15 48 18.6 -0.5
VNA2 *e* 15 48 23.8
VNA2 *e* 15 48 49.2
RKT Rikitea 58.20 258 eS **S 15 56 17.2 -1.5**
comp=Z,526nm,29.8s
RKT eLR LR 16 05 25.3
comp=Z,1µm,25.8s,baz=97
SNAA Sanae 58.67 160 eP **P 15 48 20.4 -0.7**
SNAA *e* pP 15 48 30.2 -0.2
SNAA *e* 15 48 34.4
SNAA *e* 15 48 56.3
SNAA Sanae 58.67 160⇑ eP **P 15 48 20.2 -0.9**
SNAA Sanae 58.67 160 eP **P 15 48 20.1 -1.0**
JSC Jenkinsville 60.68 350 eP **P 15 48 34.3 -1.0**
CNNC Cliffs of the 61.18 353 eP **P 15 48 38.0 -0.6**
comp=Z,87nm,0.4s,mb6.2
CPCT Cooper Cave 62.41 347 eP **P 15 48 45.5 -1.4**
CPCT epP pP 15 48 54.3 -2.1
TKL Tuckaleechee C 62.47 348 eP **P 15 48 45.3 -2.0**
SWET Sewanee 62.48 346 eP **P 15 48 45.8 -1.7**
JCT Junction City 62.66 332 eP **P 15 48 48.3 -0.4**
JCT e*PP pP 15 48 56.8 -1.3
JCT pmax pmax
comp=Z,49nm,1.2s,mb5.5
JCT MLR MLR
comp=Z,233nm,20.0s,MS4.3
JCT Junction City 62.66 332 eP **P 15 48 48.3 -0.5**
comp=Z,49nm,1.2s,mb5.5
JCT epP pP 15 48 56.8 -1.4
JCT LR LR
comp=Z,233nm,20.0s,MS4.3
LPIG La Paz 62.85 319 LR LR 16 10 50.6
comp=Z,226nm,18.6s,MS4.4,baz=279,slow=31
MAIT Maitri 63.27 158⇑ *i*P **P 15 48 52.5 +0.1**
NVL N'lazarevskaya 63.31 158 P **P 15 48 52.2 -0.4**
NVL pmax pmax
comp=Z,26nm,1.1s,mb5.3
TXAR Lajitas Array 63.45 328 P **P 15 48 53.5 -0.5**
comp=Z,2.0nm,0.9s,mb4.3,baz=145,slow=9.0,SNR=15
TXAR pP pP 15 49 02.0 -1.4
comp=Z,6.6nm,1.1s,baz=138,slow=7.7,SNR=8.9
UALR University of 63.77 340 eP **P 15 48 54.9 -1.1**
comp=Z,54nm,0.6s,mb5.8
MIAR Mount Ida 63.94 339 eP **P 15 48 56.0 -1.2**
MIAR pmax pmax
comp=Z,22nm,0.6s,mb5.4
MIAR Mount Ida 63.94 339 eP **P 15 48 56.0 -1.2**
comp=Z,22nm,0.6s,mb5.4
QSPA South Pole Qui 64.34 180 P **P 15 48 59.6 +0.3**
comp=Z,50nm,0.9s,mb5.5,baz=152,slow=2.4,SNR=67
USIN University of 65.51 345 eP **P 15 49 05.1 -2.2**
comp=Z,68nm,0.9s,mb5.7
SIUC Southern Illin 65.64 344 eP **P 15 49 06.5 -1.7**
comp=Z,21nm,0.6s,mb5.3
FVM French Village 66.21 343 eP **P 15 49 10.3 -1.5**
FVM e*PP pP 15 49 18.8 -2.4
FVM pmax pmax
comp=Z,70nm,1.1s,mb5.6
FVM French Village 66.21 343 eP **P 15 49 10.3 -1.5**
comp=Z,70nm,1.1s,mb5.6
FVM epP pP 15 49 18.8 -2.5
SLM Saint Louis 66.78 343 eP **P 15 49 13.6 -1.8**
ACSO Alum Creek Sta 66.78 350 eP **P 15 49 13.7 -1.7**
comp=Z,58nm,0.8s,mb5.7
BRYW Bryant College 67.45 359 eP **P 15 49 19.4 -0.2**
comp=Z,217nm,1.1s,mb6.1
BRYW epP pP 15 49 27.9 -1.2
ALLY Alegheny Colle 67.77 352 eP **P 15 49 20.4 -1.2**
comp=Z,31nm,0.9s,mb5.3
319A Douglas 67.92 325 ⇓P **P 15 49 23.1 +0.3**
baz=68,SNR=5.7
HRV Adam Dziewonsk 68.04 359 eP **P 15 49 22.8 -0.5**
HRV pmax pmax
comp=Z,73nm,1.1s,mb5.6
HRV Adam Dziewonsk 68.04 359 eP **P 15 49 22.8 -0.5**
comp=Z,73nm,1.1s,mb5.6
318A Bisbee 68.34 324⇑P **P 15 49 25.6 +0.1**
baz=68,SNR=14
219A White Tail Can 68.40 325 ⇓P **P 15 49 25.9 +0.1**
baz=69,SNR=15
218A Dragoon 68.79 325 ⇓P **P 15 49 28.5 +0.2**
baz=69,SNR=6.4
BNM Barren Site 68.83 328 P **P 15 49 28.7 +0.2**
LPM Los Pinos Moun 68.97 328 eP **P 15 49 28.4 -0.9**
LPM epP pP 15 49 38.6 -0.2
ACCN Adirondack Com 68.97 358 eP **P 15 49 29.1 -0.1**
comp=Z,92nm,1.4s,mb5.5
ACCN epP pP 15 49 37.5 -1.1
FFD Franklin Falls 69.00 359 eP **P 15 49 29.6 +0.3**
comp=Z,18nm,0.3s,mb5.5
FFD epP pP 15 49 38.6 -0.2
119A Ashpeak Ranch, 69.03 326 ⇓P **P 15 49 29.9 +0.1**
baz=69,SNR=6.5
217A Green Valley 69.04 324 ⇓P **P 15 49 29.8 -0.1**
baz=69,SNR=11
HNH Hanover 69.25 359 eP **P 15 49 31.4 +0.5**
comp=Z,99nm,1.0s,mb5.7
HNH epP pP 15 49 39.9 -0.5
118A Homack Ranch, 69.27 325⇑P **P 15 49 31.4 +0.1**
baz=70,SNR=13
ANMO Albuquerque 69.41 329 eP **P 15 49 32.2 +0.1**
comp=Z,78nm,1.8s,mb5.3
ANMO epP pP 15 49 40.6 -0.9
ANMO LR LR
comp=Z,333nm,21.0s,MS4.6
Z19A T-Link Ranch, 69.43 326 ⇓P **P 15 49 32.6 +0.4**
baz=70,SNR=7.0
TUC Tucson 69.44 324 eP **P 15 49 32.0 -0.3**
TUC pmax pmax
comp=Z,9.0nm,0.8s,mb4.8
TUC Tucson 69.44 324 eP **P 15 49 32.0 -0.3**
comp=Z,9.1nm,0.8s,mb4.8
216A Three Points, 69.56 324⇑P **P 15 49 33.2 +0.2**
baz=70
MDV Middlebury 69.57 358 eP **P 15 49 32.4 -0.4**
NCB Newcomb 69.58 357 eP **P 15 49 32.2 -0.7**
comp=Z,35nm,1.2s,mb5.2
117A Oracle 69.62 324 ⇓P **P 15 49 33.7 +0.3**
baz=70
CBKS Cedar Bluff 69.92 336 eP **P 15 49 35.0 -0.1**
CBKS *e* pP 15 49 43.8 -0.8
CBKS pmax pmax
comp=Z,61nm,1.1s,mb5.4
CBKS Cedar Bluff 69.92 336 eP **P 15 49 35.0 -0.1**
comp=Z,61nm,1.1s,mb5.5
CBKS *e* pP 15 49 43.8 -0.8
Y19A Nutrioso 69.95 326 ⇓P **P 15 49 36.1 +0.6**
baz=70,SNR=22
116A Eloy 70.12 324 ⇓P **P 15 49 36.8 +0.3**
baz=70
LONY Lake Ozonia 70.24 357 eP **P 15 49 36.3 -0.6**
comp=Z,34nm,0.9s,mb5.3
LONY epP pP 15 49 45.4 -1.1
214A Organ Pipe Nat 70.26 323 ⇓P **P 15 49 37.3 0.0**
baz=70,SNR=7.9
FRNY Flat Rock 70.42 358 eP **P 15 49 37.5 -0.5**
comp=Z,43nm,1.0s,mb5.3
FRNY *e* pP 15 49 45.9 -1.6
Y17A Roosevelt 70.55 325⇑P **P 15 49 39.5 +0.4**
baz=71,SNR=12
TBI Tubuai 70.76 253 eS S 15 58 50.6 -3.1
comp=Z,188nm,29.0s
TBI Tubuai 70.76 253 eLR LR 16 11 07.5
comp=Z,515nm,28.2s,baz=99
X18A Snowflake 70.76 326⇑P **P 15 49 41.0 +0.6**
baz=71
PKME Peaks-Kenny Pk 70.80 1 eP **P 15 49 40.2 -0.1**
comp=Z,24nm,0.8s,mb5.2
JFWS Jewell Farm 70.82 345 eP **P 15 49 39.3 -1.2**
JFWS pmax pmax
comp=Z,21nm,0.8s,mb5.1
JFWS Jewell Farm 70.82 345 eP **P 15 49 39.3 -1.1**
comp=Z,21nm,0.8s,mb5.1
W19A Sanders 70.94 327 ⇓P **P 15 49 42.2 +0.8**
baz=71
Y16A Circle Bar Ran 71.03 325⇑P **P 15 49 42.4 +0.4**
baz=71,SNR=7.0
LIC Lamto 71.03 73⇑ *i*P **P 15 49 42.7 +0.2**
comp=Z,112nm,0.8s,mb5.5
LIC eMLR MLR
comp=Z,1µm,19.8s,MS4.9
LIC Lamto 71.03 73 eP **P 15 49 42.6 +0.1**
comp=Z,173nm,0.8s,mb6.0
LIC Lamto 71.03 73⇑ *i*P **P 15 49 42.7 +0.2**
comp=Z,56nm,0.8s,mb5.5
LIC LR LR
comp=Z,690nm,19.8s,MS4.9
X17A Forest Lakes 71.04 326⇑P **P 15 49 42.6 +0.6**
baz=71
W18A Petrified Fore 71.12 327 ⇓P **P 15 49 43.0 +0.5**
baz=71
TIC Toumodi 71.25 73 eP **P 15 49 44.1 +0.3**
comp=Z,345nm,1.0s,mb6.2
V19A Window Rock 71.26 328⇑P **P 15 49 44.1 +0.8**
baz=72
SBA Scott Base 71.28 191 eP **P 15 49 42.9 -0.1**
SBA pmax pmax
comp=Z,29nm,1.4s,mb5.0
SBA Scott Base 71.28 191 eP **P 15 49 42.9 -0.1**
comp=Z,29nm,1.4s,mb5.0
SDCO Great Sand Dun 71.30 331 eP **P 15 49 43.9 +0.4**
comp=Z,40nm,1.4s,mb5.2
KIC Kosan Boka 71.34 73 eP **P 15 49 44.7 +0.3**
comp=Z,444nm,0.8s,mb6.4
113A Mohawk Valley, 71.40 322⇑P **P 15 49 44.3 0.0**
baz=72
DBIC Dimbokro 71.40 73 P **P 15 49 45.0 +0.3**
comp=Z,107nm,0.8s,mb5.8,baz=214,slow=6.6,SNR=98
DBIC LR LR 16 19 33.0
comp=Z,955nm,18.9s,MS5.1,baz=211,slow=34
DBIC Dimbokro 71.40 73 eP **P 15 49 44.8 +0.1**
DBIC pmax pmax
comp=Z,116nm,0.8s
DBIC Dimbokro 71.40 73 eP **P 15 49 44.8 +0.1**
comp=Z,116nm,0.8s,mb5.9
X16A Lo Mia Camp, P 71.43 325⇑P **P 15 49 44.6 +0.2**
baz=72,SNR=14
Y15A Casa Rosa Ranc 71.53 324 ⇓P **P 15 49 45.0 -0.1**
baz=72
V18A Ganado 71.69 327⇑P **P 15 49 46.2 +0.3**
baz=72
Y14A Wickenburg 71.88 324⇑P **P 15 49 47.3 +0.2**
baz=72
X15A Humboldt 71.89 325 ⇓P **P 15 49 47.6 +0.4**
baz=72,SNR=7.2
W16A Flagstaff 72.00 326 ⇓P **P 15 49 48.6 +0.7**
baz=72,SNR=9.9
T19A Beclabito 72.15 328 ⇓P **P 15 49 48.5 -0.2**
baz=72,SNR=18
GLA Glamis 72.19 322⇑P **P 15 49 49.3 +0.2**
baz=72
MVCO Mesa Verde 72.21 329 eP **P 15 49 49.0 0.0**
comp=Z,59nm,1.4s,mb5.3
X14A Yava 72.22 324 ⇓P **P 15 49 49.5 +0.3**
baz=72,SNR=6.5
U18A Rough Rock, Ch 72.22 328⇑P **P 15 49 49.3 +0.1**
baz=72,SNR=14
WUAZ Wupatki 72.25 326 eP **P 15 49 48.9 -0.4**
comp=Z,45nm,1.3s,mb5.2
W15A Williams 72.44 325 ⇓P **P 15 49 50.8 +0.3**
baz=73
Y12C Blythe 72.55 323 ⇓P **P 15 49 51.5 +0.4**
baz=73
U16A Tuba City 72.62 326 ⇓P **P 15 49 51.6 +0.1**
baz=73,SNR=9.6
SWSC Sam W. Stewart 72.66 321 ⇓P **P 15 49 51.6 -0.2**
baz=73
U17A Shonto 72.75 327⇑P **P 15 49 52.8 +0.5**
baz=73,SNR=10
PDMCI Parker Dam,Lak 72.76 323⇑P **P 15 49 52.3 -0.1**
baz=73
T18A Mexican Hat 72.80 328⇑P **P 15 49 52.6 +0.1**
baz=73,SNR=20
X13A Yucca 72.81 324⇑P **P 15 49 52.8 +0.1**
baz=73,SNR=12
V15A Kaibab Nationa 72.89 326 ⇓P **P 15 49 53.7 +0.6**
baz=73,SNR=12
W14A Seligman 72.89 325⇑P **P 15 49 53.6 +0.5**
baz=73,SNR=7.5
S19A Harvey Farm, M 72.94 329⇑P **P 15 49 53.7 +0.3**
baz=73,SNR=20
SYO Syowa Base 72.95 159⇓ *i*P **P 15 49 51.0 -2.1**
SYO Syowa Base 72.95 159⇓ *e*PcP PcP 15 50 08.0 -1.9
PPT Papeete 72.96 258 eS S 15 59 17.3 -1.8
comp=Z,1µm,26.8s
PPT Papeete 72.96 258 eLR LR 16 12 18.0
comp=Z,1µm,28.0s,baz=110
PPT Papeete 72.96 258 LR LR 16 12 31.5
comp=Z,278nm,20.2s,MS4.5,baz=121,slow=28
MONP Monument Peak 72.97 321⇑P **P 15 49 53.5 -0.2**
baz=73
PV01 Paradox Valley 72.99 329 eP **P 15 49 54.3 +0.6**
BC3 Big Chuckw Mtn 72.99 322 ⇓P **P 15 49 53.6 -0.2**
baz=73,SNR=9.0
ISCO Idaho Springs 73.07 332 eP **P 15 49 53.9 -0.2**
ISCO pmax pmax
comp=Z,96nm,2.0s,mb5.4
ISCO Idaho Springs 73.07 332 eP **P 15 49 53.9 -0.2**
comp=Z,96nm,2.0s,mb5.4
T17A Navajo Res., N 73.14 327⇑P **P 15 49 55.5 +1.0**
baz=73,SNR=7.4
IRM Iron Mountain 73.20 323⇑P **P 15 49 55.3 +0.3**
baz=73,SNR=8.0
W13A Hualapai Mount 73.23 324 ⇓P **P 15 49 55.2 +0.1**
baz=73
V14A Boquillas Ranc 73.23 325 ⇓P **P 15 49 55.7 +0.5**
baz=73,SNR=15
ECSD EROS,Sioux Fal 73.29 341 eP **P 15 49 54.1 -1.2**
comp=Z,57nm,1.1s,mb5.4
ECSD epP pP 15 50 03.1 -1.7
S18A Hurst Farm, Bl 73.30 328⇑P **P 15 49 56.2 +0.7**
baz=74,SNR=36
PV10 Paradox Valley 73.40 329 eP **P 15 49 56.2 +0.1**
U15A North Rim 73.43 326 ⇓P **P 15 49 57.0 +0.8**
baz=74,SNR=20
T16A Glen Canyon Da 73.47 327 ⇓P **P 15 49 57.0 +0.5**
baz=74
PFO Pinyon Flat Ob 73.52 321 eP **P 15 49 57.2 +0.3**
PFO pmax pmax
comp=Z,3.0nm,0.8s,mb4.3
PFO Pinyon Flat Ob 73.52 321 ⇓P **P 15 49 57.4 +0.5**
baz=74
PFO Pinyon Flat Ob 73.52 321 eP **P 15 49 57.2 +0.4**
comp=Z,3.5nm,0.8s,mb4.3
BELC Belle Mtn. 73.55 322⇑P **P 15 49 57.3 +0.2**
baz=74
COWI Conover 73.60 347 eP **P 15 49 55.8 -1.2**
comp=Z,51nm,1.2s,mb5.3
S17A Black Ridge (B 73.64 328 ⇓P **P 15 49 58.2 +0.7**
baz=74,SNR=5.7
R18A Canyonlands Na 73.81 329⇑P **P 15 49 58.3 -0.1**
baz=74,SNR=5.7
V13A Grand Canyon W 73.86 324 ⇓P **P 15 49 59.1 +0.3**
baz=74,SNR=11
U14A Mt Trumbull 73.87 325 ⇓P **P 15 49 59.6 +0.7**
baz=74,SNR=17
W12A Cal Nev Ari 73.91 323 ⇓P **P 15 49 59.9 +0.8**
baz=74
T15A Red Dirt Ranch 73.93 326⇑P **P 15 49 59.8 +0.6**
baz=74
MURC Murrieta 73.94 321 ⇓P **P 15 49 59.4 +0.1**
baz=74
GMRC Granite Mounta 73.94 323 ⇓P **P 15 49 59.9 +0.6**
baz=74,SNR=12
Q19A Hogan Spring (73.97 329 ⇓P **P 15 50 00.0 +0.6**
baz=74
S16A Weppner Ranch, 74.09 327 ⇓P **P 15 50 00.3 +0.1**
baz=74,SNR=7.8
V12A Nelson 74.22 324 ⇓P **P 15 50 00.7 -0.2**
baz=74,SNR=7.1
R17A Hanksville Air 74.22 328⇑P **P 15 50 00.8 0.0**
baz=74,SNR=12
EGOM La Gomera 74.23 47 P **P 15 50 00.5 -0.7**
comp=Z,62nm,0.6s,mb5.7
U13A Pakoon Wash 74.28 325⇑P **P 15 50 01.8 +0.6**
baz=74
T14A Hurricane 74.32 326 ⇓P **P 15 50 02.1 +0.6**
baz=74
HEC Hector,Ludlow 74.35 322⇑P **P 15 50 02.3 +0.6**
baz=75
R16A Teasdale 74.48 328⇑P **P 15 50 02.8 +0.4**
baz=75
Q18A Rafter H Ranch 74.49 329 ⇓P **P 15 50 02.4 0.0**
baz=75,SNR=9.8
TUQ Turquoise Moun 74.58 323⇑P **P 15 50 03.3 +0.3**
baz=75
U12A Valley of Fire 74.59 324 ⇓P **P 15 50 03.5 +0.4**
baz=75
BFSC Mount Baldy St 74.66 321 ⇓P **P 15 50 03.9 +0.3**
baz=75
CCAN Las Canadas 74.67 48 P **P 15 50 04.1 +0.3**
comp=Z,34nm,0.9s,mb5.3
SRU San Rafael 74.68 329 eP **P 15 50 03.6 +0.1**
SRU e*PP pP 15 50 12.7 -0.4
SRU pmax pmax
comp=Z,27nm,1.3s,mb5.0
SRU San Rafael 74.68 329⇑P **P 15 50 03.2 -0.3**
baz=75,SNR=16
SRU San Rafael 74.68 329 eP **P 15 50 03.6 0.0**
comp=Z,27nm,1.3s,mb5.0
SRU epP pP 15 50 12.7 -0.4
T13A Saint George 74.71 325⇑P **P 15 50 04.2 +0.4**
baz=75,SNR=5.1
R15A Junction 74.81 327 ⇓P **P 15 50 04.7 +0.4**
baz=75
Q16A Castle Valley 74.83 328 ⇓P **P 15 50 04.9 +0.5**
baz=75,SNR=13
CCUT Cedar City 74.84 326 eP **P 15 50 05.6 +1.1**
S14A Cedar City 74.90 326 ⇓P **P 15 50 05.0 +0.1**
baz=75
GSC Goldstone 74.96 322⇑P **P 15 50 05.5 +0.2**
baz=75
P18A Preston Nutter 74.97 329 ⇓P **P 15 50 05.1 -0.1**
baz=75,SNR=6.2
MSU Marysvale 75.00 327 eP **P 15 50 06.0 +0.6**
MSU e*PP pP 15 50 15.0 +0.1
O19A Miners Draw (B 75.00 330 ⇓P **P 15 50 04.9 -0.4**
baz=75,SNR=9.1
ARUT Antelope Range 75.06 326 eP **P 15 50 06.5 +0.7**
P17A Butcher Ranch, 75.07 329⇑P **P 15 50 06.2 +0.4**
baz=75
S13A Holt Ranch, En 75.11 326⇑P **P 15 50 07.0 +0.9**
baz=75,SNR=7.0
TMUT Trail Mountain 75.15 328 eP **P 15 50 06.9 +0.7**
EDW2 Edwards Air Fo 75.31 321⇑P **P 15 50 07.5 +0.2**
baz=76
O18A Roosevelt 75.37 330 ⇓P **P 15 50 07.8 +0.3**
baz=76
BLG Laguna Peak 75.37 320 ⇓P **P 15 50 07.6 -0.1**
baz=76
Q15A Fillmore 75.48 327 ⇓P **P 15 50 08.5 +0.4**
baz=76
N19A John Jarvie Ra 75.51 331⇑P **P 15 50 08.6 +0.4**
baz=76
U10A Ash Meadows, A 75.53 323⇑P **P 15 50 09.0 +0.5**
baz=76
OSI Osito Adit 75.54 321⇑P **P 15 50 09.0 +0.4**
baz=76
T11A Corn Creek, Al 75.56 325⇑P **P 15 50 08.9 +0.2**
baz=76,SNR=22
LRMC Laurel Mountai 75.58 322 ⇓P **P 15 50 08.9 +0.1**
baz=76
P16A Fountain Green 75.61 328 ⇓P **P 15 50 09.6 +0.7**
baz=76
BSC Santa Cruz Isl 75.62 320⇑P **P 15 50 09.1 0.0**
baz=76
R13A O'Grain Ranch, 75.63 326 ⇓P **P 15 50 09.9 +0.9**
baz=76,SNR=15
S12A Delamar Landin 75.64 325 ⇓P **P 15 50 09.8 +0.7**
baz=76
O17A Robinson Place 75.65 329⇑P **P 15 50 09.5 +0.4**
baz=76,SNR=21
N18A Larsen Ranch, 75.79 330 ⇓P **P 15 50 10.1 +0.2**
baz=76,SNR=11
FURC Furnace Creek, 75.85 323 ⇓P **P 15 50 10.6 +0.3**
baz=76
P15A Leamington 75.88 328 ⇓P **P 15 50 11.2 +0.8**
baz=76
TPNV Topopah Spring 75.88 324 eP **P 15 50 10.8 +0.3**
TPNV pmax pmax
comp=Z,54nm,1.6s,mb5.2
TPNV Topopah Spring 75.88 324 eP **P 15 50 10.8 +0.3**
comp=Z,54nm,1.6s,mb5.2
MPMC Manual Prospec 75.89 322⇑P **P 15 50 10.7 +0.1**
baz=76
Q14A Sevier Lake (B 75.91 327 ⇓P **P 15 50 11.3 +0.7**
baz=76,SNR=22
MPU Maple Canyon 75.92 329 eP **P 15 50 11.3 +0.6**
comp=Z,37nm,1.3s,mb5.2
MPU epP pP 15 50 20.4 +0.2
DAU Daniels Canyon 76.06 329 eP **P 15 50 11.8 +0.4**
R12A Pony Springs, 76.06 326 ⇓P **P 15 50 12.5 +1.0**
baz=76,SNR=17
NLU North Lily Min 76.08 328 eP **P 15 50 11.9 +0.3**
S11A Rachel 76.14 325⇑P **P 15 50 12.6 +0.7**
baz=76
ISA Isabella 76.15 321 eP **P 15 50 12.2 +0.1**
ISA e*PP pP 15 50 21.5 -0.1
ISA pmax pmax
comp=Z,21nm,1.3s,mb4.9
ISA Isabella 76.15 321⇑P **P 15 50 12.2 +0.1**
baz=76,SNR=8.8
ISA Isabella 76.15 321 eP **P 15 50 12.2 +0.2**
comp=Z,21nm,1.3s,mb4.9
ISA epP pP 15 50 21.5 -0.2
Q13A Wheeler Ranch, 76.25 326 ⇓P **P 15 50 13.2 +0.6**
baz=76
P14A Drum Mountains 76.27 327⇑P **P 15 50 13.3 +0.6**
baz=76,SNR=20
N17A Moffit Pass 76.29 330 ⇓P **P 15 50 13.3 +0.6**
baz=76,SNR=7.1
JLU Jordanelle 76.30 329 eP **P 15 50 13.6 +0.8**
JLU epP pP 15 50 22.2 -0.1
PKM Peak Mountain 76.37 320⇑P **P 15 50 13.5 +0.2**
baz=76,SNR=7.0
CFTV Fuerteventura 76.49 49 P **P 15 50 15.1 +0.9**
comp=Z,16nm,0.6s,mb5.1
CWC Cottonwood Cre 76.50 322 ⇓P **P 15 50 14.4 +0.4**
baz=77,SNR=6.4
GRAC Grapevine Rang 76.52 323 ⇓P **P 15 50 14.4 +0.2**
baz=77
N16A Rees Ranch, Co 76.52 329⇑P **P 15 50 14.6 +0.6**
baz=77
O15A The Old Anders 76.52 328 ⇓P **P 15 50 14.6 +0.5**
baz=77
R11A Troy Canyon, C 76.58 325⇑P **P 15 50 14.8 +0.4**
baz=77,SNR=18
DUG Dugway 76.62 328 eP **P 15 50 15.0 +0.4**
DUG e*PP pP 15 50 23.5 -0.7
DUG pmax pmax
comp=Z,58nm,1.6s,mb5.3
DUG Dugway 76.62 328 eP **P 15 50 15.0 +0.4**
comp=Z,58nm,1.6s,mb5.3
DUG epP pP 15 50 23.5 -0.7

VES **Vestal, Richgr** 76.62 321 ⇑P P 15 50 14.7 -0.1
baz=77
P13A **Bates Ranch, G** 76.63 327 ⇑P P 15 50 15.1 +0.4
baz=77,SNR=17
Q12A **Willow Creek R** 76.72 326 ⇑P P 15 50 15.0 -0.2
baz=77,SNR=7.0
S10A **Tonopah Range,** 76.79 324 ⇑P P 15 50 15.6 0.0
baz=77,SNR=13
R10A **Warm Springs** 76.91 325 ⇓P P 15 50 16.6 +0.3
baz=77
S09A **Goldfield** 76.97 324 ⇓P P 15 50 16.9 +0.2
baz=77,SNR=5.5
Q11A **Duckwater** 76.99 325 ⇓P P 15 50 16.9 +0.2
baz=77,SNR=15
N15A **Stansbury Isla** 77.03 329 ⇓P P 15 50 16.9 +0.1
baz=77
HWUT **Hardware Ranch** 77.15 330 eP P 15 50 16.8 -0.7
comp=Z,34nm,1.2s,mb5.2
HELL **Mitchell Peak** 77.19 322 ⇓P P 15 50 17.8 -0.2
baz=77
PDAR **Pinedale Array** 77.19 332 P P 15 50 17.4 -0.4
comp=Z,4.9nm,1.1s,mb4.3,baz=144,slow=5.3,SNR=14
PDAR LR LR 16 20 38.2
comp=Z,203nm,21.6s,MS4.4,baz=342,slow=33
TPH **Tonopah** 77.23 324 eP P 15 50 17.9 -0.2
TPH pmax pmax
comp=Z,31nm,1.3s,mb5.1
TPH **Tonopah** 77.23 324 eP P 15 50 17.9 -0.3
comp=Z,31nm,1.3s,mb5.1
AGMN **Agassiz Refuge** 77.25 343 eP P 15 50 16.8 -1.2
comp=Z,29nm,0.8s,mb5.3
AGMN epP pP 15 50 25.6 -1.9
R09A **Tonopah** 77.28 324 ⇓P P 15 50 18.5 +0.1
baz=78,SNR=9.7
BGU **Big Grassy Mou** 77.29 328 eP P 15 50 18.2 -0.2
N14A **Grayback Hills** 77.31 328 ⇓P P 15 50 18.8 +0.3
baz=78
S08C **White Mtn Res** 77.32 323 ⇓P P 15 50 19.1 +0.5
baz=78,SNR=7.6
SPUT **South Promonto** 77.32 329 eP P 15 50 18.6 +0.1
Q10A **Clear Creek Ra** 77.36 325 ⇑P P 15 50 19.5 +0.7
baz=78,SNR=6.8
MTUM **Tungsten Hills** 77.43 323 eP P 15 50 19.3 +0.1
MTUM epP pP 15 50 28.4 -0.5
M15A **Larsen Ranch,** 77.44 329 ⇓P P 15 50 19.3 +0.1
baz=78,SNR=9.4
PKD **Parkfield** 77.53 320 ⇑P P 15 50 19.7 -0.1
baz=78
P11A **Circle Ranch,** 77.57 326 ⇑P P 15 50 20.9 +1.0
baz=78
O12A **Currie** 77.61 327 ⇓P P 15 50 20.8 +0.6
baz=78,SNR=8.7
SUR **Sutherland** 77.66 120 P P 15 50 21.9 +1.1
comp=Z,23nm,0.8s,mb5.1,baz=276,slow=7.7,SNR=10
T06C **Millerton Lake** 77.81 322 ⇓P P 15 50 21.2 -0.2
baz=78
KCC **Kaiser Creek** 77.82 322 ⇓P P 15 50 21.0 -0.4
baz=78
L15A **Malad City** 77.84 329 ⇓P P 15 50 21.5 +0.1
baz=78,SNR=11
HVU **Hansel Valley** 77.84 329 eP P 15 50 21.0 -0.4
HVU e*PP pP 15 50 29.3 -1.7
HVU pmax pmax
comp=Z,39nm,1.5s,mb5.1
HVU **Hansel Valley** 77.84 329 eP P 15 50 21.0 -0.4
comp=Z,39nm,1.5s,mb5.1
HVU epP pP 15 50 29.3 -1.8
AHID **Auburn Hatcher** 77.86 331 eP P 15 50 21.6 +0.1
comp=Z,28nm,1.2s,mb5.1
M14A **Sheep Mountain** 77.89 329 ⇑P P 15 50 21.6 -0.2
baz=78,SNR=18
P10A **Eureka** 77.99 325 ⇓P P 15 50 23.1 +0.8
baz=78,SNR=7.8
NVAR **Mina Array Bea** 78.07 324 P P 15 50 22.9 +0.1
comp=Z,4.2nm,0.9s,mb4.4,baz=150,slow=5.5,SNR=20
NVAR pP pP 15 50 32.1 -0.3
comp=Z,2.8nm,0.8s,baz=171,slow=3.6,SNR=6.7
K16A **Soda Springs** 78.14 330 ⇑P P 15 50 23.2 +0.2
baz=78,SNR=17
Q08A **Gabbs** 78.19 324 ⇓P P 15 50 23.2 -0.2
baz=78
N12A **Clover Valley,** 78.20 327 ⇓P P 15 50 23.7 +0.2
baz=78,SNR=5.3
ELK **Elko** 78.22 327 eP P 15 50 23.2 -0.4
ELK pmax pmax
comp=Z,23nm,1.3s
ELK MLR MLR
comp=Z,438nm,20.0s
ELK **Elko** 78.22 327 eP P 15 50 23.2 -0.3
comp=Z,23nm,1.3s,mb5.0
ELK LR LR
comp=Z,438nm,20.0s,MS4.8
R07C **Lee Vining** 78.22 323 ⇓P P 15 50 24.3 +0.7
baz=78,SNR=5.4
L14A **Malta** 78.26 329 ⇓P P 15 50 23.6 -0.1
baz=78,SNR=11
LOHW **Long Hollow** 78.33 331 eP P 15 50 24.0 -0.1
comp=Z,21nm,1.2s,mb4.9
TPAW **Teton Pass** 78.38 331 eP P 15 50 24.5 +0.1
comp=Z,29nm,1.2s,mb5.1
RRI2 **Red Ridge** 78.43 331 eP P 15 50 24.5 -0.1
comp=Z,39nm,1.3s,mb5.2
K15A **Arbon** 78.44 330 ⇑P P 15 50 24.8 +0.1
baz=79
J16A **Bone** 78.50 331 ⇓P P 15 50 24.5 -0.5
baz=79
O10A **Cortez Mining,** 78.51 326 ⇓P P 15 50 24.9 -0.3
baz=79
S06C **San Francisco** 78.51 322 ⇓P P 15 50 25.3 0.0
baz=79,SNR=7.9
I17A **Pilgram Creek** 78.56 332 ⇑P P 15 50 25.5 +0.1
baz=79
DCID1 **Drake Creek** 78.56 331 eP P 15 50 25.4 0.0
M12A **Wells** 78.57 328 ⇓P P 15 50 25.5 0.0
baz=79,SNR=12
K14A **Jones Ranch, D** 78.63 329 ⇑P P 15 50 25.3 -0.5
baz=79,SNR=6.8
L13A **Double Diamond** 78.63 329 ⇑P P 15 50 26.0 +0.2
baz=79,SNR=12
IMW **Indian Meadow** 78.70 331 eP P 15 50 26.2 +0.1
comp=Z,46nm,1.4s,mb5.2
PACP **Pacheco Peak** 78.70 321 ⇓P P 15 50 26.1 -0.2
baz=79
R06C **Coleville** 78.76 323 ⇓P P 15 50 27.2 +0.7
baz=79,SNR=7.5
O09A **Fish Creek Ran** 78.77 325 ⇓P P 15 50 26.8 +0.2
baz=79
I16A **Newdale** 78.92 331 ⇑P P 15 50 27.8 +0.5
baz=79
J15A **Blackfoot** 78.96 330 ⇑P P 15 50 27.6 0.0
baz=79,SNR=13
RLMT **Red Lodge** 78.99 333 eP P 15 50 27.7 0.0
comp=Z,42nm,1.3s,mb5.2
RLMT epP pP 15 50 36.9 -0.4
M11A **Holland Ranch,** 79.01 327 ⇑P P 15 50 28.4 +0.5
baz=79,SNR=23
ULM **Lac du Bonnet** 79.05 344 P P 15 50 26.8 -1.1
comp=Z,21nm,1.0s,mb5.0,baz=153,slow=5.2,SNR=12
K13A **Stover Farm, H** 79.13 329 ⇓P P 15 50 29.4 +0.9
baz=79
L12A **House Creek Ra** 79.18 328 ⇑P P 15 50 29.2 +0.4
baz=79,SNR=6.8
R05C **Kirkwood Meado** 79.23 323 ⇑P P 15 50 29.6 +0.5
baz=79
YMR **Madison River** 79.33 332 eP P 15 50 30.9 +1.3
comp=Z,43nm,1.0s,mb5.3
J14A **Carey** 79.39 330 ⇓P P 15 50 30.2 +0.3
baz=80,SNR=9.3
M10A **I.L. Ranch, Tu** 79.45 327 ⇑P P 15 50 30.5 +0.2
baz=80,SNR=7.7
I15A **Monteview** 79.46 331 ⇑P P 15 50 30.6 +0.3
baz=80
H16A **Russell Place,** 79.48 332 ⇑P P 15 50 30.5 +0.2
baz=80,SNR=7.6
K12A **Draper Farm, C** 79.50 328 ⇑P P 15 50 30.7 +0.1
baz=80,SNR=9.9
L11A **Cat Creek Ranc** 79.55 328 ⇓P P 15 50 31.1 +0.3
baz=80,SNR=17
PAHR **Pah Rah Range** 79.57 324 eP P 15 50 31.3 +0.3
comp=Z,37nm,1.1s,mb5.2
PAHR epP pP 15 50 40.3 -0.3
LAVA **Lava Cap Winer** 79.63 322 ⇑P P 15 50 31.1 -0.2
baz=80
QLMT **Earthquake Lak** 79.66 332 eP P 15 50 32.5 +1.2
N08A **GE Springer Mi** 79.70 325 ⇓P P 15 50 31.0 -0.7
baz=80,SNR=7.8
J13A **Cove Ranch, Pi** 79.75 329 ⇓P P 15 50 32.5 +0.6
baz=80,SNR=11

F18A **Big Timber** 79.82 333 ⇑P P 15 50 32.3 +0.1
baz=80,SNR=11
M09A **Marrel Ranch,** 79.83 326 ⇓P P 15 50 32.2 -0.2
baz=80,SNR=6.1
I14A **Mackay** 79.83 330 ⇑P P 15 50 33.0 +0.7
baz=80,SNR=11
L10A **Juniper Basin** 79.83 327 ⇑P P 15 50 32.5 +0.1
baz=80,SNR=30
P05C **Yuba Gap, Truc** 79.94 323 ⇓P P 15 50 32.9 -0.2
baz=80
H15A **Lima** 80.02 331 ⇑P P 15 50 33.7 +0.4
baz=80
J12A **Stokes Ranch,** 80.07 329 ⇓P P 15 50 33.5 -0.1
baz=80,SNR=20
I13A **Wildhorse Cree** 80.12 330 ⇓P P 15 50 34.5 +0.6
baz=80,SNR=26
N07B **Gerlach** 80.14 325 ⇓P P 15 50 34.2 +0.1
baz=80,SNR=25
G16A **Moss Hill, Enn** 80.14 332 ⇑P P 15 50 33.8 -0.2
baz=80
O06A **Flanigan** 80.14 324 ⇓P P 15 50 34.4 +0.4
baz=80
K11A **Parker Ranch,** 80.14 328 ⇑P P 15 50 33.9 -0.1
baz=80,SNR=9.0
TSUM **Tsumeb** 80.19 107 LR LR 16 20 12.2
comp=Z,295nm,19.7s,MS4.6,baz=148,slow=31
TOA0 **Torodi Ar. Sit** 80.20 70 eP P 15 50 35.0 0.0
TORD **Torodi Ar. Bea** 80.20 70 P P 15 50 35.0 +0.1
comp=Z,122nm,0.8s,mb5.9,baz=254,slow=5.1,SNR=298
TORD LR LR 16 26 31.7
comp=Z,654nm,18.5s,MS5.0,baz=235,slow=36
MCMT **McKenzie Canyo** 80.27 331 eP P 15 50 35.2 +0.6
MCMT epP pP 15 50 44.5 +0.3
CVS **Carmenet Viney** 80.30 321 ⇓P P 15 50 34.9 -0.1
baz=80
M08A **Happy Creek Ra** 80.32 326 ⇑P P 15 50 34.8 -0.2
baz=80,SNR=8.0
H14A **Leadore** 80.33 330 ⇑P P 15 50 35.3 +0.3
baz=81,SNR=9.6
G15A **Dillon** 80.38 331 ⇓P P 15 50 35.2 0.0
baz=81,SNR=11
SCHQ **Schefferville** 80.43 2 P P 15 50 34.6 -0.6
comp=Z,17nm,0.9s,mb5.0,baz=170,slow=3.6,SNR=6.8
E18A **Harlowton** 80.44 334 ⇓P P 15 50 35.2 -0.3
baz=81,SNR=7.3
MFID **Camas Ranch** 80.54 328 ⇓P P 15 50 35.9 -0.3
baz=81,SNR=7.4
K10A **MacKenzie Ranc** 80.56 327 ⇓P P 15 50 36.2 0.0
baz=81
N06A **Buffalo Meadow** 80.56 324 ⇑P P 15 50 36.5 +0.1
baz=81,SNR=27
MAW **Mawson** 80.58 164 eP P 15 50 35.8 -0.3
comp=Z,32nm,0.9s,mb5.2
MAW **Mawson** 80.58 164 P P 15 50 36.0 -0.2
comp=Z,38nm,0.9s,mb5.3,baz=212,slow=6.6,SNR=62
MAW LR LR 16 24 53.8
comp=Z,464nm,18.6s,MS4.9,baz=231,slow=35
MAW **Mawson** 80.58 164 eP P 15 50 35.8 -0.3
MAW pmax pmax
comp=Z,32nm,0.9s
O05C **Quincy** 80.58 323 ⇓P P 15 50 36.1 -0.3
baz=81
DLMT **Dillon** 80.58 331 eP P 15 50 36.2 -0.1
comp=Z,37nm,1.3s,mb5.2
ORV **Oroville** 80.61 322 ⇓P P 15 50 36.6 0.0
baz=81,SNR=6.5
H13A **Challis** 80.69 330 ⇓P P 15 50 37.1 +0.2
baz=81,SNR=9.3
E17A **Martinsdale** 80.73 333 ⇑P P 15 50 37.1 0.0
baz=81,SNR=6.9
L08A **Fields** 80.85 326 ⇓P P 15 50 37.3 -0.5
baz=81,SNR=14
K09A **Rome** 80.92 327 ⇑P P 15 50 37.8 -0.4
baz=81,SNR=13
F15A **Butte** 80.92 332 ⇓P P 15 50 38.1 0.0
baz=81,SNR=20
O04C **Chester** 80.92 323 ⇓P P 15 50 37.9 -0.4
baz=81
ELFS **Eagle Lake Fie** 80.94 324 ⇓P P 15 50 38.6 +0.3
baz=81,SNR=14
H12A **Diamond D Ranc** 80.95 330 ⇓P P 15 50 38.6 +0.3
baz=81,SNR=5.8
G13A **Cobalt** 81.09 330 ⇓P P 15 50 39.6 +0.5
baz=81,SNR=22
HOPS **Hopland** 81.09 321 ⇓P P 15 50 39.2 0.0
baz=81
E16A **East Helena** 81.13 333 ⇓P P 15 50 39.2 +0.1
baz=81,SNR=6.8
WVOR **Wild Horse Val** 81.17 326 eP P 15 50 38.9 -0.6
WVOR pmax pmax
comp=Z,18nm,1.3s,mb4.8
WVOR **Wild Horse Val** 81.17 326 eP P 15 50 38.9 -0.6
comp=Z,18nm,1.3s,mb4.8
L07A **Adell** 81.23 325 ⇓P P 15 50 39.9 +0.1
baz=81,SNR=5.6
M06C **Likely Place G** 81.23 324 ⇑P P 15 50 39.7 -0.2
baz=81,SNR=7.6
F14A **Wisdom** 81.27 331 ⇓P P 15 50 40.6 +0.6
baz=82,SNR=7.4
K08A **Mann Creek Ran** 81.32 326 ⇑P P 15 50 40.0 -0.3
baz=82
GASB **Alder Springs** 81.35 322 ⇑P P 15 50 40.3 -0.2
baz=82
J09A **Fry Pan Ranch,** 81.41 327 ⇓P P 15 50 40.5 -0.3
baz=82,SNR=5.8
E15A **Deer Lodge** 81.44 332 ⇓P P 15 50 40.8 0.0
baz=82,SNR=8.5
D16A **Dana Ranch, Ca** 81.47 333 ⇓P P 15 50 41.2 +0.2
baz=82,SNR=13
I10A **Payette** 81.50 328 ⇑P P 15 50 41.0 -0.3
baz=82
H11A **Donnelly** 81.60 329 ⇑P P 15 50 41.7 0.0
baz=82
C17A **Wharram Farm,** 81.64 334 ⇓P P 15 50 42.2 +0.4
baz=82
MOD **Modoc** 81.64 325 ⇑P P 15 50 42.6 +0.6
baz=82,SNR=11
K07A **Rock Creek Ran** 81.67 326 ⇓P P 15 50 42.4 +0.2
baz=82,SNR=18
F13A **Darby** 81.68 331 ⇑P P 15 50 42.0 -0.1
baz=82,SNR=27
M05C **Lookout** 81.69 324 ⇓P P 15 50 42.3 0.0
baz=82
O02C **Red Bluff** 81.75 322 ⇓P P 15 50 42.8 +0.2
baz=82
J08A **Circle Bar Ran** 81.77 327 ⇓P P 15 50 42.6 -0.1
baz=82,SNR=17
E14A **Clinton** 81.80 332 ⇑P P 15 50 42.9 +0.2
baz=82,SNR=7.0
I09A **Lost Marbles R** 81.87 328 ⇑P P 15 50 42.7 -0.5
baz=82,SNR=8.0
D15A **Lincoln** 81.88 332 ⇑P P 15 50 43.5 +0.4
baz=82,SNR=7.4
WDC **Whiskeytown Da** 81.90 323 ⇑P P 15 50 41.8 -1.6
baz=82
L05A **Lakeview** 82.02 325 ⇑P P 15 50 43.9 -0.1
baz=82,SNR=12
CHMT **Chamberlain Mo** 82.09 332 eP P 15 50 44.5 +0.2
E13A **Victor** 82.12 331 ⇓P P 15 50 44.7 +0.3
baz=82,SNR=11
C16A **Fuhringer Ranc** 82.17 333 ⇑P P 15 50 44.2 -0.5
baz=82,SNR=9.1
J07A **Hines** 82.20 326 ⇑P P 15 50 45.0 0.0
baz=82
I08A **Drewsey** 82.23 327 ⇑P P 15 50 44.9 -0.1
baz=82,SNR=7.1
G11A **Walters Elk Ra** 82.25 329 ⇓P P 15 50 44.8 -0.3
baz=82,SNR=31
K06A **Valley Falls** 82.26 325 ⇓P P 15 50 45.6 +0.4
baz=82,SNR=12
BMO **Blue Mountains** 82.32 328 eP P 15 50 44.3 -1.2
BMO e*PP pP 15 50 54.1 -1.1
BMO pmax pmax
comp=Z,37nm,1.5s,mb5.1
BMO **Blue Mountains** 82.32 328 eP P 15 50 44.3 -1.2
comp=Z,37nm,1.5s,mb5.1
BMO epP pP 15 50 54.1 -1.0
D14A **Greenough** 82.33 332 ⇓P P 15 50 45.4 -0.1
baz=83,SNR=8.4
H09A **Durkee** 82.35 328 ⇑P P 15 50 45.3 -0.4
baz=83
M04C **Macdoel** 82.36 324 ⇓P P 15 50 45.8 -0.1
baz=83
N02C **Big Bar** 82.48 322 ⇑P P 15 50 46.5 0.0
baz=83
C15A **Salmond Ranch,** 82.50 333 ⇓P P 15 50 46.2 -0.2
baz=83,SNR=14
J06A **Christmas Vall** 82.53 326 ⇑P P 15 50 46.4 -0.2
baz=83,SNR=14

K05A **Summer Lake** 82.53 325 ⇓P P 15 50 47.1 +0.4
baz=83,SNR=13
G10A **Bishop Farm, J** 82.56 329 ⇓P P 15 50 46.8 0.0
baz=83,SNR=6.4
F11A **Grangeville** 82.57 330 ⇑P P 15 50 46.3 -0.5
baz=83,SNR=9.5
M02C **Callahan** 82.63 323 ⇓P P 15 50 47.0 -0.2
baz=83
B16A **M & M Farms, S** 82.64 334 ⇓P P 15 50 46.8 -0.3
baz=83,SNR=6.8
L04A **Klamath Falls** 82.67 324 ⇓P P 15 50 47.1 -0.3
baz=83
BOSA **Boshof** 82.69 118 P P 15 50 48.4 +0.4
comp=Z,39nm,1.0s,mb5.4,baz=236,slow=4.3,SNR=12
BOSA LR LR 16 22 56.1
comp=Z,505nm,20.2s,MS4.9,baz=234,slow=32
BOSA **Boshof** 82.69 118 eP P 15 50 47.7 -0.4
BOSA pmax pmax
comp=Z,67nm,1.2s,mb5.5
BOSA **Boshof** 82.69 118 eP P 15 50 47.7 -0.4
comp=Z,67nm,1.2s,mb5.5
E12A **Beaver Dam Sad** 82.71 330 ⇑P P 15 50 47.2 -0.4
baz=83,SNR=7.0
H08A **Prairie City** 82.72 327 ⇑P P 15 50 47.2 -0.5
baz=83
D13A **Huson** 82.74 331 ⇓P P 15 50 47.4 -0.3
baz=83,SNR=13
YBH **Yreka Blue Hor** 82.79 323 ⇑P P 15 50 47.0 -1.1
baz=83
I07A **Izee** 82.81 327 ⇓P P 15 50 48.1 -0.1
baz=83,SNR=8.6
G09A **Cove** 82.86 328 ⇓P P 15 50 48.1 -0.2
baz=83,SNR=16
B15A **Bradely Ranch,** 82.91 333 ⇑P P 15 50 47.4 -1.1
baz=83,SNR=15
E11A **Bogner Ranch,** 82.95 330 ⇑P P 15 50 47.9 -0.9
baz=83,SNR=5.1
A16A **West Butte Ran** 83.03 334 ⇓P P 15 50 48.8 -0.3
baz=83,SNR=30
J05A **Fort Rock** 83.11 325 ⇓P P 15 50 49.9 +0.2
baz=83,SNR=7.4
F10A **Beach Ranch, E** 83.12 329 ⇓P P 15 50 50.0 +0.3
baz=83
H07A **Lands Inn, Kim** 83.21 327 ⇑P P 15 50 50.2 0.0
baz=83
B14A **Marquette Ranc** 83.24 333 ⇑P P 15 50 50.2 +0.1
baz=84
G08A **Pilot Rock** 83.43 328 ⇑P P 15 50 50.9 -0.3
baz=84
E10A **Myers Farm, Un** 83.45 330 ⇑P P 15 50 51.0 -0.4
baz=84,SNR=7.1
A15A **Johnson Ranch,** 83.50 334 ⇑P P 15 50 50.6 -0.9
baz=84,SNR=8.4
D11A **Klaveano Farm,** 83.53 330 ⇓P P 15 50 51.4 -0.4
baz=84
L02A **Cave Junction** 83.56 323 ⇑P P 15 50 51.7 -0.4
baz=84
H06A **Lindquist Farm** 83.69 327 ⇑P P 15 50 52.8 +0.2
baz=84,SNR=5.5
B13A **Whitefish** 83.74 332 ⇑P P 15 50 52.7 -0.1
baz=84
I05A **Bend** 83.75 326 ⇓P P 15 50 53.0 +0.1
baz=84
G07A **Ruggs Ranch, H** 83.75 327 ⇓P P 15 50 52.5 -0.5
baz=84,SNR=5.5
A14A **Double T Ranch** 83.78 333 ⇓P P 15 50 52.5 -0.5
baz=84,SNR=6.1
K02A **Glendale** 83.92 324 ⇑P P 15 50 53.4 -0.5
baz=84
WALA **Waterton Lakes** 84.05 333 eP P 15 50 53.9 -0.4
comp=Z,21nm,0.9s,mb5.3
I04A **Tendick Farm,** 84.07 325 ⇓P P 15 50 54.2 -0.4
baz=84
A13A **Flathead Natio** 84.16 333 ⇑P P 15 50 54.7 -0.2
baz=84,SNR=26
G06A **Carlson Farm,** 84.20 327 ⇓P P 15 50 54.8 -0.4
baz=84
B12A **Libby** 84.29 332 ⇓P P 15 50 55.5 -0.1
baz=84
E08A **Dider Farm, El** 84.36 329 ⇓P P 15 50 55.6 -0.3
baz=85
J02A **Umpqua** 84.38 324 ⇑P P 15 50 55.8 -0.3
baz=85
D09A **Jones Farm, Ri** 84.43 329 ⇑P P 15 50 56.4 +0.1
baz=85
G05A **Wamic** 84.54 327 ⇓P P 15 50 56.8 -0.2
baz=85
I03A **Eugene** 84.65 325 ⇑P P 15 50 57.1 -0.5
baz=85
F06A **Goldendale** 84.66 327 ⇑P P 15 50 57.2 -0.3
baz=85
A12A **Yaak River Ran** 84.67 332 ⇓P P 15 50 57.0 -0.5
baz=85
D08A **Wollman Farm,** 84.71 329 ⇑P P 15 50 57.7 -0.1
baz=85
DRV **Dumont d'Urvil** 84.91 192 P P 15 51 02.0 +3.4
DRV S S 16 01 28.0 +3.1
DRV L 16 13 00.0
DRV R 16 19 00.0
C09A **Chrisman Ranch** 84.97 330 ⇓P P 15 50 58.4 -0.6
baz=85
A11A **Hall Mountain,** 85.00 332 ⇑P P 15 50 58.5 -0.7
baz=85,SNR=15
F05A **White Salmon** 85.07 327 ⇓P P 15 50 59.2 -0.4
baz=85
PFVI **Vila Bisbo** 85.37 45 eP P 15 51 02.4 +1.1
comp=Z,138nm,1.2s,mb6.0
B09A **Rice** 85.37 330 ⇓P P 15 51 00.6 -0.4
baz=86
A10A **Northport** 85.53 331 ⇓P P 15 51 01.3 -0.5
baz=86,SNR=7.1
F04A **Amboy** 85.58 327 ⇓P P 15 51 01.5 -0.7
baz=86
MORF **Marmelete** 85.58 45 eP P 15 51 03.5 +1.1
comp=Z,114nm,1.0s,mb6.1
MDT **Midelt** 85.65 50 LR LR 16 25 05.3
comp=Z,257nm,21.7s,MS4.6,baz=58,slow=33
PTEO **Sao Teotonio** 85.68 45 eP P 15 51 04.3 +1.4
comp=Z,216nm,1.0s,mb6.3
C07A **Waterville** 85.70 329 ⇑P P 15 51 02.3 -0.4
baz=86
D06A **Cle Elum** 85.71 328 ⇑P P 15 51 02.2 -0.5
baz=86
B08A **Colville Reser** 85.86 330 ⇑P P 15 51 02.8 -0.6
baz=86
A09A **Danville** 85.98 331 ⇑P P 15 51 03.3 -0.7
baz=86
PBDV **Barranco-do-Ve** 86.00 45 iP P 15 51 06.1 +1.6
comp=Z,206nm,0.9s,mb6.4
PVAQ **Vaqueiros** 86.24 45 eP P 15 51 06.7 +1.1
comp=Z,99nm,1.3s,mb5.9
A08A **Turner Farm, O** 86.27 330 ⇑P P 15 51 04.9 -0.6
baz=86
B07A **Winthrop** 86.29 329 ⇓P P 15 51 05.0 -0.6
baz=86
EGRO **El Granado** 86.46 45 P P 15 51 07.0 +0.2
comp=Z,145nm,1.0s,mb6.2
PBEJ **Beja** 86.51 45 eP P 15 51 07.8 +0.8
comp=Z,79nm,1.1s,mb5.9
E03A **Lebam** 86.58 326 ⇑P P 15 51 07.0 -0.1
baz=87
EVO **Evora** 86.72 44 ⇑iP P 15 51 08.3 +0.3
comp=Z,56nm,1.0s,mb5.5
EVO eMLR MLR
comp=Z,474nm,19.8s,MS4.6
EVO **Evora** 86.72 44 eP P 15 51 09.0 +1.0
comp=Z,32nm,1.6s,mb5.3
EDM **Edmonton** 87.11 336 eP P 15 51 07.4 -2.1
EMIN **Mina Concepcio** 87.12 45 P P 15 51 09.4 -0.5
comp=Z,118nm,1.2s,mb6.0
ESPR **Espera** 87.12 47 P P 15 51 10.0 0.0
comp=Z,63nm,0.7s,mb6.0
PBAR **Barrancos** 87.12 45 eP P 15 51 10.5 +0.6
comp=Z,40nm,1.6s,mb5.4
EJIF **Jimena Fronter** 87.14 47 P P 15 51 10.9 +0.8
EJIF pmax pmax
comp=Z,12nm,0.5s,mb5.4
EJIF **Jimena Fronter** 87.14 47 P P 15 51 10.9 +0.9
comp=Z,12nm,0.5s,mb5.4
EBAD **Badajoz** 87.48 44 P P 15 51 12.3 +0.6
comp=Z,11nm,0.7s,mb5.2
PMRV **Marv??o** 87.64 44 eP P 15 51 13.0 +0.6
EMIJ **Mijas** 87.66 47 P P 15 51 12.2 -0.4
comp=Z,22nm,0.8s,mb5.4
CASY **Casey** 88.14 180 eP P 15 51 14.6 +0.1
ELOJ **Sierra Loja** 88.40 47 P P 15 51 17.0 +0.9
ELOJ pmax pmax

comp=Z,5.0nm,0.4s,mb5.1
ELOJ Sierra Loja 88.40 47 P **P** **15 51 17.0 +0.9**
comp=Z,4.9nm,0.4s,mb5.1
ELUQ Luque 88.56 47 P **P** **15 51 17.8 +1.0**
ELUQ pmax pmax
comp=Z,6.0nm,0.3s,mb5.4
ELUQ Luque 88.56 47 P **P** **15 51 17.8 +1.0**
comp=Z,6.1nm,0.3s,mb5.4
ELOB Lobios 88.69 41 P **P** **15 51 17.1 -0.2**
comp=Z,19nm,0.7s,mb5.5
EADA Adamuz 88.70 46 P **P** **15 51 17.1 -0.4**
comp=Z,10nm,0.7s,mb5.3
EBER Berja 89.10 48 P **P** **15 51 19.1 -0.3**
comp=Z,29nm,0.9s,mb5.6
EBAN Banos Encina 89.22 46 P **P** **15 51 20.0 +0.1**
EBAN pmax pmax
comp=Z,8.0nm,0.5s,mb5.3
EBAN Banos Encina 89.22 46 P **P** **15 51 20.0 +0.2**
comp=Z,8.4nm,0.5s,mb5.3
EQES Quesada 89.48 47 P **P** **15 51 21.1 0.0**
comp=Z,24nm,0.8s,mb5.6
ERUA La Rua 89.56 41 P **P** **15 51 20.9 -0.5**
ERUA pmax pmax
comp=Z,1.0nm,0.2s,mb4.8
ERUA La Rua 89.56 41 P **P** **15 51 20.9 -0.4**
comp=Z,1.1nm,0.2s,mb4.8
ENIJ Nijar 89.60 48 P **P** **15 51 21.4 -0.3**
ENIJ pmax pmax
comp=Z,7.0nm,0.5s,mb5.2
ENIJ Nijar 89.60 48 P **P** **15 51 21.4 -0.3**
comp=Z,6.9nm,0.5s,mb5.2
EHUE Huescar 89.81 47 P **P** **15 51 21.9 -0.7**
EHUE pmax pmax
comp=Z,2.0nm,0.6s,mb4.6
EHUE Huescar 89.81 47 P **P** **15 51 21.9 -0.8**
comp=Z,2.4nm,0.6s,mb4.7
ESDC Sonseca Array 89.95 45 P **P** **15 51 24.1 +0.8**
comp=Z,5.8nm,0.8s,mb4.9,baz=245,slow=3.9,SNR=16
ESDC Sonseca Array 89.95 45 P **P** **15 51 23.1 -0.2**
comp=Z,4.6nm,0.8s,mb4.9
ESLA Sonseca Array 89.95 45 *eP* **P** **15 51 24.0 +0.7**
comp=Z,3.0nm,1.0s,mb4.6
URZ Urewera 90.15 227 LR LR 16 22 18.1
comp=Z,511nm,19.8s,MS5.0,baz=133,slow=29
GUD Guadarrama 90.37 44 P **P** **15 51 25.1 -0.1**
GUD pmax pmax
comp=Z,3.0nm,0.6s,mb4.8
GUD Guadarrama 90.37 44 P **P** **15 51 25.1 -0.2**
comp=Z,3.2nm,0.6s,mb4.8
RPZ Rata Peaks 90.71 220 LR LR 16 21 21.6
comp=Z,638nm,20.6s,MS5.0,baz=96,slow=28
LSZ Lusaka 91.02 107 *eP* **P** **15 51 30.1 +1.2**
LSZ pmax pmax
comp=Z,9.0nm,0.9s,mb5.1
LSZ MLR MLR
comp=Z,708nm,22.0s,MS5.1
LSZ Lusaka 91.02 107 *eP* **P** **15 51 30.1 +1.2**
comp=Z,9.3nm,0.9s,mb5.1
LSZ LR LR
comp=Z,708nm,22.0s,MS5.1
ETOR Torete 91.80 45 P **P** **15 51 32.0 +0.2**
ETOR pmax pmax
comp=Z,23nm,0.8s,mb5.6
ETOR Torete 91.80 45 P **P** **15 51 32.0 +0.2**
comp=Z,23nm,0.8s,mb5.5
ECHE Chera 91.83 46 P **P** **15 51 32.3 +0.2**
ECHE pmax pmax
comp=Z,3.0nm,0.4s,mb5.0
ECHE Chera 91.83 46 P **P** **15 51 32.3 +0.2**
comp=Z,2.7nm,0.4s,mb4.9
ELAN Lanestosa 92.27 42 P **P** **15 51 33.1 -0.8**
comp=Z,12nm,0.8s,mb5.3
ERTA Horta de San J 93.40 46 P **P** **15 51 39.6 +0.3**
comp=Z,16nm,0.8s,mb5.5
SJPF Ste Jean 93.56 43⇑ *iP* **P** **15 51 40.4 +0.5**
comp=Z,31nm,1.2s,mb5.3
SJPF Ste Jean 93.56 43⇑ *iP* **P** **15 51 40.4 +0.5**
SJPF pmax pmax
comp=Z,15nm,1.2s,mb5.3
SJPF Ste Jean 93.56 43⇑ *iP* **P** **15 51 40.4 +0.5**
comp=Z,15nm,1.2s,mb5.3
ETSF Etsaut 93.86 44⇑ *iP* **P** **15 51 41.9 +0.6**
comp=Z,27nm,1.3s,mb5.2
ETSF Etsaut 93.86 44⇑ *iP* **P** **15 51 41.9 +0.6**
ETSF pmax pmax
comp=Z,13nm,1.3s,mb5.2
ETSF Etsaut 93.86 44⇑ *iP* **P** **15 51 41.9 +0.6**
comp=Z,13nm,1.3s,mb5.2
EPOB Poblet 94.09 46 P **P** **15 51 41.4 -1.0**
comp=Z,16nm,0.8s,mb5.5
EBIE Bielsa 94.18 44 P **P** **15 51 43.0 +0.2**
comp=Z,4.8nm,0.6s,mb5.1
EPF Esparros 94.49 44 *eP* **P** **15 51 44.6 +0.4**
YKA Yellowknife Ar 94.81 341 P **P** **15 51 43.2 -1.9**
comp=Z,5.2nm,0.9s,mb5.0,baz=139,slow=4.6,SNR=11
YKA pP pP 15 51 53.1 -1.8
comp=Z,2.1nm,0.8s,baz=137,slow=4.7,SNR=3.7
YKA Yellowknife Ar 94.81 341 P **P** **15 51 43.2 -2.0**
YKA pP pP 15 51 53.1 -1.8
QUIF Quistinic 95.02 39 *eP* **P** **15 51 45.5 -1.0**
comp=Z,37nm,1.2s,mb5.4
QUIF Quistinic 95.02 39 *eP* **P** **15 51 45.5 -1.0**
QUIF pmax pmax
comp=Z,18nm,1.2s,mb5.4
QUIF Quistinic 95.02 39 *eP* **P** **15 51 45.5 -1.0**
comp=Z,18nm,1.2s,mb5.4
ROSF Rostrenen 95.19 38 *eP* **P** **15 51 47.5 +0.2**
LFF La Frestale 95.72 43 *eP* **P** **15 51 49.5 -0.3**
comp=Z,15nm,0.7s,mb5.2
LFF La Frestale 95.72 43 *eP* **P** **15 51 49.5 -0.3**
LFF pmax pmax
comp=Z,8.0nm,0.7s,mb5.3
LFF La Frestale 95.72 43 *eP* **P** **15 51 49.5 -0.3**
comp=Z,7.6nm,0.7s,mb5.2
MTLF Montolieu 95.83 44 *eP* **P** **15 51 50.0 -0.3**
comp=Z,22nm,1.2s,mb5.2
MTLF Montolieu 95.83 44 *eP* **P** **15 51 50.0 -0.3**
MTLF pmax pmax
comp=Z,11nm,1.2s,mb5.2
MTLF Montolieu 95.83 44 *eP* **P** **15 51 50.0 -0.3**
comp=Z,11nm,1.2s,mb5.2
MFF Saint Martin d 96.05 41 *iP* **P** **15 51 50.8 -0.5**
comp=Z,51nm,1.2s,mb5.5
MFF Saint Martin d 96.05 41 *iP* **P** **15 51 50.8 -0.5**
MFF pmax pmax
comp=Z,25nm,1.2s,mb5.5
MFF Saint Martin d 96.05 41⇑ *iP* **P** **15 51 50.8 -0.5**
comp=Z,25nm,1.2s,mb5.5
RJF Les Rejaudoux 96.38 42 *eP* **P** **15 51 52.3 -0.5**
RJF *e*MLR MLR
comp=Z,510nm,22.5s,MS4.7
RJF Les Rejaudoux 96.38 42 *eP* **P** **15 51 52.3 -0.5**
RJF LR LR
comp=Z,510nm,22.5s,MS5.0
CAF Calviac 96.53 43 *eP* **P** **15 51 53.2 -0.2**
GRR Gorron 96.58 39 *eP* **P** **15 51 52.5 -1.1**
comp=Z,25nm,1.0s,mb5.3
GRR Gorron 96.58 39 *eP* **P** **15 51 52.5 -1.1**
GRR pmax pmax
comp=Z,12nm,1.0s,mb5.3
GRR Gorron 96.58 39 *eP* **P** **15 51 52.5 -1.1**
comp=Z,12nm,1.0s,mb5.3
KEST Kesra 97.07 54 P **P** **15 51 56.2 0.0**
comp=Z,1.4nm,0.9s,mb4.4,baz=198,slow=9.2,SNR=3.3
LDF La Druitiere 97.10 39 *eP* **P** **15 51 55.0 -1.0**
comp=Z,42nm,1.4s,mb5.4
LDF La Druitiere 97.10 39 *eP* **P** **15 51 55.0 -1.0**
LDF pmax pmax
comp=Z,21nm,1.4s,mb5.4
LDF La Druitiere 97.10 39 *eP* **P** **15 51 55.0 -1.0**
comp=Z,21nm,1.4s,mb5.4
TCF Toulx Ste Croi 97.30 42⇑ *iP* **P** **15 51 56.4 -0.5**
comp=Z,12nm,1.0s,mb5.0
TCF Toulx Ste Croi 97.30 42⇑ *iP* **P** **15 51 56.4 -0.5**
TCF pmax pmax
comp=Z,6.0nm,1.0s,mb5.0
TCF Toulx Ste Croi 97.30 42⇑ *iP* **P** **15 51 56.4 -0.5**
comp=Z,5.8nm,1.0s,mb5.0
BGF Bois d'Agland 97.81 42 *eP* **P** **15 51 58.8 -0.4**
comp=Z,44nm,1.3s,mb5.5
BGF Bois d'Agland 97.81 42 *eP* **P** **15 51 58.8 -0.4**
BGF pmax pmax
comp=Z,22nm,1.3s,mb5.5
BGF Bois d'Agland 97.81 42 *eP* **P** **15 51 58.8 -0.4**
comp=Z,22nm,1.3s,mb5.5
VIVF Saint-Julien-I 98.11 44 *eP* **P** **15 52 00.9 +0.3**
comp=Z,12nm,1.0s,mb5.1
VIVF Saint-Julien-I 98.11 44 *eP* **P** **15 52 00.9 +0.3**
VIVF pmax pmax
comp=Z,6.0nm,1.0s,mb5.1
VIVF Saint-Julien-I 98.11 44 *eP* **P** **15 52 00.9 +0.3**
comp=Z,5.8nm,1.0s,mb5.1
AVF Avril sur Loir 98.23 42 *eP* **P** **15 52 00.5 -0.6**
comp=Z,13nm,1.0s,mb5.1
AVF Avril sur Loir 98.23 42 *eP* **P** **15 52 00.5 -0.6**
AVF pmax pmax
comp=Z,7.0nm,1.0s,mb5.2
AVF Avril sur Loir 98.23 42 *eP* **P** **15 52 00.5 -0.6**
comp=Z,6.7nm,1.0s,mb5.1
SMRF Simiane la Rot 98.27 45⇑ *iP* **P** **15 52 02.2 +0.9**
comp=Z,13nm,1.0s,mb5.1
SMRF Simiane la Rot 98.27 45⇑ *iP* **P** **15 52 02.2 +0.9**
comp=Z,13nm,1.0s,mb5.4
SSF Saint Saulge 98.45 42⇑ *iP* **P** **15 52 01.2 -0.9**
comp=Z,12nm,1.0s,mb5.1
SSF Saint Saulge 98.45 42⇑ *iP* **P** **15 52 01.2 -0.9**
SSF pmax pmax
comp=Z,6.0nm,1.0s,mb5.1
SSF Saint Saulge 98.45 42⇑ *iP* **P** **15 52 01.2 -0.9**
comp=Z,6.0nm,1.0s,mb5.1
SMF Signal de Mont 98.45 42 *eP* **P** **15 52 01.8 -0.3**
comp=Z,22nm,1.1s,mb5.3
SMF Signal de Mont 98.45 42 *eP* **P** **15 52 01.8 -0.3**
SMF pmax pmax
comp=Z,11nm,1.1s,mb5.3
SMF Signal de Mont 98.45 42 *eP* **P** **15 52 01.8 -0.3**
comp=Z,11nm,1.1s,mb5.3
LMR La Mourre 98.57 46⇑ *iP* **P** **15 52 03.0 +0.3**
comp=Z,35nm,1.1s,mb5.5
LMR La Mourre 98.57 46⇑ *iP* **P** **15 52 03.0 +0.3**
LMR pmax pmax
comp=Z,18nm,1.1s,mb5.5
LMR La Mourre 98.57 46⇑ *iP* **P** **15 52 03.0 +0.3**
comp=Z,18nm,1.1s,mb5.5
FRF La Foret Royal 98.76 46⇑ *iP* **P** **15 52 03.9 +0.3**
comp=Z,34nm,1.4s,mb5.4
FRF La Foret Royal 98.76 46⇑ *iP* **P** **15 52 03.9 +0.3**
FRF pmax pmax
comp=Z,17nm,1.4s,mb5.4
FRF La Foret Royal 98.76 46⇑ *iP* **P** **15 52 03.9 +0.3**
comp=Z,17nm,1.4s,mb5.4
LOR Lormes 98.76 42 *eP* **P** **15 52 02.7 -0.8**
comp=Z,10nm,1.0s,mb5.0
LOR *e*MLR MLR
comp=Z,438nm,20.0s,MS4.7
LOR Lormes 98.76 42 *eP* **P** **15 52 02.7 -0.8**
LOR pmax pmax
comp=Z,5.0nm,1.0s,mb5.0
LOR MLR MLR
comp=Z,440nm,20.0s,MS5.0
LOR Lormes 98.76 42 *eP* **P** **15 52 02.7 -0.8**
comp=Z,5.2nm,1.0s,mb5.0
LOR LR LR
comp=Z,440nm,20.0s,MS5.0
ORIF Oris-en-Rattie 98.90 44 *eP* **P** **15 52 04.9 +0.8**
comp=Z,15nm,0.9s,mb5.2
ORIF *e*MLR MLR
comp=Z,370nm,18.2s,MS4.6
ORIF Oris-en-Rattie 98.90 44 *eP* **P** **15 52 04.9 +0.8**
ORIF pmax pmax
comp=Z,7.0nm,0.9s,mb5.2
ORIF Oris-en-Rattie 98.90 44 *eP* **P** **15 52 04.9 +0.8**
comp=Z,7.4nm,0.9s,mb5.2
MBDF Montbardon 99.37 45 *eP* **P** **15 52 06.9 +0.6**
comp=Z,12nm,1.0s,mb5.1
MBDF Montbardon 99.37 45 *eP* **P** **15 52 06.9 +0.6**
MBDF pmax pmax
comp=Z,6.0nm,1.0s,mb5.1
MBDF Montbardon 99.37 45 *eP* **P** **15 52 06.9 +0.6**
comp=Z,6.2nm,1.0s,mb5.1
SBF Sospel 99.41 46 *eP* **P** **15 52 06.9 +0.5**
comp=Z,53nm,1.1s,mb5.7
SBF Sospel 99.41 46 *eP* **P** **15 52 06.9 +0.5**
SBF pmax pmax
comp=Z,27nm,1.1s,mb5.7
SBF Sospel 99.41 46 *eP* **P** **15 52 06.9 +0.5**
comp=Z,26nm,1.1s,mb5.7
LPL La Plagne 99.71 44 *eP* Pdif 15 52 08.7 +0.8
comp=Z,14nm,0.9s
LPL La Plagne 99.71 44 *eP* Pdif 15 52 08.7 +0.8
LPL pmax pmax
comp=Z,7.0nm,0.9s,mb5.1
LPL La Plagne 99.71 44 *eP* Pdif 15 52 08.7 +0.8
comp=Z,7.0nm,0.9s
LPG La Plagne 99.71 44⇑ *iP* Pdif 15 52 08.8 +0.9
comp=Z,20nm,1.0s
LPG La Plagne 99.71 44⇑ *iP* Pdif 15 52 08.8 +0.9
LPG pmax pmax
comp=Z,10.0nm,1.0s,mb5.2
LPG La Plagne 99.71 44⇑ *iP* Pdif 15 52 08.8 +0.9
comp=Z,10nm,1.0s
CABF La Chapelle 99.81 43 *eP* Pdif 15 52 08.0 -0.3
PGF Pioggiola 99.85 48⇑ *iP* Pdif 15 52 08.9 +0.4
comp=Z,29nm,1.0s
PGF Pioggiola 99.85 48⇑ *iP* Pdif 15 52 08.9 +0.4
PGF pmax pmax
comp=Z,15nm,1.0s,mb5.4
PGF Pioggiola 99.85 48⇑ *iP* Pdif 15 52 08.9 +0.4
comp=Z,15nm,1.0s
MEZF Maizieres J'vi 100.05 41 *eP* Pdif 15 52 08.7 -0.7
BAIF Baives 100.29 39 *eP* Pdif 15 52 09.6 -0.9
HAU Haudompre 100.60 42 *eP* Pdif 15 52 11.0 -0.8
HAU *e*MLR MLR
comp=Z,183nm,20.2s,MS4.3
HAU Haudompre 100.60 42 *eP* Pdif 15 52 11.0 -0.8
HAU LR LR
comp=Z,180nm,20.3s,MS4.6
GIVF Givet 100.66 39 *eP* Pdif 15 52 11.5 -0.6
comp=Z,39nm,1.1s
GIVF Givet 100.66 39 *eP* Pdif 15 52 11.5 -0.6
GIVF pmax pmax
comp=Z,19nm,1.1s
GIVF Givet 100.66 39 *eP* Pdif 15 52 11.5 -0.6
comp=Z,19nm,1.1s
CDF Champ du Feu 101.33 42 *eP* Pdif 15 52 14.5 -0.6
DAVOS Davos 102.20 44 P Pdif 15 52 19.8 +0.9
DAVOX Davos/Dischmat 102.23 44 P Pdif 15 52 19.8 +0.8
comp=Z,4.8nm,0.7s,baz=195,slow=16,SNR=3.2
CLL Collm 105.89 40 *eP*S PS 16 06 24.0 +8.0
CLL *e*PPS 16 07 23.0
AKASG Malin Array Be 115.58 44 PKP PKPdf 15 57 04.6 -1.1
comp=Z,2.4nm,0.8s,baz=272,slow=2.4,SNR=6.7
AKASG PP PP 15 58 05.3 -3.3
comp=Z,0.2nm,0.3s,baz=272,slow=5.6,SNR=5.1
MMAI Mount Meron Ar 116.28 64 PKP PKPdf 15 57 05.4 -2.2
comp=Z,1.3nm,0.6s,baz=66,slow=4.9,SNR=2.4
BR131 Keskin Army S 116.49 57 *e*PKPdf PKPdf 15 57 06.7 -1.2
ASF Jabal al Asfar 117.29 66 PKP PKPdf 15 57 09.8 +0.1
comp=Z,4.5nm,0.9s,baz=305,slow=3.8,SNR=6.8
APA Apatity 118.93 25⇑ *i*PKIKP PKPdf 15 57 11.4 -0.3
APA MLR MLR
comp=Z,400nm,15.0s,MS5.2
MALT Malatya 119.86 59 *e*PKIKP PKPdf 15 57 15.3 +0.9
ANN Anapa 120.15 52 *i* PKIKP PKPdf 15 57 13.3 -1.4
ANN pmax pmax
comp=Z,26nm,1.2s
OBN Obninsk 120.47 40⇓ *i*PKIKP PKPdf 15 57 14.3 -0.7
OBN *e* 15 57 24.6
OBN *e* 15 58 41.1
OBN pmax pmax
comp=Z,25nm,1.3s
SOC Sochi 121.63 53 *i* PKIKP PKPdf 15 57 16.8 -0.8
SOC *e* 15 58 54.3
SOC *e*PS PS 16 08 34.3 -10
SOC pmax pmax
comp=Z,15nm,0.8s
KLMR Klimovskoe 121.96 33 *e*PKIKP PKPdf 15 57 15.0 -2.7
KIV Kislovodsk 123.80 53 *e*PKIKP PKPdf 15 57 21.2 -0.6
KIV pmax pmax
comp=Z,23nm,1.1s
GNI Garni 124.97 58 PKP PKPdf 15 57 24.2 0.0
comp=Z,3.5nm,0.5s,baz=348,slow=20,SNR=3.8
GNI Garni 124.97 58⇑ *i*PKIKP PKPdf 15 57 24.7 +0.5
RST Umm Al-Ruwaisa 125.12 71 *eP* PKPdf 15 57 24.4 -0.4
baz=71
RST AMb AMB 15 57 25.9
comp=Z,70nm,0.9s,baz=71
NAY Al-Naaiem 125.27 71 *eP* PKPdf 15 57 24.4 -0.7
baz=71
NAY AMb AMB 15 57 25.7
comp=Z,17nm,0.9s,baz=71
ASAR Alice Springs 125.38 208 PKP PKPdf 15 57 23.9 -1.7
comp=Z,2.9nm,0.9s,baz=148,slow=2.4,SNR=4.3
ASAR pPKP pPKPdf 15 57 33.5 -2.1
comp=Z,5.6nm,1.0s,baz=131,slow=1.3,SNR=9.5
RDF Al-Radifah 125.47 72 *eP* PKPdf 15 57 25.0 -0.5
baz=72
RDF AMb AMB 15 57 26.2
comp=Z,33nm,1.0s,baz=72
MIB Mutribah 125.47 71 *eP* PKPdf 15 57 25.2 -0.2
baz=71
MIB AMb AMB 15 57 26.2
comp=Z,29nm,0.9s,baz=71
UMR Umm Al-Rimmam 125.74 71 *eP* PKPdf 15 57 25.9 -0.1
baz=71
UMR AMb AMB 15 57 27.3
comp=Z,68nm,0.9s,baz=71
WB2 Warramunga Arr 128.46 210 *e*PKPdf PKPdf 15 57 30.6 -0.9
WRA Warramunga Arr 128.47 210 PKP PKPdf 15 57 30.4 -1.1
comp=Z,9.8nm,0.8s,baz=156,slow=1.6,SNR=26
WRA pPKP pPKPdf 15 57 40.2 -1.3
comp=Z,15nm,1.1s,baz=168,slow=1.6,SNR=10
WRAB Tennant Creek 128.47 210 *i* PKIKP PKPdf 15 57 30.6 -0.9
ARU Arti 132.55 36 *i* PKIKP PKPdf 15 57 37.8 -0.2
ARU 16 00 00.3
ARU SS SS 16 17 34.9 -5.0
TIXI Tiksi 132.91 352⇑ *i*PKIKP PKPdf 15 57 36.9 -1.4
SEY Seymchan 133.46 335⇑ *i*PKIKP PKPdf 15 57 39.5 -0.1
FITZ Fitzroy Crossi 133.56 201 PKP PKPdf 15 57 40.4 -0.8
comp=Z,2.3nm,0.7s,baz=88,slow=1.8,SNR=5.3
AKTK Aktyubinsk 133.82 44 PKP PKPdf 15 57 40.8 +0.1
AKTO Aktyubinsk 133.82 44 PKP PKPdf 15 57 40.8 +0.1
comp=Z,3.7nm,0.8s,baz=321,slow=3.8,SNR=12
YAK Yakutsk 141.38 345⇑ *i*PKIKP PKPdf 15 57 55.2 +1.0
BHJ Bhuj 143.76 85 *eP* PKPdf 15 57 57.8 -1.9
KBL Kabul 144.18 66 *e*PKIKP PKPdf 15 57 56.9 -3.1
TRD Trivandrum 144.59 113 *eP* PKPdf 15 57 59.5 -1.9
GUMO Guam 144.65 257 PKP PKPdf 15 57 59.1 -2.3
comp=Z,134nm,1.1s,baz=203,slow=15,SNR=4.4
NVS Novosibirsk 145.22 27⇑ *i*PKIKP PKPdf 15 58 00.2 -1.0
NVS *e* 16 01 23.4
NVS pmax pmax
comp=Z,85nm,1.0s
NVS pmax pmax
comp=N,11nm,1.0s
NVS pmax pmax
comp=E,13nm,1.1s
KURK Kurchatov 145.75 35 *e*PKIKP PKPdf 15 58 02.3 +0.1
KOD Kodaikanal 145.93 111 *eP* PKPdf 15 58 05.0 +1.3
KAD Karad 146.16 97 *eP* PKPdf 15 58 03.6 -0.3
POO Poona 146.27 95 *eP* PKPdf 15 58 03.6 -0.5
POO AMb AMB 15 58 07.3
comp=Z,80nm,1.2s
YSS Yuzh-Sakhalins 146.33 317 *e*PKIKP PKPdf 15 58 02.0 -1.3
YSS *e* 15 58 11.6
YSS pmax pmax
comp=Z,40nm,1.0s
EKS2 Erkin-Say 146.36 51 P PKPdf 15 58 04.8 +1.2
SNR=79
AML Almayashu 146.47 52 P PKPab 15 58 07.0 +0.9
SNR=20
ZAA0 Zalesovo Array 146.50 27 *e*PKPdf PKPdf 15 58 03.2 -0.2
ZALV Zalesovo Beam 146.50 27 PKPbc PKPbc 15 58 03.4 -1.5
comp=Z,94nm,0.8s,baz=306,slow=3.3,SNR=111
USP Ospenovka 146.66 50 P PKPdf 15 58 04.8 +0.8
SNR=52
AAK Ala-Archa 146.87 51 P PKPdf 15 58 05.7 +1.3
SNR=99
FRU Bishkek 146.89 50⇑ *e*PKP2 PKPdf 15 58 05.0 +0.6
FRU pmax pmax
comp=Z,230nm,1.3s
CHMS Chumysh 146.93 50 P PKPbc 15 58 07.4 +0.9
SNR=42
CLNS Chul'man 147.13 344 *e*PKIKP PKPdf 15 58 04.3 -0.1
CLNS pmax pmax
comp=E,4.0nm,1.3s
CLNS pmax pmax
comp=N,9.0nm,0.9s
CLNS pmax pmax
comp=Z,23nm,1.0s
KBK Karagaybulak 147.18 51 P PKPbc 15 58 08.9 +1.7
SNR=59
TKM2 Tokmak 2 147.54 50 P PKPdf 15 58 06.4 +0.9
SNR=39
KAPI Kappang 147.73 199 PKPbc PKPbc 15 58 07.8 -1.7
comp=Z,35nm,0.9s,baz=167,slow=4.6,SNR=8.4
KAPI Kappang 147.73 199 *e*PKPbc PKPbc 15 58 10.3 +0.8
BOD Bodaibo 147.91 355 *e*PKP2 PKPbc 15 58 07.3 -1.3
BOD pmax pmax
comp=Z,34nm,1.1s
ERM Erimo 148.01 309 *i* PKP2 PKPbc 15 58 08.4 -1.1
AJM Ajmer 148.77 81 *eP* PKPdf 15 58 08.0 0.0
MDRS Chennai 149.71 109 *ex* x 15 57 23.6
AKL Akola 149.77 93 *eP* PKPdf 15 58 10.9 +1.1
AKL AMb AMB 15 58 17.1
comp=Z,135nm,0.9s
HABR Khabarovsk 149.86 325⇑ *e*PKP2 PKPbc 15 58 13.6 -0.3
HABR *e* 16 01 45.8
HABR *e* 16 05 06.7
HABR *e* 16 05 12.4
THN Thein Dam 149.87 69 *ex* x 15 58 13.6
MK31 Makanchi Array 149.98 39 *e*PKP2 PKPbc 15 58 13.7 -0.5
MKAR Makanchi Array 149.98 39 PKPbc PKPbc 15 58 13.9 -0.3
comp=Z,48nm,0.8s,baz=316,slow=2.4,SNR=56
HYB Hyderabad 150.09 100 *i* PKP PKPdf 15 58 11.0 +0.6
comp=Z,100nm,1.0s
HYB Hyderabad 150.09 100 *eP* PKPdf 15 58 11.0 +0.6
HYB *e* 15 58 15.5
KUDL Kundal 150.55 78 *ex* x 16 01 48.6
CBIJ Chichi jima 150.76 280 PKPbc PKPbc 15 58 15.5 -1.3
comp=Z,55nm,0.9s,baz=257,slow=15,SNR=3.6
KLR Kul'dur 150.96 329 *e*PKIKP PKPdf 15 58 07.0 -3.8
KLR *e* 15 58 20.7
KLR pmax pmax
comp=Z,57nm,1.4s
SMLA Simla 151.17 72 *eP* PKPdf 15 58 12.8 +1.1
NDI New Delhi 151.22 77 *ex* x 15 58 16.0
NGP Nagpur 151.72 93 *eP* PKPdf 15 58 12.2 -0.6
MJAR Matsushiro Arr 153.33 300 PKPbc PKPbc 15 58 21.1 -1.2
comp=Z,5.0nm,0.9s,baz=134,slow=0.6,SNR=12
MJAR pPKPbc pPKPbc 15 58 30.1 -2.2
comp=Z,7.4nm,1.1s,baz=250,slow=3.6,SNR=5.4
MAJO Matsushiro 153.33 300 *e*PKP PKPbc 15 58 21.7 -0.6
MAT Matsushiro 153.33 300 APKP PKPbc 15 58 20.5 -1.8
MOY Mondy 153.44 12 *e*PKIKP PKPbc 15 58 22.5 +0.5
TLY Talaya 153.84 8 *e*PKIKP PKPdf 15 58 15.8 +0.8
TLY *i* 15 58 25.1
TLY *e* 16 02 12.7
TLY *e*SS SS 16 21 46.0 +1.9
TLY pmax pmax
comp=Z,13nm,1.6s
TLY MLR MLR
comp=Z,195nm,19.0s,MS4.9
TLY Talaya 153.84 8 *e*PKPab PKPab 15 58 36.2 +0.3
WMQ Urumqi 154.81 39 *e*PKP PKPdf 15 58 15.3 -1.3
VLA Vladivostok 154.89 319 *e*PKIKP PKPbc 15 58 24.5 -0.9
VLA pmax pmax
comp=Z,28nm,2.0s
ZAK Zakamensk 155.06 9 *e*PKIKP PKPdf 15 58 15.9 -0.8
ZAK pmax pmax
comp=Z,4.0nm,1.8s
MDJ Mudanjiang 155.23 324 PKP PKPdf 15 58 16.2 -0.9
MDJ APKP 15 58 25.4
KOLN Koldanda 156.82 80 *eP* PKPdf 15 58 19.2 -0.6
comp=Z,13nm,0.9s
DANN Dangsing 156.97 78 *eP* PKPdf 15 58 19.9 0.0
comp=Z,68nm,0.9s
GKN Gorkha 157.74 79 *eP* PKPdf 15 58 20.8 -0.1
comp=Z,34nm,1.0s
SONM Songino Array 157.94 6 PKP PKPdf 15 58 20.5 0.0
comp=Z,6.0nm,0.9s,baz=274,slow=0.7,SNR=26
SONM pPKP pPKPdf 15 58 30.5 -0.1
comp=Z,6.5nm,1.1s,baz=183,slow=1.0,SNR=11
SONM PKPab PKPab 15 58 54.0 +0.4
comp=Z,6.9nm,0.8s,baz=324,slow=3.8,SNR=10
SONM pPKPab pPKPab 15 59 03.1 -0.3
comp=Z,4.7nm,1.0s,baz=340,slow=5.3,SNR=3.0
SONM PP PP 16 02 32.9 +0.4
comp=Z,2.9nm,1.0s,baz=340,slow=5.1,SNR=6.3
SONM Songino Array 157.94 6 PKIKP PKPdf 15 58 20.5 0.0
SONM 15 58 30.5
SONM 16 02 32.9
DMN Daman 158.15 80 *eP* PKPdf 15 58 21.2 -0.2
comp=Z,28nm,1.1s
KKN Kakani 158.31 80 *eP* PKPdf 15 58 21.7 +0.1
comp=Z,24nm,1.0s
JIRN Jiri 159.12 80 *eP* PKPdf 15 58 22.8 +0.2
RAMN Ramite 159.47 82 *eP* PKPdf 15 58 22.9 -0.1

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
	comp=Z,64nm,1.1s						
ODAN	Odare	160.17	82	eP	PKPdf	15 58 23.4	-0.4
	comp=Z,22nm,0.8s						
KSRS	Korea Array	160.56	311	PKP	PKPdf	15 58 23.0	-0.9
	comp=Z,5.3nm,1.0s,baz=91,slow=0.6,SNR=24						
KSRS				pPKP	pPKPdf	15 58 33.2	-0.8
	comp=Z,8.1nm,1.1s,baz=128,slow=0.6,SNR=12						
KSRS				PKPab	PKPab	15 59 05.1	-0.3
	comp=Z,2.0nm,1.0s,baz=58,slow=3.6,SNR=5.3						
KSRS				pPKPab	pPKPab	15 59 15.0	-0.2
	comp=Z,0.8nm,0.5s,baz=51,slow=3.3,SNR=2.6						
LSA	Lhasa	163.32	73	ePKIKP	PKPdf	15 58 27.6	+0.6
GTA	Gaotai	164.24	29	PKP	PKPdf	15 58 28.1	+0.6
GTA				APKP		15 58 37.9	
GTA				XPKP		15 58 42.8	
GTA				PKS		16 01 58.4	
GTA				PP	PP	16 03 14.9	+8.1
GTA				SKS	SKSdf	16 05 27.9	-1.9
GTA				SKKS	SKKSac	16 09 56.7	+3.7
GTA				SS	SS	16 23 43.9	+8.8
GTA				PP	PP		
	comp=Z,116nm,9.0s						
GTA				LR	LR		
	comp=Z,134nm,9.6s						
BJI	Beijing	164.81	340	PKP	PKPdf	15 58 30.9	+2.9
BJI				PP	PP	16 03 14.3	+4.8
BJI				LR	LR		
	comp=N,190nm,19.6s						
BJI				LR	LR		
	comp=E,198nm,22.1s						
BJI				LR	LR		
	comp=Z,210nm,31.1s						
HHC	Hu-ho-hao-te	164.96	354	ePKP	PKPdf	15 58 26.8	-1.3
HHC				APKP		15 58 37.8	
HHC				XPKP		15 58 41.5	
HHC				PKS		16 01 59.2	
HHC				PP	PP	16 03 12.0	+2.0
HHC				SKS	SKSdf	16 05 25.2	-5.0
HHC				SKKS	SKKSac	16 09 55.5	-0.9
HHC				PP	PP		
	comp=Z,153nm,5.3s						
HHC				LR	LR		
	comp=Z,271nm,21.2s						
CMAR	Chiang Mai Arr	167.76	125	PKP	PKPdf	15 58 31.0	+0.1
	comp=Z,6.1nm,0.9s,baz=273,slow=2.0,SNR=28						
CMAR				pPKP	pPKPdf	15 58 40.4	-0.6
	comp=Z,5.2nm,1.0s,baz=265,slow=2.2,SNR=7.9						
CMAR				PKPab	PKPab	15 59 36.9	-0.7
	comp=Z,3.2nm,0.9s,baz=242,slow=4.0,SNR=7.2						
CMAR				PP	PP	16 03 27.1	+1.2
	comp=Z,0.5nm,0.8s,baz=289,slow=4.4,SNR=4.2						
LZH	Lanzhou	168.72	24	⇓PKP	PKPdf	15 58 30.0	-1.1
LZH				APKP		15 58 40.9	
LZH				XPKP		15 58 44.5	
LZH				PP	PP	16 03 32.4	+2.7
LZH				SKS	SKSdf	16 05 28.3	-4.4
LZH				SKKS	SKKSac	16 10 14.5	-0.9
LZH				eSS	SS	16 24 20.2	0.0
LZH				PP	PP		
	comp=Z,256nm,9.5s						
LZH				LR	LR		
	comp=Z,567nm,20.5s						
NJ2	Nanjing	169.75	309	ePKP	PKPdf	15 58 32.1	+0.2
CD2	Chengdu	172.88	44	ePKP	PKPdf	15 58 32.9	-0.6
CD2				APKP		15 58 43.7	
CD2				XPKP		15 58 47.4	
CD2				PKP2	PKPab	16 00 01.8	+1.9
CD2				PP	PP	16 03 54.4	+3.2
CD2				SKS	SKSdf	16 05 30.8	-3.9
CD2				SKKS	SKKSac	16 10 35.8	-0.2
CD2				PP	PP		
	comp=Z,250nm,10.8s						
CD2				LR	LR		
	comp=Z,430nm,21.6s						
QIZ	Qiongzhong	173.19	183	PKP	PKPdf	15 58 33.5	-0.4
QIZ				PP	PP	16 03 56.5	+4.9
QIZ				SS	SS	16 25 06.5	+3.0
QIZ				LR	LR		
	comp=Z,189nm,24.6s						
KMI	Kunming	173.85	95	PKP	PKPdf	15 58 32.4	-1.6
KMI				APKP		15 58 43.8	
KMI				XPKP		15 58 47.4	
KMI				PP	PP	16 03 59.2	+2.1
KMI				LR	LR		
	comp=Z,347nm,24.3s						
KMI	Kunming	173.85	95	PKP	PKPdf	15 58 32.4	-1.6
KMI				pPKP	pPKPdf	15 58 43.8	-0.3
KMI				sPKP		15 58 47.4	
KMI				PP	PP	16 03 59.2	+2.1
KMI				SS	SS	16 25 10.9	-3.1
GYA	Guiyang	177.39	76	PKP	PKPdf	15 58 33.2	-1.7
GYA				XPKP		15 58 48.2	
GYA				PKP2	PKPab	16 00 21.3	+1.0
GYA				PKS		16 02 06.4	
GYA				PP	PP	16 04 16.9	+3.0
GYA				SKS	SKSdf	16 05 33.9	-1.9
GYA				SKKS	SKKSac	16 10 58.4	+0.5
GYA				PP	PP		
	comp=Z,220nm,8.8s						
GYA				LR	LR		
	comp=Z,840nm,25.2s						

*IDC **02** 15:44:12.0±4.1, 562S×14579E, h114^{km}±49^{km}, mb4.0/3, mb1 4.2/5, mb1mx3.6/16, mbtmp4.0/5, Error ellipse: s-maj=43.9km s-min=26.5km az=128.0*

ISC 02 15:44:08.8±3.3**, 55S**±02×**1458E**±02**, h85**^{km}±35^{km}**, n9,** σ**0**^{s}**71**/11**, mb4.2**/3**, 1D, Eastern New Guinea region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CTA	Charters Tower	14.47	178	P	Pn	15 47 28.8	-0.6
	0.5nm,0.3s,baz=1.2,slow=15,SNR=6.2						
KAKA	Kakadu	14.95	241	eP	Pn	15 47 43.1	+7.4
	8.8nm,0.6s						
WB2	Warramunga Arr	18.11	217	⇓iP	Pn	15 48 15.2	+0.4
WRA	Warramunga Arr	18.12	217	P	Pn	15 48 15.1	+0.2
	3.9nm,0.3s,baz=38,slow=11,SNR=188						
WRA				S	S	15 51 37.7	+0.4
	0.1nm,0.3s,baz=40,slow=20,SNR=12						
ASAR	Alice Springs	21.33	211	P	P	15 48 48.2	-0.8
	7.6nm,0.5s,mb4.3,baz=46,slow=8.5,SNR=137						
ASAR				S	S	15 52 40.3	-0.9
	3.5nm,0.8s,baz=31,slow=22,SNR=11						
FITZ	Fitzroy Crossi	23.28	236	eP	P	15 49 08.6	-0.6
	6.8nm,0.6s,mb4.2						
FITZ	Fitzroy Crossi	23.28	236	P	P	15 49 09.0	-0.2
	3.6nm,0.5s,mb4.0,baz=62,slow=13,SNR=21						
STKA	Stephens Creek	26.49	188	eP	P	15 49 39.5	+1.3
	5.9nm,0.8s,mb4.1						
STKA	Stephens Creek	26.49	188	P	P	15 49 39.4	+1.3
	8.2nm,0.8s,mb4.2,baz=18,slow=12,SNR=21						

*ISCJB **02** 15:49:46.0±0.5, 3087S±004×17983W±009, h326^{km}±5^{km}, mb3.9/14, Error ellipse: s-maj=13.4km s-min=5.9km az=18.4*

*IDC **02** 15:49:47.5±0.6, 3054S×17966W, h336^{km}±6^{km}, mb3.7/12, mb1 3.8/13, mb1mx3.8/18, mbtmp3.7/13, Error ellipse: s-maj=15.2km s-min=11.8km az=157.0*

*NEIC **02** 15:49:47.9±0.9, 3057S×17958W, h345^{km}±9^{km}, mb3.9/4, Error ellipse: s-maj=15.5km s-min=13.3km az=160.0*

ISC 02 15:49:46.7±0.5**, 3088S**±005×**1797W**±01**, h320**^{km}±5^{km}**, n107,** σ**1**^{s}**25**/64**, mb3.9**/14**, 5C-2D, Kermadec Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
RAO	Raoul Island	2.26	45	P	Pn	15 50 37.8	+0.4
	262nm,0.3s,baz=105,slow=14,SNR=16						
RAO				S	S	15 51 17.1	-0.8
	235nm,0.3s,baz=226,slow=24,SNR=8.2						
RAO	Raoul Island	2.26	45	ePn	Pn	15 50 38.2	+0.9
RAO				S	S	15 51 17.1	-0.8
MXZ	Matakaoa Point	6.86	193	P	Pn	15 51 28.6	+1.9
MXZ				S	S	15 52 45.0	-2.6
PUZ	Puketiti	7.37	192	eP	Pn	15 51 33.3	+0.6
MWZ	Matawai	7.77	196	P	Pn	15 51 37.8	+0.2
URZ	Urewera	7.81	199	P	Pn	15 51 39.5	+1.5
	36nm,0.3s,baz=312,slow=3.5,SNR=40						
URZ				S	S	15 53 08.8	+0.3
	97nm,0.3s,baz=308,slow=23,SNR=14						
URZ	Urewera	7.81	199	eP	Pn	15 51 38.1	+0.1
KNZ	Kokohu	8.40	194	P	Pn	15 51 45.2	+0.1
KNZ				S	S	15 53 20.1	-1.4
BKZ	Black Stump Fm	8.83	199	P	Pn	15 51 51.0	+0.7
NGZ	Ngauruhoe	9.12	204	P	Pn	15 51 56.3	+2.4
WNVZ	Wahianoa	9.25	203	P	Pn	15 51 57.2	+1.7
MOVZ	Moawhango	9.27	202	P	Pn	15 51 56.9	+1.1
TSZ	Takapari Road	9.81	200	eP	Pn	15 52 03.3	+1.1
MRZ	Mangatainoka R	10.47	200	eP	Pn	15 52 08.0	-2.3
KIW	Kapiti Island	10.86	202	eP	Pn	15 52 15.6	+0.6
MTW	Mount Morrison	10.96	199	P	Pn	15 52 16.1	-0.1
CAW	Cannon Point	11.04	201	P	Pn	15 52 16.1	-1.0
CAW				S	S	15 54 16.6	-8.0
MRW	Makara Radio	11.26	202	P	Pn	15 52 18.6	-1.3
MSWZ	Moikau Station	11.27	200	P	Pn	15 52 21.0	+1.1
WEL	Wellington	11.29	202	P	Pn	15 52 19.8	-0.4
SNZO	South Karori	11.34	202	ePn	Pn	15 52 20.2	-0.5
BHW	Baring Head	11.37	201	P	Pn	15 52 19.1	-2.1
TCW	Tory Channel	11.39	203	P	Pn	15 52 21.3	-0.1
TCW				S	S	15 54 22.6	-9.2
NNZ	Nelson	11.72	206	P	Pn	15 52 23.6	-1.8
QRZ	Quartz Range	11.74	210	P	Pn	15 52 27.9	+2.3
BSWZ	Blackbirch Sta	11.97	204	P	Pn	15 52 28.4	0.0
THZ	Tophouse	12.37	207	P	Pn	15 52 31.4	-1.8
KHZ	Kahutara	12.71	203	P	Pn	15 52 36.0	-1.3
LTZ	Lake Taylor	13.49	206	P	Pn	15 52 46.0	-0.5
RPZ	Rata Peaks	14.75	207	P	P	15 53 02.6	+2.8
	1.0nm,0.3s,baz=117,slow=4.5,SNR=8.2						
RPZ				S	S	15 55 35.3	-4.7
	6.3nm,0.3s,baz=314,slow=22,SNR=20						
DZM	Mont Dzumac	15.16	302	eP	P	15 53 07.2	+2.6
CTA	Charters Tower	32.41	281	eP	P	15 55 50.2	+2.5
	2.0nm,0.4s,mb3.7						
CTA	Charters Tower	32.41	281	P	P	15 55 48.9	+1.2
	2.4nm,0.4s,mb3.7,baz=97,slow=15,SNR=7.4						
STKA	Stephens Creek	32.91	258	eP	P	15 55 54.7	+2.8
	4.0nm,0.5s,mb3.9						
STKA	Stephens Creek	32.91	258	P	P	15 55 53.4	+1.5
	5.3nm,0.6s,mb4.0,baz=105,slow=11,SNR=24						
STKA	Stephens Creek	32.91	258	eP	P	15 55 54.6	+2.7
ASAR	Alice Springs	41.59	268	P	P	15 57 03.8	-0.5
	1.5nm,0.6s,mb3.3,baz=103,slow=7.0,SNR=22						
ASAR				ScP	ScP	16 02 09.3	-4.5
	1.0nm,0.7s,baz=116,slow=3.5,SNR=6.4						
WB2	Warramunga Arr	42.62	274	eP	P	15 57 11.8	-0.8
WB2				eS	S	16 03 06.7	-4.4
WRAB	Tennant Creek	42.62	274	eP	P	15 57 11.6	-1.1
	4.4nm,0.8s,mb3.6						
WRA	Warramunga Arr	42.63	274	P	P	15 57 11.9	-0.7
	4.2nm,0.3s,mb4.0,baz=111,slow=8.0,SNR=88						
WRA				ScP	ScP	16 02 13.8	-4.2
	1.3nm,0.7s,baz=101,slow=3.9,SNR=6.8						
WRA				S	S	16 03 06.9	-4.3
	0.9nm,0.9s,baz=110,slow=14,SNR=3.2						
FITZ	Fitzroy Crossi	50.87	271	eP	P	15 58 16.0	0.0
	5.7nm,0.9s,mb3.8						
FITZ	Fitzroy Crossi	50.87	271	P	P	15 58 15.7	-0.4
	2.7nm,0.7s,mb3.6,baz=164,slow=7.8,SNR=8.1						
QSPA	South Pole Qui	59.23	180	P	P	15 59 16.6	+2.2
	9.9nm,0.7s,mb4.4,baz=180,slow=0.0						
MAW	Mawson	71.33	201	P	P	16 00 33.3	+1.6
	0.6nm,0.5s,mb3.6,baz=120,slow=20,SNR=6.4						
SNAA	Sanae	77.71	179	e	P	16 01 07.5	-0.6
SNAA				e		16 01 09.4	
SNAA	Sanae	77.71	179	eP	P	16 01 07.9	-0.1
	1.8nm,0.8s,mb3.9						
VNA3	Neumayer Olymp	77.92	177	e	P	16 01 09.2	0.0
VNA3				e		16 01 11.3	
VNA3				e		16 01 48.0	
VNA2	Neumayer--Watz	78.34	177	e	P	16 01 11.6	+0.1
	baz=184,slow=4.2						
VNA2				e		16 01 13.8	
VNA2				e		16 01 50.1	
VNA1	Neumayer--Stat	78.58	177	e	P	16 01 13.5	+0.7
VNA1				e		16 01 15.0	
PLCA	Paso Flores	83.27	134	P	P	16 01 38.3	+0.3
	1.4nm,0.8s,mb3.8,baz=207,slow=16,SNR=3.2						
KSRS	Korea Array	83.75	321	P	P	16 01 39.4	-0.9
	2.0nm,0.8s,mb4.0,baz=146,slow=6.2,SNR=8.8						
PETK	Petropavlovsk-	85.92	347	P	P	16 01 49.1	-1.5
	7.8nm,0.6s,mb4.7,baz=108,slow=6.4,SNR=17						
NVAR	Mina Array Bea	89.61	44	P	P	16 02 07.4	-1.0
	2.9nm,1.0s,mb4.2,baz=219,slow=8.5,SNR=11						
CMAR	Chiang Mai Arr	92.15	290	P	P	16 02 20.2	-0.4
	1.1nm,0.8s,mb3.8,baz=145,slow=4.2,SNR=4.5						
MKAR	Makanchi Array	116.94	310	PKP	PKPdf	16 07 50.5	-2.8
	0.6nm,0.4s,baz=102,slow=0.4,SNR=13						
ZALV	Zalesovo Beam	117.40	318	PKP	PKPdf	16 07 51.1	-2.8
	0.5nm,0.4s,baz=70,slow=1.7,SNR=2.9						
AKTK	Aktyubinsk	133.31	312	PKP	PKPdf	16 08 22.8	-1.6
AKTO	Aktyubinsk	133.31	312	PKP	PKPdf	16 08 22.8	-1.6
	2.6nm,0.7s,baz=62,slow=1.1,SNR=9.4						
ARCES	ARCESS Array B	138.73	347	PKhKP		16 08 24.1	
	1.6nm,0.6s,baz=42,slow=1.8,SNR=15						
ARCES				PKP	PKPdf	16 08 33.3	-0.6
	3.0nm,0.6s,baz=52,slow=2.0,SNR=9.3						
JOF	Joensuu	142.30	337	epkp	PKPdf	16 08 34.7	-5.8
	3.4nm,0.7s						
KAF	Kangasniemi	144.48	339	epkp	PKPdf	16 08 39.8	-4.5
	18nm,0.7s,baz=42,slow=3.1						
MALT	Malatya	147.89	294	⇓iP	PKPab	16 08 58.4	+0.5
ASF	Jabal al Asfar	148.84	282	PKPbc	PKPbc	16 08 56.0	-0.9
	3.2nm,0.6s,baz=268,slow=0.5,SNR=7.7						
NB2	NORSAR Subarra	148.98	350	PKP	PKPdf	16 08 53.4	+1.5
	comp=Z,5.1nm,0.5s,baz=18,slow=2.6						
NOA	NORSAR Array B	148.98	350	PKPbc	PKPdf	16 08 53.9	+2.0
	comp=Z,6.7nm,0.7s,baz=15,slow=4.2,SNR=26						
NOA				PKPab	PKPbc	16 08 58.9	+2.6
	comp=Z,7.9nm,0.8s,baz=19,slow=2.9,SNR=18						
NOA	NORSAR Array B	148.98	350	PKPbc	PKPdf	16 08 53.9	+2.0
NOA				PKPab	PKPbc	16 08 58.9	+2.6
HFS	Hagfors	149.39	347	PKPbc	PKPdf	16 08 54.4	+1.9
	comp=Z,6.4nm,0.5s,baz=64,slow=3.4,SNR=32						
HFS				PKPab	PKPbc	16 09 00.1	+2.8
	comp=Z,5.2nm,0.6s,baz=64,slow=4.1,SNR=9.4						
EIL	Elat	150.09	277	PKPbc	PKPbc	16 08 58.7	-1.3
	comp=Z,8.0nm,0.7s,baz=313,slow=3.1,SNR=7.9						
EIL	Elat	150.09	277	PKPbc	PKPbc	16 08 58.7	-1.3
MMAI	Mount Meron Ar	150.19	283	PKPbc	PKPbc	16 08 59.5	-0.7
	comp=Z,6.3nm,0.4s,baz=78,slow=7.8,SNR=20						
AKASG	Malin Array Be	150.75	321	PKPbc	PKPbc	16 08 58.3	-2.5
	comp=Z,11nm,0.8s,baz=55,slow=2.3,SNR=19						
BURAR	Bucovina Array	154.62	318	⇑iP	PKPab	16 09 24.5	-1.2
PLOR	Plostina	154.63	314	⇓iP	PKPab	16 09 21.9	-4.0
LIC	Lamto	154.97	167	ePKP2	PKPab	16 09 27.5	-0.5
	comp=Z,48nm,1.3s						
KIC	Kosan Boka	155.16	168	ePKP2	PKPab	16 09 28.3	-0.5
	comp=Z,22nm,0.7s						
MLR	Muntele Rosu	155.23	313	⇑iP	PKPab	16 09 11.7	-17
TIC	Toumodi	155.39	167	ePKP2	PKPab	16 09 29.1	-0.7
	comp=Z,14nm,0.2s						
DBIC	Dimbokro	155.44	168	PKP	PKPdf	16 09 01.4	-1.5
	comp=Z,4.1nm,0.9s,baz=221,slow=7.6,SNR=3.6						
KOLS	Kolonicke sedl	155.44	324	ePKP	PKPab	16 09 26.9	-2.3
STHS	Stebnicka Huta	155.65	325	ePKP	PKPab	16 09 29.2	-0.9
CRVS	Cervenica-Dubn	155.88	324	ePKP	PKPab	16 09 29.0	-2.1
DRGR		156.50	319	⇑iP	PKPab	16 09 32.2	-1.6
MORC	Moravsky Berou	157.08	330	⇑iP	PKPab	16 09 30.6	-5.6
VYHS	Vyhne	157.44	326	ePKP	PKPab	16 09 36.1	-1.7
CLL	Collm	157.51	339	⇑iPKPab	PKPab	16 09 36.0	-2.0
	comp=Z,6.0nm,0.7s						
BRG	Berggiesshubel	157.58	337	eP	PKPab	16 09 36.5	-1.8
	comp=Z,6.3nm,1.0s						
KOLL	Kolacno	157.58	327	ePKP	PKPab	16 09 35.7	-2.7
GERES	GERESS Array B	159.36	334	PKPab	PKPab	16 09 44.3	-1.9
	comp=Z,1.6nm,0.8s,baz=39,slow=5.1,SNR=12						
BAIF	Baives	160.61	352	ePKP2	PKPab	16 09 48.6	-2.9
CDF	Champ du Feu	161.69	345	ePKP2	PKPab	16 09 54.3	-2.0
MEZF	Maizieres J'vi	162.03	350	ePKP2	PKPab	16 09 54.9	-2.9
HAU	Haudompre	162.27	346	ePKP2	PKPab	16 09 55.9	-3.0
TORD	Torodi Ar. Bea	162.30	185	PKP	PKPdf	16 09 09.0	-1.8
	comp=Z,1.6nm,0.9s,baz=182,slow=2.7,SNR=6.5						
TORD				PKPab	PKPab	16 09 58.9	-0.8
	comp=Z,2.7nm,0.6s,baz=175,slow=3.8,SNR=14						
TORD	Torodi Ar. Bea	162.30	185	PKP	PKPdf	16 09 09.0	-1.8
TORD				PKPab	PKPab	16 09 58.9	-0.8
HINF	Hinteralfeld	162.35	345	ePKP2	PKPab	16 09 57.5	-1.7
LOR	Lormes	163.40	351	ePKP2	PKPab	16 10 00.9	-2.9
SSF	Saint Saulge	163.65	352	ePKP2	PKPab	16 10 02.0	-2.9
	comp=Z,8.8nm,0.8s						
CABF	La Chapelle	163.66	346	ePKP2	PKPab	16 10 02.5	-2.5
AVF	Avril sur Loir	163.93	352	ePKP2	PKPab	16 10 03.0	-3.2
SMF	Signal de Mont	164.01	351	ePKP2	PKPab	16 10 03.6	-2.9
	comp=Z,20nm,0.9s						
LPL	La Plagne	164.54	343	ePKP2	PKPab	16 10 07.1	-1.8
	comp=Z,14nm,1.0s						
TCF	Toulx Ste Croi	164.54	355	ePKP2	PKPab	16 10 05.0	-3.9
LPG	La Plagne	164.55	343	ePKP2	PKPab	16 10 07.3	-1.6
	comp=Z,28nm,1.3s						
MBDF	Montbardon	165.26	341	ePKP2	PKPab	16 10 10.7	-1.4
	comp=Z,11nm,1.1s						
ORIF	Oris-en-Rattie	165.31	344	ePKP2	PKPab	16 10 10.2	-2.1
	comp=Z,7.8nm,0.7s						
SMRF	Simiane la Rot	166.27	344	ePKP2	PKPab	16 10 14.6	-2.0
	comp=Z,6.2nm,0.9s						
LMR	La Mourre	166.61	340	ePKP2	PKPab	16 10 16.1	-2.0

*ISCJB **02** 16:01:32.5±1.1, 1395N±010×1452E±02, h118^{km}±7^{km}, mb3.6/10, Error ellipse: s-maj=40.1km s-min=16.2km az=177.6*

*IDC **02** 16:01:32.5±1.2, 1396N×14530E, h105^{km}±7^{km}, mb3.5/10, mb1 3.7/10, mb1mx3.6/19, mbtmp3.5/10, Error ellipse: s-maj=36.2km s-min=16.1km az=87.0*

*NEIC **02** 16:01:33.0±1.4, 1396N×14533E, h112^{km}±11^{km}, Error ellipse: s-maj=35.2km s-min=14.6km az=90.0*

ISC 02 16:01:33.0±1.3**, 1396N**±010×**1453E**±03**, h110**^{km}±9^{km}**, n13,** σ**0**^{s}**94**/15**, mb3.6**/10**, Mariana Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
GUMO	Guam	0.56	229	P	Pn	16 01 50.6	+0.4
	1μm,0.3s,baz=114,slow=2.6,SNR=745						
GUMO				S	Sn	16 02 03.3	+0.1
	3μm,0.3s,baz=348,slow=20,SNR=124						
GUMO	Guam	0.56	229	ePn	Pn	16 01 50.7	+0.4
GUMO				eSn	Sn	16 02 02.7	-0.6
MJAR	Matsushiro Arr	23.36	345	P	P	16 06 30.3	-1.3
	0.7nm,0.5s,mb3.2,baz=169,slow=11,SNR=4.5						
KSRS	Korea Array	28.05	330	P	P	16 07 13.8	-0.2
	1.4nm,0.6s,mb3.6,baz=142,slow=8.9,SNR=8.7						
WB2	Warramunga Arr	35.37	198	eP	P	16 08 18.1	-0.1
WRA	Warramunga Arr	35.38	198	P	P	16 08 18.2	0.0
	1.1nm,0.6s,mb3.9,baz=21,slow=9.0,SNR=17						
ASAR	Alice Springs	39.02	197	P	P	16 08 48.5	-0.5
	0.2nm,0.7s,mb3.1,baz=28,slow=7.0,SNR=8.6						
SONM	Songino Array	46.67	324	P	P	16 09 51.3	+0.8
	0.4nm,0.4s,mb3.5,baz=141,slow=8.6,SNR=5.3						
MKAR	Makanchi Array	61.52	316	P	P	16 11 38.1	-0.1
	0.2nm,0.3s,mb3.6,baz=92,slow=8.1,SNR=6.2						
ZALV	Zalesovo Beam	61.57	324	P	P	16 11 40.4	+1.9
	0.4nm,0.4s,mb3.8,baz=78,slow=9.0,SNR=2.5						
YKA	Yellowknife Ar	82.34	27	P	P	16 13 41.1	-1.1
	0.7nm,0.4s,mb3.9,baz=287,slow=5.1,SNR=4.2						
NVAR	Mina Array Bea	86.36	51	P	P	16 14 04.8	+1.7
	0.3nm,0.5s,mb3.5,baz=263,slow=5.7,SNR=3.8						
ARCES	ARCESS Array B	86.86	342	P	P	16 14 03.8	-1.1
	2.7nm,0.9s,mb4.2,baz=98,slow=6.5,SNR=3.0						

*NEIC **02** 16:06:02.4, 16.18N×9886W, h18^{km}, MD4.1(MEX), After MEX.*

MEX 02 16:06:02.4±0.5**, 1619N**×**9886W, h16**^{km}±7^{km}**, MD4.1, Near coast of Guerrero**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PNIG	Pinotepa	0.73	74	iP	Pg	16 06 13.8	-2.9
PNIG				iS	Sg	16 06 23.1	-3.3
ACX	Acapulco	1.22	304	iP	Pn	16 06 20.7	-4.1
ACX				iS	Sb	16 06 35.4	-5.2
ACX	Acapulco	1.22	304	iP	Pn	16 06 21.5	-3.3
ACX				iS	Sb	16 06 33.8	-6.8
CAIG	El Cayaco	1.60	303	iP	Pn	16 06 26.3	-3.7
CAIG				iS	Sn	16 06 45.6	-4.7
UTMO	Huajuapan	1.92	32	iP	Pn	16 06 31.9	-2.6
UTMO				iS	Sn	16 06 53.7	-4.6
VHO	Vista Hermosa	2.22	66	iP	Pn	16 06 36.4	-2.2
VHO				iS	Sn	16 07 02.3	-3.4
VHO	Vista Hermosa	2.22	66	iP	Pn	16 06 36.7	-1.9
VHO				iS	Sn	16 07 03.5	-2.2
PLIG	Platanillo	2.28	344	iP	Pn	16 06 36.6	-2.7
PLIG				iS	Sn	16 07 02.3	-4.8
PLIG	Platanillo	2.28	344	iP	Pn	16 06 37.6	-1.7
PLIG				iS	Sn	16 07 01.9	-5.2
TPIG	Tehuac#an	2.64	33	iP	Pn	16 06 42.1	-2.3
TPIG				iS	Sn	16 07 12.2	-3.8
HUIG	Huatulco	2.68	99	eP	Pn	16 06 42.7	-2.1
HUIG				iS	Sn	16 07 14.0	-3.0
ZIIG	Zihuatanejo	2.87	300	iP	Pn	16 06 45.9	-1.5
ZIIG				iS	Sn	16 07 17.4	-4.3
PPM	Popocatepetl	2.87	4	eP	Pn	16 06 45.0	-2.5
PPM				eP		16 06 46.4	
PPM				iS	Sn	16 07 17.1	-4.7
PPM				iS	Sn	16 07 18.4	-3.3
PPM	Popocatepetl	2.87	4	eP	Pn	16 06 46.4	-1.1
PPM				iS	Sn	16 07 17.1	-4.7
PPM				iS	Sn	16 07 18.4	-3.3
MZVM		3.01	353	iP	Pn	16 06 47.2	-2.1
MZVM				iS	Sn	16 07 21.5	-3.6
SZVM	Salazar	3.16	351	eP	Pn	16 06 46.1	-5.3
SZVM				iS	Sn	16 07 24.8	-4.1
PBVM	Pinon	3.24	356	iP	Pn	16 06 51.0	-1.7
PBVM				iS	Sn	16 07 27.5	-3.5
IIO	Organos	3.39	2	iP	Pn	16 06 53.0	-1.6
IIO				iS	Sn	16 07 31.6	-2.9
PTVM	Pico Tres Padr	3.40	356	eP	Pn	16 06 54.7	-0.1
PTVM				iS	Sn	16 07 30.0	-4.7
MMIG	Aquila	4.77	297	eP	Pn	16 07 09.8	-3.8
MMIG				iS	Sn	16 08 08.4	-0.2

*ISCJB **02** 16:07:12.9±0.7, 2959S±004×7220W±006, h7^{km}, mb4.1/3, Error ellipse: s-maj=7.6km s-min=5.1km az=20.8*

*IDC **02** 16:07:14.2±1.2, 2956S×72.11W, h0^{km}, mb4.3/3, mb1 4.0/9, mb1mx3.9/20, mbtmp4.0/9, ML3.9/6, MS3.8/1, Ms1 3.8/1, ms1mx2.9/30, Error ellipse: s-maj=29.3km s-min=19.9km az=62.0*

*NEIC **02** 16:07:15.7±0.7, 2957S×72.11W, h10^{km}, ML3.5(GUC), Error ellipse: s-maj=11.9km s-min=8.6km az=80.0*

*GUC **02** 16:07:16.7±0.8, 2960S×7202W, h41^{km}±5^{km}, ML3.5*

ISC 02 16:07:15.3±1.7**, 2957S**±004×**7210W**±007**, h9**^{km}±10^{km}**, h7**^{km}±.9^{km}**:pP-P, n29,** σ**1**^{s}**11**/33**, mb4.1**/3**, 4D, Off coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LSCH	La Serena	0.81	114	eP	Pg	16 07 30.7	-0.3
LSCH				AML	AML	16 07 43.3	
	comp=E,2μm,0.4s						
TLL	Tololo Astrono	1.27	118	⇓iP	Pn	16 07 38.7	-0.6
TLL				iS	Sb	16 07 55.0	-0.8
TLL				AML	AML	16 08 00.1	
	comp=E,3μm,0.4s						
TLL	Tololo Astrono	1.27	118	⇓iP	Pn	16 07 38.7	-0.6
TLL				iS	Sb	16 07 55.0	-0.8
LCO	Las Campanas	1.34	66	⇓iP	Pn	16 07 39.6	-0.7
LCO				iS	Sb	16 07 57.7	-0.3
VACH	Vallenar	1.54	50	⇓iP	Pn	16 07 42.3	-0.6
VACH				iS	Sn	16 08 01.8	-1.2
CHNG	Los Chungos	2.36	168	eP	Pn	16 07 53.6	-0.6
CHNG				iS	Sn	16 08 20.8	-2.5
CHNG				AML	AML	16 08 37.3	
	comp=E,397nm,0.7s						
PEL	Peldehue	3.76	162	eP	Pn	16 08 13.2	-0.3
CFAA	Coronel Fontan	3.90	122	Pn	Pn	16 08 17.4	+2.0
	comp=E,0.9nm,0.3s,baz=309,slow=12,SNR=29						
CFAA				Sn	Sn	16 09 03.5	+2.2
	comp=E,1.1nm,0.3s,baz=23,slow=22,SNR=6.0						
CFAA				Lg		16 09 17.6	
	comp=E,4.4nm,0.3s,baz=28,slow=19,SNR=8.3						
CLCH	Cerro Calan	4.04	161	eP	Pn	16 08 16.0	-1.3
LVC	Limon Verde	7.50	23	Pn	Pn	16 09 03.4	-1.5
	comp=E,0.6nm,0.3s,baz=160,slow=11,SNR=9.5						
LVC				Sn	Sn	16 10 26.4	-3.7
	comp=E,0.5nm,0.3s,baz=30,slow=16,SNR=2.0						
LVC				Lg		16 11 01.6	
	comp=E,3.6nm,0.3s,baz=291,slow=22,SNR=5.0						
LVC	Limon Verde	7.50	23	eP	Pn	16 09 01.0	-3.9
	comp=E,21nm,0.8s						
LVC				Sn	Sn	16 10 26.4	-3.7
LVC				Lg		16 11 01.6	
PLCA	Paso Flores	11.21	174	Pn	Pn	16 09 55.0	-0.6
	comp=E,0.3nm,0.3s,baz=352,slow=12,SNR=6.8						
PLCA	Paso Flores	11.21	174	eP	Pn	16 09 55.3	-0.4
TRQA	Tornquist	11.93	138	eP	Pn	16 10 07.0	+1.5
	comp=E,17nm,1.1s						
CPUP	Villa Florida	13.45	80	Pn	Pn	16 10 28.6	+2.2

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
	comp=E,0.3nm,0.3s,baz=215,slow=12,SNR=1.9						
CPUP				LR	LR	16 16 04.6	
	comp=E,350nm,18.3s,baz=293,slow=39						
LPAZ	**La Paz**	**13.72**	**16**	Pn	**Pn**	**16 10 31.2**	**+1.2**
	comp=E,0.1nm,0.3s,baz=170,slow=6.4,SNR=9.9						
SIV	**San Ignacio**	**16.90**	**39**	Pn	**Pn**	**16 11 12.8**	**+0.7**
	comp=E,0.2nm,0.3s,baz=228,slow=12,SNR=21						
VNA3	**Neumayer Olymp**	**53.48**	**159**	*e*	**P**	**16 16 35.7**	**+0.2**
VNA3				*e*	pP	16 16 37.9	-0.4
VNA3				*e*		16 16 44.8	
VNA3				*e*		16 16 51.0	
VNA1	**Neumayer--Stat**	**53.77**	**158**	*e*	**P**	**16 16 39.0**	**+1.4**
VNA1				*e*	pP	16 16 40.6	+0.1
VNA1				*e*		16 16 48.7	
VNA2	**Neumayer--Watz**	**54.12**	**158**	*e*	**P**	**16 16 40.5**	**+0.3**
	baz=288,slow=9.0						
VNA2				*e*	pP	16 16 42.3	-0.7
VNA2				*e*		16 16 49.3	
VNA2				*e*		16 16 56.9	
SNAA	**Sanae**	**55.71**	**159**	*e*	**P**	**16 16 51.6**	**-0.1**
SNAA				*e*	pP	16 16 54.5	0.0
SNAA				*e*		16 17 00.6	
DBIC	**Dimbokro**	**73.86**	**72**	P	**P**	**16 18 50.2**	**-0.6**
	comp=E,1.6nm,0.7s,mb4.1,baz=198,slow=9.6,SNR=2.8						
DBIC	**Dimbokro**	**73.86**	**72**	P	**P**	**16 18 50.2**	**-0.6**
MAW	**Mawson**	**77.43**	**164**	P	**P**	**16 19 10.8**	**+0.3**
	comp=E,0.7nm,0.8s,mb3.7,baz=256,slow=8.9,SNR=3.7						
TORD	**Torodi Ar. Bea**	**82.77**	**71**	P	**P**	**16 19 40.5**	**+0.3**
	comp=E,4.4nm,0.9s,mb4.5,baz=255,slow=4.5,SNR=19						
YAK	**Yakutsk**	**144.53**	**342**	*e*PKP	PKPdf	16 26 51.0	-0.4
ZAA0	**Zalesovo Array**	**150.43**	**28**	*e*PKPbc	PKPbc	16 27 07.1	+0.4
ZALV	**Zalesovo Beam**	**150.43**	**28**	PKP	PKPdf	16 27 02.8	+1.3
	comp=E,2.4nm,1.0s,baz=306,slow=3.4,SNR=5.0						
ZALV				PKPbc	PKPbc	16 27 07.3	+0.5
	comp=E,12nm,0.9s,baz=299,slow=3.1,SNR=5.0						
MKAR	**Makanchi Array**	**153.70**	**42**	PKPbc	PKPbc	16 27 14.4	0.0
	comp=E,0.9nm,0.8s,baz=5.7,slow=2.4,SNR=4.3						

SZGRF ***02*** *16:11:16.0, 2159S×17737W, h33km, Fiji Islands region*
BJI ***02*** *16:12:14.3, 2038S×17759W, h537km, mB4.7, mb4.5*
NEIC ***02*** *16:12:16.1±0.9, 2029S×17769W, h530km±10km, mb4.4/15, Error ellipse: s-maj=9.6km s-min=6.5km az=130.0*
ISCJB ***02*** *16:12:17.6±1.2, 2033S±007×17790W±005, h553km±15km, mb4.3/32, Error ellipse: s-maj=10.8km s-min=5.8km az=157.5*
IDC ***02*** *16:12:19.7±1.9, 2037S×17781W, h570km±23km, mb3.9/15, mb1 4.1/16, mb1mx4.0/20, mbtmp3.9/16, Error ellipse: s-maj=13.9km s-min=10.6km az=151.0*
ISC 02 16:12:19.0±1.1**, 2038S**±006×**17785W**±005**, h558**km±13km**, h533**km±3.7km**:pP-P, n343,** σ0.s**51**/277**, mb4.3**/32**, 114C-117D, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**8.66**	**43**	P	**P**	**16 14 18.1**	**-5.6**
	18nm,0.3s,baz=20,slow=2.7,SNR=35						
AFI				S	**S**	**16 15 53.3**	**-13**
	10.0nm,0.3s,baz=118,slow=16,SNR=6.8						
AFI	**Afiamalu**	**8.66**	**43**	*e*P	**P**	**16 14 17.9**	**-5.8**
	190nm,0.7s						
RAO	**Raoul Island**	**8.83**	**180**	S	**S**	**16 16 07.3**	**-1.3**
	84nm,0.3s,baz=84,slow=19,SNR=3.7						
DZM	**Mont Dzumac**	**14.75**	**261**	*e*P	**P**	**16 15 27.1**	**+1.3**
URZ	**Urewera**	**18.34**	**193**	P	**P**	**16 15 58.0**	**-1.4**
	11nm,0.3s,baz=316,slow=3.3,SNR=61						
URZ				S	**S**	**16 18 54.1**	**-4.6**
	0.5nm,0.3s,baz=323,slow=20,SNR=4.7						
URZ	**Urewera**	**18.34**	**193**	P	**P**	**16 15 57.4**	**-2.0**
NNZ	**Nelson**	**22.07**	**198**	P	**P**	**16 16 32.2**	**-0.9**
THZ	**Tophouse**	**22.71**	**198**	P	**P**	**16 16 38.3**	**-0.5**
LTZ	**Lake Taylor**	**23.83**	**198**	P	**P**	**16 16 47.1**	**-1.6**
RPZ	**Rata Peaks**	**25.05**	**199**	P	**P**	**16 16 58.9**	**-0.6**
	21nm,0.6s,mb5.0,baz=359,slow=4.5,SNR=15						
ARMA	**Armidale**	**29.25**	**244**	*e*P	**P**	**16 17 38.0**	**+1.5**
CNB	**Canberra Magne**	**32.41**	**236**	*e*P	**P**	**16 18 04.8**	**+1.3**
CTA	**Charters Tower**	**33.65**	**264**	⇑*i*P	**P**	**16 18 14.9**	**+0.8**
	9.8nm,0.4s,mb4.7						
CTA	**Charters Tower**	**33.65**	**264**	P	**P**	**16 18 15.0**	**+0.9**
	14nm,0.5s,mb4.8,baz=94,slow=11,SNR=29						
PMG	**Port Moresby**	**35.46**	**283**	*e*P	**P**	**16 18 29.9**	**+0.6**
TOO	**Toolangi**	**36.08**	**234**	*e*P	**P**	**16 18 35.1**	**+0.9**
STKA	**Stephens Creek**	**37.97**	**244**	⇑*i*P	**P**	**16 18 50.8**	**+1.1**
	11nm,0.6s,mb4.5						
STKA	**Stephens Creek**	**37.97**	**244**	P	**P**	**16 18 50.8**	**+1.1**
	18nm,0.8s,mb4.7,baz=93,slow=9.1,SNR=56						
ASAR	**Alice Springs**	**44.69**	**257**	P	**P**	**16 19 43.5**	**+0.5**
	24nm,0.6s,mb4.9,baz=94,slow=7.7,SNR=491						
ASAR				S	**S**	**16 25 38.8**	**-0.6**
	5.6nm,0.9s,baz=94,slow=16,SNR=20						
WB2	**Warramunga Arr**	**44.75**	**262**	*e*P	**P**	**16 19 43.2**	**-0.3**
WB2				*e*S	**S**	**16 25 39.0**	**-1.3**
WRAB	**Tennant Creek**	**44.75**	**262**	*e*P	**P**	**16 19 43.2**	**-0.3**
	22nm,1.0s,mb4.6						
WRA	**Warramunga Arr**	**44.76**	**262**	P	**P**	**16 19 43.4**	**-0.2**
	11nm,0.5s,mb4.6,baz=98,slow=8.0,SNR=332						
WRA				S	**S**	**16 25 40.4**	**-0.1**
	0.8nm,0.8s,baz=97,slow=13,SNR=5.1						
KAKA	**Kakadu**	**48.12**	**271**	*e*P	**P**	**16 20 09.0**	**0.0**
	7.4nm,0.5s,mb4.5						
FORT	**Forrest**	**49.47**	**247**	*e*P	**P**	**16 20 18.9**	**+0.1**
	28nm,0.6s,mb5.0						
GUMO	**Guam**	**49.84**	**310**	P	**P**	**16 20 21.0**	**-0.6**
	16nm,0.5s,mb4.7,baz=152,slow=15,SNR=4.3						
FITZ	**Fitzroy Crossi**	**53.19**	**262**	⇑*i*P	**P**	**16 20 46.1**	**+0.3**
	5.1nm,0.5s,mb4.1						
SBA	**Scott Base**	**58.00**	**184**	*e*P	**P**	**16 21 20.7**	**+2.6**
	21nm,0.9s,mb4.4						
MUN	**Mundaring**	**59.51**	**244**	*e*P	**P**	**16 21 29.9**	**+0.8**
MJAR	**Matsushiro Arr**	**70.20**	**324**	P	**P**	**16 22 35.2**	**-1.0**
	7.1nm,0.8s,mb4.3,baz=158,slow=6.1,SNR=20						
MJAR	**Matsushiro Arr**	**70.20**	**324**	P	**P**	**16 22 35.2**	**-1.0**
MAJO	**Matsushiro**	**70.20**	**324**	*e*P	**P**	**16 22 35.4**	**-0.7**
	8.3nm,0.7s,mb4.4						
MAT	**Matsushiro**	**70.20**	**324**	P	**P**	**16 22 34.9**	**-1.2**
YSS	**Yuzh-Sakhalins**	**75.85**	**333**	*e*P	**P**	**16 23 08.1**	**-0.2**
	16nm,0.8s,mb4.5						
PETK	**Petropavlovsk-**	**76.19**	**345**	P	**P**	**16 23 09.2**	**-0.8**
	2.7nm,0.7s,mb3.8,baz=135,slow=4.5,SNR=11						
KSRS	**Korea Array**	**76.89**	**318**	P	**P**	**16 23 14.4**	**+0.3**
	1.2nm,0.7s,mb3.5,baz=136,slow=6.1,SNR=8.8						
FARB	**Farallon Islan**	**77.43**	**42**	⇑P	**P**	**16 23 17.0**	**0.0**
	baz=77						
PACP	**Pacheco Peak**	**78.09**	**43**	⇓P	**P**	**16 23 21.1**	**+0.4**
	baz=78						
GASB	**Alder Springs**	**78.81**	**40**	⇑P	**P**	**16 23 24.5**	**+0.1**
	baz=79						
MURC	**Murrieta**	**78.86**	**48**	⇑P	**P**	**16 23 25.2**	**+0.4**
	baz=79						
BFSC	**Mount Baldy St**	**78.90**	**47**	⇑P	**P**	**16 23 25.1**	**+0.1**
	baz=79						
MONP	**Monument Peak**	**79.02**	**49**	⇓P	**P**	**16 23 26.1**	**+0.4**
	baz=79						
EDW2	**Edwards Air Fo**	**79.03**	**46**	⇑P	**P**	**16 23 26.2**	**+0.5**
	baz=79						
O02C	**Red Bluff**	**79.09**	**40**	⇑P	**P**	**16 23 26.6**	**+0.7**
	baz=79						
T06C	**Millerton Lake**	**79.11**	**44**	⇑P	**P**	**16 23 26.2**	**+0.1**
	baz=79						
DVTC	**Desert V Tower**	**79.12**	**49**	⇓P	**P**	**16 23 26.7**	**+0.4**
	baz=79						
ISA	**Isabella**	**79.15**	**46**	⇓P	**P**	**16 23 26.8**	**+0.5**
	baz=79						
N02C	**Big Bar**	**79.19**	**39**	⇓P	**P**	**16 23 26.8**	**+0.4**
	baz=79						
CMB	**Columbia Colle**	**79.28**	**43**	⇑P	**P**	**16 23 26.8**	**-0.2**
	baz=79						
HELL	**Mitchell Peak**	**79.37**	**44**	⇑P	**P**	**16 23 27.5**	**0.0**
	baz=79						
PFO	**Pinyon Flat Ob**	**79.39**	**48**	⇑P	**P**	**16 23 28.1**	**+0.5**
	baz=79						
SWSC	**Sam W. Stewart**	**79.49**	**49**	⇑P	**P**	**16 23 28.2**	**0.0**
	baz=80						
WDC	**Whiskeytown Da**	**79.49**	**40**	⇓P	**P**	**16 23 27.9**	**-0.1**
	baz=80						
ORV	**Oroville**	**79.49**	**41**	⇑P	**P**	**16 23 28.0**	**0.0**
	baz=80						
S06C	**San Francisco**	**79.53**	**43**	⇓P	**P**	**16 23 28.1**	**-0.2**
	baz=80						
KCC	**Kaiser Creek**	**79.55**	**44**	⇓P	**P**	**16 23 28.9**	**+0.5**
	baz=80						
M02C	**Callahan**	**79.81**	**39**	⇓P	**P**	**16 23 30.2**	**+0.5**
	baz=80						
R05C	**Kirkwood Meado**	**79.87**	**42**	⇓P	**P**	**16 23 30.1**	**0.0**
	baz=80						
P05C	**Yuba Gap, Truc**	**79.89**	**42**	⇓P	**P**	**16 23 30.1**	**0.0**
	baz=80						
BELC	**Belle Mtn.**	**79.92**	**48**	⇓P	**P**	**16 23 30.7**	**+0.3**
	baz=80						
MPMC	**Manual Prospec**	**80.03**	**46**	⇓P	**P**	**16 23 31.0**	**+0.1**
	baz=80						
YBH	**Yreka Blue Hor**	**80.11**	**39**	⇓P	**P**	**16 23 31.3**	**+0.1**
	baz=80						
BC3	**Big Chuckw Mtn**	**80.12**	**49**	⇑P	**P**	**16 23 32.0**	**+0.6**
	baz=80						
HEC	**Hector,Ludlow**	**80.14**	**47**	⇑P	**P**	**16 23 31.8**	**+0.2**
	baz=80						
R06C	**Coleville**	**80.16**	**43**	⇓P	**P**	**16 23 32.0**	**+0.4**
	baz=80						
R07C	**Lee Vining**	**80.17**	**43**	⇓P	**P**	**16 23 31.9**	**+0.3**
	baz=80						
O04C	**Chester**	**80.21**	**40**	⇓P	**P**	**16 23 32.1**	**+0.3**
	baz=80						
GLA	**Glamis**	**80.24**	**49**	⇓P	**P**	**16 23 32.8**	**+0.7**
	baz=80						
BEKR	**Beckwourth**	**80.38**	**41**	⇑P	**P**	**16 23 32.8**	**+0.1**
	baz=80						
S08C	**White Mtn Res**	**80.39**	**44**	⇑P	**P**	**16 23 33.5**	**+0.7**
	baz=80						
WCN	**Washoe City**	**80.42**	**42**	⇑P	**P**	**16 23 33.4**	**+0.5**
	baz=80						
MDJ	**Mudanjiang**	**80.50**	**325**	P	**P**	**16 23 33.0**	**-0.2**
MDJ				AP	pP	16 25 26.7	-5.4
MDJ				S	S	16 32 57.3	+3.1
MDJ				SS	SS	16 38 23.0	-0.4
MDJ				AMB	AMB		
	comp=Z,10.0nm,1.1s,mb4.2						
MDJ				AMB	AMB		
	comp=Z,93nm,4.7s						
HUMO	**Hull Mountain**	**80.51**	**38**	⇓P	**P**	**16 23 33.8**	**+0.5**
	baz=80						
GMRC	**Granite Mounta**	**80.58**	**48**	⇓P	**P**	**16 23 34.1**	**+0.3**
	baz=81						
IRM	**Iron Mountain**	**80.60**	**48**	⇓P	**P**	**16 23 34.5**	**+0.6**
	baz=81						
GRAC	**Grapevine Rang**	**80.64**	**45**	⇓P	**P**	**16 23 34.3**	**+0.3**
	baz=81						
M04C	**Macdoel**	**80.65**	**39**	⇑P	**P**	**16 23 33.9**	**-0.2**
	baz=81						
M05C	**Lookout**	**80.80**	**40**	⇑P	**P**	**16 23 34.8**	**0.0**
	baz=81						
Y12C	**Blythe**	**80.82**	**49**	⇑P	**P**	**16 23 35.6**	**+0.4**
	baz=81						
NVAR	**Mina Array Bea**	**80.84**	**43**	P	**P**	**16 23 35.2**	**+0.2**
	comp=Z,4.7nm,0.8s,mb4.0,baz=226,slow=9.3,SNR=26						
113A	**Mohawk Valley,**	**80.85**	**50**	⇑P	**P**	**16 23 35.8**	**+0.5**
	baz=81						
L04A	**Klamath Falls**	**80.86**	**39**	⇓P	**P**	**16 23 35.3**	**+0.2**
	baz=81						
O06A	**Flanigan**	**80.89**	**41**	⇑P	**P**	**16 23 35.6**	**+0.3**
	baz=81						
I02A	**Mapleton**	**80.90**	**36**	⇑P	**P**	**16 23 35.6**	**+0.3**
	baz=81						
M06C	**Likely Place G**	**81.11**	**40**	⇑P	**P**	**16 23 36.8**	**+0.4**
	baz=81						
214A	**Organ Pipe Nat**	**81.13**	**51**	⇑P	**P**	**16 23 37.4**	**+0.7**
	baz=81						
S09A	**Goldfield**	**81.14**	**44**	⇓P	**P**	**16 23 36.7**	**+0.1**
	baz=81						
N06A	**Buffalo Meadow**	**81.23**	**41**	⇑P	**P**	**16 23 37.1**	**0.0**
	baz=81						
Q08A	**Gabbs**	**81.33**	**43**	⇑P	**P**	**16 23 38.0**	**+0.4**
	baz=81						
PMSA	**Palmer Station**	**81.34**	**157**	P	**P**	**16 23 37.4**	**+0.2**
	comp=Z,12nm,0.8s,mb4.4,baz=48,slow=12,SNR=4.2						
Y13A	**Salome**	**81.35**	**49**	⇓P	**P**	**16 23 38.5**	**+0.7**
	baz=81						
PDMCI	**Parker Dam,Lak**	**81.38**	**49**	⇑P	**P**	**16 23 38.1**	**+0.1**
	baz=81						
L05A	**Lakeview**	**81.41**	**39**	⇓P	**P**	**16 23 38.2**	**+0.3**
	baz=81						
R09A	**Tonopah**	**81.53**	**44**	⇑P	**P**	**16 23 38.6**	**-0.1**
	baz=82						
I04A	**Tendick Farm,**	**81.57**	**37**	⇓P	**P**	**16 23 38.2**	**-0.5**
	baz=82						
MOD	**Modoc**	**81.63**	**40**	⇓P	**P**	**16 23 38.9**	**-0.2**
	baz=82						
S10A	**Tonopah Range,**	**81.67**	**44**	⇓P	**P**	**16 23 39.7**	**+0.3**
	baz=82,SNR=16						
MAW	**Mawson**	**81.72**	**200**	*e*P	**P**	**16 23 39.7**	**+0.5**
	comp=Z,4.1nm,0.6s,mb4.0						
MAW	**Mawson**	**81.72**	**200**	P	**P**	**16 23 39.7**	**+0.5**
	comp=Z,4.4nm,0.6s,mb4.1,baz=132,slow=6.2,SNR=26						
X13A	**Yucca**	**81.75**	**49**	⇑P	**P**	**16 23 40.0**	**+0.1**
	baz=82						
N07B	**Gerlach**	**81.78**	**41**	⇑P	**P**	**16 23 39.5**	**-0.4**
	baz=82						
K05A	**Summer Lake**	**81.78**	**39**	⇓P	**P**	**16 23 40.0**	**+0.2**
	baz=82,SNR=6.1						
J05A	**Fort Rock**	**81.92**	**38**	⇑P	**P**	**16 23 40.8**	**+0.2**
	baz=82,SNR=8.8						
W13A	**Hualapai Mount**	**81.98**	**48**	⇓P	**P**	**16 23 41.0**	**0.0**
	baz=82						
Y14A	**Wickenburg**	**82.00**	**49**	⇓P	**P**	**16 23 41.0**	**-0.1**
	baz=82						
R10A	**Warm Springs**	**82.06**	**44**	⇑P	**P**	**16 23 41.6**	**+0.3**
	baz=82,SNR=5.1						
216A	**Three Points,**	**82.14**	**52**	⇑P	**P**	**16 23 42.2**	**+0.3**
	baz=82						
K06A	**Valley Falls**	**82.20**	**39**	⇑P	**P**	**16 23 41.7**	**-0.2**
	baz=82,SNR=7.8						
T11A	**Corn Creek, Al**	**82.20**	**46**	⇓P	**P**	**16 23 42.4**	**+0.3**
	baz=82,SNR=6.2						
U12A	**Valley of Fire**	**82.23**	**47**	⇓P	**P**	**16 23 42.5**	**+0.3**
	baz=82						
H04A	**Detroit Lake**	**82.25**	**36**	⇑P	**P**	**16 23 41.8**	**-0.3**
	baz=82						
L07A	**Adell**	**82.28**	**40**	⇓P	**P**	**16 23 42.4**	**+0.1**
	baz=82,SNR=5.8						
Q10A	**Clear Creek Ra**	**82.29**	**44**	⇓P	**P**	**16 23 42.5**	**0.0**
	baz=82						
CN2	**Changchun**	**82.29**	**322**	*e*P	**P**	**16 23 42.3**	**-0.1**
N08A	**GE Springer Mi**	**82.30**	**41**	⇓P	**P**	**16 23 42.4**	**-0.1**
	baz=82,SNR=8.7						
V13A	**Grand Canyon W**	**82.31**	**47**	⇓P	**P**	**16 23 43.1**	**+0.4**
	baz=82						
X14A	**Yava**	**82.35**	**49**	⇑P	**P**	**16 23 43.2**	**+0.2**
	baz=82						
Y15A	**Casa Rosa Ranc**	**82.49**	**50**	⇓P	**P**	**16 23 43.6**	**0.0**
	baz=82						
217A	**Green Valley**	**82.51**	**52**	⇑P	**P**	**16 23 44.1**	**+0.4**
	baz=82						
M08A	**Happy Creek Ra**	**82.53**	**41**	⇓P	**P**	**16 23 43.6**	**0.0**
	baz=82						
J06A	**Christmas Vall**	**82.53**	**39**	⇑P	**P**	**16 23 43.2**	**-0.4**
	baz=82,SNR=5.6						
O09A	**Fish Creek Ran**	**82.54**	**42**	⇑P	**P**	**16 23 43.6**	**-0.1**
	baz=82						
R11A	**Troy Canyon, C**	**82.56**	**45**	⇓P	**P**	**16 23 44.0**	**+0.1**
	baz=83						
W14A	**Seligman**	**82.60**	**48**	⇓P	**P**	**16 23 44.3**	**+0.2**
	baz=83,SNR=6.3						
U13A	**Pakoon Wash**	**82.62**	**47**	⇓P	**P**	**16 23 44.6**	**+0.4**
	baz=83,SNR=6.2						
K07A	**Rock Creek Ran**	**82.73**	**39**	⇑P	**P**	**16 23 44.8**	**+0.2**
	baz=83,SNR=7.0						
Q11A	**Duckwater**	**82.79**	**44**	⇓P	**P**	**16 23 44.8**	**-0.3**
	baz=83						
V14A	**Boquillas Ranc**	**82.80**	**48**	⇓P	**P**	**16 23 45.7**	**+0.5**
	baz=83,SNR=7.3						
X15A	**Humboldt**	**82.83**	**49**	⇑P	**P**	**16 23 45.8**	**+0.5**
	baz=83						
F04A	**Amboy**	**82.90**	**35**	⇓P	**P**	**16 23 45.3**	**0.0**
	baz=83						
I06A	**Prineville**	**82.92**	**38**	⇓P	**P**	**16 23 45.7**	**+0.2**
	baz=83						
WVOR	**Wild Horse Val**	**82.95**	**40**	*e*P	**P**	**16 23 45.2**	**-0.5**
	comp=Z,5.8nm,1.0s,mb4.1						
117A	**Oracle**	**82.95**	**52**	⇓P	**P**	**16 23 46.7**	**+0.7**
	baz=83						
318A	**Bisbee**	**82.96**	**53**	⇓P	**P**	**16 23 46.7**	**+0.6**
	baz=83						
T13A	**Saint George**	**82.97**	**46**	⇑P	**P**	**16 23 46.2**	**+0.2**
	baz=83						
L08A	**Fields**	**82.98**	**40**	⇑P	**P**	**16 23 45.6**	**-0.3**
	baz=83,SNR=6.3						
Y16A	**Circle Bar Ran**	**83.06**	**50**	⇓P	**P**	**16 23 47.0**	**+0.5**
	baz=83						
G05A	**Wamic**	**83.08**	**36**	⇑P	**P**	**16 23 45.8**	**-0.5**
	baz=83						
M09A	**Marrel Ranch,**	**83.09**	**41**	⇓P	**P**	**16 23 46.7**	**+0.2**
	baz=83						
J07A	**Hines**	**83.10**	**39**	⇑P	**P**	**16 23 46.4**	**0.0**
	baz=83						
P11A	**Circle Ranch,**	**83.11**	**43**	⇓P	**P**	**16 23 46.6**	**0.0**
	baz=83						
U14A	**Mt Trumbull**	**83.16**	**47**	⇑P	**P**	**16 23 47.5**	**+0.6**
	baz=83						
218A	**Dragoon**	**83.18**	**52**	⇑P	**P**	**16 23 48.0**	**+0.9**
	baz=83						
R12A	**Pony Springs,**	**83.20**	**45**	⇓P	**P**	**16 23 47.7**	**+0.6**
	baz=83						
K08A	**Mann Creek Ran**	**83.21**	**40**	⇑P	**P**	**16 23 47.3**	**+0.3**
	baz=83						
S13A	**Holt Ranch, En**	**83.30**	**46**	⇑P	**P**	**16 23 48.0**	**+0.4**
	baz=83						
H06A	**Lindquist Farm**	**83.32**	**37**	⇑P	**P**	**16 23 47.3**	**-0.2**
	baz=83,SNR=7.4						
X16A	**Lo Mia Camp, P**	**83.36**	**50**	⇓P	**P**	**16 23 47.7**	**-0.3**
	baz=83						
F05A	**White Salmon**	**83.39**	**36**	⇓P	**P**	**16 23 47.6**	**-0.3**
	baz=83						
I07A	**Izee**	**83.41**	**38**	⇑P	**P**	**16 23 47.8**	**-0.2**
	baz=83,SNR=7.1						
Y17A	**Roosevelt**	**83.43**	**51**	⇓P	**P**	**16 23 49.1**	**+0.8**
	baz=83						
Q12A	**Willow Creek R**	**83.44**	**44**	⇑P	**P**	**16 23 48.2**	**0.0**
	baz=83						
G06A	**Carlson Farm,**	**83.45**	**37**	⇓P	**P**	**16 23 47.1**	**-1.1**
	baz=84						
319A	**Douglas**	**83.46**	**53**	⇑P	**P**	**16 23 49.3**	**+0.8**
	baz=83						
V15A	**Kaibab Nationa**	**83.55**	**48**	⇓P	**P**	**16 23 49.1**	**+0.3**
	baz=84						
118A	**Homack Ranch,**	**83.56**	**52**	⇑P	**P**	**16 23 49.5**	**+0.6**
	baz=84						
T14A	**Hurricane**	**83.56**	**47**	⇓P	**P**	**16 23 49.5**	**+0.6**
	baz=84						
J08A	**Circle Bar Ran**	**83.58**	**39**	⇓P	**P**	**16 23 48.8**	**0.0**
	baz=84						
W16A	**Flagstaff**	**83.63**	**49**	⇑P	**P**	**16 23 49.9**	**+0.6**
	baz=84						
E05A	**Randle**	**83.65**	**35**	⇓P	**P**	**16 23 48.8**	**-0.3**
	baz=84						
K09A	**Rome**	**83.65**	**40**	⇓P	**P**	**16 23 49.1**	**-0.1**
	baz=84,SNR=7.7						
H07A	**Lands Inn, Kim**	**83.67**	**38**	⇓P	**P**	**16 23 49.2**	**-0.1**
	baz=84,SNR=5.5						
F06A	**Goldendale**	**83.70**	**36**	⇓P	**P**	**16 23 49.1**	**-0.3**
	baz=84						
M10A	**I.L. Ranch, Tu**	**83.71**	**42**	⇓P	**P**	**16 23 49.2**	**-0.3**
	baz=84,SNR=6.2						
219A	**White Tail Can**	**83.77**	**53**	⇑P	**P**	**16 23 50.6**	**+0.5**
	baz=84,SNR=5.3						
U15A	**North Rim**	**83.78**	**48**	⇓P	**P**	**16 23 50.3**	**+0.4**
	baz=84,SNR=11						
I08A	**Drewsey**	**83.85**	**39**	⇑P	**P**	**16 23 50.5**	**+0.3**
	baz=84						
Q13A	**Wheeler Ranch,**	**83.92**	**45**	⇓P	**P**	**16 23 50.6**	**0.0**
	baz=84						
J09A	**Fry Pan Ranch,**	**84.00**	**39**	⇓P	**P**	**16 23 51.0**	**+0.1**
	baz=84						
T15A	**Red Dirt Ranch**	**84.02**	**47**	⇓P	**P**	**16 23 51.6**	**+0.5**
	baz=84						
G07A	**Ruggs Ranch, H**	**84.02**	**37**	⇑P	**P**	**16 23 50.6**	**-0.4**
	baz=84						
L10A	**Juniper Basin**	**84.06**	**41**	⇓P	**P**	**16 23 51.1**	**-0.2**
	baz=84,SNR=5.6						
E06A	**Yakima**	**84.06**	**36**	⇓P	**P**	**16 23 50.8**	**-0.3**
	baz=84						
ELK	**Elko**	**84.10**	**43**	*e*P	**P**	**16 23 51.2**	**-0.3**
	comp=Z,2.2nm,0.8s,mb3.7						
119A	**Ashpeak Ranch,**	**84.11**	**52**	⇑P	**P**	**16 23 52.0**	**+0.3**
	baz=84						
M11A	**Holland Ranch,**	**84.12**	**42**	⇓P	**P**	**16 23 51.3**	**-0.3**
	baz=84						
H08A	**Prairie City**	**84.15**	**38**	⇓P	**P**	**16 23 51.3**	**-0.3**
	baz=84						
P13A	**Bates Ranch, G**	**84.19**	**44**	⇑P	**P**	**16 23 52.0**	**+0.1**
	baz=84						
K10A	**MacKenzie Ranc**	**84.21**	**40**	⇑P	**P**	**16 23 51.6**	**-0.3**
	baz=84						
N12A	**Clover Valley,**	**84.28**	**43**	⇓P	**P**	**16 23 52.1**	**-0.2**
	baz=84						
Q14A	**Sevier Lake (B**	**84.43**	**45**	⇓P	**P**	**16 23 52.9**	**-0.3**
	baz=84,SNR=5.8						
G08A	**Pilot Rock**	**84.44**	**37**	⇓P	**P**	**16 23 52.3**	**-0.7**
	baz=84,SNR=6.7						
U16A	**Tuba City**	**84.44**	**48**	⇑P	**P**	**16 23 53.4**	**+0.1**
	baz=84						
L11A	**Cat Creek Ranc**	**84.56**	**41**	⇑P	**P**	**16 23 53.7**	**+0.1**
	baz=85						
T16A	**Glen Canyon Da**	**84.60**	**47**	⇓P	**P**	**16 23 54.2**	**+0.2**
	baz=85						
M12A	**Wells**	**84.67**	**42**	⇓P	**P**	**16 23 53.9**	**-0.3**
	baz=85						
E07A	**Sunnyside**	**84.69**	**36**	⇓P	**P**	**16 23 54.0**	**-0.2**
	baz=85						
Y19A	**Nutrioso**	**84.71**	**51**	⇓P	**P**	**16 23 55.1**	**+0.5**
	baz=85,SNR=5.7						
H09A	**Durkee**	**84.82**	**38**	⇑P	**P**	**16 23 54.8**	**-0.1**
	baz=85						
F08A	**Pendleton**	**84.84**	**37**	⇑P	**P**	**16 23 54.8**	**-0.1**
	baz=85						
BMO	**Blue Mountains**	**85.13**	**38**	*e*P	**P**	**16 23 55.9**	**-0.5**
	comp=Z,8.9nm,1.5s,mb4.1						
MFID	**Camas Ranch**	**85.20**	**40**	⇑P	**P**	**16 23 56.9**	**+0.1**
	baz=85						
C07A	**Waterville**	**85.26**	**35**	⇑P	**P**	**16 23 56.2**	**-0.8**
	baz=85						
I11A	**Placerville**	**85.40**	**40**	⇑P	**P**	**16 23 57.3**	**-0.4**
	baz=85						
S17A	**Black Ridge (B**	**85.41**	**47**	⇑P	**P**	**16 23 57.8**	**-0.1**
	baz=85						
G10A	**Bishop Farm, J**	**85.49**	**38**	⇓P	**P**	**16 23 57.6**	**-0.5**
	baz=86						
D08A	**Wollman Farm,**	**85.50**	**36**	⇑P	**P**	**16 23 57.9**	**-0.2**
	baz=86						
J12A	**Stokes Ranch,**	**85.55**	**41**	⇓P	**P**	**16 23 58.1**	**-0.4**
	baz=86						
E09A	**Wood Farm, Sta**	**85.61**	**37**	⇑P	**P**	**16 23 57.8**	**-0.8**
	baz=86						
B07A	**Winthrop**	**85.69**	**34**	⇑P	**P**	**16 23 58.4**	**-0.6**
	baz=86						
M14A	**Sheep Mountain**	**85.71**	**43**	⇓P	**P**	**16 23 58.8**	**-0.5**
	baz=86						
H11A	**Donnelly**	**85.81**	**39**	⇑P	**P**	**16 23 59.3**	**-0.4**
	baz=86						
T18A	**Mexican Hat**	**85.81**	**48**	⇑P	**P**	**16 23 59.7**	**-0.1**
	baz=86,SNR=9.4						
F10A	**Beach Ranch, E**	**85.82**	**38**	⇑P	**P**	**16 23 59.2**	**-0.4**
	baz=86,SNR=14						
D09A	**Jones Farm, Ri**	**85.84**	**36**	⇑P	**P**	**16 23 59.4**	**-0.4**
	baz=86						
G11A	**Walters Elk Ra**	**86.05**	**38**	⇑P	**P**	**16 24 00.4**	**-0.4**
	baz=86,SNR=14						
B08A	**Colville Reser**	**86.05**	**35**	⇓P	**P**	**16 23 59.8**	**-0.9**
	baz=86						
E10A	**Myers Farm, Un**	**86.18**	**37**	⇑P	**P**	**16 24 01.2**	**-0.2**
	baz=86						
J13A	**Cove Ranch, Pi**	**86.20**	**41**	⇓P	**P**	**16 24 01.5**	**-0.1**
	baz=86						
M15A	**Larsen Ranch,**	**86.26**	**43**	⇑P	**P**	**16 24 00.8**	**-1.1**
	baz=86						
C09A	**Chrisman Ranch**	**86.29**	**36**	⇑P	**P**	**16 24 01.5**	**-0.4**
	baz=86						
SRU	**San Rafael**	**86.34**	**46**	⇓P	**P**	**16 24 02.2**	**-0.1**
	baz=86						
F11A	**Grangeville**	**86.39**	**38**	⇑P	**P**	**16 24 01.1**	**-1.3**
	baz=86						
R18A	**Canyonlands Na**	**86.41**	**47**	⇓P	**P**	**16 24 02.5**	**-0.2**
	baz=86						
H12A	**Diamond D Ranc**	**86.41**	**40**	⇓P	**P**	**16 24 02.3**	**-0.2**
	baz=86,SNR=7.2						
A08A	**Turner Farm, O**	**86.44**	**34**	⇓P	**P**	**16 24 02.3**	**-0.2**
	baz=86						
I13A	**Wildhorse Cree**	**86.51**	**40**	⇓P	**P**	**16 24 03.2**	**+0.2**
	baz=86						
J14A	**Carey**	**86.56**	**41**	⇑P	**P**	**16 24 03.3**	**+0.1**
	baz=87						
Q18A	**Rafter H Ranch**	**86.60**	**46**	⇓P	**P**	**16 24 03.3**	**-0.2**
	baz=87						
S19A	**Harvey Farm, M**	**86.62**	**48**	⇓P	**P**	**16 24 03.5**	**-0.1**
	baz=87						
E11A	**Bogner Ranch,**	**86.62**	**38**	⇑P	**P**	**16 24 02.5**	**-0.9**
	baz=87						
GYA	**Guiyang**	**86.72**	**300**	P	**P**	**16 24 03.2**	**-1.2**
GYA				AP	pP	16 26 00.9	-4.7
GYA				XP	sP	16 26 54.2	-7.7
GYA				PP	PP	16 27 38.3	+0.8
GYA				SKS		16 33 37.6	

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
GYA				S	S	16 33 55.2	-0.5
GYA				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb4.4						
B09A	**Rice**	**86.73**	**35**	⇓P	**P**	**16 24 03.6**	**-0.3**
	baz=87						
O17A	**Robinson Place**	**86.73**	**45**	⇑P	**P**	**16 24 04.4**	**+0.2**
	baz=87						
H13A	**Challis**	**86.78**	**40**	⇓P	**P**	**16 24 04.1**	**-0.1**
	baz=87						
A09A	**Danville**	**86.82**	**35**	⇓P	**P**	**16 24 04.1**	**-0.2**
	baz=87						
TXAR	**Lajitas Array**	**86.87**	**57**	P	**P**	**16 24 05.3**	**+0.2**
	comp=Z,2.1nm,0.8s,mb3.8,baz=223,slow=6.8,SNR=13						
SYO	**Syowa Base**	**86.87**	**193**	⇓eX		16 24 02.4	
I14A	**Mackay**	**86.93**	**41**	⇓P	**P**	**16 24 05.5**	**+0.5**
	baz=87,SNR=5.0						
D11A	**Klaveano Farm,**	**86.94**	**37**	⇓P	**P**	**16 24 04.2**	**-0.7**
	baz=87						
E12A	**Beaver Dam Sad**	**87.02**	**38**	⇑P	**P**	**16 24 04.5**	**-0.8**
	baz=87						
G13A	**Cobalt**	**87.08**	**39**	⇓P	**P**	**16 24 05.6**	**0.0**
	baz=87						
Q19A	**Hogan Spring (**	**87.12**	**47**	⇑P	**P**	**16 24 06.1**	**+0.2**
	baz=87						
J15A	**Blackfoot**	**87.28**	**42**	⇑P	**P**	**16 24 06.9**	**+0.3**
	baz=87						
A10A	**Northport**	**87.37**	**35**	⇑P	**P**	**16 24 06.3**	**-0.6**
	baz=87						
F13A	**Darby**	**87.40**	**39**	⇑P	**P**	**16 24 06.4**	**-0.7**
	baz=87,SNR=7.9						
B11A	**Sandpoint**	**87.70**	**36**	⇑P	**P**	**16 24 08.1**	**-0.4**
	baz=88						
J16A	**Bone**	**87.73**	**42**	⇓P	**P**	**16 24 09.1**	**+0.3**
	baz=88						
MCMT	**McKenzie Canyo**	**87.77**	**40**	eP	**P**	**16 24 09.1**	**+0.2**
H15A	**Lima**	**87.78**	**40**	⇓P	**P**	**16 24 09.3**	**+0.4**
	baz=88						
N18A	**Larsen Ranch,**	**87.83**	**45**	⇓P	**P**	**16 24 09.4**	**+0.2**
	baz=88						
O19A	**Miners Draw (B**	**87.86**	**45**	⇓P	**P**	**16 24 08.5**	**-0.9**
	baz=88						
F14A	**Wisdom**	**87.98**	**39**	⇓P	**P**	**16 24 09.8**	**0.0**
	baz=88						
A11A	**Hall Mountain,**	**88.00**	**35**	⇓P	**P**	**16 24 09.7**	**-0.2**
	baz=88						
D13A	**Huson**	**88.03**	**38**	⇓P	**P**	**16 24 09.8**	**-0.2**
	baz=88						
COLA	**College**	**88.06**	**12**	eP	**P**	**16 24 08.0**	**-1.8**
	comp=Z,5.0nm,0.6s,mb4.4						
I16A	**Newdale**	**88.11**	**42**	⇑P	**P**	**16 24 10.6**	**+0.1**
	baz=88						
SNAA	**Sanae**	**88.12**	**178**	eP	**P**	**16 24 09.5**	**-0.7**
SNAA				e		16 24 10.8	
SNAA	**Sanae**	**88.12**	**178**	eP	**P**	**16 24 09.6**	**-0.6**
	comp=Z,3.5nm,0.9s,mb4.1						
G15A	**Dillon**	**88.16**	**40**	⇓P	**P**	**16 24 10.8**	**+0.1**
	baz=88,SNR=6.3						
E14A	**Clinton**	**88.23**	**39**	⇓P	**P**	**16 24 10.7**	**-0.3**
	baz=88						
VNA3	**Neumayer Olymp**	**88.25**	**176**	eP	**P**	**16 24 10.6**	**-0.2**
VNA3				e		16 24 12.0	
A12A	**Yaak River Ran**	**88.38**	**36**	⇑P	**P**	**16 24 11.7**	**+0.1**
	baz=88						
F15A	**Butte**	**88.51**	**39**	⇑P	**P**	**16 24 12.4**	**+0.1**
	baz=88						
D14A	**Greenough**	**88.57**	**38**	⇓P	**P**	**16 24 12.0**	**-0.6**
	baz=89						
G16A	**Moss Hill, Enn**	**88.61**	**40**	⇓P	**P**	**16 24 12.7**	**-0.1**
	baz=89						
VNA2	**Neumayer--Watz**	**88.69**	**177**	eP	**P**	**16 24 13.1**	**+0.3**
VNA2				e		16 24 14.3	
B13A	**Whitefish**	**88.72**	**37**	⇑P	**P**	**16 24 13.1**	**-0.2**
	baz=89						
E15A	**Deer Lodge**	**88.73**	**39**	⇑P	**P**	**16 24 13.1**	**-0.2**
	baz=89						
BW06	**Boulder Array**	**88.78**	**43**	eP	**P**	**16 24 13.0**	**-0.6**
PDAR	**Pinedale Array**	**88.78**	**43**	P	**P**	**16 24 13.2**	**-0.5**
	comp=Z,3.4nm,0.9s,mb4.2,baz=215,slow=3.0,SNR=20						
VNA1	**Neumayer--Stat**	**88.92**	**177**	eP	**P**	**16 24 14.3**	**+0.4**
VNA1				e		16 24 15.7	
DAWY	**Dawson**	**89.31**	**16**	eP	**P**	**16 24 14.9**	**-0.6**
HHC	**Hu-ho-hao-te**	**89.37**	**314**	eP	**P**	**16 24 16.7**	**+0.3**
HHC				AP	pP	16 26 16.5	-2.0
HHC				XP	sP	16 27 09.1	-5.4
HHC				PP	PP	16 28 02.4	+4.3
HHC				SKS		16 33 55.0	
HHC				S	S	16 34 19.3	-0.2
HHC				XS	sS	16 37 52.1	-5.2
HHC				SS	SS	16 40 37.5	+5.2
HHC				AMB	AMB		
	comp=Z,12nm,1.1s,mb4.6						
HHC				AMB	AMB		
	comp=Z,164nm,5.1s						
B14A	**Marquette Ranc**	**89.39**	**37**	⇑P	**P**	**16 24 15.8**	**-0.5**
	baz=89						
KMI	**Kunming**	**89.42**	**297**	P	**P**	**16 24 17.8**	**+0.7**
KMI				AP	pP	16 26 16.8	-2.3
KMI				XP	sP	16 27 08.9	-6.2
KMI				PP	PP	16 28 00.4	+1.6
KMI				S	S	16 34 21.7	+1.0
KMI				SS	SS	16 40 37.0	+3.4
C15A	**Salmond Ranch,**	**89.46**	**38**	⇓P	**P**	**16 24 16.9**	**+0.2**
	baz=90						
A14A	**Double T Ranch**	**89.63**	**36**	⇑P	**P**	**16 24 16.7**	**-0.7**
	baz=90						
B15A	**Bradely Ranch,**	**89.77**	**37**	⇑P	**P**	**16 24 17.8**	**-0.3**
	baz=90						
CMAR	**Chiang Mai Arr**	**90.21**	**290**	P	**P**	**16 24 22.1**	**+1.3**
	comp=Z,1.7nm,0.9s,mb3.9,baz=115,slow=2.3,SNR=9.7						
C17A	**Wharram Farm,**	**90.45**	**39**	⇓P	**P**	**16 24 20.9**	**-0.4**
	baz=90						
A16A	**West Butte Ran**	**90.64**	**37**	⇑P	**P**	**16 24 21.8**	**-0.3**
	baz=91						
CD2	**Chengdu**	**90.85**	**303**	eP	**P**	**16 24 23.0**	**-0.5**
CD2				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.9						
CD2				AMB	AMB		
	comp=Z,20nm,6.8s						
LZH	**Lanzhou**	**92.81**	**307**	P	**P**	**16 24 33.0**	**+0.6**
LZH				AP	pP	16 26 30.1	-4.8
LZH				PP	PP	16 28 27.0	+2.1
LZH				AMB	AMB		
	comp=Z,16nm,1.4s,mb4.9						
LZH				AMB	AMB		
	comp=Z,83nm,4.7s						
ZALV	**Zalesovo Beam**	**110.49**	**321**	PKiKP	PKiKP	16 29 46.2	-1.7
	comp=Z,0.5nm,0.4s,baz=0.0,slow=1.7,SNR=3.8						
ZALV	**Zalesovo Beam**	**110.49**	**321**	PKPdf	PKiKP	16 29 46.2	-1.7
MKAR	**Makanchi Array**	**111.22**	**313**	PKiKP	PKiKP	16 29 47.9	-1.6
	comp=Z,0.7nm,0.6s,baz=43,slow=0.7,SNR=4.9						
ARCES	**ARCESS Array B**	**128.83**	**350**	PKP	PKPdf	16 30 21.1	-1.5
	comp=Z,3.7nm,0.9s,baz=355,slow=4.3,SNR=5.5						
NOA	**NORSAR Array B**	**138.88**	**353**	SKPbc	SKPbc	16 33 25.8	+1.4
	comp=Z,2.1nm,0.9s,baz=15,slow=4.5,SNR=4.9						
AKASG	**Malin Array Be**	**142.98**	**331**	PKhKP		16 30 45.5	
	comp=Z,6.2nm,0.5s,baz=42,slow=4.4,SNR=37						
AKASG				SKPbc	SKPbc	16 33 36.0	+0.8
	comp=Z,1.4nm,0.6s,baz=44,slow=3.8,SNR=5.4						
AKASG	**Malin Array Be**	**142.98**	**331**	PKP	PKPdf	16 30 45.5	-3.8
AKASG				SKPbc	SKPbc	16 33 36.0	+0.8
MALT	**Malatya**	**143.97**	**308**	⇓iP	PKPdf	16 30 56.3	+4.9
BSEG	**Bad Segeberg**	**145.93**	**351**	ePKPbc	PKPbc	16 30 55.3	-0.8
KWP	**Kalwaria**	**146.53**	**336**	ePKP	PKPbc	16 30 57.4	-0.5
KWP	**Kalwaria**	**146.53**	**336**	⇑iP	PKPdf	16 30 57.3	+1.9
KWP	**Kalwaria**	**146.53**	**336**	ePKPbc	PKPbc	16 30 57.3	-0.7
BR131	**Keskin Array S**	**146.87**	**313**	ePKPbc	PKPbc	16 30 58.5	-0.7
BUR08	**Bucovina Ar. S**	**147.02**	**331**	ePKPbc	PKPbc	16 30 59.3	0.0
BURAR	**Bucovina Array**	**147.03**	**331**	⇓iP	PKPbc	16 31 00.6	+1.2
KOLS	**Kolonicke sedl**	**147.27**	**335**	i PKP	PKPbc	16 30 59.8	-0.1
STHS	**Stebnicka Huta**	**147.27**	**337**	i PKP	PKPbc	16 30 59.7	-0.2
NRDL	**Niedersach Rie**	**147.36**	**351**	ePKPbc	PKPbc	16 30 59.3	-0.8
CRVS	**Cervenica-Dubn**	**147.61**	**336**	i PKP	PKPbc	16 31 00.4	-0.4
CLZ	**Clausthal**	**147.95**	**350**	ePKPbc	PKPbc	16 31 01.2	-0.4
CLL	**Collm**	**147.98**	**347**	ePKPbc	PKPbc	16 31 01.1	-0.6
CLL	**Collm**	**147.98**	**347**	⇓iPKPbc	PKPbc	16 31 01.2	-0.5
	comp=Z,16nm,0.8s						
UPC	**Upice**	**148.00**	**343**	⇑ePKP	PKPbc	16 31 01.5	-0.3
UPC				ePKPAB	PKPab	16 31 06.6	+0.1
DPC	**Dobruska-Polom**	**148.06**	**343**	⇑ePKP	PKPbc	16 31 02.0	+0.1
DPC				ePKPAB	PKPab	16 31 06.9	+0.1
BRG	**Berggiesshubel**	**148.18**	**346**	ePKPbc	PKPbc	16 31 01.9	-0.3
BRG				ePKPab	PKPab	16 31 06.1	-1.2
BRG	**Berggiesshubel**	**148.18**	**346**	i P	PKPbc	16 31 01.9	-0.3
	comp=Z,9.0nm,1.1s						
BRG				i		16 31 06.5	
	comp=Z,7.3nm,0.9s						
MLR	**Muntele Rosu**	**148.20**	**327**	⇑iP	PKPbc	16 31 03.2	+0.8
MORC	**Moravsky Berou**	**148.21**	**341**	⇑iP	PKPbc	16 31 02.4	+0.1
FBE	**Freiberg**	**148.27**	**346**	ePKPbc	PKPbc	16 31 02.0	-0.4
FBE				ePKPab	PKPab	16 31 06.7	-0.9
NEUB	**Neuenburg**	**148.32**	**348**	ePKPbc	PKPbc	16 31 02.2	-0.3
PVCC	**Panska Ves**	**148.35**	**345**	⇑ePKP	PKPbc	16 31 02.5	-0.1
PVCC				ePKPAB	PKPab	16 31 05.7	-2.3
PRU	**Pruhonice**	**148.86**	**344**	⇑ePKP	PKPbc	16 31 03.5	-0.4
PRU				ePKPAB	PKPab	16 31 09.0	-1.1
MOX	**Moxa**	**148.89**	**348**	ePKPbc	PKPbc	16 31 03.3	-0.6
VYHS	**Vyhne**	**148.90**	**338**	i PKP	PKPbc	16 31 03.5	-0.6
TANN	**Tannenbergstha**	**148.94**	**347**	ePKPbc	PKPbc	16 31 03.6	-0.5
WERD	**Werda**	**148.94**	**347**	ePKPbc	PKPbc	16 31 03.5	-0.6
GUNZ	**Gunzen**	**149.01**	**347**	ePKPbc	PKPbc	16 31 03.7	-0.6
GUNZ				ePKPab	PKPab	16 31 09.6	-1.1
WERN	**Wernitzgruen**	**149.08**	**347**	ePKPbc	PKPbc	16 31 04.1	-0.3
WERN				ePKPab	PKPab	16 31 09.9	-1.1
NKC	**Novy Kostel**	**149.11**	**347**	⇑ePKP	PKPbc	16 31 04.1	-0.4
NKC				ePKPAB	PKPab	16 31 09.9	-1.2
TREC	**Trest**	**149.24**	**343**	⇑ePKP	PKPbc	16 31 04.3	-0.6
MANZ	**Manzenberg**	**149.42**	**347**	ePKPbc	PKPbc	16 31 04.8	-0.4
MODS	**Modra-Piesok**	**149.53**	**340**	i PKP	PKPbc	16 31 05.8	+0.2
MODS	**Modra-Piesok**	**149.53**	**340**	i PKP	PKPbc	16 31 05.9	+0.3
ROTZ	**Rotzenmuhle**	**149.60**	**347**	ePKPbc	PKPbc	16 31 05.2	-0.5
MEM	**Membach**	**149.68**	**355**	PKPbc	PKPbc	16 31 05.4	-0.4
TNS	**Taunus Mts**	**149.81**	**352**	ePKPab	PKPab	16 31 13.0	-1.0
GRF	**Grafenberg Arr**	**149.87**	**348**	ePKPbc	PKPbc	16 31 06.2	-0.1
KHC	**Kasperske Hory**	**149.89**	**345**	⇑ePKP	PKPbc	16 31 06.1	-0.3
KHC				ePKPAB	PKPab	16 31 14.0	-0.4
WET	**Wettzell**	**150.04**	**346**	ePKPab	PKPab	16 31 14.4	-0.6
GEC2	**GERESS Array S**	**150.13**	**345**	ePKPbc	PKPbc	16 31 06.2	-0.8
GERES	**GERESS Array B**	**150.13**	**345**	PKPbc	PKPbc	16 31 06.6	-0.4
	comp=Z,2.5nm,0.8s,baz=42,slow=2.2,SNR=20						
GIVF	**Givet**	**150.27**	**357**	ePKIKP	PKPbc	16 31 06.4	-0.8
	comp=Z,13nm,0.6s						
DOU	**Dourbes**	**150.29**	**357**	PKPbc	PKPbc	16 31 07.0	-0.3
DOU				PKPab	PKPab	16 31 14.7	-1.3
BAIF	**Baives**	**150.34**	**357**	ePKIKP	PKPbc	16 31 06.7	-0.7
	comp=Z,11nm,0.6s						
CONA	**Conrad Observa**	**150.37**	**341**	⇓iPKPbc	PKPbc	16 31 07.2	-0.3
	comp=Z,3.7nm,0.6s						
CSNA	**Conrad Observa**	**150.37**	**341**	⇓iPKPbc	PKPbc	16 31 07.2	-0.3
	comp=Z,3.7nm,0.6s						
WLF	**Walferdange**	**150.61**	**355**	PKPbc	PKPbc	16 31 08.3	+0.2
PKSM	**Moragy**	**150.91**	**336**	⇑iP	PKPbc	16 31 07.8	-1.0
RJOB	**Jochberg**	**151.38**	**345**	ePKPab	PKPab	16 31 20.6	-0.1
FLN	**La Foliniere**	**151.61**	**4**	ePKIKP	PKPbc	16 31 09.0	-1.3
	comp=Z,5.3nm,0.5s						
CDF	**Champ du Feu**	**151.73**	**353**	ePKIKP	PKPbc	16 31 09.7	-0.9
	comp=Z,3.6nm,0.6s						
ROSF	**Rostrenen**	**151.77**	**8**	ePKIKP	PKPbc	16 31 09.1	-1.6
LDF	**La Druitiere**	**151.79**	**3**	ePKIKP	PKPbc	16 31 09.3	-1.5
	comp=Z,4.8nm,0.5s						
SGMF	**Saint Gilles**	**151.94**	**7**	ePKIKP	PKPbc	16 31 09.6	-1.5
	comp=Z,7.2nm,0.6s						
GRR	**Gorron**	**151.95**	**4**	ePKIKP	PKPbc	16 31 09.8	-1.3
	comp=Z,8.7nm,0.7s						
QUIF	**Quistinic**	**152.20**	**8**	ePKIKP	PKPbc	16 31 09.9	-1.8
HAU	**Haudompre**	**152.24**	**354**	ePKIKP	PKPbc	16 31 10.7	-1.0
HINF	**Hinteralfeld**	**152.37**	**353**	ePKIKP	PKPbc	16 31 10.8	-1.2
CABF	**La Chapelle**	**153.64**	**354**	ePKIKP	PKPbc	16 31 13.1	-1.7
	comp=Z,9.9nm,0.8s						
TORD	**Torodi Ar. Bea**	**172.79**	**176**	PKPab	PKPab	16 32 54.1	-0.9
	comp=Z,0.8nm,0.7s,baz=177,slow=3.7,SNR=6.9						

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*NIED **02** 16:31:00, 29.40N×130.70E, h26^{km}, Mw4.0 Best double couple: $M_0$1.11000×10^{15} NP1:ϕ_s44.00000°, δ59.00000°, λ67.00000°. NP2:ϕ_s264.00000°, δ38.00000°, λ124.00000°.*
*ISCJB **02** 16:31:53.0±0.9, 29.40N±0.05×130.8E±0.1, h54^{km}±7^{km}, mb3.9/6, Error ellipse: s-maj=15.8km s-min=5.5km az=21.5*
*JMA **02** 16:31:53.1±0.1, 29.42N×130.75E, h63^{km}±4^{km}, M3.5*
*IDC **02** 16:31:58.1±1.6, 29.60N×129.05E, h0^{km}, mb3.6/5, mb1 3.6/7, mb1mx3.5/23, mbtmp3.5/7, ML2.9/2, Error ellipse: s-maj=61.1km s-min=16.3km az=75.0*
*NEIC **02** 16:31:59.2±1.3, 29.60N×128.96E, h10^{km}, mb4.4/3, Error ellipse: s-maj=56.6km s-min=11.4km az=71.0*
ISC 02 16:31:53.9±0.9**, 29.40N**±0.05×**130.78E**±0.10**, h44**^{km}±8^{km}**, n22, σ0^{s}69**/23**, mb3.9**/6**, Ryukyu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNN	**Nakanoshima**	**0.90**	**299**	P	**Pn**	**16 32 09.6**	**-0.6**
JNN				S	**Sn**	**16 32 22.8**	**+0.7**
JKC	**Kuchinoerabu**	**1.17**	**334**	P	**Pn**	**16 32 13.3**	**-0.6**
JTN	**Tanegashima 3**	**1.26**	**8**	P	**Pn**	**16 32 14.5**	**-0.6**
JAM	**Amami Oshima**	**1.43**	**227**	P	**Pn**	**16 32 17.3**	**0.0**
JAM				eS	**Sn**	**16 32 34.6**	**-0.3**
JTSR	**Tashiro 2**	**1.76**	**4**	P	**Pn**	**16 32 22.2**	**+0.2**
JSU	**Suzuyama**	**2.12**	**352**	P	**Pn**	**16 32 26.4**	**-0.4**
JNAR	**Kushima--Naru**	**2.16**	**11**	P	**Pn**	**16 32 27.8**	**+0.4**
JTK	**Tokunoshima**	**2.28**	**225**	P	**Pn**	**16 32 29.5**	**+0.5**
JTK				eS	**Sn**	**16 32 56.6**	**+0.8**
JSJ	**Shimokoshiki**	**2.45**	**338**	P	**Pn**	**16 32 31.1**	**-0.3**
JSJ				eS	**Sn**	**16 32 59.1**	**-0.9**
JTZ	**Takazaki**	**2.50**	**6**	P	**Pn**	**16 32 32.6**	**+0.5**
JOW	**Kunigami**	**3.38**	**221**	Pn	**Pn**	**16 32 43.7**	**-0.5**
	4.0nm,0.3s,baz=64,slow=19,SNR=19						
JOW				Sn	**Sn**	**16 33 22.6**	**-0.6**
	4.6nm,0.3s,baz=47,slow=27,SNR=7.9						
KSRS	**Korea Array**	**8.38**	**344**	Pn	**Pn**	**16 33 55.1**	**+2.4**
	0.1nm,0.3s,baz=162,slow=14,SNR=3.8						
SONM	**Songino Array**	**26.31**	**321**	P	**P**	**16 37 24.9**	**-0.4**
	0.6nm,0.6s,mb3.3,baz=136,slow=9.5,SNR=4.9						
ZALV	**Zalesovo Beam**	**41.19**	**320**	P	**P**	**16 39 33.6**	**-0.4**
	0.5nm,0.5s,mb3.4,baz=99,slow=9.3,SNR=3.3						
MKAR	**Makanchi Array**	**41.22**	**309**	P	**P**	**16 39 35.0**	**+0.6**
	0.6nm,0.5s,mb3.5,baz=88,slow=11,SNR=15						
KURK	**Kurchatov**	**44.17**	**314**	eP	**P**	**16 39 58.5**	**+0.4**
	2.0nm,0.7s,mb4.0						
WRAB	**Tennant Creek**	**49.17**	**176**	eP	pP	16 40 50.6	+0.8
WRA	**Warramunga Arr**	**49.18**	**176**	P	pP	16 40 49.9	0.0
	1.0nm,0.7s,baz=354,slow=8.4,SNR=10						
WB2	**Warramunga Arr**	**49.18**	**176**	eP	pP	16 40 50.2	+0.2
BRVK	**Borovoye**	**49.55**	**316**	eP	**P**	**16 40 40.7**	**+0.5**
	4.7nm,0.5s,mb4.8						
ASAR	**Alice Springs**	**52.85**	**176**	P	pP	16 41 18.6	+1.1
	0.5nm,0.5s,baz=12,slow=13,SNR=11						
ARU	**Arti**	**56.35**	**321**	eP	**P**	**16 41 29.3**	**-0.9**
	3.1nm,0.6s,mb4.5						

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*IDC **02** 16:34:36.7±2.8, 4.05S×101.16E, h0^{km}, mb3.5/6, mb1 3.7/6, mb1mx3.6/18, mbtmp3.6/6, MS3.9/1, Ms1 3.9/1, ms1mx3.0/26, Error ellipse: s-maj=96.3km s-min=21.0km az=59.0*
*ISCJB **02** 16:34:40.9±1.0, 3.9S±0.1×101.5E±0.2, h33^{km}, mb3.6/6, Error ellipse: s-maj=33.7km s-min=14.9km az=156.2*
*NEIC **02** 16:34:42.7±1.0, 3.85S×101.44E, h35^{km}, Error ellipse: s-maj=38.3km s-min=14.8km az=62.0*
ISC 02 16:34:43.2±1.0**, 3.9S**±0.1×**101.5E**±0.2**, h35**^{km}**, n11, σ0^{s}70**/8**, mb3.6**/6**, Southern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**22.34**	**354**	P	**P**	**16 39 39.2**	**+1.0**
	1.4nm,0.8s,mb3.4,baz=187,slow=7.8,SNR=8.4						
WRA	**Warramunga Arr**	**35.78**	**119**	P	**P**	**16 41 38.9**	**-0.5**
	0.2nm,0.6s,mb3.3,baz=306,slow=8.8,SNR=5.7						
WB2	**Warramunga Arr**	**35.79**	**119**	eP	**P**	**16 41 39.0**	**-0.4**
ASAR	**Alice Springs**	**36.96**	**125**	P	**P**	**16 41 50.2**	**+0.8**
	0.4nm,0.9s,mb3.2,baz=296,slow=8.3,SNR=3.5						
CTA	**Charters Tower**	**46.48**	**114**	LR	LR	17 02 31.8	
	comp=Z,129nm,19.8s,baz=229,slow=36						
KSRS	**Korea Array**	**47.93**	**29**	P	**P**	**16 43 18.4**	**+0.1**
	0.8nm,0.9s,mb3.8,baz=213,slow=9.2,SNR=5.4						
SONM	**Songino Array**	**51.69**	**4**	P	**P**	**16 43 46.7**	**0.0**
	1.0nm,0.7s,mb3.8,baz=183,slow=9.0,SNR=9.6						
MKAR	**Makanchi Array**	**53.24**	**344**	P	**P**	**16 43 56.9**	**-1.3**
	0.9nm,0.7s,mb3.8,baz=155,slow=8.8,SNR=6.4						
MKAR				pP	pP	16 44 04.8	-4.0
	0.4nm,0.5s,baz=153,slow=9.2,SNR=4.6						
MAW	**Mawson**	**68.84**	**195**	eP	**P**	**16 45 44.1**	**+0.3**
	12nm,0.8s						
TXAR	**Lajitas Array**	**145.24**	**41**	PKPbc	PKPbc	16 54 16.8	-0.9
	1.0nm,1.0s,baz=267,slow=2.5,SNR=5.7						
TXAR				pPKPbc	pPKPbc	16 54 24.8	-4.2
	0.4nm,0.6s,baz=305,slow=0.5,SNR=5.1						
TXAR	**Lajitas Array**	**145.24**	**41**	PKPbc	PKPbc	16 54 16.8	-0.9
TXAR				pPKPbc	pPKPbc	16 54 24.8	-4.2

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*ISCJB **02** 16:34:43.9±1.0, 57.54N±0.03×33.09W±0.02, h4^{km}±6^{km}, mb4.8/207, MS4.6/59, Error ellipse: s-maj=4.6km s-min=1.7km az=9.8*
*IDC **02** 16:34:44.6±0.5, 57.48N×33.06W, h0^{km}, mb4.4/27, mb1 4.5/30, mb1mx4.5/33, mbtmp4.4/30, ML3.7/3, MS4.6/28, Ms1 4.6/28, ms1mx4.4/39, Error ellipse: s-maj=15.0km s-min=10.3km az=1.0*
*MOS **02** 16:34:44.8±0.8, 57.52N×33.05W, h10^{km}, mb5.1/95, MS4.7/31, Error ellipse: s-maj=6.5km s-min=5.2km az=11.7*
*CSEM **02** 16:34:45.2±0.0, 57.50N×33.05W, h16^{km}, mb5.0/99, Ms4.7, Mw5.3, Error ellipse: s-maj=1.9km s-min=0.9km az=7.0*
*NEIC **02** 16:34:46.6±0.1, 57.49N×33.03W, h10^{km}, mb5.0/149, MS4.8/14, Error ellipse: s-maj=4.1km s-min=1.7km az=194.0*
*GCMT **02** 16:34:46.6±0.1, 57.51N×32.96W, h12^{km}, MW5.3/98, Moment Tensor Solution. s54,c63; s98,c179; Duration: 1^{s}0 Moment tensor: Scale 10^{17}Nm; M_{rr}-0.96±.02; $M_{\theta\theta}$0.11±.02; $M_{\phi\phi}$0.84±.01; $M_{r\theta}$0.07±.06; $M_{\theta\phi}$0.28±.01; $M_{\phi r}$0.19±.05; Best double couple: $M_0$0.97200×10^{17} NP1:ϕ_s19.00000°, δ39.00000°, λ-90.00000°. NP2: ϕ_s199.00000°, δ51.00000°, λ-90.00000°. Principal axes: T 0.9660, Plg6.0000°, Azm289.0000°; N 0.0110, Plg0.0000°, Azm19.0000°; P -0.9770, Plg84.0000°, Azm111.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*PDA **02** 16:34:46.5, 57.49N×32.99W, h10^{km}, mb5.0*
*BJI **02** 16:34:47.3, 58.28N×32.59W, h6^{km}, mB5.3, mb5.0, Ms5.0, Msz4.7*
*SZGRF **02** 16:34:48.7, 57.39N×33.44W, h33^{km}, mb4.9, MS4.6, Reykjanes Ridge*
*REY **02** 16:35:27.2, 59.37N×28.25W, h11^{km}, ML3.9, ML3.2*
ISC 02 16:34:46.3±1.0**, 57.52N**±0.03×**33.05W**±0.02**, h7**^{km}±6^{km}**, h16**^{km}±.4^{km}**:pP-P, n909, σ0^{s}76**/915**, mb4.8**/207**, MS4.6**/59**, 183C-130D, Reykjanes Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IVOS	**Vogsosar**	**8.44**	**36**	P	**Pn**	**16 36 50.1**	**+1.3**
IKAS	**Kald??rsel**	**8.51**	**35**	P	**Pn**	**16 36 51.0**	**+1.2**
ISAN	**Sandskeio**	**8.62**	**36**	P	**Pn**	**16 36 52.7**	**+1.4**
IBJA	**Bjarnastaoir**	**8.63**	**37**	P	**Pn**	**16 36 52.8**	**+1.4**
IKUD	**Kuludalsa**	**8.72**	**34**	P	**Pn**	**16 36 55.2**	**+2.6**
ISOL	**Solvholt**	**8.74**	**38**	P	**Pn**	**16 36 54.1**	**+1.2**
IKRO	**Krokur**	**8.79**	**36**	P	**Pn**	**16 36 55.2**	**+1.5**
IHEI	**Heioarbar**	**8.83**	**36**	P	**Pn**	**16 36 56.3**	**+2.2**
BORG	**Borgarnes**	**9.19**	**33**	ePn	**Pn**	**16 37 00.8**	**+1.7**
BORG	**Borgarnes**	**9.19**	**33**	ePn	**Pn**	**16 37 00.8**	**+1.7**
SFJD	**Kangerlussuaq**	**12.49**	**327**	Pn	**Pn**	**16 37 44.8**	**+0.6**
	0.8nm,0.3s,baz=133,slow=9.2,SNR=3.6						
SFJD				LR	LR	16 41 47.4	
	comp=Z,5μm,19.5s,baz=114,slow=34						
SFJD	**Kangerlussuaq**	**12.49**	**327**	eP	**Pn**	**16 37 46.2**	**+2.0**
SFJD				pmax	pmax		
	comp=Z,60nm,1.2s						
SFJD				MLR	MLR		
	comp=Z,3μm,16.0s						
SFJD	**Kangerlussuaq**	**12.49**	**327**	i P	**Pn**	**16 37 46.2**	**+2.0**
	comp=Z,60nm,1.2s						
SFJD							
	comp=Z,3μm,16.0s						
SFJD	**Kangerlussuaq**	**12.49**	**327**	eP	**Pn**	**16 37 46.2**	**+2.0**
	comp=Z,60nm,1.2s						
SUMG	**Summit**	**15.28**	**354**	eP	**Pn**	**16 38 21.5**	**-0.6**
	comp=Z,23nm,1.2s						
SUMG	**Summit**	**15.28**	**354**	eP	**Pn**	**16 38 21.5**	**-0.6**
	comp=Z,23nm,1.2s						
DSB	**Dublin**	**15.70**	**94**	eP	**Pn**	**16 38 29.0**	**+1.3**
	comp=Z,111nm,1.8s						
DSB	**Dublin**	**15.70**	**94**	eP	**Pn**	**16 38 29.0**	**+1.3**
	comp=Z,111nm,1.8s						
ESK	**Eskdalemuir**	**16.59**	**85**	P	**Pn**	**16 38 40.7**	**+1.5**
	comp=Z,268nm,2.1s,SNR=5.3						
ESK	**Eskdalemuir**	**16.59**	**85**	eP	**Pn**	**16 38 38.8**	**-0.4**
ESK				pmax	pmax		
	comp=Z,305nm,1.9s						
ESK	**Eskdalemuir**	**16.59**	**85**	eP	**Pn**	**16 38 38.8**	**-0.4**
	comp=Z,305nm,1.9s						
ESK	**Eskdalemuir**	**16.59**	**85**	eP	**Pn**	**16 38 38.8**	**-0.4**
	comp=Z,305nm,1.9s						
EKA	**Eskdalemuir Ar**	**16.61**	**85**	Pn	**Pn**	**16 38 39.4**	**0.0**
	comp=Z,0.3nm,0.3s,baz=292,slow=10,SNR=12						
JMIC	**Jan Mayen**	**17.00**	**28**	LR	LR	16 43 15.6	
	comp=Z,355nm,18.7s,baz=255,slow=30						
SCHQ	**Schefferville**	**18.88**	**276**	P	**Pn**	**16 39 07.0**	**-0.4**
	comp=Z,0.8nm,0.3s,baz=68,slow=10,SNR=18						
SCHQ				LR	LR	16 45 16.1	
	comp=Z,5μm,18.8s,baz=78,slow=33						
SCHQ	**Schefferville**	**18.88**	**276**	eP	**Pn**	**16 39 08.4**	**+0.9**
	comp=Z,204nm,1.4s						
SCHQ	**Schefferville**	**18.88**	**276**	eP	**Pn**	**16 39 08.4**	**+1.0**
	comp=Z,204nm,1.4s						
DAG	**Danmarks Havn**	**20.01**	**10**	eP	**P**	**16 39 22.0**	**+2.9**
DAG				pmax	pmax		
	comp=Z,13nm,0.9s						
DAG	**Danmarks Havn**	**20.01**	**10**	i P	**P**	**16 39 22.0**	**+2.9**
	comp=Z,13nm,0.9s						
DAG	**Danmarks Havn**	**20.01**	**10**	eP	**P**	**16 39 22.0**	**+2.9**
	comp=Z,13nm,0.9s						
ROSF	**Rostrenen**	**20.02**	**104**	eP	**P**	**16 39 20.8**	**+1.5**
	comp=Z,373nm,1.9s						
ROSF	**Rostrenen**	**20.02**	**104**	eP	**P**	**16 39 20.8**	**+1.5**
ROSF				pmax	pmax		
	comp=Z,186nm,1.9s						
ROSF	**Rostrenen**	**20.02**	**104**	eP	**P**	**16 39 20.8**	**+1.5**
	comp=Z,186nm,1.9s						
QUIF	**Quistinic**	**20.34**	**105**	eP	**P**	**16 39 22.9**	**+0.1**
	comp=Z,260nm,1.7s						
QUIF	**Quistinic**	**20.34**	**105**	eP	**P**	**16 39 22.9**	**+0.1**
QUIF				pmax	pmax		
	comp=Z,130nm,1.7s						
QUIF	**Quistinic**	**20.34**	**105**	eP	**P**	**16 39 22.9**	**+0.1**
	comp=Z,130nm,1.7s						
SGMF	**Saint Gilles**	**20.44**	**104**	eP	**P**	**16 39 23.9**	**-0.1**
	comp=Z,203nm,1.6s						
SGMF	**Saint Gilles**	**20.44**	**104**	eP	**P**	**16 39 23.9**	**-0.1**
SGMF				pmax	pmax		
	comp=Z,102nm,1.6s						
SGMF	**Saint Gilles**	**20.44**	**104**	eP	**P**	**16 39 23.9**	**-0.1**
	comp=Z,102nm,1.6s						
EMAZ	**Mazaricos**	**21.04**	**123**	P	**P**	**16 39 29.5**	**-1.0**
	comp=Z,149nm,1.8s,mb5.0						
EMAZ	**Mazaricos**	**21.04**	**123**	P	**P**	**16 39 29.5**	**-1.0**
	comp=Z,149nm,1.8s,mb5.0						
FLN	**La Foliniere**	**21.23**	**100**	eP	**P**	**16 39 32.3**	**-0.2**
	comp=Z,574nm,1.7s,mb5.3						
FLN				eMLR	MLR		
	comp=Z,3μm,17.2s,MS4.4						
FLN	**La Foliniere**	**21.23**	**100**	eP	**P**	**16 39 32.3**	**-0.2**
FLN				pmax	pmax		
	comp=Z,287nm,1.7s,mb5.3						
FLN				MLR	MLR		
	comp=Z,3μm,17.3s,MS4.7						
FLN	**La Foliniere**	**21.23**	**100**	eP	**P**	**16 39 32.3**	**-0.2**
	comp=Z,287nm,1.7s,mb5.3						
FLN				LR	LR		
	comp=Z,3μm,17.3s,MS4.7						
GRR	**Gorron**	**21.25**	**102**	eP	**P**	**16 39 32.6**	**-0.2**
	comp=Z,610nm,1.7s,mb5.3						
GRR	**Gorron**	**21.25**	**102**	eP	**P**	**16 39 32.6**	**-0.2**
GRR				pmax	pmax		
	comp=Z,305nm,1.7s,mb5.3						
GRR	**Gorron**	**21.25**	**102**	eP	**P**	**16 39 32.6**	**-0.2**
	comp=Z,305nm,1.7s,mb5.3						
STS	**Santiago**	**21.29**	**123**	P	**P**	**16 39 33.1**	**0.0**
STS				pmax	pmax		
	comp=Z,10.0nm,0.7s,mb4.2						
STS	**Santiago**	**21.29**	**123**	P	**P**	**16 39 33.1**	**0.0**
	comp=Z,10nm,0.7s,mb4.3						
LDF	**La Druitiere**	**21.52**	**100**	eP	**P**	**16 39 35.6**	**0.0**
	comp=Z,757nm,1.9s,mb5.5						
LDF	**La Druitiere**	**21.52**	**100**	eP	**P**	**16 39 35.6**	**0.0**
LDF				pmax	pmax		
	comp=Z,379nm,1.9s,mb5.5						
LDF	**La Druitiere**	**21.52**	**100**	eP	**P**	**16 39 35.6**	**0.0**
	comp=Z,378nm,1.9s,mb5.5						
EPON	**Pontenova**	**21.59**	**120**	P	**P**	**16 39 34.9**	**-1.5**
	comp=Z,712nm,3.0s						
EPON	**Pontenova**	**21.59**	**120**	P	**P**	**16 39 34.9**	**-1.5**
	comp=Z,712nm,3.0s						
KONO	**Kongsberg**	**22.05**	**66**	⇑eP	**P**	**16 39 41.5**	**+0.2**

ELOB Lobios 22.31 124 P **P** **16 39 43.3 -0.9**
comp=Z,91nm,2.2s,mb4.8
ELOB Lobios 22.31 124 P **P** **16 39 43.3 -0.8**
comp=Z,91nm,2.2s,mb4.8
ERUA La Rua 22.32 122 P **P** **16 39 42.8 -1.4**
ERUA pmax pmax
comp=Z,98nm,1.6s,mb5.0
ERUA La Rua 22.32 122 P **P** **16 39 42.8 -1.4**
comp=Z,98nm,1.6s,mb5.0
ERUA La Rua 22.32 122 P **P** **16 39 42.8 -1.4**
comp=Z,98nm,1.6s,mb5.0
NAO01 NORSAR Array S 22.43 63 *e*P **P** **16 39 42.1 -3.1**
comp=Z,118nm,1.8s,mb5.0
PCAB Cabril 22.45 124 *e*P **P** **16 39 46.4 +0.7**
EARI Arriondas 22.53 117 P **P** **16 39 45.8 -0.6**
comp=Z,340nm,1.8s,mb5.5
EARI Arriondas 22.53 117 P **P** **16 39 45.8 -0.7**
comp=Z,340nm,1.8s,mb5.5
NB2 NORSAR Subarra 22.55 62 P **P** **16 39 47.0 +0.5**
comp=Z,8.0nm,1.0s,mb4.1,baz=258,slow=9.3
NOA NORSAR Array B 22.55 62 P **P** **16 39 46.0 -0.6**
comp=Z,9.9nm,1.0s,mb4.2,baz=280,slow=9.6,SNR=6.8
NOA LR LR 16 47 20.6
comp=Z,967nm,20.3s,MS4.2,baz=285,slow=34
NOA NORSAR Array B 22.55 62 P **P** **16 39 46.0 -0.6**
NOA LR LR 16 47 20.6
UCC Uccle 22.68 91 P **P** **16 39 46.6 -1.4**
comp=Z,43nm,1.6s,mb4.6
MFF Saint Martin d 22.75 104 *e*P **P** **16 39 48.1 -0.7**
comp=Z,258nm,1.9s,mb5.0
MFF Saint Martin d 22.75 104 *e*P **P** **16 39 48.1 -0.7**
MFF pmax pmax
comp=Z,129nm,1.9s,mb5.0
MFF Saint Martin d 22.75 104 *e*P **P** **16 39 48.1 -0.7**
comp=Z,129nm,1.9s,mb5.0
MUD Monsted U'grnd 22.77 75⇑ *i*P **P** **16 39 48.3 -0.5**
MUD pmax pmax
comp=Z,53nm,1.3s,mb4.8
MUD MLR MLR
comp=Z,2µm,19.0s,MS4.5
MUD Monsted U'grnd 22.77 75⇑ *i*P **P** **16 39 48.3 -0.5**
comp=Z,53nm,1.3s,mb4.8
MUD *i* S **S** **16 44 00.1 +2.1**
MUD
comp=Z,2µm,19.0s
MUD Monsted U'grnd 22.77 75⇑ *i*P **P** **16 39 48.3 -0.5**
comp=Z,53nm,1.3s,mb4.8
MUD *i* S **S** **16 44 00.1 +2.1**
SNF Seneffe 22.79 92 P **P** **16 39 49.0 -0.2**
ECAL Calabor 22.86 122 P **P** **16 39 49.0 -0.9**
comp=Z,216nm,1.9s,mb5.3
ECAL Calabor 22.86 122 P **P** **16 39 49.0 -0.9**
comp=Z,216nm,1.9s,mb5.3
PBRG Braganca 22.96 122 *e*P **P** **16 39 53.1 +2.1**
BAIF Baives 23.00 93 *e*P **P** **16 39 50.6 -0.7**
comp=Z,134nm,1.5s,mb4.8
BAIF Baives 23.00 93 *e*P **P** **16 39 50.6 -0.7**
BAIF pmax pmax
comp=Z,67nm,1.5s,mb4.8
BAIF Baives 23.00 93 *e*P **P** **16 39 50.6 -0.7**
comp=Z,67nm,1.5s,mb4.8
DOU Dourbes 23.18 92 P **P** **16 39 51.8 -1.5**
comp=Z,37nm,2.4s,mb4.4
GIVF Givet 23.30 92 *e*P **P** **16 39 53.7 -0.9**
comp=Z,200nm,1.8s,mb5.0
GIVF Givet 23.30 92 *e*P **P** **16 39 53.7 -0.9**
GIVF pmax pmax
comp=Z,100nm,1.8s,mb4.9
GIVF Givet 23.30 92 *e*P **P** **16 39 53.7 -0.9**
comp=Z,100nm,1.8s,mb5.0
PVIS Viseu 23.32 125 *e*P **P** **16 39 56.4 +1.6**
MVO Moncorvo 23.34 123 *e*P **P** **16 39 57.5 +2.5**
MVO *e*S **S** **16 44 12.3 +4.7**
MVO *e*LQ 16 45 15.1
MVO *e*LR LR 16 45 35.3
comp=Z,3µm,20.2s
BCLA Clavier 23.39 91 P **P** **16 39 55.5 0.0**
comp=Z,24nm,1.9s,mb4.3
BEBN Eben Emael 23.39 90 P **P** **16 39 54.3 -1.2**
comp=Z,15nm,2.2s,mb4.0
ELAN Lanestosa 23.44 115 P **P** **16 39 57.7 +1.6**
comp=Z,352nm,3.1s
MEM Membach 23.67 90 P **P** **16 39 57.2 -1.1**
comp=Z,33nm,2.0s,mb4.4
MTE Manteigas 23.73 125 *e*P **P** **16 39 58.6 -0.3**
MTE *e*S **S** **16 44 16.2 +2.3**
MTE *e*LQ 16 45 13.3
MTE *e*LR LR 16 45 44.1
comp=Z,3µm,19.6s
MTE Manteigas 23.73 125 *e*P **P** **16 39 58.6 -0.2**
comp=Z,29nm,1.1s,mb4.6
IBBN Ibbenburen 23.75 85 *e*P **P** **16 39 59.1 +0.1**
comp=Z,121nm,1.7s,mb5.0
HYF Humbligny 23.80 100 *e*P **P** **16 39 58.8 -0.7**
BUG Bochum--Univer 23.92 87 *e*P **P** **16 40 00.0 -0.5**
comp=Z,81nm,2.0s,mb4.8
HFS Hagfors 23.94 64 P **P** **16 40 00.3 -0.4**
comp=Z,18nm,1.0s,mb4.5,baz=284,slow=6.0,SNR=18
HFS LR LR 16 48 02.6
comp=Z,1µm,20.6s,MS4.3,baz=281,slow=33
PTOM Tomar 24.00 128 *e*P **P** **16 40 02.4 +1.1**
TCF Toulx Ste Croi 24.20 102 *e*P **P** **16 40 02.9 -0.2**
comp=Z,227nm,1.8s,mb5.0
TCF Toulx Ste Croi 24.20 102 *e*P **P** **16 40 02.9 -0.2**
TCF pmax pmax
comp=Z,114nm,1.8s,mb5.0
TCF Toulx Ste Croi 24.20 102 *e*P **P** **16 40 02.9 -0.2**
comp=Z,114nm,1.8s,mb5.0
PCBR Castelo Branco 24.22 126 *e*P **P** **16 40 03.8 +0.5**
WLF Walferdange 24.26 92 P **P** **16 40 04.2 +0.5**
comp=Z,26nm,2.4s,mb4.2
WLF Walferdange 24.26 92 *e*P **P** **16 40 04.0 +0.3**
comp=Z,85nm,2.0s,mb4.8
LFF La Frestale 24.33 107 *e*P **P** **16 40 04.5 +0.2**
comp=Z,309nm,1.9s,mb5.1
LFF La Frestale 24.33 107 *e*P **P** **16 40 04.5 +0.2**
LFF pmax pmax
comp=Z,155nm,1.9s,mb5.1
LFF La Frestale 24.33 107 *e*P **P** **16 40 04.5 +0.2**
comp=Z,155nm,1.9s,mb5.1
MEZF Maizieres J'vi 24.34 95 *e*P **P** **16 40 04.2 -0.2**
comp=Z,392nm,1.7s,mb5.2
MEZF Maizieres J'vi 24.34 95 *e*P **P** **16 40 04.2 -0.2**
comp=Z,196nm,1.7s,mb5.2
BGF Bois d'Agland 24.36 101 *e*P **P** **16 40 04.0 -0.6**
BSEG Bad Segeberg 24.37 80 *e*P **P** **16 40 04.9 +0.3**
BSEG pmax pmax
comp=Z,155nm,2.2s,mb5.0
BSEG Bad Segeberg 24.37 80 *e*P **P** **16 40 04.9 +0.3**
comp=Z,155nm,2.2s,mb5.0
SSF Saint Saulge 24.39 100 *e*P **P** **16 40 04.1 -0.8**
comp=Z,171nm,1.6s,mb4.9
SSF Saint Saulge 24.39 100 *e*P **P** **16 40 04.1 -0.8**
SSF pmax pmax
comp=Z,86nm,1.6s,mb4.9
SSF Saint Saulge 24.39 100 *e*P **P** **16 40 04.1 -0.8**
comp=Z,86nm,1.6s,mb4.9
EALK Alkurruntz 24.40 112 P **P** **16 40 05.7 +0.7**
comp=Z,155nm,2.1s,mb5.1
EALK Alkurruntz 24.40 112 P **P** **16 40 05.7 +0.7**
comp=Z,155nm,2.1s,mb5.1
ELIZ Elizondo 24.43 112 P **P** **16 40 06.3 +1.0**
ELIZ pmax pmax
comp=Z,2.0nm,0.4s,mb3.9
ELIZ Elizondo 24.43 112 P **P** **16 40 06.3 +1.0**
comp=Z,1.9nm,0.4s,mb3.9
ELIZ Elizondo 24.43 112 P **P** **16 40 06.3 +1.0**
comp=Z,1.9nm,0.4s,mb3.9
LOR Lormes 24.45 99 *e*P **P** **16 40 04.8 -0.6**
comp=Z,272nm,1.8s,mb5.1
LOR *e*MLR MLR
comp=Z,2µm,21.0s,MS4.4
LOR Lormes 24.45 99 *e*P **P** **16 40 04.8 -0.6**
LOR pmax pmax
comp=Z,136nm,1.8s,mb5.1
LOR MLR MLR
comp=Z,2µm,21.0s,MS4.7
LOR Lormes 24.45 99 *e*P **P** **16 40 04.8 -0.6**
comp=Z,136nm,1.8s,mb5.1
LOR LR LR
comp=Z,2µm,21.0s,MS4.7
AVF Avril sur Loir 24.48 100 *e*P **P** **16 40 05.1 -0.6**
comp=Z,189nm,1.7s,mb5.0
AVF Avril sur Loir 24.48 100 *e*P **P** **16 40 05.1 -0.6**
AVF pmax pmax
comp=Z,94nm,1.7s,mb4.9
AVF Avril sur Loir 24.48 100 *e*P **P** **16 40 05.1 -0.6**
comp=Z,94nm,1.7s,mb5.0
RJF Les Rejaudoux 24.48 105 *e*P **P** **16 40 05.8 +0.1**
comp=Z,155nm,1.8s,mb4.8
RJF *e*MLR MLR
comp=Z,7µm,19.2s,MS4.9
RJF Les Rejaudoux 24.48 105 *e*P **P** **16 40 05.8 +0.1**
RJF pmax pmax
comp=Z,78nm,1.8s,mb4.8
RJF MLR MLR
comp=Z,7µm,19.3s,MS5.2
RJF Les Rejaudoux 24.48 105 *e*P **P** **16 40 05.8 +0.1**
comp=Z,78nm,1.8s,mb4.8
RJF LR LR
comp=Z,7µm,19.3s,MS5.2
PMRV Marv??o 24.59 126 *e*P **P** **16 40 08.4 +1.6**
PMRV *e*LQ 16 45 47.9
PMRV *e*LR LR 16 46 06.2
comp=Z,2µm,19.9s
SJPF Ste Jean 24.62 112 *e*P **P** **16 40 07.1 +0.1**
comp=Z,77nm,1.5s,mb4.7
SJPF Ste Jean 24.62 112 *e*P **P** **16 40 07.1 +0.1**
SJPF pmax pmax
comp=Z,39nm,1.5s,mb4.7
SJPF Ste Jean 24.62 112 *e*P **P** **16 40 07.1 +0.1**
comp=Z,39nm,1.5s,mb4.7
RUP Ruppelstein 24.73 91 *e*P **P** **16 40 07.8 -0.2**
COP Copenhagen 24.75 75⇑ *i*P **P** **16 40 07.4 -0.7**
COP pmax pmax
comp=Z,21nm,1.2s,mb4.5
COP MLR MLR
comp=Z,950nm,20.0s,MS4.3
COP Copenhagen 24.75 75⇑ *i*P **P** **16 40 07.4 -0.7**
comp=Z,21nm,1.2s,mb4.5
COP *e*S **S** **16 44 41.3 +11**
COP *i* S **S** **16 44 44.4 +14**
COP
comp=Z,940nm,20.0s
SMF Signal de Mont 24.83 100 *e*P **P** **16 40 08.9 0.0**
comp=Z,187nm,1.5s,mb5.1
SMF Signal de Mont 24.83 100 *e*P **P** **16 40 08.9 0.0**
SMF pmax pmax
comp=Z,93nm,1.5s,mb5.1
SMF Signal de Mont 24.83 100 *e*P **P** **16 40 08.9 0.0**
comp=Z,93nm,1.5s,mb5.1
AGO Saint Agoulin 24.84 102 *e*P **P** **16 40 09.7 +0.8**
ABH Alteburg 24.90 90 *e*P **P** **16 40 09.0 -0.4**
NRDL Niedersach Rie 24.92 83 *e*P **P** **16 40 09.4 -0.3**
comp=Z,30nm,1.2s,mb4.7
PYM Petit Puy Mans 24.97 102 *e*P **P** **16 40 09.7 -0.4**
PESTR Estremoz 24.97 127 *e*P **P** **16 40 11.3 +1.1**
PESTR *e*LR LR 16 46 20.6
comp=Z,2µm,18.9s
THEF They Montfort 25.00 95 *e*P **P** **16 40 08.7 -1.7**
CAF Calviac 25.03 105 *e*P **P** **16 40 09.5 -1.2**
comp=Z,48nm,1.5s,mb4.5
CAF Calviac 25.03 105 *e*P **P** **16 40 09.5 -1.2**
CAF pmax pmax
comp=Z,24nm,1.5s,mb4.5
CAF Calviac 25.03 105 *e*P **P** **16 40 09.5 -1.2**
comp=Z,24nm,1.5s,mb4.5
EVOP Sa Brissos 25.03 129 *e*P **P** **16 40 10.1 -0.7**
comp=Z,84nm,1.8s,mb5.0
EVO Evora 25.07 128 *e*P **P** **16 40 10.1 -1.1**
comp=Z,168nm,1.8s,mb5.0
EVO *e*MLR MLR
comp=Z,4µm,21.5s,MS4.6
EVO Evora 25.07 128 *e*P **P** **16 40 13.0 +1.8**
GUD Guadarrama 25.08 120 P **P** **16 40 11.0 -0.2**
GUD pmax pmax
comp=Z,55nm,1.2s,mb5.0
GUD Guadarrama 25.08 120 P **P** **16 40 11.0 -0.2**
comp=Z,55nm,1.2s,mb5.0
ETSF Etsaut 25.11 112 *e*P **P** **16 40 11.3 -0.2**
comp=Z,74nm,1.6s,mb4.7
ETSF Etsaut 25.11 112 *e*P **P** **16 40 11.3 -0.2**
ETSF pmax pmax
comp=Z,37nm,1.6s,mb4.7
ETSF Etsaut 25.11 112 *e*P **P** **16 40 11.3 -0.2**
comp=Z,37nm,1.6s,mb4.7
PLDF La Plantade 25.15 101 *e*P **P** **16 40 11.3 -0.5**
TNS Taunus Mts 25.20 89 *e*P **P** **16 40 12.5 +0.3**
TNS pmax pmax
comp=Z,33nm,1.5s,mb4.6
TNS Taunus Mts 25.20 89 *e*P **P** **16 40 12.5 +0.3**
comp=Z,33nm,1.5s,mb4.6
EBAD Badajoz 25.32 127 P **P** **16 40 12.1 -1.2**
comp=Z,52nm,1.1s,mb5.0
EBAD Badajoz 25.32 127 P **P** **16 40 12.1 -1.3**
comp=Z,52nm,1.1s,mb5.0
HAU Haudompre 25.33 95 *e*P **P** **16 40 12.8 -0.6**
comp=Z,154nm,1.6s,mb5.0
HAU *e*MLR MLR
comp=Z,5µm,19.2s,MS4.8
HAU Haudompre 25.33 95 *e*P **P** **16 40 12.8 -0.6**
HAU pmax pmax
comp=Z,77nm,1.5s,mb5.0
HAU MLR MLR
comp=Z,5µm,19.3s,MS5.1
HAU Haudompre 25.33 95 *e*P **P** **16 40 12.8 -0.6**
comp=Z,77nm,1.5s,mb5.0
HAU LR LR
comp=Z,5µm,19.3s,MS5.1
CLZ Clausthal 25.39 84 *e*P **P** **16 40 12.5 -1.4**
CLZ pmax pmax
comp=Z,101nm,2.0s,mb5.0
CLZ Clausthal 25.39 84 *e*P **P** **16 40 12.5 -1.4**
comp=Z,101nm,2.0s,mb5.0
PKME Peaks-Kenny Pk 25.39 257 *e*P **P** **16 40 13.7 -0.3**
comp=Z,63nm,1.1s,mb5.1
PKME Peaks-Kenny Pk 25.39 257 *e*P **P** **16 40 13.7 -0.3**
comp=Z,63nm,1.1s,mb5.1
VIEF Viey 25.41 111 *e*P **P** **16 40 14.6 +0.4**
EPF Esparros 25.47 110 *e*P **P** **16 40 13.5 -1.2**
comp=Z,67nm,1.6s,mb4.6
EPF Esparros 25.47 110 *e*P **P** **16 40 13.5 -1.2**
EPF pmax pmax
comp=Z,33nm,1.6s,mb4.6
EPF Esparros 25.47 110 *e*P **P** **16 40 13.5 -1.2**
comp=Z,33nm,1.6s,mb4.6
KTD Kalmit 25.50 91 *e*P **P** **16 40 14.4 -0.5**
LANF Langenberg 25.54 92 *e*P **P** **16 40 14.6 -0.7**
PBEJ Beja 25.56 129 *e*P **P** **16 40 16.5 +0.9**
CDF Champ du Feu 25.59 93 *e*P **P** **16 40 15.3 -0.4**
comp=Z,225nm,1.8s,mb5.1
CDF Champ du Feu 25.59 93 *e*P **P** **16 40 15.3 -0.4**
CDF pmax pmax
comp=Z,112nm,1.8s,mb5.1
CDF Champ du Feu 25.59 93 *e*P **P** **16 40 15.3 -0.4**
comp=Z,112nm,1.8s,mb5.1
EBIE Bielsa 25.62 111 P **P** **16 40 17.4 +1.3**
comp=Z,69nm,1.5s,mb5.0
EBIE Bielsa 25.62 111 P **P** **16 40 17.4 +1.3**
comp=Z,69nm,1.5s,mb5.0
RESF Ens 25.63 111 *e*P **P** **16 40 17.1 +0.9**
ECH Echery 25.64 94 *e*P **P** **16 40 14.7 -1.5**
UBBA Unterbreizbach 25.71 86 *e*P **P** **16 40 16.5 -0.4**
comp=Z,29nm,1.7s,mb4.5
HINF Hinteralfeld 25.72 95 *e*P **P** **16 40 16.5 -0.4**
comp=Z,241nm,1.9s,mb5.1
HINF Hinteralfeld 25.72 95 *e*P **P** **16 40 16.5 -0.4**
HINF pmax pmax
comp=Z,121nm,1.9s,mb5.1
HINF Hinteralfeld 25.72 95 *e*P **P** **16 40 16.5 -0.4**
comp=Z,121nm,1.9s,mb5.1
TOD Tromm 25.73 90 *e*P **P** **16 40 15.7 -1.3**
PBAR Barrancos 25.79 127 *e*P **P** **16 40 19.1 +1.5**
PBAR *e*S **S** **16 44 50.4 +3.4**
PBAR *e*LQ 16 46 02.6
PBAR *e*LR LR 16 46 46.6
comp=Z,2µm,20.0s
MOF Molkenrain 25.84 95 *e*P **P** **16 40 19.1 +1.0**
MORF Marmelete 25.85 131 *e*P **P** **16 40 18.8 +0.6**
MORF *e*LR LR 16 46 53.2
comp=Z,2µm,20.2s
PAB San Pablo 25.86 122 *e*P **P** **16 40 18.4 +0.1**
PAB pmax pmax
comp=Z,21nm,1.1s,mb4.6
PAB San Pablo 25.86 122 *e*P **P** **16 40 18.4 +0.1**
comp=Z,22nm,1.1s,mb4.6
PAB San Pablo 25.86 122 *e*P **P** **16 40 18.4 +0.1**
comp=Z,22nm,1.1s,mb4.6
MLS Moulis 25.90 109 *e*P **P** **16 40 18.2 -0.5**
LIBD Limburg 25.92 94 *e*P **P** **16 40 19.7 +1.0**
PFVI Vila Bisbo 25.93 131 *e*LR LR 16 46 45.5
comp=Z,1µm,20.0s
ESDC Sonseca Array 25.93 121 P **P** **16 40 19.0 +0.1**
comp=Z,6.2nm,0.8s,mb4.2,baz=322,slow=7.7,SNR=19
ESDC LR LR 16 48 48.1
comp=Z,1µm,18.6s,MS4.5,baz=305,slow=32
ESDC Sonseca Array 25.93 121 P **P** **16 40 19.5 +0.6**
comp=Z,7.9nm,0.9s,mb4.2
ESDC Sonseca Array 25.93 121 P **P** **16 40 19.5 +0.5**
comp=Z,7.9nm,0.9s,mb4.2
ESLA Sonseca Array 25.93 121 *e*P **P** **16 40 17.6 -1.3**
comp=Z,15nm,1.4s,mb4.3
ESLA Sonseca Array 25.93 121 *e*P **P** **16 40 17.6 -1.3**
comp=Z,15nm,1.4s,mb4.3
ETOR Torete 25.94 117 P **P** **16 40 18.9 -0.1**
ETOR pmax pmax
comp=Z,16nm,1.3s,mb4.4
ETOR Torete 25.94 117 P **P** **16 40 18.9 -0.1**
comp=Z,16nm,1.3s,mb4.4
ETOR Torete 25.94 117 P **P** **16 40 18.9 -0.1**
comp=Z,16nm,1.3s,mb4.4
LOMF Lomont 25.98 96 *e*P **P** **16 40 19.6 +0.2**
ESAC San Caprasio 26.03 113 P **P** **16 40 20.4 +0.6**
comp=Z,292nm,2.6s,mb5.3
ESAC San Caprasio 26.03 113 P **P** **16 40 20.4 +0.7**
comp=Z,292nm,2.6s,mb5.3
CABF La Chapelle 26.05 98 *e*P **P** **16 40 19.6 -0.3**
comp=Z,136nm,1.5s,mb5.0
CABF La Chapelle 26.05 98 *e*P **P** **16 40 19.6 -0.3**
CABF pmax pmax
comp=Z,68nm,1.5s,mb5.0
CABF La Chapelle 26.05 98 *e*P **P** **16 40 19.6 -0.3**
comp=Z,68nm,1.5s,mb5.0
PVAQ Vaqueiros 26.15 129 *e*S **S** **16 44 56.3 +3.6**
PVAQ *e*LR LR 16 46 55.3
comp=Z,3µm,20.0s
PBDV Barranco-do-Ve 26.20 130 *e*S **S** **16 45 00.3 +6.8**
PBDV *e*LR LR 16 47 04.5
comp=Z,3µm,20.0s
BFO Black Forest 26.20 93 *e*P **P** **16 40 21.0 -0.3**
BFO pmax pmax
comp=Z,39nm,1.7s,mb4.7
BFO Black Forest 26.20 93 *e*P **P** **16 40 21.0 -0.3**
comp=Z,39nm,1.7s,mb4.7
MTLF Montolieu 26.20 107 *e*P **P** **16 40 21.0 -0.4**
comp=Z,125nm,1.9s,mb4.8
MTLF Montolieu 26.20 107 *e*P **P** **16 40 21.0 -0.4**
MTLF pmax pmax
comp=Z,63nm,1.8s,mb4.8
MTLF Montolieu 26.20 107 *e*P **P** **16 40 21.0 -0.4**
comp=Z,63nm,1.9s,mb4.8
BBS Basel-Blauen 26.28 95 *e*P **P** **16 40 21.2 -0.8**
EMIN Mina Concepcio 26.29 127 P **P** **16 40 22.4 +0.2**
comp=Z,181nm,2.0s,mb5.3
EMIN Mina Concepcio 26.29 127 P **P** **16 40 22.4 +0.2**
comp=Z,181nm,2.0s,mb5.3
FELD Feldberg im Sc 26.30 94 *e*P **P** **16 40 21.6 -0.6**
VIVF Saint-Julien-l 26.44 102 *e*P **P** **16 40 23.3 -0.2**
comp=Z,75nm,1.6s,mb4.7
VIVF Saint-Julien-l 26.44 102 *e*P **P** **16 40 23.3 -0.2**
VIVF pmax pmax
comp=Z,38nm,1.6s,mb4.7
VIVF Saint-Julien-l 26.44 102 *e*P **P** **16 40 23.3 -0.2**
comp=Z,38nm,1.6s,mb4.7
OG01 Vacheresse 26.55 98 *e*P **P** **16 40 24.5 +0.1**
SPAK Spaichingen-Ko 26.59 93 *e*P **P** **16 40 24.5 -0.3**
MOX Moxa 26.68 86 *e*P **P** **16 40 25.7 +0.2**
comp=Z,54nm,1.8s,mb4.8
MOX
comp=Z,2µm,17.0s
MOX Moxa 26.68 86 *e*P **P** **16 40 25.7 +0.2**
MOX pmax pmax
comp=Z,54nm,1.8s,mb4.8
MOX MLR MLR
comp=Z,2µm,17.0s,MS4.8
MOX Moxa 26.68 86 *e*P **P** **16 40 25.2 -0.3**
comp=Z,64nm,2.0s,mb4.8
EADA Adamuz 26.88 124 P **P** **16 40 26.0 -1.5**
comp=Z,78nm,1.8s,mb4.9
EADA Adamuz 26.88 124 P **P** **16 40 26.0 -1.5**
comp=Z,78nm,1.8s,mb4.9
EMIR Miracle 26.88 110 P **P** **16 40 28.1 +0.6**
comp=Z,66nm,1.5s,mb5.0
EMIR Miracle 26.88 110 P **P** **16 40 28.1 +0.6**
comp=Z,66nm,1.5s,mb5.0
GRA1 Grafenberg Arr 26.98 88 *e*P **P** **16 40 28.8 +0.5**
comp=Z,96nm,1.9s,mb5.0
GRA1 LR LR
comp=Z,1µm,18.4s,MS4.6
GRF Grafenberg Arr 26.98 88 *e*P **P** **16 40 28.8 +0.5**
GRF pmax pmax
comp=Z,96nm,1.9s,mb5.0
GRF MLR MLR
comp=Z,1µm,18.4s,MS4.6
GRF Grafenberg Arr 26.98 88 *e*P **P** **16 40 28.8 +0.5**
GRF pmax pmax
comp=Z,96nm,1.9s,mb5.0
GRF MLR MLR
comp=Z,1µm,18.4s,MS4.6
GRF Grafenberg Arr 26.98 88 *e*P **P** **16 40 28.8 +0.5**
comp=Z,96nm,1.9s,mb5.0
GRF *e*L 16 50 43.0
comp=Z,1µm,18.4s
ERTA Horta de San J 27.00 113 P **P** **16 40 28.0 -0.6**
comp=Z,38nm,1.2s,mb4.8
ERTA Horta de San J 27.00 113 P **P** **16 40 28.0 -0.6**
comp=Z,38nm,1.2s,mb4.8
ORIF Oris-en-Rattie 27.04 101 *e*P **P** **16 40 28.7 -0.2**
comp=Z,54nm,1.4s,mb4.6
ORIF *e*MLR MLR
comp=Z,3µm,22.8s,MS4.5
ORIF Oris-en-Rattie 27.04 101 *e*P **P** **16 40 28.7 -0.2**
ORIF pmax pmax
comp=Z,27nm,1.4s,mb4.6
ORIF Oris-en-Rattie 27.04 101 *e*P **P** **16 40 28.7 -0.2**
comp=Z,27nm,1.4s,mb4.6
CLL Collm 27.07 83⇑ *i*P **P** **16 40 28.3 -0.8**
CLL *i* 16 41 08.1
CLL pmax pmax
comp=Z,17nm,1.4s,mb4.4
CLL MLR MLR
comp=Z,3µm,18.1s,MS4.9
CLL Collm 27.07 83 *e*P **P** **16 40 28.2 -0.9**
comp=Z,18nm,1.5s,mb4.4
CLL Collm 27.07 83⇑ *i*P **P** **16 40 28.3 -0.8**
comp=Z,17nm,1.4s,mb4.4
CLL *i* PP 16 41 08.1
CLL LmH 16 50 00.0
comp=N,1µm,19.7s
CLL LmH 16 50 00.0
comp=E,2µm,21.1s
CLL LmV 16 51 00.0
comp=Z,3µm,18.1s
CLL Collm 27.07 83⇑ *i*P **P** **16 40 28.3 -0.8**
comp=Z,17nm,1.4s,mb4.4
CLL *i* 16 41 08.1
CLL LR LR
comp=Z,3µm,18.1s,MS4.9
EPOB Poblet 27.07 112 P **P** **16 40 27.4 -1.8**
comp=Z,24nm,1.9s,mb4.4
EPOB Poblet 27.07 112 P **P** **16 40 27.4 -1.8**
comp=Z,24nm,1.9s,mb4.4
LPL La Plagne 27.10 99 *e*P **P** **16 40 29.9 +0.5**
comp=Z,155nm,1.8s,mb4.9
LPL La Plagne 27.10 99 *e*P **P** **16 40 29.9 +0.5**
LPL pmax pmax
comp=Z,78nm,1.8s,mb4.9
LPL La Plagne 27.10 99 *e*P **P** **16 40 29.9 +0.5**
comp=Z,78nm,1.8s,mb4.9
LPG La Plagne 27.12 99 *e*P **P** **16 40 30.3 +0.7**
comp=Z,111nm,1.6s,mb4.8
LPG La Plagne 27.12 99 *e*P **P** **16 40 30.3 +0.7**
LPG pmax pmax
comp=Z,55nm,1.6s,mb4.8
LPG La Plagne 27.12 99 *e*P **P** **16 40 30.3 +0.7**
comp=Z,56nm,1.6s,mb4.8
EJON La Jonquera 27.19 108 P **P** **16 40 27.6 -2.7**
comp=Z,15nm,1.1s,mb4.4
EBAN Banos Encina 27.23 123 P **P** **16 40 29.9 -0.8**
EBAN pmax pmax
comp=Z,43nm,1.4s,mb4.8
EBAN Banos Encina 27.23 123 P **P** **16 40 29.9 -0.8**
comp=Z,43nm,1.4s,mb4.8
EBAN Banos Encina 27.23 123 P **P** **16 40 29.9 -0.8**
comp=Z,43nm,1.4s,mb4.8
TANN Tannenbergstha 27.25 85 *e*P **P** **16 40 30.1 -0.7**
comp=Z,55nm,2.0s,mb4.7
MANZ Manzenberg 27.30 86 *e*P **P** **16 40 30.5 -0.7**
comp=Z,39nm,2.0s,mb4.6
NKC Novy Kostel 27.34 86 *e*P **P** **16 40 31.4 -0.2**

NKC ex x 16 41 04.8
NKC eS **S** **16 45 11.8 +0.4**
NKC AMS AMS 16 51 10.0
comp=Z,2µm,16.1s
NKC Novy Kostel 27.34 86 eP **P** **16 40 31.4 -0.2**
NKC ePP 16 41 04.8
NKC eS **S** **16 45 11.8 +0.4**
BNI Bardonecchia 27.37 100 eP **P** **16 40 32.2 +0.3**
BNI pmax pmax
comp=Z,24nm,1.4s,mb4.5
BNI Bardonecchia 27.37 100 eP **P** **16 40 32.2 +0.3**
comp=Z,24nm,1.4s,mb4.5
BNI Bardonecchia 27.37 100 eP **P** **16 40 32.2 +0.3**
comp=Z,24nm,1.4s,mb4.5
ESPR Espera 27.39 127 P **P** **16 40 31.0 -1.1**
comp=Z,96nm,1.4s,mb5.1
PRAF Pradon 27.42 103 eP **P** **16 40 37.3 +5.0**
EVIA Vianos 27.44 120 P **P** **16 40 33.4 +0.9**
EVIA pmax pmax
comp=Z,32nm,1.2s,mb4.7
EVIA Vianos 27.44 120 P **P** **16 40 33.4 +0.9**
comp=Z,32nm,1.2s,mb4.7
ROTZ Rotzenmuhle 27.47 87 eP **P** **16 40 32.5 -0.2**
comp=Z,18nm,1.8s,mb4.3
ARCES ARCESS Array B 27.49 41 P **P** **16 40 32.2 -0.5**
comp=Z,3.0nm,0.7s,mb3.9,baz=265,slow=6.0,SNR=6.9
ARCES LR LR 16 49 27.4
comp=Z,905nm,18.8s,MS4.4,baz=268,slow=32
SMRF Simiane la Rot 27.51 103 eP **P** **16 40 33.5 +0.4**
comp=Z,42nm,1.6s,mb4.5
SMRF Simiane la Rot 27.51 103 eP **P** **16 40 33.5 +0.4**
comp=Z,21nm,1.6s,mb4.5
MBDF Montbardon 27.64 100 eP **P** **16 40 34.5 +0.2**
comp=Z,56nm,1.5s,mb4.7
MBDF Montbardon 27.64 100 eP **P** **16 40 34.5 +0.2**
MBDF pmax pmax
comp=Z,28nm,1.5s,mb4.7
MBDF Montbardon 27.64 100 eP **P** **16 40 34.5 +0.2**
comp=Z,28nm,1.5s,mb4.7
TREF Trevaresse 27.65 103 eP **P** **16 40 38.5 +4.1**
BRG Berggiesshubel 27.80 83 eP **P** **16 40 36.2 +0.5**
BRG pmax pmax
comp=Z,9.0nm,1.7s,mb4.1
BRG Berggiesshubel 27.80 83 eP **P** **16 40 36.2 +0.5**
comp=Z,54nm,2.5s,mb4.7
BRG Berggiesshubel 27.80 83 eP **P** **16 40 36.2 +0.6**
comp=Z,16nm,1.7s,mb4.4
BRG e 16 41 06.7
comp=Z,47nm,2.3s
GELF Grande-Etoile 27.84 104 eP **P** **16 40 37.5 +1.4**
EQES Quesada 27.86 122 P **P** **16 40 36.0 -0.3**
comp=Z,122nm,1.9s,mb5.2
EQES Quesada 27.86 122 P **P** **16 40 36.0 -0.3**
comp=Z,122nm,1.9s,mb5.2
PUYF Puyloubier 27.88 103 eP **P** **16 40 36.8 +0.3**
TUE Stuetta 27.89 95 eP **P** **16 40 36.2 -0.3**
comp=Z,35nm,1.4s,mb4.8
TUE Stuetta 27.89 95 eP **P** **16 40 36.2 -0.2**
comp=Z,35nm,1.4s,mb4.8
FUR Furstenfeldbru 27.89 90 eP **P** **16 40 36.7 +0.2**
FUR pmax pmax
comp=Z,70nm,1.7s,mb5.0
FUR Furstenfeldbru 27.89 90 eP **P** **16 40 36.7 +0.2**
comp=Z,70nm,1.7s,mb5.0
DAVOS Davos 27.90 94 P **P** **16 40 37.4 +0.9**
DAVOX Davos/Dischmat 27.98 94 P **P** **16 40 37.4 +0.1**
comp=Z,2.9nm,0.9s,mb3.9,baz=324,slow=16,SNR=5.7
DAVOX LR LR 16 51 19.3
comp=Z,3µm,19.4s,MS4.9,baz=308,slow=36
ECOG Cogollos-Vega 28.06 123 P **P** **16 40 39.4 +1.3**
ECOG pmax pmax
comp=Z,6.0nm,0.6s,mb4.4
ECOG Cogollos-Vega 28.06 123 P **P** **16 40 39.4 +1.3**
comp=Z,5.6nm,0.6s,mb4.4
ECOG Cogollos-Vega 28.06 123 P **P** **16 40 39.4 +1.3**
comp=Z,5.6nm,0.6s,mb4.4
EHUE Huescar 28.07 121 P **P** **16 40 38.7 +0.6**
EHUE pmax pmax
comp=Z,15nm,1.1s,mb4.5
EHUE Huescar 28.07 121 P **P** **16 40 38.7 +0.6**
comp=Z,15nm,1.1s,mb4.5
EHUE Huescar 28.07 121 P **P** **16 40 38.7 +0.6**
comp=Z,15nm,1.1s,mb4.5
EMIJ Mijas 28.12 126 P **P** **16 40 38.5 -0.1**
comp=Z,45nm,1.5s,mb4.9
EMIJ Mijas 28.12 126 P **P** **16 40 38.5 -0.1**
comp=Z,45nm,1.5s,mb4.9
WET Wettzell 28.19 87 eP **P** **16 40 39.2 +0.1**
WET pmax pmax
comp=Z,27nm,1.8s,mb4.6
WET Wettzell 28.19 87 eP **P** **16 40 39.2 +0.1**
comp=Z,27nm,1.8s,mb4.6
FETA Feichten 28.29 93⇑ *i*P **P** **16 40 40.6 +0.5**
comp=Z,12nm,1.7s,mb4.2
PVCC Panska Ves 28.32 84 eP **P** **16 40 40.5 +0.2**
PVCC ex x 16 41 25.4
PVCC eS **S** **16 45 30.6 +3.8**
PVCC AMS AMS 16 52 10.0
comp=Z,3µm,16.8s
GKP Gorka Klasztor 28.33 77 eP **P** **16 40 41.6 +1.2**
GKP LMZ 16 51 03.5
comp=Z,2µm,21.1s
FRF La Foret Royal 28.36 102 eP **P** **16 40 40.3 -0.4**
comp=Z,44nm,1.4s,mb4.6
FRF La Foret Royal 28.36 102 eP **P** **16 40 40.3 -0.4**
FRF pmax pmax
comp=Z,22nm,1.4s,mb4.6
FRF La Foret Royal 28.36 102 eP **P** **16 40 40.3 -0.4**
comp=Z,22nm,1.4s,mb4.6
LMR La Mourre 28.45 103 eP **P** **16 40 41.2 -0.3**
KHC Kasperske Hory 28.57 87 eP **P** **16 40 43.4 +0.9**
KHC ex x 16 41 31.5
KHC eS **S** **16 45 32.1 +1.4**
KHC AMS AMS 16 51 30.0
comp=Z,2µm,17.7s
PRU Pruhonice 28.61 85 eP **P** **16 40 43.7 +0.9**
PRU ex x 16 41 29.9
PRU eS **S** **16 45 35.8 +4.6**
PRU AMS AMS 16 51 50.0
comp=Z,2µm,18.4s
GEC2 GERESS Array S 28.80 87 eP **P** **16 40 44.7 +0.1**
GEC2 pmax pmax
comp=Z,36nm,2.0s,mb4.8
GEC2 GERESS Array S 28.80 87 eP **P** **16 40 44.7 +0.1**
comp=Z,36nm,2.0s,mb4.8
GERES GERESS Array B 28.80 87 P **P** **16 40 44.7 +0.1**
comp=Z,0.9nm,0.7s,mb3.6,baz=310,slow=10,SNR=6.8
GERES LR LR 16 52 17.0
comp=Z,2µm,18.1s,MS4.7,baz=299,slow=36
RJOB Jochberg 28.97 90 eP **P** **16 40 46.5 +0.4**
comp=Z,41nm,2.2s,mb4.8
KSP Ksiaz 29.08 82 eP **P** **16 40 47.8 +0.8**
KSP LMZ 16 52 40.3
comp=Z,6µm,18.9s
KSP Ksiaz 29.08 82 eP **P** **16 40 46.4 -0.6**
KSP LR LR
comp=Z,7µm,18.6s,MS5.3
UPC Upice 29.11 83 eP **P** **16 40 47.4 +0.1**
UPC ex x 16 41 14.9
DPC Dobruska-Polom 29.36 83 eP **P** **16 40 49.3 -0.2**
DPC ex x 16 41 39.2
DPC eS **S** **16 45 48.5 +5.4**
DPC AMS AMS 16 53 00.0
comp=Z,3µm,15.7s
TREC Trest 29.50 85 eP **P** **16 40 51.2 +0.4**
TREC ex x 16 41 41.8
TREC eS **S** **16 45 46.5 +1.2**
TREC AMS AMS 16 52 10.0
comp=Z,2µm,19.3s
KBA Koelnbreinsper 29.66 90⇑ *i*pP pP 16 40 53.0 -1.3
comp=Z,22nm,1.9s
MYKA Terra Mystica 30.10 91⇓ *i*pP pP 16 40 57.3 -0.9
comp=Z,18nm,1.1s
PGF Pioggiola 30.31 101 eP **P** **16 40 57.5 -0.5**
comp=Z,76nm,1.9s,mb4.8
PGF Pioggiola 30.31 101 eP **P** **16 40 57.5 -0.5**
PGF pmax pmax
comp=Z,38nm,1.8s,mb4.8
PGF Pioggiola 30.31 101 eP **P** **16 40 57.5 -0.5**
comp=Z,38nm,1.9s,mb4.8
MORC Moravsky Berou 30.33 83 eP **P** **16 40 57.7 -0.4**
MORC pmax pmax
comp=Z,26nm,1.8s,mb4.7
MORC Moravsky Berou 30.33 83 eP **P** **16 40 57.7 -0.4**
comp=Z,26nm,1.8s,mb4.7
MORC Moravsky Berou 30.33 83 eP **P** **16 40 57.7 -0.4**
comp=Z,26nm,1.8s,mb4.7
OKC Ostrava-Krasne 30.62 82 eP **P** **16 41 00.9 +0.2**
OKC eS **S** **16 46 01.6 -1.3**
OKC Ostrava-Krasne 30.62 82 eP **P** **16 41 00.9 +0.2**
OKC eS **S** **16 46 01.6 -1.3**
OKC AMS AMS 16 54 00.0
comp=Z,3µm,16.6s
APA Apatity 30.66 44⇓ eP **P** **16 41 02.6 +1.7**
APA eS **S** **16 46 04.0 +0.8**
APA pmax pmax
comp=Z,38nm,1.4s,mb5.0
ARSA Arzberg 30.73 88⇑ *i*pP pP 16 41 02.3 -1.5
comp=Z,12nm,1.6s
VSU Vasula 30.80 63⇑ *i*P **P** **16 41 02.5 +0.3**
SOKA Soboth 30.82 90⇑ *i*P **P** **16 41 02.4 -0.1**
comp=Z,8.4nm,1.3s,mb4.4
MODS Modra-Piesok 31.00 85 eP **P** **16 41 04.8 +0.7**
MODS pmax pmax
comp=Z,6.0nm,1.3s,mb4.3
MODS Modra-Piesok 31.00 85 eP **P** **16 41 04.8 +0.7**
comp=Z,6.3nm,1.3s,mb4.3
SUW Suwalki 31.06 72 eP **P** **16 41 04.8 +0.3**
SUW LMZ 16 51 47.1
comp=Z,1µm,22.6s
OJC Ojcow 31.29 80 eP **P** **16 41 06.7 +0.1**
OJC eS **S** **16 46 05.0 -8.3**
OJC MLR MLR
comp=Z,1µm,20.6s,MS4.5
VYHS Vyhne 31.77 84 eP **P** **16 41 09.7 -1.1**
STHS Stebnicka Huta 32.52 81 eP **P** **16 41 17.4 +0.1**
STHS pmax pmax
comp=Z,3.0nm,1.2s,mb4.1
STHS Stebnicka Huta 32.52 81 eP **P** **16 41 17.4 +0.1**
comp=Z,3.2nm,1.2s,mb4.1
PSZ Piszkesteto 32.68 84 eP **P** **16 41 18.3 -0.5**
PSZ pmax pmax
comp=Z,8.0nm,0.8s,mb4.7
PSZ Piszkesteto 32.68 84⇑ eP **P** **16 41 19.1 +0.3**
PSZ Piszkesteto 32.68 84⇑ *i*eP **P** **16 41 22.8 +4.0**
PSZ Piszkesteto 32.68 84 eP **P** **16 41 18.3 -0.5**
comp=Z,7.7nm,0.8s,mb4.7
PSZ Piszkesteto 32.68 84 eP **P** **16 41 18.3 -0.5**
comp=Z,7.7nm,0.8s,mb4.7
CRVS Cervenica-Dubn 32.93 81 *i* P **P** **16 41 21.0 0.0**
CRVS ePCP PcP 16 44 07.3 +2.3
PKSM Moragy 33.06 87⇓ *i*P **P** **16 41 21.3 -0.8**
MNK Minsk 33.17 69 eP **P** **16 41 21.0 -2.1**
KOLS Kolonicke sedl 33.35 81 *i* P **P** **16 41 25.1 +0.5**
UZH Uzhgorod 33.54 81 eP **P** **16 41 25.5 -0.8**
UZH e 16 41 33.3
UZH eS **S** **16 46 45.5 -2.8**
UZH MLR MLR
comp=N,600nm,16.0s,MS4.8
UZH MLR MLR
comp=E,1µm,16.0s,MS4.8
UZH MLR MLR
comp=Z,1µm,16.0s,MS4.6
DRGR 34.88 83⇓ *i*P **P** **16 41 38.7 +0.7**
BZS Buzias 35.04 86⇑ *i*P **P** **16 41 39.8 +0.5**
COWI Conover 35.50 276 eP **P** **16 41 43.4 +0.1**
comp=Z,57nm,1.0s,mb5.5
COWI Conover 35.50 276 eP **P** **16 41 43.4 +0.1**
comp=Z,57nm,1.0s,mb5.5
KEST Kesra 35.54 109 P **P** **16 41 42.7 -1.0**
comp=Z,2.1nm,0.9s,mb4.1,baz=244,slow=4.7,SNR=9.9
KEST LR LR 16 54 36.5
comp=Z,447nm,21.1s,MS4.2,baz=96,slow=34
KLMR Klimovskoe 35.58 53 eP **P** **16 41 44.6 +0.8**
KLMR eS **S** **16 47 12.7 -6.9**
KLMR pmax pmax
comp=Z,120nm,1.5s,mb5.6
EYMN Ely 35.60 280 eP **P** **16 41 43.9 -0.2**
comp=Z,96nm,1.4s,mb5.5
EYMN Ely 35.60 280 eP **P** **16 41 43.9 -0.2**
comp=Z,96nm,1.4s,mb5.5
BUR08 Bucovina Ar. S 35.68 80 eP **P** **16 41 45.3 +0.5**
BUR08 Bucovina Ar. S 35.68 80 eP **P** **16 41 45.3 +0.4**
BURAR Bucovina Array 35.71 80⇑ *i*P **P** **16 41 45.6 +0.5**
GZR Gura Zlata 35.81 85⇓ *i*P **P** **16 41 40.9 -5.0**
KIEV Kiev 35.96 73 eP **P** **16 41 45.7 -1.5**
KIEV pmax pmax
comp=Z,30nm,1.3s,mb5.1
KIEV Kiev 35.96 73 eP **P** **16 41 45.7 -1.5**
comp=Z,30nm,1.3s,mb5.1
KIEV Kiev 35.96 73 eP **P** **16 41 45.6 -1.5**
comp=Z,30nm,1.3s,mb5.1
AKASG Malin Array Be 35.96 73 P **P** **16 41 46.4 -0.8**
comp=Z,6.0nm,0.8s,mb4.6,baz=305,slow=8.5,SNR=18
AKASG LR LR 16 56 14.9
comp=Z,1µm,19.9s,MS4.6,baz=285,slow=36
AKBB Malin Array Si 35.96 73 eP **P** **16 41 46.6 -0.6**
AKBB Malin Array Si 35.96 73 eP **P** **16 41 46.6 -0.6**
ULM Lac du Bonnet 36.51 286 P **P** **16 41 51.4 -0.6**
comp=Z,23nm,1.1s,mb4.9,baz=59,slow=9.6,SNR=5.6
ULM LR LR 16 55 37.9
comp=Z,3µm,18.4s,MS5.0,baz=25,slow=34
ULM Lac du Bonnet 36.51 286 P **P** **16 41 51.3 -0.6**
FFC Flin Flon 37.03 296 eP **P** **16 41 56.0 -0.3**
FFC pmax pmax
comp=Z,42nm,1.4s,mb5.1
FFC Flin Flon 37.03 296 eP **P** **16 41 56.0 -0.3**
comp=Z,42nm,1.4s,mb5.1
FFC Flin Flon 37.03 296 eP **P** **16 41 56.0 -0.3**
comp=Z,42nm,1.4s,mb5.1
OBN Obninsk 37.15 63*c i*P **P** **16 41 58.2 +0.9**
OBN e 16 43 21.0
OBN e 16 44 17.2
OBN eS **S** **16 47 41.3 -2.4**
OBN eSS SS 16 50 18.1 -7.7
OBN pmax pmax
comp=Z,45nm,1.3s,mb5.1
OBN MLR MLR
comp=Z,1µm,20.0s,MS4.7
OBN Obninsk 37.15 63 P **P** **16 41 57.4 +0.1**
OBN Obninsk 37.15 63 P **P** **16 41 57.4 +0.2**
AGMN Agassiz Refuge 37.69 284 eP **P** **16 42 01.9 0.0**
comp=Z,50nm,1.4s,mb5.0
AGMN Agassiz Refuge 37.69 284 eP **P** **16 42 01.9 0.0**
comp=Z,50nm,1.4s,mb5.0
KIS Kishinev 38.01 79 eP **P** **16 42 05.0 +0.4**
KIS e 16 43 33.0
KIS eS **S** **16 47 54.0 -2.8**
KIS MLR MLR
comp=N,800nm,16.0s,MS4.8
KIS MLR MLR
comp=E,900nm,16.0s,MS4.8
KIS MLR MLR
comp=Z,2µm,16.0s,MS5.0
KIS MLR MLR
comp=Z,2µm,16.0s
KIS Kishinev 38.01 79 ePP PP 16 43 33.0 +1.8
KIS eS **S** **16 47 54.0 -2.8**
KIS eLQ 16 54 23.0
KIS LRM 16 59 44.0
comp=Z,2µm,16.0s
KIS Kishinev 38.01 79 eP **P** **16 42 05.0 +0.4**
KIS eS **S** **16 47 54.0 -2.8**
YKA Yellowknife Ar 38.52 312 P **P** **16 42 08.2 -0.5**
comp=Z,8.0nm,0.9s,mb4.5,baz=60,slow=9.2,SNR=12
YKA LR LR 16 57 24.6
comp=Z,2µm,18.7s,MS5.0,baz=90,slow=35
YKA Yellowknife Ar 38.52 312 P **P** **16 42 08.2 -0.5**
YKA LR LR 16 57 24.6
TKL Tuckaleechee C 39.93 259 LR LR 16 57 51.9
comp=Z,3µm,19.7s,MS5.1,baz=67,slow=35
SCIA State Center 40.48 274 P **P** **16 42 25.8 +0.5**
comp=Z,39nm,0.3s,mb5.6
SCIA State Center 40.48 274 P **P** **16 42 25.8 +0.5**
comp=Z,39nm,0.3s,mb5.6
ECSD EROS,Sioux Fal 41.05 279 eP **P** **16 42 29.8 -0.2**
comp=Z,22nm,1.0s,mb4.8
ECSD EROS,Sioux Fal 41.05 279 eP **P** **16 42 29.8 -0.2**
comp=Z,22nm,1.0s,mb4.8
SIUC Southern Illin 41.31 266 P **P** **16 42 32.3 0.0**
SIUC Southern Illin 41.31 266 P **P** **16 42 32.3 0.0**
FVM French Village 41.77 268 eP **P** **16 42 36.5 +0.5**
FVM pmax pmax
comp=Z,47nm,1.6s,mb4.9
FVM French Village 41.77 268 eP **P** **16 42 36.5 +0.5**
comp=Z,47nm,1.6s,mb4.9
DGMT Dagmar 41.89 289 eP **P** **16 42 37.5 +0.7**
comp=Z,35nm,1.0s,mb4.9
DGMT Dagmar 41.89 289 eP **P** **16 42 37.5 +0.6**
comp=Z,35nm,1.0s,mb4.9
SIM Simferopol' 42.14 77 P **P** **16 42 40.9 +1.9**
SIM eS **S** **16 49 06.7 +8.0**
SIM pmax pmax
comp=Z,110nm,12.0s
SIM MLR MLR
comp=Z,1µm,15.0s,MS4.8
EDM Edmonton 43.33 300 eP **P** **16 42 48.9 +0.4**
LRAL Lakeview Retre 43.65 260 P **P** **16 42 51.4 +0.1**
comp=Z,17nm,1.0s,mb4.7
LRAL Lakeview Retre 43.65 260 P **P** **16 42 51.4 +0.1**
comp=Z,17nm,1.0s,mb4.7
ANN Anapa 43.98 75 eP **P** **16 42 55.3 +1.5**
ANN e 16 44 36.8
ANN eS **S** **16 49 28.8 +3.1**
ANN eSS SS 16 52 47.2 +5.3
ANN pmax pmax
comp=Z,41nm,2.6s,mb4.7
ANN pmax pmax
comp=N,1µm,14.0s
ANN pmax pmax
comp=E,569nm,14.0s
LAO LASA Array 44.09 289 P **P** **16 42 55.5 +0.8**
comp=E,50nm,1.1s,mb5.2
LAO LASA Array 44.09 289 P **P** **16 42 55.5 +0.7**
comp=E,50nm,1.1s,mb5.2
KSU1 Kansas State U 44.29 274 eP **P** **16 42 55.4 -1.0**
ILGA Ilgaz 44.62 82 *i* P **P** **16 42 59.3 +0.3**
A16A West Butte Ran 45.28 295⇑ P **P** **16 43 03.9 -0.3**
baz=45
CTKT Corum 45.50 81 *i* P **P** **16 43 07.0 +1.0**
BR131 Keskin Array S 45.52 83 eP **P** **16 43 06.9 +0.7**
comp=E,7.7nm,0.9s,mb4.6
BR131 Keskin Array S 45.52 83 eP **P** **16 43 06.9 +0.7**
comp=E,7.7nm,0.9s,mb4.6
B16A M & M Farms, S 45.69 294⇑ P **P** **16 43 07.6 +0.2**
baz=46
C17A Wharram Farm, 45.75 293⇓ P **P** **16 43 07.1 -0.7**
baz=46
A15A Johnson Ranch, 45.81 295⇓ P **P** **16 43 07.7 -0.6**
baz=46,SNR=13
CDAG Cicekdag 45.99 83 *i* P **P** **16 43 10.0 +0.1**
SOC Sochi 46.01 75 eP **P** **16 43 13.3 +3.3**
SOC e 16 44 51.8
SOC ePPP 16 45 45.6
SOC eS **S** **16 49 57.0 +1.9**
SOC eSSS 16 54 13.8
SOC pmax pmax
comp=Z,11nm,0.8s,mb4.8
SOC MLR MLR
comp=Z,103nm,15.0s,MS3.9
MIAR Mount Ida 46.02 267 eP **P** **16 43 09.8 -0.4**
MIAR pmax pmax
comp=Z,6.0nm,0.3s,mb5.0
MIAR Mount Ida 46.02 267 eP **P** **16 43 09.8 -0.4**
comp=Z,6.3nm,0.3s,mb5.0
E18A Harlowton 46.05 291⇓ P **P** **16 43 10.4 +0.1**
baz=46
C16A Fuhringer Ranc 46.12 293⇑ P **P** **16 43 10.9 +0.1**
baz=46
A14A Double T Ranch 46.15 296⇑ P **P** **16 43 10.6 -0.4**
baz=46
B15A Bradely Ranch, 46.18 295⇑ P **P** **16 43 11.2 0.0**
baz=46,SNR=5.6
ARU Arti 46.24 50*d i*P **P** **16 43 11.7 0.0**
ARU e 16 44 58.8
ARU ePPP 16 45 41.2
ARU eS **S** **16 49 56.8 -1.3**
ARU eSS SS 16 53 10.1 -13
ARU SSS 16 54 18.4
ARU pmax pmax
comp=Z,19nm,1.2s,mb4.9
ARU MLR MLR
comp=Z,888nm,18.0s,MS4.8
ARU Arti 46.24 50 eP **P** **16 43 10.7 -1.0**
comp=Z,25nm,1.3s,mb5.0
ARU Arti 46.24 50 eP **P** **16 43 10.7 -0.9**
comp=Z,25nm,1.3s,mb5.0
WALA Waterton Lakes 46.33 296 eP **P** **16 43 12.4 -0.1**
comp=Z,51nm,1.4s,mb5.3
WALA Waterton Lakes 46.33 296 eP **P** **16 43 12.4 0.0**
comp=Z,51nm,1.4s,mb5.3
F18A Big Timber 46.41 290⇑ P **P** **16 43 13.1 0.0**
baz=46
DAWY Dawson 46.42 324 eP **P** **16 43 13.5 +0.6**
B14A Marquette Ranc 46.49 295⇓ P **P** **16 43 13.7 0.0**
baz=46
D16A Dana Ranch, Ca 46.55 293⇓ P **P** **16 43 14.2 0.0**
baz=46
C15A Salmond Ranch, 46.57 294⇑ P **P** **16 43 14.2 -0.1**
baz=46,SNR=5.1
E17A Martinsdale 46.60 292⇓ P **P** **16 43 14.5 -0.1**
baz=46
E16A East Helena 46.96 292⇑ P **P** **16 43 17.3 -0.1**
baz=47
D15A Lincoln 47.03 293⇓ P **P** **16 43 18.0 +0.1**
baz=47,SNR=9.1
B13A Whitefish 47.07 296⇑ P **P** **16 43 17.9 -0.3**
baz=47
C14A Swan Lake 47.13 295⇑ P **P** **16 43 18.6 -0.2**
baz=47
A12A Yaak River Ran 47.26 297⇓ P **P** **16 43 19.1 -0.6**
baz=47
KIV Kislovodsk 47.29 72 eP **P** **16 43 21.9 +1.9**
KIV eS **S** **16 50 15.0 +1.7**
KIV pmax pmax
comp=Z,12nm,1.1s,mb4.7
KIV MLR MLR
comp=Z,679nm,17.0s,MS4.7
CHMT Chamberlain Mo 47.48 294 eP **P** **16 43 21.4 0.0**
CHMT Chamberlain Mo 47.48 294 eP **P** **16 43 21.4 0.0**
D14A Greenough 47.49 294⇓ P **P** **16 43 20.5 -1.0**
baz=47
E15A Deer Lodge 47.51 293⇑ P **P** **16 43 22.1 +0.4**
baz=47,SNR=11
B12A Libby 47.55 297⇓ P **P** **16 43 21.5 -0.4**
baz=47
A11A Hall Mountain, 47.58 298⇑ P **P** **16 43 22.0 -0.2**
baz=47,SNR=9.4
F15A Butte 47.85 292⇑ P **P** **16 43 23.6 -0.7**
baz=48
MSO Missoula 47.88 294 eP **P** **16 43 23.3 -1.2**
comp=Z,7.2nm,1.2s,mb4.6
MSO Missoula 47.88 294 eP **P** **16 43 23.3 -1.3**
comp=Z,7.2nm,1.2s,mb4.6
G16A Moss Hill, Enn 47.93 291⇑ P **P** **16 43 24.4 -0.6**
baz=48
B11A Sandpoint 47.94 297⇑ P **P** **16 43 24.7 -0.3**
baz=48
E14A Clinton 47.94 293⇑ P **P** **16 43 24.9 -0.1**
baz=48
D13A Huson 47.95 295⇑ P **P** **16 43 24.4 -0.7**
baz=48
C12B Naegeli Ranch, 48.02 296⇑ P **P** **16 43 25.7 +0.1**
baz=48
H16A Russell Place, 48.02 290⇑ P **P** **16 43 25.8 +0.1**
baz=48
A10A Northport 48.13 298⇓ P **P** **16 43 26.2 -0.3**
baz=48
I17A Pilgram Creek 48.23 289⇑ P **P** **16 43 26.6 -0.7**
baz=48
DLMT Dillon 48.23 292 eP **P** **16 43 27.4 +0.1**
comp=Z,54nm,1.7s,mb5.3
DLMT Dillon 48.23 292 eP **P** **16 43 27.4 0.0**
comp=Z,54nm,1.7s,mb5.3
E13A Victor 48.27 294⇓ P **P** **16 43 27.0 -0.5**
baz=48
SKAG Skagway 48.30 318 eP **P** **16 43 26.0 -1.6**
comp=Z,12nm,0.6s,mb5.1
SKAG LR LR
comp=Z,2µm,19.0s,MS5.0
F14A Wisdom 48.30 293⇓ P **P** **16 43 28.2 +0.4**
baz=48
G15A Dillon 48.32 291⇑ P **P** **16 43 28.6 +0.6**
baz=48,SNR=9.8
COLA College 48.34 329⇑ *i*P **P** **16 43 28.5 +0.6**
COLA College 48.34 329 eP **P** **16 43 28.6 +0.7**
comp=Z,38nm,1.4s,mb5.2
COLA College 48.34 329 eP **P** **16 43 28.6 +0.7**
comp=Z,38nm,1.4s,mb5.2
D12A Red Ives Fores 48.41 295⇑ P **P** **16 43 28.5 -0.2**
baz=48,SNR=6.4
MOOW Moose Ponds 48.44 289 eP **P** **16 43 28.8 -0.1**
comp=Z,14nm,1.5s,mb4.8
MOOW Moose Ponds 48.44 289 eP **P** **16 43 28.8 -0.1**
comp=Z,14nm,1.5s,mb4.8
B10A Chitwood Farm, 48.45 297⇓ P **P** **16 43 28.4 -0.6**
baz=48
PDAR Pinedale Array 48.52 287 P **P** **16 43 28.8 -0.8**

comp=Z,5.1nm,0.9s,mb4.5,baz=64,slow=7.3,SNR=29
PDAR PP PP 16 45 23.1 +1.0
comp=Z,5.3nm,1.2s,baz=69,slow=8.1,SNR=6.6
PDAR LR LR 17 02 53.6
comp=Z,2µm,18.8s,MS5.2,baz=27,slow=35
PDAR Pinedale Array 48.52 287 PP PP 16 45 23.0 +0.9
ISCO Idaho Springs 48.60 282 *eP* **P 16 43 31.0 +0.8**
ISCO pmax pmax
comp=Z,43nm,1.5s,mb5.3
ISCO Idaho Springs 48.60 282 *eP* **P 16 43 31.0 +0.8**
comp=Z,43nm,1.5s,mb5.3
ISCO Idaho Springs 48.60 282 *eP* **P 16 43 31.0 +0.8**
comp=Z,43nm,1.5s,mb5.3
DBOC Borcka 48.61 75 *i* P P **16 43 33.0 +2.7**
A09A Danville 48.62 299 ⇑P P **16 43 30.4 +0.2**
baz=48
WMOK Wichita Mounta 48.68 272 *eP* **P 16 43 30.7 -0.2**
WMOK pmax pmax
comp=Z,35nm,1.3s,mb5.2
WMOK Wichita Mounta 48.68 272 *eP* **P 16 43 30.7 -0.2**
comp=Z,35nm,1.3s,mb5.2
WMOK Wichita Mounta 48.68 272 *eP* **P 16 43 30.7 -0.2**
comp=Z,35nm,1.3s,mb5.2
I16A Newdale 48.72 289 ⇓P **P 16 43 30.8 -0.3**
baz=49
TPAW Teton Pass 48.73 289 *eP* **P 16 43 31.6 +0.5**
comp=Z,18nm,1.2s,mb5.0
TPAW Teton Pass 48.73 289 *eP* **P 16 43 31.6 +0.5**
comp=Z,18nm,1.2s,mb5.0
MCMT McKenzie Canyo 48.74 291 *eP* **P 16 43 31.9 +0.7**
MCMT McKenzie Canyo 48.74 291 *eP* **P 16 43 31.9 +0.7**
G14A Jackson 48.75 292 ⇑P **P 16 43 31.4 +0.1**
baz=49
REDW Red Top Meadow 48.77 289 *eP* **P 16 43 31.6 +0.2**
comp=Z,47nm,1.6s,mb5.3
REDW Red Top Meadow 48.77 289 *eP* **P 16 43 31.6 +0.2**
comp=Z,47nm,1.6s,mb5.3
H15A Lima 48.78 291 ⇑P **P 16 43 31.8 +0.3**
baz=49
F13A Darby 48.80 293 ⇓P **P 16 43 31.4 -0.3**
baz=49
B09A Rice 48.80 298 ⇑P **P 16 43 31.5 -0.2**
baz=49,SNR=10
DBAD Bademkaya 48.86 76 *i* P **P 16 43 26.7 -5.5**
D11A Klaveano Farm, 48.90 296 ⇓P **P 16 43 31.8 -0.6**
baz=49
DAGI Agillar 48.94 76 *i* P **P 16 43 30.4 -2.4**
A08A Turner Farm, O 48.97 299 ⇓P **P 16 43 32.2 -0.7**
baz=49
IMA2 Indian Mountai 48.97 332 *eP* **P 16 43 32.0 -0.7**
DDEM Demirkent 48.98 76 *i* P **P 16 43 37.0 +3.9**
RRI2 Red Ridge 49.02 289 *eP* **P 16 43 33.5 +0.1**
comp=Z,8.6nm,0.9s,mb4.8
MALT Malatya 49.11 81⇑ *i* P **P 16 43 40.2 +6.1**
I15A Monteview 49.14 290 ⇑P **P 16 43 33.8 -0.5**
baz=49
H14A Leadore 49.15 291 ⇑P **P 16 43 33.9 -0.5**
baz=49
J16A Bone 49.22 289 ⇑P **P 16 43 34.3 -0.6**
baz=49
G13A Cobalt 49.24 292 ⇓P **P 16 43 35.1 0.0**
baz=49,SNR=13
ELZG Elazig 49.27 80 *i* P **P 16 43 39.4 +4.0**
C09A Chrisman Ranch 49.30 298 ⇓P **P 16 43 34.7 -0.8**
baz=49
E11A Bogner Ranch, 49.32 295 ⇓P **P 16 43 35.0 -0.7**
baz=49
D10A Wagner Farm, O 49.35 296 ⇓P **P 16 43 34.5 -1.3**
baz=49
B08A Colville Reser 49.41 299 ⇑P **P 16 43 35.7 -0.6**
baz=49
K16A Soda Springs 49.52 289 ⇑P **P 16 43 36.3 -0.9**
baz=49
J15A Blackfoot 49.54 290 ⇑P **P 16 43 37.6 +0.2**
baz=49,SNR=14
F11A Grangeville 49.63 294 ⇑P **P 16 43 37.3 -0.7**
baz=50
H13A Challis 49.63 292 ⇓P **P 16 43 38.3 +0.2**
baz=50,SNR=20
E10A Myers Farm, Un 49.67 296 ⇑P **P 16 43 37.4 -0.9**
baz=50
N19A John Jarvie Ra 49.68 285 ⇑P **P 16 43 37.9 -0.5**
baz=50,SNR=8.6
C08A Higginbotham F 49.68 298 ⇑P **P 16 43 38.0 -0.3**
baz=50
I14A Mackay 49.68 291 ⇑P **P 16 43 38.4 0.0**
baz=50
B07A Winthrop 49.71 299 ⇑P **P 16 43 37.6 -1.0**
baz=50
D09A Jones Farm, Ri 49.84 297 ⇑P **P 16 43 38.9 -0.7**
baz=50
N18A Larsen Ranch, 49.87 286 ⇓P **P 16 43 40.0 +0.1**
baz=50,SNR=13
A06A Chilliwack 49.89 301 ⇑P **P 16 43 39.5 -0.5**
baz=50
H12A Diamond D Ranc 49.94 292 ⇓P **P 16 43 39.9 -0.5**
baz=50
I13A Wildhorse Cree 50.03 291 ⇑P **P 16 43 41.7 +0.6**
baz=50,SNR=10.0
L16A Fish Haven 50.03 288 ⇓P **P 16 43 40.9 -0.2**
baz=50
G11A Walters Elk Ra 50.03 294 ⇑P **P 16 43 40.7 -0.4**
baz=50,SNR=15
SDCO Great Sand Dun 50.05 280 *eP* **P 16 43 41.7 +0.4**
comp=Z,17nm,1.4s,mb4.9
SDCO Great Sand Dun 50.05 280 *eP* **P 16 43 41.7 +0.4**
comp=Z,17nm,1.4s,mb4.9
O19A Miners Draw (B 50.08 285 ⇑P **P 16 43 41.1 -0.4**
baz=50
F10A Beach Ranch, E 50.09 295 ⇓P **P 16 43 41.0 -0.5**
baz=50
K15A Arbon 50.11 289 ⇓P **P 16 43 41.6 -0.1**
baz=50
AMTX Amarillo 50.14 274 *eP* **P 16 43 42.7 +0.7**
comp=Z,38nm,1.0s,mb5.4
AMTX Amarillo 50.14 274 *eP* **P 16 43 42.7 +0.7**
comp=Z,38nm,1.0s,mb5.4
J14A Carey 50.15 290 ⇑P **P 16 43 41.8 -0.2**
baz=50
E09A Wood Farm, Sta 50.15 296 ⇓P **P 16 43 41.5 -0.4**
baz=50
C07A Waterville 50.23 299 ⇓P **P 16 43 42.0 -0.6**
baz=50
DIYA Diyarbakir 50.30 80 *i* P **P 16 43 46.9 +3.8**
HWUT Hardware Ranch 50.39 287 *eP* **P 16 43 43.3 -0.6**
comp=Z,18nm,1.1s,mb5.0
H11A Donnelly 50.41 293 ⇓P **P 16 43 43.0 -0.9**
baz=50
ETW Entiat 50.42 299 *eP* **P 16 43 43.1 -0.9**
ETW Entiat 50.42 299 *eP* **P 16 43 43.1 -0.9**
J13A Cove Ranch, Pi 50.43 291 ⇓P **P 16 43 44.6 +0.5**
baz=50,SNR=9.9
MAK Makhachkala 50.45 70 *eP* **P 16 43 43.6 -0.7**
MAK *e* 16 45 41.2
MAK *e*PPP 16 46 41.9
MAK *eS* **S 16 51 00.4 +2.5**
MAK pmax pmax
comp=Z,329nm,1.4s,mb6.2
MAK MLR MLR
comp=Z,676nm,17.0s,MS4.7
N17A Moffit Pass 50.50 286 ⇑P **P 16 43 44.3 -0.4**
baz=50,SNR=6.5
TIXI Tiksi 50.50 7*d* *iP* **P 16 43 44.8 +0.5**
TIXI pmax pmax
comp=Z,20nm,1.0s,mb5.0
L15A Malad City 50.53 288 ⇑P **P 16 43 44.6 -0.3**
baz=50
G10A Bishop Farm, J 50.53 295 ⇑P **P 16 43 44.5 -0.3**
baz=50
K14A Jones Ranch, D 50.54 289 ⇑P **P 16 43 45.2 +0.3**
baz=50,SNR=6.8
O18A Roosevelt 50.57 285 ⇑P **P 16 43 44.7 -0.5**
baz=50
F09A S2 Ranch, Elgi 50.62 295 ⇑P **P 16 43 45.4 -0.1**
baz=50,SNR=11
BBB Bella Bella 50.65 308 LR LR 17 05 21.3
comp=Z,1µm,18.7s,MS4.9,baz=225,slow=36
HKT Hockley 50.77 265 *eP* **P 16 43 47.1 +0.2**
HKT pmax pmax
comp=Z,53nm,1.7s,mb5.2
HKT Hockley 50.77 265 *eP* **P 16 43 47.1 +0.2**
comp=Z,53nm,1.7s,mb5.2
HKT Hockley 50.77 265 *eP* **P 16 43 47.1 +0.2**
comp=Z,53nm,1.7s,mb5.2
B05A Bryant 50.77 300 ⇑P **P 16 43 45.3 -1.4**
baz=51
N16A Rees Ranch, Co 50.85 287 ⇓P **P 16 43 47.4 +0.1**
baz=51,SNR=8.5
G09A Cove 50.86 295 ⇓P **P 16 43 46.7 -0.7**
baz=51
K13A Stover Farm, H 50.92 290 ⇑P **P 16 43 48.0 +0.1**
baz=51
L14A Malta 50.94 289 ⇓P **P 16 43 47.2 -0.8**
baz=51
I11A Placerville 50.95 293 ⇓P **P 16 43 47.9 -0.1**
baz=51
M15A Larsen Ranch, 50.95 288 ⇑P **P 16 43 47.4 -0.7**
baz=51,SNR=6.3
D06A Cle Elum 50.96 299 ⇓P **P 16 43 47.6 -0.5**
baz=51
F08A Pendleton 50.97 296 ⇑P **P 16 43 47.2 -0.9**
baz=51
O17A Robinson Place 51.00 286 ⇑P **P 16 43 48.2 -0.3**
baz=51,SNR=12
J12A Stokes Ranch, 51.00 291 ⇓P **P 16 43 49.0 +0.6**
baz=51,SNR=18
GNI Garni 51.08 74⇑ *eP* **P 16 43 51.0 +1.9**
GNI pmax pmax
comp=Z,44nm,1.3s
GNI Garni 51.08 74 *eP* **P 16 43 50.1 +1.0**
comp=Z,49nm,1.4s,mb5.2
GNI Garni 51.08 74 *eP* **P 16 43 50.1 +1.0**
comp=Z,49nm,1.4s,mb5.2
MARD Mardin 51.10 80 *i* P **P 16 43 51.9 +2.7**
DAU Daniels Canyon 51.11 286 *eP* **P 16 43 49.8 +0.5**
DAU Daniels Canyon 51.11 286 *eP* **P 16 43 49.8 +0.5**
Q19A Hogan Spring (51.14 283 ⇑P **P 16 43 49.0 -0.5**
baz=51
P18A Preston Nutter 51.16 285 ⇑P **P 16 43 49.5 -0.1**
baz=51
MFID Camas Ranch 51.24 292 ⇓P **P 16 43 50.1 -0.1**
baz=51
H09A Durkee 51.25 294 ⇑P **P 16 43 49.6 -0.7**
baz=51
PMR Palmer 51.25 327 *eP* **P 16 43 49.8 -0.2**
PMR pmax pmax
comp=Z,23nm,1.1s,mb5.0
PMR MLR MLR
comp=Z,600nm,21.0s,MS4.6
PMR Palmer 51.25 327 *eP* **P 16 43 49.8 -0.2**
comp=Z,23nm,1.1s,mb5.0
PMR LR LR
comp=Z,600nm,21.0s,MS4.6
L13A Double Diamond 51.26 290 ⇑P **P 16 43 50.3 -0.1**
baz=51
K12A Draper Farm, C 51.35 291 ⇑P **P 16 43 52.0 +1.0**
baz=51,SNR=11
PV01 Paradox Valley 51.38 282 *eP* **P 16 43 52.1 +0.7**
PV01 Paradox Valley 51.38 282 *eP* **P 16 43 52.1 +0.8**
M14A Sheep Mountain 51.38 289 ⇑P **P 16 43 50.9 -0.5**
baz=51,SNR=8.8
N15A Stansbury Isla 51.41 288 ⇓P **P 16 43 51.2 -0.3**
baz=51
G08A Pilot Rock 51.43 296 ⇑P **P 16 43 51.0 -0.6**
baz=51
PV10 Paradox Valley 51.45 283 *eP* **P 16 43 53.7 +1.8**
PV10 Paradox Valley 51.45 283 *eP* **P 16 43 53.7 +1.8**
Q18A Rafter H Ranch 51.49 284 ⇓P **P 16 43 52.0 -0.1**
baz=51,SNR=9.7
E06A Yakima 51.49 298 ⇓P **P 16 43 51.5 -0.6**
baz=51
TOA0 Torodi Ar. Sit 51.52 135 P **P 16 43 50.8 -1.8**
TOA0 Torodi Ar. Sit 51.52 135 P **P 16 43 50.8 -1.8**
TORD Torodi Ar. Bea 51.52 135 P **P 16 43 51.8 -0.8**
comp=Z,14nm,1.2s,mb4.8,baz=340,slow=6.6,SNR=15
TORD LR LR 17 03 31.5
comp=Z,610nm,19.9s,MS4.6,baz=345,slow=34
P17A Butcher Ranch, 51.53 285 ⇑P **P 16 43 52.6 +0.1**
baz=51
MPU Maple Canyon 51.59 286 *eP* **P 16 43 53.2 +0.3**
comp=Z,22nm,0.9s,mb5.1
MPU Maple Canyon 51.59 286 *eP* **P 16 43 53.2 +0.3**
comp=Z,22nm,0.9s,mb5.1
SRU San Rafael 51.69 285 *eP* **P 16 43 54.4 +0.8**
SRU pmax pmax
comp=Z,12nm,1.3s,mb4.7
SRU San Rafael 51.69 285 ⇑P **P 16 43 53.6 0.0**
baz=52
SRU San Rafael 51.69 285 *eP* **P 16 43 54.4 +0.8**
comp=Z,12nm,1.3s,mb4.7
J10A Berg Farm, Mel 51.70 293 ⇑P **P 16 43 52.8 -0.9**
baz=52
L12A House Creek Ra 51.76 290 ⇑P **P 16 43 54.3 +0.1**
baz=52
N14A Grayback Hills 51.78 288 ⇑P **P 16 43 54.4 +0.1**
baz=52
I09A Lost Marbles R 51.79 294 ⇓P **P 16 43 54.2 -0.2**
baz=52
G07A Ruggs Ranch, H 51.79 296 ⇑P **P 16 43 53.9 -0.4**
baz=52
K11A Parker Ranch, 51.82 292 ⇓P **P 16 43 54.5 0.0**
baz=52
H08A Prairie City 51.85 295 ⇑P **P 16 43 54.5 -0.3**
baz=52
NLU North Lily Min 51.87 286 *eP* **P 16 43 55.3 +0.3**
NLU North Lily Min 51.87 286 *eP* **P 16 43 55.3 +0.4**
R18A Canyonlands Na 51.89 283 ⇓P **P 16 43 55.3 +0.1**
baz=52,SNR=18
TMUT Trail Mountain 51.90 285 *eP* **P 16 43 55.7 +0.5**
TMUT Trail Mountain 51.90 285 *eP* **P 16 43 55.7 +0.4**
M13A Montello 51.91 289 ⇑P **P 16 43 55.4 +0.2**
baz=52
F06A Goldendale 51.96 297 ⇓P **P 16 43 55.0 -0.6**
baz=52
S19A Harvey Farm, M 51.97 282 ⇓P **P 16 43 56.3 +0.5**
baz=52,SNR=13
MVCO Mesa Verde 52.03 281 *eP* **P 16 43 57.4 +1.2**
comp=Z,55nm,1.4s,mb5.3
MVCO Mesa Verde 52.03 281 *eP* **P 16 43 57.4 +1.2**
comp=Z,55nm,1.4s,mb5.3
L11A Cat Creek Ranc 52.12 291 ⇓P **P 16 43 56.8 0.0**
baz=52
C03A Quillayute Air 52.15 302 ⇓P **P 16 43 56.8 -0.1**
baz=52
Q16A Castle Valley 52.17 285 ⇓P **P 16 43 56.9 -0.3**
baz=52
F05A White Salmon 52.20 298 ⇑P **P 16 43 57.3 -0.1**
baz=52
H07A Lands Inn, Kim 52.23 296 ⇓P **P 16 43 57.2 -0.4**
baz=52
K10A MacKenzie Ranc 52.23 292 ⇑P **P 16 43 57.4 -0.3**
baz=52,SNR=9.6
I08A Drewsey 52.24 294 ⇑P **P 16 43 56.9 -0.8**
baz=52
M12A Wells 52.25 290 ⇑P **P 16 43 57.8 0.0**
baz=52,SNR=13
J09A Fry Pan Ranch, 52.25 293 ⇓P **P 16 43 57.5 -0.3**
baz=52
P15A Leamington 52.26 286 ⇑P **P 16 43 57.6 -0.3**
baz=52
R17A Hanksville Air 52.30 284 ⇑P **P 16 43 58.2 0.0**
baz=52
N13A Wendover, West 52.30 289 ⇓P **P 16 43 58.1 -0.1**
baz=52
S18A Hurst Farm, Bl 52.46 283 ⇑P **P 16 43 59.8 +0.4**
baz=52,SNR=28
JCT Junction City 52.50 269 *eP* **P 16 43 58.9 -0.9**
JCT pmax pmax
comp=Z,28nm,1.1s,mb5.1
JCT Junction City 52.50 269 *eP* **P 16 43 58.9 -0.9**
comp=Z,28nm,1.1s,mb5.1
JCT Junction City 52.50 269 *eP* **P 16 43 58.9 -0.9**
comp=Z,28nm,1.1s,mb5.1
H06A Lindquist Farm 52.50 296 ⇑P **P 16 43 59.7 +0.1**
baz=52
L10A Juniper Basin 52.55 291 ⇑P **P 16 44 00.1 +0.1**
baz=52
I07A Izee 52.58 295 ⇑P **P 16 44 00.2 +0.1**
baz=52
T19A Beclabito 52.60 282 ⇑P **P 16 44 00.9 +0.4**
baz=52,SNR=7.7
G05A Wamic 52.60 297 ⇓P **P 16 43 59.3 -1.1**
baz=52
J08A Circle Bar Ran 52.60 294 ⇑P **P 16 43 59.7 -0.7**
baz=52,SNR=12
F04A Amboy 52.62 299 ⇓P **P 16 44 00.0 -0.5**
baz=52
ANMO Albuquerque 52.65 278⇑ *eP* **P 16 44 01.6 +0.8**
ANMO Albuquerque 52.65 278 *eP* **P 16 44 02.0 +1.1**
comp=Z,14nm,1.4s,mb4.7
P14A Drum Mountains 52.65 287 ⇑P **P 16 44 00.9 +0.1**
baz=52,SNR=9.5
M11A Holland Ranch, 52.68 290 ⇑P **P 16 44 01.1 +0.1**
baz=52
E03A Lebam 52.71 300 ⇓P **P 16 44 00.9 -0.2**
baz=52
K09A Rome 52.72 293 ⇓P **P 16 44 01.8 +0.6**
baz=52,SNR=21
N12A Clover Valley, 52.73 289 ⇓P **P 16 44 01.5 +0.2**
baz=53
Q15A Fillmore 52.73 286 ⇑P **P 16 44 01.1 -0.3**
baz=53
R16A Teasdale 52.80 285 ⇑P **P 16 44 02.0 +0.1**
baz=53
T18A Mexican Hat 52.81 282 ⇑P **P 16 44 02.1 0.0**
baz=53,SNR=17
ELK Elko 52.91 289 *eP* **P 16 44 03.8 +1.1**
ELK pmax pmax
comp=Z,18nm,1.3s
ELK Elko 52.91 289 *eP* **P 16 44 03.8 +1.1**
comp=Z,18nm,1.3s,mb4.8
ELK Elko 52.91 289 *eP* **P 16 44 03.8 +1.1**
comp=Z,18nm,1.3s,mb4.8
S17A Black Ridge (B 52.93 284 ⇑P **P 16 44 03.1 +0.3**
baz=53,SNR=15
MSU Marysvale 52.99 285 *eP* **P 16 44 03.9 +0.6**
MSU Marysvale 52.99 285 *eP* **P 16 44 03.9 +0.6**
H05A Madras 53.00 297 ⇓P **P 16 44 03.1 -0.2**
baz=53
O12A Currie 53.01 289 ⇓P **P 16 44 04.0 +0.5**
baz=53,SNR=8.8
MSL Mosul 53.02 79 *ex* x 16 44 04.0
MSL *ex* x 16 51 37.0
I06A Prineville 53.02 295 ⇓P **P 16 44 02.9 -0.6**
baz=53
Q14A Sevier Lake (B 53.21 286 ⇑P **P 16 44 05.5 +0.6**
baz=53,SNR=15
P13A Bates Ranch, G 53.24 287 ⇑P **P 16 44 04.8 -0.3**
baz=53
BNM Barren Site 53.35 277 *eP* **P 16 44 07.3 +1.3**
BNM Barren Site 53.35 277 *eP* **P 16 44 07.3 +1.3**
WVOR Wild Horse Val 53.37 293 *eP* **P 16 44 06.2 +0.2**
WVOR pmax pmax
comp=Z,36nm,1.4s,mb5.1
WVOR Wild Horse Val 53.37 293 *eP* **P 16 44 06.2 +0.2**
comp=Z,36nm,1.4s,mb5.1
WVOR Wild Horse Val 53.37 293 *eP* **P 16 44 06.2 +0.2**
comp=Z,36nm,1.4s,mb5.1
L08A Fields 53.40 293 ⇑P **P 16 44 06.9 +0.6**
baz=53,SNR=12
BRVK Borovoye 53.41 47 P **P 16 44 04.7 -1.5**
BRVK pmax pmax
comp=Z,13nm,1.1s,mb4.8
BRVK Borovoye 53.41 47 P **P 16 44 04.7 -1.5**
comp=Z,13nm,1.1s,mb4.8
T17A Navajo Res., N 53.41 283 ⇑P **P 16 44 06.6 +0.2**
baz=53
H04A Detroit Lake 53.43 297 ⇑P **P 16 44 06.6 +0.2**
baz=53
V19A Window Rock 53.45 281 ⇓P **P 16 44 06.8 +0.1**
baz=53
K07A Rock Creek Ran 53.48 294 ⇑P **P 16 44 06.4 -0.4**
baz=53
SVW2 Sparrevohn 53.49 329 *eP* **P 16 44 05.5 -1.2**
J06A Christmas Vall 53.51 295 ⇓P **P 16 44 06.9 -0.2**
baz=53,SNR=9.0
M09A Marrel Ranch, 53.52 291 ⇓P **P 16 44 07.4 +0.3**
baz=53
U17A Shonto 53.63 283 ⇓P **P 16 44 08.4 +0.3**
baz=54
K06A Valley Falls 53.89 295 ⇓P **P 16 44 09.6 -0.3**
baz=54
V18A Ganado 53.92 281 ⇓P **P 16 44 10.6 +0.4**
baz=54
BILL Bilibino 53.95 351 *eP* **P 16 44 10.1 +0.2**
BILL pmax pmax
comp=Z,17nm,1.3s,mb4.8
BILL MLR MLR
comp=Z,800nm,19.0s,MS4.8
H03A Soap Creek Ran 53.96 298 ⇓P **P 16 44 10.7 +0.3**
baz=54
M08A Happy Creek Ra 53.97 292 ⇑P **P 16 44 11.1 +0.6**
baz=54,SNR=12
J05A Fort Rock 54.01 296 ⇑P **P 16 44 11.3 +0.6**
baz=54,SNR=8.8
L07A Adell 54.02 293 ⇑P **P 16 44 11.2 +0.3**
baz=54
P11A Circle Ranch, 54.06 289 ⇑P **P 16 44 11.6 +0.4**
baz=54
W19A Sanders 54.09 280 ⇓P **P 16 44 11.9 +0.5**
baz=54
R13A O'Grain Ranch, 54.17 286 ⇓P **P 16 44 11.8 -0.1**
baz=54
ARUT Antelope Range 54.19 286 *eP* **P 16 44 12.4 +0.3**
ARUT Antelope Range 54.19 286 *eP* **P 16 44 12.4 +0.2**
I04A Tendick Farm, 54.20 297 ⇑P **P 16 44 11.9 -0.2**
baz=54
T15A Red Dirt Ranch 54.22 284 ⇑P **P 16 44 12.5 +0.1**
baz=54
U16A Tuba City 54.23 283 ⇑P **P 16 44 13.0 +0.5**
baz=54,SNR=9.8
K05A Summer Lake 54.26 295 ⇑P **P 16 44 13.1 +0.6**
baz=54,SNR=7.5
O09A Fish Creek Ran 54.33 290 ⇓P **P 16 44 13.6 +0.5**
baz=54
N08A GE Springer Mi 54.35 291 ⇑P **P 16 44 13.5 +0.3**
baz=54
P10A Eureka 54.37 289 ⇑P **P 16 44 13.6 +0.2**
baz=54
R12A Pony Springs, 54.39 287 ⇓P **P 16 44 13.9 +0.3**
baz=54
Q11A Duckwater 54.54 288 ⇑P **P 16 44 14.7 +0.1**
baz=54
T14A Hurricane 54.55 285 ⇑P **P 16 44 14.8 0.0**
baz=54
X19A St. Johns 54.56 280 ⇓P **P 16 44 15.2 +0.4**
baz=54,SNR=13
S13A Holt Ranch, En 54.57 286 ⇑P **P 16 44 15.2 +0.4**
baz=54
MOD Modoc 54.59 294 ⇓P **P 16 44 15.4 +0.5**
baz=54
MOD Modoc 54.59 294 *eP* **P 16 44 15.3 +0.4**
comp=Z,38nm,1.4s,mb5.2
MOD Modoc 54.59 294 *eP* **P 16 44 15.3 +0.3**
comp=Z,38nm,1.4s,mb5.2
U15A North Rim 54.62 284 ⇑P **P 16 44 14.8 -0.5**
baz=54,SNR=12
L05A Lakeview 54.74 294 ⇓P **P 16 44 16.0 0.0**
baz=55,SNR=10
N07B Gerlach 54.77 292 ⇑P **P 16 44 16.3 0.0**
baz=55
W17A Winslow 54.81 281 ⇓P **P 16 44 17.1 +0.5**
baz=55
WUAZ Wupatki 54.83 282 *eP* **P 16 44 17.3 +0.5**
comp=Z,35nm,1.3s,mb5.2
WUAZ Wupatki 54.83 282 *eP* **P 16 44 17.3 +0.5**
comp=Z,35nm,1.3s,mb5.2
X18A Snowflake 54.83 280 ⇑P **P 16 44 17.5 +0.7**
baz=55
R11A Troy Canyon, C 54.88 288 ⇓P **P 16 44 17.4 +0.3**
baz=55,SNR=12
Y19A Nutrioso 54.90 279 ⇓P **P 16 44 18.2 +0.9**
baz=55,SNR=20
Q10A Clear Creek Ra 54.94 289 ⇓P **P 16 44 18.2 +0.7**
baz=55,SNR=8.0
T13A Saint George 55.02 285 ⇑P **P 16 44 18.1 0.0**
baz=55
V15A Kaibab Nationa 55.02 283 ⇑P **P 16 44 18.6 +0.4**
baz=55,SNR=11
S12A Delamar Landin 55.06 286 ⇑P **P 16 44 18.7 +0.2**
baz=55
U14A Mt Trumbull 55.09 284 ⇑P **P 16 44 18.2 -0.5**
baz=55,SNR=8.9
O07A Toulon 55.19 291 ⇓P **P 16 44 19.2 -0.1**
baz=55
M06C Likely Place G 55.20 293 ⇑P **P 16 44 19.1 -0.3**
baz=55
N06A Buffalo Meadow 55.22 293 ⇓P **P 16 44 19.8 +0.2**
baz=55,SNR=11
W16A Flagstaff 55.23 282 ⇑P **P 16 44 19.9 +0.2**
baz=55
DBIC Dimbokro 55.28 145 P **P 16 44 19.5 -0.7**
comp=Z,6.6nm,0.9s,mb4.7,baz=7.7,slow=12,SNR=4.9
DBIC LR LR 17 05 15.0
comp=Z,1µm,19.4s,MS4.9,baz=331,slow=33
M05C Lookout 55.41 294 ⇓P **P 16 44 21.0 +0.1**
baz=55
Z19A T-Link Ranch, 55.41 279 ⇓P **P 16 44 21.6 +0.5**
baz=55
X17A Forest Lakes 55.43 281 ⇓P **P 16 44 21.6 +0.5**
baz=55
M04C Macdoel 55.43 295 ⇑P **P 16 44 20.8 -0.3**

baz=55
Y18A Canyon Day Jun 55.45 280 ⇓P P 16 44 21.7 +0.4
baz=55
TXAR Lajitas Array 55.48 271 P P 16 44 21.1 -0.4
comp=Z,2.0nm,0.9s,mb4.2,baz=62,slow=5.8,SNR=14
TXAR LR LR 17 07 15.8
comp=Z,517nm,19.1s,MS4.6,baz=5.0,slow=35
TXAR Lajitas Array 55.48 271 P P 16 44 21.1 -0.5
K02A Glendale 55.49 297 ⇓P P 16 44 21.4 -0.1
baz=55
S11A Rachel 55.50 287 ⇑P P 16 44 21.9 +0.3
baz=55
U13A Pakoon Wash 55.51 285 ⇓P P 16 44 22.1 +0.4
baz=55,SNR=17
T11A Corn Creek, Al 55.53 286 ⇓P P 16 44 22.2 +0.4
baz=55,SNR=11
W15A Williams 55.56 283 ⇑P P 16 44 22.5 +0.4
baz=55
LIC Lamto 55.65 146 *e*P P 16 44 22.8 -0.1
comp=Z,52nm,1.2s,mb5.1
LIC *e*MLR MLR
comp=Z,2μm,21.0s,MS4.8
LIC Lamto 55.65 146 *e*P P 16 44 22.8 -0.1
comp=Z,26nm,1.2s,mb5.1
LIC LR LR
comp=Z,800nm,21.0s,MS4.8
V14A Boquillas Ranc 55.65 284 ⇑P P 16 44 22.9 +0.2
baz=56,SNR=13
O06A Flanigan 55.66 292 ⇓P P 16 44 23.2 +0.5
baz=56
Q08A Gabbs 55.69 290 ⇑P P 16 44 23.1 +0.2
baz=56,SNR=7.0
X16A Lo Mia Camp, P 55.70 281 ⇑P P 16 44 24.0 +0.8
baz=56,SNR=13
S10A Tonopah Range, 55.72 288 ⇑P P 16 44 23.5 +0.3
baz=56,SNR=13
R09A Tonopah 55.72 289 ⇑P P 16 44 23.2 -0.1
baz=56,SNR=18
ELFS Eagle Lake Fie 55.76 293 ⇑P P 16 44 23.5 0.0
baz=56
PAHR Pah Rah Range 55.78 291 *e*P P 16 44 24.5 +0.9
comp=Z,28nm,1.1s,mb5.2
PAHR Pah Rah Range 55.78 291 *e*P P 16 44 24.5 +0.9
comp=Z,28nm,1.1s,mb5.2
U12A Valley of Fire 55.79 285 ⇑P P 16 44 23.7 0.0
baz=56
119A Ashpeak Ranch, 55.84 278 ⇓P P 16 44 25.0 +0.9
baz=56,SNR=11
YBH Yreka Blue Hor 55.90 295 ⇓P P 16 44 23.4 -1.0
baz=56
TPH Tonopah 55.93 289 *e*P P 16 44 25.0 +0.3
TPH pmax pmax
comp=Z,14nm,1.1s,mb4.9
TPH Tonopah 55.93 289 *e*P P 16 44 25.0 +0.3
comp=Z,14nm,1.1s,mb4.9
TPH Tonopah 55.93 289 *e*P P 16 44 25.0 +0.3
comp=Z,14nm,1.1s,mb4.9
Y17A Roosevelt 55.94 280 ⇓P P 16 44 25.5 +0.6
baz=56,SNR=7.4
V13A Grand Canyon W 55.95 284 ⇑P P 16 44 24.9 0.0
baz=56,SNR=9.0
M03C McCloud 55.95 295 ⇑P P 16 44 24.3 -0.5
baz=56
W14A Seligman 55.96 283 ⇓P P 16 44 25.5 +0.5
baz=56,SNR=8.2
L02A Cave Junction 56.01 296 ⇓P P 16 44 24.6 -0.6
baz=56
X15A Humboldt 56.07 282 ⇓P P 16 44 26.0 +0.2
baz=56
Y16A Circle Bar Ran 56.14 281 ⇓P P 16 44 27.1 +0.8
baz=56,SNR=11
BEKR Beckwourth 56.15 292 ⇑P P 16 44 25.9 -0.4
baz=56
O04C Chester 56.17 293 ⇑P P 16 44 26.7 +0.4
baz=56
S09A Goldfield 56.19 288 ⇓P P 16 44 26.7 +0.1
baz=56
NVAR Mina Array Bea 56.21 290 P P 16 44 26.4 -0.3
comp=Z,2.4nm,0.8s,mb4.3,baz=52,slow=5.1,SNR=16
NVAR PP PP 16 46 31.2 -0.3
comp=Z,0.5nm,0.8s,baz=39,slow=5.7,SNR=3.8
NVAR Mina Array Bea 56.21 290 PP PP 16 46 31.2 -0.3
WCN Washoe City 56.28 291 ⇑P P 16 44 27.3 +0.1
baz=56
TPNV Topopah Spring 56.28 287 *e*P P 16 44 27.0 -0.2
TPNV pmax pmax
comp=Z,14nm,1.3s,mb4.8
TPNV Topopah Spring 56.28 287 *e*P P 16 44 27.0 -0.2
comp=Z,14nm,1.3s,mb4.8
TPNV Topopah Spring 56.28 287 *e*P P 16 44 27.0 -0.3
comp=Z,14nm,1.3s,mb4.8
118A Homack Ranch, 56.29 279 ⇑P P 16 44 27.8 +0.4
baz=56
219A White Tail Can 56.41 278 ⇓P P 16 44 28.6 +0.4
baz=56,SNR=9.0
X14A Yava 56.43 283 ⇓P P 16 44 28.5 +0.2
baz=56
W13A Hualapai Mount 56.47 284 ⇑P P 16 44 29.0 +0.4
baz=56
M01C Crescent City 56.49 296 ⇓P P 16 44 28.4 -0.3
baz=56
V12A Nelson 56.49 285 ⇑P P 16 44 28.8 0.0
baz=56
SDV Santo Domingo 56.51 226 LR LR 17 05 26.3
comp=Z,66nm,20.1s,MS3.7,baz=250,slow=33
Z16A Peralta Trail, 56.53 281 ⇓P P 16 44 29.3 +0.2
baz=56
Y15A Casa Rosa Ranc 56.53 282 ⇓P P 16 44 28.8 -0.3
baz=56
WDC Whiskeytown Da 56.69 294 ⇑P P 16 44 29.9 -0.1
baz=56
P05C Yuba Gap, Truc 56.70 292 ⇓P P 16 44 30.1 -0.1
baz=56
R06C Coleville 56.72 291 ⇑P P 16 44 30.3 0.0
baz=57
NVS Novosibirsk 56.73 38 *e*P P 16 44 28.3 -1.9
NVS pmax pmax
comp=Z,89nm,2.6s,mb5.3
NVS pmax pmax
comp=N,19nm,2.0s
NVS pmax pmax
comp=E,29nm,2.6s
117A Oracle 56.76 279 ⇓P P 16 44 31.5 +0.9
baz=57,SNR=6.6
GRAC Grapevine Rang 56.82 288 ⇑P P 16 44 31.0 0.0
baz=57
X13A Yucca 56.83 283 ⇑P P 16 44 31.3 +0.2
baz=57,SNR=7.0
218A Dragoon 56.85 278 ⇑P P 16 44 31.7 +0.4
baz=57,SNR=8.4
S08C White Mtn Res 56.85 289 ⇑P P 16 44 31.1 -0.2
baz=57
N02C Big Bar 56.88 295 ⇓P P 16 44 31.0 -0.4
baz=57
R05C Kirkwood Meado 56.90 291 ⇓P P 16 44 31.8 +0.3
baz=57
319A Douglas 56.91 277 ⇓P P 16 44 32.4 +0.7
baz=57
ORV Oroville 56.96 293 ⇓P P 16 44 31.7 -0.2
baz=57
TUC Tucson 56.98 279 *e*P P 16 44 32.9 +0.6
TUC pmax pmax
comp=Z,10.0nm,1.2s,mb4.7
TUC Tucson 56.98 279 *e*P P 16 44 32.9 +0.6
comp=Z,9.6nm,1.2s,mb4.7
TUC Tucson 56.98 279 *e*P P 16 44 32.9 +0.6
comp=Z,9.6nm,1.2s,mb4.7
OHCM Honcut 57.12 293 *e*P P 16 44 32.6 -0.5
MTUM Tungsten Hills 57.16 289 *e*P P 16 44 33.7 +0.2
MTUM Tungsten Hills 57.16 289 *e*P P 16 44 33.7 +0.3
LAVA Lava Cap Winer 57.19 292 ⇑P P 16 44 33.5 -0.1
baz=57
PDMCI Parker Dam,Lak 57.22 283 ⇓P P 16 44 33.8 -0.1
baz=57
318A Bisbee 57.23 278 ⇓P P 16 44 34.6 +0.6
baz=57
Z14A Wintersburg 57.31 282 ⇑P P 16 44 34.9 +0.3
baz=57
S06C San Francisco 57.41 290 ⇑P P 16 44 35.6 +0.4
baz=57,SNR=8.8
217A Green Valley 57.41 279 ⇑P P 16 44 36.0 +0.7
baz=57,SNR=12
Y13A Salome 57.43 283 ⇓P P 16 44 35.9 +0.5
baz=57
216A Three Points, 57.58 280 ⇑P P 16 44 37.0 +0.5
baz=58
MPMC Manual Prospec 57.60 287 ⇓P P 16 44 37.0 +0.4
baz=58
GMRC Granite Mounta 57.64 285 ⇑P P 16 44 37.2 +0.3
baz=58
GSC Goldstone 57.84 286 *e*P P 16 44 38.8 +0.6
GSC pmax pmax
comp=Z,5.0nm,0.3s,mb5.0
GSC Goldstone 57.84 286 ⇓P P 16 44 38.4 +0.1
baz=58
GSC Goldstone 57.84 286 *e*P P 16 44 38.8 +0.6
comp=Z,5.0nm,0.3s,mb5.0
GSC Goldstone 57.84 286 *e*P P 16 44 38.8 +0.6
comp=Z,5.0nm,0.3s,mb5.0
Y12C Blythe 57.84 283 ⇑P P 16 44 38.7 +0.3
baz=58
IRM Iron Mountain 57.86 284 ⇑P P 16 44 37.6 -0.8
baz=58
HELL Mitchell Peak 57.91 289 ⇑P P 16 44 39.2 +0.5
baz=58,SNR=19
HEC Hector,Ludlow 57.95 285 ⇑P P 16 44 39.3 +0.2
baz=58
ZAA0 Zalesovo Array 58.00 38 *e*P P 16 44 41.1 +2.0
ZALV Zalesovo Beam 58.00 38 P P 16 44 38.3 -0.8
comp=Z,1.5nm,0.6s,mb4.2,baz=340,slow=3.9,SNR=6.3
ZALV LR LR 17 08 17.6
comp=Z,149nm,19.4s,MS4.1,baz=161,slow=35
T06C Millerton Lake 58.01 290 ⇑P P 16 44 39.8 +0.3
baz=58
LRMC Laurel Mountai 58.16 287 ⇓P P 16 44 40.6 +0.1
baz=58
113A Mohawk Valley, 58.21 282 ⇓P P 16 44 41.0 +0.1
baz=58
214A Organ Pipe Nat 58.34 281 ⇑P P 16 44 42.0 +0.3
baz=58,SNR=10
CVS Carmenet Viney 58.36 293 ⇓P P 16 44 42.2 +0.3
baz=58
ISA Isabella 58.42 288 ⇑P P 16 44 42.7 +0.4
baz=58
KURK Kurchatov 58.45 44 *e*P P 16 44 40.2 -2.1
KURK pmax pmax
comp=Z,5.0nm,0.8s,mb4.6
KURK Kurchatov 58.45 44 *e*P P 16 44 40.2 -2.1
comp=Z,5.3nm,0.8s,mb4.6
GLA Glamis 58.55 283 *e*P P 16 44 43.7 +0.5
GLA pmax pmax
comp=Z,62nm,1.3s,mb5.5
GLA Glamis 58.55 283 ⇑P P 16 44 43.6 +0.3
baz=58
GLA Glamis 58.55 283 *e*P P 16 44 43.7 +0.5
comp=Z,62nm,1.3s,mb5.5
GLA Glamis 58.55 283 *e*P P 16 44 43.7 +0.5
comp=Z,62nm,1.3s,mb5.5
VES Vestal, Richgr 58.59 288 ⇓P P 16 44 43.8 +0.2
baz=58
KRAR Krasnoyarsk 58.75 32 ⇑*i*P P 16 44 44.8 +0.5
KRAR pmax pmax
comp=Z,38nm,1.7s,mb5.2
EDW2 Edwards Air Fo 58.78 287 ⇓P P 16 44 45.3 +0.5
baz=59
PFO Pinyon Flat Ob 58.97 285 P P 16 44 47.9 +1.7
comp=Z,77nm,1.0s,mb5.7,SNR=5.3
PFO Pinyon Flat Ob 58.97 285 P P 16 44 46.5 +0.4
comp=Z,13nm,1.1s,mb4.9,baz=32,slow=6.0,SNR=3.6
PFO Pinyon Flat Ob 58.97 285 *e*P P 16 44 46.7 +0.5
PFO pmax pmax
comp=Z,16nm,1.1s,mb5.0
PFO Pinyon Flat Ob 58.97 285 ⇓P P 16 44 47.0 +0.8
baz=59
PFO Pinyon Flat Ob 58.97 285 *e*P P 16 44 46.7 +0.5
comp=Z,16nm,1.1s,mb5.0
PFO Pinyon Flat Ob 58.97 285 *e*P P 16 44 46.7 +0.5
comp=Z,16nm,1.1s,mb5.0
BFSC Mount Baldy St 59.10 286 ⇑P P 16 44 48.1 +1.0
baz=59
FARB Farallon Islan 59.14 292 ⇓P P 16 44 47.9 +0.7
baz=59
SWSC Sam W. Stewart 59.14 284 ⇓P P 16 44 48.3 +1.0
baz=59
OSI Osito Adit 59.36 287 *e*P P 16 44 49.6 +0.7
OSI Osito Adit 59.36 287 *e*P P 16 44 49.6 +0.7
MONP Monument Peak 59.51 284 ⇓P P 16 44 51.4 +1.4
baz=59
DVTC Desert V Tower 59.52 284 ⇓P P 16 44 51.0 +1.0
baz=59
V03C Hunter Liggett 59.55 290 ⇑P P 16 44 50.9 +0.7
baz=59
YAK Yakutsk 60.03 9 ⇑*e*P P 16 44 51.9 -1.2
YAK pmax pmax
comp=Z,24nm,1.3s,mb5.1
ROSC El Rosal 61.65 228 P P 16 45 05.1 +0.4
comp=Z,10nm,0.5s,mb5.2,baz=249,slow=18,SNR=10
ROSC LR LR 17 09 13.1
comp=Z,182nm,19.6s,MS4.2,baz=228,slow=34
ROSC El Rosal 61.65 228 *e*P P 16 45 06.2 +1.5
ROSC El Rosal 61.65 228 *e*P P 16 45 06.2 +1.5
BOD Bodaibo 62.04 19 *e*P P 16 45 05.7 -1.1
BOD pmax pmax
comp=Z,7.0nm,1.8s,mb4.5
MK31 Makanchi Array 63.06 44 *e*P P 16 45 13.6 -0.2
MK31 Makanchi Array 63.06 44 *e*P P 16 45 13.6 -0.2
MKAR Makanchi Array 63.06 44 P P 16 45 13.7 -0.1
comp=Z,6.2nm,1.1s,mb4.6,baz=344,slow=4.6,SNR=8.1
MKAR LR LR 17 13 01.0
comp=Z,298nm,18.7s,MS4.5,baz=326,slow=36
MOY Mondy 64.85 30 *e*P P 16 45 26.6 +1.2
MOY pmax pmax
comp=Z,60nm,3.2s
IRK Irkutsk 65.17 27 ⇑*i*P P 16 45 26.7 -0.8
IRK pmax pmax
comp=Z,45nm,2.0s,mb5.2
TLY Talaya 65.52 28 *e*P P 16 45 29.4 -0.4
TLY pmax pmax
comp=Z,11nm,1.7s,mb4.6
TLY MLR MLR
comp=Z,179nm,18.0s,MS4.3
TLY Talaya 65.52 28 *e*P P 16 45 28.0 -1.8
comp=Z,6.0nm,1.0s,mb4.6
TLY Talaya 65.52 28 *e*P P 16 45 28.0 -1.8
comp=Z,6.0nm,1.0s,mb4.6
ZAK Zakamensk 66.62 29 *e*P P 16 45 35.6 -1.3
ZAK pmax pmax
comp=Z,6.0nm,1.4s,mb4.4
OTAV Otavalo 67.52 230 *e*P P 16 45 43.3 +0.3
comp=Z,21nm,1.3s,mb5.0
OTAV Otavalo 67.52 230 *e*P P 16 45 43.3 +0.3
comp=Z,21nm,1.3s,mb5.0
WMQ Urumqi 67.59 42 P P 16 45 44.1 +0.9
WMQ AP pP 16 45 49.1 +3.7
WMQ XP sP 16 45 51.4 +5.2
WMQ PCP PcP 16 46 11.1 +0.8
WMQ PP PP 16 48 15.1 +3.6
WMQ SCP 16 50 13.1
WMQ S S 16 54 39.1 -0.9
WMQ XS sS 16 54 47.1 +3.5
WMQ AMB AMB
comp=Z,11nm,1.0s,mb4.8
WMQ AMB AMB
comp=Z,176nm,4.2s
WMQ LR LR
comp=N,215nm,23.6s,MS4.5
WMQ LR LR
comp=E,247nm,21.5s,MS4.5
WMQ LR LR
comp=Z,327nm,21.5s,MS4.5
PETK Petropavlovsk- 69.39 353 P P 16 45 54.0 -0.2
comp=Z,5.3nm,0.9s,mb4.5,baz=306,slow=12,SNR=2.7
PETK Petropavlovsk- 69.39 353 P P 16 45 54.0 -0.2
SONM Songino Array 69.76 28 P P 16 45 56.9 +0.3
SONM PKKPbc 17 05 56.5
comp=Z,6.2nm,1.0s,mb4.5,baz=329,slow=6.3,SNR=33
comp=Z,0.7nm,1.0s,baz=132,slow=2.2,SNR=3.6
SONM LR LR 17 18 22.4
comp=Z,277nm,19.6s,MS4.5,baz=328,slow=38
ULN Ulaanbaatar 69.90 27 ⇑*eP* P 16 45 57.5 0.0
ULN Ulaanbaatar 69.90 27 *eP* P 16 45 58.0 +0.5
comp=Z,16nm,1.0s,mb4.9
ULN Ulaanbaatar 69.90 27 *eP* P 16 45 58.0 +0.5
comp=Z,16nm,1.0s,mb4.9
KLR Kul'dur 72.88 10 *eP* P 16 46 12.2 -3.3
HABR Khabarovsk 73.92 8 *eP* P 16 46 20.2 -1.4
HABR *e* 16 46 35.4
HABR *e* 16 49 04.8
HABR *e* 16 50 49.4
HABR eS S 16 55 49.8 -3.6
HABR *e* 16 56 27.2
HABR *e* 17 03 56.6
HABR Khabarovsk 73.92 8 *e*PcP PcP 16 46 35.4 -1.6
GTA Gaotai 75.64 36 *eP* P 16 46 31.4 -0.3
GTA AP pP 16 46 35.6 +1.7
GTA XP sP 16 46 38.9 +4.1
GTA PP PP 16 49 22.7 +2.1
GTA S S 16 56 09.9 -3.1
GTA XS sS 16 56 18.3 +1.7
GTA SS SS 17 01 00.8 -2.1
GTA AMB AMB
comp=Z,8.0nm,1.3s,mb4.5
GTA AMB AMB
comp=Z,223nm,6.9s
GTA LR LR
comp=N,206nm,14.7s,MS4.8
GTA LR LR
comp=E,266nm,16.5s,MS4.8
GTA LR LR
comp=Z,402nm,14.7s,MS4.9
YSS Yuzh-Sakhalins 75.84 3 *eP* P 16 46 31.2 -1.5
YSS pmax pmax
comp=Z,80nm,1.5s,mb5.4
YSS Yuzh-Sakhalins 75.84 3 *eP* P 16 46 31.2 -1.5
comp=Z,80nm,1.5s,mb5.4
MDJ Mudanjiang 77.21 13 P P 16 46 39.9 -0.6
MDJ AMB AMB
comp=Z,11nm,1.2s,mb4.7
MDJ AMB AMB
comp=Z,164nm,4.5s
BTO Baotou 77.44 28 *eP* P 16 46 40.9 -1.0
CN2 Changchun 77.46 16 *eP* P 16 46 42.1 +0.2
CN2 *e*XP sP 16 46 49.1 +4.1
CN2 *e*S S 16 56 29.8 -2.9
CN2 AMB AMB
comp=Z,10.0nm,1.0s,mb4.7
CN2 AMB AMB
comp=Z,200nm,3.0s
HHC Hu-ho-hao-te 77.60 27 *eP* P 16 46 42.3 -0.5
HHC AP pP 16 46 47.2 +2.2
HHC XP sP 16 46 49.5 +3.7
HHC PP PP 16 49 39.1 +2.2
HHC S S 16 56 31.8 -2.5
HHC XS sS 16 56 39.8 +1.8
HHC SKS 16 56 50.0
HHC SCS ScS 16 56 57.5 -3.9
HHC AMB AMB
comp=Z,18nm,1.0s,mb5.0
HHC AMB AMB
comp=Z,128nm,5.6s
HHC LR LR
comp=N,234nm,19.0s,MS4.7
HHC LR LR
comp=E,299nm,19.4s,MS4.7
HHC LR LR
comp=Z,269nm,20.2s,MS4.6
ASAJ Asahikawa 78.67 3 P P 16 46 48.1 -0.6
comp=Z,11nm,1.0s,mb4.7,baz=287,slow=7.5,SNR=4.1
VLA Vladivostok 78.94 11 *eP* P 16 46 49.5 -0.7
VLA pmax pmax
comp=Z,29nm,1.5s,mb5.0
VLA Vladivostok 78.94 11 *eP* P 16 46 49.5 -0.7
comp=Z,29nm,1.5s,mb5.0
LPAZ La Paz 79.08 214 P P 16 46 51.1 0.0
comp=Z,1.9nm,0.9s,mb4.0,baz=15,slow=9.3,SNR=6.2
LPAZ LR LR 17 19 57.5
comp=Z,133nm,20.9s,MS4.3,baz=218,slow=34
BJI Beijing 79.42 24 P P 16 46 53.1 +0.2
BJI AMB AMB
comp=Z,16nm,0.9s,mb5.0
BJI AMB AMB
comp=Z,79nm,3.8s
BJI Beijing 79.42 24 P P 16 46 53.1 +0.2
comp=Z,16nm,0.9s,mb5.0
BJT Baijiatuan 79.44 24 *eP* P 16 46 53.2 +0.2
BJT Baijiatuan 79.44 24 *eP* P 16 46 53.2 +0.3
LZH Lanzhou 79.95 34 *eP* P 16 46 55.1 -0.7
LZH AP pP 16 46 59.8 +1.8
LZH XP sP 16 47 02.3 +3.5
LZH *e*PP PP 16 49 57.5 +0.9
LZH *e*S S 16 56 55.2 -4.4
LZH XS sS 16 57 04.3 +1.1
LZH *e*SS SS 17 02 07.6 -0.2
LZH AMB AMB
comp=Z,29nm,1.5s,mb5.0
LZH AMB AMB
comp=Z,153nm,8.2s
LZH LR LR
comp=N,351nm,16.7s
LZH LR LR
comp=Z,564nm,19.2s,MS4.9
LZH Lanzhou 79.95 34 *eP* P 16 46 55.1 -0.7
LZH *PP pP 16 46 59.8 +1.8
LZH *SP sP 16 47 02.3 +3.5
LZH *e* 16 49 57.5
LZH *e*S S 16 56 55.2 -4.4
LZH *SS sS 16 57 04.3 +1.1
LZH *e*SS SS 17 02 07.6 -0.2
LZH pmax pmax
comp=Z,29nm,1.5s,mb5.0
LZH MLR MLR
comp=Z,560nm,19.2s,MS4.9
LZH Lanzhou 79.95 34 *eP* P 16 46 55.1 -0.7
comp=Z,29nm,1.5s,mb5.0
LZH pP pP 16 46 59.8 +1.8
LZH *e*S S 16 56 55.2 -4.4
LZH Lanzhou 79.95 34 *eP* P 16 46 55.1 -0.7
comp=Z,29nm,1.5s,mb5.0
LZH pP pP 16 46 59.8 +1.8
LZH sP sP 16 47 02.3 +3.5
LZH *e*PP PP 16 49 57.5 +0.9
LZH *e*S S 16 56 55.2 -4.4
LZH sS sS 16 57 04.3 +1.1
LZH *e*SS SS 17 02 07.6 -0.2
LZH LR LR
comp=Z,560nm,19.2s,MS4.9
KMBO Kilima Mbogo 80.48 107 LR LR 17 25 25.8
comp=Z,288nm,18.8s,MS4.7,baz=283,slow=38
ERM Erimo 80.78 3 *i*P P 16 46 58.5 -1.7
XAN Xi'an 83.33 31 P P 16 47 13.4 -0.3
XAN PP PP 16 50 22.9 -1.6
XAN S S 16 57 32.3 -2.3
XAN AMB AMB
comp=Z,4.0nm,1.1s,mb4.4
XAN LR LR
comp=N,146nm,29.2s
XAN LR LR
comp=E,143nm,23.6s
XAN LR LR
comp=Z,190nm,24.5s,MS4.4
KSRS Korea Array 84.04 15 P P 16 47 16.8 -0.5
comp=Z,7.2nm,0.9s,mb4.8,baz=348,slow=5.3,SNR=31
CD2 Chengdu 84.71 36 *eP* P 16 47 19.6 -1.2
CD2 AP pP 16 47 24.4 +1.4
CD2 XP sP 16 47 26.8 +3.0
CD2 PP PP 16 50 36.4 +0.5
CD2 SKS 16 57 39.2
CD2 S S 16 57 43.8 -4.8
CD2 XS sS 16 57 51.3 -1.0
CD2 SS SS 17 03 16.8 -1.9
CD2 AMB AMB
comp=Z,10.0nm,0.8s,mb5.0
CD2 AMB AMB
comp=Z,30nm,6.2s
CD2 LR LR
comp=N,520nm,14.4s
CD2 LR LR
comp=Z,510nm,14.4s,MS5.0
LVC Limon Verde 85.28 213 *eP* P 16 47 23.8 +0.3
comp=Z,27nm,1.2s,mb5.2
LVC Limon Verde 85.28 213 *eP* P 16 47 23.8 +0.3
comp=Z,27nm,1.2s,mb5.2
CPUP Villa Florida 85.98 202 P P 16 47 24.2 -2.6
comp=Z,4.3nm,0.8s,mb4.7,baz=8.6,slow=6.0,SNR=7.8
CPUP LR LR 17 21 20.8
comp=Z,190nm,21.5s,MS4.5,baz=358,slow=32
CPUP Villa Florida 85.98 202 *eP* P 16 47 23.7 -3.2
CPUP pmax pmax
comp=Z,22nm,0.9s
CPUP Villa Florida 85.98 202 *eP* P 16 47 23.7 -3.2
comp=Z,22nm,0.9s,mb5.4
CPUP Villa Florida 85.98 202 *eP* P 16 47 23.7 -3.1
comp=Z,22nm,0.9s,mb5.4
MJAR Matsushiro Arr 86.01 7 P P 16 47 25.7 -1.5
comp=Z,1.2nm,0.7s,mb4.2,baz=319,slow=3.6,SNR=4.9
NJ2 Nanjing 87.69 24 *eP* P 16 47 37.0 +1.6
NJ2 AMB AMB
comp=Z,20nm,1.0s,mb5.3
WHN Wuhan 88.08 28 *eP* P 16 47 36.6 -0.7

KMI	**Kunming**	**89.72**	**39**	P	**P**	**16 47 45.4**	**+0.3**
KMI				AP	pP	16 47 50.1	+2.7
KMI				XP	sP	16 47 52.6	+4.4
KMI				PP	PP	16 51 18.0	+1.6
KMI				S	S	16 58 34.5	-2.5
KMI				SS	SS	17 04 30.9	-1.3
KMI				AMB	AMB		
	comp=Z,7.0nm,1.3s,mb4.8						
KMI				AMB	AMB		
	comp=Z,125nm,3.7s						
KMI				LR	LR		
	comp=Z,140nm,28.0s,MS4.2						
KMI	**Kunming**	**89.72**	**39**	P	**P**	**16 47 45.4**	**+0.3**
	comp=Z,7.0nm,1.3s,mb4.8						
KMI				pP	pP	16 47 50.1	+2.7
KMI				S	S	16 58 34.5	-2.5
KMI	**Kunming**	**89.72**	**39**	P	**P**	**16 47 45.4**	**+0.3**
	comp=Z,7.0nm,1.3s,mb4.8						
KMI				pP	pP	16 47 50.1	+2.7
KMI				sP	sP	16 47 52.6	+4.4
KMI				PP	PP	16 51 18.0	+1.6
KMI				S	S	16 58 34.5	-2.5
KMI				SS	SS	17 04 30.9	-1.3
KMI				SSS		17 08 08.6	
KMI				LR	LR		
	comp=Z,140nm,28.0s,MS4.2						
GYA	**Guiyang**	**89.77**	**35**	P	**P**	**16 47 43.6**	**-1.7**
GYA				PP	PP	16 51 17.8	+1.1
GYA				SKS		16 58 13.4	
GYA				S	S	16 58 32.9	-4.5
GYA				SS	SS	17 04 30.2	-2.5
GYA				AMB	AMB		
	comp=Z,20nm,1.0s,mb5.4						
GYA				LR	LR		
	comp=N,680nm,22.9s,MS5.1						
GYA				LR	LR		
	comp=E,590nm,23.8s,MS5.1						
GYA				LR	LR		
	comp=Z,540nm,22.2s,MS4.9						
CMAR	**Chiang Mai Arr**	**94.46**	**45**	P	**P**	**16 48 07.0**	**-0.1**
	comp=Z,0.7nm,0.9s,mb4.1,baz=331,slow=7.2,SNR=3.9						
BOSA	**Boshof**	**98.73**	**131**	LR	LR	17 32 03.7	
	comp=Z,340nm,21.3s,MS4.8,baz=346,slow=35						
TAOE	**Nuku Hiva Isla**	**106.59**	**280**	*e*LR	LR	17 24 17.0	
	comp=Z,2µm,24.3s						
PPT	**Papeete**	**118.85**	**283**	*e*LR	LR	17 30 01.6	
	comp=Z,695nm,23.2s						
TBI	**Tubuai**	**123.53**	**279**	*e*LR	LR	17 32 12.4	
	comp=Z,429nm,28.0s						
VNA1	**Neumayer--Stat**	**129.08**	**170**	*e*PKPdf	PKPdf	16 53 53.3	+0.1
VNA1				*e*		16 53 56.4	
VNA2	**Neumayer--Watz**	**129.43**	**169**	*e*PKPdf	PKPdf	16 53 53.8	0.0
	baz=65,slow=1.8						
VNA2				*e*		16 53 57.7	
VNA3	**Neumayer Olymp**	**129.52**	**170**	*e*PKPdf	PKPdf	16 53 53.6	-0.4
VNA3				*e*		16 53 57.6	
SNAA	**Sanae**	**130.62**	**168**	*e*PKPdf	PKPdf	16 53 55.8	-0.3
SNAA				*e*		16 53 58.8	
WRA	**Warramunga Arr**	**141.34**	**19**	PKP	PKPdf	16 54 16.0	-1.6
	comp=Z,1.8nm,1.0s,baz=339,slow=2.8,SNR=9.0						
ASAR	**Alice Springs**	**144.89**	**21**	PKP	PKPdf	16 54 22.1	-1.7
	comp=Z,11nm,0.9s,baz=355,slow=2.8,SNR=60						

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*ISCJB **02** 16:48:09.7±0.5, 57.3N±0.1×33.19W±0.10, h10km, mb4.1/30, MS3.9/14, Error ellipse: s-maj=15.5km s-min=7.0km az=13.1*
*IDC **02** 16:48:09.7±0.7, 57.28N×33.10W, h0km, mb3.8/14, mb1 4.0/16, mb1mx3.9/28, mbtmp3.9/16, ML3.1/2, MS4.0/12, Ms1 4.0/12, ms1mx3.6/37, Error ellipse: s-maj=23.3km s-min=14.5km az=1.0*
*NEIC **02** 16:48:11.3±0.3, 57.29N×33.17W, h10km, mb4.4/18, MS4.0/3, Error ellipse: s-maj=11.6km s-min=5.2km az=192.0*
*CSEM **02** 16:48:12.5±0.1, 57.43N×33.22W, h33km, mb4.4/17, Ms3.9, Error ellipse: s-maj=4.7km s-min=2.1km az=4.0*
*SZGRF **02** 16:48:16.2, 58.48N×33.24W, h33km, mb4.2, Reykjanes Ridge*
ISC 02 16:48:11.5±0.4**, 57.3N**±0.1×**33.16W**±0.10**, h10**km**, n67, σ0.77**/60**, mb4.1**/30**, MS3.9**/14**, Reykjanes Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SFJD	**Kangerlussuaq**	**12.63**	**327**	LR	LR	16 55 13.4	
	comp=Z,644nm,18.7s,baz=123,slow=34						
EKA	**Eskdalemuir Ar**	**16.69**	**84**	Pn	**Pn**	**16 52 05.8**	**+0.6**
	0.2nm,0.3s,baz=284,slow=9.4,SNR=3.3						
SCHQ	**Schefferville**	**18.85**	**277**	P	**Pn**	**16 52 31.7**	**-0.1**
	0.1nm,0.3s,baz=90,slow=5.1,SNR=2.9						
SCHQ				LR	LR	16 58 20.3	
	comp=Z,421nm,20.3s,baz=281,slow=32						
ROSF	**Rostrenen**	**20.02**	**104**	*e*P	**P**	**16 52 45.9**	**+1.8**
	97nm,1.6s						
ROSF	**Rostrenen**	**20.02**	**104**	*e*P	**P**	**16 52 45.9**	**+1.8**
	49nm,1.6s						
SGMF	**Saint Gilles**	**20.45**	**103**	*e*P	**P**	**16 52 49.2**	**+0.4**
	102nm,1.6s						
SGMF	**Saint Gilles**	**20.45**	**103**	*e*P	**P**	**16 52 49.2**	**+0.4**
	51nm,1.6s						
FLN	**La Foliniere**	**21.25**	**100**	*e*P	**P**	**16 52 57.2**	**-0.2**
	26nm,0.9s,mb4.3						
FLN				*e*MLR	MLR		
	comp=Z,448nm,20.5s,MS3.5						
FLN	**La Foliniere**	**21.25**	**100**	*e*P	**P**	**16 52 57.2**	**-0.2**
	comp=Z,13nm,0.9s,mb4.3						
FLN				LR	LR		
	comp=Z,450nm,20.5s,MS3.8						
GRR	**Gorron**	**21.27**	**101**	*e*P	**P**	**16 52 57.5**	**-0.1**
	comp=Z,107nm,1.5s,mb4.7						
GRR	**Gorron**	**21.27**	**101**	*e*P	**P**	**16 52 57.5**	**-0.1**
	comp=Z,53nm,1.5s,mb4.7						
LDF	**La Druitiere**	**21.54**	**100**	*e*P	**P**	**16 53 00.6**	**+0.1**
	comp=Z,31nm,1.2s,mb4.3						
LDF	**La Druitiere**	**21.54**	**100**	*e*P	**P**	**16 53 00.6**	**+0.1**
	comp=Z,16nm,1.2s,mb4.3						
NB2	**NORSAR Subarra**	**22.70**	**62**	P	**P**	**16 53 11.8**	**-1.0**
	comp=Z,38nm,1.7s,mb4.5,baz=280,slow=10						
NOA	**NORSAR Array B**	**22.70**	**62**	P	**P**	**16 53 12.3**	**-0.5**
	comp=Z,1.4nm,0.8s,mb3.5,baz=281,slow=9.6,SNR=3.1						
NOA				LR	LR	17 00 24.4	
	comp=Z,112nm,19.2s,MS3.3,baz=300,slow=32						
MFF	**Saint Martin d**	**22.76**	**104**	*e*P	**P**	**16 53 13.8**	**+0.2**
	comp=Z,36nm,1.3s,mb4.3						
MFF	**Saint Martin d**	**22.76**	**104**	*e*P	**P**	**16 53 13.8**	**+0.2**
	comp=Z,18nm,1.3s,mb4.3						
HFS	**Hagfors**	**24.09**	**63**	P	**P**	**16 53 25.4**	**-1.3**
	comp=Z,4.1nm,0.9s,mb3.9,baz=280,slow=8.4,SNR=5.9						
HFS				LR	LR	17 02 13.6	
	comp=Z,135nm,18.0s,MS3.5,baz=218,slow=35						
TCF	**Toulx Ste Croi**	**24.21**	**102**	*e*P	**P**	**16 53 27.1**	**-0.8**
	comp=Z,39nm,1.6s,mb4.3						
TCF	**Toulx Ste Croi**	**24.21**	**102**	*e*P	**P**	**16 53 27.1**	**-0.8**
	comp=Z,20nm,1.6s,mb4.3						
BGF	**Bois d'Agland**	**24.38**	**101**	*e*P	**P**	**16 53 29.3**	**-0.1**
	comp=Z,14nm,0.7s,mb4.2						
BGF	**Bois d'Agland**	**24.38**	**101**	*e*P	**P**	**16 53 29.3**	**-0.1**
	comp=Z,7.1nm,0.7s,mb4.2						
SSF	**Saint Saulge**	**24.41**	**99**	*e*P	**P**	**16 53 29.5**	**-0.2**
	comp=Z,13nm,1.0s,mb4.0						
SSF	**Saint Saulge**	**24.41**	**99**	*e*P	**P**	**16 53 29.5**	**-0.2**
	comp=Z,6.3nm,1.0s,mb4.0						
LOR	**Lormes**	**24.48**	**98**	*e*P	**P**	**16 53 30.1**	**-0.2**
	comp=Z,37nm,1.5s,mb4.3						
LOR				*e*MLR	MLR		
	comp=Z,435nm,19.0s,MS3.7						
LOR	**Lormes**	**24.48**	**98**	*e*P	**P**	**16 53 30.1**	**-0.2**
	comp=Z,18nm,1.5s,mb4.3						
LOR				LR	LR		
	comp=Z,430nm,19.0s,MS4.0						
RJF	**Les Rejaudoux**	**24.49**	**104**	*e*P	**P**	**16 53 31.0**	**+0.6**
RJF				*e*MLR	MLR		
	comp=Z,912nm,17.2s,MS4.0						
RJF	**Les Rejaudoux**	**24.49**	**104**	*e*P	**P**	**16 53 31.0**	**+0.6**
RJF				LR	LR		
	comp=Z,910nm,17.3s,MS4.3						
AVF	**Avril sur Loir**	**24.50**	**100**	*e*P	**P**	**16 53 30.3**	**-0.2**
SMF	**Signal de Mont**	**24.85**	**99**	*e*P	**P**	**16 53 33.1**	**-0.7**
	comp=Z,37nm,1.2s,mb4.5						
SMF	**Signal de Mont**	**24.85**	**99**	*e*P	**P**	**16 53 33.1**	**-0.7**
	comp=Z,18nm,1.2s,mb4.5						
CAF	**Calviac**	**25.03**	**104**	*e*P	**P**	**16 53 34.4**	**-1.0**
	comp=Z,12nm,1.1s,mb4.0						
CAF	**Calviac**	**25.03**	**104**	*e*P	**P**	**16 53 34.4**	**-1.0**
	comp=Z,6.1nm,1.1s,mb4.0						
ETSF	**Etsaut**	**25.09**	**111**	*e*P	**P**	**16 53 36.1**	**+0.2**
HAU	**Haudompre**	**25.37**	**94**	*e*P	**P**	**16 53 37.4**	**-1.1**
	comp=Z,22nm,1.0s,mb4.3						
HAU				*e*MLR	MLR		
	comp=Z,565nm,18.5s,MS3.8						
HAU	**Haudompre**	**25.37**	**94**	*e*P	**P**	**16 53 37.4**	**-1.1**
	comp=Z,11nm,1.0s,mb4.3						
HAU				LR	LR		
	comp=Z,570nm,18.5s,MS4.1						
CDF	**Champ du Feu**	**25.64**	**93**	*e*P	**P**	**16 53 41.2**	**+0.4**
	comp=Z,38nm,1.4s,mb4.4						
CDF	**Champ du Feu**	**25.64**	**93**	*e*P	**P**	**16 53 41.2**	**+0.4**
	comp=Z,19nm,1.4s,mb4.4						
HINF	**Hinteralfeld**	**25.76**	**94**	*e*P	**P**	**16 53 41.4**	**-0.6**
ESDC	**Sonseca Array**	**25.88**	**120**	P	**P**	**16 53 43.7**	**+0.6**
	comp=Z,3.4nm,0.9s,mb3.9,baz=319,slow=8.7,SNR=10						
ESDC				LR	LR	17 01 19.1	
	comp=Z,237nm,18.2s,MS3.8,baz=305,slow=31						
CABF	**La Chapelle**	**26.08**	**97**	*e*P	**P**	**16 53 44.7**	**-0.2**
	comp=Z,48nm,1.4s,mb4.5						
CABF	**La Chapelle**	**26.08**	**97**	*e*P	**P**	**16 53 44.7**	**-0.2**
	comp=Z,24nm,1.4s,mb4.5						
GRA1	**Grafenberg Arr**	**27.05**	**87**	*e*P	**P**	**16 53 55.0**	**+1.4**
	comp=Z,8.0nm,1.5s,mb4.0						
GRF	**Grafenberg Arr**	**27.05**	**87**	*e*P	**P**	**16 53 55.0**	**+1.4**
	comp=Z,8.0nm,1.5s,mb4.0						
ARCES	**ARCESS Array B**	**27.68**	**40**	P	**P**	**16 54 00.4**	**+1.3**
	comp=Z,2.4nm,0.8s,mb3.9,baz=278,slow=9.4,SNR=5.4						
DAVOX	**Davos/Dischmat**	**28.02**	**93**	LR	LR	17 04 01.4	
	comp=Z,414nm,19.2s,MS4.0,baz=258,slow=34						
GERES	**GERESS Array B**	**28.87**	**87**	LR	LR	17 03 58.1	
	comp=Z,325nm,20.4s,MS3.9,baz=242,slow=33						
KEST	**Kesra**	**35.53**	**109**	P	**P**	**16 55 11.0**	**+2.7**
	comp=Z,1.1nm,0.8s,mb3.8,baz=108,slow=6.4,SNR=3.0						
AKASG	**Malin Array Be**	**36.08**	**73**	P	**P**	**16 55 12.1**	**-0.8**
	comp=Z,1.9nm,0.7s,mb4.2,baz=306,slow=8.5,SNR=5.3						
AKASG	**Malin Array Be**	**36.08**	**73**	P	**P**	**16 55 12.1**	**-0.8**
YKA	**Yellowknife Ar**	**38.61**	**313**	P	**P**	**16 55 35.1**	**+1.0**
	comp=Z,1.1nm,0.7s,mb3.7,baz=57,slow=9.3,SNR=3.4						
YKA				LR	LR	17 10 40.8	
	comp=Z,169nm,19.7s,MS3.9,baz=95,slow=35						
TKL	**Tuckaleechee C**	**39.84**	**259**	LR	LR	17 11 07.2	
	comp=Z,302nm,20.2s,MS4.1,baz=172,slow=35						
BR131	**Keskin Array S**	**45.61**	**83**	*e*P	**P**	**16 56 32.4**	**+0.9**
	comp=Z,2.1nm,0.8s,mb4.1						
BR131	**Keskin Array S**	**45.61**	**83**	*e*P	**P**	**16 56 32.4**	**+0.9**
	comp=Z,2.1nm,0.8s,mb4.1						
PDAR	**Pinedale Array**	**48.53**	**287**	P	**P**	**16 56 54.8**	**+0.5**
	comp=Z,0.8nm,0.9s,mb3.8,baz=66,slow=3.7,SNR=3.7						
PDAR				LR	LR	17 15 49.3	
	comp=Z,143nm,20.3s,MS4.0,baz=252,slow=34						
TORD	**Torodi Ar. Bea**	**51.42**	**135**	P	**P**	**16 57 15.6**	**-0.9**
	comp=Z,1.9nm,1.0s,mb4.0,baz=345,slow=5.1,SNR=7.5						
TORD				LR	LR	17 17 05.0	
	comp=Z,234nm,19.8s,MS4.2,baz=345,slow=34						
TORD	**Torodi Ar. Bea**	**51.42**	**135**	P	**P**	**16 57 15.6**	**-0.9**
TORD				LR	LR	17 17 05.0	
DBIC	**Dimbokro**	**55.14**	**145**	LR	LR	17 18 37.5	
	comp=Z,183nm,18.2s,MS4.2,baz=44,slow=33						
TXAR	**Lajitas Array**	**55.42**	**271**	P	**P**	**16 57 45.5**	**-0.4**
	comp=Z,0.4nm,0.8s,mb3.5,baz=72,slow=4.1,SNR=4.8						
NVAR	**Mina Array Bea**	**56.22**	**290**	P	**P**	**16 57 51.5**	**+0.1**
	comp=Z,0.4nm,0.7s,mb3.6,baz=36,slow=6.1,SNR=3.9						
NVAR	**Mina Array Bea**	**56.22**	**290**	P	**P**	**16 57 51.5**	**+0.1**
MKAR	**Makanchi Array**	**63.25**	**44**	P	**P**	**16 58 39.1**	**-0.6**
	comp=Z,0.6nm,0.7s,mb3.8,baz=320,slow=4.9,SNR=3.5						
SONM	**Songino Array**	**69.97**	**28**	P	**P**	**16 59 22.5**	**-0.1**
	comp=Z,1.1nm,0.9s,mb3.8,baz=328,slow=6.5,SNR=8.6						
KSRS	**Korea Array**	**84.25**	**15**	P	**P**	**17 00 42.4**	**-0.6**
	comp=Z,1.6nm,0.8s,mb4.2,baz=353,slow=5.5,SNR=12						
CPUP	**Villa Florida**	**85.77**	**202**	P	**P**	**17 00 50.0**	**-0.5**
	comp=Z,0.8nm,0.5s,mb4.2,baz=335,slow=3.2,SNR=3.6						
WRA	**Warramunga Arr**	**141.55**	**19**	PKP	PKPdf	17 07 42.2	-0.3
	comp=Z,0.5nm,0.8s,baz=329,slow=2.2,SNR=4.6						
ASAR	**Alice Springs**	**145.10**	**21**	PKPbc	PKPbc	17 07 47.5	-0.7
	comp=Z,2.5nm,0.8s,baz=349,slow=3.0,SNR=25						

MAN 02 16:48:15, 6.17N×126.60E, h70km, mb4.5, ML3.3, MS3.2, 1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MATI	**Mati**	**0.84**	**336**	*e*P	Pn	16 48 33.1	+1.5
GSPH	**General Santos**	**1.64**	**267**⇓	*e*P	Pn	16 48 39.2	-2.6
GSPH				*e*S	Sn	16 48 57.7	-4.5
BUKP	**Musuan**	**2.28**	**318**	*e*P	Pn	16 48 53.0	+2.5
BUKP				*e*S	Sn	16 49 18.8	+1.2
PAGZ	**Pagadian**	**3.60**	**298**	*e*P	Pn	16 49 09.1	+0.7

DJA 02 16:51:34, 1.19S×126.86E, h66km, MLv3.6/7, Southern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LBMI	**Labuha**	**0.84**	**49**	P	Pn	16 51 51.5	+1.1
TNTI	**Ternate**	**2.01**	**15**	P	Pn	16 52 07.0	+1.2
AAI	**Ambon**	**2.82**	**152**	P	Pn	16 52 17.7	+1.0
AAI	**Ambon**	**2.82**	**152**	P	Pn	16 52 17.7	+1.0
MSAI	**Masohi**	**2.98**	**136**	P	Pn	16 52 18.0	-0.9
MNI	**Manado**	**3.31**	**322**	P	Pn	16 52 23.5	+0.1

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*ISCJB **02** 16:52:05.6±0.6, 57.3N±0.1×33.1W±0.1, h10km, mb3.9/16, Error ellipse: s-maj=17.9km s-min=9.0km az=12.9*
*IDC **02** 16:52:05.7±0.9, 57.28N×33.08W, h0km, mb3.7/9, mb1 3.8/11, mb1mx3.7/29, mbtmp3.7/11, ML2.8/2, MS3.8/1, Ms1 3.8/1, ms1mx2.7/39, Error ellipse: s-maj=29.4km s-min=17.6km az=5.0*
*CSEM **02** 16:52:07.2, 57.40N×33.06W, h10km, mb4.3/7, After NEIC*
*NEIC **02** 16:52:07.2±0.5, 57.40N×33.06W, h10km, mb4.3/8, Error ellipse: s-maj=16.2km s-min=8.8km az=194.0*
ISC 02 16:52:07.3±0.6**, 57.4N**±0.1×**33.1W**±0.1**, h10**km**, n37, σ0.81**/34**, mb3.9**/16**, Reykjanes Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BORG	**Borgarnes**	**9.33**	**33**	LR	LR	16 57 02.6	
	comp=Z,472nm,18.2s,baz=250,slow=32						
EKA	**Eskdalemuir Ar**	**16.63**	**84**	Pn	**Pn**	**16 56 01.4**	**+1.2**
	0.1nm,0.3s,baz=285,slow=11,SNR=2.3						
SCHQ	**Schefferville**	**18.90**	**277**	P	**Pn**	**16 56 28.8**	**+0.6**
	0.1nm,0.3s,baz=63,slow=6.8,SNR=3.1						
ROSF	**Rostrenen**	**19.98**	**104**	*e*P	**Pn**	**16 56 41.5**	**+0.4**
	57nm,1.5s						
ROSF	**Rostrenen**	**19.98**	**104**	*e*P	**Pn**	**16 56 41.5**	**+0.4**
	28nm,1.5s						
FLN	**La Foliniere**	**21.20**	**100**	*e*P	**P**	**16 56 52.5**	**-0.2**
	22nm,0.9s,mb4.2						
FLN	**La Foliniere**	**21.20**	**100**	*e*P	**P**	**16 56 52.5**	**-0.2**
	11nm,0.9s,mb4.2						
NOA	**NORSAR Array B**	**22.63**	**62**	P	**P**	**16 57 09.0**	**+1.1**
	2.2nm,0.9s,mb3.6,baz=280,slow=9.4,SNR=3.4						
HFS	**Hagfors**	**24.02**	**64**	P	**P**	**16 57 23.3**	**+1.4**
	2.8nm,1.0s,mb3.7,baz=275,slow=7.3,SNR=3.6						
TCF	**Toulx Ste Croi**	**24.16**	**102**	*e*P	**P**	**16 57 23.2**	**-0.1**
	22nm,1.5s,mb4.1						
TCF	**Toulx Ste Croi**	**24.16**	**102**	*e*P	**P**	**16 57 23.2**	**-0.1**
	11nm,1.5s,mb4.1						
SSF	**Saint Saulge**	**24.36**	**99**	*e*P	**P**	**16 57 24.4**	**-0.7**
	30nm,1.6s,mb4.2						
SSF	**Saint Saulge**	**24.36**	**99**	*e*P	**P**	**16 57 24.4**	**-0.7**
	15nm,1.6s,mb4.2						
LOR	**Lormes**	**24.43**	**98**	*e*P	**P**	**16 57 25.5**	**-0.2**
SMF	**Signal de Mont**	**24.80**	**100**	*e*P	**P**	**16 57 29.1**	**0.0**
	28nm,1.1s,mb4.4						
SMF	**Signal de Mont**	**24.80**	**100**	*e*P	**P**	**16 57 29.1**	**0.0**
	14nm,1.1s,mb4.4						
CDF	**Champ du Feu**	**25.58**	**93**	*e*P	**P**	**16 57 35.6**	**-0.6**
	20nm,1.2s,mb4.2						
CDF	**Champ du Feu**	**25.58**	**93**	*e*P	**P**	**16 57 35.6**	**-0.6**
	9.9nm,1.2s,mb4.2						
HINF	**Hinteralfeld**	**25.70**	**95**	*e*P	**P**	**16 57 36.7**	**-0.6**
	9.4nm,0.9s,mb4.0						
HINF	**Hinteralfeld**	**25.70**	**95**	*e*P	**P**	**16 57 36.7**	**-0.6**
	4.7nm,0.9s,mb4.0						
ESDC	**Sonseca Array**	**25.85**	**121**	P	**P**	**16 57 39.1**	**+0.4**
	0.3nm,0.4s,mb3.2,baz=317,slow=7.1,SNR=6.4						
KBS	**Kingsbay**	**26.02**	**18**	*e*P	**P**	**16 57 38.9**	**-1.0**
KBS	**Kingsbay**	**26.02**	**18**	*e*P	**P**	**16 57 38.9**	**-1.0**
MTLF	**Montolieu**	**26.16**	**107**	*e*P	**P**	**16 57 41.2**	**-0.2**
	15nm,1.3s,mb4.1						
MTLF	**Montolieu**	**26.16**	**107**	*e*P	**P**	**16 57 41.2**	**-0.2**
	7.4nm,1.3s,mb4.1						
SPB4	**Spitsbergen Ar**	**26.48**	**21**	*e*P	**P**	**16 57 41.2**	**-2.9**
SPB4	**Spitsbergen Ar**	**26.48**	**21**	*e*P	**P**	**16 57 41.2**	**-2.8**
AKASG	**Malin Array Be**	**36.01**	**73**	P	**P**	**16 59 08.7**	**+0.6**
	2.8nm,0.9s,mb4.2,baz=306,slow=8.7,SNR=5.6						
AKASG	**Malin Array Be**	**36.01**	**73**	P	**P**	**16 59 08.6**	**+0.5**
PDAR	**Pinedale Array**	**48.57**	**287**	P	**P**	**17 00 50.2**	**-0.2**
	0.3nm,0.6s,mb3.5,baz=86,slow=6.1,SNR=4.0						
TORD	**Torodi Ar. Bea**	**51.41**	**135**	P	**P**	**17 01 11.0**	**-1.2**
	1.2nm,1.0s,mb3.8,baz=338,slow=6.7,SNR=45						
TXAR	**Lajitas Array**	**55.48**	**271**	P	**P**	**17 01 42.9**	**+0.8**
	0.3nm,0.7s,mb3.4,baz=34,slow=9.1,SNR=4.2						
TXAR	**Lajitas Array**	**55.48**	**271**	P	**P**	**17 01 42.8**	**+0.8**
SONM	**Songino Array**	**69.91**	**28**	P	**P**	**17 03 18.0**	**+0.1**
	2.0nm,1.1s,mb4.0,baz=342,slow=6.3,SNR=6.3						
KSRS	**Korea Array**	**84.20**	**15**	P	**P**	**17 04 38.3**	**-0.2**
	1.0nm,0.8s,mb4.0,baz=350,slow=5.7,SNR=5.1						
WRA	**Warramunga Arr**	**141.49**	**19**	PKP	PKPdf	17 11 38.6	+0.3
	0.4nm,0.9s,baz=322,slow=3.7,SNR=3.3						
ASAR	**Alice Springs**	**145.04**	**21**	PKPbc	PKPbc	17 11 43.2	-0.6
	1.6nm,0.8s,baz=354,slow=2.6,SNR=14						

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*TEH **02** 17:01:31.3, 30.77N×56.94E, h24km, ML3.6*
*ISCJB **02** 17:02:21.3±0.6, 30.90N±0.05×56.88E±0.03, h10km, Error ellipse: s-maj=7.8km s-min=3.7km az=164.7*
*THR **02** 17:02:21.3±0.4, 30.67N×56.79E, h14km±7km, ML3.2*
*CSEM **02** 17:02:22.2±0.1, 30.80N×56.92E, h30km, ML3.6, Error ellipse: s-maj=3.5km s-min=1.5km az=158.0*
ISC 02 17:02:22.7±0.6**, 30.91N**±0.05×**56.87E**±0.03**, h10**km**, n37, σ1.25**/59**, Northern and central Iran**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRBR	**Kerman**	**0.93**	**186**	*e*Pg	**Pg**	**17 02 34.7**	**-5.8**
KRBR				AML	AML	17 02 54.1	
	comp=E,1µm,0.3s						
IBAF	**Bafgh**	**1.31**	**302**	*e*Pn	**Pn**	**17 02 44.5**	**-2.5**
IBAF				*e*		17 02 49.2	
IMEH	**Mehriz**	**2.00**	**285**	*e*Pn	**Pn**	**17 02 55.7**	**-0.7**
IMEH				*e*Sn	**Sn**	**17 03 22.2**	**+0.7**
IMEH	**Mehriz**	**2.00**	**285**	*e*Pn	**Pn**	**17 02 55.7**	**-0.7**
IMEH				*e*Sn	**Sn**	**17 03 22.2**	**+0.7**
IMEH				*e*		17 03 24.8	
IKOO	**Kooshah**	**2.37**	**50**	*e*Pn	**Pn**	**17 03 01.2**	**-0.3**
IKOO				*e*Sn	**Sn**	**17 03 29.6**	**-1.0**
IKOO	**Kooshah**	**2.37**	**50**	*e*Pn	**Pn**	**17 03 01.2**	**-0.3**
IKOO				*e*Sn	**Sn**	**17 03 29.6**	**-1.0**
IKOO				*e*		17 03 39.9	
ICHK	**Chekchek**	**2.49**	**303**	*e*Pn	**Pn**	**17 03 03.6**	**+0.3**
ICHK				*e*Sn	**Sn**	**17 03 34.6**	**+0.9**
ICHK	**Chekchek**	**2.49**	**303**	*e*Pn	**Pn**	**17 03 03.6**	**+0.3**
ICHK				*e*Sn	**Sn**	**17 03 34.6**	**+0.9**
ICHK				*e*		17 03 48.8	
ITEG	**Tejag**	**2.55**	**38**	*e*Pn	**Pn**	**17 03 04.0**	**0.0**
ITEG				*e*Sn	**Sn**	**17 03 34.6**	**-0.5**
ITEG	**Tejag**	**2.55**	**38**	*e*Pn	**Pn**	**17 03 04.0**	**0.0**
ITEG				*e*Sn	**Sn**	**17 03 34.6**	**-0.5**
ITEG				*e*		17 03 51.8	
ISAD	**Sadrabad**	**2.90**	**291**	*e*Pn	**Pn**	**17 03 09.3**	**+0.4**
ISAD				*e*Sn	**Sn**	**17 03 44.2**	**+0.3**
ISAD	**Sadrabad**	**2.90**	**291**	*e*Pn	**Pn**	**17 03 09.3**	**+0.4**
ISAD				*e*Sn	**Sn**	**17 03 44.2**	**+0.3**
ISAD				*e*		17 03 56.2	
IDAH	**Dahanechah**	**3.14**	**54**	*e*Pn	**Pn**	**17 03 08.3**	**-3.8**
IDAH				*e*Sn	**Sn**	**17 03 48.2**	**-1.4**
IDAH	**Dahanechah**	**3.14**	**54**	*e*Pn	**Pn**	**17 03 08.3**	**-3.8**
IDAH				*e*Sn	**Sn**	**17 03 48.2**	**-1.4**
IDAH				*e*		17 04 13.8	
IMON	**Monand**	**3.29**	**45**	*e*Pn	**Pn**	**17 03 14.7**	**+0.5**
IMON				*e*Lg		17 04 06.5	
IMON				*e*		17 04 16.4	
IPAR	**Pars**	**3.47**	**253**	*e*Pn	**Pn**	**17 03 16.5**	**-0.2**
IPAR				*e*Sn	**Sn**	**17 03 55.6**	**-2.3**
IPAR	**Pars**	**3.47**	**253**	*e*Pn	**Pn**	**17 03 16.5**	**-0.2**
IPAR				*e*Sn	**Sn**	**17 03 55.6**	**-2.3**
IPAR				*e*		17 04 24.0	
ISRV	**Sarvestan**	**3.59**	**246**	*e*Pn	**Pn**	**17 03 17.4**	**-1.0**
ISRV				*e*Lg		17 04 16.2	
ISRV				*e*		17 04 21.0	
ZHSF	**Zahedan**	**3.62**	**110**	*e*Pn	**Pn**	**17 03 19.0**	**+0.3**
ZHSF				AML	AML	17 04 22.5	
	comp=N,36nm,0.6s						
ZHSF				AML	AML	17 04 24.7	
	comp=E,36nm,0.6s						
NASN	**Na'in**	**3.94**	**300**	*e*Pn	**Pn**	**17 03 24.6**	**+1.4**
NASN				*e*Sg	**Sg**	**17 04 25.7**	**-3.5**
NASN				AML	AML	17 04 30.2	
	comp=E,33nm,0.5s						
NASN				AML	AML	17 04 35.7	
	comp=N,49nm,0.5s						
NASN	**Na'in**	**3.94**	**300**	*e*Pn	**Pn**	**17 03 24.6**	**+1.4**
	SNR=52						
NASN				*e*Sg	**Sg**	**17 04 25.7**	**-3.5**
	SNR=90						
IMOK	**Mouk**	**4.06**	**244**	*e*Pn	**Pn**	**17 03 24.6**	**-0.2**
IMOK				*e*Lg		17 04 29.8	
IMOK				*e*		17 04 42.4	
IZEF	**Zefreh**	**4.34**	**298**	*e*Pn	**Pn**	**17 03 29.2**	**+0.5**
IZEF				*e*Sn	**Sn**	**17 04 18.3**	**-1.1**
IZEF	**Zefreh**	**4.34**	**298**	*e*Pn	**Pn**	**17 03 29.2**	**+0.5**
IZEF				*e*Sn	**Sn**	**17 04 18.3**	**-1.1**
IZEF				*e*		17 04 46.8	
IGAR	**Gharneh**	**4.38**	**291**	*e*Pn	**Pn**	**17 03 32.6**	**+3.4**
IGAR				*e*		17 04 48.6	
IKLH	**Kolahrood**	**5.09**	**300**	*e*Pn	**Pn**	**17 03 45.9**	**+6.9**
IKLH				*e*Sn	**Sn**	**17 04 35.3**	**-2.6**
IKLH	**Kolahrood**	**5.09**	**300**	*e*Pn	**Pn**	**17 03 45.9**	**+6.9**
IKLH				*e*Sn	**Sn**	**17 04 35.3**	**-2.6**
IKLH				*e*		17 05 07.5	
IANJ	**Anjilo**	**5.18**	**332**	*e*Pn	**Pn**	**17 03 40.1**	**-0.1**
IANJ				*e*		17 05 31.2	
ISFB	**Sefidab**	**5.20**	**313**	*e*Pn	**Pn**	**17 03 41.7**	**+1.2**
ISFB				*e*		17 05 24.2	
IPIR	**Pirpir**	**5.39**	**291**	*e*Pn	**Pn**	**17 03 44.0**	**+0.9**
IPIR				*e*		17 05 22.9	
IPAY	**Payeh**	**5.80**	**17**	*e*Pn	**Pn**	**17 03 49.8**	**+1.0**
IPAY				*e*		17 04 24.9	
IPAY				*e*Sn	**Sn**	**17 04 53.0**	**-2.4**
IKIA	**Kiasar**	**5.92**	**334**	*e*Pn	**Pn**	**17 03 46.6**	**-3.8**
IKIA				*e*Sn	**Sn**	**17 04 57.1**	**-1.1**
IMYA	**Miami**	**6.05**	**26**	*e*Pn	**Pn**	**17 03 53.1**	**+0.9**
IMYA				*e*		17 05 58.3	
IGLO	**Ghaloghah**	**6.13**	**336**	*e*Pn	**Pn**	**17 03 55.5**	**+2.2**
IGLO				*e*		17 06 01.6	
IDMV	**Damavand**	**6.17**	**320**	*e*Pn	**Pn**	**17 03 54.8**	**+0.9**
IDMV				*e*		17 06 11.4	
ISFR	**Sfrayin**	**6.20**	**8**	*e*Pn	**Pn**	**17 03 55.3**	**+1.0**
ISHV	**Shirvan**	**6.65**	**6**	*e*Pn	**Pn**	**17 04 02.8**	**+2.4**

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*IDC **02** 17:14:43.3±0.4, 10.40N×145.84E, h0km, mb5.2/28, mb1 5.2/30, mb1mx5.1/33, mbtmp5.2/30, ML4.6/2, MS4.1/9, Ms1 4.1/9, ms1mx3.8/28, Error ellipse: s-maj=17.1km s-min=9.8km az=88.0*
*BJI **02** 17:14:43.2, 10.43N×146.01E, h16km, mB5.5, mb5.4, Ms4.8, Msz4.4*
*NEIC **02** 17:14:44.7±0.1, 10.41N×145.81E, h10km, mb5.3/63, MS4.8/1, Error ellipse: s-maj=5.3km s-min=3.8km az=100.0*
*ISCJB **02** 17:14:44.6±0.1, 10.40N±0.03×145.69E±0.02, h15km, mb5.4/137, MS4.2/28, Error ellipse: s-maj=4.0km s-min=3.1km az=0.3*
*GCMT **02** 17:14:44.7±0.3, 10.51N×145.80E, h12km, MW5.1/70, Moment Tensor Solution. s26,c33; s70,c110; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}2.97±.13; $M_{\theta\theta}$1.35±.11; $M_{\phi\phi}$-4.32±.12; $M_{r\theta}$2.78±.36; $M_{\theta\phi}$1.94±.10; $M_{\phi r}$0.52±.33; Best double couple: $M_0$5.12900×10^{16} NP1:ϕ_s15.00000°, δ55.00000°, λ141.00000°. NP2: ϕ_s130.00000°, δ59.00000°, λ42.00000°. Principal axes: T 5.3220, Plg50.0000°, Azm345.0000°; N -0.3860, Plg40.0000°, Azm159.0000°; P -4.9360, Plg3.0000°, Azm252.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*MOS **02** 17:14:46.7±1.1, 10.43N×145.76E, h33km, mb5.6/53, MS4.3/9 Error ellipse: s-maj=10.0km s-min=5.3km az=106.9*
*DJA **02** 17:14:48, 10.62N×146.01E, h40km, Mw5.4/5*
ISC 02 17:14:44.6±1.3**, 10.41N**±0.03×**145.77E**±0.02**, h6**km±7km**,**

h15^{km}±2.3^{km}:pP-P,n578,$\sigma 0^{s}73$/559,mb5.4/137,MS4.2/28,
157C-146D,South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
GUMO	Guam	3.28	345	Pn	Pn	17 15 34.8	-1.8
	232nm,0.3s,baz=170,slow=9.9,SNR=86						
GUMO				Sn	Sn	17 16 13.0	-2.9
	572nm,0.3s,baz=20,slow=22,SNR=9.5						
GUMO	Guam	3.28	345	ePn	Pn	17 15 34.3	-2.3
GUMO				eSn	Sn	17 16 12.1	-3.9
CBIJ	Chichi jima	16.94	349	Pn	Pn	17 18 42.5	+0.1
	4.6nm,0.3s,baz=158,slow=15,SNR=4.4						
PMG	Port Moresby	19.73	176	⇑eP	Pn	17 19 14.8	-1.8
PMG	Port Moresby	19.73	176	eP	Pn	17 19 15.5	-1.1
	92nm,1.1s						
DAV	Davao City (W)	20.22	262	P	P	17 19 20.7	+0.1
	128nm,0.4s,baz=173,slow=6.1,SNR=3.7						
DAV				LR	LR	17 26 06.4	
	comp=Z,628nm,19.6s,MS4.0,baz=72,slow=34						
JOW	Kunigami	23.22	317	P	P	17 19 53.4	+0.7
	78nm,0.9s,mb5.1,baz=124,slow=11,SNR=6.9						
JHJ	Hachijo jima 2	23.27	347	P	P	17 19 50.0	-3.1
	277nm,0.8s,mb5.8,baz=167,slow=9.2,SNR=5.2						
JHJ				LR	LR	17 28 15.1	
	comp=Z,450nm,18.7s,MS4.0,baz=177,slow=35						
HNR	Honiara	24.24	144	P	P	17 19 57.8	-4.7
HNR				pmax	pmax		
	comp=Z,118nm,1.1s,mb5.2						
HNR	Honiara	24.24	144	P	P	17 19 57.8	-4.7
	comp=Z,118nm,1.1s,mb5.2						
COEN	Coen	24.34	186	eP	P	17 20 02.5	-0.9
	comp=Z,35nm,1.3s,mb4.6						
KAKA	Kakadu	26.51	210	⇑iP	P	17 20 21.9	-1.2
	comp=Z,34nm,0.9s,mb4.9						
MJAR	Matsushiro Arr	26.90	346	P	P	17 20 24.9	-1.6
	comp=Z,71nm,0.9s,mb5.2,baz=174,slow=10,SNR=82						
MJAR				LR	LR	17 29 51.5	
	comp=Z,197nm,21.7s,MS3.6,baz=170,slow=34						
MAJO	Matsushiro	26.91	346	eP	P	17 20 24.4	-2.1
MAJO				pmax	pmax		
	comp=Z,194nm,1.1s,mb5.5						
MAJO	Matsushiro	26.91	346	eP	P	17 20 24.4	-2.1
	comp=Z,194nm,1.1s,mb5.5						
MAT	Matsushiro	26.91	346	P	P	17 20 24.5	-2.0
MAT				S	S	17 25 05.0	+1.3
TATO	Taipei	27.22	305	P	P	17 20 29.2	-0.3
	comp=Z,82nm,1.0s,mb5.2						
BATI	Baumata	30.04	228	P	P	17 20 54.8	+0.1
	comp=Z,88nm,0.9s,mb5.5,baz=116,slow=2.1,SNR=14						
BATI				LR	LR	17 33 23.3	
	comp=Z,642nm,19.2s,MS4.3,baz=222,slow=37						
KAPI	Kappang	30.10	241	P	P	17 20 54.5	-0.7
	comp=Z,23nm,0.7s,mb5.0,baz=67,slow=4.1,SNR=5.8						
CTA	Charters Tower	30.31	179	eP	P	17 20 56.7	-0.2
	comp=Z,20nm,0.9s,mb4.8						
CTA	Charters Tower	30.31	179	P	P	17 20 56.1	-0.8
	comp=Z,24nm,0.9s,mb4.9,baz=353,slow=9.0,SNR=16						
CTA				LR	LR	17 32 44.0	
	comp=Z,356nm,18.8s,MS4.0,baz=356,slow=36						
CTA	Charters Tower	30.31	179	eP	P	17 20 56.7	-0.2
CTA				pmax	pmax		
	comp=Z,20nm,0.9s						
CTAO	Charters Tower	30.31	179	eP	P	17 20 55.7	-1.2
CTAO				pmax	pmax		
	comp=Z,36nm,0.9s,mb5.1						
CTAO	Charters Tower	30.31	179	eP	P	17 20 55.7	-1.2
	comp=Z,36nm,0.9s,mb5.1						
KSRS	Korea Array	31.36	332	P	P	17 21 05.6	-0.5
	comp=Z,86nm,0.9s,mb5.6,baz=144,slow=9.5,SNR=170						
KSRS				PcP	PcP	17 24 01.1	+1.1
	comp=Z,7.8nm,0.9s,baz=157,slow=3.4,SNR=13						
INCN	Inchon	31.99	331	⇓P	P	17 21 12.0	+0.3
	SNR=5.6						
INCN	Inchon	31.99	331	eP	P	17 21 10.2	-1.5
	comp=Z,48nm,1.0s,mb5.3						
WRAB	Tennant Creek	32.17	200	P	P	17 21 12.1	-1.3
	comp=Z,189nm,1.6s,mb5.7,SNR=8.8						
WRAB	Tennant Creek	32.17	200	d iP	P	17 21 13.0	-0.4
WRAB	Tennant Creek	32.17	200	eP	P	17 21 12.3	-1.1
	comp=Z,97nm,1.5s,mb5.4						
WB2	Warramunga Arr	32.18	200	⇑iP	P	17 21 12.6	-0.9
WRA	Warramunga Arr	32.19	200	P	P	17 21 13.1	-0.4
	comp=Z,20nm,1.1s,mb4.8,baz=23,slow=9.0,SNR=77						
WRA				PcP	PcP	17 24 02.4	-0.1
	comp=Z,5.7nm,0.8s,baz=11,slow=3.0,SNR=9.5						
WRA	Warramunga Arr	32.19	200	i P	P	17 21 13.1	-0.4
WRA				pmax	pmax		
	comp=Z,20nm,1.2s						
NJ2	Nanjing	32.89	315	eP	P	17 21 20.1	+0.5
NJ2				AMB	AMB		
	comp=Z,20nm,1.1s,mb5.0						
ASAJ	Asahikawa	33.70	356	P	P	17 21 26.1	-0.4
	comp=Z,36nm,1.0s,mb5.2,baz=217,slow=12,SNR=14						
SBUM	Sibu	34.23	259	⇓P	P	17 21 33.1	+1.6
FITZ	Fitzroy Crossi	34.60	215	eP	P	17 21 34.5	-0.1
	comp=Z,12nm,0.8s,mb4.9						
FITZ	Fitzroy Crossi	34.60	215	P	P	17 21 35.5	+0.9
	comp=Z,6.6nm,0.8s,mb4.6,baz=39,slow=9.2,SNR=14						
FITZ				LR	LR	17 36 06.8	
	comp=Z,164nm,19.7s,MS3.8,baz=193,slow=37						
VLA	Vladivostok	34.76	342	d iP	P	17 21 36.3	+0.6
VLA				e		17 22 54.0	
VLA				eS	S	17 27 11.0	+4.5
VLA				pmax	pmax		
	comp=Z,172nm,1.2s,mb5.9						
VLA				MLR	MLR		
	comp=Z,500nm,18.2s,MS4.3						
VLA	Vladivostok	34.76	342	i P	P	17 21 35.8	+0.1
WHN	Wuhan	35.41	309	⇑P	P	17 21 42.4	+0.9
WHN				AMB	AMB		
	comp=Z,253nm,1.0s,mb6.1						
DL2	Dalian	35.64	327	P	P	17 21 44.3	+0.9
DL2				eS	S	17 27 20.3	+0.2
DL2				AMB	AMB		
	comp=Z,120nm,0.8s,mb5.9						
DL2				AMB	AMB		
	comp=Z,240nm,3.6s						
DL2				LR	LR		
	comp=N,220nm,13.7s,MS4.2						
DL2				LR	LR		
	comp=E,220nm,12.7s,MS4.2						
DL2				LR	LR		
	comp=Z,260nm,15.3s,MS4.1						
QIZ	Qiongzhong	35.73	288	P	P	17 21 43.9	-0.5
QIZ				S	S	17 27 21.0	-0.9
QIZ				LR	LR		
	comp=Z,548nm,30.9s,MS4.1						
ASAR	Alice Springs	35.80	199	P	P	17 21 44.1	-0.7
	comp=Z,4.7nm,0.9s,mb4.4,baz=24,slow=6.7,SNR=65						
ASAR				PcP	PcP	17 24 12.8	+0.1
	comp=Z,3.7nm,0.8s,baz=63,slow=1.8,SNR=5.4						
KSM	Kuching	36.33	258	⇓P	P	17 21 50.6	+1.0
TIA	Tai'an	36.51	319	eP	P	17 21 51.0	+0.2
YSS	Yuzh-Sakhalins	36.51	357	⇑eP	P	17 21 47.8	-2.9
YSS				pmax	pmax		
	comp=N,20nm,1.0s						
YSS				pmax	pmax		
	comp=Z,40nm,1.0s,mb5.2						
YSS				MLR	MLR		
	comp=E,300nm,17.0s						
YSS				MLR	MLR		
	comp=Z,400nm,17.0s,MS4.3						
YSS	Yuzh-Sakhalins	36.51	357	eP	P	17 21 48.9	-1.8
	comp=Z,28nm,0.9s,mb5.1						
MDJ	Mudanjiang	36.83	341	P	P	17 21 54.0	+0.5
MDJ				AP	pP	17 21 57.0	+1.7
MDJ				S	S	17 27 39.6	+1.4
MDJ				AMB	AMB		
	comp=Z,93nm,1.2s,mb5.5						
MDJ				AMB	AMB		
	comp=Z,213nm,5.1s						
MDJ				LR	LR		
	comp=N,223nm,22.0s						
MDJ				LR	LR		
	comp=Z,318nm,20.7s,MS4.1						
CN2	Changchun	37.65	336	eP	P	17 22 00.3	-0.1
CN2				eXP	sP	17 22 07.3	+4.4
CN2				eS	S	17 27 50.3	-0.4
CN2				AMB	AMB		
	comp=Z,500nm,10.0s						
CN2				LR	LR		
	comp=N,200nm,15.0s,MS4.2						
CN2				LR	LR		
	comp=E,200nm,15.0s,MS4.2						
CN2				LR	LR		
	comp=Z,400nm,17.0s,MS4.3						
DZM	Mont Dzumac	38.12	148	eP	P	17 22 01.8	-2.9
HABR	Khabarovsk	38.99	349	⇑iP	P	17 22 10.3	-1.4
HABR				e		17 23 39.7	
HABR				e		17 24 01.4	
HABR				e		17 24 19.4	
HABR				eS	S	17 28 08.2	-2.7
HABR				e		17 28 24.2	
HABR				e		17 31 20.1	
HABR				e		17 32 16.1	
HABR				pmax	pmax		
	comp=Z,68nm,1.4s,mb5.2						
BJT	Baijiatuau	39.48	323	eP	P	17 22 16.1	+0.2
BJT				pmax	pmax		
	comp=Z,113nm,1.0s						
BJT	Baijiatuau	39.48	323	eP	P	17 22 16.1	+0.2
	comp=Z,113nm,1.0s,mb5.5						
BJI	Beijing	39.49	323	P	P	17 22 16.0	0.0
BJI				S	S	17 28 15.9	-2.7
BJI				AMB	AMB		
	comp=Z,101nm,1.0s,mb5.5						
BJI				AMB	AMB		
	comp=Z,696nm,4.1s						
BJI				LR	LR		
	comp=N,485nm,18.2s,MS4.5						
BJI				LR	LR		
	comp=E,433nm,19.8s,MS4.5						
BJI				LR	LR		
	comp=Z,192nm,17.1s,MS4.0						
BJI	Beijing	39.49	323	P	P	17 22 16.0	0.0
	comp=Z,101nm,1.0s,mb5.5						
BJI				S	S	17 28 15.9	-2.7
BJI				LR	LR		
	comp=Z,190nm,17.1s,MS4.0						
GYA	Guiyang	40.19	299	⇑iP	P	17 22 21.2	-0.8
GYA				PP	PP	17 23 57.8	+3.4
GYA				PCP	PcP	17 24 26.4	+0.1
GYA				S	S	17 28 30.0	+0.5
GYA				SS	SS	17 31 18.9	-8.5
GYA				AMB	AMB		
	comp=Z,30nm,1.0s,mb5.0						
GYA				AMB	AMB		
	comp=Z,160nm,5.9s						
GYA				LR	LR		
	comp=N,940nm,18.8s,MS4.8						
GYA				LR	LR		
	comp=E,760nm,19.6s,MS4.8						
GYA				LR	LR		
	comp=Z,880nm,18.9s,MS4.6						
KLR	Kul'dur	40.43	346	⇓eP	P	17 22 19.0	-4.6
KLR				pmax	pmax		
	comp=E,100nm,2.0s						
KLR				pmax	pmax		
	comp=Z,270nm,2.0s,mb5.6						
MBWA	Marble Bar	40.48	219	eP	P	17 22 24.1	-0.2
	comp=Z,86nm,1.6s,mb5.2						
ARMA	Armidale	40.98	172	eP	P	17 22 29.7	+1.3
ARMA				e		17 22 36.0	
XAN	Xi'an	41.08	311	P	P	17 22 29.6	+0.3
XAN				AP	pP	17 22 33.5	+2.4
XAN				XP	sP	17 22 36.6	+4.8
XAN				AMB	AMB		
	comp=Z,48nm,0.9s,mb5.1						
XAN				AMB	AMB		
	comp=Z,258nm,8.3s						
STKA	Stephens Creek	42.23	185	eP	P	17 22 36.9	-1.7
	comp=Z,10.0nm,1.1s,mb4.4						
STKA	Stephens Creek	42.23	185	P	P	17 22 36.8	-1.9
	comp=Z,9.7nm,0.8s,mb4.5,baz=331,slow=7.0,SNR=9.3						
MYKOM	Kota Tinggi	42.50	261	⇑P	P	17 22 42.6	+1.4
HHC	Hu-ho-hao-te	42.76	321	⇑P	P	17 22 43.5	+0.6
HHC				AP	pP	17 22 47.5	+2.8
HHC				XP	sP	17 22 50.6	+5.2
HHC				PP	PP	17 24 25.7	+3.6
HHC				SCP	ScP	17 28 25.5	-0.7
HHC				S	S	17 29 07.5	+0.2
HHC				XS	sS	17 29 14.0	+3.7
HHC				SS	SS	17 32 12.4	-5.6
HHC				SCS	ScS	17 32 40.8	-4.2
HHC				AMB	AMB		
	comp=Z,63nm,1.0s,mb5.3						
HHC				AMB	AMB		
	comp=Z,362nm,6.1s						
HHC				LR	LR		
	comp=N,440nm,13.7s,MS4.7						
HHC				LR	LR		
	comp=E,471nm,11.2s,MS4.7						
HHC				LR	LR		
	comp=Z,394nm,14.9s,MS4.4						
KGM	Kluang	42.97	262	⇑P	P	17 22 46.3	+1.4
KMI	Kunming	43.31	296	P	P	17 22 49.8	+2.2
KMI				AP	pP	17 22 54.6	+5.2
KMI				XP	sP	17 22 56.5	+6.4
KMI				PP	PP	17 24 31.8	+3.6
KMI				S	S	17 29 17.7	+2.0
KMI				SS	SS	17 32 25.0	-4.1
KMI				AMB	AMB		
	comp=Z,86nm,1.1s,mb5.4						
KMI				AMB	AMB		
	comp=Z,465nm,4.1s						
KMI				LR	LR		
	comp=N,504nm,19.2s,MS4.6						
KMI				LR	LR		
	comp=E,640nm,20.8s,MS4.6						
KMI				LR	LR		
	comp=Z,428nm,23.2s,MS4.3						
KMI	Kunming	43.31	296	P	P	17 22 49.8	+2.2
KMI				*SP	sP	17 22 56.5	+6.4
KMI						17 24 31.8	
KMI				PPP		17 25 06.0	
KMI				S	S	17 29 17.7	+2.0
KMI				SS	SS	17 32 25.0	-4.1
KMI				SSS		17 33 12.2	
KMI				pmax	pmax		
	comp=Z,86nm,1.1s,mb5.4						
KMI				MLR	MLR		
	comp=Z,430nm,23.2s,MS4.3						
KMI	Kunming	43.31	296	P	P	17 22 49.8	+2.2
	comp=Z,86nm,1.1s,mb5.4						
KMI				pP	pP	17 22 54.6	+5.2
KMI				sP	sP	17 22 56.5	+6.4
KMI				PP	PP	17 24 31.8	+3.6
KMI				PPP		17 25 06.0	
KMI				S	S	17 29 17.7	+2.0
KMI				SS	SS	17 32 25.0	-4.1
KMI				SSS		17 33 12.2	
KMI				LR	LR		
	comp=Z,430nm,23.2s,MS4.3						
BTO	Baotou	43.59	320	eP	P	17 22 50.0	+0.4
BTO				AMB	AMB		
	comp=Z,25nm,0.6s,mb5.1						
PETK	Petropavlovsk-	43.66	10	P	P	17 22 49.8	-0.2
	comp=Z,11nm,0.9s,mb4.6,baz=211,slow=5.0,SNR=7.1						
PETK				PcP	PcP	17 24 36.7	-0.4
	comp=Z,8.5nm,0.8s,baz=165,slow=6.2,SNR=4.3						
PETK				LR	LR	17 39 32.1	
	comp=Z,227nm,18.6s,MS4.1,baz=198,slow=34						
PETK	Petropavlovsk-	43.66	10	P	P	17 22 49.8	-0.2
PETK				PcP	PcP	17 24 36.7	-0.4
PETK				LR	LR	17 39 32.1	
PET	Petropavlovsk	43.75	11	eP	P	17 22 50.0	-0.7
PET				eS	S	17 29 18.1	-3.3
PET						17 32 38.0	
PET				pmax	pmax		
	comp=Z,35nm,1.0s,mb5.0						
PET				MLR	MLR		
	comp=Z,300nm,16.0s,MS4.3						
PET	Petropavlovsk	43.75	11	eP	P	17 22 49.6	-1.1
	comp=Z,28nm,1.0s,mb5.0						
CD2	Chengdu	43.94	304	P	P	17 22 52.9	+0.3
CD2				AP	pP	17 22 57.8	+3.4
CD2				XP	sP	17 22 59.9	+4.7
CD2				PP	PP	17 24 37.1	+2.2
CD2				PCS	PcS	17 28 30.7	-1.0
CD2				S	S	17 29 24.0	-0.9
CD2				SS	SS	17 32 32.8	-8.7
CD2				AMB	AMB		
	comp=Z,130nm,0.7s,mb5.8						
CD2				AMB	AMB		
	comp=Z,320nm,8.4s						
CD2				LR	LR		
	comp=N,700nm,15.6s,MS5.0						
CD2				LR	LR		
	comp=E,930nm,12.0s,MS5.0						
CD2				LR	LR		
	comp=Z,470nm,14.4s,MS4.5						
FORT	Forrest	44.34	202	eP	P	17 22 55.4	-0.3
	comp=Z,39nm,0.7s,mb5.2						
FRIM	Kepong	44.36	264	⇓P	P	17 22 57.6	+1.4
HIA	Hailar	44.38	336	eP	P	17 22 56.1	+0.3
HIA				pmax	pmax		
	comp=Z,75nm,0.8s						
HIA	Hailar	44.38	336	eP	P	17 22 56.1	+0.3
	comp=Z,76nm,0.8s,mb5.5						
IPM	Ipoh	44.72	266	⇑P	P	17 23 00.7	+1.6
KULM	Kulim	44.95	267	⇓P	P	17 23 02.1	+1.1
CHRT	Chiangrai	45.25	288	⇑P	P	17 23 04.0	+0.8
	comp=Z,184nm,0.8s,mb6.0						
CNB	Canberra Magne	45.60	176	eP	P	17 23 05.3	-0.3
LZH	Lanzhou	45.72	311	⇑P	P	17 23 07.9	+1.2
LZH				AP	pP	17 23 17.8	+9.3
LZH				XP	sP	17 23 21.7	+12
LZH				PP	PP	17 24 55.4	+1.6
LZH				S	S	17 29 54.5	+4.0
LZH				XS	sS	17 30 05.0	+11
LZH				SS	SS	17 33 04.8	-10
LZH				AMB	AMB		
	comp=Z,164nm,1.5s,mb5.7						
LZH				AMB	AMB		
	comp=Z,456nm,4.7s						
LZH				LR	LR		
	comp=N,786nm,14.5s						
LZH				LR	LR		
	comp=Z,997nm,18.2s,MS4.8						
LZH	Lanzhou	45.72	311	⇑P	P	17 23 07.9	+1.2
LZH				*PP	pP	17 23 17.8	+9.3
LZH				*SP	sP	17 23 21.7	+12
LZH						17 24 55.4	
LZH				S	S	17 29 54.5	+4.0
LZH				*SS	sS	17 30 05.0	+11
LZH				SS	SS	17 33 04.8	-10
LZH				pmax	pmax		
	comp=Z,164nm,1.5s,mb5.7						
LZH				MLR	MLR		
	comp=Z,1μm,18.2s,MS4.8						
LZH	Lanzhou	45.72	311	⇑P	P	17 23 07.9	+1.2
	comp=Z,164nm,1.5s,mb5.7						
LZH				pP	pP	17 23 17.8	+9.3
LZH				sP	sP	17 23 21.7	+12
LZH				PP	PP	17 24 55.4	+1.6
LZH				S	S	17 29 54.5	+4.0
LZH				sS	sS	17 30 05.0	+11
LZH				SS	SS	17 33 04.8	-10
LZH				LR	LR		
	comp=Z,1μm,18.2s,MS4.8						
BDT	Bhumibol Dam	45.82	284	P	P	17 23 05.0	-2.8
	comp=Z,20nm,0.9s,mb5.0						
CM31	Chiang Mai Arr	45.94	286	eP	P	17 23 10.2	+1.5
	comp=Z,67nm,0.8s,mb5.6						
CMAR	Chiang Mai Arr	45.94	286	P	P	17 23 10.3	+1.6
	comp=Z,57nm,0.8s,mb5.5,baz=85,slow=6.0,SNR=267						
CMAR				LR	LR	17 39 30.8	
	comp=Z,246nm,21.0s,MS4.1,baz=76,slow=32						
CMAR	Chiang Mai Arr	45.94	286	i P	P	17 23 10.3	+1.6
CMAR				pmax	pmax		
	comp=Z,57nm,0.8s						
CHTO	Chiang Mai	45.96	286	eP	P	17 23 09.6	+0.7
CHTO				pmax	pmax		
	comp=Z,22nm,1.1s,mb5.0						
CHTO	Chiang Mai	45.96	286	eP	P	17 23 09.6	+0.7
	comp=Z,22nm,1.1s,mb5.0						
TOO	Toolangi	47.72	180	eP	P	17 23 22.0	-0.3
CIT	Chita	49.05	334	eP	P	17 23 33.1	+0.8
CIT				e		17 23 49.9	
CIT				pmax	pmax		
	comp=Z,223nm,2.5s,mb5.8						
CLNS	Chul'man	49.07	345	eP	P	17 23 32.3	-0.1
CLNS				pmax	pmax		
	comp=Z,72nm,0.9s,mb5.7						
CLNS				pmax	pmax		
	comp=N,42nm,1.0s						
CLNS				pmax	pmax		
	comp=E,11nm,1.1s						
AMKA	Amchitka	49.17	27	eP	P	17 23 34.0	+0.7
	comp=E,88nm,1.1s,mb5.7						
AMKA				LR	LR		
	comp=Z,500nm,17.0s,MS4.6						
ULN	Ulaanbaatar	49.49	326	⇓P	P	17 23 36.9	+1.1
	SNR=41						
ULN	Ulaanbaatar	49.49	326	eP	P	17 23 36.8	+1.0
ULN				e		17 24 58.1	
ULN				pmax	pmax		
	comp=Z,86nm,0.9s,mb5.8						
ULN	Ulaanbaatar	49.49	326	eP	P	17 23 36.8	+0.9
	comp=Z,86nm,0.9s,mb5.8						
ULN				ePcP	PcP	17 24 58.1	+0.3
KLBR	Kellerberrin	49.64	212	eP	P	17 23 36.3	-0.8
	comp=Z,114nm,1.8s,mb5.6						
SONM	Songino Array	49.83	326	P	P	17 23 39.4	+0.9
	comp=Z,37nm,0.8s,mb5.5,baz=142,slow=8.6,SNR=282						
SONM				PcP	PcP	17 24 59.7	+0.7
	comp=Z,14nm,0.9s,baz=122,slow=1.0,SNR=5.2						
SONM				LR	LR	17 44 54.2	
	comp=Z,267nm,19.4s,MS4.3,baz=118,slow=36						
SONM	Songino Array	49.83	326	P	P	17 23 39.4	+1.0
SONM						17 24 59.7	
GTA	Gaotai	49.96	313	P	P	17 23 40.6	+1.1
GTA				AP	pP	17 23 44.7	+3.3
GTA				XP	sP	17 23 48.4	+6.3
GTA				PCP	PcP	17 25 01.2	+1.5
GTA				PP	PP	17 25 37.8	+3.4
GTA				S	S	17 30 49.8	-0.8
GTA				XS	sS	17 30 58.5	+4.9
GTA				SS	SS	17 34 18.2	-5.3
GTA				AMB	AMB		
	comp=Z,65nm,1.2s,mb5.5						
GTA				AMB	AMB		
	comp=Z,457nm,6.3s						
GTA				LR	LR		
	comp=N,266nm,16.5s,MS4.5						
GTA				LR	LR		
	comp=E,300nm,18.3s,MS4.5						
GTA				LR	LR		
	comp=Z,319nm,16.8s,MS4.4						
MUN	Mundaring	50.75	213	eP	P	17 23 45.2	-0.4
NWAO	Narrogin (SRO)	50.96	211	P	P	17 23 45.5	-1.7
	comp=Z,11nm,1.0s,mb4.8,baz=321,slow=2.7,SNR=5.1						
IMP	Imphal	51.14	293	eP	P	17 23 48.0	-0.7
ADK	Adak	51.37	29	eP	P	17 23 50.0	0.0
ADK				pmax	pmax		
	comp=Z,114nm,1.1s,mb5.7						
ADK	Adak	51.37	29	eP	P	17 23 50.0	0.0
	comp=Z,114nm,1.1s,mb5.7						
SEY	Seymchan	52.65	4	⇑eP	P	17 23 58.8	-0.5
YAK	Yakutsk	52.85	351	eP	P	17 23 58.5	-2.3
YAK				pmax	pmax		
	comp=Z,95nm,0.9s,mb5.7						
YAK				pmax	pmax		
	comp=N,61nm,1.2s						
YAK				pmax	pmax		
	comp=E,10.0nm,1.1s						
YAK	Yakutsk	52.85	351	eP	P	17 23 59.4	-1.4
	comp=E,185nm,1.1s,mb5.9						
ZAK	Zakamensk	52.96	327	⇓iP	P	17 24 01.9	+0.1
ZAK				e		17 25 10.9	
ZAK				pmax	pmax		
	comp=Z,78nm,1.1s,mb5.5						
SHL	Shillong	53.08	294	⇑iP	P	17 24 03.5	+0.4
SHL				ex	x	17 30 20.0	
BOD	Bodaibo	53.19	339	eP	P	17 24 02.8	-0.5
BOD				pmax	pmax		
	comp=Z,45nm,1.1s,mb5.3						
TLY	Talaya	53.51	329	P	P	17 24 06.3	+0.5
	comp=Z,366nm,1.1s,mb6.2,SNR=16						
TLY	Talaya	53.51	329	P	P	17 24 06.6	+0.8
	SNR=31						
TLY	Talaya	53.51	329	eP	P	17 24 06.4	+0.6
TLY				pmax	pmax		
	comp=Z,96nm,1.2s,mb5.6						
TLY				MLR	MLR		
	comp=Z,185nm,17.0s,MS4.2						
TLY	Talaya	53.51	329	eP	P	17 24 06.4	+0.6
	comp=Z,80nm,1.1s,mb5.6						
IRK	Irkutsk	53.52	330	eP	P	17 24 05.7	-0.2
IRK				pmax	pmax		
	comp=Z,77nm,1.3s,mb5.5						
LSA	Lhasa	54.26	299	P	P	17 24 14.9	+3.1
LSA	Lhasa	54.26	299	eP	P	17 24 13.4	+1.6
LSA				pmax	pmax		
	comp=Z,61nm,0.9s,mb5.5						

LSA Lhasa 54.26 299 *e*P P 17 24 13.4 +1.6
comp=Z,61nm,0.9s,mb5.5
MOY Mondy 54.88 328 *e*P P 17 24 16.5 +0.7
MOY pmax pmax
comp=Z,91nm,2.1s,mb5.4
ODAN Odare 57.22 295 *e*P P 17 24 33.8 +0.8
comp=Z,246nm,1.1s,mb6.2
RAMN Ramite 57.93 295 *e*P P 17 24 38.6 +0.6
comp=Z,264nm,1.0s,mb6.2
JIRN Jiri 58.35 296 *e*P P 17 24 42.0 +1.0
comp=Z,243nm,0.9s,mb6.2
RPZ Rata Peaks 58.58 159 P P 17 24 42.3 +0.1
comp=Z,32nm,1.0s,mb5.3,baz=12,slow=14,SNR=3.6
GUN Gumba 58.64 296 *e*P P 17 24 44.0 +1.0
comp=Z,569nm,0.9s,mb6.6
PKIN Phulchoki 59.04 296 *e*P P 17 24 46.0 +0.2
comp=Z,149nm,1.0s,mb6.0
BILL Bilibino 59.14 9*c i*P P 17 24 45.1 -0.7
BILL *e*S S 17 32 44.0 -9.4
BILL *e*SS SS 17 36 46.1 -1.3
BILL pmax pmax
comp=Z,113nm,1.2s,mb5.8
BILL MLR MLR
comp=Z,100nm,19.0s,MS4.0
BILL Bilibino 59.14 9 *e*P P 17 24 45.0 -0.8
comp=Z,90nm,1.1s,mb5.7
KKN Kakani 59.16 296 *e*P P 17 24 47.1 +0.4
comp=Z,225nm,0.9s,mb6.2
DMN Daman 59.30 296 *e*P P 17 24 48.3 +0.7
comp=Z,299nm,0.9s,mb6.3
GKN Gorkha 59.75 296 *e*P P 17 24 51.1 +0.4
comp=Z,423nm,1.1s,mb6.4
WMQ Urumqi 59.97 315⇑ *i*P P 17 24 53.1 +1.2
WMQ AP pP 17 24 57.6 +3.8
WMQ XP sP 17 25 00.1 +5.6
WMQ PCP PcP 17 25 38.1 0.0
WMQ PP PP 17 27 07.6 +3.4
WMQ SCP ScP 17 29 38.1 -1.9
WMQ S **S 17 33 03.6 -1.3**
WMQ XS sS 17 33 11.1 +3.2
WMQ AMB AMB
comp=Z,70nm,1.0s,mb5.7
WMQ AMB AMB
comp=Z,373nm,3.2s
WMQ LR LR
comp=N,107nm,20.5s,MS4.1
WMQ LR LR
comp=E,98nm,19.0s,MS4.1
WMQ LR LR
comp=Z,128nm,19.0s,MS4.1
DANN Dangsing 60.54 297 *e*P P 17 24 56.8 +0.6
comp=Z,359nm,0.7s,mb6.6
KOLN Koldanda 60.65 296 *e*P P 17 24 57.3 +0.4
comp=Z,178nm,0.8s,mb6.3
KRAR Krasnoyarsk 61.20 329⇑ *i*P P 17 24 59.6 -0.5
KRAR pmax pmax
comp=Z,41nm,1.7s,mb5.3
SDPT Sand Point 61.35 32 *e*P P 17 25 00.1 -1.0
comp=Z,131nm,0.9s,mb6.1
TIXI Tiksi 62.07 354⇑ *e*P P 17 25 03.8 -1.9
TIXI pmax pmax
comp=Z,23nm,0.9s,mb5.3
TIXI Tiksi 62.07 354 *e*P P 17 25 03.2 -2.5
comp=Z,22nm,0.8s,mb5.3
PTH Pithoragarh 63.71 298 *e*P P 17 25 17.8 +0.4
MK31 Makanchi Array 64.39 317 *e*P P 17 25 22.0 +0.5
MKAR Makanchi Array 64.39 317 P P 17 25 22.2 +0.6
comp=Z,24nm,0.8s,mb5.3,baz=94,slow=8.5,SNR=113
MKAR Makanchi Array 64.39 317 *i*P P 17 25 22.2 +0.7
MKAR pmax pmax
comp=Z,25nm,0.8s
MKAR Makanchi Array 64.39 317 P P 17 25 22.2 +0.6
ZAA0 Zalesovo Array 64.71 325 *e*P P 17 25 22.8 -0.7
ZAA0 *e*PcP PcP 17 25 56.4 -0.7
ZALV Zalesovo Beam 64.71 325 P P 17 25 23.1 -0.4
comp=Z,15nm,0.6s,mb5.2,baz=106,slow=6.6,SNR=84
HYB Hyderabad 65.34 284 *i*P P 17 25 29.0 +0.7
HYB Hyderabad 65.34 284 *e*P P 17 25 29.0 +0.7
NVS Novosibirsk 65.87 326⇑ *i*P P 17 25 30.2 -0.8
NVS *i* 17 25 46.6
NVS *e*S S 17 34 16.2 -2.2
NVS pmax pmax
comp=Z,107nm,1.8s,mb5.6
NVS pmax pmax
comp=N,27nm,1.5s
NVS pmax pmax
comp=E,57nm,1.3s
NVS pmax pmax
comp=Z,24nm,2.1s,mb4.9
NVS smax
comp=N,45nm,3.3s
SVW2 Sparrevohn 66.08 27 *e*P P 17 25 32.1 -0.1
NDI New Delhi 66.31 297 *e*P P 17 25 32.0 -2.3
SMLA Simla 66.41 299 *i*P P 17 25 34.6 -0.3
comp=Z,45nm,0.8s,mb5.5
KURK Kurchatov 67.58 321 P P 17 25 42.1 +0.1
comp=Z,644nm,1.1s,mb6.6,SNR=47
KURK Kurchatov 67.58 321 P P 17 25 42.2 +0.3
comp=Z,64nm,0.9s,mb5.6,baz=104,slow=6.0,SNR=60
KURK Kurchatov 67.58 321 *e*P P 17 25 41.6 -0.4
KURK pmax pmax
comp=Z,114nm,1.0s,mb5.9
KURK Kurchatov 67.58 321 *e*P P 17 25 41.6 -0.4
comp=Z,114nm,1.0s,mb5.9
KURK *e* 17 26 23.1
THN Thein Dam 67.69 301 *e*P P 17 25 41.4 -1.7
SLKM Skilak Lake 68.33 29 *e*P P 17 25 45.4 -1.1
TKM2 Tokmak 2 68.47 312 P P 17 25 48.6 +0.8
SNR=23
IMA2 Indian Mountai 68.83 22 *e*P P 17 25 48.4 -1.1
KBK Karagaybulak 68.92 312 P P 17 25 51.4 +0.8
SNR=12
CHMS Chumysh 69.10 312 P P 17 25 52.2 +0.5
SNR=10.0
PMR Palmer 69.17 28 *e*P P 17 25 50.5 -1.2
PMR pmax pmax
comp=Z,16nm,0.9s,mb5.0
PMR Palmer 69.17 28 *e*P P 17 25 50.5 -1.2
comp=Z,16nm,0.9s,mb4.9
FRU Bishkek 69.18 312 *e*P P 17 25 53.0 +0.8
FRU pmax pmax
comp=Z,70nm,2.2s,mb5.2
AAK Ala-Archa 69.25 312 P P 17 25 53.8 +1.2
SNR=9.7
USP Ospenovka 69.31 312 P P 17 25 53.5 +0.5
SNR=13
PPT Papeete 69.64 113 *e*LR LR 17 46 55.8
comp=Z,984nm,29.2s,baz=298
POO Poona 69.73 286 *e*P P 17 25 54.5 -1.5
EKS2 Erkin-Say 69.78 312 P P 17 25 56.6 +0.7
SNR=18
AML Almayashu 69.81 311 P P 17 25 58.1 +2.1
SNR=6.9
EYAK Cordova Ski Ar 70.47 29 *e*P P 17 25 59.0 -0.7
comp=Z,47nm,1.1s,mb5.3
COLA College 70.70 24 *e*P P 17 25 59.6 -1.5
COLA *e* 17 26 22.8
COLA pmax pmax
comp=Z,11nm,0.9s,mb4.8
COLA College 70.70 24 *e*P P 17 25 59.6 -1.5
comp=Z,11nm,0.9s,mb4.8
COLA *e*PcP PcP 17 26 22.8 +0.8
TBI Tubuai 71.66 119 *e*LR LR 17 47 46.4
comp=Z,519nm,31.5s,baz=301
KK31 Karatay Array 72.21 312 *i*P P 17 26 10.2 -0.4
KK31 pmax pmax
comp=Z,44nm,1.0s,mb5.3
KK31 Karatay Array 72.21 312 *i*P P 17 26 10.3 -0.3
VOSK Vostochnaya 72.57 322 P P 17 26 11.9 -0.7
VOSK pmax pmax
comp=Z,35nm,1.0s,mb5.2
BVA0 Borovoye Array 72.96 322 *i*P P 17 26 14.8 -0.1
BVA0 pmax pmax
comp=Z,26nm,1.1s,mb5.1
BVAR Borovoye Array 72.96 322 P P 17 26 15.1 +0.2
comp=Z,66nm,0.9s,mb5.6,baz=102,slow=6.8,SNR=246
BRVK Borovoye 73.03 322 P P 17 26 15.0 -0.3
comp=Z,794nm,0.8s,mb6.7,SNR=26
BRVK Borovoye 73.03 322 P P 17 26 15.9 +0.6
SNR=24
BRVK Borovoye 73.03 322 *e*P P 17 26 15.4 +0.1
BRVK pmax pmax
comp=Z,126nm,0.9s,mb5.8
BRVK Borovoye 73.03 322 *e*P P 17 26 15.4 +0.1
comp=Z,126nm,0.9s,mb5.8
KBL Kabul 73.27 303 *e*P P 17 26 17.0 -0.2
KBL pmax pmax
comp=Z,62nm,1.0s,mb5.5
KBL Kabul 73.27 303 *e*P P 17 26 17.0 -0.2
comp=Z,62nm,1.0s,mb5.5
DAWY Dawson 74.08 26 *e*P P 17 26 21.1 -0.1
DRV Dumont d'Urvil 76.98 182 P P 17 26 36.0 -1.7
DRV R 17 52 00.0
SVE Sverdlovsk 78.71 326⇓ *e*P P 17 26 47.7 0.0
SVE pmax pmax
comp=Z,51nm,1.1s,mb5.4
SVE MLR MLR
comp=Z,348nm,19.0s,MS4.7
AB31 Akbulak array 79.48 318 *i*P P 17 26 51.4 -0.7
AB31 pmax pmax
comp=Z,33nm,1.0s,mb5.2
AB31 Akbulak array 79.48 318 *i*P P 17 26 51.5 -0.6
ARU Arti 79.87 326 P P 17 26 53.0 -1.0
comp=Z,212nm,0.8s,mb6.1,SNR=21
ARU Arti 79.87 326*c i*P P 17 26 53.8 -0.2
ARU *e* 17 29 54.1
ARU *e*PPP 17 31 41.4
ARU *e*S S 17 36 57.7 -0.1
ARU *e*SS SS 17 42 04.6 -2.1
ARU pmax pmax
comp=Z,57nm,1.2s,mb5.4
ARU Arti 79.87 326 *e*P P 17 26 53.5 -0.5
comp=Z,46nm,1.0s,mb5.4
ARU *e*PP PP 17 29 50.7 -4.5
AKTK Aktyubinsk 80.64 320 P P 17 26 58.0 -0.4
AKTO Aktyubinsk 80.64 320 P P 17 26 58.0 -0.3
comp=Z,20nm,0.8s,mb5.1,baz=87,slow=7.0,SNR=38
AKTO Aktyubinsk 80.64 320 P P 17 26 57.5 -0.8
AKTO pmax pmax
comp=Z,5.0nm,1.0s,mb4.4
ABKT Ailbek 81.85 307 P P 17 27 05.8 +0.8
comp=Z,286nm,1.1s,mb6.1,SNR=25
D03A Wishkah Elem. 82.78 44⇑P P 17 27 10.9 +1.2
baz=83
E03A Lebam 83.00 44⇑P P 17 27 11.6 +0.7
baz=83
WBK Wadi Bani Khal 83.14 292 P P 17 27 12.9 +0.8
SNR=6.5
I02A Mapleton 83.15 47⇓P P 17 27 12.4 +0.7
baz=83
HDW Hoodsport 83.19 43 P P 17 27 12.7 +0.8
C04A Brinnon 83.24 43⇓P P 17 27 13.4 +1.3
baz=83
J02A Umpqua 83.42 47⇓P P 17 27 13.6 +0.4
baz=83
H03A Soap Creek Ran 83.44 46⇑P P 17 27 14.1 +0.9
baz=83
I03A Eugene 83.55 47⇑P P 17 27 14.1 +0.3
baz=84
K02A Glendale 83.57 48⇓P P 17 27 14.5 +0.6
baz=84
L02A Cave Junction 83.57 48⇓P P 17 27 14.1 +0.1
baz=84
BIDO Bidbid 83.78 293 P P 17 27 15.8 +0.5
SNR=10
F04A Amboy 83.87 45⇓P P 17 27 16.0 +0.6
baz=84
FL2 Flat Top 2 83.88 44 P P 17 27 16.0 +0.6
G04A Mulino 83.94 45⇓P P 17 27 16.2 +0.5
baz=84
TDL Tradedollar La 83.95 44 P P 17 27 16.4 +0.7
D05A Enumclaw 83.98 43⇑P P 17 27 16.1 +0.2
baz=84
HUMO Hull Mountain 83.98 48⇑P P 17 27 15.9 -0.1
baz=84
HUMO Hull Mountain 83.98 48 *e*P P 17 27 15.8 -0.2
comp=Z,11nm,0.9s,mb5.0
N02C Big Bar 83.99 50⇑P P 17 27 16.4 +0.3
baz=84
A06A Chilliwack 84.02 41⇓P P 17 27 16.4 +0.3
baz=84
I04A Tendick Farm, 84.20 47⇑P P 17 27 17.1 0.0
baz=84
H04A Detroit Lake 84.22 46⇑P P 17 27 17.1 -0.1
baz=84
E05A Randle 84.23 44⇑P P 17 27 16.6 -0.5
baz=84
M02C Callahan 84.24 49⇓P P 17 27 18.1 +0.8
baz=84
YBH Yreka Blue Hor 84.29 49 *e*P P 17 27 17.7 +0.1
YBH pmax pmax
comp=Z,11nm,1.1s
YBH Yreka Blue Hor 84.29 49⇑P P 17 27 17.5 -0.1
baz=84
YBH Yreka Blue Hor 84.29 49 *e*P P 17 27 17.7 +0.1
comp=Z,11nm,1.1s,mb4.9
LAMM Antelope Mount 84.38 49 P P 17 27 18.5 +0.5
O02C Red Bluff 84.47 50⇓P P 17 27 19.1 +0.6
baz=84
J04A Umpqua Nationa 84.50 47⇓P P 17 27 19.3 +0.7
baz=84
HOQ Hoqain 84.51 293⇑P P 17 27 19.6 +0.6
SNR=11
F05A White Salmon 84.54 44⇑P P 17 27 19.3 +0.5
baz=84
BUOR Button Butte 84.55 48 P P 17 27 19.4 +0.4
WDC Whiskeytown Da 84.60 50⇓P P 17 27 19.2 0.0
baz=84
GASB Alder Springs 84.61 51⇓P P 17 27 20.1 +0.8
baz=84
G05A Wamic 84.74 45⇓P P 17 27 20.2 +0.4
baz=85
D06A Cle Elum 84.75 43⇓P P 17 27 20.0 +0.2
baz=85
E06A Yakima 84.76 44⇓P P 17 27 20.2 +0.4
baz=85
L04A Klamath Falls 84.83 48⇓P P 17 27 21.0 +0.7
baz=85
H05A Madras 84.90 46⇑P P 17 27 21.3 +0.6
baz=85
M04C Macdoel 84.93 49⇓P P 17 27 20.9 0.0
baz=85,SNR=5.8
MNRC McLaughlin Nat 84.94 52⇑P P 17 27 21.8 +0.9
baz=85
B07A Winrop 85.01 42⇑P P 17 27 21.1 0.0
baz=85
CVS Carmenet Viney 85.02 52⇑P P 17 27 21.8 +0.4
baz=85
ETW Entiat 85.02 43 *e*P P 17 27 20.5 -0.7
F06A Goldendale 85.03 45⇓P P 17 27 21.5 +0.2
baz=85
BANOM Banah 85.05 295⇓P P 17 27 22.7 +0.9
SNR=6.3
J05A Fort Rock 85.12 47⇑P P 17 27 21.9 +0.1
baz=85,SNR=9.4
C07A Waterville 85.19 43⇑P P 17 27 21.7 -0.3
baz=85
G06A Carlson Farm, 85.22 45⇑P P 17 27 22.0 -0.2
baz=85
YKA Yellowknife Ar 85.27 27 P P 17 27 21.4 -0.7
comp=Z,13nm,0.8s,mb5.1,baz=286,slow=5.4,SNR=27
YKA Yellowknife Ar 85.27 27 *i*P P 17 27 21.3 -0.8
YKA pmax pmax
comp=Z,13nm,0.8s
D07A Quincy 85.33 43⇑P P 17 27 23.0 +0.2
baz=85
HATD Hatta, Dubai 85.37 294 P P 17 27 23.7 +0.3
SNR=9.4
K05A Summer Lake 85.47 48⇑P P 17 27 23.5 0.0
baz=85,SNR=8.3
A08A Turner Farm, O 85.48 41⇓P P 17 27 24.0 +0.6
baz=85
M05C Lookout 85.51 49⇑P P 17 27 24.2 +0.4
baz=85
H06A Lindquist Farm 85.52 46⇑P P 17 27 23.6 -0.1
baz=85
E07A Sunnyside 85.52 44⇓P P 17 27 23.9 +0.2
baz=85
B08A Colville Reser 85.55 42⇓P P 17 27 23.7 0.0
baz=85
ORV Oroville 85.55 51⇓P P 17 27 24.1 +0.1
baz=85
F07A Phinny Hill Vi 85.59 44⇓P P 17 27 24.2 +0.1
baz=86
L05A Lakeview 85.63 48⇓P P 17 27 24.5 +0.2
baz=86
O04C Chester 85.74 50⇑P P 17 27 25.2 +0.3
baz=86
I06A Prineville 85.74 46⇑P P 17 27 25.4 +0.5
baz=86
MIR Mirnyy 85.77 199⇓ *i*P P 17 27 24.0 -0.3
MIR pmax pmax
comp=Z,100nm,1.8s,mb5.7
C08A Higginbotham F 85.84 42⇑P P 17 27 25.5 +0.2
baz=86
G07A Ruggs Ranch, H 85.89 45⇓P P 17 27 25.2 -0.4
baz=86
J06A Christmas Vall 85.91 47⇓P P 17 27 25.4 -0.3
baz=86,SNR=9.9
A09A Danville 85.92 41⇓P P 17 27 25.7 +0.1
baz=86
K06A Valley Falls 85.92 47⇑P P 17 27 25.5 -0.2
baz=86,SNR=7.0
O05C Quincy 85.92 50⇑P P 17 27 26.2 +0.3
baz=86
ELFS Eagle Lake Fie 85.95 50⇑P P 17 27 26.1 +0.1
baz=86,SNR=5.8
M06C Likely Place G 86.04 49⇑P P 17 27 26.9 +0.5
baz=86
MOD Modoc 86.04 48⇓P P 17 27 26.4 0.0
baz=86
D08A Wollman Farm, 86.06 43⇑P P 17 27 26.4 0.0
baz=86
H07A Lands Inn, Kim 86.08 46⇑P P 17 27 26.3 -0.2
baz=86
OD2 Odessa Site #2 86.14 43 *e*P P 17 27 26.2 -0.5
PACP Pacheco Peak 86.16 53⇓P P 17 27 27.2 +0.1
baz=86
I07A Izee 86.22 46⇑P P 17 27 27.4 +0.2
baz=86
LAVA Lava Cap Winer 86.27 51⇓P P 17 27 27.9 +0.3
baz=86
P05C Yuba Gap, Truc 86.28 51⇓P P 17 27 27.7 +0.1
baz=86
B09A Rice 86.31 42⇓P P 17 27 27.4 -0.2
baz=86,SNR=5.3
C09A Chrisman Ranch 86.35 42⇓P P 17 27 27.6 -0.1
baz=86
BEKR Beckwourth 86.36 50⇓P P 17 27 28.4 +0.3
baz=86
V03C Hunter Liggett 86.37 54⇑P P 17 27 28.9 +0.8
baz=86
G08A Pilot Rock 86.37 45⇓P P 17 27 28.0 0.0
baz=86
F08A Pendleton 86.40 44⇓P P 17 27 28.2 +0.1
baz=86,SNR=6.1
D09A Jones Farm, Ri 86.47 43⇓P P 17 27 28.5 +0.1
baz=86
J07A Hines 86.49 47⇓P P 17 27 28.5 0.0
baz=86,SNR=10
A10A Northport 86.58 41⇓P P 17 27 28.9 +0.1
baz=86,SNR=9.4
N06A Buffalo Meadow 86.60 49⇑P P 17 27 29.1 0.0
baz=86,SNR=8.2
K07A Rock Creek Ran 86.67 47⇓P P 17 27 29.8 +0.3
baz=87
CMB Columbia Colle 86.68 52 *e*P P 17 27 29.2 -0.4
CMB pmax pmax
comp=Z,7.0nm,0.8s,mb4.9
CMB Columbia Colle 86.68 52⇓P P 17 27 29.7 +0.1
baz=87
CMB Columbia Colle 86.68 52 *e*P P 17 27 29.2 -0.4
comp=Z,7.0nm,0.8s,mb4.9
E09A Wood Farm, Sta 86.69 43⇑P P 17 27 29.5 0.0
baz=87
O06A Flanigan 86.71 50⇑P P 17 27 29.9 +0.2
baz=87,SNR=6.7
H08A Prairie City 86.72 45⇓P P 17 27 29.5 -0.2
baz=87
L07A Adell 86.72 48⇓P P 17 27 30.2 +0.5
baz=87
R05C Kirkwood Meado 86.79 51⇑P P 17 27 30.4 +0.3
baz=87
S05C Merced 86.85 53⇑P P 17 27 31.1 +0.6
baz=87
I08A Drewsey 86.91 46⇓P P 17 27 30.7 +0.1
baz=87
WCN Washoe City 86.93 51⇑P P 17 27 31.0 +0.2
baz=87
PKD Parkfield 86.94 54⇓P P 17 27 31.1 +0.2
baz=87
NEW Newport 87.01 42 *e*P P 17 27 30.3 -0.7
NEW *e* 17 27 38.3
NEW pmax pmax
comp=Z,22nm,1.0s
NEW Newport 87.01 42 *e*P P 17 27 30.3 -0.7
comp=Z,22nm,1.0s,mb5.3
NEW *e* 17 27 38.3
F09A S2 Ranch, Elgi 87.01 44⇓P P 17 27 31.0 -0.1
baz=87
J08A Circle Bar Ran 87.09 47⇓P P 17 27 31.5 0.0
baz=87
S06C San Francisco 87.12 52⇓P P 17 27 31.7 0.0
baz=87
WVOR Wild Horse Val 87.16 48 *e*P P 17 27 31.6 -0.2
WVOR pmax pmax
comp=Z,14nm,1.0s,mb5.2
WVOR Wild Horse Val 87.16 48 *e*P P 17 27 31.6 -0.3
comp=Z,14nm,1.0s,mb5.1
D10A Wagner Farm, O 87.17 43⇑P P 17 27 31.4 -0.4
baz=87
G09A Cove 87.19 45⇑P P 17 27 31.5 -0.5
baz=87,SNR=5.8
K08A Mann Creek Ran 87.21 47⇑P P 17 27 32.3 +0.2
baz=87
N07B Gerlach 87.24 49⇑P P 17 27 32.1 -0.1
baz=87,SNR=20
R06C Coleville 87.31 51⇑P P 17 27 32.8 +0.1
baz=87,SNR=6.6
SPITS Spitsbergen Ar 87.31 351 P P 17 27 31.1 -0.8
comp=Z,37nm,1.0s,mb5.6,baz=325,slow=11,SNR=4.7
A11A Hall Mountain, 87.36 41⇑P P 17 27 32.7 +0.1
baz=87,SNR=9.0
E10A Myers Farm, Un 87.40 43⇓P P 17 27 32.8 -0.1
baz=87
T06C Millerton Lake 87.40 53⇓P P 17 27 33.0 -0.1
baz=87
H09A Durkee 87.40 45⇑P P 17 27 32.8 -0.2
baz=87
L08A Fields 87.42 48⇓P P 17 27 33.2 +0.1
baz=87,SNR=14
F10A Beach Ranch, E 87.43 44⇓P P 17 27 33.0 -0.1
baz=87
O07A Toulon 87.43 50⇑P P 17 27 33.7 +0.5
baz=87
KBS Kingsbay 87.46 352⇑ *e*P P 17 27 33.1 +0.5
B11A Sandpoint 87.47 41⇓P P 17 27 33.5 +0.3
baz=87
SMMC Simmler 87.49 55⇓P P 17 27 34.0 +0.4
baz=87
I09A Lost Marbles R 87.49 46⇓P P 17 27 33.6 +0.2
baz=87
M08A Happy Creek Ra 87.54 48⇓P P 17 27 33.8 +0.1
baz=87,SNR=7.1
J09A Fry Pan Ranch, 87.61 47⇓P P 17 27 33.9 -0.1
baz=88,SNR=11
BMO Blue Mountains 87.61 45 *e*P P 17 27 33.5 -0.5
BMO pmax pmax
comp=Z,19nm,1.0s,mb5.3
BMO Blue Mountains 87.61 45 *e*P P 17 27 33.5 -0.4
comp=Z,19nm,1.0s,mb5.3
KCC Kaiser Creek 87.64 53⇓P P 17 27 34.7 +0.4
baz=88
G10A Bishop Farm, J 87.64 45⇓P P 17 27 34.2 +0.1
baz=88
R07C Lee Vining 87.70 52⇑P P 17 27 34.8 +0.2
baz=88,SNR=6.0
PKM Peak Mountain 87.71 55⇑P P 17 27 35.3 +0.6
baz=88
K09A Rome 87.76 47⇑P P 17 27 34.8 0.0
baz=88,SNR=9.8
D11A Klaveano Farm, 87.80 43⇓P P 17 27 34.7 -0.1
baz=88
A12A Yaak River Ran 87.82 41⇓P P 17 27 34.7 -0.1
baz=88,SNR=6.7
N08A GE Springer Mi 87.86 49⇓P P 17 27 35.0 -0.2
baz=88,SNR=12
HELL Mitchell Peak 88.00 53⇑P P 17 27 35.8 -0.2
baz=88
E11A Bogner Ranch, 88.03 43⇓P P 17 27 35.8 -0.2
baz=88
I10A Payette 88.12 46⇑P P 17 27 36.2 -0.3
baz=88
F11A Grangeville 88.17 44⇓P P 17 27 36.2 -0.4
baz=88
EDM Edmonton 88.18 36 *e*P P 17 27 35.8 -0.7
G11A Walters Elk Ra 88.21 44⇓P P 17 27 36.5 -0.3
baz=88
NVAR Mina Array Bea 88.21 51 P P 17 27 37.3 +0.3
comp=Z,11nm,0.8s,mb5.2,baz=263,slow=6.0,SNR=78
MTUM Tungsten Hills 88.23 52 *e*P P 17 27 36.4 -0.7

M09A	Marrel Ranch,	88.23	48	⇑P	P	17 27 36.8	-0.2
	baz=88,SNR=7.8						
K10A	MacKenzie Ranc	88.36	47	⇓P	P	17 27 37.6	0.0
	baz=88						
Q08A	Gabbs	88.41	51	⇓P	P	17 27 38.0	+0.1
	baz=88						
E12A	Beaver Dam Sad	88.45	43	⇑P	P	17 27 37.6	-0.3
	baz=88						
S08C	White Mtn Res	88.50	52	⇓P	P	17 27 38.6	+0.3
	baz=88,SNR=7.2						
H11A	Donnelly	88.54	45	⇑P	P	17 27 38.0	-0.4
	baz=88						
ISA	Isabella	88.64	54	⇑P	P	17 27 39.0	-0.1
	baz=88						
O09A	Fish Creek Ran	88.69	50	⇓P	P	17 27 39.5	+0.3
	baz=89,SNR=9.4						
B13A	Whitefish	88.71	41	⇑P	P	17 27 39.0	-0.1
	baz=89,SNR=6.2						
APA	Apatity	88.73	339	⇑iP	P	17 27 37.7	-1.1
APA				pmax	pmax		
	comp=Z,11nm,0.9s,mb5.2						
KLMR	Klimovskoe	88.75	332	eP	P	17 27 37.4	-1.6
KLMR				pmax	pmax		
	comp=Z,52nm,1.1s,mb5.8						
I11A	Placerville	88.76	46	⇑P	P	17 27 39.3	-0.1
	baz=89						
L10A	Juniper Basin	88.80	48	⇑P	P	17 27 39.7	0.0
	baz=89,SNR=19						
P09A	Austin	88.86	50	⇓P	P	17 27 39.8	-0.2
	baz=89						
M10A	I.L. Ranch, Tu	88.88	48	⇓P	P	17 27 40.1	0.0
	baz=89,SNR=5.5						
WALA	Waterton Lakes	88.90	40	eP	P	17 27 39.5	-0.4
	comp=Z,18nm,1.2s,mb5.3						
SBA	Scott Base	88.90	176	eP	P	17 27 39.5	+0.2
SBA				pmax	pmax		
	comp=Z,16nm,1.4s,mb5.2						
SBA	Scott Base	88.90	176	eP	P	17 27 39.5	+0.2
	comp=Z,16nm,1.4s,mb5.2						
MFID	Camas Ranch	88.96	46	⇑P	P	17 27 40.5	+0.1
	baz=89,SNR=20						
K11A	Parker Ranch,	88.96	47	⇑P	P	17 27 40.6	+0.2
	baz=89,SNR=7.9						
TPH	Tonopah	89.12	52	eP	P	17 27 40.5	-0.8
TPH				pmax	pmax		
	comp=Z,11nm,0.9s,mb5.2						
TPH	Tonopah	89.12	52	eP	P	17 27 40.5	-0.8
	comp=Z,10nm,0.9s,mb5.2						
O10A	Cortez Mining,	89.18	49	⇓P	P	17 27 42.0	+0.5
	baz=89						
EDW2	Edwards Air Fo	89.19	55	⇑P	P	17 27 41.8	+0.2
	baz=89						
S09A	Goldfield	89.19	52	⇓P	P	17 27 41.9	+0.3
	baz=89						
R09A	Tonopah	89.20	51	⇑P	P	17 27 42.0	+0.3
	baz=89						
A14A	Double T Ranch	89.23	40	⇑P	P	17 27 41.5	-0.1
	baz=89,SNR=9.6						
L11A	Cat Creek Ranc	89.30	47	⇓P	P	17 27 42.1	+0.1
	baz=89,SNR=14						
LRMC	Laurel Mountai	89.30	54	⇑P	P	17 27 42.4	+0.2
	baz=89						
MPMC	Manual Prospec	89.34	54	⇓P	P	17 27 42.6	+0.2
	baz=89						
P10A	Eureka	89.36	50	⇓P	P	17 27 42.8	+0.4
	baz=89						
E13A	Victor	89.37	43	⇓P	P	17 27 41.6	-0.7
	baz=89						
H12A	Diamond D Ranc	89.38	45	⇓P	P	17 27 42.4	0.0
	baz=89,SNR=6.5						
F13A	Darby	89.44	44	⇑P	P	17 27 42.1	-0.5
	baz=89						
M11A	Holland Ranch,	89.44	48	⇓P	P	17 27 43.1	+0.4
	baz=89,SNR=9.6						
B14A	Marquette Ranc	89.49	41	⇓P	P	17 27 42.6	-0.2
	baz=89,SNR=6.1						
J12A	Stokes Ranch,	89.52	46	⇓P	P	17 27 43.3	+0.3
	baz=89						
Q10A	Clear Creek Ra	89.58	51	⇑P	P	17 27 43.9	+0.4
	baz=90						
S10A	Tonopah Range,	89.63	52	⇑P	P	17 27 44.0	+0.4
	baz=90						
D14A	Greenough	89.67	42	⇑P	P	17 27 42.8	-0.8
	baz=90						
A15A	Johnson Ranch,	89.67	40	⇑P	P	17 27 43.6	0.0
	baz=90,SNR=5.5						
G13A	Cobalt	89.68	44	⇑P	P	17 27 43.6	-0.1
	baz=90						
H13A	Challis	89.79	45	⇑P	P	17 27 44.5	+0.3
	baz=90,SNR=12						
K12A	Draper Farm, C	89.81	47	⇑P	P	17 27 44.5	+0.1
	baz=90,SNR=6.9						
L12A	House Creek Ra	89.84	47	⇑P	P	17 27 44.9	+0.3
	baz=90,SNR=11						
CHMT	Chamberlain Mo	89.88	42	eP	P	17 27 42.9	-1.7
P11A	Circle Ranch,	89.91	50	⇓P	P	17 27 45.4	+0.5
	baz=90						
B15A	Bradely Ranch,	89.96	41	⇑P	P	17 27 44.5	-0.4
	baz=90						
ELK	Elko	90.01	49	eP	P	17 27 45.4	0.0
ELK				pmax	pmax		
	comp=Z,22nm,1.0s						
ELK	Elko	90.01	49	eP	P	17 27 45.4	0.0
	comp=Z,22nm,1.0s,mb5.4						
GSC	Goldstone	90.05	54	⇓P	P	17 27 45.7	0.0
	baz=90						
I13A	Wildhorse Cree	90.05	45	⇑P	P	17 27 45.5	0.0
	baz=90,SNR=10						
C15A	Salmond Ranch,	90.07	41	⇓P	P	17 27 45.5	0.0
	baz=90						
M12A	Wells	90.09	48	⇑P	P	17 27 45.9	+0.1
	baz=90,SNR=5.4						
TPNV	Topopah Spring	90.12	52	eP	P	17 27 45.8	-0.2
TPNV				pmax	pmax		
	comp=Z,7.0nm,0.8s,mb5.0						
TPNV	Topopah Spring	90.12	52	eP	P	17 27 45.8	-0.2
	comp=Z,6.7nm,0.8s,mb5.0						
N12A	Clover Valley,	90.13	48	⇓P	P	17 27 46.2	+0.3
	baz=90,SNR=8.1						
J13A	Cove Ranch, Pi	90.14	46	⇑P	P	17 27 46.0	0.0
	baz=90,SNR=6.7						
Q11A	Duckwater	90.14	51	⇑P	P	17 27 46.2	+0.2
	baz=90						
U10A	Ash Meadows, A	90.17	53	⇑P	P	17 27 46.8	+0.6
	baz=90						
R11A	Troy Canyon, C	90.31	51	⇓P	P	17 27 47.4	+0.6
	baz=90						
S11A	Rachel	90.35	52	⇓P	P	17 27 47.3	+0.2
	baz=90						
ARCES	ARCESS Array B	90.36	342	P	P	17 27 46.0	-0.5
	comp=Z,12nm,1.0s,mb5.2,baz=7.6,slow=3.7,SNR=7.4						
K13A	Stover Farm, H	90.39	47	⇓P	P	17 27 47.8	+0.7
	baz=90						
H14A	Leadore	90.39	45	⇑P	P	17 27 47.2	+0.1
	baz=90						
A16A	West Butte Ran	90.40	40	⇓P	P	17 27 46.5	-0.5
	baz=90						
E15A	Deer Lodge	90.41	43	⇓P	P	17 27 47.1	0.0
	baz=90						
B16A	M & M Farms, S	90.48	41	⇑P	P	17 27 47.0	-0.4
	baz=90						
O12A	Currie	90.49	49	⇑P	P	17 27 47.9	+0.3
	baz=90,SNR=11						
I14A	Mackay	90.51	45	⇑P	P	17 27 47.4	-0.3
	baz=90						
HEC	Hector,Ludlow	90.53	55	⇓P	P	17 27 48.0	0.0
	baz=90						
J14A	Carey	90.62	46	⇑P	P	17 27 48.2	0.0
	baz=90,SNR=9.8						
L13A	Double Diamond	90.63	47	⇑P	P	17 27 48.2	0.0
	baz=90,SNR=5.9						
M13A	Montello	90.65	48	⇑P	P	17 27 48.5	+0.1
	baz=90,SNR=11						
F15A	Butte	90.67	43	⇑P	P	17 27 48.0	-0.3
	baz=90						
PFO	Pinyon Flat Ob	90.70	56	⇑P	P	17 27 48.6	-0.1
	baz=91						
TUQ	Turquoise Moun	90.72	54	⇑P	P	17 27 48.8	0.0
	baz=91						
Q12A	Willow Creek R	90.72	50	⇑P	P	17 27 49.0	+0.3
	baz=91,SNR=12						
G15A	Dillon	90.85	44	⇑P	P	17 27 48.8	-0.4
	baz=91						
T11A	Corn Creek, Al	90.85	52	⇑P	P	17 27 49.4	0.0
	baz=91,SNR=6.2						
H15A	Lima	90.89	44	⇑P	P	17 27 49.1	-0.3
	baz=91,SNR=5.4						
MONP	Monument Peak	90.89	56	⇑P	P	17 27 50.2	+0.5
	baz=91						
D16A	Dana Ranch, Ca	90.97	42	⇓P	P	17 27 49.5	-0.2
	baz=91,SNR=8.2						
E16A	East Helena	91.02	42	⇓P	P	17 27 49.8	-0.2
	baz=91						
S12A	Delamar Landin	91.05	52	⇓P	P	17 27 50.9	+0.6
	baz=91						
K14A	Jones Ranch, D	91.06	47	⇑P	P	17 27 50.4	+0.2
	baz=91,SNR=5.1						
R12A	Pony Springs,	91.06	51	⇓P	P	17 27 50.8	+0.4
	baz=91,SNR=5.4						
GMRC	Granite Mounta	91.08	54	⇓P	P	17 27 50.7	+0.2
	baz=91						
L14A	Malta	91.15	47	⇓P	P	17 27 50.7	+0.1
	baz=91,SNR=6.0						
M14A	Sheep Mountain	91.21	48	⇓P	P	17 27 51.1	+0.1
	baz=91,SNR=6.7						
P13A	Bates Ranch, G	91.23	50	⇓P	P	17 27 51.2	+0.1
	baz=91,SNR=12						
G16A	Moss Hill, Enn	91.30	44	⇑P	P	17 27 51.2	0.0
	baz=91,SNR=5.6						
Q13A	Wheeler Ranch,	91.36	50	⇓P	P	17 27 51.9	+0.2
	baz=91,SNR=6.7						
J15A	Blackfoot	91.36	46	⇓P	P	17 27 52.3	+0.6
	baz=91,SNR=12						
MOS	Moscow	91.45	327	eP	P	17 27 48.8	-2.9
MOS				pmax	pmax		
	comp=Z,64nm,1.2s,mb5.8						
K15A	Arbon	91.49	46	⇑P	P	17 27 52.6	+0.4
	baz=91						
N14A	Grayback Hills	91.49	48	⇓P	P	17 27 52.5	+0.2
	baz=91						
V12A	Nelson	91.50	53	⇑P	P	17 27 52.5	+0.1
	baz=91						
JOF	Joensuu	91.54	335	ep	P	17 27 49.8	-2.2
	comp=Z,8.5nm,0.7s,mb5.2						
JOF	Joensuu	91.54	335	eP	P	17 27 49.8	-2.2
JOF				pmax	pmax		
	comp=Z,9.0nm,0.7s,mb5.2						
E17A	Martinsdale	91.58	42	⇑P	P	17 27 53.0	+0.4
	baz=92						
R13A	O'Grain Ranch,	91.59	51	⇑P	P	17 27 53.1	+0.3
	baz=92,SNR=7.3						
BGU	Big Grassy Mou	91.59	48	eP	P	17 27 52.1	-0.6
IRM	Iron Mountain	91.63	55	⇑P	P	17 27 53.2	+0.1
	baz=92						
GNI	Garni	91.66	311	⇑eP	P	17 27 53.0	-0.1
GNI				pmax	pmax		
	comp=Z,18nm,1.4s						
GNI	Garni	91.66	311	⇑eP	P	17 27 53.1	0.0
QLMT	Earthquake Lak	91.67	44	eP	P	17 27 53.5	+0.5
L15A	Malad City	91.77	47	⇑P	P	17 27 53.5	-0.1
	baz=92,SNR=6.1						
S13A	Holt Ranch, En	91.82	51	⇓P	P	17 27 54.3	+0.5
	baz=92						
M15A	Larsen Ranch,	91.87	47	⇑P	P	17 27 54.2	+0.2
	baz=92						
P14A	Drum Mountains	91.91	49	⇓P	P	17 27 54.2	-0.1
	baz=92,SNR=7.0						
Q14A	Sevier Lake (B	91.91	50	⇓P	P	17 27 54.4	+0.1
	baz=92,SNR=14						
T13A	Saint George	91.92	52	⇑P	P	17 27 54.7	+0.4
	baz=92,SNR=7.3						
DUG	Dugway	91.94	49	eP	P	17 27 54.3	-0.1
DUG				pmax	pmax		
	comp=Z,9.0nm,0.9s,mb5.1						
DUG	Dugway	91.94	49	eP	P	17 27 54.2	-0.1
	comp=Z,8.6nm,0.9s,mb5.1						
J16A	Bone	91.97	45	⇑P	P	17 27 54.7	+0.2
	baz=92						
U13A	Pakoon Wash	92.03	53	⇓P	P	17 27 55.4	+0.5
	baz=92,SNR=8.0						
ARUT	Antelope Range	92.09	51	eP	P	17 27 55.0	-0.1
MIB	Mutribah	92.09	301	eP	P	17 27 53.4	-1.9
	baz=301						
MIB				AMb	AMB	17 27 55.1	
	comp=Z,33nm,1.0s,mb5.6,baz=301						
KIV	Kislovodsk	92.10	315	eP	P	17 27 53.1	-1.9
KIV				pmax	pmax		
	comp=Z,19nm,0.9s,mb5.4						
KIV	Kislovodsk	92.10	315	⇑iP	P	17 27 54.3	-0.7
KIV	Kislovodsk	92.10	315	eP	P	17 27 51.7	-3.4
	comp=Z,17nm,0.8s,mb5.4						
K16A	Soda Springs	92.11	46	⇑P	P	17 27 55.5	+0.4
	baz=92,SNR=5.3						
RDF	Al-Radifah	92.11	300	eP	P	17 27 53.4	-2.0
	baz=300						
RDF				AMb	AMB	17 28 04.7	
	comp=Z,61nm,1.7s,mb5.7,baz=300						
V13A	Grand Canyon W	92.15	53	⇓P	P	17 27 55.9	+0.4
	baz=92						
GLA	Glamis	92.16	56	⇑P	P	17 27 55.9	+0.4
	baz=92						
RRI2	Red Ridge	92.16	45	eP	P	17 27 55.0	-0.3
	comp=Z,5.2nm,0.9s,mb4.9						
E18A	Harlowton	92.18	42	⇑P	P	17 27 55.5	+0.2
	baz=92						
OBN	Obninsk	92.23	327	diP	P	17 27 54.1	-1.3
OBN				e		17 31 35.6	
OBN				pmax	pmax		
	comp=Z,73nm,1.6s,mb5.8						
OBN	Obninsk	92.23	327	eP	P	17 27 52.8	-2.6
	comp=Z,39nm,1.2s,mb5.6						
IMW	Indian Meadow	92.27	45	eP	P	17 27 54.6	-1.2
	comp=Z,5.6nm,0.9s,mb4.9						
NAY	Al-Naaiem	92.30	300	eP	P	17 27 54.0	-2.2
	baz=300						
NAY				AMb	AMB	17 27 55.8	
	comp=Z,34nm,1.0s,mb5.6,baz=300						
W13A	Hualapai Mount	92.42	54	⇓P	P	17 27 57.0	+0.3
	baz=92						
MOOW	Moose Ponds	92.44	45	eP	P	17 27 56.3	-0.3
	comp=Z,5.9nm,1.1s,mb4.8						
L16A	Fish Haven	92.45	47	⇓P	P	17 27 56.8	+0.1
	baz=92,SNR=8.2						
RST	Umm Al-Ruwaisa	92.45	300	eP	P	17 27 54.6	-2.4
	baz=300						
RST				AMb	AMB	17 27 56.8	
	comp=Z,21nm,1.4s,mb5.3,baz=300						
HWUT	Hardware Ranch	92.47	47	eP	P	17 27 56.5	-0.2
	comp=Z,18nm,1.1s,mb5.3						
X13A	Yucca	92.59	54	⇑P	P	17 27 57.5	0.0
	baz=92						
N16A	Rees Ranch, Co	92.76	48	⇑P	P	17 27 58.2	0.0
	baz=93						
MSU	Marysvale	92.86	50	eP	P	17 27 59.0	+0.3
V14A	Boquillas Ranc	92.90	53	⇑P	P	17 27 59.1	+0.2
	baz=93,SNR=11						
W14A	Seligman	93.03	54	⇓P	P	17 27 59.9	+0.4
	baz=93						
DAU	Daniels Canyon	93.03	48	eP	P	17 27 59.5	+0.1
RLMT	Red Lodge	93.05	43	eP	P	17 27 59.2	-0.1
	comp=Z,14nm,1.0s,mb5.3						
T15A	Red Dirt Ranch	93.10	52	⇓P	P	17 28 00.0	+0.2
	baz=93						
N17A	Moffit Pass	93.19	48	⇑P	P	17 28 00.1	0.0
	baz=93						
U15A	North Rim	93.33	52	⇓P	P	17 28 01.4	+0.5
	baz=93,SNR=14						
X14A	Yava	93.37	54	⇓P	P	17 28 01.1	0.0
	baz=93						
Y14A	Wickenburg	93.41	55	⇓P	P	17 28 01.6	+0.3
	baz=93						
R16A	Teasdale	93.45	50	⇓P	P	17 28 01.6	+0.2
	baz=93,SNR=5.4						
O17A	Robinson Place	93.47	48	⇓P	P	17 28 01.3	-0.1
	baz=93,SNR=10.0						
Q16A	Castle Valley	93.51	50	⇓P	P	17 28 01.7	+0.1
	baz=93						
S16A	Weppner Ranch,	93.52	51	⇑P	P	17 28 02.1	+0.4
	baz=93,SNR=5.1						
PDAR	Pinedale Array	93.56	46	P	P	17 28 01.4	-0.5
	comp=Z,1.5nm,0.9s,mb4.4,baz=277,slow=2.5,SNR=7.7						
V15A	Kaibab Nationa	93.58	53	⇓P	P	17 28 02.6	+0.5
	baz=94,SNR=9.8						
P17A	Butcher Ranch,	93.67	49	⇑P	P	17 28 02.5	+0.1
	baz=94						
T16A	Glen Canyon Da	93.79	52	⇓P	P	17 28 02.8	-0.2
	baz=94						
X15A	Humboldt	93.89	54	⇑P	P	17 28 03.9	+0.5
	baz=94						
SRU	San Rafael	93.94	49	⇑P	P	17 28 03.4	-0.2
	baz=94						
KAF	Kangasniemi	93.96	336	ep	P	17 28 00.7	-2.5
	comp=Z,6.9nm,0.8s,mb5.1,baz=56,slow=4.3						
KAF	Kangasniemi	93.96	336	eP	P	17 28 00.7	-2.5
KAF				pmax	pmax		
	comp=Z,7.0nm,0.8s,mb5.1						
O18A	Roosevelt	93.98	48	⇑P	P	17 28 04.1	+0.3
	baz=94						
FFC	Flin Flon	94.01	33	eP	P	17 28 01.7	-1.9
FFC				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb5.0						
FFC	Flin Flon	94.01	33	eP	P	17 28 01.7	-1.9
	comp=Z,5.3nm,0.8s,mb5.0						
N18A	Larsen Ranch,	94.02	47	⇓P	P	17 28 03.7	-0.2
	baz=94						
S17A	Black Ridge (B	94.15	51	⇓P	P	17 28 04.5	-0.1
	baz=94						
Q18A	Rafter H Ranch	94.23	49	⇓P	P	17 28 05.0	+0.1
	baz=94						
WUAZ	Wupatki	94.29	53	eP	P	17 28 05.5	+0.1
	comp=Z,4.4nm,0.8s,mb4.9						
U16A	Tuba City	94.31	52	⇓P	P	17 28 05.7	+0.3
	baz=94						
T17A	Navajo Res., N	94.33	51	⇓P	P	17 28 05.8	+0.4
	baz=94						
N19A	John Jarvie Ra	94.40	47	⇓P	P	17 28 05.3	-0.4
	baz=94						
U17A	Shonto	94.55	52	⇓P	P	17 28 07.1	+0.7
	baz=94						
R18A	Canyonlands Na	94.62	50	⇑P	P	17 28 06.7	0.0
	baz=94						
O19A	Miners Draw (B	94.62	48	⇑P	P	17 28 06.5	-0.2
	baz=94						
S18A	Hurst Farm, Bl	94.75	50	⇑P	P	17 28 07.2	-0.1
	baz=95						
Q19A	Hogan Spring (	94.92	49	⇓P	P	17 28 08.3	+0.2
	baz=95						
T18A	Mexican Hat	95.00	51	⇑P	P	17 28 08.5	0.0
	baz=95						
V18A	Ganado	95.36	52	⇓P	P	17 28 10.6	+0.3
	baz=95						
S19A	Harvey Farm, M	95.38	50	⇑P	P	17 28 10.1	-0.2
	baz=95						
ANN	Anapa	95.41	317	eP	P	17 28 07.1	-3.1
ANN				pmax	pmax		
	comp=Z,38nm,1.7s,mb5.5						
VSU	Vasula	95.64	332	⇑iP	P	17 28 09.4	-1.6
T19A	Beclabito	95.74	51	⇓P	P	17 28 11.9	0.0
	baz=96,SNR=7.9						
W19A	Sanders	95.96	53	⇑P	P	17 28 13.6	+0.6
	baz=96						
MALT	Malatya	96.88	311	eP	P	17 28 20.4	+3.3
MALT				pmax	pmax		
	comp=Z,8.0nm,1.0s,mb5.1						
MALT	Malatya	96.88	311	⇓iP	P	17 28 21.3	+4.2
MALT	Malatya	96.88	311	eP	P	17 28 20.4	+3.3
	comp=Z,8.4nm,1.0s,mb5.1						
AKASG	Malin Array Be	98.11	325	P	P	17 28 20.1	-2.3
	comp=Z,0.5nm,0.3s,mb4.5,baz=52,slow=4.1,SNR=13						
AKASG				PP	PP	17 32 20.6	-0.4
	comp=Z,1.9nm,0.8s,baz=52,slow=7.6,SNR=6.3						
HFS	Hagfors	100.05	338	P	Pdif	17 28 29.0	-1.9
	comp=Z,2.4nm,0.9s,baz=72,slow=4.8,SNR=3.8						
NOA	NORSAR Array B	100.32	339	P	Pdif	17 28 30.4	-1.6
	comp=Z,1.4nm,1.0s,baz=51,slow=4.2,SNR=5.3						
NOA				PP	PP	17 32 39.0	+1.7
	comp=Z,2.2nm,1.0s,baz=40,slow=7.6,SNR=3.4						
BUR08	Bucovina Ar. S	101.89	323	ePdif	Pdif	17 28 38.2	-0.9
BURAR	Bucovina Array	101.90	323	⇓iP	Pdif	17 28 38.5	-0.6
DRGR		103.79	324	⇑iP	Pdif	17 28 46.9	-0.6
CLL	Collm	106.23	331	ePP	PP	17 33 22.0	+0.2
CLL				i x	x	17 33 39.3	
	comp=Z,11nm,1.4s						
CLL				LmV		17 48 00.0	
	comp=Z,200nm,18.9s						
MOX	Moxa	107.33	331	ePKP	PP	17 33 24.2	-5.7
EKA	Eskdalemuir Ar	109.52	342	PP	PP	17 33 45.5	-0.1
	comp=Z,5.2nm,0.9s,baz=39,slow=5.4,SNR=10.0						
CABF	La Chapelle	112.77	331	ePKIKP	PKiKP	17 33 21.4	-1.1
LPG	La Plagne	113.25	330	ePKIKP	PKiKP	17 33 22.5	-0.9
	comp=Z,4.4nm,0.8s						
LOR	Lormes	113.32	333	ePKIKP	PKiKP	17 33 22.2	-1.3
PGF	Pioggiola	114.13	326	ePKIKP	PKiKP	17 33 23.6	-1.6
VIVF	Saint-Julien-l	114.73	331	ePKIKP	PKiKP	17 33 25.1	-1.2
	comp=Z,18nm,1.2s						
TCF	Toulx Ste Croi	114.80	333	ePKIKP	PKiKP	17 33 25.7	-0.7
	comp=Z,12nm,1.1s						
SNAA	Sanae	115.84	191	ePKPdf	PKPdf	17 33 26.0	-1.6
SNAA				e		17 33 28.7	
SNAA				e		17 33 36.6	
VNA2	Neumayer--Watz	117.26	190	ePKPdf	PKPdf	17 33 29.6	-0.8
	baz=97,slow=0.4						
VNA2				e		17 33 32.5	
VNA2				e		17 33 38.8	
VNA3	Neumayer Olymp	117.34	189	ePKPdf	PKPdf	17 33 29.3	-1.2
VNA3				e		17 33 31.5	
VNA3				e		17 33 37.7	
VNA1	Neumayer--Stat	117.64	189	ePKPdf	PKPdf	17 33 31.1	0.0
VNA1				e		17 33 33.4	
VNA1				e		17 33 38.7	
EPF	Esparros	118.16	332	ePKIKP	PKPdf	17 33 31.7	-1.3
	comp=Z,12nm,1.2s						
LSZ	Lusaka	119.11	258	ePKIKP	PKPdf	17 33 35.4	-0.1
ESDC	Sonseca Array	122.79	332	PP	PP	17 35 16.8	-2.1
	comp=Z,3.2nm,1.0s,baz=26,slow=7.0,SNR=5.9						
MVO	Moncorvo	122.88	336	ePKP	PKPdf	17 33 42.9	+0.8
MTE	Manteigas	123.74	336	ePKP	PKPdf	17 33 44.9	+1.1
PMRV	Marv??o	124.49	335	ePKP	PKPdf	17 33 45.9	+0.6
PBAR	Barrancos	125.39	334	ePKP	PKPdf	17 33 47.7	+0.7
EVO	Evora	125.51	335	ePKP	PKPdf	17 33 47.6	+0.4
PLCA	Paso Flores	135.97	140	PKP	PKPdf	17 34 07.0	+0.1
	comp=Z,1.7nm,0.9s,baz=220,slow=6.6,SNR=3.4						
TOA0	Torodi Ar. Sit	137.34	302	ePKPdf	PKPdf	17 34 08.7	-1.4
TORD	Torodi Ar. Bea	137.34	302	PKhKP		17 33 56.8	
	comp=Z,1.0nm,0.7s,baz=30,slow=3.7,SNR=5.0						
TORD				PKP	PKPdf	17 34 10.2	+0.1
	comp=Z,3.4nm,0.9s,baz=6.2,slow=1.6,SNR=11						
TORD				PP	PP	17 36 51.6	-3.2
	comp=Z,7.9nm,1.1s,baz=61,slow=5.5,SNR=12						
LVC	Limon Verde	144.70	115	ePKPdf	PKPdf	17 34 22.7	-0.5
DBIC	Dimbokro	146.18	299	PKPbc	PKPbc	17 34 26.6	-0.3
	comp=Z,47nm,0.9s,baz=33,slow=4.2,SNR=31						
DBIC	Dimbokro	146.18	299	ePKPdf	PKPdf	17 34 26.3	+0.3
KIC	Kosan Boka	146.24	298	ePKP1	PKPbc	17 34 26.5	-0.6
	comp=Z,279nm,1.1s						
TIC	Toumodi	146.34	299	ePKP1	PKPbc	17 34 27.1	-0.3
	comp=Z,171nm,1.0s						
LPAZ	La Paz	146.54	104	PKPbc	PKPbc	17 34 27.4	-0.5
	comp=Z,8.7nm,0.8s,baz=304,slow=2.1,SNR=39						
LPAZ	La Paz	146.54	104	ePKPdf	PKPdf	17 34 27.0	+0.5
LIC	Lamto	146.55	298	⇑iPKIKP	PKPdf	17 34 27.7	+1.1
	comp=Z,131nm,0.9s						
LIC	Lamto	146.55	298	ePKP1	PKPbc	17 34 27.7	-0.4
	comp=Z,194nm,0.9s						
BBTS	Babate	149.53	325	PKPbc	PKPbc	17 34 36.8	+0.8
	baz=303,slow=0.9						
CPUP	Villa Florida	153.03	129	PKPbc	PKPbc	17 34 42.9	-0.9
	comp=Z,3.7nm,0.8s,baz=29,slow=0.3,SNR=7.1						
CPUP				PKPab	PKPab	17 34 54.6	-0.5
	comp=Z,5.3nm,0.8s,baz=224,slow=5.4,SNR=8.5						
CPUP	Villa Florida	153.03	129	ePKPdf	PKPbc	17 34 41.4	-2.4

IDC ***02*** *17:26:24.0±1.6, 29.49N×130.66E, h0km, mb3.5/5, mb1 3.6/6, mb1mx3.5/23, mbtmp3.5/6, ML3.3/1, MS3.7/2, Ms1 3.7/2, ms1mx3.1/30, Error ellipse: s-maj=47.3km s-min=20.7km az=75.0*

JMA ***02*** *17:26:27.9±0.1, 29.43N×130.77E, h65km±4km, M3.4*

ISCJB ***02*** *17:26:28.4±0.8, 29.42N±0.04×130.76E±0.09, h52km±9km, mb3.5/5, MS3.6/2, Error ellipse: s-maj=14.7km s-min=5.2km az=21.6*

ISC 02 17:26:29.2±0.8**, 29.43N**±0.04×**130.77E**±0.09**, h40**km±10km**, n18, σ0.64**/22**, mb3.5**/5**, MS3.6**/2**, Ryukyu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNN	Nakanoshima	0.88	298	P	Pn	17 26 44.6	-0.5
JNN				eS	Sn	17 26 57.7	+1.0
JKC	Kuchinoerabu	1.14	334	P	Pn	17 26 48.3	-0.4
JKC				eS	Sn	17 27 03.5	+0.3
JTN	Tanegashima 3	1.23	9	P	Pn	17 26 49.4	-0.6
JAM	Amami Oshima	1.44	225	P	Pn	17 26 52.4	-0.4
JAM				eS	Sn	17 27 10.6	+0.2
JTSR	Tashiro 2	1.74	4	P	Pn	17 26 57.2	+0.3
JTSR				eS	Sn	17 27 18.1	+0.3
JSU	Suzuyama	2.09	353	P	Pn	17 27 01.4	-0.3
JNAR	Kushima--Naru	2.14	12	P	Pn	17 27 02.6	+0.2
JTK	Tokunoshima	2.29	225	P	Pn	17 27 04.3	-0.1
JTK				eS	Sn	17 27 32.3	+0.9
JSJ	Shimokoshiki	2.42	338	P	Pn	17 27 05.9	-0.3

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
JTZ	Takazaki	2.48	6	P	Pn	17 27 07.7	+0.6
JOW	Kunigami	3.40	221	Pn	Pn	17 27 18.9	-0.7
	5.2nm,0.3s,baz=84,slow=16,SNR=48						
JOW				Sn	Sn	17 27 58.1	-0.6
	5.5nm,0.3s,baz=43,slow=27,SNR=9.2						
GUMO	Guam	20.47	137	LR	LR	17 37 03.5	
	comp=Z,185nm,21.7s,MS3.4,baz=86,slow=31						
SONM	Songino Array	26.28	321	P	P	17 32 00.1	-0.6
	0.7nm,0.8s,mb3.2,baz=123,slow=11,SNR=4.4						
ZALV	Zalesovo Beam	41.16	320	LR	LR	17 53 20.2	
	comp=Z,110nm,18.8s,MS3.8,baz=95,slow=39						
MKAR	Makanchi Array	41.19	309	P	P	17 34 09.0	-0.8
	0.5nm,0.7s,mb3.3,baz=102,slow=8.9,SNR=4.9						
WRA	Warramunga Arr	49.20	176	P	P	17 35 13.7	+0.1
	0.3nm,0.8s,mb3.4,baz=355,slow=8.3,SNR=3.6						
WRA				pP	pP	17 35 24.8	-0.2
	0.7nm,0.8s,baz=352,slow=8.2,SNR=7.5						
BVAR	Borovoye Array	49.46	316	P	P	17 35 15.1	-0.2
	0.9nm,0.4s,mb4.1,baz=76,slow=9.3,SNR=4.7						
ASAR	Alice Springs	52.87	176	P	P	17 35 43.0	+1.9
	0.4nm,0.9s,mb3.3,baz=9.8,slow=12,SNR=4.1						
ASAR				pP	pP	17 35 53.7	+1.1
	0.4nm,0.5s,baz=7.5,slow=14,SNR=8.3						

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*ISCJB **02** 17:31:53.0±0.9, 573N±02×332W±02, h10km, mb3.8/9, MS3.2/4, Error ellipse: s-maj=26.9km s-min=13.4km az=177.6*

*IDC **02** 17:31:53.5±1.4, 5736N×33.19W, h0km, mb3.7/8, mb1 3.8/8, mb1mx3.6/28, mbtmp3.7/8, MS3.4/7, Ms1 3.4/7, ms1mx3.2/38, Error ellipse: s-maj=41.1km s-min=29.8km az=178.0*

*CSEM **02** 17:31:54.8, 5730N×33.17W, h10km, mb4.6/1, After NEIC*

*NEIC **02** 17:31:54.8±0.6, 5730N×33.17W, h10km, mb4.5/2, Error ellipse: s-maj=19.2km s-min=10.2km az=178.0*

ISC 02 17:31:55.0±0.9**, 573N**±02×**332W**±02**, h10**km**, n27, σ0^{s}49**/18**, mb3.8**/9**, MS3.2**/4**, Reykjanes Ridge**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
BORG	Borgarnes	9.39	33	LR	LR	17 36 35.9	
	comp=Z,75nm,21.7s,baz=316,slow=30						
SFJD	Kangerlussuaq	12.61	327	LR	LR	17 38 46.0	
	comp=Z,334nm,19.4s,baz=84,slow=33						
SCHQ	Schefferville	18.83	277	LR	LR	17 42 23.4	
	comp=Z,195nm,19.2s,baz=115,slow=34						
SCHQ	Schefferville	18.83	277	P	Pn	17 36 14.7	-0.3
	53nm,1.6s						
SCHQ	Schefferville	18.83	277	P	Pn	17 36 14.7	-0.4
	53nm,1.6s						
NOA	NORSAR Array B	22.71	62	LR	LR	17 44 19.8	
	comp=Z,63nm,21.1s,MS3.0,baz=285,slow=33						
HFS	Hagfors	24.10	63	P	P	17 37 11.1	+0.9
	2.6nm,0.9s,mb3.7,baz=325,slow=10.0,SNR=3.9						
ESDC	Sonseca Array	25.90	120	LR	LR	17 45 14.9	
	comp=Z,75nm,19.8s,MS3.2,baz=285,slow=31						
DAVOX	Davos/Dischmat	28.04	93	LR	LR	17 48 27.4	
	comp=Z,143nm,18.4s,MS3.6,baz=282,slow=35						
KEST	Kesra	35.55	109	LR	LR	17 51 55.9	
	comp=Z,40nm,20.5s,MS3.2,baz=309,slow=34						
DAWY	Dawson	46.53	324	P	P	17 40 22.4	+0.5
DAWY	Dawson	46.53	324	P	P	17 40 22.4	+0.4
PDAR	Pinedale Array	48.51	287	P	P	17 40 38.2	+0.6
	0.5nm,0.8s,mb3.6,baz=90,slow=7.4,SNR=3.6						
WMOK	Wichita Mounta	48.61	272	P	P	17 40 42.8	+4.3
	7.0nm,1.2s,mb4.6						
WMOK	Wichita Mounta	48.61	272	P	P	17 40 42.8	+4.3
	7.0nm,1.2s,mb4.6						
AKTK	Aktyubinsk	50.32	56	P	P	17 40 51.4	+0.1
AKTK	Aktyubinsk	50.32	56	P	P	17 40 51.4	+0.1
AKTO	Aktyubinsk	50.32	56	P	P	17 40 51.4	+0.1
	1.1nm,0.6s,mb4.1,baz=328,slow=9.8,SNR=3.4						
TORD	Torodi Ar. Bea	51.44	135	P	P	17 40 60.0	-0.1
	0.4nm,0.6s,mb3.5,baz=342,slow=7.1,SNR=2.5						
KURK	Kurchatov	58.65	44	P	P	17 41 51.7	-0.1
	0.7nm,0.6s,mb3.9,baz=325,slow=6.9,SNR=3.5						
MKAR	Makanchi Array	63.25	44	P	P	17 42 23.1	-0.1
	0.4nm,0.6s,mb3.7,baz=352,slow=6.0,SNR=3.6						
SONM	Songino Array	69.97	28	P	P	17 43 05.9	-0.2
	0.4nm,0.7s,mb3.5,baz=304,slow=7.8,SNR=4.1						
ULN	Ulaanbaatar	70.11	27	P	P	17 43 06.2	-0.7
ULN	Ulaanbaatar	70.11	27	P	P	17 43 06.2	-0.6
KSRS	Korea Array	84.25	15	P	P	17 44 25.7	-0.7
	0.9nm,0.7s,mb4.0,baz=357,slow=4.8,SNR=6.2						
WRA	Warramunga Arr	141.55	19	PKP	PKPdf	17 51 25.6	-0.5
	0.3nm,0.8s,baz=328,slow=2.2,SNR=3.5						
ASAR	Alice Springs	145.10	21	PKPbc	PKPbc	17 51 31.5	-0.2
	0.7nm,0.7s,baz=344,slow=2.9,SNR=15						

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*MOS **02** 18:00:02.4±1.0, 5449N×16180W, h14km, mb6.4/139, MS6.2/94, Error ellipse: s-maj=6.2km s-min=3.7km az=91.9*

*BJI **02** 18:00:05.8, 5470N×16232W, h28km, mB6.4, mb6.0, Ms6.5, Msz6.3*

*GCMT **02** 18:00:06.9±0.1, 54.18N×16146W, h40km, MW6.3/114, Moment Tensor Solution. s113,c287; s114,c440; Duration: 3^{s}6 Moment tensor: Scale 10^{18}Nm; M$_{rr}$2.76±.02; M$_{\theta\theta}$-2.65±.02; M$_{\phi\phi}$-0.11±.01; M$_{r\theta}$2.66±.03; M$_{\theta\phi}$-1.04±.01; M$_{\phi r}$0.75±.02; Best double couple: M$_0$4.00000×10^{18} NP1:ϕ_s247.00000°, δ23.00000°, λ84.00000°. NP2:ϕ_s73.00000°, δ67.00000°, λ92.00000°. Principal axes: T 3.8720, Plg68.0000°, Azm348.0000°; N 0.2530, Plg2.0000°, Azm252.0000°; P -4.1270, Plg22.0000°, Azm161.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*

*NEIC **02** 18:00:06.9±0.1, 5451N×16171W, h32km, mb6.2/261, ME6.2, MS6.2/136, MW6.2, ML6.0(AEIC) Error ellipse: s-maj=3.0km s-min=2.0km az=13.0, Moment Tensor Solution. s43 Moment tensor: Scale 10^{18}Nm; M$_{rr}$1.67; M$_{\theta\theta}$-1.18; M$_{\phi\phi}$-0.49; M$_{r\theta}$1.46; M$_{\theta\phi}$-0.42; M$_{\phi r}$0.45; Best double couple: M$_0$2.20000×10^{18} NP1:ϕ_s242.00000°, δ23.00000°, λ82.00000°. NP2:ϕ_s70.00000°, δ68.00000°, λ93.00000°. Principal axes: T 2.3100, Plg67.0000°, Azm346.0000°; N -0.3000, Plg2.0000°, Azm248.0000°; P -2.0100, Plg22.0000°, Azm157.0000°; Broadband fault plane solution: P waves. NP1:ϕ_s255.00000°, δ15.00000°, λ90.00000°. NP2:ϕ_s75.00000°, δ75.00000°, λ90.00000°. Principal axes: T Plg60.0000°, Azm345.0000°; N Plg0.0000°, Azm0.0000°; P Plg30.0000°, Azm165.0000°; Depth from synthetics of broadband displacement seismograms. Energy computed from BB mechanism.*

NEIC Felt strongly at King Cove. Felt at Cold Bay, Dutch Harbor and Sand Point.

*ISCJB **02** 18:00:06.8±0.1, 5450N±002×16174W±002, h43km, mb6.2/454, MS6.2/219 Error ellipse: s-maj=2.5km s-min=1.2km az=20.3*

*BGS **02** 18:00:07.1±1.3, 5438N×16121W, h33km, mb6.3, MS6.2*

*DJA **02** 18:00:08, 5433N×16201W, h22km, Mw6.6/24*

*IDC **02** 18:00:08.6±1.2, 5456N×16170W, h45km±9km, mb5.4/29, mb1 5.6/30, mb1mx5.6/31, mbtmp5.4/30, ML5.4/1, MS6.2/27, Ms1 6.2/27, ms1mx6.0/37, Error ellipse: s-maj=14.3km s-min=7.5km az=6.0*

*SZGRF **02** 18:00:08.7, 5483N×16101W, h46km, mb6.5, MS5.9, Alaska Peninsula, United States*

*IGIL **02** 18:00:10.1, 5458N×16177W, h48km, MS6.7*

ISC 02 18:00:08.7±0.1**, 5454N**±002×**16178W**±002**, h45**km**, h45**km±1.4km**:pP-P, n1839, σ0^{s}82**/1799**, mb6.2**/454**, MS6.2**/219**, 756C-234D, Alaska Peninsula**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
FALS	False Pass	1.00	289	P	Pn	18 00 27.1	+0.8
FALS				S	Sn	18 00 41.2	+1.9
SDPT	Sand Point	1.10	42	eP	Pn	18 00 26.6	-1.1
SDPT				P		18 00 27.4	
SDPT				S	Sn	18 00 42.5	+0.8
AKUT	Akutan	2.38	262	P	Pn	18 00 46.3	+1.2
AKUT				eP		18 00 46.4	
AKUT				S	Sn	18 01 14.8	+1.9
AKLV	Akutan Long Va	2.48	263	P	Pn	18 00 47.6	+1.2
AKLV				S	Sn	18 01 17.4	+2.0
AKGG	Akutan Green G	2.49	264	P	Pn	18 00 48.2	+1.6
CHGN	Chignik	2.60	46	P	Pn	18 00 48.8	+0.6
UNV	Unalaska Valle	2.86	258	P	Pn	18 00 52.5	+0.7
UNV				S	Sn	18 01 26.4	+1.4
OKCD	Okmok Cone D	3.90	256	P	Pn	18 01 07.1	+1.1
OKCE	Okmok Cone E	3.93	256	P	Pn	18 01 08.1	+1.6
NIKO	Nikolski	4.48	252	P	Pn	18 01 14.4	+0.4
SPIA	Saint Paul Isl	5.45	302	P	Pn	18 01 29.2	+1.9
OHAK	Old Harbor	5.48	57	eP	Pn	18 01 25.6	-2.1
OHAK				P		18 01 25.9	
KDAK	Kodiak Island	6.08	54	Pn	Pn	18 01 34.0	-1.8
	29µm,1.2s						
KDAK	Kodiak Island	6.08	54	P	Pn	18 01 33.5	-2.3
	87nm,0.3s,baz=233,slow=7.0,SNR=256						
KDAK				S	Sn	18 02 55.2	+11
	197nm,0.3s,baz=288,slow=6.4,SNR=3.7						
KDAK	Kodiak Island	6.08	54	P	Pn	18 01 33.8	-2.0
SVW2	Sparrevohn	7.36	24	eP	Pn	18 01 53.6	+0.3
SVW2				P		18 01 54.6	
SLKM	Skilak Lake	8.62	41	P	Pn	18 02 10.9	+0.3
SEW	Seward	8.68	45	P	Pn	18 02 10.3	-1.2
TT01	Tatalina	8.90	17	P	Pn	18 02 15.6	+1.1
RC01	Rabbit Creek A	9.17	39	P	Pn	18 02 17.6	-0.6
ADK	Adak	9.33	260	eP	Pn	18 02 20.8	+0.3
PMR	Palmer	9.72	38	eP	Pn	18 02 24.2	-1.5
	17nm,0.3s						
PMR				P		18 02 24.7	
MID	Middleton Isla	9.73	54	P	Pn	18 02 24.4	-1.5
EYAK	Cordova Ski Ar	10.49	49	⇑ePn	Pn	18 02 33.3	-2.9
	1µm,1.0s						
EYAK				eSn	Sn	18 04 26.7	-5.5
GAMB	Gambell	10.55	335	ePn	Pn	18 02 40.5	+3.4
AMKA	Amchitka	11.84	262	eP	Pn	18 02 54.9	+0.2
	164nm,0.4s						
IMA2	Indian Mountai	12.22	16	eP	Pn	18 02 59.2	-0.7
COLA	College	12.48	28	eP	Pn	18 02 59.2	-4.2
COLA				pmax	pmax		
	comp=Z,1µm,1.3s						
COLA	College	12.48	28	ePn	Pn	18 02 59.2	-4.2
	comp=Z,1µm,1.3s						
SMY	Shemya	14.41	273	⇑ePn	Pn	18 03 29.1	-0.6
SMY				eP		18 03 33.6	
DAWY	Dawson	14.80	41	⇑iPn	Pn	18 03 31.8	-3.0
DAWY				e		18 03 41.8	
SIT	Sitka	15.05	70	eP	Pn	18 03 37.0	-1.1
SIT				pmax	pmax		
	comp=Z,1µm,1.3s						
SIT	Sitka	15.05	70	eP	Pn	18 03 38.2	+0.1
	comp=Z,405nm,1.3s						
SKAG	Skagway	15.17	60	eP	Pn	18 03 38.2	-1.4
	comp=Z,1µm,1.9s						
CRAG	Craig	16.42	75	ePn	Pn	18 03 55.9	+0.3
CRAG				eP		18 04 00.0	
WRAK	Wrangell Islan	16.73	72	⇑iPn	Pn	18 03 59.2	-0.3
	comp=Z,1µm,1.3s						
DLBC	Dease Lake	17.86	64	P	Pn	18 04 13.2	-0.3
	baz=265,slow=11						
DLBC				S	S	18 07 34.8	-1.5
DLBC	Dease Lake	17.86	64	⇑iPn	Pn	18 04 13.6	+0.1
DLBC				eSn	Sn	18 07 32.3	+1.0
BBB	Bella Bella	20.12	83	P	P	18 04 38.7	+0.2
	comp=Z,51nm,0.9s,baz=286,slow=12,SNR=7.7						
BBB				S	S	18 08 22.9	+1.2
	comp=Z,35nm,1.1s,baz=280,slow=22,SNR=1.7						
BBB				LR	LR	18 11 13.7	
	comp=Z,48µm,18.2s,MS5.9,baz=293,slow=33						
BBB	Bella Bella	20.12	83	P	P	18 04 38.7	+0.2
BBB				S	S	18 08 22.9	+1.2
BBB				LR	LR	18 11 13.7	
BILL	Bilibino	20.12	325c	iP	P	18 04 38.6	+0.2
BILL				i		18 04 53.0	
BILL				pmax	pmax		
	comp=Z,444nm,1.1s						
BILL				MLR	MLR		
	comp=Z,288µm,18.0s,MS6.7						
BILL	Bilibino	20.12	325	⇑iP	P	18 04 38.7	+0.3
	comp=Z,366nm,0.9s						
BILL				LR	LR		
	comp=Z,210µm,19.0s,MS6.5						
PET	Petropavlovsk	23.22	283	⇑eP	P	18 05 10.5	-1.1
PET				eS	S	18 09 17.2	-2.7
PET				pmax	pmax		
	comp=Z,790nm,1.0s,mb6.1						
PET				pmax	pmax		
	comp=Z,11µm,7.0s						
PET				pmax	pmax		
	comp=Z,7µm,13.1s						
PET				MLR	MLR		
	comp=Z,83µm,20.0s,MS6.2						
PET				MLR	MLR		
	comp=Z,64µm,20.0s						
PET	Petropavlovsk	23.22	283	⇑iP	P	18 05 10.3	-1.3
	comp=Z,695nm,1.0s,mb6.0						
PETK	Petropavlovsk-	23.73	283	P	P	18 05 16.7	+0.3
	comp=Z,336nm,0.5s,mb6.1,baz=78,slow=11,SNR=336						
PETK				LR	LR	18 14 34.1	
	comp=Z,40µm,20.3s,MS5.9,baz=82,slow=36						
C03A	Quillayute Air	23.99	91	⇑P	P	18 05 18.1	-0.7
	baz=24						
OBC	Olympics--Boni	24.23	90	P	P	18 05 22.6	+1.6
PGC	Sidney	24.30	88	⇑eP	P	18 05 22.5	+0.9
OOW	Octopus West	24.32	91	P	P	18 05 24.1	+2.3
B04A	Port Angeles	24.55	89	⇑P	P	18 05 23.6	-0.3
	baz=24						
NLWA	Neilton Lookou	24.68	91	⇑eP	P	18 05 26.2	+1.1
A04A	Legoe Bay, Lum	24.70	87	⇓P	P	18 05 25.1	-0.1
	baz=25						
SEY	Seymchan	24.72	308	⇑eP	P	18 05 24.4	-0.9
SEY	Seymchan	24.72	308	⇑eP	P	18 05 24.5	-0.8
D03A	Wishkah Elem.	24.88	92	⇑P	P	18 05 26.4	-0.5
	baz=25						
VDB	Vedder Mountai	24.90	86	P	P	18 05 27.9	+0.8
A05A	Maple Falls	24.93	86	⇓P	P	18 05 26.6	-0.7
	baz=25						
C04A	Brinnon	25.04	90	⇓P	P	18 05 27.5	-0.8
	baz=25						
GNW	Green Mountain	25.20	90	P	P	18 05 31.1	+1.3
A06A	Chilliwack	25.23	86	⇓P	P	18 05 30.1	0.0
	baz=25						
B05A	Bryant	25.27	88	⇓P	P	18 05 30.5	0.0
	baz=25						
E03A	Lebam	25.30	93	⇑P	P	18 05 30.2	-0.5
	baz=25						
YKW3	Yellowknife Ar	25.34	53	eP	P	18 05 30.3	-0.7
YKA	Yellowknife Ar	25.35	53	P	P	18 05 30.6	-0.4
	comp=Z,64nm,0.7s,mb5.3,baz=268,slow=6.8,SNR=113						
YKA				PcP	PcP	18 09 02.1	-0.2
	comp=Z,37nm,0.9s,baz=279,slow=1.8,SNR=5.0						
YKA				S	S	18 10 00.1	+6.1
	comp=Z,11nm,0.7s,baz=276,slow=10.0,SNR=2.2						
YKA				ScP	ScP	18 12 36.5	-1.0
	comp=Z,19nm,1.1s,baz=282,slow=2.7,SNR=4.8						
YKA				LR	LR	18 16 35.1	
	comp=Z,32µm,19.5s,MS5.8,baz=155,slow=39						
YKA				P3KPbc		18 38 30.2	
	comp=Z,2.3nm,0.8s,baz=97,slow=5.0,SNR=8.2						
YKA	Yellowknife Ar	25.35	53	P	P	18 05 30.6	-0.4
YKA						18 09 02.1	
YKA				S	S	18 10 00.1	+6.2
YKA				pmax	pmax		
	comp=Z,64nm,0.7s						
YKA				smax			
	comp=N,11nm,0.7s						
YKA				MLR	MLR		
	comp=Z,32µm,19.5s						
YKA	Yellowknife Ar	25.35	53	P	P	18 05 30.6	-0.4
YKA				PcP	PcP	18 09 02.1	-0.2
YKA				S	S	18 10 00.1	+6.1
YKA				ScP	ScP	18 12 36.5	-1.1
YKA				LR	LR	18 16 35.1	
YKA				e		18 38 30.2	
JCW	Jim Creek	25.40	88	eP	P	18 05 32.8	+1.2
D04A	Dobbs Creek Ra	25.45	91	⇑P	P	18 05 31.8	-0.2
	baz=25						
B06A	Marblemount	25.50	87	⇓P	P	18 05 33.0	+0.4
	baz=25						
RPW	Rockport	25.52	87	⇑eP	P	18 05 32.7	0.0
BMW	Boistfort Moun	25.54	92	⇑eP	P	18 05 33.6	+0.7
SKR	Severo-Kuril's	25.57	279	⇑iP	P	18 05 31.6	-1.5
SKR				e		18 05 36.0	
SKR				e	pP	18 05 41.7	-3.2
SKR				e		18 06 16.0	
SKR				eSS		18 11 14.0	
SKR				pmax	pmax		
	comp=Z,9µm,8.0s						
SKR				pmax	pmax		
	comp=N,3µm,6.0s						
SKR				pmax	pmax		
	comp=E,5µm,6.0s						
SKR				pmax	pmax		
	comp=N,220nm,0.8s						
SKR				pmax	pmax		
	comp=E,120nm,0.8s						
SKR				pmax	pmax		
	comp=Z,600nm,0.8s,mb6.2						
SKR				pmax	pmax		
	comp=N,4µm,8.0s						
SKR				pmax	pmax		
	comp=E,5µm,8.0s						
SKR				pmax	pmax		
	comp=Z,6µm,8.0s						
SKR				MLR	MLR		
	comp=N,30µm,18.0s,MS6.1						
SKR				MLR	MLR		
	comp=E,41µm,20.0s,MS6.1						
SKR				MLR	MLR		
	comp=Z,56µm,20.0s,MS6.1						
F03A	Seaside	25.64	94	⇓P	P	18 05 34.4	+0.6
	baz=26						
E04A	Onalaska	25.77	92	⇑P	P	18 05 34.9	-0.1
	baz=26						
C05A	Tolt Reservoir	25.79	89	⇓P	P	18 05 35.2	0.0
	baz=26						
D05A	Enumclaw	25.88	90	⇑P	P	18 05 36.7	+0.7
	baz=26						
A07A	Ashnola River,	25.89	85	⇑P	P	18 05 35.1	-1.0
	baz=26						
HEBO	Mount Hebo	25.93	95	⇑iP	P	18 05 38.5	+2.1
	comp=Z,1µm,1.6s,mb6.2						
H02A	Toledo	26.10	97	⇓P	P	18 05 37.9	-0.1
	baz=26						
C06A	Tall Timber Ra	26.14	88	⇓P	P	18 05 38.5	+0.1
	baz=26						
G03A	Yamhill	26.15	95	⇓P	P	18 05 38.5	+0.1
	baz=26						
WRW	Wenatchee Ridg	26.18	88	P	P	18 05 39.8	+1.1
LON	Longmire	26.21	91	⇑eP	P	18 05 39.7	+0.7
LON				pmax	pmax		
	comp=Z,869nm,1.8s,mb6.0						
LON	Longmire	26.21	91	⇑eP	P	18 05 39.7	+0.7
	comp=Z,869nm,1.8s,mb6.0						
F04A	Amboy	26.30	93	⇑P	P	18 05 39.7	-0.1
	baz=26						
B07A	Winthrop	26.33	86	⇑P	P	18 05 40.6	+0.6
	baz=26						
E05A	Randle	26.34	91	⇓P	P	18 05 40.0	-0.2
	baz=26						
H03A	Soap Creek Ran	26.51	96	⇓P	P	18 05 41.1	-0.6
	baz=26						
D06A	Cle Elum	26.54	89	⇑P	P	18 05 42.3	+0.3
	baz=26						
COR	Corvallis	26.55	96	eP	P	18 05 42.0	-0.1
COR				pmax	pmax		
	comp=Z,816nm,1.5s,mb6.0						
COR				MLR	MLR		
	comp=Z,43µm,19.0s,MS6.0						
COR	Corvallis	26.55	96	eP	P	18 05 42.0	-0.1
	comp=Z,816nm,1.5s,mb6.0						
COR				LR	LR		
	comp=Z,43µm,19.0s,MS6.0						
A08A	Turner Farm, O	26.58	84	⇓P	P	18 05 42.4	+0.1
	baz=26						
I02A	Mapleton	26.59	98	⇓P	P	18 05 42.6	+0.1
	baz=26						
ETW	Entiat	26.63	88	eP	P	18 05 43.2	+0.4
G04A	Mulino	26.68	94	⇓P	P	18 05 42.7	-0.4
	baz=27						
TBM	Table Mountain	26.70	89	P	P	18 05 44.1	+0.7
C07A	Waterville	26.74	87	⇑P	P	18 05 43.5	-0.2
	baz=27						
E06A	Yakima	26.81	90	⇓P	P	18 05 45.3	+0.9
	baz=27						
B08A	Colville Reser	26.83	86	⇓P	P	18 05 45.0	+0.5
	baz=27						
SSOR	Sweet Springs	26.89	95	P	P	18 05 46.0	+0.9
F05A	White Salmon	26.89	92	⇑P	P	18 05 45.3	+0.3
	baz=27						
I03A	Eugene	26.93	97	⇑P	P	18 05 45.2	-0.2
	baz=27						
K01A	Sixes	26.96	100	⇓P	P	18 05 46.3	+0.6
	baz=27						
A09A	Danville	26.97	84	⇑P	P	18 05 45.9	+0.1
	baz=27						
KEBM	Edson Butte	27.00	100	eP	P	18 05 46.0	-0.1
D07A	Quincy	27.05	88	⇑P	P	18 05 46.9	+0.4
	baz=27						
J02A	Umpqua	27.13	98	⇑P	P	18 05 48.2	+1.0
	baz=27						
H04A	Detroit Lake	27.14	95	⇑P	P	18 05 47.8	+0.4
	baz=27						
EPH	Ephrata	27.19	88	P	P	18 05 47.9	+0.2
C08A	Higginbotham F	27.29	87	⇑P	P	18 05 48.7	+0.1
	baz=27						
G05A	Wamic	27.33	93	⇓P	P	18 05 49.9	+0.9
	baz=27						
F06A	Goldendale	27.35	92	⇓P	P	18 05 49.2	0.0
	baz=27						
E07A	Sunnyside	27.45	89	⇑P	P	18 05 50.5	+0.3
	baz=27						
KBO	Bosley Butte	27.48	101	eP	P	18 05 51.0	+0.6
B09A	Rice	27.49	85	⇑P	P	18 05 50.7	+0.2
	baz=27						
I04A	Tendick Farm,	27.54	97	⇓P	P	18 05 51.3	+0.4
	baz=27						
K02A	Glendale	27.55	99	⇑P	P	18 05 51.7	+0.7
	baz=28						
A10A	Northport	27.56	83	⇓P	P	18 05 50.8	-0.3
	baz=27						
OD2	Odessa Site #2	27.68	87	eP	P	18 05 51.6	-0.5
RSW	Rattlesnake Hi	27.70	90	eP	P	18 05 52.7	+0.4
H05A	Madras	27.72	94	⇓P	P	18 05 51.9	-0.7
	baz=28						
C09A	Chrisman Ranch	27.73	86	⇑P	P	18 05 52.9	+0.3
	baz=28						
G06A	Carlson Farm,	27.73	92	⇓P	P	18 05 53.0	+0.4
	baz=28						
HAWA	Hanford	27.73	89	eP	P	18 05 53.1	+0.5
	comp=Z,304nm,1.0s,mb5.9						
HAWA				LR	LR		
	comp=Z,54µm,21.0s,MS6.1						
D08A	Wollman Farm,	27.73	88	⇑P	P	18 05 53.3	+0.6
	baz=28						
M01C	Crescent City	27.77	102	⇓P	P	18 05 53.0	0.0
	baz=28						
F07A	Phinny Hill Vi	27.77	91	⇑P	P	18 05 53.6	+0.5
	baz=28						
L02A	Cave Junction	27.87	101	⇑P	P	18 05 54.5	+0.6
	baz=28						
HUMO	Hull Mountain	27.95	99	⇑P	P	18 05 55.2	+0.6
	baz=28,SNR=15						
HUMO	Hull Mountain	27.95	99	eP	P	18 05 55.2	+0.6
HUMO				ePcP	PcP	18 09 08.7	-0.1
HUMO				LR	LR		
	comp=Z,82µm,21.0s,MS6.3						
E08A	Dider Farm, El	27.95	89	⇑P	P	18 05 55.2	+0.6
	baz=28						
I05A	Bend	27.98	95	⇑P	P	18 05 55.5	+0.6
	baz=28						
J04A	Umpqua Nationa	28.05	97	⇑P	P	18 05 56.6	+1.1
	baz=28						
B10A	Chitwood Farm,	28.09	84	⇑P	P	18 05 56.7	+0.9
	baz=28						
D09A	Jones Farm, Ri	28.09	87	⇑P	P	18 05 56.2	+0.4
	baz=28						
KRMB	Red Mountain	28.10	102	eP	P	18 05 56.7	+0.7
EDM	Edmonton	28.13	73	⇑iP	P	18 05 55.8	-0.3
NEW	Newport	28.16	84	⇑iP	P	18 05 56.2	-0.3
NEW				pmax	pmax		
	comp=Z,1µm,2.3s						
NEW	Newport	28.16	84	⇑iP	P	18 05 56.2	-0.3
	comp=Z,1µm,2.3s,mb6.1						
H06A	Lindquist Farm	28.19	93	⇑P	P	18 05 57.6	+0.9
	baz=28						
A11A	Hall Mountain,	28.26	82	⇓P	P	18 05 58.0	+0.7
	baz=28						
G07A	Ruggs Ranch, H	28.27	92	⇓P	P	18 05 58.3	+0.8
	baz=28						
C10A	Spilker Farm,	28.28	85	⇑P	P	18 05 58.0	+0.5
	baz=28						
E09A	Wood Farm, Sta	28.48	88	⇑P	P	18 05 59.4	+0.1
	baz=28						
JCC	Jacoby Creek	28.50	103	⇓P	P	18 05 59.6	+0.1
	baz=28						
F08A	Pendleton	28.50	90	⇓P	P	18 05 59.7	+0.2
	baz=28						
B11A	Sandpoint	28.52	83	⇓P	P	18 06 00.1	+0.5
	baz=28						

J05A **Fort Rock** 28.53 96 ⇓P P 18 06 00.3 +0.5
baz=28
YBH **Yreka Blue Hor** 28.65 100 P P 18 06 01.8 +1.0
comp=Z,20nm,0.9s,mb4.8,baz=318,slow=4.2,SNR=35
YBH ScP ScP 18 12 49.0 +1.2
comp=Z,3.5nm,0.9s,baz=66,slow=2.1,SNR=3.4
YBH LR LR 18 14 46.2
comp=Z,100µm,19.9s,MS6.4,baz=312,slow=31
YBH **Yreka Blue Hor** 28.65 100 *e*P P 18 06 01.8 +0.9
YBH pmax pmax
comp=Z,840nm,2.2s
YBH **Yreka Blue Hor** 28.65 100 ⇑P P 18 06 01.6 +0.7
baz=29,SNR=30
YBH **Yreka Blue Hor** 28.65 100 *e*P P 18 06 01.8 +0.9
comp=Z,842nm,2.2s,mb6.1
MIDW **Midway** 28.66 210 PFAKE 18 06 10.0 +9.0
MIDW LR LR
comp=Z,45µm,22.0s,MS6.0
K04A **Chilquin** 28.66 98 ⇑P P 18 06 01.4 +0.5
baz=29
G08A **Pilot Rock** 28.68 91 ⇑P P 18 06 01.1 0.0
baz=29
A12A **Yaak River Ran** 28.68 82 ⇓P P 18 06 01.3 +0.2
baz=29
D10A **Wagner Farm, O** 28.69 87 ⇑P P 18 06 00.9 -0.3
baz=29
H07A **Lands Inn, Kim** 28.72 93 ⇑P P 18 06 01.5 0.0
baz=29
I06A **Prineville** 28.73 94 ⇑P P 18 06 01.8 +0.3
baz=29
LNOR **Lincton Mounta** 28.74 89 *e*P P 18 06 02.1 +0.5
M02C **Callahan** 28.79 101 ⇑P P 18 06 02.6 +0.6
baz=29
L04A **Klamath Falls** 28.84 99 ⇑P P 18 06 03.1 +0.6
baz=29
N02C **Big Bar** 28.90 102 ⇑P P 18 06 03.4 +0.3
baz=29
B12A **Libby** 28.95 83 ⇑P P 18 06 03.2 -0.2
baz=29
F09A **S2 Ranch, Elgi** 29.05 89 ⇓P P 18 06 04.0 -0.4
baz=29
I07A **Izee** 29.06 93 ⇓P P 18 06 05.2 +0.7
baz=29
O01C **Eel River Cons** 29.07 104 ⇓P P 18 06 04.8 +0.3
baz=29
K05A **Summer Lake** 29.07 97 ⇓P P 18 06 05.1 +0.5
baz=29
E10A **Myers Farm, Un** 29.09 87 ⇓P P 18 06 04.6 -0.1
baz=29
M04C **Macdoel** 29.12 99 ⇓P P 18 06 05.5 +0.5
baz=29
J06A **Christmas Vall** 29.18 95 ⇑P P 18 06 06.2 +0.7
baz=29
D11A **Klaveano Farm,** 29.24 86 ⇑P P 18 06 05.5 -0.5
baz=29
M03C **McCloud** 29.28 100 ⇓P P 18 06 07.0 +0.6
baz=29
H08A **Prairie City** 29.29 92 ⇑P P 18 06 06.7 +0.3
baz=29
F10A **Beach Ranch, E** 29.30 88 ⇓P P 18 06 06.3 -0.3
baz=29
G09A **Cove** 29.37 90 ⇑P P 18 06 07.9 +0.7
baz=29
K06A **Valley Falls** 29.40 96 ⇓P P 18 06 08.6 +1.2
baz=29
C12B **Naegeli Ranch,** 29.40 84 ⇑P P 18 06 07.9 +0.5
baz=29
KIPM **Iron Peak** 29.48 104 *e*P P 18 06 09.0 +0.8
WDC **Whiskeytown Da** 29.50 102 *e*P P 18 06 08.7 +0.3
WDC pmax pmax
comp=Z,360nm,1.5s,mb5.9
WDC **Whiskeytown Da** 29.50 102 ⇑P P 18 06 08.7 +0.3
baz=29,SNR=16
WDC **Whiskeytown Da** 29.50 102 *e*P P 18 06 08.7 +0.3
comp=Z,357nm,1.5s,mb5.9
KCPM **Cahto Peak** 29.51 104 *e*P P 18 06 09.5 +1.0
L05A **Lakeview** 29.53 98 ⇑P P 18 06 09.6 +1.0
baz=29
J07A **Hines** 29.59 94 ⇑P P 18 06 09.6 +0.5
baz=30
O02C **Red Bluff** 29.63 103 ⇓P P 18 06 10.1 +0.5
baz=30
WALA **Waterton Lakes** 29.63 81⇑*i*P P 18 06 08.4 -1.0
B13A **Whitefish** 29.64 82 ⇓P P 18 06 09.8 +0.2
baz=30
E11A **Bogner Ranch,** 29.69 87 ⇑P P 18 06 09.5 -0.5
baz=30
I08A **Drewsey** 29.70 93 ⇑P P 18 06 10.1 0.0
baz=30
G10A **Bishop Farm, J** 29.75 89 ⇑P P 18 06 11.2 +0.7
baz=30
H09A **Durkee** 29.79 91 ⇓P P 18 06 12.1 +1.2
baz=30
M05C **Lookout** 29.79 99 ⇑P P 18 06 11.5 +0.6
baz=30
BMO **Blue Mountains** 29.89 90 *e*P P 18 06 12.1 +0.3
comp=Z,756nm,2.3s,mb6.0
BMO LR LR
comp=Z,61µm,22.0s,MS6.2
MOD **Modoc** 29.93 98 ⇑P P 18 06 12.7 +0.5
baz=30,SNR=59
MOD **Modoc** 29.93 98⇑*i*P P 18 06 12.5 +0.3
MOD LR LR
comp=Z,61µm,22.0s,MS6.2
A14A **Double T Ranch** 29.95 80 ⇓P P 18 06 12.3 0.0
baz=30
F11A **Grangeville** 29.98 88 ⇓P P 18 06 12.2 -0.4
baz=30
GASB **Alder Springs** 30.02 104 ⇑P P 18 06 14.0 +1.0
baz=30,SNR=17
E12A **Beaver Dam Sad** 30.03 86 ⇓P P 18 06 12.9 -0.1
baz=30
K07A **Rock Creek Ran** 30.05 95 ⇑P P 18 06 14.0 +0.8
baz=30
J08A **Circle Bar Ran** 30.09 94 ⇑P P 18 06 14.3 +0.7
baz=30
I09A **Lost Marbles R** 30.15 92 ⇓P P 18 06 14.2 +0.1
baz=30
G11A **Walters Elk Ra** 30.18 89 ⇑P P 18 06 14.5 +0.1
baz=30
M06C **Likely Place G** 30.27 99 ⇓P P 18 06 15.9 +0.7
baz=30
D13A **Huson** 30.31 84 ⇓P P 18 06 15.1 -0.4
baz=30
B14A **Marquette Ranc** 30.34 81 ⇑P P 18 06 15.8 +0.1
baz=30
A15A **Johnson Ranch,** 30.34 80 ⇓P P 18 06 15.4 -0.4
baz=30
L07A **Adell** 30.41 97 ⇑P P 18 06 17.3 +0.9
baz=30
K08A **Mann Creek Ran** 30.46 95 ⇓P P 18 06 16.9 +0.1
baz=30
O04C **Chester** 30.50 101 ⇑P P 18 06 17.9 +0.7
baz=30
ELFS **Eagle Lake Fie** 30.51 100 ⇑P P 18 06 18.3 +0.9
baz=30
J09A **Fry Pan Ranch,** 30.51 93 ⇑P P 18 06 18.2 +0.8
baz=30
WVOR **Wild Horse Val** 30.56 95⇓*e*P P 18 06 18.0 +0.3
WVOR pmax pmax
comp=Z,716nm,1.7s,mb6.2
WVOR **Wild Horse Val** 30.56 95⇓*e*P P 18 06 18.0 +0.2
comp=Z,716nm,1.7s,mb6.2
I10A **Payette** 30.63 91 ⇑P P 18 06 18.5 +0.1
baz=30
MNRC **McLaughlin Nat** 30.70 104 ⇑P P 18 06 19.4 +0.3
baz=31,SNR=6.9
H11A **Donnelly** 30.73 90 ⇑P P 18 06 18.7 -0.5
baz=31
MSO **Missoula** 30.75 84⇑*i*P P 18 06 17.8 -1.6
MSO LR LR
comp=Z,11µm,20.0s,MS5.5
B15A **Bradely Ranch,** 30.77 81 ⇑P P 18 06 18.2 -1.4
baz=31
ORV **Oroville** 30.78 102 ⇑P P 18 06 19.1 -0.6
baz=31,SNR=18
E13A **Victor** 30.82 85 ⇑P P 18 06 19.5 -0.4
baz=31
O05C **Quincy** 30.84 101 ⇑P P 18 06 20.6 +0.4
baz=31
D14A **Greenough** 30.87 84 ⇑P P 18 06 19.7 -0.8
baz=31
L08A **Fields** 30.88 95 ⇑P P 18 06 21.0 +0.4
baz=31
K09A **Rome** 30.92 94 ⇑P P 18 06 21.1 +0.2
baz=31
OHCM **Honcut** 30.94 103 *e*P P 18 06 20.5 -0.6
N06A **Buffalo Meadow** 30.94 99 ⇓P P 18 06 21.6 +0.5
baz=31
MCCM **Marconi Confer** 30.97 106 ⇓P P 18 06 20.9 -0.5
baz=31
MCCM **Marconi Confer** 30.97 106 *e*P P 18 06 20.3 -1.1
comp=Z,229nm,1.4s,mb5.8
MCCM LR LR
comp=Z,61µm,19.0s,MS6.3
A16A **West Butte Ran** 31.01 79 ⇑P P 18 06 21.2 -0.5
baz=31
C15A **Salmond Ranch,** 31.02 82 ⇑P P 18 06 21.3 -0.5
baz=31
J10A **Berg Farm, Mel** 31.04 92 ⇓P P 18 06 22.2 +0.2
baz=31
CVS **Carmenet Viney** 31.07 105 ⇓P P 18 06 22.0 -0.2
baz=31,SNR=7.5
F13A **Darby** 31.09 86 ⇓P P 18 06 21.8 -0.6
baz=31
CHMT **Chamberlain Mo** 31.10 84 *e*P P 18 06 22.9 +0.4
Q03C **Winters** 31.12 104 ⇓P P 18 06 22.5 -0.2
baz=31
B16A **M & M Farms, S** 31.21 80 ⇓P P 18 06 22.7 -0.8
baz=31
FARB **Farallon Islan** 31.22 107 ⇑P P 18 06 23.3 -0.3
baz=31
BEKR **Beckwourth** 31.22 101 ⇓P P 18 06 23.5 -0.1
baz=31
I11A **Placerville** 31.22 91 ⇑P P 18 06 23.6 0.0
baz=31
E14A **Clinton** 31.23 85 ⇓P P 18 06 23.3 -0.3
baz=31
O06A **Flanigan** 31.33 100 ⇓P P 18 06 25.1 +0.6
baz=31
M08A **Happy Creek Ra** 31.33 97 ⇑P P 18 06 25.2 +0.6
baz=31
Q04C **Lincoln** 31.34 103 ⇓P P 18 06 24.1 -0.5
baz=31
K10A **MacKenzie Ranc** 31.37 93 ⇓P P 18 06 25.1 +0.2
baz=31
L09A **Wilkinson Ranc** 31.38 95 ⇑P P 18 06 25.1 +0.2
baz=31
N07B **Gerlach** 31.42 98 ⇓P P 18 06 25.8 +0.5
baz=31
P05C **Yuba Gap, Truc** 31.46 102 ⇓P P 18 06 25.8 +0.2
baz=31
D15A **Lincoln** 31.46 83 ⇓P P 18 06 25.4 -0.3
baz=31
H12A **Diamond D Ranc** 31.49 89 ⇑P P 18 06 26.1 +0.2
baz=31
C16A **Fuhringer Ranc** 31.51 81 ⇓P P 18 06 25.8 -0.2
baz=31
G13A **Cobalt** 31.54 88 ⇑P P 18 06 26.3 0.0
baz=31
MFID **Camas Ranch** 31.59 91 ⇑P P 18 06 27.0 +0.1
baz=32
P06A **Stead Airport,** 31.61 101 ⇓P P 18 06 27.7 +0.7
baz=32
SAC **San Andreas** 31.63 106 *e*P P 18 06 27.4 +0.2
F14A **Wisdom** 31.64 86 ⇑P P 18 06 27.6 +0.4
baz=32
BDM **Black Diamond** 31.67 105 ⇓P P 18 06 27.1 -0.5
baz=32
E15A **Deer Lodge** 31.72 84 ⇓P P 18 06 27.8 -0.1
baz=32
LAVA **Lava Cap Winer** 31.75 103 ⇓P P 18 06 28.5 +0.2
baz=32
I12A **Atlanta** 31.77 90 ⇑P P 18 06 28.5 +0.1
baz=32
H13A **Challis** 31.83 88 ⇑P P 18 06 29.0 +0.1
baz=32
JRSC **Jasper Ridge** 31.85 106 ⇑P P 18 06 28.0 -1.1
baz=32
K11A **Parker Ranch,** 31.86 93 ⇑P P 18 06 30.1 +0.8
baz=32
O07A **Toulon** 31.88 99 ⇑P P 18 06 30.1 +0.7
baz=32
M09A **Marrel Ranch,** 31.88 96 ⇑P P 18 06 30.3 +0.9
baz=32
PAHR **Pah Rah Range** 31.89 100⇓*e*P P 18 06 29.6 +0.1
N08A **GE Springer Mi** 31.90 97 ⇑P P 18 06 29.9 +0.4
baz=32
G14A **Jackson** 31.91 87 ⇑P P 18 06 29.8 +0.2
baz=32
WCN **Washoe City** 31.94 101 ⇓P P 18 06 30.3 +0.3
baz=32,SNR=12
WENL **Wente Vineyard** 31.97 105 ⇑P P 18 06 30.4 +0.2
baz=32
R04C **Big Horse Ranc** 31.99 104 ⇓P P 18 06 29.7 -0.6
baz=32
D16A **Dana Ranch, Ca** 32.03 82 ⇓P P 18 06 30.6 0.0
baz=32
L10A **Juniper Basin** 32.04 94 ⇑P P 18 06 31.3 +0.6
baz=32
J12A **Stokes Ranch,** 32.12 91 ⇑P P 18 06 31.0 -0.5
baz=32
F15A **Butte** 32.13 85 ⇓P P 18 06 31.8 +0.3
baz=32
C17A **Wharram Farm,** 32.16 81 ⇑P P 18 06 31.1 -0.7
baz=32
LRM **Limekiln Ridge** 32.17 85 *e*P P 18 06 32.7 +0.9
R05C **Kirkwood Meado** 32.17 102 ⇑P P 18 06 32.3 +0.4
baz=32
O08A **Rochester Mine** 32.21 98 ⇓P P 18 06 32.7 +0.5
baz=32
E16A **East Helena** 32.22 83 ⇓P P 18 06 31.8 -0.5
baz=32
P07A **Fallon** 32.28 100 ⇑P P 18 06 33.8 +0.9
baz=32
I13A **Wildhorse Cree** 32.29 89 ⇑P P 18 06 33.1 +0.2
baz=32
H14A **Leadore** 32.32 88 ⇑P P 18 06 32.2 -1.0
baz=32
HLID **Hailey** 32.33 90 PFAKE 18 06 40.0 +6.7
HLID LR LR
comp=Z,41µm,20.0s,MS6.1
DLMT **Dillon** 32.34 86⇑*e*P P 18 06 32.7 -0.7
M10A **I.L. Ranch, Tu** 32.35 95 ⇑P P 18 06 33.9 +0.4
baz=32
L11A **Cat Creek Ranc** 32.40 93 ⇑P P 18 06 34.2 +0.3
baz=32
CMB **Columbia Colle** 32.45 103 ⇓P P 18 06 34.5 +0.1
baz=32,SNR=26
CMB **Columbia Colle** 32.45 103⇓*e*P P 18 06 34.3 -0.1
CMB LR LR
comp=Z,72µm,21.0s,MS6.3
MCMT **McKenzie Canyo** 32.50 87 *e*P P 18 06 35.2 +0.4
G15A **Dillon** 32.51 86 ⇓P P 18 06 34.5 -0.4
baz=32
J13A **Cove Ranch, Pi** 32.57 90 ⇑P P 18 06 36.3 +0.9
baz=32
K12A **Draper Farm, C** 32.60 92 ⇓P P 18 06 36.7 +1.0
baz=32
P08A **Dixie Valley** 32.64 99 ⇑P P 18 06 36.8 +0.7
baz=32
R06C **Coleville** 32.65 102 ⇓P P 18 06 36.7 +0.5
baz=33
BMN **Battle Mountai** 32.65 97 *e*P P 18 06 36.6 +0.4
BMN pmax pmax
comp=Z,287nm,1.5s,mb6.0
BMN MLR MLR
comp=Z,33µm,20.0s,MS6.0
BMN **Battle Mountai** 32.65 97 *e*P P 18 06 36.6 +0.4
comp=Z,287nm,1.5s,mb6.0
BMN LR LR
comp=Z,33µm,20.0s,MS6.0
PACP **Pacheco Peak** 32.67 106 ⇓P P 18 06 36.2 -0.1
baz=33,SNR=9.2
WAKR **Walker** 32.67 102 *e*P P 18 06 37.0 +0.7
I14A **Mackay** 32.67 89 ⇓P P 18 06 36.1 -0.2
baz=32
Q07A **Schurz** 32.73 101 ⇓P P 18 06 37.3 +0.4
baz=33
E17A **Martinsdale** 32.73 83 ⇓P P 18 06 37.0 +0.2
baz=33
H15A **Lima** 32.74 87 ⇑P P 18 06 37.0 +0.1
baz=33
SAO **San Andreas Ge** 32.75 106⇓*e*P P 18 06 36.3 -0.8
M11A **Holland Ranch,** 32.84 94 ⇑P P 18 06 38.5 +0.7
baz=33
L12A **House Creek Ra** 32.84 93 ⇑P P 18 06 37.4 -0.4
baz=33
O09A **Fish Creek Ran** 32.84 97 ⇑P P 18 06 38.5 +0.7
baz=33
S06C **San Francisco** 32.86 103 ⇓P P 18 06 38.5 +0.5
baz=33
G16A **Moss Hill, Enn** 32.88 85 ⇓P P 18 06 38.2 +0.1
baz=33
S05C **Merced** 32.97 104 ⇑P P 18 06 38.9 0.0
baz=33
J14A **Carey** 32.99 90 ⇓P P 18 06 39.9 +0.8
baz=33
K13A **Stover Farm, H** 33.07 91 ⇓P P 18 06 40.7 +0.9
baz=33
O10A **Cortez Mining,** 33.16 97 ⇑P P 18 06 41.3 +0.7
baz=33
R07C **Lee Vining** 33.18 102 ⇓P P 18 06 41.8 +1.0
baz=33
KIP **Kipapa** 33.19 174⇑*i*P P 18 06 40.4 -0.6
KIP **Kipapa** 33.19 174 *e*P P 18 06 40.4 -0.5
comp=Z,439nm,1.4s,mb6.2
KIP LR LR
comp=Z,58µm,22.0s,MS6.2
I15A **Monteview** 33.19 88 ⇓P P 18 06 40.4 -0.4
baz=33
E18A **Harlowton** 33.22 82 ⇑P P 18 06 41.6 +0.5
baz=33
N11A **Elko Archery C** 33.27 95 ⇑P P 18 06 42.1 +0.6
baz=33
P09A **Austin** 33.28 98 ⇑P P 18 06 42.3 +0.7
baz=33
Q08A **Gabbs** 33.29 100 ⇓P P 18 06 41.8 +0.1
baz=33
TIXI **Tiksi** 33.29 327⇑*e*P P 18 06 40.3 -1.1
TIXI pmax pmax
comp=Z,125nm,1.0s,mb5.8
TIXI MLR MLR
comp=Z,119µm,20.0s,MS6.6
TIXI **Tiksi** 33.29 327⇑*i*P P 18 06 40.0 -1.3
TIXI *e*PcP PcP 18 09 22.2 -0.2
QLMT **Earthquake Lak** 33.32 86 *e*P P 18 06 42.9 +1.0
M12A **Wells** 33.36 94 ⇑P P 18 06 43.0 +0.7
baz=33
NVAR **Mina Array Bea** 33.37 101 P P 18 06 42.8 +0.4
comp=Z,18nm,0.7s,mb5.1,baz=297,slow=8.6,SNR=132
NVAR PcP PcP 18 09 23.6 +0.5
comp=Z,13nm,0.8s,baz=305,slow=2.4,SNR=4.3
NVAR ScP ScP 18 13 03.8 +0.2
comp=Z,7.5nm,0.9s,baz=310,slow=3.4,SNR=6.7
NVAR P3KPbc 18 38 02.3
comp=Z,0.4nm,0.8s,baz=131,slow=6.7,SNR=4.2
NVAR **Mina Array Bea** 33.37 101 P P 18 06 42.8 +0.4
NVAR PcP PcP 18 09 23.6 +0.5
NVAR ScP ScP 18 13 03.8 +0.2
NVAR *e* 18 38 02.3
V03C **Hunter Liggett** 33.40 107 ⇓P P 18 06 43.2 +0.5
baz=33
H16A **Russell Place,** 33.50 86 ⇓P P 18 06 43.7 +0.2
baz=33
L13A **Double Diamond** 33.50 92 ⇓P P 18 06 44.6 +1.1
baz=33
R08A **Mina** 33.54 101 ⇑P P 18 06 44.1 +0.3
baz=33
KCC **Kaiser Creek** 33.55 103 ⇓P P 18 06 44.3 +0.2
baz=34,SNR=49
T06C **Millerton Lake** 33.56 104 ⇓P P 18 06 44.0 -0.1
baz=34
J15A **Blackfoot** 33.58 89 ⇑P P 18 06 45.1 +0.9
baz=34
ELK **Elko** 33.60 95 *e*P P 18 06 44.8 +0.4
ELK MLR MLR
comp=Z,45µm,19.0s
MLAC **Mammoth Lakes** 33.62 102 ⇓P P 18 06 45.3 +0.7
baz=34
P10A **Eureka** 33.62 97 ⇑P P 18 06 45.2 +0.6
baz=34
N12A **Clover Valley,** 33.65 94 ⇓P P 18 06 45.5 +0.7
baz=34
K14A **Jones Ranch, D** 33.67 90 ⇑P P 18 06 45.8 +0.9
baz=34
YMR **Madison River** 33.69 86⇑*i*P P 18 06 45.1 0.0
comp=Z,308nm,1.2s,mb6.1
FFC **Flin Flon** 33.69 65 P P 18 06 44.7 -0.4
comp=Z,423nm,0.5s,mb6.6,SNR=13
FFC **Flin Flon** 33.69 65⇑*i*P P 18 06 44.6 -0.5
FFC pmax pmax
comp=Z,856nm,2.2s,mb6.3
FFC MLR MLR
comp=Z,46µm,19.0s,MS6.2
FFC **Flin Flon** 33.69 65⇑*i*P P 18 06 44.6 -0.5
comp=Z,856nm,2.2s,mb6.3
FFC LR LR
comp=Z,46µm,19.0s,MS6.2
F18A **Big Timber** 33.70 83 ⇓P P 18 06 45.7 +0.4
baz=34
Q09A **Carvers** 33.74 99 ⇑P P 18 06 46.7 +1.1
baz=34
GCMT **Greycliff** 33.80 83 *e*P P 18 06 43.8 -2.3
U05C **Westside ANR,** 33.80 105 ⇑P P 18 06 47.2 +1.0
baz=34
YNR **Norris Junctio** 33.82 85⇑*e*P P 18 06 46.5 +0.2
M13A **Montello** 33.83 93 ⇑P P 18 06 47.5 +1.0
baz=34
I16A **Newdale** 33.85 87 ⇓P P 18 06 47.0 +0.4
baz=34
PKD **Parkfield** 33.85 106 ⇓P P 18 06 46.7 +0.1
baz=34,SNR=7.8
L14A **Malta** 33.95 91 ⇑P P 18 06 48.5 +1.1
baz=34
K15A **Arbon** 33.96 90 ⇑P P 18 06 48.3 +0.8
baz=34
MTUM **Tungsten Hills** 33.96 102 *e*P P 18 06 48.2 +0.6
LKWY **Lake** 34.07 85⇑*e*P P 18 06 49.6 +1.1
LKWY MLR MLR
comp=Z,15µm,20.0s,MS5.7
P11A **Circle Ranch,** 34.08 97 ⇑P P 18 06 49.1 +0.5
baz=34
S08C **White Mtn Res** 34.09 102 ⇑P P 18 06 49.8 +1.1
baz=34
N13A **Wendover, West** 34.13 94 ⇓P P 18 06 50.0 +1.0
baz=34
J16A **Bone** 34.13 88 ⇓P P 18 06 49.9 +0.9
baz=34
IMW **Indian Meadow** 34.15 87⇑*i*P P 18 06 49.1 -0.1
comp=Z,169nm,1.4s,mb5.8
HELL **Mitchell Peak** 34.18 104 ⇑P P 18 06 49.6 +0.1
baz=34
DCID1 **Drake Creek** 34.19 87⇑*e*P P 18 06 49.5 -0.1
Q10A **Clear Creek Ra** 34.19 98 ⇓P P 18 06 50.3 +0.7
baz=34
O12A **Currie** 34.20 95 ⇑P P 18 06 50.2 +0.6
baz=34
R09A **Tonopah** 34.20 100 ⇓P P 18 06 50.0 +0.3
baz=34
M14A **Sheep Mountain** 34.22 92 ⇓P P 18 06 50.7 +0.9
baz=34
TPH **Tonopah** 34.23 100 *e*P P 18 06 49.5 -0.4
TPH **Tonopah** 34.23 100 *e*P P 18 06 49.7 -0.2
PTRM **Twissleman Ran** 34.24 106 *e*P P 18 06 50.7 +0.6
RRI2 **Red Ridge** 34.26 88⇑*i*P P 18 06 50.4 +0.3
comp=Z,398nm,1.6s,mb6.1
V05C **Boulder Hill,** 34.26 106 ⇓P P 18 06 51.3 +1.1
baz=34
RCTC **Rector, Farmer** 34.32 104 ⇓P P 18 06 50.7 0.0
baz=34
I17A **Pilgram Creek** 34.35 86 ⇓P P 18 06 51.3 +0.5
baz=34
MOOW **Moose Ponds** 34.35 87⇑*e*P P 18 06 50.0 -1.0
TIN **Tinemaha** 34.36 102 ⇓P P 18 06 52.0 +0.9
baz=34
HVU **Hansel Valley** 34.38 91 *e*P P 18 06 51.8 +0.7
TPAW **Teton Pass** 34.39 87⇑*i*P P 18 06 51.1 -0.1
RLMT **Red Lodge** 34.41 84⇑*i*P P 18 06 51.4 0.0
comp=Z,235nm,1.1s,mb6.0
K16A **Soda Springs** 34.42 89 ⇓P P 18 06 52.2 +0.8
baz=34
L15A **Malad City** 34.46 91 ⇓P P 18 06 52.2 +0.3
baz=34
S09A **Goldfield** 34.47 101 ⇑P P 18 06 52.6 +0.7
baz=34
LOHW **Long Hollow** 34.52 87⇑*e*P P 18 06 52.2 -0.2
comp=Z,362nm,2.0s,mb6.0
SNOW **Snow King Moun** 34.52 87⇑*i*P P 18 06 53.1 +0.8
comp=Z,610nm,2.1s,mb6.2
REDW **Red Top Meadow** 34.52 87⇑*e*P P 18 06 52.6 +0.2
comp=Z,365nm,1.6s,mb6.1
Q11A **Duckwater** 34.61 98 ⇓P P 18 06 53.5 +0.3
baz=34
SMMC **Simmler** 34.61 106 ⇓P P 18 06 53.5 +0.2
baz=34,SNR=18
R10A **Warm Springs** 34.61 99 ⇓P P 18 06 53.5 +0.3
baz=34
S10A **Tonopah Range,** 34.70 100 ⇓P P 18 06 54.1 +0.2
baz=35
N14A **Grayback Hills** 34.72 93 ⇓P P 18 06 54.9 +0.8
baz=35
AHID **Auburn Hatcher** 34.74 88⇑*i*P P 18 06 53.8 -0.4

AHID LR LR
comp=Z,38µm,20.0s,MS6.1
VES Vestal, Richgr 34.74 105 ⇑P P 18 06 54.0 -0.4
baz=35,SNR=21
M15A Larsen Ranch, 34.77 91 ⇓P P 18 06 55.1 +0.6
baz=35
BGU Big Grassy Mou 34.77 93⇑*i*P P 18 06 55.1 +0.6
SPUT South Promonto 34.86 92⇑*i*P P 18 06 55.8 +0.5
CWC Cottonwood Cre 34.88 103 ⇓P P 18 06 55.9 +0.4
baz=35,SNR=19
GRAC Grapevine Rang 34.89 102 ⇑P P 18 06 56.2 +0.6
baz=35,SNR=36
Q12A Willow Creek R 34.96 97 ⇓P P 18 06 56.9 +0.7
baz=35
YUK Yuzh-Kuril'sk 34.96 275*c i*P P 18 06 54.0 -2.1
YUK *e* 18 08 09.0
YUK *e*PPP 18 08 27.0
YUK *e*S S 18 12 21.8 -2.7
YUK *e*SSS 18 15 10.0
YUK pmax pmax
comp=N,3µm,4.0s
YUK pmax pmax
comp=Z,6µm,4.0s
YUK pmax pmax
comp=E,4µm,3.0s
YUK pmax pmax
comp=Z,230nm,0.5s,mb6.4
YUK pmax pmax
comp=N,4µm,2.0s
YUK pmax pmax
comp=E,2µm,4.0s
YUK smax
comp=E,4µm,7.0s
YUK smax
comp=N,4µm,2.8s
YUK MLR MLR
comp=Z,38µm,22.0s,MS6.1
YUK MLR MLR
comp=N,24µm,23.0s,MS6.0
YUK MLR MLR
comp=E,18µm,20.0s,MS6.0
R11A Troy Canyon, C 34.98 98 ⇓P P 18 06 56.9 +0.4
baz=35
L16A Fish Haven 35.01 90 ⇓P P 18 06 57.0 +0.4
baz=35
PKM Peak Mountain 35.02 107 ⇓P P 18 06 57.4 +0.7
baz=35,SNR=19
POHA Pohakuloa 35.05 170⇑*e*P P 18 06 56.5 -0.6
comp=E,582nm,1.3s,mb6.3
YSS Yuzh-Sakhalins 35.08 281*c i*P P 18 06 55.0 -2.2
YSS *i* 18 08 15.0
YSS *e*S S 18 12 22.0 -4.4
YSS pmax pmax
comp=E,550nm,2.0s
YSS pmax pmax
comp=Z,410nm,2.0s,mb6.0
YSS pmax pmax
comp=Z,4µm,9.0s
YSS MLR MLR
comp=Z,26µm,19.0s,MS6.0
YSS MLR MLR
comp=N,21µm,18.0s,MS6.1
YSS MLR MLR
comp=E,21µm,18.0s,MS6.1
YSS Yuzh-Sakhalins 35.08 281⇑*e*P P 18 06 56.2 -0.9
comp=E,122nm,1.2s,mb5.7
N15A Stansbury Isla 35.09 92 ⇓P P 18 06 57.2 -0.1
baz=35
P13A Bates Ranch, G 35.15 95 ⇓P P 18 06 58.1 +0.2
baz=35
HWUT Hardware Ranch 35.19 90⇑*e*P P 18 06 58.5 +0.3
HWUT LR LR
comp=Z,35µm,22.0s,MS6.1
YAK Yakutsk 35.20 310*c i*P P 18 06 56.7 -1.3
YAK *e* 18 08 10.6
YAK *e*PPP 18 08 31.2
YAK *e* 18 09 27.3
YAK *e*S S 18 12 26.9 -0.9
YAK *e*SS SS 18 14 48.1 -13
YAK *e*SSS 18 15 12.4
YAK *e* 18 17 09.9
YAK pmax pmax
comp=Z,685nm,0.9s,mb6.6
YAK pmax pmax
comp=N,104nm,1.1s
YAK pmax pmax
comp=E,287nm,1.3s
YAK pmax pmax
comp=Z,302nm,1.5s,mb6.0
YAK pmax pmax
comp=N,78nm,1.2s
YAK pmax pmax
comp=E,248nm,1.5s
YAK smax
comp=E,864µm,3.6s
YAK smax
comp=N,1159µm,4.8s
YAK MLR MLR
comp=Z,105µm,22.0s,MS6.5
YAK MLR MLR
comp=E,80µm,22.0s,MS6.5
YAK MLR MLR
comp=N,32µm,23.0s,MS6.5
YAK Yakutsk 35.20 310⇑*i*P P 18 06 56.0 -2.0
YAK *e*PcP PcP 18 09 28.3 +0.3
ISA Isabella 35.21 104 ⇑P P 18 06 58.0 -0.4
baz=35,SNR=52
ISA Isabella 35.21 104⇑*i*P P 18 06 57.6 -0.8
ISA LR LR
comp=Z,45µm,20.0s,MS6.2
DAC Darwin (Calif) 35.27 103 PFAKE 18 07 10.0 +11
DAC LR LR
comp=Z,43µm,21.0s,MS6.2
LAO LASA Array 35.28 79⇑*i*P P 18 06 58.9 +0.1
LAO LR LR
comp=Z,34µm,20.0s,MS6.1
DUG Dugway 35.37 93 *e*P P 18 07 00.2 +0.5
DUG pmax pmax
comp=Z,298nm,1.1s,mb6.1
DUG MLR MLR
comp=Z,18µm,20.0s,MS5.8
DUG Dugway 35.37 93 *e*P P 18 07 00.2 +0.5
comp=Z,298nm,1.1s,mb6.1
DUG LR LR
comp=Z,18µm,20.0s,MS5.8
S11A Rachel 35.37 99 ⇑P P 18 07 00.5 +0.7
baz=35
ARVC Arvin 35.40 105 ⇓P P 18 06 59.8 -0.3
baz=35
SBC Santa Barbara 35.41 107 ⇓P P 18 07 00.6 +0.5
baz=35
STCH Steam Cracks 35.46 169 *e*P P 18 06 59.8 -0.8
DGMT Dagmar 35.46 76⇑*i*P P 18 06 59.8 -0.6
comp=Z,372nm,1.4s,mb6.1
DGMT LR LR
comp=Z,52µm,20.0s,MS6.3
NOQ North Oquirrh 35.47 92⇑*i*P P 18 07 01.0 +0.4
Q13A Wheeler Ranch, 35.48 96 ⇑P P 18 07 01.3 +0.6
baz=35
MPMC Manual Prospec 35.49 103 ⇑P P 18 07 01.0 +0.3
baz=35,SNR=63
O15A The Old Anders 35.51 93 ⇓P P 18 07 01.3 +0.4
baz=35
KHU Kahuku 35.55 170 *e*P P 18 07 00.5 -0.9
FURC Furnace Creek, 35.55 102 ⇑P P 18 07 01.4 0.0
baz=36,SNR=23
R12A Pony Springs, 35.56 97 ⇑P P 18 07 01.6 +0.2
baz=36
TPNV Topopah Spring 35.57 101 *e*P P 18 07 01.4 0.0
P14A Drum Mountains 35.61 94 ⇓P P 18 07 02.2 +0.4
baz=36
BW06 Boulder Array 35.64 87⇑*e*P P 18 07 01.8 -0.2
BW06 LR LR
comp=Z,21µm,19.0s,MS5.9
PDAR Pinedale Array 35.64 87 P P **18 07 01.9 0.0**
comp=Z,10nm,0.6s,mb4.9,baz=331,slow=4.0,SNR=74
PDAR ScP ScP 18 13 12.2 +0.6
comp=Z,10nm,1.1s,baz=256,slow=0.7,SNR=5.0
PDAR LR LR 18 20 27.9
comp=Z,17µm,18.6s,MS5.8,baz=308,slow=34
PDAR P3KPbc 18 37 45.4
comp=Z,1.8nm,0.9s,baz=146,slow=4.9,SNR=8.0
PDAR Pinedale Array 35.64 87 P P **18 07 01.9 0.0**
PDAR ScP ScP 18 13 12.2 +0.6
PDAR LR LR 18 20 27.9
PDAR *e* 18 37 45.4

CTU Camp Tracy 35.66 92 *e*P P 18 07 03.9 +1.7
N16A Rees Ranch, Co 35.72 91 ⇑P P 18 07 03.2 +0.5
baz=36
BSC Santa Cruz Isl 35.78 108 ⇓P P 18 07 03.0 -0.3
baz=36,SNR=11
LRMC Laurel Mountai 35.79 104 ⇑P P 18 07 03.1 -0.2
baz=36,SNR=24
OSI Osito Adit 35.83 106 ⇓P P 18 07 04.1 +0.4
baz=36
Q14A Sevier Lake (B 35.89 95 ⇓P P 18 07 04.1 -0.1
baz=36
U10A Ash Meadows, A 35.89 101 ⇓P P 18 07 04.8 +0.5
baz=36
JLU Jordanelle 35.90 92⇑*e*P P 18 07 04.5 +0.3
S12A Delamar Landin 35.91 98 ⇓P P 18 07 05.2 +0.8
baz=36
NLU North Lily Min 35.95 93⇑*i*P P 18 07 05.2 +0.5
T11A Corn Creek, Al 35.95 99 ⇑P P 18 07 05.4 +0.7
baz=36
BLG Laguna Peak 36.01 107 ⇑P P 18 07 04.9 -0.4
baz=36,SNR=10
R13A O'Grain Ranch, 36.03 97 ⇑P P 18 07 05.6 +0.2
baz=36
N17A Moffit Pass 36.04 91 ⇓P P 18 07 05.8 +0.3
baz=36
EDW2 Edwards Air Fo 36.05 105 ⇓P P 18 07 05.3 -0.3
baz=36,SNR=25
P15A Leamington 36.08 94 ⇑P P 18 07 06.5 +0.7
baz=36
DAU Daniels Canyon 36.13 92 *e*P P 18 07 07.2 +1.0
MPU Maple Canyon 36.17 93⇑*i*P P 18 07 06.8 +0.3
MPU LR LR
comp=Z,23µm,20.0s,MS5.9
SHOC Shoshone 36.29 102 ⇓P P 18 07 07.8 +0.2
baz=36,SNR=26
DECC Green Verdugo 36.32 106 ⇓P P 18 07 07.6 -0.3
baz=36
SNCC San Nicolas Is 36.40 108 ⇓P P 18 07 08.5 -0.1
baz=36,SNR=8.1
SNCC San Nicolas Is 36.40 108⇓*e*P P 18 07 08.1 -0.5
comp=Z,437nm,1.5s,mb6.2
Q15A Fillmore 36.40 95 ⇑P P 18 07 08.6 0.0
baz=36
GSC Goldstone 36.42 103 ⇓P P 18 07 08.7 0.0
baz=36,SNR=39
GSC Goldstone 36.42 103⇑*i*P P 18 07 08.6 -0.1
GSC LR LR
comp=Z,33µm,22.0s,MS6.1
P16A Fountain Green 36.42 93 ⇑P P 18 07 08.8 +0.1
baz=36
U11A Corn Creek 36.43 100 ⇓P P 18 07 09.1 +0.3
baz=36
MWC Mount Wilson 36.49 106⇓*e*P P 18 07 09.2 -0.2
MWC pmax pmax
comp=Z,620nm,1.8s,mb6.2
MWC MLR MLR
comp=Z,61µm,21.0s,MS6.4
MWC Mount Wilson 36.49 106⇓*e*P P 18 07 09.2 -0.2
comp=Z,620nm,1.8s,mb6.2
MWC LR LR
comp=Z,61µm,21.0s,MS6.4
R14A James Farms, M 36.50 96 ⇓P P 18 07 09.7 +0.2
baz=36
SHPR Sheep Range 36.50 100 *e*P P 18 07 09.4 -0.1
S13A Holt Ranch, En 36.50 98 ⇓P P 18 07 09.7 +0.2
baz=36
O17A Robinson Place 36.57 92 ⇓P P 18 07 10.5 +0.4
baz=36
T12A Moapa 36.60 99 ⇓P P 18 07 10.4 +0.1
baz=36
ARUT Antelope Range 36.61 97 *e*P P 18 07 10.7 +0.4
RRX Edison Barstow 36.61 104 ⇑P P 18 07 10.3 -0.1
baz=36
N18A Larsen Ranch, 36.69 90 ⇑P P 18 07 10.5 -0.5
baz=37
BFSC Mount Baldy St 36.71 105 ⇑P P 18 07 11.2 0.0
baz=37,SNR=32
FMP Fort Macarthur 36.74 106 ⇑P P 18 07 10.9 -0.6
baz=37
S14A Cedar City 36.78 97 ⇓P P 18 07 11.8 -0.1
baz=37
ASAJ Asahikawa 36.80 277 LR LR 18 21 36.8
comp=Z,25µm,20.9s,MS6.0,baz=78,slow=35
CCUT Cedar City 36.81 97 *e*P P 18 07 12.4 +0.3
V11A Goodsprings 36.82 101 ⇓P P 18 07 12.8 +0.7
baz=37
TUQ Turquoise Moun 36.82 102 ⇓P P 18 07 12.1 -0.1
baz=37,SNR=18
MVU Marysvale 36.83 95 PFAKE 18 07 20.0 +7.8
MVU LR LR
comp=Z,26µm,20.0s,MS6.0
MSU Marysvale 36.85 95 *e*P P 18 07 12.8 +0.4
T13A Saint George 36.86 98 ⇓P P 18 07 12.7 +0.2
baz=37
TMUT Trail Mountain 36.89 93 *e*P P 18 07 13.2 +0.5
CIS Catalina Islan 36.90 107 ⇑P P 18 07 12.5 -0.4
baz=37,SNR=14
U12A Valley of Fire 36.91 100 ⇑P P 18 07 13.1 +0.2
baz=37
O18A Roosevelt 36.95 91 ⇓P P 18 07 13.6 +0.4
baz=37
R15A Junction 36.99 95 ⇑P P 18 07 13.8 +0.3
baz=37
HEC Hector,Ludlow 37.03 103 ⇓P P 18 07 13.6 -0.4
baz=37,SNR=34
N19A John Jarvie Ra 37.03 89 ⇓P P 18 07 13.5 -0.4
baz=37
P17A Butcher Ranch, 37.04 93 ⇑P P 18 07 14.6 +0.6
baz=37
BBRC Big Bear Sol-O 37.10 104 ⇓P P 18 07 15.0 +0.4
baz=37
SCI San Clemente I 37.14 108 ⇑P P 18 07 14.8 -0.1
baz=37,SNR=8.2
Q16A Castle Valley 37.16 94 ⇓P P 18 07 15.5 +0.5
baz=37
V12A Nelson 37.23 101 ⇓P P 18 07 16.0 +0.4
baz=37
P18A Preston Nutter 37.23 92 ⇑P P 18 07 16.4 +0.8
baz=37
U13A Pakoon Wash 37.25 99 ⇑P P 18 07 16.5 +0.7
baz=37
S15A Panguitch 37.30 96 ⇑P P 18 07 17.1 +0.9
baz=37
T14A Hurricane 37.31 98 ⇑P P 18 07 16.5 +0.2
baz=37
R16A Teasdale 37.40 95 ⇑P P 18 07 18.0 +0.9
baz=37
SRU San Rafael 37.41 93 ⇓P P 18 07 17.4 +0.3
baz=37
SRU San Rafael 37.41 93⇑*e*P P 18 07 17.5 +0.4
MURC Murrieta 37.43 105 ⇓P P 18 07 16.8 -0.6
baz=37,SNR=7.7
GMRC Granite Mounta 37.44 103 ⇓P P 18 07 17.3 -0.1
baz=37
O19A Miners Draw (B 37.45 90 ⇑P P 18 07 17.4 0.0
baz=37
W12A Cal Nev Ari 37.52 101 ⇓P P 18 07 18.1 +0.1
baz=37
ALE Alert 37.52 12 P P **18 07 17.0 -0.6**
comp=Z,934nm,1.0s,mb6.5,SNR=50
LDFC Landfair 37.54 102⇓*i*P P 18 07 17.5 -0.8
V13A Grand Canyon W 37.64 100 ⇓P P 18 07 19.5 +0.4
baz=38
Q18A Rafter H Ranch 37.64 92 ⇑P P 18 07 19.5 +0.4
baz=38
RWWY Rawlins 37.67 87 *e*P P 18 07 19.6 +0.2
U14A Mt Trumbull 37.70 98 ⇑P P 18 07 20.3 +0.7
baz=38
S16A Weppner Ranch, 37.72 95 ⇓P P 18 07 20.4 +0.6
baz=38
T15A Red Dirt Ranch 37.74 97 ⇑P P 18 07 20.6 +0.6
baz=38
ERM Erimo 37.76 274 P P **18 07 20.7 +0.6**
comp=Z,2µm,0.7s,mb6.8,SNR=34
ERM Erimo 37.76 274⇓*i*P P 18 07 19.4 -0.7
ERM pmax pmax
comp=Z,230nm,0.9s,mb5.9
ERM MLR MLR
comp=Z,28µm,22.0s,MS6.0
ERM Erimo 37.76 274⇓*i*P P 18 07 19.4 -0.7
comp=Z,230nm,0.9s,mb5.9
ERM LR LR
comp=Z,28µm,22.0s,MS6.0
R17A Hanksville Air 37.76 94 ⇓P P 18 07 20.4 +0.3
baz=38
PFO Pinyon Flat Ob 37.85 105 P P **18 07 20.0 -0.9**
comp=Z,699nm,1.6s,mb6.1,SNR=17

PFO Pinyon Flat Ob 37.85 105 P P **18 07 20.5 -0.4**
comp=Z,34nm,1.0s,mb5.0,baz=324,slow=7.2,SNR=46
PFO S S **18 13 07.4 -1.4**
comp=Z,1.5nm,0.6s,baz=278,slow=22,SNR=1.9
PFO ScP ScP 18 13 20.4 +0.4
comp=Z,7.2nm,0.9s,baz=271,slow=3.7,SNR=5.6
PFO LR LR 18 19 49.5
comp=Z,71µm,20.5s,MS6.5,baz=309,slow=31
PFO Pinyon Flat Ob 37.85 105 P P **18 07 20.5 -0.4**
PFO S S **18 13 07.4 -1.4**
PFO pmax pmax
comp=Z,34nm,1.0s,mb5.0
PFO smax
comp=N,2.0nm,0.6s
PFO MLR MLR
comp=Z,71µm,20.5s,MS6.5
PFO Pinyon Flat Ob 37.85 105 ⇓P P 18 07 20.5 -0.4
baz=38
PFO Pinyon Flat Ob 37.85 105⇓*i*P P 18 07 20.4 -0.4
comp=Z,614nm,1.8s,mb6.0
109C Camp Elliot, M 38.01 106 ⇓P P 18 07 22.4 +0.2
baz=38
NEE2 Needles Airpor 38.05 102 ⇓P P 18 07 22.6 +0.1
baz=38
IRM Iron Mountain 38.18 103 ⇑P P 18 07 23.8 +0.1
baz=38
U15A North Rim 38.21 98 ⇓P P 18 07 24.4 +0.5
baz=38
W13A Hualapai Mount 38.23 101 ⇓P P 18 07 24.3 +0.2
baz=38
S17A Black Ridge (B 38.24 95 ⇑P P 18 07 24.3 +0.1
baz=38
Q19A Hogan Spring (38.25 92 ⇑P P 18 07 23.6 -0.5
baz=38
R18A Canyonlands Na 38.26 93 ⇓P P 18 07 23.8 -0.4
baz=38
T16A Glen Canyon Da 38.28 96 ⇑P P 18 07 24.2 -0.2
baz=38
V14A Boquillas Ranc 38.30 99 ⇑P P 18 07 25.2 +0.6
baz=38
MONP Monument Peak 38.40 105 ⇑P P 18 07 25.6 +0.1
baz=38
BAR Barrett 38.41 106⇓*e*P P 18 07 25.5 -0.1
BAR LR LR
comp=Z,36µm,22.0s,MS6.2
HABR Khabarovsk 38.59 288⇑*i*P P 18 07 26.1 -0.9
HABR *e* 18 08 57.0
HABR *e* 18 09 37.5
HABR *e*S S 18 13 19.4 -0.3
HABR *e* 18 13 27.5
HABR *e* 18 16 32.5
HABR *e* 18 17 35.7
HABR pmax pmax
comp=Z,549nm,1.0s,mb6.2
HABR MLR MLR
comp=Z,31µm,14.7s,MS6.2
W14A Seligman 38.61 100 ⇑P P 18 07 27.5 +0.2
baz=38
X13A Yucca 38.62 101 ⇓P P 18 07 27.1 -0.3
baz=38
PDMCI Parker Dam,Lak 38.66 102 ⇓P P 18 07 27.6 -0.1
baz=39
S18A Hurst Farm, Bl 38.67 94 ⇑P P 18 07 27.3 -0.5
baz=39
T17A Navajo Res., N 38.67 96 ⇑P P 18 07 27.6 -0.2
baz=39
V15A Kaibab Nationa 38.70 98 ⇑P P 18 07 28.4 +0.4
baz=39
SWSC Sam W. Stewart 38.71 105 ⇑P P 18 07 28.2 +0.1
baz=39
DVTC Desert V Tower 38.75 105 ⇓P P 18 07 28.3 -0.2
baz=39
PV10 Paradox Valley 38.76 92 *e*P P 18 07 29.1 +0.6
Y12C Blythe 38.84 103 ⇑P P 18 07 28.9 -0.3
baz=39
U17A Shonto 39.03 96 ⇓P P 18 07 30.2 -0.6
baz=39
U16A Tuba City 39.08 97 ⇓P P 18 07 31.3 +0.1
baz=39
W15A Williams 39.10 99 ⇓P P 18 07 31.7 +0.4
baz=39
T18A Mexican Hat 39.12 95 ⇓P P 18 07 30.9 -0.6
baz=39
ULM Lac du Bonnet 39.12 68 P P **18 07 30.8 -0.6**
comp=Z,129nm,0.5s,mb5.9,baz=305,slow=8.4,SNR=176
ULM LR LR 18 23 33.3
comp=Z,36µm,19.9s,MS6.2,baz=308,slow=36
ULM Lac du Bonnet 39.12 68⇑*i*P P 18 07 30.5 -0.8
comp=Z,234nm,0.9s,mb5.9
S19A Harvey Farm, M 39.13 93 ⇑P P 18 07 31.7 +0.1
baz=39
GLA Glamis 39.18 104 ⇑P P 18 07 31.6 -0.4
baz=39
GLA Glamis 39.18 104⇓*i*P P 18 07 31.7 -0.3
GLA LR LR
comp=Z,49µm,19.0s,MS6.3
Y13A Salome 39.19 102 ⇓P P 18 07 31.9 -0.2
baz=39
PV01 Paradox Valley 39.20 92 *e*P P 18 07 32.0 -0.2
X14A Yava 39.25 100 ⇓P P 18 07 33.0 +0.3
baz=39
WUAZ Wupatki 39.38 98⇓*e*P P 18 07 33.8 +0.1
comp=Z,324nm,1.2s,mb5.9
Y14A Wickenburg 39.57 101 ⇑P P 18 07 35.2 0.0
baz=40
CLNS Chul'man 39.57 304 *e*P P 18 07 33.5 -1.6
CLNS *e* 18 09 40.4
CLNS *e*S S 18 13 29.1 -5.2
CLNS *e* 18 13 34.4
CLNS *e* 18 17 36.3
CLNS pmax pmax
comp=Z,181nm,0.9s,mb5.8
CLNS pmax pmax
comp=E,132nm,0.9s
CLNS pmax pmax
comp=N,79nm,0.9s
CLNS smax
comp=E,1360µm,12.8s
CLNS smax
comp=N,990µm,13.1s
CLNS MLR MLR
comp=N,21µm,19.0s,MS6.3
CLNS MLR MLR
comp=Z,44µm,19.0s,MS6.3
CLNS MLR MLR
comp=E,30µm,17.0s,MS6.3
W16A Flagstaff 39.58 98 ⇑P P 18 07 36.3 +0.9
baz=40
X15A Humboldt 39.61 100 ⇑P P 18 07 36.0 +0.4
baz=40
112A Yuma 39.70 104 ⇑P P 18 07 36.5 +0.1
baz=40
ISCO Idaho Springs 39.82 88⇑*i*P P 18 07 36.8 -0.5
ISCO MLR MLR
comp=Z,37µm,19.0s,MS6.2
T19A Beclabito 39.82 94 ⇓P P 18 07 37.7 +0.3
baz=40
MVCO Mesa Verde 39.87 93⇑*i*P P 18 07 37.4 -0.3
comp=Z,736nm,1.9s,mb6.1
Y15A Casa Rosa Ranc 39.94 100 ⇓P P 18 07 38.6 +0.2
baz=40
113A Mohawk Valley, 39.99 103 ⇓P P 18 07 38.5 -0.3
baz=40
KLR Kul'dur 39.99 291⇓*i*P P 18 07 33.5 -5.1
KLR *i* 18 07 33.6
KLR *e* 18 09 08.0
KLR *e*S S 18 13 35.5 -5.2
KLR MLR MLR
comp=Z,23µm,18.0s,MS6.1
Z14A Wintersburg 40.02 102 ⇑P P 18 07 39.0 0.0
baz=40
W17A Winslow 40.07 98 ⇑P P 18 07 39.4 0.0
baz=40
V18A Ganado 40.07 96 ⇓P P 18 07 39.5 0.0
baz=40
X16A Lo Mia Camp, P 40.12 99 ⇓P P 18 07 40.2 +0.4
baz=40
AGMN Agassiz Refuge 40.20 71⇑*i*P P 18 07 39.5 -0.9
comp=Z,309nm,0.8s,mb6.1
AGMN LR LR
comp=Z,23µm,20.0s,MS6.0
Y16A Circle Bar Ran 40.48 100 ⇑P P 18 07 43.0 +0.1
baz=40
Z15A Gila River Ind 40.52 101 ⇓P P 18 07 43.2 0.0
baz=40
X17A Forest Lakes 40.54 99 ⇑P P 18 07 43.6 +0.3
baz=40

V19A Window Rock 40.58 95 ⇑P P 18 07 43.4 -0.3
baz=40
W18A Petrified Fore 40.60 97 ⇓P P 18 07 43.6 -0.2
baz=40
W19A Sanders 40.81 96 ⇑P P 18 07 45.7 +0.2
baz=41
X18A Snowflake 40.90 98 ⇓P P 18 07 46.8 +0.5
baz=41
Z16A Peralta Trail, 40.90 100 ⇓P P 18 07 46.2 -0.1
baz=41
Y17A Roosevelt 40.98 99 ⇓P P 18 07 47.2 +0.3
baz=41
214A Organ Pipe Nat 41.13 103 ⇓P P 18 07 48.1 -0.1
baz=41
OGNE Ogallala 41.15 84 *eP* **P 18 07 48.3 0.0**
comp=Z,204nm,0.9s,mb5.8
SDCO Great Sand Dun 41.25 90⇑ *eP* **P 18 07 48.4 -0.8**
116A Eloy 41.31 101 ⇓P P 18 07 49.6 -0.1
baz=41
X19A St. Johns 41.35 97 ⇑P P 18 07 50.4 +0.4
baz=41
Y18A Canyon Day Jun 41.39 98 ⇑P P 18 07 50.5 +0.2
baz=41
Z17A San Carlos Hig 41.48 99 ⇓P P 18 07 51.6 +0.5
baz=41
Y19A Nutrioso 41.71 98 ⇑P P 18 07 53.5 +0.6
baz=42
117A Oracle 41.86 100 ⇑P P 18 07 54.7 +0.5
baz=42
216A Three Points, 41.87 102 ⇓P P 18 07 53.9 -0.3
baz=42
Z18A Geronimo 41.89 99 ⇑P P 18 07 54.8 +0.4
baz=42
TUC Tucson 42.02 101 *eP* **P 18 07 55.6 +0.1**
Z19A T-Link Ranch, 42.18 98 ⇓P P 18 07 57.4 +0.6
baz=42
118A Homack Ranch, 42.25 100 ⇑P P 18 07 57.7 +0.3
baz=42
217A Green Valley 42.40 101 ⇑P P 18 07 58.4 -0.2
baz=42
ECSD EROS,Sioux Fal 42.50 77⇑ *iP* **P 18 07 57.3 -2.0**
ECSD LR LR
comp=Z,44μm,20.0s,MS6.3
119A Ashpeak Ranch, 42.54 99 ⇓P P 18 08 00.2 +0.4
baz=42
LAZ Ladron 42.62 95 *eP* **P 18 08 00.8 +0.5**
ANMO Albuquerque 42.62 94 P **P 18 08 00.5 +0.1**
comp=Z,12nm,1.0s,baz=322,slow=8.8,SNR=27
ANMO PcP PcP 18 09 52.0 +0.2
comp=Z,24nm,0.8s,baz=284,slow=4.9,SNR=5.4
ANMO ScP ScP 18 13 38.0 -0.7
comp=Z,7.8nm,1.0s,baz=288,slow=3.9,SNR=4.7
ANMO LR LR 18 24 41.7
comp=Z,12μm,18.1s,MS5.8,baz=102,slow=35
ANMO Albuquerque 42.62 94 *eP* **P 18 08 00.2 -0.1**
ANMO LR LR
comp=Z,12μm,20.0s,MS5.8
218A Dragoon 42.69 100 ⇓P P 18 08 01.0 +0.1
baz=43
EYMN Ely 42.80 69⇑ *iP* **P 18 08 00.5 -1.1**
comp=Z,282nm,0.8s,mb6.0
EYMN LR LR
comp=Z,21μm,21.0s,MS6.0
LENM Lemitar 42.88 95 *eP* **P 18 08 02.9 +0.4**
LPM Los Pinos Moun 42.98 95 *eP* **P 18 08 03.9 +0.7**
BNM Barren Site 43.09 95 *eP* **P 18 08 04.7 +0.5**
318A Bisbee 43.12 101 ⇓P P 18 08 04.4 -0.1
baz=43
219A White Tail Can 43.13 100 ⇑P P 18 08 04.6 +0.1
baz=43
VLA Vladivostok 43.55 283 *dP* **P 18 08 06.7 -1.1**
VLA *e**PP pP 18 08 17.0 -3.0
VLA *eS* **S 18 14 28.8 -4.6**
VLA pmax pmax
comp=Z,242nm,1.5s,mb5.7
VLA MLR MLR
comp=Z,16μm,16.0s,MS6.0
VLA Vladivostok 43.55 283 *iP* **P 18 08 07.1 -0.7**
319A Douglas 43.57 100 ⇓P P 18 08 08.1 0.0
baz=44
CBKS Cedar Bluff 43.88 85⇑ *iP* **P 18 08 09.9 -0.6**
CBKS MLR MLR
comp=Z,10μm,20.0s,MS5.7
MDJ Mudanjiang 43.91 286 PFAKE 18 08 20.0 +9.4
MDJ LR LR
comp=Z,45μm,19.0s,MS6.4
BOD Bodaibo 44.12 310 *eP* **P 18 08 09.6 -2.5**
BOD pmax pmax
comp=Z,244nm,1.0s,mb5.9
MAJO Matsushiro 44.25 272⇑ *iP* **P 18 08 13.0 -0.5**
MAJO pmax pmax
comp=Z,614nm,0.9s,mb6.3
MAJO MLR MLR
comp=Z,12μm,21.0s,MS5.8
MAJO Matsushiro 44.25 272⇑ *iP* **P 18 08 13.0 -0.5**
comp=Z,614nm,0.9s,mb6.3
MAJO LR LR
comp=Z,12μm,21.0s,MS5.8
MAT Matsushiro 44.25 272 P **P 18 08 12.8 -0.7**
MAT S **S 18 14 43.0 -0.8**
MJAR Matsushiro Arr 44.25 272 P **P 18 08 13.2 -0.3**
comp=Z,106nm,0.9s,mb5.6,baz=52,slow=6.6,SNR=142
MJAR LR LR 18 25 42.4
comp=Z,10μm,21.2s,MS5.7,baz=65,slow=35
MJAR Matsushiro Arr 44.25 272 P **P 18 08 13.2 -0.3**
MJAR pmax pmax
comp=Z,106nm,0.9s
MJAR MLR MLR
comp=Z,10μm,21.2s
COWI Conover 45.20 69⇑ *iP* **P 18 08 19.6 -1.3**
COWI LR LR
comp=Z,19μm,20.0s,MS6.0
AMTX Amarillo 45.45 90⇑ *eP* **P 18 08 22.3 -0.7**
comp=Z,404nm,1.5s,mb6.0
AMTX LR LR
comp=Z,29μm,21.0s,MS6.2
KSU1 Kansas State U 45.50 82⇑ *iP* **P 18 08 21.3 -2.0**
KSU1 LR LR
comp=Z,18μm,20.0s,MS6.0
MNTX Cornudas Mount 45.59 96 PFAKE 18 08 40.0 +16
MNTX LR LR
comp=Z,4.0nm,21.0s
SCIA State Center 45.59 77⇑ *iP* **P 18 08 22.7 -1.3**
HIA Hailar 46.35 297⇑ *eP* **P 18 08 28.3 -1.6**
HIA pmax pmax
comp=Z,57nm,0.8s
HIA MLR MLR
comp=Z,45μm,21.0s
HIA Hailar 46.35 297⇑ *eP* **P 18 08 28.3 -1.6**
comp=Z,57nm,0.8s,mb5.6
HIA LR LR
comp=Z,45μm,21.0s,MS6.4
JFWS Jewell Farm 46.61 74⇑ *iP* **P 18 08 30.0 -2.0**
JFWS MLR MLR
comp=Z,44μm,20.0s,MS6.4
CN2 Changchun 46.73 288 *eP* **P 18 08 31.8 -1.2**
CN2 *eXP* sP 18 08 44.2 -6.3
CN2 AMB AMB
comp=Z,5μm,8.0s
CN2 LR LR
comp=N,27μm,19.0s,MS6.4
CN2 LR LR
comp=E,30μm,19.0s,MS6.4
CN2 LR LR
comp=Z,29μm,20.0s,MS6.2
KBS Kingsbay 46.73 2⇑ *iP* **P 18 08 33.2 +0.6**
KBS AMb AMB 18 08 36.0
comp=Z,568nm,1.0s,mb6.5
KBS *e* 18 15 27.1
KBS *eSS* SS 18 18 48.2 +3.7
KBS Kingsbay 46.73 2⇑ *eP* **P 18 08 33.1 +0.5**
KBS Kingsbay 46.73 2⇑ *iP* **P 18 08 33.1 +0.5**
comp=Z,425nm,1.1s,mb6.3
KBS *e*PcP PcP 18 10 06.3 +1.1
KBS *e*ScP ScP 18 13 53.0 -1.9
KBS LR LR
comp=Z,15μm,20.0s,MS6.0
DAG Danmarks Havn 46.88 11*j iP* **P 18 08 33.2 -0.6**
DAG pmax pmax
comp=Z,690nm,1.5s,mb6.4
DAG MLR MLR
comp=Z,66μm,21.0s,MS6.6
DAG MLR MLR
comp=N,60μm,20.0s
DAG Danmarks Havn 46.88 11*j iP* **P 18 08 33.2 -0.6**
comp=N,694nm,1.5s,mb6.4

DAG *i* 18 12 20.7
DAG
comp=Z,66μm,21.0s
DAG Danmarks Havn 46.88 11 *i* P **P 18 08 33.2 -0.6**
comp=Z,694nm,1.5s,mb6.4
DAG *i* 18 12 20.7
DAG LR LR
comp=Z,66μm,21.0s,MS6.6
WMOK Wichita Mounta 47.24 88⇑ *eP* **P 18 08 35.3 -1.8**
WMOK pmax pmax
comp=Z,91nm,0.9s,mb5.7
WMOK Wichita Mounta 47.24 88⇑ *eP* **P 18 08 35.3 -1.8**
comp=Z,91nm,0.9s,mb5.7
SUMG Summit 47.27 20⇑ *iP* **P 18 08 37.3 +0.4**
comp=Z,253nm,1.3s,mb6.0
SPB4 Spitsbergen Ar 47.53 1 *eP* **P 18 08 37.8 -1.0**
SPITS Spitsbergen Ar 47.54 1 P **P 18 08 38.8 0.0**
comp=Z,59nm,0.8s,mb5.7,baz=60,slow=5.2,SNR=26
SPITS PcP PcP 18 10 07.8 -0.3
comp=Z,84nm,0.8s,baz=33,slow=4.6,SNR=6.8
SPITS LR LR 18 30 09.8
comp=Z,26μm,18.8s,MS6.2,baz=100,slow=38
SPITS Spitsbergen Ar 47.54 1 P **P 18 08 38.8 0.0**
SPITS 18 10 07.8
SPITS pmax pmax
comp=Z,59nm,0.8s
SPITS MLR MLR
comp=Z,26μm,18.8s
CIT Chita 47.75 304 *eP* **P 18 08 41.8 +1.0**
CIT pmax pmax
comp=Z,585nm,2.0s,mb6.3
TXAR Lajitas Array 48.33 97 P **P 18 08 45.5 0.0**
comp=Z,12nm,0.6s,mb5.2,baz=303,slow=5.5,SNR=126
TXAR PcP PcP 18 10 10.9 -0.8
comp=Z,14nm,0.7s,baz=317,slow=3.7,SNR=7.1
TXAR LR LR 18 27 57.4
comp=Z,27μm,18.8s,MS6.2,baz=5.0,slow=35
TXAR PKPPKP 18 39 34.9
comp=Z,1.9nm,1.1s,baz=198,slow=0.4,SNR=4.4
SFJD Kangerlussuaq 48.35 29 P **P 18 08 45.5 +0.3**
comp=Z,314nm,1.0s,mb6.3,baz=293,slow=10,SNR=38
SFJD Kangerlussuaq 48.35 29⇑ *iP* **P 18 08 45.1 -0.1**
SFJD *eS* **S 18 15 42.3 +0.6**
SFJD *i* S **S 18 15 43.6 +1.9**
SFJD pmax pmax
comp=Z,500nm,1.1s,mb6.5
SFJD MLR MLR
comp=Z,6μm,18.0s,MS5.6
SFJD Kangerlussuaq 48.35 29⇑ *iP* **P 18 08 45.1 -0.1**
comp=Z,503nm,1.1s,mb6.5
SFJD *eS* **S 18 15 42.3 +0.6**
SFJD *i* S **S 18 15 43.6 +1.9**
SFJD
comp=Z,6μm,18.0s
GLMI Grayling 48.46 68⇑ *iP* **P 18 08 45.2 -1.2**
GLMI *e* pP 18 08 55.5 -3.3
GLMI LR LR
comp=Z,19μm,20.0s,MS6.1
LPIG La Paz 48.57 108 LR LR 18 26 24.2
comp=Z,16μm,18.9s,MS6.0,baz=320,slow=32
HDIL Hopedale 48.70 75⇑ *iP* **P 18 08 46.5 -1.8**
comp=Z,1μm,0.9s,mb6.9
HDIL LR LR
comp=Z,40μm,19.0s,MS6.4
SNY Shenyang 49.06 287 ⇑P **P 18 08 51.2 +0.2**
SNY AP pP 18 09 03.0 -0.4
SNY PP PP 18 10 46.3 +1.7
SNY AMB AMB
comp=Z,357nm,1.4s,mb6.2
SNY AMB AMB
comp=Z,6μm,4.1s
SNY LR LR
comp=N,19μm,18.6s,MS6.3
SNY LR LR
comp=E,23μm,17.4s,MS6.3
SNY LR LR
comp=Z,36μm,17.2s,MS6.4
CCM Cathedral Cave 49.29 79⇑ *iP* **P 18 08 49.9 -3.0**
CCM pmax pmax
comp=Z,650nm,1.8s,mb6.4
CCM MLR MLR
comp=Z,22μm,21.0s,MS6.1
CCM Cathedral Cave 49.29 79⇑ *iP* **P 18 08 49.9 -2.9**
comp=Z,650nm,1.8s,mb6.4
CCM LR LR
comp=Z,22μm,21.0s,MS6.1
SLM Saint Louis 49.47 78⇑ *iP* **P 18 08 52.4 -1.8**
SLM *eS* **S 18 15 53.0 -5.2**
KSRS Korea Array 49.58 280 P **P 18 08 55.4 +0.4**
comp=Z,261nm,0.8s,mb6.3,baz=50,slow=7.0,SNR=699
KSRS LR LR 18 29 16.8
comp=Z,8μm,20.4s,MS5.7,baz=52,slow=35
KSRS Korea Array 49.58 280 P **P 18 08 55.4 +0.4**
KSRS pmax pmax
comp=Z,261nm,0.8s,mb6.3
KSRS MLR MLR
comp=Z,8μm,20.4s,MS5.7
JCT Junction City 49.72 93⇑ *iP* **P 18 08 55.1 -1.1**
JCT MLR MLR
comp=Z,18μm,22.0s,MS6.0
FVM French Village 49.81 79⇑ *iP* **P 18 08 54.6 -2.2**
INCN Inchon 50.30 281⇑ *iP* **P 18 09 00.4 -0.1**
comp=Z,308nm,0.9s,mb6.3
INCN LR LR
comp=Z,13μm,21.0s,MS5.9
MIAR Mount Ida 50.41 84⇑ *eP* **P 18 08 59.2 -2.2**
MIAR pmax pmax
comp=Z,333nm,1.3s,mb6.2
MIAR MLR MLR
comp=Z,15μm,20.0s,MS6.0
MIAR Mount Ida 50.41 84⇑ *eP* **P 18 08 59.2 -2.2**
comp=Z,333nm,1.3s,mb6.2
MIAR LR LR
comp=Z,15μm,20.0s,MS6.0
OLIL Olney 50.62 76⇑ *eP* **P 18 09 01.2 -1.7**
comp=Z,1μm,1.3s,mb6.6
SCHQ Schefferville 50.67 48 P **P 18 09 02.4 -0.6**
comp=Z,191nm,1.0s,mb6.0,baz=324,slow=7.5,SNR=52
SCHQ LR LR 18 31 18.5
comp=Z,49μm,20.2s,MS6.5,baz=316,slow=37
SCHQ Schefferville 50.67 48⇑ *iP* **P 18 09 02.4 -0.6**
comp=Z,3μm,2.1s,mb6.8
SIUC Southern Illin 50.69 78⇑ *eP* **P 18 09 00.9 -2.5**
UALR University of 50.96 83⇑ *eP* **P 18 09 02.9 -2.5**
PARMO Parma 51.12 79⇑ *eP* **P 18 09 04.3 -2.3**
BLO Bloomington 51.20 75⇑ *iP* **P 18 09 05.3 -2.0**
BLO pmax pmax
comp=Z,207nm,0.9s,mb6.1
BLO Bloomington 51.20 75⇑ *iP* **P 18 09 05.3 -2.0**
comp=Z,207nm,0.9s,mb6.1
BJO Bjornoya 51.23 360⇑ *iP* **P 18 09 07.4 +0.3**
BJO *e*PP PP 18 11 04.5 +0.9
BJO *i* 18 20 47.4
HBAR Harrisburg 51.38 81 *eP* **P 18 09 07.7 -0.9**
USIN University of 51.40 77⇑ *iP* **P 18 09 06.8 -1.9**
MAIG Mazatlaan 51.46 105 *eP* **P 18 09 08.4 -1.0**
GLAT Glass 51.66 79 *eP* **P 18 09 10.1 -0.6**
NATX Nacogdoches 51.78 87⇑ *eP* **P 18 09 10.4 -1.2**
comp=Z,274nm,1.2s,mb6.1
UTMT University of 51.85 79⇑ *eP* **P 18 09 10.3 -1.8**
comp=Z,1μm,1.2s,mb6.7
HALT Halls 51.88 80⇑ *eP* **P 18 09 10.3 -2.1**
IRK Irkutsk 51.96 309 ⇓*iP* **P 18 09 12.9 +0.1**
IRK *e* 18 19 06.1
IRK pmax pmax
comp=Z,465nm,1.6s,mb6.2
WCI Wyandotte Cave 51.99 75⇑ *iP* **P 18 09 11.0 -2.1**
WCI pmax pmax
comp=Z,246nm,1.4s,mb5.9
WCI Wyandotte Cave 51.99 75⇑ *iP* **P 18 09 11.0 -2.1**
comp=Z,246nm,1.4s,mb6.0
MET Memphis--Engin 52.10 81⇑ *eP* **P 18 09 11.2 -2.8**
DL2 Dalian 52.14 286⇑ *iP* **P 18 09 14.0 -0.3**
DL2 AMB AMB
comp=Z,170nm,0.8s,mb6.0
DL2 AMB AMB
comp=Z,1μm,6.6s
DL2 LR LR
comp=N,8μm,16.7s,MS6.0
DL2 LR LR
comp=E,8μm,19.2s,MS6.0
DL2 LR LR
comp=Z,14μm,18.4s,MS6.0
HKT Hockley 52.42 90⇑ *eP* **P 18 09 15.2 -1.3**
HKT pmax pmax
comp=Z,637nm,1.8s,mb6.2
HKT MLR MLR
comp=Z,10μm,19.0s,MS5.9
HKT Hockley 52.42 90⇑ *eP* **P 18 09 15.2 -1.3**
comp=Z,637nm,1.8s,mb6.2
HKT LR LR
comp=Z,10μm,19.0s,MS5.9
ACSO Alum Creek Sta 52.45 71⇑ *eP* **P 18 09 14.2 -2.3**
comp=Z,116nm,0.7s,mb5.9
ACSO LR LR
comp=Z,27μm,21.0s,MS6.3
XMAS Kiritimati 52.45 175⇓ *eP* **P 18 09 15.2 -1.5**
comp=Z,411nm,1.4s,mb6.2
WVT Waverly 52.59 78⇑ *eP* **P 18 09 15.7 -1.9**
WVT pmax pmax
comp=Z,292nm,0.8s,mb6.3
WVT Waverly 52.59 78⇑ *eP* **P 18 09 15.7 -2.0**
comp=Z,292nm,0.8s,mb6.3
TLY Talaya 52.63 309 P **P 18 09 18.1 +0.4**
comp=Z,1μm,1.1s,mb6.8,SNR=75
TLY Talaya 52.63 309*c iP* **P 18 09 17.0 -0.7**
TLY *e* 18 16 42.4
TLY pmax pmax
comp=Z,321nm,1.1s,mb6.2
TLY MLR MLR
comp=Z,28μm,18.0s,MS6.3
TLY Talaya 52.63 309⇑ *iP* **P 18 09 17.1 -0.7**
comp=Z,218nm,1.0s,mb6.0
ERPA Erie 52.78 68⇑ *iP* **P 18 09 17.5 -1.5**
comp=Z,500nm,1.3s,mb6.3
ERPA LR LR
comp=Z,21μm,19.0s,MS6.2
OXF Oxford 52.84 81⇑ *iP* **P 18 09 17.4 -2.1**
OXF pmax pmax
comp=Z,1μm,1.2s,mb6.7
OXF Oxford 52.84 81⇑ *iP* **P 18 09 17.4 -2.1**
comp=Z,1μm,1.2s,mb6.7
ALLY Alegheny Colle 53.02 68⇑ *iP* **P 18 09 19.1 -1.6**
comp=Z,623nm,1.1s,mb6.5
KVTX Kingsville 53.02 94 *eP* **P 18 09 21.2 +0.3**
KVTX LR LR
comp=Z,18μm,22.0s,MS6.1
JMIC Jan Mayen 53.33 11 *eP* **P 18 09 21.6 -1.0**
JMIC *eS* **S 18 16 55.8 +5.3**
ULN Ulaanbaatar 53.64 303⇑ *iP* **P 18 09 24.3 -0.9**
ULN pmax pmax
comp=Z,239nm,0.8s,mb6.2
ULN Ulaanbaatar 53.64 303⇑ *iP* **P 18 09 24.3 -0.9**
comp=Z,239nm,0.8s,mb6.2
ZAK Zakamensk 53.69 308⇑ *iP* **P 18 09 26.1 +0.6**
ZAK *e* 18 10 29.6
MOY Mondy 53.83 310 *eP* **P 18 09 26.9 +0.3**
MOY pmax pmax
comp=Z,523nm,3.1s
VBMS Vicksburg 53.85 84⇑ *eP* **P 18 09 25.6 -1.4**
comp=Z,834nm,1.4s,mb6.5
LONY Lake Ozonia 53.90 62⇑ *iP* **P 18 09 25.1 -2.1**
comp=Z,169nm,1.1s,mb5.9
LONY LR LR
comp=Z,32μm,19.0s,MS6.4
ZAIG Zacatecas 53.98 101 *i* P **P 18 09 28.4 +0.4**
SONM Songino Array 53.98 304 P **P 18 09 27.6 -0.1**
comp=Z,166nm,0.8s,mb6.0,baz=47,slow=4.6,SNR=908
SONM PcP PcP 18 10 34.6 +2.2
comp=Z,59nm,0.8s,baz=45,slow=2.3,SNR=5.0
SONM S **S 18 17 03.6 +3.6**
comp=Z,12nm,1.1s,baz=46,slow=11,SNR=4.8
SONM LR LR 18 35 04.5
comp=Z,67μm,18.2s,MS6.7,baz=41,slow=39
SONM PKPPKP 18 39 41.7
comp=Z,0.9nm,0.8s,baz=197,slow=3.1,SNR=5.4
SONM P4KPbc 18 46 50.9
comp=Z,1.4nm,0.8s,baz=54,slow=2.4,SNR=12
SONM Songino Array 53.98 304 P **P 18 09 27.6 -0.1**
SONM PcP PcP 18 10 34.6 +2.2
SONM S **S 18 17 03.6 +3.6**
SONM LR LR 18 35 04.5
SONM P'P' 18 39 41.7
KRAR Krasnoyarsk 54.14 318*c iP* **P 18 09 28.4 -0.3**
KRAR pmax pmax
comp=Z,160nm,0.9s,mb6.0
KRAR MLR MLR
comp=Z,64μm,22.0s,MS6.6
FRNY Flat Rock 54.26 61⇑ *eP* **P 18 09 27.6 -2.1**
comp=Z,113nm,1.0s,mb5.8
SWET Sewanee 54.32 78⇑ *eP* **P 18 09 27.8 -2.6**
BJI Beijing 54.36 291 P **P 18 09 30.3 -0.3**
BJI XP sP 18 09 44.0 -4.3
BJI PP PP 18 11 32.1 -0.5
BJI AMB AMB
comp=Z,157nm,1.0s,mb5.9
BJI AMB AMB
comp=Z,5μm,6.0s
BJI LR LR
comp=N,22μm,21.9s,MS6.4
BJI LR LR
comp=E,27μm,22.3s,MS6.4
BJI LR LR
comp=Z,32μm,25.3s,MS6.3
BJI Beijing 54.36 291 P **P 18 09 30.3 -0.3**
comp=Z,157nm,1.0s,mb5.9
BJI sP sP 18 09 44.0 -4.3
BJI PP PP 18 11 32.1 -0.5
BJI S **S 18 17 02.1 -3.2**
BJI SS SS 18 20 43.6 -3.7
BJI LR LR
comp=Z,32μm,25.3s,MS6.3
BJT Baijiatuau 54.38 291⇑ *iP* **P 18 09 30.3 -0.4**
BJT pmax pmax
comp=Z,146nm,0.8s
BJT MLR MLR
comp=Z,31μm,22.0s
BJT Baijiatuau 54.38 291⇑ *iP* **P 18 09 30.3 -0.4**
comp=Z,146nm,0.8s,mb6.0
BJT LR LR
comp=Z,31μm,22.0s,MS6.3
NCB Newcomb 54.53 62⇑ *iP* **P 18 09 30.4 -1.4**
comp=Z,315nm,1.3s,mb6.2
MCWV Mont Chateau 54.57 70 PFAKE 18 09 40.0 +7.9
MCWV LR LR
comp=Z,23μm,21.0s,MS6.2
TZTN Tazewell 54.72 75⇑ *eP* **P 18 09 31.3 -1.9**
comp=Z,530nm,1.3s,mb6.4
BINY Binghamton 54.85 65⇑ *iP* **P 18 09 32.9 -1.2**
comp=Z,279nm,1.2s,mb6.2
BINY LR LR
comp=Z,20μm,20.0s,MS6.2
SSPA Standing Stone 54.94 68⇑ *iP* **P 18 09 33.0 -1.8**
comp=Z,113nm,0.6s,mb6.1
CPCT Cooper Cave 54.96 77⇑ *iP* **P 18 09 32.6 -2.4**
MDV Middlebury 55.05 62 *eP* **P 18 09 33.7 -1.8**
TKL Tuckaleechee C 55.23 76 P **P 18 09 35.0 -1.9**
comp=Z,75nm,0.8s,mb5.8,baz=308,slow=3.8,SNR=37
TKL S **S 18 17 16.2 -0.8**
comp=Z,18nm,1.3s,baz=86,slow=22,SNR=12
TKL Tuckaleechee C 55.23 76 P **P 18 09 35.0 -1.9**
TKL S **S 18 17 16.2 -0.8**
TKL pmax pmax
comp=Z,75nm,0.8s,mb5.8
TKL smax
comp=N,18nm,1.3s
TKL Tuckaleechee C 55.23 76⇑ *iP* **P 18 09 34.2 -2.7**
ACCN Adirondack Com 55.23 63⇑ *eP* **P 18 09 35.2 -1.7**
comp=N,207nm,1.2s,mb6.0
LRAL Lakeview Retre 55.29 80⇑ *iP* **P 18 09 34.5 -2.9**
comp=N,277nm,0.5s,mb6.5
LRAL LR LR
comp=Z,18μm,19.0s,MS6.2
SFJM Santa Fe 55.51 104 *i* P **P 18 09 38.2 -0.9**
LBNH Lisbon 55.52 61⇑ *iP* **P 18 09 37.3 -1.6**
LBNH pmax pmax
comp=Z,106nm,1.0s,mb5.8
LBNH MLR MLR
comp=Z,40μm,19.0s,MS6.5
LBNH Lisbon 55.52 61⇑ *iP* **P 18 09 37.3 -1.6**
comp=Z,106nm,1.0s,mb5.8
LBNH LR LR
comp=Z,40μm,19.0s,MS6.5
HNH Hanover 55.72 61⇑ *iP* **P 18 09 39.0 -1.3**
comp=Z,114nm,0.9s,mb5.9
ELN Prospectdale 55.80 72 *eP* **P 18 09 39.0 -2.0**
KEV Kevo 55.85 356 *eP* **P 18 09 39.1 -1.8**
comp=Z,275nm,0.8s,mb6.3
KEV LR LR
comp=Z,23μm,22.0s,MS6.2
BLA Blacksburg 55.99 72⇑ *iP* **P 18 09 40.7 -1.7**
BLA pmax pmax

comp=Z,220nm,0.8s,mb6.2
BLA MLR MLR
comp=Z,33µm,20.0s,MS6.4
BLA Blacksburg 55.99 72⇑*iP* P 18 09 40.7 -1.6
comp=Z,220nm,0.8s,mb6.2
BLA LR LR
comp=Z,33µm,20.0s,MS6.4
PKME Peaks-Kenny Pk 56.12 58⇑*iP* P 18 09 41.0 -2.1
comp=Z,170nm,1.2s,mb6.0
ARCES ARCESS Array B 56.12 357 P P 18 09 42.0 -0.8
comp=Z,155nm,0.8s,mb6.1,baz=2.7,slow=5.2,SNR=99
ARCES PcP PcP 18 10 42.2 +1.9
comp=Z,19nm,0.6s,baz=30,slow=4.6,SNR=4.0
ARCES LR LR 18 37 00.3
comp=Z,14µm,19.7s,MS6.1,baz=7.9,slow=39
ARCES PKP2bc 18 39 47.7
comp=Z,11nm,1.0s,baz=253,slow=3.3,SNR=5.1
ARCES PKP2ab 18 40 20.8
comp=Z,11nm,1.0s,baz=283,slow=11,SNR=4.6
ARCES ARCESS Array B 56.12 357 P P 18 09 42.0 -0.8
ARCES 18 10 42.2
ARCES pmax pmax
comp=Z,155nm,0.8s
ARCES MLR MLR
comp=Z,14µm,19.7s
ARCES ARCESS Array B 56.12 357 P P 18 09 42.0 -0.8
ARCES PcP PcP 18 10 42.2 +2.0
ARCES LR LR 18 37 00.3
ARCES ⇑*e* 18 39 47.7
ARCES P'P'ab 18 40 20.8
ARE0 ARCESS Array S 56.12 357⇑*iP* P 18 09 41.8 -1.0
TRO Tromso 56.13 360⇑*iP* P 18 09 40.8 -2.1
TRO AMb AMB 18 09 43.9
comp=Z,454nm,1.0s,mb6.4
TRO *e*S S 18 17 30.9 +2.8
FFD Franklin Falls 56.21 61⇑*eP* P 18 09 42.3 -1.5
comp=Z,235nm,1.2s,mb6.1
HHC Hu-ho-hao-te 56.27 294⇑*iP* P 18 09 44.7 +0.4
HHC AP pP 18 09 57.6 +0.7
HHC XP sP 18 10 02.7 +0.7
HHC PCP PcP 18 10 42.3 +1.0
HHC PP PP 18 11 49.5 -0.1
HHC AMB AMB
comp=Z,202nm,1.1s,mb6.1
HHC AMB AMB
comp=Z,4µm,6.5s
HHC LR LR
comp=N,21µm,16.9s,MS6.5
HHC LR LR
comp=E,26µm,18.0s,MS6.5
HHC LR LR
comp=Z,33µm,18.6s,MS6.5
SDMD Soldier's Deli 56.38 68⇑*iP* P 18 09 43.0 -2.1
comp=Z,95nm,0.8s,mb5.9
TIA Tai'an 56.57 287 *eP* P 18 09 45.1 -1.4
TIA S S 18 17 30.3 -4.6
TIA AMB AMB
comp=Z,123nm,1.0s,mb5.9
TIA LR LR
comp=N,9µm,16.0s,MS6.1
TIA LR LR
comp=E,8µm,15.0s,MS6.1
BRNJ Basking Ridge 56.68 65⇑*iP* P 18 09 46.2 -1.0
comp=E,114nm,0.7s,mb6.0
QUA2 Belchertown 56.70 63⇑*iP* P 18 09 45.9 -1.4
comp=E,87nm,0.8s,mb5.8
KTK1 Kautokeino 56.70 358⇑*iP* P 18 09 45.5 -1.5
BRAL Brewton 56.74 82⇑*eP* P 18 09 45.1 -2.7
comp=E,415nm,1.0s,mb6.4
BRAL LR LR
comp=Z,18µm,21.0s,MS6.1
PAL Palisades 56.80 65⇑*eP* P 18 09 46.4 -1.7
PAL pmax pmax
comp=Z,368nm,1.6s,mb6.2
PAL Palisades 56.80 65⇑*eP* P 18 09 46.4 -1.7
comp=Z,368nm,1.6s,mb6.2
CPNY Central Park 56.92 65⇑*eP* P 18 09 47.5 -1.5
comp=Z,130nm,1.0s,mb5.9
HRV Adam Dziewonsk 56.94 62⇑*iP* P 18 09 47.6 -1.5
HRV pmax pmax
comp=Z,118nm,1.1s,mb5.8
HRV MLR MLR
comp=Z,30µm,19.0s,MS6.4
HRV Adam Dziewonsk 56.94 62⇑*iP* P 18 09 47.6 -1.4
comp=Z,118nm,1.1s,mb5.8
HRV LR LR
comp=Z,30µm,19.0s,MS6.4
CBN Corbin 56.95 69⇑*iP* P 18 09 47.4 -1.8
comp=Z,129nm,0.8s,mb6.0
CBN LR LR
comp=Z,31µm,19.0s,MS6.4
GOGA Godfrey 57.03 77⇑*eP* P 18 09 46.7 -3.1
GOGA pmax pmax
comp=Z,209nm,1.3s,mb6.0
GOGA MLR MLR
comp=Z,30µm,21.0s,MS6.4
GOGA Godfrey 57.03 77⇑*eP* P 18 09 46.7 -3.1
comp=Z,209nm,1.3s,mb6.0
GOGA LR LR
comp=Z,30µm,21.0s,MS6.4
WES Weston 57.15 62⇑*iP* P 18 09 49.2 -1.3
WES pmax pmax
comp=Z,186nm,0.9s,mb6.1
WES Weston 57.15 62⇑*iP* P 18 09 49.1 -1.4
comp=Z,186nm,0.9s,mb6.1
MOIG Morelia 57.20 102 *i* P P 18 09 50.8 -0.4
BORG Borgarnes 57.22 19 P P 18 09 51.8 +1.1
comp=Z,2µm,1.3s,mb6.9,SNR=7.4
BORG Borgarnes 57.22 19 *eP* P 18 09 51.3 +0.6
comp=Z,784nm,1.6s,mb6.5
BORG LR LR
comp=Z,31µm,20.0s,MS6.4
BTO Baotou 57.26 295 *eP* P 18 09 50.9 -0.4
BTO AMB AMB
comp=Z,102nm,1.2s,mb5.7
LVZ Lovozero 57.27 353 P P 18 09 50.3 -0.7
comp=Z,4µm,1.0s,mb7.3,SNR=68
LVZ Lovozero 57.27 353 PFAKE 18 10 00.0 +9.0
LVZ LR LR
comp=Z,36µm,21.0s,MS6.5
URVA University of 57.32 70⇑*iP* P 18 09 50.2 -1.6
BRYW Bryant College 57.38 62⇑*iP* P 18 09 50.5 -1.7
comp=Z,155nm,0.9s,mb6.0
JSC Jenkinsville 57.65 75 *eP* P 18 09 52.3 -1.8
APA Apatity 57.68 353⇑*iP* P 18 09 53.0 -0.9
APA *i* S S 18 17 41.0 -7.6
APA pmax pmax
comp=Z,470nm,1.2s,mb6.4
APA pmax pmax
comp=Z,4µm,9.0s
APA MLR MLR
comp=Z,29µm,20.0s,MS6.4
SSE Sheshan 58.01 280 P P 18 09 55.6 -1.1
SSE AP pP 18 10 09.1 -0.3
SSE S S 18 17 52.4 -1.5
SSE SCS ScS 18 19 40.2 -2.2
SSE AMB AMB
comp=Z,343nm,1.3s,mb6.2
SSE AMB AMB
comp=Z,4µm,7.6s
SSE LR LR
comp=N,6µm,25.0s,MS5.8
SSE LR LR
comp=E,7µm,25.0s,MS5.8
SSE LR LR
comp=Z,11µm,22.0s,MS5.9
SSE Sheshan 58.01 280 P P 18 09 55.6 -1.1
comp=Z,343nm,1.3s,mb6.2
SSE pP pP 18 10 09.1 -0.3
SSE S S 18 17 52.4 -1.5
SSE ScS ScS 18 19 40.2 -2.2
SSE LR LR
comp=Z,11µm,22.0s,MS5.9
TIY Taiyuan 58.06 291⇑*iP* P 18 09 58.7 +1.7
TIY S S 18 17 52.0 -2.5
TIY AMB AMB
comp=Z,3µm,6.5s
TIY LR LR
comp=N,18µm,17.6s,MS6.4
TIY LR LR
comp=E,13µm,15.0s,MS6.4
TIY LR LR
comp=Z,18µm,16.0s,MS6.3
GUMO Guam 58.14 247 *eP* P 18 09 55.8 -1.9
GUMO pmax pmax
comp=Z,301nm,0.9s,mb6.3
GUMO MLR MLR
comp=Z,5µm,20.0s,MS5.6
GUMO Guam 58.14 247 *eP* P 18 09 55.8 -1.9
comp=Z,301nm,0.9s,mb6.3
GUMO LR LR
comp=Z,5µm,20.0s,MS5.6
PTVM Pico Tres Padr 58.45 101 *i* P P 18 09 59.2 -0.8
PBVM Pinon 58.59 101 *eP* P 18 09 59.2 -1.7
COW Cow Castle Cre 58.62 76⇑*eP* P 18 09 59.0 -2.0
NVS Novosibirsk 58.63 322⇑*iP* P 18 09 59.2 -1.5
NVS *e*S S 18 18 00.4 -0.9
NVS pmax pmax
comp=Z,206nm,1.5s,mb5.9
NVS pmax pmax
comp=N,162nm,1.6s
NVS pmax pmax
comp=E,145nm,1.6s
NVS smax
comp=E,242nm,3.2s
NJ2 Nanjing 58.64 282 *eP* P 18 10 00.4 -0.7
NJ2 AP pP 18 10 13.1 -0.6
NJ2 XP sP 18 10 18.4 -0.5
NJ2 PP PP 18 12 12.1 +1.3
NJ2 AMB AMB
comp=Z,160nm,0.9s,mb6.0
NJ2 AMB AMB
comp=Z,2µm,8.2s
NJ2 LR LR
comp=N,5µm,25.3s,MS6.1
NJ2 LR LR
comp=E,17µm,26.2s,MS6.1
NJ2 LR LR
comp=Z,17µm,26.2s,MS6.0
IIO Organos 58.68 100 *i* P P 18 10 01.2 -0.3
ZIIG Zihuatanejo 58.70 104 *i* P P 18 09 59.6 -2.0
ZAA0 Zalesovo Array 58.76 321⇑*iP* P 18 10 00.8 -0.8
ZALV Zalesovo Beam 58.76 321 P P 18 10 01.1 -0.4
comp=Z,20nm,0.4s,mb5.5,baz=36,slow=6.4,SNR=118
ZALV PcP PcP 18 10 52.3 +1.4
comp=Z,48nm,1.0s,baz=25,slow=3.8,SNR=4.2
ZALV LR LR 18 38 04.1
comp=Z,52µm,18.4s,MS6.7,baz=36,slow=39
ZALV PKPPKP 18 39 35.4
comp=Z,1.1nm,0.8s,baz=249,slow=2.9,SNR=4.4
ZALV PKP2ab 18 40 02.9
comp=Z,1.0nm,0.6s,baz=222,slow=2.0,SNR=4.3
ZALV Zalesovo Beam 58.76 321 P P 18 10 01.2 -0.4
ZALV 18 10 52.3
ZALV pmax pmax
comp=Z,21nm,0.4s,mb5.5
ZALV MLR MLR
comp=Z,52µm,18.4s,MS6.7
ZALV Zalesovo Beam 58.76 321 P P 18 10 01.1 -0.4
ZALV PcP PcP 18 10 52.3 +1.4
ZALV LR LR 18 38 04.1
ZALV P'P' 18 39 35.4
ZALV P'P'ab 18 40 02.9
CNNC Cliffs of the 58.83 72⇑*iP* P 18 10 00.7 -1.6
comp=Z,241nm,1.1s,mb6.1
CNNC LR LR
comp=Z,43µm,20.0s,MS6.6
NHSC New Hope 59.12 75⇑*eP* P 18 10 02.7 -1.7
comp=Z,645nm,1.2s,mb6.5
PPM Popocatepetl 59.15 101 *i* P P 18 10 03.1 -1.7
PLIG Platanillo 59.18 102 *i* P P 18 10 03.1 -1.9
STOK Stokkvaagen 59.38 2⇑*iP* P 18 10 05.7 -0.1
STOK AMb AMB 18 10 08.2
comp=Z,741nm,1.3s,mb6.5
STOK *ep*P pP 18 10 15.7 -2.8
MOR8 Moi Rana 59.58 2⇑*iP* P 18 10 05.6 -1.5
MOR8 AMb AMB 18 10 08.1
comp=Z,257nm,1.2s,mb6.1
MOR8 *ep*P pP 18 10 16.0 -3.8
NSS Namsos 61.16 3⇑*iP* P 18 10 16.6 -1.4
NSS AMb AMB 18 10 19.0
comp=Z,511nm,0.6s,mb6.8
NSS *e*S S 18 18 36.7 +3.1
PNIG Pinotepa 61.56 102 *i* P P 18 10 19.8 -1.5
VHO Vista Hermosa 61.82 100 *i* P P 18 10 23.2 +0.2
FTO Torshavn 62.12 13⇑*eP* P 18 10 25.5 +1.1
DWPF Disney 62.14 80 PFAKE 18 10 40.0 +15
DWPF LR LR
comp=Z,14µm,21.0s,MS6.1
WHN Wuhan 62.32 284 ⇑P P 18 10 25.8 -0.4
WHN AP pP 18 10 40.4 +1.4
WHN PP PP 18 12 42.5 -0.8
WHN AMB AMB
comp=Z,285nm,1.0s,mb6.3
WHN AMB AMB
comp=Z,9µm,8.6s
WHN LR LR
comp=N,20µm,15.4s,MS6.6
WHN LR LR
comp=E,29µm,20.4s,MS6.6
WHN LR LR
comp=Z,32µm,18.2s,MS6.5
JOF Joensuu 62.43 353 *ep* P 18 10 25.0 -1.5
comp=Z,180nm,0.7s,mb6.3
JOF Joensuu 62.43 353 *eP* P 18 10 25.0 -1.5
JOF pmax pmax
comp=Z,180nm,0.7s,mb6.3
XAN Xi'an 62.70 291 P P **18 10 28.3 -0.4**
XAN AP pP 18 10 40.5 -1.0
XAN XP sP 18 10 45.8 -0.7
XAN PCP PcP 18 11 06.5 -0.6
XAN PP PP 18 12 49.1 +2.5
XAN AMB AMB
comp=Z,220nm,2.0s,mb5.9
XAN AMB AMB
comp=Z,4µm,10.8s
XAN LR LR
comp=N,3µm,20.7s,MS6.2
XAN LR LR
comp=E,15µm,19.2s,MS6.2
XAN LR LR
comp=Z,28µm,21.1s,MS6.4
MOL Molde 62.93 6⇑*iP* P 18 10 29.6 -0.1
MOL Molde 62.93 6⇑*iP* P 18 10 29.8 0.0
MOL AMb AMB 18 10 32.8
comp=Z,510nm,1.4s,mb6.5
MOL *e*SKS 18 20 20.9
GTA Gaotai 63.39 301⇑*iP* P 18 10 32.9 -0.3
GTA AP pP 18 10 45.7 -0.3
GTA XP sP 18 10 50.9 -0.2
GTA PP PP 18 12 53.0 +0.4
GTA AMB AMB
comp=Z,354nm,1.3s,mb6.3
GTA AMB AMB
comp=Z,4µm,7.1s
GTA LR LR
comp=N,25µm,21.6s,MS6.4
GTA LR LR
comp=E,19µm,23.4s,MS6.4
GTA LR LR
comp=Z,39µm,22.2s,MS6.5
KAF Kangasniemi 63.51 356 *ep* P 18 10 32.1 -1.6
comp=Z,346nm,0.8s,mb6.4,baz=1.7,slow=6.3
KAF Kangasniemi 63.51 356 *eP* P 18 10 32.1 -1.6
KAF pmax pmax
comp=Z,346nm,0.8s,mb6.4
DOMB Dombas 63.53 5⇑*iP* P 18 10 33.7 -0.1
DOMB AMb AMB 18 10 36.2
comp=Z,487nm,1.3s,mb6.4
DOMB *ep*P pP 18 10 43.5 -3.1
KURK Kurchatov 63.62 322 P P 18 10 34.8 +0.3
comp=Z,903nm,1.3s,mb6.6,SNR=72
KURK Kurchatov 63.62 322⇑*eP* P 18 10 34.1 -0.4
KURK pmax pmax
comp=Z,339nm,1.5s,mb6.2
KURK Kurchatov 63.62 322⇑*iP* P 18 10 34.2 -0.3
comp=Z,433nm,1.5s,mb6.3
KURK LR LR
comp=Z,95µm,19.0s,MS7.0
KLMR Klimovskoe 63.71 349⇑*iP* P 18 10 34.3 -0.7
KLMR *e*S S 18 19 04.1 -1.6
KLMR pmax pmax
comp=Z,658nm,1.2s,mb6.5
LZH Lanzhou 63.86 296 ⇑P P 18 10 36.6 +0.2
LZH AP pP 18 10 47.0 -2.2
LZH XP sP 18 10 50.8 -3.5
LZH PP PP 18 12 58.5 +1.7
LZH AMB AMB
comp=Z,453nm,1.1s,mb6.4
LZH AMB AMB
comp=Z,43µm,20.3s,MS6.6
LZH Lanzhou 63.86 296 ⇑P P 18 10 36.6 +0.2
comp=Z,453nm,1.1s,mb6.4
LZH pP pP 18 10 47.0 -2.2
LZH sP sP 18 10 50.8 -3.5
LZH PP PP 18 12 58.5 +1.7
LZH S S 18 19 07.2 -1.1
LZH sS sS 18 19 24.5 -5.1
LZH SS SS 18 23 27.6 +11
LZH LR LR
comp=Z,43µm,20.3s,MS6.6
QZH Quanzhou 64.15 277⇑*iP* P 18 10 38.6 +0.2
QZH S S 18 19 11.7 -0.4
QZH AMB AMB
comp=Z,2µm,2.1s,mb6.7
QZH AMB AMB
comp=Z,9µm,4.3s
QZH LR LR
comp=N,6µm,13.9s,MS6.3
QZH LR LR
comp=E,14µm,18.2s,MS6.3
QZH LR LR
comp=Z,22µm,25.0s
TEIG Tepich 64.23 91⇑*eP* P 18 10 36.3 -2.7
comp=Z,122nm,1.2s,mb5.8
HYA Hoyanger 64.24 6⇑*iP* P 18 10 39.2 +0.7
HYA AMb AMB 18 10 42.1
comp=Z,652nm,1.4s,mb6.5
HYA *ep*P pP 18 10 48.4 -2.9
BVA0 Borovoye Array 64.42 328 *i* P P 18 10 39.1 -0.7
BVA0 pmax pmax
comp=Z,38nm,0.9s,mb5.4
BVAR Borovoye Array 64.42 328 P4KPbc 18 47 36.1
comp=Z,1.7nm,1.0s,baz=56,slow=3.7,SNR=5.6
BRVK Borovoye 64.42 328 P P **18 10 40.7 +0.9**
comp=Z,2µm,1.0s,mb7.2,SNR=84
BRVK Borovoye 64.42 328⇑*iP* P 18 10 39.5 -0.3
BRVK pmax pmax
comp=Z,717nm,1.3s,mb6.5
BRVK MLR MLR
comp=Z,85µm,21.0s,MS6.9
BRVK Borovoye 64.42 328⇑*iP* P 18 10 39.5 -0.3
comp=Z,717nm,1.3s,mb6.5
BRVK LR LR
comp=Z,85µm,21.0s,MS6.9
WAL1 Walls 64.46 11⇑*iP* P 18 10 39.6 -0.3
VOSK Vostochnaya 64.50 328 P P 18 10 39.4 -0.9
VOSK pmax pmax
comp=Z,292nm,1.3s,mb6.2
ARU Arti 64.60 337 P P 18 10 40.8 0.0
comp=Z,2µm,0.6s,mb7.3
ARU Arti 64.60 337*c iP* P 18 10 40.3 -0.5
ARU *e* 18 11 11.4
ARU *e* 18 13 01.6
ARU *e*PPP 18 14 33.4
ARU *e*S S **18 19 18.2 +1.4**
ARU *e* 18 20 28.9
ARU *e*SSS 18 26 25.8
ARU pmax pmax
comp=Z,469nm,1.2s,mb6.4
ARU pmax pmax
comp=Z,3µm,10.2s
ARU smax
comp=N,982nm,9.0s
ARU MLR MLR
comp=Z,42µm,18.0s,MS6.7
ARU Arti 64.60 337⇑*iP* P 18 10 40.1 -0.8
comp=Z,193nm,0.6s,mb6.3
ARU LR LR
comp=Z,34µm,21.0s,MS6.5
LRW Lerwick 64.63 11⇑*iP* P 18 10 41.1 +0.2
LRW AMb AMB 18 10 43.2
comp=Z,747nm,1.2s,mb6.6
LRW AMS AMS 18 39 45.0
comp=Z,16µm,22.4s,MS6.2
NB2 NORSAR Subarra 64.63 4 P P 18 10 41.2 +0.2
comp=Z,661nm,1.1s,mb6.6,baz=356,slow=6.5
NOA NORSAR Array B 64.63 4 P P 18 10 40.7 -0.3
comp=Z,236nm,0.9s,mb6.2,baz=356,slow=6.6,SNR=334
NOA LR LR 18 39 07.9
comp=Z,10µm,21.3s,MS6.0,baz=355,slow=36
NOA PKPPKP 18 39 27.0
comp=Z,2.1nm,0.9s,baz=159,slow=1.9,SNR=5.9
NOA NORSAR Array B 64.63 4 P P 18 10 40.7 -0.3
NOA LR LR 18 39 07.9
NOA P'P' 18 39 27.0
NAO01 NORSAR Array S 64.81 4⇑*iP* P 18 10 41.4 -0.8
comp=Z,382nm,1.2s,mb6.3
FUNA Funafuti 64.84 201 *eP* P 18 10 39.5 -3.3
comp=Z,1µm,2.2s,mb6.6
FUNA LR LR
comp=Z,29µm,20.0s,MS6.5
ASK Askoy 64.85 7 *eP* P 18 10 41.8 -0.6
ASK AMb AMB 18 10 44.6
comp=Z,843nm,1.6s,mb6.5
RUND Rundenannen 64.94 7⇑*iP* P 18 10 45.4 +2.4
RUND AMb AMB 18 10 48.0
comp=Z,514nm,1.6s,mb6.3
BER Bergen 64.96 7⇑*iP* P 18 10 42.7 -0.5
BER AMb AMB 18 10 46.2
comp=Z,440nm,1.1s,mb6.4
BER *e*S S **18 19 25.9 +4.8**
EGD Espegrend 65.07 7 *eP* P 18 10 43.2 -0.7
EGD AMb AMB 18 10 45.9
comp=Z,582nm,1.6s,mb6.3
CCIG Comitan 65.09 97 *i* P P 18 10 42.3 -2.4
ENH Enshi 65.25 288 PFAKE 18 11 00.0 +15
ENH LR LR
comp=Z,4.0nm,21.0s
SOR Soroa 65.31 85 *eP* P 18 10 45.0 -1.0
MK31 Makanchi Array 65.45 317 *i* P P 18 10 45.3 -1.3
MK31 pmax pmax
comp=Z,185nm,1.1s,mb6.0
MK31 Makanchi Array 65.45 317⇑*iP* P 18 10 45.3 -1.3
MKAR Makanchi Array 65.45 317 P P 18 10 45.9 -0.7
comp=Z,52nm,0.8s,mb5.6,baz=46,slow=6.9,SNR=221
MKAR PKPPKP 18 39 23.4
comp=Z,2.6nm,1.0s,baz=210,slow=7.0,SNR=5.4
MKAR LR LR 18 40 54.1
comp=Z,42µm,21.8s,MS6.6,baz=27,slow=37
ODD1 Odda 65.52 6⇑*iP* P 18 10 46.1 -0.7
ODD1 AMb AMB 18 10 48.6
comp=Z,585nm,1.2s,mb6.5
WMQ Urumqi 65.62 312⇑*iP* P 18 10 48.0 +0.3
WMQ AP pP 18 11 01.0 +0.5
WMQ PCP PcP 18 11 19.5 +0.6
WMQ PP PP 18 13 14.5 +2.6
WMQ AMB AMB
comp=Z,306nm,1.3s,mb6.2
WMQ AMB AMB
comp=Z,5µm,6.4s
WMQ LR LR
comp=N,29µm,23.6s,MS6.6
WMQ LR LR
comp=E,34µm,25.2s,MS6.6
WMQ LR LR
comp=Z,41µm,19.5s
PUL Pulkovo 65.63 353⇑*eP* P 18 10 47.3 -0.2
RTO Tolsta 65.72 14⇑*iP* P 18 10 48.0 -0.1
RSC Scourie 65.89 13⇑*iP* P 18 10 49.2 +0.1
KONO Kongsberg 65.95 5⇑*iP* P 18 10 49.7 +0.1
KONO Kongsberg 65.95 5⇑*eP* P 18 10 49.4 -0.2
BLS5 Blasjo 66.00 7⇑*iP* P 18 10 51.5 +1.7
BLS5 AMb AMB 18 10 53.8
comp=Z,248nm,1.1s,mb6.1
RRH Rhenigidale 66.09 14⇑*eP* P 18 10 50.9 +0.4
REB Eisghbrachaidh 66.10 13⇑*iP* P 18 10 50.7 +0.2
KMY Karmoy 66.12 7⇑*iP* P 18 10 50.3 -0.4
KMY AMb AMB 18 10 53.3
comp=Z,240nm,1.5s,mb6.0
KMY *ep*P pP 18 11 01.4 -2.1
MLA1 Latheron 66.16 12⇑*iP* P 18 10 51.0 +0.1
RRR Rubha Reidh 66.28 14⇑*iP* P 18 10 51.4 -0.3

STAV Stavanger 66.43 7⇑ *i*P P 18 10 52.8 +0.1
STAV AMb AMB 18 10 55.6
comp=Z,421nm,1.5s,mb6.2
STAV *e*pP pP 18 11 02.2 -3.3
MVH1 Achvaich 66.43 13⇑ *i*P P 18 10 52.9 +0.2
KSK Scoval 66.53 14⇑ *i*P P 18 10 53.6 +0.3
KAC Achnashellach 66.69 14⇑ *i*P P 18 10 54.6 +0.3
KPL Plockton 66.80 14⇑ *i*P P 18 10 54.8 -0.2
KPL AMb AMB 18 10 57.2
comp=Z,392nm,1.1s,mb6.3
KPL AMS AMS 18 41 26.2
comp=Z,27µm,19.9s,MS6.5
MDO Dochfour 66.88 13⇑ *i*P P 18 10 55.8 +0.3
MCD Coleburn Disti 66.88 12⇑ *i*P P 18 10 55.6 0.0
KSB Sheil Bridge 66.96 14⇑ *i*P P 18 10 55.7 -0.3
SNART Snartemo 67.12 6⇑ *i*P P 18 10 57.6 +0.6
VSU Vasula 67.14 355*c i*P P 18 10 56.7 -0.5
MME1 Meikle Cairn 67.18 12⇑ *i*P P 18 10 57.2 -0.2
KAR1 Arisaig 67.18 14⇑ *i*P P 18 10 57.2 -0.2
MGV Manicaragua 67.59 83 *e*P P 18 10 59.1 -1.5
CD2 Chengdu 67.89 292⇑ *i*P P 18 11 02.5 +0.2
CD2 AP pP 18 11 15.5 +0.3
CD2 XP sP 18 11 20.6 +0.3
CD2 PP PP 18 13 34.1 +2.1
CD2 AMB AMB
comp=Z,520nm,1.4s,mb6.4
CD2 AMB AMB
comp=Z,6µm,5.8s
CD2 LR LR
comp=N,15µm,20.4s,MS6.3
CD2 LR LR
comp=E,13µm,20.4s,MS6.3
CD2 LR LR
comp=Z,15µm,16.2s,MS6.3
PALP Palanan 68.05 269 *e*P P 18 11 03.1 -0.4
EAB Aberfoyle 68.10 13⇑ *i*P P 18 11 03.7 +0.4
BBSR BB Station 68.15 65⇑ *i*P P 18 11 01.3 -2.6
comp=Z,424nm,1.5s,mb6.2
BBSR LR LR
comp=Z,12µm,21.0s,MS6.1
EBH Black Hill 68.15 13⇑ *i*P P 18 11 03.8 +0.2
PGBU Glenifferbraes 68.45 14⇑ *i*P P 18 11 05.7 +0.3
PGBU AMb AMB 18 11 07.6
comp=Z,740nm,1.2s,mb6.6
PGBU AMS AMS 18 42 14.6
comp=Z,23µm,19.9s,MS6.4
CAUP Cauayan 68.50 269 *e*P P 18 11 06.2 -0.1
EDI Edinburgh 68.51 13⇑ *i*P P 18 11 05.4 -0.4
EDI AMb AMB 18 11 08.0
comp=Z,559nm,1.2s,mb6.4
EDI AMS AMS 18 41 47.4
comp=Z,17µm,20.5s,MS6.3
EAU Auchinoon 68.55 13⇑ *i*P P 18 11 06.6 +0.5
ESY Stoneypath 68.59 12⇑ *i*P P 18 11 06.4 +0.1
ABRA Dolores 68.59 270 *e*P P 18 11 06.9 0.0
GZH Guangzhou 68.61 280 P P 18 11 03.2 -3.7
GZH S S 18 20 00.5 -5.7
GZH LR LR
comp=N,5µm,22.5s,MS6.1
GZH LR LR
comp=E,11µm,20.6s,MS6.1
GZH LR LR
comp=Z,9µm,30.8s
EBL Broad Law 68.67 13⇑ *i*P P 18 11 07.1 +0.2
MOS Moscow 68.94 348 *e*P P 18 11 06.0 -2.5
MOS *e* 18 11 32.0
MOS *e* 18 13 36.8
MOS *e*PPP 18 15 16.6
MOS *e*S S 18 20 07.8 -1.4
MOS *e*PS 18 20 44.5
MOS pmax pmax
comp=Z,548nm,1.4s,mb6.3
MOS pmax pmax
comp=N,385nm,1.4s
XSO Sourhope Farm 69.05 12⇑ *i*P P 18 11 09.4 +0.2
ESK Eskdalemuir 69.10 13 P P 18 11 10.6 +1.1
comp=N,2µm,0.8s,mb7.0,SNR=50
ESK Eskdalemuir 69.10 13⇑ *i*P P 18 11 09.3 -0.2
ESK AMb AMB 18 11 11.8
comp=Z,514nm,1.1s,mb6.4
ESK AMS AMS 18 42 14.4
comp=Z,21µm,20.4s,MS6.4
ESK Eskdalemuir 69.10 13⇑ *e*P P 18 11 09.4 -0.1
ESK pmax pmax
comp=Z,267nm,0.9s,mb6.2
ESK MLR MLR
comp=Z,23µm,21.0s,MS6.4
ESK Eskdalemuir 69.10 13⇑ *e*P P 18 11 09.4 -0.1
comp=Z,267nm,0.9s,mb6.2
ESK LR LR
comp=Z,23µm,21.0s,MS6.4
MUD Monsted U'grnd 69.12 5⇑ *i*P P 18 11 10.2 +0.6
MUD *i* S S 18 20 11.2 -0.1
MUD pmax pmax
comp=Z,490nm,1.1s,mb6.3
MUD MLR MLR
comp=Z,9µm,21.0s,MS6.0
MUD Monsted U'grnd 69.12 5⇑ *i*P P 18 11 10.2 +0.6
comp=Z,493nm,1.1s,mb6.3
MUD *i* pP 18 11 25.1 +2.6
MUD *i* S S 18 20 11.2 -0.1
MUD
comp=Z,9µm,21.0s
MUD Monsted U'grnd 69.12 5⇑ *i*P P 18 11 10.2 +0.6
comp=Z,493nm,1.1s,mb6.3
MUD *i* pP 18 11 25.1 +2.6
MUD *i* S S 18 20 11.2 -0.1
ECK Cauldkaine Hil 69.24 13⇑ *i*P P 18 11 10.4 +0.1
GAL1 Galloway 69.33 14⇑ *i*P P 18 11 10.6 -0.3
GAL1 AMb AMB 18 11 13.0
comp=Z,655nm,1.1s,mb6.5
GAL1 AMS AMS 18 43 01.3
comp=Z,20µm,19.4s,MS6.4
GCD Castle Douglas 69.44 13⇑ *i*P P 18 11 11.7 +0.1
BALP Baler 69.59 269 *e*P P 18 11 12.5 -0.6
XAL Allendale 69.67 12⇑ *i*P P 18 11 13.2 +0.2
OBN Obninsk 69.67 349 P P 18 11 12.3 -0.7
comp=Z,2µm,1.2s,mb7.0,SNR=29
OBN Obninsk 69.67 349*c i*P P 18 11 11.8 -1.2
OBN *i* 18 11 35.0
OBN *i* PPP 18 15 32.3
OBN *i* S S 18 20 17.0 -0.8
OBN *i* SS SS 18 24 56.2 +11
OBN *e*SSS 18 28 01.9
OBN pmax pmax
comp=Z,816nm,1.6s,mb6.4
OBN MLR MLR
comp=Z,18µm,18.0s,MS6.4
OBN Obninsk 69.67 349⇑ *i*P P 18 11 12.0 -1.0
comp=Z,705nm,1.3s,mb6.4
TGUH Tegucigalpa,Un 69.68 94⇑ *e*P P 18 11 12.9 -0.8
comp=Z,113nm,0.8s,mb5.8
GYA Guiyang 69.76 287⇑ *i*P P 18 11 12.4 -1.7
GYA AP pP 18 11 25.7 -1.3
GYA XP sP 18 11 31.2 -0.8
GYA PCP PcP 18 11 34.9 -1.6
GYA PP PP 18 13 48.6 +0.3
GYA AMB AMB
comp=Z,120nm,1.0s,mb5.8
GYA AMB AMB
comp=Z,9µm,6.4s
GYA LR LR
comp=N,33µm,18.9s,MS6.7
GYA LR LR
comp=E,16µm,18.8s,MS6.7
GYA LR LR
comp=Z,23µm,18.2s,MS6.5
GMM Mts of Mourne 69.76 15⇑ *i*P P 18 11 13.1 -0.5
PVCP Virac 69.80 265 *e*P P 18 11 15.0 +0.6
GlM North Isle of 69.93 14⇑ *i*P P 18 11 14.0 -0.6
DMUB Kingscourt 69.95 16 *e*P P 18 11 08.3 -6.4
DMUB Kingscourt 69.95 16⇑ *i*P P 18 11 14.9 +0.2
COP Copenhagen 70.03 3⇑ *i*P P 18 11 15.4 +0.2
COP *i* S S 18 20 19.4 -2.7
COP *e*S S 18 20 26.4 +4.3
COP pmax pmax
comp=Z,290nm,1.1s,mb6.1
COP MLR MLR
comp=Z,9µm,19.0s,MS6.0
COP Copenhagen 70.03 3⇑ *i*P P 18 11 15.4 +0.2
comp=Z,287nm,1.1s,mb6.1
COP *i* S S 18 20 19.4 -2.7
COP *e*S S 18 20 26.4 +4.3
COP
comp=Z,9µm,19.0s
WIM Isle of Man 70.04 14⇑ *i*P P 18 11 14.8 -0.6
POLP Polilio Island 70.19 268 *e*P P 18 11 16.6 -0.1
AKTK Aktyubinsk 70.22 334 *i* P P 18 11 15.9 -0.6
AKTO Aktyubinsk 70.22 334 P P 18 11 15.9 -0.6
AKTO pmax pmax
comp=Z,53nm,1.0s,mb5.4
PMOR Pomariorio Ree 70.27 166 *e*P P 18 11 17.3 +0.2
comp=Z,144nm,1.1s,mb5.8
AAA Alma-Ata 70.48 319 *i* P P 18 11 18.1 -0.1
AAA *i* S S 18 20 23.5 -4.2
AAA pmax pmax
comp=Z,6µm,3.4s
AAA smax
comp=E,2µm,7.3s
AAA MLR MLR
comp=Z,59µm,19.0s,MS6.9
VAH Vaihoa 70.54 166 *e*P P 18 11 18.5 -0.2
comp=Z,145nm,1.0s,mb5.8
DLF Lyons Farm 70.59 15 *e*P P 18 11 12.2 -6.5
DLF Lyons Farm 70.59 15⇑ *i*P P 18 11 18.9 +0.2
HPK Haverah Park 70.63 12⇑ *i*P P 18 11 19.1 +0.2
HPK AMb AMB 18 11 21.4
comp=Z,617nm,1.4s,mb6.3
HPK AMS AMS 18 44 43.1
comp=Z,14µm,20.3s,MS6.2
DSB Dublin 70.66 15⇑ *i*P P 18 11 19.0 -0.1
comp=Z,166nm,1.1s,mb5.9
LDU Leeds Universi 70.79 12⇑ *e*P P 18 11 20.4 +0.5
AB31 Akbulak array 70.79 333 *i* P P 18 11 19.8 -0.2
AB31 pmax pmax
comp=Z,407nm,0.9s,mb6.4
WME Myndd Eilian 70.82 14⇑ *i*P P 18 11 19.5 -0.6
LMGC Las Mercedes 70.91 82 *e*P P 18 11 20.7 -0.4
WLF1 Llynfaes 70.91 14⇑ *i*P P 18 11 20.4 -0.3
WLF1 AMb AMB 18 11 23.3
comp=Z,285nm,1.7s,mb5.9
YRC Rhoscolyn 70.92 14⇑ *i*P P 18 11 20.4 -0.3
LHO Holmfirth 71.00 13⇑ *i*P P 18 11 20.9 -0.3
WPM1 Penmaenmawr 71.01 14⇑ *i*P P 18 11 20.9 -0.4
MNK Minsk 71.03 354⇑ *i*P P 18 11 19.0 -2.4
MNK *i* 18 11 20.0
MNK *e* 18 11 45.0
MNK *e*S S 18 20 30.0 -3.8
MNK *e*PS 18 21 04.0
MNK *e*SS SS 18 25 12.0 +5.9
YLL Llanberis 71.09 14⇑ *i*P P 18 11 21.4 -0.3
RGN Rugen 71.20 3 *e*P P 18 11 23.1 +0.7
comp=Z,1µm,1.1s,mb6.7
RGN Rugen 71.20 3⇑ *i*P P 18 11 22.8 +0.4
comp=Z,2µm,1.4s,mb6.7
YRE Yr Eifl 71.21 14⇑ *i*P P 18 11 22.0 -0.4
TKM2 Tokmak 2 71.30 319 P P 18 11 24.0 +0.8
SNR=132
HLG Helgoland 71.30 6 *e*P P 18 11 23.7 +0.7
comp=Z,1µm,1.1s,mb6.7
KBI1 Birley Grange 71.33 12⇑ *i*P P 18 11 23.3 +0.1
HNR Honiara 71.40 220 *e*P P 18 11 24.0 0.0
HNR pmax pmax
comp=Z,37nm,0.7s,mb5.4
HNR MLR MLR
comp=Z,8µm,20.0s,MS6.0
HNR Honiara 71.40 220 *e*P P 18 11 24.0 0.0
comp=Z,37nm,0.7s,mb5.4
HNR LR LR
comp=Z,8µm,20.0s,MS6.0
STNC Stoke 71.40 13 P P 18 11 23.9 +0.3
STNC AMb AMB 18 11 26.3
comp=Z,809nm,1.2s,mb6.5
STNC AMS AMS 18 41 52.0
comp=Z,17µm,22.7s
STNC Stoke 71.40 13⇑ *i*P P 18 11 23.9 +0.3
STNC AMb AMB 18 11 26.3
comp=Z,809nm,1.2s,mb6.5
STNC AMS AMS 18 41 52.0
comp=Z,17µm,22.7s,MS6.2
USP Ospenovka 71.42 320 P P 18 11 24.5 +0.7
SNR=112
KWE Weaver Farm 71.52 13⇑ *i*P P 18 11 24.8 +0.5
CHMS Chumysh 71.55 320 P P 18 11 25.4 +0.7
SNR=155
OCLP Ormoc 71.57 263 *e*P P 18 11 25.3 +0.2
BSEG Bad Segeberg 71.69 5 *e*P P 18 11 26.0 +0.7
BSEG pmax pmax
comp=Z,589nm,1.2s,mb6.4
BSEG Bad Segeberg 71.69 5 *e*P P 18 11 26.0 +0.7
comp=Z,589nm,1.2s,mb6.4
RCC Rio Carpintero 71.72 81 *e*P P 18 11 24.1 -1.9
SUW Suwalki 71.73 357 *i* P P 18 11 25.1 -0.5
SUW *e*PcP PcP 18 11 40.0 -4.4
SUW *e*PP PP 18 14 05.3 +0.9
SUW *e* 18 15 11.7
SUW *e*S S 18 20 49.0 +7.2
SUW LMZ 18 45 42.6
comp=Z,13µm,21.5s
SUW Suwalki 71.73 357⇑ *i*P P 18 11 24.6 -1.0
SUW pmax pmax
comp=Z,1µm,0.9s,mb6.8
SUW Suwalki 71.73 357⇑ *i*P P 18 11 24.6 -1.0
comp=Z,1µm,0.9s,mb6.8
FRU Bishkek 71.74 320⇑ *i*P P 18 11 27.0 +1.1
FRU *e*PPP 18 15 48.0
FRU *e*S S 18 20 49.0 +6.7
FRU *i* 18 21 25.0
FRU pmax pmax
comp=Z,3µm,2.3s,mb6.8
FRU pmax pmax
comp=Z,6µm,7.0s
KBK Karagaybulak 71.77 320 P P 18 11 27.0 +1.0
SNR=142
CWF Charnwood Fore 71.86 12⇑ *i*P P 18 11 26.7 +0.3
CWF AMb AMB 18 11 28.8
comp=Z,513nm,1.3s,mb6.3
CWF AMS AMS 18 47 22.7
comp=Z,2µm,18.8s,MS5.3
LUBP Lubang 71.96 268 *e*P P 18 11 25.7 -1.8
AAK Ala-Archa 71.96 320 P P 18 11 28.0 +0.9
SNR=124
ABA1 Baconsthorpe 72.00 11⇑ *e*P P 18 11 27.8 +0.6
OTRP Odiongan 72.02 266 *e*P P 18 11 28.1 +0.2
AWI1 Witton 72.09 11⇑ *e*P P 18 11 28.4 +0.7
MSLP Maasin 72.16 262 *e*P P 18 11 27.9 -0.8
EKS2 Erkin-Say 72.21 320 P P 18 11 29.4 +0.8
SNR=178
AEU East Anglia Un 72.28 11⇑ *e*P P 18 11 28.7 -0.2
MCH1 Michaelchurch 72.37 14⇑ *i*P P 18 11 29.4 0.0
MCH1 AMb AMB 18 11 31.7
comp=Z,590nm,1.4s,mb6.3
MCH1 AMS AMS 18 42 55.0
comp=Z,17µm,22.3s,MS6.3
MASC Masc 72.42 80 *e*P P 18 11 29.7 -0.5
SJMP San Jose 72.47 267 *e*P P 18 11 30.1 -0.5
GKP Gorka Klasztor 72.55 1 *e*P P 18 11 30.5 0.0
GKP *e*PcP PcP 18 11 45.5 -2.5
GKP LMZ 18 38 40.0
comp=Z,21µm,29.2s
PPT Papeete 72.57 168 *e*P P 18 11 30.9 0.0
comp=Z,157nm,1.7s,mb5.7
PPT *e*S S 18 20 50.9 -1.2
comp=Z,72µm,28.0s
PPT *e*SS SS 18 25 31.0 -1.3
comp=Z,9µm,32.5s
PPT *e*LR LR 18 33 39.9
comp=Z,58µm,23.5s,baz=350
PPT Papeete 72.57 168 LR LR 18 36 30.7
comp=Z,22µm,20.8s,MS6.4,baz=75,slow=30
PPT Papeete 72.57 168 *e*P P 18 11 30.9 0.0
comp=Z,157nm,1.7s,mb5.7
PPT *e*S S 18 20 50.9 -1.2
PPT *e*SS SS 18 25 31.0 -1.3
TIAR Tiarei 72.59 168 *e*P P 18 11 30.8 -0.2
comp=Z,2µm,1.2s,mb6.8
PAE Paea 72.66 168 *e*P P 18 11 31.2 -0.3
comp=Z,1µm,1.3s,mb6.6
PAE Paea 72.66 168 *e*P P 18 11 31.2 -0.3
PAE pmax pmax
comp=Z,1µm,1.3s,mb6.6
AML Almayashu 72.69 320 P P 18 11 32.9 +1.4
SNR=54
TVO Taravao 72.82 168 *e*P P 18 11 32.5 +0.1
comp=Z,982nm,1.0s,mb6.7
TVO Taravao 72.82 168 *e*P P 18 11 32.5 +0.1
TVO pmax pmax
comp=Z,982nm,1.0s,mb6.7
VRHR Novokhopersk 72.93 345 *e*P P 18 11 31.5 -1.3
VRHR *e*S S 18 20 55.9 +0.3
VRHR pmax pmax
comp=Z,500nm,1.2s,mb6.3
VRHR pmax pmax
comp=N,730nm,1.8s
VRHR pmax pmax
comp=E,200nm,0.9s
VRHR smax
comp=N,1µm,5.7s
VRHR smax
comp=Z,530nm,4.9s
VRHR smax
comp=E,900nm,3.7s
VRHR MLR MLR
comp=Z,17µm,23.0s,MS6.3
VRHR MLR MLR
comp=N,15µm,22.0s
VRHR MLR MLR
comp=E,4µm,28.0s
KMI Kunming 72.98 289 P P 18 11 33.2 -0.3
KMI AP pP 18 11 47.2 +0.7
KMI PP PP 18 14 14.5 -1.5
KMI LR LR
comp=N,10µm,17.3s,MS6.3
KMI LR LR
comp=E,11µm,18.8s,MS6.3
KMI LR LR
comp=Z,15µm,20.4s,MS6.3
KMI Kunming 72.98 289 P P 18 11 33.2 -0.3
KMI *SP sP 18 11 52.3 +0.8
KMI 18 14 14.5
KMI PPP 18 15 57.9
KMI S S 18 20 56.7 -0.3
KMI SS SS 18 25 38.5 +0.9
KMI SSS 18 28 47.9
KMI MLR MLR
comp=Z,15µm,20.4s,MS6.3
KMI Kunming 72.98 289 P P 18 11 33.2 -0.3
KMI pP pP 18 11 47.2 +0.7
KMI sP sP 18 11 52.3 +0.8
KMI PP PP 18 14 14.5 -1.5
KMI PPP 18 15 57.9
KMI S S 18 20 56.7 -0.3
KMI sS sS 18 21 17.5 -1.2
KMI SS SS 18 25 38.5 +0.9
KMI SSS 18 28 47.9
KMI LR LR
comp=Z,15µm,20.4s,MS6.3
SWN1 Swindon 73.00 13⇑ *i*P P 18 11 33.8 +0.6
SWN1 AMb AMB 18 11 35.9
comp=Z,882nm,1.2s,mb6.6
SWN1 AMS AMS 18 49 16.9
comp=Z,19µm,18.5s,MS6.4
KK31 Karatay Array 73.01 323 *i* P P 18 11 33.0 -0.4
KK31 pmax pmax
comp=Z,539nm,1.4s,mb6.3
KK31 Karatay Array 73.01 323 *i* P P 18 11 33.1 -0.3
NRDL Niedersach Rie 73.12 5 *e*P P 18 11 34.3 +0.4
comp=Z,442nm,1.2s,mb6.3
HTL Hartland 73.13 15⇑ *i*P P 18 11 33.8 -0.2
HTL AMb AMB 18 11 36.4
comp=Z,495nm,1.2s,mb6.3
HTL AMS AMS 18 44 25.9
comp=Z,16µm,20.3s,MS6.3
HEX Exmoor 73.16 14⇑ *i*P P 18 11 34.1 0.0
IBBN Ibbenburen 73.16 7 *e*P P 18 11 34.7 +0.6
comp=Z,610nm,1.1s,mb6.4
IBBN *e*S S 18 20 59.0 +0.8
VSR Storozhevoye 73.17 346 *e*P P 18 11 33.2 -1.0
VSR *e*S S 18 20 58.5 +0.2
VSR pmax pmax
comp=Z,270nm,1.3s,mb6.0
VSR pmax pmax
comp=N,340nm,1.2s
VSR pmax pmax
comp=E,60nm,1.0s
VSR smax
comp=N,190nm,3.2s
VSR smax
comp=Z,20nm,2.1s
VSR smax
comp=E,70nm,1.3s
VSR MLR MLR
comp=N,12µm,21.0s,MS6.2
VSR MLR MLR
comp=E,8µm,22.0s,MS6.2
VSR MLR MLR
comp=Z,9µm,22.0s,MS6.0
WOL Wolverton 73.27 13⇑ *i*P P 18 11 35.1 +0.3
WOL AMb AMB 18 11 37.3
comp=Z,1µm,1.2s,mb6.6
RUE Ruedersdorf 73.28 3 *e*P P 18 11 35.3 +0.5
comp=Z,893nm,1.2s,mb6.6
RUE Ruedersdorf 73.28 3⇑ *i*P P 18 11 35.0 +0.1
comp=Z,887nm,1.3s,mb6.5
BUSP Coron 73.37 267 *e*P P 18 11 35.3 -0.6
WTSB Winterswijk 73.44 7 *e*P P 18 11 36.0 +0.3
comp=Z,570nm,1.6s,mb6.2
WTSB Winterswijk 73.44 7 *e*pP pP 18 11 50.8 +2.1
WAR Warsaw 73.56 358 *e*P P 18 11 37.2 +0.7
WAR *e*PcP PcP 18 11 52.3 +0.1
WAR LMZ 18 41 03.5
comp=Z,21µm,26.0s
CSA1 St Austell 73.70 15⇑ *i*P P 18 11 37.5 +0.2
TFO1 Folkestone 73.75 11⇑ *i*P P 18 11 37.5 -0.1
TFO1 AMb AMB 18 11 40.5
comp=Z,739nm,1.3s,mb6.5
TFO1 AMS AMS 18 45 37.7
comp=Z,15µm,22.6s,MS6.2
DYA Yadsworthy 73.76 15⇑ *i*P P 18 11 37.5 -0.2
DYA AMb AMB 18 11 39.8
comp=Z,509nm,1.3s,mb6.3
DYA AMS AMS 18 48 28.0
comp=Z,3µm,21.8s,MS5.5
CLZ Clausthal 73.78 5 *e*P P 18 11 38.6 +0.8
CLZ *e**PP pP 18 11 51.9 +1.1
CLZ *e*S S 18 21 04.0 -1.3
CLZ pmax pmax
comp=Z,730nm,1.2s,mb6.5
CLZ Clausthal 73.78 5 *e*P P 18 11 38.6 +0.8
comp=Z,730nm,1.2s,mb6.5
CLZ *e*pP pP 18 11 51.9 +1.1
CLZ *e*S S 18 21 04.0 -1.3
QIZ Qiongzhong 73.80 280 P P 18 11 37.9 -0.5
QIZ AP pP 18 11 49.4 -2.0
QIZ XP sP 18 11 54.3 -2.1
QIZ PP PP 18 14 21.5 -1.6
QIZ AMB AMB
comp=Z,4µm,6.6s
QIZ LR LR
comp=E,8µm,20.5s
QIZ LR LR
comp=Z,12µm,23.6s,MS6.1
CCA1 Carnmenellis 73.81 15⇑ *i*P P 18 11 37.9 -0.1
CUYO Cuyo Island 73.81 266 *e*P P 18 11 38.1 -0.4
BUKP Musuan 73.87 261 *e*P P 18 11 39.5 +0.7
CMA1 Manaccan 73.92 15⇑ *i*P P 18 11 38.8 +0.2
BUG Bochum--Univer 73.99 7 *e*P P 18 11 39.1 +0.1
comp=Z,547nm,1.1s,mb6.4
BUG *e*S S 18 21 05.3 -2.3
KSH Kashi 74.07 317⇑ *i*P P 18 11 41.0 +1.3
KSH *e*AP pP 18 11 54.1 +1.4
KSH *e*PCP PcP 18 11 56.4 +1.7
KSH *e*PP PP 18 14 27.8 +3.1
KSH *e*S S 18 21 07.4 -1.4
KSH *e*XS sS 18 21 30.0 -0.6
KSH *e*SS SS 18 25 54.5 +1.3
KSH LR LR
comp=N,5µm,6.1s
KSH LR LR
comp=E,15µm,10.2s
KSH LR LR
comp=Z,18µm,15.4s
DAV Davao City (W) 74.22 260⇑ *i*P P 18 11 35.7 -5.2
UCC Uccle 74.39 9 P P 18 11 40.6 -0.7
comp=Z,184nm,2.2s,mb5.6
MENF Mencas 74.41 11 *e*P P 18 11 41.2 -0.3
CLL Collm 74.43 3⇑ *i*P P 18 11 41.6 0.0
CLL *e**PP pP 18 11 54.0 -0.6
CLL pmax pmax
comp=Z,700nm,1.6s,mb6.3
CLL MLR MLR
comp=Z,11µm,21.4s,MS6.1
CLL Collm 74.43 3 *e*P P 18 11 41.6 0.0
comp=Z,712nm,1.6s,mb6.3

CLL eS S 18 21 09.8 -2.7
CLL Collm 74.43 3⇑ *i*P **P 18 11 41.6 0.0**
comp=Z,700nm,1.6s,mb6.3
CLL epP pP 18 11 53.0 -1.6
CLL ePP PP 18 14 34.0 +6.6
CLL eS S 18 21 18.0 +5.5
CLL e(PPS) 18 22 17.0
CLL eSS SS 18 26 21.0 +23
CLL eSSS 18 29 30.0
CLL ex x 18 30 15.0
CLL eSSSS 18 31 36.0
CLL Collm 74.43 3⇑ *i*P **P 18 11 41.6 0.0**
comp=Z,700nm,1.6s,mb6.3
CLL epP pP 18 11 54.0 -0.6
CLL LR LR
comp=Z,11µm,21.4s,MS6.1
ENPP El Nido 74.46 267 *e*P **P 18 11 42.0 -0.2**
BEBN Eben Emael 74.51 8 P **P 18 11 42.2 +0.2**
HGN Heimansgroeve 74.56 8⇑ *i*P **P 18 11 42.6 +0.3**
HGN Heimansgroeve 74.56 8⇑ *e*P **P 18 11 42.6 +0.2**
comp=Z,564nm,1.6s,mb6.2
HGN Heimansgroeve 74.56 8 epP pP 18 11 57.7 +2.3
HGN Heimansgroeve 74.56 8 eS S 18 21 16.0 +2.0
SNF Seneffe 74.67 9 P **P 18 11 42.9 -0.1**
comp=Z,191nm,1.7s,mb5.8
MEM Membach 74.72 8 P **P 18 11 43.5 +0.2**
comp=Z,204nm,1.4s,mb5.9
AKASG Malin Array Be 74.72 353 P **P 18 11 42.5 -0.8**
comp=Z,194nm,0.6s,mb6.2,baz=6.9,slow=5.5,SNR=371
AKASG PKPPKP 18 39 10.8
comp=Z,0.6nm,0.5s,baz=194,slow=1.2,SNR=5.0
AKASG LR LR 18 50 13.3
comp=Z,23µm,19.1s,MS6.5,baz=0.0,slow=40
AKASG Malin Array Be 74.72 353 P **P 18 11 42.5 -0.7**
AKASG P'P' 18 39 10.8
AKASG LR LR 18 50 13.3
AKBB Malin Array Si 74.72 353⇑ *i*P **P 18 11 42.5 -0.8**
KIEV Kiev 74.73 353⇑ *i*P **P 18 11 42.3 -1.0**
KIEV eS S 18 21 11.2 -4.7
KIEV pmax pmax
comp=Z,2µm,1.4s,mb6.8
KIEV MLR MLR
comp=Z,26µm,22.0s,MS6.5
KIEV Kiev 74.73 353⇑ *i*P **P 18 11 42.2 -1.1**
comp=Z,2µm,1.4s,mb6.8
KIEV eS S 18 21 11.2 -4.8
KIEV LR LR
comp=Z,26µm,22.0s,MS6.5
UBBA Unterbreizbach 74.79 5 *e*P **P 18 11 43.9 +0.3**
comp=Z,508nm,1.8s,mb6.2
UBBA eS S 18 21 12.0 -4.5
FBE Freiberg 74.83 3 *e*P **P 18 11 44.3 +0.4**
comp=Z,813nm,1.3s,mb6.5
BCLA Clavier 74.85 9 P **P 18 11 44.0 0.0**
comp=Z,168nm,1.6s,mb5.7
PAGZ Pagadian 74.86 262 *e*P **P 18 11 45.4 +0.8**
BRG Berggiesshubel 74.89 3 *e*P **P 18 11 44.5 +0.2**
comp=Z,405nm,1.2s,mb6.2
BRG Berggiesshubel 74.89 3⇑ *i*P **P 18 11 44.5 +0.2**
comp=Z,670nm,1.6s,mb6.3
BRG *i* pP pP 18 11 55.8 -1.5
comp=Z,646nm,2.0s
BRG *e* 18 12 11.8
comp=Z,296nm,1.6s
BRG SS SS 18 26 34.0 +29
BRG P'P' 18 39 12.0
BRG Berggiesshubel 74.89 3 S S 18 21 20.0 +2.3
BRG SS SS 18 26 34.0 +29
BRG PKPPKP 18 39 12.0
comp=Z,16nm,1.8s
BRG Berggiesshubel 74.89 3 S S 18 21 20.0 +2.3
KSP Ksiaz 74.97 1 *i*P **P 18 11 45.0 +0.3**
KSP eS S 18 21 22.9 +4.3
KSP LMZ 18 51 52.0
comp=Z,31µm,20.3s
KSP Ksiaz 74.97 1⇑ *e*P **P 18 11 44.7 0.0**
KSP eS S 18 21 11.5 -7.1
KSP *e* 18 21 44.5
KSP MLR MLR
comp=Z,36µm,20.3s,MS6.7
KSP Ksiaz 74.97 1⇑ *e*P **P 18 11 44.7 0.0**
KSP eS S 18 21 11.5 -7.1
KSP eSKS 18 21 44.5
KSP eSS SS 18 26 02.0 -4.3
KSP LR LR
comp=Z,36µm,20.3s,MS6.7
MOX Moxa 75.04 4⇑ *i*P **P 18 11 45.2 +0.1**
comp=Z,1µm,1.6s,mb6.6
MOX
comp=Z,6µm,20.0s
MOX Moxa 75.04 4⇑ *i*P **P 18 11 45.2 +0.1**
MOX pmax pmax
comp=Z,1µm,1.6s,mb6.6
MOX MLR MLR
comp=Z,6µm,20.0s,MS5.9
MOX Moxa 75.04 4 *e*P **P 18 11 45.5 +0.4**
comp=Z,534nm,1.1s,mb6.4
MOX eS S 18 21 20.8 +1.5
DOU Dourbes 75.11 9 P **P 18 11 45.2 -0.3**
comp=Z,145nm,1.8s,mb5.6
BAIF Baives 75.11 9⇑ *i*P **P 18 11 45.7 +0.2**
comp=Z,576nm,1.1s,mb6.1
BAIF Baives 75.11 9⇑ *i*P **P 18 11 45.7 +0.2**
BAIF pmax pmax
comp=Z,288nm,1.1s,mb6.1
BAIF Baives 75.11 9⇑ *i*P **P 18 11 45.7 +0.2**
comp=Z,288nm,1.1s,mb6.1
GIVF Givet 75.12 9⇑ *i*P **P 18 11 45.6 0.0**
comp=Z,1µm,1.7s,mb6.3
GIVF Givet 75.12 9⇑ *i*P **P 18 11 45.6 0.0**
GIVF pmax pmax
comp=Z,690nm,1.7s,mb6.3
GIVF Givet 75.12 9⇑ *i*P **P 18 11 45.6 0.0**
comp=Z,690nm,1.7s,mb6.3
JSA Saint Aubin 75.23 14⇑ *i*P **P 18 11 46.0 -0.2**
JSA AMb AMB 18 11 48.4
comp=Z,639nm,1.2s,mb6.4
PVCC Panska Ves 75.26 2 *i*P **P 18 11 47.3 +0.9**
PVCC eS S 18 21 22.1 +0.4
PVCC MLR MLR
comp=Z,15µm,16.6s,MS6.4
PVCC Panska Ves 75.26 2 *i*P **P 18 11 47.3 +0.9**
PVCC ex x 18 14 20.1
PVCC eS S 18 21 22.1 +0.4
PVCC ex x 18 26 52.7
PVCC ex x 18 30 24.4
PVCC AMS AMS 18 54 10.0
comp=Z,15µm,16.6s
WERD Werda 75.27 4 *e*P **P 18 11 46.9 +0.5**
comp=Z,1µm,2.3s,mb6.5
TNS Taunus Mts 75.29 6 *e*P **P 18 11 47.0 +0.5**
TNS eS S 18 21 23.1 +1.0
TNS pmax pmax
comp=Z,638nm,1.6s,mb6.3
TNS Taunus Mts 75.29 6 *e*P **P 18 11 47.0 +0.5**
comp=Z,638nm,1.6s,mb6.3
TNS eS S 18 21 23.1 +1.0
TANN Tannenbergstha 75.30 4 *e*P **P 18 11 47.2 +0.6**
comp=Z,618nm,1.6s,mb6.3
TANN eS S 18 21 24.5 +2.2
UPC Upice 75.31 1 *i*P **P 18 11 47.4 +0.8**
GUNZ Gunzen 75.35 4 *e*P **P 18 11 47.5 +0.6**
comp=Z,1µm,1.9s,mb6.4
IPIL Ipil 75.38 263 *e*P **P 18 11 46.4 -1.1**
LSA Lhasa 75.42 301⇑ *i*P **P 18 11 48.7 +1.1**
LSA eS S 18 21 24.3 +0.1
LSA pmax pmax
comp=Z,118nm,0.8s,mb5.9
LSA MLR MLR
comp=Z,40µm,19.0s,MS6.7
LSA Lhasa 75.42 301⇑ *i*P **P 18 11 48.7 +1.0**
comp=Z,118nm,0.8s,mb5.9
LSA eS S 18 21 24.2 +0.1
LSA LR LR
comp=Z,40µm,19.0s,MS6.7
WERN Wernitzgruen 75.43 4 *e*P **P 18 11 48.0 +0.7**
comp=Z,826nm,1.6s,mb6.4
RAR Rarotonga 75.46 178 P **P 18 11 46.6 -1.1**
RAR pmax pmax
comp=Z,386nm,1.6s
RAR Rarotonga 75.46 178 P **P 18 11 46.6 -1.1**
comp=Z,386nm,1.6s,mb6.1
DPC Dobruska-Polom 75.47 1 *i*P **P 18 11 48.6 +1.0**
DPC eS S 18 21 27.0 +2.9
DPC MLR MLR
comp=Z,17µm,20.0s,MS6.4
DPC Dobruska-Polom 75.47 1 *i*P **P 18 11 48.6 +1.0**
DPC *e*x x 18 14 18.8
DPC eS S 18 21 27.0 +2.9
DPC ex x 18 26 48.9
DPC ex x 18 30 40.0
DPC AMS AMS 18 51 50.0
comp=Z,17µm,20.0s
NKC Novy Kostel 75.48 4 *i*P **P 18 11 48.4 +0.7**
NKC eS S 18 21 26.4 +2.1
NKC MLR MLR
comp=Z,11µm,17.8s,MS6.2
NKC Novy Kostel 75.48 4 *i*P **P 18 11 48.4 +0.7**
NKC ex x 18 14 21.0
NKC eS S 18 21 26.4 +2.1
NKC ex x 18 26 55.6
NKC ex x 18 30 26.7
NKC AMS AMS 18 55 30.0
comp=Z,11µm,17.8s
NKC Novy Kostel 75.48 4 *i*P **P 18 11 48.4 +0.7**
NKC ePP PP 18 14 21.0 -15
NKC eS S 18 21 26.4 +2.1
NKC eSS SS 18 26 55.6 +42
NKC *e* 18 30 26.7
ABH Alteburg 75.56 7 *e*P **P 18 11 48.4 +0.3**
OJC Ojcow 75.60 359 *i*P **P 18 11 48.5 +0.2**
OJC ePcP PcP 18 12 03.5 +2.4
OJC ePP PP 18 14 41.7 +4.4
OJC eS S 18 21 23.4 -2.2
OJC L 18 46 02.7
comp=Z,16nm,21.4s
WLF Walferdange 75.67 8 P **P 18 11 49.2 +0.5**
WLF Walferdange 75.67 8⇑ *i*P **P 18 11 49.2 +0.5**
WLF pmax pmax
comp=Z,373nm,1.1s,mb6.2
WLF Walferdange 75.67 8 *e*P **P 18 11 49.5 +0.8**
comp=Z,489nm,1.2s,mb6.3
WLF eS S 18 21 29.1 +2.7
WLF Walferdange 75.67 8⇑ *i*P **P 18 11 49.2 +0.5**
comp=Z,373nm,1.1s,mb6.2
RUP Ruppelstein 75.71 7 *e*P **P 18 11 48.8 -0.1**
MANZ Manzenberg 75.72 4 *e*P **P 18 11 49.4 +0.4**
comp=Z,561nm,1.7s,mb6.2
RAC Raciborz 75.75 0 *e*P **P 18 11 49.6 +0.4**
RAC *e* 18 14 38.3
RAC eS S 18 21 29.1 +1.9
RAC MLR MLR
comp=N,13µm,18.0s,MS6.5
RAC MLR MLR
comp=E,15µm,18.0s,MS6.5
RAC MLR MLR
comp=Z,14µm,18.0s,MS6.3
RAC Raciborz 75.75 0 *e*P **P 18 11 49.6 +0.4**
RAC ePP PP 18 14 38.3 -0.3
RAC eS S 18 21 29.1 +1.9
RAC LR LR
comp=Z,14µm,18.0s,MS6.3
PRU Pruhonice 75.80 2 *i*P **P 18 11 50.1 +0.7**
PRU eS S 18 21 30.0 +2.3
PRU MLR MLR
comp=Z,17µm,19.1s,MS6.4
PRU Pruhonice 75.80 2 *i*P **P 18 11 50.1 +0.7**
PRU *e*x x 18 14 22.0
PRU eS S 18 21 30.0 +2.3
PRU *e*x x 18 26 55.5
PRU *e*x x 18 30 30.1
PRU AMS AMS 18 52 30.0
comp=Z,17µm,19.1s
FLN La Foliniere 75.87 13⇑ *i*P **P 18 11 49.6 -0.3**
comp=Z,601nm,1.3s,mb6.1
FLN eMLR MLR
comp=Z,24µm,19.0s,MS6.2
FLN La Foliniere 75.87 13⇑ *i*P **P 18 11 49.6 -0.3**
FLN pmax pmax
comp=Z,300nm,1.3s,mb6.1
FLN MLR MLR
comp=Z,24µm,19.0s,MS6.5
FLN La Foliniere 75.87 13⇑ *i*P **P 18 11 49.6 -0.3**
comp=Z,300nm,1.3s,mb6.1
FLN LR LR
comp=Z,24µm,19.0s,MS6.5
LVV L'vov 75.90 356⇓ *i*P **P 18 11 50.3 +0.3**
LVV *e* pP 18 12 05.3 +2.2
LVV *e* 18 14 50.1
LVV eS S 18 21 30.1 +1.3
LVV MLR MLR
comp=N,1µm,19.0s,MS5.5
LVV MLR MLR
comp=E,2µm,17.0s,MS5.5
LVV MLR MLR
comp=Z,4µm,17.0s,MS5.8
ROSF Rostrenen 75.90 15⇑ *i*P **P 18 11 50.3 +0.2**
comp=Z,891nm,1.4s,mb6.2
ROSF Rostrenen 75.90 15⇑ *i*P **P 18 11 50.3 +0.2**
ROSF pmax pmax
comp=Z,445nm,1.4s,mb6.2
ROSF Rostrenen 75.90 15⇑ *i*P **P 18 11 50.3 +0.2**
comp=Z,446nm,1.4s,mb6.2
TOD Tromm 75.92 6 *e*P **P 18 11 50.4 +0.2**
ROTZ Rotzenmuhle 75.94 4 *e*P **P 18 11 51.1 +0.8**
comp=Z,711nm,1.6s,mb6.3
ROTZ eS S 18 21 33.0 +3.7
GRA1 Grafenberg Arr 75.97 5 *e*P **P 18 11 51.2 +0.7**
comp=Z,989nm,1.7s,mb6.5
GRA1 ePP PP 18 14 45.6 +5.1
GRA1 eS S 18 21 33.4 +3.7
GRA1 eSS SS 18 26 22.2 +0.8
GRA1 eP'P' 18 39 23.5
GRA1 LR LR
comp=Z,7µm,21.2s,MS6.0
GRF Grafenberg Arr 75.97 5 *e*P **P 18 11 51.2 +0.7**
GRF *e* 18 14 45.6
GRF eS S 18 21 33.4 +3.7
GRF eSS SS 18 26 22.2 +0.8
GRF pmax pmax
comp=Z,989nm,1.7s,mb6.5
GRF Grafenberg Arr 75.97 5 *e*P **P 18 11 51.2 +0.7**
GRF *e* 18 14 45.6
GRF eS S 18 21 33.4 +3.7
GRF eSS SS 18 26 22.2 +0.8
GRF pmax pmax
comp=Z,989nm,1.7s,mb6.5
GRF MLR MLR
comp=Z,7µm,21.2s,MS6.0
GRF Grafenberg Arr 75.97 5 *e*P **P 18 11 51.2 +0.7**
comp=Z,989nm,1.7s,mb6.5
GRF ePP PP 18 14 45.6 +5.1
GRF eS S 18 21 33.4 +3.7
GRF eSS SS 18 26 22.2 +0.8
GRF ePKPPKPdf 18 39 23.5
GRF eL 18 47 39.5
comp=Z,7µm,21.2s
GRF Grafenberg Arr 75.97 5 *e*P **P 18 11 51.2 +0.7**
comp=Z,989nm,1.7s,mb6.5
GRF ePP PP 18 14 45.6 +5.1
GRF eS S 18 21 33.4 +3.7
GRF eSS SS 18 26 22.2 +0.8
OKC Ostrava-Krasne 75.99 0 *i*P **P 18 11 51.4 +0.8**
OKC eS S 18 21 34.7 +4.8
OKC MLR MLR
comp=Z,10µm,18.5s,MS6.1
OKC Ostrava-Krasne 75.99 0 *i*P **P 18 11 51.4 +0.8**
OKC ePP PP 18 14 32.6 -8.0
OKC eS S 18 21 34.7 +4.8
OKC eSS SS 18 27 00.0 +38
OKC ePKKP PKKPbc 18 30 51.1 -12
OKC AMS AMS 18 51 30.0
comp=Z,10µm,18.5s
OKC Ostrava-Krasne 75.99 0 *i*P **P 18 11 51.4 +0.8**
OKC ePP PP 18 14 32.6 -8.0
OKC eS S 18 21 34.7 +4.8
OKC eSS SS 18 27 00.0 +38
OKC *e* 18 30 51.1
PPR Puerto Princes 76.01 267 *e*P **P 18 11 52.7 +1.5**
MORC Moravsky Berou 76.05 0⇑ *i*P **P 18 11 51.2 +0.3**
MORC Moravsky Berou 76.05 0⇑ *i*P **P 18 11 51.2 +0.3**
comp=Z,231nm,1.0s,mb6.1
LDF La Druitiere 76.08 12⇑ *i*P **P 18 11 50.8 -0.3**
comp=Z,808nm,1.3s,mb6.2
LDF La Druitiere 76.08 12⇑ *i*P **P 18 11 50.8 -0.3**
LDF pmax pmax
comp=Z,404nm,1.3s,mb6.2
LDF La Druitiere 76.08 12⇑ *i*P **P 18 11 50.8 -0.3**
comp=Z,404nm,1.3s,mb6.2
SGMF Saint Gilles 76.09 14⇑ *i*P **P 18 11 51.2 +0.1**
comp=Z,884nm,1.3s,mb6.2
SGMF Saint Gilles 76.09 14⇑ *i*P **P 18 11 51.2 +0.1**
SGMF pmax pmax
comp=Z,442nm,1.3s,mb6.2
SGMF Saint Gilles 76.09 14⇑ *i*P **P 18 11 51.2 +0.1**
comp=Z,442nm,1.3s,mb6.2
KWP Kalwaria 76.13 357 *i*P **P 18 11 52.2 +0.8**
KWP LMZ 18 43 31.1
comp=Z,24µm,24.9s
KWP Kalwaria 76.13 357⇑ *i*P **P 18 11 51.8 +0.4**
KWP pmax pmax
comp=Z,1µm,1.2s,mb6.6
KWP MLR MLR
comp=Z,16µm,20.0s,MS6.3
KWP Kalwaria 76.13 357⇑ *i*P **P 18 11 51.9 +0.5**
KWP Kalwaria 76.13 357⇑ *i*P **P 18 11 51.8 +0.4**
comp=Z,1µm,1.2s,mb6.6
KWP LR LR
comp=Z,16µm,20.0s,MS6.3
KTD Kalmit 76.16 7 *e*P **P 18 11 52.1 +0.6**
GRR Gorron 76.19 13⇑ *i*P **P 18 11 51.7 0.0**
comp=Z,307nm,1.0s,mb5.9
GRR Gorron 76.19 13⇑ *i*P **P 18 11 51.7 0.0**
GRR pmax pmax
comp=Z,153nm,1.0s,mb5.9
GRR Gorron 76.19 13⇑ *i*P **P 18 11 51.7 0.0**
comp=Z,153nm,1.0s,mb5.9
QUIF Quistinic 76.33 15⇑ *i*P **P 18 11 52.6 +0.1**
comp=Z,693nm,1.4s,mb6.1
QUIF Quistinic 76.33 15⇑ *i*P **P 18 11 52.6 +0.1**
QUIF pmax pmax
comp=Z,346nm,1.4s,mb6.1
QUIF Quistinic 76.33 15⇑ *i*P **P 18 11 52.6 +0.1**
comp=Z,346nm,1.4s,mb6.1
STHS Stebnicka Huta 76.38 358 *i*P **P 18 11 53.9 +1.1**
STHS pmax pmax
comp=Z,283nm,0.8s,mb6.2
STHS Stebnicka Huta 76.38 358 *i*P **P 18 11 53.9 +1.1**
comp=Z,283nm,0.8s,mb6.2
NIE Niedzica 76.40 359 *e*P **P 18 11 53.6 +0.7**
LANF Langenberg 76.48 7 *e*P **P 18 11 53.8 +0.5**
TREC Trest 76.51 2 *i*P **P 18 11 54.2 +0.7**
TREC eS S 18 21 36.9 +1.3
TREC MLR MLR
comp=Z,16µm,21.1s,MS6.3
TREC Trest 76.51 2 *i*P **P 18 11 54.2 +0.7**
TREC *e*x x 18 14 32.0
TREC eS S 18 21 36.9 +1.3
TREC *e*x x 18 27 10.5
TREC ePKKP PKKPbc 18 30 44.6 -18
TREC AMS AMS 18 53 10.0
comp=Z,16µm,21.1s
VRAC Vranov 76.51 1⇑ *i*P **P 18 11 54.1 +0.6**
VRAC Vranov 76.51 1 P **P 18 11 54.0 +0.5**
WET Wettzell 76.59 4 *e*P **P 18 11 54.7 +0.7**
WET eS S 18 21 39.4 +2.9
WET pmax pmax
comp=Z,634nm,1.6s,mb6.3
WET Wettzell 76.59 4 *e*P **P 18 11 54.7 +0.7**
comp=Z,634nm,1.6s,mb6.3
WET eS S 18 21 39.4 +2.9
KHC Kasperske Hory 76.63 3 *i*P **P 18 11 55.3 +1.1**
KHC *e* pP 18 12 07.5 +0.3
KHC eS S 18 21 39.3 +2.4
KHC MLR MLR
comp=Z,11µm,18.7s,MS6.2
KHC Kasperske Hory 76.63 3 *i*P **P 18 11 55.3 +1.1**
KHC epP pP 18 12 07.5 +0.3
KHC *e*x x 18 12 35.0
KHC *e*x x 18 14 29.8
KHC eS S 18 21 39.3 +2.4
KHC *e*x x 18 26 57.3
KHC ePKKP PKKPbc 18 30 45.3 -17
KHC AMS AMS 18 53 00.0
comp=Z,11µm,18.7s
MEZF Maizieres J'vi 76.73 9⇑ *i*P **P 18 11 55.0 +0.2**
comp=Z,1µm,1.7s,mb6.3
MEZF Maizieres J'vi 76.73 9⇑ *i*P **P 18 11 55.0 +0.2**
comp=Z,1µm,1.7s,mb6.6
PMG Port Moresby 76.74 232⇑ *e*P **P 18 11 54.1 -1.1**
PMG pmax pmax
comp=Z,211nm,1.0s
PMG Port Moresby 76.74 232⇑ *e*P **P 18 11 54.1 -1.1**
comp=Z,211nm,1.0s,mb6.0
STU Stuttgart 76.78 6⇑ *i*P **P 18 11 55.2 +0.2**
STU pmax pmax
comp=Z,273nm,1.1s,mb6.1
STU Stuttgart 76.78 6 *e*P **P 18 11 55.4 +0.4**
comp=Z,603nm,1.6s,mb6.3
STU eS S 18 21 41.2 +2.7
STU Stuttgart 76.78 6⇑ *i*P **P 18 11 55.2 +0.1**
comp=Z,273nm,1.1s,mb6.1
KOLS Kolonicke sedl 76.84 357 *i*P **P 18 11 56.1 +0.7**
KOLS *i* S S 18 21 32.2 -7.0
KOLS Kolonicke sedl 76.84 357 *i*P **P 18 11 56.1 +0.7**
KOLS *i* S S 18 21 32.2 -7.0
KOLS eSS SS 18 27 01.0 +26
STR Strasbourg 76.87 7 *e*P **P 18 11 56.5 +0.9**
CRVS Cervenica-Dubn 76.89 358 *i*P **P 18 11 56.3 +0.6**
CRVS *i* S S 18 21 37.9 -1.9
CRVS Cervenica-Dubn 76.89 358 *i*P **P 18 11 56.3 +0.6**
CRVS *i* S S 18 21 37.9 -1.9
CRVS *i* SS SS 18 27 07.4 +32
GEC2 GERESS Array S 76.92 3 *e*P **P 18 11 56.3 +0.5**
GEC2 pmax pmax
comp=Z,537nm,1.6s,mb6.2
GEC2 GERESS Array S 76.92 3 *e*P **P 18 11 56.3 +0.5**
comp=Z,537nm,1.6s,mb6.2
GERES GERESS Array B 76.92 3 P **P 18 11 56.1 +0.3**
comp=Z,55nm,0.7s,mb5.6,baz=2.9,slow=2.7,SNR=265
GERES PKKPbc PKKPbc 18 31 00.7 -0.8
comp=Z,0.4nm,0.6s,baz=194,slow=2.8,SNR=4.1
GERES PKPPKP 18 39 02.7
comp=Z,1.4nm,1.0s,baz=197,slow=4.2,SNR=4.0
CDF Champ du Feu 77.00 7⇑ *i*P **P 18 11 56.5 +0.2**
comp=Z,1µm,1.6s,mb6.2
CDF Champ du Feu 77.00 7⇑ *i*P **P 18 11 56.5 +0.2**
CDF pmax pmax
comp=Z,524nm,1.6s,mb6.2
CDF Champ du Feu 77.00 7⇑ *i*P **P 18 11 56.5 +0.2**
comp=Z,524nm,1.6s,mb6.2
THEF They Montfort 77.09 8 *e*P **P 18 11 57.2 +0.4**
UZH Uzhgorod 77.14 357 *e*P **P 18 11 57.0 -0.1**
UZH *i* pP 18 12 10.6 +0.4
UZH *e* 18 14 59.0
UZH eS S 18 21 41.0 -1.5
UZH eSS SS 18 26 42.0 +2.9
UZH MLR MLR
comp=N,6µm,20.0s,MS6.0
UZH MLR MLR
comp=E,5µm,20.0s,MS6.0
UZH MLR MLR
comp=Z,7µm,20.0s,MS6.0
BFO Black Forest 77.16 7 P **P 18 11 57.2 0.0**
comp=Z,814nm,1.1s,mb6.6,SNR=47
BFO Black Forest 77.16 7 *e*P **P 18 11 57.5 +0.3**
comp=Z,513nm,1.6s,mb6.2
BFO eS S 18 21 44.0 +1.3
BFO Black Forest 77.16 7 *e*P **P 18 11 57.5 +0.3**
comp=Z,513nm,1.6s,mb6.2
BFO eS S 18 21 44.0 +1.3
BFO LR LR
comp=Z,15µm,19.0s,MS6.3
ECH Echery 77.19 8 *e*P **P 18 11 57.7 +0.3**
KOLL Kolacno 77.25 360 *i*P **P 18 11 58.2 +0.5**
LIBD Limburg 77.29 7 *e*P **P 18 11 57.9 0.0**
BATP Bataraza 77.33 267 *e*P **P 18 11 58.6 0.0**
HAU Haudompre 77.34 8⇑ *i*P **P 18 11 58.2 0.0**
comp=Z,414nm,1.1s,mb6.0
HAU *e*MLR MLR
comp=Z,15µm,18.2s,MS6.0
HAU Haudompre 77.34 8⇑ *i*P **P 18 11 58.2 0.0**
HAU pmax pmax
comp=Z,207nm,1.1s,mb6.0
HAU MLR MLR
comp=Z,15µm,18.3s,MS6.3
HAU Haudompre 77.34 8⇑ *i*P **P 18 11 58.2 0.0**
comp=Z,207nm,1.1s,mb6.0
HAU LR LR
comp=Z,15µm,18.3s,MS6.3
VYHS Vyhne 77.34 360 *i*P **P 18 11 58.9 +0.7**
VYHS *e* 18 14 54.0
VYHS eS S 18 21 42.7 -1.9
VYHS Vyhne 77.34 360 *i*P **P 18 11 58.9 +0.7**

VYHS *e*PP PP 18 14 54.0 +2.1
VYHS *e*S S 18 21 42.7 -1.9
VYHS *i* SS SS 18 27 10.9 +29
SPAK Spaichingen-Ko 77.42 6 *e*P **P 18 11 58.7 0.0**
MODS Modra-Piesok 77.46 1 *i* P **P 18 11 59.8 +1.0**
MODS pmax pmax
comp=Z,254nm,1.1s,mb6.1
MODS Modra-Piesok 77.46 1 *i* P **P 18 11 59.8 +1.0**
comp=Z,254nm,1.1s,mb6.1
MODS *e*PP PP 18 14 50.9 -2.0
MODS *i* S S 18 21 46.9 +1.0
MODS *i* SS SS 18 26 49.1 +5.3
FUR Furstenfeldbru 77.50 5 *e*P **P 18 11 59.7 +0.6**
FUR *e*S S 18 21 48.2 +1.8
FUR pmax pmax
comp=Z,2µm,1.9s,mb6.6
FUR Furstenfeldbru 77.50 5 *e*P **P 18 11 59.7 +0.6**
comp=Z,2µm,1.9s,mb6.6
FUR *e*S S 18 21 48.2 +1.8
MOF Molkenrain 77.55 8 *e*P **P 18 11 59.5 +0.1**
HINF Hinteralfeld 77.56 8⇑*i*P **P 18 11 59.4 -0.1**
comp=Z,1µm,1.6s,mb6.2
HINF Hinteralfeld 77.56 8⇑*i*P **P 18 11 59.4 -0.1**
HINF pmax pmax
comp=Z,508nm,1.6s,mb6.2
HINF Hinteralfeld 77.56 8⇑*i*P **P 18 11 59.4 -0.1**
comp=Z,508nm,1.6s,mb6.2
FELD Feldberg im Sc 77.59 7 *e*P **P 18 11 59.9 +0.3**
ZST Bratislava 77.63 1 *i* P **P 18 12 00.8 +1.0**
ZST pmax pmax
comp=Z,420nm,1.1s,mb6.3
ZST Bratislava 77.63 1 *i* P **P 18 12 00.8 +1.0**
comp=Z,420nm,1.1s,mb6.3
ZST *i* S S 18 21 44.5 -3.3
HYF Humbligny 77.71 11⇑*i*P **P 18 12 00.6 +0.3**
SLE Schleitheim 77.74 7⇑*i*P **P 18 12 00.3 -0.1**
comp=Z,557nm,1.5s,mb6.3
AGPR Aguadilla, PR 77.83 75⇑*i*P **P 18 12 00.6 -0.8**
LOR Lormes 77.84 10⇑*i*P **P 18 12 01.0 0.0**
comp=Z,518nm,1.2s,mb6.0
LOR *e*MLR MLR
comp=Z,23µm,21.0s,MS6.2
LOR Lormes 77.84 10⇑*i*P **P 18 12 01.0 0.0**
LOR pmax pmax
comp=Z,259nm,1.2s,mb6.0
LOR MLR MLR
comp=Z,23µm,21.0s,MS6.5
LOR Lormes 77.84 10⇑*i*P **P 18 12 01.0 0.0**
comp=Z,259nm,1.2s,mb6.0
LOR LR LR
comp=Z,23µm,21.0s,MS6.5
STEIN Stein am Rhein 77.86 6⇑*i*P **P 18 12 01.2 +0.1**
comp=Z,970nm,2.2s,mb6.3
CONA Conrad Observa 77.89 2 *i* P **P 18 12 02.0 +0.8**
comp=Z,4µm,3.7s,SNR=176
CSNA Conrad Observa 77.89 2⇑*i*P **P 18 12 02.1 +0.8**
comp=Z,3µm,3.6s
PSZ Piszkesteto 77.91 359⇑*i*P **P 18 12 02.1 +0.7**
PSZ pmax pmax
comp=Z,451nm,1.2s,mb6.3
PSZ Piszkesteto 77.91 359⇑*i*P **P 18 12 02.8 +1.4**
PSZ Piszkesteto 77.91 359⇑*i*P **P 18 12 02.5 +1.1**
PSZ Piszkesteto 77.91 359⇑*i*P **P 18 12 02.0 +0.7**
comp=Z,451nm,1.2s,mb6.3
BCIP Isla Barro Col 77.92 91⇑*i*P **P 18 11 59.6 -2.3**
comp=Z,594nm,1.8s,mb6.2
BCIP LR LR
comp=Z,5µm,21.0s,MS5.8
MOA Molln 77.93 3⇑*i*P **P 18 12 01.6 +0.2**
comp=Z,3µm,4.2s,SNR=61
FLACH Flaach 77.93 7⇑*i*P **P 18 12 01.5 0.0**
comp=Z,738nm,2.5s,mb6.2
SULZ Cheisacher 77.95 7⇑*i*P **P 18 12 01.6 0.0**
comp=Z,1µm,2.7s,mb6.4
BBS Basel-Blauen 77.97 7 *e*P **P 18 12 01.8 +0.1**
IMP Imphal 77.99 296 *e*P **P 18 12 01.0 -1.2**
IMP *ex* x 18 15 48.0
RJOB Jochberg 77.99 4 *e*P **P 18 12 02.3 +0.5**
comp=Z,243nm,1.1s,mb6.0
RJOB *e*S S 18 21 54.9 +3.2
WEIN Weingarten 78.00 6⇑*i*P **P 18 12 02.1 +0.2**
comp=Z,692nm,1.5s,mb6.4
SSF Saint Saulge 78.01 10⇑*i*P **P 18 12 02.0 +0.1**
comp=Z,570nm,1.2s,mb6.1
SSF Saint Saulge 78.01 10⇑*i*P **P 18 12 02.0 +0.1**
SSF pmax pmax
comp=Z,285nm,1.2s,mb6.1
SSF Saint Saulge 78.01 10⇑*i*P **P 18 12 02.0 +0.1**
comp=Z,285nm,1.2s,mb6.1
BOURR Bourrignon 78.01 8⇑*i*P **P 18 12 02.5 +0.5**
comp=Z,1µm,2.0s,mb6.5
BUR08 Bucovina Ar. S 78.02 355⇑*i*P **P 18 12 02.1 +0.1**
LOMF Lomont 78.03 8 *e*P **P 18 12 02.4 +0.4**
MFF Saint Martin d 78.03 13⇑*i*P **P 18 12 02.3 +0.2**
comp=Z,1µm,1.4s,mb6.4
MFF Saint Martin d 78.03 13⇑*i*P **P 18 12 02.3 +0.2**
MFF pmax pmax
comp=Z,671nm,1.4s,mb6.4
MFF Saint Martin d 78.03 13⇑*i*P **P 18 12 02.3 +0.2**
comp=Z,671nm,1.4s,mb6.4
BURAR Bucovina Array 78.05 355⇑*i*P **P 18 12 02.5 +0.4**
BURAR Bucovina Array 78.05 355 P **P 18 12 02.3 +0.2**
BMR Baia Mare 78.06 356⇑*i*P **P 18 12 03.1 +0.9**
BMR Baia Mare 78.06 356⇑P **P 18 12 03.1 +0.9**
BALST Balsthal 78.11 7⇑*i*P **P 18 12 02.8 +0.3**
comp=Z,948nm,1.5s,mb6.5
WILA Wila 78.11 6⇑*i*P **P 18 12 02.8 +0.3**
comp=Z,786nm,1.3s,mb6.5
ZUR Degenried 78.14 7⇑*i*P **P 18 12 02.9 +0.2**
comp=Z,828nm,1.4s,mb6.5
SOP Sopron 78.14 1⇑*i*P **P 18 12 03.8 +1.1**
RETA Reutte 78.15 5 *i* P **P 18 12 03.1 +0.4**
comp=Z,3µm,3.5s,SNR=111
AVF Avril sur Loir 78.26 10⇑*i*P **P 18 12 03.2 -0.1**
comp=Z,448nm,1.1s,mb6.0
AVF Avril sur Loir 78.26 10⇑*i*P **P 18 12 03.2 -0.1**
AVF pmax pmax
comp=Z,224nm,1.1s,mb6.0
AVF Avril sur Loir 78.26 10⇑*i*P **P 18 12 03.2 -0.1**
comp=Z,224nm,1.1s,mb6.0
LIENZ Kamor/St.Gall 78.27 6⇑*i*P **P 18 12 04.0 +0.6**
comp=Z,887nm,1.9s,mb6.4
TBI Tubuai 78.29 168 *e*P **P 18 12 03.5 -0.1**
comp=Z,243nm,1.4s,mb6.0
TBI *e*S S 18 21 52.7 -2.5
comp=Z,26µm,31.5s
TBI *e*SS SS 18 26 57.3 -1.7
comp=Z,6µm,28.0s
TBI *e*LR LR 18 36 09.2
comp=Z,44µm,22.5s,baz=350
TBI Tubuai 78.29 168 *e*P **P 18 12 03.5 -0.1**
comp=Z,243nm,1.4s,mb5.9
TBI *e*S S 18 21 52.7 -2.5
TBI *e*SS SS 18 26 57.3 -1.7
DAVA Damuels 78.30 6⇓*i*P **P 18 12 04.0 +0.5**
comp=Z,4µm,5.4s,SNR=39
MOTA Moosalm 78.31 5⇑*i*P **P 18 12 04.0 +0.4**
comp=Z,446nm,1.2s,mb6.3,SNR=64
IAS Iasi 78.33 354 P **P 18 12 04.0 +0.3**
WATA Walderalm 78.34 5⇑*i*P **P 18 12 04.5 +0.8**
comp=Z,492nm,1.3s,mb6.3,SNR=65
BUD Budapest 78.35 359⇑*i*P **P 18 12 05.2 +1.4**
BRANT Les Verrieres 78.41 8⇑*i*P **P 18 12 04.6 +0.5**
comp=Z,614nm,1.4s,mb6.4
WTTA Wattenberg 78.42 5 *i* P **P 18 12 05.1 +0.9**
comp=Z,4µm,2.9s,mb6.8,SNR=145
SHL Shillong 78.42 298⇑*i*P **P 18 12 05.0 +0.4**
SHL *i* x x 18 21 54.0
BGF Bois d'Agland 78.44 11⇑*i*P **P 18 12 04.2 -0.1**
comp=Z,507nm,1.2s,mb6.0
BGF Bois d'Agland 78.44 11⇑*i*P **P 18 12 04.2 -0.1**
BGF pmax pmax
comp=Z,253nm,1.2s,mb6.0
BGF Bois d'Agland 78.44 11⇑*i*P **P 18 12 04.2 -0.1**
comp=Z,253nm,1.2s,mb6.0
KIS Kishinev 78.44 353α *i*P **P 18 12 04.0 -0.3**
KIS *i* pP 18 12 13.0 -4.4
KIS *e* 18 14 59.0
KIS *e*S S 18 21 54.0 -2.5
KIS *e* 18 22 07.0
KIS *e*PS 18 22 39.0
KIS *e*SS SS 18 27 04.0 +5.3
KIS pmax pmax
comp=Z,2µm,1.6s,mb6.8
KIS pmax pmax
comp=Z,6µm,10.0s
KIS pmax pmax
comp=Z,4µm,10.0s
KIS Kishinev 78.44 353 *i* P **P 18 12 04.0 -0.3**
comp=Z,2µm,1.6s,mb6.8
KIS Kishinev 78.44 353 *e*PP PP 18 14 59.0 -2.2
KIS Kishinev 78.44 353 *i* PS 18 22 39.0
KIS *e*SS SS 18 27 04.0 +5.3
KIS *e*SSS 18 30 58.0
KIS *e*LR LR 18 42 26.0
comp=Z,23µm,17.0s
SMF Signal de Mont 78.45 10⇑*i*P **P 18 12 04.2 -0.2**
comp=Z,658nm,1.2s,mb6.1
SMF Signal de Mont 78.45 10⇑*i*P **P 18 12 04.2 -0.2**
SMF pmax pmax
comp=Z,329nm,1.2s,mb6.1
SMF Signal de Mont 78.45 10⇑*i*P **P 18 12 04.2 -0.2**
comp=Z,329nm,1.2s,mb6.1
PLONS Plons/SG 78.51 6⇑*i*P **P 18 12 05.1 +0.4**
comp=Z,894nm,2.2s,mb6.3
MUO Muotathal 78.54 7⇑*i*P **P 18 12 05.5 +0.6**
comp=Z,1µm,2.0s,mb6.5
ARSA Arzberg 78.56 2 *i* P **P 18 12 05.9 +1.0**
comp=Z,4µm,3.6s,SNR=190
TORNY Torny/Romont 78.61 8⇑*i*P **P 18 12 05.8 +0.5**
comp=Z,757nm,1.3s,mb6.5
FETA Feichten 78.61 5⇑*i*P **P 18 12 06.0 +0.7**
comp=Z,3µm,3.3s,SNR=185
TCF Toulx Ste Croi 78.63 11⇑*i*P **P 18 12 05.3 -0.1**
comp=Z,727nm,1.7s,mb6.0
TCF Toulx Ste Croi 78.63 11⇑*i*P **P 18 12 05.3 -0.1**
TCF pmax pmax
comp=Z,363nm,1.7s,mb6.0
TCF Toulx Ste Croi 78.63 11⇑*i*P **P 18 12 05.3 -0.1**
comp=Z,364nm,1.7s,mb6.0
SJG San Juan 78.65 75⇑*e*P **P 18 12 04.4 -1.5**
SJG pmax pmax
comp=Z,109nm,0.8s
SJG San Juan 78.65 75⇑*e*P **P 18 12 04.4 -1.6**
comp=Z,109nm,0.8s,mb5.8
KBA Koelnbreinsper 78.67 3 *i* P **P 18 12 06.6 +1.0**
comp=Z,4µm,3.1s,SNR=273
LLS Linth-Limmern 78.69 6⇑*i*P **P 18 12 06.3 +0.6**
comp=Z,807nm,2.8s,mb6.2
CABF La Chapelle 78.70 8⇑*i*P **P 18 12 06.3 +0.5**
comp=Z,2µm,1.7s,mb6.4
CABF La Chapelle 78.70 8⇑*i*P **P 18 12 06.3 +0.5**
CABF pmax pmax
comp=Z,771nm,1.7s,mb6.4
CABF La Chapelle 78.70 8⇑*i*P **P 18 12 06.3 +0.5**
comp=Z,771nm,1.7s,mb6.4
HASLI Hasliberg/Brie 78.72 7⇑*i*P **P 18 12 06.5 +0.6**
comp=Z,804nm,2.0s,mb6.3
WIMIS Wimmis 78.77 7⇑*i*P **P 18 12 06.7 +0.6**
comp=Z,571nm,2.5s,mb6.1
GIMEL St. Georges / 78.79 8⇑*i*P **P 18 12 07.3 +1.0**
comp=Z,636nm,1.3s,mb6.4
DAVOX Davos/Dischmat 78.81 6⇑*i*P **P 18 12 06.9 +0.6**
comp=Z,1µm,2.7s,mb6.3
CHRT Chiangrai 78.81 288⇑P **P 18 12 06.5 -0.3**
comp=Z,645nm,0.9s,mb6.6
AGO Saint Agoulin 78.97 11 *e*P **P 18 12 08.8 +1.6**
ABTA Abfaltersbach 78.97 4 *i* P **P 18 12 07.6 +0.3**
comp=Z,3µm,3.5s,SNR=168
DRGR 78.97 357⇑*i*P **P 18 12 07.6 +0.3**
DRGR 78.97 357 P **P 18 12 07.5 +0.2**
FUORN Ofenpass-Fuorn 78.99 6⇑*i*P **P 18 12 07.9 +0.6**
comp=Z,2µm,2.5s,mb6.5
MTP Monte Pirata 79.00 74⇑*i*P **P 18 12 06.7 -1.1**
AIGLE Aigle 79.04 8⇑*i*P **P 18 12 08.5 +0.9**
comp=Z,687nm,2.6s,mb6.1
SENIN Lac Senin/Sane 79.04 8⇑*i*P **P 18 12 08.6 +0.9**
comp=Z,530nm,2.6s,mb6.0
LKBD Leukerbad 79.05 7⇑*i*P **P 18 12 08.6 +0.9**
comp=Z,509nm,2.6s,mb6.0
FUSIO Fusio 79.05 7⇑*i*P **P 18 12 08.3 +0.6**
comp=Z,856nm,2.1s,mb6.3
VDL Val di Lei 79.08 6⇑*i*P **P 18 12 08.6 +0.8**
comp=Z,894nm,2.3s,mb6.3
TUE Stuetta 79.08 6⇑*i*P **P 18 12 08.7 +0.8**
comp=Z,375nm,1.5s,mb6.1
PLDF La Plantade 79.10 10 *e*P **P 18 12 09.6 +1.6**
SOKA Soboth 79.12 2⇑*i*P **P 18 12 08.7 +0.7**
comp=Z,2µm,1.8s,mb6.7
MYKA Terra Mystica 79.13 3⇑*i*P **P 18 12 08.3 +0.2**
comp=Z,20µm,3.1s
GRYON Gryon 79.14 8⇑*i*P **P 18 12 08.9 +0.7**
comp=Z,539nm,3.2s
PERS Pernice 79.16 2 *i* P **P 18 12 09.1 +0.8**
PERS *i* pP 18 12 24.0 +2.6
BERNI Berninapass 79.18 6⇑*i*P **P 18 12 09.4 +1.0**
comp=Z,771nm,1.9s,mb6.3
OG05 Jujurieux 79.21 9 *e*P **P 18 12 09.1 +0.5**
SALAN Lac Salanfe 79.24 8⇑*i*P **P 18 12 09.4 +0.7**
comp=Z,437nm,2.4s,mb6.0
PYM Petit Puy Mans 79.25 11 *e*P **P 18 12 10.2 +1.4**
OBKA Obir 79.28 3 *i* P **P 18 12 09.5 +0.6**
comp=Z,4µm,2.9s,mb6.9,SNR=241
EMV Vieux Emosson 79.31 8⇑*i*P **P 18 12 09.9 +0.8**
comp=Z,580nm,2.2s,mb6.1
DIX Grande Dixence 79.33 8⇑*i*P **P 18 12 10.4 +1.1**
comp=Z,476nm,2.9s,mb5.9
MMK Mattmark 79.41 7⇑*i*P **P 18 12 11.0 +1.4**
comp=Z,889nm,2.0s,mb6.3
KDM Kudat 79.41 267⇑P **P 18 12 10.8 +0.7**
GUN Gumba 79.49 304 *e*P **P 18 12 09.6 -0.8**
comp=Z,3µm,1.5s,mb7.0
RJF Les Rejaudoux 79.52 12⇑*i*P **P 18 12 10.0 -0.3**
comp=Z,916nm,1.7s,mb6.1
RJF *e*MLR MLR
comp=Z,20µm,20.5s,MS6.2
RJF Les Rejaudoux 79.52 12⇑*i*P **P 18 12 10.0 -0.3**
RJF pmax pmax
comp=Z,458nm,1.7s,mb6.1
RJF MLR MLR
comp=Z,20µm,20.5s,MS6.5
RJF Les Rejaudoux 79.52 12⇑*i*P **P 18 12 10.0 -0.3**
comp=Z,458nm,1.7s,mb6.1
RJF LR LR
comp=Z,20µm,20.5s,MS6.5
CADS Cadrg 79.53 3 *e*P **P 18 12 10.0 -0.4**
JIRN Jiri 79.55 303 *e*P **P 18 12 10.3 -0.4**
comp=Z,378nm,0.4s,mb6.7
UBT Ubonrachathani 79.58 282⇑P **P 18 12 11.3 +0.3**
MUGIO Muggio 79.61 7⇑*i*P **P 18 12 11.0 +0.3**
comp=Z,1µm,2.4s,mb6.3
PKSM Moragy 79.62 360⇑*i*P **P 18 12 11.0 +0.2**
PKSM Moragy 79.62 360 P **P 18 12 11.2 +0.4**
ODAN Odare 79.63 302 *e*P **P 18 12 09.6 -1.6**
comp=Z,367nm,1.0s,mb6.3
KIV Kisovodsk 79.69 342 P **P 18 12 12.9 +1.7**
comp=Z,2µm,1.3s,mb6.9,SNR=57
KIV Kislovodsk 79.69 342*c i*P **P 18 12 11.8 +0.6**
KIV *e* 18 15 11.5
KIV *e*PPP 18 17 02.4
KIV *e*S S 18 22 10.8 +0.9
KIV *e*SS SS 18 27 28.7 +11
KIV pmax pmax
comp=Z,481nm,1.2s,mb6.3
KIV pmax pmax
comp=Z,4µm,6.7s
KIV Kislovodsk 79.69 342⇑*i*P **P 18 12 11.7 +0.5**
comp=Z,496nm,1.1s,mb6.3
KIV LR LR
comp=Z,17µm,20.0s,MS6.4
ANN Anapa 79.69 346*c i*P **P 18 12 10.7 -0.5**
ANN *e**PP pP 18 12 25.2 +0.8
ANN *e* 18 15 12.3
ANN *e*S S 18 22 11.7 +1.8
ANN *e*SS SS 18 27 28.3 +11
ANN pmax pmax
comp=Z,611nm,2.5s,mb6.1
ANN MLR MLR
comp=N,25µm,23.0s,MS6.5
ANN MLR MLR
comp=E,5µm,23.0s,MS6.5
ANN MLR MLR
comp=Z,10µm,23.0s,MS6.1
ANN Anapa 79.69 346 *i* P **P 18 12 10.6 -0.6**
MAK Makhachkala 79.70 339 *e*P **P 18 12 12.1 +0.8**
MAK *i* pP 18 12 23.8 -0.7
MAK *i* 18 15 14.2
MAK *e*PPP 18 17 02.5
MAK S S 18 22 19.6 +9.5
MAK *i* 18 22 34.4
MAK *e*SS SS 18 27 24.6 +6.8
MAK pmax pmax
comp=Z,1µm,1.1s,mb6.7
MAK pmax pmax
comp=N,1µm,1.4s
MAK pmax pmax
comp=E,830nm,1.3s
MAK smax
comp=N,495µm,1.5s
MAK smax
comp=E,764µm,1.5s
VRI Vrincioaia 79.71 354⇑*i*P **P 18 12 11.7 +0.4**
VRI Vrincioaia 79.71 354 P **P 18 12 11.8 +0.5**
PLOR Plostina 79.73 354 P **P 18 12 12.0 +0.6**
VOY Vojsko 79.73 3 *e*P **P 18 12 11.2 -0.2**
VOY *e* pP 18 12 26.2 +1.6
VOY *e* 18 12 36.5
VOY *e* 18 12 48.5
VOY *e* 18 13 10.3
LJU Ljubljana 79.74 3 *i* P **P 18 12 11.5 0.0**
LJU *e* pP 18 12 25.2 +0.6
LJU *e*S S 18 22 23.4 +13
LJU Ljubljana 79.74 3 *i* P **P 18 12 11.5 +0.1**
LJU *e* pP 18 12 25.2 +0.6
LJU *e*S S 18 22 23.4 +13
LJU *e*SS SS 18 27 56.1 +38
LFF La Frestale 79.78 13⇑*i*P **P 18 12 11.8 +0.1**
comp=E,1µm,1.5s,mb6.3
LFF La Frestale 79.78 13⇑*i*P **P 18 12 11.8 +0.1**
LFF pmax pmax
comp=Z,587nm,1.5s,mb6.3
LFF La Frestale 79.78 13⇑*i*P **P 18 12 11.8 +0.1**
comp=Z,587nm,1.5s,mb6.3
LBL Lubilhac 79.79 11 *e*P **P 18 12 13.2 +1.5**
GOLS Golise 79.80 2 *e*P **P 18 12 12.1 +0.3**
LPL La Plagne 79.84 8⇑*i*P **P 18 12 13.3 +1.3**
comp=Z,596nm,1.7s,mb6.0
LPL La Plagne 79.84 8⇑*i*P **P 18 12 13.3 +1.3**
LPL pmax pmax
comp=Z,298nm,1.7s,mb5.9
LPL La Plagne 79.84 8⇑*i*P **P 18 12 13.3 +1.3**
comp=Z,298nm,1.7s,mb5.9
LPG La Plagne 79.86 8⇑*i*P **P 18 12 13.5 +1.4**
comp=Z,873nm,1.7s,mb6.1
LPG La Plagne 79.86 8⇑*i*P **P 18 12 13.5 +1.4**
LPG pmax pmax
comp=Z,436nm,1.7s,mb6.1
LPG La Plagne 79.86 8⇑*i*P **P 18 12 13.5 +1.4**
comp=Z,436nm,1.7s,mb6.1
JAVS Javornik 79.88 3 *e* **P 18 12 11.8 -0.4**
JAVS *i* pP 18 12 26.3 +1.0
KKN Kakani 79.88 304 *e*P **P 18 12 11.5 -1.0**
comp=Z,4µm,2.1s,mb7.0
RAMN Ramite 79.94 303 *e*P **P 18 12 11.6 -1.3**
comp=Z,2µm,1.4s,mb6.8
KKTK Khon Kaen 79.95 284 P **P 18 12 12.5 -0.5**
comp=Z,926nm,0.9s,mb6.7
CAF Calviac 79.96 12⇑*i*P **P 18 12 12.7 0.0**
comp=Z,812nm,1.7s,mb6.1
CAF Calviac 79.96 12⇑*i*P **P 18 12 12.7 0.0**
CAF pmax pmax
comp=Z,406nm,1.7s,mb6.1
CAF Calviac 79.96 12⇑*i*P **P 18 12 12.7 0.0**
comp=Z,406nm,1.7s,mb6.1
SIM Simferopol' 79.97 349*ce*P **P 18 12 13.5 +0.8**
SIM 18 15 15.7
SIM S S 18 22 12.7 -0.1
SIM *e*PPS 18 23 16.3
SIM SS SS 18 27 29.9 +8.3
SIM pmax pmax
comp=Z,134nm,1.1s,mb5.8
SIM pmax pmax
comp=Z,1µm,10.0s
SIM MLR MLR
comp=Z,31µm,20.0s,MS6.7
PKIN Phulchoki 80.00 304 *e*P **P 18 12 12.5 -0.7**
comp=Z,2µm,1.7s,mb6.7
GKN Gorkha 80.01 305 *e*P **P 18 12 11.9 -1.4**
comp=Z,2µm,1.6s,mb6.8
GRN Grenoble 80.03 9 *e*P **P 18 12 13.9 +0.9**
TRI Trieste 80.05 3⇑*i*P **P 18 12 12.5 -0.7**
TRI pmax pmax
comp=Z,50nm,0.8s,mb5.5
TRI Trieste 80.05 3⇑*i*P **P 18 12 12.5 -0.7**
comp=Z,50nm,0.8s,mb5.5
GDM Grand'Maison 80.10 9 *e*P **P 18 12 14.2 +0.8**
DMN Daman 80.12 304 *e*P **P 18 12 12.8 -1.0**
comp=Z,3µm,1.8s,mb6.9
CHG Chiang Mai 80.12 288⇓P **P 18 12 13.8 -0.2**
comp=Z,146nm,0.9s,mb5.9
CHTO Chiang Mai 80.12 288⇑*i*P **P 18 12 13.4 -0.6**
CHTO pmax pmax
comp=Z,736nm,1.9s,mb6.3
CHTO MLR MLR
comp=Z,9µm,20.0s,MS6.1
CHTO Chiang Mai 80.12 288⇑*i*P **P 18 12 13.4 -0.5**
comp=Z,736nm,1.9s,mb6.3
CHTO LR LR
comp=Z,9µm,20.0s,MS6.1
MLR Muntele Rosu 80.13 354⇑*i*P **P 18 12 14.1 +0.5**
MLR Muntele Rosu 80.13 354 P **P 18 12 14.1 +0.5**
EPON Pontenova 80.13 19 P **P 18 12 13.3 -0.3**
comp=Z,1µm,2.4s,mb6.5
DANN Dangsing 80.14 305 *e*P **P 18 12 13.3 -0.6**
comp=Z,3µm,1.3s,mb7.0
EMAZ Mazaricos 80.14 20 P **P 18 12 13.0 -0.7**
comp=Z,1µm,1.9s,mb6.5
BZS Buzias 80.17 358⇑*i*P **P 18 12 14.2 +0.4**
BZS Buzias 80.17 358 P **P 18 12 14.4 +0.6**
SKDS Skadamscina 80.22 3 *e*P **P 18 12 13.8 -0.2**
SDKM Sandakan 80.22 266⇑P **P 18 12 14.8 +0.3**
VOIR 80.23 355⇑*i*P **P 18 12 14.8 +0.7**
VOIR 80.23 355 P **P 18 12 14.8 +0.7**
TLCR 80.24 352 P **P 18 12 14.6 +0.4**
THN Thein Dam 80.27 314 *e*P **P 18 12 13.8 -0.8**
THN *e*S S 18 22 17.5 +1.0
STS Santiago 80.29 20 P **P 18 12 15.7 +1.2**
comp=Z,447nm,1.5s,mb6.2
BNI Bardonecchia 80.30 8⇑*i*P **P 18 12 15.8 +1.3**
comp=Z,410nm,1.4s,mb6.2
BNI LR LR
comp=Z,12µm,20.0s,MS6.2
BOJS Bojanci 80.30 2 *i* P **P 18 12 14.9 +0.5**
BOJS *i* pP 18 12 28.8 +1.2
BOJS *e*S S 18 22 17.0 +0.7
BOJS *e*SS SS 18 28 06.0 +39
VIVF Saint-Julien-l 80.31 10⇑*i*P **P 18 12 14.8 +0.3**
comp=Z,288nm,1.1s,mb5.8
VIVF Saint-Julien-l 80.31 10⇑*i*P **P 18 12 14.8 +0.3**
comp=Z,144nm,1.1s,mb5.8
SISC Sisak 80.35 1 P **P 18 12 15.8 +1.0**
ORIF Oris-en-Rattie 80.36 9⇑*i*P **P 18 12 15.4 +0.6**
comp=Z,489nm,1.6s,mb5.9
ORIF *e*MLR MLR
comp=Z,19µm,21.5s,MS6.1
ORIF Oris-en-Rattie 80.36 9⇑*i*P **P 18 12 15.4 +0.6**
comp=Z,244nm,1.6s,mb5.9
GZR Gura Zlata 80.36 357⇓*i*P **P 18 12 15.4 +0.6**
GZR Gura Zlata 80.36 357 P **P 18 12 15.3 +0.5**
CM31 Chiang Mai Arr 80.41 288 PFAKE 18 12 30.0 +14
CM31 LR LR
comp=Z,11µm,19.0s,MS6.2
CMAR Chiang Mai Arr 80.41 288 P **P 18 12 15.3 -0.2**
comp=Z,136nm,0.8s,mb5.9,baz=18,slow=5.3,SNR=324
CMAR PKKPbc PKKPbc 18 30 55.8 +2.0
comp=Z,1.2nm,0.7s,baz=228,slow=3.8,SNR=5.3
CMAR PKPPKP 18 39 25.1
comp=Z,0.3nm,0.2s,baz=252,slow=2.6,SNR=4.4
CMAR LR LR 18 51 46.7
comp=Z,13µm,19.2s,MS6.3,baz=188,slow=38
KKM Kota Kinabalu 80.47 267⇓P **P 18 12 17.3 +1.4**
EARI Arriondas 80.50 17 P **P 18 12 16.2 +0.6**
comp=Z,2µm,2.6s,mb6.5
SDNR Sundarnagar 80.54 312 *e*P **P 18 12 15.5 -0.5**
SDNR *ex* x 18 16 02.5
SOC Sochi 80.54 344*c i*P **P 18 12 16.1 +0.3**
SOC *e* 18 12 20.4
SOC *e* 18 15 18.2
SOC *e*PPP 18 17 11.3
SOC *e*S S 18 22 20.2 +1.3
SOC *e**SS sS 18 23 14.7 +34
SOC pmax pmax
comp=Z,421nm,1.2s,mb6.2
OG22 Abries 80.55 8 *e*P **P 18 12 17.5 +1.7**
PONG Pong 80.59 313 *e*P **P 18 12 15.0 -1.3**
MBDF Montbardon 80.63 8⇑*i*P **P 18 12 17.6 +1.3**
comp=Z,672nm,1.2s,mb6.1

MBDF Montbardon 80.63 8⇑*i*P P 18 12 17.6 +1.3
comp=Z,336nm,1.2s,mb6.2
PDA Ponta Delgada 80.65 34 *e*P P 18 12 18.0 +1.5
PDA Ponta Delgada 80.65 34 *e*SS SKSac 18 22 38.0 +7.0
PDA Ponta Delgada 80.65 34 *e*LQ 18 33 44.0
PDA *e*LR LR 18 38 32.0
CMLA Cha da Macela 80.68 34 *e*S S 18 22 25.4 +4.9
CMLA *e*SS SS 18 27 30.6 -2.1
CMLA *e*LQ 18 33 15.1
CMLA *e*LR LR 18 38 07.3
CMLA Cha da Macela 80.68 34⇑*e*P P 18 12 17.0 +0.3
CMLA LR LR
comp=Z,19µm,20.0s,MS6.4
RKT Rikitea 80.70 155 *e*S S 18 22 18.8 -2.0
comp=Z,5µm,27.8s
RKT *e*SS SS 18 27 33.3 -1.9
comp=Z,6µm,27.8s
RKT *e*LR LR 18 37 25.8
comp=Z,44µm,30.8s,baz=346
RKT Rikitea 80.70 155 *e*P P 18 12 15.2 -1.5
comp=Z,77nm,1.1s,mb5.5
RKT *e*S S 18 22 18.8 -2.0
RKT *e*SS SS 18 27 33.3 -1.9
KOLN Koldanda 80.70 305 *e*P P 18 12 16.0 -1.0
comp=Z,211nm,0.8s,mb6.1
PTH Pithoragarh 80.77 309 *e*P P 18 12 17.1 -0.2
PTH *ex* x 18 22 20.8
SMLA Simla 80.78 312 *i*P P 18 12 16.0 -1.3
SMLA AMb AMB 18 12 21.4
comp=Z,1µm,2.3s,mb6.4
HARR Harsova 80.80 353⇓*i*P P 18 12 17.5 +0.3
HARR Harsova 80.80 353 P P 18 12 17.9 +0.8
BHK Bhakra 80.85 313 *ex* x 18 12 31.8
ELAN Lanestosa 80.86 16 P P 18 12 18.1 +0.6
comp=Z,2µm,2.7s,mb6.5
SURF Saint Ours 80.88 8 *e*P P 18 12 19.4 +1.8
ONI Oni 80.88 341 P P 18 12 18.7 +1.0
TSM Tawau 80.92 265⇑P P 18 12 19.1 +0.8
TIRR Tirgusor 80.99 353⇑*i*P P 18 12 18.2 0.0
TIRR Tirgusor 80.99 353⇑*i*P P 18 12 18.1 -0.1
comp=Z,603nm,1.3s,mb6.4
DZM Mont Dzumac 81.03 210 *e*P P 18 12 16.9 -1.6
ERUA La Rua 81.03 19 P P 18 12 18.3 -0.2
comp=Z,526nm,1.7s,mb6.2
DDI Dehra Dun 81.08 311 *e*P P 18 12 17.0 -1.9
DDI *e*P 18 12 17.0
KBL Kabul 81.09 320⇑*i*P P 18 12 17.8 -1.1
comp=Z,302nm,1.2s,mb6.1
NOUC Port Laguerre 81.10 210 *e*P P 18 12 17.9 -1.0
EALK Alkurruntz 81.17 14 P P 18 12 19.5 +0.4
comp=Z,1µm,2.4s,mb6.4
OSSF Osses 81.17 14 *e*P P 18 12 18.7 -0.5
ELIZ Elizondo 81.22 14 P P 18 12 20.2 +0.8
comp=Z,244nm,1.6s,mb5.9
NVLJ Novalja 81.23 2 P P 18 12 19.6 +0.1
ORDF Ordiarp 81.25 14 *e*P P 18 12 19.0 -0.6
BUC1 Bucharest 81.26 354 P P 18 12 20.1 +0.4
SMRF Simiane la Rot 81.27 9⇑*i*P P 18 12 20.7 +1.0
comp=Z,806nm,1.6s,mb6.1
SMRF Simiane la Rot 81.27 9⇑*i*P P 18 12 20.7 +1.0
comp=Z,806nm,1.6s,mb6.4
SJPF Ste Jean 81.31 14⇑*i*P P 18 12 19.8 -0.1
comp=Z,547nm,1.8s,mb5.9
SJPF Ste Jean 81.31 14⇑*i*P P 18 12 19.8 -0.1
comp=Z,274nm,1.8s,mb5.9
GOR Gori 81.33 341 P P 18 12 20.7 +0.6
BDT Bhumibol Dam 81.36 287 ⇓P P 18 12 20.0 -0.6
comp=Z,51nm,1.1s,mb5.4
ELOB Lobios 81.36 20 P P 18 12 19.3 -0.9
comp=Z,2µm,2.4s,mb6.5
TOUF Mont Tournerai 81.37 8 *e*P P 18 12 21.3 +1.0
VILF Villemus 81.40 9 *e*P P 18 12 21.3 +0.9
AUTN L'Aution 81.41 8 *e*P P 18 12 21.3 +0.9
LARF Larrau 81.42 14 *e*P P 18 12 20.8 +0.3
SAOF Saorge 81.43 8 *e*P P 18 12 21.1 +0.6
ANWB Willy Bob 81.44 72⇑*i*P P 18 12 19.3 -1.7
VLC Villacollemand 81.45 6⇑*i*P P 18 12 20.7 +0.1
comp=Z,240nm,1.2s,mb6.0
TBLG Delisi 81.45 340 P P 18 12 21.9 +1.2
REYF Montagne du Re 81.47 14 *e*P P 18 12 20.1 -0.7
MTA Mtatsminda 81.48 340 P P 18 12 21.7 +0.9
MVIF Mont Vial 81.48 8 *e*P P 18 12 21.5 +0.7
LUCF Luceram 81.50 8 *e*P P 18 12 21.6 +0.7
PCAB Cabril 81.52 20 *i*P P 18 12 22.2 +1.1
comp=Z,327nm,1.9s,mb5.9
MTLF Montolieu 81.54 12⇑*i*P P 18 12 21.3 +0.2
comp=Z,322nm,1.2s,mb5.8
MTLF Montolieu 81.54 12⇑*i*P P 18 12 21.3 +0.2
comp=Z,161nm,1.2s,mb5.8
SBF Sospel 81.54 8⇑*i*P P 18 12 21.3 +0.2
comp=Z,406nm,0.9s,mb6.0
SBF Sospel 81.54 8⇑*i*P P 18 12 21.3 +0.2
comp=Z,203nm,0.9s,mb6.0
ECAL Calabor 81.55 19 P P 18 12 20.1 -1.1
comp=Z,4µm,3.2s
DGRG David-gareji 81.59 340 P P 18 12 22.8 +1.3
CALN Calern 81.61 8 *e*P P 18 12 22.1 +0.6
EPF Esparros 81.61 13⇑*i*P P 18 12 21.0 -0.5
comp=Z,341nm,1.6s,mb5.7
EPF Esparros 81.61 13⇑*i*P P 18 12 21.0 -0.5
comp=Z,171nm,1.6s,mb5.7
ECRI Cripan 81.61 15 P P 18 12 21.8 +0.2
comp=Z,107nm,1.2s,mb5.7
ETSF Etsaut 81.62 14⇑*i*P P 18 12 22.2 +0.6
comp=Z,1µm,1.7s,mb6.2
ETSF Etsaut 81.62 14⇑*i*P P 18 12 22.2 +0.6
comp=Z,525nm,1.7s,mb6.2
REVF Revere 81.66 8 *e*P P 18 12 22.0 +0.3
TAVF Tavernes 81.67 9 *e*P P 18 12 22.2 +0.4
PBRG Braganca 81.68 19 *i*P P 18 12 22.8 +0.9
comp=Z,266nm,1.6s,mb5.9
VIEF Viey 81.71 13 *e*P P 18 12 22.7 +0.6
ABKT Aibek 81.72 329 P P 18 12 23.7 +1.5
comp=Z,1µm,1.2s,mb6.8
DIVS Divibare 81.72 359 P P 18 12 22.6 +0.5
FRF La Foret Royal 81.77 8⇑*i*P P 18 12 22.5 +0.1
comp=Z,407nm,1.2s,mb5.9
FRF La Foret Royal 81.77 8⇑*i*P P 18 12 22.5 +0.1
comp=Z,204nm,1.2s,mb5.9
MLS Moulis 81.78 13 *e*P P 18 12 22.6 +0.2
PSN Preselentsi 81.78 353 P P 18 12 23.3 +0.9
MELF Melles 81.82 13 *e*P P 18 12 21.9 -0.7
RESF Ens 81.83 13 *e*P P 18 12 23.3 +0.6
GELF Grande-Etoile 81.84 9 *e*P P 18 12 23.6 +0.9
BPA Boggy Peak 81.91 72 *e* P 18 12 22.4 -1.0
EBIE Bielsa 81.92 13 P P 18 12 22.1 -1.1
comp=Z,1µm,2.7s,mb6.3
BERF Bertagne 81.93 9 *e*P P 18 12 24.1 +0.9
PTO Porto 81.96 20 *e*P P 18 12 24.7 +1.3
comp=Z,628nm,1.4s,mb6.3
LRDF Laroque-de-Fa 81.97 12 *e*P P 18 12 23.8 +0.4
ZIMR 81.99 355 P P 18 12 23.9 +0.4
LMR La Mourre 81.99 9⇑*i*P P 18 12 23.8 +0.3
comp=Z,983nm,1.7s,mb6.2
LMR La Mourre 81.99 9⇑*i*P P 18 12 23.8 +0.3
comp=Z,492nm,1.7s,mb6.2
NST Nakhon Sawan 82.00 286 P P 18 12 23.8 -0.1
PVRL Vila Real 82.00 19 *i*P P 18 12 24.7 +1.1
comp=Z,579nm,1.4s,mb6.3
PVRL Vila Real 82.00 19 *e*PP PP 18 15 33.0 +2.2
CARF Carcanieres 82.14 12 *e*P P 18 12 24.5 +0.2
MVO Moncorvo 82.24 19 *i*P P 18 12 25.6 +0.7
comp=Z,485nm,1.3s,mb6.3
MVO *e*S S 18 22 39.7 +3.1
MVO *e*LQ 18 34 03.4
MVO *e*LR LR 18 39 57.2
comp=Z,21µm,20.0s
PRD Provadia 82.32 353 P P 18 12 26.2 +1.0
SZH Strazhica 82.34 354 P P 18 12 25.5 +0.1
FILF Fillols 82.35 12 *e*P P 18 12 25.3 -0.1
DBOC Borcka 82.40 342 *i*P P 18 12 25.5 -0.2
PVL Pavlikeni 82.43 355 P P 18 12 26.3 +0.5
VALF Valcebollere 82.44 12 *e*P P 18 12 26.2 +0.3
SJAF Saint Jean de 82.46 11 *e*P P 18 12 25.9 -0.1
EJON La Jonquera 82.50 11 P P 18 12 24.2 -2.0
comp=Z,761nm,2.1s,mb6.3
PLE Pljevlja 82.50 359⇑*i*P P 18 12 26.4 +0.2
ARTV Artvin 82.51 342 *i*P P 18 12 26.9 +0.7
PVIS Viseu 82.51 20 *i*P P 18 12 26.9 +0.6
comp=Z,862nm,1.1s,mb6.7
COEN Coen 82.57 233 *e*P P 18 12 25.0 -1.8
comp=Z,32nm,1.0s,mb5.3
DAGI Agillar 82.61 342 *i*P P 18 12 27.2 +0.4
UPM Unac-Piva 82.63 359⇑*i*P P 18 12 26.3 -0.5

LZG Guadaloupe-1 82.69 73 *e*P P 18 12 26.2 -1.3
DBAD Bademkaya 82.71 342 *i*P P 18 12 27.6 +0.3
CAL Calcutta 82.74 299 *e*P P 18 12 28.1 +0.4
ESAC San Caprasio 82.78 14 P P 18 12 25.8 -1.9
comp=Z,2µm,2.0s,mb6.7
DDEM Demirkent 82.82 342 *i*P P 18 12 28.0 +0.1
SCG Saint Claude 82.83 73 *e*P P 18 12 27.9 -0.4
EMIR Miracle 82.86 12 P P 18 12 26.9 -1.2
comp=Z,54nm,1.1s,mb5.5
NDI New Delhi 82.86 311⇑*i*P P 18 12 28.0 -0.3
comp=Z,42nm,0.5s,mb5.7
NDI *ex* x 18 22 40.0
MTE Manteigas 82.88 20 *i*P P 18 12 29.1 +0.9
comp=Z,739nm,1.3s,mb6.5
MTE Manteigas 82.88 20 *e*PP PP 18 15 39.5 +1.4
MTE *e*S S 18 22 46.1 +2.9
MTE *e*LQ 18 38 07.3
MTE *e*LR LR 18 40 06.5
comp=Z,14µm,20.0s
MTE Manteigas 82.88 20⇑*i*P P 18 12 28.5 +0.3
comp=Z,475nm,1.1s,mb6.4
MTE LR LR
comp=Z,14µm,21.0s,MS6.3
BOK Bokaro 82.92 301 *e*P P 18 12 28.7 0.0
BRY Bratogost 82.93 360⇑*i*P P 18 12 27.6 -0.8
IVA Berane 82.95 359⇑*i*P P 18 12 29.2 +0.7
STON Ston 82.96 0 P P 18 12 28.0 -0.6
PGF Pioggiola 82.96 7⇑*i*P P 18 12 29.0 +0.4
comp=Z,786nm,1.2s,mb6.3
PGF Pioggiola 82.96 7⇑*i*P P 18 12 29.0 +0.4
comp=Z,393nm,1.2s,mb6.3
GNI Garni 82.98 340⇑*e*P P 18 12 30.3 +1.6
GNI pmax pmax
comp=Z,653nm,2.0s
GNI MLR MLR
comp=Z,29µm,21.0s
GNI Garni 82.98 340⇑*i*P P 18 12 30.2 +1.5
comp=Z,391nm,1.2s,mb6.3
GNI LR LR
comp=Z,30µm,22.0s,MS6.6
DIGO Kars 82.99 341 *i*P P 18 12 29.5 +0.8
TBG Guadaloupe-3 83.00 73 *e*P P 18 12 28.2 -1.0
NKY Niksic 83.02 359⇑*i*P P 18 12 27.9 -1.0
JMB Yambol 83.10 354 P P 18 12 29.8 +0.5
JMB Yambol 83.10 354 P P 18 12 29.9 +0.6
MACK Trabzon 83.11 344 *i*P P 18 12 29.9 +0.5
VTS Vitosha 83.15 356 P P 18 12 29.5 0.0
VTS Vitosha 83.15 356 P P 18 12 29.9 +0.4
CORF Corte 83.22 7 *e*P P 18 12 30.2 +0.3
PVY Plav 83.23 359⇑*i*P P 18 12 29.9 -0.1
GUD Guadarrama 83.27 17 P P 18 12 31.0 +0.8
GUD pmax pmax
comp=Z,205nm,1.1s,mb6.1
GUD Guadarrama 83.27 17 P P 18 12 31.0 +0.8
comp=Z,205nm,1.1s,mb6.1
EPOB Poblet 83.36 13 P P 18 12 28.9 -1.8
comp=Z,2µm,2.7s,mb6.6
GRSN GIRESUNGRSN 83.37 345 *i*P P 18 12 30.4 -0.3
HCY Herceg Novi 83.39 360⇑*i*P P 18 12 30.7 -0.1
TTG Podgorica 83.40 359⇑*i*P P 18 12 31.0 +0.2
DWS Wesley 83.41 73 *e* P 18 12 30.1 -1.2
BALT Daday 83.42 349 *i*P P 18 12 31.2 +0.2
ETOR Torete 83.43 15 P P 18 12 31.7 +0.6
ETOR pmax pmax
comp=Z,171nm,1.6s,mb5.8
ETOR Torete 83.43 15 P P 18 12 31.7 +0.7
comp=Z,171nm,1.6s,mb5.8
PCBR Castelo Branco 83.44 20 *i*P P 18 12 31.2 +0.1
comp=Z,500nm,1.1s,mb6.5
BCI Bajram Curri 83.45 359 *i*PN P 18 12 31.6 +0.5
PTOM Tomar 83.46 20 *e*P P 18 12 31.9 +0.7
comp=Z,903nm,1.2s,mb6.7
SDV Santo Domingo 83.50 84 P P 18 12 30.2 -1.5
comp=Z,54nm,0.8s,mb5.6,baz=354,slow=7.7,SNR=34
SDV Santo Domingo 83.50 84⇑*e*P P 18 12 29.6 -2.1
comp=Z,68nm,0.9s,mb5.7
BUM Brajici-Budva 83.53 359⇑*i*P P 18 12 31.6 +0.1
PLD Plovdiv 83.57 355 P P 18 12 32.0 +0.3
PLD Plovdiv 83.57 355 P P 18 12 32.3 +0.6
ERTA Horta de San J 83.65 14 P P 18 12 30.1 -2.0
comp=Z,1µm,2.7s,mb6.5
DYDN Diyadin 83.77 340 *i*P P 18 12 33.3 +0.5
PUK Puka 83.78 359 *i*PN P 18 12 33.4 +0.6
SKO Skopje 83.82 358 P P 18 12 33.9 +0.9
ERZM Erzurum 83.85 342 *i*P P 18 12 34.2 +1.0
PMRV Marv??o 83.85 20 *i*P P 18 12 33.4 +0.2
comp=Z,431nm,1.3s,mb6.4
PMRV Marv??o 83.85 20 *e*PP PP 18 15 46.8 +0.8
PMRV *e*S S 18 22 55.0 +2.0
PMRV *e*LQ 18 34 39.3
PMRV *e*LR LR 18 40 52.7
comp=Z,13µm,22.0s
ILGA Ilgaz 83.86 348 *i*P P 18 12 34.5 +1.2
ULC Ulcinj 83.86 359⇑*i*P P 18 12 33.0 -0.2
ALMR Almeirim 83.88 21 *e*P P 18 12 33.8 +0.4
KKB Krupnik 83.88 356 P P 18 12 34.0 +0.7
KOPT Kop Dagi 83.89 343 *i*P P 18 12 34.8 +1.4
PMAFR Mafra 83.92 21 *i*P P 18 12 34.1 +0.5
comp=Z,1µm,1.1s,mb6.9
PMAFR *e*S S 18 22 55.0 +1.3
PMAFR *e*LQ 18 41 16.5
STIP Stip 84.08 357 P P 18 12 34.2 -0.1
EMOS Mosqueruela 84.11 14 P P 18 12 33.0 -1.5
comp=Z,1µm,2.4s,mb6.6
MMB Musomiste 84.13 356 P P 18 12 35.5 +0.9
PHP Peshkopia 84.13 358 *i*PN P 18 12 34.9 +0.3
CTKT Corum 84.15 347 *i*P P 18 12 36.4 +1.7
LIS Lisbon 84.18 21 *e*P P 18 12 35.6 +0.7
LIS *e*S S 18 22 55.1 -1.2
LIS *e*S S 18 22 55.3 -1.0
LIS AMS AMS 18 49 22.5
comp=Z,32µm,24.1s,MS6.6
LIS Lisbon 84.18 21 *e*P P 18 12 35.6 +0.7
LIS *e*S S 18 22 55.1 -1.2
LIS A 18 49 22.5
comp=Z,32µm,24.1s
ESDC Sonseca Array 84.24 17 P P 18 12 35.5 +0.3
comp=Z,149nm,1.0s,mb6.1,baz=345,slow=4.5,SNR=216
ESDC PKKPbc PKKPbc 18 30 46.4 +1.2
comp=Z,1.3nm,0.6s,baz=165,slow=1.7,SNR=6.9
ESDC PKPPKP 18 38 53.1
comp=Z,1.9nm,0.9s,baz=166,slow=1.7,SNR=6.4
ESDC LR LR 18 51 45.6
comp=Z,14µm,20.5s,MS6.3,baz=335,slow=37
ESDC Sonseca Array 84.24 17 P P 18 12 35.4 +0.2
comp=Z,131nm,0.9s,mb6.1
ESLA Sonseca Array 84.24 17⇑*e*P P 18 12 35.2 0.0
comp=Z,80nm,1.1s,mb5.8
ESLA LR LR
comp=Z,96µm,20.0s,MS7.2
PAB San Pablo 84.30 17⇑*i*P P 18 12 35.2 -0.3
PAB pmax pmax
comp=Z,110nm,1.1s,mb5.9
PAB San Pablo 84.30 17⇑*i*P P 18 12 35.2 -0.3
comp=Z,110nm,1.1s,mb5.9
PESTR Estremoz 84.35 20 *i*P P 18 12 36.1 +0.3
comp=Z,420nm,1.3s,mb6.4
PESTR *e*S S 18 22 59.7 +1.7
PESTR *e*LQ 18 34 40.3
PESTR *e*LR LR 18 40 58.5
comp=Z,19µm,18.0s
HENT Hendek 84.39 350 *i*P P 18 12 36.0 +0.1
VAY Valandovo 84.44 357 P P 18 12 36.4 +0.2
ELDT Eldivan 84.45 348 *i*P P 18 12 41.5 +5.2
TIR Tirane 84.47 359 P P 18 12 36.8 +0.5
TIR Tirane 84.47 359⇑*e*P P 18 12 36.2 -0.1
TIR pmax pmax
comp=Z,342nm,1.3s,mb6.3
TIR Tirane 84.47 359 *e*PN P 18 12 36.9 +0.6
TIR Tirane 84.47 359⇑*e*P P 18 12 36.2 -0.1
comp=Z,342nm,1.3s,mb6.3
RDO Rodhopi 84.48 354 *e*P P 18 12 36.9 +0.5
RDO Rodhopi 84.48 354 *e*P P 18 12 36.9 +0.5
EBAD Badajoz 84.58 20 P P 18 12 34.9 -2.0
comp=Z,64nm,0.9s,mb5.8
BTM Bintulu 84.59 268 ⇓P P 18 12 38.2 +0.9
KNT Kendrikon 84.59 356 P P 18 12 37.4 +0.5
EVO Evora 84.59 20⇑*i*P P 18 12 37.0 0.0
comp=Z,886nm,1.6s,mb6.4
EVO *e*MLR MLR
comp=Z,29µm,22.8s,MS6.3
EVO Evora 84.59 20 *i*P P 18 12 37.5 +0.5
comp=Z,302nm,1.4s,mb6.2
ROSC El Rosal 84.59 89 P P 18 12 36.9 -0.4
comp=Z,20nm,0.8s,mb5.3,baz=296,slow=23,SNR=24
ROSC S S 18 22 55.4 -5.7
comp=Z,4.3nm,0.4s,baz=287,slow=19,SNR=4.0
ROSC LR LR 18 53 56.8
comp=Z,5µm,20.6s,MS5.8,baz=3,3,slow=38
ROSC El Rosal 84.59 89⇑*e*P P 18 12 36.4 -0.9
OHR Ohrid 84.69 358 P P 18 12 37.3 -0.2
ALN Alexandroupoli 84.70 354 P P 18 12 37.6 +0.1
BIA Bitola 84.78 358 P P 18 12 37.6 -0.3
ECHE Chera 84.80 15 P P 18 12 38.3 +0.3
ECHE pmax pmax
comp=Z,156nm,1.3s,mb6.0
ECHE Chera 84.80 15 P P 18 12 38.3 +0.2
comp=Z,156nm,1.3s,mb6.0
TVAN Van 84.81 340 *i*P P 18 12 38.6 +0.5
GRG Griva 84.81 357 P P 18 12 38.7 +0.7
SART Tekirdag 84.83 353 *i*P P 18 12 38.6 +0.4
SOH Sokhos 84.91 356 P P 18 12 38.9 +0.4
FNA Florina 85.01 358 P P 18 12 38.9 -0.2
PBEJ Beja 85.11 20 *i*P P 18 12 40.0 +0.4
comp=Z,176nm,2.3s,mb5.8
THE Thessaloniki 85.11 356 P P 18 12 39.5 -0.1
PBAR Barrancos 85.13 20 *i*P P 18 12 39.8 +0.1
comp=Z,332nm,1.8s,mb6.2
PBAR Barrancos 85.13 20 *e*PP PP 18 15 57.6 +1.1
PBAR *e*S S 18 23 09.0 +3.2
PBAR *e*LQ 18 34 54.4
PBAR *e*LR LR 18 41 27.2
comp=Z,18µm,20.0s
ANTO Ankara 85.13 349⇑*i*P P 18 12 40.3 +0.6
ANTO pmax pmax
comp=Z,605nm,1.3s,mb6.6
ANTO MLR MLR
comp=Z,14µm,20.0s,MS6.3
ANTO Ankara 85.13 349⇑*i*P P 18 12 40.3 +0.6
comp=Z,606nm,1.3s,mb6.6
ANTO LR LR
comp=Z,14µm,20.0s,MS6.3
ETOS Mallorca 85.14 12 P P 18 12 39.4 -0.3
comp=Z,2µm,3.1s
HORT Hortiatis 85.14 356 P P 18 12 39.5 -0.2
BR131 Keskin Array S 85.18 348⇑*i*P P 18 12 40.2 +0.3
comp=Z,163nm,1.0s,mb6.1
KBN Korca 85.18 358 *e*PN P 18 12 40.6 +0.7
CDAG Cicekdag 85.19 348 *i*P P 18 12 40.4 +0.4
SSV Crater Summit 85.30 74 *e* P 18 12 39.7 -1.2
PLG Polygyros 85.35 356 P P 18 12 40.6 -0.2
PLG Polygyros 85.35 356 *e*P P 18 12 40.7 -0.1
PLG Polygyros 85.35 356 *e*P P 18 12 40.7 -0.1
BORA Eskisehir 85.37 351 *i*P P 18 12 41.0 +0.2
OUR Ouranopolis 85.37 356 P P 18 12 41.0 +0.1
PTEO Sao Teotonio 85.39 21 *i*P P 18 12 41.5 +0.5
comp=Z,367nm,2.0s,mb6.2
KZN Kozani 85.47 357 *e*P P 18 12 41.5 +0.1
KZN Kozani 85.47 357 *e*P P 18 12 41.5 +0.1
EVIA Vianos 85.50 16 P P 18 12 41.8 +0.3
EVIA pmax pmax
comp=Z,155nm,1.6s,mb5.9
EVIA Vianos 85.50 16 P P 18 12 41.8 +0.3
comp=Z,155nm,1.6s,mb5.9
EMIN Mina Concepcio 85.60 20 P P 18 12 40.4 -1.7
comp=Z,906nm,2.6s,mb6.5
EADA Adamuz 85.60 18 P P 18 12 40.3 -1.8
comp=Z,918nm,2.5s,mb6.6
ELZG Elazig 85.63 344 *i*P P 18 12 43.9 +1.7
ETOB Tobarra 85.64 15 P P 18 12 42.8 +0.6
comp=Z,952nm,2.9s,mb6.5
MORF Marmelete 85.64 21 *i*P P 18 12 42.5 +0.2
comp=Z,303nm,2.1s,mb6.2
MORF *e*S S 18 23 14.4 +3.6
MORF *e*LQ 18 40 42.4
MORF *e*LR LR 18 44 27.5
comp=Z,32µm,22.0s
LIT Litokhoron 85.66 357 P P 18 12 42.0 -0.3
EGRO El Granado 85.66 20 P P 18 12 41.0 -1.3
comp=Z,1µm,3.0s
EIBI Ibiza 85.68 13 P P 18 12 43.0 +0.6
comp=Z,1µm,2.6s,mb6.6
ESKT Eskisehir 85.68 350 *i*P P 18 12 41.9 -0.5
HAKT HAKKARI 85.68 340 *i*P P 18 12 43.4 +0.9
SBUM Sibu 85.69 268 ⇓P P 18 12 43.9 +1.0
PVAQ Vaqueiros 85.74 20 *i*P P 18 12 43.4 +0.6
comp=Z,242nm,1.7s,mb6.2
PVAQ *e*S S 18 23 14.7 +2.9
PVAQ *e*LQ 18 35 13.7
PVAQ *e*LR LR 18 41 00.9
comp=Z,19µm,22.0s
EBAN Banos Encina 85.74 17 P P 18 12 42.6 -0.2
EBAN pmax pmax
comp=Z,206nm,1.7s,mb6.1
EBAN Banos Encina 85.74 17 P P 18 12 42.6 -0.2
comp=Z,206nm,1.7s,mb6.1
BALY Balya 85.74 353 *i*P P 18 12 42.1 -0.7
PFVI Vila Bisbo 85.77 21 *i*P P 18 12 43.2 +0.3
comp=Z,260nm,1.4s,mb6.3
PFVI *e*S S 18 23 14.6 +2.5
PFVI *e*LQ 18 41 17.3
PFVI *e*LR LR 18 44 22.4
comp=Z,28µm,22.0s
EBEN Beniarda 85.78 14 P P 18 12 43.8 +0.8
comp=Z,2µm,3.4s
PAIG Paliouri 85.79 356 P P 18 12 42.6 -0.3
CUC Castrocucco 85.81 2⇑*i*P P 18 12 42.3 -0.8
comp=Z,419nm,1.3s,mb6.5
CUC LR LR
comp=Z,16µm,19.0s,MS6.4
DURS Dursunbey 85.82 352 *i*P P 18 12 43.2 +0.1
PINB Pinarbasi 85.84 346 *i*P P 18 12 44.1 +0.8
PBDV Barranco-do-Ve 85.85 21 *i*P P 18 12 44.2 +0.9
comp=Z,229nm,1.8s,mb6.1
PBDV *e*S S 18 23 16.1 +3.2
PBDV *e*LQ 18 35 20.9
PBDV *e*LR LR 18 41 54.1
comp=Z,28µm,20.0s
BWNR Bhubaneshwar 85.89 300 *e*P P 18 12 43.0 -0.8
BWNR *e*S S 18 23 05.0 -8.8
MALT Malatya 85.90 344⇑*i*P P 18 12 49.3 +5.8
MALT pmax pmax
comp=Z,278nm,1.3s,mb6.3
MALT MLR MLR
comp=Z,14µm,19.0s,MS6.4
MALT Malatya 85.90 344⇓*i*P P 18 12 49.4 +5.9
MALT Malatya 85.90 344⇑*i*P P 18 12 49.3 +5.8
comp=Z,278nm,1.3s,mb6.3
MALT LR LR
comp=Z,14µm,19.0s,MS6.4
AJM Ajmer 85.90 312 *e*P P 18 12 42.0 -1.7
OTAV Otavalo 85.92 95⇑*i*P P 18 12 43.1 -0.8
comp=Z,24nm,0.8s,mb5.5
SRN Sarande 85.94 359 *e*PN P 18 12 44.2 +0.5
AKCD Akcadag 85.99 345 *i*P P 18 12 44.2 +0.2
DIYA Diyarbakir 86.00 343 *i*P P 18 12 45.1 +1.1
MEV Metsovon 86.01 358 P P 18 12 45.3 +1.2
GRGR Grenville 86.01 75 PFAKE 18 13 00.0 +16
GRGR LR LR
comp=Z,9µm,19.0s,MS6.2
VSL Villasalto 86.03 7⇑*i*P P 18 12 44.0 -0.1
comp=Z,214nm,1.0s,mb6.3
KEK Kerkira 86.11 359 *e*P P 18 12 45.0 +0.5
KEK Kerkira 86.11 359 *e*P P 18 12 45.0 +0.5
JAN Janina 86.15 358 *e*P P 18 12 45.9 +1.2
JAN Janina 86.15 358 *e*P P 18 12 45.9 +1.2
THL Klokotos Trika 86.21 357 *e*P P 18 12 44.6 -0.4
THL Klokotos Trika 86.21 357 *e*P P 18 12 44.6 -0.4
ALT Altintas 86.22 351 *i*P P 18 12 35.5 -10
EQES Quesada 86.22 17 P P 18 12 43.0 -2.1
comp=Z,728nm,2.6s,mb6.5
AYVA Ayvalik 86.24 353 *i*P P 18 12 44.6 -0.5
GDZ Gediz 86.24 351 *i*P P 18 12 44.5 -0.6
ELUQ Luque 86.25 18 P P 18 12 44.8 -0.5
IGT Igoumenitsa 86.28 358 P P 18 12 45.4 0.0
EHUE Huescar 86.28 16 P P 18 12 44.4 -1.0
EHUE pmax pmax
comp=Z,149nm,1.7s,mb5.9
EHUE Huescar 86.28 16 P P 18 12 44.4 -1.0
comp=Z,149nm,1.7s,mb5.9
JBP Jabalpur 86.32 306 *e*P P 18 12 45.3 -0.6
JBP *e*S S 18 23 06.6 -11
PRK Paraskevi 86.33 354 *e*P P 18 12 45.7 +0.1
PRK Paraskevi 86.33 354 *e*P P 18 12 45.7 +0.1
DEMI Demirci 86.35 352 *i*P P 18 12 45.0 -0.7
BBGH Gun Hill 86.36 73 P P 18 12 47.4 +1.3
BBGH LR LR
comp=Z,15µm,21.0s,MS6.4

NEO Neokhori 86.42 356 *e*P **P** 18 12 45.7 -0.4
NEO Neokhori 86.42 356 *e*P **P** 18 12 45.7 -0.4
EMUR La Murta 86.47 15 P **P** 18 12 44.3 -2.0
comp=Z,682nm,2.9s,mb6.4
MARD Mardin 86.47 342 *i* P **P** 18 12 46.7 +0.3
KDHN Kadinhani 86.54 349 *i* P **P** 18 12 46.4 -0.3
CTA Charters Tower 86.56 228 *e*P **P** 18 12 46.4 -0.4
comp=Z,71nm,0.8s,mb6.0
CTA *e* 18 16 32.1
CTA *e*S S 18 23 11.9 -8.0
CTA Charters Tower 86.56 228 *e*P **P** 18 12 46.4 -0.4
CTA *e*S S 18 23 11.9 -8.0
CTA pmax pmax
comp=Z,71nm,0.8s
CTAO Charters Tower 86.56 228⇑ *e*P **P** 18 12 45.9 -0.9
CTAO pmax pmax
comp=Z,98nm,0.8s,mb6.1
CTAO MLR MLR
comp=Z,7µm,21.0s,MS6.1
CTAO Charters Tower 86.56 228⇑ *e*P **P** 18 12 45.9 -0.9
comp=Z,98nm,0.8s,mb6.1
CTAO LR LR
comp=Z,7µm,21.0s,MS6.1
ESPR Espera 86.62 19 P **P** 18 12 47.6 +0.5
comp=Z,305nm,1.1s,mb6.4
TIP Timpagrande 86.64 1⇑ *i*P **P** 18 12 46.9 -0.2
comp=Z,262nm,1.1s,mb6.4
ECOG Cogollos-Vega 86.64 17 P **P** 18 12 47.5 +0.3
ECOG pmax pmax
comp=Z,59nm,0.8s,mb5.9
ECOG Cogollos-Vega 86.64 17 P **P** 18 12 47.5 +0.3
comp=Z,59nm,0.8s,mb5.9
ELOJ Sierra Loja 86.67 18 P **P** 18 12 47.6 +0.3
ELOJ pmax pmax
comp=Z,92nm,1.0s,mb6.0
ELOJ Sierra Loja 86.67 18 P **P** 18 12 47.6 +0.2
comp=Z,92nm,1.0s,mb6.0
AGG Agios Georgios 86.74 357 P **P** 18 12 47.0 -0.7
ATAB Bozova 86.74 344 *i* P **P** 18 12 49.2 +1.5
KAKA Kakadu 86.82 243 *e*P **P** 18 12 47.4 -0.8
comp=Z,112nm,0.9s,mb6.1
ERON Agron 86.86 17 P **P** 18 12 48.0 -0.2
comp=Z,28nm,0.7s,mb5.6
EVR Evrytania 86.86 357 *e*P **P** 18 12 48.6 +0.4
EVR Evrytania 86.86 357 *e*P **P** 18 12 48.6 +0.4
MANT Manisa 86.91 352 *i* P **P** 18 12 47.9 -0.6
MSL Mosul 86.92 340 *ex* x 18 12 49.0
MSL *ex* x 18 13 01.0
MSL *ex* x 18 15 18.0
MSL *ex* x 18 16 13.0
MSL *ex* x 18 23 13.0
MSL *ex* x 18 23 28.0
ANDN Andirin 86.93 346 *i* P **P** 18 12 48.4 -0.2
GZT Gaziantep 86.97 345 *i* P **P** 18 12 49.5 +0.7
EGUA Guajares 87.08 17 P **P** 18 12 48.7 -0.6
EGUA pmax pmax
comp=Z,334nm,1.0s,mb6.5
EGUA Guajares 87.08 17 P **P** 18 12 48.7 -0.6
comp=Z,334nm,1.0s,mb6.5
LKR Lokris 87.09 356 P **P** 18 12 48.5 -0.8
LKR Lokris 87.09 356 *e*P **P** 18 12 48.6 -0.8
LKR Lokris 87.09 356 *e*P **P** 18 12 48.6 -0.8
LKD Levkas 87.10 358 P **P** 18 12 49.4 0.0
KDAG Bornova 87.10 353 *i* P **P** 18 12 48.9 -0.5
EJIF Jimena Fronter 87.10 19 P **P** 18 12 49.0 -0.5
EJIF pmax pmax
comp=Z,82nm,1.0s,mb5.9
EJIF Jimena Fronter 87.10 19 P **P** 18 12 49.0 -0.5
comp=Z,82nm,1.0s,mb5.9
EMIJ Mijas 87.12 18 P **P** 18 12 49.6 0.0
comp=Z,513nm,2.4s,mb6.3
TCE Chacachacare 87.12 76 *e* **P** 18 12 47.9 -2.0
EBER Berja 87.13 17 P **P** 18 12 48.9 -0.7
comp=Z,340nm,2.2s,mb6.2
ENIJ Nijar 87.17 16 P **P** 18 12 50.1 +0.3
ENIJ pmax pmax
comp=Z,23nm,1.2s,mb5.3
ENIJ Nijar 87.17 16 P **P** 18 12 50.1 +0.3
comp=Z,23nm,1.2s,mb5.3
URLA Izmir 87.19 353 *i* P **P** 18 12 49.0 -0.8
CHOS Chios island 87.20 354 P **P** 18 12 49.8 -0.1
TPR Prospect 87.28 75 *e*P **P** 18 12 49.8 -0.8
TRN Trinidad (W) 87.36 75 *e*P **P** 18 12 50.0 -1.0
KAPI Kappang 87.39 258 P **P** 18 12 50.0 -1.1
comp=Z,512nm,1.1s,mb6.7,SNR=13
KAPI Kappang 87.39 258⇑ *i*P **P** 18 12 48.7 -2.4
comp=Z,505nm,1.5s,mb6.5
KAPI LR LR
comp=Z,2µm,22.0s,MS5.6
CEL Celeste 87.55 2 PFAKE 18 13 00.0 +8.4
CEL LR LR
comp=Z,52µm,22.0s,MS6.9
KSM Kuching 87.60 269⇑P **P** 18 12 53.2 +1.1
TPP Pointe-a-Pierr 87.60 76 *e* **P** 18 12 53.0 +0.8
VLS Valsamata 87.63 358 P **P** 18 12 52.0 0.0
VLS Valsamata 87.63 358 *e*P **P** 18 12 51.9 -0.1
VLS Valsamata 87.63 358 *e*P **P** 18 12 51.9 -0.1
DNZL Cakiroluk 87.67 351 *i* P **P** 18 12 52.4 +0.2
TBH Brigand Hill 87.68 75 *e*P **P** 18 12 53.6 +1.0
LTK Loutraki 87.71 356 P **P** 18 12 51.3 -1.1
RLS Riolos of Patr 87.73 357 *e*P **P** 18 12 53.0 +0.6
RLS Riolos of Patr 87.73 357 *e*P **P** 18 12 53.0 +0.6
YURE YUREGIR 87.77 346 *i* P **P** 18 12 53.6 +1.0
AYDN Tasoluk 87.79 352 *i* P **P** 18 12 52.7 0.0
GCAM G?zelcaml? 87.80 353 *i* P **P** 18 12 47.9 -4.9
PMPS Porto Santo 87.81 28 *e*P **P** 18 12 53.2 +0.3
comp=Z,519nm,1.4s,mb6.6
SMG Samos 87.82 353 *e*P **P** 18 12 52.0 -0.9
SMG Samos 87.82 353 *e*P **P** 18 12 52.0 -0.9
PMAR Madeira 87.96 29 *e*P **P** 18 12 54.2 +0.5
comp=Z,580nm,1.4s,mb6.6
COBT Iskenderun 87.98 346 *i* P **P** 18 12 54.4 +0.7
ABA Alger-Bouzarea 88.09 12 P **P** 18 12 56.3 +2.1
MEST Erdemli 88.21 347 *i* P **P** 18 12 53.6 -1.2
DID Didima 88.22 356 P **P** 18 12 53.3 -1.5
VLX Vlachokerasia 88.39 357 P **P** 18 12 55.5 -0.1
EBNR Beni Rached 88.40 13 P **P** 18 12 55.7 +0.1
BDRM Kayabasi 88.42 353 *i* P **P** 18 12 51.0 -4.7
NGP Nagpur 88.49 305⇑P **P** 18 12 52.0 -4.3
NGP *e*S SKSac 18 23 17.6 -4.2
ECHA Ech Chlef 88.51 14 P **P** 18 12 56.0 -0.2
TURN Turunc 88.52 352 *i* P **P** 18 12 55.9 -0.3
OKGL Djebel Kef Gue 88.52 14 P **P** 18 12 56.0 -0.2
ITM Ithomi 88.59 357 *e*P **P** 18 12 56.3 -0.2
ITM Ithomi 88.59 357 *e*P **P** 18 12 56.3 -0.2
SNG Songkhla 88.61 280 P **P** 18 12 59.0 +2.1
comp=Z,520nm,1.0s,mb6.8
KTGM Kuala Trenggan 88.65 277⇑P **P** 18 12 57.5 +0.3
DFRA Djebel Bou Aff 88.66 10 P **P** 18 13 00.0 +3.1
EMHD Djebel Mahouad 88.67 12 P **P** 18 12 57.2 +0.3
EANR 'Ain N'Sour 88.67 14 P **P** 18 12 56.5 -0.5
CMAH Djebel Manchou 88.72 9 P **P** 18 12 56.5 -0.7
PYL PYLOS 88.88 357 P **P** 18 12 57.3 -0.6
CKFL Kef-Lekhel 88.88 9 P **P** 18 12 58.5 +0.6
OJBR Djebel Berber 88.92 14 P **P** 18 12 57.0 -1.1
SET Setif 88.95 10 P **P** 18 13 01.0 +2.7
CASM Ain Smara 89.00 9 P **P** 18 12 59.0 +0.5
VLI Veliai 89.02 356 *e*P **P** 18 12 55.4 -3.2
VLI Veliai 89.02 356 *e*P **P** 18 12 55.4 -3.2
AKAS Kas 89.06 351 *i* P **P** 18 12 57.7 -1.1
OJGS Djebel Guires 89.06 14 P **P** 18 12 57.0 -1.8
ABSA Djebel Ababsia 89.08 9 P **P** 18 12 56.5 -2.4
ODJA Bouhanifia 89.10 15 P **P** 18 12 59.0 0.0
CKHR Kef el Ahmar 89.14 10 P **P** 18 13 01.5 +2.3
CTEI Djebel Teioual 89.19 10 P **P** 18 13 00.0 +0.6
ARG Arkhangelos 89.21 352 *e*P **P** 18 12 58.7 -0.8
ARG Arkhangelos 89.21 352 *e*P **P** 18 12 58.7 -0.8
SANT Santorini 89.24 354 P **P** 18 12 57.5 -2.1
ETRT Tiaret 89.25 14 P **P** 18 12 59.5 -0.2
VIS Vishakhapatnam 89.31 300 *i* P **P** 18 13 00.5 +0.3
VIS *ex* x 18 13 17.5
comp=Z,264nm,1.4s
VIS *i* S SKSac 18 23 27.6 +1.0
BHD Baghdad 89.68 338 *i* x x 18 12 59.0
BHD *i* x x 18 23 37.0
BHD *i* x x 18 23 47.0
KEST Kesra 89.77 7 P **P** 18 13 02.0 -0.1
comp=Z,32nm,1.1s,mb5.6,baz=250,slow=2.1,SNR=36
AKL Akola 89.83 307 *e*P **P** 18 13 01.5 -1.1
AKL *e*P 18 13 02.1
AKL AMb AMB 18 13 19.1
comp=Z,168nm,2.0s,mb6.0
CSS Prodhromos 89.91 348⇑ *i*P **P** 18 13 01.9 -0.8
comp=Z,312nm,1.8s,mb6.3
KARP Karpathos 89.94 353 *e*P **P** 18 13 01.4 -1.5
KARP Karpathos 89.94 353 *e*P **P** 18 13 01.4 -1.5
KULM Kulim 90.12 279⇓P **P** 18 13 03.8 -0.2
HWQ Hawqa 90.23 345 *e*P **P** 18 12 58.6 -5.7
VAM Vamos 90.27 355 *e*P **P** 18 13 04.3 -0.1
VAM Vamos 90.27 355 *e*P **P** 18 13 04.3 -0.1
NPS Neapolis 90.33 354 *e*P **P** 18 13 03.2 -1.5
NPS Neapolis 90.33 354 *e*P **P** 18 13 03.2 -1.5
ZKR Zakros 90.44 353 P **P** 18 13 04.7 -0.5
LAST Lasithi 90.44 354 P **P** 18 13 04.4 -0.8
IPM Ipoh 90.56 278⇑P **P** 18 13 06.7 +0.6
SIVA Sivas 90.62 355 P **P** 18 13 05.7 -0.4
BHL Bhannes 90.64 346 *e*P **P** 18 13 05.4 -0.8
BHJ Bhuj 90.86 314 *e*P **P** 18 13 05.4 -2.0
MYKOM Kota Tinggi 91.10 275⇓P **P** 18 13 08.7 +0.1
FRIM Kepong 91.22 277⇓P **P** 18 13 09.8 +0.6
KGM Kluang 91.23 275⇓P **P** 18 13 09.6 +0.4
HYB Hyderabad 91.93 304 *e*P **P** 18 13 11.5 -0.9
HYB pmax pmax
comp=Z,258nm,1.2s,mb6.4
HYB Hyderabad 91.93 304 *i* P **P** 18 13 11.5 -0.9
comp=Z,258nm,1.2s,mb6.4
HYB *e*PP PP 18 16 56.0 +4.5
HYB *e*SKS 18 23 40.0
HYB *e*S S 18 24 04.0 -6.5
HYB *e*SS SS 18 30 26.0 +7.5
HYB Hyderabad 91.93 304 *e*P **P** 18 13 11.5 -0.9
comp=Z,258nm,1.2s,mb6.4
WRAB Tennant Creek 91.95 238 P **P** 18 13 12.9 +0.7
comp=Z,408nm,1.1s,mb6.7,SNR=11
WRAB Tennant Creek 91.95 238⇑ *e*P **P** 18 13 10.0 -2.2
WRAB pmax pmax
comp=Z,112nm,1.2s,mb6.1
WRAB Tennant Creek 91.95 238⇑ *e*P **P** 18 13 10.0 -2.2
comp=Z,112nm,1.2s,mb6.1
WB2 Warramunga Arr 91.96 238 *e*P **P** 18 13 11.0 -1.3
WB2 *e*S SKSac 18 23 41.1 -0.2
WRA Warramunga Arr 91.96 238 P **P** 18 13 11.1 -1.2
comp=Z,26nm,0.8s,mb5.6,baz=39,slow=5.6,SNR=84
WRA PKiKP PKiKP 18 18 02.4 -0.1
comp=Z,1.1nm,0.6s,baz=349,slow=1.6,SNR=6.8
WRA PKKP PKKPbc 18 30 28.3 +1.0
comp=Z,3.0nm,1.0s,baz=219,slow=2.2,SNR=8.8
WRA LR LR 18 50 32.8
comp=Z,6µm,21.9s,MS6.0,baz=45,slow=33
WRA Warramunga Arr 91.96 238 P **P** 18 13 11.1 -1.2
WRA 18 30 28.3
WRA pmax pmax
comp=Z,26nm,0.9s
WRA MLR MLR
comp=Z,6µm,21.9s
LATR Latur 92.02 306 *e*P **P** 18 13 12.2 -0.6
CCAN Las Canadas 92.28 30 P **P** 18 13 15.5 +1.6
comp=Z,549nm,1.9s,mb6.6
MIB Mutribah 92.33 335 *e*P **P** 18 13 14.4 +0.3
baz=335
MIB AMb AMB 18 13 17.3
comp=Z,1µm,0.8s,mb7.2,baz=335
CHIE El Hierro 92.34 32 P **P** 18 13 15.7 +1.5
comp=Z,554nm,1.8s,mb6.6
UMR Umm Al-Rimmam 92.47 335 *e*P **P** 18 13 14.9 +0.1
baz=335
UMR AMb AMB 18 13 17.4
comp=Z,615nm,1.2s,mb6.8,baz=335
CFTV Fuerteventura 92.82 28 P **P** 18 13 16.1 -0.2
comp=Z,78nm,1.5s,mb5.9
KBD Kabd 92.84 334 *e*P **P** 18 13 16.2 -0.2
baz=335
KBD AMb AMB 18 13 19.2
comp=Z,299nm,1.2s,mb6.6,baz=335
RDF Al-Radifah 93.11 335 *e*P **P** 18 13 17.9 +0.2
baz=335
RDF AMb AMB 18 13 20.4
comp=Z,613nm,1.2s,mb6.9,baz=335
POO Poona 93.18 308 *e*P **P** 18 13 17.5 -0.6
BOM Bombay 93.33 309 *ex* x 18 13 09.7
BOM *ex* x 18 13 29.4
comp=Z,146nm,1.8s
ARMA Armidale 93.64 219 *e*P **P** 18 13 20.8 +1.0
KAD Karad 94.09 307 *e*P **P** 18 13 22.4 +0.1
MDRS Chennai 94.81 300⇑ *i*P **P** 18 13 25.0 -0.7
MDRS *i* x x 18 17 15.0
FITZ Fitzroy Crossi 94.88 246 *e*P **P** 18 13 25.1 -0.7
comp=Z,46nm,0.9s,mb5.9
FITZ *e* 18 17 06.3
FITZ *e*SKS 18 23 53.0
FITZ *e*S S 18 24 36.7 +0.5
ASAR Alice Springs 95.33 236 P **P** 18 13 27.2 -0.4
comp=Z,16nm,0.8s,mb5.5,baz=33,slow=4.6,SNR=72
ASAR PKKP PKKPbc 18 30 19.4 +0.8
comp=Z,6.7nm,0.9s,baz=204,slow=1.9,SNR=24
GOA Goa 95.84 307 *e*P **P** 18 13 29.4 -0.9
GOA AMb AMB 18 13 34.6
comp=Z,98nm,0.6s,mb6.4
MNGI Mangalore 97.58 305 *ex* x 18 14 37.8
KOD Kodaikanal 98.62 301 *e*P **P** 18 13 42.4 -0.6
KOD AMb AMB 18 13 59.9
comp=Z,66nm,1.2s,mb6.0
STKA Stephens Creek 98.88 226 *e*PDIF **P** 18 13 44.4 +0.8
comp=Z,6.3nm,0.9s,mb5.2
STKA *e*SKS 18 24 15.5
STKA *e*SDIF S 18 25 15.4 +5.5
STKA Stephens Creek 98.88 226 P **P** 18 13 44.6 +1.1
comp=Z,7.4nm,0.8s,mb5.2,baz=45,slow=2.9,SNR=7.4
STKA PKiKP PKiKP 18 18 14.2 0.0
comp=Z,7.8nm,1.0s,baz=0.0,slow=4.0,SNR=3.9
STKA PKKPbc PKKPbc 18 30 12.2 +3.0
comp=Z,4.5nm,0.9s,baz=163,slow=12,SNR=3.7
STKA LR LR 18 54 14.9
comp=Z,19µm,21.4s,MS6.5,baz=22,slow=33
MBWA Marble Bar 100.55 248 PFAKE 18 14 00.0 +8.5
MBWA LR LR
comp=Z,3µm,20.0s,MS5.8
LPAZ La Paz 105.19 97 PP PP 18 18 41.2 +7.6
comp=Z,3.4nm,0.8s,baz=349,slow=9.2,SNR=4.0
LPAZ PKKPbc PKKPbc 18 29 49.3 -0.8
comp=Z,0.4nm,0.3s,baz=14,slow=3.6,SNR=3.7
LPAZ La Paz 105.19 97 PFAKE 18 18 40.0 +14
LPAZ LR LR
comp=Z,3µm,22.0s,MS5.8
COCO West Island 106.44 272 PFAKE 18 18 40.0 +12
COCO LR LR
comp=Z,1µm,19.0s,MS5.6
SIV San Ignacio 109.06 91 PKiKP PKiKP 18 18 31.4 -1.9
comp=Z,3.8nm,1.0s,baz=301,slow=3.8,SNR=4.6
SIV PP PP 18 19 04.1 +2.1
comp=Z,6.0nm,0.9s,baz=342,slow=7.0,SNR=6.4
SIV PKKPbc PKKPbc 18 29 41.7 +3.7
comp=Z,1.5nm,0.8s,baz=134,slow=8.1,SNR=5.9
LVC Limon Verde 109.73 101 PFAKE 18 18 50.0 +16
LVC LR LR
comp=Z,4µm,20.0s,MS5.9
TOA0 Torodi Ar. Sit 111.13 17 *e*PKPdf PKiKP 18 18 35.9 -1.5
TORD Torodi Ar. Bea 111.13 17 Pdiff Pdif 18 14 37.3 -1.2
comp=Z,0.8nm,1.1s,baz=319,slow=4.2,SNR=2.5
TORD PKiKP PKiKP 18 18 36.3 -1.0
comp=Z,6.8nm,1.0s,baz=334,slow=1.8,SNR=18
TORD PKKPbc PKKPbc 18 29 31.4 0.0
comp=Z,4.5nm,0.8s,baz=154,slow=1.7,SNR=18
TORD PKKP PKKPbc 18 29 53.0 +22
comp=Z,10nm,1.0s,baz=171,slow=3.3,SNR=6.5
LCO Las Campanas 113.68 107 PFAKE 18 18 50.0 +8.3
LCO LR LR
comp=Z,13µm,22.0s,MS6.5
TIC Toumodi 116.00 26 *e*PKP1 PKPdf 18 18 45.9 -0.8
comp=Z,87nm,1.0s
DBIC Dimbokro 116.02 26 PKP PKPdf 18 18 46.2 -0.5
comp=Z,12nm,0.9s,baz=304,slow=5.6,SNR=8.6
DBIC PKKPbc PKKPbc 18 29 20.7 +5.8
comp=Z,4.0nm,0.8s,baz=192,slow=6.0,SNR=3.4
DBIC Dimbokro 116.02 26 PKP PKPdf 18 18 46.2 -0.5
DBIC PKKPbc PKKPbc 18 29 20.7 +5.8
DBIC LR LR
comp=Z,13µm,20.0s,MS6.5
DGAR Diego Garcia 116.23 296 PFAKE 18 19 00.0 +13
DGAR LR LR
comp=Z,11µm,20.0s,MS6.5
KIC Kosan Boka 116.35 26 *e*PKP1 PKPdf 18 18 47.2 -0.2
comp=Z,90nm,1.0s
BDFB Brasilia 116.36 80 PFAKE 18 19 00.0 +13
BDFB LR LR
comp=Z,7µm,21.0s,MS6.2
LIC Lamto 116.41 26 *e*PKIKP PKPdf 18 18 46.1 -1.4
comp=Z,41nm,1.0s
LIC *e*MLR MLR
comp=Z,22µm,19.5s,MS6.5
LIC Lamto 116.41 26 *e*PKP1 PKPdf 18 18 46.5 -1.0
comp=Z,69nm,1.3s
LIC Lamto 116.41 26 *e*PKPdf PKPdf 18 18 46.1 -1.4
LIC LR LR
comp=Z,11µm,19.5s,MS6.5
CFAA Coronel Fontan 117.03 107 PKKPbc PKKPbc 18 29 15.1 +3.5
comp=Z,0.4nm,0.6s,baz=81,slow=0.6,SNR=6.2
CPUP Villa Florida 119.27 95 PKP PKPdf 18 18 51.3 -1.2
comp=Z,8.3nm,1.0s,baz=219,slow=3.8,SNR=8.0
CPUP PKKPbc PKKPbc 18 29 06.8 +3.3
comp=Z,5.3nm,0.7s,baz=98,slow=3.2,SNR=13
CPUP Villa Florida 119.27 95 *e*PKPdf PKPdf 18 18 49.8 -2.7
CPUP LR LR
comp=Z,692nm,19.0s,MS5.3
MSEY Mahe Island 121.87 315 PFAKE 18 19 10.0 +12
MSEY LR LR
comp=Z,11µm,21.0s,MS6.5
PLCA Paso Flores 122.53 116 PKP PKPdf 18 18 57.5 -0.8
comp=Z,13nm,1.1s,baz=309,slow=3.0,SNR=13
PLCA PKKPbc PKKPbc 18 28 54.5 +3.0
comp=Z,3.1nm,0.9s,baz=103,slow=4.3,SNR=3.1
KMBO Kilima Mbogo 124.52 337 PKP PKPdf 18 19 03.9 +0.8
comp=Z,40nm,0.9s,baz=13,slow=4.1,SNR=49
KMBO Kilima Mbogo 124.52 337 *e*PKPdf PKPdf 18 19 03.6 +0.5
KMBO LR LR
comp=Z,7µm,21.0s,MS6.3
TRQA Tornquist 125.25 108 *e*PKPdf PKPdf 18 19 01.9 -1.8
DRV Dumont d'Urvil 128.55 206 Pdif Pdif 18 15 59.0 +3.0
DRV Dumont d'Urvil 128.55 206 PP PP 18 21 18.0 +2.0
DRV SP SP 18 31 33.0 +15
DRV SS SS 18 38 36.0 +7.0
DRV L 18 53 00.0
DRV R 19 03 00.0
SBA Scott Base 133.55 189 *e*PKIKP PKPdf 18 19 18.3 0.0
CASY Casey 137.20 217 PFAKE 18 19 40.0 +15
CASY LR LR
comp=Z,8µm,20.0s,MS6.5
ABPO Ambohimpanom 138.19 317 *e*PKPpre 18 19 25.1
ABPO LR LR
comp=Z,9µm,21.0s,MS6.5
LSZ Lusaka 140.06 345 *e*PKPpre 18 19 24.3
LSZ *e*PP PP 18 22 24.1 -4.5
LSZ *e*SKP 18 23 04.7
LSZ LR LR
comp=Z,14µm,21.0s,MS6.7
MIR Mirnyy 143.70 221α *i*PKHKP 18 19 32.0
MIR *i* 18 22 56.0
MIR pmax pmax
comp=Z,400nm,2.0s
MIR pmax pmax
comp=Z,2µm,6.0s
QSPA South Pole Qui 144.32 180 PKP PKPdf 18 19 36.0 -1.8
comp=Z,74nm,0.8s,baz=43,slow=1.0,SNR=174
QSPA SKPbc SKPbc 18 23 10.7 -2.2
comp=Z,29nm,1.1s,baz=37,slow=8.9,SNR=4.7
TSUM Tsumeb 144.72 1 PKP PKPdf 18 19 38.7 -1.6
comp=Z,260nm,0.9s,baz=349,slow=5.5,SNR=206
TSUM SKPbc SKPbc 18 23 16.0 +0.3
comp=Z,10nm,1.0s,baz=350,slow=2.8,SNR=3.9
TSUM Tsumeb 144.72 1 *e*PKPdf PKPdf 18 19 38.4 -1.9
HOPE Hope Point 148.84 112 PFAKE 18 20 00.0 +14
HOPE LR LR
comp=Z,9.0nm,20.0s
TRIS Tristan da Cun 152.77 63 *e*PKPbc PKPbc 18 19 59.9 0.0
BOSA Boshof 153.59 346 PKP PKPdf 18 19 54.6 +0.3
comp=Z,28nm,1.1s,baz=18,slow=2.0,SNR=15
BOSA PKPbc PKPbc 18 20 03.1 +1.1
comp=Z,32nm,0.9s,baz=46,slow=1.8,SNR=25
BOSA Boshof 153.59 346 *e*PKPdf PKPdf 18 19 53.5 -0.7
BOSA LR LR
comp=Z,20µm,22.0s,MS6.9
MAW Mawson 155.44 220 *e*P PKPdf 18 19 55.1 -0.4
comp=Z,14nm,1.0s
MAW Mawson 155.44 220 PKP PKPdf 18 19 55.1 -0.5
comp=Z,12nm,0.9s,baz=324,slow=2.3,SNR=23
MAW PKPbc PKPdf 18 20 04.6 +9.1
comp=Z,27nm,1.1s,baz=247,slow=3.7,SNR=16
MAW PKPab PKPab 18 20 22.8 +1.3
comp=Z,41nm,0.8s,baz=102,slow=5.5,SNR=13
MAW Mawson 155.44 220 *e*P PKPdf 18 19 55.1 -0.4
MAW LR LR
comp=Z,16µm,22.0s,MS6.8
VNA3 Neumayer Olymp 159.32 155 *e*PKPdf PKPdf 18 19 57.3 -3.0
VNA3 *e* 18 20 01.5
VNA3 *e* 18 20 10.3
VNA3 *e* 18 20 36.2
VNA3 *e* 18 20 50.6
VNA1 Neumayer--Stat 160.06 154 *e*PKPdf PKPdf 18 19 59.5 -1.7
VNA1 *e* 18 20 03.9
VNA1 *e* 18 20 12.6
VNA1 *e* 18 20 40.1
VNA1 *e* 18 20 54.1
VNA2 Neumayer--Watz 160.09 155 *e*PKPdf PKPdf 18 19 58.6 -2.6
baz=281,slow=1.2
VNA2 *e* 18 20 02.8
VNA2 *e* 18 20 12.8
VNA2 *e* 18 20 19.1
VNA2 *e* 18 20 39.8
VNA2 *e* 18 20 54.4
SNAA Sanae 160.56 160 *e*PKPdf PKPdf 18 19 57.8 -3.9
SNAA *e* 18 20 03.5
SNAA *e* 18 20 13.4
SNAA *e* 18 20 19.6
SNAA *e* 18 20 41.4
SNAA *e* 18 20 55.8
SNAA Sanae 160.56 160 *e*PKPdf PKPdf 18 19 58.9 -2.8
SYO Syowa Base 162.48 206⇑ *e*X PKPdf 18 20 00.6 -3.2
SYO Syowa Base 162.48 206⇑ *e*PP PP 18 24 39.0 +1.9
SYO Syowa Base 162.48 206⇑ *e*PKPab PP 18 24 39.0 +1.9
MAIT Maitri 163.45 172 *e*PKPdif 18 20 03.1
NVL N'lazarevskaya 163.47 173*c i*PKIKP PKPdf 18 20 02.7 -2.0
NVL *e* 18 24 49.8
NVL pmax pmax
comp=Z,59nm,2.6s

MOS **02** *18:03:48.8±0.8, 54.50N×161.87W, h10km, mb5.8/73, Error ellipse: s-maj=12.7km s-min=4.6km az=92.0*
BJI **02** *18:03:51.7, 54.64N×162.10W, h29km, mB5.9, mb5.5, Ms6.2, Msz6.1*
IDC **02** *18:03:53.5±6.5, 54.44N×161.75W, h32km±4.9km, mb5.1/20, mb1 5.2/21, mb1mx5.1/27, mbtmp5.1/21, ML4.1/1, Error ellipse: s-maj=24.2km s-min=13.0km az=166.0*
ISCJB **02** *18:03:53.9±0.6, 54.39N±0.006×161.72W±0.05, h51km±3.3km, mb5.6/175, MS5.9/8, Error ellipse: s-maj=9.9km s-min=3.8km az=160.1*
NEIC **02** *18:03:55.0±0.4, 54.42N×161.70W, h47km±3.3km, mb5.6/79, ML5.2(AEIC), Error ellipse: s-maj=7.2km s-min=3.0km az=159.0*
NEIC Felt at Cold Bay, King Cove and Sand Point.
SZGRF **02** *18:03:55.8, 54.81N×160.62W, h33km, mb5.8, Alaska Peninsula, United States*

ISC 02 18:03:55.3±0.5, 5443N±0.006×16171W±0.005, h48km±3.3km, h44km±1.6km: pP-P, n420, σ0.978/431, mb5.6/175, MS5.9/8, 146C-16D, Alaska Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FALS	**False Pass**	**1.08**	**294**	P	**Pn**	**18 04 14.0**	**0.0**
FALS				S	**Sn**	**18 04 29.0**	**+1.0**
SDPT	**Sand Point**	**1.17**	**37**	P	**Pn**	**18 04 14.7**	**-0.6**
SDPT				S	**Sn**	**18 04 29.7**	**-0.3**
AKUT	**Akutan**	**2.40**	**265**	P	**Pn**	**18 04 32.7**	**+0.6**
AKUT				S	**Sn**	**18 05 01.3**	**+1.1**
AKLV	**Akutan Long Va**	**2.50**	**266**	P	**Pn**	**18 04 33.7**	**+0.2**
AKLV				S	**Sn**	**18 05 05.4**	**+2.7**
CHGN	**Chignik**	**2.66**	**44**	P	**Pn**	**18 04 35.4**	**-0.2**
UNV	**Unalaska Valle**	**2.88**	**260**	P	**Pn**	**18 04 39.0**	**+0.4**
UNV				S	**Sn**	**18 05 13.5**	**+1.5**
OKCD	**Okmok Cone D**	**3.92**	**258**	P	**Pn**	**18 04 53.1**	**+0.3**
OKCE	**Okmok Cone E**	**3.95**	**258**	P	**Pn**	**18 04 53.3**	**0.0**
NIKO	**Nikolski**	**4.49**	**254**	P	**Pn**	**18 05 00.4**	**-0.3**
KDAK	**Kodiak Island**	**6.11**	**53**	Pn	**Pn**	**18 05 20.7**	**-2.2**
	4.5nm,0.3s,baz=180,slow=8.1,SNR=4.2						
KDAK				Sn	**Sn**	**18 06 26.9**	**-4.6**
	baz=330,slow=20,SNR=2.3						
KDAK	**Kodiak Island**	**6.11**	**53**	P	**Pn**	**18 05 23.6**	**+0.7**
ADK	**Adak**	**9.35**	**260**	*e*P	**Pn**	**18 06 06.5**	**-0.8**
EYAK	**Cordova Ski Ar**	**10.54**	**48**	*e*Pn	**Pn**	**18 06 21.3**	**-2.1**

AMKA **Amchitka** 11.86 263 Pn **Pn** 18 06 41.3 -0.3
DAWY **Dawson** 14.86 41 *e*Pn **Pn** 18 07 21.7 -0.4
PET **Petropavlovsk** 23.29 283 *e*P **P** 18 08 58.7 +0.1
PET pmax pmax
comp=Z,305nm,0.8s,mb5.8
PET **Petropavlovsk** 23.29 283 *e*P **P** 18 08 58.1 -0.5
comp=Z,324nm,1.0s,mb5.7
PETK **Petropavlovsk-** 23.80 284 P **P** 18 09 02.8 -0.5
comp=Z,107nm,0.6s,mb5.5,baz=76,slow=12,SNR=23
SKR **Severo-Kuril's** 25.63 279 *e*P **P** 18 09 19.0 -0.9
SKR pmax pmax
comp=Z,220nm,0.8s,mb5.7
SKR pmax pmax
comp=E,70μm,0.8s
TIXI **Tiksi** 33.41 327⇑ *e*P **P** 18 10 27.1 -1.6
TIXI pmax pmax
comp=Z,52nm,1.0s,mb5.4
TIXI **Tiksi** 33.41 327 *e*P **P** 18 10 27.4 -1.3
comp=Z,57nm,1.0s,mb5.5
YSS **Yuzh-Sakhalins** 35.15 281 P **P** 18 10 41.9 -2.1
YAK **Yakutsk** 35.30 311⇑ *e*P **P** 18 10 44.1 -1.0
YAK pmax pmax
comp=Z,329nm,0.9s,mb6.3
YAK **Yakutsk** 35.30 311 *e*P **P** 18 10 43.8 -1.3
comp=Z,326nm,0.9s,mb6.3
PDAR **Pinedale Array** 35.60 87 P **P** 18 10 47.9 -0.1
comp=Z,4.1nm,0.8s,mb4.4,baz=341,slow=4.5,SNR=4.2
ASAJ **Asahikawa** 36.86 277 P **P** 18 10 58.0 -0.7
ERM **Erimo** 37.81 274 P **P** 18 11 06.9 +0.2
comp=Z,597nm,0.8s,mb6.4,SNR=10
ERM **Erimo** 37.81 274 *d iP* **P** 18 11 05.7 -1.0
ERM **Erimo** 37.81 274 *e*P **P** 18 11 06.1 -0.6
comp=Z,160nm,1.1s,mb5.7
HABR **Khabarovsk** 38.67 288⇑ *e*P **P** 18 11 13.2 -0.6
HABR *e* 18 12 40.8
HABR *e* 18 13 24.1
HABR *e*S **S** **18 17 05.5 -1.3**
HABR *e* 18 19 54.3
HABR *e* 18 21 18.6
ULM **Lac du Bonnet** 39.12 68 P **P** **18 11 17.9 +0.3**
comp=Z,37nm,1.0s,mb5.1,baz=287,slow=5.5,SNR=4.3
LPM **Los Pinos Moun** 42.92 95 P **P** **18 11 42.6 -6.5**
VLA **Vladivostok** 43.62 283 *e*P **P** **18 11 53.0 -1.5**
VLA pmax pmax
comp=Z,76nm,2.1s,mb5.1
VLA MLR MLR
comp=Z,22μm,20.0s,MS6.0
MDJ **Mudanjiang** 43.98 287 P **P** **18 11 56.0 -1.4**
MDJ AP pP 18 12 07.2 -3.2
MDJ XP sP 18 12 11.9 -4.2
MDJ S **S** **18 18 24.4 -1.2**
MDJ AMB AMB
comp=Z,20nm,0.9s,mb4.8
MDJ AMB AMB
comp=Z,815nm,10.8s
MDJ LR LR
comp=E,19μm,21.7s
MDJ LR LR
comp=Z,23μm,20.2s,MS6.1
BOD **Bodaibo** 44.22 310 *e*P **P** **18 11 57.6 -1.6**
BOD pmax pmax
comp=Z,103nm,1.0s,mb5.5
MAJO **Matsushiro** 44.29 272 *e*P **P** **18 11 59.7 -0.3**
MAJO pmax pmax
comp=Z,100nm,0.8s,mb5.6
MAJO **Matsushiro** 44.29 272 *e*P **P** **18 11 59.7 -0.4**
comp=Z,102nm,0.8s,mb5.6
MJAR **Matsushiro Arr** 44.29 272 P **P** **18 11 59.9 -0.1**
comp=Z,29nm,0.9s,mb5.0,baz=36,slow=7.6,SNR=13
HIA **Hailar** 46.44 298⇑ *iP* **P** **18 12 16.0 -0.9**
HIA **Hailar** 46.44 298⇑ *iP* **P** **18 12 16.1 -0.8**
CN2 **Changchun** 46.80 288 *e*P **P** **18 12 19.4 -0.4**
CN2 *e*AP pP 18 12 31.8 -1.1
CN2 *e*S **S** **18 19 04.3 -2.0**
CN2 AMB AMB
comp=Z,200nm,5.0s
CN2 LR LR
comp=N,26μm,20.0s
CN2 LR LR
comp=E,18μm,20.0s
CN2 LR LR
comp=Z,30μm,20.0s
KBS **Kingsbay** 46.85 2 *e*P **P** **18 12 20.2 +0.5**
KBS *e*S **S** **18 19 08.9 +2.7**
KBS **Kingsbay** 46.85 2 *e*P **P** **18 12 19.4 -0.4**
SPITS **Spitsbergen Ar** 47.65 1 P **P** **18 12 24.8 -1.2**
comp=Z,26nm,0.8s,mb5.3,baz=34,slow=6.1,SNR=6.5
TXAR **Lajitas Array** 48.27 97 P **P** **18 12 31.6 +0.2**
comp=Z,4.5nm,0.8s,mb4.6,baz=294,slow=5.4,SNR=4.0
SFJD **Kangerlussuaq** 48.43 29 P **P** **18 12 33.2 +1.1**
comp=Z,89nm,0.8s,mb5.8,baz=291,slow=8.4,SNR=7.5
HDIL **Hopedale** 48.69 75 *e*P **P** **18 12 33.6 -0.8**
comp=Z,160nm,0.8s,mb6.1
SNY **Shenyang** 49.13 288 ⇑P **P** **18 12 37.5 -0.3**
SNY AMB AMB
comp=Z,77nm,1.1s,mb5.7
KSRS **Korea Array** 49.64 280 P **P** **18 12 42.1 +0.4**
comp=Z,68nm,0.8s,mb5.7,baz=47,slow=7.1,SNR=21
KS15 **Wonju Array Si** 49.67 280 *e*P **P** **18 12 42.2 +0.2**
INCN **Inchon** 50.36 281 *e*P **P** **18 12 47.1 -0.1**
comp=Z,115nm,1.1s,mb5.8
BJO **Bjornoya** 51.35 360 *e*S **S** **18 20 12.7 +3.4**
DL2 **Dalian** 52.21 286 P **P** **18 13 00.5 -0.5**
DL2 AMB AMB
comp=Z,40nm,0.9s,mb5.3
TLY **Talaya** 52.73 309 P **P** **18 13 05.4 +0.7**
comp=Z,525nm,0.9s,mb6.5,SNR=7.7
TLY **Talaya** 52.73 309 *e*P **P** **18 13 04.6 -0.1**
TLY pmax pmax
comp=Z,92nm,0.9s,mb5.7
TLY **Talaya** 52.73 309 *e*P **P** **18 13 04.7 0.0**
comp=Z,76nm,0.8s,mb5.7
ALLY **Alegheny Colle** 53.02 68 *e*P **P** **18 13 06.0 -1.0**
comp=Z,143nm,1.0s,mb5.8
ULN **Ulaanbaatar** 53.74 303⇑ *e*P **P** **18 13 11.8 -0.4**
ULN **Ulaanbaatar** 53.74 303 *e*P **P** **18 13 11.9 -0.3**
MOY **Mondy** 53.94 310 *e*P **P** **18 13 14.3 +0.8**
MOY pmax pmax
comp=Z,119nm,2.2s,mb5.4
SONM **Songino Array** 54.08 304 P **P** **18 13 15.2 +0.5**
comp=Z,70nm,0.9s,mb5.6,baz=45,slow=7.2,SNR=12
SONM PcP PcP 18 14 19.4 +0.5
comp=Z,17nm,0.9s,baz=46,slow=4.2,SNR=3.9
KRAR **Krasnoyarsk** 54.26 318 *d iP* **P** **18 13 15.4 -0.4**
KRAR pmax pmax
comp=Z,68nm,1.0s,mb5.5
BJI **Beijing** 54.44 291 P **P** **18 13 16.5 -0.9**
BJI AMB AMB
comp=Z,55nm,1.3s,mb5.3
BJI **Beijing** 54.44 291 P **P** **18 13 16.5 -0.9**
comp=Z,55nm,1.3s,mb5.3
MIV **Mineville/With** 54.84 62 *e*P **P** **18 13 14.6 -5.6**
MDV **Middlebury** 55.07 62 *e*P **P** **18 13 18.7 -3.1**
ELN **Prospectdale** 55.79 72 *e*P **P** **18 13 25.7 -1.4**
KEV **Kevo** 55.97 356 *e*p **P** **18 13 25.8 -2.1**
comp=Z,100nm,0.7s,mb6.0
KEV **Kevo** 55.97 356 *e*P **P** **18 13 25.8 -2.1**
KEV pmax pmax
comp=Z,100nm,0.7s,mb6.0
ARCES **ARCESS Array B** 56.24 357 P **P** **18 13 29.1 -0.8**
comp=Z,64nm,0.8s,mb5.7,baz=10,slow=7.4,SNR=12
ARE0 **ARCESS Array S** 56.24 357 *e*P **P** **18 13 28.2 -1.7**
TRO **Tromso** 56.25 360 *e*P **P** **18 13 28.1 -1.9**
TRO *e*S **S** **18 21 19.0 +3.3**
HHC **Hu-ho-hao-te** 56.36 295 ⇓P **P** **18 13 31.9 +0.8**
HHC AP pP 18 13 44.6 +0.1
HHC PCP PcP 18 14 28.7 +0.9
HHC PP PP 18 15 37.1 +0.5
HHC SCP ScP 18 18 21.6 -1.2
HHC PCS PcS 18 18 29.8 +1.4
HHC S **S** **18 21 17.7 -0.1**
HHC SCS ScS 18 23 14.0 -1.8
HHC SS SS 18 25 04.1 -0.5
HHC AMB AMB
comp=Z,57nm,1.1s,mb5.5
HHC AMB AMB
comp=Z,2μm,8.4s
HHC LR LR
comp=N,9μm,17.6s,MS6.1
HHC LR LR
comp=E,10μm,17.6s,MS6.1
HHC LR LR
comp=Z,12μm,18.8s,MS6.0
WES **Weston** 57.17 62 *e*P **P** **18 13 35.7 -1.2**
comp=Z,73nm,1.0s,mb5.7

LVZ **Lovozero** 57.39 353 P **P** **18 13 37.7 -0.3**
comp=Z,1μm,0.9s,SNR=12
EMMW **East Machias** 57.45 58 *e*P **P** **18 13 37.9 -0.9**
NJ2 **Nanjing** 58.70 282 *e*P **P** **18 13 46.5 -1.2**
NJ2 AP pP 18 13 59.1 -2.1
NJ2 XP sP 18 14 04.6 -2.2
NJ2 PP PP 18 15 58.6 +1.0
NJ2 S **S** **18 21 48.0 -0.8**
NJ2 AMB AMB
comp=Z,50nm,0.9s,mb5.5
NJ2 AMB AMB
comp=Z,470nm,7.4s
NJ2 LR LR
comp=N,5μm,23.8s,MS5.9
NJ2 LR LR
comp=E,12μm,27.5s,MS5.9
NJ2 LR LR
comp=Z,12μm,27.5s,MS5.9
ZALV **Zalesovo Beam** 58.87 321 P **P** **18 13 48.3 -0.3**
comp=Z,14nm,0.7s,mb5.1,baz=37,slow=6.9,SNR=4.8
STOK **Stokkvaagen** 59.50 2 *e*P **P** **18 13 52.5 -0.2**
MOR8 **Moi Rana** 59.70 2⇑ *iP* **P** **18 13 52.3 -1.8**
MOR8 AMb AMB 18 13 53.2
comp=Z,63nm,1.0s,mb5.6
NSS **Namsos** 61.28 3 *e*P **P** **18 14 02.1 -2.8**
WHN **Wuhan** 62.38 284 ⇑P **P** **18 14 12.4 -0.5**
WHN AP pP 18 14 24.1 -2.4
JOF **Joensuu** 62.55 353 *e*p **P** **18 14 11.6 -1.9**
comp=Z,87nm,0.7s,mb6.0
JOF **Joensuu** 62.55 353 *e*P **P** **18 14 11.6 -1.9**
JOF pmax pmax
comp=Z,87nm,0.7s,mb6.0
XAN **Xi'an** 62.78 291 P **P** **18 14 15.1 -0.3**
XAN PP PP 18 16 32.0 -1.5
XAN S **S** **18 22 39.8 -0.9**
XAN SS SS 18 26 45.8 +0.3
XAN AMB AMB
comp=Z,37nm,1.3s,mb5.3
XAN LR LR
comp=N,10μm,21.3s,MS6.0
XAN LR LR
comp=E,6μm,21.9s,MS6.0
XAN LR LR
comp=Z,11μm,21.3s,MS6.0
GTA **Gaotai** 63.49 301 P **P** **18 14 19.6 -0.5**
GTA AP pP 18 14 32.4 -1.3
GTA XP sP 18 14 37.8 -1.4
GTA PP PP 18 16 40.1 +0.5
GTA S **S** **18 22 44.5 -4.9**
GTA SCS ScS 18 24 05.5 -3.5
GTA AMB AMB
comp=Z,76nm,1.2s,mb5.7
GTA AMB AMB
comp=Z,361nm,7.5s
GTA LR LR
comp=N,17μm,19.2s
GTA LR LR
comp=E,22μm,21.0s
GTA LR LR
comp=Z,39μm,21.6s
KAF **Kangasniemi** 63.63 356 *ep* **P** **18 14 18.9 -1.8**
comp=Z,140nm,0.7s,mb6.1,baz=1.7,slow=6.3
KAF **Kangasniemi** 63.63 356 *e*P **P** **18 14 18.9 -1.8**
KAF pmax pmax
comp=Z,140nm,0.7s,mb6.1
DOMB **Dombas** 63.65 5 *e*P **P** **18 14 20.5 -0.2**
DOMB AMb AMB 18 14 22.2
comp=Z,112nm,1.2s,mb5.8
KURK **Kurchatov** 63.74 322⇑ *e*P **P** **18 14 20.9 -0.6**
KURK pmax pmax
comp=Z,78nm,1.1s,mb5.7
KURK **Kurchatov** 63.74 322⇑ *e*P **P** **18 14 20.0 -1.5**
SVE **Sverdlovsk** 63.87 336⇑ *e*P **P** **18 14 22.5 +0.2**
SVE pmax pmax
comp=Z,156nm,1.0s,mb6.0
LZH **Lanzhou** 63.95 296 ⇑P **P** **18 14 23.8 +0.6**
LZH AP pP 18 14 34.0 -2.8
LZH XP sP 18 14 38.1 -4.2
LZH PP PP 18 16 46.0 +2.2
LZH S **S** **18 22 55.0 -0.3**
LZH XS sS 18 23 12.3 -5.8
LZH SCS ScS 18 24 10.2 -2.4
LZH SS SS 18 27 05.0 +1.3
LZH AMB AMB
comp=Z,119nm,1.1s,mb5.8
LZH AMB AMB
comp=Z,1μm,7.0s
LZH LR LR
comp=N,7μm,16.0s
LZH LR LR
comp=Z,14μm,19.5s,MS6.2
LZH **Lanzhou** 63.95 296 ⇑P **P** **18 14 23.8 +0.6**
LZH 18 16 46.0
LZH S **S** **18 22 55.0 -0.3**
LZH *SS sS 18 23 12.3 -5.8
LZH 18 24 10.2
LZH SS SS 18 27 05.0 +1.3
LZH pmax pmax
comp=Z,119nm,1.1s,mb5.8
LZH **Lanzhou** 63.95 296 ⇑P **P** **18 14 23.8 +0.6**
comp=Z,119nm,1.1s,mb5.8
LZH pP pP 18 14 34.0 -2.8
LZH sP sP 18 14 38.1 -4.2
LZH PP PP 18 16 46.0 +2.2
LZH S **S** **18 22 55.0 -0.3**
LZH sS sS 18 23 12.3 -5.8
LZH ScS ScS 18 24 10.2 -2.4
LZH SS SS 18 27 05.0 +1.3
HYA **Hoyanger** 64.36 6 *e*P **P** **18 14 26.2 +0.8**
HYA AMb AMB 18 14 28.3
comp=Z,109nm,1.5s,mb5.7
BRVK **Borovoye** 64.55 328 *e*P **P** **18 14 26.8 0.0**
BRVK pmax pmax
comp=Z,175nm,1.0s,mb6.0
BRVK **Borovoye** 64.55 328 *e*P **P** **18 14 26.8 0.0**
comp=Z,175nm,1.0s,mb6.0
ARU **Arti** 64.72 337 P **P** **18 14 27.2 -0.7**
comp=Z,1μm,0.6s,SNR=12
ARU **Arti** 64.72 337 *c iP* **P** **18 14 27.0 -0.9**
ARU 18 16 50.0
ARU PPP 18 18 25.4
ARU *e*S **S** **18 23 02.6 -1.6**
ARU pmax pmax
comp=Z,157nm,1.0s,mb6.0
NB2 **NORSAR Subarra** 64.75 4 P **P** **18 14 27.7 -0.2**
comp=Z,136nm,1.0s,mb5.9,baz=357,slow=6.5
NOA **NORSAR Array B** 64.75 4 P **P** **18 14 27.8 -0.2**
comp=Z,79nm,0.9s,mb5.7,baz=356,slow=6.5,SNR=15
NAO01 **NORSAR Array S** 64.93 4 *e*P **P** **18 14 28.5 -0.7**
comp=Z,98nm,1.1s,mb5.8
ASK **Askoy** 64.97 7 *e*P **P** **18 14 28.6 -0.8**
ASK AMb AMB 18 14 29.3
comp=Z,127nm,1.0s,mb5.9
BER **Bergen** 65.08 7 *e*P **P** **18 14 30.4 +0.3**
EGD **Espegrend** 65.18 7 *e*P **P** **18 14 29.9 -0.9**
EGD AMb AMB 18 14 30.6
comp=Z,145nm,1.0s,mb6.0
MKAR **Makanchi Array** 65.57 317 P **P** **18 14 32.9 -0.6**
comp=Z,31nm,0.9s,mb5.3,baz=47,slow=6.9,SNR=7.6
MKAR **Makanchi Array** 65.57 317 P **P** **18 14 32.9 -0.6**
ODD1 **Odda** 65.63 6⇑ *iP* **P** **18 14 32.7 -1.0**
ODD1 AMb AMB 18 14 34.7
comp=Z,142nm,1.1s,mb5.9
WMQ **Urumqi** 65.73 312⇑ *iP* **P** **18 14 35.2 +0.6**
WMQ AP pP 18 14 48.2 -0.1
WMQ PCP PcP 18 15 06.7 +1.2
WMQ PP PP 18 17 01.7 +2.6
WMQ S S 18 23 15.2 -1.7
WMQ XS sS 18 23 37.2 -2.6
WMQ AMB AMB
comp=Z,93nm,1.0s,mb5.8
WMQ AMB AMB
comp=Z,2μm,6.4s
WMQ LR LR
comp=N,16μm,20.9s
WMQ LR LR
comp=E,14μm,21.0s
WMQ LR LR
comp=Z,17μm,20.8s
PUL **Pulkovo** 65.75 353⇑ *eP* **P** **18 14 34.4 -0.1**
KONO **Kongsberg** 66.06 5⇑ *iP* **P** **18 14 36.7 +0.2**
KONO **Kongsberg** 66.06 5⇑ *eP* **P** **18 14 36.4 -0.1**
KONO **Kongsberg** 66.06 5⇑ *eP* **P** **18 14 36.5 0.0**
BLS5 **Blasjo** 66.11 7⇑ *iP* **P** **18 14 37.2 +0.5**

BLS5 AMb AMB 18 14 38.8
comp=Z,88nm,1.0s,mb5.8
KMY **Karmoy** 66.23 7 *eP* **P** **18 14 35.2 -2.3**
KMY AMb AMB 18 14 38.2
comp=Z,39nm,0.9s,mb5.4
STAV **Stavanger** 66.54 7 *eP* **P** **18 14 39.5 -0.1**
STAV AMb AMB 18 14 41.6
comp=Z,60nm,1.2s,mb5.5
VSU **Vasula** 67.26 355 *c iP* **P** **18 14 43.6 -0.5**
VSU **Vasula** 67.26 355⇑ *iP* **P** **18 14 43.7 -0.4**
CD2 **Chengdu** 67.97 292⇑ *iP* **P** **18 14 49.4 +0.3**
CD2 AP pP 18 15 02.4 -0.4
CD2 XP sP 18 15 07.2 -1.1
CD2 PP PP 18 17 20.6 +1.6
CD2 PCS 18 19 19.4
CD2 S S 18 23 42.6 -1.7
CD2 XS sS 18 24 04.5 -2.8
CD2 SCS ScS 18 24 40.6 -3.2
CD2 SS SS 18 28 06.0 -0.3
CD2 AMB AMB
comp=Z,110nm,1.1s,mb5.8
CD2 AMB AMB
comp=Z,910nm,8.4s
CD2 LR LR
comp=N,1μm,20.4s,MS5.3
CD2 LR LR
comp=E,1μm,20.4s,MS5.3
CD2 LR LR
comp=Z,1μm,19.2s,MS5.1
MOS **Moscow** 69.06 348 *eP* **P** **18 14 53.5 -1.9**
MOS pmax pmax
comp=Z,117nm,1.0s,mb5.8
ESK **Eskdalemuir** 69.20 13 P **P** **18 14 56.6 +0.3**
comp=Z,566nm,0.9s,mb6.5,SNR=9.6
ESK **Eskdalemuir** 69.20 13 *eP* **P** **18 14 55.9 -0.5**
comp=Z,97nm,0.9s,mb5.7
OBN **Obninsk** 69.80 349⇓ *iP* **P** **18 14 59.0 -1.0**
OBN pmax pmax
comp=Z,237nm,1.6s,mb5.9
OBN **Obninsk** 69.80 349 *eP* **P** **18 14 58.1 -1.9**
comp=Z,236nm,1.2s,mb6.0
GYA **Guiyang** 69.84 287⇑ *iP* **P** **18 14 59.8 -0.9**
GYA AP pP 18 15 12.8 -1.7
GYA XP sP 18 15 17.6 -2.4
GYA PCP PcP 18 15 21.4 -1.6
GYA PP PP 18 17 35.0 -0.2
GYA S S 18 24 02.5 -4.0
GYA XS sS 18 24 25.3 -4.3
GYA SKS 18 24 51.3
GYA SS SS 18 28 33.8 -1.5
GYA AMB AMB
comp=Z,90nm,1.0s,mb5.7
GYA AMB AMB
comp=Z,3μm,6.8s
GYA LR LR
comp=N,13μm,19.9s
GYA LR LR
comp=E,6μm,19.8s
GYA LR LR
comp=Z,13μm,17.2s
DSB **Dublin** 70.77 15 *eP* **P** **18 15 05.2 -0.8**
comp=Z,47nm,1.1s,mb5.3
RGN **Rugen** 71.32 3 *eP* **P** **18 15 10.0 +0.7**
comp=Z,234nm,1.1s,mb6.0
HLG **Helgoland** 71.42 6 *eP* **P** **18 15 10.6 +0.7**
comp=Z,227nm,0.9s,mb6.1
CHMS **Chumysh** 71.67 320 P **P** **18 15 12.3 +0.7**
SNR=8.3
BSEG **Bad Segeberg** 71.81 5 *eP* **P** **18 15 12.8 +0.6**
BSEG pmax pmax
comp=Z,118nm,1.0s,mb5.8
BSEG **Bad Segeberg** 71.81 5 *eP* **P** **18 15 12.8 +0.6**
comp=Z,118nm,1.0s,mb5.8
KBK **Karagaybulak** 71.89 320 P **P** **18 15 13.9 +1.0**
SNR=6.0
AAK **Ala-Archa** 72.08 320 P **P** **18 15 14.9 +0.8**
SNR=5.8
EKS2 **Erkin-Say** 72.32 320 P **P** **18 15 16.8 +1.2**
SNR=6.3
AML **Almayashu** 72.81 320 P **P** **18 15 19.9 +1.5**
SNR=5.5
KMI **Kunming** 73.06 289 P **P** **18 15 19.2 -0.9**
KMI AP pP 18 15 30.4 -3.6
KMI XP sP 18 15 34.9 -4.6
KMI AMB AMB
comp=Z,29nm,2.0s,mb4.9
KMI AMB AMB
comp=Z,747nm,4.8s
KMI **Kunming** 73.06 289 P **P** **18 15 19.2 -0.9**
comp=Z,29nm,2.0s,mb4.9
KMI pP pP 18 15 30.4 -3.6
KMI sP sP 18 15 34.9 -4.6
IBBN **Ibbenburen** 73.28 7 *eP* **P** **18 15 21.5 +0.5**
comp=Z,166nm,1.2s,mb5.8
VSR **Storozhevoye** 73.29 346 *eP* **P** **18 15 20.2 -0.9**
VSR pmax pmax
comp=N,90nm,1.0s
VSR pmax pmax
comp=Z,70nm,1.0s,mb5.5
VSR pmax pmax
comp=E,10.0nm,0.9s
RUE **Ruedersdorf** 73.40 3 *eP* **P** **18 15 22.1 +0.4**
comp=Z,178nm,1.1s,mb5.9
RUE **Ruedersdorf** 73.40 3 *eP* **P** **18 15 21.3 -0.4**
comp=Z,160nm,1.1s,mb5.9
QIZ **Qiongzhong** 73.86 280 P **P** **18 15 24.8 -0.1**
CLZ **Clausthal** 73.90 5 *eP* **P** **18 15 25.5 +0.9**
CLZ pmax pmax
comp=Z,102nm,0.9s,mb5.8
CLZ **Clausthal** 73.90 5 *eP* **P** **18 15 25.5 +0.9**
comp=Z,102nm,0.9s,mb5.8
BUG **Bochum--Univer** 74.11 7 *eP* **P** **18 15 26.0 +0.1**
comp=Z,126nm,1.0s,mb5.8
UCC **Uccle** 74.50 9 P **P** **18 15 28.3 +0.1**
comp=Z,47nm,1.4s,mb5.2
MENF **Mencas** 74.52 11 *eP* **P** **18 15 27.3 -1.0**
CLL **Collm** 74.55 3⇑ *iP* **P** **18 15 28.3 -0.1**
CLL pmax pmax
comp=Z,84nm,1.1s,mb5.6
CLL **Collm** 74.55 3 *eP* **P** **18 15 28.4 0.0**
comp=Z,84nm,1.1s,mb5.6
CLL **Collm** 74.55 3⇑ *iP* **P** **18 15 28.3 -0.1**
comp=Z,84nm,1.1s,mb5.6
CLL **Collm** 74.55 3⇑ *iP* **P** **18 15 28.3 -0.1**
comp=Z,84nm,1.1s,mb5.6
BEBN **Eben Emael** 74.62 8 P **P** **18 15 28.4 -0.4**
SNF **Seneffe** 74.78 9 P **P** **18 15 29.6 -0.2**
comp=Z,35nm,1.4s,mb5.1
MEM **Membach** 74.83 8 P **P** **18 15 30.3 +0.2**
comp=Z,52nm,1.1s,mb5.4
AKASG **Malin Array Be** 74.85 353 P **P** **18 15 29.4 -0.7**
comp=Z,113nm,0.6s,mb6.0,baz=9.3,slow=5.9,SNR=39
UBBA **Unterbreizbach** 74.90 5 *eP* **P** **18 15 30.1 -0.4**
comp=Z,14nm,0.9s,mb4.9
FBE **Freiberg** 74.94 3 *eP* **P** **18 15 31.2 +0.5**
comp=Z,135nm,1.0s,mb5.8
BCLA **Clavier** 74.96 9 P **P** **18 15 31.0 +0.2**
comp=Z,15nm,1.0s,mb4.9
BRG **Berggiesshubel** 75.01 3⇑ *iP* **P** **18 15 31.2 +0.1**
BRG *e* 18 15 35.8
BRG pmax pmax
comp=Z,45nm,1.0s,mb5.3
BRG MLR MLR
comp=Z,8μm,17.6s,MS6.1
BRG MLR MLR
comp=N,8μm,18.5s,MS6.1
BRG MLR MLR
comp=E,5μm,18.5s,MS6.1
BRG **Berggiesshubel** 75.01 3 *eP* **P** **18 15 31.4 +0.3**
comp=Z,76nm,1.0s,mb5.6
BRG **Berggiesshubel** 75.01 3⇑ *iP* **P** **18 15 31.2 +0.1**
comp=Z,75nm,1.0s,mb5.6
BRG *e* 18 15 35.9
comp=Z,21nm,0.9s
BRG
comp=Z,13μm,17.6s
BRG
comp=N,13μm,18.5s
BRG
comp=E,8μm,18.5s
BRG **Berggiesshubel** 75.01 3⇑ *iP* **P** **18 15 31.2 +0.1**
comp=E,45nm,1.0s,mb5.3
BRG *e* 18 15 35.9
KSP **Ksiaz** 75.09 1 *eP* **P** **18 15 31.6 0.0**
MOX **Moxa** 75.15 4 *eP* **P** **18 15 32.3 +0.4**
comp=E,131nm,1.1s,mb5.8

MOX Moxa 75.15 4 *e*P P 18 15 32.3 +0.4
MOX pmax pmax
comp=Z,131nm,1.1s,mb5.8
DOU Dourbes 75.22 9 P P 18 15 32.5 +0.2
comp=Z,24nm,1.2s,mb5.0
BAIF Baives 75.22 9⇑*i*P P 18 15 32.6 +0.3
comp=Z,121nm,1.0s,mb5.5
BAIF Baives 75.22 9⇑*i*P P 18 15 32.6 +0.3
BAIF pmax pmax
comp=Z,60nm,1.0s,mb5.5
BAIF Baives 75.22 9⇑*i*P P 18 15 32.6 +0.3
comp=Z,60nm,1.0s,mb5.5
GIVF Givet 75.23 9⇑*i*P P 18 15 32.4 0.0
comp=Z,116nm,1.1s,mb5.4
GIVF Givet 75.23 9⇑*i*P P 18 15 32.4 0.0
GIVF pmax pmax
comp=Z,58nm,1.1s,mb5.4
GIVF Givet 75.23 9⇑*i*P P 18 15 32.4 0.0
comp=Z,58nm,1.1s,mb5.4
PVCC Panska Ves 75.37 2⇑*i*P P 18 15 33.7 +0.5
WERD Werda 75.38 4 *e*P P 18 15 33.6 +0.4
comp=Z,25nm,0.9s,mb5.1
TNS Taunus Mts 75.40 7 *e*P P 18 15 33.8 +0.4
TNS pmax pmax
comp=Z,82nm,1.0s,mb5.6
TNS Taunus Mts 75.40 7 *e*P P 18 15 33.8 +0.4
comp=Z,82nm,1.0s,mb5.6
TANN Tannenbergstha 75.42 4 *e*P P 18 15 33.8 +0.3
comp=Z,56nm,1.5s,mb5.3
UPC Upice 75.42 2⇑*e*P P 18 15 34.2 +0.7
GUNZ Gunzen 75.47 4 *e*P P 18 15 34.1 +0.4
comp=Z,37nm,0.9s,mb5.3
LSA Lhasa 75.51 301 P P 18 15 35.7 +1.3
WERN Wernitzgruen 75.54 4 *e*P P 18 15 34.8 +0.6
comp=Z,113nm,1.4s,mb5.6
DPC Dobruska-Polom 75.58 1⇑*i*P P 18 15 35.3 +0.9
ABH Alteburg 75.68 7 *e*P P 18 15 34.8 -0.1
OJC Ojcow 75.72 359 *e*P P 18 15 35.1 -0.1
WLF Walferdange 75.78 8 P P 18 15 36.3 +0.8
comp=Z,61nm,1.3s,mb5.4
WLF Walferdange 75.78 8 *e*P P 18 15 36.4 +0.8
comp=Z,94nm,1.0s,mb5.7
RUP Ruppelstein 75.82 7 *e*P P 18 15 35.7 -0.1
MANZ Manzenberg 75.83 4 *e*P P 18 15 36.3 +0.5
comp=Z,83nm,1.5s,mb5.4
PRU Pruhonice 75.91 2⇑*i*P P 18 15 36.7 +0.4
FLN La Foliniere 75.98 13⇑*i*P P 18 15 36.4 -0.3
comp=Z,114nm,1.1s,mb5.4
FLN La Foliniere 75.98 13⇑*i*P P 18 15 36.4 -0.3
FLN pmax pmax
comp=Z,57nm,1.1s,mb5.4
FLN La Foliniere 75.98 13⇑*i*P P 18 15 36.4 -0.3
comp=Z,57nm,1.1s,mb5.4
ROSF Rostrenen 76.01 15⇑*i*P P 18 15 37.1 +0.2
comp=Z,118nm,1.2s,mb5.4
ROSF Rostrenen 76.01 15⇑*i*P P 18 15 37.1 +0.2
ROSF pmax pmax
comp=Z,59nm,1.2s,mb5.4
ROSF Rostrenen 76.01 15⇑*i*P P 18 15 37.1 +0.2
comp=Z,59nm,1.2s,mb5.4
TOD Tromm 76.04 6 *e*P P 18 15 35.7 -1.3
ROTZ Rotzenmuhle 76.06 4 *e*P P 18 15 37.9 +0.8
comp=Z,49nm,0.9s,mb5.4
GRA1 Grafenberg Arr 76.09 5 *e*P P 18 15 38.0 +0.7
comp=Z,118nm,1.2s,mb5.7
GRF Grafenberg Arr 76.09 5 *e*P P 18 15 38.0 +0.7
GRF pmax pmax
comp=Z,118nm,1.2s,mb5.7
GRF Grafenberg Arr 76.09 5 *e*P P 18 15 38.0 +0.7
GRF pmax pmax
comp=Z,118nm,1.2s,mb5.7
GRF Grafenberg Arr 76.09 5 *e*P P 18 15 38.0 +0.7
comp=Z,118nm,1.2s,mb5.7
OKC Ostrava-Krasne 76.11 0⇑*i*P P 18 15 37.8 +0.4
LDF La Druitiere 76.19 12 *e*P P 18 15 37.6 -0.3
comp=Z,136nm,1.2s,mb5.5
LDF La Druitiere 76.19 12 *e*P P 18 15 37.6 -0.3
LDF pmax pmax
comp=Z,68nm,1.2s,mb5.5
LDF La Druitiere 76.19 12 *e*P P 18 15 37.6 -0.3
comp=Z,68nm,1.2s,mb5.5
SGMF Saint Gilles 76.19 14⇑*i*P P 18 15 38.1 +0.2
comp=Z,125nm,1.1s,mb5.5
SGMF Saint Gilles 76.19 14⇑*i*P P 18 15 38.1 +0.2
SGMF pmax pmax
comp=Z,62nm,1.1s,mb5.5
SGMF Saint Gilles 76.19 14⇑*i*P P 18 15 38.1 +0.2
comp=Z,62nm,1.1s,mb5.5
KWP Kalwaria 76.25 357⇑*e*P P 18 15 38.3 +0.1
KWP pmax pmax
comp=Z,270nm,1.1s,mb6.1
KWP Kalwaria 76.25 357⇑*e*P P 18 15 38.3 +0.1
comp=Z,295nm,1.1s,mb6.1
KTD Kalmit 76.27 7 *e*P P 18 15 38.2 -0.2
GRR Gorron 76.29 13⇑*i*P P 18 15 38.4 -0.1
comp=Z,57nm,0.8s,mb5.2
GRR Gorron 76.29 13⇑*i*P P 18 15 38.4 -0.1
GRR pmax pmax
comp=Z,29nm,0.8s,mb5.3
GRR Gorron 76.29 13⇑*i*P P 18 15 38.4 -0.1
comp=Z,29nm,0.8s,mb5.2
QUIF Quistinic 76.43 15⇑*i*P P 18 15 39.4 +0.1
comp=Z,132nm,1.3s,mb5.4
QUIF Quistinic 76.43 15⇑*i*P P 18 15 39.4 +0.1
QUIF pmax pmax
comp=Z,66nm,1.3s,mb5.4
QUIF Quistinic 76.43 15⇑*i*P P 18 15 39.4 +0.1
comp=Z,66nm,1.3s,mb5.4
STHS Stebnicka Huta 76.50 358 *i*P P 18 15 40.5 +0.8
STHS pmax pmax
comp=Z,79nm,0.7s,mb5.8
STHS Stebnicka Huta 76.50 358 *i*P P 18 15 40.5 +0.8
comp=Z,79nm,0.7s,mb5.8
NIE Niedzica 76.52 359 *e*PP P 18 15 40.3 +0.6
LANF Langenberg 76.59 7 *e*P P 18 15 40.0 -0.2
TREC Trest 76.63 2⇑*i*P P 18 15 40.6 +0.2
WET Wettzell 76.70 4 *e*P P 18 15 41.6 +0.8
WET pmax pmax
comp=Z,77nm,1.4s,mb5.4
WET Wettzell 76.70 4 *e*P P 18 15 41.6 +0.8
comp=Z,77nm,1.4s,mb5.4
KHC Kasperske Hory 76.74 3⇑*e*P P 18 15 41.4 +0.4
KHC Kasperske Hory 76.74 3⇑*i*P P 18 15 41.9 +0.9
KHC *ex* x 18 16 05.5
MEZF Maizieres J'vi 76.84 9 *e*P P 18 15 41.8 +0.2
comp=Z,128nm,1.1s,mb5.5
MEZF Maizieres J'vi 76.84 9 *e*P P 18 15 41.8 +0.2
comp=Z,128nm,1.1s,mb5.8
STU Stuttgart 76.89 6 *e*P P 18 15 41.9 0.0
STU pmax pmax
comp=Z,50nm,0.8s,mb5.5
STU Stuttgart 76.89 6 *e*P P 18 15 41.9 0.0
comp=Z,50nm,0.8s,mb5.5
KOLS Kolonicke sedl 76.96 357 *i*P P 18 15 42.5 +0.2
STR Strasbourg 76.98 7 *e*P P 18 15 42.8 +0.4
GEC2 GERESS Array S 77.03 3 *e*P P 18 15 43.1 +0.5
GEC2 pmax pmax
comp=Z,45nm,0.9s,mb5.4
GEC2 GERESS Array S 77.03 3 *e*P P 18 15 43.1 +0.5
comp=Z,45nm,0.9s,mb5.4
GERES GERESS Array B 77.03 3 P P 18 15 43.3 +0.6
comp=Z,27nm,0.7s,mb5.3,baz=5.7,slow=4.6,SNR=22
CDF Champ du Feu 77.12 8⇑*i*P P 18 15 43.3 +0.2
comp=Z,103nm,1.0s,mb5.4
CDF Champ du Feu 77.12 8⇑*i*P P 18 15 43.3 +0.2
CDF pmax pmax
comp=Z,52nm,1.0s,mb5.4
CDF Champ du Feu 77.12 8⇑*i*P P 18 15 43.3 +0.2
comp=Z,52nm,1.0s,mb5.4
THEF They Montfort 77.20 8 *e*P P 18 15 43.7 +0.1
UZH Uzhgorod 77.26 357⇑*i*P P 18 15 44.4 +0.5
BFO Black Forest 77.28 7 *e*P P 18 15 44.3 +0.3
BFO pmax pmax
comp=Z,42nm,1.0s,mb5.3
BFO Black Forest 77.28 7 *e*P P 18 15 44.3 +0.3
comp=Z,42nm,1.0s,mb5.3
ECH Echery 77.30 8 *e*P P 18 15 43.8 -0.4
KOLL Kolacno 77.37 360 *i*P P 18 15 45.1 +0.5
LIBD Limburg 77.40 7 *e*P P 18 15 44.6 -0.1
HAU Haudompre 77.45 8⇑*i*P P 18 15 45.1 +0.1
comp=Z,145nm,1.0s,mb5.5
HAU Haudompre 77.45 8⇑*i*P P 18 15 45.1 +0.1
HAU pmax pmax
comp=Z,72nm,1.0s,mb5.6
HAU Haudompre 77.45 8⇑*i*P P 18 15 45.1 +0.1
comp=Z,72nm,1.0s,mb5.6
VYHS Vyhne 77.45 360 *i*P P 18 15 45.1 +0.1
SPAK Spaichingen-Ko 77.53 7 *e*P P 18 15 45.6 +0.1
MODS Modra-Piesok 77.57 1 *i*P P 18 15 46.8 +1.1
MODS pmax pmax
comp=Z,64nm,1.2s,mb5.4
MODS Modra-Piesok 77.57 1 *i*P P 18 15 46.8 +1.1
comp=Z,64nm,1.2s,mb5.4
FUR Furstenfeldbru 77.61 5 *e*P P 18 15 46.5 +0.6
FUR pmax pmax
comp=Z,92nm,1.0s,mb5.7
FUR Furstenfeldbru 77.61 5 *e*P P 18 15 46.5 +0.6
comp=Z,92nm,1.0s,mb5.7
MOF Molkenrain 77.66 8 *e*P P 18 15 45.6 -0.6
HINF Hinteralfeld 77.68 8⇑*i*P P 18 15 46.2 -0.1
comp=Z,69nm,1.0s,mb5.2
HINF Hinteralfeld 77.68 8⇑*i*P P 18 15 46.2 -0.1
HINF pmax pmax
comp=Z,34nm,1.0s,mb5.2
HINF Hinteralfeld 77.68 8⇑*i*P P 18 15 46.2 -0.1
comp=Z,34nm,1.0s,mb5.2
FELD Feldberg im Sc 77.70 7 *e*P P 18 15 45.0 -1.4
ZST Bratislava 77.75 1 *i*P P 18 15 47.7 +1.0
ZST pmax pmax
comp=Z,121nm,1.3s,mb5.7
ZST Bratislava 77.75 1 *i*P P 18 15 47.7 +1.0
comp=Z,120nm,1.3s,mb5.7
HYF Humbligny 77.82 11 *e*P P 18 15 46.5 -0.6
LOR Lormes 77.95 10⇑*i*P P 18 15 47.8 0.0
comp=Z,93nm,1.1s,mb5.3
LOR Lormes 77.95 10⇑*i*P P 18 15 47.8 0.0
LOR pmax pmax
comp=Z,47nm,1.1s,mb5.3
LOR Lormes 77.95 10⇑*i*P P 18 15 47.8 0.0
comp=Z,47nm,1.1s,mb5.3
CONA Conrad Observa 78.00 2⇓*i*P P 18 15 49.0 +0.9
comp=Z,67nm,1.0s,mb5.5
CSNA Conrad Observa 78.00 2⇓*i*P P 18 15 48.9 +0.8
comp=Z,60nm,1.0s,mb5.5
RJOB Jochberg 78.11 4 *e*P P 18 15 49.2 +0.5
comp=Z,97nm,0.8s,mb5.8
SSF Saint Saulge 78.12 10⇑*i*P P 18 15 48.8 +0.1
comp=Z,116nm,1.1s,mb5.4
SSF Saint Saulge 78.12 10⇑*i*P P 18 15 48.8 +0.1
SSF pmax pmax
comp=Z,58nm,1.1s,mb5.4
SSF Saint Saulge 78.12 10⇑*i*P P 18 15 48.8 +0.1
comp=Z,58nm,1.1s,mb5.4
MFF Saint Martin d 78.14 13⇑*i*P P 18 15 49.1 +0.2
comp=Z,110nm,0.9s,mb5.5
MFF Saint Martin d 78.14 13⇑*i*P P 18 15 49.1 +0.2
MFF pmax pmax
comp=Z,55nm,0.9s,mb5.5
MFF Saint Martin d 78.14 13⇑*i*P P 18 15 49.1 +0.2
comp=Z,55nm,0.9s,mb5.5
AVF Avril sur Loir 78.37 10⇑*i*P P 18 15 50.0 -0.1
comp=Z,106nm,1.1s,mb5.4
AVF Avril sur Loir 78.37 10⇑*i*P P 18 15 50.0 -0.1
AVF pmax pmax
comp=Z,53nm,1.1s,mb5.4
AVF Avril sur Loir 78.37 10⇑*i*P P 18 15 50.0 -0.1
comp=Z,53nm,1.1s,mb5.4
MOTA Moosalm 78.42 5⇑*i*P P 18 15 50.9 +0.5
comp=Z,68nm,1.0s,mb5.5,SNR=14
WATA Walderalm 78.46 5⇑*i*P P 18 15 51.3 +0.7
comp=Z,63nm,1.0s,mb5.5,SNR=10
WTTA Wattenberg 78.53 5⇑*i*P P 18 15 51.9 +0.9
comp=Z,123nm,1.1s,mb5.7,SNR=18
BGF Bois d'Agland 78.54 11⇑*i*P P 18 15 51.1 0.0
comp=Z,79nm,1.0s,mb5.3
BGF Bois d'Agland 78.54 11⇑*i*P P 18 15 51.1 0.0
BGF pmax pmax
comp=Z,39nm,1.0s,mb5.3
BGF Bois d'Agland 78.54 11⇑*i*P P 18 15 51.1 0.0
comp=Z,40nm,1.0s,mb5.3
KIS Kishinev 78.56 353⇑*i*P P 18 15 50.5 -0.7
KIS pmax pmax
comp=Z,440nm,1.0s,mb6.3
KIS Kishinev 78.56 353 *i*UNK P 18 15 50.5 -0.7
KIS XM 18 15 52.0
comp=Z,400nm,1.0s
SMF Signal de Mont 78.56 10⇑*i*P P 18 15 51.1 -0.1
comp=Z,175nm,1.1s,mb5.6
SMF Signal de Mont 78.56 10⇑*i*P P 18 15 51.1 -0.1
SMF pmax pmax
comp=Z,88nm,1.1s,mb5.6
SMF Signal de Mont 78.56 10⇑*i*P P 18 15 51.1 -0.1
comp=Z,88nm,1.1s,mb5.6
ARSA Arzberg 78.67 2⇑*i*P P 18 15 52.7 +0.9
comp=Z,98nm,1.2s,mb5.6,SNR=20
FETA Feichta 78.73 5 *i*P P 18 15 53.0 +0.9
comp=Z,101nm,1.2s,mb5.6,SNR=24
TCF Toulx Ste Croi 78.74 11⇑*i*P P 18 15 52.1 -0.1
comp=Z,71nm,1.3s,mb5.1
TCF Toulx Ste Croi 78.74 11⇑*i*P P 18 15 52.1 -0.1
TCF pmax pmax
comp=Z,36nm,1.3s,mb5.1
TCF Toulx Ste Croi 78.74 11⇑*i*P P 18 15 52.1 -0.1
comp=Z,36nm,1.3s,mb5.1
KBA Koelnbreinsper 78.79 3 *i*P P 18 15 53.6 +1.2
comp=Z,207nm,1.2s,mb5.9,SNR=19
CABF La Chapelle 78.81 9⇑*i*P P 18 15 53.1 +0.5
comp=Z,95nm,0.9s,mb5.4
CABF La Chapelle 78.81 9⇑*i*P P 18 15 53.1 +0.5
CABF pmax pmax
comp=Z,48nm,0.9s,mb5.4
CABF La Chapelle 78.81 9⇑*i*P P 18 15 53.1 +0.5
comp=Z,48nm,0.9s,mb5.4
CPD Cerro la Pandu 78.84 75 *e*P P 18 15 53.3 +0.2
AGO Saint Agoulin 79.07 11 *e*P P 18 15 54.3 +0.3
ABTA Abtalerbach 79.08 4⇑*i*P P 18 15 55.0 +0.9
comp=Z,81nm,1.4s,mb5.5,SNR=9.9
OG01 Vacheresse 79.14 8 *e*P P 18 15 54.7 +0.3
PLDF La Plantade 79.21 10 *e*P P 18 15 54.9 +0.2
SOKA Soboth 79.24 2⇑*i*P P 18 15 55.2 +0.3
comp=Z,227nm,1.4s,mb5.9
PERS Pernice 79.28 2 *i*P P 18 15 55.7 +0.6
OG05 Jujurieux 79.32 9 *e*P P 18 15 55.1 -0.2
PYM Petit Puy Mans 79.36 11 *e*P P 18 15 55.7 +0.1
OBKA Obir 79.39 3⇑*i*P P 18 15 56.4 +0.6
comp=Z,175nm,1.0s,mb6.0,SNR=21
RJF Les Rejaudoux 79.63 12 *e*P P 18 15 56.8 -0.2
comp=Z,87nm,1.3s,mb5.2
RJF Les Rejaudoux 79.63 12 *e*P P 18 15 56.8 -0.2
RJF pmax pmax
comp=Z,43nm,1.3s,mb5.2
RJF Les Rejaudoux 79.63 12 *e*P P 18 15 56.8 -0.2
comp=Z,43nm,1.3s,mb5.2
KIV Kislovodsk 79.81 342 P P 18 15 58.5 +0.4
comp=Z,1µm,0.8s,mb6.9,SNR=6.0
KIV Kislovodsk 79.81 342 *e*P P 18 15 58.4 +0.3
KIV pmax pmax
comp=Z,195nm,0.9s,mb6.0
KIV Kislovodsk 79.81 342 *e*P P 18 15 58.5 +0.4
comp=Z,176nm,0.8s,mb6.0
ANN Anapa 79.82 346 *e*P P 18 15 56.8 -1.3
ANN pmax pmax
comp=Z,106nm,1.3s,mb5.6
LJU Ljubljana 79.86 3 *i*P P 18 15 58.0 -0.2
LFF La Frestale 79.89 13⇑*i*P P 18 15 58.6 +0.1
comp=Z,64nm,0.8s,mb5.3
LFF La Frestale 79.89 13⇑*i*P P 18 15 58.6 +0.1
LFF pmax pmax
comp=Z,32nm,0.8s,mb5.3
LFF La Frestale 79.89 13⇑*i*P P 18 15 58.6 +0.1
comp=Z,32nm,0.8s,mb5.3
LBL Lubilhac 79.90 11 *e*P P 18 15 57.8 -0.7
LPL La Plagne 79.95 8⇑*i*P P 18 16 00.0 +1.2
comp=Z,38nm,0.8s,mb5.1
LPL La Plagne 79.95 8⇑*i*P P 18 16 00.0 +1.2
LPL pmax pmax
comp=Z,19nm,0.8s,mb5.1
LPL La Plagne 79.95 8⇑*i*P P 18 16 00.0 +1.2
comp=Z,19nm,0.8s,mb5.1
LPG La Plagne 79.97 8⇑*i*P P 18 16 00.3 +1.4
comp=Z,50nm,1.0s,mb5.1
LPG La Plagne 79.97 8⇑*i*P P 18 16 00.3 +1.4
LPG pmax pmax
comp=Z,25nm,1.0s,mb5.1
LPG La Plagne 79.97 8⇑*i*P P 18 16 00.3 +1.4
comp=Z,25nm,1.0s,mb5.1
JAVS Javornik 79.99 3 *e*P P 18 15 58.7 -0.3
CAF Calviac 80.06 12⇑*i*P P 18 15 59.5 +0.1
comp=Z,64nm,1.1s,mb5.2
CAF Calviac 80.06 12⇑*i*P P 18 15 59.5 +0.1
CAF pmax pmax
comp=Z,32nm,1.1s,mb5.2
CAF Calviac 80.06 12⇑*i*P P 18 15 59.5 +0.1
comp=Z,32nm,1.1s,mb5.2
BOJS Bojanci 80.41 2 *i*P P 18 16 01.6 +0.3
VIVF Saint-Julien-l 80.42 10⇑*i*P P 18 16 01.7 +0.4
comp=Z,58nm,0.9s,mb5.2
VIVF Saint-Julien-l 80.42 10⇑*i*P P 18 16 01.7 +0.4
VIVF pmax pmax
comp=Z,29nm,0.9s,mb5.2
VIVF Saint-Julien-l 80.42 10⇑*i*P P 18 16 01.7 +0.4
comp=Z,29nm,0.9s,mb5.2
ORIF Oris-en-Rattie 80.47 9⇑*i*P P 18 16 02.2 +0.6
comp=Z,114nm,1.4s,mb5.3
ORIF Oris-en-Rattie 80.47 9⇑*i*P P 18 16 02.2 +0.6
ORIF pmax pmax
comp=Z,57nm,1.4s,mb5.3
ORIF Oris-en-Rattie 80.47 9⇑*i*P P 18 16 02.2 +0.6
comp=Z,57nm,1.4s,mb5.3
CMAR Chiang Mai Arr 80.49 288 P P 18 16 02.0 0.0
comp=Z,73nm,1.0s,mb5.6,baz=14,slow=5.4,SNR=12
OG22 Abries 80.66 8 *e*P P 18 16 04.1 +1.5
SOC Sochi 80.67 344 *ce*P P 18 16 02.7 0.0
SOC *e* 18 16 07.4
SOC *e**SS sS 18 26 22.4 -7.2
SOC pmax pmax
comp=Z,153nm,1.0s,mb5.9
MBDF Montbardon 80.74 8⇑*i*P P 18 16 04.3 +1.3
comp=Z,99nm,0.7s,mb5.5
MBDF Montbardon 80.74 8⇑*i*P P 18 16 04.3 +1.3
MBDF pmax pmax
comp=Z,49nm,0.7s,mb5.5
MBDF Montbardon 80.74 8⇑*i*P P 18 16 04.3 +1.3
comp=Z,49nm,0.7s,mb5.5
TIRR Tirgusor 81.12 353⇑*i*P P 18 16 05.1 0.0
TIRR pmax pmax
comp=Z,120nm,1.0s,mb5.8
TIRR Tirgusor 81.12 353⇑*i*P P 18 16 05.0 0.0
comp=Z,115nm,1.0s,mb5.8
SMRF Simiane la Rot 81.38 9 *e*P P 18 16 07.4 +1.0
comp=Z,114nm,1.3s,mb5.3
SMRF Simiane la Rot 81.38 9 *e*P P 18 16 07.4 +1.0
comp=Z,114nm,1.3s,mb5.6
TOUF Mont Tournerai 81.49 8 *e*P P 18 16 07.6 +0.6
AUTN L'Aution 81.52 8 *e*P P 18 16 07.8 +0.6
SAOF Saorge 81.54 8 *e*P P 18 16 07.5 +0.2
TBLG Delisi 81.58 340 P P 18 16 08.6 +1.0
MVIF Mont Vial 81.59 8 *e*P P 18 16 08.0 +0.4
MTA Mtatsminda 81.60 340 P P 18 16 08.5 +0.8
LUCF Luceram 81.61 8 *e*P P 18 16 08.1 +0.4
PCAB Cabril 81.62 20 *e*P P 18 16 08.9 +1.1
MTLF Montolieu 81.65 12⇑*i*P P 18 16 08.1 +0.2
comp=Z,52nm,1.0s,mb5.1
MTLF Montolieu 81.65 12⇑*i*P P 18 16 08.1 +0.2
MTLF pmax pmax
comp=Z,26nm,1.0s,mb5.1
MTLF Montolieu 81.65 12⇑*i*P P 18 16 08.1 +0.2
comp=Z,26nm,1.0s,mb5.1
SBF Sospel 81.65 8⇑*i*P P 18 16 08.2 +0.3
comp=Z,104nm,0.8s,mb5.5
SBF Sospel 81.65 8⇑*i*P P 18 16 08.2 +0.3
SBF pmax pmax
comp=Z,52nm,0.8s,mb5.5
SBF Sospel 81.65 8⇑*i*P P 18 16 08.2 +0.3
comp=Z,52nm,0.8s,mb5.5
EPF Esparros 81.71 13 *e*P P 18 16 07.8 -0.4
comp=Z,49nm,1.2s,mb5.0
EPF Esparros 81.71 13 *e*P P 18 16 07.8 -0.4
EPF pmax pmax
comp=Z,24nm,1.2s,mb5.0
EPF Esparros 81.71 13 *e*P P 18 16 07.8 -0.4
comp=Z,24nm,1.2s,mb5.0
DGRG David-gareji 81.72 340 P P 18 16 07.7 -0.6
ETSF Etsaut 81.72 14⇑*i*P P 18 16 09.0 +0.7
comp=Z,75nm,1.1s,mb5.2
ETSF Etsaut 81.72 14⇑*i*P P 18 16 09.0 +0.7
ETSF pmax pmax
comp=Z,37nm,1.1s,mb5.2
ETSF Etsaut 81.72 14⇑*i*P P 18 16 09.0 +0.7
comp=Z,37nm,1.1s,mb5.2
REVF Revere 81.77 8 *e*P P 18 16 08.5 0.0
PBRG Braganca 81.78 19 *e*P P 18 16 09.4 +0.8
FRF La Foret Royal 81.89 9⇑*i*P P 18 16 09.4 +0.3
comp=Z,94nm,1.1s,mb5.3
FRF La Foret Royal 81.89 9⇑*i*P P 18 16 09.4 +0.3
FRF pmax pmax
comp=Z,47nm,1.1s,mb5.3
FRF La Foret Royal 81.89 9⇑*i*P P 18 16 09.4 +0.3
comp=Z,47nm,1.1s,mb5.3
LMR La Mourre 82.10 9 *e*P P 18 16 10.7 +0.4
comp=Z,49nm,0.9s,mb5.1
LMR La Mourre 82.10 9 *e*P P 18 16 10.7 +0.4
LMR pmax pmax
comp=Z,24nm,0.9s,mb5.1
LMR La Mourre 82.10 9 *e*P P 18 16 10.7 +0.4
comp=Z,24nm,0.9s,mb5.1
PVRL Vila Real 82.10 19 *e*P P 18 16 09.8 -0.5
comp=Z,76nm,1.2s,mb5.5
MVO Moncorvo 82.34 19 *e*P P 18 16 12.0 +0.4
comp=Z,77nm,1.2s,mb5.5
PVIS Viseu 82.61 20 *e*P P 18 16 14.2 +1.2
comp=Z,175nm,1.1s,mb6.0
PLE Pljevlja 82.62 359⇓*i*P P 18 16 14.3 +1.3
UPM Unac-Piva 82.75 360⇓*i*P P 18 16 13.5 -0.1
MTE Manteigas 82.98 20 *e*P P 18 16 15.7 +0.8
comp=Z,156nm,1.1s,mb6.0
BRY Bratogost 83.05 360⇓*i*P P 18 16 14.9 -0.3
IVA Berane 83.07 359⇓*i*P P 18 16 15.4 +0.1
PGF Pioggiola 83.08 7⇑*i*P P 18 16 15.9 +0.5
comp=Z,136nm,1.0s,mb5.6
PGF Pioggiola 83.08 7⇑*i*P P 18 16 15.9 +0.5
PGF pmax pmax
comp=Z,68nm,1.0s,mb5.6
PGF Pioggiola 83.08 7⇑*i*P P 18 16 15.9 +0.5
comp=Z,68nm,1.0s,mb5.6
NKY Niksic 83.14 359⇓*i*P P 18 16 15.2 -0.5
PVY Plav 83.34 359⇓*i*P P 18 16 16.1 -0.6
HCY Herceg Novi 83.50 360⇓*i*P P 18 16 17.4 -0.2
TTG Podgorica 83.52 359⇓*i*P P 18 16 17.4 -0.2
PCBR Castelo Branco 83.53 20 *e*P P 18 16 18.0 +0.2
comp=Z,120nm,1.1s,mb5.9
PTOM Tomar 83.56 20 *e*P P 18 16 18.6 +0.7
comp=Z,196nm,1.1s,mb6.2
BUM Brajici-Budva 83.65 360⇓*i*P P 18 16 16.7 -1.6
PMRV Marv??o 83.95 20 *e*P P 18 16 20.5 +0.6
comp=Z,71nm,1.2s,mb5.7
ULC Ulcinj 83.98 359⇓*i*P P 18 16 20.0 0.0
PMAFR Mafra 84.02 21 *e*P P 18 16 21.4 +1.2
comp=Z,214nm,1.0s,mb6.2
ESDC Sonseca Array 84.34 17 P P 18 16 22.7 +0.8
comp=Z,37nm,0.9s,mb5.5,baz=346,slow=4.8,SNR=9.1
PESTR Estremoz 84.45 20 *e*P P 18 16 23.0 +0.5
comp=Z,87nm,1.2s,mb5.8
EVO Evora 84.69 20⇑*i*P P 18 16 24.1 +0.4
comp=Z,74nm,1.2s,mb5.4
EVO Evora 84.69 20 *e*P P 18 16 24.4 +0.7
comp=Z,49nm,1.2s,mb5.5
BR131 Keskin Array S 85.30 348 *e*P P 18 16 26.9 +0.1
comp=Z,76nm,0.9s,mb5.8
OTAV Otavalo 85.87 95 P P 18 16 31.2 +1.4
comp=Z,7.9nm,0.9s,mb4.9
VSL Villasalto 86.14 7 *e*P P 18 16 30.8 -0.1
comp=Z,35nm,0.8s,mb5.6
KAKA Kakadu 86.80 243 *e*P P 18 16 33.1 -1.2
comp=Z,120nm,1.0s,mb6.1
MSL Mosul 87.05 340 *ex* x 18 16 29.0
MSL *ex* x 18 26 54.0
BHD Baghdad 89.81 338 *ex* x 18 16 38.0
BHD *ex* x 18 26 43.0
BHD *ex* x 18 27 13.0
KEST Kesra 89.88 7 P P 18 16 49.1 +0.3
comp=Z,6.8nm,0.9s,mb5.0,baz=331,slow=3.9,SNR=4.1
WRA Warramunga Arr 91.93 238 P P 18 16 57.5 -0.8
comp=Z,3.8nm,0.9s,mb4.8,baz=31,slow=6.2,SNR=4.8
MIB Mutribah 92.45 335 *e*P P 18 17 00.8 0.0
baz=335
MIB AMb AMB 18 17 02.0
comp=Z,259nm,0.7s,mb6.7,baz=335
UMR Umm Al-Rimmam 92.60 335 *e*P P 18 17 01.5 0.0
baz=335
UMR AMb AMB 18 17 02.1
comp=Z,69nm,0.8s,mb6.1,baz=335
KBD Kabd 92.96 335 *e*P P 18 17 03.0 -0.1
baz=335
KBD AMb AMB 18 17 05.1
comp=Z,64nm,1.5s,mb5.8,baz=335
RDF Al-Radifah 93.24 335 *e*P P 18 17 04.1 -0.4
baz=335

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
RDF				AMb	AMB	18 17 05.6	
	comp=Z,87nm,0.8s,mb6.2,baz=335						
ASAR	Alice Springs	95.30	236	P	P	18 17 13.3	-0.4
	comp=Z,3.2nm,0.8s,mb4.8,baz=37,slow=3.3,SNR=4.1						
TORD	Torodi Ar. Bea	111.23	17	PKKPbc	PKKPbc	18 33 23.3	+6.1
	comp=Z,1.5nm,0.8s,baz=158,slow=2.0,SNR=7.5						
TSUM	Tsumeb	144.84	1	PKP	PKPdf	18 23 25.8	-0.8
	comp=Z,49nm,0.9s,baz=6.7,slow=3.7,SNR=7.5						
VNA3	Neumayer Olymp	159.20	155	ePKPdf	PKPab	18 24 23.6	-0.2
VNA3				e		18 24 37.4	
VNA3				e		18 24 44.8	
VNA1	Neumayer--Stat	159.94	154	ePKPdf	PKPab	18 24 26.4	-0.6
VNA1				e		18 24 39.8	
VNA1				e		18 24 48.1	
VNA2	Neumayer--Watz	159.97	155	ePKPdf	PKPab	18 24 26.3	-0.9
VNA2				e		18 24 40.4	
VNA2				e		18 24 48.4	
SNAA	Sanae	160.43	160	ePKPdf	PKPab	18 24 26.4	-2.8
SNAA				e		18 24 39.8	

*IDC **02** 18:09:37.9±2.3, 54.26N×161.39W, h0km, mb4.2/7, mb1 4.3/8, mb1mx4.0/25, mbtmp4.2/8, ML3.8/1, Error ellipse: s-maj=72.8km s-min=22.0km az=160.0*
*ISCJB **02** 18:09:41.8±2.5, 54.2N±0.2×161.3W±0.1, h40km±17km, mb4.1/7, Error ellipse: s-maj=31.1km s-min=10.3km az=164.0*
*NEIC **02** 18:09:42.7, 54.32N×161.37W, h18km, ML4.1(AEIC), After AEIC.*
ISC 02 18:09:43.3±2.4, **54.2N**±0.2×**161.3W**±0.1, **h36**km±17km, **n12**, σ**0.68**/13, **mb4.1**/7, **Alaska Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SDPT	Sand Point	1.21	23	P	Pn	18 10 03.6	0.0
SDPT				S	Sn	18 10 18.9	+0.3
FALS	False Pass	1.38	297	P	Pn	18 10 05.5	-0.5
FALS				S	Sn	18 10 23.3	+0.4
KDAK	Kodiak Island	6.04	51	Pn	Pn	18 11 09.7	-0.2
	2.5nm,0.3s,baz=195,slow=13,SNR=3.2						
KDAK				Sn	Sn	18 12 13.7	-4.0
	2.6nm,0.3s,baz=333,slow=22,SNR=5.7						
PETK	Petropavlovsk-	24.08	284	P	P	18 14 54.6	-0.2
	9.4nm,0.5s,mb4.5,baz=82,slow=13,SNR=16						
YKA	Yellowknife Ar	25.31	52	P	P	18 15 07.3	+1.3
	1.4nm,0.7s,mb3.6,baz=269,slow=9.1,SNR=4.4						
KSRS	Korea Array	49.91	281	P	P	18 18 33.5	+0.6
	3.8nm,0.7s,mb4.5,baz=50,slow=6.9,SNR=12						
NOA	NORSAR Array B	64.91	4	P	P	18 20 17.4	-0.9
	1.2nm,0.8s,mb4.0,baz=356,slow=5.9,SNR=2.4						
AKASG	Malin Array Be	75.06	353	P	P	18 21 19.5	-1.2
	1.7nm,0.5s,mb4.2,baz=8.6,slow=5.8,SNR=8.9						
GERES	GERESS Array B	77.20	3	P	P	18 21 33.3	+0.4
	1.1nm,0.7s,mb3.9,baz=8.9,slow=4.3,SNR=4.9						
CMAR	Chiang Mai Arr	80.77	289	P	P	18 21 53.2	+0.2
	2.2nm,0.9s,mb4.1,baz=26,slow=5.9,SNR=6.7						
QSPA	South Pole Qui	144.02	180	PKP	PKPdf	18 29 12.4	-0.5
	2.0nm,0.7s,baz=299,slow=2.6,SNR=5.4						
TSUM	Tsumeb	145.01	2	PKPbc	PKPbc	18 29 15.4	-0.4
	2.1nm,0.8s,baz=318,slow=7.4,SNR=3.8						

*NEIC **02** 18:17:57.5, 54.31N×161.46W, h34km, ML3.8(AEIC), After AEIC.*
*ISCJB **02** 18:17:58.3±1.2, 54.4N±0.1×161.5W±0.1, h55km±7km, mb4.4/19, Error ellipse: s-maj=25.5km s-min=7.2km az=155.7*
*IDC **02** 18:17:58.8±4.5, 54.52N×161.73W, h40km±41km, mb3.8/11, mb1 3.9/12, mb1mx3.7/25, mbtmp3.8/12, ML3.4/1, Error ellipse: s-maj=40.6km s-min=19.9km az=171.0*
ISC 02 18:17:59.5±1.1, **54.5N**±0.1×**161.6W**±0.1, **h49**km±7km, **n28**, σ**0.88**/32, **mb4.4**/19, **Alaska Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SDPT	Sand Point	1.07	35	P	Pn	18 18 17.9	-0.3
SDPT				S	Sn	18 18 33.3	+1.4
AKUT	Akutan	2.49	264	P	Pn	18 18 37.1	-0.4
AKUT				S	Sn	18 19 08.6	+1.9
AKGG	Akutan Green G	2.61	266	P	Pn	18 18 38.8	-0.4
UNV	Unalaska Valle	2.98	260	P	Pn	18 18 43.1	-1.0
KDAK	Kodiak Island	6.01	53	P	Pn	18 19 25.8	0.0
	0.9nm,0.3s,baz=326,slow=23,SNR=8.9						
KDAK				S	Sn	18 20 31.4	-1.7
	baz=167,slow=22,SNR=2.5						
KDAK	Kodiak Island	6.01	53	P	Pn	18 19 25.8	0.0
KDAK				S	Sn	18 20 31.4	-1.7
PETK	Petropavlovsk-	23.88	284	P	P	18 23 07.3	-0.8
	4.4nm,0.4s,mb4.2,baz=79,slow=13,SNR=44						
YKA	Yellowknife Ar	25.29	53	P	P	18 23 22.1	+1.2
	1.6nm,0.9s,mb3.5,baz=42,slow=12,SNR=3.0						
NVAR	Mina Array Bea	33.23	101	P	P	18 24 32.6	+1.0
	0.3nm,0.6s,mb3.4,baz=290,slow=12,SNR=2.8						
KSRS	Korea Array	49.72	280	P	P	18 26 45.1	-1.3
	1.6nm,0.7s,mb4.2,baz=44,slow=6.8,SNR=6.9						
SONM	Songino Array	54.13	304	P	P	18 27 19.3	+0.2
	1.9nm,0.7s,mb4.1,baz=46,slow=7.3,SNR=14						
SONM				PcP	PcP	18 28 23.6	+0.4
	0.3nm,0.4s,baz=96,slow=2.3,SNR=4.5						
ARCES	ARCESS Array B	56.19	357	P	P	18 27 33.4	-0.2
	2.6nm,0.8s,mb4.3,baz=0.9,slow=7.5,SNR=5.3						
ARCES	ARCESS Array B	56.19	357	P	P	18 27 33.4	-0.2
NOA	NORSAR Array B	64.69	4	P	P	18 28 31.7	0.0
	1.4nm,0.9s,mb4.0,baz=355,slow=6.4,SNR=3.8						
NOA	NORSAR Array B	64.69	4	P	P	18 28 31.7	0.0
MKAR	Makanchi Array	65.59	317	P	P	18 28 37.0	-0.8
	0.5nm,0.5s,mb3.8,baz=37,slow=6.3,SNR=8.6						
AKASG	Malin Array Be	74.80	353	P	P	18 29 33.7	-0.3
	1.4nm,0.4s,mb4.2,baz=9.7,slow=6.6,SNR=7.1						
AKASG	Malin Array Be	74.80	353	P	P	18 29 33.7	-0.4
GERES	GERESS Array B	76.97	3	P	P	18 29 46.6	+0.2
	0.2nm,0.3s,mb3.5,baz=12,slow=7.2,SNR=5.5						
GUN	Gumba	79.64	304	eP	P	18 30 03.0	+1.5
	8.2nm,0.4s,mb5.0						
JIRN	Jiri	79.69	303	eP	P	18 30 02.6	+0.8
	17nm,0.4s,mb5.3						
KKN	Kakani	80.03	304	eP	P	18 30 04.6	+1.0
	6.6nm,0.5s,mb4.8						
RAMN	Ramite	80.08	303	eP	P	18 30 03.9	0.0
	10.0nm,0.6s,mb4.9						
GKN	Gorkha	80.16	305	eP	P	18 30 04.2	-0.1
	4.3nm,0.4s,mb4.7						
DMN	Daman	80.26	304	eP	P	18 30 04.6	-0.3
	6.3nm,0.4s,mb4.9						
DANN	Dangsing	80.28	306	eP	P	18 30 04.8	-0.2
	20nm,0.5s,mb5.3						
CMAR	Chiang Mai Arr	80.56	288	P	P	18 30 06.8	+0.2
	1.1nm,0.7s,mb3.9,baz=17,slow=6.4,SNR=6.4						
KOLN	Koldanda	80.85	305	eP	P	18 30 06.5	-1.5
	3.9nm,0.5s,mb4.6						

*NEIC **02** 18:33:15.9, 33.55S×68.39W, h8km, ML3.3(GUC), After GUC.*
GUC 02 18:33:15.9±0.8, **33.55S**×**68.39W**, **h8**km, **MD3.7**, **ML3.3**, **4C-6D**, **Mendoza Province**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YECH	El Yeso	1.42	265	⇑iP	Pn	18 33 42.2	+0.3
YECH				iS	Sb	18 34 01.7	+1.0
YECH				AML	AML	18 34 02.3	
	comp=E,1μm,0.4s						
LMEL	Las Melosas	1.54	258	⇓iP	Pn	18 33 43.9	+0.3
LMEL				iS	Sn	18 34 05.0	+1.2
LMEL				AML	AML	18 34 05.3	
	comp=N,580nm,0.3s						
LMEL	Las Melosas	1.54	258	⇓iP	Pn	18 33 43.9	+0.3
LMEL				iS	Sn	18 34 05.0	+1.2
FCH	Farellones	1.60	277	⇓iP	Pn	18 33 45.4	+0.9
FCH				iS	Sn	18 34 07.9	+2.6
FCH				AML	AML	18 34 11.6	
	comp=E,237nm,0.4s						
PCH	Pirque	1.77	267	⇑iP	Pn	18 33 48.3	+1.4
PCH				eS	Sn	18 34 13.1	+3.5
CLCH	Cerro Calan	1.80	274	⇓iP	Pn	18 33 49.0	+1.8
CLCH				iS	Sn	18 34 13.4	+3.2
CLCH				AML	AML	18 34 16.8	
	comp=E,645nm,0.7s						
CLCH				AML	AML	18 34 17.4	
	comp=E,768nm,0.6s						
CICH	Cipreses	1.85	245	⇑iP	Pn	18 33 49.4	+1.4
CICH				iS	Sn	18 34 14.9	+3.4
ANTU	Antumapu	1.87	269	iS	Sn	18 34 15.6	+3.7
CHCH	Chadas Angostu	1.92	258	⇓iP	Pn	18 33 51.0	+2.1
CACH	El Canelo	1.92	252	eP	Pn	18 33 50.8	+1.9
CACH				iS	Sn	18 34 17.2	+3.9
PEL	Peldehue	1.96	281	⇓iP	Pn	18 33 50.8	+1.3
PEL				iS	Sn	18 34 18.3	+4.1
PEL				AML	AML	18 34 21.6	
	comp=N,244nm,0.6s						
RCDM	Rinconada Maip	2.02	271	eP	Pn	18 33 52.6	+2.4
RCDM				iS	Sn	18 34 20.3	+4.7
RCDM				AML	AML	18 34 21.0	
	comp=N,592nm,0.2s						
RCDM	Rinconada Maip	2.02	271	eP	Pn	18 33 52.6	+2.4
RCDM				iS	Sn	18 34 20.3	+4.7
JACH	Jahuel	2.04	295	eP	Pn	18 33 52.5	+2.0
JACH				eS	Sn	18 34 20.9	+4.8
TACH	Talagante	2.12	267	eP	Pn	18 33 54.0	+2.3
TACH				iS	Sn	18 34 23.1	+4.9
SFDO	San Fernando	2.42	243	⇑iP	Pn	18 33 59.5	+3.7
SFDO				iS	Sn	18 34 32.1	+6.6
LNV	Longovilo	2.55	260	eP	Pn	18 34 00.8	+3.3
LNV				iS	Sn	18 34 35.3	+6.6
LCCH	Las Cruces	2.65	271	iS	Sn	18 34 38.5	+7.1

*ISCJB **02** 18:34:56.4±1.4, 54.1N±0.1×161.2W±0.1, h33km, mb3.8/3, Error ellipse: s-maj=17.2km s-min=9.5km az=157.6*
*IDC **02** 18:34:56.6±7.4, 54.62N×161.73W, h0km, mb3.8/3, mb1 3.8/4, mb1mx3.5/25, mbtmp3.8/4, ML3.0/1, Error ellipse: s-maj=227.2km s-min=32.1km az=163.0*
*NEIC **02** 18:34:59.6, 54.30N×161.43W, h26km, ML3.4(AEIC), After AEIC.*
ISC 02 18:34:58.6±1.4, **54.2N**±0.1×**161.3W**±0.1, **h35**km, **n7**, σ**0.86**/10, **mb3.8**/3, **Alaska Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SDPT	Sand Point	1.23	21	P	Pn	18 35 19.9	+0.6
SDPT				S	Sn	18 35 35.5	+0.8
FALS	False Pass	1.42	298	P	Pn	18 35 21.5	-0.3
FALS				S	Sn	18 35 38.8	-0.5
KDAK	Kodiak Island	6.04	50	Pn	Pn	18 36 26.0	+0.7
	0.4nm,0.3s,baz=45,slow=13,SNR=7.5						
KDAK				Sn	Sn	18 37 30.9	-2.1
	baz=143,slow=20,SNR=1.6						
PETK	Petropavlovsk-	24.11	284	P	P	18 40 10.1	-0.5
	2.3nm,0.4s,mb4.0,baz=78,slow=13,SNR=4.6						
PETK	Petropavlovsk-	24.11	284	P	P	18 40 10.1	-0.5
KSRS	Korea Array	49.94	281	P	P	18 43 49.4	+0.8
	0.9nm,0.6s,mb4.0,baz=48,slow=8.8,SNR=5.8						
SONM	Songino Array	54.43	304	P	P	18 44 21.8	0.0
	0.4nm,0.7s,mb3.4,baz=33,slow=8.9,SNR=4.2						

*ATH **02** 18:43:31.8, 37.72N×22.00E, h12km±2km, MD3.4/12, ML3.2*
*NEIC **02** 18:43:31.8, 37.72N×22.00E, h12km, ML3.2(ATH), After ATH.*
*ISCJB **02** 18:43:32.2±0.4, 37.69N±0.02×22.01E±0.03, h10km, Error ellipse: s-maj=3.6km s-min=2.9km az=42.4*
*CSEM **02** 18:43:32.1±0.1, 37.70N×21.98E, h8km±1km, ML3.2/2, Error ellipse: s-maj=2.6km s-min=1.6km az=27.0*
*THE **02** 18:43:32.3, 37.71N×22.01E, h6km±1km, ML3.2/2, Error ellipse: s-maj=1.4km s-min=0.5km az=169.0*
ISC 02 18:43:32.3±0.4, **37.71N**±0.03×**22.01E**±0.03, **h8**km±5km, **n37**, σ**0.81**/51, **Southern Greece**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VLX	Vlachokerasia	0.45	139	P	Pg	18 43 40.9	-0.1
VLX				S	Sg	18 43 47.6	+0.8
ITM	Ithomi	0.53	188	ePg	Pg	18 43 42.2	-0.4
ITM				eSb	Sg	18 43 50.2	+0.6
ITM	Ithomi	0.53	188	ePG	Pg	18 43 42.2	-0.4
ITM				eSB	Sg	18 43 50.2	+0.6
RLS	Riolos of Patr	0.56	309	ePg	Pg	18 43 42.0	-1.1
RLS				eSb	Sg	18 43 50.2	-0.1
RLS	Riolos of Patr	0.56	309	ePG	Pg	18 43 42.0	-1.1
RLS				eSB	Sg	18 43 50.2	-0.1
LTK	Loutraki	0.82	67	P	Pg	18 43 47.8	-0.2
LTK				S	Sg	18 44 00.0	+1.4
PYL	PYLOS	0.84	195	P	Pg	18 43 47.5	-1.0
PYL				S	Sg	18 44 00.4	+1.0
DID	Didima	0.99	101	P	Pg	18 43 50.7	-0.7
DID				S	Sg	18 44 04.9	+0.7
KFL	Anninata	1.05	293	P	Pg	18 43 52.2	-0.3
KFL				S	Sg	18 44 07.0	+0.9
NAIG	Nisos Aigina	1.17	87	ePb	Pb	18 43 54.5	-0.3
NAIG	Nisos Aigina	1.17	87	ePB	Pb	18 43 54.5	-0.3
EVR	Evrytania	1.22	352	ePb	Pb	18 43 55.0	-0.6
EVR	Evrytania	1.22	352	ePB	Pb	18 43 55.0	-0.6
LKR	Lokris	1.22	39	P	Pb	18 43 54.5	-1.1
LKR				S	Sg	18 44 12.8	+1.3
LKR	Lokris	1.22	39	ePb	Pb	18 43 54.6	-1.0
LKR				S	Sg	18 44 12.8	+1.3
LKR	Lokris	1.22	39	ePB	Pb	18 43 54.6	-1.0
VLS	Valsamata	1.22	293	ePg	Pg	18 43 54.5	-1.2
VLS				S	Sg	18 44 12.7	+1.2
VLS	Valsamata	1.22	293	ePG	Pg	18 43 54.5	-1.2
VLI	Veliai	1.23	143	ePg	Pg	18 43 55.1	-0.9
VLI	Veliai	1.23	143	ePG	Pg	18 43 55.1	-0.9
AGG	Agios Georgios	1.33	11	P	Pn	18 43 56.5	-0.7
AGG				S	Sb	18 44 15.5	+0.7
ATH	Athens Observa	1.37	78	ePb	Pb	18 43 58.0	-0.2
ATH	Athens Observa	1.37	78	ePB	Pb	18 43 58.0	-0.2
KVR	Kavouri	1.40	85	ePg	Pg	18 43 57.8	-1.3
KVR	Kavouri	1.40	85	ePG	Pg	18 43 57.8	-1.3
LKD	Levkas	1.47	313	P	Pn	18 43 58.6	-0.4
LKD				S	Sn	18 44 19.0	+0.6
PTL	Penteli	1.50	76	ePb	Pb	18 43 59.2	-1.2
PTL	Penteli	1.50	76	ePB	Pb	18 43 59.2	-1.2
KYTH	Kithira	1.64	150	ePb	Pb	18 44 03.5	+0.7
KYTH	Kithira	1.64	150	ePB	Pb	18 44 03.5	+0.7
THL	Klokotos Trika	1.85	0	ePn	Pn	18 44 05.3	+1.0
THL	Klokotos Trika	1.85	0	ePN	Pn	18 44 05.3	+1.0
NEO	Neokhori	1.86	30	ePn	Pn	18 44 04.6	+0.2
NEO	Neokhori	1.86	30	ePN	Pn	18 44 04.6	+0.2
APE	Apeiranthos	2.87	102	P	Pn	18 44 19.0	+0.6
APE	Apeiranthos	2.87	102	ePn	Pn	18 44 18.9	+0.5
APE	Apeiranthos	2.87	102	ePN	Pn	18 44 18.9	+0.5

*IDC **02** 18:46:28.7±0.5, 10.45N×145.94E, h0km, mb4.8/22, mb1 4.9/24, mb1mx4.8/27, mbtmp4.8/24, ML4.2/2, MS4.0/1, Ms1 4.0/1, ms1mx3.6/40, Error ellipse: s-maj=19.1km s-min=12.0km az=84.0*
*BJI **02** 18:46:28.3, 10.49N×145.98E, h9km, mB5.6, mb5.1, Ms5.2, Msz5.0*
*NEIC **02** 18:46:30.1±0.2, 10.40N×145.92E, h10km, mb5.0/28, Error ellipse: s-maj=8.3km s-min=5.5km az=92.0*
*ISCJB **02** 18:46:30.1±0.2, 10.41N±0.04×145.71E±0.03, h14km, mb5.0/88, MS5.0/6, Error ellipse: s-maj=5.5km s-min=4.1km az=17.3*
*DJA **02** 18:46:31, 10.65N×146.32E, h22km, mb5.0/9*
*MOS **02** 18:46:32.2±0.9, 10.47N×145.83E, h33km, mb5.3/32, Error ellipse: s-maj=13.3km s-min=6.3km az=110.9*
ISC 02 18:46:31.8±0.2, **10.42N**±0.04×**145.78E**±0.03, **h15**km±1.1km**:pP-P**, **n322**, σ**0.73**/323, **mb5.0**/88, **MS5.0**/6, **107C-78D**, **South of Mariana Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	Guam	3.27	344	Pn	Pn	18 47 20.2	-2.4
	139nm,0.3s,baz=167,slow=11,SNR=66						
GUMO				Sn	Sn	18 48 03.0	+1.7
	410nm,0.3s,baz=333,slow=23,SNR=7.9						
GUMO				LR	LR	18 48 22.9	
	comp=Z,2μm,18.5s,baz=226,slow=35						
GUMO	Guam	3.27	344	ePn	Pn	18 47 19.8	-2.8
CBIJ	Chichi jima	16.93	349	Pn	Pn	18 50 25.9	-2.4
	1.7nm,0.3s,baz=299,slow=20,SNR=1.9						
PMG	Port Moresby	19.74	176	⇑iP	Pn	18 51 03.6	+0.9
PMG	Port Moresby	19.74	176	ePn	Pn	18 51 00.1	-2.6
	21nm,1.1s						
JOW	Kunigami	23.23	317	P	P	18 51 38.9	+0.3
	27nm,0.8s,mb4.7,baz=127,slow=14,SNR=7.2						
JHJ	Hachijo jima 2	23.26	347	P	P	18 51 37.3	-1.5
	180nm,0.7s,mb5.6,baz=82,slow=20,SNR=3.0						
KAKA	Kakadu	26.53	210	eP	P	18 52 08.1	-1.0
	12nm,0.8s,mb4.5						
KAKA	Kakadu	26.53	210	eP	P	18 52 07.5	-1.6
	24nm,0.8s,mb4.8						
MJAR	Matsushiro Arr	26.89	346	P	P	18 52 10.3	-1.9
	20nm,0.7s,mb4.8,baz=167,slow=10.0,SNR=33						
MJAR	Matsushiro Arr	26.89	346	P	P	18 52 10.3	-1.9
MAJO	Matsushiro	26.90	346	eP	P	18 52 10.5	-1.7
MAJO				pmax	pmax		
	comp=Z,82nm,1.2s,mb5.1						
MAJO	Matsushiro	26.90	346	eP	P	18 52 10.5	-1.7
	comp=Z,82nm,1.2s,mb5.1						
MAT	Matsushiro	26.90	346	P	P	18 52 09.7	-2.5
CTA	Charters Tower	30.32	179	eP	P	18 52 42.4	-0.5
	comp=Z,6.1nm,0.8s,mb4.4						
CTA	Charters Tower	30.32	179	eP	P	18 52 42.4	-0.5
CTA				pmax	pmax		
	comp=Z,6.0nm,0.8s						
KSRS	Korea Array	31.36	332	P	P	18 52 51.5	-0.4
	comp=Z,23nm,0.9s,mb5.0,baz=142,slow=9.4,SNR=88						
KSRS				PcP	PcP	18 55 46.5	+0.9
	comp=Z,2.3nm,0.9s,baz=163,slow=4.0,SNR=9.6						
KS15	Wonju Array Si	31.36	332	eP	P	18 52 51.5	-0.4
WRAB	Tennant Creek	32.20	200	P	P	18 52 59.8	+0.4
	comp=Z,84nm,1.0s,mb5.5,SNR=6.0						
WRAB	Tennant Creek	32.20	200	eP	P	18 52 58.2	-1.2
WRAB				pmax	pmax		
	comp=Z,10.0nm,0.8s,mb4.7						
WRAB	Tennant Creek	32.20	200	eP	P	18 52 58.2	-1.2
	comp=Z,9.8nm,0.8s,mb4.7						
WB2	Warramunga Arr	32.20	200	eP	P	18 52 59.0	-0.5
WRA	Warramunga Arr	32.21	201	P	P	18 52 59.1	-0.4
	comp=Z,8.2nm,1.0s,mb4.5,baz=28,slow=9.5,SNR=64						
WRA				PcP	PcP	18 55 48.4	+0.2
	comp=Z,3.4nm,0.8s,baz=13,slow=3.0,SNR=9.1						
NJ2	Nanjing	32.90	315	eP	P	18 53 06.8	+1.3
NJ2				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb4.7						
ASAJ	Asahikawa	33.69	356	P	P	18 53 11.4	-0.7
	comp=Z,3.8nm,0.7s,mb4.4,baz=263,slow=29,SNR=5.3						
FITZ	Fitzroy Crossi	34.62	215	eP	P	18 53 20.2	-0.4
	comp=Z,6.5nm,0.8s,mb4.6						
VLA	Vladivostok	34.75	342	eP	P	18 53 21.3	-0.2
VLA				pmax	pmax		
	comp=Z,50nm,1.2s,mb5.3						
VLA	Vladivostok	34.75	342	⇓iP	P	18 53 21.8	+0.3
WHN	Wuhan	35.41	309	⇓P	P	18 53 28.5	+1.1
WHN				AMB	AMB		
	comp=Z,106nm,1.2s,mb5.7						
DL2	Dalian	35.64	327	P	P	18 53 29.9	+0.7
DL2				AMB	AMB		
	comp=Z,30nm,0.7s,mb5.3						
ASAR	Alice Springs	35.81	199	P	P	18 53 30.1	-0.7
	comp=Z,8.8nm,0.8s,mb4.7,baz=24,slow=6.5,SNR=109						
ASAR				PcP	PcP	18 55 58.2	-0.2
	comp=Z,2.2nm,0.8s,baz=31,slow=3.4,SNR=5.9						
YSS	Yuzh-Sakhalins	36.50	357	⇑eP	P	18 53 32.8	-3.6
YSS				pmax	pmax		
	comp=Z,23nm,1.2s,mb5.0						
YSS	Yuzh-Sakhalins	36.50	357	⇑eP	P	18 53 32.8	-3.6
YSS				eP		18 53 33.9	
MDJ	Mudanjiang	36.83	341	P	P	18 53 39.2	0.0
MDJ				AP	pP	18 53 42.3	-1.6
MDJ				AMB	AMB		
	comp=Z,30nm,1.3s,mb5.0						
MDJ				AMB	AMB		
	comp=Z,1μm,13.6s						
SNY	Shenyang	36.86	332	⇑P	P	18 53 39.3	-0.3
SNY				AMB	AMB		
	comp=Z,23nm,1.3s,mb4.8						
CN2	Changchun	37.64	336	eP	P	18 53 46.0	-0.2
CN2				eXP	sP	18 53 53.0	+0.2
CN2				eS	S	18 59 36.0	+0.5
CN2				AMB	AMB		
	comp=Z,30nm,1.0s,mb5.0						
CN2				AMB	AMB		
	comp=Z,200nm,5.0s						
HABR	Khabarovsk	38.98	349	eP	P	18 53 54.3	-3.1
HABR				e		18 54 08.0	
HABR				e		18 55 23.4	
HABR				e		18 56 04.5	
HABR				eS	S	18 59 51.0	-4.6
HABR				e		19 00 07.6	
HABR				e		19 04 01.9	
BJI	Beijing	39.49	323	P	P	18 54 01.6	-0.2
BJI				AMB	AMB		
	comp=Z,37nm,1.0s,mb5.1						
BJI	Beijing	39.49	323	P	P	18 54 01.6	-0.2
	comp=Z,37nm,1.0s,mb5.1						
GYA	Guiyang	40.20	299	⇑iP	P	18 54 07.2	-0.7
GYA				PP	PP	18 55 43.9	+3.4
GYA				PCP	PcP	18 56 12.4	+0.4
GYA				SS	SS	19 03 05.5	-7.2
GYA				AMB	AMB		
	comp=Z,20nm,1.0s,mb4.8						
GYA				AMB	AMB		
	comp=Z,140nm,5.6s						
GYA				LR	LR		
	comp=N,540nm,18.0s,MS4.5						
GYA				LR	LR		
	comp=E,460nm,19.2s,MS4.5						
GYA				LR	LR		
	comp=Z,580nm,18.4s,MS4.5						
MBWA	Marble Bar	40.50	219	eP	P	18 54 09.8	-0.6
	comp=Z,22nm,1.1s,mb4.8						
XAN	Xi'an	41.09	311	P	P	18 54 14.9	-0.2
XAN				AP	pP	18 54 20.4	+0.5
XAN				XP	sP	18 54 24.1	+2.4
XAN				AMB	AMB		
	comp=Z,17nm,1.1s,mb4.6						
XAN				AMB	AMB		
	comp=Z,6μm,15.0s						
STKA	Stephens Creek	42.25	185	eP	P	18 54 22.4	-2.1
	comp=Z,5.6nm,0.9s,mb4.2						
STKA	Stephens Creek	42.25	185	P	P	18 54 23.1	-1.5
	comp=Z,6.5nm,0.8s,mb4.3,baz=7.4,slow=7.3,SNR=10						
STKA	Stephens Creek	42.25	185	eP	P	18 54 21.9	-2.6
	comp=Z,8.7nm,0.9s,mb4.4						
HHC	Hu-ho-hao-te	42.77	321	eP	P	18 54 29.7	+1.0
HHC				XP	sP	18 54 36.7	+1.4
HHC				PP	PP	18 56 11.7	+3.7
HHC				PCP	PcP	18 56 20.2	+0.1
HHC				SCP	ScP	19 00 09.7	-1.1
HHC				S	S	19 00 53.9	+1.7
HHC				XS	sS	19 01 03.3	+3.4
HHC				SS	SS	19 04 00.6	-2.6
HHC				SCS	ScS	19 04 27.5	-2.1
HHC				AMB	AMB		
	comp=Z,19nm,1.2s,mb4.7						
HHC				AMB	AMB		
	comp=Z,4μm,7.2s						
HHC				LR	LR		
	comp=N,2μm,16.2s,MS5.1						
HHC				LR	LR		
	comp=E,1μm,16.2s,MS5.1						
HHC				LR	LR		
	comp=Z,1μm,15.7s,MS4.9						
KGM	Kluang	42.99	262	⇑P	P	18 54 31.7	+0.7
KMI	Kunming	43.32	296	P	P	18 54 35.5	+2.1
KMI				AP	pP	18 54 39.2	+1.0
KMI				XP	sP	18 54 41.8	+1.7
KMI				AMB	AMB		
	comp=Z,26nm,1.0s,mb4.9						
KMI	Kunming	43.32	296	P	P	18 54 35.5	+2.1
	comp=Z,26nm,1.0s,mb4.9						
KMI				pP	pP	18 54 39.2	+1.0
KMI				sP	sP	18 54 41.8	+1.7
PETK	Petropavlovsk-	43.64	10	P	P	18 54 34.7	-0.9
	comp=Z,3.0nm,0.8s,mb4.1,baz=145,slow=14,SNR=3.0						
PETK				PcP	PcP	18 56 21.6	-1.1
	comp=Z,3.1nm,0.9s,baz=204,slow=3.3,SNR=5.1						
CD2	Chengdu	43.95	304	⇑iP	P	18 54 38.7	+0.2
CD2				AP	pP	18 54 43.2	0.0
CD2				XP	sP	18 54 46.0	+0.9
CD2				PP	PP	18 56 22.9	+2.0
CD2				S	S	19 01 09.8	-0.1
CD2				XS	sS	19 01 17.2	-0.5
CD2				SS	SS	19 04 18.6	-8.1
CD2				AMB	AMB		
	comp=Z,40nm,1.2s,mb5.0						
CD2				LR	LR		
	comp=N,1μm,14.4s,MS5.3						
CD2				LR	LR		
	comp=E,2μm,15.6s,MS5.3						
CD2				LR	LR		
	comp=Z,1μm,16.8s,MS5.0						
HIA	Hailar	44.38	336	eP	P	18 54 41.7	+0.1

HIA pmax pmax
comp=Z,25nm,0.8s
HIA Hailar 44.38 336 *e*P **P 18 54 41.6 +0.1**
comp=Z,25nm,0.8s,mb5.0
LZH Lanzhou 45.73 311 ⇑P **P 18 54 52.8 +0.3**
LZH AP pP 18 54 57.6 +0.3
LZH XP sP 18 54 59.9 +0.7
LZH PP PP 18 56 40.7 +0.9
LZH *e*S **S 19 01 35.3 -0.1**
LZH XS sS 19 01 42.9 -0.4
LZH *e*SS SS 19 04 51.5 -8.4
LZH AMB AMB
comp=Z,47nm,1.3s,mb5.3
LZH AMB AMB
comp=Z,197nm,6.2s
LZH LR LR
comp=N,759nm,14.7s
LZH LR LR
comp=Z,998nm,17.9s,MS4.8
LZH Lanzhou 45.73 311 ⇑P **P 18 54 52.8 +0.3**
LZH *SP sP 18 54 59.9 +0.7
LZH 18 56 40.7
LZH *e*S **S 19 01 35.3 -0.1**
LZH *SS sS 19 01 42.9 -0.4
LZH *e*SS SS 19 04 51.5 -8.4
LZH pmax pmax
comp=Z,47nm,1.3s,mb5.3
LZH MLR MLR
comp=Z,1μm,17.9s,MS4.8
LZH Lanzhou 45.73 311 ⇑P **P 18 54 52.8 +0.3**
comp=Z,47nm,1.3s,mb5.3
LZH pP pP 18 54 57.6 +0.3
LZH sP sP 18 54 59.9 +0.7
LZH PP PP 18 56 40.7 +0.9
LZH *e*S **S 19 01 35.3 -0.1**
LZH sS sS 19 01 42.9 -0.4
LZH *e*SS SS 19 04 51.5 -8.4
LZH LR LR
comp=Z,1μm,17.9s,MS4.8
CM31 Chiang Mai Arr 45.95 286 *e*P **P 18 54 55.8 +1.2**
comp=Z,35nm,0.9s,mb5.3
CMAR Chiang Mai Arr 45.95 286 P **P 18 54 56.1 +1.5**
comp=Z,22nm,0.8s,mb5.2,baz=85,slow=5.9,SNR=122
CHTO Chiang Mai 45.97 286 *e*P **P 18 54 55.9 +1.2**
CHTO pmax pmax
comp=Z,34nm,1.7s,mb5.0
CHTO Chiang Mai 45.97 286 *e*P **P 18 54 55.9 +1.1**
comp=Z,34nm,1.7s,mb5.0
CLNS Chul'man 49.06 345 *e*P **P 18 55 17.8 -0.3**
CLNS pmax pmax
comp=Z,28nm,0.9s,mb5.3
CLNS pmax pmax
comp=N,16nm,0.8s
CLNS pmax pmax
comp=E,10.0nm,0.9s
ULN Ulaanbaatar 49.49 326⇑*e*P **P 18 55 21.9 +0.3**
ULN Ulaanbaatar 49.49 326 *e*P **P 18 55 22.1 +0.5**
comp=E,24nm,0.8s,mb5.3
ULN *e*PcP PcP 18 56 44.0 +0.5
SONM Songino Array 49.83 326 P **P 18 55 24.9 +0.7**
comp=E,12nm,0.6s,mb5.1,baz=141,slow=8.3,SNR=116
SONM PcP PcP 18 56 45.2 +0.4
comp=E,5.1nm,0.7s,baz=145,slow=3.1,SNR=6.4
GTA Gaotai 49.96 313 P **P 18 55 25.9 +0.6**
GTA AP pP 18 55 30.0 -0.1
GTA XP sP 18 55 33.0 +1.0
GTA S **S 19 02 37.6 +2.2**
GTA XS sS 19 02 45.4 +2.1
GTA SS SS 19 06 07.8 -0.6
GTA AMB AMB
comp=Z,19nm,1.1s,mb5.0
GTA AMB AMB
comp=Z,2μm,6.6s
GTA LR LR
comp=N,2μm,18.9s,MS5.2
GTA LR LR
comp=E,1μm,17.4s,MS5.2
GTA LR LR
comp=Z,3μm,17.1s,MS5.3
ADK Adak 51.35 29 *e*P **P 18 55 35.4 -0.2**
ADK pmax pmax
comp=Z,28nm,0.9s,mb5.2
ADK Adak 51.35 29 *e*P **P 18 55 35.4 -0.2**
comp=Z,28nm,0.9s,mb5.2
SEY Seymchan 52.64 4⇑*e*P **P 18 55 44.5 -0.5**
SEY Seymchan 52.64 4⇑*e*P **P 18 55 44.6 -0.4**
YAK Yakutsk 52.84 351 *e*P **P 18 55 44.8 -1.7**
YAK pmax pmax
comp=Z,31nm,1.1s,mb5.2
YAK pmax pmax
comp=N,17nm,1.1s
YAK Yakutsk 52.84 351 P **P 18 55 45.3 -1.2**
comp=N,55nm,1.2s,mb5.4
ZAK Zakamensk 52.96 327⇓*i*P **P 18 55 47.3 -0.3**
ZAK *e* 18 56 56.1
ZAK pmax pmax
comp=Z,24nm,1.2s,mb5.0
SHL Shillong 53.09 294⇑*i*P **P 18 55 50.0 +1.0**
BOD Bodaibo 53.18 339 *e*P **P 18 55 48.7 -0.4**
BOD pmax pmax
comp=Z,16nm,1.1s,mb4.9
TLY Talaya 53.50 329 P **P 18 55 52.8 +1.2**
comp=Z,124nm,1.0s,mb5.8,SNR=6.4
TLY Talaya 53.50 329 *e*P **P 18 55 52.0 +0.4**
TLY pmax pmax
comp=Z,28nm,1.1s,mb5.1
TLY Talaya 53.50 329 *e*P **P 18 55 51.8 +0.3**
comp=Z,28nm,1.1s,mb5.1
IRK Irkutsk 53.51 330 *e*P **P 18 55 51.3 -0.3**
IRK pmax pmax
comp=Z,38nm,1.6s,mb5.1
LSA Lhasa 54.27 299 P **P 18 55 59.5 +1.9**
MOY Mondy 54.87 328 *e*P **P 18 56 02.0 +0.4**
MOY pmax pmax
comp=Z,22nm,1.7s,mb4.9
ODAN Odare 57.23 295 *e*P **P 18 56 19.3 +0.4**
comp=Z,95nm,1.0s,mb5.8
RAMN Ramite 57.94 295 *e*P **P 18 56 24.4 +0.5**
comp=Z,86nm,1.0s,mb5.7
JIRN Jiri 58.36 296 *e*P **P 18 56 27.8 +1.0**
comp=Z,75nm,0.8s,mb5.8
GUN Gumba 58.65 296 *e*P **P 18 56 29.8 +0.9**
comp=Z,184nm,0.9s,mb6.1
BILL Bilibino 59.13 9⇑*i*P **P 18 56 30.6 -0.8**
BILL pmax pmax
comp=Z,37nm,1.3s,mb5.2
BILL Bilibino 59.13 9⇑*i*P **P 18 56 30.7 -0.7**
KKN Kakani 59.17 296 *e*P **P 18 56 32.8 +0.3**
comp=Z,71nm,0.8s,mb5.8
DMN Daman 59.31 296 *e*P **P 18 56 33.9 +0.4**
comp=Z,94nm,0.8s,mb5.8
GKN Gorkha 59.76 296 *e*P **P 18 56 36.8 +0.3**
comp=Z,149nm,1.1s,mb5.9
WMQ Urumqi 59.98 315⇑*i*P **P 18 56 38.7 +1.0**
WMQ AP pP 18 56 43.2 +0.6
WMQ XP sP 18 56 45.7 +1.3
WMQ PCP PcP 18 57 23.7 -0.1
WMQ PP PP 18 58 53.2 +3.2
WMQ SCP ScP 19 01 23.7 -0.9
WMQ S **S 19 04 49.2 -0.5**
WMQ XS sS 19 04 56.7 -1.0
WMQ AMB AMB
comp=Z,22nm,1.1s,mb5.1
WMQ AMB AMB
comp=Z,373nm,3.2s
WMQ LR LR
comp=E,2μm,20.6s
WMQ LR LR
comp=Z,2μm,20.6s,MS5.2
DANN Dangsing 60.55 297 *e*P **P 18 56 42.5 +0.5**
comp=Z,154nm,0.6s
KOLN Koldanda 60.66 296 *e*P **P 18 56 43.1 +0.4**
comp=Z,69nm,0.8s,mb5.9
GAMB Gambell 61.11 20 *e*P **P 18 56 42.4 -2.7**
KRAR Krasnoyarsk 61.19 329⇑*i*P **P 18 56 45.3 -0.5**
KRAR pmax pmax
comp=Z,4.0nm,0.3s,mb5.0
MK31 Makanchi Array 64.39 317 *i* P **P 18 57 07.3 0.0**
MK31 pmax pmax
comp=Z,6.0nm,0.5s,mb4.9
MK31 Makanchi Array 64.39 317 *e*P **P 18 57 07.6 +0.3**
MKAR Makanchi Array 64.39 317 P **P 18 57 07.7 +0.4**
comp=Z,8.4nm,0.6s,mb4.9,baz=90,slow=8.4,SNR=84
MKAR PcP PcP 18 57 41.9 +0.2
comp=Z,2.5nm,0.6s,baz=94,slow=8.3,SNR=4.6

MKAR Makanchi Array 64.39 317 *i* P **P 18 57 07.6 +0.3**
MKAR pmax pmax
comp=Z,8.0nm,0.6s
MKAR Makanchi Array 64.39 317 *i* P **P 18 57 07.7 +0.4**
ZAA0 Zalesovo Array 64.71 325 *e*P **P 18 57 08.7 -0.5**
ZALV Zalesovo Beam 64.71 325 P **P 18 57 08.7 -0.5**
comp=Z,8.4nm,0.6s,mb5.0,baz=104,slow=6.8,SNR=48
HYB Hyderabad 65.36 284 *i* P **P 18 57 14.0 -0.1**
HYB Hyderabad 65.36 284 *e*P **P 18 57 14.0 -0.1**
NVS Novosibirsk 65.86 326⇑*i*P **P 18 57 15.7 -1.0**
NVS *i* 18 57 32.7
NVS pmax pmax
comp=Z,21nm,1.1s,mb5.1
NVS pmax pmax
comp=N,8.0nm,1.2s
NVS pmax pmax
comp=E,13nm,1.1s
KDAK Kodiak Island 66.29 31 P **P 18 57 18.1 -1.3**
comp=E,14nm,1.0s,mb5.0,baz=259,slow=5.2,SNR=2.9
KDAK PcP PcP 18 57 47.4 -1.9
comp=E,15nm,0.7s,baz=180,slow=11,SNR=4.4
KURK Kurchatov 67.58 321 P **P 18 57 27.5 -0.2**
comp=E,215nm,0.9s,SNR=20
KURK Kurchatov 67.58 321 P **P 18 57 27.6 -0.1**
comp=E,18nm,0.6s,mb5.3,baz=106,slow=6.0,SNR=37
KURK PcP PcP 18 57 52.5 -2.3
comp=E,6.1nm,0.8s,baz=105,slow=6.0,SNR=4.0
KURK Kurchatov 67.58 321⇑*e*P **P 18 57 27.1 -0.6**
KURK pmax pmax
comp=Z,56nm,1.4s,mb5.4
KURK Kurchatov 67.58 321 *e*P **P 18 57 26.9 -0.8**
comp=Z,25nm,0.7s,mb5.3
COLA College 70.68 24 P **P 18 57 45.8 -0.9**
COLA pmax pmax
comp=Z,8.0nm,0.8s,mb4.7
COLA College 70.68 24 P **P 18 57 45.8 -0.9**
comp=Z,7.7nm,0.8s,mb4.7
KK31 Karatay Array 72.21 312 *i* P **P 18 57 56.2 -0.2**
KK31 pmax pmax
comp=Z,13nm,1.0s,mb4.8
BVAR Borovoye Array 72.96 322 P **P 18 58 00.7 +0.1**
comp=Z,19nm,0.6s,mb5.2,baz=105,slow=7.7,SNR=124
BRVK Borovoye 73.03 322 P **P 18 58 01.5 +0.5**
comp=Z,326nm,0.7s,SNR=9.1
BRVK Borovoye 73.03 322 *e*P **P 18 58 01.1 +0.1**
BRVK pmax pmax
comp=Z,34nm,0.7s,mb5.4
BRVK Borovoye 73.03 322 *e*P **P 18 58 01.1 +0.1**
comp=Z,34nm,0.7s,mb5.4
KBL Kabul 73.28 303 *e*P **P 18 58 02.6 -0.3**
KBL pmax pmax
comp=Z,17nm,0.9s,mb5.0
KBL Kabul 73.28 303 *e*P **P 18 58 02.6 -0.3**
comp=Z,17nm,0.9s,mb5.0
DAWY Dawson 74.06 26 *e*P **P 18 58 06.2 -0.7**
DLBC Dease Lake 78.16 32 P **P 18 58 29.8 -0.5**
DLBC Dease Lake 78.16 32 *e*P **P 18 58 30.4 +0.1**
SVE Sverdlovsk 78.70 326⇓*e*P **P 18 58 33.5 +0.1**
SVE pmax pmax
comp=Z,10.0nm,0.9s,mb4.8
AB31 Akbulak array 79.48 318 *i* P **P 18 58 36.9 -0.9**
AB31 pmax pmax
comp=Z,4.0nm,0.6s,mb4.5
ARU Arti 79.87 326 P **P 18 58 39.7 -0.1**
comp=Z,96nm,0.6s,mb5.9,SNR=7.3
ARU Arti 79.87 326*c i*P **P 18 58 39.4 -0.4**
ARU *e*S S 19 08 43.1 +0.6
ARU *e*SS SS 19 13 54.1 +2.6
ARU pmax pmax
comp=Z,28nm,1.7s,mb4.9
ARU Arti 79.87 326 *e*P **P 18 58 39.5 -0.2**
comp=Z,14nm,0.8s,mb4.9
AKTO Aktyubinsk 80.64 320 P **P 18 58 43.0 -1.0**
AKTO pmax pmax
comp=Z,1.0nm,0.8s
ABKT Ailbek 81.86 307 P **P 18 58 51.6 +0.8**
comp=Z,108nm,1.0s,mb5.7,SNR=12
HUMO Hull Mountain 83.96 48⇑P **P 18 59 01.6 +0.1**
baz=84
N02C Big Bar 83.96 50⇑P **P 18 59 01.7 0.0**
baz=84
M02C Callahan 84.22 49⇑P **P 18 59 03.0 0.0**
baz=84
YBH Yreka Blue Hor 84.27 49⇓P **P 18 59 03.4 +0.1**
baz=84
O02C Red Bluff 84.45 50⇓P **P 18 59 04.6 +0.4**
baz=84
J04A Umpqua Nationa 84.48 47⇓P **P 18 59 04.3 +0.1**
baz=84
A07A Ashnola River, 84.72 41⇑P **P 18 59 05.4 +0.1**
baz=85
E06A Yakima 84.74 44⇓P **P 18 59 05.4 -0.1**
baz=85
M04C Macdoel 84.91 49⇑P **P 18 59 06.2 -0.3**
baz=85
J05A Fort Rock 85.10 47⇓P **P 18 59 07.5 +0.2**
baz=85
YKA Yellowknife Ar 85.25 27 P **P 18 59 06.8 -0.8**
comp=Z,4.7nm,0.8s,mb4.7,baz=286,slow=5.3,SNR=9.8
YKA Yellowknife Ar 85.25 27 *i* P **P 18 59 06.8 -0.9**
YKA pmax pmax
comp=Z,5.0nm,0.8s
K05A Summer Lake 85.44 48⇑P **P 18 59 09.2 +0.1**
baz=85
A08A Turner Farm, O 85.45 41⇑P **P 18 59 08.7 -0.3**
baz=85
H06A Lindquist Farm 85.49 46⇓P **P 18 59 09.0 -0.3**
baz=85
B08A Colville Reser 85.52 42⇑P **P 18 59 09.1 -0.3**
baz=85
ORV Orville 85.53 51⇑P **P 18 59 09.4 -0.1**
baz=85
L05A Lakeview 85.60 48⇑P **P 18 59 09.8 -0.1**
baz=86
O04C Chester 85.71 50⇑P **P 18 59 11.1 +0.6**
baz=86
I06A Prineville 85.72 46⇓P **P 18 59 10.4 0.0**
baz=86
J06A Christmas Vall 85.89 47⇓P **P 18 59 11.3 0.0**
baz=86
K06A Valley Falls 85.89 47⇓P **P 18 59 10.9 -0.4**
baz=86
A09A Danville 85.90 41⇑P **P 18 59 10.6 -0.6**
baz=86
M06C Likely Place G 86.01 49⇑P **P 18 59 12.3 +0.3**
baz=86
PACP Pacheco Peak 86.13 53⇑P **P 18 59 13.3 +0.7**
baz=86
I07A Izee 86.20 46⇑P **P 18 59 13.0 +0.2**
baz=86
LAVA Lava Cap Winer 86.25 51⇓P **P 18 59 13.2 0.0**
baz=86
P05C Yuba Gap, Truc 86.25 51⇑P **P 18 59 13.2 0.0**
baz=86
B09A Rice 86.29 42⇑P **P 18 59 13.0 -0.1**
baz=86
G08A Pilot Rock 86.35 45⇑P **P 18 59 13.6 0.0**
baz=86
F08A Pendleton 86.38 44⇑P **P 18 59 13.5 -0.1**
baz=86
D09A Jones Farm, Ri 86.45 43⇓P **P 18 59 13.9 -0.1**
baz=86
J07A Hines 86.47 47⇑P **P 18 59 14.1 0.0**
baz=86
A10A Northport 86.56 41⇓P **P 18 59 14.6 +0.1**
baz=86
N06A Buffalo Meadow 86.58 49⇓P **P 18 59 15.3 +0.5**
baz=86
K07A Rock Creek Ran 86.64 47⇑P **P 18 59 14.9 -0.1**
baz=86
CMB Columbia Colle 86.65 52 *e*P **P 18 59 14.9 -0.3**
CMB pmax pmax
comp=Z,3.0nm,0.7s,mb4.6
CMB Columbia Colle 86.65 52⇓P **P 18 59 15.3 +0.1**
baz=86
CMB Columbia Colle 86.65 52 *e*P **P 18 59 14.9 -0.3**
comp=Z,2.5nm,0.7s,mb4.5
O06A Flanigan 86.69 50⇓P **P 18 59 15.9 +0.6**
baz=87
H08A Prairie City 86.70 45⇓P **P 18 59 15.1 -0.1**
baz=87
L07A Adell 86.70 48⇓P **P 18 59 15.8 +0.5**
baz=87
I08A Drewsey 86.89 46⇓P **P 18 59 16.1 -0.1**
baz=87
WCN Washoe City 86.90 51⇓P **P 18 59 16.6 +0.2**
baz=87

PKD Parkfield 86.91 54⇓P **P 18 59 16.9 +0.4**
baz=87
NEW Newport 86.99 42 *e*P **P 18 59 15.7 -0.9**
NEW pmax pmax
comp=Z,9.0nm,1.0s
NEW Newport 86.99 42 *e*P **P 18 59 15.7 -0.9**
comp=Z,9.1nm,1.0s,mb5.0
J08A Circle Bar Ran 87.07 47⇓P **P 18 59 17.4 +0.3**
baz=87
S06C San Francisco 87.10 52⇓P **P 18 59 17.3 0.0**
baz=87
G09A Cove 87.17 45⇓P **P 18 59 17.4 -0.1**
baz=87
K08A Mann Creek Ran 87.18 47⇑P **P 18 59 17.9 +0.3**
baz=87
N07B Gerlach 87.21 49⇑P **P 18 59 18.1 +0.2**
baz=87
R06C Coleville 87.29 51⇑P **P 18 59 18.8 +0.5**
baz=87
SPITS Spitsbergen Ar 87.30 351 P **P 18 59 16.8 -0.8**
comp=Z,17nm,1.0s,mb5.2,baz=338,slow=6.3,SNR=5.1
A11A Hall Mountain, 87.33 41⇓P **P 18 59 18.4 +0.1**
baz=87
E10A Myers Farm, Un 87.37 43⇓P **P 18 59 18.3 -0.2**
baz=87
T06C Millerton Lake 87.37 53⇑P **P 18 59 18.9 +0.2**
baz=87
L08A Fields 87.39 48⇑P **P 18 59 18.9 +0.2**
baz=87
O07A Toulon 87.40 50⇑P **P 18 59 19.3 +0.6**
baz=87
SMMC Simmler 87.46 55⇓P **P 18 59 19.0 -0.2**
baz=87
M08A Happy Creek Ra 87.52 48⇑P **P 18 59 19.6 +0.2**
baz=87
J09A Fry Pan Ranch, 87.58 47⇑P **P 18 59 19.4 -0.2**
baz=88
BMO Blue Mountains 87.59 45 *e*P **P 18 59 17.9 -1.7**
BMO pmax pmax
comp=Z,8.0nm,1.0s,mb4.9
BMO Blue Mountains 87.59 45 *e*P **P 18 59 17.9 -1.6**
comp=Z,7.6nm,1.0s,mb4.9
KCC Kaiser Creek 87.62 53⇓P **P 18 59 20.0 +0.1**
baz=88
R07C Lee Vining 87.68 52⇓P **P 18 59 20.7 +0.5**
baz=88
K09A Rome 87.74 47⇓P **P 18 59 20.6 +0.2**
baz=88
D11A Klaveano Farm, 87.77 43⇑P **P 18 59 20.0 -0.4**
baz=88
A12A Yaak River Ran 87.79 41⇑P **P 18 59 20.5 +0.1**
baz=88
N08A GE Springer Mi 87.84 49⇑P **P 18 59 21.1 +0.2**
baz=88
L09A Wilkinson Ranc 87.92 48⇓P **P 18 59 21.4 +0.2**
baz=88
HELL Mitchell Peak 87.98 53⇓P **P 18 59 21.2 -0.4**
baz=88
BSC Santa Cruz Isl 88.01 56⇓P **P 18 59 21.6 -0.2**
baz=88
E11A Bogner Ranch, 88.01 43⇓P **P 18 59 21.1 -0.5**
baz=88
F11A Grangeville 88.15 44⇓P **P 18 59 21.8 -0.4**
baz=88
G11A Walters Elk Ra 88.18 44⇓P **P 18 59 21.2 -1.2**
baz=88,SNR=7.8
NVAR Mina Array Bea 88.19 51 P **P 18 59 23.2 +0.6**
comp=Z,5.5nm,0.7s,mb4.9,baz=269,slow=5.6,SNR=40
NVAR Mina Array Bea 88.19 51 P **P 18 59 23.2 +0.6**
K10A MacKenzie Ranc 88.34 47⇓P **P 18 59 23.3 +0.1**
baz=88,SNR=5.9
Q08A Gabbs 88.38 51⇑P **P 18 59 23.7 +0.2**
baz=88
E12A Beaver Dam Sad 88.43 43⇑P **P 18 59 22.6 -0.9**
baz=88,SNR=11
S08C White Mtn Res 88.48 52⇑P **P 18 59 24.4 +0.5**
baz=88
H11A Donnelly 88.52 45⇑P **P 18 59 23.9 -0.1**
baz=88
O09A Fish Creek Ran 88.67 50⇑P **P 18 59 24.8 0.0**
baz=88,SNR=5.3
B13A Whitefish 88.69 41⇑P **P 18 59 25.1 +0.4**
baz=89
I11A Placerville 88.73 46⇑P **P 18 59 24.8 -0.3**
baz=89,SNR=5.6
KLMR Klimovskoe 88.75 332 *e*P **P 18 59 22.9 -1.8**
KLMR pmax pmax
comp=Z,19nm,1.0s,mb5.4
L10A Juniper Basin 88.78 48⇑P **P 18 59 25.0 -0.3**
baz=89,SNR=8.6
F12A Elk City 88.80 44⇑P **P 18 59 25.8 +0.6**
baz=89
MFID Camas Ranch 88.94 46⇑P **P 18 59 25.8 -0.2**
baz=89,SNR=6.3
K11A Parker Ranch, 88.94 47⇑P **P 18 59 25.7 -0.3**
baz=89
D13A Huson 89.01 42⇓P **P 18 59 26.1 -0.2**
baz=89
TPH Tonopah 89.09 52 P **P 18 59 26.6 -0.2**
TPH pmax pmax
comp=Z,5.0nm,0.6s,mb5.0
TPH Tonopah 89.09 52 P **P 18 59 26.6 -0.3**
comp=Z,4.7nm,0.6s,mb5.0
O10A Cortez Mining, 89.16 49⇓P **P 18 59 27.7 +0.6**
baz=89
EDW2 Edwards Air Fo 89.16 55⇑P **P 18 59 27.7 +0.5**
baz=89
R09A Tonopah 89.17 51⇓P **P 18 59 27.0 -0.2**
baz=89,SNR=10.0
A14A Double T Ranch 89.21 40⇓P **P 18 59 27.6 +0.5**
baz=89
L11A Cat Creek Ranc 89.28 47⇓P **P 18 59 27.8 +0.2**
baz=89,SNR=7.3
MPMC Manual Prospec 89.31 54⇓P **P 18 59 28.2 +0.2**
baz=89,SNR=6.5
P10A Eureka 89.33 50⇓P **P 18 59 28.2 +0.3**
baz=89
I12A Atlanta 89.34 46⇓P **P 18 59 27.9 0.0**
baz=89
H12A Diamond D Ranc 89.36 45⇓P **P 18 59 28.0 +0.1**
baz=89
F13A Darby 89.41 44⇑P **P 18 59 27.4 -0.8**
baz=89
M11A Holland Ranch, 89.42 48⇓P **P 18 59 28.5 +0.2**
baz=89
J12A Stokes Ranch, 89.50 46⇑P **P 18 59 28.9 +0.3**
baz=89
Q10A Clear Creek Ra 89.56 51⇓P **P 18 59 28.8 -0.2**
baz=89
S10A Tonopah Range, 89.61 52⇑P **P 18 59 29.4 +0.1**
baz=90,SNR=11
A15A Johnson Ranch, 89.65 40⇑P **P 18 59 29.5 +0.3**
baz=90
G13A Cobalt 89.65 44⇓P **P 18 59 28.9 -0.4**
baz=90,SNR=7.6
H13A Challis 89.77 45⇓P **P 18 59 29.9 0.0**
baz=90,SNR=6.6
K12A Draper Farm, C 89.78 47⇑P **P 18 59 30.2 +0.2**
baz=90
L12A House Creek Ra 89.82 47⇓P **P 18 59 30.5 +0.4**
baz=90,SNR=5.5
B15A Bradely Ranch, 89.94 41⇓P **P 18 59 30.4 -0.1**
baz=90
GSC Goldstone 90.02 54⇑P **P 18 59 32.0 +0.8**
baz=90
I13A Wildhorse Cree 90.03 45⇓P **P 18 59 31.4 +0.3**
baz=90
M12A Wells 90.07 48⇑P **P 18 59 32.0 +0.7**
baz=90
TPNV Topopah Spring 90.10 53 *e*P **P 18 59 31.1 -0.5**
N12A Clover Valley, 90.11 48⇑P **P 18 59 32.0 +0.5**
baz=90,SNR=5.2
J13A Cove Ranch, Pi 90.11 46⇓P **P 18 59 31.6 +0.1**
baz=90
Q11A Duckwater 90.12 51⇑P **P 18 59 32.0 +0.3**
baz=90
R11A Troy Canyon, C 90.29 51⇓P **P 18 59 32.4 0.0**
baz=90,SNR=5.7
SHOC Shoshone 90.31 54⇑P **P 18 59 33.2 +0.6**
baz=90
ARCES ARCESS Array B 90.36 342 P **P 18 59 31.4 -0.7**
comp=Z,5.9nm,0.9s,mb4.9,baz=43,slow=5.5,SNR=6.0
ARCES ARCESS Array B 90.36 342 P **P 18 59 31.4 -0.7**
K13A Stover Farm, H 90.36 47⇓P **P 18 59 33.2 +0.5**
baz=90
H14A Leadore 90.37 45⇓P **P 18 59 32.6 -0.1**
baz=90
E15A Deer Lodge 90.39 43⇑P **P 18 59 32.5 -0.2**

	baz=90						
I14A	Mackay	90.49	45	⇓P	P	18 59 33.1	-0.2
	baz=90						
J14A	Carey	90.60	46	⇑P	P	18 59 34.4	+0.6
	baz=90						
M13A	Montello	90.63	48	⇓P	P	18 59 33.9	0.0
	baz=90,SNR=6.0						
F15A	Butte	90.64	43	⇓P	P	18 59 33.7	-0.2
	baz=90						
Q12A	Willow Creek R	90.70	50	⇓P	P	18 59 35.3	+1.0
	baz=91						
T11A	Corn Creek, Al	90.83	52	⇑P	P	18 59 35.2	+0.3
	baz=91						
MONP	Monument Peak	90.87	56	⇑P	P	18 59 35.7	+0.4
	baz=91						
E16A	East Helena	91.00	42	⇓P	P	18 59 35.9	+0.3
	baz=91						
S12A	Delamar Landin	91.03	52	⇓P	P	18 59 36.6	+0.7
	baz=91						
K14A	Jones Ranch, D	91.04	47	⇑P	P	18 59 36.3	+0.4
	baz=91						
SHPR	Sheep Range	91.05	53	eP	P	18 59 37.0	+1.0
GMRC	Granite Mounta	91.06	55	⇑P	P	18 59 36.1	0.0
	baz=91						
L14A	Malta	91.13	47	⇑P	P	18 59 37.1	+0.8
	baz=91						
M14A	Sheep Mountain	91.19	48	⇑P	P	18 59 36.8	+0.2
	baz=91						
G16A	Moss Hill, Enn	91.28	44	⇑P	P	18 59 36.8	0.0
	baz=91						
J15A	Blackfoot	91.34	46	⇑P	P	18 59 37.9	+0.7
	baz=91						
R13A	O'Grain Ranch,	91.56	51	⇓P	P	18 59 39.1	+0.7
	baz=91,SNR=5.5						
IRM	Iron Mountain	91.61	55	⇑P	P	18 59 39.1	+0.5
	baz=92						
L15A	Malad City	91.75	47	⇓P	P	18 59 39.1	0.0
	baz=92						
S13A	Holt Ranch, En	91.80	51	⇑P	P	18 59 40.1	+0.6
	baz=92						
P14A	Drum Mountains	91.89	49	⇑P	P	18 59 40.1	+0.2
	baz=92						
Q14A	Sevier Lake (B	91.89	50	⇑P	P	18 59 39.7	-0.1
	baz=92,SNR=6.9						
T13A	Saint George	91.90	52	⇑P	P	18 59 41.0	+1.0
	baz=92						
J16A	Bone	91.95	45	⇑P	P	18 59 40.2	+0.2
	baz=92						
U13A	Pakoon Wash	92.01	53	⇑P	P	18 59 40.9	+0.5
	baz=92						
KIV	Kislovodsk	92.10	315	⇑iP	P	18 59 44.0	+3.3
KIV				pmax	pmax		
	comp=Z,10.0nm,1.0s,mb5.1						
MIB	Mutribah	92.10	301	eP	P	18 59 39.4	-1.6
	baz=301						
MIB				AMb	AMB	18 59 40.6	
	comp=Z,17nm,1.2s,mb5.2,baz=301						
V13A	Grand Canyon W	92.13	53	⇓P	P	18 59 41.4	+0.4
	baz=92						
OBN	Obninsk	92.23	327	⇑iP	P	18 59 39.6	-1.5
OBN				pmax	pmax		
	comp=Z,21nm,1.6s,mb5.2						
NAY	Al-Naaiem	92.31	300	eP	P	18 59 40.2	-1.8
	baz=300						
NAY				AMb	AMB	18 59 48.6	
	comp=Z,18nm,1.7s,mb5.1,baz=300						
L16A	Fish Haven	92.43	47	⇓P	P	18 59 42.5	+0.2
	baz=92						
HWUT	Hardware Ranch	92.45	47	eP	P	18 59 41.1	-1.3
	comp=Z,3.3nm,0.9s,mb4.7						
RST	Umm Al-Ruwaisa	92.46	300	eP	P	18 59 40.7	-2.0
	baz=300						
RST				AMb	AMB	18 59 41.8	
	comp=Z,22nm,1.1s,mb5.4,baz=300						
P15A	Leamington	92.48	49	⇑P	P	18 59 42.9	+0.4
	baz=92						
X13A	Yucca	92.56	54	⇑P	P	18 59 43.6	+0.5
	baz=92						
U14A	Mt Trumbull	92.62	52	⇑P	P	18 59 44.1	+0.9
	baz=92						
V14A	Boquillas Ranc	92.88	53	⇑P	P	18 59 45.1	+0.6
	baz=93						
W14A	Seligman	93.00	54	⇓P	P	18 59 45.7	+0.6
	baz=93						
T15A	Red Dirt Ranch	93.08	52	⇑P	P	18 59 46.0	+0.6
	baz=93						
U15A	North Rim	93.31	52	⇑P	P	18 59 47.3	+0.9
	baz=93						
X14A	Yava	93.35	54	⇑P	P	18 59 47.2	+0.5
	baz=93						
Y14A	Wickenburg	93.39	55	⇓P	P	18 59 47.3	+0.3
	baz=93						
R16A	Teasdale	93.43	50	⇑P	P	18 59 47.8	+0.8
	baz=93						
O17A	Robinson Place	93.45	48	⇑P	P	18 59 47.7	+0.7
	baz=93						
Q16A	Castle Valley	93.48	50	⇑P	P	18 59 48.0	+0.8
	baz=93						
S16A	Weppner Ranch,	93.49	51	⇑P	P	18 59 47.7	+0.4
	baz=93						
PDAR	Pinedale Array	93.54	46	P	P	18 59 44.8	-2.6
	comp=Z,0.6nm,0.8s,mb4.1,baz=220,slow=1.2,SNR=4.7						
V15A	Kaibab Nationa	93.56	53	⇓P	P	18 59 48.4	+0.8
	baz=93						
SRU	San Rafael	93.91	49	⇓P	P	18 59 48.9	-0.3
	baz=94						
O18A	Roosevelt	93.96	48	⇑P	P	18 59 48.7	-0.7
	baz=94						
R17A	Hanksville Air	93.97	50	⇓P	P	18 59 49.5	+0.1
	baz=94						
N18A	Larsen Ranch,	93.99	47	⇓P	P	18 59 49.2	-0.3
	baz=94						
R18A	Canyonlands Na	94.59	50	⇓P	P	18 59 52.3	-0.1
	baz=94						
S18A	Hurst Farm, Bl	94.72	50	⇓P	P	18 59 53.6	+0.6
	baz=95						
T18A	Mexican Hat	94.97	51	⇑P	P	18 59 54.1	0.0
	baz=95						
AKASG	Malin Array Be	98.11	325	P	P	19 00 05.6	-2.4
	comp=Z,0.1nm,0.3s,mb3.9,baz=52,slow=5.1,SNR=5.8						
AKASG	Malin Array Be	98.11	325	iP	P	19 00 07.1	-0.9
TORD	Torodi Ar. Bea	137.35	303	PKhKP		19 05 42.1	
	comp=Z,0.7nm,0.9s,baz=50,slow=2.1,SNR=5.5						
LVC	Limon Verde	144.69	114	ePKPdf	PKPdf	19 06 08.3	-0.5
LVC				e		19 06 17.1	
DBIC	Dimbokro	146.19	299	PKPbc	PKPbc	19 06 12.5	-0.2
	comp=Z,17nm,0.6s,baz=29,slow=3.3,SNR=21						
DBIC	Dimbokro	146.19	299	PKPbc	PKPbc	19 06 12.5	-0.2
KIC	Kosan Boka	146.25	298	ePKIKP	PKPdf	19 06 12.7	+0.9
	comp=Z,125nm,1.1s						
TIC	Toumodi	146.35	299	ePKIKP	PKPdf	19 06 12.8	+0.9
	comp=Z,96nm,1.0s						
LPAZ	La Paz	146.52	104	PKPbc	PKPbc	19 06 13.2	-0.4
	comp=Z,4.0nm,0.6s,baz=283,slow=2.4,SNR=16						
LIC	Lamto	146.56	298	ePKIKP	PKPdf	19 06 13.2	+0.9
	comp=Z,75nm,0.6s						
CPUP	Villa Florida	153.03	129	PKPbc	PKPbc	19 06 28.4	-1.1
	comp=Z,0.3nm,0.3s,baz=1.8,slow=1.3,SNR=3.8						

DDA 02 19:24:38.9, 3898N×41.12E, h7km±6km, Md3.0
ISCJB 02 19:24:40.5±1.3, 3903N±004×41.11E±008, h15km±10km, Error ellipse: s-maj=10.6km s-min=6.2km az=5.7
ISK 02 19:24:40.9, 3906N×4108E, h20km, MD2.9
CSEM 02 19:24:42.0±0.1, 39.10N×4109E, h30km, MD2.9, Error ellipse: s-maj=4.7km s-min=2.7km az=142.0
ISC 02 19:24:39.7±0.9, 3900N±003×4108E±009, h4km±9km, n9, σ0§86/14, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
EZM	Erzurum	0.93	13	ePG	Pg	19 24 58.6	+1.1
EZM				eSG	Sg	19 25 11.1	+1.6
ERZM	Erzurum	0.93	14	iP	Pg	19 24 56.8	-0.8
ERZM				iS	Sg	19 25 08.6	-1.0
BEST	Besiri	1.12	172	iP	Pg	19 25 01.0	-0.2
BEST				iS	Sg	19 25 15.4	-0.3
EZC	Erzincan	1.23	308	ePN	Pn	19 25 07.5	+3.8
PTK	Pertek	1.32	266	ePN	Pn	19 25 04.0	-0.9
PTK				eSN	Sn	19 25 22.6	-0.4
SVRC	Sivrice-ELAZID	1.52	246	ePN	Pn	19 25 08.6	+0.9
AGRB	Hanur-Agry	1.59	68	ePN	Pn	19 25 08.3	-0.4
MARD	Mardin	1.70	188	iP	Pn	19 25 10.3	+0.1
MARD				iS	Sn	19 25 33.3	+0.9
DDEM	Demirkent	1.96	15	iP	Pn	19 25 12.9	-0.7

KISR 02 19:42:35.9, 2897N×4776E, h4km, ML0.9, Eastern Arabian Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
RDF	Al-Radifah	0.19	257	eP	Pg	19 42 41.0	+1.4
	baz=257						
RDF				eS	Sg	19 42 44.9	+2.8
	baz=257						
RDF				AML	AML	19 42 46.2	
	comp=Z,35nm,0.1s,baz=257						
RDF	Al-Radifah	0.19	257	eP	Pg	19 42 41.0	+1.4
	baz=256						
RDF				eS	Sg	19 42 44.8	+2.7
	baz=256						
RDF				AML	AML	19 42 46.3	
	comp=Z,40nm,0.2s,baz=256						
KBD	Kabd	0.21	344	eP	Pg	19 42 41.7	+1.6
	baz=343						
KBD				eS	Sg	19 42 45.8	+2.9
	baz=343						
KBD				AML	AML	19 42 47.5	
	comp=Z,21nm,0.2s,baz=343						
KBD	Kabd	0.21	344	eP	Pg	19 42 41.7	+1.6
	baz=346						
KBD				eS	Sg	19 42 45.8	+2.9
	baz=346						
KBD				AML	AML	19 42 47.8	
	comp=Z,35nm,0.2s,baz=346						
NAY	Al-Naaiem	0.53	302	eP	Pg	19 42 47.7	+1.6
	baz=301						
NAY				eS	Sg	19 42 57.0	+4.0
	baz=301						
NAY				AML	AML	19 42 59.0	
	comp=Z,2.0nm,0.4s,baz=301						
UMR	Umm Al-Rimmam	0.58	356	eP	Pg	19 42 48.5	+1.4
	baz=356						
UMR				eS	Sg	19 42 58.0	+3.4
	baz=356						
UMR				AML	AML	19 43 04.1	
	comp=Z,18nm,0.4s,baz=356						
UMR	Umm Al-Rimmam	0.58	356	eP	Pg	19 42 48.5	+1.5
	baz=357						
UMR				eS	Sg	19 42 58.1	+3.5
	baz=357						
UMR				AML	AML	19 43 04.1	
	comp=Z,18nm,0.4s,baz=357						
RST	Umm Al-Ruwaisa	0.85	309	eP	Pg	19 42 54.2	+2.0
	baz=308						
RST				eS	Sg	19 43 07.2	+3.9
	baz=308						
RST				AML	AML	19 43 15.6	
	comp=Z,4.0nm,0.4s,baz=308						
RST	Umm Al-Ruwaisa	0.85	309	eP	Pg	19 42 53.9	+1.6
	baz=309						
RST				eS	Sg	19 43 06.8	+3.5
	baz=309						
RST				AML	AML	19 43 12.7	
	comp=Z,4.0nm,0.5s,baz=309						
MIB	Mutribah	0.91	336	eP	Pg	19 42 55.1	+1.8
	baz=336						
MIB				eS	Sg	19 43 08.9	+3.8
	baz=336						
MIB				AML	AML	19 43 11.0	
	comp=Z,8.0nm,0.4s,baz=336						
MIB	Mutribah	0.91	336	eP	Pg	19 42 55.0	+1.7
	baz=337						
MIB				eS	Sg	19 43 09.2	+4.1
	baz=337						
MIB				AML	AML	19 43 11.2	
	comp=Z,8.0nm,0.4s,baz=337						

IDC 02 20:00:49.5±6.2, 5609S×14590W, h0km, mb3.9/2, mb1 4.1/2, mb1mx3.8/13, mbtmp3.9/2, Error ellipse: s-maj=990.9km s-min=115.6km az=170.0, Pacific-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
VNA3	Neumayer Olymp	49.25	163	e	P	20 09 33.3	-5.7
VNA3	Neumayer Olymp	49.25	163	e	P	20 09 33.3	-5.7
VNA3				e		20 09 37.6	
VNA3				e		20 09 40.3	
VNA2	Neumayer--Watz	49.90	163	e	P	20 09 38.4	-5.6
	baz=211,slow=7.5						
VNA2	Neumayer--Watz	49.90	163	e	P	20 09 38.4	-5.6
	baz=346,slow=17						
VNA2				e		20 09 42.9	
VNA2				e		20 09 45.9	
SNAA	Sanae	49.91	166	e	P	20 09 38.5	-5.6
SNAA	Sanae	49.91	166	e	P	20 09 38.5	-5.6
SNAA				e		20 09 42.5	
SNAA				e		20 09 45.3	
VNA1	Neumayer--Stat	50.00	163	e	P	20 09 40.2	-4.5
VNA1	Neumayer--Stat	50.00	163	e	P	20 09 40.2	-4.5
VNA1				e		20 09 44.1	
VNA1				e		20 09 46.8	
ASAR	Alice Springs	65.28	264	P	P	20 11 32.9	-0.1
	0.7nm,0.8s,baz=142,slow=7.2,SNR=5.7						
WRA	Warramunga Arr	68.00	267	P	P	20 11 50.7	+0.3
	1.4nm,1.1s,baz=142,slow=5.9,SNR=6.6						
MKAR	Makanchi Array	149.14	273	PKPbc	PKPbc	20 20 38.2	-0.5
	3.3nm,1.2s,baz=195,slow=27,SNR=3.8						

IDC 02 20:00:53.5±1.4, 677S×15437E, h0km, mb3.8/8, mb1 4.0/8, mb1mx3.9/16, mbtmp3.8/8, Error ellipse: s-maj=46.5km s-min=21.2km az=114.0
ISCJB 02 20:00:55.0±4.6, 69S±0.1×15459E±005, h26km±34km, mb3.7/8, Error ellipse: s-maj=19.8km s-min=8.8km az=2.2
NEIC 02 20:00:54.8±0.7, 686S×15454E, h10km, mb4.3/1, Error ellipse: s-maj=18.7km s-min=12.6km az=170.0
ISC 02 20:00:55.9±4.7, 68S±01×15460E±005, h18km±29km, n13, σ1§01/14, mb3.7/8, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
HNR	Honiara	5.90	116	Pn	Pn	20 02 23.1	+0.6
HNR				eSn	Sn	20 03 29.6	-0.1
PMG	Port Moresby	7.80	250	Pn	Pn	20 02 49.7	+1.1
PMG				eSn	Sn	20 04 17.6	+1.1
WRA	Warramunga Arr	23.59	234	P	P	20 06 04.4	-1.7
	1.5nm,0.6s,mb3.6,baz=55,slow=9.4,SNR=38						
ASAR	Alice Springs	26.00	228	P	P	20 06 27.9	0.0
	0.9nm,0.8s,mb3.4,baz=58,slow=9.6,SNR=12						
STKA	Stephens Creek	27.73	204	P	P	20 06 43.2	-0.3
	2.9nm,0.9s,mb3.9,baz=319,slow=21,SNR=3.9						
STKA	Stephens Creek	27.73	204	P	P	20 06 42.9	-0.6
	7.2nm,1.1s,mb4.2						
FITZ	Fitzroy Crossi	30.36	246	P	P	20 07 05.5	-1.6
	2.7nm,1.0s,mb3.9,baz=92,slow=19,SNR=6.7						
KSRS	Korea Array	50.60	332	P	P	20 09 52.4	-1.3
	0.6nm,0.7s,mb3.6,baz=155,slow=5.7,SNR=3.0						
SONM	Songino Array	68.97	327	P	P	20 12 00.5	+0.5
	0.3nm,0.5s,mb3.5,baz=116,slow=6.6,SNR=3.3						
MKAR	Makanchi Array	83.01	319	P	P	20 13 20.4	+0.3
	0.4nm,0.4s,mb3.8,baz=92,slow=8.5,SNR=9.1						
MKAR	Makanchi Array	83.01	319	P	P	20 13 20.4	+0.3
NVAR	Mina Array Bea	91.92	52	P	P	20 14 05.1	+1.5
	0.3nm,0.4s,mb3.9,baz=251,slow=4.7,SNR=4.5						
TORD	Torodi Ar. Bea	152.60	285	PKPbc	PKPbc	20 20 52.4	-0.1
	0.2nm,0.3s,baz=76,slow=1.9,SNR=15						
TORD				PKPab	PKPab	20 21 01.8	-1.2
	0.9nm,0.7s,baz=19,slow=2.5,SNR=4.3						

NNC 02 20:15:11.2±8.2, 3744N×7124E, h0km, mb3.5, mpv3.1, 3C-2D, Error ellipse: s-maj=72.0km s-min=63.5km az=74.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KK31	Karatay Array	5.68	355	⇑Pn	Pn	20 16 39.9	+3.0
	0.3nm,0.3s,baz=184,slow=13,SNR=20						
KK31				⇓Sn	Sn	20 17 49.8	+7.0
	2.1nm,0.5s,baz=189,slow=25,SNR=14						
TKM2	Tokmak 2	6.41	30	⇓Pn	Pn	20 16 48.8	+2.0
	1.6nm,0.4s						
TKM2				⇑Sn	Sn	20 18 00.1	-0.6
	5.6nm,1.6s						
AB31	Akbulak array	14.37	329	⇑Pn	Pn	20 18 30.1	-5.6
	baz=132,slow=10,SNR=7.0						

NEIC 02 20:16:57.0, 3173S×7073W, h98km, MD3.2(GUC), After GUC.
GUC 02 20:16:57.0±0.8, 3173S×7073W, h98km±7km, MD3.2, ML3.6, 6C-5D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CHNG	Los Chungos	0.67	257	⇓iP	Pn	20 17 14.4	+0.5
CHNG				iS	Sn	20 17 27.0	+0.3
CHNG				AML	AML	20 17 29.3	
	comp=E,2µm,0.5s						
JACH	Jahuel	0.95	173	eP	Pn	20 17 17.4	+0.6
JACH				eS	Sn	20 17 32.7	+1.1
PACH	Papudo	1.00	217	⇓iP	Pn	20 17 17.6	+0.3
PACH				iS	Sn	20 17 33.1	+0.5
OVCH	Ovalle	1.19	340	⇑iP	Pn	20 17 20.1	+0.6
OVCH				iS	Sn	20 17 36.9	+0.6
OVCH				AML	AML	20 17 39.0	
	comp=N,816nm,0.2s						
OVCH	Ovalle	1.19	340	⇑iP	Pn	20 17 20.1	+0.6
OVCH				iS	Sn	20 17 36.9	+0.6
ROCH	El Roble	1.26	191	⇑iP	Pn	20 17 20.6	+0.3
PEL	Peldehue	1.41	179	⇑iP	Pn	20 17 22.4	+0.4
PEL				iS	Sn	20 17 41.3	+0.3
PEL				AML	AML	20 17 42.8	
	comp=E,2µm,0.4s						
TLL	Tololo Astrono	1.56	358	⇑iP	Pn	20 17 24.8	+0.8
TLL				iS	Sn	20 17 45.2	+1.0
TLL				AML	AML	20 17 48.4	
	comp=E,468nm,0.4s						
TLL	Tololo Astrono	1.56	358	⇑iP	Pn	20 17 24.8	+0.8
TLL				iS	Sn	20 17 45.2	+1.0
FCH	Farellones	1.63	167	eP	Pn	20 17 26.3	+1.4
FCH				iS	Sn	20 17 47.9	+2.0
FCH				AML	AML	20 17 49.7	
	comp=E,711nm,0.1s						
CLCH	Cerro Calan	1.67	174	eP	Pn	20 17 26.1	+0.9
CLCH				iS	Sn	20 17 47.5	+0.9
CLCH				AML	AML	20 17 49.3	
	comp=E,499nm,0.3s						
CLCH				AML	AML	20 17 58.8	
	comp=E,665nm,0.6s						
RCDM	Rinconada Maip	1.75	182	eP	Pn	20 17 26.5	+0.1
RCDM				eS	Sn	20 17 48.9	+0.2
RCDM				AML	AML	20 17 50.3	
	comp=E,2µm,0.2s						
RCDM	Rinconada Maip	1.75	182	eP	Pn	20 17 26.5	+0.1
RCDM				eS	Sn	20 17 48.9	+0.2
ANTU	Antumapu	1.83	178	eP	Pn	20 17 28.1	+0.7
ANTU				iS	Sn	20 17 51.2	+0.7
ANTU				AML	AML	20 17 51.7	
	comp=N,696nm,0.3s						
ANTU	Antumapu	1.83	178	eP	Pn	20 17 28.1	+0.7
ANTU				iS	Sn	20 17 51.2	+0.7
LSCH	La Serena	1.87	346	⇓iP	Pn	20 17 28.3	+0.5
LSCH				iS	Sn	20 17 51.3	0.0
LSCH				AML	AML	20 17 51.9	
	comp=N,130nm,0.4s						
PCH	Pirque	1.89	175	eP	Pn	20 17 29.0	+0.9
PCH				iS	Sn	20 17 52.8	+1.0
SJCH	San Jose de Ma	1.93	171	iS	Sn	20 17 53.7	+1.0
SJCH				AML	AML	20 17 53.9	
	comp=N,324nm,0.3s						
LMEL	Las Melosas	2.16	168	eP	Pn	20 17 33.4	+1.8
LMEL				iS	Sn	20 18 00.7	+2.8
LMEL				AML	AML	20 18 01.6	
	comp=N,959nm,0.3s						
LMEL	Las Melosas	2.16	168	eP	Pn	20 17 33.4	+1.8
LMEL				iS	Sn	20 18 00.7	+2.8
CHCH	Chadas Angostu	2.20	178	⇓iP	Pn	20 17 32.3	+0.2
CHCH				iS	Sn	20 17 59.3	+0.5
CACH	El Canelo	2.38	177	iS	Sn	20 18 04.8	+1.7
CICH	Cipreses	2.59	174	eP	Pn	20 17 38.0	+0.7
CICH				iS	Sn	20 18 09.8	+1.6
SFDO	San Fernando	2.88	185	⇓iP	Pn	20 17 41.3	+0.1
SFDO				iS	Sn	20 18 14.6	-0.5
VACH	Vallenar	3.15	360	AML	AML	20 18 24.1	
	comp=E,904nm,0.0s						

BJI 02 20:30:11.5, 5102N×13065W, h10km, mB5.0, mb4.4, Ms4.6, Msz4.4
ISCJB 02 20:30:13.0±1.5, 5077N±004×13023W±006, h10km±10km, mb4.0/9, MS4.4/2, Error ellipse: s-maj=8.4km s-min=3.9km az=136.1
PGC 02 20:30:13.5, 5056N×13042W, h10km, ML3.7, Mw4.3, 212km west of Pt. Hardy, Bc Vancouver Island Region
NEIC 02 20:30:13.5, 5056N×13042W, h10km, mb4.0/12, MW4.3(PGC), After PGC.
IDC 02 20:30:16.9±1.2, 5072N×12980W, h0km, mb3.8/4, mb1 4.0/10, mb1mx3.8/28, mbtmp3.8/10, ML3.6/6, Error ellipse: s-maj=17.8km s-min=8.4km az=99.0
ISC 02 20:30:14.6±2.0, 5083N±004×13023W±007, h8km±13km, n84, σ1§27/91, mb4.0/9, MS4.4/2, 6D, Vancouver Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
HOLB	Holberg	1.34	97	⇑Pn	Pn	20 30 38.0	-1.5
HOLB				⇑Sn	Sn	20 30 54.0	-3.5
BPBC	Brooks Peninsu	1.71	112	⇑Pn	Pn	20 30 41.5	-3.1
PHC	Port Hardy	1.78	93	⇑Pn	Pn	20 30 44.4	-1.1
PHC				⇑Sn	Sn	20 31 06.0	-2.3
BBB	Bella Bella	1.89	43	Pn	Pn	20 30 48.1	+1.0
	42nm,0.3s,baz=233,slow=11,SNR=333						
BBB				Lg		20 31 13.4	
	104nm,0.3s,baz=286,slow=22,SNR=13						
BBB	Bella Bella	1.89	43	⇓Pn	Pn	20 30 48.1	+1.0
BBB				⇓Sn	Sn	20 31 12.8	+1.7
BNB	Barry Inlet	1.99	332	⇓Pn	Pn	20 30 48.0	-0.4
BNB				⇓Sn	Sn	20 31 13.5	-0.1
MAYB	Maynard	1.99	101	⇑Pn	Pn	20 30 46.8	-1.6
EDB	Eliza Dome	2.21	114	⇑Pn	Pn	20 30 48.1	-3.3
WOSB	Woss	2.43	105	⇑Pn	Pn	20 30 53.0	-1.4
MOBC	Moresby Island	2.56	336	⇑Pn	Pn	20 30 56.0	-0.3
MOBC				⇓Sn	Sn	20 31 29.1	+1.5
DIB	Dawson Inlet,	2.75	331	Pn	Pn	20 30 59.3	+0.3
DIB				Sn	Sn	20 31 33.0	+0.6
DIB	Dawson Inlet,	2.75	331	Pn	Pn	20 30 58.9	0.0
ETB	Estevan Point	2.78	120	⇓Pn	Pn	20 30 56.3	-3.0
VIB	Van Inlet	2.82	330	Pn	Pn	20 30 59.9	+0.1
	SNR=107						
VIB				Sn	Sn	20 31 34.1	+0.2
VIB	Van Inlet	2.82	330	Pn	Pn	20 30 59.7	-0.1
GDR	Gold River	2.88	110	⇑Pn	Pn	20 30 58.6	-2.2
OTR	Olympics--Tyee	4.72	123	P	Pn	20 31 25.5	-0.4
OBC	Olympics--Boni	4.89	123	P	Pn	20 31 27.8	-0.5
PGC	Sidney	4.90	114	ePn	Pn	20 31 27.2	-1.3
STW	Striped Peak	5.04	120	P	Pn	20 31 29.8	-0.6
MCW	Mount Constitu	5.25	111	P	Pn	20 31 33.3	0.0
NLWA	Neilton Lookou	5.41	127	ePn	Pn	20 31 34.0	-1.4
	29nm,0.6s						
HDW	Hoodsport	5.67	121	P	Pn	20 31 38.5	-0.5
WRAK	Wrangell Islan	5.74	348	Pn	Pn	20 31 39.7	-0.3
MBW	Mount Baker	5.76	108	P	Pn	20 31 40.9	+0.6
JCW	Jim Creek	6.01	113	ePn	Pn	20 31 42.9	-0.7
RPW	Rockport	6.14	109	ePn	Pn	20 31 45.6	+0.2
LON	Longmire	6.89	123	ePn	Pn	20 31 56.0	+0.2
	24nm,0.7s						
ETW	Entiat	7.24	113	ePn	Pn	20 32 01.1	+0.6
DLBC	Dease Lake	7.63	1	Pn	Pn	20 32 10.5	+4.7
DLBC	Dease Lake	7.63	1	ePn	Pn	20 32 09.8	+4.0
OD2	Odessa Site #2	8.30	110	ePn	Pn	20 32 14.4	-0.6
RSW	Rattlesnake Hi	8.32	118	ePn	Pn	20 32 15.8	+0.4
HAWA	Hanford	8.36	118	ePn	Pn	20 32 10.9	-5.0
NEW	Newport	8.90	102	ePn	Pn	20 32 23.3	0.0
LNOR	Lincton Mounta	9.37	117	ePn	Pn	20 32 29.4	-0.3
HUMO	Hull Mountain	9.62	146	ePn	Pn	20 32 32.5	-0.6
	17nm,1.4s						
KRMB	Red Mountain	10.28	152	ePn	Pn	20 32 40.8	-1.5
YBH	Yreka Blue Hor	10.47	147	Pn	Pn	20 32 47.3	+2.5
	0.2nm,0.3s,baz=356,slow=12,SNR=4.1						
YBH	Yreka Blue Hor	10.47	147	ePn	Pn	20 32 46.6	+1.8
BMO	Blue Mountains	10.54	120	ePn	Pn	20 32 45.9	+0.2
	2.1nm,0.5s						
WALA	Waterton Lakes	10.66	93	ePn	Pn	20 32 45.4	-2.1
MSO	Missoula	11.45	104	ePn	Pn	20 32 58.2	-0.1
	3.8nm,0.8s						
CHMT	Chamberlain Mo	11.84	103	ePn	Pn	20 33 04.1	+0.6
MCMT	McKenzie Canyo	13.11	111	ePn	Pn	20 33 21.2	+0.2

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
YMR	Madison River	14.33	108	ePn	Pn	20 33 38.4	+0.9
	24nm,1.3s						
YKA	Yellowknife Ar	14.45	30	Pn	Pn	20 33 38.8	-0.3
	0.3nm,0.3s,baz=222,slow=12,SNR=7.4						
YKA	Yellowknife Ar	14.45	30	Pn	Pn	20 33 38.8	-0.3
ELK	Elko	14.50	128	Pn	Pn	20 33 41.2	+1.4
	0.1nm,0.3s,baz=145,slow=20,SNR=2.4						
ELK	Elko	14.50	128	Pn	Pn	20 33 41.3	+1.5
IMW	Indian Meadow	14.77	111	ePn	Pn	20 33 45.2	+1.7
	9.3nm,0.7s						
MOOW	Moose Ponds	14.97	111	ePn	Pn	20 33 47.3	+1.1
	11nm,0.9s						
NVAR	Mina Array Bea	15.00	141	Pn	Pn	20 33 48.1	+1.4
	0.1nm,0.3s,baz=320,slow=10,SNR=3.0						
TPAW	Teton Pass	15.00	112	ePn	Pn	20 33 48.9	+2.2
	17nm,0.7s						
REDW	Red Top Meadow	15.13	112	ePn	Pn	20 33 56.8	+8.4
	11nm,0.8s						
LOHW	Long Hollow	15.13	111	ePn	Pn	20 33 48.8	+0.4
	5.6nm,0.7s						
HWUT	Hardware Ranch	15.83	118	ePn	Pn	20 33 59.7	+2.1
	12nm,1.3s						
DUG	Dugway	16.14	124	ePn	Pn	20 33 58.6	-3.0
	8.9nm,1.1s						
PDAR	Pinedale Array	16.25	112	Pn	Pn	20 34 05.6	+2.6
	0.1nm,0.3s,baz=313,slow=11,SNR=30						
TPNV	Topopah Spring	17.10	139	ePn	Pn	20 34 15.1	+1.3
	23nm,1.6s						
ISA	Isabella	17.37	146	ePn	Pn	20 34 19.1	+1.9
	18nm,1.5s						
FFC	Flin Flon	17.47	66	ePn	Pn	20 34 20.8	+2.5
MSU	Marysvale	17.73	127	ePn	Pn	20 34 23.2	+1.6
CCUT	Cedar City	17.90	131	ePn	Pn	20 34 25.7	+2.0
GSC	Goldstone	18.31	143	eP	Pn	20 34 30.2	+1.5
PV10	Paradox Valley	19.47	122	eP	Pn	20 34 41.1	-1.8
PV01	Paradox Valley	19.90	121	eP	Pn	20 34 46.5	-1.4
PFO	Pinyon Flat Ob	19.94	144	P	Pn	20 34 48.4	0.0
	0.2nm,0.3s,baz=327,slow=8.4,SNR=3.8						
PFO	Pinyon Flat Ob	19.94	144	P	Pn	20 34 48.1	-0.3
WUAZ	Wupatki	20.48	131	eP	P	20 34 53.1	+0.5
	5.5nm,0.8s						
MVCO	Mesa Verde	20.62	123	eP	P	20 34 53.2	-0.9
	4.4nm,0.6s						
GLA	Glamis	21.06	142	eP	P	20 34 59.4	+0.5
ULM	Lac du Bonnet	21.73	78	P	P	20 35 06.8	+0.8
	5.4nm,0.5s,mb4.3,baz=290,slow=10.0,SNR=7.2						
SDCO	Great Sand Dun	21.88	117	eP	P	20 35 08.8	+1.1
	2.7nm,0.8s,mb3.7						
AGMN	Agassiz Refuge	22.31	83	eP	P	20 35 17.4	+5.2
	12nm,0.6s,mb4.5						
ANMO	Albuquerque	23.41	124	P	P	20 35 25.1	+1.2
	2.0nm,0.9s,mb3.5,baz=338,slow=14,SNR=5.3						
WMOK	Wichita Mounta	27.85	113	eP	P	20 36 05.0	+0.7
	5.0nm,1.0s,mb4.1						
TXAR	Lajitas Array	29.29	127	P	P	20 36 17.9	+0.7
	0.5nm,0.5s,mb3.5,baz=334,slow=8.3,SNR=5.9						
MDJ	Mudanjiang	62.54	308	P	P	20 40 36.7	-1.8
MDJ				AMB	AMB		
	comp=Z,5.0nm,2.2s,mb4.3						
ZALV	Zalesovo Beam	71.54	339	P	P	20 41 40.5	+5.0
	comp=Z,0.3nm,0.4s,mb3.6,baz=54,slow=3.8,SNR=3.6						
HHC	Hu-ho-hao-te	73.96	316	eP	P	20 41 49.2	-0.9
HHC				AP	pP	20 41 53.8	+1.0
HHC				XP	sP	20 41 56.2	+2.4
HHC				PCP	PcP	20 42 05.2	-0.3
HHC				PP	PP	20 44 36.3	+1.8
HHC				S	S	20 51 19.7	-2.5
HHC				XS	sS	20 51 26.8	+0.1
HHC				SKS		20 51 51.1	
HHC				SCS	ScS	20 51 54.7	-5.5
HHC				SS	SS	20 56 05.0	-0.5
HHC				AMB	AMB		
	comp=Z,203nm,5.4s						
HHC				LR	LR		
	comp=N,131nm,16.5s,MS4.5						
HHC				LR	LR		
	comp=E,156nm,19.8s,MS4.5						
HHC				LR	LR		
	comp=Z,170nm,19.4s,MS4.3						
WMQ	Urumqi	80.14	333	eP	P	20 42 23.0	-1.8
LZH	Lanzhou	81.26	318	eP	P	20 42 28.0	-3.0
LZH				AP	pP	20 42 32.8	-0.9
LZH				XP	sP	20 42 35.1	+0.4
LZH				ePP	PP	20 45 35.2	-0.5
LZH				AMB	AMB		
	comp=Z,15nm,1.5s,mb4.7						
LZH				AMB	AMB		
	comp=Z,72nm,4.6s						
LZH				LR	LR		
	comp=N,153nm,16.8s						
LZH				LR	LR		
	comp=Z,182nm,19.5s,MS4.4						
CD2	Chengdu	85.72	316	eP	P	20 42 52.6	-1.4
CD2				AMB	AMB		
	comp=Z,20nm,4.2s						

ISCJB ***02*** *20:30:57.8±1.6, 130N±02×419E±02, h10km, Error ellipse: s-maj=35.5km s-min=6.8km az=142.5*
DHMR ***02*** *20:30:57.2±1.6, 1299N×4203E, h15km±22km, ML3.3*
ISC 02 20:30:59.0±1.8**, 131N**±02×**419E**±02**, h10**km**, n5,** σ**1s06**/8**, Ethiopia**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
UDYN	Al ‘Udayn	2.24	67	i P	Pn	20 31 33.7	-2.4
UDYN				i S	Sn	20 32 03.8	-0.1
UDYN				AML	AML	20 32 34.4	
	comp=Z,257nm,0.7s						
DHBB	Dhamar BB	2.88	59	i P	Pn	20 31 45.1	+0.2
DHBB				i S	Sn	20 32 20.9	+1.3
LBOS		3.40	76	i S	Sn	20 32 33.3	+0.9
BDHA	Al Bayda’	3.72	76	i S	Sn	20 32 39.6	-0.9
FURI	Furi	5.19	217	eP	Pn	20 32 08.6	-8.2
FURI				S	Sn	20 33 17.2	+0.4

CSEM ***02*** *20:46:02.8±0.1, 3764N×2935E, h2km, MD2.8, Error ellipse: s-maj=3.2km s-min=2.9km az=3.0*
ISCJB ***02*** *20:46:03.4±0.9, 3761N±004×2932E±005, h7km±9km, Error ellipse: s-maj=7.9km s-min=6.8km az=39.9*
ISK ***02*** *20:46:03.6, 3763N×2933E, h11km, MD2.8*
DDA ***02*** *20:46:06.8, 3790N×2922E, h7km±3km, Md3.0*
ISC 02 20:46:04.2±0.9**, 3762N**±005×**2932E**±006**, h10**km±8km**, n9,** σ**0s95**/13**, Turkey**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KHL	Karahalli	0.72	13	ePG	Pg	20 46 17.9	-0.4
KHL				eSG	Sg	20 46 28.3	+0.6
TURN	Turunc	0.94	218	i P	Pg	20 46 28.4	+6.2
YER	Yerkesik	0.96	240	ePG	Pg	20 46 22.8	+0.2
BCK	Bucak	1.02	98	ePG	Pg	20 46 23.1	-0.7
BCK				eSG	Sg	20 46 38.1	+1.0
KULA	Kula-Manisa	1.04	330	ePG	Pg	20 46 23.0	-1.2
KULA				eSG	Sg	20 46 39.1	+1.4
MANT	Manisa	1.06	326	i P	Pg	20 46 21.4	-3.2
SHUT	Suhut-Afyon	1.35	46	ePN	Pn	20 46 28.8	-0.3
GDZ	Gediz	1.48	5	i P	Pn	20 46 30.0	-0.9
GDZ				i S	Sn	20 46 50.7	+0.4
BDRM	Kayabasi	1.59	250	i P	Pn	20 46 33.4	+0.9

IDC ***02*** *20:57:28.9±0.6, 5449N×16168W, h0km, mb4.7/27, mb1 4.9/28, mb1mx4.8/31, mbtmp4.7/28, ML5.0/1, Error ellipse: s-maj=18.3km s-min=10.4km az=2.0*
MOS ***02*** *20:57:30.2±0.9, 5450N×16159W, h18km, mb5.2/91, MS4.7/31, Error ellipse: s-maj=7.6km s-min=3.9km az=88.9*
BJI ***02*** *20:57:31.7, 5478N×16186W, h24km, mB5.2, mb5.0, Ms5.1, Msz4.8*
ORF ***02*** *20:57:32.1, 5391N×16558W, h30km, mb5.7*
ISCJB ***02*** *20:57:32.2±0.9, 5454N±003×16160W±003, h29km±6km, mb5.2/236, MS4.8/37, Error ellipse: s-maj=4.6km s-min=2.3km az=21.1*
SZGRF ***02*** *20:57:32.7, 5449N×16156W, h27km, mb5.6, Alaska Peninsula, United States*
BGS ***02*** *20:57:32.2±1.4, 54.19N×16191W, h33km, mb5.4*
NEIC ***02*** *20:57:33.6±0.1, 5450N×16158W, h30km, mb5.1/115, MS4.9/6, ML5.2(AEIC), ML5.4(PMR), Error ellipse: s-maj=3.9km s-min=2.2km az=190.0*
GCMT ***02*** *20:57:33.7±0.2, 5426N×16155W, h49km±1km, MW5.4/88, Moment Tensor Solution. s71,c108; s88,c149; Duration: 1s2 Moment tensor: Scale 10^{17}Nm; M_{rr}1.16±.05; $M_{\theta\theta}$-1.36±.03; $M_{\phi\phi}$0.19±.03; $M_{r\theta}$0.91±.03; $M_{\theta\phi}$-0.10±.02; $M_{\phi r}$0.19±.03; Best double couple: $M_0$1.57100×10^{17} NP1:ϕ_s273.00000°, δ27.00000°, λ101.00000°. NP2:ϕ_s81.00000°, δ63.00000°, λ84.00000°. Principal axes: T 1.4740, Plg71.0000°, Azm338.0000°; N 0.1900, Plg5.0000°, Azm83.0000°; P -1.6680, Plg18.0000°, Azm175.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
ISC 02 20:57:35.7±0.4**, 5456N**±002×**16163W**±003**, h43**km±3km**, h42**km±2.8km**:pP-P, n1024,** σ**0s73**/1021**, mb5.2**/236**, MS4.8**/37**, 288C-133D, Alaska Peninsula**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SDPT	Sand Point	1.03	39	eP	Pn	20 57 52.5	-1.2
SDPT				P		20 57 53.4	
SDPT				S	Sn	20 58 08.9	+2.0
FALS	False Pass	1.08	287	ePn	Pn	20 57 46.2	-8.2
FALS				S	Sn	20 58 13.1	+4.9
AKUT	Akutan	2.46	262	eP	Pn	20 58 14.2	+0.9
AKUT				S	Sn	20 58 47.5	+5.4
CHGN	Chignik	2.53	45	eP	Pn	20 58 14.1	-0.1
CHGN				P		20 58 14.9	
AKGG	Akutan Green G	2.58	264	P	Pn	20 58 16.8	+2.0
UNV	Unalaska Valle	2.95	258	P	Pn	20 58 20.1	+0.1
UNV				S	Sn	20 58 60.0	+5.8
NIKO	Nikolski	4.57	253	P	Pn	20 58 43.8	+1.5
OHAK	Old Harbor	5.40	57	P	Pn	20 58 51.7	-1.8
KDAK	Kodiak Island	5.99	54	Pn	Pn	20 58 59.0	-2.7
	4μm,0.8s						
KDAK	Kodiak Island	5.99	54	Pn	Pn	20 58 60.0	-1.8
	34nm,0.3s,baz=232,slow=6.4,SNR=120						
KDAK				Lg		21 00 32.1	
	64nm,0.3s,baz=104,slow=17,SNR=5.8						
KDAK	Kodiak Island	5.99	54	P	Pn	20 59 00.4	-1.3
KDAK				Lg		21 00 40.6	
SVW2	Sparrevohn	7.30	24	P	Pn	20 59 21.2	+1.5
SLKM	Skilak Lake	8.55	41	P	Pn	20 59 37.2	+0.5
SEW	Seward	8.61	45	P	Pn	20 59 37.3	-0.2
TT01	Tatalina	8.86	17	P	Pn	20 59 41.9	+1.0
ADK	Adak	9.42	260	eP	Pn	20 59 50.0	+1.3
ADK				pmax	pmax		
	comp=Z,71nm,0.5s						
ADK	Adak	9.42	260	ePn	Pn	20 59 50.0	+1.3
	comp=Z,71nm,0.5s						
MID	Middleton Isla	9.65	53	P	Pn	20 59 50.2	-1.6
PMR	Palmer	9.65	38	eP	Pn	20 59 50.9	-0.9
PMR				pmax	pmax		
	comp=Z,274nm,1.0s						
PMR	Palmer	9.65	38	ePn	Pn	20 59 50.9	-1.0
	comp=Z,274nm,1.0s						
PPLA	Purkeypile	9.68	27	P	Pn	20 59 54.8	+2.6
EYAK	Cordova Ski Ar	10.41	48	ePn	Pn	20 59 59.5	-2.7
	comp=Z,107nm,0.4s						
EYAK				eSn	Sn	21 01 53.2	-4.2
AMKA	Amchitka	11.93	262	ePn	Pn	21 00 22.6	-0.4
IMA2	Indian Mountai	12.18	15	ePn	Pn	21 00 26.3	-0.1
COLA	College	12.42	28	⇑iP	Pn	21 00 26.4	-3.2
COLA	College	12.42	28	ePn	Pn	21 00 26.1	-3.5
	comp=Z,82nm,0.8s						
MENT	Mentasta	12.48	41	ePn	Pn	21 00 28.5	-2.0
DAWY	Dawson	14.73	41	ePn	Pn	21 00 58.7	-2.2
SIT	Sitka	14.96	70	eP	Pn	21 01 02.6	-1.4
SKAG	Skagway	15.08	60	eP	Pn	21 01 05.2	-0.4
	comp=Z,19nm,0.9s						
CRAG	Craig	16.33	75	ePn	Pn	21 01 21.9	+0.3
WRAK	Wrangell Islan	16.64	72	ePn	Pn	21 01 25.7	+0.2
	comp=Z,120nm,1.0s						
DLBC	Dease Lake	17.77	65	P	Pn	21 01 39.8	+0.3
DLBC	Dease Lake	17.77	65	ePn	Pn	21 01 39.8	+0.3
BILL	Bilibino	20.16	325c	iP	P	21 02 11.7	+5.8
BILL				i		21 02 26.4	
BILL				pmax	pmax		
	comp=Z,48nm,1.2s						
BILL				MLR	MLR		
	comp=Z,6μm,17.0s,MS5.0						
BILL	Bilibino	20.16	325	P	P	21 02 06.8	+0.9
	comp=Z,58nm,0.8s						
PET	Petropavlovsk	23.30	283	eP	P	21 02 39.5	-0.1
PET				pmax	pmax		
	comp=Z,172nm,1.4s,mb5.3						
PET				MLR	MLR		
	comp=Z,2μm,20.0s,MS4.6						
PET	Petropavlovsk	23.30	283	eP	P	21 02 38.6	-1.0
	comp=Z,377nm,1.4s,mb5.6						
PEA0B	Petropavlovsk-	23.82	283	eP	P	21 02 43.7	-0.6
PETK	Petropavlovsk-	23.82	283	P	P	21 02 43.8	-0.5
	comp=Z,51nm,0.4s,mb5.3,baz=81,slow=13,SNR=201						
B04A	Port Angeles	24.47	90	⇓P	P	21 02 50.8	+0.5
	baz=24						
NLWA	Neilton Lookou	24.59	91	eP	P	21 02 50.0	-1.4
A04A	Legoe Bay, Lum	24.61	88	⇑P	P	21 02 52.1	+0.6
	baz=24						
SEY	Seymchan	24.78	308	⇑iP	P	21 02 52.4	-0.6
D03A	Wishkah Elem.	24.79	92	⇑P	P	21 02 53.7	+0.5
	baz=25						
A05A	Maple Falls	24.84	87	⇑P	P	21 02 54.0	+0.4
	baz=25						
C04A	Brinnon	24.95	90	⇑P	P	21 02 55.4	+0.8
	baz=25						
A06A	Chilliwack	25.14	86	⇑P	P	21 02 57.2	+0.8
	baz=25						
B05A	Bryant	25.18	88	⇓P	P	21 02 57.0	+0.2
	baz=25						
E03A	Lebam	25.21	93	⇓P	P	21 02 56.6	-0.4
	baz=25						
YKW3	Yellowknife Ar	25.26	53	eP	P	21 02 56.8	-0.5
YKA	Yellowknife Ar	25.27	53	P	P	21 02 57.0	-0.4
	comp=Z,17nm,0.8s,mb4.6,baz=268,slow=7.1,SNR=43						
YKA				PcP	PcP	21 06 28.6	-0.7
	comp=Z,4.1nm,0.6s,baz=281,slow=2.2,SNR=5.7						
YKA	Yellowknife Ar	25.27	53	P	P	21 02 57.0	-0.4
YKA				PcP	PcP	21 06 28.6	-0.7
JCW	Jim Creek	25.32	88	eP	P	21 02 58.6	+0.6
RPW	Rockport	25.43	87	eP	P	21 02 58.3	-0.7
F03A	Seaside	25.55	94	⇑P	P	21 03 00.3	+0.2
	baz=25						
SKR	Severo-Kuril’s	25.66	279	eP	P	21 03 07.5	+6.5
SKR				e	PcP	21 06 34.0	+3.6
SKR				pmax	pmax		
	comp=Z,40nm,0.6s,mb5.1						
SKR				pmax	pmax		
	comp=N,30nm,0.5s						
SKR				pmax	pmax		
	comp=E,20nm,0.5s						
SKR				MLR	MLR		
	comp=N,3μm,22.0s,MS5.0						
SKR				MLR	MLR		
	comp=E,3μm,22.0s,MS5.0						
SKR				MLR	MLR		
	comp=Z,3μm,22.0s,MS4.8						
C05A	Tolt Reservoir	25.70	89	⇑P	P	21 03 02.3	+0.8
	baz=26						
D05A	Enumclaw	25.79	90	⇓P	P	21 03 03.3	+1.0
	baz=26						
E05A	Randle	26.26	91	⇑P	P	21 03 07.1	+0.6
	baz=26						
D06A	Cle Elum	26.45	89	⇑P	P	21 03 08.6	+0.3
	baz=26						
ETW	Entiat	26.54	88	eP	P	21 03 09.3	+0.2
C07A	Waterville	26.66	88	⇓P	P	21 03 10.4	+0.3
	baz=26						
E06A	Yakima	26.72	91	⇓P	P	21 03 10.9	+0.2
	baz=27						
B08A	Colville Reser	26.75	86	⇓P	P	21 03 10.9	0.0
	baz=27						
A09A	Danville	26.88	84	⇑P	P	21 03 13.0	+0.9
	baz=27						
D07A	Quincy	26.96	89	⇓P	P	21 03 13.5	+0.7
	baz=27						
H04A	Detroit Lake	27.06	95	⇑P	P	21 03 14.0	+0.2
	baz=27						
F06A	Goldendale	27.26	92	⇑P	P	21 03 16.4	+0.8
	baz=27						
E07A	Sunnyside	27.37	90	⇑P	P	21 03 17.2	+0.8
	baz=27						
B09A	Rice	27.40	85	⇓P	P	21 03 16.9	+0.2
	baz=27						
I04A	Tendick Farm,	27.45	97	⇓P	P	21 03 17.0	-0.3
	baz=27						
K02A	Glendale	27.46	100	⇓P	P	21 03 17.0	-0.3
	baz=27						
A10A	Northport	27.47	83	⇑P	P	21 03 17.7	+0.3
	baz=27						
OD2	Odessa Site #2	27.59	87	eP	P	21 03 18.0	-0.5
RSW	Rattlesnake Hi	27.61	90	eP	P	21 03 19.2	+0.6
C09A	Chrisman Ranch	27.64	86	⇓P	P	21 03 19.3	+0.4
	baz=28						
G06A	Carlson Farm,	27.64	93	⇑P	P	21 03 19.2	+0.2
	baz=28						
HAWA	Hanford	27.64	90	eP	P	21 03 19.1	+0.1
D08A	Wollman Farm,	27.65	88	⇓P	P	21 03 19.5	+0.6
	baz=28						
F07A	Phinny Hill Vi	27.69	91	⇓P	P	21 03 20.3	+1.0
	baz=28						
E08A	Dider Farm, El	27.87	89	⇑P	P	21 03 21.2	+0.3
	baz=28						
J04A	Umpqua Nationa	27.96	97	⇓P	P	21 03 22.3	+0.4
	baz=28						
D09A	Jones Farm, Ri	28.00	87	⇑P	P	21 03 22.5	+0.3
	baz=28						
EDM	Edmonton	28.04	73	eP	P	21 03 21.9	-0.6
NEW	Newport	28.07	84	eP	P	21 03 22.5	-0.3
NEW				pmax	pmax		
	comp=Z,9.0nm,0.8s						
NEW	Newport	28.07	84	eP	P	21 03 22.5	-0.2
	comp=Z,8.8nm,0.8s,mb4.4						
H06A	Lindquist Farm	28.11	93	⇓P	P	21 03 23.8	+0.7
	baz=28						
A11A	Hall Mountain,	28.17	83	⇑P	P	21 03 24.9	+1.2
	baz=28						
G07A	Ruggs Ranch, H	28.19	92	⇓P	P	21 03 25.1	+1.3
	baz=28						
E09A	Wood Farm, Sta	28.39	88	⇓P	P	21 03 25.5	-0.1
	baz=28,SNR=5.1						
F08A	Pendleton	28.41	90	⇓P	P	21 03 26.3	+0.5
	baz=28						
B11A	Sandpoint	28.43	84	⇑P	P	21 03 27.2	+1.3
	baz=28						
J05A	Fort Rock	28.44	97	⇓P	P	21 03 27.6	+1.5
	baz=28						
YBH	Yreka Blue Hor	28.57	101	P	P	21 03 27.6	+0.3
	comp=Z,1.6nm,0.6s,mb3.9,baz=330,slow=3.2,SNR=5.7						
YBH	Yreka Blue Hor	28.57	101	P	P	21 03 27.6	+0.4
YBH				pmax	pmax		
	comp=Z,2.0nm,0.6s						
YBH	Yreka Blue Hor	28.57	101	⇓P	P	21 03 28.5	+1.3
	baz=28						
YBH	Yreka Blue Hor	28.57	101	eP	P	21 03 28.6	+1.4
G08A	Pilot Rock	28.59	91	⇑P	P	21 03 28.0	+0.6
	baz=28						
D10A	Wagner Farm, O	28.61	87	⇑P	P	21 03 27.9	+0.3
	baz=28						
H07A	Lands Inn, Kim	28.64	93	⇑P	P	21 03 28.2	+0.4
	baz=28,SNR=6.3						
LNOR	Lincton Mounta	28.66	90	eP	P	21 03 27.6	-0.4
M02C	Callahan	28.70	101	⇑P	P	21 03 29.5	+1.0
	baz=29						
L04A	Klamath Falls	28.75	99	⇓P	P	21 03 29.7	+0.8
	baz=29						
N02C	Big Bar	28.82	103	⇓P	P	21 03 30.1	+0.6
	baz=29						
F09A	S2 Ranch, Elgi	28.96	90	⇓P	P	21 03 30.9	+0.1
	baz=29,SNR=5.5						
I07A	Izee	28.97	94	⇑P	P	21 03 31.7	+0.9
	baz=29						
K05A	Summer Lake	28.98	97	⇓P	P	21 03 32.3	+1.3
	baz=29						
E10A	Myers Farm, Un	29.00	88	⇓P	P	21 03 30.9	-0.2
	baz=29						
M04C	Macdoel	29.03	100	⇑P	P	21 03 32.4	+1.0
	baz=29						
J06A	Christmas Vall	29.09	96	⇑P	P	21 03 32.1	+0.2
	baz=29,SNR=6.6						
D11A	Klaveano Farm,	29.16	86	⇓P	P	21 03 32.3	-0.1
	baz=29						
H08A	Prairie City	29.20	92	⇓P	P	21 03 33.0	+0.2
	baz=29,SNR=5.5						
F10A	Beach Ranch, E	29.21	89	⇓P	P	21 03 33.1	+0.2
	baz=29,SNR=7.2						
G09A	Cove	29.28	90	⇓P	P	21 03 33.8	+0.2
	baz=29,SNR=7.2						
K06A	Valley Falls	29.31	96	⇓P	P	21 03 34.0	+0.2
	baz=29,SNR=5.4						
WDC	Whiskeytown Da	29.42	102	P	P	21 03 34.0	-0.8
L05A	Lakeview	29.44	98	⇓P	P	21 03 35.9	+0.9
	baz=29						
B13A	Whitefish	29.55	82	⇓P	P	21 03 35.9	0.0
	baz=29						
E11A	Bogner Ranch,	29.60	87	⇑P	P	21 03 36.2	-0.2
	baz=30						
I08A	Drewsey	29.61	93	⇓P	P	21 03 36.4	-0.1
	baz=30						
G10A	Bishop Farm, J	29.66	90	⇓P	P	21 03 36.7	-0.1
	baz=30,SNR=16						
H09A	Durkee	29.70	91	⇑P	P	21 03 37.7	+0.5
	baz=30						
BMO	Blue Mountains	29.80	90	eP	P	21 03 38.2	0.0
MOD	Modoc	29.84	98	⇓P	P	21 03 39.6	+1.1
	baz=30						
MOD	Modoc	29.84	98	eP	P	21 03 39.8	+1.2
F11A	Grangeville	29.89	88	⇓P	P	21 03 38.4	-0.5
	baz=30,SNR=6.0						
E12A	Beaver Dam Sad	29.94	87	⇓P	P	21 03 39.0	-0.3
	baz=30,SNR=6.2						
K07A	Rock Creek Ran	29.96	96	⇓P	P	21 03 39.9	+0.4
	baz=30						
J08A	Circle Bar Ran	30.00	94	⇓P	P	21 03 40.1	+0.1
	baz=30,SNR=6.1						
I09A	Lost Marbles R	30.06	92	⇓P	P	21 03 40.6	+0.2
	baz=30						
G11A	Walters Elk Ra	30.09	89	⇑P	P	21 03 40.7	0.0
	baz=30,SNR=5.9						
B14A	Marquette Ranc	30.25	82	⇓P	P	21 03 43.2	+1.1
	baz=30						
A15A	Johnson Ranch,	30.25	80	⇑P	P	21 03 42.0	-0.1
	baz=30						
C14A	Swan Lake	30.28	83	⇑P	P	21 03 42.6	+0.3
	baz=30						
K08A	Mann Creek Ran	30.38	95	⇓P	P	21 03 43.6	+0.4
	baz=30,SNR=7.9						
O04C	Chester	30.42	101	⇑P	P	21 03 43.7	0.0
	baz=30						
J09A	Fry Pan Ranch,	30.43	93	⇑P	P	21 03 43.7	0.0
	baz=30,SNR=9.5						
WVOR	Wild Horse Val	30.47	96	eP	P	21 03 44.3	+0.2
WVOR				pmax	pmax		
	comp=Z,15nm,1.0s,mb4.7						
WVOR	Wild Horse Val	30.47	96	eP	P	21 03 44.3	+0.2
	comp=Z,15nm,1.0s,mb4.7						
F12A	Elk City	30.48	87	⇓P	P	21 03 44.3	+0.2
	baz=30,SNR=5.9						
I10A	Payette	30.54	91	⇑P	P	21 03 45.4	+0.7
	baz=30						
H11A	Donnelly	30.64	90	⇓P	P	21 03 46.1	+0.6
	baz=30						
E13A	Victor	30.73	85	⇓P	P	21 03 46.5	+0.2
	baz=31						
D14A	Greenough	30.78	84	⇓P	P	21 03 46.6	-0.1
	baz=31						
L08A	Fields	30.79	96	⇓P	P	21 03 47.3	+0.3
	baz=31,SNR=8.9						
K09A	Rome	30.84	94	⇑P	P	21 03 47.6	+0.2
	baz=31,SNR=5.7						
N06A	Buffalo Meadow	30.86	99	⇓P	P	21 03 47.9	+0.4
	baz=31						
A16A	West Butte Ran	30.92	79	⇑P	P	21 03 47.4	-0.6
	baz=31						
C15A	Salmond Ranch,	30.93	82	⇓P	P	21 03 48.3	+0.2
	baz=31						
F13A	Darby	31.00	87	⇑P	P	21 03 48.3	-0.4
	baz=31,SNR=5.8						
CHMT	Chamberlain Mo	31.02	84	eP	P	21 03 48.3	-0.6
I11A	Placerville	31.13	91	⇑P	P	21 03 49.7	-0.2
	baz=31,SNR=5.4						
BEKR	Beckwourth	31.14	101	⇓P	P	21 03 49.6	-0.4
	baz=31						
E14A	Clinton	31.14	85	⇑P	P	21 03 49.7	-0.3
	baz=31						
K10A	MacKenzie Ranc	31.29	93	⇑P	P	21 03 51.5	+0.3
	baz=31,SNR=6.2						
L09A	Wilkinson Ranc	31.29	95	⇓P	P	21 03 51.9	+0.6
	baz=31						
D15A	Lincoln	31.37	83	⇓P	P	21 03 52.2	+0.3
	baz=31						
P05C	Yuba Gap, Truc	31.37	102	⇑P	P	21 03 52.4	+0.4
	baz=31						
H12A	Diamond D Ranc	31.40	89	⇓P	P	21 03 52.0	-0.3
	baz=31,SNR=6.7						

C16A **Fuhringer Ranc** 31.42 82 ⇑P P 21 03 52.3 -0.1
baz=31
G13A **Cobalt** 31.45 88 ⇑P P 21 03 52.8 +0.1
baz=31,SNR=5.8
MFID **Camas Ranch** 31.50 92 ⇑P P 21 03 53.1 -0.1
baz=31,SNR=11
F14A **Wisdom** 31.55 86 ⇑P P 21 03 53.8 +0.3
baz=31
BDM **Black Diamond** 31.59 105 ⇓P P 21 03 53.8 -0.2
baz=32
E15A **Deer Lodge** 31.63 84 ⇓P P 21 03 54.6 +0.3
baz=32
LAVA **Lava Cap Winer** 31.67 103 ⇓P P 21 03 53.9 -0.8
baz=32
I12A **Atlanta** 31.68 90 ⇓P P 21 03 54.7 -0.1
baz=32,SNR=12
H13A **Challis** 31.74 88 ⇓P P 21 03 55.4 +0.1
baz=32,SNR=8.3
K11A **Parker Ranch,** 31.78 93 ⇑P P 21 03 55.6 0.0
baz=32,SNR=9.9
O07A **Toulon** 31.79 99 ⇓P P 21 03 55.9 +0.1
baz=32,SNR=7.6
M09A **Marrel Ranch,** 31.80 96 ⇓P P 21 03 56.1 +0.3
baz=32
PAHR **Pah Rah Range** 31.80 100 *e*P P 21 03 56.4 +0.6
N08A **GE Springer Mi** 31.81 98 ⇓P P 21 03 56.2 +0.3
baz=32
L10A **Juniper Basin** 31.95 94 ⇓P P 21 03 57.1 0.0
baz=32,SNR=6.4
J12A **Stokes Ranch,** 32.03 91 ⇓P P 21 03 58.1 +0.3
baz=32,SNR=8.0
R05C **Kirkwood Meado** 32.09 102 ⇓P P 21 03 58.8 +0.5
baz=32
E16A **East Helena** 32.13 83 ⇓P P 21 03 58.7 0.0
baz=32
I13A **Wildhorse Cree** 32.20 89 ⇓P P 21 03 59.5 +0.2
baz=32,SNR=7.4
H14A **Leadore** 32.23 88 ⇑P P 21 03 59.3 -0.3
baz=32,SNR=8.0
L11A **Cat Creek Ranc** 32.31 93 ⇑P P 21 04 00.4 +0.1
baz=32,SNR=9.4
CMB **Columbia Colle** 32.37 104 P P 21 04 01.1 +0.3
MCMT **McKenzie Canyo** 32.41 87 *e*P P 21 04 01.0 -0.1
G15A **Dillon** 32.42 86 ⇑P P 21 04 01.4 +0.1
baz=32
J13A **Cove Ranch, Pi** 32.48 90 ⇑P P 21 04 01.9 +0.2
baz=32,SNR=9.0
K12A **Draper Farm, C** 32.52 92 ⇓P P 21 04 02.7 +0.6
baz=32
I14A **Mackay** 32.58 89 ⇑P P 21 04 03.1 +0.4
baz=32
E17A **Martinsdale** 32.65 83 ⇓P P 21 04 02.9 -0.3
baz=32
H15A **Lima** 32.65 87 ⇑P P 21 04 03.3 +0.1
baz=32
M11A **Holland Ranch,** 32.75 94 ⇓P P 21 04 04.6 +0.4
baz=33
L12A **House Creek Ra** 32.76 93 ⇓P P 21 04 04.0 -0.1
baz=33,SNR=8.2
O09A **Fish Creek Ran** 32.76 97 ⇓P P 21 04 04.7 +0.5
baz=33
S06C **San Francisco** 32.78 103 ⇓P P 21 04 04.5 +0.1
baz=33
G16A **Moss Hill, Enn** 32.79 86 ⇑P P 21 04 04.3 -0.1
baz=33
J14A **Carey** 32.91 90 ⇓P P 21 04 05.6 +0.2
baz=33,SNR=8.8
K13A **Stover Farm, H** 32.99 91 ⇑P P 21 04 06.6 +0.4
baz=33
E18A **Harlowton** 33.13 82 ⇑P P 21 04 08.2 +0.7
baz=33
Q08A **Gabbs** 33.20 100 ⇓P P 21 04 08.6 +0.5
baz=33
M12A **Wells** 33.27 94 ⇑P P 21 04 09.1 +0.5
baz=33,SNR=6.0
NVAR **Mina Array Bea** 33.28 101 P P 21 04 08.6 -0.3
comp=Z,2.1nm,0.8s,mb4.2,baz=296,slow=8.4,SNR=13
NVAR PcP PcP 21 06 49.4 -0.7
comp=Z,1.9nm,0.7s,baz=288,slow=3.7,SNR=4.0
TIXI **Tiksi** 33.32 327 ⇑*i*P P 21 04 07.6 -1.2
TIXI pmax pmax
comp=Z,16nm,1.3s,mb4.8
TIXI **Tiksi** 33.32 327 *e*P P 21 04 08.3 -0.5
TIXI *e*PcP PcP 21 06 49.1 -0.5
H16A **Russell Place,** 33.41 86 ⇓P P 21 04 10.0 +0.1
baz=33
L13A **Double Diamond** 33.41 92 ⇓P P 21 04 10.3 +0.4
baz=33,SNR=6.2
KCC **Kaiser Creek** 33.47 103 ⇑P P 21 04 10.5 +0.1
baz=33
J15A **Blackfoot** 33.49 89 ⇓P P 21 04 11.9 +1.3
baz=33
ELK **Elko** 33.51 95 *e*P P 21 04 11.4 +0.6
P10A **Eureka** 33.54 98 ⇓P P 21 04 10.9 -0.1
baz=33
N12A **Clover Valley,** 33.56 95 ⇑P P 21 04 11.3 +0.1
baz=33,SNR=7.4
K14A **Jones Ranch, D** 33.58 91 ⇑P P 21 04 11.1 -0.2
baz=33
FFC **Flin Flon** 33.61 65 *e*P P 21 04 11.2 -0.2
YNR **Norris Junctio** 33.73 86 P P 21 04 12.5 -0.2
M13A **Montello** 33.74 93 ⇓P P 21 04 13.2 +0.5
baz=34,SNR=6.0
L14A **Malta** 33.86 91 ⇑P P 21 04 14.1 +0.4
baz=34,SNR=12
K15A **Arbon** 33.87 90 ⇓P P 21 04 14.5 +0.6
baz=34,SNR=7.0
MTUM **Tungsten Hills** 33.88 103 *e*P P 21 04 15.1 +1.1
MTUM *e*PcP PcP 21 06 48.8 -3.0
P11A **Circle Ranch,** 33.99 97 ⇑P P 21 04 15.4 +0.4
baz=34
S08C **White Mtn Res** 34.00 102 ⇓P P 21 04 14.5 -0.5
baz=34
N13A **Wendover, West** 34.04 94 ⇓P P 21 04 15.7 +0.3
baz=34
J16A **Bone** 34.05 88 ⇑P P 21 04 15.8 +0.4
baz=34
IMW **Indian Meadow** 34.06 87 *e*P P 21 04 15.8 +0.3
comp=Z,14nm,1.0s,mb4.8
HELL **Mitchell Peak** 34.09 104 ⇑P P 21 04 16.1 +0.2
baz=34
O12A **Currie** 34.11 95 ⇓P P 21 04 16.3 +0.3
baz=34,SNR=14
R09A **Tonopah** 34.12 100 ⇓P P 21 04 16.2 +0.1
baz=34
M14A **Sheep Mountain** 34.13 92 ⇑P P 21 04 16.3 +0.2
baz=34
TPH **Tonopah** 34.15 100 *e*P P 21 04 15.1 -1.2
RRI2 **Red Ridge** 34.17 88 *e*P P 21 04 16.9 +0.4
HVU **Hansel Valley** 34.29 91 *e*P P 21 04 17.6 +0.1
RLMT **Red Lodge** 34.32 84 P P 21 04 17.6 -0.1
K16A **Soda Springs** 34.33 89 ⇓P P 21 04 18.6 +0.8
baz=34
L15A **Malad City** 34.37 91 ⇑P P 21 04 18.7 +0.5
baz=34
S09A **Goldfield** 34.39 101 ⇓P P 21 04 18.5 +0.1
baz=34
LOHW **Long Hollow** 34.43 87 *e*P P 21 04 19.2 +0.5
Q11A **Duckwater** 34.52 98 ⇓P P 21 04 19.8 +0.2
baz=34,SNR=5.4
SMMC **Simmler** 34.53 107 ⇑P P 21 04 20.1 +0.4
baz=34
S10A **Tonopah Range,** 34.61 100 ⇓P P 21 04 20.7 +0.3
baz=34
N14A **Grayback Hills** 34.64 93 ⇑P P 21 04 20.7 +0.2
baz=34,SNR=6.6
M15A **Larsen Ranch,** 34.68 92 ⇑P P 21 04 21.1 +0.2
baz=34
BGU **Big Grassy Mou** 34.68 93 *e*P P 21 04 21.0 +0.1
SPUT **South Promonto** 34.77 92 P P 21 04 21.6 -0.1
Q12A **Willow Creek R** 34.87 97 ⇑P P 21 04 23.1 +0.5
baz=35
R11A **Troy Canyon, C** 34.90 98 ⇑P P 21 04 23.1 +0.2
baz=35,SNR=7.1
L16A **Fish Haven** 34.92 90 ⇓P P 21 04 23.0 0.0
baz=35
HWUT **Hardware Ranch** 35.10 91 *e*P P 21 04 24.3 -0.2
YSS **Yuzh-Sakhalins** 35.17 281 *e*P P 21 04 30.4 +5.4
YSS pmax pmax
comp=Z,40nm,1.2s,mb5.2
YSS MLR MLR
comp=E,900nm,20.0s
YSS MLR MLR
comp=Z,900nm,20.0s,MS4.5
YSS **Yuzh-Sakhalins** 35.17 281 P P 21 04 24.5 -0.5
YAK **Yakutsk** 35.25 310 *e*P P 21 04 34.0 +8.4
YAK *e*S S 21 09 59.8 +3.9
YAK *e*SS SS 21 12 12.7 -17
YAK *e* ScS 21 14 40.7 -0.3
comp=N,7.0nm,0.9s
YAK pmax pmax
comp=Z,105nm,0.9s,mb5.8
YAK pmax pmax
comp=E,37nm,1.2s
YAK pmax pmax
comp=Z,115nm,2.7s,mb5.3
YAK pmax pmax
comp=N,28nm,2.1s
YAK pmax pmax
comp=E,114nm,2.8s
YAK smax
comp=N,72μm,2.2s
YAK smax
comp=E,52μm,2.4s
YAK **Yakutsk** 35.25 310 *e*P P 21 04 24.4 -1.1
comp=E,159nm,0.8s,mb6.0
DUG **Dugway** 35.28 94 *e*P P 21 04 26.2 +0.1
DGMT **Dagmar** 35.37 76 *e*P P 21 04 26.3 -0.4
comp=E,18nm,0.6s,mb5.2
Q13A **Wheeler Ranch,** 35.40 96 ⇓P P 21 04 26.8 -0.2
baz=35
R12A **Pony Springs,** 35.48 98 ⇑P P 21 04 28.0 +0.2
baz=35
TPNV **Topopah Spring** 35.48 101 *e*P P 21 04 28.4 +0.5
P14A **Drum Mountains** 35.52 95 ⇑P P 21 04 28.7 +0.5
baz=35
PDAR **Pinedale Array** 35.55 87 P P 21 04 28.1 -0.3
comp=E,1.1nm,0.6s,mb4.0,baz=329,slow=3.8,SNR=12
LRMC **Laurel Mountai** 35.71 104 ⇓P P 21 04 29.5 -0.3
baz=36
Q14A **Sevier Lake (B** 35.80 95 ⇓P P 21 04 31.0 +0.4
baz=36,SNR=8.7
S12A **Delamar Landin** 35.83 99 ⇓P P 21 04 31.3 +0.5
baz=36
NLU **North Lily Min** 35.86 93 *e*P P 21 04 32.0 +0.9
T11A **Corn Creek, Al** 35.87 99 ⇓P P 21 04 31.3 +0.1
baz=36
R13A **O'Grain Ranch,** 35.95 97 ⇓P P 21 04 31.8 0.0
baz=36
P15A **Leamington** 36.00 94 ⇑P P 21 04 32.5 +0.3
baz=36
DAU **Daniels Canyon** 36.04 92 *e*P P 21 04 31.3 -1.3
GSC **Goldstone** 36.34 103 ⇓P P 21 04 34.9 -0.3
baz=36
GSC **Goldstone** 36.34 103 *e*P P 21 04 35.7 +0.6
S13A **Holt Ranch, En** 36.42 98 ⇓P P 21 04 36.0 +0.1
baz=36
O17A **Robinson Place** 36.49 92 ⇓P P 21 04 36.7 +0.3
baz=36
ARUT **Antelope Range** 36.52 97 *e*P P 21 04 33.3 -3.4
S14A **Cedar City** 36.70 97 ⇓P P 21 04 37.6 -0.6
baz=37
CCUT **Cedar City** 36.73 97 *e*Pn P 21 04 38.2 -0.3
MSU **Marysvale** 36.76 95 *e*P P 21 04 38.8 +0.1
T13A **Saint George** 36.78 99 ⇓P P 21 04 39.0 +0.1
baz=37
TMUT **Trail Mountain** 36.80 93 *e*P P 21 04 39.3 +0.2
O18A **Roosevelt** 36.87 91 ⇑P P 21 04 40.1 +0.5
baz=37
ASAJ **Asahikawa** 36.89 277 P P 21 04 38.3 -1.5
comp=E,10nm,0.9s,mb4.7,baz=29,slow=11,SNR=5.5
ASAJ **Asahikawa** 36.89 277 P P 21 04 38.3 -1.5
ASAJ pmax pmax
comp=Z,10.0nm,0.9s
HEC **Hector,Ludlow** 36.95 103 ⇑P P 21 04 40.5 +0.2
baz=37
Q16A **Castle Valley** 37.07 94 ⇓P P 21 04 41.9 +0.5
baz=37,SNR=5.2
P18A **Preston Nutter** 37.14 92 ⇓P P 21 04 42.3 +0.3
baz=37
U13A **Pakoon Wash** 37.17 99 ⇓P P 21 04 42.8 +0.6
baz=37
T14A **Hurricane** 37.23 98 ⇑P P 21 04 42.7 0.0
baz=37
SRU **San Rafael** 37.32 93 ⇑P P 21 04 43.4 -0.1
baz=37,SNR=12
SRU **San Rafael** 37.32 93 *e*P P 21 04 43.7 +0.2
O19A **Miners Draw (B** 37.36 90 ⇑P P 21 04 43.4 -0.4
baz=37
V13A **Grand Canyon W** 37.55 100 ⇑P P 21 04 45.0 -0.5
baz=37
Q18A **Rafter H Ranch** 37.55 93 ⇑P P 21 04 45.3 -0.2
baz=37,SNR=10
U14A **Mt Trumbull** 37.62 99 ⇓P P 21 04 46.3 +0.2
baz=38,SNR=5.9
PFO **Pinyon Flat Ob** 37.77 105 P P 21 04 47.3 0.0
ERM **Erimo** 37.85 274 *c i*P P 21 04 48.2 +0.3
ERM **Erimo** 37.85 274 *e*P P 21 04 47.3 -0.6
comp=Z,31nm,0.6s,mb5.2
IRM **Iron Mountain** 38.10 103 ⇓P P 21 04 50.1 0.0
baz=38
U15A **North Rim** 38.12 98 ⇓P P 21 04 50.4 +0.1
baz=38
W13A **Hualapai Mount** 38.14 101 ⇓P P 21 04 50.6 +0.1
baz=38
S17A **Black Ridge (B** 38.15 95 ⇓P P 21 04 50.4 -0.1
baz=38,SNR=5.6
Q19A **Hogan Spring (** 38.16 92 ⇑P P 21 04 49.9 -0.7
baz=38,SNR=5.1
R18A **Canyonlands Na** 38.17 93 ⇓P P 21 04 50.1 -0.6
baz=38
X13A **Yucca** 38.54 101 ⇓P P 21 04 53.2 -0.6
baz=38
S18A **Hurst Farm, BI** 38.58 94 ⇑P P 21 04 53.3 -0.8
baz=38,SNR=10.0
V15A **Kaibab Nationa** 38.62 98 ⇑P P 21 04 54.8 +0.4
baz=38,SNR=8.6
PV10 **Paradox Valley** 38.68 93 *e*P P 21 04 55.3 +0.4
Y12C **Blythe** 38.75 103 ⇑P P 21 04 55.3 -0.3
baz=39
U16A **Tuba City** 38.99 97 ⇓P P 21 04 56.6 -1.0
baz=39
ULM **Lac du Bonnet** 39.03 68 P P 21 04 57.5 -0.3
comp=Z,21nm,0.5s,mb5.1,baz=305,slow=8.9,SNR=29
ULM **Lac du Bonnet** 39.03 68 *e*P P 21 04 57.2 -0.6
comp=Z,37nm,0.8s,mb5.2
T18A **Mexican Hat** 39.03 95 ⇑P P 21 04 58.0 0.0
baz=39,SNR=9.6
PV01 **Paradox Valley** 39.11 92 *e*P P 21 04 58.0 -0.5
X14A **Yava** 39.16 100 ⇑P P 21 04 59.0 0.0
baz=39
WUAZ **Wupatki** 39.29 98 *e*P P 21 04 59.7 -0.4
Y14A **Wickenburg** 39.48 101 ⇓P P 21 05 01.4 -0.3
baz=39
W16A **Flagstaff** 39.50 99 ⇓P P 21 05 01.8 0.0
baz=39
X15A **Humboldt** 39.53 100 ⇓P P 21 05 01.4 -0.6
baz=39
T19A **Beclabito** 39.73 94 ⇑P P 21 05 03.0 -0.8
baz=40,SNR=8.7
X16A **Lo Mia Camp, P** 40.03 99 ⇓P P 21 05 06.0 -0.2
baz=40
KLR **Kul'dur** 40.06 291 *e*P P 21 05 01.7 -4.7
KLR pmax pmax
comp=Z,80nm,1.6s,mb5.2
AGMN **Agassiz Refuge** 40.12 71 *e*P P 21 05 05.6 -1.2
214A **Organ Pipe Nat** 41.05 103 ⇑P P 21 05 14.3 -0.4
baz=41
SDCO **Great Sand Dun** 41.16 90 *e*P P 21 05 15.5 0.0
X19A **St. Johns** 41.27 97 ⇓P P 21 05 15.9 -0.6
baz=41
Y19A **Nutrioso** 41.62 98 ⇑P P 21 05 19.2 -0.2
baz=42
117A **Oracle** 41.77 100 ⇓P P 21 05 20.3 -0.3
baz=42
TUC **Tucson** 41.94 101 *e*P P 21 05 22.7 +0.7
TUC pmax pmax
comp=Z,24nm,1.3s,mb4.7
TUC **Tucson** 41.94 101 *e*P P 21 05 22.7 +0.7
comp=Z,24nm,1.3s,mb4.7
JYA **Atsumi** 42.07 273 P P 21 05 22.4 -0.6
118A **Homack Ranch,** 42.17 100 ⇓P P 21 05 23.5 -0.3
baz=42
ECSD **EROS,Sioux Fal** 42.41 77 *e*P P 21 05 24.2 -1.5
119A **Ashpeak Ranch,** 42.46 99 ⇑P P 21 05 26.4 +0.2
baz=42
LAZ **Ladron** 42.53 95 *e*Pn P 21 05 22.7 -4.1
ANMO **Albuquerque** 42.54 94 *e*P P 21 05 27.1 +0.2
EYMN **Ely** 42.71 69 *e*P P 21 05 27.6 -0.5
LPM **Los Pinos Moun** 42.89 95 P P 21 05 33.0 +3.3
BNM **Barren Site** 43.01 95 P P 21 05 28.9 -1.7
318A **Bisbee** 43.04 101 ⇓P P 21 05 31.1 +0.2
baz=43
219A **White Tail Can** 43.04 100 ⇑P P 21 05 30.9 -0.1
baz=43
JSD **Sado** 43.29 273 P P 21 05 32.1 -0.7
MDJ **Mudanjiang** 43.99 287 P P 21 05 38.5 +0.1
MDJ AP pP 21 05 45.1 -5.2
MDJ S S 21 12 09.1 +2.1
MDJ AMB AMB
comp=Z,17nm,0.8s,mb4.8
MDJ LR LR
comp=N,1μm,30.6s,MS4.6
MDJ LR LR
comp=E,548nm,27.4s,MS4.6
MDJ LR LR
comp=Z,730nm,20.9s
BOD **Bodaibo** 44.17 310 *e*P P 21 05 37.8 -1.9
BOD pmax pmax
comp=Z,14nm,1.0s,mb4.7
BOD pmax pmax
comp=Z,38nm,1.0s,mb5.1
JRY **Ryogami san** 44.30 271 P P 21 05 41.0 0.0
MAJO **Matsushiro** 44.34 272 *e*P P 21 05 40.9 -0.4
MAT **Matsushiro** 44.34 272 P P 21 05 40.0 -1.3
MAT S S 21 12 07.0 -5.3
MAT **Matsushiro** 44.34 272 P P 21 05 41.0 -0.3
MJAR **Matsushiro Arr** 44.34 272 P P 21 05 40.7 -0.6
comp=Z,2.5nm,0.3s,mb4.4,baz=41,slow=6.3,SNR=18
MJAR **Matsushiro Arr** 44.34 272 P P 21 05 40.7 -0.6
MJAR pmax pmax
comp=Z,3.0nm,0.3s
JOD2 **Odawara 2** 44.71 270 P P 21 05 43.8 -0.5
COWI **Conover** 45.11 69 *e*P P 21 05 46.4 -0.9
SCIA **State Center** 45.50 77 P P 21 05 49.5 -1.0
HIA **Hailar** 46.42 298 P P 21 05 57.3 -0.3
JFWS **Jewell Farm** 46.52 74 *e*P P 21 05 56.8 -1.7
KBS **Kingsbay** 46.72 2 P P 21 05 59.4 -0.2
KBS pmax pmax
comp=Z,43nm,0.9s,mb5.4
KBS **Kingsbay** 46.72 2 P P 21 05 59.4 -0.2
comp=Z,43nm,0.9s,mb5.4
CN2 **Changchun** 46.81 288 *e*P P 21 06 00.4 -0.3
CN2 AP pP 21 06 12.8 0.0
CN2 *e*S S 21 12 45.3 -2.4
CN2 AMB AMB
comp=Z,20nm,0.9s,mb5.0
CN2 AMB AMB
comp=Z,200nm,5.0s
CN2 LR LR
comp=N,600nm,20.0s,MS4.7
CN2 LR LR
comp=E,700nm,20.0s,MS4.7
CN2 LR LR
comp=Z,800nm,21.0s,MS4.7
JWT **Wachi** 46.85 273 P P 21 06 01.2 +0.1
DAG **Danmarks Havn** 46.85 11 ⇑*i*P P 21 06 00.6 0.0
comp=Z,25nm,0.7s,mb5.2
WMOK **Wichita Mounta** 47.16 88 *e*P P 21 06 02.7 -0.8
SUMG **Summit** 47.23 20 *e*P P 21 06 03.9 +0.3
SPITS **Spitsbergen Ar** 47.52 1 P P 21 06 05.5 -0.4
comp=Z,7.8nm,0.7s,mb4.8,baz=40,slow=5.4,SNR=12
SPITS PcP PcP 21 07 33.5 -1.7
comp=Z,9.0nm,0.8s,baz=27,slow=3.9,SNR=4.2
SPITS **Spitsbergen Ar** 47.52 1 P P 21 06 05.5 -0.3
SPITS 21 07 33.5
SPITS pmax pmax
comp=Z,8.0nm,0.7s
SPITS pmax pmax
comp=Z,9.0nm,0.8s
JAD **Aida** 47.81 273 P P 21 06 08.3 -0.3
TXAR **Lajitas Array** 48.24 97 P P 21 06 11.6 -0.4
comp=Z,1.3nm,0.6s,mb4.2,baz=301,slow=5.6,SNR=18
TXAR PcP PcP 21 07 37.0 -1.5
comp=Z,2.3nm,0.5s,baz=265,slow=1.6,SNR=6.6
TXAR **Lajitas Array** 48.24 97 P P 21 06 11.6 -0.4
TXAR 21 07 37.0
TXAR pmax pmax
comp=Z,1.0nm,0.6s
TXAR pmax pmax
comp=Z,2.0nm,0.5s
SFJD **Kangerlussuaq** 48.29 29 P P 21 06 11.1 -0.7
comp=Z,40nm,0.9s,mb5.4,baz=307,slow=8.1,SNR=7.1
SFJD **Kangerlussuaq** 48.29 29 *i* P P 21 06 12.2 +0.3
SFJD pmax pmax
comp=Z,55nm,1.1s,mb5.5
SFJD MLR MLR
comp=Z,540nm,19.0s,MS4.5
SFJD **Kangerlussuaq** 48.29 29 *i* P P 21 06 12.2 +0.3
comp=Z,55nm,1.1s,mb5.5
SFJD
comp=Z,540nm,19.0s
JHS **Saijyo** 48.38 274 P P 21 06 12.9 -0.1
HDIL **Hopedale** 48.61 75 *e*P P 21 06 13.6 -1.2
SNY **Shenyang** 49.14 288 ⇑P P 21 06 18.8 0.0
SNY AMB AMB
comp=Z,22nm,0.9s,mb5.2
SNY LR LR
comp=N,725nm,17.7s,MS4.9
SNY LR LR
comp=E,853nm,20.4s,MS4.9
SNY LR LR
comp=Z,1μm,18.6s,MS4.8
CCM **Cathedral Cave** 49.20 79 *e*P P 21 06 16.6 -2.7
SLM **Saint Louis** 49.38 78 *e*P P 21 06 18.8 -1.9
SLM pmax pmax
comp=Z,34nm,0.4s,mb5.7
SLM **Saint Louis** 49.38 78 *e*P P 21 06 18.8 -1.9
comp=Z,34nm,0.4s,mb5.7
JCT **Junction City** 49.63 93 *e*P P 21 06 21.8 -0.9
KSRS **Korea Array** 49.66 280 P P 21 06 23.1 +0.3
comp=Z,22nm,0.8s,mb5.2,baz=49,slow=7.0,SNR=107
KSRS **Korea Array** 49.66 280 P P 21 06 23.1 +0.3
KSRS pmax pmax
comp=Z,22nm,0.8s,mb5.2
KS15 **Wonju Array Si** 49.69 280 *e*P P 21 06 23.2 +0.2
FVM **French Village** 49.72 79 *e*P P 21 06 21.5 -1.8
MIAR **Mount Ida** 50.32 84 *e*P P 21 06 26.5 -1.3
INCN **Inchon** 50.38 281 *e*P P 21 06 28.1 -0.2
OLIL **Olney** 50.53 76 *e*P P 21 06 27.8 -1.6
comp=Z,66nm,0.8s,mb5.6
SCHQ **Schefferville** 50.59 48 P P 21 06 29.6 0.0
comp=Z,5.7nm,0.5s,mb4.7,baz=304,slow=11,SNR=10
SCHQ **Schefferville** 50.59 48 *e*P P 21 06 28.9 -0.6
comp=Z,28nm,0.8s,mb5.2
SIUC **Southern Illin** 50.60 78 *e*P P 21 06 28.6 -1.3
BLO **Bloomington** 51.12 75 *e*P P 21 06 32.0 -1.8
USIN **University of** 51.30 77 *e*P P 21 06 33.8 -1.4
WCI **Wyandotte Cave** 51.90 76 P P 21 06 38.2 -1.4
ACSO **Alum Creek Sta** 52.36 71 *e*P P 21 06 40.6 -2.4
ACSO *e* pP 21 06 50.1 -5.1
WVT **Waverly** 52.50 78 *e*P P 21 06 42.8 -1.3
TLY **Talaya** 52.69 309 P P 21 06 45.0 -0.3
comp=Z,206nm,1.3s,mb5.9,SNR=6.6
TLY **Talaya** 52.69 309 *e*P P 21 06 45.4 +0.1
TLY pmax pmax
comp=Z,15nm,1.0s,mb4.9
TLY MLR MLR
comp=Z,606nm,20.0s,MS4.6
TLY **Talaya** 52.69 309 *e*P P 21 06 45.1 -0.1
ERPA **Erie** 52.69 68 *e*P P 21 06 44.5 -0.9
OXF **Oxford** 52.75 81 *e*P P 21 06 44.1 -1.9
OXF pmax pmax
comp=Z,102nm,0.9s,mb5.8
OXF **Oxford** 52.75 81 *e*P P 21 06 44.1 -1.9
comp=Z,102nm,0.9s,mb5.8
ALLY **Alegheny Colle** 52.93 68 *e*P P 21 06 46.2 -1.0
ULN **Ulaanbaatar** 53.71 303 ⇑*e*P P 21 06 51.9 -0.9
ULN **Ulaanbaatar** 53.71 303 *e*P P 21 06 52.8 -0.1
ZAK **Zakamensk** 53.75 308 ⇑*i*P P 21 06 52.9 -0.2
ZAK pmax pmax
comp=Z,13nm,1.5s,mb4.6
LONY **Lake Ozonia** 53.81 62 *e*P P 21 06 49.9 -3.8
SONM **Songino Array** 54.05 304 P P 21 06 55.6 +0.3
comp=Z,14nm,0.8s,mb4.9,baz=46,slow=7.7,SNR=94
SONM PcP PcP 21 07 59.3 -0.5
comp=Z,4.7nm,0.6s,baz=58,slow=1.5,SNR=4.4
SONM **Songino Array** 54.05 304 P P 21 06 55.6 +0.3
SONM PcP PcP 21 07 59.3 -0.5
KRAR **Krasnoyarsk** 54.19 318 ⇑*i*P P 21 06 56.4 +0.2
KRAR pmax pmax
comp=Z,12nm,1.0s,mb4.8
BJI **Beijing** 54.44 291 P P 21 06 57.4 -0.9
BJI S S 21 14 32.0 -1.6
BJI AMB AMB
comp=Z,14nm,0.9s,mb4.9
BJI AMB AMB
comp=Z,146nm,5.0s

BJI LR LR
comp=N,604nm,21.0s,MS4.8
BJI LR LR
comp=E,606nm,24.9s,MS4.8
BJI LR LR
comp=Z,881nm,24.0s,MS4.8
BJI Beijing 54.44 291 P **P** **21 06 57.4 -0.9**
comp=Z,14nm,0.9s,mb4.9
BJI S **S** **21 14 32.0 -1.6**
BJI LR LR
comp=Z,880nm,24.0s,MS4.8
NCB Newcomb 54.45 62 *eP* **P** **21 06 57.2 -1.1**
BJT Baijiatuau 54.46 291 P **P** **21 06 57.4 -1.0**
BJT pmax pmax
comp=Z,19nm,0.6s
BJT Baijiatuau 54.46 291 P **P** **21 06 57.4 -1.0**
comp=Z,19nm,0.6s,mb5.2
MCWV Mont Chateau 54.48 70 *eP* **P** **21 06 56.6 -2.0**
TZTN Tazewell 54.63 75 *eP* **P** **21 06 58.0 -1.7**
BINY Binghamton 54.77 65 *eP* **P** **21 06 58.8 -1.9**
SSPA Standing Stone 54.85 68 *eP* **P** **21 06 59.8 -1.5**
CPCT Cooper Cave 54.87 77 *eP* **P** **21 07 00.5 -0.9**
TKL Tuckaleechee C 55.14 76 *eP* **P** **21 07 01.5 -1.9**
ACCN Adirondack Com 55.15 63 *eP* **P** **21 07 02.4 -0.9**
LBNH Lisbon 55.44 61 *eP* **P** **21 07 04.9 -0.5**
HNH Hanover 55.63 61 *eP* **P** **21 07 06.6 -0.2**
ELN Prospectdale 55.71 73 *eP* **P** **21 07 05.3 -2.1**
KEV Kevo 55.84 356 *ep* **P** **21 07 06.7 -1.2**
comp=Z,29nm,0.6s,mb5.5
KEV Kevo 55.84 356 *eP* **P** **21 07 06.7 -1.2**
KEV pmax pmax
comp=Z,29nm,0.6s,mb5.5
BLA Blacksburg 55.90 72 *eP* **P** **21 07 07.1 -1.8**
BLA pmax pmax
comp=Z,35nm,0.8s,mb5.4
BLA Blacksburg 55.90 72 *eP* **P** **21 07 07.1 -1.8**
comp=Z,35nm,0.8s,mb5.4
PKME Peaks-Kenny Pk 56.03 58 *eP* **P** **21 07 07.8 -1.9**
ARCES ARCESS Array B 56.11 357 P **P** **21 07 08.8 -1.1**
comp=Z,6.0nm,0.6s,mb4.8,baz=18,slow=7.2,SNR=22
ARCES ARCESS Array B 56.11 357 P **P** **21 07 08.8 -1.1**
ARE0 ARCESS Array S 56.11 357 *eP* **P** **21 07 08.8 -1.1**
SDMD Soldier's Deli 56.29 68 *eP* **P** **21 07 10.3 -1.3**
HHC Hu-ho-hao-te 56.34 295 *eP* **P** **21 07 12.5 +0.5**
HHC AP pP 21 07 22.4 -1.9
HHC XP sP 21 07 26.5 -2.8
HHC PCP PcP 21 08 10.1 +1.3
HHC PP PP 21 09 18.2 +0.8
HHC SCP ScP 21 12 05.1 +0.8
HHC PCS PcS 21 12 08.7 -0.6
HHC S **S** **21 14 58.7 -0.3**
HHC XS sS 21 15 15.5 -4.0
HHC SCS ScS 21 16 55.5 -1.7
HHC SS SS 21 18 44.5 -1.2
HHC AMB AMB
comp=Z,23nm,1.1s,mb5.1
HHC AMB AMB
comp=Z,335nm,5.8s
HHC LR LR
comp=N,656nm,17.1s,MS5.0
HHC LR LR
comp=E,726nm,18.2s,MS5.0
HHC LR LR
comp=Z,702nm,19.8s,MS4.8
HRV Adam Dziewonsk 56.86 62 P **P** **21 07 14.4 -1.2**
WES Weston 57.07 62 *eP* **P** **21 07 15.5 -1.6**
URVA University of 57.23 70 *eP* **P** **21 07 16.9 -1.5**
LVZ Lovozero 57.26 353 P **P** **21 07 17.4 -0.7**
comp=Z,652nm,0.9s,SNR=5.9
BRYW Bryant College 57.29 62 *eP* **P** **21 07 17.3 -1.4**
BTO Baotou 57.34 295 *eP* **P** **21 07 16.0 -3.0**
JSC Jenkinsville 57.56 75 *eP* **P** **21 07 18.2 -2.4**
APA Apatity 57.67 353⇑ *eP* **P** **21 07 21.0 0.0**
APA pmax pmax
comp=Z,16nm,1.0s,mb5.0
APA MLR MLR
comp=Z,700nm,21.0s,MS4.8
NVS Novosibirsk 58.67 322 *eP* **P** **21 07 26.9 -1.2**
NVS pmax pmax
comp=N,30nm,1.8s
NVS pmax pmax
comp=Z,53nm,1.8s,mb5.3
NVS pmax pmax
comp=E,28nm,2.0s
ZAA0 Zalesovo Array 58.80 321 *eP* **P** **21 07 28.6 -0.4**
ZALV Zalesovo Beam 58.80 321 P **P** **21 07 28.6 -0.5**
comp=E,1.9nm,0.5s,mb4.4,baz=46,slow=6.4,SNR=7.3
ZALV Zalesovo Beam 58.80 321 P **P** **21 07 28.6 -0.4**
ZALV pmax pmax
comp=Z,2.0nm,0.5s,mb4.4
ZALV Zalesovo Beam 58.80 321 P **P** **21 07 28.6 -0.5**
NSS Namsos 61.14 3 *eP* **P** **21 07 43.3 -1.6**
JOF Joensuu 62.43 353 *ep* **P** **21 07 52.6 -1.0**
comp=Z,49nm,0.6s,mb5.8
JOF Joensuu 62.43 353 *eP* **P** **21 07 52.6 -1.0**
JOF pmax pmax
comp=Z,49nm,0.6s,mb5.8
XAN Xi'an 62.77 291 P **P** **21 07 55.7 -0.6**
XAN AP pP 21 08 07.4 -1.4
XAN XP sP 21 08 13.3 -0.5
XAN PCP PcP 21 08 36.5 +2.0
XAN PP PP 21 10 13.6 -0.8
XAN SCP ScP 21 12 33.6 +0.7
XAN PCS PcS 21 12 38.1 +0.1
XAN S **S** **21 16 14.2 -7.8**
XAN SCS ScS 21 17 40.3 -4.9
XAN AMB AMB
comp=Z,10.0nm,1.2s,mb4.8
XAN AMB AMB
comp=Z,182nm,5.4s
XAN LR LR
comp=N,266nm,14.4s,MS4.6
XAN LR LR
comp=E,263nm,19.2s,MS4.6
XAN LR LR
comp=Z,913nm,23.4s,MS4.9
MOL Molde 62.90 6 *eP* **P** **21 07 56.7 0.0**
GTA Gaotai 63.46 301 P **P** **21 08 00.8 0.0**
GTA AP pP 21 08 13.5 +0.2
GTA PP PP 21 10 18.5 -1.8
GTA S **S** **21 16 23.4 -7.1**
GTA XS sS 21 16 42.9 -8.3
GTA AMB AMB
comp=Z,18nm,1.1s,mb5.1
GTA AMB AMB
comp=Z,145nm,6.9s
GTA LR LR
comp=N,553nm,19.5s,MS5.0
GTA LR LR
comp=E,863nm,17.1s,MS5.0
GTA LR LR
comp=Z,1μm,16.8s,MS5.1
KAF Kangasniemi 63.50 356 *ep* **P** **21 07 59.8 -0.9**
comp=Z,75nm,0.5s,mb6.0,baz=1.6,slow=6.3
KAF Kangasniemi 63.50 356 *eP* **P** **21 07 59.8 -0.9**
KAF pmax pmax
comp=Z,75nm,0.5s,mb6.0
DOMB Dombas 63.51 5 *eP* **P** **21 08 00.3 -0.4**
DOMB AMb AMB 21 08 01.0
comp=Z,28nm,0.7s,mb5.4
DOMB *es*P sP 21 08 13.0 -5.3
KURK Kurchatov 63.66 322 P **P** **21 08 02.8 +0.8**
comp=Z,8.5nm,1.0s,mb4.7,baz=27,slow=6.5,SNR=16
KURK Kurchatov 63.66 322 *c iP* **P** **21 08 01.4 -0.6**
KURK pmax pmax
comp=Z,18nm,1.3s,mb4.9
KURK Kurchatov 63.66 322 *eP* **P** **21 08 01.9 0.0**
KLMR Klimovskoe 63.71 349 ⇑*iP* **P** **21 08 01.3 -0.8**
KLMR pmax pmax
comp=Z,45nm,1.1s,mb5.4
SVE Sverdlovsk 63.77 336⇓ *eP* **P** **21 08 02.1 -0.5**
SVE *eS* S 21 17 07.0 +33
SVE pmax pmax
comp=Z,49nm,0.6s,mb5.7
SVE MLR MLR
comp=Z,912nm,16.0s,MS5.0
LZH Lanzhou 63.93 296 ⇑P **P** **21 08 04.1 +0.1**
LZH AP pP 21 08 14.3 -2.2
LZH XP sP 21 08 18.2 -3.2
LZH PP PP 21 10 26.0 +1.5
LZH *eS* **S** **21 16 35.0 -1.4**
LZH *es*SS SS 21 20 44.0 -0.7
LZH AMB AMB
comp=Z,29nm,1.2s,mb5.2
LZH AMB AMB
comp=Z,197nm,7.8s
LZH LR LR
comp=E,1μm,18.4s
LZH LR LR
comp=Z,2μm,20.0s,MS5.2
LZH Lanzhou 63.93 296 ⇑P **P** **21 08 04.1 +0.1**
LZH *PP pP 21 08 14.3 -2.2
LZH 21 10 26.0
LZH *eS* **S** **21 16 35.0 -1.4**
LZH *SS sS 21 16 51.3 -5.9
LZH SS SS 21 20 43.2 -1.5
LZH pmax pmax
comp=Z,29nm,1.2s,mb5.2
LZH MLR MLR
comp=Z,2μm,19.7s,MS5.2
LZH Lanzhou 63.93 296 ⇑P **P** **21 08 04.1 +0.1**
comp=Z,29nm,1.2s,mb5.2
LZH pP pP 21 08 14.3 -2.2
LZH sP sP 21 08 18.2 -3.2
LZH PP PP 21 10 26.0 +1.5
LZH *eS* **S** **21 16 35.0 -1.4**
LZH sS sS 21 16 51.3 -5.9
LZH SS SS 21 20 43.2 -1.5
LZH LR LR
comp=Z,2μm,19.7s,MS5.2
HYA Hoyanger 64.22 7 *eP* **P** **21 08 05.5 0.0**
BVA0 Borovoye Array 64.45 328 *i* P **P** **21 08 06.9 -0.2**
BVA0 pmax pmax
comp=Z,15nm,0.7s,mb5.1
BVAR Borovoye Array 64.45 328 P **P** **21 08 07.2 +0.1**
comp=Z,28nm,0.7s,mb5.4,baz=41,slow=6.9,SNR=142
BVAR Borovoye Array 64.45 328 P **P** **21 08 07.2 +0.1**
BVAR pmax pmax
comp=Z,28nm,0.7s
BRVK Borovoye 64.46 328 P **P** **21 08 07.9 +0.8**
comp=Z,726nm,0.6s,SNR=14
BRVK Borovoye 64.46 328 P **P** **21 08 07.9 +0.8**
SNR=29
BRVK Borovoye 64.46 328 *eP* **P** **21 08 07.5 +0.4**
BRVK *e* 21 08 15.6
LRW Lerwick 64.59 11⇑ *eP* **P** **21 08 08.0 +0.1**
LRW *e* 21 08 16.3
LRW AMb AMB 21 08 17.8
comp=Z,92nm,0.9s,mb5.8
NB2 NORSAR Subarra 64.61 4 P **P** **21 08 07.6 -0.4**
comp=Z,32nm,0.6s,mb5.5,baz=356,slow=6.5
NOA NORSAR Array B 64.61 4 P **P** **21 08 07.7 -0.3**
comp=Z,15nm,0.8s,mb5.1,baz=356,slow=6.6,SNR=53
NOA NORSAR Array B 64.61 4 P **P** **21 08 07.7 -0.3**
NOA pmax pmax
comp=Z,15nm,0.8s
ARU Arti 64.62 337 P **P** **21 08 07.1 -1.0**
comp=Z,1μm,0.5s,SNR=23
ARU Arti 64.62 337 *c iP* **P** **21 08 07.3 -0.8**
ARU *e* 21 08 42.2
ARU *e* 21 10 26.8
ARU *e*PPP 21 12 02.8
ARU *eS* **S** **21 16 43.2 -1.0**
ARU pmax pmax
comp=Z,48nm,1.0s,mb5.5
ARU MLR MLR
comp=Z,926nm,18.0s,MS5.0
ARU Arti 64.62 337 *eP* **P** **21 08 07.4 -0.7**
NA001 NORSAR Array S 64.79 4 *eP* **P** **21 08 09.0 -0.1**
ASK Askoy 64.83 7 *eP* **P** **21 08 08.1 -1.3**
RUND Rundenannen 64.91 7 *eP* **P** **21 08 12.1 +2.2**
EGD Espegrend 65.04 7 *eP* **P** **21 08 09.9 -0.9**
EGD *i* 21 08 10.9
ODD1 Odda 65.49 6⇑ *iP* **P** **21 08 12.8 -1.0**
ODD1 AMb AMB 21 08 22.9
comp=Z,47nm,1.3s,mb5.3
MK31 Makanchi Array 65.50 317 P **P** **21 08 13.0 -1.0**
MK31 pmax pmax
comp=Z,7.0nm,0.6s,mb4.9
MK31 Makanchi Array 65.50 317 *eP* **P** **21 08 13.2 -0.9**
MKAR Makanchi Array 65.50 317 P **P** **21 08 13.2 -0.8**
comp=Z,2.1nm,0.5s,mb4.4,baz=39,slow=6.3,SNR=42
MKAR Makanchi Array 65.50 317 P **P** **21 08 13.2 -0.8**
MKAR pmax pmax
comp=Z,2.0nm,0.5s
WMQ Urumqi 65.67 312 *i* P **P** **21 08 15.6 +0.4**
WMQ AP pP 21 08 28.6 +0.9
WMQ PCP PcP 21 08 47.1 +0.8
WMQ PP PP 21 10 42.1 +2.6
WMQ S S 21 16 55.6 -2.0
WMQ AMB AMB
comp=Z,56nm,0.9s,mb5.6
WMQ LR LR
comp=N,761nm,24.8s,MS5.0
WMQ LR LR
comp=E,992nm,24.9s,MS5.0
WMQ LR LR
comp=Z,951nm,21.3s,MS5.0
TAOE Nuku Hiva Isla 65.71 157 *e*LR LR 21 27 55.9
comp=Z,5μm,24.0s
KONO Kongsberg 65.93 5 *eP* **P** **21 08 16.6 0.0**
KONO AMb AMB 21 08 27.0
comp=Z,6.3nm,1.2s,mb4.5
KONO *es*P sP 21 08 30.0 -4.1
BLS5 Blasjo 65.97 7⇑ *iP* **P** **21 08 18.1 +1.3**
BLS5 AMb AMB 21 08 18.8
comp=Z,20nm,0.6s,mb5.3
KMY Karmoy 66.09 7 *eP* **P** **21 08 18.2 +0.5**
MLA1 Latheron 66.13 12⇑ *eP* **P** **21 08 18.0 +0.1**
MVH1 Achvaich 66.39 13⇑ *eP* **P** **21 08 19.7 +0.1**
KAC Achnashellach 66.66 14⇑ *eP* **P** **21 08 21.1 -0.2**
KPL Plockton 66.76 14 P **P** **21 08 21.7 -0.2**
KPL AMb AMB 21 08 25.1
comp=Z,67nm,1.9s,mb5.3
KPL Plockton 66.76 14⇑ *eP* **P** **21 08 21.7 -0.2**
KPL AMb AMB 21 08 25.1
comp=Z,67nm,1.9s,mb5.3
MDO Dochfour 66.84 13⇑ *eP* **P** **21 08 22.6 +0.1**
MCD Coleburn Disti 66.85 12⇑ *eP* **P** **21 08 22.7 +0.3**
SNART Snartemo 67.10 6 *eP* **P** **21 08 24.4 +0.3**
VSU Vasula 67.13 355 *i* P **P** **21 08 23.7 -0.6**
MME1 Meikle Cairn 67.14 12⇑ *eP* **P** **21 08 24.1 -0.2**
CD2 Chengdu 67.96 292⇓ *iP* **P** **21 08 30.4 +0.4**
CD2 AP pP 21 08 43.4 +0.8
CD2 PCS 21 13 00.5
CD2 S S 21 17 23.6 -2.0
CD2 XS sS 21 17 45.5 -1.1
CD2 SCS ScS 21 18 21.4 -3.8
CD2 SS SS 21 21 47.0 -0.5
CD2 AMB AMB
comp=Z,30nm,1.1s,mb5.2
CD2 AMB AMB
comp=Z,100nm,6.2s
CD2 LR LR
comp=N,650nm,16.8s,MS5.1
CD2 LR LR
comp=E,620nm,13.2s,MS5.1
CD2 LR LR
comp=Z,520nm,13.2s,MS4.9
EAB Aberfoyle 68.06 13⇑ *eP* **P** **21 08 30.3 +0.1**
EBH Black Hill 68.11 13⇑ *eP* **P** **21 08 30.5 0.0**
PGBU Glenifferbraes 68.41 14 P **P** **21 08 32.4 +0.1**
PGBU AMb AMB 21 08 43.8
comp=Z,74nm,1.3s,mb5.6
PGBU Glenifferbraes 68.41 14⇑ *eP* **P** **21 08 32.4 +0.1**
PGBU AMb AMB 21 08 43.8
comp=Z,74nm,1.3s,mb5.6
EDI Edinburgh 68.47 13⇑ *eP* **P** **21 08 32.6 -0.1**
EDI AMb AMB 21 08 43.0
comp=Z,60nm,0.9s,mb5.6
EAU Auchinoon 68.52 13⇑ *eP* **P** **21 08 33.3 +0.3**
ESY Stoneypath 68.55 13⇑ *eP* **P** **21 08 33.0 -0.2**
EBL Broad Law 68.64 13⇑ *eP* **P** **21 08 33.8 +0.1**
MOS Moscow 68.94 348 *eP* **P** **21 08 41.3 +5.7**
MOS pmax pmax
comp=Z,71nm,0.9s,mb5.6
MOS MLR MLR
comp=Z,800nm,21.0s,MS4.9
XSO Sourhope Farm 69.01 12⇑ *eP* **P** **21 08 36.2 +0.1**
ESK Eskdalemuir 69.06 13 P **P** **21 08 36.6 +0.2**
comp=Z,440nm,0.8s,mb6.4,SNR=6.1
ESK Eskdalemuir 69.06 13⇑ *eP* **P** **21 08 36.2 -0.2**
ESK AMb AMB 21 08 46.8
comp=Z,89nm,1.1s,mb5.6
ESK Eskdalemuir 69.06 13 *eP* **P** **21 08 36.1 -0.3**
MUD Monsted U'grnd 69.09 5⇑ *iP* **P** **21 08 36.9 +0.3**
MUD pmax pmax
comp=Z,27nm,0.8s,mb5.2
MUD MLR MLR
comp=Z,350nm,20.0s,MS4.6
MUD Monsted U'grnd 69.09 5⇑ *iP* **P** **21 08 36.9 +0.3**
comp=Z,27nm,0.8s,mb5.2
MUD
comp=Z,340nm,20.0s
MUD Monsted U'grnd 69.09 5⇑ *iP* **P** **21 08 36.9 +0.3**
comp=Z,27nm,0.8s,mb5.2
ECK Cauldkaine Hil 69.20 13⇑ *eP* **P** **21 08 37.2 -0.1**
GAL1 Galloway 69.30 14⇑ *eP* **P** **21 08 37.8 -0.1**
GAL1 AMb AMB 21 08 48.0
comp=Z,71nm,1.1s,mb5.5
XAL Allendale 69.64 13⇑ *eP* **P** **21 08 39.9 -0.1**
OBN Obninsk 69.67 349⇑ *iP* **P** **21 08 39.5 -0.7**
OBN pmax pmax
comp=Z,33nm,1.0s,mb5.2
OBN Obninsk 69.67 349 *eP* **P** **21 08 39.7 -0.5**
GYA Guiyang 69.84 287 ⇑*iP* **P** **21 08 40.6 -1.1**
GYA AP pP 21 08 54.3 0.0
GYA PCP PcP 21 09 03.6 -0.4
GYA PP PP 21 11 16.0 -0.2
GYA S S 21 17 43.5 -4.4
GYA XS sS 21 18 06.6 -2.4
GYA SKS 21 18 32.3
GYA SS SS 21 22 14.0 -2.6
GYA AMB AMB
comp=Z,20nm,1.0s,mb5.0
GYA AMB AMB
comp=Z,140nm,6.6s
GYA LR LR
comp=N,780nm,19.5s,MS5.1
GYA LR LR
comp=E,690nm,19.6s,MS5.1
GYA LR LR
comp=Z,580nm,17.4s,MS4.9
DMUB Kingscourt 69.91 16 *eP* **P** **21 08 41.2 -0.4**
WIM Isle of Man 70.00 14⇑ *eP* **P** **21 08 42.1 -0.1**
COP Copenhagen 70.01 4⇑ *iP* **P** **21 08 42.3 +0.1**
COP pmax pmax
comp=Z,26nm,1.0s,mb5.1
COP MLR MLR
comp=Z,260nm,19.0s,MS4.5
COP Copenhagen 70.01 4⇑ *iP* **P** **21 08 42.3 +0.1**
comp=Z,26nm,1.0s,mb5.1
COP
comp=Z,250nm,19.0s
AKTO Aktyubinsk 70.24 334 P **P** **21 08 43.4 -0.3**
AKTO pmax pmax
comp=Z,14nm,0.8s,mb4.9
DLF Lyons Farm 70.55 16 *eP* **P** **21 08 45.0 -0.6**
HPK Haverah Park 70.59 12⇑ *eP* **P** **21 08 46.0 +0.1**
HPK AMb AMB 21 09 01.0
comp=Z,78nm,1.4s,mb5.5
DSB Dublin 70.62 15 *eP* **P** **21 08 46.4 +0.4**
WME Myndd Eilian 70.78 14⇑ *eP* **P** **21 08 46.7 -0.3**
AB31 Akbulak array 70.82 333 *i* P **P** **21 08 47.2 -0.1**
AB31 pmax pmax
comp=Z,47nm,0.5s,mb5.7
LHO Holmfirth 70.97 13⇑ *eP* **P** **21 08 47.9 -0.2**
MNK Minsk 71.03 354 *eP* **P** **21 08 47.0 -1.5**
YLL Llanberis 71.05 14⇑ *eP* **P** **21 08 48.9 +0.2**
RGN Rugen 71.18 3 *eP* **P** **21 08 50.0 +0.6**
comp=Z,199nm,1.2s,mb5.9
RGN Rugen 71.18 3 *eP* **P** **21 08 48.0 -1.4**
KBI1 Birley Grange 71.30 12⇑ *eP* **P** **21 08 50.8 +0.7**
TKM2 Tokmak 2 71.34 319 P **P** **21 08 51.6 +1.0**
SNR=8.1
SBD1 Bryn Du 71.41 14⇑ *eP* **P** **21 08 51.0 +0.2**
USP Ospenovka 71.46 320 P **P** **21 08 51.8 +0.5**
SNR=7.3
KWE Weaver Farm 71.49 13 *eP* **P** **21 08 51.1 -0.2**
CHMS Chumysh 71.59 320 P **P** **21 08 52.6 +0.5**
SNR=10
BSEG Bad Segeberg 71.67 5 *eP* **P** **21 08 52.8 +0.5**
BSEG pmax pmax
comp=Z,87nm,1.1s,mb5.6
BSEG Bad Segeberg 71.67 5 *eP* **P** **21 08 52.8 +0.5**
comp=Z,87nm,1.1s,mb5.6
SUW Suwalki 71.72 357 *eP* **P** **21 08 52.0 -0.7**
SUW Suwalki 71.72 357 *eP* **P** **21 08 51.9 -0.8**
KBK Karagaybulak 71.81 320 P **P** **21 08 54.2 +0.8**
SNR=12
CWF Charnwood Fore 71.83 12⇑ *eP* **P** **21 08 53.3 -0.1**
CWF AMb AMB 21 09 04.3
comp=Z,57nm,1.4s,mb5.3
AAK Ala-Archa 72.01 320 P **P** **21 08 55.3 +0.7**
SNR=10
HTR Trewern Hill 72.21 14⇑ *eP* **P** **21 08 55.2 -0.4**
EKS2 Erkin-Say 72.25 320 P **P** **21 08 57.1 +1.1**
SNR=7.1
MCH1 Michaelchurch 72.33 14⇑ *eP* **P** **21 08 56.3 -0.1**
MCH1 AMb AMB 21 09 10.1
comp=Z,75nm,1.5s,mb5.4
GKP Gorka Klasztor 72.53 1 *eP* **P** **21 08 57.5 0.0**
PPT Papeete 72.57 168 *eS* S 21 18 25.0 +5.7
comp=Z,2μm,29.5s
PPT Papeete 72.57 168 *e*LR LR 21 31 15.2
comp=Z,2μm,23.5s,baz=348
HGH Gray Hill 72.71 14⇑ *eP* **P** **21 08 58.4 -0.2**
AML Almayashu 72.74 320 P **P** **21 08 59.1 +0.1**
SNR=5.4
KK31 Karatay Array 73.05 323 *i* P **P** **21 09 00.1 -0.7**
KK31 pmax pmax
comp=Z,115nm,1.5s,mb5.6
KMI Kunming 73.06 289 P **P** **21 09 01.5 +0.4**
KMI AP pP 21 09 15.3 +1.5
KMI PP PP 21 11 44.2 +0.4
KMI S S 21 18 22.8 -2.3
KMI XS sS 21 18 45.0 -1.3
KMI SS SS 21 23 07.3 +1.3
KMI AMB AMB
comp=Z,14nm,2.0s,mb4.5
KMI AMB AMB
comp=Z,527nm,4.8s
KMI LR LR
comp=N,808nm,28.2s,MS5.0
KMI LR LR
comp=E,627nm,25.8s,MS5.0
KMI LR LR
comp=Z,682nm,24.6s,MS4.8
KMI Kunming 73.06 289 P **P** **21 09 01.5 +0.4**
KMI *SP sP 21 09 20.6 +1.9
KMI 21 11 44.2
KMI PPP 21 13 28.8
KMI S S 21 18 22.8 -2.3
KMI SS SS 21 23 07.3 +1.3
KMI pmax pmax
comp=Z,14nm,2.0s,mb4.5
KMI MLR MLR
comp=Z,680nm,24.6s,MS4.8
KMI Kunming 73.06 289 P **P** **21 09 01.5 +0.4**
comp=Z,14nm,2.0s,mb4.5
KMI pP pP 21 09 15.3 +1.5
KMI sP sP 21 09 20.6 +1.9
KMI PP PP 21 11 44.2 +0.4
KMI PPP 21 13 28.8
KMI S S 21 18 22.8 -2.3
KMI sS sS 21 18 45.0 -1.3
KMI SS SS 21 23 07.3 +1.3
KMI LR LR
comp=Z,680nm,24.6s,MS4.8
NRDL Niedersach Rie 73.09 5 *eP* **P** **21 09 01.1 +0.2**
comp=Z,63nm,1.0s,mb5.5
IBBN Ibbenburen 73.14 7 *eP* **P** **21 09 01.5 +0.4**
comp=Z,138nm,1.3s,mb5.7
VSR Storozhevoye 73.17 347 *eP* **P** **21 09 00.2 -1.2**
WOL Wolverton 73.24 13 *eP* **P** **21 09 01.0 -0.8**
RUE Ruedersdorf 73.26 3 *eP* **P** **21 09 02.2 +0.3**
comp=Z,110nm,1.2s,mb5.7
RUE Ruedersdorf 73.26 3 *eP* **P** **21 09 01.8 0.0**
comp=Z,32nm,1.2s,mb5.1
CSA1 St Austell 73.66 15⇑ *eP* **P** **21 09 04.3 +0.1**
DYA Yadsworthy 73.72 15 *eP* **P** **21 09 04.2 -0.4**
CLZ Clausthal 73.76 5 *eP* **P** **21 09 05.5 +0.7**
CLZ pmax pmax
comp=Z,64nm,0.9s,mb5.5
CLZ Clausthal 73.76 5 *eP* **P** **21 09 05.5 +0.7**
comp=Z,64nm,0.9s,mb5.5
CCA1 Carnmenellis 73.77 16⇑ *eP* **P** **21 09 05.0 +0.1**
QIZ Qiongzhong 73.89 280 P **P** **21 09 05.0 -1.0**
QIZ S S 21 18 36.0 +1.4
QIZ LR LR
comp=Z,338nm,23.8s,MS4.5
BUG Bochum--Univer 73.97 7 *eP* **P** **21 09 06.0 0.0**

comp=Z,81nm,0.9s,mb5.7
UCC Uccle 74.36 9 P **P 21 09 08.2 -0.1**
CLL Collm 74.41 3⇑*iP* **P 21 09 08.4 -0.2**
CLL *i* *SP sP 21 09 20.9 -5.3
CLL pmax pmax
comp=Z,18nm,0.7s,mb5.1
CLL MLR MLR
comp=Z,400nm,22.7s,MS4.7
CLL Collm 74.41 3 *eP* **P 21 09 08.4 -0.2**
comp=Z,59nm,1.1s,mb5.4
CLL Collm 74.41 3⇑*iP* **P 21 09 08.4 -0.2**
comp=Z,18nm,0.7s,mb5.1
CLL *i* sP sP 21 09 20.9 -5.3
CLL *e*PS 21 19 24.0
CLL *e*SS SS 21 23 42.0 +17
CLL *e*SSS 21 26 48.0
CLL *e*(SSSS) 21 28 24.0
CLL Collm 74.41 3⇑*iP* **P 21 09 08.4 -0.2**
comp=Z,18nm,0.7s,mb5.1
CLL *i* sP sP 21 09 20.9 -5.3
CLL LR LR
comp=Z,400nm,22.7s,MS4.7
SNF Seneffe 74.64 9 P P 21 09 10.3 +0.4
MEM Membach 74.69 8 P P 21 09 10.4 +0.2
AKASG Malin Array Be 74.72 353 P P 21 09 09.6 -0.8
comp=Z,35nm,0.6s,mb5.4,baz=9.9,slow=5.9,SNR=32
AKASG Malin Array Be 74.72 353 P P 21 09 09.6 -0.8
AKASG pmax pmax
comp=Z,35nm,0.6s
AKBB Malin Array Si 74.72 353 *eP* **P 21 09 09.4 -1.0**
KIEV Kiev 74.73 353 *eP* **P 21 09 09.0 -1.4**
KIEV pmax pmax
comp=Z,127nm,0.8s,mb5.9
KIEV Kiev 74.73 353 *eP* **P 21 09 09.0 -1.4**
comp=Z,127nm,0.8s,mb5.9
UBBA Unterbreizbach 74.76 5 *eP* **P 21 09 10.6 0.0**
comp=Z,19nm,1.1s,mb4.9
FBE Freiberg 74.81 3 *eP* **P 21 09 11.2 +0.3**
comp=Z,79nm,1.0s,mb5.6
BCLA Clavier 74.82 9 P **P 21 09 11.1 +0.1**
BRG Berggiesshubel 74.87 3⇑*iP* **P 21 09 11.4 +0.1**
BRG pmax pmax
comp=Z,11nm,0.9s,mb4.8
BRG Berggiesshubel 74.87 3 *eP* **P 21 09 11.4 +0.1**
comp=Z,53nm,1.0s,mb5.4
BRG Berggiesshubel 74.87 3⇑*iP* **P 21 09 11.4 +0.1**
comp=Z,18nm,0.9s,mb5.0
KSP Ksiaz 74.96 1 *eP* **P 21 09 11.8 +0.1**
KSP Ksiaz 74.96 1 *eP* **P 21 09 11.7 -0.1**
KSP LR LR
comp=Z,1µm,21.3s,MS5.2
MOX Moxa 75.02 4 *eP* **P 21 09 12.4 +0.3**
MOX Moxa 75.02 4 *eP* **P 21 09 12.4 +0.3**
comp=Z,99nm,1.2s,mb5.6
BAIF Baives 75.08 9⇑*iP* **P 21 09 12.7 +0.2**
comp=Z,34nm,0.9s,mb5.0
BAIF Baives 75.08 9⇑*iP* **P 21 09 12.7 +0.2**
BAIF pmax pmax
comp=Z,17nm,0.9s,mb5.0
BAIF Baives 75.08 9⇑*iP* **P 21 09 12.7 +0.2**
comp=Z,17nm,0.9s,mb5.0
DOU Dourbes 75.08 9 P **P 21 09 12.5 0.0**
GIVF Givet 75.09 9⇑*iP* **P 21 09 12.6 0.0**
comp=Z,30nm,0.9s,mb4.9
GIVF Givet 75.09 9⇑*iP* **P 21 09 12.6 0.0**
GIVF pmax pmax
comp=Z,15nm,0.9s,mb4.9
GIVF Givet 75.09 9⇑*iP* **P 21 09 12.6 0.0**
comp=Z,15nm,0.9s,mb4.9
PVCC Panska Ves 75.24 3 *eP* **P 21 09 13.8 +0.4**
PVCC Panska Ves 75.24 3 *eP* **P 21 09 13.8 +0.4**
PVCC AMS AMS 21 38 50.0
comp=Z,500nm,30.9s
WERD Werda 75.24 4 *eP* **P 21 09 13.6 +0.2**
comp=Z,53nm,1.5s,mb5.2
TNS Taunus Mts 75.26 7 *eP* **P 21 09 13.8 +0.3**
TNS pmax pmax
comp=Z,65nm,1.2s,mb5.4
TNS Taunus Mts 75.26 7 *eP* **P 21 09 13.9 +0.4**
comp=Z,65nm,1.2s,mb5.4
TNS Taunus Mts 75.26 7 *eP* **P 21 09 13.8 +0.3**
comp=Z,65nm,1.2s,mb5.4
TANN Tannenbergstha 75.28 4 *eP* **P 21 09 14.1 +0.5**
comp=Z,90nm,2.0s,mb5.3
UPC Upice 75.29 2 *eP* **P 21 09 14.0 +0.3**
GUNZ Gunzen 75.33 4 *eP* **P 21 09 14.3 +0.4**
comp=Z,21nm,0.7s,mb5.2
WERN Wernitzgruen 75.41 4 *eP* **P 21 09 14.8 +0.4**
comp=Z,30nm,0.5s,mb5.5
DPC Dobruska-Polom 75.45 1 *eP* **P 21 09 15.3 +0.7**
DPC MLR MLR
comp=Z,700nm,21.8s,MS4.9
DPC Dobruska-Polom 75.45 1 *eP* **P 21 09 15.3 +0.7**
DPC *ex* x 21 24 26.6
DPC AMS AMS 21 49 20.0
comp=Z,700nm,21.8s
NKC Novy Kostel 75.46 4 *eP* **P 21 09 15.2 +0.5**
NKC AMS AMS 21 46 00.0
comp=Z,500nm,28.7s
NKC Novy Kostel 75.46 4 *eP* **P 21 09 15.2 +0.5**
LSA Lhasa 75.49 301 P **P 21 09 16.3 +1.1**
LSA Lhasa 75.49 301 *eP* **P 21 09 16.0 +0.8**
LSA pmax pmax
comp=Z,33nm,0.7s,mb5.4
LSA Lhasa 75.49 301 *eP* **P 21 09 16.0 +0.8**
comp=Z,33nm,0.7s,mb5.4
ABH Alteburg 75.54 7 *eP* **P 21 09 14.8 -0.3**
OJC Ojcow 75.59 359 *eP* **P 21 09 15.3 -0.1**
WLF Walferdange 75.64 8 P **P 21 09 16.6 +0.9**
WLF Walferdange 75.64 8 *eP* **P 21 09 16.4 +0.7**
comp=Z,73nm,1.2s,mb5.5
WLF Walferdange 75.64 8 *eP* **P 21 09 16.1 +0.4**
RUP Ruppelstein 75.68 8 *eP* **P 21 09 15.8 -0.1**
MANZ Manzenberg 75.69 4 *eP* **P 21 09 16.2 +0.2**
comp=Z,30nm,1.3s,mb5.1
PRU Pruhonice 75.78 3 *eP* **P 21 09 16.7 +0.2**
PRU MLR MLR
comp=Z,500nm,23.6s,MS4.8
PRU Pruhonice 75.78 3 *eP* **P 21 09 16.7 +0.2**
PRU *ex* x 21 24 33.7
PRU AMS AMS 21 45 40.0
comp=Z,500nm,23.6s
FLN La Foliniere 75.83 13⇑*iP* **P 21 09 16.5 -0.3**
FLN MLR MLR
comp=Z,720nm,22.5s,MS4.9
ROSF Rostrenen 75.86 15⇑*iP* **P 21 09 17.1 +0.1**
comp=Z,44nm,1.2s,mb5.0
ROSF Rostrenen 75.86 15⇑*iP* **P 21 09 17.1 +0.1**
ROSF pmax pmax
comp=Z,22nm,1.2s,mb5.0
ROSF Rostrenen 75.86 15⇑*iP* **P 21 09 17.1 +0.1**
comp=Z,22nm,1.2s,mb5.0
TOD Tromm 75.90 6 *eP* **P 21 09 17.2 0.0**
ROTZ Rotzenmuhle 75.92 4 *eP* **P 21 09 17.9 +0.6**
comp=Z,42nm,1.1s,mb5.3
GRA1 Grafenberg Arr 75.95 5 *eP* **P 21 09 18.0 +0.5**
comp=Z,81nm,1.3s,mb5.5
GRF Grafenberg Arr 75.95 5 *eP* **P 21 09 18.1 +0.6**
GRF pmax pmax
comp=Z,81nm,1.3s,mb5.5
GRF Grafenberg Arr 75.95 5 *eP* **P 21 09 18.0 +0.5**
GRF pmax pmax
comp=Z,81nm,1.3s,mb5.5
GRF Grafenberg Arr 75.95 5 *eP* **P 21 09 18.0 +0.5**
comp=Z,81nm,1.3s,mb5.5
GRF Grafenberg Arr 75.95 5 *eP* **P 21 09 18.1 +0.6**
comp=Z,81nm,1.3s,mb5.5
OKC Ostrava-Krasne 75.98 0 *eP* **P 21 09 18.0 +0.4**
OKC MLR MLR
comp=Z,500nm,21.7s,MS4.8
OKC Ostrava-Krasne 75.98 0 *eP* **P 21 09 18.0 +0.4**
OKC *ex* x 21 24 29.0
OKC AMS AMS 21 39 30.0
comp=Z,500nm,31.7s
OKC Ostrava-Krasne 75.98 0 *eP* **P 21 09 18.0 +0.4**
OKC *e* 21 24 29.0
MORC Moravsky Berou 76.03 1⇓*iP* **P 21 09 18.1 +0.1**
MORC Moravsky Berou 76.03 1 *eP* **P 21 09 17.4 -0.6**
LDF La Druitiere 76.05 13⇑*iP* **P 21 09 17.7 -0.3**
comp=Z,34nm,1.1s,mb4.9
LDF La Druitiere 76.05 13⇑*iP* **P 21 09 17.7 -0.3**
LDF pmax pmax
comp=Z,17nm,1.1s,mb4.9
LDF La Druitiere 76.05 13⇑*iP* **P 21 09 17.7 -0.3**
comp=Z,17nm,1.1s,mb4.9

SGMF Saint Gilles 76.05 14⇑*iP* **P 21 09 18.2 +0.1**
comp=Z,42nm,1.0s,mb5.0
SGMF Saint Gilles 76.05 14⇑*iP* **P 21 09 18.2 +0.1**
SGMF pmax pmax
comp=Z,21nm,1.0s,mb5.0
SGMF Saint Gilles 76.05 14⇑*iP* **P 21 09 18.2 +0.1**
comp=Z,21nm,1.0s,mb5.0
KWP Kalwaria 76.12 357 *eP* **P 21 09 19.0 +0.6**
KWP Kalwaria 76.12 357⇑*iP* **P 21 09 18.7 +0.3**
KWP Kalwaria 76.12 357 *eP* **P 21 09 18.8 +0.3**
comp=Z,199nm,1.1s,mb6.0
KTD Kalmit 76.13 7 *eP* **P 21 09 18.4 -0.1**
GRR Gorron 76.15 13⇑*iP* **P 21 09 18.5 -0.1**
comp=Z,18nm,0.6s,mb4.8
GRR Gorron 76.15 13⇑*iP* **P 21 09 18.5 -0.1**
GRR pmax pmax
comp=Z,9.0nm,0.6s,mb4.9
GRR Gorron 76.15 13⇑*iP* **P 21 09 18.5 -0.1**
comp=Z,8.8nm,0.6s,mb4.9
QUIF Quistinic 76.29 15⇑*iP* **P 21 09 19.6 +0.2**
comp=Z,13nm,1.0s,mb4.5
QUIF Quistinic 76.29 15⇑*iP* **P 21 09 19.6 +0.2**
QUIF pmax pmax
comp=Z,7.0nm,1.0s,mb4.5
QUIF Quistinic 76.29 15⇑*iP* **P 21 09 19.6 +0.2**
comp=Z,6.6nm,1.0s,mb4.5
STHS Stebnicka Huta 76.37 358 *iP* **P 21 09 21.1 +1.2**
STHS pmax pmax
comp=Z,30nm,0.6s,mb5.4
STHS Stebnicka Huta 76.37 358 *iP* **P 21 09 21.1 +1.2**
STHS *i* 22 14 24.8
STHS Stebnicka Huta 76.37 358 *iP* **P 21 09 21.1 +1.2**
comp=Z,30nm,0.6s,mb5.4
NIE Niedzica 76.38 359 *eP* **P 21 09 20.4 +0.5**
LANF Langenberg 76.45 7 *eP* **P 21 09 20.6 +0.3**
TREC Trest 76.49 2 *eP* **P 21 09 20.8 +0.2**
TREC MLR MLR
comp=Z,600nm,20.3s,MS4.9
TREC Trest 76.49 2 *eP* **P 21 09 20.8 +0.2**
TREC *ex* x 21 24 34.7
TREC AMS AMS 21 50 10.0
comp=Z,600nm,20.3s
VRAC Vranov 76.50 1⇓*iP* **P 21 09 20.9 +0.3**
VRAC Vranov 76.50 1 P **P 21 09 21.1 +0.6**
WET Wettzell 76.57 4 *eP* **P 21 09 21.6 +0.6**
WET pmax pmax
comp=Z,61nm,1.4s,mb5.3
WET Wettzell 76.57 4 *eP* **P 21 09 21.6 +0.6**
comp=Z,61nm,1.4s,mb5.3
KHC Kasperske Hory 76.61 3 *eP* **P 21 09 21.6 +0.4**
KHC MLR MLR
comp=Z,500nm,25.7s,MS4.7
KHC Kasperske Hory 76.61 3 *eP* **P 21 09 21.6 +0.4**
KHC *ex* x 21 24 44.1
KHC AMS AMS 21 39 40.0
comp=Z,500nm,25.7s
MEZF Maizieres J'vi 76.70 9⇑*iP* **P 21 09 21.9 +0.1**
comp=Z,47nm,1.3s,mb5.0
MEZF Maizieres J'vi 76.70 9⇑*iP* **P 21 09 21.9 +0.1**
comp=Z,47nm,1.3s,mb5.3
STU Stuttgart 76.75 6 *eP* **P 21 09 22.2 +0.2**
comp=Z,66nm,1.3s,mb5.4
KOLS Kolonicke sedl 76.83 357 *iP* **P 21 09 23.0 +0.5**
KOLS Kolonicke sedl 76.83 357 *iP* **P 21 09 23.1 +0.6**
CRVS Cervenica-Dubn 76.88 358 *iP* **P 21 09 23.2 +0.4**
CRVS Cervenica-Dubn 76.88 358 *iP* **P 21 09 23.2 +0.4**
GEC2 GERESS Array S 76.89 3 *eP* **P 21 09 23.2 +0.4**
GEC2 pmax pmax
comp=Z,32nm,0.8s,mb5.3
GEC2 GERESS Array S 76.89 3 *eP* **P 21 09 23.1 +0.3**
comp=Z,32nm,0.8s,mb5.3
GEC2 GERESS Array S 76.89 3 *eP* **P 21 09 23.2 +0.4**
comp=Z,32nm,0.8s,mb5.3
GERES GERESS Array B 76.89 3 P **P 21 09 23.1 +0.3**
comp=Z,9.1nm,0.6s,mb4.8,baz=0.7,slow=4.6,SNR=95
GERES GERESS Array B 76.89 3 P **P 21 09 23.1 +0.3**
GERES pmax pmax
comp=Z,9.0nm,0.6s
CDF Champ du Feu 76.98 8⇑*iP* **P 21 09 23.5 +0.2**
comp=Z,24nm,0.9s,mb4.8
CDF Champ du Feu 76.98 8⇑*iP* **P 21 09 23.5 +0.2**
CDF pmax pmax
comp=Z,12nm,0.9s,mb4.8
CDF Champ du Feu 76.98 8⇑*iP* **P 21 09 23.5 +0.2**
comp=Z,12nm,0.9s,mb4.8
THEF They Montfort 77.06 8 *eP* **P 21 09 23.9 +0.1**
UZH Uzhgorod 77.13 357⇓*iP* **P 21 09 24.4 +0.2**
UZH *eS* S 21 19 07.5 -2.1
UZH *eSS* SS 21 24 10.0 +3.8
BFO Black Forest 77.14 7 *eP* **P 21 09 24.3 +0.1**
BFO pmax pmax
comp=Z,22nm,0.9s,mb5.1
BFO Black Forest 77.14 7 *eP* **P 21 09 24.3 +0.1**
comp=Z,22nm,0.9s,mb5.1
ECH Echery 77.16 8 *eP* **P 21 09 24.1 -0.3**
KOLL Kolacno 77.24 360 *iP* **P 21 09 24.5 -0.3**
KOLL Kolacno 77.24 360 *iP* **P 21 09 24.5 -0.3**
LIBD Limburg 77.26 7 *eP* **P 21 09 25.3 +0.4**
HAU Haudompre 77.31 8⇑*iP* **P 21 09 25.2 0.0**
comp=Z,30nm,0.9s,mb4.9
HAU Haudompre 77.31 8⇑*iP* **P 21 09 25.2 0.0**
HAU pmax pmax
comp=Z,15nm,0.9s,mb4.9
HAU MLR MLR
comp=Z,780nm,23.0s,MS5.0
HAU Haudompre 77.31 8⇑*iP* **P 21 09 25.2 0.0**
comp=Z,15nm,0.9s,mb4.9
HAU LR LR
comp=Z,780nm,23.0s,MS5.0
VYHS Vyhne 77.32 360 *iP* **P 21 09 25.7 +0.5**
VYHS Vyhne 77.32 360 *iP* **P 21 09 25.7 +0.5**
SPAK Spaichingen-Ko 77.39 7 *eP* **P 21 09 25.4 -0.3**
MODS Modra-Piesok 77.44 1 *iP* **P 21 09 26.3 +0.4**
MODS pmax pmax
comp=Z,19nm,1.3s,mb4.9
MODS Modra-Piesok 77.44 1 *iP* **P 21 09 26.3 +0.4**
MODS Modra-Piesok 77.44 1 *iP* **P 21 09 26.3 +0.4**
comp=Z,19nm,1.3s,mb4.9
FUR Furstenfeldbru 77.47 5 *eP* **P 21 09 26.6 +0.5**
FUR pmax pmax
comp=Z,49nm,0.8s,mb5.5
FUR Furstenfeldbru 77.47 5 *eP* **P 21 09 26.5 +0.4**
comp=Z,49nm,0.8s,mb5.5
FUR Furstenfeldbru 77.47 5 *eP* **P 21 09 26.6 +0.5**
comp=Z,49nm,0.8s,mb5.5
MOF Molkenrain 77.52 8 *eP* **P 21 09 25.5 -0.9**
HINF Hinteralfeld 77.53 8⇑*iP* **P 21 09 26.3 -0.2**
comp=Z,26nm,1.0s,mb4.8
HINF Hinteralfeld 77.53 8⇑*iP* **P 21 09 26.3 -0.2**
HINF pmax pmax
comp=Z,13nm,1.0s,mb4.8
HINF Hinteralfeld 77.53 8⇑*iP* **P 21 09 26.3 -0.2**
comp=Z,13nm,1.0s,mb4.8
FELD Feldberg im Sc 77.56 7 *eP* **P 21 09 26.2 -0.4**
ZST Bratislava 77.61 1 *iP* **P 21 09 27.7 +0.8**
ZST pmax pmax
comp=Z,30nm,0.6s,mb5.4
ZST Bratislava 77.61 1 *iP* **P 21 09 27.7 +0.8**
ZST Bratislava 77.61 1 *iP* **P 21 09 27.7 +0.8**
comp=Z,30nm,0.6s,mb5.4
AGPR Aguadilla, PR 77.74 76 *eP* **P 21 09 27.4 -0.6**
LOR Lormes 77.81 10⇑*iP* **P 21 09 28.0 0.0**
comp=Z,24nm,0.9s,mb4.8
LOR Lormes 77.81 10⇑*iP* **P 21 09 28.0 0.0**
LOR pmax pmax
comp=Z,12nm,0.9s,mb4.8
LOR MLR MLR
comp=Z,730nm,22.0s,MS5.0
LOR Lormes 77.81 10⇑*iP* **P 21 09 28.0 0.0**
comp=Z,12nm,0.9s,mb4.8
LOR LR LR
comp=Z,730nm,22.0s,MS5.0
CONA Conrad Observa 77.87 2⇑*iP* **P 21 09 29.0 +0.8**
comp=Z,27nm,0.7s,mb5.3
CSNA Conrad Observa 77.87 2⇑*iP* **P 21 09 29.0 +0.7**
comp=Z,24nm,0.7s,mb5.2
PSZ Piszkesteto 77.89 359⇑*eP* **P 21 09 29.3 +0.9**
PSZ Piszkesteto 77.89 359⇑*iP* **P 21 09 29.2 +0.8**
PSZ Piszkesteto 77.89 359 *eP* **P 21 09 29.0 +0.5**
MOA Moiln 77.91 3⇑*iP* **P 21 09 28.7 +0.2**
comp=Z,6.1nm,0.7s,mb4.6
RJOB Jochberg 77.97 4 *eP* **P 21 09 29.2 +0.3**
comp=Z,79nm,0.7s,mb5.8
SSF Saint Saulge 77.97 10⇑*iP* **P 21 09 28.9 0.0**
comp=Z,36nm,1.0s,mb5.0

SSF Saint Saulge 77.97 10⇑*iP* **P 21 09 28.9 0.0**
SSF pmax pmax
comp=Z,18nm,1.0s,mb5.0
SSF Saint Saulge 77.97 10⇑*iP* **P 21 09 28.9 0.0**
comp=Z,18nm,1.0s,mb5.0
LOMF Lomont 78.00 8 *eP* **P 21 09 28.6 -0.4**
MFF Saint Martin d 78.00 13⇑*iP* **P 21 09 29.2 +0.1**
comp=Z,34nm,0.8s,mb5.0
MFF Saint Martin d 78.00 13⇑*iP* **P 21 09 29.2 +0.1**
MFF pmax pmax
comp=Z,17nm,0.8s,mb5.0
MFF Saint Martin d 78.00 13⇑*iP* **P 21 09 29.2 +0.1**
comp=Z,17nm,0.8s,mb5.0
BUR08 Bucovina Ar. S 78.01 355 *eP* **P 21 09 29.4 +0.3**
BURAR Bucovina Array 78.04 355⇑*iP* **P 21 09 29.6 +0.4**
BURAR Bucovina Array 78.04 355⇑P **P 21 09 29.6 +0.4**
IMP Imphal 78.06 296 *ex* **P 21 09 29.0 -0.8**
SOP Sopron 78.12 1⇑*eP* **P 21 09 30.4 +0.7**
AVF Avril sur Loir 78.23 10⇑*iP* **P 21 09 30.1 -0.2**
comp=Z,18nm,0.8s,mb4.7
AVF Avril sur Loir 78.23 10⇑*iP* **P 21 09 30.1 -0.2**
AVF pmax pmax
comp=Z,9.0nm,0.8s,mb4.8
AVF Avril sur Loir 78.23 10⇑*iP* **P 21 09 30.1 -0.2**
comp=Z,9.1nm,0.8s,mb4.8
MOTA Moosalm 78.28 5⇑*iP* **P 21 09 31.0 +0.4**
comp=Z,20nm,0.9s,mb5.1
TBI Tubuai 78.29 169 *eS* S 21 19 26.7 +4.3
comp=Z,832nm,31.5s
TBI Tubuai 78.29 169 *e*LR LR 21 33 44.8
comp=Z,2µm,29.8s,baz=353
WATA Walderalm 78.32 5⇓*iP* **P 21 09 31.4 +0.6**
comp=Z,33nm,1.1s,mb5.2
IAS Iasi 78.33 354 P **P 21 09 31.0 +0.2**
WTTA Wattenberg 78.39 5⇑*iP* **P 21 09 32.0 +0.7**
comp=Z,31nm,0.8s,mb5.3
BGF Bois d'Agland 78.40 11⇑*iP* **P 21 09 31.2 -0.1**
comp=Z,18nm,0.9s,mb4.7
BGF Bois d'Agland 78.40 11⇑*iP* **P 21 09 31.2 -0.1**
BGF pmax pmax
comp=Z,9.0nm,0.9s,mb4.7
BGF Bois d'Agland 78.40 11⇑*iP* **P 21 09 31.2 -0.1**
comp=Z,8.8nm,0.9s,mb4.7
SMF Signal de Mont 78.42 10⇑*iP* **P 21 09 31.2 -0.2**
comp=Z,38nm,1.0s,mb5.0
SMF Signal de Mont 78.42 10⇑*iP* **P 21 09 31.2 -0.2**
SMF pmax pmax
comp=Z,19nm,1.0s,mb5.0
SMF Signal de Mont 78.42 10⇑*iP* **P 21 09 31.2 -0.2**
comp=Z,19nm,1.0s,mb5.0
KIS Kishinev 78.43 353 *iP* **P 21 09 31.0 -0.4**
KIS Kishinev 78.43 353 *iP* **P 21 09 31.0 -0.4**
KIS *e*L 21 39 08.0
KIS LRM 21 50 16.0
comp=Z,700nm,17.0s
SHL Shillong 78.49 298 *ex* **P 21 09 32.0 -0.1**
ARSA Arzberg 78.54 2⇓*iP* **P 21 09 32.6 +0.6**
comp=Z,18nm,0.7s,mb5.1
FETA Feichten 78.59 5⇑*iP* **P 21 09 33.0 +0.7**
comp=Z,23nm,1.0s,mb5.1
TCF Toulx Ste Croi 78.60 11⇑*iP* **P 21 09 32.2 -0.2**
comp=Z,22nm,1.1s,mb4.7
TCF Toulx Ste Croi 78.60 11⇑*iP* **P 21 09 32.2 -0.2**
TCF pmax pmax
comp=Z,11nm,1.1s,mb4.7
TCF Toulx Ste Croi 78.60 11⇑*iP* **P 21 09 32.2 -0.2**
comp=Z,11nm,1.1s,mb4.7
KBA Koelnbreinsper 78.65 4⇑*iP* **P 21 09 33.7 +1.1**
comp=Z,44nm,1.1s,mb5.3
CABF La Chapelle 78.67 9⇑*iP* **P 21 09 33.2 +0.5**
comp=Z,38nm,1.0s,mb5.0
CABF La Chapelle 78.67 9⇑*iP* **P 21 09 33.2 +0.5**
CABF pmax pmax
comp=Z,19nm,1.0s,mb5.0
CABF La Chapelle 78.67 9⇑*iP* **P 21 09 33.2 +0.5**
comp=Z,19nm,1.0s,mb5.0
HUMP Col San Antoni 78.71 75 *eP* **P 21 09 33.1 -0.3**
CPD Cerro la Pandu 78.75 75 *eP* **P 21 09 32.9 -0.7**
CHRT Chiangrai 78.89 288 P **P 21 09 34.0 -0.4**
comp=Z,132nm,0.9s,mb5.9
MTP Monte Pirata 78.91 75 *eP* **P 21 09 34.0 -0.4**
AGO Saint Agoulin 78.93 11 *eP* **P 21 09 35.3 +1.1**
ABTA Abfaltersbach 78.95 4⇓*iP* **P 21 09 34.5 +0.2**
comp=Z,16nm,1.0s,mb4.9
DRGR 78.96 357⇑*iP* **P 21 09 34.6 +0.3**
DRGR 78.96 357 P **P 21 09 34.9 +0.5**
TUE Stuetta 79.05 6 *eP* **P 21 09 35.2 +0.4**
comp=Z,20nm,0.8s,mb5.1
PLDF La Plantade 79.07 10 *eP* **P 21 09 36.2 +1.3**
SOKA Soboth 79.10 2⇑*iP* **P 21 09 35.6 +0.5**
comp=Z,37nm,1.2s,mb5.2
OG05 Jujurieux 79.18 9 *eP* **P 21 09 35.9 +0.3**
PYM Petit Puy Mans 79.22 11 *eP* **P 21 09 36.3 +0.5**
OBKA Obir 79.25 3⇑*iP* **P 21 09 36.5 +0.5**
comp=Z,94nm,0.8s,mb5.7
RJF Les Rejaudoux 79.48 12⇑*iP* **P 21 09 37.0 -0.2**
comp=Z,17nm,1.0s,mb4.6
RJF Les Rejaudoux 79.48 12⇑*iP* **P 21 09 37.0 -0.2**
RJF pmax pmax
comp=Z,8.0nm,1.0s,mb4.6
RJF MLR MLR
comp=Z,700nm,23.0s,MS4.9
RJF Les Rejaudoux 79.48 12⇑*iP* **P 21 09 37.0 -0.2**
comp=Z,8.4nm,1.0s,mb4.6
RJF LR LR
comp=Z,700nm,23.0s,MS4.9
GUN Gumba 79.56 304 *eP* **P 21 09 38.3 +0.4**
comp=Z,185nm,0.9s,mb6.0
PKSM Moragy 79.61 360⇑*iP* **P 21 09 37.8 -0.1**
PKSM Moragy 79.61 360 P **P 21 09 38.0 +0.2**
JIRN Jiri 79.61 303 *eP* **P 21 09 38.9 +0.7**
comp=Z,321nm,0.6s,mb6.4
ODAN Odare 79.69 302 *eP* **P 21 09 38.6 -0.1**
comp=Z,54nm,0.6s,mb5.7
KIV Kislovodsk 79.70 342 P **P 21 09 39.8 +1.4**
comp=Z,723nm,0.7s,SNR=9.6
KIV Kislovodsk 79.70 342 *eP* **P 21 09 38.9 +0.5**
KIV pmax pmax
comp=Z,121nm,1.0s,mb5.8
KIV Kislovodsk 79.70 342⇓*iP* **P 21 09 39.0 +0.6**
KIV Kislovodsk 79.70 342 *eP* **P 21 09 38.7 +0.3**
VRI Vrincioaia 79.70 354⇓*iP* **P 21 09 38.8 +0.4**
VOY Vojsko 79.71 3 *eP* **P 21 09 37.8 -0.7**
PLOR Plostina 79.72 354⇓*iP* **P 21 09 38.9 +0.4**
LFF La Frestale 79.75 13⇑*iP* **P 21 09 38.7 0.0**
comp=Z,15nm,0.6s,mb4.7
LFF La Frestale 79.75 13⇑*iP* **P 21 09 38.7 0.0**
LFF pmax pmax
comp=Z,8.0nm,0.6s,mb4.8
LFF La Frestale 79.75 13⇑*iP* **P 21 09 38.7 0.0**
comp=Z,7.7nm,0.6s,mb4.8
LBL Lubilhac 79.75 11 *eP* **P 21 09 39.9 +1.2**
LPL La Plagne 79.81 8⇑*iP* **P 21 09 40.2 +1.2**
comp=Z,9.0nm,0.8s,mb4.4
LPL La Plagne 79.81 8⇑*iP* **P 21 09 40.2 +1.2**
LPL pmax pmax
comp=Z,5.0nm,0.8s,mb4.5
LPL La Plagne 79.81 8⇑*iP* **P 21 09 40.2 +1.2**
comp=Z,4.5nm,0.8s,mb4.5
LPG La Plagne 79.83 8⇑*iP* **P 21 09 40.5 +1.4**
comp=Z,9.9nm,0.9s,mb4.5
LPG La Plagne 79.83 8⇑*iP* **P 21 09 40.5 +1.4**
LPG pmax pmax
comp=Z,5.0nm,0.9s,mb4.4
LPG La Plagne 79.83 8⇑*iP* **P 21 09 40.5 +1.4**
comp=Z,4.9nm,0.9s,mb4.4
CAF Calviac 79.92 12⇑*iP* **P 21 09 39.6 0.0**
comp=Z,20nm,1.1s,mb4.7
CAF Calviac 79.92 12⇑*iP* **P 21 09 39.6 0.0**
CAF pmax pmax
comp=Z,10.0nm,1.1s,mb4.7
CAF Calviac 79.92 12⇑*iP* **P 21 09 39.6 0.0**
comp=Z,10nm,1.1s,mb4.7
KKN Kakani 79.95 304 *eP* **P 21 09 40.2 +0.2**
comp=Z,78nm,0.6s,mb5.8
SIM Simferopol' 79.97 349*deP* **P 21 09 40.9 +1.0**
SIM pmax pmax
comp=Z,23nm,0.8s,mb5.2
SIM MLR MLR
comp=Z,800nm,21.0s,MS5.0
GRN Grenoble 80.00 9 *eP* **P 21 09 40.3 +0.3**
RAMN Ramite 80.00 303 *eP* **P 21 09 40.3 -0.1**
comp=Z,192nm,0.7s,mb6.2
GDM Grand'Maison 80.07 9 *eP* **P 21 09 40.5 +0.1**
PKIN Phulchoki 80.07 304 *eP* **P 21 09 40.4 -0.3**
comp=Z,74nm,0.6s,mb5.8

GKN **Gorkha** 80.08 305 *e*P P 21 09 40.8 +0.1
comp=Z,128nm,0.8s,mb5.9
EPON **Pontenova** 80.08 19 P P 21 09 40.8 +0.3
comp=Z,9.5nm,0.6s,mb4.9
EMAZ **Mazaricos** 80.10 20 P P 21 09 40.6 0.0
comp=Z,13nm,0.8s,mb4.9
BZS **Buzias** 80.16 358⇑ *i*P P 21 09 41.2 +0.3
BZS **Buzias** 80.16 358 ⇑P P 21 09 41.2 +0.3
DMN **Daman** 80.18 304 *e*P P 21 09 41.7 +0.4
comp=Z,119nm,0.7s,mb5.9
CHTO **Chiang Mai** 80.20 289 *e*P P 21 09 39.7 -1.8
DANN **Dangsing** 80.20 306 *e*P P 21 09 42.1 +0.7
comp=Z,471nm,0.7s,mb6.5
TLCR 80.23 353⇑ *i*P P 21 09 41.7 +0.4
TLCR 80.23 353 ⇑P P 21 09 41.7 +0.4
STS **Santiago** 80.24 20 P P 21 09 42.7 +1.3
STS pmax pmax
comp=Z,14nm,1.0s,mb4.8
STS **Santiago** 80.24 20 P P 21 09 42.7 +1.3
comp=Z,14nm,1.0s,mb4.8
BNI **Bardonecchia** 80.27 8 *e*P P 21 09 43.0 +1.5
VIVF **Saint-Julien-l** 80.28 10⇑ *i*P P 21 09 41.8 +0.3
comp=Z,20nm,1.1s,mb4.7
VIVF **Saint-Julien-l** 80.28 10⇑ *i*P P 21 09 41.8 +0.3
VIVF pmax pmax
comp=Z,10.0nm,1.1s,mb4.7
VIVF **Saint-Julien-l** 80.28 10⇑ *i*P P 21 09 41.8 +0.3
comp=Z,10nm,1.1s,mb4.7
ORIF **Oris-en-Rattie** 80.33 9⇑ *i*P P 21 09 42.3 +0.5
comp=Z,9.1nm,0.7s,mb4.5
ORIF **Oris-en-Rattie** 80.33 9⇑ *i*P P 21 09 42.3 +0.5
ORIF pmax pmax
comp=Z,5.0nm,0.7s,mb4.5
ORIF **Oris-en-Rattie** 80.33 9⇑ *i*P P 21 09 42.3 +0.5
comp=Z,4.6nm,0.7s,mb4.5
GZR **Gura Zlata** 80.35 357⇑ *i*P P 21 09 42.6 +0.7
GZR **Gura Zlata** 80.35 357 ⇑P P 21 09 42.6 +0.6
EARI **Arriondas** 80.46 17 P P 21 09 43.2 +0.7
comp=Z,47nm,1.8s,mb5.1
CMAR **Chiang Mai Arr** 80.49 288 P P 21 09 42.8 -0.3
comp=Z,14nm,0.9s,mb4.9,baz=15,slow=5.3,SNR=63
CMAR **Chiang Mai Arr** 80.49 288 *i*P P 21 09 42.7 -0.4
CMAR pmax pmax
comp=Z,14nm,0.9s
OG22 **Abries** 80.52 8 *e*P P 21 09 43.9 +1.1
MBDF **Montbardon** 80.60 8⇑ *i*P P 21 09 44.5 +1.2
comp=Z,20nm,0.7s,mb4.9
MBDF **Montbardon** 80.60 8⇑ *i*P P 21 09 44.5 +1.2
MBDF pmax pmax
comp=Z,10.0nm,0.7s,mb4.8
MBDF **Montbardon** 80.60 8⇑ *i*P P 21 09 44.5 +1.2
comp=Z,9.8nm,0.7s,mb4.8
RKT **Rikitea** 80.68 155 *e*LR LR 21 35 02.2
comp=Z,2µm,31.0s,baz=344
KOLN **Koldanda** 80.77 305 *e*P P 21 09 44.5 +0.1
comp=Z,104nm,0.6s,mb5.9
HARR **Harsova** 80.79 353⇑ *i*P P 21 09 44.3 0.0
HARR **Harsova** 80.79 353 P P 21 09 44.3 0.0
ELAN **Lanestosa** 80.82 16 P P 21 09 44.7 +0.2
comp=Z,31nm,1.1s,mb5.2
SMLA **Simla** 80.83 312 *i*P P 21 09 44.9 +0.2
SMLA *ex* x 21 09 45.6
SMLA *ex* x 21 09 56.2
SMLA *ex* x 21 09 59.9
SURF **Saint Ours** 80.84 8 *e*P P 21 09 46.0 +1.4
ONI **Oni** 80.89 342 P P 21 09 45.5 +0.6
TIRR **Tirgusor** 80.99 353 *e*P P 21 09 45.2 -0.1
TIRR pmax pmax
comp=Z,60nm,0.8s,mb5.6
TIRR **Tirgusor** 80.99 353⇑ *i*P P 21 09 45.8 +0.5
TIRR **Tirgusor** 80.99 353 *e*P P 21 09 45.2 -0.2
comp=Z,60nm,0.8s,mb5.6
ERUA **La Rua** 80.99 19 P P 21 09 46.2 +0.8
ERUA pmax pmax
comp=Z,9.0nm,0.8s,mb4.8
ERUA **La Rua** 80.99 19 P P 21 09 46.2 +0.8
comp=Z,9.3nm,0.8s,mb4.8
EALK **Alkurruntz** 81.13 15 P P 21 09 45.0 -1.1
comp=Z,4.9nm,0.8s,mb4.5
SMRF **Simiane la Rot** 81.23 9⇑ *i*P P 21 09 47.6 +0.9
comp=Z,14nm,0.9s,mb4.6
SMRF **Simiane la Rot** 81.23 9⇑ *i*P P 21 09 47.6 +0.9
comp=Z,14nm,0.9s,mb4.9
SJPF **Ste Jean** 81.27 14⇑ *i*P P 21 09 46.7 -0.2
comp=Z,16nm,1.1s,mb4.5
SJPF **Ste Jean** 81.27 14⇑ *i*P P 21 09 46.7 -0.2
SJPF pmax pmax
comp=Z,8.0nm,1.1s,mb4.6
SJPF **Ste Jean** 81.27 14⇑ *i*P P 21 09 46.7 -0.2
comp=Z,7.8nm,1.1s,mb4.5
ELOB **Lobios** 81.32 20 P P 21 09 47.2 0.0
comp=Z,22nm,1.5s,mb4.9
GOR **Gori** 81.34 341 P P 21 09 48.2 +0.9
TOUF **Mont Tournerai** 81.34 8 *e*P P 21 09 47.8 +0.5
AUTN **L'Aution** 81.38 8 *e*P P 21 09 47.8 +0.4
LARF **Larrau** 81.38 14 *e*P P 21 09 47.6 +0.1
SAOF **Saorge** 81.40 8 *e*P P 21 09 47.8 +0.3
MVIF **Mont Vial** 81.45 8 *e*P P 21 09 47.9 +0.1
TBLG **Delisi** 81.47 340 P P 21 09 48.8 +0.9
LUCF **Luceram** 81.47 8 *e*P P 21 09 48.3 +0.4
MTA **Mtatsminda** 81.49 340 P P 21 09 48.8 +0.8
ECAL **Calabor** 81.50 19 P P 21 09 49.0 +0.9
comp=Z,4.5nm,0.7s,mb4.5
MTLF **Montolieu** 81.50 12⇑ *i*P P 21 09 48.2 +0.1
comp=Z,17nm,1.0s,mb4.6
MTLF **Montolieu** 81.50 12⇑ *i*P P 21 09 48.2 +0.1
MTLF pmax pmax
comp=Z,8.0nm,1.0s,mb4.6
MTLF **Montolieu** 81.50 12⇑ *i*P P 21 09 48.2 +0.1
comp=Z,8.3nm,1.0s,mb4.6
SBF **Sospel** 81.51 8⇑ *i*P P 21 09 48.3 +0.2
EPF **Esparros** 81.57 13⇑ *i*P P 21 09 48.0 -0.5
comp=Z,10nm,0.9s,mb4.4
EPF **Esparros** 81.57 13⇑ *i*P P 21 09 48.0 -0.5
EPF pmax pmax
comp=Z,5.0nm,0.9s,mb4.4
EPF **Esparros** 81.57 13⇑ *i*P P 21 09 48.0 -0.5
comp=Z,5.1nm,0.9s,mb4.5
CALN **Calern** 81.58 8 *e*P P 21 09 48.3 -0.2
ETSF **Etsaut** 81.58 14⇑ *i*P P 21 09 49.1 +0.6
comp=Z,17nm,0.9s,mb4.7
ETSF **Etsaut** 81.58 14⇑ *i*P P 21 09 49.1 +0.6
ETSF pmax pmax
comp=Z,9.0nm,0.9s,mb4.7
ETSF **Etsaut** 81.58 14⇑ *i*P P 21 09 49.1 +0.6
comp=Z,8.6nm,0.9s,mb4.7
DGRG **David-gareji** 81.61 340 P P 21 09 49.8 +1.1
REVF **Revere** 81.63 8 *e*P P 21 09 48.8 +0.1
PBRG **Braganca** 81.63 19 *e*P P 21 09 49.5 +0.7
comp=Z,51nm,1.8s,mb5.2
TAVF **Tavernes** 81.64 9 *e*P P 21 09 49.2 +0.4
VIEF **Viey** 81.67 14 *e*P P 21 09 49.5 +0.5
DIVS **Divibare** 81.71 359 P P 21 09 49.4 +0.2
MLS **Moulis** 81.74 13 *e*P P 21 09 49.1 -0.3
FRF **La Foret Royal** 81.74 9⇑ *i*P P 21 09 49.6 +0.2
comp=Z,25nm,1.1s,mb4.8
FRF **La Foret Royal** 81.74 9⇑ *i*P P 21 09 49.6 +0.2
FRF pmax pmax
comp=Z,12nm,1.1s,mb4.7
FRF **La Foret Royal** 81.74 9⇑ *i*P P 21 09 49.6 +0.2
comp=Z,12nm,1.1s,mb4.8
ABKT **Ailbek** 81.75 329 P P 21 09 50.0 +0.5
comp=Z,473nm,0.9s,mb6.4,SNR=15
RESF **Ens** 81.79 13 *e*P P 21 09 50.1 +0.5
EBIE **Bielsa** 81.88 13 P P 21 09 50.6 +0.5
comp=Z,21nm,1.2s,mb4.9
PTO **Porto** 81.91 20 *e*P P 21 09 51.1 +0.8
comp=Z,55nm,1.6s,mb5.2
LRDF **Laroque-de-Fa** 81.94 12 *e*P P 21 09 50.3 -0.1
LMR **La Mourre** 81.96 9⇑ *i*P P 21 09 50.8 +0.3
comp=Z,14nm,1.0s,mb4.6
LMR **La Mourre** 81.96 9⇑ *i*P P 21 09 50.8 +0.3
comp=Z,7.2nm,1.0s,mb4.6
PVRL **Vila Real** 81.96 20 *e*P P 21 09 51.4 +0.9
comp=Z,58nm,1.7s,mb5.2
MVO **Moncorvo** 82.20 19 *e*P P 21 09 52.5 +0.7
comp=Z,49nm,1.6s,mb5.2
MVO *e*LR LR 21 37 45.3
comp=Z,465nm,20.0s
PRD **Provadia** 82.31 353 P P 21 09 52.9 +0.6
DBOC **Borcka** 82.41 343 *i*P P 21 09 45.1 -7.8
PVIS **Viseu** 82.46 20 *e*P P 21 09 54.1 +0.9
comp=Z,86nm,1.3s,mb5.5
ARTV **Artvin** 82.52 342 *i*P P 21 09 54.0 +0.5
DAGI **Agillar** 82.62 342 *i*P P 21 09 51.8 -2.2
DBAD **Bademkaya** 82.72 342 *i*P P 21 09 53.8 -0.7
ESAC **San Caprasio** 82.75 14 P P 21 09 56.5 +1.8
comp=Z,19nm,0.9s,mb5.1
DDEM **Demirkent** 82.83 342 *i*P P 21 09 55.7 +0.6
MTE **Manteigas** 82.84 20 *e*P P 21 09 55.8 +0.7
comp=Z,73nm,1.5s,mb5.5
MTE *e*LR LR 21 37 53.9
comp=Z,392nm,20.0s
MTE **Manteigas** 82.84 20 *e*P P 21 09 55.9 +0.7
PGF **Pioggiola** 82.94 7⇑ *i*P P 21 09 56.0 +0.4
comp=Z,32nm,0.9s,mb5.1
PGF **Pioggiola** 82.94 7⇑ *i*P P 21 09 56.0 +0.4
comp=Z,16nm,0.9s,mb5.0
GNI **Garni** 82.99 340 *c i*P P 21 09 56.9 +1.0
GNI pmax pmax
comp=Z,25nm,1.0s
GNI **Garni** 82.99 340 *e*P P 21 09 57.4 +1.5
DIGO **Kars** 83.00 341 *i*P P 21 09 55.9 0.0
VTS **Vitosha** 83.14 356 P P 21 09 56.2 -0.4
GUD **Guadarrama** 83.22 17 P P 21 09 57.8 +0.7
GUD pmax pmax
comp=Z,8.0nm,0.7s,mb4.9
GUD **Guadarrama** 83.22 17 P P 21 09 57.8 +0.7
comp=Z,8.1nm,0.7s,mb4.9
EPOB **Poblet** 83.32 13 P P 21 09 57.6 0.0
comp=Z,19nm,1.0s,mb5.1
GRSN **GIRESUNGRSN** 83.37 345 *i*P P 21 09 57.0 -0.9
PCBR **Castelo Branco** 83.39 20 *e*P P 21 09 58.3 +0.3
comp=Z,60nm,1.0s,mb5.6
ETOR **Torete** 83.39 15 P P 21 09 58.5 +0.5
ETOR pmax pmax
comp=Z,8.0nm,1.0s,mb4.7
ETOR **Torete** 83.39 15 P P 21 09 58.5 +0.4
comp=Z,8.4nm,1.0s,mb4.7
PTOM **Tomar** 83.42 21 *e*P P 21 09 58.6 +0.5
comp=Z,82nm,1.2s,mb5.6
PLD **Plovdiv** 83.56 355 P P 21 09 58.9 +0.1
PLD **Plovdiv** 83.56 355 P P 21 09 58.6 -0.2
ERTA **Horta de San J** 83.61 14 P P 21 10 00.4 +1.3
comp=Z,34nm,1.4s,mb5.3
PMRV **Marv??o** 83.81 20 *e*P P 21 10 00.7 +0.6
comp=Z,46nm,1.3s,mb5.5
PMRV *e*LR LR 21 38 51.4
comp=Z,312nm,18.0s
SKO **Skopje** 83.81 358 P P 21 10 01.3 +1.2
ILGA **Ilgaz** 83.86 348 *i*P P 21 10 00.6 +0.2
ERZM **Erzurum** 83.86 342 *i*P P 21 10 01.7 +1.3
KKB **Krupnik** 83.86 356 P P 21 10 00.0 -0.4
PMAFR **Mafra** 83.87 21 *e*P P 21 10 01.0 +0.5
comp=Z,135nm,1.0s,mb6.0
PMAFR *e*LR LR 21 39 11.1
comp=Z,514nm,22.0s
RZN **Rozhen** 83.97 355 P P 21 10 01.6 +0.6
EMOS **Mosqueruela** 84.08 14 P P 21 10 01.7 +0.2
comp=Z,30nm,1.1s,mb5.3
CTKT **Corum** 84.15 348 *i*P P 21 10 02.6 +0.7
ESDC **Sonseca Array** 84.20 17 P P 21 10 02.7 +0.5
comp=Z,13nm,0.9s,mb5.0,baz=346,slow=4.8,SNR=34
ESDC **Sonseca Array** 84.20 17 P P 21 10 02.3 +0.2
comp=Z,10.0nm,0.8s,mb5.0
ESLA **Sonseca Array** 84.20 17 *e*P P 21 10 02.5 +0.4
PAB **San Pablo** 84.26 17 *e*P P 21 10 01.1 -1.3
PAB pmax pmax
comp=Z,10.0nm,0.8s,mb5.0
PAB **San Pablo** 84.26 17 *e*P P 21 10 01.1 -1.3
comp=Z,10nm,0.8s,mb5.0
PESTR **Estremoz** 84.31 20 *e*P P 21 10 02.9 +0.2
comp=Z,38nm,1.2s,mb5.4
PESTR *e*LR LR 21 37 48.1
comp=Z,395nm,20.0s
HENT **Hendek** 84.39 350 *i*P P 21 10 01.8 -1.3
TIR **Tirane** 84.46 359 P P 21 10 00.6 -2.8
TIR pmax pmax
comp=Z,46nm,0.8s,mb5.7
TIR **Tirane** 84.46 359 P P 21 10 00.6 -2.8
comp=Z,46nm,0.8s,mb5.7
EBAD **Badajoz** 84.53 20 P P 21 10 03.1 -0.7
comp=Z,15nm,0.9s,mb5.1
EVO **Evora** 84.55 20⇑ *i*P P 21 10 03.7 -0.2
comp=Z,36nm,1.2s,mb5.1
EVO **Evora** 84.55 20 *e*P P 21 10 04.3 +0.4
comp=Z,37nm,1.6s,mb5.3
KNT **Kendrikon** 84.57 357 P P 21 10 04.7 +0.7
ALN **Alexandroupoli** 84.69 354 P P 21 10 04.6 0.0
GRG **Griva** 84.80 357 P P 21 10 05.8 +0.7
SOH **Sokhos** 84.90 356 P P 21 10 05.0 -0.6
FNA **Florina** 85.00 358 P P 21 10 05.7 -0.4
PBEJ **Beja** 85.06 21 *e*pP pP 21 10 16.2 -3.3
PBAR **Barrancos** 85.09 20 *e*P P 21 10 06.6 0.0
comp=Z,44nm,1.6s,mb5.3
PBAR *e*LR LR 21 39 10.4
comp=Z,425nm,20.0s
ETOS **Mallorca** 85.10 12 P P 21 10 08.7 +2.0
comp=Z,30nm,0.9s,mb5.4
ANTO **Ankara** 85.13 349 *e*P P 21 10 07.4 +0.6
ANTO pmax pmax
comp=Z,56nm,0.8s,mb5.8
ANTO **Ankara** 85.13 349 ||*i*P P 21 10 08.4 +1.6
ANTO **Ankara** 85.13 349 *e*P P 21 10 07.4 +0.5
comp=Z,56nm,0.8s,mb5.8
BR131 **Keskin Array S** 85.18 348 *e*P P 21 10 07.7 +0.6
CDAG **Cicekdag** 85.19 348 *i*P P 21 10 07.0 -0.1
ULDT **Uludag** 85.22 352 *i*P P 21 10 07.7 +0.5
OUR **Ouranopolis** 85.36 356 P P 21 10 07.8 -0.2
EMIN **Mina Concepcio** 85.55 20 P P 21 10 08.3 -0.7
comp=Z,10.0nm,1.2s,mb4.9
EADA **Adamuz** 85.56 18 P P 21 10 08.9 0.0
comp=Z,4.5nm,0.8s,mb4.8
MORF **Marmelete** 85.59 21 *e*pP pP 21 10 18.6 -3.5
ETOB **Tobarra** 85.60 16 P P 21 10 14.1 +4.9
comp=Z,15nm,1.1s,mb5.1
EGRO **El Granado** 85.62 20 P P 21 10 08.5 -0.8
comp=Z,24nm,1.2s,mb5.3
LIT **Litokhoron** 85.65 357 P P 21 10 09.1 -0.3
ESKT **Eskisehir** 85.68 350 *i*P P 21 10 07.6 -1.9
PVAQ **Vaqueiros** 85.69 21 *e*P P 21 10 10.3 +0.6
comp=Z,56nm,1.5s,mb5.6
PVAQ *e*LR LR 21 39 12.9
comp=Z,461nm,22.0s
HAKT **HAKKARI** 85.70 340 *i*P P 21 10 10.4 +0.7
EBAN **Banos Encina** 85.70 17 P P 21 10 10.7 +1.0
EBAN pmax pmax
comp=Z,1.0nm,0.6s,mb4.2
EBAN **Banos Encina** 85.70 17 P P 21 10 10.7 +1.0
comp=Z,1.2nm,0.6s,mb4.3
PFVI **Vila Bisbo** 85.72 21 *e*LR LR 21 40 26.5
comp=Z,796nm,22.0s
CUC **Cascrucoco** 85.80 2 *e*P P 21 10 09.1 -1.1
comp=Z,52nm,1.0s,mb5.7
PBDV **Barranco-do-Ve** 85.81 21 *e*pP pP 21 10 19.9 -3.3
PBDV *e*LR LR 21 40 07.6
comp=Z,717nm,22.0s
DURS **Dursunbey** 85.81 352 *i*P P 21 10 08.5 -1.8
BEST **Besiri** 85.84 342 *i*P P 21 10 12.2 +1.8
MALT **Malatya** 85.90 344⇑ *i*P P 21 10 13.4 +2.7
MALT **Malatya** 85.90 344 ⇑P P 21 10 13.4 +2.7
MEV **Metsovon** 86.00 358 P P 21 10 12.3 +1.2
VSL **Villasalto** 86.00 7 *e*P P 21 10 11.0 -0.2
AKCD **Akcadag** 86.00 345 *i*P P 21 10 11.8 +0.6
KEK **Kerkira** 86.09 359 *e*Pb P 21 10 11.6 0.0
KEK **Kerkira** 86.09 359 *e*PB P 21 10 11.6 0.0
JAN **Janina** 86.13 358 *e*Pg P 21 10 12.5 +0.7
JAN **Janina** 86.13 358 *e*PG P 21 10 12.5 +0.7
THL **Klokotos Trika** 86.20 357 P P 21 10 10.4 -1.7
IGT **Igoumenitsa** 86.27 358 P P 21 10 12.5 0.0
MARD **Mardin** 86.48 342 *i*P P 21 10 13.7 +0.2
ESPR **Espera** 86.58 19 P P 21 10 13.7 -0.4
comp=Z,23nm,1.7s,mb5.1
TIP **Timpagrande** 86.62 1 *e*P P 21 10 14.5 +0.2
ELOJ **Sierra Loja** 86.62 18 P P 21 10 15.1 +0.8
ELOJ pmax pmax
comp=Z,8.0nm,0.8s,mb5.0
ELOJ **Sierra Loja** 86.62 18 P P 21 10 15.1 +0.9
comp=Z,7.7nm,0.8s,mb5.0
CTAO **Charters Tower** 86.64 228 *e*P P 21 10 13.4 -1.0
EVR **Evrytania** 86.85 357 *e*Pb P 21 10 15.7 +0.4
EVR **Evrytania** 86.85 357 *e*PB P 21 10 15.7 +0.4
KAKA **Kakadu** 86.90 243 *e*PKP P 21 10 14.6 -1.2
comp=Z,10nm,0.6s,mb5.2
MANT **Manisa** 86.91 352 *i*P P 21 10 14.6 -1.1
ANDN **Andirin** 86.94 346 *i*P P 21 10 15.9 +0.1
GZT **Gaziantep** 86.98 345 *i*P P 21 10 15.6 -0.4
DNZL **Cakiroluk** 87.66 352 *i*P P 21 10 13.8 -5.5
KEST **Kesra** 89.74 7 P P 21 10 29.6 +0.4
comp=Z,1.7nm,0.8s,mb4.4,baz=268,slow=9.0,SNR=4.8
CSS **Prodhromos** 89.91 348 *e*P P 21 10 30.1 +0.2
comp=Z,10nm,0.7s,mb5.3
HYB **Hyderabad** 91.99 304 *i*P P 21 10 39.0 -0.8
HYB **Hyderabad** 91.99 304 *e*P P 21 10 39.0 -0.8
WB2 **Warramunga Arr** 92.04 238 *e*PKP P 21 10 38.7 -1.1
WRA **Warramunga Arr** 92.05 238 P P 21 10 38.5 -1.3
comp=Z,1.5nm,0.8s,mb4.4,baz=34,slow=6.0,SNR=13
WRA **Warramunga Arr** 92.05 238 P P 21 10 38.5 -1.3
WRA pmax pmax
comp=Z,2.0nm,0.8s
MIB **Mutribah** 92.35 335 *e*P P 21 10 41.1 -0.2
baz=335
MIB AMb AMB 21 10 51.2
comp=Z,176nm,0.7s,mb6.5,baz=335
UMR **Umm Al-Rimmam** 92.50 335 *e*P P 21 10 41.1 -0.9
baz=335
UMR AMb AMB 21 10 53.0
comp=Z,97nm,1.3s,mb6.0,baz=335
KBD **Kabd** 92.86 335 *e*P P 21 10 42.7 -1.0
baz=335
RDF **Al-Radifah** 93.14 335 *e*P P 21 10 44.9 -0.1
baz=335
RDF AMb AMB 21 10 56.3
comp=Z,86nm,1.3s,mb6.0,baz=335
FITZ **Fitzroy Crossi** 94.97 246 *e*PKP P 21 10 51.2 -2.1
comp=Z,2.7nm,0.5s,mb4.9
ASAR **Alice Springs** 95.41 236 P P 21 10 54.4 -0.9
comp=Z,1.3nm,0.8s,mb4.4,baz=30,slow=5.9,SNR=9.4
ASAR PKKP PKKPbc 21 27 46.0 +0.4
comp=Z,0.6nm,0.5s,baz=211,slow=2.1,SNR=12
ASAR **Alice Springs** 95.41 236 P P 21 10 54.4 -0.8
ASAR pmax pmax
comp=Z,1.0nm,0.8s
ASAR pmax pmax
comp=Z,1.0nm,0.5s
KMBO **Kilima Mbogo** 124.53 337 PKP PKPdf 21 16 30.8 +0.5
comp=Z,4.0nm,0.9s,baz=23,slow=4.7,SNR=8.9
KMBO **Kilima Mbogo** 124.53 337 PKIKP PKPdf 21 16 30.8 +0.5
KMBO pmax pmax
comp=Z,4.0nm,0.9s
KMBO **Kilima Mbogo** 124.53 337 *e*PKPdf PKPdf 21 16 31.4 +1.2
LSZ **Lusaka** 140.06 345 *e*PKIKP PKPdf 21 16 59.9 +0.6
QSPA **South Pole Qui** 144.33 180 PKP PKPdf 21 17 02.4 -2.6
comp=Z,4.5nm,0.5s,baz=277,slow=0.2,SNR=38
QSPA **South Pole Qui** 144.33 180 PKP PKPdf 21 17 02.4 -2.6
comp=Z,21nm,0.8s,baz=346,slow=5.4,SNR=60
TSUM **Tsumeb** 144.70 1 PKP PKPdf 21 17 05.8 -1.6
comp=Z,21nm,0.8s,baz=346,slow=5.4,SNR=60
TSUM **Tsumeb** 144.70 1 *e*PKPdf PKPdf 21 17 05.2 -2.3
VNA3 **Neumayer Olymp** 159.30 155 *e*PKPdf PKPdf 21 17 27.0 -0.5
VNA3 *e* 21 17 40.7
VNA3 *e* 21 18 12.2
VNA1 **Neumayer--Stat** 160.04 154 *e*PKPdf PKPdf 21 17 27.8 -0.5
VNA1 *e* 21 17 42.1
VNA1 *e* 21 18 14.8
VNA2 **Neumayer--Watz** 160.07 155 *e*PKPdf PKPdf 21 17 27.4 -0.9
VNA2 *e* 21 17 42.1
VNA2 *e* 21 18 13.2

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*IDC **02** 20:57:37.4±0.4, 54.52N×161.73W, h0km, mb5.1/31, mb1 5.2/32, mb1mx5.2/35, mbtmp5.1/32, ML5.1/1, Error ellipse: s-maj=16.2km s-min=9.8km az=179.0*
*ISCJB **02** 20:57:40.5±0.2, 54.42N±0.05×161.61W±0.05, h33km, mb5.1/82, MS4.6/8, Error ellipse: s-maj=7.4km s-min=3.7km az=174.8*

ISC 02 20:57:42.6±0.2, 5445N±005×16163W±004, h35km, n338, σ0:78/322, mb5.1/82, MS4.6/8, 39C, Alaska Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time		Res
				Op	ISC	h m s		ISC
FALS	**False Pass**	1.12	292	P	Pn	20 57 55.8		-5.9
KDAK	**Kodiak Island**	6.07	53	Pn	Pn	20 59 07.2		-2.5
	52nm,0.3s,baz=277,slow=7.0,SNR=22							
GAMB	**Gambell**	10.68	335	*e*P	Pn	21 00 15.2		+2.4
DAWY	**Dawson**	14.82	41	*e*	Pn	21 01 08.4		-0.8
BILL	**Bilibino**	20.25	325	*i*	P	21 02 19.4		+5.0
PET	**Petropavlovsk**	23.33	283	*e*	P	21 02 47.0		-0.4
PEA0B	**Petropavlovsk-**	23.84	284	*e*	P	21 02 52.4		+0.2
PETK	**Petropavlovsk-**	23.84	284	P	P	21 02 52.4		+0.2
	134nm,0.4s,mb5.8,baz=80,slow=13,SNR=87							
YKA	**Yellowknife Ar**	25.34	53	P	P	21 03 06.8		+1.0
	21nm,0.8s,mb4.8,baz=270,slow=8.0,SNR=22							
YKA				PcP	PcP	21 06 36.4		-1.0
	7.3nm,0.6s,baz=276,slow=2.0,SNR=7.3							
YKA				ScP	ScP	21 10 14.4		+0.8
	4.5nm,1.1s,baz=261,slow=2.7,SNR=4.3							
YKA	**Yellowknife Ar**	25.34	53	P	P	21 03 06.8		+1.0
YKA						21 06 36.4		
YKA				pmax	pmax			
	comp=Z,21nm,0.8s							
YKA				pmax	pmax			
	comp=Z,7.0nm,0.6s							
YKA				pmax	pmax			
	comp=N,5.0nm,1.1s							
YKA	**Yellowknife Ar**	25.34	53	ScP	ScP	21 10 14.4		+0.8
SKR	**Severo-Kuril's**	25.67	279	*e*	P	21 03 10.5		+1.7
OD2	**Odessa Site #2**	27.60	87	*e*	P	21 03 25.8		-0.5
RSW	**Rattlesnake Hi**	27.61	89	*e*	P	21 03 28.1		+1.8
HAWA	**Hanford**	27.65	89	*e*	P	21 03 27.9		+1.2
YBH	**Yreka Blue Hor**	28.55	100	P	P	21 03 36.7		+1.9
	comp=N,6.2nm,0.8s,mb4.4,baz=300,slow=5.3,SNR=11							
NVAR	**Mina Array Bea**	33.27	101	P	P	21 04 17.4		+1.0
	comp=N,9.1nm,0.8s,mb4.8,baz=295,slow=9.2,SNR=12							
NVAR				PcP	PcP	21 06 58.1		+0.2
	comp=N,2.2nm,0.6s,baz=282,slow=3.3,SNR=4.9							
FFC	**Flin Flon**	33.66	65	*e*	P	21 04 19.5		-0.1
HVU	**Hansel Valley**	34.29	91	*e*	P	21 04 25.9		+0.7
PDAR	**Pinedale Array**	35.56	87	P	P	21 04 36.8		+0.6
	comp=N,2.9nm,0.6s,mb4.4,baz=313,slow=4.7,SNR=6.3							
ASAJ	**Asahikawa**	36.90	277	P	P	21 04 47.1		-0.5
	comp=N,13nm,0.7s,mb4.8,baz=206,slow=3.1,SNR=10.0							
ASAJ	**Asahikawa**	36.90	277	P	P	21 04 47.0		-0.6
ERM	**Erimo**	37.85	274	P	P	21 04 56.3		+0.6
	comp=N,409nm,0.5s,SNR=6.3							
ERM	**Erimo**	37.85	274	*e*	P	21 04 55.7		0.0
JEM	**Erimo**	37.85	274	P	P	21 04 55.7		0.0
HABR	**Khabarovsk**	38.70	288	*e*P	P	21 05 02.2		-0.5
HABR				*e*		21 06 32.7		
HABR				*e*S	S	21 10 57.1		+0.1
HABR				*e*		21 14 06.7		
HABR				*e*		21 15 08.8		
GLA	**Glamis**	39.07	104	*e*P	P	21 05 07.4		+1.4
ULM	**Lac du Bonnet**	39.08	68	P	P	21 05 05.7		-0.2
	comp=N,28nm,0.6s,mb5.2,baz=305,slow=8.5,SNR=16							
JSH	**Shimam**	39.27	277	P	P	21 05 07.3		-0.3
JOT	**Ohata**	39.48	275	P	P	21 05 07.4		-1.9
CLNS	**Chul'man**	39.70	304	*e*P	P	21 05 10.4		-0.6
CLNS				pmax	pmax			
	comp=N,16nm,0.7s							
CLNS				pmax	pmax			
	comp=Z,32nm,0.9s,mb5.0							
CLNS				pmax	pmax			
	comp=E,29nm,0.9s							
CLNS				MLR	MLR			
	comp=Z,536nm,18.0s,MS4.4							
CLNS				MLR	MLR			
	comp=E,399nm,18.0s,MS4.4							
CLNS				MLR	MLR			
	comp=N,212nm,14.0s,MS4.4							
CLNS				MLR	MLR			
	comp=Z,265nm,17.0s							
CLNS				MLR	MLR			
	comp=N,189nm,16.0s							
CLNS				MLR	MLR			
	comp=E,131nm,13.0s							
KLR	**Kul'dur**	40.10	291	*e*	P	21 05 09.8		-4.6
AGMN	**Agassiz Refuge**	40.16	71	*e*	P	21 05 14.4		-0.5
JYA	**Atsumi**	42.07	273	X	P	21 05 29.8		-0.9
LAZ	**Ladron**	42.52	95	*e*	P	21 05 37.7		+3.2
ANMO	**Albuquerque**	42.53	94⇑	*i*P	P	21 05 37.6		+3.1
EYMN	**Ely**	42.75	69	*e*	P	21 05 35.5		-0.6
JSD	**Sado**	43.29	273	X	P	21 05 40.3		-0.3
BOD	**Bodaibo**	44.24	310	*e*	P	21 05 46.4		-1.6
JRY	**Ryogami san**	44.30	271	X	P	21 05 49.3		+0.6
MAJO	**Matsushiro**	44.34	272	*e*	P	21 05 48.9		-0.1
MAT	**Matsushiro**	44.34	272	X	P	21 05 48.5		-0.5
MJAR	**Matsushiro Arr**	44.34	272	P	P	21 05 48.8		-0.3
	comp=E,11nm,0.5s,mb4.8,baz=37,slow=7.2,SNR=32							
JOD2	**Odawara 2**	44.71	270	X	P	21 05 51.6		-0.4
COWI	**Conover**	45.15	69	*e*	P	21 05 53.0		-2.4
JWT	**Wachi**	46.85	273	X	P	21 06 09.2		+0.3
SPITS	**Spitsbergen Ar**	47.63	1	P	P	21 06 13.7		-0.8
	comp=E,14nm,0.7s,mb5.1,baz=51,slow=5.5,SNR=8.6							
SPITS				PcP	PcP	21 07 43.4		-0.1

comp=E,6.0nm,0.5s,baz=28,slow=3.8,SNR=8.0
JAD Aida 47.81 273 X **P 21 06 16.4 0.0**
JWZ Kozaga 47.90 271 P **P 21 06 17.6 +0.5**
TXAR Lajitas Array 48.23 97 P **P 21 06 19.3 -0.4**
comp=E,4.6nm,0.6s,mb4.7,baz=284,slow=5.5,SNR=16
TXAR PcP PcP 21 07 47.2 +0.8
comp=E,3.1nm,0.5s,baz=233,slow=1.1,SNR=10
JHS Saijyo 48.38 274 X **P 21 06 20.6 -0.2**
SFJD Kangerlussuaq 48.39 29 P **P 21 06 20.4 0.0**
comp=E,62nm,0.7s,mb5.7,baz=301,slow=9.5,SNR=12
SFJD Kangerlussuaq 48.39 29 *i* **P 21 06 20.6 +0.2**
SFJD Kangerlussuaq 48.39 29 *i* **P 21 06 20.6 +0.2**
HDIL Hopedale 48.64 75 *e* **P 21 06 21.6 -1.2**
JMN Monobe 48.84 272 P **P 21 06 25.3 +1.0**
CBIJ Chichi jima 48.89 259 P **P 21 06 25.4 +0.6**
comp=E,50nm,0.6s,mb5.7,baz=304,slow=20,SNR=6.8
KSRS Korea Array 49.68 280 P **P 21 06 31.1 +0.5**
comp=E,37nm,0.6s,mb5.6,baz=47,slow=7.1,SNR=60
FVM French Village 49.75 79 *e**PP **P 21 06 30.5 -0.7**
INCN Inchon 50.40 281 *e* **P 21 06 36.7 +0.5**
OLIL Olney 50.56 76 *e* **P 21 06 36.8 -0.6**
SIUC Southern Illin 50.62 78 *e* **P 21 06 37.0 -0.8**
SCHQ Schefferville 50.67 48 P **P 21 06 39.0 +1.0**
comp=E,39nm,0.9s,mb5.3,baz=334,slow=9.3,SNR=13
JTU Tsushima 50.88 277 P **P 21 06 39.7 -0.1**
JNU Nakatsue 51.02 274 P **P 21 06 41.0 +0.1**
BLO Bloomington 51.15 75 *e* **P 21 06 41.1 -0.7**
USIN University of 51.34 77 *e* **P 21 06 42.7 -0.5**
IRK Irkutsk 52.09 309⥣*i*P **P 21 06 48.3 -0.3**
IRK pmax pmax
comp=Z,74nm,1.6s,mb5.4
JFU Fukue jima 2 52.59 275 P **P 21 06 52.6 0.0**
ERPA Erie 52.73 68 *e*pP **P 21 06 53.4 -0.1**
TLY Talaya 52.76 309 *e* **P 21 06 53.7 +0.1**
TLY Talaya 52.76 309 *e* **P 21 06 53.2 -0.4**
ALLY Alegheny Colle 52.97 68 *e* **P 21 06 54.8 -0.6**
ULN Ulaanbaatar 53.77 303 *e* **P 21 07 00.8 -0.3**
MOY Mondy 53.96 310 *e*P **P 21 07 02.9 +0.5**
MOY pmax pmax
comp=Z,54nm,2.9s,mb5.0
SONM Songino Array 54.11 304 P **P 21 07 04.0 +0.5**
comp=Z,30nm,0.8s,mb5.3,baz=46,slow=6.8,SNR=42
SONM PcP PcP 21 08 08.5 +0.6
comp=Z,16nm,0.7s,baz=79,slow=2.0,SNR=12
SONM ScP ScP 21 12 07.0 +4.0
comp=Z,1.9nm,1.0s,baz=60,slow=3.6,SNR=4.3
SONM Songino Array 54.11 304 P **P 21 07 04.0 +0.5**
SONM pmax pmax
comp=Z,30nm,0.8s
SONM pmax pmax
comp=Z,16nm,0.7s
SONM pmax pmax
comp=N,2.0nm,1.0s
SONM Songino Array 54.11 304 ScP ScP 21 12 07.0 +4.0
BJT Baijiatuau 54.50 291 *e* **P 21 07 06.3 -0.2**
BJT Baijiatuau 54.50 291 *e* **P 21 07 06.3 -0.2**
NCB Newcomb 54.50 62 *e* **P 21 07 04.6 -1.8**
MCWV Mont Chateau 54.52 70 *e* **P 21 07 05.7 -1.0**
TZTN Tazewell 54.66 75 *e* **P 21 07 06.8 -0.9**
BINY Binghamton 54.82 65 *e* **P 21 07 08.2 -0.6**
SSPA Standing Stone 54.90 68 *e* **P 21 07 08.6 -0.7**
TKL Tuckaleechee C 55.17 76 *e* **P 21 07 10.1 -1.3**
ELN Prospectdale 55.74 72 *e* **P 21 07 14.5 -1.0**
BLA Blacksburg 55.94 72 *e* **P 21 07 16.1 -0.8**
BLA Blacksburg 55.94 72 *e* **P 21 07 16.1 -0.8**
ARCES ARCESS Array B 56.22 357 P **P 21 07 17.6 -0.9**
comp=N,18nm,0.7s,mb5.2,baz=19,slow=8.1,SNR=24
ARCES PcP PcP 21 08 15.8 +0.2
comp=N,22nm,0.8s,baz=5.7,slow=6.1,SNR=7.3
ARCES ARCESS Array B 56.22 357 P **P 21 07 17.6 -0.8**
ARCES 21 08 15.9
ARCES pmax pmax
comp=Z,18nm,0.7s
ARCES pmax pmax
comp=Z,22nm,0.8s
ARCES ARCESS Array B 56.22 357 PcP PcP 21 08 15.8 +0.2
ARE0 ARCESS Array S 56.22 357 *e* **P 21 07 17.4 -1.0**
SDMD Soldier's Deli 56.34 68 *e* **P 21 07 18.6 -1.1**
WES Weston 57.12 62 *e* **P 21 07 24.7 -0.6**
JOW Kunigami 57.17 271 P **P 21 07 23.9 -1.9**
comp=Z,19nm,0.6s,mb5.3,baz=121,slow=18,SNR=6.6
URVA University of 57.28 70 *e* **P 21 07 25.5 -0.9**
BRYW Bryant College 57.35 62 *e* **P 21 07 26.1 -0.7**
JSC Jenkinsville 57.59 75 *e* **P 21 07 27.6 -1.1**
APA Apatity 57.79 353 *i* **P 21 07 29.0 -0.6**
ZAA0 Zalesovo Array 58.88 321 *e* **P 21 07 37.6 +0.2**
ZALV Zalesovo Beam 58.88 321 P **P 21 07 36.8 -0.6**
comp=Z,3.5nm,0.4s,mb4.7,baz=27,slow=5.8,SNR=12
ZALV PcP PcP 21 08 25.8 -0.6
comp=Z,7.3nm,0.8s,baz=20,slow=4.7,SNR=4.9
ZALV Zalesovo Beam 58.88 321 PcP PcP 21 08 25.8 -0.7
NSS Namsos 61.26 3 *e*pP **P 21 07 52.0 -1.4**
MOL Molde 63.02 6 *e*pP **P 21 08 05.7 +0.4**
DOMB Dombas 63.62 5 *e*pP **P 21 08 09.6 +0.2**
KURK Kurchatov 63.75 322 P **P 21 08 11.1 +0.8**
comp=Z,18nm,1.0s,mb5.1,baz=24,slow=6.5,SNR=18
KLMR Klimovskoe 63.83 349 *e**PP **P 21 08 09.4 -1.3**
TEIG Tepich 64.15 91 P **P 21 08 14.8 +1.4**
comp=Z,3.9nm,0.6s,mb4.6,baz=0.3,slow=2.5,SNR=5.6
HYA Hoyanger 64.33 7 *e*pP **P 21 08 15.2 +1.3**
BVAR Borovoye Array 64.55 328 P **P 21 08 15.5 -0.1**
comp=Z,69nm,0.7s,mb5.8,baz=40,slow=6.4,SNR=51
ARU Arti 64.72 337 *e* **P 21 08 15.7 -0.9**
NOA NORSAR Array B 64.72 4 P **P 21 08 15.8 -0.8**
comp=Z,36nm,0.8s,mb5.5,baz=356,slow=6.6,SNR=39
NAO01 NORSAR Array S 64.90 4 *e* **P 21 08 16.9 -0.9**
ASK Askoy 64.94 7 *e*pP **P 21 08 17.6 -0.4**
RUND Rundenannen 65.02 7 *e*pP **P 21 08 21.0 +2.5**
EGD Espegrend 65.15 7 *e*pP **P 21 08 19.0 -0.4**
MK31 Makanchi Array 65.58 317 *e* **P 21 08 21.8 -0.6**
MKAR Makanchi Array 65.58 317 P **P 21 08 21.7 -0.7**
comp=Z,5.7nm,0.4s,mb4.9,baz=39,slow=7.1,SNR=30
ODD1 Odda 65.61 6 *e*pP **P 21 08 21.7 -0.6**
KONO Kongsberg 66.04 5 *e*pP **P 21 08 25.4 +0.3**
BLS5 Blasjo 66.08 7 *e*pP **P 21 08 26.8 +1.4**
KMY Karmoy 66.20 7 *e*pP **P 21 08 26.4 +0.2**
MLA1 Latheron 66.24 12 *e* **P 21 08 26.9 +0.5**
MVH1 Achvaich 66.51 13 *e* **P 21 08 27.7 -0.4**
KAC Achnashellach 66.77 14 *e* **P 21 08 30.1 +0.3**
KPL Plockton 66.88 14 **P 21 08 30.6 +0.1**
KPL Plockton 66.88 14 *e* **P 21 08 30.6 +0.1**
MDO Dochfour 66.95 13 *e* **P 21 08 30.9 -0.1**
MCD Coleburn Disti 66.96 12 *e* **P 21 08 31.2 +0.2**
SNART Snartemo 67.21 6 *e*pP **P 21 08 33.4 +0.8**
MME1 Meikle Cairn 67.25 12 *e* **P 21 08 33.1 +0.2**
EAB Aberfoyle 68.17 13 *e* **P 21 08 39.1 +0.4**
EBH Black Hill 68.23 13 *e* **P 21 08 39.2 +0.2**
PGBU Glenifferbraes 68.52 14 *e* **P 21 08 40.9 +0.1**
PGBU Glenifferbraes 68.52 14 **P 21 08 40.9 +0.1**
EDI Edinburgh 68.58 13 *e* **P 21 08 41.4 +0.2**
EAU Auchinoon 68.63 13 *e* **P 21 08 42.2 +0.7**
XSO Sourhope Farm 69.12 12 *e* **P 21 08 44.3 -0.3**
ESK Eskdalemuir 69.17 13 *e* **P 21 08 44.3 -0.6**
ESK Eskdalemuir 69.17 13 *e* **P 21 08 45.1 +0.2**
MUD Monsted U'grnd 69.20 5 *i* **P 21 08 44.9 -0.2**
MUD Monsted U'grnd 69.20 5 *i* **P 21 08 44.9 -0.2**
MUD Monsted U'grnd 69.20 5 *i* **P 21 08 44.9 -0.2**
ECK Cauldkaine Hil 69.32 13 *e* **P 21 08 46.1 +0.3**
GAL1 Galloway 69.41 14 *e* **P 21 08 46.4 0.0**
XAL Allendale 69.75 13 *e* **P 21 08 48.9 +0.5**
OBN Obninsk 69.78 349 *e* **P 21 08 47.3 -1.3**
DMUB Kingscourt 70.02 16⥣*i*P **P 21 08 50.6 +0.5**
COP Copenhagen 70.12 4 *i* **P 21 08 51.3 +0.5**
COP Copenhagen 70.12 4 *i* **P 21 08 51.3 +0.5**
DLF Lyons Farm 70.66 16⥣*i*P **P 21 08 54.5 +0.4**
WME Myndd Eilian 70.89 14 *e* **P 21 08 54.7 -0.8**
LHO Holmfirth 71.08 13 *e* **P 21 08 57.0 +0.4**
RGN Rugen 71.29 3 *e* **P 21 08 58.3 +0.4**
KBI1 Birley Grange 71.41 12 *e* **P 21 08 59.1 +0.5**
SBD1 Bryn Du 71.52 14 *e* **P 21 08 59.8 +0.5**
KWE Weaver Farm 71.60 13 *e* **P 21 08 59.8 0.0**
SUW Suwalki 71.83 357 *e* **P 21 09 00.1 -1.1**
SUW Suwalki 71.83 357 *e*PcP **P 21 08 59.9 -1.3**
CWF Charnwood Fore 71.94 12 *e* **P 21 09 02.1 +0.3**
HTR Trewern Hill 72.32 14 *e* **P 21 09 03.9 -0.3**
GKP Gorka Klasztor 72.65 1 *e*PcP **P 21 09 05.6 -0.5**
HGH Gray Hill 72.82 14 *e* **P 21 09 07.7 +0.6**
VSR Storozhevoye 73.28 347 *e**PP **P 21 09 08.2 -1.6**
RUE Ruedersdorf 73.38 3 *e* **P 21 09 10.5 +0.2**
DYA Yadsworthy 73.83 15 AMb **P 21 09 18.1 +5.1**
comp=Z,66nm,1.4s,mb5.4
CCA1 Carnmenellis 73.88 16 *e* **P 21 09 13.8 +0.5**
UCC Uccle 74.47 9 AP **P 21 09 16.8 0.0**
comp=Z,35nm,1.5s,mb5.1
CLL Collm 74.52 3 *i* pP **P 21 09 17.4 +0.3**
CLL Collm 74.52 3 *i* *PP **P 21 09 17.4 +0.3**
CLL Collm 74.52 3 *i* pP **P 21 09 17.4 +0.3**
comp=Z,59nm,1.1s,mb5.4
SNF Seneffe 74.75 9 AP **P 21 09 18.4 0.0**
comp=Z,12nm,1.2s,mb4.7
MEM Membach 74.81 8 AP **P 21 09 18.6 -0.1**
comp=Z,24nm,0.8s,mb5.2
AKASG Malin Array Be 74.83 353 P **P 21 09 17.4 -1.4**
comp=Z,88nm,0.6s,mb5.8,baz=8.6,slow=5.8,SNR=46
AKBB Malin Array Si 74.83 353 *e* **P 21 09 17.5 -1.4**
KIEV Kiev 74.84 353 *e* **P 21 09 17.3 -1.6**
KIEV Kiev 74.84 353 *e* **P 21 09 17.3 -1.7**
BCLA Clavier 74.93 9 AP **P 21 09 19.2 -0.3**
BRG Berggiesshubel 74.99 3 *i* pP **P 21 09 19.6 -0.2**
comp=Z,53nm,1.0s,mb5.4
BRG Berggiesshubel 74.99 3 *i* *PP **P 21 09 19.6 -0.2**
KSP Ksiaz 75.07 1 *e*pP **P 21 09 19.7 -0.6**
KSP Ksiaz 75.07 1 *e*PcP **P 21 09 20.9 +0.6**
MOX Moxa 75.13 4 *e* **P 21 09 20.4 -0.2**
BAIF Baives 75.19 9⥣*i*P **P 21 09 20.9 -0.1**
comp=Z,49nm,0.7s,mb5.2
DOU Dourbes 75.19 9 AP **P 21 09 20.6 -0.4**
comp=Z,10nm,0.9s,mb4.8
GIVF Givet 75.21 9⥣*i*P **P 21 09 20.8 -0.3**
comp=Z,93nm,1.0s,mb5.4
PVCC Panska Ves 75.35 3 *e**PP **P 21 09 22.6 +0.7**
PVCC Panska Ves 75.35 3 *e*pP **P 21 09 22.6 +0.7**
UPC Upice 75.40 2 *e*pP **P 21 09 22.4 +0.2**
LSA Lhasa 75.54 301 *e* **P 21 09 24.1 +0.8**
LSA Lhasa 75.54 301 *e* **P 21 09 24.1 +0.8**
DPC Dobruska-Polom 75.56 1 *e*pP **P 21 09 23.7 +0.6**
DPC Dobruska-Polom 75.56 1 *e**PP **P 21 09 23.7 +0.6**
NKC Novy Kostel 75.58 4 *e*pP **P 21 09 24.2 +1.0**
NKC Novy Kostel 75.58 4 *e*pP **P 21 09 24.2 +1.0**
WLF Walferdange 75.76 8 *e* **P 21 09 24.8 +0.6**
WLF Walferdange 75.76 8 AP **P 21 09 24.9 +0.6**
comp=Z,40nm,1.4s,mb5.2
PRU Pruhonice 75.89 3 *e**PP **P 21 09 25.1 +0.1**
PRU Pruhonice 75.89 3 *e*pP **P 21 09 25.1 +0.1**
FLN La Foliniere 75.94 13⥣*i*P **P 21 09 24.8 -0.5**
comp=Z,42nm,0.8s,mb5.2
FLN *e*MLR MLR
comp=Z,723nm,22.5s,MS4.6
ROSF Rostrenen 75.98 15 *e*P **P 21 09 25.5 0.0**
comp=Z,16nm,0.7s,mb4.7
GRA1 Grafenberg Arr 76.06 5 *e*pP **P 21 09 25.9 -0.1**
GRF Grafenberg Arr 76.06 5 *e**PP **P 21 09 25.9 -0.1**
GRF Grafenberg Arr 76.06 5 *e*pP **P 21 09 25.9 -0.1**
GRF Grafenberg Arr 76.06 5 *e*pP **P 21 09 25.9 -0.1**
GRF Grafenberg Arr 76.06 5 *e**PP **P 21 09 25.9 -0.1**
OKC Ostrava-Krasne 76.09 0 *e**PP **P 21 09 26.5 +0.4**
OKC Ostrava-Krasne 76.09 0 *e*pP **P 21 09 26.5 +0.4**
OKC Ostrava-Krasne 76.09 0 *e*pP **P 21 09 26.5 +0.4**
MORC Moravsky Berou 76.15 1 *e* **P 21 09 26.3 -0.2**
LDF La Druitiere 76.16 13⥣*i*P **P 21 09 26.0 -0.5**
comp=Z,74nm,1.1s,mb5.2
SGMF Saint Gilles 76.16 14⥣*i*P **P 21 09 26.4 -0.1**
comp=Z,129nm,1.2s,mb5.4
KWP Kalwaria 76.23 357 *e*PcP **P 21 09 27.1 +0.1**
KWP Kalwaria 76.23 357 *e* **P 21 09 27.2 +0.2**
GRR Gorron 76.26 13⥣*i*P **P 21 09 26.8 -0.3**
comp=Z,42nm,0.6s,mb5.2
QUIF Quistinic 76.40 15⥣*i*P **P 21 09 27.7 -0.2**
comp=Z,9.6nm,0.5s,mb4.7
STHS Stebnicka Huta 76.48 358 *e* **P 21 09 30.1 +1.7**
STHS Stebnicka Huta 76.48 358 *e* **P 21 09 30.1 +1.7**
STHS Stebnicka Huta 76.48 358 *i* pP **P 21 09 30.1 +1.7**
TREC Trest 76.61 2 *e**PP **P 21 09 29.7 +0.7**
TREC Trest 76.61 2 *e*pP **P 21 09 29.7 +0.7**
KHC Kasperske Hory 76.72 3 *e**PP **P 21 09 30.4 +0.7**
KHC Kasperske Hory 76.72 3 *e*pP **P 21 09 30.4 +0.7**
MEZF Maizieres J'vi 76.81 9⥣*i*P **P 21 09 30.2 0.0**
comp=Z,96nm,1.3s,mb5.3
KOLS Kolonicke sedl 76.94 357 *i* pP **P 21 09 31.5 +0.5**
KOLS Kolonicke sedl 76.94 357 *e* **P 21 09 31.5 +0.5**
CRVS Cervenica-Dubn 76.99 358 *e* **P 21 09 31.9 +0.7**
CRVS Cervenica-Dubn 76.99 358 *i* pP **P 21 09 31.9 +0.7**
GERES GERESS Array B 77.01 3 P **P 21 09 31.0 -0.4**
comp=Z,22nm,0.7s,mb5.2,baz=3.6,slow=4.3,SNR=34
CDF Champ du Feu 77.09 8⥣*i*P **P 21 09 31.7 -0.1**
comp=Z,64nm,0.9s,mb5.2
UZH Uzhgorod 77.25 357 *i* **P 21 09 32.4 -0.3**
KOLL Kolacno 77.35 360 *i* pP **P 21 09 33.7 +0.5**
KOLL Kolacno 77.35 360 *e* **P 21 09 33.7 +0.5**
HAU Haudompre 77.42 8⥣*i*P **P 21 09 33.5 -0.1**
comp=Z,81nm,0.9s,mb5.3
HAU *e*MLR MLR
comp=Z,776nm,23.0s,MS4.7
VYHS Vyhne 77.43 360 *i* pP **P 21 09 33.8 +0.1**
VYHS Vyhne 77.43 360 *e* **P 21 09 33.8 +0.1**
MODS Modra-Piesok 77.55 1 *i* pP **P 21 09 35.3 +0.9**
MODS Modra-Piesok 77.55 1 *e* **P 21 09 35.3 +0.9**
MODS Modra-Piesok 77.55 1 *e* **P 21 09 35.3 +0.9**
HINF Hinteralfeld 77.65 8⥣*i*P **P 21 09 34.6 -0.3**
comp=Z,57nm,1.0s,mb5.2
ZST Bratislava 77.73 1 *i* pP **P 21 09 36.0 +0.6**
ZST Bratislava 77.73 1 *e* **P 21 09 36.0 +0.6**
ZST Bratislava 77.73 1 *e* **P 21 09 36.0 +0.6**
AGPR Aguadilla, PR 77.77 76 *e* **P 21 09 36.4 +0.3**
HYF Humbligny 77.79 11⥣*i*P **P 21 09 35.9 +0.2**
LOR Lormes 77.92 10⥣*i*P **P 21 09 36.3 -0.1**
comp=Z,53nm,0.9s,mb5.2
LOR *e*MLR MLR
comp=Z,734nm,22.0s,MS4.7
PSZ Piszkesteto 78.00 359 *e* **P 21 09 38.0 +1.2**
SSF Saint Saulge 78.09 10⥣*i*P **P 21 09 37.2 -0.2**
comp=Z,76nm,1.0s,mb5.3
MFF Saint Martin d 78.11 13⥣*i*P **P 21 09 37.5 0.0**
comp=Z,61nm,0.7s,mb5.3
BUR08 Bucovina Ar. S 78.12 355 *e* **P 21 09 37.8 +0.3**
AVF Avril sur Loir 78.34 10⥣*i*P **P 21 09 38.4 -0.4**
comp=Z,27nm,0.7s,mb5.0
BGF Bois d'Agland 78.51 11⥣*i*P **P 21 09 39.5 -0.2**
comp=Z,33nm,0.7s,mb5.0
SMF Signal de Mont 78.53 10⥣*i*P **P 21 09 39.5 -0.4**
comp=Z,74nm,0.9s,mb5.3
KIS Kishinev 78.55 353 *i* **P 21 09 39.0 -0.9**
TCF Toulx Ste Croi 78.71 11 *e*P **P 21 09 40.5 -0.3**
comp=Z,50nm,1.1s,mb5.0
CABF La Chapelle 78.78 9⥣*i*P **P 21 09 41.5 +0.3**
comp=Z,83nm,1.0s,mb5.3
TUE Stuetta 79.17 6 *e* **P 21 09 43.8 +0.5**
RJF Les Rejaudoux 79.60 12 *e*P **P 21 09 45.2 -0.5**
comp=Z,48nm,1.2s,mb5.0
RJF *e*MLR MLR
comp=Z,695nm,23.0s,MS4.6
KIV Kislovodsk 79.80 342 *e* **P 21 09 47.1 +0.2**
ANN Anapa 79.81 346*c i*P **P 21 09 45.8 -1.0**
ANN *e*S S 21 19 53.6 +6.6
ANN pmax pmax
comp=Z,66nm,1.6s,mb5.3
ANN MLR MLR
comp=N,684nm,22.0s,MS5.0
ANN MLR MLR
comp=E,403nm,22.0s,MS5.0
ANN MLR MLR
comp=Z,301nm,22.0s,MS4.6
VOY Vojsko 79.83 3 *e*pP **P 21 09 45.8 -1.1**
LFF La Frestale 79.86 13⥣*i*P **P 21 09 47.0 -0.1**
comp=Z,22nm,0.5s,mb5.0
LPL La Plagne 79.92 8⥣*i*P **P 21 09 48.4 +0.9**
comp=Z,26nm,0.8s,mb4.9
LPG La Plagne 79.94 8⥣*i*P **P 21 09 48.7 +1.1**
comp=Z,31nm,0.8s,mb5.0
CAF Calviac 80.03 12⥣*i*P **P 21 09 47.9 -0.2**
comp=Z,32nm,1.0s,mb4.9
CHTO Chiang Mai 80.24 289 *e* **P 21 09 48.9 -0.7**
BNI Bardonecchia 80.38 8 *e* **P 21 09 51.7 +1.8**
VIVF Saint-Julien-l 80.39 10⥣*i*P **P 21 09 50.0 0.0**
comp=Z,44nm,1.1s,mb5.0
ORIF Oris-en-Rattie 80.44 9⥣*i*P **P 21 09 50.6 +0.3**
comp=Z,16nm,0.7s,mb4.8
ORIF *e*MLR MLR
comp=Z,629nm,22.8s,MS4.6
CMAR Chiang Mai Arr 80.52 288 P **P 21 09 51.4 +0.2**
comp=Z,41nm,1.0s,mb5.3,baz=22,slow=6.0,SNR=46
SOC Sochi 80.66 344 *e*P **P 21 09 51.1 -0.4**
SOC *e**PP pP 21 09 55.0 -7.4
SOC *e* pP 21 09 59.0 -3.4
SOC *e*PPP 21 14 39.5
SOC *e*S S 21 19 42.8 -13
SOC *e* 21 19 56.2
SOC pmax pmax
comp=Z,109nm,1.0s,mb5.7
MBDF Montbardon 80.71 8 *e*P **P 21 09 52.8 +1.1**
comp=Z,49nm,0.7s,mb5.2
SMLA Simla 80.91 312 *i* S **P 21 09 54.4 +1.4**
TIRR Tirgusor 81.10 353 *e* **P 21 09 53.2 -0.6**
TIRR Tirgusor 81.10 353 *e* **P 21 09 53.2 -0.6**
KBL Kabul 81.22 320 *e*P **P 21 09 53.6 -1.0**
SMRF Simiane la Rot 81.35 9⥣*i*P **P 21 09 55.9 +0.8**
comp=Z,26nm,0.8s,mb4.9
SJPF Ste Jean 81.38 14⥣*i*P **P 21 09 55.0 -0.3**
comp=Z,22nm,0.9s,mb4.8
BDT Bhumibol Dam 81.47 288 P **P 21 09 56.0 -0.2**
MTLF Montolieu 81.62 12⥣*i*P **P 21 09 56.5 0.0**
comp=Z,25nm,0.8s,mb4.9
SBF Sospel 81.62 8 *e*P **P 21 09 56.6 0.0**
comp=Z,92nm,0.8s,mb5.5
EPF Esparros 81.68 13⥣*i*P **P 21 09 56.2 -0.7**
comp=Z,18nm,0.8s,mb4.8
ETSF Etsaut 81.69 14⥣*i*P **P 21 09 57.4 +0.5**
comp=Z,34nm,0.8s,mb5.0
PBRG Braganca 81.74 19 *e*pP **P 21 09 57.6 +0.4**
FRF La Foret Royal 81.86 9⥣*i*P **P 21 09 57.8 0.0**
comp=Z,50nm,1.0s,mb5.1
PTO Porto 82.02 20 *e*pP **P 21 10 00.2 +1.5**
PVRL Vila Real 82.07 20 *e*pP **P 21 10 00.6 +1.6**
LMR La Mourre 82.07 9⥣*i*P **P 21 09 59.0 +0.1**
comp=Z,44nm,1.1s,mb5.0
MVO Moncorvo 82.31 19 *e*pP **P 21 10 01.4 +1.2**
PVIS Viseu 82.57 20 *e*pP **P 21 10 03.0 +1.4**
MTE Manteigas 82.94 20 *e* **P 21 10 04.0 +0.5**
MTE Manteigas 82.94 20 *e*pP **P 21 10 04.9 +1.3**
PGF Pioggiola 83.05 7⥣*i*P **P 21 10 04.3 +0.2**
comp=Z,86nm,0.9s,mb5.5
MACK Trabzon 83.23 344 *i* P **P 21 10 05.2 +0.2**
VTS Vitosha 83.25 356 P **P 21 10 05.1 0.0**
PCBR Castelo Branco 83.50 20 *e*pP **P 21 10 06.7 +0.3**
PTOM Tomar 83.53 21 *e*pP **P 21 10 07.5 +0.9**
PMRV Marv??o 83.91 20 *e*pP **P 21 10 08.8 +0.3**
PMAFR Mafra 83.98 21 *e*pP **P 21 10 10.2 +1.3**
ESDC Sonseca Array 84.31 17 P **P 21 10 10.9 +0.4**
comp=Z,22nm,0.8s,mb5.3,baz=346,slow=5.0,SNR=30
ESLA Sonseca Array 84.31 17 *e* **P 21 10 10.3 -0.2**
PAB San Pablo 84.37 17 *e* **P 21 10 10.5 -0.4**
PAB San Pablo 84.37 17 *e* **P 21 10 10.4 -0.4**
PESTR Estremoz 84.42 20 *e*pP **P 21 10 11.6 +0.5**
TIR Tirane 84.57 359 *e* **P 21 10 12.0 +0.1**
TIR Tirane 84.57 359 *e* **P 21 10 12.0 +0.1**
EVO Evora 84.65 20⥣*i*P **P 21 10 11.8 -0.5**
comp=Z,52nm,1.1s,mb5.2
EVO *e*MLR MLR
comp=Z,757nm,23.0s,MS4.7
EVO Evora 84.65 20 *e*pP **P 21 10 13.2 +0.9**
PBAR Barrancos 85.19 20 *e*pP **P 21 10 16.4 +1.4**
ANTO Ankara 85.24 349 *e* **P 21 10 15.4 +0.2**
ANTO Ankara 85.24 349 *e* **P 21 10 15.4 +0.1**
BR131 Keskin Array S 85.29 348 *e* **P 21 10 15.4 0.0**
ELZG Elazig 85.74 344 *i* P **P 21 10 18.1 +0.3**
PVAQ Vaqueiros 85.80 21 *e*pP **P 21 10 19.3 +1.2**
CUC Castrocucco 85.91 2 *e* **P 21 10 17.5 -1.1**
CTAO Charters Tower 86.56 228 *e* **P 21 10 25.0 +3.2**
TIP Timpagrande 86.74 1 *e* **P 21 10 22.1 -0.5**
KAPI Kappang 87.46 258 P **P 21 10 26.3 -0.1**
comp=Z,4.5nm,0.4s,mb5.0,baz=177,slow=18,SNR=3.8
KEST Kesra 89.85 7 P **P 21 10 37.5 0.0**
comp=Z,2.4nm,0.6s,mb4.7,baz=302,slow=2.7,SNR=9.8
CSS Prodhromos 90.02 348 *e* **P 21 10 39.0 +0.6**
WRA Warramunga Arr 91.98 238 P **P 21 10 47.0 -0.4**
comp=Z,2.9nm,0.8s,mb4.7,baz=30,slow=5.8,SNR=12
HYB Hyderabad 92.05 304 *e*pP **P 21 10 47.0 -1.0**
HYB Hyderabad 92.05 304 *e* **P 21 10 47.0 -1.0**
ASAR Alice Springs 95.34 236 P **P 21 11 02.0 -0.8**
comp=Z,1.6nm,0.5s,mb4.7,baz=33,slow=4.4,SNR=10
PLCA Paso Flores 122.41 116 PKP PKPdf 21 16 33.3 +0.1
comp=Z,1.9nm,0.6s,baz=235,slow=1.8,SNR=5.9
PLCA Paso Flores 122.41 116 PKIKP PKPdf 21 16 33.3 +0.1
PLCA pmax pmax
comp=Z,2.0nm,0.6s
KMBO Kilima Mbogo 124.64 337 PKP PKPdf 21 16 39.1 +0.7
comp=Z,5.3nm,0.8s,baz=39,slow=6.2,SNR=11
KMBO PKP PKPdf 21 16 39.1 +0.7
KMBO Kilima Mbogo 124.64 337 *e* PKPdf 21 16 38.8 +0.4
QSPA South Pole Qui 144.22 180 PKP PKPdf 21 17 11.2 -1.5
comp=Z,10nm,0.5s,baz=284,slow=0.3,SNR=30
QSPA South Pole Qui 144.22 180 PKP PKPdf 21 17 11.2 -1.5
TSUM Tsumeb 144.81 1 PKP PKPdf 21 17 14.3 -1.3
comp=Z,55nm,0.8s,baz=341,slow=5.3,SNR=44
TSUM PKP PKPdf 21 17 14.3 -1.3
TSUM Tsumeb 144.81 1 *e* PKPdf 21 17 14.0 -1.6
BOSA Boshof 153.71 346 PKP PKPdf 21 17 28.9 -0.6
comp=Z,5.2nm,0.8s,baz=258,slow=1.9,SNR=7.2
BOSA PKPab PKPab 21 17 50.6 +0.5
comp=Z,12nm,0.9s,baz=67,slow=3.3,SNR=6.4
BOSA Boshof 153.71 346 PKIKP PKPdf 21 17 28.9 -0.6
BOSA pmax pmax
comp=Z,5.0nm,0.9s
BOSA pmax pmax
comp=Z,12nm,0.9s
MAW Mawson 155.42 220 PKP PKPdf 21 17 30.9 +0.3
comp=Z,1.4nm,0.7s,baz=246,slow=4.9,SNR=3.7
MAW PKPab PKPab 21 17 57.4 +0.9
comp=Z,5.4nm,0.7s,baz=117,slow=5.5,SNR=8.1
MAW Mawson 155.42 220 PKIKP PKPdf 21 17 30.9 +0.3
MAW pmax pmax
comp=Z,1.0nm,0.7s
MAW pmax pmax
comp=Z,5.0nm,0.7s
SNAA Sanae 160.44 160 *e*PKPdf PKPdf 21 17 44.3 +7.6
SNAA *e* 21 18 16.1

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*IDC **02** 21:05:05.5±1.2, 54.59N×161.70W, h0km, mb4.1/13, mb1 4.2/14, mb1mx4.0/26, mbtmp4.1/14, ML4.1/1, Error ellipse: s-maj=35.6km s-min=16.0km az=174.0*
*ISCJB **02** 21:05:10.1±1.4, 54.4N±0.1×161.5W±0.1, h53km±9km, mb4.1/13, Error ellipse: s-maj=24.0km s-min=7.5km az=163.7*
*NEIC **02** 21:05:11.0, 54.41N×161.49W, h33km, ML3.8(AEIC), After AEIC.*
ISC 02 21:05:10.9±1.4**, 54.4N**±0.1×**161.5W**±0.1**, h45**km±9km**, n25,** σ**0.61**/26**, mb4.1**/13**, Alaska Peninsula**

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
SDPT Sand Point 1.12 30 P **Pn 21 05 29.5 -0.6**
SDPT S **Sn 21 05 44.6 +0.2**
FALS False Pass 1.24 294 P **Pn 21 05 31.7 0.0**
FALS S **Sn 21 05 47.7 +0.5**
CHGN Chignik 2.59 41 P **Pn 21 05 51.1 +0.9**
UNV Unalaska Valle 3.02 262 P **Pn 21 05 56.4 +0.3**
OHAK Old Harbor 5.42 55 P **Pn 21 06 28.0 -0.9**
KDAK Kodiak Island 6.02 52 Pn **Pn 21 06 36.1 -1.1**
5.3nm,0.3s,baz=239,slow=8.9,SNR=13
KDAK Pg **Pn 21 06 46.8 +10**
10nm,0.3s,baz=285,slow=10,SNR=9.0
KDAK Lg 21 08 08.8
4.8nm,0.3s,baz=122,slow=23,SNR=7.3
KDAK Kodiak Island 6.02 52 P **Pn 21 06 36.2 -1.0**
TT01 Tatalina 9.01 16 P **Pn 21 07 18.1 0.0**
PETK Petropavlovsk- 23.96 284 P **P 21 10 19.5 -1.1**
7.9nm,0.4s,mb4.5,baz=81,slow=13,SNR=47
YKA Yellowknife Ar 25.30 52 P **P 21 10 33.8 +1.1**
0.8nm,0.4s,mb3.6,baz=272,slow=8.8,SNR=5.9
ULM Lac du Bonnet 39.00 68 P **P 21 12 33.1 +0.7**
3.0nm,0.4s,mb4.4,baz=283,slow=6.9,SNR=3.9
TXAR Lajitas Array 48.12 97 P **P 21 13 50.0 +4.0**
0.3nm,0.8s,mb3.4,baz=313,slow=2.1,SNR=2.6
TXAR PcP PcP 21 15 14.1 +1.1
0.3nm,0.5s,baz=211,slow=1.7,SNR=5.8
TXAR Lajitas Array 48.12 97 P **P 21 13 50.0 +4.0**
TXAR PcP PcP 21 15 14.1 +1.1
KSRS Korea Array 49.79 281 P **P 21 13 59.1 +0.4**
2.9nm,0.7s,mb4.4,baz=46,slow=7.2,SNR=14
SONM Songino Array 54.23 304 P **P 21 14 31.1 -0.5**
1.2nm,0.8s,mb3.9,baz=53,slow=7.2,SNR=6.1
ARCES ARCESS Array B 56.29 357 P **P 21 14 46.3 +0.1**
4.6nm,0.9s,mb4.5,baz=15,slow=10.0,SNR=3.9
BVAR Borovoye Array 64.66 328 P **P 21 15 43.6 +0.1**
2.1nm,0.6s,mb4.4,baz=38,slow=6.3,SNR=12
NOA NORSAR Array B 64.78 4 P **P 21 15 44.1 0.0**
1.0nm,0.6s,mb4.0,baz=357,slow=6.8,SNR=3.5
AKASG Malin Array Be 74.91 353 P **P 21 16 45.7 -0.7**
2.0nm,0.5s,mb4.3,baz=9.5,slow=6.0,SNR=10

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
AKASG	**Malin Array Be**	**74.91**	**353**	P	**P**	**21 16 45.7**	**-0.7**
GERES	**GERESS Array B**	**77.07**	**3**	P	**P**	**21 16 58.8**	**0.0**
	0.8nm,0.6s,mb3.8,baz=349,slow=4.1,SNR=6.9						
CMAR	**Chiang Mai Arr**	**80.65**	**288**	P	**P**	**21 17 18.6**	**-0.3**
	1.3nm,0.8s,mb3.9,baz=12,slow=6.6,SNR=5.2						
ESDC	**Sonseca Array**	**84.34**	**17**	P	**P**	**21 17 38.0**	**+0.2**
	0.7nm,0.6s,mb4.0,baz=357,slow=7.4,SNR=4.9						
QSPA	**South Pole Qui**	**144.15**	**180**	PKhKP		21 24 38.9	
	0.9nm,0.5s,baz=135,slow=4.3,SNR=6.5						
TSUM	**Tsumeb**	**144.88**	**2**	PKP	PKPdf	21 24 41.8	-0.9
	2.3nm,0.9s,baz=269,slow=6.7,SNR=3.9						

JMA ***02*** *21:11:08.9±0.2, 2397N×12232E, h33km, M2.8*
TAP ***02*** *21:11:09.5, 2395N×12248E, h12km±1km, ML3.2, D*
ISCJB ***02*** *21:11:10.9±1.3, 2394N±003×12249E±002, h15km±10km, Error ellipse: s-maj=4.6km s-min=3.0km az=171.0*
ISC 02 21:11:10.3±0.7**, 2396N**±003×**12249E**±002**, h11**km±5km**, n38,** σ**0.99**/53**, 1C, Taiwan region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
YOJ	**Yonaguni jima**	**0.69**	**43**	P	**Pg**	**21 11 23.8**	**+0.1**
YOJ				*e*S	**Sg**	**21 11 34.8**	**+2.0**
TWD	**Chiawan**	**0.83**	**279**	*e*P	**Pg**	**21 11 26.6**	**+0.3**
	baz=279						
TWD				*e*S	**Sg**	**21 11 37.4**	**+0.3**
	baz=279						
ENA	**Nanau**	**0.83**	**305**	P	**Pg**	**21 11 26.0**	**-0.3**
	baz=305						
TWC	**Suao**	**0.87**	**318**	⇑*i*P	**Pg**	**21 11 26.4**	**-0.8**
	baz=319						
TWC				*e*S	**Sg**	**21 11 36.7**	**-1.8**
	baz=319						
ESL	**Shilin**	**0.98**	**262**	*e*P	**Pg**	**21 11 28.2**	**-0.9**
	baz=262						
EGS		**1.02**	**330**	P	**Pg**	**21 11 29.4**	**-0.5**
	baz=330						
EGS				*e*S	**Sg**	**21 11 42.5**	**-0.8**
	baz=330						
ILA	**Ilan**	**1.05**	**320**	*e*S	**Sg**	**21 11 45.5**	**+1.3**
	baz=320						
TWE	**Neicheng**	**1.07**	**315**	P	**Pb**	**21 11 30.1**	**-0.7**
	baz=316						
ENTT	**Nioudou**	**1.08**	**309**	P	**Pb**	**21 11 30.6**	**-0.4**
	baz=309						
NNS	**Nan Shan**	**1.13**	**295**	P	**Pb**	**21 11 31.3**	**-0.5**
	baz=296						
WHF	**Hehuan Shan**	**1.14**	**280**	P	**Pb**	**21 11 31.2**	**-0.7**
	baz=280						
EHY	**Hungye**	**1.16**	**247**	P	**Pb**	**21 11 31.4**	**-0.9**
	baz=247						
EHY				*e*S	**Sb**	**21 11 45.4**	**-1.9**
	baz=247						
IRIF	**Iriomote-Funau**	**1.19**	**71**	P	**Pn**	**21 11 32.1**	**-0.7**
IRIF				*e*S	**Sb**	**21 11 48.7**	**+0.4**
HATJ	**Hateruma jima**	**1.21**	**85**	P	**Pn**	**21 11 32.3**	**-0.7**
HATJ				*e*S	**Sb**	**21 11 49.0**	**+0.3**
TWT	**Tachien**	**1.24**	**284**	*e*P	**Pn**	**21 11 34.1**	**+0.7**
	baz=284						
TWF1	**Yuli**	**1.25**	**241**	P	**Pn**	**21 11 32.5**	**-1.1**
	baz=241						
TWF1				*e*S	**Sb**	**21 11 49.7**	**-0.2**
	baz=241						
NWF	**Wu-fen Shan**	**1.28**	**330**	P	**Pn**	**21 11 33.2**	**-0.8**
	baz=330						
NWF				S	**Sb**	**21 11 51.1**	**+0.2**
	baz=330						
TWA	**Mucha**	**1.31**	**321**	*e*P	**Pn**	**21 11 35.0**	**+0.5**
	baz=321						
TWA				*e*S	**Sb**	**21 11 52.3**	**+0.6**
	baz=321						
JKRS	**Kuro-shima**	**1.42**	**78**	P	**Pn**	**21 11 35.9**	**0.0**
JKRS				*e*S	**Sn**	**21 11 54.2**	**-0.3**
SMLT	**Sun Moon Lake**	**1.46**	**267**	*e*P	**Pn**	**21 11 36.6**	**+0.1**
	baz=267						
YUS	**Yu-Shan**	**1.48**	**252**	*e*P	**Pn**	**21 11 36.7**	**-0.1**
	baz=251						
TYC	**Yuchr**	**1.50**	**268**	*e*P	**Pn**	**21 11 37.3**	**+0.3**
	baz=268						
TWS1	**Kuangyinshan**	**1.50**	**320**	*e*P	**Pn**	**21 11 37.3**	**+0.2**
	baz=319						
NSTT	**Nanjuang**	**1.52**	**297**	*e*P	**Pn**	**21 11 37.8**	**+0.5**
	baz=296						
NSTT				*e*S	**Sn**	**21 11 56.5**	**-0.5**
	baz=296						
TWY	**Chenhua**	**1.54**	**328**	*e*P	**Pn**	**21 11 39.2**	**+1.5**
	baz=328						
ELDTW	**Lidau**	**1.55**	**241**	*e*P	**Pn**	**21 11 37.2**	**-0.6**
	baz=240						
JIJ	**Ishigaki jima**	**1.56**	**75**	P	**Pn**	**21 11 37.1**	**-0.8**
JIJ				*e*S	**Sn**	**21 11 57.2**	**-0.9**
ALS	**Alishan**	**1.61**	**254**	*e*P	**Pn**	**21 11 38.2**	**-0.4**
	baz=254						
TWQ1	**Liyutan**	**1.62**	**284**	*e*P	**Pn**	**21 11 39.7**	**+1.1**
	baz=284						
CHN5	**Tsauling**	**1.70**	**258**	*e*P	**Pn**	**21 11 41.7**	**+1.9**
	baz=258						
TWG	**Pinlang**	**1.73**	**229**	*e*P	**Pn**	**21 11 40.0**	**-0.2**
	baz=229						
TWG				*e*S	**Sn**	**21 11 59.5**	**-2.7**
	baz=229						
STYT	**Tauyuan**	**1.78**	**244**	*e*P	**Pn**	**21 11 41.4**	**+0.5**
	baz=243						
CHN4	**Tsaushan**	**1.84**	**251**	*e*P	**Pn**	**21 11 43.6**	**+1.8**
	baz=251						
WTP	**Ta-pu**	**1.86**	**248**	*e*P	**Pn**	**21 11 44.1**	**+2.1**
	baz=247						
CHN1	**Nanshi**	**1.96**	**247**	*e*P	**Pn**	**21 11 45.7**	**+2.3**
	baz=247						
SSD	**Sandimen**	**2.09**	**235**	*e*P	**Pn**	**21 11 47.0**	**+1.8**
	baz=234						
JTJ	**Tarama**	**2.13**	**71**	P	**Pn**	**21 11 45.5**	**-0.2**
JTJ				*e*S	**Sn**	**21 12 11.0**	**-1.1**
EAST	**Anshuo**	**2.18**	**224**	*e*P	**Pn**	**21 11 47.5**	**+1.1**
	baz=224						

IDC 02 21:13:20.3±3.5**, 504S**×**14897E, h0**km**, mb3.7**/3**, mb1 4.0**/3**, mb1mx3.6**/15**, mbtmp3.7**/3**, Error ellipse: s-maj=111.1km s-min=44.4km az=115.0, New Britain region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**20.55**	**223**	P	P	21 18 00.8	+0.1
	1.0nm,0.5s,baz=48,slow=10,SNR=18						
ASAR	**Alice Springs**	**23.54**	**217**	P	P	21 18 32.1	-0.5
	0.5nm,0.3s,baz=46,slow=8.6,SNR=14						
FITZ	**Fitzroy Crossi**	**26.24**	**238**	P	P	21 18 57.6	+0.2
	2.3nm,0.5s,baz=69,slow=10.0,SNR=14						
TORD	**Torodi Ar. Bea**	**146.73**	**286**	PKPbc	PKPbc	21 33 04.6	-0.7
	0.1nm,0.3s,baz=87,slow=3.0,SNR=11						

MOS ***02*** *21:18:19.5±1.5, 5570N×16260E, h22km, mb4.2/1, Error ellipse: s-maj=32.8km s-min=15.4km az=75.9*
KRSC 02 21:18:19.7±0.5**, 5570N**×**16248E, h23**km±23km**, ML4.0, Near east coast of Kamchatka Peninsula**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KBTR	**Krutoberegovo**	**0.54**	**20**	*e*P	Pb	21 18 31.4	+0.8
KBTR				*e*S	Sb	21 18 39.3	+1.4
ZLN	**Zelenaya**	**1.00**	**289**	*e*P	Pn	21 18 38.6	+0.4
ZLN				*e*S	Sb	21 18 52.2	+1.3
BDR	**Baidarnaya**	**1.12**	**321**	P	Pn	21 18 39.6	-0.4
BDR				S	Sb	21 18 53.7	-0.9
BZMR	**Bezymyannaya**	**1.15**	**283**	*e*P	Pn	21 18 40.7	+0.4
BZMR				*e*S	Sb	21 18 55.3	+0.1
BZWR	**Bezymyannyi-We**	**1.15**	**284**	*e*P	Pn	21 18 40.9	+0.6
BZWR				*e*S	Sb	21 18 55.6	+0.3
KLY	**Klyuchi**	**1.20**	**302**	*e*P	Pn	21 18 39.6	-1.4
KLY				*e*S	Sn	21 18 53.8	-2.7
KIRR	**Kirishev**	**1.23**	**283**	P	Pn	21 18 42.5	+1.0
KIRR				S	Sn	21 18 59.0	+1.6
KMNR	**Kamenistaya**	**1.27**	**273**	*e*P	Pn	21 18 43.6	+1.6
KMNR				*e*S	Sn	21 19 00.4	+2.1
KPT	**Kopyto**	**1.30**	**283**	*e*P	Pn	21 18 43.2	+0.8
KPT				*e*S	Sn	21 19 00.9	+1.8
TUMR	**Tumrok**	**1.39**	**253**	P	Pn	21 18 45.6	+1.9
KOZR	**Kozyr**	**1.50**	**285**	PN	Pn	21 18 46.9	+1.7
KOZR				S	Sn	21 19 06.9	+2.9
KOZ	**Kozyrevsk**	**1.51**	**285**	*e*P	Pn	21 18 46.9	+1.6
KOZ				*e*S	Sn	21 19 06.9	+2.7
SRDR	**Sredinnyy**	**1.67**	**293**	*e*P	Pn	21 18 48.6	+1.1
SRDR				*e*S	Sn	21 19 10.2	+2.0
SPN	**Mys Shipunski**	**2.98**	**210**	P	Pn	21 19 06.2	+0.8
SPN				S	Sn	21 19 40.1	-0.3
NLC	**Nalytchevo**	**3.13**	**217**	*e*P	Pn	21 19 09.0	+1.5
NLC				*e*S	Sn	21 19 45.3	+1.3
AVH	**Avacha**	**3.27**	**223**	P	Pn	21 19 12.3	+2.8
AVH				S	Sn	21 19 50.2	+2.5
GNL	**Ganaly**	**3.31**	**235**	*e*P	Pn	21 19 12.5	+2.5
PET	**Petropavlovsk**	**3.49**	**221**	*e*PN	Pn	21 19 17.1	+4.6
PET				*e*S	Sn	21 19 55.9	+2.8
PET				pmax	pmax		
	comp=Z,26nm,0.5s						
PET				smax			
	comp=E,88nm,0.5s						
PET				smax			
	comp=N,86nm,0.7s						
RUS	**Russkaya**	**4.02**	**217**	P	Pn	21 19 21.3	+1.5
RUS				S	Sn	21 20 06.0	-0.1

KRSC 02 21:25:25.4±1.2**, 5033N**×**15722E, h24**km±25km**, ML3.8, Kuril Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
RUS	**Russkaya**	**2.26**	**21**	*e*P	Pn	21 26 02.2	+1.0
RUS				*i* S	Sn	21 26 28.8	+0.6
SDLR	**Sedlovina**	**3.13**	**19**	*e*P	Pn	21 26 14.8	+1.7
SDLR				*i* S	Sn	21 26 51.1	+1.4
NLC	**Nalytchevo**	**3.14**	**24**	*e*P	Pn	21 26 12.5	-0.7
NLC				*i* S	Sn	21 26 47.4	-2.5
SPN	**Mys Shipunski**	**3.27**	**31**	*e*P	Pn	21 26 16.2	+1.1
SPN				*i* S	Sn	21 26 54.0	+0.7
GNL	**Ganaly**	**3.40**	**7**	*e*P	Pn	21 26 18.0	+1.1

NOU ***02*** *21:54:21.5±1.2, 2085S×16992E, h10km*
ISCJB ***02*** *21:54:30.9±2.1, 2137S±006×16932E±006, h33km±15km, mb4.5/23, MS3.9/5, Error ellipse: s-maj=10.5km s-min=8.7km az=172.0*
NEIC ***02*** *21:54:30.4±0.4, 2141S×16922E, h10km, mb4.7/9, Error ellipse: s-maj=11.4km s-min=10.6km az=14.0*
LDG ***02*** *21:54:32.6±0.3, 2136S×16893E, h10km, Mb5.1/3, Error ellipse: s-maj=26.1km s-min=3.8km az=158.0*
SZGRF ***02*** *21:54:32.6, 2221S×17068E, h33km, Southeast of Loyalty Islands*
IDC ***02*** *21:54:34.8±5.3, 2143S×16935E, h54km±49km, mb4.0/12, mb1 4.2/14, mb1mx4.2/18, mbtmp4.1/14, ML3.4/2, MS3.8/6, Ms1 3.8/6, ms1mx3.4/28, Error ellipse: s-maj=22.6km s-min=19.3km az=170.0*
BJI ***02*** *21:54:37.4, 2046S×16953E, h30km, mB5.0, mb4.7, Msz4.3*
ISC 02 21:54:32.1±2.1**, 2139S**±006×**16930E**±006**, h29**km±16km**, h28**km±.9km**: pP-P, n139,** σ**0.97**/50**, mb4.5**/23**, MS3.9**/5**, 11C-5D, Southeast of Loyalty Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
BAYA	**Yate Dam**	**2.37**	**251**	*e*P	**Pn**	**21 55 09.6**	**+0.5**
PLUM	**Mont Dore**	**2.63**	**250**	*e*S	**Sn**	**21 55 48.9**	**+5.3**
DZM	**Mont Dzumac**	**2.75**	**255**	*e*P	**Pn**	**21 55 13.7**	**-0.5**
DZM				*e*S	**Sn**	**21 55 52.5**	**+6.1**
NORM	**Noumea**	**2.75**	**252**	*e*P	**Pn**	**21 55 13.5**	**-0.8**
NORM				*e*S	**Sn**	**21 55 52.9**	**+6.3**
NOUC	**Port Laguerre**	**2.88**	**255**	*e*P	**Pn**	**21 55 15.9**	**-0.1**
RAO	**Raoul Island**	**13.95**	**127**	*e*Pn	**Pn**	**21 57 48.2**	**+0.3**
HNR	**Honiara**	**14.91**	**321**	*e*Pn	**Pn**	**21 58 00.2**	**-0.9**
	84nm,1.0s						
FUNA	**Funafuti**	**15.95**	**38**	Pn	**Pn**	**21 58 15.5**	**+0.9**
URZ	**Urewera**	**18.11**	**160**	P	**Pn**	**21 58 42.2**	**+0.6**
	1.1nm,0.3s,baz=1.7,slow=21,SNR=4.6						
URZ				LR	LR	22 04 41.1	
	comp=Z,298nm,18.6s,baz=181,slow=34						
AFI	**Afiamalu**	**19.49**	**71**	P	**Pn**	**21 58 57.5**	**-0.8**
	0.6nm,0.3s,baz=36,slow=1.9,SNR=4.4						
AFI				LR	LR	22 05 13.0	
	comp=Z,155nm,19.9s,baz=145,slow=33						
AFI	**Afiamalu**	**19.49**	**71**	P	**Pn**	**21 58 57.5**	**-0.9**
AFI				LR	LR	22 05 13.0	
CTA	**Charters Tower**	**21.59**	**269**	P	**P**	**21 59 21.8**	**+2.0**
	1.8nm,0.4s,mb3.9,baz=267,slow=15,SNR=2.7						
CTA				LR	LR	22 06 32.1	
	comp=Z,156nm,21.2s,MS3.4,baz=83,slow=33						
RPZ	**Rata Peaks**	**22.31**	**177**	LR	LR	22 07 12.6	
	comp=Z,479nm,19.1s,MS3.9,baz=309,slow=34						
PMG	**Port Moresby**	**24.41**	**296**	*e*P	**P**	**21 59 47.9**	**-0.3**
	10nm,0.6s,mb4.4						
STKA	**Stephens Creek**	**26.81**	**241**	P	**P**	**22 00 11.0**	**+1.0**
	6.1nm,0.9s,mb4.1,baz=92,slow=9.0,SNR=5.5						
STKA				LR	LR	22 10 13.1	
	comp=Z,284nm,21.4s,MS3.8,baz=281,slow=35						
STKA	**Stephens Creek**	**26.81**	**241**	*e*P	**P**	**22 00 10.8**	**+0.8**
	7.7nm,0.9s,mb4.2						
STKA				LR	LR	22 10 13.1	
TAU	**Tasmania Unive**	**28.25**	**216**	P	**P**	**22 00 22.0**	**-0.7**
WB2	**Warramunga Arr**	**32.70**	**266**	*e*P	**P**	**22 01 01.4**	**-0.8**
WB2	**Warramunga Arr**	**32.70**	**266**	*e*P	**P**	**22 01 02.5**	**+0.3**
WRA	**Warramunga Arr**	**32.71**	**266**	P	**P**	**22 01 01.4**	**-0.9**
	0.4nm,0.4s,mb3.7,baz=95,slow=8.5,SNR=14						
WRA				LR	LR	22 14 24.1	
	comp=Z,184nm,19.3s,MS3.8,baz=45,slow=36						
ASAR	**Alice Springs**	**32.73**	**259**	P	**P**	**22 01 02.5**	**0.0**
	1.2nm,0.7s,mb3.9,baz=79,slow=9.4,SNR=12						
ASAR				PcP	PcP	22 03 51.5	+3.8
	1.2nm,0.8s,baz=123,slow=2.8,SNR=5.6						
FITZ	**Fitzroy Crossi**	**41.13**	**267**	*e*P	**P**	**22 02 14.4**	**+0.4**
	6.5nm,0.6s,mb4.4						
FITZ	**Fitzroy Crossi**	**41.13**	**267**	*e*P	**P**	**22 02 14.7**	**+0.7**
	5.5nm,0.6s,mb4.4						
MBWA	**Marble Bar**	**46.04**	**261**	*e*P	**P**	**22 02 55.1**	**+1.6**
MJAR	**Matsushiro Arr**	**64.67**	**333**	P	**P**	**22 05 06.4**	**-0.9**
	4.6nm,0.8s,mb4.5,baz=168,slow=6.2,SNR=6.4						
MAJO	**Matsushiro**	**64.67**	**333**	*e*P	**P**	**22 05 06.7**	**-0.7**
	9.4nm,0.8s,mb4.9						
QSPA	**South Pole Qui**	**68.68**	**180**	P	**P**	**22 05 32.3**	**0.0**
	3.4nm,0.9s,mb4.3,baz=16,slow=3.9,SNR=6.7						
QSPA	**South Pole Qui**	**68.68**	**180**	P	**P**	**22 05 32.3**	**0.0**
COCO	**West Island**	**69.48**	**265**	*e*P	**P**	**22 05 37.5**	**-0.9**
ASAJ	**Asahikawa**	**69.63**	**340**	P	**P**	**22 05 39.0**	**+0.5**
	24nm,0.9s,mb5.1,baz=243,slow=15,SNR=3.8						
KSRS	**Korea Array**	**70.31**	**326**	P	**P**	**22 05 43.4**	**+0.4**
	2.5nm,1.0s,mb4.1,baz=140,slow=5.7,SNR=5.6						
YSS	**Yuzh-Sakhalins**	**72.12**	**341**	P	**P**	**22 05 53.8**	**+0.1**
PETK	**Petropavlovsk-**	**74.86**	**353**	P	**P**	**22 06 10.9**	**+1.3**
	8.6nm,0.9s,mb4.7,baz=133,slow=10,SNR=4.4						
CN2	**Changchun**	**76.32**	**329**	*e*P	**P**	**22 06 21.9**	**+3.7**
CN2				AMB	AMB		
	comp=Z,10.0nm,0.9s,mb4.8						
MAW	**Mawson**	**76.48**	**202**	P	**P**	**22 06 19.6**	**+0.7**
CMAR	**Chiang Mai Arr**	**79.44**	**295**	P	**P**	**22 06 37.9**	**+1.7**
	comp=Z,4.0nm,0.9s,mb4.3,baz=136,slow=4.8,SNR=4.7						
KMI	**Kunming**	**79.46**	**302**	P	**P**	**22 06 41.7**	**+5.5**
KMI				AMB	AMB		
	comp=Z,9.0nm,1.0s,mb4.7						
KMI				LR	LR		
	comp=Z,150nm,19.5s,MS4.3						
CHTO	**Chiang Mai**	**79.60**	**295**	*e*P	**P**	**22 06 42.2**	**+5.1**
	comp=Z,4.4nm,1.0s,mb4.3						
SNAA	**Sanae**	**87.03**	**182**	*e*	**P**	**22 07 17.5**	**+3.1**
SNAA				*e*		22 07 21.8	
SNAA				*e*	pP	22 07 25.0	+1.3
SNAA				*e*		22 07 31.4	
SNAA	**Sanae**	**87.03**	**182**	*e*P	**P**	**22 07 13.2**	**-1.3**
	comp=Z,5.8nm,1.1s,mb4.7						
VNA3	**Neumayer Olymp**	**87.61**	**180**	*e*	**P**	**22 07 15.9**	**-1.4**
VNA3				*e*		22 07 20.4	
VNA3				*e*	pP	22 07 24.7	-1.9
VNA2	**Neumayer--Watz**	**87.91**	**181**	*e*	**P**	**22 07 17.9**	**-0.8**
	baz=188,slow=3.9						
VNA2				*e*		22 07 22.4	
VNA2				*e*	pP	22 07 26.4	-1.6
VNA2				*e*		22 07 32.8	
VNA1	**Neumayer--Stat**	**88.20**	**181**	*e*	**P**	**22 07 19.8**	**-0.3**
VNA1				*e*		22 07 24.4	
VNA1				*e*	pP	22 07 28.4	-0.9
CMB	**Columbia Colle**	**88.54**	**48**	*e*P	**P**	**22 07 23.8**	**+1.6**
	comp=Z,13nm,1.5s,mb5.0						
ULN	**Ulaanbaatar**	**88.62**	**323**	*e*P	**P**	**22 07 22.5**	**+0.3**
	comp=Z,5.4nm,1.2s,mb4.8						
YBH	**Yreka Blue Hor**	**88.79**	**44**	P	**P**	**22 07 27.3**	**+4.0**
	comp=Z,2.5nm,0.6s,mb4.7,baz=52,slow=2.3,SNR=7.4						
SONM	**Songino Array**	**88.97**	**323**	P	**P**	**22 07 22.1**	**-1.8**
	comp=Z,0.7nm,0.9s,mb4.0,baz=108,slow=0.8,SNR=4.0						
NVAR	**Mina Array Bea**	**90.17**	**48**	P	**P**	**22 07 28.8**	**-1.0**
	comp=Z,5.0nm,0.7s,mb5.0,baz=226,slow=8.3,SNR=8.3						
MOD	**Modoc**	**90.44**	**45**	*e*P	**P**	**22 07 30.2**	**-0.8**
	comp=Z,5.4nm,0.5s,mb5.1						
TRQA	**Tornquist**	**103.75**	**141**	*e*Pdif	Pdif	22 08 32.0	+0.8
ARCES	**ARCESS Array B**	**127.15**	**345**	PKP	PKPdf	22 13 30.3	-2.6
	comp=Z,2.7nm,0.7s,baz=106,slow=2.6,SNR=5.2						
ARCES	**ARCESS Array B**	**127.15**	**345**	PKP	PKPdf	22 13 30.3	-2.6
NOA	**NORSAR Array B**	**137.52**	**344**	PKP	PKPdf	22 13 52.5	-0.1
	comp=Z,0.9nm,0.9s,baz=87,slow=19,SNR=2.5						
BURAR	**Bucovina Array**	**141.05**	**321**	⇑*i*P	PKPdf	22 14 05.3	+5.8
DRGR		**142.94**	**321**	⇓*i*P	PKPdf	22 14 05.4	+2.5
DRGR		**142.94**	**321**	⇓P	PKPdf	22 14 05.4	+2.5
VYHS	**Vyhne**	**144.11**	**326**	*i* PKP	PKPdf	22 14 07.2	+2.3
DPC	**Dobruska-Polom**	**144.12**	**330**	*e*PKP	PKPdf	22 14 06.5	+1.6
UPC	**Upice**	**144.16**	**331**	*e*PKP	PKPdf	22 14 06.7	+1.7
BZS	**Buzias**	**144.20**	**320**	⇑*i*P	PKPdf	22 14 07.2	+2.0
BZS	**Buzias**	**144.20**	**320**	⇑P	PKPdf	22 14 07.2	+2.0
KOLL	**Kolacno**	**144.28**	**326**	*i* PKP	PKPdf	22 14 07.8	+2.6
KOLL	**Kolacno**	**144.28**	**326**	*e*P	PKPdf	22 14 07.8	+2.6
PVCC	**Panska Ves**	**144.79**	**332**	*e*PKP	PKPdf	22 14 08.7	+2.6
BRG	**Berggiesshubel**	**144.81**	**333**	*e*PKPbc	PKPdf	22 14 08.5	+2.4
BRG	**Berggiesshubel**	**144.81**	**333**	*i* P	PKPdf	22 14 04.5	-1.6
	comp=Z,3.3nm,0.8s						
BRG				*i*		22 14 08.5	
	comp=Z,16nm,1.1s						
CLL	**Collm**	**144.88**	**334**	*e*PKPbc	PKPdf	22 14 08.5	+2.3
CLL	**Collm**	**144.88**	**334**	*e*PKPdf	PKPdf	22 14 04.0	-2.2
	comp=Z,4.0nm,1.2s						
CLL				⇓*i*PKiKP	PKiKP	22 14 08.7	-1.3
	comp=Z,18nm,1.2s						
CLL				*e*(pPKiKP)		22 14 13.0	
	comp=Z,6.0nm,0.8s						
CLL				*e*x	x	22 14 29.0	
MODS	**Modra-Piesok**	**144.99**	**327**	*i* PKP	PKPdf	22 14 10.2	+3.7
ZST	**Bratislava**	**145.19**	**327**	*i* PKP	PKPdf	22 14 11.0	+4.2
PRU	**Pruhonice**	**145.19**	**331**	*e*PKP	PKPdf	22 14 10.0	+3.2
TREC	**Trest**	**145.25**	**330**	*e*PKP	PKPdf	22 14 10.2	+3.3
CLZ	**Clausthal**	**145.48**	**337**	*e*PKPbc	PKPbc	22 14 10.9	+3.6
PKSM	**Moragy**	**145.59**	**323**	⇓*i*P	PKPdf	22 14 06.5	-1.1
PKSM	**Moragy**	**145.59**	**323**	⇓P	PKPdf	22 14 06.5	-1.1
TANN	**Tannenbergstha**	**145.78**	**333**	*e*PKPbc	PKPbc	22 14 11.5	+3.3
NKC	**Novy Kostel**	**145.92**	**333**	*e*PKP	PKPbc	22 14 12.3	+3.6
CONA	**Conrad Observa**	**145.99**	**327**	⇑*i*pPKPbc	pPKPbc	22 14 13.0	-5.5
	comp=Z,16nm,1.3s						
CSNA	**Conrad Observa**	**145.99**	**327**	⇑*i*pPKPbc	pPKPbc	22 14 13.0	-5.4
	comp=Z,17nm,1.4s						
IBBN	**Ibbenburen**	**145.99**	**340**	*e*PKPbc	PKPbc	22 14 12.0	+3.2
KHC	**Kasperske Hory**	**146.24**	**331**	*e*PKP	PKPdf	22 14 09.0	+0.4
KHC				*e*x	x	22 14 13.6	
KHC	**Kasperske Hory**	**146.24**	**331**	*e*P	PKPbc	22 14 13.6	+3.9
MANZ	**Manzenberg**	**146.25**	**333**	*e*PKPbc	PKPbc	22 14 13.3	+3.6
ROTZ	**Rotzenmuhle**	**146.38**	**333**	*e*PKPbc	PKPbc	22 14 13.8	+3.7
GEC2	**GERESS Array S**	**146.39**	**330**	*e*PKPbc	PKPbc	22 14 13.7	+3.5
GERES	**GERESS Array B**	**146.39**	**330**	PKPbc	PKPbc	22 14 09.4	-0.8
	comp=Z,3.6nm,0.6s,baz=34,slow=4.0,SNR=27						
UBBA	**Unterbreizbach**	**146.44**	**336**	*e*PKPbc	PKPbc	22 14 13.2	+3.0
WET	**Wettzell**	**146.55**	**332**	*e*PKPbc	PKPbc	22 14 14.0	+3.4
GRA1	**Grafenberg Arr**	**146.84**	**334**	*e*PKPbc	PKPbc	22 14 15.0	+3.6
GRF	**Grafenberg Arr**	**146.84**	**334**	*e*PKPbc	PKPbc	22 14 15.0	+3.6
TNS	**Taunus Mts**	**147.50**	**337**	*e*PKPbc	PKPbc	22 14 15.9	+2.6
RJOB	**Jochberg**	**147.61**	**330**	*e*PKPbc	PKPbc	22 14 16.6	+3.0
MEM	**Membach**	**148.01**	**340**	P	PKPab	22 14 18.0	+0.7
BCLA	**Clavier**	**148.40**	**340**	P	PKPab	22 14 22.4	+3.5
WLF	**Walferdange**	**148.78**	**339**	P	PKPdf	22 14 20.7	+7.9
WLF	**Walferdange**	**148.78**	**339**	*e*PKPbc	PKPab	22 14 20.5	+0.1
WLF	**Walferdange**	**148.78**	**339**	*e*PKPdf	PKPdf	22 14 15.0	+2.2
WLF				*e*PKPab	PKPab	22 14 20.5	+0.1
GIVF	**Givet**	**148.83**	**341**	*e*PKP1	PKPab	22 14 20.0	-0.6
	comp=Z,22nm,0.8s						
DOU	**Dourbes**	**148.91**	**341**	P	PKPab	22 14 20.0	-0.9
BAIF	**Baives**	**149.06**	**341**	⇑*i*PKP1	PKPab	22 14 20.8	-0.7
	comp=Z,20nm,0.9s						
BFO	**Black Forest**	**149.09**	**335**	*e*PKPbc	PKPab	22 14 20.5	-1.2
DAVA	**Damuels**	**149.27**	**332**	⇑*i*pPKPbc	PKPab	22 14 21.4	-1.1
	comp=Z,11nm,1.4s						
CDF	**Champ du Feu**	**149.43**	**336**	*e*PKP1	PKPab	22 14 21.4	-1.7
	comp=Z,14nm,0.8s						
HINF	**Hinteralfeld**	**150.08**	**336**	*e*PKP1	PKPab	22 14 22.9	-2.9
	comp=Z,17nm,1.0s						
HAU	**Haudompre**	**150.11**	**337**	⇑*i*PKP1	PKPab	22 14 23.1	-2.8
	comp=Z,16nm,0.8s						
TUE	**Stuetta**	**150.13**	**332**	*e*PKPdf	PKPdf	22 14 18.3	+3.3
TUE				*e*PKPbc	PKPbc	22 14 23.1	+3.1
MEZF	**Maizieres J'vi**	**150.15**	**339**	⇑*i*PKP1	PKPbc	22 14 23.7	+3.6
	comp=Z,40nm,0.9s						
CABF	**La Chapelle**	**151.37**	**335**	⇑*i*PKP1	PKPbc	22 14 26.6	+3.6
	comp=Z,11nm,0.6s						
FLN	**La Foliniere**	**151.49**	**346**	*e*PKP1	PKPbc	22 14 26.0	+2.8
	comp=Z,30nm,0.8s						
LDF	**La Druitiere**	**151.56**	**345**	*e*PKP1	PKPbc	22 14 26.1	+2.7
	comp=Z,26nm,1.0s						
LOR	**Lormes**	**151.62**	**339**	*e*PKP1	PKPbc	22 14 26.7	+3.1
	comp=Z,21nm,1.0s						
SSF	**Saint Saulge**	**151.92**	**339**	*e*PKP1	PKPbc	22 14 27.4	+3.1
	comp=Z,17nm,0.9s						
GRR	**Gorron**	**151.93**	**346**	*e*PKP1	PKPbc	22 14 27.1	+2.9
	comp=Z,29nm,1.0s						
LPL	**La Plagne**	**152.01**	**333**	*e*PKP1	PKPbc	22 14 28.1	+3.6
	comp=Z,7.9nm,0.6s						
LPG	**La Plagne**	**152.01**	**333**	*e*PKP1	PKPbc	22 14 28.2	+3.7
	comp=Z,10nm,0.6s						
SMF	**Signal de Mont**	**152.17**	**338**	*e*PKP1	PKPbc	22 14 27.8	+3.0
	comp=Z,9.1nm,0.9s						
AVF	**Avril sur Loir**	**152.21**	**339**	*e*PKP1	PKPbc	22 14 27.7	+2.8
	comp=Z,11nm,1.1s						
BNI	**Bardonecchia**	**152.40**	**333**	*e*PKPdf	PKPdf	22 14 20.2	+1.6
BNI				*e*PKPbc	PKPbc	22 14 27.5	+2.1
SGMF	**Saint Gilles**	**152.41**	**348**	*e*PKP1	PKPbc	22 14 28.0	+2.7
	comp=Z,25nm,0.9s						
ROSF	**Rostrenen**	**152.46**	**349**	*e*PKP1	PKPbc	22 14 27.9	+2.5
BGF	**Bois d'Agland**	**152.58**	**339**	*e*PKP1	PKPbc	22 14 28.8	+3.0
	comp=Z,6.9nm,0.7s						
MBDF	**Montbardon**	**152.62**	**332**	*e*PKP1	PKPbc	22 14 28.9	+3.0
	comp=Z,4.3nm,0.7s						
ORIF	**Oris-en-Rattie**	**152.84**	**334**	*e*PKP1	PKPbc	22 14 29.6	+3.2
	comp=Z,9.2nm,0.6s						
QUIF	**Quistinic**	**152.85**	**349**	*e*PKP1	PKPbc	22 14 29.6	+3.3
TCF	**Toulx Ste Croi**	**153.02**	**340**	⇑*i*PKP1	PKPbc	22 14 29.7	+3.0
	comp=Z,11nm,1.0s						
PGF	**Pioggiola**	**153.21**	**326**	*e*PKP1	PKPbc	22 14 30.4	+3.1
	comp=Z,11nm,0.8s						
VIVF	**Saint-Julien-l**	**153.38**	**335**	*e*PKP1	PKPbc	22 14 30.7	+3.1
	comp=Z,2.7nm,0.5s						
MFF	**Saint Martin d**	**153.42**	**344**	*e*PKP1	PKPbc	22 14 30.3	+2.7
FRF	**La Foret Royal**	**153.59**	**331**	*e*PKP1	PKPbc	22 14 30.9	+2.8
SMRF	**Simiane la Rot**	**153.74**	**333**	*e*PKP1	PKPbc	22 14 31.8	+3.4
	comp=Z,10nm,1.1s						
LMR	**La Mourre**	**153.83**	**331**	*e*PKP1	PKPbc	22 14 31.4	+2.8
	comp=Z,4.7nm,0.8s						
RJF	**Les Rejaudoux**	**154.12**	**340**	*e*PKP1	PKPbc	22 14 32.2	+3.0
	comp=Z,9.7nm,1.1s						
PVRL	**Vila Real**	**160.01**	**353**	*e*PKPab	PKPab	22 15 11.1	+2.9
PVIS	**Viseu**	**160.59**	**354**	*e*PKPab	PKPab	22 15 13.8	+3.1
MTE	**Manteigas**	**160.86**	**353**	*e*PKPab	PKPab	22 15 14.7	+2.8
ESDC	**Sonseca Array**	**160.88**	**344**	PKPab	PKPab	22 15 13.8	+1.7
	comp=Z,1.5nm,0.7s,baz=17,slow=3.9,SNR=5.8						
PCBR	**Castelo Branco**	**161.40**	**352**	*e*PKPab	PKPab	22 15 17.0	+2.7
PBAR	**Barrancos**	**162.97**	**350**	*e*PKPab	PKPab	22 15 23.1	+1.9
PBEJ	**Beja**	**163.24**	**352**	*e*PKPab	PKPab	22 15 25.6	+3.2

ISK ***02*** *21:57:38.8, 3901N×4112E, h5km, ML3.7*
DDA ***02*** *21:57:39.2, 3900N×4114E, h19km±1km, Md3.8, Ml3.9*
CSEM ***02*** *21:57:39.1±0.1, 3901N×4109E, h2km, ML3.9, Error ellipse: s-maj=1.7km s-min=1.3km az=152.0*
ISCJB ***02*** *21:57:40.6±0.3, 3900N±002×4113E±003, h10km, Error ellipse: s-maj=3.4km s-min=2.9km az=30.5*
ISC 02 21:57:41.5±0.9**, 3899N**±002×**4111E**±003**, h13**km±7km**, n46,** σ**0.88**/55**, Turkey**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
ERZM	**Erzurum**	**0.93**	**12**	*i* P	**Pb**	**21 57 56.6**	**-2.9**
ERZM				*i* S	**Sb**	**21 58 06.4**	**-5.5**
BEST	**Besiri**	**1.11**	**174**	*i* P	**Pb**	**21 58 00.1**	**-2.4**
BEST				*i* S	**Sb**	**21 58 16.3**	**-0.4**
KOPT	**Kop Dagi**	**1.13**	**335**	*i* P	**Pb**	**21 58 00.6**	**-2.3**
KOPT				*i* S	**Sb**	**21 58 16.7**	**-0.9**
EZC	**Erzincan**	**1.26**	**307**	PN	**Pg**	**21 58 08.4**	**+2.7**
EZC				SN	**Sg**	**21 58 30.9**	**+8.9**
DIYA	**Diyarbakir**	**1.32**	**216**	*i* P	**Pn**	**21 58 04.8**	**-0.8**

DIYA				*i* S	Sb	21 58 23.4	+0.4
DIYA	Diyarbakir	1.32	216	*i* P	Pn	21 58 04.8	-0.8
DIYA				*i* S	Sb	21 58 23.4	+0.4
SVRC	Sivrice-ELAZID	1.54	247	PN	Pn	21 58 08.3	-0.4
AGRB	Hanur-Agry	1.57	68	PN	Pn	21 58 07.8	-1.3
MARD	Mardin	1.70	189	*i* P	Pn	21 58 09.9	-0.9
MARD				*i* S	Sn	21 58 34.6	+2.3
ELZG	Elazig	1.74	254	*i* P	Pn	21 58 10.6	-0.8
ELZG				*i* S	Sg	21 58 38.0	+0.7
SIRT	Sirnak	1.82	145	*e*PN	Pn	21 58 13.2	+0.7
VANB	Van	1.82	102	*e*PN	Pn	21 58 12.3	-0.3
TVAN	Van	1.85	104	*i* P	Pn	21 58 13.0	0.0
VANT	Van	1.86	106	PN	Pn	21 58 12.2	-0.9
GUMT	Gumushane	1.93	320	PN	Pn	21 58 14.7	+0.6
DDEM	Demirkent	1.96	14	*i* P	Pn	21 58 14.3	-0.2
DBAD	Bademkaya	2.07	12	*i* P	Pn	21 58 15.7	-0.3
DBAD				*i* S	Sn	21 58 42.0	+0.3
DYDN	Diyadin	2.07	74	*i* P	Pn	21 58 16.1	+0.1
DAGI	Agillar	2.17	16	*i* P	Pn	21 58 16.9	-0.5
CLDR	Caldiran	2.19	85	*e*PN	Pn	21 58 18.0	+0.4
PZAR	Pazar-Rize	2.19	356	PN	Pn	21 58 17.2	-0.4
MYA	Malataya	2.21	253	*e*PN	Pn	21 58 18.1	+0.3
KARS	Kars	2.22	43	*e*PN	Pn	21 58 18.2	+0.1
KARS				*e*SN	Sn	21 58 46.7	+1.3
KTUT	Trabzon	2.25	333	*e*PN	Pn	21 58 18.6	+0.2
DIGO	Kars	2.25	50	*i* P	Pn	21 58 18.3	-0.2
URFA	Urfa	2.38	230	PN	Pn	21 58 20.6	+0.4
DBOC	Borcka	2.39	10	*i* P	Pn	21 58 19.7	-0.6
BCA	Borcka	2.48	9	*e*PN	Pn	21 58 21.4	-0.2
HAKT	HAKKARI	2.49	124	*i* P	Pn	21 58 22.4	+0.6
HAKT				*i* S	Sg	21 59 01.8	+0.2
HKR	Hakkari	2.50	123	*e*PN	Pn	21 58 22.0	+0.1
AKCD	Akcadag	2.59	255	*i* P	Pn	21 58 22.5	-0.7
ESPY	Espiye-Giresun	2.66	317	*e*PN	Pn	21 58 24.7	+0.7
ATAB	Bozova	2.69	236	*i* P	Pn	21 58 23.9	-0.6
GNI	Garni	3.03	66	*e*PN	Pn	21 58 30.2	+1.0
MSL	Mosul	3.03	148	*e*x	x	21 58 33.0	
MSL				*i* x	x	21 58 39.0	
MSL				*i* x	x	21 58 54.0	
MSL				*e*x	x	21 59 14.0	
MSL				*i* x	x	21 59 19.0	
RSDY	Resadiye-TOKAT	3.24	297	*e*PN	Pn	21 58 32.3	+0.2
SVSK	Karacayir	3.32	287	*e*PN	Pn	21 58 34.0	+0.9
GOR	Gori	3.76	36	P	Pn	21 58 39.9	+0.7
TBLG	Delisi	3.89	44	P	Pn	21 58 41.2	+0.2
MTA	Mtatsminda	3.90	45	P	Pn	21 58 41.3	+0.2
ONI	Oni	4.00	26	P	Pn	21 58 42.7	+0.2
ANDN	Andirin	4.01	251	*i* P	Pn	21 58 42.2	-0.4
DGRG	David-gareji	4.08	52	P	Pn	21 58 44.6	+1.0
FKH	Fakeheh	6.07	220	*e*Pn	Pn	21 59 15.9	+4.9
BHD	Baghdad	6.29	154	*e*x	x	21 59 35.0	
BHD				*e*x	x	22 01 08.0	
BHD				*e*x	x	22 02 20.0	
BHL	Bhannes	6.72	223	*e*Pn	Pn	21 59 23.8	+3.9

*IDC **02** 21:59:26.5±0.8, 5457N×16177W, h0km, mb4.3/17, mb1 4.4/18, mb1mx4.3/26, mbtmp4.3/18, ML3.8/1, MS3.5/3, Ms1 3.5/3, ms1mx3.0/42, Error ellipse: s-maj=25.7km s-min=13.7km az=173.0*

*BJI **02** 21:59:27.2, 5484N×16150W, h21km, mB4.9, mb4.7, Ms4.7, Msz4.4*

*ISCJB **02** 21:59:30.8±0.8, 5455N±007×16159W±008, h43km±5km, mb4.5/65, MS4.3/5, Error ellipse: s-maj=13.6km s-min=4.4km az=152.0*

*NEIC **02** 21:59:30.8, 5433N×16149W, h29km, mb4.5/28, MS4.6/1, ML4.0(AEIC), After AEIC.*

*SZGRF **02** 21:59:33.0, 5459N×16118W, h33km, mb4.7, Alaska Peninsula, United States*

ISC 02 21:59:31.7±0.8**, 5439N**±008×**16150W**±008**, h44**km±5km**, h46**km±7.0km**:pP-P, n134,** σ0s82/143**, mb4.5**/65**, MS4.3**/5**, 43C-3D, Alaska Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SDPT	Sand Point	1.13	31	P	Pn	21 59 50.5	-0.6
SDPT				S	Sn	22 00 06.3	+0.9
AKUT	Akutan	2.52	266	P	Pn	22 00 10.2	+0.1
AKUT				S	Sn	22 00 40.0	+0.5
AKLV	Akutan Long Va	2.62	267	P	Pn	22 00 12.6	+1.1
UNV	Unalaska Valle	3.00	262	P	Pn	22 00 16.7	+0.1
UNV				S	Sn	22 00 51.2	0.0
OHAK	Old Harbor	5.43	55	*e*Pn	Pn	22 00 49.3	-0.7
OHAK				*e*Sn	Sn	22 01 48.7	-2.4
KDAK	Kodiak Island	6.04	52	Pn	Pn	22 00 57.0	-1.3
	2.2nm,0.3s,baz=204,slow=10,SNR=17						
KDAK				Pg	Pn	22 01 06.1	+7.8
	4.1nm,0.3s,baz=252,slow=9.8,SNR=14						
KDAK				Sn	Sn	22 02 06.0	0.0
	2.4nm,0.3s,baz=166,slow=19,SNR=2.8						
KDAK				Lg		22 02 27.1	
	2.9nm,0.3s,baz=34,slow=21,SNR=9.6						
KDAK				LR	LR	22 03 06.1	
	comp=Z,220nm,19.1s,baz=114,slow=36						
KDAK	Kodiak Island	6.04	52	Pn	Pn	22 00 57.0	-1.3
KDAK				Pg	Pn	22 01 06.1	+7.8
KDAK				Sn	Sn	22 02 06.0	0.0
KDAK				Lg		22 02 27.1	
KDAK				LR	LR	22 03 06.1	
SVW2	Sparrevohn	7.43	23	*e*Pn	Pn	22 01 18.0	+0.6
SLKM	Skilak Lake	8.63	40	*e*Pn	Pn	22 01 34.3	+0.6
SLKM				*e*Sn	Sn	22 03 10.5	+0.9
TT01	Tatalina	9.01	16	P	Pn	22 01 39.0	+0.1
EYAK	Cordova Ski Ar	10.47	48	Pn	Pn	22 01 57.0	-2.0
IMA2	Indian Mountai	12.33	15	*e*Pn	Pn	22 02 25.7	+1.4
IMA2				*e*Sn	Sn	22 04 40.0	-0.1
DAWY	Dawson	14.81	40	Pn	Pn	22 02 56.9	-1.1
PETK	Petropavlovsk-	23.93	284	P	P	22 04 40.2	-1.0
	25nm,0.5s,mb4.9,baz=78,slow=13,SNR=104						
PETK	Petropavlovsk-	23.93	284	P	P	22 04 40.2	-1.0
YKA	Yellowknife Ar	25.32	52	P	P	22 04 56.1	+2.3
	1.4nm,0.6s,mb3.7,baz=272,slow=8.3,SNR=6.7						
NVAR	Mina Array Bea	33.18	101	P	P	22 06 07.7	+3.9
	0.3nm,0.5s,mb3.5,baz=306,slow=11,SNR=5.2						
ASAJ	Asahikawa	36.98	277	P	P	22 06 37.0	+0.5
	8.9nm,1.2s,mb4.5,baz=112,slow=7.8,SNR=3.7						
MDJ	Mudanjiang	44.11	287	P	P	22 07 35.0	-0.3
MDJ				AMB	AMB		
	comp=Z,5.0nm,0.7s,mb4.3						
MDJ				AMB	AMB		
	comp=Z,97nm,5.9s						
MAJO	Matsushiro	44.42	272	*e*P	P	22 07 35.7	-2.2
	comp=Z,7.6nm,0.8s,mb4.5						
MJAR	Matsushiro Arr	44.42	272	P	P	22 07 37.7	-0.2
	comp=Z,1.8nm,0.5s,mb4.1,baz=31,slow=6.7,SNR=8.4						
CN2	Changchun	46.93	289	*e*P	P	22 07 56.6	-1.0
CN2				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.9						
TXAR	Lajitas Array	48.15	97	P	P	22 08 09.6	+2.4
	comp=Z,0.5nm,0.7s,mb3.6,baz=308,slow=4.2,SNR=5.0						
TXAR				PcP	PcP	22 09 34.6	+0.5
	comp=Z,0.4nm,0.5s,baz=187,slow=1.1,SNR=7.8						
KSRS	Korea Array	49.77	281	P	P	22 08 19.7	+0.2
	comp=Z,9.8nm,0.7s,mb4.9,baz=48,slow=6.9,SNR=41						
KSRS				LR	LR	22 30 07.7	
	comp=Z,35nm,19.1s,MS3.4,baz=10.0,slow=37						
WVT	Waverly	52.46	78	*e*P	P	22 08 39.0	-0.8
	comp=Z,7.4nm,0.9s,mb4.6						
ULN	Ulaanbaatar	53.87	304	*e*P	P	22 08 49.5	-0.4
	comp=Z,6.7nm,0.8s,mb4.6						
ULN				*e*PcP	PcP	22 09 55.3	+0.3
SONM	Songino Array	54.21	304	P	P	22 08 52.4	0.0
	comp=Z,6.3nm,0.8s,mb4.6,baz=46,slow=7.1,SNR=30						
SONM				PcP	PcP	22 09 57.0	+0.6
	comp=Z,2.5nm,0.8s,baz=81,slow=1.8,SNR=8.9						
KEV	Kevo	56.01	356	*e*p	P	22 09 03.4	-1.7
	comp=Z,0.7nm,0.4s,mb4.0						
ARCES	ARCESS Array B	56.28	357	P	P	22 09 06.1	-1.0
	comp=Z,5.7nm,1.1s,mb4.5,baz=18,slow=8.1,SNR=6.2						
ARCES	ARCESS Array B	56.28	357	P	P	22 09 06.1	-1.0
ZALV	Zalesovo Beam	58.98	321	P	P	22 09 26.9	+0.7
	comp=Z,0.4nm,0.3s,mb3.9,baz=22,slow=5.5,SNR=3.8						
ZALV				PcP	PcP	22 10 13.9	-0.9
	comp=Z,0.6nm,0.5s,baz=34,slow=6.1,SNR=3.6						
ZALV	Zalesovo Beam	58.98	321	P	P	22 09 26.9	+0.7
ZALV				PcP	PcP	22 10 13.9	-0.9
JOF	Joensuu	62.61	353	*e*p	P	22 09 49.2	-1.5
	comp=Z,1.1nm,0.4s,mb4.3						
GTA	Gaotai	63.61	301	*e*P	P	22 09 57.4	-0.4
GTA				AP	pP	22 10 09.9	-0.5
GTA				PP	PP	22 12 16.8	-0.7
GTA				S	S	22 18 22.2	-6.1
GTA				XS	sS	22 18 44.7	-4.6
GTA				AMB	AMB		
	comp=Z,9.0nm,1.2s,mb4.7						
GTA				AMB	AMB		
	comp=Z,144nm,7.8s						
GTA				LR	LR		
	comp=N,68nm,9.6s						
GTA				LR	LR		
	comp=E,174nm,10.2s						
GTA				LR	LR		
	comp=Z,120nm,10.8s,MS4.3						
KAF	Kangasniemi	63.68	356	*e*p	P	22 09 56.4	-1.4
	comp=Z,2.3nm,0.4s,mb4.6,baz=1.9,slow=6.3						
KURK	Kurchatov	63.84	322	LR	LR	22 40 25.2	
	comp=Z,107nm,18.5s,MS4.1,baz=110,slow=39						
LZH	Lanzhou	64.08	296	*e*P	P	22 10 02.0	+1.1
LZH				AP	pP	22 10 12.3	-1.2
LZH				XP	sP	22 10 16.2	-2.3
LZH				*e*PP	PP	22 12 24.3	+2.6
LZH				AMB	AMB		
	comp=Z,19nm,1.4s,mb4.9						
LZH				AMB	AMB		
	comp=Z,118nm,5.7s						
LZH				LR	LR		
	comp=E,297nm,16.7s						
LZH				LR	LR		
	comp=Z,394nm,19.5s,MS4.6						
LZH	Lanzhou	64.08	296	*e*P	P	22 10 02.0	+1.1
	comp=Z,19nm,1.4s,mb4.9						
LZH				pP	pP	22 10 12.3	-1.2
LZH				sP	sP	22 10 16.2	-2.3
LZH				*e*PP	PP	22 12 24.3	+2.6
LZH				LR	LR		
	comp=Z,390nm,19.5s,MS4.6						
NB2	NORSAR Subarra	64.78	4	P	P	22 10 04.5	-0.5
	comp=Z,1.4nm,0.6s,mb4.2,baz=357,slow=6.5						
NOA	NORSAR Array B	64.78	4	P	P	22 10 04.8	-0.2
	comp=Z,1.8nm,0.6s,mb4.3,baz=357,slow=6.6,SNR=10						
ARU	Arti	64.81	337	*e*P	P	22 10 04.2	-1.0
	comp=Z,6.9nm,0.5s,mb4.9						
MKAR	Makanchi Array	65.68	317	P	P	22 10 10.0	-1.1
	comp=Z,0.7nm,0.4s,mb4.0,baz=40,slow=6.5,SNR=8.9						
GYA	Guiyang	69.96	288	P	P	22 10 37.6	-0.8
GYA				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.8						
KMI	Kunming	73.19	290	P	P	22 10 56.7	-1.1
KMI				PP	PP	22 13 43.3	+2.5
KMI				S	S	22 20 19.8	-2.7
KMI				SS	SS	22 25 04.4	+0.6
KMI				AMB	AMB		
	comp=Z,10.0nm,2.0s,mb4.4						
KMI				AMB	AMB		
	comp=Z,391nm,4.5s						
KMI				LR	LR		
	comp=N,408nm,19.9s						
KMI				LR	LR		
	comp=E,511nm,13.5s						
KMI				LR	LR		
	comp=Z,489nm,15.3s,MS4.9						
KMI	Kunming	73.19	290	P	P	22 10 56.7	-1.1
	comp=Z,10.0nm,2.0s,mb4.4						
KMI				pP	pP	22 11 12.4	+1.8
KMI				sP	sP	22 11 18.7	+3.1
KMI				PP	PP	22 13 43.3	+2.5
KMI				S	S	22 20 19.8	-2.7
KMI				sS	sS	22 20 44.5	+0.6
KMI				SS	SS	22 25 04.4	+0.6
KMI				LR	LR		
	comp=Z,490nm,15.3s,MS4.9						
CLL	Collm	74.58	4	*i* P	P	22 11 05.1	-0.4
	comp=Z,4.0nm,0.7s,mb4.5						
AKASG	Malin Array Be	74.90	353	P	P	22 11 06.3	-1.0
	comp=Z,7.4nm,0.6s,mb4.8,baz=7.9,slow=5.9,SNR=24						
AKBB	Malin Array Si	74.90	353	*e*P	P	22 11 05.9	-1.5
BRG	Berggiesshubel	75.04	3	*e*(P)	P	22 11 08.2	0.0
	comp=Z,3.5nm,1.1s,mb4.2						
BAIF	Baives	75.24	9	⇑*i*P	P	22 11 09.3	0.0
	comp=Z,8.1nm,0.8s,mb4.4						
BAIF	Baives	75.24	9	⇑*i*P	P	22 11 09.3	0.0
	comp=Z,4.1nm,0.8s,mb4.4						
PVCC	Panska Ves	75.41	3	*e*P	P	22 11 10.7	+0.4
UPC	Upice	75.46	2	*e*P	P	22 11 11.0	+0.4
DPC	Dobruska-Polom	75.62	1	*e*P	P	22 11 11.9	+0.4
NKC	Novy Kostel	75.63	4	*e*P	P	22 11 12.2	+0.6
LSA	Lhasa	75.64	301	P	P	22 11 12.7	+0.7
LSA	Lhasa	75.64	301	*e*P	P	22 11 13.1	+1.1
	comp=Z,3.5nm,0.7s,mb4.4						
PRU	Pruhonice	75.95	3	*e*P	P	22 11 13.6	+0.2
GRA1	Grafenberg Arr	76.12	5	*e*P	P	22 11 14.6	+0.3
	comp=Z,7.0nm,1.1s,mb4.5						
GRF	Grafenberg Arr	76.12	5	*e*P	P	22 11 14.6	+0.3
	comp=Z,7.0nm,1.1s,mb4.5						
OKC	Ostrava-Krasne	76.15	0	*e*P	P	22 11 14.6	+0.1
MORC	Moravsky Berou	76.21	1	⇑*i*P	P	22 11 13.9	-1.0
MORC	Moravsky Berou	76.21	1	⇑P	P	22 11 13.9	-1.0
KWP	Kalwaria	76.30	357	⇑*i*P	P	22 11 15.2	-0.2
KWP	Kalwaria	76.30	357	*e*P	P	22 11 15.1	-0.3
STHS	Stebnicka Huta	76.55	358	*i* P	P	22 11 17.7	+0.9
	comp=Z,9.2nm,1.3s,mb4.5						
TREC	Trest	76.66	2	*e*P	P	22 11 17.4	-0.1
VRAC	Vranov	76.67	1	⇑*i*P	P	22 11 17.7	+0.2
VRAC	Vranov	76.67	1	⇑P	P	22 11 17.7	+0.2
KHC	Kasperske Hory	76.77	3	*e*P	P	22 11 18.6	+0.5
KOLS	Kolonicke sedl	77.01	357	*i* P	P	22 11 21.8	+2.4
CRVS	Cervenica-Dubn	77.06	358	*i* P	P	22 11 19.8	+0.1
CRVS				*e*		22 39 00.6	
GERES	GERESS Array B	77.06	3	P	P	22 11 20.1	+0.4
	comp=Z,1.8nm,0.6s,mb4.2,baz=2.4,slow=4.3,SNR=21						
CDF	Champ du Feu	77.14	8	⇑*i*P	P	22 11 19.9	-0.2
VYHS	Vyhne	77.50	360	*i* P	P	22 11 22.3	+0.2
VYHS	Vyhne	77.50	360	*i* P	P	22 11 22.4	+0.3
MODS	Modra-Piesok	77.61	1	*e*P	P	22 11 22.7	-0.1
	comp=Z,4.9nm,1.4s,mb4.2						
ZST	Bratislava	77.79	1	*e*P	P	22 11 24.7	+0.9
	comp=Z,8.1nm,1.3s,mb4.5						
LOR	Lormes	77.97	10	⇑*i*P	P	22 11 24.5	-0.3
	comp=Z,10.0nm,1.0s,mb4.4						
LOR	Lormes	77.97	10	⇑*i*P	P	22 11 24.5	-0.3
	comp=Z,5.0nm,1.0s,mb4.4						
CONA	Conrad Observa	78.04	2	⇑*i*P	P	22 11 25.8	+0.6
	comp=Z,4.8nm,0.6s,mb4.6						
CSNA	Conrad Observa	78.04	2	⇑*i*P	P	22 11 25.8	+0.7
	comp=Z,4.2nm,0.6s,mb4.6						
SSF	Saint Saulge	78.13	10	⇑*i*P	P	22 11 26.4	+0.7
	comp=Z,4.1nm,0.6s,mb4.2						
SSF	Saint Saulge	78.13	10	⇑*i*P	P	22 11 26.4	+0.7
	comp=Z,2.0nm,0.6s,mb4.2						
BURAR	Bucovina Array	78.22	355	⇑*i*P	P	22 11 26.2	0.0
BURAR	Bucovina Array	78.22	355	⇑P	P	22 11 26.2	0.0
AVF	Avril sur Loir	78.38	11	⇑*i*P	P	22 11 26.7	-0.4
	comp=Z,5.1nm,0.9s,mb4.2						
AVF	Avril sur Loir	78.38	11	⇑*i*P	P	22 11 26.7	-0.4
	comp=Z,2.5nm,0.9s,mb4.1						
MOTA	Moosalm	78.45	5	⇑*i*P	P	22 11 27.9	+0.4
	comp=Z,3.3nm,0.7s,mb4.4						
BGF	Bois d'Agland	78.56	11	*e*P	P	22 11 27.7	-0.4
	comp=Z,8.3nm,0.8s,mb4.4						
BGF	Bois d'Agland	78.56	11	*e*P	P	22 11 27.7	-0.4
	comp=Z,4.2nm,0.8s,mb4.4						
WTTA	Wattenberg	78.56	5	⇑*i*P	P	22 11 28.8	+0.8
	comp=Z,6.5nm,0.7s,mb4.6						
SMF	Signal de Mont	78.58	10	⇑*i*P	P	22 11 27.8	-0.4
	comp=Z,9.4nm,0.9s,mb4.4						
SMF	Signal de Mont	78.58	10	⇑*i*P	P	22 11 27.8	-0.4
	comp=Z,4.7nm,0.9s,mb4.4						
ARSA	Arzberg	78.71	2	⇑*i*P	P	22 11 29.6	+0.7
	comp=Z,2.6nm,0.6s,mb4.3						
TCF	Toulx Ste Croi	78.75	11	⇑*i*P	P	22 11 29.7	+0.6
	comp=Z,3.5nm,0.7s,mb4.1						
TCF	Toulx Ste Croi	78.75	11	⇑*i*P	P	22 11 29.7	+0.6
	comp=Z,1.8nm,0.7s,mb4.1						
CABF	La Chapelle	78.83	9	⇑*i*P	P	22 11 29.8	+0.2
	comp=Z,6.1nm,0.7s,mb4.3						
CABF	La Chapelle	78.83	9	⇑*i*P	P	22 11 29.8	+0.2
	comp=Z,3.0nm,0.7s,mb4.3						
DRGR		79.14	357	⇑*i*P	P	22 11 31.3	+0.1
DRGR		79.14	357	⇑P	P	22 11 31.3	0.0
SOKA	Soboth	79.27	2	⇑*i*P	P	22 11 32.7	+0.8
	comp=Z,3.2nm,0.6s,mb4.4						
OBKA	Obir	79.42	3	⇑*i*P	P	22 11 33.4	+0.5
	comp=Z,12nm,0.5s,mb5.1						
GUN	Gumba	79.72	304	*e*P	P	22 11 34.9	+0.2
	comp=Z,18nm,0.6s,mb5.2						
JIRN	Jiri	79.77	304	*e*P	P	22 11 35.5	+0.5
	comp=Z,52nm,0.6s,mb5.6						
PKSM	Moragy	79.78	360	⇓*i*P	P	22 11 34.2	-0.5
ODAN	Odare	79.85	302	*e*P	P	22 11 35.8	+0.4
	comp=Z,8.3nm,0.7s,mb4.8						
KIV	Kislovodsk	79.88	343	⇑*i*P	P	22 11 35.9	+0.5
KIV	Kislovodsk	79.88	343	⇑P	P	22 11 35.9	+0.6
LPL	La Plagne	79.97	8	⇑*i*P	P	22 11 36.7	+0.9
	comp=Z,5.0nm,1.0s,mb4.1						
LPL	La Plagne	79.97	8	⇑*i*P	P	22 11 36.7	+0.9
	comp=Z,2.5nm,1.0s,mb4.1						
KKN	Kakani	80.11	304	*e*P	P	22 11 36.4	-0.4
	comp=Z,14nm,0.6s,mb5.0						
RAMN	Ramite	80.16	303	*e*P	P	22 11 37.0	-0.1
	comp=Z,24nm,0.6s,mb5.3						
GKN	Gorkha	80.24	305	*e*P	P	22 11 37.3	-0.2
	comp=Z,14nm,0.8s,mb5.0						
BZS	Buzias	80.34	358	⇑*i*P	P	22 11 38.0	+0.2
BZS	Buzias	80.34	358	⇑P	P	22 11 38.0	+0.2
DMN	Daman	80.34	304	*e*P	P	22 11 38.2	+0.1
	comp=Z,15nm,0.6s,mb5.1						
DANN	Dangsing	80.36	306	*e*P	P	22 11 38.5	+0.3
	comp=Z,60nm,0.6s,mb5.7						
TLCR		80.42	353	⇓*i*P	P	22 11 37.8	-0.4
TLCR		80.42	353	⇓P	P	22 11 37.8	-0.4
GZR	Gura Zlata	80.53	357	⇑*i*P	P	22 11 39.2	+0.4
GZR	Gura Zlata	80.53	357	⇑P	P	22 11 39.2	+0.4
CMAR	Chiang Mai Arr	80.62	288	P	P	22 11 39.7	0.0
	comp=Z,5.6nm,0.8s,mb4.5,baz=15,slow=5.6,SNR=19						
KOLN	Koldanda	80.93	306	*e*P	P	22 11 41.0	-0.2
	comp=Z,13nm,0.6s,mb5.1						
KBL	Kabul	81.32	320	*e*P	P	22 11 41.6	-1.6
	comp=Z,8.1nm,0.9s,mb4.7						
FRF	La Foret Royal	81.91	9	*e*P	P	22 11 46.0	-0.1
	comp=Z,12nm,1.2s,mb4.4						
FRF	La Foret Royal	81.91	9	*e*P	P	22 11 46.0	-0.1
	comp=Z,6.2nm,1.2s,mb4.4						
PGF	Pioggiola	83.10	7	⇑*i*P	P	22 11 52.5	+0.1
	comp=Z,11nm,0.9s,mb4.6						
PGF	Pioggiola	83.10	7	⇑*i*P	P	22 11 52.5	+0.1
	comp=Z,5.6nm,0.9s,mb4.6						
ESDC	Sonseca Array	84.34	17	P	P	22 11 59.6	+0.8
	comp=Z,1.4nm,0.6s,mb4.2,baz=341,slow=4.8,SNR=9.1						
MALT	Malatya	86.09	344	⇑*i*P	P	22 12 13.9	+6.3
MALT	Malatya	86.09	344	⇑P	P	22 12 13.9	+6.4
WRA	Warramunga Arr	92.02	238	P	P	22 12 35.3	-0.4
	comp=Z,0.5nm,0.8s,mb3.9,baz=29,slow=5.8,SNR=5.0						
QSPA	South Pole Qui	144.16	180	PKhKP		22 18 58.7	
	comp=Z,1.5nm,0.5s,baz=279,slow=0.9,SNR=19						

*IDC **02** 22:17:01.9±0.8, 4937S×16427E, h0km, mb4.3/9, mb1 4.4/10, mb1mx4.4/14, mbtmp4.3/10, ML3.6/1, MS4.3/13, Ms1 4.3/13, ms1mx4.1/22, Error ellipse: s-maj=27.6km s-min=19.6km az=77.0*

*NEIC **02** 22:17:03.4±0.5, 4949S×164.13E, h10km, mb4.9/2, Error ellipse: s-maj=12.4km s-min=7.2km az=145.0*

*ISCJB **02** 22:17:04.6±2.0, 4942S±006×164.19E±009, h29km±15km, mb4.5/11, MS4.3/11, Error ellipse: s-maj=12.4km s-min=7.1km az=140.8*

ISC 02 22:17:06.3±2.0**, 4944S**±006×**16414E**±009**, h29**km±15km**, n54,** σ1s**19**/38**, mb4.5**/11**, MS4.3**/11**, Auckland Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WHZ	Wether Hill Ro	4.38	37	P	Pn	22 18 10.4	-0.5
WHZ				S	Sn	22 19 01.1	+0.2
DCZ	Deep Cove	4.46	28	P	Pn	22 18 10.8	-1.2
MLZ	Mavora Lakes	4.93	35	P	Pn	22 18 18.5	+0.2
TUZ	Tuapeka	5.09	49	P	Pn	22 18 20.5	-0.1
EAZ	Earnscleugh	5.48	42	P	Pn	22 18 26.5	+0.5
WKZ	Wanaka	5.69	38	P	Pn	22 18 30.2	+1.4
MCQ	Macquarie Isla	5.99	210	*e*Pn	Pn	22 18 28.4	-4.5
MCQ				*e*Sn	Sn	22 19 38.2	-2.3
JCZ	Jackson Bay	6.24	32	P	Pn	22 18 38.4	+2.1
ODZ	Otahua Downs	6.24	48	P	Pn	22 18 34.9	-1.5
RPZ	Rata Peaks	7.45	42	Pn	Pn	22 18 50.2	-2.8
	0.9nm,0.3s,baz=190,slow=22,SNR=3.3						
RPZ				Sn	Sn	22 20 16.3	-0.1
	3.9nm,0.3s,baz=360,slow=20,SNR=4.6						
RPZ				LR	LR	22 21 46.5	
	comp=Z,2μm,20.8s,baz=215,slow=39						
TAU	Tasmania Unive	13.35	293	*e*Pn	Pn	22 20 13.4	-0.3
URZ	Urewera	14.55	45	LR	LR	22 26 35.3	
	comp=Z,1μm,18.2s,baz=228,slow=40						
CNB	Canberra Magne	17.80	317	*e*P	Pn	22 21 13.7	+1.9
STKA	Stephens Creek	24.35	308	P	P	22 22 21.6	+0.1
	3.4nm,0.8s,mb3.8,baz=167,slow=14,SNR=3.4						
STKA				LR	LR	22 30 47.7	
	comp=Z,954nm,20.0s,MS4.3,baz=98,slow=34						
STKA	Stephens Creek	24.35	308	P	P	22 22 21.6	+0.1
STKA				LR	LR	22 30 47.6	
RAO	Raoul Island	24.36	41	P	P	22 22 20.8	-0.9
CTA	Charters Tower	32.59	328	LR	LR	22 34 32.3	
	comp=Z,386nm,19.8s,MS4.1,baz=335,slow=32						
ASAR	Alice Springs	34.97	306	P	P	22 23 55.5	-0.3
	5.6nm,1.0s,mb4.4,baz=144,slow=7.9,SNR=19						
ASAR				PcP	PcP	22 26 27.9	+0.2
	0.6nm,0.8s,baz=137,slow=2.6,SNR=4.3						
WB2	Warramunga Arr	37.83	310	*e*P	P	22 24 18.0	-2.3
WB2	Warramunga Arr	37.83	310	*e*P	P	22 24 19.0	-1.3
WRA	Warramunga Arr	37.84	310	P	P	22 24 19.2	-1.1
	6.2nm,1.1s,mb4.3,baz=142,slow=7.9,SNR=16						
WRA				PcP	PcP	22 26 36.1	-0.3
	4.0nm,1.0s,baz=138,slow=2.2,SNR=6.3						
HNR	Honiara	40.04	354	LR	LR	22 38 28.2	
	comp=Z,96nm,19.8s,MS3.6,baz=67,slow=32						
RAR	Rarotonga	40.12	59	LR	LR	22 37 44.6	
	comp=Z,848nm,19.5s,MS4.6,baz=35,slow=31						
QSPA	South Pole Qui	40.68	180	P	P	22 24 44.8	+1.4
	6.2nm,1.0s,mb4.2,baz=23,slow=3.7,SNR=11						
QSPA				PcP	PcP	22 26 44.8	+0.3
	4.0nm,0.9s,baz=61,slow=1.7,SNR=4.7						
QSPA	South Pole Qui	40.68	180	P	P	22 24 44.8	+1.4
QSPA				PcP	PcP	22 26 44.8	+0.3
FITZ	Fitzroy Crossi	43.96	301	P	P	22 25 11.9	+1.1
	5.1nm,1.0s,mb4.2,baz=117,slow=15,SNR=4.3						
FITZ				LR	LR	22 42 25.9	
	comp=Z,649nm,21.0s,MS4.5,baz=62,slow=35						
FITZ	Fitzroy Crossi	43.96	301	*e*P	P	22 25 10.3	-0.5
	13nm,1.0s,mb4.6						
FITZ				LR	LR	22 42 25.9	
TBI	Tubuai	44.58	71	*e*LR	LR	22 37 38.7	
	428nm,30.0s						
PPT	Papeete	48.88	66	*e*S	S	22 32 49.4	-1.9
	176nm,28.2s						
PPT				*e*LR	LR	22 39 42.3	
	450nm,25.0s,baz=214						
PPT	Papeete	48.88	66	LR	LR	22 41 36.8	
	comp=Z,375nm,19.5s,MS4.4,baz=210,slow=30						
MAW	Mawson	49.39	210	P	P	22 25 52.8	+0.1
	0.7nm,0.3s,mb4.1,baz=102,slow=6.4,SNR=4.3						
MAW				LR	LR	22 44 42.9	
	comp=Z,348nm,20.2s,MS4.3,baz=260,slow=34						
MAW	Mawson	49.39	210	*e*P	P	22 25 52.5	-0.2
	28nm,1.7s,mb5.0						
MAW				LR	LR	22 44 43.0	
RKT	Rikitea	53.97	84	*e*LR	LR	22 42 08.8	
	373nm,29.8s						
KAPI	Kappang	57.96	305	P	P	22 26 53.2	-3.0
	4.0nm,0.3s,mb4.9,baz=182,slow=18,SNR=4.1						
SNAA	Sanae	58.84	185	*e*	P	22 27 01.8	+0.3
SNAA				*e*		22 27 04.6	
SNAA	Sanae	58.84	185	*e*P	P	22 27 01.6	+0.1
	29nm,1.3s,mb5.2						
VNA3	Neumayer Olymp	59.54	182	*e*	P	22 27 06.8	+0.4
VNA3				*e*		22 27 09.2	
VNA3				*e*		22 27 13.1	
VNA3				*e*		22 27 23.6	
VNA2	Neumayer--Watz	59.79	183	*e*	P	22 27 08.8	+0.7
	baz=165,slow=6.3						
VNA2				*e*		22 27 10.5	
VNA2				*e*		22 27 14.0	
VNA2				*e*		22 27 27.1	
VNA1	Neumayer--Stat	60.09	183	*e*	P	22 27 11.2	+1.0
VNA1				*e*		22 27 13.3	
VNA1				*e*		22 27 16.4	
VNA1				*e*		22 27 28.2	
MJAR	Matsushiro Arr	88.65	339	P	P	22 29 56.9	+0.7
	0.5nm,0.3s,mb4.3,baz=167,slow=7.0,SNR=4.5						
CMAR	Chiang Mai Arr	88.77	300	P	P	22 29 58.5	+1.3
	2.9nm,1.0s,mb4.6,baz=165,slow=3.5,SNR=12						
CMAR				LR	LR	23 09 46.5	
	comp=Z,223nm,18.5s,MS4.6,baz=333,slow=36						
KSRS	Korea Array	92.27	332	P	P	22 30 14.6	+1.5

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
	1.2nm,0.7s,mb4.3,baz=148,slow=5.6,SNR=6.5						
KSRS				LR	LR	23 05 38.4	
	comp=Z,56nm,20.3s,MS4.0,baz=7.1,slow=32						
CPUP	**Villa Florida**	**96.01**	**143**	LR	LR	23 06 41.9	
	comp=Z,182nm,21.4s,MS4.5,baz=146,slow=31						
LPAZ	**La Paz**	**99.93**	**130**	LR	LR	23 05 18.1	
	comp=Z,87nm,21.3s,MS4.2,baz=152,slow=29						
MKAR	**Makanchi Array**	**119.14**	**309**	PKP	PKPdf	22 35 50.7	-0.8
	2.1nm,1.1s,baz=181,slow=8.5,SNR=5.4						
ZALV	**Zalesovo Beam**	**122.65**	**316**	PKP	PKPdf	22 35 57.4	-0.6
	0.3nm,0.3s,baz=101,slow=3.0,SNR=3.8						
KURK	**Kurchatov**	**123.53**	**311**	PKP	PKPdf	22 35 59.3	-0.5
	0.4nm,0.3s,baz=151,slow=1.7,SNR=9.8						
TORD	**Torodi Ar. Bea**	**141.03**	**208**	PKhKP		22 36 28.4	
	1.3nm,1.0s,baz=189,slow=2.0,SNR=6.2						
TORD				PKP	PKPdf	22 36 32.8	-1.1
	3.5nm,1.2s,baz=206,slow=0.9,SNR=6.9						
SPITS	**Spitsbergen Ar**	**148.78**	**348**	PKPbc	PKPbc	22 36 42.0	-7.2
	1.4nm,0.3s,baz=125,slow=9.7,SNR=11						
AKASG	**Malin Array Be**	**151.37**	**290**	PKP	PKPdf	22 36 49.8	-0.3
	0.4nm,0.5s,baz=80,slow=1.4,SNR=6.1						
AKASG				PKPbc	PKPbc	22 36 56.3	+0.1
	6.0nm,0.8s,baz=86,slow=2.2,SNR=21						
AKASG				PKPab	PKPab	22 37 04.6	0.0
	2.2nm,0.8s,baz=76,slow=2.9,SNR=5.3						
AKASG	**Malin Array Be**	**151.37**	**290**	PKP	PKPdf	22 36 49.8	-0.3
AKASG				PKPbc	PKPbc	22 36 56.3	+0.1
AKASG				PKPab	PKPab	22 37 04.6	0.0
ARCES	**ARCESS Array B**	**151.82**	**331**	PKPbc	PKPbc	22 36 56.5	-0.2
	5.4nm,0.8s,baz=30,slow=9.8,SNR=5.3						
KEST	**Kesra**	**157.07**	**243**	PKPab	PKPab	22 37 30.5	+1.3
	1.8nm,1.0s,baz=38,slow=6.4,SNR=3.7						
GERES	**GERESS Array B**	**160.70**	**280**	PKPab	PKPab	22 37 45.3	+0.7
	0.7nm,0.8s,baz=140,slow=7.0,SNR=5.8						

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*BJI **02** 22:17:46.8, 3.84S×100.81E, h25km, mB5.1, mb5.0, Ms4.6, Msz4.3*
*IDC **02** 22:17:48.0±0.9, 3.49S×100.65E, h0km, mb4.7/14, mb1 4.8/15, mb1mx4.5/23, mbtmp4.7/15, ML4.6/1, MS3.9/4, Ms1 3.9/4, ms1mx3.5/35, Error ellipse: s-maj=31.9km s-min=10.2km az=50.0*
*DJA **02** 22:17:52.0±1.4, 3S±8×100E±14, h10km, mB5.8/1, Mjma4.4/4, MLv4.9/5, Mw(mB)5.5/1, Mwp4.7/2*
*NEIC **02** 22:17:52.7±0.3, 3.56S×100.55E, h35km, mb4.8/12, MS4.3/1, Error ellipse: s-maj=9.2km s-min=6.8km az=69.0*
*ISCJB **02** 22:17:53.5±1.2, 3.48S±0.06×100.61E±0.07, h56km±10km, mb4.9/35, MS4.0/7, Error ellipse: s-maj=13.6km s-min=7.1km az=142.0*
ISC 02 22:17:53.5±0.9**, 3.56S**±0.05×**100.52E**±0.06**, h39**km±8km**, n86, σ1.01**/80**, mb4.9**/35**, MS4.0**/7**, 2C, Southern Sumatera**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KSI	Kapahiang	2.07	93	P	Pn	22 18 26.5	+0.8
	0.0nm,0.0s						
KSI	Kapahiang	2.07	93	P	Pn	22 18 26.8	+1.1
PPI	Padang Panjang	3.08	358	P	Pn	22 18 38.3	-1.3
	0.0nm,0.0s						
PPI	Padang Panjang	3.08	358	P	Pn	22 18 38.2	-1.4
RGRI	Rengat	3.66	30	P	Pn	22 18 47.7	0.0
	0.0nm,0.0s						
RGRI	Rengat	3.66	30	P	Pn	22 18 48.2	+0.5
DBJI	Dramaga	6.88	116	P	Pn	22 19 32.5	+0.6
	0.0nm,0.0s						
DBJI	Dramaga	6.88	116	P	Pn	22 19 33.9	+2.0
	142nm,1.0s,0.5nm						
LEM	Lembang	7.78	115	P	Pn	22 19 46.7	+2.5
	0.0nm,0.0s						
LEM	Lembang	7.78	115	P	Pn	22 19 51.2	+7.0
	173nm,1.2s,0.5nm						
COCO	West Island	9.32	203	*e*Pn	Pn	22 20 03.7	-1.7
SJI	Sawahan	11.93	111	P	Pn	22 20 41.1	-0.1
	0.0nm,0.0s						
SJI	Sawahan	11.93	111	P	Pn	22 20 48.0	+6.8
BBKI	Banjar Baru	14.29	90	P	Pn	22 21 15.6	+2.2
	0.0nm,0.0s						
BBKI	Banjar Baru	14.29	90	P	Pn	22 21 19.8	+6.4
	201nm,0.8s,3μm						
KAPI	Kappang	19.23	95	P	Pn	22 22 13.6	-2.1
	1.6nm,0.3s,baz=276,slow=8.8,SNR=11						
KAPI	Kappang	19.23	95	*e*P	Pn	22 22 13.2	-2.5
PCI	Palu	19.48	83	P	Pn	22 22 19.0	+0.3
	0.0nm,0.0s						
PCI	Palu	19.48	83	P	Pn	22 22 21.0	+2.3
	58nm,1.4s						
CMAR	Chiang Mai Arr	21.93	356	P	P	22 22 41.1	-2.5
	8.9nm,0.9s,mb4.2,baz=186,slow=8.6,SNR=18						
CMAR				LR	LR	22 31 21.8	
	comp=Z,193nm,21.6s,MS3.5,baz=180,slow=37						
CHTO	Chiang Mai	22.28	356	P	P	22 22 39.6	-7.8
PALK	Pallekele	22.52	299	Pn	P	22 22 49.5	-0.4
BATI	Baumata	23.89	107	P	P	22 23 02.5	-1.3
	9.3nm,0.3s,mb4.6,baz=18,slow=2.9,SNR=3.4						
FITZ	Fitzroy Crossi	28.53	122	*e*P	P	22 23 44.5	-1.1
	9.6nm,0.7s,mb4.6						
FITZ	Fitzroy Crossi	28.53	122	P	P	22 23 45.1	-0.5
	4.1nm,0.8s,mb4.2,baz=243,slow=6.1,SNR=5.7						
ODAN	Odare	32.79	338	*e*P	P	22 24 24.0	+0.9
	48nm,1.0s,mb5.4						
RAMN	Ramite	33.17	337	*e*P	P	22 24 27.4	+1.0
	73nm,1.4s,mb5.4						
JIRN	Jiri	33.97	337	*e*P	P	22 24 34.7	+1.4
	78nm,0.9s,mb5.6						
LSA	Lhasa	34.26	345	P	P	22 24 36.2	+0.3
LSA	Lhasa	34.26	345	*e*P	P	22 24 37.4	+1.6
	19nm,1.1s,mb4.9						
GUN	Gumba	34.32	337	*e*P	P	22 24 37.6	+1.3
	85nm,1.0s,mb5.7						
DMN	Daman	34.36	335	*e*P	P	22 24 37.6	+0.8
	26nm,1.0s,mb5.1						
KKN	Kakani	34.45	336	*e*P	P	22 24 38.1	+0.6
	37nm,0.9s,mb5.3						
GKN	Gorkha	34.91	335	*e*P	P	22 24 42.0	+0.6
	32nm,0.9s,mb5.2						
KOLN	Koldanda	35.16	333	*e*P	P	22 24 44.3	+0.7
	17nm,0.8s,mb5.1						
DANN	Dangsing	35.59	334	*e*P	P	22 24 48.2	+0.9
	44nm,0.8s,mb5.5						
WRA	Warramunga Arr	36.77	119	P	P	22 24 57.5	-0.1
	3.3nm,0.4s,mb4.5,baz=305,slow=9.0,SNR=45						
WRA				S	S	22 30 40.6	+1.4
	1.5nm,1.1s,baz=297,slow=16,SNR=4.0						
WB2	Warramunga Arr	36.78	119	*e*P	P	22 24 57.7	0.0
ASAR	Alice Springs	37.93	125	P	P	22 25 07.6	+0.2
	7.0nm,0.5s,mb4.6,baz=300,slow=7.7,SNR=61						
ASAR				PcP	PcP	22 27 23.8	+0.9
	1.1nm,0.8s,baz=250,slow=2.8,SNR=3.3						
ASAR				S	S	22 30 59.9	+3.2
	1.1nm,0.7s,baz=292,slow=13,SNR=8.8						
XAN	Xi'an	38.22	11	P	P	22 25 07.9	-1.7
XAN				AP	pP	22 25 15.5	-5.2
XAN				XP	sP	22 25 19.9	-5.5
XAN				AMB	AMB		
	comp=Z,22nm,0.9s,mb4.9						
XAN				AMB	AMB		
	comp=Z,6.0nm,12.4s						
XAN				LR	LR		
	comp=N,39nm,22.7s,MS3.8						
XAN				LR	LR		
	comp=E,186nm,26.5s,MS3.8						
XAN				LR	LR		
	comp=Z,89nm,16.7s						
LZH	Lanzhou	39.56	4	⇑P	P	22 25 20.6	-0.2
LZH				AP	pP	22 25 27.5	-4.4
LZH				XP	sP	22 25 30.2	-6.4
LZH				AMB	AMB		
	comp=Z,27nm,1.5s,mb4.8						
LZH				AMB	AMB		
	comp=Z,64nm,6.3s						
LZH				LR	LR		
	comp=E,315nm,16.5s						
LZH				LR	LR		
	comp=Z,479nm,19.6s,MS4.3						
LZH	Lanzhou	39.56	4	⇑P	P	22 25 20.6	-0.2
	comp=Z,27nm,1.5s,mb4.8						
LZH				pP	pP	22 25 27.5	-4.4
LZH				sP	sP	22 25 30.2	-6.4
LZH				*e*PP	PP	22 27 42.5	+50
LZH				LR	LR		
	comp=Z,480nm,19.6s,MS4.3						
BJT	Baijiatuau	45.68	17	P	P	22 26 09.0	-1.4
	comp=Z,25nm,0.9s,mb5.1						
BJI	Beijing	45.70	17	P	P	22 26 10.3	-0.3
BJI				AMB	AMB		
	comp=Z,22nm,0.9s,mb5.1						
BJI				LR	LR		
	comp=N,520nm,17.4s,MS4.6						
BJI				LR	LR		
	comp=E,204nm,16.2s,MS4.6						
BJI				LR	LR		
	comp=Z,207nm,16.6s,MS4.2						
BJI	Beijing	45.70	17	P	P	22 26 10.3	-0.3
	comp=Z,22nm,0.9s,mb5.1						
BJI				LR	LR		
	comp=Z,210nm,16.6s,MS4.2						
STKA	Stephens Creek	47.74	131	*e*P	P	22 26 27.5	+0.8
	comp=Z,5.6nm,0.7s,mb4.7						
STKA	Stephens Creek	47.74	131	P	P	22 26 27.8	+1.1
	comp=Z,7.1nm,1.0s,mb4.7,baz=313,slow=5.3,SNR=7.0						
STKA				LR	LR	22 48 08.0	
	comp=Z,236nm,20.4s,MS4.2,baz=287,slow=38						
STKA	Stephens Creek	47.74	131	*e*P	P	22 26 26.7	0.0
	comp=Z,5.2nm,0.6s,mb4.7						
KS15	Wonju Array Si	48.07	29	*e*P	P	22 26 29.1	-0.1
KBL	Kabul	48.09	325	*e*P	P	22 26 38.8	+9.4
	comp=Z,2.7nm,0.8s,mb4.3						
KSRS	Korea Array	48.09	29	P	P	22 26 28.7	-0.7
	comp=Z,18nm,1.1s,mb5.0,baz=219,slow=8.3,SNR=46						
WMQ	Urumqi	48.55	348	*e*P	P	22 26 33.3	+0.5
SONM	Songino Array	51.43	5	P	P	22 26 55.3	+0.8
	comp=Z,27nm,0.8s,mb5.2,baz=187,slow=9.3,SNR=174						
SONM				PcP	PcP	22 28 08.7	+0.1
	comp=Z,2.4nm,0.9s,baz=178,slow=1.3,SNR=1.8						
ULN	Ulaanbaatar	51.52	6	*e*P	P	22 26 56.0	+0.8
	comp=Z,21nm,0.9s,mb5.1						
CN2	Changchun	52.20	23	*e*P	P	22 26 58.6	-1.7
CN2				AMB	AMB		
	comp=Z,30nm,0.8s,mb5.3						
MK31	Makanchi Array	52.66	344	*e*P	P	22 27 03.5	-0.1
MKAR	Makanchi Array	52.66	344	P	P	22 27 03.8	+0.1
	comp=Z,12nm,0.8s,mb4.9,baz=148,slow=8.3,SNR=62						
MAJO	Matsushiro	53.16	38	*e*P	P	22 27 05.9	-1.7
	comp=Z,13nm,1.0s,mb4.8						
MJAR	Matsushiro Arr	53.16	38	P	P	22 27 06.8	-0.8
	comp=Z,7.8nm,1.0s,mb4.6,baz=224,slow=7.8,SNR=17						
MDJ	Mudanjiang	54.55	25	P	P	22 27 17.0	-0.6
MDJ				AMB	AMB		
	comp=Z,7.0nm,1.0s,mb4.7						
MDJ				AMB	AMB		
	comp=Z,87nm,7.5s						
TLY	Talaya	55.09	2	*e*P	P	22 27 22.5	+1.1
KURK	Kurchatov	57.23	344	P	P	22 27 36.1	-0.5
	comp=Z,10.0nm,0.9s,mb4.8,baz=163,slow=6.8,SNR=32						
KURK	Kurchatov	57.23	344	*e*P	P	22 27 36.6	-0.1
	comp=Z,22nm,1.0s,mb5.1						
ZAA0	Zalesovo Array	58.78	349	*e*P	P	22 27 47.2	-0.3
ZALV	Zalesovo Beam	58.78	349	P	P	22 27 47.1	-0.3
	comp=Z,24nm,0.9s,mb5.2,baz=160,slow=4.7,SNR=74						
ZALV				LR	LR	22 53 30.4	
	comp=Z,43nm,18.4s,MS3.6,baz=136,slow=36						
ASAJ	Asahikawa	60.60	34	P	P	22 28 00.3	+0.1
	comp=Z,6.6nm,0.7s,mb4.9,baz=210,slow=8.4,SNR=6.5						
BRVK	Borovoye	61.88	340	*e*P	P	22 28 07.8	-0.9
	comp=Z,3.9nm,0.8s,mb4.6						
YSS	Yuzh-Sakhalins	62.52	31	*e*P	P	22 28 12.6	-0.5
ARU	Arti	68.83	337	*e*P	P	22 28 53.0	-0.6
MAW	Mawson	68.92	195	*e*P	P	22 28 53.5	-0.5
BR131	Keskin Array S	74.75	313	*e*P	P	22 29 29.4	-0.1
	comp=Z,0.8nm,0.6s,mb3.8						
BOSA	Boshof	75.37	241	*e*P	P	22 29 34.0	+0.6
AKASG	Malin Array Be	81.03	322	P	P	22 30 03.5	-0.7
	comp=Z,0.2nm,0.4s,baz=95,slow=4.6,SNR=5.4						
TSUM	Tsumeb	82.18	251	P	P	22 30 11.2	+0.3
KOLS	Kolonicke sedl	84.97	320	*i* P	P	22 30 26.0	+1.4
KOLS				*e*		22 39 02.3	
STHS	Stebnicka Huta	85.72	320	*e*P	P	22 30 29.4	+1.0
STHS				*e*		22 39 04.3	
QSPA	South Pole Qui	86.42	180	LR	LR	23 03 37.3	
	comp=Z,154nm,21.9s,MS4.4,baz=287,slow=32						
GERES	GERESS Array B	90.55	319	P	P	22 30 52.0	+0.6
	comp=Z,1.3nm,0.9s,mb4.2,baz=122,slow=6.9,SNR=8.6						
SNAA	Sanae	90.83	198	P	P	22 30 51.0	-1.4
NVAR	Mina Array Bea	130.45	40	PKP	PKPdf	22 37 00.2	0.0
	comp=Z,0.7nm,0.7s,baz=255,slow=4.1,SNR=4.9						
PDAR	Pinedale Array	132.66	30	PKP	PKPdf	22 37 06.0	+1.7
	comp=Z,0.5nm,0.7s,baz=64,slow=3.4,SNR=3.8						
WMOK	Wichita Mounta	144.17	28	*e*PKPdf	PKPdf	22 37 23.2	-2.4
TXAR	Lajitas Array	145.59	39	PKPbc	PKPbc	22 37 29.5	+1.0
	comp=Z,18nm,0.8s,baz=296,slow=1.2,SNR=121						
MIAR	Mount Ida	146.50	21	*e*PKP	PKPdf	22 37 30.2	+0.6
WVT	Waverly	146.68	12	*e*PKP	PKPdf	22 37 30.5	+0.6
JCT	Junction City	147.04	33	*e*PKP	PKPdf	22 37 32.4	+1.8

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*ISCJB **02** 22:35:46.1±1.1, 9.9S±0.2×159.6E±0.2, h10km, mb4.1/6, Error ellipse: s-maj=41.1km s-min=8.3km az=135.2*
*IDC **02** 22:35:46.1±1.2, 9.81S×159.67E, h0km, mb4.2/6, mb1 4.4/6, mb1mx4.1/15, mbtmp4.2/6, Error ellipse: s-maj=48.2km s-min=11.1km az=133.0*
*NEIC **02** 22:35:48.9±0.9, 9.85S×159.45E, h10km, mb4.1/2, Error ellipse: s-maj=35.5km s-min=10.9km az=140.0*
ISC 02 22:35:48.2±3.5**, 9.8S**±0.2×**159.5E**±0.4**, h7**km±32km**, n11, σ0.51**/12**, mb4.1**/6**, Bougainville - Solomon Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
HNR	Honiara	0.62	50	Pn	Pg	22 36 00.3	+0.1
	4μm,0.3s,baz=206,slow=4.2,SNR=1210						
HNR				Sn	Sg	22 36 08.2	-0.1
	11μm,0.3s,baz=193,slow=9.9,SNR=54						
WB2	Warramunga Arr	26.23	245	*e*P	P	22 41 24.0	0.0
WRA	Warramunga Arr	26.24	245	P	P	22 41 24.4	+0.3
	3.4nm,0.6s,mb4.0,baz=72,slow=9.8,SNR=34						
WRA				PcP	PcP	22 44 50.2	-0.7
	0.9nm,0.6s,baz=73,slow=2.7,SNR=10						
STKA	Stephens Creek	27.48	214	P	P	22 41 36.5	+1.4
	2.4nm,0.7s,baz=53,slow=15,SNR=3.2						
STKA	Stephens Creek	27.48	214	*e*P	P	22 41 34.9	-0.3
	2.8nm,0.8s						
ASAR	Alice Springs	28.01	237	P	P	22 41 39.2	-0.7
	0.9nm,0.5s,mb3.7,baz=60,slow=9.9,SNR=14						
ASAR				PcP	PcP	22 44 54.4	-0.7
	0.7nm,0.7s,baz=70,slow=2.3,SNR=6.2						
FITZ	Fitzroy Crossi	33.79	252	*e*P	P	22 42 30.8	-0.3
	2.3nm,0.7s,mb4.2						
CMAR	Chiang Mai Arr	65.99	295	P	P	22 46 36.5	+0.6
	1.3nm,0.4s,mb4.4,baz=126,slow=5.4,SNR=4.6						
SONM	Songino Array	74.12	326	P	P	22 47 25.7	+0.5
	1.0nm,0.6s,mb3.9,baz=139,slow=5.3,SNR=8.8						
MK31	Makanchi Array	88.45	318	*e*P	P	22 48 41.1	-0.2
MKAR	Makanchi Array	88.45	318	P	P	22 48 40.6	-0.7
	1.2nm,0.7s,mb4.2,baz=105,slow=4.4,SNR=8.9						

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*IDC **02** 22:44:11.1±1.1, 54.81N×161.78W, h0km, mb4.2/13, mb1 4.4/14, mb1mx4.2/24, mbtmp4.2/14, ML4.1/1, MS3.5/5, Ms1 3.5/5, ms1mx3.0/54, Error ellipse: s-maj=33.8km s-min=15.7km az=178.0*
*NEIC **02** 22:44:14.6, 54.35N×161.46W, h24km, mb4.5/7, ML3.9(AEIC), After AEIC.*
*ISCJB **02** 22:44:15.5±1.2, 54.5N±0.1×161.5W±0.1, h55km±6km, mb4.4/28, MS3.5/4, Error ellipse: s-maj=22.8km s-min=5.7km az=155.7*
ISC 02 22:44:16.6±1.1**, 54.5N**±0.1×**161.5W**±0.1**, h50**km±6km**, n58, σ0.84**/59**, mb4.4**/28**, MS3.5**/4**, 8C, Alaska Peninsula**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SDPT	Sand Point	1.07	35	P	Pn	22 44 34.2	-1.0
SDPT				S	Sn	22 44 50.0	+1.0
FALS	False Pass	1.16	290	P	Pn	22 44 35.3	-1.1
FALS				S	Sn	22 44 51.1	0.0
AKUT	Akutan	2.50	264	*e*Pn	Pn	22 44 55.1	+0.3
AKUT				*e*Sn	Sn	22 45 27.4	+3.3
UNV	Unalaska Valle	2.99	260	P	Pn	22 45 00.3	-1.1
UNV				S	Sn	22 45 38.9	+3.0
OKCD	Okmok Cone D	4.02	258	P	Pn	22 45 15.8	+0.2
KDAK	Kodiak Island	6.00	53	Pn	Pn	22 45 39.6	-3.1
	5.2nm,0.3s,baz=192,slow=8.4,SNR=6.2						
KDAK				Pg	Pn	22 45 48.8	+6.0
	8.3nm,0.3s,baz=252,slow=7.9,SNR=6.8						
KDAK				Lg		22 47 11.7	
	5.3nm,0.3s,baz=29,slow=21,SNR=8.4						
KDAK	Kodiak Island	6.00	53	P	Pn	22 45 40.9	-1.8
KDAK				*e*Sn	Sn	22 46 49.6	-0.5
DAWY	Dawson	14.76	41	*e*Pn	Pn	22 47 44.3	+2.3
BBB	Bella Bella	19.99	83	LR	LR	22 54 20.3	
	comp=Z,112nm,19.2s,baz=126,slow=30						
PETK	Petropavlovsk-	23.89	284	P	P	22 49 24.4	-0.8
	11nm,0.4s,mb4.6,baz=79,slow=13,SNR=59						
YKA	Yellowknife Ar	25.28	53	P	P	22 49 37.5	-0.2
	1.3nm,0.7s,mb3.6,baz=270,slow=9.1,SNR=6.5						
YKA				LR	LR	23 00 31.1	
	comp=Z,33nm,19.5s,MS2.9,baz=145,slow=39						
YKA	Yellowknife Ar	25.28	53	P	P	22 49 37.5	-0.2
YKA				LR	LR	23 00 31.1	
NVAR	Mina Array Bea	33.22	101	P	P	22 50 53.5	+5.0
	0.5nm,0.7s,mb3.5,baz=303,slow=12,SNR=4.1						
ELK	Elko	33.45	95	LR	LR	23 01 53.4	
	comp=Z,67nm,18.8s,MS3.4,baz=356,slow=32						
ULM	Lac du Bonnet	39.02	68	P	P	22 51 37.9	+0.1
	2.7nm,0.5s,mb4.2,baz=272,slow=7.1,SNR=3.1						
ULM	Lac du Bonnet	39.02	68	P	P	22 51 37.9	+0.1
TXAR	Lajitas Array	48.18	97	PcP	PcP	22 54 19.0	+0.6
	0.5nm,0.5s,baz=327,slow=3.4,SNR=3.9						
LPIG	La Paz	48.41	108	LR	LR	23 11 40.3	
	comp=Z,99nm,18.2s,MS3.8,baz=292,slow=34						
KSRS	Korea Array	49.73	280	P	P	22 53 03.6	+0.1
	5.5nm,0.8s,mb4.7,baz=51,slow=6.9,SNR=22						
ULN	Ulaanbaatar	53.80	303	*e*P	P	22 53 33.0	-0.6
	5.4nm,1.0s,mb4.4						
SONM	Songino Array	54.14	304	P	P	22 53 36.3	+0.2
	2.9nm,0.8s,mb4.2,baz=44,slow=7.4,SNR=20						
SONM				PcP	PcP	22 54 40.5	+0.3
	0.7nm,0.4s,baz=50,slow=1.7,SNR=5.2						
KEV	Kevo	55.92	356	*e*p	P	22 53 47.3	-1.4
	0.7nm,0.4s,mb4.0						
ARCES	ARCESS Array B	56.19	357	P	P	22 53 50.1	-0.6
	6.2nm,1.0s,mb4.6,baz=19,slow=6.4,SNR=7.5						
JOF	Joensuu	62.52	353	*e*p	P	22 54 33.3	-1.0
	0.8nm,0.4s,mb4.2						
KAF	Kangasniemi	63.59	356	*e*p	P	22 54 40.4	-1.1
	2.4nm,0.4s,mb4.6						
LZH	Lanzhou	64.02	296	*e*P	P	22 54 43.5	-1.2
	20nm,1.5s,mb4.9						
LZH				pP	pP	22 54 50.0	-8.8
LZH				sP	sP	22 54 53.2	-11
NB2	NORSAR Subarra	64.69	4	P	P	22 54 48.3	-0.4
	comp=Z,0.9nm,0.6s,mb4.0,baz=356,slow=6.5						
NOA	NORSAR Array B	64.69	4	P	P	22 54 48.6	0.0
	comp=Z,1.3nm,0.6s,mb4.1,baz=356,slow=6.6,SNR=5.4						
MKAR	Makanchi Array	65.60	317	P	P	22 54 53.7	-1.1
	comp=Z,0.5nm,0.4s,mb3.9,baz=41,slow=7.1,SNR=12						
MKAR	Makanchi Array	65.60	317	P	P	22 54 53.7	-1.1
AKTO	Aktyubinsk	70.34	334	LR	LR	23 28 37.3	
	comp=Z,54nm,18.7s,MS3.8,baz=187,slow=38						
AKASG	Malin Array Be	74.81	353	P	P	22 55 50.3	-0.7
	comp=Z,3.8nm,0.6s,mb4.5,baz=4.9,slow=5.4,SNR=19						
DPC	Dobruska-Polom	75.53	1	*e*P	P	22 55 55.9	+0.7
MORC	Moravsky Berou	76.12	1	⇑*i*P	P	22 55 58.9	+0.4
KWP	Kalwaria	76.21	357	⇑*i*P	P	22 56 00.1	+1.1
STHS	Stebnicka Huta	76.46	358	*i* P	P	22 56 01.5	+1.0
	comp=Z,6.5nm,1.3s,mb4.4						
VRAC	Vranov	76.58	1	⇑*i*P	P	22 56 01.8	+0.6
KHC	Kasperske Hory	76.69	3	*e*P	P	22 56 02.8	+1.0
CRVS	Cervenica-Dubn	76.97	358	*i* P	P	22 56 04.3	+0.9
GERES	GERESS Array B	76.98	3	P	P	22 56 04.0	+0.6
	comp=Z,1.2nm,0.7s,mb4.0,baz=5.7,slow=5.4,SNR=11						
VYHS	Vyhne	77.41	360	*i* P	P	22 56 05.9	+0.1
MODS	Modra-Piesok	77.52	1	*i* P	P	22 56 06.7	+0.2
	comp=Z,5.3nm,1.5s,mb4.2						
BURAR	Bucovina Array	78.13	355	⇑*i*P	P	22 56 10.3	+0.5
DRGR		79.05	357	⇑*i*P	P	22 56 14.8	-0.1
PKSM	Moragy	79.69	360	⇑*i*P	P	22 56 18.6	+0.2
JIRN	Jiri	79.70	303	*e*P	P	22 56 18.7	-0.1
	comp=Z,24nm,0.6s,mb5.3						
KKN	Kakani	80.04	304	*e*P	P	22 56 20.0	-0.6
	comp=Z,8.0nm,0.6s,mb4.8						
RAMN	Ramite	80.09	303	*e*P	P	22 56 20.2	-0.7
	comp=Z,14nm,0.7s,mb5.0						
GKN	Gorkha	80.17	305	*e*P	P	22 56 20.8	-0.5
	comp=Z,8.3nm,0.8s,mb4.7						
BZS	Buzias	80.25	358	⇑*i*P	P	22 56 21.7	+0.2
DMN	Daman	80.27	304	*e*P	P	22 56 21.8	-0.1
DANN	Dangsing	80.30	306	*e*P	P	22 56 22.5	+0.5
	comp=Z,29nm,0.6s,mb5.4						
GZR	Gura Zlata	80.44	357	⇑*i*P	P	22 56 23.2	+0.7
CMAR	Chiang Mai Arr	80.57	288	P	P	22 56 23.6	+0.1
	comp=Z,3.3nm,0.9s,mb4.3,baz=15,slow=5.6,SNR=10						
KOLN	Koldanda	80.86	305	*e*P	P	22 56 25.1	+0.1
	comp=Z,6.3nm,0.6s,mb4.8						
ESDC	Sonseca Array	84.27	17	P	P	22 56 42.8	+0.3
	comp=Z,2.5nm,1.0s,mb4.3,baz=358,slow=5.3,SNR=6.1						
BR131	Keskin Array S	85.27	348	*e*P	P	22 56 48.2	+0.6
	comp=Z,5.0nm,1.0s,mb4.6						
MALT	Malatya	86.00	344	*e*P	P	22 56 56.2	+4.9
	comp=Z,2.8nm,1.0s,mb4.5						

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*ISK **02** 22:47:22.8, 39.29N×40.93E, h10km, MD2.8*
*CSEM **02** 22:47:22.7±0.2, 39.31N×40.80E, h2km, MD2.8, Error ellipse: s-maj=6.2km s-min=1.5km az=136.0*
*ISCJB **02** 22:47:23.9±1.2, 39.39N±0.04×40.81E±0.06, h2km±10km, Error ellipse: s-maj=8.0km s-min=7.0km az=18.6*
*DDA **02** 22:47:23.5, 39.39N×40.84E, h7km±2km, Md2.9*
ISC 02 22:47:24.2±1.2**, 39.38N**±0.05×**40.81E**±0.06**, h4**km±9km**, n9, σ0.59**/16**, Turkey**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
EZM	Erzurum	0.68	39	PG	Pg	22 47 36.9	-0.4
EZM				SG	Sg	22 47 47.0	+1.0
ERZM	Erzurum	0.68	39	*i* P	Pg	22 47 36.7	-0.5
ERZM				*i* S	Sg	22 47 45.8	-0.2
KOPT	Kop Dagi	0.68	339	*i* P	Pg	22 47 36.9	-0.4
KOPT				*i* S	Sg	22 47 46.7	+0.6
PTK	Pertek	1.21	246	*e*PN	Pn	22 47 47.1	-0.8
PTK				*e*SN	Sn	22 48 04.8	+0.1
GUMT	Gumushane	1.48	317	*e*PN	Pn	22 47 52.2	+0.4
BEST	Besiri	1.53	166	*i* P	Pn	22 47 52.3	-0.1
BEST				*i* S	Sn	22 48 13.5	+0.7
DDEM	Demirkent	1.67	25	*i* P	Pn	22 47 53.5	-0.8
DDEM				*i* S	Sn	22 48 15.8	-0.5
DDEM	Demirkent	1.67	25	*i* P	Pn	22 47 53.5	-0.8
DDEM				*i* S	Sn	22 48 15.8	-0.5
PZAR	Pazar-Rize	1.79	2	*e*PN	Pn	22 47 56.9	+0.8

KRSC 02 22:58:17.5±0.4**, 55.16N**×**161.84E, h75**km±75km**, ML3.6, Near east coast of Kamchatka Peninsula**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MKZ	Mys Kozlova	0.61	186	P	Pn	22 58 32.8	+1.0
ZLN	Zelenaya	1.04	326	*e*P	Pn	22 58 39.0	+2.3
ZLN				*i* S	Sn	22 58 54.1	+3.1
KMNR	Kamenistaya	1.09	304	*e*P	Pn	22 58 39.4	+2.1
KMNR				*i* S	Sn	22 58 55.6	+3.5
BZMR	Bezymyannaya	1.09	316	*e*P	Pn	22 58 39.3	+2.0
BZMR				*i* S	Sn	22 58 55.2	+3.0
BZWR	Bezymyannyi-We	1.11	317	*e*P	Pn	22 58 39.6	+2.0
BZWR				*i* S	Sn	22 58 55.8	+3.2
KBTR	Krutoberegovo	1.19	27	*e*P	Pn	22 58 41.5	+3.0
KBTR				*i* S	Sn	22 58 59.4	+5.1
KPT	Kopyto	1.22	312	*e*P	Pn	22 58 41.1	+2.1
KPT				*i* S	Sn	22 58 58.8	+3.7
KRSR	Krestovskiy	1.28	326	*e*P	Pn	22 58 41.7	+2.0
KRSR				*i* S	Sn	22 58 59.2	+2.8
KLY	Klyuchi	1.34	330	*e*P	Pn	22 58 41.2	+0.8
KLY				*i* S	Sn	22 58 59.0	+1.3
KOZ	Kozyrevsk	1.43	310	*e*P	Pn	22 58 44.1	+2.4
KOZ				*i* S	Sn	22 59 03.3	+3.4
BDR	Baidarnaya	1.46	346	P	Pn	22 58 43.2	+1.2
SRDR	Sredinnyy	1.67	315	*e*P	Pn	22 58 47.0	+2.2
SRDR				*i* S	Sn	22 59 07.9	+2.4
SPN	Mys Shipunski	2.33	208	*e*P	Pn	22 58 55.1	+1.5
SPN				*i* S	Sn	22 59 21.6	+0.4
NLC	Nalytchevo	2.48	217	P	Pn	22 58 57.9	+2.3
NLC				*i* S	Sn	22 59 26.7	+1.9
AVH	Avacha	2.63	225	*e*P	Pn	22 59 00.7	+3.0
AVH				*i* S	Sn	22 59 32.2	+3.6
GNL	Ganaly	2.71	239	*e*P	Pn	22 59 01.7	+3.0
PET	Petropavlovsk	2.85	223	P	Pn	22 59 03.6	+3.0
PET				*i* S	Sn	22 59 36.8	+3.0
RUS	Russkaya	3.37	217	P	Pn	22 59 10.0	+2.3
RUS				*i* S	Sn	22 59 49.6	+3.1

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*BJI **02** 22:59:50.3, 54.32N×161.45W, h34km, mB4.7, mb4.6, Ms4.6, Msz4.2*

*ISCJB **03** 00:38:31.0±0.6,4190N±002×2293E±004,h4km±5km, Error ellipse: s-maj=5.6km s-min=3.6km az=2.2*
*THE **03** 00:38:32.2,4186N×2293E,h8km±1km,ML3.0/3, Error ellipse: s-maj=1.3km s-min=0.7km az=241.0*
*BEO **03** 00:38:33.1±2.0,4196N×2302E,h20km×4km*
ISC 03 00:38:31.6±0.5, 4189N±002×2296E±004, h6km±5km, n16, σ0§66/31, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
STIP	**Stip**	**0.61**	**252**	P	**Pg**	**00 38 43.5**	**+0.3**
STIP				S	**Sg**	**00 38 52.0**	**+0.9**
VAY	**Valandovo**	**0.64**	**207**	P	**Pg**	**00 38 44.0**	**+0.2**
VAY				S	**Sg**	**00 38 52.1**	**0.0**
VTS	**Vitosha**	**0.73**	**15**	*e*Pg	**Pg**	**00 38 45.6**	**+0.1**
VTS				*e*Sg	**Sg**	**00 38 55.4**	**+0.4**
KNT	**Kendrikon**	**0.73**	**183**	P	**Pg**	**00 38 45.3**	**-0.2**
KNT				S	**Sg**	**00 38 55.0**	**0.0**
GRG	**Griva**	**1.02**	**204**	P	**Pg**	**00 38 50.7**	**-0.4**
GRG				S	**Sg**	**00 39 04.4**	**0.0**
SOH	**Sokhos**	**1.11**	**164**	P	**Pg**	**00 38 52.1**	**-0.7**
SOH				S	**Sg**	**00 39 08.8**	**+1.6**
BARS	**Barje**	**1.25**	**318**	*e*Pg	**Pg**	**00 38 55.3**	**-0.3**
BARS				*e*Sg	**Sg**	**00 39 12.5**	**+0.6**
THE	**Thessaloniki**	**1.26**	**180**	P	**Pg**	**00 38 54.9**	**-0.7**
THE				S	**Sg**	**00 39 11.8**	**-0.1**
HORT	**Hortiatis**	**1.29**	**175**	P	**Pn**	**00 38 55.7**	**-0.5**
HORT				S	**Sg**	**00 39 13.6**	**+0.5**
PLD	**Plovdiv**	**1.32**	**80**	P	**Pn**	**00 38 56.7**	**+0.2**
PLD				S	**Sb**	**00 39 14.7**	**+0.8**
PLG	**Polygyros**	**1.56**	**166**	P	**Pn**	**00 38 59.4**	**-0.4**
PLG				S	**Sn**	**00 39 20.1**	**-0.2**
OUR	**Ouranopolis**	**1.74**	**153**	P	**Pn**	**00 39 01.6**	**-0.6**
OUR				S	**Sn**	**00 39 25.3**	**+0.6**
LIT	**Litokhoron**	**1.82**	**191**	P	**Pn**	**00 39 02.9**	**-0.5**
LIT				S	**Sn**	**00 39 26.5**	**-0.3**
BOLS	**Boljevac**	**2.07**	**340**	*e*Pg	**Pg**	**00 39 09.1**	**-2.2**
DIVS	**Divibare**	**3.10**	**316**	P	**Pn**	**00 39 20.8**	**-0.2**
DIVS				S	**Sn**	**00 39 59.3**	**+1.0**
DIVS	**Divibare**	**3.10**	**316**	*e*Pn	**Pn**	**00 39 20.7**	**-0.3**
DIVS				S	**Sn**	**00 39 59.3**	**+1.0**

*IDC **03** 00:56:12.0±1.5,2443N×10974W,h0km,mb1 4.0/4, mb1mx3.7/21,mbtmp3.5/4,ML3.5/2, Error ellipse: s-maj=32.4km s-min=9.6km az=137.0*
*ISCJB **03** 00:56:15.2±0.9,2456N±007×1104W±0.1,h10km, Error ellipse: s-maj=19.1km s-min=10.1km az=170.9*
*NEIC **03** 00:56:15.8±0.8,2446N×11048W,h10km,mb3.7/2, Error ellipse: s-maj=21.4km s-min=10.4km az=73.0*
ISC 03 00:56:16.8±0.9, 2449N±007×1103W±01, h10km, n15, σ1§26/13, Baja California

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LPIG	**La Paz**	**0.39**	**175**	Pg	**Pg**	**00 56 24.4**	**0.0**
	506nm,0.3s,baz=56,slow=1.3,SNR=137						
LPIG				Lg		00 56 31.7	
	1μm,0.3s,baz=335,slow=19,SNR=42						
TXAR	**Lajitas Array**	**7.67**	**50**	Pn	**Pn**	**00 57 59.9**	**-8.6**
	0.2nm,0.3s,baz=225,slow=13,SNR=11						
TXAR	**Lajitas Array**	**7.67**	**50**	Pn	**Pn**	**00 57 59.9**	**-8.6**
PFO	**Pinyon Flat Ob**	**10.54**	**331**	Pn	**Pn**	**00 58 49.9**	**+2.0**
	baz=148,slow=15,SNR=3.3						
ANMO	**Albuquerque**	**10.96**	**17**	Pn	**Pn**	**00 58 54.0**	**+0.4**
	0.1nm,0.3s,baz=168,slow=9.3,SNR=2.7						
ISA	**Isabella**	**13.16**	**330**	*e*Pn	**Pn**	**00 59 24.6**	**+0.8**
WMOK	**Wichita Mounta**	**14.32**	**42**	*e*Pn	**Pn**	**00 59 40.5**	**+0.9**
	2.4nm,0.8s						
TPH	**Tonopah**	**14.76**	**338**	Pn	**Pn**	**00 59 46.4**	**+0.9**
NVAR	**Mina Array Bea**	**15.46**	**336**	Pn	**Pn**	**00 59 59.1**	**+4.3**
	0.1nm,0.3s,baz=149,slow=13,SNR=8.1						
CMB	**Columbia Colle**	**15.98**	**330**	Pn	**Pn**	**00 59 59.2**	**-2.4**
HWUT	**Hardware Ranch**	**17.10**	**357**	*e*Pn	**Pn**	**01 00 14.4**	**-1.5**
	3.6nm,1.0s						
PDAR	**Pinedale Array**	**18.24**	**2**	P	**Pn**	**01 00 28.5**	**-1.5**
	baz=176,slow=14,SNR=16						
BMO	**Blue Mountains**	**21.09**	**346**	*e*P	**P**	**01 01 00.8**	**-0.5**
	12nm,1.6s						
WRA	**Warramunga Arr**	**120.42**	**260**	PKP	PKPdf	01 15 07.0	-2.1
	0.4nm,0.7s,baz=71,slow=2.2,SNR=5.8						
ASAR	**Alice Springs**	**121.83**	**256**	PKP	PKPdf	01 15 09.2	-2.5
	0.3nm,0.6s,baz=90,slow=1.8,SNR=3.3						

*NEIC **03** 01:08:50.8±4.9,2354N×10943W,h10km,mb3.5/3,Error ellipse: s-maj=66.3km s-min=9.8km az=187.0*
*IDC **03** 01:08:56.6±3.5,2421N×10961W,h0km,mb1 3.7/4, mb1mx3.6/21,mbtmp3.3/4,ML3.3/4, Error ellipse: s-maj=53.1km s-min=10.2km az=152.0*
ISC 03 01:08:50.9±5.3, 236N±05×1094W±01, h10km, n11, σ0§85/11, Baja California

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LPIG	**La Paz**	**0.98**	**304**	Pg	**Pg**	**01 09 09.4**	**-0.4**
	270nm,0.3s,baz=19,slow=6.0,SNR=74						
LPIG				Lg		01 09 17.6	
	671nm,0.3s,baz=37,slow=20,SNR=64						
TXAR	**Lajitas Array**	**7.73**	**41**	Pn	**Pn**	**01 10 45.1**	**+1.6**
	0.2nm,0.3s,baz=230,slow=15,SNR=13						
TXAR				Lg		01 12 50.4	
	0.0nm,0.3s,baz=202,slow=34,SNR=4.1						
PFO	**Pinyon Flat Ob**	**11.77**	**330**	Pn	**Pn**	**01 11 39.1**	**+0.2**
	0.1nm,0.3s,baz=132,slow=12,SNR=4.3						
GSC	**Goldstone**	**13.35**	**333**	*e*P	**Pn**	**01 12 00.2**	**-0.3**
	14nm,1.5s						
HKT	**Hockley**	**13.71**	**59**	*e*P	**Pn**	**01 12 05.3**	**0.0**
	1.3nm,0.8s						
WMOK	**Wichita Mounta**	**14.50**	**37**	*e*Pn	**Pn**	**01 12 14.3**	**-1.9**
NVAR	**Mina Array Bea**	**16.66**	**335**	Pn	**Pn**	**01 12 45.2**	**+0.8**
	0.1nm,0.3s,baz=153,slow=13,SNR=4.7						
DUG	**Dugway**	**16.84**	**351**	*e*P	**Pn**	**01 12 46.7**	**0.0**
	4.3nm,1.3s						
HWUT	**Hardware Ranch**	**18.09**	**355**	*e*P	**Pn**	**01 13 03.4**	**+1.0**
	20nm,1.8s						
BW06	**Boulder Array**	**19.17**	**360**	*e*P	**Pn**	**01 13 14.8**	**-0.6**
	2.8nm,1.1s						
PDAR	**Pinedale Array**	**19.17**	**360**	P	**Pn**	**01 13 14.9**	**-0.4**
	0.0nm,0.3s,baz=181,slow=13,SNR=5.6						

NNC 03 01:34:56.6±10.0, 3735N×7111E, h146km±193km, mb2.8, mpv3.6,3C-2D,Error ellipse: s-maj=100.1km s-min=56.4km az=14.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KK31	**Karatay Array**	**5.77**	**356**	⇑P	Pn	01 36 21.3	+1.2
	3.8nm,0.3s,baz=185,slow=15						
KK31				⇑S	Sn	01 37 26.2	+1.0
	1.8nm,0.3s,baz=179,slow=25						
TKM2	**Tokmak 2**	**6.54**	**30**	⇑P	Pn	01 36 29.6	-0.7
	2.7nm,1.1s						
TKM2				⇓S	Sn	01 37 43.9	+0.1
	5.5nm,0.9s						
AB31	**Akbulak array**	**14.39**	**329**	P	Pn	01 38 13.8	+0.4
	0.3nm,0.3s,baz=160,slow=9.2,SNR=29						
AB31				⇓S	Sn	01 40 52.9	+0.1
	1.1nm,0.7s,baz=154,slow=23,SNR=5.5						

*NEIC **03** 01:36:38.7±2.7,979S×16067E,h10km,mb4.3/7, Error ellipse: s-maj=45.2km s-min=20.7km az=51.0*
*ISCJB **03** 01:36:40.9±4.3,102S±02×1600E±03,h2km±34km, mb4.3/8,Error ellipse: s-maj=43.5km s-min=27.0km az=164.4*
*IDC **03** 01:36:42.7±3.7,957S×16048E,h48km±31km,mb4.1/3, mb1 4.3/4,mb1mx3.8/17,mbtmp4.2/4,ML4.3/1,MS3.5/1, Ms1 3.5/1,ms1mx2.8/34,Error ellipse: s-maj=80.1km s-min=47.1km az=5.0*
ISC 03 01:36:45.6±2.7, 98S±02×1603E±03, h45km±21km, n13, σ0§96/14, mb4.3/8, 1C, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**0.49**	**317**	P	**Pn**	**01 36 55.5**	**-1.0**
	2μm,0.3s,baz=172,slow=14,SNR=427						
HNR				S	**Sn**	**01 37 04.7**	**+0.5**
	6μm,0.3s,baz=347,slow=21,SNR=39						

*ISCJB **03** 00:30:22.0±0.7,5.18S×7642W,h0km,mb4.0/9,mb1 4.1/14, mb1mx4.0/22,mbtmp4.0/14,ML3.6/5, Error ellipse: s-maj=21.1km s-min=15.2km az=71.0*
*ISCJB **03** 00:30:26.1±1.4,528S±006×7641W±009,h47km±14km, mb4.2/15, Error ellipse: s-maj=15.8km s-min=7.0km az=154.1*
*NEIC **03** 00:30:28.0±0.9,538S×7656W,h50km±8km,mb4.5/9, Error ellipse: s-maj=14.8km s-min=6.2km az=67.0*
ISC 03 00:30:26.8±3.0, 522S±005×7638W±008, h33km±22km, n40, σ0§91/39, mb4.2/15, Northern Peru

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ATAH	**Atahualpa**	**2.68**	**228**	Pn	**Pn**	**00 31 09.3**	**+1.6**
	48nm,0.3s,baz=30,slow=11,SNR=148						
ATAH				Sn	**Sn**	**00 31 44.8**	**+5.8**
	68nm,0.3s,baz=163,slow=22,SNR=8.3						
OTAV	**Otavalo**	**5.80**	**339**	*e*Pn	**Pn**	**00 31 54.0**	**+3.4**
	25nm,0.9s						
NNA	**Nana**	**6.74**	**184**	Pn	**Pn**	**00 32 03.9**	**+0.3**
	4.7nm,0.3s,baz=349,slow=10,SNR=8.1						
NNA				Sn	**Sn**	**00 33 19.1**	**-0.2**
	9.5nm,0.3s,baz=252,slow=13,SNR=6.9						
NNA	**Nana**	**6.74**	**184**	*e*Pn	**Pn**	**00 32 01.7**	**-1.8**
NNA				*e*Sn	**Sn**	**00 33 18.0**	**-1.3**
ROSC	**El Rosal**	**10.21**	**12**	Pn	**Pn**	**00 32 50.4**	**-0.8**
	1.0nm,0.3s,baz=269,slow=13,SNR=2.4						
ROSC	**El Rosal**	**10.21**	**12**	Pn	**Pn**	**00 32 56.2**	**+5.0**
LPAZ	**La Paz**	**13.65**	**144**	Pn	**Pn**	**00 33 38.3**	**0.0**
	0.2nm,0.3s,baz=330,slow=9.8,SNR=4.8						
LPAZ				Sn	**Sn**	**00 36 09.1**	**+0.2**
	0.1nm,0.3s,baz=112,slow=16,SNR=2.1						
SIV	**San Ignacio**	**18.45**	**127**	P	**Pn**	**00 34 40.3**	**+0.3**
	0.2nm,0.3s,baz=325,slow=16,SNR=4.9						
LVC	**Limon Verde**	**18.74**	**158**	*e*P	**Pn**	**00 34 42.5**	**-1.1**
	2.9nm,0.7s						
SJG	**San Juan**	**25.28**	**23**	*e*P	**P**	**00 35 50.2**	**-0.2**
	22nm,0.9s,mb4.7						
CPUP	**Villa Florida**	**27.79**	**141**	P	**P**	**00 36 12.0**	**-0.9**
	1.5nm,0.6s,mb3.8,baz=306,slow=11,SNR=5.8						
CPUP	**Villa Florida**	**27.79**	**141**	*e*P	**P**	**00 36 12.2**	**-0.7**
	8.1nm,0.6s,mb4.5						
TEIG	**Tepich**	**27.86**	**336**	*e*P	**P**	**00 36 14.2**	**+0.6**
WVT	**Waverly**	**42.51**	**346**	P	**P**	**00 38 17.6**	**-1.5**
TXAR	**Lajitas Array**	**43.21**	**324**	P	**P**	**00 38 25.4**	**+0.4**
	0.6nm,0.6s,mb3.5,baz=147,slow=9.6,SNR=3.9						
TXAR				PcP	PcP	00 40 14.3	+0.2
	0.2nm,0.6s,baz=151,slow=2.9,SNR=3.4						
WMOK	**Wichita Mounta**	**45.01**	**334**	*e*P	**P**	**00 38 38.5**	**-0.8**
	2.2nm,0.6s,mb4.2						
KSU1	**Kansas State U**	**47.90**	**339**	*e*P	**P**	**00 39 01.6**	**-0.3**
	5.8nm,0.4s,mb5.0						
ANMO	**Albuquerque**	**48.98**	**327**	*e*P	**P**	**00 39 11.1**	**+0.7**
	3.0nm,0.7s,mb4.4						
SDCO	**Great Sand Dun**	**50.61**	**330**	*e*P	**P**	**00 39 23.6**	**+0.9**
	2.6nm,0.9s,mb4.2						
PDAR	**Pinedale Array**	**56.45**	**331**	P	**P**	**00 40 04.7**	**-0.7**
	0.4nm,0.8s,mb3.5,baz=125,slow=8.9,SNR=3.0						
HWUT	**Hardware Ranch**	**56.59**	**329**	*e*P	**P**	**00 40 05.2**	**-1.3**
ULM	**Lac du Bonnet**	**57.76**	**345**	P	**P**	**00 40 13.4**	**-1.2**
	3.0nm,0.7s,mb4.4,baz=160,slow=9.8,SNR=3.7						
NVAR	**Mina Array Bea**	**58.26**	**322**	P	**P**	**00 40 17.8**	**-0.5**
	0.5nm,0.5s,mb3.8,baz=110,slow=7.8,SNR=3.6						
NVAR	**Mina Array Bea**	**58.26**	**322**	P	**P**	**00 40 17.8**	**-0.5**
SCHQ	**Schefferville**	**60.36**	**6**	P	**P**	**00 40 32.8**	**+0.4**
	5.1nm,1.0s,mb4.5,baz=172,slow=9.4,SNR=4.1						
WALA	**Waterton Lakes**	**63.16**	**333**	*e*P	**P**	**00 40 51.5**	**0.0**
	2.3nm,0.4s,mb4.7						
DBIC	**Dimbokro**	**72.35**	**81**	P	**P**	**00 41 51.4**	**+1.2**
	7.1nm,0.9s,mb4.6,baz=270,slow=6.2,SNR=9.9						
DBIC	**Dimbokro**	**72.35**	**81**	*e*P	**P**	**00 41 51.3**	**+1.2**
	5.5nm,0.7s,mb4.6						
YKA	**Yellowknife Ar**	**73.55**	**343**	P	**P**	**00 41 56.4**	**+0.2**
	0.7nm,0.6s,mb3.8,baz=141,slow=7.0,SNR=3.8						
VNA3	**Neumayer Olymp**	**77.71**	**162**	*e*	**P**	**00 42 25.5**	**+5.5**
VNA3				*e*		00 42 29.5	
VNA2	**Neumayer--Watz**	**78.30**	**162**	*e*	**P**	**00 42 24.8**	**+1.5**
	baz=303,slow=7.0						
VNA2				*e*		00 42 28.8	
TOA0	**Torodi Ar. Sit**	**79.62**	**76**	*e*P	**P**	**00 42 32.3**	**+0.7**
TORD	**Torodi Ar. Bea**	**79.62**	**76**	P	**P**	**00 42 32.1**	**+0.6**
	1.1nm,0.6s,mb4.0,baz=278,slow=5.7,SNR=26						
SNAA	**Sanae**	**79.92**	**162**	*e*	**P**	**00 42 37.3**	**+5.2**
SNAA	**Sanae**	**79.92**	**162**	*e*P	**P**	**00 42 32.6**	**+0.5**
ZALV	**Zalesovo Beam**	**129.06**	**14**	PKP	PKPdf	00 49 31.9	+0.5
	0.7nm,0.5s,baz=298,slow=3.1,SNR=4.3						
ZALV	**Zalesovo Beam**	**129.06**	**14**	PKP	PKPdf	00 49 31.9	+0.5
SONM	**Songino Array**	**137.47**	**357**	PKP	PKPdf	00 49 48.7	+1.3
	0.4nm,0.7s,baz=342,slow=4.0,SNR=3.0						
ASAR	**Alice Springs**	**138.81**	**225**	PKP	PKPdf	00 49 48.5	-2.1
	0.2nm,0.5s,baz=118,slow=2.7,SNR=3.1						
WRA	**Warramunga Arr**	**140.79**	**229**	PKP	PKPdf	00 49 52.2	-2.0
	0.6nm,0.7s,baz=128,slow=2.5,SNR=5.4						

*CSEM **03** 00:38:30.4±0.1,4191N×2295E,h5km,ML3.0/3,Error ellipse: s-maj=2.9km s-min=1.7km az=90.0*

IGQ 03 00:33:21.1,273S×8062W,h12km±9km,Mb4.3,Ms4.1, 5C-10D,Error ellipse: s-maj=8.9km s-min=2.5km az=143.6,Near coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CHIS	**Cerro-Chispas-**	**1.67**	**356**	P	Pn	00 33 51.6	+1.3
CHIS	**Cerro-Chispas-**	**1.67**	**356**	S	Sn	00 34 13.3	+1.6
PORT	**Chimborazo Vol**	**2.23**	**56**	P	Pn	00 34 00.4	+2.5
IGUA	**Igualata**	**2.33**	**58**	⇓P	Pn	00 34 01.4	+2.1
IGUA	**Igualata**	**2.33**	**58**	⇓S	Sn	00 34 31.6	+3.7
BIL2	**Estacion Bilba**	**2.46**	**59**	P	Pn	00 34 03.8	+2.6
BIL2	**Estacion Bilba**	**2.46**	**59**	S	Sn	00 34 33.4	+2.2
ARRY	**Arrayan**	**2.48**	**61**	⇓P	Pn	00 34 03.3	+1.9
JAMA	**Jama**	**2.49**	**10**	P	Pn	00 34 03.5	+2.1
PATA	**Patacocha**	**2.50**	**61**	P	Pn	00 34 03.8	+2.2
JUI6	**Juive**	**2.51**	**59**	⇓P	Pn	00 34 04.1	+2.3
JUI6	**Juive**	**2.51**	**59**	⇓S	Sn	00 34 35.1	+2.7
QIL2	**Quilotoa**	**2.51**	**43**	⇓P	Pn	00 34 03.6	+1.8
QIL2	**Quilotoa**	**2.51**	**43**	⇓S	Sn	00 34 34.7	+2.3
RETU	**Refugio**	**2.52**	**60**	P	Pn	00 34 05.2	+3.3
RETU	**Refugio**	**2.52**	**60**	S	Sn	00 34 36.8	+4.3
ULBA	**Ulba**	**2.55**	**60**	P	Pn	00 34 05.1	+2.8
ULBA	**Ulba**	**2.55**	**60**	S	Sn	00 34 36.6	+3.3
RUN5	**Runtun**	**2.55**	**59**	P	Pn	00 34 05.0	+2.6
RUN5	**Runtun**	**2.55**	**59**	S	Sn	00 34 36.0	+2.6
MAG1	**Magdalena**	**2.77**	**18**	P	Pn	00 34 07.5	+2.2
PISA	**Pisayambo**	**2.78**	**53**	P	Pn	00 34 09.3	+3.8
PISA	**Pisayambo**	**2.78**	**53**	S	Sn	00 34 44.1	+5.1
CAMI	**Rancho Maria**	**2.94**	**46**	⇓P	Pn	00 34 11.8	+4.1
MOV1	**Cotopaxi Vol s**	**2.96**	**47**	P	Pn	00 34 12.5	+4.5
NAS2	**Nasa**	**2.98**	**46**	P	Pn	00 34 12.8	+4.5
NAS2	**Nasa**	**2.98**	**46**	S	Sn	00 34 49.2	+5.2
TAMB	**Tambo**	**3.02**	**48**	⇑P	Pn	00 34 13.1	+4.3
VC1	**Cotopaxi 1**	**3.03**	**47**	⇑P	Pn	00 34 12.9	+3.9
VC1	**Cotopaxi 1**	**3.03**	**47**	⇑S	Sn	00 34 50.9	+5.6
COV1	**Cotopaxi Volc**	**3.06**	**48**	P	Pn	00 34 12.9	+3.5
COV1	**Cotopaxi Volc**	**3.06**	**48**	S	Sn	00 34 50.7	+4.7
PITA	**Cotopaxi Volc**	**3.07**	**45**	⇓P	Pn	00 34 13.8	+4.4
JUA2	**San Juan 2**	**3.21**	**39**	⇓P	Pn	00 34 15.0	+3.6
TERV	**Terraza Guagua**	**3.24**	**38**	⇑P	Pn	00 34 15.5	+3.6
TERV	**Terraza Guagua**	**3.24**	**38**	⇑S	Sn	00 34 56.3	+6.0
GGP	**Refugio Guagua**	**3.25**	**39**	P	Pn	00 34 15.1	+3.2
PINO	**Pino**	**3.25**	**38**	P	Pn	00 34 16.1	+4.1
PINO	**Pino**	**3.25**	**38**	S	Sn	00 34 54.3	+3.6
YANA	**Yana**	**3.30**	**38**	P	Pn	00 34 16.1	+3.4
YANA	**Yana**	**3.30**	**38**	S	Sn	00 34 54.3	+2.3
ANTI	**Antisana**	**3.34**	**47**	P	Pn	00 34 18.0	+4.8
ANTI	**Antisana**	**3.34**	**47**	S	Sn	00 35 00.6	+7.7
COTA	**Cotacachi**	**3.80**	**37**	P	Pn	00 34 23.6	+4.1
COTA	**Cotacachi**	**3.80**	**37**	S	Sn	00 35 09.1	+4.9
CAYA	**Cayambe**	**3.83**	**43**	P	Pn	00 34 26.4	+6.4

*IDC **03** 00:30:32.2,4186N×2293E,h8km±1km,ML3.0/3,Error ellipse: s-maj=1.3km s-min=0.7km az=241.0*
*BEO **03** 00:38:33.1±2.0,4196N×2302E,h20km×4km*
ISC 03 00:38:31.6±0.5, 4189N±002×2296E±004, h6km±5km, n16, σ0§66/31, Northwestern Balkan Peninsula

*ISK **02** 23:06:57.8,3902N×4101E,h5km,MD2.8*
*CSEM **02** 23:06:57.6±0.1,3899N×4099E,h2km,MD2.8,Error ellipse: s-maj=5.0km s-min=2.7km az=146.0*
*DDA **02** 23:06:57.4,3900N×4103E,h7km±4km, Md2.8*
*ISCJB **02** 23:06:58.2±0.6,3899N±003×4112E±008,h10km,Error ellipse: s-maj=8.7km s-min=4.1km az=11.8*
ISC 02 23:06:58.5±0.9, 3898N±003×411E±02, h6km±20km, n6, σ0§79/11, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
EZM	**Erzurum**	**0.95**	**13**	*e*Pg	**Pg**	**23 07 16.5**	**-0.3**
EZM				*e*Sg	**Sg**	**23 07 30.8**	**+1.7**
ERZM	**Erzurum**	**0.95**	**13**	*i* P	**Pg**	**23 07 15.0**	**-1.8**
ERZM				*i* S	**Sg**	**23 07 29.2**	**+0.1**
BEST	**Besiri**	**1.10**	**172**	*i* P	**Pg**	**23 07 19.6**	**0.0**
BEST				*i* S	**Sg**	**23 07 34.6**	**+0.8**
PTK	**Pertek**	**1.32**	**267**	*e*PN	**Pn**	**23 07 23.0**	**-0.4**
PTK				*e*SN	**Sn**	**23 07 41.7**	**+0.4**
AGRB	**Hanur-Agry**	**1.60**	**68**	*e*PN	**Pg**	**23 07 29.0**	**-0.2**
MARD	**Mardin**	**1.68**	**188**	*i* P	**Pb**	**23 07 29.7**	**-0.2**
MARD				*i* S	**Sg**	**23 07 52.4**	**-0.2**

*IDC **02** 23:12:07.8±1.0,5641S×2445W,h0km,mb4.3/6,mb1 4.4/6, mb1mx4.1/17,mbtmp4.3/6,MS3.9/1,Ms1 3.9/1, ms1mx3.2/15,Error ellipse: s-maj=27.9km s-min=24.9km az=47.0*
*ISCJB **02** 23:12:08.0±0.6,5645S±009×245W±02,h10km,mb4.3/7, Error ellipse: s-maj=17.2km s-min=9.9km az=148.3*
*NEIC **02** 23:12:16.5±6.3,5650S×2463W,h66km±62km,mb4.3/2, Error ellipse: s-maj=21.9km s-min=13.5km az=206.0*
ISC 02 23:12:09.9±0.6, 5647S±009×246W±02, h10km, n19, σ0§99/17, mb4.3/7, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
VNA3	**Neumayer Olymp**	**16.13**	**163**	*e*P	**Pn**	**23 15 55.3**	**-1.0**
VNA3				*e*		23 15 59.9	
VNA2	**Neumayer--Watz**	**16.27**	**160**	*e*P	**Pn**	**23 15 57.4**	**-0.8**
	baz=326,slow=14						
VNA2				*e*		23 16 02.2	
SNAA	**Sanae**	**17.78**	**157**	*e*P	**Pn**	**23 16 18.5**	**+1.4**
SNAA				*e*		23 16 23.0	
SNAA	**Sanae**	**17.78**	**157**	*e*P	**Pn**	**23 16 18.6**	**+1.6**
	4.2nm,0.8s						
PMSA	**Palmer Station**	**20.73**	**230**	LR	LR	23 23 30.2	
	comp=Z,385nm,21.3s,baz=86,slow=33						
MAIT	**Maitri**	**21.09**	**147**	*e*P	**P**	**23 16 53.9**	**-0.1**
USHA	**Ushuaia**	**24.48**	**255**	P	**P**	**23 17 28.1**	**-0.7**
	5.2nm,0.7s,mb4.1,baz=354,slow=9.8,SNR=3.8						
QSPA	**South Pole Qui**	**33.78**	**180**	P	**P**	**23 18 52.0**	**+0.8**
	7.5nm,0.6s,mb4.8,baz=208,slow=3.0,SNR=84						
CPUP	**Villa Florida**	**38.20**	**308**	P	**P**	**23 19 29.3**	**-0.3**
	1.5nm,0.5s,mb4.0,baz=131,slow=7.3,SNR=6.8						
CFAA	**Coronel Fontan**	**39.06**	**291**	P	**P**	**23 19 35.7**	**-1.1**
	0.2nm,0.4s,mb3.2,baz=200,slow=5.6,SNR=3.6						
CFAA	**Coronel Fontan**	**39.06**	**291**	P	**P**	**23 19 35.7**	**-1.1**
LVC	**Limon Verde**	**46.77**	**298**	*e*P	**P**	**23 20 40.5**	**+1.1**
	16nm,0.8s,mb5.0						

TSUM	**Tsumeb**	**48.65**	**58**	P	**P**	**23 20 54.9**	**+1.0**
LPAZ	**La Paz**	**51.82**	**303**	P	**P**	**23 21 19.5**	**+1.6**
	2.9nm,0.5s,mb4.5,baz=137,slow=6.5,SNR=15						
LPAZ	**La Paz**	**51.82**	**303**	P	**P**	**23 21 19.5**	**+1.6**
TOA0	**Torodi Ar. Sit**	**72.74**	**27**	*e*P	**P**	**23 23 37.2**	**-0.8**
TORD	**Torodi Ar. Bea**	**72.74**	**27**	P	**P**	**23 23 37.0**	**-1.1**
	3.2nm,0.5s,mb4.5,baz=202,slow=6.4,SNR=105						
TORD	**Torodi Ar. Bea**	**72.74**	**27**	P	**P**	**23 23 37.0**	**-1.1**
SONM	**Songino Array**	**149.31**	**85**	PKPbc	PKPbc	23 31 56.7	-1.1
	1.8nm,0.6s,baz=218,slow=2.8,SNR=15						

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**16.97**	**231**	eP	**Pn**	**01 40 41.1**	**+1.2**
	12nm,0.7s						
CTA	**Charters Tower**	**16.97**	**231**	P	**Pn**	**01 40 42.5**	**+2.7**
	0.6nm,0.3s,baz=59,slow=12,SNR=16						
CTA				LR	LR	01 46 13.7	
	comp=Z,152nm,19.8s,baz=51,slow=33						
CTAO	**Charters Tower**	**16.97**	**231**	eP	**Pn**	**01 40 42.9**	**+3.0**
	16nm,0.8s						
WB2	**Warramunga Arr**	**26.98**	**245**	eP	**P**	**01 42 23.0**	**-0.3**
WRA	**Warramunga Arr**	**26.99**	**245**	P	**P**	**01 42 23.5**	**0.0**
	4.5nm,0.6s,mb4.2,baz=74,slow=9.2,SNR=70						
KAKA	**Kakadu**	**27.46**	**261**	eP	**P**	**01 42 27.4**	**-0.3**
	3.0nm,0.4s,mb4.2						
STKA	**Stephens Creek**	**27.98**	**216**	P	**P**	**01 42 30.6**	**-1.5**
	3.3nm,0.5s,mb4.2,baz=42,slow=12,SNR=10						
ASAR	**Alice Springs**	**28.71**	**238**	P	**P**	**01 42 38.0**	**-0.8**
	1.3nm,0.6s,mb3.8,baz=62,slow=9.9,SNR=26						
FITZ	**Fitzroy Crossi**	**34.57**	**252**	⇑iP	**P**	**01 43 30.0**	**-0.3**
	5.4nm,0.4s,mb4.8						
KAPI	**Kappang**	**40.45**	**274**	eP	**P**	**01 44 21.4**	**+1.2**
	8.4nm,0.5s,mb4.7						
MBWA	**Marble Bar**	**40.57**	**249**	eP	**P**	**01 44 20.7**	**-0.3**
	3.0nm,0.6s,mb4.1						
QSPA	**South Pole Qui**	**80.20**	**180**	eP	**P**	**01 48 52.1**	**+1.3**
	1.7nm,0.8s,mb4.0						

*IDC **03** 01:43:24.7±0.7, 48.56S×164.67E, h0km, mb4.6/11, mb1 4.7/13, mb1mx4.7/16, mbtmp4.6/13, ML4.3/2, MS4.5/14, Ms1 4.5/14, ms1mx4.3/24, Error ellipse: s-maj=22.3km s-min=19.0km az=89.0*

*GCMT **03** 01:43:25.7±0.3, 48.53S×164.19E, h14km±1km, MW5.1/70, Moment Tensor Solution. s27,c32; s70,c101; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}3.45±.23; $M_{\theta\theta}$0.72±.16; $M_{\phi\phi}$-4.17±.16; $M_{r\theta}$-0.01±.46; $M_{\theta\phi}$0.37±.11; $M_{\phi r}$-2.88±.38; Best double couple: $M_0$4.78800×10^{16} NP1:ϕ_s352.00000°,δ27.00000°,λ83.00000°. NP2: ϕ_s179.00000°,δ64.00000°,λ93.00000°. Principal axes: T 4.4210, Plg71.0000°, Azm96.0000°; N 0.7390, Plg3.0000°, Azm357.0000°; P -5.1560, Plg18.0000°, Azm266.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*NEIC **03** 01:43:25.7±0.3, 48.64S×164.66E, h10km, mb4.9/8 Error ellipse: s-maj=8.4km s-min=5.1km az=140.0*

*ISCJB **03** 01:43:27.2±0.4, 48.59S±0.05×164.72E±0.07, h33km, mb4.7/16, MS4.5/12, Error ellipse: s-maj=8.2km s-min=4.5km az=141.4*

*DJA **03** 01:43:30, 48.91S×163.80E, h10km, mb5.3/9*

ISC 03 01:43:29.5±0.4**, 48.59S**±0.05×**164.68E**±0.07**, h35**km**, (h35**km±1.3km**:pP-P), n82, σ1.23**/51**, mb4.7**/16**, MS4.5**/12**, 3C-2D, Off west coast of South Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WHZ	**Wether Hill Ro**	**3.49**	**41**	P	**Pn**	**01 44 20.8**	**-0.5**
DCZ	**Deep Cove**	**3.54**	**30**	P	**Pn**	**01 44 21.1**	**-0.8**
MLZ	**Mavora Lakes**	**4.03**	**38**	P	**Pn**	**01 44 28.2**	**-0.4**
TUZ	**Tuapeka**	**4.28**	**54**	P	**Pn**	**01 44 31.5**	**-0.5**
MSZ	**Milford Sound**	**4.51**	**31**	P	**Pn**	**01 44 36.4**	**+1.2**
EAZ	**Earnscleugh**	**4.62**	**45**	P	**Pn**	**01 44 36.0**	**-0.7**
WKZ	**Wanaka**	**4.80**	**40**	P	**Pn**	**01 44 40.3**	**+1.1**
JCZ	**Jackson Bay**	**5.32**	**34**	P	**Pn**	**01 44 47.0**	**+0.6**
ODZ	**Otahua Downs**	**5.41**	**51**	P	**Pn**	**01 44 46.1**	**-1.6**
ODZ				S	**Sn**	**01 45 51.1**	**+2.4**
LBZ	**Lake Benmore**	**5.67**	**44**	P	**Pn**	**01 44 48.7**	**-2.4**
RPZ	**Rata Peaks**	**6.58**	**45**	Pn	**Pn**	**01 45 01.4**	**-2.3**
	10.0nm,0.3s,baz=202,slow=5.0,SNR=25						
RPZ				Sn	**Sn**	**01 46 19.1**	**+1.7**
	22nm,0.3s,baz=3.2,slow=16,SNR=3.3						
RPZ				LR	LR	01 47 52.9	
	comp=Z,6µm,18.1s,baz=232,slow=41						
MCQ	**Macquarie Isla**	**6.91**	**209**	eP	**Pn**	**01 45 04.0**	**-4.1**
LTZ	**Lake Taylor**	**7.87**	**45**	P	**Pn**	**01 45 19.1**	**-2.2**
QRZ	**Quartz Range**	**9.56**	**39**	P	**Pn**	**01 45 43.3**	**-1.2**
URZ	**Urewera**	**13.70**	**46**	Pn	**Pn**	**01 46 41.2**	**+0.1**
	1.0nm,0.3s,baz=225,slow=10.0,SNR=4.8						
URZ				Sn	**Sn**	**01 49 13.0**	**+1.1**
	0.9nm,0.3s,baz=118,slow=10,SNR=3.3						
URZ				LR	LR	01 52 34.3	
	comp=Z,5µm,19.0s,baz=5.9,slow=40						
CNB	**Canberra Magne**	**17.43**	**314**	eP	**Pn**	**01 47 30.0**	**+0.2**
CAN	**Canberra**	**17.61**	**313**	eP	**Pn**	**01 47 33.1**	**+1.2**
TOO	**Toolangi**	**17.77**	**301**	eP	**Pn**	**01 47 33.4**	**-0.5**
RAO	**Raoul Island**	**23.48**	**41**	LR	LR	01 57 10.0	
	comp=Z,1µm,20.5s,MS4.3,baz=244,slow=35						
STKA	**Stephens Creek**	**24.12**	**305**	eP	**P**	**01 48 41.7**	**-0.2**
	14nm,1.2s,mb4.3						
STKA	**Stephens Creek**	**24.12**	**305**	P	**P**	**01 48 43.2**	**+1.3**
	14nm,1.0s,mb4.3,baz=143,slow=9.8,SNR=8.2						
STKA				LR	LR	01 56 48.1	
	comp=Z,1µm,20.1s,MS4.3,baz=66,slow=33						
SBA	**Scott Base**	**29.39**	**179**	eP	**P**	**01 49 30.5**	**+1.7**
	13nm,1.3s,mb4.5						
CTA	**Charters Tower**	**32.07**	**326**	P	**P**	**01 49 53.9**	**+0.9**
	7.5nm,0.9s,mb4.5,baz=132,slow=7.2,SNR=3.4						
CTAO	**Charters Tower**	**32.07**	**326**	eP	**P**	**01 49 53.9**	**+0.9**
	10.0nm,1.0s,mb4.6						
ASAR	**Alice Springs**	**34.76**	**305**	P	**P**	**01 50 16.2**	**-0.1**
	17nm,0.9s,mb5.0,baz=144,slow=9.1,SNR=99						
ASAR				PcP	PcP	01 52 49.7	+0.3
	1.6nm,0.9s,baz=129,slow=2.5,SNR=4.2						
WB2	**Warramunga Arr**	**37.56**	**309**	⇓iP	**P**	**01 50 39.3**	**-1.0**
WRA	**Warramunga Arr**	**37.56**	**309**	P	**P**	**01 50 39.5**	**-0.9**
	16nm,0.9s,mb4.7,baz=144,slow=7.9,SNR=78						
WRA				PcP	PcP	01 52 57.0	-0.8
	2.2nm,0.8s,baz=140,slow=2.7,SNR=5.6						
WRA				LR	LR	02 06 00.2	
	comp=Z,733nm,18.7s,MS4.5,baz=170,slow=36						
NWAO	**Narrogin (SRO)**	**38.54**	**276**	LR	LR	02 04 15.3	
	comp=Z,640nm,18.6s,MS4.5,baz=111,slow=32						
HNR	**Honiara**	**39.23**	**353**	LR	LR	02 03 32.5	
	comp=Z,258nm,21.4s,MS4.0,baz=39,slow=31						
RAR	**Rarotonga**	**39.37**	**59**	LR	LR	02 04 45.5	
	comp=Z,564nm,18.1s,MS4.4,baz=259,slow=32						
QSPA	**South Pole Qui**	**41.54**	**180**	P	**P**	**01 51 14.3**	**+1.5**
	8.6nm,1.0s,mb4.3,baz=6.6,slow=3.9,SNR=10						
QSPA	**South Pole Qui**	**41.54**	**180**	P	**P**	**01 51 14.3**	**+1.5**
FITZ	**Fitzroy Crossi**	**43.82**	**300**	⇓iP	**P**	**01 51 32.1**	**+0.1**
	49nm,0.8s,mb5.3						
FITZ	**Fitzroy Crossi**	**43.82**	**300**	P	**P**	**01 51 32.2**	**+0.1**
	28nm,0.8s,mb5.0,baz=150,slow=14						
FITZ				LR	LR	02 09 11.3	
	comp=Z,510nm,18.0s,MS4.5,baz=334,slow=35						
TBI	**Tubuai**	**43.98**	**72**	eS	**S**	**01 57 47.1**	**-16**
	249nm,26.5s						
TBI				eLR	LR	02 03 51.1	
	740nm,30.0s,baz=223						
KAKA	**Kakadu**	**44.64**	**312**	eP	**P**	**01 51 35.8**	**-2.8**
	14nm,0.9s,mb4.8						
KAKA	**Kakadu**	**44.64**	**312**	eP	**P**	**01 51 35.9**	**-2.7**
	28nm,0.9s,mb5.1						
MBWA	**Marble Bar**	**45.01**	**291**	eP	**P**	**01 51 40.8**	**-0.7**
	50nm,1.0s,mb5.3						
PPT	**Papeete**	**48.22**	**66**	eS	**S**	**01 58 47.8**	**-16**
	328nm,27.5s						
PPT				eLR	LR	02 05 49.4	
	1µm,28.0s,baz=217						
PPT	**Papeete**	**48.22**	**66**	LR	LR	02 08 44.1	
	comp=Z,486nm,19.6s,MS4.5,baz=233,slow=32						
MAW	**Mawson**	**50.31**	**209**	P	**P**	**01 52 21.9**	**-0.2**
	1.0nm,0.5s,mb4.1,baz=112,slow=9.6,SNR=4.3						
MAW				LR	LR	02 11 46.0	
	comp=Z,445nm,20.0s,MS4.5,baz=107,slow=34						
BATI	**Baumata**	**51.33**	**304**	LR	LR	02 14 38.0	
	comp=Z,1µm,18.4s,MS5.0,baz=274,slow=36						
RKT	**Rikitea**	**53.53**	**84**	eS	Sx	01 59 57.2	
	309nm,28.0s						
RKT				eLR	LR	02 08 10.4	
	812nm,29.8s,baz=222						
SYO	**Syowa Base**	**55.95**	**201**	⇑eP	**P**	**01 53 01.5**	**-2.0**
SYO	**Syowa Base**	**55.95**	**201**	⇑eP	**P**	**01 53 07.4**	**+3.9**
KAPI	**Kappang**	**57.77**	**304**	P	**P**	**01 53 16.9**	**-0.2**
	13nm,1.1s,mb4.9,baz=176,slow=3.3,SNR=4.0						
SNAA	**Sanae**	**59.72**	**185**	e	**P**	**01 53 29.4**	**-0.5**
SNAA				e	pP	01 53 39.0	-1.6
SNAA				e		01 53 49.9	
SNAA	**Sanae**	**59.72**	**185**	eP	**P**	**01 53 30.0**	**+0.1**
	11nm,1.3s,mb4.7						
VNA3	**Neumayer Olymp**	**60.41**	**182**	e	**P**	**01 53 34.4**	**-0.2**
VNA3				e	pP	01 53 45.2	-0.1
VNA3				e		01 53 54.3	
VNA2	**Neumayer--Watz**	**60.66**	**183**	e	**P**	**01 53 36.3**	**-0.1**
	baz=167,slow=6.1						
VNA2				e	pP	01 53 47.0	0.0
VNA2				e		01 53 56.6	
VNA1	**Neumayer--Stat**	**60.97**	**183**	e	**P**	**01 53 38.6**	**+0.2**
VNA1				e	pP	01 53 48.2	-0.9
VNA1				e		01 53 59.1	
TRQA	**Tornquist**	**84.31**	**145**	eP	**P**	**01 55 56.9**	**-0.6**
	7.8nm,1.2s,mb4.7						
MJAR	**Matsushiro Arr**	**87.97**	**339**	P	**P**	**01 56 17.7**	**+2.5**
	0.8nm,0.3s,mb4.4,baz=178,slow=5.2,SNR=3.8						
CMAR	**Chiang Mai Arr**	**88.64**	**300**	P	**P**	**01 56 20.6**	**+1.7**
	2.0nm,0.3s,mb4.9,baz=161,slow=3.5,SNR=14						
CMAR				LR	LR	02 39 49.9	
	comp=Z,147nm,18.6s,MS4.4,baz=128,slow=38						
KSRS	**Korea Array**	**91.68**	**332**	P	**P**	**01 56 35.0**	**+2.3**
	0.9nm,0.4s,mb4.5,baz=150,slow=5.6,SNR=7.4						
BOSA	**Boshof**	**95.00**	**215**	LR	LR	02 37 18.0	
	comp=Z,138nm,18.4s,MS4.5,baz=320,slow=34						
NVAR	**Mina Array Bea**	**110.22**	**55**	PKKPbc	PKKPbc	02 13 00.5	+3.2
	0.5nm,0.7s,baz=58,slow=3.6,SNR=4.5						
MKAR	**Makanchi Array**	**118.87**	**309**	PKP	PKPdf	02 02 15.2	+1.9
	0.3nm,0.5s,baz=4.1,slow=1.7,SNR=4.0						
ZALV	**Zalesovo Beam**	**122.28**	**317**	PKP	PKPdf	02 02 19.2	-0.4
	0.4nm,0.4s,baz=147,slow=2.9,SNR=2.6						
KURK	**Kurchatov**	**123.24**	**311**	PKP	PKPdf	02 02 21.2	-0.2
	0.8nm,0.7s,baz=106,slow=2.0,SNR=6.2						
WVT	**Waverly**	**126.91**	**75**	ePKPdf	PKPdf	02 02 29.0	0.0
BVAR	**Borovoye Array**	**128.75**	**309**	PKP	PKPdf	02 02 32.9	+1.0
	0.7nm,0.5s,baz=135,slow=1.7,SNR=3.1						
WCI	**Wyandotte Cave**	**129.15**	**74**	ePKPdf	PKPdf	02 02 34.0	+0.8
TORD	**Torodi Ar. Bea**	**141.95**	**208**	PKhKP		02 02 51.8	
	1.3nm,0.9s,baz=176,slow=1.7,SNR=10						
BR131	**Keskin Array S**	**144.31**	**274**	ePKPdf	PKPdf	02 02 60.0	-1.2
ANTO	**Ankara**	**144.94**	**274**	ePKPbc	PKPdf	02 03 01.1	-1.1
TAM	**Tamanrasset**	**149.39**	**220**	ePKPbc	PKPbc	02 03 15.7	+1.1
ARCES	**ARCESS Array B**	**151.24**	**331**	PKPbc	PKPbc	02 03 18.2	+0.6
	11nm,0.8s,baz=126,slow=1.6,SNR=13						
ARCES				PKPab	PKPab	02 03 24.7	-1.0
	11nm,0.9s,baz=50,slow=1.9,SNR=6.7						
AKASG	**Malin Array Be**	**151.40**	**291**	PKPbc	PKPbc	02 03 18.6	+0.1
	6.0nm,0.9s,baz=82,slow=2.4,SNR=18						
AKASG				PKPab	PKPab	02 03 26.4	-0.5
	9.2nm,0.8s,baz=87,slow=2.5,SNR=6.9						
AKBB	**Malin Array Si**	**151.40**	**291**	ePKPbc	PKPbc	02 03 18.9	+0.3
AKBB				e		02 03 30.9	
KIEV	**Kiev**	**151.41**	**291**	ePKPbc	PKPbc	02 03 18.7	+0.2
BUR08	**Bucovina Ar. S**	**153.15**	**283**	ePKPbc	PKPbc	02 03 23.3	+0.7
BUR08				ePKPab	PKPab	02 03 36.2	+1.8
KEST	**Kesra**	**157.77**	**244**	PKPab	PKPab	02 03 56.4	+1.9
	2.0nm,0.9s,baz=40,slow=6.0,SNR=5.1						
NOA	**NORSAR Array B**	**160.44**	**319**	PKPab	PKPab	02 04 04.9	-0.5
	1.6nm,0.8s,baz=61,slow=4.5,SNR=4.9						
GERES	**GERESS Array B**	**160.89**	**282**	PKPab	PKPab	02 04 08.1	+0.3
	1.5nm,0.8s,baz=108,slow=4.3,SNR=12						
CDF	**Champ du Feu**	**165.02**	**278**	ePKP2	PKPab	02 04 24.4	-1.5
HAU	**Haudompre**	**165.56**	**276**	ePKP2	PKPab	02 04 28.0	-0.3
LOR	**Lormes**	**167.06**	**271**	ePKP2	PKPab	02 04 34.9	-0.1
BAIF	**Baives**	**167.17**	**284**	ePKP2	PKPab	02 04 30.7	-4.7
	7.2nm,0.9s						
SSF	**Saint Saulge**	**167.25**	**270**	⇑iPKP2	PKPab	02 04 35.7	-0.1
	18nm,1.2s						
BGF	**Bois d'Agland**	**167.56**	**267**	ePKP2	PKPab	02 04 37.3	+0.1
	11nm,0.9s						
TCF	**Toulx Ste Croi**	**167.91**	**266**	ePKP2	PKPab	02 04 39.1	+0.4

*BJI **03** 01:52:09.3, 24.20N×109.80W, h10km, mB5.3, mb4.9, Ms4.7, Msz4.7*

*IDC **03** 01:52:09.8±1.4, 24.41N×109.71W, h0km, mb3.4/1, mb1 4.4/7, mb1mx4.1/24, mbtmp4.1/7, ML3.7/6, MS3.8/9, Ms1 3.8/9, ms1mx3.6/22, Error ellipse: s-maj=27.6km s-min=8.3km az=137.0*

*NEIC **03** 01:52:10.3±0.6, 24.19N×109.79W, h10km, mb4.4/30, Error ellipse: s-maj=8.1km s-min=6.6km az=185.0*

*ISCJB **03** 01:52:11.4±1.2, 24.26N±0.05×109.91W±0.04, h30km±7km, mb4.5/9, MS3.9/6, Error ellipse: s-maj=9.0km s-min=6.6km az=177.6*

ISC 03 01:52:12.8±0.9**, 24.15N**±0.06×**109.89W**±0.04**, h36**km±4km**, n333, σ0.81**/325**, mb4.5**/9**, MS3.9**/6**, 131C-122D, Gulf of California**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPIG	**La Paz**	**0.38**	**262**	Pg	**Pn**	**01 52 22.0**	**+0.2**
	2µm,0.3s,baz=83,slow=5.5,SNR=320						
LPIG				Lg		01 52 30.6	
	4µm,0.3s,baz=52,slow=19,SNR=35						
319A	**Douglas**	**7.21**	**4**	⇑P	**Pn**	**01 53 52.1**	**-3.7**
	baz=7.3,SNR=8.5						
318A	**Bisbee**	**7.26**	**359**	⇑P	**Pn**	**01 53 52.3**	**-4.0**
	baz=7.4,SNR=7.3						
TXAR	**Lajitas Array**	**7.59**	**46**	Pn	**Pn**	**01 53 58.0**	**-2.9**
	0.8nm,0.3s,baz=225,slow=14,SNR=49						
TXAR				Lg		01 55 59.5	
	0.5nm,0.3s,baz=226,slow=39,SNR=5.5						
TXAR				LR	LR	01 57 13.5	
	comp=Z,706nm,21.2s,baz=0.0,slow=42						
TXAR	**Lajitas Array**	**7.59**	**46**	Pn	**Pn**	**01 53 58.0**	**-2.9**
TXAR				Lg		01 55 59.5	
TXAR				LR	LR	01 57 13.5	
217A	**Green Valley**	**7.64**	**354**	⇑P	**Pn**	**01 53 59.2**	**-2.3**
	baz=7.8						
218A	**Dragoon**	**7.79**	**359**	⇓P	**Pn**	**01 54 01.3**	**-2.4**
	baz=7.9						
219A	**White Tail Can**	**7.84**	**4**	⇓P	**Pn**	**01 54 02.2**	**-2.1**
	baz=8.0						
216A	**Three Points,**	**7.94**	**350**	⇑P	**Pn**	**01 54 03.3**	**-2.4**
	baz=8.1						
214A	**Organ Pipe Nat**	**8.19**	**342**	⇓P	**Pn**	**01 54 07.6**	**-1.6**
	baz=8.3,SNR=8.8						
117A	**Oracle**	**8.42**	**355**	⇑P	**Pn**	**01 54 09.4**	**-2.9**
	baz=8.6,SNR=10						
118A	**Homack Ranch,**	**8.46**	**360**	⇓P	**Pn**	**01 54 10.1**	**-2.7**
	baz=8.6						
116A	**Eloy**	**8.53**	**350**	⇑P	**Pn**	**01 54 11.3**	**-2.5**
	baz=8.7						
119A	**Ashpeak Ranch,**	**8.60**	**3**	⇑P	**Pn**	**01 54 12.4**	**-2.3**
	baz=8.7						
115A	**Sonoran Desert**	**8.76**	**347**	⇓P	**Pn**	**01 54 14.9**	**-2.1**
	baz=8.9						
Z18A	**Geronimo**	**8.90**	**359**	⇓P	**Pn**	**01 54 16.7**	**-2.2**
	baz=9.0						
Y17A	**Roosevelt**	**9.54**	**355**	⇑P	**Pn**	**01 54 26.0**	**-1.8**
	baz=9.7						
Z14A	**Wintersburg**	**9.56**	**344**	⇑P	**Pn**	**01 54 28.0**	**+0.1**
	baz=9.7,SNR=6.5						
Y18A	**Canyon Day Jun**	**9.59**	**359**	⇑P	**Pn**	**01 54 27.9**	**-0.5**
	baz=9.7,SNR=12						
Y19A	**Nutrioso**	**9.79**	**3**	⇑P	**Pn**	**01 54 30.4**	**-0.7**
	baz=9.9,SNR=11						
Y16A	**Circle Bar Ran**	**9.79**	**352**	⇓P	**Pn**	**01 54 31.2**	**+0.1**
	baz=9.9,SNR=18						
GLA	**Glamis**	**9.87**	**335**	⇑P	**Pn**	**01 54 31.5**	**-0.6**
	baz=10.0,SNR=5.1						
GLA	**Glamis**	**9.87**	**335**	ePn	**Pn**	**01 54 31.9**	**-0.3**
	13nm,0.8s						
Y15A	**Casa Rosa Ranc**	**9.99**	**348**	⇑P	**Pn**	**01 54 34.0**	**+0.1**
	baz=10,SNR=21						
DVTC	**Desert V Tower**	**10.08**	**329**	⇑P	**Pn**	**01 54 34.4**	**-0.7**
	baz=10,SNR=12						
Y14A	**Wickenburg**	**10.12**	**345**	⇓P	**Pn**	**01 54 35.7**	**0.0**
	baz=10,SNR=16						
SWSC	**Sam W. Stewart**	**10.17**	**331**	⇑P	**Pn**	**01 54 35.6**	**-0.8**
	baz=10,SNR=8.3						
X17A	**Forest Lakes**	**10.18**	**356**	⇓P	**Pn**	**01 54 36.4**	**0.0**
	baz=10,SNR=8.5						
X19A	**St. Johns**	**10.25**	**3**	⇓P	**Pn**	**01 54 37.4**	**0.0**
	baz=10,SNR=7.3						
LENM	**Lemitar**	**10.30**	**14**	ePn	**Pn**	**01 54 39.2**	**+1.1**
X16A	**Lo Mia Camp, P**	**10.32**	**353**	⇑P	**Pn**	**01 54 38.5**	**+0.2**
	baz=10,SNR=26						
X18A	**Snowflake**	**10.34**	**360**	⇓P	**Pn**	**01 54 37.9**	**-0.7**
	baz=10						
BNM	**Barren Site**	**10.36**	**15**	ePn	**Pn**	**01 54 37.3**	**-1.6**
BAR	**Barrett**	**10.38**	**326**	ePn	**Pn**	**01 54 39.1**	**0.0**
	12nm,1.0s						
MONP	**Monument Peak**	**10.42**	**328**	⇓P	**Pn**	**01 54 39.7**	**0.0**
	baz=10,SNR=9.6						
LAZ	**Ladron**	**10.49**	**13**	ePn	**Pn**	**01 54 40.9**	**+0.2**
X15A	**Humboldt**	**10.50**	**349**	⇑P	**Pn**	**01 54 41.4**	**+0.7**
	baz=11,SNR=23						
LPM	**Los Pinos Moun**	**10.51**	**15**	ePn	**Pn**	**01 54 42.5**	**+1.5**
X14A	**Yava**	**10.61**	**346**	⇓P	**Pn**	**01 54 42.7**	**+0.5**
	baz=11,SNR=22						
BC3	**Big Chuckw Mtn**	**10.64**	**334**	⇓P	**Pn**	**01 54 42.4**	**-0.4**
	baz=11,SNR=16						
PDMCI	**Parker Dam,Lak**	**10.77**	**341**	⇓P	**Pn**	**01 54 44.5**	**0.0**
	baz=11,SNR=12						
W19A	**Sanders**	**10.93**	**2**	⇑P	**Pn**	**01 54 47.2**	**+0.5**
	baz=11						
X13A	**Yucca**	**10.95**	**343**	⇑P	**Pn**	**01 54 47.2**	**+0.1**
	baz=11,SNR=34						
JCT	**Junction City**	**10.96**	**53**	ePn	**Pn**	**01 54 48.8**	**+1.6**
	8.9nm,1.0s						
IRM	**Iron Mountain**	**10.97**	**336**	⇑P	**Pn**	**01 54 48.3**	**+1.0**
	baz=11						
PFO	**Pinyon Flat Ob**	**11.03**	**330**	Pn	**Pn**	**01 54 48.4**	**+0.3**
	0.2nm,0.3s,baz=149,slow=11,SNR=18						
PFO				LR	LR	01 59 31.4	
	comp=Z,564nm,18.3s,baz=138,slow=40						
PFO	**Pinyon Flat Ob**	**11.03**	**330**	⇓P	**Pn**	**01 54 47.5**	**-0.6**
	baz=11,SNR=12						
PFO	**Pinyon Flat Ob**	**11.03**	**330**	ePn	**Pn**	**01 54 47.0**	**-1.1**
	52nm,1.4s						
ANMO	**Albuquerque**	**11.16**	**15**	Pn	**Pn**	**01 54 48.9**	**-1.0**
	0.1nm,0.3s,baz=209,slow=12,SNR=12						
ANMO				LR	LR	01 58 30.2	
	comp=Z,670nm,18.3s,baz=349,slow=35						
ANMO	**Albuquerque**	**11.16**	**15**	ePn	**Pn**	**01 54 50.5**	**+0.6**
	13nm,1.4s						
BELC	**Belle Mtn.**	**11.17**	**333**	⇓P	**Pn**	**01 54 49.7**	**-0.3**
	baz=11,SNR=7.6						
W15A	**Williams**	**11.18**	**350**	⇑P	**Pn**	**01 54 50.5**	**+0.4**
	baz=11,SNR=12						
W14A	**Seligman**	**11.36**	**347**	⇑P	**Pn**	**01 54 53.1**	**+0.5**
	baz=12,SNR=24						
WUAZ	**Wupatki**	**11.40**	**354**	⇑P	**Pn**	**01 54 53.7**	**+0.7**
	baz=12,SNR=6.6						
WUAZ	**Wupatki**	**11.40**	**354**	ePn	**Pn**	**01 54 53.1**	**0.0**
	10nm,1.1s						
W13A	**Hualapai Mount**	**11.45**	**343**	⇓P	**Pn**	**01 54 54.0**	**+0.3**
	baz=12,SNR=42						
V19A	**Window Rock**	**11.54**	**3**	⇓P	**Pn**	**01 54 56.4**	**+1.3**
	baz=12						
V14A	**Boquillas Ranc**	**11.77**	**347**	⇑P	**Pn**	**01 54 58.8**	**+0.5**
	baz=12,SNR=14						
LDFC	**Landfair**	**11.79**	**339**	ePn	**Pn**	**01 55 00.2**	**+1.8**
	51nm,1.3s						
V15A	**Kaibab Nationa**	**11.79**	**351**	⇑P	**Pn**	**01 54 59.1**	**+0.6**
	baz=12,SNR=13						
U16A	**Tuba City**	**12.00**	**355**	⇓P	**Pn**	**01 55 02.1**	**+0.8**
	baz=12,SNR=6.9						
V13A	**Grand Canyon W**	**12.18**	**344**	⇑P	**Pn**	**01 55 04.3**	**+0.5**
	baz=12,SNR=18						
V12A	**Nelson**	**12.31**	**341**	⇑P	**Pn**	**01 55 05.7**	**+0.2**
	baz=12,SNR=20						
TUQ	**Turquoise Moun**	**12.40**	**336**	⇑P	**Pn**	**01 55 06.9**	**+0.1**
	baz=12,SNR=10						
U15A	**North Rim**	**12.41**	**351**	⇓P	**Pn**	**01 55 07.8**	**+0.9**
	baz=12,SNR=9.9						
U14A	**Mt Trumbull**	**12.55**	**348**	⇓P	**Pn**	**01 55 09.4**	**+0.6**
	baz=13,SNR=10						
GSC	**Goldstone**	**12.62**	**333**	⇓P	**Pn**	**01 55 09.6**	**-0.2**
	baz=13,SNR=16						
GSC	**Goldstone**	**12.62**	**333**	ePn	**Pn**	**01 55 10.5**	**+0.6**
	57nm,1.5s						
T19A	**Beclabito**	**12.66**	**3**	⇓P	**Pn**	**01 55 10.4**	**+0.1**
	baz=13,SNR=8.6						
U13A	**Pakoon Wash**	**12.71**	**345**	⇑P	**Pn**	**01 55 11.5**	**+0.4**
	baz=13						
EDW2	**Edwards Air Fo**	**12.80**	**328**	⇑P	**Pn**	**01 55 11.9**	**-0.4**
	baz=13,SNR=6.1						
T17A	**Navajo Res., N**	**12.83**	**357**	⇑P	**Pn**	**01 55 13.6**	**+1.0**
	baz=13						
U12A	**Valley of Fire**	**12.88**	**343**	⇓P	**Pn**	**01 55 14.0**	**+0.7**
	baz=13						
T18A	**Mexican Hat**	**12.94**	**0**	⇓P	**Pn**	**01 55 15.6**	**+1.4**
	baz=13,SNR=6.7						
SHOC	**Shoshone**	**12.94**	**336**	⇑P	**Pn**	**01 55 14.5**	**+0.3**
	baz=13,SNR=15						
T15A	**Red Dirt Ranch**	**13.00**	**351**	⇑P	**Pn**	**01 55 15.9**	**+0.9**
	baz=13						
MVCO	**Mesa Verde**	**13.07**	**5**	ePn	**Pn**	**01 55 16.1**	**+0.2**
	66nm,1.6s						
U11A	**Corn Creek**	**13.11**	**340**	⇑P	**Pn**	**01 55 17.0**	**+0.5**
	baz=13						
LRMC	**Laurel Mountai**	**13.15**	**331**	⇑P	**Pn**	**01 55 17.0**	**-0.1**
	baz=13,SNR=15						
T14A	**Hurricane**	**13.15**	**349**	⇑P	**Pn**	**01 55 17.8**	**+0.7**
	baz=13,SNR=16						
T13A	**Saint George**	**13.28**	**346**	⇓P	**Pn**	**01 55 19.0**	**+0.2**
	baz=13						
ARVC	**Arvin**	**13.41**	**327**	⇓P	**Pn**	**01 55 20.1**	**-0.5**
	baz=14,SNR=6.1						
U10A	**Ash Meadows, A**	**13.42**	**337**	⇑P	**Pn**	**01 55 21.2**	**+0.4**
	baz=14,SNR=13						
S17A	**Black Ridge (B**	**13.46**	**357**	⇓P	**Pn**	**01 55 22.3**	**+1.0**
	baz=14						
S18A	**Hurst Farm, Bl**	**13.49**	**360**	⇓P	**Pn**	**01 55 22.5**	**+0.8**
	baz=14						
MPMC	**Manual Prospec**	**13.56**	**333**	⇑P	**Pn**	**01 55 22.4**	**-0.3**
	baz=14,SNR=21						
S19A	**Harvey Farm, M**	**13.56**	**3**	⇓P	**Pn**	**01 55 24.0**	**+1.3**
	baz=14,SNR=6.4						
S16A	**Weppner Ranch,**	**13.60**	**354**	⇑P	**Pn**	**01 55 23.7**	**+0.5**
	baz=14,SNR=6.8						
S15A	**Panguitch**	**13.64**	**352**	⇓P	**Pn**	**01 55 24.7**	**+0.9**
	baz=14						
ISA	**Isabella**	**13.66**	**329**	⇓P	**Pn**	**01 55 23.3**	**-0.7**
	baz=14,SNR=9.0						
FURC	**Furnace Creek,**	**13.66**	**336**	⇑P	**Pn**	**01 55 24.4**	**+0.3**
	baz=14						
CCUT	**Cedar City**	**13.68**	**348**	ePn	**Pn**	**01 55 25.7**	**+1.4**
HKT	**Hockley**	**13.79**	**62**	ePn	**Pn**	**01 55 23.4**	**-2.5**
	16nm,1.5s						
S13A	**Holt Ranch, En**	**13.81**	**347**	⇓P	**Pn**	**01 55 27.0**	**+0.9**
	baz=14,SNR=8.6						
T11A	**Corn Creek, Al**	**13.82**	**342**	⇓P	**Pn**	**01 55 26.6**	**+0.4**
	baz=14,SNR=13						
S14A	**Cedar City**	**13.85**	**349**	⇓P	**Pn**	**01 55 27.6**	**+1.0**
	baz=14,SNR=6.0						
TPNV	**Topopah Spring**	**13.87**	**338**	⇓P	**Pn**	**01 55 27.2**	**+0.3**
	baz=14,SNR=7.9						
ARUT	**Antelope Range**	**13.93**	**348**	ePn	**Pn**	**01 55 28.9**	**+1.3**
SDCO	**Great Sand Dun**	**14.06**	**14**	ePn	**Pn**	**01 55 28.9**	**-0.5**
	9.4nm,1.2s						
S12A	**Delamar Landin**	**14.07**	**344**	⇓P	**Pn**	**01 55 30.2**	**+0.6**
	baz=14,SNR=18						
VES	**Vestal, Richgr**	**14.10**	**328**	⇑P	**Pn**	**01 55 29.2**	**-0.8**
	baz=14,SNR=5.8						
R16A	**Teasdale**	**14.15**	**355**	⇓P	**Pn**	**01 55 31.6**	**+0.9**
	baz=14						
R18A	**Canyonlands Na**	**14.19**	**360**	⇑P	**Pn**	**01 55 30.5**	**-0.7**
	baz=14,SNR=7.8						
R17A	**Hanksville Air**	**14.24**	**357**	⇑P	**Pn**	**01 55 31.8**	**-0.1**
	baz=14,SNR=15						
WMOK	**Wichita Mounta**	**14.30**	**40**	ePn	**Pn**	**01 55 33.3**	**+0.5**
	15nm,1.1s						
GRAC	**Grapevine Rang**	**14.32**	**335**	⇑P	**Pn**	**01 55 33.1**	**0.0**
	baz=14,SNR=6.2						
R13A	**O'Grain Ranch,**	**14.41**	**347**	⇓P	**Pn**	**01 55 35.0**	**+0.8**
	baz=14,SNR=7.3						
MSU	**Marysvale**	**14.45**	**353**	ePn	**Pn**	**01 55 35.0**	**+0.3**
RCTC	**Rector, Farmer**	**14.55**	**329**	⇓P	**Pn**	**01 55 36.4**	**+0.2**
	baz=15						
R12A	**Pony Springs,**	**14.69**	**345**	⇑P	**Pn**	**01 55 39.0**	**+0.9**
	baz=15						
HELL	**Mitchell Peak**	**14.75**	**330**	⇑P	**Pn**	**01 55 38.5**	**-0.3**
	baz=15,SNR=6.2						
Q16A	**Castle Valley**	**14.76**	**356**	⇑P	**Pn**	**01 55 39.0**	**0.0**
	baz=15,SNR=7.0						
Q19A	**Hogan Spring (**	**14.77**	**2**	⇓P	**Pn**	**01 55 39.9**	**+0.9**
	baz=15						
S10A	**Tonopah Range,**	**14.87**	**339**	⇑P	**Pn**	**01 55 40.8**	**+0.3**
	baz=15,SNR=13						
Q18A	**Rafter H Ranch**	**14.90**	**359**	⇓P	**Pn**	**01 55 41.1**	**+0.2**
	baz=15,SNR=5.0						
S09A	**Goldfield**	**14.91**	**337**	⇑P	**Pn**	**01 55 41.2**	**+0.2**
	baz=15						
SRU	**San Rafael**	**14.92**	**358**	⇑P	**Pn**	**01 55 40.9**	**-0.2**
	baz=15,SNR=5.9						
SRU	**San Rafael**	**14.92**	**358**	ePn	**Pn**	**01 55 41.1**	**0.0**
	8.1nm,1.2s						
R11A	**Troy Canyon, C**	**14.96**	**342**	⇓P	**Pn**	**01 55 41.4**	**-0.2**
	baz=15,SNR=13						
Q14A	**Sevier Lake (B**	**15.07**	**350**	⇓P	**Pn**	**01 55 43.3**	**+0.3**
	baz=15,SNR=10						
S08C	**White Mtn Res**	**15.07**	**334**	⇓P	**Pn**	**01 55 43.4**	**+0.3**
	baz=15,SNR=14						
MTUM	**Tungsten Hills**	**15.11**	**333**	ePn	**Pn**	**01 55 43.8**	**+0.2**
R10A	**Warm Springs**	**15.11**	**340**	⇓P	**Pn**	**01 55 43.6**	**0.0**
	baz=15						
Q13A	**Wheeler Ranch,**	**15.17**	**348**	⇑P	**Pn**	**01 55 44.8**	**+0.5**
	baz=15,SNR=16						

TPH	**Tonopah**	15.22	337	*e*Pn	Pn	01 55 44.9	-0.2
	26nm,1.3s						
P17A	**Butcher Ranch,**	15.29	358	⇓P	Pn	01 55 46.0	0.0
	baz=15						
R09A	**Tonopah**	15.32	338	⇑P	Pn	01 55 46.5	+0.2
	baz=15,SNR=16						
T06C	**Millerton Lake**	15.33	329	⇑P	Pn	01 55 45.3	-1.2
	baz=15,SNR=19						
KCC	**Kaiser Creek**	15.41	331	⇓P	Pn	01 55 47.4	-0.2
	baz=16,SNR=15						
Q12A	**Willow Creek R**	15.42	345	⇑P	Pn	01 55 48.2	+0.6
	baz=16,SNR=21						
P18A	**Preston Nutter**	15.43	359	⇑P	Pn	01 55 48.1	+0.3
	baz=16,SNR=16						
Q11A	**Duckwater**	15.44	343	⇑P	Pn	01 55 48.2	+0.2
	baz=16						
P15A	**Leamington**	15.50	353	⇓P	Pn	01 55 49.3	+0.6
	baz=16						
P14A	**Drum Mountains**	15.62	351	⇑P	Pn	01 55 50.3	+0.1
	baz=16,SNR=19						
P13A	**Bates Ranch, G**	15.65	348	⇑P	Pn	01 55 50.5	-0.1
	baz=16,SNR=20						
P12A	**McGill**	15.85	346	⇓P	Pn	01 55 53.7	+0.5
	baz=16						
MPU	**Maple Canyon**	15.88	355	*e*Pn	Pn	01 55 54.6	+0.9
	20nm,1.2s						
S05C	**Merced**	15.90	328	⇑P	Pn	01 55 53.5	-0.4
	baz=16						
NVAR	**Mina Array Bea**	15.93	335	Pn	Pn	01 55 54.9	+0.6
	0.3nm,0.3s,baz=161,slow=12,SNR=42						
O17A	**Robinson Place**	16.01	358	⇓P	Pn	01 55 55.2	-0.1
	baz=16,SNR=11						
ISCO	**Idaho Springs**	16.01	12	*e*Pn	Pn	01 55 56.7	+1.4
	17nm,1.2s						
O16A	**Springville**	16.06	356	⇓P	Pn	01 55 57.0	+1.0
	baz=16						
O18A	**Roosevelt**	16.07	360	⇓P	Pn	01 55 56.7	+0.7
	baz=16						
O19A	**Miners Draw (B**	16.11	2	⇑P	Pn	01 55 58.3	+1.7
	baz=16,SNR=27						
S06C	**San Francisco**	16.11	330	⇓P	Pn	01 55 56.2	-0.4
	baz=16,SNR=6.4						
P11A	**Circle Ranch,**	16.13	343	⇓P	Pn	01 55 57.5	+0.7
	baz=16						
Q08A	**Gabbs**	16.17	337	⇓P	Pn	01 55 57.5	+0.2
	baz=16						
DUG	**Dugway**	16.18	352	⇓P	Pn	01 55 57.7	+0.2
	baz=16,SNR=20						
DUG	**Dugway**	16.18	352	*e*Pn	Pn	01 55 57.8	+0.3
	17nm,1.1s						
O15A	**The Old Anders**	16.23	353	⇑P	Pn	01 55 58.6	+0.6
	baz=16						
DAU	**Daniels Canyon**	16.25	356	*e*Pn	Pn	01 55 58.4	+0.1
P10A	**Eureka**	16.39	342	⇑P	Pn	01 56 00.7	+0.6
	baz=16						
JLU	**Jordanelle**	16.45	356	*e*Pn	Pn	01 56 00.5	-0.4
R06C	**Coleville**	16.47	333	⇓P	Pn	01 56 01.2	+0.1
	baz=17						
CMB	**Columbia Colle**	16.48	330	⇓P	Pn	01 56 00.5	-0.8
	baz=17						
O12A	**Currie**	16.58	347	⇓P	Pn	01 56 02.1	-0.4
	baz=17,SNR=8.7						
O11A	**Cowboy Ranch,**	16.66	344	⇓P	Pn	01 56 03.9	+0.5
	baz=17						
N19A	**John Jarvie Ra**	16.70	2	⇓P	Pn	01 56 04.2	+0.2
	baz=17						
N16A	**Rees Ranch, Co**	16.74	356	⇑P	Pn	01 56 05.2	+0.7
	baz=17						
N17A	**Moffit Pass**	16.76	358	⇑P	Pn	01 56 05.5	+0.7
	baz=17						
N18A	**Larsen Ranch,**	16.78	1	⇑P	Pn	01 56 05.5	+0.5
	baz=17						
N15A	**Stansbury Isla**	16.83	353	⇑P	Pn	01 56 06.1	+0.4
	baz=17						
N14A	**Grayback Hills**	16.88	351	⇑P	Pn	01 56 05.9	-0.4
	baz=17,SNR=19						
R05C	**Kirkwood Meado**	16.89	332	⇓P	Pn	01 56 06.3	-0.1
	baz=17						
R04C	**Big Horse Ranc**	16.92	329	⇑P	Pn	01 56 06.7	0.0
	baz=17						
CBKS	**Cedar Bluff**	16.97	28	*e*Pn	Pn	01 56 07.8	+0.4
	108nm,1.2s						
O10A	**Cortez Mining,**	17.02	343	⇓P	Pn	01 56 08.2	+0.2
	baz=17						
N13A	**Wendover, West**	17.04	349	⇑P	Pn	01 56 08.2	0.0
	baz=17,SNR=7.7						
O09A	**Fish Creek Ran**	17.11	341	⇑P	Pn	01 56 10.4	+1.2
	baz=17,SNR=6.5						
ELK	**Elko**	17.14	346	Pn	Pn	01 56 08.7	-0.8
	0.0nm,0.3s,baz=155,slow=11,SNR=13						
ELK				LR	LR	02 02 45.3	
	comp=Z,209nm,18.2s,baz=163,slow=38						
ELK	**Elko**	17.14	346	*e*Pn	Pn	01 56 08.8	-0.7
	26nm,1.5s						
N12A	**Clover Valley,**	17.20	347	⇓P	Pn	01 56 10.2	-0.1
	baz=17,SNR=13						
LAVA	**Lava Cap Winer**	17.23	330	⇑P	Pn	01 56 10.9	+0.3
	baz=17						
SPUT	**South Promonto**	17.24	353	*e*Pn	Pn	01 56 10.1	-0.6
WCN	**Washoe City**	17.26	333	⇓P	Pn	01 56 10.6	-0.4
	baz=17						
M15A	**Larsen Ranch,**	17.39	354	⇓P	Pn	01 56 12.5	-0.2
	baz=18,SNR=17						
HWUT	**Hardware Ranch**	17.46	356	*e*Pn	Pn	01 56 13.8	+0.4
	32nm,1.1s						
M13A	**Montello**	17.53	349	⇑P	Pn	01 56 14.9	+0.6
	baz=18						
O08A	**Rochester Mine**	17.53	339	⇑P	Pn	01 56 14.1	-0.2
	baz=18,SNR=8.3						
M14A	**Sheep Mountain**	17.54	351	⇑P	Pn	01 56 14.7	+0.3
	baz=18						
P05C	**Yuba Gap, Truc**	17.62	332	⇓P	Pn	01 56 15.5	+0.1
	baz=18,SNR=7.0						
O07A	**Toulon**	17.66	337	⇑P	Pn	01 56 16.1	+0.1
	baz=18						
M12A	**Wells**	17.72	348	⇑P	Pn	01 56 16.1	-0.5
	baz=18,SNR=7.1						
HVU	**Hansel Valley**	17.74	353	*e*Pn	Pn	01 56 16.8	-0.1
	19nm,1.3s						
L16A	**Fish Haven**	17.86	356	⇑P	Pn	01 56 18.4	0.0
	baz=18						
M11A	**Holland Ranch,**	17.92	345	⇑P	Pn	01 56 18.8	-0.3
	baz=18						
L15A	**Malad City**	17.92	354	⇓P	Pn	01 56 19.1	0.0
	baz=18,SNR=7.8						
N08A	**GE Springer Mi**	17.96	339	⇓P	Pn	01 56 19.7	0.0
	baz=18						
BEKR	**Beckwourth**	17.98	333	⇑P	Pn	01 56 19.7	-0.2
	baz=18						
L14A	**Malta**	18.05	352	⇑P	Pn	01 56 20.5	-0.2
	baz=18,SNR=6.5						
M10A	**I.L. Ranch, Tu**	18.19	344	⇓P	Pn	01 56 22.5	+0.1
	baz=18						
L13A	**Double Diamond**	18.20	350	⇓P	Pn	01 56 23.1	+0.5
	baz=18						
ORV	**Oroville**	18.22	330	⇓P	Pn	01 56 22.4	-0.4
	baz=18,SNR=6.6						
O05C	**Quincy**	18.30	332	⇑P	Pn	01 56 23.5	-0.3
	baz=18						
L12A	**House Creek Ra**	18.44	348	⇑P	Pn	01 56 25.6	+0.1
	baz=19						
N06A	**Buffalo Meadow**	18.53	336	⇑P	Pn	01 56 26.4	-0.2
	baz=19						
K14A	**Jones Ranch, D**	18.54	352	⇓P	Pn	01 56 26.5	-0.3
	baz=19						
BW06	**Boulder Array**	18.57	1	⇑P	Pn	01 56 26.0	-1.1
	baz=19,SNR=27						
BW06	**Boulder Array**	18.57	1	*e*P	Pn	01 56 26.1	-0.9
	34nm,1.4s						
PDAR	**Pinedale Array**	18.57	1	P	Pn	01 56 26.1	-0.9
	0.1nm,0.3s,baz=176,slow=14,SNR=66						
K15A	**Arbon**	18.61	354	⇑P	Pn	01 56 27.6	+0.1
	baz=19						
L11A	**Cat Creek Ranc**	18.61	346	⇓P	Pn	01 56 27.5	-0.1
	baz=19,SNR=13						
M08A	**Happy Creek Ra**	18.64	340	⇑P	Pn	01 56 27.7	-0.3
	baz=19						
KSU1	**Kansas State U**	18.68	34	*e*P	Pn	01 56 28.6	+0.2
	97nm,1.4s						
K16A	**Soda Springs**	18.68	356	⇓P	Pn	01 56 28.4	0.0
	baz=19						
L10A	**Juniper Basin**	18.69	345	⇓P	Pn	01 56 28.5	-0.1
	baz=19,SNR=13						
K13A	**Stover Farm, H**	18.77	350	⇓P	Pn	01 56 29.4	-0.1
	baz=19						
K12A	**Draper Farm, C**	18.89	349	⇑P	Pn	01 56 30.9	-0.1
	baz=19,SNR=6.9						
L09A	**Wilkinson Ranc**	18.95	342	⇑P	Pn	01 56 31.1	-0.6
	baz=19						
J16A	**Bone**	19.12	356	⇑P	Pn	01 56 33.5	-0.2
	baz=19,SNR=14						
M06C	**Likely Place G**	19.17	335	⇑P	Pn	01 56 33.7	-0.6
	baz=19						
REDW	**Red Top Meadow**	19.18	358	*e*P	Pn	01 56 33.0	-1.4
	37nm,1.4s						
RRI2	**Red Ridge**	19.18	357	*e*P	Pn	01 56 33.6	-0.8
	43nm,1.3s						
K11A	**Parker Ranch,**	19.25	346	⇓P	Pn	01 56 34.6	-0.7
	baz=19						
SNOW	**Snow King Moun**	19.27	358	*e*P	Pn	01 56 35.5	0.0
	39nm,1.4s						
TPAW	**Teton Pass**	19.31	358	*e*P	Pn	01 56 34.7	-1.2
	27nm,1.4s						
L08A	**Fields**	19.31	341	⇑P	Pn	01 56 35.2	-0.7
	baz=19,SNR=7.9						
J15A	**Blackfoot**	19.31	354	⇓P	Pn	01 56 34.8	-1.2
	baz=20,SNR=8.8						
J14A	**Carey**	19.35	352	⇑P	Pn	01 56 35.7	-0.8
	baz=20,SNR=8.9						
LOHW	**Long Hollow**	19.42	358	*e*P	Pn	01 56 35.9	-1.4
	25nm,1.5s						
DCID1	**Drake Creek**	19.42	357	*e*P	Pn	01 56 35.4	-1.8
	79nm,1.3s						
K10A	**MacKenzie Ranc**	19.45	344	⇓P	Pn	01 56 36.6	-1.0
	baz=20						
L07A	**Adell**	19.47	338	⇓P	Pn	01 56 36.5	-1.4
	baz=20						
J13A	**Cove Ranch, Pi**	19.52	351	⇓P	Pn	01 56 37.7	-0.7
	baz=20,SNR=7.7						
J12A	**Stokes Ranch,**	19.52	349	⇓P	Pn	01 56 37.4	-1.1
	baz=20						
MOOW	**Moose Ponds**	19.56	358	*e*P	Pn	01 56 37.7	-1.2
	21nm,1.6s						
K09A	**Rome**	19.60	343	⇑P	Pn	01 56 38.5	-1.0
	baz=20,SNR=19						
WVOR	**Wild Horse Val**	19.62	340	*e*P	Pn	01 56 38.2	-1.4
	14nm,1.2s						
MOD	**Modoc**	19.71	336	⇑P	Pn	01 56 39.2	-1.5
	baz=20						
IMW	**Indian Meadow**	19.71	358	*e*P	Pn	01 56 39.4	-1.4
	28nm,1.2s						
I16A	**Newdale**	19.72	357	⇓P	Pn	01 56 40.0	-0.8
	baz=20						
I17A	**Pilgram Creek**	19.73	359	⇑P	Pn	01 56 40.0	-0.9
	baz=20						
MFID	**Camas Ranch**	19.82	347	⇑P	Pn	01 56 41.9	-0.2
	baz=20,SNR=7.3						
M03C	**McCloud**	19.90	332	⇓P	Pn	01 56 41.7	-1.3
	baz=20						
I14A	**Mackay**	19.94	352	⇑P	Pn	01 56 42.6	-0.8
	baz=20						
I13A	**Wildhorse Cree**	20.01	351	⇑P	P	01 56 43.5	+1.1
	baz=20,SNR=10.0						
L05A	**Lakeview**	20.03	336	⇓P	P	01 56 43.3	+0.8
	baz=20						
K07A	**Rock Creek Ran**	20.04	340	⇑P	P	01 56 43.1	+0.4
	baz=20						
I12A	**Atlanta**	20.06	349	⇓P	P	01 56 43.1	+0.2
	baz=20						
N02C	**Big Bar**	20.07	329	⇑P	P	01 56 43.3	+0.3
	baz=20						
HBAR	**Harrisburg**	20.15	51	*e*P	P	01 56 48.4	+4.4
M04C	**Macdoel**	20.20	333	⇓P	P	01 56 45.4	+0.9
	baz=20,SNR=6.8						
J09A	**Fry Pan Ranch,**	20.21	343	⇑P	P	01 56 45.3	+0.7
	baz=20						
I11A	**Placerville**	20.33	347	⇑P	P	01 56 46.2	+0.4
	baz=20						
J08A	**Circle Bar Ran**	20.42	342	⇑P	P	01 56 47.7	+0.9
	baz=21,SNR=6.2						
K06A	**Valley Falls**	20.47	338	⇓P	P	01 56 47.4	0.0
	baz=21						
YMR	**Madison River**	20.48	358	*e*P	P	01 56 48.1	+0.6
	32nm,1.3s						
YBH	**Yreka Blue Hor**	20.52	332	P	P	01 56 49.9	+2.0
	1.5nm,0.7s,baz=148,slow=9.5,SNR=4.1						
YBH				LR	LR	02 03 27.7	
	comp=Z,175nm,21.2s,MS3.4,baz=146,slow=33						
H16A	**Russell Place,**	20.53	357	⇑P	P	01 56 48.7	+0.7
	baz=21,SNR=6.7						
H15A	**Lima**	20.54	354	⇑P	P	01 56 48.6	+0.6
	baz=21						
L04A	**Klamath Falls**	20.55	334	⇓P	P	01 56 48.1	-0.2
	baz=21						
H14A	**Leadore**	20.61	353	⇓P	P	01 56 49.9	+1.1
	baz=21,SNR=7.7						
K05A	**Summer Lake**	20.64	336	⇓P	P	01 56 49.3	+0.2
	baz=21						
QLMT	**Earthquake Lak**	20.67	357	*e*P	P	01 56 51.5	+2.0
H13A	**Challis**	20.67	351	⇑P	P	01 56 50.0	+0.5
	baz=21,SNR=10						
I10A	**Payette**	20.67	346	⇑P	P	01 56 50.3	+0.8
	baz=21						
J07A	**Hines**	20.68	340	⇑P	P	01 56 50.2	+0.5
	baz=21,SNR=6.1						
H12A	**Diamond D Ranc**	20.75	350	⇓P	P	01 56 50.8	+0.5
	baz=21,SNR=12						
MCMT	**McKenzie Canyo**	20.77	354	*e*P	P	01 56 51.1	+0.6
I09A	**Lost Marbles R**	20.79	344	⇓P	P	01 56 51.1	+0.2
	baz=21						
J06A	**Christmas Vall**	20.84	339	⇑P	P	01 56 51.7	+0.4
	baz=21,SNR=12						
RLMT	**Red Lodge**	20.93	1	⇓P	P	01 56 52.5	+0.3
	baz=21						
RLMT	**Red Lodge**	20.93	1	*e*P	P	01 56 52.1	-0.1
	15nm,1.3s						
G15A	**Dillon**	21.07	355	⇓P	P	01 56 54.4	+0.6
	baz=21						
G16A	**Moss Hill, Enn**	21.08	356	⇓P	P	01 56 54.8	+0.9
	baz=21,SNR=5.6						
H11A	**Donnelly**	21.10	348	⇓P	P	01 56 54.1	0.0
	baz=21,SNR=6.6						
G13A	**Cobalt**	21.19	351	⇑P	P	01 56 55.2	+0.2
	baz=21,SNR=18						
J05A	**Fort Rock**	21.25	337	⇓P	P	01 56 55.9	+0.2
	baz=21,SNR=6.4						
DLMT	**Dillon**	21.27	355	*e*P	P	01 56 57.0	+1.0
	13nm,1.0s,mb4.2						
I07A	**Izee**	21.38	341	⇓P	P	01 56 57.5	+0.3
	baz=22						
H09A	**Durkee**	21.42	345	⇓P	P	01 56 57.9	+0.3
	baz=22						
I06A	**Prineville**	21.48	339	⇓P	P	01 56 58.3	+0.1
	baz=22						
BMO	**Blue Mountains**	21.52	346	*e*P	P	01 56 57.7	-0.9
	10.0nm,1.3s,mb4.1						
H08A	**Prairie City**	21.54	343	⇑P	P	01 56 59.1	+0.2
	baz=22,SNR=7.8						
GCMT	**Greycliff**	21.59	0	*e*P	P	01 56 58.2	-1.2
F18A	**Big Timber**	21.70	0	⇑P	P	01 57 00.6	0.0
	baz=22,SNR=10						
F15A	**Butte**	21.74	355	⇑P	P	01 57 00.9	-0.1
	baz=22,SNR=6.4						
F14A	**Wisdom**	21.79	353	⇓P	P	01 57 01.4	-0.2
	baz=22						
H07A	**Lands Inn, Kim**	21.86	341	⇑P	P	01 57 01.5	-0.8
	baz=22						
F13A	**Darby**	21.88	352	⇑P	P	01 57 02.3	-0.2
	baz=22,SNR=25						
G10A	**Bishop Farm, J**	21.89	346	⇑P	P	01 57 01.8	-0.8
	baz=22						
F12A	**Elk City**	21.99	350	⇓P	P	01 57 02.9	-0.7
	baz=22,SNR=6.4						
G09A	**Cove**	22.03	345	⇑P	P	01 57 03.5	-0.6
	baz=22,SNR=12						
H06A	**Lindquist Farm**	22.23	340	⇓P	P	01 57 05.1	-1.1
	baz=22						
F11A	**Grangeville**	22.27	348	⇓P	P	01 57 06.5	-0.1
	baz=22,SNR=6.7						
E17A	**Martinsdale**	22.27	358	⇓P	P	01 57 06.5	-0.2
	baz=22,SNR=7.4						
E18A	**Harlowton**	22.36	360	⇑P	P	01 57 07.9	+0.3
	baz=22,SNR=7.5						
ECSD	**EROS,Sioux Fal**	22.37	26	*e*P	P	01 57 06.9	-0.8
	13nm,1.0s,mb4.3						
E16A	**East Helena**	22.38	357	⇑P	P	01 57 07.7	-0.1
	baz=22,SNR=7.3						
E14A	**Clinton**	22.40	353	⇑P	P	01 57 07.6	-0.4
	baz=22						
WVT	**Waverly**	22.45	53	*e*P	P	01 57 09.1	+0.4
	25nm,1.5s,mb4.4						
E13A	**Victor**	22.51	352	⇓P	P	01 57 09.1	-0.1
	baz=23,SNR=7.2						
F10A	**Beach Ranch, E**	22.56	347	⇓P	P	01 57 09.5	-0.3
	baz=23						
I03A	**Eugene**	22.61	334	⇓P	P	01 57 10.0	-0.3
	baz=23						
E12A	**Beaver Dam Sad**	22.68	350	⇑P	P	01 57 11.0	0.0
	baz=23						
E11A	**Bogner Ranch,**	22.73	349	⇓P	P	01 57 10.7	-0.9
	baz=23,SNR=6.7						
D16A	**Dana Ranch, Ca**	22.87	357	⇓P	P	01 57 13.2	+0.3
	baz=23,SNR=7.0						
CHMT	**Chamberlain Mo**	22.87	354	*e*P	P	01 57 11.7	-1.3
D14A	**Greenough**	23.06	354	⇓P	P	01 57 14.4	-0.6
	baz=23,SNR=6.8						
D13A	**Huson**	23.18	352	⇑P	P	01 57 15.4	-0.9
	baz=23						
D12A	**Red Ives Fores**	23.27	351	⇑P	P	01 57 16.0	-1.2
	baz=23						
E09A	**Wood Farm, Sta**	23.28	345	⇑P	P	01 57 16.0	-1.3
	baz=23						
F06A	**Goldendale**	23.29	340	⇓P	P	01 57 16.5	-0.9
	baz=23						
D11A	**Klaveano Farm,**	23.42	349	⇑P	P	01 57 17.3	-1.5
	baz=24,SNR=6.6						
C17A	**Wharram Farm,**	23.44	359	⇓P	P	01 57 19.1	+0.2
	baz=24,SNR=8.7						
C14A	**Swan Lake**	23.77	354	⇑P	P	01 57 21.5	-0.4
	baz=24						
B15A	**Bradely Ranch,**	24.20	356	⇓P	P	01 57 25.8	-0.1
	baz=24						
E05A	**Randle**	24.31	340	⇑P	P	01 57 27.1	+0.2
	baz=24						
B13A	**Whitefish**	24.44	353	⇑P	P	01 57 28.3	+0.2
	baz=25						
D06A	**Cle Elum**	24.60	342	⇓P	P	01 57 29.7	+0.1
	baz=25						
B12A	**Libby**	24.68	351	⇓P	P	01 57 30.3	+0.1
	baz=25						
DGMT	**Dagmar**	24.68	9	⇑P	P	01 57 30.7	+0.5
	baz=25						
NEW	**Newport**	24.74	348	*e*P	P	01 57 30.4	-0.4
	17nm,1.3s,mb4.4						
B11A	**Sandpoint**	24.77	350	⇑P	P	01 57 31.2	+0.2
	baz=25						
A11A	**Hall Mountain,**	25.28	350	⇑P	P	01 57 35.9	+0.3
	baz=25						
B08A	**Colville Reser**	25.29	345	⇓P	P	01 57 36.1	+0.3
	baz=25						
TKL	**Tuckaleechee C**	25.30	57	LR	LR	02 08 16.9	
	comp=Z,411nm,19.6s,MS4.0,baz=255,slow=39						
A08A	**Turner Farm, O**	25.83	346	⇓P	P	01 57 41.4	+0.7
	baz=26						
ULM	**Lac du Bonnet**	28.24	19	LR	LR	02 09 00.5	
	comp=Z,236nm,19.4s,MS3.8,baz=214,slow=36						
DLBC	**Dease Lake**	37.14	343	P	P	01 59 21.7	+1.9
	baz=177,slow=12						
YKA	**Yellowknife Ar**	38.46	356	LR	LR	02 15 38.2	
	comp=Z,45nm,18.5s,MS3.3,baz=240,slow=37						
OTAV	**Otavalo**	38.65	123	*e*P	P	01 59 32.4	-0.7
	11nm,1.3s,mb4.4						
SDV	**Santo Domingo**	40.42	105	*e*P	P	01 59 48.3	+0.4
	11nm,0.9s,mb4.6						
SCHQ	**Schefferville**	44.11	35	LR	LR	02 19 15.3	
	comp=Z,442nm,18.1s,MS4.4,baz=296,slow=37						
DAWY	**Dawson**	44.35	342	*e*P	P	02 00 20.7	+1.5
MCK	**McKinley**	47.15	338	*e*P	P	02 00 42.9	+1.5
	13nm,1.3s,mb4.7						
TRF	**Thorofare Moun**	47.46	337	*e*P	P	02 00 45.3	+1.5
	46nm,1.6s,mb5.2						
IMA2	**Indian Mountai**	50.17	338	*e*P	P	02 01 05.0	+0.5
CN2	**Changchun**	95.48	323	*e*P	P	02 05 34.1	+0.1
CD2	**Chengdu**	116.46	328	*e*PKP	PKPdf	02 10 51.5	-1.8
CD2				PP	PP		
	comp=Z,80nm,10.2s						
CD2				LR	LR		
	comp=N,80nm,18.2s						
CD2				LR	LR		
	comp=Z,60nm,19.2s,MS4.2						
GYA	**Guiyang**	118.52	323	*e*PDIF	Pdif	02 07 14.3	-2.2
GYA				PKP	PKPdf	02 10 56.2	-1.2
GYA				PP	PP	02 12 15.6	+2.0
GYA				PP	PP		
	comp=Z,70nm,7.2s						
WRA	**Warramunga Arr**	120.77	260	PKP	PKPdf	02 11 04.9	+3.2
	comp=Z,0.3nm,0.8s,baz=71,slow=2.8,SNR=5.2						
ASAR	**Alice Springs**	122.16	256	PKP	PKPdf	02 11 06.5	+2.1
	comp=Z,0.3nm,0.5s,baz=66,slow=2.3,SNR=2.9						

*NIED **03** 02:07:00,2550N×12460E,h113km,Mw4.5 Best double couple: M₀7.19000×10¹⁵ NP1:φs120.00000°,δ62.00000°, λ-139.00000°. NP2:φs8.00000°,δ55.00000°,λ-35.00000°.*

*SZGRF **03** 02:07:37.1,2539N×12476E,h33km,mb5.0,Northeast of Taiwan*

*BJI **03** 02:07:40.7,2514N×12501E,h120km,mB4.8,mb4.6*

*MOS **03** 02:07:43.9±1.0,2560N×12450E,h105km,mb4.9/56,Error ellipse: s-maj=10.0km s-min=5.4km az=116.7*

*ISCJB **03** 02:07:45.2±0.2,2566N±003×12451E±002,h109km±2km, mb4.7/126,Error ellipse: s-maj=5.4km s-min=2.9km az=162.7*

*IDC **03** 02:07:46.1±0.7,2556N×12460E,h117km±6km,mb4.2/21, mb1 4.3/23,mb1mx4.3/27,mbtmp4.2/23,MS3.4/3, Ms1 3.4/3,ms1mx2.9/33,Error ellipse: s-maj=11.5km s-min=9.3km az=120.0*

*JMA **03** 02:07:47.1±0.2,2551N×12457E,h113km,M4.7*

JMA Felt I J1.

*NEIC **03** 02:07:47.4±0.6,2549N×12458E,h129km±4km,mb4.8/68, Error ellipse: s-maj=5.8km s-min=4.9km az=163.0*

NEIC Recorded [1 JMA] on Ishigaki-jima and Miyako-jima, Ryukyu Islands.

ISC 03 02:07:46.4±0.2,**2557N**±003×**12456E**±002,**h112**km±2km, **h125**km±4.2km**:pP-P,n480,**σ**0.82**/496,**mb4.7**/126, **106C-97D,Northeast of Taiwan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTJ	**Tarama**	0.94	172	P	**Pn**	**02 08 07.6**	**+0.4**
JTJ				S	**Sn**	**02 08 22.7**	**-0.1**
JMJ	**Miyako jima 2**	1.00	138	P	**Pn**	**02 08 08.3**	**+0.5**
JMJ				S	**Sn**	**02 08 23.8**	**-0.2**
JOGS	**Gusukube**	1.11	136	P	**Pn**	**02 08 09.6**	**+0.6**
JOGS				S	**Sn**	**02 08 26.0**	**0.0**
JIJ	**Ishigaki jima**	1.26	198	P	**Pn**	**02 08 10.5**	**-0.1**
JIJ				S	**Sn**	**02 08 27.6**	**-1.3**
JKRS	**Kuro-shima**	1.42	201	P	**Pn**	**02 08 12.6**	**+0.2**
JKRS				S	**Sn**	**02 08 31.6**	**-0.5**
IRIF	**Iriomote-Funau**	1.44	212	P	**Pn**	**02 08 13.0**	**+0.3**
IRIF				S	**Sn**	**02 08 32.8**	**+0.2**
HATJ	**Hateruma jima**	1.66	205	P	**Pn**	**02 08 15.5**	**+0.2**
HATJ				S	**Sn**	**02 08 36.9**	**-0.3**
YOJ	**Yonaguni jima**	1.79	232	P	**Pn**	**02 08 18.1**	**+1.2**
YOJ				S	**Sn**	**02 08 41.0**	**+0.9**
JKE	**Kume jima 2**	2.14	69	P	**Pn**	**02 08 21.6**	**+0.3**
JKE				S	**Sn**	**02 08 47.9**	**0.0**
JAGN	**Aguni-jima**	2.62	67	P	**Pn**	**02 08 27.6**	**+0.2**
JAGN				S	**Sn**	**02 08 58.4**	**-0.5**
TATO	**Taipei**	2.84	259	*e*Pn	**Pn**	**02 08 33.5**	**+3.1**
NAH1	**Naha**	2.89	77	P	**Pn**	**02 08 30.9**	**-0.1**
NAH1				*e*S	**Sn**	**02 09 03.3**	**-2.0**
JJT2	**Tamagusuku 2**	2.93	78	P	**Pn**	**02 08 31.5**	**0.0**
JJT2				S	**Sn**	**02 09 05.0**	**-1.3**
YHNB	**Yeheng**	3.02	253	*e*Pn	**Pn**	**02 08 35.5**	**+2.7**
NACB	**Ninganchiao**	3.03	243	*e*Pn	**Pn**	**02 08 33.2**	**+0.3**
JIH	**Iheya**	3.39	64	P	**Pn**	**02 08 37.3**	**-0.3**
JOW	**Kunigami**	3.56	69	P	**Pn**	**02 08 39.1**	**-0.9**
	706nm,0.3s,baz=234,slow=9.3,SNR=1288						
JOW				S	**Sn**	**02 09 19.6**	**-1.8**
	baz=135,slow=20,SNR=2.0						
JTK	**Tokunoshima**	4.50	60	P	**Pn**	**02 08 51.1**	**-1.5**
JAM	**Amami Oshima**	5.32	57	P	**Pn**	**02 09 01.5**	**-2.0**
JAM				*e*S	**Sn**	**02 09 59.3**	**-4.3**
QZH	**Quanzhou**	5.44	265	⇑*i*P	**Pn**	**02 09 07.2**	**+2.0**
JZK	**Kikaishima**	5.55	59	P	**Pn**	**02 09 05.8**	**-0.9**
JMZ	**Minamidaito 2**	6.01	86	P	**Pn**	**02 09 09.4**	**-3.6**
JMZ				S	**Sn**	**02 10 10.3**	**-10**
SSE	**Sheshan**	6.25	332	P	**Pn**	**02 09 18.9**	**+2.7**
SSE				AMB	AMB		
	comp=Z,92nm,0.7s						
SSE				AMB	AMB		
	comp=Z,204nm,6.3s						
SSE	**Sheshan**	6.25	332	P	**Pn**	02 09 18.9	+2.7
	comp=Z,92nm,0.7s						
JNN	**Nakanoshima**	6.35	47	P	**Pn**	**02 09 17.8**	**+0.3**
NJ2	**Nanjing**	8.17	324	*e*P	**Pn**	**02 09 46.6**	**+4.4**
NJ2				AMB	AMB		
	comp=Z,30nm,0.8s						

WHN Wuhan 10.29 301 ⇑P **Pn 02 10 15.7 +4.8**
KSRS Korea Array 12.19 13 P **Pn 02 10 39.3 +3.1**
comp=Z,0.9nm,0.3s,baz=191,slow=13,SNR=83
KSRS Korea Array 12.19 13 P **Pn 02 10 39.3 +3.1**
KSRS pmax pmax
comp=Z,1.0nm,0.3s
QIZ Qiongzhong 15.09 247 P **Pn 02 11 14.1 +0.3**
QIZ S **S 02 13 59.7 -10**
QIZ LR LR
comp=Z,100nm,16.4s
XAN Xi'an 15.97 306 P **Pn 02 11 25.4 +0.7**
XAN XP sP 02 12 04.7 +4.2
XAN S **S 02 14 23.4 -4.5**
XAN AMB AMB
comp=Z,15nm,0.8s
XAN AMB AMB
comp=Z,159nm,7.3s
XAN LR LR
comp=N,55nm,29.4s
XAN LR LR
comp=Z,69nm,25.9s
MAT Matsushiro 15.99 44 P **Pn 02 11 26.3 +1.4**
MAT S **S 02 14 28.6 +0.3**
MJAR Matsushiro Arr 15.99 44 P **Pn 02 11 26.3 +1.4**
comp=Z,0.8nm,0.3s,baz=228,slow=9.3,SNR=17
MJAR LR LR 02 18 44.1
comp=Z,38nm,18.8s,baz=205,slow=41
BJT Baijiatuau 16.03 336 *e*P **Pn 02 11 28.1 +2.8**
BJT pmax pmax
comp=Z,33nm,0.8s
BJT Baijiatuau 16.03 336 *e*Pn **Pn 02 11 28.1 +2.7**
comp=Z,33nm,0.8s
BJI Beijing 16.05 336 P **Pn 02 11 28.6 +3.1**
BJI XP sP 02 12 06.0 +4.7
BJI S **S 02 14 28.1 -1.2**
BJI AMB AMB
comp=Z,38nm,1.0s
BJI AMB AMB
comp=Z,322nm,4.1s
BJI Beijing 16.05 336 P **Pn 02 11 28.6 +3.1**
comp=Z,38nm,1.0s
BJI sP sP 02 12 06.0 +4.7
BJI S **S 02 14 28.1 -1.2**
SNY Shenyang 16.23 357 ⇓P **Pn 02 11 31.0 +3.1**
SNY AMB AMB
comp=Z,43nm,0.6s
CN2 Changchun 18.20 2 *e*P **P 02 11 53.0 +2.5**
CN2 *e*S **S 02 15 11.8 -1.1**
CN2 AMB AMB
comp=Z,60nm,0.9s
CN2 AMB AMB
comp=Z,300nm,6.0s
HHC Hu-ho-hao-te 18.68 328 *e*P **P 02 11 58.1 +2.3**
HHC XP sP 02 12 39.6 +9.1
HHC S **S 02 15 19.1 -3.6**
HHC PCP PcP 02 16 19.6 +0.3
HHC SCP ScP 02 19 40.1 -4.7
HHC PCS PcS 02 19 54.8 -1.3
HHC AMB AMB
comp=Z,33nm,1.2s
HHC AMB AMB
comp=Z,241nm,5.2s
HHC LR LR
comp=N,181nm,12.5s
HHC LR LR
comp=E,235nm,10.7s
HHC LR LR
comp=Z,212nm,10.8s
CD2 Chengdu 19.08 291 *e*P **P 02 12 01.3 +1.1**
CD2 AP 02 12 23.5
CD2 XP sP 02 12 42.6 +7.7
CD2 S **S 02 15 24.5 -6.2**
CD2 AMB AMB
comp=Z,20nm,0.5s
CD2 AMB AMB
comp=Z,120nm,4.2s
CD2 LR LR
comp=E,240nm,8.4s
CD2 LR LR
comp=Z,270nm,8.4s
MDJ Mudanjiang 19.43 11 P **P 02 12 04.7 +0.8**
MDJ AP 02 12 28.1
MDJ XP sP 02 12 44.7 +6.0
MDJ S **S 02 15 39.9 +2.4**
MDJ AMB AMB
comp=Z,7.0nm,0.6s
MDJ AMB AMB
comp=Z,90nm,6.2s
MDJ LR LR
comp=N,30nm,27.0s
MDJ LR LR
comp=E,42nm,25.1s
MDJ LR LR
comp=Z,36nm,30.8s
KMI Kunming 19.73 273 P **P 02 12 08.9 +1.6**
KMI AP 02 12 33.9
KMI AMB AMB
comp=Z,9.0nm,1.0s
KMI Kunming 19.73 273 P **P 02 12 08.9 +1.6**
comp=Z,9.0nm,1.0s
KMI pP 02 12 33.9
LZH Lanzhou 20.61 306 ⇑P **P 02 12 15.0 -1.7**
LZH AP 02 12 39.0
LZH PP 02 12 44.5
LZH XP sP 02 12 58.1 +6.4
LZH *e*S **S 02 15 52.2 -8.7**
LZH AMB AMB
comp=Z,42nm,1.3s
LZH AMB AMB
comp=Z,391nm,5.0s
LZH LR LR
comp=N,512nm,10.3s
LZH LR LR
comp=Z,736nm,13.6s
LZH Lanzhou 20.61 306 ⇑P **P 02 12 15.0 -1.7**
LZH 02 12 44.5
LZH *e*S **S 02 15 52.2 -8.7**
LZH SS 02 16 34.2
LZH pmax pmax
comp=Z,42nm,1.3s
LZH MLR MLR
comp=Z,740nm,13.6s
LZH Lanzhou 20.61 306 ⇑P **P 02 12 15.0 -1.7**
comp=Z,42nm,1.3s
LZH pP 02 12 39.0
LZH PP 02 12 44.5
LZH sP sP 02 12 58.1 +6.4
LZH *e*S **S 02 15 52.2 -8.7**
LZH sS sS 02 16 31.0 -4.7
LZH SS 02 16 34.2
LZH LR LR
comp=Z,740nm,13.6s
KKM Kota Kinabalu 21.00 204 *e*P **P 02 12 20.0 -1.0**
ASAJ Asahikawa 23.60 34 P **P 02 12 46.0 -1.0**
comp=Z,12nm,0.5s,mb4.5,baz=197,slow=4.0,SNR=8.9
ASAJ Asahikawa 23.60 34 P **P 02 12 46.0 -1.0**
ASAJ pmax pmax
comp=Z,13nm,0.5s
HIA Hailar 23.95 352 *e*P **P 02 12 49.4 -0.7**
HIA pmax pmax
comp=Z,53nm,0.9s
HIA Hailar 23.95 352 *e*P **P 02 12 49.4 -0.7**
comp=Z,53nm,0.9s,mb4.9
KLR Kul'dur 24.27 12 *e*P **P 02 12 47.5 -5.5**
KLR *e* 02 13 19.0
CMAR Chiang Mai Arr 24.76 259 P **P 02 12 57.5 -0.3**
comp=Z,1.1nm,0.4s,mb3.6,baz=63,slow=8.8,SNR=5.4
CMAR Chiang Mai Arr 24.76 259 P **P 02 12 57.5 -0.2**
CMAR pmax pmax
comp=Z,1.0nm,0.4s
GTA Gaotai 24.92 310 *e*P **P 02 12 59.1 0.0**
GTA PCP PcP 02 16 32.0 +0.3
GTA AMB AMB
comp=Z,17nm,1.3s,mb4.3
YSS Yuzh-Sakhalins 25.77 29⇑ *e*P **P 02 13 06.9 +0.2**
YSS *i* *PP pP 02 13 32.1 +1.1
YSS pmax pmax
comp=Z,9.0nm,0.5s,mb4.5
ULN Ulaanbaatar 26.19 333⇑ *e*P **P 02 13 10.1 -0.3**
ULN *i* *PP pP 02 13 41.9 +7.2
ULN Ulaanbaatar 26.19 333 *e*P **P 02 13 10.2 -0.2**
comp=Z,21nm,1.0s,mb4.5
SONM Songino Array 26.44 332 P **P 02 13 12.2 -0.5**
comp=Z,5.0nm,0.5s,mb4.2,baz=153,slow=9.3,SNR=38
SONM PcP PcP 02 16 34.6 -0.4
comp=Z,1.4nm,0.6s,baz=158,slow=4.0,SNR=5.8
SONM LR LR 02 25 42.6
comp=Z,54nm,18.4s,baz=143,slow=41
ZAK Zakamensk 29.71 332 *e*P **P 02 13 40.7 -1.0**
ZAK pmax pmax
comp=Z,3.0nm,1.6s,mb3.7
TLY Talaya 30.55 334 *e*P **P 02 13 49.2 +0.1**
TLY *e* 02 18 38.9
TLY pmax pmax
comp=Z,13nm,1.2s,mb4.5
TLY Talaya 30.55 334 *e*P **P 02 13 49.1 0.0**
comp=Z,6.3nm,0.8s,mb4.4
BOD Bodaibo 33.09 350 *e*P **P 02 14 10.3 -1.0**
BOD pmax pmax
comp=Z,5.0nm,1.1s,mb4.3
ODAN Odare 33.30 281 *e*P **P 02 14 14.4 +0.9**
comp=Z,24nm,0.8s,mb5.1
RAMN Ramite 33.99 281 *e*P **P 02 14 20.4 +0.9**
comp=Z,5.9nm,0.5s,mb4.7
JIRN Jiri 34.28 282 *e*P **P 02 14 23.2 +1.2**
comp=Z,14nm,0.7s,mb4.9
GUN Gumba 34.53 283 *e*P **P 02 14 25.0 +0.8**
comp=Z,15nm,0.5s,mb5.0
WMQ Urumqi 34.99 311⇑ *i*P **P 02 14 28.4 +0.5**
WMQ AP pP 02 14 57.7 +4.8
WMQ XP sP 02 15 12.4 +6.6
WMQ PP PP 02 15 51.9 +2.5
WMQ PCP PcP 02 16 57.4 -0.3
WMQ S **S 02 19 49.4 -2.2**
WMQ XS sS 02 20 42.9 +7.9
WMQ AMB AMB
comp=Z,26nm,1.1s,mb5.0
WMQ AMB AMB
comp=Z,153nm,3.0s
WMQ LR LR
comp=N,56nm,20.0s
WMQ LR LR
comp=E,235nm,21.7s
WMQ LR LR
comp=Z,22nm,20.0s
KKN Kakani 35.07 283 *e*P **P 02 14 29.3 +0.5**
comp=Z,30nm,0.9s,mb5.1
DMN Daman 35.24 282 *e*P **P 02 14 30.9 +0.6**
comp=Z,15nm,0.7s,mb4.9
GKN Gorkha 35.62 283 *e*P **P 02 14 33.6 +0.1**
comp=Z,41nm,1.0s,mb5.3
DANN Dangsing 36.35 284 *e*P **P 02 14 40.9 +1.1**
comp=Z,25nm,0.5s,mb5.4
KOLN Koldanda 36.55 283 *e*P **P 02 14 42.3 +0.8**
comp=Z,11nm,0.7s,mb4.9
YAK Yakutsk 36.61 4⇑ *e*P **P 02 14 41.5 0.0**
YAK pmax pmax
comp=Z,18nm,0.7s,mb5.1
PETK Petropavlovsk- 37.02 33 P **P 02 14 43.3 -1.7**
comp=Z,5.7nm,0.7s,mb4.6,baz=218,slow=5.9,SNR=4.3
PET Petropavlovsk 37.45 34⇑ *e*P **P 02 14 47.4 -1.3**
PET pmax pmax
comp=Z,19nm,0.7s,mb5.1
PET Petropavlovsk 37.45 34 *e*P **P 02 14 46.4 -2.3**
comp=Z,19nm,0.4s,mb5.4
MK31 Makanchi Array 39.55 313 *e*P **P 02 15 06.3 0.0**
MK31 pmax pmax
comp=Z,16nm,0.5s,mb5.1
MK31 Makanchi Array 39.55 313 *e*P **P 02 15 06.2 -0.2**
MKAR Makanchi Array 39.55 313 P **P 02 15 06.0 -0.3**
comp=Z,28nm,0.6s,mb5.3,baz=98,slow=11,SNR=123
MKAR PcP PcP 02 17 10.9 -0.7
comp=Z,3.9nm,0.8s,baz=90,slow=4.9,SNR=5.6
MKAR Makanchi Array 39.55 313 P **P 02 15 06.1 -0.2**
MKAR 02 17 10.9
MKAR pmax pmax
comp=Z,28nm,0.6s
MKAR pmax pmax
comp=Z,4.0nm,0.8s
ZAA0 Zalesovo Array 40.82 325 *e*P **P 02 15 15.4 -1.3**
ZALV Zalesovo Beam 40.82 325 P **P 02 15 15.6 -1.2**
comp=Z,23nm,0.6s,mb5.2,baz=113,slow=8.6,SNR=72
ZALV PcP PcP 02 17 13.9 -1.6
comp=Z,1.6nm,0.4s,baz=134,slow=4.3,SNR=4.6
ZALV Zalesovo Beam 40.82 325 P **P 02 15 15.6 -1.1**
ZALV 02 17 13.9
ZALV pmax pmax
comp=Z,23nm,0.6s,mb5.2
ZALV pmax pmax
comp=Z,2.0nm,0.4s,mb4.3
ZALV Zalesovo Beam 40.82 325 P **P 02 15 15.6 -1.2**
ZALV PcP PcP 02 17 13.9 -1.6
KURK Kurchatov 43.06 318⇑ *e*P **P 02 15 33.7 -1.3**
KURK *i* *PP pP 02 16 07.0 +6.3
KURK pmax pmax
comp=Z,40nm,1.3s,mb5.0
KURK Kurchatov 43.06 318 *e*P **P 02 15 34.2 -0.8**
comp=Z,30nm,1.0s,mb5.0
TKM2 Tokmak 2 43.38 306 *e*P **P 02 15 38.7 +1.0**
TKM2 pmax pmax
comp=Z,18nm,0.5s,mb5.1
TKM2 Tokmak 2 43.38 306 *e*P **P 02 15 38.7 +1.0**
comp=Z,18nm,0.5s,mb5.0
FITZ Fitzroy Crossi 43.42 179⇑ *i*P **P 02 15 36.0 -2.2**
comp=Z,8.0nm,0.4s,mb4.8
FITZ Fitzroy Crossi 43.42 179 P **P 02 15 36.2 -2.0**
comp=Z,6.4nm,0.6s,mb4.5,baz=7.4,slow=8.8,SNR=36
FITZ pP pP 02 16 03.1 -0.9
comp=Z,2.9nm,0.8s,baz=35,slow=9.6,SNR=2.8
TIXI Tiksi 46.18 2⇑ *e*P **P 02 15 59.1 -0.3**
TIXI pmax pmax
comp=Z,12nm,1.1s,mb4.5
WRA Warramunga Arr 46.23 167 P **P 02 15 58.7 -1.8**
comp=Z,1.4nm,0.4s,mb4.0,baz=348,slow=8.8,SNR=45
WRA pP pP 02 16 27.3 +0.9
comp=Z,4.3nm,0.8s,baz=349,slow=8.2,SNR=7.2
WRA PcP PcP 02 17 32.9 -1.5
comp=Z,0.6nm,0.5s,baz=347,slow=3.7,SNR=4.8
WRA Warramunga Arr 46.23 167 P **P 02 15 58.7 -1.7**
WRA *PP pP 02 16 27.3 +0.8
WRA 02 17 32.9
WRA pmax pmax
comp=Z,1.0nm,0.4s
WRA pmax pmax
comp=Z,4.0nm,0.8s
WRA pmax pmax
comp=Z,1.0nm,0.5s
WB2 Warramunga Arr 46.23 167 *e*P **P 02 15 58.5 -1.9**
KK31 Karatay Array 47.11 306 *i* P **P 02 16 07.3 +0.2**
KK31 pmax pmax
comp=Z,3.0nm,0.6s,mb4.2
KBL Kabul 48.37 294 *e*P **P 02 16 17.7 +0.7**
KBL pmax pmax
comp=Z,16nm,0.6s,mb5.0
KBL Kabul 48.37 294 *e*P **P 02 16 17.7 +0.7**
comp=Z,16nm,0.6s,mb5.0
BVA0 Borovoye Array 48.59 319 *i* P **P 02 16 17.7 -0.7**
BVA0 pmax pmax
comp=Z,1.0nm,0.5s,mb4.0
BRVK Borovoye 48.66 319 *e*P **P 02 16 18.4 -0.5**
BRVK *e* 02 17 41.6
BRVK pmax pmax
comp=Z,11nm,0.4s,mb5.1
BRVK Borovoye 48.66 319 *e*P **P 02 16 18.4 -0.5**
comp=Z,11nm,0.4s,mb5.2
BRVK *e*PcP PcP 02 17 41.6 -1.0
BILL Bilibino 49.36 19⇓ *i*P **P 02 16 21.6 -2.4**
BILL *e*SS SS 02 26 50.3 -4.2
BILL pmax pmax
comp=Z,4.0nm,0.4s,mb4.7
ASAR Alice Springs 49.77 169 P **P 02 16 26.7 -1.0**
comp=Z,1.1nm,0.3s,mb4.2,baz=352,slow=8.0,SNR=25
ASAR pP pP 02 16 55.4 +1.3
comp=Z,1.8nm,0.7s,baz=354,slow=10,SNR=5.7
ASAR PcP PcP 02 17 45.8 -1.2
comp=Z,1.6nm,0.8s,baz=353,slow=3.0,SNR=7.5
ASAR Alice Springs 49.77 169 P **P 02 16 26.7 -1.0**
ASAR *PP pP 02 16 55.4 +1.3
ASAR 02 17 45.8
ASAR pmax pmax
comp=Z,1.0nm,0.4s
ASAR pmax pmax
comp=Z,2.0nm,0.7s
ASAR pmax pmax
comp=Z,2.0nm,0.8s
AB31 Akbulak array 54.69 313 *i* P **P 02 17 03.5 -0.3**
AB31 pmax pmax
comp=Z,15nm,0.4s,mb5.4
SVE Sverdlovsk 54.77 323 *e*P **P 02 17 04.2 -0.1**
SVE pmax pmax
comp=Z,32nm,0.9s,mb5.3
ARU Arti 55.87 322 *d i*P **P 02 17 11.0 -1.2**
ARU *e* 02 18 07.2
ARU *e* 02 19 18.5
ARU *e*S **S 02 24 48.3 -2.5**
ARU *e*SS SS 02 28 36.4 -1.4
ARU pmax pmax
comp=Z,34nm,1.2s,mb5.2
ARU Arti 55.87 322 *e*P **P 02 17 10.9 -1.3**
comp=Z,26nm,1.0s,mb5.2
ARU *e*PcP PcP 02 18 08.2 -1.5
AKTO Aktyubinsk 55.95 315 P **P 02 17 11.3 -1.5**
AKTO pmax pmax
comp=Z,3.0nm,1.2s,mb4.2
STKA Stephens Creek 59.40 163 P **P 02 17 35.6 -1.5**
comp=Z,2.4nm,0.8s,mb4.3,baz=255,slow=22,SNR=2.9
STKA pP pP 02 18 04.7 +0.5
comp=Z,5.3nm,0.9s,baz=325,slow=10,SNR=3.5
STKA Stephens Creek 59.40 163 P **P 02 17 35.6 -1.5**
STKA pP pP 02 18 04.7 +0.5
SVW2 Sparrevohn 63.10 32 *e*P **P 02 18 02.2 +0.5**
IMA2 Indian Mountai 63.59 27 *e*P **P 02 18 05.3 +0.4**
CHUM Lake Minchumin 64.36 29 *e*P **P 02 18 10.2 +0.2**
comp=Z,21nm,0.5s,mb5.2
PPLA Purkeypile 64.52 30 *e*P **P 02 18 11.4 +0.4**
comp=Z,15nm,0.6s,mb5.0
COLD Coldfoot 64.88 25 *e*P **P 02 18 13.3 +0.1**
comp=Z,3.9nm,0.7s,mb4.3
BPAW Bear Paw Mtn. 64.91 29 *e*P **P 02 18 13.2 -0.3**
comp=Z,20nm,0.6s,mb5.1
KDAK Kodiak Island 65.00 36 P **P 02 18 13.6 -0.7**
comp=Z,12nm,0.5s,mb5.0,baz=102,slow=3.8,SNR=9.1
KTH Kantishna Hill 65.01 29 *e*P **P 02 18 14.3 +0.1**
comp=Z,13nm,0.8s,mb4.8
TRF Thorofare Moun 65.31 30 *e*P **P 02 18 16.1 0.0**
comp=Z,11nm,0.7s,mb4.8
KLMR Klimovskoe 65.64 328 *e*P **P 02 18 16.7 -1.6**
KLMR pmax pmax
comp=Z,21nm,1.7s,mb4.7
MCK McKinley 65.86 29 *e*P **P 02 18 19.2 -0.5**
MCK pmax pmax
comp=Z,30nm,0.8s,mb5.2
MCK McKinley 65.86 29 *e*P **P 02 18 19.2 -0.5**
comp=Z,30nm,0.8s,mb5.2
RC01 Rabbit Creek A 65.92 32 *e*P **P 02 18 19.2 -0.9**
comp=Z,16nm,0.7s,mb5.0
PMR Palmer 66.12 31 *e*P **P 02 18 20.3 -1.1**
PMR pmax pmax
comp=Z,24nm,0.6s,mb5.2
PMR Palmer 66.12 31 *e*P **P 02 18 20.3 -1.1**
comp=Z,24nm,0.6s,mb5.2
COLA College 66.15 28⇑ *i*P **P 02 18 21.4 -0.1**
COLA College 66.15 28 *e*P **P 02 18 20.6 -0.9**
comp=Z,9.1nm,0.6s,mb4.8
GNI Garni 66.54 305⇑ *e*P **P 02 18 23.4 -1.1**
GNI pmax pmax
comp=Z,14nm,1.3s
UMR Umm Al-Rimmam 67.06 293 *e*P **P 02 18 27.1 -0.9**
baz=293
UMR AMb AMB 02 18 28.0
comp=Z,24nm,0.4s,mb5.4,baz=293
KIV Kislovodsk 67.10 309 *e*P **P 02 18 27.0 -0.9**
KIV pmax pmax
comp=Z,33nm,1.1s,mb5.1
KIV Kislovodsk 67.10 309 *e*P **P 02 18 28.1 +0.2**
comp=Z,51nm,1.1s,mb5.3
MIB Mutribah 67.30 293 *e*P **P 02 18 28.5 -0.9**
baz=293
MIB AMb AMB 02 18 29.6
comp=Z,33nm,0.6s,mb5.3,baz=293
RDF Al-Radifah 67.39 292 *e*P **P 02 18 29.2 -0.8**
baz=292
RDF AMb AMB 02 18 29.8
comp=Z,58nm,0.7s,mb5.5,baz=292
NAY Al-Naaiem 67.55 293 *e*P **P 02 18 30.0 -1.0**
baz=293
NAY AMb AMB 02 18 31.1
comp=Z,24nm,0.6s,mb5.2,baz=293
RST Umm Al-Ruwaisa 67.67 293 *e*P **P 02 18 30.4 -1.4**
baz=293
RST AMb AMB 02 18 34.9
comp=Z,22nm,1.4s,mb4.8,baz=293
EYAK Cordova Ski Ar 67.94 32 *e*P **P 02 18 32.1 -0.8**
OBN Obninsk 68.31 322 *e*P **P 02 18 34.6 -0.7**
OBN *e* pP 02 18 59.5 -3.6
OBN *e*SS S 02 27 25.2 -2.0
OBN pmax pmax
comp=Z,6.0nm,1.1s,mb4.3
MENT Mentasta 68.33 29 *e*P **P 02 18 35.9 +0.7**
KEV Kevo 68.83 338 *e*p **P 02 18 37.1 -1.2**
comp=Z,0.7nm,0.4s,mb3.8
KEV Kevo 68.83 338 *e*P **P 02 18 37.1 -1.2**
KEV pmax pmax
comp=Z,1.0nm,0.4s,mb4.0
JOF Joensuu 69.01 331 *e*p **P 02 18 37.8 -1.7**
comp=Z,7.2nm,0.5s,mb4.8
JOF Joensuu 69.01 331 *e*P **P 02 18 37.8 -1.7**
JOF pmax pmax
comp=Z,7.0nm,0.5s,mb4.8
SOC Sochi 69.28 309 *c i*P **P 02 18 41.0 -0.5**
SOC *e* 02 21 13.3
SOC *e*PPP 02 22 58.0
SOC *e*S S 02 27 34.5 -4.5
SOC *e*SS SS 02 32 00.2 -7.1
SOC pmax pmax
comp=Z,14nm,0.8s,mb4.8
ARCES ARCESS Array B 69.40 338 P **P 02 18 40.9 -0.9**
comp=Z,3.8nm,0.7s,mb4.3,baz=72,slow=7.9,SNR=21
ARCES ARCESS Array B 69.40 338 P **P 02 18 40.9 -0.9**
ARCES pmax pmax
comp=Z,4.0nm,0.7s
DAWY Dawson 69.90 28 *e*P **P 02 18 44.5 -0.4**
ANN Anapa 70.51 311 *e*P **P 02 18 47.3 -1.7**
ANN pmax pmax
comp=Z,44nm,1.3s,mb5.1
KAF Kangasniemi 71.47 331 *e*p **P 02 18 53.2 -1.3**
comp=Z,5.2nm,0.6s,mb4.5,baz=70,slow=5.6
KAF Kangasniemi 71.47 331 *e*P **P 02 18 53.2 -1.3**
KAF pmax pmax
comp=Z,5.0nm,0.6s,mb4.5
MALT Malatya 71.76 304 *e*P **P 02 19 01.8 +5.1**
MALT pmax pmax
comp=Z,15nm,0.9s,mb4.8
MALT Malatya 71.76 304⇑ *i*P **P 02 19 00.7 +4.0**
MALT Malatya 71.76 304 *e*P **P 02 19 01.8 +5.1**
comp=Z,15nm,0.9s,mb4.8
SIM Simferopol' 72.71 312 *e*P **P 02 19 02.4 +0.2**
SIM pmax pmax
comp=Z,12nm,0.8s,mb4.8
SKAG Skagway 73.25 32 *e*P **P 02 19 05.9 +0.7**
comp=Z,38nm,0.8s,mb5.3
AKASG Malin Array Be 73.87 319 P **P 02 19 07.5 -1.4**
comp=Z,4.1nm,0.6s,mb4.4,baz=56,slow=6.4,SNR=17
AKASG Malin Array Be 73.87 319 P **P 02 19 07.5 -1.4**
AKASG pmax pmax
comp=Z,4.0nm,0.6s
AKBB Malin Array Si 73.87 319 *e*P **P 02 19 07.7 -1.2**
KIEV Kiev 73.88 319 *e*P **P 02 19 07.3 -1.7**
KIEV pmax pmax
comp=Z,3.0nm,0.6s,mb4.2
KIEV Kiev 73.88 319 *e*P **P 02 19 07.3 -1.7**
comp=Z,3.1nm,0.6s,mb4.2
BR131 Keskin Array S 74.81 307 *e*P **P 02 19 14.2 -0.4**
comp=Z,7.0nm,0.8s,mb4.4
ASF Jabal al Asfar 75.01 299 LR LR 02 55 29.3
comp=Z,107nm,20.3s,baz=92,slow=38
ANTO Ankara 75.37 307⇑ *i*P **P 02 19 18.6 +0.8**
SUW Suwalki 76.03 323 *e*P **P 02 19 20.1 -1.2**
SUW pmax pmax
comp=Z,39nm,0.9s,mb5.1
SUW Suwalki 76.03 323 *e*P **P 02 19 20.1 -1.2**
comp=Z,39nm,0.9s,mb5.1
TLCR 76.14 314⇑ *i*P **P 02 19 21.7 -0.4**
DLBC Dease Lake 76.18 31 P **P 02 19 23.1 +1.1**
baz=301,slow=5.9
VRI Vrincioaia 77.23 315⇓ *i*P **P 02 19 26.6 -1.6**
BUR08 Bucovina Ar. S 77.47 317 *e*P **P 02 19 29.4 -0.1**
BURAR Bucovina Array 77.47 317⇓ *i*P **P 02 19 29.2 -0.3**
MLR Muntele Rosu 77.88 315⇑ *i*P **P 02 19 31.6 -0.2**
KWP Kalwaria 78.14 319 *e*P **P 02 19 32.6 -0.6**
KWP pmax pmax
comp=Z,8.0nm,0.4s,mb4.8
KWP Kalwaria 78.14 319⇑ *i*P **P 02 19 32.7 -0.5**
KWP Kalwaria 78.14 319 *e*P **P 02 19 32.6 -0.6**
comp=Z,8.2nm,0.4s,mb4.8
NB2 NORSAR Subarra 78.42 333 P **P 02 19 33.0 -1.5**
comp=Z,4.8nm,0.6s,mb4.4,baz=55,slow=5.6

NOA **NORSAR Array B** 78.42 333 P P 02 19 33.2 -1.3
comp=Z,5.1nm,0.7s,mb4.4,baz=56,slow=5.5,SNR=23
NOA **NORSAR Array B** 78.42 333 P P 02 19 33.2 -1.3
NOA pmax pmax
comp=Z,5.0nm,0.7s
NAO01 **NORSAR Array S** 78.66 333 *e*P P 02 19 33.1 -2.7
comp=Z,4.2nm,0.8s,mb4.3
STHS **Stebnicka Huta** 79.09 320 *e*P P 02 19 38.0 -0.4
DRGR 79.37 317 ⇓*i*P P 02 19 40.0 0.0
OJC **Ojcow** 79.56 321 *e*P P 02 19 40.6 -0.3
NIE **Niedzica** 79.63 320 *e*P P 02 19 41.7 +0.4
YKA **Yellowknife Ar** 80.49 24 P P 02 19 44.8 -0.8
comp=Z,23nm,0.5s,mb5.2,baz=302,slow=5.4,SNR=71
OKC **Ostrava-Krasne** 80.68 321 *e*P P 02 19 46.2 -0.8
VYHS **Vyhne** 80.93 320 *i* P P 02 19 48.2 -0.1
MORC **Moravsky Berou** 81.06 321 *e*P P 02 19 48.7 -0.3
MORC pmax pmax
comp=Z,2.0nm,0.6s,mb4.1
MORC **Moravsky Berou** 81.06 321⇑*i*P P 02 19 48.7 -0.3
MORC **Moravsky Berou** 81.06 321 *e*P P 02 19 48.7 -0.2
comp=Z,2.3nm,0.6s,mb4.2
DPC **Dobruska-Polom** 81.46 322 *e*P P 02 19 51.1 0.0
UPC **Upice** 81.55 322 *e*P P 02 19 45.8 -5.8
VRAC **Vranov** 81.83 321 ⇓*i*P P 02 19 52.7 -0.3
PKSM **Moragy** 82.13 318⇑*i*P P 02 19 54.4 -0.3
PVCC **Panska Ves** 82.33 323 *e*P P 02 19 57.1 +1.4
TREC **Trest** 82.46 321 *e*P P 02 19 56.2 -0.1
BRG **Berggiesshubel** 82.50 323 *e*P P 02 19 57.6 +1.1
BRG pmax pmax
comp=Z,3.0nm,1.0s,mb4.1
BRG **Berggiesshubel** 82.50 323 *e*P P 02 19 57.7 +1.2
comp=Z,5.0nm,1.0s,mb4.3
BRG **Berggiesshubel** 82.50 323 *e*P P 02 19 57.6 +1.1
comp=Z,5.2nm,1.0s,mb4.3
PRU **Pruhonice** 82.63 322 *e*P P 02 19 56.5 -0.7
BSEG **Bad Segeberg** 82.71 327 *e*P P 02 19 58.4 +0.9
BSEG pmax pmax
comp=Z,15nm,1.5s,mb4.6
BSEG **Bad Segeberg** 82.71 327 *e*P P 02 19 58.4 +0.9
comp=Z,15nm,1.5s,mb4.6
CLL **Collm** 82.77 324 *e*P P 02 19 58.6 +0.7
comp=Z,7.0nm,1.0s,mb4.5
CLL **Collm** 82.77 324 *e*P P 02 19 57.0 -0.9
comp=Z,4.0nm,1.0s,mb4.2
CLL *i* Pmax 02 19 58.8
comp=Z,7.0nm,1.0s
CONA **Conrad Observa** 82.94 320⇑*i*P P 02 19 59.1 +0.3
comp=Z,7.2nm,1.4s,mb4.3
CSNA **Conrad Observa** 82.94 320⇑*i*P P 02 19 59.3 +0.4
comp=Z,5.3nm,1.1s,mb4.3
KHC **Kasperske Hory** 83.61 322 *e*P P 02 20 00.3 -2.0
KHC *e*PCP PcP 02 20 07.4 +1.1
NKC **Novy Kostel** 83.64 323 *e*P P 02 20 02.7 +0.3
GEC2 **GERESS Array S** 83.69 322 *e*P P 02 20 01.7 -1.0
GEC2 pmax pmax
comp=Z,8.0nm,1.6s,mb4.3
GEC2 **GERESS Array S** 83.69 322 *e*P P 02 20 01.7 -1.0
comp=Z,8.0nm,1.6s,mb4.3
GERES **GERESS Array B** 83.69 322 P P 02 20 01.9 -0.8
comp=Z,1.4nm,0.7s,mb3.9,baz=47,slow=5.9,SNR=14
GERES **GERESS Array B** 83.69 322 P P 02 20 01.9 -0.8
GERES pmax pmax
comp=Z,1.0nm,0.7s
CLZ **Clausthal** 83.85 325 *e*P P 02 20 04.1 +0.7
CLZ pmax pmax
comp=Z,25nm,1.4s,mb4.8
CLZ **Clausthal** 83.85 325 *e*P P 02 20 04.1 +0.7
comp=Z,25nm,1.4s,mb4.8
MOA **Molln** 83.90 321⇑*i*P P 02 20 03.8 0.0
comp=Z,2.6nm,0.9s,mb4.1
MANZ **Manzenberg** 83.96 323 *e*P P 02 20 05.2 +1.2
comp=Z,15nm,2.0s,mb4.5
WET **Wettzell** 84.00 322 *e*P P 02 20 06.0 +1.8
WET pmax pmax
comp=Z,23nm,2.7s,mb4.5
WET **Wettzell** 84.00 322 *e*P P 02 20 06.0 +1.8
comp=Z,23nm,2.7s,mb4.5
ROTZ **Rotzenmuhle** 84.03 323 *e*P P 02 20 06.0 +1.6
comp=Z,7.0nm,1.4s,mb4.3
SOKA **Soboth** 84.06 319⇑*i*P P 02 20 04.0 -0.6
BOJS **Bojanci** 84.54 318 *i* P P 02 20 05.7 -1.3
GRA1 **Grafenberg Arr** 84.60 323 *e*P P 02 20 07.8 +0.5
comp=Z,18nm,1.4s,mb4.8
GRF **Grafenberg Arr** 84.60 323 *e*P P 02 20 07.8 +0.5
GRF pmax pmax
comp=Z,18nm,1.4s,mb4.8
GRF **Grafenberg Arr** 84.60 323 *e*P P 02 20 07.8 +0.5
GRF pmax pmax
comp=Z,18nm,1.4s,mb4.8
GRF **Grafenberg Arr** 84.60 323 *e*P P 02 20 07.8 +0.5
comp=Z,18nm,1.4s,mb4.8
UBBA **Unterbreizbach** 84.62 325 *e*P P 02 20 06.9 -0.5
comp=Z,12nm,1.4s,mb4.6
VISS **Visnje** 84.63 319 *i* P P 02 20 06.9 -0.6
KBA **Koelnbreinsper** 84.84 320⇓*i*P P 02 20 08.0 -0.5
comp=Z,2.3nm,0.7s,mb4.3
IBBN **Ibbenburen** 84.91 327 *e*P P 02 20 08.8 0.0
comp=Z,20nm,1.2s,mb4.9
JAVS **Javornik** 85.05 319 *i* P P 02 20 09.7 +0.1
B05A **Bryant** 85.40 38 ⇓P P 02 20 11.3 0.0
baz=85
FUR **Furstenfeldbru** 85.42 322 *e*P P 02 20 11.6 +0.2
FUR pmax pmax
comp=Z,86nm,2.2s,mb5.3
FUR **Furstenfeldbru** 85.42 322 *e*P P 02 20 11.6 +0.2
comp=Z,86nm,2.2s,mb5.3
ABTA **Abfaltersbach** 85.50 320⇓*i*P P 02 20 09.9 -1.9
comp=Z,2.2nm,0.6s,mb4.3
B06A **Marblemount** 85.59 38 ⇓P P 02 20 11.9 -0.4
baz=85
RPW **Rockport** 85.62 38 *e*P P 02 20 12.2 -0.1
BUG **Bochum--Univer** 85.67 326 *e*P P 02 20 12.4 -0.1
comp=Z,142nm,2.8s,mb5.4
A07A **Ashnola River,** 85.89 37 ⇓P P 02 20 13.6 -0.1
baz=86
STU **Stuttgart** 86.22 323 *e*P P 02 20 16.1 +0.8
comp=Z,7.0nm,0.7s,mb4.7
B07A **Winthrop** 86.37 37 ⇓P P 02 20 15.7 -0.4
baz=86
F04A **Amboy** 86.51 40 ⇓P P 02 20 16.9 +0.1
baz=86
A08A **Turner Farm, O** 86.55 36 ⇑P P 02 20 16.9 0.0
baz=86
TIP **Timpagrande** 86.82 312 *e*P P 02 20 17.9 -0.6
comp=Z,2.8nm,0.6s,mb4.4
C07A **Waterville** 86.85 38 ⇑P P 02 20 18.4 -0.1
baz=87
B08A **Colville Reser** 86.86 37 ⇑P P 02 20 18.4 -0.1
baz=87
G04A **Mulino** 86.87 41 ⇓P P 02 20 19.0 +0.4
baz=87
EDM **Edmonton** 86.88 31 *e*P P 02 20 18.5 +0.1
A09A **Danville** 86.90 36 ⇓P P 02 20 19.0 +0.3
baz=87
D07A **Quincy** 87.19 38 ⇓P P 02 20 19.9 -0.2
baz=87
C08A **Higginbotham F** 87.35 37 ⇑P P 02 20 20.8 -0.1
baz=87
A10A **Northport** 87.44 36 ⇓P P 02 20 21.3 +0.1
baz=87
B09A **Rice** 87.46 36 ⇓P P 02 20 21.5 +0.2
baz=87
CDF **Champ du Feu** 87.46 324 *e*P P 02 20 20.6 -0.8
comp=Z,29nm,1.3s,mb4.7
CDF **Champ du Feu** 87.46 324 *e*P P 02 20 20.6 -0.8
CDF pmax pmax
comp=Z,14nm,1.3s,mb4.7
CDF **Champ du Feu** 87.46 324 *e*P P 02 20 20.6 -0.8
comp=Z,14nm,1.3s,mb4.7
F06A **Goldendale** 87.55 40 ⇑P P 02 20 21.9 0.0
baz=87
K02A **Glendale** 87.60 43 ⇓P P 02 20 22.3 +0.1
baz=88
E07A **Sunnyside** 87.62 39 ⇓P P 02 20 22.2 0.0
baz=88
I04A **Tendick Farm,** 87.70 42 ⇓P P 02 20 22.4 -0.2
baz=88
C09A **Chrisman Ranch** 87.76 37 ⇓P P 02 20 23.0 +0.2
baz=88
OD2 **Odessa Site #2** 87.77 37 *e*P P 02 20 22.2 -0.6
D08A **Wollman Farm,** 87.85 38 ⇑P P 02 20 23.1 -0.1
baz=88
G06A **Carlson Farm,** 87.93 40 ⇑P P 02 20 23.9 +0.3
baz=88
HUMO **Hull Mountain** 88.02 43 ⇑P P 02 20 24.5 +0.4
baz=88
HINF **Hinteralfeld** 88.05 323 *e*P P 02 20 22.8 -1.4
KMBO **Kilima Mbogo** 88.05 268 P P 02 20 24.9 +0.1
comp=Z,1.8nm,0.5s,mb4.4,baz=64,slow=24,SNR=6.8
KMBO **Kilima Mbogo** 88.05 268 P P 02 20 24.9 +0.1
KMBO pmax pmax
comp=Z,2.0nm,0.5s
KMBO **Kilima Mbogo** 88.05 268 *e*P P 02 20 24.6 -0.2
A11A **Hall Mountain,** 88.08 35 ⇓P P 02 20 24.8 +0.5
baz=88
NEW **Newport** 88.10 36 *e*P P 02 20 23.7 -0.7
NEW pmax pmax
comp=Z,9.0nm,0.8s
NEW **Newport** 88.10 36 *e*P P 02 20 23.7 -0.7
comp=Z,8.7nm,0.8s,mb4.8
E08A **Dider Farm, El** 88.10 38 ⇓P P 02 20 24.7 +0.3
baz=88
D09A **Jones Farm, Ri** 88.18 38 ⇓P P 02 20 25.0 +0.1
baz=88
J04A **Umpqua Nationa** 88.19 42 ⇓P P 02 20 25.4 +0.5
baz=88
B11A **Sandpoint** 88.40 36 ⇓P P 02 20 26.4 +0.6
baz=88
H06A **Lindquist Farm** 88.40 40 ⇓P P 02 20 26.1 +0.3
baz=88
A12A **Yaak River Ran** 88.46 35 ⇑P P 02 20 27.0 +0.9
baz=88
G07A **Ruggs Ranch, H** 88.47 40 ⇓P P 02 20 26.6 +0.4
baz=88
E09A **Wood Farm, Sta** 88.60 38 ⇓P P 02 20 27.5 +0.8
baz=88
YBH **Yreka Blue Hor** 88.66 44 P P 02 20 27.7 +0.5
comp=Z,0.8nm,0.4s,mb4.1,baz=185,slow=5.8,SNR=4.5
YBH **Yreka Blue Hor** 88.66 44 P P 02 20 27.7 +0.5
YBH pmax pmax
comp=Z,1.0nm,0.4s
YBH **Yreka Blue Hor** 88.66 44 ⇓P P 02 20 27.3 +0.1
baz=88
F08A **Pendleton** 88.67 39 ⇓P P 02 20 27.9 +0.7
baz=88
J05A **Fort Rock** 88.69 42 ⇓P P 02 20 28.0 +0.7
baz=88
D10A **Wagner Farm, O** 88.75 37 ⇓P P 02 20 27.6 +0.1
baz=89
M02C **Callahan** 88.75 44 ⇑P P 02 20 28.1 +0.5
baz=89
N02C **Big Bar** 88.78 45 ⇓P P 02 20 28.2 +0.5
baz=89
B12A **Libby** 88.78 35 ⇑P P 02 20 28.6 +1.0
baz=89
G08A **Pilot Rock** 88.87 39 ⇑P P 02 20 28.6 +0.5
baz=89
I06A **Prineville** 88.92 41 ⇑P P 02 20 28.4 0.0
baz=89
H07A **Lands Inn, Kim** 88.93 40 ⇓P P 02 20 28.4 0.0
baz=89
A13A **Flathead Natio** 89.10 34 ⇓P P 02 20 29.6 +0.5
baz=89
M04C **Macdoel** 89.17 43 ⇑P P 02 20 29.5 0.0
baz=89
E10A **Myers Farm, Un** 89.19 37 ⇑P P 02 20 29.8 +0.2
baz=89
CABF **La Chapelle** 89.19 323 *e*P P 02 20 28.7 -0.9
comp=Z,8.0nm,0.9s,mb4.4
CABF **La Chapelle** 89.19 323 *e*P P 02 20 28.7 -0.9
CABF pmax pmax
comp=Z,4.0nm,0.9s,mb4.5
CABF **La Chapelle** 89.19 323 *e*P P 02 20 28.7 -0.9
comp=Z,4.0nm,0.9s,mb4.5
F09A **S2 Ranch, Elgi** 89.21 38 ⇑P P 02 20 29.9 +0.2
baz=89
K05A **Summer Lake** 89.21 42 ⇓P P 02 20 30.4 +0.6
baz=89
I07A **Izee** 89.26 40 ⇑P P 02 20 30.3 +0.4
baz=89
D11A **Klaveano Farm,** 89.27 37 ⇑P P 02 20 29.8 -0.1
baz=89,SNR=8.6
M03C **McCloud** 89.28 44 ⇑P P 02 20 30.4 +0.3
baz=89
C12B **Naegeli Ranch,** 89.32 36 ⇑P P 02 20 30.4 +0.2
baz=89
J06A **Christmas Vall** 89.36 41 ⇑P P 02 20 30.5 +0.1
baz=89
B13A **Whitefish** 89.43 35 ⇓P P 02 20 31.1 +0.5
baz=89,SNR=9.1
F10A **Beach Ranch, E** 89.43 38 ⇓P P 02 20 31.3 +0.6
baz=89
O02C **Red Bluff** 89.46 45 ⇓P P 02 20 31.7 +0.7
baz=89
H08A **Prairie City** 89.49 40 ⇓P P 02 20 31.3 +0.3
baz=89
LPG **La Plagne** 89.50 322 *e*P P 02 20 30.9 -0.1
comp=Z,19nm,0.7s,mb5.0
LPG **La Plagne** 89.50 322 *e*P P 02 20 30.9 -0.1
LPG pmax pmax
comp=Z,10.0nm,0.7s,mb5.0
LPG **La Plagne** 89.50 322 *e*P P 02 20 30.9 -0.1
comp=Z,9.6nm,0.7s,mb4.9
LPL **La Plagne** 89.50 322 *e*P P 02 20 30.8 -0.2
comp=Z,16nm,0.7s,mb4.9
LPL **La Plagne** 89.50 322 *e*P P 02 20 30.8 -0.2
LPL pmax pmax
comp=Z,8.0nm,0.7s,mb4.9
LPL **La Plagne** 89.50 322 *e*P P 02 20 30.8 -0.2
comp=Z,7.8nm,0.7s,mb4.8
G09A **Cove** 89.54 39 ⇑P P 02 20 31.7 +0.5
baz=89,SNR=5.7
K06A **Valley Falls** 89.56 42 ⇓P P 02 20 31.6 +0.2
baz=89
A14A **Double T Ranch** 89.58 34 ⇑P P 02 20 31.7 +0.4
baz=89,SNR=11
L05A **Lakeview** 89.64 43 ⇑P P 02 20 32.3 +0.6
baz=90
E11A **Bonner Ranch,** 89.76 37 ⇑P P 02 20 32.3 +0.1
baz=90
D12A **Red Ives Fores** 89.79 36 ⇓P P 02 20 32.6 +0.2
baz=90
BNI **Bardonecchia** 89.81 321 *e*P P 02 20 31.8 -0.7
BNI pmax pmax
comp=Z,12nm,1.3s,mb4.9
BNI **Bardonecchia** 89.81 321 *e*P P 02 20 31.8 -0.6
comp=Z,12nm,1.3s,mb4.9
C13A **Hot Springs** 89.81 35 ⇓P P 02 20 32.8 +0.3
baz=90
G10A **Bishop Farm, J** 89.91 38 ⇑P P 02 20 32.9 0.0
baz=90,SNR=8.1
I08A **Drewsey** 89.91 40 ⇓P P 02 20 32.9 0.0
baz=90
MBDF **Montbardon** 89.95 321 *e*P P 02 20 32.0 -1.1
comp=Z,4.5nm,0.7s,mb4.4
MBDF **Montbardon** 89.95 321 *e*P P 02 20 32.0 -1.1
MBDF pmax pmax
comp=Z,2.0nm,0.7s,mb4.4
MBDF **Montbardon** 89.95 321 *e*P P 02 20 32.0 -1.1
comp=Z,2.3nm,0.7s,mb4.4
H09A **Durkee** 89.98 39 ⇑P P 02 20 33.9 +0.6
baz=90,SNR=5.6
MOD **Modoc** 90.04 43 ⇑P P 02 20 34.2 +0.6
baz=90
B14A **Marquette Ranc** 90.05 34 ⇓P P 02 20 33.6 +0.1
baz=90,SNR=12
BMO **Blue Mountains** 90.07 39 *e*P P 02 20 34.1 +0.4
BMO pmax pmax
comp=Z,5.0nm,0.9s,mb4.6
BMO **Blue Mountains** 90.07 39 *e*P P 02 20 34.1 +0.4
comp=Z,5.2nm,0.9s,mb4.7
E12A **Beaver Dam Sad** 90.07 37 ⇓P P 02 20 33.9 +0.2
baz=90,SNR=8.6
F11A **Grangeville** 90.08 38 ⇑P P 02 20 34.1 +0.3
baz=90
SBF **Sospel** 90.08 320 *e*P P 02 20 32.8 -1.0
C14A **Swan Lake** 90.18 35 ⇑P P 02 20 34.4 +0.2
baz=90
K07A **Rock Creek Ran** 90.22 41 ⇑P P 02 20 34.9 +0.4
baz=90,SNR=7.7
D13A **Huson** 90.24 36 ⇑P P 02 20 34.8 +0.3
baz=90
J08A **Circle Bar Ran** 90.29 41 ⇓P P 02 20 35.1 +0.3
baz=90,SNR=8.0
G11A **Walters Elk Ra** 90.32 38 ⇑P P 02 20 34.5 -0.3
baz=90,SNR=7.3
ORIF **Oris-en-Rattie** 90.34 321 *e*P P 02 20 34.4 -0.6
comp=Z,6.6nm,0.8s,mb4.5
ORIF **Oris-en-Rattie** 90.34 321 *e*P P 02 20 34.4 -0.6
ORIF pmax pmax
comp=Z,3.0nm,0.8s,mb4.5
ORIF **Oris-en-Rattie** 90.34 321 *e*P P 02 20 34.4 -0.6
comp=Z,3.3nm,0.8s,mb4.5
I09A **Lost Marbles R** 90.35 40 ⇓P P 02 20 35.3 +0.3
baz=90
B15A **Bradely Ranch,** 90.44 34 ⇑P P 02 20 35.6 +0.2
baz=90
O04C **Chester** 90.46 44 ⇓P P 02 20 35.7 +0.1
baz=90
A16A **West Butte Ran** 90.51 33 ⇑P P 02 20 35.9 +0.2
baz=90,SNR=6.2
L07A **Adell** 90.56 42 ⇑P P 02 20 36.5 +0.4
baz=90,SNR=6.7
FFC **Flin Flon** 90.61 25 *e*P P 02 20 35.6 -0.4
FFC pmax pmax
comp=Z,25nm,0.9s,mb5.3
FFC **Flin Flon** 90.61 25 *e*P P 02 20 35.5 -0.5
comp=Z,25nm,0.9s,mb5.3
ORV **Oroville** 90.63 45 ⇑P P 02 20 36.1 -0.3
baz=90
F12A **Elk City** 90.65 37 ⇓P P 02 20 36.6 +0.2
baz=90,SNR=6.4
K08A **Mann Creek Ran** 90.65 41 ⇑P P 02 20 37.0 +0.6
baz=90
MSO **Missoula** 90.68 36 *e*P P 02 20 36.6 0.0
comp=Z,12nm,1.3s,mb4.9
J09A **Fry Pan Ranch,** 90.72 40 ⇓P P 02 20 37.2 +0.4
baz=91,SNR=12
FRF **La Foret Royal** 90.72 320 *e*P P 02 20 35.6 -1.2
WVOR **Wild Horse Val** 90.74 41 *e*P P 02 20 37.1 +0.2
WVOR pmax pmax
comp=Z,3.0nm,0.9s,mb4.4
WVOR **Wild Horse Val** 90.74 41 *e*P P 02 20 37.1 +0.2
comp=Z,3.3nm,0.9s,mb4.5
D14A **Greenough** 90.75 35 ⇑P P 02 20 36.5 -0.3
baz=91,SNR=5.8
E13A **Victor** 90.80 36 ⇑P P 02 20 37.1 +0.1
baz=91
B16A **M & M Farms, S** 90.81 34 ⇓P P 02 20 36.6 -0.4
baz=91,SNR=5.8
I10A **Payette** 90.82 39 ⇓P P 02 20 37.9 +0.7
baz=91
H11A **Donnelly** 90.89 38 ⇑P P 02 20 37.3 -0.2
baz=91
LMR **La Mourre** 90.94 320 *e*P P 02 20 36.7 -1.1
comp=Z,18nm,1.3s,mb4.7
LMR **La Mourre** 90.94 320 *e*P P 02 20 36.7 -1.1
LMR pmax pmax
comp=Z,9.0nm,1.3s,mb4.7
LMR **La Mourre** 90.94 320 *e*P P 02 20 36.7 -1.1
comp=Z,8.9nm,1.3s,mb4.7
CHMT **Chamberlain Mo** 90.99 35 *e*P P 02 20 37.8 -0.1
N06A **Buffalo Meadow** 91.00 43 ⇓P P 02 20 38.2 0.0
baz=91
VIVF **Saint-Julien-l** 91.05 322 *e*P P 02 20 36.7 -1.6
L08A **Fields** 91.06 41 ⇓P P 02 20 38.5 +0.2
baz=91,SNR=6.1
SMRF **Simiane la Rot** 91.09 321 *e*P P 02 20 36.9 -1.6
comp=Z,16nm,1.3s,mb4.7
SMRF **Simiane la Rot** 91.09 321 *e*P P 02 20 36.9 -1.6
comp=Z,16nm,1.3s,mb5.0
K09A **Rome** 91.12 41 ⇓P P 02 20 38.6 -0.1
baz=91,SNR=6.5
F13A **Darby** 91.14 37 ⇑P P 02 20 38.3 -0.3
baz=91
E14A **Clinton** 91.19 36 ⇓P P 02 20 38.8 -0.1
baz=91,SNR=5.9
O06A **Flanigan** 91.34 44 ⇓P P 02 20 40.0 +0.3
baz=91,SNR=5.6
I11A **Placerville** 91.41 39 ⇑P P 02 20 40.6 +0.7
baz=91
M08A **Happy Creek Ra** 91.48 42 ⇑P P 02 20 40.6 +0.3
baz=91
L09A **Wilkinson Ranc** 91.57 41 ⇑P P 02 20 41.2 +0.5
baz=91
K10A **MacKenzie Ranc** 91.58 40 ⇑P P 02 20 41.3 +0.5
baz=91,SNR=5.4
E15A **Deer Lodge** 91.63 36 ⇑P P 02 20 40.6 -0.3
baz=92
G13A **Cobalt** 91.63 37 ⇑P P 02 20 40.5 -0.5
baz=92
H12A **Diamond D Ranc** 91.63 38 ⇑P P 02 20 41.2 +0.3
baz=92,SNR=13
F14A **Wisdom** 91.64 36 ⇑P P 02 20 41.6 +0.7
baz=92,SNR=5.5
MFID **Camas Ranch** 91.79 39 ⇓P P 02 20 42.0 +0.3
baz=92,SNR=8.7
D16A **Dana Ranch, Ca** 91.80 35 ⇓P P 02 20 42.0 +0.3
baz=92
I12A **Atlanta** 91.95 39 ⇑P P 02 20 42.8 +0.4
baz=92
H13A **Challis** 91.95 38 ⇑P P 02 20 42.7 +0.3
baz=92,SNR=6.3
N08A **GE Springer Mi** 92.02 42 ⇑P P 02 20 43.1 +0.3
baz=92,SNR=7.6
M09A **Marrel Ranch,** 92.05 42 ⇑P P 02 20 43.6 +0.6
baz=92
E16A **East Helena** 92.06 35 ⇑P P 02 20 42.8 -0.1
baz=92
K11A **Parker Ranch,** 92.07 40 ⇓P P 02 20 43.3 +0.3
baz=92
F15A **Butte** 92.09 36 ⇓P P 02 20 43.4 +0.4
baz=92,SNR=5.9
CMB **Columbia Colle** 92.21 46 ⇓P P 02 20 43.7 -0.1
baz=92
L10A **Juniper Basin** 92.24 41 ⇑P P 02 20 44.3 +0.5
baz=92,SNR=9.8
O08A **Rochester Mine** 92.30 43 ⇓P P 02 20 44.3 +0.1
baz=92,SNR=5.9
J12A **Stokes Ranch,** 92.31 39 ⇓P P 02 20 44.5 +0.4
baz=92,SNR=5.4
DLMT **Dillon** 92.34 36 *e*P P 02 20 45.0 +0.8
comp=Z,10nm,0.8s,mb5.1
H14A **Leadore** 92.41 37 ⇓P P 02 20 44.8 +0.3
baz=92
I13A **Wildhorse Cree** 92.44 38 ⇓P P 02 20 45.5 +0.8
baz=92,SNR=16
HLID **Hailey** 92.50 39 *e*P P 02 20 45.7 +0.7
comp=Z,9.2nm,0.9s,mb5.1
G15A **Dillon** 92.53 36 ⇑P P 02 20 45.2 +0.1
baz=92,SNR=13
E17A **Martinsdale** 92.53 35 ⇓P P 02 20 45.7 +0.6
baz=92
R06C **Coleville** 92.53 45 ⇑P P 02 20 45.5 +0.2
baz=92
M10A **I.L. Ranch, Tu** 92.54 41 ⇑P P 02 20 46.2 +1.0
baz=92,SNR=5.2
L11A **Cat Creek Ranc** 92.60 40 ⇓P P 02 20 46.1 +0.6
baz=92,SNR=18
S06C **San Francisco** 92.65 46 ⇑P P 02 20 46.3 +0.5
baz=92
J13A **Cove Ranch, Pi** 92.74 39 ⇓P P 02 20 47.0 +0.9
baz=93,SNR=9.6
I14A **Macky** 92.80 38 ⇓P P 02 20 47.5 +1.1
baz=93,SNR=17
K12A **Draper Farm, C** 92.81 40 ⇓P P 02 20 47.2 +0.7
baz=93
E18A **Harlowton** 92.94 34 ⇑P P 02 20 47.5 +0.5
baz=93
O09A **Fish Creek Ran** 92.97 43 ⇓P P 02 20 48.2 +1.0
baz=93
M11A **Holland Ranch,** 93.04 41 ⇓P P 02 20 48.6 +1.1
baz=93,SNR=6.5
L12A **House Creek Ra** 93.05 40 ⇓P P 02 20 48.6 +1.1
baz=93
N10A **Dunphy** 93.05 42 ⇓P P 02 20 48.4 +0.9
baz=93
J14A **Carey** 93.16 38 ⇑P P 02 20 49.4 +1.3
baz=93
T06C **Milleton Lake** 93.25 46 ⇑P P 02 20 48.1 -0.5
baz=93
K13A **Stover Farm, H** 93.27 39 ⇑P P 02 20 49.5 +1.0
baz=93
Q08A **Gabbs** 93.29 44 ⇓P P 02 20 49.0 +0.2
baz=93
KCC **Kaiser Creek** 93.31 46 ⇓P P 02 20 48.9 0.0
baz=93
NVAR **Mina Array Bea** 93.31 44 P P 02 20 49.1 +0.2
comp=Z,1.8nm,0.7s,mb4.5,baz=288,slow=5.2,SNR=17
MTLF **Montolieu** 93.38 322 *e*P P 02 20 48.2 -0.9
comp=Z,10nm,1.2s,mb4.8
MTLF **Montolieu** 93.38 322 *e*P P 02 20 48.2 -0.9
MTLF pmax pmax
comp=Z,5.0nm,1.2s,mb4.7
MTLF **Montolieu** 93.38 322 *e*P P 02 20 48.2 -0.9
comp=Z,5.2nm,1.2s,mb4.7
M12A **Wells** 93.56 40 ⇑P P 02 20 50.6 +0.7
baz=93,SNR=8.7
L13A **Double Diamond** 93.70 39 ⇑P P 02 20 51.5 +1.0
baz=94
J15A **Blackfoot** 93.71 38 ⇑P P 02 20 51.8 +1.2
baz=94

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
ELK	Elko	93.79	41	P	P	02 20 52.0	+1.0
	comp=Z,1.0nm,0.6s,mb4.3,baz=303,slow=6.5,SNR=7.3						
ELK	Elko	93.79	41	P	P	02 20 52.0	+1.0
ELK				pmax	pmax		
	comp=Z,1.0nm,0.6s						
ELK	Elko	93.79	41	eP	P	02 20 51.3	+0.3
	comp=Z,1.7nm,0.8s,mb4.4						
N12A	Clover Valley,	93.84	41	⇓P	P	02 20 51.7	+0.5
	baz=94						
HELL	Mitchell Peak	93.88	46	⇓P	P	02 20 51.1	-0.4
	baz=94						
O11A	Cowboy Ranch,	93.92	42	⇓P	P	02 20 51.7	+0.1
	baz=94						
S08C	White Mtn Res	93.95	45	⇑P	P	02 20 51.9	+0.1
	baz=94						
RCTC	Rector, Farmer	93.96	47	⇓P	P	02 20 51.6	-0.3
	baz=94						
M13A	Montello	94.03	40	⇓P	P	02 20 52.6	+0.4
	baz=94						
R09A	Tonopah	94.20	44	⇓P	P	02 20 52.9	-0.1
	baz=94						
DGMT	Dagmar	94.35	30	⇑P	P	02 20 53.7	+0.3
	baz=94						
M14A	Sheep Mountain	94.42	40	⇓P	P	02 20 54.5	+0.7
	baz=94						
TPAW	Teton Pass	94.46	37	eP	P	02 20 54.6	+0.6
	comp=Z,1.7nm,0.8s,mb4.4						
K16A	Soda Springs	94.55	38	⇑P	P	02 20 54.7	+0.3
	baz=94						
S10A	Tonopah Range,	94.70	44	⇑P	P	02 20 55.3	0.0
	baz=95						
Q11A	Duckwater	94.72	43	⇑P	P	02 20 55.7	+0.4
	baz=95						
P12A	McGill	94.78	42	⇓P	P	02 20 56.1	+0.5
	baz=95						
N14A	Grayback Hills	94.93	40	⇓P	P	02 20 56.9	+0.7
	baz=95						
M15A	Larsen Ranch,	94.96	39	⇑P	P	02 20 57.0	+0.7
	baz=95						
R11A	Troy Canyon, C	95.06	43	⇓P	P	02 20 56.8	-0.1
	baz=95						
L16A	Fish Haven	95.17	38	⇑P	P	02 20 57.3	0.0
	baz=95						
MPMC	Manual Prospec	95.25	46	⇓P	P	02 20 57.8	0.0
	baz=95						
P13A	Bates Ranch, G	95.33	42	⇓P	P	02 20 58.3	+0.3
	baz=95						
HWUT	Hardware Ranch	95.37	39	eP	P	02 20 58.8	+0.6
	comp=Z,2.2nm,0.8s,mb4.6						
FURC	Furnace Creek,	95.41	45	⇑P	P	02 20 58.5	0.0
	baz=95						
LRMC	Laurel Mountai	95.46	47	⇑P	P	02 20 58.5	-0.2
	baz=95						
TPNV	Topopah Spring	95.51	45	⇓P	P	02 20 59.1	+0.1
	baz=95						
DUG	Dugway	95.57	40	eP	P	02 20 59.4	+0.3
DUG				pmax	pmax		
	comp=Z,1.0nm,0.8s,mb4.3						
DUG	Dugway	95.57	40	eP	P	02 20 59.4	+0.3
	comp=Z,1.5nm,0.8s,mb4.5						
PDAR	Pinedale Array	95.70	37	P	P	02 21 00.1	+0.3
	comp=Z,0.6nm,0.7s,mb4.1,baz=242,slow=1.5,SNR=4.1						
P14A	Drum Mountains	95.81	41	⇓P	P	02 21 00.6	+0.4
	baz=96						
Q14A	Sevier Lake (B	96.07	42	⇑P	P	02 21 01.7	+0.2
	baz=96						
GSC	Goldstone	96.15	46	⇑P	P	02 21 02.0	+0.1
	baz=96						
ULM	Lac du Bonnet	96.44	25	P	P	02 21 01.5	-1.4
	comp=Z,3.2nm,0.8s,mb4.8,baz=324,slow=8.0,SNR=3.7						
ULM	Lac du Bonnet	96.44	25	eP	P	02 21 01.4	-1.5
	comp=Z,4.6nm,0.9s,mb4.9						
MSU	Marysvale	97.03	41	eP	P	02 21 06.1	+0.3
R16A	Teasdale	97.59	41	⇓P	P	02 21 08.4	0.0
	baz=97						
SRU	San Rafael	97.61	40	eP	P	02 21 09.1	+0.7
SRU				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.8						
SRU	San Rafael	97.61	40	⇑P	P	02 21 08.7	+0.3
	baz=98						
SRU	San Rafael	97.61	40	eP	P	02 21 09.1	+0.6
	comp=Z,1.6nm,0.6s,mb4.7						
R17A	Hanksville Air	97.96	41	⇓P	P	02 21 09.8	-0.2
	baz=98						
TXAR	Lajitas Array	108.43	43	PKiKP	PKiKP	02 26 01.4	-0.8
	comp=Z,0.2nm,0.6s,baz=8.5,slow=2.5,SNR=3.5						
TORD	Torodi Ar. Bea	112.36	298	PKiKP	PKiKP	02 26 08.2	-1.7
	comp=Z,0.8nm,0.6s,baz=69,slow=1.3,SNR=26						
DBIC	Dimbokro	121.34	296	PKP	PKPdf	02 26 25.7	-1.5
	comp=Z,6.6nm,1.0s,baz=130,slow=24,SNR=5.4						
DBIC	Dimbokro	121.34	296	PKIKP	PKPdf	02 26 25.7	-1.6
DBIC				pmax	pmax		
	comp=Z,7.0nm,1.0s						
DBIC	Dimbokro	121.34	296	ePKPdf	PKPdf	02 26 25.7	-1.6
VNA2	Neumayer--Watz	127.15	198	ePKPdf	PKPdf	02 26 36.0	-0.6
	baz=59,slow=1.4						
VNA2				e		02 26 47.1	
VNA2				e		02 27 11.1	
VNA3	Neumayer Olymp	127.59	197	ePKPdf	PKPdf	02 26 35.1	-2.4
VNA3				e		02 27 11.7	
ROSC	El Rosal	144.63	34	PKP	PKPdf	02 27 10.1	-0.7
	comp=Z,7.1nm,0.6s,baz=94,slow=18,SNR=6.1						
ROSC	El Rosal	144.63	34	ePKPdf	PKPdf	02 27 09.4	-1.3
OTAV	Otavalo	146.05	44	ePKPbc	PKPbc	02 27 13.1	-1.1
ATAH	Atahualpa	151.34	54	PKPbc	PKPbc	02 27 28.5	+0.7
	comp=Z,15nm,0.8s,baz=96,slow=3.5,SNR=9.9						
SIV	San Ignacio	169.11	30	PKP	PKPdf	02 27 39.8	-1.3
	comp=Z,1.3nm,1.0s,baz=64,slow=3.0,SNR=7.3						
SIV				PKPab	PKPab	02 28 51.4	-1.6
	comp=Z,0.9nm,0.6s,baz=339,slow=6.6,SNR=4.5						

IDC 03 02:22:59.4±3.4**, 192S**×**9951E, h0km, mb3.7**/5**, mb1 3.8**/5**, mb1mx3.7**/19**, mbtmp3.7**/5**, Error ellipse: s-maj=151.4km s-min=22.2km az=56.0, Southern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	38.46	120	P	P	02 30 22.9	-0.4
	0.7nm,0.6s,baz=303,slow=8.8,SNR=8.1						
ASAR	Alice Springs	39.70	126	P	P	02 30 34.1	+0.5
	0.9nm,1.0s,baz=304,slow=7.9,SNR=5.3						
SONM	Songino Array	49.91	6	P	P	02 31 55.0	+0.3
	0.7nm,0.7s,baz=193,slow=6.1,SNR=5.1						
MKAR	Makanchi Array	50.82	345	P	P	02 32 01.9	+0.3
	0.4nm,0.5s,baz=139,slow=9.0,SNR=2.7						
ZALV	Zalesovo Beam	57.00	350	P	P	02 32 46.1	-0.5
	2.0nm,0.7s,baz=176,slow=9.8,SNR=4.8						
TXAR	Lajitas Array	144.94	37	PKP	PKPdf	02 42 38.8	-0.5
	0.7nm,0.6s,baz=202,slow=0.9,SNR=12						

*ISCJB **03** 02:25:03.1±0.6, 3029S±003×7159W±008, h49km±5km, mb4.3/11, MS4.1/4, Error ellipse: s-maj=11.3km s-min=4.4km az=8.8*
*NEIC **03** 02:25:03.6, 3030S×7150W, h43km, mb4.5/6, After GUC.*
NEIC Felt at La Serena.
*IDC **03** 02:25:03.7±0.8, 3030S×7144W, h38km±5km, mb4.0/6, mb1 4.1/10, mb1mx4.0/20, mbtmp4.1/10, ML4.6/4, MS4.0/5, Ms1 4.0/5, ms1mx3.4/29, Error ellipse: s-maj=31.0km s-min=16.3km az=105.0*
*GUC **03** 02:25:03.6±0.5, 3030S×7150W, h43km±1km, ML4.7*
ISC 03 02:25:04.2±0.6**, 3030S**±003×**7155W**±008**, h41**km±6km**, h38**km±1.0km**:pP-P, n50, σ0.99**/48**, mb4.3**/11**, MS4.1**/4**, 4C-3D, Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OVCH	Ovalle	0.43	135	⇑iP	Pn	02 25 13.3	-0.7
OVCH				iS	Sn	02 25 20.5	-0.5
OVCH				AML	AML	02 25 20.9	
	comp=N,58µm,0.4s						
LSCH	La Serena	0.47	35	⇑iP	Pn	02 25 13.8	-0.8
LSCH				iS	Sn	02 25 21.5	-0.4
TLL	Tololo Astrono	0.66	79	⇓iP	Pn	02 25 17.0	-0.1
TLL				iS	Sn	02 25 26.7	+0.4
TLL				AML	AML	02 25 30.2	
	comp=E,40µm,0.4s						
TLL	Tololo Astrono	0.66	79	⇓iP	Pn	02 25 17.0	-0.1
TLL				iS	Sn	02 25 26.7	+0.4
LCO	Las Campanas	1.48	30	⇓iP	Pn	02 25 28.1	-0.2
LCO				iS	Sn	02 25 47.2	+0.7
CHNG	Los Chungos	1.58	178	eP	Pn	02 25 29.9	+0.3
CHNG				iS	Sn	02 25 49.6	+0.8
VACH	Vallenar	1.85	22	⇑iP	Pn	02 25 33.6	+0.2
VACH				iS	Sn	02 25 56.2	+0.5
VACH				AML	AML	02 26 05.4	
	comp=E,10µm,0.5s						
VACH	Vallenar	1.85	22	⇑iP	Pn	02 25 33.6	+0.2
VACH				iS	Sn	02 25 56.2	+0.5
PACH	Papudo	2.23	177	iP	Pn	02 25 39.0	+0.4
PACH				iS	Sn	02 26 05.8	+0.8
IHA	Instituto Hidr	2.72	182	iP	Pn	02 25 44.6	-0.7
IHA				iS	Sn	02 26 16.4	-0.5
PEL	Peldehue	2.93	166	AML	AML	02 26 39.7	
	comp=E,4µm,0.8s						
CFAA	Coronel Fontan	3.13	115	Pn	Pn	02 25 53.4	+2.4
	comp=E,5.2nm,0.3s,baz=310,slow=12,SNR=188						
CFAA				Sn	Sn	02 26 29.9	+2.8
	comp=E,13nm,0.3s,baz=314,slow=21,SNR=7.3						
FCH	Farellones	3.20	161	AML	AML	02 26 48.0	
	comp=E,1µm,0.3s						
CLCH	Cerro Calan	3.21	165	AML	AML	02 26 48.1	
	comp=N,3µm,0.5s						
SAN	Santiago	3.23	167	AML	AML	02 26 47.3	
	comp=N,2µm,0.3s						
CDCH	Caldera	3.28	11	AML	AML	02 27 11.7	
	comp=E,534nm,0.7s						
ANTU	Antumapu	3.35	167	AML	AML	02 26 51.4	
	comp=N,2µm,0.5s						
YECH	El Yeso	3.58	160	AML	AML	02 26 54.9	
	comp=N,2µm,0.6s						
LVC	Limon Verde	8.01	18	Pn	Pn	02 26 57.3	-0.8
	comp=N,1.1nm,0.3s,baz=176,slow=9.5,SNR=10						
LVC				Sn	Sn	02 28 36.5	+9.1
	comp=N,1.8nm,0.3s,baz=168,slow=19,SNR=2.7						
LVC				LR	LR	02 29 57.2	
	comp=N,206nm,21.1s,baz=242,slow=37						
LVC	Limon Verde	8.01	18	Pn	Pn	02 26 57.3	-0.8
LVC				Sn	Sn	02 28 36.5	+9.1
LVC				LR	LR	02 29 57.2	
TRQA	Tornquist	11.07	137	ePKPdf	Pn	02 27 37.2	-2.7
	comp=N,13nm,0.6s						
CPUP	Villa Florida	13.14	76	Pn	Pn	02 28 06.8	-1.4
	comp=N,1.1nm,0.3s,baz=233,slow=10,SNR=8.3						
CPUP	Villa Florida	13.14	76	Pn	Pn	02 28 06.8	-1.4
LPAZ	La Paz	14.30	13	Pn	Pn	02 28 25.9	+1.9
	comp=N,0.8nm,0.3s,baz=205,slow=5.4,SNR=26						
LPAZ	La Paz	14.30	13	Pn	Pn	02 28 25.9	+1.9
SIV	San Ignacio	17.18	36	P	Pn	02 29 00.9	-0.3
	comp=N,1.1nm,0.3s,baz=222,slow=11,SNR=42						
USHA	Ushuaia	24.62	176	P	P	02 30 19.7	-0.7
	comp=N,4.2nm,0.6s,mb4.2,baz=321,slow=9.7,SNR=4.9						
USHA				LR	LR	02 39 55.7	
	comp=N,279nm,18.6s,MS3.8,baz=240,slow=36						
PMSA	Palmer Station	34.81	174	LR	LR	02 46 58.8	
	comp=N,116nm,19.9s,MS3.6,baz=36,slow=38						
VNA3	Neumayer Olymp	52.64	159	e	P	02 34 14.1	+0.4
VNA3				e	pP	02 34 23.9	-1.5
VNA2	Neumayer--Watz	53.27	158	e	P	02 34 18.6	+0.3
	baz=288,slow=9.0						
VNA2				e	pP	02 34 29.1	-1.0
SNAA	Sanae	54.86	159	e	P	02 34 29.7	-0.2
SNAA				e	pP	02 34 40.4	-1.3
SNAA	Sanae	54.86	159	eP	P	02 34 29.6	-0.3
	comp=N,12nm,1.5s,mb4.7						
QSPA	South Pole Qui	59.93	180	P	P	02 35 06.6	+1.1
	comp=N,3.1nm,0.7s,mb4.4,baz=151,slow=2.8,SNR=10						
QSPA				pP	pP	02 35 17.5	+0.1
	comp=N,8.7nm,1.1s,baz=133,slow=3.1,SNR=7.5						
QSPA	South Pole Qui	59.93	180	eP	P	02 35 06.4	+0.9
	comp=N,12nm,1.2s,mb4.8						
QSPA				epP	pP	02 35 17.1	-0.3
QSPA				pP	pP	02 35 17.5	+0.1
CBKS	Cedar Bluff	73.61	337	eP	P	02 36 32.1	-0.9
	comp=N,9.1nm,0.9s,mb4.7						
DBIC	Dimbokro	73.62	72	P	P	02 36 32.9	-0.8
	comp=N,4.1nm,1.0s,mb4.3,baz=198,slow=6.4,SNR=3.1						
DBIC				pP	pP	02 36 44.6	-1.4
	comp=N,5.5nm,1.0s,baz=201,slow=8.6,SNR=2.5						
SDCO	Great Sand Dun	74.77	333	eP	P	02 36 41.2	+1.4
	comp=N,1.4nm,0.7s,mb4.0						
SUR	Sutherland	76.27	120	LR	LR	03 03 28.1	
	comp=N,560nm,21.8s,MS4.8,baz=354,slow=30						
MAW	Mawson	76.60	164	P	P	02 36 49.7	-0.3
	comp=N,1.9nm,0.6s,mb4.2,baz=246,slow=11,SNR=4.3						
HWUT	Hardware Ranch	80.52	331	eP	P	02 37 12.5	+0.8
	comp=N,1.9nm,0.7s,mb4.1						
NVAR	Mina Array Bea	81.10	325	P	P	02 37 15.7	+0.7
	comp=N,0.6nm,0.8s,mb3.6,baz=167,slow=4.3,SNR=3.3						
TOA0	Torodi Ar. Sit	82.57	70	eP	P	02 37 22.6	-0.7
TORD	Torodi Ar. Bea	82.57	70	P	P	02 37 22.7	-0.5
	comp=N,2.3nm,0.8s,mb4.3,baz=277,slow=5.5,SNR=41						
TORD				pP	pP	02 37 34.5	-1.2
	comp=N,1.9nm,0.9s,baz=277,slow=5.1,SNR=4.0						
ESDC	Sonseca Array	93.71	46	LR	LR	03 17 50.5	
	comp=N,108nm,19.2s,MS4.3,baz=170,slow=34						
EARI	Arriondas	95.15	42	P	P	02 38 19.9	-3.0
	comp=N,0.6nm,0.4s,mb4.4						
WRA	Warramunga Arr	124.18	210	PKP	PKPdf	02 43 57.9	-1.1
	comp=N,0.3nm,0.6s,baz=153,slow=1.7,SNR=8.5						
ZAA0	Zalesovo Array	150.84	29	ePKPbc	PKPbc	02 44 51.5	-0.1
ZAA0				e		02 45 03.3	
ZALV	Zalesovo Beam	150.84	29	PKPbc	PKPbc	02 44 51.7	0.0
	comp=N,10nm,0.6s,baz=306,slow=3.0,SNR=30						
ZALV				pPKPbc	pPKPbc	02 45 03.0	-1.5
	comp=N,20nm,0.9s,baz=298,slow=3.2,SNR=10						
ZALV	Zalesovo Beam	150.84	29	PKPbc	PKPbc	02 44 51.7	0.0
ZALV				pPKPbc	pPKPbc	02 45 03.0	-1.5
MKAR	Makanchi Array	153.91	44	PKPbc	PKPbc	02 44 58.2	-0.6
	comp=N,0.7nm,0.6s,baz=250,slow=2.9,SNR=3.3						
MKAR				PKPab	PKPab	02 45 10.7	-1.4
	comp=N,0.5nm,0.6s,baz=287,slow=4.7,SNR=3.7						

*MOS **03** 02:25:45.1±0.8, 5152N×17841W, h33km, mb5.1/111, MS4.2/15, Error ellipse: s-maj=7.3km s-min=4.4km az=92.0*
*IDC **03** 02:25:46.8±2.3, 5159N×17836W, h33km±16km, mb4.6/31, mb1 4.8/33, mb1mx4.7/35, mbtmp4.6/33, ML4.1/2, MS4.1/20, Ms1 4.1/20, ms1mx3.9/33, Error ellipse: s-maj=16.1km s-min=8.8km az=168.0*
*SZGRF **03** 02:25:46.3, 5159N×17860W, h33km, mb4.9, Andreanof Islands, Aleutian Islands, United States*
*DJA **03** 02:25:47, 51.11N×178.97W, h10km, mb5.3/6*
*BGS **03** 02:25:47.2±2.0, 5083N×17579W, h69km, mb5.1*
*BJI **03** 02:25:47.7, 5208N×17844W, h57km, mB5.2, mb5.3, Ms4.7, Msz4.4*
*ISCJB **03** 02:25:48.5±0.5, 5149N±003×17838W±002, h63km±3km, mb5.0/253, Error ellipse: s-maj=5.6km s-min=2.1km az=6.9*
*GCMT **03** 02:25:50.5±0.4, 5132N×17822W, h45km±1km, MW5.0/59, Moment Tensor Solution. s34,c46; s59,c77; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr3.10±.20; Mθθ-2.69±.13; Mφφ-0.40±.13; Mrθ0.84±.11; Mθφ-1.22±.09; Mφr1.37±.09; Best double couple: Mo3.54500×10^16 NP1:φs261.00000°,δ35.00000°,λ114.00000°. NP2: φs52.00000°,δ58.00000°,λ74.00000°. Principal axes: T 3.5990, Plg72.0000°, Azm283.0000°; N -0.1010, Plg14.0000°, Azm61.0000°; P -3.4910, Plg12.0000°, Azm154.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **03** 02:25:50.5±0.4, 5152N×17840W, h69km±3km, mb4.9/178 Error ellipse: s-maj=3.9km s-min=1.9km az=183.0*
ISC 03 02:25:51.1±0.5**, 5154N**±003×**17840W**±002**, h73**km±4km**, h59**km±2.4km**:pP-P, n996, σ0.64**/987**, mb4.8**/252**, 187C-186D, Andreanof Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ADK	Adak	1.12	71	P	Pn	02 26 06.9	-4.3
ADK				S	Sn	02 26 21.9	-4.3
AMKA	Amchitka	1.45	265	P	Pn	02 26 12.5	-3.0
AMKA				S	Sn	02 26 31.3	-2.5
SMY	Shemya	4.77	287	P	Pn	02 27 00.0	-0.5
SMY				S	Sn	02 27 59.7	+5.3
FX1	Attu Island--F	5.36	288	P	Pn	02 27 08.3	-0.2
FX1				S	Sn	02 28 11.6	+2.8
NIKO	Nikolski	6.03	72	P	Pn	02 27 15.4	-2.2
OKCE	Okmok Cone E	6.53	69	P	Pn	02 27 24.0	-0.4
SPIA	Saint Paul Isl	7.38	37	P	Pn	02 27 37.4	+1.4
UNV	Unalaska Valle	7.59	68	P	Pn	02 27 37.8	-1.1
AKGG	Akutan Green G	7.96	66	P	Pn	02 27 44.6	+0.6
AKUT	Akutan	8.07	66	ePn	Pn	02 27 47.1	+1.6
FALS	False Pass	9.58	64	ePn	Pn	02 28 08.4	+2.4
CHGN	Chignik	12.69	60	ePn	Pn	02 28 59.9	+12
GAMB	Gambell	12.77	14	ePn	Pn	02 28 52.5	+3.1
PEA0B	Petropavlovsk-	14.69	286	ePn	Pn	02 29 19.2	+4.5
PETK	Petropavlovsk-	14.69	286	Pn	Pn	02 29 13.3	-1.5
	0.1nm,0.3s,baz=79,slow=17,SNR=2.9						
PETK				LR	LR	02 34 42.6	
	comp=Z,662nm,21.0s,baz=91,slow=36						
OHAK	Old Harbor	15.64	59	ePn	Pn	02 29 23.8	-3.1
SVW2	Sparrevohn	15.78	44	eP	Pn	02 29 30.7	+2.1
KDAK	Kodiak Island	16.12	57	Pn	Pn	02 29 29.1	-3.9
	4.8nm,0.3s,baz=279,slow=9.2,SNR=18						
KDAK				Sn	Sn	02 32 29.8	-1.1
	0.7nm,0.3s,baz=102,slow=20,SNR=6.2						
KDAK	Kodiak Island	16.12	57	ePn	Pn	02 29 30.9	-2.0
	109nm,1.4s						
SLKM	Skilak Lake	17.99	49	eP	Pn	02 29 55.7	-0.2
PPLA	Purkeypile	18.03	41	eP	Pn	02 29 58.6	+2.2
	56nm,0.6s						
BILL	Bilibino	18.16	341	c iP	Pn	02 29 58.3	+0.4
BILL				pmax	pmax		
	comp=Z,63nm,1.0s						
BILL	Bilibino	18.16	341	eP	Pn	02 29 59.5	+1.5
	comp=Z,46nm,0.8s						
SEW	Seward	18.25	51	eP	Pn	02 29 57.1	-1.9
RC01	Rabbit Creek A	18.40	48	eP	Pn	02 30 00.4	-0.4
	comp=Z,24nm,0.8s						
CHUM	Lake Minchumin	18.45	38	eP	Pn	02 30 01.9	+0.4
	comp=Z,26nm,0.7s						
PMR	Palmer	18.84	46	eP	Pn	02 30 07.5	+1.4
PMR				pmax	pmax		
	comp=Z,16nm,1.0s						
PMR	Palmer	18.84	46	eP	Pn	02 30 07.5	+1.5
	comp=Z,16nm,1.0s						
KTH	Kantishna Hill	18.84	40	eP	Pn	02 30 05.6	-0.5
	comp=Z,97nm,0.7s						
TRF	Thorofare Moun	19.05	40	eP	Pn	02 30 07.2	-1.4
	comp=Z,99nm,0.8s						
TRF				ePcP	PcP	02 34 29.1	+0.4
BPAW	Bear Paw Mtn.	19.07	38	eP	Pn	02 30 07.6	-1.2
	comp=Z,33nm,0.7s						
BPAW				ePcP	PcP	02 34 28.9	+0.2
IMA2	Indian Mountai	19.18	31	eP	Pn	02 30 04.9	-5.2
SEY	Seymchan	19.30	317	⇑eP	Pn	02 30 11.3	-0.2
MCK	McKinley	19.72	40	eP	Pn	02 30 14.0	-2.4
MCK				pmax	pmax		
	comp=Z,30nm,0.7s						
MCK	McKinley	19.72	40	eP	Pn	02 30 14.0	-2.5
	comp=Z,30nm,0.7s						
COLA	College	20.63	38	d iP	P	02 30 24.7	+0.5
COLA	College	20.63	38	eP	P	02 30 24.6	+0.4
	comp=Z,49nm,0.8s						
COLA				ePcP	PcP	02 34 31.0	-0.5
COLD	Coldfoot	20.99	31	eP	P	02 30 28.9	+0.9
	comp=Z,26nm,1.0s						
COLD				ePcP	PcP	02 34 33.2	+1.0
DAWY	Dawson	23.82	43	eP	P	02 30 56.2	-0.8
YSS	Yuzh-Sakhalins	25.56	275	⇑iP	P	02 31 12.8	-0.1
YSS				pmax	pmax		
	comp=Z,110nm,1.0s,mb5.2						
YSS	Yuzh-Sakhalins	25.56	275	eP	P	02 31 14.1	+1.2
ASAJ	Asahikawa	26.96	270	P	P	02 31 26.3	+0.7
	comp=Z,89nm,1.0s,mb5.3,baz=29,slow=4.8,SNR=37						
ASAJ				LR	LR	02 40 11.7	
	comp=Z,213nm,21.3s,baz=238,slow=32						
ASAJ	Asahikawa	26.96	270	P	P	02 31 26.3	+0.7
ASAJ				pmax	pmax		
	comp=Z,89nm,1.0s						
ASAJ				MLR	MLR		
	comp=Z,213nm,21.3s						
HABR	Khabarovsk	29.68	283	eP	P	02 31 48.4	-1.4
HABR				e	pP	02 32 06.9	0.0
HABR				e		02 38 15.9	
BBB	Bella Bella	30.56	69	P	P	02 31 58.2	+0.8
	comp=Z,20nm,1.0s,mb4.8,baz=277,slow=13,SNR=3.3						
TIXI	Tiksi	30.62	330	⇑iP	P	02 31 57.7	-0.1
TIXI				pmax	pmax		
	comp=Z,7.0nm,0.8s,mb4.4						
KLR	Kul'dur	31.38	286	eP	P	02 32 00.0	-4.7
KLR				pmax	pmax		
	comp=E,34nm,1.6s						
KLR				pmax	pmax		
	comp=Z,85nm,1.6s,mb5.2						
MJAR	Matsushiro Arr	34.06	261	P	P	02 32 28.6	+0.4
	comp=Z,12nm,0.7s,mb4.8,baz=50,slow=7.3,SNR=29						
MJAR				PcP	PcP	02 35 05.0	+0.8
	comp=Z,3.2nm,0.7s,baz=36,slow=0.8,SNR=7.2						
MJAR				LR	LR	02 43 41.5	
	comp=Z,279nm,21.8s,baz=70,slow=32						
MJAR	Matsushiro Arr	34.06	261	P	P	02 32 28.6	+0.4
MJAR						02 35 05.0	
MJAR				pmax	pmax		
	comp=Z,12nm,0.7s						
MJAR				pmax	pmax		
	comp=Z,3.0nm,0.7s						
MAJO	Matsushiro	34.06	261	eP	P	02 32 28.9	+0.7
MAJO				pmax	pmax		
	comp=Z,31nm,0.8s,mb5.2						
MAJO	Matsushiro	34.06	261	eP	P	02 32 28.9	+0.7
	comp=Z,31nm,0.8s,mb5.2						
MAT	Matsushiro	34.06	261	P	P	02 32 28.6	+0.4
VLA	Vladivostok	34.15	276	eP	P	02 32 28.0	-0.9
VLA				pmax	pmax		
	comp=Z,84nm,0.9s,mb5.6						
MDJ	Mudanjiang	34.80	279	P	P	02 32 33.5	-1.0
MDJ				AP	pP	02 32 46.9	-5.0
MDJ				XP	sP	02 32 52.2	-8.1
MDJ				PP	PP	02 33 52.9	-1.5
MDJ				PCP	PcP	02 35 06.7	+0.5
MDJ				S	S	02 38 00.4	+0.8
MDJ				XS	sS	02 38 22.6	-6.8
MDJ				AMB	AMB		
	comp=Z,21nm,0.9s,mb5.0						
MDJ				AMB	AMB		
	comp=Z,50nm,4.0s						
MDJ				LR	LR		
	comp=N,182nm,31.2s						
MDJ				LR	LR		
	comp=E,150nm,32.8s						
MDJ				LR	LR		
	comp=Z,282nm,30.0s						
MDJ	Mudanjiang	34.80	279	eP	P	02 32 33.9	-0.6
	comp=Z,15nm,0.8s,mb4.9						
YKW3	Yellowknife Ar	34.92	47	eP	P	02 32 35.0	-0.3
YKA	Yellowknife Ar	34.94	47	P	P	02 32 34.6	-0.9
	comp=Z,6.3nm,0.7s,mb4.6,baz=282,slow=8.5,SNR=14						
YKA				PcP	PcP	02 35 06.8	+0.5
	comp=Z,9.1nm,0.9s,baz=293,slow=2.7,SNR=14						
YKA				ScP	ScP	02 38 48.3	+3.3
	comp=Z,1.5nm,0.8s,baz=296,slow=3.7,SNR=4.3						
YKA				LR	LR	02 48 33.2	
	comp=Z,88nm,19.4s,baz=170,slow=39						
YKA	Yellowknife Ar	34.94	47	P	P	02 32 34.6	-0.9
YKA						02 35 06.8	
YKA				pmax	pmax		
	comp=Z,6.0nm,0.7s						
YKA				pmax	pmax		
	comp=Z,9.0nm,0.9s						
YKA				pmax	pmax		
	comp=N,2.0nm,0.8s						
YKA				MLR	MLR		
	comp=Z,88nm,19.4s						
A05A	Maple Falls	35.33	71	⇓P	P	02 32 39.5	+0.5
	baz=35,SNR=6.4						
GNW	Green Mountain	35.53	74	eP	P	02 32 42.1	+1.4
	comp=Z,20nm,0.9s,mb5.0						
A06A	Chilliwack	35.64	71	⇓P	P	02 32 42.0	+0.3
	baz=36,SNR=7.9						
B05A	Bryant	35.65	73	⇑P	P	02 32 42.5	+0.7
	baz=36,SNR=16						
JCW	Jim Creek	35.78	73	P	P	02 32 44.0	+1.1
B06A	Marblemount	35.90	72	⇑P	P	02 32 43.9	0.0
	baz=36						
RPW	Rockport	35.91	72	P	P	02 32 44.6	+0.6
C05A	Tolt Reservoir	36.16	73	⇑P	P	02 32 46.3	+0.2
	baz=36,SNR=5.4						
D05A	Enumclaw	36.21	74	⇓P	P	02 32 47.2	+0.6
	baz=36,SNR=6.4						
A07A	Ashnola River,	36.31	70	⇓P	P	02 32 47.6	+0.2
	baz=36,SNR=25						
C06A	Tall Timber Ra	36.52	72	⇓P	P	02 32 49.6	+0.4
	baz=36						
LON	Longmire	36.53	75	eP	P	02 32 50.6	+1.3
LON				pmax	pmax		
	comp=Z,15nm,0.9s,mb4.9						
LON	Longmire	36.53	75	eP	P	02 32 50.6	+1.3
	comp=Z,15nm,0.9s,mb4.9						

WRW Wenatchee Ridg 36.56 72 P P 02 32 50.5 +0.9
B07A Winthrop 36.73 71 ⇑P P 02 32 51.3 +0.3
baz=37,SNR=22
D06A Cle Elum 36.90 73 ⇓P P 02 32 53.0 +0.6
baz=37,SNR=7.2
A08A Turner Farm, O 37.01 70 ⇑P P 02 32 53.2 -0.1
baz=37,SNR=13
ETW Entiat 37.01 73 P P 02 32 54.3 +0.9
TBM Table Mountain 37.06 73 P P 02 32 55.2 +1.4
C07A Waterville 37.13 72 ⇑P P 02 32 54.1 -0.3
baz=37,SNR=12
B08A Colville Reser 37.24 71 ⇑P P 02 32 55.5 +0.1
baz=37,SNR=27
H04A Detroit Lake 37.34 78 ⇓P P 02 32 56.4 +0.3
baz=37,SNR=6.5
A09A Danville 37.40 70 ⇓P P 02 32 56.9 +0.3
baz=37,SNR=9.4
D07A Quincy 37.42 73 ⇑P P 02 32 56.8 0.0
baz=37,SNR=8.3
EPH Ephrata 37.57 73 P P 02 32 58.5 +0.5
G05A Wamic 37.58 77 ⇑P P 02 32 58.0 -0.2
baz=37
F06A Goldendale 37.64 75 ⇑P P 02 32 58.5 -0.2
baz=38
I04A Tendick Farm, 37.66 79 ⇓P P 02 32 59.3 +0.4
baz=38,SNR=6.2
C08A Higginbotham F 37.69 72 ⇓P P 02 32 58.9 -0.1
baz=38,SNR=6.3
CN2 Changchun 37.77 281 eP P 02 32 59.0 -0.8
CN2 S S 02 38 43.7 -1.2
CN2 AMB AMB
comp=Z,10.0nm,1.3s,mb4.5
CN2 AMB AMB
comp=Z,200nm,5.0s
CN2 LR LR
comp=N,200nm,18.0s
CN2 LR LR
comp=E,200nm,18.0s
CN2 LR LR
comp=Z,200nm,23.0s
E07A Sunnyside 37.80 74 ⇑P P 02 33 00.1 +0.1
baz=38
B09A Rice 37.91 70 ⇓P P 02 33 01.0 0.0
baz=38,SNR=15
HUMO Hull Mountain 37.97 81 ⇑P P 02 33 02.0 +0.5
baz=38
HUMO Hull Mountain 37.97 81 eP P 02 33 02.0 +0.5
comp=Z,4.0nm,0.7s,mb4.4
A10A Northport 38.00 69 ⇓P P 02 33 01.4 -0.2
baz=38,SNR=10
RSW Rattlesnake Hi 38.04 74 eP P 02 33 03.0 +0.9
OD2 Odessa Site #2 38.07 72 eP P 02 33 02.0 -0.4
HAWA Hanford 38.08 74 eP P 02 33 03.0 +0.6
comp=Z,26nm,0.7s,mb5.2
BOD Bodaibo 38.08 307 eP P 02 33 00.5 -1.8
BOD pmax pmax
comp=Z,6.0nm,1.3s,mb4.3
F07A Phinny Hill Vi 38.09 75 ⇑P P 02 33 02.5 0.0
baz=38,SNR=5.8
D08A Wollman Farm, 38.11 73 ⇓P P 02 33 02.6 0.0
baz=38,SNR=12
C09A Chrisman Ranch 38.13 71 ⇓P P 02 33 03.0 +0.1
baz=38
J04A Umpqua Nationa 38.15 80 ⇓P P 02 33 03.4 +0.3
baz=38
I05A Bend 38.17 78 ⇓P P 02 33 03.6 +0.4
baz=38
E08A Dider Farm, El 38.31 73 ⇓P P 02 33 04.3 -0.1
baz=38,SNR=6.8
HIA Hailar 38.46 292 c iP P 02 33 05.2 -0.4
HIA Hailar 38.46 292 eP P 02 33 04.9 -0.7
comp=Z,8.7nm,0.4s,mb4.9
D09A Jones Farm, Ri 38.47 72 ⇓P P 02 33 05.5 -0.2
baz=38,SNR=5.3
B10A Chitwood Farm, 38.51 70 ⇓P P 02 33 05.9 -0.1
baz=38
EDM Edmonton 38.51 61 eP P 02 33 05.2 -0.8
G07A Ruggs Ranch, H 38.56 76 ⇑P P 02 33 06.6 +0.2
baz=38
NEW Newport 38.59 70 eP P 02 33 06.3 -0.4
NEW pmax pmax
comp=Z,42nm,0.9s
NEW Newport 38.59 70 eP P 02 33 06.3 -0.4
comp=Z,42nm,0.9s,mb5.3
YBH Yreka Blue Hor 38.61 82 P P 02 33 06.4 -0.5
comp=Z,15nm,0.9s,mb4.8,baz=293,slow=5.5,SNR=20
YBH Yreka Blue Hor 38.61 82 eP P 02 33 07.8 +0.9
YBH pmax pmax
comp=Z,12nm,0.8s
YBH Yreka Blue Hor 38.61 82 ⇑P P 02 33 07.1 +0.2
baz=38,SNR=13
YBH Yreka Blue Hor 38.61 82 eP P 02 33 07.8 +0.9
comp=Z,12nm,0.8s,mb4.8
J05A Fort Rock 38.66 79 ⇑P P 02 33 07.5 +0.2
baz=38,SNR=8.3
C10A Spilker Farm, 38.70 71 ⇓P P 02 33 07.8 +0.2
baz=39
A11A Hall Mountain, 38.70 69 ⇓P P 02 33 07.8 +0.1
baz=39,SNR=17
M02C Callahan 38.71 83 ⇑P P 02 33 08.2 +0.4
baz=39
N02C Big Bar 38.76 84 ⇓P P 02 33 08.4 +0.3
baz=39
F08A Pendleton 38.83 74 ⇑P P 02 33 08.7 0.0
baz=39,SNR=6.4
O01C Eel River Cons 38.83 85 ⇓P P 02 33 09.3 +0.5
baz=39
E09A Wood Farm, Sta 38.84 73 ⇑P P 02 33 08.8 -0.1
baz=39,SNR=16
L04A Klamath Falls 38.87 81 ⇓P P 02 33 09.4 +0.3
baz=39
I06A Prineville 38.93 78 ⇑P P 02 33 09.6 0.0
baz=39
B11A Sandpoint 38.95 69 ⇑P P 02 33 09.4 -0.2
baz=39,SNR=9.0
H07A Lands Inn, Kim 38.98 76 ⇓P P 02 33 10.4 +0.4
baz=39
G08A Pilot Rock 38.98 75 ⇑P P 02 33 10.0 0.0
baz=39
LNOR Lincton Mounta 39.09 74 eP P 02 33 11.4 +0.6
D10A Wagner Farm, O 39.09 72 ⇓P P 02 33 10.4 -0.4
baz=39,SNR=26
M04C Macdoel 39.12 82 ⇓P P 02 33 11.6 +0.4
baz=39,SNR=8.8
A12A Yaak River Ran 39.13 68 ⇓P P 02 33 11.3 +0.1
baz=39
K05A Summer Lake 39.17 80 ⇑P P 02 33 12.5 +0.8
baz=39,SNR=8.4
M03C McCloud 39.23 82 ⇓P P 02 33 12.4 +0.3
baz=39
I07A Izee 39.29 77 ⇓P P 02 33 12.9 +0.4
baz=39,SNR=12
J06A Christmas Vall 39.34 79 ⇓P P 02 33 13.6 +0.6
baz=39,SNR=9.3
WDC Whiskeytown Da 39.37 84 eP P 02 33 13.9 +0.6
WDC pmax pmax
comp=Z,12nm,1.0s,mb4.7
WDC Whiskeytown Da 39.37 84 ⇓P P 02 33 13.6 +0.3
baz=39
WDC Whiskeytown Da 39.37 84 eP P 02 33 13.8 +0.6
comp=Z,12nm,1.0s,mb4.7
B12A Libby 39.39 69 ⇓P P 02 33 13.6 +0.3
baz=39
F09A S2 Ranch, Elgi 39.40 74 ⇑P P 02 33 13.7 +0.3
baz=39,SNR=12
O02C Red Bluff 39.45 84 ⇓P P 02 33 14.5 +0.5
baz=39,SNR=7.6
E10A Myers Farm, Un 39.48 72 ⇑P P 02 33 13.9 -0.2
baz=39,SNR=21
K06A Valley Falls 39.53 79 ⇑P P 02 33 14.5 0.0
baz=39,SNR=11
H08A Prairie City 39.56 76 ⇓P P 02 33 14.9 +0.1
baz=39
L05A Lakeview 39.59 81 ⇓P P 02 33 15.6 +0.6
baz=40
D11A Klaveano Farm, 39.65 71 ⇓P P 02 33 14.7 -0.8
baz=40,SNR=21
F10A Beach Ranch, E 39.67 73 ⇑P P 02 33 15.7 +0.1
baz=40,SNR=7.1
G09A Cove 39.70 74 ⇑P P 02 33 16.0 0.0
baz=40,SNR=9.3
M05C Lookout 39.79 82 ⇑P P 02 33 17.0 +0.3
baz=40,SNR=6.4
J07A Hines 39.79 78 ⇑P P 02 33 17.6 +0.9
baz=40,SNR=7.9
GASB Alder Springs 39.80 85 ⇓P P 02 33 17.0 +0.2
baz=40
C12B Naegeli Ranch, 39.83 70 ⇓P P 02 33 16.8 -0.1
baz=40,SNR=16
A13A Flathead Natio 39.85 68 ⇓P P 02 33 17.0 -0.1
baz=40
KSRS Korea Array 39.89 271 P P 02 33 18.3 +0.7
comp=Z,26nm,0.7s,mb5.2,baz=57,slow=8.1,SNR=98
KSRS PcP PcP 02 35 22.9 +1.0
comp=Z,2.8nm,0.9s,baz=66,slow=4.8,SNR=4.4
KSRS LR LR 02 47 14.2
comp=Z,150nm,21.9s,baz=30,slow=32
KSRS Korea Array 39.89 271 P P 02 33 18.3 +0.7
KSRS 02 35 22.9
KSRS pmax pmax
comp=Z,27nm,0.7s,mb5.2
KSRS pmax pmax
comp=Z,3.0nm,0.9s,mb4.1
I08A Drewsey 39.95 77 ⇓P P 02 33 18.0 0.0
baz=40,SNR=6.7
LBCM Butte Creek Ri 39.96 82 P P 02 33 19.0 +0.8
MOD Modoc 40.00 80 ⇑P P 02 33 18.9 +0.5
baz=40,SNR=7.3
MOD Modoc 40.00 80 eP P 02 33 19.3 +0.9
comp=Z,15nm,0.9s,mb4.8
WALA Waterton Lakes 40.08 67 eP P 02 33 19.7 +0.7
E11A Bogner Ranch, 40.08 72 ⇑P P 02 33 18.4 -0.7
baz=40,SNR=9.5
G10A Bishop Farm, J 40.09 74 ⇓P P 02 33 19.6 +0.4
baz=40,SNR=20
B13A Whitefish 40.09 68 ⇓P P 02 33 18.9 -0.2
baz=40,SNR=6.9
H09A Durkee 40.09 75 ⇓P P 02 33 19.1 -0.1
baz=40
BSMT Bassoo Peak 40.16 69 eP P 02 33 19.9 +0.1
K07A Rock Creek Ran 40.20 79 ⇓P P 02 33 20.5 +0.3
baz=40,SNR=18
BMO Blue Mountains 40.21 75 eP P 02 33 20.3 +0.1
comp=Z,14nm,1.1s,mb4.7
D12A Red Ives Fores 40.23 71 ⇓P P 02 33 19.8 -0.5
baz=40
M06C Likely Place G 40.29 81 ⇑P P 02 33 20.8 -0.1
baz=40
J08A Circle Bar Ran 40.31 77 ⇓P P 02 33 21.2 +0.2
baz=40,SNR=12
F11A Grangeville 40.35 73 ⇑P P 02 33 20.6 -0.7
baz=40,SNR=8.9
C13A Hot Springs 40.37 69 ⇑P P 02 33 21.6 +0.1
baz=40
A14A Double T Ranch 40.40 67 ⇑P P 02 33 21.7 0.0
baz=40
I09A Lost Marbles R 40.42 76 ⇑P P 02 33 22.0 +0.1
baz=40
O04C Chester 40.42 83 ⇓P P 02 33 22.3 +0.3
baz=40
E12A Beaver Dam Sad 40.43 72 ⇑P P 02 33 21.8 -0.2
baz=40,SNR=27
L07A Adell 40.52 80 ⇑P P 02 33 23.0 +0.2
baz=40,SNR=12
G11A Walters Elk Ra 40.54 73 ⇑P P 02 33 22.9 0.0
baz=40,SNR=10
ORV Oroville 40.62 84 ⇑P P 02 33 23.0 -0.6
baz=40,SNR=6.1
K08A Mann Creek Ran 40.65 78 ⇑P P 02 33 24.0 +0.2
baz=40,SNR=6.7
INCN Inchon 40.68 272 eP P 02 33 24.9 +0.8
comp=Z,48nm,1.0s,mb5.3
WVOR Wild Horse Val 40.72 79 eP P 02 33 24.8 +0.4
WVOR pmax pmax
comp=Z,19nm,0.9s,mb4.9
WVOR Wild Horse Val 40.72 79 eP P 02 33 24.8 +0.3
comp=Z,19nm,0.9s,mb4.9
D13A Huson 40.73 70 ⇓P P 02 33 23.7 -0.8
baz=41,SNR=9.2
O05C Quincy 40.74 83 ⇑P P 02 33 24.6 0.0
baz=41
J09A Fry Pan Ranch, 40.75 77 ⇓P P 02 33 24.9 +0.2
baz=41,SNR=8.3
B14A Marquette Ranc 40.79 68 ⇑P P 02 33 24.9 0.0
baz=41,SNR=11
C14A Swan Lake 40.81 69 ⇓P P 02 33 24.4 -0.6
baz=41
N06A Buffalo Meadow 40.95 82 ⇓P P 02 33 26.6 +0.3
baz=41,SNR=11
F12A Elk City 40.96 72 ⇓P P 02 33 26.4 +0.1
baz=41,SNR=40
M07A Soda Meadow 40.99 80 ⇓P P 02 33 27.4 +0.8
baz=41
L08A Fields 41.04 79 ⇑P P 02 33 27.2 +0.2
baz=41,SNR=16
H11A Donnelly 41.07 74 ⇑P P 02 33 26.9 -0.3
baz=41,SNR=11
K09A Rome 41.13 78 ⇓P P 02 33 27.1 -0.6
baz=41
BEKR Beckwourth 41.14 83 ⇓P P 02 33 27.7 -0.2
baz=41,SNR=8.1
MSO Missoula 41.17 70 eP P 02 33 27.5 -0.6
comp=Z,19nm,0.9s,mb4.9
B15A Bradely Ranch, 41.22 68 ⇑P P 02 33 27.6 -0.9
baz=41,SNR=8.5
E13A Victor 41.23 71 ⇓P P 02 33 27.9 -0.7
baz=41,SNR=16
O06A Flanigan 41.29 82 ⇑P P 02 33 29.2 +0.1
baz=41,SNR=10
D14A Greenough 41.30 70 ⇓P P 02 33 28.6 -0.5
baz=41,SNR=37
P05C Yuba Gap, Truc 41.32 84 ⇑P P 02 33 28.9 -0.5
baz=41
M08A Happy Creek Ra 41.44 80 ⇓P P 02 33 30.7 +0.3
baz=41,SNR=12
A16A West Butte Ran 41.46 66 ⇑P P 02 33 29.0 -1.3
baz=41,SNR=7.3
C15A Salmond Ranch, 41.47 68 ⇓P P 02 33 29.8 -0.6
baz=41
F13A Darby 41.49 72 ⇑P P 02 33 30.2 -0.4
baz=41,SNR=17
I11A Placerville 41.53 75 ⇑P P 02 33 30.9 -0.1
baz=41,SNR=8.0
CHMT Chamberlain Mo 41.53 70 eP P 02 33 30.7 -0.3
P06A Stead Airport, 41.54 83 ⇑P P 02 33 31.2 +0.1
baz=41
L09A Wilkinson Ranc 41.55 79 ⇑P P 02 33 31.4 +0.2
baz=41
LAVA Lava Cap Winer 41.57 85 ⇓P P 02 33 31.5 0.0
baz=41
K10A MacKenzie Ranc 41.61 77 ⇑P P 02 33 31.9 +0.2
baz=42,SNR=15
E14A Clinton 41.65 71 ⇓P P 02 33 31.7 -0.3
baz=42,SNR=18
B16A M & M Farms, S 41.66 67 ⇓P P 02 33 31.3 -0.7
baz=42
PAHR Pah Rah Range 41.84 82 eP P 02 33 33.9 +0.2
comp=Z,20nm,0.9s,mb4.8
H12A Diamond D Ranc 41.84 74 ⇓P P 02 33 33.2 -0.3
baz=42,SNR=8.1
WCN Washoe City 41.85 83 ⇑P P 02 33 33.3 -0.4
baz=42
MFID Camas Ranch 41.88 76 ⇓P P 02 33 33.9 0.0
baz=42
O07A Toulon 41.88 82 ⇑P P 02 33 34.0 +0.1
baz=42,SNR=10.0
D15A Lincoln 41.90 69 ⇓P P 02 33 33.3 -0.7
baz=42,SNR=13
G13A Cobalt 41.92 73 ⇓P P 02 33 34.1 -0.1
baz=42,SNR=37
C16A Fuhringer Ranc 41.95 68 ⇓P P 02 33 34.4 0.0
baz=42
N08A GE Springer Mi 41.98 80 ⇑P P 02 33 34.6 -0.2
baz=42,SNR=8.3
R05C Kirkwood Meado 42.02 84 ⇑P P 02 33 35.2 +0.2
baz=42,SNR=5.9
M09A Marel Ranch, 42.03 79 ⇑P P 02 33 35.6 +0.5
baz=42,SNR=5.6
F14A Wisdom 42.05 71 ⇑P P 02 33 34.9 -0.3
baz=42,SNR=12
I12A Atlanta 42.09 75 ⇓P P 02 33 35.8 +0.1
baz=42,SNR=32
K11A Parker Ranch, 42.12 77 ⇑P P 02 33 35.9 0.0
baz=42,SNR=6.7
E15A Deer Lodge 42.15 70 ⇓P P 02 33 35.6 -0.4
baz=42,SNR=19
CMB Columbia Colle 42.23 85 eP P 02 33 35.7 -1.1
CMB pmax pmax
comp=Z,11nm,1.1s,mb4.5
CMB Columbia Colle 42.23 85 ⇓P P 02 33 35.5 -1.3
baz=42
CMB Columbia Colle 42.23 85 eP P 02 33 35.7 -1.1
comp=Z,11nm,1.1s,mb4.5
L10A Juniper Basin 42.25 78 ⇓P P 02 33 36.6 -0.3
baz=42,SNR=9.9
O08A Rochester Mine 42.25 81 ⇑P P 02 33 37.2 +0.2
baz=42,SNR=10
G14A Jackson 42.30 72 ⇑P P 02 33 36.7 -0.6
baz=42,SNR=7.2
J12A Stokes Ranch, 42.42 75 ⇑P P 02 33 38.3 0.0
baz=42,SNR=17
D16A Dana Ranch, Ca 42.47 69 ⇓P P 02 33 38.1 -0.5
baz=42,SNR=7.2
HRY Holter Researc 42.47 69 eP P 02 33 38.2 -0.5
R06C Coleville 42.51 84 ⇓P P 02 33 39.3 +0.2
baz=42,SNR=5.1
M10A I.L. Ranch, Tu 42.53 78 ⇓P P 02 33 39.1 0.0
baz=42,SNR=12
F15A Butte 42.55 71 ⇑P P 02 33 38.5 -0.8
baz=42,SNR=9.4
C17A Wharram Farm, 42.61 68 ⇑P P 02 33 38.8 -1.0
baz=42,SNR=8.4
L11A Cat Creek Ranc 42.63 77 ⇑P P 02 33 40.3 +0.2
baz=42,SNR=27
I13A Wildhorse Cree 42.64 74 ⇑P P 02 33 39.9 -0.1
baz=42,SNR=33
E16A East Helena 42.66 69 ⇓P P 02 33 39.6 -0.5
baz=42,SNR=12
S06C San Francisco 42.66 85 ⇓P P 02 33 40.3 0.0
baz=42,SNR=10.0
H14A Leadore 42.70 73 ⇓P P 02 33 40.4 -0.1
baz=42,SNR=13
DLMT Dillon 42.75 71 eP P 02 33 40.3 -0.6
DLMT ePcP PcP 02 35 32.1 +1.0
comp=Z,8.6nm,1.0s,mb4.4
K12A Draper Farm, C 42.88 76 ⇑P P 02 33 42.2 +0.1
baz=43,SNR=17
MCMT McKenzie Canyo 42.89 72 eP P 02 33 42.2 +0.2
J13A Cove Ranch, Pi 42.89 75 ⇓P P 02 33 42.2 +0.1
baz=43,SNR=44
G15A Dillon 42.92 72 ⇓P P 02 33 41.8 -0.4
baz=43,SNR=22
O09A Fish Creek Ran 42.92 80 ⇑P P 02 33 42.8 +0.4
baz=43,SNR=7.2
I14A Mackay 43.03 74 ⇓P P 02 33 43.7 +0.5
baz=43,SNR=25
M11A Holland Ranch, 43.04 78 ⇑P P 02 33 43.9 +0.6
baz=43,SNR=11
L12A House Creek Ra 43.09 77 ⇓P P 02 33 44.4 +0.6
baz=43,SNR=16
E17A Martinsdale 43.17 69 ⇑P P 02 33 44.3 0.0
baz=43,SNR=14
Q08A Gabbs 43.25 82 ⇑P P 02 33 45.0 -0.1
baz=43,SNR=10
O10A Cortez Mining, 43.27 80 ⇑P P 02 33 45.7 +0.5
baz=43
NVAR Mina Array Bea 43.28 83 P P 02 33 45.6 +0.3
comp=Z,9.7nm,0.8s,mb4.6,baz=292,slow=7.5,SNR=26
NVAR PcP PcP 02 35 33.3 +0.2
comp=Z,2.1nm,0.8s,baz=281,slow=3.2,SNR=3.8
NVAR ScP ScP 02 39 24.4 +6.7
comp=Z,1.3nm,0.8s,baz=266,slow=4.9,SNR=6.6
G16A Moss Hill, Enn 43.29 71 ⇑P P 02 33 44.8 -0.4
baz=43,SNR=7.2
T06C Millerton Lake 43.29 86 ⇓P P 02 33 44.8 -0.6
baz=43,SNR=5.4
J14A Carey 43.33 74 ⇓P P 02 33 46.1 +0.5
baz=43,SNR=19
KCC Kaiser Creek 43.34 85 ⇑P P 02 33 45.8 0.0
baz=43,SNR=6.9
K13A Stover Farm, H 43.37 76 ⇑P P 02 33 46.5 +0.5
baz=43
N11A Elko Archery C 43.43 79 ⇓P P 02 33 46.7 +0.2
baz=43
M12A Wells 43.58 77 ⇓P P 02 33 47.9 +0.2
baz=43,SNR=13
E18A Harlowton 43.67 68 ⇑P P 02 33 48.4 +0.1
baz=44,SNR=18
P10A Eureka 43.70 81 ⇓P P 02 33 48.5 -0.2
baz=44
QLMT Earthquake Lak 43.73 71 eP P 02 33 48.8 -0.1
ELK Elko 43.78 78 P P 02 33 49.4 +0.2
comp=Z,11nm,0.8s,mb4.6,baz=296,slow=7.7,SNR=50
ELK Elko 43.78 78 eP P 02 33 49.6 +0.3
ELK pmax pmax
comp=Z,15nm,0.9s
ELK Elko 43.78 78 eP P 02 33 49.6 +0.3
comp=Z,15nm,0.9s,mb4.7
L13A Double Diamond 43.78 76 ⇑P P 02 33 49.6 +0.4
baz=44,SNR=6.7
MTUM Tungsten Hills 43.79 85 eP P 02 33 50.0 +0.6
PTRM Twissleman Ran 43.83 88 eP P 02 33 50.2 +0.4
N12A Clover Valley, 43.84 78 ⇓P P 02 33 50.0 +0.2
baz=44,SNR=26
FFC Flin Flon 43.84 54 eP P 02 33 49.1 -0.5
FFC e 02 35 34.7
O11A Cowboy Ranch, 43.89 79 ⇑P P 02 33 50.2 +0.1
baz=44,SNR=9.4
H16A Russell Place, 43.91 71 ⇑P P 02 33 49.9 -0.3
baz=44,SNR=29
HELL Mitchell Peak 43.92 86 ⇑P P 02 33 50.4 -0.1
baz=44,SNR=14
J15A Blackfoot 43.94 74 ⇓P P 02 33 51.0 +0.5
baz=44,SNR=15
S08C White Mtn Res 43.94 84 ⇓P P 02 33 51.0 +0.4
baz=44,SNR=7.1
M13A Montello 44.07 77 ⇓P P 02 33 51.6 0.0
baz=44,SNR=15
YMR Madison River 44.09 71 eP P 02 33 51.9 +0.1
comp=Z,20nm,0.8s,mb5.0
F18A Big Timber 44.14 69 ⇓P P 02 33 52.0 -0.2
baz=44,SNR=9.0
R09A Tonopah 44.16 83 ⇓P P 02 33 52.4 +0.1
baz=44,SNR=25
TPH Tonopah 44.17 83 eP P 02 33 53.1 +0.7
TPH pmax pmax
comp=Z,18nm,0.9s,mb4.8
TPH Tonopah 44.17 83 eP P 02 33 53.1 +0.6
comp=Z,18nm,0.9s,mb4.8
P11A Circle Ranch, 44.17 80 ⇓P P 02 33 52.5 +0.1
baz=44
Q10A Clear Creek Ra 44.22 81 ⇑P P 02 33 53.1 +0.3
baz=44,SNR=11
I16A Newdale 44.23 72 ⇑P P 02 33 52.8 -0.1
baz=44
GCMT Greycliff 44.23 69 eP P 02 33 53.0 +0.2
L14A Malta 44.24 76 ⇓P P 02 33 53.1 +0.1
baz=44
YNR Norris Junctio 44.24 71 eP P 02 33 53.8 +0.9
K15A Arbon 44.29 75 ⇓P P 02 33 53.7 +0.4
baz=44,SNR=21
N13A Wendover, West 44.34 78 ⇑P P 02 33 54.0 +0.2
baz=44,SNR=6.9
O12A Currie 44.36 79 ⇑P P 02 33 54.2 +0.2
baz=44,SNR=30
S09A Goldfield 44.39 83 ⇓P P 02 33 54.4 +0.2
baz=44,SNR=9.5
VES Vestal, Richgr 44.42 87 ⇓P P 02 33 54.1 -0.3
baz=44
M14A Sheep Mountain 44.48 76 ⇓P P 02 33 54.8 -0.1
baz=44
LKWY Lake 44.49 71 eP P 02 33 56.5 +1.6
LKWY pmax pmax
comp=Z,14nm,0.6s,mb4.9
LKWY Lake 44.49 71 eP P 02 33 56.5 +1.7
comp=Z,14nm,0.6s,mb4.9
J16A Bone 44.50 73 ⇓P P 02 33 55.3 +0.3
baz=44,SNR=12
IMW Indian Meadow 44.55 72 eP P 02 33 56.0 +0.6
comp=Z,21nm,1.1s,mb4.8
R10A Warm Springs 44.61 82 ⇑P P 02 33 56.1 +0.2
baz=44,SNR=12
RRI2 Red Ridge 44.63 73 eP P 02 33 56.8 +0.8
comp=Z,28nm,1.1s,mb4.9
S10A Tonopah Range, 44.65 83 ⇑P P 02 33 56.2 -0.1
baz=44,SNR=16
CWC Cottonwood Cre 44.66 85 ⇓P P 02 33 56.6 +0.2
baz=44
Q11A Duckwater 44.67 81 ⇓P P 02 33 56.6 +0.2
baz=44,SNR=14
HVU Hansel Valley 44.67 76 eP P 02 33 56.8 +0.4
HVU pmax pmax
comp=Z,9.0nm,0.6s,mb4.7
HVU Hansel Valley 44.67 76 eP P 02 33 56.8 +0.4
comp=Z,8.5nm,0.6s,mb4.7
P12A McGill 44.74 80 ⇓P P 02 33 57.0 0.0
baz=45
MOOW Moose Ponds 44.74 72 eP P 02 33 57.0 0.0
comp=Z,11nm,1.3s,mb4.4
I17A Pilgram Creek 44.75 72 ⇓P P 02 33 57.1 +0.2
baz=45
GRAC Grapevine Rang 44.75 84 ⇓P P 02 33 57.3 +0.2
baz=45
K16A Soda Springs 44.77 74 ⇓P P 02 33 58.3 +1.1

baz=45,SNR=22
L15A Malad City 44.77 75 ⇓P **P 02 33 57.3 +0.1**
baz=45,SNR=11
TPAW Teton Pass 44.77 73 *e*P **P 02 33 57.6 +0.5**
comp=Z,10nm,1.0s,mb4.5
RLMT Red Lodge 44.84 70 ⇑P **P 02 33 58.0 +0.3**
baz=45,SNR=17
RLMT Red Lodge 44.84 70 *e*P **P 02 33 58.0 +0.4**
comp=Z,60nm,1.0s,mb5.3
REDW Red Top Meadow 44.90 73 *e*P **P 02 33 58.8 +0.6**
comp=Z,11nm,1.1s,mb4.5
SNOW Snow King Moun 44.90 73 *e*P **P 02 33 59.0 +0.8**
comp=Z,17nm,1.1s,mb4.7
LOHW Long Hollow 44.91 72 *e*P **P 02 33 58.5 +0.3**
comp=Z,6.0nm,0.8s,mb4.4
ISA Isabella 44.91 86 *e*P **P 02 33 58.0 -0.4**
ISA pmax pmax
comp=Z,7.0nm,0.9s,mb4.4
ISA Isabella 44.91 86 ⇓P **P 02 33 58.1 -0.3**
baz=45,SNR=7.8
ISA Isabella 44.91 86 *e*P **P 02 33 58.0 -0.4**
comp=Z,7.4nm,0.9s,mb4.4
O13A Hicks Ranch, I 44.91 78 ⇑P **P 02 33 58.4 +0.1**
baz=45,SNR=6.0
N14A Grayback Hills 44.97 77 ⇓P **P 02 33 58.9 +0.1**
baz=45,SNR=17
R11A Troy Canyon, C 45.01 81 ⇓P **P 02 33 59.0 -0.2**
baz=45,SNR=16
BGU Big Grassy Mou 45.02 77 *e*P **P 02 33 58.9 -0.2**
M15A Larsen Ranch, 45.05 76 ⇑P **P 02 33 59.4 0.0**
baz=45,SNR=11
Q12A Willow Creek R 45.05 80 ⇑P **P 02 33 59.4 0.0**
baz=45,SNR=11
SPUT South Promonto 45.14 76 *e*P **P 02 34 00.8 +0.6**
MPMC Manual Prospec 45.27 85 ⇓P **P 02 34 01.2 0.0**
baz=45
P13A Bates Ranch, G 45.30 79 ⇑P **P 02 34 01.3 -0.1**
baz=45,SNR=20
L16A Fish Haven 45.34 75 ⇑P **P 02 34 01.8 +0.1**
baz=45,SNR=16
N15A Stansbury Isla 45.35 77 ⇓P **P 02 34 01.8 0.0**
baz=45,SNR=15
S11A Rachel 45.35 82 ⇑P **P 02 34 02.0 +0.2**
baz=45,SNR=7.0
FURC Furnace Creek, 45.40 84 ⇑P **P 02 34 02.2 -0.1**
baz=45,SNR=7.6
TPNV Topopah Spring 45.48 83 *e*P **P 02 34 02.8 0.0**
TPNV pmax pmax
comp=Z,25nm,0.8s,mb5.0
TPNV Topopah Spring 45.48 83 ⇓P **P 02 34 02.9 +0.1**
baz=45,SNR=37
TPNV Topopah Spring 45.48 83 *e*P **P 02 34 02.8 0.0**
comp=Z,25nm,0.8s,mb5.0
HWUT Hardware Ranch 45.50 75 *e*P **P 02 34 03.1 +0.1**
LRMC Laurel Mountai 45.52 86 ⇑P **P 02 34 03.0 -0.2**
baz=45
BLG Laguna Peak 45.55 89 ⇓P **P 02 34 02.7 -0.8**
baz=45
BJI Beijing 45.59 282 P **P 02 34 04.1 +0.4**
BJI S **S 02 40 38.5 -2.0**
BJI AMB AMB
comp=Z,34nm,1.0s,mb5.0
BJI AMB AMB
comp=Z,235nm,4.3s
BJI LR LR
comp=N,244nm,23.2s
BJI LR LR
comp=E,266nm,27.7s
BJI LR LR
comp=Z,185nm,26.2s
BJI Beijing 45.59 282 P **P 02 34 04.1 +0.4**
comp=Z,34nm,1.0s,mb5.0
BJI S **S 02 40 38.5 -2.0**
BJI LR LR
comp=Z,190nm,26.2s
DUG Dugway 45.59 78 *e*P **P 02 34 03.8 +0.1**
DUG pmax pmax
comp=Z,37nm,1.0s,mb5.1
DUG Dugway 45.59 78 ⇓P **P 02 34 03.8 +0.1**
baz=45,SNR=45
DUG Dugway 45.59 78 *e*P **P 02 34 03.8 +0.1**
comp=Z,37nm,1.0s,mb5.1
BJT Baijiatuao 45.60 282 *e*P **P 02 34 03.5 -0.3**
Q13A Wheeler Ranch, 45.60 80 ⇓P **P 02 34 03.8 0.0**
baz=46,SNR=14
R12A Pony Springs, 45.63 81 ⇑P **P 02 34 03.9 -0.2**
baz=46,SNR=15
EDW2 Edwards Air Fo 45.72 87 ⇑P **P 02 34 04.7 -0.1**
baz=46,SNR=6.8
LAO LASA Array 45.73 66 *e*P **P 02 34 04.4 -0.3**
comp=Z,14nm,0.6s,mb4.9
LAO *e*PcP PcP 02 35 42.0 +0.7
O15A The Old Anders 45.75 77 ⇓P **P 02 34 04.8 -0.1**
baz=46
U10A Ash Meadows, A 45.76 84 ⇓P **P 02 34 04.9 -0.2**
baz=46
P14A Drum Mountains 45.80 78 ⇓P **P 02 34 05.5 +0.1**
baz=46,SNR=29
DGMT Dagmar 45.89 63 ⇓P **P 02 34 05.3 -0.6**
baz=46
S12A Delamar Landin 45.93 82 ⇓P **P 02 34 06.5 +0.1**
baz=46,SNR=15
T11A Corn Creek, Al 45.93 82 ⇓P **P 02 34 06.5 +0.1**
baz=46,SNR=30
BW06 Boulder Array 46.02 73 ⇓P **P 02 34 07.1 0.0**
baz=46,SNR=53
BW06 Boulder Array 46.02 73 *e*P **P 02 34 07.0 -0.1**
comp=Z,48nm,1.1s,mb5.1
PDAR Pinedale Array 46.02 73 P **P 02 34 06.8 -0.2**
comp=Z,37nm,1.0s,mb5.1,baz=309,slow=4.1,SNR=141
PDAR LR LR 02 50 42.9
comp=Z,164nm,20.0s,baz=311,slow=32
Q14A Sevier Lake (B 46.04 79 ⇑P **P 02 34 07.2 0.0**
baz=46,SNR=20
R13A O'Grain Ranch, 46.12 81 ⇑P **P 02 34 07.8 0.0**
baz=46,SNR=6.6
JLU Jordanelle 46.17 76 *e*P **P 02 34 08.4 +0.2**
NLU North Lily Min 46.18 77 *e*P **P 02 34 08.3 -0.1**
GSC Goldstone 46.18 86 *e*P **P 02 34 08.3 -0.1**
GSC pmax pmax
comp=Z,18nm,0.8s,mb4.8
GSC Goldstone 46.18 86 ⇓P **P 02 34 08.2 -0.2**
baz=46,SNR=15
GSC Goldstone 46.18 86 *e*P **P 02 34 08.3 -0.2**
comp=Z,18nm,0.8s,mb4.8
P15A Leamington 46.29 78 ⇓P **P 02 34 09.2 0.0**
baz=46,SNR=11
N17A Moffit Pass 46.34 75 ⇓P **P 02 34 09.7 +0.1**
baz=46,SNR=5.7
BFSC Mount Baldy St 46.34 87 ⇓P **P 02 34 09.4 -0.3**
baz=46
U11A Corn Creek 46.35 83 ⇓P **P 02 34 09.7 0.0**
baz=46
O16A Springville 46.38 77 ⇓P **P 02 34 10.1 +0.2**
baz=46,SNR=16
DAU Daniels Canyon 46.40 76 *e*P **P 02 34 10.9 +0.8**
MPU Maple Canyon 46.41 77 *e*P **P 02 34 10.4 +0.3**
comp=Z,12nm,0.9s,mb4.6
ULN Ulaanbaatar 46.42 296 *e*P **P 02 34 10.5 +0.4**
ULN *e* 02 35 44.0
ULN pmax pmax
comp=Z,6.0nm,0.6s,mb4.5
ULN Ulaanbaatar 46.42 296 *e*P **P 02 34 10.5 +0.4**
comp=Z,6.3nm,0.6s,mb4.5
ULN *e*PcP PcP 02 35 44.0 +0.3
S13A Holt Ranch, En 46.56 81 ⇓P **P 02 34 11.4 +0.1**
baz=46,SNR=20
Q15A Fillmore 46.58 79 ⇑P **P 02 34 11.6 +0.1**
baz=46
TUQ Turquoise Moun 46.65 85 ⇑P **P 02 34 11.4 -0.7**
baz=46
ARUT Antelope Range 46.69 81 *e*P **P 02 34 12.7 +0.4**
V11A Goodsprings 46.69 84 ⇑P **P 02 34 12.1 -0.3**
baz=47
HEC Hector,Ludlow 46.79 86 ⇓P **P 02 34 12.5 -0.7**
baz=47
SONM Songino Array 46.80 297 P **P 02 34 13.4 +0.3**
comp=Z,4.0nm,0.6s,mb4.3,baz=68,slow=8.5,SNR=28
SONM PcP PcP 02 35 46.0 +0.9
comp=Z,12nm,0.8s,baz=68,slow=2.1,SNR=16
SONM ScP ScP 02 39 35.9 +3.9
comp=Z,1.0nm,0.8s,baz=67,slow=3.0,SNR=4.4
SONM Songino Array 46.80 297 P **P 02 34 13.4 +0.3**
SONM 02 35 46.0
SONM pmax pmax
comp=Z,4.0nm,0.6s
SONM pmax pmax
comp=Z,12nm,0.8s
SONM pmax pmax
comp=N,1.0nm,0.8s
O17A Robinson Place 46.85 76 ⇓P **P 02 34 14.0 +0.4**
baz=47,SNR=7.0
U12A Valley of Fire 46.87 83 ⇑P **P 02 34 13.5 -0.3**
baz=47
T13A Saint George 46.88 82 ⇓P **P 02 34 14.1 +0.2**
baz=47,SNR=17
CCUT Cedar City 46.88 81 *e*P **P 02 34 13.8 0.0**
MSU Marysvale 47.01 79 *e*P **P 02 34 15.2 +0.4**
N18A Larsen Ranch, 47.02 75 ⇑P **P 02 34 14.5 -0.3**
baz=47,SNR=7.9
ZAK Zakamensk 47.09 301 *e*P **P 02 34 16.2 +0.9**
ZAK pmax pmax
comp=Z,5.0nm,1.1s,mb4.2
TMUT Trail Mountain 47.12 77 *e*P **P 02 34 16.1 +0.4**
V12A Nelson 47.12 84 ⇓P **P 02 34 15.7 0.0**
baz=47,SNR=6.4
R15A Junction 47.14 79 ⇓P **P 02 34 16.3 +0.5**
baz=47,SNR=13
U13A Pakoon Wash 47.23 82 ⇓P **P 02 34 16.8 +0.2**
baz=47,SNR=14
GMRC Granite Mounta 47.24 85 ⇓P **P 02 34 16.6 -0.1**
baz=47
O18A Roosevelt 47.25 76 ⇓P **P 02 34 16.2 -0.5**
baz=47
P17A Butcher Ranch, 47.29 77 ⇓P **P 02 34 17.0 0.0**
baz=47,SNR=10
T14A Hurricane 47.37 81 ⇓P **P 02 34 17.7 +0.1**
baz=47,SNR=11
N19A John Jarvie Ra 47.37 74 ⇓P **P 02 34 17.2 -0.3**
baz=47,SNR=11
Q16A Castle Valley 47.37 78 ⇑P **P 02 34 17.7 0.0**
baz=47,SNR=18
LDFC Landfair 47.38 85 *e*P **P 02 34 17.5 -0.3**
comp=Z,14nm,0.8s,mb4.7
S15A Paquitch 47.42 80 ⇑P **P 02 34 18.6 +0.6**
baz=47,SNR=6.4
P18A Preston Nutter 47.50 76 ⇑P **P 02 34 19.1 +0.5**
baz=47,SNR=7.6
BELC Belle Mtn. 47.54 86 ⇑P **P 02 34 18.5 -0.5**
baz=47
R16A Teasdale 47.58 79 ⇑P **P 02 34 20.1 +0.9**
baz=47,SNR=36
V13A Grand Canyon W 47.58 83 ⇑P **P 02 34 19.2 -0.1**
baz=48,SNR=13
SRU San Rafael 47.65 77 *e*P **P 02 34 19.6 -0.2**
SRU pmax pmax
comp=Z,17nm,0.9s,mb4.9
SRU San Rafael 47.65 77 ⇑P **P 02 34 19.8 0.0**
baz=48,SNR=34
SRU San Rafael 47.65 77 *e*P **P 02 34 19.6 -0.2**
comp=Z,17nm,0.9s,mb4.9
U14A Mt Trumbull 47.72 82 ⇓P **P 02 34 20.1 -0.3**
baz=48,SNR=8.2
O19A Miners Draw (B 47.76 75 ⇓P **P 02 34 20.6 -0.1**
baz=48,SNR=20
T15A Red Dirt Ranch 47.83 81 ⇑P **P 02 34 21.4 +0.2**
baz=48,SNR=8.0
S16A Weppner Ranch, 47.86 79 ⇓P **P 02 34 21.8 +0.4**
baz=48,SNR=14
HHC Hu-ho-hao-te 47.89 286 *e*P **P 02 34 21.3 -0.3**
HHC AP pP 02 34 37.1 -2.6
HHC XP sP 02 34 43.9 -4.1
HHC PCP PcP 02 35 49.5 +0.5
HHC PP PP 02 36 12.7 -1.1
HHC SCP ScP 02 39 38.0 +1.3
HHC PCS PcS 02 39 43.9 -0.8
HHC S **S 02 41 12.9 -0.4**
HHC XS sS 02 41 38.4 -5.7
HHC SCS ScS 02 44 06.9 -0.7
HHC SS SS 02 44 35.7 -6.5
HHC AMB AMB
comp=Z,48nm,1.2s,mb5.2
HHC AMB AMB
comp=Z,137nm,5.8s
HHC LR LR
comp=N,259nm,14.2s
HHC LR LR
comp=E,265nm,14.4s
HHC LR LR
comp=Z,321nm,17.8s
Q18A Rafter H Ranch 47.89 77 ⇑P **P 02 34 21.8 +0.1**
baz=48,SNR=27
IRM Iron Mountain 47.96 86 ⇓P **P 02 34 21.9 -0.4**
baz=48,SNR=7.2
R17A Hanksville Air 47.97 78 ⇑P **P 02 34 22.1 -0.1**
baz=48,SNR=26
MONP Monument Peak 48.01 88 ⇓P **P 02 34 22.2 -0.4**
baz=48
RWWY Rawlins 48.06 72 *e*P **P 02 34 22.7 -0.2**
comp=Z,18nm,0.9s,mb4.9
BC3 Big Chuckw Mtn 48.11 86 ⇑P **P 02 34 22.6 -0.8**
baz=48
W13A Hualapai Mount 48.13 84 ⇑P **P 02 34 22.8 -0.8**
baz=48
U15A North Rim 48.26 81 ⇓P **P 02 34 24.8 +0.2**
baz=48,SNR=43
V14A Boquillas Ranc 48.27 83 ⇑P **P 02 34 24.7 +0.1**
baz=48,SNR=8.5
DVTC Desert V Tower 48.37 88 ⇑P **P 02 34 25.0 -0.4**
baz=48
T16A Glen Canyon Da 48.39 80 ⇑P **P 02 34 25.0 -0.5**
baz=48
S17A Black Ridge (B 48.40 79 ⇓P **P 02 34 25.4 -0.2**
baz=48,SNR=55
R18A Canyonlands Na 48.48 78 ⇑P **P 02 34 25.4 -0.9**
baz=48,SNR=17
PDMCI Parker Dam,Lak 48.50 85 ⇓P **P 02 34 25.9 -0.5**
baz=48
X13A Yucca 48.50 84 ⇑P **P 02 34 25.7 -0.6**
baz=48,SNR=5.3
Q19A Hogan Spring (48.51 77 ⇓P **P 02 34 26.0 -0.5**
baz=48,SNR=6.9
W14A Seligman 48.55 83 ⇑P **P 02 34 26.8 0.0**
baz=48,SNR=6.6
Y12C Blythe 48.62 86 ⇑P **P 02 34 27.5 +0.1**
baz=48
V15A Kaibab Nationa 48.73 82 ⇑P **P 02 34 28.4 +0.2**
baz=49,SNR=22
T17A Navajo Res., N 48.81 80 ⇑P **P 02 34 28.4 -0.4**
baz=49,SNR=15
S18A Hurst Farm, BI 48.86 78 ⇓P **P 02 34 29.0 -0.1**
baz=49,SNR=55
GLA Glamis 48.90 86 *e*P **P 02 34 29.6 +0.1**
GLA pmax pmax
comp=Z,12nm,0.9s,mb4.8
GLA Glamis 48.90 86 ⇓P **P 02 34 29.2 -0.3**
baz=49
GLA Glamis 48.90 86 *e*P **P 02 34 29.6 +0.1**
comp=Z,12nm,0.9s,mb4.8
BTO Baotou 48.96 287 *e*P **P 02 34 30.9 +1.0**
BTO AMB AMB
comp=Z,24nm,1.0s,mb5.1
PV10 Paradox Valley 49.01 77 *e*P **P 02 34 30.7 +0.4**
Y13A Salome 49.01 85 ⇓P **P 02 34 30.2 -0.1**
baz=49
NJ2 Nanjing 49.06 272 *e*P **P 02 34 32.3 +1.6**
NJ2 AMB AMB
comp=Z,40nm,0.6s,mb5.5
W15A Williams 49.08 82 ⇑P **P 02 34 30.7 -0.1**
baz=49
U17A Shonto 49.15 80 ⇑P **P 02 34 31.0 -0.4**
baz=49
U16A Tuba City 49.16 81 ⇓P **P 02 34 31.1 -0.4**
baz=49
X14A Yava 49.16 84 ⇑P **P 02 34 31.5 0.0**
baz=49,SNR=8.7
T18A Mexican Hat 49.29 79 ⇑P **P 02 34 31.6 -0.9**
baz=49,SNR=29
S19A Harvey Farm, M 49.35 78 ⇑P **P 02 34 32.7 -0.2**
baz=49,SNR=31
ULM Lac du Bonnet 49.38 57 P **P 02 34 32.1 -0.8**
comp=Z,3.9nm,0.8s,mb4.4,baz=326,slow=9.9,SNR=6.0
ULM LR LR 02 55 01.5
comp=Z,219nm,19.2s,baz=248,slow=36
ULM Lac du Bonnet 49.38 57 *e*P **P 02 34 32.4 -0.6**
WUAZ Wupatki 49.41 81 ⇑P **P 02 34 33.6 +0.3**
baz=49,SNR=17
WUAZ Wupatki 49.41 81 *e*P **P 02 34 33.5 +0.1**
comp=Z,23nm,1.1s,mb5.0
Y14A Wickenburg 49.44 84 ⇑P **P 02 34 33.1 -0.5**
baz=49
PV01 Paradox Valley 49.45 77 *e*P **P 02 34 33.5 -0.2**
X15A Humboldt 49.56 83 ⇓P **P 02 34 34.6 +0.1**
baz=49,SNR=8.1
W16A Flagstaff 49.59 82 ⇓P **P 02 34 35.1 +0.4**
baz=50,SNR=10.0
Y15A Casa Rosa Ranc 49.85 84 ⇓P **P 02 34 36.5 -0.2**
baz=50,SNR=6.9
T19A Beclabito 50.01 79 ⇑P **P 02 34 37.9 0.0**
baz=50,SNR=44
MVCO Mesa Verde 50.09 78 ⇑P **P 02 34 38.1 -0.3**
baz=51,SNR=7.7
MVCO Mesa Verde 50.09 78 *e*P **P 02 34 37.8 -0.6**
comp=Z,13nm,0.7s,mb5.0
X16A Lo Mia Camp, P 50.09 83 ⇓P **P 02 34 38.6 0.0**
baz=50,SNR=12
V18A Ganado 50.18 80 ⇑P **P 02 34 39.3 +0.1**
baz=50,SNR=11
ISCO Idaho Springs 50.18 73 *e*P **P 02 34 39.7 +0.5**
ISCO pmax pmax
comp=Z,6.0nm,0.8s,mb4.6
ISCO Idaho Springs 50.18 73 *e*P **P 02 34 39.6 +0.5**
comp=Z,6.3nm,0.8s,mb4.6
SPB4 Spitsbergen Ar 50.23 356 *e*P **P 02 34 38.7 -0.3**
Y16A Circle Bar Ran 50.43 83 ⇓P **P 02 34 41.2 +0.1**
baz=50,SNR=10
X17A Forest Lakes 50.54 82 ⇓P **P 02 34 42.2 +0.3**
baz=50,SNR=5.5
V19A Window Rock 50.72 80 ⇑P **P 02 34 43.3 0.0**
baz=51
115A Sonoran Desert 50.75 85 ⇑P **P 02 34 43.3 -0.2**
baz=51,SNR=8.7
214A Organ Pipe Nat 50.89 86 ⇑P **P 02 34 43.8 -0.8**
baz=51,SNR=6.7
X18A Snowflake 50.94 81 ⇓P **P 02 34 45.0 0.0**
baz=51,SNR=16
Y17A Roosevelt 50.94 83 ⇓P **P 02 34 44.5 -0.5**
baz=51,SNR=18
116A Eloy 51.17 85 ⇑P **P 02 34 46.3 -0.3**
baz=51
Y18A Canyon Day Jun 51.39 82 ⇑P **P 02 34 48.4 0.0**
baz=51,SNR=13
X19A St. Johns 51.42 81 ⇓P **P 02 34 48.5 0.0**
baz=51,SNR=9.3
Z17A San Carlos Hig 51.44 83 ⇓P **P 02 34 49.1 +0.4**
baz=51,SNR=6.1
SDCO Great Sand Dun 51.56 75 *e*P **P 02 34 49.7 +0.1**
comp=Z,9.6nm,0.9s,mb4.8
OGNE Ogallala 51.58 70 *e*P **P 02 34 49.8 +0.1**
comp=Z,66nm,1.3s,mb5.5
Y19A Nutrioso 51.75 81 ⇓P **P 02 34 51.4 +0.4**
baz=52,SNR=9.2
117A Oracle 51.76 84 ⇑P **P 02 34 50.8 -0.3**
baz=52,SNR=10
118A Homack Ranch, 52.20 83 ⇑P **P 02 34 54.1 -0.2**
baz=52,SNR=16
217A Green Valley 52.26 85 ⇓P **P 02 34 54.5 -0.3**
baz=52
119A Ashpeak Ranch, 52.52 83 ⇑P **P 02 34 56.8 +0.1**
baz=52,SNR=7.7
218A Dragoon 52.60 84 ⇓P **P 02 34 57.1 -0.2**
baz=52
LAZ Ladron 52.76 80 *e*P **P 02 34 58.9 +0.4**
ANMO Albuquerque 52.81 79 P **P 02 34 58.9 0.0**
comp=Z,5.5nm,0.9s,mb4.6,baz=313,slow=8.9,SNR=15
ANMO Albuquerque 52.81 79 ⇑*e*P **P 02 34 58.6 -0.2**
ANMO Albuquerque 52.81 79 *e*P **P 02 34 58.9 +0.1**
comp=Z,6.6nm,0.9s,mb4.7
ANMO *e*PcP PcP 02 36 07.2 -0.1
WHN Wuhan 52.90 274 ⇓P **P 02 34 59.8 +0.3**
WHN AMB AMB
comp=Z,135nm,0.8s,mb6.0
ECSD EROS,Sioux Fal 52.94 64 *e*P **P 02 34 58.2 -1.5**
comp=Z,2.4nm,0.5s,mb4.5
ECSD *e*PcP PcP 02 36 07.4 -0.2
318A Bisbee 53.00 84 ⇓P **P 02 35 00.1 -0.2**
baz=53,SNR=6.9
LENM Lemitar 53.02 80 *e*P **P 02 35 00.2 -0.2**
EYMN Ely 53.07 57 *e*P **P 02 34 59.2 -1.4**
comp=Z,9.3nm,0.8s,mb4.9
219A White Tail Can 53.07 83 ⇑P **P 02 35 00.5 -0.3**
baz=53,SNR=5.3
LPM Los Pinos Moun 53.13 79 *e*P **P 02 35 01.8 +0.6**
BNM Barren Site 53.24 79 *e*P **P 02 35 02.4 +0.4**
319A Douglas 53.48 84 ⇓P **P 02 35 03.4 -0.4**
baz=53,SNR=6.1
XAN Xi'an 53.88 281 P **P 02 35 06.7 0.0**
XAN AP pP 02 35 19.7 -5.4
XAN XP sP 02 35 29.7 -3.6
XAN AMB AMB
comp=Z,48nm,1.0s,mb5.5
XAN AMB AMB
comp=Z,308nm,6.5s
XAN LR LR
comp=N,39nm,20.8s
XAN LR LR
comp=E,70nm,26.5s
XAN LR LR
comp=Z,70nm,33.0s
ZALV Zalesovo Beam 54.10 314 P **P 02 35 08.2 +0.2**
comp=Z,1.4nm,0.5s,mb4.2,baz=30,slow=6.2,SNR=4.5
ZALV PcP PcP 02 36 12.6 +0.7
comp=Z,14nm,0.7s,baz=32,slow=4.2,SNR=28
ZALV Zalesovo Beam 54.10 314 P **P 02 35 08.2 +0.2**
ZALV 02 36 12.6
ZALV pmax pmax
comp=Z,1.0nm,0.5s,mb4.1
ZALV pmax pmax
comp=Z,14nm,0.7s,mb5.1
ZALV Zalesovo Beam 54.10 314 P **P 02 35 08.2 +0.2**
ZALV PcP PcP 02 36 12.6 +0.7
NVS Novosibirsk 54.23 315 *e*P **P 02 35 06.7 -2.2**
NVS *e* 02 36 11.4
CBKS Cedar Bluff 54.30 71 *e*P **P 02 35 09.3 -0.4**
CBKS pmax pmax
comp=Z,92nm,1.1s,mb5.7
CBKS Cedar Bluff 54.30 71 *e*P **P 02 35 09.3 -0.4**
comp=Z,92nm,1.1s,mb5.7
LZH Lanzhou 55.58 286 ⇑P **P 02 35 20.3 +1.3**
LZH AP pP 02 35 36.2 -1.3
LZH XP sP 02 35 43.5 -2.1
LZH PP PP 02 37 26.3 +2.9
LZH *e*S **S 02 42 58.5 -0.5**
LZH XS sS 02 43 25.9 -4.5
LZH SS SS 02 46 43.7 -0.7
LZH AMB AMB
comp=Z,117nm,1.0s,mb5.9
LZH AMB AMB
comp=Z,431nm,6.2s
LZH LR LR
comp=N,669nm,16.3s
LZH LR LR
comp=Z,936nm,18.6s
LZH Lanzhou 55.58 286 ⇑P **P 02 35 20.3 +1.3**
LZH *PP pP 02 35 36.2 -1.3
LZH 02 37 26.3
LZH *e*S **S 02 42 58.5 -0.5**
LZH *SS sS 02 43 25.9 -4.5
LZH SS SS 02 46 43.7 -0.7
LZH pmax pmax
comp=Z,117nm,1.0s,mb5.9
LZH MLR MLR
comp=Z,940nm,18.6s
LZH Lanzhou 55.58 286 ⇑P **P 02 35 20.3 +1.3**
comp=Z,117nm,1.0s,mb5.9
LZH pP pP 02 35 36.2 -1.3
LZH sP sP 02 35 43.5 -2.1
LZH PP PP 02 37 26.3 +2.9
LZH *e*S **S 02 42 58.5 -0.5**
LZH sS sS 02 43 25.9 -4.5
LZH SS SS 02 46 43.7 -0.7
LZH LR LR
comp=Z,940nm,18.6s
GTA Gaotai 55.74 292 P **P 02 35 21.0 +0.9**
GTA AP pP 02 35 33.4 -5.2
GTA XP sP 02 35 39.8 -6.9
GTA PCP PcP 02 36 19.5 +1.1
GTA PP PP 02 37 26.5 +1.7
GTA S **S 02 42 59.4 -1.6**
GTA XS sS 02 43 21.3 -11
GTA SS SS 02 46 44.9 -1.9
GTA AMB AMB
comp=Z,45nm,1.0s,mb5.5
GTA AMB AMB
comp=Z,144nm,9.3s
GTA LR LR
comp=N,179nm,12.6s
GTA LR LR
comp=E,268nm,16.2s
GTA LR LR

comp=Z,228nm,21.3s
AMTX Amarillo 55.76 75 *e*P **P 02 35 20.1 -0.2**
comp=Z,8.7nm,0.5s,mb5.0
KSU1 Kansas State U 55.95 68 *e*P **P 02 35 20.3 -1.2**
comp=Z,61nm,0.9s,mb5.6
KSU1 *e*PcP PcP 02 36 19.6 +0.4
WMOK Wichita Mounta 57.61 74 *e*P **P 02 35 33.0 -0.3**
WMOK pmax pmax
comp=Z,10.0nm,0.7s,mb5.0
WMOK Wichita Mounta 57.61 74 *e*P **P 02 35 33.0 -0.3**
comp=Z,9.8nm,0.7s,mb5.0
ARCES ARCESS Array B 57.98 350 P **P 02 35 34.9 -0.5**
comp=Z,7.9nm,0.7s,mb4.9,baz=24,slow=7.6,SNR=48
ARCES LR LR 03 03 08.9
comp=Z,94nm,19.9s,baz=195,slow=39
ARCES ARCESS Array B 57.98 350 P **P 02 35 34.9 -0.5**
ARCES pmax pmax
comp=Z,8.0nm,0.7s
ARCES MLR MLR
comp=Z,94nm,19.9s
ARE0 ARCESS Array S 57.98 350 *e*P **P 02 35 34.7 -0.7**
TXAR Lajitas Array 58.38 82 P **P 02 35 38.2 -0.6**
comp=Z,5.2nm,0.6s,mb4.7,baz=300,slow=4.8,SNR=68
TXAR LR LR 02 57 49.4
comp=Z,106nm,19.7s,baz=20,slow=33
TXAR Lajitas Array 58.38 82 P **P 02 35 38.2 -0.6**
TXAR LR LR 02 57 49.4
KURK Kurchatov 59.09 314 P **P 02 35 42.5 -0.9**
comp=Z,79nm,0.4s,mb6.1,SNR=6.1
KURK Kurchatov 59.09 314 LR LR 03 03 17.2
comp=Z,224nm,18.9s,baz=45,slow=38
KURK Kurchatov 59.09 314⇑ *e*P **P 02 35 42.1 -1.3**
KURK pmax pmax
comp=Z,9.0nm,0.9s,mb4.8
KURK Kurchatov 59.09 314 *e*P **P 02 35 42.1 -1.3**
comp=Z,9.5nm,0.8s,mb4.9
KURK *e*PcP PcP 02 36 31.6 +0.2
HDIL Hopedale 59.12 63 *e*P **P 02 35 42.7 -1.1**
comp=Z,18nm,0.7s,mb5.2
CD2 Chengdu 59.19 282 P **P 02 35 44.5 +0.1**
CD2 AP pP 02 36 00.5 -2.6
CD2 XP sP 02 36 07.5 -3.7
CD2 PP PP 02 37 57.2 +1.6
CD2 S **S 02 43 44.8 -1.6**
CD2 XS sS 02 44 12.1 -6.1
CD2 SS SS 02 47 41.0 -0.3
CD2 AMB AMB
comp=Z,30nm,0.7s,mb5.4
CD2 AMB AMB
comp=Z,150nm,6.2s
CD2 LR LR
comp=N,180nm,14.2s
CD2 LR LR
comp=Z,160nm,16.2s
WMQ Urumqi 59.47 303 *e*P **P 02 35 43.0 -3.1**
SCHQ Schefferville 59.72 39 P **P 02 35 45.5 -2.2**
comp=Z,5.8nm,1.1s,mb4.5,baz=349,slow=16,SNR=3.0
SCHQ LR LR 03 04 36.2
comp=Z,406nm,18.4s,baz=308,slow=39
SCHQ Schefferville 59.72 39 P **P 02 35 45.5 -2.2**
SCHQ LR LR 03 04 36.2
CCM Cathedral Cave 59.74 66 *e*P **P 02 35 46.2 -1.9**
CCM *e* 02 36 34.1
CCM pmax pmax
comp=Z,16nm,0.9s,mb5.0
CCM Cathedral Cave 59.74 66 *e*P **P 02 35 46.2 -1.9**
comp=Z,16nm,0.9s,mb5.0
CCM *e*PcP PcP 02 36 34.1 -0.2
JCT Junction City 59.95 78 *e*P **P 02 35 48.8 -0.8**
JCT pmax pmax
comp=Z,11nm,0.6s,mb5.1
JCT Junction City 59.95 78 *e*P **P 02 35 48.8 -0.9**
comp=Z,10nm,0.6s,mb5.0
MK31 Makanchi Array 60.13 309 *i* P **P 02 35 50.5 -0.1**
MK31 pmax pmax
comp=Z,5.0nm,0.5s,mb4.8
MK31 Makanchi Array 60.13 309 *e*P **P 02 35 50.3 -0.3**
MKAR Makanchi Array 60.13 309 P **P 02 35 49.4 -1.2**
comp=Z,3.4nm,0.4s,mb4.8,baz=48,slow=5.2,SNR=17
MKAR LR LR 03 01 56.8
comp=Z,156nm,21.6s,baz=247,slow=36
MKAR Makanchi Array 60.13 309 *i* P **P 02 35 50.2 -0.4**
MKAR pmax pmax
comp=Z,3.0nm,0.4s
MKAR Makanchi Array 60.13 309 P **P 02 35 49.4 -1.2**
MKAR LR LR 03 01 56.8
FVM French Village 60.26 65 *e*P **P 02 35 50.6 -1.0**
FVM pmax pmax
comp=Z,24nm,1.0s,mb5.2
FVM French Village 60.26 65 *e*P **P 02 35 50.6 -1.0**
comp=Z,24nm,1.0s,mb5.2
GYA Guiyang 60.56 276⇑ *i*P **P 02 35 51.9 -1.9**
GYA AP pP 02 36 08.8 -3.8
GYA XP sP 02 36 15.4 -5.3
GYA PCP PcP 02 36 38.2 +0.5
GYA PP PP 02 38 08.6 +0.8
GYA SCP ScP 02 40 31.2 -1.0
GYA PCS PcS 02 40 37.9 -2.5
GYA S **S 02 44 01.7 -2.4**
GYA XS sS 02 44 28.8 -7.1
GYA SS SS 02 48 01.7 -1.2
GYA AMB AMB
comp=Z,20nm,1.0s,mb5.1
GYA AMB AMB
comp=Z,140nm,6.9s
GYA LR LR
comp=N,690nm,19.8s
GYA LR LR
comp=E,560nm,19.2s
GYA LR LR
comp=Z,540nm,17.9s
MIAR Mount Ida 60.83 70 *e*P **P 02 35 55.1 -0.5**
MIAR pmax pmax
comp=Z,79nm,1.4s,mb5.5
MIAR Mount Ida 60.83 70 *e*P **P 02 35 55.1 -0.5**
comp=Z,78nm,1.4s,mb5.5
VOSK Vostochnaya 60.92 319 P **P 02 35 56.1 +0.2**
VOSK pmax pmax
comp=Z,7.0nm,1.0s,mb4.7
BVA0 Borovoye Array 60.93 320 *i* P **P 02 35 56.3 +0.3**
BVA0 pmax pmax
comp=Z,2.0nm,0.5s,mb4.4
BRVK Borovoye 60.95 320 P **P 02 35 57.9 +1.8**
comp=Z,150nm,0.5s,mb6.3,SNR=5.1
BRVK Borovoye 60.95 320 *e*P **P 02 35 56.1 0.0**
BRVK *e* 02 36 39.1
BRVK pmax pmax
comp=Z,11nm,0.5s,mb5.1
BRVK Borovoye 60.95 320 *e*P **P 02 35 56.1 0.0**
comp=Z,11nm,0.5s,mb5.1
BRVK *e*PcP PcP 02 36 39.1 +0.3
OLIL Olney 61.05 63 *e*P **P 02 35 56.3 -0.6**
comp=Z,90nm,0.9s,mb5.8
UALR University of 61.39 69 *e*P **P 02 35 57.9 -1.5**
comp=Z,8.2nm,0.7s,mb4.9
PARMO Parma 61.56 66 *e*P **P 02 35 59.9 -0.6**
USIN University of 61.83 64 *e*P **P 02 36 01.9 -0.4**
comp=Z,116nm,0.9s,mb5.9
NATX Nacogdoches 62.15 73 *e*P **P 02 36 04.9 +0.3**
HALT Halls 62.33 66 *e*P **P 02 36 05.3 -0.4**
WCI Wyandotte Cave 62.41 63 *e*P **P 02 36 05.6 -0.5**
WCI pmax pmax
comp=Z,35nm,0.8s,mb5.4
WCI Wyandotte Cave 62.41 63 *e*P **P 02 36 05.5 -0.6**
comp=Z,35nm,0.8s,mb5.4
ARU Arti 62.60 328 *c i*P **P 02 36 06.9 -0.2**
ARU *e* 02 36 44.9
ARU *e* 02 38 21.6
ARU *e*S **S 02 44 33.1 +4.0**
ARU pmax pmax
comp=Z,9.0nm,1.0s,mb4.7
ARU Arti 62.60 328 *e*P **P 02 36 06.7 -0.4**
comp=Z,6.1nm,0.6s,mb4.7
ARU *e*PcP PcP 02 36 45.1 -0.3
HKT Hockley 62.74 76 *e*P **P 02 36 08.7 +0.3**
HKT pmax pmax
comp=Z,12nm,1.1s,mb4.7
HKT Hockley 62.74 76 *e*P **P 02 36 08.7 +0.3**
comp=Z,12nm,1.1s,mb4.7
WVT Waverly 63.03 65 *e*P **P 02 36 09.7 -0.6**
WVT pmax pmax
comp=Z,19nm,0.8s,mb5.1
WVT Waverly 63.03 65 *e*P **P 02 36 09.7 -0.6**
comp=Z,19nm,0.8s,mb5.1
OXF Oxford 63.28 68 *e*P **P 02 36 11.5 -0.5**
OXF pmax pmax
comp=Z,189nm,1.0s,mb6.0
OXF Oxford 63.28 68 *e*P **P 02 36 11.5 -0.5**
comp=Z,189nm,1.0s,mb6.0
JOF Joensuu 63.51 345 *e*p **P 02 36 11.7 -1.3**
comp=Z,8.3nm,0.6s,mb4.7
JOF Joensuu 63.51 345 *e*P **P 02 36 11.7 -1.3**
JOF pmax pmax
comp=Z,8.0nm,0.6s,mb4.7
KMI Kunming 63.95 278 P **P 02 36 17.0 +0.5**
KMI AP pP 02 36 32.7 -2.8
KMI XP sP 02 36 39.0 -4.5
KMI PP PP 02 38 40.1 +2.4
KMI S **S 02 44 43.6 -3.2**
KMI XS sS 02 45 13.8 -5.1
KMI SS SS 02 48 54.5 -1.5
KMI AMB AMB
comp=Z,32nm,0.9s,mb5.2
KMI LR LR
comp=Z,113nm,32.9s
KMI Kunming 63.95 278 P **P 02 36 17.0 +0.5**
KMI *PP pP 02 36 32.7 -2.8
KMI 02 38 40.1
KMI S **S 02 44 43.6 -3.2**
KMI *SS sS 02 45 13.8 -5.1
KMI SS SS 02 48 54.5 -1.5
KMI pmax pmax
comp=Z,32nm,0.9s,mb5.2
KMI MLR MLR
comp=Z,110nm,22.9s
KMI Kunming 63.95 278 P **P 02 36 17.0 +0.5**
comp=Z,32nm,0.9s,mb5.2
KMI pP pP 02 36 32.7 -2.8
KMI sP sP 02 36 39.0 -4.5
KMI PP PP 02 38 40.1 +2.4
KMI S **S 02 44 43.6 -3.2**
KMI sS sS 02 45 13.8 -5.1
KMI SS SS 02 48 54.5 -1.5
KMI LR LR
comp=Z,110nm,32.9s
SWET Sewanee 64.76 65 *e*P **P 02 36 20.6 -1.1**
BINY Binghamton 64.98 53 *e*P **P 02 36 23.2 +0.2**
comp=Z,8.0nm,0.6s,mb4.7
KAF Kangasniemi 65.01 347 *e*p **P 02 36 21.7 -1.1**
comp=Z,8.4nm,0.5s,mb4.8
KAF Kangasniemi 65.01 347 *e*P **P 02 36 21.7 -1.1**
KAF pmax pmax
comp=Z,8.0nm,0.5s,mb4.8
TZTN Tazewell 65.13 62 *e*P **P 02 36 24.1 0.0**
comp=Z,25nm,0.9s,mb5.0
CPCT Cooper Cave 65.39 64 *e*P **P 02 36 25.0 -0.8**
TKL Tuckaleechee C 65.65 63 P **P 02 36 27.2 -0.2**
comp=Z,38nm,0.8s,mb5.3,baz=304,slow=2.8,SNR=30
TKL Tuckaleechee C 65.65 63 P **P 02 36 27.2 -0.2**
TKL pmax pmax
comp=Z,38nm,0.8s,mb5.3
TKL Tuckaleechee C 65.65 63 *e*P **P 02 36 26.8 -0.6**
LRAL Lakeview Retre 65.74 67 *e*P **P 02 36 26.6 -1.5**
comp=Z,20nm,0.8s,mb5.0
ELN Prospectdale 66.16 60 *e*P **P 02 36 31.0 +0.3**
BRAL Brewton 67.18 69 *e*P **P 02 36 37.1 -0.1**
comp=Z,124nm,1.1s,mb5.7
GOGA Godfrey 67.47 64 *e*P **P 02 36 38.5 -0.6**
GOGA pmax pmax
comp=Z,63nm,0.9s,mb5.5
GOGA Godfrey 67.47 64 *e*P **P 02 36 38.5 -0.6**
comp=Z,63nm,0.9s,mb5.5
NB2 NORSAR Subarra 67.51 355 P **P 02 36 38.3 -0.5**
comp=Z,4.1nm,0.6s,mb4.4,baz=5.9,slow=6.5
NOA NORSAR Array B 67.51 355 P **P 02 36 38.5 -0.3**
comp=Z,3.8nm,0.5s,mb4.5,baz=6.1,slow=6.4,SNR=32
NOA LR LR 03 04 33.7
comp=Z,94nm,19.9s,baz=0.0,slow=34
LSA Lhasa 67.62 290 P **P 02 36 42.1 +2.0**
LSA Lhasa 67.62 290 *e*P **P 02 36 42.4 +2.3**
LSA pmax pmax
comp=Z,197nm,1.0s,mb5.9
LSA Lhasa 67.62 290 *e*P **P 02 36 42.4 +2.3**
comp=Z,198nm,1.0s,mb5.9
AKTO Aktyubinsk 67.70 325 LR LR 03 09 39.4
comp=Z,196nm,18.2s,baz=221,slow=39
AKTO Aktyubinsk 67.70 325 P **P 02 36 39.4 -0.8**
AKTO pmax pmax
comp=Z,2.0nm,0.7s,mb4.1
AB31 Akbulak array 67.96 323 *e*P **P 02 36 42.0 +0.1**
AB31 pmax pmax
comp=Z,2.0nm,0.4s,mb4.3
JSC Jenkinsville 68.06 62 *e*P **P 02 36 42.8 0.0**
VSU Vasula 68.46 346 *c i*P **P 02 36 44.1 -0.7**
LRW Lerwick 68.66 1 *e*P **P 02 36 46.1 +0.1**
LRW AMb AMB 02 36 55.4
comp=Z,126nm,1.6s,mb5.5
OBN Obninsk 69.81 339 *c i*P **P 02 36 52.5 -0.7**
OBN pmax pmax
comp=Z,16nm,0.7s,mb5.0
OBN Obninsk 69.81 339 *e*P **P 02 36 53.1 -0.2**
comp=Z,13nm,0.6s,mb4.9
SHL Shillong 70.25 286⇑ *i*P **P 02 36 56.5 +0.1**
MVH1 Achvaich 70.80 3 *e*P **P 02 36 58.3 -0.9**
CHTO Chiang Mai 70.98 276 *e*P **P 02 37 00.5 -0.4**
CHTO pmax pmax
comp=Z,13nm,1.0s,mb4.7
CHTO Chiang Mai 70.98 276 *e*P **P 02 37 00.5 -0.4**
comp=Z,13nm,1.0s,mb4.7
MCD Coleburn Disti 71.17 3 *e*P **P 02 37 01.0 -0.4**
CMAR Chiang Mai Arr 71.25 276 P **P 02 37 03.1 +0.5**
comp=Z,9.6nm,0.8s,mb4.7,baz=27,slow=6.6,SNR=25
CMAR LR LR 03 09 43.1
comp=Z,91nm,19.0s,baz=57,slow=37
CMAR Chiang Mai Arr 71.25 276⇑ *e*P **P 02 37 03.2 +0.7**
MDO Dochfour 71.27 3 *e*P **P 02 37 02.3 +0.2**
ODAN Odare 71.94 290 *e*P **P 02 37 07.6 +1.0**
comp=Z,155nm,1.0s,mb5.8
ODAN Odare 71.94 290 *e*P **P 02 37 07.7 +1.1**
comp=Z,155nm,1.0s,mb5.8
GUN Gumba 72.03 292 *e*P **P 02 37 08.4 +1.3**
comp=Z,342nm,0.4s
GUN Gumba 72.03 292 *e*P **P 02 37 08.6 +1.5**
comp=Z,342nm,0.4s
JIRN Jiri 72.04 292 *e*P **P 02 37 08.7 +1.5**
comp=Z,368nm,0.7s,mb6.3
JIRN Jiri 72.04 292 *e*P **P 02 37 08.9 +1.7**
comp=Z,368nm,0.7s,mb6.3
RAMN Ramite 72.34 291 *e*P **P 02 37 10.0 +1.0**
comp=Z,423nm,0.6s
RAMN Ramite 72.34 291 *e*P **P 02 37 10.2 +1.2**
comp=Z,423nm,0.6s
KKN Kakani 72.47 293 *e*P **P 02 37 11.0 +1.2**
KKN Kakani 72.47 293 *e*P **P 02 37 11.3 +1.5**
KKN Kakani 72.47 293 *e*P **P 02 37 11.3 +1.5**
comp=Z,194nm,0.6s,mb6.1
EBH Black Hill 72.50 3 *e*P **P 02 37 09.9 +0.4**
EAB Aberfoyle 72.53 3 *e*P **P 02 37 08.9 -0.7**
PKIN Phulchoki 72.56 292 *e*P **P 02 37 11.4 +1.1**
comp=Z,88nm,0.6s,mb5.8
PKIN Phulchoki 72.56 292 *e*P **P 02 37 11.8 +1.5**
comp=Z,88nm,0.6s,mb5.8
GKN Gorkha 72.68 293 *e*P **P 02 37 12.2 +1.2**
comp=Z,172nm,0.7s,mb6.0
GKN Gorkha 72.68 293 *e*P **P 02 37 12.2 +1.2**
comp=Z,100nm,0.5s,mb6.0
DMN Daman 72.70 293 *e*P **P 02 37 12.5 +1.3**
comp=Z,153nm,0.8s,mb5.9
DMN Daman 72.70 293 *e*P **P 02 37 12.9 +1.7**
ESY Stoneypath 72.85 2 *e*P **P 02 37 11.6 +0.1**
EAU Auchinoon 72.90 3 *e*P **P 02 37 12.2 +0.3**
DANN Dangsing 72.92 294 *e*P **P 02 37 13.4 +1.0**
comp=Z,230nm,0.9s,mb6.0
DANN Dangsing 72.92 294 *e*P **P 02 37 13.8 +1.4**
comp=Z,230nm,0.9s,mb6.0
COEN Coen 73.27 219 *e*P **P 02 37 13.7 -0.7**
comp=Z,4.1nm,0.9s,mb4.3
PPT Papeete 73.28 151 LR LR 03 03 28.2
comp=Z,112nm,20.5s,baz=254,slow=31
SUW Suwalki 73.28 347 *e*P **P 02 37 13.3 -0.8**
SUW Suwalki 73.28 347 *e*P **P 02 37 12.9 -1.2**
SUW *e* pP 02 37 29.4 -4.0
SUW pmax pmax
comp=Z,21nm,0.9s,mb5.0
SUW Suwalki 73.28 347 *e*P **P 02 37 12.9 -1.2**
comp=Z,21nm,0.9s,mb5.0
SUW *e*PcP PcP 02 37 29.4 -0.8
XSO Sourhope Farm 73.29 2 *e*P **P 02 37 13.9 -0.2**
ESK Eskdalemuir 73.44 3 *e*P **P 02 37 15.4 +0.4**
ESK pmax pmax
comp=Z,7.0nm,0.8s,mb4.5
ESK Eskdalemuir 73.44 3 *e*P **P 02 37 15.4 +0.3**
comp=Z,6.6nm,0.8s,mb4.5
KOLN Koldanda 73.45 294 *e*P **P 02 37 16.6 +1.1**
KOLN Koldanda 73.45 294 *e*P **P 02 37 16.9 +1.4**
comp=Z,79nm,0.9s,mb5.6
ECK Cauldkaine Hil 73.58 3 *e*P **P 02 37 15.9 +0.1**
GAL1 Galloway 73.83 4 P **P 02 37 16.8 -0.6**
GAL1 AMb AMB 02 37 22.7
comp=Z,33nm,1.7s,mb4.8
GAL1 Galloway 73.83 4 *e*P **P 02 37 16.8 -0.6**
GAL1 AMb AMB 02 37 22.7
comp=Z,33nm,1.7s,mb4.8
XAL Allendale 73.92 2 *e*P **P 02 37 17.7 -0.2**
SMLA Simla 74.44 300 *e*P **P 02 37 22.2 +0.9**
SMLA AMb AMB 02 37 24.9
comp=Z,38nm,1.7s,mb4.8
BSEG Bad Segeberg 74.64 355 *e*P **P 02 37 22.8 +0.7**
BSEG pmax pmax
comp=Z,16nm,0.8s,mb4.8
BSEG Bad Segeberg 74.64 355 *e*P **P 02 37 22.8 +0.7**
comp=Z,16nm,0.8s,mb4.8
BOK Bokaro 75.15 289 *e*P **P 02 37 26.6 +1.1**
AKASG Malin Array Be 75.47 342 P **P 02 37 26.4 -0.5**
comp=Z,3.7nm,0.3s,mb4.5,baz=19,slow=6.1,SNR=26
AKASG Malin Array Be 75.47 342 P **P 02 37 26.4 -0.5**
AKASG pmax pmax
comp=Z,4.0nm,0.4s
AKBB Malin Array Si 75.47 342 *e*P **P 02 37 26.5 -0.4**
KIEV Kiev 75.48 342 *e*P **P 02 37 26.4 -0.6**
KIEV pmax pmax
comp=Z,12nm,0.6s,mb4.8
KIEV Kiev 75.48 342 *e*P **P 02 37 26.4 -0.6**
comp=Z,12nm,0.6s,mb4.8
KBL Kabul 75.94 308 *e*P **P 02 37 29.6 -0.2**
KBL pmax pmax
comp=Z,7.0nm,0.7s,mb4.5
KBL Kabul 75.94 308 *e*P **P 02 37 29.6 -0.2**
comp=Z,6.8nm,0.7s,mb4.5
IBBN Ibbenburen 76.40 356 *e*P **P 02 37 32.3 +0.2**
comp=Z,21nm,0.6s,mb5.0
CLZ Clausthal 76.73 354 *e*P **P 02 37 34.7 +0.7**
CLZ pmax pmax
comp=Z,16nm,0.7s,mb4.9
CLZ Clausthal 76.73 354 *e*P **P 02 37 34.7 +0.7**
comp=Z,16nm,0.7s,mb4.9
KAKA Kakadu 76.83 229 *e*P **P 02 37 34.0 -1.0**
comp=Z,18nm,0.9s,mb4.8
CLL Collm 77.08 353 *i* P **P 02 37 35.4 -0.6**
CLL *i* 02 37 46.2
CLL pmax pmax
comp=Z,7.0nm,1.0s,mb4.3
CLL Collm 77.08 353 *e*P **P 02 37 36.4 +0.4**
comp=Z,7.0nm,1.0s,mb4.3
CLL Collm 77.08 353 *i* P **P 02 37 35.4 -0.6**
comp=Z,7.0nm,1.0s,mb4.3
CLL *i* x x 02 37 40.1
CLL *i* PcP PcP 02 37 46.2 -0.4
HGH Gray Hill 77.13 3 *e*P **P 02 37 35.5 -0.8**
LVV L'vov 77.23 345 *e*P **P 02 37 37.4 +0.6**
KSM Kuching 77.28 256 *e*P **P 02 37 37.8 +0.2**
BUG Bochum--Univer 77.28 356 *e*P **P 02 37 37.7 +0.6**
comp=Z,12nm,0.7s,mb4.7
BRG Berggiesshubel 77.43 352 *e*P **P 02 37 37.6 -0.3**
BRG pmax pmax
comp=Z,5.0nm,0.8s,mb4.3
BRG Berggiesshubel 77.43 352 *e*P **P 02 37 38.4 +0.5**
comp=Z,8.0nm,0.8s,mb4.5
BRG Berggiesshubel 77.43 352 *e*P **P 02 37 37.5 -0.4**
comp=Z,7.7nm,0.8s,mb4.5
UPC Upice 77.60 351 *e*P **P 02 37 39.4 +0.5**
KWP Kalwaria 77.61 346 *e*P **P 02 37 39.8 +0.8**
KWP Kalwaria 77.61 346⇑ *i*P **P 02 37 39.2 +0.2**
KWP Kalwaria 77.61 346 *e*P **P 02 37 39.2 +0.2**
comp=Z,32nm,0.6s,mb5.2
PVCC Panska Ves 77.72 352 *e*P **P 02 37 40.2 +0.7**
PVCC AMS AMS 03 11 10.0
comp=Z,100nm,15.4s
DPC Dobruska-Polom 77.72 350 *e*P **P 02 37 39.7 +0.1**
DPC AMS AMS 03 14 00.0
comp=Z,200nm,18.6s
CTAO Charters Tower 77.75 214 *e*P **P 02 37 39.4 -0.6**
CTAO pmax pmax
comp=Z,9.0nm,1.0s,mb4.5
CTAO Charters Tower 77.75 214 *e*P **P 02 37 39.4 -0.6**
comp=Z,8.7nm,1.0s,mb4.4
UBBA Unterbreizbach 77.77 355 *e*P **P 02 37 40.0 +0.2**
comp=Z,4.0nm,0.8s,mb4.2
MOX Moxa 77.84 353 *e*P **P 02 37 40.1 -0.1**
comp=Z,15nm,1.1s,mb4.6
MOX Moxa 77.84 353 *e*P **P 02 37 40.1 -0.1**
MOX pmax pmax
comp=Z,15nm,1.1s,mb4.6
MOX Moxa 77.84 353 *e*P **P 02 37 40.2 0.0**
comp=Z,9.0nm,1.0s,mb4.5
TANN Tannenbergstha 78.00 353 *e*P **P 02 37 41.7 +0.5**
comp=Z,7.0nm,1.2s,mb4.3
HGN Heimansgroeve 78.01 357 *e*P **P 02 37 41.2 +0.1**
comp=Z,15nm,0.8s,mb4.8
STHS Stebnicka Huta 78.04 347 *i* P **P 02 37 42.3 +0.9**
STHS pmax pmax
comp=Z,6.0nm,0.7s,mb4.4
STHS Stebnicka Huta 78.04 347 *i* P **P 02 37 42.3 +0.9**
comp=Z,6.2nm,0.7s,mb4.5
MORC Moravsky Berou 78.15 350 *e*P **P 02 37 42.4 +0.4**
MORC pmax pmax
comp=Z,3.0nm,0.7s,mb4.1
MORC Moravsky Berou 78.15 350 *e*P **P 02 37 42.4 +0.4**
comp=Z,2.5nm,0.7s,mb4.0
MEM Membach 78.16 357 P **P 02 37 41.8 -0.2**
comp=Z,6.7nm,0.9s,mb4.4
NIE Niedzica 78.16 348 *e*P **P 02 37 42.4 +0.4**
NKC Novy Kostel 78.19 353 *e*P **P 02 37 42.4 +0.2**
NKC AMS AMS 03 13 20.0
PRU Pruhonice 78.25 352 *e*P **P 02 37 42.7 +0.2**
PRU AMS AMS 03 08 10.0
comp=Z,100nm,18.0s
MENF Mencas 78.28 360 *e*P **P 02 37 46.6 +3.9**
KOLS Kolonicke sedl 78.36 346 *i* P **P 02 37 43.3 +0.2**
BCLA Clavier 78.37 358 P **P 02 37 43.1 -0.1**
comp=Z,11nm,2.5s,mb4.1
TNS Taunus Mts 78.45 356 *e*P **P 02 37 43.8 +0.2**
TNS pmax pmax
comp=Z,12nm,0.7s,mb4.7
TNS Taunus Mts 78.45 356 *e*P **P 02 37 43.8 +0.2**
comp=Z,12nm,0.7s,mb4.7
KIV Kislovodsk 78.45 331 *e*P **P 02 37 44.0 +0.3**
KIV pmax pmax
comp=Z,16nm,0.9s,mb4.8
KIV MLR MLR
comp=Z,174nm,20.0s
KIV Kislovodsk 78.45 331 *e*P **P 02 37 44.3 +0.5**
comp=Z,13nm,0.8s,mb4.7
MANZ Manzenberg 78.46 353 *e*P **P 02 37 43.9 +0.2**
comp=Z,4.0nm,0.8s,mb4.2
CRVS Cervenica-Dubn 78.51 347 *i* P **P 02 37 44.1 +0.1**
ROTZ Rotzenmuhle 78.67 353 *e*P **P 02 37 45.1 +0.3**
comp=Z,6.0nm,1.0s,mb4.4
GIVF Givet 78.70 358 *e*P **P 02 37 45.0 0.0**
DOU Dourbes 78.71 358 P **P 02 37 45.1 +0.1**
VRAC Vranov 78.72 350⇑ *i*P **P 02 37 45.3 +0.2**
VRAC Vranov 78.72 350⇑ P **P 02 37 45.3 +0.2**
BAIF Baives 78.76 358 *e*P **P 02 37 45.5 +0.2**
comp=Z,22nm,0.8s,mb4.7
BAIF Baives 78.76 358 *e*P **P 02 37 45.5 +0.2**
BAIF pmax pmax
comp=Z,11nm,0.8s,mb4.7
BAIF Baives 78.76 358 *e*P **P 02 37 45.5 +0.2**
comp=Z,11nm,0.8s,mb4.7
GRA1 Grafenberg Arr 78.81 354 *e*P **P 02 37 45.9 +0.3**
comp=Z,18nm,0.9s,mb4.9
GRF Grafenberg Arr 78.81 354 *e*P **P 02 37 45.9 +0.3**
GRF pmax pmax
comp=Z,18nm,0.9s,mb4.9
GRF Grafenberg Arr 78.81 354 *e*P **P 02 37 45.9 +0.3**
GRF pmax pmax
comp=Z,18nm,0.9s,mb4.9
GRF Grafenberg Arr 78.81 354 *e*P **P 02 37 45.9 +0.3**
comp=Z,18nm,0.9s,mb4.9
ABH Alteburg 78.83 356 *e*P **P 02 37 46.5 +0.8**
TREC Trest 78.85 351 *e*P **P 02 37 45.9 +0.1**
TREC AMS AMS 03 12 50.0
comp=Z,200nm,18.7s
RUP Ruppelstein 79.03 356 *e*P **P 02 37 46.7 -0.1**
TOD Tromm 79.05 355 *e*P **P 02 37 46.6 -0.3**
WLF Walferdange 79.10 357 P **P 02 37 47.3 +0.1**

BATI Baumata 79.11 238 P P 02 37 47.6 0.0
comp=Z,12nm,0.3s,mb5.2,baz=2.7,slow=0.5,SNR=4.8
BATI LR LR 03 12 56.7
comp=Z,180nm,19.7s,baz=126,slow=36
BUR08 Bucovina Ar. S 79.14 344 *eP* **P 02 37 47.7 +0.3**
ANN Anapa 79.17 335 *eP* **P 02 37 46.1 -1.6**
ANN *e*PP pP 02 38 02.5 -4.7
ANN *eS* S 02 47 44.4 +3.1
ANN pmax pmax
comp=Z,15nm,1.3s,mb4.7
BURAR Bucovina Array 79.17 344 ⇑*i*P **P 02 37 47.9 +0.3**
BURAR Bucovina Array 79.17 344 ⇑P **P 02 37 47.9 +0.3**
KHC Kasperske Hory 79.19 352 *eP* **P 02 37 47.6 -0.1**
KHC Kasperske Hory 79.19 352 *eP* **P 02 37 47.9 +0.2**
KHC AMS AMS 03 16 30.0
comp=Z,100nm,13.8s
WET Wettzell 79.23 352 *eP* **P 02 37 48.0 +0.1**
WET pmax pmax
comp=Z,6.0nm,1.1s,mb4.3
WET Wettzell 79.23 352 *eP* **P 02 37 48.0 +0.1**
comp=Z,6.0nm,1.1s,mb4.3
VYHS Vyhne 79.26 348 *i*P **P 02 37 47.2 -0.9**
AJM Ajmer 79.45 299 *eP* **P 02 37 49.9 +0.3**
AJM AMb AMB 02 37 51.5
comp=Z,18nm,0.6s,mb5.1
GEC2 GERESS Array S 79.46 352 *eP* **P 02 37 49.7 +0.5**
GEC2 pmax pmax
comp=Z,7.0nm,0.7s,mb4.6
GEC2 GERESS Array S 79.46 352 *eP* **P 02 37 49.7 +0.5**
comp=Z,7.0nm,0.7s,mb4.6
GERES GERESS Array B 79.46 352 P **P 02 37 49.2 +0.1**
comp=Z,4.4nm,0.6s,mb4.5,baz=27,slow=5.3,SNR=56
GERES LR LR 03 16 44.5
comp=Z,89nm,19.1s,baz=19,slow=38
GERES GERESS Array B 79.46 352 P **P 02 37 49.2 0.0**
GERES pmax pmax
comp=Z,4.0nm,0.6s
GERES MLR MLR
comp=Z,89nm,19.1s
MODS Modra-Piesok 79.57 349 *eP* **P 02 37 49.3 -0.5**
MODS pmax pmax
comp=Z,4.0nm,0.8s,mb4.3
MODS Modra-Piesok 79.57 349 *eP* **P 02 37 49.3 -0.5**
comp=Z,3.6nm,0.8s,mb4.2
PSZ Piszkesteto 79.69 348 *eP* **P 02 37 50.5 +0.1**
PSZ pmax pmax
comp=Z,7.0nm,0.9s,mb4.5
PSZ Piszkesteto 79.69 348 *eP* **P 02 37 50.5 +0.1**
comp=Z,7.3nm,0.9s,mb4.5
ZST Bratislava 79.76 350 *eP* **P 02 37 52.1 +1.3**
TGUH Tegucigalpa,Un 79.83 80 *eP* **P 02 37 52.9 +1.2**
comp=Z,28nm,0.9s,mb5.1
STU Stuttgart 79.86 355 *eP* **P 02 37 51.9 +0.6**
comp=Z,157nm,3.2s
SIM Simferopol' 79.87 337 *eP* **P 02 37 51.5 0.0**
SIM pmax pmax
comp=Z,8.0nm,1.1s,mb4.5
SIM MLR MLR
comp=Z,310nm,19.0s
FLN La Foliniere 80.06 1 *eP* **P 02 37 52.1 -0.3**
comp=Z,23nm,0.8s,mb4.8
FLN *e*MLR MLR
comp=Z,212nm,21.5s
FLN La Foliniere 80.06 1 *eP* **P 02 37 52.1 -0.3**
FLN pmax pmax
comp=Z,11nm,0.8s,mb4.7
FLN MLR MLR
comp=Z,210nm,21.5s
FLN La Foliniere 80.06 1 *eP* **P 02 37 52.1 -0.3**
comp=Z,11nm,0.8s,mb4.8
FLN LR LR
comp=Z,210nm,21.5s
CONA Conrad Observa 80.16 350 ⇑*i*P **P 02 37 53.5 +0.5**
comp=Z,8.0nm,0.6s,mb4.7
CSNA Conrad Observa 80.16 350 ⇑*i*P **P 02 37 53.4 +0.5**
comp=Z,8.1nm,0.6s,mb4.7
LDF La Druitiere 80.24 1 *eP* **P 02 37 52.9 -0.5**
comp=Z,12nm,0.5s,mb4.7
LDF La Druitiere 80.24 1 *eP* **P 02 37 52.9 -0.5**
LDF pmax pmax
comp=Z,6.0nm,0.5s,mb4.7
LDF La Druitiere 80.24 1 *eP* **P 02 37 52.9 -0.5**
comp=Z,6.1nm,0.5s,mb4.7
MEZF Maizieres J'vi 80.30 358 *eP* **P 02 37 53.9 +0.2**
CDF Champ du Feu 80.31 356 *eP* **P 02 37 53.6 -0.2**
comp=Z,9.2nm,0.7s,mb4.4
CDF Champ du Feu 80.31 356 *eP* **P 02 37 53.6 -0.2**
CDF pmax pmax
comp=Z,5.0nm,0.7s,mb4.5
CDF Champ du Feu 80.31 356 *eP* **P 02 37 53.6 -0.2**
comp=Z,4.6nm,0.7s,mb4.4
FUR Furstenfeldbru 80.33 353 *eP* **P 02 37 54.5 +0.6**
FUR pmax pmax
comp=Z,10.0nm,0.9s,mb4.7
FUR Furstenfeldbru 80.33 353 *eP* **P 02 37 54.5 +0.6**
comp=Z,10.0nm,0.9s,mb4.7
BFO Black Forest 80.34 355 *eP* **P 02 37 54.5 +0.6**
BFO pmax pmax
comp=Z,8.0nm,0.9s,mb4.5
BFO Black Forest 80.34 355 *eP* **P 02 37 54.5 +0.6**
comp=Z,8.0nm,0.9s,mb4.5
DRGR 80.38 345 ⇓*i*P **P 02 37 54.5 +0.3**
DRGR 80.38 345 ⇓P **P 02 37 54.5 +0.3**
MOA Molln 80.40 351 ⇑*i*P **P 02 37 54.7 +0.4**
comp=Z,3.5nm,0.7s,mb4.3
ROSF Rostrenen 80.42 3 *eP* **P 02 37 53.6 -0.7**
comp=Z,7.5nm,0.8s,mb4.3
ROSF Rostrenen 80.42 3 *eP* **P 02 37 53.6 -0.7**
ROSF pmax pmax
comp=Z,4.0nm,0.8s,mb4.3
ROSF Rostrenen 80.42 3 *eP* **P 02 37 53.6 -0.7**
comp=Z,3.8nm,0.8s,mb4.3
GRR Gorron 80.43 2 *eP* **P 02 37 54.2 -0.2**
comp=Z,37nm,1.1s,mb4.8
GRR Gorron 80.43 2 *eP* **P 02 37 54.2 -0.2**
GRR pmax pmax
comp=Z,18nm,1.1s,mb4.8
GRR Gorron 80.43 2 *eP* **P 02 37 54.2 -0.2**
comp=Z,18nm,1.1s,mb4.8
ECH Echery 80.51 356 *eP* **P 02 37 54.4 -0.4**
ECH Echery 80.51 356 *eP* **P 02 37 54.3 -0.5**
SGMF Saint Gilles 80.52 3 *eP* **P 02 37 54.8 -0.1**
comp=Z,14nm,0.6s,mb4.7
SGMF Saint Gilles 80.52 3 *eP* **P 02 37 54.8 -0.1**
SGMF pmax pmax
comp=Z,7.0nm,0.6s,mb4.7
SGMF Saint Gilles 80.52 3 *eP* **P 02 37 54.8 -0.1**
comp=Z,7.1nm,0.6s,mb4.7
THEF They Montfort 80.54 357 *eP* **P 02 37 55.2 +0.2**
VRI Vrincioaia 80.58 342 ⇓*i*P **P 02 37 56.0 +0.7**
VRI Vrincioaia 80.58 342 ⇓P **P 02 37 56.0 +0.8**
HAU Haudompre 80.75 357 *eP* **P 02 37 56.0 -0.1**
comp=Z,12nm,0.6s,mb4.6
HAU *e*MLR MLR
comp=Z,164nm,18.8s
HAU Haudompre 80.75 357 *eP* **P 02 37 56.0 -0.1**
HAU pmax pmax
comp=Z,6.0nm,0.6s,mb4.6
HAU MLR MLR
comp=Z,160nm,18.8s
HAU Haudompre 80.75 357 *eP* **P 02 37 56.0 -0.1**
comp=Z,6.1nm,0.6s,mb4.6
HAU LR LR
comp=Z,160nm,18.8s
FELD Feldberg im Sc 80.81 356 *eP* **P 02 37 56.0 -0.5**
TLCR 80.83 341 ⇑*i*P **P 02 37 57.2 +0.6**
TLCR 80.83 341 ⇑P **P 02 37 57.2 +0.6**
MOF Molkenrain 80.88 356 *eP* **P 02 37 56.2 -0.6**
HINF Hinteralfeld 80.92 356 *eP* **P 02 37 56.6 -0.4**
comp=Z,9.6nm,0.9s,mb4.3
HINF Hinteralfeld 80.92 356 *eP* **P 02 37 56.6 -0.4**
HINF pmax pmax
comp=Z,5.0nm,0.9s,mb4.3
HINF Hinteralfeld 80.92 356 *eP* **P 02 37 56.6 -0.4**
comp=Z,4.8nm,0.9s,mb4.3
MLR Muntele Rosu 81.09 343 ⇓*i*P **P 02 37 58.7 +0.7**
MLR Muntele Rosu 81.09 343 ⇓P **P 02 37 58.7 +0.7**
WATA Walderalm 81.13 353 ⇑*i*P **P 02 37 58.6 +0.4**
comp=Z,6.4nm,0.5s,mb4.7
MOTA Moosalm 81.16 353 ⇑*i*P **P 02 37 58.9 +0.6**
comp=Z,5.7nm,0.6s,mb4.6,SNR=7.1
NGP Nagpur 81.17 293 *eP* **P 02 37 56.4 -2.4**
NGP AMb AMB 02 37 57.2
comp=Z,53nm,1.8s,mb5.1
WTTA Wattenberg 81.20 353 ⇑*i*P **P 02 37 58.8 +0.3**
comp=Z,20nm,0.7s,mb5.0

GNI Garni 81.24 328 LR LR 03 17 48.6
comp=Z,147nm,20.5s,baz=200,slow=38
GNI Garni 81.24 328 ⇓*i*P **P 02 38 00.3 +1.4**
GNI pmax pmax
comp=Z,18nm,1.3s
GNI Garni 81.24 328 *eP* **P 02 38 00.5 +1.6**
comp=Z,14nm,1.0s,mb4.7
KBA Koelnbreinsper 81.25 352 *i*P **P 02 37 59.6 +0.8**
comp=Z,35nm,0.6s,mb5.4,SNR=36
VOIR 81.31 344 ⇓*i*P **P 02 37 59.1 0.0**
VOIR 81.31 344 ⇓P **P 02 37 59.1 -0.1**
VIS Vishakhapatnam 81.34 287 *eP* **P 02 37 60.0 +0.3**
LOMF Lomont 81.39 356 *eP* **P 02 37 59.3 -0.2**
SOKA Soboth 81.48 351 ⇑*i*P **P 02 38 00.3 +0.2**
FETA Feichten 81.51 354 ⇓*i*P **P 02 38 01.0 +0.9**
comp=Z,9.8nm,0.8s,mb4.7,SNR=14
PERS Pernice 81.52 351 *i*P **P 02 38 00.6 +0.3**
PKSM Moragy 81.53 348 ⇑*i*P **P 02 38 00.4 +0.1**
PKSM Moragy 81.53 348 ⇑P **P 02 38 00.4 +0.1**
LOR Lormes 81.55 358 *eP* **P 02 38 00.4 0.0**
comp=Z,27nm,1.1s,mb4.7
LOR *e*MLR MLR
comp=Z,180nm,22.8s
LOR Lormes 81.55 358 *eP* **P 02 38 00.4 0.0**
LOR pmax pmax
comp=Z,14nm,1.1s,mb4.7
LOR MLR MLR
comp=Z,180nm,22.8s
LOR Lormes 81.55 358 *eP* **P 02 38 00.4 0.0**
comp=Z,14nm,1.1s,mb4.7
LOR LR LR
comp=Z,180nm,22.8s
HYF Humbligny 81.57 359 *eP* **P 02 38 00.8 +0.3**
TIRR Tirgusor 81.61 341 ⇑*i*P **P 02 38 00.5 -0.2**
TIRR Tirgusor 81.61 341 ⇑P **P 02 38 00.5 -0.3**
ABTA Abfaltersbach 81.64 352 ⇑*i*P **P 02 38 00.8 -0.1**
comp=Z,14nm,1.1s,mb4.7,SNR=9.6
BZS Buzias 81.70 346 ⇓*i*P **P 02 38 01.3 +0.1**
BZS Buzias 81.70 346 ⇓P **P 02 38 01.3 +0.1**
GZR Gura Zlata 81.73 345 ⇓*i*P **P 02 38 01.8 +0.4**
GZR Gura Zlata 81.73 345 ⇓P **P 02 38 01.8 +0.5**
DAVOS Davos 81.75 354 P **P 02 38 02.9 +1.5**
SSF Saint Saulge 81.77 359 *eP* **P 02 38 01.5 0.0**
comp=Z,22nm,0.9s,mb4.7
SSF Saint Saulge 81.77 359 *eP* **P 02 38 01.5 0.0**
SSF pmax pmax
comp=Z,11nm,0.9s,mb4.7
SSF Saint Saulge 81.77 359 *eP* **P 02 38 01.5 0.0**
comp=Z,11nm,0.9s,mb4.7
DAVOX Davos/Dischmat 81.80 354 P **P 02 38 02.9 +1.1**
comp=Z,6.0nm,0.6s,mb4.6,baz=50,slow=1.6,SNR=11
AVF Avril sur Loir 82.04 359 *eP* **P 02 38 02.8 -0.2**
comp=Z,24nm,0.9s,mb4.7
AVF Avril sur Loir 82.04 359 *eP* **P 02 38 02.8 -0.2**
AVF pmax pmax
comp=Z,12nm,0.9s,mb4.7
AVF Avril sur Loir 82.04 359 *eP* **P 02 38 02.8 -0.2**
comp=Z,12nm,0.9s,mb4.7
TUE Stuetta 82.14 355 *eP* **P 02 38 04.2 +0.7**
comp=Z,6.6nm,0.7s,mb4.6
CABF La Chapelle 82.16 357 *eP* **P 02 38 02.8 -0.8**
comp=Z,29nm,1.1s,mb4.7
CABF La Chapelle 82.16 357 *eP* **P 02 38 02.8 -0.8**
CABF pmax pmax
comp=Z,14nm,1.1s,mb4.7
CABF La Chapelle 82.16 357 *eP* **P 02 38 02.8 -0.8**
comp=Z,14nm,1.1s,mb4.7
SMF Signal de Mont 82.18 358 *eP* **P 02 38 03.6 -0.1**
comp=Z,40nm,0.9s,mb5.0
SMF Signal de Mont 82.18 358 *eP* **P 02 38 03.6 -0.1**
SMF pmax pmax
comp=Z,20nm,0.9s,mb5.0
SMF Signal de Mont 82.18 358 *eP* **P 02 38 03.6 -0.1**
comp=Z,20nm,0.9s,mb4.9
MFF Saint Martin d 82.23 1 *eP* **P 02 38 03.9 -0.1**
comp=Z,34nm,1.1s,mb4.8
MFF Saint Martin d 82.23 1 *eP* **P 02 38 03.9 -0.1**
MFF pmax pmax
comp=Z,17nm,1.1s,mb4.8
MFF Saint Martin d 82.23 1 *eP* **P 02 38 03.9 -0.1**
comp=Z,17nm,1.1s,mb4.8
BGF Bois d'Agland 82.28 359 *eP* **P 02 38 04.1 -0.1**
comp=Z,17nm,0.9s,mb4.6
BGF Bois d'Agland 82.28 359 *eP* **P 02 38 04.1 -0.1**
BGF pmax pmax
comp=Z,9.0nm,0.9s,mb4.6
BGF Bois d'Agland 82.28 359 *eP* **P 02 38 04.1 -0.1**
comp=Z,8.7nm,0.9s,mb4.6
WB2 Warramunga Arr 82.30 224 *eP* **P 02 38 03.4 -1.1**
WRA Warramunga Arr 82.30 224 P **P 02 38 03.5 -1.0**
comp=Z,4.8nm,0.8s,mb4.4,baz=32,slow=6.0,SNR=39
WRA PKKPbc PKKPbc 02 56 31.4 +1.1
comp=Z,0.2nm,0.6s,baz=225,slow=2.3,SNR=7.7
JAVS Javornik 82.36 351 *i*P **P 02 38 04.2 -0.4**
VISS Visnje 82.37 351 *i*P **P 02 38 04.5 -0.2**
TCF Toulx Ste Croi 82.55 360 *eP* **P 02 38 05.5 -0.1**
comp=Z,18nm,0.9s,mb4.6
TCF Toulx Ste Croi 82.55 360 *eP* **P 02 38 05.5 -0.1**
TCF pmax pmax
comp=Z,9.0nm,0.9s,mb4.6
TCF Toulx Ste Croi 82.55 360 *eP* **P 02 38 05.5 -0.1**
comp=Z,9.1nm,0.9s,mb4.6
BOJS Bojanci 82.62 350 *i*P **P 02 38 05.8 -0.2**
AKL Akola 82.69 294 *eP* **P 02 38 07.0 +0.2**
AKL AMb AMB 02 38 08.2
comp=Z,33nm,0.8s,mb5.2
AGO Saint Agoulin 82.78 359 *eP* **P 02 38 07.1 +0.3**
PLDF La Plantade 82.86 359 *eP* **P 02 38 07.4 +0.2**
PYM Petit Puy Mans 83.08 359 *eP* **P 02 38 09.4 +1.0**
LPL La Plagne 83.22 356 *eP* **P 02 38 10.1 +1.0**
comp=Z,4.7nm,0.5s,mb4.2
LPL La Plagne 83.22 356 *eP* **P 02 38 10.1 +1.0**
LPL pmax pmax
comp=Z,2.0nm,0.5s,mb4.2
LPL La Plagne 83.22 356 *eP* **P 02 38 10.1 +1.0**
comp=Z,3.9nm,0.5s,mb4.3
LPG La Plagne 83.24 356 *eP* **P 02 38 10.4 +1.2**
SSB Saint Sauveur 83.53 358 *eP* **P 02 38 11.4 +0.7**
RJF Les Rejaudoux 83.54 0 *eP* **P 02 38 10.9 +0.1**
comp=Z,28nm,0.9s,mb4.8
RJF *e*MLR MLR
comp=Z,255nm,20.0s
RJF Les Rejaudoux 83.54 0 *eP* **P 02 38 10.9 +0.1**
RJF pmax pmax
comp=Z,14nm,0.9s,mb4.8
RJF MLR MLR
comp=Z,250nm,20.0s
RJF Les Rejaudoux 83.54 0 *eP* **P 02 38 10.9 +0.1**
comp=Z,14nm,0.9s,mb4.8
RJF LR LR
comp=Z,250nm,20.0s
LBL Lubilhac 83.60 359 *eP* **P 02 38 11.2 +0.1**
BNI Bardonecchia 83.69 356 *eP* **P 02 38 13.0 +1.5**
BNI pmax pmax
comp=Z,19nm,1.0s,mb4.9
BNI Bardonecchia 83.69 356 *eP* **P 02 38 13.0 +1.5**
comp=Z,19nm,1.0s,mb4.9
ORIF Oris-en-Rattie 83.85 357 *eP* **P 02 38 13.0 +0.6**
comp=Z,29nm,1.0s,mb4.8
ORIF *e*MLR MLR
comp=Z,209nm,20.2s
ORIF Oris-en-Rattie 83.85 357 *eP* **P 02 38 13.0 +0.6**
ORIF pmax pmax
comp=Z,15nm,1.0s,mb4.8
ORIF Oris-en-Rattie 83.85 357 *eP* **P 02 38 13.0 +0.6**
comp=Z,14nm,1.0s,mb4.8
LFF La Frestale 83.90 1 *eP* **P 02 38 12.8 +0.2**
comp=Z,122nm,1.2s,mb5.3
LFF La Frestale 83.90 1 *eP* **P 02 38 12.8 +0.2**
LFF pmax pmax
comp=Z,61nm,1.2s,mb5.3
LFF La Frestale 83.90 1 *eP* **P 02 38 12.8 +0.2**
comp=Z,61nm,1.2s,mb5.3
OG22 Abries 83.91 356 *eP* **P 02 38 13.5 +0.8**
CAF Calviac 83.92 360 *eP* **P 02 38 12.8 +0.1**
comp=Z,36nm,1.1s,mb4.8
CAF Calviac 83.92 360 *eP* **P 02 38 12.8 +0.1**
CAF pmax pmax
comp=Z,18nm,1.1s,mb4.8
CAF Calviac 83.92 360 *eP* **P 02 38 12.8 +0.1**
comp=Z,18nm,1.1s,mb4.8
VIVF Saint-Julien-l 83.95 358 *eP* **P 02 38 12.2 -0.7**
comp=Z,20nm,1.0s,mb4.6
VIVF Saint-Julien-l 83.95 358 *eP* **P 02 38 12.2 -0.7**
VIVF pmax pmax
comp=Z,10.0nm,1.0s,mb4.6

VIVF Saint-Julien-l 83.95 358 *eP* **P 02 38 12.2 -0.7**
comp=Z,9.8nm,1.0s,mb4.6
MBDF Montbardon 84.01 356 *eP* **P 02 38 13.9 +0.7**
comp=Z,21nm,0.8s,mb4.7
MBDF Montbardon 84.01 356 *eP* **P 02 38 13.9 +0.7**
MBDF pmax pmax
comp=Z,11nm,0.8s,mb4.7
MBDF Montbardon 84.01 356 *eP* **P 02 38 13.9 +0.7**
comp=Z,11nm,0.8s,mb4.7
HYB Hyderabad 84.39 291 *eP* **P 02 38 15.5 0.0**
HYB pmax pmax
comp=Z,100nm,1.0s,mb5.6
HYB Hyderabad 84.39 291 *i*P **P 02 38 15.5 0.0**
comp=Z,100nm,1.0s,mb5.6
HYB Hyderabad 84.39 291 *eP* **P 02 38 15.5 0.0**
comp=Z,100nm,1.0s,mb5.6
TOUF Mont Tournerai 84.70 356 *eP* **P 02 38 17.2 +0.5**
AUTN L'Aution 84.71 356 *eP* **P 02 38 16.9 +0.2**
SAOF Saorge 84.72 356 *eP* **P 02 38 16.4 -0.4**
FITZ Fitzroy Crossi 84.76 232 ⇑*i*P **P 02 38 17.1 -0.1**
comp=Z,24nm,0.9s,mb5.1
FITZ Fitzroy Crossi 84.76 232 P **P 02 38 17.3 +0.2**
comp=Z,14nm,0.9s,mb4.9,baz=36,slow=5.6,SNR=37
FITZ LR LR 03 11 22.1
comp=Z,93nm,19.6s,baz=256,slow=32
SMRF Simiane la Rot 84.80 357 *eP* **P 02 38 18.0 +0.8**
comp=Z,58nm,1.1s,mb5.1
SMRF Simiane la Rot 84.80 357 *eP* **P 02 38 18.0 +0.8**
comp=Z,58nm,1.1s,mb5.4
LUCF Luceram 84.82 356 *eP* **P 02 38 17.5 +0.2**
MVIF Mont Vial 84.82 356 *eP* **P 02 38 17.5 +0.2**
SBF Sospel 84.84 356 *eP* **P 02 38 17.2 -0.2**
comp=Z,70nm,0.9s,mb5.3
SBF Sospel 84.84 356 *eP* **P 02 38 17.2 -0.2**
SBF pmax pmax
comp=Z,35nm,0.9s,mb5.3
SBF Sospel 84.84 356 *eP* **P 02 38 17.2 -0.2**
comp=Z,35nm,0.9s,mb5.3
MALT Malatya 84.90 332 *eP* **P 02 38 22.9 +5.1**
MALT pmax pmax
comp=Z,28nm,1.1s,mb5.1
MALT Malatya 84.90 332 ⇑*i*P **P 02 38 23.2 +5.4**
MALT Malatya 84.90 332 *eP* **P 02 38 22.9 +5.1**
comp=Z,28nm,1.1s,mb5.1
BR131 Keskin Array S 84.90 336 *eP* **P 02 38 18.2 +0.4**
comp=Z,10nm,0.8s,mb4.8
REVF Revere 84.97 356 *eP* **P 02 38 17.9 -0.1**
CALN Calern 84.98 356 *eP* **P 02 38 18.0 -0.1**
ANTO Ankara 84.98 336 ⇑*i*P **P 02 38 19.4 +1.2**
ANTO Ankara 84.98 336 ⇑P **P 02 38 19.4 +1.2**
FRF La Foret Royal 85.18 356 *eP* **P 02 38 19.0 -0.1**
comp=Z,46nm,1.1s,mb5.0
FRF La Foret Royal 85.18 356 *eP* **P 02 38 19.0 -0.1**
FRF pmax pmax
comp=Z,23nm,1.1s,mb5.0
FRF La Foret Royal 85.18 356 *eP* **P 02 38 19.0 -0.1**
comp=Z,23nm,1.1s,mb5.0
EPON Pontenova 85.21 6 P **P 02 38 19.6 +0.3**
comp=Z,2.2nm,0.6s,mb4.3
LMR La Mourre 85.41 356 *eP* **P 02 38 20.3 0.0**
comp=Z,37nm,1.0s,mb5.0
LMR La Mourre 85.41 356 *eP* **P 02 38 20.3 0.0**
LMR pmax pmax
comp=Z,18nm,1.0s,mb5.0
LMR La Mourre 85.41 356 *eP* **P 02 38 20.3 0.0**
comp=Z,18nm,1.0s,mb5.0
MTLF Montolieu 85.50 360 *eP* **P 02 38 20.9 +0.2**
comp=Z,16nm,0.9s,mb4.6
MTLF Montolieu 85.50 360 *eP* **P 02 38 20.9 +0.2**
MTLF pmax pmax
comp=Z,8.0nm,0.9s,mb4.7
MTLF Montolieu 85.50 360 *eP* **P 02 38 20.9 +0.2**
comp=Z,7.8nm,0.9s,mb4.6
ELAN Lanestosa 85.51 4 P **P 02 38 20.9 +0.2**
comp=Z,4.6nm,0.5s,mb4.7
SJPF Ste Jean 85.70 2 *eP* **P 02 38 21.9 +0.2**
comp=Z,10nm,0.8s,mb4.5
SJPF Ste Jean 85.70 2 *eP* **P 02 38 21.9 +0.2**
SJPF pmax pmax
comp=Z,5.0nm,0.8s,mb4.5
SJPF Ste Jean 85.70 2 *eP* **P 02 38 21.9 +0.2**
comp=Z,5.2nm,0.8s,mb4.5
ARMA Armidale 85.76 206 *eP* **P 02 38 22.7 +0.8**
ASAR Alice Springs 85.78 223 P **P 02 38 22.1 0.0**
comp=Z,7.8nm,0.8s,mb4.7,baz=27,slow=4.8,SNR=52
ASAR Alice Springs 85.78 223 P **P 02 38 22.1 0.0**
ASAR pmax pmax
comp=Z,8.0nm,0.8s
EPF Esparros 85.81 1 *eP* **P 02 38 21.1 -1.1**
comp=Z,31nm,1.4s,mb4.8
EPF Esparros 85.81 1 *eP* **P 02 38 21.1 -1.1**
EPF pmax pmax
comp=Z,16nm,1.4s,mb4.8
EPF Esparros 85.81 1 *eP* **P 02 38 21.1 -1.1**
comp=Z,16nm,1.4s,mb4.8
ETSF Etsaut 85.92 2 *eP* **P 02 38 23.1 +0.3**
comp=Z,11nm,0.8s,mb4.5
ETSF Etsaut 85.92 2 *eP* **P 02 38 23.1 +0.3**
ETSF pmax pmax
comp=Z,6.0nm,0.8s,mb4.6
ETSF Etsaut 85.92 2 *eP* **P 02 38 23.1 +0.3**
comp=Z,5.5nm,0.8s,mb4.5
PGF Pioggiola 86.07 355 *eP* **P 02 38 23.5 0.0**
comp=Z,57nm,0.8s,mb5.3
PGF Pioggiola 86.07 355 *eP* **P 02 38 23.5 0.0**
PGF pmax pmax
comp=Z,28nm,0.8s,mb5.2
PGF Pioggiola 86.07 355 *eP* **P 02 38 23.5 0.0**
comp=Z,28nm,0.8s,mb5.2
EBIE Bielsa 86.15 1 P **P 02 38 24.6 +0.7**
comp=Z,1.4nm,0.5s,mb4.2
POO Poona 86.22 295 *eP* **P 02 38 24.8 +0.2**
ELOB Lobios 86.59 7 P **P 02 38 26.1 0.0**
comp=Z,1.4nm,0.5s,mb4.2
KAD Karad 87.00 294 *eP* **P 02 38 28.1 -0.3**
PVRL Vila Real 87.21 7 *eP* **P 02 38 28.8 -0.3**
MVO Moncorvo 87.37 7 *eP* **P 02 38 29.5 -0.4**
PVIS Viseu 87.75 7 *eP* **P 02 38 31.6 -0.1**
ETOR Torete 87.97 3 P **P 02 38 32.4 -0.3**
ETOR pmax pmax
comp=Z,3.0nm,0.5s,mb4.6
ETOR Torete 87.97 3 P **P 02 38 32.4 -0.4**
comp=Z,2.6nm,0.5s,mb4.5
CUC Castrocucco 88.00 349 *eP* **P 02 38 31.5 -1.4**
comp=Z,14nm,0.9s,mb5.0
GUD Guadarrama 88.06 4 P **P 02 38 32.9 -0.3**
GUD pmax pmax
comp=Z,2.0nm,0.6s,mb4.3
GUD Guadarrama 88.06 4 P **P 02 38 32.9 -0.3**
comp=Z,2.1nm,0.6s,mb4.3
MTE Manteigas 88.09 7 *eP* **P 02 38 32.9 -0.4**
PCBR Castelo Branco 88.65 7 *eP* **P 02 38 35.2 -0.8**
TIP Timpagrande 88.69 348 *eP* **P 02 38 35.8 -0.4**
comp=Z,17nm,1.0s,mb5.0
PTOM Tomar 88.80 8 *eP* **P 02 38 36.2 -0.5**
ESDC Sonseca Array 89.03 4 P **P 02 38 37.0 -0.8**
comp=Z,2.2nm,0.5s,mb4.4,baz=350,slow=4.1,SNR=23
ESDC Sonseca Array 89.03 4 P **P 02 38 37.4 -0.4**
comp=Z,2.8nm,0.5s,mb4.5
ESLA Sonseca Array 89.03 4 *eP* **P 02 38 37.0 -0.8**
comp=Z,3.0nm,1.1s,mb4.2
SJG San Juan 89.06 62 *eP* **P 02 38 38.9 +0.7**
SJG pmax pmax
comp=Z,22nm,1.0s
SJG San Juan 89.06 62 *eP* **P 02 38 38.9 +0.7**
comp=Z,22nm,1.0s,mb5.1
PMRV Marv??o 89.07 7 *eP* **P 02 38 37.8 -0.2**
MIB Mutribah 89.58 322 *eP* **P 02 38 39.7 -0.8**
baz=322
MIB AMb AMB 02 38 40.8
comp=Z,39nm,0.8s,mb5.6,baz=322
PESTR Estremoz 89.61 7 *eP* **P 02 38 39.9 -0.6**
EBAD Badajoz 89.77 7 P **P 02 38 39.5 -1.7**
comp=Z,0.7nm,0.5s,mb4.0
EVO Evora 89.91 8 *eP* **P 02 38 41.3 -0.6**
RST Umm Al-Ruwaisa 89.98 322 *eP* **P 02 38 40.7 -1.7**
baz=322
RST AMb AMB 02 38 43.5
comp=Z,14nm,1.1s,mb5.0,baz=322
NAY Al-Naaiem 90.11 321 *eP* **P 02 38 41.9 -1.1**
baz=321
NAY AMb AMB 02 38 43.1
comp=Z,16nm,1.0s,mb5.1,baz=321
ETOB Tobarra 90.15 2 P **P 02 38 43.4 +0.4**
comp=Z,3.2nm,0.7s,mb4.6
STKA Stephens Creek 90.20 213 ⇓*i*P **P 02 38 43.6 +0.6**

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
	comp=Z,8.6nm,0.8s,mb4.9						
STKA	**Stephens Creek**	**90.20**	**213**	P	**P**	**02 38 43.6**	**+0.6**
	comp=Z,11nm,0.8s,mb5.0,baz=356,slow=6.9,SNR=13						
RDF	**Al-Radifah**	**90.28**	**321**	*e*P	**P**	**02 38 42.6**	**-1.2**
	baz=321						
RDF				AMb	AMB	02 38 46.5	
	comp=Z,35nm,1.2s,mb5.4,baz=321						
MBWA	**Marble Bar**	**90.31**	**235**	*e*P	**P**	**02 38 43.1**	**-0.7**
	comp=Z,13nm,0.9s,mb5.0						
PBAR	**Barrancos**	**90.34**	**7**	*e*P	**P**	**02 38 43.3**	**-0.6**
PBEJ	**Beja**	**90.42**	**7**	*e*P	**P**	**02 38 43.9**	**-0.4**
EADA	**Adamuz**	**90.50**	**5**	P	**P**	**02 38 44.5**	**-0.2**
	comp=Z,1.6nm,0.5s,mb4.4						
KOD	**Kodaikanal**	**90.70**	**287**	*e*P	**P**	**02 38 46.7**	**+0.7**
EMIN	**Mina Concepcio**	**90.77**	**7**	P	**P**	**02 38 45.4**	**-0.5**
	comp=Z,2.0nm,0.5s,mb4.5						
PTEO	**Sao Teotonio**	**90.83**	**8**	*e*P	**P**	**02 38 46.7**	**+0.5**
EGRO	**El Granado**	**90.94**	**7**	P	**P**	**02 38 46.3**	**-0.5**
	comp=Z,1.3nm,0.5s,mb4.3						
PVAQ	**Vaqueiros**	**91.06**	**7**	*e*P	**P**	**02 38 46.6**	**-0.7**
ELOJ	**Sierra Loja**	**91.54**	**5**	P	**P**	**02 38 49.8**	**+0.3**
ELOJ				pmax	pmax		
	comp=Z,1.0nm,0.3s,mb4.5						
ELOJ	**Sierra Loja**	**91.54**	**5**	P	**P**	**02 38 49.8**	**+0.3**
	comp=Z,0.9nm,0.3s,mb4.5						
ESPR	**Espera**	**91.72**	**6**	P	**P**	**02 38 50.4**	**0.0**
	comp=Z,1.3nm,0.6s,mb4.3						
EMIJ	**Mijas**	**92.09**	**5**	P	**P**	**02 38 52.8**	**+0.7**
	comp=Z,6.0nm,0.7s,mb4.9						
EJIF	**Jimena Fronter**	**92.16**	**6**	P	**P**	**02 38 52.9**	**+0.5**
EJIF				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.5						
EJIF	**Jimena Fronter**	**92.16**	**6**	P	**P**	**02 38 52.9**	**+0.5**
	comp=Z,2.1nm,0.6s,mb4.5						
KEST	**Kesra**	**92.83**	**354**	P	**P**	**02 38 54.7**	**-0.8**
	comp=Z,1.1nm,0.5s,mb4.4,baz=214,slow=4.7,SNR=7.3						
MDT	**Midelt**	**95.83**	**5**	P	**P**	**02 39 08.5**	**-0.8**
	comp=Z,1.8nm,0.7s,mb4.6,baz=335,slow=4.9,SNR=6.8						
TOA0	**Torodi Ar. Sit**	**115.59**	**360**	*e*PKPdf	PKPdf	02 44 24.1	-0.8
TORD	**Torodi Ar. Bea**	**115.59**	**360**	PKP	PKPdf	02 44 24.4	-0.5
	comp=Z,3.4nm,0.7s,baz=344,slow=2.4,SNR=69						
TORD				PKKPbc	PKKPbc	02 55 01.8	+6.0
	comp=Z,1.1nm,1.0s,baz=191,slow=4.3,SNR=4.3						
TORD	**Torodi Ar. Bea**	**115.59**	**360**	PKP	PKPdf	02 44 24.4	-0.5
TORD				PKKPbc	PKKPbc	02 55 01.8	+6.0
SIV	**San Ignacio**	**119.31**	**79**	PKP	PKPdf	02 44 30.7	-1.3
	comp=Z,0.6nm,0.6s,baz=343,slow=22,SNR=4.0						
KMBO	**Kilima Mbogo**	**121.51**	**317**	PKP	PKPdf	02 44 36.6	+0.2
	comp=Z,3.3nm,0.8s,baz=36,slow=6.2,SNR=7.9						
KMBO	**Kilima Mbogo**	**121.51**	**317**	*e*PKPdf	PKPdf	02 44 37.1	+0.7
DBIC	**Dimbokro**	**121.76**	**8**	PKP	PKPdf	02 44 37.0	+0.1
	comp=Z,8.6nm,0.4s,baz=348,slow=2.5,SNR=60						
DBIC	**Dimbokro**	**121.76**	**8**	PKIKP	PKPdf	02 44 37.0	+0.1
DBIC				pmax	pmax		
	comp=Z,9.0nm,0.4s						
DBIC	**Dimbokro**	**121.76**	**8**	*e*PKPdf	PKPdf	02 44 36.6	-0.2
TIC	**Toumodi**	**121.77**	**8**	*e*PKIKP	PKPdf	02 44 36.2	-0.7
	comp=Z,18nm,0.3s						
KIC	**Kosan Boka**	**122.07**	**7**	*e*PKIKP	PKPdf	02 44 36.8	-0.7
	comp=Z,53nm,0.6s						
LIC	**Lamto**	**122.18**	**8**	*e*PKIKP	PKPdf	02 44 36.8	-0.9
	comp=Z,46nm,0.7s						
CPUP	**Villa Florida**	**129.33**	**84**	*e*PKIKP	PKPdf	02 44 50.1	-0.8
LSZ	**Lusaka**	**138.03**	**320**	*e*PKIKP	PKPdf	02 45 08.0	+0.5
TSUM	**Tsumeb**	**145.36**	**333**	PKPbc	PKPbc	02 45 20.8	+0.4
	comp=Z,35nm,0.7s,baz=352,slow=5.9,SNR=91						
TSUM	**Tsumeb**	**145.36**	**333**	*e*PKPbc	PKPbc	02 45 20.4	-0.1
MAW	**Mawson**	**146.76**	**218**	*e*P	PKPdf	02 45 23.1	+1.8
	comp=Z,23nm,0.8s						
MAW	**Mawson**	**146.76**	**218**	PKPbc	PKPbc	02 45 23.4	+0.2
	comp=Z,42nm,1.0s,baz=73,slow=2.5,SNR=48						
BOSA	**Boshof**	**151.05**	**313**	PKPbc	PKPbc	02 45 35.9	+0.5
	comp=Z,54nm,0.7s,baz=28,slow=1.7,SNR=126						
BOSA	**Boshof**	**151.05**	**313**	PKIKP	PKPbc	02 45 35.9	+0.5
BOSA				pmax	pmax		
	comp=Z,54nm,0.7s						
BOSA	**Boshof**	**151.05**	**313**	*e*PKPbc	PKPbc	02 45 35.6	+0.3
VNA3	**Neumayer Olymp**	**159.58**	**170**	*e*PKPdf	PKPdf	02 45 38.4	-1.3
VNA3				*e*		02 45 52.2	
VNA3				*e*		02 46 17.3	
SNAA	**Sanae**	**159.70**	**176**	*e*PKPdf	PKPdf	02 45 38.0	-1.8
SNAA				*e*		02 46 17.2	
VNA2	**Neumayer--Watz**	**160.12**	**171**	*e*PKPdf	PKPdf	02 45 39.3	-1.0
	baz=218,slow=0.9						
VNA2				*e*		02 45 53.7	
VNA2				*e*		02 46 20.2	
VNA1	**Neumayer--Stat**	**160.29**	**170**	*e*PKPdf	PKPab	02 46 20.9	-0.7

ISCJB ***03*** *02:45:03.7±1.2, 126N±02×417E±0.1, h10km, Error ellipse: s-maj=26.4km s-min=8.2km az=145.9*
DHMR ***03*** *02:45:07.9±0.8, 1290N×4183E, h28km±5km, ML3.4*
ISC 03 02:45:01.0±1.0**, 124N**±01×**416E**±01**, h10**km**, n8,** σ1§**10**/11**, Ethiopia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UDYN	**Al 'Udayn**	**2.79**	**55**	*i* P	**Pn**	**02 45 47.2**	**+1.4**
UDYN				*i* S	**Sn**	**02 46 18.6**	**-1.0**
UDYN				AML	AML	02 46 37.4	
	comp=N,258nm,0.5s						
DHBB	**Dhamar BB**	**3.48**	**50**	*i* P	**Pn**	**02 45 56.8**	**+1.5**
DHBB				*i* S	**Sn**	**02 46 34.4**	**-2.2**
LBOS		**3.84**	**66**	*i* S	**Sn**	**02 46 45.6**	**+0.1**
HAJJ	**Hajjah**	**3.84**	**30**	*i* P	**Pn**	**02 46 00.2**	**0.0**
	comp=N,45nm,0.4s						
HAJJ	**Hajjah**	**3.84**	**30**	*i* P	**Pn**	**02 46 00.2**	**0.0**
HAJJ				AML	AML	02 46 57.4	
	comp=E,90nm,0.4s						
BDHA	**Al Bayda'**	**4.17**	**67**	*i* S	**Sn**	**02 46 53.8**	**+0.3**
	comp=E,104nm,0.5s						
BDHA	**Al Bayda'**	**4.17**	**67**	*i* S	**Sn**	**02 46 53.8**	**+0.4**
BDHA				AML	AML	02 47 28.6	
	comp=N,209nm,0.5s						
FURI	**Furi**	**4.49**	**220**	PG	**Pn**	**02 46 16.5**	**+7.3**
FURI				SG	**Sg**	**02 47 24.8**	**-0.5**

PRE 03 02:50:20.7±0.9**, 2171S**×**3275E, h5**km**, ML3.8, Mozambique**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSNA	**Messina**	**2.61**	**255**	*e*P	Pn	02 51 04.6	+1.1
MSNA				*e*S	Sn	02 51 36.8	+1.2
MSNA				AML	AML	02 51 56.0	
	comp=Z,106nm,0.2s						
POGA	**Pongola**	**5.73**	**190**	*e*P	Pn	02 51 46.4	-0.1
POGA				*e*S	Sn	02 52 50.2	-2.5
POGA				AML	AML	02 53 24.0	
	comp=Z,7.8nm,0.7s						
BOSA	**Boshof**	**9.66**	**223**	*e*P	Pn	02 52 41.5	+1.1
BOSA				*e*S	Sn	02 54 24.1	-5.3
BOSA				AML	AML	02 54 53.0	
	comp=Z,2.4nm,0.8s						
PKA	**Prieska**	**12.00**	**227**	*e*P	Pn	02 53 13.9	+1.5
PKA				*e*S	Sn	02 55 20.3	-6.3
PKA				AML	AML	02 55 30.0	
	comp=Z,12nm,0.7s						

ISCJB ***03*** *02:55:53.6±0.5, 548N±005×1259E±0.1, h116km±5km, mb4.2/14, Error ellipse: s-maj=19.3km s-min=6.0km az=163.6*
MAN ***03*** *02:55:55, 566N×12623E, h88km, mb4.9, ML3.9, MS3.9*
NEIC ***03*** *02:55:55.3±1.4, 550N×12538E, h103km±16km, mb4.4/6, Error ellipse: s-maj=47.4km s-min=7.1km az=72.0*
IDC ***03*** *02:55:56.1±2.0, 551N×12533E, h108km±24km, mb3.9/11, mb1 3.9/11, mb1mx3.8/23, mbtmp3.9/11, MS3.4/2, Ms1 3.4/2, ms1mx2.7/35, Error ellipse: s-maj=62.4km s-min=11.0km az=74.0*
DJA ***03*** *02:55:58, 485N×12966E, h197km, MLv5.1/5*
ISC 03 02:55:54.1±0.4**, 551N**±004×**12601E**±009**, h104**km±4km**, n37,** σ1§**33**/39**, mb4.2**/14**, 1C, Mindanao**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GSPH	**General Santos**	**1.20**	**298**	⇑*i*P	**Pn**	**02 56 17.0**	**-0.1**
GSPH				*e*S	**Sn**	**02 56 33.9**	**-0.4**
MATI	**Mati**	**1.44**	**10**	*e*P	**Pn**	**02 56 19.1**	**-0.8**
MATI				*e*S	**Sn**	**02 56 37.3**	**-2.2**
DAV	**Davao City (W)**	**1.60**	**345**	P	**Pn**	**02 56 22.6**	**+0.7**
	120nm,0.3s,baz=36,slow=5.5,SNR=8.7						
DAV				S	**Sn**	**02 56 44.8**	**+1.8**
	242nm,0.3s,baz=82,slow=23,SNR=13						
SGSI	**Sangihe**	**1.88**	**195**	P	**Sn**	**02 56 56.8**	**+7.7**
BUKP	**Musuan**	**2.53**	**338**	*e*P	**Pn**	**02 56 34.9**	**+1.1**
BUKP				*e*S	**Sn**	**02 57 04.6**	**+0.4**
BUTP	**Butuan**	**3.45**	**354**	*e*P	**Pn**	**02 56 47.8**	**+1.8**
MNI	**Manado**	**4.21**	**196**	P	**Sn**	**02 57 39.7**	**-4.7**
SCPH	**Surigao**	**4.27**	**353**	*e*P	**Pn**	**02 56 59.9**	**+2.9**
SCPH				*e*S	**Sn**	**02 57 43.3**	**-2.6**
TNTI	**Ternate**	**4.90**	**164**	P	**Pn**	**02 57 05.7**	**+0.1**
TNTI	**Ternate**	**4.90**	**164**	S	**Sn**	**02 57 58.8**	**-2.4**
LBMI	**Labuha**	**6.29**	**166**	P	**Pn**	**02 57 24.7**	**+0.3**
	126nm,1.0s,3µm0.9nm						
LBMI	**Labuha**	**6.29**	**166**	S	**Sn**	**02 58 33.7**	**-1.2**
	126nm,1.0s,3µm0.9nm						
AAI	**Ambon**	**9.40**	**167**	P	**Pn**	**02 58 05.3**	**-1.4**
AAI	**Ambon**	**9.40**	**167**	P	**Pn**	**02 58 06.0**	**-0.7**
KAKA	**Kakadu**	**19.20**	**161**	*e*P	**P**	**03 00 12.0**	**+2.1**
	10nm,0.6s						
GUMO	**Guam**	**20.24**	**65**	LR	LR	03 08 17.7	
	comp=Z,86nm,18.6s,baz=300,slow=36						
FITZ	**Fitzroy Crossi**	**23.47**	**181**	*e*P	**P**	**03 00 56.3**	**+1.9**
	4.2nm,0.5s,mb4.0						
FITZ	**Fitzroy Crossi**	**23.47**	**181**	P	**P**	**03 00 56.0**	**+1.6**
	2.7nm,0.6s,mb3.8,baz=12,slow=9.7,SNR=15						
WRA	**Warramunga Arr**	**26.59**	**162**	P	**P**	**03 01 26.1**	**+3.3**
	2.6nm,0.8s,mb3.8,baz=340,slow=10,SNR=9.1						
WB2	**Warramunga Arr**	**26.59**	**162**	*e*P	**P**	**03 01 26.2**	**+3.4**
ASAR	**Alice Springs**	**30.01**	**165**	P	**P**	**03 01 57.8**	**+4.7**
	0.8nm,0.5s,mb3.6,baz=346,slow=7.4,SNR=18						
CTA	**Charters Tower**	**32.30**	**143**	LR	LR	03 14 09.0	
	comp=Z,68nm,20.1s,baz=230,slow=33						
FORT	**Forrest**	**36.14**	**177**	*e*P	**P**	**03 02 46.0**	**-0.3**
	4.0nm,1.0s,mb4.3						
NWAO	**Narrogin (SRO)**	**39.13**	**192**	P	**P**	**03 03 11.7**	**+0.3**
	6.4nm,0.9s,mb4.5,baz=30,slow=16,SNR=3.1						
STKA	**Stephens Creek**	**40.04**	**159**	P	**P**	**03 03 21.7**	**+2.6**
	3.4nm,0.7s,mb4.3,baz=353,slow=8.1,SNR=5.2						
ULN	**Ulaanbaatar**	**45.21**	**342**	*e*P	**P**	**03 04 01.1**	**+0.5**
	8.2nm,1.2s,mb4.3						
MK31	**Makanchi Array**	**55.69**	**325**	*e*P	**P**	**03 05 19.0**	**-0.6**
MKAR	**Makanchi Array**	**55.69**	**325**	P	**P**	**03 05 19.5**	**-0.1**
	1.6nm,0.4s,mb4.4,baz=123,slow=7.5,SNR=9.6						
ZALV	**Zalesovo Beam**	**58.68**	**333**	P	**P**	**03 05 39.5**	**-1.1**
	1.3nm,0.4s,mb4.3,baz=132,slow=5.7,SNR=4.4						
KURK	**Kurchatov**	**59.86**	**327**	P	**P**	**03 05 47.8**	**-0.9**
	2.0nm,0.5s,mb4.5,baz=131,slow=6.0,SNR=6.4						
KURK	**Kurchatov**	**59.86**	**327**	*e*P	**P**	**03 05 48.0**	**-0.7**
	2.9nm,0.5s,mb4.6						
BVAR	**Borovoye Array**	**65.44**	**327**	P	**P**	**03 06 24.8**	**-1.0**
	1.0nm,0.7s,mb3.7,baz=116,slow=6.9,SNR=4.3						
BRVK	**Borovoye**	**65.51**	**327**	*e*P	**P**	**03 06 25.0**	**-1.3**
	6.4nm,0.9s,mb4.5						
AKTK	**Aktyubinsk**	**71.82**	**321**	P	**P**	**03 07 04.2**	**-1.2**
AKTO	**Aktyubinsk**	**71.82**	**321**	P	**P**	**03 07 04.2**	**-1.2**
	1.2nm,0.5s,mb4.0,baz=116,slow=9.5,SNR=5.1						
ARCES	**ARCESS Array B**	**88.54**	**340**	P	**P**	**03 08 35.4**	**+0.7**
	5.4nm,0.9s,mb4.6,baz=81,slow=6.5,SNR=3.3						
TORD	**Torodi Ar. Bea**	**121.67**	**289**	PKP	PKPdf	03 14 36.3	-0.5
	0.9nm,0.7s,baz=60,slow=1.9,SNR=9.7						

ISCJB ***03*** *03:12:17.4±1.1, 133N±02×1442E±04, h114km±25km, mb4.1/5, Error ellipse: s-maj=66.3km s-min=23.2km az=171.6*
IDC ***03*** *03:12:18.4±1.6, 13.14N×144.14E, h87km±32km, mb3.9/6, mb1 4.0/6, mb1mx3.6/21, mbtmp3.9/6, MS2.7/1, Ms1 2.7/1, ms1mx2.0/39, Error ellipse: s-maj=58.4km s-min=22.6km az=83.0*
NEIC ***03*** *03:12:18.4±1.4, 1329N×14429E, h104km±26km, mb4.1/2, Error ellipse: s-maj=60.7km s-min=19.6km az=83.0*
ISC 03 03:12:18.7±1.1**, 133N**±02×**1443E**±04**, h111**km±25km**, n11,** σ1§**01**/11**, mb4.1**/5**, Mariana Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**0.63**	**66**	P	**Pn**	**03 12 35.7**	**-0.9**
	681nm,0.3s,baz=147,slow=0.3,SNR=96						
GUMO				S	**Sn**	**03 12 50.6**	**+0.6**
	527nm,0.3s,baz=156,slow=20,SNR=32						
KSRS	**Korea Array**	**28.11**	**332**	LR	LR	03 28 21.9	
	comp=Z,13nm,18.6s,baz=5.0,slow=34						
KAPI	**Kappang**	**30.42**	**235**	P	**P**	**03 18 20.1**	**-0.8**
	7.1nm,0.7s,mb4.4,baz=169,slow=18,SNR=5.5						
WB2	**Warramunga Arr**	**34.48**	**197**	*e*P	**P**	**03 18 56.5**	**+0.3**
WB2				*e*S	PcP	03 21 25.3	-3.8
WRA	**Warramunga Arr**	**34.49**	**197**	P	**P**	**03 18 56.5**	**+0.3**
	3.9nm,0.5s,baz=19,slow=9.1,SNR=55						
FITZ	**Fitzroy Crossi**	**36.25**	**211**	P	**P**	**03 19 12.5**	**+1.1**
	1.2nm,0.4s,mb4.2,baz=49,slow=11,SNR=7.6						
ASAR	**Alice Springs**	**38.15**	**196**	P	**P**	**03 19 27.6**	**+0.2**
	1.3nm,0.5s,mb4.1,baz=16,slow=13,SNR=25						
STKA	**Stephens Creek**	**45.03**	**183**	*e*P	**P**	**03 20 22.4**	**-1.0**
	6.7nm,1.8s,mb4.1						
STKA	**Stephens Creek**	**45.03**	**183**	P	**P**	**03 20 22.2**	**-1.2**
	1.4nm,0.3s,mb4.1,baz=4.5,slow=9.8,SNR=4.3						
MK31	**Makanchi Array**	**61.27**	**316**	*e*P	**P**	**03 22 21.1**	**-1.2**
MKAR	**Makanchi Array**	**61.27**	**316**	P	**P**	**03 22 25.1**	**+2.8**
	0.3nm,0.4s,mb3.7,baz=106,slow=7.1,SNR=3.1						

IDC ***03*** *03:32:54.7±1.6, 4848S×16470E, h0km, mb4.4/5, mb1 4.6/6, mb1mx4.5/11, mbtmp4.4/6, ML4.4/1, MS4.3/14, Ms1 4.3/14, ms1mx4.2/17, Error ellipse: s-maj=47.1km s-min=29.1km az=166.0*
ISCJB ***03*** *03:32:56.9±0.5, 4868S±007×16475E±009, h33km, mb4.6/9, MS4.2/12, Error ellipse: s-maj=11.8km s-min=5.4km az=137.5*
NEIC ***03*** *03:32:56.5±3.5, 4872S×16470E, h17km±23km, mb4.9/4, Error ellipse: s-maj=13.6km s-min=8.8km az=132.0*
GCMT ***03*** *03:32:56.5±0.3, 4874S×16424E, h18km, MW5.1/70, Moment Tensor Solution. s30,c42; s70,c100; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}4.17±.23; $M_{\theta\theta}$0.52±.15; $M_{\phi\phi}$-4.69±.15; $M_{r\theta}$2.58±.48; $M_{\theta\phi}$-0.12±.11; $M_{\phi r}$-1.71±.32; Best double couple: $M_0$5.39000×10^{16} NP1:ϕ_s24.00000°, δ40.00000°, λ131.00000°. NP2: ϕ_s155.00000°, δ61.00000°, λ61.00000°. Principal axes: T 5.7440, Plg62.0000°, Azm19.0000°; N -0.7080, Plg25.0000°, Azm170.0000°; P -5.0350, Plg12.0000°, Azm266.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
ISC 03 03:32:59.3±0.5**, 4863S**±006×**16467E**±009**, h35**km**, (h36**km±1.5km**:pP-P), n51,** σ1§**22**/35**, mb4.6**/9**, MS4.2**/12**, Off west coast of South Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WHZ	**Wether Hill Ro**	**3.53**	**40**	P	**Pn**	**03 33 51.0**	**-0.5**
WHZ				S	**Sn**	**03 34 34.9**	**+2.9**
DCZ	**Deep Cove**	**3.58**	**29**	P	**Pn**	**03 33 51.3**	**-0.9**
MLZ	**Mavora Lakes**	**4.06**	**37**	P	**Pn**	**03 33 58.7**	**-0.1**
TUZ	**Tuapeka**	**4.30**	**53**	P	**Pn**	**03 34 02.0**	**-0.2**
MSZ	**Milford Sound**	**4.55**	**31**	P	**Pn**	**03 34 06.5**	**+1.0**
EAZ	**Earnscleugh**	**4.65**	**45**	P	**Pn**	**03 34 06.5**	**-0.4**
WKZ	**Wanaka**	**4.83**	**40**	P	**Pn**	**03 34 10.5**	**+1.1**
JCZ	**Jackson Bay**	**5.36**	**33**	P	**Pn**	**03 34 17.7**	**+1.0**
ODZ	**Otahua Downs**	**5.44**	**51**	P	**Pn**	**03 34 16.4**	**-1.4**
LBZ	**Lake Benmore**	**5.70**	**44**	P	**Pn**	**03 34 19.4**	**-1.9**
FOZ	**Fox Glacier**	**6.15**	**36**	P	**Pn**	**03 34 28.7**	**+1.2**
RPZ	**Rata Peaks**	**6.61**	**44**	Pn	**Pn**	**03 34 30.8**	**-3.1**
	9.0nm,0.3s,baz=185,slow=6.0,SNR=16						
RPZ				Sn	**Sn**	**03 35 47.3**	**-0.6**
	20nm,0.3s,baz=28,slow=20,SNR=8.5						
RPZ				LR	LR	03 37 13.7	
	comp=Z,3µm,21.5s,baz=228,slow=40						
RPZ	**Rata Peaks**	**6.61**	**44**	Pn	**Pn**	**03 34 30.8**	**-3.1**
RPZ				Sn	**Sn**	**03 35 47.3**	**-0.7**
RPZ				LR	LR	03 37 13.7	
MCQ	**Macquarie Isla**	**6.87**	**209**	*e*Pn	**Pn**	**03 34 35.1**	**-2.3**
WVZ	**Waitaha Valley**	**6.98**	**40**	P	**Pn**	**03 34 39.4**	**+0.5**
DSZ	**Denniston Nort**	**8.52**	**39**	P	**Pn**	**03 34 59.3**	**-0.8**
TAU	**Tasmania Unive**	**13.38**	**289**	*e*Pn	**Pn**	**03 36 04.1**	**-2.4**
URZ	**Urewera**	**13.73**	**46**	LR	LR	03 42 04.3	
	comp=Z,3µm,19.3s,baz=234,slow=40						
STKA	**Stephens Creek**	**24.15**	**305**	P	**P**	**03 38 13.2**	**+1.4**
	4.8nm,0.9s,mb4.0,baz=126,slow=14,SNR=4.6						
STKA				LR	LR	03 46 19.6	
	comp=Z,593nm,20.4s,MS4.1,baz=305,slow=33						
STKA	**Stephens Creek**	**24.15**	**305**	*e*P	**P**	**03 38 13.7**	**+1.8**
STKA				LR	LR	03 46 19.6	
CTA	**Charters Tower**	**32.10**	**326**	LR	LR	03 51 18.6	
	comp=Z,338nm,18.7s,MS4.1,baz=314,slow=34						
ASAR	**Alice Springs**	**34.78**	**305**	P	**P**	**03 39 46.1**	**-0.2**
	10nm,1.0s,mb4.7,baz=141,slow=9.3,SNR=29						
WB2	**Warramunga Arr**	**37.58**	**309**	*e*P	**P**	**03 40 09.4**	**-0.9**
WRA	**Warramunga Arr**	**37.59**	**309**	P	**P**	**03 40 09.0**	**-1.4**
	9.5nm,0.9s,mb4.5,baz=145,slow=7.9,SNR=28						
WRA				LR	LR	03 54 00.6	
	comp=Z,445nm,18.7s,MS4.3,baz=175,slow=34						
HNR	**Honiara**	**39.27**	**353**	LR	LR	03 53 32.6	
	comp=Z,467nm,18.6s,MS4.3,baz=19,slow=32						
RAR	**Rarotonga**	**39.40**	**59**	LR	LR	03 55 04.4	
	comp=Z,336nm,18.4s,MS4.2,baz=267,slow=34						
QSPA	**South Pole Qui**	**41.49**	**180**	LR	LR	03 57 12.2	
	comp=Z,191nm,18.2s,MS4.0,baz=242,slow=35						
FITZ	**Fitzroy Crossi**	**43.84**	**300**	*e*P	**P**	**03 41 02.3**	**+0.3**
	15nm,1.0s,mb4.7						
KAKA	**Kakadu**	**44.67**	**312**	*e*P	**P**	**03 41 08.8**	**+0.3**
	26nm,1.0s,mb5.0						
MBWA	**Marble Bar**	**45.02**	**291**	*e*P	**P**	**03 41 13.1**	**+1.7**
	22nm,1.0s,mb4.9						
PPT	**Papeete**	**48.23**	**66**	LR	LR	03 58 15.1	
	comp=Z,360nm,19.1s,MS4.4,baz=233,slow=32						
MAW	**Mawson**	**50.27**	**209**	LR	LR	04 01 25.7	
	comp=Z,300nm,20.6s,MS4.3,baz=285,slow=34						
RKT	**Rikitea**	**53.54**	**84**	*e*S	Sx	03 50 14.9	
	294nm,28.8s						
RKT				*e*LR	LR	03 57 40.2	
	619nm,30.5s,baz=222						
SNAA	**Sanae**	**59.68**	**185**	*e*	**P**	**03 42 59.2**	**-0.2**
SNAA				*e*		03 43 04.8	
SNAA				*e*	pP	03 43 10.5	+0.5
SNAA				*e*		03 44 26.2	
SNAA				*e*		03 44 29.9	
SNAA	**Sanae**	**59.68**	**185**	*e*P	**P**	**03 42 59.0**	**-0.4**
	8.3nm,1.2s,mb4.6						
VNA3	**Neumayer Olymp**	**60.37**	**182**	*e*	**P**	**03 43 05.0**	**+0.9**
VNA3				*e*		03 43 09.9	
VNA3				*e*	pP	03 43 14.6	-0.2
VNA3				*e*		03 44 29.0	
VNA3				*e*		03 44 32.9	
VNA2	**Neumayer--Watz**	**60.62**	**183**	*e*	**P**	**03 43 06.3**	**+0.5**
	baz=165,slow=5.2						
VNA2				*e*		03 43 11.5	
VNA2				*e*	pP	03 43 16.7	+0.2
VNA2				*e*		03 44 31.1	
VNA2				*e*		03 44 35.2	
VNA1	**Neumayer--Stat**	**60.92**	**183**	*e*	**P**	**03 43 09.2**	**+1.3**
VNA1				*e*		03 43 14.5	
VNA1				*e*	pP	03 43 19.2	+0.6
VNA1				*e*		03 44 33.4	
VNA1				*e*		03 44 37.9	
CMAR	**Chiang Mai Arr**	**88.66**	**300**	P	**P**	**03 45 48.7**	**0.0**
	1.2nm,0.3s,mb4.7,baz=167,slow=3.7,SNR=6.7						
CMAR				LR	LR	04 29 29.7	
	comp=Z,120nm,18.6s,MS4.3,baz=322,slow=38						
KSRS	**Korea Array**	**91.72**	**332**	P	**P**	**03 46 04.8**	**+2.3**
	1.2nm,0.7s,mb4.3,baz=162,slow=6.6,SNR=5.5						
KSRS				LR	LR	04 27 07.4	
	comp=Z,72nm,18.9s,MS4.1,baz=165,slow=36						
BOSA	**Boshof**	**94.97**	**215**	LR	LR	04 22 19.9	
	comp=Z,113nm,18.4s,MS4.4,baz=262,slow=31						
CPUP	**Villa Florida**	**96.45**	**143**	LR	LR	04 28 54.1	
	comp=Z,103nm,18.6s,MS4.3,baz=61,slow=35						
WCI	**Wyandotte Cave**	**129.16**	**74**	*e*PKPdf	PKPdf	03 52 03.4	+0.3
TORD	**Torodi Ar. Bea**	**141.91**	**208**	PKhKP		03 52 22.1	
	0.5nm,0.6s,baz=160,slow=2.7,SNR=9.9						
TORD				PKP	PKPdf	03 52 30.1	+2.6
	1.0nm,0.9s,baz=163,slow=2.3,SNR=9.8						
BR131	**Keskin Array S**	**144.31**	**274**	*e*PKPdf	PKPdf	03 52 29.9	-1.0
ANTO	**Ankara**	**144.94**	**274**	*e*PKPbc	PKPdf	03 52 32.8	+0.8
TAM	**Tamanrasset**	**149.36**	**220**	*e*PKPbc	PKPbc	03 52 45.5	+1.2
ARCES	**ARCESS Array B**	**151.28**	**331**	PKPbc	PKPbc	03 52 48.2	+0.8
	4.8nm,0.8s,baz=89,slow=1.6,SNR=13						
ARCES	**ARCESS Array B**	**151.28**	**331**	PKPbc	PKPbc	03 52 48.2	+0.8
AKASG	**Malin Array Be**	**151.41**	**291**	PKPbc	PKPbc	03 52 48.4	+0.1
	5.0nm,0.8s,baz=84,slow=2.3,SNR=9.1						
AKASG				PKPab	PKPab	03 52 57.3	+0.5
	3.1nm,0.7s,baz=89,slow=2.2,SNR=7.0						
GERES	**GERESS Array B**	**160.90**	**282**	PKPab	PKPab	03 53 38.6	+1.1
	0.7nm,0.8s,baz=108,slow=4.3,SNR=5.8						

IDC ***03*** *03:36:42.1±0.6, 1771S×17278W, h0km, mb4.5/13, mb1 4.7/13, mb1mx4.6/20, mbtmp4.5/13, MS4.0/5, Ms1 4.0/5, ms1mx3.7/24, Error ellipse: s-maj=23.1km s-min=16.8km az=136.0*
BJI ***03*** *03:36:46.1, 1723S×17301W, h16km, mB5.3, mb5.0, Ms4.9, Msz4.5*
ISCJB ***03*** *03:36:46.3±0.3, 1768S±008×17286W±007, h37km, mb4.7/42, MS4.4/15, Error ellipse: s-maj=12.9km s-min=7.7km az=146.1*
NEIC ***03*** *03:36:47.5±0.3, 1768S×17286W, h35km, mb4.7/24, Error ellipse: s-maj=15.3km s-min=6.8km az=148.0*
SZGRF ***03*** *03:36:48.5, 1748S×17236W, h33km, Tonga Islands region*
MOS ***03*** *03:36:52.4±1.4, 1632S×17284W, h33km, mb5.2/8, MS4.5/4, Error ellipse: s-maj=19.6km s-min=11.7km az=81.3*
ISC 03 03:36:48.1±0.3**, 1770S**±008×**17284W**±007**, h39**km**, h39**km±2.0km**:pP-P, n215,** σ1§**06**/85**, mb4.7**/42**, MS4.4**/15**, 16C-8D, Tonga Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**3.90**	**15**	Pn	**Pn**	**03 37 35.5**	**-10**
	33nm,0.3s,baz=325,slow=2.0,SNR=20						
AFI				Sn	**Sn**	**03 38 16.9**	**-13**
	59nm,0.3s,baz=348,slow=20,SNR=6.1						
AFI	**Afiamalu**	**3.90**	**15**	*e*Pn	**Pn**	**03 37 35.5**	**-10**
RAR	**Rarotonga**	**12.80**	**108**	Pn	**Pn**	**03 39 37.1**	**-11**
	4.9nm,0.3s,baz=266,slow=12,SNR=10.0						
RAR				LR	LR	03 42 55.5	
	comp=Z,459nm,18.4s,baz=282,slow=29						
RAR	**Rarotonga**	**12.80**	**108**	*e*Pn	**Pn**	**03 39 38.0**	**-10**
PPT	**Papeete**	**22.17**	**93**	*e*LR	LR	03 46 25.6	
	454nm,28.0s						
URZ	**Urewera**	**22.30**	**201**	P	**P**	**03 41 42.7**	**+0.6**
	51nm,0.8s,mb5.0,baz=29,slow=7.0,SNR=12						
TBI	**Tubuai**	**22.59**	**108**	*e*LR	LR	03 46 44.2	
	440nm,33.0s						
RPZ	**Rata Peaks**	**29.29**	**204**	P	**P**	**03 42 52.7**	**+6.0**
	19nm,0.6s,mb5.0,baz=39,slow=10,SNR=3.0						
RKT	**Rikitea**	**35.82**	**105**	*e*LR	LR	03 52 50.9	
	253nm,31.2s						
CTA	**Charters Tower**	**38.71**	**260**	P	**P**	**03 44 06.8**	**-1.9**
	2.6nm,0.5s,mb4.3,baz=93,slow=9.4,SNR=6.1						
CTAO	**Charters Tower**	**38.71**	**260**	*e*P	**P**	**03 44 08.3**	**-0.4**
CTAO				pmax	pmax		
	comp=Z,5.0nm,0.7s,mb4.3						
CTAO	**Charters Tower**	**38.71**	**260**	*e*P	**P**	**03 44 08.3**	**-0.4**
	comp=Z,4.7nm,0.7s,mb4.3						
COEN	**Coen**	**42.42**	**269**	*e*P	**P**	**03 44 37.6**	**-1.8**
	comp=Z,8.2nm,1.1s,mb4.3						
STKA	**Stephens Creek**	**43.40**	**242**	P	**P**	**03 44 46.3**	**-0.9**
	comp=Z,6.8nm,0.9s,mb4.4,baz=102,slow=13,SNR=3.9						
STKA				LR	LR	03 59 47.1	
	comp=Z,228nm,18.6s,MS4.1,baz=145,slow=32						
STKA	**Stephens Creek**	**43.40**	**242**	*e*P	**P**	**03 44 46.0**	**-1.1**
WB2	**Warramunga Arr**	**49.87**	**259**	*e*P	**P**	**03 45 36.2**	**-1.8**
WRA	**Warramunga Arr**	**49.88**	**259**	P	**P**	**03 45 36.1**	**-2.0**
	comp=Z,4.0nm,0.5s,mb4.7,baz=97,slow=7.6,SNR=72						
ASAR	**Alice Springs**	**49.95**	**254**	P	**P**	**03 45 37.6**	**-0.9**
	comp=Z,23nm,0.7s,mb5.3,baz=89,slow=8.6,SNR=205						
KAKA	**Kakadu**	**52.90**	**267**	*e*P	**P**	**03 46 00.0**	**-0.7**
	comp=Z,5.0nm,0.6s,mb4.6						
FITZ	**Fitzroy Crossi**	**58.29**	**259**	*e*P	**P**	**03 46 39.2**	**-0.2**
	comp=Z,3.4nm,1.5s,mb4.2						
MJAR	**Matsushiro Arr**	**71.04**	**320**	P	**P**	**03 48 02.7**	**+0.6**
	comp=Z,3.2nm,0.9s,mb4.2,baz=161,slow=5.2,SNR=4.2						
QSPA	**South Pole Qui**	**72.36**	**180**	P	**P**	**03 48 10.2**	**+0.7**
	comp=Z,5.9nm,0.9s,mb4.5,baz=30,slow=2.0,SNR=13						
LPIG	**La Paz**	**73.79**	**58**	LR	LR	04 12 18.6	
	comp=Z,42nm,20.9s,MS3.7,baz=358,slow=29						
CHGN	**Chignik**	**74.71**	**8**	*e*P	**P**	**03 48 30.8**	**+7.4**
MTUM	**Tungsten Hills**	**74.87**	**42**	*e*P	**P**	**03 48 24.4**	**-0.5**
PETK	**Petropavlovsk-**	**74.97**	**342**	P	**P**	**03 48 25.2**	**+0.2**
	comp=Z,4.1nm,0.8s,mb4.4,baz=140,slow=9.1,SNR=2.8						
YBH	**Yreka Blue Hor**	**75.10**	**36**	*e*P	**P**	**03 48 26.2**	**+0.1**
NVAR	**Mina Array Bea**	**75.68**	**41**	P	**P**	**03 48 28.7**	**-0.7**
	comp=Z,1.8nm,0.8s,mb4.1,baz=228,slow=8.7,SNR=11						
YSS	**Yuzh-Sakhalins**	**75.74**	**330**	*e*P	**P**	**03 48 28.8**	**-0.8**
YSS				*e*	pP	03 48 40.3	-1.1
TPNV	**Topopah Spring**	**76.13**	**44**	*e*P	**P**	**03 48 32.3**	**+0.2**
TPNV				pmax	pmax		
	comp=Z,2.0nm,0.9s,mb4.0						

TPNV	**Topopah Spring**	**76.13**	**44**	eP	**P**	**03 48 32.3**	**+0.2**
	comp=Z,2.2nm,0.9s,mb4.1						
WVOR	**Wild Horse Val**	**77.89**	**38**	eP	**P**	**03 48 41.7**	**-0.2**
WVOR				pmax	pmax		
	comp=Z,5.0nm,1.1s,mb4.4						
WVOR	**Wild Horse Val**	**77.89**	**38**	eP	**P**	**03 48 41.7**	**-0.2**
	comp=Z,5.4nm,1.1s,mb4.4						
KSM	**Kuching**	**77.94**	**275**	eP	**P**	**03 48 43.9**	**+1.0**
KSRS	**Korea Array**	**78.17**	**316**	P	**P**	**03 48 45.6**	**+2.1**
	comp=Z,3.8nm,0.9s,mb4.3,baz=126,slow=5.4,SNR=12						
ELK	**Elko**	**78.95**	**41**	eP	**P**	**03 48 47.7**	**0.0**
MSU	**Marysvale**	**79.68**	**44**	eP	**P**	**03 48 51.9**	**+0.1**
HLID	**Hailey**	**81.06**	**39**	eP	**P**	**03 48 58.3**	**-0.8**
	comp=Z,3.7nm,0.8s,mb4.4						
MDJ	**Mudanjiang**	**81.17**	**322**	P	**P**	**03 49 01.2**	**+1.6**
MDJ				AP	pP	03 49 10.2	-1.3
MDJ				XP	sP	03 49 13.9	-2.0
MDJ				PP	PP	03 52 06.5	+1.0
MDJ				S	S	03 59 11.0	+4.2
MDJ				AMB	AMB		
	comp=Z,5.0nm,1.0s,mb4.4						
MDJ				AMB	AMB		
	comp=Z,38nm,3.6s						
MDJ				LR	LR		
	comp=Z,51nm,22.1s,MS3.8						
TXAR	**Lajitas Array**	**81.45**	**56**	P	**P**	**03 49 01.2**	**-0.2**
	comp=Z,1.5nm,1.0s,mb3.9,baz=221,slow=7.9,SNR=6.1						
HWUT	**Hardware Ranch**	**81.73**	**42**	eP	**P**	**03 49 02.2**	**-0.5**
ANMO	**Albuquerque**	**81.86**	**49⇑**	eP	**P**	**03 49 02.9**	**-0.7**
ANMO	**Albuquerque**	**81.86**	**49**	eP	**P**	**03 49 03.5**	**-0.1**
	comp=Z,6.4nm,1.4s,mb4.4						
PV01	**Paradox Valley**	**81.92**	**46**	eP	**P**	**03 49 04.7**	**+0.9**
MCMT	**McKenzie Canyo**	**82.70**	**38**	eP	**P**	**03 49 07.3**	**-0.4**
TRF	**Thorofare Moun**	**82.78**	**10**	eP	**P**	**03 49 06.4**	**-1.2**
	comp=Z,8.8nm,0.8s,mb4.8						
RRI2	**Red Ridge**	**82.82**	**40**	eP	**P**	**03 49 10.3**	**+2.0**
	comp=Z,15nm,1.4s,mb4.8						
REDW	**Red Top Meadow**	**83.12**	**40**	eP	**P**	**03 49 11.7**	**+1.8**
	comp=Z,15nm,1.4s,mb4.8						
TPAW	**Teton Pass**	**83.12**	**40**	eP	**P**	**03 49 10.2**	**+0.3**
	comp=Z,4.1nm,0.9s,mb4.5						
DLMT	**Dillon**	**83.15**	**38**	eP	**P**	**03 49 09.4**	**-0.6**
	comp=Z,3.7nm,0.9s,mb4.4						
CN2	**Changchun**	**83.19**	**320**	eP	**P**	**03 49 12.0**	**+1.8**
CN2				eS	S	03 59 29.4	+1.9
CN2				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb4.8						
CN2				AMB	AMB		
	comp=Z,200nm,5.0s						
SNOW	**Snow King Moun**	**83.23**	**40**	eP	**P**	**03 49 10.3**	**-0.2**
	comp=Z,4.9nm,0.9s,mb4.5						
MCK	**McKinley**	**83.27**	**10**	eP	**P**	**03 49 09.4**	**-0.8**
MCK				pmax	pmax		
	comp=Z,16nm,0.9s,mb5.0						
MCK	**McKinley**	**83.27**	**10**	eP	**P**	**03 49 09.4**	**-0.8**
	comp=Z,16nm,0.9s,mb5.1						
MOOW	**Moose Ponds**	**83.39**	**40**	eP	**P**	**03 49 11.7**	**+0.5**
LOHW	**Long Hollow**	**83.40**	**40**	eP	**P**	**03 49 09.8**	**-1.6**
	comp=Z,1.5nm,0.7s,mb4.1						
QLMT	**Earthquake Lak**	**83.55**	**39**	eP	**P**	**03 49 12.3**	**+0.3**
BW06	**Boulder Array**	**83.61**	**41**	eP	**P**	**03 49 12.0**	**-0.4**
PDAR	**Pinedale Array**	**83.61**	**41**	P	**P**	**03 49 11.3**	**-1.1**
	comp=Z,2.2nm,0.8s,mb4.3,baz=215,slow=4.1,SNR=14						
SDCO	**Great Sand Dun**	**83.86**	**47**	eP	**P**	**03 49 13.6**	**-0.2**
	comp=Z,65nm,3.0s						
COLA	**College**	**84.51**	**10⇑**	iP	**P**	**03 49 15.5**	**-1.0**
COLA	**College**	**84.51**	**10**	eP	**P**	**03 49 15.2**	**-1.3**
	comp=Z,11nm,0.8s,mb5.0						
SEY	**Seymchan**	**84.87**	**345⇑**	eP	**P**	**03 49 19.2**	**+0.9**
AMTX	**Amarillo**	**85.35**	**51**	eP	**P**	**03 49 20.2**	**-1.2**
	comp=Z,6.3nm,0.9s,mb4.8						
DAWY	**Dawson**	**85.50**	**14**	eP	**P**	**03 49 20.8**	**-0.7**
MAW	**Mawson**	**85.80**	**199**	LR	LR	04 26 23.2	
	comp=Z,168nm,18.4s,MS4.5,baz=249,slow=35						
BILL	**Bilibino**	**86.85**	**352⇑**	iP	**P**	**03 49 27.5**	**-0.5**
BILL				pmax	pmax		
	comp=Z,6.0nm,0.4s,mb5.2						
BJI	**Beijing**	**87.44**	**313**	P	**P**	**03 49 28.8**	**-2.7**
BJI				S	S	04 00 13.1	+3.5
BJI				AMB	AMB		
	comp=Z,11nm,0.9s,mb5.1						
BJI				LR	LR		
	comp=Z,61nm,24.2s,MS3.9						
BJI	**Beijing**	**87.44**	**313**	P	**P**	**03 49 28.8**	**-2.7**
	comp=Z,11nm,0.9s,mb5.1						
BJI				S	S	04 00 13.1	+3.5
BJI				LR	LR		
	comp=Z,60nm,24.2s,MS3.9						
HIA	**Hailar**	**89.35**	**323⇑**	iP	**P**	**03 49 41.2**	**+0.9**
GYA	**Guiyang**	**89.59**	**298**	P	**P**	**03 49 41.2**	**-0.9**
GYA				AP	pP	03 49 53.1	-1.0
GYA				XP	sP	03 49 58.6	+0.1
GYA				PP	PP	03 53 15.4	+1.0
GYA				SKS		04 00 06.2	
GYA				XS	sS	04 00 46.3	-4.4
GYA				SS	SS	04 06 28.7	+0.9
GYA				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb5.1						
GYA				AMB	AMB		
	comp=Z,80nm,4.8s						
GYA				LR	LR		
	comp=N,390nm,20.8s,MS4.9						
GYA				LR	LR		
	comp=E,260nm,21.2s,MS4.9						
GYA				LR	LR		
	comp=Z,340nm,20.9s,MS4.8						
VNA3	**Neumayer Olymp**	**90.53**	**175**	eP	**P**	**03 49 46.0**	**+0.4**
VNA3				e		03 49 53.7	
VNA3				e	pP	03 49 58.8	+1.1
VNA3				e		03 50 11.0	
SNAA	**Sanae**	**90.59**	**177**	eP	**P**	**03 49 45.4**	**-0.5**
SNAA				e	pP	03 49 55.0	-3.0
SNAA				e	pP	03 49 58.6	+0.6
SNAA				e		03 50 09.9	
SNAA	**Sanae**	**90.59**	**177⇑**	eP	**P**	**03 49 45.9**	**0.0**
SNAA	**Sanae**	**90.59**	**177**	eP	**P**	**03 49 44.9**	**-1.0**
	comp=Z,2.2nm,0.9s,mb4.5						
HHC	**Hu-ho-hao-te**	**90.98**	**313**	eP	**P**	**03 49 49.7**	**+1.5**
HHC				AP	pP	03 50 00.5	+0.3
HHC				XP	sP	03 50 04.3	-0.3
HHC				PP	PP	03 53 29.6	+4.5
HHC				SKS		04 00 17.7	
HHC				S	S	04 00 43.2	+0.4
HHC				AMB	AMB		
	comp=Z,16nm,1.0s,mb5.3						
HHC				AMB	AMB		
	comp=Z,176nm,4.7s						
HHC				LR	LR		
	comp=N,162nm,21.6s,MS4.7						
HHC				LR	LR		
	comp=E,188nm,18.2s,MS4.7						
HHC				LR	LR		
	comp=Z,147nm,21.8s,MS4.4						
VNA2	**Neumayer--Watz**	**91.03**	**175**	eP	**P**	**03 49 48.5**	**+0.5**
	baz=180,slow=3.4						
VNA2				e		03 49 56.5	
VNA2				e	pP	03 50 02.3	+2.3
VNA2				e		03 50 13.2	
VNA1	**Neumayer--Stat**	**91.23**	**175**	eP	**P**	**03 49 50.1**	**+1.2**
VNA1				e		03 49 57.2	
VNA1				e	pP	03 50 01.8	+0.9
VNA1				e		03 50 14.4	
KMI	**Kunming**	**92.50**	**295**	P	**P**	**03 49 56.5**	**+0.9**
KMI				AP	pP	03 50 07.8	+0.1
KMI				XP	sP	03 50 12.3	+0.2
KMI				PP	PP	03 53 39.0	+1.5
KMI				S	S	04 00 55.7	-1.5
KMI				AMB	AMB		
	comp=Z,13nm,1.3s,mb5.2						
KMI				LR	LR		
	comp=Z,132nm,27.1s,MS4.2						
KMI	**Kunming**	**92.50**	**295**	P	**P**	**03 49 56.5**	**+0.9**
KMI				*PP	pP	03 50 07.8	+0.1
KMI				*SP	sP	03 50 12.3	+0.2
KMI						03 53 39.0	
KMI				PPP		03 55 43.6	
KMI				S	S	04 00 55.7	-1.5
KMI				SS	SS	04 07 15.1	+5.3
KMI				pmax	pmax		
	comp=Z,13nm,1.3s,mb5.2						
KMI				MLR	MLR		
	comp=Z,130nm,27.1s,MS4.2						
KMI	**Kunming**	**92.50**	**295**	P	**P**	**03 49 56.5**	**+0.9**
	comp=Z,13nm,1.3s,mb5.2						
KMI				pP	pP	03 50 07.8	+0.1
KMI				sP	sP	03 50 12.3	+0.2
KMI				PP	PP	03 53 39.0	+1.5
KMI				PPP		03 55 43.6	
KMI				S	S	04 00 55.7	-1.5
KMI				SS	SS	04 07 15.1	+5.3
KMI				SSS		04 10 52.8	
KMI				LR	LR		
	comp=Z,130nm,27.1s,MS4.2						
CD2	**Chengdu**	**93.46**	**301**	eP	**P**	**03 50 00.7**	**+0.8**
CD2				XP	sP	03 50 15.0	-1.4
CD2				PP	PP	03 53 48.0	+3.1
CD2				S	S	04 01 04.0	-1.5
CD2				SS	SS	04 07 26.1	+2.7
CD2				AMB	AMB		
	comp=Z,10.0nm,0.9s,mb5.2						
CD2				AMB	AMB		
	comp=Z,20nm,6.8s						
CD2				LR	LR		
	comp=N,160nm,18.2s						
CD2				LR	LR		
	comp=Z,150nm,16.8s,MS4.5						
CMAR	**Chiang Mai Arr**	**93.84**	**288**	P	**P**	**03 50 03.4**	**+1.5**
	comp=Z,2.9nm,0.8s,mb4.8,baz=90,slow=1.4,SNR=5.8						
CMAR	**Chiang Mai Arr**	**93.84**	**288⇑**	eP	**P**	**03 50 04.5**	**+2.6**
CHTO	**Chiang Mai**	**93.95**	**288**	eP	**P**	**03 50 04.0**	**+1.6**
CHTO				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb5.0						
CHTO	**Chiang Mai**	**93.95**	**288**	eP	**P**	**03 50 04.0**	**+1.5**
	comp=Z,4.7nm,0.8s,mb5.0						
LZH	**Lanzhou**	**95.01**	**306**	eP	**P**	**03 50 09.1**	**+2.2**
LZH				AP	pP	03 50 19.8	+0.8
LZH				XP	sP	03 50 23.6	+0.2
LZH				ePP	PP	03 54 01.9	+5.0
LZH				AMB	AMB		
	comp=Z,21nm,1.5s,mb5.3						
LZH				AMB	AMB		
	comp=Z,113nm,5.6s						
LZH				LR	LR		
	comp=E,227nm,17.4s						
LZH				LR	LR		
	comp=Z,342nm,19.7s,MS4.8						
LZH	**Lanzhou**	**95.01**	**306**	eP	**P**	**03 50 09.1**	**+2.2**
LZH				*PP	pP	03 50 19.8	+0.8
LZH				*SP	sP	03 50 23.6	+0.2
LZH				e		03 54 01.9	
LZH				pmax	pmax		
	comp=Z,21nm,1.5s,mb5.3						
LZH				MLR	MLR		
	comp=Z,340nm,19.7s,MS4.8						
LZH	**Lanzhou**	**95.01**	**306**	eP	**P**	**03 50 09.1**	**+2.2**
	comp=Z,21nm,1.5s,mb5.3						
LZH				pP	pP	03 50 19.8	+0.8
LZH				sP	sP	03 50 23.6	+0.2
LZH				ePP	PP	03 54 01.9	+5.0
LZH				LR	LR		
	comp=Z,340nm,19.7s,MS4.8						
LPAZ	**La Paz**	**98.52**	**110**	LR	LR	04 26 04.7	
	comp=Z,85nm,18.6s,MS4.3,baz=320,slow=30						
BVAR	**Borovoye Array**	**120.02**	**321**	PKP	PKPdf	03 55 34.3	-0.1
	comp=Z,1.3nm,0.7s,baz=90,slow=1.5,SNR=6.2						
BRVK	**Borovoye**	**120.07**	**322**	ePKIKP	PKPdf	03 55 33.7	-0.8
KMBO	**Kilima Mbogo**	**144.96**	**241**	PKPbc	PKPdf	03 56 23.6	+1.4
	comp=Z,5.5nm,0.8s,baz=110,slow=1.8,SNR=12						
KMBO	**Kilima Mbogo**	**144.96**	**241⇑**	iPKHKP		03 56 24.2	
KMBO	**Kilima Mbogo**	**144.96**	**241**	ePKPdf	PKPdf	03 56 23.9	+1.8
LVV	**L'vov**	**145.20**	**341**	ePKHKP		03 56 21.0	
NRDL	**Niedersach Rie**	**145.20**	**357**	ePKPbc	PKPbc	03 56 20.8	-0.2
IBBN	**Ibbenburen**	**145.47**	**359**	ePKPbc	PKPbc	03 56 21.9	0.0
KWP	**Kalwaria**	**145.77**	**342**	ePKP	PKPdf	03 56 23.4	+1.0
KWP	**Kalwaria**	**145.77**	**342⇑**	iP	PKPdf	03 56 23.6	+1.2
KWP	**Kalwaria**	**145.77**	**342**	ePKPbc	PKPbc	03 56 23.2	+0.3
CLZ	**Clausthal**	**145.84**	**356**	ePKPbc	PKPbc	03 56 23.2	+0.2
MALT	**Malatya**	**145.85**	**313**	PKIKP	PKiKP	03 56 30.4	+3.3
MALT	**Malatya**	**145.85**	**313⇓**	iP	PKiKP	03 56 30.5	+3.4
MALT	**Malatya**	**145.85**	**313**	ePKPbc	PKiKP	03 56 30.0	+3.0
OJC	**Ojcow**	**146.01**	**345**	ePKP	PKPdf	03 56 23.9	+1.1
OJC	**Ojcow**	**146.01**	**345**	ePKP	PKPdf	03 56 24.0	+1.2
KSP	**Ksiaz**	**146.14**	**350**	ePKP	PKPdf	03 56 24.9	+1.9
KSP	**Ksiaz**	**146.14**	**350**	ePKP	PKPdf	03 56 23.8	+0.8
KSP				epPKP	pPKPdf	03 56 34.3	-1.1
CLL	**Collm**	**146.15**	**353**	ePKPbc	PKPbc	03 56 23.9	-0.1
CLL	**Collm**	**146.15**	**353**	i PKPbc	PKPbc	03 56 24.0	0.0
	comp=Z,18nm,0.9s						
CLL				i x	x	03 56 26.1	
	comp=Z,22nm,1.2s						
CLL				i PKiKP	PKiKP	03 56 27.6	+0.4
	comp=Z,20nm,1.0s						
CLL				i pPKPbc	pPKPbc	03 56 34.2	-2.1
CLL				i sPKiKP		03 56 43.2	
CLL	**Collm**	**146.15**	**353**	i PKP	PKPdf	03 56 24.0	+1.0
CLL				i		03 56 26.1	
CLL				i PKP	PKiKP	03 56 27.6	+0.4
CLL				i pPKP	pPKPdf	03 56 34.2	-1.2
BUG	**Bochum--Univer**	**146.34**	**360**	ePKPbc	PKPbc	03 56 24.4	-0.2
STHS	**Stebnicka Huta**	**146.38**	**343**	ePKP	PKPab	03 56 25.6	0.0
BRG	**Berggiesshubel**	**146.46**	**352**	ePKPbc	PKPbc	03 56 25.0	+0.1
BRG	**Berggiesshubel**	**146.46**	**352**	i PKP	PKPdf	03 56 25.3	+1.8
	comp=Z,25nm,1.5s						
BRG				e		03 56 44.3	
	comp=Z,26nm,1.3s						
FBE	**Freiberg**	**146.49**	**353**	ePKPbc	PKPbc	03 56 25.3	+0.3
UPC	**Upice**	**146.51**	**350**	ePKP	PKPab	03 56 26.3	+0.2
DPC	**Dobruska-Polom**	**146.61**	**349**	ePKP	PKPab	03 56 26.7	+0.2
NIE	**Niedzica**	**146.62**	**344**	ePKP	PKPab	03 56 26.6	+0.1
BUR08	**Bucovina Ar. S**	**146.67**	**338**	ePKPbc	PKPbc	03 56 27.2	+1.6
BURAR	**Bucovina Array**	**146.69**	**338⇓**	iP	PKPab	03 56 29.9	+3.0
PVCC	**Panska Ves**	**146.72**	**351**	ePKP	PKPbc	03 56 26.8	+1.1
OKC	**Ostrava-Krasne**	**146.74**	**347**	ePKP	PKPbc	03 56 26.8	+1.0
CRVS	**Cervenica-Dubn**	**146.78**	**343**	ePKP2	PKPab	03 56 26.2	-1.0
UZH	**Uzhgorod**	**146.78**	**342⇓**	iPKP2	PKPab	03 56 26.6	-0.6
UZH				i		03 56 29.8	
UBBA	**Unterbreizbach**	**146.88**	**357**	ePKPbc	PKPbc	03 56 26.3	+0.1
MORC	**Moravsky Berou**	**146.93**	**348⇓**	iP	PKPbc	03 56 27.6	+1.3
MORC	**Moravsky Berou**	**146.93**	**348**	ePKPbc	PKPbc	03 56 26.7	+0.4
MOX	**Moxa**	**146.94**	**355**	ePKP	PKPbc	03 56 26.9	+0.6
	comp=Z,33nm,1.7s						
MOX	**Moxa**	**146.94**	**355**	ePKPbc	PKPbc	03 56 26.3	0.0
WERD	**Werda**	**147.07**	**354**	ePKPbc	PKPbc	03 56 27.1	+0.4
TANN	**Tannenbergstha**	**147.09**	**354**	ePKPbc	PKPbc	03 56 27.3	+0.5
GUNZ	**Gunzen**	**147.15**	**354**	ePKPbc	PKPbc	03 56 27.4	+0.5
WERN	**Wernitzgruen**	**147.22**	**354**	ePKPbc	PKPbc	03 56 27.8	+0.7
PRU	**Pruhonice**	**147.25**	**351**	ePKP	PKPbc	03 56 28.3	+1.1
NKC	**Novy Kostel**	**147.27**	**354**	ePKP	PKPbc	03 56 29.6	+2.3
MANZ	**Manzenberg**	**147.55**	**354**	ePKPbc	PKPbc	03 56 28.4	+0.4
VRAC	**Vranov**	**147.56**	**348⇑**	iP	PKPbc	03 56 29.8	+1.7
VRAC	**Vranov**	**147.56**	**348**	P	PKPbc	03 56 29.6	+1.5
DOU	**Dourbes**	**147.62**	**3**	PKP	PKPbc	03 56 29.2	+1.0
GIVF	**Givet**	**147.62**	**3**	ePKP1	PKPbc	03 56 28.5	+0.3
BAIF	**Baives**	**147.63**	**4**	ePKP1	PKPbc	03 56 28.6	+0.3
ROTZ	**Rotzenmuhle**	**147.75**	**354**	ePKPbc	PKPbc	03 56 29.1	+0.5
TREC	**Trest**	**147.77**	**350**	ePKP	PKPbc	03 56 29.6	+0.9
VYHS	**Vyhne**	**147.85**	**345**	i PKP	PKPbc	03 56 29.0	+0.1
ABH	**Alteburg**	**147.90**	**360**	PKP	PKPbc	03 56 30.6	+1.6
GRA1	**Grafenberg Arr**	**147.92**	**355**	ePKPbc	PKPbc	03 56 29.8	+0.7
GRF	**Grafenberg Arr**	**147.92**	**355**	ePKPbc	PKPbc	03 56 29.8	+0.7
RUP	**Ruppelstein**	**148.08**	**0**	PKIKP	PKPbc	03 56 29.9	+0.4
WLF	**Walferdange**	**148.10**	**1**	PKP	PKPbc	03 56 30.6	+1.0
WLF	**Walferdange**	**148.10**	**1**	ePKPbc	PKPbc	03 56 30.2	+0.6
WLF	**Walferdange**	**148.10**	**1**	ePKPbc	PKPbc	03 56 30.2	+0.6
PSZ	**Piszkesteto**	**148.11**	**344**	PKP2	PKPbc	03 56 31.3	+1.7
PSZ	**Piszkesteto**	**148.11**	**344⇑**	ePKP	PKPbc	03 56 31.1	+1.5
PSZ	**Piszkesteto**	**148.11**	**344**	ePKPbc	PKPbc	03 56 30.7	+1.1
TOD	**Tromm**	**148.15**	**358**	PKIKP	PKPbc	03 56 29.6	-0.1
MLR	**Muntele Rosu**	**148.17**	**335⇑**	iP	PKPbc	03 56 30.5	+0.6
KHC	**Kasperske Hory**	**148.22**	**352⇑**	iPKIKP	PKPbc	03 56 30.2	+0.3
KHC	**Kasperske Hory**	**148.22**	**352**	ePKP	PKPbc	03 56 30.9	+1.0
BR131	**Keskin Array S**	**148.26**	**319**	ePKPbc	PKPbc	03 56 31.0	+0.7
DRGR		**148.27**	**340⇑**	iP	PKPbc	03 56 30.7	+0.6
DRGR		**148.27**	**340**	P	PKPbc	03 56 31.1	+1.0
ROSF	**Rostrenen**	**148.28**	**13**	ePKP1	PKPbc	03 56 29.3	-0.8
	comp=Z,21nm,1.1s						
WET	**Wettzell**	**148.29**	**353**	ePKPbc	PKPbc	03 56 30.9	+0.8
MODS	**Modra-Piesok**	**148.31**	**347**	i PKP	PKPbc	03 56 31.2	+1.1
MODS	**Modra-Piesok**	**148.31**	**347**	i PKP	PKPbc	03 56 31.3	+1.2
FLN	**La Foliniere**	**148.40**	**10**	ePKP1	PKPbc	03 56 30.0	-0.4
	comp=Z,21nm,0.8s						
FLN				eMLR	MLR		
	comp=Z,135nm,19.2s,MS4.5						
FLN	**La Foliniere**	**148.40**	**10**	ePKP	PKPbc	03 56 30.0	-0.4
FLN				LR	LR		
	comp=Z,130nm,19.3s,MS4.7						
KTD	**Kalmit**	**148.45**	**359**	PKP2	PKPab	03 56 33.5	-0.3
GEC2	**GERESS Array S**	**148.48**	**352**	ePKPbc	PKPbc	03 56 30.9	+0.3
GERES	**GERESS Array B**	**148.48**	**352**	PKPbc	PKPbc	03 56 31.4	+0.8
	comp=Z,3.5nm,0.9s,baz=38,slow=2.4,SNR=19						
SGMF	**Saint Gilles**	**148.51**	**12**	ePKP1	PKPbc	03 56 30.3	-0.4
LDF	**La Druitiere**	**148.62**	**9**	ePKP1	PKPbc	03 56 30.7	-0.2
	comp=Z,16nm,0.9s						
ANTO	**Ankara**	**148.69**	**320**	ePKIKP	PKPbc	03 56 31.8	+0.4
GRR	**Gorron**	**148.70**	**10**	ePKP1	PKPbc	03 56 31.0	-0.1
	comp=Z,12nm,0.7s						
LANF	**Langenberg**	**148.79**	**359**	PKP	PKPbc	03 56 33.7	+2.3
STU	**Stuttgart**	**148.96**	**357**	ePKPbc	PKPbc	03 56 32.1	+0.3
CONA	**Conrad Observa**	**149.02**	**349⇑**	iPKiKP	PKiKP	03 56 33.0	-0.3
	comp=Z,15nm,1.1s,SNR=9.8						
CSNA	**Conrad Observa**	**149.02**	**349⇓**	iPKiKP	PKiKP	03 56 33.0	-0.3
	comp=Z,14nm,1.1s						
CDF	**Champ du Feu**	**149.37**	**360**	ePKP1	PKPbc	03 56 33.3	+0.5
	comp=Z,30nm,1.3s						
FUR	**Furstenfeldbru**	**149.43**	**355**	ePKPbc	PKPbc	03 56 33.6	+0.6
BFO	**Black Forest**	**149.44**	**358**	ePKPbc	PKPbc	03 56 33.4	+0.4
THEF	**They Montfort**	**149.54**	**2**	PKP	PKPbc	03 56 33.9	+0.6
ECH	**Echery**	**149.56**	**0**	PKP	PKPbc	03 56 35.2	+1.9
ECH	**Echery**	**149.56**	**0**	ePKPdf	PKPdf	03 56 28.2	-0.5
ECH				ePKPbc	PKPbc	03 56 33.9	+0.6
ECH				PKP	PKPbc	03 56 35.2	+1.9
BZS	**Buzias**	**149.67**	**340⇓**	iP	PKPbc	03 56 34.3	+0.6
HAU	**Haudompre**	**149.77**	**1**	ePKP1	PKPbc	03 56 34.2	+0.4
	comp=Z,12nm,0.8s						
HAU				eMLR	MLR		
	comp=Z,116nm,22.8s,MS4.3						
HAU	**Haudompre**	**149.77**	**1**	ePKP	PKPbc	03 56 34.2	+0.4
HAU				LR	LR		
	comp=Z,120nm,22.8s,MS4.6						
FELD	**Feldberg im Sc**	**149.90**	**359**	PKP	PKPbc	03 56 35.0	+0.9
MOF	**Molkenrain**	**149.93**	**0**	PKP	PKPbc	03 56 34.9	+0.7
HINF	**Hinteralfeld**	**149.96**	**0**	ePKP1	PKPbc	03 56 34.5	+0.2
PKSM	**Moragy**	**150.01**	**344⇓**	iP	PKPbc	03 56 35.1	+0.6
PKSM	**Moragy**	**150.01**	**344**	P	PKPbc	03 56 35.1	+0.7
WTTA	**Wattenberg**	**150.29**	**354⇓**	iPKiKP	PKiKP	03 56 35.6	-0.3
	comp=Z,13nm,1.0s						
BBS	**Basel-Blauen**	**150.31**	**360**	PKP	PKPdf	03 56 30.8	+0.8
LOR	**Lormes**	**150.39**	**5**	ePKP1	PKPbc	03 56 35.7	+0.4
LOR				eMLR	MLR		
	comp=Z,129nm,20.5s,MS4.4						
LOR	**Lormes**	**150.39**	**5**	ePKP	PKPbc	03 56 35.7	+0.4
LOR				LR	LR		
	comp=Z,130nm,20.5s,MS4.7						
LOMF	**Lomont**	**150.43**	**0**	PKP	PKPbc	03 56 35.2	-0.2
MFF	**Saint Martin d**	**150.55**	**10**	ePKP1	PKPbc	03 56 35.7	-0.1
SSF	**Saint Saulge**	**150.56**	**5**	ePKP1	PKPbc	03 56 36.2	+0.4
	comp=Z,60nm,1.6s						
ABTA	**Abfaltersbach**	**150.70**	**352⇑**	iPKiKP	PKiKP	03 56 36.1	-0.7
	comp=Z,13nm,0.8s,SNR=9.5						
AVF	**Avril sur Loir**	**150.82**	**5**	ePKP1	PKPbc	03 56 36.4	0.0
	comp=Z,7.3nm,0.8s						
BGF	**Bois d'Agland**	**151.00**	**6**	ePKP1	PKPbc	03 56 37.0	+0.2
	comp=Z,8.6nm,0.8s						
SMF	**Signal de Mont**	**151.00**	**5**	ePKP1	PKPbc	03 56 36.9	+0.1
CABF	**La Chapelle**	**151.16**	**2**	ePKP1	PKPbc	03 56 38.1	+0.9
	comp=Z,26nm,1.1s						
TCF	**Toulx Ste Croi**	**151.20**	**7**	ePKP1	PKPbc	03 56 37.1	-0.2
TUE	**Stuetta**	**151.25**	**357**	ePKPbc	PKPbc	03 56 38.4	+1.0
TUE				ePKPab	PKPab	03 56 45.0	-0.4
VISS	**Visnje**	**151.26**	**349**	i PKPdf	PKPbc	03 56 38.1	+0.7
JAVS	**Javornik**	**151.31**	**350**	i PKPdf	PKPbc	03 56 37.5	-0.1
BOJS	**Bojanci**	**151.47**	**348**	i PKPdf	PKPbc	03 56 38.4	+0.4
RJF	**Les Rejaudoux**	**152.07**	**9**	ePKP1	PKPbc	03 56 39.2	-0.1
RJF				eMLR	MLR		
	comp=Z,156nm,20.0s,MS4.5						
RJF	**Les Rejaudoux**	**152.07**	**9**	ePKP	PKPbc	03 56 39.2	-0.1
RJF				LR	LR		
	comp=Z,160nm,20.0s,MS4.8						
BNI	**Bardonecchia**	**152.73**	**1**	ePKIKP	PKPdf	03 56 31.6	-2.1
TORD	**Torodi Ar. Bea**	**173.05**	**130**	PKP	PKPdf	03 56 53.3	-0.8
	comp=Z,0.8nm,0.9s,baz=314,slow=2.1,SNR=3.5						
TORD				PKPab	PKPab	03 58 20.8	-0.4
	comp=Z,1.6nm,1.0s,baz=265,slow=2.6,SNR=5.6						

IDC ***03*** *03:51:47.5±1.4, 5458N×16170W, h0km, mb4.3/14, mb1 4.4/15, mb1mx4.2/25, mbtmp4.3/15, ML3.7/1, Error ellipse: s-maj=38.4km s-min=16.1km az=167.0*

ISCJB ***03*** *03:51:50.7±1.0, 5429N±009×16145W±009, h46km±6km, mb4.3/17, Error ellipse: s-maj=16.4km s-min=5.4km az=153.6*

NEIC ***03*** *03:51:50.7, 5426N×16141W, h42km, mb4.4/2, ML3.8(PMR), ML3.9(AEIC), After AEIC.*

ISC 03 03:51:51.9±0.9**, 5432N**±009×**16144W**±009**, h39**km±6km**, n42, σ0s90**/47**, mb4.3**/17**, 1C-4D, Alaska Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SDPT	**Sand Point**	**1.17**	**28**	P	**Pn**	**03 52 11.4**	**-0.4**
SDPT				S	**Sn**	**03 52 27.7**	**+1.1**
FALS	**False Pass**	**1.27**	**296**	P	**Pn**	**03 52 12.6**	**-0.5**
FALS				S	**Sn**	**03 52 29.9**	**+1.0**
AKUT	**Akutan**	**2.55**	**268**	P	**Pn**	**03 52 30.6**	**-0.2**
AKUT				S	**Sn**	**03 53 00.8**	**+0.3**
CHGN	**Chignik**	**2.63**	**40**	P	**Pn**	**03 52 32.9**	**+1.0**
AKLV	**Akutan Long Va**	**2.66**	**268**	P	**Pn**	**03 52 32.2**	**0.0**
AKGG	**Akutan Green G**	**2.67**	**269**	P	**Pn**	**03 52 32.7**	**+0.3**
UNV	**Unalaska Valle**	**3.02**	**263**	P	**Pn**	**03 52 36.7**	**-0.5**
UNV				S	**Sn**	**03 53 12.2**	**+0.1**
OKCD	**Okmok Cone D**	**4.05**	**260**	P	**Pn**	**03 52 51.6**	**+0.3**
NIKO	**Nikolski**	**4.61**	**256**	P	**Pn**	**03 52 58.6**	**-0.4**
KDAK	**Kodiak Island**	**6.05**	**51**	Pn	**Pn**	**03 53 17.9**	**-0.8**
	2.0nm,0.3s,baz=327,slow=14,SNR=18						
KDAK				Sn	**Sn**	**03 54 24.5**	**-2.2**
	0.7nm,0.3s,baz=315,slow=20,SNR=3.4						
SVW2	**Sparrevohn**	**7.48**	**22**	eP	**Pn**	**03 53 40.1**	**+1.7**
DAWY	**Dawson**	**14.84**	**40**	ePn	**Pn**	**03 55 16.9**	**-1.9**
PETK	**Petropavlovsk-**	**23.98**	**284**	P	**P**	**03 57 01.3**	**-1.1**
	9.8nm,0.4s,mb4.6,baz=82,slow=13,SNR=35						
PETK	**Petropavlovsk-**	**23.98**	**284**	P	**P**	**03 57 01.3**	**-1.1**
YKA	**Yellowknife Ar**	**25.33**	**52**	P	**P**	**03 57 16.2**	**+1.6**
	1.3nm,0.5s,mb3.7,baz=269,slow=9.1,SNR=5.3						
MJAR	**Matsushiro Arr**	**44.45**	**272**	P	**P**	**03 59 57.9**	**-1.0**
	1.4nm,0.7s,mb3.8,baz=43,slow=8.0,SNR=4.5						
MJAR	**Matsushiro Arr**	**44.45**	**272**	P	**P**	**03 59 57.9**	**-1.0**
TXAR	**Lajitas Array**	**48.10**	**97**	P	**P**	**04 00 29.5**	**+1.9**
	0.1nm,0.5s,baz=299,slow=5.6,SNR=3.8						
TXAR	**Lajitas Array**	**48.10**	**97**	P	**P**	**04 00 29.5**	**+1.9**
KSRS	**Korea Array**	**49.81**	**281**	P	**P**	**04 00 40.4**	**-0.2**
	2.2nm,0.8s,mb4.3,baz=51,slow=6.7,SNR=8.7						
SONM	**Songino Array**	**54.27**	**304**	P	**P**	**04 01 13.7**	**0.0**
	2.6nm,0.7s,mb4.3,baz=43,slow=6.6,SNR=17						
KEV	**Kevo**	**56.08**	**356**	ep	**P**	**04 01 26.2**	**-0.2**
	0.8nm,0.4s,mb4.1						
ARCES	**ARCESS Array B**	**56.35**	**357**	P	**P**	**04 01 27.1**	**-1.1**
	4.9nm,0.8s,mb4.6,baz=19,slow=7.7,SNR=6.6						
ZALV	**Zalesovo Beam**	**59.05**	**321**	P	**P**	**04 01 45.9**	**-1.6**
	0.8nm,0.3s,mb4.2,baz=352,slow=3.3,SNR=3.5						
JOF	**Joensuu**	**62.68**	**353**	ep	**P**	**04 02 11.2**	**-0.7**
	0.7nm,0.3s,mb4.3						
KAF	**Kangasniemi**	**63.75**	**356**	ep	**P**	**04 02 18.2**	**-0.9**
	2.0nm,0.3s,mb4.6,baz=1.4,slow=6.3						
BVAR	**Borovoye Array**	**64.72**	**328**	P	**P**	**04 02 25.4**	**-0.1**
	3.1nm,0.5s,mb4.6,baz=42,slow=6.8,SNR=17						
NB2	**NORSAR Subarra**	**64.84**	**4**	P	**P**	**04 02 25.9**	**-0.3**
	comp=Z,2.7nm,0.7s,mb4.4,baz=357,slow=6.5						
NOA	**NORSAR Array B**	**64.84**	**4**	P	**P**	**04 02 26.0**	**-0.2**
	comp=Z,2.5nm,0.7s,mb4.4,baz=357,slow=6.6,SNR=10						
MKAR	**Makanchi Array**	**65.75**	**317**	P	**P**	**04 02 31.5**	**-0.9**
	comp=Z,0.5nm,0.3s,mb4.0,baz=45,slow=6.3,SNR=7.9						
CLL	**Collm**	**74.64**	**4**	i P	**P**	**04 03 26.9**	**+0.2**
AKASG	**Malin Array Be**	**74.97**	**353**	P	**P**	**04 03 27.8**	**-0.8**
	comp=Z,6.5nm,0.5s,mb4.8,baz=9.7,slow=6.0,SNR=22						
DPC	**Dobruska-Polom**	**75.69**	**1**	eP	**P**	**04 03 33.4**	**+0.7**
MORC	**Moravsky Berou**	**76.28**	**1⇓**	iP	**P**	**04 03 36.2**	**+0.2**
KWP	**Kalwaria**	**76.37**	**357⇑**	iP	**P**	**04 03 37.1**	**+0.5**
KHC	**Kasperske Hory**	**76.84**	**3**	eP	**P**	**04 03 40.2**	**+1.0**
GERES	**GERESS Array B**	**77.13**	**3**	P	**P**	**04 03 41.4**	**+0.5**
	comp=Z,1.0nm,0.6s,mb3.9,baz=6.2,slow=4.1,SNR=12						
BURAR	**Bucovina Array**	**78.29**	**355⇓**	iP	**P**	**04 03 47.5**	**+0.2**
DRGR		**79.20**	**357⇓**	iP	**P**	**04 03 52.6**	**+0.2**
GZR	**Gura Zlata**	**80.60**	**357⇓**	iP	**P**	**04 04 00.6**	**+0.6**
CMAR	**Chiang Mai Arr**	**80.67**	**288**	P	**P**	**04 04 02.4**	**+1.6**
	comp=Z,1.5nm,0.3s,mb4.4,baz=11,slow=5.0,SNR=5.6						
ESDC	**Sonseca Array**	**84.40**	**17**	P	**P**	**04 04 20.3**	**+0.4**
	comp=Z,1.0nm,0.7s,mb4.1,baz=349,slow=4.2,SNR=4.9						

IDC ***03*** *04:17:14.3±1.2, 4847S×16484E, h0km, mb4.1/5,*

mb1 4.3/6, mb1mx4.2/13, mbtmp4.1/6, ML4.0/1, MS3.2/1, Ms1 3.2/1, ms1mx2.9/16, Error ellipse: s-maj=29.7km s-min=25.9km az=53.0

*NEIC **03** 04:17:14.7±0.6, 48.78S×164.75E, h10km, mb4.5/1, Error ellipse: s-maj=16.8km s-min=6.5km az=144.0*

*ISCJB **03** 04:17:15.1±0.8, 48.90S±0.10×165.0E±0.1, h33km, mb4.0/5, Error ellipse: s-maj=17.4km s-min=6.8km az=140.5*

ISC 03 04:17:17.6±0.8**, 48.8S**±0.1×**164.9E**±0.1**, h35km, n28, σ0.99**/24**, mb4.0**/5**, Off west coast of South Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WHZ	**Wether Hill Ro**	**3.60**	**36**	P	**Pn**	**04 18 10.8**	**0.0**
DCZ	**Deep Cove**	**3.69**	**25**	P	**Pn**	**04 18 11.0**	**-1.1**
DCZ				S	**Sn**	**04 18 56.7**	**+2.3**
MLZ	**Mavora Lakes**	**4.14**	**34**	P	**Pn**	**04 18 18.3**	**0.0**
TUZ	**Tuapeka**	**4.32**	**50**	P	**Pn**	**04 18 21.9**	**+1.2**
MSZ	**Milford Sound**	**4.65**	**28**	P	**Pn**	**04 18 26.1**	**+0.8**
EAZ	**Earnscleugh**	**4.70**	**42**	P	**Pn**	**04 18 26.4**	**+0.5**
WKZ	**Wanaka**	**4.90**	**37**	P	**Pn**	**04 18 30.2**	**+1.4**
JCZ	**Jackson Bay**	**5.46**	**31**	P	**Pn**	**04 18 37.3**	**+0.9**
ODZ	**Otahua Downs**	**5.46**	**48**	P	**Pn**	**04 18 36.2**	**-0.2**
LBZ	**Lake Benmore**	**5.75**	**41**	P	**Pn**	**04 18 39.3**	**-1.1**
RPZ	**Rata Peaks**	**6.66**	**42**	Pn	**Pn**	**04 18 50.5**	**-2.5**
	3.1nm,0.3s,baz=34,slow=8.4,SNR=7.0						
RPZ				Sn	**Sn**	**04 20 06.2**	**-1.3**
	10nm,0.3s,baz=61,slow=19,SNR=10						
MCQ	**Macquarie Isla**	**6.77**	**211**	*e*Pn	**Pn**	**04 18 55.0**	**+0.6**
LTZ	**Lake Taylor**	**7.94**	**43**	P	**Pn**	**04 19 10.4**	**-0.1**
DSZ	**Denniston Nort**	**8.59**	**37**	P	**Pn**	**04 19 19.2**	**-0.2**
URZ	**Urewera**	**13.77**	**44**	LR	LR	04 24 50.4	
	comp=Z,120nm,21.9s,baz=38,slow=34						
STKA	**Stephens Creek**	**24.39**	**305**	P	**P**	**04 22 33.1**	**+0.7**
	4.4nm,0.9s,mb3.9,baz=127,slow=10,SNR=3.3						
ASAR	**Alice Springs**	**35.02**	**305**	P	**P**	**04 24 06.5**	**-0.2**
	2.8nm,0.9s,mb4.2,baz=140,slow=7.6,SNR=19						
WB2	**Warramunga Arr**	**37.83**	**309**	*e*P	**P**	**04 24 29.9**	**-0.9**
WRA	**Warramunga Arr**	**37.84**	**309**	P	**P**	**04 24 29.9**	**-0.9**
	3.1nm,0.9s,mb4.0,baz=144,slow=7.9,SNR=15						
QSPA	**South Pole Qui**	**41.29**	**180**	P	**P**	**04 25 04.5**	**+5.6**
	2.1nm,1.0s,mb3.7,baz=2.1,slow=2.0,SNR=5.2						
QSPA	**South Pole Qui**	**41.29**	**180**	P	**P**	**04 25 04.5**	**+5.6**
FITZ	**Fitzroy Crossi**	**44.08**	**300**	*e*P	**P**	**04 25 22.1**	**-0.1**
	5.8nm,0.8s,mb4.4						
FITZ	**Fitzroy Crossi**	**44.08**	**300**	P	**P**	**04 25 22.6**	**+0.4**
	3.5nm,0.8s,mb4.2,baz=161,slow=13,SNR=11						
AML	**Almayashu**	**120.80**	**300**	*e*P	PKPdf	04 36 04.8	-0.4
TORD	**Torodi Ar. Bea**	**141.80**	**207**	PKhKP		04 36 41.8	
	0.3nm,0.5s,baz=172,slow=3.0,SNR=6.7						
BR131	**Keskin Array S**	**144.47**	**274**	*e*PKPdf	PKPdf	04 36 49.8	+0.2
ARCES	**ARCESS Array B**	**151.53**	**331**	PKPbc	PKPbc	04 37 07.7	+1.3
	5.4nm,1.0s,baz=64,slow=2.1,SNR=8.5						
AKASG	**Malin Array Be**	**151.63**	**291**	PKPbc	PKPbc	04 37 08.2	+1.0
	1.3nm,0.6s,baz=86,slow=2.7,SNR=7.0						

CASC 03 04:26:05.3±1.5**, 11.69N×87.04W, h53km**±18km**, MD4.0, ML3.4, 8C-8D, Near coast of Nicaragua**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
COPN	**Copaltepe**	**0.65**	**42**	⇑*i*P	Pn	04 26 18.5	0.0
COPN				*e*S	Sn	04 26 29.2	+1.0
COPN				AML	AML	04 26 30.2	
	comp=Z,1μm,0.7s						
LEON	**Leon**	**0.73**	**11**	⇓*e*P	Pn	04 26 19.4	-0.2
LEON				*e*S	Sn	04 26 31.1	+1.1
LEON				AML	AML	04 26 31.6	
	comp=Z,4μm,0.2s						
CRUN	**El Crucero**	**0.78**	**68**	⇑*e*P	Pn	04 26 20.5	+0.3
CRUN				AML	AML	04 26 41.4	
	comp=Z,261nm,0.5s						
MIRN	**Miramar**	**0.81**	**23**	⇑*e*P	Pn	04 26 20.5	-0.1
MIRN				*e*S	Sn	04 26 34.0	+2.2
MIRN				AML	AML	04 26 34.8	
	comp=Z,1μm,0.4s						
XAVN	**Gruta Xavier**	**0.83**	**57**	⇑*e*P	Pn	04 26 20.8	0.0
TICN	**Ticuantepe**	**0.86**	**67**	*e*P	Pn	04 26 21.4	+0.1
APYN	**Apoyeque**	**0.86**	**51**	⇑*e*P	Pn	04 26 21.3	0.0
APYN				AML	AML	04 26 47.0	
	comp=Z,868nm,0.4s						
MOMN	**Momotombo**	**0.86**	**34**	⇓*e*P	Pn	04 26 21.6	+0.3
MOMN				*e*S	Sn	04 26 33.7	+0.7
CNGN	**Cerro Negro**	**0.87**	**22**	⇓*e*P	Pn	04 26 21.1	-0.2
CNGN				*e*S	Sn	04 26 33.7	+0.6
CNGN				*e*S	Sn	04 26 34.8	+1.6
TISN	**Laguna Tiscapa**	**0.87**	**59**	⇑*e*P	Pn	04 26 21.3	-0.2
TISN				*e*S	Sn	04 26 33.3	0.0
TEL3	**Telica 3**	**0.89**	**12**	⇓*e*P	Pn	04 26 21.6	-0.1
TEL3				*e*S	Sn	04 26 33.3	-0.4
MGAN	**Managua**	**0.90**	**60**	*e*P	Pn	04 26 22.0	+0.3
MGAN				*e*S	Sn	04 26 35.0	+1.3
WILN	**Americas 2**	**0.95**	**61**	⇓*e*P	Pn	04 26 22.3	-0.2
WILN				*e*S	Sn	04 26 36.7	+1.5
APON	**Apoyo**	**0.98**	**77**	⇑*e*P	Pn	04 26 23.1	+0.3
CRIN	**San Cristobal**	**1.00**	**359**	*e*P	Pn	04 26 23.1	0.0
CRIN				*e*S	Sn	04 26 37.4	+1.1
HUEN		**1.06**	**53**	⇓*e*P	Pn	04 26 24.1	+0.1
HUEN				*e*S	Sn	04 26 37.6	-0.1
SSN	**San Juan del S**	**1.23**	**108**	*e*P	Pn	04 26 25.9	-0.2
SSN				*e*S	Sn	04 26 42.4	+0.7
CONN	**Concepcion**	**1.39**	**95**	⇓*e*P	Pn	04 26 28.4	0.0
CNCH	**Conchagua**	**1.75**	**334**	⇑*e*P	x	04 26 33.9	
CNCH				*e*S	x	04 26 56.2	
CNCH				AML	x	04 27 03.1	
	comp=Z,287nm,0.4s						
BLLM	**Bellamira**	**2.10**	**326**	*e*P	x	04 26 38.5	
BLLM				*e*S	x	04 27 03.5	
VSM	**San Miguel**	**2.10**	**325**	*e*P	x	04 26 39.5	
VSM				*e*S	x	04 27 05.1	
CAHU	**Cacacuatique**	**2.36**	**331**	*e*P	x	04 26 43.2	
TGUH	**Tegucigalpa,Un**	**2.36**	**354**	⇓*e*P	Pn	04 26 42.6	+1.0
TGUH				*e*S	Sn	04 27 10.6	+1.2
SNVI	**San Vicente**	**2.59**	**318**	*e*P	x	04 26 46.1	
SNVI				*e*S	x	04 27 15.8	
LFRS	**El Faro**	**2.75**	**314**	*e*P	x	04 26 47.8	
LFRS				*e*S	x	04 27 19.0	
BOQS	**Boqueron**	**2.98**	**313**	*e*P	x	04 26 50.9	
BOQS				*e*S	x	04 27 26.4	

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*ISCJB **03** 04:35:45.7±3.4, 36.4N±0.2×70.8E±0.4, h187km±41km, Error ellipse: s-maj=56.3km s-min=7.2km az=144.8*

*NNC **03** 04:35:53.4±8.6, 36.91N×70.27E, h103km±141km, mb2.9, mpv3.5, Error ellipse: s-maj=71.1km s-min=55.4km az=48.0*

ISC 03 04:35:41.2±5.4**, 36.2N**±0.3×**70.1E**±0.5**, h174km**±58km**, n15, σ0.80**/18**, 4C, Hindu Kush region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**6.58**	**24**	P	**Pn**	**04 37 15.2**	**-0.5**
	SNR=88						
KK31	**Karatay Array**	**6.93**	**3**	P	**Pn**	**04 37 21.9**	**+1.7**
	1.5nm,0.3s,baz=176,slow=12,SNR=39						
KK31				S	**Sn**	**04 38 32.8**	**-5.6**
	9.5nm,0.6s,baz=182,slow=24,SNR=9.7						
EKS2	**Erkin-Say**	**7.09**	**23**	P	**Pn**	**04 37 22.6**	**+0.3**
	SNR=14						
AAK	**Ala-Archa**	**7.31**	**27**	P	**Pn**	**04 37 24.7**	**-0.5**
	SNR=7.2						
CHMS	**Chumysh**	**7.72**	**27**	P	**Pn**	**04 37 30.6**	**0.0**
	SNR=5.3						
USP	**Ospenovka**	**7.87**	**24**	P	**Pn**	**04 37 32.3**	**-0.2**
	SNR=7.9						
DANN	**Dangsing**	**13.96**	**120**	*e*P	**Pn**	**04 38 50.5**	**-1.1**
	6.2nm,0.2s						
KOLN	**Koldanda**	**14.21**	**122**	*e*P	**Pn**	**04 38 54.5**	**-0.2**
	4.8nm,0.3s						
GKN	**Gorkha**	**14.79**	**119**	*e*P	**Pn**	**04 39 01.3**	**-0.5**
	10.0nm,0.3s						
AB31	**Akbulak array**	**15.02**	**334**	⇑P	**Pn**	**04 39 12.8**	**+8.3**
	0.5nm,0.3s,baz=156,slow=12,SNR=29						
AB31				⇑S	**S**	**04 41 50.2**	**-1.5**
	1.1nm,0.4s,baz=156,slow=24,SNR=7.6						
JIRN	**Jiri**	**16.10**	**117**	*e*P	**Pn**	**04 39 17.8**	**-0.1**
	20nm,0.5s						
AKTO	**Aktyubinsk**	**16.70**	**332**	⇑P	**Pn**	**04 39 35.7**	**+11**
	0.5nm,1.1s						
AKTO				⇑S	**S**	**04 42 30.8**	**+1.2**
	0.6nm,1.6s						
RAMN	**Ramite**	**16.81**	**119**	*e*P	**Pn**	**04 39 27.0**	**+0.5**
	5.4nm,0.3s						
TAPN	**Taplejung**	**17.38**	**115**	*e*P	**Pn**	**04 39 33.5**	**+0.3**
	6.5nm,0.4s						
ODAN	**Odare**	**17.43**	**117**	*e*P	**Pn**	**04 39 34.7**	**+0.9**
	10nm,0.5s						

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*ISK **03** 04:37:58.2, 38.50N×39.24E, h3km, MD2.7*

*DDA **03** 04:37:58.1, 38.50N×39.29E, h7km±3km, Md3.1*

*CSEM **03** 04:37:58.2±0.1, 38.50N×39.25E, h8km, MD2.7, Error ellipse: s-maj=3.1km s-min=2.5km az=110.0*

*ISCJB **03** 04:37:59.2±0.6, 38.50N±0.04×39.25E±0.04, h5km±5km, Error ellipse: s-maj=6.2km s-min=5.2km az=175.0*

ISC 03 04:37:59.5±0.6**, 38.50N**±0.04×**39.25E**±0.04**, h5km**±7km**, n9, σ0.83**/17**, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SVRC	**Sivrice-ELAZID**	**0.13**	**158**	PG	**Pg**	**04 38 01.8**	**-0.3**
SVRC				SG	**Sg**	**04 38 04.0**	**+0.3**
ELZG	**Elazig**	**0.21**	**271**	*i* P	**Pg**	**04 38 03.5**	**-0.1**
ELZG				*i* S	**Sg**	**04 38 06.9**	**+0.6**
PTK	**Pertek**	**0.41**	**16**	*e*PG	**Pg**	**04 38 07.1**	**-0.3**
PTK				*e*SG	**Sg**	**04 38 13.6**	**+0.8**
MYA	**Malataya**	**0.67**	**256**	PG	**Pg**	**04 38 11.6**	**-0.7**
MYA				SG	**Sg**	**04 38 22.0**	**+1.0**
AKCD	**Akcadag**	**1.06**	**260**	*i* P	**Pg**	**04 38 17.4**	**-2.4**
AKCD				*i* S	**Sg**	**04 38 34.1**	**+0.6**
URFA	**Urfa**	**1.10**	**198**	*e*PN	**Pn**	**04 38 20.9**	**-0.8**
ATAB	**Bozova**	**1.27**	**217**	*i* P	**Pg**	**04 38 23.2**	**-0.7**
ATAB				*i* S	**Sg**	**04 38 41.0**	**+0.7**
MARD	**Mardin**	**1.69**	**134**	*i* P	**Pn**	**04 38 29.0**	**-0.7**
MARD				*i* S	**Sn**	**04 38 52.9**	**+1.2**
BEST	**Besiri**	**1.70**	**110**	*i* P	**Pn**	**04 38 30.1**	**+0.2**
BEST				*i* S	**Sn**	**04 38 58.2**	**+6.1**

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*NEIC **03** 04:45:09.1±0.4, 10.45S×161.41E, h10km, mb4.9/20, MS4.8/1, Error ellipse: s-maj=13.3km s-min=8.2km az=143.0*

*BJI **03** 04:45:10.8, 9.74S×161.67E, h15km, mB5.1, mb4.9, Ms4.8, Msz4.4*

*MOS **03** 04:45:11.0±1.2, 10.39S×161.36E, h33km, mb5.1/14, Error ellipse: s-maj=11.2km s-min=10.7km az=2.1*

*ISCJB **03** 04:45:14.4±1.6, 10.44S±0.06×161.22E±0.08, h61km±12km, mb4.7/42, Error ellipse: s-maj=13.2km s-min=9.5km az=24.4*

*IDC **03** 04:45:15.7±3.4, 10.40S×161.14E, h57km±26km, mb4.2/14, mb1 4.4/15, mb1mx4.4/18, mbtmp4.3/15, ML4.6/1, MS3.9/11, Ms1 3.9/11, ms1mx3.6/27, Error ellipse: s-maj=29.2km s-min=15.1km az=102.0*

*DJA **03** 04:45:27, 10.38S×160.79E, h139km, mb4.7/6*

ISC 03 04:45:15.4±1.4**, 10.47S**±0.06×**161.28E**±0.07**, h56km**±11km**, h9km**±4.0km**:pP-P, n94, σ1.00**/89**, mb4.7**/42**, MS4.0**/18**, 8C-1D, Bougainville - Solomon Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**1.67**	**308**	P	**Pn**	**04 45 39.8**	**-2.4**
	388nm,0.3s,baz=154,slow=3.9,SNR=62						
HNR				S	**Sn**	**04 46 03.2**	**+0.7**
	2μm,0.3s,baz=151,slow=23,SNR=17						
HNR				LR	LR	04 46 21.1	
	comp=Z,2μm,19.0s,baz=40,slow=43						
HNR	**Honiara**	**1.67**	**308**	*e*Pn	**Pn**	**04 45 40.7**	**-1.6**
HNR				*e*Sn	**Sn**	**04 46 05.3**	**+2.8**
PMG	**Port Moresby**	**13.95**	**273**	⇑*e*P	**Pn**	**04 48 31.8**	**+1.5**
PMG	**Port Moresby**	**13.95**	**273**	*e*Pn	**Pn**	**04 48 31.5**	**+1.2**
CTA	**Charters Tower**	**17.35**	**235**	*e*P	**Pn**	**04 49 14.2**	**+0.5**
	23nm,0.9s						
CTA	**Charters Tower**	**17.35**	**235**	P	**Pn**	**04 49 14.4**	**+0.7**
	1.3nm,0.3s,baz=63,slow=13,SNR=16						
CTA				LR	LR	04 55 01.8	
	comp=Z,329nm,19.5s,baz=49,slow=34						
CTA	**Charters Tower**	**17.35**	**235**	*e*P	**Pn**	**04 49 14.2**	**+0.5**
CTA				pmax	pmax		
	comp=Z,23nm,0.9s						
CTAO	**Charters Tower**	**17.35**	**235**	*e*P	**Pn**	**04 49 14.1**	**+0.4**
CTAO				pmax	pmax		
	comp=Z,44nm,0.9s						
CTAO	**Charters Tower**	**17.35**	**235**	*e*P	**Pn**	**04 49 14.1**	**+0.4**
	comp=Z,44nm,0.9s						
COEN	**Coen**	**18.03**	**257**	*e*P	**Pn**	**04 49 23.3**	**+1.2**
	comp=Z,14nm,1.1s						
AFI	**Afiamalu**	**26.55**	**100**	LR	LR	04 59 12.3	
	comp=Z,372nm,20.1s,MS3.9,baz=280,slow=31						
WB2	**Warramunga Arr**	**27.60**	**247**	*e*P	**P**	**04 50 57.3**	**-0.3**
WB2	**Warramunga Arr**	**27.60**	**247**	*e*P	**P**	**04 50 57.2**	**-0.4**
WRA	**Warramunga Arr**	**27.61**	**247**	P	**P**	**04 50 57.6**	**-0.2**
	comp=Z,4.1nm,0.7s,mb4.2,baz=77,slow=9.0,SNR=41						
WRA				PcP	PcP	04 54 13.6	-0.7
	comp=Z,1.7nm,0.8s,baz=75,slow=2.5,SNR=6.1						
STKA	**Stephens Creek**	**28.02**	**218**	*e*P	**P**	**04 51 02.4**	**+1.2**
	comp=Z,6.7nm,0.8s,mb4.3						
STKA	**Stephens Creek**	**28.02**	**218**	P	**P**	**04 51 01.8**	**+0.5**
	comp=Z,1.8nm,0.4s,mb4.0,baz=60,slow=12,SNR=9.6						
STKA				LR	LR	05 01 47.2	
	comp=Z,457nm,19.8s,MS4.1,baz=30,slow=35						
KAKA	**Kakadu**	**28.33**	**263**	*e*P	**P**	**04 51 03.7**	**-0.5**
	comp=Z,8.9nm,0.6s,mb4.6						
GUMO	**Guam**	**28.92**	**325**	LR	LR	05 01 25.9	
	comp=Z,224nm,20.4s,MS3.8,baz=146,slow=34						
ASAR	**Alice Springs**	**29.20**	**240**	P	**P**	**04 51 10.8**	**-1.0**
	comp=Z,1.1nm,0.4s,mb4.0,baz=64,slow=10,SNR=16						
URZ	**Urewera**	**31.10**	**155**	LR	LR	05 02 49.1	
	comp=Z,174nm,18.6s,MS3.8,baz=298,slow=34						
FITZ	**Fitzroy Crossi**	**35.31**	**253**	*e*P	**P**	**04 52 04.4**	**-1.0**
	comp=Z,12nm,0.5s,mb5.1						
FITZ	**Fitzroy Crossi**	**35.31**	**253**	LR	LR	05 05 29.9	
	comp=Z,135nm,19.2s,MS3.7,baz=259,slow=34						
DAV	**Davao City (W)**	**39.58**	**295**	LR	LR	05 06 30.5	
	comp=Z,198nm,18.2s,MS4.0,baz=354,slow=32						
MBWA	**Marble Bar**	**41.24**	**250**	*e*P	**P**	**04 52 55.1**	**-0.2**
	comp=Z,26nm,1.4s,mb4.7						
PPT	**Papeete**	**48.10**	**104**	*e*LR	LR	05 07 32.7	
	comp=Z,123nm,22.0s						
PPT	**Papeete**	**48.10**	**104**	LR	LR	05 09 39.2	
	comp=Z,178nm,19.0s,MS4.1,baz=267,slow=30						
MJAR	**Matsushiro Arr**	**51.56**	**336**	P	**P**	**04 54 14.3**	**-1.5**
	comp=Z,4.9nm,0.6s,mb4.6,baz=170,slow=9.0,SNR=12						
MAJO	**Matsushiro**	**51.56**	**336**	*e*P	**P**	**04 54 14.5**	**-1.3**
MAJO				pmax	pmax		
	comp=Z,11nm,0.6s,mb5.0						
MAJO	**Matsushiro**	**51.56**	**336**	*e*P	**P**	**04 54 14.5**	**-1.3**
	comp=Z,11nm,0.6s,mb5.0						
KSRS	**Korea Array**	**57.01**	**329**	P	**P**	**04 54 55.3**	**-0.2**
	comp=Z,4.1nm,0.7s,mb4.5,baz=141,slow=7.4,SNR=20						
KSRS				LR	LR	05 18 02.6	
	comp=Z,59nm,18.3s,MS3.7,baz=309,slow=35						
QIZ	**Qiongzhong**	**58.56**	**300**	P	**P**	**04 55 07.2**	**+0.5**
QIZ				S	**S**	**05 03 06.3**	**-0.6**
QIZ				LR	LR		
	comp=Z,79nm,21.7s,MS3.8						
YSS	**Yuzh-Sakhalins**	**59.51**	**345**	⇑*e*P	**P**	**04 55 13.2**	**+0.5**
YSS				pmax	pmax		
	comp=Z,18nm,1.0s,mb5.1						
MDJ	**Mudanjiang**	**61.88**	**335**	P	**P**	**04 55 28.6**	**-0.3**
MDJ				AP	pP	04 55 31.8	-12
MDJ				PP	PP	04 57 45.2	-0.6
MDJ				S	**S**	**05 03 52.6**	**+4.2**
MDJ				SCS	ScS	05 05 20.1	+4.3
MDJ				AMB	AMB		
	comp=Z,11nm,1.0s,mb4.9						
MDJ				AMB	AMB		
	comp=Z,77nm,4.4s						
MDJ				LR	LR		
	comp=N,37nm,24.4s,MS3.6						
MDJ				LR	LR		
	comp=E,30nm,22.3s,MS3.6						
MDJ				LR	LR		
	comp=Z,49nm,20.2s,MS3.7						
RKT	**Rikitea**	**61.90**	**111**	*e*LR	LR	05 13 52.8	
	comp=Z,153nm,26.2s						
CN2	**Changchun**	**63.07**	**332**	*e*P	**P**	**04 55 36.4**	**-0.5**
CN2				*e*XP	sP	04 55 43.4	-15
CN2				*e*S	**S**	**05 04 05.8**	**+2.3**
CN2				AMB	AMB		
	comp=Z,20nm,0.8s,mb5.3						
CN2				AMB	AMB		
	comp=Z,300nm,7.0s						
PETK	**Petropavlovsk-**	**63.40**	**358**	P	**P**	**04 55 39.0**	**+0.1**
	comp=Z,5.1nm,0.8s,mb4.7,baz=163,slow=5.6,SNR=3.7						
PETK				LR	LR	05 18 16.8	
	comp=Z,87nm,20.1s,MS3.9,baz=222,slow=31						
GYA	**Guiyang**	**64.49**	**306**	⇑*i*P	**P**	**04 55 47.6**	**+1.0**
GYA				PCP	PcP	04 56 21.2	+0.7
GYA				PP	PP	04 58 12.7	+3.5
GYA				SCP		05 00 22.0	
GYA				S	**S**	**05 04 26.5**	**+4.7**
GYA				SKS		05 05 38.7	
GYA				AMB	AMB		
	comp=Z,20nm,1.0s,mb5.1						
GYA				AMB	AMB		
	comp=Z,120nm,6.3s						
GYA				LR	LR		
	comp=N,640nm,19.6s,MS5.0						
GYA				LR	LR		
	comp=E,580nm,19.0s,MS5.0						
GYA				LR	LR		
	comp=Z,590nm,18.4s,MS4.8						
KLR	**Kul'dur**	**64.87**	**339**	*e*P	**P**	**04 55 44.3**	**-4.3**
CASY	**Casey**	**65.36**	**200**	*e*P	**P**	**04 55 51.4**	**-0.2**
	comp=Z,9.6nm,0.5s,mb5.1						
KMI	**Kunming**	**67.10**	**303**	P	**P**	**04 56 07.4**	**+4.0**
KMI				AP	pP	04 56 10.6	-8.3
KMI				XP	sP	04 56 12.2	-13
KMI				PP	PP	04 58 37.7	+5.7
KMI				S	S	05 05 00.1	+6.5
KMI				SS	SS	05 09 20.6	+6.8
KMI				AMB	AMB		
	comp=Z,7.0nm,0.8s,mb4.7						
KMI	**Kunming**	**67.10**	**303**	P	**P**	**04 56 07.4**	**+4.0**
KMI						04 58 37.7	
KMI				PPP		05 00 13.1	
KMI				S	S	05 05 00.1	+6.5
KMI				SS	SS	05 09 20.6	+6.8
KMI				SSS		05 12 19.2	
KMI				pmax	pmax		
	comp=Z,7.0nm,0.8s,mb4.7						
KMI				MLR	MLR		
	comp=Z,50nm,27.0s,MS3.6						
KMI	**Kunming**	**67.10**	**303**	P	**P**	**04 56 07.4**	**+4.0**
	comp=Z,7.0nm,0.8s,mb4.7						
KMI				pP	pP	04 56 10.6	-8.3
KMI				sP	sP	04 56 12.2	-13
KMI				PP	PP	04 58 37.7	+5.7
KMI				PPP		05 00 13.1	
KMI				S	S	05 05 00.1	+6.5
KMI				SS	SS	05 09 20.6	+6.8
KMI				SSS		05 12 19.2	
KMI				LR	LR		
	comp=Z,50nm,27.0s,MS3.6						
CMAR	**Chiang Mai Arr**	**67.87**	**295**	P	**P**	**04 56 08.3**	**-0.1**
	comp=Z,2.6nm,0.7s,mb4.4,baz=128,slow=5.1,SNR=8.7						
CMAR	**Chiang Mai Arr**	**67.87**	**295**	*i* P	**P**	**04 56 08.6**	**+0.2**
CMAR				pmax	pmax		
	comp=Z,3.0nm,0.7s						
HHC	**Hu-ho-hao-te**	**68.60**	**322**	*e*P	**P**	**04 56 15.6**	**+3.1**
HHC				AP	pP	04 56 19.9	-8.1
HHC				XP	sP	04 56 22.1	-12
HHC				PCP	PcP	04 56 40.3	+3.1
HHC				PP	PP	04 58 50.7	+5.9
HHC				SCP		05 00 41.8	
HHC				S	S	05 05 19.1	+8.1
HHC				XS	sS	05 05 27.0	-10
HHC				SCS	ScS	05 06 13.0	+5.2
HHC				AMB	AMB		
	comp=Z,12nm,1.0s,mb4.8						
HHC				AMB	AMB		
	comp=Z,194nm,4.9s						
HHC				LR	LR		
	comp=N,233nm,19.5s,MS4.6						
HHC				LR	LR		
	comp=E,227nm,18.1s,MS4.6						
HHC				LR	LR		
	comp=Z,151nm,15.5s,MS4.3						
CD2	**Chengdu**	**68.80**	**309**	P	**P**	**04 56 16.6**	**+2.6**
CD2				AP	pP	04 56 21.5	-8.0
CD2				XP	sP	04 56 24.1	-12
CD2				PP	PP	04 58 50.9	+4.3
CD2				S	S	05 05 19.6	+5.9
CD2				XS	sS	05 05 33.2	-6.6
CD2				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.8						
CD2				AMB	AMB		
	comp=Z,30nm,6.8s						
CD2				LR	LR		
	comp=N,160nm,18.2s						
CD2				LR	LR		
	comp=Z,150nm,19.2s,MS4.2						
LZH	**Lanzhou**	**71.16**	**314**	*e*P	**P**	**04 56 29.7**	**+1.4**
LZH				AP	pP	04 56 34.5	-9.4
LZH				XP	sP	04 56 36.8	-13
LZH				*e*PP	PP	04 59 09.5	+2.6
LZH				AMB	AMB		
	comp=Z,21nm,1.5s,mb4.8						
LZH				AMB	AMB		
	comp=Z,123nm,5.9s						
LZH				LR	LR		
	comp=E,347nm,16.2s						
LZH				LR	LR		
	comp=Z,469nm,19.0s,MS4.8						
LZH	**Lanzhou**	**71.16**	**314**	*e*P	**P**	**04 56 29.7**	**+1.4**
LZH				*SP	sP	04 56 36.8	-13
LZH				*e*		04 59 09.5	
LZH				pmax	pmax		
	comp=Z,21nm,1.5s,mb4.8						
LZH				MLR	MLR		
	comp=Z,470nm,19.0s,MS4.8						
LZH	**Lanzhou**	**71.16**	**314**	*e*P	**P**	**04 56 29.7**	**+1.4**
	comp=Z,21nm,1.5s,mb4.8						
LZH				pP	pP	04 56 34.5	-9.4
LZH				sP	sP	04 56 36.8	-13
LZH				*e*PP	PP	04 59 09.5	+2.6
LZH				LR	LR		
	comp=Z,470nm,19.0s,MS4.8						
ULN	**Ulaanbaatar**	**75.30**	**326**	⇑*e*P	**P**	**04 56 52.3**	**-0.2**
ULN	**Ulaanbaatar**	**75.30**	**326**	*e*P	**P**	**04 56 53.1**	**+0.6**
	comp=Z,8.2nm,0.7s,mb4.8						
SONM	**Songino Array**	**75.65**	**325**	P	**P**	**04 56 54.7**	**+0.2**
	comp=Z,9.0nm,0.6s,mb4.9,baz=142,slow=5.8,SNR=74						
YAK	**Yakutsk**	**76.36**	**345**	*e*P	**P**	**04 56 56.9**	**-1.3**
YAK				pmax	pmax		
	comp=Z,21nm,0.8s,mb5.1						
YAK				pmax	pmax		
	comp=N,3.0nm,0.9s						
YAK				pmax	pmax		
	comp=E,3.0nm,0.9s						
BOD	**Bodaibo**	**78.19**	**336**	*e*P	**P**	**04 57 07.3**	**-1.3**
BOD				pmax	pmax		
	comp=Z,3.0nm,1.6s,mb4.0						
BILL	**Bilibino**	**78.39**	**2**	⇑*i*P	**P**	**04 57 09.7**	**+0.2**
BILL				pmax	pmax		
	comp=Z,7.0nm,0.6s,mb4.8						
ZAK	**Zakamensk**	**78.75**	**326**	*e*P	**P**	**04 57 10.9**	**-0.9**
ZAK				pmax	pmax		
	comp=Z,7.0nm,1.0s,mb4.5						
SVW2	**Sparrevohn**	**79.00**	**20**	*e*P	**P**	**04 57 13.9**	**+1.0**
TLY	**Talaya**	**79.25**	**328**	⇓*i*P	**P**	**04 57 14.2**	**-0.3**
TLY				pmax	pmax		
	comp=Z,12nm,1.7s,mb4.5						
QSPA	**South Pole Qui**	**79.53**	**180**	P	**P**	**04 57 16.3**	**+0.6**
	comp=Z,10nm,0.7s,mb4.8,baz=353,slow=0.8,SNR=10						
QSPA	**South Pole Qui**	**79.53**	**180**	P	**P**	**04 57 16.3**	**+0.6**
KTH	**Kantishna Hill**	**82.28**	**20**	*e*P	**P**	**04 57 29.9**	**-0.6**
	comp=Z,20nm,1.4s,mb4.8						
MCK	**McKinley**	**83.06**	**20**	*e*P	**P**	**04 57 34.5**	**0.0**
MCK				pmax	pmax		
	comp=Z,15nm,0.9s,mb5.0						
MCK	**McKinley**	**83.06**	**20**	*e*P	**P**	**04 57 34.5**	**0.0**
	comp=Z,15nm,0.9s,mb5.0						
MAW	**Mawson**	**83.59**	**202**	P	**P**	**04 57 37.6**	**+0.3**
	comp=Z,9.8nm,0.8s,mb5.0,baz=95,slow=5.8,SNR=19						
MAW	**Mawson**	**83.59**	**202**	*e*P	**P**	**04 57 38.0**	**+0.7**
MAW				pmax	pmax		
	comp=Z,27nm,1.2s						
MAW	**Mawson**	**83.59**	**202**	*e*P	**P**	**04 57 38.0**	**+0.7**
	comp=Z,27nm,1.2s,mb5.3						
COLA	**College**	**84.16**	**19**	*e*P	**P**	**04 57 38.9**	**-1.2**
COLA				pmax	pmax		
	comp=Z,9.0nm,1.1s,mb4.8						
COLA	**College**	**84.16**	**19**	*e*P	**P**	**04 57 38.9**	**-1.3**
	comp=Z,8.9nm,1.1s,mb4.8						
TIXI	**Tiksi**	**84.73**	**350**	⇑*e*P	**P**	**04 57 41.8**	**-1.1**
TIXI				pmax	pmax		
	comp=Z,8.0nm,1.0s,mb4.8						
WMQ	**Urumqi**	**85.60**	**316**	⇑P	**P**	**04 57 48.2**	**+0.3**
WMQ				AP	pP	04 57 53.7	-10
WMQ				XP	sP	04 57 55.8	-14

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
WMQ				PP	PP	05 01 08.7	+1.3
WMQ				S	S	05 08 18.2	+2.6
WMQ				AMB	AMB		
	comp=Z,8.0nm,0.6s,mb5.1						
WMQ				AMB	AMB		
	comp=Z,65nm,4.5s						
WMQ				LR	LR		
	comp=N,23nm,21.0s,MS4.4						
WMQ				LR	LR		
	comp=E,150nm,21.0s,MS4.4						
WMQ				LR	LR		
	comp=Z,30nm,21.0s,MS3.7						
DAWY	Dawson	86.65	22	eP	P	04 57 53.5	+1.0
NVAR	Mina Array Bea	89.04	51	P	P	04 58 05.6	+1.1
	comp=Z,1.4nm,0.8s,mb4.4,baz=234,slow=6.7,SNR=8.7						
WVOR	Wild Horse Val	89.77	47	eP	P	04 58 08.5	+0.6
WVOR				pmax	pmax		
	comp=Z,6.0nm,1.1s,mb4.8						
WVOR	Wild Horse Val	89.77	47	eP	P	04 58 08.5	+0.6
	comp=Z,6.0nm,1.1s,mb4.8						
MKAR	Makanchi Array	90.12	318	P	P	04 58 08.3	-1.0
	comp=Z,2.7nm,0.6s,mb4.8,baz=93,slow=5.9,SNR=14						
TPNV	Topopah Spring	90.28	53	eP	P	04 58 11.3	+0.9
ZALV	Zalesovo Beam	90.54	325	P	P	04 58 09.0	-2.2
	comp=Z,0.6nm,0.3s,mb4.4,baz=66,slow=3.5,SNR=2.8						
SHPR	Sheep Range	91.04	53	eP	P	04 58 15.4	+1.5
ELK	Elko	91.87	49	eP	P	04 58 18.1	+0.4
ELK				pmax	pmax		
	comp=Z,3.0nm,0.9s						
ELK	Elko	91.87	49	eP	P	04 58 18.1	+0.4
	comp=Z,2.9nm,0.9s,mb4.6						
NEW	Newport	92.20	41	eP	P	04 58 18.8	-0.2
NEW				pmax	pmax		
	comp=Z,5.0nm,1.0s						
NEW	Newport	92.20	41	eP	P	04 58 18.8	-0.2
	comp=Z,5.0nm,1.0s,mb4.8						
BSMT	Bassoo Peak	93.64	42	eP	P	04 58 31.4	+5.8
PDAR	Pinedale Array	96.41	48	P	P	04 58 39.6	+1.1
	comp=Z,0.4nm,0.8s,mb3.9,baz=202,slow=1.6,SNR=4.5						
YKA	Yellowknife Ar	96.50	28	LR	LR	05 41 37.3	
	comp=Z,33nm,19.3s,MS3.8,baz=150,slow=35						
SNAA	Sanae	97.36	185	eP	P	04 58 41.4	-0.8
SNAA				e		04 58 45.5	
SNAA	Sanae	97.36	185	eP	P	04 58 41.1	-1.1
SNAA				pmax	pmax		
	comp=Z,2.0nm,0.8s						
SNAA	Sanae	97.36	185	eP	P	04 58 41.1	-1.2
	comp=Z,2.3nm,0.8s,mb4.7						
ANMO	Albuquerque	97.75	56	⇑eP	P	04 58 44.2	-0.5
RWWY	Rawlins	98.00	49	eP	P	04 58 50.4	+4.7
VNA3	Neumayer Olymp	98.24	183	eP	P	04 58 45.4	-0.8
VNA3				e		04 58 48.9	
VNA2	Neumayer--Watz	98.43	184	eP	P	04 58 46.6	-0.5
VNA2				e		04 58 50.5	
GERES	GERESS Array B	133.16	331	PKP	PKPdf	05 04 25.7	+0.8
	comp=Z,0.5nm,0.7s,baz=126,slow=1.8,SNR=4.4						
TORD	Torodi Ar. Bea	159.84	280	PKP	PKPdf	05 05 07.9	-1.3
	comp=Z,0.5nm,0.8s,baz=48,slow=1.4,SNR=3.3						
TORD				PKPab	PKPab	05 05 47.4	-1.0
	comp=Z,0.9nm,0.8s,baz=64,slow=4.9,SNR=6.3						

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*IDC **03** 04:49:50.8±6.2, 3724N×2741E, h0^{km}, mb3.9/2, mb1 3.9/3, mb1mx3.4/23, mbtmp3.7/3, ML3.7/1, Error ellipse: s-maj=149.1km s-min=36.5km az=93.0*
*ISCJB **03** 04:50:20.6±0.6, 3774N±004×2310E±006, h108^{km}±4^{km}, mb3.8/2, Error ellipse: s-maj=8.2km s-min=5.3km az=155.5*
*NEIC **03** 04:50:21.4, 3774N×2312E, h98^{km}, MG3.1(ATH), After ATH.*
*ATH **03** 04:50:21.4, 3774N×2312E, h98^{km}±2^{km}, ML3.1*
*CSEM **03** 04:50:22.1±0.1, 3776N×2311E, h80^{km}, ML3.6/3, Error ellipse: s-maj=2.1km s-min=1.4km az=59.0*
*THE **03** 04:50:22.2, 3774N×2309E, h95^{km}±2^{km}, ML3.6/3, Error ellipse: s-maj=2.5km s-min=1.4km az=107.0*
ISC 03 04:50:21.6±0.6**, 3774N**±004×**2311E**±006**, h101**^{km}±4^{km}**, n47,** σ0^{s}**76**/64**, mb3.8**/2**, 2C, Southern Greece**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
DID	Didima	0.26	156	P	Pn	04 50 35.8	-0.4
DID				S	Sn	04 50 46.5	-0.5
LTK	Loutraki	0.30	339	P	Pn	04 50 35.9	-0.5
LTK				S	Sn	04 50 46.4	-1.0
NAIG	Nisos Aigina	0.30	86	eP	Pn	04 50 36.0	-0.4
NAIG				eS	Sn	04 50 47.0	-0.4
NAIG	Nisos Aigina	0.30	86	eP	Pn	04 50 36.0	-0.4
NAIG				eS	Sn	04 50 47.0	-0.4
ATH	Athens Observa	0.54	64	eP	Pn	04 50 38.0	+0.2
ATH	Athens Observa	0.54	64	eP	Pn	04 50 38.0	+0.2
PTL	Penteli	0.68	63	eP	Pn	04 50 38.5	-0.4
PTL	Penteli	0.68	63	eP	Pn	04 50 38.5	-0.4
VLX	Vlachokerasia	0.68	238	P	Pn	04 50 39.3	+0.3
VLX				S	Sn	04 50 52.1	+0.1
LKR	Lokris	0.91	355	P	Pn	04 50 40.8	-0.4
LKR				S	Sn	04 50 55.8	-0.2
LKR	Lokris	0.91	355	⇑iP	Pn	04 50 40.8	-0.4
LKR	Lokris	0.91	355	⇑iP	Pn	04 50 40.8	-0.4
VLI	Veliai	1.03	188	eP	Pn	04 50 42.5	+0.1
VLI				eS	Sn	04 50 58.0	-0.1
VLI	Veliai	1.03	188	eP	Pn	04 50 42.5	+0.1
VLI				eS	Sn	04 50 58.0	-0.1
ITM	Ithomi	1.09	240	eP	Pn	04 50 43.7	+0.6
ITM	Ithomi	1.09	240	eP	Pn	04 50 43.7	+0.6
RLS	Riolos of Patr	1.33	284	eP	Pn	04 50 47.0	+1.1
RLS	Riolos of Patr	1.33	284	eP	Pn	04 50 47.0	+1.1
PYL	PYLOS	1.37	233	P	Pn	04 50 45.8	-0.6
AGG	Agios Georgios	1.42	335	P	Pn	04 50 47.2	+0.3
AGG				S	Sn	04 51 07.4	+1.3
KYTH	Kithira	1.46	182	eP	Pn	04 50 48.0	+0.6
KYTH	Kithira	1.46	182	eP	Pn	04 50 48.0	+0.6
EVR	Evrytania	1.56	319	eP	Pn	04 50 49.3	+0.7
EVR				eS	Sn	04 51 09.7	+0.6
EVR	Evrytania	1.56	319	eP	Pn	04 50 49.3	+0.7
EVR				eS	Sn	04 51 09.7	+0.6
NEO	Neokhori	1.57	3	eP	Pn	04 50 48.7	-0.1
NEO	Neokhori	1.57	3	eP	Pn	04 50 48.7	-0.1
THL	Klokotos Trika	2.01	335	P	Pn	04 50 55.0	+0.6
THL				S	Sn	04 51 20.4	+1.0
THL	Klokotos Trika	2.01	335	eP	Pn	04 50 54.7	+0.3
THL				eS	Sn	04 51 19.8	+0.4
THL	Klokotos Trika	2.01	335	eP	Pn	04 50 54.7	+0.3
THL				eS	Sn	04 51 19.8	+0.4
VLS	Valsamata	2.04	283	P	Pn	04 50 55.8	+1.1
VLS	Valsamata	2.04	283	eP	Pn	04 50 55.6	+0.9
VLS	Valsamata	2.04	283	eP	Pn	04 50 55.6	+0.9
APE	Apeiranthos	2.04	108	P	Pn	04 50 55.3	+0.5
LKD	Levkas	2.16	297	P	Pn	04 50 56.9	+0.6
LKD				S	Sn	04 51 22.4	-0.4
VAM	Vamos	2.49	159	eP	Pn	04 51 02.1	+1.5
VAM	Vamos	2.49	159	eP	Pn	04 51 02.1	+1.5
JAN	Janina	2.60	318	eP	Pn	04 51 03.0	+0.9
JAN	Janina	2.60	318	eP	Pn	04 51 03.0	+0.9
KEK	Kerkira	3.25	308	eP	Pn	04 51 10.2	-0.5
KEK	Kerkira	3.25	308	eP	Pn	04 51 10.2	-0.5
TIP	Timpagrande	5.18	288	ePn	Pn	04 51 35.7	-1.1
	6.1nm,0.4s						
TIP	Timpagrande	5.18	288	ePn	Pn	04 51 35.7	-1.1
	6.1nm,0.4s						
TIP				eSn	Sn	04 52 26.1	-9.2
PE1	Pezze di Greco	5.37	307	ePn	Pn	04 51 37.2	-2.0
PE1				eSn	Sn	04 52 35.1	-4.6
SG1	Sgolgore (BA)	5.87	304	ePn	Pn	04 51 44.2	-1.8
GERES	GERESS Array B	13.03	331	Pn	Pn	04 53 29.6	+7.0
	0.1nm,0.3s,baz=144,slow=12,SNR=4.7						
TORD	Torodi Ar. Bea	31.05	224	P	P	04 56 29.6	-0.4
	0.1nm,0.2s,mb3.1,baz=26,slow=9.7,SNR=4.8						
SCHQ	Schefferville	60.16	318	P	P	05 00 17.6	-0.6
	5.3nm,1.0s,mb4.5,baz=76,slow=9.5,SNR=4.6						

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*ISCJB **03** 04:56:08.2±2.5, 5592S±006×277W±0.1, h109^{km}±25^{km}, mb4.6/17, Error ellipse: s-maj=14.9km s-min=7.9km az=147.3*
*IDC **03** 04:56:12.4±1.6, 5593S×2776W, h134^{km}±13^{km}, mb4.2/15, mb1 4.3/16, mb1mx4.2/22, mbtmp4.2/16, MS3.9/5, Ms1 3.9/5, ms1mx3.4/23, Error ellipse: s-maj=14.2km s-min=10.8km az=35.0*
*NEIC **03** 04:56:13.3±2.7, 5593S×2773W, h146^{km}±25^{km}, mb4.7/10, Error ellipse: s-maj=12.0km s-min=8.9km az=224.0*
ISC 03 04:56:12.2±2.3**, 5598S**±007×**277W**±01**, h133**^{km}±23^{km}**, n46,** σ0^{s}**85**/34**, mb4.4**/17**, South Sandwich Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
VNA1	Neumayer--Stat	16.98	158	eP	Pn	05 00 00.6	-0.6
VNA1				e		05 00 03.9	
VNA1				e		05 00 09.9	
VNA1				e		05 00 16.6	
VNA3	Neumayer Olymp	17.16	160	eP	Pn	05 00 02.7	-0.7
VNA3				e		05 00 05.2	
VNA3				e		05 00 11.1	
VNA3				e		05 00 17.8	
VNA3				eS	S	05 03 06.1	-7.9
VNA2	Neumayer--Watz	17.37	158	eP	Pn	05 00 05.7	-0.2
	baz=315,slow=14						
VNA2				e		05 00 08.5	
VNA2				e		05 00 13.3	
VNA2				eS	S	05 03 11.4	-7.3
SNAA	Sanae	18.93	156	eP	P	05 00 22.1	-0.1
SNAA				e		05 00 24.4	
SNAA				eS	S	05 03 48.8	-1.1
SNAA	Sanae	18.93	156	eP	P	05 00 22.1	-0.2
	144nm,0.4s						
PMSA	Palmer Station	19.73	229	P	P	05 00 32.7	+1.8
	1.3nm,0.3s,baz=280,slow=3.1,SNR=5.6						
PMSA	Palmer Station	19.73	229	eP	P	05 00 32.4	+1.5
	30nm,0.8s						
MAIT	Maitri	22.46	147	eP	P	05 01 00.7	+0.8
USHA	Ushuaia	22.92	256	P	P	05 01 03.2	-1.1
	7.3nm,0.8s,mb4.1,baz=74,slow=14,SNR=4.0						
USHA				ScP	ScP	05 08 13.9	-1.0
	6.2nm,0.7s,baz=338,slow=5.4,SNR=3.1						
QSPA	South Pole Qui	34.27	180	P	P	05 02 46.1	+1.3
	11nm,0.5s,mb4.9,baz=22,slow=1.3,SNR=74						
QSPA				ScP	ScP	05 08 49.2	-0.8
	1.5nm,0.5s,baz=279,slow=3.1,SNR=6.9						
QSPA				LR	LR	05 15 14.0	
	comp=Z,68nm,19.2s,baz=305,slow=33						
CPUP	Villa Florida	36.54	312	P	P	05 03 04.3	-0.4
	8.0nm,0.5s,mb4.7,baz=134,slow=6.9,SNR=56						
CPUP				PcP	PcP	05 05 24.9	-0.4
	0.5nm,0.3s,baz=135,slow=4.3,SNR=2.5						
CPUP				ScP	ScP	05 08 57.5	-1.6
	1.1nm,0.6s,baz=170,slow=6.1,SNR=3.4						
CFAA	Coronel Fontan	37.26	294	P	P	05 03 09.2	-1.6
	0.5nm,0.4s,mb3.5,baz=145,slow=7.6,SNR=34						
CFAA				PcP	PcP	05 05 27.7	+0.3
	0.4nm,0.8s,baz=118,slow=4.4,SNR=4.0						
MAW	Mawson	40.38	144	P	P	05 03 36.9	+0.6
	9.7nm,0.4s,mb4.7,baz=236,slow=8.0,SNR=26						
MAW				ScP	ScP	05 09 13.7	+0.6
	5.5nm,0.8s,baz=268,slow=6.6,SNR=12						
MAW	Mawson	40.38	144	eP	P	05 03 36.4	+0.1
	12nm,0.5s,mb4.8						
MAW				ScP	ScP	05 09 13.7	+0.6
SUR	Sutherland	40.90	76	LR	LR	05 17 45.2	
	comp=Z,56nm,20.5s,baz=45,slow=32						
BDFB	Brasilia	43.15	331	P	P	05 03 58.5	-0.9
	2.5nm,0.6s,mb4.0,baz=157,slow=15,SNR=5.2						
LVC	Limon Verde	45.01	301	P	P	05 04 15.0	+0.9
	22nm,0.6s,mb4.9,baz=149,slow=4.7,SNR=25						
LVC				ScP	ScP	05 09 33.1	+0.6
	1.8nm,0.6s,baz=100,slow=6.1,SNR=3.4						
LVC	Limon Verde	45.01	301	eP	P	05 04 14.7	+0.5
	23nm,0.6s,mb5.0						
LVC				ScP	ScP	05 09 33.1	+0.6
SBA	Scott Base	46.13	184	eP	P	05 04 23.7	+1.3
	46nm,1.4s,mb4.9						
BOSA	Boshof	46.24	76	P	P	05 04 24.0	+0.3
	2.5nm,0.5s,mb4.1,baz=252,slow=5.7,SNR=9.9						
BOSA				LR	LR	05 20 54.5	
	comp=Z,95nm,18.2s,baz=170,slow=32						
BOSA	Boshof	46.24	76	eP	P	05 04 23.6	-0.2
	2.9nm,0.4s,mb4.3						
BOSA				LR	LR	05 20 54.5	
SIV	San Ignacio	47.31	314	P	P	05 04 31.7	-0.5
	4.9nm,0.5s,mb4.4,baz=172,slow=7.7,SNR=36						
SIV				ScP	ScP	05 09 42.2	0.0
	2.7nm,0.9s,baz=183,slow=7.8,SNR=8.3						
TSUM	Tsumeb	49.90	61	P	P	05 04 51.1	-0.9
	1.2nm,0.6s,mb3.7,baz=212,slow=13,SNR=4.7						
TSUM	Tsumeb	49.90	61	eP	P	05 04 51.9	0.0
	8.4nm,1.5s,mb4.2						
LPAZ	La Paz	50.09	306	P	P	05 04 54.6	+1.2
	19nm,0.5s,mb5.0,baz=127,slow=5.8,SNR=160						
LPAZ	La Paz	50.09	306	eP	P	05 04 54.3	+0.8
	20nm,0.6s,mb4.9						
LSZ	Lusaka	58.62	69	eP	P	05 05 55.7	+0.6
	5.4nm,1.3s,mb4.2						
ATAH	Atahualpa	63.02	300	LR	LR	05 30 56.2	
	comp=Z,71nm,19.6s,baz=26,slow=33						
DBIC	Dimbokro	65.22	25	P	P	05 06 39.7	+0.6
	2.4nm,0.7s,mb4.1,baz=187,slow=13,SNR=3.5						
DBIC	Dimbokro	65.22	25	eP	P	05 06 39.4	+0.2
	3.3nm,0.8s,mb4.2						
TORD	Torodi Ar. Bea	73.14	30	P	P	05 07 28.6	+0.7
	2.4nm,0.5s,mb4.2,baz=200,slow=6.2,SNR=72						
NWAO	Narrogin (SRO)	86.54	151	P	P	05 08 39.9	0.0
	5.1nm,0.5s,mb4.6,baz=166,slow=4.0,SNR=5.4						
RAO	Raoul Island	91.39	206	LR	LR	05 42 18.7	
	comp=Z,629nm,20.0s,baz=328,slow=30						
ASAR	Alice Springs	99.15	163	P	P	05 09 37.3	-0.9
	1.3nm,0.5s,mb4.6,baz=188,slow=4.1,SNR=21						
ASAR				PP	PP	05 13 38.3	-3.0
	1.4nm,0.8s,baz=193,slow=6.0,SNR=8.5						
WRA	Warramunga Arr	102.87	163	P	Pdif	05 09 54.3	-0.5
	0.5nm,0.4s,baz=198,slow=4.4,SNR=16						
WRA				PP	PP	05 14 04.3	-5.0
	0.5nm,0.8s,baz=191,slow=10,SNR=3.3						
WRA				PKKPbc	PKKPbc	05 25 51.2	+1.8
	0.1nm,0.4s,baz=351,slow=2.8,SNR=6.9						
NVAR	Mina Array Bea	121.10	293	PKP	PKPdf	05 14 48.5	+0.4
	0.2nm,0.5s,baz=167,slow=4.4,SNR=3.3						
CMAR	Chiang Mai Arr	125.36	111	PKP	PKPdf	05 14 57.1	+0.1
	0.9nm,0.4s,baz=239,slow=4.9,SNR=5.3						
ARCES	ARCESS Array B	130.98	22	PKP	PKPdf	05 15 06.0	-0.1
	3.0nm,0.8s,baz=178,slow=3.0,SNR=8.2						
YKA	Yellowknife Ar	135.92	318	PKP	PKPdf	05 15 15.5	0.0
	0.5nm,0.4s,baz=132,slow=2.1,SNR=5.1						
MKAR	Makanchi Array	137.14	72	SKPbc	SKPbc	05 18 38.4	-0.4
	0.2nm,0.2s,baz=252,slow=4.5,SNR=3.6						
ZALV	Zalesovo Beam	142.60	64	PKhKP		05 15 24.7	
	0.8nm,0.5s,baz=207,slow=1.0,SNR=3.9						
ZALV				SKPbc	SKPbc	05 18 52.2	-1.0
	0.7nm,0.5s,baz=211,slow=4.5,SNR=3.4						
KDAK	Kodiak Island	150.52	297	PKPbc	PKPbc	05 15 46.9	+0.3
	10nm,0.6s,baz=77,slow=9.5,SNR=11						
KDAK	Kodiak Island	150.52	297	PKPbc	PKPbc	05 15 46.9	+0.2
SONM	Songino Array	151.01	87	PKPbc	PKPbc	05 15 48.3	+0.2
	6.8nm,0.4s,baz=220,slow=3.8,SNR=86						
ULN	Ulaanbaatar	151.40	87	ePKPbc	PKPbc	05 15 48.2	-0.9
KSRS	Korea Array	155.27	128	PKPab	PKPab	05 16 15.0	+0.4
	0.9nm,0.6s,baz=193,slow=4.9,SNR=4.7						

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*IDC **03** 04:58:52.8±1.8, 459S×15362E, h0^{km}, mb3.8/8, mb1 3.9/8, mb1mx3.9/17, mbtmp3.8/8, Error ellipse: s-maj=58.0km s-min=22.2km az=102.0*
*ISCJB **03** 04:58:57.6±1.5, 45S±0.1×1533E±03, h33^{km}, mb3.8/9, Error ellipse: s-maj=41.3km s-min=17.8km az=17.1*
*NEIC **03** 04:58:58.8±1.1, 456S×15342E, h35^{km}, mb4.3/1, Error ellipse: s-maj=31.7km s-min=16.2km az=112.0*
ISC 03 04:58:59.4±1.4**, 46S**±01×**1534E**±03**, h35**^{km}**, n10,** σ0^{s}**57**/9**, mb3.8**/9**, New Ireland region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KAKA	Kakadu	22.20	247	eP	P	05 03 52.4	-0.5
	4.8nm,0.4s,mb4.3						
WRA	Warramunga Arr	24.01	229	P	P	05 04 11.8	+0.6
	0.9nm,0.4s,mb3.5,baz=51,slow=9.7,SNR=7.3						
ASAR	Alice Springs	26.69	223	P	P	05 04 35.5	0.0
	0.2nm,0.4s,mb3.0,baz=56,slow=8.3,SNR=3.6						
FITZ	Fitzroy Crossi	30.26	241	P	P	05 05 07.3	0.0
	1.2nm,0.4s,mb3.9,baz=78,slow=11,SNR=7.1						
KSRS	Korea Array	48.06	333	P	P	05 07 36.2	+0.7
	0.5nm,0.3s,mb4.0,baz=146,slow=9.9,SNR=3.8						
SONM	Songino Array	66.44	327	P	P	05 09 45.0	-0.2
	0.2nm,0.6s,mb3.4,baz=141,slow=5.5,SNR=2.0						
MKAR	Makanchi Array	80.53	319	P	P	05 11 08.7	+0.6
	0.8nm,0.5s,mb3.9,baz=99,slow=6.6,SNR=4.1						
ZALV	Zalesovo Beam	81.29	326	P	P	05 11 10.7	-1.2
	0.5nm,0.3s,mb3.9,baz=134,slow=4.2,SNR=2.6						
QSPA	South Pole Qui	85.38	180	P	P	05 11 32.5	-0.1
	0.4nm,0.4s,mb3.9,baz=98,slow=1.5,SNR=3.5						
TORD	Torodi Ar. Bea	150.78	289	PKPbc	PKPbc	05 18 48.1	-1.0
	1.9nm,0.6s,baz=82,slow=1.8,SNR=29						

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*CSEM **03** 05:07:18.5±0.3, 3785N×3062E, h1^{km}±1^{km}, MD2.9, Error ellipse: s-maj=2.3km s-min=1.8km az=111.0*
*ISK **03** 05:07:19.2, 3783N×3053E, h7^{km}, MD2.9*
*ISCJB **03** 05:07:20.3±0.5, 3784N±003×3061E±005, h10^{km}, Error ellipse: s-maj=5.6km s-min=4.7km az=175.8*
*DDA **03** 05:07:21.1, 3796N×3050E, h37^{km}±3^{km}, Md3.0*
ISC 03 05:07:20.1±0.7**, 3785N**±003×**3059E**±005**, h3**^{km}±6^{km}**, n13,** σ1^{s}**26**/21**, Turkey**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
BCK	Bucak	0.39	180	ePG	Pg	05 07 26.3	-1.2
BCK				eSG	Sg	05 07 33.2	+0.8
SHUT	Suhut-Afyon	0.70	358	ePG	Pg	05 07 33.3	-0.4
SHUT				eSG	Sg	05 07 44.2	+1.4
KHL	Karahalli	0.96	300	ePG	Pg	05 07 37.2	-1.4
DNZL	Cakiroluk	1.23	263	i P	Pg	05 07 43.5	-0.1
DNZL				i S	Sg	05 08 01.6	+2.0
ALT	Altintas	1.26	343	ePN	Pn	05 07 44.1	-0.6
KDHN	Kadinhani	1.38	60	i P	Pn	05 07 46.8	+0.5
KDHN				i S	Sb	05 08 07.5	+2.8
KONT	Konya--Tatoy	1.41	85	ePN	Pn	05 07 46.9	+0.2
KIZT	Kizilcal	1.45	44	ePN	Pn	05 07 46.9	-0.4
LADK	Ladik-KONYA	1.45	75	ePN	Pn	05 07 46.5	-0.7
GDZ	Gediz	1.51	325	i P	Pn	05 07 47.1	-1.1
GDZ				i S	Sn	05 08 10.2	+1.8
MANT	Manisa	1.72	293	i P	Pn	05 07 49.1	-1.9
MANT				i S	Sn	05 08 13.8	+0.3
AKAS	Kas	1.79	206	i P	Pn	05 07 53.3	+1.4
AKAS				i S	Sn	05 08 19.4	+4.2
DEMI	Demirci	1.89	310	i P	Pn	05 07 51.1	-2.2
DEMI				i S	Sn	05 08 23.5	+5.8

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*NEIC **03** 05:11:01.4, 1355N×6054W, h25^{km}, MD3.1(TRN), After TRN.*
TRN 03 05:11:01.3, 1371N×6070W, h71^{km}**, MD3.5, M2.9**(FDF)**, 2C-3D, Windward Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SLB	Belfond	0.35	290	⇓iP	Pn	05 11 13.9	+1.0
SLB				eS	Sn	05 11 23.6	+2.2
SSV	Crater Summit	0.61	232	⇑eP	Pn	05 11 15.9	+0.6
SSV				eS	Sn	05 11 27.7	+2.1
SVV	Soufriere Volc	0.63	232	eP	Pn	05 11 16.4	+0.8
SVV				eS	Sn	05 11 28.6	+2.5
SVB	Belmont	0.69	231	⇑iP	Pn	05 11 16.2	+0.1
SVB				eS	Sn	05 11 28.9	+1.8
BIM	Bigot	0.88	336	eP	Pn	05 11 18.9	+0.5
BIM				eS	Sn	05 11 32.6	+1.5
FDF	Fort de France	1.11	337	⇓eP	Pn	05 11 21.9	+0.6
FDF				⇓eS	Sn	05 11 38.9	+2.8
FDF	Fort de France	1.11	337	ePn	Pn	05 11 21.8	+0.5
FDF				Sn	Sn	05 11 38.5	+2.4
GRIC	Isle de Caille	1.65	211	eP	Pn	05 11 30.6	+2.2
GRIC	Isle de Caille	1.65	211	eS	Sn	05 11 51.3	+2.5
GRSS	Sisters	1.66	212	eS	Sn	05 11 49.6	+0.7
GRSS	Sisters	1.66	212	eP	Pn	05 11 30.0	+1.6
GRSS				eS	Sn	05 11 49.6	+0.7
GRHS	Sauteurs	1.73	212	eS	Sn	05 11 51.7	+0.9
GRHS	Sauteurs	1.73	212	eP	Pn	05 11 31.7	+2.3
GRHS				eS	Sn	05 11 51.7	+0.9
GRW	Mount Saint Ca	1.80	211	eS	Sn	05 11 52.7	+0.4
GRW	Mount Saint Ca	1.80	211	eP	Pn	05 11 32.5	+2.2
GRW				eS	Sn	05 11 52.7	+0.4

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*ISCJB **03** 05:13:48.0±0.5, 685N±007×7303W±006, h160^{km}±6^{km}, mb3.7/6, Error ellipse: s-maj=13.8km s-min=6.9km az=139.2*
*IDC **03** 05:13:48.5±0.7, 675N×7297W, h155^{km}±9^{km}, mb3.6/7, mb1 3.8/9, mb1mx3.5/21, mbtmp3.6/9, Error ellipse: s-maj=24.6km s-min=7.9km az=131.0*
*NEIC **03** 05:13:50.5, 680N×7318W, h144^{km}, MG4.1(RSNC), After RSNC.*
*FUNV **03** 05:13:53.5, 694N×7281W, h146^{km}, MW3.8*
ISC 03 05:13:49.0±0.5**, 683N**±007×**7300W**±007**, h153**^{km}±6^{km}**, n33,** σ1^{s}**04**/39**, mb3.7**/6**, 11D, Northern Colombia**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CAPV	Capacho	1.23	33	⇓iP	Pn	05 14 17.8	+1.7
CAPV				eS	Sn	05 14 35.6	-1.4
ROSC	El Rosal	2.36	214	P	Pn	05 14 29.8	+1.1
	56nm,0.3s,baz=334,slow=1.5,SNR=290						
ROSC				S	Sn	05 14 58.5	-0.7
	30nm,0.3s,baz=100,slow=17,SNR=6.6						
ROSC	El Rosal	2.36	214	ePn	Pn	05 14 29.7	+1.0
ROSC				eSn	Sn	05 14 56.2	-3.0
SOCV	Socops	2.57	56	⇓eP	Pn	05 14 32.5	+1.3
SOCV				eS	Sn	05 14 59.8	-3.9
VIGV	El Vigia	2.57	39	⇓iP	Pn	05 14 32.3	+1.1
VIGV				eS	Sn	05 15 00.6	-3.2
SDV	Santo Domingo	3.11	49	P	Pn	05 14 39.3	+1.4
	72nm,0.3s,baz=214,slow=1.5,SNR=73						
SDV				S	Sn	05 15 16.3	+0.6
	27nm,0.3s,baz=264,slow=23,SNR=14						
SDV	Santo Domingo	3.11	49	ePn	Pn	05 14 39.4	+1.5
SDV				eSn	Sn	05 15 15.7	-0.1
ELOV	Elorza	3.50	87	⇓iP	Pn	05 14 44.0	+1.2
QARV	Quebrada Arrib	4.16	36	⇓iP	Pn	05 14 52.3	+0.9
SANV	Sanarito	4.34	52	⇓eP	Pn	05 14 54.1	+0.3
CURV	Curarigua	4.37	43	⇓iP	Pn	05 14 54.6	+0.5
CURV				eS	Sn	05 15 39.4	-5.5
DABV	Dabajuro	4.69	30	eP	Pn	05 14 58.8	+0.4
TEPV	Terepaima	4.89	50	⇓iP	Pn	05 15 01.5	+0.5
SIQV	Siquisique	4.94	40	⇓iP	Pn	05 15 01.6	0.0
BAUV	El Baul	5.34	67	⇓iP	Pn	05 15 05.9	-1.1
IMOV	Isla Los Monje	5.87	20	eP	Pn	05 15 13.3	-0.8
TURV	Turiamo	6.24	54	eP	Pn	05 15 18.2	-0.8
CAOV	Caicara del Or	6.65	85	eP	Pn	05 15 23.4	-1.0
BCIP	Isla Barro Col	7.16	289	ePn	Pn	05 15 28.2	-3.0
BIRV	Birongo	7.58	61	eP	Pn	05 15 35.8	-1.0
CUPV	Cœpira	7.82	65	⇓iP	Pn	05 15 38.9	-1.2
OTAV	Otavalo	8.51	220	ePn	Pn	05 15 49.3	0.0
	3.5nm,0.4s						
TEIG	Tepich	19.92	313	P	P	05 18 09.7	+0.7
	6.1nm,0.5s,baz=139,slow=23,SNR=15						
TEIG	Tepich	19.92	313	P	P	05 18 09.7	+0.7
TXAR	Lajitas Array	36.55	312	P	P	05 20 40.1	0.0
	0.7nm,0.4s,mb3.6,baz=127,slow=9.0,SNR=21						
TXAR				PcP	PcP	05 23 00.3	-0.1
	0.2nm,0.6s,baz=134,slow=5.2,SNR=3.4						
ULM	Lac du Bonnet	47.32	340	P	P	05 22 06.2	-0.9
	2.6nm,0.4s,mb4.2,baz=132,slow=9.5,SNR=10						
SCHQ	Schefferville	48.12	5	P	P	05 22 13.8	+0.6
	2.7nm,0.9s,mb3.9,baz=174,slow=10,SNR=3.1						
SCHQ	Schefferville	48.12	5	P	P	05 22 13.8	+0.6
PDAR	Pinedale Array	48.14	324	P	P	05 22 13.6	0.0
	0.5nm,0.5s,mb3.4,baz=122,slow=8.5,SNR=5.9						
NVAR	Mina Array Bea	51.56	315	P	P	05 22 39.8	+0.3
	0.4nm,0.6s,mb3.3,baz=124,slow=5.8,SNR=4.9						
YKA	Yellowknife Ar	63.30	340	P	P	05 24 00.7	-0.5
	1.7nm,0.5s,mb4.1,baz=132,slow=6.9,SNR=7.7						
ASAR	Alice Springs	149.21	234	PKPbc	PKPbc	05 33 19.0	-1.3
	0.4nm,0.5s,baz=120,slow=3.5,SNR=6.1						
WRA	Warramunga Arr	150.44	241	PKPbc	PKPbc	05 33 22.1	-1.3
	0.6nm,0.4s,baz=108,slow=2.7,SNR=23						

IDC 03 05:14:14.6±4.7**, 2222S×17119E, h0**^{km}**, mb3.8**/5**, mb1 3.9**/5**, mb1mx3.8**/15**, mbtmp3.8**/5**, Error ellipse: s-maj=177.1km s-min=39.4km az=153.0, Southeast of Loyalty Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CTA	Charters Tower	23.34	271	P	P	05 19 26.6	+1.8
	1.1nm,0.4s,baz=90,slow=13,SNR=2.1						
ASAR	Alice Springs	34.30	260	P	P	05 21 03.2	+0.3
	0.8nm,0.7s,baz=85,slow=9.0,SNR=9.2						
WRA	Warramunga Arr	34.40	267	P	P	05 21 02.9	-1.0
	0.4nm,0.4s,baz=102,slow=13,SNR=6.8						
FITZ	Fitzroy Crossi	42.83	267	P	P	05 22 13.6	-1.1
	0.9nm,0.7s,baz=124,slow=11,SNR=5.6						
SONM	Songino Array	90.69	322	P	P	05 27 18.6	-0.4
	0.8nm,0.8s,baz=126,slow=3.6,SNR=5.2						
GERES	GERESS Array B	147.97	332	PKPbc	PKPbc	05 34 02.0	+0.2

	1.1nm,0.8s,baz=46,slow=3.9,SNR=9.4						

IDC 03 05:21:28.5±3.8, 349S×14941E, h0km, mb3.5/3, mb1 3.8/3, mb1mx3.5/15, mbtmp3.6/3, Error ellipse: s-maj=127.2km s-min=47.4km az=113.0, Bismarck Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	21.98	221	P	P	05 26 23.6	-0.7
	0.7nm,0.8s,baz=45,slow=10,SNR=7.7						
ASAR	Alice Springs	25.03	215	P	P	05 26 54.9	+0.4
	0.6nm,0.9s,baz=50,slow=8.7,SNR=4.9						
FITZ	Fitzroy Crossi	27.43	236	P	P	05 27 16.6	+0.4
	2.1nm,0.6s,baz=61,slow=9.9,SNR=11						
TORD	Torodi Ar. Bea	146.68	289	PKPbc	PKPbc	05 41 12.4	-1.0
	0.5nm,0.8s,baz=90,slow=3.2,SNR=2.5						

IDC 03 05:23:15.8±3.5, 353S×14964E, h0km, mb4.0/3, mb1 4.2/4, mb1mx3.8/16, mbtmp4.1/4, ML4.0/1, Error ellipse: s-maj=89.8km s-min=45.4km az=103.0, Bismarck Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	Charters Tower	16.79	191	Pn	Pn	05 27 12.5	0.0
	0.4nm,0.3s,baz=15,slow=12,SNR=1.9						
WRA	Warramunga Arr	22.11	221	P	P	05 28 11.5	-1.4
	2.9nm,0.9s,baz=43,slow=10,SNR=14						
ASAR	Alice Springs	25.14	216	P	P	05 28 42.2	-0.5
	2.2nm,0.8s,baz=49,slow=8.6,SNR=14						
FITZ	Fitzroy Crossi	27.61	237	P	P	05 29 06.9	+1.8
	4.9nm,0.7s,baz=72,slow=9.8,SNR=16						
TORD	Torodi Ar. Bea	146.91	289	PKPbc	PKPbc	05 43 00.3	-1.1
	1.4nm,0.9s,baz=87,slow=2.4,SNR=4.8						

IDC 03 05:25:18.5±3.7, 389S×15035E, h0km, mb4.0/3, mb1 4.2/3, mb1mx3.7/15, mbtmp4.0/3, MS3.7/6, Ms1 3.7/6, ms1mx3.4/23, Error ellipse: s-maj=114.0km s-min=49.7km az=115.0, New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	Charters Tower	16.59	194	LR	LR	05 34 53.6	
	comp=Z,218nm,20.6s,baz=204,slow=35						
GUMO	Guam	18.19	343	LR	LR	05 34 33.5	
	comp=Z,296nm,19.2s,baz=119,slow=30						
WB2	Warramunga Arr	22.31	223	eP	P	05 30 19.0	+1.2
WRA	Warramunga Arr	22.32	223	P	P	05 30 16.9	-1.0
	1.8nm,0.8s,baz=47,slow=9.6,SNR=8.6						
ASAR	Alice Springs	25.27	217	P	P	05 30 46.9	+0.2
	1.6nm,0.7s,baz=49,slow=8.4,SNR=10						
FITZ	Fitzroy Crossi	28.01	238	eP	P	05 31 11.8	+0.4
	7.1nm,0.6s						
FITZ	Fitzroy Crossi	28.01	238	P	P	05 31 12.0	+0.6
	4.2nm,0.7s,baz=81,slow=9.4,SNR=10						
STKA	Stephens Creek	29.03	195	LR	LR	05 42 13.1	
	comp=Z,268nm,20.6s,baz=23,slow=35						
KSRS	Korea Array	46.12	335	LR	LR	05 50 09.1	
	comp=Z,88nm,20.8s,baz=303,slow=32						
PETK	Petropavlovsk-	57.12	5	LR	LR	06 00 18.6	
	comp=Z,51nm,18.0s,baz=9.5,slow=37						
PPT	Papeete	60.33	108	LR	LR	05 57 02.6	
	comp=Z,57nm,19.6s,baz=246,slow=32						
TORD	Torodi Ar. Bea	147.70	288	PKPbc	PKPbc	05 45 05.3	-0.8
	1.0nm,0.8s,baz=85,slow=2.2,SNR=4.5						

*BJI **03** 05:29:39.6, 358S×10076E, h29km, mB5.1, mb4.9, Ms4.7, Msz4.4*
*ISCJB **03** 05:29:42.2±2.4, 332S±008×10035E±009, h33km±15km, mb4.7/23, MS3.9/5, Error ellipse: s-maj=19.6km s-min=7.1km az=139.3*
*IDC **03** 05:29:43.2±1.0, 329S×10044E, h25km±3km, mb4.3/14, mb1 4.4/14, mb1mx4.2/22, mbtmp4.3/14, MS3.8/5, Ms1 3.8/5, ms1mx3.3/37, Error ellipse: s-maj=36.9km s-min=10.2km az=52.0*
*DJA **03** 05:29:43, 326S×10010E, h30km, MLv4.8/7*
*NEIC **03** 05:29:43.3±0.7, 331S×10042E, mb4.6/4, Error ellipse: s-maj=24.2km s-min=7.1km az=52.0*
ISC 03 05:29:44.2±2.2, 334S±008×10032E±007, h32km±14km, h29km±2.8km:pP-P, n49, σ1s16/46, mb4.7/23, MS3.9/5, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSI	Kapahiang	2.29	98	P	Pn	05 30 25.7	+6.0
PPI	Padang Panjang	2.86	2	P	Pn	05 30 27.0	-0.6
	0.0nm,0.0s						
RGRI	Rengat	3.59	34	P	Pn	05 30 38.1	+0.5
	0.0nm,0.0s						
DSRI	Dabo	5.12	56	P	Pn	05 30 58.6	0.0
	0.0nm,0.0s						
DSRI	Dabo	5.12	56	P	Pn	05 30 58.7	+0.1
	131nm,1.0s,0.5nm						
MYKOM	Kota Tinggi	6.20	35	P	Pn	05 31 13.0	-0.5
DBJI	Dramaga	7.16	117	P	Pn	05 31 26.7	0.0
	0.0nm,0.0s						
DBJI	Dramaga	7.16	117	P	Pn	05 31 27.1	+0.4
	72nm,0.7s,0.4nm						
CBJI	Citeko	7.19	115	P	Pn	05 31 29.8	+2.6
	535nm,0.3s,7.5nm						
LEM	Lembang	8.05	116	P	Pn	05 31 40.7	+1.7
	0.0nm,0.0s						
BSI	Banda Aceh	10.11	330	P	Pn	05 32 05.7	-1.4
	0.0nm,0.0s						
KAPI	Kappang	19.45	96	eP	Pn	05 34 07.3	-2.3
	55nm,1.3s						
KAPI				S	Sn	05 37 48.9	+1.7
CMAR	Chiang Mai Arr	21.70	356	P	P	05 34 30.8	-1.7
	2.8nm,0.4s,mb4.0,baz=185,slow=9.9,SNR=11						
FITZ	Fitzroy Crossi	28.82	122	eP	P	05 35 38.6	-1.0
	7.6nm,0.8s,mb4.5						
FITZ	Fitzroy Crossi	28.82	122	P	P	05 35 38.8	-0.8
	2.1nm,0.8s,mb3.9,baz=147,slow=12,SNR=5.4						
FITZ	Fitzroy Crossi	28.82	122	eP	P	05 35 38.7	-0.9
	15nm,1.4s,mb4.5						
FITZ				epP	pP	05 35 48.9	-0.1
ODAN	Odare	32.51	338	eP	P	05 36 13.6	+1.5
	21nm,0.9s,mb5.0						
TAPN	Taplejung	32.84	339	eP	P	05 36 16.8	+1.8
	10nm,0.3s,mb5.2						
JIRN	Jiri	33.69	337	eP	P	05 36 24.1	+1.7
	7.8nm,0.3s,mb5.1						
LSA	Lhasa	34.00	346	P	P	05 36 26.4	+1.3
LSA	Lhasa	34.00	346	P	P	05 36 26.6	+1.5
	6.1nm,0.8s,mb4.6						
GUN	Gumba	34.04	337	eP	P	05 36 27.1	+1.7
	17nm,0.4s,mb5.4						
GKN	Gorkha	34.62	335	eP	P	05 36 30.9	+0.4
	11nm,0.3s,mb5.2						
WRA	Warramunga Arr	37.06	119	P	P	05 36 50.3	-1.2
	2.6nm,0.6s,mb4.2,baz=308,slow=9.1,SNR=40						
WRA				S	S	05 42 35.0	-0.6
	1.5nm,0.9s,baz=294,slow=16,SNR=6.3						
WRA				LR	LR	05 54 26.6	
	comp=Z,110nm,18.2s,MS3.7,baz=185,slow=40						
WB2	Warramunga Arr	37.07	119	eP	P	05 36 50.2	-1.4
WB2	Warramunga Arr	37.07	119	eP	P	05 36 51.1	-0.5
XAN	Xi'an	38.05	12	P	P	05 36 58.4	-1.3
XAN				AP	pP	05 37 09.2	0.0
XAN				XP	sP	05 37 13.5	+0.4
XAN				AMB	AMB		
	comp=Z,19nm,1.0s,mb4.8						
XAN				AMB	AMB		
	comp=Z,216nm,5.0s						
ASAR	Alice Springs	38.22	125	P	P	05 37 00.9	-0.4
	comp=Z,4.6nm,0.6s,mb4.4,baz=299,slow=8.0,SNR=46						
ASAR				S	S	05 42 54.5	+1.3
	comp=Z,0.6nm,0.8s,baz=305,slow=15,SNR=3.9						
CTA	Charters Tower	47.75	114	P	P	05 38 17.2	-1.4
	comp=Z,1.9nm,0.4s,mb4.5,baz=312,slow=12,SNR=3.7						
KSRS	Korea Array	48.01	30	P	P	05 38 19.1	-1.2
	comp=Z,7.0nm,1.0s,mb4.6,baz=220,slow=8.0,SNR=19						
STKA	Stephens Creek	48.03	131	P	P	05 38 20.6	+0.1
	comp=Z,6.0nm,1.1s,mb4.5,baz=313,slow=9.1,SNR=3.9						
STKA				pP	pP	05 38 27.4	-2.9
	comp=Z,2.8nm,0.6s,baz=313,slow=23,SNR=2.1						
STKA				LR	LR	06 00 37.3	
	comp=Z,212nm,18.1s,MS4.2,baz=25,slow=39						
WMQ	Urumqi	48.30	348	eP	P	05 38 23.5	+1.2
SONM	Songino Array	51.23	5	P	P	05 38 45.4	+0.8
	comp=Z,11nm,0.8s,mb4.9,baz=187,slow=9.4,SNR=74						
SONM				pP	pP	05 38 52.7	-1.6
	comp=Z,10.0nm,0.9s,baz=186,slow=7.8,SNR=16						
SONM				PcP	PcP	05 40 00.1	+0.6
	comp=Z,1.3nm,0.6s,baz=176,slow=4.5,SNR=2.6						
ULN	Ulaanbaatar	51.33	6	eP	P	05 38 46.0	+0.7
	comp=Z,15nm,1.0s,mb4.9						
CN2	Changchun	52.08	23	eP	P	05 38 50.0	-1.0
CN2				AMB	AMB		
	comp=Z,20nm,1.0s,mb5.0						
MKAR	Makanchi Array	52.39	344	P	P	05 38 53.8	+0.6
	comp=Z,7.8nm,0.6s,mb4.8,baz=146,slow=7.8,SNR=36						
MKAR				pP	pP	05 39 00.6	-2.5
	comp=Z,7.0nm,0.7s,baz=147,slow=7.9,SNR=11						
MKAR	Makanchi Array	52.39	344	P	P	05 38 53.8	+0.5
MKAR				pP	pP	05 39 00.6	-2.5
MJAR	Matsushiro Arr	53.11	38	P	P	05 38 57.1	-1.7
	comp=Z,0.8nm,0.3s,mb4.1,baz=222,slow=8.4,SNR=5.1						
KURK	Kurchatov	56.97	344	P	P	05 39 26.0	-0.4
	comp=Z,6.3nm,0.9s,mb4.6,baz=164,slow=7.1,SNR=18						
ZAA0	Zalesovo Array	58.53	349	eP	P	05 39 37.2	0.0
ZALV	Zalesovo Beam	58.53	349	P	P	05 39 37.3	0.0
	comp=Z,15nm,0.9s,mb5.0,baz=160,slow=4.7,SNR=26						
LSZ	Lusaka	71.89	255	LR	LR	06 07 34.5	
	comp=Z,34nm,18.6s,MS3.6,baz=258,slow=32						
BOSA	Boshof	75.30	241	LR	LR	06 06 54.0	
	comp=Z,58nm,21.6s,MS3.9,baz=356,slow=30						
ARCES	ARCESS Array B	87.83	340	P	P	05 42 29.4	-0.4
	comp=Z,2.8nm,0.8s,mb4.5,baz=80,slow=5.6,SNR=2.9						
GERES	GERESS Array B	90.26	319	P	P	05 42 41.1	-0.6
	comp=Z,0.5nm,0.7s,mb4.0,baz=139,slow=3.0,SNR=5.6						
GERES				pP	pP	05 42 50.0	-2.1
	comp=Z,0.5nm,0.6s,baz=132,slow=2.0,SNR=3.5						
SPITS	Spitsbergen Ar	92.00	348	LR	LR	06 27 28.8	
	comp=Z,56nm,20.6s,MS4.0,baz=210,slow=38						
TXAR	Lajitas Array	145.55	39	PKPbc	PKPbc	05 49 20.6	+0.6
	comp=Z,6.3nm,0.6s,baz=296,slow=1.2,SNR=110						
TXAR				pPKPbc	pPKPbc	05 49 27.6	-2.9
	comp=Z,4.8nm,0.8s,baz=27,slow=2.2,SNR=14						
MIAR	Mount Ida	146.37	21	ePKPbc	PKPbc	05 49 22.0	-0.3
JCT	Junction City	146.97	33	ePKPbc	PKPbc	05 49 24.4	+0.3

*NEIC **03** 05:35:00.7, 1699N×10002W, h31km, MD3.6(MEX), After MEX.*
MEX 03 05:35:01.1±0.6, 1699N×10002W, h27km±7km, MD3.6, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ACX	Acapulco	0.16	142	i P	Pb	05 35 05.0	-1.5
ACX				i S	Sb	05 35 09.0	-1.2
CAIG	El Cayaco	0.24	283	eP	Pb	05 35 06.3	-1.3
CAIG				i S	Sb	05 35 10.6	-1.3
CAIG	El Cayaco	0.24	283	i P	Pb	05 35 06.4	-1.2
CAIG				i S	Sb	05 35 10.6	-1.3
PLIG	Platanillo	1.48	19	i P	Pn	05 35 24.3	-1.7
PLIG				i S	Sn	05 35 40.5	-3.8
PLIG	Platanillo	1.48	19	i P	Pn	05 35 24.3	-1.7
PLIG				i S	Sn	05 35 40.2	-4.2
ZIIG	Zihuatanejo	1.51	294	i P	Pn	05 35 22.9	-3.4
ZIIG				i S	Sn	05 35 41.9	-3.2
PNIG	Pinotepa	1.91	108	i P	Pn	05 35 29.2	-2.7
PNIG				i S	Sn	05 35 53.6	-1.4
PNIG	Pinotepa	1.91	108	i P	Pn	05 35 29.2	-2.7
PNIG				i S	Sn	05 35 53.9	-1.1
UTMO	Huajuapan	2.27	68	i P	Pn	05 35 35.1	-1.7
UTMO				i S	Sn	05 36 01.9	-2.1
PPM	Popocatepetl	2.45	32	eP	Pn	05 35 36.6	-2.7
PPM				i S	Sn	05 36 06.6	-1.8

*IDC **03** 05:57:43.9±4.5, 2351N×9444E, h0km, mb3.3/3, mb1 3.5/3, mb1mx3.3/21, mbtmp3.3/3, Error ellipse: s-maj=397.7km s-min=28.9km az=60.0*
*ISCJB **03** 05:57:48.9±2.8, 233N±02×938E±02, h62km±28km, mb3.4/3, Error ellipse: s-maj=34.8km s-min=20.3km az=29.8*
ISC 03 05:57:50.2±2.8, 233N±02×939E±02, h53km±30km, n6, σ1s10/7, mb3.4/3, Myanmar-India border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IMP	Imphal	1.47	3	eP	Pn	05 58 15.0	+0.6
IMP				eS	Sn	05 58 32.0	-0.5
SHL	Shillong	2.87	322	ePN	Pn	05 58 34.2	+0.7
SHL				eSN	Sn	05 59 06.0	-0.9
MKAR	Makanchi Array	25.21	341	P	P	06 03 11.8	+1.0
	0.3nm,0.3s,mb3.2,baz=132,slow=8.4,SNR=1.8						
WRA	Warramunga Arr	58.38	134	P	P	06 07 39.2	-1.2
	0.2nm,0.4s,mb3.5,baz=322,slow=7.5,SNR=7.4						
ASAR	Alice Springs	60.78	137	P	P	06 07 57.1	+0.2
	0.2nm,0.5s,mb3.5,baz=321,slow=6.6,SNR=3.9						
TXAR	Lajitas Array	125.01	19	PKP	PKPdf	06 16 45.0	-0.1
	0.1nm,0.4s,baz=27,slow=4.2,SNR=1.3						

*SZGRF **03** 06:05:21.1, 2288S×177.14W, h33km, South of Fiji Islands*
*ISCJB **03** 06:05:35.1±2.5, 228S±0.1×17708W±008, h153km±23km, mb4.2/15, Error ellipse: s-maj=24.3km s-min=11.9km az=178.0*
*IDC **03** 06:05:35.5±2.7, 2272S×17706W, h144km±22km, mb4.0/9, mb1 4.2/10, mb1mx4.1/17, mbtmp4.0/10, Error ellipse: s-maj=22.4km s-min=15.4km az=153.0*
*NEIC **03** 06:05:37.7±1.7, 2272S×17703W, h168km±15km, mb4.6/7, Error ellipse: s-maj=19.1km s-min=8.1km az=171.0*
ISC 03 06:05:36.5±2.4, 228S±01×17705W±008, h153km±23km, n52, σ0s81/27, mb4.2/15, 1C-2D, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	Afiamalu	10.20	30	P	Pn	06 07 51.9	-7.2
	1.7nm,0.3s,baz=30,slow=20,SNR=2.7						
AFI				S	Sn	06 09 33.1	-19
	5.9nm,0.3s,baz=29,slow=19,SNR=4.0						
DZM	Mont Dzumac	15.29	270	ePn	Pn	06 09 05.2	+0.8
RAR	Rarotonga	16.10	88	P	Pn	06 09 13.8	-0.5
	0.6nm,0.3s,baz=326,slow=11,SNR=2.4						
URZ	Urewera	16.16	197	S	S	06 12 00.1	-15
	0.4nm,0.3s,baz=114,slow=9.4,SNR=4.3						
CTA	Charters Tower	34.21	268⇑	iP	P	06 12 08.7	+1.0
	11nm,0.4s,mb4.9						
CTAO	Charters Tower	34.21	268	eP	P	06 12 08.8	+1.1
	16nm,0.7s,mb4.8						
PMG	Port Moresby	36.78	285	eP	P	06 12 30.4	+0.7
	19nm,0.8s,mb4.8						
STKA	Stephens Creek	37.63	247	P	P	06 12 37.3	+0.6
	2.1nm,0.6s,mb4.0,baz=86,slow=12,SNR=5.0						
COEN	Coen	38.67	276	eP	P	06 12 44.8	-0.8
	6.3nm,1.4s,mb4.0						
ASAR	Alice Springs	44.89	259	P	P	06 13 35.6	-0.4
	6.5nm,0.8s,mb4.3,baz=94,slow=7.8,SNR=51						
ASAR				PcP	PcP	06 15 14.8	-0.3
	0.4nm,0.7s,baz=91,slow=4.6,SNR=4.4						
ASAR				ScP	ScP	06 18 54.0	+0.8
	0.4nm,0.8s,baz=115,slow=4.4,SNR=4.0						
ASAR				S	S	06 19 57.9	-4.7
	0.4nm,0.7s,baz=95,slow=12,SNR=4.4						
WB2	Warramunga Arr	45.19	264⇓	iP	P	06 13 37.4	-1.0
WRA	Warramunga Arr	45.20	264	P	P	06 13 37.8	-0.7
	7.4nm,0.6s,mb4.5,baz=102,slow=8.3,SNR=152						
WRA				ScP	ScP	06 18 55.0	+0.5
	0.4nm,0.8s,baz=91,slow=3.6,SNR=4.0						
WRA				S	S	06 19 59.6	-7.4
	0.3nm,0.6s,baz=99,slow=14,SNR=4.5						
KAKA	Kakadu	48.94	273	eP	P	06 14 06.2	-1.4
	4.1nm,0.3s,mb4.5						
FITZ	Fitzroy Crossi	53.63	264	eP	P	06 14 42.4	-0.1
	9.4nm,1.8s,mb4.2						
MBWA	Marble Bar	58.24	259	eP	P	06 15 14.3	-0.9
	7.3nm,1.1s,mb4.4						
QSPA	South Pole Qui	67.24	180	P	P	06 16 15.2	+1.4
	3.9nm,0.7s,mb4.3,baz=31,slow=1.9,SNR=14						
MAW	Mawson	79.67	200	P	P	06 17 27.4	+0.8
	3.3nm,0.6s,mb4.1,baz=136,slow=7.6,SNR=8.0						
NVAR	Mina Array Bea	82.12	43	P	P	06 17 40.6	+0.6
	0.6nm,0.5s,mb3.5,baz=227,slow=8.1,SNR=6.9						
SNAA	Sanae	85.65	178	e	P	06 17 56.5	-1.0
VNA3	Neumayer Olymp	85.75	176	e	P	06 17 57.6	-0.4
VNA2	Neumayer--Watz	86.20	177	e	P	06 18 00.2	0.0
	baz=198,slow=3.9						
TXAR	Lajitas Array	87.58	57	P	P	06 18 07.9	+0.4
	1.6nm,0.9s,mb3.8,baz=208,slow=8.3,SNR=14						
PDAR	Pinedale Array	90.06	43	P	P	06 18 18.6	-0.2
	1.4nm,0.9s,mb3.9,baz=194,slow=3.1,SNR=7.9						
CMAR	Chiang Mai Arr	91.73	289	P	P	06 18 28.4	+1.2
	0.7nm,0.3s,mb4.1,baz=133,slow=2.3,SNR=5.4						
ZALV	Zalesovo Beam	112.86	321	PKiKP	PKiKP	06 23 52.9	-1.9
	0.5nm,0.5s,baz=95,slow=3.0,SNR=2.6						
BOSA	Boshof	124.51	204	PKP	PKPdf	06 24 17.9	-0.3
	3.0nm,0.8s,baz=193,slow=4.0,SNR=4.1						
ARCES	ARCESS Array B	131.38	350	PKP	PKPdf	06 24 28.6	-1.3
	5.3nm,1.0s,baz=20,slow=3.9,SNR=7.6						
HFS	Hagfors	141.98	351	PKhKP		06 24 43.9	
	1.5nm,0.5s,baz=56,slow=4.1,SNR=7.0						
AKASG	Malin Array Be	145.48	330	PKPbc	PKPbc	06 24 54.8	-1.7
	3.6nm,0.4s,baz=41,slow=4.2,SNR=27						
EKA	Eskdalemuir Ar	147.24	6	PKPbc	PKPbc	06 24 59.6	-1.8
	2.6nm,0.8s,baz=323,slow=2.2,SNR=8.6						
ASF	Jabal al Asfar	148.60	295	PKPbc	PKPbc	06 25 05.7	-0.1
	4.2nm,0.7s,baz=338,slow=2.2,SNR=8.8						
MMAI	Mount Meron Ar	149.70	297	PKPbc	PKPbc	06 25 08.8	+0.3
	8.7nm,0.5s,baz=64,slow=5.7,SNR=12						
KOLS	Kolonicke sedl	149.80	334	ePKP	PKPdf	06 25 05.8	+2.5
STHS	Stebnicka Huta	149.81	336	ePKP	PKPbc	06 25 08.5	+0.3
CLL	Collm	150.54	347	ePKPbc	PKPbc	06 25 09.5	-0.4
CLL				ePKPab	PKPab	06 25 16.1	-0.9
CLL	Collm	150.54	347⇓	iPKPbc	PKPbc	06 25 09.3	-0.6
	comp=Z,13nm,0.9s						
CLL				i PKPab	PKPab	06 25 16.1	-0.9
EIL	Elat	150.57	290	PKPbc	PKPbc	06 25 10.7	0.0
	comp=Z,9.3nm,0.7s,baz=332,slow=4.8,SNR=9.4						
BRG	Berggiesshubel	150.74	346	ePKPbc	PKPbc	06 25 10.3	-0.1
BRG				ePKPab	PKPab	06 25 16.9	-1.0
BRG	Berggiesshubel	150.74	346	i P	PKPbc	06 25 10.1	-0.3
	comp=Z,10nm,0.8s						
BRG				i		06 25 16.7	
	comp=Z,5.2nm,0.8s						
NEUB	Neuenburg	150.87	349	ePKPbc	PKPbc	06 25 10.5	-0.2
NEUB				ePKPab	PKPab	06 25 17.5	-0.9
MOX	Moxa	151.44	348	ePKPbc	PKPbc	06 25 11.9	-0.1
MOX				ePKPab	PKPab	06 25 19.7	-1.1
VYHS	Vyhne	151.46	338	ePKP	PKPbc	06 25 10.2	-1.9
TANN	Tannenbergstha	151.49	347	ePKPbc	PKPbc	06 25 11.9	-0.2
MANZ	Manzenberg	151.97	347	ePKPbc	PKPbc	06 25 13.1	-0.2
ROTZ	Rotzenmuhle	152.16	347	ePKPbc	PKPbc	06 25 13.6	-0.1
GRA1	Grafenberg Arr	152.42	348	ePKPbc	PKPbc	06 25 13.8	-0.5
GRF	Grafenberg Arr	152.42	348	ePKPbc	PKPbc	06 25 13.8	-0.5
KHC	Kasperske Hory	152.45	345	ePKPbc	PKPbc	06 25 14.0	-0.4
WET	Wettzell	152.60	346	ePKPbc	PKPbc	06 25 14.2	-0.5
WET				ePKPab	PKPab	06 25 25.2	-0.5
GEC2	GERESS Array S	152.69	344	ePKPbc	PKPbc	06 25 14.4	-0.5
GERES	GERESS Array B	152.69	344	PKPbc	PKPbc	06 25 14.2	-0.6
	comp=Z,0.9nm,0.7s,baz=43,slow=2.4,SNR=9.2						
TORD	Torodi Ar. Bea	170.28	173	PKP	PKPdf	06 25 25.5	-1.4
	comp=Z,1.7nm,0.8s,baz=332,slow=0.8,SNR=10						
TORD				PKPab	PKPab	06 26 43.2	-0.3
	comp=Z,1.5nm,0.7s,baz=189,slow=3.9,SNR=10						

*NEIC **03** 06:11:05.4, 1697N×99.13W, h33km, MD3.7(MEX), After MEX.*
MEX 03 06:11:05.5±0.7, 1697N×9912W, h28km±24km, MD3.7, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ACX	Acapulco	0.77	263	i P	Pb	06 11 17.1	-3.2
ACX				i S	Sb	06 11 27.9	-2.5
CAIG	El Cayaco	1.10	274	i P	Pn	06 11 23.2	-1.8
CAIG				i S	Sn	06 11 35.5	-3.8
CAIG	El Cayaco	1.10	274	i P	Pn	06 11 23.8	-1.3
CAIG				i S	Sn	06 11 34.4	-5.0
PNIG	Pinotepa	1.11	121	i P	Pn	06 11 23.0	-2.2
PNIG				i S	Sn	06 11 35.8	-3.8
UTMO	Huajuapan	1.52	55	eP	Pn	06 11 28.5	-2.4
UTMO				i S	Sn	06 11 47.4	-2.4
PPM	Popocatepetl	2.14	13	eP	Pn	06 11 37.9	-1.5
PPM				i S	Sn	06 12 03.0	-2.1
PPM	Popocatepetl	2.14	13	eP	Pn	06 11 36.5	-2.9
PPM				i S	Sn	06 12 03.0	-2.1
VHO	Vista Hermosa	2.29	87	eP	Pn	06 11 39.6	-1.8
VHO				i S	Sn	06 12 06.2	-2.4
VHO	Vista Hermosa	2.29	87	eP	Pn	06 11 39.6	-1.8
VHO				i S	Sn	06 12 09.1	+0.4
ZIIG	Zihuatanejo	2.33	286	eP	Pn	06 11 40.0	-2.0
ZIIG				i S	Sn	06 12 06.8	-2.9
ZIIG	Zihuatanejo	2.33	286	eP	Pn	06 11 38.2	-3.8
ZIIG				i S	Sn	06 12 06.8	-2.9
PBVM	Pinon	2.46	1	eP	Pn	06 11 41.3	-2.5
PBVM				i S	Sn	06 12 09.3	-3.8
IIO	Organos	2.64	8	i P	Pn	06 11 45.2	-1.1
IIO				i S	Sn	06 12 12.7	-4.7
IIO	Organos	2.64	8	i P	Pn	06 11 44.2	-2.1
IIO				i S	Sn	06 12 11.5	-5.9

IDC 03 06:24:54.7±3.8, 399S×15036E, h0km, mb3.8/3, mb1 4.0/3, mb1mx3.7/15, mbtmp3.8/3, MS3.4/5, Ms1 3.3/5, ms1mx3.0/24, Error ellipse: s-maj=117.3km s-min=51.1km az=115.0, New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	Guam	18.29	343	LR	LR	06 34 09.7	
	comp=Z,114nm,19.7s,baz=122,slow=30						
WRA	Warramunga Arr	22.25	223	P	P	06 29 52.5	-0.9
	1.2nm,0.8s,baz=48,slow=9.9,SNR=11						
ASAR	Alice Springs	25.20	218	P	P	06 30 22.9	+0.7
	1.0nm,0.7s,baz=49,slow=8.5,SNR=12						
FITZ	Fitzroy Crossi	27.96	238	eP	P	06 30 47.3	0.0
	4.1nm,0.6s						
FITZ	Fitzroy Crossi	27.96	238	P	P	06 30 47.4	+0.2
	2.8nm,0.7s,baz=79,slow=13,SNR=11						
FITZ				LR	LR	06 41 05.9	
	comp=Z,68nm,20.0s,baz=68,slow=35						
STKA	Stephens Creek	28.94	196	LR	LR	06 41 45.2	
	comp=Z,138nm,21.1s,baz=26,slow=35						
KSRS	Korea Array	46.21	335	LR	LR	06 50 24.2	
	comp=Z,34nm,18.5s,baz=165,slow=33						
PETK	Petropavlovsk-	57.22	5	LR	LR	06 57 56.6	
	comp=Z,14nm,19.3s,baz=77,slow=35						
TORD	Torodi Ar. Bea	147.74	288	PKPbc	PKPbc	06 44 41.7	-0.9
	0.6nm,0.9s,baz=75,slow=3.6,SNR=3.6						

*IDC **03** 07:12:48.0±0.8, 879S×15728E, h0km, mb4.1/10, mb1 4.3/11, mb1mx4.2/15, mbtmp4.1/11, ML4.3/1, MS3.6/15, Ms1 3.6/15, ms1mx3.4/24, Error ellipse: s-maj=25.9km s-min=21.5km az=137.0*
*ISCJB **03** 07:12:51.2±0.5, 88S±0.1×15735E±006, h33km, mb4.1/12, MS3.6/13, Error ellipse: s-maj=16.8km s-min=7.8km az=13.8*
*NEIC **03** 07:12:52.9±0.5, 883S×15736E, h35km, Error ellipse: s-maj=16.6km s-min=12.3km az=0.0*
ISC 03 07:12:49.9±6.4, 88S±01×15734E±007, h13km±39km, n22, σ0s70/16, mb4.1/12, MS3.6/13, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	Honiara	2.64	103	Pn	Pn	07 13 32.1	-0.2
	49nm,0.3s,baz=245,slow=6.7,SNR=6.9						
HNR				LR	LR	07 13 57.5	
	comp=Z,475nm,19.3s,baz=312,slow=26						
HNR				Sn	Sn	07 14 03.7	-0.5
	161nm,0.3s,baz=12,slow=5.2,SNR=7.2						
HNR	Honiara	2.64	103	eP	Pn	07 13 32.4	+0.1
HNR				LR	LR	07 13 57.5	
HNR				Sn	Sn	07 14 03.7	-0.5
CTA	Charters Tower	15.50	223	LR	LR	07 20 46.0	
	comp=Z,132nm,20.4s,baz=49,slow=31						
WRA	Warramunga Arr	24.83	241	P	P	07 18 12.2	0.0
	2.4nm,0.7s,mb3.8,baz=65,slow=9.4,SNR=13						
WRA				PcP	PcP	07 21 48.4	-0.1
	1.5nm,1.1s,baz=60,slow=2.3,SNR=5.1						
WRA				LR	LR	07 27 25.1	
	comp=Z,171nm,20.4s,MS3.5,baz=60,slow=35						
GUMO	Guam	25.48	331	LR	LR	07 27 43.3	
	comp=Z,84nm,18.3s,MS3.3,baz=193,slow=35						
ASAR	Alice Springs	26.84	234	P	P	07 18 30.6	+0.2
	1.3nm,0.9s,mb3.4,baz=60,slow=8.6,SNR=7.5						
STKA	Stephens Creek	27.20	210	P	P	07 18 37.9	+4.4
	5.0nm,0.9s,mb4.1,baz=279,slow=20,SNR=4.8						
STKA				LR	LR	07 29 24.2	
	comp=Z,162nm,19.4s,MS3.6,baz=28,slow=37						
AFI	Afiamalu	30.68	102	LR	LR	07 27 59.8	
	comp=Z,112nm,21.6s,MS3.5,baz=55,slow=30						
FITZ	Fitzroy Crossi	32.13	250	LR	LR	07 31 44.1	
	comp=Z,93nm,21.1s,MS3.5,baz=300,slow=35						

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
BATI	Baumata	33.23	265	LR	LR	07 33 09.8	
	comp=Z,183nm,19.9s,MS3.8,baz=126,slow=37						
PPT	Papeete	52.26	105	LR	LR	07 42 38.6	
	comp=Z,126nm,18.3s,MS4.0,baz=265,slow=34						
KSRS	Korea Array	53.65	331	P	P	07 22 10.8	-0.5
	1.5nm,0.7s,mb4.0,baz=147,slow=9.3,SNR=6.9						
KSRS				LR	LR	07 44 12.9	
	comp=Z,27nm,18.2s,MS3.3,baz=212,slow=35						
PETK	Petropavlovsk-	61.69	0	P	P	07 23 07.6	0.0
	8.1nm,1.0s,mb4.8,baz=199,slow=8.5,SNR=3.8						
PETK				LR	LR	07 45 02.1	
	comp=Z,43nm,20.1s,MS3.6,baz=323,slow=31						
CMAR	Chiang Mai Arr	63.67	296	P	P	07 23 19.9	-1.6
	1.2nm,0.3s,mb4.4,baz=99,slow=6.4,SNR=4.0						
LZH	Lanzhou	67.25	315	eP	P	07 23 43.8	-0.5
	16nm,1.0s,mb5.0						
LZH				pP	pP	07 23 48.3	-0.2
LZH				sP	sP	07 23 50.9	+0.9
SONM	Songino Array	72.13	327	P	P	07 24 14.6	+0.4
	1.4nm,1.0s,mb3.9,baz=130,slow=4.6,SNR=6.1						
SONM				LR	LR	07 54 10.8	
	comp=Z,18nm,18.1s,MS3.4,baz=104,slow=34						
MAW	Mawson	83.61	203	P	P	07 25 17.9	+0.1
	0.7nm,0.4s,mb4.1,baz=51,slow=15,SNR=2.6						
MKAR	Makanchi Array	86.31	318	P	P	07 25 32.4	+0.7
	0.5nm,0.4s,mb4.1,baz=109,slow=7.8,SNR=3.5						
ZALV	Zalesovo Beam	86.99	326	LR	LR	08 04 58.2	
	comp=Z,10nm,20.7s,MS3.2,baz=105,slow=36						
NVAR	Mina Array Bea	91.03	51	P	P	07 25 55.8	+1.5
	0.6nm,0.9s,mb3.9,baz=241,slow=7.7,SNR=4.8						
YKA	Yellowknife Ar	96.86	28	LR	LR	08 03 09.4	
	comp=Z,33nm,19.4s,MS3.8,baz=15,slow=31						
PDAR	Pinedale Array	98.19	48	P	P	07 26 27.1	+0.1
	0.5nm,1.0s,mb4.0,baz=235,slow=3.2,SNR=3.1						
PDAR				LR	LR	08 10 02.4	
	comp=Z,50nm,18.6s,MS4.0,baz=260,slow=35						

IDC 03 07:35:12.8±6.8**, 1932S**×**17634W, h0**km**, mb3.9**/2**, mb1 4.1**/2**, mb1mx3.7**/16**, mbtmp3.9**/2**, Error ellipse: s-maj=309.5km s-min=106.1km az=153.0, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	Alice Springs	46.32	255	P	P	07 43 40.8	0.0
	1.2nm,0.5s,baz=96,slow=7.8,SNR=23						
WRA	Warramunga Arr	46.32	261	P	P	07 43 40.7	-0.2
	0.5nm,0.3s,baz=96,slow=7.2,SNR=20						
AKASG	Malin Array Be	142.71	333	PKP	PKPdf	07 54 47.5	-0.5
	1.5nm,0.5s,baz=42,slow=4.0,SNR=9.2						

IDC 03 08:00:42.8±1.8**, 1535S**×**17491W, h0**km**, mb3.7**/3**, mb1 3.9**/4**, mb1mx3.7**/17**, mbtmp3.8**/4**, ML2.1**/1**, Error ellipse: s-maj=192.0km s-min=29.2km az=157.0, Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	Afiamalu	3.35	65	Pn	Pn	08 01 36.7	+0.2
	10nm,0.3s,baz=244,slow=1.8,SNR=13						
AFI				Sn	Sn	08 02 07.9	-9.1
	58nm,0.3s,baz=247,slow=22,SNR=15						
STKA	Stephens Creek	42.80	240	P	P	08 08 42.2	-0.3
	2.0nm,0.8s,baz=112,slow=5.4,SNR=3.0						
WRA	Warramunga Arr	48.44	257	P	P	08 09 27.7	+0.4
	0.2nm,0.3s,baz=91,slow=6.2,SNR=8.3						
ASAR	Alice Springs	48.74	252	P	P	08 09 29.2	-0.4
	0.5nm,0.6s,baz=86,slow=8.2,SNR=9.7						

IDC 03 08:23:35.2±23.0**, 606S**×**14548E, h178**km±201km**, mb3.2**/3**, mb1 3.3**/4**, mb1mx3.1**/15**, mbtmp3.1**/4**, ML3.4**/1**, Error ellipse: s-maj=117.8km s-min=33.4km az=54.0, New Guinea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	Kakadu	14.46	242	eP	Pn	08 26 51.0	-0.9
	11nm,0.5s						
WRA	Warramunga Arr	17.54	217	P	Pn	08 27 26.5	-2.6
	0.2nm,0.3s,baz=40,slow=12,SNR=14						
ASAR	Alice Springs	20.75	211	P	P	08 28 02.9	+0.7
	0.4nm,0.5s,baz=53,slow=7.4,SNR=7.1						
FITZ	Fitzroy Crossi	22.77	237	P	P	08 28 22.6	+0.1
	2.5nm,0.5s,baz=53,slow=12,SNR=11						
CMAR	Chiang Mai Arr	51.95	299	P	P	08 32 26.3	-0.1
	2.1nm,0.7s,baz=132,slow=5.2,SNR=6.1						
TORD	Torodi Ar. Bea	143.64	284	PKP	PKPdf	08 42 48.6	-1.3
	0.4nm,0.4s,baz=75,slow=3.1,SNR=6.8						
SIV	San Ignacio	145.78	130	PKPbc	PKPbc	08 42 53.7	-0.7
	1.0nm,0.6s,baz=229,slow=2.7,SNR=8.3						

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*TEH **03** 08:29:35.8, 3126N×4958E, h3km, ML3.9*
*IDC **03** 08:30:23.6±1.8, 3157N×4934E, h0km, mb3.9/5, mb1 3.9/5, mb1mx3.6/23, mbtmp3.9/5, Error ellipse: s-maj=55.6km s-min=25.3km az=163.0*
*CSEM **03** 08:30:24.5±0.1, 3135N×4974E, h10km, ML3.7, Error ellipse: s-maj=1.8km s-min=1.2km az=138.0*
*ISCJB **03** 08:30:24.7±0.3, 3132N±003×4973E±003, h10km, mb3.9/6, Error ellipse: s-maj=4.3km s-min=4.1km az=150.4*
*THR **03** 08:30:26.0±0.8, 3120N×4964E, h42km±8km, ML3.7*
*NEIC **03** 08:30:28.1, 3143N×4975E, h33km, mb4.0/1, ML3.5(THR), After THR.*
ISC 03 08:30:27.0±1.1**, 3132N**±003×**4967E**±004**, h20**km±8km**, n60, σ0.85**/65**, mb3.9**/6**, Western Iran**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHGR	Shooshtar-Gavs	1.08	317	ePg	Pg	08 30 47.4	-0.7
SHGR				eSg	Sg	08 31 03.4	+1.0
SHGR				AML	AML	08 31 16.3	
	comp=N,702nm,0.6s						
SHGR				AML	AML	08 31 24.8	
	comp=E,1µm,0.8s						
SHGR	Shooshtar-Gavs	1.08	317	Pn	Pn	08 30 48.0	+0.9
SHGR				Sg	Sg	08 31 02.0	-0.4
SHGR	Shooshtar-Gavs	1.08	317	Pn	Pn	08 30 48.0	+0.9
SHGR				Sg	Sg	08 31 02.0	-0.4
IPIR	Pirpir	1.71	37	ePn	Pn	08 30 56.1	+0.4
IPIR				e		08 31 26.4	
IGAR	Gharneh	2.29	61	ePn	Pn	08 31 04.0	+0.4
IGAR				e		08 31 38.4	
UMR	Umm Al-Rimmam	2.44	224	eP	Pn	08 31 06.1	+0.4
	baz=224						
UMR				AML	AML	08 31 46.4	
	comp=Z,200nm,0.6s,baz=224						
MIB	Mutribah	2.52	234	eP	Pn	08 31 07.3	+0.5
	baz=234						
MIB				AML	AML	08 31 54.7	
	comp=Z,205nm,0.6s,baz=234						
IKLH	Kolahrood	2.57	38	ePn	Pn	08 31 07.8	+0.3
IKLH				e		08 32 03.3	
KBD	Kabd	2.74	219	eP	Pn	08 31 10.6	+0.8
	baz=219						
KBD				AML	AML	08 31 48.2	
	comp=Z,78nm,0.4s,baz=219						
IZEF	Zefreh	2.75	54	ePn	Pn	08 31 09.8	-0.2
IZEF				e		08 32 03.6	
RST	Umm Al-Ruwaisa	2.94	233	eP	Pn	08 31 12.9	+0.3
	baz=232						
RST				AML	AML	08 32 01.7	
	comp=Z,119nm,0.6s,baz=232						
NAY	Al-Naaiem	2.94	226	eP	Pn	08 31 13.3	+0.6
	baz=226						
NAY				AML	AML	08 31 59.0	
	comp=Z,52nm,0.5s,baz=226						
RDF	Al-Radifah	3.01	218	eP	Pn	08 31 14.1	+0.6
	baz=218						
RDF				AML	AML	08 31 55.2	
	comp=Z,117nm,0.5s,baz=218						
NASN	Na'in	3.04	60	ePn	Pn	08 31 14.3	+0.3
NASN				AML	AML	08 32 02.3	
	comp=E,162nm,0.6s						
NASN	Na'in	3.04	60	Pn	Pn	08 31 14.0	0.0
ASAO	Ashtian	3.24	5	ePn	Pn	08 31 17.9	+1.3
ASAO				AML	AML	08 32 10.7	
	comp=N,194nm,0.7s						
ASAO				AML	AML	08 32 19.5	
	comp=E,162nm,0.7s						
ASAO	Ashtian	3.24	5	Pn	Pn	08 31 17.0	+0.3
IPAR	Pars	3.26	116	ePn	Pn	08 31 16.7	-0.3
IPAR				e		08 32 11.0	
IKOM	Komasi	3.38	328	ePn	Pn	08 31 17.6	-1.1
IKOM				e		08 32 25.7	
GHVR	GHOM	3.44	23	ePn	Pn	08 31 20.3	+0.9
GHVR				AML	AML	08 32 15.6	
	comp=N,134nm,0.7s						
GHVR				AML	AML	08 32 16.0	
	comp=E,114nm,0.6s						
GHVR	GHOM	3.44	23	Pn	Pn	08 31 20.0	+0.6
IMOK	Mouk	3.47	130	ePn	Pn	08 31 18.9	-1.0
IMOK				e		08 32 30.4	
ISAD	Sadrabad	3.47	79	ePn	Pn	08 31 20.1	+0.2
ISAD				e		08 32 04.5	
ISRV	Sarvestan	3.54	122	ePn	Pn	08 31 19.9	-1.0
ISRV				e		08 32 29.6	
ISFB	Sefidab	3.72	35	ePn	Pn	08 31 22.9	-0.4
ISFB				eSn	Sn	08 32 07.2	+0.7
ISFB	Sefidab	3.72	35	ePn	Pn	08 31 22.9	-0.4
ISFB				eSn	Sn	08 32 07.2	+0.7
ISFB				e		08 32 16.2	
IGHG	Ghaleghazi	3.98	320	ePn	Pn	08 31 26.7	-0.2
IGHG				e		08 33 16.8	
IVRN	Varamin	4.05	25	ePn	Pn	08 31 27.4	-0.5
IVRN				e		08 31 31.9	
ICHK	Chekchek	4.14	76	ePn	Pn	08 31 29.1	+0.1
ICHK				e		08 32 24.3	
GHIR	Ghir-Karzin	4.17	136	ePn	Pn	08 31 28.1	-1.5
GHIR				AML	AML	08 32 45.4	
	comp=E,98nm,0.4s						
GHIR				AML	AML	08 32 53.6	
	comp=N,127nm,0.6s						
GHIR	Ghir-Karzin	4.17	136	ePn	Pn	08 31 28.0	-1.5
	SNR=54						
IMEH	Mehriz	4.23	88	ePn	Pn	08 31 30.4	+0.1
SNGE	Sanandaj	4.24	333	ePn	Pn	08 31 31.0	+0.5
SNGE	Sanandaj	4.24	333	ePn	Pn	08 31 31.0	+0.5
	SNR=54						
SNGE				Sn	Sn	08 32 18.0	-1.4
IMHD	Mahdasht	4.44	11	ePn	Pn	08 31 33.0	-0.1
IMHD				e		08 31 50.5	
IDMV	Damavand	4.68	24	ePn	Pn	08 31 36.2	-0.4
THKV	Tehran--Karaj	4.70	12	ePn	Pn	08 31 37.6	+0.9
THKV				AML	AML	08 33 09.3	
	comp=E,44nm,0.7s						
THKV				AML	AML	08 33 13.7	
	comp=N,46nm,0.8s						
THKV	Tehran--Karaj	4.70	12	Pn	Pn	08 31 37.0	+0.3
BHD	Baghdad	4.89	295	ex	x	08 31 28.0	
BHD				ex	x	08 32 17.5	
ILAS	Lasjerd	4.90	33	ePn	Pn	08 31 38.8	-0.7
IFIR	Firoozkooh	5.02	30	ePn	Pn	08 31 41.4	+0.2
IFIR				e		08 31 53.4	
IBAF	Bafgh	5.04	85	ePn	Pn	08 31 40.9	-0.6
IBAF				e		08 31 46.7	
IPRN	Peran	5.39	24	ePn	Pn	08 31 46.0	-0.3
IPRN				e		08 31 53.2	
ISHM	Shahmirzad	5.40	33	ePn	Pn	08 31 46.1	-0.3
ISHM				e		08 31 51.8	
ZNJK	Zanjan	5.40	352	ePn	Pn	08 31 47.5	+1.1
IANJ	Anjilo	5.45	39	ePn	Pn	08 31 46.4	-0.7
IANJ				e		08 33 28.9	
IKIA	Kiasar	5.91	33	ePn	Pn	08 31 52.6	-0.8
IKIA				e		08 32 08.3	
IGLO	Ghaloghah	6.22	33	ePn	Pn	08 31 57.4	-0.3
IGLO				e		08 32 40.1	
KRBR	Kerman	6.25	100	ePn	Pn	08 31 58.2	+0.1
KRBR	Kerman	6.25	100	Pn	Pn	08 32 00.0	+1.9
ISHV	Shirvan	9.08	45	ePn	Pn	08 32 38.8	+1.9
ISHV				e		08 32 59.5	
AML	Almayashu	22.00	54	eP	P	08 35 21.3	+1.4
AML	Almayashu	22.00	54	eP	P	08 35 21.3	+1.4
	comp=N,4.7nm,0.8s,mb4.0						
AKASG	Malin Array Be	24.62	328	P	P	08 35 42.4	-3.4
	comp=N,0.4nm,0.4s,mb3.3,baz=149,slow=9.3,SNR=6.4						
MKAR	Makanchi Array	29.41	49	P	P	08 36 30.2	+1.3
	comp=N,0.6nm,0.5s,mb3.5,baz=239,slow=9.0,SNR=5.2						
MKAR	Makanchi Array	29.41	49	P	P	08 36 30.2	+1.2
ZALV	Zalesovo Beam	33.81	38	P	P	08 37 06.0	-1.6
	comp=N,1.1nm,0.5s,mb4.1,baz=227,slow=9.7,SNR=5.1						
TORD	Torodi Ar. Bea	47.55	259	P	P	08 38 59.2	-2.1
	comp=N,0.8nm,0.8s,mb3.8,baz=58,slow=8.5,SNR=6.1						
TORD	Torodi Ar. Bea	47.55	259	P	P	08 38 59.2	-2.1
KSRS	Korea Array	63.13	61	P	P	08 40 53.9	+0.5
	comp=N,2.5nm,0.6s,mb4.5,baz=283,slow=7.8,SNR=8.5						

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*ISCJB **03** 08:38:10.4±0.9, 689N±0.10×7291W±009, h162km±9km, Error ellipse: s-maj=18.6km s-min=11.6km az=141.3*
*FUNV **03** 08:38:13.9, 689N×7286W, h152km, MW3.2*
*IDC **03** 08:38:17.4±4.9, 491N×7625W, h138km±59km, mb2.6/1, mb1 3.2/1, mb1mx2.8/19, mbtmp2.6/1, Error ellipse: s-maj=92.0km s-min=32.2km az=54.0*
ISC 03 08:38:11.2±0.9**, 687N**±010×**7290W**±009**, h158**km±9km**, n18, σ0.93**/20**, 1C-2D, Northern Colombia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAPV	Capacho	1.15	30⇑	iP	Pn	08 38 39.0	+1.0
CAPV				eS	Sn	08 38 58.3	-0.2
ROSC	El Rosal	2.45	215	P	Pn	08 38 51.3	-0.9
	4.9nm,0.3s,baz=270,slow=18,SNR=30						
ROSC				S	Sn	08 39 17.6	-6.3
	17nm,0.3s,baz=71,slow=23,SNR=11						
SOCV	Socops	2.47	55	eP	Pn	08 38 53.6	+1.3
SOCV				eS	Sn	08 39 22.4	-1.6
VIGV	El Vigia	2.48	38⇓	eP	Pn	08 38 53.4	+0.9
VIGV				eS	Sn	08 39 22.4	-2.0
ELOV	Elorza	3.40	88	eP	Pn	08 39 05.2	+1.3
QARV	Quebrada Arrib	4.06	35⇓	eP	Pn	08 39 13.4	+0.9
SANV	Sanarito	4.23	52	eP	Pn	08 39 15.2	+0.5
CURV	Curarigua	4.27	43	eP	Pn	08 39 15.8	+0.7
TEPV	Terepaima	4.79	50	eP	Pn	08 39 22.6	+0.6
SIQV	Siquisique	4.84	39	eP	Pn	08 39 22.8	+0.1
BAUV	El Baul	5.24	67	eP	Pn	08 39 27.3	-0.6
TURV	Turiamo	6.14	54	eP	Pn	08 39 40.2	+0.4
CAOV	Caicara del Or	6.54	86	eP	Pn	08 39 44.3	-0.9
BIRV	Birongo	7.47	61	eP	Pn	08 39 57.3	-0.3
CUPV	Cœpira	7.71	65	eP	Pn	08 40 00.2	-0.6
TXAR	Lajitas Array	36.59	311	P	P	08 45 01.4	-0.9
	0.2nm,0.7s,baz=123,slow=9.8,SNR=3.2						
ASAR	Alice Springs	149.32	234	PKPbc	PKPbc	08 57 39.9	-2.4
	0.3nm,0.5s,baz=124,slow=3.3,SNR=6.6						
WRA	Warramunga Arr	150.55	241	PKPbc	PKPbc	08 57 43.0	-2.3
	0.3nm,0.4s,baz=108,slow=2.7,SNR=15						

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*DDA **03** 08:53:45.9, 3842N×3646E, h7km±4km, Md2.8*
CSEM 03 08:53:45.3±0.3**, 3856N**×**3635E, h20**km**, MD2.8, Error ellipse: s-maj=13.0km s-min=7.3km az=46.0, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PINB	Pinarbasi	0.12	21	iP	Pb	08 53 50.7	+1.2
PINB				iS	Sb	08 53 55.6	+3.3
SARI	SarD1z-Kayseri	0.30	67	PG	Pb	08 53 44.4	-7.5
SARI				SG	Sb	08 53 46.6	-10
BNN	Bunyan	0.49	306	ePG	Pb	08 53 55.7	+0.5
BNN				eSG	Sb	08 54 08.6	+6.7
AKCD	Akcadag	1.27	102	iP	Pn	08 54 08.7	+0.9
AKCD				iS	Sn	08 54 24.3	+0.1
GZT	Gaziantep	1.54	141	iP	Pn	08 54 12.8	+1.1
GZT				iS	Sn	08 54 30.9	-0.1

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*ISK **03** 09:13:15.3, 4009N×3556E, h12km, MD3.2*
*ISCJB **03** 09:13:16.6±1.2, 40.10N±004×3553E±007, h7km±10km, Error ellipse: s-maj=9.4km s-min=6.3km az=153.1*
*CSEM **03** 09:13:16.5±0.3, 4007N×3538E, h10km, MD3.2, Error ellipse: s-maj=7.2km s-min=4.0km az=48.0*
*DDA **03** 09:13:17.6, 4005N×3546E, h7km±3km, Md2.9*
ISC 03 09:13:17.0±1.4**, 4009N**±004×**355E**±01**, h8**km±12km**, n9, σ1.38**/13**, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YOZ	Yozgat	0.48	199	PG	Pg	09 13 25.4	-0.9
YOZ				eSG	Sg	09 13 33.0	+0.4
CTKT	Corum	0.77	313	iP	Pg	09 13 32.1	+0.3
CTKT				iS	Sg	09 13 44.2	+2.3
CDAG	Cicekdag	1.01	243	iP	Pg	09 13 35.2	-1.1
CDAG				iS	Sg	09 13 49.5	+0.1
SVSK	Karacayir	1.14	98	ePN	Pn	09 13 37.0	-2.1
BNN	Bunyan	1.26	169	ePN	Pn	09 13 38.9	-2.0
DIKM	Dikmen	1.57	353	ePN	Pn	09 13 44.4	-0.6
PINB	Pinarbasi	1.57	154	iP	Pn	09 13 47.2	+2.1
PINB				iS	Sn	09 14 07.3	+1.8
KAMT	Kaman	1.57	243	ePN	Pn	09 13 43.9	-1.2
SARI	SarD1z-Kayseri	1.68	147	ePN	Pn	09 13 47.7	+1.1

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*MOS **03** 09:15:06.8±0.9, 5168N×17551W, h33km, mb5.0/69, Error ellipse: s-maj=7.8km s-min=5.9km az=79.2*
*SZGRF **03** 09:15:07.9, 5139N×17543W, h33km, mb5.0, Andreanof Islands, Aleutian Islands, United States*
*BJI **03** 09:15:09.8, 5197N×17581W, h49km, mB5.0, mb4.9, Ms4.6, Msz4.3*
*ISCJB **03** 09:15:10.1±0.5, 5165N±004×17551W±002, h62km±4km, mb4.9/163, Error ellipse: s-maj=6.1km s-min=2.4km az=5.5*
*IDC **03** 09:15:10.2±2.0, 5176N×17554W, h47km±17km, mb4.2/26, mb1 4.3/27, mb1mx4.3/30, mbtmp4.2/27, ML4.1/1, MS3.9/27, Ms1 3.9/27, ms1mx3.7/40, Error ellipse: s-maj=15.9km s-min=9.8km az=179.0*
*NEIC **03** 09:15:11.9±0.4, 5168N×17552W, h65km±3km, mb5.0/119, Error ellipse: s-maj=4.7km s-min=2.2km az=183.0*
ISC 03 09:15:11.9±0.5**, 5170N**±004×**17552W**±002**, h63**km±3km**, h60**km±1.9km**:pP-P, n716, σ0.61**/713**, mb4.9**/163**, 163C-153D, Andreanof Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ADK	Adak	0.75	285	P	Pn	09 15 24.9	-1.9
ADK				S	Sn	09 15 37.2	-0.6
ADK	Adak	0.75	285	ePn	Pn	09 15 24.9	-1.8
ADK				eSn	Sn	09 15 36.4	-1.4
NIKO	Nikolski	4.28	70	ePn	Pn	09 16 12.8	-1.6
NIKO				eSn	Sn	09 17 03.2	+0.2
OKCE	Okmok Cone E	4.81	66	P	Pn	09 16 21.0	-0.6
OKCE				S	Sn	09 17 20.5	+4.6
OKCD	Okmok Cone D	4.84	66	P	Pn	09 16 22.5	+0.4
UNV	Unalaska Valle	5.88	65	P	Pn	09 16 36.5	+0.2
AKGG	Akutan Green G	6.28	63	P	Pn	09 16 42.4	+0.7
SPIA	Saint Paul Isl	6.29	27	P	Pn	09 16 44.0	+2.1
AKUT	Akutan	6.38	64	P	Pn	09 16 44.1	+1.0
SMY	Shemya	6.46	283	ePn	Pn	09 16 44.0	-0.2
SMY				eSn	Sn	09 17 54.8	-1.7
FX1	Attu Island--F	7.04	284	P	Pn	09 16 53.8	+1.6
SDPT	Sand Point	9.67	62	eP	Pn	09 17 26.4	-1.7
GAMB	Gambell	12.28	8	ePn	Pn	09 18 07.2	+3.7
OHAK	Old Harbor	14.03	58	ePn	Pn	09 18 25.2	-2.0
OHAK				eSn	Sn	09 21 00.8	-0.4
TNA	Tin City	14.43	13	ePn	Pn	09 18 35.5	+3.0
SVW2	Sparrevohn	14.45	42	eP	Pn	09 18 33.5	+0.9
KDAK	Kodiak Island	14.54	56	P	Pn	09 18 29.0	-4.9
	4.7nm,0.3s,baz=279,slow=14,SNR=29						
KDAK				S	Sn	09 21 10.9	-2.6
	0.1nm,0.3s,baz=137,slow=23,SNR=2.0						
KDAK	Kodiak Island	14.54	56	ePn	Pn	09 18 38.7	+4.8
KDAK				S	Sn	09 21 10.9	-2.6
PET	Petropavlovsk	15.81	285	eP	Pn	09 18 47.4	-2.8
PET				MLR	MLR		
	comp=Z,200nm,20.0s						
PEA0B	Petropavlovsk-	16.37	285	ePn	Pn	09 18 57.6	+0.3
PEA0B				eSn	Sn	09 21 58.6	+0.6
PETK	Petropavlovsk-	16.37	285	P	Pn	09 18 57.7	+0.3
	comp=Z,0.8nm,0.3s,baz=89,slow=15,SNR=17						
PETK				PcP	PcP	09 23 46.9	+0.5
	comp=Z,0.3nm,0.3s,baz=65,slow=3.9,SNR=5.8						
PETK				LR	LR	09 24 51.9	
	comp=Z,290nm,21.8s,baz=300,slow=36						
SLKM	Skilak Lake	16.54	48	ePn	Pn	09 18 59.0	-0.4
SLKM				eSn	Sn	09 22 02.2	+0.3
PPLA	Purkeypile	16.75	39	ePn	Pn	09 19 02.9	+0.9
	comp=Z,80nm,0.8s						
SEW	Seward	16.77	50	eP	Pn	09 18 59.8	-2.4
RC01	Rabbit Creek A	16.98	46	ePn	Pn	09 19 04.7	-0.1
	comp=Z,28nm,0.7s						
RC01				eSn	Sn	09 22 12.2	-0.3
CHUM	Lake Minchumin	17.24	36	ePn	Pn	09 19 09.5	+1.4
	comp=Z,40nm,0.6s						
PMR	Palmer	17.44	45	eP	Pn	09 19 10.2	-0.3
PMR				pmax	pmax		
	comp=Z,21nm,0.9s						
PMR	Palmer	17.44	45	ePn	Pn	09 19 10.2	-0.3
	comp=Z,21nm,0.9s						
KTH	Kantishna Hill	17.59	38	ePn	Pn	09 19 13.7	+1.5
	comp=Z,520nm,1.3s						
TRF	Thorofare Moun	17.78	39	eP	Pn	09 19 15.0	+0.4
	comp=Z,221nm,1.2s						
BPAW	Bear Paw Mtn.	17.85	37	eP	Pn	09 19 16.8	+1.3
	comp=Z,62nm,0.7s						
IMA2	Indian Mountai	18.14	29	eP	Pn	09 19 19.7	+0.8
MCK	McKinley	18.45	39	eP	Pn	09 19 21.9	-0.8
MCK				pmax	pmax		
	comp=Z,120nm,1.0s						
MCK	McKinley	18.45	39	eP	Pn	09 19 21.9	-0.8
	comp=Z,120nm,1.0s						
BILL	Bilibino	18.62	338	deP	Pn	09 19 25.5	+0.7
BILL				pmax	pmax		
	comp=Z,105nm,1.1s						
BILL	Bilibino	18.62	338	eP	Pn	09 19 23.8	-1.0
	comp=Z,54nm,0.6s						
EYAK	Cordova Ski Ar	18.66	50	eP	Pn	09 19 24.2	-1.1
COLA	College	19.41	37	eP	Pn	09 19 32.5	-1.7
COLA	College	19.41	37	eP	Pn	09 19 32.3	-2.0
	comp=Z,73nm,0.9s						
COLD	Coldfoot	19.95	29	eP	Pn	09 19 39.8	-0.7
	comp=Z,141nm,1.0s						
MENT	Mentasta	20.28	44	eP	P	09 19 42.9	+0.9
SEY	Seymchan	20.41	316⇑	eP	P	09 19 44.6	+1.3
PNL	Peninsula	21.63	54	eP	P	09 19 56.0	-0.5
	comp=Z,53nm,0.9s,mb5.0						
PNL				e		09 20 09.8	
DAWY	Dawson	22.48	43	eP	P	09 20 04.7	-0.7
SKAG	Skagway	23.69	55	eP	P	09 20 17.9	+0.4
WRAK	Wrangell Islan	25.45	62	eP	P	09 20 35.2	+1.7
	comp=Z,69nm,0.8s,mb5.2						
DLBC	Dease Lake	26.47	57	P	P	09 20 43.8	+1.2
YSS	Yuzh-Sakhalins	27.32	277	eP	P	09 20 51.4	+0.9
YSS				pmax	pmax		
	comp=Z,40nm,1.2s,mb4.8						
YSS				MLR	MLR		
	comp=Z,400nm,20.0s						
YSS				MLR	MLR		
	comp=E,300nm,18.0s						
YSS	Yuzh-Sakhalins	27.32	277	eP	P	09 20 51.4	+0.9
	comp=E,12nm,0.4s,mb4.8						
ASAJ	Asahikawa	28.75	271	P	P	09 21 07.0	+3.8
	comp=E,8.1nm,0.7s,mb4.6,baz=55,slow=14,SNR=6.6						
ASAJ				LR	LR	09 33 15.2	
	comp=E,124nm,18.4s,baz=153,slow=38						
ASAJ	Asahikawa	28.75	271	P	P	09 21 07.0	+3.8
ASAJ				pmax	pmax		
	comp=Z,8.0nm,0.7s						
ASAJ				MLR	MLR		
	comp=Z,124nm,18.4s						
BBB	Bella Bella	28.82	70	LR	LR	09 29 53.5	
	comp=Z,317nm,19.9s,baz=301,slow=31						
KLR	Kul'dur	33.05	287	eP	P	09 21 37.7	-3.3
NLWA	Neilton Lookou	33.21	77	eP	P	09 21 42.6	+0.2
A04A	Legoe Bay, Lum	33.32	74	⇑P	P	09 21 43.3	-0.1
	baz=33						
YKA	Yellowknife Ar	33.52	47	P	P	09 21 44.5	-0.4
	comp=Z,1.1nm,0.3s,mb4.2,baz=270,slow=22,SNR=19						
YKA				PcP	PcP	09 24 24.1	0.0
	comp=Z,3.8nm,0.7s,baz=285,slow=3.2,SNR=7.9						
YKA				LR	LR	09 37 37.7	
	comp=Z,161nm,18.9s,baz=150,slow=40						
YKA	Yellowknife Ar	33.52	47	P	P	09 21 44.5	-0.4
YKA						09 24 24.1	
YKA				pmax	pmax		
	comp=Z,1.0nm,0.3s						
YKA				pmax	pmax		
	comp=Z,4.0nm,0.7s						
YKA				MLR	MLR		
	comp=Z,161nm,18.9s						
YKA	Yellowknife Ar	33.52	47	P	P	09 21 44.5	-0.4
YKA				PcP	PcP	09 24 24.1	0.0
YKA				LR	LR	09 37 37.7	
A05A	Maple Falls	33.57	73	⇑P	P	09 21 46.1	+0.6
	baz=34,SNR=6.7						
C04A	Brinnon	33.60	76	⇓P	P	09 21 46.4	+0.6
	baz=34						
GNW	Green Mountain	33.76	76	eP	P	09 21 48.6	+1.4

comp=Z,14nm,0.8s,mb4.9
E03A Lebam 33.79 78 ⇓P P 09 21 47.2 -0.2
baz=34
B05A Bryant 33.89 74 ⇑P P 09 21 49.0 +0.8
baz=34,SNR=9.4
A06A Chilliwack 33.89 73 ⇓P P 09 21 48.6 +0.3
baz=34
JCW Jim Creek 34.02 74 eP P 09 21 50.3 +0.9
B06A Marblemount 34.14 74 ⇓P P 09 21 50.5 0.0
baz=34
RPW Rockport 34.15 74 eP P 09 21 50.8 +0.2
C05A Tolt Reservoir 34.39 75 ⇑P P 09 21 53.0 +0.4
baz=34
D05A Enumclaw 34.44 76 ⇑P P 09 21 53.8 +0.7
baz=34
A07A Ashnola River, 34.56 72 ⇑P P 09 21 54.9 +0.8
baz=34,SNR=11
LON Longmire 34.75 76 eP P 09 21 56.6 +0.8
LON e 09 23 16.9
LON pmax pmax
comp=Z,9.0nm,0.7s,mb4.8
LON Longmire 34.75 76 eP P 09 21 56.6 +0.8
comp=Z,8.6nm,0.7s,mb4.8
LON ePP PP 09 23 16.9 +1.5
C06A Tall Timber Ra 34.76 74 ⇑P P 09 21 56.0 +0.2
baz=35
F04A Amboy 34.78 78 ⇑P P 09 21 56.0 0.0
baz=35
B07A Winthrop 34.98 73 ⇑P P 09 21 58.2 +0.5
baz=35,SNR=9.3
D06A Cle Elum 35.13 75 ⇑P P 09 21 59.1 +0.1
baz=35
ETW Entiat 35.24 74 eP P 09 22 00.4 +0.4
A08A Turner Farm, O 35.26 72 ⇑P P 09 22 00.3 +0.2
baz=35,SNR=15
E06A Yakima 35.36 76 ⇓P P 09 22 01.3 +0.3
baz=35
C07A Waterville 35.37 74 ⇑P P 09 22 00.6 -0.4
baz=35
F05A White Salmon 35.39 78 ⇓P P 09 22 01.5 +0.3
baz=35
EBG Ellensburg 35.43 76 P P 09 22 02.8 +1.2
B08A Colville Reser 35.49 73 ⇓P P 09 22 02.2 +0.1
baz=35,SNR=25
D07A Quincy 35.65 75 ⇓P P 09 22 03.3 -0.2
baz=36,SNR=7.2
A09A Danville 35.66 71 ⇑P P 09 22 03.7 +0.1
baz=36,SNR=9.0
G05A Wamic 35.79 78 ⇑P P 09 22 05.2 +0.5
baz=36
F06A Goldendale 35.86 77 ⇓P P 09 22 05.9 +0.6
baz=36
MJAR Matsushiro Arr 35.86 263 P P 09 22 05.8 +0.4
comp=Z,1.3nm,0.5s,mb4.1,baz=52,slow=6.5,SNR=4.5
MJAR LR LR 09 34 48.6
comp=Z,207nm,20.8s,baz=60,slow=33
MAJO Matsushiro 35.86 263 eP P 09 22 06.5 +1.1
MAJO pmax pmax
comp=Z,13nm,0.8s,mb4.9
MAJO Matsushiro 35.86 263 eP P 09 22 06.5 +1.1
comp=Z,13nm,0.8s,mb4.9
MAT Matsushiro 35.86 263 P P 09 22 07.8 +2.4
I04A Tendick Farm, 35.87 81 ⇑P P 09 22 06.1 +0.7
baz=36
C08A Higginbotham F 35.93 73 ⇓P P 09 22 06.4 +0.6
baz=36
L02A Cave Junction 36.02 84 ⇓P P 09 22 07.2 +0.5
baz=36
E07A Sunnyside 36.03 76 ⇑P P 09 22 07.1 +0.4
baz=36
MDW Midway 36.06 76 P P 09 22 07.9 +0.9
WAH2 Wahluke Slope 36.11 75 P P 09 22 08.2 +0.8
H05A Madras 36.15 79 ⇑P P 09 22 08.3 +0.5
baz=36
B09A Rice 36.16 72 ⇑P P 09 22 08.0 +0.1
baz=36,SNR=7.8
HUMO Hull Mountain 36.17 83 ⇑P P 09 22 08.1 +0.1
baz=36
G06A Carlson Farm, 36.21 78 ⇑P P 09 22 08.8 +0.5
baz=36
A10A Northport 36.26 71 ⇓P P 09 22 08.8 +0.1
baz=36,SNR=12
RSW Rattlesnake Hi 36.27 76 P P 09 22 09.9 +1.1
HAWA Hanford 36.30 76 eP P 09 22 09.5 +0.4
comp=Z,15nm,0.6s,mb5.1
F07A Phinny Hill Vi 36.31 77 ⇓P P 09 22 08.9 -0.2
baz=36
OD2 Odessa Site #2 36.31 74 P P 09 22 09.6 +0.5
D08A Wollman Farm, 36.35 74 ⇓P P 09 22 09.2 -0.2
baz=36,SNR=12
I05A Bend 36.38 80 ⇑P P 09 22 09.3 -0.4
baz=36
C09A Chrisman Ranch 36.38 73 ⇓P P 09 22 09.4 -0.3
baz=36,SNR=6.6
MDJ Mudanjiang 36.53 281 P P 09 22 10.6 -0.4
MDJ AP pP 09 22 23.5 -3.1
MDJ XP sP 09 22 29.6 -4.3
MDJ PP PP 09 23 34.0 -1.0
MDJ S S 09 27 48.1 -0.5
MDJ XS sS 09 28 14.6 -0.4
MDJ AMB AMB
comp=Z,3.0nm,0.8s,mb4.2
MDJ AMB AMB
comp=Z,62nm,5.8s
MDJ LR LR
comp=N,103nm,13.6s
MDJ LR LR
comp=E,185nm,20.7s
MDJ LR LR
comp=Z,240nm,23.1s
E08A Dider Farm, El 36.54 75 ⇑P P 09 22 11.0 -0.1
baz=36
H06A Lindquist Farm 36.65 79 ⇑P P 09 22 12.1 +0.1
baz=37
D09A Jones Farm, Ri 36.71 74 ⇑P P 09 22 12.5 -0.1
baz=37
B10A Chitwood Farm, 36.77 72 ⇓P P 09 22 13.6 +0.6
baz=37
G07A Ruggs Ranch, H 36.78 77 ⇑P P 09 22 12.9 -0.3
baz=37
YBH Yreka Blue Hor 36.81 84 P P 09 22 14.3 +0.9
comp=Z,3.9nm,0.8s,mb4.3,baz=323,slow=3.8,SNR=6.1
YBH Yreka Blue Hor 36.81 84 eP P 09 22 14.5 +1.1
YBH pmax pmax
comp=Z,6.0nm,0.8s
YBH Yreka Blue Hor 36.81 84 ⇓P P 09 22 13.4 0.0
baz=37
YBH Yreka Blue Hor 36.81 84 eP P 09 22 14.5 +1.0
comp=Z,6.3nm,0.8s,mb4.5
NEW Newport 36.84 72 eP P 09 22 13.9 +0.3
NEW pmax pmax
comp=Z,31nm,0.6s
NEW Newport 36.84 72 eP P 09 22 13.9 +0.2
comp=Z,31nm,0.6s,mb5.3
EDM Edmonton 36.86 62 eP P 09 22 14.3 +0.6
J05A Fort Rock 36.87 81 ⇑P P 09 22 13.5 -0.3
baz=37
M02C Callahan 36.91 85 ⇓P P 09 22 14.5 +0.2
baz=37
C10A Spilker Farm, 36.95 72 ⇓P P 09 22 14.5 0.0
baz=37,SNR=17
N02C Big Bar 36.96 86 ⇑P P 09 22 14.5 -0.2
baz=37
A11A Hall Mountain, 36.97 70 ⇑P P 09 22 15.0 +0.3
baz=37,SNR=24
F08A Pendleton 37.05 76 ⇑P P 09 22 15.6 +0.1
baz=37
E09A Wood Farm, Sta 37.08 75 ⇑P P 09 22 15.7 0.0
baz=37,SNR=8.2
I06A Prineville 37.14 80 ⇓P P 09 22 16.5 +0.3
baz=37
JHJ Hachijo jima 2 37.16 258 LR LR 09 35 00.1
comp=Z,108nm,19.4s,baz=303,slow=32
H07A Lands Inn, Kim 37.20 78 ⇑P P 09 22 17.1 +0.5
baz=37
G08A Pilot Rock 37.20 77 ⇑P P 09 22 16.6 -0.1
baz=37
B11A Sandpoint 37.21 71 ⇑P P 09 22 17.0 +0.2
baz=37,SNR=8.1
LNOR Lincton Mounta 37.31 76 P P 09 22 18.0 +0.3
M04C Macdoel 37.32 84 ⇓P P 09 22 17.9 +0.1
baz=37
D10A Wagner Farm, O 37.33 73 ⇓P P 09 22 17.7 -0.1
baz=37
K05A Summer Lake 37.38 82 ⇓P P 09 22 18.9 +0.6
baz=37
A12A Yaak River Ran 37.40 70 ⇓P P 09 22 19.3 +1.0
baz=37
I07A Izee 37.50 79 ⇑P P 09 22 19.8 +0.6
baz=37
J06A Christmas Vall 37.55 81 ⇓P P 09 22 20.4 +0.8
baz=38,SNR=11
WDC Whiskeytown Da 37.57 86 ⇑P P 09 22 20.4 +0.6
baz=38,SNR=5.4
F09A S2 Ranch, Elgi 37.62 76 ⇑P P 09 22 20.4 +0.1
baz=38
B12A Libby 37.65 71 ⇑P P 09 22 21.2 +0.7
baz=38
O02C Red Bluff 37.65 87 ⇓P P 09 22 21.1 +0.6
baz=38
K06A Valley Falls 37.73 81 ⇓P P 09 22 21.9 +0.6
baz=38
H08A Prairie City 37.78 78 ⇓P P 09 22 22.2 +0.6
baz=38
L05A Lakeview 37.79 83 ⇑P P 09 22 22.0 +0.2
baz=38
LTIM Timbered Crate 37.88 84 P P 09 22 23.4 +0.9
D11A Klaveano Farm, 37.90 73 ⇑P P 09 22 22.2 -0.3
baz=38,SNR=24
F10A Beach Ranch, E 37.90 75 ⇓P P 09 22 22.7 +0.1
baz=38
G09A Cove 37.92 76 ⇑P P 09 22 22.7 -0.1
baz=38,SNR=8.3
M05C Lookout 37.99 84 ⇓P P 09 22 23.5 +0.1
baz=38
J07A Hines 38.00 80 ⇓P P 09 22 23.6 +0.2
baz=38
C12B Naegeli Ranch, 38.08 72 ⇓P P 09 22 24.4 +0.3
baz=38,SNR=19
A13A Flathead Natio 38.12 69 ⇑P P 09 22 24.5 +0.1
baz=38
I08A Drewsey 38.16 79 ⇑P P 09 22 25.4 +0.6
baz=38,SNR=13
MOD Modoc 38.20 82 eP P 09 22 25.7 +0.5
comp=Z,15nm,0.7s,mb4.8
G10A Bishop Farm, J 38.31 76 ⇑P P 09 22 26.3 +0.2
baz=38,SNR=21
E11A Bogner Ranch, 38.32 74 ⇓P P 09 22 25.6 -0.5
baz=38,SNR=8.8
WALA Waterton Lakes 38.35 69 eP P 09 22 26.9 +0.5
comp=Z,44nm,1.3s,mb5.0
WALA ePcP PcP 09 24 39.0 +0.3
B13A Whitefish 38.35 70 ⇓P P 09 22 26.5 +0.1
baz=38,SNR=9.3
K07A Rock Creek Ran 38.41 81 ⇓P P 09 22 27.6 +0.6
baz=38,SNR=9.1
BMO Blue Mountains 38.43 77 eP P 09 22 27.2 +0.1
comp=Z,7.3nm,0.9s,mb4.4
BMO ePcP PcP 09 24 42.1 +3.0
D12A Red Ives Fores 38.48 72 ⇑P P 09 22 27.5 0.0
baz=38
M06C Likely Place G 38.49 84 ⇑P P 09 22 27.3 -0.3
baz=38
J08A Circle Bar Ran 38.52 79 ⇓P P 09 22 28.2 +0.4
baz=38,SNR=18
F11A Grangeville 38.59 74 ⇑P P 09 22 28.2 -0.1
baz=38
O04C Chester 38.62 85 ⇓P P 09 22 28.6 -0.2
baz=38
C13A Hot Springs 38.63 71 ⇓P P 09 22 28.8 +0.1
baz=39,SNR=19
I09A Lost Marbles R 38.63 78 ⇓P P 09 22 28.6 -0.2
baz=39
E12A Beaver Dam Sad 38.67 73 ⇑P P 09 22 29.1 0.0
baz=39,SNR=20
A14A Double T Ranch 38.68 69 ⇑P P 09 22 29.2 +0.1
baz=39,SNR=26
L07A Adell 38.73 82 ⇑P P 09 22 30.1 +0.5
baz=39
G11A Walters Elk Ra 38.77 75 ⇑P P 09 22 30.0 +0.1
baz=39,SNR=15
ORV Oroville 38.82 86 ⇑P P 09 22 30.0 -0.3
baz=39
K08A Mann Creek Ran 38.86 80 ⇑P P 09 22 30.6 -0.1
baz=39
WVOR Wild Horse Val 38.93 81 eP P 09 22 31.9 +0.6
WVOR pmax pmax
comp=Z,19nm,0.9s,mb4.8
WVOR Wild Horse Val 38.93 81 eP P 09 22 31.9 +0.6
comp=Z,20nm,0.9s,mb4.8
O05C Quincy 38.94 85 ⇑P P 09 22 31.3 -0.1
baz=39,SNR=6.3
J09A Fry Pan Ranch, 38.97 79 ⇑P P 09 22 31.6 0.0
baz=39,SNR=12
D13A Huson 38.99 72 ⇓P P 09 22 31.5 -0.2
baz=39
B14A Marquette Ranc 39.06 70 ⇑P P 09 22 32.1 -0.2
baz=39,SNR=12
C14A Swan Lake 39.07 71 ⇓P P 09 22 32.3 -0.1
baz=39
A15A Johnson Ranch, 39.07 68 ⇓P P 09 22 32.1 -0.3
baz=39,SNR=14
I10A Payette 39.14 77 ⇓P P 09 22 33.0 -0.1
baz=39
N06A Buffalo Meadow 39.15 84 ⇑P P 09 22 33.5 +0.3
baz=39,SNR=7.5
F12A Elk City 39.20 74 ⇓P P 09 22 33.8 +0.4
baz=39,SNR=28
L08A Fields 39.24 81 ⇑P P 09 22 33.8 -0.1
baz=39
H11A Donnelly 39.29 76 ⇑P P 09 22 33.9 -0.4
baz=39,SNR=11
K09A Rome 39.34 80 ⇓P P 09 22 34.0 -0.7
baz=39
BEKR Beckwourth 39.34 85 ⇓P P 09 22 34.1 -0.7
baz=39,SNR=5.7
BOD Bodaibo 39.42 307 eP P 09 22 34.3 -0.9
BOD e pP 09 22 46.9 -3.9
BOD pmax pmax
comp=Z,3.0nm,1.4s,mb3.8
BOD pmax pmax
comp=Z,6.0nm,2.2s,mb3.9
MSO Missoula 39.43 72 eP P 09 22 35.7 +0.4
comp=Z,11nm,0.6s,mb4.8
E13A Victor 39.48 73 ⇑P P 09 22 35.6 -0.2
baz=39,SNR=16
CN2 Changchun 39.49 282 eP P 09 22 36.5 +0.6
CN2 eS S 09 28 33.5 +0.2
CN2 AMB AMB
comp=Z,10.0nm,0.6s,mb4.7
CN2 AMB AMB
comp=Z,200nm,3.0s
B15A Bradely Ranch, 39.49 69 ⇓P P 09 22 35.4 -0.5
baz=39,SNR=14
O06A Flanigan 39.49 84 ⇓P P 09 22 35.3 -0.7
baz=39
D14A Greenough 39.56 71 ⇓P P 09 22 36.2 -0.2
baz=40,SNR=28
N07B Gerlach 39.67 83 ⇓P P 09 22 37.8 +0.3
baz=40,SNR=6.6
F13A Darby 39.73 74 ⇑P P 09 22 38.1 +0.2
baz=40,SNR=29
C15A Salmond Ranch, 39.73 70 ⇓P P 09 22 38.4 +0.4
baz=40,SNR=47
A16A West Butte Ran 39.74 68 ⇑P P 09 22 37.3 -0.6
baz=40,SNR=21
I11A Placerville 39.75 77 ⇓P P 09 22 38.2 +0.1
baz=40,SNR=12
L09A Wilkinson Ranc 39.76 81 ⇑P P 09 22 37.9 -0.2
baz=40,SNR=6.2
CHMT Chamberlain Mo 39.79 71 eP P 09 22 38.4 0.0
K10A MacKenzie Ranc 39.82 79 ⇑P P 09 22 38.7 0.0
baz=40,SNR=19
E14A Clinton 39.90 72 ⇑P P 09 22 39.1 -0.2
baz=40,SNR=14
B16A M & M Farms, S 39.94 69 ⇑P P 09 22 39.0 -0.7
baz=40,SNR=17
PAHR Pah Rah Range 40.04 85 eP P 09 22 41.0 +0.5
comp=Z,16nm,0.7s,mb4.9
WCN Washoe City 40.05 85 ⇓P P 09 22 40.2 -0.5
baz=40
H12A Diamond D Ranc 40.07 76 ⇑P P 09 22 40.5 -0.3
baz=40,SNR=13
O07A Toulon 40.09 84 ⇓P P 09 22 41.0 +0.1
baz=40,SNR=7.7
CBIJ Chichi jima 40.09 249 LR LR 09 38 55.3
comp=Z,71nm,19.0s,baz=32,slow=36
MFID Camas Ranch 40.10 78 ⇓P P 09 22 41.3 +0.3
baz=40,SNR=6.1
D15A Lincoln 40.16 71 ⇑P P 09 22 41.1 -0.3
baz=40,SNR=16
G13A Cobalt 40.16 74 ⇓P P 09 22 41.2 -0.3
baz=40,SNR=19
N08A GE Springer Mi 40.18 82 ⇑P P 09 22 41.9 +0.2
baz=40,SNR=19
R05C Kirkwood Meado 40.22 86 ⇓P P 09 22 42.0 0.0
baz=40
C16A Fuhringer Ranc 40.23 69 ⇑P P 09 22 41.3 -0.7
baz=40,SNR=6.0
M09A Marrel Ranch, 40.23 81 ⇑P P 09 22 42.1 0.0
baz=40,SNR=6.4
F14A Wisdom 40.29 73 ⇑P P 09 22 42.7 +0.1
baz=40,SNR=12
K11A Parker Ranch, 40.34 79 ⇑P P 09 22 43.5 +0.5
baz=40,SNR=15
E15A Deer Lodge 40.40 72 ⇑P P 09 22 43.2 -0.2
baz=40,SNR=13
H13A Challis 40.43 75 ⇑P P 09 22 43.6 0.0
baz=40
CMB Columbia Colle 40.43 87 ⇑P P 09 22 43.6 -0.2
baz=40
O08A Rochester Mine 40.46 83 ⇓P P 09 22 44.3 +0.3
baz=40,SNR=6.6
L10A Juniper Basin 40.46 80 ⇓P P 09 22 43.8 -0.1
baz=40,SNR=5.5
G14A Jackson 40.54 74 ⇓P P 09 22 44.3 -0.3
baz=40,SNR=5.2
J12A Stokes Ranch, 40.64 77 ⇓P P 09 22 45.6 +0.2
baz=41,SNR=14
R06C Coleville 40.71 86 ⇓P P 09 22 46.8 +0.7
baz=41,SNR=5.2
D16A Dana Ranch, Ca 40.73 70 ⇓P P 09 22 46.2 0.0
baz=41
M10A I.L. Ranch, Tu 40.73 80 ⇑P P 09 22 46.6 +0.4
baz=41
F15A Butte 40.80 72 ⇓P P 09 22 46.3 -0.4
baz=41,SNR=7.3
L11A Cat Creek Ranc 40.85 79 ⇑P P 09 22 47.0 -0.1
baz=41,SNR=24
I13A Wildhorse Cree 40.86 76 ⇑P P 09 22 47.3 +0.1
baz=41,SNR=31
C17A Wharram Farm, 40.88 69 ⇑P P 09 22 47.1 -0.3
baz=41,SNR=12
E16A East Helena 40.92 71 ⇑P P 09 22 47.2 -0.5
baz=41,SNR=8.8
H14A Leadore 40.93 75 ⇑P P 09 22 47.5 -0.3
baz=41,SNR=12
BMN Battle Mountai 40.95 82 eP P 09 22 48.9 +0.9
BMN pmax pmax
comp=Z,11nm,0.7s,mb4.6
BMN Battle Mountai 40.95 82 eP P 09 22 48.9 +0.9
comp=Z,11nm,0.7s,mb4.6
DLMT Dillon 40.99 73 eP P 09 22 48.9 +0.6
comp=Z,7.8nm,0.8s,mb4.4
DLMT ePcP PcP 09 24 47.9 +0.7
K12A Draper Farm, C 41.10 78 ⇑P P 09 22 49.6 +0.4
baz=41,SNR=32
J13A Cove Ranch, Pi 41.11 77 ⇓P P 09 22 49.4 0.0
baz=41,SNR=41
O09A Fish Creek Ran 41.12 83 ⇓P P 09 22 49.7 +0.2
baz=41,SNR=9.2
MCMT McKenzie Canyo 41.13 74 eP P 09 22 49.6 +0.1
G15A Dillon 41.16 73 ⇓P P 09 22 49.4 -0.3
baz=41,SNR=13
M11A Holland Ranch, 41.24 80 ⇑P P 09 22 50.2 -0.3
baz=41
I14A Mackay 41.26 75 ⇑P P 09 22 50.8 +0.3
baz=41,SNR=44
EGMT Eagleton 41.27 68 eP P 09 22 50.0 -0.5
comp=Z,15nm,0.6s,mb4.8
EGMT ePcP PcP 09 24 48.1 0.0
L12A House Creek Ra 41.31 79 ⇓P P 09 22 51.2 +0.3
baz=41,SNR=29
H15A Lima 41.36 74 ⇑P P 09 22 51.6 +0.2
baz=41,SNR=18
E17A Martinsdale 41.44 71 ⇑P P 09 22 52.0 0.0
baz=41,SNR=11
Q08A Gabbs 41.45 85 ⇓P P 09 22 51.8 -0.3
baz=41
NVAR Mina Array Bea 41.48 85 P P 09 22 52.7 +0.2
comp=Z,4.1nm,0.8s,mb4.1,baz=289,slow=8.0,SNR=22
NVAR PcP PcP 09 24 50.1 +1.2
comp=Z,3.1nm,0.8s,baz=281,slow=3.1,SNR=4.9
NVAR ScP ScP 09 28 35.5 +2.2
comp=Z,1.0nm,0.8s,baz=279,slow=4.1,SNR=6.2
T06C Millerton Lake 41.49 88 ⇓P P 09 22 52.6 +0.1
baz=41
G16A Moss Hill, Enn 41.53 73 ⇓P P 09 22 52.5 -0.3
baz=42,SNR=20
KCC Kaiser Creek 41.54 88 ⇑P P 09 22 52.8 -0.1
baz=41
J14A Carey 41.55 76 ⇑P P 09 22 53.4 +0.4
baz=42,SNR=15
R08A Mina 41.65 85 ⇑P P 09 22 53.4 -0.5
baz=42
KSRS Korea Array 41.67 273 P P 09 22 55.2 +1.2
comp=Z,3.4nm,0.7s,mb4.1,baz=56,slow=8.4,SNR=13
KSRS LR LR 09 37 25.0
comp=Z,166nm,21.7s,baz=65,slow=32
M12A Wells 41.79 80 ⇓P P 09 22 55.5 +0.6
baz=42,SNR=13
I15A Monteview 41.80 75 ⇑P P 09 22 55.3 +0.3
baz=42
P10A Eureka 41.90 83 ⇑P P 09 22 56.3 +0.4
baz=42,SNR=6.3
E18A Harlowton 41.93 70 ⇓P P 09 22 56.5 +0.5
baz=42,SNR=14
QLMT Earthquake Lak 41.97 73 eP P 09 22 57.0 +0.7
ELK Elko 41.98 81 eP P 09 22 56.7 +0.2
ELK e 09 24 34.9
ELK e 09 24 55.2
ELK pmax pmax
comp=Z,14nm,0.8s
ELK Elko 41.98 81 eP P 09 22 56.7 +0.2
comp=Z,14nm,0.8s,mb4.6
ELK ePP PP 09 24 34.9 +0.5
ELK ePcP PcP 09 24 55.2 +4.6
MTUM Tungsten Hills 41.99 87 eP P 09 22 57.4 +0.8
MTUM ePcP PcP 09 24 51.2 +0.6
L13A Double Diamond 41.99 78 ⇑P P 09 22 57.1 +0.5
baz=42,SNR=20
N12A Clover Valley, 42.05 80 ⇓P P 09 22 57.3 +0.3
baz=42,SNR=19
O11A Cowboy Ranch, 42.09 82 ⇑P P 09 22 57.3 0.0
baz=42
HELL Mitchell Peak 42.12 88 ⇑P P 09 22 57.4 -0.2
baz=42,SNR=5.5
H16A Russell Place, 42.15 73 ⇑P P 09 22 58.0 +0.2
baz=42,SNR=10
J15A Blackfoot 42.16 76 ⇓P P 09 22 58.5 +0.5
baz=42,SNR=15
M13A Montello 42.28 79 ⇓P P 09 22 59.0 +0.1
baz=42,SNR=16
YMR Madison River 42.34 73 eP P 09 22 59.8 +0.4
comp=Z,21nm,0.7s,mb4.9
YMR ePcP PcP 09 24 52.2 +0.5
R09A Tonopah 42.36 85 ⇑P P 09 22 59.9 +0.3
baz=42,SNR=16
TPH Tonopah 42.37 85 eP P 09 23 00.4 +0.7
TPH pmax pmax
comp=Z,9.0nm,0.7s,mb4.5
TPH Tonopah 42.37 85 eP P 09 23 00.4 +0.7
comp=Z,8.9nm,0.7s,mb4.5
F18A Big Timber 42.40 71 ⇓P P 09 22 60.0 +0.1
baz=42,SNR=5.6
Q10A Clear Creek Ra 42.42 84 ⇑P P 09 22 59.9 -0.2
baz=42,SNR=8.0
L14A Malta 42.45 78 ⇑P P 09 23 00.2 -0.1
baz=42
I16A Newdale 42.47 74 ⇑P P 09 23 00.8 +0.4
baz=42,SNR=5.6
YNR Norris Junctio 42.48 73 eP P 09 23 00.7 +0.2
YNR ePcP PcP 09 24 52.9 +0.7
GCMT Greycliff 42.49 71 eP P 09 23 00.9 +0.4
GCMT ePP PP 09 24 39.9 +0.1
GCMT ePcP PcP 09 24 52.7 +0.5
O12A Currie 42.57 81 ⇓P P 09 23 01.2 0.0
baz=42,SNR=29
S09A Goldfield 42.59 86 ⇓P P 09 23 01.0 -0.5
baz=42
VES Vestal, Richgr 42.62 89 ⇑P P 09 23 01.3 -0.4
baz=42
M14A Sheep Mountain 42.70 78 ⇑P P 09 23 02.4 +0.1
baz=43,SNR=5.7
J16A Bone 42.73 75 ⇑P P 09 23 02.8 +0.3
baz=43,SNR=11
IMW Indian Meadow 42.78 74 eP P 09 23 03.6 +0.6
comp=Z,10nm,0.8s,mb4.6
R10A Warm Springs 42.81 84 ⇓P P 09 23 03.3 0.0
baz=43
S10A Tonopah Range, 42.85 85 ⇓P P 09 23 03.6 0.0
baz=43,SNR=9.6

RRI2 **Red Ridge** 42.86 75 *e*P P 09 23 04.6 +1.0
comp=Z,18nm,0.9s,mb4.8
RRI2 *e*PP PP 09 24 45.5 +1.7
Q11A **Duckwater** 42.87 83 ⇑P P 09 23 04.0 +0.3
baz=43,SNR=8.6
HVU **Hansel Valley** 42.88 78 *e*P P 09 23 04.3 +0.5
HVU *e* 09 24 54.0
HVU pmax pmax
comp=Z,17nm,0.8s,mb4.8
HVU **Hansel Valley** 42.88 78 *e*P P 09 23 04.3 +0.5
comp=Z,17nm,0.8s,mb4.8
HVU *e*PcP PcP 09 24 54.0 +0.4
P12A **McGill** 42.95 82 ⇑P P 09 23 04.6 +0.3
baz=43,SNR=5.5
GRAC **Grapevine Rang** 42.95 86 ⇑P P 09 23 03.9 -0.4
baz=43
L15A **Malad City** 42.99 77 ⇑P P 09 23 04.7 0.0
baz=43,SNR=5.6
K16A **Soda Springs** 43.00 76 ⇓P P 09 23 05.6 +0.9
baz=43,SNR=19
TPAW **Teton Pass** 43.01 75 *e*P P 09 23 05.2 +0.5
comp=Z,10.0nm,0.9s,mb4.5
TPAW *e*PcP PcP 09 24 54.9 +0.9
RLMT **Red Lodge** 43.09 72 ⇓P P 09 23 05.2 -0.3
baz=43,SNR=11
ISA **Isabella** 43.12 89 *e*P P 09 23 04.9 -0.8
ISA *e* 09 24 54.2
ISA pmax pmax
comp=Z,8.0nm,1.0s,mb4.4
ISA **Isabella** 43.12 89 ⇓P P 09 23 04.8 -0.9
baz=43
ISA **Isabella** 43.12 89 *e*P P 09 23 04.8 -0.9
comp=Z,8.5nm,1.0s,mb4.4
ISA *e*PcP PcP 09 24 54.2 -0.3
O13A **Hicks Ranch, I** 43.12 80 ⇑P P 09 23 05.6 -0.2
baz=43
REDW **Red Top Meadow** 43.14 75 *e*P P 09 23 06.0 +0.2
comp=Z,8.8nm,1.0s,mb4.4
REDW *e*PcP PcP 09 24 55.2 +0.8
SNOW **Snow King Moun** 43.14 74 *e*P P 09 23 06.1 +0.3
comp=Z,8.0nm,0.9s,mb4.5
SNOW *e*PcP PcP 09 24 54.9 +0.5
LOHW **Long Hollow** 43.14 74 *e*P P 09 23 06.0 +0.2
comp=Z,4.9nm,0.7s,mb4.3
LOHW *e*PP PP 09 24 50.5 +3.6
N14A **Grayback Hills** 43.18 79 ⇓P P 09 23 06.2 0.0
baz=43,SNR=16
R11A **Troy Canyon, C** 43.22 84 ⇓P P 09 23 06.4 -0.1
baz=43,SNR=18
BGU **Big Grassy Mou** 43.23 79 *e*P P 09 23 06.9 +0.3
BGU *e*PP PP 09 24 49.0 +1.2
BGU *e*PcP PcP 09 24 55.4 +0.7
Q12A **Willow Creek R** 43.26 82 ⇓P P 09 23 06.5 -0.3
baz=43
M15A **Larsen Ranch,** 43.27 78 ⇓P P 09 23 07.0 +0.1
baz=43,SNR=13
SPUT **South Promonto** 43.36 78 *e*P P 09 23 05.6 -2.0
SPUT *e*PP PP 09 24 50.5 +1.3
MPMC **Manual Prospec** 43.47 88 ⇑P P 09 23 08.4 -0.2
baz=43,SNR=5.4
P13A **Bates Ranch, G** 43.51 81 ⇓P P 09 23 08.7 -0.2
baz=43,SNR=7.4
S11A **Rachel** 43.55 85 ⇑P P 09 23 09.1 -0.1
baz=44
L16A **Fish Haven** 43.56 77 ⇓P P 09 23 09.3 0.0
baz=44,SNR=22
N15A **Stansbury Isla** 43.56 79 ⇑P P 09 23 09.4 +0.1
baz=44,SNR=26
FURC **Furnace Creek,** 43.60 87 ⇓P P 09 23 09.5 -0.1
baz=44,SNR=8.0
TPNV **Topopah Spring** 43.68 86 *e*P P 09 23 10.5 +0.3
TPNV *e* 09 24 55.4
TPNV pmax pmax
comp=Z,18nm,0.8s,mb4.8
TPNV **Topopah Spring** 43.68 86 ⇓P P 09 23 10.4 +0.1
baz=44,SNR=13
TPNV **Topopah Spring** 43.68 86 *e*P P 09 23 10.5 +0.3
comp=Z,18nm,0.8s,mb4.9
TPNV *e*PcP PcP 09 24 55.4 -1.0
HWUT **Hardware Ranch** 43.72 77 *e*P P 09 23 10.3 -0.3
comp=Z,76nm,1.1s,mb5.3
DUG **Dugway** 43.80 80 *e*P P 09 23 11.6 +0.4
DUG *e* 09 24 57.8
DUG pmax pmax
comp=Z,21nm,0.9s,mb4.9
DUG **Dugway** 43.80 80 ⇑P P 09 23 11.4 +0.2
baz=44,SNR=25
DUG **Dugway** 43.80 80 *e*P P 09 23 11.6 +0.5
comp=Z,21nm,0.9s,mb4.9
DUG *e*PcP PcP 09 24 57.8 +1.1
Q13A **Wheeler Ranch,** 43.81 82 ⇑P P 09 23 11.0 -0.3
baz=44
R12A **Pony Springs,** 43.83 83 ⇑P P 09 23 11.5 +0.1
baz=44,SNR=5.4
NOQ **North Oquirrh** 43.95 79 *e*P P 09 23 11.6 -0.7
comp=Z,25nm,0.8s,mb5.0
O15A **The Old Anders** 43.96 79 ⇑P P 09 23 12.5 +0.1
baz=44,SNR=5.2
U10A **Ash Meadows, A** 43.96 86 ⇓P P 09 23 12.1 -0.5
baz=44
P14A **Drum Mountains** 44.01 80 ⇓P P 09 23 12.8 0.0
baz=44
LAO **LASA Array** 44.01 68 *e*P P 09 23 12.7 -0.1
comp=Z,23nm,0.7s,mb5.0
LAO *e*PcP PcP 09 24 57.0 -0.3
S12A **Delamar Landin** 44.13 84 ⇑P P 09 23 14.2 +0.3
baz=44,SNR=13
T11A **Corn Creek, Al** 44.13 85 ⇓P P 09 23 14.0 +0.2
baz=44,SNR=20
DGMT **Dagmar** 44.20 65 ⇓P P 09 23 14.4 +0.1
baz=44,SNR=12
DGMT **Dagmar** 44.20 65 *e*P P 09 23 14.3 0.0
comp=Z,115nm,1.4s,mb5.4
DGMT *e*PcP PcP 09 24 58.4 +0.4
Q14A **Sevier Lake (B** 44.25 81 ⇓P P 09 23 14.8 +0.1
baz=44,SNR=12
BW06 **Boulder Array** 44.26 75 ⇓P P 09 23 14.8 0.0
baz=44,SNR=47
PDAR **Pinedale Array** 44.26 75 P P 09 23 14.9 +0.2
comp=Z,23nm,0.6s,mb5.1,baz=309,slow=3.7,SNR=196
PDAR PcP PcP 09 24 58.2 0.0
comp=Z,1.6nm,0.7s,baz=329,slow=3.4,SNR=2.0
PDAR LR LR 09 39 47.3
comp=Z,131nm,18.8s,baz=302,slow=33
R13A **O'Grain Ranch,** 44.32 83 ⇓P P 09 23 15.8 +0.4
baz=44
SHOC **Shoshone** 44.33 87 ⇑P P 09 23 15.4 -0.1
baz=44,SNR=6.2
GSC **Goldstone** 44.38 88 *e*P P 09 23 15.9 0.0
GSC *e* 09 24 58.4
GSC pmax pmax
comp=Z,28nm,1.1s,mb4.9
GSC **Goldstone** 44.38 88 ⇑P P 09 23 15.7 -0.2
baz=44,SNR=7.2
GSC **Goldstone** 44.38 88 *e*P P 09 23 15.9 0.0
comp=Z,28nm,1.1s,mb4.9
GSC *e*PcP PcP 09 24 58.4 -0.3
JLU **Jordanelle** 44.39 78 *e*P P 09 23 16.0 +0.2
JLU *e*PcP PcP 09 24 57.0 -1.7
NLU **North Lily Min** 44.40 79 *e*P P 09 23 16.1 +0.2
BFSC **Mount Baldy St** 44.55 90 ⇓P P 09 23 17.1 -0.1
baz=44
N17A **Moffit Pass** 44.56 77 ⇑P P 09 23 17.2 0.0
baz=44
O16A **Springville** 44.59 79 ⇑P P 09 23 17.4 -0.1
baz=44,SNR=24
DAU **Daniels Canyon** 44.62 78 P P 09 23 17.6 -0.1
MPU **Maple Canyon** 44.63 79 *e*P P 09 23 18.2 +0.4
comp=Z,8.9nm,0.8s,mb4.7
MPU *e*PcP PcP 09 25 00.4 +0.9
S13A **Holt Ranch, En** 44.76 83 ⇑P P 09 23 18.8 -0.1
baz=45,SNR=18
Q15A **Fillmore** 44.79 81 ⇑P P 09 23 19.1 0.0
baz=45
TUQ **Turquoise Moun** 44.85 87 ⇑P P 09 23 19.4 -0.2
baz=45
P16A **Fountain Green** 44.86 79 ⇑P P 09 23 19.7 +0.1
baz=45
ARUT **Antelope Range** 44.89 83 *e*P P 09 23 20.2 +0.3
ARUT *e* pP 09 23 37.3 +1.4
V11A **Goodsprings** 44.89 86 ⇓P P 09 23 20.0 0.0
baz=45
HEC **Hector,Ludlow** 44.99 88 ⇑P P 09 23 20.7 0.0
baz=45
BBRC **Big Bear Sol-O** 44.99 89 ⇓P P 09 23 20.5 -0.3
baz=45

O17A **Robinson Place** 45.07 78 ⇑P P 09 23 21.5 +0.2
baz=45
U12A **Valley of Fire** 45.07 85 ⇓P P 09 23 21.5 +0.2
baz=45
T13A **Saint George** 45.08 84 ⇓P P 09 23 21.6 +0.2
baz=45,SNR=7.7
CCUT **Cedar City** 45.09 83 *e*P P 09 23 21.8 +0.4
MSU **Marysvale** 45.22 81 *e*P P 09 23 23.2 +0.7
N18A **Larsen Ranch,** 45.24 77 ⇓P P 09 23 22.4 -0.2
baz=45,SNR=6.5
V12A **Nelson** 45.33 86 ⇑P P 09 23 22.8 -0.6
baz=45
TMUT **Trail Mountain** 45.33 80 *e*P P 09 23 23.7 +0.3
TMUT *e*PP PP 09 25 10.0 -0.2
R15A **Junction** 45.34 81 ⇓P P 09 23 23.4 -0.1
baz=45
U13A **Pakoon Wash** 45.43 85 ⇑P P 09 23 24.5 +0.3
baz=45,SNR=12
GMRC **Granite Mounta** 45.44 88 ⇓P P 09 23 23.9 -0.4
baz=45
O18A **Roosevelt** 45.47 78 ⇓P P 09 23 24.7 +0.2
baz=45
P17A **Butcher Ranch,** 45.51 79 ⇑P P 09 23 25.0 +0.2
baz=45
T14A **Hurricane** 45.57 83 ⇓P P 09 23 25.2 -0.1
baz=46,SNR=5.9
Q16A **Castle Valley** 45.58 80 ⇓P P 09 23 25.6 +0.2
baz=46
LDFC **Landfair** 45.59 87 *e*P P 09 23 25.4 0.0
comp=Z,33nm,1.1s,mb5.2
LDFC *e*PcP PcP 09 25 00.2 -2.8
N19A **John Jarvie Ra** 45.59 76 ⇑P P 09 23 25.2 -0.2
baz=46,SNR=21
S15A **Panguitch** 45.62 82 ⇓P P 09 23 25.8 +0.1
baz=46,SNR=6.6
P18A **Preston Nutter** 45.71 79 ⇑P P 09 23 26.2 -0.1
baz=46
PFO **Pinyon Flat Ob** 45.72 89 P P 09 23 26.0 -0.5
comp=Z,0.9nm,0.5s,mb3.9,baz=330,slow=6.0,SNR=3.4
PFO **Pinyon Flat Ob** 45.72 89 P P 09 23 26.0 -0.5
PFO pmax pmax
comp=Z,1.0nm,0.5s,mb4.0
BELC **Belle Mtn.** 45.74 89 ⇓P P 09 23 26.3 -0.4
baz=46
V13A **Grand Canyon W** 45.78 85 ⇓P P 09 23 26.7 -0.3
baz=46
R16A **Teasdale** 45.78 81 ⇑P P 09 23 27.3 +0.3
baz=46,SNR=20
SRU **San Rafael** 45.86 79 *e*P P 09 23 28.0 +0.4
SRU *e* 09 25 16.3
SRU pmax pmax
comp=Z,13nm,0.8s,mb4.9
SRU **San Rafael** 45.86 79 ⇓P P 09 23 28.2 +0.6
baz=46,SNR=27
SRU **San Rafael** 45.86 79 *e*P P 09 23 28.0 +0.4
comp=Z,13nm,0.8s,mb4.9
SRU *e*PP PP 09 25 16.2 +0.5
U14A **Mt Trumbull** 45.92 84 ⇓P P 09 23 28.0 -0.1
baz=46
O19A **Miners Draw (B** 45.98 77 ⇓P P 09 23 28.8 +0.2
baz=46,SNR=54
T15A **Red Dirt Ranch** 46.03 83 ⇓P P 09 23 28.6 -0.3
baz=46
S16A **Weppner Ranch,** 46.07 82 ⇓P P 09 23 29.0 -0.2
baz=46
Q18A **Rafter H Ranch** 46.10 79 ⇓P P 09 23 29.3 -0.2
baz=46,SNR=17
IRM **Iron Mountain** 46.16 88 ⇓P P 09 23 29.2 -0.8
baz=46,SNR=6.5
R17A **Hanksville Air** 46.17 80 ⇑P P 09 23 29.6 -0.4
baz=46
MONP **Monument Peak** 46.22 90 ⇓P P 09 23 30.0 -0.4
baz=46
W13A **Hualapai Mount** 46.33 86 ⇑P P 09 23 31.0 -0.3
baz=46,SNR=5.2
U15A **North Rim** 46.46 83 ⇑P P 09 23 32.7 +0.4
baz=46,SNR=18
V14A **Boquillas Ranc** 46.47 85 ⇓P P 09 23 32.2 -0.2
baz=46
DVTC **Desert V Tower** 46.57 90 ⇑P P 09 23 33.0 -0.3
baz=46
S17A **Black Ridge (B** 46.61 81 ⇑P P 09 23 33.4 -0.1
baz=46,SNR=22
R18A **Canyonlands Na** 46.70 80 ⇑P P 09 23 33.5 -0.7
baz=47
X13A **Yuca** 46.70 86 ⇓P P 09 23 33.2 -1.0
baz=47
PDMCI **Parker Dam,Lak** 46.70 87 ⇑P P 09 23 33.3 -0.9
baz=47
Q19A **Hogan Spring (** 46.73 79 ⇑P P 09 23 33.5 -0.9
baz=47,SNR=6.2
W14A **Seligman** 46.76 85 ⇓P P 09 23 33.9 -0.7
baz=47
Y12C **Blythe** 46.82 88 ⇓P P 09 23 34.4 -0.7
baz=47
V15A **Kaibab Nationa** 46.93 84 ⇑P P 09 23 36.0 0.0
baz=47,SNR=19
T17A **Navajo Res., N** 47.02 82 ⇓P P 09 23 35.8 -0.8
baz=47
S18A **Hurst Farm, Bl** 47.07 80 ⇑P P 09 23 37.1 +0.1
baz=47,SNR=28
GLA **Glamis** 47.10 89 ⇓P P 09 23 36.7 -0.6
baz=47
Y13A **Salome** 47.21 87 ⇓P P 09 23 37.6 -0.6
baz=47
PV10 **Paradox Valley** 47.23 79 *e*P P 09 23 38.6 +0.3
PV10 *e*PcP PcP 09 25 09.5 +0.8
BJI **Beijing** 47.30 284 P P 09 23 39.7 +0.9
BJI PP PP 09 25 28.8 -1.3
BJI S S 09 30 27.7 +0.3
BJI AMB AMB
comp=Z,17nm,0.8s,mb5.0
BJI AMB AMB
comp=Z,74nm,3.1s
BJI LR LR
comp=N,251nm,22.1s
BJI LR LR
comp=E,231nm,23.3s
BJI LR LR
comp=Z,219nm,23.0s
BJI **Beijing** 47.30 284 P P 09 23 39.7 +0.9
comp=Z,17nm,0.8s,mb5.0
BJI PP PP 09 25 28.8 -1.3
BJI S S 09 30 27.7 +0.3
BJI SS SS 09 33 53.4 -1.7
BJI LR LR
comp=Z,220nm,23.0s
X14A **Yava** 47.36 86 ⇑P P 09 23 38.9 -0.5
baz=47
T18A **Mexican Hat** 47.50 81 ⇑P P 09 23 39.7 -0.7
baz=47,SNR=13
S19A **Harvey Farm, M** 47.56 80 ⇓P P 09 23 40.5 -0.4
baz=48,SNR=15
112A **Yuma** 47.60 89 ⇓P P 09 23 40.5 -0.7
baz=48
WUAZ **Wupatki** 47.62 84 ⇑P P 09 23 41.3 -0.1
baz=48,SNR=11
WUAZ **Wupatki** 47.62 84 *e*P P 09 23 41.4 +0.1
comp=Z,17nm,0.8s,mb5.1
WUAZ *e*PcP PcP 09 25 14.9 +4.8
Y14A **Wickenburg** 47.64 86 ⇑P P 09 23 41.1 -0.5
baz=48
PV01 **Paradox Valley** 47.66 79 *e*P P 09 23 41.5 -0.1
PV01 *e*PcP PcP 09 25 09.3 -0.9
X15A **Humboldt** 47.76 85 ⇓P P 09 23 42.2 -0.2
baz=48
ULM **Lac du Bonnet** 47.78 59 P P 09 23 41.9 -0.5
comp=Z,16nm,0.7s,mb5.2,baz=303,slow=8.3,SNR=27
ULM LR LR 09 43 02.8
comp=Z,138nm,18.1s,baz=351,slow=35
ULM **Lac du Bonnet** 47.78 59 P P 09 23 41.9 -0.5
ULM LR LR 09 43 02.8
W16A **Flagstaff** 47.79 84 ⇓P P 09 23 43.1 +0.4
baz=48,SNR=14
ULN **Ulaanbaatar** 47.94 298 *i* P P 09 23 44.2 +0.5
Y15A **Casa Rosa Ranc** 48.05 86 ⇓P P 09 23 44.2 -0.5
baz=48
T19A **Beclabito** 48.22 81 ⇓P P 09 23 45.5 -0.4
baz=48,SNR=34
MVCO **Mesa Verde** 48.30 80 ⇑P P 09 23 46.0 -0.5
baz=48
MVCO **Mesa Verde** 48.30 80 *e*P P 09 23 46.7 +0.1
comp=Z,6.2nm,0.6s,mb4.8
X16A **Lo Mia Camp, P** 48.30 85 ⇓P P 09 23 46.6 0.0
baz=48
SONM **Songino Array** 48.32 298 P P 09 23 46.9 +0.3
comp=Z,1.4nm,0.7s,mb4.1,baz=52,slow=9.3,SNR=5.3

SONM PcP PcP 09 25 12.1 -0.2
comp=Z,6.5nm,0.9s,baz=72,slow=2.2,SNR=11
SONM ScP ScP 09 29 03.0 +1.7
comp=Z,5.1nm,0.8s,baz=49,slow=3.0,SNR=15
SONM LR LR 09 45 55.1
comp=Z,141nm,18.8s,baz=68,slow=38
SONM **Songino Array** 48.32 298 P P 09 23 46.9 +0.3
SONM 09 25 12.1
SONM pmax pmax
comp=Z,1.0nm,0.7s
SONM pmax pmax
comp=Z,7.0nm,0.9s
SONM pmax pmax
comp=N,5.0nm,0.8s
SONM MLR MLR
comp=Z,141nm,18.8s
ISCO **Idaho Springs** 48.41 75 *e*P P 09 23 47.8 +0.4
ISCO *e* 09 25 13.4
ISCO pmax pmax
comp=Z,7.0nm,0.9s,mb4.7
ISCO **Idaho Springs** 48.41 75 *e*P P 09 23 47.8 +0.3
comp=Z,7.1nm,0.9s,mb4.7
ISCO *e*PcP PcP 09 25 13.4 +0.5
ZAK **Zakamensk** 48.53 302 *e*P P 09 23 48.3 +0.2
ZAK *e* 09 25 13.7
ZAK pmax pmax
comp=Z,4.0nm,1.3s,mb4.3
Y16A **Circle Bar Ran** 48.63 85 ⇑P P 09 23 48.8 -0.3
baz=48
X17A **Forest Lakes** 48.74 84 ⇑P P 09 23 50.1 0.0
baz=49
AGMN **Agassiz Refuge** 48.91 61 *e*P P 09 23 50.5 -0.6
comp=Z,73nm,1.0s,mb5.7
115A **Sonoran Desert** 48.95 87 ⇓P P 09 23 50.8 -0.8
baz=49
214A **Organ Pipe Nat** 49.09 88 ⇓P P 09 23 52.0 -0.7
baz=49,SNR=6.8
Y17A **Roosevelt** 49.14 85 ⇑P P 09 23 53.0 -0.1
baz=49,SNR=11
116A **Eloy** 49.37 87 ⇑P P 09 23 54.9 0.0
baz=49
GUMO **Guam** 49.54 235 LR LR 09 41 31.8
comp=Z,51nm,19.6s,baz=50,slow=32
HHC **Hu-ho-hao-te** 49.56 288 *e*P P 09 23 56.5 +0.3
HHC AP pP 09 24 11.8 -0.5
HHC XP sP 09 24 19.3 -0.2
HHC PCP PcP 09 25 17.9 +0.9
HHC PP PP 09 25 51.6 +1.0
HHC SCP ScP 09 29 07.4 +0.7
HHC PCS PcS 09 29 14.5 +0.8
HHC S S 09 30 58.4 -0.9
HHC XS sS 09 31 25.1 -1.5
HHC SCS ScS 09 33 41.1 -0.6
HHC SS SS 09 34 26.6 -4.9
HHC AMB AMB
comp=Z,16nm,1.0s,mb5.0
HHC AMB AMB
comp=Z,145nm,5.8s
HHC LR LR
comp=N,197nm,15.3s
HHC LR LR
comp=E,231nm,13.5s
HHC LR LR
comp=Z,187nm,18.4s
Y18A **Canyon Day Jun** 49.59 84 ⇑P P 09 23 56.9 +0.4
baz=50
X19A **St. Johns** 49.62 83 ⇓P P 09 23 56.8 +0.1
baz=50
Z17A **San Carlos Hig** 49.64 85 ⇓P P 09 23 56.7 -0.2
baz=50
SDCO **Great Sand Dun** 49.78 77 *e*P P 09 23 58.0 +0.1
comp=Z,15nm,1.0s,mb5.0
SDCO *e*PcP PcP 09 25 17.4 -0.5
Y19A **Nutrioso** 49.95 84 ⇓P P 09 23 59.8 +0.6
baz=50
117A **Oracle** 49.96 86 ⇓P P 09 23 59.3 -0.1
baz=50
SPITS **Spitsbergen Ar** 50.18 357 P P 09 24 00.7 +0.3
comp=Z,10nm,0.7s,mb5.0,baz=47,slow=7.4,SNR=11
SPITS **Spitsbergen Ar** 50.18 357 P P 09 24 00.7 +0.3
SPITS pmax pmax
comp=Z,10.0nm,0.7s
118A **Homack Ranch,** 50.40 85 ⇑P P 09 24 02.2 -0.4
baz=50,SNR=10
217A **Green Valley** 50.46 87 ⇑P P 09 24 02.5 -0.6
baz=50
119A **Ashpeak Ranch,** 50.72 85 ⇓P P 09 24 05.3 +0.2
baz=51
218A **Dragoon** 50.80 86 ⇓P P 09 24 05.2 -0.4
baz=51,SNR=5.2
LAZ **Ladron** 50.96 82 *e*P P 09 24 07.6 +0.7
ANMO **Albuquerque** 51.02 81⇑*e*P P 09 24 06.9 -0.4
318A **Bisbee** 51.20 87 ⇓P P 09 24 08.1 -0.6
baz=51
ECSD **EROS,Sioux Fal** 51.24 66 *e*P P 09 24 07.7 -1.2
comp=Z,8.7nm,0.6s,mb4.9
219A **White Tail Can** 51.27 86 ⇑P P 09 24 08.6 -0.6
baz=51
LPM **Los Pinos Moun** 51.34 81 *e*P P 09 24 09.9 +0.2
BNM **Barren Site** 51.45 82 *e*P P 09 24 10.8 +0.3
EYMN **Ely** 51.47 59 *e*P P 09 24 09.8 -0.6
comp=Z,40nm,0.8s,mb5.4
319A **Douglas** 51.68 86 ⇓P P 09 24 12.2 -0.1
baz=52
CBKS **Cedar Bluff** 52.55 73 *e*P P 09 24 18.6 0.0
CBKS pmax pmax
comp=Z,40nm,0.7s,mb5.5
CBKS **Cedar Bluff** 52.55 73 *e*P P 09 24 18.6 -0.1
comp=Z,40nm,0.7s,mb5.5
AMTX **Amarillo** 53.98 77 *e*P P 09 24 28.7 -0.5
comp=Z,6.3nm,0.6s,mb4.7
AMTX *e*PcP PcP 09 25 33.7 0.0
KSU1 **Kansas State U** 54.21 70 *e*P P 09 24 29.9 -0.9
comp=Z,15nm,0.6s,mb5.1
KSU1 *e*PcP PcP 09 25 34.2 -0.2
SCIA **State Center** 54.33 66 *e*P P 09 24 31.0 -0.7
comp=Z,20nm,0.5s,mb5.3
ZALV **Zalesovo Beam** 55.28 315 P P 09 24 36.0 -2.3
comp=Z,0.4nm,0.3s,mb3.9,baz=46,slow=4.2,SNR=3.1
ZALV PcP PcP 09 25 39.0 +0.7
comp=Z,4.4nm,0.7s,baz=37,slow=4.4,SNR=12
ZALV LR LR 09 50 00.8
comp=Z,139nm,18.6s,baz=48,slow=38
ZALV **Zalesovo Beam** 55.28 315 P P 09 24 36.0 -2.3
ZALV 09 25 39.0
ZALV pmax pmax
comp=Z,4.0nm,0.7s,mb4.6
ZALV MLR MLR
comp=Z,139nm,18.6s
JFWS **Jewell Farm** 55.34 63 *e*P P 09 24 38.0 -0.9
JFWS pmax pmax
comp=Z,51nm,1.0s,mb5.5
JFWS **Jewell Farm** 55.34 63 *e*P P 09 24 38.0 -0.8
comp=Z,51nm,1.0s,mb5.5
XAN **Xi'an** 55.60 283 P P 09 24 40.9 0.0
XAN S S 09 32 22.3 +0.5
XAN AMB AMB
comp=Z,6.0nm,0.8s,mb4.7
XAN AMB AMB
comp=Z,119nm,4.3s
XAN LR LR
comp=N,31nm,26.7s
XAN LR LR
comp=E,74nm,22.6s
XAN LR LR
comp=Z,70nm,23.4s
WMOK **Wichita Mounta** 55.84 76 *e*P P 09 24 42.2 -0.4
WMOK *e* 09 25 41.3
WMOK pmax pmax
comp=Z,10.0nm,0.9s,mb4.8
WMOK **Wichita Mounta** 55.84 76 *e*P P 09 24 42.2 -0.3
comp=Z,9.8nm,0.9s,mb4.8
WMOK *e*PcP PcP 09 25 41.3 +0.5
TXAR **Lajitas Array** 56.58 84 P P 09 24 47.4 -0.6
comp=Z,4.2nm,0.7s,mb4.6,baz=296,slow=4.6,SNR=75
TXAR ScP ScP 09 29 39.0 +1.6
comp=Z,0.6nm,0.9s,baz=354,slow=2.7,SNR=4.3
TXAR LR LR 09 45 48.0
comp=Z,76nm,20.7s,baz=185,slow=32
GLMI **Grayling** 57.12 58 *e*P P 09 24 51.5 0.0
comp=Z,124nm,0.9s,mb5.9
LZH **Lanzhou** 57.25 288 *e*P P 09 24 53.0 +0.4
LZH AP pP 09 25 09.2 +0.1
LZH XP sP 09 25 16.5 +0.4
LZH *e*PP PP 09 27 02.1 +2.2
LZH *e*S S 09 32 41.6 -2.0

LZH XS sS 09 33 09.0 -2.5
LZH eSS SS 09 36 32.2 -0.8
LZH AMB AMB
comp=Z,22nm,1.5s,mb5.0
LZH AMB AMB
comp=Z,132nm,7.6s
LZH LR LR
comp=N,385nm,16.5s
LZH LR LR
comp=Z,597nm,19.7s
LZH Lanzhou 57.25 288 eP P **09 24 53.0 +0.4**
LZH *PP pP 09 25 09.2 +0.1
LZH e 09 27 02.1
LZH eS **S** **09 32 41.6 -2.0**
LZH *SS sS 09 33 09.0 -2.5
LZH eSS SS 09 36 32.2 -0.8
LZH pmax pmax
comp=Z,22nm,1.5s,mb5.0
LZH MLR MLR
comp=Z,600nm,19.7s
LZH Lanzhou 57.25 288 eP P **09 24 53.0 +0.4**
comp=Z,22nm,1.5s,mb5.0
LZH pP pP 09 25 09.2 +0.1
LZH sP sP 09 25 16.5 +0.4
LZH ePP PP 09 27 02.1 +2.2
LZH eS **S** **09 32 41.6 -2.0**
LZH sS sS 09 33 09.0 -2.5
LZH eSS SS 09 36 32.2 -0.8
LZH LR LR
comp=Z,600nm,19.7s
GTA Gaotai 57.33 294 eP P **09 24 52.5 -0.6**
GTA AP pP 09 25 08.6 -1.0
GTA XP sP 09 25 15.7 -1.0
GTA PP PP 09 26 59.3 -1.3
GTA S **S** **09 32 40.7 -3.9**
GTA XS sS 09 33 08.2 -4.3
GTA SS SS 09 36 31.5 -2.7
GTA AMB AMB
comp=Z,4.0nm,1.2s,mb4.3
GTA AMB AMB
comp=Z,79nm,7.2s
GTA LR LR
comp=N,158nm,14.4s
GTA LR LR
comp=E,170nm,14.1s
GTA LR LR
comp=Z,207nm,16.8s
HDIL Hopedale 57.44 64 eP P **09 24 53.1 -0.8**
comp=Z,69nm,1.1s,mb5.6
CCM Cathedral Cave 58.03 68 eP P **09 24 56.0 -2.0**
CCM pmax pmax
comp=Z,12nm,0.6s,mb5.1
CCM Cathedral Cave 58.03 68 eP P **09 24 56.0 -2.0**
comp=Z,12nm,0.6s,mb5.1
ARCES ARCESS Array B 58.10 351 P P **09 24 57.6 -0.4**
comp=Z,3.6nm,0.7s,mb4.5,baz=9.6,slow=7.4,SNR=8.4
ARCES PcP PcP 09 25 49.4 +0.4
comp=Z,2.1nm,0.5s,baz=31,slow=5.4,SNR=7.3
ARCES LR LR 09 53 10.0
comp=Z,66nm,18.1s,baz=200,slow=39
ARCES ARCESS Array B 58.10 351 P P **09 24 57.6 -0.5**
ARCES 09 25 49.4
ARCES pmax pmax
comp=Z,4.0nm,0.7s
ARCES pmax pmax
comp=Z,2.0nm,0.5s
ARCES MLR MLR
comp=Z,67nm,18.2s
ARCES ARCESS Array B 58.10 351 P P **09 24 57.6 -0.4**
ARCES PcP PcP 09 25 49.4 +0.4
ARCES LR LR 09 53 10.0
JCT Junction City 58.16 80 eP P **09 24 58.2 -0.8**
JCT pmax pmax
comp=Z,12nm,0.6s,mb5.1
JCT Junction City 58.16 80 eP P **09 24 58.2 -0.9**
comp=Z,12nm,0.6s,mb5.1
SCHQ Schefferville 58.46 40 P P **09 25 00.1 -0.7**
comp=Z,12nm,1.0s,mb4.9,baz=321,slow=6.7,SNR=8.7
SCHQ LR LR 09 51 35.0
comp=Z,204nm,18.8s,baz=71,slow=37
FVM French Village 58.55 67 eP P **09 25 00.5 -1.2**
FVM e 09 27 11.7
FVM pmax pmax
comp=Z,12nm,0.4s,mb5.3
FVM French Village 58.55 67 eP P **09 25 00.5 -1.2**
comp=Z,12nm,0.4s,mb5.3
FVM ePP PP 09 27 11.7 +0.3
MIAR Mount Ida 59.08 72 eP P **09 25 05.0 -0.4**
MIAR e 09 25 53.9
MIAR pmax pmax
comp=Z,13nm,0.7s,mb5.1
MIAR Mount Ida 59.08 72 eP P **09 25 05.0 -0.4**
comp=Z,14nm,0.7s,mb5.1
MIAR ePcP PcP 09 25 53.9 +0.3
OLIL Olney 59.36 65 eP P **09 25 06.6 -0.6**
comp=Z,39nm,0.9s,mb5.4
OLIL ePcP PcP 09 25 54.2 -0.4
SIUC Southern Illin 59.43 67 eP P **09 25 06.8 -0.9**
comp=Z,23nm,0.4s,mb5.6
UALR University of 59.65 71 eP P **09 25 08.6 -0.7**
comp=Z,7.6nm,0.6s,mb4.9
UALR ePcP PcP 09 25 56.0 +0.1
KURK Kurchatov 60.26 315 P P **09 25 13.2 -0.1**
comp=Z,7.1nm,0.6s,mb4.8,baz=46,slow=6.7,SNR=30
KURK Kurchatov 60.26 315 P P **09 25 13.2 0.0**
KURK pmax pmax
comp=Z,7.0nm,0.6s,mb4.9
WCI Wyandotte Cave 60.73 65 eP P **09 25 15.8 -0.8**
WCI pmax pmax
comp=Z,32nm,1.1s,mb5.4
WCI Wyandotte Cave 60.73 65 eP P **09 25 15.8 -0.8**
comp=Z,32nm,1.1s,mb5.4
WMQ Urumqi 60.87 305 ⇓P P **09 25 21.5 +4.0**
WMQ AP pP 09 25 35.5 +1.4
WMQ XP sP 09 25 41.5 +0.3
WMQ PCP PcP 09 26 03.5 +3.0
WMQ PP PP 09 27 38.0 +6.3
WMQ S **S** **09 33 35.0 +4.8**
WMQ XS sS 09 33 56.5 -1.8
WMQ AMB AMB
comp=Z,6.0nm,0.6s,mb4.9
WMQ AMB AMB
comp=Z,7.0nm,3.6s
WMQ LR LR
comp=N,135nm,22.2s
WMQ LR LR
comp=E,68nm,23.0s
WMQ LR LR
comp=Z,69nm,20.5s
CD2 Chengdu 60.90 284⇑*iP* P **09 25 19.2 +1.3**
CD2 AP pP 09 25 33.2 -1.3
CD2 XP sP 09 25 39.2 -2.4
CD2 PP PP 09 27 34.7 +2.4
CD2 XS sS 09 33 56.7 -2.4
CD2 SS SS 09 37 30.2 -0.3
CD2 AMB AMB
comp=Z,40nm,1.1s,mb5.5
CD2 AMB AMB
comp=Z,120nm,8.2s
CD2 LR LR
comp=E,240nm,12.0s
CD2 LR LR
comp=Z,320nm,15.6s
ACSO Alum Creek Sta 61.15 61 eP P **09 25 19.2 -0.3**
comp=Z,14nm,0.6s,mb5.3
WVT Waverly 61.33 67 eP P **09 25 20.3 -0.4**
WVT e 09 27 34.9
WVT pmax pmax
comp=Z,8.0nm,0.7s,mb5.0
WVT Waverly 61.33 67 eP P **09 25 20.3 -0.5**
comp=Z,8.4nm,0.7s,mb5.0
WVT ePP PP 09 27 34.9 -1.1
MK31 Makanchi Array 61.42 310 eP P **09 25 20.5 -0.6**
MKAR Makanchi Array 61.42 310 P P **09 25 20.6 -0.6**
comp=Z,2.1nm,0.5s,mb4.5,baz=48,slow=6.0,SNR=14
MKAR LR LR 09 52 09.8
comp=Z,80nm,21.1s,baz=12,slow=36
MKAR Makanchi Array 61.42 310 P P **09 25 20.6 -0.5**
MKAR pmax pmax
comp=Z,2.0nm,0.5s
MKAR MLR MLR
comp=Z,81nm,21.1s
ERPA Erie 61.42 57 eP P **09 25 21.4 +0.2**
comp=Z,132nm,0.9s,mb6.1
OXF Oxford 61.56 70 eP P **09 25 21.8 -0.5**
OXF pmax pmax
comp=Z,55nm,0.6s,mb5.9
OXF Oxford 61.56 70 eP P **09 25 21.8 -0.5**
comp=Z,55nm,0.6s,mb5.9
ALLY Alegheny Colle 61.67 58 eP P **09 25 23.3 +0.3**
comp=Z,289nm,0.8s
BVAR Borovoye Array 61.94 321 P P **09 25 24.2 -0.4**
comp=Z,4.2nm,0.4s,mb4.9,baz=51,slow=6.4,SNR=20
BVAR Borovoye Array 61.94 321 P P **09 25 24.2 -0.4**
BVAR pmax pmax
comp=Z,4.0nm,0.4s
BRVK Borovoye 61.96 321 eP P **09 25 24.6 -0.1**
BRVK e pP 09 25 40.3 -1.1
BRVK e 09 27 43.1
BRVK pmax pmax
comp=Z,16nm,1.0s,mb5.1
BRVK Borovoye 61.96 321 eP P **09 25 24.6 -0.1**
comp=Z,16nm,1.0s,mb5.1
BRVK e pP 09 25 40.3 -1.1
BRVK ePP PP 09 27 43.1 +2.0
GYA Guiyang 62.31 278⇑*iP* P **09 25 27.2 -0.3**
GYA AP pP 09 25 42.6 -1.6
GYA XP sP 09 25 48.4 -2.8
GYA PCP PcP 09 26 06.8 +0.1
GYA PP PP 09 27 46.9 +2.0
GYA SCP ScP 09 30 02.2 -0.7
GYA S **S** **09 33 46.7 -2.3**
GYA SKS 09 35 12.0
GYA AMB AMB
comp=Z,20nm,1.0s,mb5.2
GYA AMB AMB
comp=Z,120nm,6.8s
GYA LR LR
comp=N,620nm,19.2s
GYA LR LR
comp=E,560nm,19.8s
GYA LR LR
comp=Z,570nm,18.6s
VBMS Vicksburg 62.53 72 P P **09 25 28.8 0.0**
comp=Z,21nm,0.6s,mb5.5
SWET Sewanee 63.06 67 eP P **09 25 31.4 -0.9**
MCWV Mont Chateau 63.25 59 eP P **09 25 33.9 +0.3**
comp=Z,123nm,0.8s,mb6.1
ARU Arti 63.38 330*d iP* P **09 25 33.6 -0.5**
ARU eS **S** **09 34 04.9 +3.4**
ARU eSS SS 09 38 10.8 +2.8
ARU pmax pmax
comp=Z,13nm,1.2s,mb4.9
BINY Binghamton 63.43 55 eP P **09 25 35.0 +0.4**
comp=Z,95nm,0.9s,mb5.9
BINY e pP 09 25 52.2 +0.7
TZTN Tazewell 63.46 64 eP P **09 25 34.7 -0.3**
comp=Z,28nm,1.1s,mb5.3
MDV Middlebury 63.52 52 eP P **09 25 34.0 -1.2**
SSPA Standing Stone 63.59 57 eP P **09 25 35.7 0.0**
comp=Z,85nm,0.6s,mb6.0
CPCT Cooper Cave 63.70 66 eP P **09 25 35.9 -0.6**
TKL Tuckaleechee C 63.97 65 eP P **09 25 37.6 -0.7**
LRAL Lakeview Retre 64.01 69 eP P **09 25 38.6 -0.1**
comp=Z,13nm,0.7s,mb5.1
PKME Peaks-Kenny Pk 64.45 49 eP P **09 25 40.2 -1.1**
ELN Prospectdale 64.52 62 eP P **09 25 41.5 -0.3**
BLA Blacksburg 64.71 62 eP P **09 25 43.4 +0.3**
BLA pmax pmax
comp=Z,65nm,1.2s,mb5.5
BLA Blacksburg 64.71 62 eP P **09 25 43.4 +0.2**
comp=Z,65nm,1.2s,mb5.5
SDMD Soldier's Deli 65.03 58 eP P **09 25 44.6 -0.6**
comp=Z,67nm,1.0s,mb5.6
PAL Palisades 65.37 55 eP P **09 25 47.0 -0.3**
PAL pmax pmax
comp=Z,54nm,1.0s,mb5.5
PAL Palisades 65.37 55 eP P **09 25 47.0 -0.4**
comp=Z,54nm,1.0s,mb5.5
CPNY Central Park 65.50 55 eP P **09 25 48.0 -0.2**
comp=Z,47nm,0.7s,mb5.6
WES Weston 65.63 52 eP P **09 25 48.3 -0.7**
WES pmax pmax
comp=Z,41nm,1.1s,mb5.4
WES Weston 65.63 52 eP P **09 25 48.3 -0.7**
comp=Z,41nm,1.1s,mb5.4
CBN Corbin 65.63 59 eP P **09 25 49.2 +0.1**
comp=Z,104nm,1.3s,mb5.7
KMI Kunming 65.70 280 P P **09 25 49.9 +0.2**
KMI AP pP 09 26 06.5 0.0
KMI XP sP 09 26 12.2 -1.3
KMI PP PP 09 28 18.3 +3.7
KMI S S 09 34 30.4 -0.5
KMI XS sS 09 34 56.6 -2.7
KMI SS SS 09 38 49.0 +3.4
KMI AMB AMB
comp=Z,15nm,1.1s,mb4.9
KMI LR LR
comp=Z,90nm,26.1s
KMI Kunming 65.70 280 P P **09 25 49.9 +0.2**
KMI *PP pP 09 26 06.5 0.0
KMI 09 28 18.3
KMI PPP 09 29 52.1
KMI S S 09 34 30.4 -0.5
KMI *SS sS 09 34 56.6 -2.7
KMI SS SS 09 38 49.0 +3.4
KMI pmax pmax
comp=Z,15nm,1.1s,mb4.9
KMI MLR MLR
comp=Z,90nm,26.1s
KMI Kunming 65.70 280 P P **09 25 49.9 +0.2**
comp=Z,15nm,1.1s,mb4.9
KMI pP pP 09 26 06.5 0.0
KMI sP sP 09 26 12.2 -1.3
KMI PP PP 09 28 18.3 +3.7
KMI PPP 09 29 52.1
KMI S S 09 34 30.4 -0.5
KMI sS sS 09 34 56.6 -2.7
KMI SS SS 09 38 49.0 +3.4
KMI LR LR
comp=Z,90nm,26.1s
GOGA Godfrey 65.77 66 eP P **09 25 49.0 -1.1**
GOGA pmax pmax
comp=Z,32nm,1.1s,mb5.3
GOGA Godfrey 65.77 66 eP P **09 25 49.0 -1.0**
comp=Z,32nm,1.1s,mb5.3
URVA University of 66.01 59 eP P **09 25 51.3 -0.2**
JSC Jenkinsville 66.39 64 eP P **09 25 53.8 -0.2**
NB2 NORSAR Subarra 67.48 356 P P **09 26 00.3 -0.2**
comp=Z,1.8nm,0.6s,mb4.3,baz=3.9,slow=6.2
NOA NORSAR Array B 67.48 356 P P **09 26 00.3 -0.2**
comp=Z,4.2nm,0.8s,mb4.5,baz=3.9,slow=6.3,SNR=9.8
NOA LR LR 09 53 33.3
comp=Z,57nm,18.6s,baz=0.0,slow=34
NOA NORSAR Array B 67.48 356 P P **09 26 00.3 -0.2**
NOA LR LR 09 53 33.3
TAOE Nuku Hiva Isla 67.56 142 eLR LR 09 46 32.6
comp=Z,696nm,27.5s
NHSC New Hope 67.86 64 eP P **09 26 03.9 +0.6**
comp=Z,364nm,1.5s
HFS Hagfors 68.27 355 P P **09 26 05.0 -0.5**
comp=Z,5.0nm,0.7s,mb4.7,baz=21,slow=2.1,SNR=15
HFS Hagfors 68.27 355 P P **09 26 05.0 -0.5**
HFS pmax pmax
comp=Z,5.0nm,0.7s
AKTK Aktyubinsk 68.58 326 P P **09 26 06.3 -1.2**
AKTK LR LR 09 58 43.6
AKTO Aktyubinsk 68.58 326 P P **09 26 06.3 -1.2**
comp=Z,4.0nm,0.5s,mb4.6,baz=48,slow=6.4,SNR=14
AKTO LR LR 09 58 43.6
comp=Z,91nm,19.7s,baz=86,slow=38
AKTO Aktyubinsk 68.58 326 P P **09 26 06.4 -1.1**
AKTO pmax pmax
comp=Z,4.0nm,0.5s,mb4.6
AKTO MLR MLR
comp=Z,91nm,19.7s
AML Almayashu 68.97 312 eP P **09 26 10.5 +0.4**
LSA Lhasa 69.24 292 P P **09 26 13.4 +1.4**
OBN Obninsk 70.26 341 eP P **09 26 17.9 +0.1**
OBN e pP 09 26 37.6 +2.8
OBN eS S 09 35 21.7 -2.7
OBN pmax pmax
comp=Z,4.0nm,0.8s,mb4.4
PPT Papeete 72.60 154 eLR LR 09 48 32.8
comp=Z,121nm,21.5s
PPT Papeete 72.60 154 LR LR 09 52 28.6
comp=Z,150nm,19.9s,baz=96,slow=31
TAPN Taplejung 73.00 293 eP P **09 26 35.3 +0.6**
comp=Z,33nm,0.8s,mb5.3
CMAR Chiang Mai Arr 73.00 278 P P **09 26 35.7 +0.8**
comp=Z,4.9nm,0.8s,mb4.5,baz=27,slow=6.8,SNR=16
CMAR LR LR 10 01 36.8
comp=Z,48nm,20.9s,baz=214,slow=38
CMAR Chiang Mai Arr 73.00 278 *i* P P **09 26 40.5 +5.6**
CMAR pmax pmax
comp=Z,5.0nm,0.7s
ODAN Odare 73.55 292 eP P **09 26 38.8 +0.8**
comp=Z,18nm,0.8s,mb5.0
GUN Gumba 73.61 294 eP P **09 26 39.1 +0.7**
comp=Z,94nm,0.8s,mb5.8
JIRN Jiri 73.63 294 eP P **09 26 39.4 +0.9**
comp=Z,58nm,0.7s,mb5.6
RAMN Ramite 73.94 293 eP P **09 26 40.7 +0.4**
comp=Z,60nm,0.7s,mb5.6
KKN Kakani 74.05 295 eP P **09 26 41.6 +0.7**
comp=Z,36nm,0.8s,mb5.3
PKI Pulchoki 74.14 294 eP P **09 26 41.9 +0.5**
comp=Z,37nm,1.0s,mb5.3
GKN Gorkha 74.25 295 eP P **09 26 42.3 +0.2**
comp=Z,35nm,0.7s,mb5.4
DMN Daman 74.28 295 eP P **09 26 42.8 +0.5**
comp=Z,44nm,1.1s,mb5.3
DANN Dangsing 74.47 296 eP P **09 26 43.8 +0.4**
comp=Z,58nm,0.8s,mb5.5
KOLN Koldanda 75.01 296 eP P **09 26 46.6 +0.1**
comp=Z,13nm,0.6s,mb5.0
AKASG Malin Array Be 75.84 344 P P **09 26 49.7 -1.1**
comp=Z,0.6nm,0.3s,mb3.9,baz=15,slow=5.5,SNR=5.2
AKASG LR LR 10 04 07.9
comp=Z,95nm,18.3s,baz=15,slow=39
AKASG Malin Array Be 75.84 344 *i* P P **09 26 50.9 +0.1**
AKASG pmax pmax
comp=Z,1.0nm,0.4s
CLL Collm 77.11 355 *i* P P **09 26 57.9 -0.1**
CLL e*PP pP 09 27 14.0 -1.2
CLL pmax pmax
comp=Z,6.0nm,0.6s,mb4.7
CLL Collm 77.11 355 *i* P P **09 26 57.9 -0.1**
comp=Z,6.0nm,0.6s,mb4.7
CLL epP pP 09 27 14.0 -1.2
BRG Berggiesshubel 77.49 354 *i* P P **09 27 00.2 +0.1**
BRG pmax pmax
comp=Z,3.0nm,0.9s,mb4.2
BRG Berggiesshubel 77.49 354 *i* P P **09 27 00.2 +0.1**
comp=Z,4.7nm,0.9s,mb4.4
DPC Dobruska-Polom 77.83 352 eP P **09 27 02.9 +0.9**
MOX Moxa 77.85 355 eP P **09 27 01.8 -0.4**
comp=Z,8.0nm,1.1s,mb4.6
MOX Moxa 77.85 355 eP P **09 27 01.8 -0.4**
MOX pmax pmax
comp=Z,8.0nm,1.1s,mb4.6
KWP Kalwaria 77.86 348⇑*iP* P **09 27 03.4 +1.2**
TBI Tubuai 78.15 156 eLR LR 09 50 20.5
comp=Z,164nm,25.8s
NKC Novy Kostel 78.22 355 eP P **09 27 04.7 +0.5**
KAKA Kakadu 78.32 232 eP P **09 27 04.4 -0.7**
comp=Z,40nm,1.4s,mb5.2
GIVF Givet 78.58 360 eP P **09 27 05.9 -0.3**
BAIF Baives 78.62 0 eP P **09 27 06.3 -0.1**
GRA1 Grafenberg Arr 78.82 356 eP P **09 27 07.6 +0.1**
comp=Z,15nm,1.0s,mb4.9
GRF Grafenberg Arr 78.82 356 eP P **09 27 07.6 +0.1**
GRF pmax pmax
comp=Z,15nm,1.0s,mb4.9
GRF Grafenberg Arr 78.82 356 eP P **09 27 07.6 +0.1**
GRF pmax pmax
comp=Z,15nm,1.0s,mb4.9
GRF Grafenberg Arr 78.82 356 eP P **09 27 07.6 +0.1**
comp=Z,15nm,1.0s,mb4.9
KHC Kasperske Hory 79.25 354*de* P **09 27 10.0 +0.1**
KHC Kasperske Hory 79.25 354 eP P **09 27 10.2 +0.3**
BUR08 Bucovina Ar. S 79.45 346 eP P **09 27 10.9 -0.1**
BURAR Bucovina Array 79.48 346⇓*iP* P **09 27 11.9 +0.7**
GERES GERESS Array B 79.53 354 P P **09 27 11.5 +0.1**
comp=Z,2.2nm,0.8s,mb4.2,baz=20,slow=4.3,SNR=15
GERES LR LR 10 02 53.1
comp=Z,62nm,18.7s,baz=25,slow=36
GERES GERESS Array B 79.53 354 P P **09 27 11.5 +0.1**
GERES pmax pmax
comp=Z,2.0nm,0.8s
GERES MLR MLR
comp=Z,62nm,18.7s
FLN La Foliniere 79.83 3 eP P **09 27 12.3 -0.7**
FLN e MLR MLR
comp=Z,77nm,19.8s
FLN La Foliniere 79.83 3 eP P **09 27 12.3 -0.7**
FLN LR LR
comp=Z,80nm,19.8s
LDF La Druitiere 80.01 3 eP P **09 27 13.3 -0.7**
comp=Z,11nm,0.7s,mb4.6
LDF La Druitiere 80.01 3 eP P **09 27 13.3 -0.7**
LDF pmax pmax
comp=Z,5.0nm,0.7s,mb4.5
LDF La Druitiere 80.01 3 eP P **09 27 13.3 -0.7**
comp=Z,5.3nm,0.7s,mb4.6
ROSF Rostrenen 80.12 5 eP P **09 27 14.6 0.0**
GRR Gorron 80.19 4 eP P **09 27 14.7 -0.3**
comp=Z,20nm,1.0s,mb4.7
GRR Gorron 80.19 4 eP P **09 27 14.7 -0.3**
GRR pmax pmax
comp=Z,10.0nm,1.0s,mb4.7
GRR Gorron 80.19 4 eP P **09 27 14.7 -0.3**
comp=Z,9.9nm,1.0s,mb4.7
CDF Champ du Feu 80.24 358 eP P **09 27 15.0 -0.2**
comp=Z,11nm,0.8s,mb4.5
CDF Champ du Feu 80.24 358 eP P **09 27 15.0 -0.2**
CDF pmax pmax
comp=Z,5.0nm,0.8s,mb4.5
CDF Champ du Feu 80.24 358 eP P **09 27 15.0 -0.2**
comp=Z,5.3nm,0.8s,mb4.5
SGMF Saint Gilles 80.24 5 eP P **09 27 15.0 -0.3**
CONA Conrad Observa 80.27 352⇓*iP* P **09 27 16.2 +0.8**
comp=Z,3.1nm,0.9s,mb4.2
CSNA Conrad Observa 80.27 352⇓*iP* P **09 27 16.2 +0.8**
comp=Z,3.1nm,1.0s,mb4.2
SIM Simferopol' 80.39 339 eP P **09 27 14.2 -1.9**
SIM pmax pmax
comp=Z,13nm,0.5s,mb5.1
QUIF Quistinic 80.55 5 eP P **09 27 16.7 -0.2**
DRGR 80.64 347⇓*iP* P **09 27 18.0 +0.6**
HAU Haudompre 80.66 359 eP P **09 27 17.3 -0.2**
comp=Z,7.7nm,0.6s,mb4.5
HAU eMLR MLR
comp=Z,83nm,22.5s
HAU Haudompre 80.66 359 eP P **09 27 17.3 -0.2**
HAU pmax pmax
comp=Z,4.0nm,0.6s,mb4.5
HAU MLR MLR
comp=Z,80nm,22.5s
HAU Haudompre 80.66 359 eP P **09 27 17.3 -0.2**
comp=Z,3.8nm,0.6s,mb4.5
HAU LR LR
comp=Z,80nm,22.5s
HINF Hinteralfeld 80.84 358 eP P **09 27 17.9 -0.6**
comp=Z,7.5nm,0.6s,mb4.5
HINF Hinteralfeld 80.84 358 eP P **09 27 17.9 -0.6**
HINF pmax pmax
comp=Z,4.0nm,0.6s,mb4.5
HINF Hinteralfeld 80.84 358 eP P **09 27 17.9 -0.6**
comp=Z,3.8nm,0.6s,mb4.5
KBA Koelnbreinsper 81.31 354⇑*iP* P **09 27 21.8 +0.8**
comp=Z,13nm,0.9s,mb4.8
LOR Lormes 81.41 0 eP P **09 27 21.2 -0.3**
comp=Z,12nm,0.8s,mb4.6
LOR eMLR MLR
comp=Z,82nm,18.8s
LOR Lormes 81.41 0 eP P **09 27 21.2 -0.3**
LOR pmax pmax
comp=Z,6.0nm,0.8s,mb4.6
LOR MLR MLR
comp=Z,80nm,18.8s
LOR Lormes 81.41 0 eP P **09 27 21.2 -0.3**
comp=Z,5.8nm,0.8s,mb4.6
LOR LR LR
comp=Z,80nm,18.8s
MLR Muntele Rosu 81.43 345⇑*iP* P **09 27 23.9 +2.2**
SOKA Soboth 81.58 353⇑*iP* P **09 27 22.1 -0.3**
SSF Saint Saulge 81.61 1 eP P **09 27 22.3 -0.3**
comp=Z,14nm,0.8s,mb4.6
SSF Saint Saulge 81.61 1 eP P **09 27 22.3 -0.3**
SSF pmax pmax
comp=Z,7.0nm,0.8s,mb4.6
SSF Saint Saulge 81.61 1 eP P **09 27 22.3 -0.3**
comp=Z,6.8nm,0.8s,mb4.6
PERS Pernice 81.62 353 *i* P P **09 27 23.0 +0.4**
DAVOX Davos/Dischmat 81.79 356 LR LR 10 02 02.7

	comp=Z,49nm,20.3s,baz=78,slow=34						
AVF	**Avril sur Loir**	**81.89**	**1**	*e*P	**P**	**09 27 23.7**	**-0.3**
	comp=Z,22nm,1.0s,mb4.7						
AVF	**Avril sur Loir**	**81.89**	**1**	*e*P	**P**	**09 27 23.7**	**-0.3**
AVF				pmax	pmax		
	comp=Z,11nm,1.0s,mb4.7						
AVF	**Avril sur Loir**	**81.89**	**1**	*e*P	**P**	**09 27 23.7**	**-0.3**
	comp=Z,11nm,1.0s,mb4.8						
MFF	**Saint Martin d**	**82.00**	**3**	*e*P	**P**	**09 27 24.4**	**-0.2**
	comp=Z,19nm,1.0s,mb4.7						
MFF	**Saint Martin d**	**82.00**	**3**	*e*P	**P**	**09 27 24.4**	**-0.2**
MFF				pmax	pmax		
	comp=Z,9.0nm,1.0s,mb4.7						
MFF	**Saint Martin d**	**82.00**	**3**	*e*P	**P**	**09 27 24.4**	**-0.2**
	comp=Z,9.4nm,1.0s,mb4.7						
TIRR	**Tirgusor**	**82.01**	**343⇑**	*i*P	**P**	**09 27 26.0**	**+1.3**
GNI	**Garni**	**82.03**	**330**	LR	LR	10 11 07.7	
	comp=Z,83nm,18.1s,baz=199,slow=41						
SMF	**Signal de Mont**	**82.03**	**0**	*e*P	**P**	**09 27 24.5**	**-0.3**
	comp=Z,31nm,1.0s,mb4.9						
SMF	**Signal de Mont**	**82.03**	**0**	*e*P	**P**	**09 27 24.5**	**-0.3**
SMF				pmax	pmax		
	comp=Z,15nm,1.0s,mb4.9						
SMF	**Signal de Mont**	**82.03**	**0**	*e*P	**P**	**09 27 24.5**	**-0.3**
	comp=Z,15nm,1.0s,mb4.9						
CABF	**La Chapelle**	**82.06**	**359**	*e*P	**P**	**09 27 25.1**	**+0.2**
BGF	**Bois d'Agland**	**82.11**	**1**	*e*P	**P**	**09 27 24.9**	**-0.3**
TCF	**Toulx Ste Croi**	**82.37**	**2**	*e*P	**P**	**09 27 26.3**	**-0.3**
	comp=Z,10nm,0.9s,mb4.5						
TCF	**Toulx Ste Croi**	**82.37**	**2**	*e*P	**P**	**09 27 26.3**	**-0.3**
TCF				pmax	pmax		
	comp=Z,5.0nm,0.9s,mb4.4						
TCF	**Toulx Ste Croi**	**82.37**	**2**	*e*P	**P**	**09 27 26.3**	**-0.3**
	comp=Z,5.1nm,0.9s,mb4.5						
JAVS	**Javornik**	**82.44**	**353**	*i* P	**P**	**09 27 25.6**	**-1.3**
RKT	**Rikitea**	**82.54**	**143**	*e*LR	LR	09 53 23.4	
	comp=Z,185nm,24.2s						
BOJS	**Bojanci**	**82.73**	**352**	*e*P	**P**	**09 27 28.4**	**0.0**
RJF	**Les Rejaudoux**	**83.34**	**2**	*e*P	**P**	**09 27 31.6**	**0.0**
RJF				*e*MLR	MLR		
	comp=Z,82nm,19.2s						
RJF	**Les Rejaudoux**	**83.34**	**2**	*e*P	**P**	**09 27 31.6**	**0.0**
RJF				LR	LR		
	comp=Z,80nm,19.3s						
BNI	**Bardonecchia**	**83.61**	**358**	*e*P	**P**	**09 27 32.7**	**-0.3**
BNI				pmax	pmax		
	comp=Z,6.0nm,0.9s,mb4.7						
BNI	**Bardonecchia**	**83.61**	**358**	*e*P	**P**	**09 27 32.7**	**-0.3**
	comp=Z,5.8nm,0.9s,mb4.7						
LFF	**La Frestale**	**83.69**	**3**	*e*P	**P**	**09 27 33.4**	**0.0**
WRA	**Warramunga Arr**	**83.69**	**227**	P	**P**	**09 27 32.3**	**-1.3**
	comp=Z,3.0nm,1.0s,mb4.4,baz=32,slow=5.7,SNR=18						
WRA				LR	LR	09 58 57.2	
	comp=Z,93nm,21.1s,baz=275,slow=31						
WRA	**Warramunga Arr**	**83.69**	**227**	*i* P	**P**	**09 27 31.7**	**-1.9**
WRA				pmax	pmax		
	comp=Z,3.0nm,1.0s						
CAF	**Calviac**	**83.73**	**2**	*e*P	**P**	**09 27 33.8**	**+0.2**
	comp=Z,14nm,1.0s,mb4.7						
CAF	**Calviac**	**83.73**	**2**	*e*P	**P**	**09 27 33.8**	**+0.2**
CAF				pmax	pmax		
	comp=Z,7.0nm,1.0s,mb4.8						
CAF	**Calviac**	**83.73**	**2**	*e*P	**P**	**09 27 33.8**	**+0.2**
	comp=Z,7.1nm,1.0s,mb4.8						
ORIF	**Oris-en-Rattie**	**83.75**	**359**	*e*P	**P**	**09 27 34.0**	**+0.3**
ORIF				*e*MLR	MLR		
	comp=Z,71nm,19.8s						
VIVF	**Saint-Julien-l**	**83.83**	**360**	*e*P	**P**	**09 27 34.1**	**0.0**
	comp=Z,15nm,0.8s,mb4.8						
VIVF	**Saint-Julien-l**	**83.83**	**360**	*e*P	**P**	**09 27 34.1**	**0.0**
VIVF				pmax	pmax		
	comp=Z,7.0nm,0.8s,mb4.8						
VIVF	**Saint-Julien-l**	**83.83**	**360**	*e*P	**P**	**09 27 34.1**	**0.0**
	comp=Z,7.3nm,0.8s,mb4.9						
MBDF	**Montbardon**	**83.93**	**358**	*e*P	**P**	**09 27 35.3**	**+0.6**
	comp=Z,5.2nm,0.7s,mb4.5						
MBDF	**Montbardon**	**83.93**	**358**	*e*P	**P**	**09 27 35.3**	**+0.6**
MBDF				pmax	pmax		
	comp=Z,3.0nm,0.7s,mb4.5						
MBDF	**Montbardon**	**83.93**	**358**	*e*P	**P**	**09 27 35.3**	**+0.6**
	comp=Z,2.6nm,0.7s,mb4.5						
LASF	**Ste Croix**	**84.60**	**0**	*e*P	**P**	**09 27 38.2**	**+0.1**
	comp=Z,8.2nm,0.8s,mb4.6						
SMRF	**Simiane la Rot**	**84.70**	**359**	*e*P	**P**	**09 27 39.2**	**+0.7**
	comp=Z,18nm,0.9s,mb4.9						
SMRF	**Simiane la Rot**	**84.70**	**359**	*e*P	**P**	**09 27 39.2**	**+0.7**
	comp=Z,18nm,0.9s,mb5.2						
MTLF	**Montolieu**	**85.32**	**2**	*e*P	**P**	**09 27 41.7**	**0.0**
	comp=Z,4.5nm,0.6s,mb4.5						
MTLF	**Montolieu**	**85.32**	**2**	*e*P	**P**	**09 27 41.7**	**0.0**
MTLF				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.4						
MTLF	**Montolieu**	**85.32**	**2**	*e*P	**P**	**09 27 41.7**	**0.0**
	comp=Z,2.3nm,0.6s,mb4.5						
SJPF	**Ste Jean**	**85.44**	**4**	*e*P	**P**	**09 27 41.7**	**-0.6**
ETSF	**Etsaut**	**85.68**	**4**	*e*P	**P**	**09 27 43.7**	**+0.2**
	comp=Z,6.8nm,0.8s,mb4.7						
ETSF	**Etsaut**	**85.68**	**4**	*e*P	**P**	**09 27 43.7**	**+0.2**
ETSF				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.6						
ETSF	**Etsaut**	**85.68**	**4**	*e*P	**P**	**09 27 43.7**	**+0.2**
	comp=Z,3.4nm,0.8s,mb4.6						
HYB	**Hyderabad**	**86.00**	**293**	*i* P	**P**	**09 27 45.0**	**-0.4**
HYB	**Hyderabad**	**86.00**	**293**	*e*P	**P**	**09 27 45.0**	**-0.4**
PGF	**Pioggiola**	**86.05**	**357**	*e*P	**P**	**09 27 44.8**	**-0.5**
	comp=Z,8.3nm,0.6s,mb4.8						
PGF	**Pioggiola**	**86.05**	**357**	*e*P	**P**	**09 27 44.8**	**-0.5**
PGF				pmax	pmax		
	comp=Z,4.0nm,0.6s,mb4.8						
PGF	**Pioggiola**	**86.05**	**357**	*e*P	**P**	**09 27 44.8**	**-0.5**
	comp=Z,4.2nm,0.6s,mb4.8						
FITZ	**Fitzroy Crossi**	**86.30**	**235**	*e*P	**P**	**09 27 46.2**	**-0.5**
	comp=Z,10nm,0.8s,mb5.1						
FITZ				*e*	pP	09 28 03.7	-0.5
FITZ				*e*PP	PP	09 31 07.1	-1.6
ASAR	**Alice Springs**	**87.14**	**225**	P	**P**	**09 27 50.1**	**-0.5**
	comp=Z,2.3nm,0.8s,mb4.4,baz=22,slow=5.5,SNR=22						
ASAR	**Alice Springs**	**87.14**	**225**	P	**P**	**09 27 50.2**	**-0.5**
ASAR				pmax	pmax		
	comp=Z,2.0nm,0.8s						
POO	**Poona**	**87.75**	**297**	*e*P	**P**	**09 27 53.0**	**-0.9**
ESDC	**Sonseca Array**	**88.70**	**7**	P	**P**	**09 27 57.1**	**-1.0**
	comp=Z,0.3nm,0.3s,mb4.1,baz=351,slow=4.8,SNR=4.6						
STKA	**Stephens Creek**	**91.34**	**215**	P	**P**	**09 28 10.2**	**0.0**
	comp=Z,2.6nm,0.7s,mb4.7,baz=16,slow=6.1,SNR=6.0						
STKA				LR	LR	10 04 28.5	
	comp=Z,215nm,20.7s,baz=26,slow=32						
TORD	**Torodi Ar. Bea**	**115.38**	**3**	PKP	PKPdf	09 33 46.1	-0.3
	comp=Z,2.2nm,0.5s,baz=341,slow=2.5,SNR=41						
DBIC	**Dimbokro**	**121.31**	**11**	PKP	PKPdf	09 33 57.6	-0.3
	comp=Z,3.3nm,0.6s,baz=12,slow=3.4,SNR=9.5						
DBIC	**Dimbokro**	**121.31**	**11**	PKIKP	PKPdf	09 33 57.6	-0.3
DBIC				pmax	pmax		
	comp=Z,3.0nm,0.6s						
KMBO	**Kilima Mbogo**	**122.58**	**320**	PKP	PKPdf	09 34 01.3	+0.9
	comp=Z,0.8nm,0.5s,baz=60,slow=19,SNR=4.6						
KMBO	**Kilima Mbogo**	**122.58**	**320**	PKIKP	PKPdf	09 34 01.3	+0.9
KMBO				pmax	pmax		
	comp=Z,1.0nm,0.5s						
KMBO	**Kilima Mbogo**	**122.58**	**320**	PKP	PKPdf	09 34 01.3	+0.9
PLCA	**Paso Flores**	**129.12**	**109**	PKP	PKPdf	09 34 11.7	-0.2
	comp=Z,2.6nm,0.8s,baz=214,slow=3.5,SNR=8.1						
PLCA	**Paso Flores**	**129.12**	**109**	PKIKP	PKPdf	09 34 11.7	-0.2
PLCA				pmax	pmax		
	comp=Z,3.0nm,0.8s						
TSUM	**Tsumeb**	**145.97**	**337**	PKPbc	PKPbc	09 34 44.9	+0.6
	comp=Z,19nm,0.9s,baz=350,slow=5.0,SNR=29						
MAW	**Mawson**	**147.99**	**218**	*e*P	PKPbc	09 34 48.5	0.0
	comp=Z,12nm,0.9s						
MAW	**Mawson**	**147.99**	**218**	PKPbc	PKPbc	09 34 48.5	0.0
	comp=Z,11nm,0.6s,baz=78,slow=2.6,SNR=25						
MAW	**Mawson**	**147.99**	**218**	PKP2	PKPbc	09 34 48.5	0.0
MAW				pmax	pmax		
	comp=Z,11nm,0.6s						
BOSA	**Boshof**	**152.19**	**318**	PKP	PKPdf	09 34 55.2	+2.0
	comp=Z,12nm,0.6s,baz=146,slow=4.1,SNR=3.6						
BOSA				PKPbc	PKPbc	09 35 00.4	+0.5
	comp=Z,12nm,0.6s,baz=25,slow=1.7,SNR=44						
BOSA	**Boshof**	**152.19**	**318**	PKIKP	PKPdf	09 34 55.2	+2.0
BOSA						09 35 00.4	
BOSA				pmax	pmax		
	comp=Z,12nm,0.6s						
BOSA				pmax	pmax		
	comp=Z,12nm,0.6s						
BOSA	**Boshof**	**152.19**	**318**	PKP	PKPdf	09 34 55.2	+2.0
BOSA				PKPbc	PKPbc	09 35 00.4	+0.5
VNA2	**Neumayer--Watz**	**159.96**	**169**	*e*PKPdf	PKPab	09 35 41.2	-0.8
VNA2				*e*		09 35 53.1	
VNA2				*e*		09 35 58.0	

NEIC 03 10:19:11.1, 17.08N×100.17W, h5km, MD3.6(MEX), After MEX.
MEX 03 10:19:10.9±0.6**, 17.11N×100.18W, h6km**±12km**, MD3.6, Guerrero**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAIG	**El Cayaco**	**0.10**	**234**	*i* P	Pg	10 19 12.9	-0.3
CAIG				*i* S	Sg	10 19 13.9	-0.8
ZIIG	**Zihuatanejo**	**1.32**	**292**	*e*P	Pn	10 19 32.8	-3.1
ZIIG				*i* S	Sb	10 19 48.7	-4.7
ZIIG	**Zihuatanejo**	**1.32**	**292**	*e*P	Pn	10 19 32.8	-3.1
ZIIG				*i* S	Sb	10 19 49.8	-3.6
PNIG	**Pinotepa**	**2.09**	**110**	*e*P	Pn	10 19 43.5	-3.0
PNIG				*i* S	Sn	10 20 08.2	-4.6
PNIG	**Pinotepa**	**2.09**	**110**	*i* P	Pn	10 19 44.8	-1.7
PNIG				*i* S	Sn	10 20 08.4	-4.4
MZVM		**2.26**	**23**	*e*P	Pn	10 19 46.6	-2.2
MZVM				*i* S	Sn	10 20 13.1	-3.9
UTMO	**Huajuapan**	**2.38**	**72**	*i* P	Pn	10 19 49.0	-1.5
UTMO				*i* S	Sn	10 20 15.6	-4.3
PPM	**Popocatepetl**	**2.44**	**37**	*e*P	Pn	10 19 49.1	-2.3
PPM				*i* S	Sn	10 20 16.2	-5.4
PPM	**Popocatepetl**	**2.44**	**37**	*e*P	Pn	10 19 51.8	+0.5
PPM				*i* S	Sn	10 20 17.1	-4.5
IIO	**Organos**	**2.83**	**29**	*e*P	Pn	10 19 53.0	-3.7
IIO				*i* S	Sn	10 20 26.3	-4.8
IIO	**Organos**	**2.83**	**29**	*e*P	Pn	10 19 58.8	+2.1
IIO				*i* S	Sn	10 20 26.3	-4.8

DJA 03 10:30:29.1±0.5**, 7S**±6×**107E**±**, h76km**±7km**, Mjma3.3**/8**, MLv3.9**/8**, Jawa**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKJI	**Sukabumi**	**0.28**	**10**	P	Pn	10 30 42.7	+1.9
SKJI	**Sukabumi**	**0.28**	**10**	S	Sn	10 30 52.6	+3.2
SKJI	**Sukabumi**	**0.28**	**10**	P	Pn	10 30 42.7	+1.9
DBJI	**Dramaga**	**0.76**	**18**	P	Pn	10 30 45.7	+0.6
DBJI	**Dramaga**	**0.76**	**18**	S	Sn	10 30 58.5	+1.5
DBJI	**Dramaga**	**0.76**	**18**	P	Pn	10 30 45.2	+0.1
CBJI	**Citeko**	**0.92**	**22**	P	Pn	10 30 45.3	-1.7
CBJI	**Citeko**	**0.92**	**22**	P	Pn	10 30 44.7	-2.3
TNG	**Tangerang**	**1.11**	**7**	P	Pn	10 30 49.9	+0.6
LEM	**Lembang**	**1.19**	**68**	P	Pn	10 30 50.9	+0.7
LEM	**Lembang**	**1.19**	**68**	P	Pn	10 30 50.9	+0.7
SBJI	**Serang**	**1.21**	**342**	P	Pn	10 30 52.0	+1.4
SBJI	**Serang**	**1.21**	**342**	P	Pn	10 30 52.1	+1.5
BJII	**Banjamegara**	**3.17**	**91**	P	Pn	10 31 17.4	+0.6
BJII	**Banjamegara**	**3.17**	**91**	P	Pn	10 31 17.7	+0.9

ISCJB 03 10:34:41.6±0.4, 58.88N±0.03×154.70W±0.07, h139km±5km, mb3.9/5, Error ellipse: s-maj=6.0km s-min=4.7km az=30.2
IDC 03 10:34:42.3±1.7, 58.93N×154.83W, h121km±25km, mb3.7/5, mb1 3.7/6, mb1mx3.4/22, mbtmp3.7/6, Error ellipse: s-maj=34.4km s-min=24.3km az=4.0
NEIC 03 10:34:44.2, 58.84N×154.63W, h141km, MG3.8(AEIC), After AEIC.
ISC 03 10:34:42.9±0.4**, 58.87N**±0.03×**154.67W**±0.07**, h133km**±5km**, n48, σ0.92**/59**, mb3.9**/5**, Alaska Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AUL	**Augustine Lava**	**0.82**	**51**	P	**Pn**	**10 35 06.0**	**+1.5**
KDAK	**Kodiak Island**	**1.55**	**134**	P	**Pn**	**10 35 12.2**	**+0.4**
	120nm,0.3s,baz=340,slow=4.4,SNR=664						
KDAK				S	**Sn**	**10 35 33.6**	**-0.1**
	90nm,0.3s,baz=39,slow=23,SNR=25						
KDAK	**Kodiak Island**	**1.55**	**134**	P	**Pn**	**10 35 12.2**	**+0.5**
OHAK	**Old Harbor**	**1.81**	**155**	P	**Pn**	**10 35 14.9**	**+0.1**
OHAK				S	**Sn**	**10 35 38.2**	**-0.8**
SVW2	**Sparrevohn**	**2.28**	**349**	P	**Pn**	**10 35 21.1**	**+0.8**
SVW2				*e*Sn	**Sn**	**10 35 48.2**	**-1.0**
SLKM	**Skilak Lake**	**2.79**	**52**	P	**Pn**	**10 35 27.7**	**+0.9**
SLKM				*e*Sn	**Sn**	**10 35 58.0**	**-2.7**
SLKM				S	**Sn**	**10 36 00.8**	**+0.2**
SEW	**Seward**	**2.94**	**63**	P	**Pn**	**10 35 29.4**	**+0.8**
FIB	**Fire Island**	**3.22**	**43**	P	**Pn**	**10 35 33.8**	**+1.5**
FIB				S	**Sn**	**10 36 11.7**	**+1.1**
CHGN	**Chignik**	**3.27**	**220**	P	**Pn**	**10 35 32.9**	**-0.2**
RC01	**Rabbit Creek A**	**3.33**	**46**	P	**Pn**	**10 35 34.1**	**+0.3**
RC01				*e*S	**Sn**	**10 36 11.4**	**-1.8**
PMR	**Palmer**	**3.88**	**43**	P	**Pn**	**10 35 40.6**	**-0.4**
PMR				*e*Sn	**Sn**	**10 36 20.7**	**-5.4**
TT01	**Tatalina**	**4.10**	**351**	P	**Pn**	**10 35 44.4**	**+0.5**
PPLA	**Purkeypile**	**4.22**	**16**	P	**Pn**	**10 35 46.6**	**+1.2**
SDPT	**Sand Point**	**4.74**	**224**	P	**Pn**	**10 35 51.4**	**-1.0**
EYAK	**Cordova Ski Ar**	**4.82**	**66**	P	**Pn**	**10 35 53.8**	**+0.3**
KTH	**Kantishna Hill**	**5.03**	**20**	P	**Pn**	**10 35 56.4**	**+0.1**
TRF	**Thorofare Moun**	**5.06**	**23**	P	**Pn**	**10 35 56.3**	**-0.4**
CHUM	**Lake Minchumin**	**5.15**	**12**	*e*Pn	**Pn**	**10 35 58.4**	**+0.5**
CHUM				*e*Sn	**Sn**	**10 36 55.2**	**-1.1**
RAGM	**Ragged Mountai**	**5.30**	**69**	P	**Pn**	**10 36 00.5**	**+0.6**
BPAW	**Bear Paw Mtn.**	**5.54**	**17**	P	**Pn**	**10 36 02.4**	**-0.6**
MCK	**McKinley**	**5.60**	**27**	P	**Pn**	**10 36 03.6**	**-0.3**
PAX	**Paxson**	**6.08**	**44**	P	**Pn**	**10 36 10.3**	**-0.1**
FALS	**False Pass**	**6.26**	**234**	P	**Pn**	**10 36 12.2**	**-0.5**
MENT	**Mentasta**	**6.72**	**48**	*e*P	**Pn**	**10 36 19.6**	**+0.7**
COLA	**College**	**6.83**	**25**	P	**Pn**	**10 36 19.5**	**-0.8**
IL1	**Eielson Array**	**6.97**	**29**	P	**Pn**	**10 36 21.3**	**-0.9**
ILB	**Eielson Array**	**6.97**	**29**	P	**Pn**	**10 36 21.1**	**-1.1**
IM3	**Indian Mountai**	**7.15**	**3**	P	**Pn**	**10 36 25.1**	**+0.4**
IMA2	**Indian Mountai**	**7.24**	**3**	*e*P	**Pn**	**10 36 26.4**	**+0.6**
IMA2				*e*S	**Sn**	**10 37 47.2**	**+0.8**
PCA	**Pinnacle**	**7.44**	**74**	P	**Pn**	**10 36 29.0**	**+0.3**
BCA3	**Beaver Creek A**	**7.54**	**51**	P	**Pn**	**10 36 30.6**	**+0.6**
PNL	**Peninsula**	**7.87**	**78**	P	**Pn**	**10 36 35.0**	**+0.6**
UNV	**Unalaska Valle**	**8.27**	**238**	P	**Pn**	**10 36 39.2**	**-0.6**
COLD	**Coldfoot**	**8.63**	**12**	P	**Pn**	**10 36 43.1**	**-1.4**
DAWY	**Dawson**	**8.96**	**48**	P	**Pn**	**10 36 49.4**	**+0.4**
DAWY				*e*Sn	**Sn**	**10 38 26.5**	**-1.6**
SKAG	**Skagway**	**9.95**	**78**	*e*Pn	**Pn**	**10 37 04.5**	**+2.3**
SKAG				*e*Sn	**Sn**	**10 38 50.1**	**-1.8**
DLBC	**Dease Lake**	**12.82**	**81**	P	**Pn**	**10 37 45.9**	**+5.9**
DLBC				S	**Sn**	**10 40 00.1**	**-1.0**
DLBC	**Dease Lake**	**12.82**	**81**	*e*P	**Pn**	**10 37 46.7**	**+6.7**
YKA	**Yellowknife Ar**	**19.72**	**62**	P	**P**	**10 39 02.7**	**+1.2**
	0.4nm,0.3s,baz=276,slow=9.9,SNR=12						
YKA	**Yellowknife Ar**	**19.72**	**62**	P	**P**	**10 39 02.7**	**+1.2**
PETK	**Petropavlovsk-**	**26.77**	**279**	P	**P**	**10 40 09.1**	**-0.7**
	1.8nm,0.6s,mb3.9,baz=68,slow=13,SNR=5.9						
PETK	**Petropavlovsk-**	**26.77**	**279**	P	**P**	**10 40 09.1**	**-0.7**
KSRS	**Korea Array**	**52.59**	**282**	P	**P**	**10 43 43.1**	**+0.7**
	0.8nm,0.4s,mb3.8,baz=42,slow=7.1,SNR=5.4						
SONM	**Songino Array**	**54.76**	**305**	P	**P**	**10 43 59.1**	**+1.1**
	3.8nm,0.6s,mb4.3,baz=44,slow=7.0,SNR=24						
ZALV	**Zalesovo Beam**	**57.77**	**323**	P	**P**	**10 44 19.1**	**-0.3**
	1.1nm,0.5s,mb4.0,baz=32,slow=8.8,SNR=5.0						
MKAR	**Makanchi Array**	**64.77**	**320**	P	**P**	**10 45 05.4**	**-1.2**
	0.7nm,0.5s,mb3.7,baz=37,slow=7.5,SNR=4.7						
QSPA	**South Pole Qui**	**148.66**	**180**	PKPbc	PKPbc	10 54 13.2	+1.1
	0.6nm,0.6s,baz=206,slow=2.3,SNR=5.5						
QSPA	**South Pole Qui**	**148.66**	**180**	PKPbc	PKPbc	10 54 13.2	+1.1

ISCJB 03 11:13:49.6±0.5, 23.03N±0.06×101.2E±0.1, h10km, mb3.6/6, Error ellipse: s-maj=17.0km s-min=4.2km az=24.2
IDC 03 11:13:51.3±0.9, 23.06N×101.18E, h0km, mb3.6/6, mb1 3.6/7, mb1mx3.5/21, mbtmp3.5/7, ML3.3/1, Error ellipse: s-maj=29.9km s-min=15.4km az=90.0
NEIC 03 11:13:52.1±0.9, 23.06N×101.21E, h10km, Error ellipse: s-maj=39.8km s-min=9.5km az=117.0
BJI 03 11:13:54.8, 23.46N×100.95E, h11km, ML3.5, Ms3.6, Msz3.4
ISC 03 11:13:51.8±0.5**, 23.00N**±0.05×**101.2E**±0.1**, h10km, n14, σ1.22**/21**, mb3.6**/6**, Myanmar-China border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMI	**Kunming**	**2.55**	**34**	PG	**Pg**	**11 14 39.4**	**-1.3**
KMI				SG	**Sg**	**11 15 13.4**	**-0.5**
KMI				Smax			
	comp=N,119nm,1.4s						
KMI				Smax			
	comp=E,154nm,1.3s						
CHRT	**Chiangrai**	**3.37**	**203**	PG	**Pg**	**11 14 55.0**	**-1.4**
CHRT				SG	**Sg**	**11 15 38.0**	**-2.1**
CHG	**Chiang Mai**	**4.66**	**207**	PG	**Pg**	**11 15 20.6**	**-0.4**
CHG				SG	**Sg**	**11 16 22.9**	**+1.5**
CHTO	**Chiang Mai**	**4.66**	**207**	Pn	**Pn**	**11 15 04.3**	**+2.2**
CHTO				*e*Pg	**Pg**	**11 15 19.5**	**-1.6**
CHTO				*e*Sg	**Sg**	**11 16 20.8**	**-0.6**
CMAR	**Chiang Mai Arr**	**4.98**	**205**	Pn	**Pn**	**11 15 06.8**	**+0.3**
	comp=E,0.3nm,0.3s,baz=12,slow=14,SNR=6.5						
CMAR				Pg	**Pg**	**11 15 25.1**	**-2.1**
	comp=E,1.4nm,0.3s,baz=17,slow=16,SNR=28						
CMAR				Sn	**Sn**	**11 16 05.8**	**+1.6**
	comp=E,0.5nm,0.3s,baz=6.1,slow=17,SNR=5.1						
CMAR				Lg		11 16 30.7	
	comp=E,2.6nm,0.3s,baz=12,slow=30,SNR=13						
BDT	**Bhumibol Dam**	**6.08**	**200**	P	**Pg**	**11 15 54.0**	**+5.8**
	comp=E,18nm,0.9s						
CD2	**Chengdu**	**8.21**	**16**	*e*P	**Pn**	**11 15 50.2**	**-0.8**
CD2				S	**Sn**	**11 17 23.8**	**0.0**
CD2				LR	LR		
	comp=N,310nm,8.4s						
CD2				LR	LR		
	comp=Z,210nm,8.4s						
SONM	**Songino Array**	**25.13**	**8**	P	**P**	**11 19 17.2**	**+0.4**
	comp=Z,0.5nm,0.7s,mb3.1,baz=182,slow=10,SNR=3.8						
MKAR	**Makanchi Array**	**28.20**	**332**	P	**P**	**11 19 44.7**	**+0.2**
	comp=Z,0.9nm,0.5s,mb3.7,baz=137,slow=11,SNR=7.8						
ZALV	**Zalesovo Beam**	**33.28**	**342**	P	**P**	**11 20 29.2**	**0.0**
	comp=Z,0.6nm,0.6s,mb3.7,baz=156,slow=8.1,SNR=3.6						
WRA	**Warramunga Arr**	**53.56**	**140**	P	**P**	**11 23 14.7**	**+1.6**
	comp=Z,0.4nm,0.8s,mb3.4,baz=329,slow=7.9,SNR=4.8						
ASAR	**Alice Springs**	**56.24**	**143**	P	**P**	**11 23 33.5**	**+1.1**
	comp=Z,0.2nm,0.6s,mb3.3,baz=330,slow=6.4,SNR=4.6						
AKASG	**Malin Array Be**	**61.23**	**316**	P	**P**	**11 24 07.9**	**+1.1**
	comp=Z,0.7nm,0.4s,mb4.2,baz=8.7,slow=25,SNR=5.0						
BDFB	**Brasilia**	**150.06**	**279**	PKPbc	PKPbc	11 33 46.1	+2.6
	comp=Z,2.6nm,0.7s,baz=135,slow=5.7,SNR=4.3						

IDC 03 11:23:44.0±9.8, 48.25S×164.65E, h0km, mb4.0/4, mb1 4.1/5, mb1mx3.9/13, mbtmp4.0/5, ML4.0/1, Error ellipse: s-maj=203.8km s-min=29.4km az=161.0
NEIC 03 11:23:45.0±2.7, 48.90S×164.83E, h35km, Error ellipse: s-maj=52.7km s-min=9.6km az=160.0
ISC 03 11:23:46.9±2.3**, 48.7S**±0.3×**164.7E**±0.2**, h35km, n14, σ0.95**/15**, mb3.9**/4**, Off west coast of South Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WHZ	**Wether Hill Ro**	**3.53**	**40**	P	**Pn**	**11 24 39.3**	**+0.1**
DCZ	**Deep Cove**	**3.59**	**28**	P	**Pn**	**11 24 39.8**	**-0.2**
MLZ	**Mavora Lakes**	**4.07**	**37**	P	**Pn**	**11 24 47.2**	**+0.6**
TUZ	**Tuapeka**	**4.30**	**53**	P	**Pn**	**11 24 50.2**	**+0.5**
MSZ	**Milford Sound**	**4.56**	**30**	P	**Pn**	**11 24 54.4**	**+1.1**
EAZ	**Earnscleugh**	**4.65**	**44**	P	**Pn**	**11 24 54.8**	**+0.2**
WKZ	**Wanaka**	**4.84**	**39**	P	**Pn**	**11 24 58.4**	**+1.3**
JCZ	**Jackson Bay**	**5.37**	**33**	P	**Pn**	**11 25 05.7**	**+1.2**
ODZ	**Otahua Downs**	**5.43**	**50**	P	**Pn**	**11 25 04.4**	**-1.0**
RPZ	**Rata Peaks**	**6.61**	**44**	Pn	**Pn**	**11 25 18.8**	**-2.7**
	3.2nm,0.3s,baz=197,slow=11,SNR=21						
RPZ				Sn	**Sn**	**11 26 34.3**	**-1.3**
	1.6nm,0.3s,baz=241,slow=23,SNR=2.9						
STKA	**Stephens Creek**	**24.20**	**305**	P	**P**	**11 28 59.3**	**-0.6**
	1.7nm,0.4s,mb3.8,baz=324,slow=17,SNR=2.6						
ASAR	**Alice Springs**	**34.83**	**305**	P	**P**	**11 30 34.5**	**+0.1**
	1.4nm,0.7s,mb4.0,baz=139,slow=7.8,SNR=26						
WRA	**Warramunga Arr**	**37.64**	**309**	P	**P**	**11 30 57.5**	**-0.9**
	1.4nm,0.9s,mb3.7,baz=140,slow=8.7,SNR=9.8						
FITZ	**Fitzroy Crossi**	**43.89**	**300**	P	**P**	**11 31 50.4**	**+0.4**
	1.9nm,0.8s,mb3.9,baz=172,slow=9.7,SNR=6.0						

ISK 03 11:26:19.4, 40.91N×33.64E, h9km, MD2.9
DDA 03 11:26:19.8, 40.85N×33.69E, h7km±4km, Md3.2, Ml3.4
CSEM 03 11:26:19.4±0.1, 40.90N×33.66E, h12km, ML3.4, Error ellipse: s-maj=2.7km s-min=1.9km az=118.0
ISCJB 03 11:26:20.1±0.5, 40.88N±0.03×33.66E±0.05, h11km±4km, Error ellipse: s-maj=6.2km s-min=4.1km az=13.9
ISC 03 11:26:20.3±0.4**, 40.88N**±0.03×**33.67E**±0.05**, h13km**±4km**, n15, σ0.65**/22**, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ILGA	**Ilgaz**	**0.18**	**11**	*i* P	**Pg**	**11 26 24.6**	**+0.1**
ILGA				*i* S	**Sg**	**11 26 28.1**	**+0.8**
CANT	**Cankiri**	**0.27**	**188**	PG	**Pg**	**11 26 25.6**	**-0.5**
CANT				*e*SG	**Sg**	**11 26 30.8**	**+0.9**
TOS	**Tosya**	**0.31**	**59**	*e*PG	**Pg**	**11 26 26.3**	**-0.4**
TOS				*e*SG	**Sg**	**11 26 31.4**	**+0.5**
ELDT	**Eldivan**	**0.43**	**206**	*i* P	**Pg**	**11 26 28.0**	**-0.9**
ELDT				*i* S	**Sg**	**11 26 34.7**	**+0.1**
BALT	**Daday**	**0.69**	**342**	*i* P	**Pg**	**11 26 33.8**	**0.0**
BALT				*i* S	**Sg**	**11 26 43.6**	**+0.7**
SAFT	**Safranbolu**	**0.83**	**296**	*e*PG	**Pg**	**11 26 35.1**	**-1.2**
CTKT	**Corum**	**0.89**	**106**	*i* P	**Pg**	**11 26 37.1**	**-0.4**
CTKT				*i* S	**Sg**	**11 26 48.6**	**-0.5**
BYBT	**Boyabat**	**1.01**	**54**	*e*PG	**Pg**	**11 26 39.2**	**-0.8**
BZK	**Bozkurt**	**1.11**	**13**	*e*PN	**Pn**	**11 26 40.7**	**-0.8**
LOD	**Lodumlu**	**1.21**	**215**	*e*PN	**Pn**	**11 26 43.3**	**+0.5**
ANTO	**Ankara**	**1.21**	**214**	*e*PN	**Pn**	**11 26 43.4**	**+0.5**
CDAG	**Cicekdag**	**1.36**	**157**	*i* P	**Pn**	**11 26 44.3**	**-0.7**
CDAG				*i* S	**Sn**	**11 27 02.8**	**0.0**
KAMT	**Kaman**	**1.51**	**179**	*e*PN	**Pn**	**11 26 47.4**	**+0.4**
YOZ	**Yozgat**	**1.77**	**134**	*e*PN	**Pn**	**11 26 51.7**	**+1.2**
KVT	**Kavak**	**1.81**	**83**	*e*PN	**Pn**	**11 26 51.7**	**+0.6**

NEIC 03 11:34:43.7, 38.53S×175.80E, h164km, MG3.8(WEL)**, After WEL., North Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KATZ	**Kakaramea**	**0.45**	**190**	P	Pn	11 35 06.5	+0.1
WTVZ	**West Tongariro**	**0.61**	**196**	P	Pn	11 35 07.3	+0.2
TWVZ	**Taurewa**	**0.61**	**207**	P	Pn	11 35 07.2	+0.1
NGZ	**Ngauruhoe**	**0.66**	**193**	P	Pn	11 35 07.6	+0.2
WPVZ	**Whakapapa**	**0.70**	**196**	P	Pn	11 35 07.9	+0.2
TUVZ	**Tukino**	**0.75**	**189**	P	Pn	11 35 08.2	+0.3
FWVZ	**Far West T-bar**	**0.75**	**195**	P	Pn	11 35 08.1	+0.1
WNVZ	**Wahianoa**	**0.81**	**191**	P	Pn	11 35 08.6	+0.2
BKZ	**Black Stump Fm**	**0.83**	**140**	P	Pn	11 35 08.5	0.0
BKZ				S	Sn	11 35 26.0	-1.6
MOVZ	**Moawhango**	**0.88**	**182**	P	Pn	11 35 08.6	-0.2
VRZ	**Vera Road**	**1.01**	**233**	P	Pn	11 35 09.9	+0.1
URZ	**Urewera**	**1.06**	**76**	P	Pn	11 35 10.1	-0.2
MWZ	**Matawai**	**1.37**	**82**	P	Pn	11 35 13.2	+0.2
MWZ				S	Sn	11 35 34.0	-1.5
WAZ	**Wanganui**	**1.38**	**207**	P	Pn	11 35 12.9	-0.2
TSZ	**Takapari Road**	**1.53**	**175**	P	Pn	11 35 14.3	-0.3
PUZ	**Puketiti**	**1.99**	**77**	P	Pn	11 35 19.4	-0.1
MRZ	**Mangatainoka R**	**2.14**	**185**	P	Pn	11 35 19.9	-1.3
MXZ	**Matakaoa Point**	**2.20**	**65**	P	Pn	11 35 22.3	+0.3
KIW	**Kapiti Island**	**2.43**	**196**	P	Pn	11 35 22.9	-1.7
MTW	**Mount Morrison**	**2.64**	**185**	P	Pn	11 35 25.1	-2.0
CAW	**Cannon Point**	**2.64**	**192**	*e*P	Pn	11 35 25.4	-1.7
MRW	**Makara Radio**	**2.83**	**197**	P	Pn	11 35 27.4	-2.0
WEL	**Wellington**	**2.87**	**196**	P	Pn	11 35 27.8	-2.1
MSWZ	**Moikau Station**	**2.91**	**188**	P	Pn	11 35 28.3	-2.2
TCW	**Tory Channel**	**2.92**	**203**	P	Pn	11 35 28.7	-1.9
NNZ	**Nelson**	**3.27**	**214**	P	Pn	11 35 32.5	-2.4
QRZ	**Quartz Range**	**3.41**	**227**	P	Pn	11 35 33.8	-2.9
THZ	**Tophouse**	**3.92**	**214**	P	Pn	11 35 40.6	-2.6
KHZ	**Kahutara**	**4.25**	**203**	P	Pn	11 35 45.0	-2.4
LTZ	**Lake Taylor**	**5.03**	**211**	P	Pn	11 35 53.6	-4.0
MQZ	**McQueen's Vall**	**5.69**	**204**	P	Pn	11 36 01.7	-4.6

SGS 03 11:37:44.4, 30.21N×36.26E, h8km
CSEM 03 11:37:44.4, 30.21N×36.26E, h8km, ML2.7, After SNSN
ISCJB 03 11:37:46.9±0.7, 29.85N±0.03×36.21E±0.04, h0km, Error ellipse: s-maj=5.3km s-min=3.6km az=166.5
GII 03 11:37:47.1±0.7, 29.87N×36.12E, h0km, ML2.2/3, EXPLOSION
ISC 03 11:37:46.9±0.7**, 29.84N**±0.03×**36.25E**±0.04**, h0km, n22, σ0.97**/33**, Western Arabian Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AQBJ	**Aqaba**	**1.05**	**264**	Pg	**Pg**	**11 38 06.5**	**-0.6**
HRFI	**Mount Harif**	**1.07**	**281**	Pg	**Pg**	**11 38 06.5**	**-0.9**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
HRFI				Sg	Sg	11 38 22.2	+0.9
EIL	Elat	1.14	262	Pg	Pg	11 38 08.4	-0.5
EIL				Sg	Sg	11 38 24.3	+0.6
MBRI	Mt Berech	1.16	268	Pg	Pg	11 38 08.3	-1.0
MBRI				Sg	Sg	11 38 25.2	+0.9
HQLS		1.17	243	P	Pg	11 38 08.0	-1.3
HQLS		1.17	243	P	Pg	11 38 08.0	-1.3
HQLS				S	Sg	11 38 25.6	+1.2
ZFRI	Zfri	1.17	308	Pg	Pg	11 38 08.7	-0.7
ZFRI				Sg	Sg	11 38 24.8	+0.3
PRNI	Paran	1.19	296	Pg	Pg	11 38 08.7	-1.1
PRNI				Sg	Sg	11 38 25.4	+0.1
JLOS		1.29	211	P	Pg	11 38 11.3	-0.3
KRMI	Paran Flat	1.35	282	Pg	Pg	11 38 11.5	-1.4
KRMI				Sg	Sg	11 38 30.1	-0.3
RMNI	Mount Ramon	1.49	301	Pn	Pn	11 38 14.1	-0.9
TBKS	Tabuk	1.64	171	S	Sn	11 38 40.6	+2.0
TBKS	Tabuk	1.64	171	P	Pn	11 38 16.7	-0.2
MZDA	Masada	1.65	333	Pn	Pn	11 38 16.7	-0.5
MZDA				Sn	Sn	11 38 40.0	+0.9
BDAS	Al Bad‘	1.73	216	S	Sn	11 38 42.0	+1.0
BDAS	Al Bad‘	1.73	216	P	Pn	11 38 17.6	-0.6
RTMI	Retamim	1.81	312	Pn	Pn	11 38 19.2	-0.2
DSI	Dead Sea	1.88	337	Pn	Pn	11 38 20.8	+0.5
DSI				Sn	Sn	11 38 45.7	+0.9
KZIT	Kziot	1.92	304	Pn	Pn	11 38 20.9	-0.1
KZIT				Sn	Sn	11 38 45.9	+0.1
RSHS		1.99	220	P	Pn	11 38 20.5	-1.4
RSHS		1.99	220	P	Pn	11 38 20.5	-1.4
RSHS				S	Sn	11 38 50.7	+3.1
HMDT	Nahal Hemdat	2.48	346	Sn	Sn	11 39 02.1	+2.4

*CSEM **03** 11:54:38.5±1.0, 2983N×3637E, h2^{km}, ML2.5, Error ellipse: s-maj=22.3km s-min=10.5km az=62.0*
*HLW **03** 11:54:38.2, 2985N×3676E, h25^{km}, Mb2.5*
*ISCJB **03** 11:54:40.0±0.7, 2985N±003×3621E±005, h0^{km}, Error ellipse: s-maj=5.9km s-min=4.3km az=160.5*
*SGS **03** 11:54:40.2, 3006N×3614E, h5^{km}*
*GII **03** 11:54:40.6±0.8, 2988N×3610E, h0^{km}, ML2.1/4, EXPLOSION*
ISC 03 11:54:40.0±0.8, **2985N**±003×**3626E**±005, **h0**^{km}, **n20**, σ0^s**73**/31, **1C-2D, Western Arabian Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
AQBJ	Aqaba	1.06	264	Pg	Pg	11 54 59.6	-0.6
HRFI	Mount Harif	1.08	280	Pg	Pg	11 55 00.0	-0.6
HRFI				Sg	Sg	11 55 14.4	-0.2
EIL	Elat	1.15	261	Pg	Pg	11 55 01.6	-0.4
EIL				Sg	Sg	11 55 17.5	+0.6
ZFRI	Zfri	1.17	307	Pg	Pg	11 55 02.0	-0.4
ZFRI				Sg	Sg	11 55 17.5	-0.1
MBRI	Mt Berech	1.17	268	Pg	Pg	11 55 01.7	-0.7
MBRI				Sg	Sg	11 55 18.6	+1.1
HQLS		1.18	243	P	Pg	11 55 01.8	-0.7
PRNI	Paran	1.20	295	Pg	Pg	11 55 02.0	-0.8
PRNI				Sg	Sg	11 55 18.2	-0.3
JLOS		1.30	211	P	Pg	11 55 04.7	-0.1
JLOS				S	Sg	11 55 23.4	+1.7
KRMI	Paran Flat	1.36	282	Pg	Pg	11 55 04.9	-1.1
KRMI				Sg	Sg	11 55 23.5	0.0
HBST	Basata	1.47	245	⇓eP	Pn	11 55 07.7	-0.1
RMNI	Mount Ramon	1.49	300	Pn	Pn	11 55 07.2	-0.9
TBKS	Tabuk	1.64	171	P	Pn	11 55 10.8	+0.8
MZDA	Masada	1.65	332	Pn	Pn	11 55 10.2	+0.1
MZDA				Sn	Sn	11 55 32.3	+0.3
BDAS	Al Bad‘	1.74	216	P	Pn	11 55 11.2	-0.2
DSI	Dead Sea	1.87	336	Pn	Pn	11 55 13.9	+0.6
DSI				Sn	Sn	11 55 39.5	+1.9
KZIT	Kziot	1.92	304	Pn	Pn	11 55 14.2	+0.3
KZIT				Sn	Sn	11 55 38.9	+0.1
HNKL	Nakhl	1.98	273	⇑eP	Pn	11 55 15.1	+0.4
HNKL				S	Sn	11 55 41.5	+1.3
RSHS		2.01	220	P	Pn	11 55 14.1	-1.0
HKAT	Jabal Katrina	2.38	237	P	Pn	11 55 20.0	-0.2
TR2		2.66	237	⇓eP	Pn	11 55 23.6	-0.4

*ISCJB **03** 11:58:29.6±0.5, 2435N±004×9642E±006, h10^{km}, mb3.8/6, Error ellipse: s-maj=8.0km s-min=4.6km az=148.8*
*IDC **03** 11:58:31.9±1.2, 2448N×9591E, h0^{km}, mb3.8/7, mb1 3.9/8, mb1mx3.7/24, mbtmp3.7/8, ML3.8/1, MS2.7/2, Ms1 2.7/2, ms1mx2.5/34, Error ellipse: s-maj=70.2km s-min=14.0km az=65.0*
*NEIC **03** 11:58:37.5±1.4, 2421N×9605E, h67^{km}±26^{km}, Error ellipse: s-maj=60.7km s-min=13.8km az=58.0*
*BJI **03** 11:58:38.1, 2441N×9625E, h67^{km}, mB4.4, mb4.5, Ms4.0, Msz3.6*
ISC 03 11:58:32.8±0.5, **2443N**±004×**9628E**±005, **h10**^{km}, **n17**, σ1^s**53**/21, **mb3.8**/6, **2D, Myanmar**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
IMP	Imphal	2.17	280	eP	Pn	11 59 09.0	0.0
IMP				eS	Sn	11 59 37.0	+1.1
SHL	Shillong	4.15	287	⇓iPN	Pn	11 59 35.0	-1.2
SHL				eSN	Sn	12 00 22.4	-2.4
CHG	Chiang Mai	6.11	156	⇓P	Sg	12 01 49.6	+0.6
	65nm,0.9s						
CM31	Chiang Mai Arr	6.44	157	ePn	Pn	12 00 06.8	-0.9
CMAR	Chiang Mai Arr	6.44	157	Pn	Pn	12 00 09.6	+1.9
	0.5nm,0.3s,baz=332,slow=14,SNR=7.0						
CMAR				Pg	Pg	12 00 33.2	-2.8
	1.0nm,0.3s,baz=329,slow=16,SNR=5.6						
CMAR				Lg		12 01 59.8	
	0.8nm,0.3s,baz=329,slow=30,SNR=6.6						
LSA	Lhasa	6.96	320	ePn	Pn	12 00 18.0	+3.1
LSA				eSn	Sn	12 01 37.3	+3.1
BDT	Bhumibol Dam	7.59	160	P	Sb	12 02 08.0	-7.0
	11nm,1.0s						
CD2	Chengdu	9.25	44	eP	Pn	12 00 52.2	+6.0
CD2				AP		12 00 58.7	
CD2				S	Sn	12 02 29.9	-0.5
CD2				XS		12 02 35.8	
CD2				AMB	AMB		
	comp=Z,10.0nm,1.0s						
CD2				AMB	AMB		
	comp=Z,40nm,4.2s						
CD2				LR	LR		
	comp=N,620nm,10.8s						
CD2				LR	LR		
	comp=E,410nm,10.8s						
CD2				LR	LR		
	comp=Z,300nm,7.2s						
SONM	Songino Array	24.70	16	P	P	12 03 55.0	+1.1
	comp=Z,0.5nm,0.6s,baz=204,slow=9.3,SNR=3.6						
MK31	Makanchi Array	24.97	337	eP	P	12 03 55.2	-1.2
MKAR	Makanchi Array	24.97	337	P	P	12 03 56.3	-0.1
	comp=Z,1.8nm,0.6s,mb3.8,baz=146,slow=9.8,SNR=15						
KURK	Kurchatov	29.59	337	P	P	12 04 35.1	-2.7
	comp=Z,0.4nm,0.5s,mb3.4,baz=129,slow=7.3,SNR=2.6						
KSRS	Korea Array	29.93	57	LR	LR	12 16 55.8	
	comp=Z,17nm,18.1s,baz=235,slow=37						
ZALV	Zalesovo Beam	30.71	347	P	P	12 04 46.9	-0.8
	comp=Z,0.6nm,0.4s,mb3.7,baz=164,slow=7.7,SNR=3.7						
ZALV				LR	LR	12 18 48.5	
	comp=Z,10.0nm,21.5s,baz=52,slow=40						
WRA	Warramunga Arr	57.60	137	P	P	12 08 25.6	+2.5
	comp=Z,0.2nm,0.4s,mb3.5,baz=321,slow=7.5,SNR=9.6						
ASAR	Alice Springs	60.14	140	P	P	12 08 44.4	+3.7
	comp=Z,0.2nm,0.6s,mb3.3,baz=321,slow=7.4,SNR=6.6						
ARCES	ARCESS Array B	60.63	338	P	P	12 08 43.3	-0.2
	comp=Z,12nm,1.2s,mb4.9,baz=2.1,slow=13,SNR=3.0						

*IDC **03** 12:26:21.9±1.4, 332N×126.16E, h0^{km}, mb3.5/4, mb1 3.7/4, mb1mx3.5/17, mbtmp3.5/4, Error ellipse: s-maj=42.5km s-min=24.0km az=82.0*
*ISCJB **03** 12:26:27.1±3.9, 33N±0.1×126.1E±0.2, h58^{km}±45^{km}, mb3.5/4, Error ellipse: s-maj=36.0km s-min=19.4km az=170.2*
ISC 03 12:26:29.1±2.8, **33N**±01×**1262E**±02, **h57**^{km}±35^{km}, **n7**, σ0^s**61**/7, **mb3.5**/4, **Talaud Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KALP	Kalibo	9.14	336	eP	Pn	12 28 38.2	-0.1
GUMO	Guam	21.12	60	P	P	12 31 09.5	+0.2
	58nm,0.6s,baz=185,slow=22,SNR=4.1						
FITZ	Fitzroy Crossi	21.28	181	P	P	12 31 11.6	+0.7
	0.4nm,0.4s,mb3.1,baz=119,slow=21,SNR=3.5						
WRA	Warramunga Arr	24.46	161	P	P	12 31 41.9	-0.9
	3.9nm,0.8s,mb3.9,baz=343,slow=10.0,SNR=38						
WB2	Warramunga Arr	24.46	161	eP	P	12 31 42.8	0.0
ASAR	Alice Springs	27.85	165	P	P	12 32 13.4	+0.1
	0.3nm,0.6s,mb3.1,baz=352,slow=7.5,SNR=7.0						
MKAR	Makanchi Array	57.58	326	P	P	12 36 13.1	+0.1
	0.5nm,0.6s,mb3.8,baz=126,slow=7.5,SNR=4.5						

*IDC **03** 12:30:09.1±2.0, 472S×15372E, h0^{km}, mb4.1/6, mb1 4.3/6, mb1mx3.9/17, mbtmp4.2/6, Error ellipse: s-maj=60.9km s-min=25.0km az=101.0*
*ISCJB **03** 12:30:10.9±2.4, 47S±0.1×1539E±0.4, h33^{km}, mb3.9/6, Error ellipse: s-maj=55.1km s-min=17.6km az=8.5*
*NEIC **03** 12:30:13.5±1.4, 475S×15383E, h35^{km}, mb4.4/2, Error ellipse: s-maj=34.7km s-min=13.1km az=100.0*
ISC 03 12:30:13.7±2.2, **48S**±01×**1538E**±04, **h35**^{km}, **n11**, σ0^s**44**/10, **mb3.9**/6, **New Ireland region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
GUMO	Guam	20.28	334	P	P	12 34 46.1	-0.3
	76nm,0.8s,baz=274,slow=12,SNR=3.6						
KAKA	Kakadu	22.55	248	eP	P	12 35 11.2	+0.2
	8.5nm,0.6s,mb4.3						
WB2	Warramunga Arr	24.24	230	eP	P	12 35 27.5	0.0
WRA	Warramunga Arr	24.25	230	P	P	12 35 28.1	+0.5
	1.8nm,0.5s,mb3.8,baz=53,slow=9.8,SNR=42						
ASAR	Alice Springs	26.88	224	P	P	12 35 51.6	+0.2
	0.6nm,0.4s,mb3.5,baz=57,slow=9.2,SNR=24						
ASAR				PcP	PcP	12 39 14.9	+1.5
	0.3nm,0.6s,baz=20,slow=3.0,SNR=4.4						
STKA	Stephens Creek	29.32	202	P	P	12 36 12.8	-0.3
	3.6nm,0.8s,mb4.1,baz=21,slow=12,SNR=5.7						
FITZ	Fitzroy Crossi	30.58	242	eP	P	12 36 23.3	-1.2
	3.8nm,0.6s,mb4.4						
FITZ	Fitzroy Crossi	30.58	242	P	P	12 36 24.1	-0.3
	1.4nm,0.6s,mb4.0,baz=72,slow=11,SNR=8.6						
MKAR	Makanchi Array	80.96	319	P	P	12 42 25.3	+0.6
	0.4nm,0.6s,mb3.5,baz=94,slow=8.5,SNR=4.1						
MKAR	Makanchi Array	80.96	319	P	P	12 42 25.3	+0.6
TORD	Torodi Ar. Bea	151.26	289	PKPbc	PKPbc	12 50 04.2	-0.4
	1.0nm,0.5s,baz=56,slow=1.9,SNR=9.5						

*ISCJB **03** 13:28:48.4±2.4, 20.1S±0.2×1760W±0.2, h158^{km}±26^{km}, mb3.7/5, Error ellipse: s-maj=37.2km s-min=18.7km az=139.1*
*IDC **03** 13:28:50.5±2.9, 2001S×17600W, h166^{km}±29^{km}, mb3.4/4, mb1 3.8/6, mb1mx3.5/18, mbtmp3.6/6, Error ellipse: s-maj=37.4km s-min=16.7km az=141.0*
*NEIC **03** 13:28:50.5±1.7, 2004S×17598W, h167^{km}±18^{km}, mb4.1/1, Error ellipse: s-maj=27.0km s-min=13.0km az=138.0*
ISC 03 13:28:50.0±2.2, **201S**±02×**1760W**±02, **h158**^{km}±24^{km}, **n10**, σ0^s**56**/9, **mb3.7**/5, **Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
AFI	Afiamalu	7.33	34	P	Pn	13 30 34.5	0.0
	3.2nm,0.3s,baz=168,slow=16,SNR=14						
AFI	Afiamalu	7.33	34	P	Pn	13 30 34.5	0.0
URZ	Urewera	19.09	197	P	P	13 33 00.5	0.0
	2.3nm,0.3s,baz=6.3,slow=1.7,SNR=14						
CTAO	Charters Tower	35.40	263	eP	P	13 35 31.8	+0.8
	3.3nm,0.7s,mb4.1						
ASAR	Alice Springs	46.44	256	P	P	13 37 01.8	+0.6
	1.0nm,0.4s,mb3.8,baz=84,slow=8.5,SNR=31						
WB2	Warramunga Arr	46.51	261	eP	P	13 37 00.8	-1.0
WRA	Warramunga Arr	46.52	261	P	P	13 37 01.4	-0.5
	0.9nm,0.3s,mb3.9,baz=96,slow=7.5,SNR=17						
NVAR	Mina Array Bea	79.43	42	P	P	13 40 39.1	+0.4
	0.5nm,0.5s,mb3.4,baz=224,slow=8.6,SNR=5.5						
TXAR	Lajitas Array	85.25	57	P	P	13 41 08.9	-0.3
	0.5nm,0.8s,mb3.3,baz=228,slow=6.6,SNR=4.4						
GERES	GERESS Array B	150.24	347	PKPbc	PKPbc	13 48 20.5	-1.7
	0.4nm,0.6s,baz=26,slow=3.4,SNR=5.0						

*NEIC **03** 13:29:38.7, 3145S×6894W, h145^{km}, mb4.3/3, MD3.9(SJA), After GUC.*
NEIC Felt [III] at San Juan.
GUC 03 13:29:38.7±0.6, **3145S**×**6894W**, **h145**^{km}±12^{km}, **MD3.8, ML3.9, 13C-1D, San Juan Province**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JACH	Jahuel	1.87	228	eP	Pn	13 30 12.5	+0.6
JACH				iS	Sn	13 30 38.3	+0.8
TLL	Tololo Astrono	2.05	308	⇑iP	Pn	13 30 15.1	+1.1
TLL				iS	Sn	13 30 42.8	+1.6
TLL				AML	AML	13 30 45.2	
	comp=N,436nm,0.6s						
TLL	Tololo Astrono	2.05	308	⇑iP	Pn	13 30 15.1	+1.1
TLL				iS	Sn	13 30 42.8	+1.6
FCH	Farellones	2.20	211	⇑iP	Pn	13 30 17.1	+1.3
FCH				iS	Sn	13 30 46.1	+1.7
FCH				AML	AML	13 30 49.4	
	comp=E,413nm,0.3s						
CHNG	Los Chungos	2.23	258	⇑iP	Pn	13 30 16.3	+0.1
CHNG				iS	Sn	13 30 45.7	+0.7
PEL	Peldehue	2.25	221	⇑iP	Pn	13 30 16.8	+0.4
PEL				iS	Sn	13 30 46.2	+0.7
PEL				AML	AML	13 30 48.1	
	comp=E,734nm,0.4s						
ROCH	El Roble	2.33	229	iS	Sn	13 30 48.0	+0.9
CLCH	Cerro Calan	2.37	214	eP	Pn	13 30 19.0	+1.1
CLCH				iS	Sn	13 30 48.9	+0.7
CLCH				AML	AML	13 30 56.0	
	comp=E,855nm,0.3s						
LSCH	La Serena	2.51	307	eP	Pn	13 30 18.6	-1.1
LSCH				iS	Sn	13 30 50.5	-0.6
PCH	Pirque	2.54	211	⇑iP	Pn	13 30 20.9	+0.8
ANTU	Antumapu	2.56	214	eP	Pn	13 30 20.9	+0.7
ANTU				iS	Sn	13 30 52.9	+0.7
ANTU				AML	AML	13 30 56.8	
	comp=N,407nm,0.2s						
ANTU	Antumapu	2.56	214	eP	Pn	13 30 20.9	+0.7
ANTU				iS	Sn	13 30 52.9	+0.7
RCDM	Rinconada Maip	2.58	217	⇑iP	Pn	13 30 21.3	+0.8
RCDM				iS	Sn	13 30 53.2	+0.5
RCDM				AML	AML	13 30 55.8	
	comp=E,657nm,0.2s						
RCDM	Rinconada Maip	2.58	217	⇑iP	Pn	13 30 21.3	+0.8
RCDM				iS	Sn	13 30 53.2	+0.5
LMEL	Las Melosas	2.62	204	⇑iP	Pn	13 30 22.0	+0.9
LMEL				iS	Sn	13 30 54.8	+1.0
LMEL				AML	AML	13 31 02.0	
	comp=N,246nm,0.2s						
LMEL	Las Melosas	2.62	204	⇑iP	Pn	13 30 22.0	+0.9
LMEL				iS	Sn	13 30 54.8	+1.0
TACH	Talagante	2.77	217	⇑iP	Pn	13 30 23.3	+0.4
TACH				iS	Sn	13 30 57.3	+0.2
LCO	Las Campanas	2.87	327	ePn	Pn	13 30 24.9	+0.8
LCO				eSn	Sn	13 30 59.7	+0.5
CHCH	Chadas Angostu	2.87	210	⇑iP	Pn	13 30 25.0	+0.8
CHCH				iS	Sn	13 30 60.0	+0.7
CACH	El Canelo	3.01	207	⇓iP	Pn	13 30 27.4	+1.4
CICH	Cipreses	3.13	203	eP	Pn	13 30 28.7	+1.3
CICH				iS	Sn	13 31 06.3	+1.2
VACH	Vallenar	3.27	331	iS	Sn	13 31 08.3	0.0
SFDO	San Fernando	3.61	208	⇑iP	Pn	13 30 33.5	-0.2
SFDO				iS	Sn	13 31 16.8	+0.5
TRQA	Tornquist	8.73	141	ePn	Pn	13 31 40.0	-1.7
	comp=N,4.8nm,0.6s						
LVC	Limon Verde	8.80	0	ePn	Pn	13 31 41.5	-1.3
	comp=N,5.4nm,0.3s						
LPAZ	La Paz	15.11	3	eP	Pn	13 33 08.3	+3.5
	comp=N,4.2nm,0.9s						

OTT 03 13:35:22.4±0.1, **5984N**×**7640W**, **h5**^{km}, **MN3.8**/8, **54km southeast from Puvirnituq, Qc Boothia Ungava Seismic Zone., Northern Quebec**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
INUQ	Inukjuak	1.65	213	PG	Pg	13 35 52.5	-1.5
INUQ				SG	Sg	13 36 13.2	-2.1
INUQ				Trac		13 36 15.4	
	comp=Z,308nm,0.1s						
IVKQ	Ivujivik	2.69	345	PN	Pn	13 36 06.7	+0.3
IVKQ				SN	Sn	13 36 38.6	-0.6
IVKQ				SG	Sg	13 36 42.8	-6.0
IVKQ				Trac		13 36 43.6	
	comp=Z,135nm,0.3s						
SNQN	Sanikiluaq	3.63	206	PN	Pn	13 36 19.5	+0.4
SNQN				PG	Pg	13 36 26.4	-5.4
SNQN				SN	Sn	13 37 02.4	+0.1
SNQN				SG	Sg	13 37 14.2	-4.6
SNQN				Trac		13 37 16.9	
	comp=Z,61nm,0.2s						
KUQ	Kuujjuuaa	4.48	109	PN	Pn	13 36 29.8	-1.1
KUQ				SN	Sn	13 37 21.3	-2.0
KUQ				SG	Sg	13 37 39.8	-6.4
KUQ				Trac		13 37 42.7	
	comp=Z,52nm,0.2s						
FRB	Frobisher Bay	5.41	40	PN	Pn	13 36 43.2	-0.4
FRB				SN	Sn	13 37 42.2	-3.9
FRB				SG	Sg	13 38 06.0	-10
FRB				Trac		13 38 13.1	
	comp=Z,56nm,0.4s						
LG4Q	La Grande 4	6.35	168	PN	Pn	13 36 56.2	-0.3
LG4Q				SN	Sn	13 38 02.7	-6.7
LG4Q				SG	Sg	13 38 37.4	-8.8
LG4Q				Trac		13 38 47.4	
	comp=Z,53nm,0.3s						
WEMQ	Wemindji, Queb	6.86	188	PN	Pn	13 37 02.2	-1.2
WEMQ				SN	Sn	13 38 16.0	-5.8
WEMQ				SG	Sg	13 38 52.3	-10
SILO	Sutton Inlier	7.09	224	PN	Pn	13 37 05.4	-1.3
SILO				SN	Sn	13 38 22.2	-5.2
SILO				SG	Sg	13 38 57.8	-12
SILO				Trac		13 39 11.1	
	comp=Z,30nm,0.4s						
SCHQ	Schefferville	7.20	130	PN	Pn	13 37 06.7	-1.6
SCHQ				SN	Sn	13 38 24.6	-5.7
SCHQ				LG		13 39 03.5	
SCHQ				Trac		13 39 10.7	
	comp=Z,55nm,0.5s						
JOSN	Second Sedna S	7.97	301	PN	Pn	13 37 17.5	-1.2
JOSN				SN	Sn	13 38 40.0	-9.1
JOSN				LG		13 39 22.9	
VIMO	Victor Mine	8.13	213	PN	Pn	13 37 20.2	-0.7
VIMO				SN	Sn	13 38 44.7	-8.4
VIMO				LG		13 39 31.1	
QILN	Qililugaq Expl	8.18	331	PN	Pn	13 37 19.9	-1.6
QILN				SN	Sn	13 38 48.5	-5.6
WAGN	Wager Bay	8.49	321	PN	Pn	13 37 24.5	-1.3
WAGN				SN	Sn	13 38 52.8	-9.1
WAGN				LG		13 39 40.8	
SRLN	Sarcpa Lake, N	9.25	344	PN	Pn	13 37 34.4	-1.8
SRLN				SN	Sn	13 39 11.2	-9.2
SRLN				LG		13 40 01.8	
LAIN	Lailor River,	9.80	345	PN	Pn	13 37 40.8	-2.9
LAIN				SN	Sn	13 39 23.9	-10
LAIN				LG		13 40 19.2	
ILON	Igloolik, Nuna	9.85	349	PN	Pn	13 37 42.1	-2.3
ILON				SN	Sn	13 39 27.1	-8.1
ILON				LG		13 40 20.8	
MALO	McAlpine Lake	10.02	193	PN	Pn	13 37 44.9	-2.0
MALO				SN	Sn	13 39 29.3	-10
MALO				LG		13 40 26.1	
KUGN	Kugaaruk Camp,	10.20	330	PN	Pn	13 37 46.7	-2.5
KUGN				SN	Sn	13 39 34.0	-10
KUGN				LG		13 40 33.6	
MNQ	Manicouagan	10.28	152	PN	Pn	13 37 47.5	-3.0
MNQ				SN	Sn	13 39 36.5	-9.5
MNQ				LG		13 40 34.5	
MNQ				Trac		13 40 46.7	
	comp=Z,19nm,0.4s						
GIFN	Gifford Fjord,	10.43	350	PN	Pn	13 37 50.0	-2.4
GIFN				SN	Sn	13 39 40.3	-9.2
GIFN				LG		13 40 22.9	
STLN	Stellar Camp,	10.49	323	PN	Pn	13 37 50.5	-2.7
STLN				SN	Sn	13 39 40.5	-10
STLN				LG		13 40 44.9	
KAPO	Kapuskasing	10.99	201	SN	Sn	13 39 54.7	-8.5
KAPO				LG		13 40 57.6	
SMQ	Clarke City	11.11	146	PN	Pn	13 37 58.8	-3.0
SMQ				SN	Sn	13 39 56.1	-10
SMQ				LG		13 41 02.5	
SMQ				Trac		13 41 18.0	
	comp=Z,15nm,0.4s						
NANO	Nakina Ontario	11.25	217	PN	Pn	13 38 00.7	-3.0
NANO				SN	Sn	13 39 59.0	-11
KILO	Kirkland Lake	11.53	191	SN	Sn	13 40 05.0	-11
KILO				LG		13 41 12.3	
ICQ	Pointe Anglais	11.59	149	PN	Pn	13 38 04.9	-3.5
ICQ				SN	Sn	13 40 07.3	-11
ICQ				LG		13 41 16.2	
CNQ	Baie Comeau	11.60	152	PN	Pn	13 38 06.5	-1.8
CNQ				SN	Sn	13 40 05.8	-12
CNQ				LG		13 41 15.9	
VLDQ	Val d'Or	11.76	183	PN	Pn	13 38 06.5	-4.2
VLDQ				SN	Sn	13 40 09.6	-13
VLDQ				LG		13 41 25.2	
GTO	Geraldton	11.79	216	PN	Pn	13 38 06.1	-4.9
GTO				SN	Sn	13 40 13.5	-9.3
GTO				LG		13 41 14.7	
GSQ	Grosses Roches	12.20	150	PN	Pn	13 38 11.0	-5.6
GSQ				SN	Sn	13 40 18.6	-14
GSQ				LG		13 41 35.2	
GSQ				Trac		13 41 45.4	
	comp=Z,14nm,0.4s						
DAQ	Lac Daran	12.27	163	SN	Sn	13 40 21.8	-13
DAQ				LG		13 41 37.9	
DAQ				Trac		13 41 47.5	
	comp=Z,3.4nm,0.2s						
NATG	Natashquan Que	12.31	135	PN	Pn	13 38 13.2	-4.9
LMQ	La Malbaie	12.82	161	PN	Pn	13 38 21.5	-3.5
LMQ				SN	Sn	13 40 35.3	-13
LMQ				LG		13 41 56.0	
SOLO	Sioux Lookout	13.30	229	SN	Sn	13 40 43.8	-16
SOLO				LG		13 42 09.8	
SOLO				Trac		13 42 18.4	
	comp=Z,13nm,0.5s						
ULM	Lac du Bonnet	14.67	238	PN	Pn	13 38 44.6	-5.7
ULM				SN	Sn	13 41 19.4	-14
FFC	Flin Flon	14.70	261	SN	Sn	13 41 13.2	-20
FFC				LG		13 42 46.8	
DRLN	Deer Lake	15.18	126	PN	Pn	13 38 51.8	-5.4
DRLN				SN	Sn	13 41 30.4	-15

DJA 03 13:39:57, 846S×10896E, h21^{km}**, MLv3.7**/7**, Jawa**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CLJI	Cilicap	0.74	4	P	Pb	13 40 11.5	+0.3
CLJI	Cilicap	0.74	4	S	Sb	13 40 22.8	+1.9
BJII	Banjamegara	1.34	34	P	Pn	13 40 19.9	-0.6
BJII	Banjamegara	1.34	34	S	Sn	13 40 39.0	+1.2
UGM	Wanagama	1.64	71	P	Pn	13 40 24.2	-0.4
UGM	Wanagama	1.64	71	S	Sn	13 40 44.0	-1.1
SMRI	Semarang	2.03	46	P	Pn	13 40 30.6	+0.6
JCJI	Jatiwangi	2.07	341	S	Sn	13 40 50.4	-5.4
LEM	Lembang	2.10	321	P	Pn	13 40 31.5	+0.6
SKJI	Sukabumi	2.79	301	S	Sn	13 41 10.8	-2.6
SJI	Sawahan	2.87	76	P	Pn	13 40 43.5	+1.9
SJI	Sawahan	2.87	76	S	Sn	13 41 18.9	+3.4
DBJI	Dramaga	2.90	311	P	Pn	13 40 45.4	+3.5
DBJI	Dramaga	2.90	311	S	Sn	13 41 17.5	+1.4

IDC 03 13:48:51.0±1.5, **1559S×17423W, h0**^{km}**, mb4.3**/3, **mb1 4.5**/5, **mb1mx4.0**/18, **mbtmp4.4**/5, **ML3.4**/2, **Error ellipse: s-maj=71.9km s-min=25.4km az=159.0, Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
AFI	Afiamalu	2.91	55	Pn	Pn	13 49 38.7	+0.2
	54nm,0.3s,baz=46,slow=1.3,SNR=145						
AFI				Sn	Sn	13 50 05.6	-8.6
	105nm,0.3s,baz=146,slow=17,SNR=11						
RAR	Rarotonga	14.81	114	Pn	Pn	13 52 21.7	-0.1
	1.0nm,0.3s,baz=9.5,slow=12,SNR=3.0						
STKA	Stephens Creek	43.25	240	P	P	13 56 54.0	-0.2
	4.2nm,0.9s,baz=94,slow=10,SNR=6.5						
WRA	Warramunga Arr	49.02	257	P	P	13 57 39.7	-0.3
	0.9nm,0.4s,baz=91,slow=6.8,SNR=15						
ASAR	Alice Springs	49.29	252	P	P	13 57 42.2	+0.3
	6.0nm,0.6s,baz=87,slow=8.1,SNR=102						

DJA 03 13:58:34,241S×12092E,h10km,MLv4.1/4,Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCI	**Palu**	**1.85**	**324**	P	Pn	13 59 05.5	-0.2
PCI	**Palu**	**1.85**	**324**	S	Sn	13 59 29.9	+0.7
KDI	**Kendari**	**2.29**	**132**	P	Pn	13 59 12.5	+0.6
KAPI	**Kappang**	**2.84**	**204**	P	Pn	13 59 19.5	+0.1

IDC 03 13:58:49.5±1.1,1980N×12123E,h0km,mb3.6/6, mb1 3.6/7,mb1mx3.5/21,mbtmp3.6/7,ML3.4/1,MS3.8/2, Ms1 3.8/2,ms1mx2.7/24,Error ellipse: s-maj=65.1km s-min=19.0km az=69.0,Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**13.33**	**161**	LR	LR	14 07 53.2	
	comp=Z,130nm,19.4s,baz=98,slow=41						
KSRS	**Korea Array**	**18.54**	**17**	P	Pn	14 03 07.0	-0.8
	0.1nm,0.3s,baz=196,slow=12,SNR=6.3						
SONM	**Songino Array**	**30.45**	**340**	P	P	14 05 04.4	+0.7
	0.5nm,0.5s,baz=157,slow=8.0,SNR=3.9						
WRA	**Warramunga Arr**	**41.53**	**161**	P	P	14 06 38.8	+0.1
	0.6nm,0.5s,baz=343,slow=8.9,SNR=3.6						
MKAR	**Makanchi Array**	**41.60**	**319**	P	P	14 06 39.0	-0.1
	0.2nm,0.3s,baz=108,slow=12,SNR=3.9						
ZALV	**Zalesovo Beam**	**43.99**	**330**	P	P	14 06 58.3	-0.1
	0.8nm,0.6s,baz=128,slow=9.6,SNR=5.2						
ASAR	**Alice Springs**	**44.93**	**163**	P	P	14 07 06.0	-0.2
	0.3nm,0.6s,baz=345,slow=8.3,SNR=4.6						
KURK	**Kurchatov**	**45.54**	**323**	P	P	14 07 10.6	-0.2
	0.4nm,0.5s,baz=126,slow=7.3,SNR=3.7						
GERES	**GERESS Array B**	**86.25**	**321**	LR	LR	14 56 17.1	
	comp=Z,137nm,18.2s,baz=354,slow=40						

*SZGRF **03** 14:06:05.4,5728N×15176W,h41km,mb5.1,MS4.1, Kodiak Island, Alaska, United States, region*
*MOS **03** 14:06:08.4±0.8,5839N×15188W,h18km,mb5.3/97, MS4.4/29,Error ellipse: s-maj=9.8km s-min=3.7km az=91.3*
*BJI **03** 14:06:09.1,5860N×15222W,h12km,mB5.3,mb5.3,Ms4.9, Msz4.7*
*ISCJB **03** 14:06:11.5±0.1,5842N±002×15173W±003,h38km, mb5.1/241,MS4.5/61,Error ellipse: s-maj=2.8km s-min=1.6km az=37.4*
*IDC **03** 14:06:11.2±1.9,5846N×15175W,h23km±13km,mb4.8/31, mb1 4.9/32,mb1mx4.9/34,mbtmp4.8/32,ML4.1/1,MS4.3/22, Ms1 4.3/22,ms1mx4.2/34,Error ellipse: s-maj=11.9km s-min=9.2km az=177.0*
*BGS **03** 14:06:12.3±2.6,5828N×15129W,h33km,mb4.8, mb5.0(NEIC)*
*NEIC **03** 14:06:12.4,5828N×15129W,h46km,mb5.0/129, MS4.4/14,ML5.0(AEIC),ML5.3(PMR),After AEIC.*
NEIC Felt [III] at Homer and Kodiak.
*GCMT **03** 14:06:12.4±0.2,5832N×15154W,h37km±1km,MW5.2/88, Moment Tensor Solution. s63,c85; s88,c159; Duration: 1s0 Moment tensor: Scale 10^{17}Nm; M_{rr}0.02±.02; $M_{\theta\theta}$-0.67±.02; $M_{\phi\phi}$0.65±.02; $M_{r\theta}$0.26±.02; $M_{\theta\phi}$0.19±.01; $M_{\phi r}$0.22±.02; Best double couple: $M_0$0.76800×10^{17} NP1:ϕ_s323.00000°,δ64.00000°,λ178.00000°. NP2: ϕ_s53.00000°,δ88.00000°,λ26.00000°. Principal axes: T 0.7670, Plg19.0000°, Azm281.0000°; N 0.0020, Plg64.0000°, Azm57.0000°; P -0.7690, Plg17.0000°, Azm185.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*DJA **03** 14:06:12,5805N×15268W,h10km,mb5.5/13*
ISC 03 14:06:13.5±0.1,5842N±002×15174W±003,h40km, h40km±.8km:pP-P,n834,σ0s.71/830,mb5.1/241,MS4.5/61, 191C-114D,Kodiak Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDAK	**Kodiak Island**	**0.78**	**216**	Pn	**Pn**	**14 06 27.8**	**-0.2**
	877µm,0.6s						
KDAK	**Kodiak Island**	**0.78**	**216**	Pg	**Pn**	**14 06 27.1**	**-0.8**
	5µm,0.3s,baz=46,slow=9.6						
KDAK				Lg		14 06 38.6	
	16µm,0.3s,baz=126,slow=23,SNR=135						
KDAK	**Kodiak Island**	**0.78**	**216**	P	**Pn**	**14 06 27.5**	**-0.5**
KDAK				S	**Sn**	**14 06 38.7**	**+0.3**
AUL	**Augustine Lava**	**1.31**	**318**	P	**Pn**	**14 06 37.5**	**+2.2**
AUL				S	**Sn**	**14 06 55.9**	**+4.4**
OHAK	**Old Harbor**	**1.46**	**215**	P	**Pn**	**14 06 36.1**	**-1.2**
OHAK				S	**Sn**	**14 06 54.5**	**-0.6**
SEW	**Seward**	**2.06**	**34**	P	**Pn**	**14 06 43.5**	**-2.0**
SEW				S	**Sn**	**14 07 07.0**	**-3.0**
SLKM	**Skilak Lake**	**2.24**	**20**	P	**Pn**	**14 06 47.1**	**-0.9**
RC01	**Rabbit Creek A**	**2.87**	**20**	P	**Pn**	**14 06 55.8**	**-0.9**
FIB	**Fire Island**	**2.87**	**15**	P	**Pn**	**14 06 56.8**	**+0.1**
FIB				S	**Sn**	**14 07 30.4**	**+0.5**
SVW2	**Sparrevohn**	**3.32**	**326**	P	**Pn**	**14 07 04.1**	**+1.3**
PMR	**Palmer**	**3.44**	**21**	P	**Pn**	**14 07 03.2**	**-1.3**
EYAK	**Cordova Ski Ar**	**3.73**	**52**	P	**Pn**	**14 07 05.7**	**-2.8**
SML	**Sawmill**	**3.81**	**25**	P	**Pn**	**14 07 08.3**	**-1.2**
RAGM	**Ragged Mountai**	**4.12**	**58**	P	**Pn**	**14 07 10.7**	**-3.0**
CHGN	**Chignik**	**4.19**	**242**	P	**Pn**	**14 07 14.6**	**-0.2**
PPLA	**Purkeypile**	**4.50**	**357**	P	**Pn**	**14 07 19.6**	**+0.6**
TRF	**Thorofare Moun**	**5.10**	**7**	*e*Pn	**Pn**	**14 07 27.1**	**-0.1**
	11µm,1.1s						
KTH	**Kantishna Hill**	**5.17**	**4**	*e*Pn	**Pn**	**14 07 28.3**	**+0.1**
	2.7nm,0.7s						
CHUM	**Lake Minchumin**	**5.50**	**357**	*e*Pn	**Pn**	**14 07 32.3**	**-0.3**
	21nm,0.7s						
MCK	**McKinley**	**5.51**	**13**	*e*P	**Pn**	**14 07 32.7**	**-0.1**
MCK				pmax	pmax		
	comp=Z,36nm,0.8s						
MCK	**McKinley**	**5.51**	**13**	*e*Pn	**Pn**	**14 07 32.7**	**-0.1**
	comp=Z,36nm,0.8s						
SDPT	**Sand Point**	**5.69**	**241**	*e*P	**Pn**	**14 07 36.0**	**+0.6**
BPAW	**Bear Paw Mtn.**	**5.72**	**3**	*e*Pn	**Pn**	**14 07 35.0**	**-0.7**
	comp=Z,17nm,0.5s						
BPAW				*e*		14 07 42.8	
PNL	**Peninsula**	**6.49**	**74**	*e*P	**Pn**	**14 07 43.1**	**-3.2**
	comp=Z,9.1nm,1.5s						
COLA	**College**	**6.74**	**14**	*e*Pn	**Pn**	**14 07 48.2**	**-1.5**
	comp=Z,615nm,0.6s						
COLA				*e*		14 07 58.0	
COLA				*e*Sn	**Sn**	**14 09 00.5**	**-4.5**
IMA2	**Indian Mountai**	**7.74**	**354**	*e*P	**Pn**	**14 08 02.9**	**-0.5**
DAWY	**Dawson**	**8.21**	**41**	*e*Pn	**Pn**	**14 08 07.6**	**-2.2**
SKAG	**Skagway**	**8.55**	**76**	*e*P	**Pn**	**14 08 10.8**	**-3.7**
COLD	**Coldfoot**	**8.87**	**4**	*e*Pn	**Pn**	**14 08 17.4**	**-1.5**
	comp=Z,611nm,1.2s						
SIT	**Sitka**	**8.88**	**92**	*e*P	**Pn**	**14 08 13.8**	**-5.3**
SIT				pmax	pmax		
	comp=Z,60nm,0.5s						
SIT	**Sitka**	**8.88**	**92**	*e*Pn	**Pn**	**14 08 13.8**	**-5.3**
	comp=Z,60nm,0.5s						
AKUT	**Akutan**	**8.90**	**247**	*e*P	**Pn**	**14 08 20.4**	**+1.0**
UNV	**Unalaska Valle**	**9.42**	**247**	*e*Pn	**Pn**	**14 08 25.6**	**-0.9**
	comp=Z,80nm,0.5s						
UNV				*e*Sn	**Sn**	**14 10 10.1**	**-0.9**
TNA	**Tin City**	**10.43**	**320**	*e*P	**Pn**	**14 08 41.7**	**+1.6**
	comp=Z,57nm,0.7s						
CRAG	**Craig**	**10.58**	**98**	*e*Pn	**Pn**	**14 08 36.7**	**-5.6**
WRAK	**Wrangell Islan**	**10.64**	**93**	*e*P	**Pn**	**14 08 38.9**	**-4.3**
	comp=Z,48nm,0.6s						
NIKO	**Nikolski**	**11.08**	**248**	*e*P	**Pn**	**14 08 48.0**	**-1.1**
	comp=Z,352nm,1.4s						
DLBC	**Dease Lake**	**11.37**	**81**	Pn	**Pn**	**14 08 51.5**	**-1.6**
DLBC				Sn	**Sn**	**14 10 50.0**	**-8.7**
DLBC	**Dease Lake**	**11.37**	**81**	*e*P	**Pn**	**14 08 50.6**	**-2.5**
BBB	**Bella Bella**	**14.78**	**105**	LR	LR	14 14 06.0	
	comp=Z,2µm,20.8s,baz=298,slow=32						
YKA	**Yellowknife Ar**	**18.57**	**62**	P	**Pn**	**14 10 25.1**	**-2.1**
	comp=Z,0.8nm,0.3s,baz=271,slow=11,SNR=45						
YKA	**Yellowknife Ar**	**18.57**	**62**	*i* P	**Pn**	**14 10 25.1**	**-2.1**
YKA				pmax	pmax		
	comp=Z,34nm,0.8s						
YKA	**Yellowknife Ar**	**18.57**	**62**	P	**Pn**	**14 10 25.1**	**-2.1**
A06A	**Chilliwack**	**20.01**	**105**	⇓P	**P**	**14 10 42.0**	**-0.4**
	baz=20						
D03A	**Wishkah Elem.**	**20.18**	**112**	⇑P	**P**	**14 10 44.5**	**+0.1**
	baz=20						
B05A	**Bryant**	**20.24**	**107**	⇑P	**P**	**14 10 45.0**	**+0.1**
	baz=20						
GNW	**Green Mountain**	**20.34**	**110**	*e*P	**P**	**14 10 47.4**	**+1.4**
	comp=Z,104nm,1.5s						
JCW	**Jim Creek**	**20.37**	**107**	P	**P**	**14 10 46.0**	**-0.3**
JCW				*e*pP		14 10 55.7	
RPW	**Rockport**	**20.41**	**106**	P	**P**	**14 10 47.1**	**+0.3**
RPW				*e*		14 10 55.3	
A07A	**Ashnola River,**	**20.60**	**103**	⇓P	**P**	**14 10 49.1**	**+0.2**
	baz=20						
BILL	**Bilibino**	**20.78**	**315***c*	*i*P	**P**	**14 10 50.3**	**-0.3**
BILL				*i* S	**S**	**14 14 40.4**	**+0.5**
BILL				pmax	pmax		
	comp=Z,127nm,1.3s						
BILL				MLR	MLR		
	comp=Z,3µm,21.0s,MS4.6						
BILL	**Bilibino**	**20.78**	**315**	*e*P	**P**	**14 10 50.1**	**-0.5**
	comp=Z,288nm,1.4s						
B07A	**Winthrop**	**21.11**	**104**	⇓P	**P**	**14 10 54.2**	**-0.1**
	baz=21						
F03A	**Seaside**	**21.13**	**114**	⇓P	**P**	**14 10 54.7**	**+0.1**
	baz=21						
A08A	**Turner Farm, O**	**21.23**	**102**	⇑P	**P**	**14 10 55.5**	**-0.1**
	baz=21						
LON	**Longmire**	**21.41**	**110**	P	**P**	**14 10 58.5**	**+1.0**
LON				pmax	pmax		
	comp=Z,94nm,1.6s,mb4.9						
LON	**Longmire**	**21.41**	**110**	P	**P**	**14 10 58.5**	**+1.0**
	comp=Z,94nm,1.6s,mb4.9						
E05A	**Randle**	**21.56**	**110**	⇑P	**P**	**14 10 58.8**	**-0.4**
	baz=22						
ETW	**Entiat**	**21.56**	**106**	*e*P	**P**	**14 10 58.8**	**-0.4**
A09A	**Danville**	**21.57**	**101**	⇓P	**P**	**14 10 59.0**	**-0.2**
	baz=22,SNR=5.3						
B08A	**Colville Reser**	**21.58**	**104**	⇓P	**P**	**14 10 58.8**	**-0.5**
	baz=22						
C07A	**Waterville**	**21.64**	**106**	⇑P	**P**	**14 10 59.2**	**-0.9**
	baz=22						
F04A	**Amboy**	**21.68**	**112**	⇑P	**P**	**14 10 59.9**	**-0.6**
	baz=22						
G03A	**Yamhill**	**21.71**	**115**	⇑P	**P**	**14 11 00.5**	**-0.4**
	baz=22						
EDM	**Edmonton**	**21.96**	**87**	*e*P	**P**	**14 11 01.8**	**-1.6**
E06A	**Yakima**	**21.96**	**109**	⇓P	**P**	**14 11 03.0**	**-0.4**
	baz=22						
A10A	**Northport**	**22.10**	**100**	⇑P	**P**	**14 11 04.3**	**-0.6**
	baz=22						
B09A	**Rice**	**22.14**	**102**	⇓P	**P**	**14 11 05.6**	**+0.2**
	baz=22						
G04A	**Mulino**	**22.18**	**114**	⇑P	**P**	**14 11 05.9**	**+0.1**
	baz=22						
F05A	**White Salmon**	**22.19**	**111**	⇑P	**P**	**14 11 05.5**	**-0.4**
	baz=22						
I02A	**Mapleton**	**22.44**	**118**	⇑P	**P**	**14 11 08.8**	**+0.2**
	baz=22						
E07A	**Sunnyside**	**22.51**	**108**	⇓P	**P**	**14 11 08.8**	**-0.5**
	baz=22						
OD2	**Odessa Site #2**	**22.53**	**105**	*e*P	**P**	**14 11 08.5**	**-1.0**
D08A	**Wollman Farm,**	**22.64**	**106**	⇓P	**P**	**14 11 10.2**	**-0.5**
	baz=22						
H04A	**Detroit Lake**	**22.70**	**114**	⇑P	**P**	**14 11 11.1**	**-0.2**
	baz=23						
A11A	**Hall Mountain,**	**22.73**	**99**	⇓P	**P**	**14 11 11.8**	**+0.1**
	baz=23,SNR=7.5						
RSW	**Rattlesnake Hi**	**22.76**	**108**	*e*P	**P**	**14 11 11.2**	**-0.7**
NEW	**Newport**	**22.77**	**101**	P	**P**	**14 11 11.9**	**-0.2**
NEW				pmax	pmax		
	comp=Z,97nm,1.5s						
NEW				MLR	MLR		
	comp=Z,2µm,21.0s						
NEW	**Newport**	**22.77**	**101**	P	**P**	**14 11 11.9**	**-0.2**
	comp=Z,97nm,1.5s,mb5.0						
NEW				LR	LR		
	comp=Z,2µm,21.0s,MS4.5						
HAWA	**Hanford**	**22.79**	**108**	P	**P**	**14 11 11.1**	**-1.1**
	comp=Z,96nm,1.7s,mb5.0						
D09A	**Jones Farm, Ri**	**22.95**	**105**	⇑P	**P**	**14 11 13.9**	**0.0**
	baz=23,SNR=12						
E08A	**Dider Farm, El**	**22.96**	**107**	⇑P	**P**	**14 11 14.3**	**+0.2**
	baz=23,SNR=8.2						
J02A	**Umpqua**	**23.05**	**118**	⇓P	**P**	**14 11 15.3**	**+0.3**
	baz=23						
B11A	**Sandpoint**	**23.05**	**100**	⇑P	**P**	**14 11 14.7**	**-0.3**
	baz=23						
G06A	**Carlson Farm,**	**23.05**	**111**	⇑P	**P**	**14 11 14.9**	**-0.2**
	baz=23						
K01A	**Sixes**	**23.07**	**121**	⇓P	**P**	**14 11 16.0**	**+0.7**
	baz=23						
KEBM	**Edson Butte**	**23.08**	**120**	*e*P	**P**	**14 11 16.0**	**+0.6**
A12A	**Yaak River Ran**	**23.12**	**98**	⇓P	**P**	**14 11 15.5**	**-0.2**
	baz=23						
H05A	**Madras**	**23.20**	**113**	⇓P	**P**	**14 11 17.0**	**+0.5**
	baz=23,SNR=5.4						
I04A	**Tendick Farm,**	**23.26**	**116**	⇑P	**P**	**14 11 17.4**	**+0.2**
	baz=23,SNR=7.1						
E09A	**Wood Farm, Sta**	**23.40**	**106**	⇑P	**P**	**14 11 18.3**	**-0.3**
	baz=23						
G07A	**Ruggs Ranch, H**	**23.51**	**110**	⇓P	**P**	**14 11 19.0**	**-0.6**
	baz=23						
K02A	**Glendale**	**23.55**	**119**	⇑P	**P**	**14 11 19.8**	**-0.3**
	baz=24						
H06A	**Lindquist Farm**	**23.57**	**112**	⇓P	**P**	**14 11 20.5**	**+0.4**
	baz=24,SNR=6.4						
F08A	**Pendleton**	**23.58**	**108**	⇓P	**P**	**14 11 19.7**	**-0.5**
	baz=24						
LNOR	**Lincton Mounta**	**23.77**	**107**	*e*P	**P**	**14 11 21.7**	**-0.3**
J04A	**Umpqua Nationa**	**23.83**	**117**	⇑P	**P**	**14 11 22.1**	**-0.4**
	baz=24						
G08A	**Pilot Rock**	**23.84**	**109**	⇓P	**P**	**14 11 22.0**	**-0.6**
	baz=24						
HUMO	**Hull Mountain**	**23.92**	**119**	⇓P	**P**	**14 11 23.3**	**0.0**
	baz=24						
HUMO	**Hull Mountain**	**23.92**	**119**	*e*P	**P**	**14 11 24.2**	**+0.8**
	comp=Z,68nm,1.5s,mb4.8						
WALA	**Waterton Lakes**	**23.95**	**96**	*e*P	**P**	**14 11 25.0**	**+1.5**
	comp=Z,90nm,1.3s,mb5.0						
D11A	**Klaveano Farm,**	**23.97**	**103**	⇓P	**P**	**14 11 23.5**	**-0.2**
	baz=24						
C12B	**Naegeli Ranch,**	**23.98**	**101**	⇑P	**P**	**14 11 23.4**	**-0.5**
	baz=24						
L02A	**Cave Junction**	**23.98**	**120**	⇑P	**P**	**14 11 23.9**	**0.0**
	baz=24						
H07A	**Lands Inn, Kim**	**24.05**	**111**	⇓P	**P**	**14 11 24.5**	**0.0**
	baz=24						
J05A	**Fort Rock**	**24.21**	**115**	⇓P	**P**	**14 11 26.8**	**+0.8**
	baz=24						
A14A	**Double T Ranch**	**24.26**	**96**	⇑P	**P**	**14 11 26.3**	**0.0**
	baz=24						
G09A	**Cove**	**24.44**	**108**	⇓P	**P**	**14 11 28.1**	**0.0**
	baz=24,SNR=8.9						
I07A	**Izee**	**24.45**	**112**	⇑P	**P**	**14 11 27.9**	**-0.2**
	baz=24						
C13A	**Hot Springs**	**24.46**	**100**	⇑P	**P**	**14 11 28.5**	**+0.2**
	baz=24						
D12A	**Red Ives Fores**	**24.47**	**102**	⇑P	**P**	**14 11 28.4**	**0.0**
	baz=24						
E11A	**Bogner Ranch,**	**24.49**	**104**	⇑P	**P**	**14 11 28.2**	**-0.4**
	baz=24						
H08A	**Prairie City**	**24.54**	**110**	⇑P	**P**	**14 11 29.3**	**+0.3**
	baz=24,SNR=7.6						
A15A	**Johnson Ranch,**	**24.62**	**95**	⇓P	**P**	**14 11 30.0**	**+0.3**
	baz=24,SNR=8.2						
B14A	**Marquette Ranc**	**24.71**	**97**	⇑P	**P**	**14 11 31.0**	**+0.4**
	baz=25,SNR=13						
YBH	**Yreka Blue Hor**	**24.72**	**120**	P	**P**	**14 11 31.6**	**+0.9**
	comp=Z,7.9nm,0.9s,mb4.2,baz=330,slow=3.4,SNR=14						
YBH				LR	LR	14 19 05.3	
	comp=Z,920nm,19.6s,MS4.3,baz=328,slow=31						
YBH	**Yreka Blue Hor**	**24.72**	**120**	*e*P	**P**	**14 11 31.5**	**+0.8**
YBH				pmax	pmax		
	comp=Z,22nm,1.0s						
YBH	**Yreka Blue Hor**	**24.72**	**120**	⇑P	**P**	**14 11 30.9**	**+0.2**
	baz=25						
YBH	**Yreka Blue Hor**	**24.72**	**120**	*e*P	**P**	**14 11 31.4**	**+0.8**
	comp=Z,22nm,1.0s,mb4.6						
J06A	**Christmas Vall**	**24.75**	**114**	⇑P	**P**	**14 11 31.5**	**+0.5**
	baz=25,SNR=14						
L04A	**Klamath Falls**	**24.75**	**118**	⇑P	**P**	**14 11 30.8**	**-0.2**
	baz=25						
G10A	**Bishop Farm, J**	**24.76**	**107**	⇑P	**P**	**14 11 31.3**	**+0.3**
	baz=25						
E12A	**Beaver Dam Sad**	**24.78**	**103**	⇓P	**P**	**14 11 30.8**	**-0.3**
	baz=25						
K05A	**Summer Lake**	**24.80**	**116**	⇑P	**P**	**14 11 31.3**	**-0.1**
	baz=25						
C14A	**Swan Lake**	**24.84**	**99**	⇑P	**P**	**14 11 31.7**	**0.0**
	baz=25						
F11A	**Grangeville**	**24.84**	**105**	⇑P	**P**	**14 11 31.6**	**-0.1**
	baz=25						
D13A	**Huson**	**24.90**	**101**	⇓P	**P**	**14 11 31.7**	**-0.6**
	baz=25						
M02C	**Callahan**	**24.93**	**120**	⇑P	**P**	**14 11 32.9**	**+0.3**
	baz=25,SNR=7.2						
I08A	**Drewsey**	**25.03**	**111**	⇑P	**P**	**14 11 34.4**	**+0.9**
	baz=25						
K06A	**Valley Falls**	**25.05**	**115**	⇑P	**P**	**14 11 34.2**	**+0.5**
	baz=25,SNR=5.7						
J07A	**Hines**	**25.07**	**113**	⇑P	**P**	**14 11 34.3**	**+0.5**
	baz=25						
M04C	**Macdoel**	**25.08**	**118**	⇓P	**P**	**14 11 34.7**	**+0.7**
	baz=25						
B15A	**Bradely Ranch,**	**25.11**	**97**	⇓P	**P**	**14 11 34.1**	**-0.1**
	baz=25,SNR=12						
G11A	**Walters Elk Ra**	**25.12**	**106**	⇓P	**P**	**14 11 34.6**	**+0.3**
	baz=25						
N02C	**Big Bar**	**25.18**	**122**	⇓P	**P**	**14 11 35.7**	**+0.9**
	baz=25,SNR=7.1						
A16A	**West Butte Ran**	**25.23**	**94**	⇓P	**P**	**14 11 34.8**	**-0.4**
	baz=25,SNR=7.2						
MSO	**Missoula**	**25.34**	**101**	*e*P	**P**	**14 11 35.6**	**-0.7**
	comp=Z,56nm,1.8s,mb4.8						
L05A	**Lakeview**	**25.35**	**117**	⇑P	**P**	**14 11 36.6**	**+0.2**
	baz=25,SNR=6.1						
F12A	**Elk City**	**25.39**	**104**	⇓P	**P**	**14 11 36.6**	**-0.1**
	baz=25						
I09A	**Lost Marbles R**	**25.39**	**110**	⇑P	**P**	**14 11 36.8**	**0.0**
	baz=25						
D14A	**Greenough**	**25.41**	**100**	⇑P	**P**	**14 11 37.2**	**+0.4**
	baz=25,SNR=7.4						
C15A	**Salmond Ranch,**	**25.43**	**98**	⇑P	**P**	**14 11 36.7**	**-0.3**
	baz=25,SNR=8.3						
H10A	**Noah's Angus R**	**25.45**	**108**	⇑P	**P**	**14 11 37.1**	**-0.1**
	baz=25						
J08A	**Circle Bar Ran**	**25.49**	**112**	⇑P	**P**	**14 11 37.8**	**+0.2**
	baz=25						
B16A	**M & M Farms, S**	**25.50**	**96**	⇑P	**P**	**14 11 38.1**	**+0.4**
	baz=25						
K07A	**Rock Creek Ran**	**25.61**	**114**	⇑P	**P**	**14 11 39.1**	**+0.4**
	baz=26						
CHMT	**Chamberlain Mo**	**25.65**	**100**	*e*P	**P**	**14 11 37.6**	**-1.4**
MOD	**Modoc**	**25.71**	**116**	⇓P	**P**	**14 11 39.8**	**+0.2**
	baz=26						
MOD	**Modoc**	**25.71**	**116**	*e*P	**P**	**14 11 39.7**	**+0.1**
	comp=Z,58nm,1.5s,mb4.9						
WDC	**Whiskeytown Da**	**25.72**	**121**	*e*P	**P**	**14 11 39.5**	**-0.2**
WDC				pmax	pmax		
	comp=Z,41nm,1.5s,mb4.7						
WDC	**Whiskeytown Da**	**25.72**	**121**	⇑P	**P**	**14 11 40.1**	**+0.4**
	baz=26						
WDC	**Whiskeytown Da**	**25.72**	**121**	*e*P	**P**	**14 11 39.5**	**-0.2**
	comp=Z,41nm,1.5s,mb4.7						
H11A	**Donnelly**	**25.74**	**106**	⇓P	**P**	**14 11 39.6**	**-0.2**
	baz=26						
M05C	**Lookout**	**25.74**	**118**	⇑P	**P**	**14 11 40.6**	**+0.7**
	baz=26						
F13A	**Darby**	**25.84**	**103**	⇑P	**P**	**14 11 40.7**	**-0.1**
	baz=26						
J09A	**Fry Pan Ranch,**	**25.85**	**111**	⇑P	**P**	**14 11 41.3**	**+0.4**
	baz=26						
E14A	**Clinton**	**25.85**	**101**	⇑P	**P**	**14 11 41.4**	**+0.5**
	baz=26						
C16A	**Fuhringer Ranc**	**25.86**	**97**	⇑P	**P**	**14 11 41.6**	**+0.7**
	baz=26						
O02C	**Red Bluff**	**25.93**	**122**	⇑P	**P**	**14 11 42.4**	**+0.8**
	baz=26						
D15A	**Lincoln**	**25.94**	**99**	⇑P	**P**	**14 11 42.4**	**+0.7**
	baz=26						
K08A	**Mann Creek Ran**	**25.95**	**113**	⇓P	**P**	**14 11 42.8**	**+1.0**
	baz=26						
L07A	**Adell**	**26.08**	**115**	⇑P	**P**	**14 11 43.6**	**+0.7**
	baz=26						
WVOR	**Wild Horse Val**	**26.10**	**113**	*e*P	**P**	**14 11 45.4**	**+2.2**
WVOR				pmax	pmax		
	comp=Z,39nm,1.3s,mb4.8						
WVOR	**Wild Horse Val**	**26.10**	**113**	*e*P	**P**	**14 11 45.4**	**+2.3**
	comp=Z,39nm,1.3s,mb4.8						
M06C	**Likely Place G**	**26.17**	**117**	⇓P	**P**	**14 11 44.6**	**+0.8**
	baz=26						
E15A	**Deer Lodge**	**26.29**	**100**	⇓P	**P**	**14 11 45.6**	**+0.8**
	baz=26						
F14A	**Wisdom**	**26.32**	**102**	⇑P	**P**	**14 11 46.0**	**+0.9**
	baz=26						
K09A	**Rome**	**26.34**	**112**	⇓P	**P**	**14 11 45.4**	**0.0**
	baz=26,SNR=6.7						
G13A	**Cobalt**	**26.37**	**104**	⇓P	**P**	**14 11 46.1**	**+0.5**
	baz=26						
GASB	**Alder Springs**	**26.39**	**123**	⇑P	**P**	**14 11 46.8**	**+1.0**
	baz=26						
L08A	**Fields**	**26.43**	**113**	⇑P	**P**	**14 11 46.8**	**+0.7**
	baz=26						
H12A	**Diamond D Ranc**	**26.43**	**105**	⇑P	**P**	**14 11 46.4**	**+0.3**
	baz=26						
D16A	**Dana Ranch, Ca**	**26.46**	**98**	⇑P	**P**	**14 11 46.9**	**+0.5**
	baz=26						
C17A	**Wharram Farm,**	**26.48**	**96**	⇓P	**P**	**14 11 47.1**	**+0.6**
	baz=26						
O04C	**Chester**	**26.59**	**119**	⇓P	**P**	**14 11 48.1**	**+0.5**
	baz=26,SNR=7.4						
M07A	**Soldier Meadow**	**26.64**	**115**	⇑P	**P**	**14 11 48.5**	**+0.5**
	baz=26						
K10A	**MacKenzie Ranc**	**26.70**	**111**	⇓P	**P**	**14 11 48.9**	**+0.3**
	baz=27						
E16A	**East Helena**	**26.71**	**99**	⇓P	**P**	**14 11 49.2**	**+0.5**
	baz=27						
H13A	**Challis**	**26.73**	**105**	⇑P	**P**	**14 11 48.7**	**-0.1**
	baz=27,SNR=6.8						
F15A	**Butte**	**26.75**	**101**	⇑P	**P**	**14 11 48.9**	**-0.1**
	baz=27						
MFID	**Camas Ranch**	**26.75**	**108**	⇓P	**P**	**14 11 49.1**	**0.0**
	baz=27						
I12A	**Atlanta**	**26.83**	**107**	⇑P	**P**	**14 11 49.8**	**+0.1**
	baz=27						
N06A	**Buffalo Meadow**	**26.83**	**117**	⇓P	**P**	**14 11 50.0**	**+0.2**
	baz=27,SNR=8.4						
SEY	**Seymchan**	**26.98**	**303**⇑	*e*P	**P**	**14 11 50.3**	**-0.6**
ORV	**Oroville**	**27.02**	**121**	⇑P	**P**	**14 11 52.0**	**+0.5**
	baz=27						
K11A	**Parker Ranch,**	**27.12**	**110**	⇑P	**P**	**14 11 52.4**	**0.0**
	baz=27						
H14A	**Leadore**	**27.14**	**104**	⇓P	**P**	**14 11 52.2**	**-0.4**
	baz=27						
MNRC	**McLaughlin Nat**	**27.15**	**123**	⇑P	**P**	**14 11 52.9**	**+0.2**
	baz=27						
N07B	**Gerlach**	**27.21**	**116**	⇓P	**P**	**14 11 53.0**	**-0.1**
	baz=27						
G15A	**Dillon**	**27.21**	**102**	⇑P	**P**	**14 11 52.8**	**-0.4**
	baz=27						
J12A	**Stokes Ranch,**	**27.24**	**108**	⇓P	**P**	**14 11 53.2**	**-0.2**
	baz=27,SNR=5.7						
I13A	**Wildhorse Cree**	**27.25**	**106**	⇑P	**P**	**14 11 53.9**	**+0.3**
	baz=27						
BEKR	**Beckwourth**	**27.29**	**119**	⇑P	**P**	**14 11 53.7**	**-0.1**
	baz=27						
L10A	**Juniper Basin**	**27.42**	**111**	⇑P	**P**	**14 11 55.0**	**-0.1**
	baz=27						
M09A	**Marrel Ranch,**	**27.44**	**113**	⇓P	**P**	**14 11 55.4**	**+0.2**
	baz=27						
H15A	**Lima**	**27.51**	**103**	⇓P	**P**	**14 11 56.1**	**+0.3**
	baz=27						
G16A	**Moss Hill, Enn**	**27.52**	**101**	⇓P	**P**	**14 11 55.7**	**-0.2**
	baz=27						
I14A	**Mackay**	**27.58**	**105**	⇑P	**P**	**14 11 56.1**	**-0.4**
	baz=28						
N08A	**GE Springer Mi**	**27.61**	**115**	⇑P	**P**	**14 11 57.2**	**+0.4**
	baz=28						
E18A	**Harlowton**	**27.61**	**97**	⇑P	**P**	**14 11 56.6**	**-0.1**
	baz=28						
L11A	**Cat Creek Ranc**	**27.71**	**110**	⇑P	**P**	**14 11 57.7**	**0.0**
	baz=28						
O07A	**Toulon**	**27.74**	**117**	⇑P	**P**	**14 11 58.0**	**+0.1**
	baz=28						
K12A	**Draper Farm, C**	**27.79**	**108**	⇑P	**P**	**14 11 58.6**	**+0.3**
	baz=28						
M10A	**I.L. Ranch, Tu**	**27.81**	**112**	⇑P	**P**	**14 11 58.6**	**0.0**
	baz=28						
PAHR	**Pah Rah Range**	**27.86**	**118**	P	**P**	**14 11 57.2**	**-1.8**
	comp=Z,53nm,1.6s,mb4.9						
FARB	**Farallon Islan**	**27.89**	**125**	⇑P	**P**	**14 12 00.2**	**+0.9**
	baz=28						
PET	**Petropavlovsk**	**27.92**	**281**	*e*P	**P**	**14 11 59.0**	**-0.4**
PET				*e*S	**S**	**14 16 38.2**	**-1.8**
PET				pmax	pmax		
	comp=Z,100nm,3.0s						
PET				pmax	pmax		
	comp=Z,97nm,1.0s,mb5.4						
PET				MLR	MLR		
	comp=Z,400nm,19.0s,MS4.0						
PET	**Petropavlovsk**	**27.92**	**281**	*e*P	**P**	**14 11 59.1**	**-0.3**
	comp=Z,129nm,1.3s,mb5.4						
J14A	**Carey**	**27.98**	**106**	⇑P	**P**	**14 12 00.7**	**+0.6**

baz=28
O08A Rochester Mine 27.98 116 ⇑P P **14 12 01.0 +0.9**
baz=28
F18A Big Timber 28.15 98 ⇑P P **14 12 01.8 +0.3**
baz=28,SNR=5.9
GCMT Greycliff 28.25 98 *e*P P **14 12 02.8 +0.4**
YMR Madison River 28.34 101 P P **14 12 02.4 -0.9**
comp=Z,46nm,0.3s,mb5.6
R05C Kirkwood Meado 28.36 120 ⇓P P **14 12 04.1 +0.7**
baz=28
PEA0B Petropavlovsk- 28.37 281 *e*P P **14 12 02.6 -0.8**
PETK Petropavlovsk- 28.37 281 P P **14 12 02.8 -0.6**
comp=Z,57nm,0.7s,mb5.3,baz=69,slow=13,SNR=86
PETK LR LR 14 22 53.9
comp=Z,196nm,20.2s,MS3.7,baz=246,slow=35
J15A Blackfoot 28.48 104 ⇑P P **14 12 05.5 +1.0**
baz=28
O09A Fish Creek Ran 28.54 115 ⇓P P **14 12 05.3 +0.3**
baz=28,SNR=6.6
M12A Wells 28.69 110 ⇓P P **14 12 06.7 +0.4**
baz=29
O10A Cortez Mining, 28.77 114 ⇑P P **14 12 07.8 +0.7**
baz=29
R06C Coleville 28.79 120 ⇑P P **14 12 07.5 +0.3**
baz=29
ELK Elko 29.04 111 P P **14 12 11.4 +2.0**
comp=Z,2.0nm,0.9s,mb3.9,baz=342,slow=7.5,SNR=6.1
ELK LR LR 14 22 18.9
comp=Z,830nm,21.9s,MS4.3,baz=314,slow=33
ELK Elko 29.04 111 *e*P P **14 12 09.1 -0.4**
ELK pmax pmax
comp=Z,6.0nm,0.9s
ELK MLR MLR
comp=Z,1μm,22.0s
ELK Elko 29.04 111 *e*P P **14 12 09.1 -0.4**
comp=Z,6.3nm,0.9s,mb4.3
ELK LR LR
comp=Z,1μm,22.0s,MS4.5
P09A Austin 29.04 115 ⇑P P **14 12 09.7 +0.2**
baz=29
MOOW Moose Ponds 29.09 102 *e*P P **14 12 11.2 +1.3**
comp=Z,11nm,1.3s,mb4.4
M13A Montello 29.10 109 ⇓P P **14 12 10.4 +0.4**
baz=29
S06C San Francisco 29.13 121 ⇑P P **14 12 09.8 -0.4**
baz=29
LOHW Long Hollow 29.26 102 *e*P P **14 12 11.8 +0.3**
comp=Z,42nm,1.6s,mb4.9
O11A Cowboy Ranch, 29.30 113 ⇓P P **14 12 11.7 -0.1**
baz=29
REDW Red Top Meadow 29.31 103 *e*P P **14 12 09.7 -2.2**
comp=Z,37nm,1.5s,mb4.9
NVAR Mina Array Bea 29.39 118 P P **14 12 12.6 0.0**
comp=Z,3.5nm,0.8s,mb4.1,baz=305,slow=8.5,SNR=14
NVAR ScP ScP 14 18 55.6 -0.2
comp=Z,0.9nm,0.8s,baz=315,slow=2.8,SNR=4.4
M14A Sheep Mountain 29.40 108 ⇑P P **14 12 12.6 0.0**
baz=29
L15A Malad City 29.51 106 ⇓P P **14 12 13.3 -0.3**
baz=29
O12A Currie 29.64 111 ⇑P P **14 12 15.0 +0.1**
baz=30
KCC Kaiser Creek 29.82 121 ⇓P P **14 12 16.3 -0.2**
baz=30
M15A Larsen Ranch, 29.88 107 ⇓P P **14 12 16.6 -0.3**
baz=30
T06C Millerton Lake 29.91 122 ⇑P P **14 12 17.2 -0.1**
baz=30
R09A Tonopah 30.12 117 ⇓P P **14 12 19.2 +0.1**
baz=30
S08C White Mtn Res 30.20 119 ⇑P P **14 12 20.5 +0.6**
baz=30
HWUT Hardware Ranch 30.22 106 *e*P P **14 12 20.6 +0.7**
comp=Z,22nm,1.3s,mb4.7
Q11A Duckwater 30.31 114 ⇑P P **14 12 21.1 +0.3**
baz=30,SNR=8.2
BW06 Boulder Array 30.40 102 ⇑P P **14 12 21.5 0.0**
baz=30
PDAR Pinedale Array 30.40 102 P P **14 12 21.4 -0.1**
comp=Z,2.5nm,0.6s,mb4.1,baz=311,slow=4.6,SNR=25
PDAR LR LR 14 23 09.3
comp=Z,526nm,21.9s,MS4.1,baz=340,slow=34
M16A Huntsville 30.41 107 ⇓P P **14 12 21.6 0.0**
baz=30
R10A Warm Springs 30.44 116 ⇓P P **14 12 22.4 +0.5**
baz=30,SNR=7.2
S09A Goldfield 30.46 118 ⇑P P **14 12 22.1 0.0**
baz=30
HELL Mitchell Peak 30.49 121 ⇓P P **14 12 21.8 -0.6**
baz=30
SKR Severo-Kuril's 30.52 278 *e*P P **14 12 15.5 -6.9**
Q12A Willow Creek R 30.55 113 ⇑P P **14 12 22.7 -0.2**
baz=30
S10A Tonopah Range, 30.60 117 ⇓P P **14 12 22.8 -0.5**
baz=30
P13A Bates Ranch, G 30.63 112 ⇑P P **14 12 23.3 -0.2**
baz=30
R11A Troy Canyon, C 30.73 115 ⇑P P **14 12 24.5 0.0**
baz=31,SNR=8.7
Q13A Wheeler Ranch, 31.01 112 ⇓P P **14 12 26.1 -0.9**
baz=31
N17A Moffit Pass 31.08 106 ⇑P P **14 12 26.4 -1.1**
baz=31
S11A Rachel 31.22 116 ⇑P P **14 12 27.7 -1.0**
baz=31
Q14A Sevier Lake (B 31.35 111 ⇑P P **14 12 29.1 -0.8**
baz=31
TPNV Topopah Spring 31.54 117 *e*P P **14 12 32.0 +0.4**
TPNV pmax pmax
comp=Z,13nm,0.9s,mb4.8
TPNV Topopah Spring 31.54 117 ⇑P P **14 12 31.4 -0.3**
baz=32
TPNV Topopah Spring 31.54 117 *e*P P **14 12 31.9 +0.3**
comp=Z,13nm,0.9s,mb4.8
ISA Isabella 31.58 121 *e*P P **14 12 32.0 0.0**
ISA pmax pmax
comp=Z,33nm,1.6s,mb4.9
ISA Isabella 31.58 121 *e*P P **14 12 32.0 0.0**
comp=Z,33nm,1.6s,mb4.9
PKM Peak Mountain 31.63 124 ⇓P P **14 12 33.3 +0.9**
baz=32
N18A Larsen Ranch, 31.65 105 ⇑P P **14 12 32.0 -0.5**
baz=32
MPMC Manual Prospec 31.70 120 ⇑P P **14 12 32.9 -0.1**
baz=32
N19A John Jarvie Ra 31.96 104 ⇓P P **14 12 34.6 -0.6**
baz=32
S13A Holt Ranch, En 32.17 114 ⇓P P **14 12 37.1 -0.1**
baz=32,SNR=7.6
MSU Marysvale 32.26 111 *e*P P **14 12 38.8 +0.9**
SHOC Shoshone 32.38 118 ⇓P P **14 12 39.3 +0.3**
baz=32
RWWY Rawlins 32.39 101 *e*P P **14 12 38.8 -0.2**
comp=Z,46nm,1.1s,mb5.2
CCUT Cedar City 32.44 113 *e*P P **14 12 39.1 -0.3**
SRU San Rafael 32.62 108 ⇑P P **14 12 41.2 +0.1**
baz=32
GSC Goldstone 32.64 120 P P **14 12 40.7 -0.5**
GSC pmax pmax
comp=Z,40nm,1.6s,mb5.1
GSC Goldstone 32.64 120 ⇑P P **14 12 41.3 +0.1**
baz=32
GSC Goldstone 32.64 120 P P **14 12 40.7 -0.5**
comp=Z,40nm,1.6s,mb5.1
ULM Lac du Bonnet 32.70 80 P P **14 12 41.5 -0.1**
comp=Z,5.5nm,0.7s,mb4.6,baz=304,slow=9.9,SNR=5.2
ULM PcP PcP 14 15 25.5 -0.8
comp=Z,3.5nm,0.7s,baz=316,slow=7.1,SNR=3.7
ULM LR LR 14 26 22.0
comp=Z,924nm,18.3s,MS4.5,baz=48,slow=37
ULM Lac du Bonnet 32.70 80 *e*P P **14 12 39.8 -1.8**
comp=Z,48nm,1.5s,mb5.2
S15A Panguitch 32.82 112 ⇓P P **14 12 42.0 -0.8**
baz=33
TUQ Turquoise Moun 32.93 118 ⇓P P **14 12 43.8 0.0**
baz=33
T14A Hurricane 32.96 113 ⇑P P **14 12 43.7 -0.4**
baz=33
U13A Pakoon Wash 33.05 115 ⇑P P **14 12 44.7 -0.2**
baz=33
R17A Hanksville Air 33.06 109 ⇓P P **14 12 44.4 -0.5**
baz=33
BFSC Mount Baldy St 33.14 122 ⇑P P **14 12 45.4 -0.2**
baz=33
TIXI Tiksi 33.16 325*c i*P P **14 12 44.6 -0.8**
TIXI pmax pmax
comp=Z,52nm,1.2s,mb5.3
TIXI Tiksi 33.16 325 *e*P P **14 12 44.3 -1.1**
comp=Z,39nm,1.0s,mb5.3
V12A Nelson 33.19 117 ⇑P P **14 12 46.4 +0.3**
baz=33
HEC Hector,Ludlow 33.24 120 ⇑P P **14 12 47.0 +0.5**
baz=33
Q19A Hogan Spring (33.37 107 ⇓P P **14 12 47.5 -0.1**
baz=33
U14A Mt Trumbull 33.43 114 ⇓P P **14 12 48.2 +0.1**
baz=33
R18A Canyonlands Na 33.49 108 ⇓P P **14 12 48.6 -0.1**
baz=33
V13A Grand Canyon W 33.50 116 ⇑P P **14 12 49.1 +0.3**
baz=33,SNR=7.6
CIS Catalina Islan 33.51 124 ⇑P P **14 12 48.9 +0.1**
baz=33
GMRC Granite Mounta 33.59 119 ⇓P P **14 12 49.3 -0.3**
baz=34
LDFC Landfair 33.60 118 *e*P P **14 12 49.6 -0.1**
comp=Z,59nm,1.4s,mb5.3
S17A Black Ridge (B 33.62 110 ⇑P P **14 12 49.5 -0.4**
baz=34
U15A North Rim 33.85 113 ⇓P P **14 12 52.1 +0.3**
baz=34
AGMN Agassiz Refuge 33.89 82 *e*P P **14 12 49.8 -2.2**
comp=Z,23nm,0.9s,mb5.1
S18A Hurst Farm, Bl 33.98 109 ⇑P P **14 12 52.3 -0.6**
baz=34
BELC Belle Mtn. 34.09 120 ⇑P P **14 12 53.8 -0.1**
baz=34
V14A Boquillas Ranc 34.09 115 ⇑P P **14 12 54.7 +0.8**
baz=34,SNR=5.5
W13A Hualapai Mount 34.16 116 ⇓P P **14 12 54.3 -0.2**
baz=34
PFO Pinyon Flat Ob 34.20 121 ⇑P P **14 12 55.0 +0.1**
baz=34
IRM Iron Mountain 34.34 119 ⇑P P **14 12 55.9 -0.2**
baz=34
PV01 Paradox Valley 34.35 107 *e*P P **14 12 56.2 +0.1**
S19A Harvey Farm, M 34.37 108 ⇓P P **14 12 56.4 +0.1**
baz=34
V15A Kaibab Nationa 34.39 114 ⇑P P **14 12 56.7 +0.2**
baz=34
W14A Seligman 34.45 115 ⇓P P **14 12 57.4 +0.4**
baz=34
T18A Mexican Hat 34.47 110 ⇑P P **14 12 56.3 -0.9**
baz=34
X13A Yucca 34.60 117 ⇑P P **14 12 57.9 -0.4**
baz=34
BC3 Big Chuckw Mtn 34.62 120 ⇑P P **14 12 57.8 -0.7**
baz=34
U16A Tuba City 34.64 112 ⇓P P **14 12 58.3 -0.3**
baz=34
PDMC Parker Dam,Lak 34.70 117 ⇑P P **14 12 58.7 -0.4**
baz=35
MONP Monument Peak 34.83 122 ⇓P P **14 13 00.3 0.0**
baz=35
W15A Williams 34.86 114 ⇑P P **14 13 00.5 -0.1**
baz=35
Y12C Blythe 34.97 118 ⇑P P **14 13 01.3 -0.2**
baz=35
WUAZ Wupatki 35.02 113 ⇑P P **14 13 02.2 +0.3**
baz=35
WUAZ Wupatki 35.02 113 *e*P P **14 13 02.4 +0.5**
comp=Z,35nm,1.3s,mb5.1
SWSC Sam W. Stewart 35.06 121 ⇓P P **14 13 03.1 +0.8**
baz=35
MVCO Mesa Verde 35.10 108 P P **14 13 02.3 -0.3**
comp=Z,6.2nm,0.7s,mb4.7
T19A Beclabito 35.13 109 ⇓P P **14 13 03.6 +0.8**
baz=35
X14A Yava 35.14 116 ⇓P P **14 13 03.2 +0.2**
baz=35,SNR=7.6
Y13A Salome 35.24 118 ⇑P P **14 13 03.9 +0.1**
baz=35
X15A Humboldt 35.44 115 ⇓P P **14 13 05.9 +0.3**
baz=35
Y14A Wickenburg 35.52 116 ⇑P P **14 13 06.6 +0.3**
baz=35
X16A Lo Mia Camp, P 35.88 114 ⇓P P **14 13 09.5 +0.2**
baz=36
113A Mohawk Valley, 36.14 118 ⇑P P **14 13 12.0 +0.5**
baz=36
SDCO Great Sand Dun 36.20 104 *e*P P **14 13 12.5 +0.4**
comp=Z,43nm,1.6s,mb5.1
SDCO LR LR
comp=Z,600nm,20.0s,MS4.4
Y16A Circle Bar Ran 36.30 115 ⇓P P **14 13 12.6 -0.3**
baz=36
EYMN Ely 36.38 80 *e*P P **14 13 12.0 -1.5**
comp=Z,22nm,1.0s,mb5.0
Y17A Roosevelt 36.75 114 ⇑P P **14 13 16.6 -0.2**
baz=37
115A Sonoran Desert 36.91 117 ⇓P P **14 13 17.7 -0.5**
baz=37
YAK Yakutsk 36.97 310 *e*P P **14 13 17.3 -1.0**
YAK *e**PP pP 14 13 23.4 -6.1
YAK *e* 14 14 42.6
YAK *e* 14 15 37.9
YAK *e*S S **14 19 00.9 +0.6**
YAK pmax pmax
comp=Z,140nm,0.9s,mb5.8
YAK pmax pmax
comp=N,19nm,1.3s
YAK pmax pmax
comp=E,51nm,1.2s
YAK pmax pmax
comp=N,16nm,1.4s
YAK pmax pmax
comp=Z,52nm,1.8s,mb5.1
YAK pmax pmax
comp=E,109nm,2.2s
YAK smax
comp=N,79μm,3.8s
YAK smax
comp=E,76μm,3.2s
YAK MLR MLR
comp=Z,850nm,22.0s,MS4.5
YAK MLR MLR
comp=N,690nm,18.0s
YAK MLR MLR
comp=E,502nm,24.0s
YAK Yakutsk 36.97 310 *e*P P **14 13 17.2 -1.0**
comp=E,150nm,0.8s,mb5.9
Y18A Canyon Day Jun 37.08 113 ⇓P P **14 13 20.1 +0.6**
baz=37
214A Organ Pipe Nat 37.26 118 ⇓P P **14 13 20.9 -0.2**
baz=37
Y19A Nutrioso 37.31 112 ⇑P P **14 13 22.2 +0.7**
baz=37,SNR=5.1
Z19A Hunk Ranch, 37.84 113 ⇑P P **14 13 25.7 -0.3**
baz=38
216A Three Points, 37.85 116 ⇓P P **14 13 25.7 -0.4**
baz=38
ANMO Albuquerque 37.89 108 *i* P P **14 13 28.9 +2.5**
LAZ Ladron 37.99 109 *e*P P **14 13 26.2 -1.1**
118A Homack Ranch, 38.03 114 ⇓P P **14 13 27.6 0.0**
baz=38
119A Ashpeak Ranch, 38.25 113 ⇑P P **14 13 29.2 -0.3**
baz=38,SNR=9.3
LENM Lemitar 38.26 109 *e*P P **14 13 30.1 +0.6**
217A Green Valley 38.34 116 ⇑P P **14 13 29.8 -0.5**
baz=38
BNM Barren Site 38.45 109 *e*P P **14 13 31.9 +0.9**
218A Dragoon 38.55 115 ⇑P P **14 13 31.4 -0.5**
baz=38
219A White Tail Can 38.90 114 ⇓P P **14 13 35.2 +0.2**
baz=39,SNR=5.8
318A Bisbee 39.01 115 ⇑P P **14 13 35.9 0.0**
baz=39,SNR=6.9
319A Douglas 39.41 115 ⇑P P **14 13 39.3 +0.1**
baz=39
YSS Yuzh-Sakhalins 39.74 283⇑*e*P P **14 13 40.0 -1.8**
YSS pmax pmax
comp=Z,80nm,1.1s,mb5.4
YSS MLR MLR
comp=Z,300nm,18.0s,MS4.2
YSS Yuzh-Sakhalins 39.74 283 *e*P P **14 13 40.9 -0.9**
comp=Z,89nm,1.2s,mb5.4
KSU1 Kansas State U 39.80 94 *e*P P **14 13 42.0 -0.3**
comp=Z,15nm,0.6s,mb4.9
AMTX Amarillo 40.37 103 *e*P P **14 13 46.6 -0.4**
comp=Z,77nm,1.3s,mb5.3
JFWS Jewell Farm 40.41 85 *e*P P **14 13 46.2 -1.1**
JFWS pmax pmax
comp=Z,25nm,0.6s,mb5.1
JFWS Jewell Farm 40.41 85 *e*P P **14 13 46.1 -1.2**
comp=Z,25nm,0.6s,mb5.1
SUMG Summit 41.57 25 *e*P P **14 13 55.4 -1.2**
comp=Z,12nm,0.9s,mb4.5
ASAJ Asahikawa 41.75 280 P P **14 13 58.5 +0.1**
comp=Z,33nm,0.9s,mb5.0,baz=40,slow=5.2,SNR=34
CLNS Chul'man 41.95 305 *e*P P **14 13 57.3 -2.5**
CLNS pmax pmax
comp=Z,15nm,0.8s,mb4.7
CLNS pmax pmax
comp=N,8.0nm,1.0s
CLNS pmax pmax
comp=E,9.0nm,1.0s
CLNS MLR MLR
comp=Z,409nm,12.0s,MS4.5
CLNS MLR MLR
comp=N,104nm,12.0s,MS4.2
CLNS MLR MLR
comp=E,190nm,12.0s,MS4.2
WMOK Wichita Mounta 41.97 101 *e*P P **14 13 59.9 -0.4**
WMOK pmax pmax
comp=Z,23nm,0.9s,mb4.8
WMOK MLR MLR
comp=Z,629nm,22.0s,MS4.5
WMOK Wichita Mounta 41.97 101 *e*P P **14 13 59.9 -0.3**
comp=Z,23nm,0.9s,mb4.8
WMOK LR LR
comp=Z,629nm,22.0s,MS4.5
HDIL Hopedale 42.59 87 *e*P P **14 14 03.5 -1.7**
comp=Z,48nm,0.8s,mb5.3
HABR Khabarovsk 42.62 290⇑*i*P P **14 14 04.1 -1.3**
HABR *e* 14 15 42.9
HABR *e* 14 15 55.4
HABR *e*S S **14 20 25.0 -0.2**
HABR *e* 14 24 02.6
HABR pmax pmax
comp=Z,132nm,1.2s,mb5.5
ERM Erimo 42.94 277 P P **14 14 08.2 +0.2**
comp=Z,563nm,0.4s,SNR=60
ERM Erimo 42.94 277⇑*i*P P **14 14 07.9 -0.1**
ERM Erimo 42.94 277 *e*P P **14 14 08.3 +0.3**
comp=Z,40nm,0.4s,mb5.5
SPB4 Spitsbergen Ar 43.46 4 *e*P P **14 14 11.9 0.0**
KLR Kul'dur 43.73 293⇓*i*P P **14 14 10.2 -4.1**
KLR *e* 14 15 52.7
KLR pmax pmax
comp=E,74nm,1.4s
KLR pmax pmax
comp=Z,230nm,1.4s,mb5.7
TXAR Lajitas Array 43.82 110 P P **14 14 15.6 +0.3**
comp=Z,2.9nm,0.9s,mb4.0,baz=323,slow=6.3,SNR=16
TXAR LR LR 14 31 35.2
comp=Z,407nm,18.7s,MS4.4,baz=5.0,slow=35
FVM French Village 43.88 90 P P **14 14 14.5 -1.2**
FVM pmax pmax
comp=Z,34nm,1.4s,mb4.9
FVM French Village 43.88 90 P P **14 14 14.5 -1.2**
comp=Z,34nm,1.4s,mb4.9
SCHQ Schefferville 43.90 56 P P **14 14 14.3 -1.2**
comp=Z,2.9nm,0.5s,mb4.3,baz=327,slow=8.4,SNR=8.2
SCHQ LR LR 14 32 56.4
comp=Z,532nm,20.2s,MS4.5,baz=122,slow=37
SCHQ Schefferville 43.90 56 *e*P P **14 14 14.4 -1.2**
comp=Z,23nm,1.0s,mb4.9
OLIL Olney 44.55 87 *e*P P **14 14 20.0 -1.0**
comp=Z,60nm,0.9s,mb5.4
JCT Junction City 44.82 105 *e*P P **14 14 23.0 -0.3**
JCT *e* pP 14 14 32.7 -2.0
JCT pmax pmax
comp=Z,89nm,1.2s,mb5.5
JCT Junction City 44.82 105 *e*P P **14 14 23.0 -0.3**
comp=Z,89nm,1.2s,mb5.5
JCT *e* pP 14 14 32.7 -2.0
MIAR Mount Ida 44.84 96 *e*P P **14 14 20.9 -2.4**
MIAR pmax pmax
comp=Z,33nm,1.2s,mb5.0
MIAR Mount Ida 44.84 96 *e*P P **14 14 20.9 -2.4**
comp=Z,33nm,1.2s,mb5.0
BOD Bodaibo 45.79 312 *e*P P **14 14 29.4 -1.2**
BOD pmax pmax
comp=Z,61nm,0.9s,mb5.5
OXF Oxford 47.05 92 P P **14 14 40.5 -0.2**
OXF pmax pmax
comp=Z,107nm,1.1s,mb5.7
OXF Oxford 47.05 92 P P **14 14 40.5 -0.2**
comp=Z,107nm,1.1s,mb5.7
HKT Hockley 47.28 102 *e*P P **14 14 41.5 -1.1**
HKT pmax pmax
comp=Z,42nm,1.4s,mb5.2
HKT Hockley 47.28 102 *e*P P **14 14 41.5 -1.1**
comp=Z,42nm,1.4s,mb5.2
VLA Vladivostok 47.94 287 *e*P P **14 14 46.9 -0.7**
VLA pmax pmax
comp=Z,53nm,1.3s,mb5.4
VLA MLR MLR
comp=Z,400nm,17.8s,MS4.4
VLA Vladivostok 47.94 287⇑*i*P P **14 14 48.0 +0.4**
MDJ Mudanjiang 48.01 290 P P **14 14 47.6 -0.5**
MDJ AP pP 14 14 59.1 -0.5
MDJ PP PP 14 16 38.0 -2.1
MDJ S S **14 21 42.2 -0.8**
MDJ AMB AMB
comp=Z,22nm,1.1s,mb5.1
MDJ AMB AMB
comp=Z,62nm,4.5s
MDJ LR LR
comp=N,407nm,20.6s,MS4.6
MDJ LR LR
comp=E,412nm,17.3s,MS4.6
MDJ LR LR
comp=Z,556nm,21.2s,MS4.5
SWET Sewanee 48.34 89 P P **14 14 49.6 -1.1**
TZTN Tazewell 48.58 86 *e*P P **14 14 51.8 -0.8**
comp=Z,29nm,1.1s,mb5.2
TKL Tuckaleechee C 49.13 87 *e*P P **14 14 55.0 -1.8**
MAJO Matsushiro 49.56 276 *e*P P **14 14 59.8 -0.3**
MAJO pmax pmax
comp=Z,38nm,0.8s,mb5.5
MAJO MLR MLR
comp=Z,530nm,22.0s,MS4.5
MAJO Matsushiro 49.56 276 *e*P P **14 14 59.8 -0.3**
comp=Z,38nm,0.8s,mb5.5
MAJO LR LR
comp=Z,530nm,22.0s,MS4.5
MAT Matsushiro 49.56 276 P P **14 14 59.7 -0.4**
MJAR Matsushiro Arr 49.56 276 P P **14 14 59.8 -0.3**
comp=Z,15nm,1.0s,mb5.0,baz=6.0,slow=6.8,SNR=32
MJAR PcP PcP 14 16 21.6 +0.3
comp=Z,5.1nm,0.9s,baz=54,slow=4.7,SNR=5.3
MJAR LR LR 14 35 07.9
comp=Z,455nm,22.0s,MS4.4,baz=65,slow=35
MJAR Matsushiro Arr 49.56 276 P P **14 14 59.8 -0.3**
MJAR 14 16 21.6
CIT Chita 50.08 307 *e*P P **14 15 04.5 +0.7**
CIT *e* pP 14 15 16.7 +1.4
CIT pmax pmax
comp=Z,163nm,1.4s,mb5.9
CN2 Changchun 50.65 292 *e*P P **14 15 07.5 -0.7**
CN2 *e*AP pP 14 15 20.0 +0.2
CN2 *e*S S **14 22 18.7 -1.2**
CN2 AMB AMB
comp=Z,20nm,1.1s,mb5.0
CN2 AMB AMB
comp=Z,200nm,5.0s
CN2 LR LR
comp=N,400nm,21.0s,MS4.5
CN2 LR LR
comp=E,300nm,21.0s,MS4.5
CN2 LR LR
comp=Z,200nm,19.0s,MS4.2
ARCES ARCESS Array B 52.33 1 P P **14 15 19.1 -1.4**
comp=Z,4.9nm,0.7s,mb4.6,baz=12,slow=6.1,SNR=23
ARCES LR LR 14 39 41.5
comp=Z,220nm,18.3s,MS4.2,baz=322,slow=38
ARE0 ARCESS Array S 52.33 1 *e*P P **14 15 20.2 -0.3**
SNY Shenyang 53.03 291 ⇑P P **14 15 26.1 +0.1**
SNY AMB AMB
comp=Z,52nm,1.2s,mb5.3
SNY AMB AMB
comp=Z,170nm,4.3s
SNY LR LR
comp=N,500nm,23.1s
SNY LR LR
comp=E,423nm,16.9s
SNY LR LR
comp=Z,330nm,22.6s,MS4.3
IRK Irkutsk 53.68 312⇑*i*P P **14 15 29.0 -1.6**
IRK pmax pmax
comp=Z,62nm,1.1s,mb5.5

LVZ Lovozero 53.91 357 P **P** **14 15 32.5 +0.4**
comp=Z,381nm,1.3s,mb6.2,SNR=5.4

KSRS Korea Array 54.19 285 P **P** **14 15 35.1 +0.6**
comp=Z,28nm,0.5s,mb5.4,baz=41,slow=6.8,SNR=179
KSRS LR LR 14 40 47.7
comp=Z,169nm,19.7s,MS4.1,baz=39,slow=38

APA Apatity 54.27 358⇑*iP* **P** **14 15 34.0 -0.7**
APA pmax pmax
comp=Z,23nm,1.0s,mb5.1

TLY Talaya 54.36 312 P **P** **14 15 36.9 +1.3**
comp=Z,188nm,1.2s,mb5.9,SNR=5.3

TLY Talaya 54.36 312 ⇑P **P** **14 15 36.1 +0.5**
SNR=12

TLY Talaya 54.36 312 *eP* **P** **14 15 36.1 +0.5**
TLY *eS* **S** **14 23 15.8 +5.3**
TLY *e* 14 25 28.4
TLY pmax pmax
comp=Z,52nm,1.2s,mb5.3
TLY MLR MLR
comp=Z,744nm,22.0s,MS4.7

TLY Talaya 54.36 312 *eP* **P** **14 15 35.9 +0.3**
comp=Z,48nm,1.3s,mb5.3

KRAR Krasnoyarsk 54.78 322⇓*iP* **P** **14 15 38.7 +0.2**
KRAR pmax pmax
comp=Z,316nm,1.5s,mb6.1

INCN Inchon 54.82 286 *eP* **P** **14 15 38.6 -0.5**
comp=Z,58nm,0.9s,mb5.6

CBIJ Chichi jima 54.87 265 P **P** **14 15 39.3 -0.3**
comp=Z,86nm,0.6s,mb6.0,baz=27,slow=14,SNR=7.1

MOY Mondy 55.40 314 *eP* **P** **14 15 43.8 +0.7**
MOY pmax pmax
comp=Z,91nm,1.8s,mb5.5

ZAK Zakamensk 55.52 311 *eP* **P** **14 15 43.9 -0.1**
ZAK pmax pmax
comp=Z,14nm,1.2s,mb4.9

ULN Ulaanbaatar 55.97 307⇑*iP* **P** **14 15 47.8 +0.6**
ULN Ulaanbaatar 55.97 307 *eP* **P** **14 15 47.5 +0.3**
comp=Z,36nm,0.9s,mb5.4

SONM Songino Array 56.26 308 P **P** **14 15 50.2 +0.8**
comp=Z,62nm,0.9s,mb5.6,baz=44,slow=7.3,SNR=200
SONM ScP ScP 14 20 43.6 +1.6
comp=Z,0.2nm,0.3s,baz=13,slow=1.9,SNR=3.5
SONM LR LR 14 41 23.6
comp=Z,656nm,21.1s,MS4.7,baz=35,slow=38

BJI Beijing 57.99 295 P **P** **14 16 01.3 -0.3**
BJI PP PP 14 18 12.2 +2.2
BJI S **S** **14 23 58.8 -0.1**
BJI SS SS 14 27 45.7 -4.0
BJI AMB AMB
comp=Z,46nm,0.6s,mb5.7
BJI LR LR
comp=N,394nm,25.1s,MS4.5
BJI LR LR
comp=E,310nm,22.7s,MS4.5
BJI LR LR
comp=Z,229nm,24.9s,MS4.2

BJI Beijing 57.99 295 P **P** **14 16 01.3 -0.3**
BJI 14 18 12.2
BJI S **S** **14 23 58.8 -0.1**
BJI *SS sS 14 24 18.6 +0.3
BJI SS SS 14 27 45.7 -4.0
BJI pmax pmax
comp=Z,46nm,0.6s,mb5.7
BJI MLR MLR
comp=Z,230nm,24.9s,MS4.2

BJI Beijing 57.99 295 P **P** **14 16 01.3 -0.3**
comp=Z,46nm,0.6s,mb5.7
BJI PP PP 14 18 12.2 +2.2
BJI S **S** **14 23 58.8 -0.1**
BJI sS sS 14 24 18.6 +0.3
BJI SS SS 14 27 45.7 -4.0
BJI LR LR
comp=Z,230nm,24.9s,MS4.2

NVS Novosibirsk 58.75 326⇑*iP* **P** **14 16 04.5 -2.2**
NVS pmax pmax
comp=Z,105nm,1.1s,mb5.8
NVS pmax pmax
comp=N,68nm,1.4s
NVS pmax pmax
comp=E,59nm,1.1s

JOF Joensuu 58.97 358 *ep* **P** **14 16 07.0 -1.2**
comp=E,8.5nm,0.7s,mb4.9

JOF Joensuu 58.97 358 *eP* **P** **14 16 07.0 -1.2**
JOF pmax pmax
comp=Z,9.0nm,0.7s,mb4.9

ZAA0 Zalesovo Array 59.05 325 *eP* **P** **14 16 08.2 -0.5**
ZALV Zalesovo Beam 59.05 325 P **P** **14 16 08.5 -0.3**
comp=Z,86nm,0.8s,mb5.8,baz=30,slow=7.1,SNR=273
ZALV LR LR 14 44 00.1
comp=Z,223nm,19.4s,MS4.3,baz=24,slow=38

ZALV Zalesovo Beam 59.05 325 P **P** **14 16 08.5 -0.3**
ZALV LR LR 14 44 00.1

HHC Hu-ho-hao-te 59.51 299⇑P **P** **14 16 12.6 +0.4**
HHC AP pP 14 16 23.5 -0.4
HHC XP sP 14 16 27.3 -1.3
HHC PCP PcP 14 17 00.2 +0.9
HHC PP PP 14 18 26.7 +3.3
HHC SCP ScP 14 20 56.8 +0.2
HHC PCS PcS 14 21 00.5 -0.9
HHC S **S** **14 24 17.7 -0.9**
HHC XS sS 14 24 34.4 -3.7
HHC SCS ScS 14 25 57.2 -1.5
HHC SS SS 14 28 14.6 +1.1
HHC AMB AMB
comp=Z,93nm,1.0s,mb5.8
HHC AMB AMB
comp=Z,120nm,6.0s
HHC LR LR
comp=N,493nm,18.6s,MS4.9
HHC LR LR
comp=E,586nm,19.0s,MS4.9
HHC LR LR
comp=Z,608nm,19.8s,MS4.7

KAF Kangasniemi 59.80 1 *ep* **P** **14 16 13.5 -0.3**
comp=Z,5.4nm,0.6s,mb4.8,baz=354,slow=6.7

KAF Kangasniemi 59.80 1 *eP* **P** **14 16 13.5 -0.3**
KAF pmax pmax
comp=Z,5.0nm,0.6s,mb4.7

NB2 NORSAR Subarra 60.14 9 P **P** **14 16 15.5 -0.7**
comp=Z,16nm,0.9s,mb5.1,baz=350,slow=6.9

NOA NORSAR Array B 60.14 9 P **P** **14 16 16.1 -0.1**
comp=Z,7.4nm,0.9s,mb4.7,baz=350,slow=6.8,SNR=15

BTO Baotou 60.41 300 *eP* **P** **14 16 17.8 -0.6**
KLMR Klimovskoe 60.74 354 *iP* **P** **14 16 20.7 +0.4**
KLMR pmax pmax
comp=Z,102nm,1.3s,mb5.8

HFS Hagfors 61.24 8 P **P** **14 16 23.3 -0.4**
comp=Z,11nm,0.8s,mb5.0,baz=33,slow=3.5,SNR=21

KONO Kongsberg 61.36 11⇑*eP* **P** **14 16 24.9 +0.4**
SVE Sverdlovsk 62.23 341⇓*eP* **P** **14 16 30.1 -0.3**
SVE *eS* **S** **14 24 57.5 +4.7**
SVE pmax pmax
comp=Z,51nm,1.1s,mb5.6
SVE MLR MLR
comp=Z,381nm,20.0s,MS4.6

SSE Sheshan 62.61 285 P **P** **14 16 32.8 -0.6**
SSE S **S** **14 24 57.1 -1.3**
SSE AMB AMB
comp=Z,36nm,1.2s,mb5.4
SSE AMB AMB
comp=Z,239nm,5.6s
SSE LR LR
comp=N,90nm,18.8s,MS4.2
SSE LR LR
comp=E,134nm,18.8s,MS4.2
SSE LR LR
comp=Z,189nm,16.1s,MS4.3

SSE Sheshan 62.61 285 P **P** **14 16 32.8 -0.6**
comp=Z,36nm,1.2s,mb5.4
SSE S **S** **14 24 57.1 -1.3**
SSE sS sS 14 25 17.1 -0.9
SSE LR LR
comp=Z,190nm,16.1s,MS4.3

EAB Aberfoyle 62.80 20 *eP* **P** **14 16 34.1 -0.1**
EBH Black Hill 62.89 19 *eP* **P** **14 16 34.9 0.0**
ARU Arti 62.97 342 P **P** **14 16 34.3 -1.0**
comp=Z,289nm,0.6s,SNR=8.6

ARU Arti 62.97 342*c iP* **P** **14 16 34.5 -0.8**
ARU *e* 14 17 12.1
ARU *eS* **S** **14 25 02.9 +0.9**
ARU pmax pmax
comp=Z,80nm,1.7s,mb5.6

ARU Arti 62.97 342 *eP* **P** **14 16 34.0 -1.3**
comp=Z,17nm,0.6s,mb5.3

NJ2 Nanjing 63.02 288 *eP* **P** **14 16 37.5 +1.4**
NJ2 AMB AMB
comp=Z,20nm,0.7s,mb5.4

EAU Auchinoon 63.28 19 *eP* **P** **14 16 37.7 +0.2**
EBL Broad Law 63.42 19 *eP* **P** **14 16 37.6 -0.7**
VSU Vasula 63.46 1*c iP* **P** **14 16 38.8 +0.2**
KURK Kurchatov 63.71 327 P **P** **14 16 39.5 -0.9**
comp=Z,427nm,0.5s,SNR=37

KURK Kurchatov 63.71 327 P **P** **14 16 40.2 -0.1**
comp=Z,31nm,0.5s,mb5.6,baz=28,slow=6.6,SNR=133
KURK PcP PcP 14 17 16.0 -0.1
comp=Z,5.2nm,0.8s,baz=18,slow=4.3,SNR=3.6

KURK Kurchatov 63.71 327 P **P** **14 16 40.2 -0.1**
KURK PcP PcP 14 17 16.0 -0.2

BRVK Borovoye 63.77 333 P **P** **14 16 40.7 0.0**
comp=Z,696nm,0.8s,SNR=33

BRVK Borovoye 63.77 333 *eP* **P** **14 16 40.1 -0.6**
BRVK pmax pmax
comp=Z,121nm,1.0s,mb5.9
BRVK MLR MLR
comp=Z,657nm,19.0s,MS4.8

BRVK Borovoye 63.77 333 *eP* **P** **14 16 40.1 -0.6**
comp=Z,120nm,1.0s,mb5.9
BRVK LR LR
comp=Z,657nm,19.0s,MS4.8

BVA0 Borovoye Array 63.78 333 *i* P **P** **14 16 40.1 -0.7**
BVA0 pmax pmax
comp=Z,20nm,0.9s,mb5.2

BVAR Borovoye Array 63.78 333 P **P** **14 16 40.2 -0.6**
comp=Z,56nm,0.7s,mb5.7,baz=32,slow=7.0,SNR=236

EKA Eskdalemuir Ar 63.82 19 P **P** **14 16 41.1 +0.2**
comp=Z,6.0nm,0.7s,mb4.7,baz=340,slow=5.3,SNR=12

XSO Sourhope Farm 63.83 19 *eP* **P** **14 16 41.1 +0.1**
VOSK Vostochnaya 63.92 333 P **P** **14 16 40.3 -1.4**
VOSK pmax pmax
comp=Z,17nm,0.6s,mb5.2

GTA Gaotai 65.88 306 P **P** **14 16 54.8 +0.1**
GTA AP pP 14 17 07.9 +1.3
GTA PP PP 14 19 20.7 +1.2
GTA S S 14 25 35.5 -3.1
GTA XS sS 14 25 55.3 -3.0
GTA SS SS 14 29 48.9 -4.1
GTA AMB AMB
comp=Z,36nm,1.6s,mb5.2
GTA AMB AMB
comp=Z,196nm,7.2s
GTA LR LR
comp=N,496nm,18.6s,MS4.9
GTA LR LR
comp=E,645nm,22.5s,MS4.9
GTA LR LR
comp=Z,331nm,18.9s,MS4.6

MOS Moscow 65.95 354 *eP* **P** **14 16 53.8 -1.0**
MOS pmax pmax
comp=Z,57nm,0.9s,mb5.6

MK31 Makanchi Array 66.09 323 *i* P **P** **14 16 54.9 -0.9**
MK31 pmax pmax
comp=Z,15nm,0.6s,mb5.2

MK31 Makanchi Array 66.09 323 *eP* **P** **14 16 54.7 -1.1**
MKAR Makanchi Array 66.09 323 P **P** **14 16 55.2 -0.7**
comp=Z,21nm,0.8s,mb5.2,baz=41,slow=6.0,SNR=103
MKAR LR LR 14 48 06.8
comp=Z,177nm,18.9s,MS4.3,baz=195,slow=38

MKAR Makanchi Array 66.09 323 *i* P **P** **14 16 55.2 -0.6**
MKAR pmax pmax
comp=Z,21nm,0.8s

MKAR Makanchi Array 66.09 323 P **P** **14 16 55.2 -0.7**
MKAR LR LR 14 48 06.8

XAN Xi'an 66.25 296 P **P** **14 16 56.6 -0.5**
XAN AP pP 14 17 09.8 +0.8
XAN PCP PcP 14 17 26.8 -0.1
XAN PP PP 14 19 26.1 +3.3
XAN SCP 14 21 26.4
XAN PCS 14 21 30.3
XAN S S 14 25 39.1 -4.0
XAN SCS ScS 14 26 46.6 -3.5
XAN SS SS 14 29 58.1 -0.8
XAN AMB AMB
comp=Z,37nm,1.5s,mb5.2
XAN AMB AMB
comp=Z,188nm,4.9s
XAN LR LR
comp=E,337nm,17.3s
XAN LR LR
comp=Z,710nm,19.6s,MS4.9

KWE Weaver Farm 66.27 19 *eP* **P** **14 16 56.2 -0.7**
WHN Wuhan 66.49 290⇓*iP* **P** **14 16 59.0 +0.3**
WHN S S 14 25 49.8 +3.7
WHN LR LR
comp=Z,1μm,11.7s,MS5.4

OBN Obninsk 66.63 355*c iP* **P** **14 16 58.7 -0.5**
OBN *eS* S 14 25 47.1 0.0
OBN pmax pmax
comp=Z,92nm,1.1s,mb5.7
OBN MLR MLR
comp=Z,200nm,20.0s,MS4.3

OBN Obninsk 66.63 355 *eP* **P** **14 16 58.4 -0.8**
comp=Z,126nm,1.4s,mb5.8

RGN Rugen 66.75 9 *eP* **P** **14 17 01.3 +1.4**
comp=Z,42nm,0.9s,mb5.5

WMQ Urumqi 66.86 317⇑*iP* **P** **14 17 01.9 +1.0**
WMQ AP pP 14 17 12.4 -0.4
WMQ XP sP 14 17 16.4 -1.0
WMQ PCP PcP 14 17 30.7 +1.4
WMQ PP PP 14 19 31.0 +3.1
WMQ S S 14 25 50.4 +0.1
WMQ XS sS 14 26 07.4 -2.7
WMQ AMB AMB
comp=Z,58nm,1.0s,mb5.6
WMQ LR LR
comp=N,363nm,18.3s,MS4.8
WMQ LR LR
comp=E,389nm,18.4s,MS4.8
WMQ LR LR
comp=Z,318nm,22.2s,MS4.5

LZH Lanzhou 66.89 301⇑P **P** **14 17 01.0 -0.2**
LZH AP pP 14 17 11.5 -1.6
LZH XP sP 14 17 15.3 -2.4
LZH PP PP 14 19 30.2 +1.8
LZH *eS* S 14 25 48.5 -2.4
LZH XS sS 14 26 06.3 -4.4
LZH SS SS 14 30 09.4 +0.6
LZH AMB AMB
comp=Z,67nm,1.5s,mb5.5
LZH AMB AMB
comp=Z,214nm,5.2s
LZH LR LR
comp=Z,2μm,20.1s,MS5.3

LZH Lanzhou 66.89 301⇑P **P** **14 17 01.0 -0.2**
LZH *PP pP 14 17 11.5 -1.6
LZH 14 19 30.2
LZH *eS* S 14 25 48.5 -2.4
LZH SS SS 14 30 09.4 +0.6
LZH pmax pmax
comp=Z,67nm,1.5s,mb5.5
LZH MLR MLR
comp=Z,2μm,20.1s,MS5.3

LZH Lanzhou 66.89 301⇑P **P** **14 17 01.0 -0.2**
comp=Z,67nm,1.5s,mb5.5
LZH pP pP 14 17 11.5 -1.6
LZH sP sP 14 17 15.3 -2.4
LZH PP PP 14 19 30.2 +1.8
LZH *eS* S 14 25 48.5 -2.4
LZH sS sS 14 26 06.3 -4.4
LZH SS SS 14 30 09.4 +0.6
LZH LR LR
comp=Z,2μm,20.1s,MS5.3

BSEG Bad Segeberg 67.07 11 *eP* **P** **14 17 02.4 +0.4**
BSEG *e**PP pP 14 17 14.1 +0.2
BSEG pmax pmax
comp=Z,21nm,1.1s,mb5.1

BSEG Bad Segeberg 67.07 11 *eP* **P** **14 17 02.4 +0.4**
comp=Z,21nm,1.1s,mb5.1
BSEG *epP pP 14 17 14.1 +0.2

TAOE Nuku Hiva Isla 67.70 168 *eLR* LR 14 37 32.0
comp=Z,17μm,27.5s

YHNB Yeheng 67.73 281 *eP* **P** **14 17 05.3 -1.3**
comp=Z,18nm,0.8s,mb5.2

SUW Suwalki 67.85 3 *eP* **P** **14 17 06.5 -0.4**
SUW Suwalki 67.85 3 *eP* **P** **14 17 06.3 -0.7**
SUW pmax pmax
comp=Z,44nm,0.9s,mb5.5

SUW Suwalki 67.85 3 *eP* **P** **14 17 06.3 -0.7**
comp=Z,44nm,0.9s,mb5.5

NACB Ninganchiao 68.03 281 *eP* **P** **14 17 08.0 -0.5**
comp=Z,299nm,0.8s

GKP Gorka Klasztor 68.31 7 *eP* **P** **14 17 10.7 +0.8**
IBBN Ibbenburen 68.38 13 *eP* **P** **14 17 10.7 +0.4**
comp=Z,14nm,1.0s,mb5.0
IBBN *epP pP 14 17 22.1 -0.1

WTSB Winterswijk 68.60 14 *eP* **P** **14 17 11.4 -0.3**
comp=Z,14nm,1.0s,mb4.8

AKTK Aktyubinsk 68.81 340 P **P** **14 17 12.5 -0.5**
AKTO Aktyubinsk 68.81 340 P **P** **14 17 12.5 -0.5**
comp=Z,23nm,0.7s,mb5.2,baz=24,slow=6.2,SNR=56

RUE Ruedersdorf 68.84 9 *eP* **P** **14 17 13.8 +0.7**
comp=Z,45nm,1.2s,mb5.3
RUE *epP pP 14 17 25.3 +0.2

RUE Ruedersdorf 68.84 9 *eP* **P** **14 17 13.8 +0.7**
comp=Z,58nm,1.4s,mb5.3

CLZ Clausthal 69.14 12 *eP* **P** **14 17 15.6 +0.6**
CLZ pmax pmax
comp=Z,24nm,0.9s,mb5.1

CLZ Clausthal 69.14 12 *eP* **P** **14 17 15.6 +0.6**
comp=Z,24nm,0.9s,mb5.1

BUG Bochum-Univer 69.17 14 *eP* **P** **14 17 15.3 +0.1**
comp=Z,28nm,0.9s,mb5.2
BUG *epP pP 14 17 26.8 -0.4

AB31 Akbulak array 69.58 338 *i* P **P** **14 17 17.1 -0.7**
AB31 pmax pmax
comp=Z,24nm,0.7s,mb5.2

HGN Heimansgroeve 69.66 15 *eP* **P** **14 17 17.9 -0.4**
comp=Z,13nm,1.0s,mb4.8

HGN Heimansgroeve 69.66 15 *eS* S 14 26 30.9 +7.5
BCLA Clavier 69.91 15 P **P** **14 17 19.9 +0.1**
comp=Z,8.3nm,1.4s,mb4.5

CLL Collm 69.93 10⇑*iP* **P** **14 17 19.7 -0.2**
CLL *i **PP pP 14 17 31.4 -0.5
CLL pmax pmax
comp=Z,14nm,1.1s,mb4.8

CLL Collm 69.93 10 *eP* **P** **14 17 19.5 -0.4**
comp=Z,14nm,1.1s,mb4.8

CLL Collm 69.93 10⇑*iP* **P** **14 17 19.7 -0.2**
comp=Z,14nm,1.1s,mb4.8
CLL *i* pP pP 14 17 31.4 -0.5

BAIF Baives 70.10 16 *eP* **P** **14 17 21.3 +0.3**
comp=Z,21nm,0.9s,mb4.8

BAIF Baives 70.10 16 *eP* **P** **14 17 21.3 +0.3**
BAIF pmax pmax
comp=Z,11nm,0.9s,mb4.8

BAIF Baives 70.10 16 *eP* **P** **14 17 21.3 +0.3**
comp=Z,11nm,0.9s,mb4.8

UBBA Unterbreizbach 70.11 12 *eP* **P** **14 17 21.2 +0.2**
comp=Z,14nm,1.6s,mb4.6

DOU Dourbes 70.12 16 P **P** **14 17 20.8 -0.3**
comp=Z,8.3nm,1.7s,mb4.4

GIVF Givet 70.15 16 *eP* **P** **14 17 21.5 +0.2**
comp=Z,36nm,1.0s,mb4.9

GIVF Givet 70.15 16 *eP* **P** **14 17 21.5 +0.2**
GIVF pmax pmax
comp=Z,18nm,1.0s,mb5.0

GIVF Givet 70.15 16 *eP* **P** **14 17 21.5 +0.2**
comp=Z,18nm,1.0s,mb5.0

FBE Freiberg 70.34 10 *eP* **P** **14 17 22.6 +0.2**
comp=Z,28nm,1.2s,mb5.1

VSR Storozhevoye 70.37 353 *eP* **P** **14 17 22.2 -0.4**
VSR pmax pmax
comp=Z,10.0nm,0.7s,mb4.8
VSR pmax pmax
comp=N,20nm,0.9s
VSR pmax pmax
comp=E,7.0nm,0.4s

BRG Berggiesshubel 70.44 10 *iP* **P** **14 17 23.5 +0.4**
BRG *i **PP pP 14 17 33.9 -1.1
BRG pmax pmax
comp=Z,11nm,1.1s,mb4.7

BRG Berggiesshubel 70.44 10 *eP* **P** **14 17 23.2 +0.1**
comp=Z,18nm,1.1s,mb4.9

BRG Berggiesshubel 70.44 10 *iP* **P** **14 17 23.5 +0.4**
comp=Z,18nm,1.1s,mb4.9
BRG *i* pP pP 14 17 33.9 -1.2
comp=Z,12nm,0.9s

MOX Moxa 70.45 11 *eP* **P** **14 17 23.3 +0.2**
comp=Z,23nm,1.1s,mb5.0
MOX *e* pP 14 17 35.0 -0.1

MOX Moxa 70.45 11 *eP* **P** **14 17 23.3 +0.2**
MOX *e* pP 14 17 35.0 -0.1
MOX pmax pmax
comp=Z,23nm,1.1s,mb5.0

MOX Moxa 70.45 11 *eP* **P** **14 17 23.4 +0.3**
comp=Z,23nm,1.1s,mb5.0
MOX *epP pP 14 17 35.0 -0.1

ROSF Rostrenen 70.49 22 *eP* **P** **14 17 23.4 0.0**
comp=Z,19nm,1.0s,mb4.7

ROSF Rostrenen 70.49 22 *eP* **P** **14 17 23.4 0.0**
ROSF pmax pmax
comp=Z,10.0nm,1.0s,mb4.7

ROSF Rostrenen 70.49 22 *eP* **P** **14 17 23.4 0.0**
comp=Z,9.7nm,1.0s,mb4.7

TNS Taunus Mts 70.51 13 *eP* **P** **14 17 23.5 0.0**
TNS *e*PP pP 14 17 35.1 -0.4
TNS pmax pmax
comp=Z,11nm,1.2s,mb4.7

TNS Taunus Mts 70.51 13 *eP* **P** **14 17 23.5 0.0**
comp=Z,11nm,1.2s,mb4.7
TNS *epP pP 14 17 35.1 -0.4

FLN La Foliniere 70.60 20 *eP* **P** **14 17 23.7 -0.3**
comp=Z,43nm,1.1s,mb5.0
FLN *eMLR MLR
comp=Z,197nm,22.5s,MS4.0

FLN La Foliniere 70.60 20 *eP* **P** **14 17 23.7 -0.3**
FLN pmax pmax
comp=Z,21nm,1.1s,mb5.0
FLN MLR MLR
comp=Z,200nm,22.5s,MS4.3

FLN La Foliniere 70.60 20 *eP* **P** **14 17 23.7 -0.3**
comp=Z,22nm,1.1s,mb5.0
FLN LR LR
comp=Z,200nm,22.5s,MS4.3

KSP Ksiaz 70.66 8 *eP* **P** **14 17 25.2 +0.9**
KSP Ksiaz 70.66 8⇑*eP* **P** **14 17 24.6 +0.2**
KSP *epP pP 14 17 36.3 -0.1

SGMF Saint Gilles 70.71 21 *eP* **P** **14 17 24.8 +0.1**
comp=Z,45nm,1.2s,mb5.0

SGMF Saint Gilles 70.71 21 *eP* **P** **14 17 24.8 +0.1**
SGMF pmax pmax
comp=Z,23nm,1.2s,mb5.0

SGMF Saint Gilles 70.71 21 *eP* **P** **14 17 24.8 +0.1**
comp=Z,22nm,1.2s,mb5.0

WERD Werda 70.72 11 *eP* **P** **14 17 24.7 0.0**
comp=Z,14nm,1.2s,mb4.8

TANN Tannenbergstha 70.76 11 *eP* **P** **14 17 25.3 +0.3**
comp=Z,12nm,1.2s,mb4.7

WLF Walferdange 70.76 15 P **P** **14 17 24.4 -0.6**
comp=Z,13nm,1.4s,mb4.7

WLF Walferdange 70.76 15 *eP* **P** **14 17 25.2 +0.2**
comp=Z,18nm,1.3s,mb4.8

GUNZ Gunzen 70.80 11 *eP* **P** **14 17 25.4 +0.2**
comp=Z,14nm,1.3s,mb4.7

LDF La Druitiere 70.83 20 *eP* **P** **14 17 25.1 -0.3**
comp=Z,64nm,1.4s,mb5.1

LDF La Druitiere 70.83 20 *eP* **P** **14 17 25.1 -0.3**
LDF pmax pmax
comp=Z,32nm,1.4s,mb5.1

LDF La Druitiere 70.83 20 *eP* **P** **14 17 25.1 -0.3**
comp=Z,32nm,1.4s,mb5.1

PVCC Panska Ves 70.84 9 *eP* **P** **14 17 26.3 +0.8**
PVCC *epP pP 14 17 37.5 0.0
PVCC AMS AMS 14 54 50.0
comp=Z,200nm,16.7s

WERN Wernitzgruen 70.88 11 *eP* **P** **14 17 26.2 +0.5**
comp=Z,28nm,1.6s,mb4.9
WERN *epP pP 14 17 37.8 +0.1

GRR Gorron 70.89 20 *eP* **P** **14 17 25.9 +0.1**
comp=Z,33nm,1.0s,mb4.9

GRR Gorron 70.89 20 *eP* **P** **14 17 25.9 +0.1**
GRR pmax pmax
comp=Z,16nm,1.0s,mb4.9

GRR Gorron 70.89 20 *eP* **P** **14 17 25.9 +0.1**
comp=Z,16nm,1.0s,mb4.9

QUIF Quistinic 70.91 22 *eP* **P** **14 17 26.0 +0.1**
comp=Z,36nm,1.3s,mb4.8

QUIF Quistinic 70.91 22 *eP* **P** **14 17 26.0 +0.1**
QUIF pmax pmax
comp=Z,18nm,1.3s,mb4.8

QUIF Quistinic 70.91 22 *eP* **P** **14 17 26.0 +0.1**
comp=Z,18nm,1.3s,mb4.8

NKC Novy Kostel 70.94 11 *eP* **P** **14 17 26.9 +0.8**
NKC *epP pP 14 17 38.3 +0.2
NKC AMS AMS 14 54 10.0
comp=Z,300nm,6.6s

NKC Novy Kostel 70.94 11 *eP* **P** **14 17 26.9 +0.8**

NKC ep P pP 14 17 38.3 +0.2
UPC Upice 70.98 8 *e*P **P** **14 17 27.2 +0.9**
UPC epP pP 14 17 38.5 +0.2
MANZ Manzenberg 71.15 11 *e*P **P** **14 17 27.5 +0.1**
comp=Z,10.0nm,1.2s,mb4.6
DPC Dobruska-Polom 71.16 8 *e*P **P** **14 17 28.5 +1.1**
DPC epP pP 14 17 40.0 +0.6
DPC AMS AMS 14 53 10.0
comp=Z,100nm,15.6s
AKASG Malin Array Be 71.24 359 P **P** **14 17 27.7 -0.2**
comp=Z,10nm,0.5s,mb5.0,baz=2.2,slow=6.1,SNR=52
AKASG Malin Array Be 71.24 359 *i* P **P** **14 17 27.7 -0.2**
AKASG pmax pmax
comp=Z,10.0nm,0.5s
AKASG Malin Array Be 71.24 359 P **P** **14 17 27.7 -0.2**
AKBB Malin Array Si 71.24 359 *e*P **P** **14 17 27.2 -0.7**
KIEV Kiev 71.25 359 *e*P **P** **14 17 27.3 -0.6**
KIEV pmax pmax
comp=Z,13nm,0.6s,mb5.0
KIEV Kiev 71.25 359 *e*P **P** **14 17 27.3 -0.6**
comp=Z,13nm,0.6s,mb5.0
CD2 Chengdu 71.26 299 *e*P **P** **14 17 28.0 -0.3**
CD2 AP pP 14 17 38.3 -2.0
CD2 XP sP 14 17 42.5 -2.4
CD2 PP PP 14 20 07.7 +1.5
CD2 S S 14 26 40.3 -2.3
CD2 XS sS 14 26 57.4 -5.1
CD2 SS SS 14 31 15.7 -0.6
CD2 AMB AMB
comp=Z,20nm,0.6s,mb5.2
CD2 AMB AMB
comp=Z,210nm,8.4s
CD2 LR LR
comp=N,640nm,18.0s,MS5.1
CD2 LR LR
comp=E,730nm,18.0s,MS5.1
CD2 LR LR
comp=Z,390nm,16.8s,MS4.7
GRA1 Grafenberg Arr 71.35 12 *e*P **P** **14 17 29.0 +0.4**
comp=Z,18nm,1.1s,mb4.9
GRA1 epP pP 14 17 40.5 -0.1
GRA1 LR LR
comp=Z,100nm,21.8s,MS4.0
GRF Grafenberg Arr 71.35 12 *e*P **P** **14 17 29.0 +0.4**
GRF *e**PP pP 14 17 40.5 -0.1
GRF pmax pmax
comp=Z,18nm,1.1s,mb4.9
GRF MLR MLR
comp=Z,100nm,21.8s,MS4.0
GRF Grafenberg Arr 71.35 12 *e*P **P** **14 17 29.0 +0.4**
comp=Z,18nm,1.1s,mb4.9
GRF epP pP 14 17 40.5 -0.1
GRF *e*L 14 47 23.3
comp=Z,116nm,21.8s
GRF Grafenberg Arr 71.35 12 *e*P **P** **14 17 29.0 +0.4**
comp=Z,18nm,1.1s,mb4.9
GRF epP pP 14 17 40.5 -0.1
GRF LR LR
comp=Z,100nm,21.8s,MS4.0
PRU Pruhonice 71.38 9 *e*P **P** **14 17 29.4 +0.7**
PRU epP pP 14 17 40.6 -0.1
PRU AMS AMS 14 55 20.0
comp=Z,200nm,18.3s
ROTZ Rotzenmuhle 71.38 11 *e*P **P** **14 17 29.1 +0.4**
comp=Z,17nm,1.1s,mb4.9
ROTZ epP pP 14 17 40.8 +0.1
OJC Ojcow 71.51 6 *e*P **P** **14 17 29.8 +0.3**
TKM2 Tokmak 2 71.65 325 P **P** **14 17 31.5 +1.0**
SNR=10
USP Ospenovka 71.65 326 P **P** **14 17 30.6 +0.1**
SNR=10
MEZF Maizieres J'vi 71.75 16 *e*P **P** **14 17 31.3 +0.3**
OKC Ostrava-Krasne 71.79 7 *e*P **P** **14 17 32.1 +0.9**
OKC epP pP 14 17 43.9 +0.7
OKC AMS AMS 14 54 20.0
comp=Z,400nm,17.5s
OKC Ostrava-Krasne 71.79 7 *e*P **P** **14 17 32.1 +0.9**
OKC epP pP 14 17 43.9 +0.7
MORC Moravsky Berou 71.81 7 *e*P **P** **14 17 31.3 0.0**
MORC pmax pmax
comp=Z,20nm,1.4s,mb4.8
MORC Moravsky Berou 71.81 7 *e*P **P** **14 17 31.3 -0.1**
comp=Z,20nm,1.4s,mb4.8
CHMS Chumysh 71.83 326 P **P** **14 17 32.4 +0.9**
SNR=19
STU Stuttgart 72.03 13 *e*P **P** **14 17 33.3 +0.6**
comp=Z,11nm,1.0s,mb4.7
WET Wettzell 72.06 11 *e*P **P** **14 17 33.4 +0.6**
WET pmax pmax
comp=Z,14nm,1.3s,mb4.7
WET Wettzell 72.06 11 *e*P **P** **14 17 33.4 +0.6**
comp=Z,14nm,1.3s,mb4.7
LVV L'vov 72.07 3 *e*P **P** **14 17 32.4 -0.5**
LVV MLR MLR
comp=Z,2µm,20.0s,MS5.4
KBK Karagaybulak 72.08 326 P **P** **14 17 33.7 +0.6**
SNR=15
KHC Kasperske Hory 72.14 10 *e*P **P** **14 17 34.0 +0.7**
KHC epP pP 14 17 45.8 +0.5
KHC AMS AMS 14 55 30.0
comp=Z,200nm,14.5s
TREC Trest 72.14 9 *e*P **P** **14 17 34.0 +0.7**
TREC *e**PP pP 14 17 45.3 0.0
TREC Trest 72.14 9 *e*P **P** **14 17 34.0 +0.7**
TREC epP pP 14 17 45.3 0.0
TREC AMS AMS 14 52 00.0
CDF Champ du Feu 72.14 15 *e*P **P** **14 17 33.8 +0.5**
comp=Z,25nm,1.0s,mb4.8
CDF Champ du Feu 72.14 15 *e*P **P** **14 17 33.8 +0.5**
CDF pmax pmax
comp=Z,13nm,1.0s,mb4.8
CDF Champ du Feu 72.14 15 *e*P **P** **14 17 33.8 +0.5**
comp=Z,13nm,1.0s,mb4.8
VRAC Vranov 72.21 8 P **P** **14 17 33.8 +0.1**
comp=Z,15nm,0.9s,mb4.9,baz=4.2,slow=5.8,SNR=15
VRAC Vranov 72.21 8 ⇓*i*P **P** **14 17 34.3 +0.6**
VRAC Vranov 72.21 8 ⇓P **P** **14 17 34.3 +0.6**
KWP Kalwaria 72.22 4 *e*P **P** **14 17 34.4 +0.6**
KWP Kalwaria 72.22 4 ⇓*i*P **P** **14 17 34.7 +0.9**
KWP Kalwaria 72.22 4 ⇓P **P** **14 17 34.7 +0.9**
AAK Ala-Archa 72.24 326 P **P** **14 17 34.5 +0.5**
SNR=12
ECH Echery 72.32 15 *e*P **P** **14 17 34.5 +0.1**
ECH *e* pP 14 17 46.1 -0.3
NIE Niedzica 72.33 5 *e*P **P** **14 17 35.6 +1.1**
BFO Black Forest 72.36 14 *e*P **P** **14 17 34.5 -0.1**
BFO *e**PP pP 14 17 46.6 -0.1
BFO pmax pmax
comp=Z,12nm,1.1s,mb4.7
BFO Black Forest 72.36 14 *e*P **P** **14 17 34.5 -0.1**
comp=Z,12nm,1.1s,mb4.7
BFO epP pP 14 17 46.6 -0.1
STHS Stebnicka Huta 72.38 5 *i* P **P** **14 17 35.7 +1.0**
STHS *e* pP 14 17 46.9 +0.2
STHS pmax pmax
comp=Z,19nm,0.8s,mb5.1
STHS Stebnicka Huta 72.38 5 *i* P **P** **14 17 35.7 +1.0**
comp=Z,19nm,0.8s,mb5.1
STHS *e* pP 14 17 46.9 +0.2
HAU Haudompre 72.42 15 *e*P **P** **14 17 35.1 +0.1**
comp=Z,18nm,0.7s,mb4.8
HAU *e*MLR MLR
comp=Z,147nm,21.0s,MS3.9
HAU Haudompre 72.42 15 *e*P **P** **14 17 35.1 +0.1**
HAU pmax pmax
comp=Z,9.0nm,0.7s,mb4.8
HAU MLR MLR
comp=Z,150nm,21.0s,MS4.2
HAU Haudompre 72.42 15 *e*P **P** **14 17 35.1 +0.1**
comp=Z,8.9nm,0.7s,mb4.8
HAU LR LR
comp=Z,150nm,21.0s,MS4.2
EKS2 Erkin-Say 72.42 326 P **P** **14 17 35.4 +0.3**
SNR=18
GEC2 GERESS Array S 72.43 10 *e*P **P** **14 17 35.0 -0.1**
GEC2 *e**PP pP 14 17 46.7 -0.4
GEC2 pmax pmax
comp=Z,24nm,1.8s,mb4.8
GEC2 GERESS Array S 72.43 10 *e*P **P** **14 17 35.0 -0.1**
comp=Z,24nm,1.8s,mb4.8
GEC2 epP pP 14 17 46.7 -0.4
GERES GERESS Array B 72.43 10 P **P** **14 17 35.0 0.0**
comp=Z,2.5nm,0.6s,mb4.3,baz=351,slow=4.2,SNR=22
HINF Hinteralfeld 72.67 15 *e*P **P** **14 17 36.6 +0.1**
comp=Z,20nm,1.0s,mb4.7
HINF Hinteralfeld 72.67 15 *e*P **P** **14 17 36.6 +0.1**
HINF pmax pmax
comp=Z,10.0nm,1.0s,mb4.7
HINF Hinteralfeld 72.67 15 *e*P **P** **14 17 36.6 +0.1**
comp=Z,10nm,1.0s,mb4.7
MFF Saint Martin d 72.74 20 *e*P **P** **14 17 37.1 +0.1**
comp=Z,37nm,0.9s,mb5.0
MFF Saint Martin d 72.74 20 *e*P **P** **14 17 37.1 +0.1**
MFF pmax pmax
comp=Z,19nm,0.9s,mb5.0
MFF Saint Martin d 72.74 20 *e*P **P** **14 17 37.1 +0.1**
comp=Z,19nm,0.9s,mb5.0
LOR Lormes 72.77 17 *e*P **P** **14 17 37.2 +0.1**
comp=Z,35nm,0.9s,mb5.0
LOR *e*MLR MLR
comp=Z,137nm,20.2s,MS3.9
LOR Lormes 72.77 17 *e*P **P** **14 17 37.2 +0.1**
LOR pmax pmax
comp=Z,17nm,0.9s,mb5.0
LOR MLR MLR
comp=Z,140nm,20.3s,MS4.2
LOR Lormes 72.77 17 *e*P **P** **14 17 37.2 +0.1**
comp=Z,17nm,0.9s,mb5.0
LOR LR LR
comp=Z,140nm,20.3s,MS4.2
FUR Furstenfeldbru 72.86 12 *e*P **P** **14 17 37.9 +0.3**
FUR pmax pmax
comp=Z,28nm,1.1s,mb5.1
FUR Furstenfeldbru 72.86 12 *e*P **P** **14 17 37.9 +0.3**
comp=Z,28nm,1.1s,mb5.1
CRVS Cervenica-Dubn 72.90 5 *e*P **P** **14 17 37.7 -0.1**
CRVS *e* 14 17 42.2
KOLS Kolonicke sedl 72.90 4 *e*P **P** **14 17 38.3 +0.4**
KOLS *e* 14 17 40.3
SSF Saint Saulge 72.92 17 *e*P **P** **14 17 38.1 +0.1**
comp=Z,54nm,1.0s,mb5.2
SSF Saint Saulge 72.92 17 *e*P **P** **14 17 38.1 +0.1**
SSF pmax pmax
comp=Z,27nm,1.0s,mb5.1
SSF Saint Saulge 72.92 17 *e*P **P** **14 17 38.1 +0.1**
comp=Z,54nm,1.0s,mb5.1
KK31 Karatay Array 72.93 329 *i* P **P** **14 17 36.9 -1.2**
KK31 pmax pmax
comp=Z,57nm,1.2s,mb5.4
AML Almayashu 72.93 326 P **P** **14 17 39.8 +1.6**
SNR=14
KOLL Kolacno 73.06 7 *e*P **P** **14 17 39.1 +0.3**
AVF Avril sur Loir 73.16 18 *e*P **P** **14 17 39.3 -0.1**
comp=Z,27nm,0.7s,mb5.0
AVF Avril sur Loir 73.16 18 *e*P **P** **14 17 39.3 -0.1**
AVF pmax pmax
comp=Z,13nm,0.7s,mb5.0
AVF Avril sur Loir 73.16 18 *e*P **P** **14 17 39.3 -0.1**
comp=Z,13nm,0.7s,mb5.0
VYHS Vyhne 73.17 7 *e*P **P** **14 17 39.7 +0.2**
MODS Modra-Piesok 73.19 8 *e*P **P** **14 17 40.6 +1.0**
MODS *e* pP 14 17 49.7 -1.9
MODS pmax pmax
comp=Z,12nm,1.3s,mb4.7
MODS Modra-Piesok 73.19 8 *e*P **P** **14 17 40.6 +1.0**
comp=Z,12nm,1.3s,mb4.7
MODS *e* pP 14 17 49.7 -1.9
UZH Uzhgorod 73.20 4 ⇑*i*P **P** **14 17 40.0 +0.3**
UZH *i* pP 14 17 52.6 +0.9
BGF Bois d'Agland 73.30 18 *e*P **P** **14 17 40.2 -0.1**
comp=Z,19nm,0.7s,mb4.8
BGF Bois d'Agland 73.30 18 *e*P **P** **14 17 40.2 -0.1**
BGF pmax pmax
comp=Z,9.0nm,0.7s,mb4.8
BGF Bois d'Agland 73.30 18 *e*P **P** **14 17 40.2 -0.1**
comp=Z,9.4nm,0.7s,mb4.8
ZST Bratislava 73.36 8 *e*P **P** **14 17 41.7 +1.2**
ZST *e* pP 14 17 52.6 0.0
ZST pmax pmax
comp=Z,12nm,0.7s,mb4.9
ZST Bratislava 73.36 8 *e*P **P** **14 17 41.7 +1.2**
comp=Z,12nm,0.7s,mb4.9
ZST *e* pP 14 17 52.6 0.0
SMF Signal de Mont 73.37 17 *e*P **P** **14 17 40.6 -0.1**
comp=Z,28nm,0.9s,mb4.9
SMF Signal de Mont 73.37 17 *e*P **P** **14 17 40.6 -0.1**
SMF pmax pmax
comp=Z,14nm,0.9s,mb4.9
SMF Signal de Mont 73.37 17 *e*P **P** **14 17 40.6 -0.1**
comp=Z,14nm,0.9s,mb4.9
TCF Toulx Ste Croi 73.46 19 *e*P **P** **14 17 41.0 -0.2**
comp=Z,12nm,0.8s,mb4.6
TCF Toulx Ste Croi 73.46 19 *e*P **P** **14 17 41.0 -0.2**
TCF pmax pmax
comp=Z,6.0nm,0.8s,mb4.6
TCF Toulx Ste Croi 73.46 19 *e*P **P** **14 17 41.0 -0.2**
comp=Z,5.9nm,0.8s,mb4.6
MOA Molln 73.47 10 ⇓*i*P **P** **14 17 41.4 +0.2**
comp=Z,11nm,1.4s,mb4.6
CONA Conrad Observa 73.53 9 ⇑*i*P **P** **14 17 42.2 +0.6**
comp=Z,22nm,1.2s,mb5.0,SNR=13
DAVA Damuels 73.57 13 ⇑*i*P **P** **14 17 42.2 +0.4**
comp=Z,6.8nm,1.1s,mb4.5
GYA Guiyang 73.63 294 ⇑*i*P **P** **14 17 40.6 -1.9**
GYA AP pP 14 17 54.8 +0.3
GYA PCP PcP 14 17 56.9 -1.3
GYA PP PP 14 20 27.0 +0.5
GYA S S 14 27 06.2 -3.6
GYA SKS 14 27 39.4
GYA SS SS 14 31 53.6 +1.0
GYA AMB AMB
comp=Z,20nm,1.0s,mb5.0
GYA AMB AMB
comp=Z,140nm,6.8s
GYA LR LR
comp=N,680nm,20.2s,MS5.0
GYA LR LR
comp=E,590nm,21.8s,MS5.0
GYA LR LR
comp=Z,570nm,19.6s,MS4.9
CABF La Chapelle 73.74 16 *e*P **P** **14 17 43.4 +0.5**
comp=Z,23nm,0.8s,mb4.8
CABF La Chapelle 73.74 16 *e*P **P** **14 17 43.4 +0.5**
CABF pmax pmax
comp=Z,11nm,0.8s,mb4.8
CABF La Chapelle 73.74 16 *e*P **P** **14 17 43.4 +0.5**
comp=Z,11nm,0.8s,mb4.8
WTTA Wattenberg 73.79 12 ⇑*i*P **P** **14 17 43.8 +0.7**
comp=Z,31nm,1.6s,mb5.0
PSZ Piszkesteto 73.81 6 ⇓*e*P **P** **14 17 44.7 +1.5**
PSZ Piszkesteto 73.81 6 ⇓*i*P **P** **14 17 44.5 +1.3**
PSZ Piszkesteto 73.81 6 *e*P **P** **14 17 44.2 +1.0**
comp=Z,23nm,1.0s,mb5.1
SOP Sopron 73.83 8 *e*pP pP 14 17 55.9 +0.5
FETA Feichten 73.93 12 ⇑*i*P **P** **14 17 44.6 +0.7**
comp=Z,14nm,1.1s,mb4.8
KBA Koelnbreinsper 74.15 11 ⇑*i*P **P** **14 17 46.2 +0.9**
comp=Z,31nm,1.2s,mb5.1,SNR=12
ARSA Arzberg 74.17 9 ⇑*i*P **P** **14 17 45.9 +0.5**
comp=Z,11nm,1.1s,mb4.7
BUR08 Bucovina Ar. S 74.28 2 *e*P **P** **14 17 46.0 0.0**
RJF Les Rejaudoux 74.29 19 *e*P **P** **14 17 45.9 -0.2**
RJF *e*MLR MLR
comp=Z,206nm,21.2s,MS4.1
RJF Les Rejaudoux 74.29 19 *e*P **P** **14 17 45.9 -0.2**
RJF LR LR
comp=Z,210nm,21.3s,MS4.4
BURAR Bucovina Array 74.31 2 ⇑*i*P **P** **14 17 46.5 +0.4**
BURAR Bucovina Array 74.31 2 ⇑P **P** **14 17 46.5 +0.4**
TUE Stuetta 74.31 13 P **P** **14 17 46.9 +0.7**
comp=Z,12nm,0.8s,mb4.9
TUE *e* pP 14 17 58.4 +0.2
LFF La Frestale 74.51 20 *e*P **P** **14 17 47.6 +0.2**
comp=Z,58nm,1.1s,mb5.1
LFF La Frestale 74.51 20 *e*P **P** **14 17 47.6 +0.2**
LFF pmax pmax
comp=Z,29nm,1.1s,mb5.1
LFF La Frestale 74.51 20 *e*P **P** **14 17 47.6 +0.2**
comp=Z,29nm,1.1s,mb5.1
MYKA Terra Mystica 74.62 10 ⇑*i*P **P** **14 17 47.9 0.0**
comp=Z,25nm,1.4s,mb4.9
SOKA Soboth 74.70 9 ⇑*i*P **P** **14 17 48.9 +0.5**
comp=Z,20nm,1.3s,mb4.9
PERS Pernice 74.75 9 *i* P **P** **14 17 49.0 +0.2**
CAF Calviac 74.75 19 *e*P **P** **14 17 48.7 -0.1**
comp=Z,26nm,1.1s,mb4.8
CAF Calviac 74.75 19 *e*P **P** **14 17 48.7 -0.1**
CAF pmax pmax
comp=Z,13nm,1.1s,mb4.8
CAF Calviac 74.75 19 *e*P **P** **14 17 48.7 -0.1**
comp=Z,13nm,1.1s,mb4.8
OBKA Obir 74.83 10 ⇑*i*P **P** **14 17 49.4 +0.2**
comp=Z,21nm,0.7s,mb5.2,SNR=11
LPL La Plagne 74.91 16 *e*P **P** **14 17 51.0 +1.4**
comp=Z,28nm,1.1s,mb4.8
LPL La Plagne 74.91 16 *e*P **P** **14 17 51.0 +1.4**
LPL pmax pmax
comp=Z,14nm,1.1s,mb4.8
LPL La Plagne 74.91 16 *e*P **P** **14 17 51.0 +1.4**
comp=Z,14nm,1.1s,mb4.8
LPG La Plagne 74.93 15 *e*P **P** **14 17 51.3 +1.5**
comp=Z,30nm,1.1s,mb4.8
LPG La Plagne 74.93 15 *e*P **P** **14 17 51.3 +1.5**
LPG pmax pmax
comp=Z,15nm,1.1s,mb4.8
LPG La Plagne 74.93 15 *e*P **P** **14 17 51.3 +1.5**
comp=Z,15nm,1.1s,mb4.8
DRGR 75.06 4 ⇓*i*P **P** **14 17 50.9 +0.4**
DRGR 75.06 4 P **P** **14 17 51.0 +0.5**
VIVF Saint-Julien-l 75.25 17 *e*P **P** **14 17 52.0 +0.4**
comp=Z,30nm,0.9s,mb4.9
VIVF Saint-Julien-l 75.25 17 *e*P **P** **14 17 52.0 +0.4**
VIVF pmax pmax
comp=Z,15nm,0.9s,mb4.9
VIVF Saint-Julien-l 75.25 17 *e*P **P** **14 17 52.0 +0.4**
comp=Z,15nm,0.9s,mb4.9
BNI Bardonecchia 75.36 16 *e*P **P** **14 17 53.2 +1.0**
BNI pmax pmax
comp=Z,24nm,1.2s,mb5.0
BNI Bardonecchia 75.36 16 *e*P **P** **14 17 53.2 +1.0**
comp=Z,24nm,1.2s,mb5.0
ORIF Oris-en-Rattie 75.37 16 *e*P **P** **14 17 52.8 +0.5**
comp=Z,11nm,0.8s,mb4.5
ORIF *e*MLR MLR
comp=Z,173nm,18.5s,MS4.1
ORIF Oris-en-Rattie 75.37 16 *e*P **P** **14 17 52.8 +0.5**
ORIF pmax pmax
comp=Z,5.0nm,0.8s,mb4.5
ORIF Oris-en-Rattie 75.37 16 *e*P **P** **14 17 52.8 +0.5**
comp=Z,5.3nm,0.8s,mb4.5
JAVS Javornik 75.39 10 *i* P **P** **14 17 52.0 -0.5**
PKSM Moragy 75.44 7 ⇓*i*P **P** **14 17 53.3 +0.6**
PKSM Moragy 75.44 7 P **P** **14 17 53.4 +0.7**
VISS Visnje 75.55 10 *i* P **P** **14 17 52.9 -0.5**
MBDF Montbardon 75.69 16 *e*P **P** **14 17 55.5 +1.4**
comp=Z,20nm,0.8s,mb4.8
MBDF Montbardon 75.69 16 *e*P **P** **14 17 55.5 +1.4**
MBDF pmax pmax
comp=Z,10.0nm,0.8s,mb4.8
MBDF Montbardon 75.69 16 *e*P **P** **14 17 55.5 +1.4**
comp=Z,9.9nm,0.8s,mb4.8
PPT Papeete 75.72 178 *e*SS SS 14 32 21.3 -4.4
comp=Z,112nm,27.2s
PPT *e*LR LR 14 41 10.9
comp=Z,418nm,22.2s,baz=358
PPT Papeete 75.72 178 LR LR 14 44 22.3
comp=Z,303nm,19.8s,MS4.6,baz=340,slow=30
LASF Ste Croix 75.88 18 *e*P **P** **14 17 55.8 +0.6**
comp=Z,14nm,0.9s,mb4.6
BOJS Bojanci 75.89 9 *i* P **P** **14 17 55.0 -0.3**
SJPF Ste Jean 75.91 22 *e*P **P** **14 17 55.9 +0.5**
comp=Z,19nm,1.2s,mb4.6
SJPF Ste Jean 75.91 22 *e*P **P** **14 17 55.9 +0.5**
SJPF pmax pmax
comp=Z,10.0nm,1.2s,mb4.6
SJPF Ste Jean 75.91 22 *e*P **P** **14 17 55.9 +0.5**
comp=Z,9.6nm,1.2s,mb4.6
VRI Vrincioaia 76.08 1 ⇓*i*P **P** **14 17 56.4 +0.1**
VRI Vrincioaia 76.08 1 ⇓P **P** **14 17 56.4 +0.1**
PLOR Plostina 76.09 1 ⇓*i*P **P** **14 17 56.1 -0.3**
BZS Buzias 76.19 5 ⇑*i*P **P** **14 17 57.0 0.0**
BZS Buzias 76.19 5 P **P** **14 17 57.7 +0.7**
ETSF Etsaut 76.24 21 *e*P **P** **14 17 58.0 +0.7**
comp=Z,28nm,1.0s,mb4.9
ETSF Etsaut 76.24 21 *e*P **P** **14 17 58.0 +0.7**
ETSF pmax pmax
comp=Z,14nm,1.0s,mb4.8
ETSF Etsaut 76.24 21 *e*P **P** **14 17 58.0 +0.7**
comp=Z,14nm,1.0s,mb4.8
SMRF Simiane la Rot 76.25 17 *e*P **P** **14 17 58.5 +1.2**
comp=Z,23nm,0.8s,mb4.9
SMRF Simiane la Rot 76.25 17 *e*P **P** **14 17 58.5 +1.2**
comp=Z,23nm,0.8s,mb5.2
EPF Esparros 76.28 21 *e*P **P** **14 17 57.1 -0.5**
comp=Z,22nm,1.1s,mb4.7
EPF Esparros 76.28 21 *e*P **P** **14 17 57.1 -0.5**
EPF pmax pmax
comp=Z,11nm,1.1s,mb4.7
EPF Esparros 76.28 21 *e*P **P** **14 17 57.1 -0.5**
comp=Z,11nm,1.1s,mb4.7
MTLF Montolieu 76.32 19 *e*P **P** **14 17 58.0 +0.2**
comp=Z,16nm,0.9s,mb4.7
MTLF Montolieu 76.32 19 *e*P **P** **14 17 58.0 +0.2**
MTLF pmax pmax
comp=Z,8.0nm,0.9s,mb4.7
MTLF Montolieu 76.32 19 *e*P **P** **14 17 58.0 +0.2**
comp=Z,8.3nm,0.9s,mb4.7
MLR Muntele Rosu 76.44 2 P **P** **14 17 59.0 +0.6**
comp=Z,5.9nm,0.7s,mb4.7,baz=349,slow=5.2,SNR=11
MLR Muntele Rosu 76.44 2 ⇑*i*P **P** **14 17 58.5 +0.1**
MLR Muntele Rosu 76.44 2 P **P** **14 17 59.9 +1.4**
GZR Gura Zlata 76.46 4 ⇑*i*P **P** **14 17 59.1 +0.6**
GZR Gura Zlata 76.46 4 P **P** **14 17 59.2 +0.7**
VOIR 76.48 2 ⇑*i*P **P** **14 18 00.1 +1.5**
VOIR 76.48 2 ⇑P **P** **14 18 00.1 +1.4**
MVO Moncorvo 76.52 27 *e*P **P** **14 17 59.8 +0.9**
comp=Z,19nm,1.2s,mb4.9
MVO epP pP 14 18 11.0 0.0
KMI Kunming 76.63 296 P **P** **14 17 59.4 -0.4**
KMI PP PP 14 20 55.9 +4.0
KMI S S 14 27 38.8 -4.3
KMI SS SS 14 32 36.3 -1.9
KMI AMB AMB
comp=Z,27nm,1.3s,mb5.0
KMI AMB AMB
comp=Z,185nm,4.5s
KMI LR LR
comp=N,434nm,25.2s,MS4.9
KMI LR LR
comp=E,520nm,22.7s,MS4.9
KMI LR LR
comp=Z,445nm,20.2s,MS4.8
KMI Kunming 76.63 296 P **P** **14 17 59.4 -0.4**
KMI *PP pP 14 18 14.0 +2.1
KMI 14 20 55.9
KMI PPP 14 22 38.4
KMI S S 14 27 38.8 -4.3
KMI *SS sS 14 28 06.2 +3.0
KMI SS SS 14 32 36.3 -1.9
KMI pmax pmax
comp=Z,27nm,1.3s,mb5.0
KMI MLR MLR
comp=Z,450nm,20.0s,MS4.8
KMI Kunming 76.63 296 P **P** **14 17 59.4 -0.4**
comp=Z,27nm,1.3s,mb5.0
KMI pP pP 14 18 14.0 +2.1
KMI sP sP 14 18 20.9 +4.4
KMI PP PP 14 20 55.9 +4.0
KMI PPP 14 22 38.4
KMI S S 14 27 38.8 -4.3
KMI sS sS 14 28 06.2 +3.0
KMI SS SS 14 32 36.3 -1.9
KMI LR LR
comp=Z,450nm,20.2s,MS4.8
SBF Sospel 76.63 15 *e*P **P** **14 17 59.8 +0.3**
comp=Z,40nm,0.8s,mb5.1
SBF Sospel 76.63 15 *e*P **P** **14 17 59.8 +0.3**
SBF pmax pmax
comp=Z,20nm,0.8s,mb5.1
SBF Sospel 76.63 15 *e*P **P** **14 17 59.8 +0.3**
comp=Z,20nm,0.8s,mb5.1
TLCR 76.76 360 ⇑*i*P **P** **14 18 00.1 -0.1**
TLCR 76.76 360 ⇑P **P** **14 18 00.1 -0.1**
FRF La Foret Royal 76.81 16 *e*P **P** **14 18 00.9 +0.4**
ANN Anapa 76.87 353 *e*P **P** **14 17 58.5 -2.3**
ANN *e*S S 14 27 43.9 -1.3
ANN pmax pmax
comp=Z,31nm,1.4s,mb5.0
ANN MLR MLR
comp=Z,230nm,19.0s,MS4.5
SIM Simferopol' 76.89 356 *e*P **P** **14 18 01.9 +1.0**
SIM *e*S S 14 27 50.8 +5.4
SIM pmax pmax
comp=Z,12nm,0.9s,mb4.8
SIM MLR MLR
comp=Z,170nm,18.3s,MS4.4

Code	Station Name	Δ°	AZ°	Phase Op	Phase ISC	Time h m s	Res ISC
LMR	La Mourre	77.01	16	eP	P	14 18 02.4	+0.7
	comp=Z,38nm,1.1s,mb4.9						
LMR	La Mourre	77.01	16	eP	P	14 18 02.4	+0.7
LMR				pmax	pmax		
	comp=Z,19nm,1.1s,mb4.9						
LMR	La Mourre	77.01	16	eP	P	14 18 02.4	+0.7
	comp=Z,19nm,1.1s,mb4.9						
MTE	Manteigas	77.12	27	eP	P	14 18 03.0	+0.7
	comp=Z,28nm,1.1s,mb5.1						
MTE				eLR	LR	14 47 45.4	
	comp=Z,165nm,21.2s						
HARR	Harsova	77.26	0⇓	iP	P	14 18 03.4	+0.4
HARR	Harsova	77.26	0	P	P	14 18 03.5	+0.5
KIV	Kislovodsk	77.29	349	eP	P	14 18 03.6	+0.4
KIV				eS	S	14 27 48.2	-1.6
KIV				pmax	pmax		
	comp=Z,33nm,1.0s,mb5.2						
KIV				MLR	MLR		
	comp=Z,144nm,19.0s,MS4.3						
KIV	Kislovodsk	77.29	349⇑	iP	P	14 18 03.5	+0.3
KIV	Kislovodsk	77.29	349	eP	P	14 18 03.6	+0.4
	comp=Z,16nm,0.6s,mb5.1						
TIRR	Tirgusor	77.49	360⇓	iP	P	14 18 04.5	+0.2
TIRR	Tirgusor	77.49	360	eP	P	14 18 03.8	-0.6
	comp=Z,9.0nm,0.6s,mb4.9						
PCBR	Castelo Branco	77.66	27	eP	P	14 18 06.0	+0.6
	comp=Z,15nm,1.1s,mb4.8						
PCBR				epP	pP	14 18 17.2	-0.3
SDV	Santo Domingo	77.82	93	eP	P	14 18 06.7	+0.1
	comp=Z,5.9nm,0.6s,mb4.7						
LSA	Lhasa	77.85	308	P	P	14 18 08.2	+1.6
PMRV	Marv??o	78.08	27	eP	P	14 18 08.1	+0.4
	comp=Z,17nm,1.6s,mb4.7						
PMRV				eLR	LR	14 49 22.6	
	comp=Z,142nm,21.6s						
PGF	Pioggiola	78.13	14	eP	P	14 18 08.3	+0.4
	comp=Z,31nm,0.9s,mb4.9						
PGF	Pioggiola	78.13	14	eP	P	14 18 08.3	+0.4
PGF				pmax	pmax		
	comp=Z,15nm,0.9s,mb4.9						
PGF	Pioggiola	78.13	14	eP	P	14 18 08.3	+0.4
	comp=Z,15nm,0.9s,mb4.9						
QIZ	Qiongzhong	78.31	287	P	P	14 18 09.3	+0.1
QIZ				S	S	14 27 56.6	-4.8
QIZ				LR	LR		
	comp=E,148nm,30.8s						
QIZ				LR	LR		
	comp=Z,134nm,32.3s,MS4.1						
PESTR	Estremoz	78.56	28	eLR	LR	14 49 39.8	
	comp=Z,174nm,20.0s						
ESDC	Sonseca Array	78.64	25	P	P	14 18 11.6	+0.8
	comp=Z,6.0nm,0.8s,mb4.5,baz=343,slow=5.4,SNR=21						
ESLA	Sonseca Array	78.64	25	eP	P	14 18 11.5	+0.7
	comp=Z,3.9nm,1.2s,mb4.2						
PAB	San Pablo	78.67	25	P	P	14 18 11.7	+0.7
EVO	Evora	78.77	28⇑	iP	P	14 18 11.3	-0.2
	comp=Z,21nm,1.0s,mb4.7						
EVO				eMLR	MLR		
	comp=Z,339nm,20.8s,MS4.4						
EVO	Evora	78.77	28	eP	P	14 18 11.9	+0.4
	comp=Z,18nm,1.4s,mb4.8						
EVO				epP	pP	14 18 23.4	-0.3
PBAR	Barrancos	79.35	28	eP	P	14 18 15.4	+0.7
	comp=Z,17nm,1.9s,mb4.7						
PBAR				epP	pP	14 18 26.9	+0.1
PBAR				eLR	LR	14 47 46.0	
	comp=Z,160nm,21.9s						
MORF	Marmelete	79.77	29	eP	P	14 18 17.4	+0.4
	comp=Z,25nm,1.8s,mb4.8						
MORF				epP	pP	14 18 28.9	-0.3
PVAQ	Vaqueiros	79.92	28	eP	P	14 18 18.7	+0.9
	comp=Z,24nm,1.2s,mb5.0						
PVAQ				epP	pP	14 18 29.6	-0.3
PVAQ				eLR	LR	14 47 24.9	
	comp=Z,225nm,20.0s						
PBDV	Barranco-do-Ve	80.01	29	eP	P	14 18 16.9	-1.4
	comp=Z,23nm,1.3s,mb5.0						
PBDV				eLR	LR	14 47 34.5	
	comp=Z,194nm,22.8s						
DAV	Davao City (W)	80.19	267	LR	LR	14 49 10.1	
	comp=Z,236nm,20.4s,MS4.5,baz=52,slow=32						
DAGI	Agillar	80.22	350	i P	P	14 18 19.7	+0.3
GRSN	GIRESUNGRSN	80.67	352	i P	P	14 18 22.1	+0.3
ABKT	Ailbek	80.82	337	P	P	14 18 23.8	+1.2
	comp=Z,201nm,1.0s,mb6.0,SNR=9.8						
ABKT	Ailbek	80.82	337	P	P	14 18 23.2	+0.6
	comp=Z,48nm,1.0s,mb5.4,SNR=9.8						
GNI	Garni	80.84	347c	iP	P	14 18 24.2	+1.5
GNI				pmax	pmax		
	comp=Z,36nm,1.3s						
GNI	Garni	80.84	347	eP	P	14 18 24.2	+1.5
	comp=Z,44nm,1.3s,mb5.2						
IMP	Imphal	80.95	303	eP	P	14 18 23.0	-0.5
CTKT	Corum	81.17	355	i P	P	14 18 25.6	+1.1
KBL	Kabul	81.32	327	eP	P	14 18 23.4	-2.0
KBL				pmax	pmax		
	comp=Z,38nm,1.2s,mb5.2						
KBL	Kabul	81.32	327	eP	P	14 18 23.4	-1.9
	comp=Z,38nm,1.2s,mb5.2						
TAPN	Taplejung	81.34	309	eP	P	14 18 26.3	+0.7
	comp=Z,271nm,1.0s,mb6.1						
ELDT	Eldivan	81.36	356	i P	P	14 18 26.1	+0.7
CUC	Castrocucco	81.40	10	eP	P	14 18 24.9	-0.8
	comp=Z,14nm,1.2s,mb4.8						
TBI	Tubuai	81.47	178	eLR	LR	14 43 49.6	
	comp=Z,368nm,23.8s,baz=355						
GUN	Gumba	81.58	311	eP	P	14 18 27.6	+0.8
	comp=Z,209nm,0.9s,mb6.1						
JIRN	Jiri	81.68	311	eP	P	14 18 28.5	+1.1
	comp=Z,475nm,1.0s						
ULDT	Uludag	81.80	359	i P	P	14 18 28.4	+0.6
ODAN	Odare	81.91	309	eP	P	14 18 29.0	+0.4
	comp=Z,195nm,1.1s,mb5.9						
KKN	Kakani	81.92	311	eP	P	14 18 29.3	+0.7
	comp=Z,253nm,1.4s,mb6.0						
GKN	Gorkha	81.99	312	eP	P	14 18 29.5	+0.5
	comp=Z,260nm,1.1s,mb6.1						
ANTO	Ankara	82.01	356⇑	iP	P	14 18 29.4	+0.5
ANTO	Ankara	82.01	356	eP	P	14 18 29.5	+0.6
	comp=Z,30nm,1.3s,mb5.1						
DANN	Dangsing	82.02	313	eP	P	14 18 30.1	+1.0
	comp=Z,549nm,0.9s						
PKI	Pulchoki	82.07	311	eP	P	14 18 30.0	+0.6
	comp=Z,221nm,1.2s,mb6.0						
PKIN	Phulchoki	82.07	311	eP	P	14 18 29.7	+0.3
	comp=Z,82nm,0.8s,mb5.7						
BR131	Keskin Array S	82.12	356	eP	P	14 18 29.8	+0.3
	comp=Z,8.7nm,0.9s,mb4.7						
RAMN	Ramite	82.14	310	eP	P	14 18 30.2	+0.4
	comp=Z,366nm,1.0s,mb6.3						
DMN	Daman	82.16	311	eP	P	14 18 30.6	+0.7
	comp=Z,136nm,0.9s,mb5.9						
PTH	Pithoragarh	82.27	316	ex	x	14 18 31.0	
TIP	Timpagrande	82.29	9	eP	P	14 18 30.2	-0.2
	comp=Z,12nm,1.0s,mb4.8						
RKT	Rikitea	82.41	164	eLR	LR	14 44 17.4	
	comp=Z,292nm,26.5s						
CHRT	Chiangrai	82.52	296	⇑P	P	14 18 31.0	-0.8
	comp=Z,187nm,1.0s,mb6.1						
KOLN	Koldanda	82.60	313	eP	P	14 18 32.6	+0.4
	comp=Z,111nm,0.9s,mb5.9						
MALT	Malatya	83.26	352⇑	iP	P	14 18 41.5	+6.1
HAKT	HAKKARI	83.52	348	i P	P	14 18 37.5	+0.8
PMG	Port Moresby	83.52	240c	iP	P	14 18 36.8	-0.1
CHTO	Chiang Mai	83.82	296	eP	P	14 18 37.4	-1.2
CHTO				pmax	pmax		
	comp=Z,63nm,1.4s,mb5.5						
CHTO	Chiang Mai	83.82	296	eP	P	14 18 37.4	-1.2
	comp=Z,63nm,1.4s,mb5.5						
MARD	Mardin	84.06	350	i P	P	14 18 40.6	+1.1
NDI	New Delhi	84.13	318	ex	x	14 18 37.5	
CMAR	Chiang Mai Arr	84.13	296	P	P	14 18 39.9	-0.3
	comp=Z,35nm,1.0s,mb5.5,baz=16,slow=5.5,SNR=110						
CMAR				LR	LR	14 56 39.7	
	comp=Z,206nm,19.6s,MS4.5,baz=245,slow=36						
CMAR	Chiang Mai Arr	84.13	296	i P	P	14 18 39.9	-0.3
CMAR				pmax	pmax		
	comp=Z,35nm,1.0s						
GZT	Gaziantep	84.27	353	i P	P	14 18 41.6	+1.0
KEST	Kesra	84.88	15	P	P	14 18 44.5	+0.8
	comp=Z,12nm,0.9s,mb5.0,baz=304,slow=1.3,SNR=28						
KEST				LR	LR	14 59 01.5	
	comp=Z,53nm,19.4s,MS3.9,baz=302,slow=37						
KKM	Kota Kinabalu	85.97	275	eP	P	14 18 49.4	0.0
ATAH	Atahualpa	87.31	108	LR	LR	14 59 41.7	
	comp=Z,425nm,20.6s,MS4.8,baz=12,slow=37						
MIB	Mutribah	90.68	343	eP	P	14 19 11.4	-0.3
	baz=343						
MIB				AMb	AMB	14 19 12.9	
	comp=Z,48nm,1.0s,mb5.8,baz=343						
RST	Umm Al-Ruwaisa	91.03	344	eP	P	14 19 12.6	-0.7
	baz=344						
RST				AMb	AMB	14 19 14.2	
	comp=Z,21nm,1.2s,mb5.3,baz=344						
NAY	Al-Naaiem	91.24	343	eP	P	14 19 13.8	-0.4
	baz=343						
NAY				AMb	AMB	14 19 18.1	
	comp=Z,14nm,1.2s,mb5.2,baz=343						
RDF	Al-Radifah	91.51	343	eP	P	14 19 15.2	-0.3
	baz=343						
RDF				AMb	AMB	14 19 19.6	
	comp=Z,59nm,1.1s,mb5.8,baz=343						
KSM	Kuching	92.93	278	eP	P	14 19 22.0	-0.3
CTA	Charters Tower	93.33	236	LR	LR	14 54 35.2	
	comp=Z,141nm,21.0s,MS4.4,baz=40,slow=31						
KAKA	Kakadu	93.45	251	eP	P	14 19 23.4	-1.1
	comp=Z,31nm,1.0s,mb5.7						
KAPI	Kappang	93.45	266	P	P	14 19 23.4	-1.2
	comp=Z,24nm,1.0s,mb5.6,baz=161,slow=7.9,SNR=5.4						
KAPI				LR	LR	14 58 10.4	
	comp=Z,82nm,19.9s,MS4.2,baz=231,slow=33						
HYB	Hyderabad	93.91	313	i P	P	14 19 25.5	-1.2
HYB	Hyderabad	93.91	313	eP	P	14 19 25.5	-1.2
BBTS	Babate	98.49	44	LR	LR	15 00 02.2	
	comp=Z,153nm,19.5s,MS4.5,baz=358,slow=33						
WRA	Warramunga Arr	98.70	246	P	P	14 19 46.9	-1.4
	comp=Z,2.2nm,1.0s,mb4.7,baz=36,slow=5.3,SNR=14						
WRA	Warramunga Arr	98.70	246	i P	P	14 19 46.9	-1.3
WRA				pmax	pmax		
	comp=Z,2.0nm,1.0s						
FITZ	Fitzroy Crossi	101.44	254	P	Pdif	14 19 58.9	-1.9
	comp=Z,1.9nm,0.9s,baz=312,slow=5.6,SNR=3.9						
ASAR	Alice Springs	102.08	245	P	Pdif	14 20 02.5	-1.1
	comp=Z,0.5nm,0.5s,baz=29,slow=4.3,SNR=7.1						
KMBO	Kilima Mbogo	122.44	349	PKP	PKPdf	14 25 03.9	-0.4
	comp=Z,1.9nm,0.8s,baz=76,slow=4.2,SNR=4.7						
LBTB	Lobatse	146.57	4	ePKP2	PKPab	14 25 49.9	-1.2
QSPA	South Pole Qui	148.21	180	PKPbc	PKPbc	14 25 53.1	+0.1
	comp=Z,18nm,1.0s,baz=73,slow=0.9,SNR=26						
BOSA	Boshof	150.14	5	PKPbc	PKPbc	14 25 58.8	-0.6
	comp=Z,19nm,1.1s,baz=306,slow=5.3,SNR=3.6						
BOSA	Boshof	150.14	5	ePKPbc	PKPbc	14 25 58.2	-1.1
MIR	Mirnyy	150.35	227⇓	iPKIKP	PKPbc	14 25 58.5	-0.1
MIR				pmax	pmax		
	comp=Z,100nm,1.0s						
VNA3	Neumayer Olymp	159.86	145	ePKPdf	PKPdf	14 26 06.4	+0.3
VNA3				e		14 26 43.6	
VNA3				e		14 26 58.4	
VNA1	Neumayer--Stat	160.50	144	ePKPdf	PKPab	14 26 47.2	-1.3
VNA1				e		14 27 00.8	
VNA2	Neumayer--Watz	160.67	145	ePKPdf	PKPdf	14 26 07.7	+0.7
	baz=312,slow=2.9						
VNA2				e		14 26 47.3	
VNA2				e		14 27 01.3	
MAW	Mawson	162.06	225	PKPab	PKPab	14 26 55.6	+0.2
	comp=Z,8.5nm,1.1s,baz=80,slow=3.9,SNR=8.2						

*ISCJB **03** 14:31:55.7±0.2, 49339N±0009×675E±002, h0km, Error ellipse: s-maj=1.6km s-min=1.3km az=9.7*
*NEIC **03** 14:31:57.0±0.2, 4937N×680E, h5km, ML2.9(SZGRF), ML3.0(STR), ML3.5(LDG), Error ellipse: s-maj=3.2km s-min=2.5km az=155.0*
*STR **03** 14:31:57.5±0.2, 4937N×677E, h1km, Ml3.0, Error ellipse: s-maj=0.0km s-min=0.0km az=0.0*
*CSEM **03** 14:31:57.8±0.0, 4938N×687E, h1km, ML3.5/36, Error ellipse: s-maj=0.7km s-min=0.6km az=148.0*
*BGR **03** 14:31:57.8±0.3, 4939N×685E, h1km, ML2.9/5, Error ellipse: s-maj=4.4km s-min=2.2km az=61.0*
*PRU **03** 14:31:58.1, 4933N×685E, h0km*
*LEDBW **03** 14:31:58.3±0.3, 49370N±0009×687E±003, h1km, ML2.7, Error ellipse: s-maj=10.0km s-min=2.0km az=76.0*
*BNS **03** 14:31:58.7±1.5, 4938N×688E, h1km, ML2.5*
*LDG **03** 14:31:58.1±0.1, 4937N×685E, h1km, Md3.6/1, Ml3.5/33, Error ellipse: s-maj=1.1km s-min=1.0km az=125.0, Suspected Mining induced.*

ISC 03 14:31:56.7±0.1, **49349N**±0008×**679E**±001, **h0**km, **n176**, σ**1**§**25**/314, **8C-10D, Germany**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
RUP	Ruppelstein	0.40	27⇑	iP*	Pg	14 32 05.1	+0.8
RUP	Ruppelstein	0.40	27⇑	iPg	Pg	14 32 05.1	+0.8
RUP	Ruppelstein	0.40	27	Pg	Pg	14 32 04.8	+0.5
RUP				Sg	Sg	14 32 10.6	+1.1
WLF	Walferdange	0.52	308	ePg	Pg	14 32 08.2	+1.5
	SNR=22						
WLF				eSg	Sg	14 32 14.1	+0.7
	SNR=9.1						
WLF	Walferdange	0.52	308	P	Pg	14 32 08.7	+2.0
WLF	Walferdange	0.52	308	ePg	Pg	14 32 08.3	+1.6
WLF				eSg	Sg	14 32 15.8	+2.4
WLF	Walferdange	0.52	308	ePg	Pg	14 32 08.3	+1.6
WLF				eSg	Sg	14 32 15.8	+2.4
ABH	Alteburg	0.73	43	Pg	Pg	14 32 11.2	+0.5
ABH	Alteburg	0.73	43	Pg	Pg	14 32 10.5	-0.2
ABH				Sg	Sg	14 32 21.2	+1.1
LANF	Langenberg	0.76	118	Pg	Pg	14 32 11.9	+0.5
LANF				Sg	Sg	14 32 24.0	+2.7
LANF	Langenberg	0.76	118⇓	iPg	Pg	14 32 12.1	+0.7
KTD	Kalmit	0.85	91	ePg	Pg	14 32 13.3	+0.3
	SNR=19						
KTD	Kalmit	0.85	91	Pg	Pg	14 32 13.3	+0.3
	SNR=19						
KTD				Sg	Sg	14 32 26.3	+2.3
KTD	Kalmit	0.85	91	Pg	Pg	14 32 13.8	+0.8
KTD				Sg	Sg	14 32 26.3	+2.3
BGG	Burgeitz	0.93	22	ePg	Pg	14 32 15.5	+0.9
BGG				eSg	Sg	14 32 27.2	+0.6
	84nm,0.4s						
HILG	Hillesheim	0.95	356	ePg	Pg	14 32 15.9	+1.0
HILG				eSg	Sg	14 32 29.0	+1.8
	176nm,0.5s						
CDF	Champ du Feu	0.99	161	ePn	Pn	14 32 17.4	-0.5
	SNR=1.0						
CDF				eSg	Sg	14 32 29.7	+1.1
CDF				eSn	Sn	14 32 31.3	-1.3
	147nm,0.2s,SNR=1.0						
CDF	Champ du Feu	0.99	161	ePn	Pn	14 32 17.4	-0.5
	SNR=1.0						
CDF				eSg	Sg	14 32 29.7	+1.1
CDF				eSn	Sn	14 32 31.3	-1.3
	73nm,0.2s,SNR=1.0						
CDF	Champ du Feu	0.99	161	ePg	Pg	14 32 16.4	+0.7
CDF				ePn	Pn	14 32 17.4	-0.5
CDF				eSg	Sg	14 32 29.7	+1.1
CDF				eSn	Sn	14 32 31.3	-1.3
RFYF	Reffroy	1.12	231	ePn	Pn	14 32 20.3	+0.6
	baz=49						
RFYF				eSn	Sn	14 32 36.0	+0.1
	250nm,0.3s,baz=54						
RFYF	Reffroy	1.12	231	ePn	Pn	14 32 20.3	+0.6
RFYF				eSn	Sn	14 32 36.0	+0.1
	125nm,0.3s						
ECH	Echery	1.16	168	Pg	Pg	14 32 20.6	+1.6
ECH				Sg	Sg	14 32 35.5	+1.5
ECH	Echery	1.16	168	P	Pg	14 32 20.7	+1.8
ECH	Echery	1.16	168	eP	Pg	14 32 19.5	+0.5
ECH	Echery	1.16	168	Pg	Pg	14 32 20.6	+1.6
ECH				Sg	Sg	14 32 35.5	+1.5
ECH	Echery	1.16	168	eP	Pg	14 32 19.5	+0.5
ECH				eS	Sg	14 32 35.4	+1.4
KOE	Koeppel	1.24	29	ePg	Pg	14 32 20.2	-0.2
KOE				i Sg	Sg	14 32 36.6	+0.1
	98nm,0.5s						
THEF	They Montfort	1.24	205	Pg	Pg	14 32 21.7	+1.2
THEF				Sg	Sg	14 32 38.1	+1.5
THEF	They Montfort	1.24	205	P	Pg	14 32 22.1	+1.6
THEF	They Montfort	1.24	205	Pg	Pg	14 32 22.1	+1.6
THEF				Sg	Sg	14 32 38.1	+1.5
STB	Steinbach	1.25	2	ePg	Pg	14 32 20.9	+0.2
STB				eSg	Sg	14 32 38.0	+1.2
	67nm,0.4s						
SWS	Schriesheim-Wi	1.26	83	Pn	Pn	14 32 20.2	-1.4
LIBD	Limburg	1.32	155	ePg	Pg	14 32 23.7	+1.7
	SNR=7.8						
LIBD	Limburg	1.32	155	Pg	Pg	14 32 23.3	+1.4
LIBD				Sg	Sg	14 32 41.2	+2.2
KLL	Kalltalsperre	1.33	347	ePg	Pg	14 32 21.8	-0.5
KLL				eSg	Sg	14 32 39.9	+0.2
	42nm,0.6s						
TOD	Tromm	1.34	78	Pg	Pg	14 32 22.1	-0.3
TOD	Tromm	1.34	78	Pg	Pg	14 32 22.1	-0.3
MEM	Membach	1.36	339	P	Pg	14 32 23.4	+0.6
MEM	Membach	1.36	339	P	Pg	14 32 23.3	+0.5
TNS	Taunus Mts	1.39	50⇓	ePn	Pn	14 32 21.9	-1.4
TNS				Sg	Sg	14 32 41.8	+0.5
TNS	Taunus Mts	1.39	50	ePg	Pg	14 32 22.0	-1.3
TNS				Sg	Sg	14 32 41.8	+0.5
TNS	Taunus Mts	1.39	50	ePg	Pg	14 32 22.0	-1.3
TNS				eSg	Sg	14 32 43.0	+1.7
MEZF	Maizieres J'vi	1.42	234	ePg	Pg	14 32 25.5	+1.5
	baz=51,SNR=1.0						
MEZF				eSg	Sg	14 32 45.1	+2.7
	171nm,0.5s,SNR=1.0						
MEZF	Maizieres J'vi	1.42	234	ePg	Pg	14 32 25.5	+1.5
	SNR=1.0						
MEZF				eSg	Sg	14 32 45.1	+2.7
	85nm,0.5s,SNR=1.0						
MEZF	Maizieres J'vi	1.42	234	ePn	Pn	14 32 24.1	+0.3
MEZF				ePg	Pg	14 32 25.5	+1.5
MEZF				eSg	Sg	14 32 45.1	+2.7
BCLA	Clavier	1.44	319	P	Pn	14 32 24.9	+0.8
BCLA	Clavier	1.44	319	P	Pn	14 32 24.8	+0.8
BFO	Black Forest	1.44	134⇓	ePn	Pn	14 32 23.5	-0.5
BFO				ePg	Pg	14 32 25.1	+0.8
	SNR=35						
BFO				Sg	Sg	14 32 44.6	+1.5
BFO	Black Forest	1.44	134	Pg	Pg	14 32 25.1	+0.7
	SNR=35						
BFO				eSg	Sg	14 32 42.3	-0.7
BFO	Black Forest	1.44	134	ePn	Pn	14 32 23.2	-0.9
BFO				eSg	Sg	14 32 42.3	-0.7
GIVF	Givet	1.48	301	ePn	Pn	14 32 24.6	0.0
	SNR=1.0						
GIVF				eSn	Sn	14 32 43.4	-1.2
	SNR=1.0						
GIVF				eSg	Sg	14 32 45.9	+1.6
	137nm,0.4s,SNR=1.0						
GIVF	Givet	1.48	301	ePn	Pn	14 32 24.6	0.0
	SNR=1.0						
GIVF				eSn	Sn	14 32 43.4	-1.2
	SNR=1.0						
GIVF				eSg	Sg	14 32 45.9	+1.6
	69nm,0.4s,SNR=1.0						
LBG	Lerchenberg	1.49	117	Pg	Pg	14 32 25.8	+0.5
MOF	Molkenrain	1.52	171	Pg	Pg	14 32 27.0	+1.2
MOF				Sg	Sg	14 32 47.1	+1.7
MOF	Molkenrain	1.52	171	Pg	Pg	14 32 26.9	+1.1
MOF				Sg	Sg	14 32 47.1	+1.7
HGN	Heimansgroeve	1.52	339	ePg	Pg	14 32 25.6	-0.3
	46nm,0.7s						
HGN				eSg	Sg	14 32 46.9	+1.3
HGN	Heimansgroeve	1.52	339	eRg		14 33 07.5	
HINF	Hinteralfeld	1.53	178	ePg	Pg	14 32 27.0	+0.9
	SNR=1.0						
HINF				eSn	Sn	14 32 44.3	-1.6
	SNR=1.0						
HINF				eSg	Sg	14 32 47.4	+1.4
	200nm,0.3s,SNR=1.0						
HINF	Hinteralfeld	1.53	178	ePg	Pg	14 32 27.0	+0.9
	SNR=1.0						
HINF				eSn	Sn	14 32 44.3	-1.6
	SNR=1.0						
HINF				eSg	Sg	14 32 47.4	+1.4
	100nm,0.3s,SNR=1.0						
HINF	Hinteralfeld	1.53	178	ePn	Pn	14 32 25.2	-0.1
HINF				ePg	Pg	14 32 27.0	+0.9
HINF				eSn	Sn	14 32 44.3	-1.6
HINF				eSg	Sg	14 32 47.4	+1.4
KIZ	Kirchzarten	1.58	151	Pn	Pn	14 32 25.3	-0.7
KIZ	Kirchzarten	1.58	151	Px	Px	14 32 25.3	
DOU	Dourbes	1.61	299	P	Pn	14 32 26.7	+0.4
BEBN	Eben Emael	1.61	334	P	Pn	14 32 26.9	+0.5
BEBN	Eben Emael	1.61	334	P	Pn	14 32 26.9	+0.4
SFTF	Sexfontaines	1.63	226	ePg	Pg	14 32 29.2	+1.3
SFTF				eSg	Sg	14 32 50.6	+1.6
	62nm,0.3s						
SFTF	Sexfontaines	1.63	226	ePg	Pg	14 32 29.2	+1.3
SFTF				eSg	Sg	14 32 50.6	+1.6
	31nm,0.3s						
SFTF	Sexfontaines	1.63	226	ePn	Pn	14 32 26.8	+0.2
SFTF				ePg	Pg	14 32 29.2	+1.3
SFTF				eSg	Sg	14 32 50.6	+1.6
BNS	Bensberg	1.64	9	ePg	Pg	14 32 27.9	-0.2
BNS				eSg	Sg	14 32 49.2	-0.1
	88nm,0.7s						
HOBG	Hohbusch	1.67	12	ePg	Pg	14 32 27.2	-1.6
FELD	Feldberg im Sc	1.68	151	Pg	Pg	14 32 29.7	+0.7
FELD	Feldberg im Sc	1.68	151	Pg	Pg	14 32 29.3	+0.4
STU	Stuttgart	1.69	109	ePn	Pn	14 32 27.1	-0.4
STU	Stuttgart	1.69	109	ePn	Pn	14 32 27.1	-0.3
TUBL	Tuebingen-Lenn	1.73	118	Pg	Pg	14 32 30.1	+0.3
TUBL	Tuebingen-Lenn	1.73	118	Px	Px	14 32 30.1	
BAIF	Baives	1.82	294	ePg	Pg	14 32 32.3	+0.7
BAIF				eSn	Sn	14 32 51.7	-1.3
	SNR=1.0						
BAIF				eSg	Sg	14 32 56.6	+1.5
	94nm,0.5s,SNR=1.0						
BAIF	Baives	1.82	294	ePg	Pg	14 32 32.3	+0.7
BAIF				eSn	Sn	14 32 51.7	-1.3
	SNR=1.0						
BAIF				eSg	Sg	14 32 56.6	+1.5
	47nm,0.5s,SNR=1.0						
BAIF	Baives	1.82	294	ePn	Pn	14 32 29.3	+0.1
BAIF				ePg	Pg	14 32 32.3	+0.7
BAIF				eSn	Sn	14 32 51.7	-1.3
BAIF				eSg	Sg	14 32 56.6	+1.5
SPAK	Spaichingen-Ko	1.82	133	Pg	Pg	14 32 32.2	+0.6
SPAK	Spaichingen-Ko	1.82	133	Pg	Pg	14 32 32.0	+0.4
SPAK				Sg	Sg	14 32 57.3	+2.1
SIND	Sindeldorf	1.84	89⇓	iPn	Pn	14 32 28.4	-1.2
BUCH	Bad Urach	1.92	117	Pn	Pn	14 32 31.5	+0.8
SLE	Schleitheim	1.95	144	ePg	Pg	14 32 34.7	+0.6
	SNR=2.3						
BOURR	Bourrignon	1.98	171	eSg	Sg	14 33 01.5	+1.3
	SNR=3.5						
SNF	Seneffe	1.99	307	P	Pn	14 32 33.0	+1.4
LOMF	Lomont	2.00	179	Pg	Pg	14 32 35.6	+0.5
LOMF	Lomont	2.00	179	Pg	Pg	14 32 35.9	+0.8
GUT	Gutenstein	2.00	129	Pg	Pg	14 32 35.5	+0.4
GUT	Gutenstein	2.00	129	Pg	Pg	14 32 35.5	+0.4
BALST	Balsthal	2.10	163	eSg	Sg	14 33 05.3	+1.0
	SNR=2.4						
BUG	Bochum--Univer	2.12	8	eSg	Sg	14 33 06.3	+1.6
SISB	Singen-Schiene	2.21	138	P*	Pb	14 32 40.5	+3.1
SISB	Singen-Schiene	2.21	138	Px	Px	14 32 40.5	
HDH	Heidenheim-Cha	2.38	107	Pg	Pg	14 32 42.2	-0.2
HDH	Heidenheim-Cha	2.38	107	Px	Px	14 32 42.2	
WILA	Wila	2.40	143	ePg	Pg	14 32 43.7	+1.0
	SNR=2.4						
WILA				eSg	Sg	14 33 15.7	+2.0
	SNR=2.4						
UBBA	Unterbreizbach	2.54	53	eSg	Sg	14 33 18.8	+0.4
WTSB	Winterswijk	2.62	0	ePg	Pg	14 32 45.8	-1.1
	30nm,0.9s						
WTSB				eSg	Sg	14 33 19.2	-1.7
LIENZ	Kamor/St.Gall	2.74	138	ePn	Pn	14 32 43.7	+1.8
	SNR=5.2						
LIENZ				eSg	Sg	14 33 27.2	+2.5
	SNR=2.4						
UBR	Ueberruh	2.77	126	P*	Pb	14 32 43.4	-3.7
CABF	La Chapelle	2.78	190	ePg	Pg	14 32 50.3	+0.3
CABF				eSn	Sn	14 33 14.9	-1.8
	SNR=1.0						
CABF				eSg	Sg	14 33 27.0	+1.0
	82nm,0.6s,SNR=1.0						
CABF	La Chapelle	2.78	190	ePg	Pg	14 32 50.3	+0.3
CABF				eSn	Sn	14 33 14.9	-1.8
	SNR=1.0						
CABF				eSg	Sg	14 33 27.0	+1.0
	41nm,0.6s,SNR=1.0						
CABF	La Chapelle	2.78	190	ePn	Pn	14 32 42.5	0.0
CABF				ePg	Pg	14 32 50.3	+0.3
CABF				eSn	Sn	14 33 14.9	-1.8
CABF				eSg	Sg	14 33 27.0	+1.0
LOR	Lormes	2.85	224	ePn	Pn	14 32 43.3	-0.2
	baz=50,SNR=1.0						
LOR				eSn	Sn	14 33 16.5	-2.0
	SNR=1.0						
LOR				eSg	Sg	14 33 29.2	+0.8
	36nm,0.3s,SNR=1.0						

LOR	Lormes	2.85	224	ePn	Pn	14 32 43.3	-0.2
	SNR=1.0						
LOR				eSn	Sn	14 33 16.5	-2.0
	SNR=1.0						
LOR				eSg	Sg	14 33 29.2	+0.8
	18nm,0.3s,SNR=1.0						
GRF	Grafenberg Arr	2.91	82	eSg	Sg	14 33 32.5	+2.3
DAVA	Damuels	2.92	134	⇑iPn	Pn	14 32 45.9	+1.6
DAVA				⇓iSn	Sn	14 33 19.2	-0.9
DAVA				⇑iSg	Sg	14 33 28.6	-1.9
	20nm,0.4s						
IBBN	Ibbenburen	3.02	11	eSg	Sg	14 33 31.7	-2.2
	SNR=2.5						
SSF	Saint Saulge	3.17	225	ePn	Pn	14 32 47.2	-0.6
	SNR=1.0						
SSF				eSn	Sn	14 33 24.0	-2.3
	SNR=1.0						
SSF				eSg	Sg	14 33 38.9	+0.4
	48nm,0.4s,SNR=1.0						
SSF	Saint Saulge	3.17	225	ePn	Pn	14 32 47.2	-0.6
	SNR=1.0						
SSF				eSn	Sn	14 33 24.0	-2.3
	SNR=1.0						
SSF				eSg	Sg	14 33 38.9	+0.4
	24nm,0.4s,SNR=1.0						
SMF	Signal de Mont	3.35	217	ePg	Pg	14 33 01.7	+0.8
	SNR=1.0						
SMF				eSn	Sn	14 33 29.6	-1.2
SMF				eSg	Sg	14 33 43.7	-0.6
	39nm,0.5s,SNR=1.0						
SMF	Signal de Mont	3.35	217	ePg	Pg	14 33 01.7	+0.8
	SNR=1.0						
SMF				eSn	Sn	14 33 29.6	-1.2
SMF				eSg	Sg	14 33 43.7	-0.6
	20nm,0.5s,SNR=1.0						
SMF	Signal de Mont	3.35	217	ePn	Pn	14 32 49.7	-0.6
SMF				ePg	Pg	14 33 01.7	+0.8
SMF				eSn	Sn	14 33 29.6	-1.2
SMF				eSg	Sg	14 33 43.7	-0.6
TUE	Stuetta	3.35	148	ePn	Pn	14 32 52.7	+2.3
TUE	Stuetta	3.35	148	ePn	Pn	14 32 52.6	+2.3
MOX	Moxa	3.38	66	⇑ePg	Pg	14 32 59.3	-2.1
MOX				⇑eSg	Sg	14 33 44.2	-0.9
CLZ	Clausthal	3.38	41	ePn	Pn	14 32 49.7	-1.1
AVF	Avril sur Loir	3.44	223	ePn	Pn	14 32 50.9	-0.7
	SNR=1.0						
AVF				eSn	Sn	14 33 31.0	-2.0
	SNR=1.0						
AVF				eSg	Sg	14 33 47.3	0.0
	25nm,0.5s,SNR=1.0						
AVF	Avril sur Loir	3.44	223	ePn	Pn	14 32 50.9	-0.7
	SNR=1.0						
AVF				eSn	Sn	14 33 31.0	-2.0
	SNR=1.0						
AVF				eSg	Sg	14 33 47.3	0.0
	12nm,0.5s,SNR=1.0						
HYF	Humbligny	3.46	235	ePg	Pg	14 33 04.0	+0.9
HYF				eSg	Sg	14 33 48.5	+0.6
FETA	Feichten	3.52	130	⇑iPn	Pn	14 32 54.7	+2.1
FETA				⇓iSn	Sn	14 33 33.0	-1.9
NKC	Novy Kostel	3.77	74	ePN	Pn	14 33 00.2	+4.1
NKC				ePG	Pg	14 33 06.5	-2.5
NKC				eSG	Sg	14 33 56.4	-1.5
	24nm,0.7s						
TANN	Tannenbergstha	3.82	72	ePn	Pn	14 32 56.6	-0.2
TANN				eSg	Sg	14 33 57.2	-2.3
LPL	La Plagne	3.83	181	ePn	Pn	14 32 55.9	-1.1
	SNR=1.0						
LPL				eSg	Sg	14 33 58.4	-1.5
	13nm,0.5s						
LPL	La Plagne	3.83	181	ePn	Pn	14 32 55.9	-1.1
	SNR=1.0						
LPL				eSg	Sg	14 33 58.4	-1.5
	6.3nm,0.5s						
BGF	Bois d'Agland	3.85	225	ePg	Pg	14 33 09.4	-1.1
	SNR=1.0						
BGF				eSn	Sn	14 33 40.5	-2.5
	SNR=1.0						
BGF				eSg	Sg	14 34 00.6	+0.3
	118nm,0.4s,SNR=1.0						
BGF	Bois d'Agland	3.85	225	ePg	Pg	14 33 09.4	-1.1
	SNR=1.0						
BGF				eSn	Sn	14 33 40.5	-2.5
	SNR=1.0						
BGF				eSg	Sg	14 34 00.6	+0.3
	59nm,0.4s,SNR=1.0						
BGF	Bois d'Agland	3.85	225	ePn	Pn	14 32 56.7	-0.4
BGF				ePg	Pg	14 33 09.4	-1.1
BGF				eSn	Sn	14 33 40.5	-2.5
BGF				eSg	Sg	14 34 00.6	+0.3
LPG	La Plagne	3.85	180	eSg	Sg	14 33 59.2	-1.3
	13nm,0.6s						
LPG	La Plagne	3.85	180	eSg	Sg	14 33 59.2	-1.3
	6.4nm,0.6s						
WET	Wettzell	4.00	91	ePn	Pn	14 32 59.9	+0.7
	SNR=5.6						
WET	Wettzell	4.00	91	ePn	Pn	14 32 59.8	+0.6
TCF	Toulx Ste Croi	4.34	227	ePn	Pn	14 33 03.7	-0.3
TCF				eSg	Sg	14 34 16.6	+0.3
	39nm,0.7s						
TCF	Toulx Ste Croi	4.34	227	ePn	Pn	14 33 03.7	-0.3
TCF				eSg	Sg	14 34 16.6	+0.3
	19nm,0.7s						
CLL	Collm	4.44	61	ePg	Pg	14 33 20.0	-1.8
CLL				eSg	Sg	14 34 19.0	-0.3
	comp=Z,13nm,1.1s						
KHC	Kasperske Hory	4.46	90	ePN	Pn	14 33 05.6	+0.1
KHC				ePG	Pg	14 33 19.1	-3.0
KHC				eSN	Sn	14 33 55.6	-2.4
KHC				eSG	Sg	14 34 19.1	-0.7
	comp=Z,22nm,1.7s						
ORIF	Oris-en-Rattie	4.48	188	ePg	Pg	14 33 24.0	+1.5
	SNR=1.0						
ORIF				eSg	Sg	14 34 19.6	-0.9
	comp=Z,19nm,0.6s,SNR=1.0						
ORIF	Oris-en-Rattie	4.48	188	ePg	Pg	14 33 24.0	+1.5
	SNR=1.0						
ORIF				eSg	Sg	14 34 19.6	-0.9
	comp=Z,9.6nm,0.6s,SNR=1.0						
GEC2	GERESS Array S	4.57	94	ePn	Pn	14 33 07.6	+0.5
	SNR=28						
GEC2	GERESS Array S	4.57	94	ePn	Pn	14 33 07.8	+0.7
LDF	La Druitiere	4.61	263	ePg	Pg	14 33 24.3	-0.8
LDF				eSg	Sg	14 34 24.6	-0.2
	comp=Z,28nm,0.7s						
LDF	La Druitiere	4.61	263	ePg	Pg	14 33 24.3	-0.8
LDF				eSg	Sg	14 34 24.6	-0.2
	comp=Z,14nm,0.7s						
LDF	La Druitiere	4.61	263	ePn	Pn	14 33 08.1	+0.5
LDF				ePg	Pg	14 33 24.3	-0.8
LDF				eSg	Sg	14 34 24.6	-0.2
MBDF	Montbardon	4.62	180	eSg	Sg	14 34 24.2	-1.0
	comp=Z,9.5nm,0.6s						
MBDF	Montbardon	4.62	180	eSg	Sg	14 34 24.2	-1.0
	comp=Z,4.8nm,0.6s						
VIVF	Saint-Julien-l	4.72	199	eSn	Sn	14 34 00.7	-3.8
	SNR=1.0						
VIVF				eSg	Sg	14 34 27.3	-1.0
	comp=Z,16nm,0.6s,SNR=1.0						
VIVF	Saint-Julien-l	4.72	199	eSn	Sn	14 34 00.7	-3.8
	SNR=1.0						
VIVF				eSg	Sg	14 34 27.3	-1.0
	comp=Z,7.9nm,0.6s,SNR=1.0						
FLN	La Foliniere	4.81	266	ePn	Pn	14 33 10.9	+0.5
	baz=89,SNR=1.0						
FLN				eSn	Sn	14 34 03.1	-3.7
	SNR=1.0						
FLN				eSg	Sg	14 34 30.8	-0.5
	comp=Z,20nm,0.4s						
FLN	La Foliniere	4.81	266	ePn	Pn	14 33 10.9	+0.5
	SNR=1.0						
FLN				eSn	Sn	14 34 03.1	-3.7
	SNR=1.0						
FLN				eSg	Sg	14 34 30.8	-0.5
	comp=Z,10.0nm,0.4s						
BRG	Berggiesshubel	4.85	69	SG	Sg	14 34 31.7	-0.8
	comp=Z,5.8nm,0.9s						
PRU	Pruhonice	5.08	80	eSG	Sg	14 34 38.4	-1.4
	comp=Z,18nm,1.3s						
GRR	Gorron	5.14	262	ePn	Pn	14 33 14.6	-0.2
	SNR=1.0						
GRR				eSn	Sn	14 34 11.1	-3.6
	comp=Z,13nm,0.3s,SNR=1.0						
GRR	Gorron	5.14	262	ePn	Pn	14 33 14.6	-0.2
	SNR=1.0						
GRR				eSn	Sn	14 34 11.1	-3.6
	comp=Z,6.3nm,0.3s,SNR=1.0						
MOA	Molln	5.18	104	⇑iPn	Pn	14 33 16.5	+1.0
MOA				⇓iSn	Sn	14 34 14.1	-1.8
RJF	Les Rejaudoux	5.40	223	ePn	Pn	14 33 18.0	-0.5
RJF				eSg	Sg	14 34 48.7	-1.5
	comp=Z,15nm,0.6s						
RJF	Les Rejaudoux	5.40	223	ePn	Pn	14 33 18.0	-0.5
RJF				eSg	Sg	14 34 48.7	-1.5
	comp=Z,7.3nm,0.6s						
MFF	Saint Martin d	5.41	242	eSg	Sg	14 34 49.3	-1.0
	comp=Z,18nm,0.6s						
MFF	Saint Martin d	5.41	242	eSg	Sg	14 34 49.3	-1.0
	comp=Z,9.2nm,0.6s						
SMRF	Simiane la Rot	5.44	189	eSg	Sg	14 34 49.7	-1.7
	comp=Z,7.3nm,0.6s						
SMRF	Simiane la Rot	5.44	189	eSg	Sg	14 34 49.7	-1.7
	comp=Z,3.7nm,0.6s						
CAF	Calviac	5.47	218	ePn	Pn	14 33 18.9	-0.6
CAF				eSg	Sg	14 34 51.6	-0.8
	comp=Z,14nm,0.5s						
CAF	Calviac	5.47	218	ePn	Pn	14 33 18.9	-0.6
CAF				eSg	Sg	14 34 51.6	-0.8
	comp=Z,6.8nm,0.5s						
LASF	Ste Croix	5.65	202	eSg	Sg	14 34 56.7	-1.3
	comp=Z,17nm,0.6s						
LASF	Ste Croix	5.65	202	eSg	Sg	14 34 56.7	-1.3
	comp=Z,8.6nm,0.6s						
LFF	La Frestale	6.04	225	eSg	Sg	14 35 08.4	-2.2
	comp=Z,28nm,0.6s						
LFF	La Frestale	6.04	225	eSg	Sg	14 35 08.4	-2.2
	comp=Z,14nm,0.6s						
CSNA	Conrad Observa	6.18	100	⇓iPn	Pn	14 33 30.0	+0.8
CSNA				⇑iSn	Sn	14 34 37.7	-2.8
CONA	Conrad Observa	6.18	100	⇓iPn	Pn	14 33 29.9	+0.7
CONA				⇓iSn	Sn	14 34 38.0	-2.5
DPC	Dobruska-Polom	6.25	77	eSG	Sg	14 35 15.8	-1.6
SGMF	Saint Gilles	6.27	263	ePn	Pn	14 33 29.5	-0.9
	SNR=1.0						
SGMF				eSn	Sn	14 34 38.2	-4.5
	SNR=1.0						
SGMF				eSg	Sg	14 35 16.4	-1.6
	comp=Z,12nm,0.5s						
SGMF	Saint Gilles	6.27	263	ePn	Pn	14 33 29.5	-0.9
	SNR=1.0						
SGMF				eSn	Sn	14 34 38.2	-4.5
	SNR=1.0						
SGMF				eSg	Sg	14 35 16.4	-1.6
	comp=Z,6.1nm,0.5s						
QUIF	Quistinic	6.75	262	eSn	Sn	14 34 47.8	-6.7
	comp=Z,4.0nm,0.3s,SNR=1.0						
QUIF	Quistinic	6.75	262	eSn	Sn	14 34 47.8	-6.7
	comp=Z,2.0nm,0.3s,SNR=1.0						
MTLF	Montolieu	6.79	209	eSg	Sg	14 35 32.0	-2.7
	comp=Z,4.8nm,0.5s						
MTLF	Montolieu	6.79	209	eSg	Sg	14 35 32.0	-2.7
	comp=Z,2.4nm,0.5s						

*ISCJB **03** 14:46:58.5±1.1, 2206N±007×143.1E±02, h255km±10km, mb3.9/13, Error ellipse: s-maj=33.5km s-min=10.8km az=173.8*
*IDC **03** 14:46:58.5±1.8, 2198N×14288E, h233km±16km, mb3.6/11, mb1 3.7/12, mb1mx3.6/22, mbtmp3.7/12, Error ellipse: s-maj=23.3km s-min=10.8km az=80.0*
*JMA **03** 14:47:00.6±0.2, 2230N×14344E, h266km, M4.6*
*NEIC **03** 14:47:05.7±6.1, 2196N×14265E, h306km±59km, mb4.1/2, Error ellipse: s-maj=33.1km s-min=9.1km az=72.0*
ISC 03 14:46:59.0±1.2, **2202N**±008×**1430E**±02, **h242**km±10km, **n39**, σ0s**98**/40, **mb3.9**/13, **1D, Volcano Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JHHJ	Haha-jima-NKT	4.65	351	P	Pn	14 48 10.9	+0.7
JHHJ				eS	S	14 49 05.6	-1.2
CBIJ	Chichi jima	5.11	352	P	Pn	14 48 15.7	-0.1
	33nm,0.3s,baz=262,slow=21,SNR=16						
CBIJ				S	S	14 49 15.4	-1.6
	35nm,0.3s,baz=131,slow=24,SNR=10						
CBIJ	Chichi jima	5.11	352	P	Pn	14 48 16.6	+0.8
CBIJ				eS	S	14 49 15.0	-2.0
BSO1	Boso 1	12.71	352	P	Pn	14 49 51.1	-0.4
BSO3	Boso 3	12.92	351	P	Pn	14 49 53.5	-0.6
JIE	Ise	13.51	337	P	Pn	14 50 02.3	+1.0
JOD2	Odawara 2	13.63	346	P	Pn	14 50 03.2	+0.4
JNY	Yasuok	14.03	342	P	Pn	14 50 07.9	+0.3
JHU	Hanno	14.16	348	P	Pn	14 50 08.7	-0.5
JHU				eS	S	14 52 35.2	-11
JRY	Ryogami san	14.39	347	P	Pn	14 50 11.8	-0.3
JAG	Ashikaga	14.68	349	P	Pn	14 50 14.9	-0.7
JHO	Hitachi	14.69	352	P	Pn	14 50 15.7	0.0
JWT	Wachi	14.79	335	P	Pn	14 50 19.1	+2.2
JHS	Saijyo	15.56	328	P	Pn	14 50 27.9	+1.8
JMM	Marumori	15.90	354	P	Pn	14 50 31.4	+1.2
JMM				eS	S	14 53 16.9	-6.9
KSRS	Korea Array	20.15	323	P	P	14 51 16.6	+1.5
	12nm,0.7s,baz=147,slow=9.1,SNR=63						
ASAJ	Asahikawa	22.04	359	P	P	14 51 35.5	+1.7
	2.4nm,0.5s,mb4.0,baz=180,slow=8.5,SNR=7.2						
SONM	Songino Array	38.98	320	P	P	14 54 02.1	+0.2
	1.8nm,0.4s,mb4.0,baz=120,slow=6.1,SNR=16						
WB2	Warramunga Arr	42.55	192	⇓iP	P	14 54 31.1	-0.2
WB2	Warramunga Arr	42.55	192	eP	P	14 54 31.2	-0.1
WRA	Warramunga Arr	42.55	192	P	P	14 54 31.2	-0.1
	3.2nm,0.7s,mb3.9,baz=13,slow=8.5,SNR=46						
ASAR	Alice Springs	46.27	192	P	P	14 55 00.4	-0.1
	0.6nm,0.5s,mb3.2,baz=15,slow=9.6,SNR=17						
STKA	Stephens Creek	53.61	181	P	P	14 55 55.0	-0.5
	0.8nm,0.4s,mb3.6,baz=339,slow=14,SNR=4.7						
STKA	Stephens Creek	53.61	181	eP	P	14 55 55.3	-0.2
ZALV	Zalesovo Beam	53.85	322	P	P	14 55 56.5	-0.5
	3.7nm,0.3s,mb4.3,baz=105,slow=8.2,SNR=22						
MKAR	Makanchi Array	54.35	312	P	P	14 56 00.6	-0.2
	0.9nm,0.4s,mb3.7,baz=90,slow=8.9,SNR=9.7						
MKAR	Makanchi Array	54.35	312	P	P	14 56 00.6	-0.2
KURK	Kurchatov	57.12	317	eP	P	14 56 19.6	-0.7
BRVK	Borovoye	62.37	319	eP	P	14 56 55.6	-0.4
ARU	Arti	68.90	324	eP	P	14 57 36.8	-0.8
	4.2nm,0.5s,mb4.3						
KEV	Kevo	78.00	341	ep	P	14 58 29.6	-0.7
	0.6nm,0.3s,mb3.7						
ARCES	ARCESS Array B	78.56	341	P	P	14 58 33.4	+0.1
	4.2nm,0.9s,mb4.1,baz=70,slow=8.3,SNR=12						
JOF	Joensuu	79.95	334	ep	P	14 58 39.0	-1.9
	3.7nm,0.3s,mb4.5						
NVAR	Mina Array Bea	83.08	51	P	P	14 58 59.6	+1.8
	0.7nm,0.6s,mb3.6,baz=267,slow=5.8,SNR=8.0						
NOA	NORSAR Array B	88.58	339	P	P	14 59 22.8	-1.5
	1.1nm,0.7s,mb3.8,baz=48,slow=4.6,SNR=3.8						
TORD	Torodi Ar. Bea	128.40	309	PKP	PKPdf	15 05 37.7	0.0
	0.4nm,0.4s,baz=64,slow=0.7,SNR=7.6						
TORD	Torodi Ar. Bea	128.40	309	PKP	PKPdf	15 05 37.7	0.0
PLCA	Paso Flores	146.10	131	PKPbc	PKPbc	15 06 10.2	-0.5
	2.1nm,0.8s,baz=168,slow=6.7,SNR=4.3						
LPAZ	La Paz	150.09	84	PKPbc	PKPbc	15 06 23.8	+2.0
	2.0nm,0.6s,baz=293,slow=1.9,SNR=11						

*SZGRF **03** 14:51:03.6, 472N×7658W, h33km, mb4.5, Colombia*
*ISCJB **03** 14:51:04.4±1.4, 574N±007×7759W±006, h47km±12km, mb4.5/54, MS4.2/5, Error ellipse: s-maj=13.2km s-min=8.3km az=42.5*
*BJI **03** 14:51:05.6, 570N×7760W, h47km, mB5.1, Ms4.9, Msz4.8*
*NEIC **03** 14:51:05.7±1.0, 567N×7760W, h48km±8km, mb4.6/37, Error ellipse: s-maj=8.0km s-min=5.4km az=225.0*
*IDC **03** 14:51:06.5±2.1, 574N×7748W, h50km±20km, mb4.1/17, mb1 4.3/21, mb1mx4.2/23, mbtmp4.1/21, ML3.5/4, MS3.9/5, Ms1 3.9/5, ms1mx3.4/25, Error ellipse: s-maj=18.2km s-min=11.8km az=63.0*
ISC 03 14:51:06.0±1.3, **569N**±007×**7758W**±007, **h49**km±11km, **n124**, σ0s**79**/111, **mb4.5**/54, **MS4.2**/5, **16C-1D, Near west coast of Colombia**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ROSC	El Rosal	3.34	104	P	Pn	14 51 57.1	+1.3
	14nm,0.3s,baz=277,slow=11,SNR=24						
ROSC	El Rosal	3.34	104	ePn	Pn	14 51 57.8	+2.0
BCIP	Isla Barro Col	4.11	327	⇓ePn	Pn	14 51 59.5	-6.9
SDV	Santo Domingo	7.59	65	P	Pn	14 52 52.5	-1.5
	5.6nm,0.3s,baz=298,slow=14,SNR=89						
SDV				LR	LR	14 55 57.5	
	comp=Z,2μm,18.3s,baz=245,slow=39						
ATAH	Atahualpa	12.64	184	P	Pn	14 54 08.1	+4.9
	0.3nm,0.3s,baz=323,slow=21,SNR=2.3						
MTP	Monte Pirata	17.03	43	eP	Pn	14 55 01.0	+0.1
TEIG	Tepich	17.80	325	P	Pn	14 55 12.0	+1.7
	0.2nm,0.3s,baz=125,slow=23,SNR=2.7						
TEIG				LR	LR	15 02 14.4	
	comp=Z,241nm,18.1s,baz=89,slow=38						
TEIG	Tepich	17.80	325	P	Pn	14 55 12.0	+1.7
TEIG				LR	LR	15 02 14.4	
LPAZ	La Paz	23.76	157	P	P	14 56 14.9	+0.8
	5.1nm,0.6s,mb4.1,baz=330,slow=12,SNR=31						
LPAZ	La Paz	23.76	157	eP	P	14 56 14.7	+0.6
	5.0nm,0.7s,mb4.0						
SIV	San Ignacio	27.04	143	P	P	14 56 43.1	-0.9
	12nm,0.7s,mb4.5,baz=322,slow=9.6,SNR=79						
LRAL	Lakeview Retre	28.58	343	eP	P	14 56 57.6	0.0
	34nm,1.4s,mb4.9						
TXAR	Lajitas Array	34.06	317	P	P	14 57 45.6	-0.2
	0.8nm,0.9s,mb3.6,baz=132,slow=8.6,SNR=7.3						
TXAR				PcP	PcP	15 00 24.7	+1.9
	0.9nm,0.7s,baz=139,slow=6.1,SNR=8.7						
TXAR				LR	LR	15 13 22.7	
	comp=Z,70nm,19.8s,MS3.4,baz=0.0,slow=39						
TXAR	Lajitas Array	34.06	317	P	P	14 57 45.6	-0.2
TXAR				PcP	PcP	15 00 24.7	+1.9
TXAR				LR	LR	15 13 22.7	
FVM	French Village	34.20	342	eP	P	14 57 46.1	-0.8
	8.7nm,0.7s,mb4.8						
CCM	Cathedral Cave	34.53	341	eP	P	14 57 47.9	-1.8
	8.6nm,0.8s,mb4.7						
WMOK	Wichita Mounta	34.92	329	eP	P	14 57 51.6	-1.5
	4.8nm,0.9s,mb4.4						
BDFB	Brasilia	36.15	126	P	P	14 58 02.8	-1.1
	2.0nm,0.4s,mb4.4,baz=266,slow=16,SNR=3.3						
CPUP	Villa Florida	37.40	149	P	P	14 58 12.2	-2.3
	1.8nm,0.6s,mb4.1,baz=321,slow=9.8,SNR=6.0						
CPUP	Villa Florida	37.40	149	eP	P	14 58 11.1	-3.4
	9.0nm,0.6s,mb4.8						
CFAA	Coronel Fontan	38.15	167	P	P	14 58 19.2	-1.5
	0.2nm,0.3s,baz=301,slow=5.2,SNR=4.5						
SDCO	Great Sand Dun	40.79	325	eP	P	14 58 42.6	-0.1
	4.5nm,0.9s,mb4.1						
WUAZ	Wupatki	42.97	318	eP	P	14 59 01.8	+1.2
	7.4nm,0.9s,mb4.4						
PDAR	Pinedale Array	46.51	327	P	P	14 59 29.6	+1.0
	2.0nm,1.0s,mb4.0,baz=121,slow=7.8,SNR=8.7						
PLCA	Paso Flores	46.65	173	P	P	14 59 31.7	+2.0
	7.2nm,0.9s,mb4.6,baz=346,slow=10,SNR=16						
PLCA	Paso Flores	46.65	173	P	P	14 59 31.7	+2.0
DUG	Dugway	46.69	323	eP	P	14 59 30.7	+0.6
	4.2nm,0.7s,mb4.5						
HWUT	Hardware Ranch	46.84	325	P	P	14 59 29.2	-2.1
	3.8nm,0.8s,mb4.4						
ULM	Lac du Bonnet	46.99	344	P	P	14 59 31.5	-0.7
	3.8nm,0.7s,mb4.4,baz=186,slow=10,SNR=3.7						
ULM	Lac du Bonnet	46.99	344	P	P	14 59 31.5	-0.7
NVAR	Mina Array Bea	49.21	317	P	P	14 59 50.7	+1.1
	1.9nm,0.9s,mb4.1,baz=130,slow=6.5,SNR=11						
SCHQ	Schefferville	49.76	8	P	P	14 59 52.7	-0.7
	6.2nm,0.8s,mb4.7,baz=174,slow=7.7,SNR=5.4						
SCHQ	Schefferville	49.76	8	P	P	14 59 52.7	-0.7
WVOR	Wild Horse Val	51.55	322	eP	P	15 00 07.4	+0.2
	11nm,1.1s,mb4.7						
YKA	Yellowknife Ar	62.86	342	P	P	15 01 25.4	-1.3
	2.6nm,0.7s,mb4.5,baz=126,slow=7.6,SNR=5.0						
TIC	Toumodi	72.09	85	eP	P	15 02 25.4	-0.5
	53nm,0.9s,mb5.5						
LIC	Lamto	72.11	85	⇑iP	P	15 02 25.6	-0.5
	28nm,0.8s,mb5.0						
LIC	Lamto	72.11	85	eP	P	15 02 25.6	-0.5
	44nm,0.8s,mb5.5						
LIC	Lamto	72.11	85	⇑iP	P	15 02 25.6	-0.5
	14nm,0.8s,mb4.9						
DBIC	Dimbokro	72.25	85	P	P	15 02 26.9	+0.1
	14nm,0.8s,mb4.9,baz=270,slow=6.5,SNR=13						
DBIC				LR	LR	15 31 54.7	
	comp=Z,81nm,19.3s,MS4.0,baz=315,slow=34						
KIC	Kosan Boka	72.38	85	eP	P	15 02 27.4	-0.3
	97nm,1.0s						
ESDC	Sonseca Array	73.78	50	P	P	15 02 36.1	+0.6
	0.4nm,0.3s,mb3.8,baz=267,slow=5.6,SNR=7.9						
PPT	Papeete	74.70	250	LR	LR	15 27 39.0	
	comp=Z,113nm,20.9s,MS4.1,baz=118,slow=29						
ROSF	Rostrenen	75.34	42	eP	P	15 02 44.4	0.0
	12nm,0.8s,mb4.5						
ROSF	Rostrenen	75.34	42	eP	P	15 02 44.4	0.0
	5.8nm,0.8s,mb4.6						
QUIF	Quistinic	75.36	42	eP	P	15 02 44.6	+0.2
	11nm,0.9s,mb4.5						
QUIF	Quistinic	75.36	42	eP	P	15 02 44.6	+0.2
	5.4nm,0.9s,mb4.5						
SGMF	Saint Gilles	75.81	42	⇑iP	P	15 02 47.0	0.0
	15nm,0.8s,mb4.7						
SGMF	Saint Gilles	75.81	42	⇑iP	P	15 02 47.0	0.0
	7.4nm,0.8s,mb4.7						
SJPF	Ste Jean	76.17	47	⇑iP	P	15 02 49.8	+0.6
	22nm,0.9s,mb4.8						
SJPF	Ste Jean	76.17	47	⇑iP	P	15 02 49.8	+0.6
	11nm,0.9s,mb4.8						
ETSF	Etsaut	76.64	47	eP	P	15 02 52.2	+0.3
	28nm,1.3s,mb4.7						
ETSF	Etsaut	76.64	47	eP	P	15 02 52.2	+0.3
	14nm,1.3s,mb4.7						
GRR	Gorron	76.95	42	⇑iP	P	15 02 53.5	0.0
	22nm,0.8s,mb4.8						
GRR	Gorron	76.95	42	⇑iP	P	15 02 53.5	0.0
	11nm,0.8s,mb4.8						
FLN	La Foliniere	77.24	41	⇑iP	P	15 02 55.2	+0.1
	19nm,0.9s,mb4.7						
FLN	La Foliniere	77.24	41	⇑iP	P	15 02 55.2	+0.1
	9.6nm,0.9s,mb4.7						
MFF	Saint Martin d	77.25	44	⇑iP	P	15 02 55.4	+0.2
	15nm,0.8s,mb4.7						
MFF	Saint Martin d	77.25	44	⇑iP	P	15 02 55.4	+0.2
	7.4nm,0.8s,mb4.7						
EPF	Esparros	77.31	47	eP	P	15 02 56.1	+0.5
	16nm,1.0s,mb4.6						
EPF	Esparros	77.31	47	eP	P	15 02 56.1	+0.5
	8.0nm,1.0s,mb4.6						
LDF	La Druitiere	77.46	42	eP	P	15 02 56.4	+0.1
	19nm,0.8s,mb4.8						
LDF	La Druitiere	77.46	42	eP	P	15 02 56.4	+0.1
	9.5nm,0.8s,mb4.8						
BPAW	Bear Paw Mtn.	77.68	334	eP	P	15 02 56.8	-0.5
	22nm,1.4s,mb4.9						
LFF	La Frestale	77.73	45	eP	P	15 02 57.9	0.0
RJF	Les Rejaudoux	78.31	45	eP	P	15 03 01.2	+0.1
TOA0	Torodi Ar. Sit	78.31	78	eP	P	15 03 00.9	-0.8
TORD	Torodi Ar. Bea	78.31	78	P	P	15 03 01.4	-0.3
	3.2nm,0.6s,mb4.4,baz=273,slow=5.9,SNR=25						
CAF	Calviac	78.67	45	eP	P	15 03 03.2	+0.1
	14nm,1.0s,mb4.5						
CAF	Calviac	78.67	45	eP	P	15 03 03.2	+0.1
	6.8nm,1.0s,mb4.5						
MTLF	Montolieu	78.70	47	eP	P	15 03 03.3	0.0
	11nm,1.0s,mb4.4						
MTLF	Montolieu	78.70	47	eP	P	15 03 03.3	0.0
	5.3nm,1.0s,mb4.4						
TCF	Toulx Ste Croi	78.85	44	eP	P	15 03 03.8	-0.3
	12nm,0.9s,mb4.5						
TCF	Toulx Ste Croi	78.85	44	eP	P	15 03 03.8	-0.3
	5.8nm,0.9s,mb4.5						
BGF	Bois d'Agland	79.31	44	eP	P	15 03 06.5	-0.1
AVF	Avril sur Loir	79.67	44	⇑iP	P	15 03 08.1	-0.4
	10nm,1.0s,mb4.4						
AVF	Avril sur Loir	79.67	44	⇑iP	P	15 03 08.1	-0.4
	5.1nm,1.0s,mb4.4						
SSF	Saint Saulge	79.79	43	eP	P	15 03 08.7	-0.5
LASF	Ste Croix	79.92	46	eP	P	15 03 10.6	+0.7
	11nm,0.9s,mb4.5						
SMF	Signal de Mont	80.00	44	eP	P	15 03 10.0	-0.3
	17nm,1.0s,mb4.6						
SMF	Signal de Mont	80.00	44	eP	P	15 03 10.0	-0.3
	8.6nm,1.0s,mb4.6						
LOR	Lormes	80.03	43	eP	P	15 03 10.1	-0.4
VIVF	Saint-Julien-l	80.52	46	eP	P	15 03 13.8	+0.6
GIVF	Givet	80.79	40	eP	P	15 03 14.6	+0.1
ORIF	Oris-en-Rattie	81.38	46	⇑iP	P	15 03 18.7	+0.9
	17nm,0.8s,mb4.7						
ORIF	Oris-en-Rattie	81.38	46	⇑iP	P	15 03 18.7	+0.9
	8.4nm,0.8s,mb4.7						
TAM	Tamanrasset	81.48	68	eP	P	15 03 20.0	+1.3
CABF	La Chapelle	81.54	44	eP	P	15 03 18.7	+0.1
	7.8nm,0.8s,mb4.4						
CABF	La Chapelle	81.54	44	eP	P	15 03 18.7	+0.1
	3.9nm,0.8s,mb4.4						
HAU	Haudompre	81.74	42	eP	P	15 03 19.3	-0.3
FRF	La Foret Royal	81.93	47	eP	P	15 03 20.7	0.0

LPL	La Plagne	81.99	45	eP	P	15 03 21.9	+1.0
MBDF	Montbardon	82.01	46	eP	P	15 03 21.7	+0.6
HINF	Hinteralfeld	82.08	43	eP	P	15 03 20.9	-0.5
	12nm,0.9s,mb4.5						
HINF	Hinteralfeld	82.08	43	eP	P	15 03 20.9	-0.5
	6.0nm,0.9s,mb4.5						
ECH	Echery	82.28	42	eP	P	15 03 21.9	-0.5
CDF	Champ du Feu	82.36	42	eP	P	15 03 22.6	-0.2
SBF	Sospel	82.50	47	eP	P	15 03 23.8	+0.1
	18nm,0.8s,mb4.7						
SBF	Sospel	82.50	47	eP	P	15 03 23.8	+0.1
	9.1nm,0.8s,mb4.8						
PGF	Pioggiola	83.67	48	eP	P	15 03 29.8	+0.1
	8.7nm,0.8s,mb4.6						
PGF	Pioggiola	83.67	48	eP	P	15 03 29.8	+0.1
	4.3nm,0.8s,mb4.6						
KEST	Kesra	84.22	55	P	P	15 03 33.1	+0.4
	1.4nm,0.8s,mb4.2,baz=255,slow=5.9,SNR=5.4						
NB2	NORSAR Subarra	84.48	29	P	P	15 03 33.8	+0.4
	comp=Z,1.6nm,0.8s,mb4.2,baz=271,slow=5.1						
NOA	NORSAR Array B	84.48	29	P	P	15 03 34.0	+0.6
	comp=Z,2.1nm,0.8s,mb4.3,baz=273,slow=5.1,SNR=7.3						
GRA1	Grafenberg Arr	84.93	41	eP	P	15 03 36.0	+0.1
	comp=Z,4.0nm,1.2s,mb4.4						
GRF	Grafenberg Arr	84.93	41	eP	P	15 03 36.0	+0.1
	comp=Z,4.0nm,1.2s,mb4.4						
CLL	Collm	85.97	39	i P	P	15 03 41.8	+0.7
	comp=Z,4.0nm,0.9s,mb4.7						
CLL				e		15 03 46.0	
KHC	Kasperske Hory	86.50	41	eP	P	15 03 44.5	+0.7
BRG	Berggiesshubel	86.59	39	eP	P	15 03 45.2	+1.0
	comp=Z,4.0nm,1.0s,mb4.6						
GEC2	GERESS Array S	86.60	41	eP	P	15 03 44.1	-0.2
GERES	GERESS Array B	86.60	41	P	P	15 03 44.8	+0.6
	comp=Z,2.8nm,0.9s,mb4.5,baz=266,slow=3.5,SNR=17						
ARCES	ARCESS Array B	89.25	20	P	P	15 03 56.0	-0.6
	comp=Z,4.1nm,0.7s,mb4.9,baz=287,slow=4.9,SNR=11						
CN2	Changchun	126.52	339	ePKP	PKPdf	15 10 05.1	+1.0
WMQ	Urumqi	128.95	14	ePKP	PKPdf	15 10 04.4	-4.3
KSRS	Korea Array	130.93	333	PKP	PKPdf	15 10 13.1	+0.4
	comp=Z,1.1nm,0.9s,baz=91,slow=1.4,SNR=5.6						
HHC	Hu-ho-hao-te	132.93	351	ePKP	PKPdf	15 10 17.5	+1.1
HHC				PP	PP	15 12 44.6	+3.9
HHC				PKS		15 13 51.6	
HHC				SS	SS	15 30 26.5	+8.2
HHC				PP	PP		
	comp=Z,80nm,5.9s						
HHC				LR	LR		
	comp=N,124nm,17.5s,MS4.8						
HHC				LR	LR		
	comp=E,102nm,18.3s,MS4.8						
HHC				LR	LR		
	comp=Z,103nm,17.8s,MS4.6						
LZH	Lanzhou	138.42	358	ePKP	PKPdf	15 10 28.1	+1.4
LZH				LR	LR		
	comp=E,119nm,18.2s						
LZH				LR	LR		
	comp=Z,167nm,20.5s,MS4.8						
CD2	Chengdu	143.58	358	ePKP	PKPdf	15 10 34.8	-1.4
ASAR	Alice Springs	144.83	236	PKP	PKPdf	15 10 37.9	-0.6
	comp=Z,3.4nm,0.8s,baz=117,slow=3.7,SNR=36						
WB2	Warramunga Arr	145.89	243	ePKP	PKPdf	15 10 41.2	+0.8
WRA	Warramunga Arr	145.90	243	PKPbc	PKPbc	15 10 41.4	+0.3
	comp=Z,4.1nm,0.9s,baz=104,slow=2.8,SNR=17						
GYA	Guiyang	147.78	353	ePKP	PKPdf	15 10 40.2	-3.2
GYA				PKP2	PKPab	15 10 46.5	-2.1
GYA				PP	PP	15 14 12.8	+1.1
GYA				PP	PP		
	comp=Z,80nm,7.9s						
KMI	Kunming	149.37	359	PKP	PKPdf	15 10 44.7	-1.4
CMAR	Chiang Mai Arr	155.76	8	PKPab	PKPab	15 11 21.2	-0.7
	comp=Z,1.3nm,0.7s,baz=330,slow=5.0,SNR=8.4						

DJA 03 15:34:40.9±0.5, 0N±4×99E±, h10km, MLv3.6/3, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GSI	Gunungsitoli	1.33	308	P	Pn	15 35 03.2	-2.4
GSI	Gunungsitoli	1.33	308	S	Sb	15 35 22.8	-0.4
TRSI	Tarutung	1.57	12	P	Pn	15 35 08.3	-0.6
TRSI	Tarutung	1.57	12	S	Sn	15 35 28.6	-0.7
PPI	Padang Panjang	2.00	118	P	Pn	15 35 14.4	-0.3

*NOU **03** 15:40:05.7±0.7, 2050S×16896E, h10km, MD3.0, ML3.0*
*BJI **03** 15:40:05.7, 2185S×170.12E, h39km, mB5.0, mb4.8, Ms4.9, Msz4.7*
*ISCJB **03** 15:40:05.8±2.5, 2155S±007×16934E±006, h17km±17km, mb4.6/27, MS4.2/15, Error ellipse: s-maj=11.1km s-min=9.7km az=0.0*
*NEIC **03** 15:40:05.9±0.5, 2149S×16940E, h10km, mb4.8/12, MS4.8/1, Error ellipse: s-maj=12.1km s-min=10.4km az=11.0*
*MOS **03** 15:40:08.4±1.3, 2149S×16940E, h33km, mb5.0/10, Error ellipse: s-maj=16.4km s-min=12.2km az=35.0*
*IDC **03** 15:40:11.0±4.5, 2150S×16937E, h47km±43km, mb4.1/11, mb1 4.4/13, mb1mx4.2/19, mbtmp4.2/13, ML3.2/2, MS3.9/13, Ms1 3.9/13, ms1mx3.6/28, Error ellipse: s-maj=22.2km s-min=18.1km az=177.0*
ISC 03 15:40:07.1±3.1, 2158S±007×16933E±006, h14km±18km, h31km±3.5km: pP-P, n99, σ1s13/67, mb4.6/27, MS4.2/15, 6C-4D, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BAYA	Yate Dam	2.34	255	AMP		15 41 18.5	
	comp=Z,32nm,0.7s						
PLUM	Mont Dore	2.59	254	eP	Pn	15 40 48.1	-0.4
PLUM				AMP		15 41 40.8	
	comp=Z,305nm,1.1s						
NORM	Noumea	2.72	256	eP	Pn	15 40 49.9	-0.5
NORM				eS	Sn	15 41 22.2	-0.8
NORM				AMP		15 41 32.5	
	comp=Z,256nm,3.1s						
DZM	Mont Dzumac	2.73	259	eP	Pn	15 40 50.4	0.0
ONTRN	Noumea	2.77	254	eP	Pn	15 40 50.9	0.0
ONTRN				AMP		15 41 39.2	
	comp=Z,330nm,5.6s						
NOUC	Port Laguerre	2.86	259	eP	Pn	15 40 51.5	-0.7
HNR	Honiara	15.07	322	P	Pn	15 43 43.8	+4.1
	comp=Z,0.8nm,0.3s,baz=238,slow=4.7,SNR=3.8						
HNR				LR	LR	15 48 54.3	
	comp=Z,173nm,19.5s,baz=136,slow=35						
HNR	Honiara	15.07	322	P	Pn	15 43 41.5	+1.8
HNR				pmax	pmax		
	comp=Z,60nm,1.1s						
HNR	Honiara	15.07	322	P	Pn	15 43 41.5	+1.7
	comp=Z,60nm,1.1s						
URZ	Urewera	17.93	160	P	Pn	15 44 16.9	+1.0
	comp=Z,0.3nm,0.3s,baz=49,slow=6.0,SNR=4.0						
URZ				LR	LR	15 49 29.7	
	comp=Z,168nm,20.6s,baz=182,slow=31						
AFI	Afiamalu	19.53	70	P	Pn	15 44 34.4	-1.1
	comp=Z,1.0nm,0.3s,baz=277,slow=5.0,SNR=6.8						
AFI				LR	LR	15 50 38.4	
	comp=Z,320nm,19.8s,baz=259,slow=32						
AFI	Afiamalu	19.53	70	eP	Pn	15 44 33.5	-2.0
AFI				pmax	pmax		
	comp=Z,114nm,1.1s						
AFI	Afiamalu	19.53	70	eP	Pn	15 44 33.5	-2.0
	comp=Z,114nm,1.1s						
CTA	Charters Tower	21.62	270	eP	P	15 44 58.7	+1.9
	comp=Z,12nm,0.9s,mb4.3						
CTA	Charters Tower	21.62	270	P	P	15 44 58.6	+1.8
	comp=Z,15nm,0.9s,mb4.4,baz=94,slow=12,SNR=14						
CTA				LR	LR	15 52 48.2	
	comp=Z,234nm,19.0s,MS3.6,baz=278,slow=35						
CTA	Charters Tower	21.62	270	eP	P	15 44 58.7	+1.9
CTA				pmax	pmax		
	comp=Z,13nm,0.9s						
CTAO	Charters Tower	21.62	270	eP	P	15 44 58.7	+1.9
CTAO				pmax	pmax		
	comp=Z,36nm,1.4s,mb4.6						
CTAO	Charters Tower	21.62	270	eP	P	15 44 58.7	+1.9
	comp=Z,36nm,1.4s,mb4.6						
RPZ	Rata Peaks	22.13	177	LR	LR	15 52 43.5	
	comp=Z,396nm,20.0s,MS3.8,baz=352,slow=34						
PMG	Port Moresby	24.51	296⇑	eP	P	15 45 35.4	+9.3
PMG	Port Moresby	24.51	296	eP	P	15 45 23.6	-2.5
STKA	Stephens Creek	26.75	242	eP	P	15 45 48.0	+1.7
	comp=Z,6.9nm,0.9s,mb4.2						
STKA	Stephens Creek	26.75	242	P	P	15 45 47.3	+1.0
	comp=Z,7.2nm,0.8s,mb4.2,baz=262,slow=20,SNR=9.0						
STKA				LR	LR	15 56 22.3	
	comp=Z,351nm,18.6s,MS4.0,baz=284,slow=36						
WB2	Warramunga Arr	32.71	266	eP	P	15 46 37.9	-1.4
ASAR	Alice Springs	32.72	260	P	P	15 46 38.9	-0.5
	comp=Z,6.3nm,0.8s,mb4.6,baz=80,slow=9.6,SNR=65						
WRA	Warramunga Arr	32.72	266	P	P	15 46 38.3	-1.1
	comp=Z,1.6nm,0.8s,mb4.0,baz=101,slow=7.9,SNR=20						
WRA				LR	LR	16 00 03.9	
	comp=Z,304nm,18.2s,MS4.0,baz=90,slow=36						
KAKA	Kakadu	36.26	278	eP	P	15 47 09.7	-0.4
PPT	Papeete	38.84	91	eLR	LR	15 58 17.5	
	comp=Z,87nm,24.2s						
FITZ	Fitzroy Crossi	41.15	267	eP	P	15 47 50.9	-0.2
	comp=Z,13nm,0.8s,mb4.6						
FITZ	Fitzroy Crossi	41.15	267	P	P	15 47 51.0	-0.1
	comp=Z,6.7nm,0.7s,mb4.4,baz=127,slow=8.9,SNR=24						
FITZ				LR	LR	16 05 44.6	
	comp=Z,258nm,19.2s,MS4.1,baz=350,slow=37						
BATI	Baumata	45.20	277	LR	LR	16 07 26.2	
	comp=Z,276nm,19.2s,MS4.2,baz=131,slow=36						
MBWA	Marble Bar	46.03	261	eP	P	15 48 30.4	-0.1
SBA	Scott Base	56.34	181	eP	P	15 49 48.9	+1.9
SBA				pmax	pmax		
	comp=Z,13nm,1.3s,mb4.8						
SBA	Scott Base	56.34	181	eP	P	15 49 48.9	+1.8
	comp=Z,13nm,1.3s,mb4.8						
MJAR	Matsushiro Arr	64.85	333	P	P	15 50 45.5	0.0
	comp=Z,4.6nm,1.0s,mb4.5,baz=176,slow=6.7,SNR=7.5						
MAT	Matsushiro	64.85	333	P	P	15 50 47.2	+1.6
QSPA	South Pole Qui	68.49	180	P	P	15 51 09.1	+0.9
	comp=Z,6.2nm,1.1s,mb4.6,baz=21,slow=4.0,SNR=12						
ASAJ	Asahikawa	69.81	340	LR	LR	16 17 00.8	
	comp=Z,80nm,20.6s,MS4.0,baz=166,slow=32						
YSS	Yuzh-Sakhalins	72.31	341	eP	P	15 51 31.8	-0.1
YSS				pmax	pmax		
	comp=Z,20nm,1.1s,mb5.0						
YSS	Yuzh-Sakhalins	72.31	341	eP	P	15 51 31.7	-0.2
	comp=Z,8.8nm,0.7s,mb4.8						
PET	Petropavlovsk	74.86	353	eP	P	15 51 42.2	-4.6
PET				e		15 54 40.8	
PET				pmax	pmax		
	comp=Z,21nm,1.4s,mb4.9						
PET				MLR	MLR		
	comp=Z,100nm,19.0s,MS4.1						
PETK	Petropavlovsk-	75.05	353	LR	LR	16 19 28.2	
	comp=Z,53nm,20.2s,MS3.8,baz=326,slow=31						
MDJ	Mudanjiang	75.21	332	P	P	15 51 50.7	+1.7
MDJ				AP	pP	15 52 00.2	+6.4
MDJ				XP	sP	15 52 03.9	+8.4
MDJ				AMB	AMB		
	comp=Z,5.0nm,0.6s,mb4.6						
MDJ				AMB	AMB		
	comp=Z,90nm,5.8s						
MAW	Mawson	76.31	202	P	P	15 51 55.6	+0.5
	comp=Z,0.8nm,0.6s,mb3.9,baz=124,slow=9.6,SNR=5.0						
MAW				LR	LR	16 22 13.2	
	comp=Z,83nm,19.4s,MS4.0,baz=246,slow=33						
CN2	Changchun	76.49	329	eP	P	15 51 57.5	+1.2
GYA	Guiyang	77.23	305	P	P	15 52 00.8	-0.1
GYA				AP	pP	15 52 11.4	+5.7
GYA				XP	sP	15 52 16.6	+9.2
GYA				PP	PP	15 54 56.3	+1.1
GYA				S	S	16 01 46.5	-3.8
GYA				SKS		16 02 05.7	
GYA				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb4.7						
GYA				AMB	AMB		
	comp=Z,110nm,5.8s						
GYA				LR	LR		
	comp=N,480nm,20.0s,MS4.9						
GYA				LR	LR		
	comp=E,390nm,21.4s,MS4.9						
GYA				LR	LR		
	comp=Z,470nm,19.4s,MS4.8						
KLR	Kul'dur	78.03	336	eP	P	15 52 03.2	-1.6
BJI	Beijing	78.80	321	P	P	15 52 10.8	+1.5
BJI				AMB	AMB		
	comp=Z,9.0nm,0.5s,mb5.0						
BJI	Beijing	78.80	321	P	P	15 52 10.8	+1.5
	comp=Z,9.0nm,0.5s,mb5.0						
CMAR	Chiang Mai Arr	79.54	295	P	P	15 52 14.9	+1.0
	comp=Z,1.1nm,0.6s,mb4.0,baz=127,slow=4.9,SNR=7.2						
KMI	Kunming	79.58	302	P	P	15 52 15.1	+1.1
KMI				AP	pP	15 52 24.7	+6.0
KMI				XP	sP	15 52 28.1	+7.6
KMI				AMB	AMB		
	comp=Z,9.0nm,1.5s,mb4.5						
KMI	Kunming	79.58	302	P	P	15 52 15.1	+1.1
	comp=Z,9.0nm,1.5s,mb4.5						
KMI				pP	pP	15 52 24.7	+6.0
KMI				sP	sP	15 52 28.1	+7.6
CD2	Chengdu	81.72	308	eP	P	15 52 27.7	+2.4
CD2				AP	pP	15 52 39.8	+10
CD2				XP	sP	15 52 43.5	+12
CD2				PP	PP	15 55 37.6	+5.0
CD2				S	S	16 02 38.1	+0.2
CD2				XS	sS	16 02 57.2	+11
CD2				SS	SS	16 08 02.6	+6.4
CD2				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.8						
CD2				AMB	AMB		
	comp=Z,30nm,5.8s						
CD2				LR	LR		
	comp=N,130nm,16.4s						
CD2				LR	LR		
	comp=Z,160nm,18.2s,MS4.4						
HHC	Hu-ho-hao-te	82.05	320	eP	P	15 52 29.9	+3.1
HHC				AP	pP	15 52 41.0	+9.4
HHC				XP	sP	15 52 45.1	+12
HHC				PP	PP	15 55 40.2	+5.2
HHC				S	S	16 02 41.5	+0.8
HHC				SKS		16 02 43.3	
HHC				XS	sS	16 02 59.0	+10
HHC				SS	SS	16 08 05.2	+4.6
HHC				AMB	AMB		
	comp=Z,22nm,1.0s,mb5.0						
HHC				AMB	AMB		
	comp=Z,107nm,6.0s						
HHC				LR	LR		
	comp=N,130nm,19.9s,MS4.5						
HHC				LR	LR		
	comp=E,175nm,17.5s,MS4.5						
HHC				LR	LR		
	comp=Z,122nm,15.4s,MS4.4						
SYO	Syowa Base	82.73	196⇓	eP	P	15 52 28.4	-1.6
LZH	Lanzhou	84.35	312	eP	P	15 52 38.5	-0.3
LZH				AP	pP	15 52 49.2	+5.6
LZH				XP	sP	15 52 53.0	+7.7
LZH				ePP	PP	15 55 55.6	+1.5
LZH				AMB	AMB		
	comp=Z,17nm,1.5s,mb5.0						
LZH				AMB	AMB		
	comp=Z,109nm,6.0s						
LZH				LR	LR		
	comp=N,235nm,16.8s						
LZH				LR	LR		
	comp=Z,363nm,19.7s,MS4.8						
LZH	Lanzhou	84.35	312	eP	P	15 52 38.5	-0.3
LZH				*PP	pP	15 52 49.2	+5.6
LZH				*SP	sP	15 52 53.0	+7.7
LZH				e		15 55 55.6	
LZH				pmax	pmax		
	comp=Z,17nm,1.5s,mb5.0						
LZH				MLR	MLR		
	comp=Z,360nm,19.7s,MS4.8						
LZH	Lanzhou	84.35	312	eP	P	15 52 38.5	-0.3
	comp=Z,17nm,1.5s,mb5.0						
LZH				pP	pP	15 52 49.2	+5.6
LZH				sP	sP	15 52 53.0	+7.7
LZH				ePP	PP	15 55 55.6	+1.5
LZH				LR	LR		
	comp=Z,360nm,19.7s,MS4.8						
SNAA	Sanae	86.84	182	eP	P	15 52 50.1	-0.6
SNAA				e	pP	15 52 52.7	-2.8
SNAA				e	pP	15 52 54.7	-0.8
SNAA	Sanae	86.84	182⇓	eP	P	15 52 50.8	+0.1
SNAA	Sanae	86.84	182	eP	P	15 52 50.2	-0.5
	comp=Z,5.9nm,1.1s,mb4.7						
VNA3	Neumayer Olymp	87.43	180	eP	P	15 52 52.8	-0.7
VNA3				e		15 52 54.8	
VNA3				e	pP	15 52 57.4	-1.0
VNA2	Neumayer--Watz	87.72	181	eP	P	15 52 54.9	-0.1
VNA2				e		15 52 56.2	
VNA2				e	pP	15 52 59.2	-0.6
VNA1	Neumayer--Stat	88.01	181	eP	P	15 52 56.4	+0.1
VNA1				e		15 52 57.8	
ULN	Ulaanbaatar	88.78	323⇑	eP	P	15 53 00.1	-0.1
GTA	Gaotai	88.79	313	eP	P	15 53 00.5	+0.1
GTA				AP	pP	15 53 11.2	+5.9
GTA				XP	sP	15 53 15.5	+8.5
GTA				AMB	AMB		
	comp=Z,2.0nm,1.3s,mb4.3						
YAK	Yakutsk	89.11	342⇑	eP	P	15 52 59.6	-1.8
YAK				pmax	pmax		
	comp=Z,9.0nm,1.2s,mb5.0						
SONM	Songino Array	89.13	323	P	P	15 53 00.5	-1.4
	comp=Z,1.0nm,0.8s,mb4.2,baz=134,slow=6.2,SNR=4.3						
BILL	Bilibino	89.38	359	eP	P	15 53 00.9	-1.6
BILL				pmax	pmax		
	comp=Z,10.0nm,1.1s,mb5.1						
NVAR	Mina Array Bea	90.28	48	P	P	15 53 06.2	-1.2
	comp=Z,2.5nm,0.7s,mb4.6,baz=228,slow=8.3,SNR=18						
ZAK	Zakamensk	92.23	324	eP	P	15 53 15.5	-0.7
ZAK				pmax	pmax		
	comp=Z,3.0nm,1.7s,mb4.3						
TXAR	Lajitas Array	97.80	62	LR	LR	16 31 19.6	
	comp=Z,57nm,18.3s,MS4.1,baz=185,slow=31						
WMQ	Urumqi	98.87	314	P	P	15 53 47.6	+0.9
WMQ				AMB	AMB		
	comp=Z,3.0nm,0.8s,mb4.9						
ARCES	ARCESS Array B	127.34	345	PKP	PKPdf	15 59 08.4	-2.1
	comp=Z,5.4nm,1.0s,baz=50,slow=3.8,SNR=6.8						
BRG	Berggiesshubel	144.99	333	i PKP	PKPdf	15 59 42.0	-1.6
	comp=Z,4.3nm,0.7s						
CLL	Collm	145.05	334	ePKPdf	PKPdf	15 59 42.0	-1.7
CLL				epPKPdf	pPKPdf	15 59 45.0	-3.7
CLL				ePKiKP	PKiKP	15 59 48.0	+0.5
CONA	Conrad Observa	146.16	327⇓	iPKPab	PKPab	15 59 46.1	-1.2
	comp=Z,5.0nm,0.9s						
CSNA	Conrad Observa	146.16	327⇑	iPKPab	PKPab	15 59 46.3	-1.0
	comp=Z,5.5nm,1.1s						
KHC	Kasperske Hory	146.42	331⇑	iPKP2	PKPab	15 59 47.1	-1.2
KHC	Kasperske Hory	146.42	331	ePKP	PKPdf	15 59 46.0	-0.1
GEC2	GERESS Array S	146.57	330	ePKP2	PKPab	15 59 46.6	-2.3
GERES	GERESS Array B	146.57	330	PKPbc	PKPbc	15 59 46.3	-1.6
	comp=Z,2.2nm,0.6s,baz=37,slow=3.2,SNR=28						
MOA	Molln	147.00	329⇓	iPKPab	PKPab	15 59 49.1	-1.5
	comp=Z,4.0nm,1.2s						
GRA1	Grafenberg Arr	147.02	334	ePKPbc	PKPbc	15 59 48.1	-1.0
GRF	Grafenberg Arr	147.02	334	ePKPbc	PKPbc	15 59 48.1	-1.0
GIVF	Givet	149.02	340	ePKP1	PKPbc	15 59 51.5	-2.9
FETA	Feichten	149.27	331⇑	iPKPbc	PKPbc	15 59 53.8	-1.4
	comp=Z,6.3nm,0.9s						
HAU	Haudompre	150.29	337	ePKP1	PKPbc	15 59 54.8	-2.9
CABF	La Chapelle	151.55	335	ePKP1	PKPbc	15 59 58.5	-2.1
	comp=Z,10nm,0.8s						
FLN	La Foliniere	151.68	346	ePKP1	PKPbc	15 59 57.8	-3.1
LDF	La Druitiere	151.75	345	ePKP1	PKPbc	15 59 57.7	-3.3
LOR	Lormes	151.80	339	ePKP1	PKPbc	15 59 58.3	-2.9
	comp=Z,18nm,1.1s						
SSF	Saint Saulge	152.10	339	ePKP1	PKPbc	15 59 59.4	-2.5
	comp=Z,7.3nm,0.8s						
GRR	Gorron	152.12	346	ePKP1	PKPbc	15 59 58.7	-3.2
SGMF	Saint Gilles	152.60	348	ePKP1	PKPbc	16 00 00.4	-2.6
	comp=Z,8.7nm,0.6s						
MBDF	Montbardon	152.80	332	ePKP1	PKPbc	16 00 00.9	-2.6
	comp=Z,6.9nm,0.7s						
ORIF	Oris-en-Rattie	153.02	334	ePKP1	PKPbc	16 00 01.2	-2.8
	comp=Z,7.1nm,0.7s						
PGF	Pioggiola	153.38	326	ePKP1	PKPbc	16 00 03.2	-1.7
	comp=Z,9.1nm,0.7s						
VIVF	Saint-Julien-l	153.56	335	ePKP1	PKPbc	16 00 02.3	-2.9
	comp=Z,5.4nm,0.7s						

KRSC 03 15:44:04.3±0.5, 5280N×15964E, h31km±20km, ML3.8, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	Mys Shipunski	0.38	38	eP	Pb	15 44 12.9	0.0
SPN				i S	Sb	15 44 19.4	+0.6
NLC	Nalytchevo	0.41	334	eP	Pb	15 44 13.6	+0.2
NLC				i S	Sb	15 44 20.5	+0.9
PET	Petropavlovsk	0.64	291	eP	Pb	15 44 16.4	-0.6
PET				i S	Sb	15 44 25.6	0.0
AVH	Avacha	0.72	311	eP	Pn	15 44 18.1	-0.2
AVH				i S	Sb	15 44 29.0	+1.2
RUS	Russkaya	0.78	242	eP	Pn	15 44 17.8	-1.3
RUS				i S	Sb	15 44 28.3	-1.3
GRL	Gorelyy	0.99	256	P	Pn	15 44 21.8	-0.1
GRL				i S	Sn	15 44 34.5	-0.3
KII	Karymskiy	1.24	355	P	Pn	15 44 24.2	-1.3
GNL	Ganaly	1.36	312	eP	Pn	15 44 28.2	+1.1
GNL				i S	Sn	15 44 46.5	+2.5
MKZ	Mys Kozlova	2.15	34	eP	Pn	15 44 37.2	-0.8
MKZ				i S	Sn	15 45 00.5	-3.1
KOZ	Kozyrevsk	3.27	2	P	Pn	15 44 56.3	+3.0
SRDR	Sredinnyy	3.52	1	P	Pn	15 44 58.8	+2.0
KBTR	Krutoberegovo	3.88	27	P	Pn	15 45 04.2	+2.4

*ISCJB **03** 16:04:53.9±0.6, 2450N±004×12291E±002, h73km±7km, Error ellipse: s-maj=6.6km s-min=3.3km az=178.5*
*JMA **03** 16:04:53.2±0.1, 2467N×12294E, h79km±1km, M2.7*
*TAP **03** 16:04:54.1, 2451N×12291E, h44km±1km, ML3.4, D*
ISC 03 16:04:54.6±0.6, 2451N±004×12291E±002, h70km±7km, n39, σ0s80/72, 2C, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YOJ	Yonaguni jima	0.11	117	P	Pn	16 05 05.0	+0.2
YOJ				S	Sn	16 05 13.7	+1.4
IRIF	Iriomote-Funau	0.77	103	P	Pn	16 05 09.8	-0.5
IRIF				S	Sn	16 05 22.2	+0.3
HATJ	Hateruma jima	0.94	119	P	Pn	16 05 12.3	+0.1
HATJ				eS	Sn	16 05 26.4	+1.0
TWC	Suao	0.97	276	i P	Pn	16 05 12.1	-0.6
	baz=276						
TWC				S	Sn	16 05 25.2	-0.9
	baz=276						
JKRS	Kuro-shima	1.04	105	P	Pn	16 05 13.3	-0.3
JKRS				S	Sn	16 05 28.3	+0.6
ENA	Nanau	1.07	266	P	Pn	16 05 13.9	0.0
	baz=265						
ENA				eS	Sn	16 05 27.9	-0.4
	baz=265						
JIJ	Ishigaki jima	1.14	97	P	Pn	16 05 13.8	-1.0
JIJ				S	Sn	16 05 29.0	-0.9
TWE	Neicheng	1.15	281	P	Pn	16 05 14.5	-0.4
	baz=280						
TWE				eS	Sn	16 05 29.6	-0.5
	baz=280						
NWF	Wu-fen Shan	1.17	299	P	Pn	16 05 15.0	-0.1
	baz=298						
NWF				eS	Sn	16 05 30.4	-0.1
	baz=298						
ENTT	Nioudou	1.23	276	P	Pn	16 05 16.2	+0.2
	baz=276						
TWD	Chiawan	1.27	251	P	Pn	16 05 16.0	-0.5
	baz=250						
TWD				eS	Sn	16 05 32.2	-0.8
	baz=250						
TWA	Mucha	1.29	292	P	Pn	16 05 16.7	-0.1
	baz=291						
TWA				eS	Sn	16 05 33.2	-0.3
	baz=291						
NNS	Nan Shan	1.40	267	P	Pn	16 05 18.0	-0.2
	baz=267						
TWS1	Kuangyinshan	1.48	294	P	Pn	16 05 19.1	-0.1
	baz=293						
ESL	Shilin	1.51	243	P	Pn	16 05 18.8	-0.9
	baz=242						
ESL				eS	Sn	16 05 37.8	-0.9
	baz=242						
WHF	Hehuan Shan	1.54	257	P	Pn	16 05 20.0	-0.1
	baz=256						
TWT	Tachien	1.60	261	eP	Pn	16 05 21.4	+0.6
	baz=261						
TWT				eS	Sn	16 05 41.0	+0.3
	baz=261						
JTJ	Tarama	1.64	85	P	Pn	16 05 20.4	-1.0
JTJ				eS	Sn	16 05 41.2	-0.4
NSTT	Nanjuang	1.74	274	P	Pn	16 05 22.6	-0.1
	baz=274						
NSTT				eS	Sn	16 05 44.3	+0.2
	baz=274						
EHY	Hungye	1.76	236	eP	Pn	16 05 22.2	-0.8
	baz=235						

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
EHY				eS	Sn	16 05 41.9	-2.6
	baz=235						
TWF1	Yuli	1.87	232	⇑iP	Pn	16 05 23.9	-0.5
	baz=232						
TWF1				eS	Sn	16 05 46.6	-0.6
	baz=232						
SMLT	Sun Moon Lake	1.94	252	P	Pn	16 05 25.6	+0.3
	baz=251						
SMLT				eS	Sn	16 05 48.5	-0.2
	baz=251						
TWQ1	Liyutan	1.95	266	eP	Pn	16 05 25.8	+0.3
	baz=265						
TWQ1				eS	Sn	16 05 49.1	0.0
	baz=265						
TYC	Yuchr	1.97	253	P	Pn	16 05 26.0	+0.3
	baz=252						
TYC				eS	Sn	16 05 49.4	-0.1
	baz=252						
YUS	Yu-Shan	2.06	241	⇑iP	Pn	16 05 27.6	+0.7
	baz=240						
YUS				eS	Sn	16 05 51.5	-0.1
	baz=240						
ALS	Alishan	2.17	243	P	Pn	16 05 29.3	+0.9
	baz=242						
ALS				eS	Sn	16 05 54.9	+0.7
	baz=242						
ELDTW	Lidau	2.17	233	P	Pn	16 05 28.0	-0.5
	baz=232						
ELDTW				eS	Sn	16 05 53.1	-1.4
	baz=232						
CHN5	Tsauling	2.23	246	P	Pn	16 05 30.2	+0.9
	baz=246						
CHN5				eS	Sn	16 05 57.5	+1.6
	baz=246						
WGK	Gukeng	2.29	250	eP	Pn	16 05 31.4	+1.2
	baz=249						
STYT	Tauyuan	2.38	236	P	Pn	16 05 32.0	+0.6
	baz=235						
STYT				eS	Sn	16 05 59.6	+0.1
	baz=235						
CHN4	Tsaushan	2.41	242	eP	Pn	16 05 33.1	+1.3
	baz=241						
CHN4				eS	Sn	16 06 01.7	+1.5
	baz=241						
WTP	Ta-pu	2.45	240	eP	Pn	16 05 33.4	+1.1
	baz=239						
WTP				eS	Sn	16 06 00.9	-0.2
	baz=239						
TWK	Hsinying	2.54	241	eP	Pn	16 05 34.7	+1.2
	baz=240						
TWK				eS	Sn	16 06 05.2	+1.9
	baz=240						
CHN1	Nanshi	2.55	239	P	Pn	16 05 34.5	+0.9
	baz=238						
CHN1				eS	Sn	16 06 03.5	-0.1
	baz=238						
SGST	Jiashian	2.56	237	P	Pn	16 05 35.0	+1.2
	baz=236						
SGST				eS	Sn	16 06 04.0	+0.1
	baz=236						
WSF	Szhu	2.60	251	eS	Sn	16 06 04.5	-0.5
	baz=250						
ECL	Taimali	2.62	224	eP	Pn	16 05 33.3	-1.3
	baz=223						
ECL				eS	Sn	16 06 01.7	-3.5
	baz=223						
SSD	Sandimen	2.73	230	P	Pn	16 05 36.7	+0.7
	baz=230						
SSD				eS	Sn	16 06 07.8	-0.1
	baz=230						
EAST	Anshuo	2.84	222	P	Pn	16 05 36.7	-0.9
	baz=221						
EAST				eS	Sn	16 06 09.1	-1.6
	baz=221						

*ISCJB **03** 16:15:12.8±0.5, 6.88N±0.05×72.89W±0.06, h179km±5km, mb3.9/9, Error ellipse: s-maj=10.4km s-min=7.1km az=38.6*
*IDC **03** 16:15:12.4±0.7, 6.72N×72.94W, h161km±6km, mb3.7/9, mb1 3.9/11, mb1mx3.7/22, mbtmp3.7/11, Error ellipse: s-maj=13.7km s-min=7.6km az=132.0*
*NEIC **03** 16:15:13.2±0.6, 6.76N×72.90W, h169km±6km, mb4.2/3, Error ellipse: s-maj=9.9km s-min=9.0km az=119.0*
*FUNV **03** 16:15:14.3, 6.84N×73.09W, h161km, MW4.3*
ISC 03 16:15:13.6±0.5, 6.86N±0.05×72.89W±0.06, h172km±5km, n41, σ1§09/46, mb3.9/9, 1C-2D, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CAPV	Capacho	1.15	29	⇑eP	Pn	16 15 42.1	+0.3
CAPV				eS	Sn	16 16 02.9	-0.6
ROSC	El Rosal	2.45	216	P	Pn	16 15 53.8	-1.6
	201nm,0.3s,baz=292,slow=17,SNR=71						
ROSC				S	Sn	16 16 22.9	-4.8
	208nm,0.3s,baz=105,slow=15,SNR=12						
ROSC	El Rosal	2.45	216	⇓ePn	Pn	16 15 53.6	-1.7
ROSC				eSn	Sn	16 16 20.6	-7.1
SOCV	Socops	2.46	55	eP	Pn	16 15 56.7	+1.3
SOCV				eS	Sn	16 16 27.4	-0.5
VIGV	El Vigia	2.48	37	eP	Pn	16 15 56.5	+0.8
VIGV				eS	Sn	16 16 26.8	-1.5
SDV	Santo Domingo	3.01	48	P	Pn	16 16 03.6	+1.6
	33nm,0.3s,baz=251,slow=6.3,SNR=41						
SDV				S	Sn	16 16 41.1	+1.5
	121nm,0.3s,baz=248,slow=12,SNR=36						
SDV	Santo Domingo	3.01	48	ePn	Pn	16 16 03.4	+1.3
SDV				eSn	Sn	16 16 41.0	+1.4
ELOV	Elorza	3.38	87	eP	Pn	16 16 08.0	+1.3
ELOV				eS	Sn	16 16 48.8	+0.9
QARV	Quebrada Arrib	4.07	35	eP	Pn	16 16 16.4	+1.1
QARV				eS	Sn	16 17 02.2	-1.4
SANV	Sanarito	4.23	51	eP	Pn	16 16 18.7	+1.2
CURV	Curarigua	4.27	42	⇓eP	Pn	16 16 18.5	+0.5
CURV				eS	Sn	16 17 06.9	-1.3
TEPV	Terepaima	4.78	50	eP	Pn	16 16 25.6	+1.0
TEPV				eS	Sn	16 17 17.8	-2.5
SIQV	Siquisique	4.84	39	eP	Pn	16 16 25.7	+0.3
SIQV				eS	Sn	16 17 19.8	-1.8
BCIP	Isla Barro Col	7.26	289	ePn	Pn	16 16 52.0	-5.2
OTAV	Otavalo	8.60	220	ePn	Pn	16 17 13.7	-1.3
	7.1nm,0.6s						
ATAH	Atahualpa	14.82	202	P	Pn	16 18 37.6	+2.7
	0.5nm,0.3s,baz=23,slow=13,SNR=2.8						
TEIG	Tepich	19.99	313	P	P	16 19 34.0	+1.1
	9.2nm,0.5s,baz=90,slow=7.1,SNR=8.8						
TEIG	Tepich	19.99	313	P	P	16 19 34.0	+1.1
LPAZ	La Paz	23.47	168	P	P	16 20 07.9	+0.1
	0.3nm,0.3s,mb3.2,baz=320,slow=2.2,SNR=3.8						
LPAZ	La Paz	23.47	168	P	P	16 20 08.3	+0.5
TXAR	Lajitas Array	36.62	311	P	P	16 22 03.8	+0.3
	1.7nm,0.6s,mb3.9,baz=128,slow=9.3,SNR=16						
ULM	Lac du Bonnet	47.33	340	P	P	16 23 29.8	-0.2
	4.0nm,0.4s,mb4.4,baz=138,slow=5.6,SNR=6.8						
ULM	Lac du Bonnet	47.33	340	P	P	16 23 29.8	-0.2
PDAR	Pinedale Array	48.19	324	P	P	16 23 37.0	+0.3
	1.2nm,0.6s,mb3.7,baz=123,slow=8.8,SNR=10						
NVAR	Mina Array Bea	51.63	314	P	P	16 24 03.6	+0.9
	0.9nm,0.6s,mb3.6,baz=123,slow=7.2,SNR=10						
WVOR	Wild Horse Val	53.66	319	eP	P	16 24 17.8	+0.3
	3.2nm,0.8s,mb4.1						
YKA	Yellowknife Ar	63.31	340	P	P	16 25 24.2	+0.3
	4.1nm,0.6s,mb4.5,baz=133,slow=6.6,SNR=12						
DBIC	Dimbokro	67.50	86	P	P	16 25 51.9	+0.1
	3.0nm,0.6s,mb4.3,baz=249,slow=8.5,SNR=7.5						
DBIC	Dimbokro	67.50	86	eP	P	16 25 51.5	-0.2
	2.7nm,0.6s,mb4.2						
TOA0	Torodi Ar. Sit	73.50	78	eP	P	16 26 26.9	-1.2
TORD	Torodi Ar. Bea	73.50	78	P	P	16 26 27.7	-0.4
	0.3nm,0.3s,mb3.4,baz=287,slow=7.0,SNR=11						
VNA3	Neumayer Olymp	88.13	163	e	P	16 27 43.5	-0.9
VNA3				e		16 27 45.8	
VNA2	Neumayer--Watz	88.66	163	e	P	16 27 46.0	-0.8
	baz=296,slow=5.8						
VNA2				e		16 27 48.4	
SNAA	Sanae	90.30	163	e	P	16 27 53.4	-1.1
SNAA				e		16 27 56.0	
ZALV	Zalesovo Beam	116.58	15	PKP	PKPdf	16 33 37.5	+0.4
	0.5nm,0.3s,baz=271,slow=1.4,SNR=5.1						
MKAR	Makanchi Array	122.21	20	PKP	PKPdf	16 33 48.4	+0.2
	0.8nm,0.5s,baz=299,slow=1.9,SNR=5.2						
MKAR	Makanchi Array	122.21	20	PKP	PKPdf	16 33 48.4	+0.2
ASAR	Alice Springs	149.32	234	PKP	PKPdf	16 34 38.6	+0.2
	3.8nm,0.6s,baz=101,slow=1.5,SNR=12						
ASAR				PKPbc	PKPbc	16 34 42.1	-0.8
	4.5nm,0.6s,baz=116,slow=3.3,SNR=77						
WB2	Warramunga Arr	150.55	241	eP	PKPbc	16 34 45.3	-0.7
WRA	Warramunga Arr	150.56	241	PKP	PKPdf	16 34 40.7	+0.3
	4.3nm,0.5s,baz=100,slow=2.0,SNR=12						
WRA				PKPbc	PKPbc	16 34 45.6	-0.4
	3.8nm,0.4s,baz=109,slow=2.5,SNR=142						
CMAR	Chiang Mai Arr	153.59	18	PKP	PKPdf	16 34 46.4	+1.3
	0.2nm,0.4s,baz=264,slow=2.7,SNR=4.3						
CMAR				PKPbc	PKPbc	16 34 53.8	+0.9
	1.8nm,0.6s,baz=320,slow=3.2,SNR=14						

IDC 03 16:19:55.6±8.2, 3.44N×127.48E, h0km, mb4.0/3, mb1 4.2/3, mb1mx3.6/17, mbtmp4.0/3, Error ellipse: s-maj=138.8km s-min=130.8km az=100.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRA	Warramunga Arr	24.19	164	P	P	16 25 13.8	0.0
	2.2nm,0.4s,baz=344,slow=10,SNR=76						
ASAR	Alice Springs	27.65	167	P	P	16 25 45.8	+0.5
	0.4nm,0.5s,baz=353,slow=8.0,SNR=14						
STKA	Stephens Creek	37.59	160	P	P	16 27 11.7	-0.3
	2.1nm,0.4s,baz=344,slow=9.5,SNR=14						

*ISCJB **03** 16:37:38.4±2.9, 4.6S±0.4×100.3E±0.6, h10km, mb3.6/7, Error ellipse: s-maj=111.3km s-min=13.7km az=145.3*
*IDC **03** 16:37:40.8±3.5, 4.34S×100.79E, h0km, mb3.6/7, mb1 3.7/7, mb1mx3.6/20, mbtmp3.6/7, Error ellipse: s-maj=140.9km s-min=18.3km az=56.0*
*NEIC **03** 16:37:45.7±2.7, 4.33S×100.72E, h35km, Error ellipse: s-maj=111.0km s-min=14.2km az=56.0*
ISC 03 16:37:45.5±2.7, 4.4S±0.4×100.7E±0.6, h35km, n12, σ1§17/11, mb3.6/7, Southwest of Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	22.74	356	P	P	16 42 43.2	-1.4
	0.4nm,0.3s,mb3.3,baz=224,slow=51,SNR=7.3						
FITZ	Fitzroy Crossi	27.98	121	P	P	16 43 31.6	-1.5
	0.6nm,0.6s,mb3.4,baz=292,slow=14,SNR=3.4						
FITZ	Fitzroy Crossi	27.98	121	eP	P	16 43 31.2	-2.0
WRA	Warramunga Arr	36.26	118	P	P	16 44 45.7	0.0
	0.2nm,0.3s,mb3.5,baz=306,slow=8.8,SNR=8.4						
WB2	Warramunga Arr	36.27	118	P	P	16 44 47.9	+2.1
ASAR	Alice Springs	37.35	124	P	P	16 44 54.5	-0.4
	0.4nm,0.6s,mb3.4,baz=302,slow=8.6,SNR=4.7						
SONM	Songino Array	52.22	5	P	P	16 46 54.6	+1.7
	0.8nm,0.6s,mb3.9,baz=185,slow=12,SNR=3.8						
MKAR	Makanchi Array	53.47	344	P	P	16 47 02.3	+0.1
	0.2nm,0.2s,mb3.6,baz=160,slow=9.5,SNR=3.5						
ZAA0	Zalesovo Array	59.60	349	P	P	16 47 45.0	-0.6
ZALV	Zalesovo Beam	59.60	349	P	P	16 47 46.2	+0.5
	0.5nm,0.4s,mb3.9,baz=151,slow=3.4,SNR=4.5						
ZALV	Zalesovo Beam	59.60	349	P	P	16 47 46.2	+0.5
TXAR	Lajitas Array	146.11	40	PKPbc	PKPbc	16 57 23.6	+1.0
	0.1nm,0.4s,baz=205,slow=4.0,SNR=2.9						

*ISCJB **03** 16:41:31.8±0.3, 24.01N±0.02×122.22E±0.02, h15km, Error ellipse: s-maj=2.7km s-min=2.0km az=147.5*
*TAP **03** 16:41:32.2, 24.02N×122.20E, h15km±1km, ML3.4, D*
*JMA **03** 16:41:33.2±0.2, 24.36N×122.17E, h40km, M2.8*
ISC 03 16:41:31.5±0.5, 24.02N±0.02×122.21E±0.02, h12km±3km, n45, σ0§90/87, 1C, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TWD	Chiawan	0.56	276	eP	Pg	16 41 42.6	+0.2
	baz=275						
TWD				eS	Sg	16 41 51.7	+1.8
	baz=275						
ENA	Nanau	0.59	314	eP	Pg	16 41 43.5	+0.6
	baz=313						
ENA				eS	Sg	16 41 51.5	+0.8
	baz=313						
TWC	Suao	0.67	331	P	Pg	16 41 43.6	-0.9
	baz=331						
TWC				eS	Sg	16 41 52.9	-0.4
	baz=331						
ESL	Shilin	0.74	254	eP	Pg	16 41 45.9	+0.1
	baz=253						
ESL				eS	Sg	16 41 55.7	+0.2
	baz=253						
ENTT	Nioudou	0.85	317	P	Pg	16 41 47.6	-0.2
	baz=316						
ENTT				eS	Sg	16 41 59.7	+0.7
	baz=316						
TWE	Neicheng	0.85	325	eP	Pg	16 41 47.5	-0.4
	baz=325						
TWE				eS	Sg	16 41 59.7	+0.6
	baz=325						
YOJ	Yonaguni jima	0.85	59	P	Pg	16 41 47.7	-0.3
YOJ				S	Sg	16 41 58.1	-1.1
EGS		0.86	343	eP	Pg	16 41 48.2	+0.2
	baz=343						
EGS				eS	Sg	16 41 58.3	-0.9
	baz=343						
NNS	Nan Shan	0.87	299	P	Pg	16 41 48.0	-0.2
	baz=298						
NNS				eS	Sg	16 41 59.1	-0.5
	baz=298						
WHF	Hehuan Shan	0.87	278	P	Pg	16 41 48.1	-0.2
	baz=278						
WHF				eS	Sg	16 41 59.6	0.0
	baz=278						
EHY	Hungye	0.96	238	eP	Pb	16 41 49.5	-0.5
	baz=237						
EHY				eS	Sg	16 42 01.6	-1.0
	baz=237						
TWT	Tachien	0.97	284	eP	Pb	16 41 50.0	-0.1
	baz=283						
TWT				eS	Sg	16 42 03.4	+0.5
	baz=283						
TWF1	Yuli	1.07	232	P	Pb	16 41 50.9	-1.0
	baz=231						
TWF1				eS	Sb	16 42 04.5	-1.2
	baz=231						
TWA	Mucha	1.11	329	eP	Pb	16 41 52.1	-0.4
	baz=329						
TWA				eS	Sb	16 42 07.0	+0.1
	baz=329						
NWF	Wu-fen Shan	1.11	340	eP	Pb	16 41 52.3	-0.4
	baz=339						
NWF				eS	Sb	16 42 06.5	-0.6
	baz=339						
CHKT	Chengkung	1.20	220	eP	Pn	16 41 53.4	-0.6
	baz=219						
CHKT				eS	Sb	16 42 06.9	-2.7
	baz=219						
SMLT	Sun Moon Lake	1.20	264	P	Pn	16 41 53.6	-0.5
	baz=263						
SMLT				eS	Sb	16 42 09.2	-0.5
	baz=263						
TYC	Yuchr	1.24	265	eP	Pn	16 41 53.9	-0.7
	baz=264						
TYC				eS	Sb	16 42 10.2	-0.5
	baz=264						
NSTT	Nanjuang	1.26	299	eP	Pn	16 41 54.5	-0.3
	baz=298						
NSTT				eS	Sb	16 42 10.0	-1.1
	baz=298						
YUS	Yu-Shan	1.27	245	⇑iP	Pn	16 41 54.9	-0.1
	baz=244						
YUS				S	Sb	16 42 10.5	-1.0
	baz=244						
TWS1	Kuangyinshan	1.29	326	eP	Pn	16 41 55.0	-0.3
	baz=326						
TWS1				eS	Sb	16 42 11.6	-0.6
	baz=326						
TWQ1	Liyutan	1.35	284	eP	Pn	16 41 56.8	+0.7
	baz=283						
TWQ1				eS	Sb	16 42 12.9	-0.9
	baz=283						
TWY	Chenhua	1.36	336	eP	Pn	16 41 57.2	+0.9
	baz=336						
ELDTW	Lidau	1.37	233	P	Pn	16 41 54.9	-1.5
	baz=232						
ELDTW				eS	Sn	16 42 12.3	-2.1
	baz=232						
ALS	Alishan	1.38	249	P	Pn	16 41 56.8	+0.3
	baz=248						
ALS				S	Sn	16 42 14.2	-0.5
	baz=248						
WNT	Mingjian	1.40	264	eP	Pn	16 41 59.0	+2.2
	baz=264						
WNT				eS	Sn	16 42 15.7	+0.5
	baz=264						
TCU	Taichung	1.41	275	eP	Pn	16 41 57.7	+0.8
	baz=275						
TCU				eS	Sn	16 42 16.7	+1.5
	baz=275						
IRIF	Iriomote-Funau	1.43	77	P	Pn	16 41 56.8	-0.3
IRIF				eS	Sn	16 42 14.5	-1.3
HATJ	Hateruma jima	1.46	88	eS	Sn	16 42 18.2	+1.5
CHN5	Tsauling	1.46	253	P	Pn	16 41 58.2	+0.6
	baz=253						
CHN5				eS	Sn	16 42 16.2	-0.5
	baz=253						
WGK	Gukeng	1.54	258	eP	Pn	16 41 59.4	+0.7
	baz=257						
WGK				eS	Sn	16 42 18.2	-0.5
	baz=257						
STYT	Tauyuan	1.58	238	eP	Pn	16 41 59.4	+0.2
	baz=237						
STYT				eS	Sn	16 42 19.7	0.0
	baz=237						
CHN4	Tsaushan	1.62	246	eP	Pn	16 42 01.7	+1.9
	baz=245						
CHN4				eS	Sn	16 42 21.7	+1.0
	baz=245						
WTP	Ta-pu	1.65	242	P	Pn	16 42 00.9	+0.7
	baz=241						
WTP				eS	Sn	16 42 21.1	-0.3
	baz=241						
JKRS	Kuro-shima	1.66	82	P	Pn	16 42 01.2	+0.9
JKRS				S	Sn	16 42 21.3	-0.3
TWK	Hsinying	1.75	245	eP	Pn	16 42 03.8	+2.2
	baz=244						
TWK				eS	Sn	16 42 23.4	-0.3
	baz=244						
CHN1	Nanshi	1.75	242	P	Pn	16 42 02.8	+1.2
	baz=241						
CHN1				eS	Sn	16 42 25.3	+1.5
	baz=241						
SGST	Jiashian	1.76	238	eP	Pn	16 42 01.9	+0.2
	baz=237						
SGST				eS	Sn	16 42 23.9	-0.1
	baz=237						
WTCT	Ta-ch'eng	1.77	265	eP	Pn	16 42 01.9	0.0
	baz=264						
WTCT				eS	Sn	16 42 23.3	-1.0
	baz=264						
JIJ	Ishigaki jima	1.80	79	P	Pn	16 42 02.8	+0.5
JIJ				eS	Sn	16 42 24.7	-0.3
ECL	Taimali	1.83	219	eP	Pn	16 42 03.2	+0.6
	baz=218						
ECL				eS	Sn	16 42 23.1	-2.7
	baz=218						
WSF	Szhu	1.86	258	eP	Pn	16 42 03.0	-0.1
	baz=258						
WSF				eS	Sn	16 42 27.7	+1.3
	baz=258						
SSD	Sandimen	1.93	229	eP	Pn	16 42 05.4	+1.4
	baz=228						
SSD				eS	Sn	16 42 28.1	0.0
	baz=228						
EAST	Anshuo	2.06	218	eP	Pn	16 42 08.1	+2.3
	baz=217						
SCZT	Fangliau	2.20	222	eP	Pn	16 42 07.8	0.0
	baz=221						
SCZT				eS	Sn	16 42 35.0	+0.1
	baz=221						

*ISCJB **03** 16:48:44.2±0.8, 22.06S±0.04×70.80W±0.08, h41km±9km, mb3.9/5, Error ellipse: s-maj=12.1km s-min=5.8km az=165.5*
*NEIC **03** 16:48:46.1±1.1, 22.10S×70.62W, h35km±13km, mb3.9/1, ML4.0(GUC), Error ellipse: s-maj=16.2km s-min=10.5km az=94.0*
NEIC Felt [II] at Maria Elena and Tocopilla.
*GUC **03** 16:48:48.2±0.7, 22.54S×69.42W, h70km, ML4.0*
*IDC **03** 16:48:50.9±2.3, 22.18S×70.44W, h77km±19km, mb3.7/5, mb1 4.0/8, mb1mx3.8/18, mbtmp3.7/8, MS3.1/3, Ms1 3.1/3, ms1mx2.8/23, Error ellipse: s-maj=33.2km s-min=19.2km az=38.0*
ISC 03 16:48:45.3±2.2, 22.06S±0.03×70.70W±0.07, h27km±17km, n30, σ1§21/37, mb3.9/5, 2C-3D, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CEN1	Los Morros	1.40	161	eP	Pn	16 49 11.6	+2.6
CEN1				iS	Sn	16 49 29.3	+2.8
CEN1				AML	AML	16 49 32.6	
	comp=N,2μm,0.3s						
ANCH	Antofagasta	1.63	171	⇓iP	Pn	16 49 12.7	+0.5
ANCH				iS	Sn	16 49 31.6	-0.7
ANCH				AML	AML	16 49 32.9	
	comp=N,3μm,0.8s						
ANCH	Antofagasta	1.63	171	⇓iP	Pn	16 49 12.7	+0.5
ANCH				iS	Sn	16 49 31.6	-0.7
LVC	Limon Verde	1.74	109	P	Pn	16 49 15.8	+2.1
	comp=N,172nm,0.3s,baz=285,slow=9.8,SNR=2116						
LVC				S	Sn	16 49 35.1	0.0
	comp=N,965nm,0.3s,baz=57,slow=20,SNR=46						
LVC	Limon Verde	1.74	109	⇑ePg	Pn	16 49 15.6	+1.9
LVC				eS	Sn	16 49 35.8	+0.7
CPN1	Cerro Paranal	2.56	174	⇓iP	Pn	16 49 25.3	+0.3
CPN1				iS	Sn	16 49 53.3	-2.0
CPN1				AML	AML	16 49 55.5	
	comp=N,3μm,0.6s						
ARE	Arequipa	5.62	352	⇑iP	Pn	16 50 07.5	+0.4
ARE				eS	Sn	16 51 10.0	-0.8
LPAZ	La Paz	6.24	23	P	Pn	16 50 20.9	+5.3
	comp=N,6.6nm,0.3s,baz=208,slow=5.3,SNR=170						
LPAZ				LR	LR	16 52 32.7	
	comp=N,60nm,21.1s,baz=258,slow=36						
LCO	Las Campanas	6.92	180	eP	Pn	16 50 25.0	+0.2
LCO				iS	Sn	16 51 38.3	-4.3
LCO	Las Campanas	6.92	180	ePn	Pn	16 50 24.3	-0.6
TLL	Tololo Astrono	8.07	181	eP	Pn	16 50 39.0	-1.7
TLL				iS	Sn	16 52 05.0	-6.0
TLL	Tololo Astrono	8.07	181	eP	Pn	16 50 39.0	-1.7
CFAA	Coronel Fontan	9.75	167	P	Px	16 51 15.9	
	comp=N,0.3nm,0.3s,baz=349,slow=13,SNR=9.9						
SIV	San Ignacio	10.92	58	P	Pn	16 51 18.7	-1.2
	comp=N,1.4nm,0.3s,baz=250,slow=12,SNR=20						
NNA	Nana	11.61	329	S	Sn	16 53 37.4	-0.7
	comp=N,2.3nm,0.3s,baz=211,slow=22,SNR=3.9						
CPUP	Villa Florida	12.92	112	P	Pn	16 51 46.0	-1.1
	comp=N,0.3nm,0.3s,baz=274,slow=11,SNR=14						
CPUP				LR	LR	16 57 33.4	
	comp=N,94nm,21.2s,baz=50,slow=41						
CPUP	Villa Florida	12.92	112	eP	Pn	16 51 45.3	-1.8
CPUP				LR	LR	16 57 33.4	
TRQA	Tornquist	17.62	157	eP	Pn	16 52 49.2	+0.4
	comp=N,7.3nm,0.6s						
PLCA	Paso Flores	18.61	180	P	Pn	16 53 00.9	0.0
	comp=N,0.1nm,0.3s,baz=346,slow=14,SNR=3.3						
PLCA	Paso Flores	18.61	180	P	Pn	16 52 59.5	-1.4
VNA3	Neumayer Olymp	60.08	161	e	P	16 58 49.6	+0.1
VNA3				e		16 58 52.4	
TXAR	Lajitas Array	60.16	327	P	P	16 58 51.9	+1.3
	comp=N,0.5nm,0.7s,mb3.7,baz=147,slow=10,SNR=5.5						
VNA1	Neumayer--Stat	60.32	160	e	P	16 58 51.5	+0.3
VNA1				e		16 58 54.4	
VNA2	Neumayer--Watz	60.68	160	e	P	16 58 53.8	+0.2
	baz=288,slow=9.0						
VNA2				e		16 58 56.6	
SNAA	Sanae	62.30	161	e	P	16 59 04.2	-0.3
SNAA				e		16 59 07.2	
DBIC	Dimbokro	70.49	74	P	P	16 59 56.8	-1.1
	comp=N,2.5nm,0.7s,mb4.2,baz=204,slow=10.0,SNR=3.0						
DBIC				pP	pP	17 00 08.8	+2.1
	comp=N,4.6nm,0.8s,baz=228,slow=8.7,SNR=5.0						
PDAR	Pinedale Array	73.78	331	P	P	17 00 18.2	+1.3
	comp=N,0.5nm,0.5s,mb3.7,baz=143,slow=7.1,SNR=6.0						
NVAR	Mina Array Bea	74.92	323	P	P	17 00 26.1	+2.4
	comp=N,1.0nm,0.8s,mb3.8,baz=154,slow=6.3,SNR=6.9						
TORD	Torodi Ar. Bea	79.11	71	P	P	17 00 46.5	-1.3
	comp=N,1.0nm,0.4s,mb4.1,baz=256,slow=5.2,SNR=19						
TORD				pP	pP	17 01 01.3	+4.7
	comp=N,6.6nm,0.5s,baz=256,slow=5.7,SNR=35						
MKAR	Makanchi Array	147.06	35	PKPbc	PKPbc	17 08 23.7	-1.7
	comp=N,0.3nm,0.4s,baz=325,slow=3.2,SNR=4.5						

*JMA **03** 17:12:54.0±0.4, 32.44N×137.50E, h423km, M3.5*
*ISCJB **03** 17:12:56.2±0.6, 32.6N±0.1×137.5E±0.1, h409km±7km, mb3.1/6, Error ellipse: s-maj=16.9km s-min=14.1km az=27.3*
*NEIC **03** 17:12:56.8±1.0, 32.64N×137.67E, h400km, mb3.4/1, Error ellipse: s-maj=33.8km s-min=17.2km az=83.0*
*IDC **03** 17:12:57.9±0.8, 32.58N×137.55E, h407km±29km, mb2.7/5, mb1 2.7/7, mb1mx2.7/24, mbtmp2.6/7, Error ellipse: s-maj=69.6km s-min=14.2km az=60.0*
ISC 03 17:12:57.5±0.6**, 32.6N**±0.1×**137.5E**±0.1**, h402**km±7km**, n23, σ0.97**/25**, mb3.1**/6**, Southeast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JWZ	Kozaga	1.77	302	P	Pn	17 13 51.1	-1.1
JIE	Ise	1.91	340	P	Pn	17 13 53.0	0.0
JKN2	Miekihoku	1.94	328	P	Pn	17 13 52.9	-0.2
JHJ	Hachijo jima 2	1.98	74	P	Pn	17 13 53.9	+0.4
	19nm,0.3s,baz=69,slow=23,SNR=9.4						
JHJ				S	S	17 14 40.5	+1.8
	7.2nm,0.3s,baz=89,slow=14,SNR=3.3						
JHJ2	Mitsune	2.01	75	P	Pn	17 13 54.0	+0.4
JWY	Kouya	2.28	316	P	Pn	17 13 55.2	-0.1
JAI	Aioi	2.83	296	P	Pn	17 13 58.8	-0.6
JOD2	Odawara 2	2.96	26	P	Pn	17 14 01.4	+1.0
JOD2				eS	S	17 14 52.1	+0.6
BSO3	Boso 3	3.33	48	P	Pn	17 14 02.3	-1.2
BSO1	Boso 1	3.54	54	P	Pn	17 14 03.5	-1.9
JHU	Hanno	3.56	24	P	Pn	17 14 05.2	-0.3
JRY	Ryogami san	3.60	18	P	Pn	17 14 07.3	+1.5
MAJO	Matsushiro	3.98	8	eP	Pn	17 14 06.2	-3.2
MJAR	Matsushiro Arr	3.98	8	P	Pn	17 14 09.8	+0.5
	0.8nm,0.3s,baz=180,slow=10,SNR=8.2						
JAG	Ashikaga	4.14	22	P	Pn	17 14 10.2	-0.7
JYT	Yasato	4.25	31	P	Pn	17 14 10.8	-1.1
KSRS	Korea Array	9.24	304	P	P	17 15 07.7	+1.3
	0.3nm,0.3s,baz=122,slow=10,SNR=11						
SONM	Songino Array	27.98	312	P	P	17 18 14.4	+1.2
	0.7nm,0.5s,mb3.2,baz=101,slow=6.2,SNR=6.0						
ZALV	Zalesovo Beam	42.70	316	P	P	17 20 16.9	+0.2
	0.7nm,0.4s,mb3.4,baz=86,slow=7.8,SNR=3.9						
MKAR	Makanchi Array	43.92	306	P	P	17 20 26.2	-0.1
	0.6nm,0.5s,mb3.2,baz=87,slow=10,SNR=13						
KURK	Kurchatov	46.28	311	eP	P	17 20 43.9	-0.7
	1.4nm,0.7s,mb3.4						
WRA	Warramunga Arr	52.33	184	P	P	17 21 29.4	-0.6
	0.2nm,0.3s,mb2.8,baz=0.5,slow=7.7,SNR=9.6						
ASAR	Alice Springs	56.05	184	P	P	17 21 57.2	+0.8
	0.2nm,0.7s,mb2.6,baz=19,slow=11,SNR=6.2						

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*ISCJB **03** 17:19:04.4±0.2, 24.25N±0.02×122.35E±0.02, h38km±15km, Error ellipse: s-maj=3.4km s-min=2.2km az=165.8*
*JMA **03** 17:19:04.2±0.2, 24.41N×122.34E, h66km±2km, M3.3*
*TAP **03** 17:19:04.2, 24.29N×122.29E, h55km, ML4.2, C*
ISC 03 17:19:05.0±0.5**, 24.27N**±0.02×**122.34E**±0.02**, h35**km±4km**, n67, σ0.88**/128**, 7C-6D, Taiwan region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWC	Suao	0.56	307	iP	Pb	17 19 16.2	-0.4
	baz=312						
TWC				iS	Sb	17 19 24.6	0.0
	baz=312						
ENA	Nanau	0.57	286	⇑iP	Pb	17 19 16.4	-0.3
	baz=291						
ENA				iS	Sb	17 19 25.3	+0.5
	baz=291						
YOJ	Yonaguni jima	0.64	73	P	Pn	17 19 17.9	+0.3
YOJ				S	Sb	17 19 27.9	+1.2
EGS		0.68	327	iP	Pn	17 19 17.9	-0.2
	baz=330						
EGS				iS	Sb	17 19 28.0	+0.2
	baz=330						
TWD	Chiawan	0.71	254	P	Pn	17 19 17.7	-0.8
	baz=242						
TWD				S	Sn	17 19 27.7	-0.4
	baz=242						
ILA	Ilan	0.73	312	P	Pn	17 19 18.9	+0.1
	baz=323						
ILA				eS	Sn	17 19 29.8	+1.1
	baz=323						
HWA	Hwalien	0.73	247	P	Pn	17 19 18.3	-0.6
	baz=243						
HWA				S	Sn	17 19 28.9	+0.1
	baz=243						
TWE	Neicheng	0.76	306	⇑iP	Pn	17 19 19.2	0.0
	baz=305						
TWE				S	Sn	17 19 30.0	+0.5
	baz=305						
ENTT	Nioudou	0.80	298	⇑iP	Pn	17 19 19.8	+0.1
	baz=291						
ENTT				S	Sn	17 19 30.7	+0.4
	baz=291						
ESF	Shoufeng Towns	0.86	243	eP	Pn	17 19 19.7	-0.9
	baz=240						
ESF				eS	Sn	17 19 31.3	-0.6
	baz=240						
NNS	Nan Shan	0.90	281	⇑iP	Pn	17 19 20.7	-0.4
	baz=271						
NNS				iS	Sn	17 19 32.6	-0.3
	baz=271						
TEGC	Jichi Village	0.92	233	eP	Pn	17 19 20.8	-0.7
	baz=230						
TEGC				eS	Sn	17 19 32.8	-0.6
	baz=230						
NWF	Wu-fen Shan	0.94	328	⇑iP	Pn	17 19 21.3	-0.5
	baz=330						
NWF				eS	Sn	17 19 32.8	-1.2
	baz=330						
ESL	Shilin	0.95	241	⇓iP	Pn	17 19 20.5	-1.2
	baz=250						
ESL				eS	Sn	17 19 32.9	-1.1
	baz=250						
TWA	Mucha	0.99	316	⇑iP	Pn	17 19 22.0	-0.3
	baz=328						
TWA				S	Sn	17 19 34.3	-0.8
	baz=328						
WHF	Hehuan Shan	0.99	263	P	Pn	17 19 21.9	-0.4
	baz=252						
WHF				S	Sn	17 19 34.7	-0.4
	baz=252						
TWT	Tachien	1.06	269	eP	Pn	17 19 23.6	+0.3
	baz=260						
TWT				S	Sn	17 19 37.1	+0.2
	baz=260						
TAP1	Taipei	1.07	316	P	Pn	17 19 22.9	-0.5
	baz=329						
TAP1				S	Sn	17 19 36.4	-0.7
	baz=329						
TWS1	Kuangyinshan	1.18	315	iP	Pn	17 19 24.6	-0.4
	baz=327						
TWS1				S	Sn	17 19 39.6	-0.2
	baz=327						
EHY	Hungye	1.20	231	P	Pn	17 19 23.9	-1.5
	baz=229						
EHY				eS	Sn	17 19 36.0	-4.4
	baz=229						
TWY	Chenhua	1.21	326	eP	Pn	17 19 25.9	+0.6
	baz=328						
TWY				eS	Sn	17 19 40.1	-0.4
	baz=328						
NCU	National Centr	1.26	304	eP	Pn	17 19 26.1	0.0
	baz=305						
NCU				eS	Sn	17 19 41.7	-0.1
	baz=305						
IRIF	Iriomote-Funau	1.27	87	P	Pn	17 19 25.9	-0.3
IRIF				S	Sn	17 19 42.0	-0.1
NSTT	Nanjuang	1.27	287	⇑iP	Pn	17 19 26.3	+0.1
	baz=276						
NSTT				eS	Sn	17 19 42.2	+0.1
	baz=276						
TWF1	Yuli	1.32	226	⇓iP	Pn	17 19 25.8	-1.2
	baz=235						
TWF1				eS	Sn	17 19 41.6	-1.8
	baz=235						
HATJ	Hateruma jima	1.35	99	P	Pn	17 19 27.8	+0.4
HATJ				S	Sn	17 19 45.8	+1.6
HSN	Hsinchu	1.35	293	eP	Pn	17 19 27.1	-0.3
	baz=306						
HSN				eS	Sn	17 19 44.8	+0.7
	baz=306						
SMLT	Sun Moon Lake	1.37	254	iP	Pn	17 19 27.4	-0.2
	baz=247						
SMLT				S	Sn	17 19 44.2	-0.4
	baz=247						
PCYT	Pengchaiyu	1.37	350	eP	Pn	17 19 27.1	-0.6
	baz=343						
PCYT				eS	Sn	17 19 43.8	-0.9
	baz=343						
TYC	Yuchr	1.40	255	⇓iP	Pn	17 19 27.8	-0.3
	baz=247						
TYC				eS	Sn	17 19 44.8	-0.6
	baz=247						
TWQ1	Liyutan	1.43	273	P	Pn	17 19 28.6	+0.2
	baz=273						
TWQ1				S	Sn	17 19 47.1	+1.0
	baz=273						
NSY	Sanyi	1.45	276	eP	Pn	17 19 29.5	+0.8
	baz=275						
NSY				eS	Sn	17 19 48.0	+1.6
	baz=275						
CHKT	Chengkung	1.47	218	eP	Pn	17 19 27.1	-1.9
	baz=207						
CHKT				eS	Sn	17 19 44.2	-2.9
	baz=207						
YUS	Yu-Shan	1.49	239	⇓iP	Pn	17 19 29.4	+0.1
	baz=237						
YUS				S	Sn	17 19 46.6	-1.0
	baz=237						
JKRS	Kuro-shima	1.52	91	P	Pn	17 19 30.1	+0.4
JKRS				S	Sn	17 19 48.9	+0.6
TCU	Taichung	1.52	266	eP	Pn	17 19 29.8	+0.1
	baz=265						
TCU				eS	Sn	17 19 49.6	+1.2
	baz=265						
WNT	Mingjian	1.56	256	eP	Pn	17 19 31.1	+0.9
	baz=255						
WNT				eS	Sn	17 19 50.8	+1.4
	baz=255						
ALS	Alishan	1.60	242	iP	Pn	17 19 30.9	+0.2
	baz=234						
ALS				eS	Sn	17 19 50.0	-0.1
	baz=234						
ELDTW	Lidau	1.62	229	⇓iP	Pn	17 19 29.8	-1.3
	baz=227						
ELDTW				eS	Sn	17 19 49.2	-1.6
	baz=227						
JIJ	Ishigaki jima	1.65	86	P	Pn	17 19 30.9	-0.5
JIJ				S	Sn	17 19 51.0	-0.4
CHN5	Tsauling	1.66	247	P	Pn	17 19 31.9	+0.3
	baz=236						
CHN5				S	Sn	17 19 52.5	+0.7
	baz=236						
WGK	Gukeng	1.73	251	eP	Pn	17 19 33.2	+0.6
	baz=240						
WGK				eS	Sn	17 19 54.9	+1.5
	baz=240						
STYT	Tauyuan	1.82	233	⇓iP	Pn	17 19 33.8	-0.1
	baz=226						
STYT				S	Sn	17 19 55.7	-0.1
	baz=226						
CHN4	Tsaushan	1.84	241	eP	Pn	17 19 34.8	+0.6
	baz=239						
CHN4				eS	Sn	17 19 57.2	+1.0
	baz=239						
CHN2	Minshiung	1.86	247	eP	Pn	17 19 35.4	+1.0
	baz=246						
CHN2				eS	Sn	17 19 59.0	+2.4
	baz=246						
WTP	Ta-pu	1.88	237	P	Pn	17 19 35.0	+0.3
	baz=236						
WTP				eS	Sn	17 19 58.4	+1.2
	baz=236						
WTCT	Ta-ch'eng	1.93	258	eP	Pn	17 19 35.4	+0.1
	baz=257						
WTCT				eS	Sn	17 19 58.3	0.0
	baz=257						
TWK	Hsinying	1.97	240	P	Pn	17 19 36.5	+0.7
	baz=239						
TWK				eS	Sn	17 20 00.4	+1.0
	baz=239						
CHN1	Nanshi	1.98	237	P	Pn	17 19 36.4	+0.3
	baz=236						
CHN1				eS	Sn	17 20 00.5	+0.8
	baz=236						
SGST	Jiashian	2.00	234	P	Pn	17 19 37.0	+0.7
	baz=225						
SGST				eS	Sn	17 20 01.4	+1.3
	baz=225						
WSF	Szhu	2.04	252	P	Pn	17 19 37.0	+0.2
	baz=251						
WSF				eS	Sn	17 20 02.2	+1.1
	baz=251						
ECL	Taimali	2.10	218	P	Pn	17 19 35.6	-2.0
	baz=222						
CHN8	Yiju	2.16	245	eS	Sn	17 20 04.8	+0.8
	baz=233						
JTJ	Tarama	2.18	80	P	Pn	17 19 39.0	+0.2
JTJ				S	Sn	17 20 04.6	0.0
SSD	Sandimen	2.18	226	P	Pn	17 19 38.6	-0.2
	baz=216						
SSD				eS	Sn	17 20 05.8	+1.2
	baz=216						
SCLT	Jiali	2.25	241	eS	Sn	17 20 07.5	+1.3
	baz=241						
TWM1	Shoushan	2.27	231	eP	Pn	17 19 42.1	+2.1
	baz=241						
TWM1				eS	Sn	17 20 11.2	+4.3
	baz=241						
TAI1	Yung-k'ang	2.29	238	eP	Pn	17 19 41.2	+0.9
	baz=237						
TAI1				eS	Sn	17 20 08.6	+1.3
	baz=237						
EAST	Anshuo	2.33	216	eP	Pn	17 19 36.2	-4.5
	baz=208						
LAY	Lan-yu	2.34	198	eP	Pn	17 19 38.9	-2.1
	baz=187						
LAY				eS	Sn	17 20 04.0	-4.5
	baz=187						
SCZT	Fangliau	2.46	220	eP	Pn	17 19 42.6	0.0
	baz=216						
SCZT				eS	Sn	17 20 12.2	+0.6
	baz=216						
PNG	Penghu	2.64	255	eP	Pn	17 19 44.1	-1.0
	baz=255						
PNG				eS	Sn	17 20 13.8	-2.2
	baz=255						
WDGT	Dungji	2.65	248	eP	Pn	17 19 44.9	-0.3
	baz=248						
WDGT				eS	Sn	17 20 14.9	-1.4
	baz=248						
HEN	Hengchun	2.69	213	eP	Pn	17 19 45.6	-0.2
	baz=201						
HEN				eS	Sn	17 20 16.5	-0.8
	baz=201						
JMJ	Miyako jima 2	2.74	78	eS	Sn	17 20 18.3	-0.1
JOGS	Gusukube	2.83	80	eS	Sn	17 20 21.4	+0.7
KNM	Kinmen	3.57	273	eP	Pn	17 19 58.8	+1.0
	baz=271						
KNM				eS	Sn	17 20 37.1	-1.6
	baz=271						

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*NEIC **03** 17:28:39.4±1.0, 1.58N×96.91E, h35km, Error ellipse: s-maj=37.9km s-min=11.3km az=62.0*
*ISCJB **03** 17:28:42.9±7.7, 1.8N±0.3×97.1E±0.4, h78km±63km, mb3.8/8, Error ellipse: s-maj=72.2km s-min=19.3km az=146.6*
*IDC **03** 17:28:43.0±10.0, 1.71N×97.10E, h62km±95km, mb3.6/8, mb1 3.6/9, mb1mx3.4/21, mbtmp3.5/9, ML3.4/1, Error ellipse: s-maj=69.6km s-min=16.9km az=58.0*
ISC 03 17:28:43.6±7.2**, 1.7N**±0.3×**97.1E**±0.4**, h67**km±59km**, n12, σ0.26**/12**, mb3.8**/8**, Northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	16.72	6	P	Pn	17 32 33.5	0.0
	0.1nm,0.3s,baz=201,slow=10,SNR=4.4						
WRA	Warramunga Arr	42.38	122	P	P	17 36 31.4	-0.2
	0.7nm,0.5s,mb3.6,baz=301,slow=9.2,SNR=14						
ASAR	Alice Springs	43.77	127	P	P	17 36 43.0	+0.2
	0.2nm,0.4s,mb3.2,baz=300,slow=7.7,SNR=14						
KSRS	Korea Array	45.45	35	P	P	17 36 56.0	-0.1
	0.9nm,0.6s,mb3.7,baz=234,slow=8.0,SNR=6.3						
SONM	Songino Array	46.62	9	P	P	17 37 05.2	+0.2
	0.6nm,0.4s,mb3.7,baz=185,slow=10,SNR=4.2						
MK31	Makanchi Array	46.71	346	eP	P	17 37 05.9	+0.2
MKAR	Makanchi Array	46.71	346	P	P	17 37 06.0	+0.2
	1.2nm,0.5s,mb3.9,baz=158,slow=9.2,SNR=18						
MKAR	Makanchi Array	46.71	346	P	P	17 37 06.0	+0.2
KURK	Kurchatov	51.26	345	P	P	17 37 39.9	-0.6
	0.7nm,0.5s,mb4.0,baz=164,slow=6.7,SNR=4.7						
ZALV	Zalesovo Beam	53.02	351	P	P	17 37 53.5	0.0
	2.7nm,0.5s,mb4.5,baz=168,slow=6.9,SNR=14						
ZALV	Zalesovo Beam	53.02	351	P	P	17 37 53.5	0.0
ARCES	ARCESS Array B	82.02	340	P	P	17 40 56.1	+0.1
	1.6nm,0.8s,mb3.9,baz=110,slow=5.6,SNR=6.8						

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*BJI **03** 17:31:38.3, 5.13S×100.96E, h30km, mB5.1, mb4.7*
*IDC **03** 17:31:40.2±1.6, 4.53S×100.95E, h0km, mb4.1/12, mb1 4.2/12, mb1mx4.1/21, mbtmp4.1/12, MS4.4/2, Ms1 4.4/2, ms1mx3.1/35, Error ellipse: s-maj=55.2km s-min=14.4km az=55.0*
*DJA **03** 17:31:41, 4.70S×100.46E, h20km, MLv4.8/6*
*ISCJB **03** 17:31:42.1±0.8, 4.65S±0.08×100.76E±0.09, h33km, mb4.2/15, MS4.4/2, Error ellipse: s-maj=15.8km s-min=7.1km az=135.5*
*NEIC **03** 17:31:45.7±1.2, 4.47S×101.03E, h35km, mb4.3/2, Error ellipse: s-maj=45.0km s-min=9.4km az=57.0*
ISC 03 17:31:39.5±5.2**, 4.7S**±0.1×**100.7E**±0.1**, h2**km±31km**, n38, σ0.99**/35**, mb4.2**/15**, MS4.4**/2**, Southwest of Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSI	Kapahiang	2.14	62	P	Pn	17 32 15.8	-0.4
	0.0nm,0.0s						
KSI	Kapahiang	2.14	62	P	Pn	17 32 15.9	-0.3
PPI	Padang Panjang	4.20	356	P	Pn	17 32 44.3	-0.3
	0.0nm,0.0s						
PPI	Padang Panjang	4.20	356	P	Pn	17 32 44.2	-0.4
DSRI	Dabo	5.68	43	P	Pn	17 33 05.9	+0.9
	0.0nm,0.0s						
DSRI	Dabo	5.68	43	P	Pn	17 33 06.2	+1.2
	87nm,0.7s,0.5nm						
PPBI	Pangkal Pinang	5.97	66	P	Pn	17 33 09.2	+0.3
	0.0nm,0.0s						
DBJI	Dramaga	6.30	108	P	Pn	17 33 13.5	0.0
	0.0nm,0.0s						
DBJI	Dramaga	6.30	108	P	Pn	17 33 15.7	+2.2
	134nm,0.5s,0.5nm						
CBJI	Citeko	6.36	106	P	Pn	17 33 18.2	+3.9
	323nm,1.1s,1.1nm						
LEM	Lembang	7.21	108	P	Pn	17 33 27.5	+1.6
	0.0nm,0.0s						
LEM	Lembang	7.21	108	P	Pn	17 33 27.4	+1.5
	95nm,1.2s,0.3nm						
BJII	Banjamegara	9.34	107	P	Pn	17 33 55.1	-0.1
	0.0nm,0.0s						
SJI	Sawahan	11.41	106	P	Pn	17 34 22.4	-1.3
	0.0nm,0.0s						
BSI	Banda Aceh	11.45	332	P	Pn	17 34 23.3	-0.9
	0.0nm,0.0s						
SBUM	Sibu	13.51	59	P	Pn	17 34 57.7	+5.4
PCI	Palu	19.47	79	P	Pn	17 36 08.8	-0.2
CMAR	Chiang Mai Arr	23.05	356	P	P	17 36 45.5	-0.8
	3.8nm,0.6s,mb4.0,baz=185,slow=9.2,SNR=19						
BATI	Baumata	23.41	105	P	P	17 36 47.8	-2.4
	9.7nm,0.5s,mb4.5,baz=118,slow=15,SNR=3.5						
FITZ	Fitzroy Crossi	27.80	121	P	P	17 37 29.8	-0.5
	2.1nm,1.0s,mb3.7,baz=283,slow=9.3,SNR=3.8						
LSA	Lhasa	35.38	346	P	P	17 38 38.7	+2.0
	1.8nm,0.6s,mb4.2						
WRA	Warramunga Arr	36.09	118	P	P	17 38 42.5	-0.5
	1.2nm,0.5s,mb4.1,baz=301,slow=9.2,SNR=17						
ASAR	Alice Springs	37.16	124	P	P	17 38 51.7	-0.4
	1.4nm,0.4s,mb4.1,baz=298,slow=7.8,SNR=60						
XAN	Xi'an	39.27	11	P	P	17 39 09.3	-0.4
XAN				XP	sP	17 39 17.6	+6.9
XAN				AMB	AMB		
	comp=Z,12nm,1.1s,mb4.5						
XAN				AMB	AMB		
	comp=Z,155nm,6.3s						
STKA	Stephens Creek	46.88	130	P	P	17 40 12.8	+1.4
	comp=Z,2.1nm,0.7s,mb4.2,baz=278,slow=14,SNR=4.5						
STKA	Stephens Creek	46.88	130	P	P	17 40 12.8	+1.4
KSRS	Korea Array	48.98	29	P	P	17 40 27.6	+0.1
	comp=Z,2.2nm,1.1s,mb4.1,baz=215,slow=8.9,SNR=6.8						
SONM	Songino Array	52.52	5	P	P	17 40 55.3	+1.2
	comp=Z,3.4nm,0.8s,mb4.3,baz=182,slow=8.8,SNR=21						
SONM				LR	LR	18 04 46.0	
	comp=Z,33nm,19.0s,MS3.4,baz=65,slow=38						
SONM	Songino Array	52.52	5	P	P	17 40 55.3	+1.2
SONM				LR	LR	18 04 46.0	
ULN	Ulaanbaatar	52.61	5	eP	P	17 40 55.3	+0.6
	comp=Z,4.3nm,1.2s,mb4.2						
MK31	Makanchi Array	53.77	344	eP	P	17 41 04.0	+0.7
MKAR	Makanchi Array	53.77	344	P	P	17 41 03.6	+0.3
	comp=Z,1.7nm,0.7s,mb4.1,baz=148,slow=8.8,SNR=9.1						
MJAR	Matsushiro Arr	53.93	37	P	P	17 41 03.1	-1.6
	comp=Z,1.8nm,0.6s,mb4.2,baz=208,slow=7.5,SNR=5.9						
KURK	Kurchatov	58.35	344	P	P	17 41 35.4	-0.6
	comp=Z,0.3nm,0.3s,mb3.7,baz=163,slow=6.7,SNR=3.1						
ZALV	Zalesovo Beam	59.90	349	P	P	17 41 46.5	-0.2
	comp=Z,4.4nm,0.8s,mb4.6,baz=190,slow=5.0,SNR=23						
RAO	Raoul Island	80.22	119	LR	LR	18 19 06.9	
	comp=Z,2μm,19.1s,MS5.4,baz=174,slow=36						
TXAR	Lajitas Array	146.32	41	PKPbc	PKPbc	17 51 23.0	+0.4
	comp=Z,1.6nm,0.8s,baz=315,slow=1.5,SNR=9.3						
TXAR	Lajitas Array	146.32	41	PKPbc	PKPbc	17 51 23.0	+0.4

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*NEIC **03** 17:44:44.3, 19.34N×66.15W, h4km, MD3.5(RSPR), After RSPR.*
RSPR 03 17:44:44.3, 19.34N×66.15W, h4km±5km**, MD3.5**/10**,** **MD3.5**/10**, 8C-3D, Puerto Rico region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBYP	Canovanas	1.10	165	⇓eP	Pg	17 45 02.6	-2.8
AOPR	Arecibo Observ	1.14	210	⇑eP	Pg	17 45 04.1	-2.2
AOPR				eS	Sg	17 45 18.4	-2.7
SJG	San Juan	1.22	180	⇑eP	Pg	17 45 04.9	-2.8
SJG				eS	Sg	17 45 21.2	-2.5
SJG	San Juan	1.22	180	⇑eP	Pg	17 45 04.8	-2.9
SJG				eS	Sg	17 45 21.2	-2.5
HUMP	Col San Antoni	1.23	167	⇑eP	Pg	17 45 04.7	-3.1
CPD	Cerro la Pandu	1.32	170	⇑eP	Pn	17 45 06.0	-3.4
CELP	Cerrillos	1.32	198	⇓eP	Pn	17 45 06.6	-2.9
MTP	Monte Pirata	1.36	155	⇑eP	Pn	17 45 06.3	-3.7
OBIP	Obispado Ponce	1.36	199	⇓eP	Pn	17 45 07.1	-2.9
OBIP				eS	Sb	17 45 25.5	-2.6
STVI	Saint Thomas	1.50	131	⇑eP	Pn	17 45 09.7	-2.2
STVI				eS	Sn	17 45 28.6	-3.3
TBVI	Tortola	1.72	122	eS	Sn	17 45 32.7	-4.6
CDVI	St. Croix	2.05	140	⇑eP	Pn	17 45 17.4	-2.1

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*ISCJB **03** 17:47:56.5±0.4, 18.41N±0.03×101.29W±0.03, h67km±7km, mb3.8/4, Error ellipse: s-maj=5.4km s-min=4.3km az=26.9*
*IDC **03** 17:47:57.9±8.8, 18.39N×100.92W, h72km±68km, mb3.8/4, mb1 4.0/5, mb1mx3.6/22, mbtmp3.7/5, ML3.7/1, MS3.3/2, Ms1 3.3/2, ms1mx2.6/35, Error ellipse: s-maj=58.1km s-min=41.5km az=177.0*
*NEIC **03** 17:47:57.6±0.9, 18.42N×101.36W, h65km±12km, MD4.7(MEX), Error ellipse: s-maj=16.5km s-min=10.4km az=54.0*
*MEX **03** 17:47:58.5±0.8, 18.41N×101.32W, h62km±13km, MD4.7*
ISC 03 17:47:57.4±0.4**, 18.41N**±0.03×**101.30W**±0.03**, h58**km±8km**, n32, σ1.21**/49**, mb3.9**/4**, MS3.3**/2**, Guerrero**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZIIG	Zihuatanejo	0.82	191	iP	Pn	17 48 12.7	-0.4
ZIIG				iS	Sn	17 48 24.6	+0.1
MOIG	Morelia	1.26	5	iP	Pn	17 48 19.0	+0.1
MOIG				iS	Sn	17 48 34.8	-0.1
CAIG	El Cayaco	1.67	144	eP	Pn	17 48 24.1	-0.3
CAIG				iS	Sn	17 48 44.8	0.0
PLIG	Platanillo	1.70	90	iP	Pn	17 48 25.5	+0.7
PLIG				iS	Sn	17 48 43.9	-1.6
MMIG	Aquila	1.95	267	eP	Pn	17 48 27.4	-0.8
MMIG				iS	Sn	17 48 49.3	-2.2
ACX	Acapulco	2.02	139	eP	Pn	17 48 29.2	0.0
ACX				iS	Sn	17 48 53.5	+0.2
YAIG	Yautepec	2.16	78	iP	Pn	17 48 31.9	+0.9
YAIG				iS	Sn	17 48 55.0	-1.6
UNM	Universidad Na	2.20	65	iP	Pn	17 48 32.6	+1.0
UNM				iS	Sn	17 48 57.1	-0.6
PPM	Popocatepetl	2.61	75	eP	Pn	17 48 36.7	-0.5
PPM				iP		17 48 38.6	
PPM				iS	Sn	17 49 08.8	+1.1
PPM	Popocatepetl	2.61	75	iP	Pn	17 48 38.6	+1.4

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
PPM				iS	Sn	17 49 08.8	+1.1
SFJM	Santa Fe	2.64	322	eP	Pn	17 48 39.0	+1.5
DEIG	Demacu	2.84	48	iP	Pn	17 48 40.8	+0.5
DEIG				iS	Sn	17 49 13.4	0.0
UTMO	Huajuapan	3.37	99	iP	Pn	17 48 49.1	+1.5
UTMO				iS	Sn	17 49 24.6	-1.7
PNIG	Pinotepa	3.63	123	eP	Pn	17 48 52.9	+1.7
PNIG				iS	Sn	17 49 33.0	+0.2
TPIG	Tehuac#an	3.73	89	iP	Pn	17 48 54.3	+1.8
TPIG				iS	Sn	17 49 33.4	-2.0
ZAIG	Zacatecas	4.50	345	iP	Pn	17 48 59.7	-3.3
ZAIG				eS	Sn	17 49 54.4	+0.5
VHO	Vista Hermosa	4.55	106	eP	Pn	17 49 05.0	+1.2
VHO				iS	Sn	17 49 53.2	-2.1
OXX	Oaxaca	4.55	106	iP	Pn	17 49 10.2	+6.4
OXX				iS	Sn	17 49 55.7	+0.3
LVIG	Laguna Verde	4.79	73	iP	Pn	17 49 07.5	+0.4
LVIG				iS	Sn	17 50 05.4	+4.1
CMIG	Matias Romero	6.25	101	iP	Pn	17 49 28.4	+1.4
CMIG				iS	Sn	17 50 33.7	-3.5
CMIG	Matias Romero	6.25	101	iP	Pn	17 49 28.4	+1.4
CMIG				iS	Sn	17 50 32.2	-5.0
LNIG	Linares	6.67	14	iP	Pn	17 49 29.9	-2.9
TXAR	Lajitas Array	11.09	349	P	Pn	17 50 36.1	+2.9
	0.1nm,0.3s,baz=179,slow=16,SNR=5.4						
AMTX	Amarillo	16.41	359	eP	Pn	17 51 43.3	-0.6
SDCO	Great Sand Dun	19.61	350	eP	Pn	17 52 21.4	-1.3
TKL	Tuckaleechee C	23.14	39	P	P	17 52 55.1	-3.7
	1.9nm,0.3s,mb4.0,baz=170,slow=12,SNR=4.1						
TKL				LR	LR	18 04 41.9	
	comp=Z,28nm,18.3s,MS2.7,baz=322,slow=44						
NVAR	Mina Array Bea	24.85	327	P	P	17 53 14.8	+0.3
	1.5nm,0.7s,mb3.6,baz=151,slow=12,SNR=12						
PDAR	Pinedale Array	25.27	346	P	P	17 53 19.2	+1.1
	2.8nm,0.8s,mb3.8,baz=153,slow=9.6,SNR=18						
PDAR				pP	pP	17 53 34.9	+2.4
	3.3nm,0.9s,baz=153,slow=10.0,SNR=10.0						
USHA	Ushuaia	78.15	161	LR	LR	18 28 36.3	
	comp=Z,40nm,18.6s,MS3.8,baz=352,slow=31						
ARCES	ARCESS Array B	84.61	16	P	P	18 00 23.4	-0.8
	1.9nm,0.7s,mb4.3,baz=323,slow=7.8,SNR=4.4						
WRA	Warramunga Arr	127.64	259	PKP	PKPdf	18 06 55.8	-1.0
	0.6nm,0.7s,baz=81,slow=2.3,SNR=14						
ASAR	Alice Springs	128.47	254	PKP	PKPdf	18 06 57.9	-0.5
	0.5nm,0.8s,baz=130,slow=2.2,SNR=5.9						

IDC ***03*** *18:00:56.7±1.2, 1051N×145.16E, h0km, mb3.9/8, mb1 4.1/8, mb1mx4.0/18, mbtmp3.9/8, ML5.1/1, MS3.5/3, Ms1 3.5/3, ms1mx3.0/35, Error ellipse: s-maj=38.7km s-min=17.6km az=90.0*

ISCJB ***03*** *18:00:58.1±1.6, 1058N±007×1457E±04, h33km, mb4.0/13, MS3.4/2, Error ellipse: s-maj=54.8km s-min=10.0km az=177.1*

NEIC ***03*** *18:00:58.4±1.0, 1050N×14520E, h10km, mb4.5/4, Error ellipse: s-maj=35.0km s-min=14.6km az=92.0*

BJI ***03*** *18:00:58.3, 1050N×14520E, h10km, mB5.1, mb4.6*

ISC 03 18:01:00.6±1.5**, 1060N**±007×**1456E**±04**, h35**km**, n17, σ1s23**/17**, mb4.0**/13**, MS3.4**/2**, South of Mariana Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
GUMO	Guam	3.07	346	Pn	Pn	18 01 45.4	-1.2
	228nm,0.3s,baz=158,slow=2.7,SNR=82						
GUMO				Sn	Sn	18 02 20.0	-2.0
	410nm,0.3s,baz=21,slow=21,SNR=15						
GUMO				LR	LR	18 02 24.5	
	comp=Z,473nm,19.2s,baz=21,slow=28						
JHJ	Hachijo jima 2	23.05	347	LR	LR	18 14 14.7	
	comp=Z,75nm,18.4s,MS3.2,baz=67,slow=35						
MJAR	Matsushiro Arr	26.69	347	P	P	18 06 35.3	-1.1
	1.8nm,0.8s,mb3.7,baz=179,slow=11,SNR=3.9						
MJAR				LR	LR	18 15 11.1	
	comp=Z,207nm,20.0s,MS3.7,baz=175,slow=32						
MAJO	Matsushiro	26.69	347	eP	P	18 06 39.4	+2.9
	4.3nm,0.5s,mb4.2						
KSRS	Korea Array	31.13	332	P	P	18 07 15.2	-0.8
	1.7nm,0.6s,mb4.1,baz=142,slow=9.7,SNR=8.4						
WRA	Warramunga Arr	32.31	200	P	P	18 07 24.6	-1.9
	0.7nm,0.4s,mb3.9,baz=25,slow=9.4,SNR=20						
ASAR	Alice Springs	35.93	199	P	P	18 07 56.8	-1.0
	0.7nm,0.5s,mb3.9,baz=27,slow=7.1,SNR=23						
CMAR	Chiang Mai Arr	45.75	285	P	P	18 09 18.4	-0.5
	1.5nm,0.8s,mb4.0,baz=80,slow=6.5,SNR=9.4						
ULN	Ulaanbaatar	49.26	326	eP	P	18 09 46.9	+1.1
	1.0nm,0.7s,mb4.0						
SONM	Songino Array	49.60	326	P	P	18 09 49.6	+1.3
	1.1nm,0.7s,mb4.0,baz=142,slow=7.5,SNR=8.8						
GTA	Gaotai	49.73	313	eP	P	18 09 50.9	+1.4
GTA				AP	pP	18 09 55.2	-4.8
GTA				XP	sP	18 09 58.7	-5.4
GTA				AMB	AMB		
	comp=Z,3.0nm,1.0s,mb4.3						
MK31	Makanchi Array	64.16	317	eP	P	18 11 31.8	+0.2
MKAR	Makanchi Array	64.16	317	P	P	18 11 31.4	-0.2
	comp=Z,0.4nm,0.7s,mb3.6,baz=91,slow=8.2,SNR=4.1						
MKAR	Makanchi Array	64.16	317	P	P	18 11 31.4	-0.2
KURK	Kurchatov	67.34	321	eP	P	18 11 53.1	+1.0
	comp=Z,3.1nm,0.7s,mb4.5						
BRVK	Borovoye	72.79	322	eP	P	18 12 25.9	+0.5
	comp=Z,4.2nm,0.9s,mb4.4						
NVAR	Mina Array Bea	88.20	51	P	P	18 13 53.8	+5.5
	comp=Z,0.5nm,0.7s,mb3.9,baz=264,slow=8.1,SNR=3.4						

IDC ***03*** *18:03:02.9±0.6, 4849S×16467E, h0km, mb4.3/9, mb1 4.5/10, mb1mx4.4/15, mbtmp4.3/10, ML4.6/1, MS4.6/16, Ms1 4.6/16, ms1mx4.4/25, Error ellipse: s-maj=27.2km s-min=19.0km az=56.0*

GCMT ***03*** *18:03:03.9±0.2, 4874S×16420E, h12km, MW5.3/85, Moment Tensor Solution. s68,c105; s85,c146; Duration: 1s0 Moment tensor: Scale 10^{17}Nm; M_{rr}0.68±.01; $M_{\theta\theta}$0.13±.01; $M_{\phi\phi}$-0.81±.01; $M_{r\theta}$0.40±.05; $M_{\theta\phi}$-0.20±.01; $M_{\phi r}$-0.36±.04; Best double couple: $M_0$0.94400×10^{17} NP1:ϕ_s37.00000°, δ42.00000°, λ135.00000°. NP2:ϕ_s164.00000°, δ62.00000°, λ58.00000°. Principal axes: T 0.9800, Plg59.0000°, Azm26.0000°; N -0.0740, Plg28.0000°, Azm181.0000°; P -0.9070, Plg11.0000°, Azm277.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

NEIC ***03*** *18:03:03.9±2.8, 4866S×16462E, h7km±17km, mb5.1/9, MS4.8/4 Error ellipse: s-maj=9.2km s-min=7.5km az=158.0*

ISCJB ***03*** *18:03:04.9±1.8, 4861S±006×16473E±007, h27km±13km, mb4.7/18, MS4.7/19, Error ellipse: s-maj=10.3km s-min=7.2km az=154.8*

MOS ***03*** *18:03:10.4±2.7, 4893S×16361E, h33km, mb5.3/5, MS4.8/5, Error ellipse: s-maj=24.0km s-min=11.8km az=101.6*

DJA ***03*** *18:03:16, 4888S×16360E, h32km, Mw5.7/4*

ISC 03 18:03:06.0±1.6**, 4865S**±005×**16469E**±007**, h21**km±11km**, n105, σ1s10**/60**, mb4.7**/18**, MS4.7**/19**, 4C-3D, Off west coast of South Island**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
WHZ	Wether Hill Ro	3.54	40	P	Pn	18 04 00.1	+0.5
DCZ	Deep Cove	3.59	29	P	Pn	18 04 00.4	0.0
MLZ	Mavora Lakes	4.08	37	P	Pn	18 04 07.4	+0.4
TUZ	Tuapeka	4.31	53	P	Pn	18 04 10.9	+0.7
MSZ	Milford Sound	4.56	30	P	Pn	18 04 14.9	+1.2
EAZ	Earnscleugh	4.66	44	eP	Pn	18 04 15.0	0.0
WKZ	Wanaka	4.84	39	P	Pn	18 04 19.4	+1.8
JCZ	Jackson Bay	5.37	33	P	Pn	18 04 26.5	+1.7
ODZ	Otahua Downs	5.45	51	P	Pn	18 04 25.0	-0.9
LBZ	Lake Benmore	5.71	44	P	Pn	18 04 28.0	-1.4
FOZ	Fox Glacier	6.16	36	P	Pn	18 04 37.7	+2.1
RPZ	Rata Peaks	6.62	44	Pn	Pn	18 04 39.4	-2.5
	12nm,0.3s,baz=185,slow=2.6,SNR=10						
RPZ				Sn	Sn	18 05 56.8	0.0
	13nm,0.3s,baz=204,slow=23,SNR=7.6						
RPZ				LR	LR	18 07 11.8	
	comp=Z,7μm,21.7s,baz=221,slow=38						
MCQ	Macquarie Isla	6.86	209	eP	Pn	18 04 42.4	-2.7
WVZ	Waitaha Valley	6.99	39	P	Pn	18 04 47.1	+0.1
MQZ	McQueen's Vall	7.41	51	P	Pn	18 04 52.6	-0.2
DSZ	Denniston Nort	8.54	39	P	Pn	18 05 07.8	-0.4
KHZ	Kahutara	8.80	48	P	Pn	18 05 10.5	-1.3
THZ	Tophouse	9.00	43	P	Pn	18 05 14.2	-0.4
QRZ	Quartz Range	9.60	38	P	Pn	18 05 22.6	-0.2
URZ	Urewera	13.74	45	Pn	Pn	18 06 14.1	-5.3
	0.3nm,0.3s,baz=34,slow=6.1,SNR=2.5						
URZ				Sn	Sn	18 08 46.2	-5.0
	0.3nm,0.3s,baz=345,slow=17,SNR=2.8						
CNB	Canberra Magne	17.49	314	eP	Pn	18 07 08.8	+0.5
CNB				eS	Sn	18 10 29.7	+7.4
CAN	Canberra	17.66	313	eP	Pn	18 07 11.7	+1.2
TOO	Toolangi	17.81	301	eP	Pn	18 07 12.3	0.0
TOO				eS	Sn	18 10 43.0	+13
DRV	Dumont d'Urvil	22.09	206	P	P	18 08 03.0	+3.7
DRV				R		18 13 00.0	
STKA	Stephens Creek	24.17	305	eP	P	18 08 22.2	+1.6
	13nm,0.9s,mb4.4						
STKA				eS	S	18 12 39.3	+1.8
STKA	Stephens Creek	24.17	305	P	P	18 08 20.9	+0.3
	12nm,0.9s,mb4.3,baz=141,slow=9.8,SNR=11						
STKA				LR	LR	18 15 37.7	
	comp=Z,3μm,19.0s,MS4.8,baz=151,slow=31						
SBA	Scott Base	29.32	179	eP	P	18 09 08.7	+2.2
SBA				pmax	pmax		
	comp=Z,84nm,2.0s,mb5.1						
SBA	Scott Base	29.32	179	eP	P	18 09 08.7	+2.2
	comp=Z,84nm,2.0s,mb5.1						
CTA	Charters Tower	32.13	326	P	P	18 09 29.2	-2.5
	comp=Z,2.7nm,1.0s,mb4.0,baz=86,slow=22,SNR=2.0						
CTA				LR	LR	18 21 55.1	
	comp=Z,720nm,20.1s,MS4.4,baz=151,slow=35						
CTAO	Charters Tower	32.13	326	PFAKE		18 09 40.0	+8.3
CTAO				LR	LR		
	comp=Z,2μm,22.0s,MS4.7						
ASAR	Alice Springs	34.80	305	P	P	18 09 54.6	-0.4
	comp=Z,8.6nm,0.7s,mb4.8,baz=138,slow=7.5,SNR=70						
ASAR				PcP	PcP	18 12 27.8	-0.3
	comp=Z,3.5nm,1.0s,baz=126,slow=4.7,SNR=5.1						
WB2	Warramunga Arr	37.61	309	eP	P	18 10 17.7	-1.3
WRA	Warramunga Arr	37.61	309	P	P	18 10 18.0	-1.1
	comp=Z,14nm,0.9s,mb4.7,baz=142,slow=7.6,SNR=43						
WRA				PcP	PcP	18 12 36.7	+0.2
	comp=Z,4.2nm,1.0s,baz=145,slow=2.7,SNR=5.5						
WRA				LR	LR	18 24 08.7	
	comp=Z,1μm,18.6s,MS4.7,baz=165,slow=34						
WRA	Warramunga Arr	37.61	309	P	P	18 10 18.0	-1.1
WRA						18 12 36.7	
RAR	Rarotonga	39.40	59	LR	LR	18 23 54.5	
	comp=Z,683nm,18.7s,MS4.5,baz=330,slow=32						
MIR	Mirnyy	39.70	216	eP	P	18 10 37.0	+0.9
MIR				pmax	pmax		
	comp=Z,100nm,2.0s,mb5.2						
MIR				MLR	MLR		
	comp=Z,2μm,18.0s,MS4.9						
QSPA	South Pole Qui	41.47	180	P	P	18 10 52.2	+1.6
	comp=Z,3.5nm,1.0s,mb3.9,baz=11,slow=2.9,SNR=10.0						
QSPA				PcP	PcP	18 12 49.3	+1.4
	comp=Z,11nm,1.2s,baz=34,slow=1.3,SNR=5.3						
FITZ	Fitzroy Crossi	43.86	300	eP	P	18 11 10.6	-0.1
	comp=Z,31nm,1.0s,mb5.0						
FITZ				eS	S	18 17 42.2	+1.5
FITZ	Fitzroy Crossi	43.86	300	LR	LR	18 28 30.1	
	comp=Z,1μm,20.4s,MS4.8,baz=147,slow=35						
TBI	Tubuai	43.99	72	eS	S	18 17 36.3	-6.1
	comp=Z,457nm,28.8s						
TBI				eLQ		18 21 15.3	
	comp=Z,1μm,31.8s						
TBI				eLR	LR	18 23 14.9	
	comp=Z,1μm,30.0s,baz=235						
KAKA	Kakadu	44.69	312	eP	P	18 11 17.1	-0.2
	comp=Z,20nm,0.9s,mb5.0						
MBWA	Marble Bar	45.04	291	eP	P	18 11 19.9	-0.2
	comp=Z,52nm,1.3s,mb5.2						
PPT	Papeete	48.23	66	eS	S	18 18 34.8	-8.7
	comp=Z,619nm,26.5s						
PPT				eLR	LR	18 25 05.6	
	comp=Z,2μm,28.0s,baz=216						
PPT	Papeete	48.23	66	LR	LR	18 28 02.1	
	comp=Z,740nm,20.0s,MS4.7,baz=239,slow=31						
MAW	Mawson	50.26	209	LR	LR	18 31 32.9	
	comp=Z,684nm,18.1s,MS4.7,baz=111,slow=34						
MAW	Mawson	50.26	209	eP	P	18 12 00.8	+0.8
MAW				pmax	pmax		
	comp=Z,40nm,2.0s						
MAW	Mawson	50.26	209	eP	P	18 12 00.8	+0.8
	comp=Z,40nm,2.0s,mb5.1						
BATI	Baumata	51.37	304	LR	LR	18 33 26.6	
	comp=Z,2μm,20.2s,MS5.2,baz=178,slow=36						
RKT	Rikitea	53.53	84	eS	S	18 19 56.1	-0.7
	comp=Z,642nm,28.8s						
RKT				eLR	LR	18 27 51.1	
	comp=Z,2μm,30.5s,baz=221						
SYO	Syowa Base	55.89	201⇑	eP	P	18 12 40.3	-1.1
KAPI	Kappang	57.81	304	eP	P	18 12 55.5	-0.3
	comp=Z,38nm,1.3s,mb5.3						
SNAA	Sanae	59.66	185	eP	P	18 13 07.3	-0.6
SNAA				pmax	pmax		
	comp=Z,15nm,1.3s						
SNAA	Sanae	59.66	185	eP	P	18 13 07.3	-0.5
	comp=Z,15nm,1.3s,mb4.9						
DAV	Davao City (W)	65.22	316	LR	LR	18 45 22.1	
	comp=Z,250nm,18.1s,MS4.5,baz=141,slow=39						
KSM	Kuching	68.47	299	eP	P	18 14 05.7	-0.9
PLCA	Paso Flores	78.51	140	LR	LR	18 43 04.9	
	comp=Z,254nm,20.0s,MS4.5,baz=204,slow=30						
JOW	Kunigami	81.91	328	LR	LR	18 50 46.5	
	comp=Z,374nm,19.2s,MS4.8,baz=166,slow=35						
CFAA	Coronel Fontan	87.18	137	P	P	18 15 50.6	+0.1
	comp=Z,0.3nm,0.6s,mb3.7,baz=116,slow=0.6,SNR=3.7						
MJAR	Matsushiro Arr	88.03	339	P	P	18 15 53.3	-0.8
	comp=Z,5.1nm,1.2s,mb4.6,baz=175,slow=6.0,SNR=4.6						
CMAR	Chiang Mai Arr	88.68	300	P	P	18 15 58.4	+0.8
	comp=Z,3.5nm,0.8s,mb4.7,baz=163,slow=3.6,SNR=21						
CMAR				LR	LR	18 57 14.5	
	comp=Z,261nm,18.6s,MS4.7,baz=327,slow=37						
CHTO	Chiang Mai	88.96	300	eP	P	18 15 57.5	-1.4
CHTO				pmax	pmax		
	comp=Z,27nm,1.7s,mb5.3						
CHTO	Chiang Mai	88.96	300	eP	P	18 15 57.5	-1.4
	comp=Z,27nm,1.7s,mb5.3						
KSRS	Korea Array	91.75	332	P	P	18 16 11.2	-0.3
	comp=Z,2.3nm,1.0s,mb4.5,baz=162,slow=4.5,SNR=8.0						
KSRS				LR	LR	18 57 47.0	
	comp=Z,94nm,18.3s,MS4.3,baz=261,slow=36						
BOSA	Boshof	94.95	215	LR	LR	18 52 37.3	
	comp=Z,248nm,18.4s,MS4.7,baz=165,slow=31						
CPUP	Villa Florida	96.43	143	LR	LR	18 55 11.5	
	comp=Z,219nm,18.2s,MS4.7,baz=188,slow=32						
MK31	Makanchi Array	118.92	309	ePKIKP	PKPdf	18 21 52.4	+0.5
MKAR	Makanchi Array	118.92	309	PKP	PKPdf	18 21 52.2	+0.3
	comp=Z,2.2nm,0.9s,baz=63,slow=0.5,SNR=7.4						
MKAR	Makanchi Array	118.92	309	PKP	PKPdf	18 21 52.2	+0.3
ZALV	Zalesovo Beam	122.33	316	PKP	PKPdf	18 21 57.1	-1.1
	comp=Z,0.3nm,0.4s,baz=193,slow=2.5,SNR=2.2						
KURK	Kurchatov	123.29	311	PKP	PKPdf	18 21 59.8	-0.4
	comp=Z,2.5nm,0.8s,baz=118,slow=1.7,SNR=5.6						
KURK	Kurchatov	123.29	311	PKP	PKPdf	18 21 59.8	-0.4
KURK				LR	LR		
	comp=Z,174nm,22.0s,MS4.7						
YKA	Yellowknife Ar	127.82	35	PKP	PKPdf	18 22 10.6	+2.2
	comp=Z,1.3nm,0.7s,baz=118,slow=9.2,SNR=3.0						
BVAR	Borovoye Array	128.79	309	PKP	PKPdf	18 22 11.3	+0.7
	comp=Z,1.9nm,1.0s,baz=134,slow=4.2,SNR=3.4						
BRVK	Borovoye	128.87	309	PFAKE		18 22 20.0	+9.2
BRVK				LR	LR		
	comp=Z,332nm,22.0s,MS5.0						
TORD	Torodi Ar. Bea	141.90	207	PKhKP		18 22 29.7	
	comp=Z,2.0nm,0.8s,baz=158,slow=3.1,SNR=25						
BR131	Keskin Array S	144.32	274	ePKPpre		18 22 37.8	
ANTO	Ankara	144.96	274	ePKIKP	PKPdf	18 22 41.0	+0.2
ANTO				MLR	MLR		
	comp=Z,243nm,22.0s,MS4.9						
MOS	Moscow	147.49	303	ePKP2	PKPab	18 22 54.9	+5.5
MOS				pmax	pmax		
	comp=Z,87nm,1.7s						
TAM	Tamanrasset	149.34	220	ePKP2	PKPbc	18 22 53.9	+0.8
TIRR	Tirgusor	149.95	279	ePKHKP	PKPbc	18 22 53.4	-0.5
KIS	Kishinev	150.63	284	ePKIKP	PKPbc	18 22 55.0	-0.4
KIS				e		18 23 05.0	
ARCES	ARCESS Array B	151.30	331	PKPbc	PKPbc	18 22 56.9	+0.6
	comp=Z,18nm,0.9s,baz=113,slow=1.8,SNR=23						
ARE0	ARCESS Array S	151.30	331	ePKPbc	PKPbc	18 22 57.8	+1.5
AKASG	Malin Array Be	151.43	291	PKPbc	PKPbc	18 22 56.2	-0.9
	comp=Z,7.2nm,0.7s,baz=82,slow=2.6,SNR=16						
AKBB	Malin Array Si	151.43	291	ePKIKP	PKPbc	18 22 57.5	+0.3
KIEV	Kiev	151.44	291	ePKIKP	PKPbc	18 22 55.2	-2.0
BUR08	Bucovina Ar. S	153.17	283	ePKPbc	PKPbc	18 23 02.8	+1.6
TIP	Timpagrande	155.19	260	PKPdf	PKPdf	18 22 57.5	+0.6
UZH	Uzhgorod	155.31	284	ePKIKP	PKiKP	18 23 11.3	+5.6
DPC	Dobruska-Polom	159.46	287	ePKPab	PKPab	18 23 42.1	+2.1
SOKA	Soboth	159.53	276⇓	iPKPdf	PKPdf	18 23 02.5	+0.5
	comp=Z,6.8nm,1.6s						
SOKA			⇓	iPKPab	PKPab	18 23 41.8	+1.4
	comp=Z,15nm,1.7s						
MYKA	Terra Mystica	160.43	275⇓	ipPKPdf	pPKPdf	18 23 07.8	-2.5
	comp=Z,5.4nm,1.1s						
MYKA			⇑	iPKPab	PKPab	18 23 45.7	+1.3
	comp=Z,13nm,1.0s						
NOA	NORSAR Array B	160.50	319	PKPab	PKPab	18 23 43.2	-1.0
	comp=Z,1.6nm,0.8s,baz=62,slow=4.6,SNR=6.6						
PRU	Pruhonice	160.55	285	ePKPab	PKPab	18 23 50.5	+5.8
GERES	GERESS Array B	160.91	282	PKP	PKPdf	18 23 06.0	+2.5
	comp=Z,0.1nm,0.3s,baz=299,slow=1.4,SNR=4.5						
GERES				PKPab	PKPab	18 23 46.3	-0.1
	comp=Z,2.1nm,1.0s,baz=105,slow=3.0,SNR=8.8						
BRG	Berggiesshubel	161.02	288	ePKP2	PKPab	18 23 46.8	0.0
BRG				pmax	pmax		
	comp=Z,30nm,2.5s						
BRG	Berggiesshubel	161.02	288	eP	PKPab	18 23 46.8	0.0
	comp=Z,50nm,2.5s						
KHC	Kasperske Hory	161.04	282	ePKPab	PKPab	18 23 50.3	+3.4
CLL	Collm	161.64	289	ePKP2	PKPab	18 23 51.0	+1.5
CLL				pmax	pmax		
	comp=Z,32nm,2.1s						
CLL	Collm	161.64	289	ePKPab	PKPab	18 23 51.0	+1.5
	comp=Z,32nm,2.1s						
CLL				ePSKS		18 38 02.0	
CLL				e(SSS)		18 54 27.0	
NKC	Novy Kostel	161.92	285	ePKPab	PKPab	18 24 00.3	+10
WTTA	Wattenberg	161.93	276⇑	ipPKPdf	pPKPdf	18 23 09.0	-2.8
	comp=Z,5.8nm,1.1s						
WTTA			⇑	iPKPab	PKPab	18 23 50.9	0.0
	comp=Z,14nm,1.7s						
RETA	Reutte	162.56	276	P	PKPab	18 23 51.1	-2.5
	comp=Z,15nm,1.3s						
GRA1	Grafenberg Arr	162.65	283	ePKP	PKPdf	18 23 06.6	+1.3
GRF	Grafenberg Arr	162.65	283	ePKIKP	PKPdf	18 23 06.6	+1.3

ISCJB ***03*** *18:06:19.9±0.3, 4934N±001×680E±003, h0km, Error ellipse: s-maj=2.6km s-min=2.0km az=0.4*

NEIC ***03*** *18:06:21.8, 4937N×685E, h1km, ML2.3(STR), ML2.6(LDG), After LDG.*

BGR ***03*** *18:06:21.1±0.4, 4939N×688E, h1km, ML1.6/3, Error ellipse: s-maj=7.8km s-min=5.6km az=31.0*

CSEM ***03*** *18:06:21.7±0.1, 4937N×686E, h1km, ML2.5/14, Error ellipse: s-maj=1.3km s-min=1.0km az=101.0*

LDG ***03*** *18:06:21.8±0.1, 4937N×685E, h1km, Md2.8/1, Ml2.6/13, Error ellipse: s-maj=1.6km s-min=1.2km az=99.0, Suspected Mining induced.*

BNS ***03*** *18:06:24.0±1.0, 4947N×679E, h1km, ML1.3*

ISC 03 18:06:20.9±0.3**, 4935N**±001×**681E**±003**, h0**km**, n51, σ0s96**/89**, Germany**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
RUP	Ruppelstein	0.38	25	Pg	Pg	18 06 28.6	+0.3
RUP				Sg	Sg	18 06 33.0	-0.3
WLF	Walferdange	0.53	306	ePg	Pg	18 06 32.0	+0.9
	SNR=3.0						
WLF				eSg	Sg	18 06 37.9	-0.1
WLF	Walferdange	0.53	306	P	Pg	18 06 32.2	+1.1
LANF	Langenberg	0.75	119	Pg	Pg	18 06 35.7	+0.4
BGG	Burgeitz	0.92	22	ePg	Pg	18 06 39.2	+0.6
HILG	Hillesheim	0.94	355	ePg	Pg	18 06 39.6	+0.6
HILG				eSg	Sg	18 06 51.8	+0.5
	14nm,0.3s						
CDF	Champ du Feu	0.99	162	ePn	Pn	18 06 41.0	-1.0
CDF				eSg	Sg	18 06 53.4	+0.7
CDF				eSn	Sn	18 06 55.0	-1.7
	13nm,0.2s						
CDF	Champ du Feu	0.99	162	ePn	Pn	18 06 41.0	-1.0
CDF				eSg	Sg	18 06 53.4	+0.7
CDF				eSn	Sn	18 06 55.0	-1.7
	6.6nm,0.2s						
CDF	Champ du Feu	0.99	162	ePg	Pg	18 06 40.2	+0.3
CDF				ePn	Pn	18 06 41.0	-1.0
CDF				eSg	Sg	18 06 53.4	+0.7
CDF				eSn	Sn	18 06 55.0	-1.7
RFYF	Reffroy	1.14	231	ePn	Pn	18 06 43.9	-0.2
	baz=57						
RFYF				eSn	Sn	18 06 59.7	-0.7
	28nm,0.3s						
RFYF	Reffroy	1.14	231	ePn	Pn	18 06 43.9	-0.2
RFYF				eSn	Sn	18 06 59.7	-0.7
	14nm,0.3s						
ECH	Echery	1.16	168	Pg	Pg	18 06 43.9	+0.8
ECH				Sg	Sg	18 06 59.5	+1.3
KOE	Koeppel	1.23	29	ePg	Pg	18 06 45.9	+1.5
STB	Steinbach	1.24	1	ePg	Pg	18 06 45.1	+0.4
STB				eSg	Sg	18 07 00.2	-0.7
	5.1nm,0.4s						
THEF	They Montfort	1.25	206	Pg	Pg	18 06 45.2	+0.3
THEF				Sg	Sg	18 07 02.3	+1.2
TOD	Tromm	1.32	78	Pg	Pg	18 06 46.1	-0.2
TOD				Sg	Sg	18 07 03.5	+0.1
MEM	Membach	1.36	338	P	Pg	18 06 47.2	+0.2
MEM	Membach	1.36	338	P	Pg	18 06 47.1	+0.1
TNS	Taunus Mts	1.37	50	ePg	Pg	18 06 46.6	-0.6
	SNR=2.7						
TNS				eSg	Sg	18 07 02.2	-2.7
HAU	Haudompre	1.38	193	ePg	Pg	18 06 47.4	0.0
HAU				eSg	Sg	18 07 06.6	+1.3
	16nm,0.2s						
HAU	Haudompre	1.38	193	ePg	Pg	18 06 47.4	0.0
HAU				eSg	Sg	18 07 06.6	+1.3
	8.0nm,0.2s						
BFO	Black Forest	1.43	135	ePg	Pg	18 06 48.8	+0.5
	SNR=4.6						
BFO				eSg	Sg	18 07 05.5	-1.4
BFO	Black Forest	1.43	135	eP	Pn	18 06 47.4	-0.7
BFO	Black Forest	1.43	135	Pg	Pg	18 06 48.8	+0.4
	SNR=4.6						
BFO				Sg	Sg	18 07 05.5	-1.4
BFO	Black Forest	1.43	135	eP	Pn	18 06 47.4	-0.7
MEZF	Maizieres J'vi	1.44	234	eSg	Sg	18 07 08.9	+1.8
	8.1nm,0.2s						
MEZF	Maizieres J'vi	1.44	234	eSg	Sg	18 07 08.9	+1.8
	4.1nm,0.2s						
GIVF	Givet	1.49	301	ePn	Pn	18 06 48.3	-0.6
GIVF				eSg	Sg	18 07 09.7	+0.8
	9.1nm,0.3s						
GIVF	Givet	1.49	301	ePn	Pn	18 06 48.3	-0.6
GIVF				eSg	Sg	18 07 09.7	+0.8
	4.6nm,0.3s						
MOF	Molkenrain	1.52	172	Pg	Pg	18 06 50.5	+0.5
HINF	Hinteralfeld	1.54	179	ePn	Pn	18 06 50.7	+1.1
HINF				eSg	Sg	18 07 11.0	+0.7
	15nm,0.2s						
HINF	Hinteralfeld	1.54	179	ePn	Pn	18 06 50.7	+1.1
HINF				eSg	Sg	18 07 11.0	+0.7
	7.6nm,0.2s						
DOU	Dourbes	1.62	298	P	Pn	18 06 51.2	+0.5
DOU	Dourbes	1.62	298	P	Pn	18 06 51.1	+0.4
SFTF	Sexfontaines	1.64	226	ePg	Pg	18 06 52.9	+0.5
SFTF				eSg	Sg	18 07 14.3	+0.7
	5.1nm,0.2s						
SFTF	Sexfontaines	1.64	226	ePg	Pg	18 06 52.9	+0.5
SFTF				eSg	Sg	18 07 14.3	+0.7
	2.5nm,0.2s						
FELD	Feldberg im Sc	1.68	151	Pg	Pg	18 06 53.1	+0.1
FELD				Sg	Sg	18 07 15.7	+1.0
BAIF	Baives	1.83	294	ePg	Pg	18 06 55.7	-0.3
BAIF				eSg	Sg	18 07 20.3	+0.5
	3.6nm,0.3s						
BAIF	Baives	1.83	294	ePg	Pg	18 06 55.7	-0.3
BAIF				eSg	Sg	18 07 20.3	+0.5
	1.8nm,0.3s						
CABF	La Chapelle	2.79	190	eSg	Sg	18 07 50.8	+0.4
	1.2nm,0.2s						
CABF	La Chapelle	2.79	190	eSg	Sg	18 07 50.8	+0.4
	0.6nm,0.2s						
LOR	Lormes	2.87	224	ePn	Pn	18 07 06.9	-1.0
LOR				eSn	Sn	18 07 40.4	-2.7
LOR				eSg	Sg	18 07 52.6	-0.5
	2.9nm,0.3s						
LOR	Lormes	2.87	224	ePn	Pn	18 07 06.9	-1.0
LOR				eSn	Sn	18 07 40.4	-2.7
LOR				eSg	Sg	18 07 52.6	-0.5
	1.5nm,0.3s						
SSF	Saint Saulge	3.19	225	ePn	Pn	18 07 10.8	-1.4
SSF				eSg	Sg	18 08 02.8	-0.4
	2.5nm,0.3s						

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
SSF	**Saint Saulge**	**3.19**	**225**	*e*Pn	**Pn**	**18 07 10.8**	**-1.4**
SSF				*e*Sg	**Sg**	**18 08 02.8**	**-0.4**
	1.2nm,0.3s						
SMF	**Signal de Mont**	**3.36**	**217**	*e*Sn	**Sn**	**18 07 53.2**	**-2.1**
SMF				*e*Sg	**Sg**	**18 08 07.5**	**-1.5**
	2.0nm,0.2s						
SMF	**Signal de Mont**	**3.36**	**217**	*e*Sn	**Sn**	**18 07 53.2**	**-2.1**
SMF				*e*Sg	**Sg**	**18 08 07.5**	**-1.5**
	1.0nm,0.2s						
BGF	**Bois d'Agland**	**3.86**	**225**	*e*Sn	**Sn**	**18 08 04.7**	**-2.9**
GEC2	**GERESS Array S**	**4.55**	**94**	*e*Pn	**Pn**	**18 07 31.3**	**+0.2**
	SNR=2.5						
LDF	**La Druitiere**	**4.63**	**263**	*e*Pn	**Pn**	**18 07 32.0**	**-0.1**
CAF	**Calviac**	**5.49**	**218**	*e*Pn	**Pn**	**18 07 42.6**	**-1.2**

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*IDC **03** 18:18:00.7±2.4, 6.26S×149.08E, h0^{km}, mb4.1/3, mb1 4.4/4, mb1mx3.8/15, mbtmp4.2/4, ML4.4/1, Error ellipse: s-maj=99.3km s-min=24.9km az=120.0*

*ISCJB **03** 18:18:06.1±1.8, 5.9S±0.2×148.3E±0.4, h33^{km}, mb4.1/3, Error ellipse: s-maj=59.2km s-min=18.3km az=20.6*

*NEIC **03** 18:18:10.2±2.4, 6.32S×149.00E, h76^{km}±31^{km}, mb4.1/1, Error ellipse: s-maj=109.0km s-min=19.1km az=124.0*

ISC 03 18:18:08.6±1.7**, 5.9S**±0.2×**148.3E**±0.4**, h35^{km}, n8,** σ0^{s}**75**/7**, mb4.1**/3**, New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.65**	**197**	*e*P	**Pn**	**18 19 03.1**	**+0.4**
WB2	**Warramunga Arr**	**19.44**	**223**	*e*P	**Pn**	**18 22 32.7**	**-0.9**
WRA	**Warramunga Arr**	**19.45**	**223**	P	**Pn**	**18 22 33.0**	**-0.7**
	1.3nm,0.3s,baz=51,slow=11,SNR=66						
ASAR	**Alice Springs**	**22.43**	**217**	P	**P**	**18 23 04.5**	**+0.1**
	2.0nm,0.5s,mb3.8,baz=54,slow=9.8,SNR=44						
FITZ	**Fitzroy Crossi**	**25.20**	**239**	*e*P	**P**	**18 23 32.9**	**+1.7**
	5.4nm,0.8s,mb4.1						
FITZ	**Fitzroy Crossi**	**25.20**	**239**	P	**P**	**18 23 32.3**	**+1.1**
	4.2nm,0.8s,mb4.0,baz=86,slow=12,SNR=14						
PETK	**Petropavlovsk-**	**59.33**	**7**	P	**P**	**18 28 06.7**	**-0.2**
	3.7nm,0.9s,mb4.4,baz=161,slow=6.6,SNR=5.2						
TORD	**Torodi Ar. Bea**	**146.29**	**285**	PKPbc	PKPbc	18 37 45.5	-1.2
	0.3nm,0.6s,baz=84,slow=2.9,SNR=3.8						

IDC 03 18:43:36.8±48.0**, 16.32S**×**171.04W, h0^{km}, mb4.1**/3**, mb1 4.3**/3**, mb1mx3.8**/18**, mbtmp4.1**/3**, Error ellipse: s-maj=952.5km s-min=185.1km az=80.0, Samoa Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**45.56**	**241**	P	P	18 51 59.3	+0.6
	0.6nm,0.3s,baz=96,slow=9.2,SNR=4.3						
WRA	**Warramunga Arr**	**51.85**	**257**	P	P	18 52 46.7	-0.5
	0.4nm,0.5s,baz=97,slow=6.8,SNR=24						
ASAR	**Alice Springs**	**51.99**	**253**	P	P	18 52 48.3	+0.1
	5.6nm,0.7s,baz=89,slow=8.5,SNR=164						

JMA 03 19:13:15.6±0.1**, 25.89N**×**125.04E, h107^{km}, M3.8, Southwestern Ryukyu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JMJ	**Miyako jima 2**	**1.09**	**168**	P	Pn	19 13 37.9	+0.3
JMJ				S	Sn	19 13 54.1	-0.1
JOGS	**Gusukube**	**1.17**	**164**	P	Pn	19 13 38.9	+0.5
JOGS				S	Sn	19 13 55.6	-0.1
JTJ	**Tarama**	**1.28**	**194**	P	Pn	19 13 39.9	+0.2
JTJ				S	Sn	19 13 57.5	-0.4
JKE	**Kume jima 2**	**1.63**	**74**	P	Pn	19 13 44.1	+0.3
JKE				S	Sn	19 14 05.5	+0.3
JIJ	**Ishigaki jima**	**1.72**	**208**	P	Pn	19 13 44.7	-0.3
JIJ				S	Sn	19 14 05.7	-1.6
JKRS	**Kuro-shima**	**1.89**	**210**	P	Pn	19 13 47.1	0.0
JKRS				*e*S	Sn	19 14 09.2	-1.9
IRIF	**Iriomote-Funau**	**1.95**	**218**	P	Pn	19 13 47.9	+0.1
IRIF				*e*S	Sn	19 14 12.2	-0.2
JAGN	**Aguni-jima**	**2.10**	**70**	P	Pn	19 13 49.8	+0.1
JAGN				*e*S	Sn	19 14 15.7	0.0
HATJ	**Hateruma jima**	**2.14**	**212**	P	Pn	19 13 51.0	+0.7
HATJ				*e*S	Sn	19 14 15.9	-0.9
YOJ	**Yonaguni jima**	**2.32**	**233**	P	Pn	19 13 53.9	+1.3
YOJ				*e*S	Sn	19 14 22.1	+1.1
NAH1	**Naha**	**2.40**	**82**	P	Pn	19 13 54.0	+0.3
NAH1				*e*S	Sn	19 14 22.7	-0.2
JJT2	**Tamagusuku 2**	**2.45**	**84**	P	Pn	19 13 54.4	+0.2
JJT2				S	Sn	19 14 23.3	-0.6
JIH	**Iheya**	**2.86**	**66**	P	Pn	19 13 59.4	-0.2
JIH				S	Sn	19 14 31.8	-1.8
JOW	**Kunigami**	**3.05**	**71**	P	Pn	19 14 01.2	-1.0
JOW				*e*S	Sn	19 14 34.4	-3.7
JTK	**Tokunoshima**	**3.97**	**61**	P	Pn	19 14 13.2	-1.3
JTK				S	Sn	19 14 56.9	-3.2
JAM	**Amami Oshima**	**4.78**	**57**	P	Pn	19 14 24.3	-1.1
JAM				S	Sn	19 15 15.6	-4.1
JMZ	**Minamidaito 2**	**5.57**	**89**	P	Pn	19 14 32.4	-3.7
JMZ				*e*S	Sn	19 15 30.3	-8.5

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*MOS **03** 19:15:08.3±1.5, 42.10S×172.74E, h33^{km}, mb5.3/12, MS4.7/4, Error ellipse: s-maj=12.2km s-min=11.6km az=102.0*

*ISCJB **03** 19:15:10.0±0.3, 42.12S±0.03×172.79E±0.04, h51^{km}±3^{km}, mb5.2/44, MS4.7/27, Error ellipse: s-maj=5.4km s-min=3.5km az=38.9*

*NEIC **03** 19:15:10.8, 42.16S×172.88E, h70^{km}, mb5.2/21, ML5.6(WEL), After WEL.*

NEIC Felt at Blenheim, Christchurch, Motueka, Nelson and Westport. Also felt at Wellington on the North Island.

*GCMT **03** 19:15:10.8±0.1, 41.98S×172.82E, h64^{km}±1^{km}, MW5.4/88, Moment Tensor Solution. s87,c155; s88,c179; Duration: 1^{s}3 Moment tensor: Scale 10^{17}Nm; M_{rr}0.01±.03; $M_{\theta\theta}$0.48±.03; $M_{\phi\phi}$-0.49±.03; $M_{r\theta}$1.36±.03; $M_{\theta\phi}$1.08±.03; $M_{\phi r}$0.28±.02; Best double couple: $M_0$1.76200×10^{17} NP1:ϕ_s5.00000°, δ43.00000°, λ176.00000°. NP2:ϕ_s98.00000°, δ87.00000°, λ47.00000°. Principal axes: T 2.0390, Plg33.0000°, Azm333.0000°; N -0.5540, Plg43.0000°, Azm101.0000°; P -1.4840, Plg29.0000°, Azm222.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*

*DJA **03** 19:15:11, 42.18S×172.30E, h21^{km}, Mw5.7/13*

*BJI **03** 19:15:11.9, 41.72S×172.76E, h59^{km}, mB5.6, mb5.3, Ms5.1, Msz4.8*

*IDC **03** 19:15:16.8±1.9, 41.99S×172.68E, h102^{km}±16^{km}, mb4.7/19, mb1 4.7/19, mb1mx4.6/23, mbtmp4.7/19, MS4.5/14, Ms1 4.5/14, ms1mx4.3/19, Error ellipse: s-maj=17.4km s-min=11.0km az=45.0*

ISC 03 19:15:10.9±0.3**, 42.13S**±0.03×**172.81E**±0.04**, h44^{km}**±3^{km}**, h66^{km}**±2.3^{km}**:pP-P, n310,** σ1^{s}**08**/165**, mb5.2**/44**, MS4.7**/27**, 26C-20D, South Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THZ	**Tophouse**	**0.37**	**11**	P	**Pn**	**19 15 20.3**	**0.0**
KHZ	**Kahutara**	**0.61**	**118**	P	**Pn**	**19 15 23.3**	**0.0**
KHZ				S	**Sn**	**19 15 33.7**	**+1.6**
LTZ	**Lake Taylor**	**0.77**	**212**	P	**Pn**	**19 15 26.6**	**+1.3**
DSZ	**Denniston Nort**	**0.84**	**297**	P	**Pn**	**19 15 27.3**	**+0.9**
BSWZ	**Blackbirch Sta**	**0.90**	**63**	P	**Pn**	**19 15 27.2**	**+0.1**
NNZ	**Nelson**	**1.01**	**25**	P	**Pn**	**19 15 28.5**	**-0.1**
NNZ				S	**Sn**	**19 15 43.1**	**+1.5**
CMWZ	**Cape Campbell**	**1.11**	**70**	P	**Pn**	**19 15 30.9**	**+0.9**
QRZ	**Quartz Range**	**1.32**	**351**	*e*P	**Pn**	**19 15 33.0**	**+0.1**
TCW	**Tory Channel**	**1.43**	**51**	P	**Pn**	**19 15 34.2**	**-0.2**
CRLZ	**Canterbury Las**	**1.45**	**186**	P	**Pn**	**19 15 34.5**	**-0.2**
MQZ	**McQueen's Vall**	**1.58**	**184**	P	**Pn**	**19 15 35.7**	**-0.8**
SNZO	**South Karori**	**1.64**	**61**	P	**Pn**	**19 15 36.4**	**-0.8**
MRW	**Makara Radio**	**1.68**	**58**	P	**Pn**	**19 15 37.1**	**-0.7**
WEL	**Wellington**	**1.69**	**61**	P	**Pn**	**19 15 37.3**	**-0.7**
BHW	**Baring Head**	**1.70**	**66**	P	**Pn**	**19 15 37.1**	**-1.0**
WVZ	**Waitaha Valley**	**1.80**	**238**	P	**Pn**	**19 15 40.3**	**+0.8**
MSWZ	**Moikau Station**	**1.96**	**69**	P	**Pn**	**19 15 39.9**	**-1.7**
CAW	**Cannon Point**	**1.98**	**60**	P	**Pn**	**19 15 40.7**	**-1.2**
KIW	**Kapiti Island**	**2.02**	**52**	P	**Pn**	**19 15 42.1**	**-0.4**
RPZ	**Rata Peaks**	**2.04**	**219**	P	**Pn**	**19 15 43.1**	**+0.3**
	416nm,0.3s,baz=24,slow=1.2,SNR=372						
RPZ				S	**Sn**	**19 16 08.6**	**+1.5**
	1μm,0.3s,baz=282,slow=22,SNR=23						
RPZ	**Rata Peaks**	**2.04**	**219**	P	**Pn**	**19 15 43.0**	**+0.2**
PAWZ	**Paruwai Farm**	**2.09**	**70**	P	**Pn**	**19 15 41.8**	**-1.7**
MTW	**Mount Morrison**	**2.24**	**65**	P	**Pn**	**19 15 43.5**	**-2.0**
MRZ	**Mangatainoka R**	**2.55**	**56**	P	**Pn**	**19 15 48.2**	**-1.5**
FOZ	**Fox Glacier**	**2.71**	**237**	P	**Pn**	**19 15 51.1**	**-0.8**
WAZ	**Wanganui**	**2.89**	**35**	P	**Pn**	**19 15 55.7**	**+1.3**
NRZ	**Ngariki Road**	**2.92**	**17**	P	**Pn**	**19 15 57.1**	**+2.3**
LBZ	**Lake Benmore**	**2.96**	**220**	P	**Pn**	**19 15 55.0**	**-0.4**
NWEZ	**Newall Road**	**2.96**	**16**	P	**Pn**	**19 15 56.9**	**+1.5**
DFE	**Dawson Falls**	**2.97**	**20**	P	**Pn**	**19 15 57.3**	**+1.8**
NEZ	**North Egmont**	**3.02**	**19**	P	**Pn**	**19 15 57.6**	**+1.4**
RAEZ	**Rainy Point**	**3.08**	**23**	P	**Pn**	**19 15 58.9**	**+1.8**
TSZ	**Takapari Road**	**3.15**	**50**	P	**Pn**	**19 15 56.2**	**-1.8**
ODZ	**Otahua Downs**	**3.31**	**208**	P	**Pn**	**19 15 59.5**	**-0.7**
VRZ	**Vera Road**	**3.35**	**27**	P	**Pn**	**19 16 01.5**	**+0.8**
WNVZ	**Wahianoa**	**3.51**	**38**	P	**Pn**	**19 16 03.1**	**+0.2**
MOVZ	**Moawhango**	**3.52**	**40**	P	**Pn**	**19 16 02.6**	**-0.5**
TUVZ	**Tukino**	**3.58**	**38**	P	**Pn**	**19 16 04.1**	**+0.2**
WPVZ	**Whakapapa**	**3.59**	**36**	P	**Pn**	**19 16 04.2**	**+0.2**
NGZ	**Ngauruhoe**	**3.63**	**37**	P	**Pn**	**19 16 04.6**	**-0.1**
TWVZ	**Taurewa**	**3.65**	**34**	P	**Pn**	**19 16 04.4**	**-0.5**
WTVZ	**West Tongariro**	**3.68**	**36**	P	**Pn**	**19 16 05.2**	**-0.1**
KATZ	**Kakaramea**	**3.84**	**36**	P	**Pn**	**19 16 07.8**	**+0.3**
WKZ	**Wanaka**	**3.86**	**224**	P	**Pn**	**19 16 06.1**	**-1.6**
RITZ	**Rihia Road**	**3.91**	**37**	P	**Pn**	**19 16 08.8**	**+0.3**
HIZ	**Hauiti**	**3.94**	**24**	P	**Pn**	**19 16 09.0**	**+0.2**
RATZ	**Rangitukua**	**3.96**	**36**	P	**Pn**	**19 16 10.1**	**+0.9**
EAZ	**Earnscleugh**	**4.01**	**218**	P	**Pn**	**19 16 08.7**	**-1.1**
BKZ	**Black Stump Fm**	**4.07**	**45**	P	**Pn**	**19 16 08.4**	**-2.3**
WATZ	**Wairara**	**4.08**	**34**	P	**Pn**	**19 16 11.0**	**+0.2**
MSZ	**Milford Sound**	**4.37**	**233**	P	**Pn**	**19 16 13.3**	**-1.5**
URZ	**Urewera**	**5.08**	**42**	P	**Pn**	**19 16 21.0**	**-3.4**
	20nm,0.3s,baz=242,slow=7.7,SNR=62						
URZ				S	**Sn**	**19 17 16.9**	**-4.9**
	172nm,0.3s,baz=103,slow=18,SNR=8.7						
CNB	**Canberra Magne**	**19.49**	**283**	*e*P	**Pn**	**19 19 36.9**	**+1.2**
CAN	**Canberra**	**19.75**	**282**	P	**Pn**	**19 19 39.2**	**+0.4**
CAN				*e*S	**S**	**19 23 11.1**	**-6.1**
ARMA	**Armidale**	**20.64**	**298**	*e*P	**P**	**19 19 49.8**	**+3.1**
DZM	**Mont Dzumac**	**20.70**	**343**	*e*P	**P**	**19 19 47.4**	**0.0**
DZM	**Mont Dzumac**	**20.70**	**343**	*e*P	**P**	**19 19 48.0**	**+0.5**
TOO	**Toolangi**	**21.42**	**273**	*e*P	**P**	**19 19 56.7**	**+1.6**
TOO				*e*S	**S**	**19 23 52.6**	**+2.4**
STKA	**Stephens Creek**	**26.82**	**282**	*e*P	**P**	**19 20 47.4**	**+0.4**
	13nm,1.1s,mb4.4						
STKA	**Stephens Creek**	**26.82**	**282**	P	**P**	**19 20 46.0**	**-1.0**
	7.4nm,0.7s,mb4.3,baz=116,slow=9.5,SNR=10						
DRV	**Dumont d'Urvil**	**30.45**	**205**	P	**P**	**19 21 25.0**	**+6.1**
DRV				R		19 30 00.0	
RAR	**Rarotonga**	**31.07**	**56**	P	**P**	**19 21 26.9**	**+2.0**
	24nm,0.8s,mb5.1,baz=222,slow=5.9,SNR=5.6						
RAR				LR	LR	19 32 07.6	
	comp=Z,589nm,21.4s,MS4.2,baz=223,slow=32						
CTA	**Charters Tower**	**31.40**	**306**	*e*P	**P**	**19 21 28.0**	**+0.2**
	19nm,1.0s,mb4.9						
CTA	**Charters Tower**	**31.40**	**306**	P	**P**	**19 21 27.7**	**-0.1**
	22nm,0.8s,mb5.0,baz=145,slow=10,SNR=26						
CTA				ScP	ScP	19 27 53.1	-6.9
	4.1nm,0.9s,baz=225,slow=1.4,SNR=2.9						
CTA	**Charters Tower**	**31.40**	**306**	*e*P	**P**	**19 21 28.0**	**+0.2**
CTA				pmax	pmax		
	comp=Z,19nm,1.0s						
CTAO	**Charters Tower**	**31.40**	**306**	*e*P	**P**	**19 21 27.8**	**0.0**
CTAO				pmax	pmax		
	comp=Z,25nm,0.9s,mb5.0						
CTAO	**Charters Tower**	**31.40**	**306**	*e*P	**P**	**19 21 27.8**	**0.0**
	comp=Z,25nm,0.9s,mb5.0						
HNR	**Honiara**	**34.48**	**337**	P	**P**	**19 21 54.6**	**0.0**
	comp=Z,40nm,0.6s,mb5.5,baz=324,slow=3.4,SNR=6.2						
HNR				LR	LR	19 34 05.3	
	comp=Z,376nm,21.1s,MS4.1,baz=146,slow=33						
HNR	**Honiara**	**34.48**	**337**	P	**P**	**19 21 52.9**	**-1.8**
HNR				pmax	pmax		
	comp=Z,124nm,1.1s,mb5.8						
HNR	**Honiara**	**34.48**	**337**	P	**P**	**19 21 52.9**	**-1.8**
	comp=Z,124nm,1.1s,mb5.8						
SBA	**Scott Base**	**35.92**	**182**	*e*P	**P**	**19 22 07.8**	**+1.3**
SBA				pmax	pmax		
	comp=Z,39nm,1.3s,mb5.2						
SBA	**Scott Base**	**35.92**	**182**	*e*P	**P**	**19 22 07.8**	**+1.3**
	comp=Z,39nm,1.3s,mb5.2						
TBI	**Tubuai**	**36.48**	**71**	*e*S	**S**	**19 27 51.2**	**+0.4**
	comp=Z,416nm,34.8s						
TBI				*e*LR	LR	19 32 02.9	
	comp=Z,662nm,29.2s						
ASAR	**Alice Springs**	**37.11**	**287**	P	**P**	**19 22 16.3**	**-0.9**
	comp=Z,8.9nm,0.4s,mb4.9,baz=125,slow=7.0,SNR=284						
ASAR				PcP	PcP	19 24 34.8	-2.1
	comp=Z,2.7nm,0.5s,baz=128,slow=3.7,SNR=6.5						
ASAR				ScP	ScP	19 28 13.0	-7.2
	comp=Z,2.0nm,0.8s,baz=131,slow=3.6,SNR=6.3						
ASAR	**Alice Springs**	**37.11**	**287**	P	**P**	**19 22 16.3**	**-0.9**
ASAR						19 24 34.8	
FORT	**Forrest**	**37.35**	**273**	*e*P	**P**	**19 22 18.7**	**-0.5**
	comp=Z,35nm,0.5s,mb5.4						
COEN	**Coen**	**38.01**	**309**	*e*P	**P**	**19 22 24.3**	**-0.6**
	comp=Z,19nm,0.8s,mb4.9						
WB2	**Warramunga Arr**	**39.23**	**292**	⇑*i*P	**P**	**19 22 34.2**	**-0.9**
WB2				*e*S	**S**	**19 28 29.5**	**-3.1**
WRA	**Warramunga Arr**	**39.24**	**292**	P	**P**	**19 22 34.3**	**-0.9**
	comp=Z,16nm,0.4s,mb5.1,baz=128,slow=8.5,SNR=235						
WRA				PcP	PcP	19 24 40.8	-2.8
	comp=Z,3.6nm,0.5s,baz=140,slow=3.0,SNR=6.5						
WRA				ScP	ScP	19 28 21.1	-7.3
	comp=Z,1.8nm,0.8s,baz=126,slow=3.8,SNR=6.3						
WRA				LR	LR	19 37 36.8	
	comp=Z,1μm,21.5s,MS4.6,baz=130,slow=34						
WRA	**Warramunga Arr**	**39.24**	**292**	P	**P**	**19 22 34.3**	**-0.9**
WRA						19 24 40.8	
PMG	**Port Moresby**	**39.63**	**318**	*c i*P	**P**	**19 22 38.8**	**+0.4**
PMG	**Port Moresby**	**39.63**	**318**	*e*P	**P**	**19 22 39.0**	**+0.6**
	comp=Z,188nm,1.0s,mb5.8						
PPT	**Papeete**	**40.30**	**64**	*e*LR	LR	19 33 45.8	
	comp=Z,974nm,23.8s,baz=233						
PPT	**Papeete**	**40.30**	**64**	LR	LR	19 36 21.0	
	comp=Z,555nm,21.1s,MS4.4,baz=228,slow=31						
CASY	**Casey**	**41.30**	**213**	*e*P	**P**	**19 22 52.3**	**+0.6**
NWAO	**Narrogin (SRO)**	**44.34**	**263**	P	**P**	**19 23 15.9**	**-0.8**
	comp=Z,11nm,0.8s,mb4.6,baz=137,slow=13,SNR=6.5						
KLBR	**Kellerberrin**	**44.60**	**265**	*e*P	**P**	**19 23 17.6**	**-1.2**
	comp=Z,74nm,1.4s,mb5.3						
MUN	**Mundaring**	**45.56**	**264**	*e*P	**P**	**19 23 26.4**	**0.0**
KAKA	**Kakadu**	**45.64**	**298**	⇑*i*P	**P**	**19 23 26.4**	**-0.8**
	comp=Z,51nm,1.0s,mb5.4						
FITZ	**Fitzroy Crossi**	**46.58**	**286**	⇑*i*P	**P**	**19 23 33.4**	**-1.2**
	comp=Z,13nm,0.4s,mb5.2						
FITZ				*e*		19 25 06.1	
FITZ	**Fitzroy Crossi**	**46.58**	**286**	P	**P**	**19 23 33.3**	**-1.3**
	comp=Z,9.0nm,0.4s,mb5.0,baz=153,slow=8.6,SNR=76						
FITZ				PcP	PcP	19 25 05.9	-2.2
	comp=Z,12nm,0.9s,baz=146,slow=4.7,SNR=6.9						
FITZ				ScP	ScP	19 28 52.5	-5.5
	comp=Z,1.5nm,0.7s,baz=183,slow=5.4,SNR=4.0						
RKT	**Rikitea**	**47.12**	**83**	*e*S	**S**	**19 30 28.5**	**+0.5**
	comp=Z,488nm,37.0s						
QSPA	**South Pole Qui**	**48.00**	**180**	P	**P**	**19 23 46.4**	**+1.6**
	comp=Z,27nm,0.8s,mb5.3,baz=13,slow=1.1,SNR=84						
MIR	**Mirnyy**	**48.30**	**212**	*e*P	**P**	**19 23 48.0**	**+0.7**
MIR				*i*		19 25 13.0	
MIR				*e*S	**S**	**19 30 46.0**	**+2.3**
MBWA	**Marble Bar**	**48.94**	**278**	*e*P	**P**	**19 23 51.1**	**-1.7**
	comp=Z,69nm,1.1s,mb5.6						
MAW	**Mawson**	**58.66**	**205**	*e*P	**P**	**19 25 03.7**	**+0.5**
	comp=Z,19nm,1.0s,mb5.1						
MAW				*e*		19 33 06.0	
MAW	**Mawson**	**58.66**	**205**	P	**P**	**19 25 03.4**	**+0.2**
	comp=Z,22nm,1.0s,mb5.2,baz=122,slow=8.4,SNR=25						
MAW				LR	LR	19 49 02.6	
	comp=Z,496nm,21.1s,MS4.6,baz=100,slow=34						
MAW	**Mawson**	**58.66**	**205**	*e*P	**P**	**19 25 03.7**	**+0.5**
MAW				*e*		19 33 06.0	
MAW				pmax	pmax		
	comp=Z,19nm,1.0s						
KAPI	**Kappang**	**59.78**	**293**	P	**P**	**19 25 10.2**	**-1.5**
	comp=Z,198nm,1.2s,mb6.0,SNR=6.3						
KAPI	**Kappang**	**59.78**	**293**	P	**P**	**19 25 10.7**	**-1.0**
	comp=Z,16nm,0.8s,mb5.1,baz=146,slow=7.3,SNR=11						
KAPI	**Kappang**	**59.78**	**293**	P	**P**	**19 25 10.7**	**-1.0**
SYO	**Syowa Base**	**63.90**	**197**	⇓*i*P	**P**	**19 25 37.6**	**-1.0**
SYO	**Syowa Base**	**63.90**	**197**	⇓*i*pP	pP	19 25 54.6	+3.3
PMSA	**Palmer Station**	**64.56**	**157**	P	**P**	**19 25 44.0**	**+1.0**
	comp=Z,18nm,0.9s,mb5.1,baz=114,slow=14,SNR=4.2						
PMSA				LR	LR	19 49 36.1	
	comp=Z,524nm,20.5s,MS4.7,baz=266,slow=32						
DAV	**Davao City (W)**	**65.19**	**307**	P	**P**	**19 25 46.9**	**-0.9**
	comp=Z,109nm,0.4s,mb6.2,baz=228,slow=18,SNR=8.1						
SNAA	**Sanae**	**66.46**	**182**	*e*P	**P**	**19 25 54.7**	**-0.5**
SNAA				*e*		19 25 59.0	
SNAA				*e*		19 26 11.7	
SNAA				*e*		19 26 19.5	
SNAA	**Sanae**	**66.46**	**182**	*d i*P	**P**	**19 25 54.8**	**-0.4**
SNAA	**Sanae**	**66.46**	**182**	*e*P	**P**	**19 25 55.0**	**-0.2**
	comp=Z,50nm,1.3s,mb5.4						
NVL	**N'lazarevskaya**	**66.58**	**187**	*e*P	**P**	**19 25 57.2**	**+1.3**
NVL				*e*	pP	19 26 12.5	+3.9
NVL				pmax	pmax		
	comp=Z,68nm,1.8s,mb5.4						
VNA3	**Neumayer Olymp**	**66.92**	**179**	*e*P	**P**	**19 25 58.0**	**-0.1**
VNA3				*e*		19 26 02.2	
VNA3				*e*		19 26 14.8	
VNA3				*e*		19 26 23.0	
VNA2	**Neumayer--Watz**	**67.26**	**180**	*e*P	**P**	**19 26 00.5**	**+0.3**
	baz=174,slow=5.4						
VNA2				*e*		19 26 05.9	
VNA2				*e*		19 26 16.3	
VNA2				*e*		19 26 25.4	
VNA1	**Neumayer--Stat**	**67.53**	**180**	*e*P	**P**	**19 26 03.1**	**+1.1**
VNA1				*e*		19 26 06.7	
VNA1				*e*		19 26 19.2	
VNA1				*e*		19 26 28.0	
TSM	**Tawau**	**67.89**	**298**	⇑P	**P**	**19 26 05.3**	**+0.3**
MYLDM	**Lahad Datu**	**68.14**	**299**	⇑P	**P**	**19 26 07.8**	**+1.2**
SDKM	**Sandakan**	**69.34**	**299**	⇑P	**P**	**19 26 13.5**	**-0.6**
USHA	**Ushuaia**	**70.24**	**147**	P	**P**	**19 26 19.9**	**+0.9**
	comp=Z,8.2nm,0.8s,mb4.7,baz=231,slow=3.3,SNR=4.3						
KKM	**Kota Kinabalu**	**70.28**	**298**	⇓P	**P**	**19 26 20.6**	**+0.7**
KKM	**Kota Kinabalu**	**70.28**	**298**	*e*P	**P**	**19 26 18.8**	**-1.1**
BTM	**Bintulu**	**70.28**	**294**	⇑P	**P**	**19 26 20.2**	**+0.3**
SBUM	**Sibu**	**70.33**	**292**	⇓P	**P**	**19 26 20.4**	**+0.2**
KDM	**Kudat**	**70.53**	**299**	⇑P	**P**	**19 26 22.6**	**+1.2**
KSM	**Kuching**	**70.96**	**290**	⇓P	**P**	**19 26 23.7**	**-0.3**
KSM	**Kuching**	**70.96**	**290**	*e*P	**P**	**19 26 22.8**	**-1.2**
CBIJ	**Chichi jima**	**74.46**	**332**	LR	LR	19 55 58.1	
	comp=Z,369nm,18.3s,MS4.7,baz=20,slow=33						
MYKOM	**Kota Tinggi**	**75.75**	**286**	⇑P	**P**	**19 26 52.2**	**-0.1**
KGM	**Kluang**	**76.29**	**286**	⇑P	**P**	**19 26 56.2**	**+0.9**
FRIM	**Kepong**	**78.34**	**285**	⇓P	**P**	**19 27 06.8**	**-0.1**
PLCA	**Paso Flores**	**79.57**	**136**	P	**P**	**19 27 14.4**	**+1.2**
	comp=Z,5.9nm,0.8s,mb4.6,baz=221,slow=4.2,SNR=12						
PLCA				LR	LR	19 54 27.9	
	comp=Z,381nm,20.5s,MS4.7,baz=196,slow=30						
IPM	**Ipoh**	**79.63**	**286**	⇓P	**P**	**19 27 12.3**	**-1.6**
JOW	**Kunigami**	**80.00**	**320**	P	**P**	**19 27 13.3**	**-2.1**
	comp=Z,12nm,0.7s,mb5.0,baz=137,slow=19,SNR=2.6						
KULM	**Kulim**	**80.46**	**286**	⇓P	**P**	**19 27 16.8**	**-1.6**
JHJ	**Hachijo jima 2**	**80.80**	**332**	LR	LR	19 58 06.6	
	comp=Z,372nm,22.0s,MS4.7,baz=112,slow=32						
QIZ	**Qiongzhong**	**84.08**	**302**	P	**P**	**19 27 37.8**	**+0.7**
QIZ				PP	PP	19 30 54.2	+2.4
QIZ				S	S	19 38 00.3	+1.9
QIZ				SS	SS	19 43 23.5	-4.8
QIZ				LR	LR		
	comp=E,186nm,31.4s						
QIZ				LR	LR		
	comp=Z,251nm,31.8s,MS4.4						
MJAR	**Matsushiro Arr**	**84.44**	**333**	P	**P**	**19 27 36.2**	**-2.2**
	comp=Z,3.8nm,0.8s,mb4.6,baz=165,slow=5.5,SNR=9.8						
MJAR				LR	LR	20 02 39.8	
	comp=Z,145nm,19.9s,MS4.4,baz=170,slow=34						
MAJO	**Matsushiro**	**84.44**	**333**	*e*P	**P**	**19 27 37.2**	**-1.3**
MAJO				pmax	pmax		
	comp=Z,9.0nm,0.9s,mb4.9						
MAJO	**Matsushiro**	**84.44**	**333**	*e*P	**P**	**19 27 37.2**	**-1.3**
	comp=Z,9.0nm,0.9s,mb4.9						
MAT	**Matsushiro**	**84.44**	**333**	P	**P**	**19 27 37.1**	**-1.4**
MAT				S	S	19 37 53.6	-7.7
TRQA	**Tornquist**	**85.89**	**140**	*e*P	**P**	**19 27 45.8**	**-0.2**
	comp=Z,12nm,1.1s,mb5.0						
CFAA	**Coronel Fontan**	**87.63**	**132**	P	**P**	**19 27 54.5**	**-0.2**
	comp=Z,0.8nm,0.7s,mb4.0,baz=244,slow=4.2,SNR=14						
CFAA	**Coronel Fontan**	**87.63**	**132**	P	**P**	**19 27 54.5**	**-0.2**
NST	**Nakhon Sawan**	**88.06**	**293**	P	**P**	**19 27 52.0**	**-4.8**
NJ2	**Nanjing**	**88.93**	**317**	*e*P	**P**	**19 28 01.5**	**+1.0**
NJ2				AMB	AMB		
	comp=Z,110nm,0.9s,mb6.2						
KSRS	**Korea Array**	**89.16**	**326**	P	**P**	**19 28 00.5**	**-1.0**
	comp=Z,20nm,0.9s,mb5.5,baz=144,slow=5.7,SNR=60						
KSRS				LR	LR	20 06 22.6	
	comp=Z,202nm,19.7s,MS4.5,baz=155,slow=34						
INCN	**Inchon**	**89.73**	**325**	*e*P	**P**	**19 28 03.6**	**-0.5**
	comp=Z,18nm,0.8s,mb5.5						
ASAJ	**Asahikawa**	**90.04**	**339**	P	**P**	**19 28 04.7**	**-0.7**
	comp=Z,9.8nm,0.9s,mb5.1,baz=241,slow=16,SNR=6.0						
WHN	**Wuhan**	**90.13**	**313**	P	**P**	**19 28 06.5**	**+0.3**
CMAR	**Chiang Mai Arr**	**90.81**	**294**	P	**P**	**19 28 09.1**	**-0.5**
	comp=Z,13nm,0.9s,mb5.3,baz=150,slow=3.3,SNR=58						
CMAR	**Chiang Mai Arr**	**90.81**	**294**	*i* P	**P**	**19 28 09.1**	**-0.5**
CMAR				pmax	pmax		
	comp=Z,13nm,0.9s						
CHTO	**Chiang Mai**	**91.06**	**294**	*e*P	**P**	**19 28 10.0**	**-0.8**
CHTO				pmax	pmax		
	comp=Z,21nm,1.3s,mb5.3						
CHTO	**Chiang Mai**	**91.06**	**294**	*e*P	**P**	**19 28 10.0**	**-0.8**
	comp=Z,21nm,1.3s,mb5.3						
CHRT	**Chiangrai**	**91.23**	**296**	⇓P	**P**	**19 28 11.0**	**-0.5**
	comp=Z,126nm,1.0s,mb6.2						
GYA	**Guiyang**	**91.52**	**305**	P	**P**	**19 28 12.4**	**-0.3**
GYA				AP	pP	19 28 31.6	+5.7
GYA				XP	sP	19 28 39.8	+9.0
GYA				PP	PP	19 31 54.2	+2.6
GYA				SKS		19 38 37.1	
GYA				S	S	19 39 04.3	-4.8
GYA				AMB	AMB		
	comp=Z,40nm,1.0s,mb5.7						
GYA				AMB	AMB		
	comp=Z,190nm,6.4s						
GYA				LR	LR		
	comp=N,990nm,20.0s,MS5.4						
GYA				LR	LR		
	comp=E,960nm,21.2s,MS5.4						
GYA				LR	LR		
	comp=Z,840nm,20.5s,MS5.2						
KMI	**Kunming**	**93.00**	**301**	P	**P**	**19 28 20.5**	**+0.9**
KMI				AP	pP	19 28 40.4	+7.6
KMI				XP	sP	19 28 48.1	+10
KMI				PP	PP	19 32 08.2	+4.9
KMI				SKS		19 38 50.7	
KMI				S	S	19 39 21.0	-1.4
KMI				AMB	AMB		
	comp=Z,7.0nm,1.3s,mb4.9						
KMI				AMB	AMB		
	comp=Z,235nm,3.7s						
KMI				LR	LR		
	comp=N,313nm,29.8s						
KMI				LR	LR		
	comp=E,222nm,21.4s						
KMI				LR	LR		
	comp=Z,339nm,21.4s						
KMI	**Kunming**	**93.00**	**301**	P	**P**	**19 28 20.5**	**+0.9**
KMI						19 32 08.2	
KMI				PPP		19 34 11.5	
KMI						19 38 50.7	
KMI				S	S	19 39 21.0	-1.4
KMI				SS	SS	19 45 39.0	+0.9
KMI				SSS		19 49 20.4	
KMI				pmax	pmax		
	comp=Z,7.0nm,1.3s,mb4.9						
KMI				MLR	MLR		
	comp=Z,340nm,21.4s,MS4.8						
KMI	**Kunming**	**93.00**	**301**	P	**P**	**19 28 20.5**	**+0.9**
	comp=Z,7.0nm,1.3s,mb4.9						
KMI				pP	pP	19 28 40.4	+7.6
KMI				sP	sP	19 28 48.1	+10
KMI				PP	PP	19 32 08.2	+4.9
KMI				PPP		19 34 11.5	
KMI				SKS		19 38 50.7	
KMI				S	S	19 39 21.0	-1.4
KMI				sS	sS	19 39 52.3	+7.7
KMI				SS	SS	19 45 39.0	+0.9
KMI				SSS		19 49 20.4	
KMI				LR	LR		
	comp=Z,340nm,21.4s,MS4.8						
MDJ	**Mudanjiang**	**94.63**	**331**	P	**P**	**19 28 28.3**	**+1.7**
MDJ				AP	pP	19 28 45.3	+5.5
MDJ				XP	sP	19 28 52.1	+7.5
MDJ				PP	PP	19 32 14.1	-1.6
MDJ				AMB	AMB		
	comp=Z,5.0nm,1.0s,mb4.9						

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
MDJ				AMB	AMB		
	comp=Z,104nm,5.8s						
MDJ				LR	LR		
	comp=N,107nm,22.8s,MS4.4						
MDJ				LR	LR		
	comp=E,118nm,26.1s,MS4.4						
MDJ				LR	LR		
	comp=Z,105nm,16.1s						
CN2	**Changchun**	**95.52**	**328**	*e*P	**P**	**19 28 32.9**	**+2.2**
CN2				*e*S	S	19 39 41.6	-1.9
CN2				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb5.4						
CN2				AMB	AMB		
	comp=Z,200nm,3.0s						
CN2				LR	LR		
	comp=N,200nm,21.0s,MS4.7						
CN2				LR	LR		
	comp=E,200nm,21.0s,MS4.7						
CN2				LR	LR		
	comp=Z,400nm,23.0s,MS4.8						
PETK	**Petropavlovsk-**	**95.75**	**351**	LR	LR	20 09 04.6	
	comp=Z,158nm,20.2s,MS4.5,baz=178,slow=34						
XAN	**Xi'an**	**95.77**	**311**	P	**P**	**19 28 32.1**	**0.0**
XAN				AP	pP	19 28 50.5	+5.2
XAN				PP	PP	19 32 26.4	+1.6
XAN				S	S	19 39 47.1	+0.9
XAN				AMB	AMB		
	comp=Z,5.0nm,0.9s,mb4.9						
XAN				LR	LR		
	comp=N,106nm,32.0s,MS4.3						
XAN				LR	LR		
	comp=E,148nm,36.1s,MS4.3						
XAN				LR	LR		
	comp=Z,191nm,31.2s,MS4.4						
CD2	**Chengdu**	**96.49**	**306**	*e*P	**P**	**19 28 35.7**	**+0.2**
CD2				AP	pP	19 28 54.7	+6.0
CD2				XP	sP	19 29 02.5	+9.0
CD2				PP	PP	19 32 33.8	+3.4
CD2				SKS		19 39 06.0	
CD2				S	S	19 39 49.2	-3.4
CD2				XS	sS	19 40 19.8	+5.0
CD2				AMB	AMB		
	comp=Z,20nm,0.8s,mb5.6						
CD2				AMB	AMB		
	comp=Z,180nm,6.8s						
CD2				LR	LR		
	comp=N,520nm,21.6s,MS5.1						
CD2				LR	LR		
	comp=E,350nm,18.0s,MS5.1						
CD2				LR	LR		
	comp=Z,410nm,26.4s						
BJI	**Beijing**	**96.56**	**320**	P	**P**	**19 28 37.1**	**+1.6**
BJI				S	S	19 39 50.7	-2.0
BJI				SS	SS	19 46 24.9	-3.5
BJI				AMB	AMB		
	comp=Z,7.0nm,0.9s,mb5.1						
BJI				AMB	AMB		
	comp=Z,54nm,3.6s						
BJI				LR	LR		
	comp=N,262nm,30.5s,MS4.7						
BJI				LR	LR		
	comp=E,220nm,28.5s,MS4.7						
BJI				LR	LR		
	comp=Z,277nm,31.2s,MS4.5						
BJI	**Beijing**	**96.56**	**320**	P	**P**	**19 28 37.1**	**+1.6**
	comp=Z,7.0nm,0.9s,mb5.1						
BJI				PP	PP	19 32 19.6	-11
BJI				SKS		19 39 12.6	
BJI				S	S	19 39 50.7	-2.0
BJI				SS	SS	19 46 24.9	-3.5
BJI				LR	LR		
	comp=Z,280nm,31.2s,MS4.5						
CPUP	**Villa Florida**	**97.64**	**136**	LR	LR	20 05 35.5	
	comp=Z,259nm,20.6s,MS4.7,baz=190,slow=31						
LPAZ	**La Paz**	**99.25**	**122**	LR	LR	20 03 49.9	
	comp=Z,160nm,19.8s,MS4.5,baz=232,slow=29						
HHC	**Hu-ho-hao-te**	**99.44**	**318**	*e*P	**P**	**19 28 51.1**	**+2.6**
HHC				AP	pP	19 29 08.5	+6.8
HHC				XP	sP	19 29 14.5	+8.0
HHC				SKS		19 39 23.5	
HHC				S	S	19 40 17.5	+0.3
HHC				AMB	AMB		
	comp=Z,12nm,1.0s,mb5.4						
HHC				AMB	AMB		
	comp=Z,118nm,5.4s						
HHC				LR	LR		
	comp=N,309nm,19.3s,MS4.9						
HHC				LR	LR		
	comp=E,228nm,19.3s,MS4.9						
HHC				LR	LR		
	comp=Z,216nm,19.2s,MS4.7						
LZH	**Lanzhou**	**100.12**	**310**	*e*P	Pdif	19 28 53.5	+1.6
LZH				AP		19 29 12.7	
LZH				XP		19 29 20.0	
LZH				*e*PP	PP	19 33 03.4	+5.3
LZH				SKS		19 39 25.2	
LZH				*e*S	Sdif	19 40 20.3	-3.3
LZH				AMB	AMB		
	comp=Z,16nm,1.5s						
LZH				AMB	AMB		
	comp=Z,81nm,9.3s						
LZH				LR	LR		
	comp=E,425nm,18.2s						
LZH				LR	LR		
	comp=Z,693nm,20.0s,MS5.2						
LZH	**Lanzhou**	**100.12**	**310**	*e*P	Pdif	19 28 53.5	+1.6
LZH				*e*		19 33 03.4	
LZH						19 39 25.2	
LZH				*e*S	Sdif	19 40 20.3	-3.3
LZH				*e*SS	SS	19 47 21.0	+2.5
LZH				pmax	pmax		
	comp=Z,16nm,1.5s						
LZH				MLR	MLR		
	comp=Z,690nm,20.0s,MS5.2						
LZH	**Lanzhou**	**100.12**	**310**	*e*P	Pdif	19 28 53.5	+1.6
	comp=Z,16nm,1.5s						
LZH				pP		19 29 12.7	
LZH				sP		19 29 20.0	
LZH				*e*PP	PP	19 33 03.4	+5.3
LZH				SKS		19 39 25.2	
LZH				*e*S	Sdif	19 40 20.3	-3.3
LZH				sS	sS	19 40 53.2	+7.8
LZH				*e*SS	SS	19 47 21.0	+2.5
LZH				LR	LR		
	comp=Z,690nm,20.0s,MS5.2						
SHL	**Shillong**	**100.42**	**295**	*e*P	Pdif	19 28 52.0	-1.3
NVAR	**Mina Array Bea**	**101.72**	**48**	P	Pdif	19 29 01.2	+2.1
	comp=Z,0.6nm,0.6s,baz=225,slow=7.5,SNR=2.3						
SONM	**Songino Array**	**107.06**	**320**	Pdiff	Pdif	19 29 20.6	-2.2
	comp=Z,0.6nm,0.8s,baz=146,slow=5.5,SNR=3.9						
YKA	**Yellowknife Ar**	**119.25**	**31**	PKP	PKPdf	19 33 50.6	-3.4
	comp=Z,1.8nm,0.8s,baz=180,slow=33,SNR=4.0						
MKAR	**Makanchi Array**	**119.36**	**308**	PKP	PKPdf	19 33 51.4	-3.4
	comp=Z,1.8nm,0.7s,baz=208,slow=1.8,SNR=17						
KMBO	**Kilima Mbogo**	**121.19**	**235**	*i* PKIKP	PKPdf	19 33 59.2	-0.2
KMBO	**Kilima Mbogo**	**121.19**	**235**	*e*PKPdf	PKPdf	19 33 59.0	-0.4
KBL	**Kabul**	**121.56**	**290**	*e*PKIKP	PKPdf	19 33 57.1	-2.3
ULM	**Lac du Bonnet**	**121.56**	**49**	PKP	PKPdf	19 33 56.4	-2.5
	comp=Z,3.0nm,0.8s,baz=201,slow=8.6,SNR=3.0						
ZALV	**Zalesovo Beam**	**121.58**	**316**	PKP	PKPdf	19 33 54.8	-4.0
	comp=Z,1.6nm,0.7s,baz=174,slow=1.5,SNR=6.0						
KURK	**Kurchatov**	**123.40**	**311**	*e*PKIKP	PKPdf	19 33 58.9	-3.5
KIV	**Kislovodsk**	**143.95**	**290**	*e*PKHKP		19 34 36.4	
KIV				*i*		19 34 39.2	
KIV				*e*		19 37 51.2	
KIV				*e*		19 41 42.5	
KIV				pmax	pmax		
	comp=Z,12nm,0.9s						
KIV				MLR	MLR		
	comp=Z,102nm,21.0s,MS4.6						
KIV	**Kislovodsk**	**143.95**	**290**⇑	*i*P	PKPdf	19 34 37.8	-3.2
KIV	**Kislovodsk**	**143.95**	**290**	⇑P	PKPdf	19 34 37.8	-3.2
LIC	**Lamto**	**144.19**	**184**	*e*PKIKP	PKPdf	19 34 39.3	-3.1
	comp=Z,60nm,0.6s						
LIC				*e*MLR	MLR		
	comp=Z,591nm,22.8s,MS5.0						
LIC	**Lamto**	**144.19**	**184**	*e*PKIKP	PKPdf	19 34 41.1	-1.3
	comp=Z,158nm,0.9s						
LIC	**Lamto**	**144.19**	**184**	*e*PKPdf	PKPdf	19 34 39.3	-3.1
LIC				LR	LR		
	comp=Z,300nm,22.8s,MS5.0						
KIC	**Kosan Boka**	**144.31**	**184**	*e*PKIKP	PKPdf	19 34 41.2	-1.4
	comp=Z,368nm,1.1s						
TIC	**Toumodi**	**144.61**	**184**	*e*PKIKP	PKPdf	19 34 41.8	-1.3
	comp=Z,137nm,0.8s						
DBIC	**Dimbokro**	**144.63**	**184**	PKP	PKPdf	19 34 41.0	-2.2
	comp=Z,16nm,0.4s,baz=150,slow=4.0,SNR=60						
MALT	**Malatya**	**145.28**	**279**⇓	*i*P	PKPbc	19 34 46.8	+3.5
MALT	**Malatya**	**145.28**	**279**	⇓P	PKPbc	19 34 46.8	+3.5
HWQ	**Hawqa**	**145.51**	**271**	*e*P	PKPdf	19 34 44.5	+0.5
BHL	**Bhannes**	**145.56**	**271**	*e*P	PKPdf	19 34 44.7	+0.6
SOC	**Sochi**	**145.94**	**289**	*i* PKP2	PKPab	19 34 45.2	-0.6
SUMG	**Summit**	**145.98**	**16**	*e*PKPdf	PKPdf	19 34 42.4	-1.2
KLMR	**Klimovskoe**	**146.35**	**320**	*i* PKIKP	PKPdf	19 34 42.7	-1.8
KLMR				*e*		19 38 12.9	
APA	**Apatity**	**146.50**	**333**⇑	*i*PKIKP	PKPdf	19 34 42.5	-2.1
APA				*i*		19 34 52.0	
APA				pmax	pmax		
	comp=Z,34nm,1.0s						
APA				MLR	MLR		
	comp=Z,800nm,20.0s,MS5.5						
KEV	**Kevo**	**147.22**	**339**	*e*p	PKPdf	19 34 44.6	-1.1
	comp=Z,9.7nm,0.7s						
KEV	**Kevo**	**147.22**	**339**	*e*PKIKP	PKPdf	19 34 44.6	-1.1
KEV				pmax	pmax		
	comp=Z,10.0nm,0.7s						
VSR	**Storozhevoye**	**147.41**	**302**	*e*PKIKP	PKPdf	19 34 46.2	-0.4
VSR				pmax	pmax		
	comp=N,6.0nm,1.7s						
VSR				pmax	pmax		
	comp=Z,10.0nm,1.7s						
VSR				pmax	pmax		
	comp=E,9.0nm,0.9s						
CSS	**Prodhromos**	**147.75**	**271**	*e*PKPbc	PKPbc	19 34 49.1	-1.5
ARCES	**ARCESS Array B**	**147.76**	**339**	PKPbc	PKPdf	19 34 46.5	-0.2
	comp=E,12nm,0.6s,baz=67,slow=2.7,SNR=50						
ARCES	**ARCESS Array B**	**147.76**	**339**	PKPbc	PKPdf	19 34 46.5	-0.2
ARE0	**ARCESS Array S**	**147.76**	**339**	*e*PKPdf	PKPdf	19 34 46.4	-0.2
ANN	**Anapa**	**147.81**	**290**	*i* PKP2	PKPbc	19 34 50.8	+0.3
ANN				pmax	pmax		
	comp=Z,78nm,1.0s						
MOS	**Moscow**	**148.17**	**311**	*e*PKIKP	PKPdf	19 34 48.8	+1.1
MOS				*e*		19 35 04.8	
OBN	**Obninsk**	**148.84**	**310**	*i* PKIKP	PKPdf	19 34 50.6	+1.8
OBN				pmax	pmax		
	comp=Z,44nm,1.0s						
OBN	**Obninsk**	**148.84**	**310**	*e*PKPdf	PKPdf	19 34 48.1	-0.8
BR131	**Keskin Array S**	**149.26**	**279**	*e*PKPbc	PKPdf	19 34 52.2	+2.1
JOF	**Joensuu**	**149.39**	**326**	*e*p	PKPdf	19 34 50.5	+1.0
	comp=Z,30nm,0.7s						
JOF	**Joensuu**	**149.39**	**326**	*e*PKHKP	PKPdf	19 34 50.5	+1.0
JOF				pmax	pmax		
	comp=Z,30nm,0.7s						
TOA0	**Torodi Ar. Sit**	**150.11**	**198**	*e*PKPdf	PKPdf	19 34 50.5	-1.7
TOA0				*e*PKPbc	PKPbc	19 34 55.6	-1.5
TORD	**Torodi Ar. Bea**	**150.11**	**198**	PKP	PKPdf	19 34 50.5	-1.6
	comp=Z,15nm,1.1s,baz=191,slow=0.3,SNR=36						
TORD				PKPbc	PKPbc	19 34 55.7	-1.5
	comp=Z,62nm,0.8s,baz=170,slow=2.1,SNR=294						
SIM	**Simferopol'**	**150.16**	**290**	*i* PKIKP	PKPbc	19 34 55.2	-1.2
SIM				*i*		19 35 01.3	
SIM				pmax	pmax		
	comp=Z,9.0nm,1.3s						
KAF	**Kangasniemi**	**151.83**	**327**	*e*p	PKPdf	19 34 56.0	+2.7
	comp=Z,16nm,0.8s						
KAF	**Kangasniemi**	**151.83**	**327**	*e*PKIKP	PKPdf	19 34 56.0	+2.7
KAF				pmax	pmax		
	comp=Z,16nm,0.8s						
AKASG	**Malin Array Be**	**153.70**	**302**	PKPbc	PKPbc	19 35 01.2	-3.0
	comp=Z,2.0nm,0.5s,baz=70,slow=2.7,SNR=11						
KIEV	**Kiev**	**153.71**	**302**	*e*PKIKP	PKPdf	19 35 00.4	+4.0
TIRR	**Tirgusor**	**154.11**	**287**⇑	*i*P	PKPab	19 35 17.5	-1.7
VRI	**Vrincioaia**	**155.43**	**290**⇓	*i*P	PKPab	19 35 23.5	-1.3
PLOR	**Plostina**	**155.48**	**290**⇓	*i*P	PKPab	19 35 24.1	-0.9
MLR	**Muntele Rosu**	**155.95**	**289**⇑	*i*P	PKPab	19 35 25.8	-1.3
BURAR	**Bucovina Array**	**156.50**	**295**⇑	*i*P	PKPab	19 35 28.7	-0.6
NB2	**NORSAR Subarra**	**158.03**	**336**	P	PKPab	19 35 32.2	-3.2
	comp=Z,6.5nm,0.7s,baz=38,slow=5.1						
NOA	**NORSAR Array B**	**158.03**	**336**	PKPab	PKPab	19 35 32.2	-3.2
	comp=Z,11nm,1.0s,baz=39,slow=4.4,SNR=21						
GZR	**Gura Zlata**	**158.18**	**289**⇓	*i*P	PKPab	19 35 37.3	+0.6
DRGR		**158.23**	**293**⇓	*i*P	PKPab	19 35 36.0	-0.8
KOLS	**Kolonicke sedl**	**158.36**	**298**	*e*PKP	PKPab	19 35 37.5	+0.2
STHS	**Stebnicka Huta**	**158.96**	**300**	*e*PKP	PKPab	19 35 39.5	-0.4
BZS	**Buzias**	**159.00**	**289**⇓	*i*P	PKPab	19 35 37.8	-2.4
VYHS	**Vyhne**	**160.68**	**298**	*e*PKP	PKPab	19 35 45.7	-1.7
OKC	**Ostrava-Krasne**	**160.85**	**302**	*e*PKPAB	PKPab	19 35 48.3	+0.2
KOLL	**Kolacno**	**160.95**	**299**	*e*PKP	PKPab	19 35 43.9	-4.7
MORC	**Moravsky Berou**	**161.24**	**303**⇑	*i*P	PKPab	19 35 49.3	-0.6
RGN	**Rugen**	**161.64**	**320**	*e*PKP	PKPab	19 35 49.8	-1.6
RGN				*e*pPKPab	pPKPab	19 36 06.6	+2.0
MODS	**Modra-Piesok**	**161.72**	**298**	*e*PKP	PKPab	19 35 50.7	-1.3
DPC	**Dobruska-Polom**	**161.84**	**305**	*e*PKPAB	PKPab	19 35 51.9	-0.5
DPC				*e*pPKP	pPKPab	19 36 09.1	+3.4
UPC	**Upice**	**161.97**	**306**	*e*PKPAB	PKPab	19 35 52.6	-0.4
UPC				*e*pPKP	pPKPab	19 36 09.2	+2.9
RUE	**Ruedersdorf**	**162.48**	**313**	*e*PKP	PKPab	19 35 54.3	-0.8
PVCC	**Panska Ves**	**162.83**	**307**	*e*PKPAB	PKPab	19 35 56.3	-0.5
PVCC				*e*pPKP	pPKPab	19 36 13.3	+3.3
PRU	**Pruhonice**	**163.04**	**305**	*e*PKPAB	PKPab	19 35 57.5	-0.2
PRU				*e*pPKP	pPKPab	19 36 13.4	+2.5
BRG	**Berggiesshubel**	**163.07**	**308**	*e*PKP	PKPab	19 35 56.1	-1.7
BRG				*e*pPKPab	pPKPab	19 36 13.5	+2.4
BRG	**Berggiesshubel**	**163.07**	**308**	*i* PKP	PKPab	19 35 56.8	-1.1
	comp=Z,17nm,1.1s						
BRG				*i*		19 36 13.4	
	comp=Z,32nm,1.4s						
ARSA	**Arzberg**	**163.08**	**295**⇑	*i*PKPab	PKPab	19 35 56.8	-1.2
	comp=Z,9.4nm,1.1s						
FBE	**Freiberg**	**163.40**	**309**	*e*PKP	PKPab	19 35 57.7	-1.6
FBE				*e*pPKPab	pPKPab	19 36 14.2	+1.7
BSEG	**Bad Segeberg**	**163.43**	**321**	*e*PKP	PKPab	19 35 56.9	-2.3
CLL	**Collm**	**163.44**	**311**	*e*PKP	PKPab	19 35 57.3	-2.1
CLL				*e*pPKPab	pPKPab	19 36 13.7	+1.1
CLL	**Collm**	**163.44**	**311**⇓	*i*PKPab	PKPab	19 35 57.7	-1.7
	comp=Z,13nm,1.1s						
CLL				*i* pPKPab	pPKPab	19 36 13.8	+1.2
	comp=Z,21nm,1.4s						
CLL				*i* sPKPab		19 36 24.5	
PERS	**Pernice**	**163.45**	**293**	*i* PKPdf	PKPab	19 35 58.3	-1.3
BOJS	**Bojanci**	**163.47**	**289**	*i* PKPdf	PKPab	19 35 58.5	-1.3
SOKA	**Soboth**	**163.50**	**294**⇑	*i*PKPab	PKPab	19 35 58.1	-1.8
	comp=Z,9.9nm,1.5s						
MOA	**Molln**	**163.80**	**298**⇓	*i*PKPab	PKPab	19 35 58.1	-3.1
	comp=Z,10nm,1.3s						
OBKA	**Obir**	**163.85**	**293**⇑	*i*PKPab	PKPab	19 36 00.4	-1.0
	comp=Z,9.0nm,1.1s						
KHC	**Kasperske Hory**	**163.91**	**303**	*e*PKPAB	PKPab	19 36 00.4	-1.2
KHC				*e*pPKP	pPKPab	19 36 17.8	+3.0
GEC2	**GERESS Array S**	**163.91**	**302**	*e*PKP	PKPab	19 36 01.2	-0.4
GERES	**GERESS Array B**	**163.91**	**302**	PKP	PKPdf	19 35 07.3	-1.2
	comp=Z,0.3nm,0.7s,baz=250,slow=2.7,SNR=3.7						
GERES				PKPab	PKPab	19 35 59.0	-2.6
	comp=Z,4.5nm,0.9s,baz=76,slow=5.6,SNR=22						
TANN	**Tannenbergstha**	**164.12**	**308**	*e*PKP	PKPab	19 36 01.3	-1.2
TANN				*e*pPKPab	pPKPab	19 36 18.0	+2.3
WERD	**Werda**	**164.20**	**308**	*e*PKP	PKPab	19 36 01.2	-1.6
WERD				*e*pPKPab	pPKPab	19 36 17.6	+1.6
NKC	**Novy Kostel**	**164.20**	**308**	*e*PKPAB	PKPab	19 36 01.7	-1.1
NKC				*e*pPKP	pPKPab	19 36 19.1	+3.0
GUNZ	**Gunzen**	**164.22**	**308**	*e*PKP	PKPab	19 36 01.4	-1.5
GUNZ				*e*pPKPab	pPKPab	19 36 18.6	+2.5
WERN	**Wernitzgruen**	**164.22**	**308**	*e*PKP	PKPab	19 36 01.6	-1.3
WERN				*e*pPKPab	pPKPab	19 36 18.3	+2.2
JAVS	**Javornik**	**164.26**	**291**	*i* PKPdf	PKPab	19 36 01.4	-1.9
WET	**Wettzell**	**164.34**	**303**	*e*PKP	PKPab	19 36 02.8	-0.7
WET				*e*pPKPab	pPKPab	19 36 19.4	+2.7
NRDL	**Niedersach Rie**	**164.39**	**318**	*e*PKP	PKPab	19 36 01.4	-2.1
MANZ	**Manzenberg**	**164.50**	**307**	*e*PKP	PKPab	19 36 03.0	-1.1
MANZ				*e*pPKPab	pPKPab	19 36 20.2	+2.8
MOX	**Moxa**	**164.51**	**310**	*e*PKP	PKPab	19 36 02.9	-1.3
	comp=Z,13nm,1.4s						
MOX				*e*		19 36 19.3	
	comp=Z,24nm,1.6s						
MOX	**Moxa**	**164.51**	**310**	*e*PKP	PKPab	19 36 02.4	-1.8
MOX				*e*pPKPab	pPKPab	19 36 19.3	+1.9
ROTZ	**Rotzenmuhle**	**164.53**	**306**	*e*PKP	PKPab	19 36 03.6	-0.7
ROTZ				*e*pPKPab	pPKPab	19 36 20.3	+2.8
KBA	**Koelnbreinsper**	**164.57**	**296**⇑	*i*PKPab	PKPab	19 36 02.8	-1.8
	comp=Z,8.0nm,1.3s						
CLZ	**Clausthal**	**164.61**	**315**	*e*PKP	PKPab	19 36 02.7	-1.8
GRF	**Grafenberg Arr**	**165.15**	**307**	*e*PKP	PKPab	19 36 06.1	-0.9
GRF				*e*pPKPab	pPKPab	19 36 22.7	+2.5
ABTA	**Abfaltersbach**	**165.20**	**295**⇑	*i*PKPab	PKPab	19 36 04.8	-2.6
	comp=Z,8.9nm,1.0s						
IBBN	**Ibbenburen**	**165.65**	**320**	*e*PKP	PKPab	19 36 06.7	-2.4
FUR	**Furstenfeldbru**	**165.66**	**301**	*e*PKP	PKPab	19 36 09.3	0.0
WTTA	**Wattenberg**	**165.67**	**297**⇑	*i*PKPab	PKPab	19 36 07.4	-2.1
	comp=Z,22nm,1.2s						
WATA	**Walderalm**	**165.69**	**298**⇑	*i*PKPab	PKPab	19 36 07.5	-2.0
	comp=Z,12nm,1.2s						
MOTA	**Moosalm**	**166.00**	**298**⇓	*i*PKPab	PKPab	19 36 08.7	-2.2
	comp=Z,13nm,1.1s						
FETA	**Feichten**	**166.33**	**297**⇑	*i*PKPab	PKPab	19 36 10.3	-2.0
	comp=Z,12nm,1.1s						
BUG	**Bochum--Univer**	**166.43**	**318**	*e*PKP	PKPab	19 36 10.3	-2.3
STU	**Stuttgart**	**166.73**	**306**	*e*PKP	PKPab	19 36 13.3	-0.7
BFO	**Black Forest**	**167.44**	**305**	*e*PKP	PKPab	19 36 15.9	-1.3
BFO				*e*pPKPab	pPKPab	19 36 32.7	+2.3
PGF	**Pioggiola**	**168.01**	**277**	*e*PKP2	PKPab	19 36 17.4	-2.5
	comp=Z,15nm,1.0s						
CDF	**Champ du Feu**	**168.04**	**307**	*e*PKP2	PKPab	19 36 18.0	-1.8
	comp=Z,67nm,1.5s						
HINF	**Hinteralfeld**	**168.55**	**305**	*e*PKP2	PKPab	19 36 19.9	-2.2
HAU	**Haudompre**	**168.78**	**306**	*e*PKP2	PKPab	19 36 20.9	-2.2
HAU				*e*MLR	MLR		
	comp=Z,262nm,22.0s						
BAIF	**Baives**	**168.81**	**319**	*e*PKP2	PKPab	19 36 20.4	-2.7
	comp=Z,15nm,1.1s						
SBF	**Sospel**	**169.15**	**284**	*e*PKP2	PKPab	19 36 23.5	-1.4
	comp=Z,24nm,0.9s						
MEZF	**Maizieres J'vi**	**169.29**	**311**	*e*PKP2	PKPab	19 36 23.6	-1.7
LPG	**La Plagne**	**169.38**	**293**	*e*PKP2	PKPab	19 36 24.1	-1.8
	comp=Z,22nm,0.9s						
LPL	**La Plagne**	**169.39**	**293**	*e*PKP2	PKPab	19 36 24.1	-1.8
	comp=Z,32nm,1.1s						
CABF	**La Chapelle**	**169.50**	**300**	*e*PKP2	PKPab	19 36 24.6	-1.7
	comp=Z,34nm,1.2s						
FRF	**La Foret Royal**	**169.74**	**283**	*e*PKP2	PKPab	19 36 25.0	-2.6
	comp=Z,17nm,1.1s						
ORIF	**Oris-en-Rattie**	**170.11**	**291**	*e*PKP2	PKPab	19 36 27.0	-2.1
	comp=Z,15nm,1.0s						
ORIF				*e*MLR	MLR		
	comp=Z,418nm,22.0s						
SMRF	**Simiane la Rot**	**170.47**	**285**	*e*PKP2	PKPab	19 36 28.9	-1.9
	comp=Z,15nm,1.1s						
LOR	**Lormes**	**170.61**	**307**	*e*PKP2	PKPab	19 36 29.2	-2.0
	comp=Z,24nm,1.2s						
LOR				*e*MLR	MLR		
	comp=Z,212nm,22.2s						
SMF	**Signal de Mont**	**170.91**	**303**	*e*PKP2	PKPab	19 36 30.7	-1.9
	comp=Z,67nm,1.5s						
SSF	**Saint Saulge**	**170.92**	**306**	*e*PKP2	PKPab	19 36 30.5	-2.1
	comp=Z,13nm,1.1s						
VIVF	**Saint-Julien-l**	**170.96**	**292**	*e*PKP2	PKPab	19 36 30.6	-2.3
	comp=Z,16nm,1.0s						
AVF	**Avril sur Loir**	**171.14**	**305**	*e*PKP2	PKPab	19 36 31.4	-2.2
	comp=Z,19nm,1.1s						
BGF	**Bois d'Agland**	**171.56**	**305**	*e*PKP2	PKPab	19 36 33.5	-2.0
LASF	**Ste Croix**	**171.69**	**287**	*e*PKP2	PKPab	19 36 35.0	-1.2
	comp=Z,74nm,1.8s						
LDF	**La Druitiere**	**171.85**	**325**	*e*PKP2	PKPab	19 36 32.7	-3.9
	comp=Z,14nm,1.0s						
FLN	**La Foliniere**	**171.87**	**327**	*e*PKP2	PKPab	19 36 33.6	-3.1
	comp=Z,20nm,1.2s						
FLN				*e*MLR	MLR		
	comp=Z,121nm,19.0s						
TCF	**Toulx Ste Croi**	**172.07**	**305**	*e*PKP2	PKPab	19 36 36.1	-1.7
	comp=Z,33nm,1.4s						
GRR	**Gorron**	**172.32**	**327**	*e*PKP2	PKPab	19 36 35.9	-2.8
	comp=Z,16nm,0.9s						
CAF	**Calviac**	**172.72**	**296**	*e*PKP2	PKPab	19 36 38.9	-1.8
	comp=Z,11nm,1.0s						
RJF	**Les Rejaudoux**	**172.94**	**300**	*e*PKP2	PKPab	19 36 40.0	-1.7
	comp=Z,44nm,1.5s						
RJF				*e*MLR	MLR		
	comp=Z,161nm,19.2s						
MTLF	**Montolieu**	**172.97**	**283**	*e*PKP2	PKPab	19 36 39.6	-2.3
	comp=Z,49nm,1.6s						
MFF	**Saint Martin d**	**173.26**	**314**	*e*PKP2	PKPab	19 36 39.9	-3.1
EVO	**Evora**	**176.35**	**170**	*e*PKIKP	PKPdf	19 35 09.9	-6.0
	comp=Z,20nm,1.1s						
EVO				*e*MLR	MLR		
	comp=Z,393nm,22.8s						
ESDC	**Sonseca Array**	**176.54**	**226**	PKP	PKPdf	19 35 13.3	-2.6
	comp=Z,0.3nm,0.3s,baz=316,slow=2.3,SNR=7.6						
ESDC				PKPab	PKPab	19 36 57.1	-0.6
	comp=Z,1.3nm,0.8s,baz=126,slow=4.9,SNR=5.4						

NEIC 03 19:21:16.4, 4226S×17307E, h92km, ML4.0(WEL), After WEL., South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSWZ	**Blackbirch Sta**	**0.81**	**48**	P	Pn	19 21 33.7	-0.5
BSWZ				S	Sn	19 21 46.8	-0.6
CMWZ	**Cape Campbell**	**0.99**	**59**	P	Pn	19 21 36.8	+0.7
CMWZ				S	Sn	19 21 55.6	+4.7
CRLZ	**Canterbury Las**	**1.36**	**194**	P	Pn	19 21 40.3	-0.1
SNZO	**South Karori**	**1.55**	**53**	*e*P	Pn	19 21 42.4	-0.4
BHW	**Baring Head**	**1.59**	**58**	P	Pn	19 21 43.1	-0.3
MRW	**Makara Radio**	**1.60**	**50**	P	Pn	19 21 43.2	-0.2
WEL	**Wellington**	**1.60**	**53**	P	Pn	19 21 43.4	-0.1
MSWZ	**Moikau Station**	**1.83**	**63**	P	Pn	19 21 46.1	-0.4
MSWZ				S	Sn	19 22 08.4	-1.0
KIW	**Kapiti Island**	**1.96**	**45**	P	Pn	19 21 48.0	-0.2
MTW	**Mount Morrison**	**2.13**	**60**	P	Pn	19 21 49.5	-0.8
FOZ	**Fox Glacier**	**2.81**	**241**	P	Pn	19 21 56.6	-2.7
WAZ	**Wanganui**	**2.89**	**31**	P	Pn	19 22 01.3	+0.8
DFE	**Dawson Falls**	**3.03**	**15**	P	Pn	19 22 02.9	+0.5
NWEZ	**Newall Road**	**3.04**	**12**	P	Pn	19 22 03.0	+0.5
NEZ	**North Egmont**	**3.08**	**15**	P	Pn	19 22 03.6	+0.5
RAEZ	**Rainy Point**	**3.13**	**19**	P	Pn	19 22 04.6	+0.9
MOVZ	**Moawhango**	**3.50**	**36**	P	Pn	19 22 08.1	-0.6
WNVZ	**Wahianoa**	**3.50**	**34**	P	Pn	19 22 09.0	+0.3
TUVZ	**Tukino**	**3.57**	**34**	P	Pn	19 22 10.0	+0.3
WPVZ	**Whakapapa**	**3.58**	**32**	P	Pn	19 22 09.8	0.0
NGZ	**Ngauruhoe**	**3.63**	**33**	P	Pn	19 22 10.2	-0.2
TWVZ	**Taurewa**	**3.66**	**30**	P	Pn	19 22 10.4	-0.4
WTVZ	**West Tongariro**	**3.68**	**32**	P	Pn	19 22 10.6	-0.5
EAZ	**Earnscleugh**	**4.03**	**221**	P	Pn	19 22 14.2	-1.6
MKAZ	**Moumakai**	**5.39**	**18**	P	Pn	19 22 34.7	+0.4
WCZ	**Waipu Caves**	**6.39**	**9**	P	Pn	19 22 47.5	-0.4

*CSEM **03** 19:32:29.3, 3595N×2428E, h10km, MD3.3/3, After ATH*

ATH 03 19:32:29.3, 3595N×2428E, h10km, MD3.3/3, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VAM	**Vamos**	**0.55**	**187**	*e*Pb	Pb	19 32 40.0	-0.9
VAM	**Vamos**	**0.55**	**187**	*e*PB	Pb	19 32 40.0	-0.9
KYTH	**Kithira**	**1.06**	**289**	*e*Pb	Pb	19 32 49.5	-0.2
KYTH	**Kithira**	**1.06**	**289**	*e*PB	Pb	19 32 49.5	-0.2
VLI	**Veliai**	**1.33**	**306**	*e*Pg	Pg	19 32 54.0	-0.8
VLI	**Veliai**	**1.33**	**306**	*e*PG	Pg	19 32 54.0	-0.8

*MOS **03** 19:35:14.3±0.9, 4943N×15568E, h51km, mb5.1/74, Error ellipse: s-maj=7.3km s-min=4.3km az=92.3*

MOS Felt (II) at Severo-Kuril'sk.

*BJI **03** 19:35:15.9, 4955N×15582E, h80km, mB5.0, mb5.0, Ms4.3, Msz4.1*

*ISCJB **03** 19:35:15.7±0.4, 4937N±002×15579E±002, h66km±3km, mb4.8/179, Error ellipse: s-maj=4.3km s-min=2.1km az=161.8*

*NEIC **03** 19:35:18.2±0.6, 4941N×15570E, h74km±5km, mb4.9/95, Error ellipse: s-maj=4.9km s-min=2.9km az=169.0*

*KRSC **03** 19:35:18.1±1.6, 4934N×15767E, h5km±5km, ML5.6*

*IDC **03** 19:35:21.0±1.9, 4951N×15565E, h100km±16km, mb4.4/24, mb1 4.6/27, mb1mx4.5/30, mbtmp4.4/27, MS3.6/7, Ms1 3.7/7, ms1mx3.4/39, Error ellipse: s-maj=14.1km s-min=8.5km az=152.0*

*SZGRF **03** 19:35:21.5, 5067N×15440E, h33km, mb4.9, MS4.2, Kuril Islands, Russia*

ISC 03 19:35:18.1±0.4, **4943N**±002×**15569E**±002, **h70**km±3km, **h75**km±2.4km**:pP-P, n783,** σ**0.68**/804, **mb4.8**/179, **214C-183D, Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**1.28**	**12**	*i* PN	**Pn**	**19 35 40.6**	**+0.4**
SKR				*i*		19 35 48.0	
SKR				pmax	pmax		
	comp=N,920nm,0.5s						
SKR				pmax	pmax		
	comp=E,490nm,0.5s						
SKR				pmax	pmax		
	comp=Z,2μm,0.5s						
SKR				pmax	pmax		

comp=Z,3μm,1.0s
SKR smax
comp=N,32μm,1.0s
SKR smax
comp=E,18μm,1.0s
SKR smax
comp=E,17μm,0.3s
GRL Gorelyy 3.47 25 eP Pn 19 36 11.2 +1.6
GRL i S **Sn 19 36 49.5 0.0**
RUS Russkaya 3.50 30 eP Pn 19 36 09.6 -0.4
RUS i S **Sn 19 36 47.2 -2.9**
PEA0B Petropavlovsk- 3.89 18⇓ePn Pn 19 36 17.4 +2.0
PETK Petropavlovsk- 3.89 18 P **Pn 19 36 17.4 +2.0**
comp=E,17nm,0.3s,baz=177,slow=13,SNR=156
PETK S **Sn 19 37 03.3 +3.5**
comp=E,16nm,0.3s,baz=165,slow=18,SNR=4.9
PETK LR LR 19 38 08.4
comp=E,412nm,21.8s,baz=188,slow=44
PET Petropavlovsk 4.05 26⇓iPN Pn 19 36 18.1 +0.5
PET eS **Sn 19 37 03.5 -0.2**
PET pmax pmax
comp=Z,177nm,0.7s
PET smax
comp=N,2μm,0.8s
PET smax
comp=E,3μm,0.6s
PET smax
comp=N,3μm,0.8s
PET MLR MLR
comp=Z,300nm,12.0s
PET Petropavlovsk 4.05 26 *i* P **Pn 19 36 18.2 +0.6**
PET i S **Sn 19 37 02.7 -1.0**
PET Petropavlovsk 4.05 26 *e*Pn **Pn 19 36 17.3 -0.2**
INSR Institute 4.07 26 eP **Pn 19 36 19.5 +1.6**
INSR i S **Sn 19 37 04.3 0.0**
NLC Nalytchevo 4.39 30 *i* P **Pn 19 36 21.2 -1.0**
NLC i S **Sn 19 37 07.1 -4.9**
GNL Ganaly 4.50 17 eP **Pn 19 36 26.0 +2.4**
MKZ Mys Kozlova 6.34 34 eP **Pn 19 36 47.3 -1.6**
MKZ i S **Sn 19 37 53.5 -6.3**
KUR Kuril'sk 6.77 235 *e*PN **Pn 19 36 53.0 -1.8**
KUR i S **Sn 19 38 09.8 -0.6**
KUR pmax pmax
comp=N,70nm,0.7s
KUR pmax pmax
comp=E,30nm,0.7s
KUR pmax pmax
comp=Z,130nm,0.7s
KUR smax
comp=N,410nm,0.6s
KUR smax
comp=E,240nm,0.6s
KPT Kopyto 7.10 21 P **Pn 19 37 00.3 +1.1**
SRDR Sredinnyy 7.31 18 eP **Pn 19 37 02.5 +0.4**
KBTR Krutoberegovo 8.04 30 eP **Pn 19 37 11.1 -0.9**
KBTR eS **Sn 19 38 34.3 -7.0**
YUK Yuzh-Kuril'sk 8.64 235⇑*i*PN **Pn 19 37 20.0 -0.3**
YUK pmax pmax
comp=Z,350nm,0.4s
YSS Yuzh-Sakhalins 8.99 259α *i*PN **Pn 19 37 27.9 +2.9**
YSS eS **Sn 19 39 06.0 +1.4**
YSS pmax pmax
comp=Z,130nm,1.1s
YSS MLR MLR
comp=Z,400nm,15.0s
YSS Yuzh-Sakhalins 8.99 259⇑ePn **Pn 19 37 29.5 +4.5**
comp=Z,60nm,0.4s
JMP Maruseppu 10.05 242 P **Pn 19 37 42.8 +3.3**
JWK2 Keihoku 10.22 251 P **Pn 19 37 46.8 +5.0**
ASAJ Asahikawa 10.43 244 P **Pn 19 37 47.2 +2.5**
comp=Z,3.1nm,0.3s,baz=71,slow=13,SNR=36
ASAJ Asahikawa 10.43 244 P **Pn 19 37 48.1 +3.4**
ASAJ Asahikawa 10.43 244 PN **Pn 19 37 47.2 +2.5**
ASAJ pmax pmax
comp=Z,3.0nm,0.3s
JEM Erimo 11.47 234 P **Pn 19 37 57.3 -1.5**
JEM eS **Sn 19 39 56.8 -8.3**
ERM Erimo 11.47 234 Pn **Pn 19 37 58.3 -0.6**
comp=Z,490nm,0.4s,SNR=26
ERM Erimo 11.47 234 *i* PN **Pn 19 37 57.8 -1.1**
ERM Erimo 11.47 234 *e*Pn **Pn 19 37 57.7 -1.2**
comp=Z,38nm,0.4s
JSH Shimam 12.80 244 P **Pn 19 38 15.4 -1.6**
JOT Ohata 13.04 237 P **Pn 19 38 15.9 -4.4**
JOT eS **Sn 19 40 30.0 -14**
JTM Tenmabayashi 13.45 236 P **Pn 19 38 20.8 -4.9**
JTM eS **Sn 19 40 37.9 -15**
HABR Khabarovsk 13.60 274⇑*i*P **Pn 19 38 31.1 +3.5**
HABR *e* 19 41 02.3
HABR pmax pmax
comp=Z,55nm,1.5s
JOM Ohasama 14.29 231 P **Pn 19 38 31.0 -5.7**
JOM eS **Sn 19 40 58.3 -15**
KLR Kul'dur 15.60 278 eP **Pn 19 38 53.0 -0.5**
KLR pmax pmax
comp=E,120nm,1.6s
KLR pmax pmax
comp=Z,160nm,1.6s
KLR MLR MLR
comp=Z,700nm,13.0s
JYA Atsumi 15.76 233 P **Pn 19 38 59.6 +3.9**
JMM Marumori 15.77 228 P **Pn 19 38 54.0 -1.8**
JMM eS **Sn 19 41 34.2 -16**
JSD Sado 16.93 234 P **Pn 19 39 11.9 +1.6**
JYT Yasato 17.37 226 P **Pn 19 39 16.2 +0.5**
MJAR Matsushiro Arr 18.09 231 P **Pn 19 39 25.0 +0.5**
comp=Z,4.9nm,0.3s,baz=30,slow=9.3,SNR=122
MJAR LR LR 19 46 53.8
comp=Z,189nm,20.1s,baz=70,slow=38
MJAR Matsushiro Arr 18.09 231 P **Pn 19 39 25.0 +0.5**
MJAR pmax pmax
comp=Z,5.0nm,0.3s
MJAR MLR MLR
comp=Z,189nm,20.1s
MAJO Matsushiro 18.09 231 eP **Pn 19 39 23.2 -1.3**
MAJO pmax pmax
comp=Z,56nm,0.8s
MAJO Matsushiro 18.09 231 eP **Pn 19 39 23.2 -1.3**
comp=Z,56nm,0.8s
MAT Matsushiro 18.09 231 P **Pn 19 39 24.2 -0.3**
MAT eS **S 19 42 51.6 +4.9**
MAT Matsushiro 18.09 231 P **Pn 19 39 23.8 -0.7**
JRY Ryogami san 18.16 229 P **Pn 19 39 25.3 0.0**
MDJ Mudanjiang 18.39 265 P **Pn 19 39 26.3 -1.7**
MDJ AP pP 19 39 40.6 -1.0
MDJ XP sP 19 39 49.6 -0.9
MDJ S **S 19 42 50.3 -3.1**
MDJ XS sS 19 43 16.3 -0.6
MDJ PCS PcS 19 47 31.7 0.0
MDJ AMB AMB
comp=Z,30nm,0.8s
MDJ LR LR
comp=N,162nm,12.2s
MDJ LR LR
comp=E,187nm,24.1s
MDJ LR LR
comp=Z,272nm,19.6s
MDJ Mudanjiang 18.39 265 eP **Pn 19 39 26.5 -1.5**
comp=Z,138nm,1.0s
JOD2 Odawara 2 18.68 227 P **Pn 19 39 30.3 -1.2**
YAK Yakutsk 19.16 321*c iP* **Pn 19 39 35.4 -1.6**
YAK *i* S **S 19 43 06.7 -1.9**
YAK pmax pmax
comp=E,42nm,0.9s
YAK pmax pmax
comp=Z,108nm,1.0s
YAK pmax pmax
comp=N,28nm,1.3s
YAK pmax pmax
comp=Z,65nm,1.8s
YAK pmax pmax
comp=N,159nm,3.2s
YAK pmax pmax
comp=E,37nm,1.9s
YAK smax
comp=E,158nm,2.1s
YAK MLR MLR
comp=Z,164nm,13.0s
YAK MLR MLR
comp=N,59nm,9.0s
YAK MLR MLR
comp=E,150nm,14.0s
YAK Yakutsk 19.16 321 eP **Pn 19 39 35.4 -1.6**
comp=E,114nm,0.6s
BILL Bilibino 19.40 12⇓*i*P **Pn 19 39 39.9 +0.1**
BILL pmax pmax
comp=Z,20nm,0.9s
CLNS Chul'man 19.77 304 eP **Pn 19 39 44.7 +0.4**
CLNS eS **S 19 43 22.6 +1.6**
CLNS pmax pmax
comp=Z,37nm,0.9s
CLNS pmax pmax
comp=N,25nm,1.0s
CLNS pmax pmax
comp=E,13nm,0.8s
CLNS smax
comp=N,36nm,1.7s
CLNS smax
comp=E,13nm,1.1s
CLNS MLR MLR
comp=Z,218nm,13.0s
CLNS MLR MLR
comp=N,114nm,13.0s
CLNS MLR MLR
comp=E,115nm,13.0s
JWT Wachi 20.52 234 P **P 19 39 50.3 -0.1**
JIE Ise 20.54 230 P **P 19 39 51.4 +0.7**
CN2 Changchun 21.43 266 eP **P 19 40 00.1 -0.1**
CN2 e XP sP 19 40 26.1 +2.4
CN2 eS **S 19 43 48.0 -5.8**
CN2 AMB AMB
comp=Z,20nm,0.9s,mb4.5
CN2 AMB AMB
comp=Z,200nm,5.0s
CN2 LR LR
comp=N,200nm,16.0s
CN2 LR LR
comp=E,300nm,16.0s
CN2 LR LR
comp=Z,300nm,20.0s
JAD Aida 21.43 236 P **P 19 39 59.9 -0.4**
JWZ Kozaga 21.72 230 P **P 19 40 04.1 +0.7**
JHS Saijyo 21.96 237 P **P 19 40 06.4 +0.5**
JMN Monobe 22.51 234 P **P 19 40 12.1 +0.3**
KSRS Korea Array 23.30 250 P **P 19 40 20.2 +0.5**
comp=Z,33nm,0.7s,mb4.8,baz=48,slow=9.5,SNR=98
KSRS LR LR 19 48 36.8
comp=Z,118nm,20.1s,baz=28,slow=34
KSRS Korea Array 23.30 250 P **P 19 40 20.3 +0.6**
KSRS pmax pmax
comp=Z,33nm,0.7s,mb4.8
KSRS MLR MLR
comp=Z,118nm,20.1s
INCN Inchon 24.08 251 eP **P 19 40 28.0 +1.3**
comp=Z,24nm,0.8s,mb4.6
JTU Tsushima 24.41 242 P **P 19 40 30.6 +0.8**
JNU Nakatsue 24.60 238 P **P 19 40 31.7 +0.2**
TIXI Tiksi 25.44 341*d iP* **P 19 40 38.3 -0.6**
TIXI pmax pmax
comp=Z,43nm,1.6s,mb4.6
TIXI Tiksi 25.44 341 eP **P 19 40 36.3 -2.6**
comp=Z,38nm,1.1s,mb4.7
BOD Bodaibo 25.74 305 eP **P 19 40 40.0 -1.6**
BOD *e* pP 19 40 58.9 +0.7
BOD pmax pmax
comp=Z,9.0nm,0.9s,mb4.2
JSU Suzuyama 26.06 236 P **P 19 40 45.8 +1.0**
DL2 Dalian 26.39 259 P **P 19 40 48.1 +0.4**
DL2 AMB AMB
comp=Z,20nm,0.7s,mb4.7
SVW2 Sparrevohn 29.39 48 eP **P 19 41 14.6 +0.3**
PPLA Purkeypile 31.03 45 eP **P 19 41 25.1 -3.5**
comp=Z,99nm,1.7s,mb5.3
KDAK Kodiak Island 31.10 55 P **P 19 41 27.8 -1.6**
comp=Z,16nm,0.9s,mb4.8,baz=276,slow=7.0,SNR=5.9
BPAW Bear Paw Mtn. 31.60 42 eP **P 19 41 33.5 -0.1**
comp=Z,22nm,1.0s,mb4.8
SSE Sheshan 31.70 248 P **P 19 41 34.8 -0.1**
SSE XP sP 19 42 00.1 +0.2
SSE S **S 19 46 38.9 -0.4**
SSE AMB AMB
comp=Z,16nm,1.2s,mb4.6
SSE AMB AMB
comp=Z,178nm,6.3s
SSE LR LR
comp=N,152nm,24.8s
SSE LR LR
comp=E,135nm,24.8s
SSE LR LR
comp=Z,258nm,14.4s
ULN Ulaanbaatar 31.73 286*c iP* **P 19 41 34.3 -0.7**
ULN Ulaanbaatar 31.73 286 eP **P 19 41 34.2 -0.8**
comp=Z,2.6nm,0.6s,mb4.1
HHC Hu-ho-hao-te 31.89 271 ⇑P **P 19 41 36.6 +0.1**
HHC AP pP 19 41 54.5 +1.2
HHC XP sP 19 42 03.5 +2.0
HHC PP PP 19 42 44.5 -5.0
HHC PCP PcP 19 44 26.1 +0.7
HHC S **S 19 46 40.4 -1.8**
HHC XS sS 19 47 10.8 -0.1
HHC SCP ScP 19 48 01.8 -0.6
HHC PCS PcS 19 48 10.7 +0.7
HHC SS SS 19 48 36.0 -25
HHC SCS ScS 19 51 58.0 -2.8
HHC AMB AMB
comp=Z,20nm,1.0s,mb4.8
HHC AMB AMB
comp=Z,163nm,5.0s
HHC LR LR
comp=N,247nm,11.6s
HHC LR LR
comp=E,246nm,13.3s
HHC LR LR
comp=Z,239nm,12.1s
TRF Thorofare Moun 31.89 43 eP **P 19 41 35.6 -0.7**
comp=Z,15nm,0.8s,mb4.8
IRK Irkutsk 32.04 295 eP **P 19 41 33.6 -4.1**
IRK pmax pmax
comp=Z,56nm,0.9s,mb5.3
COLD Coldfoot 32.15 36 eP **P 19 41 38.3 -0.1**
comp=Z,12nm,0.8s,mb4.7
SONM Songino Array 32.16 286 P **P 19 41 37.9 -0.9**
comp=Z,1.1nm,0.3s,mb4.1,baz=77,slow=7.5,SNR=27
SONM LR LR 19 54 54.7
comp=Z,111nm,21.9s,baz=133,slow=37
SONM Songino Array 32.16 286 P **P 19 41 37.9 -0.8**
SONM pmax pmax
comp=Z,1.0nm,0.3s
SONM MLR MLR
comp=Z,111nm,21.9s
NJ2 Nanjing 32.46 252 eP **P 19 41 42.7 +1.1**
NJ2 AMB AMB
comp=Z,200nm,1.0s,mb5.8
MCK McKinley 32.50 43 eP **P 19 41 41.1 -0.5**
MCK pmax pmax
comp=Z,41nm,1.0s,mb5.1
MCK McKinley 32.50 43 eP **P 19 41 41.1 -0.5**
comp=Z,41nm,1.0s,mb5.1
TLY Talaya 32.57 294 P **P 19 41 42.7 +0.4**
comp=Z,345nm,0.7s,mb6.3,SNR=11
TLY Talaya 32.57 294 P **P 19 41 42.5 +0.2**
SNR=7.5
TLY Talaya 32.57 294 eP **P 19 41 42.6 +0.3**
TLY pmax pmax
comp=Z,49nm,0.8s,mb5.4
TLY MLR MLR
comp=Z,116nm,20.0s
COLA College 32.97 41 eP **P 19 41 45.5 -0.2**
COLA *PP pP 19 42 03.7 +1.2
COLA pmax pmax
comp=Z,54nm,1.0s,mb5.3
COLA College 32.97 41 eP **P 19 41 45.5 -0.1**
comp=Z,54nm,0.9s,mb5.4
COLA pP pP 19 42 03.6 +1.2
ZAK Zakamensk 33.19 292 eP **P 19 41 47.7 -0.1**
ZAK pmax pmax
comp=Z,28nm,0.9s,mb5.1
DAWY Dawson 36.68 42 eP **P 19 42 16.2 -1.4**
LZH Lanzhou 39.56 270 ⇓P **P 19 42 42.6 +0.4**
LZH AP pP 19 42 58.0 -1.4
LZH XP sP 19 43 06.1 -1.4
LZH PP PP 19 44 18.5 +4.4
LZH *e*S **S 19 48 40.3 +0.7**
LZH SS SS 19 51 28.7 -7.9
LZH AMB AMB
comp=Z,49nm,1.3s,mb5.2
LZH AMB AMB
comp=Z,182nm,5.4s
LZH LR LR
comp=N,415nm,13.2s
LZH LR LR
comp=Z,502nm,17.6s
LZH Lanzhou 39.56 270 ⇓P **P 19 42 42.6 +0.4**
LZH pP pP 19 42 58.0 -1.4
LZH sP sP 19 43 06.1 -1.4
LZH PP PP 19 44 18.5 +4.4
LZH *e*S **S 19 48 40.3 +0.7**
LZH sS sS 19 49 05.8 -3.1
LZH SS SS 19 51 28.7 -7.9
GTA Gaotai 40.30 277 P **P 19 42 48.4 +0.2**
GTA AP pP 19 43 06.8 +1.4
GTA XP sP 19 43 15.8 +2.3
GTA PP PP 19 44 25.1 +3.1
GTA S **S 19 48 49.6 -0.9**
GTA XS sS 19 49 20.5 +0.7
GTA SS SS 19 51 46.1 -5.0
GTA AMB AMB
comp=Z,20nm,1.0s,mb4.9
GTA AMB AMB
comp=Z,104nm,6.6s
GTA LR LR
comp=N,166nm,15.3s
GTA LR LR
comp=E,174nm,15.3s
GTA LR LR
comp=Z,181nm,16.2s
ZAA0 Zalesovo Array 42.49 304 eP **P 19 43 04.7 -1.3**
ZALV Zalesovo Beam 42.49 304 P **P 19 43 04.8 -1.1**
comp=Z,13nm,0.7s,mb4.8,baz=62,slow=7.5,SNR=66
ZALV PcP PcP 19 44 55.7 -1.7
comp=Z,1.9nm,0.5s,baz=60,slow=5.8,SNR=4.1
ZALV LR LR 20 03 22.7
comp=Z,56nm,20.7s,baz=48,slow=40
ZALV Zalesovo Beam 42.49 304 P **P 19 43 04.8 -1.1**
ZALV 19 44 55.7
ZALV pmax pmax
comp=Z,13nm,0.7s,mb4.8
ZALV MLR MLR
comp=Z,56nm,20.7s
DLBC Dease Lake 42.50 49 P **P 19 43 06.0 0.0**
baz=286,slow=8.8
CD2 Chengdu 42.85 264 eP **P 19 43 10.2 +1.1**
CD2 AP pP 19 43 28.6 +2.1
CD2 XP sP 19 43 37.8 +3.2
CD2 PP PP 19 44 53.5 +3.9
CD2 S **S 19 49 29.6 +1.3**
CD2 XS sS 19 50 01.5 +3.6
CD2 SS SS 19 52 37.0 -4.6
CD2 AMB AMB
comp=Z,10.0nm,0.8s,mb4.6
CD2 AMB AMB
comp=Z,40nm,6.2s
CD2 LR LR
comp=N,150nm,14.8s
CD2 LR LR
comp=Z,180nm,16.2s
NVS Novosibirsk 42.97 306 eP **P 19 43 07.9 -1.9**
NVS *e* 19 45 02.9
NVS pmax pmax
comp=Z,47nm,1.3s,mb5.1
NVS pmax pmax
comp=N,39nm,1.8s
NVS pmax pmax
comp=E,29nm,1.4s
GYA Guiyang 43.99 257⇑*i*P **P 19 43 17.6 -0.8**
GYA AP pP 19 43 35.7 -0.1
GYA XP sP 19 43 43.5 -0.4
GYA PP PP 19 45 01.9 0.0
GYA SCP ScP 19 48 46.2 -2.1
GYA PCS PcS 19 48 56.0 -0.2
GYA S **S 19 49 42.3 -2.8**
GYA SS SS 19 52 53.4 -11
GYA AMB AMB
comp=Z,20nm,1.0s,mb4.8
GYA AMB AMB
comp=Z,140nm,5.9s
GYA LR LR
comp=N,690nm,18.4s
GYA LR LR
comp=E,580nm,19.6s
GYA LR LR
comp=Z,640nm,18.0s
WMQ Urumqi 45.60 290 eP **P 19 43 30.5 -0.5**
MK31 Makanchi Array 47.27 296 *i* P **P 19 43 43.3 -0.7**
MK31 pmax pmax
comp=Z,31nm,0.8s,mb5.1
MKAR Makanchi Array 47.27 296 P **P 19 43 43.4 -0.7**
comp=Z,20nm,0.8s,mb4.9,baz=63,slow=8.3,SNR=114
MKAR LR LR 20 04 37.4
comp=Z,130nm,21.5s,baz=242,slow=37
MKAR Makanchi Array 47.27 296 P **P 19 43 43.4 -0.6**
MKAR pmax pmax
comp=Z,20nm,0.8s
MKAR MLR MLR
comp=Z,130nm,21.5s
KURK Kurchatov 47.35 303 P **P 19 43 43.6 -0.9**
comp=Z,428nm,0.8s,mb6.2,SNR=37
KURK Kurchatov 47.35 303 eP **P 19 43 43.6 -0.9**
KURK pmax pmax
comp=Z,87nm,1.0s,mb5.4
KURK Kurchatov 47.35 303 eP **P 19 43 43.6 -1.0**
comp=Z,87nm,1.0s,mb5.4
KMI Kunming 47.44 259 P **P 19 43 46.2 +0.6**
KMI AP pP 19 44 04.2 +1.0
KMI XP sP 19 44 12.0 +0.8
KMI PP PP 19 45 36.2 -1.0
KMI S **S 19 50 33.7 -1.0**
KMI XS sS 19 51 06.5 +1.9
KMI SS SS 19 53 55.9 -7.1
KMI AMB AMB
comp=Z,25nm,1.1s,mb4.9
KMI AMB AMB
comp=Z,219nm,4.0s
KMI LR LR
comp=N,360nm,31.2s
KMI LR LR
comp=E,360nm,28.0s
KMI LR LR
comp=Z,339nm,24.9s
KMI Kunming 47.44 259 P **P 19 43 46.2 +0.6**
KMI pP pP 19 44 04.2 +1.0
KMI sP sP 19 44 12.0 +0.8
KMI PP PP 19 45 36.2 -1.0
KMI S **S 19 50 33.7 -1.0**
KMI sS sS 19 51 06.5 +1.9
KMI SS SS 19 53 55.9 -7.1
YKA Yellowknife Ar 47.75 39 P **P 19 43 46.4 -1.0**
comp=Z,5.5nm,0.6s,mb4.6,baz=296,slow=7.4,SNR=11
YKA Yellowknife Ar 47.75 39 P **P 19 43 46.4 -1.1**
YKA pmax pmax
comp=Z,6.0nm,0.6s
YKA Yellowknife Ar 47.75 39 P **P 19 43 46.4 -1.0**
VOSK Vostochnaya 50.37 308 P **P 19 44 06.6 -1.0**
VOSK pmax pmax
comp=Z,34nm,1.2s,mb5.2
BVA0 Borovoye Array 50.51 309 eP **P 19 44 07.9 -0.8**
BVA0 pmax pmax
comp=Z,2.0nm,0.3s,mb4.6
BRVK Borovoye 50.55 309 P **P 19 44 08.5 -0.5**
comp=Z,230nm,1.2s,mb6.1,SNR=11
BRVK Borovoye 50.55 309 P **P 19 44 08.7 -0.2**
SNR=8.5
BRVK Borovoye 50.55 309 P **P 19 44 08.5 -0.5**
BRVK pmax pmax
comp=Z,55nm,1.1s,mb5.5
BRVK Borovoye 50.55 309 eP **P 19 44 08.3 -0.6**
comp=Z,55nm,1.1s,mb5.5
NLWA Neilton Lookou 50.99 60 ⇓P **P 19 44 11.4 -1.1**
baz=51
A05A Maple Falls 51.09 57 ⇓P **P 19 44 12.6 -0.5**
baz=51
C04A Brinnon 51.31 59 ⇑P **P 19 44 14.0 -0.8**
baz=51
A06A Chilliwack 51.36 57 ⇓P **P 19 44 14.1 -1.1**
baz=51
B05A Bryant 51.49 58 ⇓P **P 19 44 15.3 -0.8**
baz=51
JCW Jim Creek 51.62 58 eP **P 19 44 16.8 -0.3**
B06A Marblemount 51.69 57 ⇑P **P 19 44 16.4 -1.2**
baz=52
LSA Lhasa 51.86 273 P **P 19 44 21.0 +1.9**
LSA Lhasa 51.86 273 eP **P 19 44 21.0 +1.9**
LSA pmax pmax
comp=Z,10.0nm,0.6s,mb5.0
LSA Lhasa 51.86 273 eP **P 19 44 21.0 +1.8**

comp=Z,10nm,0.6s,mb5.0
A07A Ashnola River, 51.99 56 ⇓P P 19 44 18.9 -0.8
baz=52
B07A Winthrop 52.47 57 ⇑P P 19 44 22.6 -0.7
baz=52
A08A Turner Farm, O 52.64 56 ⇑P P 19 44 24.0 -0.6
baz=52
F04A Amboy 52.65 60 ⇓P P 19 44 24.3 -0.4
baz=52
D06A Cle Elum 52.80 58 ⇓P P 19 44 25.2 -0.6
baz=53
ETW Entiat 52.84 58 *e*P P 19 44 25.8 -0.4
C07A Waterville 52.94 57 ⇓P P 19 44 26.0 -0.8
baz=53
B08A Colville Reser 52.95 56 ⇓P P 19 44 26.3 -0.6
baz=53
A09A Danville 53.00 55 ⇑P P 19 44 26.9 -0.4
baz=53
SVE Sverdlovsk 53.05 317⇓ *e*P P 19 44 27.4 -0.1
SVE pmax pmax
comp=Z,31nm,0.8s,mb5.4
E06A Yakima 53.10 59 ⇓P P 19 44 27.5 -0.6
baz=53
F05A White Salmon 53.22 60 ⇓P P 19 44 28.5 -0.4
baz=53
EDM Edmonton 53.23 49 P P 19 44 29.2 +0.3
EDM Edmonton 53.23 49 *e*P P 19 44 28.8 -0.1
D07A Quincy 53.28 58 ⇓P P 19 44 29.2 -0.2
baz=53
C08A Higginbotham F 53.44 57 ⇓P P 19 44 29.8 -0.7
baz=53
J02A Umpqua 53.49 64 ⇑P P 19 44 30.5 -0.5
baz=53
H04A Detroit Lake 53.51 62 ⇑P P 19 44 30.6 -0.6
baz=53
A10A Northport 53.54 55 ⇓P P 19 44 30.8 -0.5
baz=53
B09A Rice 53.56 56 ⇑P P 19 44 30.9 -0.5
baz=53
G05A Wamic 53.68 60 ⇓P P 19 44 31.8 -0.6
baz=54
E07A Sunnyside 53.72 58 ⇑P P 19 44 32.3 -0.3
baz=54
C09A Chrisman Ranch 53.85 56 ⇓P P 19 44 33.1 -0.5
baz=54
OD2 Odessa Site #2 53.86 57 *e*P P 19 44 33.0 -0.6
K02A Glendale 53.90 64 ⇓P P 19 44 33.7 -0.3
baz=54
I04A Tendick Farm, 53.91 63 ⇓P P 19 44 33.8 -0.3
baz=54
D08A Wollman Farm, 53.94 57 ⇑P P 19 44 33.1 -1.1
baz=54
RSW Rattlesnake Hi 53.96 58 *e*P P 19 44 34.3 -0.1
H05A Madras 54.09 61 ⇑P P 19 44 34.6 -0.7
baz=54
M01C Crescent City 54.09 65 ⇑P P 19 44 35.2 -0.1
baz=54
A11A Hall Mountain, 54.19 54 ⇑P P 19 44 35.8 -0.3
baz=54
E08A Dider Farm, El 54.20 58 ⇓P P 19 44 35.6 -0.5
baz=54
L02A Cave Junction 54.21 65 ⇓P P 19 44 36.3 +0.1
baz=54
ARU Arti 54.21 317 P P 19 44 35.1 -0.9
comp=Z,382nm,0.5s,mb6.7,SNR=28
ARU Arti 54.21 317 *c i*P P 19 44 34.9 -1.1
ARU *e* 19 45 38.7
ARU *e*PPP 19 47 49.5
ARU *e*S S 19 52 06.9 -0.6
ARU *e*SS SS 19 55 43.9 -5.5
ARU pmax pmax
comp=Z,47nm,0.8s,mb5.6
ARU Arti 54.21 317 *e*P P 19 44 34.9 -1.1
comp=Z,47nm,0.8s,mb5.6
ARU *e*PcP PcP 19 45 41.8 +2.3
D09A Jones Farm, Ri 54.27 57 ⇓P P 19 44 35.8 -0.9
baz=54
HUMO Hull Mountain 54.31 64 ⇓P P 19 44 36.8 -0.1
baz=54
CHTO Chiang Mai 54.41 257 P P 19 44 39.7 +1.8
SNR=5.5
CHTO Chiang Mai 54.41 257 *e*P P 19 44 39.1 +1.1
CHTO pmax pmax
comp=Z,33nm,0.8s,mb5.4
CHTO Chiang Mai 54.41 257 *e*P P 19 44 39.1 +1.1
comp=Z,33nm,0.8s,mb5.4
B11A Sandpoint 54.50 55 ⇓P P 19 44 37.8 -0.5
baz=54
CMAR Chiang Mai Arr 54.68 257 P P 19 44 41.3 +1.4
comp=Z,12nm,0.8s,mb5.0,baz=33,slow=7.4,SNR=82
CMAR PcP PcP 19 45 42.0 0.0
comp=Z,1.4nm,0.6s,baz=22,slow=3.0,SNR=4.8
CMAR Chiang Mai Arr 54.68 257 P P 19 44 41.3 +1.4
CMAR 19 45 42.0
CMAR pmax pmax
comp=Z,12nm,0.8s
E09A Wood Farm, Sta 54.69 58 ⇑P P 19 44 38.9 -0.7
baz=54
F08A Pendleton 54.77 59 ⇑P P 19 44 40.2 -0.1
baz=55
D10A Wagner Farm, O 54.84 57 ⇑P P 19 44 40.0 -0.7
baz=55
J05A Fort Rock 54.90 62 ⇓P P 19 44 41.7 +0.4
baz=55
C11A Tepee Creek (N 54.92 55 ⇓P P 19 44 41.1 -0.2
baz=55
G08A Pilot Rock 54.98 59 ⇓P P 19 44 41.4 -0.3
baz=55
YBH Yreka Blue Hor 54.99 65 P P 19 44 41.7 -0.2
comp=Z,11nm,0.8s,mb5.0,baz=343,slow=3.6,SNR=24
YBH Yreka Blue Hor 54.99 65 P P 19 44 42.7 +0.8
YBH pmax pmax
comp=Z,26nm,1.3s
YBH Yreka Blue Hor 54.99 65 ⇓P P 19 44 42.3 +0.4
baz=55,SNR=12
H07A Lands Inn, Kim 55.06 60 ⇑P P 19 44 41.7 -0.7
baz=55
I06A Prineville 55.09 61 ⇑P P 19 44 42.4 -0.2
baz=55
M02C Callahan 55.12 65 ⇑P P 19 44 43.2 +0.4
baz=55
N02C Big Bar 55.20 66 ⇑P P 19 44 43.7 +0.2
baz=55
L04A Klamath Falls 55.20 64 ⇓P P 19 44 43.5 +0.1
baz=55
A13A Flathead Natio 55.24 53 ⇓P P 19 44 43.5 0.0
baz=55
E10A Myers Farm, Un 55.28 57 ⇓P P 19 44 43.5 -0.4
baz=55
D11A Klaveano Farm, 55.36 56 ⇓P P 19 44 43.8 -0.6
baz=55
I07A Izee 55.41 61 ⇑P P 19 44 44.8 -0.1
baz=55
C12B Naegeli Ranch, 55.42 55 ⇓P P 19 44 44.8 -0.1
baz=55
WALA Waterton Lakes 55.42 53 *e*P P 19 44 44.5 -0.4
comp=Z,25nm,1.1s,mb5.2
K05A Summer Lake 55.45 63 ⇓P P 19 44 45.7 +0.6
baz=55
M04C Macdoel 55.47 64 ⇑P P 19 44 45.5 +0.1
baz=55
F10A Beach Ranch, E 55.53 58 ⇑P P 19 44 45.4 -0.3
baz=55
J06A Christmas Vall 55.55 62 ⇑P P 19 44 46.2 +0.3
baz=55
B13A Whitefish 55.55 54 ⇓P P 19 44 45.8 0.0
baz=55
H08A Prairie City 55.61 60 ⇑P P 19 44 46.5 +0.2
baz=55
G09A Cove 55.65 59 ⇑P P 19 44 46.6 0.0
baz=55
A14A Double T Ranch 55.73 53 ⇓P P 19 44 46.7 -0.4
baz=56
K06A Valley Falls 55.77 62 ⇓P P 19 44 48.2 +0.7
baz=56
WDC Whiskeytown Da 55.81 66 ⇓P P 19 44 47.5 -0.2
baz=56,SNR=5.9
E11A Bogner Ranch, 55.85 57 ⇑P P 19 44 47.5 -0.5
baz=56
ARCES ARCESS Array B 55.88 341 P P 19 44 45.9 -2.0
comp=Z,2.2nm,0.5s,mb4.4,baz=38,slow=7.8,SNR=24
ARCES ARCESS Array B 55.88 341 P P 19 44 45.9 -2.0
ARCES pmax pmax
comp=Z,2.0nm,0.5s
D12A Red Ives Fores 55.89 56 ⇓P P 19 44 47.5 -0.8
baz=56
L05A Lakeview 55.90 63 ⇓P P 19 44 49.0 +0.6
baz=56
O02C Red Bluff 55.91 66 ⇓P P 19 44 48.7 +0.2
baz=56
C13A Hot Springs 55.92 55 ⇑P P 19 44 48.6 +0.1
baz=56
J07A Hines 55.96 61 ⇓P P 19 44 49.5 +0.7
baz=56
G10A Bishop Farm, J 56.01 58 ⇑P P 19 44 49.1 0.0
baz=56
I08A Drewsey 56.05 60 ⇓P P 19 44 49.7 +0.3
baz=56
A15A Johnson Ranch, 56.09 53 ⇓P P 19 44 49.1 -0.5
baz=56
H09A Durkee 56.09 59 ⇓P P 19 44 49.5 -0.2
baz=56
M05C Lookout 56.15 64 ⇑P P 19 44 50.0 -0.1
baz=56
E12A Beaver Dam Sad 56.16 56 ⇑P P 19 44 50.2 0.0
baz=56
F11A Grangeville 56.17 57 ⇓P P 19 44 49.9 -0.4
baz=56
B14A Marquette Ranc 56.19 53 ⇑P P 19 44 50.2 -0.2
baz=56
ODAN Odare 56.22 273 *e*P P 19 44 52.2 +1.3
comp=Z,14nm,0.4s,mb5.3
KK31 Karatay Array 56.23 299 *i* P P 19 44 49.8 -0.9
KK31 pmax pmax
comp=Z,2.0nm,0.5s,mb4.4
GASB Alder Springs 56.28 67 ⇓P P 19 44 51.7 +0.5
baz=56,SNR=8.3
MOD Modoc 56.30 63 ⇑P P 19 44 51.5 +0.2
baz=56
MOD Modoc 56.30 63 *e*P P 19 44 51.6 +0.3
comp=Z,40nm,1.4s,mb5.3
C14A Swan Lake 56.30 54 ⇓P P 19 44 51.0 -0.2
baz=56
D13A Huson 56.34 55 ⇓P P 19 44 51.0 -0.5
baz=56
G11A Walters Elk Ra 56.41 58 ⇑P P 19 44 51.6 -0.4
baz=56
K07A Rock Creek Ran 56.42 62 ⇓P P 19 44 51.9 -0.2
baz=56
J08A Circle Bar Ran 56.44 61 ⇓P P 19 44 52.2 -0.1
baz=56
JIRN Jiri 56.45 275 *e*P P 19 44 53.4 +0.8
comp=Z,31nm,0.5s,mb5.6
I09A Lost Marbles R 56.48 60 ⇑P P 19 44 52.8 +0.3
baz=56
GUN Gumba 56.49 275 *e*P P 19 44 53.4 +0.6
comp=Z,37nm,0.5s,mb5.7
B15A Bradely Ranch, 56.59 53 ⇓P P 19 44 52.8 -0.4
baz=56
H10A Noah's Angus R 56.65 59 ⇓P P 19 44 53.7 0.0
baz=56
RAMN Ramite 56.67 274 *e*P P 19 44 54.6 +0.5
comp=Z,56nm,0.6s,mb5.8
A16A West Butte Ran 56.69 52 ⇑P P 19 44 53.5 -0.4
baz=56
F12A Elk City 56.74 57 ⇓P P 19 44 54.5 +0.1
baz=56
L07A Adell 56.79 63 ⇑P P 19 44 54.9 +0.2
baz=57
K08A Mann Creek Ran 56.83 61 ⇑P P 19 44 55.3 +0.3
baz=57
O04C Chesteer 56.83 65 ⇓P P 19 44 55.1 0.0
baz=57
D14A Greenough 56.86 55 ⇑P P 19 44 55.1 0.0
baz=57
J09A Fry Pan Ranch, 56.86 60 ⇑P P 19 44 55.6 +0.4
baz=57
E13A Victor 56.90 56 ⇑P P 19 44 55.5 +0.1
baz=57
C15A Salmond Ranch, 56.90 54 ⇑P P 19 44 55.4 0.0
baz=57
WVOR Wild Horse Val 56.93 62 *e*P P 19 44 55.7 0.0
WVOR pmax pmax
comp=Z,17nm,1.0s,mb5.0
WVOR Wild Horse Val 56.93 62 *e*P P 19 44 55.7 0.0
comp=Z,17nm,1.0s,mb5.0
I10A Payette 56.93 59 ⇓P P 19 44 56.3 +0.5
baz=57
KKN Kakani 56.96 275 *e*P P 19 44 56.7 +0.6
comp=Z,53nm,0.5s,mb5.8
B16A M M M Farms, S 56.97 53 ⇓P P 19 44 55.6 -0.3
baz=57
H11A Donnelly 56.99 58 ⇑P P 19 44 56.2 +0.1
baz=57
PKI Pulchoki 57.02 275 *e*P P 19 44 57.5 +0.9
comp=Z,21nm,0.5s,mb5.5
ORV Oroville 57.07 66 ⇓P P 19 44 56.0 -0.8
baz=57
DMN Daman 57.20 275 *e*P P 19 44 58.4 +0.6
comp=Z,32nm,0.5s,mb5.6
F13A Darby 57.23 56 ⇓P P 19 44 57.3 -0.5
baz=57
GKN Gorkha 57.23 276 *e*P P 19 44 58.7 +0.6
comp=Z,52nm,0.5s,mb5.8
L08A Fields 57.25 62 ⇓P P 19 44 58.3 +0.3
baz=57
M07A Soldier Meadow 57.28 63 ⇑P P 19 44 58.9 +0.7
baz=57
E14A Clinton 57.28 55 ⇑P P 19 44 58.2 0.0
baz=57
K09A Rome 57.28 61 ⇑P P 19 44 58.5 +0.3
baz=57
N06A Buffalo Meadow 57.30 64 ⇓P P 19 44 58.6 +0.2
baz=57
C16A Fuhringer Ranc 57.34 53 ⇓P P 19 44 58.8 +0.3
baz=57
D15A Lincoln 57.41 54 ⇑P P 19 44 59.0 0.0
baz=57
I11A Placerville 57.52 59 ⇑P P 19 44 59.9 0.0
baz=57
BEKR Beckwourth 57.55 65 ⇓P P 19 44 59.8 -0.3
baz=57,SNR=7.0
DANN Dangsing 57.57 277 *e*P P 19 45 01.3 +0.9
comp=Z,69nm,0.6s,mb5.9
O06A Flanigan 57.67 65 ⇑P P 19 45 01.1 +0.1
baz=58
M08A Happy Creek Ra 57.70 63 ⇑P P 19 45 01.6 +0.4
baz=58
G13A Cobalt 57.72 57 ⇑P P 19 45 01.3 0.0
baz=58
K10A MacKenzie Ranc 57.72 60 ⇓P P 19 45 01.6 +0.3
baz=58
H12A Diamond D Ranc 57.73 58 ⇓P P 19 45 01.1 -0.2
baz=58
E15A Deer Lodge 57.74 55 ⇓P P 19 45 01.4 +0.1
baz=58
L09A Wilkinson Ranc 57.75 62 ⇑P P 19 45 01.6 +0.1
baz=58
P05C Yuba Gap, Truc 57.76 66 ⇑P P 19 45 01.7 0.0
baz=58
N07B Gerlach 57.78 63 ⇑P P 19 45 01.7 0.0
baz=58
MFID Camas Ranch 57.91 59 ⇑P P 19 45 02.9 +0.3
baz=58
D16A Dana Ranch, Ca 57.93 54 ⇑P P 19 45 02.4 -0.3
baz=58
C17A Wharram Farm, 57.95 53 ⇑P P 19 45 02.7 -0.2
baz=58
JRSC Jasper Ridge 58.01 68 ⇓P P 19 45 03.4 +0.1
baz=58
AB31 Akbulak array 58.04 310 *i* P P 19 45 02.8 -0.6
AB31 pmax pmax
comp=Z,8.0nm,0.4s,mb5.1
LAVA Lava Cap Winer 58.04 66 ⇑P P 19 45 03.6 0.0
baz=58
H13A Challis 58.05 57 ⇓P P 19 45 03.8 +0.3
baz=58
I12A Atlanta 58.05 59 ⇑P P 19 45 03.7 +0.1
baz=58
E16A East Helena 58.18 54 ⇑P P 19 45 04.4 0.0
baz=58
F15A Butte 58.19 55 ⇓P P 19 45 04.7 +0.2
baz=58
K11A Parker Ranch, 58.20 60 ⇓P P 19 45 05.1 +0.4
baz=58
AKTO Aktyubinsk 58.23 312 P P 19 45 03.7 -1.0
AKTO pmax pmax
comp=Z,2.0nm,0.8s,mb4.2
EGMT Eagleton 58.23 52 ⇑P P 19 45 04.6 -0.1
baz=58
O07A Toulon 58.24 64 ⇑P P 19 45 05.4 +0.5
baz=58
M09A Marrel Ranch, 58.26 62 ⇑P P 19 45 05.0 -0.1
baz=58
WCN Washoe City 58.27 65 ⇑P P 19 45 05.2 0.0
baz=58
L10A Juniper Basin 58.40 61 ⇓P P 19 45 06.1 +0.1
baz=58
J12A Stokes Ranch, 58.42 59 ⇓P P 19 45 06.6 +0.4
baz=58
R05C Kirkwood Meado 58.47 66 ⇑P P 19 45 06.5 -0.1
baz=58
H14A Leadore 58.50 57 ⇓P P 19 45 06.8 +0.1
baz=58
I13A Wildhorse Cree 58.54 58 ⇓P P 19 45 07.5 +0.5
baz=58
O08A Rochester Mine 58.58 63 ⇓P P 19 45 07.6 +0.3
baz=58
HLID Hailey 58.60 58 ⇓P P 19 45 07.7 +0.2
baz=58
HLID Hailey 58.60 58 *e*P P 19 45 07.5 +0.1
comp=Z,19nm,1.3s,mb5.0
G15A Dillon 58.62 56 ⇓P P 19 45 07.7 +0.1
baz=58
E17A Martinsdale 58.66 54 ⇓P P 19 45 08.4 +0.6
baz=58
KLMR Klimovskoe 58.70 329 *e*P P 19 45 06.5 -1.3
CMB Columbia Colle 58.71 67 ⇑P P 19 45 07.9 -0.4
baz=58
M10A I.L. Ranch, Tu 58.72 61 ⇑P P 19 45 08.7 +0.4
baz=58
L11A Cat Creek Ranc 58.75 60 ⇑P P 19 45 08.8 +0.3
baz=58
PACP Pacheco Peak 58.84 68 ⇓P P 19 45 08.9 -0.3
baz=59
J13A Cove Ranch, Pi 58.84 58 ⇑P P 19 45 09.6 +0.5
baz=59
H15A Lima 58.89 56 ⇑P P 19 45 09.3 -0.1
baz=59
I14A Mackay 58.90 58 ⇑P P 19 45 10.2 +0.8
baz=59
K12A Draper Farm, C 58.92 59 ⇓P P 19 45 09.6 -0.1
baz=59
G16A Moss Hill, Enn 58.95 55 ⇓P P 19 45 10.1 +0.2
baz=59
R06C Coleville 58.96 66 ⇓P P 19 45 10.2 +0.3
baz=59
BMN Battle Mountai 59.03 63 *e*P P 19 45 10.8 +0.4
BMN pmax pmax
comp=Z,18nm,1.1s,mb5.0
BMN Battle Mountai 59.03 63 *e*P P 19 45 10.8 +0.3
comp=Z,18nm,1.1s,mb5.0
E18A Harlowton 59.09 53 ⇓P P 19 45 11.2 +0.5
baz=59
S06C San Francisco 59.14 67 ⇓P P 19 45 11.0 -0.2
baz=59
L12A House Creek Ra 59.18 60 ⇑P P 19 45 11.9 +0.4
baz=59
S05C Merced 59.20 67 ⇑P P 19 45 10.7 -1.0
baz=59
M11A Holland Ranch, 59.20 61 ⇑P P 19 45 12.3 +0.7
baz=59
O09A Fish Creek Ran 59.22 63 ⇓P P 19 45 12.1 +0.3
baz=59
J14A Carey 59.25 58 ⇑P P 19 45 13.1 +1.1
baz=59
QLMT Earthquake Lak 59.41 56 *e*P P 19 45 13.7 +0.7
V03C Hunter Liggett 59.52 69 ⇑P P 19 45 14.1 +0.2
baz=59
O10A Cortez Mining, 59.54 62 ⇓P P 19 45 14.2 +0.2
baz=59
H16A Russell Place, 59.59 56 ⇑P P 19 45 14.9 +0.6
baz=59
F18A Big Timber 59.62 54 ⇓P P 19 45 15.3 +0.8
baz=59
Q08A Gabbs 59.64 65 ⇑P P 19 45 14.8 +0.1
baz=60
JOF Joensuu 59.69 334 *e*p P 19 45 13.3 -1.3
comp=Z,1.9nm,0.3s,mb4.6
JOF Joensuu 59.69 334 *e*P P 19 45 13.3 -1.3
JOF pmax pmax
comp=Z,2.0nm,0.3s,mb4.6
NVAR Mina Array Bea 59.70 65 P P 19 45 14.8 -0.3
comp=Z,11nm,0.8s,mb5.0,baz=292,slow=7.5,SNR=60
NVAR Mina Array Bea 59.70 65 P P 19 45 14.8 -0.3
M12A Wells 59.71 61 ⇑P P 19 45 15.7 +0.6
baz=60
T06C Millerton Lake 59.79 67 ⇑P P 19 45 14.8 -1.0
baz=60
J15A Blackfoot 59.80 57 ⇑P P 19 45 16.6 +0.9
baz=60
KCC Kaiser Creek 59.82 67 ⇑P P 19 45 15.2 -0.7
baz=60,SNR=7.5
L13A Double Diamond 59.82 59 ⇓P P 19 45 16.5 +0.7
baz=60
K14A Jones Ranch, D 59.95 59 ⇑P P 19 45 17.5 +0.8
baz=60
ELK Elko 59.97 61 P P 19 45 17.2 +0.3
comp=Z,6.7nm,0.8s,mb4.7,baz=303,slow=6.7,SNR=29
ELK Elko 59.97 61 P P 19 45 17.2 +0.3
ELK pmax pmax
comp=Z,7.0nm,0.8s
PKD Parkfield 59.99 69 ⇑P P 19 45 16.5 -0.6
baz=60
P10A Eureka 60.00 63 ⇑P P 19 45 17.7 +0.6
baz=60
N12A Clover Valley, 60.01 61 ⇓P P 19 45 17.3 +0.2
baz=60
O11A Cowboy Ranch, 60.13 62 ⇑P P 19 45 18.1 +0.1
baz=60
M13A Montello 60.17 60 ⇓P P 19 45 18.7 +0.4
baz=60
K15A Arbon 60.22 58 ⇑P P 19 45 19.5 +0.9
baz=60
L14A Malta 60.25 59 ⇑P P 19 45 19.4 +0.5
baz=60
MTUM Tungsten Hills 60.25 66 *e*P P 19 45 19.1 +0.2
IMW Indian Meadow 60.29 56 *e*P P 19 45 20.1 +1.0
comp=Z,28nm,1.3s,mb5.1
J16A Bone 60.34 57 ⇑P P 19 45 20.1 +0.8
baz=60
RLMT Red Lodge 60.38 54 ⇓P P 19 45 20.5 +0.9
baz=60
HELL Mitchell Peak 60.42 67 ⇑P P 19 45 19.2 -0.8
baz=60
RRI2 Red Ridge 60.45 57 *e*P P 19 45 21.2 +1.0
comp=Z,18nm,0.8s,mb5.2
I17A Pilgram Creek 60.47 56 ⇓P P 19 45 21.2 +0.9
baz=60
N13A Wendover, West 60.48 61 ⇑P P 19 45 20.7 +0.3
baz=60
MOOW Moose Ponds 60.49 56 *e*P P 19 45 21.6 +1.1
comp=Z,15nm,1.3s,mb4.9
M14A Sheep Mountain 60.54 60 ⇓P P 19 45 21.1 +0.3
baz=60
R09A Tonopah 60.55 65 ⇑P P 19 45 21.2 +0.3
baz=60
TPAW Teton Pass 60.55 57 *e*P P 19 45 22.1 +1.3
comp=Z,46nm,1.3s,mb5.3
Q10A Clear Creek Ra 60.56 64 ⇑P P 19 45 21.4 +0.5
baz=60
O12A Currie 60.56 61 ⇑P P 19 45 21.4 +0.4
baz=60
TPH Tonopah 60.57 65 *e*P P 19 45 20.5 -0.6
TPH pmax pmax
comp=Z,34nm,1.3s,mb5.2
TPH Tonopah 60.57 65 *e*P P 19 45 20.5 -0.6
comp=Z,34nm,1.3s,mb5.2
K16A Soda Springs 60.64 57 ⇑P P 19 45 22.8 +1.4
baz=60
LOHW Long Hollow 60.66 56 *e*P P 19 45 22.4 +0.8
comp=Z,38nm,1.4s,mb5.2
SNOW Snow King Moun 60.68 56 *e*P P 19 45 23.3 +1.6
comp=Z,12nm,0.8s,mb5.0
HVU Hansel Valley 60.68 59 *e*P P 19 45 22.4 +0.7
HVU pmax pmax
comp=Z,5.0nm,0.9s,mb4.5
HVU Hansel Valley 60.68 59 *e*P P 19 45 22.4 +0.7
comp=Z,4.7nm,0.9s,mb4.5
REDW Red Top Meadow 60.69 57 *e*P P 19 45 22.7 +0.9
comp=Z,50nm,1.4s,mb5.3
DGMT Dagmar 60.72 49 ⇓P P 19 45 21.8 -0.1
baz=60
DGMT Dagmar 60.72 49 *e*P P 19 45 22.0 +0.1
comp=Z,67nm,1.0s,mb5.6
SMMC Simmler 60.74 69 ⇓P P 19 45 21.8 -0.5
baz=61
L15A Malad City 60.75 59 ⇑P P 19 45 22.4 +0.2
baz=60
S09A Goldfield 60.80 65 ⇓P P 19 45 22.5 -0.1
baz=61
Q11A Duckwater 60.98 63 ⇑P P 19 45 23.6 -0.3
baz=61
P12A McGill 61.00 62 ⇑P P 19 45 24.0 +0.1

baz=61
S10A Tonopah Range, 61.04 65 ⇑P P 19 45 24.3 0.0
baz=61
N14A Grayback Hills 61.06 60 ⇑P P 19 45 24.3 -0.1
baz=61
M15A Larsen Ranch, 61.07 59 ⇓P P 19 45 24.7 +0.3
baz=61
PKM Peak Mountain 61.13 69 ⇑P P 19 45 24.7 -0.2
baz=61
SPUT South Promonto 61.18 59 *e*P P 19 45 25.2 +0.1
GRAC Grapevine Rang 61.20 66 ⇑P P 19 45 25.7 +0.3
baz=61
Q12A Willow Creek R 61.33 63 ⇓P P 19 45 26.3 +0.1
baz=61
R11A Troy Canyon, C 61.35 64 ⇑P P 19 45 26.2 -0.1
baz=61
ISA Isabella 61.43 68 ⇓P P 19 45 25.7 -1.2
baz=61
HWUT Hardware Ranch 61.47 58 *e*P P 19 45 27.4 +0.3
comp=Z,12nm,0.8s,mb5.0
P13A Bates Ranch, G 61.52 62 ⇓P P 19 45 27.4 -0.1
baz=61
M16A Huntsville 61.63 59 ⇓P P 19 45 28.0 -0.1
baz=61
DUG Dugway 61.72 60 P P 19 45 29.3 +0.5
DUG pmax pmax
comp=Z,25nm,1.1s,mb5.2
DUG Dugway 61.72 60 ⇓P P 19 45 29.2 +0.5
baz=62
DUG Dugway 61.72 60 *e*P P 19 45 28.9 +0.1
comp=Z,25nm,1.2s,mb5.1
KAF Kangasniemi 61.72 336 *e*p P 19 45 26.9 -1.6
comp=Z,1.0nm,0.3s,mb4.3,baz=34,slow=6.3
KAF Kangasniemi 61.72 336 *e*P P 19 45 26.9 -1.6
KAF pmax pmax
comp=Z,1.0nm,0.3s,mb4.3
S11A Rachel 61.73 64 ⇑P P 19 45 28.9 0.0
baz=62
MPMC Manual Prospec 61.76 67 ⇑P P 19 45 28.6 -0.4
baz=62,SNR=13
PDAR Pinedale Array 61.80 56 P P 19 45 29.4 +0.2
comp=Z,18nm,0.9s,mb5.1,baz=325,slow=2.3,SNR=58
PDAR LR LR 20 10 49.0
comp=Z,182nm,20.4s,baz=255,slow=34
BSC Santa Cruz Isl 61.84 70 ⇑P P 19 45 28.8 -0.9
baz=62
Q13A Wheeler Ranch, 61.86 62 ⇓P P 19 45 29.8 +0.1
baz=62
FURC Furnace Creek, 61.86 66 ⇓P P 19 45 29.4 -0.4
baz=62,SNR=6.6
R12A Pony Springs, 61.94 63 ⇓P P 19 45 30.3 0.0
baz=62
P14A Drum Mountains 61.98 61 ⇑P P 19 45 30.6 +0.1
baz=62
SFJD Kangerlussuaq 62.19 11 P P 19 45 29.8 -1.7
comp=Z,4.7nm,0.4s,mb4.9,baz=136,slow=13,SNR=6.7
SFJD Kangerlussuaq 62.19 11 P P 19 45 29.8 -1.7
SFJD pmax pmax
comp=Z,5.0nm,0.4s,mb4.9
U10A Ash Meadows, A 62.21 66 ⇑P P 19 45 32.3 +0.2
baz=62
EDW2 Edwards Air Fo 62.25 68 ⇑P P 19 45 31.4 -1.0
baz=62,SNR=8.4
Q14A Sevier Lake (B 62.26 62 ⇓P P 19 45 32.8 +0.3
baz=62
S12A Delamar Landin 62.28 64 ⇓P P 19 45 33.1 +0.5
baz=62
NLU North Lily Min 62.30 60 *e*P P 19 45 33.3 +0.6
T11A Corn Creek, Al 62.31 64 ⇓P P 19 45 32.9 +0.1
baz=62
N17A Moffit Pass 62.33 59 ⇓P P 19 45 32.9 0.0
baz=62
R13A O'Grain Ranch, 62.41 63 ⇓P P 19 45 33.8 +0.4
baz=62
P15A Leamington 62.44 61 ⇑P P 19 45 34.1 +0.5
baz=62
O16A Springville 62.45 60 ⇑P P 19 45 34.2 +0.6
baz=62
MPU Maple Canyon 62.50 60 *e*P P 19 45 34.4 +0.4
comp=Z,12nm,0.8s,mb4.9
KBL Kabul 62.67 292 *e*P P 19 45 33.8 -1.5
KBL pmax pmax
comp=Z,12nm,0.8s,mb4.9
KBL Kabul 62.67 292 *e*P P 19 45 33.8 -1.5
comp=Z,12nm,0.8s,mb4.9
GSC Goldstone 62.68 67 P P 19 45 34.9 -0.4
GSC pmax pmax
comp=Z,10.0nm,0.9s,mb4.8
GSC Goldstone 62.68 67 ⇓P P 19 45 34.4 -0.9
baz=62,SNR=5.9
GSC Goldstone 62.68 67 *e*P P 19 45 34.9 -0.3
comp=Z,10nm,0.9s,mb4.8
U11A Corn Creek 62.77 65 ⇓P P 19 45 36.0 +0.1
baz=63
Q15A Fillmore 62.77 61 ⇓P P 19 45 35.9 0.0
baz=63
S13A Holt Ranch, En 62.88 63 ⇓P P 19 45 36.7 +0.1
baz=63
BFSC Mount Baldy St 62.88 68 ⇑P P 19 45 35.7 -1.0
baz=63
O17A Robinson Place 62.89 59 ⇑P P 19 45 36.8 +0.2
baz=63
ARUT Antelope Range 62.98 63 *e*P P 19 45 37.4 +0.2
CIS Catalina Islan 63.00 69 ⇓P P 19 45 36.5 -0.9
baz=63
TUQ Turquoise Moun 63.12 66 ⇓P P 19 45 37.7 -0.5
baz=63,SNR=5.7
CCUT Cedar City 63.19 63 *e*P P 19 45 38.6 0.0
MSU Marysvale 63.22 61 *e*P P 19 45 38.9 +0.1
T13A Saint George 63.23 64 ⇑P P 19 45 39.3 +0.4
baz=63
TMUT Trail Mountain 63.23 60 *e*P P 19 45 39.4 +0.5
O18A Roosevelt 63.25 59 ⇑P P 19 45 39.6 +0.7
baz=63
U12A Valley of Fire 63.26 65 ⇓P P 19 45 38.9 -0.2
baz=63
HEC Hector,Ludlow 63.28 67 ⇑P P 19 45 39.4 +0.1
baz=63
R15A Junction 63.36 62 ⇑P P 19 45 40.0 +0.2
baz=63
ULM Lac du Bonnet 63.37 43 P P 19 45 38.5 -1.1
comp=Z,9.5nm,0.9s,mb4.7,baz=3.4,slow=2.5,SNR=5.6
P17A Butcher Ranch, 63.38 60 ⇓P P 19 45 40.2 +0.3
baz=63
Q16A Castle Valley 63.51 60 ⇑P P 19 45 41.2 +0.5
baz=63
P18A Preston Nutter 63.55 59 ⇓P P 19 45 41.3 +0.3
baz=63
V12A Nelson 63.55 65 ⇑P P 19 45 41.2 +0.2
baz=63
MURC Murrieta 63.60 69 ⇓P P 19 45 40.7 -0.6
baz=63
U13A Pakoon Wash 63.61 64 ⇑P P 19 45 41.6 +0.1
baz=63
S15A Panguitch 63.68 62 ⇑P P 19 45 42.0 +0.1
baz=64
T14A Hurricane 63.68 63 ⇓P P 19 45 42.1 +0.3
baz=64
O19A Miners Draw (B 63.72 58 ⇓P P 19 45 42.0 -0.1
baz=64
GMRC Granite Mounta 63.72 67 ⇓P P 19 45 41.4 -0.7
baz=64,SNR=12
SRU San Rafael 63.75 60 *e*P P 19 45 42.1 -0.2
SRU pmax pmax
comp=Z,19nm,0.8s,mb5.0
SRU San Rafael 63.75 60 ⇓P P 19 45 42.8 +0.6
baz=64
SRU San Rafael 63.75 60 *e*P P 19 45 42.1 -0.2
comp=Z,19nm,0.8s,mb5.0
R16A Teasdale 63.77 61 ⇓P P 19 45 43.2 +0.7
baz=64
Q18A Rafter H Ranch 63.97 60 ⇓P P 19 45 44.0 +0.2
baz=64
V13A Grand Canyon W 63.98 65 ⇓P P 19 45 44.0 +0.2
baz=64
PFO Pinyon Flat Ob 64.04 68 P P 19 45 44.1 -0.2
comp=Z,2.6nm,0.7s,mb4.2,baz=4.8,slow=2.3,SNR=4.0
PFO Pinyon Flat Ob 64.04 68 P P 19 45 44.1 -0.2
PFO pmax pmax
comp=Z,3.0nm,0.7s,mb4.2
PFO Pinyon Flat Ob 64.04 68 ⇓P P 19 45 43.8 -0.5
baz=64
BELC Belle Mtn. 64.05 67 ⇑P P 19 45 43.4 -1.0
baz=64
OBN Obninsk 64.06 326 ⇓*e*P P 19 45 44.3 +0.2
OBN *e**PP pP 19 46 02.8 +0.3
OBN *e* 19 46 20.7
OBN *e*S S 19 54 11.8 -3.0
OBN *e*SS SS 19 58 22.4 -1.3
OBN pmax pmax
comp=Z,28nm,1.5s,mb4.9
U14A Mt Trumbull 64.07 64 ⇓P P 19 45 44.9 +0.5
baz=64
S16A Weppner Ranch, 64.09 62 ⇓P P 19 45 45.2 +0.6
baz=64
R17A Hanksville Air 64.12 61 ⇓P P 19 45 44.9 +0.2
baz=64
T15A Red Dirt Ranch 64.12 63 ⇑P P 19 45 45.4 +0.6
baz=64
IRM Iron Mountain 64.45 67 ⇓P P 19 45 46.5 -0.5
baz=64,SNR=11
MONP Monument Peak 64.56 69 ⇓P P 19 45 46.6 -1.1
baz=64
W13A Hualapai Mount 64.56 65 ⇓P P 19 45 47.7 +0.1
baz=64
Q19A Hogan Spring (64.56 59 ⇓P P 19 45 47.6 -0.1
baz=64
U15A North Rim 64.58 63 ⇑P P 19 45 48.0 +0.3
baz=64
R18A Canyonlands Na 64.60 60 ⇑P P 19 45 47.5 -0.4
baz=64
S17A Black Ridge (B 64.61 61 ⇓P P 19 45 48.2 +0.2
baz=64
BC3 Big Chuckw Mtn 64.62 67 ⇓P P 19 45 47.4 -0.7
baz=64,SNR=6.7
T16A Glen Canyon Da 64.65 62 ⇓P P 19 45 47.5 -0.7
baz=64
V14A Boquillas Ranc 64.65 64 ⇓P P 19 45 48.3 0.0
baz=64
SWSC Sam W. Stewart 64.90 68 ⇓P P 19 45 49.6 -0.3
baz=65
DVTC Desert V Tower 64.91 69 ⇓P P 19 45 49.5 -0.5
baz=65
X13A Yucca 64.94 66 ⇑P P 19 45 49.7 -0.4
baz=65
W14A Seligman 64.95 65 ⇓P P 19 45 50.1 -0.1
baz=65
PDMCI Parker Dam,Lak 64.96 66 ⇓P P 19 45 49.7 -0.6
baz=65
S18A Hurst Farm, Bl 65.03 61 ⇓P P 19 45 50.5 -0.1
baz=65
T17A Navajo Res., N 65.05 62 ⇑P P 19 45 50.5 -0.3
baz=65
V15A Kaibab Nationa 65.07 64 ⇑P P 19 45 51.2 +0.3
baz=65
PV10 Paradox Valley 65.09 60 *e*P P 19 45 51.7 +0.7
Y12C Blythe 65.11 67 ⇑P P 19 45 50.8 -0.4
baz=65
KAKA Kakadu 65.18 205 *e*P P 19 45 51.0 -0.8
comp=Z,12nm,0.6s,mb4.9
U17A Shonto 65.41 62 ⇓P P 19 45 53.5 +0.4
baz=65
GLA Glamis 65.41 67 ⇑P P 19 45 52.5 -0.7
baz=65
U16A Tuba City 65.45 63 ⇓P P 19 45 53.7 +0.3
baz=65
W15A Williams 65.46 64 ⇑P P 19 45 54.3 +0.8
baz=65
S19A Harvey Farm, M 65.48 60 ⇓P P 19 45 53.4 -0.2
baz=65
Y13A Salome 65.48 66 ⇓P P 19 45 53.2 -0.4
baz=65
T18A Mexican Hat 65.48 61 ⇑P P 19 45 53.0 -0.6
baz=65
X14A Yava 65.58 65 ⇑P P 19 45 54.5 +0.2
baz=65
WUAZ Wupatki 65.75 63 ⇑P P 19 45 56.0 +0.6
baz=66
Y14A Wickenburg 65.89 66 ⇑P P 19 45 56.2 -0.1
baz=66
W16A Flagstaff 65.95 64 ⇑P P 19 45 56.6 -0.1
baz=66
X15A Humboldt 65.96 65 ⇑P P 19 45 57.0 +0.3
baz=66
ISCO Idaho Springs 65.99 56 *e*P P 19 45 57.6 +0.7
ISCO pmax pmax
comp=Z,33nm,1.1s,mb5.1
ISCO Idaho Springs 65.99 56 *e*P P 19 45 57.6 +0.8
comp=Z,33nm,1.1s,mb5.1
T19A Beclabito 66.18 61 ⇑P P 19 45 58.4 +0.2
baz=66
MVCO Mesa Verde 66.21 60 ⇑P P 19 45 58.6 +0.3
baz=66
MVCO Mesa Verde 66.21 60 *e*P P 19 45 58.4 0.0
comp=Z,7.9nm,0.8s,mb4.6
NB2 NORSAR Subarra 66.23 342 P P 19 45 56.5 -1.5
comp=Z,1.4nm,0.6s,mb4.0,baz=25,slow=6.5
NOA NORSAR Array B 66.23 342 P P 19 45 56.4 -1.6
comp=Z,1.9nm,0.6s,mb4.1,baz=25,slow=6.5,SNR=11
NOA NORSAR Array B 66.23 342 P P 19 45 56.4 -1.6
NOA pmax pmax
comp=Z,2.0nm,0.6s
113A Mohawk Valley, 66.25 67 ⇓P P 19 45 58.2 -0.4
baz=66
Y15A Casa Rosa Ranc 66.27 65 ⇓P P 19 45 59.1 +0.3
baz=66
V18A Ganado 66.45 62 ⇓P P 19 46 00.2 +0.4
baz=66
X16A Lo Mia Camp, P 66.48 64 ⇓P P 19 46 00.6 +0.5
baz=66
ABKT Ailbek 66.69 301 P P 19 46 01.4 0.0
comp=Z,127nm,0.4s,mb6.1,SNR=14
Y16A Circle Bar Ran 66.83 65 ⇓P P 19 46 02.6 +0.3
baz=67
V19A Window Rock 66.96 62 ⇑P P 19 46 03.3 +0.3
baz=67
W18A Petrified Fore 66.98 63 ⇓P P 19 46 03.1 -0.1
baz=67
OGNE Ogallala 67.09 53 *e*P P 19 46 04.1 +0.2
comp=Z,109nm,1.4s,mb5.5
W19A Sanders 67.19 62 ⇓P P 19 46 05.3 +0.8
baz=67
X18A Snowflake 67.27 63 ⇑P P 19 46 05.5 +0.4
baz=67
Y17A Roosevelt 67.33 64 ⇑P P 19 46 05.8 +0.3
baz=67
214A Organ Pipe Nat 67.39 67 ⇑P P 19 46 05.9 0.0
baz=67
SDCO Great Sand Dun 67.51 58 *e*P P 19 46 06.7 +0.2
comp=Z,19nm,1.4s,mb4.7
116A Eloy 67.63 66 ⇑P P 19 46 07.3 0.0
baz=67
X19A St. Johns 67.73 63 ⇑P P 19 46 08.1 +0.2
baz=68
Y18A Canyon Day Jun 67.75 64 ⇑P P 19 46 08.4 +0.3
baz=68
ECSD EROS,Sioux Fal 67.80 48 *e*P P 19 46 06.8 -1.5
comp=Z,19nm,0.9s,mb4.9
Y19A Nutrioso 68.08 63 ⇑P P 19 46 10.6 +0.4
baz=68
216A Three Points, 68.17 66 ⇓P P 19 46 10.6 -0.1
baz=68
117A Oracle 68.19 65 ⇑P P 19 46 10.5 -0.4
baz=68
Z19A T-Link Ranch, 68.55 64 ⇓P P 19 46 13.3 +0.2
baz=68
118A Homack Ranch, 68.60 65 ⇑P P 19 46 13.3 -0.2
baz=68
HYB Hyderabad 68.65 272 *i*P P 19 46 14.5 +0.6
HYB Hyderabad 68.65 272 *e*P P 19 46 14.5 +0.6
217A Green Valley 68.71 66 ⇑P P 19 46 14.0 -0.1
baz=68
119A Ashpeak Ranch, 68.90 64 ⇑P P 19 46 15.5 +0.2
baz=69
ANMO Albuquerque 68.98 61 P P 19 46 15.7 0.0
comp=Z,6.0nm,0.9s,mb4.4,baz=317,slow=8.1,SNR=12
ANMO Albuquerque 68.98 61 P P 19 46 15.7 -0.1
ANMO pmax pmax
comp=Z,6.0nm,0.9s
LAZ Ladron 68.99 62 *e*P P 19 46 16.3 +0.5
218A Dragoon 69.03 65 ⇓P P 19 46 16.1 0.0
baz=69
318A Bisbee 69.44 66 ⇑P P 19 46 18.6 -0.1
baz=69
SUW Suwalki 69.45 332 *e*P P 19 46 17.5 -0.8
BNM Barren Site 69.46 61 *e*P P 19 46 19.0 +0.2
219A White Tail Can 69.48 65 ⇑P P 19 46 18.9 0.0
baz=69
319A Douglas 69.91 65 ⇓P P 19 46 21.3 -0.3
baz=70
KIV Kislovodsk 70.14 315 *e*P P 19 46 22.3 -0.5
KIV pmax pmax
comp=Z,22nm,1.1s,mb4.9
KIV Kislovodsk 70.14 315 ⇓*i*P P 19 46 23.7 +0.9
KIV Kislovodsk 70.14 315 ⇓P P 19 46 23.7 +0.9
AKASG Malin Array Be 70.26 327 P P 19 46 21.4 -1.9
comp=Z,1.2nm,0.3s,mb4.2,baz=33,slow=5.9,SNR=18
AKASG Malin Array Be 70.26 327 P P 19 46 21.5 -1.8
AKASG pmax pmax
comp=Z,1.0nm,0.3s
KIEV Kiev 70.27 327 *e*P P 19 46 22.2 -1.2
KIEV pmax pmax
comp=Z,6.0nm,0.8s,mb4.5
KIEV Kiev 70.27 327 *e*P P 19 46 22.2 -1.2
comp=Z,5.9nm,0.8s,mb4.5
WB2 Warramunga Arr 71.62 201 *e*P P 19 46 31.0 -0.8
WRA Warramunga Arr 71.62 201 P P 19 46 31.2 -0.7
comp=Z,8.1nm,0.8s,mb4.6,baz=18,slow=6.2,SNR=59
WRA Warramunga Arr 71.62 201 P P 19 46 31.2 -0.7
WRA pmax pmax
comp=Z,8.0nm,0.8s
ANN Anapa 71.83 319 *e*P P 19 46 31.5 -1.5
ANN *e*S S 19 55 44.7 -3.1
ANN pmax pmax
comp=Z,17nm,2.0s,mb4.5
GNI Garni 72.09 311 *de*P P 19 46 36.8 +2.2
GNI pmax pmax
comp=Z,51nm,1.5s
GNI Garni 72.09 311 *e*P P 19 46 35.8 +1.2
comp=Z,19nm,0.8s,mb5.0
FITZ Fitzroy Crossi 72.33 210 *e*P P 19 46 36.1 0.0
comp=Z,8.3nm,0.9s,mb4.6
BSEG Bad Segeberg 72.95 339 *e*P P 19 46 39.7 +0.2
BSEG pmax pmax
comp=Z,10.0nm,0.9s,mb4.7
BSEG Bad Segeberg 72.95 339 *e*P P 19 46 39.7 +0.2
comp=Z,10.0nm,0.9s,mb4.7
SIM Simferopol' 73.11 321 P P 19 46 40.4 -0.2
SIM pmax pmax
comp=Z,6.0nm,1.0s,mb4.4
KWP Kalwaria 73.38 330 *e*P P 19 46 42.6 +0.5
KWP Kalwaria 73.38 330 *e*P P 19 46 41.9 -0.2
KWP pmax pmax
comp=Z,65nm,1.1s,mb5.4
KWP Kalwaria 73.38 330 ⇓*i*P P 19 46 42.2 +0.1
KWP Kalwaria 73.38 330 *e*P P 19 46 41.9 -0.2
comp=Z,65nm,1.1s,mb5.4
WMOK Wichita Mounta 73.40 56 *e*P P 19 46 41.3 -1.2
WMOK pmax pmax
comp=Z,19nm,1.0s,mb4.9
WMOK Wichita Mounta 73.40 56 *e*P P 19 46 41.2 -1.2
comp=Z,19nm,1.0s,mb4.9
OJC Ojcow 73.78 332 *e*P P 19 46 44.4 0.0
STHS Stebnicka Huta 74.03 331 *e*P P 19 46 46.8 +0.9
STHS pmax pmax
comp=Z,13nm,0.8s,mb4.7
STHS Stebnicka Huta 74.03 331 *e*P P 19 46 46.8 +0.9
comp=Z,13nm,0.8s,mb4.7
STHS *e* 19 46 49.2
KOLS Kolonicke sedl 74.13 330 *e*P P 19 46 46.2 -0.3
KOLS *e* 19 46 53.2
KSP Ksiaz 74.25 335 *e*P P 19 47 47.4 +0.2
KSP Ksiaz 74.25 335 *e*P P 19 46 46.9 -0.2
BUR08 Bucovina Ar. S 74.25 328 *e*P P 19 46 46.6 -0.6
BURAR Bucovina Array 74.27 328 ⇑*i*P P 19 46 47.0 -0.3
BURAR Bucovina Array 74.27 328 ⇑P P 19 46 47.0 -0.4
NIE Niedzica 74.33 332 *e*P P 19 46 48.4 +0.8
NRDL Niedersach Rie 74.33 339 *e*P P 19 46 47.1 -0.5
comp=Z,8.0nm,1.1s,mb4.4
UZH Uzhgorod 74.38 330 *e*P P 19 46 46.0 -2.0
CRVS Cervenica-Dubn 74.42 331 *e*P P 19 46 47.9 -0.2
OKC Ostrava-Krasne 74.61 333 *e*P P 19 46 49.7 +0.4
OKC AMS AMS 20 43 00.0
comp=Z,300nm,20.0s
UPC Upice 74.63 335 *e*P P 19 46 49.7 +0.4
DPC Dobruska-Polom 74.68 334 *e*P P 19 46 50.2 +0.6
DPC AMS AMS 20 41 00.0
comp=Z,200nm,19.1s
TXAR Lajitas Array 74.70 63 P P 19 46 49.9 -0.3
comp=Z,17nm,0.8s,mb4.8,baz=299,slow=4.1,SNR=18
TXAR Lajitas Array 74.70 63 P P 19 46 49.9 -0.2
TXAR pmax pmax
comp=Z,17nm,0.9s
CLL Collm 74.71 337 ⇓*e*P P 19 46 50.0 +0.2
CLL pmax pmax
comp=Z,20nm,1.0s,mb4.8
CLL Collm 74.71 337 *e*P P 19 46 49.3 -0.5
comp=Z,19nm,1.0s,mb4.8
CLL Collm 74.71 337 ⇓*e*P P 19 46 50.0 +0.2
comp=Z,20nm,1.0s,mb4.8
CLL Collm 74.71 337 ⇓*e*P P 19 46 50.0 +0.2
comp=Z,20nm,1.0s,mb4.8
CCM Cathedral Cave 74.75 49 *e*P P 19 46 49.2 -1.1
CCM pmax pmax
comp=Z,15nm,1.0s,mb4.7
CCM Cathedral Cave 74.75 49 *e*P P 19 46 49.2 -1.1
comp=Z,15nm,1.0s,mb4.7
MORC Moravsky Berou 74.84 333 ⇑*i*P P 19 46 50.9 +0.3
MORC Moravsky Berou 74.84 333 P P 19 46 51.0 +0.4
BRG Berggiesshubel 74.86 336 *e*P P 19 46 50.3 -0.4
comp=Z,9.0nm,1.1s,mb4.4
BRG Berggiesshubel 74.86 336 *i*P P 19 46 50.7 0.0
comp=Z,8.9nm,1.1s,mb4.4
CLZ Clausthal 74.87 339 *e*P P 19 46 51.1 +0.4
comp=Z,23nm,1.0s,mb4.9
PVCC Panska Ves 75.01 335 *e*P P 19 46 51.9 +0.4
PVCC AMS AMS 20 44 20.0
comp=Z,400nm,19.0s
TLCR 75.02 324 ⇑*i*P P 19 46 51.9 +0.2
TLCR 75.02 324 P P 19 46 51.9 +0.2
IBBN Ibbenburen 75.04 340 *e*P P 19 46 51.6 -0.1
comp=Z,12nm,0.9s,mb4.6
FVM French Village 75.21 48 *e*P P 19 46 51.6 -1.3
FVM pmax pmax
comp=Z,13nm,0.4s,mb5.0
FVM French Village 75.21 48 *e*P P 19 46 51.5 -1.4
comp=Z,13nm,0.4s,mb5.0
ASAR Alice Springs 75.31 201 P P 19 46 53.0 -0.4
comp=Z,2.4nm,0.8s,mb4.0,baz=12,slow=5.4,SNR=25
ASAR Alice Springs 75.31 201 P P 19 46 53.1 -0.4
ASAR pmax pmax
comp=Z,2.0nm,0.8s
PRU Pruhonice 75.50 335 *e*P P 19 46 54.8 +0.4
PRU AMS AMS 20 44 50.0
comp=Z,200nm,23.1s
VRAC Vranov 75.54 334 ⇑*i*P P 19 46 55.3 +0.7
VRAC Vranov 75.54 334 P P 19 46 55.3 +0.7
WTSB Winterswijk 75.57 341 *e*P P 19 46 54.1 -0.6
comp=Z,22nm,1.0s,mb4.8
VYHS Vyhne 75.60 332 *e*P P 19 46 55.0 0.0
KOLL Kolacno 75.66 332 *e*P P 19 46 54.9 -0.4
TANN Tannenbergstha 75.67 337 *e*P P 19 46 55.2 -0.1
comp=Z,5.0nm,1.0s,mb4.2
MOX Moxa 75.67 337 *e*P P 19 46 55.1 -0.2
comp=Z,12nm,1.0s,mb4.6
MOX Moxa 75.67 337 *e*P P 19 46 55.1 -0.2
MOX pmax pmax
comp=Z,12nm,1.0s,mb4.6
MOX Moxa 75.67 337 *e*P P 19 46 55.3 0.0
comp=Z,12nm,1.0s,mb4.6
HARR Harsova 75.78 324 ⇓*i*P P 19 46 56.2 +0.2
HARR Harsova 75.78 324 ⇓P P 19 46 56.2 +0.2
PSZ Piszkesteto 75.78 331 ⇑*i*P P 19 46 56.3 +0.3
PSZ Piszkesteto 75.78 331 P P 19 46 56.6 +0.6
TIRR Tirgusor 75.79 324 ⇓*i*P P 19 46 56.0 -0.1
MLR Muntele Rosu 75.83 326 ⇑*i*P P 19 46 56.5 +0.2
MLR Muntele Rosu 75.83 326 P P 19 46 57.1 +0.8
NKC Novy Kostel 75.84 337 *e*P P 19 46 56.4 +0.1
NKC AMS AMS 20 47 00.0
comp=Z,600nm,30.6s
DRGR 75.85 329 P P 19 46 56.2 -0.2
TREC Trest 75.87 334 *e*P P 19 46 56.8 +0.3
TREC AMS AMS 20 40 10.0
comp=Z,200nm,15.3s
UBBA Unterbreizbach 75.91 338 *e*P P 19 46 56.6 -0.1
comp=Z,29nm,1.9s,mb4.7
BUG Bochum--Univer 75.96 340 *e*P P 19 46 56.7 -0.2
comp=Z,10.0nm,0.9s,mb4.5
MANZ Manzenberg 76.15 337 *e*P P 19 46 58.1 0.0
comp=Z,7.0nm,0.9s,mb4.4
MODS Modra-Piesok 76.18 333 *e*P P 19 46 59.0 +0.7
MODS pmax pmax
comp=Z,7.0nm,1.0s,mb4.3
MODS Modra-Piesok 76.18 333 *e*P P 19 46 59.0 +0.7
comp=Z,7.4nm,1.0s,mb4.4
VOIR 76.20 327 ⇑*i*P P 19 46 59.0 +0.5
VOIR 76.20 327 P P 19 46 59.0 +0.5
MIAR Mount Ida 76.31 53 *e*P P 19 46 58.1 -1.1
MIAR pmax pmax
comp=Z,25nm,1.1s,mb4.9
MIAR Mount Ida 76.31 53 *e*P P 19 46 58.1 -1.2

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
	comp=Z,25nm,1.1s,mb4.8						
ROTZ	Rotzenmuhle	76.33	337	eP	P	19 46 59.5	+0.4
	comp=Z,11nm,0.9s,mb4.6						
ZST	Bratislava	76.39	333	eP	P	19 46 55.3	-4.2
ZST				pmax	pmax		
	comp=Z,10.0nm,0.9s,mb4.5						
ZST	Bratislava	76.39	333	eP	P	19 46 55.3	-4.2
	comp=Z,9.9nm,0.9s,mb4.5						
KHC	Kasperske Hory	76.55	335	eP	P	19 47 00.8	+0.5
KHC				AMS	AMS	20 44 50.0	
	comp=Z,300nm,28.3s						
MALT	Malatya	76.56	314	P	P	19 47 06.5	+5.9
MALT	Malatya	76.56	314	⇑iP	P	19 47 06.6	+6.0
GRA1	Grafenberg Arr	76.65	337	eP	P	19 47 01.3	+0.4
	comp=Z,26nm,1.0s,mb4.9						
GRA1				LR	LR		
	comp=Z,100nm,21.8s						
GRF	Grafenberg Arr	76.65	337	eP	P	19 47 01.3	+0.4
GRF				pmax	pmax		
	comp=Z,26nm,1.0s,mb4.9						
GRF				MLR	MLR		
	comp=Z,100nm,21.8s						
GRF	Grafenberg Arr	76.65	337	eP	P	19 47 01.3	+0.4
GRF				pmax	pmax		
	comp=Z,26nm,1.0s,mb4.9						
GRF				MLR	MLR		
	comp=Z,100nm,21.8s						
GRF	Grafenberg Arr	76.65	337	eP	P	19 47 01.3	+0.4
	comp=Z,26nm,1.0s,mb4.9						
GRF				eL		20 56 11.9	
	comp=Z,138nm,21.8s						
WET	Wettzell	76.72	336	eP	P	19 47 01.8	+0.5
WET				pmax	pmax		
	comp=Z,15nm,1.0s,mb4.7						
WET	Wettzell	76.72	336	eP	P	19 47 01.8	+0.5
	comp=Z,15nm,1.0s,mb4.7						
GEC2	GERESS Array S	76.77	335	P	P	19 47 01.8	+0.2
GEC2	GERESS Array S	76.77	335	eP	P	19 47 01.7	+0.1
	comp=Z,26nm,1.9s,mb4.6						
GERES	GERESS Array B	76.77	335	P	P	19 47 01.7	+0.1
	comp=Z,4.5nm,0.5s,mb4.4,baz=33,slow=5.4,SNR=64						
GERES	GERESS Array B	76.77	335	P	P	19 47 01.7	+0.1
GERES				pmax	pmax		
	comp=Z,5.0nm,0.5s						
TNS	Taunus Mts	76.83	339	eP	P	19 47 02.0	+0.1
TNS				pmax	pmax		
	comp=Z,17nm,0.7s,mb4.9						
TNS	Taunus Mts	76.83	339	eP	P	19 47 02.0	+0.1
	comp=Z,17nm,0.7s,mb4.9						
HGN	Heimansgroeve	76.89	341	eP	P	19 47 02.0	-0.2
	comp=Z,15nm,1.0s,mb4.7						
BEBN	Eben Emael	76.91	341	P	P	19 47 02.3	-0.1
CONA	Conrad Observa	77.00	334	i P	P	19 47 03.7	+0.8
	comp=Z,14nm,0.7s,mb4.8,SNR=22						
CSNA	Conrad Observa	77.00	334	⇓iP	P	19 47 03.7	+0.8
	comp=Z,13nm,0.7s,mb4.8						
MEM	Membach	77.02	341	P	P	19 47 03.3	+0.4
	comp=Z,14nm,1.1s,mb4.6						
GZR	Gura Zlata	77.04	328	⇓iP	P	19 47 03.1	-0.1
GZR	Gura Zlata	77.04	328	P	P	19 47 03.2	+0.1
BZS	Buzias	77.24	329	⇑iP	P	19 47 03.8	-0.5
BZS	Buzias	77.24	329	P	P	19 47 04.5	+0.2
BCLA	Clavier	77.34	341	P	P	19 47 04.8	0.0
SNF	Seneffe	77.47	342	P	P	19 47 05.1	-0.4
MOA	Molln	77.52	335	⇑iP	P	19 47 06.1	+0.3
	comp=Z,6.9nm,0.7s,mb4.5						
BR131	Keskin Array S	77.59	318	eP	P	19 47 06.5	+0.1
	comp=Z,9.1nm,0.8s,mb4.6						
HOQ	Hoqain	77.64	292	P	P	19 47 07.2	+0.3
	SNR=8.0						
PKSM	Moragy	77.69	331	⇓iP	P	19 47 06.3	-0.5
ARSA	Arzberg	77.70	333	⇓iP	P	19 47 07.5	+0.6
	comp=Z,9.8nm,1.1s,mb4.5						
GIVF	Givet	77.75	341	eP	P	19 47 07.0	0.0
DOU	Dourbes	77.80	341	P	P	19 47 07.2	-0.1
WLF	Walferdange	77.87	340	P	P	19 47 07.5	-0.3
	comp=Z,5.1nm,1.5s,mb4.0						
WLF	Walferdange	77.87	340	eP	P	19 47 08.7	+1.0
	comp=Z,12nm,1.4s,mb4.4						
BAIF	Baives	77.91	342	⇑iP	P	19 47 08.0	0.0
	comp=Z,9.8nm,0.6s,mb4.4						
BAIF	Baives	77.91	342	⇑iP	P	19 47 08.0	0.0
BAIF				pmax	pmax		
	comp=Z,5.0nm,0.6s,mb4.4						
BAIF	Baives	77.91	342	⇑iP	P	19 47 08.0	0.0
	comp=Z,4.9nm,0.6s,mb4.4						
STU	Stuttgart	78.00	338	eP	P	19 47 08.6	+0.1
	comp=Z,14nm,1.1s,mb4.6						
FUR	Furstenfeldbru	78.04	337	eP	P	19 47 09.0	+0.3
FUR				pmax	pmax		
	comp=Z,16nm,1.1s,mb4.7						
FUR	Furstenfeldbru	78.04	337	eP	P	19 47 09.0	+0.3
	comp=Z,16nm,1.1s,mb4.7						
JMDO	Jabal Madar	78.06	290	⇓P	P	19 47 09.8	+0.6
	SNR=8.9						
BSY	Bisya	78.33	291	⇓P	P	19 47 11.3	+0.6
	SNR=11						
SOKA	Soboth	78.37	334	⇑iP	P	19 47 10.9	+0.4
	comp=Z,15nm,0.9s,mb4.7						
PERS	Pernice	78.38	333	i P	P	19 47 11.0	+0.4
KBA	Koelnbreinsper	78.48	335	⇑iP	P	19 47 12.0	+0.9
	comp=Z,40nm,0.9s,mb5.1,SNR=22						
BFO	Black Forest	78.62	338	eP	P	19 47 11.9	0.0
BFO				pmax	pmax		
	comp=Z,8.0nm,0.8s,mb4.6						
BFO	Black Forest	78.62	338	eP	P	19 47 11.9	0.0
	comp=Z,8.0nm,0.8s,mb4.6						
OBKA	Obir	78.66	334	⇑iP	P	19 47 12.4	+0.2
	comp=Z,6.3nm,0.6s,mb4.6						
SSPA	Standing Stone	78.68	39	eP	P	19 47 11.5	-0.9
	comp=Z,23nm,1.4s,mb4.8						
WATA	Walderalm	78.73	336	⇓iP	P	19 47 13.1	+0.6
	comp=Z,9.7nm,0.8s,mb4.7						
WTTA	Wattenberg	78.78	336	⇑iP	P	19 47 13.7	+1.0
	comp=Z,17nm,0.8s,mb4.9,SNR=8.9						
CDF	Champ du Feu	78.80	339	⇑iP	P	19 47 13.0	+0.1
	comp=Z,19nm,0.8s,mb4.7						
CDF	Champ du Feu	78.80	339	⇑iP	P	19 47 13.0	+0.1
CDF				pmax	pmax		
	comp=Z,9.0nm,0.8s,mb4.7						
CDF	Champ du Feu	78.80	339	⇑iP	P	19 47 13.0	+0.1
	comp=Z,9.3nm,0.8s,mb4.7						
RETA	Reutte	78.80	337	⇑iP	P	19 47 13.3	+0.4
	comp=Z,6.0nm,0.7s,mb4.5						
MYKA	Terra Mystica	78.81	334	⇑iP	P	19 47 12.8	-0.2
	comp=Z,8.7nm,1.0s,mb4.5						
MOTA	Moosalm	78.84	336	⇑iP	P	19 47 13.6	+0.5
	comp=Z,12nm,0.9s,mb4.8						
ECH	Echery	79.01	339	P	P	19 47 13.8	-0.2
ECH	Echery	79.01	339	eP	P	19 47 13.6	-0.5
MEZF	Maizieres J'vi	79.21	341	⇑iP	P	19 47 15.5	+0.4
	comp=Z,13nm,0.6s,mb4.6						
MEZF	Maizieres J'vi	79.21	341	⇑iP	P	19 47 15.5	+0.4
	comp=Z,13nm,0.6s,mb4.9						
VISS	Visnje	79.22	333	i P	P	19 47 14.8	-0.4
FETA	Feichten	79.24	336	⇑iP	P	19 47 15.9	+0.6
	comp=Z,13nm,1.3s,mb4.6,SNR=7.2						
JAVS	Javornik	79.36	334	i P	P	19 47 15.2	-0.8
BOJS	Bojanci	79.37	333	i P	P	19 47 15.8	-0.3
HAU	Haudompre	79.39	340	⇑iP	P	19 47 16.1	0.0
	comp=Z,7.8nm,0.6s,mb4.4						
HAU	Haudompre	79.39	340	⇑iP	P	19 47 16.1	0.0
HAU				pmax	pmax		
	comp=Z,4.0nm,0.6s,mb4.4						
HAU	Haudompre	79.39	340	⇑iP	P	19 47 16.1	0.0
	comp=Z,3.9nm,0.6s,mb4.4						
HINF	Hinteralfeld	79.45	339	eP	P	19 47 16.2	-0.3
FLN	La Foliniere	80.05	344	⇑iP	P	19 47 19.6	-0.1
	comp=Z,9.3nm,0.5s,mb4.5						
FLN	La Foliniere	80.05	344	⇑iP	P	19 47 19.6	-0.1
FLN				pmax	pmax		
	comp=Z,5.0nm,0.5s,mb4.6						
FLN	La Foliniere	80.05	344	⇑iP	P	19 47 19.6	-0.1
	comp=Z,4.7nm,0.5s,mb4.6						
TUE	Stuetta	80.11	337	eP	P	19 47 20.2	+0.2
	comp=Z,9.1nm,0.7s,mb4.7						
LDF	La Druitiere	80.15	344	⇑iP	P	19 47 20.1	-0.1
	comp=Z,5.4nm,0.3s,mb4.5						
TKL	Tuckaleechee C	80.25	45	P	P	19 47 20.8	-0.2
GRR	Gorron	80.48	344	⇑iP	P	19 47 22.1	+0.1
	comp=Z,10nm,0.5s,mb4.6						
GRR	Gorron	80.48	344	⇑iP	P	19 47 22.1	+0.1
GRR				pmax	pmax		
	comp=Z,5.0nm,0.5s,mb4.6						
GRR	Gorron	80.48	344	⇑iP	P	19 47 22.1	+0.1
	comp=Z,5.1nm,0.5s,mb4.6						
LOR	Lormes	80.64	341	eP	P	19 47 23.2	+0.4
	comp=Z,10nm,0.8s,mb4.4						
LOR	Lormes	80.64	341	eP	P	19 47 23.2	+0.4
LOR				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.4						
LOR	Lormes	80.64	341	eP	P	19 47 23.2	+0.4
	comp=Z,5.1nm,0.8s,mb4.4						
SGMF	Saint Gilles	80.90	345	eP	P	19 47 24.4	+0.2
	comp=Z,7.3nm,0.4s,mb4.5						
SSF	Saint Saulge	80.91	341	eP	P	19 47 24.5	+0.2
ROSF	Rostrenen	80.93	346	eP	P	19 47 24.7	+0.3
AVF	Avril sur Loir	81.20	341	eP	P	19 47 26.0	+0.2
SMF	Signal de Mont	81.23	341	eP	P	19 47 26.3	+0.3
	comp=Z,32nm,1.1s,mb4.8						
SMF	Signal de Mont	81.23	341	eP	P	19 47 26.3	+0.3
SMF				pmax	pmax		
	comp=Z,16nm,1.1s,mb4.8						
SMF	Signal de Mont	81.23	341	eP	P	19 47 26.3	+0.3
	comp=Z,16nm,1.1s,mb4.8						
QUIF	Quistinic	81.33	346	eP	P	19 47 26.6	+0.1
BGF	Bois d'Agland	81.53	341	eP	P	19 47 28.1	+0.5
	comp=Z,4.7nm,0.5s,mb4.3						
BGF	Bois d'Agland	81.53	341	eP	P	19 47 28.1	+0.5
BGF				pmax	pmax		
	comp=Z,2.0nm,0.5s,mb4.2						
BGF	Bois d'Agland	81.53	341	eP	P	19 47 28.1	+0.5
	comp=Z,2.3nm,0.5s,mb4.3						
LPL	La Plagne	81.64	339	⇑iP	P	19 47 29.3	+1.1
	comp=Z,9.3nm,0.6s,mb4.5						
LPL	La Plagne	81.64	339	⇑iP	P	19 47 29.3	+1.1
LPL				pmax	pmax		
	comp=Z,5.0nm,0.6s,mb4.5						
LPL	La Plagne	81.64	339	⇑iP	P	19 47 29.3	+1.1
	comp=Z,4.7nm,0.6s,mb4.5						
CSS	Prodhromos	81.66	315	eP	P	19 47 29.0	+0.5
	comp=Z,13nm,0.6s,mb4.9						
LPG	La Plagne	81.66	338	⇑iP	P	19 47 29.5	+1.2
	comp=Z,16nm,0.7s,mb4.7						
LPG	La Plagne	81.66	338	⇑iP	P	19 47 29.5	+1.2
LPG				pmax	pmax		
	comp=Z,8.0nm,0.7s,mb4.7						
LPG	La Plagne	81.66	338	⇑iP	P	19 47 29.5	+1.2
	comp=Z,8.0nm,0.7s,mb4.7						
TCF	Toulx Ste Croi	81.92	342	⇑iP	P	19 47 29.9	+0.3
	comp=Z,9.5nm,0.9s,mb4.3						
TCF	Toulx Ste Croi	81.92	342	⇑iP	P	19 47 29.9	+0.3
TCF				pmax	pmax		
	comp=Z,5.0nm,0.9s,mb4.3						
TCF	Toulx Ste Croi	81.92	342	⇑iP	P	19 47 29.9	+0.3
	comp=Z,4.8nm,0.9s,mb4.3						
MFF	Saint Martin d	82.07	343	eP	P	19 47 30.7	+0.2
	comp=Z,7.6nm,0.7s,mb4.3						
MFF	Saint Martin d	82.07	343	eP	P	19 47 30.7	+0.2
MFF				pmax	pmax		
	comp=Z,4.0nm,0.7s,mb4.4						
MFF	Saint Martin d	82.07	343	eP	P	19 47 30.7	+0.2
	comp=Z,3.8nm,0.7s,mb4.3						
MBDF	Montbardon	82.38	338	eP	P	19 47 32.5	+0.4
	comp=Z,14nm,0.9s,mb4.5						
MBDF	Montbardon	82.38	338	eP	P	19 47 32.5	+0.4
MBDF				pmax	pmax		
	comp=Z,7.0nm,0.9s,mb4.5						
MBDF	Montbardon	82.38	338	eP	P	19 47 32.5	+0.4
	comp=Z,7.1nm,0.9s,mb4.5						
ORIF	Oris-en-Rattie	82.41	339	eP	P	19 47 33.1	+0.9
	comp=Z,11nm,0.6s,mb4.5						
ORIF	Oris-en-Rattie	82.41	339	eP	P	19 47 33.1	+0.9
ORIF				pmax	pmax		
	comp=Z,5.0nm,0.6s,mb4.5						
ORIF	Oris-en-Rattie	82.41	339	eP	P	19 47 33.1	+0.9
	comp=Z,5.4nm,0.6s,mb4.5						
VIVF	Saint-Julien-l	82.75	340	eP	P	19 47 34.6	+0.6
RJF	Les Rejaudoux	83.00	342	eP	P	19 47 36.3	+1.0
	comp=Z,9.2nm,0.7s,mb4.4						
RJF	Les Rejaudoux	83.00	342	eP	P	19 47 36.3	+1.0
RJF				pmax	pmax		
	comp=Z,5.0nm,0.7s,mb4.5						
RJF	Les Rejaudoux	83.00	342	eP	P	19 47 36.3	+1.0
	comp=Z,4.6nm,0.7s,mb4.4						
SBF	Sospel	83.03	337	eP	P	19 47 35.4	-0.1
	comp=Z,18nm,0.7s,mb4.7						
SBF	Sospel	83.03	337	eP	P	19 47 35.4	-0.1
SBF				pmax	pmax		
	comp=Z,9.0nm,0.7s,mb4.7						
SBF	Sospel	83.03	337	eP	P	19 47 35.4	-0.1
	comp=Z,8.9nm,0.7s,mb4.7						
CAF	Calviac	83.25	341	eP	P	19 47 37.3	+0.7
	comp=Z,4.9nm,0.5s,mb4.3						
CAF	Calviac	83.25	341	eP	P	19 47 37.3	+0.7
CAF				pmax	pmax		
	comp=Z,2.0nm,0.5s,mb4.2						
CAF	Calviac	83.25	341	eP	P	19 47 37.3	+0.7
	comp=Z,2.5nm,0.5s,mb4.3						
LFF	La Frestale	83.50	342	eP	P	19 47 38.3	+0.4
	comp=Z,10nm,0.6s,mb4.5						
LFF	La Frestale	83.50	342	eP	P	19 47 38.3	+0.4
LFF				pmax	pmax		
	comp=Z,5.0nm,0.6s,mb4.5						
LFF	La Frestale	83.50	342	eP	P	19 47 38.3	+0.4
	comp=Z,5.1nm,0.6s,mb4.5						
LMR	La Mourre	83.75	338	⇑iP	P	19 47 39.2	0.0
PGF	Pioggiola	83.85	336	⇑iP	P	19 47 39.7	0.0
	comp=Z,14nm,0.8s,mb4.5						
PGF	Pioggiola	83.85	336	⇑iP	P	19 47 39.7	0.0
PGF				pmax	pmax		
	comp=Z,7.0nm,0.8s,mb4.5						
PGF	Pioggiola	83.85	336	⇑iP	P	19 47 39.7	0.0
	comp=Z,7.3nm,0.8s,mb4.6						
WHFO	Wadi Hawf	84.07	291	⇑P	P	19 47 41.3	0.0
	SNR=15						
CUC	Castrocucco	84.18	330	eP	P	19 47 41.0	-0.4
	comp=Z,3.5nm,0.8s,mb4.2						
TIP	Timpagrande	84.61	329	eP	P	19 47 43.0	-0.6
	comp=Z,3.4nm,0.8s,mb4.3						
EPF	Esparros	85.42	342	eP	P	19 47 49.1	+1.5
	comp=Z,5.7nm,0.6s,mb4.4						
EPF	Esparros	85.42	342	eP	P	19 47 49.1	+1.5
EPF				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.4						
EPF	Esparros	85.42	342	eP	P	19 47 49.1	+1.5
	comp=Z,2.8nm,0.6s,mb4.4						
ETSF	Etsaut	85.72	343	eP	P	19 47 49.8	+0.7
	comp=Z,5.3nm,0.6s,mb4.3						
ETSF	Etsaut	85.72	343	eP	P	19 47 49.8	+0.7
ETSF				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.4						
ETSF	Etsaut	85.72	343	eP	P	19 47 49.8	+0.7
	comp=Z,2.7nm,0.6s,mb4.3						
PVRL	Vila Real	88.50	348	eP	P	19 48 04.1	+1.5
PVIS	Viseu	89.08	348	eP	P	19 48 06.7	+1.4
MTE	Manteigas	89.34	347	eP	P	19 48 07.6	+1.1
ESDC	Sonseca Array	89.47	344	P	P	19 48 07.6	+0.4
	comp=Z,2.2nm,0.6s,mb4.4,baz=1.2,slow=4.3,SNR=12						
KEST	Kesra	90.10	333	P	P	19 48 10.9	+0.7
	comp=Z,2.6nm,0.8s,mb4.4,baz=25,slow=1.0,SNR=10						
TORD	Torodi Ar. Bea	113.60	332	PP	PP	19 54 35.0	-5.3
	comp=Z,1.0nm,0.9s,baz=8.9,slow=6.8,SNR=4.7						
LPAZ	La Paz	131.57	63	PKP	PKPdf	19 54 22.4	-0.4
	comp=Z,0.8nm,0.8s,baz=0.6,slow=4.8,SNR=3.8						
LPAZ	La Paz	131.57	63	PKIKP	PKPdf	19 54 22.4	-0.3
LPAZ				pmax	pmax		
	comp=Z,1.0nm,0.8s						
CPUP	Villa Florida	145.63	60	PKPbc	PKPbc	19 54 47.0	-1.5
	comp=Z,6.0nm,0.8s,baz=317,slow=2.6,SNR=14						
CPUP	Villa Florida	145.63	60	PKIKP	PKPdf	19 54 47.0	-1.1
CPUP				pmax	pmax		
	comp=Z,6.0nm,0.8s						
PLCA	Paso Flores	146.67	93	PKPbc	PKPbc	19 54 49.9	-1.3
	comp=Z,5.6nm,0.8s,baz=249,slow=1.8,SNR=21						
PLCA	Paso Flores	146.67	93	PKP2	PKPbc	19 54 49.9	-1.3
PLCA				pmax	pmax		
	comp=Z,6.0nm,0.8s						
SNAA	Sanae	155.61	196	ePKPdf	PKPab	19 55 27.6	-1.1
VNA2	Neumayer--Watz	157.03	194	ePKPdf	PKPab	19 55 34.3	-0.5
	baz=145,slow=2.1						
VNA2				e		19 56 01.7	
VNA3	Neumayer Olymp	157.08	192	ePKPdf	PKPab	19 55 33.8	-1.2
VNA3				e		19 56 01.3	
VNA1	Neumayer--Stat	157.41	194	ePKPdf	PKPab	19 55 36.7	+0.3
VNA1				e		19 56 03.6	

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*IDC **03** 20:09:34.8±1.8, 4350N×10532W, h0^{km}, mb4.0/5, mb1 4.0/8, mb1mx3.7/24, mbtmp3.9/8, ML3.4/3, Error ellipse: s-maj=55.6km s-min=8.6km az=155.0*

*ISCJB **03** 20:09:35.1±0.4, 4379N±004×10517W±006, h0^{km}, mb4.0/5, Error ellipse: s-maj=6.1km s-min=6.0km az=157.9*

*NEIC **03** 20:09:36.7±0.3, 4380N×10520W, h0^{km}, ML3.4, Error ellipse: s-maj=5.2km s-min=4.9km az=170.0, Suspected Mining explosion.*

NEIC 65 km [40 miles] SSE of Gillette.

ISC 03 20:09:36.9±0.4, 4378N±004×10519W±006, h0^{km}, n36, σ0^{s}99/36, mb4.0/5, Wyoming

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PHWY	Pilot Hill	2.49	185	ePn	Pn	20 10 18.0	-0.6
RWWY	Rawlins	2.57	216	ePn	Pn	20 10 20.1	+0.4
RLMT	Red Lodge	3.21	296	ePn	Pn	20 10 28.1	-0.4
PDAR	Pinedale Array	3.35	254	Pn	Pn	20 10 30.1	-0.4
	5.4nm,0.3s,baz=70,slow=16,SNR=51						
PDAR				Lg		20 11 13.9	
	3.3nm,0.3s,baz=72,slow=28,SNR=43						
OGNE	Ogallala	3.68	139	ePn	Pn	20 10 35.6	+0.7
GCMT	Greycliff	3.77	304	ePn	Pn	20 10 36.5	+0.4
LOHW	Long Hollow	3.93	269	ePn	Pn	20 10 38.5	+0.1
ISCO	Idaho Springs	3.99	185	ePn	Pn	20 10 39.5	+0.2
MOOW	Moose Ponds	4.03	271	ePn	Pn	20 10 42.7	+3.0
SNOW	Snow King Moun	4.05	267	ePn	Pn	20 10 41.6	+1.5
REDW	Red Top Meadow	4.14	266	ePn	Pn	20 10 40.9	-0.4
IMW	Indian Meadow	4.16	274	ePn	Pn	20 10 42.3	+0.7
TPAW	Teton Pass	4.19	268	ePn	Pn	20 10 42.0	0.0
AHID	Auburn Hatcher	4.44	259	eP	Pn	20 10 55.9	+11
RRI2	Red Ridge	4.48	267	ePn	Pn	20 10 45.8	-0.2
QLMT	Earthquake Lak	4.60	285	ePn	Pn	20 10 47.1	-0.5
DGMT	Dagmar	4.74	8	ePn	Pn	20 10 51.9	+2.5
HWUT	Hardware Ranch	5.18	247	ePn	Pn	20 10 54.6	-1.0
	26nm,0.4s						
EGMT	Eagleton	5.30	325	ePn	Pn	20 10 57.3	0.0
	33nm,0.5s						
MCMT	McKenzie Canyo	5.60	283	ePn	Pn	20 11 03.3	+2.1
HVU	Hansel Valley	5.93	253	ePn	Pn	20 11 05.4	-0.5
	9.5nm,0.6s						
SDCO	Great Sand Dun	6.04	182	ePn	Pn	20 11 08.2	+0.8
	2.8nm,0.5s						
SRU	San Rafael	6.15	222	ePn	Pn	20 11 07.4	-1.5
	65nm,0.4s						
PV01	Paradox Valley	6.20	206	ePn	Pn	20 11 10.4	+0.9
ECSD	EROS,Sioux Fal	6.21	88	ePn	Pn	20 11 09.8	+0.1
	12nm,0.6s						
TMUT	Trail Mountain	6.36	227	ePn	Pn	20 11 11.8	-0.1
CHMT	Chamberlain Mo	6.49	302	ePn	Pn	20 11 13.6	+0.1
DUG	Dugway	6.72	240	ePn	Pn	20 11 15.5	-1.2
	7.4nm,0.5s						
ELK	Elko	8.05	251	Pn	Pn	20 11 32.9	-2.1
	0.3nm,0.3s,baz=78,slow=12,SNR=5.2						
ELK				Lg		20 13 47.2	
	0.1nm,0.3s,baz=116,slow=17,SNR=2.1						
ULM	Lac du Bonnet	9.07	41	Pn	Pn	20 11 48.5	-0.4
	0.9nm,0.3s,baz=218,slow=10,SNR=7.6						
ULM				Lg		20 14 19.7	
	0.6nm,0.3s,baz=135,slow=20,SNR=3.2						
WUAZ	Wupatki	9.53	212	ePn	Pn	20 11 57.3	+2.0
	8.5nm,0.5s						
ARCES	ARCESS Array B	61.36	18	P	P	20 19 53.1	-0.7
	1.6nm,0.6s,mb4.3,baz=340,slow=6.8,SNR=10						
ZALV	Zalesovo Beam	82.27	354	P	P	20 21 58.6	-1.2
	0.9nm,0.5s,mb4.1,baz=11,slow=4.4,SNR=5.0						
SONM	Songino Array	84.62	339	P	P	20 22 12.0	+0.1
	0.2nm,0.4s,mb3.7,baz=0.5,slow=2.1,SNR=4.5						
MKAR	Makanchi Array	89.57	355	P	P	20 22 35.4	-0.6
	0.3nm,0.2s,mb4.1,baz=6.2,slow=4.5,SNR=4.6						
TORD	Torodi Ar. Bea	92.81	69	P	P	20 22 50.4	-1.2
	0.6nm,1.1s,mb4.0,baz=306,slow=5.3,SNR=4.0						

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*IDC **03** 20:45:19.5±0.7, 1351N×9282E, h0^{km}, mb3.8/12, mb1 3.9/13, mb1mx3.8/23, mbtmp3.7/13, ML3.5/1, Error ellipse: s-maj=28.0km s-min=14.4km az=60.0*

*ISCJB **03** 20:45:22.9±0.7, 1360N±009×930E±01, h33^{km}, mb3.8/12, Error ellipse: s-maj=18.6km s-min=11.8km az=157.2*

*NEIC **03** 20:45:24.1±0.5, 1360N×9297E, h30^{km}, mb3.5/1, Error ellipse: s-maj=15.6km s-min=9.3km az=67.0*

ISC 03 20:45:25.0±0.7, 1359N±009×930E±01, h35^{km}, n15, σ0^{s}70/16, mb3.8/12, Andaman Islands region

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	7.50	49	Pn	Pn	20 47 11.1	-0.9
	0.2nm,0.3s,baz=240,slow=16,SNR=4.1						
CMAR				Sn	Sn	20 48 29.2	-6.7
	0.1nm,0.3s,baz=238,slow=19,SNR=3.1						
LSA	Lhasa	16.12	354	Pn	Pn	20 49 08.0	-0.9
	2.3nm,0.6s						
MKAR	Makanchi Array	34.29	347	P	P	20 52 08.4	+0.5
	0.2nm,0.2s,mb3.6,baz=285,slow=42,SNR=2.3						
SONM	Songino Array	35.92	15	P	P	20 52 23.3	+1.4
	0.1nm,0.4s,mb3.1,baz=83,slow=27,SNR=2.9						
KSRS	Korea Array	39.13	46	P	P	20 52 50.1	+0.9
	0.6nm,0.4s,mb3.7,baz=122,slow=12,SNR=3.8						
ZALV	Zalesovo Beam	40.77	353	P	P	20 53 02.5	-0.1
	0.3nm,0.4s,mb3.3,baz=23,slow=27,SNR=2.1						
FITZ	Fitzroy Crossi	45.05	134	P	P	20 53 37.3	-0.4
	0.7nm,0.4s,mb3.9,baz=330,slow=15,SNR=8.8						
NWAO	Narrogin (SRO)	51.74	154	P	P	20 54 28.5	-0.5
	3.4nm,0.8s,mb4.3,baz=323,slow=10,SNR=3.2						
NWAO	Narrogin (SRO)	51.74	154	P	P	20 54 28.5	-0.5
WRA	Warramunga Arr	52.60	129	P	P	20 54 35.7	+0.1
	1.1nm,0.4s,mb4.1,baz=298,slow=9.8,SNR=20						
WRA				PcP	PcP	20 55 46.4	+0.8
	0.4nm,0.4s,baz=318,slow=3.1,SNR=14						
ASAR	Alice Springs	54.52	132	P	P	20 54 50.1	+0.4
	2.1nm,0.4s,mb4.5,baz=307,slow=6.7,SNR=90						
ARCES	ARCESS Array B	69.53	340	P	P	20 56 30.1	+0.3
	1.1nm,0.8s,mb3.8,baz=64,slow=5.5,SNR=5.2						
GERES	GERESS Array B	72.85	317	P	P	20 56 49.2	-1.0
	0.5nm,0.5s,mb3.7,baz=89,slow=6.3,SNR=8.7						
NOA	NORSAR Array B	74.23	330	P	P	20 56 57.6	-0.5
	0.7nm,0.8s,mb3.6,baz=96,slow=5.4,SNR=3.1						
TORD	Torodi Ar. Bea	88.19	283	P	P	20 58 13.8	+0.7
	0.3nm,0.5s,mb3.7,baz=70,slow=3.5,SNR=5.6						

NEIC 03 20:50:43.0, 4215S×17287E, h62^{km}, ML3.7(WEL), After WEL., South Island

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
THZ	Tophouse	0.39	4	P	Pn	20 50 53.4	-0.6
THZ				S	Sn	20 51 00.2	-1.8
KHZ	Kahutara	0.56	119	P	Pn	20 50 56.0	+0.2
KHZ				S	Sn	20 51 05.4	+0.3
LTZ	Lake Taylor	0.77	215	P	Pn	20 50 58.9	+0.7
BSWZ	Blackbirch Sta	0.87	60	P	Pn	20 50 59.8	+0.4
DSZ	Denniston Nort	0.89	296	P	Pn	20 50 59.6	-0.1
NNZ	Nelson	1.01	22	P	Pn	20 51 01.0	-0.2
CMWZ	Cape Campbell	1.08	69	P	Pn	20 51 03.3	+1.2
CMWZ				S	Sn	20 51 16.5	+0.2
QRZ	Quartz Range	1.35	349	P	Pn	20 51 05.1	-0.5
TCW	Tory Channel	1.41	49	P	Pn	20 51 06.2	-0.3
CRLZ	Canterbury Las	1.44	187	P	Pn	20 51 06.6	-0.3
MQZ	McQueen's Vall	1.56	186	P	Pn	20 51 07.7	-0.9
SNZO	South Karori	1.61	59	P	Pn	20 51 08.5	-0.7
MRW	Makara Radio	1.65	57	P	Pn	20 51 09.2	-0.5
BHW	Baring Head	1.67	64	P	Pn	20 51 09.0	-1.0
WVZ	Waitaha Valley	1.83	239	P	Pn	20 51 12.7	+0.6
MSWZ	Moikau Station	1.93	68	P	Pn	20 51 12.1	-1.3
CAW	Cannon Point	1.95	58	P	Pn	20 51 12.8	-0.9
KIW	Kapiti Island	2.00	51	P	Pn	20 51 14.0	-0.5
RPZ	Rata Peaks	2.06	220	P	Pn	20 51 15.7	+0.5
PAWZ	Paruwai Farm	2.06	69	P	Pn	20 51 13.6	-1.7
MTW	Mount Morrison	2.21	64	P	Pn	20 51 15.5	-1.8
MRZ	Mangatainoka R	2.52	55	P	Pn	20 51 20.1	-1.5
FOZ	Fox Glacier	2.73	238	P	Pn	20 51 23.4	-1.0
WAZ	Wanganui	2.88	35	P	Pn	20 51 29.4	+3.0
NWEZ	Newall Road	2.97	15	P	Pn	20 51 29.2	+1.5
DFE	Dawson Falls	2.97	19	P	Pn	20 51 29.1	+1.4
LBZ	Lake Benmore	2.97	220	P	Pn	20 51 27.4	-0.3
NEZ	North Egmont	3.02	18	P	Pn	20 51 29.8	+1.4
RAEZ	Rainy Point	3.08	23	P	Pn	20 51 30.8	+1.6
TSZ	Takapari Road	3.13	49	P	Pn	20 51 28.2	-1.7
ODZ	Otahua Downs	3.31	208	P	Pn	20 51 31.5	-0.9
VRZ	Vera Road	3.34	26	P	Pn	20 51 33.5	+0.7
WNVZ	Wahianoa	3.50	37	P	Pn	20 51 36.3	+1.4
MOVZ	Moawhango	3.51	40	P	Pn	20 51 34.5	-0.5
WPVZ	Whakapapa	3.58	36	P	Pn	20 51 36.9	+0.9
NGZ	Ngauruhoe	3.62	36	P	Pn	20 51 38.1	+1.5
TWVZ	Taurewa	3.64	33	P	Pn	20 51 36.6	-0.3

WTVZ	West Tongariro	3.67	35	P	Pn	20 51 37.9	+0.7
KATZ	Kakaramea	3.83	35	P	Pn	20 51 42.2	+2.8
WKZ	Wanaka	3.88	225	P	Pn	20 51 38.2	-1.8
HIZ	Hauiti	3.94	23	P	Pn	20 51 41.4	+0.5
TUZ	Tuapeka	4.46	210	P	Pn	20 51 47.6	-0.5
TOZ	Tahuroa Road	4.86	25	P	Pn	20 51 54.1	+0.6
URZ	Urewera	5.06	41	P	Pn	20 51 53.5	-2.8
MWZ	Matawai	5.22	45	P	Pn	20 51 57.1	-1.3
WTAZ	Waiatarua	5.37	15	P	Pn	20 52 02.0	+1.4

*ISCJB **03** 21:00:50.4±0.2, 4323N±001×030W±002, h15km±1km, Error ellipse: s-maj=2.4km s-min=1.7km az=145.2*
*STR **03** 21:00:52.2±0.2, 43.16N×031W, h5km, Ml2.8, Error ellipse: s-maj=0.0km s-min=0.0km az=0.0*
*LDG **03** 21:00:52.8±0.0, 43.14N×032W, h2km, Md3.2/3, Ml3.0/25, Error ellipse: s-maj=1.0km s-min=0.8km az=136.0*
*MDD **03** 21:00:53.0±0.2, 43.12N×032W, h8km±1km, mbLg2.1/43, Error ellipse: s-maj=2.2km s-min=1.4km az=180.0, PRIMO*
*CSEM **03** 21:00:53.1±0.0, 43.15N×033W, h8km, ML2.9/38, Error ellipse: s-maj=0.9km s-min=0.8km az=142.0*
*NEIC **03** 21:00:53.5, 4308N×032W, h0km, ML2.8(STR), ML3.0(LDG), MN2.3(MDD), After MDD.*
ISC 03 21:00:51.6±0.2, **4320N**±001×**031W**±001, **h12**km±1km, **n192**, σ1^{s}**19**/399, **2C, Pyrenees**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
REYF	Montagne du Re	0.15	205	Pg	Pg	21 00 55.0	0.0
REYF				Sg	Sg	21 00 58.1	+0.7
REYF	Montagne du Re	0.15	205	Pg	Pg	21 00 55.0	0.0
REYF				Lg		21 00 56.5	
ATE	Arette	0.31	248	Pg	Pg	21 00 58.1	+0.3
ATE				Sg	Sg	21 01 02.4	+0.4
ATE	Arette	0.31	248	Pg	Pg	21 00 58.0	+0.2
ATE				Lg		21 01 02.3	
LABF	Labassere	0.32	119	Pg	Pg	21 00 58.4	+0.4
LABF				Lg		21 01 03.1	
ETSF	Etsaut	0.36	211	ePg	Pg	21 00 58.0	-0.7
	SNR=1.0						
ETSF				eSg	Sg	21 01 01.2	-2.2
	810nm,0.4s						
ETSF	Etsaut	0.36	211	ePg	Pg	21 00 58.0	-0.7
	SNR=1.0						
ETSF				eSg	Sg	21 01 01.2	-2.2
	405nm,0.4s						
VIEF	Viey	0.40	143	Pg	Pg	21 00 59.1	-0.4
VIEF				Sg	Sg	21 01 04.1	-0.7
VIEF	Viey	0.40	143	Pg	Pg	21 00 59.2	-0.2
VIEF				Lg		21 01 03.8	
FDAF	Les Forges d'A	0.43	206	Pg	Pg	21 00 59.2	-0.8
FDAF				Lg		21 01 04.2	
ORDF	Ordiarp	0.46	271	Pg	Pg	21 01 01.6	+1.1
ORDF				Lg		21 01 08.0	
EPF	Esparros	0.50	110	eP	Pg	21 01 03.4	+2.0
EPF				eSg	Sg	21 01 09.2	+1.1
	59nm,0.2s,SNR=1.0						
EPF	Esparros	0.50	110	Pg	Pg	21 01 02.1	+0.7
EPF				Lg		21 01 09.2	
	29nm,0.2s						
EPF	Esparros	0.50	110	eP	Pg	21 01 03.4	+2.0
EPF				eSg	Sg	21 01 09.2	+1.1
	29nm,0.2s,SNR=1.0						
EPF	Esparros	0.50	110	ePg	Pg	21 01 02.1	+0.7
EPF				eP		21 01 03.4	
EPF				eSg	Sg	21 01 09.2	+1.1
LARF	Larrau	0.53	252	Pg	Pg	21 01 02.2	+0.4
LARF				Sg	Sg	21 01 09.2	+0.5
LARF	Larrau	0.53	252	Pg	Pg	21 01 02.3	+0.5
LARF				Lg		21 01 09.5	
EBIE	Bielsa	0.61	147	⇑Pg	Pg	21 01 02.9	-0.5
	SNR=18						
EBIE				Lg		21 01 10.0	
	64nm,0.0s,SNR=60						
EBIE	Bielsa	0.61	147	Pg	Pg	21 01 02.9	-0.6
	SNR=18						
EBIE				Lg		21 01 10.0	
	64nm,0.0s,SNR=60						
RESF	Ens	0.62	130	Pg	Pg	21 01 03.6	+0.1
RESF				Sg	Sg	21 01 11.2	-0.4
RESF	Ens	0.62	130	Pg	Pg	21 01 03.6	0.0
RESF				Lg		21 01 11.4	
SJPF	Ste Jean	0.68	263	eP	Pg	21 01 06.0	+1.3
SJPF	Ste Jean	0.68	263	ePn	Pn	21 01 07.0	0.0
SJPF				eSg	Sg	21 01 14.5	+0.9
	125nm,0.2s,SNR=1.0						
SJPF	Ste Jean	0.68	263	Pg	Pg	21 01 04.8	+0.1
SJPF				Pn	Pn	21 01 07.0	0.0
SJPF				Lg		21 01 14.5	
	62nm,0.2s						
SJPF	Ste Jean	0.68	263	eP	Pg	21 01 06.0	+1.3
SJPF	Ste Jean	0.68	263	ePn	Pn	21 01 07.0	0.0
SJPF				eSg	Sg	21 01 14.5	+0.9
	62nm,0.2s,SNR=1.0						
SJPF	Ste Jean	0.68	263	ePg	Pg	21 01 04.8	+0.1
SJPF				eP		21 01 06.0	
SJPF				ePn	Pn	21 01 07.0	0.0
SJPF				eSg	Sg	21 01 14.5	+0.9
OSSF	Osses	0.70	275	Pg	Pg	21 01 05.7	+0.6
OSSF				Sg	Sg	21 01 14.4	+0.1
OSSF	Osses	0.70	275	Pg	Pg	21 01 05.0	-0.1
OSSF				Lg		21 01 16.4	
EORO	Oroz-Betelu	0.80	247	Pg	Pg	21 01 06.9	-0.1
	1.4nm,0.1s,SNR=79						
EORO				Lg		21 01 17.0	
	19nm,0.1s,SNR=26						
EORO	Oroz-Betelu	0.80	247	Pg	Pg	21 01 06.9	-0.1
	1.4nm,0.1s,SNR=79						
MELF	Melles	0.85	113	Pg	Pg	21 01 07.0	-0.9
MELF				Sg	Sg	21 01 19.7	+0.7
MELF	Melles	0.85	113	Pg	Pg	21 01 07.1	-0.8
MELF				Lg		21 01 19.4	
IPRE	Itoiz	0.87	243	Pg	Pg	21 01 08.8	+0.6
	0.9nm,0.1s,SNR=19						
IPRE				Lg		21 01 19.7	
	7.2nm,0.3s,SNR=10						
IPRE	Itoiz	0.87	243	Pg	Pg	21 01 08.8	+0.5
	0.9nm,0.1s,SNR=19						
EALK	Alkurruntz	0.88	271	Pg	Pg	21 01 08.6	+0.1
	1.0nm,0.1s,SNR=10						
EALK				Lg		21 01 21.5	
	28nm,0.2s						
EALK	Alkurruntz	0.88	271	Pg	Pg	21 01 08.6	+0.1
EALK				Lg		21 01 20.2	
ELIZ	Elizondo	0.90	268	⇑Pg	Pg	21 01 09.7	+0.9
	3.4nm,0.1s,SNR=18						
ELIZ				Lg		21 01 21.2	
	12nm,0.2s						
IUSE	Utxeti	0.94	255	Pg	Pg	21 01 10.3	+0.6
	3.3nm,0.1s,SNR=15						
IUSE				Lg		21 01 22.2	
	12nm,0.1s,SNR=16						
IUSE	Utxeti	0.94	255	Pg	Pg	21 01 10.3	+0.5
	3.3nm,0.1s,SNR=15						
IUNC	Unciti	0.98	243	Pg	Pg	21 01 11.2	+0.7
	1.6nm,0.1s,SNR=29						
IUNC				Lg		21 01 23.4	
	54nm,0.3s,SNR=11						
IUNC	Unciti	0.98	243	Pg	Pg	21 01 11.2	+0.7
	1.6nm,0.1s,SNR=29						
EARA	Aranguren	1.03	246	Pg	Pg	21 01 12.1	+0.7
	2.8nm,0.1s,SNR=17						
EARA				Lg		21 01 24.9	
	41nm,0.2s,SNR=9.2						
MLS	Moulis	1.06	103	Lg		21 01 27.3	
ESAC	San Caprasio	1.49	185	Pg	Pg	21 01 19.4	-0.7
	5.2nm,0.1s,SNR=34						
ESAC				Lg		21 01 37.3	
	38nm,0.2s,SNR=18						
ESAC	San Caprasio	1.49	185	Pg	Pg	21 01 19.4	-0.7
	5.2nm,0.1s,SNR=34						
PAND	Andorre	1.52	116	Lg		21 01 41.2	
ECRI	Cripan	1.73	251	Pg	Pg	21 01 23.4	-1.2
	1.0nm,0.1s,SNR=7.9						
ECRI				Lg		21 01 47.1	
	6.4nm,0.2s,SNR=7.9						
CARF	Carcanieres	1.84	105	Pg	Pg	21 01 27.9	+1.2
CARF				Lg		21 01 52.9	
MTLF	Montolieu	1.85	85	ePg	Pg	21 01 28.0	+1.0
	SNR=1.0						
MTLF				eSg	Sg	21 01 51.5	+0.5
	14nm,0.2s,SNR=1.0						
MTLF	Montolieu	1.85	85	Pn	Pn	21 01 23.9	+0.8
MTLF				Pg	Pg	21 01 28.0	+1.0
MTLF				Lg		21 01 51.5	
	7.1nm,0.2s						
MTLF	Montolieu	1.85	85	ePg	Pg	21 01 28.0	+1.0
	SNR=1.0						
MTLF				eSg	Sg	21 01 51.5	+0.5
	7.1nm,0.2s,SNR=1.0						
MTLF	Montolieu	1.85	85	ePn	Pn	21 01 23.9	+0.8
MTLF				ePg	Pg	21 01 28.0	+1.0
MTLF				eSg	Sg	21 01 51.5	+0.5
EMIR	Miracle	1.87	133	Pn	Pn	21 01 24.1	+0.8
	0.2nm,0.0s,SNR=7.9						
EMIR				Pg	Pg	21 01 27.3	-0.1
	6.7nm,0.1s,SNR=31						
EMIR				Lg		21 01 51.1	
	3.4nm,0.1s						
EMIR	Miracle	1.87	133	Pn	Pn	21 01 24.1	+0.7
	0.2nm,0.0s,SNR=7.9						
EMIR	Miracle	1.87	133	Pg	Pg	21 01 27.3	-0.1
	6.7nm,0.1s,SNR=31						
VALF	Valcebollere	1.89	114	Pg	Pg	21 01 28.5	+0.7
VALF	Valcebollere	1.89	114	Pg	Pg	21 01 28.5	+0.8
VALF				Lg		21 01 52.6	
LFF	La Frestale	1.89	23	ePg	Pg	21 01 29.9	+2.1
LFF				eSn	Sn	21 01 47.9	+0.4
	SNR=1.0						
LFF				eSg	Sg	21 01 54.4	+2.0
	56nm,0.3s,SNR=1.0						
LFF	La Frestale	1.89	23	Pn	Pn	21 01 25.0	+1.3
LFF				Pg	Pg	21 01 29.9	+2.1
LFF				Sn	Sn	21 01 47.9	+0.4
LFF				Lg		21 01 54.4	
	28nm,0.3s						
LFF	La Frestale	1.89	23	ePg	Pg	21 01 29.9	+2.1
LFF				eSn	Sn	21 01 47.9	+0.4
	SNR=1.0						
LFF				eSg	Sg	21 01 54.4	+2.0
	28nm,0.3s,SNR=1.0						
LFF	La Frestale	1.89	23	ePn	Pn	21 01 25.0	+1.3
LFF				ePg	Pg	21 01 29.9	+2.1
LFF				eSn	Sn	21 01 47.9	+0.4
LFF				eSg	Sg	21 01 54.4	+2.0
EPOB	Poblet	2.12	150	Pg	Pg	21 01 29.8	-2.3
	0.6nm,0.1s,SNR=24						
EPOB				Sn	Sn	21 01 52.9	-0.1
	2.2nm,0.1s,SNR=7.9						
EPOB				Lg		21 01 57.0	
	9.3nm,0.2s						
EPOB	Poblet	2.12	150	Pg	Pg	21 01 29.9	-2.2
EPOB				Sn	Sn	21 01 53.2	+0.2
	2.2nm,0.1s,SNR=7.9						
EPOB	Poblet	2.12	150	Pg	Pg	21 01 29.9	-2.3
EPOB				Sn	Sn	21 01 53.2	+0.2
EPOB				Lg		21 01 56.7	
ELAN	Lanestosa	2.29	272	Pn	Pn	21 01 30.9	+1.8
	0.3nm,0.1s,SNR=9.5						
ELAN				Sn	Sn	21 01 58.2	+1.0
	1.7nm,0.1s						
ELAN	Lanestosa	2.29	272	Pg	Pg	21 01 32.6	-2.8
	0.3nm,0.1s,SNR=9.5						
ELAN	Lanestosa	2.29	272	Pg	Pg	21 01 32.6	-2.7
ELAN				Lg		21 02 01.8	
ERTA	Horta de San J	2.30	168	Pg	Pg	21 01 33.9	-1.7
	2.0nm,0.1s,SNR=23						
ERTA				Sn	Sn	21 01 56.0	-1.4
	1.7nm,0.1s,SNR=7.9						
ERTA				Lg		21 02 02.3	
	4.5nm,0.1s,SNR=13						
ERTA	Horta de San J	2.30	168	Pg	Pg	21 01 33.9	-1.6
	2.0nm,0.1s,SNR=23						
ERTA				Sn	Sn	21 01 56.0	-1.4
	1.7nm,0.1s,SNR=7.9						
ERTA	Horta de San J	2.30	168	Pg	Pg	21 01 33.9	-1.7
ERTA				Sn	Sn	21 01 56.0	-1.4
ERTA				Lg		21 02 01.2	
CAF	Calviac	2.43	44	ePg	Pg	21 01 39.4	+1.4
	SNR=1.0						
CAF				eSn	Sn	21 02 00.9	+0.3
	SNR=1.0						
CAF				eSg	Sg	21 02 11.1	+1.6
	18nm,0.2s,SNR=1.0						
CAF	Calviac	2.43	44	Pn	Pn	21 01 32.1	+1.1
CAF				Pg	Pg	21 01 39.4	+1.4
CAF				Sn	Sn	21 02 00.9	+0.3
CAF				Lg		21 02 11.1	
	8.8nm,0.2s						
CAF	Calviac	2.43	44	ePg	Pg	21 01 39.4	+1.4
	SNR=1.0						
CAF				eSn	Sn	21 02 00.9	+0.3
	SNR=1.0						
CAF				eSg	Sg	21 02 11.1	+1.6
	8.8nm,0.2s,SNR=1.0						
CAF	Calviac	2.43	44	ePn	Pn	21 01 32.1	+1.1
CAF				ePg	Pg	21 01 39.4	+1.4
CAF				eSn	Sn	21 02 00.9	+0.3
CAF				eSg	Sg	21 02 11.1	+1.6
EJON	La Jonquera	2.47	107	Pn	Pn	21 01 36.4	+4.8
	0.5nm,0.1s,SNR=7.9						
EJON				Sn	Sn	21 02 03.3	+1.6
	0.5nm,0.1s,SNR=7.9						
EJON				Lg		21 02 11.8	
	2.4nm,0.2s,SNR=7.9						
EJON	La Jonquera	2.47	107	Pn	Pn	21 01 36.4	+4.8
	0.5nm,0.1s,SNR=7.9						
EJON				Sn	Sn	21 02 03.3	+1.6
	0.5nm,0.1s,SNR=7.9						
RJF	Les Rejaudoux	2.48	31	ePg	Pg	21 01 40.3	+1.3
RJF				eSn	Sn	21 02 02.5	+0.6
RJF				eSg	Sg	21 02 12.7	+1.7
	16nm,0.2s						
RJF	Les Rejaudoux	2.48	31	Pn	Pn	21 01 33.1	+1.4
RJF				Pg	Pg	21 01 40.3	+1.3
RJF				Sn	Sn	21 02 02.5	+0.6
RJF				Lg		21 02 12.7	
	8.2nm,0.2s						
RJF	Les Rejaudoux	2.48	31	ePg	Pg	21 01 40.3	+1.3
RJF				eSn	Sn	21 02 02.5	+0.6
RJF				eSg	Sg	21 02 12.7	+1.7
	8.2nm,0.2s						
RJF	Les Rejaudoux	2.48	31	ePn	Pn	21 01 33.1	+1.4
RJF				ePg	Pg	21 01 40.3	+1.3
RJF				eSn	Sn	21 02 02.5	+0.6
RJF				eSg	Sg	21 02 12.7	+1.7
ETOR	Torete	2.72	209	Pn	Pn	21 01 36.1	+1.1
	9.4nm,0.1s,SNR=32						
ETOR				Sn	Sn	21 02 06.0	-1.8
	10nm,0.1s,SNR=5.0						
ETOR				Lg		21 02 15.1	
	19nm,0.1s,SNR=9.0						
ETOR	Torete	2.72	209	Pn	Pn	21 01 36.2	+1.2
	9.4nm,0.1s,SNR=32						
ETOR				Sn	Sn	21 02 08.1	+0.3
	10nm,0.1s,SNR=5.0						
ETOR	Torete	2.72	209	Pn	Pn	21 01 36.1	+1.1
ETOR				Sn	Sn	21 02 08.1	+0.3
ETOR				Lg		21 02 15.1	
EMOS	Mosqueruela	2.84	183	Pn	Pn	21 01 38.0	+1.3
	0.1nm,0.1s,SNR=7.9						
EMOS				Pg	Pg	21 01 43.9	-2.0
	0.7nm,0.1s,SNR=9.9						
EMOS				Sn	Sn	21 02 08.8	-2.1
	1.5nm,0.2s,SNR=7.9						
EMOS				Lg		21 02 19.0	
	2.2nm,0.1s,SNR=5.6						
EMOS	Mosqueruela	2.84	183	Pn	Pn	21 01 38.0	+1.3
	0.1nm,0.1s,SNR=7.9						
EMOS	Mosqueruela	2.84	183	Pg	Pg	21 01 43.9	-2.1
	0.7nm,0.1s,SNR=9.9						
EMOS				Sn	Sn	21 02 08.8	-2.1
	1.5nm,0.2s,SNR=7.9						
LASF	Ste Croix	3.15	72	ePg	Pg	21 01 51.7	-0.1
	SNR=1.0						
LASF				eSn	Sn	21 02 16.0	-2.4
	SNR=1.0						
LASF				eSg	Sg	21 02 32.6	+0.1
	7.2nm,0.2s,SNR=1.0						
LASF	Ste Croix	3.15	72	Pn	Pn	21 01 41.4	+0.5
LASF				Pg	Pg	21 01 51.7	-0.1
LASF				Sn	Sn	21 02 16.0	-2.4
LASF				Lg		21 02 32.6	
	3.6nm,0.2s						
LASF	Ste Croix	3.15	72	ePg	Pg	21 01 51.7	-0.1
	SNR=1.0						
LASF				eSn	Sn	21 02 16.0	-2.4
	SNR=1.0						
LASF				eSg	Sg	21 02 32.6	+0.1
	3.6nm,0.2s,SNR=1.0						
LASF	Ste Croix	3.15	72	ePn	Pn	21 01 41.4	+0.5
LASF				ePg	Pg	21 01 51.7	-0.1
LASF				eSn	Sn	21 02 16.0	-2.4
LASF				eSg	Sg	21 02 32.6	+0.1
LBL	Lubilhac	3.26	50	Pn	Pn	21 01 42.0	-0.5
MFF	Saint Martin d	3.40	2	ePg	Pg	21 01 57.0	+0.3
	SNR=1.0						
MFF				eSg	Sg	21 02 40.6	-0.1
	8.0nm,0.3s,SNR=1.0						
MFF	Saint Martin d	3.40	2	Pn	Pn	21 01 45.9	+1.5
MFF				Pg	Pg	21 01 57.0	+0.3
MFF				Lg		21 02 40.6	
	0.0nm,0.3s						
MFF	Saint Martin d	3.40	2	ePg	Pg	21 01 57.0	+0.3
	SNR=1.0						
MFF				eSg	Sg	21 02 40.6	-0.1
	4.0nm,0.3s,SNR=1.0						
MFF	Saint Martin d	3.40	2	ePn	Pn	21 01 45.9	+1.5
MFF				ePg	Pg	21 01 57.0	+0.3
MFF				eSg	Sg	21 02 40.6	-0.1
PYM	Petit Puy Mans	3.48	42	Pn	Pn	21 01 47.2	+1.7
TCF	Toulx Ste Croi	3.57	29	ePg	Pg	21 02 00.4	+0.5
TCF				eSn	Sn	21 02 26.6	-2.2
	SNR=1.0						
TCF				eSg	Sg	21 02 46.1	+0.1
	8.3nm,0.3s,SNR=1.0						
TCF	Toulx Ste Croi	3.57	29	Pn	Pn	21 01 47.9	+1.2
TCF				Pg	Pg	21 02 00.4	+0.5
TCF				Sn	Sn	21 02 26.6	-2.2
TCF				Lg		21 02 46.1	
	4.2nm,0.3s						
TCF	Toulx Ste Croi	3.57	29	ePg	Pg	21 02 00.4	+0.5
TCF				eSn	Sn	21 02 26.6	-2.2
	SNR=1.0						
TCF				eSg	Sg	21 02 46.1	+0.1
	4.2nm,0.3s,SNR=1.0						
TCF	Toulx Ste Croi	3.57	29	ePn	Pn	21 01 47.9	+1.2
TCF				ePg	Pg	21 02 00.4	+0.5
TCF				eSn	Sn	21 02 26.6	-2.2
TCF				eSg	Sg	21 02 46.1	+0.1
EARI	Arriondas	3.58	273	Pn	Pn	21 01 49.6	+2.7
	0.3nm,0.1s,SNR=7.9						
EARI				Sn	Sn	21 02 29.4	+0.2
	0.2nm,0.2s,SNR=7.9						
EARI	Arriondas	3.58	273	Pn	Pn	21 01 49.6	+2.7
	0.3nm,0.1s,SNR=7.9						
EARI				Sn	Sn	21 02 29.4	+0.2
	0.2nm,0.2s,SNR=7.9						
ECHE	Chera	3.64	188	Pg	Pg	21 01 57.9	-3.4
	0.2nm,0.1s,SNR=7.9						
ECHE				Sn	Sn	21 02 28.7	-2.0
	0.5nm,0.2s,SNR=7.9						
ECHE				Lg		21 02 45.3	
	0.7nm,0.2s,SNR=7.9						
ECHE	Chera	3.64	188	Pg	Pg	21 01 59.4	-1.9
	0.2nm,0.1s,SNR=7.9						
ECHE				Sn	Sn	21 02 27.3	-3.4
	0.5nm,0.2s,SNR=7.9						
GUD	Guadarrama	3.84	230	Pn	Pn	21 01 51.8	+1.3
	0.7nm,0.2s,SNR=7.9						
GUD				Sn	Sn	21 02 34.4	-1.3
	1.8nm,0.2s,SNR=6.4						
GUD				Lg		21 02 51.0	
	2.7nm,0.2s,SNR=7.9						
GUD	Guadarrama	3.84	230	Pn	Pn	21 01 51.8	+1.3
	0.7nm,0.2s,SNR=7.9						
GUD				Sn	Sn	21 02 35.3	-0.4
	1.8nm,0.2s,SNR=6.4						
GUD	Guadarrama	3.84	230	Pn	Pn	21 01 51.8	+1.3
GUD				Sn	Sn	21 02 35.3	-0.3
GUD				Lg		21 02 51.0	
VIVF	Saint-Julien-l	3.95	64	ePg	Pg	21 02 07.0	-0.2
	SNR=1.0						
VIVF				eSn	Sn	21 02 37.1	-1.2
	SNR=1.0						
VIVF				eSg	Sg	21 02 57.8	-0.6
	5.4nm,0.3s						
VIVF	Saint-Julien-l	3.95	64	Pn	Pn	21 01 53.4	+1.4
VIVF				Pg	Pg	21 02 07.0	-0.2
VIVF				Sn	Sn	21 02 37.1	-1.2
VIVF				Lg		21 02 57.8	
	2.7nm,0.3s						
VIVF	Saint-Julien-l	3.95	64	ePg	Pg	21 02 07.0	-0.2
	SNR=1.0						
VIVF				eSn	Sn	21 02 37.1	-1.2
	SNR=1.0						
VIVF				eSg	Sg	21 02 57.8	-0.6
	2.7nm,0.3s						
VIVF	Saint-Julien-l	3.95	64	ePn	Pn	21 01 53.4	+1.4
VIVF				ePg	Pg	21 02 07.0	-0.2
VIVF				eSn	Sn	21 02 37.1	-1.2
VIVF				eSg	Sg	21 02 57.8	-0.6
BGF	Bois d'Agland	4.03	33	ePg	Pg	21 02 09.0	+0.2
	SNR=1.0						
BGF				eSn	Sn	21 02 41.1	+0.8
	SNR=1.0						
BGF				eSg	Sg	21 03 00.7	-0.3
	49nm,0.4s,SNR=1.0						
BGF	Bois d'Agland	4.03	33	Pn	Pn	21 01 53.9	+0.8
BGF				Pg	Pg	21 02 09.0	+0.2
BGF				Sn	Sn	21 02 41.1	+0.8
BGF				Lg		21 03 00.7	
	0.0nm,0.4s						
BGF	Bois d'Agland	4.03	33	ePg	Pg	21 02 09.0	+0.2
	SNR=1.0						
BGF				eSn	Sn	21 02 41.1	+0.8
	SNR=1.0						
BGF				eSg	Sg	21 03 00.7	-0.3
	24nm,0.4s,SNR=1.0						
BGF	Bois d'Agland	4.03	33	ePn	Pn	21 01 53.9	+0.8
BGF				ePg	Pg	21 02 09.0	+0.2
BGF				eSn	Sn	21 02 41.1	+0.8
BGF				eSg	Sg	21 03 00.7	-0.3
SMRF	Simiane la Rot	4.34	78	ePg	Pg	21 02 14.5	-0.2
	SNR=1.0						
SMRF				eSg	Sg	21 03 09.8	-1.1
	2.1nm,0.4s						
SMRF	Simiane la Rot	4.34	78	Pn	Pn	21 01 58.3	+0.9
SMRF				Pn	Pn	21 02 01.7	+4.3
SMRF				Pg	Pg	21 02 14.5	-0.2
SMRF				Lg		21 03 09.8	
	2.1nm,0.4s						
SMRF	Simiane la Rot	4.34	78	ePg	Pg	21 02 14.5	-0.2
	SNR=1.0						
SMRF				eSg	Sg	21 03 09.8	-1.1
	1.0nm,0.4s						
SMRF	Simiane la Rot	4.34	78	ePn	Pn	21 01 58.3	+0.9
SMRF				eP		21 02 01.7	
SMRF				ePg	Pg	21 02 14.5	-0.2
SMRF				eSg	Sg	21 03 09.8	-1.1
EIBI	Ibiza	4.36	163	Pn	Pn	21 01 56.9	-0.6
	0.3nm,0.1s,SNR=7.9						
EIBI				Sn	Sn	21 02 44.0	-4.2
	0.5nm,0.1s,SNR=7.9						
AVF	Avril sur Loir	4.43	35	ePg	Pg	21 02 16.0	-0.3
	SNR=1.0						
AVF				eSg	Sg	21 03 13.3	-0.3
	5.2nm,0.4s,SNR=1.0						
AVF	Avril sur Loir	4.43	35	Pn	Pn	21 02 00.0	+1.5
AVF				Pg	Pg	21 02 16.0	-0.3
AVF				Lg		21 03 13.3	
	2.6nm,0.4s						
AVF	Avril sur Loir	4.43	35	ePg	Pg	21 02 16.0	-0.3
	SNR=1.0						
AVF				eSg	Sg	21 03 13.3	-0.3
	2.6nm,0.4s,SNR=1.0						
AVF	Avril sur Loir	4.43	35	ePn	Pn	21 02 00.0	+1.5
AVF				ePg	Pg	21 02 16.0	-0.3
AVF				eSg	Sg	21 03 13.3	-0.3
ESDC	Sonseca Array	4.47	219	Pn	Pn	21 01 59.1	0.0
	0.4nm,0.3s,baz=41,slow=14,SNR=11						
ESDC				Sn	Sn	21 02 48.4	-2.7
	0.5nm,0.2s,baz=40,slow=24,SNR=7.7						
ESDC				Lg		21 03 10.9	
	0.7nm,0.3s,baz=33,slow=44,SNR=6.4						
ESDC	Sonseca Array	4.47	219	Pn	Pn	21 01 59.1	0.0
	0.4nm,0.3s,SNR=11						
ESDC				Sn	Sn	21 02 48.4	-2.7
	0.5nm,0.2s,SNR=7.7						
EBEN	Beniarda	4.50	179	Pn	Pn	21 01 59.4	-0.1
	SNR=7.9						
SMF	Signal de Mont	4.53	39	ePg	Pg	21 02 17.5	-0.8
	SNR=1.0						
SMF				eSg	Sg	21 03 15.9	-1.0
	4.0nm,0.3s,SNR=1.0						

SMF	Signal de Mont	4.53	39	Pn	Pn	21 02 00.6	+0.7
SMF				Pg	Pg	21 02 17.5	-0.8
SMF				Lg		21 03 15.9	
	0.0nm,0.3s						
SMF	Signal de Mont	4.53	39	*e*Pg	Pg	21 02 17.5	-0.8
	SNR=1.0						
SMF				*e*Sg	Sg	21 03 15.9	-1.0
	2.0nm,0.3s,SNR=1.0						
SMF	Signal de Mont	4.53	39	*e*Pn	Pn	21 02 00.6	+0.7
SMF				*e*Pg	Pg	21 02 17.5	-0.8
SMF				*e*Sg	Sg	21 03 15.9	-1.0
ETOB	Tobarra	4.65	192	Pn	Pn	21 02 02.2	+0.5
	0.2nm,0.1s,SNR=7.9						
ETOB				Sn	Sn	21 02 51.6	-3.9
	0.2nm,0.1s,SNR=7.9						
ETOB				Lg		21 03 18.4	
	0.3nm,0.2s,SNR=7.9						
SSF	Saint Saulge	4.71	34	*e*Pg	Pg	21 02 20.9	-0.8
	SNR=1.0						
SSF				*e*Sn	Sn	21 02 56.0	-0.9
SSF				*e*Sg	Sg	21 03 22.2	-0.4
	3.3nm,0.3s						
SSF	Saint Saulge	4.71	34	Pn	Pn	21 02 03.6	+1.2
SSF				Pg	Pg	21 02 20.9	-0.8
SSF				Sn	Sn	21 02 56.0	-0.9
SSF				Lg		21 03 22.2	
	1.7nm,0.3s						
SSF	Saint Saulge	4.71	34	*e*Pg	Pg	21 02 20.9	-0.8
	SNR=1.0						
SSF				*e*Sn	Sn	21 02 56.0	-0.9
SSF				*e*Sg	Sg	21 03 22.2	-0.4
	1.6nm,0.3s						
SSF	Saint Saulge	4.71	34	*e*Pn	Pn	21 02 03.6	+1.2
SSF				*e*Pg	Pg	21 02 20.9	-0.8
SSF				*e*Sn	Sn	21 02 56.0	-0.9
SSF				*e*Sg	Sg	21 03 22.2	-0.4
ORIF	Oris-en-Rattie	4.78	67	*e*P	Pn	21 02 08.2	+4.9
ECAL	Calabor	4.91	257	Pn	Pn	21 02 06.9	+1.7
	1.2nm,0.1s,SNR=9.4						
ECAL				Sn	Sn	21 02 59.3	-2.7
	1.2nm,0.1s,SNR=8.5						
ECAL	Calabor	4.91	257	Pn	Pn	21 02 06.9	+1.7
	1.2nm,0.1s,SNR=9.4						
ECAL				Sn	Sn	21 03 01.2	-0.8
	1.2nm,0.1s,SNR=8.5						
ECAL	Calabor	4.91	257	Pn	Pn	21 02 07.0	+1.7
ECAL				Sn	Sn	21 03 01.2	-0.8
ECAL				Lg		21 03 27.3	
PBRG	Braganca	4.96	256	*e*Pn	Pn	21 02 08.2	+2.4
PBRG				*e*Sn	Sn	21 03 02.9	-0.2
PBRG				A		21 03 04.2	
	1.8nm,0.2s						
PBRG	Braganca	4.96	256	*e*Pn	Pn	21 02 08.2	+2.4
PBRG				*e*Sn	Sn	21 03 02.9	-0.2
	1.8nm,0.2s						
LMR	La Mourre	4.98	86	*e*Pn	Pn	21 02 06.3	+0.2
LMR				*e*P		21 02 10.8	
LMR				*e*Pg	Pg	21 02 25.1	-1.8
EPON	Pontenova	5.00	274	Pn	Pn	21 02 08.3	+1.9
	0.4nm,0.1s,SNR=7.9						
EPON				Sn	Sn	21 03 02.2	-1.9
	0.2nm,0.1s,SNR=7.9						
EPON	Pontenova	5.00	274	Sn	Sn	21 03 04.0	-0.1
	0.2nm,0.1s,SNR=7.9						
LOR	Lormes	5.02	34	*e*Pg	Pg	21 02 26.9	-0.7
	SNR=1.0						
LOR				*e*Sg	Sg	21 03 31.8	-0.7
	6.3nm,0.5s,baz=206						
LOR	Lormes	5.02	34	Pn	Pn	21 02 08.0	+1.4
LOR				Pg	Pg	21 02 26.9	-0.7
LOR				Lg		21 03 31.8	
	3.2nm,0.5s						
LOR	Lormes	5.02	34	*e*Pg	Pg	21 02 26.9	-0.7
	SNR=1.0						
LOR				*e*Sg	Sg	21 03 31.8	-0.7
	3.2nm,0.5s						
LOR	Lormes	5.02	34	*e*Pn	Pn	21 02 08.0	+1.4
LOR				*e*Pg	Pg	21 02 26.9	-0.7
LOR				*e*Sg	Sg	21 03 31.8	-0.7
FRF	La Foret Royal	5.08	84	*e*Pn	Pn	21 02 08.0	+0.5
FRF				*e*Pg	Pg	21 02 27.6	-1.2
QUIF	Quistinic	5.12	338	*e*Pg	Pg	21 02 28.6	-1.0
	SNR=1.0						
QUIF				*e*Sn	Sn	21 03 04.0	-3.1
	SNR=1.0						
QUIF				*e*Sg	Sg	21 03 35.6	-0.3
	1.9nm,0.3s						
QUIF	Quistinic	5.12	338	Pn	Pn	21 02 09.0	+0.9
QUIF				Pg	Pg	21 02 28.6	-1.0
QUIF				Sn	Sn	21 03 04.0	-3.1
QUIF				Lg		21 03 35.6	
	0.9nm,0.3s						
QUIF	Quistinic	5.12	338	*e*Pg	Pg	21 02 28.6	-1.0
	SNR=1.0						
QUIF				*e*Sn	Sn	21 03 04.0	-3.1
	SNR=1.0						
QUIF				*e*Sg	Sg	21 03 35.6	-0.3
	0.9nm,0.3s						
QUIF	Quistinic	5.12	338	*e*Pn	Pn	21 02 09.0	+0.9
QUIF				*e*Pg	Pg	21 02 28.6	-1.0
QUIF				*e*Sn	Sn	21 03 04.0	-3.1
QUIF				*e*Sg	Sg	21 03 35.6	-0.3
GRR	Gorron	5.20	356	*e*Pg	Pg	21 02 29.7	-1.4
GRR				*e*Sn	Sn	21 03 06.9	-2.1
GRR				*e*Sg	Sg	21 03 37.8	-0.6
	3.3nm,0.3s						
GRR	Gorron	5.20	356	Pn	Pn	21 02 10.3	+1.2
GRR				Pg	Pg	21 02 29.7	-1.4
GRR				Sn	Sn	21 03 06.9	-2.1
GRR				Lg		21 03 37.8	
	1.7nm,0.3s						
GRR	Gorron	5.20	356	*e*Pg	Pg	21 02 29.7	-1.4
GRR				*e*Sn	Sn	21 03 06.9	-2.1
GRR				*e*Sg	Sg	21 03 37.8	-0.6
	1.6nm,0.3s						
GRR	Gorron	5.20	356	*e*Pn	Pn	21 02 10.3	+1.2
GRR				*e*Pg	Pg	21 02 29.7	-1.4
GRR				*e*Sn	Sn	21 03 06.9	-2.1
GRR				*e*Sg	Sg	21 03 37.8	-0.6
SGMF	Saint Gilles	5.29	343	*e*Pg	Pg	21 02 31.5	-1.3
SGMF				*e*Sn	Sn	21 03 08.6	-2.6
SGMF				*e*Sg	Sg	21 03 40.4	-0.9
	3.4nm,0.4s						
SGMF	Saint Gilles	5.29	343	Pn	Pn	21 02 11.4	+1.0
SGMF				Pg	Pg	21 02 31.5	-1.3
SGMF				Sn	Sn	21 03 08.6	-2.6
SGMF				Lg		21 03 40.4	
	1.7nm,0.4s						
SGMF	Saint Gilles	5.29	343	*e*Pg	Pg	21 02 31.5	-1.3
SGMF				*e*Sn	Sn	21 03 08.6	-2.6
SGMF				*e*Sg	Sg	21 03 40.4	-0.9
	1.7nm,0.4s						
SGMF	Saint Gilles	5.29	343	*e*Pn	Pn	21 02 11.4	+1.0
SGMF				*e*Pg	Pg	21 02 31.5	-1.3
SGMF				*e*Sn	Sn	21 03 08.6	-2.6
SGMF				*e*Sg	Sg	21 03 40.4	-0.9
LDF	La Druitiere	5.39	1	*e*Pn	Pn	21 02 13.0	+1.2
	SNR=1.0						
LDF				*e*Sn	Sn	21 03 12.0	-1.7
LDF				*e*Sg	Sg	21 03 43.5	-1.0
	3.3nm,0.4s						
LDF	La Druitiere	5.39	1	*e*Pn	Pn	21 02 13.0	+1.2
	SNR=1.0						
LDF				*e*Sn	Sn	21 03 12.0	-1.7
LDF				*e*Sg	Sg	21 03 43.5	-1.0
	1.6nm,0.4s						
MVO	Moncorvo	5.39	250	*e*Pn	Pn	21 02 13.6	+1.8
MVO				*e*Sn	Sn	21 03 11.7	-2.1
MVO				A		21 03 18.8	
	1.7nm,0.3s						
MVO	Moncorvo	5.39	250	*e*Pn	Pn	21 02 13.6	+1.8
MVO				*e*Sn	Sn	21 03 11.7	-2.1
	1.7nm,0.3s						
ROSF	Rostrenen	5.54	339	*e*Pg	Pg	21 02 36.1	-1.4
ROSF				*e*Sn	Sn	21 03 14.3	-3.0
	SNR=1.0						
ROSF				*e*Sg	Sg	21 03 47.8	-1.4
	2.1nm,0.3s						
ROSF	Rostrenen	5.54	339	Pn	Pn	21 02 14.8	+1.1
ROSF				Pg	Pg	21 02 36.1	-1.4
ROSF				Sn	Sn	21 03 14.3	-3.0
ROSF				Lg		21 03 47.8	
	1.1nm,0.3s						
ROSF	Rostrenen	5.54	339	*e*Pg	Pg	21 02 36.1	-1.4
ROSF				*e*Sn	Sn	21 03 14.3	-3.0
	SNR=1.0						
ROSF				*e*Sg	Sg	21 03 47.8	-1.4
	1.0nm,0.3s						
ROSF	Rostrenen	5.54	339	*e*Pn	Pn	21 02 14.8	+1.1
ROSF				*e*Pg	Pg	21 02 36.1	-1.4
ROSF				*e*Sn	Sn	21 03 14.3	-3.0
ROSF				*e*Sg	Sg	21 03 47.8	-1.4
FLN	La Foliniere	5.56	359	*e*Pn	Pn	21 02 15.6	+1.5
FLN				*e*Sn	Sn	21 03 15.6	-2.3
FLN				*e*Sg	Sg	21 03 48.9	-1.1
	2.5nm,0.3s						
FLN	La Foliniere	5.56	359	*e*Pn	Pn	21 02 15.6	+1.5
FLN				*e*Sn	Sn	21 03 15.6	-2.3
FLN				*e*Sg	Sg	21 03 48.9	-1.1
	1.2nm,0.3s						
CABF	La Chapelle	5.68	51	*e*Sg	Sg	21 03 51.9	-1.8
	5.0nm,0.6s						
CABF	La Chapelle	5.68	51	*e*Sg	Sg	21 03 51.9	-1.8
	2.5nm,0.6s						
EQES	Quesada	5.79	202	Pn	Pn	21 02 17.2	0.0
	SNR=7.9						
EQES				Sn	Sn	21 03 19.4	-4.3
	0.1nm,0.1s,SNR=4.0						
EQES				Lg		21 03 53.9	
	0.2nm,0.2s,SNR=7.9						
EQES	Quesada	5.79	202	Pn	Pn	21 02 17.2	-0.1
	SNR=7.9						
EQES				Sn	Sn	21 03 19.4	-4.3
	0.1nm,0.1s,SNR=4.0						
ELOB	Lobios	5.88	260	Pn	Pn	21 02 18.9	+0.3
	SNR=7.9						
ELOB				Sn	Sn	21 03 23.0	-2.9
	SNR=7.9						
PCAB	Cabril	5.90	258	*e*Pn	Pn	21 02 19.9	+1.1
PCAB				*e*Sn	Sn	21 03 26.1	-0.3
PCAB				A		21 03 31.2	
	1.1nm,0.3s						
EADA	Adamuz	5.99	214	Pn	Pn	21 02 20.0	+0.1
	0.1nm,0.1s,SNR=7.9						
EADA				Sn	Sn	21 03 23.8	-4.7
	0.4nm,0.1s,SNR=7.9						
EADA				Lg		21 03 59.0	
	0.3nm,0.2s,SNR=7.9						
EADA	Adamuz	5.99	214	Pn	Pn	21 02 20.0	0.0
	0.1nm,0.1s,SNR=7.9						
SFTF	Sexfontaines	6.25	35	*e*Sg	Sg	21 04 08.9	-3.0
	3.0nm,0.4s,baz=212						
SFTF	Sexfontaines	6.25	35	*e*Sg	Sg	21 04 08.9	-3.0
	1.5nm,0.4s						
MEZF	Maizieres J'vi	6.49	33	*e*Sg	Sg	21 04 17.5	-2.1
	4.6nm,0.5s						
MEZF	Maizieres J'vi	6.49	33	*e*Sg	Sg	21 04 17.5	-2.1
	2.3nm,0.5s						
PMRV	Marv??o	6.53	237	*e*Pn	Pn	21 02 27.9	+0.4
PMRV				*e*Sn	Sn	21 03 37.8	-4.1
PMRV				A		21 03 40.8	
	0.9nm,0.3s						
PMRV	Marv??o	6.53	237	*e*Pn	Pn	21 02 27.9	+0.4
PMRV				*e*Sn	Sn	21 03 37.8	-4.1
	0.9nm,0.3s						
EBAD	Badajoz	6.74	231	Pn	Pn	21 02 30.2	-0.1
	0.1nm,0.1s,SNR=7.9						
EBAD				Sn	Sn	21 03 41.9	-5.2
	SNR=7.9						
EBAD	Badajoz	6.74	231	Pn	Pn	21 02 30.2	-0.2
	0.1nm,0.1s,SNR=7.9						
RFYF	Reffroy	6.76	35	*e*Sg	Sg	21 04 26.7	-1.6
	4.2nm,0.4s						
RFYF	Reffroy	6.76	35	*e*Sg	Sg	21 04 26.7	-1.6
	2.1nm,0.4s						
BAIF	Baives	7.53	23	*e*Pn	Pn	21 02 42.1	+1.0
	SNR=1.0						

*IDC **03** 21:03:40.5±0.5, 1633S×17323W, h0^{km}, mb4.7/16, mb1 4.9/16, mb1mx4.9/20, mbtmp4.7/16, MS4.2/22, Ms1 4.2/22, ms1mx4.1/31, Error ellipse: s-maj=20.6km s-min=15.0km az=146.0*

*ISCJB **03** 21:03:44.8±0.2, 1633S±005×17327W±003, h36^{km}, mb5.0/71, MS4.4/34, Error ellipse: s-maj=7.6km s-min=3.9km az=156.2*

*BJI **03** 21:03:44.9, 1586S×17301W, h30^{km}, mB5.2, mb5.0, Ms4.9, Msz4.5*

*NEIC **03** 21:03:46.3±0.2, 1633S×17333W, h35^{km}, mb4.9/36, MS4.7/6, Error ellipse: s-maj=11.1km s-min=5.5km az=146.0*

*MOS **03** 21:03:46.9±2.1, 1597S×17351W, h33^{km}, mb5.2/21, MS4.5/7, Error ellipse: s-maj=10.6km s-min=8.8km az=66.1*

*SZGRF **03** 21:03:48.3, 1582S×17238W, h43^{km}, Samoa Islands region*

*DJA **03** 21:04:12.3±4.7, 18S±19×174W±17, h202^{km}±39^{km}, mB5.5/3, Mw(mB)5.3/3, Mwp5.7/2*

ISC 03 21:03:46.8±0.2**, 1633S**±005×**17330W**±003**, h38**^{km}±1.5^{km}**: pP-P, n665,** σ**0**^{s}**62**/481**, mb5.0**/71**, MS4.4**/34**, 201C-174D, Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	Afiamalu	2.82	32	Pn	Pn	21 04 23.1	-6.3
	33nm,0.3s,baz=57,slow=5.3,SNR=29						
AFI				Sn	Sn	21 04 52.1	-10
	465nm,0.3s,baz=213,slow=23,SNR=13						
AFI				LR	LR	21 05 26.0	
	comp=Z,3μm,19.8s,baz=182,slow=38						
AFI	Afiamalu	2.82	32	P	Pn	21 04 23.1	-6.3
AFI						21 04 52.1	
AFI	Afiamalu	2.82	32	Pn	Pn	21 04 23.1	-6.3
AFI				Sn	Sn	21 04 52.1	-10
AFI				LR	LR	21 05 26.0	
RAR	Rarotonga	13.70	113	Pn	Pn	21 06 51.3	-7.3
	2.3nm,0.3s,baz=252,slow=6.7,SNR=5.9						
RAR				LR	LR	21 10 45.1	
	comp=Z,925nm,21.0s,baz=300,slow=31						
RAR	Rarotonga	13.70	113	Pn	Pn	21 06 51.3	-7.3
RAR				*e*Sn	Sn	21 09 31.0	+1.6
RAR				LR	LR	21 10 45.1	
PPT	Papeete	22.73	97	*e*LQ		21 13 04.0	
	1μm,28.0s						
PPT				*e*LR	LR	21 14 01.0	
	984nm,24.0s						
PPT	Papeete	22.73	97	LR	LR	21 15 01.5	
	comp=Z,548nm,18.8s,MS4.0,baz=169,slow=30						
URZ	Urewera	23.42	199	LR	LR	21 17 14.9	
	comp=Z,455nm,20.0s,MS3.9,baz=27,slow=35						
TBI	Tubuai	23.47	111	*e*LQ		21 13 25.1	
	1μm,30.2s						
TBI				*e*LR	LR	21 14 26.7	
	1μm,24.8s						
HNR	Honiara	26.95	281	LR	LR	21 18 29.9	
	comp=Z,2μm,21.6s,MS4.6,baz=120,slow=33						
HNR	Honiara	26.95	281	P	P	21 09 24.6	-0.3
SNZO	South Karori	26.96	200	P	P	21 09 21.1	-3.7
ARMA	Armidale	34.95	240	*e*P	P	21 10 34.1	-1.2
RKT	Rikitea	36.62	107	*e*LR	LR	21 20 37.4	
	746nm,23.5s						
CNB	Canberra Magne	38.27	233	*e*P	P	21 11 01.5	-2.0
CTAO	Charters Tower	38.54	258	*e*P	P	21 11 05.1	-0.8
CTAO				pmax	pmax		
	comp=Z,4.0nm,0.6s,mb4.3						
CTAO	Charters Tower	38.54	258	*e*P	P	21 11 05.1	-0.9
	comp=Z,4.0nm,0.6s,mb4.3						
PMG	Port Moresby	39.10	275	⇑*i*P	P	21 11 11.4	+0.6
PMG	Port Moresby	39.10	275	P	P	21 11 12.5	+1.7
	comp=Z,46nm,1.1s,mb5.1						
PMG	Port Moresby	39.10	275	*e*P	P	21 11 11.8	+1.0
COEN	Coen	42.02	267	P	P	21 11 37.6	+2.7
	comp=Z,12nm,1.0s,mb4.5						
COEN	Coen	42.02	267	*e*P	P	21 11 33.3	-1.5
	comp=Z,6.3nm,0.8s,mb4.3						
STKA	Stephens Creek	43.66	241	*e*P	P	21 11 46.7	-1.3
	comp=Z,13nm,0.9s,mb4.7						
STKA	Stephens Creek	43.66	241	P	P	21 11 46.5	-1.5
	comp=Z,19nm,0.9s,mb4.8,baz=65,slow=7.8,SNR=18						
STKA				LR	LR	21 29 16.7	
	comp=Z,382nm,18.6s,MS4.3,baz=290,slow=35						
WRA	Warramunga Arr	49.73	258	P	P	21 12 33.8	-1.8
	comp=Z,6.3nm,0.8s,mb4.7,baz=93,slow=7.4,SNR=39						
WRA				PcP	PcP	21 13 56.8	+0.4
	comp=Z,2.7nm,0.9s,baz=91,slow=3.3,SNR=3.9						
WRA				LR	LR	21 32 32.5	
	comp=Z,380nm,20.5s,MS4.4,baz=95,slow=35						
WRA	Warramunga Arr	49.73	258	P	P	21 12 33.8	-1.8
WRA						21 13 56.8	
WRA	Warramunga Arr	49.73	258	P	P	21 12 33.8	-1.8
WRA				PcP	PcP	21 13 56.8	+0.4
WRA				LR	LR	21 32 32.5	
ASAR	Alice Springs	49.92	253	P	P	21 12 35.2	-1.8
	comp=Z,19nm,0.6s,mb5.3,baz=88,slow=8.4,SNR=218						
GUMO	Guam	50.92	303	LR	LR	21 30 16.5	
	comp=Z,116nm,19.4s,MS3.9,baz=204,slow=31						
KAKA	Kakadu	52.53	266	*e*P	P	21 12 56.7	0.0
	comp=Z,7.7nm,0.5s,mb4.9						
KAKA	Kakadu	52.53	266	P	P	21 12 56.8	+0.1
	comp=Z,29nm,0.7s,comp=Z,243nm,mb5.3						
FORT	Forrest	55.09	244	*e*P	P	21 13 12.9	-2.3
	comp=Z,19nm,0.6s,mb5.3						
FITZ	Fitzroy Crossi	58.12	259	*e*P	P	21 13 36.6	-0.3
	comp=Z,3.0nm,0.9s,mb4.3						
FITZ	Fitzroy Crossi	58.12	259	P	P	21 13 37.9	+1.0
	comp=Z,1.0nm,0.5s,mb4.1,baz=103,slow=11,SNR=7.4						
BATI	Baumata	61.46	267	P	P	21 14 01.4	+1.4
	comp=Z,25nm,0.7s,mb5.4,baz=60,slow=2.1,SNR=7.2						
BATI	Baumata	61.46	267	P	P	21 14 01.7	+1.7
	comp=Z,25nm,1.1s,mb5.2						
SBA	Scott Base	62.34	185	*e*P	P	21 14 06.7	+1.9
MBWA	Marble Bar	63.20	254	*e*P	P	21 14 10.2	-1.3
	comp=Z,20nm,1.2s,mb5.1						
KLBR	Kellerberrin	63.89	242	*e*P	P	21 14 14.6	-1.4
	comp=Z,17nm,0.8s,mb5.1						
NWAO	Narrogin (SRO)	64.25	241	LR	LR	21 42 18.0	
	comp=Z,277nm,18.1s,MS4.5,baz=223,slow=36						
NWAO	Narrogin (SRO)	64.25	241	*e*P	P	21 14 17.2	-1.1
MUN	Mundaring	65.18	242	*e*P	P	21 14 23.8	-0.6
PCI	Palu	67.57	276	P	P	21 14 42.9	+3.0
	comp=Z,107nm,1.2s,comp=Z,890nm,mb5.7						
CASY	Casey	69.61	205	P	P	21 14 51.0	-0.8
	comp=Z,3.9nm,0.7s,mb4.5						
MJAR	Matsushiro Arr	69.71	320	P	P	21 14 51.9	-0.9
	comp=Z,1.4nm,0.7s,mb4.0,baz=174,slow=5.9,SNR=5.1						
MJAR				LR	LR	21 42 21.9	
	comp=Z,104nm,18.4s,MS4.1,baz=130,slow=33						
MAJO	Matsushiro	69.71	320	*e*P	P	21 14 51.9	-0.9
MAJO				pmax	pmax		
	comp=Z,18nm,1.4s,mb4.8						
MAJO	Matsushiro	69.71	320	*e*P	P	21 14 51.9	-0.9
	comp=Z,18nm,1.4s,mb4.8						
MYLDM	Lahad Datu	70.73	282	P	P	21 15 02.4	+2.9
FARB	Farallon Islan	71.56	40	⇓P	P	21 15 03.6	-0.4
	baz=72						
BBKI	Banjar Baru	71.63	272	P	P	21 15 07.2	+2.2
	comp=Z,80nm,1.2s,mb5.5						
PKD	Parkfield	72.05	43	⇓P	P	21 15 06.9	-0.1
	baz=72						
U04C	Hernandez Rese	72.14	42	⇓P	P	21 15 07.5	0.0
	baz=72						
PACP	Pacheco Peak	72.21	41	⇓P	P	21 15 07.9	-0.1
	baz=72						
CVS	Carmenet Viney	72.30	40	⇑P	P	21 15 08.2	-0.2
	baz=72						
HOPS	Hopland	72.33	39	⇓P	P	21 15 08.7	+0.1
	baz=72						
MNRC	McLaughlin Nat	72.64	39	⇓P	P	21 15 11.0	+0.5
	baz=73						
VES	Vestal, Richgr	72.94	44	⇑P	P	21 15 11.7	-0.7
	baz=73						
GASB	Alder Springs	72.96	39	⇑P	P	21 15 13.4	+1.1
	baz=73,SNR=5.1						
MURC	Murrieta	72.96	46	⇓P	P	21 15 11.7	-0.8
	baz=73						
BFSC	Mount Baldy St	73.00	46	⇑P	P	21 15 11.8	-0.9
	baz=73						
S05C	Merced	73.02	42	⇓P	P	21 15 12.2	-0.5
	baz=73						
MONP	Monument Peak	73.12	47	⇑P	P	21 15 13.2	-0.3
	baz=73						
EDW2	Edwards Air Fo	73.13	45	⇑P	P	21 15 13.2	-0.3
	baz=73,SNR=6.6						
PET	Petropavlovsk	73.19	343	*e*P	P	21 15 12.0	-1.4
PET				*e*S	S	21 24 37.4	-1.1
PET				MLR	MLR		
	comp=Z,100nm,19.0s,MS4.1						
T06C	Millerton Lake	73.22	42	⇑P	P	21 15 13.4	-0.5
	baz=73						
DVTC	Desert V Tower	73.22	48	⇓P	P	21 15 13.4	-0.7
	baz=73						
O02C	Red Bluff	73.25	38	⇓P	P	21 15 14.5	+0.5
	baz=73						
ISA	Isabella	73.25	44	*e*P	P	21 15 14.2	+0.1
ISA				pmax	pmax		
	comp=Z,16nm,1.1s,mb4.9						
ISA	Isabella	73.25	44	⇓P	P	21 15 13.9	-0.2
	baz=73,SNR=6.4						
ISA	Isabella	73.25	44	*e*P	P	21 15 14.2	+0.1
	comp=Z,16nm,1.1s,mb4.9						
N02C	Big Bar	73.35	37	⇑P	P	21 15 14.7	+0.1
	baz=73						
CMB	Columbia Colle	73.40	41	*e*P	P	21 15 15.0	0.0
CMB				pmax	pmax		
	comp=Z,16nm,1.0s,mb4.9						
CMB	Columbia Colle	73.40	41	⇓P	P	21 15 14.6	-0.4
	baz=74						
CMB	Columbia Colle	73.40	41	*e*P	P	21 15 15.0	0.0
	comp=Z,16nm,1.0s,mb4.9						
SJI	Sawahan	73.46	267	P	P	21 15 21.0	+5.1
HELL	Mitchell Peak	73.47	43	⇓P	P	21 15 14.9	-0.6
	baz=74						
PFO	Pinyon Flat Ob	73.48	47	⇑P	P	21 15 15.1	-0.5
	baz=74						
PETK	Petropavlovsk-	73.54	342	P	P	21 15 15.5	0.0
	comp=Z,12nm,0.9s,mb4.8,baz=107,slow=7.9,SNR=9.1						
PETK				LR	LR	21 44 11.5	
	comp=Z,35nm,19.4s,MS3.6,baz=78,slow=33						
SWSC	Sam W. Stewart	73.59	48	⇑P	P	21 15 16.1	-0.1
	baz=74						
LAVA	Lava Cap Winer	73.61	40	⇓P	P	21 15 15.8	-0.4
	baz=74						
ORV	Oroville	73.63	39	⇑P	P	21 15 16.0	-0.4
	baz=74,SNR=5.7						
S06C	San Francisco	73.64	41	⇑P	P	21 15 15.9	-0.5
	baz=74						
WDC	Whiskeytown Da	73.65	38	⇓P	P	21 15 16.4	0.0
	baz=74						
WDC	Whiskeytown Da	73.65	38	*e*P	P	21 15 16.2	-0.2
KCC	Kaiser Creek	73.66	42	⇑P	P	21 15 16.1	-0.4
	baz=74,SNR=6.2						
LRMC	Laurel Mountai	73.67	45	⇓P	P	21 15 15.9	-0.7
	baz=74						
QSPA	South Pole Qui	73.72	180	P	P	21 15 16.6	+0.4
	comp=Z,20nm,1.0s,mb5.0,baz=44,slow=1.6,SNR=53						
CWC	Cottonwood Cre	73.95	44	⇑P	P	21 15 17.7	-0.6
	baz=74						
M02C	Callahan	73.98	37	⇓P	P	21 15 18.4	+0.1
	baz=74						
R05C	Kirkwood Meado	73.99	41	⇓P	P	21 15 18.6	+0.1
	baz=74						
BELC	Belle Mtn.	74.02	47	⇑P	P	21 15 18.2	-0.5
	baz=74,SNR=5.9						
P05C	Yuba Gap, Truc	74.02	40	⇓P	P	21 15 18.8	+0.2
	baz=74						
L02A	Cave Junction	74.04	36	⇑P	P	21 15 19.0	+0.4
	baz=74						
MPMC	Manual Prospec	74.13	44	⇓P	P	21 15 19.2	-0.1
	baz=74,SNR=20						
MTUM	Tungsten Hills	74.16	43	*e*P	P	21 15 19.8	+0.4
GSC	Goldstone	74.17	45	*e*P	P	21 15 19.3	-0.3
GSC				pmax	pmax		
	comp=Z,10.0nm,1.0s,mb4.7						
GSC	Goldstone	74.17	45	⇓P	P	21 15 19.3	-0.3
	baz=74,SNR=5.7						
GSC	Goldstone	74.17	45	*e*P	P	21 15 19.3	-0.2
	comp=Z,9.7nm,1.0s,mb4.7						
BC3	Big Chuckw Mtn	74.21	47	⇓P	P	21 15 19.5	-0.3
	baz=74						
HEC	Hector,Ludlow	74.24	46	⇓P	P	21 15 19.7	-0.2
	baz=74,SNR=7.7						
WAKR	Walker	74.28	41	*e*P	P	21 15 20.1	0.0
R06C	Coleville	74.28	41	⇑P	P	21 15 19.9	-0.3
	baz=74						
YBH	Yreka Blue Hor	74.28	37	⇑P	P	21 15 20.6	+0.5
	baz=74,SNR=10						
YBH	Yreka Blue Hor	74.28	37	*e*P	P	21 15 20.4	+0.4
M03C	McCloud	74.33	38	⇓P	P	21 15 20.6	+0.2
	baz=74						
YSS	Yuzh-Sakhalins	74.33	330*c*	*i*P	P	21 15 21.0	+0.8
YSS				pmax	pmax		
	comp=Z,41nm,1.0s,mb5.3						
YSS	Yuzh-Sakhalins	74.33	330	*e*P	P	21 15 21.3	+1.0
GLA	Glamis	74.34	48	⇓P	P	21 15 20.0	-0.6

O04C **Chester** 74.35 39 ⇓P P 21 15 20.6 +0.1
baz=74
K02A **Glendale** 74.50 36 ⇑P P 21 15 21.8 +0.5
baz=75
WCN **Washoe City** 74.55 40 ⇓P P 21 15 21.1 -0.5
baz=75
GMRC **Granite Mounta** 74.67 46 ⇑P P 21 15 21.5 -1.0
baz=75,SNR=7.2
IRM **Iron Mountain** 74.69 47 ⇑P P 21 15 22.4 -0.3
baz=75,SNR=5.9
HUMO **Hull Mountain** 74.70 36 ⇓P P 21 15 22.6 +0.1
baz=75
HUMO **Hull Mountain** 74.70 36 *e*P P 21 15 22.9 +0.5
comp=Z,12nm,1.1s,mb4.7
GRAC **Grapevine Rang** 74.74 43 ⇓P P 21 15 22.9 0.0
baz=75
M04C **Macdoel** 74.81 37 ⇓P P 21 15 23.5 +0.4
baz=75
TUQ **Turquoise Moun** 74.84 45 ⇑P P 21 15 23.7 +0.2
baz=75
PBKI **Pangkalan Bun** 74.88 272 P P 21 15 27.0 +2.8
comp=Z,157nm,1.1s,mb5.8
113A **Mohawk Valley,** 74.95 49 ⇓P P 21 15 23.6 -0.6
baz=75
NVAR **Mina Array Bea** 74.95 42 P P 21 15 23.9 -0.2
comp=Z,13nm,0.8s,mb4.9,baz=227,slow=9.9,SNR=50
M05C **Lookout** 74.96 38 ⇓P P 21 15 24.2 +0.2
baz=75
PAHR **Pah Rah Range** 75.02 40 *e*P P 21 15 17.9 -6.5
comp=Z,9.8nm,0.9s,mb4.7
O06A **Flanigan** 75.02 40 ⇓P P 21 15 24.8 +0.4
baz=75
L04A **Klamath Falls** 75.03 37 ⇓P P 21 15 24.8 +0.4
baz=75
U10A **Ash Meadows, A** 75.11 44 ⇓P P 21 15 25.8 +0.8
baz=75
214A **Organ Pipe Nat** 75.23 50 ⇑P P 21 15 25.6 -0.2
baz=75
S09A **Goldfield** 75.25 43 ⇑P P 21 15 25.4 -0.3
baz=75
M06C **Likely Place G** 75.26 38 ⇓P P 21 15 26.1 +0.3
baz=75
N06A **Buffalo Meadow** 75.37 39 ⇓P P 21 15 26.8 +0.4
baz=76
Q08A **Gabbs** 75.44 42 ⇓P P 21 15 26.9 +0.1
baz=76
TPH **Tonopah** 75.45 43 *e*P P 21 15 27.1 +0.2
PDMCI **Parker Dam,Lak** 75.48 47 ⇑P P 21 15 26.6 -0.6
baz=76
L05A **Lakeview** 75.57 38 ⇑P P 21 15 28.2 +0.7
baz=76
J04A **Umpqua Nationa** 75.58 36 ⇑P P 21 15 28.0 +0.5
baz=76
O07A **Toulon** 75.61 40 ⇓P P 21 15 28.0 +0.3
baz=76
R09A **Tonopah** 75.64 43 ⇓P P 21 15 28.1 +0.1
baz=76
V12A **Nelson** 75.74 46 ⇑P P 21 15 28.9 +0.2
baz=76
U11A **Corn Creek** 75.75 45 ⇓P P 21 15 28.9 +0.3
baz=76
I04A **Tendick Farm,** 75.76 35 ⇓P P 21 15 28.6 0.0
baz=76
S10A **Tonopah Range,** 75.77 43 ⇓P P 21 15 28.8 +0.1
baz=76
MOD **Modoc** 75.79 38 ⇑P P 21 15 28.8 0.0
baz=76
MOD **Modoc** 75.79 38 *e*P P 21 15 28.9 +0.1
comp=Z,9.9nm,0.8s,mb4.8
SBUM **Sibu** 75.83 277 P P 21 15 30.9 +1.2
STKI **Sintang** 75.84 274 P P 21 15 31.5 +1.8
comp=Z,37nm,1.4s,mb5.1
Z14A **Wintersburg** 75.85 49 ⇓P P 21 15 29.4 +0.2
baz=76
X13A **Yucca** 75.85 47 ⇓P P 21 15 29.4 +0.1
baz=76
N07B **Gerlach** 75.91 39 ⇓P P 21 15 29.8 +0.3
baz=76
SHPR **Sheep Range** 75.95 45 *e*P P 21 15 29.8 0.0
K05A **Summer Lake** 75.95 37 ⇑P P 21 15 30.3 +0.6
baz=76
W13A **Hualapai Mount** 76.08 47 ⇑P P 21 15 30.5 0.0
baz=76
Y14A **Wickenburg** 76.10 48 ⇑P P 21 15 30.5 -0.2
baz=76
J05A **Fort Rock** 76.10 36 ⇓P P 21 15 31.1 +0.6
baz=76
M07A **Soldier Meadow** 76.16 39 ⇑P P 21 15 31.2 +0.3
baz=76
216A **Three Points,** 76.25 50 ⇑P P 21 15 31.8 +0.1
baz=76
G03A **Yamhill** 76.27 34 ⇓P P 21 15 32.0 +0.6
baz=76
T11A **Corn Creek, Al** 76.30 44 ⇓P P 21 15 32.2 +0.4
baz=76
U12A **Valley of Fire** 76.33 45 ⇑P P 21 15 32.3 +0.4
baz=76
T12A **Moapa** 76.37 45 ⇓P P 21 15 32.2 0.0
baz=76
K06A **Valley Falls** 76.37 37 ⇑P P 21 15 32.5 +0.5
baz=76
V13A **Grand Canyon W** 76.40 46 ⇑P P 21 15 32.3 -0.1
baz=76
Q10A **Clear Creek Ra** 76.40 42 ⇑P P 21 15 32.5 +0.2
baz=76
N08A **GE Springer Mi** 76.43 40 ⇑P P 21 15 32.5 0.0
baz=76
L07A **Adell** 76.43 38 ⇓P P 21 15 33.2 +0.8
baz=76
X14A **Yava** 76.45 48 ⇓P P 21 15 32.8 +0.1
baz=76
H04A **Detroit Lake** 76.46 35 ⇓P P 21 15 32.4 -0.1
baz=76
F03A **Seaside** 76.53 33 ⇓P P 21 15 33.1 +0.2
baz=77
Y15A **Casa Rosa Ranc** 76.59 48 ⇓P P 21 15 33.5 0.0
baz=77
217A **Green Valley** 76.62 51 ⇑P P 21 15 33.9 +0.2
baz=77
I05A **Bend** 76.64 36 ⇑P P 21 15 34.2 +0.6
baz=77
O09A **Fish Creek Ran** 76.66 41 ⇓P P 21 15 33.8 0.0
baz=77
R11A **Troy Canyon, C** 76.67 43 ⇑P P 21 15 33.7 -0.2
baz=77
M08A **Happy Creek Ra** 76.67 39 ⇑P P 21 15 34.1 +0.3
baz=77
W14A **Seligman** 76.69 47 ⇓P P 21 15 34.4 +0.3
baz=77
J06A **Christmas Vall** 76.70 37 ⇑P P 21 15 34.2 +0.2
baz=77
U13A **Pakoon Wash** 76.71 45 ⇓P P 21 15 34.4 +0.2
baz=77
S12A **Delamar Landin** 76.75 44 ⇑P P 21 15 34.9 +0.5
baz=77
BMN **Battle Mountai** 76.79 41 *e*P P 21 15 34.4 -0.1
BMN pmax pmax
comp=Z,9.0nm,1.0s,mb4.7
BMN **Battle Mountai** 76.79 41 *e*P P 21 15 34.4 -0.1
comp=Z,8.6nm,1.0s,mb4.6
P10A **Eureka** 76.81 42 ⇓P P 21 15 35.1 +0.5
baz=77
KSRS **Korea Array** 76.89 316 P P 21 15 36.4 +1.3
comp=Z,0.7nm,0.4s,mb4.0,baz=138,slow=5.7,SNR=5.8
KSRS LR LR 21 47 36.4
comp=Z,80nm,19.5s,MS4.0,baz=277,slow=34
K07A **Rock Creek Ran** 76.89 38 ⇑P P 21 15 35.2 +0.2
baz=77
Q11A **Duckwater** 76.90 43 ⇓P P 21 15 35.2 +0.1
baz=77
V14A **Boquillas Ranc** 76.90 47 ⇑P P 21 15 35.4 +0.2
baz=77
TUC **Tucson** 76.90 50 *e*P P 21 15 35.4 +0.1
TUC pmax pmax
comp=Z,9.0nm,1.0s,mb4.7
TUC **Tucson** 76.90 50 *e*P P 21 15 35.4 +0.1
comp=Z,8.7nm,1.0s,mb4.6
X15A **Humboldt** 76.92 48 ⇓P P 21 15 35.5 +0.2
baz=77
E03A **Lebam** 76.93 33 ⇑P P 21 15 35.6 +0.5
baz=77
H05A **Madras** 76.96 35 ⇑P P 21 15 35.6 +0.3
baz=77
117A **Oracle** 77.06 50 ⇑P P 21 15 36.4 +0.2
baz=77
T13A **Saint George** 77.07 45 ⇑P P 21 15 36.3 +0.1
baz=77

318A **Bisbee** 77.08 52 ⇓P P 21 15 36.4 +0.1
baz=77
I06A **Prineville** 77.10 36 ⇓P P 21 15 36.7 +0.6
baz=77
WVOR **Wild Horse Val** 77.10 38 *e*P P 21 15 35.3 -0.9
WVOR pmax pmax
comp=Z,16nm,1.2s,mb4.8
WVOR **Wild Horse Val** 77.10 38 *e*P P 21 15 35.3 -0.8
comp=Z,16nm,1.2s,mb4.8
L08A **Fields** 77.13 39 ⇑P P 21 15 36.5 +0.2
baz=77
F04A **Amboy** 77.13 34 ⇓P P 21 15 36.2 -0.1
baz=77
O10A **Cortez Mining,** 77.16 41 ⇑P P 21 15 36.7 +0.1
baz=77
Y16A **Circle Bar Ran** 77.16 49 ⇓P P 21 15 37.1 +0.4
baz=77
M09A **Marrel Ranch,** 77.22 40 ⇑P P 21 15 37.3 +0.4
baz=77
U14A **Mt Trumbull** 77.25 46 ⇓P P 21 15 37.4 +0.2
baz=77
J07A **Hines** 77.27 37 ⇑P P 21 15 37.1 0.0
baz=77
G05A **Wamic** 77.29 35 ⇑P P 21 15 37.2 0.0
baz=77
218A **Dragoon** 77.29 51 ⇑P P 21 15 37.6 +0.1
baz=77
R12A **Pony Springs,** 77.30 44 ⇓P P 21 15 37.6 +0.2
baz=77
NLWA **Neilton Lookou** 77.33 32 ⇓P P 21 15 37.9 +0.6
baz=77
K08A **Mann Creek Ran** 77.36 38 ⇓P P 21 15 38.1 +0.5
baz=77
KSM **Kuching** 77.37 275 P P 21 15 39.2 +0.8
comp=Z,38nm,1.4s,mb5.1
KSM **Kuching** 77.37 275 *e*P P 21 15 38.4 0.0
S13A **Holt Ranch, En** 77.40 45 ⇑P P 21 15 38.1 +0.2
baz=78
L09A **Wilkinson Ranc** 77.44 39 ⇑P P 21 15 38.6 +0.6
baz=78
X16A **Lo Mia Camp, P** 77.46 48 ⇓P P 21 15 38.9 +0.5
baz=78
H06A **Lindquist Farm** 77.52 36 ⇑P P 21 15 38.6 +0.1
baz=78
Y17A **Roosevelt** 77.53 49 ⇑P P 21 15 38.9 +0.1
baz=78
Q12A **Willow Creek R** 77.54 43 ⇑P P 21 15 38.8 +0.1
baz=78
I07A **Izee** 77.58 37 ⇓P P 21 15 39.2 +0.4
baz=78
319A **Douglas** 77.58 52 ⇓P P 21 15 39.5 +0.3
baz=78
O11A **Cowboy Ranch,** 77.61 42 ⇑P P 21 15 39.3 +0.2
baz=78
F05A **White Salmon** 77.62 34 ⇓P P 21 15 39.3 +0.3
baz=78
V15A **Kaibab Nationa** 77.64 47 ⇓P P 21 15 39.8 +0.5
baz=78
R13A **O'Grain Ranch,** 77.64 44 ⇓P P 21 15 39.6 +0.3
baz=78
T14A **Hurricane** 77.65 45 ⇓P P 21 15 39.4 0.0
baz=78
G06A **Carlson Farm,** 77.66 35 ⇑P P 21 15 39.1 -0.1
baz=78
118A **Homack Ranch,** 77.67 51 ⇑P P 21 15 39.6 0.0
baz=78
LEM **Lembang** 77.67 266 P P 21 15 41.1 +1.1
comp=Z,68nm,1.2s,mb5.4
P12A **McGill** 77.73 42 ⇑P P 21 15 39.7 0.0
baz=78
W16A **Flagstaff** 77.73 48 ⇓P P 21 15 39.6 -0.3
baz=78
J08A **Circle Bar Ran** 77.74 38 ⇓P P 21 15 40.1 +0.3
baz=78
M10A **I.L. Ranch, Tu** 77.84 40 ⇓P P 21 15 40.6 +0.3
baz=78
H07A **Lands Inn, Kim** 77.86 36 ⇓P P 21 15 40.4 0.0
baz=78
U15A **North Rim** 77.87 46 ⇓P P 21 15 41.0 +0.4
baz=78
X17A **Forest Lakes** 77.87 49 ⇓P P 21 15 40.9 +0.2
baz=78
E05A **Randle** 77.89 34 ⇓P P 21 15 40.4 -0.1
baz=78
219A **White Tail Can** 77.89 51 ⇑P P 21 15 40.7 -0.2
baz=78
F06A **Goldendale** 77.91 35 ⇑P P 21 15 40.4 -0.2
baz=78
B04A **Port Angeles** 77.96 32 ⇓P P 21 15 41.4 +0.6
baz=78
C04A **Brinnon** 78.01 32 ⇓P P 21 15 41.4 +0.4
baz=78
I08A **Drewsey** 78.02 37 ⇓P P 21 15 41.4 +0.1
baz=78
Q13A **Wheeler Ranch,** 78.03 43 ⇑P P 21 15 41.6 +0.2
baz=78
WUAZ **Wupatki** 78.05 47 ⇑P P 21 15 41.6 -0.1
baz=78
T15A **Red Dirt Ranch** 78.11 46 ⇑P P 21 15 42.3 +0.4
baz=78
J09A **Dry Pan Ranch,** 78.16 38 ⇓P P 21 15 42.0 0.0
baz=78
Y18A **Canyon Day Jun** 78.16 49 ⇑P P 21 15 42.6 +0.3
baz=78
D05A **Enumclaw** 78.17 33 ⇑P P 21 15 42.5 +0.5
baz=78
L10A **Juniper Basin** 78.20 40 ⇓P P 21 15 42.6 +0.3
baz=78
ELK **Elko** 78.21 41 LR LR 21 42 50.4
comp=Z,337nm,18.9s,MS4.7,baz=247,slow=30
ELK **Elko** 78.21 41 *e*P P 21 15 41.9 -0.5
ELK pmax pmax
comp=Z,14nm,1.0s
ELK **Elko** 78.21 41 *e*P P 21 15 41.9 -0.6
comp=Z,14nm,1.0s,mb4.9
G07A **Ruggs Ranch, H** 78.22 36 ⇑P P 21 15 42.2 -0.1
baz=78
119A **Ashpeak Ranch,** 78.22 51 ⇑P P 21 15 43.0 +0.3
baz=78
O12A **Currie** 78.27 42 ⇑P P 21 15 42.8 +0.1
baz=78
E06A **Yakima** 78.29 34 ⇓P P 21 15 42.6 -0.1
baz=78
P13A **Bates Ranch, G** 78.30 43 ⇑P P 21 15 43.2 +0.3
baz=78
H08A **Prairie City** 78.33 37 ⇓P P 21 15 42.8 -0.1
baz=78
K10A **MacKenzie Ranc** 78.36 39 ⇑P P 21 15 43.2 +0.1
baz=78
N12A **Clover Valley,** 78.40 41 ⇓P P 21 15 44.2 +0.7
baz=78
Z19A **T-Link Ranch,** 78.50 50 ⇓P P 21 15 44.5 +0.4
baz=79
Q14A **Sevier Lake (B** 78.53 44 ⇑P P 21 15 44.4 +0.2
baz=79
U16A **Tuba City** 78.54 47 ⇓P P 21 15 44.6 +0.3
baz=79
DBJI **Dramaga** 78.57 266 P P 21 15 46.7 +1.6
comp=Z,51nm,1.2s,mb5.3
X18A **Snowflake** 78.59 49 ⇓P P 21 15 44.7 0.0
baz=79
G08A **Pilot Rock** 78.63 36 ⇓P P 21 15 44.8 +0.3
baz=79
L11A **Cat Creek Ranc** 78.69 40 ⇑P P 21 15 45.3 +0.3
baz=79
T16A **Glen Canyon Da** 78.70 46 ⇑P P 21 15 45.8 +0.6
baz=79
D06A **Cle Elum** 78.78 33 ⇑P P 21 15 46.0 +0.7
baz=79
M12A **Wells** 78.79 41 ⇑P P 21 15 45.8 +0.2
baz=79
R15A **Junction** 78.80 45 ⇓P P 21 15 46.3 +0.6
baz=79
SLKM **Skilak Lake** 78.80 11 *e*P P 21 15 44.9 -0.3
B05A **Bryant** 78.81 32 ⇑P P 21 15 45.7 +0.2
baz=79
Y19A **Nutrioso** 78.82 50 ⇑P P 21 15 46.5 +0.6
baz=79
K11A **Parker Ranch,** 78.86 39 ⇑P P 21 15 45.8 -0.1
baz=79
E07A **Sunnyside** 78.91 34 ⇑P P 21 15 46.3 +0.2
baz=79
N13A **Wendover, West** 78.93 42 ⇓P P 21 15 46.6 +0.2
baz=79
RSW **Rattlesnake Hi** 78.95 35 *e*P P 21 15 46.4 +0.1
RSW *e*PP PP 21 18 40.2 -5.6
P14A **Drum Mountains** 78.99 43 ⇓P P 21 15 47.1 +0.4
baz=79

H09A **Durkee** 78.99 37 ⇓P P 21 15 46.6 0.0
baz=79
S16A **Weppner Ranch,** 79.01 45 ⇑P P 21 15 47.2 +0.4
baz=79
X19A **St. Johns** 79.02 49 ⇓P P 21 15 47.0 0.0
baz=79
MSU **Marysvale** 79.02 44 *e*P P 21 15 47.5 +0.6
F08A **Pendleton** 79.04 35 ⇓P P 21 15 46.6 -0.2
baz=79
U17A **Shonto** 79.09 47 ⇓P P 21 15 47.9 +0.6
baz=79
L12A **House Creek Ra** 79.13 40 ⇑P P 21 15 47.7 +0.3
baz=79
V18A **Ganado** 79.17 48 ⇑P P 21 15 48.1 +0.3
baz=79
HABR **Khabarovsk** 79.17 328 *e*P P 21 15 46.8 -0.7
HABR *e* 21 15 54.0
HABR *e* pP 21 16 00.4 +1.2
HABR *e*S S 21 25 44.4 0.0
HABR *e* 21 25 57.4
HABR *e* 21 26 05.5
HABR *e* 21 30 48.4
T17A **Navajo Res., N** 79.19 46 ⇑P P 21 15 48.6 +0.7
baz=79
M13A **Montello** 79.23 41 ⇑P P 21 15 48.1 +0.1
baz=79
D07A **Quincy** 79.24 34 ⇑P P 21 15 48.1 +0.2
baz=79
G09A **Cove** 79.29 36 ⇑P P 21 15 48.3 +0.1
baz=79
ETW **Entiat** 79.31 33 *e*P P 21 15 47.8 -0.4
ETW *e*PP PP 21 18 47.8 -0.9
MFID **Camas Ranch** 79.35 39 ⇓P P 21 15 48.4 -0.2
baz=79
R16A **Teasdale** 79.37 45 ⇑P P 21 15 49.7 +0.9
baz=79
F09A **S2 Ranch, Elgi** 79.47 36 ⇓P P 21 15 48.9 -0.3
baz=80
K12A **Draper Farm, C** 79.47 40 ⇓P P 21 15 49.3 0.0
baz=80
DUG **Dugway** 79.47 43 ⇓P P 21 15 49.2 -0.2
baz=80
DUG **Dugway** 79.47 43 *e*P P 21 15 49.2 -0.1
H10A **Noah's Angus R** 79.48 37 ⇑P P 21 15 49.1 -0.2
baz=80
P15A **Leamington** 79.50 43 ⇓P P 21 15 49.7 +0.2
baz=80
C07A **Waterville** 79.50 33 ⇑P P 21 15 49.0 -0.3
baz=80
S17A **Black Ridge (B** 79.51 46 ⇓P P 21 15 49.0 -0.6
baz=80
I11A **Placerville** 79.55 38 ⇑P P 21 15 49.6 -0.1
baz=80
N14A **Grayback Hills** 79.58 42 ⇑P P 21 15 49.6 -0.3
baz=80
A06A **Chilliwack** 79.66 32 ⇑P P 21 15 50.0 -0.2
baz=80
G10A **Bishop Farm, J** 79.67 37 ⇓P P 21 15 50.1 -0.2
baz=80
J12A **Stokes Ranch,** 79.69 39 ⇑P P 21 15 50.5 0.0
baz=80
D08A **Wollman Farm,** 79.72 34 ⇓P P 21 15 50.8 +0.3
baz=80
L13A **Double Diamond** 79.77 41 ⇑P P 21 15 51.0 +0.1
baz=80
MDJ **Mudanjiang** 79.82 322 P P 21 15 51.8 +0.7
MDJ AP pP 21 16 01.3 -1.6
MDJ XP sP 21 16 05.0 -2.2
MDJ PP PP 21 18 50.2 -2.8
MDJ S S 21 25 51.1 -0.3
MDJ SS SS 21 30 59.1 -2.5
MDJ AMB AMB
comp=Z,8.0nm,1.0s,mb4.6
MDJ AMB AMB
comp=Z,66nm,5.9s
MDJ LR LR
comp=N,88nm,25.6s,MS4.2
MDJ LR LR
comp=E,119nm,21.7s,MS4.2
MDJ LR LR
comp=Z,165nm,21.7s,MS4.3
MDJ **Mudanjiang** 79.82 322 *e*P P 21 15 51.5 +0.4
E09A **Wood Farm, Sta** 79.82 35 ⇓P P 21 15 50.5 -0.6
baz=80
M14A **Sheep Mountain** 79.83 41 ⇑P P 21 15 51.0 -0.3
baz=80
Q16A **Castle Valley** 79.90 44 ⇓P P 21 15 52.1 +0.4
baz=80
T18A **Mexican Hat** 79.91 47 ⇓P P 21 15 52.5 +0.7
baz=80
B07A **Winthrop** 79.95 33 ⇓P P 21 15 51.3 -0.4
baz=80
R17A **Hanksville Air** 79.96 45 ⇓P P 21 15 52.3 +0.2
baz=80
H11A **Donnelly** 79.97 38 ⇑P P 21 15 51.8 -0.2
baz=80
I12A **Atlanta** 79.98 39 ⇑P P 21 15 52.0 0.0
baz=80
K13A **Stover Farm, H** 79.98 40 ⇓P P 21 15 52.3 +0.3
baz=80
PMR **Palmer** 80.01 11 *e*P P 21 15 52.2 +0.5
PMR pmax pmax
comp=Z,21nm,1.3s,mb4.9
PMR **Palmer** 80.01 11 *e*P P 21 15 52.1 +0.4
comp=Z,21nm,1.3s,mb4.9
F10A **Beach Ranch, E** 80.01 36 ⇑P P 21 15 51.7 -0.4
baz=80
OD2 **Odessa Site #2** 80.04 34 *e*P P 21 15 52.0 -0.3
D09A **Jones Farm, Ri** 80.06 35 ⇓P P 21 15 52.0 -0.4
baz=80
TMUT **Trail Mountain** 80.07 44 *e*P P 21 15 54.0 +1.4
C08A **Higginbotham F** 80.10 34 ⇓P P 21 15 52.2 -0.3
baz=80
A07A **Ashnola River,** 80.18 32 ⇑P P 21 15 52.9 0.0
baz=80
G11A **Walters Elk Ra** 80.22 37 ⇓P P 21 15 52.9 -0.4
baz=80
HLID **Hailey** 80.28 39 ⇓P P 21 15 53.8 +0.2
baz=80
B08A **Colville Reser** 80.30 33 ⇑P P 21 15 52.9 -0.7
baz=80
HVU **Hansel Valley** 80.33 41 *e*P P 21 15 54.0 0.0
J13A **Cove Ranch, Pi** 80.34 39 ⇑P P 21 15 54.1 +0.1
baz=80
T19A **Beclabito** 80.35 47 ⇓P P 21 15 54.1 -0.1
baz=80
M15A **Larsen Ranch,** 80.38 42 ⇓P P 21 15 54.2 0.0
baz=80
SRU **San Rafael** 80.43 45 ⇑P P 21 15 54.7 +0.1
baz=80
P17A **Butcher Ranch,** 80.47 44 ⇓P P 21 15 55.3 +0.5
baz=80
K14A **Jones Ranch, D** 80.49 41 ⇑P P 21 15 54.7 -0.1
baz=81
R18A **Canyonlands Na** 80.50 45 ⇓P P 21 15 54.8 -0.2
baz=81
C09A **Chrisman Ranch** 80.52 34 ⇓P P 21 15 54.2 -0.6
baz=81
H12A **Diamond D Ranc** 80.57 38 ⇓P P 21 15 54.7 -0.5
baz=81
F11A **Grangeville** 80.57 36 ⇑P P 21 15 53.7 -1.4
baz=81
D10A **Wagner Farm, O** 80.62 35 ⇓P P 21 15 54.9 -0.5
baz=81
I13A **Wildhorse Cree** 80.66 39 ⇑P P 21 15 55.5 -0.1
baz=81
Q18A **Rafter H Ranch** 80.69 45 ⇓P P 21 15 55.8 -0.1
baz=81
A08A **Turner Farm, O** 80.70 33 ⇓P P 21 15 55.5 -0.2
baz=81
J14A **Carey** 80.70 40 ⇑P P 21 15 56.3 +0.4
baz=81
L15A **Malad City** 80.70 41 ⇓P P 21 15 55.6 -0.3
baz=81
N16A **Rees Ranch, Co** 80.73 43 ⇓P P 21 15 55.8 -0.3
baz=81
NJ2 **Nanjing** 80.80 307 *e*P P 21 15 58.3 +1.6
NJ2 AMB AMB
comp=Z,60nm,0.8s,mb5.6
E11A **Bogner Ranch,** 80.81 36 ⇓P P 21 15 55.6 -0.8
baz=81
M16A **Huntsville** 80.83 42 ⇓P P 21 15 56.7 +0.1
baz=81
O17A **Robinson Place** 80.84 44 ⇓P P 21 15 57.1 +0.4
baz=81
BNM **Barren Site** 80.84 50 *e*P P 21 15 56.9 0.0
P18A **Preston Nutter** 80.88 44 ⇑P P 21 15 57.1 +0.1

baz=81
LPM Los Pinos Moun 80.91 50 eP P 21 15 57.1 -0.1
H13A Challis 80.93 38 ⇑P P 21 15 57.3 +0.2
baz=81
B09A Rice 80.96 34 ⇑P P 21 15 56.6 -0.6
baz=81
K15A Arbon 80.97 41 ⇓P P 21 15 57.3 0.0
baz=81
F12A Elk City 81.01 37 ⇓P P 21 15 57.1 -0.4
baz=81
TXAR Lajitas Array 81.05 56 P P 21 15 57.5 -0.6
comp=Z,3.9nm,1.1s,mb4.3,baz=224,slow=6.8,SNR=19
TXAR LR LR 21 44 48.4
comp=Z,178nm,20.0s,MS4.4,baz=20,slow=30
I14A Mackay 81.07 39 ⇓P P 21 15 57.6 -0.2
baz=81
A09A Danville 81.07 33 ⇓P P 21 15 57.4 -0.3
baz=81
D11A Klaveano Farm, 81.14 35 ⇑P P 21 15 57.2 -0.9
baz=81
E12A Beaver Dam Sad 81.20 36 ⇑P P 21 15 58.1 -0.4
baz=81
Q19A Hogan Spring (81.21 45 ⇓P P 21 15 59.0 +0.2
baz=81
G13A Cobalt 81.24 38 ⇓P P 21 15 58.6 -0.1
baz=81
PV01 Paradox Valley 81.29 46 eP P 21 15 57.2 -1.9
L16A Fish Haven 81.31 42 ⇑P P 21 15 59.0 -0.2
baz=81
ANMO Albuquerque 81.32 50 eP P 21 15 59.3 -0.1
J15A Blackfoot 81.41 40 ⇑P P 21 16 00.1 +0.5
baz=82
NEW Newport 81.42 34 eP P 21 15 58.6 -1.0
NEW pmax pmax
comp=Z,5.0nm,1.0s
NEW Newport 81.42 34 eP P 21 15 58.6 -1.0
comp=Z,5.1nm,1.0s,mb4.4
H14A Leadore 81.49 39 ⇓P P 21 16 00.2 +0.1
baz=82
KTH Kantishna Hill 81.51 10 eP P 21 15 58.4 -1.3
comp=Z,9.3nm,1.0s,mb4.7
TRF Thorofare Moun 81.52 10 eP P 21 15 58.5 -1.2
comp=Z,10nm,0.8s,mb4.8
F13A Darby 81.56 37 ⇓P P 21 15 59.7 -0.7
baz=82
SKAG Skagway 81.59 19 eP P 21 16 00.3 +0.1
A10A Northport 81.61 33 ⇓P P 21 16 00.3 -0.3
baz=82
K16A Soda Springs 81.64 41 ⇑P P 21 16 01.1 +0.2
baz=82
C11A Tepee Creek (N 81.64 35 ⇑P P 21 16 00.4 -0.4
baz=82
D12A Red Ives Fores 81.69 36 ⇑P P 21 16 00.5 -0.5
baz=82
GDL2 Guadalupe Moun 81.70 53 eP P 21 16 01.9 +0.4
G14A Jackson 81.78 38 ⇑P P 21 16 01.5 -0.1
baz=82
J16A Bone 81.85 41 ⇑P P 21 16 02.1 +0.1
baz=82
CN2 Changchun 81.86 320 eP P 21 16 02.0 0.0
CN2 eAP pP 21 16 12.4 -1.4
CN2 eS S 21 26 11.4 -1.4
CN2 AMB AMB
comp=Z,10.0nm,1.0s,mb4.7
CN2 AMB AMB
comp=Z,200nm,4.0s
H15A Lima 81.93 39 ⇓P P 21 16 02.9 +0.5
baz=82
B11A Sandpoint 81.93 34 ⇓P P 21 16 02.3 0.0
baz=82
E13A Victor 82.01 37 ⇓P P 21 16 02.3 -0.4
baz=82
MCK McKinley 82.01 11 eP P 21 16 01.3 -1.1
MCK pmax pmax
comp=Z,35nm,0.9s,mb5.3
MCK McKinley 82.01 11 eP P 21 16 01.3 -1.0
comp=Z,35nm,0.9s,mb5.3
RRI2 Red Ridge 82.07 41 eP P 21 16 03.5 +0.3
F14A Wisdom 82.14 38 ⇑P P 21 16 03.4 -0.1
baz=82
D13A Huson 82.22 36 ⇑P P 21 16 03.2 -0.7
baz=82
A11A Hall Mountain, 82.23 34 ⇑P P 21 16 03.8 -0.1
baz=82
G15A Dillon 82.31 39 ⇑P P 21 16 04.5 +0.1
baz=82
DLMT Dillon 82.35 38 eP P 21 16 04.7 +0.1
REDW Red Top Meadow 82.37 41 eP P 21 16 04.8 +0.1
TPAW Teton Pass 82.38 41 eP P 21 16 05.0 +0.2
E14A Clinton 82.40 37 ⇓P P 21 16 04.6 -0.2
baz=82
BSMT Bassoo Peak 82.46 35 eP P 21 16 04.7 -0.4
C13A Hot Springs 82.48 36 ⇑P P 21 16 04.4 -0.8
baz=83
SNOW Snow King Moun 82.48 41 eP P 21 16 05.7 +0.4
IMW Indian Meadow 82.59 40 eP P 21 16 06.2 +0.3
MOOW Moose Ponds 82.64 40 eP P 21 16 06.7 +0.6
LOHW Long Hollow 82.66 41 eP P 21 16 06.0 -0.2
F15A Butte 82.67 38 ⇑P P 21 16 05.6 -0.6
baz=83
LRM Limekiln Ridge 82.69 38 eP P 21 16 06.2 -0.1
D14A Greenough 82.75 37 ⇓P P 21 16 05.8 -0.8
baz=83
G16A Moss Hill, Enn 82.76 39 ⇑P P 21 16 06.3 -0.4
baz=83
QLMT Earthquake Lak 82.77 39 eP P 21 16 07.7 +0.9
CHMT Chamberlain Mo 82.81 37 eP P 21 16 06.3 -0.6
H16A Russell Place, 82.82 39 ⇓P P 21 16 07.8 +0.7
baz=83
BW06 Boulder Array 82.89 42 P P 21 16 06.9 -0.5
baz=83
PDAR Pinedale Array 82.89 42 P P 21 16 06.5 -1.0
comp=Z,12nm,0.8s,mb5.0,baz=209,slow=3.0,SNR=66
PDAR LR LR 21 47 21.9
comp=Z,291nm,19.3s,MS4.7,baz=238,slow=32
E15A Deer Lodge 82.90 37 ⇓P P 21 16 07.7 +0.3
baz=83
B13A Whitefish 82.93 35 ⇓P P 21 16 06.6 -0.9
baz=83
C14A Swan Lake 83.00 36 ⇓P P 21 16 07.3 -0.6
baz=83
COLA College 83.25 11 ⇑↑P P 21 16 07.8 -1.0
COLA College 83.25 11 eP P 21 16 08.0 -0.8
comp=Z,29nm,0.9s,mb5.3
SDCO Great Sand Dun 83.27 48 eP P 21 16 08.7 -0.8
comp=Z,5.5nm,1.0s,mb4.5
A13A Flathead Natio 83.27 35 ⇓P P 21 16 08.9 -0.4
baz=83
PMSA Palmer Station 83.29 156 P P 21 16 07.9 -1.4
D15A Lincoln 83.30 37 ⇓P P 21 16 09.5 0.0
baz=83
KSI Kapahiang 83.34 268 P P 21 16 10.3 -0.2
comp=Z,107nm,0.8s,mb5.9
QIZ Qiongzhong 83.34 292 P P 21 16 10.9 +0.6
QIZ PP PP 21 19 19.8 -2.8
QIZ S S 21 26 26.7 -2.2
QIZ SS SS 21 31 55.7 +0.7
QIZ AMB AMB
comp=Z,118nm,2.3s,mb5.5
QIZ LR LR
comp=E,83nm,26.3s
QIZ LR LR
comp=Z,111nm,25.5s,MS4.1
SEY Seymchan 83.44 345 ⇓↓P P 21 16 09.2 -0.6
SEY Seymchan 83.44 345 ⇓↓P P 21 16 09.3 -0.5
IMA2 Indian Mountai 83.46 8 eP P 21 16 09.8 -0.1
E16A East Helena 83.52 38 ⇓P P 21 16 10.6 0.0
baz=84
B14A Marquette Ranc 83.59 36 ⇑P P 21 16 10.2 -0.7
baz=84
WALA Waterton Lakes 83.62 35 eP P 21 16 10.6 -0.4
C15A Salmond Ranch, 83.64 36 ⇓P P 21 16 10.6 -0.6
baz=84
A14A Double T Ranch 83.84 35 ⇓P P 21 16 11.5 -0.7
baz=84
D16A Dana Ranch, Ca 83.86 37 ⇑P P 21 16 12.0 -0.4
baz=84
RWWY Rawlins 83.90 44 eP P 21 16 08.5 -4.1
B15A Bradely Ranch, 83.96 36 ⇓P P 21 16 11.5 -1.3
baz=84
E17A Martinsdale 83.96 38 ⇑P P 21 16 12.5 -0.4
baz=84
C16A Fuhringer Ranc 84.15 37 ⇓P P 21 16 13.3 -0.5
baz=84
A15A Johnson Ranch, 84.22 35 ⇑P P 21 16 13.6 -0.6
baz=84
RLMT Red Lodge 84.24 40 ⇑P P 21 16 14.4 +0.1
baz=84
RLMT Red Lodge 84.24 40 eP P 21 16 13.4 -1.0
comp=Z,16nm,1.0s,mb5.1
DAWY Dawson 84.29 14 eP P 21 16 14.0 -0.1
GCMT Greycliff 84.33 39 eP P 21 16 14.8 +0.1
F18A Big Timber 84.36 39 ⇑P P 21 16 15.3 +0.3
baz=84
B16A M & M Farms, S 84.49 36 ⇑P P 21 16 14.8 -0.7
baz=85
E18A Harlowton 84.58 38 ⇑P P 21 16 16.3 +0.4
baz=85
C17A Wharram Farm, 84.62 37 ⇓P P 21 16 15.7 -0.5
baz=85
A16A West Butte Ran 84.84 36 ⇓P P 21 16 16.7 -0.6
baz=85
COLD Coldfoot 85.04 9 eP P 21 16 17.8 0.0
comp=Z,6.4nm,1.0s,mb4.7
EGMT Eagleton 85.41 37 ⇑P P 21 16 20.0 -0.1
baz=86
BILL Bilibino 85.44 352 ⇑eP P 21 16 19.2 -0.6
BILL e pP 21 16 31.4 -0.3
BILL e 21 19 34.4
BILL eSS SS 21 32 19.9 -4.2
BILL pmax pmax
comp=Z,23nm,1.3s,mb5.2
BILL Bilibino 85.44 352 eP P 21 16 19.8 0.0
BJT Baijiatuau 86.17 313 eP P 21 16 23.7 -0.4
BJI Beijing 86.18 313 P P 21 16 24.9 +0.8
BJI AMB AMB
comp=Z,17nm,1.2s,mb5.2
BJI AMB AMB
comp=Z,73nm,3.6s
BJI Beijing 86.18 313 P P 21 16 24.9 +0.8
comp=Z,17nm,1.2s,mb5.2
EDM Edmonton 86.22 31 eP P 21 16 23.4 -0.6
PPI Padang Panjang 86.32 271 P P 21 16 27.1 +1.6
comp=Z,25nm,0.8s,comp=Z,1μm,mb5.5
COCO West Island 86.51 258 P P 21 16 25.3 -1.1
MAW Mawson 86.95 199 eP P 21 16 27.5 0.0
comp=Z,6.3nm,0.8s,mb4.9
MAW Mawson 86.95 199 P P 21 16 27.9 +0.4
comp=Z,6.6nm,0.7s,mb5.0,baz=128,slow=5.8,SNR=18
MAW LR LR 21 55 44.3
comp=Z,161nm,18.2s,MS4.5,baz=210,slow=36
MAW Mawson 86.95 199 eP P 21 16 27.5 0.0
MAW pmax pmax
comp=Z,6.0nm,0.8s
IPM Ipoh 87.11 275 P P 21 16 30.6 +1.3
comp=Z,26nm,1.0s,mb5.4
HIA Hailar 87.99 323 eP P 21 16 32.6 -0.1
HIA pmax pmax
comp=Z,3.0nm,0.3s
HIA Hailar 87.99 323 eP P 21 16 32.6 -0.1
comp=Z,2.9nm,0.3s,mb5.0
GYA Guiyang 88.56 298 P P 21 16 35.3 -0.7
GYA AP pP 21 16 46.9 -1.0
GYA XP sP 21 16 50.3 -1.9
GYA PP PP 21 20 06.0 +1.1
GYA XS sS 21 27 35.4 -4.1
GYA SS SS 21 33 11.9 +0.3
GYA AMB AMB
comp=Z,20nm,1.0s,mb5.4
GYA AMB AMB
comp=Z,110nm,5.8s
GYA LR LR
comp=N,490nm,20.6s,MS5.0
GYA LR LR
comp=E,360nm,21.4s,MS5.0
GYA LR LR
comp=Z,440nm,20.5s,MS4.9
PLCA Paso Flores 88.82 132 P P 21 16 37.7 +0.7
comp=Z,3.7nm,0.8s,mb4.8,baz=246,slow=6.7,SNR=9.1
PLCA LR LR 21 47 47.8
comp=Z,240nm,18.4s,MS4.7,baz=179,slow=30
PLCA Paso Flores 88.82 132 P P 21 16 37.7 +0.7
PLCA LR LR 21 47 47.8
DGMT Dagmar 88.89 38 ⇑P P 21 16 36.6 -0.4
baz=89
XAN Xi'an 89.25 306 P P 21 16 40.0 +1.0
XAN AMB AMB
comp=Z,4.0nm,1.3s,mb4.6
YAK Yakutsk 90.00 337 eP P 21 16 39.5 -2.3
YAK pmax pmax
comp=Z,13nm,1.1s,mb5.2
YAK Yakutsk 90.00 337 i P P 21 16 41.5 -0.3
YKA Yellowknife Ar 90.91 23 P P 21 16 45.4 -0.7
comp=Z,4.0nm,0.9s,mb4.8,baz=228,slow=4.6,SNR=6.2
YKA LR LR 21 51 10.9
comp=Z,78nm,19.5s,MS4.2,baz=180,slow=31
KMI Kunming 91.51 296 P P 21 16 51.6 +1.8
KMI AP pP 21 17 02.2 +0.5
KMI XP sP 21 17 06.5 +0.5
KMI PP PP 21 20 30.7 +2.3
KMI S S 21 27 45.3 -1.8
KMI XS sS 21 28 03.8 -3.2
KMI SS SS 21 33 55.7 +1.3
KMI AMB AMB
comp=Z,8.0nm,1.2s,mb4.9
KMI AMB AMB
comp=Z,194nm,4.5s
KMI LR LR
comp=Z,107nm,18.2s,MS4.3
KMI Kunming 91.51 296 P P 21 16 51.6 +1.8
KMI *PP pP 21 17 02.2 +0.5
KMI *SP sP 21 17 06.5 +0.5
KMI 21 20 30.7
KMI S S 21 27 45.3 -1.8
KMI SS SS 21 33 55.7 +1.3
KMI pmax pmax
comp=Z,8.0nm,1.2s,mb4.9
KMI MLR MLR
comp=Z,110nm,18.2s,MS4.3
KMI Kunming 91.51 296 P P 21 16 51.6 +1.8
comp=Z,8.0nm,1.2s,mb4.9
KMI pP pP 21 17 02.2 +0.5
KMI sP sP 21 17 06.5 +0.5
KMI PP PP 21 20 30.7 +2.3
KMI S S 21 27 45.3 -1.8
KMI sS sS 21 28 03.8 -3.2
KMI SS SS 21 33 55.7 +1.3
KMI LR LR
comp=Z,110nm,18.2s,MS4.3
VNA3 Neumayer Olymp 91.93 175 eP P 21 16 50.5 -0.3
VNA3 e 21 16 52.1
VNA3 e pP 21 17 02.7 0.0
SNAA Sanae 91.98 177 eP P 21 16 50.5 -0.6
SNAA e 21 16 52.4
SNAA e pP 21 17 02.7 -0.3
SNAA Sanae 91.98 177 eP P 21 16 50.3 -0.8
SNAA pmax pmax
comp=Z,11nm,1.0s
SNAA Sanae 91.98 177 eP P 21 16 50.3 -0.8
comp=Z,11nm,1.0s,mb5.1
CD2 Chengdu 92.38 301 eP P 21 16 55.2 +1.6
CD2 AP pP 21 17 05.2 -0.4
CD2 XP sP 21 17 10.2 +0.3
CD2 PP PP 21 20 38.9 +3.8
CD2 SS SS 21 34 08.7 +2.2
CD2 AMB AMB
comp=Z,20nm,0.8s,mb5.5
CD2 AMB AMB
comp=Z,40nm,5.8s
CD2 LR LR
comp=N,340nm,18.4s
CD2 LR LR
comp=Z,310nm,16.4s,MS4.8
VNA2 Neumayer--Watz 92.42 175 eP P 21 16 53.3 +0.2
baz=183,slow=3.0
VNA2 e 21 16 54.9
VNA2 e pP 21 17 04.6 -0.4
VNA1 Neumayer--Stat 92.62 175 eP P 21 16 54.6 +0.5
VNA1 e 21 16 56.3
VNA1 e pP 21 17 06.5 +0.5
CMAR Chiang Mai Arr 93.00 288 P P 21 16 57.7 +0.9
comp=Z,5.1nm,0.8s,mb5.0,baz=98,slow=2.3,SNR=29
CMAR LR LR 21 54 03.0
comp=Z,63nm,21.0s,MS4.0,baz=280,slow=32
CHTO Chiang Mai 93.09 289 eP P 21 16 57.3 +0.1
CHTO pmax pmax
comp=Z,5.0nm,0.8s,mb5.0
CHTO Chiang Mai 93.09 289 eP P 21 16 57.3 +0.1
comp=Z,5.3nm,0.8s,mb5.0
LZH Lanzhou 93.85 306 eP P 21 17 02.0 +1.7
LZH AP pP 21 17 12.7 +0.5
LZH XP sP 21 17 16.8 +0.2
LZH eP P 21 20 50.5 +4.0
LZH SKS 21 27 32.8
LZH eS S 21 28 06.0 -1.5
LZH XS sS 21 28 24.5 -2.9
LZH eSS SS 21 34 29.6 +2.1
LZH AMB AMB
comp=Z,15nm,1.5s,mb5.2
LZH AMB AMB
comp=Z,93nm,9.4s
LZH LR LR
comp=E,207nm,17.9s
LZH LR LR
comp=Z,318nm,19.8s,MS4.8
LZH Lanzhou 93.85 306 eP P 21 17 02.0 +1.7
LZH *PP pP 21 17 12.7 +0.5
LZH *SP sP 21 17 16.8 +0.2
LZH e 21 20 50.5
LZH 21 27 32.8
LZH eS S 21 28 06.0 -1.5
LZH eSS SS 21 34 29.6 +2.1
LZH pmax pmax
comp=Z,15nm,1.5s,mb5.2
LZH MLR MLR
comp=Z,320nm,19.8s,MS4.8
LZH Lanzhou 93.85 306 eP P 21 17 02.0 +1.7
comp=Z,15nm,1.5s,mb5.2
LZH pP pP 21 17 12.7 +0.5
LZH sP sP 21 17 16.8 +0.2
LZH ePP PP 21 20 50.5 +4.0
LZH SKS 21 27 32.8
LZH eS S 21 28 06.0 -1.5
LZH sS sS 21 28 24.5 -2.9
LZH eSS SS 21 34 29.6 +2.1
LZH LR LR
comp=Z,320nm,19.8s,MS4.8
ULM Lac du Bonnet 94.59 39 LR LR 21 52 53.3
comp=Z,297nm,19.6s,MS4.8,baz=251,slow=31
SONM Songino Array 95.60 318 P P 21 17 08.1 0.0
comp=Z,0.8nm,0.9s,mb4.2,baz=115,slow=3.9,SNR=6.5
SONM PP PP 21 21 01.7 +1.9
comp=Z,0.6nm,0.9s,baz=92,slow=4.3,SNR=3.5
LPAZ La Paz 99.40 110 LR LR 21 52 27.0
comp=Z,96nm,19.8s,MS4.3,baz=68,slow=30
ROSC El Rosal 99.94 88 LR LR 21 52 01.8
comp=Z,84nm,22.0s,MS4.2,baz=201,slow=29
WMQ Urumqi 107.55 311 PDIF Pdif 21 18 02.6 +1.2
WMQ PP PP 21 22 33.6 +3.6
WMQ PP PP
comp=Z,126nm,5.5s
WMQ LR LR
comp=N,27nm,22.6s,MS3.9
WMQ LR LR
comp=E,26nm,17.8s,MS3.9
WMQ LR LR
comp=Z,37nm,18.0s,MS4.0
MKAR Makanchi Array 111.54 314 PKiKP PKiKP 21 22 15.6 -1.4
comp=Z,0.3nm,0.2s,baz=131,slow=0.8,SNR=4.7
MKAR PKKPbc PKKPbc 21 33 17.8 +5.1
comp=Z,0.3nm,0.4s,baz=235,slow=4.3,SNR=3.9
KURK Kurchatov 113.90 319 PKP PKiKP 21 22 19.8 -1.6
comp=Z,0.6nm,0.2s,baz=79,slow=1.6,SNR=2.7
KURK PKKPbc PKKPbc 21 33 00.8 -4.2
comp=Z,0.7nm,0.9s,baz=259,slow=4.3,SNR=4.1
KURK Kurchatov 113.90 319 PKP PKiKP 21 22 19.8 -1.6
KURK PKKPbc PKKPbc 21 33 00.8 -4.2
KBL Kabul 121.71 301 ePKIKP PKPdf 21 22 36.8 -0.2
ARU Arti 124.18 328 ePKIKP PKPdf 21 22 39.4 -1.6
ARU Arti 124.18 328 ePKPdf PKPdf 21 22 39.4 -1.6
ARCES ARCESS Array B 125.54 352 PKP PKPdf 21 22 41.4 -1.8
comp=Z,3.0nm,0.8s,baz=4.3,slow=4.9,SNR=8.5
BOSA Boshof 131.85 202 PKP PKPdf 21 22 57.0 +0.5
comp=Z,4.3nm,1.1s,baz=153,slow=7.5,SNR=3.9
AKASG Malin Array Be 141.23 337 PKP PKPdf 21 23 11.2 -2.0
comp=Z,0.2nm,0.3s,baz=38,slow=4.8,SNR=3.5
KWP Kalwaria 144.33 342 ePKP PKPdf 21 23 17.2 -1.5
KWP Kalwaria 144.33 342 i/P PKPdf 21 23 17.0 -1.7
WTSB Winterswijk 144.45 360 ePKP PKPdf 21 23 17.4 -1.4
comp=Z,8.7nm,1.4s
CLZ Clausthal 144.45 356 ePKPbc PKPdf 21 23 17.1 -1.7
OJC Ojcow 144.58 345 ePKPdf PKPdf 21 23 17.4 -1.7
MALT Malatya 144.59 314 ⇑i/P PKPdf 21 23 23.6 +4.1
MALT Malatya 144.59 314 P PKPdf 21 23 23.8 +4.3
MALT Malatya 144.59 314 ePKP PKPdf 21 23 22.9 +3.4
KSP Ksiaz 144.72 349 ePKP PKPdf 21 23 18.6 -0.7
KSP Ksiaz 144.72 349 ePKP PKPdf 21 23 18.1 -1.2
KSP epPKP pPKPdf 21 23 30.1 -1.5
CLL Collm 144.75 353 ePKPbc PKPdf 21 23 17.2 -2.2
CLL Collm 144.75 353 i PKPdf PKPdf 21 23 17.4 -2.0
comp=Z,11nm,1.0s
CLL ePKiKP PKiKP 21 23 23.0 -0.1
CLL i pPKiKP 21 23 34.0
STHS Stebnicka Huta 144.94 343 ePKP PKPdf 21 23 19.2 -0.6
BUG Bochum--Univer 144.97 359 ePKPbc PKPdf 21 23 17.9 -1.8
BRG Berggiesshubel 145.05 352 ePKPbc PKPbc 21 23 18.8 -0.5
BRG Berggiesshubel 145.05 352 i PKP PKPdf 21 23 19.1 -0.8
comp=Z,8.2nm,1.0s
BRG e 21 23 32.5
comp=Z,7.0nm,1.2s
KOLS Kolonicke sedl 145.09 342 ePKP PKPdf 21 23 19.3 -0.7
UPC Upice 145.09 350 ePKP PKPdf 21 23 19.5 -0.5
UPC epPKP pPKPdf 21 23 32.8 +0.5
DPC Dobruska-Polom 145.19 349 ePKP PKPdf 21 23 20.1 -0.1
DPC epPKP pPKPdf 21 23 33.0 +0.6
NIE Niedzica 145.19 344 ePKPdf PKPdf 21 23 17.4 -2.8
KMBO Kilima Mbogo 145.21 243 PKPbc PKPbc 21 23 22.3 +1.3
comp=Z,14nm,0.9s,baz=61,slow=6.2,SNR=28
BUR08 Bucovina Ar. S 145.24 338 ePKPbc PKPbc 21 23 20.1 0.0
BURAR Bucovina Array 145.26 338 ⇑i/P PKPbc 21 23 20.2 +0.1
BURAR Bucovina Array 145.26 338 ⇑P PKPbc 21 23 20.2 0.0
PVCC Panska Ves 145.30 351 ePKP PKPdf 21 23 20.4 +0.1
PVCC epPKP pPKPdf 21 23 32.3 -0.3
OKC Ostrava-Krasne 145.31 347 ePKP PKPdf 21 23 20.2 -0.2
OKC epPKP pPKPdf 21 23 32.5 -0.2
CRVS Cervenica-Dubn 145.35 343 ePKIKP PKPdf 21 23 20.2 -0.3
UZH Uzhgorod 145.35 342 ePKIKP PKPdf 21 23 19.0 -1.5
UZH i 21 23 33.3
UBBA Unterbreizbach 145.50 356 ePKPbc PKPbc 21 23 19.9 -0.9
MORC Moravsky Berou 145.50 348 ⇑i/P PKPdf 21 23 21.0 +0.3
MORC Moravsky Berou 145.50 348 ePKPdf PKPdf 21 23 20.5 -0.2
MOX Moxa 145.54 354 ePKP PKPdf 21 23 20.4 -0.4
comp=Z,36nm,1.5s
MOX Moxa 145.54 354 ePKPbc PKPbc 21 23 20.3 -0.6
MOX epPKPbc pPKPbc 21 23 33.1 +0.1
UCC Uccle 145.57 3 PKP PKPdf 21 23 20.5 -0.3
HGN Heimansgroeve 145.65 1 ePKP PKPdf 21 23 20.7 -0.3
comp=Z,24nm,1.6s
MENF Mencas 145.66 5 PKP PKPdf 21 23 20.6 -0.4
TANN Tannenbergstha 145.69 353 ePKPbc PKPbc 21 23 20.9 -0.5
TANN epPKPbc pPKPbc 21 23 33.6 +0.1
TLCR 145.75 332 ⇓i/P PKPdf 21 23 22.0 +0.7
TLCR 145.75 332 P PKPdf 21 23 22.3 +1.0
MEM Membach 145.80 1 PKP PKPdf 21 23 21.4 +0.2
PRU Pruhonice 145.83 351 ePKP PKPdf 21 23 21.7 +0.4
PRU epPKP pPKPdf 21 23 34.6 +1.1
PRU Pruhonice 145.83 351 ePKP PKPdf 21 23 21.7 +0.4
PRU e 21 23 34.6
SNF Seneffe 145.85 3 PKP PKPdf 21 23 21.7 +0.4
NKC Novy Kostel 145.87 353 ePKP PKPdf 21 23 21.6 +0.3
NKC epPKP pPKPdf 21 23 35.3 +1.7
BCLA Clavier 145.98 2 PKP PKPdf 21 23 22.1 +0.6
VRI Vrincioaia 146.12 335 ⇓i/P PKPdf 21 23 23.1 +1.2
VRI Vrincioaia 146.12 335 ⇓P PKPdf 21 23 23.1 +1.2
VRAC Vranov 146.14 348 ⇑i/P PKPdf 21 23 23.1 +1.3
VRAC Vranov 146.14 348 P PKPdf 21 23 23.1 +1.3
MANZ Manzenberg 146.15 354 ePKPbc PKPbc 21 23 22.5 -0.3
MANZ epPKPbc pPKPbc 21 23 35.1 +0.2
TNS Taunus Mts 146.16 358 ePKPbc PKPbc 21 23 22.7 -0.1
DOU Dourbes 146.28 2 PKP PKPdf 21 23 21.5 -0.6
GIVF Givet 146.28 2 ⇑i/PKP1 PKPbc 21 23 22.6 -0.6
BAIF Baives 146.30 3 ⇑i/PKP1 PKPbc 21 23 22.9 -0.3
comp=Z,40nm,1.2s
ROTZ Rotzenmuhle 146.35 354 ePKPbc PKPbc 21 23 23.4 0.0
ROTZ epPKPbc pPKPbc 21 23 36.7 +1.1
TREC Trest 146.35 350 ePKP PKPdf 21 23 22.9 +0.7
TREC epPKP pPKPdf 21 23 35.8 +1.3
VYHS Vyhne 146.42 345 ePKP PKPdf 21 23 23.7 +1.4
VYHS e 21 23 39.6
KOLL Kolacno 146.44 346 ePKP PKPdf 21 23 23.7 +1.3
TIRR Tirgusor 146.50 331 ⇓i/P PKPdf 21 23 24.2 +1.6
GRA1 Grafenberg Arr 146.52 355 ePKPbc PKPbc 21 23 24.1 +0.2
GRA1 epPKPbc pPKPbc 21 23 37.5 +1.4
GRF Grafenberg Arr 146.52 355 ePKPbc PKPbc 21 23 24.1 +0.2
GRF epPKPbc pPKPbc 21 23 37.5 +1.4

ABH	Alteburg	146.53	359	PKP	PKPdf	21 23 23.7	+1.2
HARR	Harsova	146.54	332	⇑iP	PKPbc	21 23 24.7	+0.6
HARR	Harsova	146.54	332	P	PKPab	21 23 25.0	-0.1
PSZ	Piszkesteto	146.68	344	⇓ePKP	PKPbc	21 23 24.8	+0.4
PSZ	Piszkesteto	146.68	344	⇓iP	PKPdf	21 23 24.3	+1.5
PSZ	Piszkesteto	146.68	344	P	PKPbc	21 23 24.8	+0.4
RUP	Ruppelstein	146.72	360	PKP2	PKPab	21 23 24.3	-1.3
MLR	Muntele Rosu	146.75	335	⇑iP	PKPbc	21 23 25.4	+0.7
MLR	Muntele Rosu	146.75	335	P	PKPbc	21 23 25.2	+0.5
WLF	Walferdange	146.75	1	PKP	PKPdf	21 23 24.7	+1.9
WLF	Walferdange	146.75	1	ePKPbc	PKPbc	21 23 24.7	+0.1
WLF	Walferdange	146.75	1	ePKPdf	PKPdf	21 23 21.8	-1.1
TOD	Tromm	146.77	358	PKIKP	PKPdf	21 23 24.1	+1.2
KHC	Kasperske Hory	146.81	352	ePKP	PKPbc	21 23 25.0	+0.2
KHC				epPKP	pPKPdf	21 23 37.7	+2.5
KHC	Kasperske Hory	146.81	352	ePKP	PKPbc	21 23 25.0	+0.2
KHC				e		21 23 37.7	
DRGR		146.84	340	⇓iP	PKPbc	21 23 25.0	+0.1
DRGR		146.84	340	P	PKPbc	21 23 25.1	+0.1
MODS	Modra-Piesok	146.89	347	ePKP	PKPbc	21 23 25.7	+0.7
MODS				e		21 23 36.0	
WET	Wettzell	146.89	353	ePKPbc	PKPbc	21 23 25.1	+0.1
BR131	Keskin Array S	146.93	320	ePKPdf	PKPbc	21 23 25.3	-0.2
ROSF	Rostrenen	147.05	12	⇑iPKP1	PKPbc	21 23 24.2	-1.3
	comp=Z,34nm,1.3s						
GEC2	GERESS Array S	147.07	351	ePKPbc	PKPbc	21 23 25.2	-0.3
GERES	GERESS Array B	147.07	351	PKPbc	PKPbc	21 23 25.3	-0.2
	comp=Z,5.7nm,0.7s,baz=21,slow=2.9,SNR=58						
ZST	Bratislava	147.09	347	ePKP	PKPab	21 23 27.7	+0.5
FLN	La Foliniere	147.13	9	ePKP1	PKPbc	21 23 24.7	-1.0
	comp=Z,40nm,1.2s						
FLN				eMLR	MLR		
	comp=Z,190nm,22.0s,MS4.5						
FLN	La Foliniere	147.13	9	ePKP	PKPdf	21 23 24.7	+1.2
FLN				LR	LR		
	comp=Z,190nm,22.0s,MS4.8						
VOIR		147.15	336	⇑iP	PKPbc	21 23 26.7	+0.9
VOIR		147.15	336	P	PKPbc	21 23 26.8	+1.0
SGMF	Saint Gilles	147.27	11	⇑iPKP1	PKPbc	21 23 25.1	-1.0
	comp=Z,25nm,1.1s						
BUD	Budapest	147.31	344	⇓ePKP	PKPbc	21 23 26.3	+0.1
LDF	La Druitiere	147.34	8	⇑iPKP1	PKPbc	21 23 25.3	-1.0
	comp=Z,24nm,1.2s						
ANTO	Ankara	147.36	321	⇑iP	PKPbc	21 23 27.2	+0.6
ANTO	Ankara	147.36	321	⇑P	PKPbc	21 23 27.2	+0.5
LANF	Langenberg	147.43	359	PKP	PKPbc	21 23 27.3	+0.8
GRR	Gorron	147.43	9	⇑iPKP1	PKPbc	21 23 25.8	-0.7
	comp=Z,23nm,1.0s						
QUIF	Quistinic	147.47	12	⇑iPKP1	PKPbc	21 23 25.6	-1.0
	comp=Z,37nm,1.4s						
STU	Stuttgart	147.58	357	ePKPbc	PKPbc	21 23 26.6	-0.3
CONA	Conrad Observa	147.60	348	i PKPab	PKPbc	21 23 27.4	+0.4
	comp=Z,14nm,0.8s,SNR=13						
CSNA	Conrad Observa	147.60	348	⇓iPKPab	PKPbc	21 23 27.3	+0.3
	comp=Z,13nm,0.8s						
SOP	Sopron	147.69	347	⇓ePKP	PKPbc	21 23 27.9	+0.6
MOA	Molln	147.96	350	i PKPbc	PKPbc	21 23 27.8	-0.1
	comp=Z,9.9nm,1.0s,SNR=6.0						
CDF	Champ du Feu	148.00	359	⇑iPKP1	PKPbc	21 23 27.8	-0.3
	comp=Z,35nm,1.1s						
FUR	Furstenfeldbru	148.03	354	ePKPbc	PKPbc	21 23 28.1	-0.1
GZR	Gura Zlata	148.04	338	PKIKP	PKPbc	21 23 27.9	-0.4
BFO	Black Forest	148.06	358	ePKPbc	PKPbc	21 23 28.0	-0.2
THEF	They Montfort	148.19	1	PKP	PKPbc	21 23 28.2	-0.4
ECH	Echery	148.20	359	PKP	PKPbc	21 23 29.3	+0.7
BZS	Buzias	148.24	340	⇓iP	PKPbc	21 23 28.8	0.0
BZS	Buzias	148.24	340	P	PKPbc	21 23 28.6	-0.2
SPAK	Spaichingen-Ko	148.27	357	PKP	PKPbc	21 23 28.2	-0.6
ARSA	Arzberg	148.31	349	⇑iPKPbc	PKPbc	21 23 28.9	-0.1
	comp=Z,7.8nm,1.1s						
HAU	Haudompre	148.41	0	⇑iPKP1	PKPbc	21 23 28.9	-0.3
	comp=Z,30nm,0.9s						
HAU				eMLR	MLR		
	comp=Z,84nm,18.5s,MS4.3						
HAU	Haudompre	148.41	0	⇑iPKP	PKPbc	21 23 28.9	-0.3
HAU				LR	LR		
	comp=Z,80nm,18.5s,MS4.5						
ZIMR		148.48	334	PKP2	PKPab	21 23 30.0	-2.8
FELD	Feldberg im Sc	148.53	358	PKP	PKPbc	21 23 29.3	-0.2
MOF	Molkenrain	148.56	359	PKP	PKPbc	21 23 30.1	+0.5
PKSM	Moragy	148.58	344	⇑iP	PKPbc	21 23 29.2	-0.5
HINF	Hinteralfeld	148.60	360	⇑iPKP1	PKPbc	21 23 29.1	-0.6
	comp=Z,31nm,1.3s						
KBA	Koelnbreinsper	148.85	351	⇑iPKPbc	PKPbc	21 23 29.6	-0.7
	comp=Z,5.5nm,0.9s						
MOTA	Moosalm	148.86	354	⇑iPKPbc	PKPbc	21 23 30.0	-0.3
	comp=Z,8.9nm,0.9s						
WTTA	Wattenberg	148.89	353	⇑iPKPbc	PKPbc	21 23 30.4	0.0
	comp=Z,13nm,0.7s,SNR=8.2						
SOKA	Soboth	148.96	349	⇑iPKPbc	PKPbc	21 23 29.8	-0.8
	comp=Z,8.8nm,1.0s						
DAVA	Damuels	149.02	356	⇑iPKPbc	PKPbc	21 23 30.7	0.0
	comp=Z,14nm,0.9s						
LOR	Lormes	149.06	4	⇑iPKP1	PKPbc	21 23 30.6	-0.2
	comp=Z,28nm,1.0s						
LOR				eMLR	MLR		
	comp=Z,134nm,21.2s,MS4.4						
LOR	Lormes	149.06	4	⇑iPKP	PKPbc	21 23 30.6	-0.2
LOR				LR	LR		
	comp=Z,130nm,21.3s,MS4.7						
LOMF	Lomont	149.07	360	PKP	PKPbc	21 23 30.8	-0.1
FETA	Feichten	149.22	355	⇑iPKPbc	PKPbc	21 23 30.9	-0.3
	comp=Z,12nm,1.0s,SNR=9.7						
SSF	Saint Saulge	149.24	4	⇑iPKP1	PKPbc	21 23 31.1	-0.2
	comp=Z,33nm,1.1s						
MFF	Saint Martin d	149.28	9	⇑iPKP1	PKPbc	21 23 30.7	-0.7
	comp=Z,23nm,1.0s						
ABTA	Abfaltersbach	149.29	352	⇑iPKPbc	PKPbc	21 23 30.6	-0.8
	comp=Z,12nm,0.8s,SNR=11						
AVF	Avril sur Loir	149.50	5	⇑iPKP1	PKPbc	21 23 31.4	-0.6
	comp=Z,27nm,1.1s						
SMF	Signal de Mont	149.68	4	⇑iPKP1	PKPbc	21 23 31.8	-0.6
	comp=Z,30nm,1.2s						
BGF	Bois d'Agland	149.69	5	⇑iPKP1	PKPbc	21 23 32.1	-0.3
	comp=Z,29nm,1.0s						
CABF	La Chapelle	149.80	1	⇑iPKP1	PKPbc	21 23 33.1	+0.4
	comp=Z,50nm,1.0s						
CSS	Prodhromos	149.81	313	ePKPdf	PKPdf	21 23 28.1	-0.3
TUE	Stuetta	149.87	356	ePKPdf	PKPdf	21 23 28.6	+0.5
TUE				ePKPbc	PKPbc	21 23 33.0	+0.1
TCF	Toulx Ste Croi	149.90	6	⇑iPKP1	PKPbc	21 23 32.3	-0.6
	comp=Z,21nm,1.1s						
TRI	Trieste	150.12	350	ePKHKP		21 23 32.8	
AGO	Saint Agoulin	150.22	5	PKP	PKPbc	21 23 33.2	-0.5
PLDF	La Plantade	150.34	4	PKP	PKPbc	21 23 34.2	+0.2
PYM	Petit Puy Mans	150.51	5	PKP	PKPbc	21 23 34.3	-0.1
RJF	Les Rejaudoux	150.79	8	⇑iPKP1	PKPbc	21 23 34.6	-0.5
	comp=Z,15nm,0.9s						
RJF				eMLR	MLR		
	comp=Z,136nm,21.0s,MS4.4						
RJF	Les Rejaudoux	150.79	8	⇑iPKP	PKPbc	21 23 34.6	-0.5
RJF				LR	LR		
	comp=Z,140nm,21.0s,MS4.7						
LPL	La Plagne	150.90	360	⇑iPKP1	PKPbc	21 23 36.1	+0.7
	comp=Z,19nm,1.0s						
LPG	La Plagne	150.92	360	⇑iPKP1	PKPbc	21 23 36.3	+0.9
	comp=Z,21nm,0.9s						
LFF	La Frestale	151.04	9	⇑iPKP1	PKPbc	21 23 35.2	-0.5
	comp=Z,33nm,0.9s						
LBL	Lubilhac	151.04	5	PKP	PKPbc	21 23 36.0	+0.3
CAF	Calviac	151.23	7	⇑iPKP1	PKPbc	21 23 35.8	-0.4
	comp=Z,18nm,1.0s						
BNI	Bardonecchia	151.37	0	ePKIKP	PKPbc	21 23 37.3	+0.8
ORIF	Oris-en-Rattie	151.49	1	ePKP1	PKPbc	21 23 36.9	+0.1
	comp=Z,12nm,0.8s						
ORIF				eMLR	MLR		
	comp=Z,162nm,21.8s,MS4.5						
VIVF	Saint-Julien-l	151.51	3	⇑iPKP1	PKPbc	21 23 36.8	0.0
	comp=Z,18nm,0.9s						
MBDF	Montbardon	151.69	360	⇑iPKP1	PKPbc	21 23 37.4	+0.2
	comp=Z,13nm,0.8s						
LASF	Ste Croix	152.24	4	⇑iPKP1	PKPbc	21 23 38.6	+0.1
	comp=Z,17nm,1.0s						
SMRF	Simiane la Rot	152.43	2	⇑iPKP1	PKPbc	21 23 39.3	+0.4
	comp=Z,12nm,0.8s						
SJPF	Ste Jean	152.46	13	⇑iPKP1	PKPbc	21 23 40.7	+1.7
	comp=Z,15nm,1.1s						
EPF	Esparros	152.84	10	ePKP1	PKPbc	21 23 39.8	-0.1
	comp=Z,20nm,1.3s						
PGF	Pioggiola	153.80	356	⇑iPKP1	PKPbc	21 23 41.4	-0.6
	comp=Z,7.4nm,0.9s						
EVO	Evora	154.38	27	ePKP2	PKPab	21 23 56.3	-1.2
	comp=Z,28nm,1.1s						
EVO				eMLR	MLR		
	comp=Z,114nm,22.0s,MS4.3						
ESDC	Sonseca Array	154.95	20	PKPbc	PKPbc	21 23 44.8	+0.3
	comp=Z,0.3nm,0.5s,baz=326,slow=5.2,SNR=3.3						
ESDC				PKPab	PKPab	21 23 59.5	-0.4
	comp=Z,0.6nm,0.6s,baz=321,slow=3.8,SNR=5.5						
KEST	Kesra	160.53	354	PKPab	PKPab	21 24 24.7	+0.6
	comp=Z,1.5nm,0.9s,baz=312,slow=13,SNR=4.2						
LIC	Lamto	164.74	130	⇑iPKIKP	PKPdf	21 23 50.0	+2.4
	comp=Z,18nm,0.9s						
LIC				eMLR	MLR		
	comp=Z,140nm,21.0s						
LIC	Lamto	164.74	130	⇑iPKPdf	PKPdf	21 23 50.0	+2.4
LIC				LR	LR		
	comp=Z,70nm,21.0s						
TORD	Torodi Ar. Bea	174.22	123	PKP	PKPdf	21 23 51.2	-2.1
	comp=Z,1.3nm,0.9s,baz=32,slow=1.7,SNR=6.0						
TORD				PKPab	PKPab	21 25 23.4	-1.7
	comp=Z,4.8nm,1.0s,baz=258,slow=4.2,SNR=13						
TORD	Torodi Ar. Bea	174.22	123	PKP	PKPdf	21 23 51.2	-2.1
TORD				PKPab	PKPab	21 25 23.4	-1.8

*ISCJB **03** 21:13:17.1±0.5, 050N±004×12668E±005, h76^{km}±5^{km}, mb4.3/16, Error ellipse: s-maj=8.2km s-min=6.3km az=145.1*
*IDC **03** 21:13:18.0±2.7, 047N×12674E, h65^{km}±25^{km}, mb4.1/11, mb1 4.2/13, mb1mx4.1/19, mbtmp4.1/13, MS3.1/1, Ms1 3.1/1, ms1mx2.5/24, Error ellipse: s-maj=30.5km s-min=9.3km az=78.0*
*NEIC **03** 21:13:17.8±0.8, 049N×12671E, h67^{km}±8^{km}, mb4.4/8, Error ellipse: s-maj=8.7km s-min=4.7km az=78.0*
*DJA **03** 21:13:18, 050N×12664E, h33^{km}, mb4.5/1*
ISC 03 21:13:18.2±0.5**, 049N**±004×**12668E**±004**, h68**^{km}±5^{km}**, n48, σ0**^{s}**65**/45**, mb4.3**/16**, Northern Molucca Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	Ternate	0.74	68	P	Pn	21 13 33.1	-0.4
TNTI	Ternate	0.74	68	S	Sn	21 13 44.7	-0.1
LBMI	Labuha	1.39	144	P	Pn	21 13 42.1	+0.4
LBMI	Labuha	1.39	144	S	Sn	21 14 00.1	+0.8
MNI	Manado	2.07	297	P	Pn	21 13 51.0	+0.2
MNI	Manado	2.07	297	S	Sn	21 14 15.6	0.0
KDI	Kendari	6.00	223	P	Pn	21 14 44.6	+0.1
DAV	Davao City (W)	6.63	350	ePn	Pn	21 14 51.9	-1.2
KAPI	Kappang	8.82	232	P	Pn	21 15 23.1	0.0
	7.0nm,0.3s,baz=93,slow=2.8,SNR=12						
BATI	Baumata	11.04	196	LR	LR	21 21 19.2	
	comp=Z,92nm,18.6s,baz=10.0,slow=44						
KKM	Kota Kinabalu	11.81	298	ePn	Pn	21 16 04.5	+0.5
KAKA	Kakadu	14.31	157	eP	Pn	21 16 43.9	+6.5
	11nm,0.6s						
KSM	Kuching	16.40	274	eP	Pn	21 17 04.2	-0.1
FITZ	Fitzroy Crossi	18.50	183	P	Pn	21 17 29.6	-0.4
	0.3nm,0.3s,baz=5.9,slow=13,SNR=7.9						
FITZ	Fitzroy Crossi	18.50	183	eP	Pn	21 17 29.6	-0.3
	4.3nm,0.7s						
FITZ				eP		21 17 29.7	
WRA	Warramunga Arr	21.65	160	P	P	21 18 02.9	-0.3
	28nm,0.4s,mb4.9,baz=335,slow=10,SNR=236						
WRA				S	S	21 21 56.9	-2.2
	0.9nm,0.8s,baz=338,slow=16,SNR=4.5						
WB2	Warramunga Arr	21.65	160	eP	P	21 18 02.9	-0.3
WB2	Warramunga Arr	21.65	160	eP	P	21 18 02.9	-0.3
MBWA	Marble Bar	22.56	197	eP	P	21 18 12.0	-0.9
	4.7nm,0.6s,mb4.0						
YHNB	Yeheng	24.58	348	P	P	21 18 32.2	+0.2
QIZ	Qiongzhong	24.74	319	eP	P	21 18 34.3	+0.8
ASAR	Alice Springs	25.02	164	P	P	21 18 36.2	+0.3
	15nm,0.3s,mb4.9,baz=345,slow=12,SNR=177						
ASAR				PcP	PcP	21 22 09.8	+0.3
	0.5nm,0.3s,baz=346,slow=2.5,SNR=4.6						
ASAR				S	S	21 22 56.8	+1.6
	0.3nm,0.8s,baz=348,slow=20,SNR=3.8						
COCO	West Island	32.19	246	eP	P	21 19 39.4	-0.7
CM31	Chiang Mai Arr	32.57	305	eP	P	21 19 43.4	+0.1
CHTO	Chiang Mai	32.74	305	eP	P	21 19 45.2	+0.4
STKA	Stephens Creek	35.15	158	eP	P	21 20 05.7	+0.2
	9.6nm,0.9s,mb4.6						
STKA	Stephens Creek	35.15	158	P	P	21 20 05.8	+0.2
	6.6nm,0.4s,mb4.8,baz=325,slow=8.3,SNR=36						
STKA	Stephens Creek	35.15	158	eP	P	21 20 04.4	-1.1
	14nm,0.7s,mb4.9						
KSRS	Korea Array	36.80	2	P	P	21 20 19.9	+0.4
	0.7nm,0.4s,mb3.9,baz=184,slow=9.0,SNR=4.5						
MAJO	Matsushiro	37.43	15	eP	P	21 20 24.8	-0.1
	3.5nm,0.3s,mb4.8						
MJAR	Matsushiro Arr	37.43	15	P	P	21 20 23.9	-1.0
	1.4nm,0.4s,mb4.2,baz=186,slow=9.7,SNR=7.7						
MDJ	Mudanjiang	44.01	3	eP	P	21 21 18.9	-0.1
	2.5nm,0.5s,mb4.2						
LSA	Lhasa	44.58	314	eP	P	21 21 24.6	+0.8
	6.2nm,1.6s,mb4.1						
SONM	Songino Array	50.34	342	P	P	21 22 08.8	+0.7
	1.1nm,0.8s,mb3.9,baz=156,slow=8.8,SNR=7.8						
PETK	Petropavlovsk-	58.44	21	P	P	21 23 07.8	+1.0
	1.8nm,0.4s,mb4.5,baz=179,slow=5.0,SNR=9.1						
MK31	Makanchi Array	60.19	326	eP	P	21 23 19.5	+0.5
MKAR	Makanchi Array	60.19	326	P	P	21 23 19.6	+0.6
	1.8nm,0.4s,mb4.5,baz=122,slow=8.5,SNR=27						
ZALV	Zalesovo Beam	63.44	334	P	P	21 23 40.1	-0.6
	0.6nm,0.4s,mb3.9,baz=120,slow=5.3,SNR=5.2						
KBL	Kabul	63.47	309	P	P	21 23 40.1	-1.2
KURK	Kurchatov	64.44	328	P	P	21 23 47.5	+0.1
	2.6nm,0.5s,mb4.3,baz=126,slow=5.8,SNR=6.5						
KURK	Kurchatov	64.44	328	eP	P	21 23 47.6	+0.2
	7.4nm,0.7s,mb4.6						
BRVK	Borovoye	70.07	328	eP	P	21 24 22.6	-0.4
	2.0nm,0.5s,mb4.2						
MALT	Malatya	88.33	308	P	P	21 26 01.7	-1.0
QSPA	South Pole Qui	90.42	180	P	P	21 26 12.6	+1.0
	0.7nm,0.3s,mb4.2,baz=182,slow=0.5,SNR=16						
TOA0	Torodi Ar. Sit	123.82	286	PKPdf	PKPdf	21 32 09.6	+0.2
TORD	Torodi Ar. Bea	123.82	286	PKP	PKPdf	21 32 09.3	-0.1
	0.7nm,1.0s,baz=76,slow=1.9,SNR=12						
TORD	Torodi Ar. Bea	123.82	286	PKP	PKPdf	21 32 09.3	-0.1
ACSO	Alum Creek Sta	131.28	30	ePKPdf	PKPdf	21 32 22.4	-0.6

IDC 03 21:52:09.8±1.7**, 838S**×**15699E, h0**^{km}**, mb3.8**/3**, mb1 3.9**/4**, mb1mx3.7**/16**, mbtmp3.9**/4**, ML4.5**/1**, MS3.4**/2**, Ms1 3.4**/2**, ms1mx2.8**/28**, Error ellipse: s-maj=43.4km s-min=26.6km az=8.0, Bougainville - Solomon Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	Honiara	3.10	110	Pn	Pn	21 52 59.8	-0.3
	58nm,0.3s,baz=235,slow=12,SNR=8.3						
HNR				Sn	Sn	21 53 37.2	-0.8
	46nm,0.3s,baz=44,slow=21,SNR=3.7						
HNR				LR	LR	21 53 39.2	
	comp=Z,162nm,18.9s,baz=105,slow=29						
WRA	Warramunga Arr	24.74	240	P	P	21 57 32.2	-1.0
	1.1nm,0.8s,baz=64,slow=9.4,SNR=6.9						
STKA	Stephens Creek	27.41	209	P	P	21 57 58.1	+0.9
	2.5nm,1.0s,baz=39,slow=14,SNR=3.7						
MKAR	Makanchi Array	85.75	318	P	P	22 04 51.7	+0.8
	0.2nm,0.2s,baz=100,slow=5.1,SNR=3.8						
PDAR	Pinedale Array	98.16	48	LR	LR	22 45 03.5	
	comp=Z,50nm,20.9s,baz=262,slow=32						

*NEIC **03** 21:58:32.0, 1674N×9429W, h131^{km}, MD4.1(MEX), After MEX.*
MEX 03 21:58:32.1±0.9**, 1675N**×**9429W, h131**^{km}±19^{km}**, MD4.1, Oaxaca**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TUIG	Tuzandepetl	1.28	354	i P	Pn	21 58 56.0	-1.8
TUIG				i S	Sn	21 59 15.8	-1.7
SCX	San Cristobal	1.58	90	i P	Pn	21 58 58.8	-2.4
SCX				i S	Sn	21 59 22.0	-1.4
HUIG	Huatulco	2.00	241	i P	Pn	21 59 03.6	-2.6
HUIG				i S	Sn	21 59 30.9	-1.4
CCIG	Comitan	2.12	103	i P	Pn	21 59 07.2	-0.3
CCIG				i S	Sn	21 59 33.8	-0.9
OXX	Oaxaca	2.35	278	i P	Pn	21 59 10.2	-0.3
OXX				i S	Sn	21 59 39.0	-1.0
VHO	Vista Hermosa	2.36	278	i P	Pn	21 59 10.7	+0.1
VHO				i S	Sn	21 59 39.2	-0.9
THIG		2.68	133	eP	Pn	21 59 11.4	-3.2
THIG				i S	Sn	21 59 46.1	-1.2
TPIG	Tehuac#an	3.37	300	i P	Pn	21 59 23.0	-0.5
TPIG				i S	Sn	22 00 02.2	-1.1
UTMO	Huajuapan	3.52	288	i P	Pn	21 59 25.6	0.0
UTMO				i S	Sn	22 00 06.4	-0.6
PNIG	Pinotepa	3.70	265	i P	Pn	21 59 25.9	-2.0
PNIG				i S	Sn	22 00 09.7	-1.4
PNIG	Pinotepa	3.70	265	i P	Pn	21 59 25.9	-2.0
PNIG				i S	Sn	22 00 07.9	-3.2
PPM	Popocatepetl	4.73	300	i P	Pn	21 59 40.3	-1.2
PPM				i S	Sn	22 00 34.9	-0.7

IDC 03 22:15:37.8±5.2**, 4782S**×**16530E, h0**^{km}**, mb3.9**/3**, mb1 4.1**/3**, mb1mx3.8**/12**, mbtmp3.9**/3**, Error ellipse: s-maj=364.8km s-min=66.4km az=23.0, Off west coast of South Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	Alice Springs	34.68	303	P	P	22 22 29.1	+0.1
	1.3nm,0.8s,baz=138,slow=8.5,SNR=9.3						
WRA	Warramunga Arr	37.42	307	P	P	22 22 52.6	0.0
	1.6nm,1.0s,baz=144,slow=9.1,SNR=8.8						
FITZ	Fitzroy Crossi	43.81	299	P	P	22 23 45.2	-0.2
	1.6nm,0.8s,baz=157,slow=10.0,SNR=4.4						
ARCES	ARCESS Array B	150.76	332	PKPbc	PKPbc	22 35 30.3	-0.2
	1.9nm,0.9s,baz=87,slow=3.1,SNR=3.8						

*ISCJB **03** 22:18:19.9±3.9, 2108S±009×16939E±006, h4^{km}±25^{km}, mb4.1/12, MS3.8/3, Error ellipse: s-maj=14.9km s-min=8.6km az=162.7*
*IDC **03** 22:18:21.3±1.0, 2106S×16939E, h0^{km}, mb4.1/10, mb1 4.2/10, mb1mx4.1/17, mbtmp4.1/10, MS3.6/5, Ms1 3.6/5, ms1mx3.1/33, Error ellipse: s-maj=29.6km s-min=23.7km az=154.0*
*NOU **03** 22:18:21.9±0.8, 2009S×16885E, h10^{km}*
*NEIC **03** 22:18:23.2±3.1, 2107S×16942E, h15^{km}±19^{km}, mb4.2/5, Error ellipse: s-maj=10.0km s-min=6.4km az=184.0*
ISC 03 22:18:22.2±4.2**, 2110S**±009×**16938E**±006**, h7**^{km}±27^{km}**, h10**^{km}±.6^{km}**:pP-P, n47, σ0**^{s}**74**/33**, mb4.1**/12**, MS3.8**/3**, Southeast of Loyalty Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BAYA	Yate Dam	2.54	245	eS	Sn	22 19 35.1	0.0
LASL	Noumea	2.87	246	eS	Sn	22 19 42.6	-0.5
DZM	Mont Dzumac	2.90	250	eP	Pn	22 19 07.5	-1.1
DZM				eS	Sn	22 19 41.0	-2.8
DZM	Mont Dzumac	2.90	250	ePn	Pn	22 19 09.5	+0.8
DZM				eSn	Sn	22 19 43.7	-0.1
RAO	Raoul Island	14.07	128	Pn	Pn	22 21 41.9	0.0
HNR	Honiara	14.73	321	LR	LR	22 26 11.4	
	comp=Z,73nm,20.0s,baz=100,slow=32						
URZ	Urewera	18.36	160	LR	LR	22 28 35.6	
	comp=Z,184nm,19.7s,baz=138,slow=33						
AFI	Afiamalu	19.33	71	P	Pn	22 22 47.7	-1.5
CTA	Charters Tower	21.67	269	P	P	22 23 14.5	+1.0
	2.1nm,0.4s,mb4.0,baz=105,slow=5.3,SNR=3.1						
CTA				LR	LR	22 30 10.7	
	comp=Z,136nm,18.3s,MS3.4,baz=236,slow=33						
CTA	Charters Tower	21.67	269	P	P	22 23 14.5	+1.0
CTA				LR	LR	22 30 10.7	
CTAO	Charters Tower	21.67	269	eP	P	22 23 13.5	0.0
	4.1nm,0.7s,mb4.0						
STKA	Stephens Creek	27.01	241	P	P	22 24 05.5	+0.6
	1.9nm,0.6s,mb3.8,baz=103,slow=14,SNR=3.5						
STKA	Stephens Creek	27.01	241	eP	P	22 24 05.7	+0.8
	2.2nm,0.8s,mb3.7						
WB2	Warramunga Arr	32.78	266	eP	P	22 24 57.1	+0.9
WRA	Warramunga Arr	32.80	266	P	P	22 24 55.2	-1.1
	0.7nm,0.6s,mb3.7,baz=99,slow=8.1,SNR=8.3						
ASAR	Alice Springs	32.85	259	P	P	22 24 57.0	+0.2
	1.4nm,0.7s,mb4.0,baz=87,slow=8.8,SNR=14						
FITZ	Fitzroy Crossi	41.22	266	P	P	22 26 08.7	+0.7
	3.3nm,0.8s,mb4.0,baz=106,slow=9.2,SNR=12						
FITZ				LR	LR	22 43 20.8	
	comp=Z,76nm,18.7s,MS3.6,baz=322,slow=36						
FITZ	Fitzroy Crossi	41.22	266	eP	P	22 26 08.1	+0.1
	11nm,0.9s,mb4.5						
FITZ				LR	LR	22 43 20.8	
SBA	Scott Base	56.81	181	eP	P	22 28 06.3	-0.4
	2.8nm,0.8s,mb4.3						
CASY	Casey	58.48	204	P	P	22 28 18.7	+0.1
JHJ	Hachijo jima 2	60.87	332	LR	LR	22 49 24.8	
	comp=Z,304nm,21.7s,MS4.4,baz=201,slow=31						
MJAR	Matsushiro Arr	64.45	332	P	P	22 28 58.9	-0.4
	1.1nm,0.6s,mb4.1,baz=167,slow=7.5,SNR=4.8						
MAJO	Matsushiro	64.45	332	P	P	22 28 59.3	0.0
QSPA	South Pole Qui	68.96	180	P	P	22 29 28.4	+0.9
	3.9nm,0.9s,mb4.3,baz=18,slow=2.7,SNR=10.0						
QSPA	South Pole Qui	68.96	180	P	P	22 29 28.4	+0.9
BJT	Baijiatuau	78.45	321	P	P	22 30 23.1	-0.6
CMAR	Chiang Mai Arr	79.39	295	P	P	22 30 30.6	+1.2
	0.7nm,0.3s,mb4.0,baz=135,slow=4.1,SNR=6.3						
SNAA	Sanae	87.32	182	e	P	22 31 09.6	+0.3
SNAA				e	pP	22 31 12.0	+0.3
SNAA	Sanae	87.32	182	eP	P	22 31 09.4	+0.1
	1.9nm,0.8s,mb4.4						
VNA3	Neumayer Olymp	87.90	180	e	P	22 31 12.3	+0.2
VNA3				e	pP	22 31 15.5	+1.0
VNA2	Neumayer--Watz	88.19	181	e	P	22 31 14.1	+0.6
	baz=179,slow=4.7						
VNA2				e	pP	22 31 17.1	+1.2
VNA1	Neumayer--Stat	88.48	181	e	P	22 31 13.9	-1.0
VNA1				e	pP	22 31 17.3	0.0
SONM	Songino Array	88.78	323	P	P	22 31 16.4	-0.1
	0.3nm,0.5s,mb3.9,baz=148,slow=5.1,SNR=4.7						
NVAR	Mina Array Bea	89.93	48	P	P	22 31 22.8	+0.6
	1.0nm,0.7s,mb4.3,baz=224,slow=8.6,SNR=5.1						
ARCES	ARCESS Array B	126.89	345	PKP	PKPdf	22 37 25.0	-1.0
	3.1nm,0.9s,baz=5.0,slow=2.8,SNR=4.4						
ARCES	ARCESS Array B	126.89	345	PKP	PKPdf	22 37 25.0	-1.0
BRG	Berggiesshubel	144.59	333	i P	PKPdf	22 37 58.4	-0.9
	4.3nm,0.8s						
CLL	Collm	144.65	334	i PKPdf	PKPdf	22 37 58.2	-1.2
	comp=Z,4.0nm,0.6s						
GERES	GERESS Array B	146.18	331	PKPbc	PKPbc	22 38 03.0	-0.1
	comp=Z,1.1nm,0.6s,baz=35,slow=3.1,SNR=18						
HINF	Hinteralfeld	149.85	336	ePKP1	PKPbc	22 38 14.4	+1.4
	comp=Z,3.1nm,0.7s						
HAU	Haudompre	149.88	337	ePKP1	PKPbc	22 38 14.3	+1.3
CABF	La Chapelle	151.14	336	ePKP1	PKPbc	22 38 16.7	+0.6
FLN	La Foliniere	151.23	346	ePKP1	PKPbc	22 38 17.4	+1.2
	comp=Z,11nm,0.9s						
LOR	Lormes	151.38	339	ePKP1	PKPbc	22 38 17.7	+1.1
	comp=Z,7.3nm,0.9s						
ORIF	Oris-en-Rattie	152.62	334	ePKP1	PKPbc	22 38 19.3	-0.2
	comp=Z,3.5nm,0.6s						
TOA0	Torodi Ar. Sit	165.82	238	PKPdf	PKPdf	22 38 29.2	+0.5
TORD	Torodi Ar. Bea	165.82	238	PKP	PKPdf	22 38 29.2	+0.6
	comp=Z,0.3nm,0.7s,baz=149,slow=3.2,SNR=5.9						

*IDC **03** 22:19:02.2±2.3, 4867S×16488E, h0^{km}, mb4.1/3, mb1 4.3/4, mb1mx4.0/13, mbtmp4.1/4, ML4.1/1, MS3.7/1, Ms1 3.6/1, ms1mx2.8/26, Error ellipse: s-maj=59.6km s-min=30.5km az=164.0*
*NEIC **03** 22:19:07.5±1.3, 4869S×16470E, h37^{km}±12^{km}, mb4.5/4, Error ellipse: s-maj=15.4km s-min=9.7km az=176.0*
*ISCJB **03** 22:19:08.3±1.6, 4861S±0.10×1649E±0.1, h64^{km}±16^{km}, mb4.4/7, Error ellipse: s-maj=17.1km s-min=14.4km az=143.5*
ISC 03 22:19:08.3±1.4**, 4866S**±010×**1648E**±01**, h45**^{km}±14^{km}**, n28, σ1**^{s}**06**/26**, mb4.4**/7**, Off west coast of South Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WHZ	Wether Hill Ro	3.52	39	P	Pn	22 20 00.9	+0.6
MLZ	Mavora Lakes	4.05	36	P	Pn	22 20 08.4	+0.7
MLZ				S	Sn	22 20 54.4	+0.5
TUZ	Tuapeka	4.28	52	P	Pn	22 20 12.0	+1.2
MSZ	Milford Sound	4.54	30	P	Pn	22 20 15.6	+1.1
EAZ	Earnscleugh	4.63	44	P	Pn	22 20 16.2	+0.6
WKZ	Wanaka	4.82	39	P	Pn	22 20 20.0	+1.7
ODZ	Otahua Downs	5.42	50	P	Pn	22 20 25.7	-0.7
RPZ	Rata Peaks	6.59	44	Pn	Pn	22 20 40.5	-2.1
	3.7nm,0.3s,baz=233,slow=5.1,SNR=4.1						
RPZ				Sn	Sn	22 21 55.1	-1.3
	1.8nm,0.3s,baz=153,slow=11,SNR=3.1						
SNZO	South Karori	10.17	47	ePn	Pn	22 21 29.8	-1.8
TAU	Tasmania Unive	13.46	289	ePn	Pn	22 22 14.0	-2.5
STKA	Stephens Creek	24.22	305	LR	LR	22 33 05.4	

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
	comp=Z,157nm,18.8s,baz=206,slow=35						
STKA	**Stephens Creek**	**24.22**	**305**	eP	**P**	**22 24 24.2**	**+3.6**
	4.0nm,0.8s,mb3.9						
SBA	**Scott Base**	**29.31**	**179**	eP	**P**	**22 25 05.5**	**-0.4**
CTAO	**Charters Tower**	**32.17**	**326**	eP	**P**	**22 25 31.8**	**+0.1**
	24nm,1.7s,mb4.7						
ASAR	**Alice Springs**	**34.85**	**305**	P	**P**	**22 25 55.9**	**+0.9**
	1.9nm,0.6s,mb4.2,baz=137,slow=7.6,SNR=21						
WB2	**Warramunga Arr**	**37.66**	**309**	eP	**P**	**22 26 18.4**	**-0.5**
WRA	**Warramunga Arr**	**37.66**	**309**	P	**P**	**22 26 18.7**	**-0.3**
	1.8nm,0.9s,mb3.8,baz=144,slow=8.3,SNR=12						
NWAO	**Narrogin (SRO)**	**38.61**	**276**	P	**P**	**22 26 26.6**	**-0.2**
	35nm,1.5s,mb4.9						
HNR	**Honiara**	**39.31**	**352**	eP	**P**	**22 26 31.9**	**-0.9**
	30nm,0.4s,mb5.4						
RAR	**Rarotonga**	**39.36**	**59**	P	**P**	**22 26 33.1**	**-0.1**
FUNA	**Funafuti**	**41.81**	**22**	eP	**P**	**22 26 52.6**	**-0.8**
FITZ	**Fitzroy Crossi**	**43.92**	**300**	P	**P**	**22 27 11.5**	**+1.0**
	2.3nm,0.7s,mb4.0,baz=169,slow=10,SNR=4.3						
FITZ	**Fitzroy Crossi**	**43.92**	**300**	eP	**P**	**22 27 11.5**	**+1.0**
	3.8nm,0.7s,mb4.2						
MBWA	**Marble Bar**	**45.09**	**291**	P	**P**	**22 27 20.6**	**+0.6**
TRQA	**Tornquist**	**84.21**	**145**	P	**P**	**22 31 35.2**	**+0.6**
ARCES	**ARCESS Array B**	**151.34**	**331**	PKPbc	PKPbc	22 38 56.2	+0.9
	2.0nm,0.8s,baz=96,slow=1.2,SNR=9.7						
AKASG	**Malin Array Be**	**151.49**	**291**	PKPbc	PKPbc	22 38 56.7	+0.5
	1.5nm,0.6s,baz=89,slow=2.8,SNR=4.1						
AKASG	**Malin Array Be**	**151.49**	**291**	PKPbc	PKPbc	22 38 56.7	+0.5

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*DDA **03** 22:40:02.5, 36.15N×31.12E, h15km±5km, Md3.6*
*ISCJB **03** 22:40:03.8±0.3, 36.07N±0.02×31.05E±0.03, h76km±8km, Error ellipse: s-maj=4.4km s-min=3.1km az=44.6*
*CSEM **03** 22:40:03.2±0.1, 36.08N×31.03E, h49km±1km, Mw3.4, Error ellipse: s-maj=1.6km s-min=1.5km az=60.0*
*NEIC **03** 22:40:03.5, 36.12N×31.02E, h79km, After ISK.*
*ISK **03** 22:40:04.1, 36.17N×31.01E, h80km, ML3.7*
*NIC **03** 22:40:07.1±0.2, 36.26N×31.46E, h25km, ML3.6, MW3.4*
*HLW **03** 22:40:11.0, 35.59N×30.88E, h33km, Mb3.9*
ISC 03 22:40:05.4±0.3**, 36.08N**±0.02×**31.06E**±0.03**, h55**km±16km**, n79, σ0s90**/102**, 1C-1D, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ANTB	**Antalya**	**0.89**	**338**	ePG	**Pn**	**22 40 21.3**	**-0.4**
ANTB				eSG	**Sn**	**22 40 33.3**	**-0.4**
ELL	**Elmali**	**1.15**	**306**	ePG	**Pn**	**22 40 24.4**	**-0.8**
ELL				eSG	**Sn**	**22 40 40.0**	**+0.1**
ELL	**Elmali**	**1.15**	**306**	Pn	**Pn**	**22 40 25.5**	**+0.3**
ELL				eSg	**Sn**	**22 40 40.0**	**+0.1**
ELL	**Elmali**	**1.15**	**306**	Pn	**Pn**	**22 40 25.5**	**+0.3**
ELL				Sg	**Sn**	**22 40 39.5**	**-0.4**
AKAS	**Kas**	**1.19**	**278**	i P	**Pn**	**22 40 26.1**	**+0.3**
AKAS				i S	**Sn**	**22 40 42.5**	**+1.6**
AKAS	**Kas**	**1.19**	**278**	i P	**Pn**	**22 40 26.0**	**+0.3**
AKAS				i S	**Sn**	**22 40 42.5**	**+1.6**
BCK	**Bucak**	**1.43**	**345**	ePN	**Pn**	**22 40 28.7**	**-0.3**
HDMB	**Hadim**	**1.45**	**52**	ePN	**Pn**	**22 40 29.0**	**-0.2**
HDMB				eSN	**Sn**	**22 40 48.1**	**+0.9**
HDMB	**Hadim**	**1.45**	**52**	ePn	**Pn**	**22 40 29.0**	**-0.2**
HDMB				eSn	**Sn**	**22 40 48.1**	**+0.9**
HDMB				Sg	**Sn**	**22 40 48.6**	**+1.4**
HDMB	**Hadim**	**1.45**	**52**	Pn	**Pn**	**22 40 28.6**	**-0.6**
HDMB				Sg	**Sn**	**22 40 48.6**	**+1.5**
AKMC	**Akamas**	**1.47**	**135**	P	**Pn**	**22 40 29.8**	**+0.3**
	6.4nm,0.4s						
AKMC				S	**Sn**	**22 40 47.1**	**-0.6**
ALFC	**Alevga**	**1.55**	**126**	⇑P	**Pn**	**22 40 29.9**	**-0.7**
	14nm,0.4s						
ALFC				S	**Sn**	**22 40 48.0**	**-1.6**
PPCY	**Paphos**	**1.58**	**138**	P	**Pn**	**22 40 31.2**	**+0.1**
	5.2nm,0.5s						
PPCY				S	**Sn**	**22 40 50.5**	**+0.1**
GOLH	**Golhisar**	**1.67**	**314**	i P	**Pn**	**22 40 34.4**	**+2.1**
GOLH				i S	**Sn**	**22 41 01.3**	**+8.7**
GOLH	**Golhisar**	**1.67**	**314**	i P	**Pn**	**22 40 34.3**	**+2.0**
LEF	**Lefka**	**1.77**	**122**	Pn	**Pn**	**22 40 32.8**	**-0.8**
LEF	**Lefka**	**1.77**	**122**	Pn	**Pn**	**22 40 32.8**	**-0.7**
TKTP	**Tekketepe**	**2.05**	**343**	i P	**Pn**	**22 40 38.0**	**+0.6**
TKTP				i S	**Sn**	**22 41 04.4**	**+2.6**
IKL	**Isikli**	**2.13**	**85**	PN	**Pn**	**22 40 39.7**	**+1.2**
TURN	**Turunc**	**2.14**	**293**	i P	**Pn**	**22 40 42.5**	**+4.0**
TURN				i S	**Sn**	**22 41 10.0**	**+6.1**
KONT	**Konya--Tatoy**	**2.14**	**29**	ePN	**Pn**	**22 40 38.8**	**+0.2**
CSS	**Prodhromos**	**2.16**	**120**	⇓P	**Pn**	**22 40 37.9**	**-1.0**
	4.3nm,0.8s						
CSS				S	**Sn**	**22 41 01.6**	**-2.9**
LFK	**Lefkose**	**2.16**	**111**	ePN	**Pn**	**22 40 40.6**	**+1.7**
LFK	**Lefkose**	**2.16**	**111**	Pn	**Pn**	**22 40 39.4**	**+0.5**
LADK	**Ladik-KONYA**	**2.36**	**26**	ePN	**Pn**	**22 40 41.5**	**-0.2**
YER	**Yerkesik**	**2.47**	**296**	ePN	**Pn**	**22 40 43.0**	**-0.2**
YER	**Yerkesik**	**2.47**	**296**	Pn	**Pn**	**22 40 43.8**	**+0.6**
SHUT	**Suhut-Afyon**	**2.51**	**351**	ePN	**Pn**	**22 40 43.6**	**-0.1**
KDHN	**Kadinhani**	**2.58**	**19**	i P	**Pn**	**22 40 43.9**	**-0.8**
EREN	**Erenkoy**	**2.58**	**101**	ePN	**Pn**	**22 40 45.9**	**+1.2**
EREN	**Erenkoy**	**2.58**	**101**	Pn	**Pn**	**22 40 45.2**	**+0.5**
EREN	**Erenkoy**	**2.58**	**101**	Pn	**Pn**	**22 40 45.1**	**+0.4**
PHNC	**Paralimni**	**2.65**	**113**	P	**Pn**	**22 40 46.2**	**+0.6**
	10nm,0.9s						
PHNC				S	**Sn**	**22 41 15.2**	**-1.3**
KIZT	**Kizilcal**	**2.88**	**13**	PN	**Pn**	**22 40 48.3**	**-0.4**
MERS	**Mersin**	**2.90**	**73**	ePN	**Pn**	**22 40 50.0**	**+0.9**
MLSB	**Milas**	**2.91**	**296**	ePN	**Pn**	**22 40 48.7**	**-0.5**
MLSB	**Milas**	**2.91**	**296**	Pn	**Pn**	**22 40 49.3**	**+0.1**
ALT	**Altintas**	**3.07**	**346**	ePN	**Pn**	**22 40 51.3**	**0.0**
BDRM	**Kayabasi**	**3.08**	**290**	i P	**Pn**	**22 40 52.0**	**+0.5**
BDRM				i S	**Sn**	**22 41 24.7**	**-2.3**
KULA	**Kula-Manisa**	**3.10**	**323**	ePN	**Pn**	**22 40 50.9**	**-0.8**
MANT	**Manisa**	**3.13**	**321**	i P	**Pn**	**22 40 51.9**	**-0.2**
BODT	**Bodrum**	**3.18**	**289**	ePN	**Pn**	**22 40 53.4**	**+0.6**
GDZ	**Gediz**	**3.26**	**338**	i P	**Pn**	**22 40 54.2**	**+0.3**
KARA	**Karaisali**	**3.42**	**69**	ePN	**Pn**	**22 40 57.5**	**+1.3**
ESKT	**Eskisehir**	**3.44**	**357**	i P	**Pn**	**22 40 56.6**	**+0.2**
ESKT				i S	**Sn**	**22 41 36.2**	**+0.2**
SEYT	**Eskypehyr**	**3.44**	**357**	i P	**Pn**	**22 40 56.6**	**+0.1**
SEYT				i S	**Sn**	**22 41 36.2**	**+0.2**
GCAM	**G?zelcaml?**	**3.47**	**299**	i P	**Pn**	**22 40 56.8**	**0.0**
NIG	**Nigde**	**3.49**	**53**	ePN	**Pn**	**22 40 58.1**	**+1.0**
NIG	**Nigde**	**3.49**	**53**	Pn	**Pn**	**22 40 59.2**	**+2.1**
DEMI	**Demirci**	**3.50**	**329**	i P	**Pn**	**22 40 57.1**	**-0.1**
YURE	**YUREGIR**	**3.76**	**77**	i P	**Pn**	**22 40 59.6**	**-1.2**
AKS	**Akhisar**	**3.81**	**318**	ePN	**Pn**	**22 41 00.3**	**-1.1**
IZM	**Izmir**	**3.82**	**309**	ePN	**Pn**	**22 41 00.3**	**-1.2**
BORA	**Eskisehir**	**3.83**	**353**	i P	**Pn**	**22 41 01.6**	**-0.2**
KAMT	**Kaman**	**3.90**	**32**	PN	**Pn**	**22 41 02.4**	**-0.4**
BLCB	**Balcova**	**3.95**	**307**	ePN	**Pn**	**22 41 02.4**	**-1.0**
DST	**Dursunbey**	**4.02**	**332**	ePN	**Pn**	**22 41 03.6**	**-0.7**
BR131	**Keskin Array S**	**4.17**	**28**	ePn	**Pn**	**22 41 05.5**	**-1.0**
BR131				eSn	**Sn**	**22 41 50.6**	**-3.4**
BR131	**Keskin Array S**	**4.17**	**28**	ePn	**Pn**	**22 41 05.5**	**-1.0**
BR131				eSn	**Sn**	**22 41 50.6**	**-3.3**
COBT	**Iskenderun**	**4.22**	**82**	i P	**Pn**	**22 41 08.7**	**+1.6**
GULT	**Gulveren**	**4.37**	**355**	ePN	**Pn**	**22 41 08.4**	**-0.8**
GULT	**Gulveren**	**4.37**	**355**	Pn	**Pn**	**22 41 08.2**	**-1.0**
MDU	**Mudurnu**	**4.38**	**2**	ePN	**Pn**	**22 41 08.7**	**-0.7**
MDU	**Mudurnu**	**4.38**	**2**	Pn	**Pn**	**22 41 09.4**	**0.0**
MDU	**Mudurnu**	**4.38**	**2**	Pn	**Pn**	**22 41 09.4**	**0.0**
CDAG	**Cicekdag**	**4.41**	**35**	i P	**Pn**	**22 41 09.9**	**+0.3**
ANDN	**Andirin**	**4.50**	**69**	i P	**Pn**	**22 41 10.9**	**0.0**
RSH		**5.56**	**156**	P	**Pn**	**22 41 26.8**	**+1.2**
AMAG	**Maghara**	**5.71**	**161**	P	**Pn**	**22 41 28.3**	**+0.8**
AKCD	**Akcadag**	**5.91**	**66**	i P	**Pn**	**22 41 30.6**	**+0.3**
HMAT	**Matruh**	**5.97**	**215**	P	**Pn**	**22 41 30.9**	**-0.3**
SUZ		**6.39**	**166**	P	**Pn**	**22 41 37.3**	**+0.4**
HNAT	**Natroun**	**6.43**	**183**	P	**Pn**	**22 41 36.9**	**-0.6**
GLL	**Jalalah**	**6.50**	**175**	P	**Pn**	**22 41 38.7**	**+0.3**
HNKL	**Nakhl**	**6.60**	**157**	P	**Pn**	**22 41 40.7**	**+1.0**
SLUM		**6.68**	**228**	P	**Pn**	**22 41 41.1**	**+0.3**
ZAF		**6.89**	**169**	P	**Pn**	**22 41 44.0**	**+0.2**
AWBH		**7.94**	**194**	P	**Pn**	**22 41 57.7**	**-0.5**
HFRF	**Wahat Farafira**	**9.20**	**196**	P	**Pn**	**22 42 15.6**	**+0.2**

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*ISCJB **03** 23:03:16.0±2.2, 56.10S±0.06×27.2W±0.2, h118km±22km, mb4.5/12, Error ellipse: s-maj=15.4km s-min=7.5km az=150.5*
*NEIC **03** 23:03:19.9±2.0, 56.07S×27.20W, h142km±18km, mb4.6/10, Error ellipse: s-maj=10.1km s-min=8.0km az=60.0*
*IDC **03** 23:03:21.3±5.6, 56.13S×27.32W, h153km±50km, mb4.1/6, mb1 4.2/7, mb1mx3.9/17, mbtmp4.1/7, MS3.4/1, Ms1 3.4/1, ms1mx2.8/25, Error ellipse: s-maj=27.0km s-min=15.6km az=61.0*
ISC 03 23:03:19.1±2.0**, 56.13S**±0.06×**27.2W**±0.1**, h132**km±20km**, n42, σ0s76**/30**, mb4.4**/12**, South Sandwich Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
VNA1	**Neumayer--Stat**	**16.71**	**158**	eP	**Pn**	**23 07 04.9**	**-0.1**
VNA1				e		23 07 08.8	
VNA1				e		23 07 12.3	
VNA3	**Neumayer Olymp**	**16.91**	**160**	eP	**Pn**	**23 07 07.4**	**+0.1**
VNA3				e		23 07 10.8	
VNA3				e		23 07 13.6	
VNA3				eS	**S**	**23 10 09.3**	**-6.0**
VNA2	**Neumayer--Watz**	**17.11**	**158**	eP	**Pn**	**23 07 09.3**	**-0.5**
	baz=315,slow=14						
VNA2				e		23 07 13.5	
VNA2				e		23 07 17.4	
VNA2				eS	**S**	**23 10 12.0**	**-7.9**
SNAA	**Sanae**	**18.66**	**156**	eP	**P**	**23 07 26.4**	**+0.1**
SNAA				e		23 07 29.7	
SNAA				e		23 07 31.6	
SNAA				eS	**S**	**23 10 50.2**	**-1.4**
SNAA	**Sanae**	**18.66**	**156**	eP	**P**	**23 07 26.6**	**+0.3**
	18nm,0.5s						
EFI	**East Falkland**	**18.66**	**271**	P	**P**	**23 07 26.2**	**-0.3**
PMSA	**Palmer Station**	**19.87**	**229**	P	**P**	**23 07 40.5**	**+1.1**
	2.3nm,0.3s,baz=76,slow=5.1,SNR=10						
TRIS	**Tristan da Cun**	**21.53**	**34**	P	**P**	**23 07 56.5**	**-0.9**
PLCA	**Paso Flores**	**32.04**	**280**	P	**P**	**23 09 32.2**	**-0.7**
QSPA	**South Pole Qui**	**34.12**	**180**	P	**P**	**23 09 50.9**	**+0.4**
	5.3nm,0.5s,mb4.5,baz=191,slow=3.4,SNR=50						
QSPA				PcP	PcP	23 12 24.5	+0.1
	2.9nm,0.5s,baz=116,slow=1.7,SNR=7.5						
CPUP	**Villa Florida**	**36.88**	**311**	P	**P**	**23 10 13.2**	**-1.4**
	1.4nm,0.4s,mb4.0,baz=128,slow=7.2,SNR=8.7						
CPUP				PcP	PcP	23 12 32.8	-0.6
	1.3nm,0.5s,baz=149,slow=2.8,SNR=4.9						
CPUP	**Villa Florida**	**36.88**	**311**	eP	**P**	**23 10 13.2**	**-1.4**
	11nm,0.4s,mb4.8						
CPUP				ePcP	PcP	23 12 32.7	-0.6
MAW	**Mawson**	**40.07**	**143**	P	**P**	**23 10 40.9**	**+0.1**
	4.8nm,0.7s,mb4.2,baz=236,slow=8.5,SNR=4.3						
MAW	**Mawson**	**40.07**	**143**	eP	**P**	**23 10 41.7**	**+0.9**
	5.6nm,0.7s,mb4.3						
LVC	**Limon Verde**	**45.36**	**300**	eP	**P**	**23 11 23.9**	**0.0**
	10nm,0.3s,mb4.9						
SBA	**Scott Base**	**46.00**	**184**	eP	**P**	**23 11 30.3**	**+1.9**
	4.7nm,0.8s,mb4.2						
LBTB	**Lobatse**	**49.01**	**73**	LR	LR	23 28 17.7	
	comp=Z,36nm,18.4s,baz=270,slow=30						
LPAZ	**La Paz**	**50.44**	**305**	P	**P**	**23 12 03.5**	**+0.4**
	6.0nm,0.4s,mb4.5,baz=106,slow=4.5,SNR=26						
LPAZ				PcP	PcP	23 13 19.3	-0.1
	1.2nm,0.4s,baz=180,slow=1.0,SNR=2.1						
LPAZ	**La Paz**	**50.44**	**305**	eP	**P**	**23 12 03.4**	**+0.3**
	6.8nm,0.3s,mb4.8						
LPAZ				PcP	PcP	23 13 19.3	-0.1
CASY	**Casey**	**53.83**	**160**	eP	**P**	**23 12 27.6**	**+0.1**
	3.2nm,0.7s,mb4.2						
NNA	**Nana**	**58.31**	**299**	eP	**P**	**23 12 59.3**	**-0.7**
	8.8nm,0.8s,mb4.6						
DBIC	**Dimbokro**	**65.23**	**25**	P	**P**	**23 13 46.9**	**+0.7**
OTAV	**Otavalo**	**69.72**	**304**	eP	**P**	**23 14 14.7**	**+0.2**
	2.1nm,0.4s,mb4.2						
TOA0	**Torodi Ar. Sit**	**73.11**	**29**	eP	**P**	**23 14 35.9**	**+1.2**
TORD	**Torodi Ar. Bea**	**73.11**	**29**	P	**P**	**23 14 35.5**	**+0.7**
	0.9nm,0.5s,mb3.8,baz=200,slow=6.2,SNR=31						
STKA	**Stephens Creek**	**91.82**	**170**	eP	**P**	**23 16 11.4**	**-0.5**
	2.0nm,0.6s,mb4.3						
SFS	**San Fernando**	**93.94**	**17**	eP	**P**	**23 16 20.9**	**-0.2**
ASAR	**Alice Springs**	**98.91**	**162**	P	**P**	**23 16 43.8**	**-0.5**
	0.7nm,0.7s,mb4.2,baz=194,slow=4.0,SNR=7.6						
FITZ	**Fitzroy Crossi**	**102.58**	**154**	Pdif	Pdif	23 17 00.3	-0.3
WRA	**Warramunga Arr**	**102.62**	**162**	P	Pdif	23 16 60.0	-0.9
	0.4nm,0.7s,baz=196,slow=4.5,SNR=4.0						
PDAR	**Pinedale Array**	**120.41**	**302**	PKP	PKPdf	23 21 52.5	-1.3
	0.2nm,0.3s,baz=120,slow=3.6,SNR=4.7						
NVAR	**Mina Array Bea**	**121.45**	**293**	PKP	PKPdf	23 21 56.2	+0.3
	0.4nm,0.5s,baz=103,slow=2.9,SNR=3.3						
ARCES	**ARCESS Array B**	**131.01**	**22**	PKP	PKPdf	23 22 12.7	-0.5
	1.0nm,0.6s,baz=143,slow=2.3,SNR=2.9						
YKA	**Yellowknife Ar**	**136.25**	**318**	PKP	PKPdf	23 22 22.2	-1.0
	1.3nm,0.6s,baz=134,slow=1.8,SNR=5.4						
MKAR	**Makanchi Array**	**136.89**	**71**	PKP	PKPdf	23 22 22.7	-2.2
	0.2nm,0.3s,baz=211,slow=1.6,SNR=3.0						
ZALV	**Zalesovo Beam**	**142.38**	**64**	PKhKP		23 22 31.0	
	0.5nm,0.5s,baz=240,slow=5.8,SNR=3.0						
ZALV				PKP	PKPdf	23 22 36.4	+1.7
	0.9nm,0.5s,baz=236,slow=2.6,SNR=6.2						
ZALV	**Zalesovo Beam**	**142.38**	**64**	PKP		23 22 31.0	
ZALV				PKP	PKPdf	23 22 36.4	+1.7
DAWY	**Dawson**	**146.86**	**312**	ePKPdf	PKPdf	23 22 43.2	+1.1
SONM	**Songino Array**	**150.71**	**87**	PKPbc	PKPbc	23 22 54.6	+0.1
	4.1nm,0.6s,baz=224,slow=3.3,SNR=19						
MCK	**McKinley**	**150.84**	**309**	ePKPbc	PKPbc	23 22 54.1	-0.2
TRF	**Thorofare Moun**	**151.37**	**308**	ePKPbc	PKPbc	23 22 55.4	-0.2
BPAW	**Bear Paw Mtn.**	**151.80**	**309**	ePKPbc	PKPbc	23 22 56.0	-0.6

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*ISCJB **03** 23:27:43.8±0.4, 30.14N±0.04×138.77E±0.09, h419km±5km, mb3.7/22, Error ellipse: s-maj=12.8km s-min=5.2km az=166.2*
*IDC **03** 23:27:44.4±0.7, 30.13N×138.75E, h408km±8km, mb3.3/16, mb1 3.4/21, mb1mx3.4/29, mbtmp3.3/21, Error ellipse: s-maj=17.0km s-min=8.4km az=70.0*
*NEIC **03** 23:27:44.8±0.7, 30.15N×138.69E, h413km±8km, mb3.6/5, Error ellipse: s-maj=10.4km s-min=7.3km az=81.0*
*JMA **03** 23:27:46.9±0.1, 30.28N×139.34E, h405km, M3.8*
ISC 03 23:27:44.4±0.4**, 30.13N**±0.04×**138.74E**±0.09**, h407**km±5km**, n57, σ1s02**/65**, mb3.7**/22**, Southeast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JHJ	**Hachijo jima 2**	**3.11**	**16**	P	**Pn**	**23 28 50.4**	**+1.4**
	21nm,0.3s,baz=107,slow=19,SNR=2.5						
JHJ				S	**S**	**23 29 42.0**	**+0.7**
	46nm,0.3s,baz=72,slow=20,SNR=7.6						
CBIJ	**Chichi jima**	**4.28**	**134**	P	**Pn**	**23 28 59.9**	**+0.2**
	15nm,0.3s,baz=263,slow=19,SNR=3.9						
CBIJ				S	**S**	**23 29 58.9**	**-1.8**
	99nm,0.3s,baz=274,slow=23,SNR=18						
CBIJ	**Chichi jima**	**4.28**	**134**	P	**Pn**	**23 29 00.7**	**+1.1**
CBIJ				eS	**S**	**23 29 58.9**	**-1.8**
JIE	**Ise**	**4.59**	**338**	P	**Pn**	**23 29 06.7**	**+4.2**
JHHJ	**Haha-jima-NKT**	**4.62**	**138**	P	**Pn**	**23 29 03.6**	**+0.6**
JHHJ				eS	**S**	**23 30 05.4**	**-1.4**
BSO1	**Boso 1**	**4.89**	**22**	P	**Pn**	**23 29 06.4**	**+0.8**
BSO1				eS	**S**	**23 30 10.9**	**-0.8**
BSO3	**Boso 3**	**4.90**	**17**	eS	**S**	**23 30 11.2**	**-0.5**
BSO4	**Boso 4**	**5.03**	**15**	P	**Pn**	**23 29 08.5**	**+1.5**
BSO4				eS	**S**	**23 30 12.3**	**-1.9**
JOD2	**Odawara 2**	**5.13**	**3**	P	**Pn**	**23 29 09.1**	**+1.1**
JNY	**Yasuok**	**5.27**	**352**	P	**Pn**	**23 29 12.3**	**+2.9**
JAO	**Obara**	**5.28**	**347**	P	**Pn**	**23 29 12.8**	**+3.3**
JEG	**Eigenji**	**5.37**	**339**	P	**Pn**	**23 29 14.6**	**+4.1**
JHU	**Hanno**	**5.73**	**4**	P	**Pn**	**23 29 14.4**	**+0.2**
JHU				eS	**S**	**23 30 24.8**	**-2.7**
JRY	**Ryogami san**	**5.88**	**1**	P	**Pn**	**23 29 16.9**	**+1.1**
JYT	**Yasato**	**6.21**	**11**	eS	**S**	**23 30 32.9**	**-4.0**
JAG	**Ashikaga**	**6.31**	**5**	P	**Pn**	**23 29 19.9**	**-0.6**
MJAR	**Matsushiro Arr**	**6.41**	**356**	P	**Pn**	**23 29 21.9**	**+0.2**
	3.5nm,0.3s,baz=202,slow=7.9,SNR=20						
MJAR				S	**S**	**23 30 39.2**	**-1.9**
	0.6nm,0.3s,baz=180,slow=15,SNR=4.6						
MAJO	**Matsushiro**	**6.41**	**356**	eP	**Pn**	**23 29 22.0**	**+0.3**
MAJO				S	**S**	**23 30 40.8**	**-0.4**
MAT	**Matsushiro**	**6.41**	**356**	P	**Pn**	**23 29 22.5**	**+0.8**
MAT				eS	**S**	**23 30 40.6**	**-0.5**
JHO	**Hitachi**	**6.64**	**13**	P	**Pn**	**23 29 23.9**	**-0.3**
JHO				eS	**S**	**23 30 42.0**	**-3.8**
JFK	**Kawauchi**	**7.44**	**13**	P	**P**	**23 29 32.9**	**-0.3**
JMK	**Ichinoseki**	**9.04**	**12**	P	**P**	**23 29 52.0**	**+1.1**
JOT	**Ohata**	**11.39**	**9**	P	**P**	**23 30 18.7**	**+1.8**
KSRS	**Korea Array**	**11.59**	**312**	P	**P**	**23 30 20.3**	**+1.1**
	0.2nm,0.3s,baz=124,slow=12,SNR=7.4						
ASAJ	**Asahikawa**	**14.30**	**11**	P	**P**	**23 30 50.1**	**+1.3**
	1.5nm,0.3s,baz=202,slow=22,SNR=5.1						
TATO	**Taipei**	**16.13**	**256**	eP	**P**	**23 31 08.8**	**-0.1**
GUMO	**Guam**	**17.41**	**160**	eP	**P**	**23 31 22.1**	**-0.4**
	152nm,1.2s						
PET	**Petropavlovsk**	**27.12**	**27**	eP	**P**	**23 32 52.0**	**-0.1**
	9.8nm,0.6s,mb4.4						
ULN	**Ulaanbaatar**	**30.05**	**315**	eP	**P**	**23 33 16.2**	**-1.6**
	3.4nm,1.3s,mb3.5						
SONM	**Songino Array**	**30.44**	**315**	P	**P**	**23 33 21.4**	**+0.2**
	0.3nm,0.4s,mb3.0,baz=129,slow=8.7,SNR=4.1						
CHTO	**Chiang Mai**	**37.76**	**262**	eP	**P**	**23 34 23.1**	**-0.6**
	1.5nm,0.6s,mb3.5						
CMAR	**Chiang Mai Arr**	**37.91**	**261**	P	**P**	**23 34 26.1**	**+1.1**
	0.6nm,0.3s,mb3.4,baz=67,slow=6.9,SNR=3.8						
ZALV	**Zalesovo Beam**	**45.22**	**318**	P	**P**	**23 35 22.3**	**-0.6**
	0.5nm,0.3s,mb3.3,baz=93,slow=7.9,SNR=3.6						
ZALV				PcP	PcP	23 36 53.8	-1.1
	0.4nm,0.3s,baz=112,slow=2.6,SNR=3.6						
MKAR	**Makanchi Array**	**46.23**	**308**	P	**P**	**23 35 29.5**	**-1.3**
	1.0nm,0.6s,mb3.4,baz=95,slow=9.0,SNR=5.6						
MKAR				PcP	PcP	23 36 58.0	-0.5
	0.4nm,0.4s,baz=99,slow=4.5,SNR=3.6						
KURK	**Kurchatov**	**48.71**	**313**	P	**P**	**23 35 49.7**	**+0.1**
	1.2nm,0.5s,mb3.5,baz=95,slow=7.0,SNR=7.7						
KURK	**Kurchatov**	**48.71**	**313**	eP	**P**	**23 35 48.9**	**-0.7**
	1.5nm,0.5s,mb3.6						
WB2	**Warramunga Arr**	**49.96**	**185**	eP	**P**	**23 35 59.4**	**+0.2**
WRA	**Warramunga Arr**	**49.96**	**185**	P	**P**	**23 35 59.3**	**+0.1**
	1.6nm,0.5s,mb3.6,baz=2.3,slow=7.7,SNR=52						
WRA				PcP	PcP	23 37 12.7	+0.3
	0.5nm,0.4s,baz=359,slow=3.9,SNR=9.6						
BVAR	**Borovoye Array**	**53.77**	**316**	P	**P**	**23 36 26.7**	**+0.1**
	1.8nm,0.5s,mb3.6,baz=99,slow=7.5,SNR=18						
BVAR				PcP	PcP	23 37 26.0	-0.4
	0.6nm,0.4s,baz=97,slow=3.6,SNR=3.9						
BRVK	**Borovoye**	**53.83**	**316**	eP	**P**	**23 36 26.4**	**-0.6**
	1.7nm,0.4s,mb3.6						
STKA	**Stephens Creek**	**61.72**	**177**	P	**P**	**23 37 21.7**	**+0.4**
	3.5nm,1.0s,mb3.8,baz=148,slow=13,SNR=3.7						
AKTK	**Aktyubinsk**	**61.76**	**314**	P	**P**	**23 37 21.1**	**-0.2**
AKTO	**Aktyubinsk**	**61.76**	**314**	P	**P**	**23 37 21.1**	**-0.2**
	1.7nm,0.5s,mb3.9,baz=70,slow=11,SNR=4.7						
NWAO	**Narrogin (SRO)**	**65.94**	**200**	P	**P**	**23 37 48.5**	**+0.1**
	7.4nm,1.0s,mb4.3,baz=66,slow=6.1,SNR=5.5						
NWAO	**Narrogin (SRO)**	**65.94**	**200**	P	**P**	**23 37 48.5**	**+0.1**
ARCES	**ARCESS Array B**	**69.68**	**340**	P	**P**	**23 38 11.3**	**+0.3**
	1.7nm,0.4s,mb3.9,baz=72,slow=8.8,SNR=30						
MIB	**Mutribah**	**76.79**	**297**	eP	**P**	**23 38 51.8**	**-1.0**
MIB				AMb	AMB	23 38 52.6	
	comp=Z,12nm,0.6s,mb4.7						
RDF	**Al-Radifah**	**77.03**	**296**	eP	**P**	**23 38 53.4**	**-0.7**
RDF				AMb	AMB	23 38 54.9	
	comp=Z,7.0nm,0.6s,mb4.5						
AKASG	**Malin Array Be**	**78.38**	**322**	P	**P**	**23 38 59.8**	**-1.3**
	comp=Z,1.6nm,0.4s,mb4.0,baz=52,slow=6.0,SNR=4.3						
NOA	**NORSAR Array B**	**79.67**	**337**	P	**P**	**23 39 07.3**	**-0.4**
	comp=Z,1.2nm,0.6s,mb3.7,baz=44,slow=5.3,SNR=7.7						
NVAR	**Mina Array Bea**	**80.99**	**51**	P	**P**	**23 39 16.9**	**+1.7**
	comp=Z,0.5nm,0.5s,mb3.5,baz=299,slow=6.1,SNR=2.5						
BUR08	**Bucovina Ar. S**	**82.30**	**321**	eP	**P**	**23 39 21.6**	**-0.2**
MMAI	**Mount Meron Ar**	**84.09**	**305**	P	**P**	**23 39 30.6**	**-0.5**
	comp=Z,0.5nm,0.4s,mb3.6,baz=60,slow=3.5,SNR=2.8						
PDAR	**Pinedale Array**	**84.15**	**43**	P	**P**	**23 39 31.3**	**+0.1**
	comp=Z,0.1nm,0.4s,mb2.9,baz=311,slow=3.5,SNR=2.7						
QSPA	**South Pole Qui**	**119.89**	**180**	PKP	PKPdf	23 45 45.6	-0.4
	comp=Z,0.4nm,0.2s,baz=265,slow=18,SNR=6.4						
TORD	**Torodi Ar. Bea**	**120.32**	**310**	PKP	PKPdf	23 45 47.4	-1.3
	comp=Z,0.3nm,0.5s,baz=43,slow=1.3,SNR=15						
TORD	**Torodi Ar. Bea**	**120.32**	**310**	PKP	PKPdf	23 45 47.4	-1.3

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*NNC **03** 23:30:19.5±2.7, 30.29N×68.30E, h0km, mb3.5, Error ellipse: s-maj=42.0km s-min=33.4km az=112.0*
*ISCJB **03** 23:30:20.3±3.4, 30.19N±0.08×69.24E±0.10, h15km±24km, mb3.6/10, Error ellipse: s-maj=15.7km s-min=12.4km az=137.4*
*IDC **03** 23:30:21.6±9.7, 30.44N×68.82E, h0km, mb3.6/5, mb1 3.6/6, mb1mx3.4/26, mbtmp3.6/6, ML3.4/1, Error ellipse: s-maj=151.0km s-min=51.4km az=25.0*
*NEIC **03** 23:30:28.0±1.2, 30.57N×68.97E, h35km, mb4.0/1, Error ellipse: s-maj=19.5km s-min=14.4km az=166.0*
ISC 03 23:30:19.8±4.3**, 30.13N**±0.08×**69.2E**±0.1**, h5**km±30km**, n35, σ1s17**/31**, mb3.6**/10**, 5C, Pakistan**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KBL	**Kabul**	**4.40**	**358**	ePn	**Pn**	**23 31 25.4**	**-1.8**
KBL				eSn	**Sn**	**23 32 14.1**	**-4.8**
THN	**Thein Dam**	**6.04**	**66**	eP	x	23 31 58.6	
THN				ex	x	23 33 17.7	
KHET	**Khetri**	**6.14**	**108**	eS	x	23 33 15.5	
SDNR	**Sundarnagar**	**6.83**	**76**	eP	x	23 32 10.4	
SDNR				ex	x	23 33 36.0	
SMLA	**Simla**	**6.94**	**80**	i P	x	23 32 14.9	
SMLA				i x	x	23 33 39.0	
SMLA				ex	x	23 33 42.5	
	comp=E,610nm,0.4s						
SMLA				ex	x	23 33 42.8	
	comp=N,549nm,0.3s						
SONA	**Sohna**	**7.15**	**103**	eS	x	23 33 39.3	
SONA				AML	AML	23 34 42.1	
	comp=N,12nm,0.9s						
SONA				AML	AML	23 34 45.5	
	comp=E,15nm,0.6s						
JOSI	**Joshimath**	**8.97**	**85**	eP	x	23 32 42.6	
JOSI				ex	x	23 34 27.2	
JOSI				AML	AML	23 35 25.1	
	comp=N,39nm,0.5s						
JOSI				AML	AML	23 35 40.6	
	comp=E,28nm,0.6s						
AML	**Almayashu**	**12.51**	**16**	ePn	**Pn**	**23 33 21.5**	**+3.0**
UCH	**Uchtor**	**12.81**	**18**	ePn	**Pn**	**23 33 24.0**	**+1.5**
KK31	**Karatay Array**	**12.99**	**4**	⇑P	**Pn**	**23 33 25.3**	**+0.3**
	comp=E,1.1nm,0.6s,baz=190,slow=12,SNR=15						
KK31				⇑S	**Sn**	**23 35 49.6**	**-0.3**
	comp=E,3.2nm,0.8s,baz=202,slow=26,SNR=6.9						
EKS2	**Erkin-Say**	**13.04**	**15**	ePn	**Pn**	**23 33 26.6**	**+0.9**
	comp=E,6.0nm,0.9s						
GUN	**Gumba**	**14.77**	**94**	eP	**Pn**	**23 33 50.1**	**+0.7**
JIRN	**Jiri**	**15.09**	**95**	eP	**Pn**	**23 33 53.1**	**-0.7**
RAMN	**Ramite**	**15.62**	**97**	eP	**Pn**	**23 33 56.2**	**-4.5**
ODAN	**Odare**	**16.33**	**97**	eP	**Pn**	**23 34 05.4**	**-4.4**
TAPN	**Taplejung**	**16.48**	**95**	eP	**Pn**	**23 34 10.0**	**-1.8**
MK31	**Makanchi Array**	**19.50**	**28**	⇑P	**Pn**	**23 34 50.7**	**+1.9**
	comp=E,3.2nm,0.8s,baz=210,slow=9.5,SNR=15						
MK31	**Makanchi Array**	**19.50**	**28**	eP	**Pn**	**23 34 49.4**	**+0.6**
MKAR	**Makanchi Array**	**19.50**	**28**	P	**Pn**	**23 34 49.6**	**+0.7**
	comp=E,0.1nm,0.3s,baz=210,slow=11,SNR=8.0						
AB31	**Akbulak array**	**20.36**	**342**	P	**P**	**23 34 52.9**	**-4.1**
	comp=E,3.8nm,1.0s,baz=157,slow=9.4,SNR=13						
KURBB	**Kurchatov Arra**	**21.64**	**16**	⇑P	**P**	**23 35 10.0**	**-0.8**
	comp=E,1.0nm,1.1s,mb3.2						
KURK	**Kurchatov**	**21.75**	**16**	P	**P**	**23 35 11.5**	**-0.4**
	comp=E,2.7nm,0.8s,mb3.7,baz=212,slow=8.8,SNR=7.4						
KURK	**Kurchatov**	**21.75**	**16**	eP	**P**	**23 35 11.6**	**-0.4**
AKTK	**Aktyubinsk**	**21.95**	**341**	P	**P**	**23 35 13.2**	**-1.0**
AKTO	**Aktyubinsk**	**21.95**	**341**	P	**P**	**23 35 13.2**	**-1.0**
	comp=E,1.6nm,0.7s,mb3.6,baz=151,slow=16,SNR=3.9						
VOSK	**Vostochnaya**	**22.61**	**3**	⇑P	**P**	**23 35 21.1**	**-0.1**
	comp=E,2.5nm,0.9s,mb3.6						
BVA0	**Borovoye Array**	**22.89**	**2**	P	**P**	**23 35 23.7**	**-0.5**
	comp=E,1.2nm,1.4s,mb3.1,baz=173,slow=8.3,SNR=14						
BVAR	**Borovoye Array**	**22.89**	**2**	P	**P**	**23 35 23.3**	**-0.9**
	comp=E,1.9nm,0.7s,mb3.6,baz=178,slow=8.8,SNR=14						
BRVK	**Borovoye**	**22.92**	**2**	eP	**P**	**23 35 23.4**	**-1.1**
	comp=E,6.4nm,1.0s,mb4.0						
BRVK				ePcP	PcP	23 39 14.6	-0.2
ZALV	**Zalesovo Beam**	**26.36**	**21**	P	**P**	**23 35 56.9**	**+0.2**
	comp=E,0.4nm,0.3s,mb3.4,baz=224,slow=8.1,SNR=3.5						
MALT	**Malatya**	**26.62**	**296**	P	**P**	**23 35 59.1**	**-0.1**
SONM	**Songino Array**	**33.49**	**48**	P	**P**	**23 37 03.4**	**+3.5**
	comp=E,0.8nm,0.9s,mb3.6,baz=243,slow=9.8,SNR=4.5						
YHNB	**Yeheng**	**46.33**	**84**	eP	**P**	**23 38 51.0**	**+4.2**
NB2	**NORSAR Subarra**	**48.71**	**327**	P	**P**	**23 39 07.0**	**+2.1**
	comp=Z,1.2nm,0.7s,mb4.0,baz=46,slow=5.1						
WLF	**Walferdange**	**50.59**	**311**	P	**P**	**23 39 20.8**	**+1.4**

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*BJI **03** 23:36:06.1, 21.89S×168.71E, h14km, mB5.5, mb5.0, Ms5.2, Msz4.7*
*NOU **03** 23:36:07.4±1.1, 21.11S×168.38E, h10km, MD2.9, ML5.1, MS3.5*
*SZGRF **03** 23:36:07.9, 22.62S×169.55E, h33km, mb4.7, Southeast of Loyalty Islands*
*IDC **03** 23:36:07.2±0.6, 21.49S×168.35E, h0km, mb4.7/19, mb1 4.8/20, mb1mx4.8/22, mbtmp4.7/20, ML4.0/1, MS4.6/16, Ms1 4.6/16, ms1mx4.5/24, Error ellipse: s-maj=18.0km s-min=15.5km az=141.0*
*LDG **03** 23:36:09.3±0.2, 21.13S×167.91E, h10km, Mb5.3/4,*

Ms4.7/10, Error ellipse: s-maj=17.1km s-min=3.4km az=137.0

GCMT **03** 23:36:09.2±0.1, 2153S×16832E, h12km, MW5.3/108, Moment Tensor Solution. s63,c93; s108,c191; Duration: 1§1 Moment tensor: Scale 10^{17}Nm; M_{rr}-1.16±.02; $M_{\theta\theta}$0.64±.02; $M_{\phi\phi}$0.51±.02; $M_{r\theta}$-0.20±.04; $M_{\theta\phi}$-0.58±.01; $M_{\phi r}$0.05±.05; Best double couple: $M_0$1.17900×10^{17} NP1:ϕ_s316.00000°, δ41.00000°, λ-83.00000°. NP2:ϕ_s127.00000°, δ50.00000°, λ-96.00000°. Principal axes: T 1.1760, Plg4.0000°, Azm221.0000°; N 0.0040, Plg4.0000°, Azm131.0000°; P -1.1810, Plg84.0000°, Azm356.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.

NEIC **03** 23:36:09.2±0.3, 2154S×16828E, h10km, mb5.2/27, MS4.8/40 Error ellipse: s-maj=9.1km s-min=8.2km az=177.0

ISCJB **03** 23:36:11.2±0.3, 2155S±005×16836E±004, h33km, mb5.0/50, MS4.7/64, Error ellipse: s-maj=7.4km s-min=3.9km az=150.4

MOS **03** 23:36:12.5±1.8, 2146S×168.11E, h33km, mb5.3/23, MS4.8/20, Error ellipse: s-maj=13.6km s-min=9.4km az=127.2

DJA **03** 23:36:31, 2175S×16731E, h129km, Mw5.4/7

ISC 03 23:36:13.3±0.3, **2156S**±005×**16832E**±004, **h35**km, **(h11**km±3.1km**:pP-P), n306, σ1§31**/136, **mb5.0**/50, **MS4.7**/64, **12C-15D, Loyalty Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
BAYA	Yate Dam	1.46	246	eP	Pn	23 36 35.3	-1.8
BAYA				eS	Sn	23 36 56.6	+1.6
BAYA				AMP		23 37 04.7	
	comp=Z,970nm,8.5s						
PLUM	Mont Dore	1.71	245	eP	Pn	23 36 39.3	-1.3
PLUM				eS	Sn	23 37 02.3	+0.9
PLUM				AMP		23 37 20.3	
	comp=E,36µm,22.0s						
LASL	Noumea	1.78	248	eP	Pn	23 36 40.5	-1.1
LASL				eS	Sn	23 37 03.7	+0.7
LASL				AMP		23 37 20.8	
	comp=Z,41µm,1.4s						
DZM	Mont Dzumac	1.81	253	eP	Pn	23 36 40.3	-1.7
DZM				AMP		23 37 49.2	
	comp=Z,32µm,9.3s						
DZM	Mont Dzumac	1.81	253	ePn	Pn	23 36 40.1	-2.0
DZM				eSn	Sn	23 37 01.4	-2.5
ONTRN	Noumea	1.88	246	eP	Pn	23 36 41.6	-1.4
ONTRN				eS	Sn	23 37 07.2	+1.6
ONTRN				AMP		23 37 11.4	
	comp=E,20µm,0.0s						
NOUC	Port Laguerre	1.95	254	eP	Pn	23 36 42.2	-1.7
NOUC				eS	Sn	23 37 09.1	+2.0
NOUC				AMP		23 37 13.5	
	comp=Z,4µm,23.0s						
HNR	Honiara	14.50	325	LR	LR	23 43 35.6	
	comp=Z,2µm,18.9s,baz=148,slow=31						
HNR	Honiara	14.50	325	eP	Pn	23 39 34.8	-1.3
RAO	Raoul Island	14.60	124	LR	LR	23 43 55.4	
	comp=Z,1µm,19.9s,baz=186,slow=32						
ARMA	Armidale	17.39	236	eP	Pn	23 40 17.5	+4.3
URZ	Urewera	18.29	157	P	Pn	23 40 23.9	-0.3
	comp=Z,0.5nm,0.3s,baz=337,slow=11,SNR=5.0						
URZ				LR	LR	23 46 23.7	
	comp=Z,4µm,18.4s,baz=346,slow=34						
AFI	Afiamalu	20.41	71	P	P	23 40 46.5	-1.0
	comp=Z,41nm,0.7s,baz=344,slow=12,SNR=4.2						
AFI				LR	LR	23 47 11.9	
	comp=Z,2µm,19.4s,MS4.5,baz=247,slow=33						
SNZO	South Karori	20.42	166	eP	P	23 40 47.9	+0.5
SNZO				LR	LR		
	comp=Z,2µm,22.0s,MS4.5						
CTA	Charters Tower	20.68	270	eP	P	23 40 51.5	+1.2
	comp=Z,33nm,0.9s						
CTA				eS	S	23 44 47.9	+8.3
CTA	Charters Tower	20.68	270	P	P	23 40 50.7	+0.4
	comp=Z,29nm,1.0s,baz=90,slow=13,SNR=12						
CTA	Charters Tower	20.68	270	eP	P	23 40 51.5	+1.2
CTA				pmax	pmax		
	comp=Z,33nm,0.9s						
CTAO	Charters Tower	20.68	270	eP	P	23 40 51.7	+1.4
CTAO				pmax	pmax		
	comp=Z,78nm,1.1s						
CTAO	Charters Tower	20.68	270	eP	P	23 40 51.7	+1.4
	comp=Z,78nm,1.1s						
PMG	Port Moresby	23.66	297	i P	P	23 41 21.1	-0.7
PMG	Port Moresby	23.66	297	eP	P	23 41 21.1	-0.8
COEN	Coen	25.09	283	eP	P	23 41 34.9	+0.1
	comp=Z,340nm,2.3s,mb5.5						
STKA	Stephens Creek	25.93	241	eP	P	23 41 42.7	+0.4
	comp=Z,21nm,1.4s,mb4.5						
STKA				eS	S	23 46 35.9	+26
STKA	Stephens Creek	25.93	241	P	P	23 41 42.1	-0.2
	comp=Z,17nm,1.0s,mb4.5,baz=74,slow=9.7,SNR=13						
STKA				LR	LR	23 52 08.9	
	comp=Z,3µm,18.2s,MS4.9,baz=74,slow=37						
TAU	Tasmania Unive	27.58	215	PFAKE		23 42 10.0	+13
TAU				LR	LR		
	comp=Z,4µm,19.0s,MS5.0						
RAR	Rarotonga	29.69	95	LR	LR	23 51 23.5	
	comp=Z,666nm,21.3s,MS4.2,baz=266,slow=31						
WB2	Warramunga Arr	31.77	267	eP	P	23 42 33.8	-0.7
WB2				eS	S	23 47 44.7	+2.3
WRA	Warramunga Arr	31.78	267	P	P	23 42 32.3	-2.2
	comp=Z,2.7nm,1.0s,mb4.0,baz=97,slow=8.2,SNR=7.0						
WRA				LR	LR	23 54 43.9	
	comp=Z,3µm,21.6s,MS5.0,baz=95,slow=35						
KAKA	Kakadu	35.33	278	eP	P	23 43 04.4	-1.1
	comp=Z,19nm,0.8s,mb5.1						
FORT	Forrest	37.12	247	eP	P	23 43 18.8	-1.8
	comp=Z,22nm,0.6s,mb5.2						
TBI	Tubuai	38.96	101	eS	S	23 49 42.7	+10
	comp=Z,245nm,25.5s						
TBI				eLQ		23 52 24.4	
	comp=Z,2µm,29.5s						
TBI				eLR	LR	23 54 18.7	
	comp=Z,905nm,29.0s						
PPT	Papeete	39.79	92	eS	S	23 49 53.4	+8.1
	comp=Z,271nm,23.8s						
PPT				eLQ		23 53 02.3	
	comp=Z,3µm,28.8s						
PPT				eLR	LR	23 54 45.1	
	comp=Z,2µm,27.0s						
PPT	Papeete	39.79	92	LR	LR	23 57 28.4	
	comp=Z,348nm,18.4s,MS4.2,baz=254,slow=32						
FITZ	Fitzroy Crossi	40.21	267	eP	P	23 43 45.9	-0.8
	comp=Z,43nm,0.7s,mb5.3						
FITZ				eS	S	23 50 02.6	+11
FITZ	Fitzroy Crossi	40.21	267	P	P	23 43 46.1	-0.6
	comp=Z,17nm,0.6s,mb4.9,baz=124,slow=9.2,SNR=38						
GUMO	Guam	41.83	325	eP	P	23 43 59.2	-0.8
GUMO				pmax	pmax		
	comp=Z,25nm,0.3s,mb5.3						
GUMO	Guam	41.83	325	eP	P	23 43 59.2	-0.8
	comp=Z,25nm,0.3s,mb5.3						
BATI	Baumata	44.26	278	P	P	23 44 20.1	+0.4
	comp=Z,32nm,0.8s,mb5.1,baz=173,slow=2.4,SNR=9.0						
MBWA	Marble Bar	45.10	261	eP	P	23 44 26.1	-0.3
	comp=Z,44nm,0.8s,mb5.3						
MBWA				LR	LR		
	comp=Z,953nm,21.0s,MS4.7						
KLBR	Kellerberrin	45.97	246	eP	P	23 44 31.2	-2.0
	comp=Z,37nm,0.7s,mb5.4						
NWAO	Narrogin (SRO)	46.41	245	P	P	23 44 35.4	-1.2
	comp=Z,26nm,0.8s,mb5.2,baz=87,slow=8.2,SNR=10						
NWAO	Narrogin (SRO)	46.41	245	eP	P	23 44 35.8	-0.9
NWAO				pmax	pmax		
	comp=Z,31nm,0.8s						
NWAO				MLR	MLR		
	comp=Z,877nm,20.0s						
NWAO	Narrogin (SRO)	46.41	245	eP	P	23 44 35.8	-0.9
	comp=Z,31nm,0.8s,mb5.3						
NWAO				LR	LR		
	comp=Z,877nm,20.0s,MS4.7						
MUN	Mundaring	47.28	246	eP	P	23 44 39.7	-3.8
KAPI	Kappang	49.80	282	P	P	23 45 02.5	-0.6
	comp=Z,218nm,1.1s,mb6.1,SNR=5.1						
KAPI	Kappang	49.80	282	P	P	23 45 01.3	-1.8
	comp=Z,10nm,0.5s,mb5.1,baz=171,slow=16,SNR=9.1						
KAPI	Kappang	49.80	282	eP	P	23 45 02.0	-1.1
DAV	Davao City (W)	50.66	299	eP	P	23 45 09.0	-0.5
MIDW	Midway	51.38	16	PFAKE		23 45 30.0	+15
MIDW				LR	LR		
	comp=Z,1µm,21.0s,MS4.9						
RKT	Rikitea	52.19	103	eS	S	23 52 52.9	+9.5
	comp=Z,428nm,27.8s						
RKT				eLQ		23 57 43.8	
	comp=Z,402nm,26.2s						
RKT				eLR	LR	00 00 24.4	
	comp=Z,488nm,29.0s						
MYLDM	Lahad Datu	55.57	293	⇓P	P	23 45 49.3	+3.6
TSM	Tawau	55.67	291	⇑P	P	23 45 46.1	-0.3
SBA	Scott Base	56.35	180	eP	P	23 45 50.7	+0.3
SBA				pmax	pmax		
	comp=Z,29nm,1.1s,mb5.2						
SBA	Scott Base	56.35	180	eP	P	23 45 50.6	+0.3
	comp=Z,29nm,1.1s,mb5.2						
SDKM	Sandakan	56.92	292	⇑P	P	23 45 56.9	+1.6
CASY	Casey	57.66	204	eP	P	23 46 00.0	+0.2
KKM	Kota Kinabalu	57.97	292	⇓P	P	23 46 05.8	+3.1
KKM	Kota Kinabalu	57.97	292	eP	P	23 46 03.3	+0.5
BTM	Bintulu	59.35	288	⇑P	P	23 46 15.3	+2.9
SBUM	Sibu	59.78	286	⇑P	P	23 46 17.5	+2.1
KSM	Kuching	61.08	284	⇑P	P	23 46 26.0	+1.8
KSM	Kuching	61.08	284	eP	P	23 46 23.5	-0.7
NACB	Ninganchiao	64.27	312	eP	P	23 46 43.0	-2.3
	comp=Z,410nm,1.3s						
MJAR	Matsushiro Arr	64.41	333	P	P	23 46 44.5	-1.4
	comp=Z,2.3nm,0.6s,mb4.4,baz=169,slow=8.2,SNR=7.5						
MJAR				LR	LR	00 14 56.5	
	comp=Z,180nm,18.5s,MS4.3,baz=210,slow=36						
MAJO	Matsushiro	64.41	333	eP	P	23 46 45.0	-0.9
MAJO				pmax	pmax		
	comp=Z,16nm,1.2s,mb4.9						
MAJO				MLR	MLR		
	comp=Z,231nm,20.0s,MS4.4						
MAJO	Matsushiro	64.41	333	eP	P	23 46 45.0	-0.9
	comp=Z,16nm,1.2s,mb4.9						
MAJO				LR	LR		
	comp=Z,231nm,20.0s,MS4.4						
MIR	Mirnyy	64.58	205	eP	P	23 46 48.0	+1.4
MIR				pmax	pmax		
	comp=Z,100nm,1.0s,mb5.8						
YHNB	Yeheng	64.75	313	eP	P	23 46 47.7	-0.7
	comp=Z,72nm,1.1s,mb5.6						
TATO	Taipei	64.87	313	eP	P	23 46 49.0	-0.2
	comp=Z,60nm,0.9s,mb5.6						
QSPA	South Pole Qui	68.51	180	P	P	23 47 10.6	-0.9
	comp=Z,9.9nm,0.9s,mb4.8,baz=64,slow=1.0,SNR=17						
COCO	West Island	68.55	265	P	P	23 47 15.7	+2.8
COCO				LR	LR		
	comp=Z,693nm,22.0s,MS4.8						
ASAJ	Asahikawa	69.47	341	P	P	23 47 17.1	-0.8
	comp=Z,26nm,1.0s,mb5.1,baz=241,slow=13,SNR=11						
KSRS	Korea Array	69.94	327	P	P	23 47 19.8	-1.2
	comp=Z,2.9nm,0.9s,mb4.2,baz=147,slow=6.1,SNR=9.9						
KSRS				LR	LR	00 13 37.3	
	comp=Z,166nm,18.3s,MS4.3,baz=356,slow=32						
QIZ	Qiongzhong	70.00	301	P	P	23 47 22.2	+0.5
QIZ				S	S	23 56 32.6	+2.6
QIZ				LR	LR		
	comp=Z,117nm,25.4s,MS4.0						
NJ2	Nanjing	71.29	317	eP	P	23 47 31.1	+1.8
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.5s,mb5.0						
YSS	Yuzh-Sakhalins	71.99	342	eP	P	23 47 33.0	-0.2
YSS				e		23 47 50.0	
YSS				ePPS		23 57 33.0	
YSS				pmax	pmax		
	comp=Z,40nm,1.1s,mb5.3						
YSS				MLR	MLR		
	comp=Z,400nm,18.0s,MS4.7						
YSS	Yuzh-Sakhalins	71.99	342	eP	P	23 47 34.3	+1.1
	comp=Z,40nm,1.4s,mb5.2						
YSS				LR	LR		
	comp=Z,151nm,19.0s,MS4.3						
DL2	Dalian	74.35	324	⇑P	P	23 47 49.5	+2.2
DL2				S	S	23 57 24.1	+4.9
DL2				AMB	AMB		
	comp=Z,20nm,1.2s,mb4.9						
DL2				AMB	AMB		
	comp=Z,190nm,6.5s						
DL2				LR	LR		
	comp=N,140nm,14.4s,MS4.5						
DL2				LR	LR		
	comp=E,140nm,14.3s,MS4.5						
DL2				LR	LR		
	comp=Z,170nm,17.8s,MS4.4						
PET	Petropavlovsk	74.74	354	d iP	P	23 47 48.3	-0.9
PET				pmax	pmax		
	comp=Z,300nm,6.9s						
PET				pmax	pmax		
	comp=Z,37nm,1.2s,mb5.2						
PET				pmax	pmax		
	comp=Z,500nm,10.0s						
PET				MLR	MLR		
	comp=Z,400nm,22.0s,MS4.7						
PET				MLR	MLR		
	comp=Z,200nm,21.0s						
MDJ	Mudanjiang	74.75	332	P	P	23 47 51.5	+2.0
MDJ				AP	pP	23 47 54.7	-5.8
MDJ				XP	sP	23 47 56.0	-8.5
MDJ				PCP	PcP	23 48 05.5	+2.0
MDJ				PP	PP	23 50 38.1	+0.8
MDJ				S	S	23 57 29.8	+6.4
MDJ				SCS	ScS	23 58 03.5	+5.0
MDJ				AMB	AMB		
	comp=Z,10.0nm,1.1s,mb4.7						
MDJ				AMB	AMB		
	comp=Z,270nm,7.3s						
MDJ				LR	LR		
	comp=N,213nm,32.8s,MS4.4						
MDJ				LR	LR		
	comp=E,245nm,30.6s,MS4.4						
MDJ				LR	LR		
	comp=Z,212nm,27.7s,MS4.3						
MDJ	Mudanjiang	74.75	332	PFAKE		23 48 00.0	+10
MDJ				LR	LR		
	comp=Z,70nm,20.0s,MS4.0						
PETK	Petropavlovsk-	74.92	353	P	P	23 47 49.9	-0.4
	comp=Z,38nm,1.0s,mb5.3,baz=110,slow=3.5,SNR=17						
PETK				LR	LR	00 17 37.0	
	comp=Z,272nm,19.2s,MS4.6,baz=155,slow=33						
MAW	Mawson	75.97	202	eP	P	23 47 51.1	-5.2
	comp=Z,4.8nm,1.0s,mb4.4						
MAW	Mawson	75.97	202	P	P	23 47 57.4	+1.0
	comp=Z,5.0nm,0.9s,mb4.4,baz=81,slow=8.3,SNR=7.0						
MAW				LR	LR	00 16 29.1	
	comp=Z,700nm,21.1s,MS4.9,baz=88,slow=32						
MAW	Mawson	75.97	202	eP	P	23 47 57.4	+1.1
MAW				pmax	pmax		
	comp=Z,12nm,1.1s						
MAW				MLR	MLR		
	comp=Z,1µm,20.0s						
MAW	Mawson	75.97	202	eP	P	23 47 57.4	+1.1
	comp=Z,12nm,1.1s,mb4.8						
MAW				LR	LR		
	comp=Z,1µm,20.0s,MS5.2						
CN2	Changchun	75.99	329	eP	P	23 48 00.3	+3.6
CN2				eXP	sP	23 48 07.3	-4.4
CN2				eS	S	23 57 41.7	+4.5
CN2				AMB	AMB		
	comp=Z,10.0nm,1.1s,mb4.7						
CN2				AMB	AMB		
	comp=Z,200nm,5.0s						
CN2				LR	LR		
	comp=N,200nm,19.0s,MS4.6						
CN2				LR	LR		
	comp=E,200nm,19.0s,MS4.6						
CN2				LR	LR		
	comp=Z,200nm,20.0s,MS4.4						
GYA	Guiyang	76.45	306	P	P	23 48 01.4	+1.7
GYA				PCP	PcP	23 48 15.0	+3.7
GYA				PP	PP	23 50 54.8	+2.8
GYA				S	S	23 57 46.2	+3.2
GYA				SKS		23 58 09.4	
GYA				AMB	AMB		
	comp=Z,40nm,0.9s,mb5.3						
GYA				AMB	AMB		
	comp=Z,160nm,5.6s						
GYA				LR	LR		
	comp=N,860nm,19.8s,MS5.2						
GYA				LR	LR		
	comp=E,750nm,18.9s,MS5.2						
GYA				LR	LR		
	comp=Z,910nm,19.4s,MS5.1						
KLR	Kul'dur	77.63	336	eP	P	23 48 01.8	-4.0
BJT	Baijiatuau	78.19	322	eP	P	23 48 08.4	-0.7
BJT				pmax	pmax		
	comp=Z,19nm,1.0s						
BJT	Baijiatuau	78.19	322	eP	P	23 48 08.4	-0.7
	comp=Z,19nm,1.0s,mb5.0						
BJI	Beijing	78.20	322	P	P	23 48 09.7	+0.5
BJI				PP	PP	23 51 05.2	-1.3
BJI				S	S	23 58 06.7	+5.3
BJI				AMB	AMB		
	comp=Z,15nm,1.6s,mb4.7						
BJI				AMB	AMB		
	comp=Z,468nm,7.2s						
BJI				LR	LR		
	comp=N,152nm,31.2s,MS4.4						
BJI				LR	LR		
	comp=E,189nm,28.1s,MS4.4						
BJI	Beijing	78.20	322	P	P	23 48 09.7	+0.5
	comp=E,15nm,1.6s,mb4.7						
BJI				PP	PP	23 51 05.2	-1.3
BJI				S	S	23 58 06.7	+5.3
BJI				LR	LR		
	comp=Z,200nm,42.9s,MS4.1						
CHRT	Chiangrai	78.63	297	P	P	23 48 13.0	+1.0
CMAR	Chiang Mai Arr	78.68	295	P	P	23 48 12.7	+0.3
	comp=Z,5.1nm,0.8s,mb4.5,baz=129,slow=4.5,SNR=21						
KMI	Kunming	78.78	303	P	P	23 48 15.1	+2.4
KMI				S	S	23 58 12.5	+4.3
KMI				AMB	AMB		
	comp=Z,31nm,1.1s,mb5.2						
KMI				LR	LR		
	comp=N,254nm,12.6s,MS5.0						
KMI				LR	LR		
	comp=E,324nm,10.6s,MS5.0						
KMI				LR	LR		
	comp=Z,213nm,12.8s,MS4.7						
KMI	Kunming	78.78	303	P	P	23 48 15.1	+2.4
	comp=Z,31nm,1.1s,mb5.2						
KMI				S	S	23 58 12.5	+4.3
KMI				LR	LR		
	comp=Z,210nm,12.8s,MS4.7						
CHG	Chiang Mai	78.84	295	⇑P	P	23 48 15.2	+2.0
	comp=Z,18nm,1.0s,mb5.0						
CHTO	Chiang Mai	78.84	295	eP	P	23 48 14.2	+1.0
CHTO				pmax	pmax		
	comp=Z,23nm,1.2s,mb5.0						
CHTO	Chiang Mai	78.84	295	eP	P	23 48 14.2	+1.0
	comp=Z,22nm,1.2s,mb5.0						
XAN	Xi'an	79.05	313	P	P	23 48 13.2	-0.8
XAN				AP	pP	23 48 19.3	-5.7
XAN				XP	sP	23 48 20.6	-8.4
XAN				PP	PP	23 51 14.5	+0.8
XAN				S	S	23 58 15.3	+4.5
XAN				AMB	AMB		
	comp=Z,17nm,1.3s,mb4.8						
XAN				AMB	AMB		
	comp=Z,228nm,8.8s						
XAN				LR	LR		
	comp=N,30nm,18.3s						
XAN				LR	LR		
	comp=E,117nm,27.8s						
XAN				LR	LR		
	comp=Z,164nm,19.1s,MS4.4						
CD2	Chengdu	80.97	308	⇑iP	P	23 48 25.5	+1.0
CD2				AP	pP	23 48 30.2	-5.3
CD2				XP	sP	23 48 33.8	-5.7
CD2				PP	PP	23 51 32.5	+2.8
CD2				S	S	23 58 33.1	+2.0
CD2				AMB	AMB		
	comp=Z,20nm,0.8s,mb5.1						
CD2				AMB	AMB		
	comp=Z,80nm,6.8s						
CD2				LR	LR		
	comp=N,520nm,13.2s,MS5.1						
CD2				LR	LR		
	comp=E,200nm,14.4s,MS5.1						
CD2				LR	LR		
	comp=Z,390nm,15.6s,MS4.9						
HHC	Hu-ho-hao-te	81.42	320	eP	P	23 48 28.6	+2.0
HHC				AP	pP	23 48 33.4	-4.2
HHC				XP	sP	23 48 35.6	-6.1
HHC				PP	PP	23 51 37.5	+4.2
HHC				S	S	23 58 37.9	+2.5
HHC				SKS		23 58 43.0	
HHC				AMB	AMB		
	comp=Z,25nm,1.1s,mb5.1						
HHC				AMB	AMB		
	comp=Z,185nm,7.0s						
HHC				LR	LR		
	comp=N,235nm,14.5s,MS4.9						
HHC				LR	LR		
	comp=E,268nm,14.7s,MS4.9						
HHC				LR	LR		
	comp=Z,190nm,15.1s,MS4.6						
SYO	Syowa Base	82.48	196	⇓eP	P	23 48 31.4	-0.4
SYO	Syowa Base	82.48	196	⇓eX		23 48 34.0	
HIA	Hailar	82.68	330	PFAKE		23 48 40.0	+7.0
HIA				LR	LR		
	comp=Z,150nm,20.0s,MS4.4						
LZH	Lanzhou	83.64	313	⇓P	P	23 48 38.5	+0.2
LZH				AP	pP	23 48 43.4	-6.0
LZH				XP	sP	23 48 45.6	-7.8
LZH				ePP	PP	23 51 52.5	+0.8
LZH				eS	S	23 58 59.2	+0.9
LZH				AMB	AMB		
	comp=Z,39nm,1.5s,mb5.3						
LZH				AMB	AMB		
	comp=Z,165nm,8.7s						
LZH				LR	LR		
	comp=E,596nm,17.2s						
LZH				LR	LR		
	comp=Z,757nm,19.0s,MS5.1						
LZH	Lanzhou	83.64	313	⇓P	P	23 48 38.5	+0.2
LZH				*SP	sP	23 48 45.6	-7.8
LZH				e		23 51 52.5	
LZH				eS	S	23 58 59.2	+0.9
LZH				pmax	pmax		
	comp=Z,39nm,1.5s,mb5.3						
LZH	Lanzhou	83.64	313	⇓P	P	23 48 38.5	+0.2
	comp=Z,39nm,1.5s,mb5.3						
LZH				pP	pP	23 48 43.4	-6.0
LZH				sP	sP	23 48 45.6	-7.8
LZH				ePP	PP	23 51 52.5	+0.8
LZH				eS	S	23 58 59.2	+0.9
LZH				sS	sS	23 59 06.7	-10
PMSA	Palmer Station	85.04	160	PFAKE		23 49 00.0	+15
PMSA				LR	LR		
	comp=Z,2µm,19.0s,MS5.5						
SEY	Seymchan	85.14	353	⇑eP	P	23 48 43.7	-1.6
SNAA	Sanae	86.82	183	eP	P	23 48 51.3	-2.4
SHL	Shillong	87.68	299	eP	P	23 48 59.0	+0.4
GTA	Gaotai	88.09	314	eP	P	23 48 59.4	-0.9
GTA				AP	pP	23 49 03.4	-8.0
GTA				XP	sP	23 49 07.1	-8.3
GTA				PP	PP	23 52 29.3	+1.7
GTA				SKS		23 59 25.4	
GTA				S	S	23 59 42.5	+0.7
GTA				AMB	AMB		
	comp=Z,3.0nm,1.4s,mb4.3						
GTA				AMB	AMB		
	comp=Z,212nm,6.6s						
GTA				LR	LR		
	comp=N,130nm,11.1s,MS4.8						
GTA				LR	LR		
	comp=E,167nm,12.6s,MS4.8						
GTA				LR	LR		
	comp=Z,140nm,15.6s,MS4.5						
ULN	Ulaanbaatar	88.21	324	⇑eP	P	23 49 00.6	0.0
ULN	Ulaanbaatar	88.21	324	eP	P	23 49 02.7	+2.2
	comp=Z,19nm,1.2s,mb5.2						
SONM	Songino Array	88.55	324	P	P	23 49 01.9	-0.3
	comp=Z,5.4nm,1.0s,mb4.8,baz=139,slow=4.1,SNR=20						
SONM				LR	LR	00 29 10.9	
	comp=Z,150nm,18.4s,MS4.5,baz=130,slow=36						
YAK	Yakutsk	88.82	343	PFAKE		23 49 10.0	+6.9
YAK				LR	LR		
	comp=Z,268nm,19.0s,MS4.7						
CMB	Columbia Colle	89.34	48	eP	P	23 49 07.2	+1.1
CMB				pmax	pmax		
	comp=Z,10.0nm,1.3s,mb5.0						
CMB				MLR	MLR		
	comp=Z,988nm,20.0s,MS5.2						
CMB	Columbia Colle	89.34	48	eP	P	23 49 07.2	+1.1
	comp=Z,10nm,1.3s,mb5.0						
CMB				LR	LR		
	comp=Z,988nm,20.0s,MS5.2						
BILL	Bilibino	89.34	359	⇓eP	P	23 49 05.4	-0.1
BILL				e		23 52 33.4	

BILL				eSS	SS	00 05 48.2	-0.1
BILL				pmax	pmax		
	comp=Z,35nm,1.2s,mb5.6						
BILL				MLR	MLR		
	comp=Z,300nm,20.0s,MS4.7						
BILL	**Bilibino**	**89.34**	**359**	*e*P	**P**	**23 49 03.9**	**-1.6**
	comp=Z,16nm,0.6s,mb5.5						
BILL				LR	LR		
	comp=Z,334nm,21.0s,MS4.7						
PMR	**Palmer**	**89.59**	**19**	*e*P	**P**	**23 49 07.4**	**+0.7**
PMR				MLR	MLR		
	comp=Z,785nm,19.0s,MS5.2						
ISA	**Isabella**	**89.60**	**51**	*e*P	**P**	**23 49 10.2**	**+2.7**
ISA				MLR	MLR		
	comp=Z,746nm,22.0s,MS5.1						
USHA	**Ushuaia**	**89.85**	**151**	LR	LR	00 24 18.8	
	comp=Z,490nm,18.1s,MS5.0,baz=280,slow=32						
LSA	**Lhasa**	**90.01**	**302**	P	**P**	**23 49 08.8**	**-0.7**
LSA	**Lhasa**	**90.01**	**302**	PFAKE		23 49 20.0	+10
LSA				LR	LR		
	comp=Z,189nm,20.0s,MS4.5						
NVAR	**Mina Array Bea**	**90.97**	**49**	P	**P**	**23 49 13.1**	**-0.7**
	comp=Z,1.7nm,0.6s,mb4.6,baz=230,slow=7.7,SNR=10						
BOD	**Bodaibo**	**91.03**	**334**	*e*P	**P**	**23 49 07.9**	**-5.6**
BOD				pmax	pmax		
	comp=Z,5.0nm,1.4s,mb4.7						
TPH	**Tonopah**	**91.58**	**50**	PFAKE		23 49 30.0	+13
TPH				LR	LR		
	comp=Z,703nm,21.0s,MS5.1						
ZAK	**Zakamensk**	**91.67**	**325**	*e*P	**P**	**23 49 13.8**	**-2.9**
ZAK				pmax	pmax		
	comp=Z,8.0nm,1.8s,mb4.8						
IMA2	**Indian Mountai**	**91.96**	**15**	*e*P	**P**	**23 49 23.9**	**+6.2**
COLA	**College**	**92.50**	**17**	P	**P**	**23 49 20.0**	**-0.2**
COLA				MLR	MLR		
	comp=Z,491nm,20.0s,MS5.0						
SKAG	**Skagway**	**92.91**	**25**	*e*P	**P**	**23 49 22.9**	**+0.7**
DAWY	**Dawson**	**94.46**	**20**	*e*P	**P**	**23 49 28.0**	**-1.3**
NEW	**Newport**	**96.09**	**40**	*e*P	**P**	**23 49 38.5**	**+1.4**
NEW				pmax	pmax		
	comp=Z,27nm,2.5s						
NEW				MLR	MLR		
	comp=Z,445nm,22.0s						
NEW	**Newport**	**96.09**	**40**	*e*P	**P**	**23 49 38.5**	**+1.4**
	comp=Z,27nm,2.5s,mb5.2						
NEW				LR	LR		
	comp=Z,445nm,22.0s,MS4.9						
HWUT	**Hardware Ranch**	**97.00**	**48**	PFAKE		23 49 50.0	+8.6
HWUT				LR	LR		
	comp=Z,426nm,20.0s,MS4.9						
ANMO	**Albuquerque**	**98.32**	**56**	PFAKE		23 50 00.0	+13
ANMO				LR	LR		
	comp=Z,698nm,22.0s,MS5.1						
WALA	**Waterton Lakes**	**98.36**	**41**	*e*P	**P**	**23 49 49.5**	**+2.2**
	comp=Z,1.2nm,0.6s,mb4.6						
TXAR	**Lajitas Array**	**98.62**	**62**	P	**P**	**23 49 49.0**	**0.0**
	comp=Z,0.6nm,1.1s,mb4.1,baz=262,slow=3.7,SNR=3.4						
TXAR				LR	LR	00 26 23.9	
	comp=Z,479nm,19.2s,MS5.0,baz=0.0,slow=31						
PDAR	**Pinedale Array**	**98.81**	**48**	P	**P**	**23 49 49.0**	**-0.5**
	comp=Z,0.2nm,0.6s,baz=242,slow=2.7,SNR=2.8						
PDAR				LR	LR	00 27 26.7	
	comp=Z,206nm,18.3s,MS4.7,baz=260,slow=31						
GDL2	**Guadalupe Moun**	**99.02**	**59**	*e*Pdif	**P**	**23 49 52.5**	**+1.8**
SDCO	**Great Sand Dun**	**99.99**	**53**	PFAKE		23 50 10.0	+15
SDCO				LR	LR		
	comp=Z,458nm,21.0s,MS5.0						
MKAR	**Makanchi Array**	**102.78**	**315**	P	Pdif	23 50 04.6	-2.5
	comp=Z,0.7nm,0.9s,baz=102,slow=5.1,SNR=4.5						
KURK	**Kurchatov**	**106.19**	**319**	PFAKE		23 54 50.0	+16
KURK				LR	LR		
	comp=Z,169nm,20.0s,MS4.6						
TEIG	**Tepich**	**109.16**	**75**	PFAKE		23 54 50.0	+10
TEIG				LR	LR		
	comp=Z,257nm,19.0s,MS4.8						
BRVK	**Borovoye**	**111.70**	**320**	PFAKE		23 55 00.0	+16
BRVK				LR	LR		
	comp=Z,385nm,19.0s,MS5.0						
ARU	**Arti**	**118.59**	**323**	*e*PKIKP	PKPdf	23 54 53.3	-3.8
ARU				MLR	MLR		
	comp=Z,194nm,22.0s,MS4.7						
AKTK	**Aktyubinsk**	**119.17**	**317**	PKP	PKPdf	23 54 56.9	-1.5
AKTO	**Aktyubinsk**	**119.17**	**317**	PKP	PKPdf	23 54 56.9	-1.5
	comp=Z,0.7nm,0.5s,baz=155,slow=2.7,SNR=4.3						
SDV	**Santo Domingo**	**122.04**	**93**	PFAKE		23 55 20.0	+15
SDV				LR	LR		
	comp=Z,65nm,22.0s,MS4.2						
SDMD	**Soldier's Deli**	**122.27**	**56**	PKPdf	PKPdf	23 55 05.2	+0.5
MIV	**Mineville/With**	**124.73**	**51**	*e*PKPdf	PKPdf	23 55 12.0	+2.8
APA	**Apatity**	**126.13**	**340**	⇑*i*PKIKP	PKPdf	23 55 13.0	+1.8
APA				pmax	pmax		
	comp=Z,14nm,1.2s						
ARCES	**ARCESS Array B**	**127.07**	**345**	PKP	PKPdf	23 55 11.5	-1.5
	comp=Z,2.8nm,0.6s,baz=49,slow=0.8,SNR=13						
ARCES	**ARCESS Array B**	**127.07**	**345**	PKP	PKPdf	23 55 11.5	-1.5
KMBO	**Kilima Mbogo**	**127.18**	**251**	PKP	PKPdf	23 55 14.2	-0.7
	comp=Z,1.8nm,0.9s,baz=59,slow=10,SNR=3.9						
KMBO	**Kilima Mbogo**	**127.18**	**251**	PKP	PKPdf	23 55 14.2	-0.7
KMBO				*e*PKPdf	PKPdf	23 55 17.4	+2.5
BDFB	**Brasilia**	**128.65**	**133**	PFAKE		23 55 30.0	+12
BDFB				LR	LR		
	comp=Z,429nm,22.0s,MS5.1						
SJG	**San Juan**	**128.86**	**84**	PFAKE		23 55 30.0	+12
SJG				LR	LR		
	comp=Z,221nm,22.0s,MS4.8						
GNI	**Garni**	**128.99**	**305**	*e*PKIKP	PKPdf	23 55 14.9	-2.6
GNI				MLR	MLR		
	comp=Z,125nm,20.0s						
HUMP	**Col San Antoni**	**129.14**	**84**	*e*PKPdf	PKPdf	23 55 18.1	-0.3
KIV	**Kislovodsk**	**130.12**	**310**	*i* PKIKP	PKPdf	23 55 19.3	-0.2
KIV				*e*		23 57 33.7	
KIV				*e*SS	SS	00 14 57.0	+0.7
KIV				pmax	pmax		
	comp=Z,9.0nm,1.2s						
KIV	**Kislovodsk**	**130.12**	**310**	*e*PKPdf	PKPdf	23 55 19.5	0.0
KIV				LR	LR		
	comp=Z,151nm,21.0s,MS4.7						
OBN	**Obninsk**	**130.93**	**325**	⇓*i*PKIKP	PKPdf	23 55 21.5	+0.8
OBN				*e*		23 57 37.7	
OBN				*e*		00 02 26.4	
OBN				*e*PS	PS	00 07 54.3	+3.4
OBN				*e*SS	SS	00 15 06.6	+1.3
OBN				pmax	pmax		
	comp=Z,6.0nm,1.0s						
OBN	**Obninsk**	**130.93**	**325**	PFAKE		23 55 30.0	+9.3
OBN				LR	LR		
	comp=Z,164nm,19.0s,MS4.8						
ANN	**Anapa**	**133.66**	**312**	*e*PKHKP		23 55 13.5	
ANN				pmax	pmax		
	comp=Z,17nm,0.8s						
MALT	**Malatya**	**134.04**	**303**	*e*PKIKP	PKPdf	23 55 28.3	+1.2
MALT				MLR	MLR		
	comp=Z,111nm,21.0s,MS4.5						
AKASG	**Malin Array Be**	**136.83**	**323**	PKP	PKPdf	23 55 31.1	-0.8
	comp=Z,0.5nm,0.5s,baz=69,slow=1.1,SNR=7.5						
NB2	**NORSAR Subarra**	**137.43**	**344**	PKPdf	PKPdf	23 55 30.6	-2.1
	comp=Z,2.5nm,1.1s,baz=31,slow=1.9						
NOA	**NORSAR Array B**	**137.43**	**344**	PKP	PKPdf	23 55 30.6	-2.1
	comp=Z,1.4nm,0.9s,baz=34,slow=1.9,SNR=4.7						
KOLS	**Kolonicke sedl**	**141.61**	**324**	*e*PKP	PKPdf	23 55 40.2	-0.5
STHS	**Stebnicka Huta**	**141.90**	**325**	*e*PKP	PKPdf	23 55 39.2	-2.0
CRVS	**Cervenica-Dubn**	**142.07**	**324**	*e*PKP	PKPdf	23 55 43.9	+2.3
NIE	**Niedzica**	**142.39**	**325**	*e*PKP	PKPdf	23 55 43.4	+1.3
PSZ	**Piszkesteto**	**143.49**	**324**	*e*PKP	PKPdf	23 55 42.0	-2.1
PSZ	**Piszkesteto**	**143.49**	**324**	*e*PKPdf	PKPdf	23 55 41.6	-2.5
BSEG	**Bad Segeberg**	**143.61**	**338**	*e*PKPbc	PKPdf	23 55 40.0	-4.1
VYHS	**Vyhne**	**143.73**	**325**	*e*PKP	PKPdf	23 55 41.3	-3.2
DPC	**Dobruska-Polom**	**143.81**	**329**	*e*PKP	PKPdf	23 55 43.0	-1.6
KOLL	**Kolacno**	**143.91**	**326**	*e*PKP	PKPdf	23 55 43.8	-1.0
PVCC	**Panska Ves**	**144.50**	**331**	*e*PKP	PKPdf	23 55 44.9	-0.9
BRG	**Berggiesshubel**	**144.53**	**332**	*e*PKPbc	PKPdf	23 55 43.0	-2.8
BRG	**Berggiesshubel**	**144.53**	**332**	*e*PKP	PKPdf	23 55 43.7	-2.1
	comp=Z,19nm,1.2s						
BRG				*e*		23 56 14.6	
	comp=Z,12nm,1.1s						
CLL	**Collm**	**144.62**	**333**	*i* PKIKP	PKPdf	23 55 43.6	-2.4
CLL				*i*		23 55 54.7	
CLL				*e*		23 59 01.0	
CLL				pmax	pmax		
	comp=Z,23nm,1.5s						
CLL				MLR	MLR		
	comp=Z,200nm,20.4s,MS4.9						
CLL	**Collm**	**144.62**	**333**	*e*PKPbc	PKPdf	23 55 43.0	-3.0
CLL	**Collm**	**144.62**	**333**	*i* PKPdf	PKPdf	23 55 43.6	-2.4
	comp=Z,23nm,1.5s						
CLL				*i* PKiKP	PKiKP	23 55 49.6	-0.1
CLL				*i* pPKiKP		23 55 54.7	
	comp=Z,12nm,1.1s						
CLL				*e*PP	PP	23 59 01.0	-1.3
CLL				LmV		01 05 00.0	
	comp=Z,200nm,20.4s						
CLL	**Collm**	**144.62**	**333**	*i* PKP	PKPdf	23 55 43.6	-2.4
CLL				*i*		23 55 54.7	
CLL				*e*		23 56 14.0	
CLL				*e*PP	PP	23 59 01.0	-1.3
CLL				LR	LR		
	comp=Z,200nm,20.4s,MS4.9						
MODS	**Modra-Piesok**	**144.62**	**326**	*e*PKP	PKPdf	23 55 45.0	-1.1
SOH	**Sokhos**	**144.72**	**311**	P	PKPdf	23 55 43.7	-2.8
PLG	**Polygyros**	**144.82**	**310**	P	PKPdf	23 55 43.9	-2.8
ZST	**Bratislava**	**144.82**	**326**	*e*PKIKP	PKPdf	23 55 44.8	-1.6
ZST				*e*		23 55 51.7	
PRU	**Pruhonice**	**144.89**	**330**	*e*PKP	PKPdf	23 55 47.1	+0.6
KNT	**Kendrikon**	**144.91**	**312**	P	PKPdf	23 55 44.8	-2.0
BARS	**Barje**	**144.94**	**315**	*e*P	PKPdf	23 55 45.8	-1.0
HORT	**Hortiatis**	**144.98**	**311**	P	PKPdf	23 55 44.4	-2.5
VAY	**Valandovo**	**145.07**	**312**	P	PKPbc	23 55 41.8	-4.7
PKSM	**Moragy**	**145.17**	**322**	*e*P	PKPbc	23 55 45.9	-0.8
GRG	**Griva**	**145.33**	**312**	P	PKPbc	23 55 46.0	-1.4
SOP	**Sopron**	**145.43**	**326**	*e*PKP	PKPdf	23 55 48.9	+1.4
DIVS	**Divibare**	**145.50**	**318**	*e*P	PKPdf	23 55 50.6	+2.9
DIVS	**Divibare**	**145.50**	**318**	P	PKPdf	23 55 47.0	-0.7
TANN	**Tannenbergstha**	**145.51**	**332**	*e*PKPbc	PKPbc	23 55 46.6	-1.0
LIT	**Litokhoron**	**145.60**	**310**	P	PKPdf	23 55 46.6	-1.4
CONA	**Conrad Observa**	**145.63**	**327**	⇓*i*PKPab	PKPab	23 55 47.4	-1.1
	comp=Z,40nm,1.4s,SNR=15						
CSNA	**Conrad Observa**	**145.64**	**327**	⇓*i*PKPdf	PKPdf	23 55 47.1	-0.7
	comp=Z,34nm,1.4s						
NKC	**Novy Kostel**	**145.65**	**332**	*e*PKP	PKPdf	23 55 49.0	+1.2
MOX	**Moxa**	**145.70**	**333**	*e*PKP	PKPdf	23 55 47.7	-0.1
	comp=Z,20nm,1.3s						
MOX	**Moxa**	**145.70**	**333**	*e*PKPbc	PKPbc	23 55 47.0	-1.2
IBBN	**Ibbenburen**	**145.83**	**339**	*e*PKPbc	PKPbc	23 55 47.3	-1.3
KHC	**Kasperske Hory**	**145.94**	**330**	*e*PKP	PKPdf	23 55 48.5	+0.2
KHC				*e*pPKP	pPKPdf	23 55 54.5	-5.3
DID	**Didima**	**145.94**	**306**	P	PKPdf	23 55 45.6	-3.1
BBLS	**Lazići**	**145.98**	**318**	*e*P	PKPdf	23 55 49.4	+0.9
GEC2	**GERESS Array S**	**146.08**	**330**	*e*PKP2	PKPab	23 55 48.7	-1.4
GERES	**GERESS Array B**	**146.08**	**330**	PKPbc	PKPbc	23 55 48.9	-0.6
	comp=Z,4.7nm,0.6s,baz=46,slow=3.9,SNR=29						
FNA	**Florina**	**146.11**	**312**	P	PKPdf	23 55 48.8	-0.1
AGG	**Agios Georgios**	**146.11**	**309**	P	PKPdf	23 55 47.8	-1.1
THL	**Klokotos Trika**	**146.14**	**310**	P	PKPdf	23 55 45.8	-3.2
ARSA	**Arzberg**	**146.25**	**326**	⇑*i*PKPab	PKPab	23 55 50.5	-0.2
	comp=Z,24nm,1.8s,SNR=10						
WET	**Wettzell**	**146.25**	**331**	*e*PKPbc	PKPbc	23 55 49.1	-0.9
GRA1	**Grafenberg Arr**	**146.58**	**333**	*e*PKPbc	PKPbc	23 55 50.0	-0.9
GRF	**Grafenberg Arr**	**146.58**	**333**	*e*PKP2	PKPbc	23 55 50.0	-0.9
GRF				MLR	MLR		
	comp=Z,100nm,20.5s,MS4.6						
GRF	**Grafenberg Arr**	**146.58**	**333**	*e*L		01 21 11.9	
	comp=Z,143nm,20.5s						
MEV	**Metsovon**	**146.62**	**310**	P	PKPbc	23 55 53.2	+1.8
VLX	**Vlachokerasia**	**146.63**	**306**	P	PKPdf	23 55 51.6	+1.7
BUG	**Bochum--Univer**	**146.72**	**338**	*e*PKPbc	PKPbc	23 55 49.8	-1.4
SOKA	**Soboth**	**146.87**	**326**	⇓*i*PKPdf	PKPdf	23 55 49.9	-0.1
	comp=Z,15nm,1.2s						
TIR	**Tirane**	**146.90**	**314**	P	PKPab	23 55 57.0	+3.5
TIR	**Tirane**	**146.90**	**314**	*e*PKPdf	PKPdf	23 55 51.0	+0.8
PYL	**PYLOS**	**147.27**	**305**	P	PKPdf	23 55 53.1	+2.2
TNS	**Taunus Mts**	**147.29**	**336**	*e*PKPbc	PKPbc	23 55 52.0	-0.9
IGT	**Igoumenitsa**	**147.35**	**311**	P	PKPdf	23 55 50.0	-1.0
LKD	**Levkas**	**147.45**	**309**	P	PKPdf	23 55 53.0	+1.8
KBA	**Koelnbreinsper**	**147.48**	**327**	⇓*i*PKPdf	PKPdf	23 55 50.7	-0.2
	comp=Z,17nm,1.4s,SNR=6.7						
BOJS	**Bojanci**	**147.50**	**324**	*i* PKPdf	PKPdf	23 55 53.2	+2.2
VISS	**Visnje**	**147.53**	**324**	*i* PKPdf	PKPbc	23 55 54.4	+0.7
TOD	**Tromm**	**147.65**	**335**	PKP2	PKPbc	23 55 54.5	+0.6
FUR	**Furstenfeldbru**	**147.69**	**331**	*e*PKPbc	PKPbc	23 55 53.6	-0.5
BEBN	**Eben Emael**	**147.80**	**339**	PKP	PKPab	23 55 59.0	+2.2
MEM	**Membach**	**147.85**	**339**	PKP	PKPdf	23 55 53.1	+1.7
JAVS	**Javornik**	**147.89**	**325**	*i* PKPdf	PKPbc	23 55 55.0	+0.3
ABH	**Alteburg**	**147.91**	**336**	PKP	PKPbc	23 55 55.5	+0.9
ABTA	**Abfaltersbach**	**148.12**	**328**	⇓*i*PKPdf	PKPdf	23 55 51.8	-0.2
	comp=Z,17nm,1.6s,SNR=5.7						
STU	**Stuttgart**	**148.14**	**333**	*e*PKPbc	PKPbc	23 55 54.1	-1.2
TRI	**Trieste**	**148.17**	**325**	*e*PKIKP	PKPdf	23 55 52.9	+0.8
UCC	**Uccle**	**148.22**	**341**	PKP	PKPbc	23 55 56.1	+0.7
RUP	**Ruppelstein**	**148.24**	**337**	PKP2	PKPbc	23 55 55.1	-0.4
BCLA	**Clavier**	**148.25**	**339**	PKP	PKPbc	23 55 57.3	+1.8
LANF	**Langenberg**	**148.54**	**335**	PKP	PKPbc	23 55 57.5	+1.2
WLF	**Walferdange**	**148.59**	**338**	PKP	PKPbc	23 55 56.6	+0.2
WLF	**Walferdange**	**148.59**	**338**	*e*PKPbc	PKPbc	23 55 55.8	-0.6
WLF	**Walferdange**	**148.59**	**338**	*e*PKPdf	PKPdf	23 55 54.2	+1.5
GIVF	**Givet**	**148.68**	**339**	*e*PKP1	PKPbc	23 55 55.4	-1.2
DOU	**Dourbes**	**148.76**	**340**	PKP	PKPbc	23 55 56.1	-0.7
FETA	**Feichten**	**148.78**	**330**	⇑*i*PKPdf	PKPdf	23 55 52.3	-0.8
	comp=Z,28nm,1.5s						
BFO	**Black Forest**	**148.85**	**334**	*e*PKPbc	PKPbc	23 55 55.6	-1.5
BAIF	**Baives**	**148.91**	**340**	*e*PKP1	PKPbc	23 55 56.1	-1.1
CDF	**Champ du Feu**	**149.20**	**335**	*e*PKP1	PKPbc	23 55 56.5	-1.5
FELD	**Feldberg im Sc**	**149.34**	**334**	PKP	PKPbc	23 55 58.8	+0.5
ECH	**Echery**	**149.41**	**335**	PKP	PKPbc	23 55 58.6	+0.1
MOF	**Molkenrain**	**149.71**	**334**	PKP	PKPbc	23 55 59.0	-0.3
TUE	**Stuetta**	**149.83**	**330**	*e*PKPdf	PKPdf	23 55 56.6	+1.8
HINF	**Hinteralfeld**	**149.85**	**335**	*e*PKP1	PKPbc	23 55 57.9	-1.7
THEF	**They Montfort**	**149.85**	**336**	PKP	PKPbc	23 55 59.0	-0.6
BBS	**Basel-Blauen**	**149.87**	**334**	PKP2	PKPbc	23 55 59.6	-0.1
HAU	**Haudompre**	**149.90**	**336**	*e*PKP1	PKPbc	23 55 58.3	-1.4
	comp=Z,18nm,0.7s						
HAU				*e*MLR	MLR		
	comp=Z,228nm,21.0s,MS4.7						
HAU	**Haudompre**	**149.90**	**336**	*e*PKP	PKPbc	23 55 58.3	-1.4
HAU				LR	LR		
	comp=Z,230nm,21.0s,MS5.0						
MEZF	**Maizieres J'vi**	**149.96**	**338**	*e*PKP1	PKPbc	23 55 59.0	-0.9
	comp=Z,35nm,0.7s						
TIP	**Timpagrande**	**150.00**	**312**	*e*PKPdf	PKPdf	23 55 56.2	+0.9
CUC	**Castrocucco**	**150.25**	**314**	*e*PKPdf	PKPdf	23 55 56.9	+1.2
CABF	**La Chapelle**	**151.13**	**334**	*e*PKP1	PKPbc	23 56 01.7	-1.0
	comp=Z,16nm,0.8s						
FLN	**La Foliniere**	**151.42**	**344**	*e*PKP1	PKPbc	23 56 01.5	-1.8
	comp=Z,23nm,0.7s						
FLN				*e*MLR	MLR		
	comp=Z,266nm,18.8s,MS4.8						
FLN	**La Foliniere**	**151.42**	**344**	*e*PKP	PKPbc	23 56 01.5	-1.8
FLN				LR	LR		
	comp=Z,270nm,18.8s,MS5.1						
LOR	**Lormes**	**151.44**	**338**	*e*PKP1	PKPbc	23 56 02.0	-1.4
	comp=Z,13nm,0.7s						
LOR				*e*MLR	MLR		
	comp=Z,226nm,19.8s,MS4.7						
LOR	**Lormes**	**151.44**	**338**	*e*PKP	PKPbc	23 56 02.0	-1.4
LOR				LR	LR		
	comp=Z,230nm,19.8s,MS5.0						
LDF	**La Druitiere**	**151.48**	**344**	*e*PKP1	PKPbc	23 56 01.7	-1.7
	comp=Z,14nm,0.8s						
LPL	**La Plagne**	**151.74**	**332**	*e*PKP1	PKPbc	23 56 03.2	-0.9
	comp=Z,17nm,0.9s						
SSF	**Saint Saulge**	**151.74**	**338**	*e*PKP1	PKPbc	23 56 02.8	-1.3
	comp=Z,13nm,0.8s						
LPG	**La Plagne**	**151.74**	**332**	*e*PKP1	PKPbc	23 56 03.3	-0.8
	comp=Z,18nm,0.8s						
GRR	**Gorron**	**151.86**	**345**	*e*PKP1	PKPbc	23 56 02.6	-1.7
	comp=Z,24nm,0.9s						
SMF	**Signal de Mont**	**151.97**	**337**	*e*PKP1	PKPbc	23 56 03.0	-1.6
AVF	**Avril sur Loir**	**152.03**	**338**	*e*PKP1	PKPbc	23 56 03.8	-0.9
BNI	**Bardonecchia**	**152.12**	**331**	*e*PKIKP	PKPdf	23 56 00.0	+1.6
MBDF	**Montbardon**	**152.33**	**331**	*e*PKP1	PKPbc	23 56 04.4	-1.1
	comp=Z,10.0nm,0.7s						
SGMF	**Saint Gilles**	**152.38**	**347**	*e*PKP1	PKPbc	23 56 04.5	-1.0
	comp=Z,36nm,1.2s						
BGF	**Bois d'Agland**	**152.40**	**338**	*e*PKP1	PKPbc	23 56 04.1	-1.5
	comp=Z,8.8nm,0.6s						
ROSF	**Rostrenen**	**152.44**	**348**	*e*PKP1	PKPbc	23 56 04.5	-1.1
	comp=Z,12nm,0.9s						
SAOF	**Saorge**	**152.53**	**329**	PKP	PKPbc	23 56 06.1	+0.1
ORIF	**Oris-en-Rattie**	**152.58**	**332**	*e*PKP1	PKPbc	23 56 04.7	-1.3
	comp=Z,16nm,0.9s						
ORIF				*e*MLR	MLR		
	comp=Z,344nm,20.5s,MS4.8						
AUTN	**L'Aution**	**152.58**	**329**	PKP	PKPbc	23 56 05.7	-0.4
PLDF	**La Plantade**	**152.63**	**336**	PKP	PKPbc	23 56 08.7	+2.6
SBF	**Sospel**	**152.68**	**329**	*e*PKP1	PKPbc	23 56 04.7	-1.6
QUIF	**Quistinic**	**152.82**	**347**	*e*PKP1	PKPbc	23 56 05.9	-0.6
PGF	**Pioggiola**	**152.84**	**325**	*e*PKP1	PKPbc	23 56 05.3	-1.4
	comp=Z,20nm,0.8s						
TCF	**Toulx Ste Croi**	**152.86**	**339**	*e*PKP1	PKPbc	23 56 05.0	-1.6
	comp=Z,20nm,1.1s						
VIVF	**Saint-Julien-l**	**153.14**	**334**	*e*PKP1	PKPbc	23 56 06.0	-1.3
FRF	**La Foret Royal**	**153.28**	**329**	*e*PKP1	PKPbc	23 56 05.9	-1.7
	comp=Z,56nm,1.5s						
MFF	**Saint Martin d**	**153.31**	**342**	*e*PKP1	PKPbc	23 56 05.8	-1.8
	comp=Z,14nm,1.0s						
LBL	**Lubilhac**	**153.39**	**336**	PKP	PKPbc	23 56 07.3	-0.5
LMR	**La Mourre**	**153.52**	**329**	*e*PKP1	PKPbc	23 56 06.5	-1.7
LIC	**Lamto**	**163.45**	**204**	*e*PKIKP	PKPdf	23 56 10.2	-3.1
LIC				*e*MLR	MLR		
	comp=Z,530nm,22.5s						
LIC	**Lamto**	**163.45**	**204**	*e*PKPdf	PKPdf	23 56 10.2	-3.1
LIC				LR	LR		
	comp=Z,260nm,22.5s						
TOA0	**Torodi Ar. Sit**	**164.74**	**239**	*e*PKPdf	PKPdf	23 56 13.6	-0.8
TORD	**Torodi Ar. Bea**	**164.74**	**239**	PKP	PKPdf	23 56 12.8	-1.5
	comp=Z,4.3nm,1.1s,baz=39,slow=0.9,SNR=11						
TORD				PKPab	PKPab	23 57 11.6	+1.5
	comp=Z,0.6nm,0.7s,baz=106,slow=2.4,SNR=4.2						
TORD	**Torodi Ar. Bea**	**164.74**	**239**	PKP	PKPdf	23 56 12.8	-1.5
TORD				PKPab	PKPab	23 57 11.6	+1.5

CSEM ***04*** *00:00:59.3±0.4, 3484N×2546E, h5km, MD3.6*
ISCJB ***04*** *00:01:00.5±1.0, 3489N±006×2541E±004, h7km±6km, Error ellipse: s-maj=10.4km s-min=5.3km az=170.1*
NEIC ***04*** *00:01:00.3, 3488N×2539E, h14km, MD3.6(ATH), After ATH.*
ATH ***04*** *00:01:00.3, 3488N×2539E, h14km±4km, MD3.6/4*
THE ***04*** *00:01:00.4, 3491N×2540E, h0km±1km, Error ellipse: s-maj=3.3km s-min=1.2km az=173.0*
ISC 04 00:01:00.9±1.1**, 3490N**±006×**2540E**±004**, h7**km±5km**, n14,** σ0ˢ**73**/23**, Crete**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LAST	**Lasithi**	**0.27**	**15**	P	**Pg**	**00 01 05.3**	**-0.9**
LAST				S	**Sg**	**00 01 09.9**	**0.0**
NPS	**Neapolis**	**0.41**	**26**	*e*Pb	**Pg**	**00 01 08.0**	**-0.8**
NPS				*e*Sb	**Sg**	**00 01 14.2**	**+0.1**
NPS	**Neapolis**	**0.41**	**26**	*e*PB	**Pg**	**00 01 08.0**	**-0.8**
NPS				*e*SB	**Sg**	**00 01 14.2**	**+0.1**
SIVA	**Sivas**	**0.49**	**284**	P	**Pg**	**00 01 10.2**	**-0.2**
SIVA				S	**Sg**	**00 01 18.3**	**+1.4**
ZKR	**Zakros**	**0.71**	**72**	P	**Pg**	**00 01 13.8**	**-0.7**
ZKR				S	**Sg**	**00 01 25.6**	**+1.9**
VAM	**Vamos**	**1.10**	**298**	*e*Pb	**Pb**	**00 01 21.3**	**-0.9**
VAM				*e*Sb	**Sb**	**00 01 36.9**	**+0.1**
VAM	**Vamos**	**1.10**	**298**	*e*PB	**Pb**	**00 01 21.3**	**-0.9**
VAM				*e*SB	**Sb**	**00 01 36.9**	**+0.1**
THR6	**Thira Island,**	**1.46**	**0**	P	**Pn**	**00 01 27.1**	**-0.4**
THR1	**Thera Island**	**1.47**	**2**	P	**Pn**	**00 01 27.9**	**+0.2**
THR1				S	**Sn**	**00 01 47.4**	**+0.2**
THR5	**Thira Island,**	**1.52**	**359**	P	**Pn**	**00 01 27.7**	**-0.7**
THR5				S	**Sn**	**00 01 48.9**	**+0.6**
KARP	**Karpathos**	**1.58**	**65**	*e*Pb	**Pb**	**00 01 30.5**	**+0.1**
KARP	**Karpathos**	**1.58**	**65**	*e*PB	**Pb**	**00 01 30.5**	**+0.1**
VLI	**Veliai**	**2.70**	**313**	*e*Pn	**Pn**	**00 01 45.1**	**+0.5**
VLI	**Veliai**	**2.70**	**313**	*e*PN	**Pn**	**00 01 45.1**	**+0.5**

ISCJB ***04*** *00:03:19.2±1.5, 2777S±003×7152W±0.10, h15km±10km, mb4.2/6, Error ellipse: s-maj=14.7km s-min=4.7km az=1.2*
IDC ***04*** *00:03:19.3±1.0, 2781S×7158W, h0km, mb4.5/3, mb1 4.1/7, mb1mx3.9/18, mbtmp4.0/7, ML3.8/4, MS3.2/3, Ms1 3.2/3, ms1mx2.9/33, Error ellipse: s-maj=29.1km s-min=20.4km az=114.0*
GUC ***04*** *00:03:23.2±0.8, 2788S×7026W, h43km±4km, ML4.4*
NEIC ***04*** *00:03:23.2, 2788S×7026W, h43km, mb4.4/3, After GUC.*
ISC 04 00:03:22.4±2.0**, 2782S**±003×**7137W**±009**, h18**km±12km**, n40,** σ1ˢ**12**/46**, mb4.2**/6**, 2C-2D, Near coast of northern Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VACH	**Vallenar**	**0.93**	**145**	⇓*i*P	**Pb**	**00 03 38.5**	**-1.5**
VACH				*i* S	**Sb**	**00 03 51.1**	**-0.8**
VACH				AML	AML	00 03 53.8	
	comp=E,17µm,0.1s						
VACH	**Vallenar**	**0.93**	**145**	⇓*i*P	**Pb**	**00 03 38.5**	**-1.5**
VACH				*i* S	**Sb**	**00 03 51.1**	**-0.8**
LCO	**Las Campanas**	**1.33**	**154**	*e*P	**Pn**	**00 03 45.0**	**-1.0**
LCO				*i* S	**Sn**	**00 04 01.4**	**-1.8**
LSCH	**La Serena**	**2.09**	**177**	*e*P	**Pn**	**00 03 57.7**	**+1.2**
LSCH				*i* S	**Sn**	**00 04 24.6**	**+2.7**
TLL	**Tololo Astrono**	**2.39**	**168**	*e*P	**Pn**	**00 04 00.8**	**+0.2**
TLL				*i* S	**Sn**	**00 04 28.9**	**-0.7**
TLL				AML	AML	00 04 41.9	
	comp=E,4µm,0.6s						
TLL	**Tololo Astrono**	**2.39**	**168**	*e*P	**Pn**	**00 04 00.8**	**+0.2**
TLL				*i* S	**Sn**	**00 04 28.9**	**-0.7**
OVCH	**Ovalle**	**2.78**	**177**	*e*P	**Pn**	**00 04 06.4**	**+0.3**
OVCH				*i* S	**Sn**	**00 04 39.5**	**+0.3**
OVCH				AML	AML	00 04 55.9	
	comp=N,3µm,0.4s						
OVCH	**Ovalle**	**2.78**	**177**	*e*P	**Pn**	**00 04 06.4**	**+0.3**
OVCH				*i* S	**Sn**	**00 04 39.5**	**+0.3**
CPN1	**Cerro Paranal**	**3.29**	**15**	⇑*i*P	**Pn**	**00 04 13.0**	**-0.1**
CPN1				*i* S	**Sn**	**00 04 51.0**	**-0.8**
CPN1				AML	AML	00 05 21.2	
	comp=N,459nm,0.6s						
CEN1	**Los Morros**	**4.53**	**14**	⇑*i*P	**Pn**	**00 04 26.1**	**-4.1**
CEN1				*i* S	**Sn**	**00 05 14.5**	**-7.9**
CFAA	**Coronel Fontan**	**4.65**	**145**	Pn	**Pn**	**00 04 34.1**	**+2.3**
	comp=N,1.5nm,0.3s,baz=320,slow=12,SNR=64						
CFAA				Sn	**Sn**	**00 05 30.4**	**+5.1**
	comp=N,2.3nm,0.3s,baz=150,slow=16,SNR=6.2						
PEL	**Peldehue**	**5.34**	**174**	*e*P	**Pn**	**00 04 42.3**	**+1.1**
LVC	**Limon Verde**	**5.64**	**24**	Pn	**Pn**	**00 04 46.2**	**+0.8**
	comp=N,1.2nm,0.3s,baz=212,slow=7.4,SNR=24						
LVC				Sn	**Sn**	**00 05 51.1**	**+1.4**
	comp=N,3.1nm,0.3s,baz=160,slow=4.9,SNR=4.2						
LVC				Lg		00 06 10.6	
	comp=N,5.0nm,0.3s,baz=78,slow=16,SNR=3.5						
LVC	**Limon Verde**	**5.64**	**24**	Pn	**Pn**	**00 04 46.2**	**+0.8**
LVC				Sn	**Sn**	**00 05 51.1**	**+1.4**
LVC				Lg		00 06 10.6	
LPAZ	**La Paz**	**11.86**	**15**	Pn	**Pn**	**00 06 09.4**	**-1.2**
	comp=N,0.1nm,0.3s,baz=214,slow=11,SNR=3.9						
CPUP	**Villa Florida**	**12.60**	**86**	Pn	**Pn**	**00 06 22.6**	**+1.8**
	comp=N,0.1nm,0.3s,baz=257,slow=14,SNR=1.8						
CPUP				LR	LR	00 11 28.8	
	comp=N,108nm,19.3s,baz=337,slow=38						
PLCA	**Paso Flores**	**12.90**	**177**	LR	LR	00 11 17.5	
	comp=N,190nm,20.6s,baz=348,slow=37						
PLCA	**Paso Flores**	**12.90**	**177**	*e*P	**Pn**	**00 06 24.4**	**-0.4**
SIV	**San Ignacio**	**15.15**	**41**	Pn	**Pn**	**00 06 50.0**	**-5.5**
	comp=N,0.3nm,0.3s,baz=261,slow=11,SNR=6.2						
ATAH	**Atahualpa**	**21.75**	**341**	LR	LR	00 15 48.1	
	comp=N,49nm,21.0s,baz=262,slow=35						
TGUH	**Tegucigalpa,Un**	**44.39**	**338**	*e*P	**P**	**00 11 30.4**	**-1.6**
VNA3	**Neumayer Olymp**	**54.90**	**160**	*e*	**P**	**00 12 50.8**	**-0.6**
VNA3				*e*		00 12 58.4	
VNA2	**Neumayer--Watz**	**55.52**	**159**	*e*	**P**	**00 12 56.2**	**+0.3**
	baz=289,slow=9.3						
VNA2				*e*	pP	00 13 03.4	+1.6
SNAA	**Sanae**	**57.12**	**159**	*e*	**P**	**00 13 06.9**	**-0.4**
SNAA				*e*	pP	00 13 13.7	+0.5
SNAA	**Sanae**	**57.12**	**159**	*e*P	**P**	**00 13 07.2**	**-0.1**
	comp=N,3.0nm,0.8s,mb4.4						
BBSR	**BB Station**	**60.19**	**7**	P	**P**	**00 13 28.6**	**-0.5**
TXAR	**Lajitas Array**	**64.69**	**329**	P	**P**	**00 14 01.5**	**+2.2**
	comp=N,0.2nm,0.7s,mb3.3,baz=139,slow=9.7,SNR=3.7						
SIUC	**Southern Illin**	**67.30**	**345**	P	**P**	**00 14 14.2**	**-1.7**
DBIC	**Dimbokro**	**72.72**	**73**	P	**P**	**00 14 50.2**	**+0.5**
	comp=N,3.8nm,0.6s,mb4.5,baz=203,slow=6.8,SNR=8.8						
DBIC	**Dimbokro**	**72.72**	**73**	*e*P	**P**	**00 14 50.0**	**+0.3**
	comp=N,7.1nm,0.8s,mb4.7						
TORD	**Torodi Ar. Bea**	**81.58**	**70**	P	**P**	**00 15 39.6**	**+0.1**
	comp=N,2.5nm,0.9s,mb4.2,baz=273,slow=3.8,SNR=21						
BOSA	**Boshof**	**82.45**	**118**	P	**P**	**00 15 44.3**	**+0.3**
	comp=N,3.4nm,0.9s,mb4.3,baz=258,slow=9.3,SNR=2.5						
LBTB	**Lobatse**	**84.39**	**115**	*e*P	**P**	**00 15 54.1**	**+0.1**
	comp=N,1.8nm,0.6s,mb4.4						
CASY	**Casey**	**86.19**	**181**	*e*P	**P**	**00 16 01.2**	**-1.1**
ESLA	**Sonseca Array**	**91.86**	**45**	P	**P**	**00 16 29.8**	**+0.4**
WRA	**Warramunga Arr**	**126.40**	**210**	PKhKP		00 22 25.0	
	comp=N,1.1nm,0.8s,baz=160,slow=1.7,SNR=16						
ZAA0	**Zalesovo Array**	**148.59**	**27**	PKPdf	PKPdf	00 23 04.3	+0.2
ZAA0				*e*PKPbc	PKPbc	00 23 08.3	+0.6
ZALV	**Zalesovo Beam**	**148.59**	**27**	PKPbc	PKPbc	00 23 09.3	+1.6
	comp=N,4.6nm,0.8s,baz=304,slow=3.4,SNR=21						

UCH Uchtor 148.81 54 PKPdf PKPdf 00 23 05.2 +0.3
MKAR Makanchi Array 151.97 40 PKPbc PKPbc 00 23 17.1 +0.9
comp=N,1.3nm,0.7s,baz=352,slow=2.3,SNR=11

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*NOU **04** 00:08:35.0±0.6, 23.49S×168.18E, h10km, MD3.1, ML3.4, MS3.3*
*NEIC **04** 00:08:36.5±0.7, 21.35S×168.84E, h10km, mb4.5/8, Error ellipse: s-maj=21.8km s-min=14.8km az=167.0*
*ISCJB **04** 00:08:39.6±0.7, 21.5S±0.1×168.42E±0.07, h33km, mb4.4/10, MS3.5/3, Error ellipse: s-maj=18.2km s-min=7.7km az=162.2*
*IDC **04** 00:08:39.9±5.0, 21.48S×168.42E, h24km±29km, mb4.0/6, mb1 4.2/6, mb1mx4.0/15, mbtmp4.0/6, MS3.7/4, Ms1 3.7/4, ms1mx3.4/24, Error ellipse: s-maj=35.1km s-min=28.0km az=160.0*
ISC 04 00:08:41.6±0.7**, 21.4S**±0.1×**168.35E**±0.07**, h35km, n26, σ1.26**/25**, mb4.4**/10**, MS3.5**/3**, Loyalty Islands**

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
BAYA Yate Dam 1.55 241 *e*P **Pn 00 09 04.2 -2.5**
BAYA *e*S **Sn 00 09 25.5 0.0**
BAYA AMP 00 09 33.3
comp=Z,195nm,6.9s
DZM Mont Dzumac 1.89 249 *e*P **Pn 00 09 08.7 -2.6**
DZM *e*S **Sn 00 09 33.7 -0.2**
DZM AMP 00 09 48.2
comp=Z,9µm,28.4s
NOUC Port Laguerre 2.02 250 *e*P **Pn 00 09 11.5 -1.7**
NOUC *e*S **Sn 00 09 38.7 +1.5**
NOUC AMP 00 09 50.0
comp=Z,405nm,0.8s
URZ Urewera 18.41 158 LR LR 00 18 13.8
comp=Z,250nm,18.1s,baz=171,slow=31
AFI Afiamalu 20.34 72 LR LR 00 18 36.5
comp=Z,119nm,18.5s,MS3.3,baz=253,slow=29
AFI Afiamalu 20.34 72 *e*P **P 00 13 06.8 -8.2**
CTA Charters Tower 20.70 270 *e*P **P 00 13 25.9 +7.0**
comp=Z,9.8nm,1.3s
CTA Charters Tower 20.70 270 P **P 00 13 25.1 +6.1**
comp=Z,9.2nm,0.9s,baz=93,slow=13,SNR=8.3
CTA LR LR 00 20 28.2
comp=Z,206nm,20.1s,MS3.5,baz=240,slow=34
CTAO Charters Tower 20.70 270 *e*P **P 00 13 22.5 +3.6**
comp=Z,15nm,1.0s
PMG Port Moresby 23.62 297 P **P 00 13 48.6 -1.1**
STKA Stephens Creek 26.02 241 *e*P **P 00 14 12.1 +0.7**
comp=Z,6.1nm,0.9s,mb4.1
STKA Stephens Creek 26.02 241 P **P 00 14 12.2 +0.8**
comp=Z,6.3nm,0.8s,mb4.2,baz=80,slow=11,SNR=7.2
STKA LR LR 00 23 57.8
comp=Z,279nm,19.5s,MS3.8,baz=26,slow=35
WB2 Warramunga Arr 31.81 266 *e*P **P 00 15 07.3 +4.3**
WRA Warramunga Arr 31.82 266 P **P 00 15 03.0 -0.1**
comp=Z,2.9nm,1.0s,mb4.0,baz=98,slow=8.9,SNR=12
FITZ Fitzroy Crossi 40.24 267 *e*P **P 00 16 16.9 +1.6**
comp=Z,11nm,0.7s,mb4.7
FITZ Fitzroy Crossi 40.24 267 P **P 00 16 15.5 +0.2**
comp=Z,6.0nm,0.8s,mb4.4,baz=111,slow=8.7,SNR=7.4
FITZ ScP ScP 00 22 06.5 +1.0
comp=Z,0.5nm,0.5s,baz=166,slow=4.2,SNR=3.9
MBWA Marble Bar 45.15 261 *e*P **P 00 16 57.0 +1.8**
comp=Z,5.3nm,0.6s,mb4.5
NWAO Narrogin (SRO) 46.50 244 *e*P **P 00 17 07.3 +1.6**
comp=Z,43nm,1.4s,mb5.2
SBA Scott Base 56.49 180 *e*P **P 00 18 20.3 +0.6**
comp=Z,2.3nm,0.7s,mb4.3
CASY Casey 57.81 204 *e*P **P 00 18 29.9 +0.8**
QSPA South Pole Qui 68.65 180 P **P 00 19 40.4 -0.3**
comp=Z,5.4nm,1.0s,mb4.5,baz=7.2,slow=1.8,SNR=8.7
SNAA Sanae 86.96 183 *e*P **P 00 21 20.9 -1.8**
comp=Z,5.6nm,1.1s,mb4.7
SONM Songino Array 88.45 323 P **P 00 21 30.0 -0.1**
comp=Z,0.8nm,0.7s,mb4.1,baz=127,slow=3.8,SNR=3.9
NVAR Mina Array Bea 90.86 49 P **P 00 21 41.7 +0.2**
comp=Z,0.5nm,0.6s,mb4.0,baz=219,slow=8.0,SNR=2.8
KHC Kasperske Hory 145.83 330 *e*PKP PKPdf 00 28 17.5 +1.1
GERES GERESS Array B 145.97 330 PKPbc PKPbc 00 28 18.4 +1.0
comp=Z,0.8nm,0.7s,baz=41,slow=4.3,SNR=5.5

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*NOU **04** 00:19:47.2±2.0, 21.06S×168.67E, h10km, MD2.6, ML3.9*
*NEIC **04** 00:19:51.9±0.3, 21.71S×168.49E, h10km, mb4.4/7, Error ellipse: s-maj=11.9km s-min=7.5km az=163.0*
*ISCJB **04** 00:19:53.3±0.5, 21.7S±0.1×168.56E±0.05, h33km, mb4.3/11, MS3.6/3, Error ellipse: s-maj=15.5km s-min=5.6km az=165.4*
*SZGRF **04** 00:19:55.1, 21.49S×169.54E, h33km, Southeast of Loyalty Islands*
*IDC **04** 00:20:00.1±12.0, 21.80S×168.44E, h75km±105km, mb4.0/8, mb1 4.2/8, mb1mx4.0/16, mbtmp4.0/8, MS3.7/4, Ms1 3.7/4, ms1mx3.3/19, Error ellipse: s-maj=41.5km s-min=29.1km az=72.0*
ISC 04 00:19:55.3±0.5**, 21.7S**±0.1×**168.52E**±0.05**, h35km, n61, σ1.03**/32**, mb4.3**/11**, MS3.6**/3**, Loyalty Islands**

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
BAYA Yate Dam 1.59 253 *e*P **Pn 00 20 19.4 -1.6**
BAYA *e*S **Sn 00 20 41.6 +1.3**
BAYA AMP 00 20 46.0
comp=Z,139nm,2.1s
DZM Mont Dzumac 1.97 258 *e*P **Pn 00 20 23.5 -2.7**
DZM *e*S **Sn 00 20 50.4 +0.7**
DZM AMP 00 21 01.8
comp=Z,9µm,3.6s
DZM Mont Dzumac 1.97 258 *e*Pn **Pn 00 20 24.6 -1.5**
DZM *e*Sn **Sn 00 20 49.5 -0.2**
NORM Noumea 1.97 254 *e*P **Pn 00 20 22.9 -3.3**
NORM *e*S **Sn 00 20 50.1 +0.5**
NORM AMP 00 20 55.0
comp=E,3µm,0.8s
ONTRN Noumea 2.02 252 *e*P **Pn 00 20 25.2 -1.7**
ONTRN *e*S **Sn 00 20 53.9 +3.0**
ONTRN AMP 00 21 04.7
comp=Z,977nm,3.9s
URZ Urewera 18.10 158 LR LR 00 30 21.9
comp=Z,179nm,18.9s,baz=14,slow=34
AFI Afiamalu 20.27 71 LR LR 00 30 43.2
comp=Z,229nm,21.3s,MS3.5,baz=220,slow=32
AFI Afiamalu 20.27 71 P **P 00 24 27.5 -0.5**
CTA Charters Tower 20.87 270 *e*P **P 00 24 39.3 +4.9**
comp=Z,5.4nm,0.9s
CTA Charters Tower 20.87 270 P **P 00 24 36.9 +2.5**
comp=Z,9.8nm,1.0s,baz=93,slow=15,SNR=7.3
CTA LR LR 00 32 11.4
comp=Z,258nm,19.5s,MS3.6,baz=310,slow=35
CTAO Charters Tower 20.87 270 *e*P **P 00 24 34.3 -0.2**
comp=Z,14nm,1.1s
PMG Port Moresby 23.89 297 *e*P **P 00 25 05.1 -0.8**
comp=Z,6.1nm,0.6s,mb4.2
STKA Stephens Creek 26.03 241 LR LR 00 35 59.9
comp=Z,224nm,19.6s,MS3.7,baz=23,slow=37
STKA Stephens Creek 26.03 241 P **P 00 25 24.6 -0.7**
WRA Warramunga Arr 31.97 267 P **P 00 26 17.4 -0.8**
comp=Z,0.9nm,0.6s,mb3.8,baz=98,slow=8.0,SNR=16
FITZ Fitzroy Crossi 40.39 267 *e*P **P 00 27 30.2 0.0**
comp=Z,7.6nm,0.6s,mb4.6
FITZ Fitzroy Crossi 40.39 267 P **P 00 27 30.3 0.0**
comp=Z,3.9nm,0.7s,mb4.3,baz=124,slow=9.9,SNR=24
MBWA Marble Bar 45.27 261 *e*P **P 00 28 10.0 +0.2**
comp=Z,5.5nm,0.6s,mb4.6
SBA Scott Base 56.22 180 *e*P **P 00 29 32.0 +0.5**
comp=Z,3.4nm,0.8s,mb4.4
QSPA South Pole Qui 68.38 180 P **P 00 30 52.9 +0.1**
comp=Z,4.2nm,1.0s,mb4.4,baz=210,slow=0.9,SNR=7.9
PETK Petropavlovsk- 75.07 353 P **P 00 31 34.0 +0.8**
comp=Z,9.7nm,0.9s,mb4.7,baz=134,slow=8.5,SNR=7.6
CMAR Chiang Mai Arr 78.91 295 P **P 00 31 56.0 +0.5**
comp=Z,0.6nm,0.3s,mb4.0,baz=111,slow=4.9,SNR=5.9
SNAA Sanae 86.70 183 *e* **P 00 32 34.5 -0.6**
SNAA *e* 00 32 38.6
SNAA Sanae 86.70 183 *e*P **P 00 32 35.3 +0.2**
comp=Z,2.6nm,0.8s,mb4.5
VNA3 Neumayer Olymp 87.31 181 *e* **P 00 32 38.1 0.0**
VNA3 *e* 00 32 42.4
VNA2 Neumayer--Watz 87.60 181 *e* **P 00 32 40.1 +0.6**
baz=191,slow=3.3
VNA2 *e* 00 32 44.2
SONM Songino Array 88.77 323 P **P 00 32 45.0 -0.2**
comp=Z,1.0nm,0.9s,mb4.2,baz=153,slow=5.6,SNR=4.9
BILL Bilibino 89.47 359 P **P 00 32 49.0 +1.0**
comp=Z,16nm,0.4s
NVAR Mina Array Bea 90.91 49 P **P 00 32 56.4 +0.9**
comp=Z,1.6nm,0.8s,mb4.4,baz=227,slow=8.0,SNR=7.6
NVAR Mina Array Bea 90.91 49 P **P 00 32 56.4 +0.9**
ARCES ARCESS Array B 127.24 345 PKP PKPdf 00 38 55.0 -0.3
comp=Z,2.3nm,0.9s,baz=33,slow=2.2,SNR=3.8
ARCES ARCESS Array B 127.24 345 PKP PKPdf 00 38 55.0 -0.3
BRG Berggiesshubel 144.73 332 *e*PKPbc PKPdf 00 39 27.6 -0.6
CLL Collm 144.82 333 *e*PKPbc PKPdf 00 39 27.3 -1.0
NEUB Neuenburg 145.40 334 *e*PKPbc PKPbc 00 39 29.7 +0.4
CLZ Clausthal 145.46 336 *e*PKPbc PKPbc 00 39 30.2 +0.8
TANN Tannenbergstha 145.71 333 *e*PKPbc PKPbc 00 39 30.7 +0.4
WERD Werda 145.75 333 *e*PKPbc PKPbc 00 39 30.7 +0.3
GUNZ Gunzen 145.80 333 *e*PKPbc PKPbc 00 39 31.4 +0.8
WERN Wernitzgruen 145.84 332 *e*PKPbc PKPbc 00 39 31.5 +0.8
IBBN Ibbenburen 146.01 339 *e*PKPbc PKPbc 00 39 31.4 +0.3
KHC Kasperske Hory 146.14 330 *e*PKP PKPdf 00 39 32.0 +1.4
MANZ Manzenberg 146.18 332 *e*PKPbc PKPbc 00 39 32.4 +0.7
GEC2 GERESS Array S 146.29 330 *e*PKPbc PKPbc 00 39 32.4 +0.3
GERES GERESS Array B 146.29 330 PKPbc PKPbc 00 39 32.7 +0.7
comp=Z,1.4nm,0.7s,baz=46,slow=3.9,SNR=16
ROTZ Rotzenmuhle 146.30 332 *e*PKPbc PKPbc 00 39 33.2 +1.1
WET Wettzell 146.46 331 *e*PKPbc PKPbc 00 39 33.5 +0.9
GRA1 Grafenberg Arr 146.78 333 *e*PKPbc PKPbc 00 39 34.4 +0.9
GRF Grafenberg Arr 146.78 333 *e*PKPbc PKPbc 00 39 34.4 +0.9
GIVF Givet 148.86 340 *e*PKP1 PKPbc 00 39 39.1 0.0
BAIF Baives 149.10 340 *e*PKP1 PKPbc 00 39 39.9 +0.2
HAU Haudompre 150.09 336 *e*PKP1 PKPbc 00 39 42.2 0.0
comp=Z,7.5nm,0.7s
MEZF Maizieres J'vi 150.15 338 *e*PKP1 PKPbc 00 39 42.8 +0.5
comp=Z,14nm,0.8s
TIP Timpagrande 150.23 312 *e*PKPbc PKPbc 00 39 43.8 +1.0
FLN La Foliniere 151.59 345 *e*PKP1 PKPbc 00 39 45.4 -0.3
comp=Z,11nm,0.9s
LDF La Druitiere 151.66 344 *e*PKP1 PKPbc 00 39 45.5 -0.3
SSF Saint Saulge 151.93 338 *e*PKP1 PKPbc 00 39 46.7 +0.2
comp=Z,5.7nm,0.8s
LPL La Plagne 151.94 332 *e*PKP1 PKPbc 00 39 47.1 +0.5
comp=Z,4.6nm,0.8s
SMF Signal de Mont 152.16 337 *e*PKP1 PKPbc 00 39 46.9 -0.2
comp=Z,5.0nm,0.8s
ORIF Oris-en-Rattie 152.78 332 *e*PKP1 PKPbc 00 39 49.2 +0.7
comp=Z,9.5nm,1.0s
TCF Toulx Ste Croi 153.04 339 *e*PKP1 PKPbc 00 39 48.9 -0.1
comp=Z,4.9nm,0.9s

IDC 04 00:41:24.9±3.2**, 15.11S**×**173.42W, h0km, mb3.5**/3**, mb1 4.0**/3**, mb1mx3.7**/16**, mbtmp3.5**/3**, Error ellipse: s-maj=267.5km s-min=25.5km az=153.0, Tonga Islands**

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
AFI Afiamalu 2.00 53 Pn Pn 00 41 58.3 -1.6
61nm,0.3s,baz=196,slow=2.6,SNR=54
AFI Sn Sn 00 42 17.2 -8.4
189nm,0.3s,baz=357,slow=23,SNR=19
WRA Warramunga Arr 49.89 257 P P 00 50 20.0 -0.5
0.2nm,0.6s,baz=96,slow=6.0,SNR=9.4
TXAR Lajitas Array 80.47 56 P P 00 53 40.5 +1.4
0.4nm,0.9s,baz=230,slow=8.1,SNR=3.9
PDAR Pinedale Array 82.07 42 P P 00 53 47.8 +0.5
0.5nm,0.9s,baz=238,slow=5.0,SNR=3.6

IDC 04 01:09:13.6±1.6**, 1.40N**×**127.21E, h0km, mb3.7**/4**, mb1 3.8**/4**, mb1mx3.7**/15**, mbtmp3.7**/4**, Error ellipse: s-maj=141.9km s-min=26.3km az=68.0, Halmahera**

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
WRA Warramunga Arr 22.33 162 P P 01 14 13.1 +0.1
0.5nm,0.4s,baz=341,slow=11,SNR=8.3
SONM Songino Array 49.65 342 P P 01 18 07.3 +0.4
0.3nm,0.5s,baz=155,slow=7.5,SNR=2.5
MKAR Makanchi Array 59.74 326 P P 01 19 22.1 +1.9
1.1nm,0.5s,baz=120,slow=8.8,SNR=6.6
KURK Kurchatov 63.96 328 P P 01 19 46.6 -1.9
0.8nm,0.5s,baz=129,slow=6.3,SNR=6.9

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*ISCJB **04** 01:46:18.5±0.7, 2.98S±0.04×129.59E±0.04, h46km±8km, mb4.2/12, Error ellipse: s-maj=7.5km s-min=6.3km az=168.5*
*IDC **04** 01:46:19.4±5.0, 3.05S×129.68E, h36km±42km, mb3.9/8, mb1 4.1/11, mb1mx4.0/17, mbtmp4.1/11, ML4.2/3, MS3.4/3, Ms1 3.4/3, ms1mx2.8/26, Error ellipse: s-maj=33.7km s-min=14.4km az=64.0*
*DJA **04** 01:46:20, 2.78S×129.56E, h10km, MLv4.5/7*
*NEIC **04** 01:46:21.7±1.3, 3.08S×129.58E, h58km±13km, mb4.3/8, Error ellipse: s-maj=13.0km s-min=6.5km az=46.0*
ISC 04 01:46:20.1±0.7**, 3.00S**±0.04×**129.61E**±0.05**, h42km**±7km**, n54, σ1.14**/53**, mb4.2**/12**, Seram**

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
MSAI Masohi 0.77 243 P **Pn 01 46 32.3 -2.1**
0.0nm,0.0s
MSAI Masohi 0.77 243 P **Pn 01 46 32.7 -1.7**
AAI Ambon 1.57 244 P **Pn 01 46 45.4 -0.1**
0.0nm,0.0s
AAI Ambon 1.57 244 P **Pn 01 46 45.5 0.0**
AAI Ambon 1.57 244 P **Pn 01 46 45.7 +0.2**
SWI Sorong 2.69 38 P **Pn 01 46 59.3 -1.5**
0.0nm,0.0s
SWI Sorong 2.69 38 P **Pn 01 46 59.9 -0.9**
SWI Sorong 2.69 38 S **Sn 01 47 33.8 +1.7**
LBMI Labuha 3.16 318 P **Pn 01 47 04.9 -2.4**
LBMI Labuha 3.16 318 S **Sn 01 47 41.5 -2.2**
KDI Kendari 7.05 262 P **Pn 01 48 00.1 -0.7**
0.0nm,0.0s
KDI Kendari 7.05 262 P **Pn 01 48 00.0 -0.8**
52nm,0.9s,2µm0.2nm
BBSI Bau Bau 7.45 250 P **Pn 01 48 08.3 +2.1**
0.0nm,0.0s
BBSI Bau Bau 7.45 250 P **Pn 01 48 09.2 +3.0**
SGSI Sangihe 7.80 328 P **Pn 01 48 10.8 -0.2**
0.0nm,0.0s
BATI Baumata 9.28 219 Pn **Pn 01 48 36.5 +5.0**
3.1nm,0.3s,baz=287,slow=2.6,SNR=7.9
BATI LR LR 01 52 13.5
comp=Z,579nm,21.4s,baz=206,slow=38
BATI Baumata 9.28 219 P **Pn 01 48 37.7 +6.3**
29nm,0.9s
PCI Palu 9.99 282 P **Pn 01 48 42.4 +1.3**
0.0nm,0.0s
KAPI Kappang 10.04 258 Pn **Pn 01 48 43.4 +1.6**
3.9nm,0.3s,baz=130,slow=5.2,SNR=15
KAPI LR LR 01 52 20.1
comp=Z,173nm,21.8s,baz=72,slow=36
KAPI Kappang 10.04 258 P **Pn 01 48 43.5 +1.7**
54nm,1.2s
KAKA Kakadu 10.05 164 *e*P **Pn 01 48 42.0 +0.1**
5.9nm,0.3s
KAKA Kakadu 10.05 164 P **Pn 01 48 46.2 +4.3**
39nm,0.6s,319nm
BBKI Banjar Baru 14.76 268 P **Pn 01 49 47.5 +1.3**
0.0nm,0.0s
KHKI Kahang-Kahang 14.92 248 P **Pn 01 49 47.7 -0.6**
0.0nm,0.0s
KHKI Kahang-Kahang 14.92 248 P **Pn 01 49 50.0 +1.7**
FITZ Fitzroy Crossi 15.51 194 *e*P **Pn 01 49 55.4 -0.5**
16nm,0.9s
FITZ Fitzroy Crossi 15.51 194 Pn **Pn 01 49 55.5 -0.4**
0.3nm,0.3s,baz=38,slow=14,SNR=11
FITZ LR LR 01 55 26.3
comp=Z,88nm,21.0s,baz=20,slow=35
FITZ Fitzroy Crossi 15.51 194 P **Pn 01 49 57.0 +1.1**
29nm,0.9s
COEN Coen 17.26 130 *e*P **Pn 01 50 19.2 +1.1**
5.2nm,0.8s
WRA Warramunga Arr 17.46 165 P **Pn 01 50 19.2 -1.4**
1.1nm,0.3s,baz=270,slow=2.9,SNR=34
WRA S **S 01 53 31.2 -10**
0.2nm,0.3s,baz=335,slow=22,SNR=3.8
SBUM Sibu 18.21 287 P **Pn 01 50 31.2 +1.3**
SJI Sawahan 18.38 254 P **Pn 01 50 30.2 -1.7**
0.0nm,0.0s
SJI Sawahan 18.38 254 P **Pn 01 50 33.2 +1.3**
KSM Kuching 19.80 283 P **Pn 01 50 56.2 +7.2**
20nm,1.1s
KSM Kuching 19.80 283 *e*P **Pn 01 50 47.7 -1.3**
BJII Banjamegara 20.28 257 P **P 01 50 53.6 +1.2**
0.0nm,0.0s
MBWA Marble Bar 20.45 207 *e*P **P 01 50 53.0 -1.2**
7.2nm,0.7s
CTA Charters Tower 23.50 138 P **P 01 51 25.5 -1.0**
4.0nm,0.7s,mb4.0,baz=325,slow=11,SNR=7.1
CTAO Charters Tower 23.50 138 *e*P **P 01 51 27.7 +1.2**
7.3nm,0.8s,mb4.2
PPI Padang Panjang 29.31 274 P **P 01 52 18.6 -0.4**
0.0nm,0.0s
STKA Stephens Creek 30.86 160 P **P 01 52 31.9 -0.6**
3.0nm,1.0s,mb4.1,baz=333,slow=14,SNR=2.5
CMAR Chiang Mai Arr 36.97 306 P **P 01 53 26.3 +0.6**
1.2nm,0.3s,mb4.2,baz=130,slow=8.7,SNR=8.5
CHTO Chiang Mai 37.16 307 *e*P **P 01 53 27.5 +0.2**
15nm,1.4s,mb4.6
ULN Ulaanbaatar 54.37 341 *e*P **P 01 55 43.0 +0.4**
2.1nm,0.7s,mb4.2
SONM Songino Array 54.55 341 P **P 01 55 44.2 +0.2**
0.5nm,0.5s,mb3.8,baz=167,slow=7.3,SNR=4.1
PETK Petropavlovsk- 60.68 19 P **P 01 56 27.4 +0.4**
3.5nm,0.6s,mb4.7,baz=184,slow=5.1,SNR=4.3
MKAR Makanchi Array 64.70 326 P **P 01 56 53.9 0.0**
0.7nm,0.5s,mb4.0,baz=113,slow=7.4,SNR=5.5
ZALV Zalesovo Beam 67.85 333 P **P 01 57 13.1 -0.8**
1.2nm,0.5s,mb4.2,baz=116,slow=3.4,SNR=5.9
ZALV Zalesovo Beam 67.85 333 P **P 01 57 13.1 -0.9**
KURK Kurchatov 68.93 328 *e*P **P 01 57 20.3 -0.4**
6.4nm,0.8s,mb4.6
BRVK Borovoye 74.57 327 *e*P **P 01 57 54.5 -0.1**
4.2nm,0.6s,mb4.5
MAW Mawson 78.51 201 P **P 01 58 15.8 -0.9**
1.1nm,0.7s,mb3.9,baz=32,slow=12,SNR=3.2
TORD Torodi Ar. Bea 127.56 284 PKP PKPdf 02 05 22.2 +0.4
0.6nm,0.9s,baz=56,slow=5.4,SNR=3.6
CPUP Villa Florida 150.08 167 PKPbc PKPbc 02 06 07.9 +0.8
0.9nm,0.5s,baz=140,slow=2.0,SNR=7.6

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*BJI **04** 02:05:31.7, 10.51N×145.67E, h12km, mB4.9, mb4.8, Ms4.6, Msz4.4*
*ISCJB **04** 02:05:31.3±1.6, 10.50N±0.04×145.48E±0.03, h3km±9km, mb4.9/71, MS3.9/19, Error ellipse: s-maj=6.6km s-min=4.8km az=1.7*
*IDC **04** 02:05:32.2±0.5, 10.46N×145.63E, h0km, mb4.5/15, mb1 4.7/16, mb1mx4.7/21, mbtmp4.5/16, ML4.6/1, MS3.9/13, Ms1 3.9/13, ms1mx3.6/27, Error ellipse: s-maj=21.4km s-min=13.1km az=85.0*
*NEIC **04** 02:05:33.5±0.2, 10.51N×145.59E, h10km, mb4.8/34, Error ellipse: s-maj=6.6km s-min=4.4km az=95.0*
*MOS **04** 02:05:35.4±1.0, 10.46N×145.53E, h33km, mb5.1/27, Error ellipse: s-maj=12.9km s-min=7.7km az=107.5*
*DJA **04** 02:05:38, 10.58N×145.88E, h48km, mb4.9/16*
ISC 04 02:05:35.0±1.8**, 10.49N**±0.04×**145.56E**±0.03**, h16km**±11km**, h16km**±1.6km**: pP-P, n383, σ0.60**/372**, mb4.9**/71**, MS3.9**/20**, 115C-131D, South of Mariana Islands**

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
GUMO Guam 3.16 348 Pn **Pn 02 06 22.2 -1.8**
73nm,0.3s,baz=168,slow=9.5,SNR=16
GUMO Sn **Sn 02 06 57.8 -3.6**
772nm,0.3s,baz=348,slow=23,SNR=22
GUMO Guam 3.16 348 *e*Pn **Pn 02 06 20.3 -3.8**
GUMO *e*Sn **Sn 02 06 58.3 -3.1**
PMG Port Moresby 19.82 175 *e*P **Pn 02 10 04.4 -2.3**
PMG pmax pmax
comp=Z,63nm,1.1s
PMG Port Moresby 19.82 175 *e*P **Pn 02 10 04.4 -2.3**
comp=Z,63nm,1.1s
DAV Davao City (W) 20.03 262 LR LR 02 16 18.2
comp=Z,327nm,21.4s,MS3.6,baz=108,slow=32
COEN Coen 24.40 186 *e*P **P 02 10 52.3 -0.5**
comp=Z,13nm,1.1s,mb4.3
KAKA Kakadu 26.47 210 *e*P **P 02 11 10.4 -1.2**
comp=Z,27nm,0.9s,mb4.8
MJAR Matsushiro Arr 26.78 347 P **P 02 11 14.4 +0.2**
comp=Z,8.4nm,1.1s,mb4.2,baz=176,slow=11,SNR=9.7
MJAR LR LR 02 20 08.7
comp=Z,307nm,21.9s,MS3.8,baz=210,slow=33
MAJO Matsushiro 26.78 347 *e*P **P 02 11 12.4 -1.8**
MAJO pmax pmax
comp=Z,11nm,0.9s,mb4.4
MAJO Matsushiro 26.78 347 *e*P **P 02 11 12.3 -1.9**
comp=Z,11nm,0.9s,mb4.4
MAT Matsushiro 26.78 347 P **P 02 11 14.2 0.0**
MAT *e*S **S 02 15 30.0 -20**
MYLDM Lahad Datu 27.31 261 ⇓P **P 02 11 17.7 -1.6**
KKM Kota Kinabalu 29.36 264 ⇓P **P 02 11 42.5 +4.9**
KAPI Kappang 29.96 240 P **P 02 11 41.9 -0.9**
comp=Z,9.5nm,0.8s,mb4.6,baz=81,slow=6.7,SNR=4.2
KAPI LR LR 02 22 45.1
comp=Z,245nm,18.5s,MS3.9,baz=269,slow=34
KAPI Kappang 29.96 240 P **P 02 11 41.9 -0.9**
KAPI LR LR 02 22 45.1
CTA Charters Tower 30.39 179 *e*P **P 02 11 46.4 -0.1**
comp=Z,6.8nm,0.7s,mb4.5
CTA Charters Tower 30.39 179 P **P 02 11 46.4 -0.1**
comp=Z,8.4nm,0.7s,mb4.6,baz=8.8,slow=10,SNR=12
CTA Charters Tower 30.39 179 *e*P **P 02 11 46.4 -0.1**
CTA pmax pmax
comp=Z,7.0nm,0.7s
CTAO Charters Tower 30.39 179 *e*P **P 02 11 46.1 -0.4**
CTAO pmax pmax
comp=Z,11nm,0.8s,mb4.6
CTAO Charters Tower 30.39 179 *e*P **P 02 11 46.1 -0.3**
comp=Z,11nm,0.8s,mb4.6
KSRS Korea Array 31.20 332 P **P 02 11 53.2 -0.2**
comp=Z,2.8nm,0.8s,mb4.1,baz=149,slow=10,SNR=8.8
KSRS PcP PcP 02 14 48.9 +0.7
comp=Z,1.2nm,0.5s,baz=177,slow=3.6,SNR=7.2
WB2 Warramunga Arr 32.19 200 *e*P **P 02 12 01.6 -0.7**
WRA Warramunga Arr 32.19 200 P **P 02 12 01.8 -0.6**
comp=Z,15nm,0.8s,mb4.9,baz=26,slow=10.0,SNR=131
WRA PcP PcP 02 14 51.4 +0.3
comp=Z,3.4nm,0.9s,baz=12,slow=3.0,SNR=11
WRA LR LR 02 25 18.7
comp=Z,107nm,19.6s,MS3.5,baz=110,slow=37
WRA Warramunga Arr 32.19 200 P **P 02 12 01.8 -0.6**
WRA 02 14 51.4
NJ2 Nanjing 32.69 315 *e*P **P 02 12 06.6 -0.1**
NJ2 AMB AMB
comp=Z,20nm,0.5s,mb5.3
BTM Bintulu 33.02 260 ⇑P **P 02 12 16.0 +6.2**
SBUM Sibu 34.04 259 ⇓P **P 02 12 20.7 +2.0**
FITZ Fitzroy Crossi 34.55 215 *e*P **P 02 12 22.8 -0.2**
comp=Z,8.2nm,1.1s,mb4.6
FITZ Fitzroy Crossi 34.55 215 P **P 02 12 22.8 -0.2**
comp=Z,7.6nm,1.1s,mb4.5,baz=38,slow=8.4,SNR=11
WHN Wuhan 35.20 309 *e*P **P 02 12 29.5 +1.0**
KSM Kuching 36.14 258 ⇑P **P 02 12 37.9 +1.0**
KSM Kuching 36.14 258 *e*P **P 02 12 36.7 -0.2**
MDJ Mudanjiang 36.69 341 P **P 02 12 41.5 +0.4**
MDJ AMB AMB
comp=Z,12nm,0.8s,mb4.8
MDJ AMB AMB
comp=Z,73nm,4.9s
CN2 Changchun 37.49 336 *e*P **P 02 12 48.9 +1.0**
CN2 *e*XP sP 02 12 55.9 +1.0
CN2 *e*S **S 02 18 37.6 +1.5**
CN2 AMB AMB
comp=Z,10.0nm,0.6s,mb4.8
CN2 AMB AMB
comp=Z,200nm,3.0s
BJI Beijing 39.30 324 P **P 02 13 02.0 -1.2**
BJI S **S 02 19 11.3 +7.7**
BJI AMB AMB
comp=Z,13nm,0.7s,mb4.8
BJI LR LR
comp=Z,68nm,21.7s,MS3.4
BJI Beijing 39.30 324 P **P 02 13 02.0 -1.2**
comp=Z,13nm,0.7s,mb4.8
BJI S **S 02 19 11.3 +7.7**
BJI LR LR
comp=Z,70nm,21.7s,MS3.5
GYA Guiyang 39.97 299 P **P 02 13 07.2 -1.8**
GYA PP PP 02 14 42.3 +1.3
GYA PCP PcP 02 15 13.8 -0.5
GYA SCP ScP 02 19 01.4 -1.5
GYA S **S 02 19 12.4 -1.7**
GYA SS SS 02 22 01.7 -9.5
GYA AMB AMB
comp=Z,10.0nm,0.8s,mb4.6
GYA AMB AMB
comp=Z,90nm,4.6s
GYA LR LR
comp=N,660nm,15.8s,MS4.7

GYA LR LR
comp=E,550nm,16.9s,MS4.7
GYA LR LR
comp=Z,610nm,15.4s,MS4.6
KLR Kul'dur 40.30 346 *eP* **P 02 13 07.0 -4.4**
MBWA Marble Bar 40.41 219 *eP* **P 02 13 12.3 -0.3**
comp=Z,37nm,1.3s,mb5.0
XAN Xi'an 40.88 311 P **P 02 13 14.8 -1.6**
XAN AP pP 02 13 17.9 -3.5
XAN PP PP 02 14 49.1 -1.7
XAN S **S 02 19 26.9 -0.5**
XAN SS SS 02 22 29.6 +0.6
ARMA Armidale 41.08 172 *eP* **P 02 13 18.1 +0.1**
STKA Stephens Creek 42.29 185 *eP* **P 02 13 26.8 -1.1**
comp=Z,8.4nm,0.8s,mb4.4
STKA Stephens Creek 42.29 185 P **P 02 13 26.9 -1.1**
comp=Z,9.7nm,0.7s,mb4.5,baz=349,slow=8.2,SNR=12
STKA LR LR 02 32 54.4
comp=Z,140nm,18.9s,MS3.9,baz=24,slow=39
KTGM Kuala Trenggan 42.30 266 ⇓P **P 02 13 30.7 +2.3**
HHC Hu-ho-hao-te 42.58 321 *eP* **P 02 13 30.6 +0.4**
HHC AP pP 02 13 35.5 +0.3
HHC XP sP 02 13 37.8 +0.6
HHC PP PP 02 15 12.8 +3.8
HHC PCP PcP 02 15 22.6 +0.1
HHC SCP ScP 02 19 11.9 -1.0
HHC S **S 02 19 52.9 +0.6**
HHC XS sS 02 20 00.4 -0.1
HHC SS SS 02 22 56.6 -5.8
HHC SCS ScS 02 23 28.7 -2.7
HHC AMB AMB
comp=Z,16nm,1.0s,mb4.7
HHC AMB AMB
comp=Z,175nm,4.5s
HHC LR LR
comp=N,181nm,14.8s,MS4.3
HHC LR LR
comp=E,257nm,14.7s,MS4.3
HHC LR LR
comp=Z,193nm,13.1s,MS4.2
KGM Kluang 42.78 262 ⇑P **P 02 13 31.5 -0.8**
KMI Kunming 43.09 296 P **P 02 13 36.4 +1.8**
KMI AMB AMB
comp=Z,17nm,1.6s,mb4.5
KMI LR LR
comp=Z,80nm,28.3s,MS3.5
KMI Kunming 43.09 296 P **P 02 13 36.4 +1.8**
comp=Z,17nm,1.6s,mb4.5
KMI LR LR
comp=Z,80nm,28.3s,MS3.5
PETK Petropavlovsk- 43.62 11 LR LR 02 29 07.6
comp=Z,84nm,20.8s,MS3.6,baz=202,slow=32
CD2 Chengdu 43.73 304 ⇑*i*P **P 02 13 39.7 0.0**
CD2 AP pP 02 13 44.0 -0.7
CD2 XP sP 02 13 46.8 +0.1
CD2 PP PP 02 15 23.5 +1.9
CD2 S **S 02 20 08.7 -0.9**
CD2 XS sS 02 20 16.7 -1.1
CD2 SS SS 02 23 17.7 -7.7
CD2 AMB AMB
comp=Z,30nm,0.6s,mb5.2
CD2 AMB AMB
comp=Z,120nm,5.8s
CD2 LR LR
comp=N,270nm,10.8s,MS4.5
CD2 LR LR
comp=E,200nm,12.0s,MS4.5
CD2 LR LR
comp=Z,280nm,9.6s
FRIM Kepong 44.17 264 ⇑P **P 02 13 44.7 +1.2**
FORT Forrest 44.34 202 *eP* **P 02 13 44.3 -0.2**
comp=Z,23nm,0.6s,mb5.1
IPM Ipoh 44.52 266 ⇓P **P 02 13 48.0 +1.7**
KULM Kulim 44.75 267 ⇓P **P 02 13 51.1 +3.0**
LZH Lanzhou 45.52 311 *eP* **P 02 13 54.0 +0.1**
LZH AP pP 02 13 57.5 -1.4
LZH XP sP 02 14 00.0 -0.9
LZH AMB AMB
comp=Z,37nm,1.6s,mb5.1
LZH AMB AMB
comp=Z,170nm,4.0s
LZH Lanzhou 45.52 311 *eP* **P 02 13 54.0 +0.1**
comp=Z,37nm,1.6s,mb5.1
LZH pP pP 02 13 57.5 -1.4
LZH sP sP 02 14 00.0 -0.9
CMAR Chiang Mai Arr 45.72 286 P **P 02 13 57.0 +1.3**
comp=Z,12nm,0.8s,mb4.9,baz=85,slow=5.8,SNR=35
CMAR LR LR 02 31 21.5
comp=Z,51nm,18.2s,MS3.5,baz=341,slow=34
CMAR Chiang Mai Arr 45.72 286 ⇑*eP* **P 02 13 57.7 +1.9**
CHTO Chiang Mai 45.74 286 *eP* **P 02 13 55.4 -0.5**
CHTO pmax pmax
comp=Z,9.0nm,1.1s,mb4.6
CHTO Chiang Mai 45.74 286 *eP* **P 02 13 55.4 -0.6**
comp=Z,9.2nm,1.1s,mb4.6
TOO Toolangi 47.80 180 *eP* **P 02 14 11.7 0.0**
ULN Ulaanbaatar 49.31 326 ⇑*eP* **P 02 14 24.2 +1.0**
ULN Ulaanbaatar 49.31 326 *eP* **P 02 14 23.8 +0.6**
comp=Z,4.8nm,0.3s,mb5.0
SONM Songino Array 49.66 326 P **P 02 14 26.8 +0.9**
comp=Z,4.3nm,0.8s,mb4.5,baz=136,slow=8.5,SNR=17
SONM PcP PcP 02 15 47.3 +0.2
comp=Z,1.1nm,0.6s,baz=147,slow=3.4,SNR=3.0
GTA Gaotai 49.76 313 P **P 02 14 27.4 +0.6**
GTA AP pP 02 14 33.7 +1.9
GTA XP sP 02 14 37.4 +3.6
GTA AMB AMB
comp=Z,9.0nm,1.1s,mb4.7
SEY Seymchan 52.59 4⇑*eP* **P 02 14 47.0 -0.6**
YAK Yakutsk 52.74 351 *eP* **P 02 14 46.2 -2.5**
YAK pmax pmax
comp=Z,33nm,0.9s,mb5.3
YAK pmax pmax
comp=N,19nm,1.4s
YAK Yakutsk 52.74 351 *eP* **P 02 14 47.1 -1.7**
comp=N,33nm,0.5s,mb5.5
ZAK Zakamensk 52.79 327 *eP* **P 02 14 49.6 +0.3**
ZAK pmax pmax
comp=Z,10.0nm,1.1s,mb4.7
BOD Bodaibo 53.04 339 *eP* **P 02 14 50.5 -0.5**
BOD pmax pmax
comp=Z,6.0nm,1.1s,mb4.4
TLY Talaya 53.33 329 *eP* **P 02 14 53.9 +0.6**
TLY pmax pmax
comp=Z,9.0nm,0.8s,mb4.8
TLY MLR MLR
comp=Z,107nm,21.0s,MS3.9
TAPN Taplejung 56.76 296 *eP* **P 02 15 19.1 +0.6**
comp=Z,65nm,1.3s,mb5.5
ODAN Odare 57.00 295 *eP* **P 02 15 21.0 +0.7**
comp=Z,61nm,1.2s,mb5.5
RAMN Ramite 57.71 295 *eP* **P 02 15 25.7 +0.4**
comp=Z,39nm,1.2s,mb5.3
JIRN Jiri 58.13 296 *eP* **P 02 15 28.6 +0.4**
comp=Z,44nm,1.1s,mb5.4
GUN Gumba 58.43 296 *eP* **P 02 15 31.0 +0.7**
comp=Z,74nm,1.0s,mb5.7
PKI Pulchoki 58.81 296 *eP* **P 02 15 33.4 +0.4**
comp=Z,40nm,1.1s,mb5.4
KKN Kakani 58.95 296 *eP* **P 02 15 34.3 +0.4**
comp=Z,38nm,1.0s,mb5.4
DMN Daman 59.09 296 *eP* **P 02 15 35.6 +0.7**
comp=Z,64nm,1.0s,mb5.6
BILL Bilibino 59.10 9⇑*eP* **P 02 15 34.4 +0.2**
BILL *e* 02 16 22.7
BILL *e* 02 17 43.0
BILL pmax pmax
comp=Z,18nm,1.3s,mb4.9
GKN Gorkha 59.53 296 *eP* **P 02 15 38.0 +0.1**
comp=Z,70nm,1.2s,mb5.6
WMQ Urumqi 59.77 315 P **P 02 15 39.8 +0.5**
WMQ AP pP 02 15 44.8 +0.3
WMQ XP sP 02 15 46.8 +0.4
WMQ PCP PcP 02 16 26.4 +0.4
WMQ S **S 02 23 48.3 -1.7**
WMQ XS sS 02 23 55.8 -2.7
WMQ AMB AMB
comp=Z,15nm,1.1s,mb4.9
WMQ AMB AMB
comp=Z,112nm,3.0s
WMQ LR LR
comp=N,45nm,20.8s,MS3.8
WMQ LR LR
comp=E,50nm,20.8s,MS3.8
WMQ LR LR
comp=Z,50nm,18.6s,MS3.7
DANN Dangsing 60.33 297 *eP* **P 02 15 43.8 +0.4**
comp=Z,46nm,0.8s,mb5.6
KOLN Koldanda 60.43 296 *eP* **P 02 15 44.4 +0.3**
comp=Z,25nm,0.8s,mb5.3
MK31 Makanchi Array 64.19 317 *eP* **P 02 16 09.4 +0.4**
MKAR Makanchi Array 64.19 317 P **P 02 16 09.3 +0.4**
comp=Z,3.8nm,0.8s,mb4.5,baz=97,slow=8.3,SNR=23
ZAA0 Zalesovo Array 64.53 325 *eP* **P 02 16 10.1 -1.0**
ZALV Zalesovo Beam 64.53 325 P **P 02 16 10.3 -0.7**
comp=Z,2.7nm,0.7s,mb4.4,baz=104,slow=6.3,SNR=11
ZALV Zalesovo Beam 64.53 325 P **P 02 16 10.3 -0.7**
HYB Hyderabad 65.13 284 *i*P **P 02 16 15.5 -0.1**
NVS Novosibirsk 65.69 326 *eP* **P 02 16 17.5 -1.0**
NVS pmax pmax
comp=Z,34nm,1.9s,mb5.0
NVS pmax pmax
comp=E,17nm,1.5s
KURK Kurchatov 67.39 321 *eP* **P 02 16 29.4 -0.1**
KURK pmax pmax
comp=Z,15nm,1.0s,mb5.0
KURK Kurchatov 67.39 321 *eP* **P 02 16 29.4 -0.2**
comp=Z,15nm,1.0s,mb5.0
PPT Papeete 69.86 113 *e*LR LR 02 37 33.6
comp=Z,234nm,29.8s
PPT Papeete 69.86 113 LR LR 02 44 18.4
comp=Z,98nm,18.1s,MS4.1,baz=273,slow=33
MCK McKinley 69.92 26 *eP* **P 02 16 44.2 -0.9**
MCK pmax pmax
comp=Z,12nm,1.3s,mb4.7
MCK McKinley 69.92 26 *eP* **P 02 16 44.2 -0.8**
comp=Z,12nm,1.3s,mb4.7
COLA College 70.71 25 *eP* **P 02 16 48.8 -1.1**
COLA pmax pmax
comp=Z,3.0nm,0.7s,mb4.3
COLA College 70.71 25 *eP* **P 02 16 48.8 -1.1**
comp=Z,3.3nm,0.7s,mb4.4
TBI Tubuai 71.88 119 *e*LR LR 02 38 21.8
comp=Z,113nm,33.5s
BRVK Borovoye 72.84 322 *eP* **P 02 17 02.9 0.0**
BRVK pmax pmax
comp=Z,16nm,1.0s,mb4.9
BRVK Borovoye 72.84 322 *eP* **P 02 17 02.9 0.0**
comp=Z,16nm,1.0s,mb4.9
KBL Kabul 73.06 303 *eP* **P 02 17 04.1 -0.5**
KBL pmax pmax
comp=Z,17nm,1.1s,mb4.9
KBL Kabul 73.06 303 *eP* **P 02 17 04.1 -0.5**
comp=Z,17nm,1.1s,mb4.9
DAWY Dawson 74.10 26 *eP* **P 02 17 09.9 -0.2**
ARU Arti 79.69 326 *ci*P **P 02 17 41.5 -0.3**
ARU *e*S S 02 27 42.2 -1.3
ARU *e*SS SS 02 32 46.3 -5.5
ARU pmax pmax
comp=Z,9.0nm,1.2s,mb4.6
ARU Arti 79.69 326 *eP* **P 02 17 41.3 -0.5**
comp=Z,7.3nm,1.0s,mb4.6
YBH Yreka Blue Hor 84.39 49 ⇓P **P 02 18 06.9 +0.1**
baz=84
RKT Rikitea 84.55 115 *e*LR LR 02 44 44.1
comp=Z,347nm,38.0s
O02C Red Bluff 84.58 50 ⇑P **P 02 18 07.9 +0.1**
baz=84
J04A Umpqua Nationa 84.60 47 ⇑P **P 02 18 07.5 -0.3**
baz=84
F05A White Salmon 84.63 44 ⇓P **P 02 18 07.8 -0.1**
baz=84
A07A Ashnola River, 84.81 41 ⇓P **P 02 18 08.6 -0.2**
baz=85
E06A Yakima 84.85 44 ⇑P **P 02 18 08.5 -0.5**
baz=85
M03C McCloud 84.91 49 ⇓P **P 02 18 09.7 +0.3**
baz=85
M04C Macdoel 85.03 49 ⇓P **P 02 18 09.9 -0.2**
baz=85
B07A Winthrop 85.09 42 ⇓P **P 02 18 10.1 -0.1**
baz=85
J05A Fort Rock 85.22 47 ⇓P **P 02 18 11.0 +0.1**
baz=85
YKA Yellowknife Ar 85.29 27 P **P 02 18 10.4 -0.5**
comp=Z,2.0nm,0.8s,mb4.3,baz=278,slow=4.8,SNR=2.8
YKA LR LR 02 51 41.0
comp=Z,54nm,21.2s,MS3.9,baz=230,slow=32
A08A Turner Farm, O 85.55 41 ⇑P **P 02 18 12.1 -0.4**
baz=86
K05A Summer Lake 85.56 48 ⇓P **P 02 18 12.5 -0.2**
baz=86
H06A Linquist Farm 85.61 45 ⇓P **P 02 18 12.8 0.0**
baz=86
M05C Lookout 85.61 49 ⇓P **P 02 18 12.9 -0.1**
baz=86
B08A Colville Reser 85.62 42 ⇑P **P 02 18 12.6 -0.2**
baz=86
ORV Oroville 85.66 51 ⇑P **P 02 18 12.6 -0.6**
baz=86
L05A Lakeview 85.72 48 ⇑P **P 02 18 13.2 -0.3**
baz=86
WENL Wente Vineyard 85.80 53 ⇓P **P 02 18 14.1 +0.1**
baz=86
O04C Chester 85.84 50 ⇓P **P 02 18 13.8 -0.3**
baz=86
G07A Ruggs Ranch, H 85.97 45 ⇓P **P 02 18 14.0 -0.7**
baz=86
A09A Danville 85.99 41 ⇓P **P 02 18 14.2 -0.5**
baz=86
J06A Christmas Vall 86.00 47 ⇑P **P 02 18 14.4 -0.4**
baz=86
K06A Valley Falls 86.01 47 ⇓P **P 02 18 14.6 -0.3**
baz=86
O05C Quincy 86.03 50 ⇓P **P 02 18 15.0 -0.1**
baz=86
MOD Modoc 86.14 48 ⇑P **P 02 18 15.1 -0.4**
baz=86
LAVA Lava Cap Winer 86.38 51 ⇑P **P 02 18 17.1 +0.3**
baz=86
B09A Rice 86.39 42 ⇑P **P 02 18 16.4 -0.3**
baz=86
P05C Yuba Gap, Truc 86.39 51 ⇑P **P 02 18 16.6 -0.2**
baz=86
BEKR Beckwourth 86.47 50 ⇑P **P 02 18 17.6 +0.4**
baz=86
F08A Pendleton 86.49 44 ⇓P **P 02 18 17.3 +0.1**
baz=86
D09A Jones Farm, Ri 86.55 43 ⇑P **P 02 18 17.4 0.0**
baz=86
A10A Northport 86.65 41 ⇑P **P 02 18 17.3 -0.6**
baz=87
N06A Buffalo Meadow 86.70 49 ⇑P **P 02 18 18.2 -0.1**
baz=87
K07A Rock Creek Ran 86.76 47 ⇑P **P 02 18 19.0 +0.4**
baz=87
U04C Hernandez Rese 86.79 54 ⇑P **P 02 18 18.8 0.0**
baz=87
CMB Columbia Colle 86.79 52 *eP* **P 02 18 18.7 -0.1**
CMB pmax pmax
comp=Z,12nm,1.1s,mb5.0
CMB Columbia Colle 86.79 52 ⇓P **P 02 18 19.0 +0.1**
baz=87
CMB Columbia Colle 86.79 52 *eP* **P 02 18 18.7 -0.1**
comp=Z,12nm,1.1s,mb5.0
L07A Adell 86.82 48 ⇑P **P 02 18 19.7 +0.8**
baz=87
R05C Kirkwood Meado 86.90 51 ⇑P **P 02 18 19.3 -0.1**
baz=87
S05C Merced 86.96 53 ⇓P **P 02 18 19.8 +0.1**
baz=87
WCN Washoe City 87.03 51 ⇓P **P 02 18 19.5 -0.5**
baz=87
PKD Parkfield 87.05 54 ⇓P **P 02 18 20.0 -0.2**
baz=87
M07A Soldier Meadow 87.07 49 ⇓P **P 02 18 20.2 0.0**
baz=87
NEW Newport 87.09 42 *eP* **P 02 18 19.5 -0.6**
NEW pmax pmax
comp=Z,11nm,1.3s
NEW Newport 87.09 42 *eP* **P 02 18 19.5 -0.6**
comp=Z,11nm,1.3s,mb4.9
J08A Circle Bar Ran 87.19 47 ⇑P **P 02 18 20.8 +0.2**
baz=87
S06C San Francisco 87.23 52 ⇑P **P 02 18 20.6 -0.4**
baz=87
WVOR Wild Horse Val 87.25 48 *eP* **P 02 18 19.0 -2.0**
WVOR pmax pmax
comp=Z,5.0nm,0.9s,mb4.7
WVOR Wild Horse Val 87.25 48 *eP* **P 02 18 19.0 -2.0**
comp=Z,4.9nm,0.9s,mb4.7
G09A Cove 87.28 45 ⇓P **P 02 18 20.7 -0.3**
baz=87
K08A Mann Creek Ran 87.30 47 ⇓P **P 02 18 21.1 -0.1**
baz=87
R06C Coleville 87.42 51 ⇓P **P 02 18 22.1 +0.2**
baz=87
A11A Hall Mountain, 87.43 41 ⇑P **P 02 18 21.5 -0.2**
baz=87,SNR=5.4
E10A Myers Farm, Un 87.48 43 ⇑P **P 02 18 21.6 -0.4**
baz=87
F10A Beach Ranch, E 87.51 44 ⇑P **P 02 18 21.8 -0.3**
baz=87
T06C Millerton Lake 87.51 53 ⇑P **P 02 18 22.3 0.0**
baz=87
L08A Fields 87.52 48 ⇓P **P 02 18 22.4 +0.1**
baz=87
O07A Toulon 87.53 50 ⇓P **P 02 18 22.0 -0.4**
baz=88
M08A Happy Creek Ra 87.64 48 ⇓P **P 02 18 23.3 +0.4**
baz=88
J09A Fry Pan Ranch, 87.70 46 ⇑P **P 02 18 22.9 -0.2**
baz=88,SNR=8.1
G10A Bishop Farm, J 87.73 44 ⇑P **P 02 18 22.9 -0.3**
baz=88,SNR=7.6
C11A Tepee Creek (N 87.75 42 ⇓P **P 02 18 23.2 -0.1**
baz=88
KCC Kaiser Creek 87.76 53 ⇑P **P 02 18 23.7 +0.2**
baz=88
PKM Peak Mountain 87.83 55 ⇑P **P 02 18 23.7 -0.3**
baz=88
K09A Rome 87.86 47 ⇑P **P 02 18 23.9 0.0**
baz=88,SNR=5.7
D11A Klaveano Farm, 87.88 43 ⇓P **P 02 18 23.4 -0.4**
baz=88
A12A Yaak River Ran 87.89 41 ⇓P **P 02 18 23.7 -0.2**
baz=88
N08A GE Springer Mi 87.96 49 ⇓P **P 02 18 24.7 +0.2**
baz=88
L09A Wilkinson Ranc 88.04 48 ⇑P **P 02 18 25.3 +0.5**
baz=88
E11A Bogner Ranch, 88.12 43 ⇓P **P 02 18 24.8 -0.2**
baz=88
HELL Mitchell Peak 88.12 53 ⇑P **P 02 18 24.7 -0.6**
baz=88
H10A Noah's Angus R 88.14 45 ⇓P **P 02 18 24.5 -0.7**
baz=88,SNR=8.0
VES Vestal, Richgr 88.24 54 ⇓P **P 02 18 24.9 -1.0**
baz=88
F11A Grangeville 88.26 44 ⇓P **P 02 18 24.4 -1.3**
baz=88
C12B Naegeli Ranch, 88.29 42 ⇓P **P 02 18 25.4 -0.4**
baz=88
G11A Walters Elk Ra 88.29 44 ⇓P **P 02 18 25.1 -0.8**
baz=88
NVAR Mina Array Bea 88.32 51 P **P 02 18 27.1 +0.9**
comp=Z,12nm,0.9s,mb5.1,baz=264,slow=6.0,SNR=53
K10A MacKenzie Ranc 88.46 47 ⇑P **P 02 18 26.7 0.0**
baz=88,SNR=6.0
Q08A Gabbs 88.51 51 ⇓P **P 02 18 27.1 0.0**
baz=88,SNR=5.2
D12A Red Ives Fores 88.53 42 ⇑P **P 02 18 26.5 -0.5**
baz=88
E12A Beaver Dam Sad 88.53 43 ⇓P **P 02 18 26.7 -0.3**
baz=88,SNR=10
KLMR Klimovskoe 88.59 332 *eP* **P 02 18 24.8 -2.2**
KLMR pmax pmax
comp=Z,10.0nm,1.1s,mb5.1
H11A Donnelly 88.63 45 ⇓P **P 02 18 26.9 -0.6**
baz=88,SNR=7.5
A13A Flathead Natio 88.68 41 ⇑P **P 02 18 27.6 -0.1**
baz=89
ISA Isabella 88.76 54 ⇑P **P 02 18 27.9 -0.5**
baz=89
B13A Whitefish 88.79 41 ⇑P **P 02 18 27.8 -0.3**
baz=89
L10A Juniper Basin 88.90 48 ⇑P **P 02 18 28.9 +0.1**
baz=89,SNR=9.8
M10A I.L. Ranch, Tu 88.98 48 ⇓P **P 02 18 28.9 -0.3**
baz=89
MFID Camas Ranch 89.06 46 ⇓P **P 02 18 29.4 -0.1**
baz=89,SNR=12
K11A Parker Ranch, 89.06 47 ⇓P **P 02 18 29.6 0.0**
baz=89,SNR=5.9
TPH Tonopah 89.23 52 *eP* **P 02 18 30.7 +0.2**
TPH pmax pmax
comp=Z,11nm,1.0s,mb5.1
TPH Tonopah 89.23 52 *eP* **P 02 18 30.7 +0.2**
comp=Z,11nm,1.0s,mb5.2
O10A Cortez Mining, 89.28 49 ⇓P **P 02 18 31.4 +0.7**
baz=89
S09A Goldfield 89.30 52 ⇓P **P 02 18 30.8 -0.1**
baz=89,SNR=5.9
A14A Double T Ranch 89.31 40 ⇓P **P 02 18 31.0 +0.4**
baz=89
R09A Tonopah 89.31 51 ⇓P **P 02 18 31.4 +0.6**
baz=89,SNR=15
EDW2 Edwards Air Fo 89.31 55 ⇓P **P 02 18 31.1 +0.1**
baz=89,SNR=5.1
GRAC Grapevine Rang 89.35 53 ⇑P **P 02 18 31.4 +0.3**
baz=89
L11A Cat Creek Ranc 89.40 47 ⇑P **P 02 18 31.5 +0.3**
baz=89,SNR=6.4
MPMC Manual Prospec 89.45 54 ⇑P **P 02 18 31.8 +0.2**
baz=89,SNR=16
I12A Atlanta 89.46 46 ⇓P **P 02 18 31.1 -0.3**
baz=89
P10A Eureka 89.46 50 ⇑P **P 02 18 31.5 -0.1**
baz=89
H12A Diamond D Ranc 89.47 45 ⇓P **P 02 18 31.3 -0.1**
baz=89
F13A Darby 89.52 44 ⇑P **P 02 18 31.3 -0.4**
baz=89
M11A Holland Ranch, 89.54 48 ⇑P **P 02 18 32.3 +0.5**
baz=90
B14A Marquette Ranc 89.56 41 ⇓P **P 02 18 31.8 0.0**
baz=90
J12A Stokes Ranch, 89.61 46 ⇑P **P 02 18 32.5 +0.3**
baz=90,SNR=6.3
Q10A Clear Creek Ra 89.69 51 ⇓P **P 02 18 32.7 +0.1**
baz=90
BFSC Mount Baldy St 89.71 55 ⇓P **P 02 18 32.5 -0.4**
baz=90
N11A Elko Archery C 89.73 49 ⇓P **P 02 18 32.8 +0.1**
baz=90
A15A Johnson Ranch, 89.74 40 ⇓P **P 02 18 33.0 +0.4**
baz=90
S10A Tonopah Range, 89.74 52 ⇓P **P 02 18 33.2 +0.3**
baz=90,SNR=15
G13A Cobalt 89.76 44 ⇑P **P 02 18 32.6 -0.3**
baz=90,SNR=8.6
FURC Furnace Creek, 89.86 53 ⇑P **P 02 18 33.5 0.0**
baz=90,SNR=9.1
H13A Challis 89.88 45 ⇑P **P 02 18 33.5 +0.1**
baz=90,SNR=7.2
K12A Draper Farm, C 89.90 47 ⇓P **P 02 18 33.9 +0.3**
baz=90
L12A House Creek Ra 89.94 47 ⇑P **P 02 18 33.8 +0.1**
baz=90,SNR=7.6
O11A Cowboy Ranch, 89.95 49 ⇑P **P 02 18 34.2 +0.4**
baz=90
HLID Hailey 90.02 46 ⇓P **P 02 18 34.3 +0.2**
baz=90,SNR=8.5
B15A Bradely Ranch, 90.03 41 ⇑P **P 02 18 33.6 -0.4**
baz=90
ELK Elko 90.11 49 *eP* **P 02 18 35.2 +0.6**
ELK pmax pmax
comp=Z,15nm,1.0s
ELK Elko 90.11 49 *eP* **P 02 18 35.2 +0.6**
comp=Z,15nm,1.0s,mb5.3
I13A Wildhorse Cree 90.14 45 ⇓P **P 02 18 34.8 +0.2**
baz=90
C15A Salmond Ranch, 90.15 41 ⇓P **P 02 18 34.6 0.0**
baz=90
F14A Wisdom 90.17 43 ⇑P **P 02 18 34.7 0.0**
baz=90
GSC Goldstone 90.17 54 ⇑P **P 02 18 34.8 -0.1**
baz=90
M12A Wells 90.19 48 ⇑P **P 02 18 35.2 +0.3**
baz=90,SNR=8.0
MURC Murrieta 90.22 56 ⇓P **P 02 18 35.0 -0.2**
baz=90
ARCES ARCESS Array B 90.23 342 P **P 02 18 33.9 -0.6**
comp=Z,1.9nm,0.9s,mb4.4,baz=48,slow=7.5,SNR=5.3
ARCES LR LR 02 59 51.6
comp=Z,52nm,18.4s,MS4.0,baz=254,slow=36
TPNV Topopah Spring 90.23 52 *eP* **P 02 18 35.3 +0.1**
TPNV pmax pmax
comp=Z,10.0nm,0.9s,mb5.2
TPNV Topopah Spring 90.23 52 ⇑P **P 02 18 35.5 +0.3**
baz=90,SNR=10

TPNV **Topopah Spring** 90.23 52 *e*P P 02 18 35.3 +0.1
comp=Z,9.6nm,0.9s,mb5.1
N12A **Clover Valley,** 90.23 48 ⇓P P 02 18 35.2 +0.1
baz=90,SNR=6.6
Q11A **Duckwater** 90.25 51 ⇓P P 02 18 35.2 -0.1
baz=90,SNR=5.5
U10A **Ash Meadows, A** 90.29 53 ⇓P P 02 18 35.9 +0.4
baz=90,SNR=6.3
R11A **Troy Canyon, C** 90.42 51 ⇓P P 02 18 36.5 +0.4
baz=90,SNR=9.5
SHOC **Shoshone** 90.45 53 ⇑P P 02 18 36.1 -0.1
baz=90
109C **Camp Elliot, M** 90.46 57 ⇓P P 02 18 35.8 -0.5
baz=90
S11A **Rachel** 90.46 52 ⇓P P 02 18 36.5 +0.3
baz=90
H14A **Leadore** 90.48 44 ⇑P P 02 18 36.3 +0.1
baz=90
K13A **Stover Farm, H** 90.48 47 ⇓P P 02 18 36.7 +0.4
baz=90
E15A **Deer Lodge** 90.49 43 ⇓P P 02 18 36.4 +0.2
baz=90
B16A **M & M Farms, S** 90.55 41 ⇑P P 02 18 36.0 -0.4
baz=90
O12A **Currie** 90.59 49 ⇑P P 02 18 36.7 -0.1
baz=90,SNR=6.3
I14A **Mackay** 90.60 45 ⇓P P 02 18 37.0 +0.2
baz=90
HEC **Hector,Ludlow** 90.65 55 ⇓P P 02 18 36.8 -0.4
baz=91
P12A **McGill** 90.67 50 ⇑P P 02 18 37.6 +0.4
baz=91
J14A **Carey** 90.71 46 ⇑P P 02 18 37.7 +0.4
baz=91,SNR=5.8
L13A **Double Diamond** 90.72 47 ⇓P P 02 18 38.1 +0.7
baz=91
F15A **Butte** 90.75 43 ⇑P P 02 18 37.0 -0.4
baz=91
M13A **Montello** 90.75 48 ⇓P P 02 18 37.3 -0.2
baz=91
PFO **Pinyon Flat Ob** 90.83 56 ⇓P P 02 18 37.8 -0.3
baz=91
Q12A **Willow Creek R** 90.83 50 ⇑P P 02 18 38.1 +0.2
baz=91,SNR=8.7
TUQ **Turquoise Moun** 90.84 54 ⇑P P 02 18 37.8 -0.2
baz=91
G15A **Dillon** 90.94 44 ⇓P P 02 18 37.9 -0.4
baz=91
T11A **Corn Creek, Al** 90.96 52 ⇓P P 02 18 38.7 +0.1
baz=91,SNR=6.7
MONP **Monument Peak** 91.02 56 ⇑P P 02 18 37.9 -1.0
baz=91
D16A **Dana Ranch, Ca** 91.04 42 ⇓P P 02 18 38.2 -0.5
baz=91
BELC **Belle Mtn.** 91.11 55 ⇓P P 02 18 39.2 -0.1
baz=91
V11A **Goodsprings** 91.13 53 ⇑P P 02 18 39.4 0.0
baz=91
K14A **Jones Ranch, D** 91.16 46 ⇓P P 02 18 39.3 -0.1
baz=91
S12A **Delamar Landin** 91.16 52 ⇓P P 02 18 39.8 +0.3
baz=91,SNR=7.5
R12A **Pony Springs,** 91.17 51 ⇑P P 02 18 39.8 +0.3
baz=91
GMRC **Granite Mounta** 91.20 54 ⇑P P 02 18 39.2 -0.5
baz=91,SNR=5.8
L14A **Malta** 91.25 47 ⇓P P 02 18 40.1 +0.3
baz=91,SNR=6.7
M14A **Sheep Mountain** 91.31 48 ⇑P P 02 18 40.1 0.0
baz=91
P13A **Bates Ranch, G** 91.34 50 ⇑P P 02 18 40.2 -0.1
baz=91,SNR=9.3
C17A **Wharram Farm,** 91.38 41 ⇓P P 02 18 39.9 -0.4
baz=91
J15A **Blackfoot** 91.45 45 ⇓P P 02 18 40.8 +0.1
baz=91,SNR=5.6
K15A **Arbon** 91.58 46 ⇓P P 02 18 41.4 0.0
baz=92
N14A **Grayback Hills** 91.59 48 ⇓P P 02 18 41.3 -0.1
baz=92,SNR=6.0
V12A **Nelson** 91.62 53 ⇑P P 02 18 41.7 0.0
baz=92,SNR=7.1
BC3 **Big Chuckw Mtn** 91.63 56 ⇑P P 02 18 41.5 -0.3
baz=92
E17A **Martinsdale** 91.66 42 ⇓P P 02 18 41.6 0.0
baz=92
R13A **O'Grain Ranch,** 91.69 51 ⇓P P 02 18 42.0 0.0
baz=92
IRM **Iron Mountain** 91.75 55 ⇓P P 02 18 42.2 -0.1
baz=92
L15A **Malad City** 91.87 47 ⇑P P 02 18 42.5 -0.2
baz=92
KIV **Kislovodsk** 91.90 315 *e*P P 02 18 43.0 +0.2
KIV pmax pmax
comp=Z,9.0nm,1.2s,mb5.0
H16A **Russell Place,** 91.91 44 ⇓P P 02 18 43.6 +0.8
baz=92
EGMT **Eagleton** 91.91 41 ⇓P P 02 18 42.2 -0.5
baz=92
S13A **Holt Ranch, En** 91.93 51 ⇓P P 02 18 43.7 +0.6
baz=92,SNR=6.0
M15A **Larsen Ranch,** 91.97 47 ⇓P P 02 18 43.3 +0.1
baz=92
P14A **Drum Mountains** 92.01 49 ⇑P P 02 18 42.9 -0.5
baz=92,SNR=5.2
Q14A **Sevier Lake (B** 92.01 50 ⇑P P 02 18 43.8 +0.4
baz=92
T13A **Saint George** 92.04 52 ⇓P P 02 18 43.9 +0.4
baz=92,SNR=12
DUG **Dugway** 92.04 49 *e*P P 02 18 43.5 0.0
DUG pmax pmax
comp=Z,8.0nm,1.2s,mb4.9
DUG **Dugway** 92.04 49 ⇑P P 02 18 43.9 +0.4
baz=92,SNR=8.2
DUG **Dugway** 92.04 49 *e*P P 02 18 43.5 0.0
comp=Z,8.1nm,1.2s,mb4.9
OBN **Obninsk** 92.06 327 ⇓*i*P P 02 18 42.3 -0.9
OBN *e* 02 18 57.2
OBN *e* 02 22 20.0
OBN pmax pmax
comp=Z,10.0nm,1.0s,mb5.1
J16A **Bone** 92.06 45 ⇑P P 02 18 43.8 +0.3
baz=92
U13A **Pakoon Wash** 92.14 53 ⇑P P 02 18 44.6 +0.5
baz=92,SNR=12
ARUT **Antelope Range** 92.20 51 *e*P P 02 18 44.8 +0.5
E18A **Harlowton** 92.25 42 ⇓P P 02 18 44.7 +0.3
baz=92
V13A **Grand Canyon W** 92.27 53 ⇓P P 02 18 45.1 +0.5
baz=92,SNR=7.8
GLA **Glamis** 92.28 56 ⇓P P 02 18 45.1 +0.3
baz=92
Y12C **Blythe** 92.36 55 ⇑P P 02 18 45.3 +0.2
baz=92
S14A **Cedar City** 92.42 51 ⇓P P 02 18 46.2 +0.8
baz=92
TPAW **Teton Pass** 92.46 45 *e*P P 02 18 45.5 +0.1
comp=Z,1.7nm,0.9s,mb4.4
MOOW **Moose Ponds** 92.53 45 *e*P P 02 18 45.9 +0.2
comp=Z,1.0nm,0.7s,mb4.3
PDMCI **Parker Dam,Lak** 92.53 55 ⇓P P 02 18 46.1 +0.2
baz=92
W13A **Hualapai Mount** 92.54 54 ⇑P P 02 18 46.0 +0.1
baz=92
HWUT **Hardware Ranch** 92.56 47 *e*P P 02 18 46.0 +0.1
comp=Z,2.7nm,0.8s,mb4.7
F18A **Big Timber** 92.59 43 ⇑P P 02 18 46.5 +0.5
baz=92
T14A **Hurricane** 92.66 52 ⇑P P 02 18 47.2 +0.7
baz=93,SNR=5.7
X13A **Yucca** 92.71 54 ⇑P P 02 18 47.3 +0.6
baz=93
U14A **Mt Trumbull** 92.75 52 ⇓P P 02 18 47.7 +0.8
baz=93,SNR=13
Y13A **Salome** 92.90 55 ⇑P P 02 18 48.3 +0.7
baz=93
MSU **Marysvale** 92.97 50 *e*P P 02 18 47.0 -0.8
O16A **Springville** 93.00 48 ⇑P P 02 18 47.8 -0.1
baz=93
V14A **Boquillas Ranc** 93.02 53 ⇑P P 02 18 48.6 +0.4
baz=93,SNR=12
S15A **Panguitch** 93.05 51 ⇓P P 02 18 49.3 +1.1
baz=93
W14A **Seligman** 93.14 54 ⇓P P 02 18 49.3 +0.6
baz=93
T15A **Red Dirt Ranch** 93.21 52 ⇓P P 02 18 49.1 +0.1
baz=93
U15A **North Rim** 93.44 52 ⇓P P 02 18 50.5 +0.4
baz=93
X14A **Yava** 93.49 54 ⇑P P 02 18 50.8 +0.4
baz=93
Y14A **Wickenburg** 93.53 55 ⇓P P 02 18 50.9 +0.3
baz=94
R16A **Teasdale** 93.56 50 ⇓P P 02 18 51.4 +0.8
baz=94
O17A **Robinson Place** 93.57 48 ⇓P P 02 18 50.9 +0.3
baz=94
Q16A **Castle Valley** 93.61 50 ⇑P P 02 18 50.9 +0.1
baz=94
S16A **Weppner Ranch,** 93.62 51 ⇓P P 02 18 51.7 +0.8
baz=94
PDAR **Pinedale Array** 93.65 45 P P 02 18 50.6 -0.3
comp=Z,0.6nm,0.8s,mb4.1,baz=260,slow=5.3,SNR=4.3
PDAR LR LR 02 55 44.4
comp=Z,79nm,19.6s,MS4.2,baz=112,slow=32
V15A **Kaibab Nationa** 93.70 53 ⇓P P 02 18 52.1 +0.8
baz=94
P17A **Butcher Ranch,** 93.78 49 ⇑P P 02 18 51.7 +0.2
baz=94
T16A **Glen Canyon Da** 93.90 51 ⇓P P 02 18 52.7 +0.5
baz=94
X15A **Humboldt** 94.00 54 ⇓P P 02 18 53.9 +1.2
baz=94
SRU **San Rafael** 94.04 49 ⇓P P 02 18 53.1 +0.3
baz=94
FFC **Flin Flon** 94.06 33 *e*P P 02 18 51.3 -1.2
FFC pmax pmax
comp=Z,8.0nm,1.0s,mb5.1
FFC **Flin Flon** 94.06 33 *e*P P 02 18 51.3 -1.2
comp=Z,7.7nm,1.0s,mb5.1
Y15A **Casa Rosa Ranc** 94.07 55 ⇑P P 02 18 53.8 +0.8
baz=94
O18A **Roosevelt** 94.08 48 ⇓P P 02 18 53.6 +0.7
baz=94
R17A **Hanksville Air** 94.10 50 ⇑P P 02 18 53.2 +0.2
baz=94
N18A **Larsen Ranch,** 94.11 47 ⇓P P 02 18 53.0 -0.1
baz=94
214A **Organ Pipe Nat** 94.20 57 ⇑P P 02 18 53.5 -0.2
baz=94
S17A **Black Ridge (B** 94.25 51 ⇑P P 02 18 53.7 -0.1
baz=94
Q18A **Rafter H Ranch** 94.33 49 ⇓P P 02 18 53.8 -0.3
baz=94
WUAZ **Wupatki** 94.41 53 ⇑P P 02 18 55.3 +0.8
baz=94
U16A **Tuba City** 94.42 52 ⇓P P 02 18 55.4 +0.8
baz=94
T17A **Navajo Res., N** 94.43 51 ⇓P P 02 18 54.9 +0.3
baz=94
U17A **Shonto** 94.66 52 ⇑P P 02 18 56.1 +0.4
baz=95
R18A **Canyonlands Na** 94.72 50 ⇓P P 02 18 56.0 0.0
baz=95
S18A **Hurst Farm, Bl** 94.85 50 ⇓P P 02 18 56.8 +0.3
baz=95
T18A **Mexican Hat** 95.11 51 ⇓P P 02 18 57.8 +0.1
baz=95
S19A **Harvey Farm, M** 95.48 50 ⇑P P 02 18 59.5 +0.1
baz=95
117A **Oracle** 95.73 56 ⇓P P 02 19 00.9 +0.2
baz=96
PV01 **Paradox Valley** 95.79 50 *e*P P 02 19 01.0 +0.2
W18A **Petrified Fore** 95.80 53 ⇑P P 02 19 01.8 +0.8
baz=96
T19A **Beclabito** 95.85 51 ⇓P P 02 19 01.4 +0.3
baz=96
217A **Green Valley** 95.89 56 ⇑P P 02 19 01.6 +0.2
baz=96
118A **Homack Ranch,** 96.33 55 ⇑P P 02 19 03.5 +0.1
baz=96
X19A **St. Johns** 96.36 53 ⇑P P 02 19 03.8 +0.3
baz=96
218A **Dragoon** 96.46 56 ⇑P P 02 19 04.4 +0.4
baz=96
Y19A **Nutrioso** 96.53 54 ⇑P P 02 19 04.8 +0.6
baz=96
318A **Bisbee** 96.66 56 ⇓P P 02 19 04.9 0.0
baz=97
119A **Ashpeak Ranch,** 96.83 55 ⇓P P 02 19 05.8 +0.2
baz=97
MAW **Mawson** 96.84 203 LR LR 02 58 40.3
comp=Z,45nm,19.5s,MS4.0,baz=240,slow=33
219A **White Tail Can** 97.09 56 ⇑P P 02 19 06.8 -0.1
baz=97
ANMO **Albuquerque** 98.41 52⇑ *e*P P 02 19 12.7 0.0
ANMO **Albuquerque** 98.41 52 *e*P P 02 19 13.0 +0.2
comp=Z,1.0nm,0.8s,mb4.4
ULM **Lac du Bonnet** 99.40 35 LR LR 02 57 45.6
comp=Z,135nm,20.0s,MS4.4,baz=17,slow=32
TXAR **Lajitas Array** 102.50 57 P Pdif 02 19 30.9 +0.4
comp=Z,0.3nm,0.7s,baz=263,slow=3.3,SNR=3.8
TOA0 **Torodi Ar. Sit** 137.13 302 *e*PKPdf PKPdf 02 24 58.6 +0.2
TORD **Torodi Ar. Bea** 137.13 302 PKP PKPdf 02 24 58.6 +0.1
comp=Z,3.4nm,1.1s,baz=51,slow=1.4,SNR=8.4
TORD PP PP 02 27 39.7 -2.5
comp=Z,2.1nm,1.1s,baz=45,slow=4.6,SNR=6.8
TORD **Torodi Ar. Bea** 137.13 302 PKP PKPdf 02 24 58.6 +0.2
TORD PP PP 02 27 39.7 -2.5
LVC **Limon Verde** 144.92 114 *e*PKPdf PKPdf 02 25 11.9 -0.3
DBIC **Dimbokro** 145.97 299 PKPbc PKPbc 02 25 14.9 0.0
comp=Z,10.0nm,0.8s,baz=65,slow=1.6,SNR=13
DBIC **Dimbokro** 145.97 299 *e*PKPbc PKPbc 02 25 14.9 -0.1
KIC **Kosan Boka** 146.02 298 *e*PKP1 PKPbc 02 25 14.9 -0.3
comp=Z,45nm,0.8s
TIC **Toumodi** 146.12 299 *e*PKP1 PKPbc 02 25 14.9 -0.6
comp=Z,59nm,0.9s
LIC **Lamto** 146.33 298 *e*PKP1 PKPbc 02 25 15.9 -0.2
comp=Z,85nm,1.3s
LPAZ **La Paz** 146.75 104 PKPbc PKPbc 02 25 16.4 -0.8
comp=Z,5.6nm,0.6s,baz=295,slow=3.0,SNR=36
LPAZ **La Paz** 146.75 104 *e*PKPdf PKPdf 02 25 15.8 +0.3
LPAZ *e*PKPbc PKPbc 02 25 17.9 +0.7
CPUP **Villa Florida** 153.24 129 PKPbc PKPbc 02 25 31.9 -1.0
comp=Z,0.6nm,0.4s,baz=276,slow=4.2,SNR=4.2
CPUP PKPab PKPab 02 25 44.0 -0.7
comp=Z,0.9nm,0.6s,baz=220,slow=4.6,SNR=3.5
CPUP **Villa Florida** 153.24 129 PKPbc PKPbc 02 25 31.9 -1.0
CPUP PKPab PKPab 02 25 44.0 -0.7

*ISCJB **04** 02:34:26.8±2.2, 48.14N±009×155.1E±02, h28km±18km, mb3.9/5, MS3.2/2, Error ellipse: s-maj=23.1km s-min=6.0km az=40.9*
*KRSC **04** 02:34:27.0±3.0, 48.13N×155.74E, h2km±2km, ML4.3*
*MOS **04** 02:34:28.7±1.9, 48.23N×155.03E, h52km, mb4.1/5, Error ellipse: s-maj=21.6km s-min=9.4km az=63.7*
*IDC **04** 02:34:31.2±3.8, 48.23N×154.71E, h42km±34km, mb3.7/5, mb1 3.9/7, mb1mx3.6/23, mbtmp3.7/7, ML3.6/2, MS3.0/4, Ms1 3.1/4, ms1mx2.6/27, Error ellipse: s-maj=41.8km s-min=22.2km az=155.0*
ISC 04 02:34:30.2±1.0, **482N**±01×**1550E**±02, **h38**km±10km, **n27,**
σ1°**29**/29, **mb3.9**/5, **MS3.2**/2, **1D, Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**2.56**	**16**	*e*PN	**Pn**	**02 35 09.6**	**+0.5**
SKR				*e*S	**Sn**	**02 35 39.8**	**+0.9**
SKR				pmax	pmax		
	comp=N,60nm,0.5s						
SKR				pmax	pmax		
	comp=Z,80nm,0.5s						
SKR				smax			
	comp=N,170nm,0.5s						
SKR				smax			
	comp=E,90nm,0.5s						
SKR				smax			
	comp=Z,80nm,0.5s						
RUS	**Russkaya**	**4.77**	**27**	*e*P	**Pn**	**02 35 39.3**	**-0.1**
RUS				*e*S	**Sn**	**02 36 32.0**	**-1.4**
PETK	**Petropavlovsk-**	**5.17**	**18**	P	**Pn**	**02 35 47.0**	**+2.0**
	comp=Z,1.5nm,0.3s,baz=173,slow=13,SNR=15						
PETK				LR	LR	02 38 09.4	
	comp=Z,104nm,18.5s,baz=197,slow=42						
AVH	**Avacha**	**5.57**	**24**	P	**Pn**	**02 35 52.0**	**+1.6**
SDLR	**Sedlovina**	**5.62**	**25**	P	**Pn**	**02 35 52.7**	**+1.6**
NLC	**Nalytchevo**	**5.66**	**28**	S	**Sn**	**02 36 52.5**	**-2.8**
KUR	**Kuril'sk**	**5.75**	**241**	⇓*i*PN	**Pn**	**02 35 51.0**	**-1.9**
KUR				*e*S	**Sn**	**02 36 58.5**	**+0.9**
KUR				pmax	pmax		
	comp=N,90nm,0.7s						
KUR				pmax	pmax		
	comp=E,100nm,0.7s						
KUR				pmax	pmax		
	comp=Z,140nm,0.7s						
KUR				smax			
	comp=N,210nm,0.9s						
KUR				smax			
	comp=E,140nm,0.9s						
GNL	**Ganaly**	**5.78**	**18**	P	**Pn**	**02 35 55.4**	**+2.2**
SPN	**Mys Shipunski**	**5.82**	**31**	P	**Pn**	**02 35 53.6**	**-0.3**
SPN				S	**Sn**	**02 36 57.1**	**-2.2**
MKZ	**Mys Kozlova**	**7.60**	**31**	P	**Pn**	**02 36 17.6**	**-0.6**
YSS	**Yuzh-Sakhalins**	**8.38**	**266**	*e*PN	**Pn**	**02 36 32.9**	**+3.9**
KBTR	**Krutoberegovo**	**9.31**	**28**	P	**Pn**	**02 36 40.8**	**-0.9**
ASAJ	**Asahikawa**	**9.54**	**249**	LR	LR	02 40 01.1	
	comp=E,54nm,20.5s,baz=318,slow=35						
ERM	**Erimo**	**10.42**	**238**	*i* PN	**Pn**	**02 36 56.7**	**-0.3**
MJAR	**Matsushiro Arr**	**17.00**	**233**	P	**Pn**	**02 38 22.7**	**-2.2**
	comp=E,0.3nm,0.3s,baz=26,slow=14,SNR=4.0						
KSRS	**Korea Array**	**22.48**	**251**	P	**P**	**02 39 25.7**	**-0.2**
	comp=E,1.2nm,0.5s,mb3.6,baz=54,slow=11,SNR=5.4						
KSRS	**Korea Array**	**22.48**	**251**	*e*P	**P**	**02 39 26.4**	**+0.5**
KSRS				pmax	pmax		
	comp=Z,1.0nm,0.5s,mb3.5						
MKAR	**Makanchi Array**	**47.41**	**297**	P	**P**	**02 42 59.2**	**-1.2**
	comp=Z,0.9nm,0.4s,mb4.0,baz=70,slow=8.4,SNR=6.9						
MKAR				LR	LR	03 04 27.8	
	comp=Z,28nm,18.3s,MS3.3,baz=249,slow=38						
MKAR	**Makanchi Array**	**47.41**	**297**	*e*P	**P**	**02 42 59.8**	**-0.6**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.4s						
KURK	**Kurchatov**	**47.62**	**303**	P	**P**	**02 43 02.0**	**0.0**
	comp=Z,2.3nm,0.6s,mb4.4,baz=68,slow=8.5,SNR=25						
KURK	**Kurchatov**	**47.62**	**303**	P	**P**	**02 43 02.0**	**0.0**
KURK				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.3						
CMAR	**Chiang Mai Arr**	**53.96**	**257**	LR	LR	03 08 03.9	
	comp=Z,17nm,18.5s,MS3.1,baz=155,slow=37						
WRA	**Warramunga Arr**	**70.34**	**201**	*i* P	**P**	**02 45 40.2**	**+0.5**
WRA				pmax	pmax		
	comp=Z,1.0nm,0.5s						
TXAR	**Lajitas Array**	**75.66**	**62**	P	**P**	**02 46 13.0**	**+1.7**
	comp=Z,0.4nm,0.6s,mb3.5,baz=308,slow=4.2,SNR=9.8						
KHC	**Kasperske Hory**	**77.45**	**335**	*e*P	**P**	**02 46 20.5**	**-0.6**
GERES	**GERESS Array B**	**77.67**	**335**	P	**P**	**02 46 22.8**	**+0.4**
	comp=Z,0.7nm,0.5s,mb3.8,baz=33,slow=6.2,SNR=10						
GERES	**GERESS Array B**	**77.67**	**335**	P	**P**	**02 46 22.8**	**+0.5**
GERES				pmax	pmax		
	comp=Z,1.0nm,0.5s						

*ISCJB **04** 02:54:44.6±0.9, 3936N±004×202E±0.1, h22km±6km, Error ellipse: s-maj=13.1km s-min=5.9km az=2.4*
*ATH **04** 02:54:44.5, 3927N×2024E, h22km±1km, MD3.2/4*
*NEIC **04** 02:54:44.5, 3927N×2024E, h22km, MD3.2(ATH), After ATH.*
*CSEM **04** 02:54:44.5±0.1, 3922N×2026E, h2km, ML2.7/2, Error ellipse: s-maj=3.1km s-min=1.9km az=88.0*
*THE **04** 02:54:44.3, 3930N×2015E, h10km±1km, ML2.7/2, Error ellipse: s-maj=4.1km s-min=0.6km az=84.0*
ISC 04 02:54:45.0±0.9, **3932N**±004×**2021E**±009, **h16**km±6km, **n15,**
σ0°**63**/25, **Greece-Albania border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IGT	**Igoumenitsa**	**0.23**	**25**	P	**Pg**	**02 54 49.6**	**-0.6**
IGT				S	**Sg**	**02 54 53.9**	**+0.1**
KEK	**Kerkira**	**0.50**	**321**	*e*Pn	**Pg**	**02 54 55.8**	**+0.8**
KEK	**Kerkira**	**0.50**	**321**	*e*PN	**Pg**	**02 54 55.8**	**+0.8**
JAN	**Janina**	**0.60**	**56**	*e*Pb	**Pb**	**02 54 56.3**	**-0.8**
JAN				*e*Sn	**Sg**	**02 55 05.2**	**+0.4**
JAN	**Janina**	**0.60**	**56**	*e*PB	**Pb**	**02 54 56.3**	**-0.8**
JAN				*e*SN	**Sg**	**02 55 05.2**	**+0.4**
LKD	**Levkas**	**0.70**	**150**	P	**Pg**	**02 54 57.5**	**-1.2**
LKD				S	**Sg**	**02 55 08.5**	**+0.5**
VLS	**Valsamata**	**1.18**	**165**	P	**Pn**	**02 55 05.7**	**-1.1**
VLS				S	**Sb**	**02 55 22.6**	**+0.7**
VLS	**Valsamata**	**1.18**	**165**	*e*Pn	**Pn**	**02 55 06.1**	**-0.7**
VLS				*e*Sn	**Sn**	**02 55 22.1**	**-0.4**
VLS				S	**Sb**	**02 55 22.6**	**+0.7**
VLS	**Valsamata**	**1.18**	**165**	*e*Pn	**Pn**	**02 55 06.1**	**-0.7**
VLS				*e*Sn	**Sn**	**02 55 22.1**	**-0.4**
VLS	**Valsamata**	**1.18**	**165**	*e*PN	**Pn**	**02 55 06.1**	**-0.7**
VLS				*e*SN	**Sn**	**02 55 22.1**	**-0.4**
KFL	**Anninata**	**1.29**	**159**	P	**Pn**	**02 55 08.2**	**-0.1**
KFL				S	**Sb**	**02 55 25.6**	**+0.4**
EVR	**Evrytania**	**1.31**	**107**	*e*Pn	**Pn**	**02 55 08.7**	**+0.1**
EVR	**Evrytania**	**1.31**	**107**	*e*PN	**Pn**	**02 55 08.7**	**+0.1**
THL	**Klokotos Trika**	**1.42**	**79**	*e*Pn	**Pn**	**02 55 10.9**	**+0.8**
THL	**Klokotos Trika**	**1.42**	**79**	*e*PN	**Pn**	**02 55 10.9**	**+0.8**

*ISCJB **04** 03:01:02.8±1.2, 356N±005×78.80W±0.10, h38km±12km, mb3.7/8, Error ellipse: s-maj=16.7km s-min=8.8km az=178.5*
*NEIC **04** 03:01:04.3±1.6, 356N×78.91W, h45km±17km, mb3.8/1, Error ellipse: s-maj=20.1km s-min=13.0km az=74.0*
*IDC **04** 03:01:05.6±3.3, 365N×78.76W, h57km±31km, mb3.5/7, mb1 3.9/10, mb1mx3.7/22, mbtmp3.7/10, ML3.6/3, MS2.8/1, Ms1 2.8/1, ms1mx2.5/21, Error ellipse: s-maj=29.8km s-min=15.9km az=62.0*
ISC 04 03:01:05.0±1.1, **355N**±005×**7874W**±009, **h43**km±11km, **n20,**
σ1°**18**/22, **mb3.7**/8, **South of Panama**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OTAV	**Otavalo**	**3.31**	**175**	*e*Pn	**Pn**	**03 01 53.0**	**-1.3**
OTAV				*e*Sn	**Sn**	**03 02 32.2**	**-0.2**
ROSC	**El Rosal**	**4.59**	**73**	P	**Pn**	**03 02 13.5**	**+1.6**
	19nm,0.3s,baz=305,slow=3.6,SNR=72						
ROSC				LR	LR	03 04 26.0	
	comp=Z,105nm,19.1s,baz=19,slow=44						
ROSC	**El Rosal**	**4.59**	**73**	*e*Pn	**Pn**	**03 02 13.0**	**+1.1**
ROSC				LR	LR	03 04 26.0	
BCIP	**Isla Barro Col**	**5.68**	**349**	*e*Pn	**Pn**	**03 02 27.5**	**+0.6**
BCIP				*e*Sn	**Sn**	**03 03 21.3**	**-10**
SDV	**Santo Domingo**	**9.64**	**56**	P	**Pn**	**03 03 21.5**	**+0.2**
	4.1nm,0.3s,baz=210,slow=8.1,SNR=5.5						
SDV				S	**Sn**	**03 05 05.5**	**-2.8**
	2.2nm,0.3s,baz=20,slow=15,SNR=4.3						
TEIG	**Tepich**	**19.00**	**331**	P	**Pn**	**03 05 19.8**	**-4.5**
	0.2nm,0.3s,baz=158,slow=5.4,SNR=2.7						
FDF	**Fort de France**	**20.59**	**56**	*e*P	**P**	**03 05 43.3**	**+2.7**
LPAZ	**La Paz**	**22.33**	**152**	P	**P**	**03 05 59.7**	**+0.5**
	2.5nm,0.7s,mb3.7,baz=339,slow=12,SNR=13						
LPAZ	**La Paz**	**22.33**	**152**	*e*P	**P**	**03 06 02.8**	**+3.6**
	2.7nm,0.8s,mb3.7						
SIV	**San Ignacio**	**26.13**	**138**	P	**P**	**03 06 35.2**	**-0.1**
	1.7nm,0.6s,mb3.8,baz=331,slow=10,SNR=8.7						
TXAR	**Lajitas Array**	**34.88**	**320**	P	**P**	**03 07 51.8**	**-0.7**
	0.2nm,0.7s,mb3.2,baz=121,slow=8.8,SNR=2.8						
PLCA	**Paso Flores**	**44.70**	**171**	P	**P**	**03 09 14.7**	**+0.8**
	2.9nm,0.7s,mb4.2,baz=350,slow=11,SNR=12						
PDAR	**Pinedale Array**	**47.71**	**329**	P	**P**	**03 09 36.4**	**-1.1**
	0.5nm,0.7s,mb3.6,baz=107,slow=13,SNR=3.6						
NVAR	**Mina Array Bea**	**50.02**	**319**	P	**P**	**03 09 57.4**	**+2.0**
	0.5nm,0.6s,mb3.7,baz=145,slow=6.7,SNR=3.6						
TORD	**Torodi Ar. Bea**	**79.89**	**77**	P	**P**	**03 13 08.8**	**-1.3**
	0.6nm,0.5s,mb3.8,baz=281,slow=6.8,SNR=20						
VNA3	**Neumayer Olymp**	**86.73**	**162**	*e*	**P**	**03 13 43.7**	**-0.3**
VNA3				*e*		03 13 52.1	
NOA	**NORSAR Array B**	**86.90**	**29**	P	**P**	**03 13 44.3**	**-0.8**
	0.5nm,0.6s,mb3.9,baz=268,slow=4.4,SNR=2.6						
VNA2	**Neumayer--Watz**	**87.32**	**162**	*e*	**P**	**03 13 47.9**	**+1.0**
	baz=297,slow=5.7						
VNA2				*e*		03 13 55.8	
SNAA	**Sanae**	**88.94**	**162**	*e*	**P**	**03 13 54.6**	**0.0**
SNAA				*e*	pP	03 14 04.3	-3.2
WRA	**Warramunga Arr**	**143.87**	**241**	PKP	PKPdf	03 20 33.2	-3.4
	5.9nm,0.8s,baz=109,slow=2.9,SNR=52						

*NEIC **04** 03:06:42.3, 3225S×7137W, h44km, MD3.7(GUC), After GUC.*
GUC 04 03:06:42.3±0.7, **3225S×7137W, h44**km±4km, **MD3.7,**
ML2.6,7C, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PACH	**Papudo**	**0.30**	**191**	⇑*i*P	Pn	03 06 51.3	+0.4
PACH				*i* S	Sn	03 06 57.9	+1.0
CHNG	**Los Chungos**	**0.38**	**343**	⇑*i*P	Pn	03 06 51.8	+0.1
CHNG				*i* S	Sn	03 06 58.7	+0.4
PEL	**Peldehue**	**1.07**	**147**	⇑*i*P	Pn	03 07 01.8	+1.0
PEL				*i* S	Sn	03 07 16.4	+2.0

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
RCDM	Rinconada Maip	1.33	159⇑	iP	Pn	03 07 05.1	+0.7
RCDM				iS	Sn	03 07 22.4	+1.6
CLCH	Cerro Calan	1.34	149⇑	iP	Pn	03 07 05.8	+1.2
CLCH				iS	Sn	03 07 23.4	+2.1
CLCH				AML	AML	03 07 24.4	
	comp=N,226nm,0.5s						
FCH	Farellones	1.41	140	eP	Pn	03 07 06.8	+1.3
FCH				iS	Sn	03 07 25.7	+2.8
FCH				AML	AML	03 07 26.3	
	comp=E,104nm,0.2s						
TACH	Talagante	1.45	166	eP	Pn	03 07 06.9	+0.8
TACH				iS	Sn	03 07 25.3	+1.4
ANTU	Antumapu	1.46	155	eP	Pn	03 07 07.0	+0.9
ANTU				iS	Sn	03 07 26.0	+2.0
ANTU				AML	AML	03 07 27.8	
	comp=N,130nm,0.2s						
ANTU	Antumapu	1.46	155	eP	Pn	03 07 07.0	+0.9
ANTU				iS	Sn	03 07 26.0	+2.0
PCH	Pirque	1.55	153	eP	Pn	03 07 08.7	+1.3
PCH				iS	Sn	03 07 28.5	+2.2
LMEL	Las Melosas	1.88	149⇑	iP	Pn	03 07 13.6	+1.7
LMEL				iS	Sn	03 07 36.5	+2.2
LMEL				AML	AML	03 07 40.0	
	comp=N,117nm,0.1s						
LMEL	Las Melosas	1.88	149⇑	iP	Pn	03 07 13.6	+1.7
LMEL				iS	Sn	03 07 36.5	+2.2
CACH	El Canelo	1.98	161	iS	Sn	03 07 40.3	+3.6
TLL	Tololo Astrono	2.13	13	eP	Pn	03 07 17.9	+2.6
TLL				eS	Sn	03 07 44.4	+3.9

*TRN **04** 03:17:06.4, 1806N×6460W, h140km*
*NEIC **04** 03:17:08.4, 1809N×6464W, h138km, MD3.5(RSPR), After RSPR.*
*RSPR **04** 03:17:08.4, 1809N×6464W, h138km±1km, MD3.5/13, MD3.5/13*
ISC 04 03:17:07.6±1.4**, 181N**±02×**6462W**±007**, h142**km±9km**, n22, σ0.ˢ34**/38**, 16C-3D, Virgin Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
TBVI	Tortola	0.32	0⇓	eP	Pn	03 17 27.1	-0.1
TBVI				eS	Sn	03 17 41.6	-0.6
STVI	Saint Thomas	0.41	308⇓	eP	Pn	03 17 27.8	+0.2
STVI				eS	Sn	03 17 42.5	-0.3
ABV	Anegada	0.68	23⇑	eP	Pn	03 17 29.7	+0.5
ABV				eS	Sn	03 17 45.9	+0.3
MTP	Monte Pirata	0.89	270⇑	eP	Pn	03 17 30.7	0.0
MTP				eS	Sn	03 17 48.2	0.0
HUMP	Col San Antoni	1.17	272⇑	eP	Pn	03 17 33.4	+0.2
HUMP				eS	Sn	03 17 52.9	+0.2
CBYP	Canovanas	1.19	279⇑	eP	Pn	03 17 33.0	-0.3
CBYP	Canovanas	1.19	279⇑	eP	Pn	03 17 33.4	0.0
CBYP				eS	Sn	03 17 52.9	-0.2
CBYP	Canovanas	1.19	279⇑	eP	Pn	03 17 33.0	-0.3
CBYP				eS	Sn	03 17 52.9	-0.2
CPD	Cerro la Pandu	1.24	267⇑	eP	Pn	03 17 33.9	+0.1
CPD				eS	Sn	03 17 54.4	+0.6
SJG	San Juan	1.46	271⇑	eP	Pn	03 17 36.0	-0.1
SJG	San Juan	1.46	271⇑	eP	Pn	03 17 36.1	0.0
SJG				eS	Sn	03 17 57.8	-0.1
SJG	San Juan	1.46	271⇑	eP	Pn	03 17 36.1	0.0
SJG	San Juan	1.46	271⇑	eP	Pn	03 17 36.2	+0.1
SJG				eS	Sn	03 17 57.6	-0.3
SJG				eS	Sn	03 17 57.8	-0.1
SJG	San Juan	1.46	271⇑	eP	Pn	03 17 36.0	-0.1
SJG				eS	Sn	03 17 57.6	-0.3
ICM	Isla Caja Muer	1.82	264	eS	Sn	03 18 05.3	+0.2
CELP	Cerrillos	1.87	270⇑	eP	Pn	03 17 40.8	+0.1
OBIP	Obispado Ponce	1.89	269	eS	Sn	03 18 06.0	-0.6
OBIP	Obispado Ponce	1.89	269	eS	Sn	03 18 06.0	-0.6
AOPR	Arecibo Observ	2.05	277⇓	eP	Pn	03 17 42.4	-0.4
AOPR				eS	Sn	03 18 09.6	-0.2
LSP	Las Mesas	2.35	272⇑	eP	Pn	03 17 46.7	+0.2
LSP				eS	Sn	03 18 17.2	+0.8
CRPR	Cabo Rojo, PR	2.37	268⇑	eP	Pn	03 17 46.6	-0.2
CRPR				eS	Sn	03 18 16.8	-0.1
AGPR	Aguadilla, PR	2.40	279⇑	eP	Pn	03 17 46.6	-0.5
AGPR				eS	Sn	03 18 17.6	+0.1

*NEIC **04** 03:23:46.5, 1721N×9459W, h144km, MD4.0(MEX), After MEX.*
MEX 04 03:23:46.5±1.0**, 1721N**×**9459W, h144**km±9km**, MD4.0, 1D, Chiapas**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CMIG	Matias Romero	0.31	247⇓	iP	Pn	03 24 05.2	-1.1
CMIG				iS	Sn	03 24 19.0	-2.4
TUIG	Tuzandepetl	0.83	11	iP	Pn	03 24 07.8	-1.5
TUIG				iS	Sn	03 24 24.7	-2.0
HUIG	Huatulco	2.04	226	iP	Pn	03 24 19.0	-2.8
HUIG				iS	Sn	03 24 47.8	-1.1
VHO	Vista Hermosa	2.05	266	iP	Pn	03 24 21.3	-0.6
VHO				iS	Sn	03 24 48.3	-0.7
CCIG	Comitan	2.53	111	eP	Pn	03 24 27.6	-0.1
CCIG				iS	Sn	03 24 57.9	-1.4
TPIG	Tehuac#an	2.90	295	iP	Pn	03 24 31.8	-0.6
TPIG				iS	Sn	03 25 04.7	-3.1
UTMO	Huajuapan	3.13	282	iP	Pn	03 24 33.8	-1.5
UTMO				iS	Sn	03 25 11.8	-1.1

*NIED **04** 03:39:00, 3370N×14120E, h41km, Mw4.3 Best double couple: M₀2.72000×10¹⁵ NP1:φs337.00000°, δ80.00000°, λ55.00000°. NP2:φs233.00000°, δ37.00000°, λ163.00000°.*
*MOS **04** 03:39:31.7±1.4, 3370N×14142E, h33km, mb4.2/6, Error ellipse: s-maj=33.1km s-min=12.6km az=117.6*
*ISCJB **04** 03:39:32.5±0.5, 3363N±003×14129E±005, h33km, mb4.2/12, MS3.3/3, Error ellipse: s-maj=6.8km s-min=4.3km az=151.6*
*IDC **04** 03:39:33.9±4.2, 3363N×14129E, h33km±31km, mb3.8/10, mb1 4.0/13, mb1mx3.9/23, mbtmp3.9/13, ML4.3/3, MS3.2/6, Ms1 3.3/6, ms1mx2.9/31, Error ellipse: s-maj=24.7km s-min=14.3km az=74.0*
*JMA **04** 03:39:34.2±0.2, 3373N×14121E, h62km±4km, M4.3*
*NEIC **04** 03:39:36.4±1.8, 3365N×14112E, h53km±14km, mb4.4/1, Error ellipse: s-maj=25.4km s-min=10.9km az=76.0*
ISC 04 03:39:34.2±0.5**, 3365N**±003×**14127E**±005**, h35**km**, n50, σ0.ˢ87**/57**, mb4.2**/12**, MS3.3**/3**, Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
BSO1	Boso 1	1.03	347	P	Pn	03 39 51.5	-0.6
BSO1				eS	Sn	03 40 05.8	+0.4
BSO3	Boso 3	1.31	332	P	Pn	03 39 55.6	-0.4
JHJ2	Mitsune	1.32	247	P	Pn	03 39 57.1	+1.0
JHJ	Hachijo jima 2	1.35	247	Pn	Pn	03 39 57.2	+0.8
	616nm,0.3s,baz=242,slow=24,SNR=108						
JHJ				Sn	Sn	03 40 12.6	-0.5
	722nm,0.3s,baz=50,slow=23,SNR=17						
JMY	Miyakejima3	1.52	287	P	Pn	03 39 58.6	-0.2
BSO4	Boso 4	1.55	330	P	Pn	03 39 59.3	+0.1
KTR	Katsuura	1.69	333	eS	Sn	03 40 21.3	-0.3
JKO	Kozu shima	1.85	288	P	Pn	03 40 03.5	+0.1
JKO				S	Sn	03 40 25.8	+0.3
JIM2	Oshima 3	1.86	306	P	Pn	03 40 02.7	-0.8
JIM2				S	Sn	03 40 24.2	-1.5
JIZS	Izushimoda	2.25	299	P	Pn	03 40 09.0	+0.1
JIZS				S	Sn	03 40 34.8	-0.6
JOD2	Odawara 2	2.42	313	P	Pn	03 40 10.7	-0.5
JOD2				S	Sn	03 40 38.1	-1.4
SHZ3	Shizuoka 3	2.90	300	P	Pn	03 40 19.1	+1.3
JYN	Shimob	2.91	310	P	Pn	03 40 18.6	+0.7
TK04	Tokai 4	2.91	286	P	Pn	03 40 19.6	+1.7
TK04				eS	Sn	03 40 51.5	-0.2
JRY	Ryogami san	3.06	321	P	Pn	03 40 20.4	+0.4
MJAR	Matsushiro Arr	3.83	320	Pn	Pn	03 40 31.4	+0.9
	18nm,0.3s,baz=153,slow=12,SNR=162						
MJAR				Sn	Sn	03 41 13.8	-0.4
	11nm,0.3s,baz=241,slow=31,SNR=113						
MJAR				LR	LR	03 42 12.9	
	comp=Z,262nm,19.1s,baz=195,slow=42						
MJAR	Matsushiro Arr	3.83	320	P	Pn	03 40 31.4	+0.9
MJAR						03 41 13.8	
MJAR				pmax	pmax		
	comp=Z,18nm,0.3s						
MJAR				smax			
	comp=N,11nm,0.3s						
MJAR				MLR	MLR		
	comp=Z,262nm,19.1s						
MAJO	Matsushiro	3.83	320	ePn	Pn	03 40 31.7	+1.2
MAJO				eSn	Sn	03 41 14.4	+0.1
MAT	Matsushiro	3.83	320	P	Pn	03 40 31.7	+1.2
MAT				S	Sn	03 41 13.6	-0.7
CBIJ	Chichi jima	6.58	173	Pn	Pn	03 41 06.0	-2.3
	comp=Z,27nm,0.3s,baz=286,slow=18,SNR=17						
CBIJ				Sn	Sn	03 42 20.2	-1.9
	comp=Z,18nm,0.3s,baz=248,slow=19,SNR=5.4						
ASAJ	Asahikawa	10.51	5	Pn	Pn	03 42 00.1	-2.1
	comp=Z,1.6nm,0.3s,baz=199,slow=27,SNR=6.8						
ASAJ				Sn	Sn	03 43 52.0	-6.5
	comp=Z,0.8nm,0.3s,baz=56,slow=3.6,SNR=2.6						
ASAJ				LR	LR	03 47 12.0	
	comp=Z,90nm,18.4s,baz=310,slow=44						
ASAJ	Asahikawa	10.51	5	P	Pn	03 42 00.1	-2.1
ASAJ						03 43 52.1	
ASAJ				pmax	pmax		
	comp=Z,2.0nm,0.3s						
ASAJ				smax			
	comp=N,1.0nm,0.3s						
KSRS	Korea Array	11.51	293	LR	LR	03 46 23.1	
	comp=N,133nm,21.9s,baz=163,slow=35						
SONM	Songino Array	29.70	309	P	P	03 45 37.4	+0.8
	comp=N,1.3nm,0.9s,mb3.6,baz=108,slow=9.7,SNR=4.0						
SONM				LR	LR	03 57 33.5	
	comp=N,54nm,18.1s,MS3.2,baz=37,slow=36						
SONM	Songino Array	29.70	309	P	P	03 45 37.4	+0.8
SONM				pmax	pmax		
	comp=Z,1.0nm,0.9s						
SONM				MLR	MLR		
	comp=Z,54nm,18.1s						
CMAR	Chiang Mai Arr	40.62	259	LR	LR	04 04 57.7	
	comp=Z,38nm,20.6s,MS3.2,baz=202,slow=38						
ZALV	Zalesovo Beam	44.16	315	P	P	03 47 39.8	+0.6
	comp=Z,0.7nm,0.4s,mb3.8,baz=99,slow=9.3,SNR=3.1						
ZALV				PcP	PcP	03 49 23.6	0.0
	comp=Z,2.4nm,0.6s,baz=79,slow=2.2,SNR=7.3						
ZALV	Zalesovo Beam	44.16	315	P	P	03 47 39.8	+0.6
ZALV						03 49 23.6	
ZALV				pmax	pmax		
	comp=Z,1.0nm,0.4s,mb3.9						
ZALV				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.0						
MKAR	Makanchi Array	45.88	305	P	P	03 47 52.9	-0.1
	comp=Z,0.5nm,0.3s,mb3.9,baz=92,slow=8.5,SNR=5.3						
MKAR	Makanchi Array	45.88	305	P	P	03 47 52.9	-0.1
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
MKAR	Makanchi Array	45.88	305	P	P	03 47 52.9	-0.1
KURK	Kurchatov	47.98	311	P	P	03 48 08.9	-0.4
	comp=Z,0.9nm,0.4s,mb4.1,baz=87,slow=7.2,SNR=2.4						
KURK	Kurchatov	47.98	311	eP	P	03 48 08.5	-0.8
KURK				pmax	pmax		
	comp=Z,3.0nm,0.7s,mb4.4						
KURK	Kurchatov	47.98	311	eP	P	03 48 08.5	-0.8
	comp=Z,3.1nm,0.7s,mb4.5						
FITZ	Fitzroy Crossi	53.57	199	eP	P	03 48 52.6	+0.9
	comp=Z,7.4nm,0.6s,mb4.8						
WB2	Warramunga Arr	53.69	188	eP	P	03 48 52.8	+0.3
WB2	Warramunga Arr	53.69	188	eP	P	03 48 52.6	+0.1
WRA	Warramunga Arr	53.69	188	P	P	03 48 52.6	0.0
	comp=Z,7.2nm,0.5s,mb4.9,baz=5.4,slow=7.6,SNR=94						
WRA				LR	LR	04 08 34.2	
	comp=Z,44nm,20.8s,MS3.5,baz=200,slow=32						
STKA	Stephens Creek	65.17	180	P	P	03 50 11.4	-0.2
	comp=Z,0.8nm,0.4s,mb4.1,baz=348,slow=7.1,SNR=2.4						
FORT	Forrest	65.28	193	eP	P	03 50 13.0	+0.7
	comp=Z,16nm,0.6s,mb5.2						
AKASG	Malin Array Be	76.91	323	P	P	03 51 21.9	-0.8
	comp=Z,0.7nm,0.5s,mb3.9,baz=45,slow=6.4,SNR=4.3						
AKASG	Malin Array Be	76.91	323	P	P	03 51 21.9	-0.7
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.5s						
NB2	NORSAR Subarra	77.26	338	P	P	03 51 24.7	+0.3
	comp=Z,0.6nm,0.8s,mb3.6,baz=41,slow=5.6						
NOA	NORSAR Array B	77.26	338	P	P	03 51 24.6	+0.2
	comp=Z,0.8nm,0.8s,mb3.7,baz=42,slow=5.5,SNR=4.3						
NOA	NORSAR Array B	77.26	338	P	P	03 51 24.7	+0.3
NOA				pmax	pmax		
	comp=Z,1.0nm,0.8s						
GERES	GERESS Array B	85.53	328	P	P	03 52 08.6	+0.2
	comp=Z,0.4nm,0.4s,mb4.0,baz=36,slow=5.0,SNR=5.8						
TXAR	Lajitas Array	92.28	52	P	P	03 52 42.0	+1.1
	comp=Z,0.3nm,0.8s,mb3.7,baz=285,slow=2.5,SNR=3.4						
TORD	Torodi Ar. Bea	119.60	313	PKP	PKPdf	03 58 18.9	-2.0
	comp=Z,0.3nm,0.9s,baz=48,slow=1.4,SNR=3.1						
LPAZ	La Paz	148.40	64	PKPbc	PKPbc	03 59 19.5	+2.1
	comp=Z,1.1nm,0.8s,baz=18,slow=7.5,SNR=6.8						
LPAZ	La Paz	148.40	64	PKP2	PKPbc	03 59 19.5	+2.1
LPAZ				pmax	pmax		
	comp=Z,1.0nm,0.8s						

*NIED **04** 03:45:00, 2960N×130.10E, h8km, Mw4.0 Best double couple: M₀1.24000×10¹⁵ NP1:φs301.00000°, δ56.00000°, λ-99.00000°. NP2:φs136.00000°, δ35.00000°, λ-77.00000°.*
*ISCJB **04** 03:45:30.2±0.8, 2955N±003×130.18E±007, h21km±7km, mb4.0/6, Error ellipse: s-maj=11.1km s-min=4.2km az=20.7*
*JMA **04** 03:45:31.1±0.1, 2961N×13005E, h32km±2km, M4.1*
JMA Felt II J1.
*NEIC **04** 03:45:34.3±1.2, 2946N×13021E, h38km±13km, mb4.6/1, MW4.0(NIED), Error ellipse: s-maj=17.3km s-min=9.9km az=100.0*
*IDC **04** 03:45:35.3±1.8, 2948N×13024E, h47km±19km, mb3.6/5, mb1 3.8/9, mb1mx3.6/26, mbtmp3.7/9, ML3.7/4, MS2.9/1, Ms1 2.9/1, ms1mx2.4/24, Error ellipse: s-maj=27.0km s-min=13.2km az=107.0*
ISC 04 03:45:30.9±1.3**, 2958N**±004×**13015E**±010**, h19**km±8km**, n22, σ1.ˢ23**/31**, mb4.0**/6**, Ryukyu Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
JNN	Nakanoshima	0.35	318	P	Pg	03 45 38.2	-0.3
JNN				S	Sg	03 45 43.7	+0.1
JKC	Kuchinoerabu	0.88	3	P	Pb	03 45 47.1	-0.6
JKC				eS	Sb	03 45 58.5	-0.6
JAM	Amami Oshima	1.26	202	P	Pn	03 45 52.1	-1.4
JAM				S	Sb	03 46 08.1	-1.7
JZK	Kikaishima	1.27	187	P	Pn	03 45 54.6	+1.0
JTN	Tanegashima 3	1.29	34	P	Pn	03 45 53.5	-0.5
JTN				S	Sn	03 46 10.4	-0.4
JTSR	Tashiro 2	1.72	23	P	Pn	03 45 59.3	-0.6
JTSR				eS	Sn	03 46 19.6	-1.7
JSU	Suzuyama	1.94	8	P	Pn	03 46 02.4	-0.5
JSU				eS	Sn	03 46 25.6	-1.2
JTK	Tokunoshima	2.07	211	P	Pn	03 46 03.7	-1.0
JTK				eS	Sn	03 46 25.5	-4.5
JIH	Iheya	3.18	218	P	Pn	03 46 20.3	+0.3
JIH				eS	Sn	03 46 54.5	-2.9
JOW	Kunigami	3.20	212	P	Pn	03 46 21.1	+1.0
	18nm,0.3s,baz=94,slow=19,SNR=21						
JOW				S	Sn	03 46 59.5	+1.8
	31nm,0.3s,baz=34,slow=29,SNR=7.0						
JOW	Kunigami	3.20	212	P	Pn	03 46 21.0	+0.8
JOW				eS	Sn	03 46 57.7	-0.1
KSRS	Korea Array	8.07	347	P	Pn	03 47 32.4	+5.2
	0.2nm,0.3s,baz=161,slow=13,SNR=3.8						
MJAR	Matsushiro Arr	9.69	42	P	Pn	03 47 52.0	+2.6
	0.6nm,0.3s,baz=241,slow=14,SNR=5.9						
ASAJ	Asahikawa	17.57	31	P	Pn	03 49 37.5	+2.8
	0.7nm,0.3s,baz=216,slow=5.4,SNR=6.4						
SONM	Songino Array	25.83	321	P	P	03 51 03.3	+2.3
	0.5nm,0.4s,mb3.4,baz=123,slow=10,SNR=4.1						
PETK	Petropavlovsk-	30.97	33	LR	LR	04 05 48.0	
	comp=Z,22nm,20.4s,baz=98,slow=39						
KURK	Kurchatov	43.65	314	P	P	03 53 35.0	+0.8
	0.8nm,0.7s,mb3.6,baz=103,slow=8.7,SNR=5.0						
FITZ	Fitzroy Crossi	47.60	186	eP	P	03 54 05.7	0.0
	4.0nm,0.6s,mb4.6						
BVAR	Borovoye Array	48.98	316	P	P	03 54 19.0	+3.0
	0.6nm,0.5s,mb3.9,baz=105,slow=9.1,SNR=3.6						
WRA	Warramunga Arr	49.40	175	P	P	03 54 19.5	0.0
	5.1nm,0.7s,mb4.7,baz=353,slow=8.2,SNR=38						
WB2	Warramunga Arr	49.40	175	eP	P	03 54 19.4	-0.1
NOA	NORSAR Array B	77.06	334	P	P	03 57 23.9	+1.4
	0.5nm,0.7s,mb3.6,baz=50,slow=5.6,SNR=2.9						

*BJI **04** 04:48:00.4, 2776N×14000E, h502km, mB4.9, mb5.0*
*NIED **04** 04:48:00, 2800N×13990E, h480km, Mw5.0 Best double couple: M₀3.96000×10¹⁶ NP1:φs1.00000°, δ81.00000°, λ134.00000°. NP2:φs100.00000°, δ45.00000°, λ13.00000°.*
*DJA **04** 04:48:00, 2781N×13971E, h433km, Mw5.4/8*
*MOS **04** 04:48:03.4±0.8, 2793N×13948E, h501km, mb4.6/48, Error ellipse: s-maj=10.4km s-min=5.6km az=100.5*
*JMA **04** 04:48:04.3±0.3, 2801N×13994E, h509km±4km, M5.6*
*IDC **04** 04:48:04.1±0.5, 2795N×13956E, h497km±5km, mb4.1/27, mb1 4.2/34, mb1mx4.2/36, mbtmp4.1/34, Error ellipse: s-maj=8.1km s-min=5.9km az=77.0*
*ISCJB **04** 04:48:04.3±0.3, 2798N±002×13957E±002, h501km±2km, mb4.5/114, Error ellipse: s-maj=3.7km s-min=3.2km az=175.1*
*NEIC **04** 04:48:04.7±0.4, 2792N×13956E, h503km±5km, mb4.5/71, MW5.0(NIED), Error ellipse: s-maj=4.4km s-min=3.3km az=113.0*
ISC 04 04:48:05.2±0.2**, 2796N**±002×**13963E**±002**, h500**km±2km**, h501**km±5.9km**: pP-P, n637, σ0.ˢ76**/684**, mb4.5**/114**, 181C-175D, Bonin Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CBIJ	Chichi jima	2.43	110	P	P	04 49 11.8	-0.8
	322nm,0.3s,baz=94,slow=1.6,SNR=116						
CBIJ				S	S	04 50 04.8	-2.5
	1µm,0.3s,baz=268,slow=23,SNR=25						
CBIJ	Chichi jima	2.43	110	P	P	04 49 11.4	-1.2
CBIJ				eS	S	04 50 04.5	-2.8
JHHJ	Haha-jima-NKT	2.63	120	P	P	04 49 13.6	-0.2
JHHJ				eS	S	04 50 08.2	-1.3
JHJ2	Mitsune	5.14	2	P	P	04 49 33.4	+0.2
JHJ	Hachijo jima 2	5.14	1	P	P	04 49 33.5	+0.3
	195nm,0.3s,baz=73,slow=24,SNR=14						
JHJ				S	S	04 50 42.0	-3.3
	203nm,0.3s,baz=210,slow=23,SNR=11						
TK01	Tokai 1	6.04	344	eS	S	04 51 03.0	+2.2
JWZ	Kozaga	6.49	330	P	P	04 49 48.3	+2.2
BSO1	Boso 1	6.77	10	P	P	04 49 49.1	+0.2
BSO1				eS	S	04 51 12.0	-1.9
JIE	Ise	6.88	339	⇑P	P	04 49 52.1	+2.1
JIE				eS	S	04 51 18.2	+2.3
HMMJ	Hamamatsu 2	7.06	347	P	P	04 49 52.3	+0.5
MRT2	Murotomisaki 2	7.18	320	⇑P	P	04 49 55.5	+2.5
JYZW	Yoshizawa	7.20	348	P	P	04 49 53.9	+0.8
JYZW				S	S	04 51 20.7	-1.0
JOD2	Odawara 2	7.29	357	P	P	04 49 53.8	-0.3
JOD2				eS	S	04 51 22.1	-1.4
JTO	Tosashimizu	7.65	311	⇑P	P	04 50 00.4	+2.6
JTO				eS	S	04 51 35.0	+4.7
JJS	Sakaide	8.04	324	⇑P	P	04 50 04.1	+2.3
JRY	Ryogami san	8.05	356	⇑P	P	04 50 01.7	-0.2
JRY				eS	S	04 51 35.0	-2.8
JNA	Nagahama	8.30	314	⇑P	P	04 50 07.2	+2.7
JAG	Ashikaga	8.44	359	⇑P	P	04 50 04.5	-1.4
JAG				S	S	04 51 40.7	-4.5
JNG	Nsakai	8.52	352	⇑P	P	04 50 06.6	-0.1
JNG				S	S	04 51 43.6	-3.1
MJAR	Matsushiro Arr	8.64	352	P	P	04 50 07.5	-0.5
	22nm,0.3s,baz=201,slow=6.6,SNR=76						
MJAR				S	S	04 51 45.4	-3.6
	5.2nm,0.3s,baz=202,slow=18,SNR=4.8						
MJAR	Matsushiro Arr	8.64	352	P	P	04 50 07.5	-0.5
MJAR				S	S	04 51 45.4	-3.6
MJAR				pmax	pmax		
	comp=Z,22nm,0.3s						
MJAR				smax			
	comp=N,5.0nm,0.3s						
MAJO	Matsushiro	8.64	352	eP	P	04 50 06.9	-1.1
MAJO				eS	S	04 51 45.5	-3.5
MAJO				pmax	pmax		
	comp=Z,241nm,0.8s						
MAJO	Matsushiro	8.64	352	eP	P	04 50 06.9	-1.1
	comp=Z,241nm,0.8s						
MAJO				eS	S	04 51 45.5	-3.5
MAT	Matsushiro	8.64	352	P	P	04 50 07.4	-0.6
MAT				S	S	04 51 44.1	-4.9
MAT	Matsushiro	8.64	352	P	P	04 50 08.2	+0.2
MAT				eS	S	04 51 46.9	-2.1
JAM	Amami Oshima	8.85	275	P	P	04 50 12.8	+2.4
JHS	Saijyo	8.95	323	⇑P	P	04 50 13.2	+1.9
JHT	Toyohira	9.09	319	P	P	04 50 14.4	+1.7
JHIK	Hikimi	9.29	317	P	P	04 50 16.6	+1.8
JSJ	Shimokoshiki	9.37	296	P	P	04 50 18.0	+2.2
JOW	Kunigami	10.15	266	P	P	04 50 23.5	-0.6
	comp=Z,8.4nm,0.3s,baz=93,slow=14,SNR=8.9						
JTU	Tsushima	10.92	309	P	P	04 50 33.7	+1.6
JMK	Ichinoseki	11.04	7	P	P	04 50 34.2	+0.9
JMK				eS	S	04 52 31.1	-4.3
JOT	Ohata	13.44	5	P	P	04 50 59.1	+0.4
KSRS	Korea Array	13.65	317	P	P	04 51 00.4	-0.6
	comp=Z,2.4nm,0.3s,baz=135,slow=11,SNR=35						
KSRS				S	S	04 53 30.6	+4.5
	baz=127,slow=22,SNR=4.5						
KSRS				ScP	ScP	04 58 31.4	-0.8
	comp=Z,0.1nm,0.3s,baz=216,slow=0.7,SNR=11						
JKB	Kayabe	13.94	4	P	P	04 51 03.8	-0.2
JOSM	Okushiri--Mats	14.09	360	P	P	04 51 05.8	+0.3
ERM	Erimo	14.31	11	eP	P	04 51 07.8	-0.1
ERM				pmax	pmax		
	comp=Z,97nm,0.8s						
ERM	Erimo	14.31	11	eP	P	04 51 07.8	-0.1
	comp=Z,97nm,0.8s						
ERM				eS	S	04 53 50.4	+12
INCN	Inchon	14.47	314	eP	P	04 51 08.6	-1.0
	comp=Z,39nm,0.6s						
GUMO	Guam	15.11	160	P	P	04 51 16.4	-0.3
	comp=Z,18nm,0.3s,baz=192,slow=18,SNR=4.2						
GUMO	Guam	15.11	160	P	P	04 51 16.4	-0.3
GUMO				pmax	pmax		
	comp=Z,18nm,0.3s						
NEM2	Nemuro 2	16.15	16	P	P	04 51 26.7	-0.3
ASAJ	Asahikawa	16.30	8	P	P	04 51 28.7	+0.1
	comp=Z,3.8nm,0.3s,baz=222,slow=12,SNR=43						
ASAJ	Asahikawa	16.30	8	P	P	04 51 28.7	+0.1
ASAJ				pmax	pmax		
	comp=Z,4.0nm,0.3s						
JTKR	Abashiri--Toko	16.34	11	P	P	04 51 29.3	+0.2
VLA	Vladivostok	16.37	340	eP	P	04 51 28.5	-0.9
VLA				eS	S	04 54 17.7	0.0
VLA				pmax	pmax		
	comp=Z,247nm,1.1s						
YHNB	Yeheng	16.69	263	eP	P	04 51 31.3	-1.7
	comp=Z,22nm,0.4s						
YUK	Yuzh-Kuril'sk	16.80	16	eP	P	04 51 30.6	-3.3
YUK				pmax	pmax		
	comp=Z,190nm,0.5s						
YUK				pmax	pmax		
	comp=N,170nm,0.4s						
JWK2	Keihoku	17.42	5	P	P	04 51 40.7	+0.8
NJ2	Nanjing	18.44	288	eP	P	04 51 49.5	0.0
NJ2				XP	sP	04 53 49.2	-8.4
NJ2				S	S	04 54 52.5	+0.1
NJ2				AMB	AMB		
	comp=Z,70nm,1.0s						
NJ2				AMB	AMB		
	comp=Z,120nm,6.0s						
MDJ	Mudanjiang	18.46	337	P	P	04 51 49.5	+0.1
MDJ				XP	sP	04 53 55.8	-2.0
MDJ				S	S	04 54 52.8	+0.5
MDJ				SCP	ScP	04 58 39.4	-2.0
MDJ				PCS	PcS	04 59 30.1	-0.2
MDJ				SCS	ScS	05 02 21.7	-1.0
MDJ				AMB	AMB		
	comp=Z,47nm,0.9s						
MDJ				AMB	AMB		
	comp=Z,140nm,4.5s						
MDJ	Mudanjiang	18.46	337	eP	P	04 51 49.7	+0.2
	comp=Z,44nm,0.9s						
DL2	Dalian	18.53	311	P	P	04 51 49.5	-0.7
DL2				eXP	sP	04 53 53.6	-5.0
DL2				S	S	04 54 55.4	+1.7
DL2				AMB	AMB		
	comp=Z,40nm,0.7s						
QZH	Quanzhou	19.07	266	P	P	04 51 55.9	+0.6
QZH				AMB	AMB		
	comp=Z,70nm,0.5s						
YSS	Yuzh-Sakhalins	19.12	7⇑	eP	P	04 51 53.8	-1.6
YSS	Yuzh-Sakhalins	19.12	7	eP	P	04 51 55.3	-0.1
	comp=Z,49nm,0.8s						
CN2	Changchun	19.49	328	eP	P	04 51 58.8	-0.1
CN2				eXP	sP	04 54 07.9	-1.3
CN2				eS	S	04 55 06.7	-2.5

CN2 AMB AMB
comp=Z,10.0nm,1.0s
CN2 AMB AMB
comp=Z,200nm,4.0s
HABR Khabarovsk 20.79 351⇑ *e*P **P 04 52 10.7 +0.1**
HABR *e*S **S 04 55 31.6 +1.9**
HABR *e* 05 02 28.9
KLR Kul'dur 22.09 346⇓ *i*P **P 04 52 19.0 -3.3**
KLR pmax pmax
comp=E,40nm,1.6s
KLR pmax pmax
comp=Z,88nm,1.6s,mb5.0
WHN Wuhan 22.19 283 ⇓P **P 04 52 24.0 +0.4**
BJI Beijing 22.80 308 P **P 04 52 27.8 -1.1**
BJI XP sP 04 54 43.2 -2.3
BJI S **S 04 56 00.2 -1.6**
BJI AMB AMB
comp=Z,18nm,1.2s,mb4.4
BJI AMB AMB
comp=Z,165nm,5.8s
BJI Beijing 22.80 308 P **P 04 52 27.8 -1.1**
BJI *SP sP 04 54 43.2 -2.3
BJI S **S 04 56 00.2 -1.6**
BJI pmax pmax
comp=Z,18nm,1.2s,mb4.4
BJI Beijing 22.80 308 P **P 04 52 27.8 -1.1**
comp=Z,18nm,1.2s,mb4.4
BJI sP sP 04 54 43.2 -2.3
BJI S **S 04 56 00.2 -1.6**
HIA Hailar 26.19 330 *e*P **P 04 52 58.7 -0.2**
HIA pmax pmax
comp=Z,50nm,1.0s
HIA Hailar 26.19 330 *e*P **P 04 52 58.6 -0.2**
comp=Z,50nm,1.0s,mb4.9
HHC Hu-ho-hao-te 26.36 307 *e*P **P 04 53 00.0 -0.5**
HHC XP sP 04 55 22.0 -0.8
HHC PCP PcP 04 56 09.4 -0.5
HHC S **S 04 56 59.1 +1.3**
HHC SCP ScP 04 59 00.0 -2.2
HHC AMB AMB
comp=Z,26nm,1.0s,mb4.6
HHC AMB AMB
comp=Z,182nm,5.4s
XAN Xi'an 26.95 291 P **P 04 53 05.7 -0.1**
XAN S **S 04 57 05.5 -1.7**
XAN SCP ScP 04 59 04.4 +0.3
XAN PCS PcS 04 59 50.5 -3.1
XAN AMB AMB
comp=Z,27nm,1.1s,mb4.6
XAN AMB AMB
comp=Z,196nm,5.9s
PETK Petropavlovsk- 28.47 23 P **P 04 53 18.6 -0.2**
comp=Z,3.2nm,0.3s,mb4.2,baz=202,slow=4.4,SNR=7.6
PET Petropavlovsk 28.74 24 *e*P **P 04 53 21.0 -0.1**
PET pmax pmax
comp=Z,113nm,1.3s,mb5.1
PET Petropavlovsk 28.74 24 *e*P **P 04 53 21.0 -0.1**
comp=Z,113nm,1.3s,mb5.1
GYA Guiyang 29.31 275⇑ *i*P **P 04 53 24.3 -2.2**
GYA AP 04 54 49.2
GYA XP sP 04 55 47.8 -1.8
GYA PCP PcP 04 56 16.2 -1.4
GYA S **S 04 57 41.9 -2.2**
GYA SCP ScP 04 59 10.4 -1.3
GYA PCS PcS 05 00 00.8 -0.6
GYA SCS ScS 05 03 04.2 -3.2
GYA AMB AMB
comp=Z,10.0nm,0.7s,mb4.3
MYLDM Lahad Datu 30.27 225 ⇓P **P 04 53 37.0 +1.9**
CLNS Chul'man 30.70 344 *e*P **P 04 53 38.2 +0.1**
CLNS *e**PP 04 55 01.0
CLNS *e* 04 56 20.8
CLNS *e*S **S 04 58 04.6 -0.2**
CLNS *e* 05 03 12.9
CLNS pmax pmax
comp=Z,36nm,0.9s,mb4.8
CLNS pmax pmax
comp=N,24nm,0.8s
CLNS pmax pmax
comp=E,6.0nm,0.6s
CLNS smax
comp=E,232μm,14.6s
CLNS smax
comp=N,49μm,16.2s
SDKM Sandakan 30.76 228 ⇑P **P 04 53 41.0 +1.7**
LZH Lanzhou 31.26 294 *e*P **P 04 53 41.5 -1.8**
LZH AP 04 55 11.5
LZH PP PP 04 55 16.0 +5.6
LZH XP sP 04 56 09.5 +2.5
LZH S **S 04 58 11.1 -3.0**
LZH XS sS 05 00 49.5 -3.8
LZH AMB AMB
comp=Z,76nm,1.0s,mb5.1
LZH AMB AMB
comp=Z,380nm,5.6s
LZH Lanzhou 31.26 294 *e*P **P 04 53 41.5 -1.8**
LZH *PP 04 55 11.5
LZH *SP sP 04 56 09.5 +2.5
LZH S **S 04 58 11.1 -3.0**
LZH *SS sS 05 00 49.5 -3.8
LZH SS SS 05 00 53.6 -6.8
LZH pmax pmax
comp=Z,76nm,1.0s,mb5.1
LZH Lanzhou 31.26 294 *e*P **P 04 53 41.5 -1.8**
comp=Z,76nm,1.0s,mb5.1
LZH pP 04 55 11.5
LZH PP PP 04 55 16.0 +5.6
LZH sP sP 04 56 09.5 +2.5
LZH S **S 04 58 11.1 -3.0**
LZH sS sS 05 00 49.5 -3.8
LZH SS SS 05 00 53.6 -6.8
CD2 Chengdu 31.29 284 P **P 04 53 43.3 -0.3**
CD2 AP 04 55 10.9
CD2 XP sP 04 56 09.1 +1.8
CD2 S **S 04 58 14.0 -0.7**
CD2 XS sS 05 00 51.6 -2.4
CD2 SCS ScS 05 03 14.9 -2.2
CD2 AMB AMB
comp=Z,100nm,1.2s,mb5.1
CD2 AMB AMB
comp=Z,160nm,5.8s
TSM Tawau 31.35 225 ⇓P **P 04 53 46.0 +1.6**
ULN Ulaanbaatar 32.14 317*c* *i*P **P 04 53 51.0 +0.4**
ULN Ulaanbaatar 32.14 317 *e*P **P 04 53 50.9 +0.3**
comp=Z,31nm,1.0s,mb4.7
SONM Songino Array 32.52 317 P **P 04 53 54.0 +0.1**
comp=Z,10nm,0.8s,mb4.3,baz=124,slow=8.5,SNR=62
SONM S **S 04 58 31.3 -1.8**
comp=Z,0.3nm,0.4s,baz=102,slow=14,SNR=4.3
SONM ScP ScP 04 59 20.2 -1.9
comp=Z,4.0nm,0.6s,baz=129,slow=2.5,SNR=22
SONM Songino Array 32.52 317 P **P 04 53 54.0 +0.1**
SONM S **S 04 58 31.3 -1.7**
SONM pmax pmax
comp=Z,10.0nm,0.8s
SONM pmax pmax
comp=N,4.0nm,0.6s
KMI Kunming 33.04 274 P **P 04 54 00.0 +1.4**
KMI AMB AMB
comp=Z,19nm,1.3s,mb4.4
KMI Kunming 33.04 274 P **P 04 54 00.0 +1.4**
comp=Z,19nm,1.3s,mb4.4
YAK Yakutsk 34.70 352 *e*P **P 04 54 10.8 -1.3**
YAK *e**PP 04 55 42.9
YAK *e*S **S 04 59 01.5 -4.2**
YAK *e*SS SS 05 02 05.5 -0.8
YAK *e* 05 03 27.3
YAK pmax pmax
comp=Z,59nm,0.9s,mb5.0
YAK pmax pmax
comp=E,9.0nm,1.0s
YAK pmax pmax
comp=N,21nm,0.8s
YAK pmax pmax
comp=Z,19nm,0.6s,mb4.7
YAK smax
comp=E,121μm,2.1s
YAK smax
comp=N,113μm,1.5s
YAK Yakutsk 34.70 352 *e*P **P 04 54 11.3 -0.8**
comp=N,58nm,0.8s,mb5.1
GTA Gaotai 34.78 300 P **P 04 54 13.2 +0.1**
GTA AP 04 55 39.2
GTA S **S 04 59 08.3 +0.7**
GTA SCP ScP 04 59 29.3 -1.0
GTA SS SS 05 01 58.1 -10
GTA AMB AMB
comp=Z,38nm,0.9s,mb4.8
GTA AMB AMB
comp=Z,78nm,5.4s
BOD Bodaibo 34.83 336 *e*P **P 04 54 12.6 -0.6**
BOD pmax pmax
comp=Z,28nm,0.9s,mb4.7
ZAK Zakamensk 35.47 319 *e*P **P 04 54 16.1 -2.5**
ZAK *e* 04 55 54.3
ZAK pmax pmax
comp=Z,16nm,1.1s,mb4.4
TLY Talaya 35.84 321 *e*P **P 04 54 22.0 +0.3**
TLY *e* pP 04 55 48.1 -1.5
TLY *eS **S 04 59 22.1 -1.0**
TLY pmax pmax
comp=Z,15nm,1.1s,mb4.3
TLY MLR MLR
comp=Z,63nm,16.0s
SEY Seymchan 35.96 10⇑ *e*P **P 04 54 22.9 +0.4**
NANT Nan 36.74 264 P **P 04 54 24.0 -5.7**
PMG Port Moresby 37.85 168 *e*P **P 04 54 37.6 -1.2**
PMG pmax pmax
comp=Z,11nm,0.4s
PMG Port Moresby 37.85 168 *e*P **P 04 54 37.6 -1.1**
comp=Z,11nm,0.4s,mb4.6
KAPI Kappang 37.98 213 P **P 04 54 38.3 -1.5**
comp=Z,11nm,0.5s,mb4.6,baz=101,slow=1.5,SNR=12
KAPI Kappang 37.98 213 *e*P **P 04 54 38.1 -1.8**
comp=Z,12nm,0.8s,mb4.4
CHG Chiang Mai 38.29 265 ⇑P **P 04 54 42.5 +0.2**
comp=Z,33nm,0.7s,mb4.9
CHTO Chiang Mai 38.29 265 *e*P **P 04 54 42.3 0.0**
CHTO pmax pmax
comp=Z,39nm,1.0s,mb4.8
CHTO Chiang Mai 38.29 265 *e*P **P 04 54 42.3 0.0**
comp=Z,39nm,1.0s,mb4.8
CMAR Chiang Mai Arr 38.42 265 P **P 04 54 43.5 +0.1**
comp=Z,17nm,1.1s,mb4.4,baz=54,slow=8.6,SNR=34
CMAR ScP ScP 04 59 42.9 -1.5
comp=Z,0.8nm,0.3s,baz=116,slow=2.1,SNR=4.7
CMAR Chiang Mai Arr 38.42 265 P **P 04 54 43.5 +0.1**
CMAR pmax pmax
comp=Z,17nm,1.1s
CMAR pmax pmax
comp=N,1.0nm,0.3s
KSM Kuching 38.47 232 *e*P **P 04 54 43.4 -0.5**
BATI Baumata 40.97 204 P **P 04 55 02.8 -1.1**
comp=N,91nm,0.6s,mb5.4,baz=320,slow=1.5,SNR=14
KAKA Kakadu 41.02 191 *e*P **P 04 55 02.9 -1.5**
comp=N,25nm,0.6s,mb4.8
COEN Coen 41.81 175 *e*P **P 04 55 10.0 -0.5**
comp=N,5.0nm,0.8s,mb4.0
LSA Lhasa 42.26 284 P **P 04 55 16.3 +2.2**
LSA Lhasa 42.26 284 *e*P **P 04 55 15.7 +1.6**
SHL Shillong 42.48 278 *i*P **P 04 55 16.5 +0.6**
SHL *ex* x 05 04 16.5
MYKOM Kota Tinggi 42.96 239 ⇓P **P 04 55 21.3 +1.6**
BILL Bilibino 43.15 14*c* *i*P **P 04 55 20.5 +0.1**
BILL *e* pP 04 56 58.2 +5.8
BILL *e* 04 57 14.4
BILL pmax pmax
comp=Z,190nm,1.4s,mb5.3
BILL Bilibino 43.15 14 *e*P **P 04 55 20.3 -0.1**
comp=Z,124nm,1.0s,mb5.3
KULM Kulim 43.32 246 ⇑P **P 04 55 23.9 +1.2**
IPM Ipoh 43.50 245 ⇓P **P 04 55 24.7 +0.7**
FRIM Kepong 43.77 243 ⇑P **P 04 55 27.0 +0.9**
TIXI Tiksi 44.14 355⇑ *e*P **P 04 55 27.3 -0.8**
TIXI pmax pmax
comp=Z,36nm,1.1s,mb4.7
WMQ Urumqi 44.22 305 P **P 04 55 26.3 -2.9**
WMQ AP pP 04 56 59.8 -1.9
WMQ PP PP 04 57 19.8 -2.1
WMQ XP sP 04 57 55.3 -2.6
WMQ SCP ScP 05 00 03.4 -3.7
WMQ S **S 05 01 22.7 -3.0**
WMQ AMB AMB
comp=Z,15nm,1.1s,mb4.3
WMQ AMB AMB
comp=Z,112nm,4.2s
TAPN Taplejung 45.70 282 *e*P **P 04 55 41.8 +1.0**
comp=Z,11nm,0.3s,mb4.8
ODAN Odare 46.09 281 *e*P **P 04 55 44.7 +0.9**
comp=Z,14nm,0.3s,mb4.9
RAMN Ramite 46.75 282 *e*P **P 04 55 50.0 +1.2**
comp=Z,143nm,1.0s,mb5.4
JIRN Jiri 46.94 283 *e*P **P 04 55 52.0 +1.8**
GUN Gumba 47.15 283 *e*P **P 04 55 53.4 +1.6**
comp=Z,64nm,0.4s,mb5.4
ZAA0 Zalesovo Array 47.35 319 *e*P **P 04 55 51.8 -1.0**
ZALV Zalesovo Beam 47.35 319 P **P 04 55 52.2 -0.7**
comp=Z,9.6nm,0.3s,mb4.7,baz=99,slow=7.0,SNR=52
ZALV PcP PcP 04 57 12.7 -1.2
comp=Z,1.4nm,0.4s,baz=103,slow=4.6,SNR=4.2
ZALV ScP ScP 05 00 16.7 -3.2
comp=Z,4.6nm,0.5s,baz=106,slow=4.7,SNR=11
ZALV S **S 05 02 06.9 -2.3**
comp=Z,1.0nm,0.7s,baz=112,slow=11,SNR=3.4
ZALV Zalesovo Beam 47.35 319 P **P 04 55 52.2 -0.7**
ZALV 04 57 12.7
ZALV S **S 05 02 06.9 -2.2**
ZALV pmax pmax
comp=Z,10.0nm,0.3s,mb4.7
ZALV pmax pmax
comp=Z,1.0nm,0.4s,mb3.6
ZALV pmax pmax
comp=N,5.0nm,0.5s
ZALV smax
comp=N,1.0nm,0.7s
PKI Pulchoki 47.63 283 *e*P **P 04 55 56.3 +0.8**
comp=N,11nm,0.3s,mb4.6
KKN Kakani 47.69 283 *e*P **P 04 55 57.0 +1.1**
FITZ Fitzroy Crossi 47.75 198 *e*P **P 04 55 55.5 -0.8**
comp=N,26nm,0.5s,mb4.8
FITZ Fitzroy Crossi 47.75 198 P **P 04 55 55.8 -0.6**
comp=N,14nm,0.5s,mb4.5,baz=17,slow=9.2,SNR=81
FITZ S **S 05 02 13.8 -1.8**
comp=N,1.0nm,0.8s,baz=6.9,slow=23,SNR=3.0
DMN Daman 47.88 283 *e*P **P 04 55 58.4 +1.0**
WB2 Warramunga Arr 47.89 187 *e*P **P 04 55 55.9 -1.5**
WRA Warramunga Arr 47.89 187 P **P 04 55 55.8 -1.6**
comp=N,30nm,0.4s,mb5.0,baz=2.7,slow=7.8,SNR=385
WRA PcP PcP 04 57 15.7 -0.6
comp=N,3.3nm,0.5s,baz=0.1,slow=3.4,SNR=5.8
WRA ScP ScP 05 00 20.2 -2.4
comp=N,2.1nm,0.8s,baz=354,slow=4.2,SNR=4.2
WRA S **S 05 02 15.6 -1.9**
comp=N,3.0nm,0.7s,baz=8.8,slow=13,SNR=8.4
WRA Warramunga Arr 47.89 187 P **P 04 55 55.8 -1.6**
WRA 04 57 15.7
WRA S **S 05 02 15.6 -1.8**
WRA pmax pmax
comp=Z,30nm,0.4s
WRA pmax pmax
comp=Z,3.0nm,0.5s
WRA pmax pmax
comp=N,2.0nm,0.8s
WRA smax
comp=N,3.0nm,0.7s
MK31 Makanchi Array 48.17 309 *i*P **P 04 55 59.1 -0.1**
MK31 pmax pmax
comp=Z,3.0nm,0.3s,mb4.1
MKAR Makanchi Array 48.17 309 P **P 04 55 59.1 0.0**
comp=Z,5.7nm,0.4s,mb4.2,baz=92,slow=9.8,SNR=69
MKAR PcP PcP 04 57 16.7 -0.4
comp=Z,2.0nm,0.7s,baz=79,slow=2.3,SNR=3.2
MKAR ScP ScP 05 00 21.4 -2.3
comp=Z,3.2nm,0.6s,baz=84,slow=5.1,SNR=9.1
MKAR S **S 05 02 18.9 -1.8**
comp=Z,1.2nm,0.8s,baz=92,slow=17,SNR=3.6
MKAR Makanchi Array 48.17 309 P **P 04 55 59.2 0.0**
MKAR 04 57 16.7
MKAR S **S 05 02 18.9 -1.8**
MKAR pmax pmax
comp=Z,6.0nm,0.4s
MKAR pmax pmax
comp=Z,2.0nm,0.7s
MKAR pmax pmax
comp=N,3.0nm,0.6s
MKAR smax
comp=N,1.0nm,0.8s
MKAR Makanchi Array 48.17 309 P **P 04 55 59.1 0.0**
MKAR PcP PcP 04 57 16.7 -0.4
MKAR ScP ScP 05 00 21.4 -2.3
MKAR S **S 05 02 18.9 -1.8**
CTA Charters Tower 48.19 172 *e*P **P 04 55 59.0 -0.6**
comp=N,9.8nm,0.8s,mb4.2
CTA Charters Tower 48.19 172 P **P 04 55 58.6 -1.1**
comp=N,7.2nm,0.5s,mb4.3,baz=13,slow=9.8,SNR=4.0
CTA Charters Tower 48.19 172 *e*P **P 04 55 59.0 -0.6**
CTA pmax pmax
comp=Z,10.0nm,0.8s
CTAO Charters Tower 48.19 172 *e*P **P 04 55 58.2 -1.4**
CTAO pmax pmax
comp=Z,10.0nm,0.6s,mb4.3
CTAO Charters Tower 48.19 172 *e*P **P 04 55 58.2 -1.4**
comp=Z,9.7nm,0.6s,mb4.3
GKN Gorkha 48.20 284 *e*P **P 04 56 00.6 +0.9**
NVS Novosibirsk 48.42 320 *e*P **P 04 55 59.2 -1.7**
NVS *eS **S 05 02 21.0 -2.9**
NVS *e*SS sS 05 04 54.4 -21
NVS pmax pmax
comp=N,10.0nm,1.4s
NVS pmax pmax
comp=Z,25nm,1.4s,mb4.3
NVS pmax pmax
comp=E,24nm,1.3s
NVS smax
comp=N,26nm,2.2s
NVS smax
comp=E,18nm,1.8s
DANN Dangsing 48.87 284 *e*P **P 04 56 06.1 +1.4**
comp=E,90nm,0.7s,mb5.2
KOLN Koldanda 49.14 284 *e*P **P 04 56 07.4 +0.7**
comp=E,29nm,0.5s,mb4.8
KURK Kurchatov 50.76 314 P **P 04 56 18.0 -0.2**
comp=E,50nm,0.6s,mb5.0,baz=91,slow=7.9,SNR=168
KURK ScP ScP 05 00 31.3 -3.4
comp=E,1.2nm,0.6s,baz=95,slow=4.7,SNR=4.2
KURK S **S 05 02 52.9 -3.0**
comp=E,3.4nm,1.1s,baz=94,slow=12,SNR=12
KURK Kurchatov 50.76 314 P **P 04 56 18.0 -0.2**
KURK S **S 05 02 52.9 -3.0**
KURK pmax pmax
comp=Z,50nm,0.6s,mb5.0
KURK pmax pmax
comp=N,1.0nm,0.6s
KURK smax
comp=N,3.0nm,1.1s
MBWA Marble Bar 52.48 204 *e*P **P 04 56 29.9 -1.1**
comp=N,35nm,0.6s,mb4.9
TKM2 Tokmak 2 53.06 304 P **P 04 56 35.9 +0.9**
SNR=13
KBK Karagaybulak 53.56 304 P **P 04 56 39.4 +0.8**
SNR=14
USP Ospenovka 53.82 305 P **P 04 56 40.6 +0.3**
SNR=5.3
AAK Ala-Archa 53.89 304 P **P 04 56 41.4 +0.5**
SNR=7.3
UCH Uchtor 53.93 304 P **P 04 56 42.5 +1.3**
SNR=19
EKS2 Erkin-Say 54.42 304 P **P 04 56 45.0 +0.3**
SNR=5.3
AML Almayashu 54.55 304 P **P 04 56 46.9 +1.4**
SNR=18
KDAK Kodiak Island 55.04 37 P **P 04 56 47.4 -1.3**
comp=N,12nm,0.4s,mb4.5,baz=267,slow=3.5,SNR=12
KDAK Kodiak Island 55.04 37 P **P 04 56 47.4 -1.3**
PPLA Purkeypile 55.59 31 *e*P **P 04 56 52.6 +0.1**
comp=N,81nm,1.6s,mb4.8
CHUM Lake Minchumin 55.63 30 *e*P **P 04 56 53.4 +0.6**
comp=N,28nm,0.9s,mb4.6
BVA0 Borovoye Array 55.87 317 *i*P **P 04 56 54.3 -0.3**
BVA0 pmax pmax
comp=Z,4.0nm,0.5s,mb4.0
BVAR Borovoye Array 55.87 317 P **P 04 56 54.4 -0.2**
comp=Z,37nm,0.4s,mb5.1,baz=90,slow=6.8,SNR=178
BVAR ScP ScP 05 00 53.9 -3.0
comp=Z,2.1nm,0.5s,baz=71,slow=2.8,SNR=5.5
BVAR S **S 05 04 01.7 -1.7**
comp=Z,1.6nm,0.9s,baz=93,slow=10,SNR=4.3
BVAR Borovoye Array 55.87 317 P **P 04 56 54.4 -0.2**
BVAR S **S 05 04 01.7 -1.7**
BVAR pmax pmax
comp=Z,37nm,0.4s
BVAR pmax pmax
comp=N,2.0nm,0.5s
BVAR smax
comp=N,2.0nm,0.9s
BRVK Borovoye 55.93 317 *e*P **P 04 56 54.6 -0.4**
BRVK pmax pmax
comp=Z,75nm,1.0s,mb5.0
BRVK Borovoye 55.93 317 *e*P **P 04 56 54.6 -0.4**
comp=Z,75nm,1.0s,mb5.0
BPAW Bear Paw Mtn. 56.24 30 *e*P **P 04 56 57.1 +0.2**
comp=Z,15nm,0.7s,mb4.4
SLKM Skilak Lake 56.37 34 *e*P **P 04 56 57.3 -0.6**
TRF Thorofare Moun 56.49 30 *e*P **P 04 56 58.3 -0.4**
comp=Z,36nm,1.0s,mb4.7
RC01 Rabbit Creek A 56.62 33 *e*P **P 04 56 58.6 -1.0**
KK31 Karatay Array 56.73 305 *i*P **P 04 57 00.8 0.0**
KK31 pmax pmax
comp=Z,7.0nm,0.4s,mb4.3
SEW Seward 56.74 34 *e*P **P 04 56 59.3 -1.1**
COLD Coldfoot 56.88 26 *e*P **P 04 57 01.3 -0.1**
comp=Z,22nm,1.0s,mb4.4
PMR Palmer 56.93 33 *e*P **P 04 57 00.1 -1.7**
PMR pmax pmax
comp=Z,25nm,0.9s,mb4.5
PMR Palmer 56.93 33 *e*P **P 04 57 00.1 -1.6**
comp=Z,26nm,0.9s,mb4.5
MCK McKinley 57.11 30 *e*P **P 04 57 02.1 -0.9**
MCK pmax pmax
comp=Z,102nm,1.0s,mb5.1
MCK McKinley 57.11 30 *e*P **P 04 57 02.1 -0.9**
comp=Z,102nm,1.0s,mb5.1
COLA College 57.64 29*d* *i*P **P 04 57 06.9 +0.3**
COLA College 57.64 29 *e*P **P 04 57 06.2 -0.3**
comp=Z,22nm,1.0s,mb4.4
FORT Forrest 59.45 192 *e*P **P 04 57 18.2 -1.0**
comp=Z,126nm,0.5s,mb5.5
STKA Stephens Creek 59.53 178 *e*P **P 04 57 18.3 -1.5**
comp=Z,10nm,0.9s,mb4.3
STKA Stephens Creek 59.53 178 P **P 04 57 18.2 -1.6**
comp=Z,9.0nm,0.7s,mb4.3,baz=347,slow=7.7,SNR=16
KBL Kabul 59.60 295 *e*P **P 04 57 20.5 +0.1**
KBL pmax pmax
comp=Z,23nm,0.8s,mb4.7
KBL Kabul 59.60 295 *e*P **P 04 57 20.5 +0.1**
comp=Z,23nm,0.8s,mb4.7
DAWY Dawson 61.32 30 *e*P **P 04 57 30.7 -0.5**
ARU Arti 62.34 322*c* *i*P **P 04 57 37.3 -0.7**
ARU *e* 04 58 06.7
ARU *e**PP pP 04 59 16.4 -3.2
ARU *e* 04 59 59.5
ARU *eS **S 05 05 25.3 +0.3**
ARU *eSS SS 05 09 37.1 -2.4
ARU pmax pmax
comp=Z,30nm,1.0s,mb4.7
ARU Arti 62.34 322 *e*P **P 04 57 37.2 -0.8**
comp=Z,41nm,1.1s,mb4.8
KLBR Kellerberrin 62.78 201 *e*P **P 04 57 39.8 -1.3**
comp=Z,9.0nm,0.5s,mb4.6
AB31 Akbulak array 62.86 314 *i*P **P 04 57 40.5 -1.0**
AB31 pmax pmax
comp=Z,4.0nm,0.3s,mb4.4
MUN Mundaring 63.64 202 *e*P **P 04 57 44.8 -1.8**
TOO Toolangi 65.42 175 *e*P **P 04 57 57.5 -0.3**
DLBC Dease Lake 66.81 35 P **P 04 58 06.5 +0.3**
KEV Kevo 71.41 340 *e*p **P 04 58 32.7 -1.1**
comp=Z,2.4nm,0.4s,mb4.1
KEV Kevo 71.41 340 *e*P **P 04 58 32.7 -1.1**
KEV pmax pmax
comp=Z,2.0nm,0.4s,mb4.0
ARCES ARCESS Array B 71.97 340 P **P 04 58 36.6 -0.4**
comp=Z,7.3nm,0.6s,mb4.4,baz=70,slow=8.4,SNR=91
ARCES ARCESS Array B 71.97 340 P **P 04 58 36.7 -0.4**
ARCES pmax pmax
comp=Z,7.0nm,0.6s
ARE0 ARCESS Array S 71.97 340 *e*P **P 04 58 36.6 -0.5**
YKA Yellowknife Ar 72.45 28 P **P 04 58 39.0 -1.0**
comp=Z,7.0nm,0.5s,mb4.4,baz=299,slow=5.9,SNR=24
YKA Yellowknife Ar 72.45 28 P **P 04 58 39.0 -1.0**
YKA pmax pmax
comp=Z,7.0nm,0.5s
YKA Yellowknife Ar 72.45 28 P **P 04 58 39.0 -1.0**
JOF Joensuu 73.29 333 *e*p **P 04 58 43.4 -1.4**
comp=Z,4.8nm,0.3s,mb4.5
JOF Joensuu 73.29 333 *e*P **P 04 58 43.4 -1.4**
JOF pmax pmax

comp=Z,5.0nm,0.3s,mb4.5
B04A Port Angeles 74.05 44 ⇑P P 04 58 50.0 +0.6
baz=74
NLWA Neilton Lookou 74.09 45 ⇓P P 04 58 50.7 +1.0
baz=74
NLWA Neilton Lookou 74.09 45 *eP* P 04 58 50.4 +0.7
OBN Obninsk 74.52 324‖ *eP* P 04 58 51.3 -0.6
OBN *e*PP pP 05 00 41.9 +3.6
OBN pmax pmax
comp=Z,14nm,0.6s,mb4.7
E03A Lebam 74.63 45 ⇑P P 04 58 53.8 +1.0
baz=74
VSR Storozhevoye 74.83 320 *eP* P 04 58 52.9 -0.9
VSR pmax pmax
comp=Z,6.0nm,1.0s,mb4.1
VSR pmax pmax
comp=N,6.0nm,0.6s
VSR pmax pmax
comp=E,8.0nm,0.8s
A06A Chilliwack 74.83 42 ⇑P P 04 58 54.3 +0.4
baz=75
JCW Jim Creek 74.95 43 P P 04 58 55.1 +0.6
B06A Marblemount 75.08 43 ⇓P P 04 58 55.0 -0.2
baz=75
E04A Onalaska 75.14 45 ⇓P P 04 58 56.1 +0.5
baz=75
C05A Tolt Reservoir 75.31 44 ⇑P P 04 58 56.9 +0.4
baz=75
G03A Yamhill 75.32 46 ⇓P P 04 58 57.3 +0.6
baz=75
A07A Ashnola River, 75.51 42 ⇑P P 04 58 57.5 -0.1
baz=75,SNR=8.0
TDL Tradedollar La 75.56 45 P P 04 58 58.4 +0.5
H03A Soap Creek Ran 75.58 47 ⇓P P 04 58 59.0 +0.9
baz=76
K01A Sixes 75.59 49 ⇑P P 04 58 59.2 +1.0
baz=76
F04A Amboy 75.61 46 ⇓P P 04 58 58.9 +0.6
baz=76
KAF Kangasniemi 75.70 334 *ep* P 04 58 56.8 -1.6
comp=E,10nm,0.4s,mb4.7,baz=55,slow=5.2
KAF Kangasniemi 75.70 334 *eP* P 04 58 56.8 -1.6
KAF pmax pmax
comp=Z,10.0nm,0.4s,mb4.7
E05A Randle 75.75 45 ⇑P P 04 58 59.1 +0.1
baz=76
G04A Mulino 75.88 46 ⇓P P 04 59 00.8 +1.0
baz=76
I03A Eugene 75.89 48 ⇑P P 04 59 00.5 +0.6
baz=76
B07A Winthrop 75.92 42 ⇓P P 04 58 59.6 -0.3
baz=76,SNR=8.2
J02A Umpqua 75.95 48 ⇓P P 04 59 00.9 +0.7
baz=76
NLW Nelson Butte 75.96 43 P P 04 59 00.5 +0.4
D06A Cle Elum 76.04 44 ⇓P P 04 59 00.9 +0.3
baz=76
ETW Entiat 76.17 43 *eP* P 04 59 01.5 +0.1
A08A Turner Farm, O 76.20 42 ⇑P P 04 59 01.4 -0.1
baz=76,SNR=7.4
F05A White Salmon 76.23 45 ⇑P P 04 59 01.9 +0.3
baz=76
E06A Yakima 76.24 45 ⇓P P 04 59 01.6 -0.1
baz=76
K02A Glendale 76.26 49 ⇑P P 04 59 02.3 +0.4
baz=76
H04A Detroit Lake 76.29 47 ⇑P P 04 59 02.3 +0.2
baz=76
C07A Waterville 76.30 43 ⇓P P 04 59 01.8 -0.2
baz=76,SNR=6.5
EBG Ellensburg 76.34 44 P P 04 59 03.0 +0.8
B08A Colville Reser 76.44 42 ⇓P P 04 59 02.4 -0.3
baz=76,SNR=14
I04A Tendick Farm, 76.53 48 ⇓P P 04 59 03.5 +0.1
baz=76
D07A Quincy 76.57 44 ⇑P P 04 59 03.5 0.0
baz=76
G05A Wamic 76.60 46 ⇓P P 04 59 04.1 +0.4
baz=76
HUMO Hull Mountain 76.69 49 ⇓P P 04 59 04.2 0.0
baz=77
F06A Goldendale 76.71 45 ⇑P P 04 59 04.2 -0.1
baz=77
EPH Ephrata 76.73 43 P P 04 59 04.5 +0.1
C08A Higginbotham F 76.87 43 ⇓P P 04 59 05.1 -0.1
baz=77,SNR=6.9
H05A Madras 76.92 46 ⇑P P 04 59 05.6 +0.1
baz=77
E07A Sunnyside 76.93 44 ⇓P P 04 59 05.9 +0.4
baz=77
J04A Umpqua Nationa 76.97 48 ⇑P P 04 59 06.4 +0.6
baz=77
G06A Carlson Farm, 77.04 46 ⇓P P 04 59 06.1 0.0
baz=77,SNR=5.7
B09A Rice 77.11 42 ⇑P P 04 59 06.4 -0.1
baz=77,SNR=7.6
I05A Bend 77.11 47 ⇑P P 04 59 06.9 +0.3
baz=77
GBL Gable Mountain 77.16 44 P P 04 59 07.2 +0.5
RSW Rattlesnake Hi 77.17 44 *eP* P 04 59 06.7 -0.1
O01C Eel River Cons 77.17 51 ⇓P P 04 59 07.5 +0.6
baz=77
F07A Phinny Hill Vi 77.19 45 ⇓P P 04 59 07.2 +0.2
baz=77
A10A Northport 77.20 41 ⇑P P 04 59 07.1 +0.2
baz=77,SNR=8.3
N02C Big Bar 77.23 51 ⇓P P 04 59 07.6 +0.3
baz=77
YBH Yreka Blue Hor 77.23 50 P P 04 59 08.1 +0.9
comp=Z,7.7nm,0.8s,mb4.3,baz=287,slow=3.3,SNR=11
YBH Yreka Blue Hor 77.23 50 P P 04 59 08.1 +0.8
YBH pmax pmax
comp=Z,8.0nm,0.8s
YBH Yreka Blue Hor 77.23 50 ⇑P P 04 59 07.9 +0.6
baz=77,SNR=5.8
OD2 Odessa Site #2 77.25 43 P P 04 59 07.2 0.0
D08A Wollman Farm, 77.28 43 ⇓P P 04 59 07.4 0.0
baz=77,SNR=11
M02C Callahan 77.28 50 ⇑P P 04 59 08.2 +0.6
baz=77,SNR=5.6
C09A Chrisman Ranch 77.32 43 ⇓P P 04 59 07.4 -0.2
baz=77,SNR=6.0
VIPM Ingram Point 77.37 46 P P 04 59 08.6 +0.6
E08A Dider Farm, El 77.45 44 ⇑P P 04 59 08.6 +0.2
baz=77
H06A Lindquist Farm 77.45 46 ⇑P P 04 59 08.4 0.0
baz=77,SNR=6.6
EDM Edmonton 77.47 36 *eP* P 04 59 07.5 -0.8
K04A Chilquin 77.50 48 ⇓P P 04 59 08.9 +0.2
baz=77
J05A Fort Rock 77.52 48 ⇑P P 04 59 09.3 +0.5
baz=77,SNR=11
L04A Klamath Falls 77.59 49 ⇑P P 04 59 09.9 +0.7
baz=78
LHEM Herd Peak 77.61 49 P P 04 59 10.0 +0.6
G07A Ruggs Ranch, H 77.63 45 ⇑P P 04 59 09.8 +0.5
baz=78
D09A Jones Farm, Ri 77.64 43 ⇑P P 04 59 09.6 +0.2
baz=78
NEW Newport 77.79 42 *eP* P 04 59 09.8 -0.3
NEW pmax pmax
comp=Z,16nm,1.0s
NEW Newport 77.79 42 *eP* P 04 59 09.8 -0.3
comp=Z,16nm,1.0s,mb4.4
NEW *ep*P pP 05 00 51.8 -5.9
M04C Macdoel 77.80 49 ⇓P P 04 59 10.4 +0.1
baz=78,SNR=8.6
M03C McCloud 77.83 50 ⇓P P 04 59 10.5 0.0
baz=78,SNR=11
WDC Whiskeytown Da 77.86 51 ⇑P P 04 59 10.7 +0.1
baz=78
O02C Red Bluff 77.86 51 ⇓P P 04 59 11.3 +0.6
baz=78,SNR=5.4
C10A Spilker Farm, 77.89 42 ⇓P P 04 59 10.9 +0.2
baz=78
I06A Prineville 77.89 47 ⇓P P 04 59 11.2 +0.4
baz=78
A11A Hall Mountain, 77.90 41 ⇓P P 04 59 11.4 +0.6
baz=78,SNR=7.0
F08A Pendleton 77.95 44 ⇑P P 04 59 11.5 +0.5
baz=78,SNR=8.2
K05A Summer Lake 78.00 48 ⇑P P 04 59 11.9 +0.5
baz=78,SNR=8.6
E09A Wood Farm, Sta 78.00 44 ⇑P P 04 59 11.5 +0.2
baz=78
H07A Lands Inn, Kim 78.01 46 ⇓P P 04 59 11.6 +0.2
baz=78
G08A Pilot Rock 78.07 45 ⇓P P 04 59 12.0 +0.2
baz=78,SNR=7.7
GASB Alder Springs 78.14 51 ⇑P P 04 59 13.1 +0.8
baz=78,SNR=6.6
J06A Christmas Vall 78.24 47 ⇑P P 04 59 12.8 +0.1
baz=78,SNR=7.1
D10A Wagner Farm, O 78.27 43 ⇓P P 04 59 13.0 +0.2
baz=78
I07A Izee 78.28 46 ⇓P P 04 59 13.2 +0.3
baz=78
A12A Yaak River Ran 78.32 41 ⇓P P 04 59 13.4 +0.4
baz=78,SNR=5.7
L05A Lakeview 78.35 49 ⇓P P 04 59 13.7 +0.4
baz=78
K06A Valley Falls 78.39 48 ⇓P P 04 59 14.0 +0.5
baz=78,SNR=6.2
M05C Lookout 78.45 49 ⇓P P 04 59 13.8 0.0
baz=78,SNR=7.1
MIB Mutribah 78.47 298 *eP* P 04 59 13.2 -0.9
MIB AMb AMB 04 59 14.6
comp=Z,38nm,0.9s,mb4.8
C11A Tepee Creek (N 78.50 42 ⇓P P 04 59 14.0 0.0
baz=78,SNR=9.3
F09A S2 Ranch, Elgi 78.52 44 ⇓P P 04 59 14.5 +0.3
baz=78
B12A Libby 78.59 41 ⇓P P 04 59 14.8 +0.4
baz=78
H08A Prairie City 78.61 46 ⇑P P 04 59 14.6 0.0
baz=78,SNR=11
E10A Myers Farm, Un 78.64 43 ⇑P P 04 59 14.9 +0.1
baz=78
J07A Hines 78.73 47 ⇓P P 04 59 15.7 +0.4
baz=79,SNR=9.5
MOD Modoc 78.76 49 ⇓P P 04 59 15.5 0.0
baz=79,SNR=8.4
G09A Cove 78.81 45 ⇑P P 04 59 15.9 +0.2
baz=79,SNR=13
F10A Beach Ranch, E 78.82 44 ⇓P P 04 59 15.4 -0.3
baz=79
D11A Klaveano Farm, 78.84 43 ⇓P P 04 59 15.1 -0.7
baz=79,SNR=11
I08A Drewsey 78.96 46 ⇑P P 04 59 16.6 +0.1
baz=79,SNR=12
O04C Chester 78.96 50 ⇑P P 04 59 16.6 0.0
baz=79,SNR=18
M06C Likely Place G 78.97 49 ⇓P P 04 59 16.5 -0.2
baz=79,SNR=5.2
C12B Naegeli Ranch, 79.03 42 ⇓P P 04 59 17.1 +0.3
baz=79
ORV Oroville 79.03 51 ⇑P P 04 59 16.2 -0.8
baz=79,SNR=8.7
A13A Flathead Natio 79.03 40 ⇓P P 04 59 16.7 -0.2
baz=79
K07A Rock Creek Ran 79.09 47 ⇓P P 04 59 17.6 +0.3
baz=79,SNR=16
OHCM Honcut 79.14 51 *eP* P 04 59 16.9 -0.6
H09A Durkee 79.17 45 ⇓P P 04 59 18.1 +0.5
baz=79
G10A Bishop Farm, J 79.21 44 ⇑P P 04 59 17.8 0.0
baz=79,SNR=17
O05C Quincy 79.24 51 ⇓P P 04 59 18.2 0.0
baz=79
E11A Bogner Ranch, 79.25 43 ⇓P P 04 59 17.4 -0.6
baz=79,SNR=6.5
J08A Circle Bar Ran 79.28 47 ⇑P P 04 59 18.2 0.0
baz=79,SNR=23
B13A Whitefish 79.28 41 ⇓P P 04 59 18.6 +0.5
baz=79
BMO Blue Mountains 79.31 45 *eP* P 04 59 18.0 -0.3
BMO *e*PP pP 05 01 05.4 -1.0
BMO pmax pmax
comp=Z,10.0nm,0.7s,mb4.5
BMO Blue Mountains 79.31 45 *eP* P 04 59 18.0 -0.4
comp=Z,9.8nm,0.7s,mb4.5
BMO *ep*P pP 05 01 05.4 -1.0
L07A Adell 79.35 48 ⇓P P 04 59 18.7 +0.1
baz=79,SNR=22
BSMT Bassoo Peak 79.36 41 P P 04 59 19.3 +0.7
D12A Red Ives Fores 79.42 42 ⇓P P 04 59 18.9 0.0
baz=79
Q04C Lincoln 79.44 52 ⇓P P 04 59 19.3 +0.2
baz=79
I09A Lost Marbles R 79.45 46 ⇓P P 04 59 19.4 +0.2
baz=79,SNR=7.5
F11A Grangeville 79.51 44 ⇑P P 04 59 19.2 -0.3
baz=79,SNR=7.3
K08A Mann Creek Ran 79.57 47 ⇑P P 04 59 19.9 +0.1
baz=79,SNR=9.5
C13A Hot Springs 79.57 41 ⇓P P 04 59 19.8 +0.1
baz=79,SNR=11
A14A Double T Ranch 79.58 40 ⇓P P 04 59 19.6 -0.1
baz=79,SNR=9.2
E12A Beaver Dam Sad 79.61 43 ⇑P P 04 59 19.8 -0.1
baz=80,SNR=15
N06A Buffalo Meadow 79.61 49 ⇓P P 04 59 20.0 0.0
baz=80,SNR=8.1
WVOR Wild Horse Val 79.61 47 *eP* P 04 59 19.7 -0.3
WVOR *e*PP pP 05 01 06.3 -1.9
WVOR pmax pmax
comp=Z,8.0nm,0.9s,mb4.2
WVOR Wild Horse Val 79.61 47 *eP* P 04 59 19.7 -0.3
comp=Z,7.8nm,0.9s,mb4.2
WVOR *ep*P pP 05 01 06.3 -1.9
BEKR Beckwourth 79.67 50 ⇓P P 04 59 20.1 -0.3
baz=80,SNR=18
G11A Walters Elk Ra 79.68 44 ⇑P P 04 59 20.4 +0.1
baz=80
J09A Fry Pan Ranch, 79.75 46 ⇓P P 04 59 20.8 +0.1
baz=80,SNR=19
M07A Soldier Meadow 79.75 49 ⇓P P 04 59 21.1 +0.3
baz=80,SNR=9.1
P05C Yuba Gap, Truc 79.76 51 ⇑P P 04 59 20.6 -0.2
baz=80
H10A Noah's Angus R 79.78 45 ⇓P P 04 59 20.2 -0.7
baz=80,SNR=16
O06A Flanigan 79.89 50 ⇑P P 04 59 21.5 -0.1
baz=80,SNR=9.7
L08A Fields 79.92 48 ⇓P P 04 59 22.0 +0.3
baz=80,SNR=26
LAVA Lava Cap Winer 79.92 52 ⇑P P 04 59 21.5 -0.2
baz=80
D13A Huson 79.93 42 ⇓P P 04 59 21.2 -0.4
baz=80
A15A Johnson Ranch, 79.97 40 ⇑P P 04 59 21.5 -0.3
baz=80,SNR=13
B14A Marquette Ranc 79.98 40 ⇓P P 04 59 22.0 +0.2
baz=80,SNR=13
I10A Payette 79.99 45 ⇑P P 04 59 22.0 +0.1
baz=80
C14A Swan Lake 80.01 41 ⇑P P 04 59 22.1 +0.1
baz=80,SNR=6.9
R04C Big Horse Ranc 80.02 52 ⇓P P 04 59 21.6 -0.6
baz=80
K09A Rome 80.08 47 ⇑P P 04 59 22.4 0.0
baz=80,SNR=10.0
F12A Elk City 80.13 43 ⇓P P 04 59 22.7 +0.1
baz=80
N07B Gerlach 80.17 49 ⇑P P 04 59 23.2 +0.2
baz=80,SNR=9.2
H11A Donnelly 80.18 45 ⇑P P 04 59 22.6 -0.4
baz=80,SNR=11
J10A Berg Farm, Mel 80.34 46 ⇑P P 04 59 24.0 +0.2
baz=80
WCN Washoe City 80.34 51 ⇑P P 04 59 23.7 -0.2
baz=80
R05C Kirkwood Meado 80.41 51 ⇑P P 04 59 24.4 +0.1
baz=80
B15A Bradely Ranch, 80.41 40 ⇑P P 04 59 24.2 +0.1
baz=80,SNR=11
E13A Victor 80.42 42 ⇑P P 04 59 23.6 -0.6
baz=80
L09A Wilkinson Ranc 80.44 47 ⇑P P 04 59 24.7 +0.3
baz=80,SNR=10
D14A Greenough 80.50 42 ⇑P P 04 59 23.9 -0.6
baz=80,SNR=5.7
CMB Columbia Colle 80.50 52 *eP* P 04 59 24.4 -0.4
CMB *e*PP pP 05 01 12.7 -0.6
CMB pmax pmax
comp=Z,12nm,1.0s,mb4.4
CMB Columbia Colle 80.50 52 ⇓P P 04 59 24.6 -0.2
baz=80,SNR=5.6
CMB Columbia Colle 80.50 52 *eP* P 04 59 24.4 -0.4
comp=Z,12nm,1.0s,mb4.4
CMB *ep*P pP 05 01 12.7 -0.6
O07A Toulon 80.53 50 ⇓P P 04 59 25.0 +0.1
baz=80,SNR=7.6
AKASG Malin Array Be 80.57 323 P P 04 59 23.5 -1.4
comp=Z,1.9nm,0.4s,mb3.9,baz=47,slow=5.5,SNR=15
AKASG Malin Array Be 80.57 323 P P 04 59 23.5 -1.3
AKASG pmax pmax
comp=Z,2.0nm,0.4s
AKBB Malin Array Si 80.57 323 *eP* P 04 59 23.2 -1.6
KIEV Kiev 80.58 323 *eP* P 04 59 23.2 -1.7
KIEV *e*PP pP 05 01 16.5 +3.1
KIEV pmax pmax
comp=Z,3.0nm,0.6s,mb4.0
KIEV Kiev 80.58 323 *eP* P 04 59 23.2 -1.7
comp=Z,3.0nm,0.6s,mb4.0
KIEV *ep*P pP 05 01 16.4 +3.0
K10A MacKenzie Ranc 80.59 47 ⇑P P 04 59 25.4 +0.3
baz=80,SNR=20
I11A Placerville 80.61 45 ⇑P P 04 59 25.0 -0.2
baz=80
A16A West Butte Ran 80.62 39 ⇑P P 04 59 24.9 -0.3
baz=80,SNR=15
C15A Salmond Ranch, 80.66 41 ⇑P P 04 59 25.4 0.0
baz=80,SNR=16
F13A Darby 80.67 43 ⇑P P 04 59 24.6 -0.9
baz=80,SNR=9.7
N08A GE Springer Mi 80.73 49 ⇓P P 04 59 26.1 +0.2
baz=81,SNR=7.7
B16A M & M Farms, S 80.84 40 ⇑P P 04 59 26.2 -0.1
baz=81,SNR=14
E14A Clinton 80.85 42 ⇑P P 04 59 26.2 -0.2
baz=81
S05C Merced 80.86 53 ⇓P P 04 59 26.6 -0.1
baz=81
M09A Marrel Ranch, 80.87 48 ⇓P P 04 59 26.9 +0.3
baz=81
R06C Coleville 80.92 51 ⇑P P 04 59 27.1 +0.2
baz=81,SNR=5.6
MFID Camas Ranch 80.94 46 ⇓P P 04 59 26.9 -0.1
baz=81,SNR=17
S06C San Francisco 80.95 52 ⇑P P 04 59 27.0 -0.1
baz=81
O08A Rochester Mine 80.95 49 ⇑P P 04 59 27.3 +0.3
baz=81
H12A Diamond D Ranc 80.98 44 ⇑P P 04 59 26.9 -0.2
baz=81,SNR=8.5
U04C Hernandez Rese 81.00 54 ⇑P P 04 59 27.3 -0.1
baz=81
G13A Cobalt 81.08 44 ⇑P P 04 59 27.1 -0.5
baz=81,SNR=10
D15A Lincoln 81.10 41 ⇑P P 04 59 27.5 -0.2
baz=81
K11A Parker Ranch, 81.13 46 ⇑P P 04 59 27.7 -0.2
baz=81,SNR=22
C16A Fuhringer Ranc 81.14 40 ⇓P P 04 59 27.6 -0.3
baz=81,SNR=23
I12A Atlanta 81.19 45 ⇓P P 04 59 28.1 -0.1
baz=81
L10A Juniper Basin 81.19 47 ⇓P P 04 59 28.3 +0.1
baz=81,SNR=9.4
MALT Malatya 81.21 309 *eP* P 04 59 33.5 +5.1
MALT pmax pmax
comp=Z,24nm,1.4s,mb4.5
MALT Malatya 81.21 309 *eP* P 04 59 33.5 +5.0
comp=Z,24nm,1.4s,mb4.5
F14A Wisdom 81.23 43 ⇑P P 04 59 28.3 -0.1
baz=81
H13A Challis 81.34 44 ⇑P P 04 59 29.0 +0.1
baz=81,SNR=24
E15A Deer Lodge 81.35 42 ⇓P P 04 59 29.1 +0.1
baz=81,SNR=11
M10A I.L. Ranch, Tu 81.42 48 ⇓P P 04 59 29.6 +0.2
baz=81,SNR=8.9
T06C Millerton Lake 81.46 53 ⇑P P 04 59 29.3 -0.5
baz=81
G14A Jackson 81.47 43 ⇓P P 04 59 29.7 0.0
baz=81
J12A Stokes Ranch, 81.48 45 ⇑P P 04 59 29.9 +0.2
baz=81,SNR=6.3
KCC Kaiser Creek 81.58 52 ⇑P P 04 59 30.3 -0.1
baz=82
L11A Cat Creek Ranc 81.61 47 ⇑P P 04 59 30.6 +0.2
baz=82,SNR=14
O09A Fish Creek Ran 81.66 49 ⇑P P 04 59 31.1 +0.4
baz=82,SNR=8.6
D16A Dana Ranch, Ca 81.67 41 ⇑P P 04 59 30.7 +0.1
baz=82,SNR=9.6
F15A Butte 81.74 42 ⇑P P 04 59 31.3 +0.3
baz=82,SNR=23
HLID Hailey 81.75 45 ⇓P P 04 59 31.2 +0.1
baz=82,SNR=18
HLID Hailey 81.75 45 *eP* P 04 59 31.3 +0.2
comp=Z,6.9nm,0.8s,mb4.2
HLID *ep*P pP 05 01 25.4 +5.4
NVAR Mina Array Bea 81.75 51 P P 04 59 31.4 +0.1
comp=Z,6.3nm,0.7s,mb4.3,baz=294,slow=5.7,SNR=41
I13A Wildhorse Cree 81.76 45 ⇑P P 04 59 31.7 +0.6
baz=82,SNR=17
C17A Wharram Farm, 81.79 40 ⇓P P 04 59 30.7 -0.5
baz=82,SNR=8.5
Q08A Gabbs 81.80 50 ⇑P P 04 59 31.5 0.0
baz=82,SNR=6.3
H14A Leadore 81.86 44 ⇓P P 04 59 31.6 -0.1
baz=82,SNR=5.2
E16A East Helena 81.86 41 ⇑P P 04 59 31.5 -0.1
baz=82,SNR=10
K12A Draper Farm, C 81.92 46 ⇓P P 04 59 32.1 +0.2
baz=82,SNR=11
DLMT Dillon 81.93 43 *eP* P 04 59 32.1 +0.1
comp=Z,9.6nm,1.1s,mb4.2
NOA NORSAR Array B 81.95 337 P P 04 59 30.2 -1.5
comp=Z,4.2nm,0.5s,mb4.2,baz=46,slow=4.9,SNR=19
NOA NORSAR Array B 81.95 337 P P 04 59 30.3 -1.5
NOA pmax pmax
comp=Z,4.0nm,0.5s
J13A Cove Ranch, Pi 81.99 45 ⇓P P 04 59 32.6 +0.3
baz=82,SNR=16
P09A Austin 82.00 49 ⇑P P 04 59 32.6 +0.1
baz=82
O10A Cortez Mining, 82.06 49 ⇓P P 04 59 33.4 +0.7
baz=82,SNR=6.0
MCMT McKenzie Canyo 82.06 43 *eP* P 04 59 32.5 -0.1
L12A House Creek Ra 82.09 46 ⇓P P 04 59 33.6 +0.7
baz=82,SNR=17
G15A Dillon 82.10 43 ⇑P P 04 59 32.7 -0.2
baz=82,SNR=14
EGMT Eagleton 82.15 39 ⇑P P 04 59 32.9 -0.2
baz=82
EGMT Eagleton 82.15 39 *eP* P 04 59 32.4 -0.7
comp=Z,33nm,1.1s,mb4.8
I14A Mackay 82.16 44 ⇓P P 04 59 34.4 +1.2
baz=82,SNR=36
FFC Flin Flon 82.19 31 *eP* P 04 59 32.1 -1.0
FFC pmax pmax
comp=Z,6.0nm,0.9s,mb4.1
FFC Flin Flon 82.19 31 *eP* P 04 59 32.0 -1.1
comp=Z,6.1nm,0.9s,mb4.1
NAO01 NORSAR Array S 82.21 337 *eP* P 04 59 31.0 -2.1
comp=Z,1.8nm,0.5s,mb3.9
H15A Lima 82.30 43 ⇓P P 04 59 33.7 -0.2
baz=82,SNR=5.2
N11A Elko Archery C 82.30 48 ⇑P P 04 59 34.4 +0.5
baz=82
Q09A Carvers 82.32 50 ⇑P P 04 59 34.4 +0.2
baz=82
E17A Martinsdale 82.37 41 ⇑P P 04 59 34.4 +0.2
baz=82,SNR=14
P10A Eureka 82.42 49 ⇓P P 04 59 34.7 +0.2
baz=82,SNR=6.8
K13A Stover Farm, H 82.43 46 ⇑P P 04 59 35.4 +0.8
baz=82,SNR=12
J14A Carey 82.43 45 ⇓P P 04 59 35.6 +1.0
baz=82,SNR=37
VES Vestal, Richgr 82.46 53 ⇑P P 04 59 33.8 -1.1
baz=82
TIN Tinemaha 82.48 52 ⇑P P 04 59 35.2 +0.2
baz=82
G16A Moss Hill, Enn 82.48 43 ⇑P P 04 59 34.8 +0.1
baz=82,SNR=12
M12A Wells 82.53 47 ⇑P P 04 59 35.8 +0.7
baz=82,SNR=21
ELK Elko 82.66 48 P P 04 59 36.6 +0.8
comp=Z,8.4nm,0.8s,mb4.3,baz=301,slow=5.8,SNR=30
ELK Elko 82.66 48 *eP* P 04 59 36.2 +0.4
ELK pmax pmax
comp=Z,13nm,1.0s
ELK Elko 82.66 48 *eP* P 04 59 36.2 +0.4
comp=Z,12nm,1.0s,mb4.4
TPH Tonopah 82.67 51 *eP* P 04 59 36.1 +0.2
TPH pmax pmax
comp=Z,27nm,1.1s,mb4.7
TPH Tonopah 82.67 51 *eP* P 04 59 36.1 +0.2
comp=Z,27nm,1.1s,mb4.7

SBC Santa Barbara 82.69 55 ⇓P P 04 59 36.5 +0.5
baz=83
R09A Tonopah 82.69 51 ⇓P P 04 59 35.9 -0.1
baz=83,SNR=27
O11A Cowboy Ranch, 82.70 48 ⇓P P 04 59 36.1 +0.2
baz=83,SNR=9.6
I15A Monteview 82.72 44 ⇑P P 04 59 35.9 -0.1
baz=83
N12A Clover Valley, 82.74 48 ⇓P P 04 59 36.3 +0.2
baz=83,SNR=15
L13A Double Diamond 82.81 46 ⇓P P 04 59 37.2 +0.7
baz=83,SNR=18
S09A Goldfield 82.84 51 ⇑P P 04 59 36.8 0.0
baz=83,SNR=16
Q10A Clear Creek Ra 82.86 50 ⇓P P 04 59 36.6 -0.2
baz=83,SNR=8.8
E18A Harlowton 82.86 41 ⇓P P 04 59 36.7 +0.1
baz=83,SNR=23
CWC Cottonwood Cre 82.88 53 ⇓P P 04 59 36.5 -0.5
baz=83
QLMT Earthquake Lak 82.91 43 *e*P P 04 59 37.7 +0.7
P11A Circle Ranch, 82.92 49 ⇓P P 04 59 37.1 0.0
baz=83
ISA Isabella 82.98 53 ⇓P P 04 59 36.4 -1.1
baz=83,SNR=5.1
M13A Montello 83.04 47 ⇓P P 04 59 37.9 +0.2
baz=83,SNR=16
K14A Jones Ranch, D 83.06 45 ⇓P P 04 59 38.1 +0.4
baz=83,SNR=22
J15A Blackfoot 83.07 44 ⇓P P 04 59 38.6 +0.8
baz=83,SNR=13
H16A Russell Place, 83.09 43 ⇑P P 04 59 38.4 +0.5
baz=83,SNR=11
GRAC Grapevine Rang 83.10 52 ⇓P P 04 59 38.2 +0.1
baz=83
S10A Tonopah Range, 83.18 51 ⇑P P 04 59 38.6 +0.1
baz=83,SNR=24
O12A Currie 83.23 48 ⇑P P 04 59 38.8 +0.1
baz=83,SNR=16
N13A Wendover, West 83.28 47 ⇑P P 04 59 39.0 +0.1
baz=83
L14A Malta 83.28 46 ⇑P P 04 59 39.5 +0.6
baz=83,SNR=17
F18A Big Timber 83.34 41 ⇑P P 04 59 39.3 +0.2
baz=83,SNR=8.6
Q11A Duckwater 83.35 49 ⇓P P 04 59 39.1 -0.2
baz=83,SNR=6.0
K15A Arbon 83.39 45 ⇓P P 04 59 40.2 +0.8
baz=83,SNR=6.3
I16A Newdale 83.39 44 ⇑P P 04 59 40.3 +0.9
baz=83,SNR=8.9
YNR Norris Junctio 83.43 43 *e*P P 04 59 39.6 0.0
GCMT Greycliff 83.43 41 *e*P P 04 59 40.0 +0.4
MPMC Manual Prospec 83.48 53 ⇑P P 04 59 39.9 -0.1
baz=83,SNR=7.8
M14A Sheep Mountain 83.49 46 ⇓P P 04 59 40.5 +0.5
baz=83,SNR=24
P12A McGill 83.53 49 ⇑P P 04 59 40.3 +0.1
baz=83,SNR=11
J16A Bone 83.64 44 ⇑P P 04 59 41.3 +0.6
baz=84,SNR=14
R11A Troy Canyon, C 83.65 50 ⇑P P 04 59 41.1 +0.3
baz=84,SNR=15
HVU Hansel Valley 83.71 46 *e*P P 04 59 41.4 +0.4
HVU pmax pmax
comp=Z,8.0nm,0.7s,mb4.4
HVU Hansel Valley 83.71 46 *e*P P 04 59 41.4 +0.3
comp=Z,7.6nm,0.7s,mb4.3
EDW2 Edwards Air Fo 83.71 54 ⇓P P 04 59 41.0 -0.1
baz=84,SNR=6.7
IMW Indian Meadow 83.72 43 *e*P P 04 59 41.8 +0.8
comp=Z,12nm,0.9s,mb4.4
IMW *e*pP pP 05 01 27.9 -2.7
FURC Furnace Creek, 83.72 52 ⇑P P 04 59 41.1 -0.1
baz=84,SNR=8.9
DCID1 Drake Creek 83.73 44 *e*P P 04 59 42.0 +0.9
comp=Z,13nm,0.9s,mb4.5
BR131 Keskin Array S 83.74 312 *e*P P 04 59 40.7 -0.5
RRI2 Red Ridge 83.78 44 *e*P P 04 59 41.5 +0.1
comp=Z,10nm,0.8s,mb4.4
RRI2 *e*pP pP 05 01 31.7 +0.8
O13A Hicks Ranch, I 83.80 48 ⇑P P 04 59 41.7 +0.2
baz=84
Q12A Willow Creek R 83.80 49 ⇓P P 04 59 41.5 0.0
baz=84
L15A Malad City 83.84 45 ⇑P P 04 59 42.0 +0.4
baz=84,SNR=10.0
K16A Soda Springs 83.89 44 ⇓P P 04 59 43.1 +1.1
baz=84,SNR=17
S11A Rachel 83.90 51 ⇓P P 04 59 42.1 +0.1
baz=84
TPNV Topopah Spring 83.90 51 *e*P P 04 59 41.4 -0.7
TPNV pmax pmax
comp=Z,16nm,0.9s,mb4.5
TPNV Topopah Spring 83.90 51 ⇑P P 04 59 42.0 -0.1
baz=84,SNR=14
TPNV Topopah Spring 83.90 51 *e*P P 04 59 41.4 -0.7
comp=Z,16nm,0.9s,mb4.5
MOOW Moose Ponds 83.91 43 *e*P P 04 59 42.4 +0.4
comp=Z,8.8nm,1.3s,mb4.1
I17A Pilgram Creek 83.92 43 ⇓P P 04 59 43.1 +1.1
baz=84
TPAW Teton Pass 83.93 44 *e*P P 04 59 42.4 +0.3
comp=Z,9.2nm,0.8s,mb4.4
TPAW *e*pP pP 05 01 32.1 +0.4
N14A Grayback Hills 83.94 47 ⇑P P 04 59 42.3 +0.1
baz=84,SNR=7.5
BGU Big Grassy Mou 84.00 47 *e*P P 04 59 42.4 -0.1
RLMT Red Lodge 84.04 42 ⇑P P 04 59 43.0 +0.4
baz=84,SNR=12
RLMT Red Lodge 84.04 42 *e*P P 04 59 42.9 +0.3
comp=Z,3.9nm,0.4s,mb4.3
SNOW Snow King Moun 84.06 44 *e*P P 04 59 43.5 +0.7
comp=Z,8.8nm,1.0s,mb4.2
LOHW Long Hollow 84.07 43 *e*P P 04 59 43.5 +0.8
comp=Z,9.0nm,1.1s,mb4.2
M15A Larsen Ranch, 84.09 46 ⇑P P 04 59 43.5 +0.6
baz=84
U10A Ash Meadows, A 84.11 52 ⇑P P 04 59 43.3 +0.1
baz=84,SNR=5.0
P13A Bates Ranch, G 84.13 48 ⇑P P 04 59 43.2 0.0
baz=84,SNR=8.1
R12A Pony Springs, 84.32 50 ⇓P P 04 59 44.1 0.0
baz=84
GSC Goldstone 84.34 53 *e*P P 04 59 44.0 -0.3
GSC pmax pmax
comp=Z,19nm,1.1s,mb4.5
GSC Goldstone 84.34 53 ⇓P P 04 59 43.9 -0.4
baz=84,SNR=7.8
GSC Goldstone 84.34 53 *e*P P 04 59 44.0 -0.3
comp=Z,19nm,1.1s,mb4.5
Q13A Wheeler Ranch, 84.39 49 ⇓P P 04 59 44.6 +0.2
baz=84
SHOC Shoshone 84.41 52 ⇓P P 04 59 44.5 -0.2
baz=84
L16A Fish Haven 84.43 45 ⇑P P 04 59 45.1 +0.5
baz=84,SNR=9.5
T11A Corn Creek, Al 84.46 51 ⇓P P 04 59 44.6 -0.2
baz=84,SNR=9.9
DUG Dugway 84.53 47 *e*P P 04 59 45.2 +0.1
DUG *e**PP pP 05 01 40.5 +5.6
DUG pmax pmax
comp=Z,20nm,1.4s,mb4.5
DUG Dugway 84.53 47 ⇑P P 04 59 45.3 +0.3
baz=84,SNR=8.4
DUG Dugway 84.53 47 *e*P P 04 59 45.2 +0.1
comp=Z,20nm,1.4s,mb4.6
DUG *e*pP pP 05 01 40.5 +5.6
S12A Delamar Landin 84.53 50 ⇑P P 04 59 45.3 +0.2
baz=84
HWUT Hardware Ranch 84.57 45 *e*P P 04 59 45.5 +0.2
comp=Z,18nm,1.1s,mb4.6
HWUT *e*pP pP 05 01 39.5 +4.4
P14A Drum Mountains 84.68 48 ⇓P P 04 59 46.0 +0.1
baz=84,SNR=11
M16A Huntsville 84.69 46 ⇑P P 04 59 45.9 +0.1
baz=84
R13A O'Grain Ranch, 84.83 49 ⇓P P 04 59 46.9 +0.3
baz=85
Q14A Sevier Lake (B 84.86 48 ⇓P P 04 59 46.3 -0.5
baz=85,SNR=11
LAO LASA Array 84.89 39 *e*P P 04 59 46.4 -0.3
comp=Z,9.1nm,0.9s,mb4.4
MURC Murrieta 84.92 55 ⇓P P 04 59 46.8 -0.3
baz=85
HEC Hector,Ludlow 84.92 53 ⇓P P 04 59 46.8 -0.3
baz=85
DGMT Dagmar 84.93 37 ⇑P P 04 59 46.8 -0.1
baz=85
V11A Goodsprings 85.04 52 ⇑P P 04 59 47.4 -0.3
baz=85,SNR=5.7
BW06 Boulder Array 85.18 44 ⇑P P 04 59 48.0 -0.2
baz=85,SNR=7.0
BW06 Boulder Array 85.18 44 *e*P P 04 59 47.9 -0.3
comp=Z,4.6nm,0.9s,mb4.1
PDAR Pinedale Array 85.18 44 P P 04 59 48.1 -0.1
comp=Z,4.2nm,0.9s,mb4.1,baz=294,slow=2.6,SNR=26
P15A Leamington 85.21 48 ⇓P P 04 59 48.3 -0.1
baz=85
S13A Holt Ranch, En 85.21 50 ⇑P P 04 59 48.6 +0.1
baz=85,SNR=9.1
109C Camp Elliot, M 85.34 55 ⇓P P 04 59 48.9 -0.3
baz=85
U12A Valley of Fire 85.35 51 ⇑P P 04 59 49.2 0.0
baz=85
O16A Springville 85.37 47 ⇑P P 04 59 49.4 +0.2
baz=85
ARUT Antelope Range 85.39 49 *e*P P 04 59 49.8 +0.5
N17A Moffit Pass 85.39 46 ⇓P P 04 59 49.4 +0.1
baz=85
GMRC Granite Mounta 85.42 53 ⇓P P 04 59 49.4 -0.2
baz=85,SNR=6.5
PFO Pinyon Flat Ob 85.45 54 P P 04 59 49.8 0.0
comp=Z,11nm,0.8s,mb4.5,baz=303,slow=4.3,SNR=13
PFO Pinyon Flat Ob 85.45 54 ⇓P P 04 59 49.6 -0.1
baz=85
PFO Pinyon Flat Ob 85.45 54 *e*P P 04 59 49.1 -0.6
Q15A Fillmore 85.45 48 ⇑P P 04 59 49.8 +0.2
baz=85
T13A Saint George 85.47 50 ⇓P P 04 59 49.8 0.0
baz=85,SNR=6.2
V12A Nelson 85.50 52 ⇓P P 04 59 49.8 -0.1
baz=85,SNR=8.1
BELC Belle Mtn. 85.58 54 ⇓P P 04 59 49.8 -0.5
baz=86,SNR=7.6
S14A Cedar City 85.58 49 ⇓P P 04 59 50.0 -0.3
baz=85
LDFC Landfair 85.65 53 *e*P P 04 59 50.6 0.0
comp=Z,16nm,1.3s,mb4.5
U13A Pakoon Wash 85.75 51 ⇓P P 04 59 50.7 -0.4
baz=86,SNR=5.8
MONP Monument Peak 85.84 55 ⇑P P 04 59 51.2 -0.4
baz=86
O17A Robinson Place 85.86 46 ⇓P P 04 59 51.6 0.0
baz=86,SNR=5.2
R15A Junction 85.94 49 ⇑P P 04 59 51.9 -0.1
baz=86
T14A Hurricane 86.01 50 ⇓P P 04 59 52.3 0.0
baz=86,SNR=5.5
V13A Grand Canyon W 86.03 51 ⇓P P 04 59 52.6 +0.2
baz=86
IRM Iron Mountain 86.10 53 ⇑P P 04 59 52.5 -0.4
baz=86,SNR=5.7
N18A Larsen Ranch, 86.11 45 ⇓P P 04 59 52.5 -0.2
baz=86
BC3 Big Chuckw Mtn 86.14 54 ⇑P P 04 59 52.3 -0.8
baz=86,SNR=6.8
SWSC Sam W. Stewart 86.26 55 ⇓P P 04 59 53.7 0.0
baz=86
U14A Mt Trumbull 86.29 51 ⇑P P 04 59 54.1 +0.4
baz=86
R16A Teasdale 86.42 48 ⇑P P 04 59 54.9 +0.7
baz=86
T15A Red Dirt Ranch 86.51 50 ⇑P P 04 59 54.2 -0.5
baz=86
S16A Weppner Ranch, 86.66 49 ⇓P P 04 59 55.3 -0.1
baz=86
PDMCI Parker Dam,Lak 86.74 53 ⇑P P 04 59 55.9 0.0
baz=87
V14A Boquillas Ranc 86.75 51 ⇓P P 04 59 56.1 +0.1
baz=87
Y12C Blythe 86.75 53 ⇑P P 04 59 55.8 -0.1
baz=87
X13A Yucca 86.80 52 ⇑P P 04 59 56.2 0.0
baz=87
O19A Miners Draw (B 86.83 46 ⇑P P 04 59 56.0 -0.2
baz=87
R17A Hanksville Air 86.86 48 ⇑P P 04 59 55.9 -0.4
baz=87
U15A North Rim 86.89 50 ⇓P P 04 59 56.4 -0.1
baz=87
GLA Glamis 86.90 54 *e*P P 04 59 56.5 -0.2
GLA pmax pmax
comp=Z,3.0nm,0.6s,mb4.2
GLA Glamis 86.90 54 ⇑P P 04 59 56.8 +0.1
baz=87
GLA Glamis 86.90 54 *e*P P 04 59 56.5 -0.2
comp=Z,3.4nm,0.6s,mb4.2
W14A Seligman 87.00 52 ⇓P P 04 59 57.3 +0.3
baz=87
Y13A Salome 87.21 53 ⇑P P 04 59 58.1 0.0
baz=87
S17A Black Ridge (B 87.23 48 ⇑P P 04 59 57.5 -0.6
baz=87
112A Yuma 87.35 54 ⇓P P 04 59 58.9 +0.1
baz=87
R18A Canyonlands Na 87.41 47 ⇑P P 04 59 58.7 -0.2
baz=87
Q19A Hogan Spring (87.50 47 ⇓P P 04 59 59.8 +0.5
baz=87
X14A Yava 87.53 52 ⇓P P 04 59 59.6 0.0
baz=87
Y14A Wickenburg 87.73 53 ⇑P P 05 00 00.5 0.0
baz=88
S18A Hurst Farm, Bl 87.73 48 ⇑P P 05 00 00.1 -0.4
baz=88
113A Mohawk Valley, 87.81 54 ⇓P P 05 00 00.7 -0.2
baz=88
U16A Tuba City 87.83 50 ⇓P P 05 00 00.8 -0.1
baz=88
U17A Shonto 87.89 49 ⇑P P 05 00 01.1 -0.1
baz=88
ULM Lac du Bonnet 87.94 32 P P 05 00 00.2 -1.0
comp=Z,3.2nm,0.7s,mb4.2,baz=326,slow=4.6,SNR=5.9
ULM Lac du Bonnet 87.94 32 *e*P P 05 00 00.4 -0.8
comp=Z,2.9nm,0.7s,mb4.1
X15A Humboldt 87.97 52 ⇑P P 05 00 01.5 -0.1
baz=88
PV10 Paradox Valley 87.97 47 *e*P P 05 00 02.1 +0.6
WUAZ Wupatki 88.01 51 ⇓P P 05 00 01.9 +0.1
baz=88
T18A Mexican Hat 88.12 48 ⇓P P 05 00 01.5 -0.8
baz=88
Y15A Casa Rosa Ranc 88.19 52 ⇓P P 05 00 02.4 -0.3
baz=88
S19A Harvey Farm, M 88.26 48 ⇓P P 05 00 02.3 -0.6
baz=88
PV01 Paradox Valley 88.41 47 *e*P P 05 00 03.5 -0.1
X16A Lo Mia Camp, P 88.56 51 ⇓P P 05 00 04.0 -0.4
baz=88
Y16A Circle Bar Ran 88.83 52 ⇓P P 05 00 05.2 -0.4
baz=89
V18A Ganado 88.88 50 ⇓P P 05 00 05.9 +0.1
baz=89
214A Organ Pipe Nat 88.93 54 ⇑P P 05 00 06.1 -0.1
baz=89,SNR=6.5
115A Sonoran Desert 88.94 53 ⇓P P 05 00 06.4 +0.2
baz=89
MVCO Mesa Verde 88.98 48 ⇓P P 05 00 06.3 0.0
baz=89
Z16A Peralta Trail, 89.16 52 ⇑P P 05 00 07.2 0.0
baz=89
Y17A Roosevelt 89.37 52 ⇓P P 05 00 07.8 -0.4
baz=89
116A Eloy 89.39 53 ⇑P P 05 00 08.5 +0.2
baz=89
GERES GERESS Array B 89.58 328 P P 05 00 06.4 -2.4
comp=Z,0.3nm,0.5s,mb3.4,baz=16,slow=7.1,SNR=6.1
216A Three Points, 89.87 53 ⇑P P 05 00 10.5 0.0
baz=90
Y18A Canyon Day Jun 89.89 51 ⇓P P 05 00 10.7 +0.2
baz=90,SNR=6.0
X19A St. Johns 90.03 50 ⇓P P 05 00 11.6 +0.4
baz=90,SNR=8.9
117A Oracle 90.06 53 ⇓P P 05 00 11.6 +0.2
baz=90,SNR=5.8
TUC Tucson 90.17 53 *e*P P 05 00 12.2 +0.3
TUC pmax pmax
comp=Z,5.0nm,1.1s,mb4.3
TUC Tucson 90.17 53 *e*P P 05 00 12.2 +0.2
comp=Z,4.8nm,1.1s,mb4.2
Y19A Nutrioso 90.32 51 ⇑P P 05 00 13.0 +0.4
baz=90,SNR=6.7
217A Green Valley 90.45 53 ⇓P P 05 00 13.3 +0.1
baz=90,SNR=7.4
118A Homack Ranch, 90.56 52 ⇑P P 05 00 14.1 +0.4
baz=90
SDCO Great Sand Dun 90.61 46 *e*P P 05 00 13.7 -0.1
comp=Z,8.6nm,1.3s,mb4.5
218A Dragoon 90.88 53 ⇑P P 05 00 15.5 +0.3
baz=91
119A Ashpeak Ranch, 90.96 52 ⇑P P 05 00 16.2 +0.6
baz=91
318A Bisbee 91.22 53 ⇓P P 05 00 17.3 +0.5
baz=91
219A White Tail Can 91.42 52 ⇓P P 05 00 17.9 +0.2
baz=91
LAZ Ladron 91.50 49 *e*P P 05 00 18.0 0.0
ANMO Albuquerque 91.64 49 P P 05 00 19.3 +0.6
comp=Z,8.1nm,0.9s,mb4.7,baz=284,slow=3.1,SNR=26
ANMO Albuquerque 91.64 49 *e*P P 05 00 19.2 +0.6
ANMO pmax pmax
comp=Z,10.0nm,0.9s
ANMO Albuquerque 91.64 49 *e*P P 05 00 19.2 +0.6
comp=Z,10nm,0.9s,mb4.8
319A Douglas 91.76 53 ⇓P P 05 00 19.5 +0.3
baz=92
BNM Barren Site 91.99 49 *e*P P 05 00 19.1 -1.2
TXAR Lajitas Array 96.88 52 P P 05 00 42.6 +0.1
comp=Z,1.8nm,0.7s,mb4.4,baz=302,slow=2.7,SNR=27
TXAR Lajitas Array 96.88 52 P P 05 00 42.7 +0.1
TXAR pmax pmax
comp=Z,2.0nm,0.7s
TOA0 Torodi Ar. Sit 122.29 309 *e*PKPdf PKPdf 05 06 01.7 -1.9
TORD Torodi Ar. Bea 122.29 309 PKP PKPdf 05 06 02.0 -1.7
comp=Z,0.6nm,0.4s,baz=71,slow=0.8,SNR=30
SNAA Sanae 131.63 195 *e*PKPdf PKPdf 05 06 18.0 -1.8
SNAA Sanae 131.63 195 *e*PKPdf PKPdf 05 06 18.1 -1.7
VNA2 Neumayer--Watz 133.19 194 *e*PKPdf PKPdf 05 06 21.7 -1.0
baz=104,slow=0.6
VNA3 Neumayer Olymp 133.42 193 *e*PKPdf PKPdf 05 06 22.4 -0.7
LPAZ La Paz 151.86 71 PKPbc PKPbc 05 07 04.0 +0.4
comp=Z,4.7nm,0.6s,baz=312,slow=2.4,SNR=35
LPAZ La Paz 151.86 71 *e*PKPdf PKPdf 05 06 56.6 -0.1
LPAZ *e*PKPbc PKPbc 05 07 03.8 +0.2
LPAZ *e*PKPab PKPab 05 07 14.5 -0.6
PLCA Paso Flores 152.16 125 PKPbc PKPbc 05 07 03.3 -0.4
comp=Z,3.3nm,0.4s,baz=253,slow=3.2,SNR=29
PLCA PKPab PKPab 05 07 15.5 -0.3
comp=Z,3.7nm,1.0s,baz=273,slow=1.8,SNR=4.7
PLCA Paso Flores 152.16 125 *e*PKPbc PKPbc 05 07 02.7 -1.0
CPUP Villa Florida 164.82 88 PKPab PKPab 05 08 09.5 -1.8
comp=Z,0.3nm,0.4s,baz=299,slow=10,SNR=3.4

IDC 04 04:49:16.4±1.7**,3168N**×**13982E,h0**km**,mb4.3**/8**,**
mb1 4.6/8**,mb1mx4.3**/20**,mbtmp4.3**/8**,MS3.4**/2**,Ms1 3.4**/2**,**
ms1mx2.5/32**,Error ellipse: s-maj=63.6km**
s-min=23.3km az=176.0,Southeast of Honshu

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
MJAR Matsushiro Arr 5.03 345 LR LR 04 52 03.6
comp=Z,383nm,20.0s,baz=145,slow=33
SONM Songino Array 30.05 312 P P 04 55 26.0 -1.0
2.2nm,0.9s,baz=120,slow=11,SNR=3.6
CMAR Chiang Mai Arr 39.08 260 P P 04 56 45.0 -0.3
1.3nm,0.4s,baz=47,slow=0.8,SNR=5.9
MKAR Makanchi Array 46.04 306 P P 04 57 42.3 +0.6
2.7nm,0.9s,baz=86,slow=9.1,SNR=2.7
AKASG Malin Array Be 77.73 322 P P 05 01 15.4 +0.4
2.7nm,0.7s,baz=51,slow=5.6,SNR=8.8
NOA NORSAR Array B 78.61 337 LR LR 05 40 52.3
comp=Z,19nm,18.2s,baz=15,slow=39
NVAR Mina Array Bea 79.30 51 P P 05 01 24.0 +0.1
4.9nm,1.0s,baz=269,slow=5.5,SNR=7.7
ELK Elko 80.05 48 P P 05 01 27.4 -0.6
3.0nm,1.0s,baz=345,slow=2.6,SNR=7.4
PDAR Pinedale Array 82.39 44 P P 05 01 41.7 +1.4
1.3nm,1.0s,baz=298,slow=3.2,SNR=5.2
TXAR Lajitas Array 94.45 52 P P 05 02 39.3 +0.6
3.5nm,1.1s,baz=280,slow=1.6,SNR=3.6

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*IPEC **04** 05:03:51.6±0.3,5164N×1614E,h2km±1km,ML2.2/4,Error ellipse: s-maj=1.8km s-min=0.8km az=29.0*
*NEIC **04** 05:03:52.8±1.3,5157N×1605E,h5km,ML2.6(SZGRF), Error ellipse: s-maj=15.6km s-min=5.5km az=220.0*
*ISCJB **04** 05:03:52.6±0.6,5145N±003×1598E±003,h0km,Error ellipse: s-maj=4.7km s-min=2.5km az=23.5*
*WAR **04** 05:03:53.5,5157N×1601E,ML2.7,Mining Induced*
*CSEM **04** 05:03:53.9±0.2,5152N×1601E,h0km,ML3.3/11,Error ellipse: s-maj=2.9km s-min=1.7km az=28.0*
*PRU **04** 05:03:53.7,5153N×1602E,h0km*
*VIE **04** 05:03:55.3±0.6,5132N×1609E,h0km,mb2.0/3,ML2.7/4, Error ellipse: s-maj=3.9km s-min=3.7km az=170.0, Suspected Mining induced.*
ISC 04 05:03:52.7±0.7**,5155N**±003×**1602E**±003**,h0**km**,n37,**
σ**0**s**89**/73**,2C-3D,Poland**

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
KSP Ksiaz 0.73 166 *e*Pg Pg 05 04 07.2 +0.4
KSP *e*Sg **Sg 05 04 17.1 +0.9**
KSP Ksiaz 0.73 166 *e*Pg Pg 05 04 07.0 +0.3
KSP *e*Sg **Sg 05 04 17.0 +0.8**
KSP Ksiaz 0.73 166 ⇓*i*Pg **Pg 05 04 07.2 +0.5**
KSP *e*Sg **Sg 05 04 17.1 +0.9**
UPC Upice 1.05 180 *e*Pg **Pg 05 04 13.2 +0.4**
UPC *e*Sg **Sg 05 04 28.7 +2.4**
UPC Upice 1.05 180 *e*PG **Pg 05 04 13.5 +0.7**
DPC Dobruska-Polom 1.22 171 Pg **Pg 05 04 16.0 -0.1**
DPC *e*Sg **Sg 05 04 31.8 -0.1**
DPC Dobruska-Polom 1.22 171 *e*PG **Pg 05 04 16.0 -0.1**
DPC *e*SG **Sg 05 04 32.0 +0.1**
PVCC Panska Ves 1.38 222 *e*Pn **Pn 05 04 18.9 -0.2**
PVCC Panska Ves 1.38 222 Pg **Pg 05 04 19.2 +0.2**
PVCC Sg **Sg 05 04 38.0 +1.2**
94nm,0.2s
PVCC Panska Ves 1.38 222 *e*PG **Pg 05 04 19.2 +0.2**
PVCC *e*SG **Sg 05 04 38.0 +1.2**
94nm,0.2s
BRG Berggiesshubel 1.47 243 Pg **Pg 05 04 20.8 -0.1**
BRG *e*Sg **Sg 05 04 40.7 +0.7**
BRG Berggiesshubel 1.47 243 PN **Pn 05 04 20.3 -0.1**
BRG PG **Pg 05 04 20.8 -0.1**
BRG SG **Sg 05 04 41.1 +1.1**
66nm,0.4s
PRU Pruhonice 1.83 211 *e*Pn **Pn 05 04 24.5 -0.8**
PRU Pruhonice 1.83 211 *e*PN **Pn 05 04 24.7 -0.6**
PRU *e*PG **Pg 05 04 26.6 -1.1**
PRU *e*SG **Sg 05 04 50.8 -0.5**
26nm,0.3s
CLL Collm 1.90 264 *i* Pn **Pn 05 04 25.2 -1.2**
CLL *e*Pg **Pg 05 04 28.0 -1.2**
CLL *i* x x 05 04 32.2
CLL *i* Sg **Sg 05 04 54.9 +1.1**
comp=Z,15nm,0.6s
CLL Collm 1.90 264 *i* Pn **Pn 05 04 25.2 -1.2**
CLL *e*Pg **Pg 05 04 28.0 -1.2**
CLL *i* Sg **Sg 05 04 54.9 +1.1**
MORC Moravsky Berou 2.03 151 *e*Pn **Pn 05 04 27.4 -0.7**
MORC *e*Sg **Sg 05 04 56.0 -1.7**
comp=Z,14nm,0.2s
MORC *e*Sn **Sn 05 04 56.3 +2.3**
MORC Moravsky Berou 2.03 151 *e*Pn **Pn 05 04 27.5 -0.5**
MORC *e*Sn **Sn 05 04 56.3 +2.3**
OKC Ostrava-Krasne 2.19 141 *e*SG **Sg 05 05 02.9 0.0**
comp=Z,20nm,0.4s
VRAC Vranov 2.28 170 *e*Pn **Pn 05 04 31.8 +0.3**
VRAC *e*Sg **Sg 05 05 04.3 -1.5**
comp=Z,12nm,0.2s
KRUC Moravsky 2.51 174 *e*Pn **Pn 05 04 35.0 +0.3**
KRUC *e*Sg **Sg 05 05 11.9 -1.3**
comp=Z,6.6nm,0.2s
NKC Novy Kostel 2.62 241 *e*PN **Pn 05 04 36.2 0.0**
NKC *e*PG **Pg 05 04 42.3 -0.6**
NKC *e*SG **Sg 05 05 18.0 +1.2**
comp=Z,44nm,0.3s
OJC Ojcow 2.74 118 *e*Pg **Pg 05 04 46.0 +0.8**
OJC *e*Sg **Sg 05 05 20.5 -0.2**
KHC Kasperske Hory 2.89 214 *e*PN **Pn 05 04 40.0 +0.1**
KHC *e*PG **Pg 05 04 45.5 -2.5**
KHC *e*SN **Sn 05 05 15.4 +0.2**
KHC *e*SG **Sg 05 05 23.6 -1.7**
comp=Z,8.8nm,0.3s
JAVC Velka Javorina 2.90 158 *e*Pn **Pn 05 04 41.1 +1.1**
JAVC *e*Sg **Sg 05 05 25.4 -0.4**
comp=Z,9.7nm,0.6s

Code	Station Name	Δ°	AZ°	Op	ISC	h m s	Res
MOX	**Moxa**	**2.92**	**254**	ePN	**Pn**	**05 04 40.8**	**+0.5**
MOX				ePG	**Pg**	**05 04 48.0**	**-0.7**
MOX				eSG	**Sg**	**05 05 28.0**	**+1.5**
MOX	**Moxa**	**2.92**	**254**	ePg	**Pg**	**05 04 48.0**	**-0.7**
MOX				eSg	**Sg**	**05 05 26.5**	**0.0**
MODS	**Modra-Piesok**	**3.29**	**165**	eSG	**Sg**	**05 05 38.6**	**+0.4**
KOLL	**Kolacno**	**3.35**	**152**	eSg	**Sg**	**05 05 40.4**	**+0.1**
KOLL	**Kolacno**	**3.35**	**152**	eSG	**Sg**	**05 05 40.4**	**+0.1**
ZST	**Bratislava**	**3.43**	**168**	eSG	**Sg**	**05 05 43.8**	**+0.9**
CLZ	**Clausthal**	**3.52**	**277**	ePn	**Pn**	**05 04 48.6**	**0.0**
GRA1	**Grafenberg Arr**	**3.58**	**240**	ePn	**Pn**	**05 04 49.3**	**-0.1**
GRA1				eSg	**Sg**	**05 05 47.4**	**-0.2**
GRF	**Grafenberg Arr**	**3.58**	**240**	ePn	**Pn**	**05 04 49.3**	**-0.1**
GRF				eSg	**Sg**	**05 05 47.4**	**-0.2**
CONA	**Conrad Observa**	**3.63**	**182**	⇓iPn	**Pn**	**05 04 50.3**	**+0.2**
CONA				⇓iSg	**Sg**	**05 05 48.6**	**-0.6**
	comp=Z,11nm,0.4s						
MOA	**Molln**	**3.88**	**198**	⇑iPn	**Pn**	**05 04 54.1**	**+0.6**
MOA				⇑iSg	**Sg**	**05 05 57.3**	**+0.1**
	comp=Z,9.0nm,0.4s						
STHS	**Stebnicka Huta**	**3.96**	**121**	eSG	**Sg**	**05 06 04.3**	**+4.3**

*ROM **04** 05:14:04.0±0.9, 43.19N×1583E, h10km, Ml2.7/15, Error ellipse: s-maj=16.1km s-min=3.9km az=54.0*
*ISCJB **04** 05:14:05.7±0.8, 4303N±002×1561E±004, h0km±6km, Error ellipse: s-maj=4.7km s-min=3.2km az=170.1*
*CSEM **04** 05:14:05.6±0.1, 4305N×1560E, h2km, ML3.3, Error ellipse: s-maj=1.7km s-min=1.4km az=91.0*
*BEO **04** 05:14:05.3±1.0, 4289N×1536E, ML3.3/3*
*VIE **04** 05:14:07.0±1.3, 4298N×15.11E, h2km±6km, mb2.5/4, ML2.8/4, Error ellipse: s-maj=18.9km s-min=7.6km az=86.0 125 km WSW of Split*
ISC 04 05:14:07.2±0.9**, 4297N**±002×**1558E**±004**, h6**km±6km**, n50, σ1§01**/77**, 2C-5D, Adriatic Sea**

Code	Station Name	Δ°	AZ°	Op	ISC	h m s	Res
FG2	**Serracapriola**	**1.21**	**195**	Pn	**Pn**	**05 14 30.8**	**+0.3**
	177nm,0.5s						
SGRT	**San Giovanni R**	**1.23**	**174**	Pn	**Pn**	**05 14 29.9**	**-0.9**
SGRT				Sn	**Sn**	**05 14 49.7**	**+2.1**
MSAG	**Monte S. Angel**	**1.28**	**169**	Pn	**Pn**	**05 14 31.3**	**-0.3**
FGMS	**Monte Sant'Ang**	**1.30**	**167**	Pn	**Pn**	**05 14 31.8**	**+0.1**
RGNG	**Rignano Grg**	**1.30**	**180**	Pn	**Pn**	**05 14 30.4**	**-1.4**
OFFI	**Offida**	**1.39**	**269**	Pn	**Pg**	**05 14 34.8**	**+1.0**
	279nm,0.6s						
VCEL	**Villa Celiera**	**1.41**	**246**	Pn	**Pn**	**05 14 33.4**	**+0.1**
	80nm,0.4s						
CIGN	**Sant'Elia a Pi**	**1.41**	**201**	Pn	**Pn**	**05 14 33.2**	**-0.1**
	81nm,0.9s						
TERO	**Teramo**	**1.49**	**257**	Pn	**Pn**	**05 14 34.1**	**-0.4**
	48nm,0.5s						
AOI	**Ancona**	**1.55**	**292**	Pn	**Pn**	**05 14 34.4**	**-0.9**
	91nm,1.0s						
STON	**Ston**	**1.56**	**93**	ePn	**Pn**	**05 14 33.6**	**-1.8**
STON				Sn	**Sn**	**05 14 55.1**	**-0.8**
STON	**Ston**	**1.56**	**93**	ePn	**Pn**	**05 14 33.5**	**-1.9**
STON				Sn	**Sn**	**05 14 55.1**	**-0.8**
FAGN	**Fagnano**	**1.63**	**245**	Pn	**Pn**	**05 14 35.9**	**-0.5**
	125nm,0.5s						
RNI2	**Rionero Sannit**	**1.65**	**220**	Pn	**Pg**	**05 14 39.4**	**+0.5**
	55nm,0.6s						
MIDA	**Miranda**	**1.65**	**217**	Pn	**Pn**	**05 14 38.0**	**+1.3**
	62nm,0.4s						
CAMP	**Campotosto**	**1.66**	**255**	Pn	**Pn**	**05 14 36.2**	**-0.5**
	6.0nm,0.5s						
NVLJ	**Novalja**	**1.67**	**342**	ePn	**Pn**	**05 14 34.7**	**-2.2**
NVLJ				Sn	**Sn**	**05 14 58.6**	**+0.1**
NVLJ	**Novalja**	**1.67**	**342**	ePn	**Pn**	**05 14 34.7**	**-2.2**
NVLJ				Sn	**Sn**	**05 14 58.6**	**0.0**
CING	**Cingoli**	**1.79**	**284**	Pn	**Pn**	**05 14 37.7**	**-0.8**
	37nm,0.7s						
NRCA	**Norcia**	**1.81**	**266**	Pn	**Pn**	**05 14 38.4**	**-0.5**
	38nm,1.0s						
SGG	**Gregorio Mates**	**1.82**	**210**	Pn	**Pn**	**05 14 39.6**	**+0.7**
	60nm,0.6s						
SDI	**San Donato**	**1.82**	**227**	Pn	**Pn**	**05 14 40.1**	**+1.1**
	13nm,0.3s						
SGTA	**Sant Agata di**	**1.84**	**185**	Pn	**Pn**	**05 14 39.0**	**-0.3**
	77nm,0.9s						
VAGA	**Valle Agricola**	**1.85**	**213**	Pn	**Pn**	**05 14 41.4**	**+2.0**
	65nm,0.8s						
POFI	**Posta Fibreno**	**1.87**	**228**	Pn	**Pn**	**05 14 40.4**	**+0.8**
	48nm,1.0s						
MOCO	**Biccari - m.te**	**1.92**	**214**	Pn	**Pn**	**05 14 36.5**	**-3.8**
	67nm,0.8s						
TREB	**Trebinje**	**2.06**	**96**	ePn	**Pn**	**05 14 42.1**	**-0.1**
TREB	**Trebinje**	**2.06**	**96**	ePn	**Pn**	**05 14 41.4**	**-0.8**
TREB				eSn	**Sn**	**05 15 08.1**	**0.0**
BLY	**Banja Luka**	**2.12**	**33**	ePn	**Pn**	**05 14 44.0**	**+0.9**
BLY				eSn	**Sn**	**05 15 12.4**	**+2.7**
BLY	**Banja Luka**	**2.12**	**33**	ePn	**Pn**	**05 14 43.4**	**+0.3**
BLY				eSn	**Sn**	**05 15 12.0**	**+2.3**
BOJS	**Bojanci**	**2.54**	**355**	i Pn	**Pn**	**05 14 48.1**	**-0.7**
BOJS				i Sn	**Sn**	**05 15 22.2**	**+2.2**
KNDS	**Knezji Dol**	**2.69**	**342**	i Pn	**Pn**	**05 14 50.1**	**-0.8**
KNDS				i Sn	**Sn**	**05 15 25.2**	**+1.3**
SKDS	**Skadanscina**	**2.81**	**337**	i Pn	**Pn**	**05 14 51.1**	**-1.4**
CRES	**Cresnjev**	**2.85**	**358**	ePn	**Pn**	**05 14 54.2**	**+1.1**
CRES				eSn	**Sn**	**05 15 29.3**	**+1.5**
CRES	**Cresnjev**	**2.85**	**358**	ePn	**Pn**	**05 14 52.6**	**-0.5**
CRES				eSn	**Sn**	**05 15 27.5**	**-0.3**
VISS	**Visnje**	**2.88**	**350**	i Pn	**Pn**	**05 14 53.2**	**-0.3**
VISS				i Sn	**Sn**	**05 15 28.9**	**+0.5**
CEY	**Cerknica**	**2.88**	**344**	ePn	**Pn**	**05 14 52.4**	**-1.2**
CEY				eSn	**Sn**	**05 15 28.0**	**-0.5**
BBLS	**Lazići**	**2.93**	**71**	ePn	**Pn**	**05 14 54.7**	**+0.5**
BBLS				eSn	**Sn**	**05 15 33.7**	**+4.1**
BBLS				eSn	**Sn**	**05 15 34.5**	**+4.9**
VOY	**Vojsko**	**3.29**	**339**	ePn	**Pn**	**05 14 58.1**	**-1.0**
VOY				e		05 14 59.8	
VOY				eSn	**Sn**	**05 15 38.8**	**+0.4**
VOY				e		05 15 53.8	
VOY	**Vojsko**	**3.29**	**339**	ePn	**Pn**	**05 14 58.1**	**-1.0**
VOY				eSn	**Sn**	**05 15 38.8**	**+0.4**
DIVS	**Divibare**	**3.40**	**69**	ePn	**Pn**	**05 15 02.4**	**+1.7**
DIVS	**Divibare**	**3.40**	**69**	ePn	**Pn**	**05 14 59.8**	**-0.9**
DIVS				eSn	**Sn**	**05 15 41.1**	**-0.2**
OBKA	**Obir**	**3.61**	**349**	⇑iPn	**Pn**	**05 15 03.3**	**-0.2**
OBKA				⇓iSn	**Sn**	**05 15 46.2**	**-0.2**
OBKA				⇓iSg	**Sg**	**05 16 04.7**	**+1.7**
	17nm,0.4s						
OBKA	**Obir**	**3.61**	**349**	Pn	**Pn**	**05 15 03.3**	**-0.2**
OBKA				Sn	**Sn**	**05 15 46.2**	**-0.2**
PKSM	**Moragy**	**3.91**	**33**	ePn	**Pn**	**05 15 08.7**	**+1.1**
KBA	**Koelnbreinsper**	**4.40**	**340**	⇑iPn	**Pn**	**05 15 13.0**	**-1.3**
KBA				⇓iSn	**Sn**	**05 16 05.6**	**-0.3**
KBA	**Koelnbreinsper**	**4.40**	**340**	Pn	**Pn**	**05 15 13.0**	**-1.4**
KBA				Sn	**Sn**	**05 16 05.6**	**-0.3**
MOA	**Molln**	**4.96**	**350**	⇓iPn	**Pn**	**05 15 21.6**	**-0.5**
MOA				⇓iSn	**Sn**	**05 16 18.6**	**-1.1**
MOA	**Molln**	**4.96**	**350**	Pn	**Pn**	**05 15 21.6**	**-0.5**
MOA				Sn	**Sn**	**05 16 18.6**	**-1.1**
VYHS	**Vyhne**	**5.97**	**21**	ePN	**Pn**	**05 15 36.3**	**+0.3**
VYHS				eSN	**Sn**	**05 16 45.4**	**+0.8**

*ISCJB **04** 05:14:14.5±0.2, 3255N±002×7624E±003, h10km, mb4.0/11, Error ellipse: s-maj=4.1km s-min=2.7km az=147.7*
*IDC **04** 05:14:14.7±0.9, 3249N×76.15E, h0km, mb4.0/9, mb1 4.1/11, mb1mx4.0/24, mbtmp4.0/11, ML4.0/2, MS2.7/2, Ms1 2.7/2, ms1mx2.3/30, Error ellipse: s-maj=26.6km s-min=17.6km az=52.0*
*NDI **04** 05:14:16.5±4.6, 3263N×7605E, h10km, ML4.4, mb4.6(NEIC)*
*NEIC **04** 05:14:18.1±0.8, 3269N×7634E, h10km, mb4.6/3, Error ellipse: s-maj=15.4km s-min=10.1km az=69.0*
*MOS **04** 05:14:19.2±1.2, 3273N×76.19E, h33km, mb4.2/11, Error ellipse: s-maj=17.5km s-min=7.6km az=97.9*
*BJI **04** 05:14:20.9, 3286N×7663E, h11km, mB4.5, mb4.1, ML3.7, Ms3.6*
*NNC **04** 05:14:25.1±2.0, 3341N×7595E, h0km, mb3.6, Error ellipse: s-maj=26.5km s-min=23.1km az=52.0*
ISC 04 05:14:17.3±0.8**, 3253N**±002×**7616E**±003**, h13**km±5km**, n85, σ1§31**/116**, mb4.0**/11**, 4C-1D, Kashmir-India border region**

Code	Station Name	Δ°	AZ°	Op	ISC	h m s	Res
THN	**Thein Dam**	**0.39**	**256**	eP	**Pg**	**05 14 22.0**	**-3.0**
THN				eS	**Sg**	**05 14 29.2**	**-1.1**
PONG	**Pong**	**0.60**	**197**	eP	**Pg**	**05 14 29.0**	**0.0**
PONG				ex	x	05 15 42.0	
JMU	**Jammu**	**1.08**	**280**	i P	**Pb**	**05 14 39.5**	**+1.6**
JMU				i S	**Sb**	**05 14 58.5**	**+6.6**
BHK	**Bhakra**	**1.13**	**169**	eP	**Pb**	**05 14 39.2**	**+0.5**
BHK				eS	**Sb**	**05 14 57.8**	**+4.5**
SMLA	**Simla**	**1.64**	**148**	i P	**Pn**	**05 14 48.2**	**+2.4**
SMLA				i S	**Sn**	**05 15 11.6**	**+4.8**
SMLA				ex	x	05 15 13.1	
	comp=N,33µm,0.3s						
SMLA				ex	x	05 15 14.0	
	comp=E,30µm,0.4s						
SRNI	**Srinagar**	**1.91**	**325**	eP	**Pn**	**05 14 47.5**	**-2.1**
SRNI				ex	x	05 14 51.0	
CHCP	**Chirah Chowk**	**2.68**	**296**	P	**Pn**	**05 15 02.4**	**+2.3**
DDI	**Dehra Dun**	**2.73**	**143**	eP	**Pn**	**05 15 05.0**	**+4.1**
DDI				ex	x	05 15 42.3	
JOSI	**Joshimath**	**3.50**	**123**	eP	**Pn**	**05 15 14.8**	**+3.4**
JOSI				eS	**Sn**	**05 15 55.0**	**+2.2**
JOSI				AML	AML	05 16 05.5	
	comp=N,1µm,0.6s						
JOSI				AML	AML	05 16 05.9	
	comp=E,970nm,0.4s						
THW	**Thamme Wali**	**3.74**	**275**	P	**Pn**	**05 15 14.8**	**+0.1**
KALG	**Kalgarh**	**3.75**	**143**	eP	**Pn**	**05 15 15.1**	**+0.3**
KALG				eS	**Sn**	**05 16 01.5**	**+2.7**
CEP	**Cherat**	**3.79**	**291**	P	**Pn**	**05 15 16.2**	**+0.8**
NDI	**New Delhi**	**3.94**	**166**	eP	**Pn**	**05 15 12.0**	**-5.5**
NDI				eS	**Sn**	**05 16 00.0**	**-3.6**
AYAN	**Aya Nagar**	**4.12**	**168**	i P	**Pn**	**05 15 21.4**	**+1.5**
AYAN				eS	**Sn**	**05 16 07.9**	**-0.1**
SONA	**Sohna**	**4.34**	**169**	eP	**Pn**	**05 15 23.1**	**+0.1**
SONA				eS	**Sn**	**05 16 13.9**	**+0.5**
KHET	**Khetri**	**4.45**	**184**	ex	x	05 15 22.4	
KHET				eS	**Sn**	**05 16 14.3**	**-1.9**
PTH	**Pithoragarh**	**4.58**	**129**	eP	**Pn**	**05 15 32.0**	**+5.8**
PTH				eS	**Sn**	**05 16 22.2**	**+3.0**
AGRA	**Agra**	**5.50**	**163**	eS	**Sn**	**05 16 40.6**	**-1.5**
AGRA				AML	AML	05 17 17.9	
	comp=E,278nm,0.2s						
AGRA				AML	AML	05 17 24.1	
	comp=N,224nm,0.3s						
AJM	**Ajmer**	**6.17**	**193**	eP	**Pn**	**05 15 47.1**	**-1.0**
AJM				eS	**Sn**	**05 16 54.5**	**-4.1**
KBL	**Kabul**	**6.27**	**291**	eP	**Pn**	**05 15 50.9**	**+1.4**
KBL				e		05 17 02.1	
KBL				pmax	pmax		
	comp=Z,29nm,0.8s						
KBL	**Kabul**	**6.27**	**291**	ePn	**Pn**	**05 15 50.9**	**+1.3**
	comp=Z,29nm,0.8s						
KBL				eSn	**Sn**	**05 17 02.1**	**+1.0**
DANN	**Dangsing**	**7.77**	**120**	ePn	**Pn**	**05 16 10.7**	**+0.6**
DANN				eSn	**Sn**	**05 17 36.2**	**-1.8**
	comp=Z,71nm,0.3s						
KOLN	**Koldanda**	**8.00**	**124**	ePn	**Pn**	**05 16 14.5**	**+1.3**
KOLN				eSn	**Sn**	**05 17 42.4**	**-1.2**
	comp=Z,94nm,0.5s						
GKN	**Gorkha**	**8.60**	**119**	ePn	**Pn**	**05 16 22.1**	**+0.5**
GKN				eSn	**Sn**	**05 17 55.1**	**-3.4**
	comp=Z,99nm,0.3s						
DMN	**Daman**	**9.17**	**120**	ePn	**Pn**	**05 16 30.1**	**+0.8**
DMN				eSn	**Sn**	**05 18 09.0**	**-3.4**
	comp=Z,98nm,0.6s						
KKN	**Kakani**	**9.20**	**119**	ePn	**Pn**	**05 16 29.8**	**+0.1**
KKN				eSn	**Sn**	**05 18 09.2**	**-3.9**
	comp=Z,57nm,0.4s						
PKIN	**Phulchoki**	**9.40**	**119**	ePn	**Pn**	**05 16 32.6**	**+0.1**
PKI	**Pulchoki**	**9.41**	**119**	ePn	**Pn**	**05 16 32.7**	**+0.1**
PKI				eSn	**Sn**	**05 18 14.8**	**-3.6**
	comp=Z,102nm,0.5s						
GUN	**Gumba**	**9.58**	**116**	ePn	**Pn**	**05 16 35.3**	**+0.3**
UCH	**Uchtor**	**9.77**	**353**	ePn	**Pn**	**05 16 36.9**	**-0.6**
	comp=Z,13nm,0.7s						
UCH				eSn	**Sn**	**05 18 28.1**	**+1.1**
AML	**Almayashu**	**9.78**	**349**	ePn	**Pn**	**05 16 38.2**	**+0.6**
	comp=Z,19nm,0.5s						
AML				eSn	**Sn**	**05 18 27.1**	**-0.3**
JIRN	**Jiri**	**9.95**	**117**	ePn	**Pn**	**05 16 39.7**	**-0.3**
JIRN				eSn	**Sn**	**05 18 27.1**	**-4.4**
	comp=Z,140nm,0.6s						
EKS2	**Erkin-Say**	**10.29**	**350**	ePn	**Pn**	**05 16 46.5**	**+1.9**
	comp=Z,6.8nm,0.7s						
EKS2				eSn	**Sn**	**05 18 38.1**	**-1.7**
TKM2	**Tokmak 2**	**10.38**	**358**	eP	**Pn**	**05 16 47.2**	**+1.3**
TKM2				pmax	pmax		
	comp=Z,8.0nm,0.6s						
TKM2	**Tokmak 2**	**10.38**	**358**	ePn	**Pn**	**05 16 47.2**	**+1.3**
	comp=Z,8.0nm,0.6s						
RAMN	**Ramite**	**10.64**	**119**	ePn	**Pn**	**05 16 48.6**	**-0.8**
RAMN				eSn	**Sn**	**05 18 42.1**	**-6.3**
	comp=Z,61nm,0.3s						
TAPN	**Taplejung**	**11.27**	**114**	ePn	**Pn**	**05 16 57.1**	**-0.9**
TAPN				eSn	**Sn**	**05 18 57.8**	**-6.0**
	comp=Z,41nm,0.7s						
ODAN	**Odare**	**11.28**	**117**	ePn	**Pn**	**05 16 57.4**	**-0.8**
ODAN				eSn	**Sn**	**05 18 59.3**	**-4.8**
	comp=Z,66nm,0.5s						
KK31	**Karatay Array**	**11.46**	**339**	P	**Pn**	**05 16 58.4**	**-2.2**
	comp=Z,4.2nm,0.6s,baz=153,slow=12,SNR=48						
KK31				⇓S	**Sn**	**05 18 58.4**	**-10**
	comp=Z,9.9nm,0.6s,baz=160,slow=21,SNR=9.7						
KK31	**Karatay Array**	**11.46**	**339**	P	**Pn**	**05 16 59.7**	**-0.9**
KK31				S	**Sn**	**05 18 58.3**	**-10**
KK31				pmax	pmax		
	comp=Z,3.0nm,0.3s						
KK31				smax			
	comp=N,7.0nm,0.4s						
AKL	**Akola**	**11.80**	**176**	eP	**Pn**	**05 17 04.4**	**-1.0**
AKL				eS	**Sn**	**05 19 08.5**	**-8.6**
POO	**Poona**	**14.10**	**189**	ex	**Pn**	**05 17 32.0**	**-4.7**
POO				i x	**Sn**	**05 20 05.0**	**-8.1**
WMQ	**Urumqi**	**14.45**	**35**	P	**Pn**	**05 17 44.0**	**+2.5**
MK31	**Makanchi Array**	**15.00**	**16**	P	**Pn**	**05 17 49.2**	**+0.4**
	comp=N,0.7nm,0.4s,baz=199,slow=14,SNR=11						
MK31	**Makanchi Array**	**15.00**	**16**	ePn	**Pn**	**05 17 49.4**	**+0.5**
MK31				eSn	**Sn**	**05 20 26.3**	**-8.5**
MKAR	**Makanchi Array**	**15.00**	**16**	Pn	**Pn**	**05 17 47.2**	**-1.7**
	comp=N,0.6nm,0.3s,baz=203,slow=14,SNR=10						
MKAR				Sn	**Sn**	**05 20 27.5**	**-7.3**
	comp=N,0.3nm,0.3s,baz=197,slow=24,SNR=5.8						
MKAR	**Makanchi Array**	**15.00**	**16**	P	**Pn**	**05 17 47.2**	**-1.7**
MKAR						05 20 27.5	
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
HYB	**Hyderabad**	**15.20**	**171**	i P	**Pn**	**05 17 57.0**	**+5.3**
HYB	**Hyderabad**	**15.20**	**171**	eP	**Pn**	**05 17 57.0**	**+5.3**
KURBB	**Kurchatov Arra**	**18.16**	**5**	⇑P	**Pn**	**05 18 27.2**	**-1.9**
	comp=Z,1.0nm,0.8s						
KURK	**Kurchatov**	**18.26**	**5**	P	**Pn**	**05 18 26.7**	**-3.6**
	comp=Z,0.1nm,0.3s,baz=191,slow=12,SNR=27						
GTA	**Gaotai**	**20.31**	**64**	eP	**P**	**05 18 54.6**	**+1.7**
GTA				AP		05 18 58.9	
GTA				XP	sP	05 19 02.5	+4.4
GTA				AMB	AMB		
	comp=Z,9.0nm,0.9s						
AB31	**Akbulak array**	**20.65**	**329**	⇑P	**P**	**05 18 57.5**	**+0.9**
	comp=Z,2.1nm,0.6s						
AB31	**Akbulak array**	**20.65**	**329**	P	**P**	**05 18 56.5**	**-0.1**
AB31				pmax	pmax		
	comp=Z,1.0nm,0.4s						
BVA0	**Borovoye Array**	**20.90**	**350**	⇑P	**P**	**05 18 58.6**	**-0.7**
	comp=Z,1.3nm,0.8s,baz=159,slow=11,SNR=35						
BVA0	**Borovoye Array**	**20.90**	**350**	i P	**P**	**05 18 58.5**	**-0.7**
BVA0				pmax	pmax		
	comp=Z,1.0nm,0.8s						
BVAR	**Borovoye Array**	**20.90**	**350**	P	**P**	**05 18 59.4**	**+0.1**
	comp=Z,3.9nm,0.4s,baz=156,slow=11,SNR=27						
BVAR	**Borovoye Array**	**20.90**	**350**	P	**P**	**05 18 59.4**	**+0.2**
BVAR				pmax	pmax		
	comp=Z,4.0nm,0.4s						
BRVK	**Borovoye**	**20.95**	**350**	eP	**P**	**05 19 00.0**	**+0.2**
BRVK				pmax	pmax		
	comp=Z,18nm,0.6s						
BRVK	**Borovoye**	**20.95**	**350**	eP	**P**	**05 19 00.0**	**+0.3**
	comp=Z,18nm,0.6s						
ZAA0	**Zalesovo Array**	**22.29**	**14**	eP	**P**	**05 19 12.2**	**-1.9**
ZALV	**Zalesovo Beam**	**22.29**	**14**	P	**P**	**05 19 12.1**	**-1.9**
	comp=Z,3.6nm,0.5s,mb4.0,baz=216,slow=11,SNR=15						
ZALV	**Zalesovo Beam**	**22.29**	**14**	P	**P**	**05 19 12.1**	**-2.0**
ZALV				pmax	pmax		
	comp=Z,4.0nm,0.5s,mb4.1						
ZALV				MLR	MLR		
	comp=Z,14nm,20.3s						
AKTK	**Aktyubinsk**	**22.36**	**328**	P	**P**	**05 19 16.3**	**+1.3**
AKTO	**Aktyubinsk**	**22.36**	**328**	⇑P	**P**	**05 19 15.8**	**+0.8**
	comp=Z,0.9nm,0.8s,mb3.3						
AKTO	**Aktyubinsk**	**22.36**	**328**	P	**P**	**05 19 16.3**	**+1.3**
	comp=Z,4.5nm,0.7s,mb4.0,baz=134,slow=10,SNR=14						
AKTO	**Aktyubinsk**	**22.36**	**328**	P	**P**	**05 19 15.7**	**+0.8**
AKTO				pmax	pmax		
	comp=Z,1.0nm,0.5s,mb3.5						
NVS	**Novosibirsk**	**22.86**	**11**	eP	**P**	**05 19 19.0**	**-1.1**
NVS				e		05 23 28.0	
NVS				pmax	pmax		
	comp=Z,11nm,1.3s,mb4.1						
NVS				pmax	pmax		
	comp=N,17nm,1.5s						
LZH	**Lanzhou**	**23.11**	**73**	eP	**P**	**05 19 23.0**	**0.0**
LZH				AP		05 19 27.5	
LZH				XP	sP	05 19 30.1	+1.8
LZH				AMB	AMB		
	comp=Z,18nm,1.2s,mb4.4						
LZH				AMB	AMB		
	comp=Z,102nm,5.0s						
LZH	**Lanzhou**	**23.11**	**73**	eP	**P**	**05 19 23.0**	**0.0**
	comp=Z,18nm,1.2s,mb4.4						
LZH				pP		05 19 27.5	
LZH				sP	sP	05 19 30.1	+1.8
CMAR	**Chiang Mai Arr**	**24.81**	**119**	P	**P**	**05 19 39.4**	**+0.2**
	comp=Z,2.3nm,0.6s,mb3.9,baz=316,slow=11,SNR=11						
CMAR	**Chiang Mai Arr**	**24.81**	**119**	P	**P**	**05 19 39.4**	**+0.2**
CMAR				pmax	pmax		
	comp=Z,2.0nm,0.6s						
SONM	**Songino Array**	**27.48**	**47**	P	**P**	**05 19 58.7**	**-4.3**
	comp=Z,0.9nm,0.3s,mb3.8,baz=284,slow=15,SNR=18						
ARCES	**ARCESS Array B**	**46.42**	**338**	P	**P**	**05 22 43.9**	**+0.7**
	comp=Z,2.6nm,0.8s,mb4.2,baz=111,slow=6.6,SNR=7.9						
ARCES	**ARCESS Array B**	**46.42**	**338**	P	**P**	**05 22 43.9**	**+0.7**
ARCES				pmax	pmax		
	comp=Z,3.0nm,0.8s						
ARCES	**ARCESS Array B**	**46.42**	**338**	P	**P**	**05 22 43.9**	**+0.7**
NB2	**NORSAR Subarra**	**50.09**	**325**	P	**P**	**05 23 10.1**	**-1.5**
	comp=Z,0.3nm,0.6s,mb3.5,baz=94,slow=7.9						
NOA	**NORSAR Array B**	**50.09**	**325**	P	**P**	**05 23 11.8**	**+0.2**
	comp=Z,1.1nm,0.8s,mb4.0,baz=93,slow=7.5,SNR=4.8						
NOA	**NORSAR Array B**	**50.09**	**325**	P	**P**	**05 23 11.8**	**+0.2**
NOA				pmax	pmax		
	comp=Z,1.0nm,0.8s						
NOA	**NORSAR Array B**	**50.09**	**325**	P	**P**	**05 23 11.8**	**+0.2**
KEST	**Kesra**	**54.43**	**293**	P	**P**	**05 23 44.5**	**+0.2**
	comp=Z,1.2nm,0.7s,mb3.9,baz=303,slow=4.0,SNR=4.7						
TORD	**Torodi Ar. Bea**	**70.04**	**273**	P	**P**	**05 25 27.4**	**-1.9**
	comp=Z,1.9nm,0.7s,mb4.2,baz=50,slow=5.4,SNR=21						
TORD	**Torodi Ar. Bea**	**70.04**	**273**	P	**P**	**05 25 27.4**	**-1.9**
WRA	**Warramunga Arr**	**76.25**	**125**	P	**P**	**05 26 05.4**	**-0.5**
	comp=Z,0.5nm,0.4s,mb3.8,baz=325,slow=5.7,SNR=13						
WRA	**Warramunga Arr**	**76.25**	**125**	P	**P**	**05 26 05.4**	**-0.4**
WRA				pmax	pmax		
	comp=Z,1.0nm,0.4s						

*BYKL **04** 05:18:48.0±1.4, 4905N×9970E*
MOS 04 05:18:47.5±2.0**, 4902N**×**9976E, h9**km**, mb4.4**/1**, 2C, Error ellipse: s-maj=31.3km s-min=17.9km az=67.5, Mongolia**

Code	Station Name	Δ°	AZ°	Op	ISC	h m s	Res
ZAK	**Zakamensk**	**2.66**	**58**	ePN	Pn	05 19 35.1	+4.6
ZAK				e		05 20 10.9	
ZAK				pmax	pmax		
	comp=Z,75nm,0.4s						
ZAK				smax			
	comp=N,482nm,0.7s						
ZAK	**Zakamensk**	**2.66**	**58**	ePg	Pg	05 19 35.6	-2.9
ZAK				eSg	Sg	05 20 11.9	-1.0
ZAK				Pmax			
	comp=N,76nm,0.5s						
ZAK				Smax			
	comp=N,375nm,0.4s						
MOY	**Mondy**	**2.77**	**16**	ePN	Pn	05 19 34.3	+2.4
MOY				e		05 19 37.8	
MOY				e		05 20 13.9	
MOY				pmax	pmax		
	comp=Z,68nm,0.2s						
MOY				smax			
	comp=E,577nm,0.9s						
MOY	**Mondy**	**2.77**	**16**	⇑iPn	Pn	05 19 34.4	+2.5
MOY				ePg	Pg	05 19 38.0	-2.5
MOY				eSg	Sg	05 20 14.3	-2.0
MOY				Pmax			
	comp=E,74nm,0.2s						
MOY				Smax			
	comp=E,582nm,1.0s						
ARS	**Arshan**	**3.37**	**29**	ePn	Pn	05 19 42.7	+2.5
ARS				ePg	Pg	05 19 47.8	-4.1
ARS				eSg	Sg	05 20 32.8	-2.7
ARS				Pmax			
	comp=E,44nm,0.5s						
ARS				Smax			
	comp=E,316nm,1.0s						
ORL	**Orlik**	**3.52**	**0**	ePN	Pn	05 19 50.2	+7.9
ORL				e		05 20 37.6	
ORL				pmax	pmax		
	comp=Z,71nm,0.3s						
ORL				smax			
	comp=N,144nm,1.0s						
ORL	**Orlik**	**3.52**	**0**	⇑i	Pn	05 19 44.9	+2.6
ORL				ePg	Pg	05 19 50.4	-4.6
ORL				eSg	Sg	05 20 36.8	-3.8
ORL				Pmax			
	comp=N,70nm,0.4s						
ORL				Smax			
	comp=N,119nm,0.7s						
TLY	**Talaya**	**3.64**	**42**	ePN	Pn	05 19 42.5	-1.5
TLY				e		05 19 51.6	
TLY				e		05 20 40.8	
TLY				pmax	pmax		
	comp=Z,18nm,0.4s						
TLY				smax			
	comp=N,377nm,1.0s						
TLY	**Talaya**	**3.64**	**42**	ePn	Pn	05 19 46.1	+2.1
TLY				Pg	Pg	05 19 52.6	-4.7
TLY				eSg	Sg	05 20 40.9	-3.5
TLY				Pmax			
	comp=N,10.0nm,0.2s						
TLY				Smax			
	comp=N,338nm,0.9s						
LSTR	**Listvyanka**	**4.32**	**47**	eSg	Sg	05 21 00.5	-5.5
LSTR				Smax			
	comp=N,104nm,1.1s						
IRK	**Irkutsk**	**4.32**	**40**	eSg	Sg	05 21 02.6	-3.5
IRK				Smax			
	comp=N,654nm,0.5s						
ULN	**Ulaanbaatar**	**4.99**	**101**	ePN	Pn	05 20 06.4	+3.9
ULN				pmax	pmax		
	comp=Z,7.0nm,0.3s						
ULN	**Ulaanbaatar**	**4.99**	**101**	ePg	Pg	05 20 18.5	-4.5
ULN				eSg	Sg	05 21 23.5	-4.1
ULN	**Ulaanbaatar**	**4.99**	**101**	eP	Pn	05 20 06.4	+3.9
	comp=Z,7.4nm,0.3s						
TRG	**Tyrgan**	**5.60**	**46**	ePN	Pn	05 20 12.1	+1.2
TRG				e		05 20 28.9	
TRG				eS	Sn	05 21 15.5	+0.2
TRG				e		05 21 40.2	
TRG				pmax	pmax		
	comp=Z,9.0nm,0.8s						
TRG				smax			
	comp=N,179nm,1.3s						
TRG	**Tyrgan**	**5.60**	**46**	Pg	Pg	05 20 27.6	-7.1
TRG				eSg	Sg	05 21 40.3	-6.9
TRG				Pmax			
	comp=N,3.0nm,0.3s						
TRG				Smax			
	comp=N,179nm,1.4s						
KPC	**Khapcheranga**	**8.27**	**80**	eSg	Sn	05 23 05.6	+45
KPC				Smax			
	comp=N,49nm,1.6s						
YLYR	**Ulyunkhan**	**9.16**	**46**	eSg	Sn	05 23 30.5	+48
YLYR				Smax			
	comp=N,41nm,2.3s						
KMO	**Kumora**	**9.79**	**41**	eSg	Sn	05 23 52.0	+54
KMO				Smax			
	comp=N,50nm,1.7s						
UKT	**Uakit**	**10.68**	**47**	eSg	Sn	05 24 19.0	+59
UKT				Smax			

comp=N,21nm,1.6s

ISCJB **04** *05:43:46.6±2.8, 102S±0.1×1610E±02, h76km±19km, mb4.2/13, Error ellipse: s-maj=33.0km s-min=14.3km az=22.5*
IDC **04** *05:43:46.2±1.1, 10.16S×161.15E, h59km±7km, mb3.9/9, mb1 4.1/10, mb1mx4.0/17, mbtmp4.0/10, MS3.6/15, Ms1 3.6/15, ms1mx3.5/26, Error ellipse: s-maj=18.2km s-min=10.9km az=50.0*
NEIC **04** *05:43:47.0±0.7, 10.13S×161.12E, mb4.3/6, Error ellipse: s-maj=17.7km s-min=11.1km az=126.0*
ISC 04 05:43:46.5±2.8**, 102S**±01×**1611E**±02**, h61**km±20km**, h63**km±5.6km**:pP-P, n29, σ0.70**/22**, mb4.3**/13**, Bougainville - Solomon Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
HNR	Honiara	1.37	302	P	Pn	05 44 09.6	+0.1
	200nm,0.3s,baz=148,slow=4.5,SNR=55						
HNR				S	Sn	05 44 26.5	-0.1
	967nm,0.3s,baz=188,slow=20,SNR=27						
HNR	Honiara	1.37	302	P	Pn	05 44 09.6	+0.1
HNR				S	Sn	05 44 26.5	-0.1
CTA	Charters Tower	17.40	234	eP	Pn	05 47 45.8	+0.6
	7.3nm,0.9s						
CTA	Charters Tower	17.40	234	P	Pn	05 47 46.2	+1.0
	0.4nm,0.3s,baz=61,slow=11,SNR=4.2						
CTA				LR	LR	05 53 24.8	
	comp=Z,244nm,21.3s,baz=51,slow=33						
AFI	Afiamalu	26.76	101	LR	LR	05 57 55.0	
	comp=Z,185nm,20.6s,baz=233,slow=32						
WB2	Warramunga Arr	27.58	246	eP	P	05 49 27.9	-0.2
WRA	Warramunga Arr	27.59	246	P	P	05 49 28.0	-0.2
	5.6nm,1.0s,mb4.2,baz=76,slow=8.9,SNR=32						
WRA				pP	pP	05 49 44.2	+1.0
	8.1nm,0.7s,baz=74,slow=9.3,SNR=15						
WRA				PcP	PcP	05 52 44.1	-0.7
	0.9nm,0.6s,baz=76,slow=3.0,SNR=5.9						
WRA				LR	LR	06 00 02.8	
	comp=Z,70nm,18.7s,baz=95,slow=35						
STKA	Stephens Creek	28.17	217	eP	P	05 49 33.7	+0.5
	2.7nm,0.6s,mb4.0						
STKA	Stephens Creek	28.17	217	P	P	05 49 32.5	-0.7
	2.4nm,0.6s,mb4.0,baz=36,slow=13,SNR=5.2						
STKA				LR	LR	05 59 11.4	
	comp=Z,231nm,20.1s,baz=28,slow=33						
KAKA	Kakadu	28.22	262	eP	P	05 49 33.7	-0.1
	4.1nm,0.6s,mb4.2						
GUMO	Guam	28.58	325	LR	LR	05 59 23.8	
	comp=Z,188nm,21.2s,baz=244,slow=33						
ASAR	Alice Springs	29.22	239	P	P	05 49 41.8	-0.9
	2.5nm,0.8s,mb4.0,baz=75,slow=10,SNR=23						
ASAR				pP	pP	05 49 58.3	+0.6
	2.5nm,0.9s,baz=62,slow=10,SNR=6.8						
ASAR				PcP	PcP	05 52 48.9	+0.1
	0.5nm,0.8s,baz=73,slow=2.4,SNR=2.6						
FITZ	Fitzroy Crossi	35.25	253	eP	P	05 50 35.3	-0.2
	12nm,0.6s,mb5.0						
FITZ	Fitzroy Crossi	35.25	253	LR	LR	06 03 08.4	
	comp=Z,86nm,21.6s,baz=290,slow=33						
MBWA	Marble Bar	41.21	250	eP	P	05 51 25.1	-0.5
	6.6nm,0.9s,mb4.3						
PPT	Papeete	48.32	104	LR	LR	06 08 08.1	
	comp=Z,100nm,18.2s,baz=285,slow=30						
MJAR	Matsushiro Arr	51.22	336	P	P	05 52 43.2	-0.7
	2.2nm,0.6s,mb4.2,baz=167,slow=9.2,SNR=3.8						
KSRS	Korea Array	56.67	329	P	P	05 53 24.5	+0.8
	0.5nm,0.3s,mb4.0,baz=151,slow=5.7,SNR=4.1						
KSRS				LR	LR	06 15 06.4	
	comp=Z,45nm,18.1s,baz=13,slow=33						
PETK	Petropavlovsk-	63.09	358	LR	LR	06 16 56.0	
	comp=Z,58nm,20.2s,baz=330,slow=32						
CMAR	Chiang Mai Arr	67.61	295	LR	LR	06 25 18.6	
	comp=Z,23nm,19.1s,baz=110,slow=37						
ULN	Ulaanbaatar	74.97	326	eP	P	05 55 21.8	+0.7
	3.4nm,0.8s,mb4.3						
SONM	Songino Array	75.31	325	P	P	05 55 24.0	+0.9
	2.0nm,0.6s,mb4.2,baz=139,slow=5.7,SNR=15						
SONM				pP	pP	05 55 38.4	-1.6
	3.3nm,0.8s,baz=121,slow=5.3,SNR=7.4						
SONM				LR	LR	06 25 16.6	
	comp=Z,45nm,18.6s,baz=64,slow=33						
SVW2	Sparrevohn	78.77	20	eP	P	05 55 40.2	-2.0
MAW	Mawson	83.81	202	P	P	05 56 09.6	+0.7
	7.8nm,0.8s,mb4.9,baz=100,slow=6.4,SNR=23						
MAW				LR	LR	06 27 37.9	
	comp=Z,69nm,21.7s,baz=66,slow=31						
NVAR	Mina Array Bea	88.97	51	P	P	05 56 35.0	+0.3
	0.7nm,0.8s,mb4.0,baz=237,slow=6.7,SNR=5.0						
MKAR	Makanchi Array	89.79	318	P	P	05 56 38.8	+0.4
	0.4nm,0.5s,mb4.0,baz=93,slow=6.4,SNR=4.4						
MKAR				LR	LR	06 38 40.3	
	comp=Z,20nm,18.6s,baz=170,slow=37						
ZALV	Zalesovo Beam	90.21	325	LR	LR	06 39 48.9	
	comp=Z,15nm,18.6s,baz=96,slow=37						
YKA	Yellowknife Ar	96.30	28	LR	LR	06 36 40.0	
	comp=Z,37nm,19.0s,baz=75,slow=33						
TORD	Torodi Ar. Bea	159.63	280	PKP	PKPdf	06 03 37.2	-2.2
	0.8nm,1.1s,baz=35,slow=5.3,SNR=4.6						

IDC 04 05:56:55.2±3.3**, 238N×9616E, h0**km**, mb3.6**/3**, mb1 3.9**/4**, mb1mx3.5**/20**, mbtmp3.7**/4**, ML4.5**/1**, Error ellipse: s-maj=116.0km s-min=28.0km az=61.0, Northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	16.21	10	Pn	Pn	06 00 46.4	+1.9
	0.7nm,0.3s,baz=201,slow=9.7,SNR=2.9						
WRA	Warramunga Arr	43.54	122	P	P	06 05 01.0	0.0
	0.2nm,0.4s,baz=303,slow=9.0,SNR=4.3						
MKAR	Makanchi Array	45.85	347	P	P	06 05 19.0	-0.1
	1.7nm,0.7s,baz=158,slow=8.2,SNR=16						
SONM	Songino Array	46.13	10	P	P	06 05 21.2	-0.1
	0.8nm,0.7s,baz=186,slow=9.4,SNR=6.3						

IDC **04** *06:17:39.5±0.5, 3755S×17638E, h279km±3km, mb4.0/9, mb1 4.2/9, mb1mx4.0/14, mbtmp4.0/9, Error ellipse: s-maj=24.2km s-min=12.7km az=41.0*
ISCJB **04** *06:17:40.5±0.3, 3794S±004×17600E±007, h289km±2km, mb4.2/11, Error ellipse: s-maj=9.1km s-min=6.3km az=12.6*
NEIC **04** *06:17:41.4, 3784S×176.15E, h282km, mb4.1/2, After WEL.*
ISC 04 06:17:41.3±0.3**, 3794S**±004×**17600E**±007**, h284**km±2km**, n97, σ0.94**/86**, mb4.2**/11**, North Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KARZ	Kaharoa	0.21	112	P	Pn	06 18 17.4	-0.1
TGRZ	Tauranga	0.30	44	P	Pn	06 18 17.2	-0.5
TGRZ				S	S	06 18 45.3	-1.3
TOZ	Tahuroa Road	0.45	298	P	Pn	06 18 17.7	-0.3
TOZ				S	S	06 18 47.3	+0.3
TAZ	Tarawera	0.49	126	P	Pn	06 18 18.2	+0.2
EDRZ	Edgecumbe	0.60	106	P	Pn	06 18 17.9	-0.5
WHTZ	Whakaora	0.72	183	P	Pn	06 18 19.5	+0.8
WATZ	Wairara	0.79	195	P	Pn	06 18 19.8	+0.8
URZ	Urewera	0.93	110	P	Pn	06 18 18.6	-1.0
	549nm,0.3s,baz=275,slow=2.1,SNR=2530						
URZ				S	S	06 18 47.1	-2.8
	1μm,0.3s,baz=90,slow=21,SNR=75						
URZ	Urewera	0.93	110	P	Pn	06 18 18.6	-1.0
RATZ	Rangitukua	0.94	191	P	Pn	06 18 20.3	+0.7
HATZ	Hinemaiaia	0.95	176	P	Pn	06 18 20.0	+0.3
RITZ	Rihia Road	1.04	186	P	Pn	06 18 20.9	+0.8
KATZ	Kakaramea	1.06	193	P	Pn	06 18 21.0	+0.8
MKAZ	Moumakai	1.06	321	P	Pn	06 18 19.8	-0.5
HIZ	Hauiti	1.07	237	P	Pn	06 18 21.1	+0.9
TWVZ	Taurewa	1.21	201	P	Pn	06 18 21.6	+0.6
KUZ	Kuaotunu	1.22	349	P	Pn	06 18 20.0	-1.2
WTVZ	West Tongariro	1.22	195	P	Pn	06 18 21.7	+0.7
MWZ	Matawai	1.27	108	P	Pn	06 18 20.5	-0.9
NGZ	Ngauruhoe	1.27	194	P	Pn	06 18 22.2	+0.8
BKZ	Black Stump Fm	1.28	163	P	Pn	06 18 21.3	-0.1
WPVZ	Whakapapa	1.31	196	P	Pn	06 18 22.4	+0.8
OTAZ	Otara	1.31	319	P	Pn	06 18 22.0	+0.3
TUVZ	Tukino	1.35	191	P	Pn	06 18 22.9	+1.1
FWVZ	Far West T-bar	1.36	195	P	Pn	06 18 22.4	+0.5
WNVZ	Wahianoa	1.42	193	P	Pn	06 18 23.3	+1.0
MOVZ	Moawhango	1.48	187	P	Pn	06 18 23.2	+0.6
WTAZ	Waiatarua	1.52	311	P	Pn	06 18 23.7	+0.6
KAAZ	Kauri Point	1.52	317	P	Pn	06 18 23.3	+0.2
VRZ	Vera Road	1.53	219	P	Pn	06 18 23.9	+0.9
KNZ	Kokohu	1.70	130	P	Pn	06 18 24.3	+0.1
PUZ	Puketiti	1.79	95	P	Pn	06 18 23.8	-1.1
RAEZ	Rainy Point	1.84	223	P	Pn	06 18 26.8	+1.5
MXZ	Matakaoa Point	1.87	79	P	Pn	06 18 24.4	-1.2
WAZ	Wanganui	1.98	203	P	Pn	06 18 27.4	+1.0
NEZ	North Egmont	2.00	228	P	Pn	06 18 28.5	+1.9
TSZ	Takapari Road	2.11	181	P	Pn	06 18 28.2	+0.7
WCZ	Waipu Caves	2.40	326	P	Pn	06 18 29.3	-0.9
MTW	Mount Morrison	3.23	187	P	Pn	06 18 38.3	0.0
CAW	Cannon Point	3.24	193	P	Pn	06 18 38.6	+0.3
MRW	Makara Radio	3.43	197	P	Pn	06 18 40.5	+0.1
PAWZ	Paruwai Farm	3.46	187	P	Pn	06 18 40.6	-0.1
WEL	Wellington	3.47	196	P	Pn	06 18 41.1	+0.3
SNZO	South Karori	3.51	196	P	Pn	06 18 41.2	0.0
MSWZ	Moikau Station	3.52	189	P	Pn	06 18 41.3	0.0
TCW	Tory Channel	3.53	202	P	Pn	06 18 41.6	+0.2
BHW	Baring Head	3.57	194	P	Pn	06 18 41.7	-0.1
QRZ	Quartz Range	3.94	222	P	Pn	06 18 45.1	-0.8
CMWZ	Cape Campbell	4.04	199	P	Pn	06 18 47.7	+0.7
BSWZ	Blackbirch Sta	4.11	203	P	Pn	06 18 47.8	0.0
DSZ	Denniston Nort	4.99	219	P	Pn	06 18 56.8	-1.1
LTZ	Lake Taylor	5.61	209	P	Pn	06 19 04.5	-0.9
CRLZ	Canterbury Las	6.18	203	P	Pn	06 19 11.3	-1.0
RPZ	Rata Peaks	6.88	211	P	Pn	06 19 19.6	-1.2
	43nm,0.3s,baz=350,slow=1.1,SNR=57						
RPZ				S	S	06 20 38.8	-2.2
	167nm,0.3s,baz=344,slow=18,SNR=31						
RPZ	Rata Peaks	6.88	211	P	Pn	06 19 19.3	-1.5
LBZ	Lake Benmore	7.79	212	P	Pn	06 19 30.7	-1.3
ODZ	Otahua Downs	8.15	208	P	Pn	06 19 36.2	-0.3
JCZ	Jackson Bay	8.21	220	P	Pn	06 19 34.6	-2.6
EAZ	Earnscleugh	8.84	212	P	Pn	06 19 42.2	-2.8
MSZ	Milford Sound	9.06	220	P	Pn	06 19 45.5	-2.2
STKA	Stephens Creek	28.75	272	P	P	06 23 14.8	+1.9
	2.2nm,0.5s,mb3.9,baz=85,slow=7.1,SNR=4.5						
STKA	Stephens Creek	28.75	272	P	P	06 23 14.8	+1.9
CTA	Charters Tower	31.32	296	eP	P	06 23 36.3	+0.6
	3.0nm,0.3s,mb4.3						
CTA	Charters Tower	31.32	296	P	P	06 23 36.4	+0.7
	4.6nm,0.4s,mb4.3,baz=131,slow=8.2,SNR=15						
PPT	Papeete	36.31	66	P	P	06 24 17.9	-0.5
	17nm,0.5s,baz=252,slow=9.6,SNR=5.5						
ASAR	Alice Springs	38.53	279	P	P	06 24 37.2	+0.3
	3.1nm,0.5s,mb4.0,baz=127,slow=8.7,SNR=83						
ASAR				S	S	06 30 10.9	-0.1
	1.2nm,0.8s,baz=123,slow=15,SNR=11						
FORT	Forrest	39.86	266	eP	P	06 24 48.6	+0.8
	3.9nm,0.3s,mb4.2						
WB2	Warramunga Arr	40.24	285	eP	P	06 24 50.8	-0.2
WRA	Warramunga Arr	40.25	285	P	P	06 24 51.0	-0.1
	2.6nm,0.3s,mb4.1,baz=118,slow=8.3,SNR=90						
WRA				S	S	06 30 35.4	-1.2
	0.5nm,0.7s,baz=120,slow=14,SNR=5.5						
FITZ	Fitzroy Crossi	48.02	280	eP	P	06 25 52.5	0.0
	5.0nm,0.8s,mb3.9						
QSPA	South Pole Qui	52.18	180	P	P	06 26 25.6	+3.0
	16nm,0.6s,mb4.5,baz=346,slow=0.7,SNR=138						
QSPA	South Pole Qui	52.18	180	P	P	06 26 25.6	+3.0
SNAA	Sanae	70.69	180	e	P	06 28 25.7	-0.2
SNAA				e		06 28 28.8	
VNA3	Neumayer Olymp	71.04	178	e	P	06 28 28.4	+0.4
VNA3				e		06 28 31.2	
VNA2	Neumayer--Watz	71.41	179	e	P	06 28 30.7	+0.5
	baz=183,slow=5.0						
VNA2				e		06 28 33.8	
VNA1	Neumayer--Stat	71.67	179	e	P	06 28 32.7	+0.9
VNA1				e		06 28 35.3	
PLCA	Paso Flores	80.86	135	P	P	06 29 24.7	+1.0
	4.1nm,0.5s,mb4.4,baz=237,slow=5.2,SNR=29						
MJAR	Matsushiro Arr	81.94	330	P	P	06 29 27.6	-1.5
	2.3nm,0.7s,mb4.0,baz=172,slow=6.4,SNR=5.3						
KSRS	Korea Array	87.16	324	P	P	06 29 55.2	+0.1
	8.9nm,0.6s,mb4.7,baz=144,slow=5.5,SNR=26						
CMAR	Chiang Mai Arr	91.41	292	P	P	06 30 15.1	-0.4
	1.8nm,0.3s,mb4.3,baz=145,slow=5.2,SNR=5.0						
MKAR	Makanchi Array	118.69	309	PKP	PKPdf	06 35 51.7	-3.3
	0.4nm,0.4s,baz=48,slow=1.8,SNR=4.9						
ZALV	Zalesovo Beam	120.23	317	PKP	PKPdf	06 35 54.3	-3.5
	0.6nm,0.3s,baz=226,slow=41,SNR=2.5						
KURK	Kurchatov	122.49	312	PKP	PKPdf	06 35 59.3	-2.9
	1.4nm,0.7s,baz=117,slow=1.9,SNR=7.7						
BVAR	Borovoye Array	128.06	312	PKP	PKPdf	06 36 10.9	-1.8
	0.5nm,0.4s,baz=281,slow=32,SNR=3.1						
KEV	Kevo	144.09	342	ep	PKPdf	06 36 38.5	-3.4
	0.7nm,0.3s						
ARCES	ARCESS Array B	144.61	343	PKP	PKPdf	06 36 40.3	-2.5
	12nm,0.8s,baz=59,slow=2.9,SNR=47						
JOF	Joensuu	147.11	331	ep	PKPdf	06 36 47.2	0.0
	2.2nm,0.3s						
LIC	Lamto	148.41	178	ePKIKP	PKPdf	06 36 52.9	+2.0
	21nm,0.3s						
KIC	Kosan Boka	148.55	179	ePKIKP	PKPdf	06 36 53.2	+2.0
	47nm,0.8s						
TIC	Toumodi	148.83	178	ePKIKP	PKPdf	06 36 53.7	+2.1
	15nm,0.3s						
DBIC	Dimbokro	148.86	178	PKPbc	PKPbc	06 36 54.3	-1.6
	2.9nm,0.3s,baz=157,slow=2.6,SNR=16						
KAF	Kangasniemi	149.47	332	ep	PKPdf	06 36 53.3	+2.2
	2.5nm,0.3s						
AKASG	Malin Array Be	153.27	309	PKPbc	PKPbc	06 37 03.3	-1.7
	0.3nm,0.3s,baz=55,slow=3.3,SNR=4.0						
AKASG				PKPab	PKPab	06 37 16.1	-2.1
	3.4nm,0.6s,baz=62,slow=4.6,SNR=7.6						
TORD	Torodi Ar. Bea	154.79	193	PKP	PKPdf	06 36 58.2	-2.2
	0.6nm,0.9s,baz=230,slow=1.1,SNR=4.0						
TORD				PKPab	PKPab	06 37 23.7	-1.7
	0.6nm,0.3s,baz=164,slow=3.9,SNR=8.0						
NOA	NORSAR Array B	154.99	342	PKPab	PKPab	06 37 22.3	-2.8
	1.5nm,0.9s,baz=30,slow=3.3,SNR=3.8						
CLL	Collm	162.03	323	i PKPab	PKPab	06 37 54.5	-1.6
	comp=Z,7.0nm,0.9s						
GERES	GERESS Array B	163.19	316	PKPab	PKPab	06 38 00.0	-1.2
	comp=Z,0.4nm,0.3s,baz=46,slow=3.9,SNR=4.5						

ISK **04** *06:50:23.2, 4001N×3980E, h10km, MD2.7*
CSEM **04** *06:50:23.4±0.1, 4001N×3978E, h5km, MD2.7, Error ellipse: s-maj=2.2km s-min=1.7km az=139.0*
ISCJB **04** *06:50:24.1±0.7, 4002N±003×3976E±004, h7km±5km, Error ellipse: s-maj=5.2km s-min=4.5km az=174.0*
DDA **04** *06:50:25.5, 3996N×3980E, h17km, Md3.4, Ml3.7*
ISC 04 06:50:24.4±0.7**, 4001N**±003×**3976E**±004**, h7**km±5km**, n17, σ1.02**/27**, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
EZC	Erzincan	0.27	170	PG	Pg	06 50 32.3	+2.6
EZC				eSG	Sg	06 50 38.4	+5.1
GUMT	Gumushane	0.49	335	PG	Pg	06 50 34.1	+0.2
GUMT				eSG	Sg	06 50 41.5	+1.1
KOPT	Kop Dagi	0.57	89	i P	Pg	06 50 34.3	-1.1
KOPT				i S	Sg	06 50 43.0	+0.2
KTUT	Trabzon	0.97	1	PG	Pg	06 50 42.4	-0.7
PTK	Pertek	1.15	194	ePN	Pn	06 50 45.4	-1.5
ESPY	Espiye-Giresun	1.20	319	ePN	Pn	06 50 46.4	-1.1
EZM	Erzurum	1.24	94	ePN	Pn	06 50 46.7	-1.4
ERZM	Erzurum	1.24	94	i P	Pn	06 50 46.7	-1.4
ERZM				i S	Sg	06 51 04.0	-0.3
GRSN	GIRESUNGRSN	1.45	309	i P	Pn	06 50 50.9	-0.1
GRSN				i S	Sn	06 51 09.4	-0.9
ELZG	Elazig	1.63	202	i P	Pn	06 50 53.3	-0.1
ELZG				i S	Sn	06 51 16.7	+2.1
SVRC	Sivrice-ELAZID	1.67	192	ePN	Pn	06 50 53.2	-0.8
DBAD	Bademkaya	1.79	55	i P	Pn	06 50 55.4	-0.2
DBAD				i S	Sn	06 51 17.7	-0.8
DAGI	Agillar	1.96	56	i P	Pn	06 50 58.5	+0.5
DAGI				i S	Sn	06 51 23.6	+0.9
DBOC	Borcka	1.97	47	i P	Pn	06 50 58.9	+0.8
DBOC				i S	Sn	06 51 23.8	+0.7
BCA	Borcka	2.02	44	ePN	Pn	06 50 58.0	-0.7
ARTV	Artvin	2.03	54	i P	Pn	06 50 60.0	+1.1
ARTV				i S	Sn	06 51 25.9	+1.4
SVSK	Karacayir	2.12	268	ePN	Pn	06 51 00.6	+0.4

ISCJB **04** *06:54:59.4±1.0, 3401N±004×4717E±009, h10km, Error ellipse: s-maj=10.6km s-min=5.7km az=13.2*
CSEM **04** *06:55:01.5±0.8, 3405N×4692E, h25km, ML2.5, Error ellipse: s-maj=29.6km s-min=11.9km az=108.0*
KISR **04** *06:55:07.5, 3208N×5085E, h33km, ML2.5*
ISC 04 06:55:01.4±1.0**, 3403N**±004×**4710E**±009**, h10**km**, n8, σ1.54**/11**, Western Iran**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SNGE	Sanandaj	1.07	11	ePg	Pg	06 55 21.6	-0.5
	SNR=123						
SNGE				eSg	Sg	06 55 35.2	-0.9
	SNR=123						
BHD	Baghdad	2.39	252	ex	x	06 55 46.5	
BHD				ex	x	06 56 19.0	
ASAO	Ashtian	2.48	77	ePn	Pn	06 55 45.1	+3.3
	SNR=52						
ASAO				eSg	Sg	06 56 20.1	-0.9
	SNR=96						
CHTH	Charan	3.80	59	ePn	Pn	06 56 02.8	+2.8
	SNR=52						
RST	Umm Al-Ruwaisa	4.52	181	eP	Pn	06 56 11.9	+2.0
RST				eS	Sn	06 57 00.7	-1.8
RST	Umm Al-Ruwaisa	4.52	181	eP	Pn	06 56 11.9	+2.0
	baz=233						
RST				eS	Sn	06 57 00.7	-1.8
	baz=233						
RST				AML	AML	06 57 03.7	
	comp=Z,5.0nm,0.6s,baz=233						
NAY	Al-Naaiem	4.77	178	eP	Pn	06 56 12.8	-0.6
	baz=229						
NAY				AML	AML	06 57 09.4	
	comp=Z,3.0nm,0.6s,baz=229						
RDF	Al-Radifah	5.11	176	eP	Pn	06 56 12.6	-5.3
	baz=223						
RDF				AML	AML	06 57 20.2	
	comp=Z,8.0nm,0.5s,baz=223						

IDC 04 07:14:58.8±3.6**, 378S×10133E, h28**km±6km**, mb3.5**/5**, mb1 3.5**/5**, mb1mx3.4**/18**, mbtmp3.5**/5**, Error ellipse: s-maj=148.1km s-min=18.6km az=56.0, Southern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRA	Warramunga Arr	35.96	119	P	P	07 21 57.4	+0.1
	0.3nm,0.9s,baz=303,slow=9.4,SNR=4.1						
WRA				pP	pP	07 22 04.8	-0.9
	0.4nm,0.5s,baz=302,slow=9.1,SNR=6.3						
ASAR	Alice Springs	37.14	125	P	P	07 22 07.6	+0.3
	0.2nm,0.5s,baz=295,slow=8.1,SNR=2.8						
ASAR				pP	pP	07 22 15.0	-0.7
	0.5nm,0.6s,baz=295,slow=8.3,SNR=4.2						
SONM	Songino Array	51.59	4	P	P	07 24 01.7	-0.8
	0.9nm,0.8s,baz=192,slow=8.7,SNR=5.2						
SONM				pP	pP	07 24 12.1	+1.0
	0.5nm,0.8s,baz=187,slow=6.7,SNR=3.7						
MKAR	Makanchi Array	53.10	344	P	P	07 24 13.2	-0.5
	0.5nm,0.5s,baz=141,slow=7.8,SNR=6.3						
ZALV	Zalesovo Beam	59.16	349	P	P	07 24 55.9	-1.0
	0.6nm,0.4s,baz=178,slow=4.5,SNR=5.3						
TXAR	Lajitas Array	145.25	40	PKPbc	PKPbc	07 34 35.5	+1.3
	0.7nm,0.9s,baz=302,slow=2.4,SNR=6.7						
TXAR				pPKPbc	pPKPbc	07 34 43.6	+0.1
	0.4nm,0.8s,baz=320,slow=1.0,SNR=4.2						

IDC **04** *07:24:08.8±2.0, 51.14S×16136E, h0km, mb3.7/2, mb1 4.1/3, mb1mx3.8/12, mbtmp3.9/3, ML4.3/1, MS3.5/3, Ms1 3.5/3, ms1mx3.0/26, Error ellipse: s-maj=67.3km s-min=41.4km az=14.0*
NEIC **04** *07:24:30.0, 4808S×16594E, h33km, ML4.2(WEL), After WEL.*
ISC 04 07:24:09.1±3.8**, 495S**±04×**1648E**±03**, h35**km**, n16, σ0.68**/11**, mb3.7**/2**, MS3.5**/3**, Auckland Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WHZ	Wether Hill Ro	4.14	32	P	Pn	07 25 09.4	-0.3
DCZ	Deep Cove	4.28	23	P	Pn	07 25 11.9	+0.2
MLZ	Mavora Lakes	4.70	30	P	Pn	07 25 16.9	-0.5
TUZ	Tuapeka	4.78	45	P	Pn	07 25 19.6	+1.2
EAZ	Earnscleugh	5.21	38	P	Pn	07 25 24.4	0.0
WKZ	Wanaka	5.44	33	P	Pn	07 25 28.1	+0.5
ODZ	Otahua Downs	5.93	44	P	Pn	07 25 34.1	-0.2
JCZ	Jackson Bay	6.02	28	P	Pn	07 25 36.3	+0.7
LBZ	Lake Benmore	6.26	38	P	Pn	07 25 37.2	-1.6
STKA	Stephens Creek	24.71	307	LR	LR	07 38 14.8	
	comp=Z,113nm,20.4s,MS3.4,baz=17,slow=35						
ASAR	Alice Springs	35.34	305	P	P	07 31 01.0	+0.1
	0.7nm,0.6s,mb3.8,baz=138,slow=8.2,SNR=8.1						
WRA	Warramunga Arr	38.19	309	P	P	07 31 25.1	-0.1
	1.4nm,0.9s,mb3.7,baz=143,slow=7.8,SNR=7.0						
WRA				LR	LR	07 45 02.4	
	comp=Z,49nm,21.2s,MS3.3,baz=220,slow=33						
NWAO	Narrogin (SRO)	38.73	277	LR	LR	07 43 40.0	
	comp=Z,121nm,20.4s,MS3.7,baz=296,slow=32						
TORD	Torodi Ar. Bea	141.22	207	PKhKP		07 43 33.1	
	0.2nm,0.5s,baz=139,slow=4.2,SNR=2.3						
AKASG	Malin Array Be	151.79	290	PKPbc	PKPbc	07 44 00.9	+2.0
	1.1nm,0.6s,baz=100,slow=1.9,SNR=4.8						
ARCES	ARCESS Array B	152.05	331	PKPbc	PKPbc	07 44 03.1	+4.2
	3.1nm,0.8s,baz=99,slow=2.8,SNR=4.4						

ATH **04** *07:34:03.9, 3860N×2198E, h26km±1km, MD3.3/14, ML3.2*
NEIC **04** *07:34:03.9, 3860N×2198E, h26km, ML3.2(ATH), ML3.4(THE), After ATH.*
CSEM **04** *07:34:04.7±0.1, 3864N×2200E, h23km, ML3.2, Error ellipse: s-maj=1.9km s-min=1.7km az=82.0*
ISCJB **04** *07:34:05.2±0.4, 3865N±002×2201E±003, h25km±4km, Error ellipse: s-maj=4.0km s-min=3.4km az=167.5*
THE **04** *07:34:05.9, 3867N×2203E, h23km±2km, ML3.5/4, Error ellipse: s-maj=2.0km s-min=0.7km az=63.0*
ISC 04 07:34:05.3±0.5**, 3865N**±002×**2201E**±003**, h21**km±5km**, n41, σ0.85**/63**, 2C-2D, Greece**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
EVR	Evrytania	0.31	330	⇓iPb	Pb	07 34 11.9	-0.4
EVR				eSb	Sb	07 34 17.3	+0.3
EVR	Evrytania	0.31	330	⇓iPB	Pb	07 34 11.9	-0.4
EVR				eSB	Sb	07 34 17.3	+0.3
AGG	Agios Georgios	0.45	33	P	Pb	07 34 14.6	0.0
AGG				S	Sb	07 34 21.2	+0.3
RLS	Riolos of Patr	0.73	216	ePn	Pn	07 34 17.6	-2.7
RLS				eSn	Sn	07 34 26.8	-3.9
RLS	Riolos of Patr	0.73	216	ePN	Pn	07 34 17.6	-2.7
RLS				eSN	Sn	07 34 26.8	-3.9
LKR	Lokris	0.77	89	ePn	Pn	07 34 19.9	-1.0
LKR				eSn	Sn	07 34 31.2	-0.7
LKR	Lokris	0.77	89	ePN	Pn	07 34 19.9	-1.0
LKR				eSN	Sn	07 34 31.2	-0.7
THL	Klokotos Trika	0.92	0	ePn	Pn	07 34 22.7	-0.2
THL				eSn	Sn	07 34 35.6	+0.1
THL	Klokotos Trika	0.92	0	ePN	Pn	07 34 22.7	-0.2
THL				eSN	Sn	07 34 35.6	+0.1
LTK	Loutraki	0.97	129	P	Pb	07 34 23.3	-0.2
LTK				S	Sb	07 34 36.9	+1.0
LKD	Levkas	1.07	274	P	Pn	07 34 24.1	-0.9
LKD				S	Sb	07 34 39.5	+1.0
KFL	Anninata	1.10	241	P	Pn	07 34 24.7	-0.7
KFL				S	Sb	07 34 40.8	+1.3
NEO	Neokhori	1.15	55	⇑iPn	Pn	07 34 26.5	+0.4
NEO				eSn	Sn	07 34 42.5	+1.2
NEO	Neokhori	1.15	55	⇑iPN	Pn	07 34 26.5	+0.4
NEO				eSN	Sn	07 34 42.5	+1.2
VLS	Valsamata	1.21	248	ePn	Pn	07 34 25.9	-1.0
VLS				eSn	Sn	07 34 42.9	+0.2
VLS	Valsamata	1.21	248	ePN	Pn	07 34 25.9	-1.0
VLS				eSN	Sn	07 34 42.9	+0.2
MEV	Metsovon	1.29	332	P	Pn	07 34 28.4	+0.4
MEV				S	Sn	07 34 44.6	-0.1
VLX	Vlachokerasia	1.30	167	P	Pn	07 34 28.8	+0.6
VLX				S	Sn	07 34 46.3	+1.3
JAN	Janina	1.35	319	ePn	Pn	07 34 30.0	+1.1
JAN	Janina	1.35	319	ePN	Pn	07 34 30.0	+1.1
NAIG	Nisos Aigina	1.46	127	ePn	Pn	07 34 30.5	+0.1
NAIG	Nisos Aigina	1.46	127	ePN	Pn	07 34 30.5	+0.1
ITM	Ithomi	1.46	183	ePn	Pn	07 34 30.9	+0.5
ITM	Ithomi	1.46	183	ePN	Pn	07 34 30.9	+0.5
DID	Didima	1.49	139	P	Pn	07 34 30.6	-0.2
DID				S	Sn	07 34 49.3	-0.3
ATH	Athens Observa	1.50	116	ePb	Pb	07 34 30.5	-1.9
ATH	Athens Observa	1.50	116	ePB	Pb	07 34 30.5	-1.9

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LIT	Litokhoron	1.50	14	P	Pn	07 34 30.6	-0.3
LIT				S	Sn	07 34 49.7	-0.1
PTL	Penteli	1.57	112	ePn	Pn	07 34 32.5	+0.6
PTL	Penteli	1.57	112	ePN	Pn	07 34 32.5	+0.6
KZN	Kozani	1.67	354	ePn	Pn	07 34 35.0	+1.7
KZN	Kozani	1.67	354	ePN	Pn	07 34 35.0	+1.7
PYL	PYLOS	1.76	187	P	Pn	07 34 35.3	+0.8
KEK	Kerkira	2.02	303	ePb	Pb	07 34 39.8	-1.5
KEK	Kerkira	2.02	303	ePB	Pb	07 34 39.8	-1.5
VLI	Veliai	2.06	159	ePn	Pn	07 34 38.0	-0.6
VLI	Veliai	2.06	159	ePN	Pn	07 34 38.0	-0.6
FNA	Florina	2.19	347	P	Pn	07 34 39.2	-1.2
FNA				S	Sn	07 35 06.8	-0.1
OUR	Ouranopolis	2.27	41	P	Pn	07 34 41.6	0.0
GRG	Griva	2.33	7	P	Pn	07 34 41.9	-0.4
KNT	Kendrikon	2.60	15	P	Pn	07 34 46.7	+0.6
KNT				S	Sn	07 35 17.3	+0.2

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*ISCJB **04** 07:41:58.6±0.6, 24.43S±0.04×67.17W±0.07, h170km±7km, mb3.8/9, Error ellipse: s-maj=10.2km s-min=6.4km az=176.4*
*IDC **04** 07:41:59.5±0.9, 24.37S×67.09W, h164km±8km, mb3.7/9, mb1 3.9/15, mb1mx3.8/20, mbtmp3.7/15, Error ellipse: s-maj=15.1km s-min=10.4km az=60.0*
*GUC **04** 07:42:02.4±0.5, 24.44S×67.83W, h220km*
*NEIC **04** 07:42:02.4, 24.44S×67.83W, h220km, mb4.8/2, After GUC.*
ISC 04 07:41:59.7±0.6**, 24.43S**±0.04×**67.16W**±0.07**, h163**km±6km**, n36, σ1^{s}06**/44**, mb3.8**/9**, 1C, Chile-Argentina border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LVC	Limon Verde	2.43	318	P	Pn	07 42 41.9	+1.3
	90nm,0.3s,baz=138,slow=6.5,SNR=1097						
LVC				S	Sn	07 43 12.5	+0.4
	467nm,0.3s,baz=353,slow=20,SNR=104						
LVC	Limon Verde	2.43	318	P	Pn	07 42 41.9	+1.3
LVC				S	Sn	07 43 12.5	+0.4
CPN1	Cerro Paranal	2.96	266	eP	Pn	07 42 47.9	+0.8
CPN1				i S	Sn	07 43 23.2	-0.6
CEN1	Los Morros	2.97	290	eP	Pn	07 42 48.8	+1.6
CEN1				i S	Sn	07 43 23.9	-0.1
ANCH	Antofagasta	3.07	283	eP	Pn	07 42 45.3	-3.1
ANCH				i S	Sn	07 43 20.3	-5.8
VACH	Vallenar	5.24	217	eP	Pn	07 43 15.7	-0.6
VACH				i S	Sn	07 44 14.1	-2.3
LCO	Las Campanas	5.55	214	ePn	Pn	07 43 20.4	-0.1
	64nm,0.3s						
LCO				eSn	Sn	07 44 16.4	-7.4
CFAA	Coronel Fontan	7.21	187	P	Pn	07 43 44.1	+1.7
	0.1nm,0.3s,baz=1.5,slow=12,SNR=15						
CFAA				S	Sn	07 45 03.2	-0.1
	0.4nm,0.3s,baz=245,slow=16,SNR=6.4						
CFAA	Coronel Fontan	7.21	187	P	Pn	07 43 44.1	+1.7
CFAA				S	Sn	07 45 03.2	-0.1
LPAZ	La Paz	8.16	353	P	Pn	07 43 55.8	+0.7
	1.8nm,0.3s,baz=142,slow=7.0,SNR=58						
LPAZ				S	Sn	07 45 21.4	-4.8
	0.3nm,0.3s,baz=204,slow=18,SNR=2.4						
ARE	Arequipa	8.91	332	eP	Pn	07 44 12.0	+6.9
ARE				eS	Sn	07 45 36.0	-8.4
CPUP	Villa Florida	9.08	104	P	Pn	07 44 07.7	+0.3
	1.2nm,0.3s,baz=264,slow=11,SNR=31						
SIV	San Ignacio	10.15	35	P	Pn	07 44 18.9	-2.7
	1.5nm,0.3s,baz=218,slow=14,SNR=89						
SIV				S	Sn	07 45 58.2	-16
	0.0nm,0.3s,baz=231,slow=16,SNR=5.8						
TRQA	Tornquist	14.28	163	ePn	Pn	07 45 13.9	-0.5
	12nm,0.6s						
PLCA	Paso Flores	16.50	189	P	Pn	07 45 41.5	-0.2
	0.2nm,0.3s,baz=357,slow=11,SNR=9.3						
BDFB	Brasilia	19.98	68	P	P	07 46 19.5	0.0
	1.0nm,0.3s,baz=227,slow=15,SNR=17						
VNA3	Neumayer Olymp	56.79	161	e	P	07 51 27.6	+1.3
VNA3				e		07 51 31.4	
VNA1	Neumayer--Stat	56.99	160	e	P	07 51 28.9	+1.1
VNA2	Neumayer--Watz	57.36	160	e	P	07 51 31.6	+1.3
	baz=286,slow=6.8						
VNA2				e		07 51 35.2	
VNA2				e		07 51 37.9	
SNAA	Sanae	58.99	161	e	P	07 51 42.0	+0.4
TXAR	Lajitas Array	63.95	325	P	P	07 52 14.2	-1.3
	0.5nm,0.7s,mb3.4,baz=156,slow=7.4,SNR=7.6						
DBIC	Dimbokro	68.07	71	P	P	07 52 40.6	-1.6
	1.1nm,0.5s,mb3.9,baz=230,slow=16,SNR=4.5						
SYO	Syowa Base	73.20	159	⇑eP	P	07 53 11.8	-0.4
TORD	Torodi Ar. Bea	76.86	69	P	P	07 53 32.9	-1.2
	1.9nm,0.6s,mb3.9,baz=258,slow=5.7,SNR=30						
TORD	Torodi Ar. Bea	76.86	69	P	P	07 53 32.9	-1.2
PDAR	Pinedale Array	77.45	329	P	P	07 53 37.2	+0.5
	0.4nm,0.5s,mb3.3,baz=130,slow=7.7,SNR=6.1						
ULM	Lac du Bonnet	78.59	342	P	P	07 53 42.1	-0.8
	2.2nm,0.6s,mb4.0,baz=211,slow=1.6,SNR=3.3						
NVAR	Mina Array Bea	78.79	321	P	P	07 53 45.5	+1.3
	0.8nm,0.7s,mb3.5,baz=151,slow=5.5,SNR=7.1						
BOSA	Boshof	80.66	117	P	P	07 53 55.0	+0.2
	3.0nm,0.9s,mb3.9,baz=136,slow=18,SNR=3.8						
BOSA	Boshof	80.66	117	P	P	07 53 55.0	+0.2
MAW	Mawson	81.07	163	P	P	07 53 56.5	+0.4
	2.9nm,0.6s,mb4.1,baz=197,slow=4.5,SNR=23						
YKA	Yellowknife Ar	94.48	340	P	P	07 55 00.2	-0.5
	0.7nm,0.6s,mb4.0,baz=39,slow=38,SNR=4.5						
ASAR	Alice Springs	128.00	205	PKP	PKPdf	08 00 46.7	-0.1
	1.1nm,0.7s,baz=138,slow=1.9,SNR=17						
WRA	Warramunga Arr	131.18	207	PKP	PKPdf	08 00 52.8	-0.1
	0.7nm,0.5s,baz=157,slow=1.6,SNR=26						
ZALV	Zalesovo Beam	143.84	28	PKP	PKPdf	08 01 13.3	-1.7
	2.4nm,0.7s,baz=319,slow=5.7,SNR=5.8						
MKAR	Makanchi Array	146.95	40	PKPbc	PKPbc	08 01 21.1	-1.7
	3.3nm,0.6s,baz=0.0,slow=1.2,SNR=21						

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*IDC **04** 07:56:33.9±1.5, 13.71N×121.83E, h0km, mb3.5/4, mb1 3.7/4, mb1mx3.5/19, mbtmp3.5/4, MS2.8/1, Ms1 2.8/1, ms1mx1.9/27, Error ellipse: s-maj=59.3km s-min=23.3km az=58.0*
*ISCJB **04** 07:56:34.4±0.8, 13.81N±0.06×122.66E±0.08, h10km, mb3.5/3, Error ellipse: s-maj=12.5km s-min=6.0km az=151.4*
*MAN **04** 07:56:34, 13.84N×122.63E, h2km, mb4.5, ML3.4, MS3.3*
ISC 04 07:56:36.0±0.8**, 13.82N**±0.06×**122.60E**±0.09**, h10**km**, n11, σ0^{s}69**/14**, mb3.6**/3**, 3C-1D, Luzon**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
GQP	Guinayangan	0.17	301	⇑eP	Pg	07 56 38.8	-0.9
GQP				eS	Sg	07 56 42.0	-0.3
BALP	Baler	2.15	333	eP	Pn	07 57 11.4	-0.6
BALP				eS	Sn	07 57 39.6	+0.9
RCP	Roxas	2.25	176	⇑eP	Pg	07 57 19.0	-0.1
PCPH	Palayan	2.26	320	⇓eP	Pn	07 57 13.7	+0.2
PCPH				eS	Sn	07 57 42.6	+1.1
NBP	Mount Natib	2.31	294	⇑eP	Pn	07 57 14.3	+0.2
CAUP	Cauayan	3.20	347	eP	Pn	07 57 26.4	0.0
CAUP				eS	Sn	07 58 04.2	-0.3
CMAR	Chiang Mai Arr	23.18	285	P	P	08 01 35.0	-8.0
	1.0nm,0.3s,mb3.7,baz=100,slow=11,SNR=4.1						
KSRS	Korea Array	24.01	10	LR	LR	08 12 52.4	
	comp=Z,20nm,18.7s,baz=205,slow=40						
WRA	Warramunga Arr	35.48	161	P	P	08 03 33.1	+0.2
	0.4nm,0.7s,mb3.5,baz=341,slow=9.4,SNR=4.9						
SONM	Songino Array	36.50	342	P	P	08 03 40.0	-1.4
	0.5nm,0.7s,mb3.5,baz=142,slow=7.5,SNR=4.1						
ASAR	Alice Springs	38.86	163	P	P	08 04 02.5	+0.9
	0.3nm,0.7s,baz=334,slow=6.7,SNR=6.7						

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*SZGRF **04** 08:42:03.6, 20.37S×178.96W, h33km, Fiji Islands region*
*ISCJB **04** 08:42:40.5±0.9, 20.04S±0.05×177.69W±0.05, h350km±10km, mb4.6/42, Error ellipse: s-maj=8.2km s-min=7.0km az=33.2*
*BJI **04** 08:42:40.5, 19.70S×177.79W, h337km, mB4.9, mb4.7*
*MOS **04** 08:42:40.5±1.3, 19.89S×177.71W, h343km, mb5.0/12, Error ellipse: s-maj=14.2km s-min=10.0km az=4.9*
*NEIC **04** 08:42:42.0±0.7, 19.99S×177.69W, h351km±7km, mb4.8/27, Error ellipse: s-maj=7.4km s-min=4.8km az=162.0*
*IDC **04** 08:42:47.0±1.8, 20.14S×177.71W, h406km±18km, mb4.1/17, mb1 4.2/19, mb1mx4.1/22, mbtmp4.1/19, Error ellipse: s-maj=11.1km s-min=9.1km az=139.0*
*DJA **04** 08:43:16, 20.19S×179.95W, h598km, mb5.0/9*
ISC 04 08:42:41.4±0.9**, 20.11S**±0.05×**177.68W**±0.05**, h346**km±9km**, h348**km±3.6km**:pP-P, n127, σ0^{s}88**/96**, mb4.6**/42**, 2C-9D, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
AFI	Afiamalu	8.36	43	P	Pn	08 44 38.6	-1.3
	66nm,0.3s,baz=34,slow=1.7,SNR=79						
AFI				S	S	08 46 07.5	-8.9
	64nm,0.3s,baz=47,slow=23,SNR=8.5						
AFI	Afiamalu	8.36	43	eP	Pn	08 44 38.0	-1.9
AFI				e		08 46 05.9	
AFI				pmax	pmax		
	comp=Z,170nm,0.3s						
AFI	Afiamalu	8.36	43	ePn	Pn	08 44 38.0	-1.8
	comp=Z,170nm,0.3s						
AFI				eSn	S	08 46 05.9	-11
RAO	Raoul Island	9.11	181	S	S	08 46 31.3	-1.4
	comp=Z,168nm,0.3s,baz=268,slow=23,SNR=4.2						
FUNA	Funafuti	11.90	345	ePn	Pn	08 45 22.2	0.0
	comp=Z,182nm,0.9s						
DZM	Mont Dzumac	14.95	260	eP	P	08 46 00.7	+5.0
DZM	Mont Dzumac	14.95	260	ePn	Pn	08 45 59.0	+1.2
DZM				eS	S	08 48 42.0	+5.2
RAR	Rarotonga	16.80	97	P	P	08 46 17.3	+1.5
	comp=Z,0.8nm,0.3s,baz=196,slow=4.4,SNR=3.8						
URZ	Urewera	18.65	193	P	P	08 46 35.8	+0.5
	comp=Z,8.5nm,0.3s,baz=282,slow=1.2,SNR=31						
URZ				S	S	08 49 46.4	-2.8
	comp=Z,2.2nm,0.3s,baz=104,slow=20,SNR=9.8						
SNZO	South Karori	22.11	195	eP	P	08 47 10.8	+2.1
	comp=Z,184nm,1.4s,mb5.1						
HNR	Honiara	24.06	293	P	P	08 47 27.4	+0.6
	comp=Z,32nm,0.4s,mb4.9,baz=204,slow=4.7,SNR=6.9						
HNR	Honiara	24.06	293	eP	P	08 47 26.0	-0.8
HNR				pmax	pmax		
	comp=Z,32nm,0.6s,mb4.7						
HNR	Honiara	24.06	293	eP	P	08 47 26.0	-0.8
	comp=Z,32nm,0.6s,mb4.7						
PAE	Paea	26.69	89	eP	P	08 47 50.4	+0.2
	comp=Z,140nm,0.9s,mb5.2						
PAE	Paea	26.69	89	eP	P	08 47 50.4	+0.2
PAE				pmax	pmax		
	comp=Z,140nm,0.9s,mb5.2						
PPT	Papeete	26.71	89	eP	P	08 47 50.8	+0.4
	comp=Z,14nm,0.9s,mb4.2						
PPT	Papeete	26.71	89	P	P	08 47 51.4	+1.0
	comp=Z,13nm,0.5s,mb4.4,baz=352,slow=2.4,SNR=5.7						
TIAR	Tiarei	26.93	89	eP	P	08 47 52.8	+0.5
	comp=Z,172nm,0.7s,mb5.4						
TVO	Taravao	26.98	90	eP	P	08 47 53.4	+0.6
	comp=Z,149nm,0.9s,mb5.2						
TVO	Taravao	26.98	90	eP	P	08 47 53.4	+0.6
TVO				pmax	pmax		
	comp=Z,149nm,0.9s,mb5.2						
EIDS	Eidsvold	29.24	254	eP	P	08 48 20.9	+8.3
CTA	Charters Tower	33.83	264	⇓iP	P	08 48 53.7	+1.2
	comp=Z,39nm,0.4s,mb5.0						
CTA	Charters Tower	33.83	264	P	P	08 48 53.8	+1.2
	comp=Z,49nm,0.4s,mb5.0,baz=92,slow=10,SNR=78						
CTA	Charters Tower	33.83	264	⇓iP	P	08 48 53.7	+1.2
CTA				pmax	pmax		
	comp=Z,39nm,0.4s						
CTAO	Charters Tower	33.83	264	eP	P	08 48 53.8	+1.3
CTAO				pmax	pmax		
	comp=Z,35nm,0.4s,mb4.9						
CTAO	Charters Tower	33.83	264	eP	P	08 48 53.8	+1.3
	comp=Z,35nm,0.4s,mb4.9						
PMG	Port Moresby	35.55	282	eP	P	08 49 07.7	+0.5
COEN	Coen	37.86	273	eP	P	08 49 26.8	+0.3
	comp=Z,17nm,0.8s,mb4.3						
STKA	Stephens Creek	38.23	244	⇓iP	P	08 49 30.5	+1.1
	comp=Z,6.1nm,0.6s,mb4.0						
STKA	Stephens Creek	38.23	244	P	P	08 49 30.7	+1.4
	comp=Z,6.6nm,0.5s,mb4.1,baz=86,slow=9.2,SNR=31						
ASAR	Alice Springs	44.90	256	P	P	08 50 23.4	+0.3
	comp=Z,32nm,0.6s,mb4.6,baz=95,slow=8.4,SNR=689						
ASAR				pP	pP	08 51 39.4	+6.6
	comp=Z,2.7nm,0.7s,baz=87,slow=8.4,SNR=1.8						
ASAR				S	S	08 56 30.1	-4.4
	comp=Z,2.2nm,0.7s,baz=92,slow=15,SNR=17						
WB2	Warramunga Arr	44.94	262	⇓iP	P	08 50 22.9	-0.6
	comp=Z,29nm,0.4s,mb4.8						
WB2				eS	S	08 56 29.8	-5.3
WRA	Warramunga Arr	44.95	262	P	P	08 50 23.2	-0.3
	comp=Z,9.8nm,0.4s,mb4.3,baz=97,slow=5.8,SNR=307						
WRA				S	S	08 56 31.0	-4.3
	comp=Z,1.9nm,0.9s,baz=99,slow=13,SNR=9.0						
WRA	Warramunga Arr	44.95	262	P	P	08 50 23.2	-0.3
WRA				S	S	08 56 31.0	-4.3
KAKA	Kakadu	48.27	271	eP	P	08 50 48.6	-0.5
	comp=Z,20nm,0.3s,mb4.8						
FORT	Forrest	49.73	246	eP	P	08 50 59.3	-0.5
	comp=Z,24nm,0.6s,mb4.6						
GUMO	Guam	49.78	309	P	P	08 51 00.5	+0.2
	comp=Z,18nm,0.3s,mb4.7,baz=197,slow=23,SNR=3.8						
FITZ	Fitzroy Crossi	53.38	262	eP	P	08 51 26.9	+0.1
	comp=Z,11nm,0.4s,mb4.5						
MBWA	Marble Bar	58.23	257	eP	P	08 52 00.3	-0.6
	comp=Z,27nm,0.6s,mb4.8						
KLBR	Kellerberrin	58.49	245	eP	P	08 52 02.0	-0.6
	comp=Z,12nm,0.6s,mb4.4						
MUN	Mundaring	59.77	244	eP	P	08 52 11.3	+0.1
QSPA	South Pole Qui	69.96	180	P	P	08 53 16.9	+1.4
	comp=Z,1.4nm,0.5s,mb4.0,baz=334,slow=0.7,SNR=17						
MJAR	Matsushiro Arr	70.07	323	P	P	08 53 16.1	-0.7
	comp=Z,18nm,0.8s,mb4.9,baz=158,slow=6.0,SNR=34						
MAJO	Matsushiro	70.07	323	eP	P	08 53 16.3	-0.5
MAJO				pmax	pmax		
	comp=Z,18nm,0.5s,mb5.1						
MAJO	Matsushiro	70.07	323	eP	P	08 53 16.3	-0.5
	comp=Z,18nm,0.5s,mb5.1						
MAT	Matsushiro	70.07	323	P	P	08 53 16.1	-0.7
ASAJ	Asahikawa	73.52	331	P	P	08 53 38.0	+1.0
	comp=Z,15nm,0.8s,mb4.8,baz=205,slow=10,SNR=16						
KSM	Kuching	73.65	278	eP	P	08 53 38.5	+0.1
YSS	Yuzh-Sakhalins	75.68	333	eP	P	08 53 45.3	-3.9
YSS				pmax	pmax		
	comp=Z,30nm,1.0s,mb5.0						
YSS	Yuzh-Sakhalins	75.68	333	eP	P	08 53 48.4	-0.8
	comp=Z,18nm,0.9s,mb4.8						
PETK	Petropavlovsk-	75.97	345	P	P	08 53 50.1	-0.6
	comp=Z,7.8nm,0.8s,mb4.5,baz=112,slow=7.2,SNR=10						
KSRS	Korea Array	76.79	318	P	P	08 53 54.5	-1.1
	comp=Z,2.5nm,0.5s,mb4.2,baz=130,slow=6.4,SNR=6.3						
MWC	Mount Wilson	78.32	47	eP	P	08 54 03.8	-0.3
MWC				pmax	pmax		
	comp=Z,8.0nm,0.9s,mb4.5						
MWC	Mount Wilson	78.32	47	eP	P	08 54 03.8	-0.2
	comp=Z,7.7nm,0.9s,mb4.4						
HABR	Khabarovsk	80.25	330	eP	P	08 54 13.0	-1.1
HABR				e	pP	08 55 28.5	-5.0
HABR				e		08 56 03.0	
HABR				e		08 57 19.6	
HABR				e		08 59 11.7	
MDJ	Mudanjiang	80.37	325	P	P	08 54 15.5	+0.7
MDJ				AMB	AMB		
	comp=Z,15nm,0.9s,mb4.7						
MDJ				AMB	AMB		
	comp=Z,46nm,6.1s						
MDJ	Mudanjiang	80.37	325	eP	P	08 54 15.6	+0.8
	comp=Z,7.1nm,0.6s,mb4.6						
NVAR	Mina Array Bea	80.53	43	P	P	08 54 15.8	0.0
	comp=Z,2.0nm,0.7s,mb4.0,baz=225,slow=8.7,SNR=14						
MOD	Modoc	81.32	39	eP	P	08 54 19.9	0.0
MAW	Mawson	82.04	200	eP	P	08 54 23.4	+0.2
	comp=Z,1.6nm,0.6s,mb4.0						
MAW	Mawson	82.04	200	P	P	08 54 23.5	+0.3
	comp=Z,2.0nm,0.7s,mb4.1,baz=128,slow=6.1,SNR=9.2						
MAW	Mawson	82.04	200	eP	P	08 54 23.4	+0.2
MAW				pmax	pmax		
	comp=Z,2.0nm,0.6s						
CN2	Changchun	82.17	322	eP	P	08 54 25.7	+1.5
CN2				eS	S	09 04 10.0	+0.5
CN2				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.8						
CN2				AMB	AMB		
	comp=Z,200nm,4.0s						
TUC	Tucson	82.50	52	eP	P	08 54 27.2	+1.0
TUC				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.3						
TUC	Tucson	82.50	52	eP	P	08 54 27.2	+1.0
	comp=Z,4.3nm,0.8s,mb4.3						
SLKM	Skilak Lake	83.36	13	eP	P	08 54 28.8	-1.1
BJI	Beijing	85.82	315	P	P	08 54 42.6	0.0
BJI				AMB	AMB		
	comp=Z,7.0nm,0.6s,mb4.7						
BJI	Beijing	85.82	315	P	P	08 54 42.6	0.0
	comp=Z,7.0nm,0.6s,mb4.7						
MCK	McKinley	86.52	12	eP	P	08 54 44.9	-0.5
TXAR	Lajitas Array	86.59	57	P	P	08 54 46.9	+0.3
	comp=Z,2.1nm,0.8s,mb4.0,baz=218,slow=6.3,SNR=28						
GYA	Guiyang	86.71	300	P	P	08 54 46.9	-0.3
GYA				AP	pP	08 56 08.4	+0.5
GYA				XP	sP	08 56 44.2	+0.2
GYA				PP	PP	08 58 17.6	+2.1
GYA				SKS		09 04 37.3	
GYA				S	S	09 04 52.7	-2.2
GYA				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb4.6						
GYA				AMB	AMB		
	comp=Z,90nm,6.2s						
SYO	Syowa Base	87.18	193	⇑eP	P	08 54 46.5	-2.2
MCMT	McKenzie Canyo	87.46	40	eP	P	08 54 50.2	-0.1
COLA	College	87.76	12	eP	P	08 54 49.9	-1.3
COLA				pmax	pmax		
	comp=Z,13nm,0.7s,mb4.9						
COLA	College	87.76	12	eP	P	08 54 49.9	-1.4
	comp=Z,13nm,0.7s,mb4.9						
XAN	Xi'an	88.13	307	P	P	08 54 54.1	+0.4
XAN				AP	pP	08 56 14.7	-0.1
XAN				XP	sP	08 56 50.4	-0.4
XAN				S	S	09 05 10.0	+2.1
XAN				AMB	AMB		
	comp=Z,5.0nm,0.8s,mb4.4						
PDAR	Pinedale Array	88.47	43	P	P	08 54 54.2	-0.9
	comp=Z,0.6nm,0.6s,mb3.6,baz=224,slow=4.1,SNR=6.1						
VNA3	Neumayer Olymp	88.52	176	eP	P	08 54 54.1	-0.8
VNA3				e		08 54 59.4	
VNA2	Neumayer--Watz	88.96	177	eP	P	08 54 56.9	-0.1
	baz=195,slow=3.6						
VNA2				e		08 55 02.8	
DAWY	Dawson	89.00	16	eP	P	08 54 57.5	+0.4
HHC	Hu-ho-hao-te	89.29	314	eP	P	08 55 00.0	+1.0
HHC				AP	pP	08 56 22.1	+1.9
HHC				XP	sP	08 56 58.5	+2.4
HHC				PP	PP	08 58 38.2	+2.5
HHC				SKS		09 04 55.4	
HHC				S	S	09 05 18.9	+0.5
HHC				AMB	AMB		
	comp=Z,14nm,1.0s,mb4.8						
HHC				AMB	AMB		
	comp=Z,112nm,5.1s						
HHC				LR	LR		
	comp=N,142nm,18.9s						
HHC				LR	LR		
	comp=E,240nm,17.0s						
HHC				LR	LR		
	comp=Z,181nm,17.6s						
KMI	Kunming	89.44	297	P	P	08 55 01.5	+1.4
KMI				AMB	AMB		
	comp=Z,6.0nm,0.7s,mb4.5						
KMI	Kunming	89.44	297	P	P	08 55 01.5	+1.4
	comp=Z,6.0nm,0.7s,mb4.5						
CMAR	Chiang Mai Arr	90.27	289	P	P	08 55 04.7	+0.6
	comp=Z,2.7nm,0.7s,mb4.3,baz=129,slow=3.5,SNR=12						
CD2	Chengdu	90.83	303	eP	P	08 55 05.6	-0.8
CD2				AP	pP	08 56 28.0	+0.3
CD2				XP	sP	08 57 03.6	0.0
CD2				PP	PP	08 58 49.6	+1.6
CD2				SKS		09 05 02.3	
CD2				S	S	09 05 30.0	-2.8
CD2				XS	sS	09 07 55.5	-1.8
CD2				SS	SS	09 11 46.5	+1.2
CD2				AMB	AMB		
	comp=Z,30nm,0.8s,mb5.3						
CD2				AMB	AMB		
	comp=Z,120nm,5.8s						
LZH	Lanzhou	92.77	307	⇓P	P	08 55 15.3	+0.1
LZH				AP	pP	08 56 37.5	+0.9
LZH				XP	sP	08 57 13.0	+0.6
LZH				PP	PP	08 59 03.1	+0.1
LZH				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb4.8						
LZH				AMB	AMB		
	comp=Z,58nm,5.6s						
LZH	Lanzhou	92.77	307	⇓P	P	08 55 15.3	+0.1
LZH				*PP	pP	08 56 37.5	+0.9
LZH				*SP	sP	08 57 13.0	+0.6
LZH						08 59 03.1	
LZH				pmax	pmax		
	comp=Z,10.0nm,1.0s,mb4.8						
LZH	Lanzhou	92.77	307	⇓P	P	08 55 15.3	+0.1
	comp=Z,10.0nm,1.0s,mb4.8						
LZH				pP	pP	08 56 37.5	+0.9
LZH				sP	sP	08 57 13.0	+0.6
LZH				PP	PP	08 59 03.1	+0.1
WMQ	Urumqi	106.89	311	PDIF	Pdif	08 56 18.0	-0.3
WMQ				PP	PP	09 00 51.5	+2.3
ARCES	ARCESS Array B	128.59	350	PKP	PKPdf	09 01 06.0	-0.9
	comp=Z,1.9nm,0.8s,baz=354,slow=1.2,SNR=7.2						
AKASG	Malin Array Be	142.81	332	PKP	PKPdf	09 01 28.6	-5.2
	comp=Z,1.5nm,0.3s,baz=43,slow=4.0,SNR=9.1						
BSEG	Bad Segeberg	145.68	352	ePKPbc	PKPbc	09 01 38.7	-1.0
BUR08	Bucovina Ar. S	146.85	331	ePKPbc	PKPbc	09 01 43.8	+0.5
UZH	Uzhgorod	147.31	335	ePKHKP		09 01 35.3	
UZH				i		09 01 43.5	
CLZ	Clausthal	147.70	351	ePKPbc	PKPbc	09 01 44.5	-0.9
CLL	Collm	147.75	347	ePKPbc	PKPbc	09 01 44.3	-1.2
CLL	Collm	147.75	347	i PKPbc	PKPbc	09 01 44.4	-1.1
	comp=Z,11nm,0.8s						
CLL				ePKPab	PKPab	09 01 47.0	-1.9
	comp=Z,9.0nm,1.1s						
FBE	Freiberg	148.04	347	ePKPbc	PKPbc	09 01 45.6	-0.7
TANN	Tannenbergstha	148.70	347	ePKPbc	PKPbc	09 01 47.0	-1.0
WERD	Werda	148.70	348	ePKPbc	PKPbc	09 01 47.1	-0.9
GUNZ	Gunzen	148.78	348	ePKPbc	PKPbc	09 01 47.6	-0.6
WERN	Wernitzgruen	148.84	347	ePKPbc	PKPbc	09 01 47.6	-0.7
MANZ	Manzenberg	149.18	348	ePKPbc	PKPbc	09 01 48.5	-0.7
ROTZ	Rotzenmuhle	149.37	347	ePKPbc	PKPbc	09 01 48.9	-0.7
GRA1	Grafenberg Arr	149.63	349	ePKPbc	PKPbc	09 01 49.7	-0.6
GRF	Grafenberg Arr	149.63	349	ePKPbc	PKPbc	09 01 49.7	-0.6
GEC2	GERESS Array S	149.90	345	ePKPbc	PKPbc	09 01 49.8	-1.2
GERES	GERESS Array B	149.90	345	PKPbc	PKPbc	09 01 50.0	-0.9
	comp=Z,2.8nm,0.6s,baz=29,slow=3.0,SNR=17						
GERES				PKPab	PKPab	09 01 55.6	-2.2
	comp=Z,0.4nm,0.3s,baz=90,slow=2.7,SNR=3.5						
GIVF	Givet	150.00	357	ePKP1	PKPbc	09 01 50.4	-0.8
	comp=Z,30nm,1.0s						
BAIF	Baives	150.07	358	ePKP1	PKPbc	09 01 50.7	-0.6
CONA	Conrad Observa	150.15	342	⇓iPKPdf	PKPdf	09 01 46.3	+0.1
	comp=Z,5.9nm,0.8s						
CSNA	Conrad Observa	150.16	342	⇓iPKPdf	PKPdf	09 01 46.2	+0.1
	comp=Z,3.9nm,0.6s						
WLF	Walferdange	150.35	355	ePKPbc	PKPbc	09 01 51.8	-0.2
FLN	La Foliniere	151.32	4	ePKP1	PKPbc	09 01 53.1	-1.2
	comp=Z,12nm,0.6s						
ROSF	Rostrenen	151.48	8	ePKP1	PKPbc	09 01 53.7	-0.9
CDF	Champ du Feu	151.48	353	ePKP1	PKPbc	09 01 53.7	-0.9
	comp=Z,4.9nm,0.6s						
LDF	La Druitiere	151.51	3	ePKP1	PKPbc	09 01 53.5	-1.2
	comp=Z,3.1nm,0.3s						
MEZF	Maizieres J'vi	151.59	356	ePKP1	PKPbc	09 01 54.2	-0.7
SGMF	Saint Gilles	151.64	7	ePKP1	PKPbc	09 01 53.8	-1.2
	comp=Z,7.4nm,0.6s						
GRR	Gorron	151.67	4	ePKP1	PKPbc	09 01 54.1	-1.0
	comp=Z,5.5nm,0.4s						
HAU	Haudompre	151.98	354	ePKP1	PKPbc	09 01 54.7	-1.1
	comp=Z,6.8nm,0.5s						
ABTA	Abfaltersbach	152.15	345	⇑iPKPbc	PKPbc	09 01 54.8	-1.4
	comp=Z,2.3nm,0.4s						
VISS	Visnje	152.37	341	i PKPdf	PKPbc	09 01 55.6	-1.2
VISS				i		09 02 07.3	
BOJS	Bojanci	152.51	340	i PKPdf	PKPbc	09 01 56.1	-0.9
LOR	Lormes	152.88	358	ePKP1	PKPbc	09 01 56.9	-0.9
SSF	Saint Saulge	153.09	358	ePKP1	PKPbc	09 01 57.4	-0.9
CABF	La Chapelle	153.38	354	ePKP1	PKPbc	09 01 57.6	-1.3
	comp=Z,6.5nm,0.8s						

IDC 04 08:54:43.9±7.9**, 30.55S**×**176.84W, h0**km**, mb3.9**/2**, mb1 4.2**/2**, mb1mx3.8**/15**, mbtmp3.9**/2**, Error ellipse: s-maj=290.2km s-min=48.6km az=28.0, Kermadec Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ASAR	Alice Springs	44.10	267	P	P	09 02 53.7	-0.3
	0.7nm,0.4s,baz=105,slow=7.4,SNR=18						
WRA	Warramunga Arr	45.10	272	P	P	09 03 02.3	+0.2

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
	0.7nm,0.4s,baz=111,slow=8.0,SNR=37						
TORD	**Torodi Ar. Bea**	**162.63**	**175**	PKPab	PKPab	09 15 36.1	-0.3
	0.1nm,0.6s,baz=204,slow=6.5,SNR=3.9						

*IDC **04** 08:58:47.1±1.0, 49.10S×164.61E, h0^{km}, mb4.2/8, mb1 4.3/10, mb1mx4.2/17, mbtmp4.2/10, ML4.1/2, MS3.9/15, Ms1 3.9/15, ms1mx3.8/22, Error ellipse: s-maj=25.3km s-min=24.4km az=66.0*
*NEIC **04** 08:58:48.8±0.9, 49.21S×164.58E, h10^{km}, mb4.6/1, ML4.6(WEL), Error ellipse: s-maj=17.6km s-min=7.4km az=159.0*
*ISCJB **04** 08:58:50.6±0.8, 49.1S±0.1×164.70E±0.09, h33^{km}, mb4.2/8, MS3.9/13, Error ellipse: s-maj=15.6km s-min=6.3km az=155.7*
ISC 04 08:58:52.7±0.8**, 49.1S**±0.1×**164.65E**±0.09**, h35^{km}, n44, σ1^{s}12**/33**, mb4.2**/8**, MS3.9**/13**, Auckland Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
WHZ	**Wether Hill Ro**	**3.91**	**36**	P	**Pn**	**08 59 50.2**	**0.0**
DCZ	**Deep Cove**	**4.01**	**26**	P	**Pn**	**08 59 51.9**	**+0.4**
MLZ	**Mavora Lakes**	**4.46**	**34**	P	**Pn**	**08 59 58.3**	**+0.6**
TUZ	**Tuapeka**	**4.62**	**49**	P	**Pn**	**09 00 00.4**	**+0.5**
MSZ	**Milford Sound**	**4.97**	**28**	P	**Pn**	**09 00 07.1**	**+2.4**
EAZ	**Earnscleugh**	**5.01**	**41**	P	**Pn**	**09 00 05.4**	**+0.1**
WKZ	**Wanaka**	**5.22**	**37**	P	**Pn**	**09 00 10.0**	**+1.9**
ODZ	**Otahua Downs**	**5.77**	**47**	P	**Pn**	**09 00 14.9**	**-0.8**
JCZ	**Jackson Bay**	**5.77**	**31**	P	**Pn**	**09 00 17.8**	**+2.0**
LBZ	**Lake Benmore**	**6.06**	**41**	P	**Pn**	**09 00 18.0**	**-1.7**
FOZ	**Fox Glacier**	**6.55**	**34**	P	**Pn**	**09 00 28.6**	**+2.2**
RPZ	**Rata Peaks**	**6.97**	**42**	Pn	**Pn**	**09 00 30.5**	**-1.8**
	6.7nm,0.3s,baz=19,slow=15,SNR=13						
RPZ				Sn	**Sn**	**09 01 49.4**	**-0.9**
	22nm,0.3s,baz=321,slow=17,SNR=20						
RPZ				LR	LR	09 03 23.9	
	comp=Z,694nm,18.7s,baz=192,slow=40						
MQZ	**McQueen's Vall**	**7.73**	**49**	P	**Pn**	**09 00 41.9**	**-0.7**
LTZ	**Lake Taylor**	**8.25**	**43**	P	**Pn**	**09 00 49.2**	**-0.6**
DSZ	**Denniston Nort**	**8.91**	**37**	P	**Pn**	**09 00 58.6**	**-0.2**
URZ	**Urewera**	**14.08**	**44**	Pn	**Pn**	**09 02 08.9**	**-0.6**
	0.4nm,0.3s,baz=156,slow=18,SNR=2.6						
URZ				Sn	**Sn**	**09 04 40.8**	**-3.6**
	0.5nm,0.3s,baz=159,slow=15,SNR=3.5						
URZ				LR	LR	09 07 56.6	
	comp=Z,387nm,20.2s,baz=231,slow=39						
CNB	**Canberra Magne**	**17.79**	**315**	eP	**Pn**	**09 02 57.3**	**0.0**
TOO	**Toolangi**	**18.03**	**303**	eP	**Pn**	**09 03 00.9**	**+0.7**
RAO	**Raoul Island**	**23.89**	**40**	LR	LR	09 12 29.3	
	comp=Z,343nm,18.4s,MS3.9,baz=296,slow=34						
STKA	**Stephens Creek**	**24.41**	**306**	P	**P**	**09 04 08.3**	**+0.6**
	1.6nm,0.6s,mb3.6,baz=347,slow=13,SNR=3.1						
STKA				LR	LR	09 12 37.1	
	comp=Z,414nm,18.5s,MS4.0,baz=299,slow=34						
STKA	**Stephens Creek**	**24.41**	**306**	P	**P**	**09 04 08.3**	**+0.6**
STKA				LR	LR	09 12 37.1	
CTA	**Charters Tower**	**32.49**	**326**	P	**P**	**09 05 19.8**	**0.0**
	1.3nm,0.4s,mb4.1,baz=314,slow=4.3,SNR=4.1						
CTA				LR	LR	09 17 22.5	
	comp=Z,228nm,20.0s,MS3.9,baz=326,slow=34						
ASAR	**Alice Springs**	**35.04**	**305**	P	**P**	**09 05 41.2**	**-0.8**
	5.7nm,1.1s,mb4.4,baz=139,slow=8.6,SNR=24						
WB2	**Warramunga Arr**	**37.87**	**309**	eP	**P**	**09 06 04.5**	**-1.6**
WRA	**Warramunga Arr**	**37.88**	**309**	P	**P**	**09 06 04.6**	**-1.6**
	7.1nm,1.0s,mb4.4,baz=145,slow=7.8,SNR=33						
WRA				PcP	PcP	09 08 20.0	-1.9
	2.0nm,1.0s,baz=144,slow=2.5,SNR=8.5						
WRA				LR	LR	09 22 05.5	
	comp=Z,133nm,18.5s,MS3.8,baz=130,slow=37						
RAR	**Rarotonga**	**39.66**	**58**	LR	LR	09 19 18.9	
	comp=Z,169nm,21.3s,MS3.9,baz=178,slow=31						
HNR	**Honiara**	**39.74**	**353**	LR	LR	09 20 00.7	
	comp=Z,169nm,18.8s,MS3.9,baz=54,slow=32						
QSPA	**South Pole Qui**	**41.02**	**180**	P	**P**	**09 06 32.3**	**+0.5**
	2.1nm,1.0s,mb3.7,baz=0.2,slow=6.1,SNR=4.9						
FITZ	**Fitzroy Crossi**	**44.07**	**301**	eP	**P**	**09 06 56.4**	**-0.8**
	7.7nm,0.8s,mb4.5						
FITZ	**Fitzroy Crossi**	**44.07**	**301**	P	**P**	**09 06 56.6**	**-0.6**
	4.1nm,0.7s,mb4.2,baz=180,slow=11,SNR=14						
TBI	**Tubuai**	**44.16**	**71**	eS	**S**	**09 13 47.0**	**+19**
	64nm,32.2s						
TBI				eLR	LR	09 19 47.4	
	73nm,21.8s						
PPT	**Papeete**	**48.44**	**66**	eS	**S**	**09 14 49.8**	**+20**
	69nm,29.0s						
PPT				eLR	LR	09 21 51.6	
	127nm,23.5s						
PPT	**Papeete**	**48.44**	**66**	LR	LR	09 24 36.6	
	comp=Z,140nm,18.7s,MS4.0,baz=253,slow=32						
MAW	**Mawson**	**49.85**	**209**	LR	LR	09 26 49.5	
	comp=Z,97nm,19.0s,MS3.8,baz=262,slow=34						
PLCA	**Paso Flores**	**78.18**	**140**	LR	LR	09 36 27.6	
	comp=Z,101nm,20.8s,MS4.1,baz=95,slow=29						
MJAR	**Matsushiro Arr**	**88.45**	**339**	P	**P**	**09 11 42.0**	**+1.3**
	1.2nm,0.9s,mb4.1,baz=142,slow=6.2,SNR=3.8						
CMAR	**Chiang Mai Arr**	**88.88**	**300**	LR	LR	09 52 30.9	
	comp=Z,41nm,18.3s,MS3.9,baz=90,slow=36						
KSRS	**Korea Array**	**92.13**	**332**	P	**P**	**09 11 58.0**	**+0.1**
	2.0nm,1.0s,mb4.4,baz=163,slow=5.5,SNR=5.3						
KSRS				LR	LR	09 51 18.0	
	comp=Z,45nm,19.6s,MS3.9,baz=171,slow=34						
BOSA	**Boshof**	**94.56**	**215**	LR	LR	09 48 33.2	
	comp=Z,45nm,20.6s,MS3.9,baz=5.1,slow=32						
CPUP	**Villa Florida**	**96.08**	**143**	LR	LR	09 48 28.0	
	comp=Z,76nm,20.7s,MS4.2,baz=308,slow=31						
SPITS	**Spitsbergen Ar**	**148.52**	**348**	PKPbc	PKPbc	09 18 33.6	-0.4
	11nm,0.8s,baz=6.2,slow=9.2,SNR=7.1						
AKASG	**Malin Array Be**	**151.57**	**290**	PKPbc	PKPbc	09 18 41.0	-1.1
	0.7nm,0.4s,baz=102,slow=2.0,SNR=7.8						
ARCES	**ARCESS Array B**	**151.69**	**331**	PKPbc	PKPbc	09 18 41.9	+0.1
	4.8nm,0.6s,baz=96,slow=2.0,SNR=39						
GERES	**GERESS Array B**	**160.97**	**280**	PKPab	PKPab	09 19 30.8	-0.4
	0.3nm,0.4s,baz=123,slow=4.9,SNR=6.0						

*NEIC **04** 09:15:02.2, 15.78N×95.72W, h20^{km}, MD3.8(MEX), After MEX.*
MEX 04 09:15:02.5±0.5**, 15.80N**×**95.73W, h16**^{km}±58^{km}**, MD3.8, 1C, Near coast of Oaxaca**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
HUIG	**Huatulco**	**0.37**	**266**	⇑iP	Pg	09 15 08.7	-1.3
HUIG				iS	Sg	09 15 14.0	-1.1
VHO	**Vista Hermosa**	**1.59**	**323**	iP	Pn	09 15 26.8	-3.2
VHO				iS	Sn	09 15 45.6	-4.7
OXX	**Oaxaca**	**1.60**	**323**	eP	Pn	09 15 27.0	-3.1
OXX				iS	Sn	09 15 43.8	-6.6
OXX	**Oaxaca**	**1.60**	**323**	eP	Pn	09 15 28.4	-1.7
OXX				iS	Sn	09 15 43.8	-6.6
PNIG	**Pinotepa**	**2.38**	**285**	eP	Pn	09 15 37.4	-3.5
PNIG				iS	Sn	09 16 06.2	-3.5
UTMO	**Huajuapan**	**2.84**	**316**	eP	Pn	09 15 44.9	-2.3
UTMO				iS	Sn	09 16 16.8	-4.2
TPIG	**Tehuac#an**	**3.04**	**329**	eP	Pn	09 15 56.2	+6.2
TPIG				iS	Sn	09 16 22.5	-3.6
PPM	**Popocatepetl**	**4.27**	**320**	eP	Pn	09 16 05.4	-1.5
PPM				iS	Sn	09 16 53.6	-2.8
PPM	**Popocatepetl**	**4.27**	**320**	iP	Pn	09 16 12.9	+6.0
PPM				iS	Sn	09 16 51.2	-5.2

*CSEM **04** 09:19:55.7±0.3, 42.91N×17.72E, h2^{km}, ML2.6, Error ellipse: s-maj=6.4km s-min=4.8km az=37.0*
*ISCJB **04** 09:19:56.5±0.6, 42.85N±0.03×17.80E±0.04, h10^{km}, Error ellipse: s-maj=4.8km s-min=3.3km az=29.1*
*BEO **04** 09:19:56.0±1.0, 42.77N×17.64E, ML2.6/3*
*PDG **04** 09:19:57.5±0.3, 42.88N×17.88E, h3^{km}±1^{km}, MD2.5/1, ML2.6/9, Error ellipse: s-maj=0.8km s-min=1.6km az=0.0*
*NEIC **04** 09:19:57.5, 42.88N×17.88E, h3^{km}, ML2.6(PDG), After PDG.*
ISC 04 09:19:57.0±0.6**, 42.83N**±0.03×**17.77E**±0.04**, h10^{km}, n22, σ1^{s}40**/42**, 6C-5D, Adriatic Sea**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
STON	**Ston**	**0.07**	**305**	⇓iPg	**Pg**	**09 19 58.2**	**-1.0**
STON				Sg	**Sg**	**09 19 59.4**	**-1.3**
STON	**Ston**	**0.07**	**305**	Sg	**Sg**	**09 19 59.4**	**-1.3**
TREB	**Trebinje**	**0.44**	**105**	ePg	**Pg**	**09 20 05.0**	**-0.6**
TREB				eSg	**Sg**	**09 20 12.1**	**+0.6**
BRY	**Bratogost**	**0.57**	**83**	⇑iPg	**Pg**	**09 20 06.2**	**-1.9**
BRY				eSg	**Sg**	**09 20 13.8**	**-1.8**
HCY	**Herceg Novi**	**0.66**	**126**	⇓iPg	**Pg**	**09 20 08.7**	**-1.1**
HCY				eSg	**Sg**	**09 20 19.4**	**+1.0**
NKY	**Niksic**	**0.90**	**91**	⇑iPg	**Pg**	**09 20 13.0**	**-1.4**
NKY				eSg	**Sg**	**09 20 25.6**	**-0.5**
UPM	**Unac-Piva**	**0.91**	**66**	ePg	**Pg**	**09 20 12.6**	**-2.0**
UPM				eSg	**Sg**	**09 20 25.7**	**-0.8**
BUM	**Brajici-Budva**	**0.99**	**122**	ePg	**Pg**	**09 20 15.1**	**-0.9**
BUM				eSg	**Sg**	**09 20 30.0**	**+1.2**
PDG	**Podgorica**	**1.17**	**110**	⇑iPg	**Pg**	**09 20 16.6**	**-2.9**
PDG				eSg	**Sg**	**09 20 35.7**	**+1.0**
TTG	**Podgorica**	**1.17**	**110**	⇑iPg	**Pg**	**09 20 16.6**	**-2.9**
TTG				eSg	**Sg**	**09 20 35.7**	**+1.0**
PLE	**Pljevlja**	**1.29**	**67**	⇑iPg	**Pg**	**09 20 19.8**	**-1.9**
PLE				eSg	**Sg**	**09 20 38.5**	**+0.1**
ULC	**Ulcinj**	**1.40**	**128**	⇓iPg	**Pg**	**09 20 23.1**	**-0.7**
ULC				eSg	**Sg**	**09 20 44.1**	**+2.1**
BEY	**Berane**	**1.56**	**88**	⇓iPg	**Pn**	**09 20 24.7**	**-0.1**
BEY				eSg	**Sg**	**09 20 48.5**	**+1.2**
IVA	**Berane**	**1.56**	**88**	⇓iPg	**Pn**	**09 20 24.7**	**-0.1**
IVA				eSg	**Sg**	**09 20 48.5**	**+1.2**
BBLS	**Lazići**	**1.58**	**49**	ePn	**Pn**	**09 20 26.0**	**+1.0**
BBLS				eSn	**Sg**	**09 20 49.0**	**+1.3**
PVY	**Plav**	**1.64**	**98**	⇑iPg	**Pg**	**09 20 26.9**	**-1.6**
PVY				eSg	**Sg**	**09 20 51.2**	**+1.5**
BLY	**Banja Luka**	**1.96**	**348**	ePn	**Pn**	**09 20 32.2**	**+1.9**
BLY				eSn	**Sn**	**09 20 57.5**	**+2.5**
BLY	**Banja Luka**	**1.96**	**348**	ePn	**Pn**	**09 20 31.7**	**+1.4**
BLY				eSn	**Sn**	**09 20 56.7**	**+1.7**
DIVS	**Divibare**	**2.05**	**51**	ePn	**Pn**	**09 20 32.1**	**+0.6**
DIVS				eSn	**Sg**	**09 21 01.7**	**-1.2**
DIVS	**Divibare**	**2.05**	**51**	ePn	**Pn**	**09 20 32.2**	**+0.7**
DIVS				eSn	**Sn**	**09 20 59.8**	**+2.6**
NVLJ	**Novalja**	**2.72**	**310**	ePn	**Pn**	**09 20 42.1**	**+1.4**
BARS	**Barje**	**2.97**	**89**	ePn	**Pn**	**09 20 46.6**	**+2.4**
BARS				eSn	**Sn**	**09 21 24.1**	**+4.2**

DJA 04 09:34:46.4±0.9**, 3S**±11×**130E**±**, h28**^{km}±9^{km}**, MLv3.6**/5**, Seram**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MSAI	**Masohi**	**0.73**	**252**	P	Pb	09 35 00.7	+0.2
MSAI	**Masohi**	**0.73**	**252**	S	Sb	09 35 10.3	+0.2
AAI	**Ambon**	**1.53**	**248**	P	Pn	09 35 13.1	+1.2
AAI	**Ambon**	**1.53**	**248**	S	Sn	09 35 30.3	-0.6
AAI	**Ambon**	**1.53**	**248**	P	Pn	09 35 13.1	+1.2
SWI	**Sorong**	**2.78**	**36**	P	Pn	09 35 28.1	-0.9

*NEIC **04** 10:09:48.3, 16.46N×98.46W, h25^{km}, MD4.0(MEX), After MEX.*
MEX 04 10:09:48.3±0.7**, 16.46N**×**98.46W, h26**^{km}±12^{km}**, MD4.0, Near coast of Guerrero**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.33**	**102**	iP	Pb	10 09 54.3	-1.5
PNIG				iS	Sb	10 09 59.5	-1.4
PNIG	**Pinotepa**	**0.33**	**102**	iP	Pb	10 09 54.3	-1.4
PNIG				iS	Sb	10 09 59.5	-1.4
ACX	**Acapulco**	**1.45**	**286**	iP	Pn	10 10 10.4	-2.5
ACX				iS	Sn	10 10 28.4	-2.7
ACX	**Acapulco**	**1.45**	**286**	iP	Pn	10 10 10.4	-2.5
ACX				iS	Sn	10 10 28.9	-2.2
UTMO	**Huajuapan**	**1.50**	**25**	iP	Pn	10 10 10.8	-2.7
UTMO				iS	Sn	10 10 29.1	-3.1
VHO	**Vista Hermosa**	**1.76**	**70**	iP	Pn	10 10 14.9	-2.2
VHO				iS	Sn	10 10 36.6	-2.2
VHO	**Vista Hermosa**	**1.76**	**70**	iP	Pn	10 10 14.9	-2.2
VHO				iS	Sn	10 10 37.3	-1.4
CAIG	**El Cayaco**	**1.83**	**289**	eP	Pn	10 10 16.5	-1.5
CAIG				iS	Sn	10 10 36.3	-4.0
CAIG	**El Cayaco**	**1.83**	**289**	eP	Pn	10 10 17.1	-1.0
CAIG				iS	Sn	10 10 35.7	-4.7
PLIG	**Platanillo**	**2.16**	**333**	eP	Pn	10 10 20.3	-2.4
PLIG				iS	Sn	10 10 46.1	-2.6
TPIG	**Tehuac#an**	**2.21**	**28**	iP	Pn	10 10 21.8	-1.6
TPIG				iS	Sn	10 10 48.4	-1.5
HUIG	**Huatulco**	**2.36**	**107**	eP	Pn	10 10 24.0	-1.4
HUIG				iS	Sn	10 10 49.3	-4.3
PPM	**Popocatepetl**	**2.59**	**357**	iP	Pn	10 10 25.5	-3.2
PPM				iS	Sn	10 10 59.3	0.0
MZVM		**2.81**	**345**	eP	Pn	10 10 32.3	+0.7
MZVM				iS	Sn	10 11 03.0	-1.6
ZIIG	**Zihuatanejo**	**3.09**	**292**	iP	Pn	10 10 38.2	+2.8
ZIIG				iS	Sn	10 11 08.7	-2.9
IIO	**Organos**	**3.12**	**355**	iP	Pn	10 10 34.8	-1.1
IIO				iS	Sn	10 11 09.0	-3.3
PTVM	**Pico Tres Padr**	**3.17**	**349**	eP	Pn	10 10 37.0	+0.4
PTVM				iS	Sn	10 11 12.3	-1.3

*ISCJB **04** 10:40:16.4±0.5, 24.17S±0.04×66.95W±0.06, h187^{km}±7^{km}, mb3.6/8, Error ellipse: s-maj=9.0km s-min=7.1km az=12.9*
*IDC **04** 10:40:17.4±0.9, 24.05S×66.86W, h182^{km}±8^{km}, mb3.5/8, mb1 3.6/14, mb1mx3.6/21, mbtmp3.4/14, Error ellipse: s-maj=13.7km s-min=11.5km az=60.0*
*NEIC **04** 10:40:17.2±0.5, 24.10S×66.85W, h180^{km}±6^{km}, mb3.8/1, Error ellipse: s-maj=8.8km s-min=6.7km az=78.0*
*GUC **04** 10:40:19.0±0.4, 24.28S×67.38W, h210^{km}, ML4.1*
ISC 04 10:40:17.3±0.5**, 24.14S**±0.05×**66.92W**±0.06**, h180**^{km}±6^{km}**, n28, σ0^{s}97**/32**, mb3.6**/8**, 1C-2D, Salta Province**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**2.38**	**309**	P	**Pn**	**10 40 59.9**	**+1.2**
	23nm,0.3s,baz=122,slow=7.0,SNR=482						
LVC				S	**Sn**	**10 41 31.4**	**+0.9**
	33nm,0.3s,baz=315,slow=19,SNR=30						
LVC	**Limon Verde**	**2.38**	**309**	ePn	**Pn**	**10 40 59.8**	**+1.2**
LVC				eS	**Sn**	**10 41 32.2**	**+1.6**
CEN1	**Los Morros**	**3.09**	**283**	⇓iP	**Pn**	**10 41 08.7**	**+1.6**
CEN1				iS	**Sn**	**10 41 46.1**	**+0.3**
CEN1				AML	AML	10 41 48.7	
	comp=N,288nm,0.6s						
CPN1	**Cerro Paranal**	**3.21**	**261**	⇓iP	**Pn**	**10 41 08.7**	**+0.2**
CPN1				eS	**Sn**	**10 41 46.8**	**-1.6**
CPN1				AML	AML	10 41 47.6	
	comp=E,371nm,0.3s						
ANCH	**Antofagasta**	**3.22**	**277**	⇑iP	**Pn**	**10 41 09.0**	**+0.3**
ANCH				iS	**Sn**	**10 41 46.7**	**-2.0**
CFAA	**Coronel Fontan**	**7.53**	**189**	P	**Pn**	**10 42 04.2**	**-0.2**
	comp=E,0.2nm,0.3s,baz=17,slow=13,SNR=12						
CFAA				S	**Sn**	**10 43 24.7**	**-4.3**
	comp=E,0.4nm,0.3s,baz=321,slow=21,SNR=9.8						
LPAZ	**La Paz**	**7.89**	**352**	P	**Pn**	**10 42 09.6**	**+0.4**
	comp=E,1.1nm,0.3s,baz=152,slow=9.9,SNR=35						
LPAZ				S	**Sn**	**10 43 34.4**	**-3.5**
	comp=E,0.1nm,0.3s,baz=338,slow=20,SNR=4.3						
LPAZ	**La Paz**	**7.89**	**352**	ePn	**Pn**	**10 42 09.8**	**+0.5**
LPAZ				S	**Sn**	**10 43 36.6**	**-1.3**
CPUP	**Villa Florida**	**8.96**	**106**	P	**Pn**	**10 42 22.8**	**-0.3**
	comp=E,0.5nm,0.3s,baz=291,slow=11,SNR=3.7						
SIV	**San Ignacio**	**9.79**	**35**	P	**Pn**	**10 42 32.5**	**-1.7**
	comp=E,0.3nm,0.3s,baz=212,slow=14,SNR=9.5						
SIV				S	**Sn**	**10 44 24.3**	**+1.0**
	comp=E,0.1nm,0.3s,baz=269,slow=18,SNR=2.9						
TRQA	**Tornquist**	**14.50**	**164**	ePn	**Pn**	**10 43 33.8**	**-0.4**
	comp=E,3.9nm,0.8s						
PLCA	**Paso Flores**	**16.82**	**190**	P	**Pn**	**10 44 02.0**	**-0.4**
	comp=E,0.1nm,0.3s,baz=34,slow=12,SNR=6.0						
BDFB	**Brasilia**	**19.67**	**68**	P	**P**	**10 44 32.3**	**-0.4**
	comp=E,0.5nm,0.3s,baz=230,slow=16,SNR=9.9						
PMSA	**Palmer Station**	**40.67**	**178**	P	**P**	**10 47 41.3**	**+1.7**
	comp=E,9.4nm,0.9s,mb4.4,baz=355,slow=12,SNR=4.1						
VNA2	**Neumayer--Watz**	**57.56**	**160**	e	**P**	**10 49 48.4**	**+0.8**
	baz=286,slow=7.7						
VNA2				e		10 49 53.0	
SNAA	**Sanae**	**59.20**	**161**	e	**P**	**10 49 59.1**	**+0.2**
SNAA				e		10 50 04.1	
TXAR	**Lajitas Array**	**63.83**	**324**	P	**P**	**10 50 30.4**	**-0.1**
	comp=E,0.4nm,0.8s,mb3.3,baz=148,slow=7.4,SNR=5.2						
TORD	**Torodi Ar. Bea**	**76.55**	**69**	P	**P**	**10 51 47.0**	**-1.2**
	comp=E,0.8nm,0.5s,mb3.6,baz=253,slow=6.3,SNR=14						
PDAR	**Pinedale Array**	**77.30**	**329**	P	**P**	**10 51 52.0**	**+0.4**
	comp=E,0.4nm,0.7s,mb3.2,baz=131,slow=8.9,SNR=3.4						
ULM	**Lac du Bonnet**	**78.38**	**342**	P	**P**	**10 51 56.5**	**-1.0**
	comp=E,1.2nm,0.5s,mb3.8,baz=154,slow=14,SNR=4.1						
NVAR	**Mina Array Bea**	**78.69**	**321**	P	**P**	**10 52 00.2**	**+0.8**
	comp=E,0.3nm,0.6s,mb3.1,baz=134,slow=7.7,SNR=2.9						
MAW	**Mawson**	**81.28**	**163**	P	**P**	**10 52 13.4**	**+0.4**
	comp=E,1.6nm,0.6s,mb3.8,baz=216,slow=6.9,SNR=11						
YKA	**Yellowknife Ar**	**94.28**	**340**	P	**P**	**10 53 15.1**	**-0.4**
	comp=E,0.5nm,0.6s,mb3.8,baz=127,slow=5.0,SNR=3.8						
ASAR	**Alice Springs**	**128.36**	**205**	PKP	PKPdf	10 59 02.5	-0.6
	comp=E,0.5nm,0.6s,baz=125,slow=1.6,SNR=8.6						
WRA	**Warramunga Arr**	**131.54**	**207**	PKP	PKPdf	10 59 08.4	-0.8
	comp=E,0.4nm,0.5s,baz=161,slow=1.7,SNR=20						
ZALV	**Zalesovo Beam**	**143.48**	**28**	PKP	PKPdf	10 59 27.7	-2.3
	comp=E,1.2nm,0.6s,baz=328,slow=5.3,SNR=4.2						
MKAR	**Makanchi Array**	**146.59**	**40**	PKPbc	PKPbc	10 59 36.2	-1.2
	comp=E,1.3nm,0.5s,baz=306,slow=2.9,SNR=11						
MJAR	**Matsushiro Arr**	**155.12**	**306**	PKPab	PKPab	11 00 13.3	-1.3
	comp=E,0.6nm,0.7s,baz=72,slow=4.1,SNR=4.6						

IDC 04 10:41:40.9±3.4**, 4.12S**×**100.51E, h0^{km}, mb3.7**/6**, mb1 3.8**/6**, mb1mx3.6**/19**, mbtmp3.7**/6**, Error ellipse: s-maj=139.2km s-min=20.9km az=57.0, Southwest of Sumatera**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**22.49**	**356**	P	P	10 46 43.0	+1.0
	1.1nm,0.4s,baz=173,slow=13,SNR=6.5						
WRA	**Warramunga Arr**	**36.51**	**118**	P	P	10 48 47.3	-1.0
	0.3nm,0.5s,baz=304,slow=8.8,SNR=6.4						
ASAR	**Alice Springs**	**37.62**	**124**	P	P	10 48 58.2	+0.4
	0.3nm,0.7s,baz=295,slow=7.6,SNR=5.6						
SONM	**Songino Array**	**51.99**	**5**	P	P	10 50 51.5	-0.4
	0.7nm,0.6s,baz=188,slow=11,SNR=4.7						
MKAR	**Makanchi Array**	**53.20**	**344**	P	P	10 51 00.4	-0.4
	1.0nm,0.6s,baz=155,slow=8.1,SNR=6.2						
ZALV	**Zalesovo Beam**	**59.33**	**349**	P	P	10 51 43.9	-0.7
	1.2nm,0.6s,baz=179,slow=6.8,SNR=5.5						
TXAR	**Lajitas Array**	**146.03**	**40**	PKPbc	PKPbc	11 01 24.3	+0.8
	1.8nm,0.9s,baz=271,slow=1.1,SNR=16						

*ISCJB **04** 11:36:17.8±1.0, 7.08N±0.08×127.31E±0.08, h10^{km}, mb3.5/3, Error ellipse: s-maj=14.6km s-min=7.3km az=136.3*
*IDC **04** 11:36:17.0±1.7, 7.17N×127.30E, h0^{km}, mb3.5/4, mb1 3.6/4, mb1mx3.5/19, mbtmp3.5/4, MS3.0/1, Ms1 3.0/1, ms1mx2.2/18, Error ellipse: s-maj=38.4km s-min=21.0km az=43.0*
*MAN **04** 11:36:26, 7.32N×126.63E, h1^{km}, mb4.4, ML3.2, MS3.0*
ISC 04 11:36:18.5±2.1**, 7.10N**±0.08×**127.25E**±0.08**, h3**^{km}±12^{km}**, n12, σ1^{s}14**/14**, mb3.5**/3**, 2D, Philippine Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MATI	**Mati**	**1.00**	**261**	eP	**Pg**	**11 36 36.5**	**-1.2**
BIPH	**Bislig**	**1.39**	**321**	⇓eP	**Pn**	**11 36 45.7**	**+0.9**
BIPH				eS	**Sb**	**11 37 01.7**	**-1.6**
DAV	**Davao City (W)**	**1.66**	**269**	Pn	**Pn**	**11 36 49.1**	**+0.6**
	108nm,0.3s,baz=182,slow=1.1,SNR=7.9						
DAV				Sn	**Sn**	**11 37 10.1**	**-0.2**
	92nm,0.3s,baz=43,slow=15,SNR=4.2						
BUKP	**Musuan**	**2.31**	**290**	eP	**Pn**	**11 36 58.8**	**+1.4**
BUTP	**Butuan**	**2.46**	**319**	eP	**Pn**	**11 37 03.8**	**+4.2**
CGP	**Cagayan de Oro**	**2.87**	**298**	⇓eP	**Pn**	**11 37 07.6**	**+2.4**
CGP				eS	**Sn**	**11 37 39.7**	**-0.5**
PAGZ	**Pagadian**	**3.91**	**281**	eP	**Pn**	**11 37 20.6**	**+1.1**
FITZ	**Fitzroy Crossi**	**25.09**	**184**	P	**P**	**11 41 43.6**	**-0.9**
	0.3nm,0.3s,mb3.3,baz=354,slow=13,SNR=4.0						
WRA	**Warramunga Arr**	**27.76**	**166**	P	**P**	**11 42 07.8**	**-0.8**
	0.1nm,0.3s,baz=350,slow=9.8,SNR=11						
KSRS	**Korea Array**	**30.22**	**1**	LR	LR	11 53 14.8	
	comp=Z,26nm,19.7s,baz=190,slow=34						
ASAR	**Alice Springs**	**31.26**	**168**	P	**P**	**11 42 40.1**	**+0.5**
	0.2nm,0.3s,mb3.4,baz=341,slow=7.7,SNR=18						
MKAR	**Makanchi Array**	**55.13**	**324**	P	**P**	**11 45 50.8**	**-1.3**
	0.5nm,0.6s,mb3.8,baz=124,slow=7.8,SNR=5.2						

*NEIC **04** 12:12:09.9, 32.12S×71.72W, h22^{km}, ML3.0(GUC), After GUC.*
GUC 04 12:12:09.9±0.9**, 32.12S**×**71.72W, h22**^{km}±4^{km}**, MD3.6, ML3.0, 4C-7D, Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CHNG	**Los Chungos**	**0.30**	**38**	⇓iP	Pb	12 12 16.2	-0.5
CHNG				iS	Sb	12 12 21.7	+0.4
CHNG				AML	AML	12 12 22.3	
	comp=E,1μm,0.3s						
PACH	**Papudo**	**0.48**	**151**	⇓iP	Pb	12 12 18.9	-0.8
PACH				iS	Sb	12 12 26.8	+0.4
ROCH	**El Roble**	**1.04**	**145**	iS	Sb	12 12 42.5	+0.1
JACH	**Jahuel**	**1.10**	**121**	⇑iP	Pn	12 12 29.4	-0.6
JACH				iS	Sb	12 12 44.5	+0.3
PEL	**Peldehue**	**1.34**	**140**	⇑iP	Pn	12 12 33.1	-0.2
PEL				iS	Sn	12 12 51.1	+0.6
PEL				AML	AML	12 12 54.1	
	comp=N,722nm,0.3s						
RCDM	**Rinconada Maip**	**1.57**	**151**	⇑iP	Pn	12 12 36.5	+0.1
RCDM				iS	Sn	12 12 57.1	+1.1
RCDM				AML	AML	12 12 58.4	
	comp=E,390nm,0.2s						
RCDM	**Rinconada Maip**	**1.57**	**151**	⇑iP	Pn	12 12 36.5	+0.1
RCDM				iS	Sn	12 12 57.1	+1.1
TACH	**Talagante**	**1.67**	**157**	eP	Pn	12 12 38.2	+0.5
TACH				iS	Sn	12 13 00.2	+1.8
PCH	**Pirque**	**1.81**	**146**	⇓iP	Pn	12 12 41.1	+1.4
PCH				iS	Sn	12 13 04.1	+2.2
PCH				e		12 13 04.1	
PCH	**Pirque**	**1.81**	**146**	⇓iP	Pn	12 12 41.1	+1.4
PCH				iS	Sn	12 13 04.1	+2.2
LNV	**Longovilo**	**1.85**	**172**	⇓iP	Pn	12 12 41.5	+1.2
LNV				iS	Sn	12 13 05.2	+2.2
TLL	**Tololo Astrono**	**2.10**	**22**	eP	Pn	12 12 45.4	+1.7
TLL				eS	Sn	12 13 12.9	+3.9
TLL				AML	AML	12 13 20.6	
	comp=N,155nm,0.4s						
TLL	**Tololo Astrono**	**2.10**	**22**	eP	Pn	12 12 45.4	+1.7
TLL				eS	Sn	12 13 12.9	+3.9
LMEL	**Las Melosas**	**2.14**	**144**	⇓iP	Pn	12 12 45.3	+1.0
LMEL				iS	Sn	12 13 13.0	+2.8
LMEL				AML	AML	12 13 17.7	
	comp=N,188nm,0.2s						
LMEL	**Las Melosas**	**2.14**	**144**	⇓iP	Pn	12 12 45.3	+1.0
LMEL				iS	Sn	12 13 13.0	+2.8
CACH	**El Canelo**	**2.20**	**155**	iS	Sn	12 13 15.3	+3.6
CICH	**Cipreses**	**2.45**	**154**	eP	Pn	12 12 50.2	+1.7

*IDC **04** 12:40:25.6±0.4, 2.52N×92.93E, h0^{km}, mb5.3/26, mb1 5.4/27, mb1mx5.4/27, mbtmp5.3/27, ML4.8/1, MS5.9/37, Ms1 5.9/37, ms1mx5.8/41, Error ellipse: s-maj=15.3km s-min=10.9km az=41.0*
*BJI **04** 12:40:26.1, 2.15N×92.76E, h35^{km}, mB6.0, mb5.6, Ms6.4, Msz6.1*
*SZGRF **04** 12:40:27.4, 1.98N×93.44E, h39^{km}, mb5.9, MS5.9, Off west coast of northern Sumatera, Indonesia*
*ISCJB **04** 12:40:29.5±0.1, 2.57N±0.02×92.91E±0.02, h35^{km}, mb5.8/316, MS6.1/290, Error ellipse: s-maj=3.1km s-min=2.0km az=23.0*
*MOS **04** 12:40:29.3±0.9, 2.61N×92.95E, h33^{km}, mb6.0/117, MS6.0/81, Error ellipse: s-maj=6.8km s-min=3.6km az=120.5*
*DJA **04** 12:40:29, 2.72N×92.86E, h22^{km}, Mw6.2/43*
*BGS **04** 12:40:30.0±2.4, 2.54N×92.90E, h33^{km}, mb5.8, MS6.0*
*NEIC **04** 12:40:31.1±0.1, 2.54N×92.90E, h35^{km}, mb5.7/141, ME6.4, MS6.1/206, MW6.2, Error ellipse: s-maj=4.1km s-min=2.8km az=38.0, Moment Tensor Solution. s56 Moment tensor: Scale 10^{18}Nm; M_{rr}-0.11; $M_{\theta\theta}$-1.41; $M_{\phi\phi}$1.52; $M_{r\theta}$0.10; $M_{\theta\phi}$-1.73; $M_{\phi r}$-0.29; Best double couple: $M_0$2.30000×10^{18} NP1:ϕ_s110.00000°,δ84.00000°, λ176.00000°. NP2:ϕ_s200.00000°,δ86.00000°,λ6.00000°. Principal axes: T 2.3600, Plg7.0000°, Azm65.0000°; N -0.1500, Plg82.0000°, Azm237.0000°; P -2.2100, Plg0.0000°, Azm335.0000°; Broadband fault plane solution: P waves. NP1:ϕ_s109.00000°,δ80.00000°, λ175.00000°. NP2:ϕ_s200.00000°,δ85.00000°,λ10.00000°. Principal axes: T Plg11.0000°, Azm65.0000°; N Plg0.0000°, Azm0.0000°; P Plg3.0000°, Azm334.0000°; Depth from synthetics of broadband displacement seismograms. Energy computed from BB mechanism.*
NEIC Felt [IV] on Simeulue. Felt [III] at Banda Aceh and

Meulaboh.

GCMT 04 12:40:31.1±0.1,2.47N×92.83E,h12km,MW6.2/111, Moment Tensor Solution. s110,c239; s111,c438; Duration: 3s2 Moment tensor: Scale 10^{18}Nm; M_{rr}-0.23±.01; $M_{\theta\theta}$-1.24±.01; $M_{\phi\phi}$1.47±.01; $M_{r\theta}$-0.83±.03; $M_{\theta\phi}$-1.98±.01; $M_{\phi r}$-1.04±.04; Best double couple: $M_0$2.74300×10^{18} NP1:ϕ_s110.00000°,δ63.00000°, λ-170.00000°. NP2:ϕ_s15.00000°,δ81.00000°, λ-27.00000°. Principal axes: T 2.6250, Plg12.0000°, Azm65.0000°; N 0.2360, Plg62.0000°, Azm178.0000°; P -2.8610, Plg25.0000°, Azm330.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.

ISC 04 12:40:31.4±0.1,2.55N±0.02×92.89E±0.02,h37km, h37km±.9km:pP-P,n1514,σ0.89/1091,mb5.8/315, MS6.1/290,185C-401D,Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSI	Banda Aceh	3.79	39	P	Pn	12 41 25.7	-1.7
BSI	Banda Aceh	3.79	39	S	Sn	12 42 06.1	-4.6
TSI	Tuntungan	5.75	80	P	Pn	12 41 54.5	+0.2
	9µm,1.0s,29nm						
TRSI	Tarutung	6.09	95	P	Pn	12 42 00.1	+1.1
PPI	Padang Panjang	8.08	112	P	Pn	12 42 24.7	-1.6
	2µm,1.0s,9.0nm						
PPI	Padang Panjang	8.08	112	S	Sn	12 43 50.5	-5.9
	2µm,1.0s,9.0nm						
KULM	Kulim	8.21	70	⇑P	Pn	12 42 26.5	-1.6
IPM	Ipoh	8.35	76	⇑P	Pn	12 42 29.0	-1.0
IPM	Ipoh	8.35	76	P	Pn	12 42 28.6	-1.4
	3µm,0.9s,8.8nm						
FRIM	Kepong	8.75	85	⇓P	Pn	12 42 34.8	-0.8
SNG	Songkhla	8.97	59	P	Pn	12 42 37.6	-0.9
	2µm,1.1s						
RGRI	Rengat	9.87	107	P	Pn	12 42 42.7	-8.2
KGM	Kluang	10.44	93	⇑P	Pn	12 42 57.9	-0.7
KTGM	Kuala Trenggan	10.59	75	⇑P	Pn	12 43 00.2	-0.5
MYKOM	Kota Tinggi	10.98	94	⇑P	Pn	12 43 00.2	-5.9
MYKOM	Kota Tinggi	10.98	94	⇓P	Pn	12 43 05.5	-0.5
MYKOM	Kota Tinggi	10.98	94	P	Pn	12 43 04.5	-1.6
KSI	Kapahiang	11.49	122	P	Pn	12 43 10.8	-2.3
	2µm,1.0s						
NNT	Nongplab	12.06	34	⇑P	Pn	12 43 20.9	0.0
	1µm,1.1s						
DSRI	Dabo	12.06	104	P	Pn	12 43 19.8	-1.2
	181nm,1.2s,3µm						
PALK	Pallekele	13.02	292	P	Pn	12 43 30.6	-3.4
	519nm,0.7s,6µm						
PALK	Pallekele	13.02	292	ePn	Pn	12 43 29.8	-4.1
PPBI	Pangkal Pinang	14.04	109	P	Pn	12 43 57.1	+9.1
NST	Nakhon Sawan	14.87	28	P	Pn	12 43 57.0	-2.2
	275nm,0.8s						
COCO	West Island	15.15	165	⇑P	Pn	12 44 03.2	+0.2
	SNR=6.5						
COCO	West Island	15.15	165	P	Pn	12 44 02.7	-0.2
	462nm,2.7s						
COCO	West Island	15.15	165	ePn	Pn	12 44 02.9	0.0
TPI	Tanjungpandan	15.67	110	P	Pn	12 44 07.8	-1.9
	217nm,1.5s,6µm						
SBJI	Serang	15.78	123	P	Pn	12 44 11.7	+0.7
	814nm,1.0s						
BDT	Bhumibol Dam	15.79	22	⇓P	Pn	12 44 08.8	-2.4
	107nm,1.0s						
MDRS	Chennai	16.30	311	eP	Pn	12 44 15.9	-1.8
MDRS				ix	x	12 47 13.0	
DBJI	Dramaga	16.53	123	P	Pn	12 44 21.3	+0.7
	1µm,1.8s						
CBJI	Citeko	16.54	123	P	Pn	12 44 23.4	+2.6
	2µm,1.2s						
SKJI	Sukabumi	16.62	125	P	Pn	12 44 23.7	+2.0
	779nm,1.4s						
KKTK	Khon Kaen	16.83	35	⇑P	Pn	12 44 23.5	-0.9
	5µm,0.4s						
CMAR	Chiang Mai Arr	16.89	20	Pn	Pn	12 44 23.1	-2.0
	1.2nm,0.3s,baz=215,slow=13,SNR=144						
CMAR				LR	LR	12 52 02.7	
	comp=Z,52µm,18.2s,baz=25,slow=41						
CMAR	Chiang Mai Arr	16.89	20	iP	Pn	12 44 23.2	-1.9
CMAR				pmax	pmax		
	comp=Z,127nm,1.0s						
TRD	Trivandrum	16.92	291	eP	Pn	12 44 23.9	-1.7
TRD				AMb	AMB	12 44 31.8	
	comp=Z,700nm,1.4s						
CHG	Chiang Mai	17.22	20	⇑P	Pn	12 44 27.0	-2.3
	comp=Z,366nm,1.1s						
CHG				S	S	12 47 36.7	-11
CHTO	Chiang Mai	17.22	20	⇑P	Pn	12 44 29.7	+0.4
	SNR=133						
CHTO	Chiang Mai	17.22	20	P	Pn	12 44 27.9	-1.4
	comp=Z,413nm,1.9s,comp=Z,8µm						
CHTO	Chiang Mai	17.22	20	ePn	Pn	12 44 26.7	-2.6
UBT	Ubonrachathani	17.39	43	⇑P	Pn	12 44 31.0	-0.3
	comp=Z,340nm,1.0s						
LEM	Lembang	17.40	122	P	Pn	12 44 30.5	-1.1
	comp=Z,553nm,2.9s						
KSM	Kuching	17.44	93	⇑P	Pn	12 44 33.1	+1.0
KSM	Kuching	17.44	93	P	Pn	12 44 32.5	+0.4
	comp=Z,776nm,1.8s						
KSM	Kuching	17.44	93	eP	Pn	12 44 30.9	-1.2
VIS	Vishakhapatnam	17.76	329	iP	Pn	12 44 35.0	-0.9
VIS				ex	x	12 44 41.5	
	comp=Z,844nm,1.5s						
VIS				ix	x	12 47 39.5	
JCJI	Jatiwangi	17.79	120	P	Pn	12 44 37.7	+1.4
	comp=Z,813nm,1.7s						
XMIS	Christmas Isla	18.13	136	P	Pn	12 44 40.0	-0.6
	comp=Z,0.0nm,2.2s,comp=Z,0.0nm						
XMIS	Christmas Isla	18.13	136	ePn	Pn	12 44 38.5	-2.1
CHRT	Chiangrai	18.49	21	⇓P	Pn	12 44 43.5	-1.3
	comp=Z,816nm,0.9s						
STKI	Sintang	18.74	97	P	Pn	12 44 48.7	+0.7
	comp=Z,705nm,1.2s						
BWNR	Bhubaneshwar	18.95	339	eP	Pn	12 44 48.0	-2.4
BWNR				ex	x	12 48 38.0	
SBUM	Sibu	19.31	90	⇓P	Pn	12 44 55.6	+0.7
SBUM	Sibu	19.31	90	P	Pn	12 44 54.2	-0.7
BJII	Banjamegara	19.44	120	P	Pn	12 44 55.2	-1.2
PBKI	Pangkalan Bun	19.48	105	P	Pn	12 44 56.7	-0.2
	comp=Z,2µm,1.4s						
SMRI	Semarang	19.94	119	P	Pn	12 45 00.6	-1.7
	comp=Z,880nm,1.0s						
BTM	Bintulu	20.18	88	⇓P	P	12 45 05.6	+2.6
CAL	Calcutta	20.36	348	eP	P	12 45 04.7	-0.2
CAL				ex	x	12 49 01.5	
HYB	Hyderabad	20.41	317	eP	P	12 45 05.5	0.0
HYB				eS	S	12 48 48.0	-4.3
HYB				pmax	pmax		
	comp=Z,1µm,1.4s						
HYB	Hyderabad	20.41	317	iP	P	12 45 05.5	0.0
	comp=Z,1µm,1.4s						
HYB				eS	S	12 48 48.0	-4.3
HYB				LR	LR	12 51 48.0	
	comp=Z,64nm,18.0s						
HYB	Hyderabad	20.41	317	eP	P	12 45 05.5	0.0
	comp=Z,1µm,1.4s						
HYB				eS	S	12 48 48.0	-4.3
HYB				e		12 51 48.0	
UGM	Wanagama	20.43	121	P	P	12 45 05.9	+0.2
	comp=Z,471nm,1.5s,comp=Z,9µm						
MNGI	Mangalore	20.65	301	iP	P	12 45 07.0	-1.1
MNGI				iS	S	12 48 58.3	+1.3
SJI	Sawahan	21.42	119	P	P	12 45 18.1	+1.6
PLKI	Palangkaraya	21.58	103	P	P	12 45 20.0	+1.8
	comp=Z,829nm,1.0s,mb6.1						
BOK	Bokaro	22.18	343	eP	P	12 45 24.8	+0.3
BOK				AMb	AMB	12 45 39.8	
	comp=Z,1µm,1.2s,mb6.3						
LATR	Latur	22.47	316	ex	x	12 50 26.0	
DGAR	Diego Garcia	22.66	244	⇓P	P	12 45 29.3	-0.4
	SNR=21						
DGAR	Diego Garcia	22.66	244	⇑iP	P	12 45 27.8	-1.9
DGAR				pmax	pmax		
	comp=Z,3µm,1.6s,mb6.5						
DGAR				MLR	MLR		
	comp=Z,52µm,21.0s,MS6.0						
DGAR	Diego Garcia	22.66	244	⇑iP	P	12 45 27.8	-1.9
	comp=Z,3µm,1.6s,mb6.5						
DGAR				LR	LR		
	comp=Z,52µm,21.0s,MS6.0						
BBKI	Banjar Baru	22.74	105	P	P	12 45 31.3	+0.8
	comp=Z,653nm,1.4s,mb5.9						
GOA	Goa	22.77	306	⇓iP	P	12 45 30.1	-0.7
GOA				iS	S	12 49 40.0	+2.3
GOA				iS	S	12 49 40.0	+2.4
NGP	Nagpur	22.88	325	⇓iP	P	12 45 29.5	-2.4
NGP				ex	x	12 45 35.5	
	comp=Z,1µm,1.6s						
NGP				eS	S	12 49 38.1	-1.3
SHL	Shillong	22.91	358	⇑iP	P	12 45 30.5	-1.7
SHL				ix	x	12 49 44.0	
SHBG	Sahibganj	23.09	348	eP	P	12 45 34.5	+0.4
SHBG				ex	x	12 49 53.5	
QIZ	Qiongzhong	23.32	44	P	P	12 45 36.8	+0.2
QIZ				AP		12 45 45.3	
QIZ				XP	sP	12 45 48.6	-2.2
QIZ				S	S	12 49 48.5	+2.0
QIZ				XS	sS	12 50 01.6	-1.9
QIZ				AMB	AMB		
	comp=Z,149nm,1.3s,mb5.3						
QIZ				AMB	AMB		
	comp=Z,5µm,5.3s						
QIZ				LR	LR		
	comp=N,102µm,18.0s,MS6.4						
QIZ				LR	LR		
	comp=E,75µm,18.9s,MS6.4						
QIZ				LR	LR		
	comp=Z,32µm,15.8s,MS5.9						
KAD	Karad	23.51	310	eP	P	12 45 38.4	0.0
KAD				AMb	AMB	12 45 42.4	
	comp=Z,554nm,2.0s,mb5.6						
KAD				eS	S	12 49 52.0	+2.3
KKM	Kota Kinabalu	23.52	81	⇓P	P	12 45 40.3	+1.8
KKM	Kota Kinabalu	23.52	81	P	P	12 45 39.3	+0.8
	comp=Z,511nm,2.2s,mb5.6						
KKM	Kota Kinabalu	23.52	81	eP	P	12 45 38.1	-0.4
KKM				LR	LR		
	comp=Z,20µm,21.0s,MS5.5						
AKL	Akola	23.77	321	eP	P	12 45 41.0	+0.2
AKL				ex	x	12 50 00.0	
JBP	Jabalpur	24.01	330	eP	P	12 45 43.8	+0.8
JBP				ex	x	12 50 07.1	
NBBI	Negara	24.23	117	P	P	12 45 54.0	+8.9
KDM	Kudat	24.25	79	⇑P	P	12 45 46.7	+1.5
KMI	Kunming	24.37	22	P	P	12 45 47.7	+1.5
KMI				AP		12 45 55.5	
KMI				XP	sP	12 45 59.8	-1.2
KMI				PP		12 46 24.2	
KMI				PCP	PcP	12 49 27.3	+2.1
KMI				S	S	12 50 02.6	-0.9
KMI				XS	sS	12 50 17.1	-3.4
KMI				SS		12 51 00.3	
KMI				AMB	AMB		
	comp=Z,274nm,1.4s,mb5.5						
KMI				AMB	AMB		
	comp=Z,1µm,3.1s						
KMI				LR	LR		
	comp=N,51µm,13.5s,MS6.4						
KMI				LR	LR		
	comp=E,87µm,16.4s,MS6.4						
KMI				LR	LR		
	comp=Z,46µm,14.5s,MS6.1						
KMI	Kunming	24.37	22	P	P	12 45 47.7	+1.5
KMI				*PP		12 45 55.5	
KMI				*SP	sP	12 45 59.8	-1.2
KMI						12 46 24.2	
KMI				PPP		12 46 34.0	
KMI						12 49 27.3	
KMI				S	S	12 50 02.6	-0.9
KMI				*SS	sS	12 50 17.1	-3.4
KMI				SSS		12 51 14.1	
KMI				pmax	pmax		
	comp=Z,274nm,1.4s,mb5.5						
KMI				MLR	MLR		
	comp=Z,46µm,14.5s,MS6.1						
KMI	Kunming	24.37	22	P	P	12 45 47.7	+1.5
	comp=Z,274nm,1.4s,mb5.5						
KMI				pP		12 45 55.5	
KMI				sP	sP	12 45 59.8	-1.2
KMI				PP		12 46 24.2	
KMI				PPP		12 46 34.0	
KMI				PcP	PcP	12 49 27.3	+2.1
KMI				S	S	12 50 02.6	-0.9
KMI				sS	sS	12 50 17.1	-3.4
KMI				SS		12 51 00.3	
KMI				SSS		12 51 14.1	
KMI				LR	LR		
	comp=Z,46µm,14.5s,MS6.1						
SLGI	Shiliguri	24.40	350	ex	x	12 46 00.7	
SDKM	Sandakan	24.43	82	⇑P	P	12 45 48.1	+1.1
SMKI	Samarinda	24.49	97	P	P	12 45 49.9	+2.4
	comp=Z,323nm,1.1s,comp=Z,10µm,mb5.7						
POO	Poona	24.50	312	eP	P	12 45 48.2	+0.7
POO				AMb	AMB	12 45 51.9	
	comp=Z,527nm,1.7s,mb5.8						
POO				iSCS	ScS	12 56 47.0	-2.6
ODAN	Odare	24.75	348	eP	P	12 45 50.4	+0.8
	comp=Z,601nm,0.5s,mb6.4						
TSM	Tawau	25.00	85	⇑P	P	12 45 53.1	+1.0
RAMN	Ramite	25.00	347	eP	P	12 45 53.2	+1.3
	comp=Z,586nm,0.6s,mb6.3						
KHKI	Kahang-Kahang	25.11	116	P	P	12 45 51.0	-2.1
TAPN	Taplejung	25.16	349	eP	P	12 45 54.5	+1.2
	comp=Z,926nm,0.7s,mb6.4						
BOM	Bombay	25.50	311	eP	P	12 45 52.5	-4.1
BOM				eS	S	12 50 18.3	-3.4
BATP	Bataraza	25.54	75	eP	P	12 45 57.7	+0.7
MYLDM	Lahad Datu	25.68	83	⇑P	P	12 46 00.8	+2.5
MYLDM	Lahad Datu	25.68	83	P	P	12 45 59.6	+1.3
MTNI	Mataram	25.73	116	P	P	12 45 57.4	-1.3
	comp=Z,128nm,0.9s,comp=Z,4µm,mb5.4						
JIRN	Jiri	25.78	346	eP	P	12 46 00.0	+1.0
	comp=Z,1µm,1.1s,mb6.4						
PKI	Pulchoki	25.89	345	eP	P	12 46 00.6	+0.6
	comp=Z,503nm,0.9s,mb6.1						
PKIN	Phulchoki	25.90	345	eP	P	12 46 01.2	+1.1
	comp=Z,1µm,1.5s,mb6.2						
DMN	Daman	26.01	344	eP	P	12 46 01.8	+0.7
	comp=Z,946nm,1.2s,mb6.2						
GUN	Gumba	26.10	346	eP	P	12 46 02.8	+0.9
	comp=Z,2µm,1.0s,mb6.5						
KKN	Kakani	26.14	345	eP	P	12 46 02.7	+0.5
	comp=Z,927nm,1.3s,mb6.1						
GKN	Gorkha	26.51	343	eP	P	12 46 06.1	+0.5
	comp=Z,974nm,1.2s,mb6.2						
KOLN	Koldanda	26.61	341	eP	P	12 46 07.3	+0.8
	comp=Z,302nm,0.6s,mb6.0						
PPR	Puerto Princes	26.66	73	eP	P	12 46 06.2	-0.9
LSA	Lhasa	27.06	357	P	P	12 46 12.4	+1.9
LSA				AP	pP	12 46 20.9	+0.1
LSA				S	S	12 50 50.5	+4.5
LSA				AMB	AMB		
	comp=Z,410nm,0.9s,mb6.0						
LSA				LR	LR		
	comp=E,52µm,28.1s						
LSA				LR	LR		
	comp=Z,44µm,25.0s,MS5.9						
LSA	Lhasa	27.06	357	eP	P	12 46 12.2	+1.7
LSA				pmax	pmax		
	comp=Z,369nm,0.8s,mb6.0						
LSA				MLR	MLR		
	comp=Z,33µm,20.0s,MS5.9						
LSA	Lhasa	27.06	357	eP	P	12 46 12.2	+1.7
	comp=Z,369nm,0.8s,mb6.0						
LSA				LR	LR		
	comp=Z,33µm,20.0s,MS5.9						
DANN	Dangsing	27.10	342	eP	P	12 46 11.6	+0.7
	comp=Z,315nm,0.7s,mb5.9						
PCI	Palu	27.16	97	P	P	12 46 13.5	+1.9
	comp=Z,345nm,1.4s,comp=Z,5µm,mb5.7						
GYA	Guiyang	27.21	28	⇑iP	P	12 46 12.0	+0.1
GYA				AP	pP	12 46 20.5	-1.7
GYA				XP	sP	12 46 24.7	-2.0
GYA				PP		12 47 00.2	
GYA				PCP	PcP	12 49 31.6	0.0
GYA				S	S	12 50 48.8	+0.4
GYA				XS	sS	12 51 02.7	-2.9
GYA				SS		12 52 04.8	
GYA				SCP	ScP	12 53 08.4	-1.0
GYA				SCS	ScS	12 56 58.6	-2.2
GYA				AMB	AMB		
	comp=Z,140nm,1.0s,mb5.5						
GYA				AMB	AMB		
	comp=Z,2µm,11.1s						
GYA				LR	LR		
	comp=N,44µm,20.0s,MS6.3						
GYA				LR	LR		
	comp=E,74µm,20.0s,MS6.3						
GYA				LR	LR		
	comp=Z,18µm,23.0s,MS5.6						
ENPP	El Nido	27.69	71	eP	P	12 46 17.1	+0.7
BHV	Bhavnagar	27.77	315	eP	P	12 46 18.5	+1.5
KAPI	Kappang	27.87	106	P	P	12 46 17.0	-1.0
	SNR=9.8						
KAPI	Kappang	27.87	106	P	P	12 46 16.9	-1.1
	comp=Z,85nm,1.2s,mb5.3,baz=279,slow=8.4,SNR=17						
KAPI				LR	LR	12 56 35.7	
	comp=Z,32µm,19.7s,MS5.9,baz=296,slow=35						
KAPI	Kappang	27.87	106	P	P	12 46 16.8	-1.2
	comp=Z,161nm,0.9s,comp=Z,3µm,mb5.6						
KAPI	Kappang	27.87	106	⇑iP	P	12 46 16.5	-1.5
	comp=Z,224nm,1.5s,mb5.6						
KAPI				LR	LR		
	comp=Z,44µm,19.0s,MS6.1						
HKC	Hong Kong Obse	28.51	45	⇑iP	P	12 46 26.0	+2.4
BUSP	Coron	28.64	69	eP	P	12 46 25.6	+0.7
PTH	Pithoragarh	29.43	337	ex	x	12 46 43.0	
PTH				eS	S	12 51 25.0	+1.6
AJM	Ajmer	29.55	325	iP	P	12 46 33.0	+0.3
AJM				iP		12 46 33.0	
SJMP	San Jose	29.64	69	eP	P	12 46 34.9	+1.2
NDI	New Delhi	29.98	332	eP	P	12 46 35.0	-1.5
NDI				eS	S	12 51 32.0	0.0
CD2	Chengdu	30.03	19	⇑iP	P	12 46 36.8	-0.1
CD2				AP	pP	12 46 46.4	-0.9
CD2				XP	sP	12 46 50.4	-1.4
CD2				PP	PP	12 47 35.1	-10
CD2				PCP	PcP	12 49 38.7	+0.1
CD2				S	S	12 51 32.7	0.0
CD2				XS	sS	12 51 48.6	-1.3
CD2				SS	SS	12 53 11.9	-30
CD2				SCS	ScS	12 57 10.2	-3.4
CD2				AMB	AMB		
	comp=Z,300nm,1.0s,mb6.0						
CD2				AMB	AMB		
	comp=Z,540nm,5.4s						
CD2				LR	LR		
	comp=N,35µm,14.4s,MS6.4						
CD2				LR	LR		
	comp=E,44µm,13.2s,MS6.4						
CD2				LR	LR		
	comp=Z,30µm,13.2s,MS6.1						
KDI	Kendari	30.41	102	P	P	12 46 40.2	-0.3
	comp=Z,68nm,0.9s,comp=Z,3µm,mb5.4						
OTRP	Odiongan	30.45	70	eP	P	12 46 41.8	+0.9
BHJ	Bhuj	30.50	314	ex	x	12 45 41.6	
BHJ				AMb	AMB	12 45 44.4	
	comp=Z,21nm,0.2s,mb5.6						
BBSI	Bau Bau	30.70	105	P	P	12 46 45.0	+1.8
	comp=Z,550nm,1.0s,comp=Z,4µm,mb6.3						
RCP	Roxas	30.92	72	⇑eP	P	12 46 45.8	+0.7
APYP	Conner	31.70	59	eP	P	12 46 52.5	+0.6
SMLA	Simla	32.08	334	iP	P	12 46 55.3	+0.3
SMLA				ix	x	12 53 31.5	
SMLA				ix	x	12 53 34.0	
BUKP	Musuan	32.46	79	eP	P	12 46 59.6	+1.0
BHK	Bhakra	32.65	333	ex	x	12 47 02.4	
PVCP	Virac	32.79	69	eP	P	12 46 56.8	-4.7
DAV	Davao City (W)	32.87	81	LR	LR	13 01 07.8	
	comp=Z,9µm,18.0s,MS5.5,baz=275,slow=38						
BATI	Baumata	33.16	113	LR	LR	13 01 20.5	
	comp=Z,44µm,20.3s,MS6.2,baz=125,slow=38						
BATI	Baumata	33.16	113	P	P	12 47 00.2	-4.5
QZH	Quanzhou	33.31	46	⇑iP	P	12 47 06.8	+0.9
QZH				PP	PP	12 48 18.6	-3.1
QZH				S	S	12 52 28.0	+3.8
QZH				AMB	AMB		
	comp=Z,600nm,1.5s,mb6.3						
QZH				AMB	AMB		
	comp=Z,4µm,4.6s						
QZH				LR	LR		
	comp=N,178µm,14.6s,MS7.0						
QZH				LR	LR		
	comp=E,145µm,16.1s,MS7.0						
QZH				LR	LR		
	comp=Z,118µm,13.4s,MS6.8						
PONG	Pong	33.32	333	eP	P	12 47 05.0	-0.9
THN	Thein Dam	33.83	333	eP	P	12 47 09.1	-1.2
XAN	Xi'an	34.73	24	P	P	12 47 17.4	-0.7
XAN				AP	pP	12 47 27.4	-1.1
XAN				XP	sP	12 47 32.0	-0.9
XAN				PP	PP	12 48 35.1	-2.2
XAN				PCP	PcP	12 49 51.7	+0.3
XAN				S	S	12 52 45.1	-0.7
XAN				SCP	ScP	12 53 33.1	-1.0
XAN				PCS	PcS	12 53 36.0	-2.0
XAN				SCS	ScS	12 57 36.1	-1.2
XAN				AMB	AMB		
	comp=Z,278nm,1.1s,mb6.1						
XAN				AMB	AMB		
	comp=Z,981nm,14.0s						
XAN				LR	LR		
	comp=N,16µm,21.6s,MS6.3						
XAN				LR	LR		
	comp=E,52µm,21.6s,MS6.3						
XAN				LR	LR		
	comp=Z,37µm,14.7s						
LZH	Lanzhou	34.88	16	⇑P	P	12 47 19.2	-0.2
LZH				AP	pP	12 47 29.0	-0.8
LZH				XP	sP	12 47 35.0	+0.7
LZH				PP	PP	12 48 37.0	-2.0
LZH				S	S	12 52 46.0	-2.2
LZH				XS	sS	12 53 06.1	+0.6
LZH				AMB	AMB		
	comp=Z,350nm,1.5s,mb6.1						
LZH				AMB	AMB		
	comp=Z,938nm,4.0s						
LZH				LR	LR		
	comp=E,20µm,13.1s						
LZH				LR	LR		
	comp=Z,30µm,16.5s,MS6.1						
LZH	Lanzhou	34.88	16	⇑P	P	12 47 19.2	-0.2
LZH				*PP	pP	12 47 29.0	-0.8
LZH				*SP	sP	12 47 35.0	+0.7
LZH						12 48 37.0	
LZH				S	S	12 52 46.0	-2.2
LZH				*SS	sS	12 53 06.1	+0.6
LZH				pmax	pmax		
	comp=Z,350nm,1.5s,mb6.1						
LZH				MLR	MLR		
	comp=Z,30µm,16.5s,MS6.1						
LZH	Lanzhou	34.88	16	⇑P	P	12 47 19.2	-0.2
	comp=Z,350nm,1.5s,mb6.1						
LZH				pP	pP	12 47 29.0	-0.8
LZH				sP	sP	12 47 35.0	+0.7
LZH				PP	PP	12 48 37.0	-2.0
LZH				S	S	12 52 46.0	-2.2
LZH				sS	sS	12 53 06.1	+0.6
LZH				LR	LR		
	comp=Z,30µm,16.5s,MS6.1						
YHNB	Yeheng	35.20	49	eP	P	12 47 23.5	+1.2
	comp=Z,90nm,1.4s,mb5.5						
YHNB				LR	LR		
	comp=Z,45µm,19.0s,MS6.2						
MBWA	Marble Bar	35.30	133	P	P	12 47 23.0	-0.1
	SNR=15						
MBWA	Marble Bar	35.30	133	P	P	12 47 22.0	-1.1
	comp=Z,112nm,2.0s,comp=Z,3µm,mb5.5						
MBWA	Marble Bar	35.30	133	eP	P	12 47 22.2	-0.9
	comp=Z,196nm,1.5s,mb5.8						
MBWA				LR	LR		
	comp=Z,27µm,20.0s,MS6.0						
TATO	Taipei	35.45	49	PFAKE		12 47 40.0	+16
TATO				LR	LR		
	comp=Z,30µm,22.0s,MS6.0						
AAI	Ambon	35.83	100	P	P	12 47 27.6	-0.2
	comp=Z,228nm,1.1s,comp=Z,2µm,mb6.0						
GTA	Gaotai	37.23	9	P	P	12 47 39.8	+0.4
GTA				AP	pP	12 47 49.1	-0.9
GTA				XP	sP	12 47 53.1	-1.3
GTA				PP	PP	12 49 04.1	-0.7
GTA				S	S	12 53 23.7	-0.3
GTA				XS	sS	12 53 48.2	+6.7
GTA				SCS	ScS	12 57 50.0	-0.9
GTA				AMB	AMB		
	comp=Z,100nm,1.1s,mb5.6						
GTA				AMB	AMB		
	comp=Z,1µm,6.0s						
GTA				LR	LR		
	comp=N,14µm,18.3s,MS6.0						
GTA				LR	LR		

comp=E,17μm,21.0s,MS6.0
GTA LR LR

comp=Z,12μm,17.1s,MS5.7
MSEY Mahe Island 38.06 259 *e*P **P 12 47 48.7 +1.9**
MSEY LR LR

comp=Z,25μm,22.0s,MS6.0
NJ2 Nanjing 38.19 37 *e*P **P 12 47 48.2 +0.6**
NJ2 AP pP 12 47 57.0 -1.2
NJ2 XP sP 12 48 00.8 -1.8
NJ2 PP PP 12 49 19.8 +4.4
NJ2 S **S 12 53 40.0 +1.2**
NJ2 XS sS 12 53 56.0 -0.2
NJ2 AMB AMB

comp=Z,60nm,0.8s,mb5.4
NJ2 AMB AMB

comp=Z,380nm,7.1s
NJ2 LR LR

comp=N,8μm,26.4s,MS5.7
NJ2 LR LR

comp=E,15μm,28.3s,MS5.7
NJ2 LR LR

comp=Z,15μm,28.3s,MS5.6
FITZ Fitzroy Crossi 38.23 124 ⇓*i*P **P 12 47 46.5 -1.7**
comp=Z,52nm,0.7s,mb5.4
FITZ *e*pP pP 12 47 57.6 -1.1
FITZ *e*PP PP 12 49 21.0 +4.9
FITZ *e*S **S 12 53 35.9 -3.9**
FITZ Fitzroy Crossi 38.23 124 P **P 12 47 46.5 -1.6**
comp=Z,9.8nm,0.5s,mb4.8,baz=312,slow=7.7,SNR=72
FITZ LR LR 13 04 52.0

comp=Z,12μm,18.5s,MS5.8,baz=303,slow=38
FITZ Fitzroy Crossi 38.23 124 P **P 12 47 46.4 -1.8**
comp=Z,235nm,1.1s,comp=Z,2μm,mb5.8
WBK Wadi Bani Khal 38.47 304 ⇓P **P 12 47 50.4 +0.2**
SNR=26
SWI Sorong 38.51 95 P **P 12 47 49.8 -0.8**
comp=Z,155nm,1.2s,comp=Z,3μm,mb5.6
KBL Kabul 38.81 328 *e*P **P 12 47 52.6 -0.3**
KBL pmax pmax

comp=Z,27nm,0.7s,mb5.1
KBL Kabul 38.81 328 *e*P **P 12 47 52.6 -0.3**
comp=Z,27nm,0.7s,mb5.1
SSE Sheshan 38.99 40 P **P 12 47 54.9 +0.5**
SSE XP sP 12 48 07.2 -2.2
SSE PP PP 12 49 26.1 +1.9
SSE S **S 12 53 54.7 +3.8**
SSE XS sS 12 54 09.1 +0.7
SSE AMB AMB

comp=Z,57nm,0.8s,mb5.3
SSE AMB AMB

comp=Z,779nm,7.9s
SSE LR LR

comp=N,53μm,16.5s,MS6.5
SSE LR LR

comp=E,41μm,16.3s,MS6.5
SSE LR LR

comp=Z,38μm,14.1s,MS6.4
SSE Sheshan 38.99 40 P **P 12 47 54.9 +0.5**
comp=Z,57nm,0.8s,mb5.3
SSE sP sP 12 48 07.2 -2.2
SSE PP PP 12 49 26.1 +1.9
SSE S **S 12 53 54.7 +3.8**
SSE sS sS 12 54 09.1 +0.7
SSE LR LR

comp=Z,38μm,14.1s,MS6.4
JMDO Jabal Madar 39.09 303 ⇑P **P 12 47 55.5 +0.2**
SNR=9.7
TIY Taiyuan 39.33 25 *e*P **P 12 48 01.2 +4.1**
TIY S **S 12 53 59.8 +4.0**
TIY LR LR

comp=N,35μm,13.1s,MS6.5
TIY LR LR

comp=E,43μm,15.4s,MS6.5
SMDO Samad 39.43 304 ⇑P **P 12 47 58.7 +0.5**
SNR=17
BIDO Bidbid 39.57 305 ⇓P **P 12 47 59.9 +0.5**
SNR=14
SHAO Shalim 39.64 295 ⇑P **P 12 48 00.0 +0.1**
SNR=12
KSH Kashi 39.89 339 *e*P **P 12 48 01.8 +0.1**
KSH AP pP 12 48 11.5 -0.8
KSH XP sP 12 48 15.4 -1.3
KSH PP PP 12 49 33.8 -0.1
KSH S **S 12 53 55.5 -8.7**
KSH AMB AMB

comp=Z,331nm,1.2s,mb5.9
KSH AMB AMB

comp=Z,10μm,4.4s
KSH LR LR

comp=N,7μm,7.4s
KSH LR LR

comp=E,14μm,8.7s
KSH LR LR

comp=Z,126μm,25.7s,MS6.7
BSY Bisya 40.00 303 ⇓P **P 12 48 03.2 +0.3**
SNR=28
HOQ Hoqain 40.27 304 ⇓P **P 12 48 05.8 +0.6**
SNR=16
TIA Tai'an 40.30 31 ⇑P **P 12 48 05.4 +0.2**
TIA S **S 12 54 08.5 -1.9**
TIA AMB AMB

comp=Z,19nm,1.0s,mb4.8
TIA LR LR

comp=N,11μm,13.8s,MS6.1
TIA LR LR

comp=E,16μm,13.9s,MS6.1
RBK Rabkut 40.77 294 ⇑P **P 12 48 09.2 -0.2**
SNR=27
MUN Mundaring 40.85 149 *e*P **P 12 48 09.7 -0.1**
MUN *e*S **S 12 54 20.1 +1.4**
BTO Baotou 40.93 20 *e*P **P 12 48 10.4 0.0**
BTO S **S 12 54 14.9 -4.8**
BTO AMB AMB

comp=Z,26nm,0.9s,mb4.9
BTO LR LR

comp=N,9μm,13.9s,MS6.0
BTO LR LR

comp=E,15μm,15.9s,MS6.0
WHFO Wadi Hawf 41.28 294 ⇓P **P 12 48 13.9 +0.3**
SNR=52
WMQ Urumqi 41.36 354 ⇓*i*P **P 12 48 15.2 +1.4**
WMQ AP pP 12 48 25.2 +0.8
WMQ XP sP 12 48 29.2 +0.4
WMQ PP PP 12 49 54.4 +4.6
WMQ PCP PcP 12 50 13.4 +1.7
WMQ SCP ScP 12 53 59.7 +0.7
WMQ PCS PcS 12 54 03.7 +1.0
WMQ S **S 12 54 27.6 +1.7**
WMQ XS sS 12 54 43.6 +0.1
WMQ SS SS 12 57 27.6 -3.2
WMQ SCS ScS 12 58 14.2 -0.7
WMQ AMB AMB

comp=Z,117nm,0.8s,mb5.6
WMQ AMB AMB

comp=Z,961nm,8.5s
WMQ LR LR

comp=N,10μm,20.9s,MS5.9
WMQ LR LR

comp=E,16μm,24.0s,MS5.9
WMQ LR LR

comp=Z,16μm,28.6s,MS5.7
KLBR Kellerberrin 41.37 147 *e*P **P 12 48 13.4 -0.7**
comp=Z,119nm,1.5s,mb5.3
ABTO Aybut 41.55 293 ⇓P **P 12 48 16.1 +0.3**
SNR=25
JOW Kunigami 41.62 51 LR LR 13 07 45.2
comp=Z,27μm,18.6s,MS6.2,baz=220,slow=39
HHC Hu-ho-hao-te 41.69 21 ⇑*i*P **P 12 48 17.9 +1.3**
HHC AP pP 12 48 27.7 +0.4
HHC XP sP 12 48 31.6 0.0
HHC PP PP 12 49 58.4 +4.9
HHC PCP PcP 12 50 13.6 +0.8
HHC SCP ScP 12 53 57.8 -2.6
HHC PCS PcS 12 54 03.4 -0.8
HHC S **S 12 54 34.3 +3.3**
HHC XS sS 12 54 49.1 +0.5
HHC SS SS 12 57 36.5 -1.0
HHC SCS ScS 12 58 15.0 -2.1
HHC AMB AMB

comp=Z,234nm,1.3s,mb5.7
HHC AMB AMB

comp=Z,2μm,5.5s
HHC LR LR

comp=N,30μm,15.5s,MS6.5
HHC LR LR

comp=E,38μm,15.7s,MS6.5
HHC LR LR

comp=Z,26μm,15.5s,MS6.2
HATD Hatta, Dubai 41.78 305 ⇓P **P 12 48 17.8 +0.2**
SNR=8.4
KAKA Kakadu 42.09 112 *e*P **P 12 48 19.1 -1.2**
comp=Z,78nm,0.8s,mb5.4
NWAO Narrogin (SRO) 42.13 149 *e*P **P 12 48 19.1 -1.1**
comp=Z,408nm,2.3s,mb5.7
NWAO LR LR

comp=Z,16μm,20.0s,MS5.9
KZA Kyzart 42.42 340 P **P 12 48 25.0 +2.5**
SNR=7.8
UCH Uchtor 42.80 340 P **P 12 48 26.1 +0.5**
SNR=124
UCH Uchtor 42.80 340 ⇓*i*P **P 12 48 26.5 +0.8**
comp=Z,98nm,0.9s,mb5.5
UCH LR LR

comp=Z,25μm,21.0s,MS6.1
BJT Baijiatuau 42.86 26 *e*P **P 12 48 27.5 +1.4**
BJT pmax pmax

comp=Z,286nm,0.8s
BJT MLR MLR

comp=Z,34μm,19.0s
BJT Baijiatuau 42.86 26 *e*P **P 12 48 27.5 +1.3**
comp=Z,286nm,0.8s,mb6.0
BJT LR LR

comp=Z,34μm,19.0s,MS6.3
BJI Beijing 42.88 26 P **P 12 48 27.5 +1.2**
BJI PP PP 12 50 07.1 +0.8
BJI S **S 12 54 53.3 +4.7**
BJI XS sS 12 55 05.5 -0.7
BJI AMB AMB

comp=Z,362nm,0.9s,mb6.1
BJI AMB AMB

comp=Z,1μm,4.3s
BJI LR LR

comp=N,25μm,19.8s,MS6.3
BJI LR LR

comp=E,33μm,19.8s,MS6.3
BJI LR LR

comp=Z,24μm,19.8s,MS6.1
BJI Beijing 42.88 26 P **P 12 48 27.5 +1.2**
comp=Z,362nm,0.9s,mb6.1
BJI PP PP 12 50 07.1 +0.8
BJI S **S 12 54 53.3 +4.7**
BJI sS sS 12 55 05.5 -0.7
BJI SS SS 12 58 06.9 +5.9
BJI LR LR

comp=Z,24μm,19.8s,MS6.1
AAA Alma-Ata 42.97 343 *e*P **P 12 48 25.9 -1.0**
AAA *e*S **S 12 54 45.7 -4.0**
AAA pmax pmax

comp=Z,4μm,5.4s
AAA smax

comp=N,6μm,13.6s
AAA MLR MLR

comp=Z,16μm,23.0s,MS5.8
AML Almayashu 43.01 339 P **P 12 48 27.6 +0.3**
SNR=157
AML Almayashu 43.01 339 ⇓*i*P **P 12 48 28.1 +0.8**
comp=Z,196nm,0.9s,mb5.8
KBK Karagaybulak 43.04 341 P **P 12 48 28.5 +1.0**
SNR=31
TKM2 Tokmak 2 43.06 341 P **P 12 48 28.0 +0.3**
TKM2 pmax pmax

comp=Z,248nm,1.8s,mb5.6
TKM2 Tokmak 2 43.06 341 P **P 12 48 28.1 +0.4**
SNR=78
TKM2 Tokmak 2 43.06 341 *i*P **P 12 48 28.1 +0.4**
TKM2 LR LR

comp=Z,41μm,21.0s,MS6.3
FRU Bishkek 43.30 340 ⇓*i*P **P 12 48 29.5 -0.2**
FRU *e*PPP 12 50 07.0
FRU *e*S **S 12 54 46.0 -8.7**
FRU pmax pmax

comp=Z,910nm,2.5s,mb6.1
FRU pmax pmax

comp=Z,2μm,7.0s
FRU smax

comp=N,8μm,18.0s
FRU MLR MLR

comp=N,21μm,20.0s,MS6.3
FRU MLR MLR

comp=Z,29μm,20.0s,MS6.2
FRU MLR MLR

comp=E,26μm,18.0s,MS6.3
RER Riviere de l'E 43.32 235 *e*P **P 12 48 30.8 +0.6**
CHMS Chumysh 43.41 341 P **P 12 48 30.4 -0.1**
SNR=12
EKS2 Erkin-Say 43.44 339 P **P 12 48 31.6 +0.8**
SNR=85
EKS2 Erkin-Say 43.44 339 ⇓*i*P **P 12 48 31.4 +0.6**
comp=E,86nm,0.9s,mb5.5
EKS2 LR LR

comp=Z,25μm,21.0s,MS6.1
USP Ospenovka 43.73 341 P **P 12 48 33.2 +0.1**
SNR=117
DL2 Dalian 44.68 32 ⇑*i*P **P 12 48 41.5 +0.7**
DL2 XP sP 12 48 53.1 -2.8
DL2 S **S 12 55 18.1 +3.2**
DL2 XS sS 12 55 29.5 -3.0
DL2 AMB AMB

comp=Z,80nm,1.1s,mb5.5
DL2 AMB AMB

comp=Z,300nm,7.3s
DL2 LR LR

comp=N,10μm,15.3s,MS6.0
DL2 LR LR

comp=E,9μm,15.7s,MS6.0
DL2 LR LR

comp=Z,13μm,15.8s,MS5.9
MK31 Makanchi Array 45.03 350 *i*P **P 12 48 43.3 -0.1**
MK31 pmax pmax

comp=Z,155nm,0.7s,mb6.0
MKAR Makanchi Array 45.03 350 P **P 12 48 43.1 -0.3**
comp=Z,150nm,0.8s,mb5.9,baz=163,slow=8.5,SNR=736
MKAR LR LR 13 08 50.8

comp=Z,11μm,19.0s,MS5.8,baz=162,slow=38
MKAR Makanchi Array 45.03 350 *i*P **P 12 48 43.0 -0.4**
MKAR pmax pmax

comp=Z,150nm,0.8s
KK31 Karatay Array 45.04 337 *i*P **P 12 48 43.0 -0.6**
KK31 pmax pmax

comp=Z,143nm,0.9s,mb5.8
KK31 Karatay Array 45.04 337 *i*P **P 12 48 43.1 -0.5**
WRA Warramunga Arr 46.41 121 P **P 12 48 53.7 -1.1**
comp=Z,21nm,0.4s,mb5.4,baz=300,slow=8.7,SNR=451
WRA LR LR 13 08 59.9

comp=Z,9μm,18.4s,MS5.7,baz=270,slow=37
WRA Warramunga Arr 46.41 121 *i*P **P 12 48 53.7 -1.1**
WRA pmax pmax

comp=Z,21nm,0.4s
WB2 Warramunga Arr 46.42 121 ⇓*i*P **P 12 48 53.7 -1.2**
WB2 *e*pP pP 12 49 05.3 -0.3
WB2 *e*S **S 12 55 36.9 -3.6**
INCN Inchon 46.56 37 ⇑P **P 12 48 56.4 +0.7**
SNR=10
INCN Inchon 46.56 37 *e*P **P 12 48 55.2 -0.5**
comp=Z,126nm,1.3s,mb5.7
INCN LR LR

comp=Z,18μm,19.0s,MS6.0
SONM Songino Array 46.60 13 P **P 12 48 56.3 +0.5**
comp=Z,104nm,0.8s,mb5.8,baz=192,slow=8.5,SNR=531
SONM LR LR 13 10 15.7

comp=Z,9μm,20.4s,MS5.7,baz=190,slow=38
ULN Ulaanbaatar 46.77 13 ⇑P **P 12 48 58.0 +0.8**
SNR=35
ULN Ulaanbaatar 46.77 13 ⇑*i*P **P 12 48 57.4 +0.2**
ULN LR LR

comp=Z,17μm,21.0s,MS6.0
FORT Forrest 47.12 137 *e*P **P 12 48 59.9 -0.3**
comp=Z,42nm,0.7s,mb5.5
KSRS Korea Array 47.34 38 P **P 12 49 01.9 +0.1**
comp=Z,23nm,0.8s,mb5.2,baz=229,slow=8.6,SNR=69
KSRS LR LR 13 11 36.9

comp=Z,22μm,18.1s,MS6.2,baz=234,slow=40
ABKT Ailbek 47.47 322 P **P 12 49 03.3 +0.5**
comp=Z,1μm,0.7s,mb6.9,SNR=25
VAN Vannovskaya 47.49 322 ⇓*i*P **P 12 49 03.7 +0.7**
VAN S **S 12 55 56.9 +1.6**
ASAR Alice Springs 47.66 126 P **P 12 49 03.3 -1.2**
comp=Z,7.9nm,0.6s,mb5.0,baz=299,slow=7.7,SNR=113
SNY Shenyang 47.83 31 ⇑P **P 12 49 05.4 -0.1**
SNY PP PP 12 51 00.4 +2.8
SNY S **S 12 56 01.7 +1.8**
SNY SS SS 12 59 24.2 -4.7
SNY AMB AMB

comp=Z,49nm,0.9s,mb5.5
SNY AMB AMB

comp=Z,1μm,12.0s
SNY LR LR

comp=N,19μm,16.8s,MS6.3
SNY LR LR

comp=E,21μm,18.0s,MS6.3
SNY LR LR

comp=Z,20μm,17.6s,MS6.2
ZAK Zakamensk 48.47 9 ⇓*i*P **P 12 49 10.7 +0.4**
ZAK pmax pmax

comp=Z,56nm,1.7s,mb5.3
MOY Mondy 49.42 7 *e*P **P 12 49 18.6 +1.0**
MOY pmax pmax

comp=Z,170nm,2.7s,mb5.6
KURK Kurchatov 49.49 348 LR LR 13 13 04.6
comp=Z,16μm,21.6s,MS6.0,baz=160,slow=40
KURK Kurchatov 49.49 348 *d*P **P 12 49 18.0 -0.1**
KURK pmax pmax

comp=Z,247nm,1.2s,mb6.1
KURK MLR MLR

comp=Z,14μm,18.0s,MS6.0
ABPO Ambohimpanom 49.74 242 ⇑*i*P **P 12 49 20.6 +0.1**
comp=Z,252nm,1.5s,mb6.0
ABPO LR LR

comp=Z,7μm,19.0s,MS5.7
TLY Talaya 49.79 9 P **P 12 49 21.7 +1.4**
SNR=22
TLY Talaya 49.79 9 *e*P **P 12 49 20.8 +0.4**
TLY *e*PPP 12 52 13.4
TLY *e*S **S 12 56 31.7 +4.5**
TLY pmax pmax

comp=Z,66nm,1.0s,mb5.6
TLY MLR MLR

comp=Z,10μm,15.0s,MS5.9
TLY Talaya 49.79 9 ⇑*i*P **P 12 49 21.5 +1.1**
TLY LR LR

comp=Z,11μm,19.0s,MS5.9
CN2 Changchun 50.20 30 *e*P **P 12 49 23.6 0.0**
CN2 *e*XP sP 12 49 37.4 -1.4
CN2 PCP PcP 12 50 41.9 -0.6
CN2 *e*S **S 12 56 33.3 +0.1**
CN2 AMB AMB

comp=Z,40nm,1.0s,mb5.4
CN2 AMB AMB

comp=Z,200nm,6.0s
CN2 LR LR

comp=N,11μm,18.0s,MS6.2
CN2 LR LR

comp=E,20μm,18.0s,MS6.2
CN2 LR LR

comp=Z,10μm,16.0s,MS5.9
KBD Kabd 50.43 306 *e*P **P 12 49 26.0 +0.4**
baz=306
KBD AMb AMB 12 49 39.0

comp=Z,372nm,1.2s,mb6.3,baz=306
IRK Irkutsk 50.43 9 ⇓*i*P **P 12 49 26.0 +0.8**
IRK pmax pmax

comp=Z,225nm,2.1s,mb5.8
RDF Al-Radifah 50.45 306 *e*P **P 12 49 26.1 +0.3**
baz=306
RDF AMb AMB 12 49 39.0

comp=Z,768nm,1.1s,mb6.6,baz=306
UMR Umm Al-Rimmam 50.56 307 *e*P **P 12 49 26.9 +0.3**
baz=307
UMR AMb AMB 12 49 39.9

comp=Z,520nm,1.2s,mb6.3,baz=307
NAY Al-Naaiem 50.82 306 *e*P **P 12 49 28.4 -0.2**
baz=306
NAY AMb AMB 12 49 41.6

comp=Z,352nm,1.1s,mb6.2,baz=306
MIB Mutribah 50.96 307 *e*P **P 12 49 29.8 +0.2**
baz=307
MIB AMb AMB 12 49 43.1

comp=Z,999nm,1.1s,mb6.7,baz=307
RST Umm Al-Ruwaisa 51.11 306 *e*P **P 12 49 30.7 -0.1**
baz=306
RST AMb AMB 12 49 43.8

comp=Z,378nm,1.2s,mb6.2,baz=306
ZAA0 Zalesovo Array 51.66 354 *e*P **P 12 49 34.3 -0.2**
ZALV Zalesovo Beam 51.66 354 P **P 12 49 34.1 -0.4**
comp=Z,62nm,0.4s,mb5.9,baz=184,slow=5.9,SNR=519
ZALV LR LR 13 14 21.4

comp=Z,7μm,18.8s,MS5.7,baz=175,slow=39
HIA Hailar 51.89 22 ⇑*i*P **P 12 49 36.5 +0.3**
HIA pmax pmax

comp=Z,124nm,1.0s
HIA MLR MLR

comp=Z,34μm,19.0s
HIA Hailar 51.89 22 ⇑*i*P **P 12 49 36.5 +0.3**
comp=Z,124nm,1.0s,mb5.8
HIA LR LR

comp=Z,34μm,19.0s,MS6.4
CIT Chita 52.24 16 *e*P **P 12 49 39.3 +0.5**
COEN Coen 52.47 110 *e*P **P 12 49 39.1 -2.0**
comp=Z,6.4nm,0.7s,mb4.7
GUMO Guam 52.51 75 LR LR 13 11 17.6
comp=Z,12μm,20.1s,MS5.9,baz=269,slow=35
GUMO Guam 52.51 75 PFAKE 12 49 50.0 +8.6
GUMO LR LR

comp=Z,12μm,20.0s,MS5.9
NVS Novosibirsk 52.72 353 *i*P **P 12 49 41.0 -1.3**
NVS *i*S **S 12 57 06.9 -0.7**
NVS pmax pmax

comp=Z,255nm,1.0s,mb6.1
NVS pmax pmax

comp=N,191nm,0.9s
NVS pmax pmax

comp=E,75nm,0.8s
NVS smax

comp=N,103nm,1.8s
NVS smax

comp=E,226nm,2.0s
MDJ Mudanjiang 52.92 32 P **P 12 49 44.6 +0.6**
MDJ AP pP 12 49 53.7 -1.2
MDJ XP sP 12 49 57.5 -1.7
MDJ PP PP 12 51 43.2 -0.7
MDJ SCP ScP 12 54 46.8 -0.7
MDJ PCS PcS 12 54 51.8 +0.6
MDJ S **S 12 57 13.6 +2.9**
MDJ XS sS 12 57 28.3 -0.4
MDJ SCS ScS 12 59 30.9 +0.1
MDJ AMB AMB

comp=Z,81nm,1.4s,mb5.5
MDJ AMB AMB

comp=Z,821nm,5.0s
MDJ LR LR

comp=N,10μm,13.2s,MS6.5
MDJ LR LR

comp=E,28μm,14.3s,MS6.5
MDJ LR LR

comp=Z,24μm,16.6s,MS6.3
MDJ Mudanjiang 52.92 32 *e*P **P 12 49 44.6 +0.6**
comp=Z,157nm,1.4s,mb5.8
MDJ LR LR

comp=Z,20μm,20.0s,MS6.2
CBIJ Chichi jima 53.07 58 LR LR 13 08 44.9
comp=Z,7μm,21.9s,MS5.7,baz=256,slow=32
VLA Vladivostok 53.24 35 *e*P **P 12 49 46.3 0.0**
VLA *e* pP 12 49 59.3 +2.1
VLA *e*S **S 12 57 18.0 +3.0**
VLA *e* 12 57 27.8
VLA pmax pmax

comp=Z,89nm,1.4s,mb5.5
VLA MLR MLR

comp=Z,17μm,14.2s,MS6.2
VLA Vladivostok 53.24 35 *i*P **P 12 49 46.0 -0.3**
KRAR Krasnoyarsk 53.30 360 *d*P **P 12 49 47.6 +1.0**
KRAR pmax pmax

comp=Z,396nm,1.3s,mb6.2
KRAR MLR MLR

comp=Z,5μm,18.0s,MS5.6
JHJ Hachijo jima 2 53.35 50 LR LR 13 12 36.4
comp=Z,7μm,20.6s,MS5.7,baz=72,slow=36
BVA0 Borovoye Array 53.65 343 *i*P **P 12 49 48.1 -1.1**
BVA0 pmax pmax

comp=Z,14nm,1.0s,mb4.8
BVAR Borovoye Array 53.65 343 LR LR 13 13 41.0
comp=Z,28μm,20.8s,MS6.3,baz=152,slow=37
MAJO Matsushiro 53.71 45 *e*P **P 12 49 50.7 +0.8**
MAJO pmax pmax

comp=Z,14nm,0.6s,mb5.1
MAJO MLR MLR

comp=Z,8μm,20.0s,MS5.8

MAJO Matsushiro 53.71 45 *e*P **P 12 49 50.7 +0.7**
comp=Z,14nm,0.6s,mb5.1
MAJO LR LR
comp=Z,8µm,20.0s,MS5.8
MAT Matsushiro 53.71 45 P **P 12 49 49.2 -0.7**
MAT S **S 12 57 21.0 -0.7**
MJAR Matsushiro Arr 53.71 45 P **P 12 49 50.1 +0.2**
comp=Z,9.7nm,0.9s,mb4.7,baz=233,slow=7.2,SNR=31
MJAR LR LR 13 16 26.4
comp=Z,8µm,19.5s,MS5.8,baz=250,slow=40
BRVK Borovoye 53.71 343 ⇓P **P 12 49 50.3 +0.7**
SNR=30
BRVK Borovoye 53.71 343 *i* P **P 12 49 48.6 -1.0**
BRVK LR LR
comp=Z,48µm,21.0s,MS6.5
AB31 Akbulak array 54.37 334 *i* P **P 12 49 53.3 -1.2**
AB31 pmax pmax
comp=Z,264nm,1.0s,mb6.1
BHD Baghdad 54.65 310 *i* x x 12 49 53.0
BHD *i* x x 12 57 33.0
PMG Port Moresby 55.35 103*c i*P **P 12 50 01.8 -0.5**
PMG Port Moresby 55.35 103 *e*P **P 12 50 02.3 0.0**
comp=Z,41nm,0.8s,mb5.5
PMG LR LR
comp=Z,9µm,20.0s,MS5.8
KMBO Kilima Mbogo 55.74 267 ⇓P **P 12 50 04.8 -0.3**
SNR=14
KMBO Kilima Mbogo 55.74 267 P **P 12 50 05.8 +0.8**
comp=Z,14nm,0.5s,mb5.2,baz=55,slow=10,SNR=19
KMBO LR LR 13 08 59.5
comp=Z,18µm,21.4s,MS6.1,baz=85,slow=31
KMBO Kilima Mbogo 55.74 267 *i* P **P 12 50 06.4 +1.3**
KMBO pmax pmax
comp=Z,14nm,0.5s
AKTK Aktyubinsk 56.08 334 *i* P **P 12 50 05.3 -1.5**
AKTO Aktyubinsk 56.08 334 LR LR 13 14 53.8
comp=Z,11µm,21.9s,MS5.9,baz=144,slow=37
AKTO Aktyubinsk 56.08 334 P **P 12 50 05.2 -1.6**
AKTO pmax pmax
comp=Z,99nm,2.5s,mb5.4
MSL Mosul 56.87 313 *ex* x 12 50 11.5
MSL *ex* x 12 58 05.0
HAKT HAKKARI 56.92 314 *i* P **P 12 50 13.0 -0.1**
CTA Charters Tower 56.96 116 *e*P **P 12 50 12.8 -0.8**
comp=Z,16nm,0.9s,mb5.0
CTA *e*pP pP 12 50 24.5 -0.1
CTA *e*S **S 12 58 05.7 +0.1**
CTA Charters Tower 56.96 116 P **P 12 50 13.3 -0.3**
comp=Z,27nm,1.1s,mb5.2,baz=290,slow=8.5,SNR=15
CTA Charters Tower 56.96 116 *e*P **P 12 50 12.8 -0.8**
CTA *e**PP pP 12 50 24.5 -0.1
CTA *e*S **S 12 58 05.7 +0.1**
CTA pmax pmax
comp=Z,16nm,0.9s
CTAO Charters Tower 56.96 116 *e*P **P 12 50 13.2 -0.4**
CTAO pmax pmax
comp=Z,31nm,0.8s,mb5.4
CTAO MLR MLR
comp=Z,12µm,22.0s,MS5.9
CTAO Charters Tower 56.96 116 *e*P **P 12 50 13.2 -0.4**
comp=Z,31nm,0.8s,mb5.4
CTAO LR LR
comp=Z,12µm,22.0s,MS5.9
MAK Makhachkala 56.97 321 *e*P **P 12 50 05.4 -7.9**
MAK *e* 12 52 23.0
MAK *e*S **S 12 58 00.2 -4.9**
MAK *i* 12 59 51.1
MAK *e*SS SS 13 01 52.9 -1.2
MAK pmax pmax
comp=Z,686nm,1.2s,mb6.6
MAK Makhachkala 56.97 321 ⇓*i*P **P 12 50 13.5 +0.2**
KLR Kul'dur 57.09 29 ⇓*i*P **P 12 50 10.9 -3.1**
KLR *e*S **S 12 58 07.5 +1.0**
KLR pmax pmax
comp=E,140nm,2.0s
KLR pmax pmax
comp=Z,330nm,2.0s,mb6.0
KLR MLR MLR
comp=E,19µm,14.0s
KLR MLR MLR
comp=Z,23µm,14.0s,MS6.4
GNI Garni 57.37 317 ⇓P **P 12 50 16.8 +0.6**
SNR=38
GNI Garni 57.37 317 LR LR 13 15 30.1
comp=Z,6µm,21.5s,MS5.6,baz=314,slow=37
GNI Garni 57.37 317*d i*P **P 12 50 16.8 +0.6**
GNI pmax pmax
comp=Z,322nm,1.8s
GNI MLR MLR
comp=Z,7µm,18.0s
STKA Stephens Creek 57.47 131 *e*P **P 12 50 15.6 -1.4**
comp=Z,30nm,0.6s,mb5.5
STKA *e*pP pP 12 50 28.6 +0.6
STKA *e*S **S 12 58 11.3 -0.7**
STKA Stephens Creek 57.47 131 P **P 12 50 16.2 -0.8**
comp=Z,28nm,0.8s,mb5.4,baz=297,slow=7.9,SNR=33
STKA LR LR 13 15 35.6
comp=Z,10µm,18.4s,MS6.0,baz=293,slow=37
CLDR Caldiran 57.47 316 *e*P **P 12 50 17.7 +0.8**
DGRG David-gareji 57.57 319 P **P 12 50 17.5 0.0**
BOD Bodaibo 57.59 13 *e*P **P 12 50 17.5 +0.2**
BOD pmax pmax
comp=Z,129nm,1.4s,mb5.8
VANB Van 57.60 315 *e*P **P 12 50 16.1 -1.7**
DYDN Diyadin 57.81 316 *i* P **P 12 50 20.0 +0.7**
MTA Mtatsminda 58.07 319 P **P 12 50 21.1 +0.1**
MTA S **S 12 58 18.5 -1.0**
TBLG Delisi 58.12 319 P **P 12 50 21.1 -0.3**
HABR Khabarovsk 58.28 32⇑*i*P **P 12 50 22.2 -0.2**
HABR *e* 12 51 12.8
HABR *e* 12 52 30.1
HABR *e*S **S 12 58 24.4 +2.3**
HABR *e* 12 58 29.6
HABR *e* 13 00 11.6
HABR *e* 13 02 17.8
HABR pmax pmax
comp=Z,148nm,1.3s,mb5.9
HABR MLR MLR
comp=Z,10µm,20.0s,MS5.9
AGRB Hanur-Agry 58.31 316 *e*P **P 12 50 23.8 +1.0**
DIGO Kars 58.42 317 *i* P **P 12 50 23.4 -0.1**
GOR Gori 58.66 319 *i* P **P 12 50 26.0 +0.9**
KARS Kars 58.70 317 *e*P **P 12 50 26.7 +1.2**
MARD Mardin 58.95 313 *i* P **P 12 50 27.8 +0.5**
ONI Oni 59.37 319 P **P 12 50 30.5 +0.4**
ONI S **S 12 58 41.1 +4.7**
ERZM Erzurum 59.58 316 *i* P **P 12 50 32.5 +0.9**
EZM Erzurum 59.58 316 *e*P **P 12 50 33.1 +1.5**
ERM Erimo 59.65 42 *i* P **P 12 50 33.2 +1.2**
ERM Erimo 59.65 42 *i* P **P 12 50 33.3 +1.3**
ERM LR LR
comp=Z,10µm,20.0s,MS6.0
DIYA Diyarbakir 59.67 313 *i* P **P 12 50 33.0 +0.7**
DDEM Demirkent 59.74 317 *i* P **P 12 50 32.8 +0.1**
ARTV Artvin 59.74 317 *i* P **P 12 50 32.8 +0.1**
DBAD Bademkaya 59.83 317 *i* P **P 12 50 33.7 +0.4**
CLNS Chul'man 59.84 20 *e*P **P 12 50 33.0 0.0**
CLNS *e**PP pP 12 50 40.8 -3.2
CLNS *e* 12 51 16.7
CLNS *e* 12 52 44.5
CLNS *e*PPP 12 54 06.3
CLNS *e*S **S 12 58 44.6 +2.7**
CLNS pmax pmax
comp=Z,133nm,1.4s,mb5.8
CLNS pmax pmax
comp=E,62nm,1.1s
CLNS pmax pmax
comp=N,52nm,1.1s
CLNS smax
comp=N,1225µm,13.9s
CLNS smax
comp=E,2078µm,15.1s
CLNS MLR MLR
comp=Z,14µm,18.0s,MS6.1
CLNS MLR MLR
comp=N,23µm,19.0s,MS6.4
CLNS MLR MLR
comp=E,12µm,17.0s,MS6.4
CLNS Chul'man 59.84 20 *e*P **P 12 50 33.5 +0.5**
SVE Sverdlovsk 59.91 340⇑*e*P **P 12 50 32.7 -0.8**
SVE *e* 12 51 27.4
SVE *e*PPP 12 54 16.1
SVE *e*S **S 12 58 38.9 -4.0**
SVE *e*SS SS 13 02 40.7 +1.0
SVE pmax pmax
comp=Z,177nm,1.0s,mb6.0
SVE MLR MLR
comp=Z,18µm,22.0s,MS6.2
DBOC Borcka 59.99 317 *i* P **P 12 50 34.5 +0.1**
BCA Borcka 60.06 317 *e*P **P 12 50 35.0 +0.1**
KOPT Kop Dagi 60.23 316 *i* P **P 12 50 36.8 +0.7**
ASAJ Asahikawa 60.27 39 LR LR 13 19 24.0
comp=Z,14µm,18.1s,MS6.1,baz=251,slow=39
ARU Arti 60.33 339*d i*P **P 12 50 35.0 -1.4**
ARU *e* 12 51 16.4
ARU *e* 12 52 48.0
ARU *e*S **S 12 58 48.5 +0.3**
ARU *e* 13 00 24.7
ARU *e*SSS 13 05 22.1
ARU pmax pmax
comp=Z,161nm,1.7s,mb5.8
ARU MLR MLR
comp=Z,17µm,21.0s,MS6.2
ARU Arti 60.33 339 *i* P **P 12 50 34.9 -1.5**
ARU LR LR
comp=Z,16µm,20.0s,MS6.2
SVRC Sivrice-ELAZID 60.44 313 *e*P **P 12 50 38.2 +0.7**
URFA Urfa 60.44 312 *e*P **P 12 50 37.7 +0.1**
KIV Kislovodsk 60.51 320 ⇑P **P 12 50 38.5 +0.6**
SNR=43
KIV Kislovodsk 60.51 320*d i*P **P 12 50 37.9 0.0**
KIV *e* 12 52 50.7
KIV *e*PPP 12 54 14.4
KIV *e*S **S 12 58 53.5 +2.5**
KIV *e*SS SS 13 02 52.5 +2.9
KIV pmax pmax
comp=Z,153nm,1.0s,mb6.1
KIV pmax pmax
comp=Z,625nm,4.7s
KIV MLR MLR
comp=Z,4µm,19.0s,MS5.6
KIV Kislovodsk 60.51 320⇑*i*P **P 12 50 37.7 -0.2**
KIV Kislovodsk 60.51 320 ⇑P **P 12 50 37.6 -0.2**
KIV LR LR
comp=Z,6µm,20.0s,MS5.7
PTK Pertek 60.57 314 *e*P **P 12 50 38.9 +0.5**
ELZG Elazig 60.71 313 *i* P **P 12 50 40.2 +0.8**
ATAB Bozova 60.84 312 *i* P **P 12 50 41.2 +0.9**
MALT Malatya 61.05 313 *e*P **P 12 50 46.1 +4.4**
MALT Malatya 61.05 313⇓*i*P **P 12 50 46.4 +4.7**
MYA Malatya 61.06 313 *e*P **P 12 50 42.8 +1.0**
GUMT Gumushane 61.12 316 *e*P **P 12 50 42.4 +0.2**
KTUT Trabzon 61.14 316 *e*P **P 12 50 41.8 -0.5**
GZT Gaziantep 61.34 312 *i* P **P 12 50 44.5 +0.8**
AKCD Akcadag 61.41 313 *i* P **P 12 50 44.9 +0.7**
GAZ Gaziantep 61.54 311 *e*P **P 12 50 46.2 +1.2**
HWQ Hawqa 61.58 308 *e*P **P 12 50 46.6 +1.3**
BHL Bhannes 61.70 307 *e*P **P 12 50 47.5 +1.4**
YSS Yuzh-Sakhalins 61.75 36⇑*e*P **P 12 50 45.0 -1.3**
YSS *e* 12 51 29.1
YSS *e* 12 53 08.0
YSS *e*PPP 12 54 28.0
YSS *e*S **S 12 59 09.0 +2.3**
YSS *e*PS 12 59 19.0
YSS *e*PPS 12 59 38.0
YSS *e*SS SS 13 03 08.0 -1.0
YSS MLR MLR
comp=N,12µm,16.0s,MS6.2
YSS MLR MLR
comp=Z,11µm,16.0s,MS6.1
YSS MLR MLR
comp=E,6µm,17.0s,MS6.2
YSS Yuzh-Sakhalins 61.75 36⇑*e*P **P 12 50 46.8 +0.5**
YSS LR LR
comp=Z,4µm,20.0s,MS5.5
ESPY Espiye-Giresun 61.83 316 *e*P **P 12 50 47.2 +0.3**
KMRS Kahramanmaras 61.89 312 *e*P **P 12 50 48.2 +0.8**
COBT Iskenderun 62.05 310 *i* P **P 12 50 49.6 +1.2**
GRSN GIRESUNGRSN 62.16 316 *i* P **P 12 50 48.8 -0.3**
SOC Sochi 62.26 319*d i*P **P 12 50 48.8 -0.9**
SOC *e* 12 51 28.9
SOC *e* 12 53 05.4
SOC *e*PPP 12 54 44.2
SOC *e*S **S 12 59 15.1 +1.8**
SOC *e* 13 00 33.2
SOC *e*SS SS 13 03 13.0 -4.1
SOC pmax pmax
comp=Z,190nm,1.3s,mb6.1
SOC pmax pmax
comp=Z,1093µm,5.7s
SOC MLR MLR
comp=Z,5µm,15.0s,MS5.8
YUK Yuzh-Kuril'sk 62.32 41 *e*P **P 12 50 48.0 -2.2**
YUK *e*S **S 12 59 20.0 +5.9**
YUK pmax pmax
comp=Z,2µm,1.0s,mb7.3
YUK smax
comp=N,5µm,4.0s
YUK smax
comp=E,2µm,5.0s
ANDN Andirin 62.33 312 *i* P **P 12 50 51.1 +0.7**
SARI SarD1z-Kayseri 62.45 313 *e*P **P 12 50 53.0 +1.9**
RSDY Resadiye-TOKAT 62.62 315 *e*P **P 12 50 52.6 +0.4**
YURE YUREGIR 62.62 311 *i* P **P 12 50 53.5 +1.2**
PINB Pinarbasi 62.66 313 *i* P **P 12 50 53.2 +0.6**
SVSK Karacayir 62.67 314 *e*P **P 12 50 53.3 +0.7**
KOZT Kozan 62.69 311 *e*P **P 12 50 56.1 +3.4**
TOO Toolangi 62.91 135 *e*P **P 12 50 54.8 +0.6**
BNN Bunyan 63.13 313 *e*P **P 12 50 56.1 +0.5**
TOKT Tokat 63.14 314 *e*P **P 12 50 56.0 +0.3**
KARA Karaisali 63.20 311 *e*P **P 12 50 56.9 +0.7**
EREN Erenkoy 63.34 309 *e*P **P 12 50 57.8 +0.6**
GULE Gulek 63.41 311 *i* P Px 12 50 44.7
MERS Mersin 63.48 310 *e*P **P 12 50 58.4 +0.5**
MEST Erdemli 63.68 310 *i* P **P 12 50 59.5 +0.1**
LFK Lefkose 63.77 308 *e*P **P 12 51 00.9 +0.9**
KVT Kavak 63.77 315 *e*P **P 12 51 00.4 +0.5**
CSS Prodhromos 63.84 308 *e*P **P 12 51 00.9 +0.5**
comp=E,160nm,1.3s,mb5.9
CSS LR LR
comp=Z,16µm,21.0s,MS6.2
IKL Isikli 63.93 309 *e*P **P 12 51 01.0 0.0**
LEF Lefka 64.23 308 *e*P **P 12 51 03.6 +0.7**
ANN Anapa 64.26 319*d i*P **P 12 51 01.5 -1.5**
ANN *i* 12 51 36.3
ANN *i* 12 53 23.9
ANN *e*PPP 12 54 55.4
ANN *i*S **S 12 59 40.8 +2.6**
ANN *e*SS SS 13 03 49.8 +1.5
ANN pmax pmax
comp=Z,61nm,1.6s,mb5.4
ANN pmax pmax
comp=N,13nm,0.8s
ANN pmax pmax
comp=E,3.0nm,0.4s
ANN pmax pmax
comp=N,246nm,5.3s
ANN pmax pmax
comp=E,141nm,5.3s
ANN pmax pmax
comp=Z,530nm,5.3s
ANN MLR MLR
comp=N,11µm,20.0s,MS6.1
ANN MLR MLR
comp=E,5µm,20.0s,MS6.1
ANN MLR MLR
comp=Z,8µm,20.0s,MS5.9
ANN Anapa 64.26 319 *e*P **P 12 51 01.1 -1.9**
CORM Corum 64.47 314 *e*P **P 12 51 04.7 +0.2**
CDAG Cicekdag 64.47 313 *i* P **P 12 51 04.3 -0.1**
CTKT Corum 64.50 314 *i* P **P 12 51 04.8 +0.1**
CAN Canberra 64.52 131 *e*P **P 12 51 04.8 -0.1**
DIKM Dikmen 64.53 315 *e*P **P 12 51 04.9 +0.1**
VRHR Novokhopersk 64.63 327 *e*P **P 12 51 03.5 -1.8**
VRHR pmax pmax
comp=Z,140nm,1.0s,mb6.0
VRHR pmax pmax
comp=N,130nm,1.5s
VRHR pmax pmax
comp=E,100nm,1.0s
VRHR MLR MLR
comp=Z,7µm,17.0s,MS5.9
VRHR MLR MLR
comp=N,6µm,16.0s,MS6.0
VRHR MLR MLR
comp=E,7µm,18.0s,MS6.0
CNB Canberra Magne 64.79 131 *e*P **P 12 51 06.8 +0.2**
ARMA Armidale 64.81 125 *e*P **P 12 51 08.0 +1.2**
ARMA *e*pP pP 12 51 18.8 +0.8
KAMT Kaman 64.87 313 *e*P **P 12 51 07.0 -0.1**
HDMB Hadim 65.06 310 *e*P **P 12 51 08.6 +0.3**
TOS Tosya 65.19 314 *e*P **P 12 51 08.8 -0.3**
CANT Cankiri 65.34 314 *e*P **P 12 51 10.3 +0.2**
YAK Yakutsk 65.41 18*c i*P **P 12 51 09.4 -0.7**
YAK *e**PP pP 12 51 16.6 -4.7
YAK *e* 12 51 40.1
YAK *e* 12 53 32.6
YAK *i*S S 12 59 52.1 +0.4
YAK *e**SS sS 13 00 03.5 -6.7
YAK *e*SS SS 13 04 08.6 +3.1
YAK pmax pmax
comp=Z,408nm,1.3s,mb6.3
YAK pmax pmax
comp=N,129nm,1.7s
YAK pmax pmax
comp=E,73nm,0.9s
YAK pmax pmax
comp=Z,144nm,2.2s,mb5.6
YAK smax
comp=E,2380µm,7.3s
YAK smax
comp=N,3019µm,7.1s
YAK MLR MLR
comp=N,8µm,17.0s,MS6.2
YAK MLR MLR
comp=Z,19µm,17.0s,MS6.4
YAK MLR MLR
comp=E,10µm,13.0s,MS6.2
YAK Yakutsk 65.41 18⇑*i*P **P 12 51 09.6 -0.5**
YAK LR LR
comp=Z,18µm,21.0s,MS6.2
ILGA Ilgaz 65.42 314 *i* P **P 12 51 10.7 +0.1**
ELDT Eldivan 65.44 314 *i* P **P 12 51 10.6 -0.2**
KONT Konya--Tatoy 65.44 311 *e*P **P 12 51 11.5 +0.7**
LADK Ladik-KONYA 65.51 311 *e*P **P 12 51 10.9 -0.4**
BZK Bozkurt 65.52 315 *e*P **P 12 51 11.6 +0.4**
ANTO Ankara 65.70 313 *e*P **P 12 51 11.8 -0.6**
ANTO Ankara 65.70 313 ⇓P **P 12 51 12.7 +0.3**
SNR=24
ANTO Ankara 65.70 313⇓*i*P **P 12 51 12.0 -0.4**
ANTO Ankara 65.70 313 ⇓P **P 12 51 12.0 -0.5**
ANTO LR LR
comp=Z,9µm,21.0s,MS6.0
LOD Lodumlu 65.73 313 *e*P **P 12 51 12.6 0.0**
KDHN Kadinhani 65.80 311 *i* P **P 12 51 12.5 -0.6**
BALT Daday 65.81 315 *i* P **P 12 51 12.9 -0.2**
VSR Storozhevoye 66.04 326 *e*P **P 12 51 12.4 -2.0**
VSR pmax pmax
comp=Z,40nm,1.0s,mb5.4
VSR pmax pmax
comp=N,5.0nm,0.4s
VSR pmax pmax
comp=E,50nm,0.8s
VSR MLR MLR
comp=N,2µm,21.0s,MS5.5
VSR MLR MLR
comp=Z,2µm,21.0s,MS5.3
VSR MLR MLR
comp=E,2µm,18.0s,MS5.5
KIZT Kizilcal 66.08 312 *e*P **P 12 51 14.3 -0.6**
SAFT Safranbolu 66.21 314 *e*P **P 12 51 15.3 -0.4**
VOR Voronezh 66.27 327 *e*P **P 12 51 13.0 -2.8**
VOR pmax pmax
comp=Z,250nm,2.0s,mb5.9
LSZ Lusaka 66.39 252 ⇑P **P 12 51 17.2 -0.1**
SNR=16
LSZ Lusaka 66.39 252 LR LR 13 14 44.3
comp=Z,19µm,21.9s,MS6.2,baz=89,slow=31
LSZ Lusaka 66.39 252 *e*P **P 12 51 17.1 -0.2**
comp=Z,166nm,1.6s,mb5.8
LSZ LR LR
comp=Z,18µm,22.0s,MS6.2
SIM Simferopol' 66.49 319*d i*P **P 12 51 17.8 +0.4**
SIM *e* 12 53 50.0
SIM *e*S S 13 00 07.0 +1.4
SIM *e*PS 13 01 04.0
SIM *e*SS SS 13 04 26.0 +3.0
SIM pmax pmax
comp=Z,529nm,2.3s,mb6.2
SIM pmax pmax
comp=Z,95nm,0.9s,mb5.8
TAU Tasmania Unive 66.61 139 PFAKE 12 51 30.0 +12
TAU LR LR
comp=Z,10µm,22.0s,MS6.0
BCK Bucak 66.66 310 *e*P **P 12 51 16.8 -1.8**
SHUT Suhut-Afyon 66.98 311 *e*P **P 12 51 20.8 +0.2**
ESKI Eskisehir 67.03 312 *i* P **P 12 51 20.5 -0.5**
AKAS Kas 67.10 308 *i* P **P 12 51 20.5 -1.0**
KDZE Karadeniz Ereo 67.12 314 *e*P **P 12 51 19.8 -1.8**
HENT Hendek 67.37 313 *i* P **P 12 51 22.5 -0.6**
GOLH Golhisar 67.39 309 *i* P **P 12 51 22.9 -0.4**
BORA Eskisehir 67.42 312 *i* P **P 12 51 22.8 -0.7**
ALT Altintas 67.45 311 *e*P **P 12 51 23.2 -0.5**
GULT Gulveren 67.54 313 *e*P **P 12 51 23.9 -0.3**
HNR Honiara 67.85 101 P **P 12 51 25.6 -1.0**
comp=Z,79nm,0.7s,mb5.9,baz=176,slow=5.6,SNR=18
HNR Honiara 67.85 101 P **P 12 51 25.6 -1.0**
HNR LR LR
comp=Z,3µm,20.0s,MS5.5
GDZ Gediz 67.93 311 *i* P **P 12 51 26.4 -0.2**
CAVI Cavuskoy 67.96 313 *e*P **P 12 51 26.8 0.0**
TURN Turunc 68.04 309 *i* P **P 12 51 28.9 +1.4**
ADVT Abdulvahap 68.11 313 *e*P **P 12 51 27.5 -0.2**
ARG Arkhangelos 68.26 308 *e*P **P 12 51 28.6 -0.2**
ARG Arkhangelos 68.26 308 *e*P **P 12 51 28.6 -0.2**
YER Yerkesik 68.35 309 *e*P **P 12 51 29.4 +0.1**
KULA Kula-Manisa 68.40 311 *e*P **P 12 51 29.8 +0.2**
YLV Yalova 68.41 313 *e*P **P 12 51 29.2 -0.4**
ULDT Uludag 68.47 312 *i* P **P 12 51 29.6 -0.5**
MANT Manisa 68.47 311 *i* P **P 12 51 30.0 -0.1**
DEMI Demirci 68.49 311 *i* P **P 12 51 29.9 -0.3**
ISK Istanbul-Kandi 68.78 313 *e*P **P 12 51 31.6 -0.3**
MLSB Milas 68.78 309 *e*P **P 12 51 31.8 -0.3**
AYDN Tasoluk 68.79 310 *i* P **P 12 51 32.3 +0.3**
DURS Dursunbey 68.82 312 *i* P **P 12 51 31.6 -0.6**
KLYT Kilyos 68.84 313 *e*P **P 12 51 32.0 -0.3**
KARP Karpathos 68.87 307 *e*P **P 12 51 33.1 +0.5**
KARP Karpathos 68.87 307 *e*P **P 12 51 33.1 +0.5**
MIR Mirnyy 68.94 180 *e*P **P 12 51 34.0 +1.6**
MIR *i* pP 12 51 43.0 -0.6
MIR *i* 12 52 03.0
MIR *i*S S 13 00 38.0 +4.0
MIR *i* 13 01 20.0
MIR pmax pmax
comp=Z,200nm,1.8s,mb5.8
MIR MLR MLR
comp=Z,8µm,18.0s,MS6.0
BDRM Kayabasi 68.99 309 *i* P **P 12 51 32.0 -1.3**
MOS Moscow 69.00 330 *e*P **P 12 51 28.5 -4.5**
MOS *e* 12 51 53.7
MOS *e*PPP 12 55 40.3
MOS *e*S S 13 00 30.3 -4.9
MOS pmax pmax
comp=Z,354nm,1.5s,mb6.1
MOS pmax pmax
comp=Z,1300µm,2.3s
MOS MLR MLR
comp=Z,13µm,19.0s,MS6.2
BGKT Bogazkoy 69.02 313 *e*P **P 12 51 33.2 -0.2**
CTKS Kestanelik-??a 69.22 313 *e*P **P 12 51 34.5 -0.2**
OBN Obninsk 69.24 329*d i*P **P 12 51 33.2 -1.3**
OBN *e* pP 12 51 45.3 -0.4
OBN *e*S S 13 00 37.3 -0.7
OBN *e*SS SS 13 05 04.5 -0.6
OBN pmax pmax
comp=Z,1µm,2.4s,mb6.4
OBN pmax pmax
comp=Z,416nm,2.2s,mb6.0
OBN MLR MLR
comp=Z,12µm,18.0s,MS6.2
OBN Obninsk 69.24 329 *i* P **P 12 51 33.4 -1.1**
OBN LR LR
comp=Z,18µm,27.0s,MS6.2
BALB Balikesir 69.27 312 *e*P **P 12 51 35.1 +0.1**
GCAM G?zelcami? 69.30 309 *i* P **P 12 51 35.2 0.0**
IZM Izmir 69.44 310 *e*P **P 12 51 36.7 +0.6**
SLVT Silivri 69.44 313 *e*P **P 12 51 34.7 -1.3**
BALY Balya 69.49 312 *i* P **P 12 51 36.1 -0.3**
BLCB Balcova 69.60 310 *e*P **P 12 51 37.9 +0.8**
SMG Samos 69.61 309 *e*P **P 12 51 37.0 -0.1**

SMG Samos 69.61 309 eP P 12 51 37.0 -0.1
CASY Casey 69.83 172 eP P 12 51 37.6 -0.3
CASY LR LR
comp=Z,16µm,22.0s,MS6.2
URLA Izmir 69.94 310 i P P 12 51 38.5 -0.6
NPS Neapolis 70.05 307 eP P 12 51 40.1 +0.2
NPS Neapolis 70.05 307 eP P 12 51 40.1 +0.2
SART Tekirdag 70.05 312 i P P 12 51 39.0 -0.8
RKY Sarkoy-Tekirda 70.05 312 eP P 12 51 39.0 -0.8
AYVA Ayvalik 70.08 311 i P P 12 51 39.8 -0.3
TLCR 70.12 317⇓iP P 12 51 40.3 +0.2
TLCR 70.12 317 ⇓P P 12 51 40.3 +0.2
PSN Preselentsi 70.12 316 P P 12 51 39.6 -0.6
TIRR Tirgusor 70.18 317⇓iP P 12 51 40.1 -0.4
TIRR Tirgusor 70.18 317 P P 12 51 40.3 -0.2
CHOS Chios island 70.36 310 P P 12 51 42.2 +0.5
PRK Paraskevi 70.39 311 P P 12 51 41.9 0.0
PRK Paraskevi 70.39 311 eP P 12 51 41.4 -0.5
PRK Paraskevi 70.39 311 P P 12 51 42.3 +0.4
PRK Paraskevi 70.39 311 eP P 12 51 41.4 -0.5
SANT Santorini 70.40 308 P P 12 51 41.4 -0.6
SANT Santorini 70.40 308 eP P 12 51 41.8 -0.2
comp=Z,82nm,1.0s,mb5.6
SANT LR LR
comp=Z,5µm,19.0s,MS5.8
APE Apeiranthos 70.48 308⇑iP P 12 51 44.9 +2.4
PRD Provadia 70.54 315 i P P 12 51 41.9 -0.8
HARR Harsova 70.58 317⇑iP P 12 51 43.0 +0.1
HARR Harsova 70.58 317 P P 12 51 42.9 -0.1
LBTB Lobatse 70.65 243 eP P 12 51 43.8 0.0
LBTB pmax pmax
comp=Z,335nm,1.4s,mb6.1
LBTB MLR MLR
comp=Z,29µm,19.0s,MS6.5
LBTB Lobatse 70.65 243 eP P 12 51 43.8 0.0
comp=Z,335nm,1.4s,mb6.1
LBTB LR LR
comp=Z,29µm,19.0s,MS6.5
SIVA Sivas 70.65 306 P P 12 51 43.8 +0.2
SIVA Sivas 70.65 306 P P 12 51 44.2 +0.6
EDRB Edirne 70.66 314 eP P 12 51 43.4 -0.1
KIS Kishinev 70.66 319⇓iP P 12 51 42.0 -1.4
KIS i S S 13 00 52.0 -3.0
KIS i 13 01 15.0
KIS i PS 13 01 42.0
KIS pmax pmax
comp=Z,2µm,4.0s
KIS Kishinev 70.66 319⇓iP P 12 51 42.0 -1.4
comp=Z,500nm,2.0s,mb6.1
KIS Kishinev 70.66 319 i PcP pP 12 51 52.0 -2.6
KIS Kishinev 70.66 319 ePP PP 12 54 32.0 +12
KLMR Klimovskoe 70.72 335 i P P 12 51 42.2 -1.2
KLMR pmax pmax
comp=Z,98nm,1.2s,mb5.6
ENEZ Enez 70.82 312 eP P 12 51 44.6 +0.1
GADA Gvkgeada 70.88 312 eP P 12 51 44.8 -0.1
JMB Yambol 70.93 314 P P 12 51 45.5 +0.4
JMB Yambol 70.93 314 i P P 12 51 45.2 +0.1
JMB Yambol 70.93 314 P P 12 51 45.9 +0.8
ALN Alexandroupoli 70.94 312 P P 12 51 44.8 -0.4
ALN Alexandroupoli 70.94 312 P P 12 51 44.0 -1.2
VAM Vamos 71.21 306 eP P 12 51 48.3 +1.3
VAM Vamos 71.21 306 eP P 12 51 48.3 +1.3
SKR Severo-Kuril's 71.32 37 eP P 12 51 46.5 -0.8
SKR e pP 12 51 55.0 -3.5
SKR e 12 52 06.0
SKR e 12 54 28.0
SKR ePPP 12 56 05.0
SKR eS S 13 01 00.0 -2.5
SKR e 13 01 30.0
SKR pmax pmax
comp=N,180nm,1.0s
SKR pmax pmax
comp=E,180nm,1.0s
SKR pmax pmax
comp=Z,270nm,1.0s,mb6.1
SKR pmax pmax
comp=E,2µm,5.0s
SKR pmax pmax
comp=Z,2µm,5.0s
SKR pmax pmax
comp=N,2µm,4.0s
SKR smax
comp=N,6µm,10.0s
SKR smax
comp=E,3µm,10.0s
SKR MLR MLR
comp=Z,8µm,16.0s,MS6.1
SKR MLR MLR
comp=N,9µm,18.0s,MS6.2
SKR MLR MLR
comp=E,6µm,18.0s,MS6.2
LIA Limnos Island 71.35 311 P P 12 51 47.1 -0.6
LIA Limnos Island 71.35 311 eP P 12 51 47.2 -0.5
LIA Limnos Island 71.35 311 eP P 12 51 47.2 -0.5
RDO Rodhopi 71.37 313 eP P 12 51 47.2 -0.6
RDO Rodhopi 71.37 313 eP P 12 51 47.2 -0.6
DIM Dimitrovgrad 71.58 314 i P P 12 51 58.1 +9.0
AKASG Malin Array Be 71.59 323 P P 12 51 47.6 -1.3
comp=E,27nm,0.9s,mb5.2,baz=92,slow=4.7,SNR=98
AKASG PP PP 12 54 30.0 +1.9
comp=E,0.8nm,0.4s,baz=82,slow=6.3,SNR=4.4
AKASG LR LR 13 27 08.1
comp=E,5µm,20.8s,MS5.8,baz=110,slow=39
AKASG Malin Array Be 71.59 323 i P P 12 51 47.5 -1.4
AKASG pmax pmax
comp=Z,27nm,0.9s
AKASG Malin Array Be 71.59 323 P P 12 51 47.6 -1.3
AKASG PP PP 12 54 30.0 +1.9
AKASG LR LR 13 27 08.1
AKBB Malin Array Si 71.59 323⇓iP P 12 51 47.6 -1.3
AKBB e 12 54 27.3
SZH Strazhica 71.59 315 i P P 12 51 51.8 +2.7
KIEV Kiev 71.59 323⇓iP P 12 51 47.6 -1.4
KIEV e 12 54 27.2
KIEV pmax pmax
comp=Z,72nm,1.2s,mb5.5
KIEV MLR MLR
comp=Z,7µm,20.0s,MS5.9
KIEV Kiev 71.59 323⇓iP P 12 51 47.6 -1.3
comp=Z,72nm,1.2s,mb5.5
KIEV ePP PP 12 54 27.2 -1.0
KIEV LR LR
comp=Z,7µm,20.0s,MS5.9
VRI Vrincioaia 71.72 318⇓iP P 12 51 50.3 +0.5
VRI Vrincioaia 71.72 318 P P 12 51 50.2 +0.4
BOSA Boshof 71.75 239 P P 12 51 49.8 -0.6
comp=Z,35nm,1.0s,mb5.2,baz=85,slow=6.9,SNR=21
BOSA LR LR 13 21 10.2
comp=Z,14µm,18.7s,MS6.2,baz=73,slow=34
PLOR Plostina 71.77 318⇓iP P 12 51 50.6 +0.5
PTL Penteli 71.98 309 eP P 12 51 50.5 -1.0
PTL Penteli 71.98 309 eP P 12 51 50.5 -1.0
ATH Athens Observa 72.08 309 eP P 12 51 50.9 -1.2
ATH Athens Observa 72.08 309 eP P 12 51 50.9 -1.2
ZIMR 72.09 315 P P 12 51 52.4 +0.3
RZN Rozhen 72.09 313 i P P 12 51 51.8 -0.4
MLR Muntele Rosu 72.15 317⇑iP P 12 51 52.7 +0.3
MLR Muntele Rosu 72.15 317 P P 12 51 52.6 +0.2
NAIG Nisos Aigina 72.21 309 eP P 12 51 50.0 -3.0
NAIG Nisos Aigina 72.21 309 eP P 12 51 50.0 -3.0
KYTH Kithira 72.30 307 eP P 12 51 53.0 -0.5
KYTH Kithira 72.30 307 eP P 12 51 53.0 -0.5
DID Didima 72.36 309 P P 12 51 52.2 -1.7
PAIG Paliouri 72.49 311 P P 12 51 54.0 -0.6
NVR Nevrokopi 72.65 313 eP P 12 51 54.6 -0.9
NVR Nevrokopi 72.65 313 eP P 12 51 54.6 -0.9
LTK Loutraki 72.67 309 P P 12 51 53.7 -2.0
TIXI Tiksi 72.67 11 d iP P 12 51 54.6 -0.4
TIXI pmax pmax
comp=Z,290nm,1.5s,mb6.0
TIXI MLR MLR
comp=Z,15µm,20.0s,MS6.2
TIXI Tiksi 72.67 11 i P P 12 51 54.6 -0.4
TIXI LR LR
comp=Z,12µm,19.0s,MS6.2
VOIR 72.74 317⇑iP P 12 51 55.4 -0.6
VOIR 72.74 317 P P 12 51 55.4 -0.6
PLG Polygyros 72.75 311 eP P 12 51 55.2 -0.9
PLG Polygyros 72.75 311 eP P 12 51 55.2 -0.9
LKR Lokris 72.76 310 P P 12 51 54.0 -2.2
MMB Musomiste 72.80 313 i P P 12 51 54.7 -1.7
SOH Sokhos 72.91 312 P P 12 51 56.0 -1.1
VLX Vlachokerasia 73.01 308 P P 12 51 56.9 -0.8
PETK Petropavlovsk- 73.05 35 P P 12 51 57.0 -0.6
comp=Z,23nm,1.2s,mb5.0,baz=328,slow=0.8,SNR=8.8
PETK LR LR 13 26 48.3
comp=Z,5µm,18.1s,MS5.8,baz=247,slow=38
HORT Hortiatis 73.06 312 P P 12 51 56.7 -1.2
MAW Mawson 73.10 192 eP P 12 51 57.3 -0.3
comp=Z,35nm,1.0s,mb5.2
MAW eS S 13 01 25.3 +3.1
MAW Mawson 73.10 192 P P 12 51 57.8 +0.3
comp=Z,30nm,0.9s,mb5.2,baz=352,slow=6.2,SNR=31
MAW LR LR 13 20 30.3
comp=Z,7µm,18.2s,MS6.0,baz=29,slow=33
MAW Mawson 73.10 192 eP P 12 51 57.3 -0.3
MAW eS S 13 01 25.3 +3.1
MAW pmax pmax
comp=Z,35nm,1.0s
MAW MLR MLR
comp=Z,11µm,19.0s
MAW Mawson 73.10 192 eP P 12 51 57.3 -0.3
comp=Z,35nm,1.0s,mb5.2
MAW eS S 13 01 25.3 +3.1
MAW LR LR
comp=Z,11µm,19.0s,MS6.2
THE Thessaloniki 73.17 312 P P 12 51 56.9 -1.7
BURAR Bucovina Array 73.19 319⇑iP P 12 51 59.1 +0.6
BURAR Bucovina Array 73.19 319 P P 12 51 59.3 +0.8
BUR08 Bucovina Ar. S 73.20 319⇓iP P 12 51 59.0 +0.4
KNT Kendrikon 73.32 312 P P 12 51 58.2 -1.3
KKB Krupnik 73.33 313 i P P 12 51 58.2 -1.3
ITM Ithomi 73.33 308 eP P 12 51 58.9 -0.7
ITM Ithomi 73.33 308 eP P 12 51 58.9 -0.7
AGG Agios Georgios 73.34 310 P P 12 51 57.2 -2.4
AGG Agios Georgios 73.34 310 P P 12 51 56.8 -2.8
VTS Vitosha 73.39 314 i P P 12 51 59.1 -0.7
VTS Vitosha 73.39 314 P P 12 51 59.7 -0.1
LIT Litokhoron 73.42 311 P P 12 51 58.5 -1.6
LIT Litokhoron 73.42 311 P P 12 51 58.8 -1.3
PYL PYLOS 73.43 308 P P 12 51 58.8 -1.4
PET Petropavlovsk 73.57 35 eP P 12 51 59.5 -1.2
PET e pP 12 52 11.8 -0.1
PET e 12 54 52.9
PET eS S 13 01 21.3 -6.8
PET ePS 13 01 53.8
PET ePPS 13 02 08.7
PET eSS SS 13 06 07.5 -4.0
PET eSSS 13 09 24.8
PET pmax pmax
comp=Z,300nm,5.6s
PET pmax pmax
comp=Z,200nm,10.6s
PET pmax pmax
comp=Z,86nm,1.3s,mb5.5
PET pmax pmax
comp=Z,700nm,12.0s
PET smax
comp=N,2µm,15.6s
PET smax
comp=N,2µm,6.5s
PET MLR MLR
comp=Z,8µm,18.0s,MS6.0
PET MLR MLR
comp=Z,6µm,16.0s
PET Petropavlovsk 73.57 35⇓eP P 12 52 00.0 -0.7
PET LR LR
comp=Z,11µm,22.0s,MS6.1
MNK Minsk 73.64 327⇓iP P 12 51 57.0 -4.1
MNK e 12 52 04.0
MNK e 12 54 40.0
MNK ePPP 12 56 30.0
MNK eS S 13 01 25.0 -3.9
MNK ePS 13 01 56.0
MNK pmax pmax
comp=Z,360nm,1.0s,mb6.3
MNK MLR MLR
comp=Z,23µm,18.0s,MS6.5
MNK MLR MLR
comp=E,19µm,18.0s
GRG Griva 73.65 312 P P 12 52 00.3 -1.1
THL Klokotos Trika 73.68 310 eP P 12 51 59.4 -2.2
THL Klokotos Trika 73.68 310 eP P 12 51 59.4 -2.2
EVR Evrytania 73.72 310 eP P 12 52 00.4 -1.5
EVR Evrytania 73.72 310 eP P 12 52 00.4 -1.5
RLS Riolos of Patr 73.84 309 eP P 12 52 02.3 -0.3
RLS Riolos of Patr 73.84 309 eP P 12 52 02.3 -0.3
KZN Kozani 74.00 311 eP P 12 52 01.1 -2.4
KZN Kozani 74.00 311 eP P 12 52 01.1 -2.4
GZR Gura Zlata 74.29 317⇑iP P 12 52 05.9 +0.8
GZR Gura Zlata 74.29 317 P P 12 52 05.0 -0.1
KFL Anninata 74.38 309 P P 12 52 04.8 -0.9
LVV L'vov 74.51 321 eP P 12 52 05.2 -1.1
LVV i pP 12 52 16.8 -0.8
LVV eS S 13 01 39.0 +0.1
LVV e 13 02 06.6
LVV MLR MLR
comp=Z,4µm,21.0s,MS5.7
LVV MLR MLR
comp=E,3µm,25.0s
LVV MLR MLR
comp=N,300nm,12.0s
VLS Valsamata 74.54 309 P P 12 52 05.5 -1.2
VLS Valsamata 74.54 309 eP P 12 52 04.5 -2.2
VLS Valsamata 74.54 309 P P 12 52 06.1 -0.6
VLS Valsamata 74.54 309 eP P 12 52 04.5 -2.2
LKD Levkas 74.58 309 P P 12 52 06.2 -0.7
DRGR 74.64 318⇓iP P 12 52 07.3 +0.2
DRGR 74.64 318 P P 12 52 07.2 +0.2
IGT Igoumenitsa 74.96 310 P P 12 52 07.7 -1.4
JOF Joensuu 75.12 335 ep P 12 52 06.8 -2.7
comp=N,43nm,0.8s,mb5.4
JOF Joensuu 75.12 335 eP P 12 52 06.8 -2.7
JOF pmax pmax
comp=Z,43nm,0.8s,mb5.4
BZS Buzias 75.14 317⇑iP P 12 52 09.8 -0.1
BZS Buzias 75.14 317 P P 12 52 09.7 -0.2
KWP Kalwaria 75.30 321 eP P 12 52 10.9 +0.1
KWP eS S 13 01 48.6 +1.0
KWP LMZ 13 21 50.2
comp=Z,9µm,30.3s
KWP Kalwaria 75.30 321 eP P 12 52 10.7 -0.1
KWP pmax pmax
comp=Z,77nm,0.9s,mb5.6
KWP MLR MLR
comp=Z,6µm,19.0s,MS5.9
KWP Kalwaria 75.30 321 eP P 12 52 10.7 -0.1
comp=Z,76nm,0.9s,mb5.6
KWP LR LR
comp=Z,6µm,19.0s,MS5.9
UZH Uzhgorod 75.33 320⇑iP P 12 52 10.7 -0.3
UZH i 12 52 18.0
UZH i pP 12 52 21.7 -0.6
UZH ePPP 12 56 45.0
UZH i S S 13 01 45.7 -2.3
UZH eSS SS 13 06 32.0 -6.6
KEK Kerkira 75.39 310 eP P 12 52 10.4 -1.2
KEK Kerkira 75.39 310 eP P 12 52 10.4 -1.2
KOLS Kolonicke sedl 75.42 320 eP P 12 52 12.3 +0.8
KOLS eS S 13 01 52.4 +3.5
VSU Vasula 75.53 330d iP P 12 52 11.2 -0.7
VSU Vasula 75.53 330 i P P 12 52 11.2 -0.7
TIR Tirane 75.60 312 P P 12 52 11.1 -1.6
TIR Tirane 75.60 312 PFAKE 12 52 20.0 +7.3
TIR LR LR
comp=Z,6µm,21.0s,MS5.9
DZM Mont Dzumac 75.77 113 eP P 12 52 15.5 +1.4
CRVS Cervenica-Dubn 75.93 320 eP P 12 52 14.8 +0.4
CRVS eS S 13 01 54.2 -0.4
CRVS Cervenica-Dubn 75.93 320 eP P 12 52 14.8 +0.4
CRVS eS S 13 01 54.2 -0.4
CRVS epS 13 02 01.3
DIVS Divibare 75.98 315 P P 12 52 14.2 -0.6
SUW Suwalki 76.11 325 eP P 12 52 14.8 -0.6
SUW eS S 13 01 54.9 -1.5
SUW LMZ 13 22 28.2
comp=Z,11µm,34.6s
SUW Suwalki 76.11 325 eP P 12 52 14.7 -0.6
SUW pmax pmax
comp=Z,241nm,0.9s,mb6.1
SUW Suwalki 76.11 325 eP P 12 52 14.7 -0.7
comp=Z,241nm,0.9s,mb6.1
LVZ Lovozero 76.12 341 PFAKE 12 52 30.0 +15
LVZ LR LR
comp=Z,11µm,20.0s,MS6.2
STHS Stebnicka Huta 76.18 320 i P P 12 52 16.3 +0.5
STHS pmax pmax
comp=Z,67nm,1.0s,mb5.5
STHS Stebnicka Huta 76.18 320 i P P 12 52 16.3 +0.5
comp=Z,67nm,1.0s,mb5.5
SUR Sutherland 76.31 236 eP P 12 52 18.3 +1.4
comp=Z,327nm,1.6s,mb6.0
SUR LR LR
comp=Z,11µm,19.0s,MS6.2
APA Apatity 76.38 340⇓iP P 12 52 16.0 -0.6
APA i pP 12 52 25.0 -3.0
APA i 12 55 07.0
APA i PPP 12 56 55.0
APA i S S 13 01 56.0 -2.9
APA i 13 02 24.0
APA i PS 13 02 40.0
APA eSS SS 13 06 57.0 +3.3
APA pmax pmax
comp=Z,36nm,0.8s,mb5.3
APA pmax pmax
comp=Z,1µm,21.0s
APA MLR MLR
comp=Z,14µm,18.0s,MS6.3
DRV Dumont d'Urvil 76.68 163 P P 12 52 20.0 +1.7
DRV S S 13 02 00.0 -2.2
DRV SS SS 13 06 42.0 -16
DRV L 13 12 00.0
DRV R 13 17 00.0
PSZ Piszkesteto 76.75 319 P P 12 52 18.9 -0.2
PSZ pmax pmax
comp=Z,220nm,1.8s,mb5.8
PSZ Piszkesteto 76.75 319⇓iP P 12 52 18.9 -0.2
PSZ Piszkesteto 76.75 319⇓iP P 12 52 18.8 -0.3
PSZ Piszkesteto 76.75 319 P P 12 52 19.1 0.0
PSZ LR LR
comp=Z,4µm,20.0s,MS5.8
NIE Niedzica 76.78 320 eP P 12 52 19.9 +0.7
WAR Warsaw 76.94 323 eP P 12 52 20.3 +0.2
WAR eS S 13 02 04.8 -0.8
WAR LMZ 13 24 51.7
comp=Z,10µm,28.0s
KAF Kangasniemi 76.96 334 ep P 12 52 17.0 -3.0
comp=Z,57nm,0.9s,mb5.5,baz=107,slow=5.2
KAF Kangasniemi 76.96 334 eP P 12 52 17.0 -3.0
KAF pmax pmax
comp=Z,57nm,0.9s,mb5.5
TSUM Tsumeb 76.99 250 eP P 12 52 22.1 +1.0
comp=Z,64nm,1.5s,mb5.3
TSUM LR LR
comp=Z,8µm,20.0s,MS6.0
BUD Budapest 77.25 318⇓iP P 12 52 21.5 -0.4
OJC Ojcow 77.26 321 i P P 12 52 22.0 +0.1
OJC ePcP PcP 12 52 33.0 +0.5
OJC ePP PP 12 55 16.5 +0.2
OJC i S S 13 02 10.6 +1.4
OJC L 13 33 20.0
comp=Z,4.6nm,20.3s
OJC Ojcow 77.26 321⇓iP P 12 52 22.0 +0.1
OJC e pP 12 52 33.0 -0.3
OJC e 12 55 16.5
OJC i S S 13 02 10.6 +1.4
PKSM Moragy 77.29 317⇓iP P 12 52 21.3 -0.9
PKSM Moragy 77.29 317 P P 12 52 21.8 -0.4
VYHS Vyhne 77.55 319 i P P 12 52 23.7 +0.1
VYHS eS S 13 02 12.9 +0.5
TIP Timpagrande 77.65 309 eP P 12 52 24.2 -0.1
comp=Z,37nm,1.1s,mb5.2
TIP epP pP 12 52 33.7 -2.0
TIP LR LR
comp=Z,5µm,21.0s,MS5.8
KOLL Kolacno 77.85 319 i P P 12 52 25.5 +0.2
CEL Celeste 78.22 308 PFAKE 12 52 40.0 +12
CEL LR LR
comp=Z,55µm,22.0s,MS6.8
OKC Ostrava-Krasne 78.24 320 eP P 12 52 27.8 +0.4
OKC epP pP 12 52 38.7 0.0
OKC eS S 13 02 19.4 -0.3
OKC eSS SS 13 07 30.2 +7.8
OKC AMS AMS 13 33 10.0
comp=Z,4µm,16.2s
OKC Ostrava-Krasne 78.24 320 eP P 12 52 27.8 +0.4
OKC epP pP 12 52 38.7 0.0
OKC eS S 13 02 19.4 -0.3
OKC eSS SS 13 07 30.2 +7.8
RAC Raciborz 78.25 321 eP P 12 52 28.4 +1.0
RAC MLR MLR
comp=Z,4µm,18.0s,MS5.8
CUC Castrocucco 78.47 310 ePP PP 12 55 26.5 -0.1
comp=Z,54nm,1.1s
CUC LR LR
comp=Z,8µm,20.0s,MS6.0
MODS Modra-Piesok 78.56 319 i P P 12 52 29.5 +0.3
MODS eS S 13 02 24.6 +1.4
MODS eS S 13 02 24.8 +1.6
MORC Moravsky Berou 78.61 320⇓iP P 12 52 29.8 +0.3
MORC Moravsky Berou 78.61 320 P P 12 52 29.8 +0.4
ZST Bratislava 78.64 319 i P P 12 52 30.2 +0.5
ZST eS S 13 02 23.7 -0.4
ZST Bratislava 78.64 319 i P P 12 52 30.2 +0.5
comp=Z,121nm,0.9s,mb5.8
ZST eS S 13 02 23.7 -0.4
ZST LR LR
comp=Z,1µm,29.4s,MS5.1
SOP Sopron 78.93 318⇓iP P 12 52 31.3 +0.1
VRAC Vranov 79.15 320 ⇓P P 12 52 32.6 +0.2
VRAC Vranov 79.15 320⇓iP P 12 52 32.5 +0.1
VRAC Vranov 79.15 320 P P 12 52 32.7 +0.3
GKP Gorka Klasztor 79.40 324 eP P 12 52 33.1 -0.5
GKP eS S 13 02 31.6 -0.4
GKP LMZ 13 26 18.7
comp=Z,9µm,26.7s
CONA Conrad Observa 79.43 318⇓iP P 12 52 33.8 -0.1
comp=Z,730nm,3.3s
CSNA Conrad Observa 79.43 318⇓iP P 12 52 34.0 0.0
comp=Z,692nm,3.3s
KEV Kevo 79.43 341 P P 12 52 33.2 -0.3
KEV e pP 12 52 44.4 -0.5
KEV pmax pmax
comp=Z,69nm,1.3s,mb5.4
KEV Kevo 79.43 341 eP P 12 52 32.1 -1.4
comp=Z,14nm,0.8s,mb4.9
KEV LR LR
comp=Z,15µm,20.0s,MS6.3
DPC Dobruska-Polom 79.48 321 eP P 12 52 35.0 +0.8
DPC e*PP pP 12 52 46.4 +0.8
DPC eS S 13 02 35.0 +2.0
DPC e 13 03 11.2
DPC MLR MLR
comp=Z,4µm,21.0s,MS5.8
DPC Dobruska-Polom 79.48 321 eP P 12 52 35.0 +0.8
DPC epP pP 12 52 46.4 +0.8
DPC eS S 13 02 35.0 +2.0
DPC ex x 13 03 11.0
DPC eSS SS 13 07 49.4 +8.4
DPC AMS AMS 13 33 30.0
comp=Z,4µm,21.0s
DPC Dobruska-Polom 79.48 321 eP P 12 52 35.0 +0.8
DPC epP pP 12 52 46.4 +0.8
DPC eS S 13 02 35.0 +2.0
DPC e 13 03 11.0
DPC e 13 03 11.2
DPC eSS SS 13 07 49.4 +8.4
DPC LR LR
comp=Z,4µm,21.0s,MS5.8
BOJS Bojanci 79.53 316 eP P 12 52 34.0 -0.6
BOJS eS S 13 02 29.6 -4.0
ARSA Arzberg 79.56 317⇓iP P 12 52 35.0 +0.3
comp=Z,1µm,2.6s,mb6.3
KSP Ksiaz 79.58 321 eP P 12 52 35.5 +0.8
KSP eS S 13 02 34.8 +0.9
KSP LMZ 13 23 50.8
comp=Z,13µm,33.7s
KSP Ksiaz 79.58 321⇓iP P 12 52 35.3 +0.6
KSP e*PP pP 12 52 46.3 +0.2
KSP e 12 55 32.5
KSP Ksiaz 79.58 321⇓iP P 12 52 35.3 +0.6
KSP epP pP 12 52 46.3 +0.2
KSP ePP PP 12 55 32.5 -3.1
KSP ePPP 12 57 40.0
KSP ePPPP 12 58 54.0
KSP eS S 13 02 34.8 +0.9
KSP eSS SS 13 07 40.0 -2.4
KSP eSSS 13 11 09.0

KSP LR LR
comp=Z,15µm,33.7s,MS6.1
UPC Upice 79.70 321 *e*P **P** **12 52 36.0 +0.6**
UPC *e*pP pP 12 52 47.1 +0.3
PERS Pernice 79.76 317 *i* P **P** **12 52 35.9 +0.1**
SOKA Soboth 79.82 317⇓ *i*P **P** **12 52 36.3 +0.1**
comp=Z,997nm,3.7s
ARCES ARCESS Array B 79.84 341 P **P** **12 52 35.3 -0.4**
comp=Z,39nm,0.9s,mb5.3,baz=111,slow=5.3,SNR=53
ARCES LR LR 13 30 35.1
comp=Z,13µm,21.3s,MS6.2,baz=107,slow=38
ARE0 ARCESS Array S 79.84 341 *e*P **P** **12 52 35.3 -0.4**
TREC Trest 79.86 320 *e*P **P** **12 52 36.4 +0.1**
TREC *e*pP pP 12 52 47.3 -0.4
TREC AMS AMS 13 36 10.0
comp=Z,4µm,15.6s
SYO Syowa Base 79.98 197⇑ *e*P **P** **12 52 35.0 -1.5**
SYO Syowa Base 79.98 197⇓ *i*P **P** **12 52 37.6 +1.1**
LJU Ljubljana 80.09 316 *i* P **P** **12 52 37.6 0.0**
LJU *i* pP 12 52 48.5 -0.5
LJU *e*S S 13 02 37.5 -2.1
OBKA Obir 80.13 317⇓ *i*P **P** **12 52 38.1 +0.3**
comp=Z,1µm,3.0s
JAVS Javornik 80.40 316 *i* P **P** **12 52 38.6 -0.6**
MOA Molln 80.48 318⇓ *i*P **P** **12 52 39.5 -0.2**
comp=Z,874nm,4.4s
VOY Vojsko 80.53 316 *e*P **P** **12 52 39.5 -0.5**
VOY *e* pP 12 52 50.8 -0.6
VOY *e* 12 53 38.1
PRU Pruhonice 80.56 320 *e*P **P** **12 52 40.3 +0.2**
PRU *e*pP pP 12 52 51.8 +0.3
PRU *e*S S 13 02 44.5 +0.1
PRU *e*x x 13 03 24.1
PRU *e*SS SS 13 08 05.9 +8.7
PRU AMS AMS 13 26 30.0
comp=Z,6µm,25.5s
TRI Trieste 80.59 316 *e*P **P** **12 52 39.5 -0.8**
TRI pmax pmax
comp=Z,36nm,0.9s,mb5.3
TRI MLR MLR
comp=Z,5µm,20.0s,MS5.8
TRI Trieste 80.59 316 *e*P **P** **12 52 39.5 -0.8**
comp=Z,36nm,0.9s,mb5.3
TRI LR LR
comp=Z,5µm,20.0s,MS5.8
PVCC Panska Ves 80.62 321 *e*P **P** **12 52 40.9 +0.6**
PVCC *e*pP pP 12 52 52.3 +0.6
PVCC *e*S S 13 02 46.2 +1.3
PVCC *e*PS 13 03 34.8
PVCC AMS AMS 13 36 40.0
comp=Z,5µm,16.8s
MYKA Terra Mystica 80.77 317⇓ *i*P **P** **12 52 41.4 +0.1**
comp=Z,5µm,2.6s,mb7.0
GEC2 GERESS Array S 80.97 319 *e*P **P** **12 52 42.6 +0.3**
GEC2 *e*S S 13 02 48.5 -0.2
GEC2 pmax pmax
comp=Z,240nm,1.1s,mb6.0
GEC2 GERESS Array S 80.97 319 *e*P **P** **12 52 42.6 +0.3**
comp=Z,240nm,1.1s,mb6.0
GEC2 *e*S S 13 02 48.5 -0.2
GERES GERESS Array B 80.97 319 P **P** **12 52 42.6 +0.3**
comp=Z,86nm,0.8s,mb5.7,baz=100,slow=5.5,SNR=438
GERES LR LR 13 30 47.2
comp=Z,5µm,21.0s,MS5.8,baz=207,slow=37
KBA Koelnbreinsper 81.02 317⇓ *i*P **P** **12 52 42.3 -0.3**
comp=Z,535nm,3.4s
BRG Berggiesshubel 81.06 321⇓ *i*P **P** **12 52 43.1 +0.4**
BRG *i* *PP pP 12 52 54.1 0.0
BRG S S 13 02 53.0 +3.5
BRG PS 13 03 37.0
BRG SS SS 13 08 10.0 +5.5
BRG pmax pmax
comp=Z,71nm,1.1s,mb5.5
BRG MLR MLR
comp=Z,4µm,16.5s,MS5.8
BRG MLR MLR
comp=N,3µm,19.9s,MS5.8
BRG MLR MLR
comp=E,3µm,19.9s,MS5.8
BRG Berggiesshubel 81.06 321 *e*P **P** **12 52 42.9 +0.2**
comp=Z,118nm,1.1s,mb5.7
BRG *e*S S 13 02 50.0 +0.5
BRG Berggiesshubel 81.06 321⇓ *i*P **P** **12 52 43.1 +0.4**
comp=Z,118nm,1.1s,mb5.7
BRG *i* pP pP 12 52 54.1 +0.1
comp=Z,142nm,1.3s
BRG S S 13 02 53.0 +3.5
BRG PS 13 03 37.0
BRG SS SS 13 08 10.0 +5.5
BRG LR LR
comp=Z,6µm,16.5s
BRG
comp=N,6µm,19.9s
BRG
comp=E,5µm,19.9s
BRG Berggiesshubel 81.06 321⇓ *i*P **P** **12 52 43.1 +0.4**
comp=E,71nm,1.1s,mb5.5
BRG *i* pP pP 12 52 54.1 +0.1
BRG S S 13 02 53.0 +3.5
BRG PS 13 03 37.0
BRG SS SS 13 08 10.0 +5.5
BRG LR LR
comp=Z,4µm,16.5s,MS5.8
KHC Kasperske Hory 81.08 319 *e*P **P** **12 52 43.0 +0.1**
KHC *e**PP pP 12 52 54.9 +0.6
KHC *e*S S 13 02 50.8 +1.0
KHC MLR MLR
comp=Z,5µm,18.8s,MS5.9
KHC Kasperske Hory 81.08 319 *e*P **P** **12 52 43.0 +0.1**
KHC *e*pP pP 12 52 54.9 +0.6
KHC *e*S S 13 02 50.8 +1.0
KHC *e*x x 13 03 23.3
KHC AMS AMS 13 34 00.0
comp=Z,5µm,18.8s
RUE Ruedersdorf 81.35 323 *e*P **P** **12 52 44.1 -0.1**
comp=Z,226nm,1.0s,mb6.0
RUE Ruedersdorf 81.35 323 *e*P **P** **12 52 44.4 +0.2**
comp=Z,321nm,1.3s,mb6.1
RUE *e*sP sP 12 52 55.7 -4.2
FBE Freiberg 81.43 321 *e*P **P** **12 52 44.9 +0.3**
comp=Z,162nm,1.1s,mb5.9
RJOB Jochberg 81.46 318 *e*P **P** **12 52 44.3 -0.6**
comp=Z,105nm,1.2s,mb5.6
RJOB *e*S S 13 02 50.6 -3.2
BILL Bilibino 81.47 21⇑ *i*P **P** **12 52 44.3 -0.2**
BILL *e* 12 55 50.6
BILL *e*S S 13 02 54.1 +1.0
BILL pmax pmax
comp=Z,34µm,1.2s
BILL pmax pmax
comp=Z,200nm,2.8s,mb5.5
BILL MLR MLR
comp=Z,16µm,15.0s,MS6.5
BILL Bilibino 81.47 21⇑ *e*P **P** **12 52 44.3 -0.2**
BILL LR LR
comp=Z,11µm,19.0s,MS6.2
WET Wettzell 81.54 319 *e*P **P** **12 52 45.5 +0.2**
WET *e*S S 13 02 54.9 +0.3
WET pmax pmax
comp=Z,128nm,1.2s,mb5.7
WET Wettzell 81.54 319 *e*P **P** **12 52 45.5 +0.2**
comp=Z,128nm,1.2s,mb5.7
WET *e*S S 13 02 54.9 +0.3
ABTA Abfaltersbach 81.56 317⇓ *i*P **P** **12 52 44.9 -0.5**
comp=Z,572nm,3.3s
CLL Collm 81.69 321⇓ *i*P **P** **12 52 45.8 -0.2**
CLL *i* *SP sP 12 52 57.4 -4.3
CLL *e*S S 13 02 57.0 +0.9
CLL pmax pmax
comp=Z,91nm,1.2s,mb5.6
CLL MLR MLR
comp=Z,7µm,22.5s,MS6.0
CLL Collm 81.69 321 *e*P **P** **12 52 45.7 -0.3**
comp=Z,90nm,1.2s,mb5.6
CLL *e*S S 13 02 56.1 0.0
CLL Collm 81.69 321⇓ *i*P **P** **12 52 45.8 -0.2**
comp=Z,91nm,1.2s,mb5.6
CLL *i* PcP PcP 12 52 51.8 0.0
CLL *i* sP sP 12 52 57.4 -4.3
CLL *e*PP PP 12 56 06.0 +13
CLL *e*PPP 12 58 00.0
CLL *e*(PPPP) 12 59 30.0
CLL *e*S S 13 02 57.0 +0.9
CLL *e*SKKSac SKKSac 13 03 08.0 +1.9
CLL *e*PS 13 03 50.0
CLL *e*SS SS 13 08 23.0 +9.0
CLL *e*SSS 13 11 51.0
CLL *ex* x 13 13 03.0
CLL *e*SSSS 13 14 23.0
CLL LmV 13 32 00.0
comp=Z,5µm,21.9s
CLL Collm 81.69 321⇓ *i*P **P** **12 52 45.8 -0.2**
comp=Z,91nm,1.2s,mb5.6
CLL *i* sP sP 12 52 57.4 -4.3
CLL *e*S S 13 02 57.0 +0.9
CLL LR LR
comp=Z,7µm,32.5s,MS5.8
RGN Rugen 81.88 325 *e*P **P** **12 52 46.9 0.0**
comp=Z,156nm,1.2s,mb5.8
NKC Novy Kostel 81.93 320 *e*P **P** **12 52 47.7 +0.4**
NKC *e*S S 13 03 00.0 +1.4
NKC *e*PS 13 03 52.2
NKC *e*SS SS 13 08 24.4 +6.8
NKC AMS AMS 13 34 00.0
comp=Z,7µm,18.3s
NKC Novy Kostel 81.93 320 *e*P **P** **12 52 47.7 +0.4**
NKC *e*S S 13 03 00.0 +1.4
NKC *e* 13 03 52.2
NKC *e*SS SS 13 08 24.4 +6.8
TANN Tannenbergstha 81.94 320 *e*P **P** **12 52 47.4 0.0**
comp=Z,73nm,1.3s,mb5.5
TANN *e*S S 13 02 58.9 +0.2
WERN Wernitzgruen 81.98 320 *e*P **P** **12 52 47.8 +0.2**
comp=Z,57nm,1.0s,mb5.5
GUNZ Gunzen 82.02 320 *e*P **P** **12 52 47.9 +0.1**
comp=Z,78nm,1.1s,mb5.5
ROTZ Rotzenmuhle 82.04 320 *e*P **P** **12 52 48.5 +0.6**
comp=Z,91nm,1.2s,mb5.6
ROTZ *e*S S 13 03 01.1 +1.4
WERD Werda 82.04 320 *e*P **P** **12 52 47.9 0.0**
comp=Z,67nm,1.0s,mb5.5
TRO Tromso 82.07 340 *e*P **P** **12 52 44.6 -3.0**
TRO *e*S S 13 02 59.8 +0.6
TRO AMS AMS 13 33 19.7
comp=Z,7µm,19.9s,MS6.0
MANZ Manzenberg 82.13 320 *e*P **P** **12 52 48.9 +0.6**
comp=Z,141nm,1.1s,mb5.8
MANZ *e*S S 13 03 02.7 +2.1
WTTA Wattenberg 82.20 317⇓ *i*P **P** **12 52 48.4 -0.4**
comp=Z,721nm,2.5s,mb6.2
WATA Walderalm 82.24 317⇓ *i*P **P** **12 52 48.3 -0.7**
comp=Z,65nm,1.1s,mb5.5
MOX Moxa 82.50 321 *e*P **P** **12 52 50.4 +0.1**
comp=Z,184nm,1.9s,mb5.8
MOX *e* pP 12 53 01.3 -0.4
MOX
comp=Z,4µm,18.0s
MOX Moxa 82.50 321 *e*P **P** **12 52 50.4 +0.1**
MOX *e* pP 12 53 01.3 -0.4
MOX pmax pmax
comp=Z,184nm,1.9s,mb5.8
MOX MLR MLR
comp=Z,4µm,18.0s,MS5.9
MOX Moxa 82.50 321 *e*P **P** **12 52 50.3 0.0**
comp=Z,96nm,1.2s,mb5.7
MOX *e*S S 13 03 04.1 -0.3
FUR Furstenfeldbru 82.51 318 *e*P **P** **12 52 50.0 -0.4**
FUR *e*S S 13 03 03.2 -1.4
FUR pmax pmax
comp=Z,117nm,1.1s,mb5.8
FUR Furstenfeldbru 82.51 318 *e*P **P** **12 52 50.0 -0.4**
comp=Z,117nm,1.1s,mb5.8
FUR *e*S S 13 03 03.2 -1.4
COP Copenhagen 82.52 326⇓ *i*P **P** **12 52 50.1 -0.2**
COP *i* S S 13 03 00.3 -4.1
COP pmax pmax
comp=Z,56nm,1.0s,mb5.5
COP MLR MLR
comp=Z,4µm,21.0s,MS5.8
COP Copenhagen 82.52 326⇓ *i*P **P** **12 52 50.1 -0.2**
comp=Z,56nm,1.0s,mb5.5
COP *i* S S 13 03 00.3 -4.1
COP
comp=Z,4µm,21.0s
MOTA Moosalm 82.56 317⇓ *i*P **P** **12 52 50.1 -0.6**
comp=Z,78nm,1.0s,mb5.7
SMY Shemya 82.65 37 PFAKE
SMY LR LR 12 53 00.0 +9.0
comp=Z,5µm,21.0s,MS5.8
GRA1 Grafenberg Arr 82.67 320 *e*P **P** **12 52 51.6 +0.4**
comp=Z,121nm,1.1s,mb5.8
GRA1 *e*pP pP 12 53 02.9 +0.3
GRA1 *e*S S 13 03 06.9 +0.7
GRA1 *e*SS SS 13 08 43.1 +14
GRA1 *e*SSS 13 12 12.0
GRA1 LR LR
comp=Z,5µm,18.4s,MS5.9
GRF Grafenberg Arr 82.67 320 *e*P **P** **12 52 51.6 +0.4**
GRF *e**PP pP 12 53 02.9 +0.3
GRF *e*S S 13 03 06.9 +0.7
GRF pmax pmax
comp=Z,121nm,1.1s,mb5.8
GRF Grafenberg Arr 82.67 320 *e*P **P** **12 52 51.6 +0.4**
GRF *e**PP pP 12 53 02.9 +0.3
GRF *e*S S 13 03 06.9 +0.7
GRF MLR MLR
comp=Z,121nm,1.1s,mb5.8
GRF Grafenberg Arr 82.67 320 *e*P **P** **12 52 51.6 +0.4**
comp=Z,121nm,1.1s,mb5.8
GRF *e*pP pP 12 53 02.9 +0.3
GRF *e*S S 13 03 06.9 +0.7
GRF *e*SS SS 13 08 43.1 +14
GRF *e*SSS 13 12 12.0
GRF *e*L 13 38 23.9
comp=Z,5µm,18.4s
FETA Feichten 82.80 317⇓ *i*P **P** **12 52 51.9 0.0**
comp=Z,927nm,3.9s
RETA Reutte 82.81 317⇓ *i*P **P** **12 52 51.8 -0.1**
comp=Z,670nm,2.5s,mb6.2
VLC Villacollemand 82.85 314 *e*P **P** **12 52 51.9 -0.3**
comp=Z,34nm,0.9s,mb5.4
VLC LR LR
comp=Z,1µm,19.0s,MS5.3
FUORN Ofenpass-Fuorn 83.09 316⇓ *i*P **P** **12 52 54.1 +0.7**
comp=Z,366nm,1.8s,mb6.1
RPZ Rata Peaks 83.21 134 P **P** **12 52 53.6 -0.5**
comp=Z,41nm,0.9s,mb5.4,baz=23,slow=1.3,SNR=6.3
BJO Bjornoya 83.23 345 *e* **P** **12 52 57.1 +3.5**
BJO AMS AMS 13 33 05.8
comp=Z,6µm,21.2s,MS5.9
BERNI Berninapass 83.24 316⇓ *i*P **P** **12 52 55.0 +0.8**
comp=Z,409nm,1.0s,mb6.4
KEST Kesra 83.28 306 P **P** **12 52 56.0 +1.3**
comp=Z,28nm,1.0s,mb5.3,baz=324,slow=3.4,SNR=62
KEST LR LR 13 29 55.7
comp=Z,3µm,19.8s,MS5.7,baz=46,slow=36
DAVOX Davos/Dischmat 83.36 317⇓ *i*P **P** **12 52 55.4 +0.6**
comp=Z,291nm,1.1s,mb6.2
CLZ Clausthal 83.38 322 *e*P **P** **12 52 54.7 -0.1**
CLZ *e*S S 13 03 13.2 -0.1
CLZ pmax pmax
comp=Z,108nm,1.0s,mb5.8
CLZ Clausthal 83.38 322 *e*P **P** **12 52 54.7 -0.1**
comp=Z,108nm,1.0s,mb5.8
CLZ *e*S S 13 03 13.2 -0.1
VSL Villasalto 83.38 309 *e*P **P** **12 52 54.9 -0.2**
comp=Z,131nm,1.3s,mb5.8
VSL LR LR
comp=Z,3µm,20.0s,MS5.7
DAVA Damuels 83.39 317⇓ *i*P **P** **12 52 55.2 +0.2**
comp=Z,886nm,2.5s,mb6.3
UBBA Unterbreizbach 83.54 321 *e*P **P** **12 52 55.4 -0.2**
comp=Z,136nm,1.8s,mb5.8
UBBA *e*S S 13 03 15.3 +0.4
BSEG Bad Segeberg 83.57 324 *e*P **P** **12 52 55.7 0.0**
BSEG *e*S S 13 03 16.0 +0.9
BSEG pmax pmax
comp=Z,102nm,1.1s,mb5.9
BSEG Bad Segeberg 83.57 324 *e*P **P** **12 52 55.7 0.0**
comp=Z,102nm,1.1s,mb5.9
BSEG *e*S S 13 03 16.0 +0.9
LIENZ Kamor/St.Gall 83.66 317⇓ *i*P **P** **12 52 56.7 +0.4**
comp=Z,470nm,1.7s,mb6.3
CORF Corte 83.66 312⇓ *e*P **P** **12 52 56.3 -0.2**
TUE Stuetta 83.71 316⇓ *i*P **P** **12 52 56.4 -0.2**
comp=Z,97nm,1.1s,mb5.8
TUE LR LR
comp=Z,4µm,22.0s,MS5.8
PLONS Plons/SG 83.72 317⇓ *i*P **P** **12 52 56.8 +0.1**
comp=Z,558nm,1.7s,mb6.4
NB2 NORSAR Subarra 83.75 331 P **P** **12 52 55.4 -1.1**
comp=Z,69nm,1.0s,mb5.7,baz=95,slow=5.3
NOA NORSAR Array B 83.75 331 P **P** **12 52 55.5 -1.0**
comp=Z,32nm,0.9s,mb5.5,baz=95,slow=5.4,SNR=68
NOA PP PP 12 56 13.0 +3.3
comp=Z,4.6nm,0.9s,baz=95,slow=7.9,SNR=3.7
NOA LR LR 13 33 50.8
comp=Z,8µm,20.8s,MS6.0,baz=80,slow=38
NOA NORSAR Array B 83.75 331 P **P** **12 52 55.5 -1.0**
NOA 12 56 13.0
PGF Pioggiola 83.78 312⇓ *i*P **P** **12 52 57.1 0.0**
comp=Z,274nm,1.4s,mb5.9
PGF Pioggiola 83.78 312⇓ *i*P **P** **12 52 57.1 0.0**
PGF pmax pmax
comp=Z,137nm,1.4s,mb5.9
PGF Pioggiola 83.78 312⇓ *i*P **P** **12 52 57.1 0.0**
comp=Z,137nm,1.4s,mb5.9
NAO01 NORSAR Array S 83.89 331⇓ *i*P **P** **12 52 56.4 -0.8**
comp=Z,28nm,0.9s,mb5.4
NAO01 LR LR
comp=Z,8µm,19.0s,MS6.1
MUGIO Muggio 83.90 316⇓ *i*P **P** **12 52 57.0 -0.6**
comp=Z,175nm,1.8s,mb5.9
STU Stuttgart 83.93 319 *e*P **P** **12 52 57.4 -0.3**
comp=Z,84nm,1.4s,mb5.7
STU *e*S S 13 03 16.9 -2.1
LLS Linth-Limmern 83.96 317⇓ *i*P **P** **12 52 58.1 +0.2**
comp=Z,211nm,2.1s,mb5.9
WILA Wila 84.06 317⇓ *i*P **P** **12 52 58.5 +0.1**
comp=Z,373nm,2.1s,mb6.2
SPAK Spaichingen-Ko 84.17 318⇓ *e*P **P** **12 52 58.8 -0.1**
FUSIO Fusio 84.18 316⇓ *i*P **P** **12 52 58.7 -0.3**
comp=Z,109nm,1.6s,mb5.7
MUO Muotathal 84.22 317⇓ *i*P **P** **12 52 59.5 +0.3**
comp=Z,367nm,1.7s,mb6.2
TOD Tromm 84.23 319⇓ *e*P **P** **12 52 59.0 -0.2**
SLE Schleitheim 84.36 318⇓ *i*P **P** **12 52 59.6 -0.3**
comp=Z,205nm,2.1s,mb5.9
MUD Monsted U'grnd 84.41 326⇓ *i*P **P** **12 53 00.3 +0.3**
MUD *i* S S 13 03 27.6 +4.2
MUD pmax pmax
comp=Z,110nm,1.2s,mb5.9
MUD MLR MLR
comp=Z,5µm,21.0s,MS5.9
MUD Monsted U'grnd 84.41 326⇓ *i*P **P** **12 53 00.3 +0.3**
comp=Z,114nm,1.2s,mb5.9
MUD *i* S S 13 03 27.6 +4.2
MUD
comp=Z,5µm,21.0s
MUD Monsted U'grnd 84.41 326⇓ *i*P **P** **12 53 00.3 +0.3**
comp=Z,114nm,1.2s,mb5.9
MUD *i* S S 13 03 27.6 +4.2
KONO Kongsberg 84.42 330 *e*P **P** **12 52 58.3 -1.7**
KONO *e*S S 13 03 22.1 -1.3
KONO AMS AMS 13 36 46.9
comp=Z,6µm,17.9s,MS6.0
KONO Kongsberg 84.42 330 *d*P **P** **12 52 59.5 -0.4**
BFO Black Forest 84.49 318 *e*P **P** **12 53 00.0 -0.5**
comp=Z,47nm,1.1s,mb5.5
BFO *e*S S 13 03 22.4 -2.1
BFO Black Forest 84.49 318 *e*P **P** **12 53 00.0 -0.5**
comp=Z,47nm,1.1s,mb5.5
BFO *e*S S 13 03 22.4 -2.1
BFO LR LR
comp=Z,3µm,20.0s,MS5.7
TNS Taunus Mts 84.49 320 *e*P **P** **12 53 00.6 +0.1**
TNS *e*S S 13 03 22.6 -1.9
TNS pmax pmax
comp=Z,93nm,1.0s,mb5.9
TNS Taunus Mts 84.49 320 *e*P **P** **12 53 00.6 +0.1**
comp=Z,93nm,1.0s,mb5.9
TNS *e*S S 13 03 22.6 -1.9
HASLI Hasliberg/Brie 84.55 317⇓ *i*P **P** **12 53 00.9 0.0**
comp=Z,362nm,1.8s,mb6.2
SULZ Cheisacher 84.60 317⇓ *i*P **P** **12 53 01.0 -0.1**
comp=Z,247nm,1.7s,mb6.1
FELD Feldberg im Sc 84.69 318⇓ *e*P **P** **12 53 01.2 -0.4**
KTD Kalmit 84.69 319⇓ *e*P **P** **12 53 01.6 +0.1**
LANF Langenberg 84.86 319⇓ *e*P **P** **12 53 02.2 -0.2**
BALST Balsthal 84.88 317⇓ *i*P **P** **12 53 02.4 -0.1**
comp=Z,220nm,1.6s,mb6.0
SAOF Saorge 84.88 314⇓ *e*P **P** **12 53 02.7 +0.1**
WIMIS Wimmis 84.91 316⇓ *i*P **P** **12 53 02.9 +0.2**
comp=Z,287nm,2.3s,mb6.0
LIBD Limburg 84.97 318⇓ *e*P **P** **12 53 02.9 -0.1**
SBF Sospel 84.97 314⇓ *i*P **P** **12 53 03.1 0.0**
comp=Z,242nm,0.9s,mb6.0
SBF Sospel 84.97 314⇓ *i*P **P** **12 53 03.1 0.0**
SBF pmax pmax
comp=Z,121nm,0.9s,mb6.0
SBF Sospel 84.97 314⇓ *i*P **P** **12 53 03.1 0.0**
comp=Z,121nm,0.9s,mb6.0
AUTN L'Aution 84.98 314⇓ *e*P **P** **12 53 03.5 +0.4**
BBS Basel-Blauen 85.01 317⇓ *e*P **P** **12 53 02.7 -0.5**
REVF Revere 85.01 314⇓ *e*P **P** **12 53 02.9 -0.4**
IBBN Ibbenburen 85.02 322 *e*P **P** **12 53 03.1 0.0**
comp=Z,134nm,1.3s,mb5.9
IBBN *e*S S 13 03 30.0 +0.4
LUCF Luceram 85.03 314⇓ *e*P **P** **12 53 03.4 0.0**
DIX Grande Dixence 85.04 316⇓ *i*P **P** **12 53 03.9 +0.5**
comp=Z,474nm,1.7s,mb6.3
ABH Alteburg 85.06 320⇓ *e*P **P** **12 53 03.5 +0.1**
TOUF Mont Tournerai 85.11 314⇓ *e*P **P** **12 53 04.2 +0.4**
SENIN Lac Senin/Sane 85.12 316⇓ *i*P **P** **12 53 04.2 +0.4**
comp=Z,294nm,2.1s,mb6.0
MVIF Mont Vial 85.17 314⇓ *e*P **P** **12 53 04.5 +0.4**
CDF Champ du Feu 85.19 318⇓ *i*P **P** **12 53 03.4 -0.7**
comp=Z,58nm,1.0s,mb5.3
CDF Champ du Feu 85.19 318⇓ *i*P **P** **12 53 03.4 -0.7**
CDF pmax pmax
comp=Z,29nm,1.0s,mb5.4
CDF Champ du Feu 85.19 318⇓ *i*P **P** **12 53 03.4 -0.7**
comp=Z,29nm,1.0s,mb5.4
BOURR Bourrignon 85.20 317⇓ *i*P **P** **12 53 04.3 +0.2**
comp=Z,142nm,1.8s,mb5.8
GRYON Gryon 85.25 316⇓ *i*P **P** **12 53 04.7 +0.3**
comp=Z,221nm,1.6s,mb6.0
ECH Echery 85.27 318⇓ *e*P **P** **12 53 04.0 -0.5**
ECH Echery 85.27 318⇓ *i*P **P** **12 53 03.7 -0.7**
MOF Molkenrain 85.27 318⇓ *e*P **P** **12 53 03.7 -0.8**
BUG Bochum--Univer 85.29 321 *e*P **P** **12 53 04.3 -0.2**
comp=Z,95nm,1.0s,mb5.9
BUG *e*S S 13 03 32.9 +0.5
SALAN Lac Salanfe 85.34 316⇓ *i*P **P** **12 53 05.1 +0.2**
comp=Z,258nm,1.6s,mb6.1
CALN Calern 85.36 314⇓ *e*P **P** **12 53 05.3 +0.3**
AIGLE Aigle 85.36 316⇓ *i*P **P** **12 53 05.3 +0.3**
comp=Z,330nm,2.1s,mb6.1
TORNY Torny/Romont 85.37 317⇓ *i*P **P** **12 53 05.2 +0.2**
comp=Z,378nm,1.8s,mb6.2
RUP Ruppelstein 85.37 319⇓ *e*P **P** **12 53 05.1 +0.2**
EMV Vieux Emosson 85.39 316⇓ *i*P **P** **12 53 05.6 +0.5**
comp=Z,275nm,1.8s,mb6.1
MBDF Montbardon 85.46 314⇓ *i*P **P** **12 53 05.0 -0.5**
comp=Z,70nm,0.9s,mb5.5
MBDF Montbardon 85.46 314⇓ *i*P **P** **12 53 05.0 -0.5**
MBDF pmax pmax
comp=Z,35nm,0.9s,mb5.5
MBDF Montbardon 85.46 314⇓ *i*P **P** **12 53 05.0 -0.5**
comp=Z,35nm,0.9s,mb5.5
HINF Hinteralfeld 85.46 318⇓ *i*P **P** **12 53 04.4 -1.0**
LPG La Plagne 85.49 315⇓ *i*P **P** **12 53 05.9 +0.3**
comp=Z,166nm,1.1s,mb5.8
LPG La Plagne 85.49 315⇓ *i*P **P** **12 53 05.9 +0.3**
LPG pmax pmax
comp=Z,83nm,1.0s,mb5.8
LPG La Plagne 85.49 315⇓ *i*P **P** **12 53 05.9 +0.3**
comp=Z,83nm,1.0s,mb5.8
LPL La Plagne 85.50 315⇓ *i*P **P** **12 53 06.0 +0.3**
comp=Z,151nm,0.9s,mb5.9
LPL La Plagne 85.50 315⇓ *i*P **P** **12 53 06.0 +0.3**
LPL pmax pmax
comp=Z,76nm,0.9s,mb5.9
LPL La Plagne 85.50 315⇓ *i*P **P** **12 53 06.0 +0.3**
comp=Z,76nm,0.9s,mb5.9
SNZO South Karori 85.52 132 PFAKE 12 53 20.0 +14
SNZO LR LR
comp=Z,10µm,21.0s,MS6.2
BNI Bardonecchia 85.53 315⇓ *i*P **P** **12 53 05.6 -0.3**
BNI pmax pmax
comp=Z,50nm,0.9s,mb5.7
BNI MLR MLR
comp=Z,5µm,21.0s,MS5.8

BNI Bardonecchia 85.53 315⇓iP P 12 53 05.6 -0.2
comp=Z,50nm,0.9s,mb5.7
BNI LR LR
comp=Z,5µm,21.0s,MS5.8
FRF La Foret Royal 85.53 313⇓iP P 12 53 06.0 +0.1
comp=Z,200nm,1.1s,mb6.0
FRF La Foret Royal 85.53 313⇓iP P 12 53 06.0 +0.1
FRF pmax pmax
comp=Z,100nm,1.1s,mb6.0
FRF La Foret Royal 85.53 313⇓iP P 12 53 06.0 +0.1
comp=Z,100nm,1.1s,mb6.0
RSL Roselend 85.58 315⇓eP P 12 53 06.0 -0.1
WTSB Winterswijk 85.60 322 i P P 12 53 05.8 -0.2
comp=Z,108nm,2.4s,mb5.7
MOL Molde 85.60 332 AMS AMS 13 32 52.0
comp=Z,8µm,21.4s,MS6.1
LMR La Mourre 85.63 313⇓iP P 12 53 06.4 0.0
comp=Z,190nm,1.4s,mb5.8
LMR La Mourre 85.63 313⇓iP P 12 53 06.4 0.0
LMR pmax pmax
comp=Z,95nm,1.4s,mb5.8
LMR La Mourre 85.63 313⇓iP P 12 53 06.4 0.0
comp=Z,95nm,1.4s,mb5.8
KBS Kingsbay 85.78 349 eP P 12 53 08.3 +1.9
KBS e 13 03 12.0
KBS AMS AMS 13 34 54.8
comp=Z,16µm,22.7s,MS6.3
KBS Kingsbay 85.78 349 PFAKE 12 53 20.0 +14
KBS LR LR
comp=Z,16µm,22.0s,MS6.4
HAU Haudompre 85.81 318⇓iP P 12 53 06.4 -0.7
comp=Z,164nm,1.2s,mb5.8
HAU eMLR MLR
comp=Z,5µm,19.8s,MS5.6
HAU Haudompre 85.81 318⇓iP P 12 53 06.4 -0.7
HAU pmax pmax
comp=Z,82nm,1.2s,mb5.8
HAU MLR MLR
comp=Z,5µm,19.8s,MS5.9
HAU Haudompre 85.81 318⇓iP P 12 53 06.4 -0.7
comp=Z,82nm,1.2s,mb5.8
HAU LR LR
comp=Z,5µm,19.8s,MS5.9
GIMEL St. Georges / 85.84 316⇓iP P 12 53 07.7 +0.3
comp=Z,185nm,1.8s,mb6.0
WLF Walferdange 85.96 319 P P 12 53 08.2 +0.3
comp=Z,48nm,1.5s,mb5.5
WLF Walferdange 85.96 319⇓iP P 12 53 08.1 +0.2
WLF pmax pmax
comp=Z,70nm,1.1s,mb5.8
WLF MLR MLR
comp=Z,4µm,20.0s,MS5.8
WLF Walferdange 85.96 319 eP P 12 53 08.0 +0.1
comp=Z,98nm,1.3s,mb5.9
WLF eS S 13 03 41.1 +2.1
WLF Walferdange 85.96 319⇓iP P 12 53 08.1 +0.2
comp=Z,70nm,1.1s,mb5.8
WLF LR LR
comp=Z,4µm,20.0s,MS5.8
TAVF Tavernes 85.96 313⇓eP P 12 53 08.5 +0.5
CABF La Chapelle 85.96 316⇓iP P 12 53 08.0 0.0
comp=Z,226nm,1.2s,mb6.0
CABF La Chapelle 85.96 316⇓iP P 12 53 08.0 0.0
CABF pmax pmax
comp=Z,113nm,1.2s,mb6.0
CABF La Chapelle 85.96 316⇓iP P 12 53 08.0 0.0
comp=Z,113nm,1.2s,mb6.0
THEF They Montfort 86.05 318⇓eP P 12 53 08.1 -0.3
MEM Membach 86.07 320 P P 12 53 08.3 -0.1
comp=Z,28nm,1.4s,mb5.3
STOF St-Etienne Org 86.07 314⇓eP P 12 53 09.6 +1.0
ORIF Oris-en-Rattie 86.10 315⇓iP P 12 53 08.6 -0.1
comp=Z,79nm,0.9s,mb5.6
ORIF eMLR MLR
comp=Z,6µm,22.0s,MS5.7
ORIF Oris-en-Rattie 86.10 315⇓iP P 12 53 08.6 -0.1
ORIF pmax pmax
comp=Z,39nm,0.9s,mb5.6
ORIF Oris-en-Rattie 86.10 315⇓iP P 12 53 08.6 -0.1
comp=Z,39nm,0.9s,mb5.6
HGN Heimansgroeve 86.12 321 i P P 12 53 08.1 -0.5
comp=Z,53nm,2.4s,mb5.3
HGN Heimansgroeve 86.12 321 ePP PP 12 56 29.4 +0.2
HGN Heimansgroeve 86.12 321 eS S 13 03 39.2 -1.3
HGN Heimansgroeve 86.12 321 eSS SS 13 09 28.3 +9.0
VILF Villemus 86.21 314⇓eP P 12 53 10.0 +0.7
PUYF Puyloubier 86.22 313⇓eP P 12 53 09.4 +0.1
BERF Bertagne 86.23 313⇓eP P 12 53 09.8 +0.5
BEBN Eben Emael 86.28 321 P P 12 53 09.3 -0.1
comp=Z,10nm,1.5s,mb4.8
SMRF Simiane la Rot 86.31 314⇓iP P 12 53 10.4 +0.7
comp=Z,159nm,1.2s,mb5.8
SMRF Simiane la Rot 86.31 314⇓iP P 12 53 10.4 +0.7
comp=Z,159nm,1.3s,mb6.1
OG05 Jujurieux 86.40 316⇓eP P 12 53 10.1 0.0
GELF Grande-Etoile 86.42 313⇓eP P 12 53 10.7 +0.4
TREF Trevaresse 86.45 313⇓eP P 12 53 10.7 +0.3
SET Setif 86.48 306 P P 12 53 12.0 +1.2
BCLA Clavier 86.51 320 P P 12 53 10.3 -0.2
comp=Z,31nm,1.9s,mb5.2
BER Bergen 86.59 330 eP P 12 53 11.1 +0.3
BER e 13 03 45.6
BER eSS SS 13 09 26.3 +0.4
BER AMS AMS 13 35 30.1
comp=Z,8µm,19.5s,MS6.1
TAM Tamanrasset 86.60 293⇓iP P 12 53 13.1 +1.5
TAM e*SP sP 12 53 24.4 -2.9
PRAF Pradon 86.61 314⇓eP P 12 53 12.0 +0.8
MEZF Maizieres J'vi 86.67 318⇓iP P 12 53 11.0 -0.4
comp=Z,79nm,0.9s,mb5.6
MEZF Maizieres J'vi 86.67 318⇓iP P 12 53 11.0 -0.4
comp=Z,79nm,0.9s,mb5.9
FUNA Funafuti 86.72 99 PFAKE 12 53 20.0 +7.6
FUNA LR LR
comp=Z,7µm,20.0s,MS6.1
GIVF Givet 86.82 320⇓iP P 12 53 11.6 -0.5
comp=Z,78nm,1.2s,mb5.5
GIVF Givet 86.82 320⇓iP P 12 53 11.6 -0.5
GIVF pmax pmax
comp=Z,39nm,1.2s,mb5.5
GIVF Givet 86.82 320⇓iP P 12 53 11.6 -0.5
comp=Z,39nm,1.2s,mb5.5
VIVF Saint-Julien-l 86.95 315⇓iP P 12 53 13.0 +0.1
comp=Z,153nm,1.2s,mb5.8
VIVF Saint-Julien-l 86.95 315⇓iP P 12 53 13.0 +0.1
VIVF pmax pmax
comp=Z,76nm,1.2s,mb5.8
VIVF Saint-Julien-l 86.95 315⇓iP P 12 53 13.0 +0.1
comp=Z,76nm,1.2s,mb5.8
DOU Dourbes 86.97 320 P P 12 53 12.5 -0.3
comp=Z,19nm,1.4s,mb5.1
URZ Urewera 87.02 128 P P 12 53 12.9 -0.5
comp=Z,37nm,1.0s,mb5.6,baz=285,slow=1.1,SNR=5.8
URZ LR LR 13 30 36.4
comp=Z,11µm,20.1s,MS6.3,baz=95,slow=35
SSB Saint Sauveur 87.04 315⇓iP P 12 53 13.2 -0.1
UCC Uccle 87.11 321 P P 12 53 13.1 -0.4
SNF Seneffe 87.17 320 P P 12 53 13.6 -0.2
comp=Z,31nm,1.5s,mb5.3
BAIF Baives 87.22 320⇓iP P 12 53 13.8 -0.2
comp=Z,114nm,1.0s,mb5.7
BAIF Baives 87.22 320⇓iP P 12 53 13.8 -0.2
BAIF pmax pmax
comp=Z,57nm,1.0s,mb5.8
BAIF Baives 87.22 320⇓iP P 12 53 13.8 -0.2
comp=Z,57nm,1.0s,mb5.8
LOR Lormes 87.49 317⇓iP P 12 53 14.9 -0.5
comp=Z,169nm,1.2s,mb5.8
LOR eMLR MLR
comp=Z,6µm,22.2s,MS5.6
LOR Lormes 87.49 317⇓iP P 12 53 14.9 -0.5
LOR pmax pmax
comp=Z,85nm,1.2s,mb5.8
LOR MLR MLR
comp=Z,6µm,22.3s,MS5.9
LOR Lormes 87.49 317⇓iP P 12 53 14.9 -0.5
comp=Z,85nm,1.2s,mb5.8
LOR LR LR
comp=Z,6µm,22.3s,MS5.9
SMF Signal de Mont 87.51 316⇓iP P 12 53 14.9 -0.6
comp=Z,132nm,1.1s,mb5.8
SMF Signal de Mont 87.51 316⇓iP P 12 53 14.9 -0.6
SMF pmax pmax
comp=Z,66nm,1.1s,mb5.8
SMF Signal de Mont 87.51 316⇓iP P 12 53 14.9 -0.6
comp=Z,66nm,1.1s,mb5.8

LASF Ste Croix 87.55 314⇓iP P 12 53 15.8 0.0
comp=Z,103nm,1.2s,mb5.6
PLDF La Plantade 87.68 316⇓eP P 12 53 17.4 +1.1
SSF Saint Saulge 87.73 317⇓iP P 12 53 16.2 -0.4
comp=Z,133nm,1.4s,mb5.7
SSF Saint Saulge 87.73 317⇓iP P 12 53 16.2 -0.4
SSF pmax pmax
comp=Z,67nm,1.4s,mb5.7
SSF Saint Saulge 87.73 317⇓iP P 12 53 16.2 -0.4
comp=Z,67nm,1.4s,mb5.7
AVF Avril sur Loir 87.84 317⇓iP P 12 53 16.6 -0.5
comp=Z,120nm,1.2s,mb5.7
AVF Avril sur Loir 87.84 317⇓iP P 12 53 16.6 -0.5
AVF pmax pmax
comp=Z,60nm,1.2s,mb5.7
AVF Avril sur Loir 87.84 317⇓iP P 12 53 16.6 -0.5
comp=Z,60nm,1.2s,mb5.7
LBL Lubilhac 87.96 315⇓eP P 12 53 19.2 +1.5
AGO Saint Agoulin 88.02 316⇓eP P 12 53 19.2 +1.2
PYM Petit Puy Mans 88.11 316⇓eP P 12 53 19.5 +1.1
BGF Bois d'Agland 88.20 316⇓iP P 12 53 18.8 0.0
comp=Z,202nm,1.2s,mb5.9
BGF Bois d'Agland 88.20 316⇓iP P 12 53 18.8 0.0
BGF pmax pmax
comp=Z,101nm,1.2s,mb5.9
BGF Bois d'Agland 88.20 316⇓iP P 12 53 18.8 0.0
comp=Z,101nm,1.2s,mb5.9
ADK Adak 88.28 38 PFAKE 12 53 30.0 +11
ADK LR LR
comp=Z,5µm,22.0s,MS5.9
HYF Humbligny 88.32 317⇓iP P 12 53 19.5 +0.1
ETOS Mallorca 88.45 310 P P 12 53 22.0 +1.9
comp=Z,34nm,0.9s,mb5.6
EMHD Djebel Mahouad 88.46 306 P P 12 53 18.8 -1.5
MENF Mencas 88.52 320⇓eP P 12 53 20.6 +0.4
FILF Fillols 88.54 312⇓eP P 12 53 21.3 +0.8
LRDF Laroque-de-Fa 88.54 313⇓eP P 12 53 20.8 +0.3
MIDW Midway 88.58 62 PFAKE 12 53 30.0 +9.0
MIDW LR LR
comp=Z,5µm,22.0s,MS5.9
TCF Toulx Ste Croi 88.65 316⇓iP P 12 53 20.8 -0.1
comp=Z,194nm,1.7s,mb5.8
TCF Toulx Ste Croi 88.65 316⇓iP P 12 53 20.8 -0.1
TCF pmax pmax
comp=Z,97nm,1.7s,mb5.9
TCF Toulx Ste Croi 88.65 316⇓iP P 12 53 20.8 -0.1
comp=Z,97nm,1.7s,mb5.9
MTLF Montolieu 88.76 313⇓iP P 12 53 21.6 +0.1
comp=Z,170nm,1.4s,mb5.9
MTLF Montolieu 88.76 313⇓iP P 12 53 21.6 +0.1
MTLF pmax pmax
comp=Z,85nm,1.4s,mb5.9
MTLF Montolieu 88.76 313⇓iP P 12 53 21.6 +0.1
comp=Z,85nm,1.4s,mb5.9
CAF Calviac 88.81 315⇓iP P 12 53 21.9 +0.2
comp=Z,100nm,1.4s,mb5.7
CAF Calviac 88.81 315⇓iP P 12 53 21.9 +0.2
CAF pmax pmax
comp=Z,50nm,1.4s,mb5.7
CAF Calviac 88.81 315⇓iP P 12 53 21.9 +0.2
comp=Z,50nm,1.4s,mb5.7
VALF Valcebollere 88.95 312⇓eP P 12 53 23.6 +1.2
SBA Scott Base 89.10 168 P P 12 53 23.5 +1.1
SBA Scott Base 89.10 168 eP P 12 53 23.6 +1.2
comp=Z,250nm,2.1s,mb6.2
SBA LR LR
comp=Z,9µm,20.0s,MS6.2
RJF Les Rejaudoux 89.18 315⇓iP P 12 53 23.8 +0.4
comp=Z,142nm,1.2s,mb5.9
RJF eMLR MLR
comp=Z,4µm,19.5s,MS5.6
RJF Les Rejaudoux 89.18 315⇓iP P 12 53 23.8 +0.4
RJF pmax pmax
comp=Z,71nm,1.2s,mb5.9
RJF MLR MLR
comp=Z,4µm,19.5s,MS5.9
RJF Les Rejaudoux 89.18 315⇓iP P 12 53 23.8 +0.4
comp=Z,71nm,1.2s,mb5.9
RJF LR LR
comp=Z,4µm,19.5s,MS5.9
EMIR Miracle 89.33 312 P P 12 53 25.6 +1.3
comp=Z,37nm,0.8s,mb5.8
NVL N'lazarevskaya 89.44 199 eP P 12 53 25.0 +0.9
NVL i S S 13 04 17.5 +6.1
NVL pmax pmax
comp=Z,77nm,1.2s,mb5.9
MAIT Maitri 89.47 199 eP P 12 53 26.1 +1.9
MLS Moulis 89.60 313⇓eP P 12 53 25.3 -0.2
EBNR Beni Rached 89.61 306 P P 12 53 19.6 -6.1
EIBI Ibiza 89.62 309 P P 12 53 25.7 +0.1
comp=Z,820nm,3.2s
EPOB Poblet 89.70 311 P P 12 53 26.6 +0.6
comp=Z,30nm,0.9s,mb5.6
LFF La Frestale 89.75 315⇓iP P 12 53 26.5 +0.4
comp=Z,144nm,1.1s,mb5.9
LFF La Frestale 89.75 315⇓iP P 12 53 26.5 +0.4
LFF pmax pmax
comp=Z,72nm,1.1s,mb5.9
LFF La Frestale 89.75 315⇓iP P 12 53 26.5 +0.4
comp=Z,72nm,1.1s,mb5.9
ECHA Ech Chlef 89.75 306 P P 12 53 21.5 -4.8
ETRT Tiaret 89.84 305 P P 12 53 28.0 +1.2
LRW Lerwick 89.84 330 eP P 12 53 25.3 -0.9
LRW AMS AMS 13 37 17.2
comp=Z,9µm,19.8s,MS6.2
EANR 'Ain N'Sour 89.97 306 P P 12 53 26.0 -1.4
WAL1 Walls 90.05 330 eP P 12 53 26.8 -0.4
LDF La Druitiere 90.11 318⇓iP P 12 53 27.4 -0.3
comp=Z,162nm,1.4s,mb5.9
LDF La Druitiere 90.11 318⇓iP P 12 53 27.4 -0.3
LDF pmax pmax
comp=Z,81nm,1.4s,mb5.9
LDF La Druitiere 90.11 318⇓iP P 12 53 27.4 -0.3
comp=Z,81nm,1.4s,mb5.9
RESF Ens 90.16 313⇓eP P 12 53 29.0 +0.9
MFF Saint Martin d 90.26 316⇓iP P 12 53 28.2 -0.3
comp=Z,73nm,1.1s,mb5.6
MFF Saint Martin d 90.26 316⇓iP P 12 53 28.2 -0.3
MFF pmax pmax
comp=Z,36nm,1.1s,mb5.6
MFF Saint Martin d 90.26 316⇓iP P 12 53 28.2 -0.3
comp=Z,36nm,1.1s,mb5.6
ERTA Horta de San J 90.28 311 P P 12 53 29.7 +1.0
comp=Z,42nm,1.0s,mb5.7
EBIE Bielsa 90.31 313 P P 12 53 29.2 +0.3
comp=Z,20nm,0.8s,mb5.5
FLN La Foliniere 90.33 319⇓iP P 12 53 28.5 -0.3
comp=Z,139nm,1.2s,mb5.8
FLN eMLR MLR
comp=Z,5µm,20.5s,MS5.6
FLN La Foliniere 90.33 319⇓iP P 12 53 28.5 -0.3
FLN pmax pmax
comp=Z,70nm,1.2s,mb5.9
FLN MLR MLR
comp=Z,5µm,20.5s,MS5.9
FLN La Foliniere 90.33 319⇓iP P 12 53 28.5 -0.3
comp=Z,70nm,1.2s,mb5.9
FLN LR LR
comp=Z,5µm,20.5s,MS5.9
RAO Raoul Island 90.52 119 LR LR 13 34 22.9
comp=Z,8µm,19.6s,MS6.2,baz=81,slow=36
RAO Raoul Island 90.52 119 PFAKE 12 53 40.0 +10
RAO LR LR
comp=Z,10µm,20.0s,MS6.2
CWF Charnwood Fore 90.54 323 eP P 12 53 29.7 0.0
CWF AMb AMB 12 53 33.9
comp=Z,112nm,1.8s,mb5.9
CWF AMS AMS 13 38 21.8
comp=Z,851nm,20.5s,MS5.2
TOA0 Torodi Ar. Sit 90.59 283 eP P 12 53 30.3 -0.3
TORD Torodi Ar. Bea 90.59 283 P P 12 53 30.4 -0.3
comp=Z,5.9nm,1.0s,mb4.9,baz=80,slow=4.0,SNR=29
TORD PP PP 12 57 06.3 +0.2
comp=Z,2.0nm,1.0s,baz=97,slow=6.4,SNR=3.3
TORD LR LR 13 35 04.2
comp=Z,6µm,18.5s,MS6.1,baz=85,slow=36
WOL Wolverton 90.61 321 eP P 12 53 28.6 -1.4
WOL AMb AMB 12 53 34.7
comp=Z,335nm,1.9s,mb6.3
GRR Gorron 90.61 318⇓iP P 12 53 30.0 -0.1
comp=Z,144nm,1.3s,mb5.8
GRR Gorron 90.61 318⇓iP P 12 53 30.0 -0.1
GRR pmax pmax
comp=Z,72nm,1.3s,mb5.8
GRR Gorron 90.61 318⇓iP P 12 53 30.0 -0.1
comp=Z,72nm,1.3s,mb5.8

HPK Haverah Park 90.62 324 eP P 12 53 29.9 -0.1
HPK AMb AMB 12 53 43.4
comp=Z,230nm,1.5s,mb6.3
HPK AMS AMS 13 42 34.4
comp=Z,6µm,19.5s,MS6.0
KBI1 Birley Grange 90.63 323 eP P 12 53 28.8 -1.2
REYF Montagne du Re 90.68 313⇓eP P 12 53 30.9 +0.4
LHO Holmfirth 90.80 324 eP P 12 53 30.9 +0.1
ETSF Etsaut 90.82 313⇓iP P 12 53 31.8 +0.6
comp=Z,83nm,1.0s,mb5.7
ETSF Etsaut 90.82 313⇓iP P 12 53 31.8 +0.6
ETSF pmax pmax
comp=Z,41nm,1.0s,mb5.7
ETSF Etsaut 90.82 313⇓iP P 12 53 31.8 +0.6
comp=Z,42nm,1.0s,mb5.7
ESAC San Caprasio 90.83 312 P P 12 53 31.6 +0.4
comp=Z,48nm,0.9s,mb5.8
KWE Weaver Farm 90.84 323 eP P 12 53 30.1 -0.9
EMOS Mosqueruela 90.93 310 P P 12 53 33.7 +2.0
comp=Z,51nm,0.8s,mb5.9
SWN1 Swindon 90.95 321 eP P 12 53 31.6 +0.1
SWN1 AMb AMB 12 53 45.1
comp=Z,260nm,1.4s,mb6.4
SWN1 AMS AMS 13 39 15.6
comp=Z,6µm,20.7s,MS6.0
STNC Stoke 91.05 323 AMS AMS 13 37 59.4
comp=Z,7µm,23.0s,MS6.0
LARF Larrau 91.12 313⇓eP P 12 53 33.7 +1.1
MCD Coleburn Disti 91.17 328 eP P 12 53 31.6 -0.9
SJPF Ste Jean 91.29 313⇓iP P 12 53 34.1 +0.8
comp=Z,99nm,1.1s,mb5.8
SJPF Ste Jean 91.29 313⇓iP P 12 53 34.1 +0.8
SJPF pmax pmax
comp=Z,50nm,1.1s,mb5.8
SJPF Ste Jean 91.29 313⇓iP P 12 53 34.1 +0.8
comp=Z,50nm,1.1s,mb5.8
EDI Edinburgh 91.32 326 eP P 12 53 33.4 +0.2
EDI AMb AMB 12 53 42.3
comp=Z,68nm,1.8s,mb5.7
EDI AMS AMS 13 38 23.0
comp=Z,8µm,20.5s,MS6.1
HAE Alders End 91.36 322 eP P 12 53 32.3 -1.2
ECHE Chera 91.37 310 P P 12 53 35.7 +1.9
ECHE pmax pmax
comp=Z,29nm,0.9s,mb5.6
ECHE Chera 91.37 310 P P 12 53 35.7 +1.9
comp=Z,29nm,0.9s,mb5.6
ESK Eskdalemuir 91.40 325 eP P 12 53 33.7 +0.1
ESK AMb AMB 12 53 38.2
comp=Z,75nm,1.7s,mb5.8
ESK AMS AMS 13 41 39.0
comp=Z,7µm,19.0s,MS6.2
ESK Eskdalemuir 91.40 325 P P 12 53 33.9 +0.3
ESK Eskdalemuir 91.40 325 eP P 12 53 32.8 -0.8
comp=Z,75nm,1.3s,mb5.9
ESK esP sP 12 53 45.5 -3.7
ESK LR LR
comp=Z,8µm,20.0s,MS6.2
JSA Saint Aubin 91.41 319 eP P 12 53 33.9 +0.2
JSA AMb AMB 12 53 35.3
comp=Z,78nm,1.6s,mb5.8
BHH Howats Hill 91.43 325 eP P 12 53 33.2 -0.5
EALK Alkurruntz 91.48 313 P P 12 53 35.0 +0.7
comp=Z,15nm,0.8s,mb5.4
ELIZ Elizondo 91.50 313 P P 12 53 35.4 +1.1
ELIZ pmax pmax
comp=Z,7.0nm,0.6s,mb5.2
ELIZ Elizondo 91.50 313 P P 12 53 35.4 +1.0
comp=Z,7.0nm,0.6s,mb5.2
HLM1 Long Mynd 91.52 323 eP P 12 53 33.0 -1.2
HGH Gray Hill 91.56 322 eP P 12 53 33.3 -1.1
MVH1 Achvaich 91.62 328 eP P 12 53 33.1 -1.5
MCH1 Michaelchurch 91.64 322 eP P 12 53 34.1 -0.7
MCH1 AMb AMB 12 53 49.0
comp=Z,65nm,1.5s,mb5.8
BWH Wardlaw 91.67 325 eP P 12 53 33.3 -1.5
EMUR La Murta 91.72 308 P P 12 53 36.1 +0.6
comp=Z,18nm,0.8s,mb5.5
SGMF Saint Gilles 91.75 318⇓iP P 12 53 35.1 -0.3
comp=Z,122nm,1.2s,mb5.8
SGMF Saint Gilles 91.75 318⇓iP P 12 53 35.1 -0.3
SGMF pmax pmax
comp=Z,61nm,1.3s,mb5.8
SGMF Saint Gilles 91.75 318⇓iP P 12 53 35.1 -0.3
comp=Z,61nm,1.3s,mb5.8
MDO Dochfour 91.78 328 eP P 12 53 33.9 -1.4
HTR Trewern Hill 91.80 322 eP P 12 53 35.1 -0.4
ETOB Tobarra 91.90 309 P P 12 53 37.8 +1.5
comp=Z,26nm,0.9s,mb5.6
PGBU Glenifferbraes 92.06 326 AMS AMS 13 38 33.4
comp=Z,8µm,20.9s,MS6.1
ETOR Torete 92.10 311 P P 12 53 38.2 +1.0
ETOR pmax pmax
comp=Z,31nm,0.8s,mb5.7
ETOR Torete 92.10 311 P P 12 53 38.2 +1.1
comp=Z,31nm,0.8s,mb5.7
QUIF Quistinic 92.19 318⇓iP P 12 53 36.9 -0.5
comp=Z,76nm,1.1s,mb5.7
QUIF Quistinic 92.19 318⇓iP P 12 53 36.9 -0.5
QUIF pmax pmax
comp=Z,38nm,1.1s,mb5.6
QUIF Quistinic 92.19 318⇓iP P 12 53 36.9 -0.5
comp=Z,38nm,1.1s,mb5.6
ROSF Rostrenen 92.22 318⇓iP P 12 53 37.3 -0.2
comp=Z,109nm,1.2s,mb5.8
ROSF Rostrenen 92.22 318⇓iP P 12 53 37.3 -0.2
ROSF pmax pmax
comp=Z,54nm,1.2s,mb5.8
ROSF Rostrenen 92.22 318⇓iP P 12 53 37.3 -0.2
comp=Z,54nm,1.2s,mb5.8
ECRI Cripan 92.27 313 P P 12 53 38.4 +0.5
ECRI pmax pmax
comp=Z,48nm,1.4s,mb5.6
ECRI Cripan 92.27 313 P P 12 53 38.4 +0.5
comp=Z,48nm,1.4s,mb5.6
GAL1 Galloway 92.31 325 AMS AMS 13 43 45.5
comp=Z,6µm,18.0s,MS6.1
DYA Yadsworthy 92.41 321 eP P 12 53 38.3 -0.1
DYA AMb AMB 12 53 51.7
comp=Z,146nm,1.4s,mb6.1
KPL Plockton 92.49 328 AMS AMS 13 37 18.4
comp=Z,5µm,22.1s,MS5.9
ENIJ Nijar 92.56 307 P P 12 53 40.3 +0.9
ENIJ pmax pmax
comp=Z,42nm,1.6s,mb5.6
ENIJ Nijar 92.56 307 P P 12 53 40.3 +0.9
comp=Z,42nm,1.6s,mb5.6
EVIA Vianos 92.64 309 P P 12 53 41.1 +1.4
EVIA pmax pmax
comp=Z,31nm,1.0s,mb5.7
EVIA Vianos 92.64 309 P P 12 53 41.1 +1.4
comp=Z,31nm,1.0s,mb5.7
EHUE Huescar 92.79 308 P P 12 53 40.8 +0.4
EHUE pmax pmax
comp=Z,35nm,1.0s,mb5.7
EHUE Huescar 92.79 308 P P 12 53 40.8 +0.4
comp=Z,35nm,1.0s,mb5.7
ELAN Lanestosa 92.88 313 P P 12 53 41.2 +0.5
comp=Z,14nm,1.0s,mb5.4
EBER Berja 93.11 307 P P 12 53 42.9 +1.0
comp=Z,37nm,0.8s,mb5.9
EQES Quesada 93.17 308 P P 12 53 42.4 +0.2
comp=Z,11nm,0.7s,mb5.4
EALB Alboran 93.32 306 P P 12 53 42.2 -0.7
comp=Z,125nm,1.6s,mb6.1
ECOG Cogollos-Vega 93.61 307 P P 12 53 44.1 -0.1
ECOG pmax pmax
comp=Z,14nm,1.0s,mb5.3
ECOG Cogollos-Vega 93.61 307 P P 12 53 44.1 -0.1
comp=Z,14nm,1.0s,mb5.3
EGUA Guajares 93.66 307 P P 12 53 44.6 +0.2
ESDC Sonseca Array 93.67 310 P P 12 53 45.0 +0.6
comp=Z,12nm,0.8s,mb5.4,baz=60,slow=4.7,SNR=34
ESDC PP PP 12 57 32.0 +2.4
comp=Z,0.6nm,0.6s,baz=90,slow=6.4,SNR=3.9
ESDC LR LR 13 42 06.2
comp=Z,3µm,18.2s,MS5.7,baz=100,slow=40
ESDC Sonseca Array 93.67 310 P P 12 53 44.8 +0.4
comp=Z,7.1nm,0.6s,mb5.3
ESLA Sonseca Array 93.67 310 eP P 12 53 44.9 +0.5
comp=Z,7.1nm,1.1s,mb5.0
ESLA esP sP 12 53 57.0 -3.1
ESLA LR LR
comp=Z,17µm,19.0s,MS6.5
EBAN Banos Encina 93.69 308 P P 12 53 45.1 +0.5
EBAN pmax pmax

comp=Z,24nm,0.9s,mb5.6
EBAN Banos Encina 93.69 308 P **P** 12 53 45.1 +0.5
comp=Z,24nm,0.9s,mb5.6
GUD Guadarrama 93.70 311 P **P** 12 53 44.4 -0.2
GUD pmax pmax
comp=Z,26nm,1.0s,mb5.6
GUD Guadarrama 93.70 311 P **P** 12 53 44.4 -0.2
comp=Z,26nm,1.0s,mb5.6
PAB San Pablo 93.98 310 *e*P **P** 12 53 46.1 +0.3
PAB pmax pmax
comp=Z,17nm,1.1s,mb5.4
PAB MLR MLR
comp=Z,4µm,19.0s,MS5.9
PAB San Pablo 93.98 310 *e*P **P** 12 53 46.1 +0.2
comp=Z,17nm,1.1s,mb5.4
PAB LR LR
comp=Z,4µm,19.0s,MS5.9
ELOJ Sierra Loja 94.09 307 P **P** 12 53 46.3 -0.1
ELOJ pmax pmax
comp=Z,2.0nm,0.5s,mb4.8
ELOJ Sierra Loja 94.09 307 P **P** 12 53 46.3 -0.1
comp=Z,2.4nm,0.5s,mb4.9
SNAA Sanae 94.21 198 *e*P **P** 12 53 48.6 +2.4
SNAA *e* pP 12 53 57.7 0.0
SNAA *e* pP 12 54 01.0 +3.3
SNAA *e* 12 54 04.6
SNAA Sanae 94.21 198 *e*P **P** 12 53 46.4 +0.2
SNAA pmax pmax
comp=Z,47nm,1.9s
SNAA Sanae 94.21 198 *e*P **P** 12 53 46.4 +0.3
comp=Z,47nm,1.9s,mb5.6
EADA Adamuz 94.31 308 P **P** 12 53 46.9 -0.5
comp=Z,17nm,1.0s,mb5.4
ALE Alert 94.33 357 P **P** 12 53 46.0 -0.6
comp=Z,111nm,0.9s,mb6.3,SNR=8.7
EMIJ Mijas 94.65 307 P **P** 12 53 48.8 -0.2
comp=Z,9.2nm,0.7s,mb5.3
MDT Midelt 94.94 303 PP PP 12 57 43.1 +3.3
comp=Z,2.9nm,0.9s,baz=79,slow=12,SNR=3.6
ECAB El Cabril 94.98 308 P **P** 12 53 51.3 +0.8
comp=Z,8.6nm,0.8s,mb5.2
EJIF Jimena Fronter 95.22 307 P **P** 12 53 50.3 -1.3
EJIF pmax pmax
comp=Z,171nm,2.3s,mb6.1
EJIF Jimena Fronter 95.22 307 P **P** 12 53 50.3 -1.3
comp=Z,171nm,2.3s,mb6.1
ESPR Espera 95.48 307 P **P** 12 53 53.3 +0.5
comp=Z,7.9nm,0.8s,mb5.2
PBRG Bragança 95.49 312 *e*PP PP 12 57 43.8 +0.1
VNA2 Neumayer--Watz 95.75 199 *e*P **P** 12 53 54.1 +0.8
baz=89,slow=4.5
VNA2 *e* pP 12 54 04.4 -0.4
VNA2 *e* pP 12 54 08.0 +3.2
VNA2 *e* 12 54 11.2
AFI Afiamalu 95.78 104 LR LR 13 37 10.5
comp=Z,2µm,20.8s,MS5.5,baz=92,slow=36
AFI Afiamalu 95.78 104 PFAKE 12 54 10.0 +15
AFI LR LR
comp=Z,2µm,19.0s,MS5.6
MVO Moncorvo 95.80 312 *e*PP PP 12 57 47.8 +1.7
MVO *e*SKS 13 05 14.3
MVO *e*SS SS 13 11 53.8 +14
MVO *e*LR LR 13 27 36.3
comp=Z,3µm,20.0s
MVO *e*LQ 13 28 06.4
SFS San Fernando 95.81 307 PFAKE 12 54 10.0 +16
SFS LR LR
comp=Z,8µm,20.0s,MS6.2
EMIN Mina Concepcio 96.00 308 P **P** 12 53 54.3 -0.9
comp=Z,4.1nm,0.7s,mb5.0
VNA1 Neumayer--Stat 96.08 199 *e*P **P** 12 53 56.2 +1.4
VNA1 *e* pP 12 54 06.0 -0.3
VNA1 *e* 12 54 10.5
VNA1 *e* 12 54 14.2
EBAD Badajoz 96.13 309 P **P** 12 53 55.7 0.0
comp=Z,4.7nm,0.6s,mb5.1
PBAR Barrancos 96.23 309 *e*P **P** 12 53 57.2 +1.0
comp=Z,41nm,2.0s,mb5.5
PBAR Barrancos 96.23 309 *e*PP PP 12 57 47.9 -1.7
PBAR *e*SKS 13 05 15.3
PBAR *e*SS SS 13 11 47.3 +1.4
PBAR *e*LR LR 13 26 09.3
comp=Z,4µm,22.0s
PBAR *e*LQ 13 28 04.1
PVRL Vila Real 96.29 312 *e*PP PP 12 57 51.6 +1.6
MTE Manteigas 96.30 311 *e*P **P** 12 53 57.6 +1.2
MTE Manteigas 96.30 311 *e*PP PP 12 57 51.1 +1.1
MTE *e*SKS 13 05 19.6
MTE *e*SS SS 13 11 56.9 +10
MTE *e*LR LR 13 28 06.3
comp=Z,4µm,18.0s
MTE Manteigas 96.30 311 PFAKE 12 54 10.0 +14
MTE LR LR
comp=Z,4µm,22.0s,MS5.8
PMRV Marv??o 96.33 310 *e*P **P** 12 53 56.6 0.0
PMRV Marv??o 96.33 310 *e*PP PP 12 57 49.2 -1.1
PMRV *e*SKS 13 05 13.5
PMRV *e*SS SS 13 11 51.9 +4.8
PMRV *e*LR LR 13 26 50.2
comp=Z,3µm,20.0s
PCBR Castelo Branco 96.33 310 *i* PP PP 12 57 51.7 +1.4
VNA3 Neumayer Olymp 96.43 199 *e*P **P** 12 53 56.7 +0.4
VNA3 *e* pP 12 54 06.6 -1.3
VNA3 *e* pP 12 54 10.0 +2.1
VNA3 *e* 12 54 13.9
PCAB Cabril 96.45 312 *e*PP PP 12 57 53.4 +2.2
PVIS Viseu 96.51 311 *i* PP PP 12 57 53.8 +2.1
PESTR Estremoz 96.56 309 *e*PP PP 12 57 51.7 -0.4
PESTR *e*SKS 13 05 27.2
PESTR *e*SS SS 13 11 52.8 +2.3
PESTR *e*LR LR 13 27 22.6
comp=Z,3µm,20.0s
PESTR *e*LQ 13 27 37.3
RTC Rabat Centre 96.66 304 PFAKE 12 54 10.0 +12
RTC LR LR
comp=Z,6µm,19.0s,MS6.1
PVAQ Vaqueiros 96.88 308 *e*SKS 13 05 27.5
PVAQ *e*SS SS 13 11 57.1 +2.1
PVAQ *e*LQ 13 28 14.9
PVAQ *e*LR LR 13 28 32.6
comp=Z,4µm,20.0s
PBEJ Beja 96.90 309 *e*PP PP 12 57 55.0 +0.2
EVO Evora 96.94 309 *e*P **P** 12 53 59.6 +0.2
comp=Z,53nm,1.7s,mb5.4
EVO *e*MLR MLR
comp=Z,4µm,22.8s,MS5.6
EVO Evora 96.94 309 *i* PP PP 12 57 55.3 +0.2
PBDV Barranco-do-Ve 97.07 308 *i* PP PP 12 57 55.9 -0.2
PBDV *e*SKS 13 05 22.7
PBDV *e*SS SS 13 12 01.2 +3.5
PBDV *e*LR LR 13 28 27.4
comp=Z,5µm,20.0s
PBDV *e*LQ 13 28 32.6
KIC Kosan Boka 97.30 277 *e*P **P** 12 54 01.3 -0.2
comp=Z,80nm,0.9s,mb6.1
DBIC Dimbokro 97.39 277 P **P** 12 54 02.9 +0.9
comp=Z,8.7nm,0.9s,mb5.2,baz=123,slow=4.8,SNR=7.1
DBIC LR LR 13 33 56.7
comp=Z,5µm,20.9s,MS6.0,baz=70,slow=33
TIC Toumodi 97.56 277 *e*P **P** 12 54 00.1 -2.6
comp=Z,72nm,1.1s,mb6.1
LIC Lamto 97.59 277⇑ *i*P **P** 12 54 04.3 +1.4
comp=Z,36nm,1.1s,mb5.5
LIC *e*MLR MLR
comp=Z,8µm,21.8s,MS5.9
LIC Lamto 97.59 277 *e*P **P** 12 54 03.3 +0.4
comp=Z,45nm,1.1s,mb5.9
LIC Lamto 97.59 277⇑ *i*P **P** 12 54 04.3 +1.4
comp=Z,18nm,1.1s,mb5.5
LIC LR LR
comp=Z,4µm,21.8s,MS5.9
MORF Marmelete 97.63 308 *e*SKS 13 05 25.5
MORF *e*SS SS 13 12 07.8 +2.2
MORF *e*LQ 13 28 48.0
MORF *e*LR LR 13 36 14.3
comp=Z,3µm,20.0s
PTEO Sao Teotonio 97.65 308 *e*PP PP 12 58 00.6 +0.1
BORG Borgarnes 97.81 337 PFAKE 12 54 10.0 +7.3
BORG LR LR
comp=Z,8µm,19.0s,MS6.2
SVW2 Sparrevohn 98.02 27 *e*P **P** 12 54 04.1 +0.4
COLA College 99.71 22 PFAKE 12 54 20.0 +8.6
COLA LR LR
comp=Z,6µm,21.0s,MS6.1
MCK McKinley 99.81 23 P Pdif 12 54 11.9 +0.1
MCK McKinley 99.81 23 *e*Pdif Pdif 12 54 12.0 +0.2
comp=Z,10nm,1.1s
KDAK Kodiak Island 100.66 30 PFAKE 12 54 30.0 +14
KDAK LR LR
comp=Z,2µm,21.0s,MS5.5
PMR Palmer 100.69 25 PFAKE 12 54 30.0 +14
PMR LR LR
comp=Z,5µm,21.0s,MS6.0
DAWY Dawson 103.25 21 *e*Pdif Pdif 12 54 26.7 -0.5
TRIS Tristan da Cun 103.65 233 PFAKE 12 54 40.0 +11
TRIS LR LR
comp=Z,6µm,22.0s,MS6.0
SFJD Kangerlussuaq 105.97 346 PFAKE 12 59 00.0 +8.9
SFJD LR LR
comp=Z,6µm,20.0s,MS6.2
KIP Kipapa 106.77 67 PFAKE 12 59 10.0 +16
KIP LR LR
comp=Z,4µm,20.0s,MS6.0
RAR Rarotonga 107.08 111 PFAKE 12 59 10.0 +16
RAR LR LR
comp=Z,4µm,20.0s,MS5.9
ASCN Ascension 107.43 263 PFAKE 12 59 10.0 +15
ASCN LR LR
comp=Z,4µm,21.0s,MS6.0
SIT Sitka 109.07 26 PFAKE 12 59 10.0 +13
SIT LR LR
comp=Z,10µm,22.0s,MS6.3
POHA Pohakuloa 109.34 68 PFAKE 12 59 10.0 +11
POHA LR LR
comp=Z,3µm,22.0s,MS5.9
XMAS Kiritimati 109.54 87 PFAKE 12 59 10.0 +11
XMAS LR LR
comp=Z,3µm,19.0s,MS5.8
CMLA Cha da Macela 110.48 312 PFAKE 12 59 10.0 +10
CMLA LR LR
comp=Z,3µm,20.0s,MS5.9
WRAK Wrangell Islan 110.75 25 PFAKE 12 59 10.0 +10
WRAK LR LR
comp=Z,5µm,20.0s,MS6.1
YKA Yellowknife Ar 111.86 13 PP PP 12 59 39.8 -5.0
comp=Z,4.8nm,1.0s,baz=332,slow=7.7,SNR=6.7
HOPE Hope Point 114.04 210 PFAKE 12 59 20.0 +13
HOPE LR LR
comp=Z,4.0nm,22.0s
PMSA Palmer Station 115.71 191 PFAKE 12 59 20.0 +10
PMSA LR LR
comp=Z,6µm,21.0s,MS6.2
TBI Tubuai 116.33 115 *e*PS PS 13 10 00.9 -0.1
comp=Z,798nm,25.2s
TBI *e*SS SS 13 16 19.1 -1.3
comp=Z,3µm,29.5s
TBI Tubuai 116.33 115 *e*LQ 13 29 24.4
comp=Z,5µm,32.2s
TBI *e*LR LR 13 34 31.7
comp=Z,4µm,23.2s
PPT Papeete 116.99 108 *e*PS PS 13 10 07.2 0.0
comp=Z,780nm,24.2s
PPT *e*SS SS 13 16 31.3 +2.0
comp=Z,2µm,27.2s
PPT Papeete 116.99 108 *e*LQ 13 29 37.6
comp=Z,6µm,28.2s
PPT *e*LR LR 13 34 53.6
comp=Z,4µm,23.5s
EDM Edmonton 120.24 18 *e*PKIKP PKPdf 12 59 18.2 -0.4
A05A Maple Falls 120.39 26⇑P PKPdf 12 59 18.1 -1.0
baz=120
NLWA Neilton Lookou 120.76 28 PFAKE 12 59 30.0 +10
NLWA LR LR
comp=Z,4µm,19.0s,MS6.1
B05A Bryant 120.94 27⇑P PKPdf 12 59 19.7 -0.4
baz=121
B06A Marblemount 121.02 26⇑P PKPdf 12 59 19.5 -0.7
baz=121
JCW Jim Creek 121.06 26 P PKPdf 12 59 20.6 +0.3
A07A Ashnola River, 121.09 25⇓P PKPdf 12 59 20.0 -0.4
baz=121
FFC Flin Flon 121.61 10 PFAKE 12 59 30.0 +8.8
FFC LR LR
comp=Z,8µm,20.0s,MS6.4
A08A Turner Farm, O 121.62 24⇑P PKPdf 12 59 21.4 0.0
baz=122
B07A Winthrop 121.65 25⇑P PKPdf 12 59 21.4 0.0
baz=122
D05A Enumclaw 121.79 27⇓P PKPdf 12 59 22.1 +0.3
baz=122
A09A Danville 121.89 24⇓P PKPdf 12 59 21.6 -0.3
baz=122
B08A Colville Reser 122.06 25⇑P PKPdf 12 59 21.7 -0.5
baz=122
ETW Entiat 122.22 26 *e*PKPdf PKPdf 12 59 22.5 0.0
C07A Waterville 122.27 26⇑P PKPdf 12 59 22.3 -0.4
baz=122
ERK Elk Rock 122.27 28 P PKPdf 12 59 23.4 +0.7
A10A Northport 122.29 23⇓P PKPdf 12 59 22.4 -0.3
baz=122
TDL Tradedollar La 122.30 28 P PKPdf 12 59 23.4 +0.6
D06A Cle Elum 122.30 27⇓P PKPdf 12 59 22.6 -0.2
baz=122
E05A Randle 122.36 28⇓P PKPdf 12 59 22.4 -0.4
baz=122
B09A Rice 122.50 24⇑P PKPdf 12 59 22.9 -0.2
baz=122
F04A Amboy 122.51 29⇓P PKPdf 12 59 23.1 -0.1
baz=122
D07A Quincy 122.69 26⇑P PKPdf 12 59 23.3 -0.2
baz=122
E06A Yakima 122.73 27⇑P PKPdf 12 59 23.5 -0.1
baz=123
A11A Hall Mountain, 122.78 23⇓P PKPdf 12 59 23.3 -0.3
baz=123
NEW Newport 123.04 23 PFAKE 12 59 40.0 +16
NEW LR LR
comp=Z,6µm,22.0s,MS6.2
COR Corvallis 123.04 30 PFAKE 12 59 40.0 +16
COR LR LR
comp=Z,4µm,20.0s,MS6.0
OD2 Odessa Site #2 123.08 25 *e*PKPdf PKPdf 12 59 22.4 -1.9
B11A Sandpoint 123.20 23⇑P PKPdf 12 59 24.6 +0.2
baz=123
E07A Sunnyside 123.22 26⇓P PKPdf 12 59 24.3 -0.2
baz=123
D08A Wollman Farm, 123.25 26⇑P PKPdf 12 59 24.6 0.0
baz=123
RSW Rattlesnake Hi 123.47 26 *e*PKPdf PKPdf 12 59 25.7 +0.6
HAWA Hanford 123.50 26 PFAKE 12 59 40.0 +15
HAWA LR LR
comp=Z,6µm,22.0s,MS6.2
D09A Jones Farm, Ri 123.51 25⇑P PKPdf 12 59 25.0 -0.1
baz=123
A13A Flathead Natio 123.52 21⇓P PKPdf 12 59 24.6 -0.4
baz=123
H04A Detroit Lake 123.53 29⇓P PKPdf 12 59 25.0 -0.1
baz=123
E08A Dider Farm, El 123.63 26⇑P PKPdf 12 59 25.5 +0.1
baz=124
G06A Carlson Farm, 123.87 28⇓P PKPdf 12 59 25.9 +0.1
baz=124
B13A Whitefish 123.97 22⇑P PKPdf 12 59 25.2 -0.7
baz=124,SNR=9.9
E09A Wood Farm, Sta 124.01 25⇓P PKPdf 12 59 25.8 -0.2
baz=124
H05A Madras 124.02 29⇓P PKPdf 12 59 26.1 0.0
baz=124
A15A Johnson Ranch, 124.08 20⇑P PKPdf 12 59 25.3 -0.8
baz=124,SNR=8.9
BSMT Bassoo Peak 124.28 22 P PKPdf 12 59 27.2 +0.7
F08A Pendleton 124.29 26⇑P PKPdf 12 59 26.6 0.0
baz=124
G07A Ruggs Ranch, H 124.29 27⇓P PKPdf 12 59 25.9 -0.8
baz=124
D11A Klaveano Farm, 124.34 24⇓P PKPdf 12 59 26.1 -0.6
baz=124
H06A Lindquist Farm 124.38 28⇓P PKPdf 12 59 26.7 -0.2
baz=124
B14A Marquette Ranc 124.41 21⇑P PKPdf 12 59 25.7 -1.1
baz=124,SNR=5.6
VIPM Ingram Point 124.42 29 PKIKP PKPdf 12 59 27.9 +1.0
LNOR Lincton Mounta 124.45 26 *e*PKIKP PKPdf 12 59 26.8 -0.1
E10A Myers Farm, Un 124.47 25⇑P PKPdf 12 59 27.1 +0.1
baz=124
A16A West Butte Ran 124.49 19⇓P PKPdf 12 59 26.8 -0.1
baz=124
C13A Hot Springs 124.51 22⇑P PKPdf 12 59 26.6 -0.3
baz=124
G08A Pilot Rock 124.60 27⇓P PKPdf 12 59 26.9 -0.3
baz=124
J04A Umpqua Nationa 124.61 31⇓P PKPdf 12 59 27.2 -0.1
baz=124
HUMO Hull Mountain 124.62 32⇓P PKPdf 12 59 27.4 0.0
baz=124
HUMO Hull Mountain 124.62 32 *e*PKPdf PKPdf 12 59 27.7 +0.3
HUMO LR LR
comp=Z,3µm,21.0s,MS6.0
B15A Bradely Ranch, 124.70 20⇑P PKPdf 12 59 26.1 -1.2
baz=124,SNR=25
D12A Red Ives Fores 124.72 23⇑P PKPdf 12 59 26.5 -0.9
baz=125
C14A Swan Lake 124.74 22⇓P PKPdf 12 59 26.7 -0.7
baz=125,SNR=8.3
F10A Beach Ranch, E 124.83 25⇑P PKPdf 12 59 27.1 -0.5
baz=125
H07A Lands Inn, Kim 124.85 28⇑P PKPdf 12 59 27.1 -0.7
baz=125
B16A M & M Farms, S 124.91 20⇑P PKPdf 12 59 27.5 -0.2
baz=125
E11A Bogner Ranch, 124.94 24⇓P PKPdf 12 59 27.1 -0.8
baz=125
J05A Fort Rock 125.02 30⇑P PKPdf 12 59 27.5 -0.6
baz=125
I06A Prineville 125.03 29⇑P PKPdf 12 59 27.5 -0.6
baz=125
D13A Huson 125.04 23⇑P PKPdf 12 59 27.1 -0.9
baz=125,SNR=7.9
G09A Cove 125.13 26⇑P PKPdf 12 59 27.8 -0.4
baz=125
C15A Salmond Ranch, 125.15 21⇑P PKPdf 12 59 27.1 -1.1
baz=125,SNR=26
I07A Izee 125.27 28⇓P PKPdf 12 59 28.8 +0.3
baz=125
H08A Prairie City 125.32 27⇓P PKPdf 12 59 28.4 -0.2
baz=125
EFI East Falkland 125.33 202 PFAKE 12 59 40.0 +12
EFI LR LR
comp=Z,3µm,19.0s,MS6.0
F11A Grangeville 125.34 25⇑P PKPdf 12 59 27.6 -1.0
baz=125
YBH Yreka Blue Hor 125.36 32 PFAKE 12 59 40.0 +11
YBH LR LR
comp=Z,2µm,20.0s,MS5.8
D14A Greenough 125.41 22⇑P PKPdf 12 59 27.7 -1.0
baz=125,SNR=6.6
MSO Missoula 125.45 22 *e*PKPdf PKPdf 12 59 28.2 -0.6
MSO LR LR
comp=Z,4µm,19.0s,MS6.1
M02C Callahan 125.52 33⇑P PKPdf 12 59 28.6 -0.5
baz=125
J06A Christmas Vall 125.58 29⇑P PKPdf 12 59 28.3 -0.8
baz=125
K05A Summer Lake 125.59 30⇓P PKPdf 12 59 28.6 -0.6
baz=125
CHMT Chamberlain Mo 125.64 22 *e*PKPdf PKPdf 12 59 28.8 -0.3
N02C Big Bar 125.67 33⇓P PKPdf 12 59 28.1 -1.3
baz=126
BMO Blue Mountains 125.67 26 *e*PKIKP PKPdf 12 59 29.6 +0.3
BMO MLR MLR
comp=Z,5µm,21.0s,MS6.2
E13A Victor 125.68 23⇓P PKPdf 12 59 28.4 -0.9
baz=126,SNR=19
M04C Macdoel 125.79 32⇓P PKPdf 12 59 28.5 -1.1
baz=126
D15A Lincoln 125.80 21⇑P PKPdf 12 59 28.6 -0.9
baz=126,SNR=6.1
I08A Drewsey 125.83 28⇓P PKPdf 12 59 29.2 -0.5
baz=126
O01C Eel River Cons 125.85 34⇑P PKPdf 12 59 29.1 -0.7
baz=126
K06A Valley Falls 125.86 30⇓P PKPdf 12 59 29.1 -0.6
baz=126
J07A Hines 125.89 29⇓P PKPdf 12 59 29.4 -0.3
baz=126
EGMT Eagleton 125.89 19⇑P PKPdf 12 59 29.2 -0.4
baz=126
EGMT Eagleton 125.89 19 *e*PKPdf PKPdf 12 59 30.1 +0.5
EGMT LR LR
comp=Z,6µm,22.0s,MS6.2
C17A Wharram Farm, 125.91 20⇓P PKPdf 12 59 28.8 -0.9
baz=126
E14A Clinton 125.97 22⇓P PKPdf 12 59 29.3 -0.5
baz=126,SNR=8.4
D16A Dana Ranch, Ca 126.16 21⇓P PKPdf 12 59 29.5 -0.6
baz=126,SNR=16
F13A Darby 126.16 23⇓P PKPdf 12 59 29.2 -1.0
baz=126,SNR=9.8
I09A Lost Marbles R 126.17 27⇑P PKPdf 12 59 29.9 -0.3
baz=126
WDC Whiskeytown Da 126.26 33 PFAKE 12 59 40.0 +9.5
WDC LR LR
comp=Z,3µm,22.0s,MS5.9
J08A Circle Bar Ran 126.30 28⇓P PKPdf 12 59 30.3 -0.2
baz=126
H11A Donnelly 126.35 25⇓P PKPdf 12 59 30.1 -0.5
baz=126
LTIM Timbered Crate 126.41 32 P PKPdf 12 59 31.4 +0.6
K07A Rock Creek Ran 126.44 29⇑P PKPdf 12 59 30.6 -0.3
baz=126
M05C Lookout 126.45 32⇑P PKPdf 12 59 30.5 -0.4
baz=126
MOD Modoc 126.50 31⇓P PKPdf 12 59 29.9 -1.0
baz=126
MOD Modoc 126.50 31 *e*PKPdf PKPdf 12 59 31.7 +0.7
MOD LR LR
comp=Z,3µm,21.0s,MS5.9
F14A Wisdom 126.52 23⇑P PKPdf 12 59 30.3 -0.6
baz=126
E16A East Helena 126.54 21⇓P PKPdf 12 59 30.6 -0.3
baz=126,SNR=7.1
J09A Fry Pan Ranch, 126.65 28⇓P PKPdf 12 59 31.2 0.0
baz=126
LBCM Butte Creek Ri 126.72 32 P PKPdf 12 59 31.8 +0.4
K08A Mann Creek Ran 126.77 29⇑P PKPdf 12 59 31.3 -0.1
baz=127
G13A Cobalt 126.78 24⇑P PKPdf 12 59 30.7 -0.7
baz=127
GASB Alder Springs 126.80 34⇑P PKPdf 12 59 31.2 -0.5
baz=127
F15A Butte 126.83 22⇑P PKPdf 12 59 31.0 -0.4
baz=127
ULM Lac du Bonnet 126.87 7 PKP PKPdf 12 59 30.6 -0.9
comp=Z,12nm,1.0s,baz=310,slow=4.1,SNR=8.5
ULM PP PP 13 01 24.6 -3.4
comp=Z,11nm,1.0s,baz=354,slow=5.4,SNR=4.2
ULM Lac du Bonnet 126.87 7 PKP PKPdf 12 59 30.6 -0.9
ULM PP PP 13 01 24.6 -3.4
ULM LR LR
comp=Z,10µm,21.0s,MS6.5
E17A Martinsdale 126.89 20⇓P PKPdf 12 59 31.0 -0.6
baz=127
L07A Adell 126.89 30⇑P PKPdf 12 59 31.7 0.0
baz=127
M06C Likely Place G 126.92 31⇓P PKPdf 12 59 32.0 +0.2
baz=127
WVOR Wild Horse Val 126.93 29 *e*PKIKP PKPdf 12 59 32.8 +1.0
WVOR MLR MLR
comp=Z,3µm,20.0s,MS6.0
G14A Jackson 126.96 23⇓P PKPdf 12 59 31.8 0.0
baz=127,SNR=21
H12A Diamond D Ranc 126.97 25⇑P PKPdf 12 59 31.2 -0.6
baz=127,SNR=7.7
I11A Placerville 127.01 26⇑P PKPdf 12 59 31.9 0.0
baz=127
HOPS Hopland 127.05 35 PFAKE 12 59 40.0 +7.9
HOPS LR LR
comp=Z,3µm,22.0s,MS6.0
DGMT Dagmar 127.06 14⇑P PKPdf 12 59 31.7 -0.1
baz=127
DGMT Dagmar 127.06 14 *e*PKPdf PKPdf 12 59 31.2 -0.7
DGMT LR LR
comp=Z,7µm,21.0s,MS6.3
E18A Harlowton 127.12 20⇑P PKPdf 12 59 32.1 +0.1
baz=127
K09A Rome 127.16 28⇓P PKPdf 12 59 32.7 +0.5
baz=127
DLMT Dillon 127.19 22 *e*PKPdf PKPdf 12 59 32.9 +0.8
H13A Challis 127.20 24⇑P PKPdf 12 59 32.4 +0.1
baz=127,SNR=14
O04C Chester 127.23 32⇓P PKPdf 12 59 32.3 -0.1
baz=127
L08A Fields 127.25 29⇓P PKPdf 12 59 32.9 +0.5
baz=127
G15A Dillon 127.40 22⇑P PKPdf 12 59 32.9 +0.3
baz=127,SNR=12
I12A Atlanta 127.46 25⇓P PKPdf 12 59 33.0 +0.2
baz=127
MFID Camas Ranch 127.46 26⇓P PKPdf 12 59 32.6 -0.1
baz=127,SNR=5.7

MNRC **McLaughlin Nat** 127.49 35 ⇑P PKPdf 12 59 33.3 +0.4
baz=127
K10A **MacKenzie Ranc** 127.50 27 ⇑P PKPdf 12 59 32.9 +0.1
baz=127
H14A **Leadore** 127.52 23 ⇑P PKPdf 12 59 32.8 0.0
baz=127,SNR=6.4
MCMT **McKenzie Canyo** 127.55 23 P PKPdf 12 59 33.9 +1.0
ORV **Oroville** 127.55 33 ⇑P PKPdf 12 59 32.8 -0.2
baz=127
O05C **Quincy** 127.58 33 ⇓P PKPdf 12 59 33.2 +0.2
baz=127
N06A **Buffalo Meadow** 127.58 31 ⇓P PKPdf 12 59 33.5 +0.4
baz=127
G16A **Moss Hill, Enn** 127.61 22 ⇑P PKPdf 12 59 33.2 +0.3
baz=127,SNR=13
L09A **Wilkinson Ranc** 127.71 29 ⇑P PKPdf 12 59 33.8 +0.6
baz=128
MCCM **Marconi Confer** 127.73 36 PFAKE 12 59 40.0 +6.6
MCCM LR LR
comp=Z,2μm,20.0s,MS5.9
F18A **Big Timber** 127.77 20 ⇑P PKPdf 12 59 33.9 +0.7
baz=128
I13A **Wildhorse Cree** 127.79 25 ⇑P PKPdf 12 59 33.6 +0.2
baz=128,SNR=9.1
H15A **Lima** 127.80 23 ⇑P PKPdf 12 59 33.2 -0.1
baz=128,SNR=9.5
GCMT **Greycliff** 127.88 20 *e*PKPdf PKPdf 12 59 34.2 +0.7
GCMT *e*PP PP 13 01 35.3 +0.4
J12A **Stokes Ranch,** 127.91 26 ⇓P PKPdf 12 59 34.1 +0.5
baz=128,SNR=9.0
BEKR **Beckwourth** 127.94 32 ⇑P PKPdf 12 59 34.2 +0.4
baz=128
HLID **Hailey** 127.95 25 ⇓P PKPdf 12 59 33.9 +0.2
baz=128,SNR=8.3
HLID **Hailey** 127.95 25 *e*PKPdf PKPdf 12 59 33.6 0.0
HLID LR LR
comp=Z,5μm,22.0s,MS6.2
O06A **Flanigan** 128.01 32 ⇓P PKPdf 12 59 34.4 +0.5
baz=129
QLMT **Earthquake Lak** 128.08 22 *e*PKPdf PKPdf 12 59 35.1 +1.3
LAO **LASA Array** 128.16 17 *e*PKPdf PKPdf 12 59 35.1 +1.1
LAO LR LR
comp=Z,7μm,20.0s,MS6.3
J13A **Cove Ranch, Pi** 128.19 25 ⇑P PKPdf 12 59 34.7 +0.6
baz=128,SNR=18
L10A **Juniper Basin** 128.23 28 ⇓P PKPdf 12 59 35.2 +0.9
baz=128
H16A **Russell Place,** 128.26 22 ⇓P PKPdf 12 59 35.1 +0.9
baz=128
M09A **Marrel Ranch,** 128.27 29 ⇑P PKPdf 12 59 34.9 +0.5
baz=128
I15A **Monteview** 128.38 23 ⇓P PKPdf 12 59 35.5 +1.0
baz=128
YMR **Madison River** 128.39 22 *e*PKPdf PKPdf 12 59 35.9 +1.4
YMR LR LR
comp=Z,7μm,21.0s,MS6.3
L11A **Cat Creek Ranc** 128.49 27 ⇓P PKPdf 12 59 35.1 +0.3
baz=128,SNR=6.8
K12A **Draper Farm, C** 128.49 26 ⇑P PKPdf 12 59 35.3 +0.6
baz=128
O07A **Toulon** 128.51 31 ⇑P PKPdf 12 59 35.4 +0.5
baz=128
J14A **Carey** 128.53 25 ⇑P PKPdf 12 59 35.0 +0.2
baz=128,SNR=6.0
RLMT **Red Lodge** 128.60 20 ⇑P PKPdf 12 59 35.4 +0.5
baz=128
RLMT **Red Lodge** 128.60 20 *e*PKPdf PKPdf 12 59 35.8 +0.9
RLMT LR LR
comp=Z,5μm,19.0s,MS6.2
M10A **I.L. Ranch, Tu** 128.63 28 ⇓P PKPdf 12 59 35.6 +0.5
baz=128
LKWY **Lake** 128.69 21 PFAKE 12 59 50.0 +15
LKWY LR LR
comp=Z,10μm,21.0s,MS6.5
O08A **Rochester Mine** 128.78 30 ⇑P PKPdf 12 59 36.4 +1.0
baz=129
AGMN **Agassiz Refuge** 128.79 7 PFAKE 12 59 50.0 +15
AGMN LR LR
comp=Z,7μm,20.0s,MS6.3
L12A **House Creek Ra** 128.84 27 ⇓P PKPdf 12 59 36.1 +0.7
baz=129
K13A **Stover Farm, H** 128.84 25 ⇑P PKPdf 12 59 36.5 +1.1
baz=129
I16A **Newdale** 128.87 23 ⇑P PKPdf 12 59 36.3 +0.8
baz=129
J15A **Blackfoot** 128.90 24 ⇑P PKPdf 12 59 36.2 +0.7
baz=129,SNR=7.3
R05C **Kirkwood Meado** 128.93 33 ⇑P PKPdf 12 59 36.2 +0.5
baz=129
M11A **Holland Ranch,** 129.05 28 ⇓P PKPdf 12 59 37.0 +1.1
baz=129
BMN **Battle Mountai** 129.14 30 PFAKE 12 59 50.0 +14
BMN LR LR
comp=Z,3μm,22.0s,MS6.0
I17A **Pilgram Creek** 129.18 22 ⇑P PKPdf 12 59 36.7 +0.7
baz=129
CMB **Columbia Colle** 129.23 34 PFAKE 12 59 50.0 +14
CMB LR LR
comp=Z,3μm,20.0s,MS6.0
K14A **Jones Ranch, D** 129.31 25 ⇓P PKPdf 12 59 37.6 +1.3
baz=129
J16A **Bone** 129.33 23 ⇓P PKPdf 12 59 37.4 +1.1
baz=129
O09A **Fish Creek Ran** 129.35 30 ⇑P PKPdf 12 59 37.1 +0.6
baz=129
L13A **Double Diamond** 129.35 26 ⇓P PKPdf 12 59 37.3 +0.9
baz=129
RKT **Rikitea** 129.37 118 *e*SS SS 13 19 04.3 -1.6
comp=Z,3μm,29.2s
RKT **Rikitea** 129.37 118 *e*LQ 13 35 04.7
RKT *e*LR LR 13 40 20.4
comp=Z,3μm,33.5s
comp=Z,6μm,37.8s
RRI2 **Red Ridge** 129.39 23 *e*PKPdf PKPdf 12 59 37.4 +1.0
RRI2 *e*PP PP 13 01 45.9 +1.1
R06C **Coleville** 129.40 33 ⇓P PKPdf 12 59 37.6 +1.0
baz=129
TPAW **Teton Pass** 129.41 22 *e*PKPdf PKPdf 12 59 36.8 +0.3
TPAW *es*PKPdf 12 59 50.6
LOHW **Long Hollow** 129.43 22 *e*PKPdf PKPdf 12 59 37.1 +0.6
K15A **Arbon** 129.46 24 ⇑P PKPdf 12 59 37.1 +0.5
baz=129,SNR=5.3
M12A **Wells** 129.46 27 ⇑P PKPdf 12 59 37.6 +1.0
baz=129,SNR=9.7
SNOW **Snow King Moun** 129.50 22 *e*PKPdf PKPdf 12 59 37.8 +1.2
SAO **San Andreas Ge** 129.51 36 PFAKE 12 59 50.0 +13
SAO LR LR
comp=Z,2μm,22.0s,MS5.8
REDW **Red Top Meadow** 129.55 22 *e*PKPdf PKPdf 12 59 37.1 +0.3
REDW *e*PP PP 13 01 47.6 +1.7
EYMN **Ely** 129.57 4 *e*PKPdf PKPdf 12 59 36.9 +0.2
O10A **Cortez Mining,** 129.60 29 ⇑P PKPdf 12 59 37.9 +1.0
baz=129
S06C **San Francisco** 129.64 34 ⇓P PKPdf 12 59 37.9 +0.8
baz=130
L14A **Malta** 129.70 25 ⇓P PKPdf 12 59 37.6 +0.5
baz=130
K16A **Soda Springs** 129.72 23 ⇓P PKPdf 12 59 37.9 +0.8
baz=130
S05C **Merced** 129.75 35 ⇓P PKPdf 12 59 38.1 +0.8
baz=130
PKME **Peaks-Kenny Pk** 129.83 344 PFAKE 12 59 50.0 +13
PKME LR LR
comp=Z,6μm,19.0s,MS6.3
M13A **Montello** 129.84 26 ⇓P PKPdf 12 59 38.6 +1.2
baz=130,SNR=6.4
ELK **Elko** 129.85 28 *e*PKIKP PKPdf 12 59 38.5 +1.1
ELK *e* 12 59 46.3
ELK *e* 12 59 51.6
ELK *e* 13 01 49.0
ELK MLR MLR
comp=Z,4μm,22.0s
ELK **Elko** 129.85 28 *e*PKPdf PKPdf 12 59 38.5 +1.1
ELK *ep*PKPdf pPKPdf 12 59 46.3 -3.0
ELK *es*PKPdf 12 59 51.6
ELK *e*PP PP 13 01 49.0 +1.0
ELK *e*SKPdf SKPdf 13 03 11.1 +1.0
ELK LR LR
comp=Z,4μm,22.0s,MS6.1
N12A **Clover Valley,** 129.85 28 ⇑P PKPdf 12 59 38.5 +1.1
baz=130,SNR=8.0
AHID **Auburn Hatcher** 129.97 23 PFAKE 12 59 50.0 +12
AHID LR LR
comp=Z,4μm,19.0s,MS6.1
NVAR **Mina Array Bea** 130.08 32 PKP PKPdf 12 59 38.9 +1.0
comp=Z,4.1nm,0.9s,baz=263,slow=1.8,SNR=18
NVAR PP PP 13 01 49.0 -0.7
comp=Z,2.1nm,0.9s,baz=274,slow=4.0,SNR=3.3
L15A **Malad City** 130.09 25 ⇑P PKPdf 12 59 38.2 +0.4
baz=130
M14A **Sheep Mountain** 130.09 26 ⇓P PKPdf 12 59 38.3 +0.5
baz=130
O11A **Cowboy Ranch,** 130.13 29 ⇑P PKPdf 12 59 38.4 +0.5
baz=130,SNR=8.1
KCC **Kaiser Creek** 130.33 34 ⇓P PKPdf 12 59 38.7 +0.3
baz=130
O12A **Currie** 130.45 28 ⇓P PKPdf 12 59 39.0 +0.5
baz=130,SNR=7.4
L16A **Fish Haven** 130.47 24 ⇑P PKPdf 12 59 38.2 -0.4
baz=130
BW06 **Boulder Array** 130.55 22 ⇓P PKPdf 12 59 37.8 -0.8
baz=130
BW06 **Boulder Array** 130.55 22 PFAKE 12 59 50.0 +11
BW06 LR LR
comp=Z,5μm,20.0s,MS6.2
PDAR **Pinedale Array** 130.55 22 PKP PKPdf 12 59 39.6 +0.9
comp=Z,5.3nm,0.9s,baz=114,slow=1.8,SNR=12
N14A **Grayback Hills** 130.69 26 ⇑P PKPdf 12 59 39.2 +0.2
baz=130
HWUT **Hardware Ranch** 130.75 24 *e*PKPdf PKPdf 12 59 40.2 +1.1
HWUT *e*SKPbc SKPbc 13 03 01.9 +1.5
HWUT LR LR
comp=Z,5μm,20.0s,MS6.2
Q10A **Clear Creek Ra** 130.77 30 ⇓P PKPdf 12 59 39.3 +0.1
baz=131
R09A **Tonopah** 130.87 31 ⇑P PKPdf 12 59 39.5 0.0
baz=131
TPH **Tonopah** 130.92 32 PFAKE 12 59 50.0 +10
TPH LR LR
comp=Z,4μm,22.0s,MS6.1
HELL **Mitchell Peak** 130.96 34 ⇓P PKPdf 12 59 39.6 0.0
baz=131
M16A **Huntsville** 130.97 24 ⇓P PKPdf 12 59 39.5 0.0
baz=131
P12A **McGill** 131.00 29 ⇓P PKPdf 12 59 39.9 +0.3
baz=131,SNR=8.6
Q11A **Duckwater** 131.13 30 ⇑P PKPdf 12 59 40.2 +0.3
baz=131
S09A **Goldfield** 131.18 32 ⇓P PKPdf 12 59 40.2 +0.1
baz=131
R10A **Warm Springs** 131.23 31 ⇓P PKPdf 12 59 40.0 -0.1
baz=131
S10A **Tonopah Range,** 131.36 31 ⇑P PKPdf 12 59 40.4 0.0
baz=131,SNR=6.9
DUG **Dugway** 131.39 26 ⇑P PKPdf 12 59 40.5 +0.2
baz=131
DUG **Dugway** 131.39 26 *e*PKPdf PKPdf 12 59 40.4 0.0
DUG LR LR
comp=Z,4μm,20.0s,MS6.1
LBNH **Lisbon** 131.48 345 PFAKE 12 59 50.0 +10
LBNH LR LR
comp=Z,4μm,20.0s,MS6.1
COWI **Conover** 131.53 2 PFAKE 12 59 50.0 +10
COWI LR LR
comp=Z,6μm,20.0s,MS6.3
R11A **Troy Canyon, C** 131.55 30 ⇑P PKPdf 12 59 41.1 +0.4
baz=131,SNR=14
CWC **Cottonwood Cre** 131.66 34 ⇑P PKPdf 12 59 41.1 +0.1
baz=132
LONY **Lake Ozonia** 131.73 348 PFAKE 12 59 50.0 +9.2
LONY LR LR
comp=Z,6μm,22.0s,MS6.2
P14A **Drum Mountains** 131.77 27 ⇓P PKPdf 12 59 41.1 +0.1
baz=132
NLU **North Lily Min** 131.91 26 *e*PKPdf PKPdf 12 59 43.1 +1.8
NLU *e*PP PP 13 02 03.0 +1.7
NLU *e*SKPbc SKPbc 13 03 07.1 +2.5
ISA **Isabella** 132.00 35 PFAKE 12 59 50.0 +8.4
ISA LR LR
comp=Z,3μm,22.0s,MS6.0
DAC **Darwin (Calif)** 132.04 34 PFAKE 12 59 50.0 +8.3
DAC LR LR
comp=Z,4μm,20.0s,MS6.1
MPU **Maple Canyon** 132.05 25 PFAKE 12 59 50.0 +8.4
MPU LR LR
comp=Z,7μm,21.0s,MS6.4
Q14A **Sevier Lake (B** 132.16 28 ⇓P PKPdf 12 59 42.0 +0.2
baz=132
MPMC **Manual Prospec** 132.26 34 ⇑P PKPdf 12 59 42.3 +0.2
baz=132,SNR=5.6
NCB **Newcomb** 132.27 347 PFAKE 12 59 50.0 +8.1
NCB LR LR
comp=Z,5μm,21.0s,MS6.2
TPNV **Topopah Spring** 132.27 32 ⇑P PKPdf 12 59 42.2 +0.1
baz=132
TPNV **Topopah Spring** 132.27 32 PFAKE 12 59 50.0 +7.9
TPNV LR LR
comp=Z,3μm,20.0s,MS5.9
O17A **Robinson Place** 132.28 25 ⇓P PKPdf 12 59 42.3 +0.3
baz=132
N19A **John Jarvie Ra** 132.31 23 ⇓P PKPdf 12 59 41.7 -0.3
baz=132
R13A **O'Grain Ranch,** 132.47 29 ⇑P PKPdf 12 59 42.7 +0.2
baz=132
O18A **Roosevelt** 132.52 24 ⇓P PKPdf 12 59 42.7 +0.2
baz=132
Q15A **Fillmore** 132.56 27 ⇓P PKPdf 12 59 42.9 +0.3
baz=132
T11A **Corn Creek, Al** 132.58 31 ⇓P PKPdf 12 59 43.0 +0.4
baz=132
GLMI **Grayling** 132.79 358 PFAKE 12 59 50.0 +7.2
GLMI LR LR
comp=Z,7μm,22.0s,MS6.3
P18A **Preston Nutter** 132.96 24 ⇑P PKPdf 12 59 43.7 +0.4
baz=133
S13A **Holt Ranch, En** 133.00 29 ⇓P PKPdf 12 59 43.6 +0.1
baz=133
HRV **Adam Dziewonsk** 133.00 344 PFAKE 12 59 50.0 +6.7
HRV LR LR
comp=Z,5μm,19.0s,MS6.2
MVU **Marysvale** 133.04 27 PFAKE 13 00 00.0 +17
MVU LR LR
comp=Z,5μm,22.0s,MS6.2
MSU **Marysvale** 133.05 27 *e*PKIKP PKPdf 12 59 45.1 +1.6
WES **Weston** 133.05 344 PFAKE 12 59 50.0 +6.6
WES LR LR
comp=Z,3μm,19.0s,MS6.1
SNCC **San Nicolas Is** 133.05 38 PFAKE 13 00 00.0 +16
SNCC LR LR
comp=Z,4μm,22.0s,MS6.0
ECSD **EROS,Sioux Fal** 133.15 9 *e*PKPdf PKPdf 12 59 42.8 -0.8
Q16A **Castle Valley** 133.16 26 ⇓P PKPdf 12 59 43.6 -0.1
baz=133
S14A **Cedar City** 133.19 29 ⇑P PKPdf 12 59 43.8 0.0
baz=133
GSC **Goldstone** 133.19 34 ⇓P PKPdf 12 59 44.0 +0.1
baz=133
GSC **Goldstone** 133.19 34 PFAKE 13 00 00.0 +16
GSC LR LR
comp=Z,4μm,21.0s,MS6.0
MWC **Mount Wilson** 133.26 36 PFAKE 13 00 00.0 +16
MWC LR LR
comp=Z,3μm,20.0s,MS6.0
SRU **San Rafael** 133.28 25 *e*PKIKP PKPdf 12 59 45.7 +1.8
SRU *e* 13 02 12.2
Q18A **Rafter H Ranch** 133.45 25 ⇑P PKPdf 12 59 44.7 +0.4
baz=133
BFSC **Mount Baldy St** 133.48 35 ⇑P PKPdf 12 59 44.5 +0.1
baz=133
R16A **Teasdale** 133.55 27 ⇑P PKPdf 12 59 45.2 +0.8
baz=133
R17A **Hanksville Air** 133.78 26 ⇓P PKPdf 12 59 45.0 +0.1
baz=134
V12A **Nelson** 133.93 32 ⇓P PKPdf 12 59 45.1 -0.2
baz=134
R18A **Thousandlands Na** 134.15 25 ⇓P PKPdf 12 59 46.1 +0.5
baz=134
T15A **Red Dirt Ranch** 134.16 28 ⇑P PKPdf 12 59 46.6 +1.0
baz=134
GMRC **Granite Mounta** 134.21 33 ⇑P PKPdf 12 59 46.9 +1.0
baz=134
V13A **Grand Canyon W** 134.29 31 ⇓P PKPdf 12 59 46.4 +0.4
baz=134
BINY **Binghamton** 134.34 348 PFAKE 13 00 00.0 +14
BINY LR LR
comp=Z,8μm,22.0s,MS6.4
PV10 **Paradox Valley** 134.52 24 *e*PKPdf PKPdf 12 59 47.8 +1.6
ISCO **Idaho Springs** 134.57 20 *e*PKIKP PKPdf 12 59 45.7 -0.6
ISCO MLR MLR
comp=Z,5μm,22.0s,MS6.2
T16A **Glen Canyon Da** 134.60 28 ⇓P PKPdf 12 59 47.2 +0.7
baz=134
BELC **Belle Mtn.** 134.60 34 ⇓P PKPdf 12 59 47.5 +0.9
baz=134
PFO **Pinyon Flat Ob** 134.62 35 PFAKE 13 00 00.0 +13
PFO LR LR
comp=Z,3μm,19.0s,MS6.0
OGNE **Ogallala** 134.63 16 PFAKE 13 00 00.0 +14
OGNE LR LR
comp=Z,5μm,20.0s,MS6.3
JFWS **Jewell Farm** 134.66 3 PFAKE 13 00 00.0 +14
JFWS LR LR
comp=Z,5μm,22.0s,MS6.2
U15A **North Rim** 134.68 29 ⇑P PKPdf 12 59 47.4 +0.8
baz=134
S18A **Hurst Farm, Bl** 134.69 26 ⇓P PKPdf 12 59 47.7 +1.1
baz=134
V14A **Boquillas Ranc** 134.90 30 ⇓P PKPdf 12 59 48.0 +0.9
baz=135
T17A **Navajo Res., N** 134.91 27 ⇑P PKPdf 12 59 48.5 +1.4
baz=135
W13A **Hualapai Mount** 134.92 31 ⇑P PKPdf 12 59 47.9 +0.8
baz=135
IRM **Iron Mountain** 134.95 33 ⇓P PKPdf 12 59 48.0 +0.8
baz=135
S19A **Harvey Farm, M** 135.01 25 ⇑P PKPdf 12 59 48.1 +0.8
baz=135
ERPA **Erie** 135.08 352 PFAKE 13 00 00.0 +13
ERPA LR LR
comp=Z,6μm,22.0s,MS6.3
BC3 **Big Chuckw Mtn** 135.16 34 ⇓P PKPdf 12 59 48.1 +0.5
baz=135
BAR **Barrett** 135.17 36 PFAKE 13 00 00.0 +12
BAR LR LR
comp=Z,3μm,20.0s,MS6.0
T18A **Mexican Hat** 135.21 26 ⇓P PKPdf 12 59 48.1 +0.5
baz=135
V15A **Kaibab Nationa** 135.22 29 ⇓P PKPdf 12 59 48.8 +1.2
baz=135
W14A **Seligman** 135.24 31 ⇓P PKPdf 12 59 48.6 +0.9
baz=135
U17A **Shonto** 135.30 27 ⇓P PKPdf 12 59 49.6 +1.8
baz=135
X13A **Yucca** 135.34 32 ⇑P PKPdf 12 59 48.8 +0.9
baz=135
PDMCI **Parker Dam,Lak** 135.40 32 ⇑P PKPdf 12 59 48.6 +0.5
baz=135
SCIA **State Center** 135.41 6 PFAKE 13 00 00.0 +12
SCIA LR LR
comp=Z,7μm,21.0s,MS6.3
U16A **Tuba City** 135.46 28 ⇓P PKPdf 12 59 49.4 +1.3
baz=135
SWSC **Sam W. Stewart** 135.49 35 ⇓P PKPdf 12 59 49.2 +1.0
baz=135
Y12C **Blythe** 135.60 33 ⇓P PKPdf 12 59 49.4 +1.0
baz=136
W15A **Williams** 135.68 30 ⇑P PKPdf 12 59 49.6 +1.0
baz=136
MVCO **Mesa Verde** 135.74 25 ⇓P PKPdf 12 59 49.6 +1.0
baz=136
MVCO **Mesa Verde** 135.74 25 *e*PKPdf PKPdf 12 59 49.6 +1.0
MVCO LR LR
comp=Z,6μm,20.0s,MS6.3
T19A **Beclabito** 135.84 25 ⇑P PKPdf 12 59 49.3 +0.5
baz=136
WUAZ **Wupatki** 135.85 29 ⇑P PKPdf 12 59 49.2 +0.4
baz=136
WUAZ **Wupatki** 135.85 29 PFAKE 13 00 00.0 +11
WUAZ LR LR
comp=Z,4μm,19.0s,MS6.1
X14A **Yava** 135.92 31 ⇑P PKPdf 12 59 50.0 +1.0
baz=136
GLA **Glamis** 135.96 34 ⇓P PKPdf 12 59 50.1 +1.0
baz=136
GLA **Glamis** 135.96 34 *e*PKPdf PKPdf 12 59 49.9 +0.8
GLA LR LR
comp=Z,3μm,20.0s,MS6.0
W16A **Flagstaff** 136.11 29 ⇑P PKPdf 12 59 50.4 +1.1
baz=136
SSPA **Standing Stone** 136.21 350 PFAKE 13 00 00.0 +11
SSPA LR LR
comp=Z,4μm,19.0s,MS6.2
X15A **Humboldt** 136.24 30 ⇓P PKPdf 12 59 50.7 +1.1
baz=136
V18A **Ganado** 136.37 27 ⇓P PKPdf 12 59 50.7 +0.8
baz=136
SDCO **Great Sand Dun** 136.44 21 *e*PKPdf PKPdf 12 59 50.3 +0.4
SDCO LR LR
comp=Z,8μm,22.0s,MS6.4
Y15A **Casa Rosa Ranc** 136.61 31 ⇑P PKPdf 12 59 51.5 +1.2
baz=136
X16A **Lo Mia Camp, P** 136.70 30 ⇓P PKPdf 12 59 51.5 +1.1
baz=136
113A **Mohawk Valley,** 136.76 33 ⇓P PKPdf 12 59 51.1 +0.4
baz=137
V19A **Window Rock** 136.76 26 ⇓P PKPdf 12 59 51.4 +0.9
baz=137
HDIL **Hopedale** 137.06 2 PFAKE 13 00 00.0 +9.1
HDIL LR LR
comp=Z,5μm,20.0s,MS6.3
X17A **Forest Lakes** 137.07 29 ⇓P PKPdf 12 59 52.5 +1.3
baz=137
Y16A **Circle Bar Ran** 137.11 30 ⇓P PKPdf 12 59 52.4 +1.2
baz=137
W19A **Sanders** 137.11 27 ⇑P PKPdf 12 59 52.2 +1.0
baz=137
CBKS **Cedar Bluff** 137.23 15 PFAKE 13 00 00.0 +8.7
CBKS LR LR
comp=Z,10μm,22.0s,MS6.5
ACSO **Alum Creek Sta** 137.26 355 PFAKE 13 00 00.0 +8.7
ACSO LR LR
comp=Z,7μm,19.0s,MS6.4
MCWV **Mont Chateau** 137.48 352 PFAKE 13 00 00.0 +8.3
MCWV LR LR
comp=Z,5μm,22.0s,MS6.2
Y17A **Roosevelt** 137.57 30 ⇑P PKPdf 12 59 53.5 +1.4
baz=137
KSU1 **Kansas State U** 137.65 11 *e*PKPdf PKPdf 12 59 49.9 -2.2
KSU1 LR LR
comp=Z,6μm,22.0s,MS6.3
X19A **St. Johns** 137.72 28 ⇑P PKPdf 12 59 53.2 +0.8
baz=138
TRQA **Tornquist** 137.82 210 *e*PKPdf PKPdf 12 59 53.6 +1.2
TRQA LR LR
comp=Z,5μm,20.0s,MS6.2
214A **Organ Pipe Nat** 137.90 33 ⇑P PKPdf 12 59 53.2 +0.4
baz=138
Y18A **Canyon Day Jun** 137.90 29 ⇑P PKPdf 12 59 53.5 +0.8
baz=138
CBN **Corbin** 138.47 348 PFAKE 13 00 10.0 +16
CBN LR LR
comp=Z,6μm,22.0s,MS6.3
ANMO **Albuquerque** 138.52 24 *e*PKIKP PKPdf 12 59 52.7 -1.1
ANMO MLR MLR
comp=Z,7μm,21.0s
117A **Oracle** 138.52 31 ⇓P PKPdf 12 59 54.9 +1.0
baz=138
LAZ **Ladron** 138.70 25 *e*PKPdf PKPdf 12 59 54.8 +0.6
TUC **Tucson** 138.71 31 *e*PKIKP PKPdf 12 59 55.4 +1.2
TUC *e* 13 02 48.5
TUC MLR MLR
comp=Z,3μm,22.0s,MS6.0
TUC **Tucson** 138.71 31 *e*PKPdf PKPdf 12 59 55.4 +1.2
TUC *e*PP PP 13 02 48.5 +4.1
TUC *e*SKPbc SKPbc 13 03 29.9 +3.6
TUC *e*SKPab 13 03 40.9
TUC LR LR
comp=Z,3μm,22.0s,MS6.0
118A **Homack Ranch,** 138.85 30 ⇑P PKPdf 12 59 55.5 +1.0
baz=139
LPM **Los Pinos Moun** 139.00 25 *e*PKPdf PKPdf 12 59 57.8 +3.1
119A **Ashpeak Ranch,** 139.08 29 ⇓P PKPdf 12 59 55.4 +0.5
baz=139
217A **Green Valley** 139.11 32 ⇑P PKPdf 12 59 56.2 +1.2
baz=139
BNM **Barren Site** 139.14 25 *e*PKPdf PKPdf 12 59 54.9 -0.1
PLCA **Paso Flores** 139.15 199 PKhKP 12 59 51.9
comp=Z,2.3nm,0.9s,baz=135,slow=5.7,SNR=3.4
PLCA **Paso Flores** 139.15 199 PKP PKPdf 12 59 51.9 -2.9
PLCA LR LR
comp=Z,4μm,20.0s,MS6.1
BBSR **BB Station** 139.29 330 PFAKE 13 00 10.0 +15
BBSR LR LR
comp=Z,4μm,20.0s,MS6.2
BDFB **Brasilia** 139.36 249 PKP PKPdf 12 59 56.4 +0.6
comp=Z,5.8nm,0.8s,baz=81,slow=3.5,SNR=7.2
CCM **Cathedral Cave** 139.42 5 *e*PKIKP PKPdf 12 59 54.1 -1.3
CCM MLR MLR
comp=Z,6μm,21.0s,MS6.3
WCI **Wyandotte Cave** 139.42 359 PFAKE 13 00 10.0 +15

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WCI				LR	LR		
	comp=Z,6µm,19.0s,MS6.3						
219A	White Tail Can	139.72	30	⇓P	PKPdf	12 59 57.2	+1.1
	baz=140						
318A	Bisbee	139.81	31	⇑P	PKPdf	12 59 57.4	+1.1
	baz=140						
BLA	Blacksburg	139.96	352	PFAKE		13 00 10.0	+14
BLA				LR	LR		
	comp=Z,5µm,22.0s,MS6.2						
AMTX	Amarillo	140.34	19	PFAKE		13 00 10.0	+13
AMTX				LR	LR		
	comp=Z,5µm,21.0s,MS6.2						
TZTN	Tazewell	140.97	355	PFAKE		13 00 10.0	+12
TZTN				LR	LR		
	comp=Z,6µm,21.0s,MS6.3						
CNNC	Cliffs of the	141.43	348	PFAKE		13 00 10.0	+11
CNNC				LR	LR		
	comp=Z,7µm,22.0s,MS6.3						
WVT	Waverly	141.52	1	ePKIKP	PKPdf	12 59 54.7	-4.5
WVT				MLR	MLR		
	comp=Z,7µm,22.0s,MS6.4						
MNTX	Cornudas Mount	141.77	26	PFAKE		13 00 10.0	+10
MNTX				LR	LR		
	comp=Z,4.0nm,21.0s						
TKL	Tuckaleechee C	141.87	356	ePKIKP	PKPdf	13 00 02.2	+2.3
CPCT	Cooper Cave	142.13	357	ePKPdf	PKPdf	12 59 59.7	-0.6
MIAR	Mount Ida	142.61	9	ePKIKP	PKPdf	12 59 57.5	-3.7
MIAR				MLR	MLR		
	comp=Z,4µm,21.0s,MS6.1						
CPUP	Villa Florida	142.90	228	PKP	PKPdf	13 00 01.2	-0.7
	comp=Z,2.1nm,0.5s,baz=49,slow=1.3,SNR=9.0						
CPUP	Villa Florida	142.90	228	PKP	PKPdf	13 00 01.2	-0.7
CPUP				LR	LR		
	comp=Z,1µm,21.0s,MS5.6						
OXF	Oxford	143.08	3	PFAKE		13 00 10.0	+8.0
OXF				LR	LR		
	comp=Z,8µm,21.0s,MS6.5						
NHSC	New Hope	143.94	350	PFAKE		13 00 20.0	+16
NHSC				LR	LR		
	comp=Z,4µm,19.0s,MS6.2						
GOGA	Godfrey	144.07	355	ePKIKP	PKPdf	13 00 01.6	-2.2
GOGA				MLR	MLR		
	comp=Z,6µm,20.0s,MS6.4						
TXAR	Lajitas Array	144.56	25	PKP	PKPdf	13 00 03.3	-1.5
	comp=Z,53nm,0.9s,baz=198,slow=0.2,SNR=208						
LRAL	Lakeview Retre	144.61	360	ePKPdf	PKPdf	13 00 02.9	-1.8
LRAL				LR	LR		
	comp=Z,7µm,21.0s,MS6.4						
JCT	Junction City	145.00	19	ePKIKP	PKPdf	13 00 04.0	-1.5
JCT				MLR	MLR		
	comp=Z,7µm,22.0s,MS6.4						
NATX	Nacogdoches	145.14	11	ePKPbc	PKPbc	13 00 05.8	+0.6
NATX				LR	LR		
	comp=Z,5µm,22.0s,MS6.2						
VBMS	Vicksburg	145.28	5	ePKPbc	PKPbc	13 00 06.3	+0.6
VBMS				LR	LR		
	comp=Z,6µm,20.0s,MS6.3						
HKT	Hockley	146.63	14	ePKP2	PKPab	13 00 09.1	-1.8
HKT				MLR	MLR		
	comp=Z,7µm,19.0s,MS6.5						
BRAL	Brewton	146.63	360	ePKPbc	PKPbc	13 00 10.1	+0.3
BRAL				LR	LR		
	comp=Z,5µm,21.0s,MS6.3						
RPN	Rapa Nui	147.59	141	PFAKE		13 00 20.0	+10
RPN				LR	LR		
	comp=Z,3µm,21.0s,MS6.1						
ANWB	Willy Bob	147.96	310	ePKPbc	PKPbc	13 00 13.6	-0.2
KVTX	Kingsville	148.33	18	ePKPbc	PKPbc	13 00 15.3	+0.7
KVTX				LR	LR		
	comp=Z,6µm,21.0s,MS6.3						
TLL	Tololo Astrono	148.48	208	eP	PKPbc	13 00 15.9	+1.0
BBGH	Gun Hill	148.52	300	PFAKE		13 00 20.0	+8.2
BBGH				LR	LR		
	comp=Z,4µm,21.0s,MS6.2						
TBG	Guadaloupe-3	148.88	307	eP	PKPbc	13 00 16.4	+0.1
DWPF	Disney	149.04	350	PFAKE		13 00 20.0	+7.7
DWPF				LR	LR		
	comp=Z,5µm,20.0s,MS6.3						
FDF	Fort de France	149.08	304	ePKP2	PKPbc	13 00 17.1	+0.3
LCO	Las Campanas	149.39	209	eP	PKPbc	13 00 16.1	-1.2
LCO				LR	LR		
	comp=Z,5µm,20.0s,MS6.3						
MTP	Monte Pirata	150.47	315	ePKPbc	PKPbc	13 00 19.7	-0.5
GRGR	Grenville	150.80	300	ePKPbc	PKPbc	13 00 21.7	+0.7
GRGR				LR	LR		
	comp=Z,3µm,22.0s,MS6.0						
SJG	San Juan	150.88	316	ePKIKP	PKPbc	13 00 20.3	-0.8
SJG				MLR	MLR		
	comp=Z,4µm,20.0s						
LVC	Limon Verde	153.36	220	ePKPbc	PKPbc	13 00 27.1	+0.5
LVC				LR	LR		
	comp=Z,3µm,20.0s,MS6.2						
LPAZ	La Paz	156.86	233	PKP	PKPdf	13 00 25.3	+1.3
	comp=Z,4.1nm,0.9s,baz=57,slow=8.1,SNR=16						
LPAZ	La Paz	156.86	233	PKP	PKPdf	13 00 25.3	+1.4
LPAZ				LR	LR		
	comp=Z,7µm,21.0s,MS6.5						
TEIG	Tepich	157.34	3	PFAKE		13 00 40.0	+15
TEIG				LR	LR		
	comp=Z,4µm,22.0s,MS6.2						
SDV	Santo Domingo	160.03	305	PKPab	PKPab	13 01 08.1	+0.5
	baz=56,slow=4.2						
SDV	Santo Domingo	160.03	305	PFAKE		13 00 40.0	+12
SDV				LR	LR		
	comp=Z,1µm,22.0s						
TGUH	Tegucigalpa,Un	163.50	1	PFAKE		13 00 40.0	+8.6
TGUH				LR	LR		
	comp=Z,4µm,20.0s						
ROSC	El Rosal	165.26	300	PKP	PKPdf	13 00 33.6	+0.5
	comp=Z,5.6nm,0.4s,baz=98,slow=20,SNR=5.9						
NNA	Nana	166.16	227	PFAKE		13 00 40.0	+6.3
NNA				LR	LR		
	comp=Z,4µm,22.0s						
BCIP	Isla Barro Col	166.29	328	PFAKE		13 00 40.0	+6.1
BCIP				LR	LR		
	comp=Z,5µm,22.0s						
OTAV	Otavalo	170.91	288	ePKPdf	PKPdf	13 00 37.7	+0.8
OTAV				LR	LR		
	comp=Z,4µm,20.0s						
PAYG	Puerto Ayora	176.32	60	PFAKE		13 00 50.0	+11
PAYG				LR	LR		
	comp=Z,5µm,21.0s						

IDC 04 12:54:06.0±28.0, 064S×12559E, h500^{km}±95^{km}, mb3.0/3, mb1 3.4/5, mb1mx2.9/18, mbtmp3.3/5, Error ellipse: s-maj=402.4km s-min=109.3km az=160.0, Southern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BATI	Baumata	9.69	191	P	P	12 56 19.9	-0.2
	4.0nm,0.3s,baz=260,slow=4.9,SNR=4.6						
FITZ	Fitzroy Crossi	17.35	180	P	P	12 57 40.5	+0.1
	1.3nm,0.3s,baz=0.1,slow=8.8,SNR=41						
WRA	Warramunga Arr	21.00	156	P	P	12 58 13.7	-0.1
	1.9nm,0.3s,baz=334,slow=11,SNR=68						
ASAR	Alice Springs	24.27	161	P	P	12 58 43.4	+0.4
	0.6nm,0.4s,baz=342,slow=7.6,SNR=18						
STKA	Stephens Creek	34.55	156	P	P	13 00 11.6	-0.4
	1.3nm,0.5s,baz=323,slow=10,SNR=4.5						

OTT 04 13:30:10.1±0.7, 4177N×5488W, h18^{km}, ML3.7/6, Atlantic Ocean, southeast of Nova Scotia. 600km south from Grand Bank, Nl, North Atlantic Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
GBN	Guysborough	6.04	309	PN	Pn	13 31 38.3	-0.2
GBN				SN	Sn	13 32 41.6	-5.4
GBN				Trac		13 32 52.5	
	comp=Z,4.6nm,0.1s						
SJNN	Saint John's	6.04	14	PN	Pn	13 31 36.1	-2.3
SJNN				SN	Sn	13 32 41.1	-5.9
SJNN				Trac		13 32 48.5	
	comp=Z,10.0nm,0.1s						
CHEG	Cheticamp, Nov	6.53	322	PN	Pn	13 31 44.7	-0.5
CHEG				SN	Sn	13 32 54.5	-4.7
CHEG				Trac		13 33 02.8	
	comp=Z,4.5nm,0.1s						
HAL	Halifax	6.98	297	PN	Pn	13 31 49.5	-1.9
HAL				SN	Sn	13 33 01.9	-8.3
HAL				Trac		13 33 06.4	
	comp=Z,5.2nm,0.1s						
MALG	Malagash, Nova	7.32	306	PN	Pn	13 31 55.7	-0.3
MALG				SN	Sn	13 33 15.0	-3.5
MALG				Trac		13 33 23.6	
	comp=Z,14nm,0.2s						
MADG	Magdalen Islan	7.35	321	PN	Pn	13 31 57.1	+0.7
MADG				SN	Sn	13 33 17.1	-2.2
MADG				Trac		13 33 23.9	
	comp=Z,5.2nm,0.1s						
DRLN	Deer Lake	7.71	347	PN	Pn	13 32 00.4	-1.0
DRLN				SN	Sn	13 33 22.8	-5.4
DRLN				Trac		13 33 27.6	
	comp=Z,21nm,0.4s						
TIGG	Tignish, PEI	7.83	315	SN	Sn	13 33 40.7	+10
LMN	Caledonia Moun	8.26	303	PN	Pn	13 32 07.1	-1.8
LMN				SN	Sn	13 33 34.1	-7.5
LMN				Trac		13 33 41.5	
	comp=Z,1.4nm,0.1s						
GGN	Saint George	9.32	295	PN	Pn	13 32 20.6	-3.0
GGN				SN	Sn	13 33 55.9	-12
GGN				Trac		13 34 02.0	
	comp=Z,11nm,0.3s						
BATG	Bathurst New B	9.70	308	SN	Sn	13 34 09.7	-7.3
NATG	Natashquan Que	10.14	330	SN	Sn	13 34 20.9	-7.0
PKME	Peaks-Kenny Pk	11.03	293	PN	Pn	13 32 43.1	-3.8
PKME				SN	Sn	13 34 35.5	-14
ICQ	Pointe Anglais	11.62	316	PN	Pn	13 32 51.3	-3.7
ICQ				SN	Sn	13 34 52.0	-12
HRV	Adam Dziewonsk	12.41	279	SN	Sn	13 35 08.2	-15

ISCJB 04 13:53:36.7±0.3, 5535N±002×11051E±004, h10^{km}, Error ellipse: s-maj=4.0km s-min=2.3km az=137.7
BYKL 04 13:53:39.5±0.2, 5546N×11044E, h4^{km}±30^{km}
MOS 04 13:53:39.2±1.7, 5552N×11044E, h15^{km}, mb4.4/18, Error ellipse: s-maj=11.7km s-min=6.9km az=61.0
IDC 04 13:53:48.2±8.0, 5531N×10905E, h0^{km}, mb3.3/1, mb1 3.5/5, mb1mx3.3/27, mbtmp3.5/5, ML3.5/4, Error ellipse: s-maj=108.7km s-min=30.3km az=74.0
NEIC 04 13:53:50.5±4.1, 5523N×10900E, h10^{km}, mb3.5/1, Error ellipse: s-maj=58.1km s-min=13.0km az=59.0
ISC 04 13:53:38.8±0.3, 5540N±002×11054E±003, h10^{km}, n58, σ1^{s}68/96, 7C-1D, Lake Baykal region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KMO	Kumora	0.62	37	ePG	Pg	13 53 49.9	-0.8
KMO				e		13 53 57.4	
KMO				pmax	pmax		
	comp=Z,270nm,0.3s						
KMO				smax			
	comp=N,1µm,0.9s						
KMO	Kumora	0.62	37	ePg	Pg	13 53 49.9	-0.8
KMO				eSg	Sg	13 53 58.1	-0.7
KMO				Pmax			
	comp=N,267nm,0.4s						
KMO				Smax			
	comp=N,1µm,0.9s						
YLYR	Ulyunkhan	0.64	145	⇑iPG	Pg	13 53 52.2	+1.1
YLYR				e		13 54 01.6	
YLYR				pmax	pmax		
	comp=Z,457nm,0.1s						
YLYR				smax			
	comp=N,680nm,0.2s						
YLYR	Ulyunkhan	0.64	145	⇓iPg	Pg	13 53 52.3	+1.2
	comp=N,406nm,0.4s						
YLYR				⇑iPg	Pg	13 53 52.3	+1.2
	comp=N,243nm,0.4s						
YLYR				⇑iPg	Pg	13 53 52.3	+1.2
	comp=N,448nm,0.4s						
YLYR				eSg	Sg	13 54 01.7	+2.3
YLYR				Pmax			
	comp=N,412nm,0.3s						
YLYR				Smax			
	comp=N,630nm,0.3s						
NIZ	Nizh Angarsk	0.68	304	ePG	Pg	13 53 51.3	-0.6
NIZ				e		13 53 58.9	
NIZ				pmax	pmax		
	comp=Z,302nm,0.3s						
NIZ				smax			
	comp=N,946nm,0.4s						
NIZ	Nizh Angarsk	0.68	304	ePg	Pg	13 53 50.5	-1.4
NIZ				eSg	Sg	13 53 58.4	-2.3
NIZ				Pmax			
	comp=N,120nm,0.3s						
NIZ				Smax			
	comp=N,955nm,0.4s						
YOA	Uoyan	1.00	42	⇑iPG	Pg	13 53 57.3	-0.6
YOA				i		13 54 09.0	
YOA				pmax	pmax		
	comp=Z,275nm,0.3s						
YOA				smax			
	comp=E,2µm,0.5s						
YOA	Uoyan	1.00	42	ePg	Pg	13 53 57.3	-0.6
YOA				eSg	Sg	13 54 11.2	+0.4
YOA				Pmax			
	comp=E,139nm,0.2s						
YOA				Smax			
	comp=E,1µm,0.5s						
UKT	Uakit	1.76	86	ePN	Pg	13 54 11.6	-1.0
UKT				e		13 54 35.5	
UKT				pmax	pmax		
	comp=Z,411nm,0.6s						
UKT				smax			
	comp=N,531nm,0.6s						
UKT	Uakit	1.76	86	⇑iPg	Pg	13 54 11.5	-1.1
UKT				eSg	Sg	13 54 35.6	+0.2
UKT				Pmax			
	comp=N,410nm,0.7s						
UKT				Smax			
	comp=N,522nm,0.4s						
SYVR	Suvo	1.77	190	ePN	Pn	13 54 12.0	+2.6
SYVR				e		13 54 37.4	
SYVR				pmax	pmax		
	comp=Z,154nm,0.4s						
SYVR				smax			
	comp=N,845nm,0.9s						
SYVR	Suvo	1.77	190	ePg	Pg	13 54 12.4	-0.3
SYVR				e		13 54 15.6	
SYVR				eSg	Sg	13 54 36.9	+1.2
SYVR				max			
	comp=N,151nm,0.4s						
SYVR				Smax			
	comp=N,825nm,1.0s						
SVKR	Severomuysk	1.85	66	ePN	Pg	13 54 12.9	-1.4
SVKR				e		13 54 38.2	
SVKR				pmax	pmax		
	comp=Z,251nm,0.5s						
SVKR				smax			
	comp=N,1µm,1.6s						
SVKR	Severomuysk	1.85	66	ePg	Pg	13 54 13.1	-1.2
SVKR				eSg	Sg	13 54 38.9	+0.6
SVKR				Pmax			
	comp=N,240nm,0.3s						
SVKR				Smax			
	comp=N,1µm,0.5s						
MXMB	Maximikha	2.38	207	ePn	Pn	13 54 19.6	+1.8
MXMB				ePg	Pg	13 54 23.2	-1.2
MXMB				eSg	Sg	13 54 55.0	-0.3
MXMB				Pmax			
	comp=N,122nm,0.5s						
MXMB				Smax			
	comp=N,2µm,0.7s						
OGRR	Ongureny	2.46	225	ePN	Pn	13 54 21.8	+3.0
OGRR				e		13 54 25.1	
OGRR				e		13 54 56.0	
OGRR				pmax	pmax		
	comp=Z,49nm,0.5s						
OGRR				smax			
	comp=N,344nm,0.4s						
OGRR	Ongureny	2.46	225	ePn	Pn	13 54 21.4	+2.6
OGRR				ePg	Pg	13 54 23.4	-2.4
OGRR				eSg	Sg	13 54 55.7	-1.9
OGRR				Pmax			
	comp=N,48nm,0.3s						
OGRR				Smax			
	comp=N,342nm,0.4s						
BOD	Bodaibo	3.09	37	ePN	Pn	13 54 28.2	+0.7
BOD				e		13 54 34.5	
BOD				eS	Sn	13 55 04.6	+0.1
BOD				e		13 55 13.1	
BOD				pmax	pmax		
	comp=Z,19nm,0.3s						
BOD				smax			
	comp=E,133nm,1.0s						
BOD	Bodaibo	3.09	37	ePn	Pn	13 54 28.8	+1.3
BOD				ePg	Pg	13 54 34.7	-3.2
BOD				eSn	Sn	13 55 05.2	+0.7
BOD				eSg	Sg	13 55 13.9	-4.1
BOD				Pmax			
	comp=E,18nm,0.3s						
BOD				Smax			
	comp=E,123nm,0.5s						
NLYR	Nelyaty	3.11	67	ePN	Pn	13 54 29.5	+1.8
NLYR				e		13 54 35.4	
NLYR				e		13 55 15.5	
NLYR				pmax	pmax		
	comp=Z,81nm,0.7s						
NLYR				smax			
	comp=E,295nm,1.4s						
NLYR	Nelyaty	3.11	67	ePn	Pn	13 54 29.6	+1.9
NLYR				ePg	Pg	13 54 36.5	-1.7
NLYR				eSg	Sg	13 55 16.7	-1.7
NLYR				Pmax			
	comp=E,81nm,0.8s						
NLYR				Smax			
	comp=E,296nm,1.4s						
TRTB	Turuntaevo	3.61	210	ePn	Pn	13 54 37.1	+2.4
TRTB				ePg	Pg	13 54 45.4	-2.5
TRTB				eSg	Sg	13 55 32.7	-2.0
TRTB				Pmax			
	comp=E,29nm,0.5s						
TRTB				Smax			
	comp=E,152nm,0.8s						
TRG	Tyrgan	3.62	225	ePN	Pn	13 54 37.7	+2.9
TRG				e		13 54 46.0	
TRG				eS	Sn	13 55 19.3	+1.9
TRG				e		13 55 31.2	
TRG				pmax	pmax		
	comp=Z,16nm,0.5s						
TRG				smax			
	comp=E,182nm,0.6s						
TRG	Tyrgan	3.62	225	i Pn	Pn	13 54 37.7	+2.9
TRG				eSg	Sg	13 55 31.4	-3.4
TRG				Smax			
	comp=E,180nm,1.1s						
CIT	Chita	3.83	151	eSg	Sg	13 55 39.7	-2.0
CIT				Smax			
	comp=E,189nm,0.3s						
UUDB	Ulan-Yde	3.93	207	ePg	Pg	13 54 50.5	-3.5
UUDB				e		13 54 54.0	
UUDB				eSg	Sg	13 55 42.2	-2.7
UUDB				max			
	comp=E,40nm,0.5s						
UUDB				Smax			
	comp=E,216nm,1.9s						
CRS	Chara	4.58	68	ePN	Pn	13 54 50.4	+2.4
CRS				e		13 55 02.1	
CRS	Chara	4.58	68	ePn	Pn	13 54 50.4	+2.4
CRS				ePg	Pg	13 55 02.4	-4.0
CRS				eSg	Sg	13 56 02.7	-2.9
CRS				Pmax			
	comp=E,66nm,1.1s						
CRS				Smax			
	comp=E,147nm,1.2s						
IRK	Irkutsk	4.88	232	ePN	Pg	13 55 08.4	-3.7
IRK				e		13 56 10.5	
IRK				pmax	pmax		
	comp=Z,111nm,0.1s						
IRK				smax			
	comp=N,385nm,0.5s						
TUP	Tupik	5.52	96	ePN	Pn	13 55 02.8	+1.9
TUP				e		13 55 19.2	
TUP				eS	Sn	13 56 06.0	+1.6
TUP				e		13 56 32.4	
TUP				pmax	pmax		
	comp=Z,14nm,0.3s						
TUP				smax			
	comp=N,99nm,1.1s						
TUP	Tupik	5.52	96	ePn	Pn	13 55 02.8	+1.9
TUP				ePg	Pg	13 55 19.2	-5.2
TUP				eSg	Sg	13 56 32.8	-3.1
TUP				Pmax			
	comp=N,14nm,0.7s						
TUP				Smax			
	comp=N,99nm,1.1s						
TLY	Talaya	5.54	231	ePN	Pn	13 55 02.5	+1.2
TLY				e		13 55 18.8	
TLY				eS	Sn	13 56 03.6	-1.4
TLY	Talaya	5.54	231	ePn	Pn	13 55 02.5	+1.3
TLY				ePg	Pg	13 55 20.4	-4.5
TLY				eSn	Sn	13 56 03.6	-1.4
TLY				eSg	Sg	13 56 29.8	-6.8
KPC	Khapcheranga	5.82	168	ePN	Pg	13 55 26.2	-3.9
KPC				eS	Sn	13 56 11.5	-0.1
KPC				e		13 56 41.8	
KPC				pmax	pmax		
	comp=Z,15nm,0.7s						
KPC				smax			
	comp=E,79nm,1.1s						
KPC	Khapcheranga	5.82	168	ePn	Pn	13 55 06.4	+1.4
KPC				e		13 55 15.2	
KPC				ePg	Pg	13 55 25.1	-5.0
KPC				eSg	Sg	13 56 41.9	-3.4
KPC				Pmax			
	comp=E,15nm,0.7s						
KPC				Smax			
	comp=E,78nm,1.0s						
ARS	Arshan	5.95	237	ePN	Pn	13 55 09.3	+2.5
ARS				eS	Sg	13 56 42.2	-7.4
ARS				smax			
	comp=E,273nm,0.5s						
ARS	Arshan	5.95	237	ePn	Pn	13 55 08.9	+2.1
ARS				e		13 56 15.7	
ARS				eSg	Sg	13 56 41.9	-7.7
ARS				Smax			
	comp=E,272nm,0.7s						
ZAK	Zakamensk	6.67	224	ePN	Pn	13 55 16.7	0.0
ZAK				e		13 55 37.9	
ZAK	Zakamensk	6.67	224	eSg	Sg	13 57 06.3	-6.4
ZAK				Smax			
	comp=E,66nm,1.4s						
MOY	Mondy	6.80	241	ePG	Px	13 55 43.3	
MOY				e		13 57 11.7	
MOY				pmax	pmax		
	comp=Z,14nm,0.5s						
MOY				smax			
	comp=E,123nm,1.2s						
MOY	Mondy	6.80	241	⇑iPn	Pn	13 55 21.3	+2.8
MOY				e		13 56 11.1	
MOY				e		13 56 37.5	
MOY				eSg	Sg	13 57 09.9	-7.1
MOY				Smax			
	comp=E,123nm,1.3s						
ORL	Orlik	6.95	250	ePN	Pn	13 55 22.6	+2.1
ORL				e		13 55 45.3	
ORL				e		13 57 14.1	
ORL				pmax	pmax		
	comp=Z,9.0nm,0.6s						
ORL				smax			
	comp=N,198nm,0.8s						
ORL	Orlik	6.95	250	⇑iPn	Pn	13 55 22.6	+2.1
ORL				eSg	Sg	13 57 12.3	-9.2
ORL				Smax			
	comp=N,198nm,1.6s						
ULN	Ulaanbaatar	7.85	197	Pn	Pn	13 55 40.3	+7.4
ULN				eSg	Sn	13 57 44.8	+43
SONM	Songino Array	8.00	200	Pn	Pn	13 55 40.7	+5.8
	comp=N,0.3nm,0.3s,baz=16,slow=13,SNR=5.7						
SONM				Pg	Pn	13 56 04.9	+30
	comp=N,0.5nm,0.3s,baz=20,slow=15,SNR=4.9						
SONM				Lg		13 57 53.1	
	comp=N,1.7nm,0.3s,baz=5.0,slow=27,SNR=12						
SONM	Songino Array	8.00	200	Pn	Pn	13 55 40.7	+5.8
SONM				Pg	Pn	13 56 04.9	+30
SONM				Lg		13 57 53.1	
IENR	Iengra	8.12	78	eSg	Sx	13 57 51.3	
TDJR	Todzha	9.04	257	e	Pn	13 55 55.9	+6.8
TDJR				e		13 57 41.5	
TDJR				eSg	Sn	13 58 17.1	+46
KRAR	Krasnoyarsk	9.99	281	i P	Pn	13 56 02.4	+0.3
ZALV	Zalesovo Beam	14.92	275	Pn	Pn	13 57 10.4	+0.9
	comp=N,0.1nm,0.3s,baz=82,slow=10,SNR=16						
MK31	Makanchi Array	19.60	256	eP	Pn	13 58 08.1	-0.1
MKAR	Makanchi Array	19.60	256	P	Pn	13 58 08.6	+0.4
	comp=N,0.2nm,0.3s,baz=61,slow=9.0,SNR=6.4						
KURK	Kurchatov	19.64	270	P	Pn	13 58 08.5	-0.1
	comp=N,0.1nm,0.3s,baz=65,slow=11,SNR=8.1						

KURK	**Kurchatov**	**19.64**	**270**	*i* P	**Pn**	**13 58 12.0**	**+3.4**
KURK				pmax	pmax		
	comp=Z,4.0nm,1.0s						
KURK	**Kurchatov**	**19.64**	**270**	*e*P	**Pn**	**13 58 04.4**	**-4.2**
	comp=Z,3.7nm,1.0s						
BVAR	**Borovoye Array**	**23.37**	**281**	P	**P**	**13 58 50.2**	**+2.9**
	comp=Z,0.6nm,0.4s,baz=50,slow=13,SNR=6.0						
BVAR	**Borovoye Array**	**23.37**	**281**	P	**P**	**13 58 50.2**	**+2.9**
BVAR				pmax	pmax		
	comp=Z,1.0nm,0.4s						
BVAR	**Borovoye Array**	**23.37**	**281**	P	**P**	**13 58 50.2**	**+2.9**

IDC 04 14:03:47.7±3.1**, 240N×9283E, h0km, mb3.6**/4**, mb1 3.7**/5**, mb1mx3.5**/21**, mbtmp3.6**/5**, ML3.9**/1**, Error ellipse: s-maj=99.0km s-min=30.0km az=60.0, Off west coast of northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**17.05**	**20**	Pn	Pn	14 07 46.4	-1.2
	0.2nm,0.3s,baz=215,slow=11,SNR=5.0						
MKAR	**Makanchi Array**	**45.16**	**350**	P	P	14 12 05.8	-0.3
	0.7nm,0.6s,baz=168,slow=9.0,SNR=8.3						
WRA	**Warramunga Arr**	**46.39**	**121**	P	P	14 12 15.9	-0.3
	0.2nm,0.7s,baz=302,slow=8.8,SNR=4.6						
SONM	**Songino Array**	**46.75**	**13**	P	P	14 12 20.0	+1.4
	0.3nm,0.5s,baz=209,slow=7.7,SNR=2.4						
ZALV	**Zalesovo Beam**	**51.80**	**354**	P	P	14 12 56.6	-0.6
	0.6nm,0.4s,baz=152,slow=6.5,SNR=3.1						

*ISCJB **04** 14:06:13.8±1.3, 6240N±004×17153E±004, h14km±8km, mb4.6/87, MS4.6/7, Error ellipse: s-maj=7.1km s-min=3.1km az=3.7*

*MOS **04** 14:06:13.7±1.1, 6243N×17165E, h14km, mb4.8/49, MS4.5/6, Error ellipse: s-maj=11.8km s-min=6.5km az=91.5*

*IDC **04** 14:06:13.4±0.6, 6240N×17157E, h0km, mb4.3/19, mb1 4.5/20, mb1mx4.5/26, mbtmp4.3/20, ML3.9/1, Error ellipse: s-maj=19.1km s-min=12.2km az=169.0*

*BJI **04** 14:06:14.7, 6243N×17104E, h13km, mB4.9, mb4.6, Ms4.7, Msz4.5*

*NEIC **04** 14:06:14.8±0.2, 6237N×17160E, h10km, mb4.7/54, MS4.8/1, Error ellipse: s-maj=6.4km s-min=3.3km az=185.0*

*SZGRF **04** 14:06:18.7, 6186N×17127E, h33km, mb4.8, Eastern Siberia, Russia*

ISC 04 14:06:15.7±1.5**, 6239N**±004×**17155E**±004**, h13km**±9km**, h15km**±2.7km**: pP-P, n469, σ**0^{s}**65**/475**, mb4.6**/87**, MS4.6**/7**, 125C-135D, Eastern Siberia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BILL	**Bilibino**	**6.09**	**341**	*e*P	**Pn**	**14 07 46.7**	**+1.6**
BILL				pmax	pmax		
	comp=Z,44nm,0.7s						
BILL				pmax	pmax		
	comp=N,669nm,1.2s						
BILL	**Bilibino**	**6.09**	**341**	*e*Pn	**Pn**	**14 07 46.1**	**+1.0**
	comp=N,129nm,0.8s						
PET	**Petropavlovsk**	**11.62**	**222**	*e*P	**Pn**	**14 09 04.7**	**+3.7**
PET				pmax	pmax		
	comp=Z,40nm,1.1s						
PET	**Petropavlovsk**	**11.62**	**222**	*e*Pn	**Pn**	**14 09 03.3**	**+2.4**
	comp=Z,34nm,1.3s						
ADK	**Adak**	**12.29**	**144**	P	**Pn**	**14 09 07.4**	**-2.7**
NIKO	**Nikolski**	**14.04**	**123**	Pn	**Pn**	**14 09 32.3**	**-1.6**
SVW2	**Sparrevohn**	**15.53**	**80**	*e*Pn	**Pn**	**14 09 54.8**	**+1.0**
CHUM	**Lake Minchumin**	**16.26**	**69**	*e*Pn	**Pn**	**14 10 04.0**	**+0.7**
	comp=Z,104nm,1.1s						
PPLA	**Purkeypile**	**16.54**	**72**	*e*Pn	**Pn**	**14 10 07.2**	**+0.3**
	comp=Z,150nm,1.4s						
COLD	**Coldfoot**	**16.77**	**57**	Pn	**Pn**	**14 10 08.5**	**-1.2**
	comp=Z,14nm,1.1s						
BPAW	**Bear Paw Mtn.**	**16.80**	**68**	*e*Pn	**Pn**	**14 10 09.6**	**-0.5**
	comp=Z,34nm,1.1s						
TRF	**Thorofare Moun**	**17.24**	**70**	*e*Pn	**Pn**	**14 10 16.5**	**+0.8**
	comp=Z,122nm,1.4s						
MCK	**McKinley**	**17.76**	**68**	*e*P	**Pn**	**14 10 22.4**	**+0.3**
MCK				pmax	pmax		
	comp=Z,63nm,1.1s						
MCK	**McKinley**	**17.76**	**68**	*e*Pn	**Pn**	**14 10 22.4**	**+0.3**
	comp=Z,63nm,1.1s						
COLA	**College**	**17.98**	**64**	*e*P	**Pn**	**14 10 24.4**	**-0.4**
COLA				pmax	pmax		
	comp=Z,30nm,1.0s						
COLA	**College**	**17.98**	**64**	*e*Pn	**Pn**	**14 10 24.4**	**-0.4**
	comp=Z,30nm,1.0s						
RC01	**Rabbit Creek A**	**18.20**	**77**	*e*Pn	**Pn**	**14 10 27.4**	**-0.1**
	comp=Z,55nm,1.4s						
PMR	**Palmer**	**18.29**	**75**	*e*P	**Pn**	**14 10 26.2**	**-2.5**
PMR				pmax	pmax		
	comp=Z,17nm,1.3s						
PMR	**Palmer**	**18.29**	**75**	*e*P	**Pn**	**14 10 26.2**	**-2.4**
	comp=Z,16nm,1.3s						
KDAK	**Kodiak Island**	**18.30**	**88**	P	**Pn**	**14 10 27.6**	**-1.2**
	comp=Z,0.4nm,0.3s,baz=110,slow=0.9,SNR=5.8						
TIXI	**Tiksi**	**18.60**	**318**	*i* P	**Pn**	**14 10 34.7**	**+2.3**
TIXI				pmax	pmax		
	comp=Z,35nm,1.4s						
TIXI				MLR	MLR		
	comp=Z,700nm,21.0s						
TIXI	**Tiksi**	**18.60**	**318**	*e*P	**Pn**	**14 10 32.9**	**+0.5**
	comp=Z,19nm,0.9s						
SEW	**Seward**	**18.70**	**79**	*e*P	**Pn**	**14 10 32.8**	**-0.9**
YAK	**Yakutsk**	**19.28**	**288**	*e*P	**Pn**	**14 10 40.0**	**-0.7**
YAK				pmax	pmax		
	comp=Z,55nm,1.0s						
YAK				pmax	pmax		
	comp=E,16nm,1.0s						
YAK				MLR	MLR		
	comp=Z,764nm,13.0s						
YAK	**Yakutsk**	**19.28**	**288**	P	**Pn**	**14 10 39.5**	**-1.2**
	comp=Z,58nm,0.8s						
DAWY	**Dawson**	**21.73**	**64**	*e*P	**P**	**14 11 04.9**	**-1.2**
YSS	**Yuzh-Sakhalins**	**22.44**	**240**	*e*P	**P**	**14 11 16.4**	**+2.6**
YSS				pmax	pmax		
	comp=N,40nm,1.1s						
YSS				pmax	pmax		
	comp=E,40nm,1.1s						
YSS				pmax	pmax		
	comp=Z,40nm,1.1s,mb4.8						
YSS	**Yuzh-Sakhalins**	**22.44**	**240**	*e*P	**P**	**14 11 14.8**	**+1.0**
	comp=Z,13nm,0.8s,mb4.4						
CLNS	**Chul'man**	**23.80**	**278**	*e*P	**P**	**14 11 20.8**	**-6.9**
CLNS				*e**PP		14 11 30.4	
CLNS				*e*PPP		14 11 57.9	
CLNS				*e*		14 15 05.2	
CLNS				*e*S	**S**	**14 15 34.4**	**-8.0**
CLNS				pmax	pmax		
	comp=E,8.0nm,0.7s						
CLNS				pmax	pmax		
	comp=Z,10.0nm,0.8s,mb4.3						
CLNS				pmax	pmax		
	comp=N,5.0nm,0.9s						
CLNS				smax			
	comp=N,13nm,0.9s						
CLNS				smax			
	comp=E,3.0nm,0.7s						
CLNS				MLR	MLR		
	comp=Z,1μm,11.0s,MS4.7						
CLNS				MLR	MLR		
	comp=E,685nm,10.0s						
CLNS				MLR	MLR		
	comp=N,324nm,8.0s						
HABR	**Khabarovsk**	**24.54**	**252**	*e*P	**P**	**14 11 33.0**	**-1.5**
HABR				*e*		14 12 06.4	
HABR				*e*		14 16 41.0	
HABR				*e*		14 22 32.2	
KLR	**Kul'dur**	**25.47**	**257**	*e*P	**P**	**14 11 40.0**	**-2.9**
ERM	**Erimo**	**26.43**	**233**	⇑*e*P	**P**	**14 11 52.0**	**+0.3**
BOD	**Bodaibo**	**28.21**	**287**	*e*P	**P**	**14 12 06.8**	**-0.7**
BOD				pmax	pmax		
	comp=Z,11nm,0.9s,mb4.5						
DLBC	**Dease Lake**	**28.25**	**71**	*e*P	**P**	**14 12 09.1**	**+1.2**
CN2	**Changchun**	**32.41**	**257**	*e*P	**P**	**14 12 46.4**	**+1.6**
CN2				*e*S	**S**	**14 17 57.8**	**-0.7**
CN2				AMB	AMB		
	comp=Z,10.0nm,0.9s,mb4.7						
CN2				AMB	AMB		
	comp=Z,200nm,5.0s						
YKA	**Yellowknife Ar**	**32.45**	**56**	P	**P**	**14 12 44.9**	**0.0**
	comp=Z,2.6nm,0.6s,mb4.3,baz=303,slow=8.2,SNR=12						
YKA	**Yellowknife Ar**	**32.45**	**56**	P	**P**	**14 12 44.9**	**0.0**
YKA				pmax	pmax		
	comp=Z,3.0nm,0.6s						
MAJO	**Matsushiro**	**33.07**	**234**	*e*P	**P**	**14 12 49.6**	**-1.0**
MAJO				pmax	pmax		
	comp=Z,23nm,1.0s,mb5.1						
MAJO	**Matsushiro**	**33.07**	**234**	*e*P	**P**	**14 12 49.6**	**-1.0**
	comp=Z,23nm,1.0s,mb5.1						
MAT	**Matsushiro**	**33.07**	**234**	P	**P**	**14 12 49.8**	**-0.8**
MJAR	**Matsushiro Arr**	**33.07**	**234**	P	**P**	**14 12 49.8**	**-0.8**
	comp=Z,15nm,1.0s,mb4.9,baz=13,slow=7.7,SNR=24						
MJAR	**Matsushiro Arr**	**33.07**	**234**	P	**P**	**14 12 49.8**	**-0.8**
MJAR				pmax	pmax		
	comp=Z,15nm,1.0s						
KSRS	**Korea Array**	**36.47**	**247**	P	**P**	**14 13 20.4**	**+0.4**
	comp=Z,5.7nm,1.1s,mb4.4,baz=38,slow=8.6,SNR=10						
KSRS	**Korea Array**	**36.47**	**247**	P	**P**	**14 13 20.4**	**+0.5**
KSRS				pmax	pmax		
	comp=Z,6.0nm,1.1s,mb4.4						
TLY	**Talaya**	**36.73**	**285**	*e*P	**P**	**14 13 22.3**	**+0.3**
TLY				*e*		14 13 32.4	
TLY				pmax	pmax		
	comp=Z,14nm,1.6s,mb4.5						
TLY	**Talaya**	**36.73**	**285**	P	**P**	**14 13 22.7**	**+0.8**
ZAK	**Zakamensk**	**37.80**	**284**	*e*P	**P**	**14 13 31.7**	**+0.6**
ZAK				*e*		14 15 42.4	
ZAK				pmax	pmax		
	comp=Z,8.0nm,1.4s,mb4.3						
ULN	**Ulaanbaatar**	**37.89**	**278**	⇑*e*P	**P**	**14 13 32.6**	**+0.8**
ULN	**Ulaanbaatar**	**37.89**	**278**	*e*P	**P**	**14 13 32.4**	**+0.6**
	comp=Z,8.3nm,1.3s,mb4.3						
A05A	**Maple Falls**	**37.92**	**79**	⇑P	**P**	**14 13 32.5**	**+0.4**
	baz=38						
A06A	**Chilliwack**	**38.13**	**78**	⇓P	**P**	**14 13 33.8**	**0.0**
	baz=38						
SONM	**Songino Array**	**38.21**	**279**	P	**P**	**14 13 36.4**	**+1.8**
	comp=Z,5.8nm,1.1s,mb4.2,baz=39,slow=6.9,SNR=15						
SONM				PcP	PcP	14 15 48.7	0.0
	comp=Z,2.6nm,0.8s,baz=60,slow=1.9,SNR=9.7						
SONM	**Songino Array**	**38.21**	**279**	P	**P**	**14 13 36.4**	**+1.8**
SONM						14 15 48.7	
SONM				pmax	pmax		
	comp=Z,6.0nm,1.1s						
B05A	**Bryant**	**38.45**	**80**	⇑P	**P**	**14 13 37.0**	**+0.5**
	baz=38						
A07A	**Ashnola River,**	**38.66**	**78**	⇑P	**P**	**14 13 38.2**	**-0.2**
	baz=38,SNR=6.4						
EDM	**Edmonton**	**38.83**	**68**	*e*P	**P**	**14 13 39.5**	**-0.2**
B07A	**Winthrop**	**39.21**	**78**	⇓P	**P**	**14 13 42.9**	**0.0**
	baz=39,SNR=5.1						
A08A	**Turner Farm, O**	**39.23**	**77**	⇑P	**P**	**14 13 43.0**	**-0.2**
	baz=39,SNR=9.7						
A09A	**Danville**	**39.53**	**76**	⇓P	**P**	**14 13 45.7**	**+0.1**
	baz=39,SNR=9.1						
B08A	**Colville Reser**	**39.64**	**78**	⇑P	**P**	**14 13 46.4**	**-0.2**
	baz=40,SNR=7.5						
ETW	**Entiat**	**39.74**	**79**	*e*P	**P**	**14 13 47.5**	**+0.1**
C07A	**Waterville**	**39.80**	**79**	⇓P	**P**	**14 13 47.8**	**0.0**
	baz=40						
E05A	**Randle**	**39.86**	**81**	⇑P	**P**	**14 13 48.2**	**-0.2**
	baz=40						
A10A	**Northport**	**39.99**	**76**	⇑P	**P**	**14 13 49.4**	**0.0**
	baz=40						
B09A	**Rice**	**40.13**	**77**	⇓P	**P**	**14 13 50.7**	**+0.1**
	baz=40,SNR=6.6						
C08A	**Higginbotham F**	**40.19**	**78**	⇓P	**P**	**14 13 51.3**	**+0.2**
	baz=40						
D07A	**Quincy**	**40.21**	**79**	⇓P	**P**	**14 13 51.2**	**0.0**
	baz=40						
E06A	**Yakima**	**40.23**	**81**	⇑P	**P**	**14 13 51.5**	**+0.1**
	baz=40						
F05A	**White Salmon**	**40.50**	**82**	⇓P	**P**	**14 13 54.0**	**+0.3**
	baz=40						
C09A	**Chrisman Ranch**	**40.53**	**77**	⇓P	**P**	**14 13 54.2**	**+0.2**
	baz=40						
A11A	**Hall Mountain,**	**40.55**	**75**	⇓P	**P**	**14 13 54.0**	**-0.1**
	baz=40						
OD2	**Odessa Site #2**	**40.64**	**78**	*e*P	**P**	**14 13 54.4**	**-0.4**
NEW	**Newport**	**40.71**	**76**	*e*P	**P**	**14 13 54.8**	**-0.6**
NEW				pmax	pmax		
	comp=Z,6.0nm,1.0s						
NEW	**Newport**	**40.71**	**76**	*e*P	**P**	**14 13 54.8**	**-0.6**
	comp=Z,5.6nm,1.0s,mb4.2						
E07A	**Sunnyside**	**40.73**	**80**	⇑P	**P**	**14 13 55.1**	**-0.5**
	baz=41						
D08A	**Wollman Farm,**	**40.79**	**79**	⇓P	**P**	**14 13 55.8**	**-0.3**
	baz=41						
B11A	**Sandpoint**	**40.93**	**75**	⇓P	**P**	**14 13 57.4**	**+0.2**
	baz=41						
D09A	**Jones Farm, Ri**	**41.07**	**78**	⇑P	**P**	**14 13 57.9**	**-0.4**
	baz=41						
H04A	**Detroit Lake**	**41.07**	**84**	⇓P	**P**	**14 13 58.4**	**0.0**
	baz=41						
HHC	**Hu-ho-hao-te**	**41.12**	**267**	*e*P	**P**	**14 13 59.6**	**+0.7**
HHC				AP	pP	14 14 04.7	+1.6
HHC				PP	PP	14 15 37.9	+4.3
HHC				PCP	PcP	14 16 00.7	+2.6
HHC				SCP	ScP	14 19 48.3	+1.2
HHC				PCS	PcS	14 19 50.9	+1.9
HHC				S	**S**	**14 20 11.6**	**+0.4**
HHC				XS	sS	14 20 19.3	+1.2
HHC				SS	SS	14 23 09.4	-4.1
HHC				SCS	ScS	14 24 02.4	-0.1
HHC				AMB	AMB		
	comp=Z,12nm,1.0s,mb4.5						
HHC				AMB	AMB		
	comp=Z,319nm,6.4s						
HHC				LR	LR		
	comp=N,437nm,13.7s,MS4.6						
HHC				LR	LR		
	comp=E,340nm,14.8s,MS4.6						
HHC				LR	LR		
	comp=Z,609nm,14.8s,MS4.6						
C11A	**Tepee Creek (N**	**41.42**	**76**	⇑P	**P**	**14 14 01.2**	**-0.1**
	baz=41						
H05A	**Madras**	**41.54**	**83**	⇓P	**P**	**14 14 02.4**	**+0.1**
	baz=41						
E09A	**Wood Farm, Sta**	**41.55**	**79**	⇑P	**P**	**14 14 02.2**	**-0.2**
	baz=41						
WALA	**Waterton Lakes**	**41.57**	**73**	*e*P	**P**	**14 14 01.6**	**-0.9**
	comp=Z,15nm,1.0s,mb4.6						
I04A	**Tendick Farm,**	**41.65**	**85**	⇑P	**P**	**14 14 03.1**	**0.0**
	baz=42						
G07A	**Ruggs Ranch, H**	**41.79**	**81**	⇑P	**P**	**14 14 04.3**	**-0.1**
	baz=42						
F08A	**Pendleton**	**41.80**	**80**	⇓P	**P**	**14 14 04.5**	**+0.1**
	baz=42						
B13A	**Whitefish**	**41.83**	**74**	⇓P	**P**	**14 14 04.6**	**+0.1**
	baz=42,SNR=8.9						
A14A	**Double T Ranch**	**41.85**	**73**	⇑P	**P**	**14 14 04.6**	**-0.2**
	baz=42,SNR=9.7						
H06A	**Lindquist Farm**	**41.89**	**82**	⇑P	**P**	**14 14 04.8**	**-0.3**
	baz=42,SNR=6.3						
K02A	**Glendale**	**41.94**	**87**	⇓P	**P**	**14 14 05.9**	**+0.3**
	baz=42						
D11A	**Klaveano Farm,**	**41.97**	**77**	⇑P	**P**	**14 14 05.4**	**-0.4**
	baz=42						
G08A	**Pilot Rock**	**42.10**	**80**	⇑P	**P**	**14 14 07.0**	**+0.2**
	baz=42						
A15A	**Johnson Ranch,**	**42.15**	**72**	⇑P	**P**	**14 14 06.9**	**-0.3**
	baz=42						
J04A	**Umpqua Nationa**	**42.22**	**85**	⇓P	**P**	**14 14 08.4**	**+0.6**
	baz=42						
C13A	**Hot Springs**	**42.30**	**75**	⇓P	**P**	**14 14 08.1**	**-0.3**
	baz=42,SNR=7.4						
HUMO	**Hull Mountain**	**42.31**	**86**	⇑P	**P**	**14 14 08.7**	**+0.1**
	baz=42						
H07A	**Lands Inn, Kim**	**42.35**	**82**	⇓P	**P**	**14 14 08.6**	**-0.3**
	baz=42						
F10A	**Beach Ranch, E**	**42.38**	**78**	⇓P	**P**	**14 14 08.9**	**-0.2**
	baz=42,SNR=5.9						
D12A	**Red Ives Fores**	**42.41**	**76**	⇓P	**P**	**14 14 09.3**	**-0.1**
	baz=42						
E11A	**Bogner Ranch,**	**42.55**	**77**	⇑P	**P**	**14 14 09.7**	**-0.8**
	baz=42						
I06A	**Prineville**	**42.55**	**83**	⇑P	**P**	**14 14 10.7**	**+0.2**
	baz=42						
J05A	**Fort Rock**	**42.59**	**84**	⇓P	**P**	**14 14 11.3**	**+0.4**
	baz=42,SNR=6.4						
C14A	**Swan Lake**	**42.60**	**74**	⇑P	**P**	**14 14 11.1**	**+0.2**
	baz=42						
G09A	**Cove**	**42.65**	**80**	⇑P	**P**	**14 14 10.9**	**-0.4**
	baz=42						
A16A	**West Butte Ran**	**42.68**	**71**	⇓P	**P**	**14 14 11.1**	**-0.4**
	baz=42,SNR=6.5						
B15A	**Bradely Ranch,**	**42.72**	**73**	⇓P	**P**	**14 14 11.2**	**-0.7**
	baz=42,SNR=9.0						
I07A	**Izee**	**42.77**	**82**	⇓P	**P**	**14 14 12.5**	**+0.2**
	baz=43						
D13A	**Huson**	**42.79**	**75**	⇑P	**P**	**14 14 12.5**	**+0.1**
	baz=43						
E12A	**Beaver Dam Sad**	**42.80**	**77**	⇑P	**P**	**14 14 12.3**	**-0.2**
	baz=43						
H08A	**Prairie City**	**42.82**	**81**	⇑P	**P**	**14 14 12.4**	**-0.3**
	baz=43						
F11A	**Grangeville**	**42.93**	**78**	⇑P	**P**	**14 14 13.1**	**-0.4**
	baz=43						
G10A	**Bishop Farm, J**	**42.94**	**79**	⇓P	**P**	**14 14 13.5**	**-0.2**
	baz=43						
B16A	**M & M Farms, S**	**43.03**	**72**	⇓P	**P**	**14 14 13.4**	**-0.9**
	baz=43						
C15A	**Salmond Ranch,**	**43.10**	**73**	⇑P	**P**	**14 14 14.7**	**-0.3**
	baz=43,SNR=5.4						
YBH	**Yreka Blue Hor**	**43.11**	**87**	⇑P	**P**	**14 14 15.3**	**+0.2**
	baz=43						
J06A	**Christmas Vall**	**43.11**	**83**	⇓P	**P**	**14 14 14.9**	**-0.2**
	baz=43						
L04A	**Klamath Falls**	**43.14**	**86**	⇓P	**P**	**14 14 15.8**	**+0.5**
	baz=43						
ZALV	**Zalesovo Beam**	**43.16**	**300**	P	**P**	**14 14 16.4**	**+1.0**
	comp=Z,0.3nm,0.3s,mb3.5,baz=57,slow=10,SNR=2.8						
ZALV				PP	PP	14 16 01.0	+5.6
	comp=Z,0.3nm,0.3s,baz=23,slow=8.6,SNR=3.5						
K05A	**Summer Lake**	**43.18**	**84**	⇑P	**P**	**14 14 16.2**	**+0.6**
	baz=43						
BMO	**Blue Mountains**	**43.19**	**80**	*e*P	**P**	**14 14 15.1**	**-0.7**
	comp=Z,17nm,1.4s,mb4.6						
D14A	**Greenough**	**43.23**	**74**	⇑P	**P**	**14 14 15.8**	**-0.2**
	baz=43,SNR=13						
G11A	**Walters Elk Ra**	**43.25**	**78**	⇑P	**P**	**14 14 16.2**	**+0.1**
	baz=43						
E13A	**Victor**	**43.40**	**76**	⇑P	**P**	**14 14 16.9**	**-0.4**
	baz=43,SNR=5.4						
K06A	**Valley Falls**	**43.42**	**84**	⇓P	**P**	**14 14 16.9**	**-0.7**
	baz=43						
F12A	**Elk City**	**43.44**	**77**	⇑P	**P**	**14 14 17.6**	**-0.1**
	baz=43						
C16A	**Fuhringer Ranc**	**43.47**	**72**	⇓P	**P**	**14 14 17.3**	**-0.6**
	baz=43						
M04C	**Macdoel**	**43.47**	**86**	⇑P	**P**	**14 14 18.2**	**+0.2**
	baz=43						
N02C	**Big Bar**	**43.55**	**88**	⇑P	**P**	**14 14 18.6**	**0.0**
	baz=43						
H10A	**Noah's Angus R**	**43.65**	**79**	⇓P	**P**	**14 14 19.1**	**-0.3**
	baz=44						
I09A	**Lost Marbles R**	**43.67**	**81**	⇓P	**P**	**14 14 19.6**	**+0.1**
	baz=44						
D15A	**Lincoln**	**43.70**	**74**	⇑P	**P**	**14 14 19.6**	**-0.2**
	baz=44						
L05A	**Lakeview**	**43.73**	**85**	⇓P	**P**	**14 14 20.6**	**+0.5**
	baz=44,SNR=6.1						
E14A	**Clinton**	**43.73**	**75**	⇓P	**P**	**14 14 20.2**	**+0.2**
	baz=44,SNR=11						
SUMG	**Summit**	**43.77**	**13**	P	**P**	**14 14 21.4**	**+1.4**
	comp=Z,8.3nm,1.2s,mb4.3						
J08A	**Circle Bar Ran**	**43.81**	**82**	⇓P	**P**	**14 14 20.8**	**+0.1**
	baz=44,SNR=5.3						
F13A	**Darby**	**43.83**	**76**	⇓P	**P**	**14 14 21.2**	**+0.3**
	baz=44						
O01C	**Eel River Cons**	**43.85**	**89**	⇓P	**P**	**14 14 21.3**	**+0.2**
	baz=44						
H11A	**Donnelly**	**43.90**	**79**	⇓P	**P**	**14 14 21.0**	**-0.4**
	baz=44						
K07A	**Rock Creek Ran**	**43.97**	**83**	⇑P	**P**	**14 14 22.1**	**+0.1**
	baz=44,SNR=6.7						
MOD	**Modoc**	**44.09**	**85**	⇓P	**P**	**14 14 23.2**	**+0.2**
	baz=44						
WDC	**Whiskeytown Da**	**44.09**	**88**	⇓P	**P**	**14 14 22.6**	**-0.4**
	baz=44						
E15A	**Deer Lodge**	**44.11**	**74**	⇓P	**P**	**14 14 22.9**	**-0.2**
	baz=44,SNR=5.5						
M05C	**Lookout**	**44.13**	**86**	⇑P	**P**	**14 14 23.3**	**0.0**
	baz=44,SNR=5.5						
D16A	**Dana Ranch, Ca**	**44.14**	**73**	⇓P	**P**	**14 14 23.5**	**+0.2**
	baz=44,SNR=13						
J09A	**Fry Pan Ranch,**	**44.15**	**81**	⇓P	**P**	**14 14 23.2**	**-0.2**
	baz=44,SNR=6.2						
EGMT	**Eagleton**	**44.18**	**71**	⇑P	**P**	**14 14 23.6**	**-0.1**
	baz=44						
EGMT	**Eagleton**	**44.18**	**71**	*e*P	**P**	**14 14 22.5**	**-1.1**
	comp=Z,9.1nm,0.8s,mb4.6						
K08A	**Mann Creek Ran**	**44.29**	**82**	⇑P	**P**	**14 14 24.5**	**-0.1**
	baz=44,SNR=5.2						
O02C	**Red Bluff**	**44.30**	**88**	⇓P	**P**	**14 14 24.5**	**-0.1**
	baz=44						
G13A	**Cobalt**	**44.41**	**77**	⇑P	**P**	**14 14 25.3**	**-0.2**
	baz=44						
L07A	**Adell**	**44.45**	**84**	⇓P	**P**	**14 14 25.8**	**-0.1**
	baz=44						
E16A	**East Helena**	**44.46**	**74**	⇓P	**P**	**14 14 26.3**	**+0.4**
	baz=44,SNR=8.7						
I11A	**Placerville**	**44.53**	**79**	⇓P	**P**	**14 14 26.3**	**-0.2**
	baz=44						
H12A	**Diamond D Ranc**	**44.55**	**78**	⇓P	**P**	**14 14 26.6**	**+0.1**
	baz=44,SNR=6.2						
M06C	**Likely Place G**	**44.56**	**85**	⇑P	**P**	**14 14 26.6**	**-0.2**
	baz=44						
F15A	**Butte**	**44.62**	**75**	⇑P	**P**	**14 14 26.9**	**-0.3**
	baz=44						
G14A	**Jackson**	**44.65**	**76**	⇓P	**P**	**14 14 27.1**	**-0.3**
	baz=44						
K09A	**Rome**	**44.66**	**82**	⇓P	**P**	**14 14 27.4**	**-0.2**
	baz=44						
GASB	**Alder Springs**	**44.75**	**89**	⇑P	**P**	**14 14 28.2**	**0.0**
	baz=45						
L08A	**Fields**	**44.77**	**83**	⇑P	**P**	**14 14 28.5**	**+0.1**
	baz=45,SNR=8.8						
H13A	**Challis**	**44.81**	**77**	⇓P	**P**	**14 14 28.4**	**-0.3**
	baz=45						
E17A	**Martinsdale**	**44.88**	**73**	⇓P	**P**	**14 14 29.6**	**+0.4**
	baz=45,SNR=16						
O04C	**Chester**	**44.98**	**87**	⇑P	**P**	**14 14 30.2**	**+0.1**
	baz=45,SNR=6.8						
MFID	**Camas Ranch**	**44.98**	**80**	⇓P	**P**	**14 14 29.9**	**-0.2**
	baz=45						
K10A	**MacKenzie Ranc**	**45.00**	**81**	⇓P	**P**	**14 14 29.9**	**-0.3**
	baz=45						
I12A	**Atlanta**	**45.00**	**79**	⇓P	**P**	**14 14 29.7**	**-0.6**
	baz=45						
G15A	**Dillon**	**45.14**	**76**	⇑P	**P**	**14 14 31.5**	**+0.2**
	baz=45,SNR=5.8						
H14A	**Leadore**	**45.17**	**77**	⇑P	**P**	**14 14 31.2**	**-0.3**
	baz=45						
N06A	**Buffalo Meadow**	**45.22**	**85**	⇓P	**P**	**14 14 32.1**	**+0.1**
	baz=45,SNR=6.2						
E18A	**Harlowton**	**45.22**	**72**	⇓P	**P**	**14 14 32.1**	**+0.2**
	baz=45						
L09A	**Wilkinson Ranc**	**45.22**	**82**	⇑P	**P**	**14 14 31.8**	**-0.2**
	baz=45						
MCMT	**McKenzie Canyo**	**45.24**	**76**	*e*P	**P**	**14 14 31.6**	**-0.5**
O05C	**Quincy**	**45.34**	**87**	⇑P	**P**	**14 14 33.1**	**+0.1**
	baz=45						
I13A	**Wildhorse Cree**	**45.37**	**78**	⇓P	**P**	**14 14 33.1**	**-0.1**
	baz=45,SNR=32						
K11A	**Parker Ranch,**	**45.39**	**80**	⇑P	**P**	**14 14 33.2**	**-0.1**
	baz=45						
ORV	**Oroville**	**45.39**	**88**	⇑P	**P**	**14 14 32.9**	**-0.5**
	baz=45						
G16A	**Moss Hill, Enn**	**45.40**	**75**	⇑P	**P**	**14 14 33.2**	**-0.2**
	baz=45,SNR=9.3						
HLID	**Hailey**	**45.51**	**78**	⇑P	**P**	**14 14 34.3**	**+0.1**
	baz=45,SNR=6.2						
HLID	**Hailey**	**45.51**	**78**	*e*P	**P**	**14 14 33.8**	**-0.5**
	comp=Z,2.6nm,0.7s,mb4.3						
N07B	**Gerlach**	**45.59**	**85**	⇑P	**P**	**14 14 35.3**	**+0.3**
	baz=45						
I14A	**Mackay**	**45.66**	**77**	⇓P	**P**	**14 14 35.0**	**-0.4**
	baz=46						
BEKR	**Beckwourth**	**45.67**	**87**	⇓P	**P**	**14 14 35.1**	**-0.5**
	baz=46						
O06A	**Flanigan**	**45.68**	**86**	⇑P	**P**	**14 14 35.4**	**-0.3**
	baz=46						
L10A	**Juniper Basin**	**45.73**	**81**	⇓P	**P**	**14 14 36.0**	**-0.1**
	baz=46,SNR=7.7						
KEV	**Kevo**	**45.78**	**344**	P	**P**	**14 14 31.7**	**-4.4**
F18A	**Big Timber**	**45.82**	**73**	⇑P	**P**	**14 14 36.7**	**0.0**
	baz=46,SNR=8.8						
QLMT	**Earthquake Lak**	**45.88**	**75**	*e*P	**P**	**14 14 37.6**	**+0.4**
CVS	**Carmenet Viney**	**45.91**	**90**	⇑P	**P**	**14 14 37.4**	**-0.1**
	baz=46						
GCMT	**Greycliff**	**45.93**	**73**	*e*P	**P**	**14 14 37.5**	**0.0**
L11A	**Cat Creek Ranc**	**45.99**	**81**	⇓P	**P**	**14 14 38.3**	**+0.2**
	baz=46						
P05C	**Yuba Gap, Truc**	**46.01**	**87**	⇑P	**P**	**14 14 37.7**	**-0.5**
	baz=46						

K12A Draper Farm, C 46.01 80 ⇓P P 14 14 38.3 +0.1
baz=46

H16A Russell Place, 46.06 75 ⇓P P 14 14 38.3 -0.3
baz=46,SNR=11

J14A Carey 46.11 78 ⇑P P 14 14 39.2 +0.2
baz=46,SNR=6.8

O07A Toulon 46.13 85 ⇓P P 14 14 39.2 0.0
baz=46

ARCES ARCESS Array B 46.18 344 P P 14 14 38.9 -0.4
comp=Z,7.9nm,0.7s,mb4.7,baz=23,slow=8.3,SNR=18

ARCES ARCESS Array B 46.18 344 P P 14 14 38.9 -0.4
ARCES pmax pmax
comp=Z,8.0nm,0.7s

ARE0 ARCESS Array S 46.18 344 *eP* P 14 14 38.6 -0.6

DGMT Dagmar 46.25 66 ⇓P P 14 14 39.8 -0.2
baz=46

L12A House Creek Ra 46.34 80 ⇓P P 14 14 41.2 +0.3
baz=46

LAVA Lava Cap Winer 46.39 88 ⇓P P 14 14 41.1 -0.1
baz=46

J15A Blackfoot 46.54 77 ⇓P P 14 14 42.9 +0.5
baz=46

I16A Newdale 46.60 76 ⇑P P 14 14 43.1 +0.3
baz=46,SNR=6.1

RLMT Red Lodge 46.62 73 ⇑P P 14 14 43.5 +0.5
baz=46,SNR=7.0

RLMT Red Lodge 46.62 73 *eP* P 14 14 43.9 +0.9
comp=Z,15nm,1.1s,mb4.8

R05C Kirkwood Meado 46.74 87 ⇑P P 14 14 44.3 +0.4
baz=47

N10A Dunphy 46.78 83 ⇓P P 14 14 44.5 +0.2
baz=47

APA Apatity 46.85 339 ⇓*eP* P 14 14 44.0 -0.5
APA pmax pmax
comp=Z,22nm,1.2s,mb5.0

APA MLR MLR
comp=Z,500nm,17.0s,MS4.5

K14A Jones Ranch, D 46.87 78 ⇓P P 14 14 45.4 +0.4
baz=47

L13A Double Diamond 46.88 79 ⇑P P 14 14 45.3 +0.2
baz=47

O09A Fish Creek Ran 46.90 84 ⇓P P 14 14 45.5 +0.2
baz=47,SNR=8.7

M12A Wells 46.97 81 ⇑P P 14 14 45.9 +0.2
baz=47,SNR=5.5

J16A Bone 47.01 76 ⇑P P 14 14 46.5 +0.4
baz=47

K15A Arbon 47.06 78 ⇓P P 14 14 46.7 +0.3
baz=47

RRI2 Red Ridge 47.09 76 *eP* P 14 14 45.7 -1.0
comp=Z,9.2nm,0.9s,mb4.7

CMB Columbia Colle 47.13 88 P P 14 14 47.0 -0.1
CMB pmax pmax
comp=Z,6.0nm,1.0s,mb4.5

CMB Columbia Colle 47.13 88 ⇑P P 14 14 47.4 +0.4
baz=47

CMB Columbia Colle 47.13 88 P P 14 14 47.0 0.0
comp=Z,6.4nm,1.0s,mb4.5

TPAW Teton Pass 47.14 76 *eP* P 14 14 46.5 -0.6
comp=Z,10nm,1.0s,mb4.7

R06C Coleville 47.17 87 ⇓P P 14 14 47.6 +0.2
baz=47

L14A Malta 47.24 79 ⇓P P 14 14 48.2 +0.3
baz=47

ELK Elko 47.35 82 *eP* P 14 14 48.7 0.0
ELK pmax pmax
comp=Z,3.0nm,1.0s

ELK Elko 47.35 82 *eP* P 14 14 48.6 -0.1
comp=Z,3.4nm,1.0s,mb4.2

M13A Montello 47.35 80 ⇓P P 14 14 49.1 +0.3
baz=47

N12A Clover Valley, 47.35 81 ⇑P P 14 14 49.0 +0.2
baz=47

S06C San Francisco 47.50 88 ⇑P P 14 14 50.1 +0.1
baz=47

Q08A Gabbs 47.61 85 ⇑P P 14 14 50.6 -0.1
baz=47

M14A Sheep Mountain 47.62 79 ⇑P P 14 14 50.6 -0.2
baz=47,SNR=6.0

L15A Malad City 47.66 78 ⇓P P 14 14 51.2 +0.1
baz=48,SNR=7.4

P10A Eureka 47.68 83 ⇑P P 14 14 50.9 -0.4
baz=48

S05C Merced 47.71 89 ⇓P P 14 14 51.5 -0.1
baz=48

GTA Gaotai 47.73 276 *eP* P 14 14 54.1 +2.4
GTA AP pP 14 14 58.3 +2.3
GTA XP sP 14 15 01.3 +3.7
GTA AMB AMB
comp=Z,3.0nm,1.8s,mb4.0

NVAR Mina Array Bea 47.78 86 P P 14 14 52.2 +0.1
comp=Z,1.3nm,0.7s,mb4.1,baz=308,slow=7.1,SNR=12

NVAR Mina Array Bea 47.78 86 P P 14 14 52.2 +0.1

XAN Xi'an 47.87 264 P P 14 14 51.8 -1.0
XAN AMB AMB
comp=Z,2.0nm,0.7s,mb4.3

O12A Currie 47.95 81 ⇑P P 14 14 53.7 +0.2
baz=48

M15A Larsen Ranch, 48.06 79 ⇑P P 14 14 54.4 +0.2
baz=48

L16A Fish Haven 48.08 77 ⇓P P 14 14 54.7 +0.3
baz=48

KURK Kurchatov 48.10 301 P P 14 14 54.5 +0.1
comp=Z,2.0nm,0.6s,mb4.4,baz=43,slow=7.5,SNR=9.4

KURK Kurchatov 48.10 301 P P 14 14 54.5 +0.1
KURK pmax pmax
comp=Z,2.0nm,0.6s,mb4.3

KURK Kurchatov 48.10 301 *eP* P 14 14 52.6 -1.8
comp=Z,11nm,1.2s,mb4.8

KCC Kaiser Creek 48.20 88 ⇓P P 14 14 55.6 +0.3
baz=48

N14A Grayback Hills 48.21 80 ⇓P P 14 14 55.7 +0.3
baz=48

T06C Millerton Lake 48.28 88 ⇓P P 14 14 55.7 -0.2
baz=48

ULM Lac du Bonnet 48.32 59 P P 14 14 55.6 -0.5
comp=Z,7.1nm,1.1s,mb4.6,baz=317,slow=14,SNR=3.8

BW06 Boulder Array 48.34 75 ⇑P P 14 14 56.8 +0.4
baz=48

BW06 Boulder Array 48.34 75 *eP* P 14 14 55.7 -0.7
comp=Z,12nm,1.0s,mb4.9

PDAR Pinedale Array 48.34 75 P P 14 14 56.5 +0.2
comp=Z,8.9nm,0.9s,mb4.8,baz=330,slow=3.4,SNR=48

Q10A Clear Creek Ra 48.35 84 ⇑P P 14 14 56.5 0.0
baz=48,SNR=7.2

HWUT Hardware Ranch 48.35 78 *eP* P 14 14 56.9 +0.4
comp=Z,10nm,1.0s,mb4.8

O13A Hicks Ranch, I 48.42 81 ⇓P P 14 14 57.0 0.0
baz=48

R09A Tonopah 48.51 85 ⇓P P 14 14 57.7 0.0
baz=48

P12A McGill 48.52 82 ⇓P P 14 14 57.8 0.0
baz=48

LZH Lanzhou 48.55 270 *eP* P 14 14 58.5 +0.4
LZH AP pP 14 15 00.9 -1.4
LZH PP PP 14 16 53.0 +2.4
LZH *eS* **S** **14 22 00.1 +1.3**
LZH XS sS 14 22 06.1 +0.3
LZH AMB AMB
comp=Z,19nm,1.0s,mb5.1

LZH AMB AMB
comp=Z,85nm,4.0s

LZH LR LR
comp=E,701nm,15.0s

LZH LR LR
comp=Z,943nm,17.0s,MS4.8

LZH Lanzhou 48.55 270 *eP* P 14 14 58.5 +0.4
LZH *PP pP 14 15 00.9 -1.4
LZH *SP sP 14 15 02.0 -1.9
LZH 14 16 53.0
LZH *eS* **S** **14 22 00.1 +1.3**
LZH *SS sS 14 22 06.1 +0.3
LZH SS SS 14 25 28.0 -0.3
LZH pmax pmax
comp=Z,19nm,1.0s,mb5.1

LZH MLR MLR
comp=Z,940nm,17.0s,MS4.8

LZH Lanzhou 48.55 270 *eP* P 14 14 58.5 +0.4
comp=Z,19nm,1.0s,mb5.1

LZH pP pP 14 15 00.9 -1.4
LZH sP sP 14 15 02.0 -1.9
LZH PP PP 14 16 53.0 +2.4
LZH *eS* **S** **14 22 00.1 +1.3**
LZH sS sS 14 22 06.1 +0.3
LZH SS SS 14 25 28.0 -0.3
LZH LR LR
comp=Z,940nm,17.0s,MS4.8

M16A Huntsville 48.55 78 ⇓P P 14 14 58.1 +0.1
baz=48

TPH Tonopah 48.57 85 P P 14 14 57.7 -0.5

Q11A Duckwater 48.67 83 ⇓P P 14 14 59.4 +0.4
baz=48

R10A Warm Springs 48.82 84 ⇑P P 14 15 00.3 +0.1
baz=49

S09A Goldfield 48.85 86 ⇑P P 14 15 00.4 0.0
baz=49

HELL Mitchell Peak 48.86 88 ⇑P P 14 15 00.3 -0.2
baz=49

DUG Dugway 48.90 80 *eP* P 14 15 00.4 -0.3
DUG pmax pmax
comp=Z,5.0nm,1.0s,mb4.5

DUG Dugway 48.90 80 ⇓P P 14 15 01.0 +0.2
baz=49

DUG Dugway 48.90 80 *eP* P 14 15 00.4 -0.4
comp=Z,5.2nm,1.0s,mb4.5

P13A Bates Ranch, G 48.94 82 ⇑P P 14 15 01.0 0.0
baz=49

S10A Tonopah Range, 48.98 85 ⇓P P 14 15 01.1 -0.3
baz=49,SNR=5.3

N17A Moffit Pass 49.21 78 ⇑P P 14 15 03.0 -0.1
baz=49

P14A Drum Mountains 49.27 81 ⇑P P 14 15 03.4 -0.2
baz=49

Q13A Wheeler Ranch, 49.34 82 ⇑P P 14 15 04.0 -0.1
baz=49

BVAR Borovoye Array 49.41 309 P P 14 15 03.6 -0.8
comp=Z,1.0nm,0.6s,mb4.0,baz=44,slow=11,SNR=5.7

BVAR Borovoye Array 49.41 309 P P 14 15 03.6 -0.8
BVAR pmax pmax
comp=Z,1.0nm,0.6s

SMMC Simmler 49.53 90 ⇓P P 14 15 05.5 -0.1
baz=49

R12A Pony Springs, 49.58 83 ⇑P P 14 15 05.9 0.0
baz=49

S11A Rachel 49.60 84 ⇓P P 14 15 06.0 -0.1
baz=49

SVE Sverdlovsk 49.63 318 ⇓*eP* P 14 15 06.4 +0.3
SVE *eS* **S** **14 22 13.8 +0.2**
SVE pmax pmax
comp=Z,13nm,1.1s,mb4.9

Q14A Sevier Lake (B 49.66 81 ⇑P P 14 15 06.6 +0.1
baz=50

MK31 Makanchi Array 49.68 296 P P 14 15 06.7 +0.1

MKAR Makanchi Array 49.68 296 P P 14 15 04.8 -1.8
comp=Z,0.5nm,0.4s,mb3.9,baz=46,slow=5.6,SNR=5.7

MKAR Makanchi Array 49.68 296 *i* P P 14 15 07.3 +0.7
MKAR pmax pmax
comp=Z,1.0nm,0.4s

N18A Larsen Ranch, 49.71 77 ⇓P P 14 15 07.1 +0.2
baz=50

O17A Robinson Place 49.85 78 ⇑P P 14 15 08.2 +0.2
baz=50

TPNV Topopah Spring 49.93 85 P P 14 15 07.6 -1.1
TPNV pmax pmax
comp=Z,4.0nm,1.1s,mb4.4

TPNV Topopah Spring 49.93 85 ⇑P P 14 15 08.7 0.0
baz=50

TPNV Topopah Spring 49.93 85 P P 14 15 07.6 -1.0
comp=Z,4.1nm,1.1s,mb4.4

R13A O'Grain Ranch, 49.99 82 ⇓P P 14 15 09.4 +0.4
baz=50

N19A John Jarvie Ra 50.00 76 ⇑P P 14 15 09.2 +0.1
baz=50

MPMC Manual Prospec 50.08 87 ⇓P P 14 15 10.0 +0.2
baz=50,SNR=5.2

T11A Corn Creek, Al 50.17 84 ⇓P P 14 15 10.4 -0.1
baz=50,SNR=5.8

S13A Holt Ranch, En 50.53 83 ⇑P P 14 15 13.3 +0.1
baz=50

MSU Marysvale 50.55 81 *eP* P 14 15 13.4 +0.1

ARUT Antelope Range 50.55 82 *eP* P 14 15 13.6 +0.3

ARU Arti 50.61 319 *d* iP P 14 15 11.9 -1.6
ARU *e* 14 17 04.3
ARU *eS* **S** **14 22 23.0 -4.2**
ARU *eSS sS 14 25 54.5 -6.1
ARU pmax pmax
comp=Z,7.0nm,1.2s,mb4.5

ARU Arti 50.61 319 P P 14 15 11.7 -1.8

Q16A Castle Valley 50.68 80 ⇓P P 14 15 14.8 +0.5
baz=50

S14A Cedar City 50.70 82 ⇓P P 14 15 15.0 +0.5
baz=50

EDW2 Edwards Air Fo 50.81 88 ⇓P P 14 15 14.8 -0.6
baz=51

SRU San Rafael 50.82 79 *eP* P 14 15 15.1 -0.3
SRU pmax pmax
comp=Z,14nm,1.1s,mb4.8

SRU San Rafael 50.82 79 ⇑P P 14 15 15.3 0.0
baz=51,SNR=18

SRU San Rafael 50.82 79 *eP* P 14 15 15.1 -0.3
comp=Z,14nm,1.1s,mb4.8

T13A Saint George 50.96 83 ⇑P P 14 15 17.1 +0.6
baz=51

Q18A Rafter H Ranch 51.01 79 ⇑P P 14 15 16.6 -0.1
baz=51

GSC Goldstone 51.02 87 ⇑P P 14 15 17.3 +0.4
baz=51

R16A Teasdale 51.05 80 ⇑P P 14 15 17.7 +0.6
baz=51

U12A Valley of Fire 51.15 84 ⇑P P 14 15 18.2 +0.4
baz=51

V11A Goodsprings 51.22 85 ⇑P P 14 15 18.8 +0.4
baz=51

R17A Hanksville Air 51.30 80 ⇓P P 14 15 18.7 -0.3
baz=51

U13A Pakoon Wash 51.43 84 ⇓P P 14 15 20.2 +0.3
baz=51,SNR=5.8

JOF Joensuu 51.48 338 *ep* P 14 15 19.2 -0.8
comp=Z,3.1nm,0.7s,mb4.3

JOF Joensuu 51.48 338 *eP* P 14 15 19.2 -0.8
JOF pmax pmax
comp=Z,3.0nm,0.7s,mb4.3

BFSC Mount Baldy St 51.50 89 ⇓P P 14 15 20.8 +0.3
baz=51

Q19A Hogan Spring (51.52 78 ⇑P P 14 15 20.4 -0.3
baz=51

V12A Nelson 51.58 85 ⇑P P 14 15 21.4 +0.3
baz=51

HEC Hector,Ludlow 51.63 87 ⇑P P 14 15 21.6 +0.2
baz=52

T15A Red Dirt Ranch 51.67 82 ⇑P P 14 15 22.1 +0.4
baz=52,SNR=6.2

R18A Canyonlands Na 51.70 79 ⇓P P 14 15 21.4 -0.5
baz=52,SNR=6.3

KLMR Klimovskoe 51.77 332 *eP* P 14 15 21.4 -0.7
KLMR pmax pmax
comp=Z,13nm,1.4s,mb4.7

U14A Mt Trumbull 51.79 83 ⇑P P 14 15 23.2 +0.5
baz=52

V13A Grand Canyon W 51.88 84 ⇑P P 14 15 23.6 +0.3
baz=52

S17A Black Ridge (B 51.89 80 ⇓P P 14 15 23.3 -0.1
baz=52,SNR=6.6

GMRC Granite Mounta 51.98 86 ⇑P P 14 15 24.0 -0.1
baz=52

PV10 Paradox Valley 52.10 78 P P 14 15 25.8 +0.9

U15A North Rim 52.19 82 ⇓P P 14 15 25.9 +0.3
baz=52,SNR=8.1

S18A Hurst Farm, Bl 52.22 80 ⇓P P 14 15 25.6 -0.2
baz=52

T17A Navajo Res., N 52.41 81 ⇓P P 14 15 26.8 -0.5
baz=52

V14A Boquillas Ranc 52.47 84 ⇑P P 14 15 27.8 +0.2
baz=52,SNR=14

BELC Belle Mtn. 52.47 87 ⇑P P 14 15 27.5 -0.2
baz=52

ISCO Idaho Springs 52.49 74 *eP* P 14 15 27.9 +0.1
ISCO pmax pmax
comp=Z,3.0nm,1.0s,mb4.2

ISCO Idaho Springs 52.49 74 *eP* P 14 15 27.9 +0.1
comp=Z,3.4nm,1.0s,mb4.2

PV01 Paradox Valley 52.51 78 *eP* P 14 15 27.8 -0.2

W13A Hualapai Mount 52.54 85 ⇑P P 14 15 28.3 +0.1
baz=52

S19A Harvey Farm, M 52.56 79 ⇓P P 14 15 27.9 -0.5
baz=52

T18A Mexican Hat 52.72 80 ⇑P P 14 15 29.2 -0.4
baz=52,SNR=8.6

IRM Iron Mountain 52.73 86 ⇓P P 14 15 29.1 -0.5
baz=53,SNR=8.0

V15A Kaibab Nationa 52.74 83 ⇓P P 14 15 29.9 +0.2
baz=53

W14A Seligman 52.82 84 ⇓P P 14 15 30.6 +0.3
baz=53,SNR=7.3

CD2 Chengdu 52.87 266 *eP* P 14 15 30.3 -0.4
CD2 AP pP 14 15 35.8 +0.8
CD2 XP sP 14 15 39.2 +2.6
CD2 PP PP 14 17 32.0 +2.0
CD2 S **S** **14 22 57.7 -1.2**
CD2 XS sS 14 23 05.6 -0.4
CD2 SS SS 14 26 35.2 -2.2
CD2 AMB AMB
comp=Z,10.0nm,0.8s,mb4.8

CD2 AMB AMB
comp=Z,30nm,6.8s

CD2 LR LR
comp=N,130nm,14.4s

CD2 LR LR
comp=Z,150nm,13.4s,MS4.2

U16A Tuba City 52.96 82 ⇑P P 14 15 31.2 -0.1
baz=53,SNR=5.2

X13A Yucca 52.98 85 ⇓P P 14 15 31.5 -0.1
baz=53

BC3 Big Chuckw Mtn 53.01 87 ⇑P P 14 15 31.4 -0.3
baz=53

KAF Kangasniemi 53.06 340 *ep* P 14 15 30.2 -1.5
comp=Z,5.4nm,0.8s,mb4.5

KAF Kangasniemi 53.06 340 *eP* P 14 15 30.2 -1.5
KAF pmax pmax
comp=Z,5.0nm,0.8s,mb4.5

PDMCI Parker Dam,Lak 53.08 85 ⇓P P 14 15 32.1 -0.2
baz=53

Y12C Blythe 53.36 86 ⇑P P 14 15 34.4 +0.1
baz=53

WUAZ Wupatki 53.36 82 ⇑P P 14 15 34.7 +0.4
baz=53

T19A Beclabito 53.36 79 ⇓P P 14 15 34.3 0.0
baz=53,SNR=16

X14A Yava 53.52 84 ⇑P P 14 15 35.8 +0.3
baz=53

W16A Flagstaff 53.64 83 ⇓P P 14 15 37.0 +0.7
baz=54

FINES FINESS Array B 53.73 340 *eP* P 14 15 36.0 -0.7

GLA Glamis 53.80 87 ⇓P P 14 15 37.4 -0.1
baz=54

X15A Humboldt 53.81 84 ⇑P P 14 15 37.9 +0.3
baz=54

V18A Ganado 53.87 81 ⇑P P 14 15 38.3 +0.3
baz=54

Y14A Wickenburg 53.91 85 ⇓P P 14 15 38.7 +0.3
baz=54

Y15A Casa Rosa Ranc 54.21 84 ⇑P P 14 15 41.2 +0.7
baz=54

SDCO Great Sand Dun 54.22 76 *eP* P 14 15 40.7 +0.2
comp=Z,4.9nm,1.0s,mb4.4

X16A Lo Mia Camp, P 54.24 83 ⇓P P 14 15 41.2 +0.4
baz=54

X17A Forest Lakes 54.60 83 ⇓P P 14 15 44.3 +0.9
baz=54

X18A Snowflake 54.83 82 ⇓P P 14 15 45.9 +0.8
baz=55

Y17A Roosevelt 55.11 83 ⇓P P 14 15 47.9 +0.8
baz=55

X19A St. Johns 55.22 81 ⇓P P 14 15 48.8 +0.9
baz=55

GYA Guiyang 55.29 261 P P 14 15 48.2 -0.3
GYA PCP PcP 14 16 50.2 +1.2
GYA PP PP 14 17 53.0 +1.1
GYA SCP ScP 14 20 46.4 -0.6
GYA S **S** **14 23 29.6 -2.2**
GYA AMB AMB
comp=Z,10.0nm,1.0s,mb4.8

115A Sonoran Desert 55.30 85 ⇓P P 14 15 49.5 +1.1
baz=55

Y18A Canyon Day Jun 55.42 82 ⇑P P 14 15 50.2 +0.9
baz=55

TKM2 Tokmak 2 55.61 298 *eP* P 14 15 51.5 +1.0
TKM2 pmax pmax
comp=Z,6.0nm,1.3s,mb4.5

TKM2 Tokmak 2 55.61 298 *eP* P 14 15 51.5 +1.0
comp=Z,6.4nm,1.3s,mb4.5

Y19A Nutrioso 55.63 82 ⇓P P 14 15 51.9 +1.1
baz=55,SNR=6.2

214A Organ Pipe Nat 55.65 86 ⇓P P 14 15 51.6 +0.6
baz=56

NB2 NORSAR Subarra 55.98 349 P P 14 15 52.5 -0.4
comp=Z,11nm,0.9s,mb4.9,baz=11,slow=7.4

NOA NORSAR Array B 55.98 349 P P 14 15 52.7 -0.3
comp=Z,7.4nm,0.8s,mb4.7,baz=11,slow=7.3,SNR=13

NOA NORSAR Array B 55.98 349 P P 14 15 52.7 -0.2
NOA pmax pmax
comp=Z,7.0nm,0.9s

NOA NORSAR Array B 55.98 349 P P 14 15 52.7 -0.3

ANMO Albuquerque 56.09 79 ⇓*eP* P 14 15 54.7 +0.6

ANMO Albuquerque 56.09 79 *eP* P 14 15 53.6 -0.5
comp=Z,1.5nm,0.7s,mb4.1

117A Oracle 56.09 84 ⇑P P 14 15 54.9 +0.7
baz=56,SNR=7.4

Z19A T-Link Ranch, 56.18 82 ⇑P P 14 15 55.7 +1.0
baz=56,SNR=8.3

LAZ Ladron 56.23 80 *eP* P 14 15 56.1 +1.0

216A Three Points, 56.24 85 ⇓P P 14 15 55.8 +0.6
baz=56

118A Homack Ranch, 56.40 83 ⇓P P 14 15 56.8 +0.5
baz=56,SNR=5.8

EKS2 Erkin-Say 56.57 299 *eP* P 14 15 57.2 -0.1

119A Ashpeak Ranch, 56.60 82 ⇑P P 14 15 58.3 +0.6
baz=56,SNR=6.9

BNM Barren Site 56.67 79 *eP* P 14 15 57.9 -0.3

218A Dragoon 56.91 84 ⇓P P 14 16 00.7 +0.7
baz=57

219A White Tail Can 57.26 83 ⇑P P 14 16 03.2 +0.7
baz=57,SNR=14

318A Bisbee 57.39 84 ⇑P P 14 16 04.1 +0.8
baz=57,SNR=9.2

OBN Obninsk 57.66 331 *i* P P 14 16 05.5 +0.6
OBN *e* 14 18 12.4
OBN *eSS SS 14 27 51.0 -0.6
OBN pmax pmax
comp=Z,10.0nm,0.6s,mb5.0

OBN MLR MLR
comp=Z,200nm,18.0s,MS4.3

319A Douglas 57.77 83 ⇓P P 14 16 06.4 +0.4
baz=58,SNR=6.3

KMI Kunming 58.25 264 P P 14 16 11.6 +2.2
KMI AMB AMB
comp=Z,10.0nm,0.9s,mb4.8

KMI Kunming 58.25 264 P P 14 16 11.6 +2.2
comp=Z,10.0nm,0.9s,mb4.8

LSA Lhasa 59.75 277 P P 14 16 20.2 +0.4

FVM French Village 60.60 64 *eP* P 14 16 24.8 -0.7
FVM pmax pmax
comp=Z,20nm,1.1s,mb5.2

FVM French Village 60.60 64 *eP* P 14 16 24.8 -0.8
comp=Z,20nm,1.1s,mb5.2

TXAR Lajitas Array 62.08 80 P P 14 16 36.2 +0.5
comp=Z,4.7nm,1.0s,mb4.6,baz=319,slow=5.0,SNR=28

TXAR Lajitas Array 62.08 80 P P 14 16 36.2 +0.5
TXAR pmax pmax
comp=Z,5.0nm,1.0s

TXAR Lajitas Array 62.08 80 P P 14 16 36.2 +0.5

JCT Junction City 62.87 76 *eP* P 14 16 40.1 -0.8
JCT pmax pmax
comp=Z,26nm,1.0s,mb5.3

JCT Junction City 62.87 76 *eP* P 14 16 40.1 -0.8
comp=Z,26nm,1.0s,mb5.3

TAPN Taplejung 63.33 278 *eP* P 14 16 43.3 -0.7
comp=Z,5.8nm,0.5s,mb5.0

GUN Gumba 63.70 280 *eP* P 14 16 45.6 -0.8
comp=Z,13nm,0.6s,mb5.2

JIRN Jiri 63.77 280 *eP* P 14 16 46.3 -0.6
comp=Z,11nm,0.7s,mb5.0

KKN Kakani 64.07 281 *eP* P 14 16 48.1 -0.8

RAMN Ramite 64.19 279 *eP* P 14 16 48.8 -0.9
comp=Z,41nm,1.0s,mb5.4

GKN Gorkha 64.19 281 *eP* P 14 16 48.6 -1.1
comp=Z,27nm,1.1s,mb5.2

DANN Dangsing 64.29 282 *eP* P 14 16 49.9 -0.4
comp=Z,26nm,0.8s,mb5.3

KOLN Koldanda 64.86 282 *eP* P 14 16 53.4 -0.7
comp=Z,11nm,0.9s,mb4.9

CLL Collm 65.38 345 *i* P P 14 16 58.3 +1.2
CLL *i* pP 14 17 02.9 +1.5
CLL pmax pmax
comp=Z,6.0nm,1.1s,mb4.5

CLL MLR MLR
comp=Z,600nm,18.0s,MS4.8

CLL Collm 65.38 345 *eP* P 14 16 58.1 +1.0
comp=Z,6.0nm,1.2s,mb4.5

CLL Collm 65.38 345 *i* P P 14 16 58.3 +1.2
comp=Z,6.0nm,1.1s,mb4.5

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CLL				*i* (pP)	pP	14 17 02.9	+1.5
CLL	**Collm**	**65.38**	**345**	*i* P	**P**	**14 16 58.3**	**+1.2**
	comp=Z,6.0nm,1.1s,mb4.5						
CLL				*i*	pP	14 17 02.9	+1.5
CLL				LR	LR		
	comp=Z,600nm,18.0s,MS4.8						
CHTO	**Chiang Mai**	**65.45**	**264**	*e*P	**P**	**14 16 57.3**	**-0.6**
CHTO				pmax	pmax		
	comp=Z,7.0nm,1.3s,mb4.5						
CHTO	**Chiang Mai**	**65.45**	**264**	*e*P	**P**	**14 16 57.3**	**-0.6**
	comp=Z,6.5nm,1.3s,mb4.5						
BRG	**Berggiesshubel**	**65.69**	**345**	*e*P	**P**	**14 16 57.1**	**-2.0**
BRG				pmax	pmax		
	comp=Z,1.0nm,0.4s,mb4.2						
BRG	**Berggiesshubel**	**65.69**	**345**	*e*(P)	**P**	**14 16 57.1**	**-2.0**
	comp=Z,2.3nm,0.4s,mb4.5						
FBE	**Freiberg**	**65.72**	**345**	*e*P	**P**	**14 17 01.1**	**+1.8**
	comp=Z,9.0nm,1.1s,mb4.7						
CMAR	**Chiang Mai Arr**	**65.76**	**263**	P	**P**	**14 17 00.1**	**+0.2**
	comp=Z,1.4nm,0.6s,mb4.2,baz=11,slow=6.1,SNR=13						
CMAR	**Chiang Mai Arr**	**65.76**	**263**	P	**P**	**14 17 00.1**	**+0.2**
CMAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
MOX	**Moxa**	**66.19**	**346**	*e*P	**P**	**14 17 03.8**	**+1.5**
	comp=Z,14nm,1.5s,mb4.8						
MORC	**Moravsky Berou**	**66.28**	**342**	*e*P	**P**	**14 17 04.2**	**+1.3**
WERD	**Werda**	**66.31**	**346**	*e*P	**P**	**14 17 04.3**	**+1.2**
	comp=Z,6.0nm,1.2s,mb4.5						
GUNZ	**Gunzen**	**66.39**	**346**	*e*P	**P**	**14 17 05.2**	**+1.6**
	comp=Z,12nm,1.5s,mb4.7						
WERN	**Wernitzgruen**	**66.46**	**346**	*e*P	**P**	**14 17 05.2**	**+1.2**
	comp=Z,5.0nm,1.1s,mb4.5						
GRA1	**Grafenberg Arr**	**67.17**	**346**	*e*P	**P**	**14 17 10.7**	**+2.1**
	comp=Z,9.0nm,0.9s,mb4.8						
GRF	**Grafenberg Arr**	**67.17**	**346**	*e*P	**P**	**14 17 10.7**	**+2.1**
GRF				pmax	pmax		
	comp=Z,9.0nm,0.9s,mb4.8						
GRF	**Grafenberg Arr**	**67.17**	**346**	*e*P	**P**	**14 17 10.7**	**+2.1**
GRF				pmax	pmax		
	comp=Z,9.0nm,0.9s,mb4.8						
GRF	**Grafenberg Arr**	**67.17**	**346**	*e*P	**P**	**14 17 10.7**	**+2.1**
	comp=Z,9.0nm,0.9s,mb4.8						
GIVF	**Givet**	**67.36**	**351**	*e*P	**P**	**14 17 08.9**	**-0.9**
BAIF	**Baives**	**67.45**	**351**	*e*P	**P**	**14 17 09.8**	**-0.5**
KHC	**Kasperske Hory**	**67.45**	**345**	⇓*e*P	**P**	**14 17 11.9**	**+1.5**
WET	**Wettzell**	**67.52**	**345**	*e*P	**P**	**14 17 12.5**	**+1.7**
WET				pmax	pmax		
	comp=Z,7.0nm,1.3s,mb4.5						
WET	**Wettzell**	**67.52**	**345**	*e*P	**P**	**14 17 12.5**	**+1.7**
	comp=Z,7.0nm,1.3s,mb4.5						
GEC2	**GERESS Array S**	**67.72**	**344**	*e*P	**P**	**14 17 13.0**	**+0.9**
GEC2				pmax	pmax		
	comp=Z,9.0nm,1.6s,mb4.5						
GEC2	**GERESS Array S**	**67.72**	**344**	*e*P	**P**	**14 17 13.0**	**+0.9**
	comp=Z,9.0nm,1.6s,mb4.5						
GERES	**GERESS Array B**	**67.72**	**344**	P	**P**	**14 17 13.7**	**+1.7**
	comp=Z,0.8nm,0.6s,mb4.0,baz=46,slow=3.9,SNR=7.1						
GERES	**GERESS Array B**	**67.72**	**344**	P	**P**	**14 17 13.7**	**+1.6**
GERES				pmax	pmax		
	comp=Z,1.0nm,0.6s						
LDF	**La Druitiere**	**69.17**	**354**	*e*P	**P**	**14 17 19.9**	**-1.2**
	comp=Z,30nm,1.2s,mb4.8						
LDF	**La Druitiere**	**69.17**	**354**	*e*P	**P**	**14 17 19.9**	**-1.2**
LDF				pmax	pmax		
	comp=Z,15nm,1.2s,mb4.8						
LDF	**La Druitiere**	**69.17**	**354**	*e*P	**P**	**14 17 19.9**	**-1.2**
	comp=Z,15nm,1.2s,mb4.8						
HAU	**Haudompre**	**69.32**	**349**	*e*P	**P**	**14 17 21.2**	**-0.9**
GRR	**Gorron**	**69.41**	**355**	*e*P	**P**	**14 17 21.5**	**-1.1**
LOR	**Lormes**	**70.25**	**351**	*e*P	**P**	**14 17 26.8**	**-1.0**
	comp=Z,36nm,1.2s,mb4.9						
LOR	**Lormes**	**70.25**	**351**	*e*P	**P**	**14 17 26.8**	**-1.0**
LOR				pmax	pmax		
	comp=Z,18nm,1.2s,mb4.9						
LOR	**Lormes**	**70.25**	**351**	*e*P	**P**	**14 17 26.8**	**-1.0**
	comp=Z,18nm,1.2s,mb4.9						
SSF	**Saint Saulge**	**70.48**	**351**	*e*P	**P**	**14 17 28.4**	**-0.8**
	comp=Z,44nm,1.5s,mb4.9						
SSF	**Saint Saulge**	**70.48**	**351**	*e*P	**P**	**14 17 28.4**	**-0.8**
SSF				pmax	pmax		
	comp=Z,22nm,1.5s,mb4.9						
SSF	**Saint Saulge**	**70.48**	**351**	*e*P	**P**	**14 17 28.4**	**-0.8**
	comp=Z,22nm,1.5s,mb4.9						
AVF	**Avril sur Loir**	**70.76**	**351**	*e*P	**P**	**14 17 29.9**	**-1.0**
	comp=Z,29nm,1.2s,mb4.8						
AVF	**Avril sur Loir**	**70.76**	**351**	*e*P	**P**	**14 17 29.9**	**-1.0**
AVF				pmax	pmax		
	comp=Z,14nm,1.2s,mb4.8						
AVF	**Avril sur Loir**	**70.76**	**351**	*e*P	**P**	**14 17 29.9**	**-1.0**
	comp=Z,14nm,1.2s,mb4.8						
SMF	**Signal de Mont**	**70.87**	**351**	*e*P	**P**	**14 17 30.6**	**-1.0**
MFF	**Saint Martin d**	**71.16**	**354**	*e*P	**P**	**14 17 32.6**	**-0.7**
TCF	**Toulx Ste Croi**	**71.34**	**352**	*e*P	**P**	**14 17 33.5**	**-0.9**
	comp=Z,24nm,1.4s,mb4.7						
TCF	**Toulx Ste Croi**	**71.34**	**352**	*e*P	**P**	**14 17 33.5**	**-0.9**
TCF				pmax	pmax		
	comp=Z,12nm,1.4s,mb4.6						
TCF	**Toulx Ste Croi**	**71.34**	**352**	*e*P	**P**	**14 17 33.5**	**-0.9**
	comp=Z,12nm,1.4s,mb4.6						
LPG	**La Plagne**	**71.78**	**349**	*e*P	**P**	**14 17 37.3**	**+0.2**
CAF	**Calviac**	**72.70**	**352**	*e*P	**P**	**14 17 42.2**	**-0.5**
	comp=Z,16nm,1.0s,mb4.6						
CAF	**Calviac**	**72.70**	**352**	*e*P	**P**	**14 17 42.2**	**-0.5**
CAF				pmax	pmax		
	comp=Z,8.0nm,1.0s,mb4.6						
CAF	**Calviac**	**72.70**	**352**	*e*P	**P**	**14 17 42.2**	**-0.5**
	comp=Z,8.0nm,1.0s,mb4.6						
ESDC	**Sonseca Array**	**78.22**	**356**	P	**P**	**14 18 12.8**	**-1.6**
	comp=Z,1.5nm,0.7s,mb4.1,baz=6.5,slow=6.7,SNR=7.4						
ESDC	**Sonseca Array**	**78.22**	**356**	P	**P**	**14 18 12.8**	**-1.6**
CTAO	**Charters Tower**	**84.62**	**204**	P	**P**	**14 18 49.2**	**+0.9**
CTAO				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.6						
CTAO	**Charters Tower**	**84.62**	**204**	P	**P**	**14 18 49.2**	**+0.9**
	comp=Z,4.0nm,0.8s,mb4.6						
WRA	**Warramunga Arr**	**87.19**	**215**	P	**P**	**14 19 00.5**	**-0.5**
	comp=Z,1.8nm,0.8s,mb4.4,baz=20,slow=5.7,SNR=15						
WRA	**Warramunga Arr**	**87.19**	**215**	P	**P**	**14 19 00.5**	**-0.5**
WRA				pmax	pmax		
	comp=Z,2.0nm,0.8s						
ASAR	**Alice Springs**	**90.86**	**214**	P	**P**	**14 19 19.1**	**+0.9**
	comp=Z,0.9nm,0.7s,mb4.2,baz=16,slow=4.8,SNR=10.0						
ASAR	**Alice Springs**	**90.86**	**214**	P	**P**	**14 19 19.2**	**+0.9**
ASAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
SBA	**Scott Base**	**140.03**	**182**	PKIKP	PKPdf	14 25 37.1	-4.4
MAW	**Mawson**	**150.98**	**228**	*e*P	PKPbc	14 26 05.4	-0.8
	comp=Z,4.7nm,1.0s						
MAW	**Mawson**	**150.98**	**228**	PKPbc	PKPbc	14 26 05.6	-0.6
	comp=Z,6.3nm,1.0s,baz=45,slow=1.5,SNR=12						
MAW	**Mawson**	**150.98**	**228**	PKIKP	PKPbc	14 26 05.6	-0.6
MAW				pmax	pmax		
	comp=Z,6.0nm,1.0s						

*BJI **04** 14:28:33.6, 830S×11680E, h10km, mB5.7, mb5.3, Ms5.4, Msz5.1*
*GCMT **04** 14:28:35.7±0.2, 840S×11682E, h22km, MW5.6/99, Moment Tensor Solution. s65,c97; s99,c234; Duration: 1s6 Moment tensor: Scale 10^17Nm; Mrr2.73±.09; Mθθ-2.95±.06; Mφφ0.22±.06; Mrθ-1.42±.10; Mθφ-0.42±.04; Mφr-0.87±.13; Best double couple: M0 3.32200×10^17 NP1:φs96.00000°, δ32.00000°, λ112.00000°. NP2: φs250.00000°, δ60.00000°, λ77.00000°. Principal axes: T 3.2530, Plg72.0000°, Azm129.0000°; N 0.1380, Plg11.0000°, Azm257.0000°; P -3.3910, Plg14.0000°, Azm350.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*
*NEIC **04** 14:28:35.7±0.2, 829S×11681E, h10km, mb5.6/35, MS5.2/78, MW5.7 Error ellipse: s-maj=7.9km s-min=5.5km az=63.0, Moment Tensor Solution. s5 Moment tensor: Scale 10^17Nm; Mrr4.31; Mθθ-3.30; Mφφ-1.01; Mrθ-1.46; Mθφ0.16; Mφr2.74; Best double couple: M0 5.00000×10^17 NP1:φs86.00000°, δ33.00000°, λ57.00000°. NP2: φs303.00000°, δ63.00000°, λ109.00000°. Principal axes: T 5.6500, Plg66.0000°, Azm249.0000°; N -1.8600, Plg17.0000°, Azm114.0000°; P -3.7900, Plg15.0000°, Azm19.0000°;*
NEIC Felt [IV] Mataram and [III] at Karangasem. Felt [IV] at Sumbawa Besar and Taliwang and [III] at Bima, Sumbawa. Also felt [III] at Denpasar and Singaraja, Bali.
*ISCJB **04** 14:28:36.4±0.2, 833S±002×11696E±002, h18km, mb5.5/90, MS5.2/120 Error ellipse: s-maj=3.6km s-min=3.2km az=156.2*
*IDC **04** 14:28:37.0±2.8, 827S×11686E, h12km±16km, mb5.1/15, mb1 5.2/18, mb1mx5.1/21, mbtmp5.1/18, ML5.0/3, MS5.1/29, Ms1 5.1/29, ms1mx5.0/37, Error ellipse: s-maj=17.2km s-min=11.4km az=75.0*
*MOS **04** 14:28:38.2±1.1, 822S×11688E, h33km, mb5.6/42, MS5.1/21, Error ellipse: s-maj=12.0km s-min=6.3km az=107.3*
*DJA **04** 14:28:41, 852S×11684E, h30km, Mw5.7/23*
ISC 04 14:28:38.6±0.2, **838S**±002×**11690E**±002, **h20**km±1.4km**: pP-P, n447,** σ1s**43**/337, **mb5.5**/90, **MS5.2**/120, **25C-26D, Sumbawa region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MTNI	**Mataram**	**0.77**	**251**	P	**Pb**	**14 28 52.0**	**-1.3**
	0.0nm,0.0s						
MTNI	**Mataram**	**0.77**	**251**	P	**Pb**	**14 28 51.5**	**-1.8**
MTNI	**Mataram**	**0.77**	**251**	S	**Sb**	**14 29 04.1**	**+0.8**
KHKI	**Kahang-Kahang**	**1.28**	**271**	P	**Pn**	**14 29 00.1**	**-1.3**
	0.0nm,0.0s						
KHKI	**Kahang-Kahang**	**1.28**	**271**	P	**Pn**	**14 29 00.0**	**-1.4**
DNP	**Denpasar**	**1.70**	**260**	P	**Pn**	**14 29 07.2**	**+0.1**
	0.0nm,0.0s						
DNP	**Denpasar**	**1.70**	**260**	P	**Pn**	**14 29 07.7**	**+0.6**
BMNI	**Bima**	**1.78**	**95**	P	**Pn**	**14 29 09.9**	**+1.7**
	0.0nm,0.0s						
NBBI	**Negara**	**2.26**	**270**	P	**Pn**	**14 29 15.5**	**+0.7**
	0.0nm,0.0s						
NBBI	**Negara**	**2.26**	**270**	P	**Pn**	**14 29 15.3**	**+0.5**
KAPI	**Kappang**	**4.38**	**40**	Pn	**Pn**	**14 29 42.9**	**-1.2**
	3μm,0.8s						
KAPI	**Kappang**	**4.38**	**40**	Pn	**Pn**	**14 29 42.6**	**-1.5**
	60nm,0.3s,baz=230,slow=7.9,SNR=102						
KAPI				Sn	**Sn**	**14 30 32.0**	**-2.7**
	247nm,0.3s,baz=223,slow=22,SNR=11						
KAPI	**Kappang**	**4.38**	**40**	P	**Pn**	**14 29 42.5**	**-1.6**
KAPI	**Kappang**	**4.38**	**40**	*e*Pn	**Pn**	**14 29 41.0**	**-3.1**
KAPI				*e*Sn	Px	14 30 11.3	
SJI	**Sawahan**	**5.13**	**277**	P	**Pn**	**14 29 54.8**	**+0.5**
	1μm,0.8s						
BBKI	**Banjar Baru**	**5.30**	**337**	P	**Pn**	**14 29 57.0**	**+0.3**
	0.0nm,0.0s						
BBKI	**Banjar Baru**	**5.30**	**337**	P	**Pn**	**14 29 56.7**	**0.0**
	3μm,1.0s,24nm						
PLKI	**Palangkaraya**	**6.79**	**334**	P	**Pn**	**14 30 16.2**	**-1.0**
	0.0nm,0.0s						
PLKI	**Palangkaraya**	**6.79**	**334**	P	**Pn**	**14 30 16.9**	**-0.3**
	1μm,0.9s,8.1nm						
BATI	**Baumata**	**6.92**	**106**	Pn	**Pn**	**14 30 21.0**	**+2.1**
	59nm,0.3s,baz=266,slow=1.6,SNR=47						
BATI				Sn	**Sn**	**14 31 46.6**	**+10**
	50nm,0.3s,baz=37,slow=22,SNR=6.9						
BATI				LR	LR	14 33 23.2	
	comp=Z,26μm,18.8s,baz=190,slow=41						
BATI	**Baumata**	**6.92**	**106**	P	**Pn**	**14 30 21.3**	**+2.4**
	693nm,1.2s,7μm2.4nm						
BATI	**Baumata**	**6.92**	**106**	S	**Sn**	**14 31 49.8**	**+13**
	693nm,1.2s,7μm2.4nm						
KDI	**Kendari**	**7.18**	**53**	P	**Pn**	**14 30 24.6**	**+2.0**
	0.0nm,0.0s						
KDI	**Kendari**	**7.18**	**53**	P	**Pn**	**14 30 32.1**	**+9.5**
BJII	**Banjamegara**	**7.20**	**278**	P	**Pn**	**14 30 24.5**	**+1.6**
	0.0nm,0.0s						
BJII	**Banjamegara**	**7.20**	**278**	P	**Pn**	**14 30 26.1**	**+3.2**
PBKI	**Pangkalan Bun**	**7.68**	**317**	P	**Pn**	**14 30 29.8**	**+0.4**
	804nm,0.9s,4.8nm						
SMKI	**Samarinda**	**7.89**	**2**	P	**Pn**	**14 30 32.0**	**-0.3**
	0.0nm,0.0s						
SMKI	**Samarinda**	**7.89**	**2**	P	**Pn**	**14 30 42.6**	**+10**
PCI	**Palu**	**7.98**	**22**	P	**Pn**	**14 30 33.8**	**+0.2**
	0.0nm,0.0s						
PCI	**Palu**	**7.98**	**22**	P	**Pn**	**14 30 39.5**	**+5.9**
	428nm,1.1s,5μm1.6nm						
LEM	**Lembang**	**9.33**	**279**	P	**Pn**	**14 30 58.5**	**+6.4**
STKI	**Sintang**	**9.98**	**327**	P	**Pn**	**14 31 01.1**	**+0.1**
	0.0nm,0.0s						
STKI	**Sintang**	**9.98**	**327**	P	**Pn**	**14 31 01.5**	**+0.5**
	174nm,1.1s						
CBJI	**Citeko**	**10.16**	**280**	P	**Pn**	**14 31 03.9**	**+0.5**
	0.0nm,0.0s						
CBJI	**Citeko**	**10.16**	**280**	P	**Pn**	**14 31 05.8**	**+2.4**
	1μm,1.4s						
DBJI	**Dramaga**	**10.23**	**280**	P	**Pn**	**14 31 05.8**	**+1.4**
	0.0nm,0.0s						
DBJI	**Dramaga**	**10.23**	**280**	P	**Pn**	**14 31 08.1**	**+3.7**
	520nm,1.4s,8μm						
TPI	**Tanjungpandan**	**10.77**	**301**	P	**Pn**	**14 31 12.4**	**+0.6**
	0.0nm,0.0s						
TPI	**Tanjungpandan**	**10.77**	**301**	P	**Pn**	**14 31 21.8**	**+10**
SBJI	**Serang**	**10.92**	**281**	P	**Pn**	**14 31 16.7**	**+2.8**
	0.0nm,0.0s						
SBJI	**Serang**	**10.92**	**281**	P	**Pn**	**14 31 23.6**	**+10**
XMIS	**Christmas Isla**	**11.29**	**258**	*e*Pn	**Pn**	**14 31 14.7**	**-4.2**
XMIS				*e*Sn	**Sn**	**14 33 07.8**	**-17**
SBUM	**Sibu**	**11.73**	**336**	⇓P	**Pn**	**14 31 28.6**	**+3.6**
SBUM	**Sibu**	**11.73**	**336**	P	**Pn**	**14 31 26.0**	**+1.0**
KSM	**Kuching**	**11.79**	**326**	⇑P	**Pn**	**14 31 28.3**	**+2.5**
KSM	**Kuching**	**11.79**	**326**	P	**Pn**	**14 31 28.3**	**+2.5**
	237nm,1.2s,3μm						
KSM	**Kuching**	**11.79**	**326**	*e*Pn	**Pn**	**14 31 26.8**	**+1.0**
BTM	**Bintulu**	**12.12**	**342**	⇑P	**Pn**	**14 31 33.0**	**+2.7**
AAI	**Ambon**	**12.16**	**68**	P	**Pn**	**14 31 39.5**	**+8.7**
PPBI	**Pangkal Pinang**	**12.37**	**299**	P	**Pn**	**14 31 38.0**	**+4.3**
	168nm,1.2s						
TSM	**Tawau**	**12.63**	**4**	⇓P	**Pn**	**14 31 42.9**	**+5.6**
FITZ	**Fitzroy Crossi**	**12.87**	**140**	*e*P	**Pn**	**14 31 39.1**	**-1.4**
	123nm,0.9s						
FITZ				*e*S	**Sn**	**14 34 00.8**	**-2.4**
FITZ	**Fitzroy Crossi**	**12.87**	**140**	Pn	**Pn**	**14 31 40.1**	**-0.4**
	5.1nm,0.3s,baz=336,slow=12,SNR=74						
FITZ				Sn	**Sn**	**14 34 01.2**	**-2.0**
	6.6nm,0.3s,baz=196,slow=20,SNR=8.8						
FITZ				LR	LR	14 36 48.2	
	comp=Z,9μm,19.7s,baz=321,slow=38						
MBWA	**Marble Bar**	**12.99**	**168**	P	**Pn**	**14 31 41.8**	**-0.4**
	SNR=14						
MBWA	**Marble Bar**	**12.99**	**168**	P	**Pn**	**14 31 41.1**	**-1.1**
	299nm,0.8s,3μm						
MBWA	**Marble Bar**	**12.99**	**168**	*e*Pn	**Pn**	**14 31 40.0**	**-2.2**
MBWA				*e*Sn	**Sn**	**14 33 51.4**	**-15**
MYLDM	**Lahad Datu**	**13.57**	**7**	⇑P	**Pn**	**14 31 56.5**	**+6.4**
SDKM	**Sandakan**	**13.93**	**1**	⇓P	**Pn**	**14 31 59.2**	**+4.1**
KKM	**Kota Kinabalu**	**14.35**	**357**	⇓P	**Pn**	**14 32 03.2**	**+2.4**
KKM	**Kota Kinabalu**	**14.35**	**357**	P	**Pn**	**14 32 02.9**	**+2.2**
	194nm,2.1s,3μm						
KKM	**Kota Kinabalu**	**14.35**	**357**	*e*Pn	**Pn**	**14 32 01.7**	**+1.0**
KDM	**Kudat**	**15.20**	**360**	⇓P	**Pn**	**14 32 16.3**	**+4.1**
KAKA	**Kakadu**	**15.87**	**107**	*e*P	**Pn**	**14 32 18.5**	**-2.5**
	100nm,0.4s						
KAKA	**Kakadu**	**15.87**	**107**	P	**Pn**	**14 32 19.0**	**-2.0**
	381nm,1.0s,3μm						
SWI	**Sorong**	**16.13**	**63**	P	**Pn**	**14 32 25.6**	**+1.2**
	0.0nm,0.0s						
SWI	**Sorong**	**16.13**	**63**	P	**Pn**	**14 32 27.0**	**+2.6**
	426nm,1.5s,5μm						
MYKOM	**Kota Tinggi**	**16.48**	**307**	⇓P	**Pn**	**14 32 32.5**	**+3.7**
MYKOM	**Kota Tinggi**	**16.48**	**307**	P	**Pn**	**14 32 34.5**	**+5.7**
KGM	**Kluang**	**17.03**	**307**	⇓P	**Pn**	**14 32 38.3**	**+2.4**
BATP	**Bataraza**	**17.09**	**3**	*e*P	**Pn**	**14 32 38.4**	**+1.9**
PAGZ	**Pagadian**	**17.37**	**22**	*e*P	**Pn**	**14 32 43.0**	**+3.0**
DAV	**Davao City (W)**	**17.62**	**30**	LR	LR	14 40 50.2	
	comp=Z,6μm,18.8s,baz=191,slow=42						
DAV	**Davao City (W)**	**17.62**	**30**	⇓*e*P	**Pn**	**14 32 41.8**	**-1.3**
BUKP	**Musuan**	**18.09**	**27**	*e*P	**Pn**	**14 32 55.8**	**+7.0**
PPI	**Padang Panjang**	**18.23**	**295**	P	**Pn**	**14 32 51.6**	**+0.9**
	0.0nm,0.0s						
PPI	**Padang Panjang**	**18.23**	**295**	P	**Pn**	**14 32 52.9**	**+2.2**
	286nm,1.6s,5μm						
CGP	**Cagayan de Oro**	**18.44**	**25**	⇓*e*P	**Pn**	**14 32 59.0**	**+5.8**
FRIM	**Kepong**	**19.11**	**307**	⇑P	**Pn**	**14 33 05.2**	**+3.8**
TBP	**Tagbilaran**	**19.25**	**21**	*e*P	**Pn**	**14 32 56.5**	**-6.4**
KTGM	**Kuala Trenggan**	**19.34**	**314**	⇓P	**Pn**	**14 33 06.4**	**+2.3**
ENPP	**El Nido**	**19.62**	**7**	*e*P	**Pn**	**14 33 08.3**	**+0.9**
LLP	**Lapu-Lapu**	**19.86**	**21**	*e*P	**Pn**	**14 33 11.0**	**+0.7**
MSLP	**Maasin**	**20.03**	**23**	*e*P	**P**	**14 33 12.4**	**+1.9**
COCO	**West Island**	**20.10**	**257**	PFAKE		14 33 20.0	+8.7
COCO				LR	LR		
	comp=Z,2μm,19.0s,MS4.5						
IPM	**Ipoh**	**20.35**	**308**	⇓P	**P**	**14 33 17.8**	**+3.9**
IPM	**Ipoh**	**20.35**	**308**	P	**P**	**14 33 18.0**	**+4.0**
	comp=Z,153nm,1.6s,comp=Z,3μm						
WRA	**Warramunga Arr**	**20.42**	**126**	P	**P**	**14 33 14.3**	**-0.4**
	comp=Z,68nm,0.4s,baz=302,slow=12,SNR=1012						
WRA				S	**S**	**14 37 05.2**	**+2.5**
	comp=Z,25nm,0.9s,baz=304,slow=25,SNR=5.1						
WRA				LR	LR	14 42 01.1	
	comp=Z,5μm,18.4s,MS4.9,baz=300,slow=39						
WRA	**Warramunga Arr**	**20.42**	**126**	P	**P**	**14 33 14.3**	**-0.4**
WRA				S	**S**	**14 37 05.2**	**+2.5**
WRA				pmax	pmax		
	comp=Z,68nm,0.4s						
WRA				smax			
	comp=N,25nm,0.9s						
WRA				MLR	MLR		
	comp=Z,5μm,18.4s						
WRA	**Warramunga Arr**	**20.42**	**126**	P	**P**	**14 33 14.3**	**-0.4**
WRA				S	**S**	**14 37 05.2**	**+2.5**
WRA				LR	LR	14 42 01.1	
WB2	**Warramunga Arr**	**20.43**	**126**	*e*P	**P**	**14 33 14.4**	**-0.4**
WB2				*e*S	**S**	**14 36 57.8**	**-5.1**
BUSP	**Coron**	**20.52**	**9**	*e*P	**P**	**14 33 17.9**	**+2.2**
SJMP	**San Jose**	**21.13**	**11**	*e*P	**P**	**14 33 23.6**	**+1.2**
KULM	**Kulim**	**21.15**	**309**	⇑P	**P**	**14 33 27.1**	**+4.5**
OTRP	**Odiongan**	**21.23**	**14**	*e*P	**P**	**14 33 27.2**	**+3.8**
TSI	**Tuntungan**	**21.77**	**302**	P	**P**	**14 33 31.3**	**+2.0**
	comp=Z,0.0nm,0.0s						
TSI	**Tuntungan**	**21.77**	**302**	P	**P**	**14 33 32.0**	**+2.7**
	comp=Z,616nm,1.2s,comp=Z,9μm,mb5.9						
LUBP	**Lubang**	**22.22**	**9**	*e*P	**P**	**14 33 37.8**	**+3.7**
ASAR	**Alice Springs**	**22.27**	**135**	P	**P**	**14 33 34.7**	**+0.1**
	comp=Z,131nm,0.9s,mb5.3,baz=311,slow=8.5,SNR=170						
ASAR				PcP	PcP	14 37 28.9	-1.6
	comp=Z,5.2nm,0.6s,baz=320,slow=3.3,SNR=4.1						
ASAR				S	**S**	**14 37 43.5**	**+4.4**
	comp=Z,18nm,0.9s,baz=310,slow=24,SNR=5.2						
ASAR	**Alice Springs**	**22.27**	**135**	P	**P**	**14 33 34.7**	**+0.1**
ASAR						14 37 29.0	
ASAR				S	**S**	**14 37 43.6**	**+4.5**
ASAR				pmax	pmax		
	comp=Z,131nm,0.9s						
ASAR				pmax	pmax		
	comp=Z,5.0nm,0.6s						
ASAR				smax			
	comp=N,18nm,0.9s						
PVCP	**Virac**	**22.99**	**18**	*e*P	**P**	**14 33 44.6**	**+2.4**
KLBR	**Kellerberrin**	**23.11**	**178**	*e*P	**P**	**14 33 43.8**	**+0.4**
	comp=N,156nm,1.0s,mb5.4						
KLBR				*e*S	**S**	**14 37 49.5**	**-4.1**
MUN	**Mundaring**	**23.49**	**181**	*e*P	**P**	**14 33 46.9**	**-0.5**
MUN				*e*S	**S**	**14 38 05.0**	**+5.2**
SCZP	**Santa Cruz**	**24.19**	**7**	*e*P	**P**	**14 33 58.3**	**+4.4**
NWAO	**Narrogin (SRO)**	**24.43**	**179**	P	**P**	**14 33 57.3**	**+1.3**
	SNR=7.8						
NWAO	**Narrogin (SRO)**	**24.43**	**179**	P	**P**	**14 33 56.8**	**+0.9**
	comp=N,41nm,0.5s,mb5.1,baz=352,slow=10,SNR=43						
NWAO				S	**S**	**14 38 24.7**	**+10**
	comp=N,50nm,0.6s,baz=275,slow=15,SNR=4.5						
NWAO				LR	LR	14 44 15.8	
	comp=N,7μm,18.5s,MS5.2,baz=177,slow=38						
NWAO	**Narrogin (SRO)**	**24.43**	**179**	*e*P	**P**	**14 33 55.8**	**-0.1**
NWAO				*e*S	**S**	**14 38 18.7**	**+3.7**
NWAO				pmax	pmax		
	comp=Z,120nm,0.7s						
NWAO	**Narrogin (SRO)**	**24.43**	**179**	*e*P	**P**	**14 33 55.8**	**-0.1**
	comp=Z,122nm,0.7s,mb5.4						
NWAO				*e*S	**S**	**14 38 18.7**	**+3.7**
FORT	**Forrest**	**24.60**	**156**	*e*P	**P**	**14 33 58.0**	**+0.4**
	comp=Z,172nm,0.7s,mb5.7						
FORT				*e*S	**S**	**14 38 35.0**	**+17**
BSI	**Banda Aceh**	**25.58**	**302**	P	**P**	**14 34 07.5**	**+0.8**
	comp=Z,0.0nm,0.0s						
BSI	**Banda Aceh**	**25.58**	**302**	P	**P**	**14 34 13.8**	**+7.1**
CAUP	**Cauayan**	**25.63**	**11**	*e*P	**P**	**14 34 11.5**	**+4.5**
UBT	**Ubonrachathani**	**26.26**	**333**	P	**P**	**14 34 19.0**	**+6.2**
COEN	**Coen**	**26.35**	**104**	P	**P**	**14 34 13.5**	**-0.1**
	comp=Z,65nm,1.0s,comp=Z,1μm,mb5.1						
COEN	**Coen**	**26.35**	**104**	*e*P	**P**	**14 34 12.7**	**-1.0**
	comp=Z,34nm,0.7s,mb5.0						
COEN				*e*PcP	PcP	14 37 37.8	-1.7
NNT	**Nongplab**	**26.93**	**320**	P	**P**	**14 34 25.5**	**+6.7**
QIZ	**Qiongzhong**	**28.11**	**346**	P	**P**	**14 34 28.5**	**-0.9**
QIZ				S	**S**	**14 39 14.6**	**+1.0**
QIZ				XS	sS	14 39 20.9	-2.6
QIZ				LR	LR		
	comp=N,3μm,14.5s						
QIZ				LR	LR		
	comp=Z,4μm,15.3s,MS5.1						
KKTK	**Khon Kaen**	**28.24**	**330**	⇑P	**P**	**14 34 38.0**	**+7.5**
	comp=Z,1μm,0.8s,mb6.5						
NST	**Nakhon Sawan**	**29.11**	**325**	P	**P**	**14 34 35.0**	**-3.2**
	comp=Z,83nm,0.8s,mb5.5						
PMG	**Port Moresby**	**29.91**	**94**	*e*P	**P**	**14 34 39.8**	**-5.7**
CTA	**Charters Tower**	**30.68**	**115**	*e*P	**P**	**14 34 52.5**	**+0.3**
	comp=Z,53nm,1.0s,mb5.3						
CTA				*e*S	**S**	**14 40 08.0**	**+14**
CTA	**Charters Tower**	**30.68**	**115**	LR	LR	14 49 34.4	
	comp=Z,6μm,18.1s,MS5.3,baz=288,slow=41						
CTA	**Charters Tower**	**30.68**	**115**	*e*P	**P**	**14 34 52.5**	**+0.3**
CTA				pmax	pmax		
	comp=Z,53nm,1.0s						
CTAO	**Charters Tower**	**30.68**	**115**	*e*P	**P**	**14 34 52.6**	**+0.4**
CTAO				pmax	pmax		
	comp=Z,140nm,1.2s,mb5.7						
CTAO	**Charters Tower**	**30.68**	**115**	P	**P**	**14 34 52.8**	**+0.6**
	comp=Z,118nm,1.2s,mb5.6						
CTAO	**Charters Tower**	**30.68**	**115**	⇑*i*P	**P**	**14 34 52.6**	**+0.4**
	comp=Z,139nm,1.2s,mb5.7						
CTAO				LR	LR		
	comp=Z,5μm,20.0s,MS5.2						
BDT	**Bhumibol Dam**	**31.01**	**325**	⇑P	**P**	**14 34 56.5**	**+1.4**
	comp=Z,67nm,0.9s,mb5.5						
CM31	**Chiang Mai Arr**	**32.02**	**326**	PFAKE		14 35 10.0	+6.0
CM31				LR	LR		
	comp=Z,1μm,22.0s,MS4.6						
CMAR	**Chiang Mai Arr**	**32.02**	**326**	P	**P**	**14 35 04.2**	**+0.3**
	comp=Z,18nm,1.0s,mb4.9,baz=154,slow=6.9,SNR=39						
CMAR				ScP	ScP	14 41 35.7	-0.7
	comp=Z,2.0nm,1.0s,baz=174,slow=3.0,SNR=4.2						
CMAR				LR	LR	14 49 05.9	
	comp=Z,4μm,20.8s,MS5.1,baz=265,slow=38						
CMAR	**Chiang Mai Arr**	**32.02**	**326**	P	**P**	**14 35 04.3**	**+0.3**
CMAR				pmax	pmax		
	comp=Z,19nm,1.0s						
CMAR				pmax	pmax		
	comp=N,2.0nm,1.0s						
CMAR				MLR	MLR		
	comp=Z,4μm,20.8s						
CHG	**Chiang Mai**	**32.31**	**327**	⇓P	**P**	**14 35 08.2**	**+1.7**
	comp=Z,66nm,0.9s,mb5.5						
CHG				S	**S**	**14 40 20.2**	**+0.7**
CHTO	**Chiang Mai**	**32.31**	**327**	⇓P	**P**	**14 35 06.9**	**+0.4**
	SNR=18						
CHTO	**Chiang Mai**	**32.31**	**327**	⇓*e*P	**P**	**14 35 08.3**	**+1.8**
CHTO				pmax	pmax		
	comp=Z,66nm,1.0s,mb5.4						
CHTO				MLR	MLR		
	comp=Z,4μm,20.0s,MS5.1						
CHTO	**Chiang Mai**	**32.31**	**327**	⇓*e*P	**P**	**14 35 08.3**	**+1.8**
	comp=Z,66nm,1.0s,mb5.4						
CHTO				LR	LR		
	comp=Z,4μm,20.0s,MS5.1						
CHRT	**Chiangrai**	**32.75**	**329**	⇓P	**P**	**14 35 13.0**	**+2.7**
	comp=Z,553nm,0.9s,mb6.5						
STKA	**Stephens Creek**	**32.76**	**139**	*e*P	**P**	**14 35 10.5**	**+0.1**
	comp=Z,28nm,0.5s,mb5.4						
STKA	**Stephens Creek**	**32.76**	**139**	P	**P**	**14 35 10.6**	**+0.2**
	comp=Z,25nm,0.5s,mb5.4,baz=314,slow=9.0,SNR=69						
STKA				LR	LR	14 49 27.2	
	comp=Z,5μm,19.5s,MS5.2,baz=303,slow=38						
YHNB	**Yeheng**	**33.14**	**7**	P	**P**	**14 35 09.8**	**-3.9**
	comp=Z,75nm,1.0s,mb5.6						
ADE	**Adelaide**	**33.16**	**146**	*e*P	**P**	**14 35 15.6**	**+1.7**
QZH	**Quanzhou**	**33.16**	**3**	*e*P	**P**	**14 35 15.5**	**+1.6**
QZH				S	**S**	**14 40 28.5**	**-4.1**
GYA	**Guiyang**	**36.03**	**344**	P	**P**	**14 35 37.4**	**-1.3**
GYA				AP	pP	14 35 41.8	-3.0
GYA				PP	PP	14 37 00.2	-0.7
GYA				PCP	PcP	14 38 03.4	-1.6
GYA				S	**S**	**14 41 15.0**	**-1.8**
GYA				SCP	ScP	14 41 48.3	-2.1
GYA				SS	SS	14 43 38.6	-16
GYA				AMB	AMB		
	comp=Z,40nm,0.8s,mb5.4						
GYA				AMB	AMB		
	comp=Z,290nm,6.6s						
GYA				LR	LR		
	comp=N,4μm,18.8s,MS5.3						
GYA				LR	LR		

comp=E,3μm,17.9s,MS5.3
GYA LR LR

comp=Z,4μm,18.4s,MS5.2
KMI Kunming 36.05 338 P **P** **14 35 42.1 +3.2**
KMI AP pP 14 35 44.7 -0.2
KMI XP sP 14 35 47.9 +0.5
KMI S **S** **14 41 18.8 +1.7**
KMI XS sS 14 41 26.0 -1.1
KMI SCS ScS 14 45 54.5 -1.7
KMI AMB AMB

comp=Z,459nm,4.0s
KMI LR LR

comp=N,3μm,13.6s,MS5.5
KMI LR LR

comp=E,5μm,14.2s,MS5.5
KMI LR LR

comp=Z,4μm,13.0s,MS5.3
EIDS Eidsvold 36.66 122 *e*P **P** **14 35 46.1 +2.0**
comp=Z,103nm,0.8s,mb5.7
WHN Wuhan 38.78 356 P **P** **14 36 03.5 +1.5**
WHN S **S** **14 42 04.8 +6.3**
WHN LR LR

comp=N,5μm,14.6s,MS5.6
WHN LR LR

comp=E,3μm,15.4s,MS5.6
WHN LR LR

comp=Z,6μm,17.9s,MS5.4
TOO Toolangi 38.90 143 *e*P **P** **14 36 04.7 +1.8**
ARMA Armidale 39.16 129 *e*P **P** **14 36 07.6 +2.4**
SSE Sheshan 39.47 6 P **P** **14 36 10.5 +2.8**
SSE XP sP 14 36 15.4 -0.8
SSE S **S** **14 42 09.6 +0.8**
SSE AMB AMB

comp=Z,31nm,0.7s,mb5.2
SSE AMB AMB

comp=Z,348nm,3.7s
SSE LR LR

comp=N,1μm,12.7s,MS5.0
SSE LR LR

comp=E,457nm,12.7s,MS5.0
SSE LR LR

comp=Z,1μm,11.6s,MS5.0
SSE Sheshan 39.47 6 P **P** **14 36 10.5 +2.8**
comp=Z,31nm,0.7s,mb5.2
SSE sP sP 14 36 15.4 -0.8
SSE S **S** **14 42 09.6 +0.8**
SSE SS SS 14 45 15.7 +12
SSE LR LR

comp=Z,1μm,11.6s,MS5.0
CAN Canberra 39.75 137 *e*P **P** **14 36 10.8 +0.7**
IMP Imphal 39.85 326 *e*P **P** **14 36 14.0 +3.0**
CNB Canberra Magne 39.99 137 *e*P **P** **14 36 13.9 +1.8**
CD2 Chengdu 41.05 343 ⇑*i*P **P** **14 36 21.6 +0.8**
CD2 AP pP 14 36 26.1 -0.8
CD2 XP sP 14 36 28.8 -0.6
CD2 PP PP 14 38 00.2 +4.4
CD2 PCP PcP 14 38 21.2 +0.6
CD2 PCS PcS 14 42 11.0 -0.6
CD2 XS sS 14 42 41.9 -0.7
CD2 SCS ScS 14 46 23.8 -1.1
CD2 AMB AMB

comp=Z,190nm,0.8s,mb5.8
CD2 AMB AMB

comp=Z,1μm,8.4s
CD2 LR LR

comp=N,4μm,13.2s,MS5.6
CD2 LR LR

comp=E,4μm,15.6s,MS5.6
CD2 LR LR

comp=Z,4μm,14.4s,MS5.4
SHL Shillong 41.61 325 ⇓*i*x x 14 36 36.0
SHL *ex* x 14 42 39.0
HNR Honiara 42.52 95 LR LR 14 56 40.9

comp=Z,1μm,19.2s,MS4.8,baz=86,slow=40
HNR Honiara 42.52 95 *e*P **P** **14 36 31.3 -1.9**
HNR pmax pmax

comp=Z,161nm,1.0s,mb5.7
HNR MLR MLR

comp=Z,1μm,20.0s,MS4.8
HNR Honiara 42.52 95 *e*P **P** **14 36 31.3 -1.9**
comp=Z,162nm,1.0s,mb5.7
HNR LR LR

comp=Z,1μm,20.0s,MS4.8
XAN Xi'an 42.86 350 P **P** **14 36 36.4 +0.8**
XAN AP pP 14 36 41.0 -0.7
XAN XP sP 14 36 43.2 -0.9
XAN PP PP 14 38 18.4 +3.0
XAN PCP PcP 14 38 28.9 +2.4
XAN SCP ScP 14 42 18.4 +1.7
XAN PCS PcS 14 42 20.7 +2.0
XAN S **S** **14 42 57.4 -1.8**
XAN SS SS 14 46 00.4 -11
XAN SCS ScS 14 46 36.6 +0.8
XAN AMB AMB

comp=Z,38nm,1.8s,mb4.8
XAN AMB AMB

comp=Z,890nm,8.0s
XAN LR LR

comp=N,637nm,19.5s,MS5.0
XAN LR LR

comp=E,2μm,17.4s,MS5.0
XAN LR LR

comp=Z,4μm,16.5s,MS5.4
CBIJ Chichi jima 42.95 34 LR LR 14 53 19.2
comp=Z,1μm,19.4s,MS4.8,baz=258,slow=35
DGAR **Diego Garcia 44.02 268** PFAKE 14 36 50.0 +4.6
DGAR LR LR

comp=Z,2μm,19.0s,MS5.0
TIA Tai'an 44.35 0 *e*P **P** **14 36 47.6 0.0**
ODAN Odare 45.24 322 *e*P **P** **14 36 53.9 -0.9**
comp=Z,348nm,1.1s,mb6.1
LSA Lhasa 45.25 328 P **P** **14 36 56.8 +1.9**
LSA S **S** **14 43 29.0 -5.2**
LSA LR LR

comp=E,2μm,24.1s
LSA LR LR

comp=Z,2μm,19.3s,MS5.1
LSA Lhasa 45.25 328 *e*P **P** **14 36 55.2 +0.3**
LSA pmax pmax

comp=Z,370nm,1.3s,mb6.0
LSA Lhasa 45.25 328 *e*P **P** **14 36 55.1 +0.3**
comp=Z,370nm,1.3s,mb6.0
TAPN Taplejung 45.40 322 *e*P **P** **14 36 56.3 +0.2**
comp=Z,607nm,1.0s,mb6.4
HYB Hyderabad 45.75 304 *i* P **P** **14 36 56.5 -2.5**
HYB Hyderabad 45.75 304 *e*P **P** **14 36 56.5 -2.5**
HYB *e* pP 14 37 02.5 -2.7
RAMN Ramite 45.79 321 *e*P **P** **14 36 58.6 -0.6**
comp=Z,86nm,0.7s,mb5.8
LZH Lanzhou 45.91 345 ⇑P **P** **14 37 02.3 +2.4**
LZH AP pP 14 37 06.3 +0.2
LZH XP sP 14 37 08.1 -0.4
LZH PP PP 14 38 48.0 +0.2
LZH S **S** **14 43 44.0 +0.5**
LZH XS sS 14 43 53.1 -0.5
LZH SS SS 14 47 00.0 -8.6
LZH AMB AMB

comp=Z,119nm,1.3s,mb5.7
LZH AMB AMB

comp=Z,546nm,4.0s
LZH LR LR

comp=E,2μm,14.3s
LZH LR LR

comp=Z,3μm,15.8s,MS5.4
LZH Lanzhou 45.91 345 ⇑P **P** **14 37 02.3 +2.4**
LZH *SP sP 14 37 08.1 -0.4
LZH 14 38 48.0
LZH S **S** **14 43 44.0 +0.5**
LZH *SS sS 14 43 53.1 -0.5
LZH SS SS 14 47 00.0 -8.6
LZH pmax pmax

comp=Z,119nm,1.3s,mb5.7
LZH MLR MLR

comp=Z,3μm,15.8s,MS5.4
LZH Lanzhou 45.91 345 ⇑P **P** **14 37 02.3 +2.4**
comp=Z,119nm,1.3s,mb5.7
LZH pP pP 14 37 06.3 +0.2
LZH sP sP 14 37 08.1 -0.4
LZH PP PP 14 38 48.0 +0.2
LZH S **S** **14 43 44.0 +0.5**
LZH sS sS 14 43 53.1 -0.5
LZH SS SS 14 47 00.0 -8.6
LZH LR LR

comp=Z,3μm,15.8s,MS5.4
INCN Inchon 46.52 11 PFAKE 14 37 10.0 +5.2
INCN LR LR

comp=Z,926nm,22.0s,MS4.7
JIRN Jiri 46.55 321 *e*P **P** **14 37 04.6 -0.6**
comp=Z,232nm,0.7s,mb6.2
KSRS Korea Array 46.75 12 P **P** **14 37 06.8 +0.3**
comp=Z,13nm,0.8s,mb4.9,baz=190,slow=8.4,SNR=45
KSRS LR LR 15 01 52.2

comp=Z,748nm,18.9s,MS4.7,baz=202,slow=43
GUN Gumba 46.92 321 *e*P **P** **14 37 07.3 -0.8**
comp=Z,522nm,1.1s,mb6.4
PKI Pulchoki 46.98 321 *e*P **P** **14 37 07.0 -1.5**
comp=Z,117nm,1.0s,mb5.8
DMN Daman 47.19 320 *e*P **P** **14 37 08.8 -1.4**
comp=Z,174nm,0.9s,mb6.0
KKN Kakani 47.21 321 *e*P **P** **14 37 09.5 -0.8**
comp=Z,115nm,1.0s,mb5.8
DL2 Dalian 47.25 5 P **P** **14 37 09.0 -1.4**
DL2 S **S** **14 44 00.7 -1.9**
DL2 AMB AMB

comp=Z,50nm,1.0s,mb5.4
DL2 AMB AMB

comp=Z,320nm,5.4s
DL2 LR LR

comp=N,880nm,13.8s,MS4.9
DL2 LR LR

comp=E,250nm,14.9s,MS4.9
DL2 LR LR

comp=Z,920nm,15.3s,MS4.9
GKN Gorkha 47.77 320 *e*P **P** **14 37 13.0 -1.6**
comp=Z,118nm,0.9s,mb5.9
BJT Baijiatuau 48.16 359 *e*P **P** **14 37 17.4 -0.1**
BJT pmax pmax

comp=Z,188nm,1.1s
BJT MLR MLR

comp=Z,2μm,21.0s
BJT Baijiatuau 48.16 359 *e*P **P** **14 37 17.4 -0.1**
comp=Z,188nm,1.1s,mb6.0
BJT LR LR

comp=Z,2μm,21.0s,MS5.0
BJI Beijing 48.18 359 P **P** **14 37 17.9 +0.3**
BJI PP PP 14 39 10.7 +0.5
BJI S **S** **14 44 04.2 -12**
BJI AMB AMB

comp=Z,59nm,1.1s,mb5.5
BJI AMB AMB

comp=Z,663nm,5.7s
BJI LR LR

comp=N,2μm,16.4s,MS5.3
BJI LR LR

comp=E,2μm,16.9s,MS5.3
BJI LR LR

comp=Z,1μm,23.2s
BJI Beijing 48.18 359 P **P** **14 37 17.9 +0.3**
comp=Z,59nm,1.1s,mb5.5
BJI PP PP 14 39 10.7 +0.5
BJI S **S** **14 44 04.2 -12**
BJI SS SS 14 47 49.0 +3.5
BJI LR LR

comp=Z,1μm,23.2s,MS4.9
KOLN Koldanda 48.27 319 *e*P **P** **14 37 16.4 -2.1**
comp=Z,55nm,0.7s,mb5.7
DANN Dangsing 48.56 320 *e*P **P** **14 37 18.9 -1.9**
comp=Z,170nm,0.7s,mb6.2
MAJO Matsushiro 48.96 23 *e*P **P** **14 37 22.2 -1.5**
MAT Matsushiro 48.96 23 P **P** **14 37 22.9 -0.8**
MAT S **S** **14 44 23.0 -4.0**
MJAR Matsushiro Arr 48.96 23 P **P** **14 37 22.3 -1.4**
comp=Z,18nm,0.8s,mb5.1,baz=198,slow=8.0,SNR=36
MJAR LR LR 14 55 58.5

comp=Z,876nm,21.6s,MS4.7,baz=220,slow=34
BTO Baotou 49.15 353 *e*P **P** **14 37 24.7 -0.4**
BTO AMB AMB

comp=Z,13nm,1.5s,mb4.7
HHC Hu-ho-hao-te 49.23 355 ⇑P **P** **14 37 26.1 +0.4**
HHC AP pP 14 37 30.8 -1.1
HHC XP sP 14 37 33.2 -1.1
HHC PCP PcP 14 38 48.4 -0.2
HHC PP PP 14 39 21.0 +1.2
HHC SCP ScP 14 42 41.9 -1.1
HHC S **S** **14 44 31.9 +1.3**
HHC XS sS 14 44 38.1 -2.7
HHC SCS ScS 14 47 15.5 -1.3
HHC AMB AMB

comp=Z,39nm,1.2s,mb5.3
HHC AMB AMB

comp=Z,767nm,5.6s
HHC LR LR

comp=N,2μm,14.2s,MS5.3
HHC LR LR

comp=E,2μm,14.4s,MS5.3
HHC LR LR

comp=Z,1μm,12.7s,MS5.2
NOUC Port Laguerre 49.36 112 *e*P **P** **14 37 27.6 +0.5**
GTA Gaotai 50.12 343 P **P** **14 37 34.0 +1.5**
GTA PCP PcP 14 38 49.2 -2.7
GTA PP PP 14 39 30.4 +2.5
GTA S **S** **14 44 46.3 +3.2**
GTA SCS ScS 14 47 18.7 -4.2
GTA AMB AMB

comp=Z,64nm,1.4s,mb5.5
GTA AMB AMB

comp=Z,852nm,6.3s
GTA LR LR

comp=N,1μm,19.2s,MS5.3
GTA LR LR

comp=E,2μm,17.1s,MS5.3
GTA LR LR

comp=Z,2μm,21.3s,MS5.1
SNY Shenyang 50.34 6 ⇓P **P** **14 37 34.3 +0.2**
SNY S **S** **14 44 41.0 -5.0**
SNY XS sS 14 44 56.1 -0.1
SNY AMB AMB

comp=Z,37nm,1.6s,mb5.2
SNY AMB AMB

comp=Z,811nm,9.8s
SNY LR LR

comp=N,773nm,15.6s,MS4.9
SNY LR LR

comp=E,632nm,19.2s,MS4.9
SNY LR LR

comp=Z,920nm,19.8s,MS4.8
CN2 Changchun 52.51 8 *e*P **P** **14 37 50.0 -0.3**
CN2 *e*XP sP 14 37 57.0 -2.0
CN2 *e*S **S** **14 45 15.2 -0.8**
CN2 AMB AMB

comp=Z,20nm,1.2s,mb4.9
CN2 AMB AMB

comp=Z,300nm,7.0s
CN2 LR LR

comp=N,700nm,14.0s,MS5.0
CN2 LR LR

comp=E,700nm,14.0s,MS5.0
CN2 LR LR

comp=Z,900nm,16.0s,MS4.9
VLA Vladivostok 53.04 14 *e*P **P** **14 37 53.6 -0.7**
VLA *e* 14 38 03.9
VLA *e*S **S** **14 45 21.9 -1.3**
VLA *e*SS sS 14 45 37.3 +3.8
VLA pmax pmax

comp=Z,144nm,1.8s,mb5.6
VLA Vladivostok 53.04 14 ⇑*i*P **P** **14 37 55.5 +1.2**
DDI Dehra Dun 53.59 318 *ex* x 14 38 04.0
MDJ Mudanjiang 53.98 11 P **P** **14 38 01.3 +0.1**
MDJ XP sP 14 38 05.7 -4.1
MDJ PCP PcP 14 39 05.5 -0.7
MDJ PP PP 14 40 02.8 0.0
MDJ SCP ScP 14 43 03.8 +0.4
MDJ PCS PcS 14 43 04.9 -0.4
MDJ S **S** **14 45 38.7 +2.8**
MDJ XS sS 14 45 44.4 -1.8
MDJ AMB AMB

comp=Z,69nm,1.5s,mb5.4
MDJ AMB AMB

comp=Z,489nm,7.0s
MDJ LR LR

comp=N,736nm,32.1s
MDJ LR LR

comp=Z,739nm,24.1s
MDJ Mudanjiang 53.98 11 *e*P **P** **14 38 00.8 -0.3**
comp=Z,99nm,0.9s,mb5.7
ERM Erimo 55.62 24 PFAKE 14 38 20.0 +6.9
ERM LR LR

comp=Z,1μm,20.0s,MS4.9
THN Thein Dam 56.47 318 *ex* x 14 38 15.4
ULN Ulaanbaatar 56.68 352 P **P** **14 38 21.9 +1.4**
SNR=22
ULN Ulaanbaatar 56.68 352 ⇑*i*P **P** **14 38 20.9 +0.4**
ULN Ulaanbaatar 56.68 352 *e*P **P** **14 38 19.8 -0.7**
comp=Z,42nm,1.0s,mb5.4
SONM Songino Array 56.74 352 P **P** **14 38 20.7 -0.2**
comp=Z,22nm,0.8s,mb5.2,baz=169,slow=8.0,SNR=95
SONM LR LR 15 04 24.2

comp=Z,2μm,20.4s,MS5.1,baz=242,slow=38
SONM PKPPKP 15 08 19.3

comp=Z,0.7nm,0.8s,baz=280,slow=2.5,SNR=4.4
SONM Songino Array 56.74 352 P **P** **14 38 20.7 -0.2**
SONM pmax pmax

comp=Z,22nm,0.8s
SONM MLR MLR

comp=Z,2μm,20.4s
SONM pmax pmax

comp=Z,1.0nm,0.8s
SONM Songino Array 56.74 352 P **P** **14 38 20.7 -0.2**
SONM LR LR 15 04 24.2
SONM P'P' 15 08 19.3
HIA Hailar 57.46 2 *e*P **P** **14 38 25.7 -0.3**
HIA pmax pmax

comp=Z,54nm,1.0s
HIA MLR MLR

comp=Z,2μm,19.0s
HIA Hailar 57.46 2 *e*P **P** **14 38 25.6 -0.3**
comp=Z,54nm,1.0s,mb5.5
HIA LR LR

comp=Z,2μm,19.0s,MS5.2
CASY Casey 57.98 183 *e*P **P** **14 38 21.6 -7.9**
CASY *e* pP 14 38 29.2 -6.6
CASY Casey 57.98 183 *e*P **P** **14 38 21.6 -7.9**
CASY *e* pP 14 38 29.2 -6.6
CASY LR LR

comp=Z,2μm,21.0s,MS5.2
WMQ Urumqi 58.32 335 P **P** **14 38 32.2 0.0**
WMQ AP pP 14 38 36.7 -1.8
WMQ PCP PcP 14 39 23.2 +0.1
WMQ PP PP 14 40 42.7 +1.2
WMQ SCP ScP 14 43 21.7 -0.9
WMQ PCS PcS 14 43 23.2 -1.3
WMQ S **S** **14 46 31.7 -1.9**
WMQ XS sS 14 46 39.2 -4.8
WMQ SCS ScS 14 48 17.2 -3.7
WMQ SS SS 14 50 24.7 -1.4
WMQ AMB AMB

comp=Z,116nm,1.1s,mb5.8
WMQ LR LR

comp=N,817nm,30.0s,MS5.0
WMQ LR LR

comp=E,2μm,29.2s,MS5.0
WMQ LR LR

comp=Z,1μm,25.2s,MS4.9
RPZ Rata Peaks 58.67 137 P **P** **14 38 34.8 +0.1**
comp=Z,26nm,0.8s,mb5.3,baz=5.6,slow=1.2,SNR=8.2
RPZ LR LR 15 04 28.2

comp=Z,2μm,18.2s,MS5.2,baz=282,slow=37
HABR Khabarovsk 58.83 14 ⇑*e*P **P** **14 38 35.5 -0.1**
HABR *e* pP 14 38 41.7 -0.2
HABR *e* 14 39 22.9
HABR *e* 14 40 41.8
HABR *e*S **S** **14 46 40.8 +0.7**
HABR *e* 14 46 48.0
HABR *e* 14 48 22.0
HABR *e* 14 50 31.5
HABR pmax pmax

comp=Z,308nm,1.9s,mb6.0
KLR Kul'dur 58.83 11 *e*P **P** **14 38 31.0 -4.6**
KLR *e*S **S** **14 46 34.5 -5.5**
KLR *e* 14 50 34.5
KLR pmax pmax

comp=E,50nm,2.0s
KLR pmax pmax

comp=Z,190nm,2.0s,mb5.8
YSS Yuzh-Sakhalins 59.70 20 ⇓*e*P **P** **14 38 40.3 -1.4**
YSS *e* 14 38 57.3
YSS *e* 14 39 24.1
YSS *e* 14 40 52.0
YSS *e*S **S** **14 46 47.0 -4.5**
YSS *e*PS 14 46 58.0
YSS *e*SSS 14 53 18.0
YSS pmax pmax

comp=N,80nm,1.5s
YSS pmax pmax

comp=Z,160nm,1.5s,mb5.8
YSS pmax pmax

comp=E,50nm,1.2s
YSS Yuzh-Sakhalins 59.70 20 *e*P **P** **14 38 41.9 +0.2**
comp=E,191nm,1.2s,mb6.0
ZAK Zakamensk 59.71 350 *e*P **P** **14 38 40.4 -1.3**
ZAK pmax pmax

comp=Z,26nm,1.2s,mb5.1
RER Riviere de l'E 60.16 250 *e*P **P** **14 38 45.3 -0.1**
MIR Mirnyy 60.34 191 ⇑*i*P **P** **14 38 47.0 +1.1**
MIR *i* pP 14 38 54.0 +1.8
MIR *i* 14 39 30.0
MIR *e*S **S** **14 47 06.0 +6.8**
MIR *e*PS 14 47 30.0
MIR pmax pmax

comp=Z,300nm,1.5s,mb6.1
MIR MLR MLR

comp=Z,2μm,20.0s,MS5.3
TLY Talaya 60.90 351 P **P** **14 38 50.7 +0.9**
comp=Z,216nm,1.1s,mb6.2,SNR=7.4
TLY Talaya 60.90 351 P **P** **14 38 50.9 +1.1**
SNR=12
TLY Talaya 60.90 351 *e*P **P** **14 38 50.0 +0.2**
TLY *e*S **S** **14 47 04.6 -2.0**
TLY *e*PS 14 47 18.4
TLY *e*SS SS 14 51 08.5 +2.1
TLY pmax pmax

comp=Z,62nm,1.2s,mb5.6
TLY MLR MLR

comp=Z,2μm,17.0s,MS5.3
TLY Talaya 60.90 351 *e*P **P** **14 38 50.5 +0.7**
comp=Z,54nm,1.1s,mb5.6
IRK Irkutsk 61.35 351 *e*P **P** **14 38 49.9 -2.9**
IRK pmax pmax

comp=Z,102nm,1.9s,mb5.6
MOY Mondy 61.36 349 *e*P **P** **14 38 53.5 +0.6**
MOY pmax pmax

comp=Z,140nm,3.2s
FUNA Funafuti 61.55 95 PFAKE 14 39 10.0 +15
FUNA LR LR

comp=Z,6μm,20.0s,MS5.7
URZ Urewera 61.55 129 LR LR 15 07 34.3
comp=Z,3μm,18.1s,MS5.5,baz=80,slow=38
KBL Kabul 62.20 316 P **P** **14 38 54.5 -4.5**
KBL pmax pmax

comp=Z,30nm,1.2s,mb5.3
KBL Kabul 62.20 316 P **P** **14 38 54.5 -4.5**
comp=Z,30nm,1.2s,mb5.3
MK31 Makanchi Array 62.98 334 *i* P **P** **14 39 02.2 -1.7**
MK31 pmax pmax

comp=Z,101nm,1.0s,mb5.9
MK31 Makanchi Array 62.98 334 *e*P **P** **14 39 01.6 -2.3**
MKAR Makanchi Array 62.98 334 P **P** **14 39 02.2 -1.7**
comp=Z,6.8nm,0.7s,mb4.9,baz=152,slow=7.0,SNR=58
MKAR PKPPKP 15 07 57.8
comp=Z,0.8nm,1.0s,baz=113,slow=2.8,SNR=3.7
MKAR LR LR 15 10 50.2

comp=Z,1μm,18.2s,MS5.1,baz=293,slow=40
MKAR Makanchi Array 62.98 334 P **P** **14 39 02.2 -1.7**
MKAR pmax pmax

comp=Z,7.0nm,0.7s
MKAR pmax pmax

comp=Z,1.0nm,1.0s
MKAR MLR MLR

comp=Z,1μm,18.2s
MKAR Makanchi Array 62.98 334 P **P** **14 39 02.2 -1.7**
MKAR P'P' 15 07 57.8
MKAR LR LR 15 10 50.2
TKM2 Tokmak 2 63.40 327 ⇑*i*P **P** **14 39 04.7 -2.1**
TKM2 pmax pmax

comp=Z,42nm,1.2s,mb5.4
TKM2 Tokmak 2 63.40 327 P **P** **14 39 05.8 -1.0**
SNR=5.5
TKM2 Tokmak 2 63.40 327 ⇑*i*P **P** **14 39 04.7 -2.0**
comp=Z,42nm,1.2s,mb5.5
UCH Uchtor 63.52 326 P **P** **14 39 05.8 -1.8**
SNR=5.0
KBK Karagaybulak 63.57 327 P **P** **14 39 06.7 -1.2**
SNR=11
FRU Bishkek 63.87 327 *e*P **P** **14 39 08.0 -1.9**
FRU *e* 14 41 37.5
FRU pmax pmax

comp=Z,90nm,2.0s,mb5.5
AML Almayashu 63.92 325 P **P** **14 39 09.3 -0.9**
SNR=7.1
EKS2 Erkin-Say 64.22 326 P **P** **14 39 10.9 -1.3**
SNR=10
EKS2 Erkin-Say 64.22 326 *e*P **P** **14 39 10.8 -1.4**
comp=Z,41nm,1.0s,mb5.4
EKS2 LR LR
comp=Z,2µm,21.0s,MS5.2
USP Ospenovka 64.23 327 P **P** **14 39 11.0 -1.2**
SNR=7.3
RAO Raoul Island 64.32 118 LR LR 15 07 41.4
comp=Z,2µm,18.5s,MS5.3,baz=148,slow=36
CLNS Chul'man 65.32 5 *e*P **P** **14 39 18.3 -0.8**
CLNS *e**PP pP 14 39 28.6 +3.2
CLNS *e* 14 39 46.6
CLNS *e* 14 41 43.5
CLNS *e*PPP 14 43 14.2
CLNS *e*S S 14 48 01.9 +0.2
CLNS pmax pmax
comp=E,39nm,1.2s
CLNS pmax pmax
comp=Z,37nm,0.9s,mb5.4
CLNS pmax pmax
comp=N,30nm,1.0s
CLNS smax
comp=N,287µm,11.5s
CLNS smax
comp=E,299µm,13.9s
CLNS Chul'man 65.32 5 *e*P **P** **14 39 18.0 -1.1**
BOD Bodaibo 66.01 358 *e*P **P** **14 39 22.5 -1.0**
BOD pmax pmax
comp=Z,68nm,1.1s,mb5.6
KK31 Karatay Array 66.34 325 *i* P **P** **14 39 23.3 -2.7**
KK31 pmax pmax
comp=Z,12nm,0.9s,mb4.9
KRAR Krasnoyarsk 67.19 346 *i* P **P** **14 39 31.1 0.0**
KURK Kurchatov 67.54 335 P **P** **14 39 31.1 -2.3**
comp=Z,272nm,1.1s,mb6.2,SNR=8.6
KURK Kurchatov 67.54 335 ⇓P **P** **14 39 34.0 +0.6**
SNR=31
KURK Kurchatov 67.54 335 ⇓*e*P **P** **14 39 32.1 -1.3**
KURK pmax pmax
comp=Z,25nm,1.3s,mb5.1
KURK MLR MLR
comp=Z,800nm,15.0s,MS5.1
KURK Kurchatov 67.54 335 *e*P **P** **14 39 31.4 -2.0**
comp=Z,78nm,1.2s,mb5.6
KURK LR LR
comp=Z,1µm,19.0s,MS5.1
ZAA0 Zalesovo Array 67.74 340 *e*P **P** **14 39 32.3 -2.4**
ZALV Zalesovo Beam 67.74 340 P **P** **14 39 32.5 -2.1**
comp=Z,9.2nm,0.6s,mb5.0,baz=139,slow=4.5,SNR=41
ZALV PKPPKP 15 07 56.2
comp=Z,0.9nm,0.6s,baz=11,slow=1.5,SNR=6.6
ZALV LR LR 15 12 20.3
comp=Z,520nm,19.4s,MS4.8,baz=172,slow=39
ZALV Zalesovo Beam 67.74 340 P **P** **14 39 32.6 -2.0**
ZALV pmax pmax
comp=Z,9.0nm,0.6s,mb5.0
ZALV pmax pmax
comp=Z,1.0nm,0.6s,mb4.0
ZALV MLR MLR
comp=Z,520nm,19.5s,MS4.8
ABTO Aybut 67.84 293 ⇓P **P** **14 39 37.4 +1.4**
SNR=9.3
ABPO Ambohimpanom 68.16 253 *e*P **P** **14 39 36.8 -1.2**
comp=Z,52nm,1.3s,mb5.4
ABPO LR LR
comp=Z,934nm,19.0s,MS5.0
NVS Novosibirsk 69.01 340 *e*P **P** **14 39 38.1 -4.4**
NVS *e*S S 14 48 38.8 -7.5
NVS pmax pmax
comp=N,30nm,1.4s
NVS pmax pmax
comp=Z,60nm,1.4s,mb5.3
NVS pmax pmax
comp=E,30nm,1.2s
NVS smax
comp=N,39nm,2.8s
NVS smax
comp=E,22nm,1.8s
MAW Mawson 69.12 199 *e*P **P** **14 39 43.5 +0.4**
comp=E,44nm,1.1s,mb5.3
MAW Mawson 69.12 199 P **P** **14 39 44.1 +1.0**
comp=E,56nm,1.0s,mb5.5,baz=56,slow=7.0,SNR=74
MAW LR LR 15 03 21.3
comp=E,1µm,22.0s,MS5.1,baz=307,slow=30
MAW PKPPKP 15 07 52.2
comp=E,7.7nm,1.3s,baz=197,slow=3.4,SNR=5.6
AFI Afiamalu 69.98 102 PFAKE 14 40 00.0 +11
AFI LR LR
comp=Z,1µm,19.0s,MS5.1
PETK Petropavlovsk- 70.36 25 P **P** **14 39 50.6 -0.3**
comp=Z,14nm,1.0s,mb4.8,baz=177,slow=1.5,SNR=9.5
YAK Yakutsk 70.90 6 *e*P **P** **14 39 52.6 -1.4**
YAK *e**PP pP 14 40 00.2 -0.2
YAK *e* 14 40 08.6
YAK *e* 14 42 30.8
YAK *e*S S 14 49 06.8 -1.4
YAK *e* 14 49 55.7
YAK *e*SS SS 14 53 32.3 -9.0
YAK pmax pmax
comp=E,2.0nm,0.9s
YAK pmax pmax
comp=Z,26nm,1.1s,mb5.1
YAK pmax pmax
comp=N,6.0nm,0.9s
YAK pmax pmax
comp=Z,135nm,3.0s
YAK smax
comp=E,387µm,7.3s
YAK smax
comp=N,1103µm,9.9s
YAK Yakutsk 70.90 6 *e*P **P** **14 39 53.0 -1.0**
comp=N,57nm,0.8s,mb5.5
BVA0 Borovoye Array 72.79 333 *i* P **P** **14 40 03.6 -1.9**
BVA0 pmax pmax
comp=Z,7.0nm,1.6s,mb4.3
BRVK Borovoye 72.86 333 ⇓P **P** **14 40 06.3 +0.3**
SNR=15
BRVK Borovoye 72.86 333 *e*P **P** **14 40 02.9 -3.0**
BRVK pmax pmax
comp=Z,43nm,0.9s,mb5.4
BRVK MLR MLR
comp=Z,2µm,20.0s,MS5.3
BRVK Borovoye 72.86 333 *e*P **P** **14 40 02.9 -3.0**
comp=Z,43nm,0.9s,mb5.4
BRVK LR LR
comp=Z,2µm,20.0s,MS5.3
SBA Scott Base 73.94 170 *e*P **P** **14 40 13.1 +1.1**
AB31 Akbulak array 75.87 326 *i* P **P** **14 40 20.5 -3.1**
AB31 pmax pmax
comp=Z,18nm,0.7s,mb5.1
AKTO Aktyubinsk 77.55 326 LR LR 15 20 17.5
comp=Z,953nm,18.3s,MS5.2,baz=19,slow=40
SYO Syowa Base 77.68 201 ⇓*e*P **P** **14 40 32.0 -1.5**
SYO Syowa Base 77.68 201 ⇓*e*X 14 40 35.2
SVE Sverdlovsk 79.56 332 ⇓*e*P **P** **14 40 42.2 -1.8**
SVE *e*S S 14 50 33.0 -12
SVE *e*SSS 14 59 15.1
SVE pmax pmax
comp=Z,28nm,1.0s,mb5.2
KMBO Kilima Mbogo 79.60 270 P **P** **14 40 45.6 +0.4**
SNR=9.9
KMBO Kilima Mbogo 79.60 270 P **P** **14 40 44.2 -1.0**
comp=Z,12nm,1.1s,mb4.7,baz=57,slow=5.9,SNR=18
KMBO LR LR 15 13 17.8
comp=Z,850nm,21.6s,MS5.0,baz=274,slow=34
KMBO Kilima Mbogo 79.60 270 ⇓*e*P **P** **14 40 45.5 +0.3**
KMBO Kilima Mbogo 79.60 270 *e*P **P** **14 40 44.2 -1.0**
TIXI Tiksi 80.26 4 ⇓*e*P **P** **14 40 46.2 -1.3**
TIXI pmax pmax
comp=Z,17nm,1.1s,mb4.9
TIXI Tiksi 80.26 4 *e*P **P** **14 40 44.5 -3.0**
comp=Z,33nm,0.8s,mb5.3
ARU Arti 80.32 331 *d i*P **P** **14 40 45.8 -2.3**
ARU *e* 14 43 51.9
ARU *e*S S 14 50 52.2 -0.4
ARU *e*SS SS 14 55 56.0 -8.4
ARU pmax pmax
comp=Z,19nm,1.7s,mb4.8
ARU Arti 80.32 331 *e*P **P** **14 40 45.6 -2.5**
ARU *e* 14 40 55.3
ARU LR LR
comp=Z,1µm,19.0s,MS5.2

RAR Rarotonga 80.83 110 LR LR 15 12 48.9
comp=Z,787nm,21.0s,MS5.0,baz=257,slow=33
GNI Garni 81.99 313 PFAKE 14 41 10.0 +13
GNI LR LR
comp=Z,632nm,21.0s,MS5.0
BILL Bilibino 83.79 17 *i* P **P** **14 41 04.5 -1.6**
BILL pmax pmax
comp=Z,18nm,1.5s,mb5.0
BILL MLR MLR
comp=Z,500nm,18.0s,MS4.9
KIV Kislovodsk 84.59 316 *e*P **P** **14 41 07.8 -2.9**
KIV *e* 14 51 29.0
KIV *e*SSS 15 00 35.9
KIV pmax pmax
comp=Z,10.0nm,1.2s,mb4.8
KIV Kislovodsk 84.59 316 PFAKE 14 41 20.0 +9.3
KIV LR LR
comp=Z,414nm,19.0s,MS4.8
ASF Jabal al Asfar 86.05 303 LR LR 15 25 05.4
comp=Z,754nm,18.5s,MS5.1,baz=334,slow=39
SOC Sochi 86.56 315 *e*P **P** **14 41 17.0 -3.5**
SOC *e**SP sP 14 41 25.7 -3.7
SOC *i* S S 14 51 41.9 -14
SOC *e*SSS 15 01 00.7
SOC pmax pmax
comp=Z,14nm,0.8s,mb5.2
LSZ Lusaka 86.60 255 P **P** **14 41 21.8 +0.5**
SNR=11
LSZ Lusaka 86.60 255 P **P** **14 41 20.4 -0.9**
LSZ pmax pmax
comp=Z,74nm,1.3s,mb5.8
LSZ Lusaka 86.60 255 *e*P **P** **14 41 20.2 -1.2**
comp=Z,74nm,1.3s,mb5.8
NVL N'lazarevskaya 87.05 199 *c i*P **P** **14 41 23.3 +0.8**
NVL *e**PP pP 14 41 31.4 +2.4
NVL S S 14 51 57.5 -2.7
NVL pmax pmax
comp=Z,71nm,1.7s,mb5.6
NVL MLR MLR
comp=Z,2µm,20.0s,MS5.5
NVL MLR MLR
comp=N,85nm,7.0s
NVL MLR MLR
comp=E,444nm,20.0s
MAIT Maitri 87.08 199 *e*P **P** **14 41 24.3 +1.7**
EIL Elat 87.18 300 LR LR 15 24 45.0
comp=E,1µm,18.4s,MS5.3,baz=315,slow=39
MMAI Mount Meron Ar 87.46 304 LR LR 15 24 17.5
comp=E,609nm,19.6s,MS5.0,baz=100,slow=38
BOSA Boshof 87.48 242 P **P** **14 41 25.6 +0.2**
comp=E,26nm,0.9s,mb5.5,baz=96,slow=6.2,SNR=19
BOSA LR LR 15 13 35.8
comp=E,1µm,21.9s,MS5.3,baz=194,slow=31
BOSA Boshof 87.48 242 *e*P **P** **14 41 24.8 -0.6**
comp=E,57nm,0.9s,mb5.8
BOSA LR LR
comp=Z,2µm,21.0s,MS5.4
LBTB Lobatse 87.68 245 *e*P **P** **14 41 25.2 -1.3**
LBTB pmax pmax
comp=Z,60nm,1.0s,mb5.8
LBTB Lobatse 87.68 245 *e*P **P** **14 41 25.2 -1.2**
comp=Z,60nm,1.0s,mb5.8
TBI Tubuai 90.03 113 *e*LR LR 15 10 31.6
comp=Z,1µm,24.5s
BR131 Keskin Array S 90.15 310 PFAKE 14 41 50.0 +12
BR131 LR LR
comp=Z,484nm,20.0s,MS4.9
ANTO Ankara 90.82 310 PFAKE 14 41 50.0 +9.2
ANTO LR LR
comp=Z,441nm,21.0s,MS4.9
PPT Papeete 90.83 108 *e*LR LR 15 10 53.9
comp=Z,1µm,26.5s
PPT Papeete 90.83 108 LR LR 15 16 23.3
comp=Z,644nm,19.9s,MS5.1,baz=265,slow=32
SNAA Sanae 91.03 196 *e*P **P** **14 41 42.4 +1.2**
SNAA *e* pP 14 41 48.4 +0.7
SNAA *e* 14 41 53.8
SNAA Sanae 91.03 196 ⇓*e*P **P** **14 41 41.7 +0.5**
SNAA Sanae 91.03 196 *e*P **P** **14 41 41.4 +0.3**
comp=Z,135nm,1.6s,mb6.0
OBN Obninsk 91.32 325 ⇓*e*P **P** **14 41 40.9 -1.9**
OBN *e* 14 41 50.0
OBN *e*PS PS 14 53 48.9 -2.8
OBN pmax pmax
comp=Z,10.0nm,1.5s,mb4.9
OBN Obninsk 91.32 325 P **P** **14 41 40.4 -2.3**
VNA2 Neumayer--Watz 92.67 196 *e*P **P** **14 41 49.6 +0.8**
baz=109,slow=3.4
VNA2 *e* pP 14 41 55.3 0.0
VNA2 *e* 14 42 01.3
VNA1 Neumayer--Stat 93.06 196 *e*P **P** **14 41 52.2 +1.6**
VNA1 *e* pP 14 41 57.9 +0.7
VNA1 *e* 14 42 03.3
VNA3 Neumayer Olymp 93.08 195 *e*P **P** **14 41 51.5 +0.8**
VNA3 *e* pP 14 41 56.9 -0.3
VNA3 *e* 14 42 03.5
AKASG Malin Array Be 94.95 320 LR LR 15 31 37.6
comp=Z,599nm,19.2s,MS5.1,baz=110,slow=40
TSUM Tsumeb 95.97 250 P **P** **14 42 03.8 -1.3**
KDAK Kodiak Island 97.30 33 PFAKE 14 42 20.0 +10
KDAK LR LR
comp=Z,211nm,20.0s,MS4.6
ARCES ARCESS Array B 98.28 339 LR LR 15 34 30.1
comp=Z,1µm,18.9s,MS5.4,baz=102,slow=40
KWP Kalwaria 99.04 319 PFAKE 14 42 30.0 +12
KWP LR LR
comp=Z,569nm,20.0s,MS5.1
COLA College 99.76 26 PFAKE 14 42 30.0 +8.7
COLA LR LR
comp=Z,463nm,20.0s,MS5.0
RKT Rikitea 103.11 116 *e*LR LR 15 16 40.1
comp=Z,1µm,21.8s
CUC Castrocucco 103.82 309 PFAKE 14 42 50.0 +11
CUC LR LR
comp=Z,554nm,20.0s,MS5.1
NB2 NORSAR Subarra104.88 331 PP PP 14 47 04.0 +0.1
comp=Z,6.9nm,1.2s,baz=80,slow=7.4
NB2 NORSAR Subarra104.88 331 PP PP 14 47 04.0 +0.1
baz=80,slow=7.4
NOA NORSAR Array B 104.88 331 PP PP 14 47 01.6 -2.3
comp=Z,2.3nm,1.1s,baz=80,slow=7.0,SNR=3.6
GERES GERESS Array B 104.95 318 PP PP 14 47 05.0 +0.1
comp=Z,0.2nm,0.3s,baz=76,slow=4.1,SNR=5.5
CLL Collm 105.19 321 *e*PP PP 14 47 05.0 -1.5
CLL LmV 14 38 00.0
comp=Z,600nm,18.0s
CLL Collm 105.19 321 *e*PP PP 14 47 05.0 -1.5
BFO Black Forest 108.55 318 PFAKE 14 47 20.0 +14
BFO LR LR
comp=Z,459nm,20.0s,MS5.0
BNI Bardonecchia 110.16 315 PFAKE 14 47 20.0 +11
BNI LR LR
comp=Z,840nm,22.0s,MS5.3
ESK Eskdalemuir 113.74 327 PFAKE 14 47 30.0 +14
ESK LR LR
comp=Z,555nm,20.0s,MS5.2
YKA Yellowknife Ar 114.47 24 PKP PKiKP 14 47 14.7 -2.2
comp=Z,1.2nm,0.7s,baz=300,slow=1.8,SNR=5.5
YKA Yellowknife Ar 114.47 24 PKIKP PKiKP 14 47 14.7 -2.2
YKA pmax pmax
comp=Z,1.0nm,0.7s
YKA Yellowknife Ar 114.47 24 PKP PKiKP 14 47 14.7 -2.2
TOA0 Torodi Ar. Sit 116.31 281 *e*P PKPdf 14 47 19.3 -2.4
TORD Torodi Ar. Bea 116.31 281 PKP PKPdf 14 47 19.4 -2.3
comp=Z,5.4nm,0.7s,baz=62,slow=1.6,SNR=37
TORD Torodi Ar. Bea 116.31 281 PKP PKPdf 14 47 19.4 -2.4
HUMO Hull Mountain 117.68 46 PFAKE 14 47 30.0 +6.4
HUMO LR LR
comp=Z,458nm,21.0s,MS5.1
HAWA Hanford 118.89 41 PFAKE 14 47 40.0 +14
HAWA LR LR
comp=Z,264nm,19.0s,MS4.9
ESDC Sonseca Array 118.94 311 PKP PKPdf 14 47 24.0 -2.1
comp=Z,0.3nm,0.3s,baz=125,slow=3.8,SNR=4.8
ESLA Sonseca Array 118.94 311 PFAKE 14 47 40.0 +14
ESLA LR LR
comp=Z,2µm,19.0s,MS5.7
EFI East Falkland 120.03 184 PFAKE 14 47 40.0 +12
EFI LR LR
comp=Z,1µm,21.0s,MS5.5
CMB Columbia Colle 120.74 51 PFAKE 14 47 40.0 +10
CMB LR LR
comp=Z,454nm,21.0s,MS5.1
BMO Blue Mountains 120.89 42 PFAKE 14 47 40.0 +10
BMO LR LR

comp=Z,365nm,20.0s,MS5.0
KIC Kosan Boka 122.13 272 *e*PKIKP PKPdf 14 47 31.3 -1.8
comp=Z,78nm,1.1s
NVAR Mina Array Bea 122.22 50 PKP PKPdf 14 47 32.3 -0.2
comp=Z,2.4nm,0.6s,baz=251,slow=1.9,SNR=20
NVAR PKKPab PKKPab 14 57 29.9 +1.1
comp=Z,0.5nm,0.7s,baz=116,slow=6.8,SNR=3.9
DBIC Dimbokro 122.28 273 PKP PKPdf 14 47 31.4 -1.9
comp=Z,8.5nm,0.8s,baz=326,slow=1.8,SNR=8.3
DBIC Dimbokro 122.28 273 *e*PKPdf PKPdf 14 47 31.4 -1.9
DBIC LR LR
comp=Z,372nm,19.0s,MS5.1
MSO Missoula 122.30 39 *e*PKPdf PKPdf 14 47 30.1 -2.3
LIC Lamto 122.40 272 *e*PKIKP PKPdf 14 47 31.5 -2.1
comp=Z,39nm,0.9s
BMN Battle Mountai 122.42 47 PFAKE 14 47 40.0 +7.2
BMN LR LR
comp=Z,573nm,22.0s,MS5.2
TIC Toumodi 122.44 273 *e*PKIKP PKPdf 14 47 31.7 -1.9
comp=Z,66nm,0.9s
CHMT Chamberlain Mo 122.69 39 *e*PKPdf PKPdf 14 47 31.5 -1.7
ISA Isabella 122.81 53 PFAKE 14 47 40.0 +6.3
ISA LR LR
comp=Z,496nm,22.0s,MS5.1
HLID Hailey 123.30 43 PFAKE 14 47 40.0 +5.6
HLID LR LR
comp=Z,466nm,19.0s,MS5.2
DAC Darwin (Calif) 123.34 52 PFAKE 14 47 50.0 +15
DAC LR LR
comp=Z,454nm,19.0s,MS5.2
ELK Elko 123.75 46 PFAKE 14 47 50.0 +15
ELK LR LR
comp=Z,527nm,20.0s,MS5.2
DLMT Dillon 123.76 40 *e*PKPdf PKPdf 14 47 34.5 -0.7
MCMT McKenzie Canyo 123.83 41 *e*PKPdf PKPdf 14 47 34.6 -0.8
GSC Goldstone 124.22 53 PFAKE 14 47 50.0 +14
GSC LR LR
comp=Z,474nm,20.0s,MS5.2
EGMT Eagleton 124.28 36 *e*PKPdf PKPdf 14 47 34.3 -1.8
EGMT LR LR
comp=Z,364nm,20.0s,MS5.0
FFC Flin Flon 124.39 26 PFAKE 14 47 50.0 +14
FFC LR LR
comp=Z,439nm,21.0s,MS5.1
PFO Pinyon Flat Ob 124.93 55 *e*PKIKP PKPdf 14 47 37.4 -0.5
BAR Barrett 124.98 56 PFAKE 14 47 50.0 +12
BAR LR LR
comp=Z,661nm,20.0s,MS5.3
GCMT Greycliff 125.41 39 *e*PKPdf PKPdf 14 47 36.4 -2.0
LKWY Lake 125.51 40 PFAKE 14 47 50.0 +11
LKWY LR LR
comp=Z,505nm,19.0s,MS5.2
LDFC Landfair 125.62 53 *e*P PKPdf 14 47 38.5 -0.6
DUG Dugway 125.67 46 PFAKE 14 47 50.0 +11
DUG LR LR
comp=Z,425nm,21.0s,MS5.1
REDW Red Top Meadow 125.75 42 *e*PKPdf PKPdf 14 47 38.6 -0.5
LOHW Long Hollow 125.81 41 *e*P PKPdf 14 47 38.8 -0.4
AHID Auburn Hatcher 125.84 42 PFAKE 14 47 50.0 +11
AHID LR LR
comp=Z,456nm,19.0s,MS5.2
HWUT Hardware Ranch 126.00 44 *e*P PKPdf 14 47 38.6 -1.1
HWUT LR LR
comp=Z,469nm,20.0s,MS5.2
GLA Glamis 126.39 55 PFAKE 14 47 50.0 +9.3
GLA LR LR
comp=Z,386nm,20.0s,MS5.1
BW06 Boulder Array 126.86 42 PFAKE 14 47 50.0 +8.7
BW06 LR LR
comp=Z,433nm,19.0s,MS5.2
PDAR Pinedale Array 126.86 42 PKP PKPdf 14 47 40.4 -0.9
comp=Z,2.3nm,1.0s,baz=217,slow=0.7,SNR=13
LAO LASA Array 127.03 36 *e*PKPdf PKPdf 14 47 41.2 -0.3
LAO LR LR
comp=Z,403nm,20.0s,MS5.1
PV01 Paradox Valley 129.51 47 *e*PKPdf PKPdf 14 47 46.6 +0.1
ULM Lac du Bonnet 130.18 27 PKP PKPdf 14 47 45.2 -2.1
comp=Z,4.5nm,1.0s,baz=246,slow=2.1,SNR=3.4
PLCA Paso Flores 130.65 173 PKP PKPdf 14 47 47.9 -0.7
comp=Z,9.9nm,1.2s,baz=258,slow=3.2,SNR=6.1
PLCA PP PP 14 50 03.6 +1.4
comp=Z,2.6nm,1.0s,baz=216,slow=10,SNR=3.1
PLCA SKPbc SKPbc 14 51 12.5 +1.1
comp=Z,22nm,1.1s,baz=166,slow=7.1,SNR=11
PLCA Paso Flores 130.65 173 PKIKP PKPdf 14 47 47.9 -0.7
PLCA 14 50 03.7
PLCA pmax pmax
comp=Z,10.0nm,1.2s
PLCA pmax pmax
comp=Z,3.0nm,1.0s
PLCA pmax pmax
comp=N,22nm,1.1s
PLCA Paso Flores 130.65 173 *e*PKPdf PKPdf 14 47 49.6 +1.0
ISCO Idaho Springs 130.86 44 PFAKE 14 48 00.0 +11
ISCO LR LR
comp=Z,360nm,19.0s,MS5.1
AGMN Agassiz Refuge 131.56 29 PFAKE 14 48 00.0 +10
AGMN LR LR
comp=Z,440nm,20.0s,MS5.2
ANMO Albuquerque 132.34 50 PFAKE 14 48 00.0 +8.1
ANMO LR LR
comp=Z,338nm,20.0s,MS5.0
BNM Barren Site 132.52 51 PKPdf PKPdf 14 47 52.8 +0.4
BNM *e*PP PP 14 50 15.2 -0.6
BNM *e*SKP 14 51 17.5
TRQA Tornquist 133.79 181 *e*PKPdf PKPdf 14 47 53.1 -1.5
TRQA *e*SKP 14 51 20.7
CBKS Cedar Bluff 135.29 42 PFAKE 14 48 10.0 +13
CBKS LR LR
comp=Z,520nm,21.0s,MS5.2
AMTX Amarillo 135.92 47 PFAKE 14 48 10.0 +11
AMTX LR LR
comp=Z,538nm,21.0s,MS5.2
COWI Conover 136.27 26 PFAKE 14 48 10.0 +11
COWI LR LR
comp=Z,500nm,19.0s,MS5.3
TXAR Lajitas Array 136.63 56 PKP PKPdf 14 47 59.7 -0.5
comp=Z,1.6nm,0.7s,baz=294,slow=1.2,SNR=8.9
TXAR SKPbc SKPbc 14 51 31.9 +0.1
comp=Z,1.1nm,0.8s,baz=36,slow=1.7,SNR=4.4
TXAR Lajitas Array 136.63 56 PKIKP PKPdf 14 47 59.7 -0.4
TXAR pmax pmax
comp=Z,2.0nm,0.7s
TXAR pmax pmax
comp=N,1.0nm,0.8s
TXAR Lajitas Array 136.63 56 PKP PKPdf 14 47 59.7 -0.5
TXAR SKPbc SKPbc 14 51 31.9 +0.1
JFWS Jewell Farm 138.16 30 PFAKE 14 48 10.0 +7.4
JFWS LR LR
comp=Z,494nm,21.0s,MS5.2
GLMI Grayling 139.18 24 PFAKE 14 48 10.0 +5.6
GLMI LR LR
comp=Z,536nm,20.0s,MS5.3
JCT Junction City 139.28 52 *e*PKIKP PKPdf 14 48 03.9 -1.1
JCT MLR MLR
comp=Z,395nm,20.0s,MS5.2
HDIL Hopedale 140.38 32 PFAKE 14 48 20.0 +13
HDIL LR LR
comp=Z,445nm,21.0s,MS5.2
CCM Cathedral Cave 141.04 36 PFAKE 14 48 20.0 +12
CCM LR LR
comp=Z,477nm,21.0s,MS5.2
MIAR Mount Ida 141.78 43 *e*PKIKP PKPdf 14 48 04.0 -5.4
LCO Las Campanas 142.11 169 *e*PKPdf PKPdf 14 48 06.1 -4.1
HKT Hockley 142.59 51 PFAKE 14 48 20.0 +9.0
HKT LR LR
comp=Z,501nm,19.0s,MS5.3
ERPA Erie 143.24 21 PFAKE 14 48 20.0 +8.2
ERPA LR LR
comp=Z,558nm,19.0s,MS5.3
LBNH Lisbon 143.46 11 PFAKE 14 48 20.0 +7.9
LBNH LR LR
comp=Z,711nm,20.0s,MS5.4
ACSO Alum Creek Sta 143.66 26 PFAKE 14 48 20.0 +7.5
ACSO LR LR
comp=Z,519nm,19.0s,MS5.3
WVT Waverly 144.35 36 *e*PKIKP PKPdf 14 48 09.9 -4.0
BINY Binghamton 144.45 17 PFAKE 14 48 20.0 +6.1
BINY LR LR
comp=Z,635nm,21.0s,MS5.4
OXF Oxford 144.50 39 *e*PKIKP PKPdf 14 48 09.8 -4.4
SPB Sao Paulo 144.72 205 *e*PKPdf PKPdf 14 48 13.7 -1.2
VAO Valinhos 145.04 207 *e*P PKPab 14 48 15.8 +1.0
VAO *i* 14 48 22.1
VAO *i* 14 48 28.8

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CPUP	Villa Florida	145.04	189	PKP	PKPdf	14 48 14.7	-0.7
	comp=Z,164nm,1.0s,baz=144,slow=2.6,SNR=158						
CPUP	Villa Florida	145.04	189	ePKPdf	PKPdf	14 48 14.5	-1.0
CPUP				ePP	PP	14 51 32.0	+0.2
HRV	Adam Dziewonsk	145.21	11	ePKIKP	PKPdf	14 48 12.7	-2.5
HRV				MLR	MLR		
	comp=Z,443nm,20.0s,MS5.2						
QUA2	Belchertown	145.27	12	ePKPdf	PKPdf	14 48 10.8	-4.5
SSPA	Standing Stone	145.29	20	ePKPdf	PKPdf	14 48 12.5	-2.9
WES	Weston	145.37	11	ePKIKP	PKPdf	14 48 13.6	-1.8
MCWV	Mont Chateau	145.44	23	ePKPdf	PKPdf	14 48 13.8	-1.8
BRYW	Bryant College	145.78	11	ePKPdf	PKPdf	14 48 14.3	-1.9
SWET	Sewanee	146.08	35	ePKPdf	PKPdf	14 48 14.5	-2.4
PAL	Palisades	146.12	15	ePKP2	PKPab	14 48 15.3	-3.0
BRNJ	Basking Ridge	146.25	16	ePKPdf	PKPdf	14 48 17.5	+0.5
TZTN	Tazewell	146.35	31	ePKPdf	PKPdf	14 48 15.9	-1.4
CPCT	Cooper Cave	146.69	33	ePKPdf	PKPdf	14 48 17.3	-0.6
SDMD	Soldier's Deli	146.74	20	ePKPdf	PKPdf	14 48 17.5	-0.4
TKL	Tuckaleechee C	146.92	32	ePKIKP	PKPdf	14 48 16.5	-1.8
LRAL	Lakeview Retre	146.98	39	ePKPdf	PKPdf	14 48 17.0	-1.5
ELN	Prospectdale	147.12	26	ePKPdf	PKPdf	14 48 17.7	-0.9
BLA	Blacksburg	147.28	26	ePKP2	PKPab	14 48 19.4	-3.5
BLA				MLR	MLR		
	comp=Z,726nm,19.0s,MS5.5						
CBN	Corbin	147.63	21	PFAKE		14 48 30.0	+11
CBN				LR	LR		
	comp=Z,658nm,21.0s,MS5.4						
URVA	University of	148.14	22	ePKPdf	PKPdf	14 48 21.4	+1.1
BRAL	Brewton	148.28	42	PFAKE		14 48 30.0	+9.3
BRAL				LR	LR		
	comp=Z,829nm,22.0s,MS5.5						
LVC	Limon Verde	148.68	170	PKPbc	PKPbc	14 48 27.2	+1.9
	comp=Z,63nm,1.0s,baz=255,slow=2.5,SNR=10						
LVC	Limon Verde	148.68	170	ePKPdf	PKPdf	14 48 23.2	+1.6
LVC				ePKPbc	PKPbc	14 48 26.5	+1.2
LVC				PKPbc	PKPbc	14 48 27.2	+1.9
GOGA	Godfrey	148.79	34	ePKIKP	PKPdf	14 48 19.3	-2.1
GOGA				e		14 48 23.6	
GOGA				MLR	MLR		
	comp=Z,672nm,19.0s,MS5.5						
CNNC	Cliffs of the	150.03	25	PFAKE		14 48 30.0	+6.6
CNNC				LR	LR		
	comp=Z,723nm,20.0s,MS5.5						
PAYG	Puerto Ayora	151.45	107	ePKPbc	PKPbc	14 48 34.3	+2.0
BDFB	Brasilia	151.84	212	PKPbc	PKPbc	14 48 32.7	-0.3
	comp=Z,14nm,0.7s,baz=121,slow=2.3,SNR=9.6						
BDFB	Brasilia	151.84	212	PKPbc	PKPbc	14 48 32.7	-0.3
BDFB				LR	LR		
	comp=Z,907nm,19.0s,MS5.6						
DWPF	Disney	153.84	39	PFAKE		14 48 40.0	+11
DWPF				LR	LR		
	comp=Z,594nm,20.0s,MS5.4						
LPAZ	La Paz	154.99	169	PKP	PKPdf	14 48 32.4	+1.2
	comp=Z,6.0nm,1.2s,baz=47,slow=1.5,SNR=15						
LPAZ				PKPab	PKPab	14 48 57.9	+2.7
	comp=Z,32nm,1.1s,baz=121,slow=3.5,SNR=9.3						
LPAZ	La Paz	154.99	169	ePKPdf	PKPdf	14 48 32.0	+0.8
LPAZ				ePKPbc	PKPbc	14 48 41.6	+1.6
SIV	San Ignacio	155.70	185	PKP	PKPdf	14 48 32.5	+0.3
	comp=Z,5.1nm,1.0s,baz=174,slow=1.8,SNR=16						
SIV				PKPab	PKPab	14 48 58.7	+0.6
	comp=Z,19nm,0.9s,baz=170,slow=4.3,SNR=6.9						
SIV				PP	PP	14 52 34.1	+0.8
	comp=Z,8.7nm,1.3s,baz=187,slow=6.7,SNR=5.9						
OTAV	Otavalo	162.69	117	ePKPdf	PKPdf	14 48 41.1	+0.6
BCIP	Isla Barro Col	163.44	86	PFAKE		14 48 50.0	+8.9
BCIP				LR	LR		
	comp=Z,587nm,20.0s						
BBGH	Gun Hill	174.13	324	PFAKE		14 49 00.0	+12
BBGH				LR	LR		
	comp=Z,703nm,21.0s						
GRGR	Grenville	176.01	339	PFAKE		14 49 00.0	+12
GRGR				LR	LR		
	comp=Z,444nm,21.0s						

IDC 04 14:39:07.2±4.1**,270S**×**14110E,h0**km**,mb3.9**/3**,mb1 3.9**/4**, mb1mx3.6**/15**,mbtmp3.8**/4**,ML3.3**/1**,Error ellipse: s-maj=156.2km s-min=38.1km az=93.0,Near north coast of New Guinea**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	18.37	201	P	Pn	14 43 22.3	-1.2
	0.1nm,0.3s,baz=22,slow=12,SNR=5.5						
MKAR	Makanchi Array	71.25	322	P	P	14 50 29.2	+1.0
	1.0nm,0.8s,baz=105,slow=9.0,SNR=7.7						
ZALV	Zalesovo Beam	73.14	329	P	P	14 50 38.7	-0.7
	0.8nm,0.6s,baz=114,slow=6.6,SNR=3.9						
BVAR	Borovoye Array	80.67	325	P	P	14 51 22.2	+0.2
	1.3nm,0.8s,baz=115,slow=7.0,SNR=4.2						

NEIC 04 14:44:01.6,4215S×**17284E,h60**km**,ML4.0**(WEL)**,After WEL.,South Island**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
THZ	Tophouse	0.39	7	P	Pn	14 44 12.0	-0.4
THZ				S	Sn	14 44 18.8	-1.5
KHZ	Kahutara	0.58	118	P	Pn	14 44 14.8	+0.3
LTZ	Lake Taylor	0.76	214	P	Pn	14 44 17.4	+0.8
DSZ	Denniston Nort	0.87	297	P	Pn	14 44 17.8	-0.2
DSZ				S	Sn	14 44 29.9	-0.1
BSWZ	Blackbirch Sta	0.89	61	P	Pn	14 44 18.4	+0.3
NNZ	Nelson	1.01	24	P	Pn	14 44 19.6	-0.2
CMWZ	Cape Campbell	1.10	69	P	Pn	14 44 21.5	+0.6
QRZ	Quartz Range	1.34	350	P	Pn	14 44 23.4	-0.7
TCW	Tory Channel	1.43	49	P	Pn	14 44 25.0	-0.3
CRLZ	Canterbury Las	1.44	186	P	Pn	14 44 24.9	-0.5
MQZ	McQueen's Vall	1.56	185	P	Pn	14 44 26.3	-0.8
SNZO	South Karori	1.63	60	P	Pn	14 44 27.3	-0.7
MRW	Makara Radio	1.67	57	P	Pn	14 44 28.0	-0.5
WEL	Wellington	1.68	60	P	Pn	14 44 28.1	-0.6
BHW	Baring Head	1.69	65	P	Pn	14 44 27.8	-1.0
WVZ	Waitaha Valley	1.81	238	P	Pn	14 44 30.8	+0.4
MSWZ	Moikau Station	1.95	69	P	Pn	14 44 30.9	-1.4
CAW	Cannon Point	1.97	59	P	Pn	14 44 31.6	-1.0
KIW	Kapiti Island	2.02	51	P	Pn	14 44 32.8	-0.5
RPZ	Rata Peaks	2.04	219	P	Pn	14 44 33.1	-0.5
PAWZ	Paruwai Farm	2.08	69	P	Pn	14 44 32.7	-1.4
MTW	Mount Morrison	2.23	64	P	Pn	14 44 31.1	-5.0
MRZ	Mangatainoka R	2.54	55	P	Pn	14 44 38.8	-1.6
FOZ	Fox Glacier	2.71	238	P	Pn	14 44 41.4	-1.3
WAZ	Wanganui	2.89	35	P	Pn	14 44 47.5	+2.3
LBZ	Lake Benmore	2.96	220	P	Pn	14 44 45.4	-0.7
NWEZ	Newall Road	2.98	16	P	Pn	14 44 47.6	+1.3
NEZ	North Egmont	3.03	19	P	Pn	14 44 48.5	+1.4
RAEZ	Rainy Point	3.09	23	P	Pn	14 44 49.4	+1.5
TSZ	Takapari Road	3.15	50	P	Pn	14 44 46.7	-2.0
ODZ	Otahua Downs	3.31	208	P	Pn	14 44 49.9	-0.9
VRZ	Vera Road	3.35	26	P	Pn	14 44 52.4	+0.9
WNVZ	Wahianoa	3.51	38	P	Pn	14 44 55.8	+2.1
MOVZ	Moawhango	3.52	40	P	Pn	14 44 53.7	-0.1
JCZ	Jackson Bay	3.55	236	P	Pn	14 44 53.0	-1.2
WKZ	Wanaka	3.86	225	P	Pn	14 44 56.2	-2.2
HIZ	Hauiti	3.94	24	P	Pn	14 44 59.9	+0.3
EAZ	Earnscleugh	4.01	219	P	Pn	14 44 58.8	-1.6
TUZ	Tuapeka	4.45	210	P	Pn	14 45 05.8	-0.7
URZ	Urewera	5.08	41	P	Pn	14 45 11.6	-3.5
MKAZ	Moumakai	5.34	20	P	Pn	14 45 19.2	+0.5
WTAZ	Waiatarua	5.38	15	P	Pn	14 45 20.7	+1.5
KUZ	Kuaotunu	5.84	23	P	Pn	14 45 25.5	0.0
WCZ	Waipu Caves	6.31	11	P	Pn	14 45 32.4	+0.4
OUZ	Omahuta	6.94	5	P	Pn	14 45 40.7	0.0

*BJI **04** 14:46:32.7,292S×142.11E,h30km,mB5.1,mb4.8*
*IDC **04** 14:46:34.0±0.7,288S×14129E,h0km,mb4.3/12, mb1 4.5/15,mb1mx4.4/20,mbtmp4.4/15,ML4.5/3,MS4.4/1, Ms1 4.4/1,ms1mx3.4/28,Error ellipse: s-maj=20.8km s-min=12.9km az=101.0*
*ISCJB **04** 14:46:35.4±3.1,289S±005×14137E±007,h25km±22km, mb4.5/27,Error ellipse: s-maj=12.4km s-min=8.3km az=13.0*
*NEIC **04** 14:46:35.0±0.3,283S×14135E,h10km,mb4.8/16,Error ellipse: s-maj=8.6km s-min=5.8km az=91.0*
ISC 04 14:46:37.4±3.2**,287S**±006×**14140E**±007**,h26**km±23km**, n50,σ0.88**/50**,mb4.5**/27**,2D,Near north coast of New Guinea**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	8.66	139	Pn	Pn	14 48 43.3	+2.2
KAKA	Kakadu	13.20	222	eP	Pn	14 49 42.1	-1.1
	29nm,0.6s						
KAKA				eS	Sn	14 52 04.8	-4.4
WB2	Warramunga Arr	18.31	202	eP	Pn	14 50 49.9	+0.2
WB2				eS	Sn	14 54 08.6	-4.9
WRA	Warramunga Arr	18.31	202	P	Pn	14 50 49.7	-0.1
	0.9nm,0.3s,baz=23,slow=12,SNR=40						
WRA				LR	LR	14 58 27.6	
	comp=Z,1μm,18.5s,baz=320,slow=39						
BATI	Baumata	19.05	247	P	Pn	14 50 58.5	-0.2
	3.0nm,0.3s,baz=192,slow=5.1,SNR=4.6						
HNR	Honiara	19.55	110	P	Pn	14 51 03.1	-1.6
	3.5nm,0.3s,baz=227,slow=4.1,SNR=17						
FITZ	Fitzroy Crossi	21.63	224	eP	P	14 51 25.1	-0.7
	18nm,0.7s,mb4.6						
FITZ				eS	S	14 55 24.6	+0.5
FITZ	Fitzroy Crossi	21.63	224	P	P	14 51 25.3	-0.5
	9.6nm,0.7s,mb4.3,baz=53,slow=12,SNR=23						
FITZ				S	S	14 55 24.7	+0.6
	3.0nm,0.7s,baz=173,slow=14,SNR=3.9						
FITZ	Fitzroy Crossi	21.63	224	eP	P	14 51 24.6	-1.2
	21nm,0.8s,mb4.6						
FITZ				eS	S	14 55 22.6	-1.5
ASAR	Alice Springs	21.91	199	P	P	14 51 29.1	+0.4
	3.2nm,0.6s,mb3.9,baz=29,slow=9.7,SNR=42						
ASAR				PcP	PcP	14 55 29.1	+1.5
	1.1nm,0.9s,baz=351,slow=2.3,SNR=4.4						
KKM	Kota Kinabalu	26.66	289	P	P	14 52 14.0	-0.5
MBWA	Marble Bar	27.84	228	eP	P	14 52 24.5	-0.4
	8.3nm,1.0s,mb4.3						
STKA	Stephens Creek	28.85	180	P	P	14 52 34.5	+0.7
	2.7nm,0.9s,mb4.0,baz=350,slow=12,SNR=3.7						
STKA	Stephens Creek	28.85	180	P	P	14 52 33.5	-0.3
	3.7nm,0.9s,mb4.1						
FORT	Forrest	30.49	203	eP	P	14 52 48.4	+0.1
	21nm,0.8s,mb4.9						
KSRS	Korea Array	42.03	344	P	P	14 54 26.9	+0.2
	3.1nm,0.8s,mb4.0,baz=168,slow=10,SNR=9.8						
CMAR	Chiang Mai Arr	46.86	299	P	P	14 55 05.7	+0.1
	1.0nm,0.7s,mb3.9,baz=116,slow=6.5,SNR=5.5						
CMAR				PcP	PcP	14 56 39.9	+1.5
	0.9nm,0.8s,baz=131,slow=2.1,SNR=5.3						
CN2	Changchun	48.62	345	eP	P	14 55 19.2	+0.3
CN2				AMB	AMB		
	comp=Z,10.0nm,0.9s,mb4.8						
YSS	Yuzh-Sakhalins	49.63	1	eP	P	14 55 25.3	-1.2
	comp=Z,7.9nm,0.8s,mb4.8						
LZH	Lanzhou	52.25	321	⇓P	P	14 55 48.0	+1.5
LZH				AP	pP	14 55 53.4	-1.2
LZH				XP	sP	14 55 56.0	-1.7
LZH				AMB	AMB		
	comp=Z,25nm,1.0s,mb5.1						
LZH				AMB	AMB		
	comp=Z,86nm,4.4s						
LZH	Lanzhou	52.25	321	⇓P	P	14 55 48.0	+1.5
	comp=Z,25nm,1.0s,mb5.1						
LZH				pP	pP	14 55 53.4	-1.2
LZH				sP	sP	14 55 56.0	-1.7
GTA	Gaotai	56.82	322	eP	P	14 56 21.0	+1.4
GTA				AP	pP	14 56 25.6	-2.2
GTA				XP	sP	14 56 29.0	-1.9
GTA				AMB	AMB		
	comp=Z,11nm,1.0s,mb4.8						
SONM	Songino Array	59.04	333	P	P	14 56 36.1	+1.0
	comp=Z,0.4nm,0.7s,mb3.5,baz=142,slow=7.3,SNR=7.4						
MK31	Makanchi Array	71.56	322	eP	P	14 57 56.8	+0.5
MKAR	Makanchi Array	71.56	322	P	P	14 57 56.9	+0.7
	comp=Z,6.9nm,0.8s,mb4.6,baz=111,slow=7.4,SNR=63						
MKAR	Makanchi Array	71.56	322	P	P	14 57 56.9	+0.6
ZAA0	Zalesovo Array	73.44	329	eP	P	14 58 06.8	-0.5
ZALV	Zalesovo Beam	73.44	329	P	P	14 58 07.0	-0.3
	comp=Z,7.8nm,0.7s,mb4.8,baz=111,slow=6.0,SNR=40						
TKM2	Tokmak 2	74.51	316	eP	P	14 58 14.7	+0.9
	comp=Z,5.0nm,0.6s,mb4.6						
KURK	Kurchatov	75.40	324	P	P	14 58 19.4	+0.7
	comp=Z,6.4nm,0.9s,mb4.6,baz=111,slow=5.8,SNR=11						
KURK	Kurchatov	75.40	324	eP	P	14 58 19.1	+0.3
	comp=Z,14nm,0.9s,mb4.9						
EKS2	Erkin-Say	75.70	315	eP	P	14 58 21.3	+0.6
	comp=Z,6.4nm,1.2s,mb4.4						
SBA	Scott Base	76.13	175	P	P	14 58 23.9	+1.4
	comp=Z,1.5nm,0.9s,mb3.9						
KBL	Kabul	77.18	306	P	P	14 58 28.4	-0.8
BVAR	Borovoye Array	80.98	325	P	P	14 58 50.2	+0.6
	comp=Z,6.8nm,0.8s,mb4.7,baz=112,slow=7.1,SNR=33						
BRVK	Borovoye	81.05	325	eP	P	14 58 50.4	+0.4
	comp=Z,28nm,1.3s,mb5.0						
CHUM	Lake Minchumin	82.35	24	eP	P	14 58 57.1	+0.5
	comp=Z,27nm,0.9s,mb5.2						
RC01	Rabbit Creek A	82.44	27	eP	P	14 58 56.1	-1.1
	comp=Z,12nm,0.9s,mb4.8						
MAW	Mawson	82.99	202	P	P	14 58 59.9	0.0
	comp=Z,1.8nm,0.9s,mb4.1,baz=43,slow=8.7,SNR=5.2						
MCK	McKinley	83.69	25	eP	P	14 59 02.5	-1.1
	comp=Z,9.0nm,1.0s,mb4.8						
COLD	Coldfoot	84.42	21	eP	P	14 59 07.0	-0.2
	comp=Z,6.1nm,0.9s,mb4.7						
COLA	College	84.51	24	eP	P	14 59 05.9	-1.8
	comp=Z,9.7nm,1.1s,mb4.8						
DAWY	Dawson	87.85	26	eP	P	14 59 24.6	+0.5
AKTK	Aktyubinsk	87.97	321	P	P	14 59 23.9	-1.1
AKTO	Aktyubinsk	87.97	321	P	P	14 59 23.9	-1.1
	comp=Z,0.7nm,0.6s,mb4.1,baz=97,slow=8.1,SNR=3.7						
TORD	Torodi Ar. Bea	138.87	287	PKP	PKPdf	15 06 03.6	+1.1
	comp=Z,0.7nm,0.7s,baz=60,slow=1.3,SNR=6.9						
LPAZ	La Paz	145.16	124	PKPbc	PKPbc	15 06 15.0	+1.8
	comp=Z,2.8nm,0.8s,baz=310,slow=0.8,SNR=15						
CPUP	Villa Florida	145.79	149	PKP	PKPdf	15 06 14.4	-0.1
	comp=Z,4.0nm,0.9s,baz=212,slow=4.4,SNR=5.4						
DBIC	Dimbokro	146.16	278	PKP	PKPdf	15 06 15.8	+0.3
	comp=Z,3.4nm,0.7s,baz=160,slow=5.0,SNR=6.4						
DBIC	Dimbokro	146.16	278	PKP	PKPdf	15 06 15.8	+0.3

*JMA **04** 14:56:01.6±0.4,3660N×12985E,h3km,M3.1*
*ISCJB **04** 14:56:04.5±1.2,3646N±004×12981E±006,h8km±7km, Error ellipse: s-maj=9.2km s-min=4.6km az=148.7*
*KMA **04** 14:56:07.0,3643N×12955E,ML2.9*
ISC 04 14:56:04.2±1.3**,3647N**±004×**12981E**±007**,h2**km±7km**,n22, σ0.84**/27**,South Korea**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KSYOD	Yeongdeok	0.33	276	P	Pg	14 56 11.1	+0.5
KSULJ	Uljin	0.40	306	P	Pg	14 56 12.8	+1.0
KSPHA	Pohang	0.45	232	P	Pg	14 56 13.4	+0.7
KSULS	Ulsan	0.99	204	P	Pg	14 56 23.7	+0.4
KSULS				S	Sg	14 56 36.1	0.0
KSDAG	Daegu	1.01	227	P	Pg	14 56 23.5	-0.1
KSYOW	Yeongwol	1.29	303	P	Pn	14 56 28.5	-0.8
KSYOW				S	Sg	14 56 44.0	-1.7
KSBUS	Busan	1.34	205	P	Pn	14 56 29.8	-0.2
KSCPR	CHUPUNGNYEONG	1.50	261	P	Pn	14 56 31.1	-1.1
KSDGY	Daegwallycong	1.52	324	P	Pn	14 56 32.7	+0.3
KSDGY				S	Sn	14 56 52.4	-0.4
KSCHJ	Chungju	1.53	286	P	Pn	14 56 32.0	-0.6
KSWJU	Wonju	1.69	304	P	Pn	14 56 35.3	+0.5
KSJIN	Jinju	1.94	228	P	Pn	14 56 39.0	+0.7
JTU	Tsushima	1.97	190	P	Pn	14 56 38.1	-0.5
JTU				eS	Sg	14 57 05.9	-1.5
KSCHC	Chuncheon	2.06	310	P	Pn	14 56 41.6	+1.7
KSCEA	Cheonan	2.08	281	P	Pn	14 56 39.5	-0.7
KSCHO	Jeonju	2.24	254	P	Pn	14 56 44.3	+1.9
JTY	Toyota	2.43	155	P	Pn	14 56 45.1	+0.1
JTY				eS	Sn	14 57 15.4	+0.2
JGT	Gotsu	2.51	124	eS	Sn	14 57 16.9	-0.3
JHIK	Hikimi	2.59	137	eS	Sn	14 57 18.8	-0.6
JII	Iki	2.67	181	eS	Sn	14 57 22.3	+1.2
KSSES	Seosan	2.72	278	P	Pn	14 56 48.3	-0.6
JHT	Toyohira	2.79	129	eS	Sn	14 57 24.2	0.0

*VIE **04** 15:17:24.7±0.2,4629N×792E,h5km±1km,mb1.9/2, ML2.9/4,Error ellipse: s-maj=3.6km s-min=1.1km az=142.0*
*ISCJB **04** 15:17:24.5±0.2,46295N±0010×787E±002,h11km±2km, Error ellipse: s-maj=2.0km s-min=1.6km az=12.3*
*CSEM **04** 15:17:25.8±0.1,4626N×798E,h10km,ML3.0/30,Error ellipse: s-maj=0.9km s-min=0.7km az=105.0*
*LDG **04** 15:17:26.3±0.1,4628N×794E,h5km,Md2.9/3,Ml2.9/28, Error ellipse: s-maj=1.0km s-min=0.7km az=93.0*
*ROM **04** 15:17:26.6±0.4,4623N×793E,h10km±2km,Md2.8/13, Ml2.3/7,Error ellipse: s-maj=3.6km s-min=1.9km az=157.0*
*NEIC **04** 15:17:26.1,4628N×797E,h3km,ML2.5(ZUR), ML2.7(SZGRF),ML2.9(LDG),ML2.9(STR),After ZUR.*
*STR **04** 15:17:26.7±0.7,4628N×789E,h10km,Ml2.9,Error ellipse: s-maj=0.0km s-min=0.0km az=0.0*
*GEN **04** 15:17:26.6,4626N×791E,h3km,ML2.0*
*ZUR **04** 15:17:26.1,4628N×797E,h3km±3km,ML2.5/11*
ISC 04 15:17:25.8±0.2**,46276N**±0009×**790E**±002**,h13**km±1km**, n133,σ1.15**/291**,12C-9D,Switzerland**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
LKBD2	Leukerbad 2	0.20	299	⇓iPg	Pg	15 17 31.2	+0.9
LKBD	Leukerbad	0.22	301	⇓iPg	Pg	15 17 31.4	+0.9
	1μm,0.4s						
LKBD				i Sg	Sg	15 17 34.8	+1.0
	1μm,0.4s						
MMK	Mattmark	0.23	169	⇑iPg	Pg	15 17 31.1	+0.4
MMK	Mattmark	0.23	169	Pg	Pg	15 17 31.1	+0.4
MMK				Sg	Sg	15 17 33.9	-0.2
DIX	Grande Dixence	0.39	240	⇓iPg	Pg	15 17 34.4	+0.8
	567nm,0.3s						
DIX	Grande Dixence	0.39	240	Pg	Pg	15 17 34.4	+0.8
DIX				Sg	Sg	15 17 40.2	+1.3
SENIN	Lac Senin/Sane	0.42	282	⇓iPg	Pg	15 17 35.2	+1.0
	210nm,0.7s						
WIMIS	Wimmis	0.43	334	⇑iPg	Pg	15 17 35.0	+0.6
	638nm,0.4s						
HASLI	Hasliberg/Brie	0.51	20	⇑iPg	Pg	15 17 35.7	-0.2
	589nm,0.2s						
GRYON	Gryon	0.55	268	⇓iPg	Pg	15 17 37.4	+0.9
	36nm,0.3s						
FUSIO	Fusio	0.56	71	⇓iPg	Pg	15 17 36.0	-0.7
	620nm,0.4s						
ORO	Oropa	0.65	175	Pg	Pg	15 17 38.7	+0.2
ORO				Sg	Sg	15 17 47.8	+0.8
	254nm,0.2s						
SALAN	Lac Salanfe	0.66	259	⇓iPg	Pg	15 17 39.6	+1.1
	18nm,0.4s						
AIGLE	Aigle	0.66	276	ePg	Pg	15 17 39.5	+0.9
	134nm,0.5s						
VAI	Varese	0.73	124	Pg	Pg	15 17 40.2	+0.2
VAI				Sg	Sg	15 17 49.2	-0.4
TRAV	Traversella	0.77	188	Pg	Pg	15 17 40.9	+0.2
TRAV				Sg	Sg	15 17 50.6	-0.2
	185nm,0.3s						
MRGE	Morge	0.77	229	Pg	Pg	15 17 41.5	+0.8
MRGE				Sg	Sg	15 17 51.7	+0.8
	124nm,0.6s						
MUO	Muotathal	0.86	36	⇑iPg	Pg	15 17 42.3	-0.1
	312nm,0.5s						
MUGIO	Muggio	0.87	114	Pg	Pg	15 17 42.3	-0.3
MUGIO				Sg	Sg	15 17 53.0	-1.0
LSD	Lago del Serru	0.98	213	Pg	Pg	15 17 44.9	+0.3
LSD				Sg	Sg	15 17 56.4	-0.9
	54nm,0.3s						
LSD	Lago del Serru	0.98	213	Pg	Pg	15 17 44.9	+0.3
LSD				Sg	Sg	15 17 56.4	-0.9
	54nm,0.3s						
LSD				S	Sb	15 17 57.5	+0.2
TUE	Stuetta	1.02	78	Pg	Pg	15 17 44.6	-0.9
TUE				Sg	Sg	15 17 57.7	-1.1
	96nm,0.5s						
TUE	Stuetta	1.02	78	Pg	Pg	15 17 44.6	-0.9
TUE				eSg	Sg	15 17 56.5	-2.3
TUE	Stuetta	1.02	78	ePg	Pg	15 17 44.0	-1.5
TUE				eSg	Sg	15 17 56.5	-2.3
RSL	Roselend	1.06	237	Pg	Pg	15 17 46.6	+0.3
RSL				Sg	Sg	15 18 00.1	-0.1
BALST	Balsthal	1.07	353	⇑iP	Pb	15 17 47.0	+0.9
	888nm,0.3s						
LPL	La Plagne	1.11	227	ePg	Pg	15 17 48.1	+0.9
LPL				eSg	Sg	15 18 03.0	+1.3
	43nm,0.4s,SNR=1.0						
LPL	La Plagne	1.11	227	ePg	Pg	15 17 48.1	+0.9
LPL				eSg	Sg	15 18 03.0	+1.3
	21nm,0.4s,SNR=1.0						
LPG	La Plagne	1.12	226	ePg	Pg	15 17 48.3	+1.0
LPG				eSg	Sg	15 18 02.8	+1.0
	24nm,0.2s,SNR=1.0						
LPG	La Plagne	1.12	226	ePg	Pg	15 17 48.3	+1.0
LPG				eSg	Sg	15 18 02.8	+1.0
	12nm,0.2s,SNR=1.0						
LPG	La Plagne	1.12	226	ePn	Pn	15 17 47.6	+0.5
LPG				ePg	Pg	15 17 48.3	+1.0
LPG				eSg	Sg	15 18 02.8	+1.0
RSP	Reno Superiore	1.21	202	Pg	Pg	15 17 48.8	-0.3
RSP				Sg	Sg	15 18 04.6	-0.3
	69nm,0.3s						
BBS	Basel-Blauen	1.22	347	Pg	Pg	15 17 50.6	+1.4
BBS				Sg	Sg	15 18 06.5	+1.4
CABF	La Chapelle	1.30	286	eP	Pn	15 17 52.0	+2.5
	SNR=1.0						
CABF				eSn	Sn	15 18 07.3	+0.6
	SNR=1.0						
CABF				eSg	Sg	15 18 09.1	+1.5
	22nm,0.3s,SNR=1.0						
CABF	La Chapelle	1.30	286	eP	Pn	15 17 52.0	+2.5
	SNR=1.0						
CABF				eSn	Sn	15 18 07.3	+0.6
	SNR=1.0						
CABF				eSg	Sg	15 18 09.1	+1.5
	11nm,0.3s,SNR=1.0						
CABF	La Chapelle	1.30	286	ePg	Pg	15 17 51.2	+0.5
CABF				eP		15 17 52.0	
CABF				eSn	Sn	15 18 07.3	+0.6
CABF				eSg	Sg	15 18 09.1	+1.5
LOMF	Lomont	1.30	326	Pg	Pg	15 17 52.6	+1.8
LOMF				Sg	Sg	15 18 09.5	+1.7
DAVOX	Davos/Dischmat	1.46	69	Pg	Pg	15 17 53.0	-0.8
DAVOX				Sg	Sg	15 18 13.4	+0.7
BNI	Bardonecchia	1.49	215	Pn	Pn	15 17 54.7	+2.5
	18nm,0.7s						
BNI	Bardonecchia	1.49	215	ePn	Pn	15 17 54.0	+1.8
BNI				eSn	Sn	15 18 12.9	+1.4
BNI	Bardonecchia	1.49	215	ePn	Pn	15 17 54.0	+1.8
BNI				eSn	Sn	15 18 12.9	+1.3
RRL	Rocca Remolon	1.56	210	P	Pn	15 17 55.3	+2.1
FELD	Feldberg im Sc	1.60	3	Pg	Pg	15 17 56.6	0.0
FELD				Sg	Sg	15 18 17.7	+0.3
MOF	Molkenrain	1.66	342	Pg	Pg	15 17 58.3	+0.6
MOF				Sg	Sg	15 18 19.7	+0.5
DAVA	Damuels	1.70	53	⇑iPn	Pn	15 17 54.8	-0.3
DAVA				⇑iPg	Pg	15 17 57.4	-0.9
DAVA				⇓iSn	Sn	15 18 17.3	+0.7
DAVA				⇑iSg	Sg	15 18 20.3	-0.1
	32nm,0.2s						
HINF	Hinteralfeld	1.70	336	ePg	Pg	15 17 58.1	-0.3
HINF				eSn	Sn	15 18 16.0	-0.6
HINF				eSg	Sg	15 18 20.2	-0.2
	36nm,0.2s,SNR=1.0						
HINF	Hinteralfeld	1.70	336	ePg	Pg	15 17 58.1	-0.3
HINF				eSn	Sn	15 18 16.0	-0.6
HINF				eSg	Sg	15 18 20.2	-0.2
	18nm,0.2s,SNR=1.0						
HINF	Hinteralfeld	1.70	336	eP	Pn	15 17 56.7	+1.6
HINF				ePg	Pg	15 17 58.1	-0.3
HINF				eSn	Sn	15 18 16.0	-0.6
HINF				eSg	Sg	15 18 20.2	-0.2
OG05	Jujurieux	1.71	263	Pg	Pg	15 18 00.4	+1.8
MBDF	Montbardon	1.74	207	ePg	Pg	15 17 59.1	-0.1
	SNR=1.0						
MBDF				eSn	Sn	15 18 18.0	+0.4
	SNR=1.0						
MBDF				eSg	Sg	15 18 22.0	+0.3
	37nm,0.4s,SNR=1.0						
MBDF	Montbardon	1.74	207	ePg	Pg	15 17 59.1	-0.1
	SNR=1.0						
MBDF				eSn	Sn	15 18 18.0	+0.4
	SNR=1.0						
MBDF				eSg	Sg	15 18 22.0	+0.3
	18nm,0.4s,SNR=1.0						
MBDF	Montbardon	1.74	207	eP	Pn	15 17 58.0	+2.4
MBDF				ePg	Pg	15 17 59.1	-0.1
MBDF				eSn	Sn	15 18 18.0	+0.4
MBDF				eSg	Sg	15 18 22.0	+0.3
PCP	Piancastagn	1.79	165	P	Pn	15 17 57.1	+0.7
MABI	Malga Bissina	1.83	96	Pn	Pn	15 17 59.1	+2.2
MABI				Sn	Sn	15 18 23.0	+3.1
	18nm,0.3s						
SPAK	Spaichingen-Ko	1.93	18	Pg	Pg	15 18 02.7	0.0

ORIF	**Oris-en-Rattie**	**1.96**	**227**	*e*Pg	**Pg**	**15 18 03.2**	**-0.2**
	SNR=1.0						
ORIF				*e*Sg	**Sg**	**15 18 28.0**	**-0.9**
	23nm,0.4s,SNR=1.0						
ORIF	**Oris-en-Rattie**	**1.96**	**227**	*e*Pg	**Pg**	**15 18 03.2**	**-0.2**
	SNR=1.0						
ORIF				*e*Sg	**Sg**	**15 18 28.0**	**-0.9**
	11nm,0.4s,SNR=1.0						
ORIF	**Oris-en-Rattie**	**1.96**	**227**	*e*Pn	**Pn**	**15 17 59.2**	**+0.5**
ORIF				*e*Pg	**Pg**	**15 18 03.2**	**-0.2**
ORIF				*e*Sg	**Sg**	**15 18 28.0**	**-0.9**
ROB	**Robourent**	**1.98**	**180**	P	**Pn**	**15 17 59.8**	**+0.9**
ECH	**Echery**	**2.00**	**346**	*e*Pn	**Pn**	**15 18 02.0**	**+2.7**
ECH	**Echery**	**2.00**	**346**	Pg	**Pg**	**15 18 04.4**	**+0.2**
ECH				*e*Sn	**Sn**	**15 18 29.8**	**+5.6**
ECH	**Echery**	**2.00**	**346**	*e*Pn	**Pn**	**15 18 02.0**	**+2.7**
ECH				*e*Sn	**Sn**	**15 18 29.8**	**+5.6**
HAU	**Haudompre**	**2.03**	**329**	*e*P	**Pn**	**15 18 01.6**	**+2.0**
	SNR=1.0						
HAU	**Haudompre**	**2.03**	**329**	*e*Pg	**Pg**	**15 18 04.1**	**-0.6**
HAU				*e*Sn	**Sn**	**15 18 23.5**	**-1.3**
HAU				*e*Sg	**Sg**	**15 18 30.7**	**-0.3**
	43nm,0.2s,SNR=1.0						
HAU	**Haudompre**	**2.03**	**329**	*e*P	**Pn**	**15 18 01.6**	**+2.0**
	SNR=1.0						
HAU	**Haudompre**	**2.03**	**329**	*e*Pg	**Pg**	**15 18 04.1**	**-0.6**
HAU				*e*Sn	**Sn**	**15 18 23.5**	**-1.3**
HAU				*e*Sg	**Sg**	**15 18 30.7**	**-0.3**
	22nm,0.2s,SNR=1.0						
HAU	**Haudompre**	**2.03**	**329**	*e*Pn	**Pn**	**15 17 59.8**	**+0.2**
HAU				*e*P		15 18 01.6	
HAU				*e*Pg	**Pg**	**15 18 04.1**	**-0.6**
HAU				*e*Sn	**Sn**	**15 18 23.5**	**-1.3**
HAU				*e*Sg	**Sg**	**15 18 30.7**	**-0.3**
STV	**Sant Anna di V**	**2.07**	**191**	P	**Pn**	**15 18 00.4**	**+0.2**
STV				S	**Sn**	**15 18 23.7**	**-2.1**
BFO	**Black Forest**	**2.08**	**8**	*e*Pn	**Pn**	**15 18 00.7**	**+0.4**
BFO				*e*Pg	**Pg**	**15 18 05.2**	**-0.4**
BFO				*e*Sg	**Sg**	**15 18 31.5**	**-1.0**
FIN	**Finale Ligure**	**2.08**	**174**	P	**Pn**	**15 18 00.1**	**-0.2**
FIN				S	**Sn**	**15 18 22.9**	**-3.1**
FETA	**Feichten**	**2.09**	**68**	⇑*i*Pg	**Pg**	**15 18 04.3**	**-1.5**
FETA				⇑*i*Sg	**Sg**	**15 18 33.4**	**+0.5**
	8.7nm,0.5s						
CDF	**Champ du Feu**	**2.18**	**349**	*e*P	**Pn**	**15 18 02.9**	**+1.2**
CDF	**Champ du Feu**	**2.18**	**349**	*e*Pg	**Pg**	**15 18 06.6**	**-0.9**
	SNR=1.0						
CDF				*e*Sn	**Sn**	**15 18 27.2**	**-1.3**
CDF				*e*Sg	**Sg**	**15 18 35.1**	**-0.7**
	12nm,0.2s,SNR=1.0						
CDF	**Champ du Feu**	**2.18**	**349**	*e*P	**Pn**	**15 18 02.9**	**+1.2**
CDF	**Champ du Feu**	**2.18**	**349**	*e*Pg	**Pg**	**15 18 06.6**	**-0.9**
	SNR=1.0						
CDF				*e*Sn	**Sn**	**15 18 27.2**	**-1.3**
CDF				*e*Sg	**Sg**	**15 18 35.1**	**-0.7**
	6.2nm,0.2s,SNR=1.0						
CDF	**Champ du Feu**	**2.18**	**349**	*e*Pn	**Pn**	**15 18 01.3**	**-0.4**
CDF				*e*P		15 18 02.9	
CDF				*e*Pg	**Pg**	**15 18 06.6**	**-0.9**
CDF				*e*Sn	**Sn**	**15 18 27.2**	**-1.3**
CDF				*e*Sg	**Sg**	**15 18 35.1**	**-0.7**
IMI	**Imperia**	**2.37**	**180**	P	**Pn**	**15 18 04.2**	**0.0**
IMI				S	**Sn**	**15 18 29.7**	**-3.4**
NEGI	**Seborga**	**2.43**	**183**	P	**Pn**	**15 18 05.3**	**+0.1**
NEGI				S	**Sn**	**15 18 31.3**	**-3.4**
SBF	**Sospel**	**2.44**	**188**	*e*Pg	**Pg**	**15 18 11.5**	**-1.0**
SBF				*e*Sn	**Sn**	**15 18 33.8**	**-1.0**
SBF				*e*Sg	**Sg**	**15 18 43.2**	**-0.8**
	14nm,0.3s						
SBF	**Sospel**	**2.44**	**188**	*e*Pg	**Pg**	**15 18 11.5**	**-1.0**
SBF				*e*Sn	**Sn**	**15 18 33.8**	**-1.0**
SBF				*e*Sg	**Sg**	**15 18 43.2**	**-0.8**
	7.1nm,0.3s						
SBF	**Sospel**	**2.44**	**188**	*e*Pn	**Pn**	**15 18 04.9**	**-0.3**
SBF				*e*Pg	**Pg**	**15 18 11.5**	**-1.0**
SBF				*e*Sn	**Sn**	**15 18 33.8**	**-1.0**
SBF				*e*Sg	**Sg**	**15 18 43.2**	**-0.8**
MOTA	**Moosalm**	**2.45**	**63**	⇓*i*Pn	**Pn**	**15 18 05.7**	**+0.4**
MOTA				⇑*i*Pg	**Pg**	**15 18 11.1**	**-1.6**
MOTA				⇑*i*Sg	**Sg**	**15 18 45.7**	**+1.3**
	5.8nm,0.3s						
VIVF	**Saint-Julien-l**	**2.67**	**239**	*e*P	**Pn**	**15 18 11.0**	**+2.5**
	SNR=1.0						
VIVF				*e*Sg	**Sg**	**15 18 51.5**	**-0.1**
	11nm,0.3s,SNR=1.0						
VIVF	**Saint-Julien-l**	**2.67**	**239**	*e*P	**Pn**	**15 18 11.0**	**+2.5**
	SNR=1.0						
VIVF				*e*Sg	**Sg**	**15 18 51.5**	**-0.1**
	5.4nm,0.3s,SNR=1.0						
VIVF	**Saint-Julien-l**	**2.67**	**239**	*e*Pn	**Pn**	**15 18 08.6**	**+0.1**
VIVF				*e*P		15 18 11.0	
VIVF				*e*Sg	**Sg**	**15 18 51.5**	**-0.1**
SFTF	**Sexfontaines**	**2.74**	**316**	*e*Pg	**Pg**	**15 18 17.5**	**-0.8**
SFTF				*e*Sn	**Sn**	**15 18 40.8**	**-1.6**
SFTF				*e*Sg	**Sg**	**15 18 53.0**	**-0.8**
	21nm,0.3s						
SFTF	**Sexfontaines**	**2.74**	**316**	*e*Pg	**Pg**	**15 18 17.5**	**-0.8**
SFTF				*e*Sn	**Sn**	**15 18 40.8**	**-1.6**
SFTF				*e*Sg	**Sg**	**15 18 53.0**	**-0.8**
	10nm,0.3s						
SMRF	**Simiane la Rot**	**2.83**	**216**	*e*Pg	**Pg**	**15 18 19.0**	**-0.9**
SMRF				*e*Sn	**Sn**	**15 18 43.1**	**-1.4**
SMRF				*e*Sg	**Sg**	**15 18 56.1**	**-0.5**
	4.1nm,0.3s						
SMRF	**Simiane la Rot**	**2.83**	**216**	*e*Pg	**Pg**	**15 18 19.0**	**-0.9**
SMRF				*e*Sn	**Sn**	**15 18 43.1**	**-1.4**
SMRF				*e*Sg	**Sg**	**15 18 56.1**	**-0.5**
	2.0nm,0.3s						
SMRF	**Simiane la Rot**	**2.83**	**216**	*e*P	**Pn**	**15 18 13.5**	**+2.9**
SMRF				*e*Pg	**Pg**	**15 18 19.0**	**-0.9**
SMRF				*e*Sn	**Sn**	**15 18 43.1**	**-1.4**
SMRF				*e*Sg	**Sg**	**15 18 56.1**	**-0.5**
SMF	**Signal de Mont**	**2.83**	**279**	*e*Pg	**Pg**	**15 18 19.6**	**-0.4**
	SNR=1.0						
SMF				*e*Sg	**Sg**	**15 18 56.0**	**-0.6**
	10nm,0.3s,SNR=1.0						
SMF	**Signal de Mont**	**2.83**	**279**	*e*Pg	**Pg**	**15 18 19.6**	**-0.4**
	SNR=1.0						
SMF				*e*Sg	**Sg**	**15 18 56.0**	**-0.6**
	5.1nm,0.3s,SNR=1.0						
SMF	**Signal de Mont**	**2.83**	**279**	*e*P	**Pn**	**15 18 13.0**	**+2.4**
SMF				*e*Pg	**Pg**	**15 18 19.6**	**-0.4**
SMF				*e*Sg	**Sg**	**15 18 56.0**	**-0.6**
FRF	**La Foret Royal**	**2.86**	**199**	*e*Pg	**Pg**	**15 18 19.0**	**-1.5**
	SNR=1.0						
FRF				*e*Sn	**Sn**	**15 18 43.6**	**-1.6**
FRF				*e*Sg	**Sg**	**15 18 56.4**	**-1.1**
	4.4nm,0.3s						
FRF	**La Foret Royal**	**2.86**	**199**	*e*Pg	**Pg**	**15 18 19.0**	**-1.5**
	SNR=1.0						
FRF				*e*Sn	**Sn**	**15 18 43.6**	**-1.6**
FRF				*e*Sg	**Sg**	**15 18 56.4**	**-1.1**
	2.2nm,0.3s						
FRF	**La Foret Royal**	**2.86**	**199**	*e*P	**Pn**	**15 18 13.8**	**+2.8**
FRF				*e*Pg	**Pg**	**15 18 19.0**	**-1.5**
FRF				*e*Sn	**Sn**	**15 18 43.6**	**-1.6**
FRF				*e*Sg	**Sg**	**15 18 56.4**	**-1.1**
RFYF	**Reffroy**	**2.87**	**326**	*e*Pg	**Pg**	**15 18 19.3**	**-1.5**
RFYF				*e*Sn	**Sn**	**15 18 44.1**	**-1.5**
RFYF				*e*Sg	**Sg**	**15 18 57.1**	**-0.9**
	25nm,0.3s						
RFYF	**Reffroy**	**2.87**	**326**	*e*Pg	**Pg**	**15 18 19.3**	**-1.5**
RFYF				*e*Sn	**Sn**	**15 18 44.1**	**-1.5**
RFYF				*e*Sg	**Sg**	**15 18 57.1**	**-0.9**
	13nm,0.3s						
LOR	**Lormes**	**2.95**	**291**	*e*P	**Pn**	**15 18 15.4**	**+3.2**
	SNR=1.0						
LOR	**Lormes**	**2.95**	**291**	*e*Pg	**Pg**	**15 18 21.6**	**-0.7**
	SNR=1.0						
LOR				*e*Sn	**Sn**	**15 18 45.8**	**-1.6**
	SNR=1.0						
LOR				*e*Sg	**Sg**	**15 19 00.3**	**-0.1**
	16nm,0.2s						
LOR	**Lormes**	**2.95**	**291**	*e*P	**Pn**	**15 18 15.4**	**+3.2**
	SNR=1.0						
LOR	**Lormes**	**2.95**	**291**	*e*Pg	**Pg**	**15 18 21.6**	**-0.7**
	SNR=1.0						
LOR				*e*Sn	**Sn**	**15 18 45.8**	**-1.6**
	SNR=1.0						
LOR				*e*Sg	**Sg**	**15 19 00.3**	**-0.1**
	8.1nm,0.2s						
LOR	**Lormes**	**2.95**	**291**	*e*Pn	**Pn**	**15 18 12.7**	**+0.5**
LOR				*e*P		15 18 15.4	
LOR				*e*Pg	**Pg**	**15 18 21.6**	**-0.7**
LOR				*e*Sn	**Sn**	**15 18 45.8**	**-1.6**
LOR				*e*Sg	**Sg**	**15 19 00.3**	**-0.1**
MEZF	**Maizieres J'vi**	**2.95**	**320**	*e*Pg	**Pg**	**15 18 21.0**	**-1.3**
	SNR=1.0						
MEZF				*e*Sn	**Sn**	**15 18 46.0**	**-1.5**
MEZF				*e*Sg	**Sg**	**15 18 58.9**	**-1.6**
	24nm,0.3s,SNR=1.0						
MEZF	**Maizieres J'vi**	**2.95**	**320**	*e*Pg	**Pg**	**15 18 21.0**	**-1.3**
	SNR=1.0						
MEZF				*e*Sn	**Sn**	**15 18 46.0**	**-1.5**
MEZF				*e*Sg	**Sg**	**15 18 58.9**	**-1.6**
	12nm,0.3s,SNR=1.0						
MEZF	**Maizieres J'vi**	**2.95**	**320**	*e*P	**Pn**	**15 18 15.1**	**+2.9**
MEZF				*e*Pg	**Pg**	**15 18 21.0**	**-1.3**
MEZF				*e*Sn	**Sn**	**15 18 46.0**	**-1.5**
MEZF				*e*Sg	**Sg**	**15 18 58.9**	**-1.6**
LMR	**La Mourre**	**3.10**	**199**	*e*Pg	**Pg**	**15 18 23.7**	**-1.5**
LMR				*e*Sg	**Sg**	**15 19 04.2**	**-1.2**
	5.0nm,0.4s						
LMR	**La Mourre**	**3.10**	**199**	*e*Pg	**Pg**	**15 18 23.7**	**-1.5**
LMR				*e*Sg	**Sg**	**15 19 04.2**	**-1.2**
	2.5nm,0.4s						
SSF	**Saint Saulge**	**3.12**	**286**	*e*Pg	**Pg**	**15 18 24.8**	**-0.8**
	SNR=1.0						
SSF				*e*Sg	**Sg**	**15 19 05.3**	**-0.8**
	5.7nm,0.3s,SNR=1.0						
SSF	**Saint Saulge**	**3.12**	**286**	*e*Pg	**Pg**	**15 18 24.8**	**-0.8**
	SNR=1.0						
SSF				*e*Sg	**Sg**	**15 19 05.3**	**-0.8**
	2.8nm,0.3s,SNR=1.0						
SSF	**Saint Saulge**	**3.12**	**286**	*e*Pn	**Pn**	**15 18 14.8**	**+0.1**
SSF				*e*P		15 18 17.9	
SSF				*e*Pg	**Pg**	**15 18 24.8**	**-0.8**
SSF				*e*Sg	**Sg**	**15 19 05.3**	**-0.8**
AVF	**Avril sur Loir**	**3.18**	**281**	*e*Pg	**Pg**	**15 18 25.5**	**-1.2**
	SNR=1.0						
AVF				*e*Sg	**Sg**	**15 19 06.9**	**-1.0**
	4.3nm,0.4s						
AVF	**Avril sur Loir**	**3.18**	**281**	*e*Pg	**Pg**	**15 18 25.5**	**-1.2**
	SNR=1.0						
AVF				*e*Sg	**Sg**	**15 19 06.9**	**-1.0**
	2.2nm,0.4s						
AVF	**Avril sur Loir**	**3.18**	**281**	*e*P	**Pn**	**15 18 17.8**	**+2.4**
AVF				*e*Pg	**Pg**	**15 18 25.5**	**-1.2**
AVF				*e*Sg	**Sg**	**15 19 06.9**	**-1.0**
BGF	**Bois d'Agland**	**3.51**	**276**	*e*Pg	**Pg**	**15 18 31.4**	**-1.5**
	SNR=1.0						
BGF				*e*Sn	**Sn**	**15 18 59.1**	**-2.1**
BGF				*e*Sg	**Sg**	**15 19 17.7**	**-0.6**
	10nm,0.4s,SNR=1.0						
BGF	**Bois d'Agland**	**3.51**	**276**	*e*Pg	**Pg**	**15 18 31.4**	**-1.5**
	SNR=1.0						
BGF				*e*Sn	**Sn**	**15 18 59.1**	**-2.1**
BGF				*e*Sg	**Sg**	**15 19 17.7**	**-0.6**
	5.2nm,0.4s,SNR=1.0						
BGF	**Bois d'Agland**	**3.51**	**276**	*e*P	**Pn**	**15 18 22.4**	**+2.5**
BGF				*e*Pg	**Pg**	**15 18 31.4**	**-1.5**
BGF				*e*Sn	**Sn**	**15 18 59.1**	**-2.1**
BGF				*e*Sg	**Sg**	**15 19 17.7**	**-0.6**
LASF	**Ste Croix**	**3.61**	**234**	*e*Sn	**Sn**	**15 19 02.4**	**-1.3**
LASF				*e*Sg	**Sg**	**15 19 20.5**	**-1.0**
	5.1nm,0.4s						
LASF	**Ste Croix**	**3.61**	**234**	*e*Sn	**Sn**	**15 19 02.4**	**-1.3**
LASF				*e*Sg	**Sg**	**15 19 20.5**	**-1.0**
	2.5nm,0.4s						
HYF	**Humbligny**	**3.75**	**287**	*e*P	**Pn**	**15 18 26.6**	**+3.4**
TCF	**Toulx Ste Croi**	**3.94**	**272**	*e*Pg	**Pg**	**15 18 40.1**	**-1.2**
	SNR=1.0						
TCF				*e*Sg	**Sg**	**15 19 31.4**	**-1.0**
	2.7nm,0.3s						
TCF	**Toulx Ste Croi**	**3.94**	**272**	*e*Pg	**Pg**	**15 18 40.1**	**-1.2**
	SNR=1.0						
TCF				*e*Sg	**Sg**	**15 19 31.4**	**-1.0**
	1.4nm,0.3s						
TCF	**Toulx Ste Croi**	**3.94**	**272**	*e*Pn	**Pn**	**15 18 26.3**	**+0.4**
TCF				*e*P		15 18 28.7	
TCF				*e*Pg	**Pg**	**15 18 40.1**	**-1.2**
TCF				*e*Sg	**Sg**	**15 19 31.4**	**-1.0**
CAF	**Calviac**	**4.31**	**254**	*e*P	**Pn**	**15 18 34.3**	**+3.3**
CAF				*e*Sg	**Sg**	**15 19 43.3**	**-0.8**
	1.8nm,0.3s						
CAF	**Calviac**	**4.31**	**254**	*e*P	**Pn**	**15 18 34.3**	**+3.3**
CAF				*e*Sg	**Sg**	**15 19 43.3**	**-0.8**
	0.9nm,0.3s						
CAF	**Calviac**	**4.31**	**254**	*e*Pn	**Pn**	**15 18 31.0**	**0.0**
CAF				*e*P		15 18 34.3	
CAF				*e*Sg	**Sg**	**15 19 43.3**	**-0.8**
GIVF	**Givet**	**4.35**	**333**	*e*Sg	**Sg**	**15 19 42.6**	**-2.6**
	4.7nm,0.3s						
GIVF	**Givet**	**4.35**	**333**	*e*Sg	**Sg**	**15 19 42.6**	**-2.6**
	2.3nm,0.3s						
BAIF	**Baives**	**4.52**	**328**	*e*Pn	**Pn**	**15 18 33.6**	**-0.2**
MFF	**Saint Martin d**	**5.57**	**276**	*e*P	**Pn**	**15 18 51.0**	**+2.7**
	SNR=1.0						
LDF	**La Druitiere**	**5.91**	**296**	*e*Pn	**Pn**	**15 18 52.6**	**-0.4**
LDF				*e*P		15 18 57.0	
FLN	**La Foliniere**	**6.20**	**297**	*e*Pn	**Pn**	**15 18 56.0**	**-0.9**
QUIF	**Quistinic**	**7.73**	**286**	*e*Pn	**Pn**	**15 19 17.5**	**-0.4**

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*ISCJB **04** 15:26:05.0±0.5, 2400S±004×6903W±007, h94km±9km, mb3.8/3, Error ellipse: s-maj=11.5km s-min=6.5km az=20.8*

*GUC **04** 15:26:05.6±0.8, 2401S×6910W, h90km, ML4.2*

*NEIC **04** 15:26:05.6, 2401S×6910W, h90km, MG4.2(GUC), After GUC.*

*IDC **04** 15:26:06.7±0.8, 2399S×6895W, h89km±6km, mb3.7/2, mb1 3.6/6, mb1mx3.5/19, mbtmp3.5/6, Error ellipse: s-maj=24.7km s-min=8.5km az=86.0*

ISC 04 15:26:06.4±0.5**, 2397S**±004×**6906W**±006**, h87**km±9km**, n20, σ1s06**/22**, mb3.8**/3**, 1C-2D, Northern Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CEN1	**Los Morros**	**1.20**	**299**	⇓*i*P	**Pn**	**15 26 28.3**	**0.0**
CEN1				*i* S	**Sn**	**15 26 45.4**	**+0.7**
CEN1				AML	AML	15 26 49.2	
	comp=N,4μm,0.2s						
ANCH	**Antofagasta**	**1.27**	**283**	⇓*i*P	**Pn**	**15 26 28.8**	**-0.4**
ANCH				*i* S	**Sn**	**15 26 45.6**	**-0.7**
LVC	**Limon Verde**	**1.36**	**6**	P	**Pn**	**15 26 31.3**	**+1.0**
	comp=N,138nm,0.3s,baz=180,slow=9.4,SNR=592						
LVC				S	**Sn**	**15 26 49.2**	**+1.0**
	comp=N,546nm,0.3s,baz=27,slow=23,SNR=162						
CPN1	**Cerro Paranal**	**1.39**	**242**	⇑*i*P	**Pn**	**15 26 30.3**	**-0.3**
CPN1				*i* S	**Sn**	**15 26 49.0**	**0.0**
CPN1				AML	AML	15 26 52.6	
	comp=N,4μm,0.5s						
LCO	**Las Campanas**	**5.23**	**196**	*e*Pn	**Pn**	**15 27 19.8**	**-2.4**
	comp=N,29nm,0.6s						
CFAA	**Coronel Fontan**	**7.64**	**175**	P	**Pn**	**15 27 53.6**	**-1.3**
	comp=N,0.1nm,0.3s,baz=353,slow=14,SNR=4.6						
CFAA				S	**Sn**	**15 29 21.4**	**+1.5**
	comp=N,0.1nm,0.3s,baz=233,slow=21,SNR=3.8						
LPAZ	**La Paz**	**7.70**	**7**	P	**Pn**	**15 27 56.0**	**+0.2**
	comp=N,0.3nm,0.3s,baz=193,slow=8.3,SNR=10.0						
ARE	**Arequipa**	**7.81**	**343**	P	Px	15 28 13.0	
ARE				*e*S	**Sn**	**15 29 19.0**	**-5.3**
CPUP	**Villa Florida**	**10.88**	**105**	P	**Pn**	**15 28 39.8**	**+0.6**
	comp=N,0.2nm,0.3s,baz=264,slow=12,SNR=4.2						
CPUP	**Villa Florida**	**10.88**	**105**	Pn	**Pn**	**15 28 39.5**	**+0.3**
CPUP				P		15 28 39.8	
SIV	**San Ignacio**	**10.92**	**45**	P	**Pn**	**15 28 38.3**	**-1.5**
	comp=N,4.7nm,0.3s,baz=248,slow=11,SNR=96						
SIV				S	**Sn**	**15 30 39.2**	**-1.0**
	comp=N,0.3nm,0.3s,baz=170,slow=21,SNR=8.8						
TRQA	**Tornquist**	**15.28**	**158**	P	**Pn**	**15 29 39.9**	**+2.6**
	comp=N,1.4nm,0.7s						
SNAA	**Sanae**	**60.00**	**160**	P	**P**	**15 36 03.2**	**-0.2**
	comp=N,1.5nm,0.8s,mb4.1						
PDAR	**Pinedale Array**	**76.18**	**330**	P	**P**	**15 37 46.1**	**+1.1**
	comp=N,0.2nm,0.4s,mb3.2,baz=113,slow=6.0,SNR=2.7						
TORD	**Torodi Ar. Bea**	**78.32**	**70**	P	**P**	**15 37 57.0**	**-0.6**
	comp=N,2.5nm,0.7s,mb4.1,baz=256,slow=5.2,SNR=19						
TORD				pP	pP	15 38 20.4	+0.1
	comp=N,1.8nm,0.6s,baz=251,slow=5.6,SNR=6.9						
TORD	**Torodi Ar. Bea**	**78.32**	**70**	P	**P**	**15 37 57.0**	**-0.6**
TORD				pP	pP	15 38 20.4	+0.1
ASAR	**Alice Springs**	**127.66**	**207**	PKP	PKPdf	15 45 01.8	-0.5
	comp=N,0.3nm,0.6s,baz=143,slow=2.0,SNR=9.0						
WRA	**Warramunga Arr**	**130.76**	**210**	PKP	PKPdf	15 45 07.8	-0.4
	comp=N,0.3nm,0.6s,baz=155,slow=1.8,SNR=11						
WRA				pPKP	pPKPdf	15 45 32.5	0.0
	comp=N,0.1nm,0.9s,baz=144,slow=1.4,SNR=2.4						
ZALV	**Zalesovo Beam**	**144.23**	**26**	PKP	PKPdf	15 45 31.0	-0.9
	comp=N,0.7nm,0.4s,baz=320,slow=3.9,SNR=6.3						
ZALV				pPKP	pPKPdf	15 45 55.9	-0.2
	comp=N,0.4nm,0.5s,baz=270,slow=5.3,SNR=1.4						
MKAR	**Makanchi Array**	**147.68**	**38**	PKPbc	PKPbc	15 45 41.0	+0.2
	comp=N,0.3nm,0.3s,baz=314,slow=2.7,SNR=7.6						
MKAR				pPKPbc	pPKPbc	15 46 04.5	-0.3
	comp=N,0.2nm,0.3s,baz=318,slow=1.9,SNR=1.4						

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*IDC **04** 15:44:22.4±2.1, 4845S×16476E, h0km, mb4.2/5, mb1 4.4/6, mb1mx4.2/13, mbtmp4.2/6, ML3.7/1, MS4.0/2, Ms1 4.0/2, ms1mx3.3/21, Error ellipse: s-maj=54.9km s-min=28.8km az=168.0*

*NEIC **04** 15:44:22.1±1.2, 4884S×16476E, h10km, mb4.4/2, Error ellipse: s-maj=29.7km s-min=8.7km az=154.0*

ISC 04 15:44:25.8±2.7**, 489S**±03×**1650E**±03**, h49**km±29km**, n24, σ1s02**/20**, mb4.2**/5**, MS3.9**/2**, Off west coast of South Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WHZ	**Wether Hill Ro**	**3.58**	**35**	P	**Pn**	**15 45 18.8**	**0.0**
DCZ	**Deep Cove**	**3.69**	**24**	P	**Pn**	**15 45 19.6**	**-0.7**
MLZ	**Mavora Lakes**	**4.13**	**33**	P	**Pn**	**15 45 26.4**	**+0.1**
TUZ	**Tuapeka**	**4.29**	**49**	P	**Pn**	**15 45 29.3**	**+0.9**
MSZ	**Milford Sound**	**4.65**	**27**	P	**Pn**	**15 45 34.2**	**+0.8**
EAZ	**Earnscleugh**	**4.68**	**41**	P	**Pn**	**15 45 34.1**	**+0.3**
WKZ	**Wanaka**	**4.89**	**36**	P	**Pn**	**15 45 37.9**	**+1.2**
ODZ	**Otahua Downs**	**5.44**	**48**	P	**Pn**	**15 45 43.4**	**-0.8**
JCZ	**Jackson Bay**	**5.45**	**30**	P	**Pn**	**15 45 45.6**	**+1.2**
LBZ	**Lake Benmore**	**5.73**	**41**	P	**Pn**	**15 45 47.0**	**-1.2**
RPZ	**Rata Peaks**	**6.64**	**42**	Pn	**Pn**	**15 45 58.6**	**-2.1**
	1.6nm,0.3s,baz=238,slow=9.5,SNR=10						
RPZ				Sn	**Sn**	**15 47 15.0**	**0.0**
	3.9nm,0.3s,baz=150,slow=23,SNR=6.2						
STKA	**Stephens Creek**	**24.45**	**305**	P	**P**	**15 49 41.5**	**+1.7**
	2.7nm,0.6s,mb3.9,baz=128,slow=13,SNR=7.9						
STKA				LR	LR	15 57 23.3	
	comp=Z,426nm,18.6s,MS4.0,baz=209,slow=32						
STKA	**Stephens Creek**	**24.45**	**305**	P	**P**	**15 49 40.6**	**+0.7**
	7.4nm,0.9s,mb4.1						
STKA				LR	LR	15 57 23.3	
ASAR	**Alice Springs**	**35.08**	**305**	P	**P**	**15 51 13.8**	**-0.3**
	3.3nm,0.8s,mb4.3,baz=136,slow=7.2,SNR=28						
WB2	**Warramunga Arr**	**37.89**	**309**	*e*P	**P**	**15 51 37.1**	**-0.9**
WRA	**Warramunga Arr**	**37.90**	**309**	P	**P**	**15 51 37.1**	**-1.0**
	4.4nm,1.0s,mb4.2,baz=143,slow=7.7,SNR=20						
NWAO	**Narrogin (SRO)**	**38.77**	**276**	LR	LR	16 04 07.2	
	comp=Z,211nm,21.7s,MS3.9,baz=124,slow=31						
FITZ	**Fitzroy Crossi**	**44.14**	**300**	*e*P	**P**	**15 52 29.1**	**-0.3**
	7.0nm,0.9s,mb4.4						
FITZ	**Fitzroy Crossi**	**44.14**	**300**	P	**P**	**15 52 29.5**	**0.0**
	4.3nm,0.9s,mb4.2,baz=160,slow=14,SNR=10						
CMAR	**Chiang Mai Arr**	**88.95**	**300**	P	**P**	**15 57 18.1**	**+3.1**
	0.9nm,0.8s,mb4.2,baz=177,slow=3.9,SNR=6.8						
BR131	**Keskin Array S**	**144.53**	**274**	*e*PKPdf	PKPdf	16 03 56.6	+0.5
ARCES	**ARCESS Array B**	**151.58**	**331**	PKPbc	PKPbc	16 04 15.0	+2.1
	1.5nm,0.7s,baz=62,slow=4.2,SNR=6.1						
ARCES	**ARCESS Array B**	**151.58**	**331**	PKPbc	PKPbc	16 04 15.0	+2.1
AKASG	**Malin Array Be**	**151.69**	**291**	PKPbc	PKPbc	16 04 17.4	+3.7
	1.3nm,0.5s,baz=73,slow=3.2,SNR=6.5						

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*MOS **04** 15:51:11.4±1.2, 5164N×1604E, h10km, mb4.0/2, Error ellipse: s-maj=6.5km s-min=4.3km az=81.8*

*ISCJB **04** 15:51:12.0±0.2, 5146N±002×1608E±002, h0km, mb3.5/6, Error ellipse: s-maj=2.3km s-min=1.6km az=4.9*

*LDG **04** 15:51:12.3±0.2, 5159N×1600E, h1km, Ml4.1/8, Error ellipse: s-maj=5.1km s-min=3.1km az=179.0, Suspected Mining induced.*

*NEIC **04** 15:51:12.7±0.4, 5161N×1605E, h5km, ML3.6(SZGRF), Error ellipse: s-maj=6.1km s-min=3.9km az=189.0*

*IPEC **04** 15:51:13.7±0.3, 5155N×1611E, h9km±1km, ML3.1/4, Error ellipse: s-maj=1.7km s-min=0.6km az=33.0*

*IDC **04** 15:51:14.1±0.6, 5155N×1588E, h0km, mb3.6/5, mb1 3.6/13, mb1mx3.6/29, mbtmp3.5/13, ML3.4/8, MS3.2/1, Ms1 3.2/1, ms1mx2.4/48, Error ellipse: s-maj=11.7km s-min=7.0km az=105.0*

*WAR **04** 15:51:14.4, 5154N×1606E, ML3.2, Mining Induced*

*CSEM **04** 15:51:14.2±0.1, 5151N×1607E, h1km, ML4.0/22, Error ellipse: s-maj=1.9km s-min=1.3km az=11.0*

*BGR **04** 15:51:14.7±0.5, 5148N×1605E, h1km, ML3.6, Error ellipse: s-maj=6.7km s-min=2.2km az=21.0*

*PRU **04** 15:51:14.1, 5154N×1605E, h0km*

*VIE **04** 15:51:16.3±0.4, 5131N×1591E, h1km, mb3.2/9, ML3.1/11, Error ellipse: s-maj=2.6km s-min=2.1km az=23.0, Suspected Mining induced.*

*STR **04** 15:51:21.2±1.1, 5114N×1527E, h5km, Ml3.9, Error ellipse: s-maj=0.0km s-min=0.0km az=0.0*

ISC 04 15:51:13.0±0.2**, 5154N**±002×**1607E**±002**, h0**km**, n149, σ1s05**/249**, mb3.5**/6**, 19C-5D, Poland**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.71**	**168**	*e*Pg	**Pg**	**15 51 27.4**	**+0.7**
KSP				*e*Sg	**Sg**	**15 51 36.8**	**+0.9**
KSP	**Ksiaz**	**0.71**	**168**	⇓*i*Pg	**Pg**	**15 51 27.3**	**+0.7**
KSP				*i* Sg	**Sg**	**15 51 36.8**	**+1.0**
KSP	**Ksiaz**	**0.71**	**168**	⇓*i*Pg	**Pg**	**15 51 27.3**	**+0.7**
KSP				*i* Sg	**Sg**	**15 51 36.8**	**+1.0**
KSP				*e*		15 51 40.0	
UPC	**Upice**	**1.04**	**182**	*e*PG	**Pg**	**15 51 33.2**	**+0.4**
UPC				*e*SG	**Sg**	**15 51 47.0**	**+0.8**
DPC	**Dobruska-Polom**	**1.20**	**172**	*e*Pg	**Pg**	**15 51 36.2**	**+0.2**
DPC				*e*Sg	**Sg**	**15 51 51.9**	**+0.4**
DPC	**Dobruska-Polom**	**1.20**	**172**	*e*P	**Pg**	**15 51 36.2**	**+0.2**
DPC				*e*		15 51 51.4	
DPC				smax			
	comp=N,381nm,0.8s						
DPC	**Dobruska-Polom**	**1.20**	**172**	*e*Pg	**Pg**	**15 51 36.0**	**0.0**
DPC				*e*Sg	**Sg**	**15 51 50.9**	**-0.7**
DPC	**Dobruska-Polom**	**1.20**	**172**	*e*PG	**Pg**	**15 51 36.2**	**+0.2**
DPC				*e*SG	**Sg**	**15 51 51.4**	**-0.2**
	comp=N,381nm,0.8s						
PVCC	**Panska Ves**	**1.39**	**224**	*e*Pn	**Pn**	**15 51 39.9**	**+0.4**
PVCC				Sg	**Sg**	**15 51 58.6**	**+1.2**
PVCC	**Panska Ves**	**1.39**	**224**	*e*PG	**Pg**	**15 51 39.5**	**0.0**
PVCC				*e*SG	**Sg**	**15 51 58.6**	**+1.2**
BRG	**Berggiesshubel**	**1.49**	**244**	*e*Pn	**Pn**	**15 51 40.4**	**-0.5**
BRG				*e*Sg	**Sg**	**15 52 02.1**	**+1.2**
BRG	**Berggiesshubel**	**1.49**	**244**	P	**Pn**	**15 51 40.3**	**-0.7**
BRG						15 52 01.8	
BRG				smax			
	comp=N,239nm,0.9s						
BRG	**Berggiesshubel**	**1.49**	**244**	Pg	**Pg**	**15 51 42.1**	**+0.6**
BRG				*e*Sg	**Sg**	**15 52 00.9**	**0.0**
BRG				S	**Sg**	**15 52 01.8**	**+0.9**
	comp=N,239nm,0.9s						
BRG	**Berggiesshubel**	**1.49**	**244**	PN	**Pn**	**15 51 40.3**	**-0.7**
BRG				PG	**Pg**	**15 51 42.1**	**+0.6**
BRG				SG	**Sg**	**15 52 01.8**	**+0.9**
	comp=N,399nm,0.9s						
RUE	**Ruedersdorf**	**1.70**	**305**	*e*Pn	**Pn**	**15 51 43.0**	**-0.8**
RUE	**Ruedersdorf**	**1.70**	**305**	*e*Pg	**Pg**	**15 51 46.3**	**+0.8**
RUE	**Ruedersdorf**	**1.70**	**305**	*e*Pn	**Pn**	**15 51 42.9**	**-0.9**
RUE				*e*Pg	**Pg**	**15 51 46.4**	**+0.9**
FBE	**Freiberg**	**1.81**	**251**	*e*Pn	**Pn**	**15 51 44.9**	**-0.5**
FBE				*e*Sg	**Sg**	**15 52 11.4**	**+0.2**
PRU	**Pruhonice**	**1.83**	**212**	*e*P	**Pn**	**15 51 45.4**	**-0.2**
PRU				*e*		15 52 11.4	
PRU				smax			
	comp=N,170nm,0.5s						
PRU	**Pruhonice**	**1.83**	**212**	*e*Pn	**Pn**	**15 51 45.3**	**-0.3**
PRU	**Pruhonice**	**1.83**	**212**	*e*PN	**Pn**	**15 51 45.4**	**-0.2**
PRU				*e*PG	**Pg**	**15 51 47.3**	**-0.7**
PRU				*e*SG	**Sg**	**15 52 11.4**	**-0.3**
	comp=N,170nm,0.5s						
GKP	**Gorka Klasztor**	**1.88**	**22**	*e*Pg	**Pg**	**15 51 54.6**	**+5.7**
GKP				*e*Sg	**Sg**	**15 52 17.2**	**+4.0**
CLL	**Collm**	**1.93**	**264**	*e*Pn	**Pn**	**15 51 46.4**	**-0.7**
CLL				*e*Pg	**Pg**	**15 51 49.0**	**-1.0**
CLL				*e*Sg	**Sg**	**15 52 16.1**	**+1.1**
CLL	**Collm**	**1.93**	**264**	*i* Pn	**Pn**	**15 51 46.3**	**-0.7**
CLL				*e*Pg	**Pg**	**15 51 49.0**	**-1.0**
CLL				*i* x	x	15 51 53.3	
CLL				*i* Sg	**Sg**	**15 52 16.0**	**+1.0**
	comp=Z,163nm,0.7s						
CLL	**Collm**	**1.93**	**264**	Pg	**Pg**	**15 51 49.0**	**-1.0**

CLL				*i* S	Sg	15 52 16.0	+1.0
CLL				Sg	Sg	15 52 16.1	+1.1
CLL	Collm	1.93	264	*i* Pn	Pn	15 51 46.3	-0.7
CLL				*e*Pg	Pg	15 51 49.0	-1.0
CLL				*i* Sg	Sg	15 52 16.0	+1.0
RAC	Raciborz	1.99	136	*e*Pg	Pg	15 51 51.3	+0.2
RAC				*e*Sg	Sg	15 52 16.2	-0.6
MORC	Moravsky Berou	2.00	151	*e*Pn	Pn	15 51 47.7	-0.3
MORC				*e*Sg	Sg	15 52 17.7	+0.5
MORC	Moravsky Berou	2.00	151	*e*P	Pn	15 51 47.4	-0.6
MORC				*e*		15 52 12.5	
MORC	Moravsky Berou	2.00	151	*e*Pn	Pn	15 51 47.5	-0.5
MORC				*e*S	Sn	15 52 12.5	-1.2
MORC				*e*Sg	Sg	15 52 15.3	-1.9
	comp=Z,89nm,0.4s						
MORC	Moravsky Berou	2.00	151	*e*Pn	Pn	15 51 47.4	-0.6
MORC				*e*Sn	Sn	15 52 12.5	-1.2
MORC				*e*Sg	Sg	15 52 16.3	-0.9
OKC	Ostrava-Krasne	2.16	141	*e*Sg	Sg	15 52 23.0	+0.8
OKC	Ostrava-Krasne	2.16	141	*e*P	Pn	15 51 49.0	-1.1
OKC				*e*		15 52 21.0	
OKC				smax			
	comp=N,372nm,0.8s						
OKC	Ostrava-Krasne	2.16	141	*e*PN	Pn	15 51 49.0	-1.1
OKC				*e*PG	Pg	15 51 53.8	-0.5
OKC				*e*SG	Sg	15 52 21.0	-1.3
	comp=N,372nm,0.8s						
VRAC	Vranov	2.26	171	Pn	Pn	15 51 51.9	+0.3
	comp=N,2.9nm,0.3s,baz=348,slow=14,SNR=24						
VRAC				Lg		15 52 24.5	
	comp=N,16nm,0.3s,baz=54,slow=22,SNR=10						
VRAC	Vranov	2.26	171	*e*Pn	Pn	15 51 51.4	-0.1
VRAC				*e*Sg	Sg	15 52 23.6	-1.9
	comp=N,99nm,0.4s						
TREC	Trest	2.28	190	*e*Pn	Pn	15 51 52.8	+1.0
TREC				*e*Sg	Sg	15 52 25.4	-0.7
KRUC	Moravsky	2.49	175	*e*Pn	Pn	15 51 55.1	+0.4
KRUC	Moravsky	2.49	175	*e*Pg	Pg	15 51 59.4	-1.3
KRUC				*e*Sg	Sg	15 52 32.2	-0.7
	comp=N,57nm,0.4s						
TANN	Tannenbergstha	2.54	245	*e*Pn	Pn	15 51 55.7	+0.3
TANN				*e*Sg	Sg	15 52 34.7	+0.2
WERD	Werda	2.62	247	*e*Pn	Pn	15 51 56.4	0.0
NKC	Novy Kostel	2.64	242	*e*PN	Pn	15 51 56.9	+0.2
NKC				*e*PG	Pg	15 52 03.8	+0.3
NKC				*e*SG	Sg	15 52 39.1	+1.4
	comp=N,480nm,1.0s						
OJC	Ojcow	2.71	118	*e*Pn	Pn	15 51 55.9	-1.8
OJC				*e*Pg	Pg	15 52 04.4	-0.5
OJC				*e*Sg	Sg	15 52 40.1	+0.1
JAVC	Velka Javorina	2.88	158	*e*Pn	Pn	15 52 00.9	+0.9
JAVC				*e*Sg	Sg	15 52 44.5	-0.8
	comp=N,182nm,0.9s						
KHC	Kasperske Hory	2.89	214	Pg	Pg	15 52 06.4	-1.9
KHC				Sn	Sn	15 52 35.3	-0.3
KHC				Sg	Sg	15 52 46.1	+0.3
	comp=N,112nm,0.7s						
KHC	Kasperske Hory	2.89	214	*e*PN	Pn	15 52 00.0	-0.2
KHC				*e*PG	Pg	15 52 06.4	-1.9
KHC				*e*SN	Sn	15 52 35.3	-0.3
KHC				*e*SG	Sg	15 52 46.1	+0.3
	comp=N,112nm,0.7s						
MGBB	Grossbuechelbe	2.91	239	⇓*i*Pn	Pn	15 52 00.7	+0.3
MOX	Moxa	2.94	254	*e*Pn	Pn	15 52 00.7	-0.2
MOX				⇑*e*Pg	Pg	15 52 09.1	-0.3
MOX				*e*Sg	Sg	15 52 48.9	+1.4
MOX	Moxa	2.94	254	*e*PN	Pn	15 52 00.7	-0.2
MOX				*e*PG	Pg	15 52 09.1	-0.3
MOX				*i* SG	Sg	15 52 48.9	+1.4
MOX	Moxa	2.94	254	Pg	Pg	15 52 09.1	-0.3
MOX				*e*Sg	Sg	15 52 47.8	+0.3
MANZ	Manzenberg	2.96	240	*e*Pn	Pn	15 52 01.7	+0.6
MANZ				*e*Sg	Sg	15 52 48.4	+0.6
ROTZ	Rotzenmuhle	3.03	236	*e*Pn	Pn	15 52 02.7	+0.6
GEC2	GERESS Array S	3.10	210	*e*Pn	Pn	15 52 04.2	+1.2
GEC2	GERESS Array S	3.10	210	*e*Pn	Pn	15 52 04.2	+1.2
GERES	GERESS Array B	3.10	210	Pn	Pn	15 52 03.8	+0.8
	comp=N,5.0nm,0.3s,baz=28,slow=12,SNR=112						
GERES				Pg	Pg	15 52 10.9	-1.4
	comp=N,12nm,0.3s,baz=24,slow=15,SNR=49						
GERES				Lg		15 52 49.8	
	comp=N,20nm,0.3s,baz=28,slow=26,SNR=12						
GERES	GERESS Array B	3.10	210	Pg	Pg	15 52 10.9	-1.4
WET	Wettzell	3.15	222	*e*Pn	Pn	15 52 04.2	+0.4
WET	Wettzell	3.15	222	*e*Pn	Pn	15 52 03.8	0.0
WET				*e*Sg	Sg	15 52 52.6	-1.5
WET	Wettzell	3.15	222	*e*Pn	Pn	15 52 04.2	+0.4
MODS	Modra-Piesok	3.27	166	*e*PN	Pn	15 52 06.7	+1.3
MODS				*e*PG	Pg	15 52 15.1	-0.4
MODS				*e*SG	Sg	15 52 58.7	+0.9
KOLL	Kolacno	3.33	152	*e*PN	Pn	15 52 06.8	+0.6
KOLL				*e*PG	Pg	15 52 17.4	+0.7
ZST	Bratislava	3.42	168	*e*PG	Pg	15 52 17.5	-0.9
ZST				*e*SG	Sg	15 53 01.8	-0.8
NIE	Niedzica	3.45	126	*e*P	Pg	15 52 18.6	-0.4
NIE				*e*S	Sg	15 53 04.5	+0.9
VYHS	Vyhne	3.54	149	*e*PN	Pn	15 52 08.8	-0.3
VYHS				*e*PG	Pg	15 52 21.7	+1.0
VYHS				*e*SG	Sg	15 53 08.6	+2.1
VYHS	Vyhne	3.54	149	*e*Pn	Pn	15 52 08.9	-0.2
VYHS				*e*Pg	Pg	15 52 21.7	+1.0
VYHS				*e*Sg	Sg	15 53 08.6	+2.1
CLZ	Clausthal	3.56	277	*e*Pn	Pn	15 52 09.9	+0.6
GRA1	Grafenberg Arr	3.60	241	Pn	Pn	15 52 10.2	+0.3
GRA1				Sg	Sg	15 53 08.9	+0.5
GRA1	Grafenberg Arr	3.60	241	*e*Pn	Pn	15 52 10.2	+0.3
GRA1				*e*Sg	Sg	15 53 08.9	+0.5
GRF	Grafenberg Arr	3.60	241	*e*Pn	Pn	15 52 10.2	+0.3
GRF				*e*Sg	Sg	15 53 08.9	+0.5
CONA	Conrad Observa	3.62	182	⇑*i*Pn	Pn	15 52 10.8	+0.6
	SNR=20						
CONA				⇑*i*Sg	Sg	15 53 08.3	-0.9
	comp=N,73nm,0.6s						
CSNA	Conrad Observa	3.62	182	⇑*i*Pn	Pn	15 52 10.8	+0.6
CSNA				⇑*i*Sg	Sg	15 53 08.2	-0.9
	comp=N,45nm,0.5s						
HROE	Hohe Rhon--Fla	3.86	257	⇓*i*Pn	Pn	15 52 13.6	+0.1
MOA	Molln	3.88	198	⇑*i*Pn	Pn	15 52 14.3	+0.6
	SNR=34						
MOA				⇑*i*Sg	Sg	15 53 16.6	-0.8
	comp=N,82nm,0.6s						
SOP	Sopron	3.88	175	*e*Pn	Pn	15 52 13.1	-0.6
STHS	Stebnicka Huta	3.93	121	*e*PN	Pn	15 52 14.8	+0.3
STHS				*e*PG	Pg	15 52 28.7	+0.4
STHS				*e*SG	Sg	15 53 19.0	-0.2
PENC	Penc	4.30	150	⇑*e*Pn	Pn	15 52 20.3	+0.8
ARSA	Arzberg	4.31	185	⇑*i*Pn	Pn	15 52 20.2	+0.5
ARSA				⇓*i*Sg	Sg	15 53 31.6	+0.3
	comp=N,78nm,0.8s						
CRVS	Cervenica-Dubn	4.36	125	*e*PN	Pn	15 52 20.8	+0.5
CRVS				*e*PG	Pg	15 52 36.5	+0.1
CRVS				*e*SG	Sg	15 53 32.7	-0.1
CRVS	Cervenica-Dubn	4.36	125	*e*Pn	Pn	15 52 20.9	+0.6
CRVS				*e*Pg	Pg	15 52 36.5	+0.1
CRVS				*e*Sg	Sg	15 53 32.7	-0.1
PSZ	Piszkesteto	4.39	144	*e*Pn	Pn	15 52 21.4	+0.5
PSZ	Piszkesteto	4.39	144	*e*Pn	Pn	15 52 21.4	+0.6
KWP	Kalwaria	4.64	112	*e*Pg	Pg	15 52 39.0	-2.9
KWP				*e*Sg	Sn	15 53 21.1	+2.2
KWP	Kalwaria	4.64	112	*e*Pn	Pn	15 52 22.2	-2.1
KWP	Kalwaria	4.64	112	*e*Pg	Pg	15 52 38.6	-3.3
KWP	Kalwaria	4.64	112	*e*Pn	Pn	15 52 22.2	-2.1
KWP				*e*Pg	Pg	15 52 38.6	-3.3
KOLS	Kolonicke sedl	4.76	121	*e*PN	Pn	15 52 25.3	-0.6
KOLS				*e*PG	Pg	15 52 44.1	-0.1
KBA	Koelnbreinsper	4.81	203	⇑*i*Pn	Pn	15 52 27.6	+1.1
	SNR=12						
KBA				⇑*i*Sg	Sg	15 53 46.9	-0.4
	comp=N,87nm,1.0s						
UZH	Uzhgorod	4.96	124	*e*P	Pn	15 52 26.0	-2.6
UZH				*e*S	Sn	15 53 21.0	-5.5
UZH				smax			
	comp=N,40nm,0.8s						
UZH				smax			
	comp=E,40nm,0.8s						
TOD	Tromm	5.02	250	P	Pn	15 52 27.6	-1.8
TOD				S	Sn	15 53 24.3	-3.7
WATA	Walderalm	5.13	217	⇑*i*Pn	Pn	15 52 31.0	0.0
WATA				⇑*i*Sg	Sg	15 53 56.7	-0.8
	comp=E,27nm,0.7s						
OBKA	Obir	5.13	192	⇑*i*Pn	Pn	15 52 31.9	+0.9
OBKA				⇑*i*Sg	Sg	15 53 59.2	+1.4
	comp=E,44nm,0.8s						
WTTA	Wattenberg	5.17	216	⇑*i*Pn	Pn	15 52 32.2	+0.8
WTTA				⇑*i*Sg	Sg	15 53 58.8	+0.1
	comp=E,38nm,0.7s						
WTTA	Wattenberg	5.17	216	Pn	Pn	15 52 32.2	+0.8
WTTA				Sg	Sg	15 53 58.8	0.0
	comp=E,38nm,0.7s						
MOTA	Moosalm	5.30	220	⇑*i*Pn	Pn	15 52 33.6	+0.3
MOTA				⇑*i*Sg	Sg	15 54 02.9	-0.2
	comp=E,31nm,0.7s						
LVV	L'vov	5.35	106	*e*P	Pn	15 52 34.2	+0.2
LVV				*e*S	Sn	15 53 35.2	-1.0
KTD	Kalmit	5.56	250	P	Pn	15 52 36.9	0.0
PKSM	Moragy	5.60	161	*e*P	Pn	15 52 38.9	+1.5
ABH	Alteburg	5.66	256	P	Pn	15 52 38.1	-0.1
VOY	Vojsko	5.70	195	*e*Pn	Pn	15 52 45.7	+6.9
VOY				*e*		15 54 17.5	
VOY				*e*		15 54 21.4	
VOY				*e*		15 54 29.1	
VOY				*e*		15 54 35.1	
VOY				*e*		15 54 49.8	
VISS	Visnje	5.80	189	*i* Pn	Pn	15 52 41.0	+0.8
LANF	Langenberg	5.88	247	P	Pn	15 52 40.4	-0.9
BOJS	Bojanci	6.07	185	*i* Pn	Pn	15 52 44.8	+1.0
DAVOS	Davos	6.25	224	P	Pn	15 52 47.3	+1.0
DAVOX	Davos/Dischmat	6.26	223	Pn	Pn	15 52 47.3	+0.9
	comp=E,0.8nm,0.3s,baz=53,slow=12,SNR=5.5						
DAVOX				Lg		15 54 29.8	
	comp=E,0.8nm,0.3s,baz=324,slow=23,SNR=7.5						
DAVOX				LR	LR	15 55 32.8	
	comp=E,186nm,18.9s,baz=37,slow=42						
FELD	Feldberg im Sc	6.38	238	P	Pn	15 52 47.0	-1.2
HGN	Heimansgroeve	6.42	267	*e*S	Sg	15 54 35.6	-3.6
CDF	Champ du Feu	6.47	245	*e*Pn	Pn	15 52 47.1	-2.3
CDF				*e*Sg	Sg	15 54 34.2	-6.6
	comp=E,113nm,1.1s						
CDF	Champ du Feu	6.47	245	*e*Pn	Pn	15 52 47.1	-2.3
CDF				*e*Sg	Sg	15 54 34.2	-6.6
	comp=E,56nm,1.1s						
TUE	Stuetta	6.72	224	*e*Pn	Pn	15 52 55.4	+2.5
	comp=E,3.9nm,0.6s						
TUE	Stuetta	6.72	224	*e*Pn	Pn	15 52 55.4	+2.5
	comp=E,3.9nm,0.6s						
TUE				*e*Sg	Sg	15 54 45.4	-3.4
HINF	Hinteralfeld	7.04	242	*e*Pn	Pn	15 52 54.2	-3.0
HINF				*e*Sg	Sg	15 54 52.0	-7.0
	comp=E,62nm,1.1s						
HINF	Hinteralfeld	7.04	242	*e*Pn	Pn	15 52 54.2	-3.0
HINF				*e*Sg	Sg	15 54 52.0	-7.0
	comp=E,31nm,1.1s						
BUR08	Bucovina Ar. S	7.10	120	*e*Pn	Pn	15 52 59.3	+1.3
BUR08	Bucovina Ar. S	7.10	120	*e*Pn	Pn	15 52 59.3	+1.3
HAU	Haudompre	7.22	244	*e*Pn	Pn	15 52 57.5	-2.1
HAU				*e*Sg	Sg	15 54 57.1	-7.5
	comp=E,60nm,1.0s						
SFTF	Sexfontaines	7.87	249	*e*Pn	Pn	15 53 04.5	-4.0
CABF	La Chapelle	8.20	237	*e*Sg	Sg	15 55 29.9	-6.1
	comp=E,102nm,1.2s						
CABF	La Chapelle	8.20	237	*e*Sg	Sg	15 55 29.9	-6.1
	comp=E,51nm,1.2s						
KIEV	Kiev	8.32	91	*e*P	Pn	15 53 13.0	-1.7
KIEV				pmax	pmax		
	comp=Z,9.0nm,0.8s						
KIEV	Kiev	8.32	91	*e*Pn	Pn	15 53 13.0	-1.7
	comp=Z,9.0nm,0.8s						
KIEV	Kiev	8.32	91	*e*Pn	Pn	15 53 13.0	-1.7
	comp=Z,9.0nm,0.8s						
KIEV				*e*Sg	Sg	15 55 47.5	+7.7
AKASG	Malin Array Be	8.32	91	Pn	Pn	15 53 15.2	+0.5
	comp=Z,1.9nm,0.3s,baz=280,slow=12,SNR=7.9						
AKASG				Lg		15 55 45.6	
	comp=Z,0.6nm,0.3s,baz=268,slow=27,SNR=5.2						
AKASG	Malin Array Be	8.32	91	Pn	Pn	15 53 15.2	+0.4
AKBB	Malin Array Si	8.32	91	*e*Pn	Pn	15 53 13.4	-1.4
AKBB	Malin Array Si	8.32	91	*e*Pn	Pn	15 53 13.4	-1.4
LPG	La Plagne	8.64	229	*e*P	Pn	15 53 21.2	+2.0
LPG				*e*Sg	Sg	15 55 43.8	-6.5
	comp=Z,42nm,1.3s						
LPG	La Plagne	8.64	229	*e*P	Pn	15 53 21.2	+2.0
LPG				*e*Sg	Sg	15 55 43.8	-6.5
	comp=Z,21nm,1.3s						
HFS	Hagfors	8.71	352	Pn	Pn	15 53 18.4	-1.7
	comp=Z,0.2nm,0.3s,baz=161,slow=15,SNR=6.7						
HFS				Lg		15 55 53.4	
	comp=Z,0.2nm,0.3s,baz=144,slow=19,SNR=5.1						
LOR	Lormes	9.03	247	*e*Pn	Pn	15 53 22.6	-1.9
	baz=71						
LOR				*e*Sg	Sg	15 55 54.4	-8.3
	comp=Z,31nm,1.0s						
LOR	Lormes	9.03	247	*e*Pn	Pn	15 53 22.6	-1.9
LOR				*e*Sg	Sg	15 55 54.4	-8.3
	comp=Z,15nm,1.0s						
MBDF	Montbardon	9.22	226	*e*P	Pn	15 53 29.5	+2.4
MBDF				*e*Sg	Sn	15 56 02.5	+51
	comp=Z,24nm,1.2s						
MBDF	Montbardon	9.22	226	*e*P	Pn	15 53 29.5	+2.4
MBDF				*e*Sg	Sn	15 56 02.5	+51
	comp=Z,12nm,1.2s						
SSF	Saint Saulge	9.35	246	*e*Pn	Pn	15 53 25.9	-2.9
SMF	Signal de Mont	9.39	243	*e*Sg	Sx	15 56 06.5	
	comp=Z,23nm,0.9s						
SMF	Signal de Mont	9.39	243	*e*Sg	Sx	15 56 06.5	
	comp=Z,11nm,0.9s						
SBF	Sospel	9.63	220	*e*P	Pn	15 53 33.9	+1.2
NOA	NORSAR Array B	9.89	346	Pn	Pn	15 53 35.0	-1.2
	comp=Z,0.2nm,0.3s,baz=163,slow=12,SNR=3.1						
EKA	Eskdalemuir Ar	12.07	296	Pn	Pn	15 54 03.6	-2.3
	comp=Z,0.2nm,0.3s,baz=87,slow=15,SNR=3.8						
OBN	Obninsk	12.76	66	*e*P	Pn	15 54 18.0	+2.6
OBN				pmax	pmax		
	comp=Z,4.0nm,0.8s						
OBN	Obninsk	12.76	66	*e*P	Pn	15 54 18.0	+2.6
	comp=Z,4.0nm,0.8s						
ARCES	ARCESS Array B	18.60	10	Pn	Pn	15 55 27.1	-4.4
	comp=Z,0.2nm,0.3s,baz=195,slow=13,SNR=5.7						
AKTK	Aktyubinsk	26.18	76	P	P	15 56 49.2	+0.4
	comp=Z,1.0nm,0.7s,mb3.5						
AKTO	Aktyubinsk	26.18	76	P	P	15 56 49.1	+0.4
	comp=Z,1.4nm,0.7s,mb3.7,baz=306,slow=13,SNR=5.9						
AKTO	Aktyubinsk	26.18	76	P	P	15 56 49.2	+0.4
AKTO				pmax	pmax		
	comp=Z,1.0nm,0.7s,mb3.5						
TORD	Torodi Ar. Bea	40.02	202	P	P	15 58 49.5	0.0
	comp=Z,0.6nm,0.8s,mb3.2,baz=14,slow=9.8,SNR=3.8						
ZALV	Zalesovo Beam	40.21	59	P	P	15 58 52.7	+2.0
	comp=Z,0.2nm,0.3s,mb3.3,baz=321,slow=12,SNR=4.0						
MKAR	Makanchi Array	42.23	69	P	P	15 59 08.8	+1.4
	comp=Z,0.2nm,0.3s,mb3.3,baz=292,slow=3.8,SNR=4.8						
YKA	Yellowknife Ar	59.82	336	P	P	16 01 19.9	+0.5
	comp=Z,0.9nm,0.7s,mb3.9,baz=25,slow=7.3,SNR=3.6						
YKA	Yellowknife Ar	59.82	336	P	P	16 01 19.9	+0.5
YKA				pmax	pmax		
	comp=Z,1.0nm,0.7s						

DJA 04 16:33:27,268S×12723E,h10^{km},MLv3.7/5,Ceram Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AAI	Ambon	1.39	136	P	Pn	16 33 52.0	-0.5
AAI	Ambon	1.39	136	P	Pn	16 33 51.5	-1.0
AAI	Ambon	1.39	136	S	Sb	16 34 10.2	-0.7
MSAI	Masohi	1.82	111	P	Pn	16 34 00.4	+2.0
LBMI	Labuha	2.05	8	P	Pn	16 34 02.2	+0.7
LBMI	Labuha	2.05	8	S	Sn	16 34 29.0	+1.9

*IDC **04** 17:33:39.4±1.7,251N×9282E,h0^{km},mb3.6/6,mb1 3.7/7, mb1mx3.5/21,mbtmp3.5/7,ML3.6/1,Error ellipse: s-maj=62.1km s-min=22.1km az=58.0*
*ISCJB **04** 17:33:42.6±1.2,25N±02×929E±02,h33^{km},mb3.6/7,Error ellipse: s-maj=37.6km s-min=16.7km az=154.1*
*NEIC **04** 17:33:44.7±1.0,252N×9286E,h35^{km},mb4.2/1,Error ellipse: s-maj=30.4km s-min=13.6km az=64.0*
ISC 04 17:33:44.8±1.2,**25N**±02×**929E**±02,**h35**^{km},**n9**,σ0^{s}**75**/9, **mb3.6**/7,**Off west coast of northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	16.92	20	Pn	Pn	17 37 38.9	0.0
	0.1nm,0.3s,baz=213,slow=12,SNR=7.5						
LSA	Lhasa	27.08	357	*e*P	P	17 39 25.7	+1.5
	3.7nm,0.6s,mb4.1						
MK31	Makanchi Array	45.05	350	*e*P	P	17 41 55.9	-1.3
MKAR	Makanchi Array	45.05	350	P	P	17 41 57.0	-0.2
	1.1nm,0.6s,mb3.9,baz=171,slow=9.0,SNR=14						
WRA	Warramunga Arr	46.41	121	P	P	17 42 07.6	-0.7
	0.3nm,0.6s,mb3.4,baz=302,slow=8.7,SNR=4.6						
SONM	Songino Array	46.62	13	P	P	17 42 09.7	+0.1
	0.7nm,0.7s,mb3.7,baz=192,slow=10,SNR=4.8						
ASAR	Alice Springs	47.66	125	P	P	17 42 18.8	+0.7
	0.2nm,0.9s,mb3.2,baz=306,slow=7.9,SNR=2.7						
ZALV	Zalesovo Beam	51.68	354	P	P	17 42 47.7	-0.5
	0.7nm,0.4s,mb4.0,baz=160,slow=5.7,SNR=5.2						
GERES	GERESS Array B	80.98	319	P	P	17 45 56.3	+0.4
	0.1nm,0.5s,mb3.0,baz=99,slow=6.9,SNR=4.0						

IDC 04 17:36:47.4±1.0,**239N**×**9263E,h0**^{km},**mb3.8**/6,**mb1 3.9**/7, **mb1mx3.7**/21,**mbtmp3.7**/7,**ML3.3**/1,**Error ellipse: s-maj=39.2km s-min=21.5km az=63.0,Off west coast of northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	17.13	21	Pn	Pn	17 40 47.5	-0.9
	0.0nm,0.3s,baz=216,slow=13,SNR=4.1						
MKAR	Makanchi Array	45.14	350	P	P	17 45 05.4	-0.2
	1.8nm,0.6s,baz=168,slow=8.6,SNR=14						
WRA	Warramunga Arr	46.55	120	P	P	17 45 16.7	-0.5
	0.3nm,0.5s,baz=303,slow=8.4,SNR=5.1						
SONM	Songino Array	46.81	13	P	P	17 45 18.7	-0.1
	1.3nm,0.8s,baz=192,slow=8.0,SNR=6.0						
ASAR	Alice Springs	47.78	125	P	P	17 45 27.5	+0.7
	0.3nm,0.9s,baz=307,slow=7.9,SNR=3.0						
ZALV	Zalesovo Beam	51.80	354	P	P	17 45 56.8	0.0
	1.2nm,0.6s,baz=185,slow=8.3,SNR=7.1						
GERES	GERESS Array B	80.92	319	P	P	17 49 04.9	+1.3
	0.8nm,0.8s,baz=90,slow=5.6,SNR=6.6						
TXAR	Lajitas Array	144.81	25	PKP	PKPdf	17 56 26.7	-0.5
	0.2nm,0.5s,baz=304,slow=2.1,SNR=3.2						
LPAZ	La Paz	156.56	233	PKPab	PKPab	17 57 13.6	-0.7
	0.7nm,0.4s,baz=284,slow=4.8,SNR=4.4						

OTT 04 17:39:56.5±0.8,**6221N**×**6569W,h18**^{km},**MN3.5**/4,**110km northeast from Resolution Island, Nu,Baffin Island region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FRB	Frobisher Bay	2.02	321	PN	Pn	17 40 28.9	-0.7
FRB				SN	Sn	17 40 55.0	+0.7
FRB				SG	Sg	17 40 59.4	-2.2
FRB				Trac		17 41 01.4	
	comp=Z,153nm,0.1s						
KUQ	Kuujjuuaa	4.33	200	SN	Sn	17 41 49.5	-1.9
KUQ				SG	Sg	17 42 09.9	-5.5
KUQ				Trac		17 42 16.0	
	comp=Z,18nm,0.2s						
IVKQ	Ivujivik	5.70	278	PG	Pg	17 41 40.2	-5.3
IVKQ				SN	Sn	17 42 21.3	-3.8
IVKQ				LG		17 42 52.8	
IVKQ				Trac		17 43 01.3	
	comp=Z,63nm,0.7s						
INUQ	Inukjuak	7.22	244	SN	Sn	17 42 56.8	-5.7
SCHQ	Schefferville	7.42	185	PN	Pn	17 41 40.4	-3.4
SCHQ				SN	Sn	17 43 03.6	-3.8
LG4Q	La Grande 4	9.69	211	SN	Sn	17 43 55.4	-7.6
SRLN	Sarcpa Lake, N	9.69	319	PN	Pn	17 42 13.6	-1.2
SRLN				SN	Sn	17 43 51.7	-11
SRLN				LG		17 44 53.6	
ILON	Igloolik, Nuna	9.74	324	PN	Pn	17 42 14.3	-1.1
ILON				SN	Sn	17 43 55.9	-8.3
ILON				LG		17 44 57.9	
ILON				Trac		17 45 07.5	
	comp=Z,8.1nm,0.3s						
LAIN	Lailor River,	10.07	321	PN	Pn	17 42 18.6	-1.4
LAIN				SN	Sn	17 44 02.5	-10
LAIN				LG		17 45 06.5	
GIFN	Gifford Fjord,	10.11	327	PN	Pn	17 42 19.9	-0.6
GIFN				SN	Sn	17 44 03.1	-10
GIFN				LG		17 45 06.2	
AP3N	Apex site 3 Nu	10.54	322	PN	Pn	17 42 25.6	-0.8
AP3N				SN	Sn	17 44 13.8	-10
AP3N				LG		17 45 21.2	
SEDN	First Sedna Si	11.72	286	PN	Pn	17 42 39.9	-2.7
SEDN				SN	Sn	17 44 43.3	-9.4
SEDN				LG		17 46 03.1	
MNQ	Manicouagan	11.83	190	PN	Pn	17 42 42.8	-1.3
MNQ				SN	Sn	17 44 43.4	-12
MNQ				LG		17 46 02.9	
MNQ				Trac		17 46 15.8	
	comp=Z,2.1nm,0.3s						
SILO	Sutton Inlier	12.68	241	PN	Pn	17 42 53.8	-1.9
SILO				SN	Sn	17 45 01.9	-14

IDC 04 17:46:54.2±3.6,**570S**×**12895E,h314**^{km}±36^{km},**mb2.8**/1, **mb1 2.9**/5,**mb1mx2.8**/16,**mbtmp2.8**/5,**Error ellipse: s-maj=42.9km s-min=15.0km az=70.0,Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	Baumata	6.89	229	P	Pn	17 48 35.8	+1.2
	4.0nm,0.3s,baz=82,slow=3.9,SNR=10						
BATI				S	S	17 49 54.9	-0.9
	1.0nm,0.3s,baz=74,slow=20,SNR=2.0						
FITZ	Fitzroy Crossi	12.75	194	P	Pn	17 49 46.2	+0.7
	0.1nm,0.3s,baz=35,slow=16,SNR=6.2						
FITZ				S	S	17 52 06.2	-0.5
	0.1nm,0.3s,baz=72,slow=20,SNR=5.0						
WRA	Warramunga Arr	15.10	160	P	P	17 50 10.3	-1.3
	0.1nm,0.3s,baz=342,slow=12,SNR=13						
WRA				S	S	17 52 53.4	-2.1
	0.1nm,0.3s,baz=339,slow=21,SNR=3.5						
ASAR	Alice Springs	18.49	166	P	P	17 50 48.6	+0.3
	0.4nm,0.3s,baz=348,slow=10,SNR=65						
ASAR				S	S	17 54 03.8	+1.2
	0.1nm,0.3s,baz=350,slow=24,SNR=8.5						
MKAR	Makanchi Array	66.57	327	P	P	17 57 11.1	0.0
	0.3nm,0.6s,baz=133,slow=8.1,SNR=4.5						

*ISCJB **04** 18:15:34.9±0.7,3749N±006×72.18E±0.10,h205^{km}±12^{km}, mb3.1/4,Error ellipse: s-maj=15.1km s-min=5.9km az=142.6*
*NEIC **04** 18:15:37.0±1.1,3738N×72.16E,h215^{km}±14^{km},mb3.5/1, Error ellipse: s-maj=20.5km s-min=11.8km az=124.0*
*IDC **04** 18:15:39.7±7.4,3747N×7228E,h239^{km}±72^{km},mb2.9/4, mb1 3.1/9,mb1mx2.9/26,mbtmp3.0/9,Error ellipse: s-maj=47.4km s-min=24.5km az=25.0*
*NNC **04** 18:15:42.4±2.3,3794N×7167E,h187^{km}±21^{km},mb2.5, mpv3.3,Error ellipse: s-maj=21.0km s-min=15.8km az=25.0*
ISC 04 18:15:35.8±0.7,**3746N**±006×**7219E**±010,**h197**^{km}±12^{km}, **n25**,σ0^{s}**82**/30,**mb3.1**/4,**3C-2D,Tajikistan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBL	Kabul	3.87	222	*e*P	Pn	18 16 36.7	+0.9
KK31	Karatay Array	5.78	348	Pn	Pn	18 16 59.1	-1.0
	1.0nm,0.2s,baz=169,slow=13,SNR=121						
KK31				⇓Sn	Sn	18 18 00.8	-6.0
	9.3nm,0.3s,baz=170,slow=22,SNR=24						
SMLA	Simla	7.54	145	*i* P	Pn	18 17 21.7	-1.3
SMLA				*i* S	Sn	18 18 41.1	-7.1
SMLA				*i* S	Sn	18 18 41.7	-6.5
SMLA				*e*x	x	18 18 44.2	
	comp=E,271nm,0.3s						
SMLA				*e*x	x	18 18 46.9	
	comp=N,245nm,0.4s						
MKAR	Makanchi Array	11.96	36	P	Pn	18 18 23.6	+3.5
	comp=N,0.1nm,0.3s,baz=208,slow=12,SNR=4.6						
DANN	Dangsing	13.29	130	*e*P	Pn	18 18 35.9	-1.2
	comp=N,4.5nm,0.2s						
KOLN	Koldanda	13.62	132	*e*P	Pn	18 18 40.4	-0.8
	comp=N,3.0nm,0.3s						
KURK	Kurchatov	14.03	17	P	Pn	18 18 46.7	+0.7
	comp=N,0.1nm,0.3s,baz=205,slow=11,SNR=5.7						
KURK	Kurchatov	14.03	17	*e*P	Pn	18 18 47.8	+1.7
	comp=N,1.2nm,0.5s						
GKN	Gorkha	14.08	128	*e*P	Pn	18 18 46.8	-0.1
	comp=N,26nm,0.4s						
KKN	Kakani	14.64	127	*e*P	Pn	18 18 53.8	+0.1
	comp=N,3.1nm,0.2s						
DMN	Daman	14.65	128	*e*P	Pn	18 18 54.4	+0.5
	comp=N,13nm,0.6s						
AB31	Akbulak array	14.75	327	⇓P	Pn	18 18 54.9	-0.1

	comp=N,0.9nm,0.4s,baz=133,slow=12,SNR=32						
AB31				⇑S	**Sn**	**18 21 31.3**	**-8.5**
	comp=N,2.4nm,0.8s,baz=140,slow=24,SNR=9.4						
GUN	**Gumba**	**14.94**	**126**	*e*P	**Pn**	**18 18 58.1**	**+0.7**
	comp=N,6.4nm,0.3s						
JIRN	**Jiri**	**15.31**	**126**	*e*P	**Pn**	**18 19 02.9**	**+1.0**
	comp=N,14nm,0.4s						
BVAR	**Borovoye Array**	**15.62**	**356**	P	**Pn**	**18 19 04.7**	**-0.7**
	comp=N,0.3nm,0.3s,baz=162,slow=10,SNR=6.4						
RAMN	**Ramite**	**16.06**	**127**	*e*P	**Pn**	**18 19 12.3**	**+1.3**
	comp=N,17nm,0.6s						
AKTK	**Aktyubinsk**	**16.47**	**326**	P	**Pn**	**18 19 15.8**	**+0.1**
AKTO	**Aktyubinsk**	**16.47**	**326**	⇑P	**Pn**	**18 19 15.4**	**-0.3**
	comp=N,0.4nm,0.6s						
AKTO				⇑S	**S**	**18 22 10.7**	**-6.1**
	comp=N,0.1nm,0.6s						
AKTO	**Aktyubinsk**	**16.47**	**326**	P	**Pn**	**18 19 15.8**	**+0.1**
	comp=N,0.8nm,0.3s,baz=129,slow=11,SNR=11						
ZAA0	**Zalesovo Array**	**18.66**	**24**	*e*P	**P**	**18 19 38.4**	**-0.2**
ZALV	**Zalesovo Beam**	**18.66**	**24**	P	**P**	**18 19 38.5**	**-0.1**
	comp=N,0.9nm,0.3s,baz=220,slow=9.8,SNR=22						
ARCES	**ARCESS Array B**	**40.63**	**337**	P	**P**	**18 22 56.8**	**+0.7**
	comp=N,1.9nm,0.9s,mb3.5,baz=115,slow=8.5,SNR=6.2						
NOA	**NORSAR Array B**	**44.20**	**322**	P	**P**	**18 23 25.0**	**+0.1**
	comp=N,0.6nm,0.6s,mb3.1,baz=93,slow=8.1,SNR=3.6						
TORD	**Torodi Ar. Bea**	**66.69**	**269**	P	**P**	**18 26 05.7**	**-0.2**
	comp=N,0.2nm,0.4s,mb3.1,baz=47,slow=6.0,SNR=5.6						
WRA	**Warramunga Arr**	**81.70**	**123**	P	**P**	**18 27 31.2**	**-1.1**
	comp=N,0.2nm,1.0s,mb2.7,baz=330,slow=5.4,SNR=4.7						

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*SZGRF **04** 18:22:45.7, 22.93S×177.54W, h33km, South of Fiji Islands*
*ISCJB **04** 18:23:50.6±1.5, 21.44S±0.08×178.86W±0.07, h575km±18km, mb4.4/33, Error ellipse: s-maj=11.7km s-min=10.4km az=157.7*
*IDC **04** 18:23:51.5±1.9, 21.40S×178.88W, h573km±20km, mb3.8/14, mb1 4.0/15, mb1mx3.9/19, mbtmp3.8/15, Error ellipse: s-maj=14.5km s-min=12.6km az=120.0*
*BJI **04** 18:23:53.4, 21.58S×178.68W, h632km, mB4.8, mb4.5*
*BGS **04** 18:23:54.0±4.0, 21.42S×178.94W, h600km, mb4.5(NEIC)*
*MOS **04** 18:23:54.7±2.7, 20.60S×179.47W, h563km, mb4.7/4, Error ellipse: s-maj=17.2km s-min=13.6km az=28.3*
*NEIC **04** 18:23:54.1±1.6, 21.42S×178.94W, h607km±18km, mb4.5/9, Error ellipse: s-maj=12.5km s-min=10.8km az=143.0*
*DJA **04** 18:24:04, 23.16S×179.96W, h650km, mb4.7/9*
ISC 04 18:23:51.5±1.5**, 21.45S**±0.07×**178.83W**±0.08**, h573**km±17km**, h619**km±7.2km**:pP-P, n200,** σ1§**02**/87**, mb4.4**/33**, 22C-10D, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**13.70**	**265**	*e*P	**P**	**18 26 46.9**	**-0.5**
URZ	**Urewera**	**17.11**	**191**	P	**P**	**18 27 19.0**	**-1.0**
	2.1nm,0.3s,baz=214,slow=14,SNR=6.4						
URZ				S	**S**	**18 30 01.9**	**-7.9**
	0.5nm,0.3s,baz=117,slow=16,SNR=3.3						
HNR	**Honiara**	**23.65**	**297**	P	**P**	**18 28 18.4**	**-0.9**
	26nm,0.3s,mb5.3,baz=164,slow=15,SNR=3.4						
HNR	**Honiara**	**23.65**	**297**	P	**P**	**18 28 18.4**	**-0.9**
TBI	**Tubuai**	**27.20**	**100**	*e*LR	LR	18 35 41.0	
	134nm,40.8s						
PPT	**Papeete**	**27.82**	**87**	*e*LR	LR	18 35 48.8	
	140nm,25.2s						
ARMA	**Armidale**	**27.96**	**245**	*e*P	**P**	**18 28 58.6**	**+1.6**
CNB	**Canberra Magne**	**31.05**	**237**	*e*P	**P**	**18 29 25.0**	**+1.4**
CTA	**Charters Tower**	**32.63**	**266**	*e*P	**P**	**18 29 37.5**	**+0.2**
	6.6nm,0.3s,mb4.7						
CTAO	**Charters Tower**	**32.63**	**266**	*e*P	**P**	**18 29 37.2**	**-0.1**
PMG	**Port Moresby**	**34.82**	**285**	*i* P	**P**	**18 29 55.1**	**-0.5**
STKA	**Stephens Creek**	**36.68**	**245**	*e*P	**P**	**18 30 11.4**	**+0.6**
	5.9nm,0.9s,mb4.1						
STKA	**Stephens Creek**	**36.68**	**245**	P	**P**	**18 30 11.5**	**+0.7**
	7.0nm,0.8s,mb4.3,baz=86,slow=10,SNR=15						
ASAR	**Alice Springs**	**43.55**	**258**	P	**P**	**18 31 05.5**	**-0.2**
	16nm,0.8s,mb4.6,baz=98,slow=7.7,SNR=253						
ASAR				PcP	PcP	18 32 40.1	-0.4
	3.5nm,0.7s,baz=109,slow=3.8,SNR=11						
ASAR				ScP	ScP	18 35 39.5	+1.7
	0.6nm,0.6s,baz=109,slow=4.4,SNR=4.5						
ASAR				S	**S**	**18 36 50.9**	**-3.1**
	4.2nm,1.1s,baz=93,slow=15,SNR=18						
ASAR				PKiKP	PKiKP	18 39 38.2	-2.3
	0.4nm,1.1s,baz=79,slow=1.5,SNR=4.5						
ASAR	**Alice Springs**	**43.55**	**258**	P	**P**	**18 31 05.5**	**-0.2**
ASAR						18 32 40.1	
ASAR				S	**S**	**18 36 50.9**	**-3.1**
ASAR	**Alice Springs**	**43.55**	**258**	P	**P**	**18 31 05.5**	**-0.2**
ASAR				PcP	PcP	18 32 40.1	-0.4
ASAR				ScP	ScP	18 35 39.5	+1.7
ASAR				S	**S**	**18 36 50.9**	**-3.1**
WB2	**Warramunga Arr**	**43.70**	**263**	⇓*i*P	**P**	**18 31 06.0**	**-0.9**
WB2				*e*S	**S**	**18 36 51.3**	**-4.8**
WRA	**Warramunga Arr**	**43.71**	**263**	P	**P**	**18 31 06.1**	**-0.9**
	11nm,0.7s,mb4.5,baz=96,slow=7.6,SNR=196						
WRA				PcP	PcP	18 32 40.6	-0.5
	3.2nm,0.9s,baz=98,slow=4.8,SNR=5.7						
WRA				ScP	ScP	18 35 38.6	0.0
	1.7nm,1.0s,baz=95,slow=4.2,SNR=5.1						
WRA				S	**S**	**18 36 51.7**	**-4.6**
	2.8nm,0.9s,baz=101,slow=17,SNR=12						
WRA				PKiKP	PKiKP	18 39 38.4	-2.4
	0.1nm,0.4s,baz=92,slow=0.6,SNR=4.7						
WRA	**Warramunga Arr**	**43.71**	**263**	P	**P**	**18 31 06.1**	**-0.9**
WRA						18 32 40.6	
WRA				S	**S**	**18 36 51.7**	**-4.6**
WRA	**Warramunga Arr**	**43.71**	**263**	P	**P**	**18 31 06.1**	**-0.8**
WRA				PcP	PcP	18 32 40.6	-0.5
WRA				ScP	ScP	18 35 38.6	0.0
WRA				S	**S**	**18 36 51.7**	**-4.6**
KAKA	**Kakadu**	**47.23**	**272**	⇓*i*P	**P**	**18 31 33.0**	**-0.8**
	11nm,0.6s,mb4.5						
FORT	**Forrest**	**48.21**	**247**	*e*P	**P**	**18 31 40.5**	**-0.4**
	13nm,0.6s,mb4.6						
FITZ	**Fitzroy Crossi**	**52.14**	**263**	*e*P	**P**	**18 32 09.5**	**-0.3**
	12nm,1.5s,mb4.0						
FITZ				*e*S	**S**	**18 38 50.6**	**-1.5**
MBWA	**Marble Bar**	**56.89**	**258**	*e*P	**P**	**18 32 42.2**	**-0.8**
KLBR	**Kellerberrin**	**56.95**	**246**	*e*P	**P**	**18 32 42.7**	**-0.5**
	20nm,0.9s,mb4.3						
MUN	**Mundaring**	**58.22**	**245**	*e*P	**P**	**18 32 51.9**	**+0.1**
SDKM	**Sandakan**	**68.20**	**286**	⇑P	**P**	**18 33 57.4**	**+1.4**
QSPA	**South Pole Qui**	**68.62**	**180**	P	**P**	**18 33 58.6**	**+1.3**
	3.8nm,0.7s,mb3.9,baz=347,slow=1.3,SNR=36						
QSPA	**South Pole Qui**	**68.62**	**180**	P	**P**	**18 33 58.6**	**+1.3**
KDM	**Kudat**	**69.08**	**287**	⇑P	**P**	**18 34 03.5**	**+2.2**
KKM	**Kota Kinabalu**	**69.26**	**286**	⇑P	**P**	**18 34 02.9**	**+0.6**
MJAR	**Matsushiro Arr**	**70.52**	**324**	P	**P**	**18 34 08.5**	**-0.8**
	6.1nm,0.8s,mb4.2,baz=163,slow=5.9,SNR=15						
MAT	**Matsushiro**	**70.52**	**324**	P	**P**	**18 34 08.5**	**-0.8**
BTM	**Bintulu**	**70.91**	**281**	⇑P	**P**	**18 34 13.7**	**+1.6**
SBUM	**Sibu**	**71.41**	**280**	⇑P	**P**	**18 34 16.1**	**+1.1**
KSM	**Kuching**	**72.78**	**279**	⇑P	**P**	**18 34 23.2**	**+0.3**
YSS	**Yuzh-Sakhalins**	**76.40**	**334**	*i* P	**P**	**18 34 43.1**	**+0.6**
YSS				pmax	pmax		
	comp=Z,18nm,1.4s,mb4.3						
PEA0B	**Petropavlovsk-**	**76.99**	**346**	*e*P	**P**	**18 34 45.1**	**-0.4**
PETK	**Petropavlovsk-**	**76.99**	**346**	P	**P**	**18 34 45.1**	**-0.4**
	comp=Z,7.9nm,0.7s,mb4.2,baz=119,slow=4.9,SNR=25						
KSRS	**Korea Array**	**77.09**	**319**	P	**P**	**18 34 46.5**	**+0.1**
	comp=Z,2.0nm,0.9s,mb3.5,baz=131,slow=3.8,SNR=6.3						
MYKOM	**Kota Tinggi**	**78.86**	**276**	⇓P	**P**	**18 34 57.7**	**+1.1**
KGM	**Kluang**	**79.44**	**276**	⇓P	**P**	**18 35 01.0**	**+1.4**
KTGM	**Kuala Trenggan**	**80.86**	**279**	⇑P	**P**	**18 35 08.1**	**+1.0**
HABR	**Khabarovsk**	**80.89**	**331**	*e*P	**P**	**18 35 05.3**	**-1.0**
HABR				*e*		18 35 09.1	
HABR				*e*		18 38 19.8	
HABR				*e*S	S	18 44 25.9	-2.2
HABR				*e*		18 44 38.1	
FRIM	**Kepong**	**81.47**	**277**	⇑P	**P**	**18 35 10.0**	**-0.1**
YBH	**Yreka Blue Hor**	**81.52**	**39**	P	**P**	**18 35 10.7**	**+1.0**
	comp=Z,5.8nm,0.8s,mb4.2,baz=158,slow=2.2,SNR=11						
HUMO	**Hull Mountain**	**81.92**	**38**	*e*P	**P**	**18 35 12.7**	**+1.0**
NVAR	**Mina Array Bea**	**82.25**	**44**	P	**P**	**18 35 14.1**	**+0.6**
	comp=Z,4.4nm,0.7s,mb4.1,baz=226,slow=8.1,SNR=27						
IPM	**Ipoh**	**82.48**	**278**	⇑P	**P**	**18 35 15.8**	**+0.5**
CN2	**Changchun**	**82.58**	**323**	*e*P	**P**	**18 35 15.0**	**0.0**
CN2				*e*S	S	18 44 43.8	-1.4
CN2				AMB	AMB		
	comp=Z,20nm,1.0s,mb4.6						
CN2				AMB	AMB		
	comp=Z,200nm,5.0s						
KULM	**Kulim**	**83.14**	**278**	⇑P	**P**	**18 35 19.5**	**+0.9**
SYO	**Syowa Base**	**85.63**	**193**	⇑*e*P	**P**	**18 35 27.4**	**-2.2**
BJI	**Beijing**	**86.03**	**316**	P	**P**	**18 35 31.6**	**-0.4**
BJI				AMB	AMB		
	comp=Z,11nm,0.8s,mb4.5						
GYA	**Guiyang**	**86.45**	**300**	P	**P**	**18 35 32.0**	**-2.3**
GYA				AP	pP	18 37 44.6	+6.5
GYA				XP	sP	18 38 45.4	+10
GYA				PP	PP	18 39 07.7	+0.8
GYA				SKS		18 45 00.0	
GYA				S	S	18 45 16.2	-7.1
GYA				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb4.4						
GYA				AMB	AMB		
	comp=Z,80nm,6.6s						
SNAA	**Sanae**	**87.08**	**179**	*e*P	**P**	**18 35 35.6**	**-0.9**
SNAA				*e*		18 35 37.9	
VNA3	**Neumayer Olymp**	**87.24**	**177**	*e*P	**P**	**18 35 36.7**	**-0.5**
VNA3				*e*		18 35 38.9	
VNA3				*e*		18 37 49.0	
TRF	**Thorofare Moun**	**87.54**	**12**	*e*P	**P**	**18 35 37.0**	**-1.5**
	comp=Z,14nm,0.8s,mb4.7						
VNA2	**Neumayer--Watz**	**87.68**	**177**	*e*P	**P**	**18 35 38.0**	**-1.2**
VNA2				*e*		18 35 39.9	
VNA2				*e*		18 37 49.7	
VNA1	**Neumayer--Stat**	**87.91**	**177**	*e*P	**P**	**18 35 40.4**	**+0.1**
VNA1				*e*		18 35 42.3	
VNA1				*e*		18 37 51.4	
MCK	**McKinley**	**88.07**	**13**	*e*P	**P**	**18 35 39.1**	**-1.9**
MCK				pmax	pmax		
	comp=Z,6.0nm,0.9s,mb4.3						
MCK	**McKinley**	**88.07**	**13**	*e*P	**P**	**18 35 39.1**	**-1.8**
	comp=Z,6.4nm,0.9s,mb4.3						
XAN	**Xi'an**	**88.09**	**308**	P	**P**	**18 35 42.2**	**+0.4**
XAN				XP	sP	18 38 56.4	+13
XAN				AMB	AMB		
	comp=Z,13nm,1.4s,mb4.5						
XAN				AMB	AMB		
	comp=Z,266nm,6.8s						
TXAR	**Lajitas Array**	**88.22**	**58**	P	**P**	**18 35 43.8**	**+1.2**
	comp=Z,2.4nm,0.8s,mb4.0,baz=213,slow=4.3,SNR=13						
ANMO	**Albuquerque**	**88.60**	**52**	⇑*e*P	**P**	**18 35 44.1**	**-0.1**
HIA	**Hailar**	**89.02**	**325**	⇓*e*P	**P**	**18 35 46.0**	**+0.3**
KMI	**Kunming**	**89.09**	**297**	P	**P**	**18 35 46.4**	**-0.3**
KMI				AMB	AMB		
	comp=Z,9.0nm,0.9s,mb4.6						
PLCA	**Paso Flores**	**89.18**	**134**	P	**P**	**18 35 47.4**	**+0.5**
	comp=Z,1.5nm,0.9s,mb3.8,baz=269,slow=8.0,SNR=3.3						
PLCA	**Paso Flores**	**89.18**	**134**	P	**P**	**18 35 47.4**	**+0.5**
COLA	**College**	**89.30**	**13**	*i* P	**P**	**18 35 45.2**	**-1.5**
RRI2	**Red Ridge**	**89.36**	**42**	*e*P	**P**	**18 35 47.9**	**+0.4**
	comp=Z,3.7nm,0.6s,mb4.4						
HHC	**Hu-ho-hao-te**	**89.46**	**315**	*e*P	**P**	**18 35 50.0**	**+2.0**
HHC				AP	pP	18 38 00.1	+7.3
HHC				XP	sP	18 38 59.8	+10
HHC				PP	PP	18 39 35.1	+4.7
HHC				S	S	18 45 46.5	-3.9
HHC				XS	sS	18 49 40.4	+7.3
HHC				SS	SS	18 52 08.6	+4.3
HHC				AMB	AMB		
	comp=Z,6.0nm,1.1s,mb4.3						
HHC				AMB	AMB		
	comp=Z,313nm,5.3s						
CMAR	**Chiang Mai Arr**	**89.70**	**290**	P	**P**	**18 35 50.8**	**+1.2**
	comp=Z,8.0nm,0.9s,mb4.5,baz=133,slow=3.1,SNR=39						
CHTO	**Chiang Mai**	**89.84**	**290**	*e*P	**P**	**18 35 50.8**	**+0.5**
CHTO				pmax	pmax		
	comp=Z,26nm,1.6s,mb4.8						
CHTO	**Chiang Mai**	**89.84**	**290**	*e*P	**P**	**18 35 50.8**	**+0.5**
	comp=Z,26nm,1.6s,mb4.8						
PDAR	**Pinedale Array**	**90.19**	**44**	P	**P**	**18 35 51.4**	**+0.1**
	comp=Z,2.4nm,0.7s,mb4.1,baz=217,slow=3.5,SNR=20						
DAWY	**Dawson**	**90.59**	**16**	*e*P	**P**	**18 35 52.0**	**-0.7**
CD2	**Chengdu**	**90.65**	**303**	*e*P	**P**	**18 35 55.7**	**+1.9**
CD2				XP	sP	18 39 07.7	+12
CD2				PP	PP	18 39 45.0	+5.2
CD2				SKS		18 45 30.1	
CD2				S	S	18 45 59.9	-1.6
CD2				XS	sS	18 49 55.0	+10
CD2				SS	SS	18 52 25.7	+4.1
CD2				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.8						
CD2				AMB	AMB		
	comp=Z,40nm,8.2s						
YAK	**Yakutsk**	**92.70**	**338**	*e*P	**P**	**18 36 00.1**	**-2.3**
YAK				pmax	pmax		
	comp=Z,13nm,1.2s,mb4.8						
LZH	**Lanzhou**	**92.73**	**308**	*e*P	**P**	**18 36 02.6**	**-0.6**
LZH				AP	pP	18 38 18.1	+10
LZH				XP	sP	18 39 16.3	+11
LZH				PP	PP	18 40 02.0	+6.2
LZH				*e*S	S	18 46 10.0	-10
LZH				SS	SS	18 52 53.1	+2.2
LZH				AMB	AMB		
	comp=Z,46nm,1.7s,mb5.2						
LZH				AMB	AMB		
	comp=Z,170nm,5.8s						
ULN	**Ulaanbaatar**	**95.58**	**319**	*i* P	**P**	**18 36 15.6**	**-0.2**
ZALV	**Zalesovo Beam**	**110.74**	**321**	PKiKP	PKiKP	18 41 17.2	-2.2
	comp=Z,0.8nm,0.6s,baz=194,slow=0.4,SNR=5.0						
MKAR	**Makanchi Array**	**111.28**	**313**	PKiKP	PKiKP	18 41 18.9	-1.8
	comp=Z,0.4nm,0.4s,baz=194,slow=0.7,SNR=9.2						
MKAR	**Makanchi Array**	**111.28**	**313**	PKPdf	PKiKP	18 41 18.9	-1.8
BRVK	**Borovoye**	**119.36**	**320**	*e*PKIKP	PKPdf	18 41 34.4	-1.6
KBL	**Kabul**	**119.66**	**298**	*e*PKIKP	PKPdf	18 41 36.6	-0.6
BOSA	**Boshof**	**125.06**	**206**	PKP	PKPdf	18 41 47.9	+0.1
	comp=Z,4.6nm,1.1s,baz=108,slow=3.2,SNR=2.7						
ARU	**Arti**	**125.54**	**325**	*i* PKIKP	PKPdf	18 41 46.7	-1.0
ARU						18 43 45.7	
ARU	**Arti**	**125.54**	**325**	*e*PKPdf	PKPdf	18 41 46.4	-1.3
KEV	**Kevo**	**129.25**	**349**	*e*p	PKPdf	18 41 53.7	-0.8
	comp=Z,0.6nm,0.3s						
ARCES	**ARCESS Array B**	**129.71**	**349**	PKP	PKPdf	18 41 54.1	-1.3
	comp=Z,3.4nm,0.6s,baz=5.4,slow=1.1,SNR=31						
ARCES				SKPbc	SKPbc	18 44 24.9	+0.4
	comp=Z,4.5nm,1.0s,baz=30,slow=3.2,SNR=4.9						
ARCES	**ARCESS Array B**	**129.71**	**349**	PKP	PKPdf	18 41 54.1	-1.3
ARCES				SKPbc	SKPbc	18 44 24.9	+0.3
JOF	**Joensuu**	**133.79**	**341**	*e*p	PKPdf	18 42 01.7	-1.5
	comp=Z,1.7nm,0.4s						
KAF	**Kangasniemi**	**135.84**	**343**	*e*p	PKPdf	18 42 06.4	-0.6
	comp=Z,1.1nm,0.3s						
OBN	**Obninsk**	**137.21**	**331**	*e*PKIKP	PKPdf	18 42 08.9	-0.9
OBN				pmax	pmax		
	comp=Z,2.0nm,0.6s						
KMBO	**Kilima Mbogo**	**138.21**	**242**	*i* PKIKP	PKPdf	18 42 17.1	+4.2
KMBO				pmax	pmax		
	comp=Z,1.0nm,0.2s						
NB2	**NORSAR Subarra**	**139.83**	**352**	PKP		18 42 05.8	
	comp=Z,0.7nm,0.5s,baz=10,slow=3.2						
NOA	**NORSAR Array B**	**139.83**	**352**	PKhKP		18 42 06.3	
	comp=Z,1.2nm,0.9s,baz=15,slow=4.1,SNR=10						
NOA				PKP	PKPdf	18 42 15.8	+1.4
	comp=Z,1.3nm,0.6s,baz=14,slow=3.9,SNR=4.6						
SUW	**Suwalki**	**143.44**	**338**	*e*PKPdf	PKPdf	18 42 18.6	-2.4
AKASG	**Malin Array Be**	**143.46**	**330**	PKP	PKPdf	18 42 18.2	-3.0
	comp=Z,11nm,0.5s,baz=42,slow=4.2,SNR=46						
AKASG	**Malin Array Be**	**143.46**	**330**	PKP	PKPdf	18 42 18.2	-3.0
AKBB	**Malin Array Si**	**143.46**	**330**	*e*PKHKP		18 42 18.1	
KIEV	**Kiev**	**143.47**	**330**	*e*PKHKP		18 42 18.1	
KAC	**Achnashellach**	**143.69**	**6**	*e*P	PKPdf	18 42 18.9	-2.4
MCD	**Coleburn Disti**	**143.77**	**4**	*e*P	PKPdf	18 42 19.2	-2.3
KPL	**Plockton**	**143.81**	**6**	*e*P	PKPdf	18 42 19.1	-2.5
KSB	**Sheil Bridge**	**143.96**	**6**	*e*P	PKPdf	18 42 19.8	-2.0
SIM	**Simferopol'**	**144.21**	**319**	⇓*i*PKHKP		18 42 22.7	
SIM				pmax	pmax		
	comp=Z,22nm,1.0s						
EAB	**Aberfoyle**	**145.07**	**5**	*e*P	PKPdf	18 42 23.2	-0.5
EBH	**Black Hill**	**145.08**	**5**	*e*P	PKPdf	18 42 23.4	-0.3
ESY	**Stoneypath**	**145.47**	**4**	*e*P	PKPdf	18 42 24.5	0.0
EAU	**Auchinoon**	**145.49**	**5**	*e*P	PKPdf	18 42 25.1	+0.6
EBL	**Broad Law**	**145.59**	**4**	*e*P	PKPdf	18 42 24.3	-0.4
XSO	**Sourhope Farm**	**145.91**	**3**	*e*P	PKPdf	18 42 25.4	+0.2
ECK	**Cauldkaine Hil**	**146.17**	**4**	*e*P	PKPdf	18 42 26.4	+0.8
GAL1	**Galloway**	**146.34**	**6**	*e*P	PKPdf	18 42 26.5	+0.6
ASF	**Jabal al Asfar**	**146.51**	**296**	PKPbc	PKPbc	18 42 29.5	-0.1
	comp=Z,6.4nm,0.8s,baz=42,slow=1.0,SNR=11						
XAL	**Allendale**	**146.55**	**4**	*e*P	PKPdf	18 42 27.4	+1.2
BSEG	**Bad Segeberg**	**146.83**	**350**	*e*PKPbc	PKPbc	18 42 28.8	-0.9
BR131	**Keskin Array S**	**146.89**	**311**	*e*PKPbc	PKPbc	18 42 29.6	-0.7
ANTO	**Ankara**	**147.42**	**311**	*e*PKIKP	PKPdf	18 42 30.9	+2.7
BUR08	**Bucovina Ar. S**	**147.48**	**329**	*e*PKPbc	PKPbc	18 42 31.4	-0.2
RUE	**Ruedersdorf**	**147.53**	**346**	*e*PKPbc	PKPbc	18 42 30.5	-1.0
OJC	**Ojcow**	**147.75**	**337**	*e*PKP	PKPbc	18 42 31.3	-0.9
KOLS	**Kolonicke sedl**	**147.83**	**334**	*e*PKP	PKPbc	18 42 32.5	+0.1
STHS	**Stebnicka Huta**	**147.86**	**335**	*i* PKP	PKPbc	18 42 32.6	+0.1
UZH	**Uzhgorod**	**148.06**	**333**	*e*PKIKP	PKPbc	18 42 32.0	-1.0
UZH				*i*		18 42 32.8	
UZH				*e*		18 48 50.0	
CRVS	**Cervenica-Dubn**	**148.19**	**334**	*e*PKP	PKPbc	18 42 33.2	-0.1
NRDL	**Niedersach Rie**	**148.25**	**350**	*e*PKPbc	PKPbc	18 42 32.5	-0.9
NRDL				*e*PKPab	PKPab	18 42 37.7	-0.9
KSP	**Ksiaz**	**148.36**	**342**	*e*PKP	PKPbc	18 42 33.3	-0.3
KSP	**Ksiaz**	**148.36**	**342**	*e*PKPdf	PKPbc	18 42 33.3	-0.4
SBD1	**Bryn Du**	**148.42**	**5**	*e*P	PKPbc	18 42 32.3	-1.5
OKC	**Ostrava-Krasne**	**148.65**	**339**	⇑*e*PKP	PKPbc	18 42 34.4	0.0
OKC				*e*PKPAB	PKPab	18 42 40.6	+0.3
UPC	**Upice**	**148.74**	**342**	⇑*e*PKP	PKPdf	18 42 34.5	+4.5
UPC				*e*PKPAB	PKPab	18 42 40.8	+0.1
DPC	**Dobruska-Polom**	**148.79**	**341**	⇑*e*PKP	PKPbc	18 42 34.8	+0.1
DPC				*e*PKPAB	PKPbc	18 42 41.3	+6.6
CLL	**Collm**	**148.80**	**346**	*e*PKPbc	PKPbc	18 42 33.9	-0.8
CLL				*e*PKPab	PKPab	18 42 39.9	-1.0
CLL	**Collm**	**148.80**	**346**	⇓*i*PKPbc	PKPbc	18 42 34.2	-0.5
	comp=Z,35nm,1.4s						
CLL				*i* PKPab	PKPab	18 42 40.0	-0.9
	comp=Z,11nm,1.0s						
CLL	**Collm**	**148.80**	**346**	⇓*i*PKP	PKPbc	18 42 34.2	-0.5
CLL				*i* PKP	PKPbc	18 42 40.0	+5.3
CLL				*e*pPKP	pPKPdf	18 45 01.0	+17
CLZ	**Clausthal**	**148.84**	**349**	*e*PKPbc	PKPbc	18 42 34.3	-0.5
MORC	**Moravsky Berou**	**148.90**	**339**	*e*PKHKP		18 42 34.9	
BRG	**Berggiesshubel**	**148.97**	**344**	*e*PKPbc	PKPbc	18 42 34.5	-0.7
BRG				*e*PKPab	PKPab	18 42 40.7	-1.0
BRG	**Berggiesshubel**	**148.97**	**344**	*i* PKP	PKPbc	18 42 34.8	-0.4
	comp=Z,26nm,1.3s						
FBE	**Freiberg**	**149.08**	**345**	*e*PKPbc	PKPbc	18 42 35.0	-0.4
PVCC	**Panska Ves**	**149.13**	**343**	⇑*e*PKP	PKPbc	18 42 35.4	-0.2
MCH1	**Michaelchurch**	**149.34**	**5**	*e*P	PKPbc	18 42 34.6	-1.4
VYHS	**Vyhne**	**149.54**	**337**	*e*PKP	PKPbc	18 42 36.1	-0.5
PSZ	**Piszkesteto**	**149.60**	**335**	*e*PKHKP	PKPbc	18 42 35.6	-1.2
PRU	**Pruhonice**	**149.62**	**343**	⇑*e*PKP	PKPbc	18 42 36.3	-0.5
PRU				*e*PKPAB	PKPab	18 42 44.2	-0.2
KOLL	**Kolacno**	**149.62**	**337**	*e*PKP	PKPbc	18 42 36.9	+0.1
KOLL				*e*		18 42 55.2	
BUG	**Bochum--Univer**	**149.69**	**352**	*e*PKPbc	PKPbc	18 42 35.8	-1.1
HGH	**Gray Hill**	**149.71**	**5**	*e*P	PKPbc	18 42 35.5	-1.4
MOX	**Moxa**	**149.73**	**347**	*e*PKP	PKPdf	18 42 36.3	+4.7
	comp=Z,23nm,1.5s						
MOX	**Moxa**	**149.73**	**347**	*e*PKPbc	PKPbc	18 42 36.2	-0.8
MOX				*e*PKPab	PKPab	18 42 43.9	-0.9
TANN	**Tannenbergstha**	**149.76**	**346**	*e*PKPbc	PKPbc	18 42 36.3	-0.8
TANN				*e*PKPab	PKPab	18 42 44.2	-0.7
WERD	**Werda**	**149.76**	**346**	*e*PKPbc	PKPbc	18 42 36.3	-0.8
WERD				*e*PKPab	PKPab	18 42 44.5	-0.4
GUNZ	**Gunzen**	**149.84**	**346**	*e*PKPbc	PKPbc	18 42 36.7	-0.6
GUNZ				*e*PKPab	PKPab	18 42 44.6	-0.6
UBBA	**Unterbreizbach**	**149.88**	**349**	*e*PKPbc	PKPbc	18 42 36.1	-1.2
UBBA				*e*PKPab	PKPab	18 42 44.9	-0.5
WERN	**Wernitzgruen**	**149.90**	**346**	*e*PKPbc	PKPbc	18 42 37.0	-0.4
WERN				*e*PKPab	PKPab	18 42 45.0	-0.5
NKC	**Novy Kostel**	**149.93**	**345**	⇑*e*PKP	PKPbc	18 42 37.1	-0.4
TREC	**Trest**	**149.97**	**341**	*e*PKHKP	PKPbc	18 42 37.1	-0.5
TREC	**Trest**	**149.97**	**341**	⇑*e*PKP	PKPbc	18 42 37.1	-0.5
MODS	**Modra-Piesok**	**150.20**	**338**	*e*PKP	PKPbc	18 42 38.0	-0.2
MANZ	**Manzenberg**	**150.24**	**346**	*e*PKPbc	PKPbc	18 42 37.5	-0.7
ROTZ	**Rotzenmuhle**	**150.42**	**345**	*e*PKPbc	PKPbc	18 42 37.9	-0.7
ROTZ				*e*PKPab	PKPab	18 42 47.4	-0.3
UCC	**Uccle**	**150.61**	**356**	PKPbc	PKPbc	18 42 38.6	-0.4
MEM	**Membach**	**150.66**	**354**	PKPbc	PKPbc	18 42 38.4	-0.7
KHC	**Kasperske Hory**	**150.66**	**343**	⇑*e*PKP	PKPbc	18 42 38.8	-0.4
KHC				*e*PKPAB	PKPab	18 42 48.7	-0.1
GRA1	**Grafenberg Arr**	**150.72**	**347**	*e*PKPbc	PKPbc	18 42 38.5	-0.8
GRA1				*e*PKPab	PKPab	18 42 48.7	-0.2
GRF	**Grafenberg Arr**	**150.72**	**347**	*e*PKPbc	PKPbc	18 42 38.5	-0.8
GRF				*e*PKPab	PKPab	18 42 48.7	-0.2
TNS	**Taunus Mts**	**150.72**	**350**	*e*PKPbc	PKPbc	18 42 38.4	-0.9
TNS				*e*PKPab	PKPab	18 42 48.2	-0.7
DYA	**Yadsworthy**	**150.80**	**7**	*e*P	PKPdf	18 42 36.5	+3.3
WET	**Wettzell**	**150.84**	**344**	*e*PKPbc	PKPbc	18 42 38.7	-0.9
WET				*e*PKPab	PKPab	18 42 49.3	-0.2
GEC2	**GERESS Array S**	**150.89**	**343**	*e*PKPbc	PKPbc	18 42 38.8	-0.9
GEC2				*e*PKPab	PKPab	18 42 49.5	-0.2
GERES	**GERESS Array B**	**150.89**	**343**	PKP	PKPdf	18 42 30.6	-2.8
	comp=Z,0.7nm,1.0s,baz=35,slow=4.9,SNR=4.2						
GERES				PKPbc	PKPbc	18 42 39.1	-0.7
	comp=Z,3.4nm,0.6s,baz=26,slow=2.3,SNR=36						
GERES				PKPab	PKPab	18 42 49.7	-0.1
	comp=Z,0.8nm,0.6s,baz=36,slow=7.1,SNR=5.3						
SNF	**Seneffe**	**150.90**	**356**	PKPbc	PKPbc	18 42 38.9	-0.8
CONA	**Conrad Observa**	**151.06**	**339**	⇑*i*PKiKP	PKiKP	18 42 39.6	-0.9
	comp=Z,12nm,0.8s						
CSNA	**Conrad Observa**	**151.06**	**339**	⇓*i*PKiKP	PKiKP	18 42 39.8	-0.7
	comp=Z,9.8nm,0.8s						
GIVF	**Givet**	**151.26**	**355**	*e*PKP1	PKPbc	18 42 39.5	-1.0
	comp=Z,52nm,1.1s						
DOU	**Dourbes**	**151.29**	**355**	PKPbc	PKPbc	18 42 39.7	-0.9
BAIF	**Baives**	**151.35**	**356**	*e*PKP1	PKPbc	18 42 39.8	-0.9
	comp=Z,31nm,1.1s						
WLF	**Walferdange**	**151.57**	**353**	PKPbc	PKPbc	18 42 41.4	+0.2
WLF	**Walferdange**	**151.57**	**353**	*e*PKPbc	PKPbc	18 42 41.0	-0.2
STU	**Stuttgart**	**152.00**	**349**	*e*PKPbc	PKPbc	18 42 41.0	-1.2
RJOB	**Jochberg**	**152.15**	**343**	*e*PKPbc	PKPbc	18 42 41.2	-1.4
RJOB				*e*PKPab	PKPab	18 42 54.9	-0.2
BFO	**Black Forest**	**152.57**	**350**	*e*PKPbc	PKPbc	18 42 42.5	-1.0
BFO				*e*PKPab	PKPab	18 42 56.2	-0.6
CDF	**Champ du Feu**	**152.66**	**351**	*e*PKP1	PKPbc	18 42 42.5	-1.2
	comp=Z,12nm,0.9s						
FLN	**La Foliniere**	**152.72**	**2**	*e*PKP1	PKPbc	18 42 42.2	-1.6
	comp=Z,7.1nm,0.6s						
WTTA	**Wattenberg**	**152.89**	**344**	⇓*i*PKiKP	PKiKP	18 42 43.4	-0.9
	comp=Z,12nm,1.1s						
LDF	**La Druitiere**	**152.90**	**2**	*e*PKP1	PKPbc	18 42 42.6	-1.6
	comp=Z,6.9nm,0.7s						
ROSF	**Rostrenen**	**152.94**	**7**	*e*PKP1	PKPbc	18 42 42.5	-1.8
	comp=Z,9.8nm,0.8s						
GRR	**Gorron**	**153.08**	**3**	*e*PKP1	PKPbc	18 42 43.2	-1.4
	comp=Z,9.0nm,0.7s						
SGMF	**Saint Gilles**	**153.09**	**6**	*e*PKP1	PKPbc	18 42 42.9	-1.7
	comp=Z,5.5nm,0.5s						
ABTA	**Abfaltersbach**	**153.14**	**343**	⇑*i*PKPbc	PKPbc	18 42 43.1	-1.7
	comp=Z,4.8nm,0.6s						
HINF	**Hinteralfeld**	**153.30**	**351**	*e*PKP1	PKPbc	18 42 43.5	-1.6
QUIF	**Quistinic**	**153.37**	**7**	*e*PKP1	PKPbc	18 42 43.3	-1.9
LOR	**Lormes**	**154.16**	**356**	*e*PKP1	PKPbc	18 42 45.8	-1.1
	comp=Z,6.5nm,0.9s						
CABF	**La Chapelle**	**154.59**	**352**	*e*PKP1	PKPdf	18 42 46.5	+7.7
	comp=Z,16nm,1.1s						
TCF	**Toulx Ste Croi**	**155.21**	**358**	*e*PKP1	PKPdf	18 42 47.8	+8.1
KEST	**Kesra**	**164.08**	**335**	PKPab	PKPab	18 43 46.3	-1.0
	comp=Z,1.8nm,0.9s,baz=266,slow=2.9,SNR=4.9						
TORD	**Torodi Ar. Bea**	**171.72**	**184**	PKP	PKPdf	18 42 53.5	-2.1
	comp=Z,2.0nm,1.0s,baz=355,slow=1.3,SNR=7.0						
TORD				PKPab	PKPab	18 44 20.8	-0.7
	comp=Z,0.2nm,0.4s,baz=157,slow=3.4,SNR=5.0						
TORD	**Torodi Ar. Bea**	**171.72**	**184**	PKP	PKPdf	18 42 53.5	-2.1
TORD				PKPab	PKPab	18 44 20.8	-0.7

IDC 04 18:33:45.7±48.0**, 18.25S**×**176.14W, h0**km**, mb4.4**/3**, mb1 4.6**/3**, mb1mx4.0**/16**, mbtmp4.4**/3**, Error ellipse: s-maj=899.7km s-min=157.7km az=80.0, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**40.37**	**242**	P	P	18 41 25.8	+0.4
	1.3nm,0.5s,baz=88,slow=11,SNR=6.2						
WB2	**Warramunga Arr**	**46.68**	**260**	*e*P	P	18 42 16.5	0.0
WRA	**Warramunga Arr**	**46.69**	**260**	P	P	18 42 16.2	-0.3
	1.7nm,0.4s,baz=97,slow=7.4,SNR=64						
ASAR	**Alice Springs**	**46.78**	**254**	P	P	18 42 17.1	-0.2
	11nm,0.6s,baz=91,slow=8.2,SNR=313						
FITZ	**Fitzroy Crossi**	**55.10**	**260**	*e*P	P	18 43 19.0	-1.0
	2.4nm,0.4s						

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*NEIC **04** 18:33:56.2, 31.71S×68.64W, h150km, mb4.3/1, MD3.7(GUC), MD3.7(SJA), After GUC.*
NEIC Felt [III] in San Juan.
*GUC **04** 18:33:56.2±0.6, 31.71S×68.64W, h150km, MD3.7, ML3.7*
*ISCJB **04** 18:33:58.5±1.1, 31.80S±0.03×68.6W±0.1, h125km±15km, Error ellipse: s-maj=20.5km s-min=5.3km az=176.8*
ISC 04 18:33:57.8±0.9**, 31.79S**±0.03×**68.35W**±0.10**, h88**km±13km**, n29,** σ1§**04**/51**, 11C-8D, San Juan Province**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JACH	Jahuel	2.10	244	⇑*i*P	Pn	18 34 31.2	0.0
JACH				*i* S	Sn	18 34 57.5	+0.8
FCH	Farellones	2.25	226	*i* P	Pn	18 34 33.9	+0.7
FCH				*i* S	Sn	18 35 03.1	+2.9
FCH				AML	AML	18 35 12.3	
	comp=E,273nm,0.3s						
PEL	Peldehue	2.39	235	⇓*i*P	Pn	18 34 34.8	-0.2
PEL				*i* S	Sn	18 35 04.1	+0.4
PEL				AML	AML	18 35 05.3	
	comp=E,572nm,0.4s						
CLCH	Cerro Calan	2.44	228	⇑*i*P	Pn	18 34 36.0	+0.2
CLCH				*i* S	Sn	18 35 06.0	+1.1
CLCH				AML	AML	18 35 10.7	
	comp=E,497nm,0.5s						
ROCH	El Roble	2.54	242	*i* P	Pn	18 34 36.6	-0.5
ROCH				*i* S	Sn	18 35 07.3	0.0
LMEL	Las Melosas	2.58	217	AML	AML	18 35 23.3	
	comp=N,160nm,0.2s						
PCH	Pirque	2.58	224	⇓*i*P	Pn	18 34 37.6	0.0
PCH				*i* S	Sn	18 35 09.2	+1.0
ANTU	Antumapu	2.62	227	⇑*i*P	Pn	18 34 38.0	-0.1
ANTU				*i* S	Sn	18 35 09.3	+0.2
ANTU				AML	AML	18 35 12.1	
	comp=E,249nm,0.3s						
ANTU	Antumapu	2.62	227	⇑*i*P	Pn	18 34 38.0	-0.1
ANTU				*i* S	Sn	18 35 09.3	+0.2
TLL	Tololo Astrono	2.66	307	*i* P	Pn	18 34 39.9	+1.3
TLL				*i* S	Sn	18 35 11.2	+1.3
TLL				AML	AML	18 35 16.5	
	comp=N,253nm,0.7s						
TLL	Tololo Astrono	2.66	307	*i* P	Pn	18 34 39.9	+1.3
TLL				*i* S	Sn	18 35 11.2	+1.3
RCDM	Rinconada Maip	2.68	230	⇓*i*P	Pn	18 34 38.5	-0.4
RCDM				*i* S	Sn	18 35 10.7	+0.2
RCDM				AML	AML	18 35 12.5	
	comp=E,354nm,0.2s						
RCDM	Rinconada Maip	2.68	230	⇓*i*P	Pn	18 34 38.5	-0.4
RCDM				*i* S	Sn	18 35 10.7	+0.2
CHNG	Los Chungos	2.68	267	⇓*i*P	Pn	18 34 37.9	-1.0
CHNG				*i* S	Sn	18 35 08.6	-2.0
CHNG				AML	AML	18 35 16.7	
	comp=E,210nm,0.3s						
OVCH	Ovalle	2.71	295	⇑*i*P	Pn	18 34 39.5	+0.2
OVCH				*i* S	Sn	18 35 11.0	-0.3
OVCH				AML	AML	18 35 19.4	
	comp=N,336nm,0.2s						
OVCH	Ovalle	2.71	295	⇑*i*P	Pn	18 34 39.5	+0.2
OVCH				*i* S	Sn	18 35 11.0	-0.3
PACH	Papudo	2.72	253	⇑*i*P	Pn	18 34 38.3	-1.2
PACH				*i* S	Sn	18 35 09.7	-1.9
TACH	Talagante	2.87	229	⇑*i*P	Pn	18 34 40.5	-0.9
TACH				*i* S	Sn	18 35 14.9	-0.1
CHCH	Chadas Angostu	2.89	222	⇑*i*P	Pn	18 34 41.7	0.0
CHCH				*i* S	Sn	18 35 16.3	+0.8
CACH	El Canelo	3.00	219	⇓*i*P	Pn	18 34 43.6	+0.4
CACH				*i* S	Sn	18 35 19.6	+1.5
CICH	Cipreses	3.07	214	⇓*i*P	Pn	18 34 44.5	+0.4
CICH				*i* S	Sn	18 35 21.4	+1.6
LNV	Longovilo	3.36	229	⇓*i*P	Pn	18 34 45.6	-2.5
LNV				*i* S	Sn	18 35 24.2	-2.8
LCO	Las Campanas	3.43	323	⇑*i*P	Pn	18 34 49.9	+0.8
LCO				*i* S	Sn	18 35 29.1	+0.3
SFDO	San Fernando	3.60	218	⇑*i*P	Pn	18 34 49.7	-1.6
SFDO				*i* S	Sn	18 35 31.2	-1.5
TRQA	Tornquist	8.15	142	*e*P	Pn	18 35 50.0	-3.2
	comp=N,5.0nm,0.6s						
VNA3	Neumayer Olymp	50.27	159	*e*	P	18 42 44.7	+0.1
VNA1	Neumayer--Stat	50.52	158	*e*	P	18 42 47.1	+0.6
VNA2	Neumayer--Watz	50.88	158	*e*	P	18 42 49.7	+0.5
	baz=288,slow=9.2						
SNAA	Sanae	52.49	159	*e*	P	18 43 01.3	+0.1

IDC 04 18:45:57.1±3.7**,464S**×**15282E,h0**^{km}**,mb3.6**/2**,mb1 3.9**/2**, mb1mx3.4**/15**,mbtmp3.6**/2**,Error ellipse: s-maj=145.0km s-min=40.7km az=115.0,New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	Kakadu	21.66	247	*e*P	P	18 50 49.2	-0.4
	3.0nm,0.4s						
WB2	Warramunga Arr	23.55	228	*e*P	P	18 51 09.3	-0.3
WRA	Warramunga Arr	23.56	228	P	P	18 51 09.3	-0.4
	2.2nm,0.8s,baz=53,slow=9.9,SNR=21						
ASAR	Alice Springs	26.28	222	P	P	18 51 34.7	+0.2
	0.5nm,0.6s,baz=55,slow=9.2,SNR=12						
FITZ	Fitzroy Crossi	29.75	241	*e*P	P	18 52 04.7	-0.9
	2.5nm,0.7s						
TORD	Torodi Ar. Bea	150.27	288	PKPbc	PKPbc	19 05 51.0	-0.4
	0.3nm,0.5s,baz=66,slow=1.7,SNR=5.1						
TORD				PKPab	PKPab	19 05 57.2	-0.3
	0.3nm,0.5s,baz=64,slow=3.6,SNR=7.8						

*IDC **04** 19:01:43.4±1.0,660N×7279W,h170^{km}±29^{km},mb1 3.2/2, mb1mx2.9/21,mbtmp3.4/2,Error ellipse: s-maj=875.7km s-min=7.9km az=132.0*

*ISCJB **04** 19:01:45.5±1.2,68N±0.1×728W±02,h116^{km}±19^{km},Error ellipse: s-maj=36.9km s-min=7.2km az=39.6*

*FUNV **04** 19:01:49.3,695N×7279W,h125^{km},MW3.1*

ISC 04 19:01:46.4±1.3**,68N**±02×**728W**±02**,h113**^{km}±21^{km}**,n10, σ1^{s}23**/15**,2D,Northern Colombia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAPV	Capacho	1.18	24	⇓*i*P	Pn	19 02 12.5	+2.7
CAPV				*e*S	Sn	19 02 27.3	-0.1
SOCV	Socops	2.43	52	⇓*i*P	Pn	19 02 27.1	+2.0
SOCV				*e*S	Sn	19 02 54.1	-0.7
ROSC	El Rosal	2.45	219	P	Pn	19 02 23.9	-1.5
	8.9nm,0.3s,baz=286,slow=16,SNR=12						
ROSC				S	Sn	19 02 55.4	+0.2
	9.3nm,0.3s,baz=67,slow=21,SNR=11						
VIGV	El Vigia	2.49	34	*e*P	Pn	19 02 26.6	+0.7
VIGV				*e*S	Sn	19 02 54.4	-1.7
SDV	Santo Domingo	2.99	45	P	Pn	19 02 33.8	+1.4
	7.4nm,0.3s,baz=171,slow=23,SNR=8.2						
SDV				S	Sn	19 03 12.2	+4.3
	5.7nm,0.3s,baz=207,slow=20,SNR=13						
QARV	Quebrada Arrib	4.08	33	*e*P	Pn	19 02 46.5	-0.4
QARV				*e*S	Sn	19 03 29.9	-3.9
CURV	Curarigua	4.26	41	*e*P	Pn	19 02 49.0	-0.3
CURV				*e*S	Sn	19 03 33.2	-5.0
BAUV	El Baul	5.17	65	*e*P	Pn	19 03 01.1	-0.6
ASAR	Alice Springs	149.35	234	PKPbc	PKPdf	19 21 12.6	-5.9
	0.1nm,0.6s,baz=134,slow=4.0,SNR=3.2						
WRA	Warramunga Arr	150.60	241	PKPbc	PKPdf	19 21 15.5	-5.0
	0.8nm,1.2s,baz=111,slow=2.2,SNR=5.8						

IDC 04 19:27:40.5±6.8**,2294S**×**17789W,h0**^{km}**,mb3.7**/2**, mb1 4.0**/2**,mb1mx3.6**/15**,mbtmp3.7**/2**,Error ellipse: s-maj=270.8km s-min=109.1km az=157.0,South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	Alice Springs	44.11	259	P	P	19 35 50.1	-0.7
	1.1nm,0.8s,baz=84,slow=7.5,SNR=17						
WRA	Warramunga Arr	44.41	264	P	P	19 35 53.9	+0.6
	0.7nm,0.7s,baz=104,slow=8.0,SNR=11						
NB2	NORSAR Subarra	141.40	353	PKP	PKPdf	19 47 12.6	-0.3
	comp=Z,0.4nm,0.6s,baz=13,slow=3.0						
NOA	NORSAR Array B	141.40	353	PKP	PKPdf	19 47 12.8	-0.1
	comp=Z,0.6nm,0.6s,baz=16,slow=4.9,SNR=5.0						

*ISCJB **04** 19:51:44.3±1.1,5148N±005×16006E±009,h43^{km}±7^{km}, mb4.1/17,Error ellipse: s-maj=11.2km s-min=6.4km az=40.9*

*KRSC **04** 19:51:44.1±0.3,5158N×16005E,h31^{km}±31^{km},ML4.4*

*MOS **04** 19:51:47.7±1.4,5175N×15955E,h54^{km},mb4.4/7,Error ellipse: s-maj=15.6km s-min=7.8km az=91.8*

*IDC **04** 19:51:53.8±3.4,5180N×159.11E,h74^{km}±22^{km},mb3.6/12, mb1 3.7/13,mb1mx3.5/26,mbtmp3.6/13,Error ellipse: s-maj=40.5km s-min=19.4km az=104.0*

*NEIC **04** 19:51:53.2±1.8,5186N×159.19E,h70^{km}±9^{km},mb4.3/1, Error ellipse: s-maj=24.8km s-min=12.8km az=112.0*

ISC 04 19:51:45.7±1.0**,5149N**±005×**16001E**±009**,h37**^{km}±7^{km}**, n51,**σ**0^{s}93**/62**,mb4.1**/17**,1D,Off east coast of Kamchatka Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RUS	Russkaya	1.32	316	*e*P	Pn	19 52 06.9	-0.8
RUS				*e*S	Sn	19 52 24.1	0.0
GRL	Gorelyy	1.60	312	*e*P	Pn	19 52 12.1	+0.6
GRL				*i* S	Sn	19 52 32.0	+1.1
SPN	Mys Shipunski	1.61	0	*e*P	Pn	19 52 11.3	-0.3
SPN				*i* S	Sn	19 52 31.3	+0.1
NLC	Nalytchevo	1.73	347	*e*P	Pn	19 52 13.1	-0.2
NLC				*i* S	Sn	19 52 33.6	-0.6
PET	Petropavlovsk	1.75	332	⇓*i*PN	Pn	19 52 14.0	+0.5
PET				pmax	pmax		
	comp=Z,300nm,0.4s						
PET				pmax	pmax		
	comp=Z,476nm,0.5s						
PET	Petropavlovsk	1.75	332	*e*P	Pn	19 52 13.7	+0.2
PET				*i* S	Sn	19 52 34.7	+0.1
PET	Petropavlovsk	1.75	332	*e*Pn	Pn	19 52 13.2	-0.4
AVH	Avacha	1.94	337	*e*P	Pn	19 52 16.4	+0.2
AVH				*e*S	Sn	19 52 40.1	+0.8
PEA0B	Petropavlovsk-	2.16	320	*e*P	Pn	19 52 19.2	+0.2
PETK	Petropavlovsk-	2.16	320	P	Pn	19 52 19.5	+0.4
	comp=Z,20nm,0.3s,baz=111,slow=19,SNR=72						
PETK				S	Sn	19 52 49.8	+5.2
	comp=Z,30nm,0.3s,baz=114,slow=18,SNR=7.7						
GNL	Ganaly	2.54	331	*e*P	Pn	19 52 24.0	-0.4
GNL				*e*S	Sn	19 52 54.2	+0.1
SKR	Severo-Kuril's	2.58	253	*e*PN	Pn	19 52 24.6	-0.4
SKR				*e*S	Sn	19 52 54.0	-1.1
SKR				smax			
	comp=N,620nm,0.5s						
SKR				smax			
	comp=E,320nm,0.5s						
SKR				smax			
	comp=Z,200nm,0.7s						
MKZ	Mys Kozlova	3.25	18	*e*P	Pn	19 52 33.4	-0.6
MKZ				*i* S	Sn	19 53 09.5	-1.9
TUMR	Tumrok	3.80	1	P	Pn	19 52 42.6	+0.9
SRDR	Sredinnyy	4.84	358	P	Pn	19 52 57.3	+1.3
KBTR	Krutoberegovo	5.01	18	P	Pn	19 52 58.4	+0.1
KBTR				*i* S	Sn	19 53 54.0	-0.9
ASAJ	Asahikawa	13.81	245	P	Pn	19 54 59.6	+0.9
	comp=Z,0.3nm,0.3s,baz=126,slow=8.7,SNR=3.8						
BILL	Bilibino	16.88	8	*e*P	Pn	19 55 39.9	+1.1
BILL				pmax	pmax		
	comp=Z,3.0nm,0.9s						
YAK	Yakutsk	19.49	314	*i* P	Pn	19 56 06.7	-4.0
YAK				pmax	pmax		
	comp=Z,15nm,1.1s						
MJAR	Matsushiro Arr	21.54	235	P	P	19 56 35.0	+3.4
	comp=Z,0.7nm,0.4s,mb3.5,baz=24,slow=10,SNR=5.5						
MJAR	Matsushiro Arr	21.54	235	P	P	19 56 35.0	+3.4
MJAR				pmax	pmax		
	comp=Z,1.0nm,0.4s						
MJAR	Matsushiro Arr	21.54	235	P	P	19 56 35.0	+3.4
HIA	Hailar	25.55	281	*e*P	P	19 57 10.0	-0.8
HIA				pmax	pmax		
	comp=Z,9.0nm,0.8s						
HIA	Hailar	25.55	281	*e*P	P	19 57 10.0	-0.8
	comp=Z,8.9nm,0.8s,mb4.3						
ULN	Ulaanbaatar	33.84	285	*i* P	P	19 58 22.6	-1.6
SONM	Songino Array	34.25	285	P	P	19 58 28.2	+0.4
	comp=Z,0.2nm,0.6s,mb3.2,baz=79,slow=9.6,SNR=4.0						
ZALV	Zalesovo Beam	43.62	304	P	P	19 59 44.2	-1.8
	comp=Z,0.4nm,0.5s,mb3.4,baz=40,slow=7.8,SNR=3.7						
ZALV	Zalesovo Beam	43.62	304	P	P	19 59 44.2	-1.8
KURK	Kurchatov	48.55	303	P	P	20 00 24.7	-0.2
	comp=Z,4.3nm,0.8s,mb4.6,baz=62,slow=7.8,SNR=27						
KURK	Kurchatov	48.55	303	*e*P	P	20 00 23.2	-1.7
SPITS	Spitsbergen Ar	48.71	351	P	P	20 00 27.4	+1.6
	comp=Z,24nm,1.1s,mb5.1,baz=38,slow=9.7,SNR=7.2						
SPITS	Spitsbergen Ar	48.71	351	P	P	20 00 27.4	+1.6
SPITS				pmax	pmax		
	comp=Z,24nm,1.1s						
MKAR	Makanchi Array	48.82	297	P	P	20 00 26.3	-0.7
	comp=Z,0.8nm,0.4s,mb4.1,baz=57,slow=6.9,SNR=8.8						
MKAR	Makanchi Array	48.82	297	P	P	20 00 26.3	-0.7
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.4s						
BVAR	Borovoye Array	51.36	309	P	P	20 00 45.2	-0.9
	comp=Z,1.7nm,0.4s,mb4.3,baz=57,slow=6.8,SNR=26						
BVAR	Borovoye Array	51.36	309	P	P	20 00 45.2	-0.9
BVAR				pmax	pmax		
	comp=Z,2.0nm,0.4s						
BRVK	Borovoye	51.39	309	*e*P	P	20 00 44.9	-1.5
ARCES	ARCESS Array B	54.80	342	P	P	20 01 11.9	+0.7
	comp=Z,4.3nm,0.9s,mb4.5,baz=50,slow=12,SNR=4.5						
ARCES	ARCESS Array B	54.80	342	P	P	20 01 11.9	+0.7
ARCES				pmax	pmax		
	comp=Z,4.0nm,0.9s						
OBN	Obninsk	63.85	328	*e*P	P	20 02 12.8	-1.1
OBN				pmax	pmax		
	comp=Z,3.0nm,0.9s,mb4.3						
NB2	NORSAR Subarra	65.07	344	P	P	20 02 22.8	+1.0
	comp=Z,0.5nm,0.6s,mb3.7,baz=22,slow=6.9						
NOA	NORSAR Array B	65.07	344	P	P	20 02 23.1	+1.3
	comp=Z,0.8nm,0.7s,mb3.9,baz=21,slow=6.7,SNR=5.1						
NOA	NORSAR Array B	65.07	344	*e*P	P	20 02 22.8	+1.0
NOA				pmax	pmax		
	comp=Z,1.0nm,0.7s						
AKASG	Malin Array Be	69.97	329	P	P	20 02 53.2	+0.3
	comp=Z,2.4nm,0.6s,mb4.3,baz=28,slow=6.3,SNR=8.0						
AKASG	Malin Array Be	69.97	329	P	P	20 02 53.2	+0.3
AKASG				pmax	pmax		
	comp=Z,2.0nm,0.6s						
GERES	GERESS Array B	75.98	338	P	P	20 03 29.4	+0.9
	comp=Z,0.3nm,0.6s,mb3.4,baz=50,slow=2.1,SNR=4.2						
ASAR	Alice Springs	78.27	204	P	P	20 03 45.6	+4.1
	comp=Z,0.2nm,0.7s,mb3.1,baz=22,slow=5.2,SNR=3.2						
ASAR	Alice Springs	78.27	204	P	P	20 03 45.6	+4.1
MIB	Mutribah	79.84	305	*e*P	P	20 03 51.1	+0.8
	baz=316						
MIB				AMb	AMB	20 03 52.1	
	comp=Z,19nm,0.8s,mb5.1,baz=316						
RST	Umm Al-Ruwaisa	80.25	305	*e*P	P	20 03 53.1	+0.6
	baz=317						
RST				AMb	AMB	20 03 54.5	
	comp=Z,16nm,1.0s,mb4.9,baz=317						
NAY	Al-Naaiem	80.33	305	*e*P	P	20 03 53.8	+0.9
	baz=316						
NAY				AMb	AMB	20 03 54.8	
	comp=Z,7.0nm,1.0s,mb4.5,baz=316						

*MOS **04** 19:53:20.2±1.8,5161N×15948E,h7^{km},mb4.6/18,Error ellipse: s-maj=13.7km s-min=6.4km az=99.3*

*ISCJB **04** 19:53:21.2±1.6,5148N±004×15988E±009,h23^{km}±9^{km}, mb4.3/32,MS3.8/10,Error ellipse: s-maj=9.6km s-min=6.8km az=16.8*

*KRSC **04** 19:53:21.3±0.6,5171N×16005E,h5^{km}±5^{km},ML4.7*

*NEIC **04** 19:53:29.6±1.7,5178N×159.18E,h59^{km}±10^{km},mb4.4/10, Error ellipse: s-maj=22.1km s-min=11.0km az=110.0*

*IDC **04** 19:53:30.2±3.4,5181N×15931E,h72^{km}±24^{km},mb3.8/15, mb1 3.9/15,mb1mx3.8/25,mbtmp3.8/15,MS3.8/10, Ms1 3.8/10,ms1mx3.4/44,Error ellipse: s-maj=35.0km s-min=16.0km az=101.0*

ISC 04 19:53:21.5±1.8**,5153N**±004×**15977E**±008**,h10**^{km}±11^{km}**, n99,**σ**1^{s}45**/104**,mb4.3**/32**,MS3.8**/10**,2D,Off east coast of Kamchatka Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RUS	Russkaya	1.20	320	*e*P	Pn	19 53 43.8	-0.4
RUS				*i* S	Sb	19 54 00.4	+0.7
GRL	Gorelyy	1.47	315	*e*P	Pn	19 53 49.2	+1.3
GRL				*i* S	Sn	19 54 09.9	+2.7
PET	Petropavlovsk	1.65	336	*e*P	Pn	19 53 50.9	+0.4
PET				*i* S	Sn	19 54 12.4	+0.7
PET	Petropavlovsk	1.65	336	*e*P	Pn	19 53 50.6	+0.2
NLC	Nalytchevo	1.67	351	*e*P	Pn	19 53 50.3	-0.4
NLC				*i* S	Sn	19 54 11.3	-0.8
INSR	Institute	1.70	336	P	Pn	19 53 50.6	-0.6
INSR				*i* S	Sn	19 54 12.3	-0.6
AVH	Avacha	1.85	340	P	Pn	19 53 55.0	+1.8
PETK	Petropavlovsk-	2.03	322	P	Pn	19 53 56.6	+0.9
	25nm,0.3s,baz=111,slow=20,SNR=15						
PETK				S	Sn	19 54 26.6	+5.5
	100nm,0.3s,baz=143,slow=21,SNR=16						
GNL	Ganaly	2.44	334	*e*P	Pn	19 54 03.3	+2.0
SKR	Severo-Kuril's	2.45	251	*e*PN	Pn	19 54 02.2	+0.7
SKR				*e*S	Sn	19 54 31.1	-0.4
SKR				pmax	pmax		
	comp=Z,80nm,0.5s						
SKR				smax			
	comp=N,320nm,0.5s						
SKR				smax			
	comp=E,600nm,0.5s						
SKR				smax			
	comp=Z,220nm,0.5s						
SKR				MLR	MLR		
	comp=N,5µm,14.0s						
SKR				MLR	MLR		
	comp=E,5µm,14.0s						
SKR				MLR	MLR		
	comp=Z,4µm,14.0s						
KII	Karymskiy	2.52	356	P	Pn	19 54 02.9	+0.5
MKZ	Mys Kozlova	3.26	21	P	Pn	19 54 10.9	-1.7
MKZ				*i* S	Sn	19 54 46.0	-5.3
KBTR	Krutoberegovo	5.03	20	P	Pn	19 54 35.9	-0.9
HABR	Khabarovsk	16.16	269	*e*P	Pn	19 57 06.8	-1.7
BILL	Bilibino	16.87	8	*e*P	Pn	19 57 24.1	+6.8
BILL				pmax	pmax		
	comp=Z,7.0nm,0.9s						
YAK	Yakutsk	19.36	315	*e*P	Pn	19 57 43.8	-4.1
YAK				pmax	pmax		
	comp=Z,18nm,1.2s						
YAK				MLR	MLR		
	comp=N,281nm,16.0s						
YAK				MLR	MLR		
	comp=E,277nm,14.0s						
YAK				MLR	MLR		
	comp=Z,319nm,12.0s						
MJAR	Matsushiro Arr	21.44	234	P	P	19 58 12.0	+2.4
	comp=Z,4.3nm,0.9s,mb3.8,baz=29,slow=10,SNR=7.3						
MJAR				LR	LR	20 07 06.1	
	comp=Z,217nm,20.5s,MS3.5,baz=55,slow=38						
MJAR	Matsushiro Arr	21.44	234	P	P	19 58 12.0	+2.4
MJAR				pmax	pmax		
	comp=Z,4.0nm,0.9s						
MJAR				MLR	MLR		
	comp=Z,217nm,20.5s						
HIA	Hailar	25.40	281	*e*P	P	19 58 47.5	-1.2
HIA				pmax	pmax		
	comp=Z,13nm,0.8s						
HIA	Hailar	25.40	281	*e*P	P	19 58 47.5	-1.3
	comp=Z,13nm,0.8s,mb4.5						
KSRS	Korea Array	26.47	250	P	P	19 58 59.7	+1.2
	comp=Z,1.3nm,0.8s,mb3.5,baz=46,slow=9.4,SNR=3.6						
KSRS	Korea Array	26.47	250	P	P	19 58 59.7	+1.1
KSRS				pmax	pmax		
	comp=Z,1.0nm,0.8s,mb3.4						
SONM	Songino Array	34.09	285	P	P	20 00 05.1	-0.8
	comp=Z,0.5nm,0.7s,mb3.5,baz=71,slow=5.3,SNR=3.9						
SONM				LR	LR	20 14 58.4	
	comp=Z,284nm,18.5s,MS4.0,baz=70,slow=38						
SONM	Songino Array	34.09	285	P	P	20 00 05.1	-0.8
SONM				pmax	pmax		
	comp=Z,1.0nm,0.7s						
SONM				MLR	MLR		
	comp=Z,284nm,18.5s						
ZALV	Zalesovo Beam	43.47	304	P	P	20 01 21.6	-2.8
	comp=Z,1.3nm,0.7s,mb3.8,baz=60,slow=5.8,SNR=5.3						
ZALV				LR	LR	20 20 55.8	
	comp=Z,192nm,18.4s,MS4.0,baz=248,slow=38						
ZALV	Zalesovo Beam	43.47	304	P	P	20 01 21.6	-2.8
ZALV				pmax	pmax		
	comp=Z,1.0nm,0.7s,mb3.6						
ZALV				MLR	MLR		
	comp=Z,192nm,18.4s,MS4.0						
NVS	Novosibirsk	43.85	306	*i* P	P	20 01 24.1	-3.3
YKA	Yellowknife Ar	44.46	41	LR	LR	20 22 50.4	
	comp=Z,46nm,19.7s,MS3.4,baz=100,slow=40						
KURK	Kurchatov	48.41	303	P	P	20 02 01.6	-1.7
	comp=Z,6.4nm,0.8s,mb4.7,baz=61,slow=7.0,SNR=20						
KURK	Kurchatov	48.41	303	P	P	20 02 01.6	-1.7
KURK				pmax	pmax		
	comp=Z,6.0nm,0.8s,mb4.7						
SPITS	Spitsbergen Ar	48.65	351	P	P	20 02 04.1	-0.8
	comp=Z,3.4nm,0.5s,mb4.6,baz=20,slow=9.8,SNR=7.3						
SPITS	Spitsbergen Ar	48.65	351	P	P	20 02 04.1	-0.8
SPITS				pmax	pmax		
	comp=Z,3.0nm,0.5s						
SPITS	Spitsbergen Ar	48.65	351	P	P	20 02 04.1	-0.8
MK31	Makanchi Array	48.67	297	*e*P	P	20 02 03.5	-1.9
MKAR	Makanchi Array	48.67	297	P	P	20 02 03.1	-2.3
	comp=Z,1.0nm,0.5s,mb4.1,baz=50,slow=6.6,SNR=7.7						
MKAR	Makanchi Array	48.67	297	P	P	20 02 03.1	-2.3
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
BVAR	Borovoye Array	51.22	309	P	P	20 02 22.2	-2.5
	comp=Z,1.9nm,0.4s,mb4.4,baz=55,slow=7.0,SNR=19						
BVAR				LR	LR	20 26 11.3	
	comp=Z,322nm,18.6s,MS4.4,baz=78,slow=39						
BVAR	Borovoye Array	51.22	309	P	P	20 02 22.2	-2.5
BVAR				pmax	pmax		
	comp=Z,2.0nm,0.4s						
BVAR				MLR	MLR		
	comp=Z,322nm,18.6s						
BRVK	Borovoye	51.25	309	*e*P	P	20 02 23.0	-1.9
BRVK				pmax	pmax		
	comp=Z,6.0nm,0.9s,mb4.5						
BRVK	Borovoye	51.25	309	*e*P	P	20 02 23.0	-1.9
	comp=Z,5.6nm,0.9s,mb4.5						
ARU	Arti	54.42	318	*d i*P	P	20 02 46.0	-2.3
ARU				*e*		20 04 46.0	
ARU				*e*S	S	20 10 26.8	+0.5
ARU				*e*SS	SS	20 14 07.0	-0.8
ARU				pmax	pmax		
	comp=Z,8.0nm,1.7s,mb4.4						
ARCES	ARCESS Array B	54.72	342	P	P	20 02 49.0	-1.2
	comp=Z,3.2nm,0.9s,mb4.4,baz=18,slow=9.7,SNR=8.4						
ARCES				LR	LR	20 32 15.8	
	comp=Z,86nm,18.2s,MS3.9,baz=243,slow=43						
ARCES	ARCESS Array B	54.72	342	P	P	20 02 49.0	-1.2
ARCES				pmax	pmax		
	comp=Z,3.0nm,0.9s						
ARCES				MLR	MLR		
	comp=Z,86nm,18.2s						
CMAR	Chiang Mai Arr	57.67	259	P	P	20 03 13.2	+1.1
	comp=Z,0.8nm,0.9s,mb3.8,baz=30,slow=8.0,SNR=4.9						
CMAR				LR	LR	20 32 32.6	
	comp=Z,78nm,18.1s,MS3.9,baz=57,slow=41						
CMAR	Chiang Mai Arr	57.67	259	P	P	20 03 13.2	+1.2
CMAR				pmax	pmax		
	comp=Z,1.0nm,0.9s						
CMAR				MLR	MLR		
	comp=Z,78nm,18.1s						
NB2	NORSAR Subarra	64.99	344	P	P	20 04 00.1	-0.9
	comp=Z,1.5nm,0.9s,mb4.0,baz=22,slow=6.9						
NOA	NORSAR Array B	64.99	344	P	P	20 03 60.0	-1.0
	comp=Z,1.6nm,0.7s,mb4.1,baz=21,slow=6.6,SNR=7.3						
NOA	NORSAR Array B	64.99	344	P	P	20 04 00.0	-1.0
NOA				pmax	pmax		
	comp=Z,2.0nm,0.7s						
NOA	NORSAR Array B	64.99	344	P	P	20 03 60.0	-1.0
HFS	Hagfors	65.38	342	LR	LR	20 36 52.3	
	comp=Z,106nm,18.5s,MS4.1,baz=147,slow=40						
AKASG	Malin Array Be	69.86	329	P	P	20 04 30.2	-1.7
	comp=Z,5.0nm,0.7s,mb4.6,baz=30,slow=6.4,SNR=18						
AKASG	Malin Array Be	69.86	329	P	P	20 04 30.2	-1.7
AKASG				pmax	pmax		
	comp=Z,5.0nm,0.7s						
KIEV	Kiev	69.87	329	*e*P	P	20 04 30.7	-1.3
KIEV				pmax	pmax		
	comp=Z,6.0nm,0.9s,mb4.5						
KIEV	Kiev	69.87	329	*e*P	P	20 04 30.7	-1.3
	comp=Z,5.6nm,0.9s,mb4.5						
KWP	Kalwaria	72.79	332	*e*P	P	20 04 49.8	+0.1
KWP				pmax	pmax		
	comp=Z,14nm,1.0s,mb4.8						
KWP	Kalwaria	72.79	332	*e*P	P	20 04 49.8	+0.1
	comp=Z,14nm,1.0s,mb4.9						
STHS	Stebnicka Huta	73.40	333	*e*P	P	20 04 53.2	-0.1
STHS				pmax	pmax		
	comp=Z,3.0nm,0.9s,mb4.2						
STHS	Stebnicka Huta	73.40	333	*e*P	P	20 04 54.0	+0.7
STHS	Stebnicka Huta	73.40	333	*e*P	P	20 04 53.2	-0.1
	comp=Z,2.7nm,0.9s,mb4.2						
STHS				*e*		20 04 54.0	
KOLS	Kolonicke sedl	73.54	332	*e*P	P	20 04 55.1	+1.0
CLL	Collm	73.75	339	⇓*i*P	P	20 04 54.7	-0.6
UPC	Upice	73.79	337	*e*P	P	20 04 56.2	+0.7
BUR08	Bucovina Ar. S	73.81	330	*e*P	P	20 04 55.0	-0.7
DPC	Dobruska-Polom	73.86	337	*e*P	P	20 04 56.4	+0.5
WRA	Warramunga Arr	74.57	205	P	P	20 05 01.6	+1.3

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
	comp=Z,1.1nm,1.0s,mb3.7,baz=22,slow=6.2,SNR=3.9						
WRA	**Warramunga Arr**	**74.57**	**205**	P	**P**	**20 05 01.6**	**+1.3**
WRA				pmax	pmax		
	comp=Z,1.0nm,1.0s						
VYHS	**Vyhne**	**74.91**	**334**	*e*P	**P**	**20 05 02.1**	**0.0**
VYHS	**Vyhne**	**74.91**	**334**	*e*P	**P**	**20 05 01.9**	**-0.2**
VYHS				*e*		20 05 02.1	
KHC	**Kasperske Hory**	**75.65**	**338**	*e*P	**P**	**20 05 06.8**	**+0.4**
GERES	**GERESS Array B**	**75.89**	**338**	P	**P**	**20 05 07.1**	**-0.6**
	comp=Z,1.1nm,0.9s,mb3.8,baz=50,slow=4.2,SNR=7.0						
GERES	**GERESS Array B**	**75.89**	**338**	P	**P**	**20 05 07.1**	**-0.6**
GERES				pmax	pmax		
	comp=Z,1.0nm,1.0s						
BAIF	**Baives**	**76.68**	**344**	*e*P	**P**	**20 05 14.0**	**+1.8**
	comp=Z,7.2nm,0.9s,mb4.3						
BAIF	**Baives**	**76.68**	**344**	*e*P	**P**	**20 05 14.0**	**+1.8**
BAIF				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb4.3						
BAIF	**Baives**	**76.68**	**344**	*e*P	**P**	**20 05 14.0**	**+1.8**
	comp=Z,3.6nm,0.9s,mb4.3						
CDF	**Champ du Feu**	**77.69**	**342**	*e*P	**P**	**20 05 20.6**	**+2.7**
ASAR	**Alice Springs**	**78.24**	**204**	P	**P**	**20 05 22.1**	**+1.0**
	comp=Z,0.5nm,0.9s,mb3.4,baz=24,slow=5.9,SNR=4.0						
ASAR	**Alice Springs**	**78.24**	**204**	P	**P**	**20 05 22.1**	**+1.0**
ASAR				pmax	pmax		
	comp=Z,1.0nm,0.9s						
LOR	**Lormes**	**79.43**	**344**	*e*P	**P**	**20 05 29.5**	**+2.0**
	comp=Z,7.3nm,0.9s,mb4.3						
LOR	**Lormes**	**79.43**	**344**	*e*P	**P**	**20 05 29.5**	**+2.0**
LOR				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb4.3						
LOR	**Lormes**	**79.43**	**344**	*e*P	**P**	**20 05 29.5**	**+2.0**
	comp=Z,3.7nm,0.9s,mb4.3						
MIB	**Mutribah**	**79.69**	**305**	*e*P	**P**	**20 05 27.9**	**-1.4**
	baz=304						
MIB				AMb	AMB	20 05 29.8	
	comp=Z,32nm,1.0s,mb5.2,baz=304						
AVF	**Avril sur Loir**	**79.98**	**344**	*e*P	**P**	**20 05 32.7**	**+2.2**
	comp=Z,10.0nm,1.0s,mb4.4						
AVF	**Avril sur Loir**	**79.98**	**344**	*e*P	**P**	**20 05 32.7**	**+2.2**
AVF				pmax	pmax		
	comp=Z,5.0nm,1.0s,mb4.4						
AVF	**Avril sur Loir**	**79.98**	**344**	*e*P	**P**	**20 05 32.7**	**+2.2**
	comp=Z,5.0nm,1.0s,mb4.4						
SMF	**Signal de Mont**	**80.04**	**343**	*e*P	**P**	**20 05 33.0**	**+2.2**
RST	**Umm Al-Ruwaisa**	**80.11**	**305**	*e*P	**P**	**20 05 30.0**	**-1.5**
	baz=304						
RST				AMb	AMB	20 05 31.9	
	comp=Z,26nm,1.0s,mb5.1,baz=304						
NAY	**Al-Naaiem**	**80.19**	**305**	*e*P	**P**	**20 05 30.5**	**-1.5**
	baz=304						
NAY				AMb	AMB	20 05 32.0	
	comp=Z,14nm,1.0s,mb4.8,baz=304						
RDF	**Al-Radifah**	**80.29**	**305**	*e*P	**P**	**20 05 31.6**	**-0.9**
	baz=304						
RDF				AMb	AMB	20 05 33.5	
	comp=Z,42nm,1.0s,mb5.3,baz=304						
LPL	**La Plagne**	**80.58**	**341**	*e*P	**P**	**20 05 36.6**	**+2.9**
	comp=Z,7.8nm,1.0s,mb4.3						
LPG	**La Plagne**	**80.59**	**341**	*e*P	**P**	**20 05 36.9**	**+3.1**
TCF	**Toulx Ste Croi**	**80.67**	**344**	*e*P	**P**	**20 05 36.7**	**+2.5**
	comp=Z,7.9nm,1.1s,mb4.3						
TCF	**Toulx Ste Croi**	**80.67**	**344**	*e*P	**P**	**20 05 36.7**	**+2.5**
TCF				pmax	pmax		
	comp=Z,4.0nm,1.0s,mb4.3						
TCF	**Toulx Ste Croi**	**80.67**	**344**	*e*P	**P**	**20 05 36.7**	**+2.5**
	comp=Z,4.0nm,1.0s,mb4.3						
MFF	**Saint Martin d**	**80.73**	**346**	*e*P	**P**	**20 05 37.3**	**+2.7**
	comp=Z,16nm,1.2s,mb4.5						
PPT	**Papeete**	**81.75**	**132**	LR	LR	20 37 57.0	
	comp=Z,6.3nm,18.6s,MS3.0,baz=327,slow=32						
CAF	**Calviac**	**82.01**	**344**	*e*P	**P**	**20 05 44.6**	**+3.2**
	comp=Z,12nm,1.0s,mb4.5						
CAF	**Calviac**	**82.01**	**344**	*e*P	**P**	**20 05 44.6**	**+3.2**
CAF				pmax	pmax		
	comp=Z,6.0nm,1.0s,mb4.5						
CAF	**Calviac**	**82.01**	**344**	*e*P	**P**	**20 05 44.6**	**+3.2**
	comp=Z,5.8nm,1.0s,mb4.5						
KEST	**Kesra**	**89.32**	**336**	LR	LR	20 54 19.5	
	comp=Z,33nm,19.3s,MS3.8,baz=189,slow=41						

*MOS **04** 19:56:48.3±1.9, 5166N×15942E, h10km, mb4.8/22, Error ellipse: s-maj=12.5km s-min=6.0km az=97.6*
*KRSC **04** 19:56:50.7±0.8, 5177N×15993E, h16km±16km, ML4.7*
*ISCJB **04** 19:56:51.1±0.9, 5159N±004×15977E±009, h40km±6km, mb4.5/39, Error ellipse: s-maj=9.8km s-min=6.1km az=31.3*
*NEIC **04** 19:56:56.6±1.6, 5179N×15928E, h58km±11km, mb4.6/11, Error ellipse: s-maj=17.4km s-min=11.0km az=117.0*
*IDC **04** 19:56:57.4±2.8, 5179N×15930E, h67km±22km, mb3.8/17, mb1 3.9/18, mb1mx3.8/27, mbtmp3.8/18, Error ellipse: s-maj=22.9km s-min=15.1km az=113.0*
ISC 04 19:56:51.9±1.5, **5162N**±003×**15974E**±008, **h28**km±10km, **n110**, σ1s**33**/124, **mb4.5**/39, **2D, Off east coast of Kamchatka Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RUS	**Russkaya**	**1.11**	**318**	*e*P	**Pn**	**19 57 11.2**	**-0.3**
RUS				*i* S	**Sn**	**19 57 26.1**	**+0.2**
GRL	**Gorelyy**	**1.39**	**313**	*e*P	**Pn**	**19 57 16.4**	**+1.1**
GRL				*e*S	**Sn**	**19 57 35.3**	**+2.6**
SPN	**Mys Shipunski**	**1.49**	**7**	*e*P	**Pn**	**19 57 15.5**	**-1.2**
SPN				*e*S	**Sn**	**19 57 33.6**	**-1.6**
PET	**Petropavlovsk**	**1.55**	**335**	⇓*i*PN	**Pn**	**19 57 18.6**	**+1.0**
PET				*e*S	**Sn**	**19 57 41.1**	**+4.3**
PET				pmax	pmax		
	comp=Z,1μm,0.3s						
PET				pmax	pmax		
	comp=Z,2μm,0.5s						
PET				smax			
	comp=N,6μm,0.5s						
PET				smax			
	comp=N,4μm,0.4s						
PET				smax			
	comp=E,3μm,0.5s						
PET	**Petropavlovsk**	**1.55**	**335**	*e*P	**Pn**	**19 57 17.7**	**+0.1**
PET				*e*S	**Sn**	**19 57 37.3**	**+0.5**
PET	**Petropavlovsk**	**1.55**	**335**	*e*P	**Pn**	**19 57 17.5**	**-0.2**
NLC	**Nalytchevo**	**1.57**	**351**	*e*P	**Pn**	**19 57 17.6**	**-0.3**
NLC				*e*S	**Sn**	**19 57 37.2**	**0.0**
INSR	**Institute**	**1.60**	**335**	P	**Pn**	**19 57 17.4**	**-0.9**
INSR				*i* S	**Sn**	**19 57 37.2**	**-0.9**
AVH	**Avacha**	**1.76**	**340**	*e*P	**Pn**	**19 57 21.0**	**+0.6**
AVH				*e*S	**Sn**	**19 57 43.1**	**+1.3**
PETK	**Petropavlovsk-**	**1.94**	**321**	P	**Pn**	**19 57 24.1**	**+1.1**
	comp=E,59nm,0.3s,baz=110,slow=19,SNR=53						
PETK				S	**Sn**	**19 57 54.8**	**+8.4**
	comp=E,142nm,0.3s,baz=121,slow=30,SNR=14						
GNL	**Ganaly**	**2.35**	**333**	*e*P	**Pn**	**19 57 30.0**	**+1.5**
GNL				*i* S	**Sn**	**19 57 58.1**	**+1.7**
SKR	**Severo-Kuril's**	**2.46**	**249**	*e*PN	**Pn**	**19 57 29.5**	**-0.6**
SKR				*i* S	**Sn**	**19 57 57.0**	**-2.3**
SKR				pmax	pmax		
	comp=Z,90nm,0.3s						
SKR				smax			
	comp=N,990nm,0.5s						
SKR				smax			
	comp=E,570nm,0.5s						
SKR				smax			
	comp=Z,170nm,0.5s						
SKR				MLR	MLR		
	comp=N,3μm,16.0s						
SKR				MLR	MLR		
	comp=E,3μm,16.0s						
SKR				MLR	MLR		
	comp=Z,3μm,16.0s						
MKZ	**Mys Kozlova**	**3.18**	**21**	P	**Pn**	**19 57 38.2**	**-1.7**
MKZ				*i* S	**Sn**	**19 58 13.4**	**-3.4**
KMNR	**Kamenistaya**	**4.15**	**4**	P	**Pn**	**19 57 55.0**	**+1.7**
ZLN	**Zelenaya**	**4.45**	**8**	P	**Pn**	**19 57 58.8**	**+1.4**
SRDR	**Sredinnyy**	**4.71**	**360**	P	**Pn**	**19 58 01.8**	**+0.9**
KBTR	**Krutoberegovo**	**4.94**	**20**	P	**Pn**	**19 58 03.2**	**-1.0**
KBTR				*i* S	**Sn**	**19 58 57.7**	**-2.6**
ASAJ	**Asahikawa**	**13.72**	**244**	P	**Pn**	**20 00 04.7**	**+0.4**
	comp=Z,0.5nm,0.3s,baz=230,slow=18,SNR=6.9						
ASAJ	**Asahikawa**	**13.72**	**244**	P	**Pn**	**20 00 04.7**	**+0.4**
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
HABR	**Khabarovsk**	**16.14**	**268**	P	**Pn**	**20 00 31.6**	**-5.0**
HABR				*e*		20 03 31.7	
BILL	**Bilibino**	**16.78**	**9**	*e*P	**Pn**	**20 00 52.3**	**+7.8**
BILL				pmax	pmax		
	comp=Z,6.0nm,1.2s						
YAK	**Yakutsk**	**19.28**	**314**	*e*P	**Pn**	**20 01 11.2**	**-3.9**
YAK				pmax	pmax		
	comp=Z,13nm,1.0s						
MAT	**Matsushiro**	**21.48**	**234**	P	**P**	**20 01 39.1**	**+1.0**
MJAR	**Matsushiro Arr**	**21.48**	**234**	P	**P**	**20 01 39.3**	**+1.3**
	comp=Z,3.4nm,0.8s,mb3.7,baz=22,slow=10,SNR=8.5						
MJAR	**Matsushiro Arr**	**21.48**	**234**	P	**P**	**20 01 39.3**	**+1.2**
MJAR				pmax	pmax		
	comp=Z,3.0nm,0.8s						
HIA	**Hailar**	**25.36**	**281**	*e*P	**P**	**20 02 15.2**	**-1.1**
HIA				pmax	pmax		
	comp=Z,25nm,0.8s						
HIA	**Hailar**	**25.36**	**281**	*e*P	**P**	**20 02 15.2**	**-1.0**
	comp=Z,25nm,0.8s,mb4.8						
KSRS	**Korea Array**	**26.48**	**250**	P	**P**	**20 02 27.6**	**+1.1**
	comp=Z,1.4nm,0.6s,mb3.7,baz=50,slow=8.6,SNR=5.9						
KSRS	**Korea Array**	**26.48**	**250**	P	**P**	**20 02 27.7**	**+1.2**
KSRS				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb3.5						
SONM	**Songino Array**	**34.05**	**285**	P	**P**	**20 03 33.0**	**-0.3**
	comp=Z,0.6nm,0.5s,mb3.8,baz=61,slow=7.7,SNR=6.3						
SONM	**Songino Array**	**34.05**	**285**	P	**P**	**20 03 33.0**	**-0.3**
SONM				pmax	pmax		
	comp=Z,1.0nm,0.5s						
ZALV	**Zalesovo Beam**	**43.40**	**304**	P	**P**	**20 04 49.0**	**-2.6**
	comp=Z,0.9nm,0.3s,mb3.9,baz=39,slow=5.7,SNR=5.3						
ZALV	**Zalesovo Beam**	**43.40**	**304**	P	**P**	**20 04 49.0**	**-2.6**
ZALV				pmax	pmax		
	comp=Z,1.0nm,0.3s,mb4.0						
NVS	**Novosibirsk**	**43.78**	**306**	*i* P	**P**	**20 04 50.6**	**-4.0**
KURK	**Kurchatov**	**48.34**	**303**	P	**P**	**20 05 29.4**	**-1.2**
	comp=Z,8.5nm,0.7s,mb4.9,baz=61,slow=7.7,SNR=9.3						
KURK	**Kurchatov**	**48.34**	**303**	P	**P**	**20 05 29.4**	**-1.1**
KURK				pmax	pmax		
	comp=Z,9.0nm,0.7s,mb4.9						
SPITS	**Spitsbergen Ar**	**48.55**	**351**	P	**P**	**20 05 31.9**	**+0.1**
	comp=Z,4.9nm,0.4s,mb4.9,baz=29,slow=9.0,SNR=22						
SPITS	**Spitsbergen Ar**	**48.55**	**351**	P	**P**	**20 05 31.9**	**0.0**
SPITS				pmax	pmax		
	comp=Z,5.0nm,0.4s						
SPB4	**Spitsbergen Ar**	**48.55**	**351**	*e*P	**P**	**20 05 31.7**	**-0.2**
MK31	**Makanchi Array**	**48.61**	**297**	*e*P	**P**	**20 05 31.1**	**-1.6**
MKAR	**Makanchi Array**	**48.61**	**297**	P	**P**	**20 05 30.8**	**-1.9**
	comp=Z,2.1nm,0.5s,mb4.4,baz=56,slow=6.8,SNR=23						
MKAR	**Makanchi Array**	**48.61**	**297**	P	**P**	**20 05 30.8**	**-1.9**
MKAR				pmax	pmax		
	comp=Z,2.0nm,0.5s						
BVAR	**Borovoye Array**	**51.14**	**309**	P	**P**	**20 05 49.9**	**-1.9**
	comp=Z,4.6nm,0.4s,mb4.8,baz=56,slow=7.1,SNR=69						
BVAR	**Borovoye Array**	**51.14**	**309**	P	**P**	**20 05 49.9**	**-1.9**
BVAR				pmax	pmax		
	comp=Z,5.0nm,0.4s						
BRVK	**Borovoye**	**51.17**	**309**	*e*P	**P**	**20 05 49.8**	**-2.2**
BRVK				pmax	pmax		
	comp=Z,5.0nm,0.4s,mb4.8						
BRVK	**Borovoye**	**51.17**	**309**	*e*P	**P**	**20 05 49.8**	**-2.2**
	comp=Z,5.1nm,0.4s,mb4.8						
KEV	**Kevo**	**54.15**	**342**	*e*p	**P**	**20 06 13.2**	**-0.6**
	comp=Z,1.1nm,0.3s,mb4.3						
KEV	**Kevo**	**54.15**	**342**	*e*P	**P**	**20 06 13.2**	**-0.6**
KEV				pmax	pmax		
	comp=Z,1.0nm,0.3s,mb4.2						
ARU	**Arti**	**54.34**	**318**	*d i*P	**P**	**20 06 13.8**	**-1.6**
ARU				*e*		20 08 17.8	
ARU				*e*S	**S**	**20 13 52.7**	**+1.5**
ARU				*e*SS	SS	20 17 28.8	-3.9
ARU				pmax	pmax		
	comp=Z,2.0nm,0.4s,mb4.4						
ARCES	**ARCESS Array B**	**54.62**	**342**	P	**P**	**20 06 16.6**	**-0.7**
	comp=Z,5.1nm,0.8s,mb4.6,baz=27,slow=8.1,SNR=11						
ARCES	**ARCESS Array B**	**54.62**	**342**	P	**P**	**20 06 16.6**	**-0.7**
ARCES				pmax	pmax		
	comp=Z,5.0nm,0.8s						
CMAR	**Chiang Mai Arr**	**57.67**	**259**	P	**P**	**20 06 41.0**	**+1.3**
	comp=Z,1.6nm,0.9s,mb4.0,baz=33,slow=6.1,SNR=6.6						
CMAR	**Chiang Mai Arr**	**57.67**	**259**	P	**P**	**20 06 41.0**	**+1.3**
CMAR				pmax	pmax		
	comp=Z,2.0nm,0.9s						
PDAR	**Pinedale Array**	**58.45**	**60**	P	**P**	**20 06 47.3**	**+2.4**
	comp=Z,0.3nm,0.8s,mb3.4,baz=327,slow=4.8,SNR=2.2						
AKTK	**Aktyubinsk**	**58.66**	**313**	P	**P**	**20 06 44.4**	**-1.8**
AKTO	**Aktyubinsk**	**58.66**	**313**	P	**P**	**20 06 44.4**	**-1.8**
	comp=Z,0.7nm,0.4s,mb4.0,baz=61,slow=7.9,SNR=5.5						
AKTO	**Aktyubinsk**	**58.66**	**313**	P	**P**	**20 06 44.4**	**-1.8**
AKTO				pmax	pmax		
	comp=Z,1.0nm,0.4s,mb4.2						
JOF	**Joensuu**	**58.81**	**335**	*e*p	**P**	**20 06 46.3**	**-0.8**
	comp=Z,2.0nm,0.3s,mb4.6						
JOF	**Joensuu**	**58.81**	**335**	*e*P	**P**	**20 06 46.3**	**-0.8**
JOF				pmax	pmax		
	comp=Z,2.0nm,0.3s,mb4.6						
RAMN	**Ramite**	**59.08**	**275**	*e*P	**P**	**20 06 49.4**	**0.0**
	comp=Z,14nm,0.6s,mb5.2						
KKN	**Kakani**	**59.30**	**277**	*e*P	**P**	**20 06 50.9**	**0.0**
	comp=Z,6.8nm,0.6s,mb4.8						
DMN	**Daman**	**59.53**	**277**	*e*P	**P**	**20 06 52.7**	**+0.1**
	comp=Z,13nm,0.9s,mb5.0						
GKN	**Gorkha**	**59.54**	**278**	*e*P	**P**	**20 06 52.7**	**+0.1**
KAF	**Kangasniemi**	**60.76**	**337**	*e*p	**P**	**20 06 59.6**	**-0.8**
	comp=Z,1.9nm,0.3s,mb4.7						
KAF	**Kangasniemi**	**60.76**	**337**	*e*P	**P**	**20 06 59.6**	**-0.8**
KAF				pmax	pmax		
	comp=Z,2.0nm,0.3s,mb4.7						
MOS	**Moscow**	**62.78**	**327**	*e*P	**P**	**20 07 12.6**	**-1.6**
NB2	**NORSAR Subarra**	**64.90**	**344**	P	**P**	**20 07 27.2**	**-0.8**
	comp=Z,0.9nm,0.5s,mb4.1,baz=22,slow=6.9						
NOA	**NORSAR Array B**	**64.90**	**344**	P	**P**	**20 07 27.5**	**-0.5**
	comp=Z,1.5nm,0.6s,mb4.2,baz=22,slow=6.7,SNR=12						
NOA	**NORSAR Array B**	**64.90**	**344**	P	**P**	**20 07 27.5**	**-0.5**
NOA				pmax	pmax		
	comp=Z,2.0nm,0.6s						
NOA	**NORSAR Array B**	**64.90**	**344**	P	**P**	**20 07 27.5**	**-0.5**
AKASG	**Malin Array Be**	**69.77**	**329**	P	**P**	**20 07 58.0**	**-1.0**
	comp=Z,5.7nm,0.6s,mb4.7,baz=29,slow=6.3,SNR=18						
AKASG	**Malin Array Be**	**69.77**	**329**	P	**P**	**20 07 58.0**	**-1.0**
AKASG				pmax	pmax		
	comp=Z,6.0nm,0.6s						
KIEV	**Kiev**	**69.78**	**329**	*e*P	**P**	**20 07 57.2**	**-1.8**
KIEV				pmax	pmax		
	comp=Z,8.0nm,0.9s,mb4.7						
KIEV	**Kiev**	**69.78**	**329**	*e*P	**P**	**20 07 57.2**	**-1.9**
	comp=Z,8.1nm,0.9s,mb4.7						
STHS	**Stebnicka Huta**	**73.31**	**333**	*e*P	**P**	**20 08 21.3**	**+0.9**
STHS				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.3						
STHS	**Stebnicka Huta**	**73.31**	**333**	*e*P	**P**	**20 08 21.3**	**+0.9**
STHS				*e*		20 10 46.5	
STHS				*e*PP	PP	20 10 48.2	-15
STHS				*e*		20 47 02.5	
KOLS	**Kolonicke sedl**	**73.45**	**332**	*e*P	**P**	**20 08 20.5**	**-0.7**
CLL	**Collm**	**73.65**	**339**	*i* P	**P**	**20 08 22.4**	**+0.1**
	comp=Z,7.0nm,1.2s,mb4.5						
CRVS	**Cervenica-Dubn**	**73.71**	**333**	*e*P	**P**	**20 08 23.1**	**+0.4**
WRA	**Warramunga Arr**	**74.65**	**205**	P	**P**	**20 08 28.4**	**0.0**
	comp=Z,0.3nm,0.5s,mb3.5,baz=21,slow=6.2,SNR=6.1						
VYHS	**Vyhne**	**74.81**	**334**	*e*P	**P**	**20 08 29.5**	**+0.3**
ZST	**Bratislava**	**75.55**	**335**	*e*P	**P**	**20 08 35.4**	**+2.0**
ZST				pmax	pmax		
	comp=Z,4.0nm,0.7s,mb4.5						
ZST	**Bratislava**	**75.55**	**335**	*e*P	**P**	**20 08 35.4**	**+2.0**
	comp=Z,4.4nm,0.7s,mb4.5						
KHC	**Kasperske Hory**	**75.56**	**338**	*e*P	**P**	**20 08 34.0**	**+0.6**
GERES	**GERESS Array B**	**75.79**	**338**	P	**P**	**20 08 34.9**	**+0.1**
	comp=Z,0.8nm,0.6s,mb3.8,baz=28,slow=6.0,SNR=8.8						
GERES	**GERESS Array B**	**75.79**	**338**	P	**P**	**20 08 34.9**	**+0.1**
GERES				pmax	pmax		
	comp=Z,1.0nm,0.6s						
BAIF	**Baives**	**76.58**	**344**	*e*P	**P**	**20 08 40.6**	**+1.4**
	comp=Z,7.5nm,0.9s,mb4.3						
BAIF	**Baives**	**76.58**	**344**	*e*P	**P**	**20 08 40.6**	**+1.4**
BAIF				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb4.3						
BAIF	**Baives**	**76.58**	**344**	*e*P	**P**	**20 08 40.6**	**+1.4**
	comp=Z,3.8nm,0.9s,mb4.3						
ASAR	**Alice Springs**	**78.32**	**204**	P	**P**	**20 08 50.2**	**+1.1**
	comp=Z,0.3nm,0.5s,mb3.4,baz=19,slow=5.0,SNR=4.9						
LOR	**Lormes**	**79.34**	**344**	*e*P	**P**	**20 08 56.8**	**+2.2**
	comp=Z,6.0nm,0.7s,mb4.3						
LOR	**Lormes**	**79.34**	**344**	*e*P	**P**	**20 08 56.8**	**+2.2**
LOR				pmax	pmax		
	comp=Z,3.0nm,0.7s,mb4.3						
LOR	**Lormes**	**79.34**	**344**	*e*P	**P**	**20 08 56.8**	**+2.2**
	comp=Z,3.0nm,0.7s,mb4.3						
SSF	**Saint Saulge**	**79.60**	**344**	*e*P	**P**	**20 08 58.3**	**+2.3**
MIB	**Mutribah**	**79.62**	**305**	*e*P	**P**	**20 08 55.8**	**-0.6**
	baz=304						
MIB				AMb	AMB	20 08 56.8	
	comp=Z,37nm,0.7s,mb5.4,baz=304						
AVF	**Avril sur Loir**	**79.89**	**344**	*e*P	**P**	**20 09 00.2**	**+2.6**
	comp=Z,10nm,1.0s,mb4.4						
AVF	**Avril sur Loir**	**79.89**	**344**	*e*P	**P**	**20 09 00.2**	**+2.6**
AVF				pmax	pmax		
	comp=Z,5.0nm,1.0s,mb4.4						
AVF	**Avril sur Loir**	**79.89**	**344**	*e*P	**P**	**20 09 00.2**	**+2.6**
	comp=Z,5.3nm,1.0s,mb4.4						
SMF	**Signal de Mont**	**79.94**	**343**	*e*P	**P**	**20 09 00.2**	**+2.3**
RST	**Umm Al-Ruwaisa**	**80.04**	**305**	*e*P	**P**	**20 08 57.8**	**-0.9**
	baz=305						
RST				AMb	AMB	20 08 58.8	
	comp=Z,30nm,0.8s,mb5.3,baz=305						
NAY	**Al-Naaiem**	**80.12**	**305**	*e*P	**P**	**20 08 58.3**	**-0.9**
	baz=304						
NAY				AMb	AMB	20 08 59.4	
	comp=Z,17nm,0.9s,mb5.0,baz=304						
RDF	**Al-Radifah**	**80.22**	**305**	*e*P	**P**	**20 08 59.2**	**-0.5**
	baz=304						
RDF				AMb	AMB	20 09 00.3	
	comp=Z,45nm,1.0s,mb5.3,baz=304						
LPL	**La Plagne**	**80.48**	**341**	*e*P	**P**	**20 09 03.2**	**+2.4**
TCF	**Toulx Ste Croi**	**80.57**	**344**	*e*P	**P**	**20 09 04.2**	**+2.9**
MFF	**Saint Martin d**	**80.64**	**346**	*e*P	**P**	**20 09 04.0**	**+2.4**
	comp=Z,24nm,1.3s,mb4.7						
MFF	**Saint Martin d**	**80.64**	**346**	*e*P	**P**	**20 09 04.0**	**+2.4**
MFF				pmax	pmax		
	comp=Z,12nm,1.3s,mb4.7						
MFF	**Saint Martin d**	**80.64**	**346**	*e*P	**P**	**20 09 04.0**	**+2.4**
	comp=Z,12nm,1.3s,mb4.7						
CAF	**Calviac**	**81.92**	**344**	*e*P	**P**	**20 09 12.0**	**+3.5**
	comp=Z,15nm,1.1s,mb4.5						
CAF	**Calviac**	**81.92**	**344**	*e*P	**P**	**20 09 12.0**	**+3.5**
CAF				pmax	pmax		
	comp=Z,7.0nm,1.1s,mb4.5						
CAF	**Calviac**	**81.92**	**344**	*e*P	**P**	**20 09 12.0**	**+3.5**
	comp=Z,7.4nm,1.1s,mb4.5						

*ISCJB **04** 20:00:01.4±1.0, 5156N±005×15991E±009, h46km±7km, mb3.9/15, Error ellipse: s-maj=10.8km s-min=7.1km az=35.9*
*KRSC **04** 20:00:02.3±1.0, 5183N×16000E, h16km±16km, ML4.6*
*MOS **04** 20:00:02.0±1.0, 5166N×15971E, h46km, mb4.6/8, Error ellipse: s-maj=16.4km s-min=9.0km az=95.2*
*NEIC **04** 20:00:07.6±1.4, 5176N×15932E, h64km±9km, mb4.4/1, Error ellipse: s-maj=19.8km s-min=10.5km az=106.0*
*IDC **04** 20:00:08.8±3.2, 5175N×15917E, h73km±23km, mb3.6/14, mb1 3.7/15, mb1mx3.6/26, mbtmp3.6/15, Error ellipse: s-maj=35.8km s-min=16.5km az=99.0*
ISC 04 20:00:02.6±0.9, **5159N**±005×**15990E**±009, **h37**km±7km, **n47**, σ1s**10**/58, **mb3.9**/15, **1D, Off east coast of Kamchatka Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RUS	**Russkaya**	**1.21**	**315**	*e*P	**Pn**	**20 00 22.3**	**-0.6**
RUS				*i* S	**Sn**	**20 00 36.5**	**-1.5**
GRL	**Gorelyy**	**1.49**	**311**	*i* P	**Pn**	**20 00 27.6**	**+0.8**
GRL				*i* S	**Sn**	**20 00 46.3**	**+1.4**
SPN	**Mys Shipunski**	**1.52**	**3**	*e*P	**Pn**	**20 00 26.6**	**-0.6**
SPN				*i* S	**Sn**	**20 00 44.5**	**-1.2**
PET	**Petropavlovsk**	**1.63**	**332**	⇓*i*PN	**Pn**	**20 00 29.6**	**+0.8**
PET				pmax	pmax		
	comp=Z,400nm,0.3s						
PET				pmax	pmax		
	comp=Z,772nm,0.5s						
PET	**Petropavlovsk**	**1.63**	**332**	*i* P	**Pn**	**20 00 29.5**	**+0.7**
PET				*i* S	**Sn**	**20 00 49.4**	**+0.9**
PET	**Petropavlovsk**	**1.63**	**332**	*e*P	**Pn**	**20 00 29.0**	**+0.2**
INSR	**Institute**	**1.68**	**332**	*e*P	**Pn**	**20 00 29.5**	**0.0**
INSR				*i* S	**Sn**	**20 00 49.3**	**-0.5**
AVH	**Avacha**	**1.83**	**337**	*e*P	**Pn**	**20 00 32.4**	**+1.0**
AVH				*i* S	**Sn**	**20 00 54.1**	**+0.8**
PEA0B	**Petropavlovsk-**	**2.04**	**319**	*e*P	**Pn**	**20 00 34.9**	**+0.6**
PETK	**Petropavlovsk-**	**2.04**	**319**	P	**Pn**	**20 00 35.4**	**+1.1**
	comp=Z,31nm,0.3s,baz=114,slow=20,SNR=14						
PETK				S	**Sn**	**20 01 05.4**	**+6.8**
	comp=Z,102nm,0.3s,baz=121,slow=29,SNR=15						
GNL	**Ganaly**	**2.43**	**331**	*e*P	**Pn**	**20 00 40.8**	**+1.1**
GNL				*i* S	**Sn**	**20 01 09.0**	**+0.9**
SKR	**Severo-Kuril's**	**2.55**	**251**	*e*PN	**Pn**	**20 00 40.0**	**-1.4**
SKR				*e*S	**Sn**	**20 01 10.4**	**-0.8**
SKR				smax			
	comp=N,200nm,0.5s						
SKR				smax			
	comp=E,460nm,0.5s						
SKR				smax			
	comp=Z,200nm,0.5s						
SKR				MLR	MLR		
	comp=E,3μm,14.0s						
SKR				MLR	MLR		
	comp=Z,3μm,14.0s						
MKZ	**Mys Kozlova**	**3.17**	**20**	*e*P	**Pn**	**20 00 49.2**	**-0.7**
MKZ				*i* S	**Sn**	**20 01 23.7**	**-2.8**
TUMR	**Tumrok**	**3.71**	**2**	P	**Pn**	**20 00 58.7**	**+1.4**
KMNR	**Kamenistaya**	**4.18**	**3**	P	**Pn**	**20 01 03.7**	**-0.1**
KBTR	**Krutoberegovo**	**4.94**	**19**	P	**Pn**	**20 01 14.0**	**-0.2**
KBTR				*i* S	**Sn**	**20 02 06.4**	**-3.6**
ASAJ	**Asahikawa**	**13.79**	**244**	P	**Pn**	**20 03 15.3**	**-0.1**
	comp=Z,0.2nm,0.3s,baz=75,slow=19,SNR=3.4						
YAK	**Yakutsk**	**19.38**	**314**	*e*P	**Pn**	**20 04 25.2**	**-0.9**
YAK				pmax	pmax		
	comp=Z,9.0nm,0.7s						
MJAR	**Matsushiro Arr**	**21.54**	**234**	P	**P**	**20 04 49.7**	**+1.2**
	comp=Z,2.3nm,1.0s,mb3.6,baz=30,slow=10,SNR=4.4						
MJAR	**Matsushiro Arr**	**21.54**	**234**	*e*P	**P**	**20 04 52.7**	**+4.3**
MJAR				pmax	pmax		
	comp=Z,2.0nm,1.0s						
HIA	**Hailar**	**25.47**	**281**	*e*P	**P**	**20 05 25.8**	**-1.0**
HIA				pmax	pmax		
	comp=Z,13nm,0.9s						
HIA	**Hailar**	**25.47**	**281**	*e*P	**P**	**20 05 25.8**	**-1.0**
	comp=Z,13nm,0.9s,mb4.5						
SONM	**Songino Array**	**34.16**	**285**	P	**P**	**20 06 43.9**	**+0.1**
	comp=Z,0.2nm,0.6s,mb3.2,baz=62,slow=7.0,SNR=4.1						
ZALV	**Zalesovo Beam**	**43.51**	**304**	P	**P**	**20 07 59.8**	**-2.1**
	comp=Z,0.3nm,0.4s,mb3.4,baz=54,slow=7.5,SNR=3.8						
NVS	**Novosibirsk**	**43.89**	**306**	*e*P	**P**	**20 08 01.3**	**-3.7**
KURK	**Kurchatov**	**48.44**	**303**	P	**P**	**20 08 40.2**	**-0.6**
	comp=Z,5.5nm,0.8s,mb4.6,baz=61,slow=7.8,SNR=29						
KURK	**Kurchatov**	**48.44**	**303**	P	**P**	**20 08 40.2**	**-0.6**
KURK				pmax	pmax		
	comp=Z,6.0nm,0.8s,mb4.7						
SPITS	**Spitsbergen Ar**	**48.60**	**351**	P	**P**	**20 08 42.8**	**+1.1**
	comp=Z,4.1nm,0.6s,mb4.7,baz=5.4,slow=8.2,SNR=8.9						
SPITS	**Spitsbergen Ar**	**48.60**	**351**	P	**P**	**20 08 42.8**	**+1.0**
SPITS				pmax	pmax		
	comp=Z,4.0nm,0.6s						
MK31	**Makanchi Array**	**48.72**	**297**	*e*P	**P**	**20 08 41.9**	**-1.1**
MKAR	**Makanchi Array**	**48.72**	**297**	P	**P**	**20 08 42.0**	**-1.0**
	comp=Z,1.0nm,0.5s,mb4.2,baz=54,slow=7.2,SNR=8.4						
MKAR	**Makanchi Array**	**48.72**	**297**	P	**P**	**20 08 42.0**	**-1.0**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
BVAR	**Borovoye Array**	**51.24**	**309**	P	**P**	**20 09 00.6**	**-1.4**
	comp=Z,2.1nm,0.4s,mb4.4,baz=58,slow=7.0,SNR=26						
BVAR	**Borovoye Array**	**51.24**	**309**	P	**P**	**20 09 00.6**	**-1.5**
BVAR				pmax	pmax		
	comp=Z,2.0nm,0.4s						
ARCES	**ARCESS Array B**	**54.69**	**342**	P	**P**	**20 09 27.3**	**+0.1**
	comp=Z,3.7nm,0.9s,mb4.4,baz=39,slow=9.7,SNR=3.8						
ARCES	**ARCESS Array B**	**54.69**	**342**	P	**P**	**20 09 27.3**	**+0.1**
ARCES				pmax	pmax		
	comp=Z,4.0nm,0.9s						
CMAR	**Chiang Mai Arr**	**57.77**	**259**	P	**P**	**20 09 49.2**	**-0.6**
	comp=Z,0.7nm,0.8s,mb3.7,baz=13,slow=9.3,SNR=3.9						
CMAR	**Chiang Mai Arr**	**57.77**	**259**	P	**P**	**20 09 49.3**	**-0.5**
CMAR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
NB2	**NORSAR Subarra**	**64.96**	**344**	P	**P**	**20 10 38.4**	**+0.5**
	comp=Z,0.6nm,0.6s,mb3.8,baz=22,slow=6.9						
NOA	**NORSAR Array B**	**64.96**	**344**	P	**P**	**20 10 38.5**	**+0.7**
	comp=Z,1.5nm,0.8s,mb4.0,baz=22,slow=6.7,SNR=5.4						
NOA	**NORSAR Array B**	**64.96**	**344**	P	**P**	**20 10 38.5**	**+0.6**
NOA				pmax	pmax		
	comp=Z,2.0nm,0.9s						
AKASG	**Malin Array Be**	**69.85**	**329**	P	**P**	**20 11 08.9**	**0.0**
	comp=Z,2.6nm,0.5s,mb4.4,baz=30,slow=6.4,SNR=9.0						
AKASG	**Malin Array Be**	**69.85**	**329**	P	**P**	**20 11 09.0**	**+0.1**
AKASG				pmax	pmax		
	comp=Z,3.0nm,0.5s						

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CLL	**Collm**	**73.72**	**339**	*e*P	**P**	**20 11 34.0**	**+1.8**
CLL				Lm		20 42 00.0	
	comp=Z,200nm,18.5s						
WRA	**Warramunga Arr**	**74.66**	**205**	P	**P**	**20 11 39.5**	**+1.6**
	comp=Z,0.3nm,0.8s,mb3.2,baz=16,slow=5.9,SNR=3.7						
GERES	**GERESS Array B**	**75.86**	**338**	P	**P**	**20 11 45.3**	**+0.7**
	comp=Z,0.3nm,0.5s,mb3.5,baz=37,slow=6.9,SNR=3.8						
ASAR	**Alice Springs**	**78.33**	**204**	P	**P**	**20 12 01.0**	**+2.4**
	comp=Z,0.2nm,0.9s,mb3.1,baz=19,slow=5.9,SNR=3.4						

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*MOS **04** 20:09:40.7±2.0, 51.69N×160.15E, h14km, mb4.3/1, Error ellipse: s-maj=37.0km s-min=16.3km az=93.2*

KRSC 04 20:09:35.6±1.2**, 51.44N×160.30E, h5**km±5km**, ML4.2, Off east coast of Kamchatka Peninsula**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
RUS	**Russkaya**	**1.49**	**313**	*e*P	Pn	20 10 02.8	-0.2
RUS				*e*S	Sn	20 10 22.7	0.0
SPN	**Mys Shipunski**	**1.67**	**354**	P	Pn	20 10 07.5	+2.0
GRL	**Gorelyy**	**1.77**	**310**	P	Pn	20 10 08.0	+1.2
PET	**Petropavlovsk**	**1.88**	**328**	P	Pn	20 10 09.1	+0.7
PET				S	Sn	20 10 33.6	+1.1
PET	**Petropavlovsk**	**1.88**	**328**	*e*PN	Pn	20 10 09.6	+1.2
PET				*e*S	Sn	20 10 34.1	+1.6
PET				pmax	pmax		
	comp=Z,85nm,0.5s						
PET				smax			
	comp=N,308nm,0.4s						
GNL	**Ganaly**	**2.68**	**328**	P	Pn	20 10 21.7	+2.4
SKR	**Severo-Kuril's**	**2.75**	**256**	*e*PN	Pn	20 10 26.4	+6.2
SKR				*e*S	Sn	20 10 57.2	+3.4
SKR				smax			
	comp=N,250nm,0.5s						
SKR				smax			
	comp=E,120nm,0.5s						
SKR				smax			
	comp=Z,90nm,0.5s						
MKZ	**Mys Kozlova**	**3.24**	**15**	P	Pn	20 10 27.1	+0.1
KBTR	**Krutoberegovo**	**5.00**	**16**	P	Pn	20 10 56.1	+4.8

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*MOS **04** 20:09:46.8±1.8, 51.31N×159.86E, h13km, mb4.3/5, Error ellipse: s-maj=33.7km s-min=9.3km az=96.1*
*ISCJB **04** 20:09:51.2±1.8, 51.4N±0.1×159.8E±0.1, h45km±13km, mb3.9/7, Error ellipse: s-maj=19.1km s-min=15.0km az=178.3*
*KRSC **04** 20:09:51.7±1.1, 51.69N×159.82E, h5km±5km, ML4.3*
*IDC **04** 20:09:59.4±4.1, 51.62N×159.21E, h78km±27km, mb3.5/7, mb1 3.6/7, mb1mx3.3/24, mbtmp3.5/7, MS2.7/1, Ms1 2.7/1, ms1mx2.0/40, Error ellipse: s-maj=58.0km s-min=27.8km az=87.0*

ISC 04 20:09:51.0±2.6**, 51.38N**±0.07×**159.8E**±0.1**, h24**km±19km**, n26,** σ1ˢ**13**/31**, mb3.9**/7**, Off east coast of Kamchatka Peninsula**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
RUS	**Russkaya**	**1.32**	**324**	P	**Pn**	**20 10 13.7**	**-0.2**
RUS				*i* S	**Sn**	**20 10 29.6**	**-1.1**
GRL	**Gorelyy**	**1.58**	**318**	P	**Pn**	**20 10 18.4**	**+0.8**
GRL				*i* S	**Sn**	**20 10 37.7**	**+0.4**
SPN	**Mys Shipunski**	**1.73**	**5**	P	**Pn**	**20 10 20.8**	**+1.3**
SPN				*i* S	**Sn**	**20 10 41.9**	**+1.1**
PET	**Petropavlovsk**	**1.79**	**337**	*e*PN	**Pn**	**20 10 20.4**	**0.0**
PET				*e*S	**Sn**	**20 10 44.7**	**+2.4**
PET				pmax	pmax		
	comp=Z,284nm,0.5s						
PET				smax			
	comp=N,886nm,0.6s						
PET				smax			
	comp=E,492nm,0.5s						
PET	**Petropavlovsk**	**1.79**	**337**	P	**Pn**	**20 10 20.2**	**-0.2**
PET				*i* S	**Sn**	**20 10 41.1**	**-1.2**
NLC	**Nalytchevo**	**1.81**	**351**	P	**Pn**	**20 10 19.3**	**-1.4**
AVH	**Avacha**	**2.00**	**341**	P	**Pn**	**20 10 22.4**	**-0.8**
PETK	**Petropavlovsk-**	**2.16**	**324**	P	**Pn**	**20 10 27.8**	**+2.4**
	comp=E,12nm,0.3s,baz=122,slow=17,SNR=16						
PETK				S	**Sn**	**20 10 57.0**	**+5.6**
	comp=E,27nm,0.3s,baz=122,slow=29,SNR=11						
GNL	**Ganaly**	**2.58**	**335**	P	**Pn**	**20 10 31.3**	**+0.1**
MKZ	**Mys Kozlova**	**3.39**	**19**	P	**Pn**	**20 10 42.8**	**+0.4**
KBTR	**Krutoberegovo**	**5.16**	**19**	P	**Pn**	**20 11 04.5**	**-2.1**
KBTR	**Krutoberegovo**	**5.16**	**19**	PN	**Pn**	**20 11 04.5**	**-2.1**
KBTR	**Krutoberegovo**	**5.16**	**19**	P	**Pn**	**20 11 04.5**	**-2.1**
MJAR	**Matsushiro Arr**	**21.36**	**234**	LR	LR	20 21 45.7	
	comp=E,22nm,21.5s,baz=20,slow=33						
KURK	**Kurchatov**	**48.50**	**303**	P	**P**	**20 18 31.4**	**0.0**
	comp=E,1.6nm,0.7s,mb4.2,baz=61,slow=7.7,SNR=12						
KURK	**Kurchatov**	**48.50**	**303**	P	**P**	**20 18 31.5**	**0.0**
KURK				pmax	pmax		
	comp=Z,2.0nm,0.7s,mb4.3						
MKAR	**Makanchi Array**	**48.75**	**297**	P	**P**	**20 18 32.5**	**-0.9**
	comp=Z,0.4nm,0.4s,mb3.8,baz=55,slow=7.6,SNR=4.7						
BVAR	**Borovoye Array**	**51.32**	**309**	P	**P**	**20 18 51.8**	**-1.0**
	comp=Z,1.1nm,0.4s,mb4.1,baz=56,slow=7.2,SNR=14						
BVAR	**Borovoye Array**	**51.32**	**309**	P	**P**	**20 18 51.8**	**-1.1**
BVAR				pmax	pmax		
	comp=Z,1.0nm,0.4s						
ARCES	**ARCESS Array B**	**54.86**	**342**	P	**P**	**20 19 18.4**	**-0.2**
	comp=Z,4.3nm,0.9s,mb4.5,baz=33,slow=7.5,SNR=3.8						
ARCES	**ARCESS Array B**	**54.86**	**342**	P	**P**	**20 19 18.4**	**-0.3**
ARCES				pmax	pmax		
	comp=Z,4.0nm,0.9s						
NOA	**NORSAR Array B**	**65.14**	**344**	P	**P**	**20 20 29.8**	**+0.5**
	comp=Z,0.6nm,0.8s,mb3.7,baz=24,slow=6.7,SNR=3.3						
NOA	**NORSAR Array B**	**65.14**	**344**	P	**P**	**20 20 29.8**	**+0.5**
NOA				pmax	pmax		
	comp=Z,1.0nm,0.8s						
AKASG	**Malin Array Be**	**69.99**	**329**	P	**P**	**20 20 59.4**	**-0.6**
	comp=Z,0.5nm,0.4s,mb3.8,baz=37,slow=6.3,SNR=3.3						
AKASG	**Malin Array Be**	**69.99**	**329**	P	**P**	**20 20 59.4**	**-0.7**
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.4s						
WRA	**Warramunga Arr**	**74.44**	**205**	P	**P**	**20 21 29.4**	**+2.5**
	comp=Z,0.2nm,1.0s,mb3.0,baz=19,slow=6.1,SNR=3.3						

MAN 04 20:22:38, 14.00N×122.61E, h1km**, mb3.7, ML2.4, MS1.9, 1C-1D, Luzon**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
GQP	**Guinayangan**	**0.19**	**239**⇓	*e*P	Pg	20 22 42.8	+1.1
GQP				*e*S	Sg	20 22 45.8	+1.8
AUQP	**San Andres**	**0.68**	**175**	*e*P	Pg	20 22 52.8	+1.8
AUQP				*e*S	Sg	20 23 06.6	+6.8
POLP	**Polilio Island**	**0.97**	**318**	*e*P	Pg	20 22 57.7	+1.0
POLP				*e*S	Sg	20 23 13.6	+4.3
POLP	**Polilio Island**	**0.97**	**318**	*e*P	Pg	20 22 57.7	+1.0
POLP				*e*S	Sg	20 23 13.6	+4.3
PVCP	**Virac**	**1.55**	**105**	*e*P	Pn	20 23 07.2	+0.4
OTRP	**Odiongan**	**1.73**	**200**	*e*P	Pn	20 23 09.2	0.0
BALP	**Baler**	**2.00**	**330**	*e*P	Pn	20 23 15.3	+2.4
PCPH	**Palayan**	**2.13**	**317**⇑	*e*P	Pn	20 23 17.5	+2.7
PCPH				*e*S	Sn	20 23 47.1	+5.1
LUBP	**Lubang**	**2.31**	**264**	*e*P	Pn	20 23 18.9	+1.7
CAUP	**Cauayan**	**3.02**	**346**	*e*P	Pn	20 23 27.8	+0.8

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*ISCJB **04** 20:26:21.4±0.9, 57.6N±0.2×33.1W±0.2, h10km, mb3.6/7, MS3.5/11, Error ellipse: s-maj=28.7km s-min=12.8km az=21.9*
*IDC **04** 20:26:21.8±1.1, 57.62N×33.13W, h0km, mb3.6/6, mb1 3.8/7, mb1mx3.6/28, mbtmp3.6/7, ML3.7/1, MS3.5/14, Ms1 3.5/14, ms1mx3.2/46, Error ellipse: s-maj=38.0km s-min=21.4km az=27.0*
*CSEM **04** 20:26:23.0, 57.59N×33.15W, h10km, mb4.0/1, After NEIC*
*NEIC **04** 20:26:23.0±0.7, 57.59N×33.15W, h10km, mb4.0/1, Error ellipse: s-maj=23.5km s-min=10.1km az=201.0*

ISC 04 20:26:23.4±0.9**, 57.6N**±0.2×**33.1W**±0.2**, h10**km**, n25,** σ0ˢ**55**/13**, mb3.6**/7**, MS3.5**/11**, Reykjanes Ridge**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
BORG	**Borgarnes**	**9.12**	**34**	LR	LR	20 31 17.0	
	comp=Z,284nm,21.6s,baz=336,slow=32						
SFJD	**Kangerlussuaq**	**12.39**	**327**	LR	LR	20 33 26.1	
	comp=Z,246nm,18.0s,baz=109,slow=34						
EKA	**Eskdalemuir Ar**	**16.63**	**85**	Pn	**Pn**	**20 30 16.1**	**-0.2**
	0.1nm,0.3s,baz=292,slow=9.6,SNR=6.4						
EKA	**Eskdalemuir Ar**	**16.63**	**85**	Pn	**Pn**	**20 30 16.1**	**-0.2**
SCHQ	**Schefferville**	**18.85**	**276**	LR	LR	20 36 33.6	
	comp=Z,207nm,20.6s,baz=330,slow=32						
FLN	**La Foliniere**	**21.27**	**101**	*e*P	**P**	**20 31 09.1**	**-0.5**
	13nm,0.9s,mb4.0						
FLN	**La Foliniere**	**21.27**	**101**	*e*P	**P**	**20 31 09.1**	**-0.5**
	6.7nm,0.9s,mb4.0						
GRR	**Gorron**	**21.30**	**102**	*e*P	**P**	**20 31 10.6**	**+0.7**
LDF	**La Druitiere**	**21.56**	**100**	*e*P	**P**	**20 31 12.0**	**-0.7**
ESDC	**Sonseca Array**	**26.01**	**121**	P	**P**	**20 31 57.2**	**+1.0**
	0.7nm,0.6s,mb3.4,baz=329,slow=8.4,SNR=6.0						
ESDC				LR	LR	20 41 05.4	
	comp=Z,73nm,18.6s,MS3.2,baz=40,slow=34						
DAVOX	**Davos/Dischmat**	**28.01**	**94**	LR	LR	20 42 33.7	
	comp=Z,129nm,19.9s,MS3.5,baz=2.1,slow=35						
GERES	**GERESS Array B**	**28.82**	**87**	LR	LR	20 43 52.1	
	comp=Z,98nm,18.1s,MS3.5,baz=325,slow=36						
VRAC	**Vranov**	**30.11**	**84**	LR	LR	20 42 20.8	
	comp=Z,136nm,20.5s,MS3.6,baz=3.7,slow=32						
MDT	**Midelt**	**31.47**	**130**	LR	LR	20 42 03.5	
	comp=Z,48nm,21.8s,MS3.1,baz=280,slow=30						
ULM	**Lac du Bonnet**	**36.46**	**286**	LR	LR	20 46 56.1	
	comp=Z,90nm,20.4s,MS3.5,baz=36,slow=34						
YKA	**Yellowknife Ar**	**38.43**	**312**	P	**P**	**20 33 44.9**	**+0.4**
	0.4nm,0.6s,mb3.4,baz=55,slow=9.4,SNR=3.5						
YKA				LR	LR	20 48 52.6	
	comp=Z,65nm,20.7s,MS3.4,baz=90,slow=35						
TKL	**Tuckaleechee C**	**39.92**	**259**	LR	LR	20 49 08.4	
	comp=Z,78nm,21.0s,MS3.5,baz=50,slow=34						
BBTS	**Babate**	**44.66**	**157**	LR	LR	20 48 02.4	
	comp=Z,47nm,21.4s,MS3.4,baz=357,slow=29						
PDAR	**Pinedale Array**	**48.47**	**287**	P	**P**	**20 35 05.3**	**-0.4**
	0.4nm,0.6s,mb3.7,baz=72,slow=6.4,SNR=3.7						
PDAR				LR	LR	20 54 00.7	
	comp=Z,83nm,20.3s,MS3.7,baz=64,slow=34						
PDAR	**Pinedale Array**	**48.47**	**287**	P	**P**	**20 35 05.3**	**-0.4**
TORD	**Torodi Ar. Bea**	**51.61**	**135**	P	**P**	**20 35 29.4**	**-0.5**
	0.7nm,0.8s,mb3.7,baz=335,slow=9.0,SNR=4.7						
TXAR	**Lajitas Array**	**55.45**	**271**	LR	LR	20 59 35.8	
	comp=Z,44nm,18.5s,MS3.6,baz=180,slow=36						
KURK	**Kurchatov**	**58.40**	**44**	P	**P**	**20 36 18.3**	**-0.2**
	0.4nm,0.5s,mb3.7,baz=324,slow=7.0,SNR=3.7						
MKAR	**Makanchi Array**	**63.01**	**44**	P	**P**	**20 36 50.4**	**+0.4**
	0.2nm,0.3s,mb3.7,baz=326,slow=5.7,SNR=4.6						
ASAR	**Alice Springs**	**144.81**	**21**	PKP	PKPdf	20 45 58.9	-1.2
	0.7nm,0.8s,baz=353,slow=3.0,SNR=3.5						

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*NEIC **04** 20:35:46.9, 40.17N×25.04E, h27km, MD3.1(ATH), After ATH.*
*DDA **04** 20:35:46.4, 40.39N×25.13E, h13km±3km, Md2.7*
*ATH **04** 20:35:46.9, 40.17N×25.04E, h27km±2km, MD3.1/6*
*ISCJB **04** 20:35:47.8±0.7, 40.20N±0.03×25.07E±0.03, h12km±5km, Error ellipse: s-maj=4.7km s-min=2.9km az=26.9*
*CSEM **04** 20:35:47.1±0.1, 40.20N×25.06E, h10km, ML3.1/9, Error ellipse: s-maj=1.9km s-min=1.3km az=27.0*
*THE **04** 20:35:48.4, 40.19N×25.08E, h14km±1km, ML3.1/9, Error ellipse: s-maj=1.5km s-min=0.6km az=159.0*
*SOF **04** 20:35:50.9, 40.43N×25.47E, h20km, MD3.0*

ISC 04 20:35:48.3±0.5**, 40.20N**±0.03×**25.08E**±0.03**, h14**km±4km**, n34,** σ0ˢ**71**/57**, 4C-6D, Aegean Sea**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
LOS	**Limnos**	**0.27**	**179**	P	**Pg**	**20 35 53.3**	**-0.6**
LIA	**Limnos Island**	**0.32**	**165**	P	**Pg**	**20 35 54.8**	**0.0**
LIA				S	**Sg**	**20 35 58.9**	**-0.2**
LIA	**Limnos Island**	**0.32**	**165**⇑	*i*Pb	**Pg**	**20 35 54.7**	**-0.1**
LIA				*e*Sb	**Sg**	**20 35 59.0**	**-0.1**
LIA	**Limnos Island**	**0.32**	**165**⇑	*i*PB	**Pg**	**20 35 54.7**	**-0.1**
LIA				*e*SB	**Sg**	**20 35 59.0**	**-0.1**
BOZC	**Bozcaada**	**0.83**	**115**	*i* P	**Pg**	**20 36 04.5**	**+0.1**
BOZC				*i* S	**Sg**	**20 36 16.5**	**+1.2**
OUR	**Ouranopolis**	**0.85**	**279**	P	**Pg**	**20 36 04.5**	**-0.2**
OUR				S	**Sg**	**20 36 17.0**	**+1.2**
RDO	**Rodhopi**	**1.01**	**20**⇑	*i*Pn	**Pn**	**20 36 07.3**	**-0.6**
RDO				*e*Sn	**Sn**	**20 36 21.4**	**-0.5**
RDO	**Rodhopi**	**1.01**	**20**⇑	*i*PN	**Pn**	**20 36 07.3**	**-0.6**
RDO				*e*SN	**Sn**	**20 36 21.4**	**-0.5**
ALN	**Alexandroupoli**	**1.01**	**46**	P	**Pb**	**20 36 07.4**	**-0.2**
ALN				S	**Sb**	**20 36 20.8**	**+0.1**
PAIG	**Paliouri**	**1.11**	**256**	P	**Pb**	**20 36 07.8**	**-1.3**
PAIG				S	**Sb**	**20 36 24.1**	**+0.7**
PLG	**Polygyros**	**1.26**	**278**	P	**Pn**	**20 36 10.6**	**-0.8**
PLG				S	**Sb**	**20 36 28.0**	**+0.2**
PLG	**Polygyros**	**1.26**	**278**⇓	*i*Pn	**Pn**	**20 36 10.5**	**-0.9**
PLG				S	**Sb**	**20 36 28.0**	**+0.2**
PLG	**Polygyros**	**1.26**	**278**⇓	*i*PN	**Pn**	**20 36 10.5**	**-0.9**
PRK	**Paraskevi**	**1.33**	**136**	P	**Pn**	**20 36 12.2**	**-0.1**
PRK				S	**Sb**	**20 36 28.9**	**-0.9**
PRK	**Paraskevi**	**1.33**	**136**	*e*Pn	**Pn**	**20 36 12.0**	**-0.3**
PRK				S	**Sb**	**20 36 28.9**	**-0.9**
PRK				*e*Sn	**Sn**	**20 36 29.6**	**-0.2**
PRK	**Paraskevi**	**1.33**	**136**	*e*PN	**Pn**	**20 36 12.0**	**-0.3**
PRK				*e*SN	**Sn**	**20 36 29.6**	**-0.2**
SOH	**Sokhos**	**1.45**	**296**	P	**Pn**	**20 36 13.5**	**-0.6**
SOH				S	**Sn**	**20 36 33.2**	**+0.3**
KDZ	**Kurdzhali**	**1.47**	**10**	*i* P	**Pn**	**20 36 13.4**	**-0.9**
NVR	**Nevrokopi**	**1.47**	**322**⇓	*i*Pn	**Pn**	**20 36 14.0**	**-0.3**
NVR	**Nevrokopi**	**1.47**	**322**⇓	*i*PN	**Pn**	**20 36 14.0**	**-0.3**
RZN	**Rozhen**	**1.51**	**350**	P	**Pn**	**20 36 15.6**	**+0.8**
AYVA	**Ayvalik**	**1.53**	**125**	*i* P	**Pn**	**20 36 16.1**	**+1.0**
AYVA				*i* S	**Sn**	**20 36 35.4**	**+0.5**
HORT	**Hortiatis**	**1.56**	**285**	P	**Pn**	**20 36 14.9**	**-0.6**
HORT				S	**Sn**	**20 36 36.3**	**+0.8**
NEO	**Neokhori**	**1.69**	**239**⇓	*i*Pb	**Pb**	**20 36 15.3**	**-3.7**
NEO	**Neokhori**	**1.69**	**239**⇓	*i*PB	**Pb**	**20 36 15.3**	**-3.7**
MMB	**Musomiste**	**1.72**	**324**	P	**Pn**	**20 36 21.1**	**+3.3**
KNT	**Kendrikon**	**1.91**	**301**	P	**Pn**	**20 36 20.5**	**+0.1**
CHOS	**Chios island**	**1.97**	**157**	P	**Pn**	**20 36 21.0**	**-0.1**
CHOS				S	**Sn**	**20 36 46.1**	**+0.6**
LIT	**Litokhoron**	**1.98**	**268**	P	**Pn**	**20 36 20.1**	**-1.3**
LIT				S	**Sn**	**20 36 45.8**	**-0.2**
BALY	**Balya**	**2.01**	**102**	*i* P	**Pn**	**20 36 22.1**	**+0.4**
BALY				*i* S	**Sn**	**20 36 53.1**	**+6.5**
GRG	**Griva**	**2.17**	**291**	P	**Pn**	**20 36 23.8**	**-0.2**
GRG				S	**Sn**	**20 36 50.6**	**0.0**
KKB	**Krupnik**	**2.24**	**318**	*i* P	**Pn**	**20 36 30.2**	**+5.2**
JMB	**Yambol**	**2.53**	**26**	P	**Pn**	**20 36 29.3**	**+0.4**
FNA	**Florina**	**2.88**	**283**	P	**Pn**	**20 36 34.2**	**+0.5**
FNA				S	**Sn**	**20 37 08.9**	**+0.8**

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*BJI **04** 20:37:43.9, 2.90S×68.14E, h14km, mB5.2, mb4.7, Ms4.8, Msz4.8*
*IDC **04** 20:37:44.3±0.5, 2.73S×68.08E, h0km, mb4.2/23, mb1 4.3/23, mb1mx4.3/29, mbtmp4.2/23, MS3.9/21, Ms1 3.9/21, ms1mx3.7/35, Error ellipse: s-maj=15.9km s-min=14.8km az=148.0*
*ISCJB **04** 20:37:44.0±0.3, 2.71S±0.06×68.07E±0.05, h10km, mb4.5/68, MS4.0/27, Error ellipse: s-maj=8.0km s-min=7.6km az=21.7*
*MOS **04** 20:37:44.2±1.2, 2.65S×68.02E, h10km, mb4.9/20, MS4.3/5, Error ellipse: s-maj=11.7km s-min=7.0km az=92.0*
*GCMT **04** 20:37:45.7±0.4, 2.99S×68.21E, h12km, MW4.9/62, Moment Tensor Solution. s20,c24; s62,c83; Duration: 0 Moment tensor: Scale 10^16Nm; M_{rr}-1.87±.09; $M_{\theta\theta}$1.32±.09; $M_{\phi\phi}$0.54±.10; $M_{r\theta}$-0.70±.29; $M_{\theta\phi}$-0.98±.07; $M_{\phi r}$-1.37±.37; Best double couple: $M_0$2.38200×10^16 NP1:ϕ_s99.00000°, δ49.00000°, λ-131.00000°. NP2: ϕ_s332.00000°, δ56.00000°, λ-53.00000°. Principal axes: T 2.0040, Plg4.0000°, Azm37.0000°; N 0.7540, Plg30.0000°, Azm129.0000°; P -2.7600, Plg60.0000°, Azm300.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **04** 20:37:45.7±0.2, 2.77S×68.06E, h10km, mb4.7/18 Error ellipse: s-maj=7.5km s-min=6.3km az=58.0*
*SZGRF **04** 20:37:49.3, 2.09S×68.58E, h33km, mb4.8, Carlsberg Ridge*
*DJA **04** 20:37:55, 2.48S×68.40E, h40km, mb4.9/8*

ISC 04 20:37:45.9±0.3**, 2.74S**±0.05×**68.05E**±0.05**, h10**km**, (h17**km±1.9km**:pP-P), n130,** σ0ˢ**99**/116**, mb4.5**/68**, MS4.0**/27**, 2C-5D, Carlsberg Ridge**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
DGAR	**Diego Garcia**	**6.38**	**137**	*e*Pn	**Pn**	**20 39 18.1**	**-2.0**
	299nm,1.0s						
KMBO	**Kilima Mbogo**	**30.82**	**272**	LR	LR	20 54 01.4	
	comp=Z,182nm,20.5s,MS3.7,baz=49,slow=32						
GKN	**Gorkha**	**34.48**	**26**	*e*P	**P**	**20 44 35.0**	**+0.8**
	60nm,1.5s,mb5.3						
RAMN	**Ramite**	**34.52**	**30**	*e*P	**P**	**20 44 36.4**	**+1.8**
	66nm,1.7s,mb5.3						
ODAN	**Odare**	**34.85**	**31**	*e*P	**P**	**20 44 39.2**	**+1.8**
	43nm,1.3s,mb5.2						
TAPN	**Taplejung**	**35.41**	**31**	*e*P	**P**	**20 44 44.1**	**+1.8**
	59nm,1.6s,mb5.3						
CMAR	**Chiang Mai Arr**	**36.99**	**54**	P	**P**	**20 44 57.2**	**+1.3**
	4.4nm,1.1s,mb4.2,baz=242,slow=10.0,SNR=17						
CMAR				LR	LR	20 58 09.6	
	comp=Z,185nm,20.7s,MS3.9,baz=68,slow=33						
KBL	**Kabul**	**37.09**	**1**	*e*P	**P**	**20 44 57.4**	**+0.8**
KBL				pmax	pmax		
	comp=Z,9.0nm,1.0s,mb4.5						
KBL	**Kabul**	**37.09**	**1**	*e*P	**P**	**20 44 57.4**	**+0.8**
	comp=Z,8.7nm,1.0s,mb4.5						
CHTO	**Chiang Mai**	**37.18**	**54**	*e*P	**P**	**20 44 58.3**	**+0.8**
CHTO				pmax	pmax		
	comp=Z,10.0nm,1.1s,mb4.6						
CHTO	**Chiang Mai**	**37.18**	**54**	*e*P	**P**	**20 44 58.2**	**+0.7**
	comp=Z,10.0nm,1.1s,mb4.6						
NAY	**Al-Naaiem**	**37.55**	**329**	*e*P	**P**	**20 45 00.2**	**-0.3**
	baz=329						
NAY				AMb	AMB	20 45 02.9	
	comp=Z,10.0nm,1.6s,mb4.3,baz=329						
RST	**Umm Al-Ruwaisa**	**37.87**	**329**	*e*P	**P**	**20 45 03.2**	**-0.1**
	baz=329						
RST				AMb	AMB	20 45 04.5	
	comp=Z,31nm,1.1s,mb5.0,baz=329						
MIB	**Mutribah**	**37.95**	**330**	*e*P	**P**	**20 45 03.2**	**-0.7**
	baz=330						
MIB				AMb	AMB	20 45 05.3	
	comp=Z,25nm,1.2s,mb4.8,baz=330						
LSA	**Lhasa**	**39.10**	**33**	*e*P	**P**	**20 45 15.9**	**+2.3**
LSA				pmax	pmax		
	comp=Z,31nm,1.4s,mb4.8						
LSA	**Lhasa**	**39.10**	**33**	*e*P	**P**	**20 45 15.9**	**+2.3**
	comp=Z,31nm,1.4s,mb4.8						
LSZ	**Lusaka**	**41.20**	**250**	P	**P**	**20 45 32.2**	**+1.0**
	comp=Z,2.0nm,0.6s,mb3.9,baz=85,slow=6.1,SNR=7.5						
LSZ				LR	LR	21 00 17.6	
	comp=Z,309nm,18.1s,MS4.2,baz=160,slow=33						
UCH	**Uchtor**	**45.14**	**7**	*e*P	**P**	**20 46 04.3**	**+1.6**
	comp=Z,20nm,1.6s,mb4.7						
EKS2	**Erkin-Say**	**45.49**	**6**	*e*P	**P**	**20 46 06.8**	**+1.3**
	comp=Z,19nm,1.2s,mb4.8						
EKS2				*e*		20 46 13.3	
ASF	**Jabal al Asfar**	**45.59**	**322**	LR	LR	21 03 07.6	
	comp=Z,99nm,20.4s,MS3.7,baz=48,slow=33						
TKM2	**Tokmak 2**	**45.96**	**8**	*e*P	**P**	**20 46 10.0**	**+0.9**
TKM2				pmax	pmax		
	comp=Z,9.0nm,1.1s,mb4.6						
TKM2	**Tokmak 2**	**45.96**	**8**	*e*P	**P**	**20 46 09.9**	**+0.8**
	comp=Z,9.3nm,1.1s,mb4.6						
QIZ	**Qiongzhong**	**46.44**	**60**	P	**P**	**20 46 12.8**	**-0.5**
QIZ				S	**S**	**20 52 55.9**	**-5.6**
QIZ				LR	LR		
	comp=E,109nm,19.6s						
QIZ				LR	LR		
	comp=Z,163nm,18.3s,MS4.0						
LBTB	**Lobatse**	**46.48**	**238**	LR	LR	21 03 12.2	
	comp=Z,277nm,19.4s,MS4.2,baz=84,slow=33						
MMAI	**Mount Meron Ar**	**47.09**	**322**	LR	LR	21 03 55.2	
	comp=Z,70nm,21.3s,MS3.6,baz=100,slow=33						
GNI	**Garni**	**47.73**	**336**	LR	LR	21 05 44.7	
	comp=Z,72nm,21.4s,MS3.6,baz=312,slow=35						
BOSA	**Boshof**	**48.16**	**233**	P	**P**	**20 46 26.9**	**+0.2**
	comp=Z,2.4nm,0.9s,mb4.2,baz=37,slow=10,SNR=2.7						
BOSA				LR	LR	21 03 38.2	
	comp=Z,126nm,21.5s,MS3.9,baz=92,slow=32						
WMQ	**Urumqi**	**49.59**	**19**	P	**P**	**20 46 36.5**	**-0.9**
MK31	**Makanchi Array**	**50.90**	**13**	*e*P	**P**	**20 46 46.1**	**-1.1**
MKAR	**Makanchi Array**	**50.90**	**13**	P	**P**	**20 46 46.0**	**-1.1**
	comp=Z,0.8nm,0.7s,mb3.8,baz=182,slow=6.1,SNR=7.2						
MKAR				LR	LR	21 08 47.3	
	comp=Z,104nm,19.2s,MS3.9,baz=190,slow=37						
LZH	**Lanzhou**	**51.06**	**38**	*e*P	**P**	**20 46 51.5**	**+2.9**
LZH				AP	pP	20 46 55.0	+3.2
LZH				XP	sP	20 46 58.5	+5.5
LZH				AMB	AMB		
	comp=Z,21nm,1.5s,mb4.8						
LZH				AMB	AMB		
	comp=Z,86nm,4.5s						
GTA	**Gaotai**	**51.10**	**32**	*e*P	**P**	**20 46 49.5**	**+0.6**
GTA				AP	pP	20 46 53.7	+1.7
GTA				XP	sP	20 46 57.3	+4.0
GTA				AMB	AMB		
	comp=Z,8.0nm,1.4s,mb4.5						
KAPI	**Kappang**	**51.62**	**94**	LR	LR	21 06 41.6	
	comp=Z,142nm,18.5s,MS4.0,baz=99,slow=34						
KIV	**Kislovodsk**	**51.76**	**337**	*e*P	**P**	**20 46 48.7**	**-5.0**
KIV				pmax	pmax		
	comp=Z,9.0nm,1.1s,mb4.6						
XAN	**Xi'an**	**53.07**	**43**	P	**P**	**20 47 02.4**	**-1.2**
XAN				AP	pP	20 47 06.8	0.0
XAN				XP	sP	20 47 10.3	+2.2
XAN				AMB	AMB		
	comp=Z,8.0nm,1.1s,mb4.6						
XAN				AMB	AMB		
	comp=Z,16nm,12.5s						
XAN				LR	LR		
	comp=N,61nm,28.6s						
XAN				LR	LR		
	comp=E,34nm,21.2s						
AKTK	**Aktyubinsk**	**53.66**	**352**	P	**P**	**20 47 07.8**	**+0.1**
AKTK				LR	LR	21 07 15.0	
AKTO	**Aktyubinsk**	**53.66**	**352**	P	**P**	**20 47 07.8**	**+0.1**
	comp=E,2.2nm,0.7s,mb4.2,baz=172,slow=9.3,SNR=7.5						
AKTO				LR	LR	21 07 15.0	
	comp=E,65nm,20.7s,MS3.7,baz=307,slow=33						
KURK	**Kurchatov**	**54.01**	**8**	P	**P**	**20 47 08.8**	**-1.4**
	comp=E,4.2nm,1.0s,mb4.3,baz=208,slow=7.6,SNR=19						
KURK				PcP	PcP	20 48 15.4	+0.1
	comp=E,0.8nm,1.0s,baz=214,slow=3.3,SNR=4.0						
KURK				LR	LR	21 10 37.6	
	comp=E,122nm,18.7s,MS4.0,baz=205,slow=37						
KURK	**Kurchatov**	**54.01**	**8**	P	**P**	**20 47 08.8**	**-1.4**
KURK						20 48 15.4	
KURK	**Kurchatov**	**54.01**	**8**	P	**P**	**20 47 08.8**	**-1.4**
KURK				PcP	PcP	20 48 15.4	+0.1
KURK				LR	LR	21 10 37.6	
WHN	**Wuhan**	**55.15**	**49**	*e*P	**P**	**20 47 19.2**	**+0.3**
BVAR	**Borovoye Array**	**55.60**	**2**	P	**P**	**20 47 21.7**	**+0.1**
	comp=E,1.2nm,0.8s,mb4.0,baz=167,slow=8.5,SNR=8.2						
BRVK	**Borovoye**	**55.63**	**2**	*e*P	**P**	**20 47 21.9**	**0.0**
BRVK				pmax	pmax		
	comp=Z,6.0nm,1.0s,mb4.6						
BRVK	**Borovoye**	**55.63**	**2**	*e*P	**P**	**20 47 21.9**	**+0.1**
	comp=Z,6.4nm,1.0s,mb4.6						
ZAA0	**Zalesovo Array**	**58.19**	**12**	*e*P	**P**	**20 47 39.3**	**-0.7**
ZALV	**Zalesovo Beam**	**58.19**	**12**	P	**P**	**20 47 39.4**	**-0.6**
	comp=Z,2.0nm,0.7s,mb4.3,baz=205,slow=7.7,SNR=12						
ZALV				LR	LR	21 11 51.7	
	comp=Z,90nm,21.2s,MS3.9,baz=64,slow=35						
ZALV	**Zalesovo Beam**	**58.19**	**12**	P	**P**	**20 47 39.4**	**-0.6**
ZALV				LR	LR	21 11 51.7	
FITZ	**Fitzroy Crossi**	**58.40**	**109**	*e*P	**P**	**20 47 41.9**	**-0.4**
	comp=Z,15nm,1.2s,mb4.9						
FITZ				*e*		20 47 47.8	
NVS	**Novosibirsk**	**58.74**	**10**	*i* P	**P**	**20 47 42.1**	**-1.8**
ARU	**Arti**	**59.48**	**354***c*	*i*P	**P**	**20 47 50.6**	**+1.6**
ARU				*e*		20 49 56.5	
ARU				*e*S	**S**	**20 55 53.5**	**-4.7**
ARU				pmax	pmax		
	comp=Z,16nm,1.7s,mb4.8						
ARU	**Arti**	**59.48**	**354**	*e*P	**P**	**20 47 48.6**	**-0.3**
	comp=Z,15nm,1.2s,mb4.9						
SVE	**Sverdlovsk**	**59.68**	**355**	*e*P	**P**	**20 47 49.7**	**-0.6**
SVE				pmax	pmax		
	comp=Z,19nm,1.2s,mb5.0						
SONM	**Songino Array**	**60.48**	**29**	P	**P**	**20 47 56.7**	**+0.7**
	comp=Z,8.5nm,1.1s,mb4.7,baz=233,slow=7.2,SNR=31						
SONM				LR	LR	21 13 59.6	
	comp=Z,422nm,18.9s,MS4.6,baz=248,slow=36						
ULN	**Ulaanbaatar**	**60.82**	**29**⇑	*e*P	**P**	**20 47 58.9**	**+0.6**
ULN	**Ulaanbaatar**	**60.82**	**29**	*e*P	**P**	**20 47 59.0**	**+0.8**
	comp=Z,2.6nm,0.8s,mb4.4						
MLR	**Muntele Rosu**	**60.82**	**327**	P	**P**	**20 47 59.8**	**+1.4**
	comp=Z,4.8nm,1.1s,mb4.5						
ZAK	**Zakamensk**	**60.93**	**25**	*e*P	**P**	**20 47 56.8**	**-2.2**
ZAK				pmax	pmax		
	comp=Z,5.0nm,1.4s,mb4.5						
KRAR	**Krasnoyarsk**	**61.97**	**15**⇓	*e*P	**P**	**20 48 06.9**	**+0.9**

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
KRAR				pmax	pmax		
	comp=Z,16nm,1.1s,mb5.1						
KRAR				MLR	MLR		
	comp=Z,100nm,20.0s,MS4.0						
TLY	Talaya	62.06	24	eP	P	20 48 04.3	-2.3
TLY				pmax	pmax		
	comp=Z,15nm,1.7s,mb4.8						
TLY				MLR	MLR		
	comp=Z,335nm,21.0s,MS4.5						
AKASG	Malin Array Be	62.73	333	P	P	20 48 09.8	-1.4
	comp=Z,0.2nm,0.3s,mb3.8,baz=135,slow=5.8,SNR=11						
AKASG	Malin Array Be	62.73	333	P	P	20 48 09.8	-1.4
OBN	Obninsk	63.22	340	i P	P	20 48 14.0	-0.3
OBN				pmax	pmax		
	comp=Z,6.0nm,0.8s,mb4.8						
OBN				MLR	MLR		
	comp=Z,400nm,20.0s,MS4.6						
MOS	Moscow	63.39	341	eP	P	20 48 13.4	-2.0
UZH	Uzhgorod	64.74	328	eP	P	20 48 23.4	-1.0
MAW	Mawson	64.84	182	P	P	20 48 25.2	+0.4
	comp=Z,3.1nm,1.0s,mb4.3,baz=333,slow=6.0,SNR=5.9						
MAW				LR	LR	21 09 23.2	
	comp=Z,216nm,21.1s,MS4.3,baz=169,slow=29						
KOLS	Kolonicke sedl	64.93	329	eP	P	20 48 25.6	-0.1
CRVS	Cervenica-Dubn	65.34	328	eP	P	20 48 28.1	-0.2
VYHS	Vyhne	66.51	327	eP	P	20 48 35.2	-0.7
WRA	Warramunga Arr	66.79	110	P	P	20 48 37.6	-0.7
	comp=Z,10nm,0.9s,mb4.9,baz=280,slow=6.0,SNR=60						
WB2	Warramunga Arr	66.81	110	eP	P	20 48 37.5	-0.9
WB2				epP	pP	20 48 44.4	+2.7
ASAR	Alice Springs	66.82	114	P	P	20 48 37.6	-0.7
	comp=Z,5.1nm,0.8s,mb4.6,baz=283,slow=6.0,SNR=42						
KLMR	Klimovskoe	67.16	345	eP	P	20 48 39.4	-0.4
KLMR				pmax	pmax		
	comp=Z,24nm,1.7s,mb5.0						
TORD	Torodi Ar. Bea	67.70	285	P	P	20 48 43.6	-0.5
	comp=Z,1.5nm,1.1s,mb3.9,baz=97,slow=4.1,SNR=5.5						
TORD				LR	LR	21 16 48.7	
	comp=Z,88nm,19.8s,MS4.0,baz=85,slow=35						
KSRS	Korea Array	68.27	48	P	P	20 48 46.5	-0.7
	comp=Z,1.7nm,0.9s,mb4.1,baz=260,slow=7.5,SNR=4.6						
DPC	Dobruska-Polom	68.91	327	eP	P	20 48 50.4	-0.6
DPC				ex	x	20 49 02.3	
CN2	Changchun	69.08	41	eP	P	20 48 52.5	+0.3
CN2				AMB	AMB		
	comp=Z,10.0nm,1.2s,mb4.6						
KHC	Kasperske Hory	69.79	325⇓	eP	P	20 48 55.8	-0.7
KHC	Kasperske Hory	69.79	325	eP	P	20 48 55.7	-0.8
BRG	Berggiesshubel	70.47	327	eP	P	20 49 00.7	+0.1
BRG				pmax	pmax		
	comp=Z,2.0nm,1.1s,mb4.0						
BRG	Berggiesshubel	70.47	327	eP	P	20 49 00.7	+0.1
	comp=Z,4.0nm,1.1s,mb4.3						
FBE	Freiberg	70.82	327	eP	P	20 49 02.8	+0.1
	comp=Z,17nm,1.6s,mb4.7						
DAVOX	Davos/Dischmat	70.88	322	P	P	20 49 03.2	0.0
	comp=Z,3.1nm,0.7s,mb4.3,baz=290,slow=15,SNR=6.9						
ROTZ	Rotzenmuhle	70.88	325	eP	P	20 49 03.2	0.0
	comp=Z,4.0nm,1.2s,mb4.2						
DAVOS	Davos	70.96	322	P	P	20 49 03.3	-0.4
NKC	Novy Kostel	70.98	326	eP	P	20 49 04.1	+0.4
NKC				epP	pP	20 49 10.1	+3.1
WERN	Wernitzgruen	71.04	326	eP	P	20 49 04.5	+0.4
	comp=Z,14nm,1.3s,mb4.7						
MANZ	Manzenberg	71.05	326	eP	P	20 49 02.9	-1.2
	comp=Z,6.0nm,1.7s,mb4.2						
CLL	Collm	71.20	327⇓	iP	P	20 49 04.6	-0.5
CLL				i		20 49 11.1	
CLL				pmax	pmax		
	comp=Z,10.0nm,1.2s,mb4.6						
CLL	Collm	71.20	327	eP	P	20 49 04.9	-0.2
	comp=Z,10.0nm,1.2s,mb4.6						
CLL	Collm	71.20	327⇓	iP	P	20 49 04.6	-0.5
	comp=Z,10.0nm,1.2s,mb4.6						
CLL				i (sP)	sP	20 49 11.1	+1.6
CLL				i x	x	20 49 16.5	
GRA1	Grafenberg Arr	71.41	325	eP	P	20 49 05.8	-0.6
	comp=Z,17nm,1.2s,mb4.8						
GRF	Grafenberg Arr	71.41	325	eP	P	20 49 05.8	-0.6
GRF				pmax	pmax		
	comp=Z,17nm,1.2s,mb4.8						
GRF	Grafenberg Arr	71.41	325	eP	P	20 49 05.8	-0.6
GRF				pmax	pmax		
	comp=Z,17nm,1.2s,mb4.8						
GRF	Grafenberg Arr	71.41	325	eP	P	20 49 05.8	-0.6
	comp=Z,17nm,1.2s,mb4.8						
MOX	Moxa	71.64	326	eP	P	20 49 07.8	+0.1
	comp=Z,23nm,2.2s,mb4.7						
MDJ	Mudanjiang	72.14	41	P	P	20 49 11.6	+0.8
MDJ				AMB	AMB		
	comp=Z,9.0nm,1.1s,mb4.6						
MDJ				AMB	AMB		
	comp=Z,79nm,6.3s						
BFO	Black Forest	72.50	323	eP	P	20 49 12.5	-0.4
BFO				pmax	pmax		
	comp=Z,18nm,1.7s,mb4.7						
BFO	Black Forest	72.50	323	eP	P	20 49 12.5	-0.4
	comp=Z,18nm,1.7s,mb4.7						
UBBA	Unterbreizbach	72.63	326	eP	P	20 49 14.0	+0.4
	comp=Z,13nm,1.7s,mb4.6						
CLZ	Clausthal	72.90	327	eP	P	20 49 16.0	+0.8
CLZ				pmax	pmax		
	comp=Z,5.0nm,1.0s,mb4.4						
CLZ	Clausthal	72.90	327	eP	P	20 49 16.0	+0.8
	comp=Z,5.0nm,1.0s,mb4.4						
TNS	Taunus Mts	73.25	325	eP	P	20 49 17.9	+0.6
TNS				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.5						
TNS	Taunus Mts	73.25	325	eP	P	20 49 17.9	+0.6
	comp=Z,5.0nm,0.8s,mb4.5						
NRDL	Niedersach Rie	73.35	327	eP	P	20 49 19.1	+1.2
	comp=Z,12nm,1.4s,mb4.6						
DBIC	Dimbokro	73.38	278	P	P	20 49 19.0	+0.1
	comp=Z,4.9nm,1.0s,mb4.4,baz=58,slow=9.5,SNR=3.3						
DBIC				LR	LR	21 21 08.4	
	comp=Z,56nm,18.9s,MS3.9,baz=82,slow=36						
DBIC	Dimbokro	73.38	278	P	P	20 49 19.0	+0.1
DBIC				LR	LR	21 21 08.4	
HFS	Hagfors	75.51	335	P	P	20 49 29.4	-0.9
	comp=Z,1.9nm,0.7s,mb4.2,baz=142,slow=7.5,SNR=4.5						
MJAR	Matsushiro Arr	75.82	51	P	P	20 49 32.6	0.0
	comp=Z,1.6nm,0.7s,mb4.1,baz=270,slow=8.5,SNR=8.1						
MJAR				LR	LR	21 23 55.6	
	comp=Z,145nm,18.3s,MS4.3,baz=275,slow=37						
JHJ	Hachijo jima 2	76.29	55	LR	LR	21 20 42.7	
	comp=Z,62nm,19.3s,MS3.9,baz=315,slow=34						
NOA	NORSAR Array B	77.03	335	P	P	20 49 39.1	+0.2
	comp=Z,0.6nm,0.7s,mb3.7,baz=116,slow=6.5,SNR=3.9						
ARCES	ARCESS Array B	77.62	346	LR	LR	21 23 01.8	
	comp=Z,96nm,18.8s,MS4.1,baz=116,slow=35						
ESDC	Sonseca Array	78.01	311	P	P	20 49 45.8	+1.0
	comp=Z,3.2nm,0.8s,mb4.3,baz=104,slow=4.8,SNR=10						
YAK	Yakutsk	79.52	25	i P	P	20 49 53.2	+0.5
YAK				MLR	MLR		
	comp=Z,300nm,22.0s,MS4.6						
SNAA	Sanae	81.46	198	eP	P	20 50 09.4	+6.4
SNAA				e		20 50 14.8	
SNAA				e		20 50 19.1	
SNAA	Sanae	81.46	198	P	P	20 50 03.7	+0.7
SNAA				pmax	pmax		
	comp=Z,7.0nm,1.5s						
SNAA	Sanae	81.46	198	P	P	20 50 03.7	+0.7
	comp=Z,7.2nm,1.5s,mb4.4						
YSS	Yuzh-Sakhalins	81.61	42	eP	P	20 50 02.3	-1.9
YSS				e		20 50 08.9	
YSS				pmax	pmax		
	comp=Z,30nm,1.0s,mb5.2						
EKA	Eskdalemuir Ar	81.67	327	P	P	20 50 04.0	-0.3
	comp=Z,1.4nm,0.7s,mb4.0,baz=107,slow=5.3,SNR=5.5						
VNA2	Neumayer--Watz	82.68	199	eP	P	20 50 10.6	+1.2
	baz=55,slow=5.2						
VNA2				e		20 50 16.8	
VNA2				e		20 50 21.4	
VNA1	Neumayer--Stat	82.90	199	eP	P	20 50 12.9	+2.3
VNA1				e		20 50 18.7	
VNA1				e		20 50 22.9	
VNA3	Neumayer Olymp	83.47	199	eP	P	20 50 14.4	+0.9
VNA3				e		20 50 20.5	
VNA3				e		20 50 25.5	
TIXI	Tiksi	83.73	16	i P	P	20 50 14.1	-0.6
TIXI				pmax	pmax		
	comp=Z,38nm,1.7s,mb5.2						
TIXI				MLR	MLR		
	comp=Z,200nm,21.0s,MS4.5						
PETK	Petropavlovsk-	91.96	37	LR	LR	21 34 54.0	
	comp=Z,49nm,19.3s,MS4.0,baz=81,slow=37						
CFAA	Coronel Fontan	126.25	227	PKP	PKPdf	20 56 49.4	-0.1
	comp=Z,0.1nm,0.3s,baz=153,slow=2.8,SNR=3.8						
CFAA	Coronel Fontan	126.25	227	PKP	PKPdf	20 56 49.4	-0.1
SRU	San Rafael	143.78	358	ePKIKP	PKPdf	20 57 22.5	+0.6
PV01	Paradox Valley	144.64	355	eP	PKPdf	20 57 22.4	-1.0
ANMO	Albuquerque	147.55	352⇓	iPKP2	PKPab	20 57 32.0	-1.0
TXAR	Lajitas Array	152.41	344	PKP	PKPdf	20 57 36.6	+0.4
	comp=Z,0.4nm,0.8s,baz=119,slow=1.6,SNR=4.1						
TXAR				PKPbc	PKPbc	20 57 43.7	+0.6
	comp=Z,1.8nm,0.9s,baz=113,slow=0.9,SNR=11						
TXAR				PKPab	PKPab	20 57 53.1	+0.1
	comp=Z,3.0nm,1.1s,baz=48,slow=1.9,SNR=8.2						
TXAR	Lajitas Array	152.41	344	PKIKP	PKPdf	20 57 36.7	+0.4
TXAR						20 57 43.7	

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*ISCJB **04** 20:49:21.6±0.7, 72S±0.1×15588E±009, h29^{km}, mb4.1/12, Error ellipse: s-maj=15.0km s-min=13.2km az=169.5*

*IDC **04** 20:49:23.1±1.0, 7.19S×15580E, h28^{km}±4^{km}, mb4.0/10, mb1 4.1/11, mb1mx3.9/19, mbtmp4.0/11, ML4.3/1, MS3.6/4, Ms1 3.6/4, ms1mx3.1/27, Error ellipse: s-maj=29.7km s-min=19.9km az=104.0*

*NEIC **04** 20:49:26.4±1.5, 731S×15596E, h64^{km}±15^{km}, mb4.6/3, Error ellipse: s-maj=17.6km s-min=12.3km az=162.0*

ISC 04 20:49:26.5±1.7**, 73S**±01×**1560E**±01**, h64**^{km}±17^{km}**, h30**^{km}±1.7^{km}**:pP-P, n25,** σ**0^{s}91**/21**, mb4.1**/12**, Bougainville - Solomon Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
HNR	Honiara	4.47	118	Pn	Pn	20 50 31.3	-0.4
	13nm,0.3s,baz=223,slow=5.8,SNR=7.3						
HNR				Sn	Sn	20 51 34.4	+12
	20nm,0.3s,baz=174,slow=24,SNR=6.8						
HNR				LR	LR	20 52 17.7	
	comp=Z,589nm,19.1s,baz=261,slow=37						
PMG	Port Moresby	8.96	256	eP	Pn	20 51 33.7	+0.5
	28nm,0.6s						
CTA	Charters Tower	15.81	216	LR	LR	20 58 11.2	
	comp=Z,159nm,21.8s,baz=47,slow=33						
CTAO	Charters Tower	15.81	216	eP	Pn	20 53 09.3	+4.1
KAKA	Kakadu	23.77	255	eP	P	20 54 32.7	-0.6
	7.7nm,0.4s,mb4.5						
WB2	Warramunga Arr	24.43	237	eP	P	20 54 39.3	0.0
WRA	Warramunga Arr	24.44	237	P	P	20 54 39.5	+0.1
	7.7nm,0.7s,mb4.2,baz=61,slow=9.4,SNR=39						
ASAR	Alice Springs	26.69	230	P	P	20 54 59.0	-0.8
	1.2nm,0.6s,mb3.6,baz=62,slow=9.1,SNR=20						
STKA	Stephens Creek	27.87	207	P	P	20 55 12.1	+1.9
	2.2nm,0.7s,mb3.9,baz=278,slow=20,SNR=6.7						
FITZ	Fitzroy Crossi	31.41	247	eP	P	20 55 41.4	-0.4
	7.9nm,0.6s,mb4.7						
FITZ	Fitzroy Crossi	31.41	247	P	P	20 55 41.4	-0.4
	4.3nm,0.7s,mb4.4,baz=84,slow=9.4,SNR=32						
AFI	Afiamalu	32.35	104	LR	LR	21 05 48.5	
	comp=Z,73nm,18.7s,baz=41,slow=30						
KLBR	Kellerberrin	43.02	231	eP	P	20 57 19.3	-0.6
	10nm,0.8s,mb4.6						
NWAO	Narrogin (SRO)	44.01	229	LR	LR	21 15 31.4	
	comp=Z,131nm,18.5s,baz=237,slow=36						
CMAR	Chiang Mai Arr	61.79	295	P	P	20 59 37.0	-2.1
	0.8nm,0.9s,mb3.9,baz=114,slow=5.6,SNR=5.5						
CMAR				pP	pP	20 59 47.6	-8.6
	2.8nm,0.8s,baz=119,slow=5.1,SNR=13						
SONM	Songino Array	70.12	327	P	P	21 00 33.4	+1.4
	1.7nm,0.8s,mb4.0,baz=136,slow=6.9,SNR=10.0						
MK31	Makanchi Array	84.28	318	eP	P	21 01 52.1	+0.8
MKAR	Makanchi Array	84.28	318	P	P	21 01 52.3	+1.0
	2.0nm,0.7s,mb4.3,baz=98,slow=5.9,SNR=15						
MKAR				pP	pP	21 02 00.8	-8.4
	2.0nm,0.6s,baz=101,slow=6.4,SNR=5.6						
MKAR	Makanchi Array	84.28	318	P	P	21 01 52.3	+1.0
MKAR				pP	pP	21 02 00.8	-8.4
ZALV	Zalesovo Beam	84.98	326	P	P	21 01 54.4	-0.3
	0.6nm,0.4s,mb4.0,baz=123,slow=5.5,SNR=4.4						
ZALV				pP	pP	21 02 03.5	-9.1
	1.1nm,0.6s,baz=125,slow=6.1,SNR=4.6						
KURK	Kurchatov	87.68	322	P	P	21 02 08.0	0.0
	0.2nm,0.5s,mb3.6,baz=94,slow=5.5,SNR=3.8						
KURK				pP	pP	21 02 17.2	-8.8
	0.5nm,0.5s,baz=98,slow=4.5,SNR=5.1						
KURK	Kurchatov	87.68	322	P	P	21 02 08.0	0.0
KURK				pP	pP	21 02 17.2	-8.8
BVAR	Borovoye Array	93.13	323	P	P	21 02 32.8	-0.6
	0.4nm,0.5s,mb4.2,baz=72,slow=4.7,SNR=4.8						
BVAR				pP	pP	21 02 42.3	-9.1
	0.6nm,0.5s,baz=119,slow=5.4,SNR=4.2						
TORD	Torodi Ar. Bea	154.04	285	PKPbc	PKPbc	21 09 20.2	+0.2
	0.5nm,1.0s,baz=32,slow=2.4,SNR=3.5						
TORD				pPKPbc	pPKPbc	21 09 30.1	-8.5
	0.7nm,0.7s,baz=40,slow=1.9,SNR=4.1						
TORD				PKPab	PKPab	21 09 33.5	-0.1
	0.3nm,0.7s,baz=73,slow=2.5,SNR=4.0						
TORD	Torodi Ar. Bea	154.04	285	PKPbc	PKPbc	21 09 20.2	+0.2
TORD				pPKPbc	pPKPbc	21 09 30.1	-8.5
TORD				PKPab	PKPab	21 09 33.5	0.0

KRSC 04 20:54:55.4±1.0**, 5175N**×**16000E, h5**^{km}±5^{km}**, ML3.9, Off east coast of Kamchatka Peninsula**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
RUS	Russkaya	1.14	307	eP	Pg	20 55 17.2	-0.1
RUS				i S	Sg	20 55 33.0	+0.8
SPN	Mys Shipunski	1.35	1	eP	Pn	20 55 24.1	+3.2
SPN				i S	Sb	20 55 45.1	+6.4
GRL	Gorelyy	1.43	305	P	Pn	20 55 22.7	+0.7
GRL				i S	Sb	20 55 42.6	+1.5
NLC	Nalytchevo	1.48	345	P	Pn	20 55 23.0	+0.4
NLC				i S	Sn	20 55 43.2	+0.9
PET	Petropavlovsk	1.52	328	eP	Pn	20 55 24.1	+0.9
PET				i S	Sn	20 55 45.2	+1.9
AVH	Avacha	1.70	334	P	Pn	20 55 27.2	+1.5
GNL	Ganaly	2.32	328	P	Pn	20 55 35.6	+1.5
MKZ	Mys Kozlova	3.00	20	P	Pn	20 55 43.9	+0.4
MKZ				i S	Sn	20 56 18.5	-1.3
TUMR	Tumrok	3.54	1	P	Pn	20 55 52.6	+1.6
KBTR	Krutoberegovo	4.77	19	P	Pn	20 56 08.8	+1.0

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*IDC **04** 20:55:09.7±1.5, 278S×68.11E, h0^{km}, mb3.9/9, mb1 4.0/9, mb1mx3.8/23, mbtmp3.9/9, MS3.7/2, Ms1 3.8/2, ms1mx2.9/26, Error ellipse: s-maj=43.8km s-min=22.3km az=54.0*

*ISCJB **04** 20:55:10.2±0.7, 26S±0.1×682E±02, h10^{km}, mb3.9/10, Error ellipse: s-maj=24.6km s-min=16.4km az=176.0*

*NEIC **04** 20:55:11.4±1.3, 278S×68.12E, h10^{km}, mb4.4/1, Error ellipse: s-maj=35.0km s-min=19.5km az=53.0*

ISC 04 20:55:12.0±0.7**, 27S**±01×**682E**±02**, h10**^{km}**, n13,** σ**0^{s}83**/13**, mb3.9**/10**, Carlsberg Ridge**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	36.87	54	P	P	21 02 21.4	+0.5
	0.9nm,1.0s,mb3.5,baz=242,slow=8.9,SNR=5.4						
CMAR				LR	LR	21 15 31.8	
	comp=Z,47nm,18.8s,baz=235,slow=33						
EKS2	Erkin-Say	45.44	6	eP	P	21 03 33.2	+2.2
	4.8nm,1.1s,mb4.2						
MKAR	Makanchi Array	50.83	12	P	P	21 04 12.2	-0.5
	0.2nm,0.2s,mb3.6,baz=198,slow=8.8,SNR=4.0						
AKTK	Aktyubinsk	53.65	352	P	P	21 04 33.4	-0.2
AKTO	Aktyubinsk	53.65	352	P	P	21 04 33.4	-0.2
	0.2nm,0.3s,mb3.5,baz=196,slow=8.2,SNR=3.9						
KURK	Kurchatov	53.96	8	P	P	21 04 34.3	-1.6
	1.1nm,1.0s,mb3.7,baz=207,slow=6.4,SNR=4.4						
ZALV	Zalesovo Beam	58.13	11	P	P	21 05 05.0	-0.7
	0.9nm,0.6s,mb4.0,baz=190,slow=7.5,SNR=5.7						
SONM	Songino Array	60.38	29	P	P	21 05 22.4	+1.0
	1.3nm,0.8s,mb4.0,baz=213,slow=8.0,SNR=7.2						
SONM				LR	LR	21 30 37.9	
	comp=Z,144nm,19.3s,baz=234,slow=35						
WRA	Warramunga Arr	66.69	110	P	P	21 06 03.3	-0.4
	2.2nm,0.7s,mb4.3,baz=285,slow=5.9,SNR=20						
ASAR	Alice Springs	66.72	115	P	P	21 06 03.3	-0.5
	1.1nm,0.7s,mb4.0,baz=289,slow=6.9,SNR=16						
ESDC	Sonseca Array	78.08	311	P	P	21 07 11.2	-0.1
	1.2nm,0.7s,mb3.9,baz=93,slow=5.1,SNR=5.0						
VNA2	Neumayer--Watz	82.76	199	e	P	21 07 36.2	+0.4
	baz=32,slow=5.2						
VNA2				e		21 07 41.7	
VNA3	Neumayer Olymp	83.55	199	e	P	21 07 40.1	+0.2
VNA3				e		21 07 45.9	

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*DDA **04** 20:55:13.1, 3760N×3570E, h7^{km}±4^{km}, Md2.8*

*CSEM **04** 20:55:13.1±0.4, 3758N×3570E, h20^{km}, MD2.8, Error ellipse: s-maj=10.4km s-min=8.1km az=16.0*

*ISCJB **04** 20:55:14.5±0.7, 3755N±008×3567E±006, h20^{km}±11^{km}, Error ellipse: s-maj=14.7km s-min=7.4km az=160.4*

*ISK **04** 20:55:14.4, 3757N×3561E, h6^{km}, MD2.8*

ISC 04 20:55:14.4±0.7**, 3758N**±008×**3565E**±006**, h15**^{km}±10^{km}**, n7,** σ**0^{s}77**/11**, Turkey**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KOZT	Kozan	0.17	124	PG	Pg	20 55 19.4	+0.8
KOZT				SG	Sg	20 55 21.9	+0.4
ANDN	Andirin	0.56	89	i P	Pg	20 55 23.9	-1.5
ANDN				i S	Sg	20 55 33.2	+0.4
KARA	Karaisali	0.57	236	ePG	Pg	20 55 25.0	-0.5
KARA				eSG	Sg	20 55 33.4	+0.3
NIG	Nigde	0.98	303	ePG	Pg	20 55 33.0	-0.4
MERS	Mersin	1.14	232	ePN	Pn	20 55 36.0	+0.1
AVNT	Avonos	1.35	333	i P	Pn	20 55 38.0	-0.8
AVNT				i S	Sn	20 55 57.8	+1.2
SARI	SarD1z-Kayseri	1.38	37	ePG	Pg	20 55 34.8	-6.2

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*KRSC **04** 21:08:32.4±0.9, 5172N×15987E, h5^{km}±5^{km}, ML4.6*

*ISCJB **04** 21:08:35.2±1.1, 5162N±006×1597E±0.1, h56^{km}±6^{km}, mb4.2/26, MS3.7/3, Error ellipse: s-maj=14.0km s-min=7.4km az=35.2*

*MOS **04** 21:08:36.4±1.3, 5187N×15936E, h49^{km}, mb4.6/11, Error ellipse: s-maj=14.0km s-min=7.2km az=92.7*

*NEIC **04** 21:08:40.9±1.5, 5184N×15906E, h70^{km}±10^{km}, mb4.5/3, Error ellipse: s-maj=16.9km s-min=13.2km az=128.0*

*IDC **04** 21:08:41.4±2.3, 5188N×15904E, h76^{km}±19^{km}, mb3.6/17, mb1 3.7/18, mb1mx3.7/26, mbtmp3.6/18, MS3.6/3, Ms1 3.6/3, ms1mx2.9/30, Error ellipse: s-maj=18.7km s-min=15.0km az=127.0*

ISC 04 21:08:35.7±1.0**, 5160N**±006×**1597E**±01**, h44**^{km}±6^{km}**, n75,** σ**1^{s}08**/82**, mb4.2**/26**, MS3.7**/3**, 2C, Off east coast of Kamchatka Peninsula**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
RUS	Russkaya	1.12	319	eP	Pn	21 08 54.1	-0.7
RUS				i S	Sn	21 09 09.7	+0.7
GRL	Gorelyy	1.39	314	eP	Pn	21 08 59.2	+0.6
SPN	Mys Shipunski	1.52	7	eP	Pn	21 09 00.5	+0.2
SPN				i S	Sn	21 09 20.8	+2.0
PET	Petropavlovsk	1.57	336⇑	iPN	Pn	21 09 00.1	-0.9
PET				pmax	pmax		
	comp=Z,735nm,0.5s						
PET	Petropavlovsk	1.57	336	eP	Pn	21 09 00.3	-0.7
PET				i S	Sn	21 09 20.6	+0.5
PET	Petropavlovsk	1.57	336	ePn	Pn	21 09 01.1	0.0
NLC	Nalytchevo	1.59	352	eP	Pn	21 09 00.1	-1.2
INSR	Institute	1.62	336	P	Pn	21 09 01.0	-0.7
INSR				i S	Sn	21 09 21.6	+0.2
AVH	Avacha	1.77	341	P	Pn	21 09 05.1	+1.3
AVH				i S	Sn	21 09 29.2	+4.1
PEA0B	Petropavlovsk-	1.95	322	ePn	Pn	21 09 06.8	+0.5
PETK	Petropavlovsk-	1.95	322	P	Pn	21 09 06.5	+0.3
	comp=Z,21nm,0.3s,baz=120,slow=9.7,SNR=74						
GNL	Ganaly	2.36	334	eP	Pn	21 09 12.6	+0.7
SKR	Severo-Kuril's	2.44	249	ePN	Pn	21 09 12.0	-1.0
SKR				eS	Sn	21 09 37.4	-4.2
SKR				smax			
	comp=N,310nm,0.5s						
SKR				smax			
	comp=E,620nm,0.5s						
SKR				smax			
	comp=Z,150nm,0.5s						
MKZ	Mys Kozlova	3.21	22	eP	Pn	21 09 20.7	-2.8
TUMR	Tumrok	3.70	4	P	Pn	21 09 30.3	0.0
KIRR	Kirishev	4.38	5	P	Pn	21 09 38.7	-0.9
BZWR	Bezymyannyi-We	4.40	6	P	Pn	21 09 39.7	-0.1
SRDR	Sredinnyy	4.73	0	P	Pn	21 09 45.4	+1.0
KBTR	Krutoberegovo	4.97	20	P	Pn	21 09 45.9	-1.8
ASAJ	Asahikawa	13.69	244	P	Pn	21 11 47.9	+0.9
	comp=Z,0.2nm,0.3s,baz=74,slow=11,SNR=4.2						
BILL	Bilibino	16.80	9	eP	Pn	21 12 27.0	-0.4
BILL				eS	S	21 15 30.5	-11
BILL				pmax	pmax		
	comp=Z,8.0nm,1.1s						
YAK	Yakutsk	19.28	314	i P	Pn	21 12 54.5	-3.2
YAK				pmax	pmax		
	comp=Z,23nm,1.4s						
MJAR	Matsushiro Arr	21.45	234	P	P	21 13 21.5	+1.4
	comp=Z,3.1nm,0.8s,mb3.7,baz=25,slow=9.1,SNR=9.9						
MJAR	Matsushiro Arr	21.45	234	P	P	21 13 21.5	+1.5
MJAR				pmax	pmax		
	comp=Z,3.0nm,0.8s						
HIA	Hailar	25.35	281	eP	P	21 13 57.7	-0.5
HIA				pmax	pmax		
	comp=Z,16nm,0.8s						
HIA	Hailar	25.35	281	eP	P	21 13 57.6	-0.6
	comp=Z,16nm,0.8s,mb4.6						
KSRS	Korea Array	26.46	250	P	P	21 14 09.9	+1.6
	comp=Z,0.5nm,0.3s,mb3.5,baz=86,slow=20,SNR=3.2						
KSRS	Korea Array	26.46	250	eP	P	21 14 16.3	+7.9
KSRS				pmax	pmax		
	comp=Z,1.0nm,0.7s,mb3.5						
ULN	Ulaanbaatar	33.63	285⇑	eP	P	21 15 12.2	+0.5
SONM	Songino Array	34.04	285	P	P	21 15 12.1	-3.1
	comp=Z,0.4nm,0.5s,mb3.6,baz=69,slow=7.9,SNR=2.4						
SONM	Songino Array	34.04	285	eP	P	21 15 16.6	+1.4
SONM				pmax	pmax		
	comp=Z,1.0nm,0.6s						
ZALV	Zalesovo Beam	43.40	304	P	P	21 16 31.2	-2.3
	comp=Z,0.7nm,0.5s,mb3.7,baz=52,slow=7.9,SNR=5.2						
ZALV				LR	LR	21 36 23.8	
	comp=Z,72nm,18.5s,MS3.6,baz=60,slow=39						
ZALV	Zalesovo Beam	43.40	304	P	P	21 16 31.2	-2.3
ZALV				pmax	pmax		
	comp=Z,1.0nm,0.5s,mb3.8						
ZALV				MLR	MLR		
	comp=Z,72nm,18.5s,MS3.6						
NVS	Novosibirsk	43.78	306	i P	P	21 16 34.0	-2.6
KURK	Kurchatov	48.34	303	P	P	21 17 12.1	-0.3
	comp=Z,6.2nm,0.7s,mb4.7,baz=61,slow=7.8,SNR=26						
KURK	Kurchatov	48.34	303	P	P	21 17 12.1	-0.3
KURK				pmax	pmax		
	comp=Z,6.0nm,0.7s,mb4.7						
MK31	Makanchi Array	48.60	297	eP	P	21 17 14.2	-0.3
MKAR	Makanchi Array	48.60	297	P	P	21 17 13.7	-0.8
	comp=Z,1.3nm,0.5s,mb4.2,baz=55,slow=7.0,SNR=16						
MKAR	Makanchi Array	48.60	297	P	P	21 17 13.7	-0.8
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
BVAR	Borovoye Array	51.14	309	P	P	21 17 32.5	-1.2
	comp=Z,2.3nm,0.4s,mb4.4,baz=54,slow=7.0,SNR=31						
BVAR				LR	LR	21 41 13.1	
	comp=Z,79nm,21.0s,MS3.7,baz=75,slow=38						
BVAR	Borovoye Array	51.14	309	P	P	21 17 32.5	-1.2
BVAR				pmax	pmax		
	comp=Z,2.0nm,0.4s						
BVAR				MLR	MLR		
	comp=Z,79nm,21.0s						
ARCES	ARCESS Array B	54.64	342	P	P	21 17 58.9	-0.3
	comp=Z,5.0nm,0.8s,mb4.6,baz=23,slow=10,SNR=7.0						
ARCES	ARCESS Array B	54.64	342	P	P	21 17 58.9	-0.4
ARCES				pmax	pmax		
	comp=Z,5.0nm,0.8s						
ARCES	ARCESS Array B	54.64	342	P	P	21 17 58.9	-0.3
CMAR	Chiang Mai Arr	57.65	259	P	P	21 18 20.4	-1.0
	comp=Z,0.8nm,0.8s,mb3.8,baz=31,slow=7.8,SNR=5.9						
CMAR	Chiang Mai Arr	57.65	259	eP	P	21 18 23.9	+2.5
CMAR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
PDAR	Pinedale Array	58.47	60	P	P	21 18 32.8	+5.9
	comp=Z,0.3nm,0.6s,mb3.5,baz=341,slow=5.2,SNR=2.6						
AKTK	Aktyubinsk	58.66	313	P	P	21 18 28.0	-0.1
AKTO	Aktyubinsk	58.66	313	P	P	21 18 28.0	-0.1
	comp=Z,0.6nm,0.4s,mb3.9,baz=24,slow=4.4,SNR=3.9						
AKTO	Aktyubinsk	58.66	313	P	P	21 18 28.0	-0.1
AKTO				pmax	pmax		
	comp=Z,1.0nm,0.4s,mb4.2						
JOF	Joensuu	58.83	335	ep	P	21 18 28.7	-0.3
	comp=Z,2.3nm,0.8s,mb4.3						
JOF	Joensuu	58.83	335	eP	P	21 18 28.7	-0.3
JOF				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb4.2						
KAF	Kangasniemi	60.77	337	ep	P	21 18 42.2	-0.2

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
	comp=Z,2.3nm,0.6s,mb4.5						
KAF	**Kangasniemi**	**60.77**	**337**	*e*P	**P**	**21 18 42.2**	**-0.2**
KAF				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.4						
OBN	**Obninsk**	**63.65**	**328**	*e*P	**P**	**21 19 02.2**	**+0.4**
OBN				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb4.2						
NB2	**NORSAR Subarra**	**64.92**	**344**	P	**P**	**21 19 09.4**	**-0.5**
	comp=Z,1.7nm,0.8s,mb4.1,baz=23,slow=6.9						
NOA	**NORSAR Array B**	**64.92**	**344**	P	**P**	**21 19 09.0**	**-0.9**
	comp=Z,1.0nm,0.6s,mb4.0,baz=22,slow=6.7,SNR=8.0						
NOA	**NORSAR Array B**	**64.92**	**344**	*e*P	**P**	**21 19 10.4**	**+0.5**
NOA				pmax	pmax		
	comp=Z,1.0nm,0.6s						
NOA	**NORSAR Array B**	**64.92**	**344**	P	**P**	**21 19 09.0**	**-0.9**
AKASG	**Malin Array Be**	**69.78**	**329**	P	**P**	**21 19 40.6**	**-0.2**
	comp=Z,4.2nm,0.6s,mb4.5,baz=30,slow=6.2,SNR=15						
AKASG	**Malin Array Be**	**69.78**	**329**	P	**P**	**21 19 40.7**	**-0.2**
AKASG				pmax	pmax		
	comp=Z,4.0nm,0.6s						
TXAR	**Lajitas Array**	**71.45**	**66**	P	**P**	**21 19 53.5**	**+2.1**
	comp=Z,0.2nm,0.6s,mb3.2,baz=304,slow=2.9,SNR=3.3						
KWP	**Kalwaria**	**72.71**	**332**	*e*P	**P**	**21 19 59.6**	**+1.0**
KWP				pmax	pmax		
	comp=Z,7.0nm,0.9s,mb4.6						
KWP	**Kalwaria**	**72.71**	**332**	*e*P	**P**	**21 19 59.6**	**+1.0**
	comp=Z,7.4nm,0.9s,mb4.6						
STHS	**Stebnicka Huta**	**73.32**	**333**	*e*P	**P**	**21 20 04.2**	**+2.0**
CLL	**Collm**	**73.67**	**339**	*e*P	**P**	**21 20 06.0**	**+1.8**
BUR08	**Bucovina Ar. S**	**73.73**	**330**	*e*P	**P**	**21 20 05.2**	**+0.6**
WRA	**Warramunga Arr**	**74.62**	**205**	P	**P**	**21 20 11.8**	**+1.7**
	comp=Z,0.7nm,0.8s,mb3.6,baz=19,slow=6.2,SNR=6.2						
WRA	**Warramunga Arr**	**74.62**	**205**	*e*P	**P**	**21 20 15.2**	**+5.2**
WRA				pmax	pmax		
	comp=Z,1.0nm,0.8s						
GERES	**GERESS Array B**	**75.81**	**338**	P	**P**	**21 20 16.2**	**-0.5**
	comp=Z,0.4nm,0.6s,mb3.5,baz=324,slow=6.5,SNR=5.0						
GERES				LR	LR	21 59 32.7	
	comp=Z,36nm,18.3s,MS3.7,baz=90,slow=40						
ASAR	**Alice Springs**	**78.29**	**204**	P	**P**	**21 20 35.3**	**+4.5**
	comp=Z,0.2nm,0.5s,mb3.4,baz=24,slow=5.2,SNR=3.8						
MIB	**Mutribah**	**79.62**	**305**	*e*P	**P**	**21 20 38.3**	**+0.1**
	baz=305						
MIB				AMb	AMB	21 20 39.5	
	comp=Z,28nm,0.7s,mb5.3,baz=305						
RST	**Umm Al-Ruwaisa**	**80.04**	**305**	*e*P	**P**	**21 20 40.0**	**-0.5**
	baz=306						
RST				AMb	AMB	21 20 41.1	
	comp=Z,20nm,0.8s,mb5.1,baz=306						
NAY	**Al-Naaiem**	**80.12**	**305**	*e*P	**P**	**21 20 40.9**	**0.0**
	baz=305						
NAY				AMb	AMB	21 20 42.1	
	comp=Z,11nm,0.9s,mb4.8,baz=305						
RDF	**Al-Radifah**	**80.22**	**305**	*e*P	**P**	**21 20 40.8**	**-0.7**
	baz=305						
RDF				AMb	AMB	21 20 42.6	
	comp=Z,26nm,0.9s,mb5.2,baz=305						

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*IDC **04** 21:24:38.9±1.1, 51.47N×169.32W, h0km, mb3.8/5, mb1 4.2/5, mb1mx3.7/24, mbtmp3.8/5, Error ellipse: s-maj=70.7km s-min=23.0km az=172.0*
*ISCJB **04** 21:24:39.3±1.9, 52.2N±0.1×169.4W±0.1, h10km±11km, mb3.9/4, Error ellipse: s-maj=21.3km s-min=7.3km az=143.1*
*NEIC **04** 21:24:44.6, 52.52N×169.54W, h10km, ML3.5(AEIC), After AEIC.*
NEIC Felt at Anchorage.
ISC 04 21:24:41.7±2.1**, 52.3N**±0.1×**169.4W**±0.1**, h12**km±12km**, n12, σ1s.05**/15**, mb3.9**/4**, Fox Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
NIKO	**Nikolski**	**0.73**	**28**	*e*Pg	**Pg**	**21 24 56.0**	**+0.1**
NIKO				*e*Sg	**Sg**	**21 25 04.5**	**-1.0**
OKCD	**Okmok Cone D**	**1.36**	**35**	P	**Pn**	**21 25 06.5**	**0.0**
OKCD				S	**Sb**	**21 25 24.2**	**-0.1**
UNV	**Unalaska Valle**	**2.33**	**48**	*e*Pn	**Pn**	**21 25 20.1**	**+0.4**
UNV				Sn	**Sn**	**21 25 47.7**	**-0.5**
AKUT	**Akutan**	**2.84**	**49**	*e*Pn	**Pn**	**21 25 28.9**	**+2.1**
ADK	**Adak**	**4.50**	**267**	P	**Pn**	**21 25 50.1**	**+0.5**
SDPT	**Sand Point**	**6.10**	**57**	*e*P	**Pn**	**21 26 13.0**	**+1.5**
AMKA	**Amchitka**	**7.05**	**267**	*e*P	**Pn**	**21 26 24.0**	**-0.6**
PETK	**Petropavlovsk-**	**19.84**	**285**	P	**Pn**	**21 29 14.9**	**+1.2**
	2.1nm,0.4s,baz=134,slow=17,SNR=7.8						
PDAR	**Pinedale Array**	**40.44**	**79**	P	**P**	**21 32 19.3**	**-0.4**
	1.0nm,0.7s,mb3.7,baz=313,slow=3.5,SNR=7.8						
TXAR	**Lajitas Array**	**52.78**	**89**	P	**P**	**21 33 56.0**	**-0.6**
	1.1nm,0.6s,mb4.0,baz=303,slow=5.8,SNR=16						
WRA	**Warramunga Arr**	**86.95**	**232**	P	**P**	**21 37 22.5**	**-3.9**
	0.5nm,0.7s,mb3.9,baz=36,slow=5.6,SNR=6.7						
ASAR	**Alice Springs**	**90.34**	**230**	P	**P**	**21 37 39.9**	**-2.6**
	0.8nm,0.7s,mb4.2,baz=31,slow=4.6,SNR=12						

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*BJI **04** 21:55:49.9, 3.89S×100.82E, h31km, mB5.0, mb4.7*
*IDC **04** 21:55:51.3±1.0, 3.36S×100.87E, h0km, mb4.2/10, mb1 4.3/10, mb1mx4.0/21, mbtmp4.2/10, Error ellipse: s-maj=30.8km s-min=16.7km az=58.0*
*ISCJB **04** 21:55:54.3±0.6, 3.37S±0.10×100.9E±0.1, h33km, mb4.5/24, Error ellipse: s-maj=19.8km s-min=9.6km az=141.9*
*NEIC **04** 21:55:56.5±0.5, 3.38S×100.83E, h35km, mb4.5/5, Error ellipse: s-maj=18.4km s-min=8.6km az=55.0*
ISC 04 21:55:56.7±0.6**, 3.37S**±0.10×**100.9E**±0.1**, h35**km**, (h18**km±6.7km**:pP-P), n32, σ0s.72**/31**, mb4.5**/24**, Southern Sumatera**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**21.77**	**355**	P	**P**	**22 00 44.4**	**-1.1**
	5.6nm,0.9s,mb4.0,baz=185,slow=9.0,SNR=19						
FITZ	**Fitzroy Crossi**	**28.32**	**123**	P	**P**	**22 01 47.2**	**-0.3**
	1.6nm,1.1s,mb3.6,baz=277,slow=16,SNR=2.7						
ODAN	**Odare**	**32.76**	**337**	*e*P	**P**	**22 02 26.2**	**-0.3**
TAPN	**Taplejung**	**33.08**	**338**	*e*P	**P**	**22 02 30.3**	**+1.0**
	59nm,1.0s,mb5.5						
RAMN	**Ramite**	**33.15**	**336**	*e*P	**P**	**22 02 29.1**	**-0.8**
	31nm,1.5s,mb5.0						
JIRN	**Jiri**	**33.95**	**336**	*e*P	**P**	**22 02 36.9**	**+0.1**
	34nm,1.0s,mb5.2						
GUN	**Gumba**	**34.29**	**336**	*e*P	**P**	**22 02 40.5**	**+0.7**
	23nm,0.7s,mb5.2						
GKN	**Gorkha**	**34.90**	**334**	*e*P	**P**	**22 02 45.1**	**+0.1**
	3.3nm,0.3s,mb4.7						
KOLN	**Koldanda**	**35.16**	**333**	*e*P	**P**	**22 02 47.2**	**-0.1**
	10nm,0.8s,mb4.8						
WRA	**Warramunga Arr**	**36.55**	**119**	P	**P**	**22 02 58.8**	**-0.6**
	0.6nm,0.3s,mb3.8,baz=303,slow=8.3,SNR=21						
WB2	**Warramunga Arr**	**36.56**	**119**	*e*P	**P**	**22 03 00.6**	**+1.2**
ASAR	**Alice Springs**	**37.74**	**125**	P	**P**	**22 03 09.8**	**+0.4**
	1.0nm,0.4s,mb3.9,baz=304,slow=7.6,SNR=7.3						
XAN	**Xi'an**	**37.97**	**11**	P	**P**	**22 03 11.0**	**-0.2**
XAN				AP	pP	22 03 18.0	-3.4
XAN				XP	sP	22 03 22.1	-3.5
XAN				AMB	AMB		
	comp=Z,14nm,0.9s,mb4.7						
XAN				AMB	AMB		
	comp=Z,92nm,8.2s						
LZH	**Lanzhou**	**39.35**	**4**	*e*P	**P**	**22 03 22.8**	**+0.1**
LZH				AP	pP	22 03 30.1	-2.8
LZH				XP	sP	22 03 32.8	-4.3
LZH				AMB	AMB		
	comp=Z,19nm,1.5s,mb4.6						
LZH				AMB	AMB		
	comp=Z,105nm,5.0s						
LZH	**Lanzhou**	**39.35**	**4**	*e*P	**P**	**22 03 22.8**	**+0.1**
	comp=Z,19nm,1.5s,mb4.6						
LZH				pP	pP	22 03 30.1	-2.8
LZH				sP	sP	22 03 32.8	-4.3
GTA	**Gaotai**	**42.58**	**359**	*e*P	**P**	**22 03 49.8**	**+0.5**
GTA				AP	pP	22 03 54.1	-5.5
GTA				AMB	AMB		
	comp=Z,4.0nm,1.1s,mb4.1						
KSRS	**Korea Array**	**47.76**	**29**	P	**P**	**22 04 29.1**	**-1.3**
	comp=Z,4.8nm,1.0s,mb4.5,baz=221,slow=9.0,SNR=10						
WMQ	**Urumqi**	**48.45**	**347**	P	**P**	**22 04 36.5**	**+0.8**
SONM	**Songino Array**	**51.22**	**5**	P	**P**	**22 04 57.9**	**+1.3**
	comp=Z,8.0nm,0.8s,mb4.7,baz=186,slow=9.3,SNR=56						
ULN	**Ulaanbaatar**	**51.31**	**5**	*e*P	**P**	**22 04 59.0**	**+1.7**
	comp=Z,5.8nm,0.9s,mb4.5						
TKM2	**Tokmak 2**	**51.43**	**336**	*e*P	**P**	**22 04 58.6**	**+0.3**
	comp=Z,2.6nm,0.7s,mb4.3						
CN2	**Changchun**	**51.89**	**22**	*e*P	**P**	**22 05 01.8**	**0.0**
CN2				AMB	AMB		
	comp=Z,10.0nm,0.9s,mb4.8						
EKS2	**Erkin-Say**	**51.97**	**335**	P	**P**	**22 05 02.2**	**-0.1**
	comp=Z,3.7nm,0.8s,mb4.4						
MK31	**Makanchi Array**	**52.58**	**344**	*e*P	**P**	**22 05 06.7**	**-0.1**
MKAR	**Makanchi Array**	**52.58**	**344**	P	**P**	**22 05 06.3**	**-0.4**
	comp=Z,4.7nm,0.8s,mb4.5,baz=148,slow=7.9,SNR=37						
MJAR	**Matsushiro Arr**	**52.79**	**38**	P	**P**	**22 05 07.4**	**-1.2**
	comp=Z,0.4nm,0.4s,mb3.8,baz=206,slow=8.4,SNR=4.2						
OPO	**Ambohidratompo**	**54.61**	**250**	P	**P**	**22 05 21.5**	**-0.7**
	comp=Z,2.3nm,0.8s,mb4.3,baz=345,slow=20,SNR=3.6						
KURK	**Kurchatov**	**57.16**	**343**	*e*P	**P**	**22 05 39.7**	**-0.2**
	comp=Z,6.6nm,1.0s,mb4.6						
ZAA0	**Zalesovo Array**	**58.67**	**349**	*e*P	**P**	**22 05 50.2**	**-0.2**
ZALV	**Zalesovo Beam**	**58.67**	**349**	P	**P**	**22 05 49.9**	**-0.5**
	comp=Z,7.6nm,0.9s,mb4.7,baz=160,slow=4.7,SNR=30						
ZALV	**Zalesovo Beam**	**58.67**	**349**	P	**P**	**22 05 49.9**	**-0.5**
TXAR	**Lajitas Array**	**145.22**	**39**	PKPbc	PKPbc	22 15 32.0	+1.0
	comp=Z,3.4nm,0.8s,baz=277,slow=0.9,SNR=30						

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*ISK **04** 22:03:22.8, 38.65N×30.89E, h14km, MD3.1*
*CSEM **04** 22:03:22.1±0.1, 38.65N×30.93E, h8km, MD3.1, Error ellipse: s-maj=2.4km s-min=1.9km az=15.0*
*ISCJB **04** 22:03:23.0±0.6, 38.67N±0.03×30.94E±0.03, h2km±6km, Error ellipse: s-maj=5.3km s-min=4.5km az=175.9*
*DDA **04** 22:03:23.3, 38.69N×30.91E, h7km±4km, Md3.0*
ISC 04 22:03:23.7±0.6**, 38.67N**±0.03×**30.94E**±0.03**, h6**km±5km**, n13, σ0s.97**/22**, Turkey**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SHUT	**Suhut-Afyon**	**0.33**	**249**	PG	**Pg**	**22 03 29.4**	**-0.6**
SHUT				SG	**Sg**	**22 03 33.6**	**-0.7**
ALT	**Altintas**	**0.75**	**301**	*e*PG	**Pg**	**22 03 37.0**	**-1.2**
ALT				*e*SG	**Sg**	**22 03 48.0**	**+0.1**
KIZT	**Kizilcal**	**0.76**	**74**	PG	**Pg**	**22 03 38.9**	**+0.6**
TKTP	**Tekketepe**	**0.80**	**218**	*i* P	**Pg**	**22 03 38.1**	**-0.9**
TKTP				*i* S	**Sg**	**22 03 51.1**	**+1.7**
ESKT	**Eskisehir**	**0.85**	**355**	*i* P	**Pg**	**22 03 39.8**	**-0.2**
ESKT				*i* S	**Sg**	**22 03 52.0**	**+1.0**
SEYT	**Eskypehyr**	**0.85**	**355**	*i* P	**Pg**	**22 03 39.8**	**-0.2**
SEYT				*i* S	**Sg**	**22 03 52.0**	**+1.0**
KDHN	**Kadinhani**	**0.94**	**99**	*i* P	**Pg**	**22 03 41.7**	**+0.1**
KDHN				*i* S	**Sg**	**22 03 55.3**	**+1.5**
LADK	**Ladik-KONYA**	**1.22**	**112**	*e*PN	**Pn**	**22 03 46.2**	**-1.0**
BORA	**Eskisehir**	**1.26**	**343**	*i* P	**Pn**	**22 03 46.9**	**-0.9**
BORA				*i* S	**Sg**	**22 04 04.3**	**+0.1**
KONT	**Konya--Tatoy**	**1.33**	**123**	*e*PN	**Pn**	**22 03 47.6**	**-1.2**
DEMI	**Demirci**	**1.77**	**283**	*i* P	**Pn**	**22 03 54.8**	**0.0**
DEMI				*i* S	**Sn**	**22 04 19.0**	**+1.2**
GULT	**Gulveren**	**1.79**	**350**	*e*PN	**Pn**	**22 03 54.5**	**-0.6**
MANT	**Manisa**	**1.88**	**265**	*i* P	**Pn**	**22 03 55.5**	**-0.7**
MANT				*i* S	**Sn**	**22 04 22.3**	**+2.1**

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*IDC **04** 22:04:51.8±4.1, 30.73N×141.48E, h0km, mb3.7/4, mb1 3.7/6, mb1mx3.5/21, mbtmp3.6/6, ML3.0/2, MS2.6/2, Ms1 2.6/2, ms1mx2.5/36, Error ellipse: s-maj=158.6km s-min=20.0km az=71.0*
*ISCJB **04** 22:04:55.4±2.0, 31.40N±0.08×142.4E±0.1, h73km±20km, mb3.7/4, Error ellipse: s-maj=21.2km s-min=12.8km az=176.8*
*JMA **04** 22:04:55.1±0.4, 31.56N×142.20E, h0km, M3.9*
ISC 04 22:04:56.6±1.8**, 31.32N**±0.08×**142.4E**±0.1**, h63**km±19km**, n17, σ1s.47**/19**, mb3.7**/4**, Southeast of Honshu**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
JHJ2	**Mitsune**	**2.80**	**310**	*e*S	**Sn**	**22 06 11.1**	**-0.5**
JHJ	**Hachijo jima 2**	**2.83**	**310**	Pn	**Pn**	**22 05 37.1**	**-2.2**
	2.6nm,0.3s,baz=60,slow=22,SNR=3.6						
JHJ				Sn	**Sn**	**22 06 07.7**	**-4.6**
	16nm,0.3s,baz=73,slow=18,SNR=4.5						
JOD2	**Odawara 2**	**4.79**	**326**	*e*S	**Sn**	**22 07 01.4**	**+1.0**
JHU	**Hanno**	**5.20**	**331**	*e*S	**Sn**	**22 07 09.1**	**-1.3**
JHO	**Hitachi**	**5.49**	**345**	P	**Pn**	**22 06 17.1**	**+1.5**
JRY	**Ryogami san**	**5.50**	**329**	P	**Pn**	**22 06 17.5**	**+1.6**
JRY				S	**Sn**	**22 07 19.5**	**+1.7**
JAG	**Ashikaga**	**5.64**	**335**	P	**Pn**	**22 06 18.4**	**+0.7**
JAG				S	**Sn**	**22 07 19.6**	**-1.5**
JFK	**Kawauchi**	**6.16**	**349**	S	**Sn**	**22 07 31.9**	**-1.9**
MJAR	**Matsushiro Arr**	**6.25**	**328**	Pn	**Pn**	**22 06 26.7**	**+0.6**
	0.7nm,0.3s,baz=158,slow=11,SNR=6.1						
JFT	**Otama**	**6.41**	**345**	S	**Sn**	**22 07 38.9**	**-1.0**
JMM	**Marumori**	**6.66**	**349**	P	**Pn**	**22 06 33.7**	**+2.0**
JMM				*e*S	**Sn**	**22 07 45.4**	**-0.7**
KSRS	**Korea Array**	**13.40**	**301**	LR	LR	22 12 55.3	
	comp=Z,29nm,19.8s,baz=195,slow=37						
PETK	**Petropavlovsk-**	**24.46**	**23**	LR	LR	22 19 19.7	
	comp=Z,15nm,21.2s,baz=37,slow=34						
SONM	**Songino Array**	**31.91**	**312**	P	**P**	**22 11 17.9**	**+2.0**
	1.0nm,0.8s,mb3.7,baz=118,slow=9.2,SNR=8.0						
MKAR	**Makanchi Array**	**48.00**	**307**	P	**P**	**22 13 30.5**	**+1.5**
	0.7nm,0.4s,mb4.0,baz=89,slow=8.7,SNR=7.8						
WRA	**Warramunga Arr**	**51.55**	**190**	P	**P**	**22 13 55.0**	**-1.2**
	0.7nm,0.8s,mb3.6,baz=6.3,slow=7.6,SNR=9.5						
ASAR	**Alice Springs**	**55.27**	**189**	P	**P**	**22 14 21.1**	**-2.4**
	0.3nm,0.5s,mb3.6,baz=11,slow=6.8,SNR=6.0						

IDC 04 22:22:12.8±1.5**, 47.64S**×**163.18E, h0**km**, mb3.9**/6**, mb1 4.1**/6**, mb1mx4.0**/13**, mbtmp4.0**/6**, MS3.7**/10**, Ms1 3.7**/10**, ms1mx3.5**/22**, Error ellipse: s-maj=101.0km s-min=35.5km az=39.0, Off west coast of South Island**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**22.76**	**306**	P	P	22 27 16.0	-0.5
	1.1nm,0.9s,baz=344,slow=22,SNR=1.8						
STKA				LR	LR	22 35 32.9	
	comp=Z,327nm,19.5s,baz=207,slow=35						
CTA	**Charters Tower**	**30.73**	**328**	P	P	22 28 29.1	-0.4
	0.9nm,0.3s,baz=45,slow=7.1,SNR=2.1						
CTA				LR	LR	22 40 47.5	
	comp=Z,47nm,19.3s,baz=238,slow=36						
ASAR	**Alice Springs**	**33.40**	**305**	P	P	22 28 53.5	+0.6
	1.2nm,0.6s,baz=138,slow=8.4,SNR=18						
ASAR				PcP	PcP	22 31 34.1	-0.4
	0.8nm,1.0s,baz=128,slow=4.4,SNR=4.3						
WRA	**Warramunga Arr**	**36.19**	**310**	P	P	22 29 17.1	0.0
	1.1nm,0.8s,baz=142,slow=7.8,SNR=7.3						
WRA				PcP	PcP	22 31 43.6	+0.9
	2.0nm,0.9s,baz=147,slow=2.7,SNR=13						
WRA				LR	LR	22 43 28.3	
	comp=Z,109nm,19.9s,baz=150,slow=35						
NWAO	**Narrogin (SRO)**	**37.44**	**276**	LR	LR	22 40 21.6	
	comp=Z,121nm,21.3s,baz=350,slow=29						
FITZ	**Fitzroy Crossi**	**42.48**	**301**	P	P	22 30 08.4	-1.3
	0.7nm,0.6s,baz=184,slow=13,SNR=4.1						
FITZ				LR	LR	22 48 03.9	
	comp=Z,139nm,18.7s,baz=327,slow=36						
PPT	**Papeete**	**48.78**	**69**	LR	LR	22 47 50.0	
	comp=Z,129nm,20.0s,baz=222,slow=32						
BATI	**Baumata**	**49.97**	**305**	LR	LR	22 52 09.9	
	comp=Z,135nm,18.6s,baz=132,slow=36						
MAW	**Mawson**	**50.65**	**209**	LR	LR	22 49 33.0	
	comp=Z,78nm,18.6s,baz=249,slow=32						
CMAR	**Chiang Mai Arr**	**87.30**	**301**	P	P	22 35 02.9	+1.5
	1.2nm,0.5s,baz=147,slow=3.6,SNR=6.4						
CMAR				LR	LR	23 15 07.1	
	comp=Z,26nm,19.7s,baz=185,slow=36						
KSRS	**Korea Array**	**90.38**	**333**	LR	LR	23 14 43.2	
	comp=Z,35nm,19.7s,baz=150,slow=35						
ARCES	**ARCESS Array B**	**149.93**	**332**	PKP	PKPdf	22 41 56.2	-2.4
	0.8nm,0.6s,baz=7.8,slow=9.8,SNR=4.2						
ARCES				PKPbc	PKPbc	22 42 02.8	-0.8
	2.5nm,0.7s,baz=64,slow=2.8,SNR=7.8						
AKASG	**Malin Array Be**	**150.11**	**293**	PKPbc	PKPbc	22 42 03.0	-1.5
	2.7nm,0.6s,baz=67,slow=3.5,SNR=11						
NOA	**NORSAR Array B**	**159.07**	**320**	PKPab	PKPab	22 42 50.2	+1.8
	1.5nm,1.0s,baz=64,slow=4.5,SNR=3.6						

IDC 04 22:27:08.0±2.7**, 7.84S**×**116.17E, h0**km**, mb3.5**/4**, mb1 3.7**/4**, mb1mx3.6**/16**, mbtmp3.6**/4**, Error ellipse: s-maj=152.3km s-min=21.6km az=53.0, Bali Sea**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**21.32**	**126**	P	P	22 31 57.0	+0.3
	0.7nm,0.5s,baz=290,slow=12,SNR=11						
ASAR	**Alice Springs**	**23.17**	**135**	P	P	22 32 16.1	-0.3
	0.6nm,0.4s,baz=316,slow=8.0,SNR=13						
SONM	**Songino Array**	**56.10**	**352**	P	P	22 36 48.8	-0.1
	1.0nm,0.6s,baz=170,slow=8.8,SNR=9.4						
MKAR	**Makanchi Array**	**62.18**	**334**	P	P	22 37 31.6	+0.4
	0.3nm,0.3s,baz=148,slow=6.0,SNR=9.5						

IDC 04 22:35:20.6±7.8**, 3.04S**×**67.19E, h0**km**, mb3.8**/6**, mb1 3.9**/6**, mb1mx3.6**/22**, mbtmp3.8**/6**, MS2.7**/1**, Ms1 2.7**/1**, ms1mx2.3**/29**, Error ellipse: s-maj=253.2km s-min=26.2km az=66.0, Carlsberg Ridge**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**51.38**	**13**	P	P	22 44 27.4	+0.4
	0.4nm,0.8s,baz=206,slow=8.8,SNR=3.9						
KURK	**Kurchatov**	**54.44**	**9**	P	P	22 44 48.0	-1.5
	0.5nm,0.3s,baz=207,slow=10.0,SNR=1.9						
ZALV	**Zalesovo Beam**	**58.67**	**12**	P	P	22 45 20.1	+0.6
	0.4nm,0.4s,baz=208,slow=8.2,SNR=3.4						
ZALV				LR	LR	23 11 06.7	
	comp=Z,5.9nm,18.0s,baz=63,slow=37						
SONM	**Songino Array**	**61.16**	**29**	P	P	22 45 36.9	0.0
	0.7nm,0.7s,baz=233,slow=5.7,SNR=5.9						
ASAR	**Alice Springs**	**67.48**	**114**	P	P	22 46 18.8	0.0
	0.8nm,0.8s,baz=285,slow=5.7,SNR=7.4						
WRA	**Warramunga Arr**	**67.50**	**110**	P	P	22 46 19.2	+0.2
	1.3nm,0.8s,baz=285,slow=6.2,SNR=8.9						

IDC 04 22:49:18.8±23.0**, 15.64S**×**171.04W, h0**km**, mb4.2**/4**, mb1 4.4**/4**, mb1mx4.0**/19**, mbtmp4.2**/4**, Error ellipse: s-maj=445.6km s-min=165.4km az=71.0, Samoa Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**40.80**	**257**	P	P	22 57 03.0	+0.7
	1.1nm,0.2s,baz=270,slow=9.1,SNR=2.8						
STKA	**Stephens Creek**	**45.89**	**241**	P	P	22 57 43.6	+0.3
	1.6nm,0.5s,baz=96,slow=12,SNR=6.0						
WRA	**Warramunga Arr**	**52.00**	**257**	P	P	22 58 29.7	-0.7
	0.7nm,0.5s,baz=95,slow=7.2,SNR=36						
ASAR	**Alice Springs**	**52.20**	**252**	P	P	22 58 31.6	-0.2
	4.3nm,0.5s,baz=88,slow=8.4,SNR=70						

IDC 04 22:52:46.6±5.0**, 2.05S**×**99.15E, h0**km**, mb3.9**/3**, mb1 3.9**/3**, mb1mx3.5**/19**, mbtmp3.9**/3**, Error ellipse: s-maj=175.5km s-min=71.8km az=55.0, Southern Sumatera**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SONM	**Songino Array**	**50.08**	**6**	P	P	23 01 43.4	+0.2
	1.1nm,0.7s,baz=189,slow=9.2,SNR=8.1						
MKAR	**Makanchi Array**	**50.85**	**345**	P	P	23 01 49.3	+0.2
	0.6nm,0.6s,baz=151,slow=8.3,SNR=7.2						
ZALV	**Zalesovo Beam**	**57.06**	**350**	P	P	23 02 34.1	-0.3
	1.0nm,0.5s,baz=181,slow=5.9,SNR=9.4						
TXAR	**Lajitas Array**	**145.25**	**36**	PKPbc	PKPbc	23 12 26.1	-0.7
	0.6nm,0.7s,baz=282,slow=1.3,SNR=9.8						

IDC 04 23:12:55.7±4.1**, 3.55S**×**101.05E, h0**km**, mb3.6**/5**, mb1 3.7**/5**, mb1mx3.6**/19**, mbtmp3.6**/5**, Error ellipse: s-maj=173.4km s-min=21.2km az=55.0, Southern Sumatera**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**36.31**	**119**	P	P	23 20 01.2	-0.2
	0.4nm,0.4s,baz=304,slow=8.8,SNR=14						
ASAR	**Alice Springs**	**37.50**	**125**	P	P	23 20 11.6	+0.1
	0.3nm,0.7s,baz=289,slow=5.8,SNR=3.5						
SONM	**Songino Array**	**51.38**	**5**	P	P	23 22 02.4	+0.3
	0.5nm,0.5s,baz=170,slow=8.8,SNR=4.1						
MKAR	**Makanchi Array**	**52.80**	**344**	P	P	23 22 13.3	+0.7
	0.6nm,0.6s,baz=146,slow=7.7,SNR=8.2						
ZALV	**Zalesovo Beam**	**58.88**	**349**	P	P	23 22 54.9	-1.3
	0.5nm,0.4s,baz=182,slow=4.5,SNR=4.1						
TXAR	**Lajitas Array**	**145.25**	**40**	PKPbc	PKPbc	23 32 35.6	-0.2
	0.3nm,0.6s,baz=248,slow=1.0,SNR=4.2						

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*ISCJB **04** 23:19:41.1±0.7, 2.63N±0.07×84.49W±0.07, h10km, mb4.6/4, Error ellipse: s-maj=11.1km s-min=9.1km az=136.5*
*BJI **04** 23:19:42.7, 2.60N×84.50W, h10km, mB5.3, Ms5.3, Msz4.8*
*NEIC **04** 23:19:42.8±0.6, 2.58N×84.50W, h10km, mb4.6/5, Error ellipse: s-maj=11.4km s-min=8.5km az=208.0*
ISC 04 23:19:43.1±0.7**, 2.60N**±0.07×**84.50W**±0.07**, h10**km**, n30, σ0s.83**/18**, mb4.6**/4**, 1D, Off coast of central America**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
OTAV	**Otavalo**	**6.49**	**111**	*e*Pn	**Pn**	**23 21 17.4**	**-1.4**
	75nm,1.2s						
PAYG	**Puerto Ayora**	**6.63**	**241**	*e*Pn	**Pn**	**23 21 20.6**	**-0.1**
BUS	**Buena Vista**	**6.95**	**6**	⇓*i*P	**Pn**	**23 21 24.6**	**-0.4**
JCR	**Jicaral**	**7.22**	**355**	*e*P	**Pn**	**23 21 27.9**	**-0.9**
CGA2	**Cerro Gallo 2**	**7.37**	**0**	*e*P	**Pn**	**23 21 31.6**	**+0.8**
JTS	**JuntasAbangare**	**7.65**	**357**	*e*Pn	**Pn**	**23 21 34.5**	**-0.2**
	25nm,0.6s						
ROSC	**El Rosal**	**10.39**	**77**	*e*Pn	**Pn**	**23 22 14.4**	**+2.1**
TGUH	**Tegucigalpa,Un**	**11.71**	**347**	*e*Pn	**Pn**	**23 22 30.1**	**-0.2**
SDV	**Santo Domingo**	**15.14**	**65**	*e*Pn	**Pn**	**23 23 16.5**	**-0.7**
	19nm,1.0s						
LPAZ	**La Paz**	**24.78**	**140**	*e*P	**P**	**23 25 05.7**	**+0.4**
	18nm,1.2s,mb4.5						
BNM	**Barren Site**	**37.56**	**329**	*e*P	**P**	**23 26 58.9**	**+1.2**
ANMO	**Albuquerque**	**38.11**	**330**	*e*P	**P**	**23 27 02.1**	**-0.2**
SDCO	**Great Sand Dun**	**39.93**	**334**	*e*P	**P**	**23 27 18.4**	**+0.9**
BDFB	**Brasilia**	**40.38**	**118**	*e*P	**P**	**23 27 33.1**	**+12**
MSU	**Marysvale**	**43.78**	**328**	*e*P	**P**	**23 27 44.0**	**-5.1**
HWUT	**Hardware Ranch**	**45.81**	**332**	*e*P	**P**	**23 28 04.5**	**-0.7**
	4.3nm,0.9s,mb4.4						
TPAW	**Teton Pass**	**47.01**	**334**	*e*P	**P**	**23 28 15.0**	**+0.5**
	18nm,1.5s,mb4.8						
RRI2	**Red Ridge**	**47.06**	**333**	*e*P	**P**	**23 28 14.5**	**-0.5**
	12nm,1.6s,mb4.6						
HHC	**Hu-ho-hao-te**	**134.34**	**343**	*e*PKP	PKPdf	23 39 02.6	+0.9
HHC				PP	PP	23 41 36.4	+4.2
HHC				PKS		23 42 36.6	
HHC				SKS	SKSdf	23 46 13.5	+0.3
HHC				SKKS	SKKSac	23 48 28.1	-1.1
HHC				SS	SS	23 59 27.4	+5.9
HHC				PP	PP		
	comp=Z,67nm,4.8s						
DANN	**Dangsing**	**147.22**	**19**	*e*P	PKPdf	23 39 26.0	+0.8
	comp=Z,45nm,1.0s						
KOLN	**Koldanda**	**147.70**	**20**	*e*P	PKPdf	23 39 26.8	+0.7
	comp=Z,11nm,1.0s						
GKN	**Gorkha**	**147.83**	**18**	*e*P	PKPdf	23 39 27.3	+1.0
	comp=Z,39nm,1.3s						
KKN	**Kakani**	**148.22**	**17**	*e*P	PKPdf	23 39 28.3	+1.4
	comp=Z,13nm,0.7s						
GUN	**Gumba**	**148.28**	**16**	*e*P	PKPdf	23 39 28.7	+1.7
	comp=Z,37nm,1.1s						
DMN	**Daman**	**148.34**	**18**	*e*P	PKPdf	23 39 28.3	+1.2
	comp=Z,24nm,1.1s						
JIRN	**Jiri**	**148.61**	**16**	*e*P	PKPdf	23 39 29.3	+1.8
GYA	**Guiyang**	**149.16**	**340**	*e*PKP	PKPdf	23 39 25.0	-3.5
GYA				PKP2	PKPab	23 39 35.5	-1.3
GYA				PKS		23 42 58.9	
GYA				PP	PP	23 43 03.6	+1.2
GYA				PP	PP		
	comp=Z,80nm,8.6s						
TAPN	**Taplejung**	**149.29**	**14**	*e*P	PKPdf	23 39 30.6	+1.9
RAMN	**Ramite**	**149.39**	**16**	*e*P	PKPdf	23 39 30.8	+2.0
	comp=Z,10nm,0.5s						
KMI	**Kunming**	**151.56**	**346**	PKP	PKPdf	23 39 31.2	-1.1

KRSC 04 23:26:36.8±0.9**, 51.67N**×**159.97E, h5**km±5km**, ML3.8, Off east coast of Kamchatka Peninsula**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
RUS	**Russkaya**	**1.18**	**311**	*e*P	Pg	23 26 59.1	-0.3
RUS				*i* S	Sg	23 27 15.5	+0.8
SPN	**Mys Shipunski**	**1.43**	**1**	*e*P	Pn	23 27 06.0	+2.6
SPN				*i* S	Sb	23 27 27.3	+4.9
GRL	**Gorelyy**	**1.47**	**308**	*e*P	Pn	23 27 04.5	+0.6
GRL				*i* S	Sn	23 27 24.6	+1.2
NLC	**Nalytchevo**	**1.55**	**346**	*e*P	Pn	23 27 05.4	+0.4
NLC				*i* S	Sn	23 27 26.3	+0.8
PET	**Petropavlovsk**	**1.58**	**330**	*e*P	Pn	23 27 06.3	+0.9

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
PET				i S	Sn	23 27 28.1	+1.9
AVH	**Avacha**	**1.77**	**335**	eP	Pn	23 27 10.7	+2.7
GNL	**Ganaly**	**2.38**	**329**	eP	Pn	23 27 17.8	+1.5
MKZ	**Mys Kozlova**	**3.08**	**19**	eP	Pn	23 27 26.0	0.0
MKZ				i S	Sn	23 28 01.1	-2.1

ISCJB ***04*** *23:47:39.9±0.5, 4304N±002×2229E±004, h7km±4km, Error ellipse: s-maj=5.0km s-min=3.0km az=140.1*
SOF ***04*** *23:47:40.5, 4298N×2243E, h8km, MD3.1*
CSEM ***04*** *23:47:40.4±0.1, 4306N×2235E, h15km, ML3.0, Error ellipse: s-maj=3.6km s-min=1.8km az=55.0*
NEIC ***04*** *23:47:41.9±1.0, 4298N×2237E, h10km, ML4.5(BRA), Error ellipse: s-maj=19.8km s-min=9.1km az=100.0*
BEO ***04*** *23:47:41.8±0.4, 4307N×2233E, h10km±2km, ML3.0/4*
THE ***04*** *23:47:42.9, 4306N×2239E, h28km±3km, ML3.6/2, Error ellipse: s-maj=3.9km s-min=1.1km az=36.0*
ISC 04 23:47:40.8±0.5**, 4303N**±002×**2230E**±003**, h8**km±4km**, n39, σ1**§**10**/63**, Northwestern Balkan Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ZAPS	**Zavoj**	**0.35**	**44**	ePg	**Pg**	**23 47 48.1**	**+0.5**
ZAPS				eSg	**Sg**	**23 47 52.5**	**+0.3**
BARS	**Barje**	**0.41**	**240**	ePg	**Pg**	**23 47 50.7**	**+1.8**
BARS				eSg	**Sg**	**23 47 56.9**	**+2.6**
BARS				eSg	**Sg**	**23 47 57.2**	**+2.9**
BARS	**Barje**	**0.41**	**240**	ePg	**Pg**	**23 47 50.7**	**+1.8**
BARS				eSg	**Sg**	**23 47 56.9**	**+2.6**
VTS	**Vitosha**	**0.80**	**123**	Pg	**Pg**	**23 47 54.8**	**-1.3**
BOLS	**Boljevac**	**0.84**	**343**	ePg	**Pg**	**23 47 56.6**	**-0.4**
BOLS				eSg	**Sg**	**23 48 08.2**	**+0.2**
BOLS				eSg	**Sg**	**23 48 08.3**	**+0.3**
BOLS	**Boljevac**	**0.84**	**343**	ePg	**Pg**	**23 47 56.6**	**-0.4**
BOLS				eSg	**Sg**	**23 48 08.2**	**+0.2**
SKO	**Skopje**	**1.23**	**212**	P	**Pb**	**23 48 03.5**	**-0.8**
SKO				S	**Sb**	**23 48 21.1**	**+0.8**
KKB	**Krupnik**	**1.29**	**153**	Pg	**Pg**	**23 48 05.5**	**-0.1**
STIP	**Stip**	**1.33**	**184**	P	**Pn**	**23 48 05.2**	**-0.5**
STIP				S	**Sb**	**23 48 22.4**	**-0.9**
GRUS	**Gruza**	**1.44**	**307**	ePg	**Pg**	**23 48 07.2**	**-1.3**
GRUS				eSg	**Sg**	**23 48 26.5**	**-0.7**
PGB	**Panagyurishte**	**1.45**	**108**	Pg	**Pg**	**23 48 07.3**	**-1.4**
SVIS	**Svilajnac**	**1.47**	**328**	ePg	**Pg**	**23 48 08.0**	**-1.0**
SVIS				eSg	**Sg**	**23 48 28.0**	**-0.1**
VAY	**Valandovo**	**1.71**	**173**	P	**Pn**	**23 48 10.5**	**-0.5**
VAY				S	**Sn**	**23 48 32.9**	**-0.1**
MMB	**Musomiste**	**1.78**	**143**	P	**Pn**	**23 48 12.9**	**+1.0**
KNT	**Kendrikon**	**1.91**	**166**	P	**Pn**	**23 48 13.6**	**-0.1**
KNT				S	**Sn**	**23 48 37.7**	**-0.3**
DIVS	**Divibare**	**1.99**	**303**	ePn	**Pn**	**23 48 15.1**	**+0.3**
DIVS				eSn	**Sn**	**23 48 39.3**	**-0.6**
DIVS	**Divibare**	**1.99**	**303**	P	**Pn**	**23 48 15.2**	**+0.4**
DIVS				S	**Sn**	**23 48 39.4**	**-0.5**
DIVS	**Divibare**	**1.99**	**303**	ePn	**Pn**	**23 48 15.2**	**+0.4**
DIVS				eSn	**Sn**	**23 48 39.5**	**-0.4**
GRG	**Griva**	**2.07**	**178**	P	**Pn**	**23 48 16.1**	**+0.3**
RZN	**Rozhen**	**2.23**	**126**	P	**Pn**	**23 48 21.1**	**+3.0**
BBLS	**Lazići**	**2.27**	**293**	ePn	**Pn**	**23 48 19.7**	**+1.1**
BBLS				eSg	**Sg**	**23 48 54.2**	**+0.4**
SOH	**Sokhos**	**2.34**	**160**	P	**Pn**	**23 48 19.2**	**-0.3**
SOH				S	**Sn**	**23 48 47.3**	**-1.1**
FNA	**Florina**	**2.34**	**197**	P	**Pn**	**23 48 20.4**	**+0.8**
HORT	**Hortiatis**	**2.50**	**166**	P	**Pn**	**23 48 23.7**	**+2.0**
SZH	**Strazhica**	**2.67**	**84**	P	**Pn**	**23 48 27.2**	**+3.1**
KDZ	**Kurdzhali**	**2.69**	**120**	i P	**Pn**	**23 48 28.5**	**+4.2**
PLG	**Polygyros**	**2.78**	**162**	P	**Pn**	**23 48 25.8**	**+0.1**
FGSL	**Fruska Gora**	**2.79**	**321**	ePg	**Pg**	**23 48 31.9**	**-2.3**
FGSL				eSg	**Sg**	**23 49 10.0**	**-0.3**
FGSL	**Fruska Gora**	**2.79**	**321**	ePn	**Pn**	**23 48 27.8**	**+2.1**
FGSL	**Fruska Gora**	**2.79**	**321**	ePg	**Pg**	**23 48 31.9**	**-2.3**
FGSL				eSn	**Sn**	**23 49 00.4**	**+0.9**
FGSL				eSg	**Sg**	**23 49 10.0**	**-0.3**
TREB	**Trebinje**	**2.92**	**265**	ePn	**Pn**	**23 48 29.0**	**+1.4**
TREB	**Trebinje**	**2.92**	**265**	ePn	**Pn**	**23 48 27.5**	**-0.1**
TREB				eSn	**Sn**	**23 49 00.6**	**-2.2**
OUR	**Ouranopolis**	**2.97**	**154**	P	**Pn**	**23 48 27.5**	**-0.7**
PAIG	**Paliouri**	**3.26**	**161**	P	**Pn**	**23 48 31.9**	**-0.4**
ALN	**Alexandroupoli**	**3.51**	**126**	P	**Pn**	**23 48 36.0**	**+0.4**
ALN				S	**Sn**	**23 49 16.3**	**-1.0**
BLY	**Banja Luka**	**4.08**	**297**	ePn	**Pn**	**23 48 44.5**	**+1.0**
BLY				eSn	**Sn**	**23 49 29.1**	**-2.3**
PKSM	**Moragy**	**4.12**	**322**	ePn	**Pn**	**23 48 43.8**	**-0.2**
BUR08	**Bucovina Ar. S**	**5.05**	**23**	ePn	**Pn**	**23 48 58.1**	**+1.3**
BUR08	**Bucovina Ar. S**	**5.05**	**23**	ePn	**Pn**	**23 48 58.1**	**+1.3**

IDC ***04*** *23:58:21.9±1.0, 3598N×7110E, h0km, mb4.0/8, mb1 4.0/12, mb1mx3.8/26, mbtmp3.9/12, ML3.7/4, Error ellipse: s-maj=22.9km s-min=21.0km az=69.0*
NEIC ***04*** *23:58:33.9±1.4, 3645N×7146E, h84km±15km, mb3.8/1, Error ellipse: s-maj=18.9km s-min=12.9km az=117.0*
ISCJB ***04*** *23:58:34.2±0.5, 3642N±003×7124E±005, h116km±7km, mb3.9/12, Error ellipse: s-maj=6.3km s-min=4.5km az=167.3*
BJI ***04*** *23:58:34.9, 3650N×7150E, h83km, mb4.2*
NNC ***04*** *23:58:41.2±3.9, 3694N×7078E, h152km±41km, mb3.1, mpv4.3, Error ellipse: s-maj=29.9km s-min=24.4km az=21.0*
ISC 04 23:58:35.5±0.4**, 3641N**±003×**7124E**±005**, h118**km±6km**, n58, σ1**§**26**/68**, mb3.9**/12**, 4C-6D, Afghanistan-Tajikistan border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KBL	**Kabul**	**2.59**	**225**	ePn	**Pn**	**23 59 16.4**	**0.0**
KBL				Sn	**Sn**	**23 59 48.6**	**+0.8**
KSH	**Kashi**	**4.86**	**49**	P	**Pn**	**23 59 47.3**	**+0.9**
KSH				Smax			
	comp=N,756nm,0.6s						
KSH				Smax			
	comp=E,507nm,0.3s						
THN	**Thein Dam**	**5.42**	**136**	eP	**Pn**	**23 59 54.6**	**+0.5**
THN				eS	**Sn**	**00 00 55.3**	**-0.1**
AML	**Almayashu**	**6.02**	**18**	P	**Pn**	**00 00 02.8**	**+0.7**
	SNR=92						
UCH	**Uchtor**	**6.34**	**23**	P	**Pn**	**00 00 07.6**	**+1.2**
	SNR=54						
EKS2	**Erkin-Say**	**6.54**	**17**	P	**Pn**	**00 00 09.7**	**+0.5**
	SNR=25						
AAK	**Ala-Archa**	**6.70**	**21**	P	**Pn**	**00 00 12.1**	**+0.8**
	SNR=76						
KK31	**Karatay Array**	**6.71**	**355**	⇓P	**Pn**	**00 00 10.3**	**-1.1**
	comp=E,6.8nm,0.2s,baz=180,slow=11,SNR=7.4						
KK31				S	**Sn**	**00 01 21.1**	**-5.2**
	comp=E,9.7nm,0.4s,baz=184,slow=20,SNR=6.5						
SDNR	**Sundarnagar**	**6.83**	**134**	ex	x	00 00 27.5	
SDNR				eS	**Sn**	**00 01 25.1**	**-4.3**
KBK	**Karagaybulak**	**6.86**	**24**	P	**Pn**	**00 00 14.5**	**+1.0**
	SNR=18						
ULHL	**Ulahol**	**7.00**	**32**	P	**Pn**	**00 00 16.1**	**+0.8**
	SNR=12						
CHMS	**Chumysh**	**7.11**	**21**	P	**Pn**	**00 00 17.4**	**+0.5**
	SNR=46						
SMLA	**Simla**	**7.22**	**135**	i P	**Pn**	**00 00 19.4**	**+1.1**
SMLA				i x	x	00 01 38.9	
USP	**Ospenovka**	**7.29**	**19**	P	**Pn**	**00 00 19.2**	**-0.1**
	SNR=80						
TKM2	**Tokmak 2**	**7.32**	**26**	⇓P	**Pn**	**00 00 19.7**	**+0.1**
	comp=E,12nm,0.5s						
TKM2				⇓S	**Sn**	**00 01 40.6**	**-0.5**
	comp=E,8.6nm,0.8s						
TKM2	**Tokmak 2**	**7.32**	**26**	P	**Pn**	**00 00 20.3**	**+0.7**
	SNR=32						
JOSI	**Joshimath**	**9.07**	**128**	eP	**Pn**	**00 00 44.4**	**+0.9**
JOSI				eS	**Sn**	**00 02 20.4**	**-3.3**
JOSI				AML	AML	00 02 33.0	
	comp=E,96nm,0.9s						
JOSI				AML	AML	00 02 38.2	
	comp=N,83nm,1.0s						
KHET	**Khetri**	**9.16**	**154**	eS	**Sn**	**00 02 19.4**	**-6.7**
KHET				AML	AML	00 02 23.1	
	comp=E,23nm,0.3s						
KHET				AML	AML	00 02 23.6	
	comp=N,19nm,0.2s						
KUDL	**Kundal**	**9.36**	**150**	eS	**Sn**	**00 02 22.4**	**-8.4**
SONA	**Sohna**	**9.52**	**147**	eS	**Sn**	**00 02 25.9**	**-8.8**
SONA				AML	AML	00 02 33.1	
	comp=E,20nm,0.3s						
SONA				AML	AML	00 02 35.2	
	comp=N,14nm,0.4s						
MKAR	**Makanchi Array**	**13.25**	**35**	Pn	**Pn**	**00 01 38.4**	**-0.4**
	comp=N,0.1nm,0.3s,baz=225,slow=14,SNR=9.4						
DANN	**Dangsing**	**13.28**	**124**	eP	**Pn**	**00 01 37.7**	**-1.6**
KOLN	**Koldanda**	**13.55**	**126**	eP	**Pn**	**00 01 42.0**	**-0.9**
GKN	**Gorkha**	**14.09**	**123**	eP	**Pn**	**00 01 48.4**	**-1.4**
DMN	**Daman**	**14.66**	**123**	eP	**Pn**	**00 01 56.0**	**-1.1**
KKN	**Kakani**	**14.66**	**122**	eP	**Pn**	**00 01 56.4**	**-0.7**
PKIN	**Phulchoki**	**14.88**	**122**	eP	**Pn**	**00 01 59.7**	**-0.1**
PKI	**Pulchoki**	**14.89**	**122**	eP	**Pn**	**00 02 00.2**	**+0.2**
KURBB	**Kurchatov Arra**	**15.15**	**18**	⇑P	**Pn**	**00 02 05.0**	**+2.0**
	comp=N,1.0nm,1.4s						
KURBB				⇓S	**S**	**00 04 49.7**	**-9.4**
	comp=N,0.5nm,1.0s						
KURK	**Kurchatov**	**15.25**	**18**	Pn	**Pn**	**00 02 00.9**	**-3.4**
	comp=N,0.1nm,0.3s,baz=211,slow=8.7,SNR=11						
AB31	**Akbulak array**	**15.26**	**331**	P	**Pn**	**00 02 01.8**	**-2.6**
	comp=N,0.8nm,0.3s,baz=140,slow=13,SNR=38						
AB31				S	**S**	**00 04 41.4**	**-20**
	comp=N,2.0nm,0.5s,baz=152,slow=23,SNR=6.2						
JIRN	**Jiri**	**15.38**	**120**	eP	**Pn**	**00 02 05.0**	**-1.0**
RAMN	**Ramite**	**16.10**	**122**	eP	**Pn**	**00 02 15.3**	**+0.2**
VOSK	**Vostochnaya**	**16.31**	**359**	⇓P	**Pn**	**00 02 14.8**	**-2.6**
	comp=N,1.8nm,0.3s						
VOSK				⇑S	**S**	**00 05 10.2**	**-13**
	comp=N,3.5nm,1.2s						
BVA0	**Borovoye Array**	**16.62**	**358**	⇓P	**Pn**	**00 02 18.6**	**-2.6**
	comp=N,1.4nm,1.8s,baz=170,slow=11,SNR=17						
BVA0				S	**S**	**00 05 16.2**	**-10**
	comp=N,0.8nm,1.3s,baz=166,slow=22,SNR=3.5						
BVAR	**Borovoye Array**	**16.62**	**358**	P	**Pn**	**00 02 19.7**	**-1.5**
	comp=N,0.4nm,0.3s,baz=172,slow=12,SNR=10						
TAPN	**Taplejung**	**16.63**	**118**	eP	**Pn**	**00 02 22.3**	**+0.7**
ODAN	**Odare**	**16.71**	**120**	eP	**Pn**	**00 02 22.9**	**+0.4**
AKTK	**Aktyubinsk**	**16.95**	**330**	P	**Pn**	**00 02 23.4**	**-1.9**
AKTO	**Aktyubinsk**	**16.95**	**330**	⇑P	**Pn**	**00 02 23.1**	**-2.2**
	comp=N,1.2nm,0.8s						
AKTO				⇑S	**S**	**00 05 19.6**	**-15**
	comp=N,0.7nm,0.8s						
AKTO	**Aktyubinsk**	**16.95**	**330**	P	**Pn**	**00 02 23.4**	**-1.9**
	comp=N,0.5nm,0.3s,baz=131,slow=11,SNR=11						
ZALV	**Zalesovo Beam**	**19.92**	**24**	P	**P**	**00 02 58.6**	**+1.0**
	comp=N,4.4nm,0.3s,baz=207,slow=10,SNR=20						
MIB	**Mutribah**	**21.05**	**259**	eP	**P**	**00 03 10.1**	**0.0**
	baz=267						
MIB				AMb	AMB	00 03 18.2	
	comp=Z,16nm,1.0s,mb4.3,baz=267						
NAY	**Al-Naaiem**	**21.36**	**257**	eP	**P**	**00 03 13.1**	**-0.2**
	baz=267						
NAY				AMb	AMB	00 03 18.6	
	comp=Z,6.0nm,1.4s,mb3.7,baz=267						
RST	**Umm Al-Ruwaisa**	**21.45**	**258**	eP	**P**	**00 03 13.5**	**-0.8**
	baz=267						
RST				AMb	AMB	00 03 14.7	
	comp=Z,12nm,1.2s,mb4.1,baz=267						
AKASG	**Malin Array Be**	**33.15**	**309**	P	**P**	**00 05 02.2**	**+1.9**
	comp=Z,0.4nm,0.3s,mb3.7,baz=288,slow=13,SNR=4.1						
JOF	**Joensuu**	**36.04**	**330**	ep	**P**	**00 05 27.1**	**+2.1**
	comp=Z,2.5nm,0.4s,mb4.5						
KAF	**Kangasniemi**	**37.81**	**327**	ep	**P**	**00 05 43.1**	**+3.2**
	comp=Z,0.4nm,0.3s,mb3.7						
ARCES	**ARCESS Array B**	**41.30**	**338**	P	**P**	**00 06 12.3**	**+3.5**
	comp=Z,1.2nm,0.5s,mb4.0,baz=115,slow=8.7,SNR=15						
ARCES	**ARCESS Array B**	**41.30**	**338**	P	**P**	**00 06 12.3**	**+3.5**
NB2	**NORSAR Subarra**	**44.57**	**323**	P	**P**	**00 06 37.2**	**+2.0**
	comp=Z,4.0nm,0.6s,mb4.3,baz=97,slow=7.9						
NOA	**NORSAR Array B**	**44.57**	**323**	P	**P**	**00 06 37.5**	**+2.3**
	comp=Z,3.7nm,0.6s,mb4.3,baz=97,slow=7.8,SNR=23						
TORD	**Torodi Ar. Bea**	**65.91**	**269**	P	**P**	**00 09 08.6**	**-0.4**
	comp=Z,1.2nm,0.8s,mb3.8,baz=48,slow=6.2,SNR=12						
TORD	**Torodi Ar. Bea**	**65.91**	**269**	P	**P**	**00 09 08.6**	**-0.4**
YKA	**Yellowknife Ar**	**81.33**	**3**	P	**P**	**00 10 41.3**	**+3.0**
	comp=Z,1.1nm,0.7s,mb3.8,baz=356,slow=5.5,SNR=4.7						
YKA	**Yellowknife Ar**	**81.33**	**3**	P	**P**	**00 10 41.3**	**+3.0**
WRA	**Warramunga Arr**	**81.78**	**122**	P	**P**	**00 10 42.0**	**+0.7**
	comp=Z,0.3nm,0.6s,mb3.3,baz=317,slow=5.0,SNR=5.5						
ASAR	**Alice Springs**	**84.04**	**125**	P	**P**	**00 10 54.5**	**+1.7**
	comp=Z,0.7nm,0.9s,mb3.5,baz=316,slow=5.0,SNR=6.9						

NEIC 05 00:24:41.3, 4018S×17498E, h12km**, ML3.7**(WEL)**, After WEL., Cook Strait**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WAZ	**Wanganui**	**0.42**	**1**	P	Pg	00 24 50.1	+0.5
WAZ				S	Sg	00 24 56.9	+1.6
MRZ	**Mangatainoka R**	**0.66**	**137**	P	Pg	00 24 54.1	-0.1
MRZ				S	Sg	00 25 03.3	+0.3
KIW	**Kapiti Island**	**0.68**	**184**	P	Pg	00 24 53.5	-1.1
KIW				S	Sg	00 25 02.2	-1.4
TSZ	**Takapari Road**	**0.76**	**81**	P	Pg	00 24 55.7	-0.3
MOVZ	**Moawhango**	**0.97**	**38**	P	Pg	00 24 58.1	-2.0
WNVZ	**Wahianoa**	**0.97**	**29**	P	Pg	00 24 58.6	-1.5
RAEZ	**Rainy Point**	**1.00**	**333**	P	Pb	00 25 00.7	+0.2
FWVZ	**Far West T-bar**	**1.02**	**26**	P	Pb	00 24 59.4	-1.5
TUVZ	**Tukino**	**1.05**	**30**	P	Pb	00 25 00.0	-1.3
MTW	**Mount Morrison**	**1.06**	**158**	P	Pb	00 25 01.1	-0.4
VRZ	**Vera Road**	**1.07**	**351**	P	Pb	00 25 01.0	-0.7
MRW	**Makara Radio**	**1.07**	**191**	P	Pb	00 25 00.2	-1.5
DFE	**Dawson Falls**	**1.09**	**321**	P	Pb	00 25 02.3	+0.3
NGZ	**Ngauruhoe**	**1.11**	**26**	P	Pb	00 25 01.1	-1.3
WEL	**Wellington**	**1.12**	**188**	P	Pb	00 25 01.3	-1.2
NEZ	**North Egmont**	**1.14**	**323**	P	Pb	00 25 02.6	-0.2
SNZO	**South Karori**	**1.15**	**190**	P	Pb	00 25 01.6	-1.5
TWVZ	**Taurewa**	**1.16**	**18**	P	Pb	00 25 01.4	-1.9
WTVZ	**West Tongariro**	**1.16**	**24**	P	Pb	00 25 01.7	-1.6
TCW	**Tory Channel**	**1.16**	**207**	P	Pb	00 25 01.1	-2.2
BHW	**Baring Head**	**1.23**	**184**	P	Pn	00 25 03.3	-1.0
NWEZ	**Newall Road**	**1.25**	**316**	P	Pn	00 25 04.4	-0.1
PAWZ	**Paruwai Farm**	**1.25**	**164**	P	Pn	00 25 03.8	-0.7
MSWZ	**Moikau Station**	**1.25**	**171**	P	Pn	00 25 03.6	-1.0
KATZ	**Kakaramea**	**1.32**	**25**	P	Pn	00 25 04.5	-1.1
RITZ	**Rihia Road**	**1.38**	**30**	P	Pn	00 25 05.7	-0.6
RATZ	**Rangitukua**	**1.45**	**25**	P	Pn	00 25 06.8	-0.4
BKZ	**Black Stump Fm**	**1.54**	**50**	P	Pn	00 25 08.4	-0.2
HATZ	**Hinemaiaia**	**1.55**	**34**	P	Pn	00 25 08.0	-0.6
WATZ	**Wairara**	**1.58**	**22**	P	Pn	00 25 08.8	-0.3
NNZ	**Nelson**	**1.60**	**229**	P	Pn	00 25 08.9	-0.5
HIZ	**Hauiti**	**1.67**	**357**	P	Pn	00 25 09.0	-1.3
BSWZ	**Blackbirch Sta**	**1.75**	**208**	P	Pn	00 25 11.5	+0.1
QRZ	**Quartz Range**	**1.98**	**250**	P	Pn	00 25 14.0	-0.6
THZ	**Tophouse**	**2.23**	**224**	P	Pn	00 25 18.2	+0.2
KHZ	**Kahutara**	**2.48**	**205**	P	Pn	00 25 20.5	-1.1
URZ	**Urewera**	**2.53**	**41**	P	Pn	00 25 21.1	-1.1
MKAZ	**Moumakai**	**3.07**	**3**	P	Pn	00 25 28.4	-1.2
MQZ	**McQueen's Vall**	**3.93**	**205**	P	Pn	00 25 38.1	-3.3
ODZ	**Otahua Downs**	**5.82**	**212**	P	Pn	00 26 04.3	-3.0

NIED ***05*** *01:19:00, 3290N×13200E, h38km, Mw3.5 Best double couple: M0 2.10000×10^14 NP1: φs63.00000°, δ68.00000°, λ-151.00000°. NP2: φs321.00000°, δ63.00000°, λ-25.00000°.*
JMA 05 01:19:08.9, 3294N×13202E, h12km±1km**, M3.5, 3D, Shikoku**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JUS	**Usuki**	**0.26**	**299**	⇓P	Pg	01 19 14.5	+0.2
JUS				S	Sg	01 19 18.3	+0.4
JKIT	**Kitakata**	**0.57**	**237**	⇓P	Pg	01 19 20.0	0.0
JKIT				S	Sg	01 19 27.4	-0.2
UWA2	**Uwa jima 2**	**0.58**	**62**	⇓P	Pg	01 19 20.0	-0.1
UWA2				eS	Sg	01 19 27.5	-0.3
JTSN	**Tsuno**	**0.82**	**212**	S	Sg	01 19 35.0	-0.4
JIU2	**Izumi 2**	**1.09**	**249**	S	Sb	01 19 43.4	-0.4

IDC 05 01:32:53.4±1.6**, 1764S×17638W, h0**km**, mb4.2**/3**, mb1 4.4**/3**, mb1mx3.9**/16**, mbtmp4.2**/3**, Error ellipse: s-maj=64.4km s-min=38.1km az=165.0, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**40.45**	**241**	P	P	01 40 35.7	+1.9
	0.9nm,0.4s,baz=94,slow=15,SNR=3.8						
WRA	**Warramunga Arr**	**46.58**	**259**	P	P	01 41 22.5	-0.9
	1.2nm,0.5s,baz=92,slow=7.6,SNR=18						
ASAR	**Alice Springs**	**46.72**	**254**	P	P	01 41 23.9	-0.5
	8.1nm,0.7s,baz=88,slow=8.5,SNR=115						
VNA3	**Neumayer Olymp**	**90.88**	**176**	e	P	01 46 00.5	+2.0
VNA2	**Neumayer--Watz**	**91.34**	**176**	e	P	01 46 03.2	+2.5
GERES	**GERESS Array B**	**147.81**	**347**	PKPbc	PKPbc	01 52 40.3	+0.1
	1.0nm,0.6s,baz=29,slow=3.0,SNR=11						
TORD	**Torodi Ar. Bea**	**175.17**	**157**	PKPab	PKPab	01 54 40.4	-1.2
	1.1nm,0.9s,baz=244,slow=5.2,SNR=5.2						

MAN ***05*** *01:34:43, 1874N×12086E, h1km, mb4.9, ML3.8, MS3.9*
MAN INTENSITY III - LAOAG, PASUQUIN, ILOCOS NORTE.
IDC ***05*** *01:34:44.0±0.6, 1840N×12112E, h0km, mb4.1/14, mb1 4.3/15, mb1mx4.3/19, mbtmp4.1/15, ML4.3/1, MS3.6/13, Ms1 3.6/13, ms1mx3.4/28, Error ellipse: s-maj=24.6km s-min=13.6km az=74.0*
ISCJB ***05*** *01:34:45.8±0.9, 1866N±002×12096E±003, h8km±6km, mb4.6/37, MS3.6/11, Error ellipse: s-maj=5.1km s-min=3.3km az=165.8*
NEIC ***05*** *01:34:47.4±3.1, 1843N×12120E, h21km±22km, mb4.6/13, Error ellipse: s-maj=9.5km s-min=6.1km az=73.0*
NEIC Felt [III PIVS] at Laoag and Pasuquin.
BJI ***05*** *01:34:48.2, 1870N×12104E, h11km, mB4.9, mb4.4, Ms4.3, Msz4.2*
DJA ***05*** *01:35:52, 1435N×12044E, h315km, mb5.1/8*
ISC 05 01:34:46.2±0.7**, 1864N**±002×**12099E**±003**, h0**km±4km**, n84, σ1**§**08**/91**, mb4.7**/37**, MS3.6**/11**, 7C-2D, Luzon**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PIP	**Pasuquin**	**0.47**	**228**	eP	**Pg**	**01 34 55.4**	**+0.1**
PIP				eS	**Sg**	**01 35 02.1**	**+0.8**
APYP	**Conner**	**0.81**	**163**	eP	**Pg**	**01 35 01.6**	**-0.1**
APYP				eS	**Sg**	**01 35 12.6**	**+0.3**
SIPP	**Brgy, Tapao**	**0.87**	**215**	⇑eP	**Pg**	**01 35 02.5**	**-0.5**
SIPP				i S	**Sg**	**01 35 17.1**	**+2.9**
ABRA	**Dolores**	**1.02**	**195**	eP	**Pg**	**01 35 04.0**	**-1.7**
ABRA				eS	**Sg**	**01 35 18.2**	**-0.8**
SGCP	**Mt. Cagua**	**1.08**	**111**	eP	**Pg**	**01 35 07.2**	**+0.3**
SGCP				eS	**Sg**	**01 35 21.5**	**+0.6**
CVP	**Callao Caves**	**1.22**	**139**	⇑i P	**Pg**	**01 35 08.6**	**-1.0**
CVP				i S	**Sg**	**01 35 25.0**	**-0.6**
CAUP	**Cauayan**	**1.86**	**155**	eP	**Pn**	**01 35 20.3**	**+0.9**
CAUP				eS	**Sn**	**01 35 46.8**	**+3.1**
PALP	**Palanan**	**2.08**	**139**	eP	**Pn**	**01 35 23.5**	**+1.2**
PALP				eS	**Sn**	**01 35 51.6**	**+2.6**
BCPH	**Baguio City Da**	**2.28**	**190**	⇑i P	**Pn**	**01 35 23.1**	**-1.9**
BCPH				i S	**Sn**	**01 35 53.1**	**-0.8**
BOLP	**Bolinao**	**2.47**	**205**	eP	**Pn**	**01 35 27.0**	**-0.7**
BOLP				eS	**Sn**	**01 35 59.0**	**+0.4**
BALP	**Baler**	**2.94**	**169**	eP	**Pn**	**01 35 35.4**	**+1.2**
SCZP	**Santa Cruz**	**3.03**	**200**	eP	**Pn**	**01 35 35.5**	**+0.1**
SCZP				eS	**Sn**	**01 36 12.6**	**+0.2**
PCPH	**Palayan**	**3.06**	**178**	⇑eP	**Pn**	**01 35 35.2**	**-0.6**
PCPH				eS	**Sn**	**01 36 16.2**	**+3.0**
NBP	**Mount Natib**	**3.92**	**188**	⇑eP	**Pn**	**01 35 48.6**	**+1.0**
POLP	**Polilio Island**	**4.00**	**167**	eP	**Pn**	**01 35 50.2**	**+1.5**
GQP	**Guinayangan**	**4.91**	**163**	⇑eP	**Pn**	**01 36 02.2**	**+0.9**
GQP				eS	**Sn**	**01 36 57.4**	**-1.5**
LUBP	**Lubang**	**4.93**	**188**	eP	**Pn**	**01 36 01.4**	**-0.2**
PVCP	**Virac**	**5.87**	**148**	eP	**Pn**	**01 36 15.6**	**+1.1**
YHNB	**Yeheng**	**6.01**	**3**	ePn	**Pn**	**01 36 18.5**	**+2.1**
	67nm,0.5s						
YHNB				eSn	**Sn**	**01 37 28.0**	**+2.0**
BUSP	**Coron**	**6.64**	**187**	eP	**Pn**	**01 36 24.6**	**-0.5**
ENPP	**El Nido**	**7.54**	**192**	eP	**Pn**	**01 36 37.4**	**-0.1**
JOW	**Kunigami**	**10.56**	**38**	LR	LR	01 40 32.9	
	comp=Z,507nm,18.9s,baz=98,slow=33						
XAN	**Xi'an**	**18.74**	**327**	P	**Pn**	**01 39 07.5**	**+0.6**
XAN				AP	pP	01 39 18.3	+12
XAN				XP	sP	01 39 23.4	+17
XAN				AMB	AMB		
	comp=Z,4.0nm,1.0s						
NANT	**Nan**	**19.22**	**274**	P	**Pn**	**01 39 10.0**	**-2.8**
KSRS	**Korea Array**	**19.70**	**17**	P	**Pn**	**01 39 16.6**	**-1.9**
	comp=Z,0.8nm,0.3s,baz=198,slow=11,SNR=15						
KSRS				LR	LR	01 45 43.0	
	comp=Z,154nm,21.0s,baz=199,slow=33						
CD2	**Chengdu**	**19.82**	**311**	eP	**Pn**	**01 39 18.9**	**-1.0**
CD2				AP	pP	01 39 26.7	+8.2
CD2				XP	sP	01 39 31.2	+13
CD2				AMB	AMB		
	comp=Z,20nm,1.1s						
CD2				AMB	AMB		
	comp=Z,40nm,4.2s						
CD2				LR	LR		
	comp=N,680nm,14.4s						
CD2				LR	LR		
	comp=E,620nm,15.6s						
CD2				LR	LR		
	comp=Z,640nm,12.0s						
KSM	**Kuching**	**20.02**	**213**	eP	**P**	**01 39 19.8**	**-1.0**
DL2	**Dalian**	**20.20**	**1**	P	**P**	**01 39 23.4**	**+0.9**
DL2				AMB	AMB		
	comp=Z,20nm,1.0s						
CHG	**Chiang Mai**	**20.88**	**274**	⇑P	**P**	**01 39 30.8**	**+0.7**
	comp=Z,18nm,1.0s						
CHTO	**Chiang Mai**	**20.88**	**274**	eP	**P**	**01 39 30.8**	**+0.7**
	comp=Z,17nm,0.9s						
CMAR	**Chiang Mai Arr**	**20.90**	**273**	P	**P**	**01 39 30.4**	**+0.1**
	comp=Z,8.7nm,0.6s,baz=90,slow=8.8,SNR=30						
BJT	**Baijiatuau**	**21.71**	**350**	eP	**P**	**01 39 39.2**	**+0.4**
	comp=Z,26nm,0.7s,mb4.8						
JHJ	**Hachijo jima 2**	**22.17**	**46**	LR	LR	01 46 53.5	
	comp=Z,202nm,20.3s,MS3.5,baz=251,slow=33						
LZH	**Lanzhou**	**23.04**	**322**	⇓P	**P**	**01 39 53.6**	**+0.5**
LZH				AP		01 39 55.5	
LZH				AMB	AMB		
	comp=Z,20nm,1.3s,mb4.5						
LZH				AMB	AMB		
	comp=Z,108nm,5.4s						
LZH	**Lanzhou**	**23.04**	**322**	⇓P	**P**	**01 39 53.6**	**+0.5**
	comp=Z,20nm,1.3s,mb4.5						
LZH				pP		01 39 55.5	
LZH				sP	sP	01 39 57.0	+3.9
MJAR	**Matsushiro Arr**	**23.41**	**37**	P	**P**	**01 39 55.9**	**-1.0**
	comp=Z,2.6nm,1.0s,mb3.7,baz=212,slow=12,SNR=6.1						
GUMO	**Guam**	**23.48**	**99**	LR	LR	01 47 51.0	
	comp=Z,138nm,20.9s,MS3.4,baz=262,slow=34						
KAPI	**Kappang**	**23.54**	**183**	LR	LR	01 50 10.4	
	comp=Z,82nm,20.4s,MS3.2,baz=154,slow=40						
CN2	**Changchun**	**25.36**	**8**	eP	**P**	**01 40 14.3**	**-0.6**
CN2				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.7						
SHL	**Shillong**	**27.79**	**290**	eP	**P**	**01 40 38.0**	**+0.9**
BATI	**Baumata**	**28.78**	**175**	P	**P**	**01 40 41.1**	**-4.8**
	comp=Z,13nm,0.3s,mb5.2,baz=59,slow=3.0,SNR=3.9						
SONM	**Songino Array**	**31.46**	**341**	P	**P**	**01 41 08.5**	**-0.8**
	comp=Z,0.9nm,0.6s,mb3.9,baz=156,slow=7.6,SNR=4.2						
SONM				LR	LR	01 53 04.8	
	comp=Z,133nm,20.6s,MS3.6,baz=157,slow=35						
TAPN	**Taplejung**	**31.76**	**292**	eP	**P**	**01 41 13.0**	**+0.8**
	comp=Z,57nm,1.3s,mb5.3						
ODAN	**Odare**	**31.97**	**291**	eP	**P**	**01 41 14.1**	**0.0**
	comp=Z,50nm,0.9s,mb5.5						
RAMN	**Ramite**	**32.68**	**291**	eP	**P**	**01 41 20.7**	**+0.4**
	comp=Z,76nm,0.8s,mb5.7						
JIRN	**Jiri**	**33.14**	**292**	eP	**P**	**01 41 24.6**	**+0.3**
	comp=Z,44nm,0.9s,mb5.4						
GUN	**Gumba**	**33.45**	**293**	eP	**P**	**01 41 27.5**	**+0.5**
	comp=Z,70nm,0.8s,mb5.6						
PKI	**Pulchoki**	**33.81**	**292**	eP	**P**	**01 41 29.7**	**-0.5**
KKN	**Kakani**	**33.96**	**292**	eP	**P**	**01 41 31.0**	**-0.5**
	comp=Z,39nm,0.8s,mb5.4						
DMN	**Daman**	**34.09**	**292**	eP	**P**	**01 41 32.2**	**-0.4**
	comp=Z,40nm,0.9s,mb5.3						
GKN	**Gorkha**	**34.55**	**292**	eP	**P**	**01 41 36.0**	**-0.6**
	comp=Z,48nm,0.9s,mb5.4						
DANN	**Dangsing**	**35.36**	**293**	eP	**P**	**01 41 43.0**	**-0.6**
	comp=Z,35nm,0.9s,mb5.3						
KOLN	**Koldanda**	**35.43**	**292**	eP	**P**	**01 41 43.9**	**-0.3**
	comp=Z,31nm,0.8s,mb5.3						
FITZ	**Fitzroy Crossi**	**36.80**	**173**	eP	**P**	**01 41 51.9**	**-4.0**
	comp=Z,4.2nm,0.5s,mb4.4						
WRA	**Warramunga Arr**	**40.52**	**160**	P	**P**	**01 42 21.8**	**-5.3**
	comp=Z,1.6nm,0.6s,mb3.9,baz=342,slow=8.9,SNR=10						
WRA				PcP	PcP	01 44 28.0	-1.8
	comp=Z,1.9nm,0.6s,baz=343,slow=3.4,SNR=12						
WB2	**Warramunga Arr**	**40.52**	**160**	eP	**P**	**01 42 22.0**	**-5.2**
MK31	**Makanchi Array**	**42.33**	**320**	eP	**P**	**01 42 42.2**	**+0.4**
MKAR	**Makanchi Array**	**42.33**	**320**	P	**P**	**01 42 42.4**	**+0.6**
	comp=Z,3.9nm,0.8s,mb4.2,baz=114,slow=9.8,SNR=25						
MKAR				PcP	PcP	01 44 33.8	-1.6
	comp=Z,1.0nm,0.6s,baz=98,slow=3.4,SNR=4.0						
MKAR				LR	LR	02 02 40.0	
	comp=Z,57nm,18.6s,MS3.5,baz=308,slow=39						
MKAR	**Makanchi Array**	**42.33**	**320**	P	**P**	**01 42 42.4**	**+0.6**

MKAR				PcP	PcP	01 44 33.8	-1.6
MKAR				LR	LR	02 02 40.0	
ASAR	Alice Springs	43.90	163	P	P	01 42 50.6	-4.1
	comp=Z,1.4nm,0.4s,mb4.0,baz=338,slow=7.3,SNR=25						
PETK	Petropavlovsk-	44.62	31	P	P	01 42 59.1	-1.1
	comp=Z,2.6nm,0.6s,mb4.3,baz=191,slow=1.5,SNR=4.1						
PETK				LR	LR	02 01 33.2	
	comp=Z,35nm,19.8s,MS3.3,baz=19,slow=36						
ZAA0	Zalesovo Array	44.87	330	eP	P	01 43 01.8	-0.3
ZALV	Zalesovo Beam	44.87	330	P	P	01 43 00.9	-1.2
	comp=Z,0.7nm,0.5s,mb3.9,baz=139,slow=7.7,SNR=3.8						
ZALV				LR	LR	02 01 54.8	
	comp=Z,52nm,18.2s,MS3.5,baz=249,slow=36						
ZALV	Zalesovo Beam	44.87	330	P	P	01 43 00.9	-1.2
ZALV				LR	LR	02 01 54.8	
TKM2	Tokmak 2	45.19	313	eP	P	01 43 05.6	+0.7
	comp=Z,2.8nm,0.8s,mb4.2						
UCH	Uchtor	45.76	311	eP	P	01 43 11.1	+1.7
	comp=Z,16nm,1.1s,mb5.0						
CTAO	Charters Tower	45.77	146	eP	P	01 43 05.8	-3.9
	comp=Z,3.6nm,0.8s,mb4.5						
AML	Almayashu	46.31	311	eP	P	01 43 15.6	+1.8
	comp=Z,14nm,1.1s,mb4.9						
KURK	Kurchatov	46.32	324	eP	P	01 43 13.7	0.0
	comp=Z,13nm,1.0s,mb4.9						
EKS2	Erkin-Say	46.40	312	eP	P	01 43 15.4	+1.0
	comp=Z,5.6nm,1.0s,mb4.5						
HNR	Honiara	47.49	123	LR	LR	02 00 59.4	
	comp=Z,80nm,18.8s,MS3.7,baz=346,slow=33						
BRVK	Borovoye	51.99	324	eP	P	01 43 56.5	-0.6
	comp=Z,6.0nm,0.8s,mb4.6						
STKA	Stephens Creek	53.98	158	P	P	01 44 07.4	-4.5
	comp=Z,1.6nm,0.5s,mb4.3,baz=352,slow=8.1,SNR=4.6						
ARU	Arti	59.47	325	eP	P	01 44 50.5	-0.3
	comp=Z,3.3nm,0.7s,mb4.5						
MCK	McKinley	73.50	28	eP	P	01 46 18.3	-2.1
	comp=Z,6.8nm,1.0s,mb4.6						
ARCES	ARCESS Array B	74.60	339	P	P	01 46 27.2	+0.4
	comp=Z,3.0nm,0.9s,mb4.3,baz=27,slow=5.7,SNR=4.2						
ARCES				LR	LR	02 21 00.7	
	comp=Z,48nm,18.2s,MS3.8,baz=35,slow=37						
AKASG	Malin Array Be	76.90	319	P	P	01 46 38.0	-2.3
	comp=Z,0.5nm,0.5s,mb4.0,baz=60,slow=6.9,SNR=3.2						
AKASG	Malin Array Be	76.90	319	P	P	01 46 38.0	-2.3
NB2	NORSAR Subarra	83.03	333	P	P	01 47 10.8	-2.4
	comp=Z,1.5nm,0.7s,mb4.3,baz=62,slow=5.1						
NOA	NORSAR Array B	83.03	333	P	P	01 47 12.6	-0.6
	comp=Z,1.8nm,0.8s,mb4.4,baz=64,slow=4.9,SNR=10						
NOA				LR	LR	02 25 18.1	
	comp=Z,51nm,19.2s,MS3.9,baz=35,slow=36						
GERES	GERESS Array B	87.00	321	P	P	01 47 33.7	+0.3
	comp=Z,0.4nm,0.6s,mb3.8,baz=28,slow=4.4,SNR=2.8						
GERES				LR	LR	02 33 50.7	
	comp=Z,40nm,18.8s,MS3.9,baz=278,slow=41						
YKA	Yellowknife Ar	88.13	23	P	P	01 47 38.1	-0.5
	comp=Z,2.4nm,0.7s,mb4.7,baz=309,slow=4.2,SNR=8.5						
TXAR	Lajitas Array	115.73	43	PKP	PKPdf	01 53 29.5	-1.7
	comp=Z,0.2nm,0.5s,baz=213,slow=1.1,SNR=6.1						
TXAR	Lajitas Array	115.73	43	PKP	PKPdf	01 53 29.5	-1.7

*ISCJB **05** 01:43:25.3±2.5, 30.2S±0.6×178.8W±0.4, h156km±50km, mb4.2/6, Error ellipse: s-maj=104.3km s-min=20.4km az=28.9*
*IDC **05** 01:43:26.7±1.0, 30.18S×178.74W, h152km±12km, mb4.0/5, mb1 4.1/5, mb1mx3.8/16, mbtmp4.0/5, Error ellipse: s-maj=25.7km s-min=19.2km az=12.0*
*NEIC **05** 01:43:26.1±0.9, 30.07S×178.69W, h150km±9km, mb4.1/1, Error ellipse: s-maj=23.5km s-min=14.1km az=175.0*
ISC 05 01:43:27.1±1.0, 29.9S±0.6×178.5W±0.4, h172km±39km, n21, σ0.70/14, mb4.2/6, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
RAO	Raoul Island	0.86	39	P	Pn	01 43 51.4	-1.6
	336nm,0.3s,baz=81,slow=8.1,SNR=30						
RAO				S	Sn	01 44 13.9	+1.0
	381nm,0.3s,baz=55,slow=22,SNR=6.7						
AFI	Afiamalu	17.11	23	eP	Px	01 47 09.0	
	89nm,0.5s						
CTA	Charters Tower	33.26	279	P	P	01 49 49.4	+1.1
	3.6nm,0.5s,mb4.3,baz=108,slow=12,SNR=9.5						
STKA	Stephens Creek	34.13	256	P	P	01 49 55.9	+0.2
	6.5nm,0.7s,mb4.5,baz=81,slow=12,SNR=11						
STKA	Stephens Creek	34.13	256	P	P	01 49 55.9	+0.2
ASAR	Alice Springs	42.67	267	P	P	01 51 06.3	-0.6
	2.1nm,0.7s,mb3.9,baz=104,slow=7.6,SNR=26						
WB2	Warramunga Arr	43.60	272	eP	P	01 51 14.2	-0.3
WRA	Warramunga Arr	43.61	272	P	P	01 51 14.4	-0.2
	6.1nm,0.6s,mb4.4,baz=111,slow=7.8,SNR=24						
FITZ	Fitzroy Crossi	51.89	270	eP	P	01 52 18.3	0.0
	2.4nm,0.6s,mb4.0						
QSPA	South Pole Qui	60.19	180	P	P	01 53 16.8	+0.6
	3.2nm,0.9s,mb4.1,baz=50,slow=3.1,SNR=19						
QSPA	South Pole Qui	60.19	180	P	P	01 53 16.8	+0.6
VNA3	Neumayer Olymp	78.82	176	e	P	01 55 10.1	-0.3
VNA3				e		01 55 15.1	
VNA2	Neumayer--Watz	79.25	177	e	P	01 55 12.9	+0.2
VNA2				e		01 55 17.8	
VNA1	Neumayer--Stat	79.48	177	e	P	01 55 13.9	-0.1
VNA1				e		01 55 18.8	
MKAR	Makanchi Array	117.11	310	PKP	PKPdf	02 01 52.5	+1.2
	0.3nm,0.6s,baz=85,slow=3.5,SNR=2.7						
KURK	Kurchatov	120.38	314	eP	PKPdf	02 01 59.0	+1.5
NB2	NORSAR Subarra	148.21	351	PKP	PKPbc	02 02 54.2	+2.2
	comp=Z,0.4nm,0.5s,baz=17,slow=2.6						
NOA	NORSAR Array B	148.21	351	PKPbc	PKPbc	02 02 54.4	+2.4
	comp=Z,1.4nm,0.6s,baz=16,slow=4.2,SNR=9.2						
AKASG	Malin Array Be	150.63	323	PKPbc	PKPbc	02 03 00.0	+1.7
	comp=Z,3.6nm,0.7s,baz=50,slow=3.0,SNR=14						
TORD	Torodi Ar. Bea	163.31	181	PKP	PKPdf	02 03 11.9	+2.1
	comp=Z,0.3nm,0.8s,baz=202,slow=1.6,SNR=2.6						
TORD				PKPab	PKPab	02 04 00.8	-0.2
	comp=Z,1.4nm,0.8s,baz=175,slow=4.1,SNR=11						
TORD	Torodi Ar. Bea	163.31	181	PKP	PKPdf	02 03 11.9	+2.1
TORD				PKPab	PKPab	02 04 00.8	-0.2

*MOS **05** 02:18:10.0±1.1, 51.52N×160.16E, h7km, mb4.2/1, Error ellipse: s-maj=32.1km s-min=11.1km az=95.8*
KRSC 05 02:18:12.0±0.7, 51.68N×160.05E, h5km±5km, ML4.0, 1D, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
RUS	Russkaya	1.21	309	eP	Pg	02 18 34.6	-0.6
RUS				iS	Sg	02 18 51.1	+0.2
SPN	Mys Shipunski	1.42	359	eP	Pn	02 18 41.0	+2.6
SPN				iS	Sb	02 19 02.4	+5.1
GRL	Gorelyy	1.50	306	P	Pn	02 18 40.3	+0.8
GRL				iS	Sn	02 19 01.1	+1.7
NLC	Nalytchevo	1.56	344	P	Pn	02 18 40.6	+0.3
PET	Petropavlovsk	1.60	328⇓	iPN	Pn	02 18 41.8	+1.0
PET				eS	Sn	02 19 03.3	+1.5
PET				pmax	pmax		
	comp=Z,200nm,0.4s						
PET				pmax	pmax		
	comp=Z,159nm,0.4s						
PET				smax			
	comp=N,523nm,0.5s						
PET				smax			
	comp=N,400nm,0.3s						
PET	Petropavlovsk	1.60	328	P	Pn	02 18 41.7	+0.9
PET				iS	Sn	02 19 03.7	+1.9
AVH	Avacha	1.78	334	eP	Pn	02 18 45.7	+2.3
KII	Karymskiy	2.39	351	P	Pn	02 18 53.4	+1.7
GNL	Ganaly	2.39	328	P	Pn	02 18 53.3	+1.5
SKR	Severo-Kuril's	2.67	250	ePN	Pn	02 18 56.0	+0.4
SKR				pmax	pmax		
	comp=Z,30nm,0.4s						
MKZ	Mys Kozlova	3.05	19	P	Pn	02 19 01.3	+0.4
MKZ				iS	Sn	02 19 36.4	-1.3
TUMR	Tumrok	3.61	1	P	Pn	02 19 10.6	+2.1
KBTR	Krutoberegovo	4.82	19	P	Pn	02 19 26.3	+1.1

*ISCJB **05** 02:22:00.4±1.4, 51.47N±0.04×159.82E±0.09, h24km±9km, mb4.2/34, MS3.8/4, Error ellipse: s-maj=9.0km s-min=6.7km az=167.4*
*KRSC **05** 02:22:00.5±1.1, 51.71N×159.91E, h5km±5km, ML4.9*
*MOS **05** 02:22:01.2±2.1, 51.77N×159.17E, h10km, mb4.8/16, Error ellipse: s-maj=13.9km s-min=5.9km az=95.5*
*NEIC **05** 02:22:12.7±1.3, 52.04N×158.57E, h73km±8km, mb4.5/15, Error ellipse: s-maj=17.1km s-min=12.8km az=114.0*
*IDC **05** 02:22:14.1±1.8, 52.14N×158.56E, h90km±14km, mb3.6/13, mb1 3.8/13, mb1mx3.7/22, mbtmp3.6/13, MS3.7/5, Ms1 3.7/5, ms1mx3.1/32, Error ellipse: s-maj=21.5km s-min=17.8km az=105.0*
ISC 05 02:22:01.5±1.4, 51.48N±0.04×159.71E±0.09, h19km±1.0km: pP-P, n94, σ1.39/104, mb4.2/34, MS3.8/4, 1C-1D, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
RUS	Russkaya	1.21	323	eP	Pn	02 22 22.5	-0.7
RUS				iS	Sb	02 22 38.9	+0.1
GRL	Gorelyy	1.48	317	P	Pn	02 22 27.7	+0.8
GRL				iS	Sn	02 22 47.4	+1.9
SPN	Mys Shipunski	1.63	7	eP	Pn	02 22 29.7	+0.7
SPN				iS	Sn	02 22 51.0	+1.6
PET	Petropavlovsk	1.68	338⇓	iPN	Pn	02 22 29.6	0.0
PET				pmax	pmax		
	comp=Z,1μm,0.4s						
PET				pmax	pmax		
	comp=Z,1μm,0.4s						
PET	Petropavlovsk	1.68	338	P	Pn	02 22 29.3	-0.3
PET				iS	Sn	02 22 50.3	-0.2
PET	Petropavlovsk	1.68	338	ePn	Pn	02 22 29.5	-0.2
NLC	Nalytchevo	1.71	353	eP	Pn	02 22 28.6	-1.5
NLC				iS	Sn	02 22 49.1	-2.2
INSR	Institute	1.73	337	P	Pn	02 22 29.4	-0.9
INSR				iS	Sn	02 22 50.5	-1.3
AVH	Avacha	1.88	342	P	Pn	02 22 32.6	+0.1
MIPR	Malaya Ipel'ka	2.00	295	P	Pn	02 22 35.4	+1.4
PEA0B	Petropavlovsk-	2.05	324	ePn	Pn	02 22 35.0	+0.3
PETK	Petropavlovsk-	2.05	324	P	Pn	02 22 35.1	+0.5
	comp=Z,31nm,0.3s,baz=127,slow=16,SNR=53						
PETK				S	Sn	02 23 00.5	+0.9
	comp=Z,86nm,0.3s,baz=118,slow=18,SNR=7.5						
SKR	Severo-Kuril's	2.40	252	ePN	Pn	02 22 40.0	+0.4
SKR				eS	Sn	02 23 14.8	+6.4
SKR				pmax	pmax		
	comp=Z,30nm,0.4s						
SKR				smax			
	comp=N,4μm,2.0s						
SKR				smax			
	comp=E,2μm,2.0s						
SKR				smax			
	comp=N,1μm,0.6s						
SKR				smax			
	comp=E,760nm,0.6s						
SKR				MLR	MLR		
	comp=N,3μm,14.0s						
SKR				MLR	MLR		
	comp=E,3μm,14.0s						
SKR				MLR	MLR		
	comp=Z,3μm,14.0s						
GNL	Ganaly	2.47	335	eP	Pn	02 22 41.0	+0.5
GNL				eS	Sn	02 23 11.1	+1.1
MKZ	Mys Kozlova	3.31	21	eP	Pn	02 22 49.1	-3.0
MKZ				iS	Sn	02 23 24.4	-6.5
TUMR	Tumrok	3.82	4	eP	Pn	02 22 58.8	-0.2
KPT	Kopyto	4.50	4	P	Pn	02 23 09.1	+0.6
KOZ	Kozyrevsk	4.59	1	P	Pn	02 23 10.5	+0.9
KOZR	Kozyr	4.60	1	PN	Pn	02 23 10.5	+0.8
KBTR	Krutoberegovo	5.08	20	P	Pn	02 23 14.5	-1.9
YSS	Yuzh-Sakhalins	11.97	254	ePN	Pn	02 25 04.5	+14
YSS				MLR	MLR		
	comp=E,200nm,17.0s						
YSS				MLR	MLR		
	comp=Z,300nm,17.0s						
ASAJ	Asahikawa	13.64	244	LR	LR	02 30 16.7	
	comp=Z,128nm,19.5s,baz=84,slow=36						
KLR	Kul'dur	17.94	274	eP	Pn	02 26 09.0	-0.5
YAK	Yakutsk	19.36	315	eP	Pn	02 26 26.4	-0.2
YAK				pmax	pmax		
	comp=Z,15nm,0.8s						
YAK				pmax	pmax		
	comp=N,6.0nm,1.2s						
YAK				pmax	pmax		
	comp=E,9.0nm,1.4s						
MAT	Matsushiro	21.38	234	P	P	02 26 55.2	+7.6
MJAR	Matsushiro Arr	21.38	234	P	P	02 26 50.7	+3.2
	comp=E,1.0nm,0.3s,mb3.6,baz=30,slow=7.5,SNR=4.7						
MJAR	Matsushiro Arr	21.38	234	P	P	02 26 50.7	+3.2
HIA	Hailar	25.37	281	eP	P	02 27 26.7	-0.3
HIA				pmax	pmax		
	comp=Z,31nm,0.8s						
HIA	Hailar	25.37	281	eP	P	02 27 26.6	-0.3
	comp=Z,31nm,0.8s,mb4.9						
BOD	Bodaibo	26.76	302	eP	P	02 27 37.8	-1.6
SONM	Songino Array	34.07	285	P	P	02 28 41.7	-2.4
	comp=Z,0.4nm,0.5s,mb3.6,baz=358,slow=39,SNR=3.1						
SONM				LR	LR	02 43 08.6	
	comp=Z,128nm,19.9s,MS3.6,baz=271,slow=38						
ZALV	Zalesovo Beam	43.47	304	P	P	02 29 59.9	-2.9
	comp=Z,1.0nm,0.3s,mb4.0,baz=46,slow=8.5,SNR=3.7						
ZALV				LR	LR	02 49 38.0	
	comp=Z,84nm,19.8s,MS3.6,baz=50,slow=39						
NVS	Novosibirsk	43.85	306	eP	P	02 30 02.8	-3.0
KURK	Kurchatov	48.40	303	eP	P	02 30 39.5	-2.2
KURK				pmax	pmax		
	comp=Z,9.0nm,0.8s,mb4.8						
KURK	Kurchatov	48.40	303	eP	P	02 30 39.5	-2.2
	comp=Z,9.4nm,0.8s,mb4.9						
MKAR	Makanchi Array	48.66	297	P	P	02 30 42.2	-1.5
	comp=Z,1.0nm,0.5s,mb4.1,baz=60,slow=4.7,SNR=13						
MKAR	Makanchi Array	48.66	297	P	P	02 30 42.2	-1.5
KEV	Kevo	54.27	342	ep	P	02 31 28.8	+3.4
	comp=Z,0.8nm,0.4s,mb4.0						
KEV	Kevo	54.27	342	eP	P	02 31 28.8	+3.4
KEV				pmax	pmax		
	comp=Z,1.0nm,0.4s,mb4.1						
ARU	Arti	54.43	318c	iP	P	02 31 23.3	-3.4
ARU				eS	S	02 39 02.9	-0.9
ARU				eSS	SS	02 42 42.2	-3.3
ARU				pmax	pmax		
	comp=Z,4.0nm,1.4s,mb4.2						
ARCES	ARCESS Array B	54.75	342	P	P	02 31 26.2	-2.6
	comp=Z,6.1nm,0.8s,mb4.7,baz=35,slow=9.9,SNR=7.9						
ARCES				LR	LR	03 00 00.8	
	comp=Z,58nm,18.3s,MS3.7,baz=179,slow=42						
NVAR	Mina Array Bea	56.53	69	P	P	02 31 54.8	+13
	comp=Z,0.4nm,0.4s,mb3.8,baz=298,slow=7.7,SNR=2.8						
PDAR	Pinedale Array	58.53	60	P	P	02 32 03.1	+7.0
	comp=Z,0.4nm,0.8s,mb3.5,baz=341,slow=3.1,SNR=3.6						
JOF	Joensuu	58.93	335	ep	P	02 31 57.2	-1.4
	comp=Z,1.8nm,0.3s,mb4.6						
JOF	Joensuu	58.93	335	eP	P	02 31 57.2	-1.4
JOF				pmax	pmax		
	comp=Z,2.0nm,0.3s,mb4.6						
KAF	Kangasniemi	60.88	337	ep	P	02 32 10.8	-1.2
	comp=Z,2.0nm,0.4s,mb4.6						
KAF	Kangasniemi	60.88	337	eP	P	02 32 10.8	-1.2
KAF				pmax	pmax		
	comp=Z,2.0nm,0.4s,mb4.6						
NB2	NORSAR Subarra	65.03	344	P	P	02 32 38.5	-1.1
	comp=Z,1.5nm,0.6s,mb4.2,baz=23,slow=6.9						
NOA	NORSAR Array B	65.03	344	P	P	02 32 38.9	-0.7
	comp=Z,0.8nm,0.8s,mb3.8,baz=18,slow=5.4,SNR=7.2						
AKASG	Malin Array Be	69.88	329	P	P	02 33 09.1	-1.3
	comp=Z,4.3nm,0.7s,mb4.5,baz=29,slow=6.3,SNR=12						
AKBB	Malin Array Si	69.88	329	eP	P	02 33 07.9	-2.5
AKBB				e	pP	02 33 14.1	-2.8
KIEV	Kiev	69.89	329	eP	P	02 33 09.2	-1.3
KIEV				e	pP	02 33 14.2	-2.8
KIEV				pmax	pmax		
	comp=Z,7.0nm,0.8s,mb4.6						
KIEV	Kiev	69.89	329	eP	P	02 33 09.2	-1.3
	comp=Z,6.8nm,0.8s,mb4.6						
KIEV				e	pP	02 33 14.2	-2.8
TXAR	Lajitas Array	71.50	66	P	P	02 33 27.1	+6.4
	comp=Z,0.3nm,0.5s,mb3.5,baz=305,slow=5.2,SNR=5.5						
CTA	Charters Tower	72.23	193	P	P	02 33 31.4	+6.6
	comp=Z,1.2nm,0.3s,mb4.3,baz=304,slow=11,SNR=3.8						
CTA				LR	LR	03 00 09.7	
	comp=Z,157nm,19.8s,MS4.3,baz=47,slow=31						
KWP	Kalwaria	72.82	332	eP	P	02 33 28.3	+0.1
KWP				pmax	pmax		
	comp=Z,9.0nm,1.0s,mb4.7						
KWP	Kalwaria	72.82	332	eP	P	02 33 28.3	+0.2
	comp=Z,9.5nm,1.0s,mb4.7						
CLL	Collm	73.78	339	eP	P	02 33 34.0	+0.2
	comp=Z,5.0nm,1.2s,mb4.3						
CLL				iP(2)	pP	02 33 38.7	-1.7
	comp=Z,7.0nm,1.2s						
BUR08	Bucovina Ar. S	73.83	330	eP	P	02 33 33.7	-0.5
DPC	Dobruska-Polom	73.88	337	eP	P	02 33 33.9	-0.5
MORC	Moravsky Berou	74.10	336	eP	P	02 33 35.5	-0.2
MORC				e	pP	02 33 41.3	-1.0
MORC				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.3						
MORC	Moravsky Berou	74.10	336	eP	P	02 33 35.5	-0.2
	comp=Z,3.4nm,0.8s,mb4.3						
MORC				e	pP	02 33 41.3	-1.0
WRA	Warramunga Arr	74.52	205	P	P	02 33 45.0	+6.6
	comp=Z,0.7nm,0.9s,mb3.6,baz=20,slow=6.2,SNR=4.0						
TIRR	Tirgusor	75.58	326	eP	P	02 33 43.6	-0.8
TIRR				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb4.3						
TIRR	Tirgusor	75.58	326	eP	P	02 33 43.6	-0.7
	comp=Z,4.3nm,0.9s,mb4.4						
KHC	Kasperske Hory	75.68	338	eP	P	02 33 43.9	-1.0
KHC				epP	pP	02 33 50.4	-1.1
GERES	GERESS Array B	75.92	338	P	P	02 33 46.3	0.0
	comp=Z,0.2nm,0.3s,mb3.5,baz=23,slow=7.2,SNR=4.0						
BAIF	Baives	76.71	344	eP	P	02 33 51.6	+0.9
BR131	Keskin Array S	77.72	320	eP	P	02 33 56.1	-0.4
	comp=Z,0.4nm,0.6s,mb3.5						
BR131				e	pP	02 34 01.8	-1.4
CDF	Champ du Feu	77.73	342	eP	P	02 33 58.1	+1.7
	comp=Z,7.4nm,0.9s,mb4.3						
CDF	Champ du Feu	77.73	342	eP	P	02 33 58.1	+1.7
CDF				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb4.3						
CDF	Champ du Feu	77.73	342	eP	P	02 33 58.1	+1.7
	comp=Z,3.7nm,0.9s,mb4.3						
ASAR	Alice Springs	78.19	204	P	P	02 34 06.5	+7.4
	comp=Z,0.6nm,0.9s,mb3.5,baz=18,slow=5.2,SNR=4.1						
LOR	Lormes	79.47	344	eP	P	02 34 07.9	+1.9
	comp=Z,14nm,1.0s,mb4.5						
LOR	Lormes	79.47	344	eP	P	02 34 07.9	+1.9
LOR				pmax	pmax		
	comp=Z,7.0nm,1.0s,mb4.5						
LOR	Lormes	79.47	344	eP	P	02 34 07.9	+1.9
	comp=Z,6.9nm,1.0s,mb4.5						
CABF	La Chapelle	79.69	342	eP	P	02 34 09.4	+2.2
	comp=Z,9.4nm,0.9s,mb4.4						
CABF	La Chapelle	79.69	342	eP	P	02 34 09.4	+2.2
CABF				pmax	pmax		
	comp=Z,5.0nm,0.9s,mb4.4						
CABF	La Chapelle	79.69	342	eP	P	02 34 09.4	+2.2
	comp=Z,4.7nm,0.9s,mb4.4						
MIB	Mutribah	79.69	305	eP	P	02 34 06.9	-0.7
MIB				AMb	AMB	02 34 13.2	
	comp=Z,43nm,0.8s,mb5.4						
SSF	Saint Saulge	79.73	344	eP	P	02 34 09.5	+2.0
AVF	Avril sur Loir	80.02	344	eP	P	02 34 11.2	+2.2
	comp=Z,9.4nm,1.0s,mb4.4						
AVF	Avril sur Loir	80.02	344	eP	P	02 34 11.2	+2.2
AVF				pmax	pmax		
	comp=Z,5.0nm,1.0s,mb4.4						
AVF	Avril sur Loir	80.02	344	eP	P	02 34 11.2	+2.2
	comp=Z,4.7nm,1.0s,mb4.4						
SMF	Signal de Mont	80.07	343	eP	P	02 34 11.4	+2.1
NAY	Al-Naaiem	80.19	305	eP	P	02 34 09.2	-1.0
NAY				AMb	AMB	02 34 15.9	
	comp=Z,14nm,0.9s,mb4.9						
BGF	Bois d'Agland	80.33	344	eP	P	02 34 13.0	+2.3
LPL	La Plagne	80.61	341	eP	P	02 34 15.0	+2.8
TCF	Toulx Ste Croi	80.70	344	eP	P	02 34 15.2	+2.5
	comp=Z,21nm,1.2s,mb4.6						
TCF	Toulx Ste Croi	80.70	344	eP	P	02 34 15.2	+2.5
TCF				pmax	pmax		
	comp=Z,10.0nm,1.2s,mb4.6						
TCF	Toulx Ste Croi	80.70	344	eP	P	02 34 15.2	+2.5
	comp=Z,10nm,1.2s,mb4.6						
CAF	Calviac	82.05	344	eP	P	02 34 23.0	+3.1
	comp=Z,7.5nm,0.9s,mb4.3						
CAF	Calviac	82.05	344	eP	P	02 34 23.0	+3.1
CAF				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb4.3						
CAF	Calviac	82.05	344	eP	P	02 34 23.0	+3.1
	comp=Z,3.8nm,0.9s,mb4.3						

*CSEM **05** 02:24:23.4±0.1, 37.72N×23.96E, h200km, ML2.9/2, Error ellipse: s-maj=3.6km s-min=1.9km az=50.0*
*ISCJB **05** 02:24:24.1±0.4, 37.70N±0.04×24.01E±0.05, h191km±4km, Error ellipse: s-maj=8.8km s-min=3.9km az=43.1*
*NEIC **05** 02:24:24.9, 37.71N×24.02E, h183km, mb4.2/2, After ATH.*
*ATH **05** 02:24:24.9, 37.71N×24.02E, h183km±4km*
*ROM **05** 02:24:26.9±0.8, 37.95N×23.68E, h10km, Ml3.3/2, Error ellipse: s-maj=19.5km s-min=8.5km az=43.0*
*THE **05** 02:24:27.6, 37.87N×23.82E, h180km±3km, ML2.9/2, Error ellipse: s-maj=4.3km s-min=2.1km az=163.0*
*HLW **05** 02:24:29.3, 37.43N×24.87E, h26km, Mb3.8*
ISC 05 02:24:24.8±0.4, 37.71N±0.04×24.03E±0.05, h187km±4km, n81, σ0.91/105, 13C, Southern Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KVR	Kavouri	0.23	300	eP	Pn	02 24 49.5	-0.1
KVR	Kavouri	0.23	300	eP	Pn	02 24 49.5	-0.1
NAIG	Nisos Aigina	0.43	277	eP	Pn	02 24 50.0	-0.2
NAIG	Nisos Aigina	0.43	277	eP	Pn	02 24 50.0	-0.2
DID	Didima	0.66	252	P	Pn	02 24 51.4	+0.2
DID				S	Sn	02 25 12.2	+0.8
LTK	Loutraki	0.90	291	P	Pn	02 24 52.9	+0.4
LKR	Lokris	1.24	320	P	Pn	02 24 55.0	-0.1
LKR				eS	Sn	02 25 18.3	-0.2
LKR	Lokris	1.24	320⇑	iP	Pn	02 24 54.9	-0.2
LKR				eS	Sn	02 25 18.3	-0.2
LKR	Lokris	1.24	320⇑	iP	Pn	02 24 54.9	-0.2
LKR				eS	Sn	02 25 18.3	-0.2
VLI	Veliai	1.32	222	eP	Pn	02 24 56.0	+0.2
VLI				eS	Sn	02 25 18.0	-1.6
VLI	Veliai	1.32	222	eP	Pn	02 24 56.0	+0.2
VLI				eS	Sn	02 25 18.0	-1.6
VLX	Vlachokerasia	1.35	256	P	Pn	02 24 57.4	+1.3
VLX				S	Sn	02 25 19.9	-0.2
KYTH	Kithira	1.63	209	eP	Pn	02 25 00.0	+1.3
KYTH	Kithira	1.63	209	eP	Pn	02 25 00.0	+1.3
ITM	Ithomi	1.75	253⇑	iP	Pn	02 25 01.4	+1.6
ITM	Ithomi	1.75	253⇑	iP	Pn	02 25 01.4	+1.6
AGG	Agios Georgios	1.87	315	P	Pn	02 25 01.3	+0.3
AGG				S	Sn	02 25 26.0	-3.1
PYL	PYLOS	2.00	247	P	Pn	02 25 03.1	+0.8
PYL				S	Sn	02 25 30.9	-0.4
RLS	Riolos of Patr	2.06	281	eP	Pn	02 25 04.9	+2.0
RLS				eS	Sn	02 25 32.0	-0.5
RLS	Riolos of Patr	2.06	281	eP	Pn	02 25 04.9	+2.0
RLS				eS	Sn	02 25 32.0	-0.5
EVR	Evrytania	2.12	305	eP	Pn	02 25 04.7	+1.1
EVR	Evrytania	2.12	305	eP	Pn	02 25 04.7	+1.1
PAIG	Paliouri	2.23	353	P	Pn	02 25 04.6	-0.2
VAM	Vamos	2.30	176	eP	Pn	02 25 07.1	+1.4
VAM				eS	Sn	02 25 36.6	-0.9
VAM	Vamos	2.30	176	eP	Pn	02 25 07.1	+1.4
VAM				eS	Sn	02 25 36.6	-0.9
THL	Klokotos Trika	2.43	320	P	Pn	02 25 07.9	+0.8
THL				S	Sn	02 25 37.1	-2.9
THL	Klokotos Trika	2.43	320	eP	Pn	02 25 07.2	+0.1
THL				S	Sn	02 25 37.1	-2.9
THL	Klokotos Trika	2.43	320	eP	Pn	02 25 07.2	+0.1
KFL	Anninata	2.59	280	P	Pn	02 25 10.0	+1.0
KFL				S	Sn	02 25 42.2	-1.1
LIT	Litokhoron	2.67	334	P	Pn	02 25 10.0	+0.2
VLS	Valsamata	2.76	281	eP	Pn	02 25 11.4	+0.5
VLS				S	Sn	02 25 45.1	-1.6
VLS	Valsamata	2.76	281	eP	Pn	02 25 11.4	+0.5
LKD	Levkas	2.84	292	P	Pn	02 25 13.0	+1.2
JAN	Janina	3.15	309⇑	iP	Pn	02 25 16.9	+1.3
JAN	Janina	3.15	309⇑	iP	Pn	02 25 16.9	+1.3
KARP	Karpathos	3.32	130	eP	Pn	02 25 18.1	+0.4
KARP				eS	Sn	02 25 58.5	-0.4
KARP	Karpathos	3.32	130	eP	Pn	02 25 18.1	+0.4
KARP				eS	Sn	02 25 58.5	-0.4
IGT	Igoumenitsa	3.42	303	P	Pn	02 25 19.1	+0.3
ARG	Arkhangelos	3.61	113	eP	Pn	02 25 23.1	+1.9
ARG	Arkhangelos	3.61	113	eP	Pn	02 25 23.1	+1.9
FNA	Florina	3.69	327	P	Pn	02 25 22.0	-0.3
KEK	Kerkira	3.86	302	Pn	Pn	02 25 24.1	-0.3
	23nm,0.2s						
KEK	Kerkira	3.86	302	eP	Pn	02 25 24.5	+0.1
KEK	Kerkira	3.86	302	eP	Pn	02 25 24.5	+0.1
KEK	Kerkira	3.86	302	eP	Pn	02 25 24.5	+0.1
SCTE	Santa Cesarea	4.94	300⇑	iPn	Pn	02 25 37.5	-0.5
	47nm,0.2s						
TIP	Timpagrande	5.89	287	Pn	Pn	02 25 50.3	-0.1

	3.0nm,0.3s						
TIP	**Timpagrande**	**5.89**	**287**	*e*Pn	**Pn**	**02 25 50.1**	**-0.4**
	4.1nm,0.2s						
SERS	**Sersale**	**5.92**	**285**	Pn	**Pn**	**02 25 50.7**	**0.0**
	5.0nm,0.3s						
PE1	**Pezze di Greco**	**5.98**	**303**	*e*P	**Pn**	**02 25 51.0**	**-0.6**
NOCI	**Noci**	**6.22**	**302**	Pn	**Pn**	**02 25 53.9**	**-0.7**
NOCI				Sn	**Sn**	**02 26 58.8**	**-6.7**
	38nm,0.2s						
SLUM		**6.28**	**171**	⇑*e*P	**Pn**	**02 25 55.1**	**-0.5**
SLUM				S	**Sn**	**02 26 57.6**	**-10**
LTRZ	**Laterza**	**6.30**	**300**	Pn	**Pn**	**02 25 55.2**	**-0.6**
LTRZ				Sn	**Sn**	**02 27 00.6**	**-6.9**
	54μm,44.0s						
CARO	**Carolei**	**6.32**	**287**	Pn	**Pn**	**02 25 56.7**	**+0.7**
	11nm,0.3s						
ORI	**Oriolo Calabro**	**6.36**	**294**	Pn	**Pn**	**02 25 56.3**	**-0.2**
	2μm,7.1s						
CRAC	**Craco**	**6.48**	**297**	Pn	**Pn**	**02 25 58.1**	**+0.1**
	20nm,0.3s						
JOPP	**Joppolo**	**6.48**	**280**	Pn	**Pn**	**02 25 58.5**	**+0.4**
	12nm,0.9s						
BAI	**Bari**	**6.49**	**304**	*e*P	**Pn**	**02 25 57.1**	**-1.1**
SG1	**Sgolgore (BA)**	**6.50**	**301**	*e*P	**Pn**	**02 25 57.8**	**-0.5**
MIGL	**Miglionico**	**6.56**	**298**	Pn	**Pn**	**02 25 58.9**	**-0.3**
	30nm,0.5s						
AMUR	**Altamura**	**6.58**	**301**	Pn	**Pn**	**02 25 58.5**	**-0.9**
AMUR				Sn	**Sn**	**02 27 06.7**	**-7.4**
	19nm,0.4s						
SCHR	**S. Chirico Rap**	**6.68**	**294**	Pn	**Pn**	**02 26 01.1**	**+0.5**
	38nm,2.6s						
CUC	**Castrocucco**	**6.80**	**292**	Pn	**Pn**	**02 26 03.5**	**+1.2**
	12nm,0.7s						
CUC	**Castrocucco**	**6.80**	**292**	*e*Pn	**Pn**	**02 26 02.4**	**+0.1**
	5.5nm,0.4s						
CUC	**Castrocucco**	**6.80**	**292**	*e*Pn	**Pn**	**02 26 02.4**	**+0.1**
	5.5nm,0.4s						
SIRI	**Monte Sirino -**	**6.82**	**294**	Pn	**Pn**	**02 26 03.1**	**+0.5**
	11nm,0.3s						
MCEL	**Monticello**	**6.92**	**295**	Pn	**Pn**	**02 26 03.9**	**+0.1**
	7.0nm,0.3s						
MRVN	**Minervino Murg**	**6.93**	**301**	Pn	**Pn**	**02 26 03.2**	**-0.7**
	7.0nm,0.2s						
MTSN	**Montesano sull**	**6.93**	**294**	Pn	**Pn**	**02 26 04.5**	**+0.5**
PALZ	**Palazzo San Ge**	**7.04**	**300**	Pn	**Pn**	**02 26 05.1**	**-0.3**
	126nm,2.5s						
HMAT	**Matruh**	**7.07**	**158**	⇑*e*P	**Pn**	**02 26 04.0**	**-2.0**
BULG	**Bulgheria - Ca**	**7.15**	**292**	Pn	**Pn**	**02 26 06.6**	**-0.2**
	9.0nm,0.3s						
CMPR	**Campora**	**7.27**	**294**	Pn	**Pn**	**02 26 08.6**	**+0.1**
	3.0nm,0.3s						
CDRU	**Civita di Ruta**	**7.33**	**295**	Pn	**Pn**	**02 26 10.1**	**+0.9**
	5.0nm,0.3s						
AWBH		**10.22**	**155**	⇑P	**Pn**	**02 26 47.0**	**-0.1**
GLL	**Jalalah**	**10.33**	**140**	⇑*e*P	**Pn**	**02 26 47.2**	**-1.4**
AMAG	**Maghara**	**10.37**	**130**	P	**Pn**	**02 26 47.0**	**-1.9**
AMAG	**Maghara**	**10.37**	**130**	P	**Pn**	**02 26 47.0**	**-2.0**
SUZ		**10.73**	**134**	⇑*e*P	**Pn**	**02 26 52.4**	**-1.3**
HFRF	**Wahat Farafira**	**11.13**	**160**	⇑*e*P	**Pn**	**02 26 59.9**	**+1.0**
HFRF				S	**Sn**	**02 28 51.0**	**-12**
HKAT	**Jabal Katrina**	**12.39**	**135**	P	**Pn**	**02 27 15.7**	**+0.7**

*NEIC **05** 02:32:31.6, 1943N×6839W, h43^{km}, MD4.0(RSPR), After RSPR.*

RSPR 05 02:32:31.6, 1943N×6839W, h43^{km}±17^{km}, MD4.0/17, **MD4.0**/17**, 13C-5D, North Atlantic Ocean**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
AGPR	**Aguadilla, PR**	**1.54**	**128**	⇑*e*P	Pn	02 32 55.2	-1.4
AGPR				*e*S	Sn	02 33 14.1	-1.4
MPR	**Mayaguez**	**1.69**	**135**	⇓*e*P	Pn	02 32 57.1	-1.6
MPR				*e*S	Sn	02 33 18.4	-0.8
STDO	**Santo Domingo**	**1.75**	**236**	⇓*e*P	Pn	02 32 58.6	-0.9
STDO				*e*S	Sn	02 33 19.3	-1.3
LSP	**Las Mesas**	**1.75**	**135**	⇑*e*P	Pn	02 32 57.8	-1.8
CRPR	**Cabo Rojo, PR**	**1.86**	**139**	⇑*e*P	Pn	02 32 59.4	-1.6
CRPR				*e*S	Sn	02 33 22.4	-1.0
AOPR	**Arecibo Observ**	**1.89**	**125**	⇑*e*P	Pn	02 33 00.4	-0.9
AOPR				*e*S	Sn	02 33 23.4	-0.5
GBPR	**Guanica, Bosqu**	**2.04**	**135**	⇑*e*P	Pn	02 33 02.0	-1.4
GBPR	**Guanica, Bosqu**	**2.04**	**135**	*e*S	Sn	02 33 26.6	-1.0
CELP	**Cerrillos**	**2.18**	**128**	⇑*e*P	Pn	02 33 04.8	-0.6
CELP				*e*S	Sn	02 33 30.3	-0.9
OBIP	**Obispado Ponce**	**2.18**	**129**	⇑*e*P	Pn	02 33 04.8	-0.6
OBIP				*e*S	Sn	02 33 30.4	-0.8
ICM	**Isla Caja Muer**	**2.34**	**130**	⇑*e*P	Pn	02 33 07.3	-0.2
ICM				*e*S	Sn	02 33 34.2	-0.8
SJG	**San Juan**	**2.49**	**121**	⇓*e*P	Pn	02 33 09.1	-0.6
SJG				*e*S	Sn	02 33 38.4	-0.5
SJG	**San Juan**	**2.49**	**121**	⇓*e*P	Pn	02 33 09.0	-0.7
SJG				*e*S	Sn	02 33 38.2	-0.7
CBYP	**Canovanas**	**2.66**	**115**	⇑*e*P	Pn	02 33 11.6	-0.4
CPD	**Cerro la Pandu**	**2.72**	**120**	⇑*e*P	Pn	02 33 12.2	-0.7
HUMP	**Col San Antoni**	**2.73**	**118**	⇑*e*P	Pn	02 33 12.5	-0.3
MTP	**Monte Pirata**	**3.00**	**116**	⇑*e*P	Pn	02 33 15.5	-1.1
STVI	**Saint Thomas**	**3.42**	**108**	⇓*e*P	Pn	02 33 23.4	+0.9
TBVI	**Tortola**	**3.71**	**105**	⇑*e*P	Pn	02 33 26.5	+0.1

*ISCJB **05** 02:49:13.5±0.6, 5145N±003×1615E±003, h0^{km}, Error ellipse: s-maj=4.5km s-min=2.5km az=14.7*
*IPEC **05** 02:49:13.4±0.3, 5160N×1622E, h0^{km}, ML2.0/4, Error ellipse: s-maj=2.0km s-min=1.6km az=37.0*
*NEIC **05** 02:49:14.3±1.4, 5157N×1621E, h5^{km}, ML2.5(BRA), Error ellipse: s-maj=16.2km s-min=6.2km az=203.0*
*PRU **05** 02:49:15.8, 5149N×1613E, h0^{km}*
*WAR **05** 02:49:15.8, 5153N×1614E, ML2.4, Mining Induced*
*CSEM **05** 02:49:15.2±0.2, 5153N×1611E, h1^{km}±1^{km}, ML3.0/11, Error ellipse: s-maj=3.4km s-min=1.6km az=25.0*
*VIE **05** 02:49:16.7±0.6, 5134N×1611E, h0^{km}, mb2.0/4, ML2.5/4, Error ellipse: s-maj=3.7km s-min=3.6km az=59.0, Suspected Mining induced.*

ISC 05 02:49:14.5±0.6**, 5152N**±003×**1614E**±003**, h0**^{km}**, n31,** σ**0**^{s}**75**/65**, 5C-2D, Poland**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.68**	**172**	*e*Pg	**Pg**	**02 49 28.5**	**+1.0**
KSP				*e*Sg	**Sg**	**02 49 38.0**	**+1.7**
KSP	**Ksiaz**	**0.68**	**172**	⇓*i*Pg	**Pg**	**02 49 28.5**	**+1.0**
KSP				*e*Sg	**Sg**	**02 49 37.8**	**+1.5**
DPC	**Dobruska-Polom**	**1.17**	**174**	*e*Pg	**Pg**	**02 49 37.3**	**+0.4**
DPC				Sg	**Sg**	**02 49 52.4**	**+0.3**
	20nm,0.4s						
DPC	**Dobruska-Polom**	**1.17**	**174**	*e*PG	**Pg**	**02 49 37.4**	**+0.5**
DPC				*e*SG	**Sg**	**02 49 52.4**	**+0.3**
	20nm,0.4s						
PVCC	**Panska Ves**	**1.40**	**226**	Pg	**Pg**	**02 49 41.4**	**+0.1**
PVCC				*e*Sg	**Sg**	**02 50 00.4**	**+0.9**
PVCC	**Panska Ves**	**1.40**	**226**	*e*PG	**Pg**	**02 49 41.4**	**+0.1**
PVCC				*e*SG	**Sg**	**02 50 00.5**	**+1.0**
	56nm,0.4s						
BRG	**Berggiesshubel**	**1.53**	**246**	Pg	**Pg**	**02 49 43.8**	**+0.1**
BRG	**Berggiesshubel**	**1.53**	**246**	PN	**Pn**	**02 49 43.1**	**+0.1**
BRG				PG	**Pg**	**02 49 43.8**	**+0.1**
BRG				SG	**Sg**	**02 50 04.3**	**+0.8**
	42nm,0.4s						
PRU	**Pruhonice**	**1.84**	**214**	*e*PG	**Pg**	**02 49 49.0**	**-0.7**
PRU				*e*SG	**Sg**	**02 50 13.1**	**-0.3**
	12nm,0.3s						
MORC	**Moravsky Berou**	**1.96**	**152**	*e*Pn	**Pn**	**02 49 48.4**	**-0.5**
MORC				*e*Sg	**Sg**	**02 50 17.5**	**+0.3**
MORC	**Moravsky Berou**	**1.96**	**152**	*e*Pn	**Pn**	**02 49 48.6**	**-0.3**
MORC				*e*Sg	**Sg**	**02 50 17.5**	**+0.2**
CLL	**Collm**	**1.98**	**265**	*i* Pn	**Pn**	**02 49 48.4**	**-0.8**
CLL				*e*Pg	**Pg**	**02 49 52.0**	**-0.4**
CLL				*e*Sg	**Sg**	**02 50 19.0**	**+1.0**
	comp=Z,13nm,0.7s						
OKC	**Ostrava-Krasne**	**2.11**	**142**	*e*PG	**Pg**	**02 49 54.7**	**-0.2**
OKC				*e*SG	**Sg**	**02 50 21.1**	**-1.1**
	comp=Z,12nm,0.4s						
VRAC	**Vranov**	**2.23**	**172**	*e*Pn	**Pn**	**02 49 52.9**	**+0.3**
VRAC				*e*Sg	**Sg**	**02 50 25.8**	**-0.2**
	comp=Z,6.4nm,0.3s						
TREC	**Trest**	**2.26**	**191**	*e*PN	**Pn**	**02 49 53.7**	**+0.6**
TREC				*e*PG	**Pg**	**02 49 57.0**	**-0.8**
KRUC	**Moravsky**	**2.46**	**176**	*e*Pn	**Pn**	**02 49 56.1**	**+0.3**
KRUC				*e*Sg	**Sg**	**02 50 33.1**	**-0.4**
	comp=Z,4.0nm,0.3s						
OJC	**Ojcow**	**2.65**	**118**	*e*Pg	**Pg**	**02 50 05.2**	**-0.1**
OJC				*e*Sg	**Sg**	**02 50 40.4**	**+0.7**
NKC	**Novy Kostel**	**2.67**	**243**	*e*PN	**Pn**	**02 49 59.4**	**+0.7**
NKC				*e*PG	**Pg**	**02 50 05.0**	**-0.6**
NKC				*e*SG	**Sg**	**02 50 40.0**	**-0.2**
	comp=Z,24nm,0.4s						
JAVC	**Velka Javorina**	**2.83**	**159**	*e*Pn	**Pn**	**02 50 02.4**	**+1.5**
JAVC				*e*Sg	**Sg**	**02 50 46.8**	**+1.3**
	comp=Z,7.5nm,0.6s						
KHC	**Kasperske Hory**	**2.90**	**216**	*e*PN	**Pn**	**02 50 01.9**	**+0.1**
KHC				*e*PG	**Pg**	**02 50 08.2**	**-1.8**
KHC				*e*SN	**Sn**	**02 50 37.4**	**+0.1**
KHC				*e*SG	**Sg**	**02 50 46.6**	**-1.0**
	comp=Z,7.0nm,0.4s						
MOX	**Moxa**	**2.99**	**255**	*e*PG	**Pg**	**02 50 11.5**	**-0.2**
MOX				*e*SG	**Sg**	**02 50 51.4**	**+1.0**
GEC2	**GERESS Array S**	**3.10**	**211**	*e*Pn	**Pn**	**02 50 05.4**	**+0.8**
GEC2	**GERESS Array S**	**3.10**	**211**	*e*Pg	**Pg**	**02 50 12.8**	**-1.1**
GEC2	**GERESS Array S**	**3.10**	**211**	*e*Pn	**Pn**	**02 50 05.4**	**+0.8**
GEC2				*e*Pg	**Pg**	**02 50 12.8**	**-1.1**
GEC2				*e*Sg	**Sg**	**02 50 52.8**	**-1.2**
MODS	**Modra-Piesok**	**3.23**	**166**	*e*PG	**Pg**	**02 50 15.8**	**-0.5**
MODS				*e*SG	**Sg**	**02 50 59.6**	**+1.4**
NIE	**Niedzica**	**3.39**	**127**	*e*P	**Pg**	**02 50 18.5**	**-0.9**
NIE				*e*S	**Sg**	**02 51 02.4**	**-1.0**
CONA	**Conrad Observa**	**3.60**	**183**	⇑*i*Pn	**Pn**	**02 50 10.9**	**-0.5**
CONA				⇑*i*Sg	**Sg**	**02 51 09.2**	**-0.8**
	comp=Z,6.1nm,0.5s						
CSNA	**Conrad Observa**	**3.60**	**183**	⇑*i*Pn	**Pn**	**02 50 11.1**	**-0.3**
CSNA				⇓*i*Sg	**Sg**	**02 51 09.6**	**-0.3**
	comp=Z,6.7nm,0.5s						
MOA	**Molln**	**3.87**	**199**	⇑*i*Pn	**Pn**	**02 50 15.3**	**+0.1**
MOA				⇑*i*Sg	**Sg**	**02 51 18.7**	**0.0**
	comp=Z,5.8nm,0.5s						
STHS	**Stebnicka Huta**	**3.88**	**121**	*e*PG	**Pg**	**02 50 28.4**	**-0.3**
STHS				*e*SG	**Sg**	**02 51 19.5**	**+0.6**
STHS	**Stebnicka Huta**	**3.88**	**121**	*e*Pg	**Pg**	**02 50 28.5**	**-0.2**
STHS				*e*Sg	**Sg**	**02 51 19.5**	**+0.6**

MAN 05 02:58:39, 894N×12578E, h27^{km}, mb4.4, ML3.3, MS3.1, 1C, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BUTP	**Butuan**	**0.16**	**282**	*e*P	Pb	02 58 45.9	+1.5
BUTP				*e*S	Sb	02 58 51.1	+3.0
SCPH	**Surigao**	**0.89**	**341**	*e*P	Pn	02 58 58.7	+2.9
SCPH				*e*S	Sb	02 59 14.2	+6.9
CGP	**Cagayan de Oro**	**1.17**	**246**	⇑*i*P	Pn	02 59 00.3	+0.7
CGP				*i* S	Sn	02 59 15.6	+0.9
BUKP	**Musuan**	**1.27**	**214**	*e*P	Pn	02 59 00.8	-0.1
BUKP				*e*S	Sn	02 59 17.5	+0.4

*GCMT **05** 03:52:24.0±0.2, 1557S×17506W, h22^{km}±1^{km}, MW5.1/80, Moment Tensor Solution. s40,c50; s80,c117; Duration: 0 Moment tensor: Scale 10^{16}Nm; M$_{rr}$-1.72±.21; M$_{\theta\theta}$3.37±.20; M$_{\phi\phi}$-1.65±.17; M$_{r\theta}$1.01±.28; M$_{\theta\phi}$5.40±.17; M$_{\phi r}$-0.39±.27; Best double couple: M$_0$6.08600×10^{16} NP1:φ$_s$13.00000°, δ77.00000°, λ-173.00000°. NP2: φ$_s$282.00000°, δ83.00000°, λ-13.00000°. Principal axes: T 6.8630, Plg4.0000°, Azm328.0000°; N -1.5540, Plg76.0000°, Azm75.0000°; P -5.3090, Plg14.0000°, Azm237.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

NEIC 05 03:52:12.1±1.3**, 1524S**×**17425W, h10**^{km}**, mb4.4**/3 **Error ellipse: s-maj=121.0km s-min=15.5km az=155.0, Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.73**	**61**	*e*Pn	Pn	03 52 55.8	-0.2
AFI				*e*S	Sn	03 53 12.8	-16
AFI				*e*TT		03 56 27.4	
DZM	**Mont Dzumac**	**19.51**	**247**	P	Pn	03 56 37.9	-2.9
	23nm,1.0s						
PPT	**Papeete**	**23.77**	**99**	*e*LQ		04 02 33.3	
	4μm,25.5s						
PPT				*e*LR	LR	04 03 37.8	
	320nm,24.0s						
TBI	**Tubuai**	**24.72**	**113**	*e*LQ		04 02 55.8	
	3μm,27.5s						
TBI				*e*LR	LR	04 04 07.5	
	602nm,26.2s						
RKT	**Rikitea**	**37.82**	**108**	*e*LQ		04 08 22.7	
	452nm,26.2s						
RKT				*e*LR	LR	04 10 08.5	
	260nm,24.2s						
STKA	**Stephens Creek**	**43.41**	**240**	P	P	04 00 16.5	+1.3
	3.1nm,1.4s						
WB2	**Warramunga Arr**	**49.08**	**257**	*e*P	P	04 01 00.2	+0.3
KAKA	**Kakadu**	**51.70**	**266**	*e*P	P	04 01 20.7	+0.9
	6.2nm,0.6s						
SBA	**Scott Base**	**63.35**	**184**	P	P	04 02 48.1	+7.2
BR131	**Keskin Array S**	**145.52**	**320**	*e*PKPdf	PKPdf	04 11 48.1	-2.8

*NEIC **05** 03:52:41.3, 1702N×9450W, h152^{km}, MD4.0(MEX), After MEX.*

MEX 05 03:52:41.6±0.9**, 1704N**×**9451W, h148**^{km}±17^{km}**, MD4.0, Chiapas**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TGIG		**1.35**	**101**	*i* P	Pn	03 53 08.7	-0.8
TGIG				*i* S	Sn	03 53 28.6	-2.2
SCX	**San Cristobal**	**1.82**	**99**	*i* P	Pn	03 53 12.9	-1.6
SCX				*i* S	Sn	03 53 38.1	-1.7
HUIG	**Huatulco**	**1.99**	**231**	*i* P	Pn	03 53 14.3	-2.1
HUIG				*i* S	Sn	03 53 42.0	-1.2
VHO	**Vista Hermosa**	**2.13**	**271**	*i* P	Pn	03 53 17.4	-0.7
VHO				*i* S	Sn	03 53 45.1	-1.0
VHO	**Vista Hermosa**	**2.13**	**271**	*i* P	Pn	03 53 17.4	-0.7
VHO				*i* S	Sn	03 53 45.6	-0.5
CCIG	**Comitan**	**2.40**	**108**	*i* P	Pn	03 53 21.2	-0.1
CCIG				*i* S	Sn	03 53 50.2	-1.7
TPIG	**Tehuac#an**	**3.04**	**297**	*i* P	Pn	03 53 27.5	-1.9
TPIG				*i* S	Sn	03 54 03.4	-3.1
UTMO	**Huajuapan**	**3.24**	**285**	*i* P	Pn	03 53 31.2	-0.7
UTMO				*i* S	Sn	03 54 07.8	-3.1
PNIG	**Pinotepa**	**3.52**	**260**	*i* P	Pn	03 53 33.2	-2.4
PNIG				*i* S	Sn	03 54 15.0	-2.5
PPM	**Popocatepetl**	**4.40**	**298**	*e*P	Pn	03 53 48.5	+1.4
PPM				*i* S	Sn	03 54 39.5	+1.5

*ISCJB **05** 03:59:10.2±1.3, 647N±008×740W±01, h65^{km}±13^{km}, mb3.5/9, Error ellipse: s-maj=21.6km s-min=12.6km az=16.0*
*IDC **05** 03:59:11.3±1.8, 641N×7395W, h62^{km}±18^{km}, mb3.4/9, mb1 3.6/10, mb1mx3.5/21, mbtmp3.4/10, MS2.6/1, Ms1 2.6/1, ms1mx2.3/25, Error ellipse: s-maj=23.8km s-min=14.4km az=104.0*
*NEIC **05** 03:59:11.1±1.1, 638N×7401W, h63^{km}±11^{km}, Error ellipse: s-maj=16.5km s-min=10.8km az=100.0*

ISC 05 03:59:11.6±1.2**, 642N**±008×**740W**±01**, h64**^{km}±13^{km}**, n17,** σ**0**^{s}**74**/17**, mb3.6**/9**, Northern Colombia**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ROSC	**El Rosal**	**1.59**	**192**	P	**Pn**	**03 59 36.5**	**-1.1**
	54nm,0.3s,baz=338,slow=2.0,SNR=123						
ROSC				S	**Sn**	**03 59 57.7**	**+0.5**
	77nm,0.3s,baz=90,slow=20,SNR=14						
SDV	**Santo Domingo**	**4.13**	**53**	P	**Pn**	**04 00 12.6**	**+0.3**
	7.6nm,0.3s,baz=229,slow=11,SNR=9.9						
SDV				S	**Sn**	**04 01 12.3**	**+13**
	13nm,0.3s,baz=217,slow=20,SNR=2.3						
SDV	**Santo Domingo**	**4.13**	**53**	P	**Pn**	**04 00 12.6**	**+0.3**
SDV				S	**Sn**	**04 01 12.3**	**+13**
JTS	**JuntasAbangare**	**11.50**	**290**	LR	LR	04 05 59.8	
	comp=Z,26nm,19.2s,baz=237,slow=35						
LPAZ	**La Paz**	**23.30**	**166**	P	**P**	**04 04 13.9**	**-0.2**
	0.4nm,0.6s,mb3.1,baz=341,slow=6.7,SNR=3.7						
SIV	**San Ignacio**	**25.68**	**150**	P	**P**	**04 04 36.9**	**+1.1**
	0.5nm,0.6s,mb3.2,baz=343,slow=11,SNR=3.0						
TXAR	**Lajitas Array**	**36.09**	**313**	P	**P**	**04 06 07.7**	**+0.3**
	0.1nm,0.6s,mb3.0,baz=135,slow=14,SNR=3.3						
TXAR				PcP	PcP	04 08 33.5	+1.2
	0.1nm,0.4s,baz=151,slow=5.7,SNR=3.2						
PDAR	**Pinedale Array**	**47.90**	**325**	P	**P**	**04 07 43.5**	**+0.1**
	0.4nm,0.8s,mb3.5,baz=106,slow=5.7,SNR=3.1						
SCHQ	**Schefferville**	**48.62**	**6**	P	**P**	**04 07 49.0**	**+0.3**
	3.5nm,0.8s,mb4.4,baz=202,slow=9.4,SNR=5.3						
YKA	**Yellowknife Ar**	**63.34**	**340**	P	**P**	**04 09 33.2**	**-0.5**
	0.5nm,0.4s,mb4.0,baz=131,slow=6.4,SNR=6.8						
YKA	**Yellowknife Ar**	**63.34**	**340**	P	**P**	**04 09 33.2**	**-0.5**
TORD	**Torodi Ar. Bea**	**74.67**	**78**	P	**P**	**04 10 43.1**	**-1.8**
	0.7nm,1.2s,mb3.5,baz=283,slow=6.5,SNR=4.2						
NOA	**NORSAR Array B**	**82.10**	**29**	P	**P**	**04 11 25.7**	**+0.7**
	0.8nm,0.8s,mb3.7,baz=268,slow=5.3,SNR=2.5						
NOA	**NORSAR Array B**	**82.10**	**29**	P	**P**	**04 11 25.7**	**+0.7**
ARCES	**ARCESS Array B**	**87.35**	**20**	P	**P**	**04 11 51.4**	**+0.1**
	1.7nm,0.8s,mb4.3,baz=257,slow=3.1,SNR=6.5						
ASAR	**Alice Springs**	**148.17**	**234**	PKPbc	PKPbc	04 18 51.1	0.0
	0.3nm,0.5s,baz=140,slow=2.8,SNR=4.7						
WRA	**Warramunga Arr**	**149.38**	**241**	PKPbc	PKPbc	04 18 53.0	-1.4
	0.4nm,0.6s,baz=110,slow=2.4,SNR=8.6						

*NEIC **05** 04:00:21.2, 3682N×1113W, h0^{km}, MN2.7(MDD), After MDD.*
*MDD **05** 04:00:22.2±1.4, 3682N×1107W, h0^{km}, mbLg2.5/16, Error ellipse: s-maj=12.8km s-min=9.5km az=50.0, PRIMO*
*CSEM **05** 04:00:22.4±0.5, 3651N×1084W, h10^{km}, ML3.5/11, Error ellipse: s-maj=10.4km s-min=6.0km az=61.0*
*INMG **05** 04:00:23.5±1.0, 3673N×1110W, h10^{km}, MD2.7, ML2.2, Error ellipse: s-maj=4.9km s-min=3.3km az=76.0*

ISC 05 04:00:23.7±0.8**, 3689N**±004×**1093W**±005**, h10**^{km}**, n64,** σ**1**^{s}**03**/127**, Azores-Cape St. Vincent Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PFVI	**Vila Bisbo**	**1.70**	**81**	*i* Pn	**Pn**	**04 00 53.5**	**+0.1**
PFVI				*e*Sn	**Sn**	**04 01 15.9**	**+0.8**
PFVI				A		04 01 17.1	
	17nm,0.2s						
MORF	**Marmelete**	**1.86**	**76**	*e*Pn	**Pn**	**04 00 56.1**	**+0.4**
MORF				*e*Sn	**Sn**	**04 01 20.5**	**+1.2**
MORF				A		04 01 23.6	
	18nm,0.2s						
MORF	**Marmelete**	**1.86**	**76**	*e*Pn	**Pn**	**04 00 56.1**	**+0.4**
MORF				*e*Sn	**Sn**	**04 01 20.5**	**+1.2**
	18nm,0.2s						
PTEO	**Sao Teotonio**	**1.88**	**69**	*e*Pn	**Pn**	**04 00 56.8**	**+1.0**
PTEO				*e*Sn	**Sn**	**04 01 21.2**	**+1.7**
PTEO				A		04 01 22.3	
	11nm,0.1s						
PTEO	**Sao Teotonio**	**1.88**	**69**	*e*Pn	**Pn**	**04 00 56.8**	**+1.0**
PTEO				*e*Sn	**Sn**	**04 01 21.2**	**+1.7**
	11nm,0.1s						
PBDV	**Barranco-do-Ve**	**2.42**	**81**	*e*Pn	**Pn**	**04 01 03.8**	**+0.5**
PBDV				*e*Sn	**Sn**	**04 01 33.6**	**+0.6**
PBDV				A		04 01 39.5	
	7.3nm,0.2s						
PBDV	**Barranco-do-Ve**	**2.42**	**81**	*e*Pn	**Pn**	**04 01 03.8**	**+0.5**
PBDV				*e*Sn	**Sn**	**04 01 33.6**	**+0.6**
	7.3nm,0.2s						
PMAFR	**Mafra**	**2.44**	**32**	*e*Pn	**Pn**	**04 01 03.7**	**+0.2**
PMAFR				*e*Sn	**Sn**	**04 01 34.7**	**+1.3**
PMAFR				A		04 01 38.8	
	10nm,0.1s						
MOE	**Montemor**	**2.61**	**51**	*e*Pn	**Pn**	**04 01 06.8**	**+0.8**
MOE				*e*Sn	**Sn**	**04 01 39.4**	**+1.7**
PVAQ	**Vaqueiros**	**2.61**	**78**	*e*Pn	**Pn**	**04 01 06.5**	**+0.5**
PVAQ				*e*Sn	**Sn**	**04 01 38.2**	**+0.4**
PVAQ				A		04 01 41.4	
	8.7nm,0.1s						
PVAQ	**Vaqueiros**	**2.61**	**78**	*e*Pn	**Pn**	**04 01 06.5**	**+0.5**
PVAQ				*e*Sn	**Sn**	**04 01 38.2**	**+0.4**
	8.7nm,0.1s						
PBEJ	**Beja**	**2.69**	**64**	*e*Pn	**Pn**	**04 01 07.9**	**+0.9**
PBEJ				*e*Sn	**Sn**	**04 01 40.3**	**+0.8**
PBEJ				A		04 01 42.9	
	6.4nm,0.2s						
PBEJ	**Beja**	**2.69**	**64**	*e*Pn	**Pn**	**04 01 07.9**	**+0.9**
PBEJ				*e*Sn	**Sn**	**04 01 40.3**	**+0.8**
	6.4nm,0.2s						
EGRO	**El Granado**	**2.82**	**76**	P	**Pn**	**04 01 09.3**	**+0.4**
	0.7nm,0.1s,SNR=13						
EGRO				S	**Sn**	**04 01 42.9**	**0.0**
	3.9nm,0.1s						
EGRO	**El Granado**	**2.82**	**76**	P	**Pn**	**04 01 09.3**	**+0.5**
	0.7nm,0.1s,SNR=13						
EGRO				S	**Sn**	**04 01 42.9**	**0.0**
	3.9nm,0.1s						
EVO	**Evora**	**2.83**	**54**	*e*Pn	**Pn**	**04 01 09.7**	**+0.7**
EVO				*e*Sn	**Sn**	**04 01 44.4**	**+1.3**
EVO				A		04 01 47.2	
	13nm,0.1s						
EVO	**Evora**	**2.83**	**54**	*e*Pn	**Pn**	**04 01 09.7**	**+0.7**
EVO				*e*Sn	**Sn**	**04 01 44.4**	**+1.3**
	13nm,0.1s						
PESTR	**Estremoz**	**3.29**	**52**	*e*Pn	**Pn**	**04 01 16.5**	**+1.2**
PESTR				*e*Sn	**Sn**	**04 01 55.6**	**+1.0**
PESTR				A		04 01 59.1	
	3.1nm,0.1s						
PESTR	**Estremoz**	**3.29**	**52**	*e*Pn	**Pn**	**04 01 16.5**	**+1.2**
PESTR				*e*Sn	**Sn**	**04 01 55.6**	**+1.0**
	3.1nm,0.1s						
PBAR	**Barrancos**	**3.34**	**66**	*e*Pn	**Pn**	**04 01 17.1**	**+1.1**
PBAR				*e*Sn	**Sn**	**04 01 56.4**	**+0.6**
PBAR				A		04 01 59.6	
	2.5nm,0.1s						
PBAR	**Barrancos**	**3.34**	**66**	*e*Pn	**Pn**	**04 01 17.1**	**+1.1**
PBAR				*e*Sn	**Sn**	**04 01 56.4**	**+0.6**
	2.5nm,0.1s						
PTOM	**Tomar**	**3.37**	**35**	*e*Pn	**Pn**	**04 01 17.5**	**+1.2**
PTOM				*e*Sn	**Sn**	**04 01 57.3**	**+1.0**
PTOM				A		04 02 00.8	
	6.5nm,0.2s						
PTOM	**Tomar**	**3.37**	**35**	*e*Pn	**Pn**	**04 01 17.5**	**+1.2**
PTOM				*e*Sn	**Sn**	**04 01 57.3**	**+1.0**
	6.5nm,0.2s						
EMIN	**Mina Concepcio**	**3.50**	**74**	P	**Pn**	**04 01 18.5**	**+0.3**
	0.8nm,0.1s,SNR=13						
EMIN				S	**Sn**	**04 01 60.0**	**+0.3**
	3.8nm,0.2s,SNR=16						
EMIN	**Mina Concepcio**	**3.50**	**74**	P	**Pn**	**04 01 18.5**	**+0.3**
	0.8nm,0.1s,SNR=13						
EMIN				S	**Sn**	**04 02 00.0**	**+0.3**
	3.8nm,0.2s,SNR=16						
EBAD	**Badajoz**	**3.61**	**58**	P	**Pn**	**04 01 20.4**	**+0.7**
	0.8nm,0.1s,SNR=18						
EBAD				S	**Sn**	**04 02 03.0**	**+0.5**
	15nm,0.2s,SNR=15						
EBAD	**Badajoz**	**3.61**	**58**	P	**Pn**	**04 01 20.4**	**+0.7**
	0.8nm,0.1s,SNR=18						
EBAD				S	**Sn**	**04 02 03.0**	**+0.6**
	15nm,0.2s,SNR=15						
PMRV	**Marv??o**	**3.77**	**47**	*e*Pn	**Pn**	**04 01 22.1**	**+0.3**
PMRV				*e*Sn	**Sn**	**04 02 06.7**	**+0.5**
PMRV				A		04 02 08.8	
	3.6nm,0.1s						
PMRV	**Marv??o**	**3.77**	**47**	*e*Pn	**Pn**	**04 01 22.1**	**+0.3**
PMRV				*e*Sn	**Sn**	**04 02 06.7**	**+0.5**
	3.6nm,0.1s						
PCBR	**Castelo Branco**	**4.00**	**42**	*e*Pn	**Pn**	**04 01 25.7**	**+0.6**
PCBR				*e*Sn	**Sn**	**04 02 12.4**	**+0.4**
PCBR				A		04 02 13.5	
	1.7nm,0.2s						
PCBR	**Castelo Branco**	**4.00**	**42**	*e*Pn	**Pn**	**04 01 25.7**	**+0.6**
PCBR				*e*Sn	**Sn**	**04 02 12.4**	**+0.4**
	1.7nm,0.2s						
ESPR	**Espera**	**4.06**	**89**	P	**Pn**	**04 01 25.8**	**-0.1**
	5.1nm,0.1s,SNR=28						
ESPR				S	**Sn**	**04 02 12.0**	**-1.6**
	24nm,0.3s,SNR=8.4						
ESPR	**Espera**	**4.06**	**89**	P	**Pn**	**04 01 25.8**	**-0.1**
	5.1nm,0.1s,SNR=28						
ESPR				S	**Sn**	**04 02 12.0**	**-1.6**
	24nm,0.3s,SNR=8.4						
MTE	**Manteigas**	**4.39**	**36**	*e*Pn	**Pn**	**04 01 30.9**	**+0.5**
MTE				*e*Sn	**Sn**	**04 02 22.1**	**+0.5**
MTE				A		04 02 24.3	
	2.5nm,0.1s						
MTE	**Manteigas**	**4.39**	**36**	*e*Pn	**Pn**	**04 01 30.9**	**+0.5**
MTE				*e*Sn	**Sn**	**04 02 22.1**	**+0.5**
	2.5nm,0.1s						
EJIF	**Jimena Fronter**	**4.41**	**94**	P	**Pn**	**04 01 30.8**	**+0.1**
	0.8nm,0.3s,SNR=7.9						
EJIF				S	**Sn**	**04 02 21.4**	**-0.7**
	0.4nm,0.2s,SNR=7.9						
PVIS	**Viseu**	**4.49**	**31**	*e*Pn	**Pn**	**04 01 31.8**	**0.0**
PVIS				*e*Sn	**Sn**	**04 02 24.3**	**+0.2**
PVIS				A		04 02 27.4	
	5.3nm,0.1s						

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
PVIS	**Viseu**	**4.49**	**31**	*e*Pn	**Pn**	**04 01 31.8**	**0.0**
PVIS				*e*Sn	**Sn**	**04 02 24.3**	**+0.2**
	5.3nm,0.1s						
ECEU	**Ceuta**	**4.58**	**101**	P	**Pn**	**04 01 32.7**	**-0.4**
	0.7nm,0.1s,SNR=7.9						
ECEU				S	**Sn**	**04 02 23.6**	**-2.8**
	0.7nm,0.2s,SNR=7.9						
ECEU	**Ceuta**	**4.58**	**101**	P	**Pn**	**04 01 32.7**	**-0.4**
	0.7nm,0.1s,SNR=7.9						
ECEU				S	**Sn**	**04 02 23.6**	**-2.8**
	0.7nm,0.2s,SNR=7.9						
EMIJ	**Mijas**	**4.95**	**92**	P	**Pn**	**04 01 36.9**	**-1.2**
	0.8nm,0.3s,SNR=4.0						
EMIJ				S	**Sn**	**04 02 34.6**	**-0.8**
	1.2nm,0.3s,SNR=7.9						
EADA	**Adamuz**	**5.20**	**74**	P	**Pn**	**04 01 41.9**	**+0.3**
	0.8nm,0.2s,SNR=7.9						
EADA				S	**Sn**	**04 02 40.9**	**-0.7**
	1.7nm,0.2s,SNR=7.9						
EADA	**Adamuz**	**5.20**	**74**	P	**Pn**	**04 01 41.9**	**+0.3**
	0.8nm,0.2s,SNR=7.9						
EADA				S	**Sn**	**04 02 41.0**	**-0.7**
MVO	**Moncorvo**	**5.24**	**34**	*e*Pn	**Pn**	**04 01 41.8**	**-0.2**
MVO				*e*Sn	**Sn**	**04 02 41.8**	**-0.6**
MVO				A		04 02 45.0	
	2.3nm,0.1s						
MVO	**Moncorvo**	**5.24**	**34**	*e*Pn	**Pn**	**04 01 41.8**	**-0.2**
MVO				*e*Sn	**Sn**	**04 02 41.8**	**-0.6**
	2.3nm,0.1s						
PCAB	**Cabril**	**5.31**	**24**	*e*Pn	**Pn**	**04 01 42.5**	**-0.6**
PCAB				*e*Sn	**Sn**	**04 02 42.7**	**-1.6**
PCAB				A		04 02 45.9	
	2.8nm,0.1s						
PCAB	**Cabril**	**5.31**	**24**	*e*Pn	**Pn**	**04 01 42.5**	**-0.6**
PCAB				*e*Sn	**Sn**	**04 02 42.7**	**-1.6**
	2.8nm,0.1s						
ELOB	**Lobios**	**5.44**	**23**	P	**Pn**	**04 01 43.8**	**-1.0**
	0.7nm,0.2s,SNR=9.0						
ELOB				S	**Sn**	**04 02 44.9**	**-2.6**
	1.9nm,0.2s						
PBRG	**Braganca**	**5.88**	**32**	*e*Pn	**Pn**	**04 01 50.7**	**-0.2**
PBRG				*e*Sn	**Sn**	**04 02 57.0**	**-1.3**
PBRG				A		04 03 00.7	
	1.1nm,0.2s						
PBRG	**Braganca**	**5.88**	**32**	*e*Pn	**Pn**	**04 01 50.7**	**-0.2**
PBRG				*e*Sn	**Sn**	**04 02 57.0**	**-1.3**
	1.1nm,0.2s						
ECAL	**Calabor**	**6.00**	**31**	P	**Pn**	**04 01 52.1**	**-0.4**
	0.7nm,0.2s,SNR=7.9						
ECAL				S	**Sn**	**04 02 58.4**	**-2.7**
	1.6nm,0.2s,SNR=7.0						
ESDC	**Sonseca Array**	**6.14**	**61**	P	**Pn**	**04 01 55.0**	**+0.5**
	4.4nm,0.2s,baz=246,slow=13,SNR=5.0						
ESDC				S	**Sn**	**04 03 03.2**	**-1.5**
	0.6nm,0.3s,baz=245,slow=23,SNR=6.5						
ESDC	**Sonseca Array**	**6.14**	**61**	P	**Pn**	**04 01 55.0**	**+0.5**
	4.4nm,0.2s,SNR=5.0						
ESDC	**Sonseca Array**	**6.14**	**61**	P	**Pn**	**04 01 55.0**	**+0.5**
ESDC				S	**Sn**	**04 03 03.2**	**-1.5**
EMAZ	**Mazaricos**	**6.23**	**13**	P	**Pn**	**04 01 54.8**	**-0.9**
	1.9nm,0.4s,SNR=6.3						
EMAZ				S	**Sn**	**04 03 01.6**	**-5.3**
	2.3nm,0.1s						
EMAZ	**Mazaricos**	**6.23**	**13**	P	**Pn**	**04 01 53.0**	**-2.7**
EMAZ				S	**Sn**	**04 03 00.6**	**-6.4**
EQES	**Quesada**	**6.32**	**79**	P	**Pn**	**04 01 56.1**	**-0.9**
	0.2nm,0.1s,SNR=4.0						
EQES				S	**Sn**	**04 03 08.2**	**-1.0**
	0.7nm,0.2s,SNR=7.9						
EQES	**Quesada**	**6.32**	**79**	P	**Pn**	**04 01 54.6**	**-2.4**
	0.2nm,0.1s,SNR=4.0						
EQES				S	**Sn**	**04 03 08.2**	**-1.0**
	0.7nm,0.2s,SNR=7.9						
EQES	**Quesada**	**6.32**	**79**	P	**Pn**	**04 01 54.6**	**-2.3**
EQES				S	**Sn**	**04 03 08.2**	**-1.0**
GUD	**Guadarrama**	**6.48**	**53**	P	**Pn**	**04 01 59.2**	**+0.1**
	0.2nm,0.2s,SNR=7.9						
GUD				S	**Sn**	**04 03 10.8**	**-2.3**
	0.4nm,0.2s,SNR=7.9						
EHUE	**Huescar**	**6.70**	**80**	P	**Pn**	**04 02 02.4**	**+0.2**
EHUE				S	**Sn**	**04 03 16.5**	**-2.0**
	0.2nm,0.1s,SNR=7.9						
EHUE	**Huescar**	**6.70**	**80**	P	**Pn**	**04 02 02.4**	**+0.3**
EHUE				S	**Sn**	**04 03 16.5**	**-2.1**
EPON	**Pontenova**	**7.05**	**23**	P	**Pn**	**04 02 05.8**	**-1.1**
	1.8nm,0.3s,SNR=7.9						
EPON				S	**Sn**	**04 03 23.0**	**-4.1**
	1.2nm,0.3s,SNR=7.9						
ETOB	**Tobarra**	**7.63**	**74**	P	**Pn**	**04 02 14.8**	**-0.2**
	0.3nm,0.2s,SNR=7.9						
ETOB				S	**Sn**	**04 03 38.5**	**-3.0**
	0.2nm,0.1s,SNR=7.9						

*BJI **05** 04:10:40.9, 670N×7300W, h167^{km}, mB5.0*
*ISCJB **05** 04:10:41.3±0.4, 678N±004×7286W±004, h176^{km}±4^{km}, mb4.0/32, Error ellipse: s-maj=7.5km s-min=5.5km az=140.6*
*IDC **05** 04:10:41.4±0.5, 672N×7298W, h158^{km}±5^{km}, mb3.7/12, mb1 3.9/16, mb1mx3.7/25, mbtmp3.7/16, MS3.7/1, Ms1 3.7/1, ms1mx2.7/28, Error ellipse: s-maj=11.5km s-min=6.9km az=127.0*
*NEIC **05** 04:10:42.0±0.5, 671N×7298W, h168^{km}±5^{km}, mb4.2/26, Error ellipse: s-maj=7.0km s-min=5.5km az=65.0*
*FUNV **05** 04:10:41.6, 670N×73.12W, h164^{km}, MW4.2*
ISC 05 04:10:41.8±0.4**, 674N**±004×**7288W**±004**, h163**^{km}±4^{km}**,**
h167^{km}±4.1^{km}**: pP-P, n270,** σ0^{s}**59**/274**, mb4.0**/32**, 111C-89D,**
Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CAPV	**Capacho**	**1.25**	**27**	⇑*e*P	**Pn**	**04 11 11.1**	**+1.0**
CAPV				*e*S	**Sn**	**04 11 32.3**	**+0.5**
ROSC	**El Rosal**	**2.36**	**218**	P	**Pn**	**04 11 22.5**	**+0.6**
	274nm,0.3s,baz=290,slow=11,SNR=495						
ROSC				S	**Sn**	**04 11 50.7**	**-2.3**
	208nm,0.3s,baz=110,slow=14,SNR=13						
ROSC	**El Rosal**	**2.36**	**218**	*e*Pn	**Pn**	**04 11 22.6**	**+0.6**
ROSC				*e*Sn	**Sn**	**04 11 49.4**	**-3.5**
SOCV	**Socops**	**2.53**	**52**	*e*P	**Pn**	**04 11 25.7**	**+1.7**
VIGV	**El Vigia**	**2.57**	**36**	⇑*e*P	**Pn**	**04 11 25.5**	**+1.0**
VIGV				*e*S	**Sn**	**04 11 57.3**	**-0.2**
SDV	**Santo Domingo**	**3.09**	**46**	P	**Pn**	**04 11 32.6**	**+1.8**
	49nm,0.3s,baz=241,slow=7.5,SNR=83						
SDV				S	**Sn**	**04 12 09.8**	**+1.0**
	104nm,0.3s,baz=227,slow=14,SNR=31						
SDV	**Santo Domingo**	**3.09**	**46**	*e*Pn	**Pn**	**04 11 32.3**	**+1.4**
SDV				*e*Sn	**Sn**	**04 12 10.0**	**+1.2**
QARV	**Quebrada Arrib**	**4.16**	**34**	*e*P	**Pn**	**04 11 45.3**	**+0.8**
QARV				*e*S	**Sn**	**04 12 32.5**	**-1.0**
SANV	**Sanarito**	**4.30**	**50**	*e*P	**Pn**	**04 11 47.6**	**+1.2**
SANV				*e*S	**Sn**	**04 12 36.3**	**-0.4**
CURV	**Curarigua**	**4.35**	**41**	⇑*e*P	**Pn**	**04 11 47.7**	**+0.7**
CURV				*e*S	**Sn**	**04 12 36.0**	**-1.9**
DABV	**Dabajuro**	**4.71**	**28**	*e*P	**Pn**	**04 11 52.2**	**+0.5**
TEPV	**Terepaima**	**4.86**	**48**	*e*P	**Pn**	**04 11 54.8**	**+1.2**
TEPV				*e*S	**Sn**	**04 12 47.8**	**-2.0**
SIQV	**Siquisique**	**4.93**	**38**	*e*P	**Pn**	**04 11 54.9**	**+0.3**
SIQV				*e*S	**Sn**	**04 12 50.3**	**-1.3**
BAUV	**El Baul**	**5.27**	**65**	*e*P	**Pn**	**04 11 59.2**	**+0.1**
BAUV				*e*S	**Sn**	**04 12 58.4**	**-1.1**
JACV	**Jacura**	**5.89**	**43**	*e*P	**Pn**	**04 12 07.5**	**+0.2**
TURV	**Turiamo**	**6.20**	**53**	*e*P	**Pn**	**04 12 10.9**	**-0.5**
CAOV	**Caicara del Or**	**6.54**	**84**	*e*P	**Pn**	**04 12 16.3**	**+0.4**
CAOV				*e*S	**Sn**	**04 13 27.4**	**-2.3**
BCIP	**Isla Barro Col**	**7.30**	**290**	*e*Pn	**Pn**	**04 12 20.6**	**-5.3**
	22nm,0.8s						
BIRV	**Birongo**	**7.52**	**60**	*e*P	**Pn**	**04 12 29.1**	**+0.3**
OTAV	**Otavalo**	**8.52**	**221**	*e*Pn	**Pn**	**04 12 40.4**	**-1.7**
	55nm,0.6s						
OTAV				*e*Sn	**Sn**	**04 14 14.6**	**-2.5**
JTS	**JuntasAbangare**	**12.45**	**287**	P	**Pn**	**04 13 32.4**	**-1.2**
	1.4nm,0.3s,baz=53,slow=20,SNR=3.9						
JTS	**JuntasAbangare**	**12.45**	**287**	*e*Pn	**Pn**	**04 13 38.9**	**+5.3**
	15nm,0.8s						
ATAH	**Atahualpa**	**14.71**	**202**	P	**Pn**	**04 14 04.5**	**+2.3**
	0.4nm,0.3s,baz=358,slow=6.3,SNR=4.3						
TEIG	**Tepich**	**20.07**	**313**	P	**P**	**04 15 02.5**	**-0.1**
	16nm,0.5s,baz=123,slow=7.0,SNR=21						
TEIG	**Tepich**	**20.07**	**313**	*e*P	**P**	**04 15 02.0**	**-0.6**
	21nm,0.7s						
LPAZ	**La Paz**	**23.36**	**168**	P	**P**	**04 15 37.4**	**+1.6**
	1.4nm,0.7s,mb3.5,baz=0.5,slow=12,SNR=8.1						
LPAZ	**La Paz**	**23.36**	**168**	*e*P	**P**	**04 15 36.8**	**+1.0**
	8.2nm,1.4s,mb4.0						
SIV	**San Ignacio**	**25.43**	**153**	P	**P**	**04 15 55.0**	**+0.4**
	0.4nm,0.4s,mb3.3,baz=338,slow=10,SNR=4.1						
SIV				pP	pP	04 16 29.0	+0.7
	1.1nm,0.7s,baz=319,slow=12,SNR=3.6						
HKT	**Hockley**	**31.61**	**320**	*e*P	**P**	**04 16 48.7**	**-0.6**
	1.7nm,0.8s,mb3.8						
WVT	**Waverly**	**32.30**	**337**	*e*P	**P**	**04 16 55.1**	**-0.2**
	4.2nm,0.7s,mb4.3						
WCI	**Wyandotte Cave**	**33.62**	**341**	*e*P	**P**	**04 17 06.4**	**-0.4**
	4.7nm,0.7s,mb4.3						
TXAR	**Lajitas Array**	**36.69**	**312**	P	**P**	**04 17 32.7**	**-0.5**
	2.4nm,0.6s,mb4.0,baz=128,slow=9.2,SNR=42						
TXAR				PcP	PcP	04 19 53.8	+1.4
	0.5nm,0.6s,baz=135,slow=5.4,SNR=5.9						
TXAR				LR	LR	04 35 34.0	
	comp=Z,95nm,18.3s,baz=190,slow=41						
AMTX	**Amarillo**	**38.57**	**321**	*e*P	**P**	**04 17 48.4**	**-0.4**
	6.3nm,0.5s,mb4.5						
JFWS	**Jewell Farm**	**39.15**	**340**	*e*P	**P**	**04 17 52.6**	**-1.0**
	7.9nm,0.8s,mb4.4						
CBKS	**Cedar Bluff**	**40.09**	**327**	*e*P	**P**	**04 18 00.4**	**-1.0**
	7.8nm,0.5s,mb4.6						
ANMO	**Albuquerque**	**41.74**	**317**	*e*P	**P**	**04 18 15.8**	**+0.9**
	0.8nm,0.5s,mb3.6						
319A	**Douglas**	**41.91**	**311**	⇓P	**P**	**04 18 16.6**	**+0.1**
	baz=42						
219A	**White Tail Can**	**42.19**	**311**	⇑P	**P**	**04 18 18.9**	**+0.2**
	baz=42						
318A	**Bisbee**	**42.48**	**310**	⇑P	**P**	**04 18 21.0**	**0.0**
	baz=42						
119A	**Ashpeak Ranch,**	**42.60**	**312**	⇓P	**P**	**04 18 22.2**	**+0.3**
	baz=43						
SDCO	**Great Sand Dun**	**42.76**	**321**	*e*P	**P**	**04 18 23.7**	**+0.5**
	4.7nm,0.9s,mb4.1						
218A	**Dragoon**	**42.77**	**311**	⇑P	**P**	**04 18 23.3**	**-0.1**
	baz=43						
118A	**Homack Ranch,**	**43.03**	**312**	⇑P	**P**	**04 18 26.0**	**+0.6**
	baz=43						
Y19A	**Nutrioso**	**43.16**	**314**	⇑P	**P**	**04 18 27.0**	**+0.6**
	baz=43						
217A	**Green Valley**	**43.26**	**310**	⇑P	**P**	**04 18 27.8**	**+0.5**
	baz=43						
X19A	**St. Johns**	**43.42**	**314**	⇑P	**P**	**04 18 28.8**	**+0.3**
	baz=43						
TUC	**Tucson**	**43.48**	**311**	*e*P	**P**	**04 18 27.9**	**-1.1**
	2.3nm,0.8s,mb3.9						
117A	**Oracle**	**43.57**	**311**	⇓P	**P**	**04 18 29.7**	**0.0**
	baz=44						
Y18A	**Canyon Day Jun**	**43.63**	**313**	⇑P	**P**	**04 18 30.2**	**+0.1**
	baz=44						
X18A	**Snowflake**	**43.94**	**314**	⇑P	**P**	**04 18 32.8**	**+0.1**
	baz=44						
W18A	**Petrified Fore**	**44.09**	**315**	⇑P	**P**	**04 18 34.1**	**+0.2**
	baz=44						
Y17A	**Roosevelt**	**44.18**	**313**	⇓P	**P**	**04 18 34.7**	**+0.1**
	baz=44						
116A	**Eloy**	**44.29**	**311**	⇑P	**P**	**04 18 35.3**	**-0.1**
	baz=44						
MVCO	**Mesa Verde**	**44.37**	**318**	⇑P	**P**	**04 18 36.2**	**+0.1**
	baz=44						
X17A	**Forest Lakes**	**44.46**	**313**	⇓P	**P**	**04 18 36.9**	**+0.1**
	baz=44						
T19A	**Beclabito**	**44.51**	**318**	⇓P	**P**	**04 18 37.3**	**+0.2**
	baz=44						
V18A	**Ganado**	**44.53**	**316**	⇑P	**P**	**04 18 37.4**	**0.0**
	baz=44						
Y16A	**Circle Bar Ran**	**44.73**	**312**	⇓P	**P**	**04 18 39.1**	**+0.2**
	baz=45						
115A	**Sonoran Desert**	**44.74**	**311**	⇓P	**P**	**04 18 39.3**	**+0.2**
	baz=45						
214A	**Organ Pipe Nat**	**44.86**	**309**	⇓P	**P**	**04 18 39.9**	**-0.1**
	baz=45						
X16A	**Lo Mia Camp, P**	**44.96**	**313**	⇑P	**P**	**04 18 41.2**	**+0.4**
	baz=45						
S19A	**Harvey Farm, M**	**45.09**	**319**	⇑P	**P**	**04 18 42.0**	**+0.2**
	baz=45						
T18A	**Mexican Hat**	**45.25**	**317**	⇓P	**P**	**04 18 43.3**	**+0.3**
	baz=45						
W16A	**Flagstaff**	**45.35**	**314**	⇓P	**P**	**04 18 44.2**	**+0.4**
	baz=45						
Y15A	**Casa Rosa Ranc**	**45.39**	**312**	⇓P	**P**	**04 18 44.3**	**+0.1**
	baz=45						
WUAZ	**Wupatki**	**45.45**	**315**	⇑P	**P**	**04 18 44.8**	**+0.2**
	baz=45						
WUAZ	**Wupatki**	**45.45**	**315**	*e*P	**P**	**04 18 43.5**	**-1.0**
	11nm,0.9s,mb4.5						
U17A	**Shonto**	**45.50**	**316**	⇑P	**P**	**04 18 45.4**	**+0.4**
	baz=46						
X15A	**Humboldt**	**45.57**	**313**	⇑P	**P**	**04 18 45.6**	**0.0**
	baz=46						
Z14A	**Wintersburg**	**45.58**	**311**	⇑P	**P**	**04 18 45.7**	**0.0**
	baz=46						
U16A	**Tuba City**	**45.59**	**315**	⇓P	**P**	**04 18 46.1**	**+0.4**
	baz=46						
S18A	**Hurst Farm, Bl**	**45.63**	**318**	⇑P	**P**	**04 18 46.4**	**+0.4**
	baz=46						
Q19A	**Hogan Spring (**	**45.86**	**320**	⇑P	**P**	**04 18 48.0**	**+0.3**
	baz=46						
Y14A	**Wickenburg**	**45.88**	**312**	⇑P	**P**	**04 18 47.7**	**-0.3**
	baz=46						
113A	**Mohawk Valley,**	**45.94**	**310**	⇓P	**P**	**04 18 48.5**	**0.0**
	baz=46						
X14A	**Yava**	**46.04**	**312**	⇓P	**P**	**04 18 49.3**	**+0.1**
	baz=46						
S17A	**Black Ridge (B**	**46.14**	**317**	⇓P	**P**	**04 18 50.6**	**+0.6**
	baz=46						
V15A	**Kaibab Nationa**	**46.16**	**314**	⇑P	**P**	**04 18 50.9**	**+0.7**
	baz=46						
T16A	**Glen Canyon Da**	**46.28**	**316**	⇓P	**P**	**04 18 51.3**	**+0.2**
	baz=46						
Y13A	**Salome**	**46.44**	**311**	⇓P	**P**	**04 18 52.2**	**-0.1**
	baz=46						
Q18A	**Rafter H Ranch**	**46.50**	**320**	⇓P	**P**	**04 18 53.0**	**+0.2**
	baz=46						
W14A	**Seligman**	**46.52**	**313**	⇓P	**P**	**04 18 53.1**	**0.0**
	baz=46						
U15A	**North Rim**	**46.54**	**315**	⇓P	**P**	**04 18 53.9**	**+0.8**
	baz=46						
O19A	**Miners Draw (B**	**46.55**	**321**	⇓P	**P**	**04 18 53.2**	**0.0**
	baz=47						
S16A	**Weppner Ranch,**	**46.72**	**317**	⇑P	**P**	**04 18 54.5**	**-0.1**
	baz=47						
V14A	**Boquillas Ranc**	**46.74**	**314**	⇓P	**P**	**04 18 55.2**	**+0.5**
	baz=47						
SRU	**San Rafael**	**46.76**	**319**	⇓P	**P**	**04 18 55.1**	**+0.3**
	baz=47						
X13A	**Yucca**	**46.78**	**312**	⇓P	**P**	**04 18 54.9**	**-0.2**
	baz=47						
T15A	**Red Dirt Ranch**	**46.90**	**316**	⇓P	**P**	**04 18 55.8**	**-0.1**
	baz=47						
N19A	**John Jarvie Ra**	**46.93**	**322**	⇓P	**P**	**04 18 56.1**	**0.0**
	baz=47						
R16A	**Teasdale**	**46.94**	**318**	⇓P	**P**	**04 18 56.9**	**+0.7**
	baz=47						
P17A	**Butcher Ranch,**	**47.10**	**320**	⇑P	**P**	**04 18 57.5**	**+0.1**
	baz=47						
U14A	**Mt Trumbull**	**47.16**	**315**	⇑P	**P**	**04 18 58.6**	**+0.7**
	baz=47						
S15A	**Panguitch**	**47.22**	**317**	⇑P	**P**	**04 18 58.8**	**+0.5**
	baz=47						
N18A	**Larsen Ranch,**	**47.28**	**322**	⇓P	**P**	**04 18 59.0**	**+0.2**
	baz=47						
T14A	**Hurricane**	**47.41**	**315**	⇓P	**P**	**04 19 00.1**	**+0.2**
	baz=47						
ULM	**Lac du Bonnet**	**47.44**	**340**	P	**P**	**04 18 59.5**	**-0.4**
	5.0nm,0.5s,mb4.4,baz=158,slow=7.4,SNR=10						
ULM	**Lac du Bonnet**	**47.44**	**340**	*e*P	**P**	**04 18 58.4**	**-1.5**
	4.5nm,0.5s,mb4.3						
O17A	**Robinson Place**	**47.50**	**320**	⇑P	**P**	**04 19 00.8**	**+0.4**
	baz=48						
U13A	**Pakoon Wash**	**47.72**	**314**	⇓P	**P**	**04 19 02.4**	**+0.2**
	baz=48						
Q15A	**Fillmore**	**47.91**	**318**	⇓P	**P**	**04 19 04.1**	**+0.4**
	baz=48						
T13A	**Saint George**	**47.97**	**315**	⇑P	**P**	**04 19 04.8**	**+0.7**
	baz=48						
N17A	**Moffit Pass**	**47.98**	**321**	⇓P	**P**	**04 19 04.6**	**+0.4**
	baz=48						
O16A	**Springville**	**47.99**	**320**	⇓P	**P**	**04 19 04.4**	**+0.2**
	baz=48						
V12A	**Nelson**	**48.04**	**313**	⇑P	**P**	**04 19 04.8**	**0.0**
	baz=48						
S13A	**Holt Ranch, En**	**48.20**	**316**	⇓P	**P**	**04 19 06.6**	**+0.6**
	baz=48						
SCHQ	**Schefferville**	**48.20**	**5**	P	**P**	**04 19 06.7**	**+1.1**
	10nm,0.9s,mb4.5,baz=203,slow=6.1,SNR=9.3						
BW06	**Boulder Array**	**48.28**	**324**	⇑P	**P**	**04 19 06.4**	**0.0**
	baz=48						
BW06	**Boulder Array**	**48.28**	**324**	*e*P	**P**	**04 19 05.7**	**-0.7**
	5.5nm,1.2s,mb4.1						
PDAR	**Pinedale Array**	**48.28**	**324**	P	**P**	**04 19 06.1**	**-0.4**
	1.8nm,0.7s,mb3.8,baz=129,slow=9.1,SNR=14						
N16A	**Rees Ranch, Co**	**48.33**	**321**	⇑P	**P**	**04 19 07.9**	**+1.0**
	baz=48						
Q14A	**Sevier Lake (B**	**48.51**	**318**	⇑P	**P**	**04 19 08.6**	**+0.4**
	baz=48						
M16A	**Huntsville**	**48.69**	**321**	⇓P	**P**	**04 19 09.9**	**+0.3**
	baz=49						
HWUT	**Hardware Ranch**	**48.81**	**321**	*e*P	**P**	**04 19 09.8**	**-0.7**
	2.4nm,0.6s,mb4.0						
DUG	**Dugway**	**48.83**	**319**	⇑P	**P**	**04 19 11.3**	**+0.6**
	baz=49						
DUG	**Dugway**	**48.83**	**319**	*e*P	**P**	**04 19 10.8**	**+0.1**
	2.1nm,0.6s,mb3.9						
L16A	**Fish Haven**	**48.96**	**322**	⇑P	**P**	**04 19 10.9**	**-0.8**
	baz=49,SNR=7.5						
Q13A	**Wheeler Ranch,**	**48.99**	**317**	⇓P	**P**	**04 19 12.5**	**+0.6**
	baz=49						
T11A	**Corn Creek, Al**	**48.99**	**315**	⇑P	**P**	**04 19 12.1**	**+0.1**
	baz=49						
R12A	**Pony Springs,**	**49.08**	**316**	⇑P	**P**	**04 19 13.2**	**+0.5**
	baz=49						
P13A	**Bates Ranch, G**	**49.24**	**318**	⇓P	**P**	**04 19 13.9**	**+0.1**
	baz=49						
GSC	**Goldstone**	**49.29**	**312**	⇑P	**P**	**04 19 14.4**	**+0.1**
	baz=49						
DGMT	**Dagmar**	**49.33**	**333**	⇑P	**P**	**04 19 14.8**	**+0.4**
	baz=49						
REDW	**Red Top Meadow**	**49.40**	**324**	*e*P	**P**	**04 19 14.8**	**-0.1**
	7.0nm,0.9s,mb4.3						
SNOW	**Snow King Moun**	**49.40**	**324**	*e*P	**P**	**04 19 15.3**	**+0.4**
	2.5nm,0.6s,mb4.0						
LOHW	**Long Hollow**	**49.40**	**324**	*e*P	**P**	**04 19 15.1**	**+0.1**
	1.6nm,0.6s,mb3.8						
N14A	**Grayback Hills**	**49.42**	**320**	⇑P	**P**	**04 19 15.3**	**+0.1**
	baz=49						
K16A	**Soda Springs**	**49.53**	**323**	⇓P	**P**	**04 19 15.6**	**-0.3**
	baz=50						
TPAW	**Teton Pass**	**49.53**	**324**	*e*P	**P**	**04 19 15.7**	**-0.3**
	2.6nm,0.6s,mb4.0						
L15A	**Malad City**	**49.54**	**321**	⇓P	**P**	**04 19 15.6**	**-0.4**
	baz=50						
O13A	**Hicks Ranch, I**	**49.56**	**319**	⇓P	**P**	**04 19 16.8**	**+0.5**
	baz=50						
MOOW	**Moose Ponds**	**49.57**	**324**	*e*P	**P**	**04 19 15.9**	**-0.3**
Q12A	**Willow Creek R**	**49.58**	**317**	⇑P	**P**	**04 19 16.6**	**+0.2**
	baz=50						
RLMT	**Red Lodge**	**49.58**	**327**	P	**P**	**04 19 16.3**	**0.0**
	baz=50						
RRI2	**Red Ridge**	**49.67**	**323**	*e*P	**P**	**04 19 16.9**	**0.0**
	6.5nm,0.7s,mb4.4						
R11A	**Troy Canyon, C**	**49.77**	**316**	⇑P	**P**	**04 19 18.1**	**+0.2**
	baz=50						
J16A	**Bone**	**49.80**	**323**	⇓P	**P**	**04 19 18.0**	**0.0**
	baz=50						
FURC	**Furnace Creek,**	**49.83**	**313**	⇑P	**P**	**04 19 19.3**	**+0.9**
	baz=50						
P12A	**McGill**	**49.84**	**317**	⇓P	**P**	**04 19 18.8**	**+0.4**
	baz=50						
M14A	**Sheep Mountain**	**49.87**	**320**	⇑P	**P**	**04 19 18.7**	**+0.2**
	baz=50						
EDW2	**Edwards Air Fo**	**50.01**	**311**	⇓P	**P**	**04 19 19.6**	**-0.2**
	baz=50						
K15A	**Arbon**	**50.01**	**322**	⇑P	**P**	**04 19 19.7**	**+0.1**
	baz=50						
Q11A	**Duckwater**	**50.05**	**316**	⇑P	**P**	**04 19 20.1**	**+0.2**
	baz=50						
I16A	**Newdale**	**50.08**	**324**	⇑P	**P**	**04 19 20.9**	**+0.9**
	baz=50						
L14A	**Malta**	**50.09**	**321**	⇑P	**P**	**04 19 20.3**	**+0.1**
	baz=50						
MPMC	**Manual Prospec**	**50.12**	**312**	⇓P	**P**	**04 19 20.3**	**-0.2**
	baz=50						
O12A	**Currie**	**50.13**	**318**	⇓P	**P**	**04 19 20.1**	**-0.5**
	baz=50						
S10A	**Tonopah Range,**	**50.28**	**315**	⇑P	**P**	**04 19 21.7**	**0.0**
	baz=50						
M13A	**Montello**	**50.32**	**320**	⇑P	**P**	**04 19 21.7**	**-0.2**
	baz=50						
F18A	**Big Timber**	**50.32**	**327**	⇑P	**P**	**04 19 22.1**	**+0.3**
	baz=50						
K14A	**Jones Ranch, D**	**50.33**	**322**	⇓P	**P**	**04 19 21.8**	**-0.2**
	baz=50						
J15A	**Blackfoot**	**50.36**	**323**	⇓P	**P**	**04 19 22.3**	**+0.1**
	baz=50						
H16A	**Russell Place,**	**50.43**	**325**	⇓P	**P**	**04 19 23.5**	**+0.8**
	baz=50						
Q10A	**Clear Creek Ra**	**50.55**	**316**	⇑P	**P**	**04 19 23.9**	**+0.1**
	baz=50						
S09A	**Goldfield**	**50.63**	**314**	⇑P	**P**	**04 19 24.4**	**0.0**
	baz=51						
O11A	**Cowboy Ranch,**	**50.67**	**318**	⇑P	**P**	**04 19 24.9**	**+0.3**
	baz=51						
ELK	**Elko**	**50.70**	**319**	*e*P	**P**	**04 19 24.3**	**-0.5**
	1.0nm,0.5s,mb3.7						
I15A	**Monteview**	**50.73**	**324**	⇓P	**P**	**04 19 25.3**	**+0.3**
	baz=51						
R09A	**Tonopah**	**50.76**	**315**	⇑P	**P**	**04 19 25.2**	**-0.1**
	baz=51						
M12A	**Wells**	**50.83**	**319**	⇑P	**P**	**04 19 25.2**	**-0.5**
	baz=51						
BSC	**Santa Cruz Isl**	**50.93**	**309**	⇑P	**P**	**04 19 26.6**	**-0.1**
	baz=51						
J14A	**Carey**	**50.97**	**322**	⇓P	**P**	**04 19 26.8**	**0.0**
	baz=51,SNR=7.4						
G16A	**Moss Hill, Enn**	**51.06**	**325**	⇑P	**P**	**04 19 27.8**	**+0.4**
	baz=51						
H15A	**Lima**	**51.18**	**324**	⇑P	**P**	**04 19 29.2**	**+0.9**
	baz=51						
VES	**Vestal, Richgr**	**51.21**	**311**	⇓P	**P**	**04 19 29.0**	**+0.3**
	baz=51						
I14A	**Mackay**	**51.27**	**323**	⇓P	**P**	**04 19 29.4**	**+0.5**
	baz=51						
L12A	**House Creek Ra**	**51.27**	**320**	⇓P	**P**	**04 19 29.1**	**+0.1**
	baz=51						
E17A	**Martinsdale**	**51.29**	**327**	⇓P	**P**	**04 19 29.4**	**+0.3**
	baz=51						
M11A	**Holland Ranch,**	**51.40**	**319**	⇑P	**P**	**04 19 30.0**	**0.0**
	baz=51						
J13A	**Cove Ranch, Pi**	**51.41**	**322**	⇑P	**P**	**04 19 30.0**	**-0.1**
	baz=51						
G15A	**Dillon**	**51.41**	**325**	⇑P	**P**	**04 19 30.2**	**+0.2**
	baz=51						
K12A	**Draper Farm, C**	**51.45**	**321**	⇓P	**P**	**04 19 30.8**	**+0.4**
	baz=52						
HELL	**Mitchell Peak**	**51.50**	**312**	⇑P	**P**	**04 19 30.6**	**-0.2**
	baz=52						
H14A	**Leadore**	**51.61**	**324**	⇓P	**P**	**04 19 32.0**	**+0.6**
	baz=52						
Q08A	**Gabbs**	**51.64**	**315**	⇑P	**P**	**04 19 31.9**	**+0.1**
	baz=52						
HLID	**Hailey**	**51.65**	**322**	⇑P	**P**	**04 19 32.0**	**+0.2**
	baz=52						
HLID	**Hailey**	**51.65**	**322**	*e*P	**P**	**04 19 31.6**	**-0.2**
	1.8nm,0.8s,mb3.8						
I13A	**Wildhorse Cree**	**51.66**	**323**	⇑P	**P**	**04 19 31.8**	**-0.1**
	baz=52,SNR=6.3						
NVAR	**Mina Array Bea**	**51.71**	**315**	P	**P**	**04 19 32.8**	**+0.4**
	1.5nm,0.8s,mb3.7,baz=135,slow=5.7,SNR=5.9						
O09A	**Fish Creek Ran**	**51.72**	**317**	⇓P	**P**	**04 19 32.6**	**+0.2**
	baz=52						
L11A	**Cat Creek Ranc**	**51.75**	**320**	⇓P	**P**	**04 19 31.8**	**-0.8**
	baz=52,SNR=5.8						
F15A	**Butte**	**51.81**	**325**	⇑P	**P**	**04 19 33.1**	**+0.1**
	baz=52						
J12A	**Stokes Ranch,**	**51.90**	**321**	⇑P	**P**	**04 19 33.2**	**-0.5**
	baz=52						
C17A	**Wharram Farm,**	**51.97**	**328**	⇓P	**P**	**04 19 34.4**	**+0.3**
	baz=52						
D16A	**Dana Ranch, Ca**	**52.01**	**327**	⇑P	**P**	**04 19 34.8**	**+0.4**
	baz=52						
H13A	**Challis**	**52.10**	**323**	⇓P	**P**	**04 19 35.1**	**0.0**
	baz=52						
L10A	**Juniper Basin**	**52.17**	**319**	⇓P	**P**	**04 19 35.4**	**-0.3**
	baz=52,SNR=6.2						
K11A	**Parker Ranch,**	**52.24**	**320**	⇓P	**P**	**04 19 36.0**	**-0.1**
	baz=52						
E15A	**Deer Lodge**	**52.24**	**326**	⇑P	**P**	**04 19 36.2**	**0.0**
	baz=52						
F14A	**Wisdom**	**52.29**	**325**	⇑P	**P**	**04 19 36.7**	**+0.2**
	baz=52						
G13A	**Cobalt**	**52.38**	**324**	⇑P	**P**	**04 19 37.0**	**-0.2**
	baz=52						
O08A	**Rochester Mine**	**52.43**	**317**	⇓P	**P**	**04 19 37.0**	**-0.7**
	baz=52						
MFID	**Camas Ranch**	**52.44**	**321**	⇑P	**P**	**04 19 37.3**	**-0.4**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
	baz=52,SNR=6.4						
H12A	**Diamond D Ranc**	**52.45**	**323**	⇑P	**P**	**04 19 37.2**	**-0.5**
	baz=52,SNR=6.7						
N08A	**GE Springer Mi**	**52.64**	**317**	⇓P	**P**	**04 19 38.7**	**-0.5**
	baz=53						
E14A	**Clinton**	**52.71**	**326**	⇑P	**P**	**04 19 39.7**	**+0.1**
	baz=53						
K10A	**MacKenzie Ranc**	**52.77**	**320**	⇓P	**P**	**04 19 40.1**	**0.0**
	baz=53						
I11A	**Placerville**	**52.78**	**322**	⇑P	**P**	**04 19 40.0**	**-0.2**
	baz=53						
F13A	**Darby**	**52.83**	**324**	⇓P	**P**	**04 19 40.4**	**-0.1**
	baz=53						
H11A	**Donnelly**	**53.23**	**323**	⇑P	**P**	**04 19 43.1**	**-0.3**
	baz=53						
A16A	**West Butte Ran**	**53.23**	**329**	⇓P	**P**	**04 19 44.0**	**+0.6**
	baz=53						
K09A	**Rome**	**53.28**	**320**	⇓P	**P**	**04 19 44.0**	**+0.2**
	baz=53,SNR=7.3						
B15A	**Bradely Ranch,**	**53.34**	**328**	⇑P	**P**	**04 19 44.4**	**+0.3**
	baz=53						
F12A	**Elk City**	**53.35**	**324**	⇑P	**P**	**04 19 44.1**	**-0.2**
	baz=53						
L08A	**Fields**	**53.44**	**319**	⇑P	**P**	**04 19 45.0**	**0.0**
	baz=53,SNR=17						
J09A	**Fry Pan Ranch,**	**53.62**	**320**	⇑P	**P**	**04 19 45.7**	**-0.6**
	baz=54,SNR=7.1						
M07A	**Soldier Meadow**	**53.62**	**318**	⇓P	**P**	**04 19 46.0**	**-0.4**
	baz=54						
D13A	**Huson**	**53.65**	**326**	⇓P	**P**	**04 19 46.4**	**0.0**
	baz=54						
C14A	**Swan Lake**	**53.65**	**327**	⇓P	**P**	**04 19 46.7**	**+0.3**
	baz=54						
P05C	**Yuba Gap, Truc**	**53.71**	**315**	⇓P	**P**	**04 19 47.0**	**0.0**
	baz=54						
WVOR	**Wild Horse Val**	**53.74**	**319**	*e*P	**P**	**04 19 45.9**	**-1.4**
	4.5nm,0.9s,mb4.2						
K08A	**Mann Creek Ran**	**53.79**	**319**	⇑P	**P**	**04 19 47.5**	**0.0**
	baz=54						
A15A	**Johnson Ranch,**	**53.84**	**328**	⇓P	**P**	**04 19 47.4**	**-0.4**
	baz=54						
E12A	**Beaver Dam Sad**	**53.90**	**325**	⇑P	**P**	**04 19 47.8**	**-0.4**
	baz=54						
I09A	**Lost Marbles R**	**53.92**	**321**	⇑P	**P**	**04 19 48.0**	**-0.5**
	baz=54						
L07A	**Adell**	**54.02**	**318**	⇑P	**P**	**04 19 48.7**	**-0.5**
	baz=54,SNR=9.7						
C13A	**Hot Springs**	**54.05**	**326**	⇑P	**P**	**04 19 49.0**	**-0.4**
	baz=54						
J08A	**Circle Bar Ran**	**54.08**	**320**	⇑P	**P**	**04 19 49.5**	**-0.2**
	baz=54						
D12A	**Red Ives Fores**	**54.13**	**325**	⇑P	**P**	**04 19 49.9**	**0.0**
	baz=54						
G10A	**Bishop Farm, J**	**54.21**	**323**	⇓P	**P**	**04 19 50.1**	**-0.4**
	baz=54						
E11A	**Bogner Ranch,**	**54.23**	**324**	⇑P	**P**	**04 19 50.1**	**-0.6**
	baz=54						
K07A	**Rock Creek Ran**	**54.26**	**319**	⇑P	**P**	**04 19 49.8**	**-1.2**
	baz=54						
G09A	**Cove**	**54.60**	**322**	⇓P	**P**	**04 19 53.1**	**-0.3**
	baz=55						
F10A	**Beach Ranch, E**	**54.63**	**323**	⇑P	**P**	**04 19 53.1**	**-0.5**
	baz=55						
D11A	**Klaveano Farm,**	**54.68**	**325**	⇓P	**P**	**04 19 53.1**	**-0.8**
	baz=55						
H08A	**Prairie City**	**54.77**	**321**	⇑P	**P**	**04 19 54.1**	**-0.5**
	baz=55						
E10A	**Myers Farm, Un**	**54.83**	**324**	⇑P	**P**	**04 19 54.7**	**-0.3**
	baz=55						
F09A	**S2 Ranch, Elgi**	**54.90**	**323**	⇓P	**P**	**04 19 55.7**	**+0.2**
	baz=55						
M05C	**Lookout**	**54.94**	**317**	⇑P	**P**	**04 19 55.5**	**-0.4**
	baz=55						
K06A	**Valley Falls**	**54.97**	**319**	⇓P	**P**	**04 19 55.9**	**-0.1**
	baz=55						
C11A	**Tepee Creek (N**	**55.08**	**326**	⇑P	**P**	**04 19 56.6**	**-0.1**
	baz=55						
I07A	**Izee**	**55.08**	**320**	⇑P	**P**	**04 19 56.8**	**-0.1**
	baz=55						
J06A	**Christmas Vall**	**55.11**	**319**	⇓P	**P**	**04 19 56.7**	**-0.4**
	baz=55						
G08A	**Pilot Rock**	**55.33**	**322**	⇑P	**P**	**04 19 58.3**	**-0.3**
	baz=55						
A12A	**Yaak River Ran**	**55.36**	**327**	⇓P	**P**	**04 19 59.1**	**+0.4**
	baz=55						
H07A	**Lands Inn, Kim**	**55.36**	**321**	⇓P	**P**	**04 19 58.5**	**-0.3**
	baz=55						
E09A	**Wood Farm, Sta**	**55.45**	**323**	⇑P	**P**	**04 19 59.1**	**-0.4**
	baz=56						
F08A	**Pendleton**	**55.47**	**322**	⇓P	**P**	**04 19 58.9**	**-0.6**
	baz=56						
I06A	**Prineville**	**55.47**	**320**	⇑P	**P**	**04 19 59.6**	**0.0**
	baz=56						
B11A	**Sandpoint**	**55.47**	**326**	⇑P	**P**	**04 19 59.3**	**-0.3**
	baz=56						
M04C	**Macdoel**	**55.59**	**317**	⇓P	**P**	**04 20 00.1**	**-0.4**
	baz=56						
O02C	**Red Bluff**	**55.60**	**315**	⇑P	**P**	**04 19 59.1**	**-1.5**
	baz=56						
A11A	**Hall Mountain,**	**55.76**	**327**	⇑P	**P**	**04 20 01.5**	**-0.1**
	baz=56						
L04A	**Klamath Falls**	**55.79**	**317**	⇑P	**P**	**04 20 01.6**	**-0.4**
	baz=56						
J05A	**Fort Rock**	**55.83**	**319**	⇑P	**P**	**04 20 02.1**	**-0.1**
	baz=56						
YBH	**Yreka Blue Hor**	**56.16**	**316**	⇓P	**P**	**04 20 03.2**	**-1.4**
	baz=56						
C09A	**Chrisman Ranch**	**56.20**	**325**	⇓P	**P**	**04 20 04.6**	**-0.2**
	baz=56						
G06A	**Carlson Farm,**	**56.34**	**321**	⇓P	**P**	**04 20 06.2**	**+0.4**
	baz=56						
I04A	**Tendick Farm,**	**56.83**	**319**	⇑P	**P**	**04 20 08.5**	**-0.7**
	baz=57						
B08A	**Colville Reser**	**57.10**	**325**	⇑P	**P**	**04 20 10.5**	**-0.5**
	baz=57						
ETW	**Entiat**	**57.29**	**324**	*e*P	**P**	**04 20 12.6**	**+0.1**
A08A	**Turner Farm, O**	**57.37**	**325**	⇑P	**P**	**04 20 12.5**	**-0.5**
	baz=57						
E05A	**Randle**	**57.65**	**322**	⇓P	**P**	**04 20 14.8**	**-0.2**
	baz=58						
H03A	**Soap Creek Ran**	**57.77**	**319**	⇓P	**P**	**04 20 15.8**	**-0.1**
	baz=58						
A07A	**Ashnola River,**	**58.05**	**325**	⇑P	**P**	**04 20 18.0**	**+0.3**
	baz=58						
YKA	**Yellowknife Ar**	**63.42**	**340**	P	**P**	**04 20 53.2**	**-0.6**
	4.0nm,0.6s,mb4.4,baz=132,slow=6.6,SNR=23						
YKA				pP	pP	04 21 30.8	-1.5
	0.5nm,0.6s,baz=132,slow=6.6,SNR=1.5						
YKA	**Yellowknife Ar**	**63.42**	**340**	P	**P**	**04 20 53.2**	**-0.6**
YKA				pP	pP	04 21 30.8	-1.5
DBIC	**Dimbokro**	**67.51**	**86**	P	**P**	**04 21 21.4**	**+0.4**
	6.9nm,1.2s,mb4.3,baz=256,slow=8.3,SNR=3.3						
TORD	**Torodi Ar. Bea**	**73.52**	**78**	P	**P**	**04 21 57.1**	**-0.3**
	0.1nm,0.3s,mb3.0,baz=282,slow=6.5,SNR=6.6						
TORD				pP	pP	04 22 38.3	+1.3
	0.6nm,1.0s,baz=274,slow=3.7,SNR=2.3						
NOA	**NORSAR Array B**	**81.28**	**29**	P	**P**	**04 22 39.8**	**+0.2**
	0.3nm,0.5s,mb3.1,baz=266,slow=5.4,SNR=3.0						
ZALV	**Zalesovo Beam**	**116.69**	**15**	PKP	PKPdf	04 29 06.9	+0.3
	0.5nm,0.4s,baz=1.9,slow=4.3,SNR=2.8						
MKAR	**Makanchi Array**	**122.32**	**20**	PKP	PKPdf	04 29 17.7	+0.1
	0.3nm,0.4s,baz=323,slow=2.2,SNR=2.5						
MDJ	**Mudanjiang**	**125.02**	**341**	PKP	PKPdf	04 29 22.1	-0.8
MDJ				PP	PP		
	comp=Z,78nm,4.0s						
WMQ	**Urumqi**	**126.70**	**17**	*e*PKP	PKPdf	04 29 24.5	-1.6
BJI	**Beijing**	**132.71**	**351**	PKP	PKPdf	04 29 36.9	-0.8
LZH	**Lanzhou**	**137.29**	**4**	*e*PKP	PKPdf	04 29 44.0	-2.3
LZH				XPKP		04 30 44.1	
LZH				PP	PP		
	comp=Z,75nm,5.3s						
CD2	**Chengdu**	**142.43**	**5**	*e*PKP	PKPdf	04 29 53.8	-2.0
GYA	**Guiyang**	**147.00**	**1**	*e*PKP	PKPdf	04 30 00.4	-3.4
GYA				PKP2	PKPab	04 30 06.8	-0.9
GYA				XPKP		04 31 01.2	
GYA				PP	PP	04 33 31.0	+1.0
GYA				PP	PP		
	comp=Z,60nm,8.4s						
ASAR	**Alice Springs**	**149.25**	**234**	PKP	PKPdf	04 30 06.5	-1.0
	comp=Z,1.8nm,0.6s,baz=89,slow=1.8,SNR=4.4						
ASAR				PKPbc	PKPbc	04 30 11.2	-0.8
	comp=Z,2.1nm,0.6s,baz=119,slow=3.5,SNR=27						
WRA	**Warramunga Arr**	**150.50**	**241**	PKP	PKPdf	04 30 08.7	-1.0
	comp=Z,0.4nm,0.6s,baz=107,slow=2.4,SNR=4.7						
WRA				PKPbc	PKPbc	04 30 14.3	-0.8
	comp=Z,2.0nm,0.5s,baz=108,slow=2.5,SNR=26						
WRA				PKPab	PKPab	04 30 22.2	-0.1
	comp=Z,0.4nm,0.3s,baz=105,slow=2.6,SNR=4.7						

*IDC **05** 04:17:10.2±0.9, 16.69S×177.37W, h0km, mb4.1/8, mb1 4.3/9, mb1mx4.1/20, mbtmp4.1/9, MS4.2/13, Ms1 4.2/13, ms1mx4.0/22, Error ellipse: s-maj=34.9km s-min=18.9km az=146.0*

*ISCJB **05** 04:17:12.8±0.7, 16.6S±02×177.4W±0.1, h33km, mb4.1/8, MS4.3/13, Error ellipse: s-maj=26.4km s-min=12.0km az=152.4*

*NEIC **05** 04:17:12.3±0.5, 16.78S×177.39W, h10km, mb4.2/1, Error ellipse: s-maj=23.1km s-min=10.9km az=148.0*

*GCMT **05** 04:17:12.3±0.3, 16.25S×177.41W, h13km±2km, MW5.0/76, Moment Tensor Solution. s18,c20; s76,c112; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr-0.54±.16; Mθθ-3.30±.14; Mφφ3.84±.17; Mrθ-0.40±.37; Mθφ-0.22±.12; Mφr1.43±.42; Best double couple: M0 3.81800×10^16 NP1:φs45.00000°, δ72.00000°, λ6.00000°. NP2: φs313.00000°, δ84.00000°, λ162.00000°. Principal axes: T 4.2790, Plg17.0000°, Azm267.0000°; N -0.9230, Plg71.0000°, Azm114.0000°; P -3.3560, Plg8.0000°, Azm360.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*SZGRF **05** 04:17:15.9, 17.11S×176.53W, h33km, Fiji Islands region*

ISC 05 04:17:15.0±0.7**, 16.7S**±02×**177.4W**±01**, h35km, n39, σ0s93**/12**, mb4.1**/8**, MS4.3**/13**, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**6.04**	**64**	Pn	**Pn**	**04 18 40.4**	**-1.5**
	3.0nm,0.3s,baz=66,slow=22,SNR=5.0						
AFI				Sn	**Sn**	**04 19 41.0**	**-8.9**
	3.8nm,0.3s,baz=217,slow=20,SNR=3.9						
AFI				LR	LR	04 20 30.3	
	comp=Z,3μm,20.1s,baz=238,slow=33						
RAO	**Raoul Island**	**12.54**	**182**	LR	LR	04 24 22.7	
	comp=Z,2μm,20.5s,baz=272,slow=35						
RAR	**Rarotonga**	**17.24**	**108**	LR	LR	04 26 11.2	
	comp=Z,1μm,21.4s,baz=259,slow=31						
URZ	**Urewera**	**22.06**	**192**	P	**P**	**04 22 06.1**	**-0.7**
	19nm,0.8s,mb4.6,baz=40,slow=18,SNR=3.0						
URZ				LR	LR	04 28 58.4	
	comp=Z,793nm,20.7s,MS4.1,baz=197,slow=32						
HNR	**Honiara**	**23.23**	**285**	LR	LR	04 29 50.8	
	comp=Z,1μm,20.0s,MS4.4,baz=109,slow=33						
PPT	**Papeete**	**26.56**	**96**	*e*LQ		04 28 04.6	
	395nm,26.8s						
PPT				*e*LR	LR	04 29 30.3	
	1μm,27.2s,baz=262						
PPT	**Papeete**	**26.56**	**96**	LR	LR	04 31 05.0	
	comp=Z,284nm,19.6s,MS3.8,baz=316,slow=31						
TBI	**Tubuai**	**27.01**	**109**	*e*LQ		04 28 32.9	
	843nm,32.2s						
TBI				*e*LR	LR	04 29 53.8	
	2μm,29.0s,baz=286						
CTA	**Charters Tower**	**34.66**	**259**	P	**P**	**04 24 01.5**	**+0.1**
	3.2nm,0.7s,mb4.4,baz=90,slow=11,SNR=6.2						
CTAO	**Charters Tower**	**34.66**	**259**	*e*P	**P**	**04 24 01.2**	**-0.2**
	2.6nm,0.8s,mb4.2						
STKA	**Stephens Creek**	**40.11**	**240**	P	**P**	**04 24 47.8**	**+0.3**
	3.0nm,0.7s,mb4.1,baz=98,slow=12,SNR=3.9						
STKA				LR	LR	04 37 49.9	
	comp=Z,344nm,21.1s,MS4.2,baz=44,slow=31						
RKT	**Rikitea**	**40.26**	**106**	*e*LQ		04 33 46.2	
	230nm,28.0s						
RKT				*e*LR	LR	04 35 56.4	
	1μm,28.2s,baz=275						
WB2	**Warramunga Arr**	**45.84**	**258**	*e*P	**P**	**04 25 33.1**	**-1.0**
WRA	**Warramunga Arr**	**45.86**	**258**	P	**P**	**04 25 34.1**	**0.0**
	1.1nm,0.9s,mb3.8,baz=90,slow=7.4,SNR=6.4						
WRA				LR	LR	04 43 48.5	
	comp=Z,255nm,19.5s,MS4.2,baz=100,slow=35						
ASAR	**Alice Springs**	**46.10**	**253**	P	**P**	**04 25 35.6**	**-0.5**
	3.1nm,0.7s,mb4.3,baz=87,slow=8.4,SNR=29						
PETK	**Petropavlovsk-**	**72.74**	**345**	LR	LR	04 54 18.2	
	comp=Z,99nm,20.8s,MS4.1,baz=334,slow=31						
QSPA	**South Pole Qui**	**73.39**	**180**	P	**P**	**04 28 44.2**	**+1.3**
	1.3nm,0.7s,mb4.0,baz=25,slow=1.9,SNR=5.4						
NVAR	**Mina Array Bea**	**77.83**	**44**	P	**P**	**04 29 09.4**	**+0.4**
	0.7nm,0.4s,mb4.0,baz=220,slow=3.5,SNR=5.5						
TXAR	**Lajitas Array**	**84.48**	**57**	LR	LR	04 58 56.5	
	comp=Z,184nm,20.9s,MS4.4,baz=100,slow=30						
MAW	**Mawson**	**85.36**	**199**	LR	LR	05 05 27.7	
	comp=Z,226nm,18.7s,MS4.6,baz=210,slow=34						
PDAR	**Pinedale Array**	**85.76**	**43**	P	**P**	**04 29 52.4**	**+1.8**
	0.9nm,1.0s,mb4.0,baz=225,slow=2.4,SNR=4.5						
PLCA	**Paso Flores**	**91.45**	**133**	LR	LR	05 06 24.4	
	comp=Z,118nm,18.2s,MS4.4,baz=102,slow=32						
YKA	**Yellowknife Ar**	**92.79**	**24**	LR	LR	05 02 47.9	
	comp=Z,59nm,20.5s,MS4.0,baz=50,slow=30						
DPC	**Dobruska-Polom**	**144.63**	**345**	*e*P	PKPdf	04 36 49.0	+1.2
DPC				LR	LR		
	comp=Z,200nm,20.9s,MS4.9						
PRU	**Pruhonice**	**145.39**	**346**	*e*P	PKPdf	04 36 50.8	+1.7
PRU				LR	LR		
	comp=Z,200nm,22.5s,MS4.8						
WERD	**Werda**	**145.41**	**349**	*e*PKPbc	PKPab	04 36 52.3	+3.0
GUNZ	**Gunzen**	**145.49**	**349**	*e*PKPbc	PKPab	04 36 51.5	+1.9
WERN	**Wernitzgruen**	**145.55**	**349**	*e*PKPbc	PKPab	04 36 51.8	+2.0
VYHS	**Vyhne**	**145.60**	**341**	*e*PKP	PKPdf	04 36 50.1	+0.6
MANZ	**Manzenberg**	**145.89**	**349**	*e*PKPbc	PKPab	04 36 53.0	+1.9
ROTZ	**Rotzenmuhle**	**146.08**	**349**	*e*PKPbc	PKPab	04 36 53.6	+1.8
MODS	**Modra-Piesok**	**146.18**	**342**	*e*PKP	PKPdf	04 36 51.9	+1.4
TNS	**Taunus Mts**	**146.20**	**353**	*e*PKPbc	PKPab	04 36 53.8	+1.6
GRA1	**Grafenberg Arr**	**146.33**	**350**	*e*PKPbc	PKPab	04 36 54.6	+1.8
GRF	**Grafenberg Arr**	**146.33**	**350**	*e*PKPbc	PKPab	04 36 54.6	+1.8
KHC	**Kasperske Hory**	**146.41**	**347**	*e*P	PKPab	04 36 54.0	+0.9
KHC				LR	LR		
	comp=Z,200nm,29.2s,MS4.7						
WET	**Wettzell**	**146.55**	**348**	*e*PKPbc	PKPab	04 36 55.2	+1.6
GEC2	**GERESS Array S**	**146.66**	**347**	*e*PKPbc	PKPab	04 36 55.4	+1.3
GERES	**GERESS Array B**	**146.66**	**347**	PKPbc	PKPab	04 36 54.7	+0.6
	comp=Z,1.1nm,0.5s,baz=38,slow=1.7,SNR=4.4						

*IDC **05** 04:18:10.8±1.0, 42.65S×83.05W, h0km, mb4.3/11, mb1 4.3/13, mb1mx4.3/20, mbtmp4.2/13, ML4.1/2, MS4.2/12, Ms1 4.2/12, ms1mx4.0/23, Error ellipse: s-maj=28.6km s-min=19.5km az=109.0*

*ISCJB **05** 04:18:11.5±0.6, 42.59S±0.07×82.7W±0.1, h10km, mb4.3/16, MS4.2/10, Error ellipse: s-maj=13.0km s-min=9.4km az=27.9*

*NEIC **05** 04:18:12.2±9.6, 42.60S×82.86W, h5km±57km, mb4.7/6, Error ellipse: s-maj=31.4km s-min=12.2km az=90.0*

*GCMT **05** 04:18:12.2±0.4, 43.11S×83.18W, h21km±1km, MW5.1/74, Moment Tensor Solution. s23,c28; s74,c102; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr-0.41±.22; Mθθ1.94±.21; Mφφ-1.53±.21; Mrθ0.55±.32; Mθφ-4.16±.14; Mφr1.88±.36; Best double couple: M0 4.92100×10^16 NP1:φs261.00000°, δ69.00000°, λ-169.00000°. NP2: φs167.00000°, δ80.00000°, λ-21.00000°. Principal axes: T 4.7830, Plg7.0000°, Azm215.0000°; N 0.2770, Plg67.0000°, Azm322.0000°; P -5.0590, Plg22.0000°, Azm122.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

ISC 05 04:18:13.2±0.6**, 42.58S**±0.07×**82.8W**±01**, h10km, n30, σ1s12**/25**, mb4.3**/16**, MS4.2**/10**, 1C-1D, West Chile Rise**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
COYC	**Coyhaique**	**8.28**	**115**	⇑*i*P	**Pn**	**04 20 14.1**	**+0.9**
COYC				⇓*e*P		04 20 14.3	
PLCA	**Paso Flores**	**9.36**	**83**	Pn	**Pn**	**04 20 28.7**	**+0.8**
	0.8nm,0.3s,baz=254,slow=11,SNR=16						
PLCA				LR	LR	04 23 35.5	
	comp=Z,1μm,19.9s,baz=252,slow=34						
CCHI	**Chillan**	**10.20**	**58**	*e*P	**Pn**	**04 20 38.9**	**-0.6**
LMEL	**Las Melosas**	**13.18**	**53**	*e*P	**Pn**	**04 21 20.0**	**-0.4**
CLCH	**Cerro Calan**	**13.31**	**51**	*e*P	**Pn**	**04 21 21.4**	**-0.8**
FCH	**Farellones**	**13.50**	**51**	*e*P	**Pn**	**04 21 23.3**	**-1.4**
USHA	**Ushuaia**	**15.46**	**147**	LR	LR	04 26 47.6	
	comp=Z,744nm,22.0s,baz=289,slow=33						
CFAA	**Coronel Fontan**	**15.94**	**51**	Pn	**Pn**	**04 21 56.8**	**-0.7**
	0.2nm,0.3s,baz=214,slow=13,SNR=10						
CFAA				LR	LR	04 27 11.2	
	comp=Z,214nm,20.6s,baz=218,slow=34						
TRQA	**Tornquist**	**16.50**	**81**	*e*P	**Pn**	**04 22 04.0**	**-0.6**
	21nm,1.0s						
LCO	**Las Campanas**	**16.70**	**40**	*e*P	**Pn**	**04 22 07.7**	**+0.6**
	289nm,1.8s						
LVC	**Limon Verde**	**23.03**	**35**	P	**P**	**04 23 21.4**	**+3.0**
	20nm,0.9s,mb4.5,baz=200,slow=8.9,SNR=15						
LVC				LR	LR	04 30 17.9	
	comp=Z,799nm,20.1s,MS4.2,baz=213,slow=31						
CPUP	**Villa Florida**	**26.39**	**60**	P	**P**	**04 23 49.6**	**0.0**
	7.6nm,0.8s,mb4.3,baz=218,slow=8.1,SNR=18						
CPUP				LR	LR	04 34 20.2	
	comp=Z,1μm,19.1s,MS4.5,baz=216,slow=36						
LPAZ	**La Paz**	**29.06**	**30**	P	**P**	**04 24 16.5**	**+2.9**
	2.3nm,0.7s,mb4.0,baz=191,slow=8.1,SNR=9.2						
LPAZ				LR	LR	04 34 01.1	
	comp=Z,170nm,19.0s,MS3.7,baz=192,slow=32						
NNA	**Nana**	**30.91**	**11**	LR	LR	04 34 17.0	
	comp=Z,412nm,18.3s,MS4.1,baz=150,slow=31						
SIV	**San Ignacio**	**32.38**	**42**	P	**P**	**04 24 43.3**	**+0.3**
	4.5nm,0.9s,mb4.3,baz=233,slow=12,SNR=5.9						
ATAH	**Atahualpa**	**35.64**	**8**	P	**P**	**04 25 14.1**	**+2.8**
	7.1nm,1.1s,mb4.5,baz=45,slow=15,SNR=3.8						
BDFB	**Brasilia**	**40.09**	**59**	P	**P**	**04 25 49.0**	**+0.2**
	9.6nm,1.0s,mb4.5,baz=198,slow=10,SNR=4.3						
BDFB				LR	LR	04 42 54.4	
	comp=Z,692nm,19.0s,MS4.5,baz=189,slow=37						
OTAV	**Otavalo**	**42.80**	**6**	*e*P	**P**	**04 26 13.2**	**+2.1**
	8.7nm,1.3s,mb4.3						
SNAA	**Sanae**	**47.14**	**155**	*e*P	**P**	**04 26 45.8**	**+0.7**
	4.6nm,0.9s,mb4.4						
QSPA	**South Pole Qui**	**47.66**	**180**	P	**P**	**04 26 48.0**	**-1.0**
	1.3nm,1.0s,mb3.9,baz=119,slow=5.5,SNR=3.6						
ROSC	**El Rosal**	**47.83**	**11**	LR	LR	04 45 30.3	
	comp=Z,464nm,18.6s,MS4.5,baz=191,slow=34						
PPT	**Papeete**	**61.31**	**272**	LR	LR	04 48 44.9	
	comp=Z,14nm,19.5s,MS3.1,baz=111,slow=30						
SJG	**San Juan**	**62.31**	**18**	*e*P	**P**	**04 28 33.6**	**-1.9**
	13nm,0.9s,mb5.1						
MAW	**Mawson**	**67.11**	**166**	P	**P**	**04 29 05.9**	**-0.4**
	1.7nm,0.7s,mb4.2,baz=230,slow=4.9,SNR=4.4						
CASY	**Casey**	**70.99**	**186**	*e*P	**P**	**04 29 30.5**	**+0.1**
	5.8nm,0.9s,mb4.5						
TXAR	**Lajitas Array**	**74.09**	**341**	P	**P**	**04 29 48.4**	**-0.8**
	1.2nm,1.0s,mb3.8,baz=157,slow=9.3,SNR=8.8						
BOSA	**Boshof**	**83.12**	**123**	P	**P**	**04 30 39.8**	**+0.5**
	2.7nm,0.6s,mb4.5,baz=222,slow=5.1,SNR=7.2						
BOSA				LR	LR	05 02 22.5	
	comp=Z,118nm,18.6s,MS4.3,baz=184,slow=32						
PDAR	**Pinedale Array**	**88.30**	**341**	P	**P**	**04 31 03.1**	**-1.2**
	0.1nm,0.3s,mb3.5,baz=121,slow=43,SNR=2.7						
PDAR				LR	LR	05 07 59.6	
	comp=Z,80nm,18.7s,MS4.2,baz=251,slow=34						
TORD	**Torodi Ar. Bea**	**94.78**	**77**	P	**P**	**04 31 35.0**	**-0.1**
	1.5nm,1.1s,mb4.3,baz=238,slow=4.4,SNR=4.7						
STKA	**Stephens Creek**	**95.44**	**217**	LR	LR	05 04 20.7	
	comp=Z,199nm,20.7s,MS4.6,baz=205,slow=29						

*ISCJB **05** 04:25:55.9±0.8, 26.06S±0.08×178.6W±0.1, h334km±9km, mb4.1/10, Error ellipse: s-maj=16.4km s-min=10.6km az=30.4*

*NEIC **05** 04:25:57.8±1.1, 26.18S×178.59W, h336km±13km, mb4.3/5, Error ellipse: s-maj=19.0km s-min=12.2km az=138.0*

*IDC **05** 04:25:57.8±1.4, 26.20S×178.61W, h334km±13km, mb3.7/6, mb1 3.9/10, mb1mx3.7/18, mbtmp3.8/10, Error ellipse: s-maj=21.6km s-min=17.3km az=159.0*

ISC 05 04:25:57.3±0.9**, 26.15S**±010×**178.6W**±01**, h333km**±9km**, n27, σ0s99**/29**, mb4.1**/10**, South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**3.15**	**169**	P	**Pn**	**04 26 58.2**	**+1.5**
	75nm,0.3s,baz=90,slow=20,SNR=2.8						
RAO				S	**S**	**04 27 44.4**	**0.0**
	78nm,0.3s,baz=270,slow=20,SNR=5.1						
URZ	**Urewera**	**12.62**	**196**	P	**Pn**	**04 28 44.8**	**-1.6**
	3.5nm,0.3s,baz=351,slow=0.6,SNR=14						
URZ				S	**S**	**04 30 58.2**	**-7.8**
	2.0nm,0.3s,baz=234,slow=23,SNR=14						
AFI	**Afiamalu**	**13.74**	**29**	P	**Pn**	**04 28 58.3**	**-1.7**
	3.0nm,0.3s,baz=198,slow=20,SNR=2.7						
AFI				S	**S**	**04 31 23.2**	**-6.5**
	6.3nm,0.3s,baz=201,slow=24,SNR=5.8						
AFI	**Afiamalu**	**13.74**	**29**	P	**Pn**	**04 28 58.3**	**-1.7**
AFI				S	**S**	**04 31 23.2**	**-6.5**
DZM	**Mont Dzumac**	**14.26**	**283**	*e*P	**P**	**04 29 09.6**	**+5.0**
RPZ	**Rata Peaks**	**19.45**	**203**	P	**P**	**04 29 59.7**	**-0.6**
	1.8nm,0.3s,baz=89,slow=19,SNR=7.6						
CNB	**Canberra Magne**	**28.93**	**244**	*e*P	**P**	**04 31 30.3**	**+3.7**
CTA	**Charters Tower**	**32.83**	**273**	*e*P	**P**	**04 32 01.9**	**+1.1**
	18nm,0.3s,mb4.8						
CTAO	**Charters Tower**	**32.83**	**273**	*e*P	**P**	**04 32 02.4**	**+1.6**
	6.3nm,0.5s,mb4.1						
STKA	**Stephens Creek**	**35.15**	**251**	*e*P	**P**	**04 32 22.1**	**+1.6**
	3.8nm,0.3s,mb4.1						
STKA	**Stephens Creek**	**35.15**	**251**	P	**P**	**04 32 22.1**	**+1.6**
	5.1nm,0.4s,mb4.1,baz=93,slow=10,SNR=26						
ASAR	**Alice Springs**	**42.98**	**263**	P	**P**	**04 33 24.6**	**-0.3**
	6.6nm,0.8s,mb3.8,baz=107,slow=8.2,SNR=42						
WB2	**Warramunga Arr**	**43.57**	**268**	*e*P	**P**	**04 33 28.8**	**-0.8**
WRA	**Warramunga Arr**	**43.58**	**268**	P	**P**	**04 33 28.7**	**-0.9**
	11nm,0.8s,mb4.0,baz=105,slow=7.9,SNR=48						
FORT	**Forrest**	**46.78**	**251**	*e*P	**P**	**04 33 55.2**	**+0.8**
	25nm,0.6s,mb4.6						
KAKA	**Kakadu**	**47.82**	**277**	*e*P	**P**	**04 34 01.4**	**-1.2**
	16nm,0.4s,mb4.6						
KAKA	**Kakadu**	**47.82**	**277**	*e*P	**P**	**04 34 02.4**	**-0.2**
	13nm,0.4s,mb4.5						
FITZ	**Fitzroy Crossi**	**51.97**	**267**	*e*P	**P**	**04 34 33.2**	**-0.3**
	6.1nm,0.6s,mb4.1						
MAW	**Mawson**	**76.10**	**200**	P	**P**	**04 37 08.5**	**+0.1**
	3.6nm,0.5s,mb4.3,baz=137,slow=6.8,SNR=35						
SNAA	**Sanae**	**82.41**	**179**	*e*	**P**	**04 37 41.7**	**-0.5**
VNA3	**Neumayer Olymp**	**82.57**	**176**	*e*	**P**	**04 37 42.6**	**-0.5**
VNA2	**Neumayer--Watz**	**83.00**	**177**	*e*	**P**	**04 37 45.0**	**-0.3**
	baz=189,slow=5.1						
VNA1	**Neumayer--Stat**	**83.23**	**177**	*e*	**P**	**04 37 46.5**	**+0.1**
NVAR	**Mina Array Bea**	**85.48**	**43**	P	**P**	**04 37 59.3**	**+1.2**
	0.4nm,0.7s,mb3.3,baz=207,slow=3.7,SNR=2.0						
TXAR	**Lajitas Array**	**90.54**	**57**	P	**P**	**04 38 23.3**	**+1.1**
	0.4nm,0.8s,mb3.4,baz=202,slow=6.3,SNR=5.2						
NOA	**NORSAR Array B**	**144.48**	**352**	PKP	PKPdf	04 44 54.5	+1.0
	0.6nm,0.9s,baz=18,slow=2.8,SNR=2.3						
TORD	**Torodi Ar. Bea**	**167.07**	**181**	PKPab	PKPab	04 46 29.1	-0.9
	0.3nm,0.8s,baz=174,slow=5.1,SNR=3.5						

*ATH **05** 04:57:45.8, 38.97N×21.09E, h32km±8km, MD3.2/3*

*ISCJB **05** 04:57:46.8±0.5, 38.86N±0.03×21.20E±0.04, h10km, Error ellipse: s-maj=5.4km s-min=4.0km az=36.3*

*CSEM **05** 04:57:47.1±0.1, 38.88N×21.08E, h25km, ML2.5/3, Error ellipse: s-maj=2.7km s-min=2.2km az=119.0*

*THE **05** 04:57:47.8, 38.88N×21.11E, h18km±1km, ML2.5/3, Error ellipse: s-maj=1.8km s-min=0.6km az=266.0*

ISC 05 04:57:47.7±0.7**, 38.87N**±003×**21.12E**±004**, h17km**±6km**, n12, σ0s64**/22**, Greece**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LKD	**Levkas**	**0.40**	**246**	P	**Pg**	**04 57 56.0**	**+0.1**
LKD				S	**Sg**	**04 58 01.8**	**+0.4**
EVR	**Evrytania**	**0.54**	**85**	*e*Pn	**Pg**	**04 57 57.9**	**-0.5**
EVR				*e*Sn	**Sg**	**04 58 06.4**	**+0.7**
EVR	**Evrytania**	**0.54**	**85**	*e*PN	**Pg**	**04 57 57.9**	**-0.5**
EVR				*e*SN	**Sg**	**04 58 06.4**	**+0.7**
KFL	**Anninata**	**0.80**	**199**	P	**Pb**	**04 58 03.2**	**-0.1**
KFL				S	**Sb**	**04 58 14.2**	**+0.4**
VLS	**Valsamata**	**0.81**	**211**	P	**Pb**	**04 58 03.0**	**-0.3**
VLS				S	**Sb**	**04 58 14.2**	**+0.2**
VLS	**Valsamata**	**0.81**	**211**	*e*Pn	**Pb**	**04 58 03.0**	**-0.3**
VLS				*e*Sn	**Sn**	**04 58 16.1**	**+0.1**
VLS	**Valsamata**	**0.81**	**211**	*e*PN	**Pb**	**04 58 03.0**	**-0.3**
VLS				*e*SN	**Sn**	**04 58 16.1**	**+0.1**
RLS	**Riolos of Patr**	**0.86**	**161**	*e*Pn	**Pn**	**04 58 04.1**	**-0.9**
RLS	**Riolos of Patr**	**0.86**	**161**	*e*PN	**Pn**	**04 58 04.1**	**-0.9**
IGT	**Igoumenitsa**	**0.90**	**317**	P	**Pb**	**04 58 03.9**	**-1.0**
IGT				S	**Sb**	**04 58 17.8**	**+1.2**
MEV	**Metsovon**	**0.92**	**5**	P	**Pb**	**04 58 04.6**	**-0.6**
MEV				S	**Sb**	**04 58 17.1**	**0.0**
AGG	**Agios Georgios**	**0.96**	**81**	P	**Pb**	**04 58 05.2**	**-0.7**
AGG				S	**Sb**	**04 58 19.4**	**+1.2**

IDC 05 05:04:09.5±44.0**, 15.03S**×**171.29W, h0km, mb4.1**/3**, mb1 4.3**/3**, mb1mx3.8**/18**, mbtmp4.1**/3**, Error ellipse: s-maj=861.5km s-min=193.5km az=78.0, Samoa Islands region**

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

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
STKA	Stephens Creek	45.99	240	P	P	05 12 34.9	+0.2
	0.6nm,0.4s,baz=63,slow=9.0,SNR=3.1						
WRA	Warramunga Arr	51.91	256	P	P	05 13 20.2	-0.2
	0.8nm,0.4s,baz=93,slow=7.0,SNR=12						
ASAR	Alice Springs	52.16	252	P	P	05 13 22.2	0.0
	5.5nm,0.5s,baz=88,slow=8.0,SNR=111						

*ISCJB **05** 05:21:39.2±3.5, 5.19S±0.10×153.6E±0.1, h35km±29km, mb4.3/19, Error ellipse: s-maj=20.5km s-min=15.6km az=156.8*
*IDC **05** 05:21:42.7±1.4, 5.23S×153.68E, h55km±7km, mb3.9/9, mb1 4.0/10, mb1mx3.9/17, mbtmp3.9/10, MS3.4/1, Ms1 3.4/1, ms1mx2.5/27, Error ellipse: s-maj=38.7km s-min=17.0km az=98.0*
*NEIC **05** 05:21:42.5±2.6, 5.17S×153.61E, h54km±20km, mb4.4/11, Error ellipse: s-maj=23.3km s-min=11.2km az=83.0*
*BJI **05** 05:21:46.7, 4.57S×153.02E, h54km, mb4.9*
ISC 05 05:21:42.5±2.8**, 5.22S**±0.10×**153.6E**±0.1**, h49**km±24km**, h53**km±3.7km**:pP-P, n32, σ0ˢ81**/29**, mb4.3**/19**, New Ireland region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	7.58	236	ePn	Pn	05 23 30.6	+0.1
	21nm,0.6s						
PMG				eSn	Sn	05 24 54.1	-1.1
CTA	Charters Tower	16.40	205	P	Pn	05 25 30.3	+0.9
	0.2nm,0.3s,baz=28,slow=14,SNR=4.6						
CTA				LR	LR	05 31 00.3	
	comp=Z,119nm,18.6s,baz=50,slow=34						
CTAO	Charters Tower	16.40	205	eP	Pn	05 25 30.8	+1.4
DZM	Mont Dzumac	20.89	145	eP	P	05 26 20.1	-0.7
KAKA	Kakadu	22.13	249	eP	P	05 26 34.5	+0.3
	10nm,0.4s,mb4.6						
WB2	Warramunga Arr	23.73	230	eP	P	05 26 50.4	0.0
WRA	Warramunga Arr	23.74	230	P	P	05 26 51.0	+0.5
	1.6nm,0.7s,mb3.6,baz=54,slow=9.8,SNR=22						
WRA				PcP	PcP	05 30 33.5	0.0
	2.0nm,0.8s,baz=57,slow=2.2,SNR=11						
WRA				pPcP		05 30 48.2	
	0.9nm,0.7s,baz=56,slow=2.1,SNR=5.5						
ASAR	Alice Springs	26.36	224	P	P	05 27 14.6	+0.4
	0.6nm,0.4s,mb3.4,baz=54,slow=8.8,SNR=8.1						
ASAR				pP	pP	05 27 27.3	+0.4
	1.6nm,0.8s,baz=58,slow=9.8,SNR=5.9						
ASAR				PcP	PcP	05 30 39.2	0.0
	1.9nm,0.8s,baz=54,slow=2.7,SNR=12						
ASAR				pPcP		05 30 54.2	
	0.6nm,0.5s,baz=59,slow=2.7,SNR=5.8						
STKA	Stephens Creek	28.79	201	P	P	05 27 36.4	+0.5
	0.9nm,0.5s,mb3.8,baz=86,slow=14,SNR=2.6						
STKA	Stephens Creek	28.79	201	eP	P	05 27 36.2	+0.3
	3.0nm,0.9s,mb4.0						
FITZ	Fitzroy Crossi	30.12	243	eP	P	05 27 48.0	+0.1
	3.2nm,0.8s,mb4.1						
FITZ	Fitzroy Crossi	30.12	243	P	P	05 27 46.9	-1.0
	1.3nm,0.8s,mb3.7,baz=68,slow=5.1,SNR=9.4						
MBWA	Marble Bar	36.42	241	P	P	05 28 42.0	-0.7
	11nm,1.4s,mb4.6						
CMAR	Chiang Mai Arr	58.73	295	P	P	05 31 37.6	+1.7
	5.6nm,0.8s,mb4.7,baz=120,slow=5.4,SNR=18						
CMAR				pP	pP	05 31 52.2	+2.7
	1.1nm,0.3s,baz=116,slow=5.5,SNR=2.7						
CD2	Chengdu	59.58	310	eP	P	05 31 42.2	+0.7
CD2				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb5.0						
GTA	Gaotai	66.47	317	eP	P	05 32 28.4	+1.3
GTA				AP	pP	05 32 38.2	-2.8
GTA				XP	sP	05 32 43.2	-3.4
GTA				AMB	AMB		
	comp=Z,6.0nm,1.0s,mb4.6						
ULN	Ulaanbaatar	66.75	328	P	P	05 32 28.8	+0.1
	comp=Z,2.1nm,0.8s,mb4.2						
SONM	Songino Array	67.08	328	P	P	05 32 30.7	-0.1
	comp=Z,1.6nm,0.9s,mb4.1,baz=159,slow=4.5,SNR=5.3						
SBA	Scott Base	72.92	177	P	P	05 33 06.6	+0.4
	comp=Z,2.5nm,0.9s,mb4.1						
MK31	Makanchi Array	81.13	319	eP	P	05 33 52.3	-0.5
MKAR	Makanchi Array	81.13	319	P	P	05 33 53.0	+0.2
	comp=Z,1.7nm,0.5s,mb4.2,baz=98,slow=7.0,SNR=18						
MKAR				pP	pP	05 34 08.8	+1.7
	comp=Z,0.6nm,0.4s,baz=112,slow=5.9,SNR=3.5						
ZALV	Zalesovo Beam	81.92	326	P	P	05 33 55.3	-1.4
	comp=Z,1.4nm,0.4s,mb4.2,baz=116,slow=4.8,SNR=6.7						
KURK	Kurchatov	84.56	322	eP	P	05 34 09.7	-0.8
	comp=Z,1.2nm,0.6s,mb4.2						
TKM2	Tokmak 2	84.76	314	eP	P	05 34 11.6	-0.1
	comp=Z,6.0nm,0.8s,mb4.8						
TKM2				e	pP	05 34 27.2	+1.2
MAW	Mawson	85.47	203	P	P	05 34 14.7	-0.1
	comp=Z,4.9nm,0.7s,mb4.8,baz=88,slow=5.9,SNR=24						
MAW	Mawson	85.47	203	eP	P	05 34 14.0	-0.7
	comp=Z,5.9nm,0.7s,mb4.8						
EKS2	Erkin-Say	86.02	313	eP	P	05 34 18.5	+0.6
	comp=Z,3.5nm,0.9s,mb4.6						
BRVK	Borovoye	90.09	323	eP	P	05 34 35.2	-1.9
	comp=Z,2.6nm,0.6s,mb4.7						
GERES	GERESS Array B	124.80	329	PKP	PKPdf	05 40 36.5	-0.5
	comp=Z,0.3nm,0.2s,baz=60,slow=5.3,SNR=3.8						
GERES				pPKP	pPKPdf	05 40 52.2	+0.2
	comp=Z,0.3nm,0.3s,baz=72,slow=1.8,SNR=2.3						
GERES	GERESS Array B	124.80	329	PKP	PKPdf	05 40 36.5	-0.5
GERES				pPKP	pPKPdf	05 40 52.2	+0.2
TAM	Tamanrasset	144.53	303	eP	PKPdf	05 41 13.1	-1.4
TORD	Torodi Ar. Bea	151.15	288	PKPbc	PKPbc	05 41 30.2	-1.2
	comp=Z,2.9nm,0.5s,baz=57,slow=2.2,SNR=43						
TORD				PKPab	PKPab	05 41 38.3	-1.0
	comp=Z,3.0nm,0.7s,baz=76,slow=3.4,SNR=10						

NNC 05 05:50:25.0±10.0**, 38.70N×71.14E, h244**km±113km**, mb2.4, mpv3.5, 3C, Error ellipse: s-maj=117.2km s-min=50.5km az=16.0, Afghanistan-Tajikistan border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	Karatay Array	4.42	354	P	Pn	05 51 30.8	-2.6
	1.5nm,0.3s,baz=177,slow=13,SNR=41						
KK31				S	S	05 52 29.4	+1.5
	65nm,0.9s,baz=172,slow=30,SNR=16						
TKM2	Tokmak 2	5.41	37	⇑P	Pn	05 51 47.3	+1.8
	7.6nm,0.5s						
TKM2				⇑S	S	05 52 49.7	+0.1
	6.3nm,0.8s						
AB31	Akbulak array	13.26	326	P	Pn	05 53 27.5	+3.5
	0.5nm,0.3s,baz=357,slow=14,SNR=20						
AB31				⇑S	S	05 55 48.6	-2.6
	1.0nm,0.6s,baz=139,slow=24,SNR=3.3						

*IDC **05** 05:52:54.1±1.1, 46.65N×156.65E, h0km, mb3.7/5, mb1 3.8/6, mb1mx3.6/22, mbtmp3.6/6, ML2.9/1, Error ellipse: s-maj=33.8km s-min=26.0km az=89.0*
*MOS **05** 05:52:56.8±2.5, 46.98N×156.59E, h33km, mb4.1/2, Error ellipse: s-maj=64.7km s-min=27.5km az=95.6*
*ISCJB **05** 05:52:57.0±1.0, 46.82N±0.08×156.7E±0.3, h33km, mb3.6/5, Error ellipse: s-maj=30.1km s-min=10.8km az=10.4*
ISC 05 05:52:59.4±1.0**, 46.78N**±0.08×**156.7E**±0.3**, h35**km**, n9, σ1ˢ00**/10**, mb3.6**/5**, East of Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	Severo-Kuril's	3.93	355	eP	Pn	05 53 50.6	-6.5
SKR				e		05 54 37.5	
PETK	Petropavlovsk-	6.38	6	Pn	Pn	05 54 29.1	-1.6
	0.3nm,0.3s,baz=181,slow=16,SNR=4.0						
PETK				Sn	Sn	05 55 42.4	+0.2
	0.2nm,0.3s,baz=184,slow=17,SNR=3.2						
ZALV	Zalesovo Beam	44.57	307	P	P	06 01 08.3	+0.9
	0.6nm,0.4s,mb3.8,baz=69,slow=7.9,SNR=2.6						
ZALV	Zalesovo Beam	44.57	307	P	P	06 01 08.3	+0.8
ZALV				pmax	pmax		
	comp=Z,1.0nm,0.4s,mb4.0						
MKAR	Makanchi Array	49.09	299	P	P	06 01 43.2	+0.3
	comp=Z,0.4nm,0.6s,mb3.6,baz=65,slow=6.1,SNR=3.4						
WRA	Warramunga Arr	69.40	202	P	P	06 04 02.0	-1.5
	comp=Z,0.8nm,0.8s,mb3.7,baz=19,slow=6.4,SNR=8.2						
WRA	Warramunga Arr	69.40	202	P	P	06 04 02.0	-1.5
WRA				pmax	pmax		
	comp=Z,1.0nm,0.8s						
ASAR	Alice Springs	73.07	202	P	P	06 04 26.0	+0.3
	comp=Z,0.4nm,0.7s,mb3.5,baz=20,slow=6.4,SNR=4.1						
TXAR	Lajitas Array	75.33	63	P	P	06 04 40.2	+1.2
	comp=Z,0.3nm,0.6s,mb3.4,baz=303,slow=4.9,SNR=5.0						

*ISCJB **05** 06:05:20.3±0.2, 45.041N±0.009×6.45E±0.01, h0km±1km, Error ellipse: s-maj=1.6km s-min=1.4km az=153.8*
*GEN **05** 06:05:21.9, 45.03N×6.54E, h1km, ML3.0*
*ROM **05** 06:05:22.3±0.3, 45.02N×6.57E, h7km±1km, Md3.3/5, Ml3.3/15, Error ellipse: s-maj=4.1km s-min=2.0km az=86.0*
*STR **05** 06:05:22.7±0.1, 45.01N×6.55E, h5km, Ml3.4, Error ellipse: s-maj=0.0km s-min=0.0km az=0.0*
*CSEM **05** 06:05:22.3±0.0, 44.98N×6.56E, h2km, ML3.7/44, Error ellipse: s-maj=0.7km s-min=0.5km az=52.0*
*NEIC **05** 06:05:23.1, 45.00N×6.53E, h2km, ML3.4(STR), ML3.7(LDG), After LDG.*
*LDG **05** 06:05:23.1±0.1, 45.00N×6.53E, h2km, Md3.4/4, Ml3.7/37, Error ellipse: s-maj=1.3km s-min=1.1km az=62.0*
*ZUR **05** 06:05:24.3, 45.14N×6.66E, h10km, ML3.0/2*
*PRU **05** 06:05:26.6, 44.99N×6.73E, h2km*
ISC 05 06:05:21.9±0.2**, 45.012N**±0.008×**6.47E**±0.01**, h3**km±1km**, n234, σ1ˢ17**/451**, 10C-3D, France**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNI	Bardonecchia	0.15	75	⇑iPg	Pg	06 05 24.6	-0.2
BNI				Sg	Sg	06 05 26.3	-0.5
	7μm,0.6s						
BNI	Bardonecchia	0.15	75	ePg	Pg	06 05 24.0	-0.8
BNI				eSg	Sg	06 05 26.4	-0.5
RRL	Rocca Remolon	0.24	112	P	Pg	06 05 26.6	0.0
GDM	Grand'Maison	0.32	307	Pg	Pg	06 05 28.7	+0.7
GDM				Sg	Sg	06 05 33.9	+1.8
MBDF	Montbardon	0.36	143	ePg	Pg	06 05 28.7	0.0
	SNR=1.0						
MBDF				eSg	Sg	06 05 34.3	+1.0
	1μm,0.2s						
MBDF	Montbardon	0.36	143	ePg	Pg	06 05 28.7	0.0
	SNR=1.0						
MBDF				eSg	Sg	06 05 34.3	+1.0
	723nm,0.2s						
OG22	Abries	0.39	119	Pg	Pg	06 05 29.1	-0.2
OG22				Sg	Sg	06 05 34.2	-0.1
ORIF	Oris-en-Rattie	0.43	258	ePg	Pg	06 05 31.1	+1.0
	SNR=1.0						
ORIF				eSg	Sg	06 05 37.3	+1.6
	2μm,0.5s,SNR=1.0						
ORIF	Oris-en-Rattie	0.43	258	ePg	Pg	06 05 31.1	+1.0
	SNR=1.0						
ORIF				eSg	Sg	06 05 37.3	+1.6
	1μm,0.5s,SNR=1.0						
LPG	La Plagne	0.52	22	ePg	Pg	06 05 31.8	-0.1
	SNR=1.0						
LPG				eSg	Sg	06 05 39.7	+0.9
	517nm,0.2s,SNR=1.0						
LPG	La Plagne	0.52	22	ePg	Pg	06 05 31.8	-0.1
	SNR=1.0						
LPG				eSg	Sg	06 05 39.7	+0.9
	259nm,0.2s,SNR=1.0						
LPL	La Plagne	0.54	20	ePg	Pg	06 05 32.1	-0.1
	SNR=1.0						
LPL				eSg	Sg	06 05 39.8	+0.6
	674nm,0.4s,SNR=1.0						
LPL	La Plagne	0.54	20	ePg	Pg	06 05 32.1	-0.1
	SNR=1.0						
LPL				eSg	Sg	06 05 39.8	+0.6
	337nm,0.4s,SNR=1.0						
GRN	Grenoble	0.56	294	Pg	Pg	06 05 34.0	+1.3
GRN				Sg	Sg	06 05 42.6	+2.6
RSP	Reno Superiore	0.58	76	⇑iPg	Pg	06 05 32.5	-0.5
RSP				Sg	Sg	06 05 40.9	+0.4
	2μm,0.2s						
SURF	Saint Ours	0.58	155	Pg	Pg	06 05 33.0	-0.1
SURF				Sg	Sg	06 05 42.2	+1.6
LSD	Lago del Serru	0.65	46	Pg	Pg	06 05 33.6	-0.7
LSD				Sg	Sg	06 05 41.6	-1.1
	1μm,0.6s						
RSL	Roselend	0.69	9	Pg	Pg	06 05 35.4	+0.4
RSL				Sg	Sg	06 05 44.5	+0.6
DOI	San Damiano	0.75	132	⇓iPg	Pg	06 05 35.5	-0.7
DOI				Sg	Sg	06 05 45.4	-0.6
	2μm,0.2s						
MRGE	Morge	0.86	29	⇑iPg	Pg	06 05 37.8	-0.7
MRGE				Sg	Sg	06 05 50.4	+0.7
	636nm,0.8s						
OCF	Saint Nazaire	0.94	243	Pg	Pg	06 05 42.0	+2.1
OG26	St.-Nazaire-De	0.94	243	Pg	Pg	06 05 42.0	+2.1
STV	Sant Anna di V	0.98	141	Pg	Pg	06 05 40.4	-0.2
STV				Sg	Sg	06 05 52.7	-0.6
	421nm,0.4s						
TRAV	Traversella	1.03	60	Pg	Pg	06 05 40.9	-0.7
TRAV				Sg	Sg	06 05 54.3	-0.7
	896nm,0.4s						
TRAV	Traversella	1.03	60	P	Pg	06 05 41.0	-0.6
MONC	Moncucco Torin	1.03	86	⇑iPg	Pg	06 05 42.0	+0.3
	2μm,0.5s						
ENR	Entracque	1.04	139	P	Pg	06 05 41.0	-0.7
ENR				S	Sg	06 05 54.0	-1.2
TOUF	Mont Tournerai	1.14	151	Pg	Pg	06 05 43.6	-0.2
SALAN	Lac Salanfe	1.19	17	⇑eP*	Pb	06 05 44.4	-0.6
	210nm,0.7s						
MVIF	Mont Vial	1.22	156	Pg	Pg	06 05 44.9	-0.3
MVIF				Sg	Sg	06 06 02.4	+1.4
SMRF	Simiane la Rot	1.22	212	ePg	Pg	06 05 46.9	+1.7
SMRF				eSg	Sg	06 06 02.3	+1.3
	601nm,0.4s,SNR=1.0						
SMRF	Simiane la Rot	1.22	212	ePg	Pg	06 05 46.9	+1.7
SMRF				eSg	Sg	06 06 02.3	+1.3
	300nm,0.4s,SNR=1.0						
AUTN	L'Aution	1.23	146	Pg	Pg	06 05 45.2	-0.1
AUTN				Sg	Sg	06 06 01.7	+0.5
ORO	Oropa	1.23	59	Pg	Pg	06 05 44.1	-1.4
ORO				Sg	Sg	06 06 00.3	-1.1
	385nm,0.2s						
ROB	Robourent	1.24	125	P	Pg	06 05 44.2	-1.4
ROB				S	Sg	06 05 59.6	-2.0
OG05	Jujurieux	1.25	326	Pg	Pg	06 05 46.7	+0.8
OG05				Sg	Sg	06 06 04.4	+2.3
DIX	Grande Dixence	1.25	31	ePn	Pn	06 05 45.0	-1.3
	660nm,0.9s						
LUCF	Luceram	1.28	150	Pg	Pg	06 05 46.4	-0.1
LUCF				Sg	Sg	06 06 03.7	+0.6
SAOF	Saorge	1.29	143	Pg	Pg	06 05 45.7	-0.8
SAOF				Sg	Sg	06 06 03.3	+0.1
VIVF	Saint-Julien-l	1.29	264	ePg	Pg	06 05 47.8	+1.3
VIVF				eSg	Sg	06 06 05.1	+1.9
	487nm,0.4s,SNR=1.0						
VIVF	Saint-Julien-l	1.29	264	ePg	Pg	06 05 47.8	+1.3
VIVF				eSg	Sg	06 06 05.1	+1.9
	244nm,0.4s,SNR=1.0						
VIVF	Saint-Julien-l	1.29	264	ePn	Pn	06 05 47.3	+0.5
VIVF				ePg	Pg	06 05 47.8	+1.3
VIVF				eSg	Sg	06 06 05.1	+1.9
CALN	Calern	1.29	166	Pg	Pg	06 05 46.8	+0.1
OG01	Vacheresse	1.33	6	Pg	Pg	06 05 49.3	+2.0
SBF	Sospel	1.34	149	ePg	Pg	06 05 47.6	0.0
SBF	Sospel	1.34	149	eP	Pn	06 05 48.6	+1.1
	SNR=1.0						
SBF				eSg	Sg	06 06 04.3	-0.6
	2μm,0.6s,SNR=1.0						
SBF	Sospel	1.34	149	ePg	Pg	06 05 47.6	0.0
SBF	Sospel	1.34	149	eP	Pn	06 05 48.6	+1.1
	SNR=1.0						
SBF				eSg	Sg	06 06 04.3	-0.6
	813nm,0.6s,SNR=1.0						
SBF	Sospel	1.34	149	ePn	Pn	06 05 46.8	-0.7
SBF				ePg	Pg	06 05 47.6	0.0
SBF				eP		06 05 48.6	
SBF				eSg	Sg	06 06 04.3	-0.6
SSB	Saint Sauveur	1.39	282	Pn	Pn	06 05 48.5	+0.3
SSB	Saint Sauveur	1.39	282	ePn	Pn	06 05 48.3	+0.1
SSB				ePb	Pb	06 05 49.8	+1.3
SSB				eSn	Sn	06 06 08.0	+0.9
REVF	Revere	1.43	153	Pg	Pg	06 05 48.8	-0.4
RORO	Rocca Rossa	1.45	128	P	Pn	06 05 47.6	-1.4
FRF	La Foret Royal	1.46	175	ePg	Pg	06 05 50.1	+0.3
FRF				eSg	Sg	06 06 08.7	+0.1
	534nm,0.4s,SNR=1.0						
FRF	La Foret Royal	1.46	175	ePg	Pg	06 05 50.1	+0.3
FRF				eSg	Sg	06 06 08.7	+0.1
	267nm,0.4s,SNR=1.0						
FRF	La Foret Royal	1.46	175	ePn	Pn	06 05 49.5	+0.4
FRF				ePg	Pg	06 05 50.1	+0.3
FRF				eSg	Sg	06 06 08.7	+0.1
SENIN	Lac Senin/Sane	1.47	23	ePg	Pg	06 05 49.2	-0.9
	477nm,0.7s						
MMK	Mattmark	1.48	45	Pn	Pn	06 05 49.4	0.0
FIN	Finale Ligure	1.48	122	Pn	Pn	06 05 48.8	-0.6
FIN				Sn	Sn	06 06 07.7	-1.5
FIN	Finale Ligure	1.48	122	P	Pn	06 05 47.8	-1.6
FIN	Finale Ligure	1.48	122	Pn	Pn	06 05 48.8	-0.6
FIN				Sn	Sn	06 06 07.7	-1.5
IMI	Imperia	1.50	137	Pn	Pn	06 05 49.1	-0.6
IMI				Sn	Sn	06 06 09.8	+0.1
	690nm,0.5s						
QLNO	Quiliano	1.50	117	Pn	Pn	06 05 49.3	-0.4
QLNO				Sn	Sn	06 06 08.1	-1.7
	179nm,0.3s						
PCP	Piancastagn	1.55	107	Pn	Pn	06 05 50.6	+0.2
PCP				Sn	Sn	06 06 10.0	-1.0
	332nm,0.5s						
PCP	Piancastagn	1.55	107	P	Pn	06 05 49.9	-0.5
PCP	Piancastagn	1.55	107	Pn	Pn	06 05 50.6	+0.2
PCP				Sn	Sn	06 06 10.0	-1.0
	332nm,0.5s						
CABF	La Chapelle	1.62	351	eP	Pn	06 05 53.2	+1.8
CABF	La Chapelle	1.62	351	ePg	Pg	06 05 53.6	+0.6
CABF				eSg	Sg	06 06 14.9	+0.9
	326nm,0.6s,SNR=1.0						
CABF	La Chapelle	1.62	351	eP	Pn	06 05 53.2	+1.8
CABF	La Chapelle	1.62	351	ePg	Pg	06 05 53.6	+0.6
CABF				eSg	Sg	06 06 14.9	+0.9
	163nm,0.6s,SNR=1.0						
CABF	La Chapelle	1.62	351	ePn	Pn	06 05 52.1	+0.7
CABF				eP		06 05 53.2	
CABF				ePg	Pg	06 05 53.6	+0.6
CABF				eSg	Sg	06 06 14.9	+0.9
LMR	La Mourre	1.68	179	ePg	Pg	06 05 53.8	-0.2
LMR				eSn	Sn	06 06 12.4	-1.7
	SNR=1.0						
LMR				eSg	Sg	06 06 16.1	+0.3
	330nm,0.3s,SNR=1.0						
LMR	La Mourre	1.68	179	ePg	Pg	06 05 53.8	-0.2
LMR				eSn	Sn	06 06 12.4	-1.7
	SNR=1.0						
LMR				eSg	Sg	06 06 16.1	+0.3
	165nm,0.3s,SNR=1.0						
LMR	La Mourre	1.68	179	ePn	Pn	06 05 52.3	+0.2
LMR				ePg	Pg	06 05 53.8	-0.2
LMR				eSn	Sn	06 06 12.4	-1.7
LMR				eSg	Sg	06 06 16.1	+0.3
VAI	Varese	1.83	61	Pn	Pn	06 05 54.0	-0.2
MUGIO	Muggio	2.02	62	Pn	Pn	06 05 57.0	+0.1
LASF	Ste Croix	2.09	244	ePg	Pg	06 06 02.6	+0.7
LASF				eSn	Sn	06 06 23.1	-1.2
	140nm,0.4s,SNR=1.0						
LASF	Ste Croix	2.09	244	ePg	Pg	06 06 02.6	+0.7
LASF				eSn	Sn	06 06 23.1	-1.2
	70nm,0.4s,SNR=1.0						
LASF	Ste Croix	2.09	244	ePn	Pn	06 05 57.8	0.0
LASF				ePg	Pg	06 06 02.6	+0.7
LASF				eSn	Sn	06 06 23.1	-1.2
BOB	Bobbio (Coli)	2.13	96	Pn	Pn	06 06 00.7	+2.4
PLDF	La Plantade	2.22	297	Pn	Pn	06 06 00.1	+0.5
LBL	Lubilhac	2.29	277	Pn	Pn	06 06 01.1	+0.5
LOMF	Lomont	2.35	6	Pn	Pn	06 06 02.5	+1.1
LOMF				Sg	Sg	06 06 40.2	+2.8
MDI	Monti di Nese	2.41	70	Pn	Pn	06 06 01.4	-0.8
	115nm,0.4s						
SMF	Signal de Mont	2.46	313	ePg	Pg	06 06 08.7	-0.3
SMF				eSg	Sg	06 06 41.3	+0.4
	211nm,0.5s,SNR=1.0						
SMF	Signal de Mont	2.46	313	ePg	Pg	06 06 08.7	-0.3
SMF				eSg	Sg	06 06 41.3	+0.4
	105nm,0.5s,SNR=1.0						
SMF	Signal de Mont	2.46	313	ePn	Pn	06 06 03.2	+0.3
SMF				ePg	Pg	06 06 08.7	-0.3
SMF				eSg	Sg	06 06 41.3	+0.4
TUE	Stuetta	2.49	53	ePn	Pn	06 06 04.9	+1.6
TUE				eSg	Sg	06 06 42.2	+0.4
TUE	Stuetta	2.49	53	ePn	Pn	06 06 04.9	+1.7
TUE				ePb	Pb	06 06 07.6	+0.4
TUE				ePg	Pg	06 06 09.7	+0.1
TUE				eSn	Sn	06 06 33.0	-1.1
TUE				eSg	Sg	06 06 42.2	+0.5
BBS	Basel-Blauen	2.56	16	Pg	Pg	06 06 10.5	-0.4
BBS				Sg	Sg	06 06 44.4	+0.4
AGO	Saint Agoulin	2.57	295	Pn	Pn	06 06 05.6	+1.2
AVF	Avril sur Loir	2.81	310	ePg	Pg	06 06 15.8	+0.1
AVF				eSg	Sg	06 06 52.1	-0.1
	104nm,0.6s						
AVF	Avril sur Loir	2.81	310	ePg	Pg	06 06 15.8	+0.1
AVF				eSg	Sg	06 06 52.1	-0.1
	52nm,0.6s						
AVF	Avril sur Loir	2.81	310	ePn	Pn	06 06 07.8	+0.1
AVF				ePg	Pg	06 06 15.8	+0.1
AVF				eSg	Sg	06 06 52.1	-0.1
HINF	Hinteralfeld	2.82	5	ePg	Pg	06 06 15.3	-0.6
	SNR=1.0						
HINF				eSn	Sn	06 06 40.0	-2.3
	SNR=1.0						
HINF				eSg	Sg	06 06 52.0	-0.4
	60nm,0.4s,SNR=1.0						
HINF	Hinteralfeld	2.82	5	ePg	Pg	06 06 15.3	-0.6
	SNR=1.0						
HINF				eSn	Sn	06 06 40.0	-2.3
	SNR=1.0						
HINF				eSg	Sg	06 06 52.0	-0.4
	30nm,0.4s,SNR=1.0						
HINF	Hinteralfeld	2.82	5	ePn	Pn	06 06 07.3	-0.5
HINF				ePg	Pg	06 06 15.3	-0.6
HINF				eSn	Sn	06 06 40.0	-2.3
HINF				eSg	Sg	06 06 52.0	-0.4
MOF	Molkenrain	2.88	9	Pn	Pn	06 06 08.1	-0.5
MOF				Pg	Pg	06 06 17.8	+0.8
LOR	Lormes	2.90	322	ePn	Pn	06 06 08.4	-0.5
	baz=142						
LOR	Lormes	2.90	322	eP	Pn	06 06 11.6	+2.7
	baz=142,SNR=1.0						
LOR	Lormes	2.90	322	ePg	Pg	06 06 17.0	-0.4
	baz=142						
LOR				eSn	Sn	06 06 42.6	-1.6
	baz=150,SNR=1.0						
LOR				eSg	Sg	06 06 54.8	-0.1
	48nm,0.3s,baz=150						
LOR	Lormes	2.90	322	eP	Pn	06 06 11.6	+2.7
	SNR=1.0						
LOR	Lormes	2.90	322	ePg	Pg	06 06 17.0	-0.4
LOR				eSn	Sn	06 06 42.6	-1.6
	SNR=1.0						
LOR				eSg	Sg	06 06 54.8	-0.1
	24nm,0.3s						
LOR	Lormes	2.90	322	ePn	Pn	06 06 08.4	-0.5
LOR				eP		06 06 11.6	
LOR				ePg	Pg	06 06 17.0	-0.4
LOR				eSn	Sn	06 06 42.6	-1.6
LOR				eSg	Sg	06 06 54.8	-0.1
SSF	Saint Saulge	2.91	316	ePg	Pg	06 06 17.6	0.0
SSF				eSg	Sg	06 06 55.0	-0.3
	75nm,0.5s,SNR=1.0						
SSF	Saint Saulge	2.91	316	ePg	Pg	06 06 17.6	0.0
SSF				eSg	Sg	06 06 55.0	-0.3
	38nm,0.5s,SNR=1.0						
SSF	Saint Saulge	2.91	316	ePn	Pn	06 06 09.2	+0.1
SSF				ePg	Pg	06 06 17.6	0.0
SSF				eSg	Sg	06 06 55.0	-0.3
GROG	Isola di Gorgo	2.93	122	Pn	Pn	06 06 09.2	-0.1
	83nm,0.9s						
BGF	Bois d'Agland	2.97	303	ePg	Pg	06 06 18.5	-0.3
BGF				eSg	Sg	06 06 55.0	-2.3
	264nm,0.5s,SNR=1.0						
BGF	Bois d'Agland	2.97	303	ePg	Pg	06 06 18.5	-0.3
BGF				eSg	Sg	06 06 55.0	-2.3
	132nm,0.5s,SNR=1.0						
BGF	Bois d'Agland	2.97	303	ePn	Pn	06 06 10.8	+0.9
BGF				ePg	Pg	06 06 18.5	-0.3
BGF				eSg	Sg	06 06 55.0	-2.3
HAU	Haudompre	3.00	358	ePg	Pg	06 06 18.6	-0.7
HAU				eSg	Sg	06 06 57.3	-0.8
	79nm,0.4s,SNR=1.0						
HAU	Haudompre	3.00	358	ePg	Pg	06 06 18.6	-0.7
HAU				eSg	Sg	06 06 57.3	-0.8
	40nm,0.4s,SNR=1.0						
HAU	Haudompre	3.00	358	ePn	Pn	06 06 09.8	-0.4
HAU				ePg	Pg	06 06 18.6	-0.7
HAU				eSg	Sg	06 06 57.3	-0.8
MAGA	Magasa	3.03	74	Pn	Pn	06 06 11.3	+0.6
	251nm,0.7s						
FELD	Feldberg im Sc	3.06	20	Pn	Pn	06 06 10.7	-0.4

FELD				Pg	Pg	06 06 18.7	-1.7
PGF	Pioggiola	3.07	142	ePn	Pn	06 06 11.5	+0.3
	SNR=1.0						
PGF				eSn	Sn	06 06 45.3	-3.1
	42nm,0.3s,SNR=1.0						
PGF	Pioggiola	3.07	142	ePn	Pn	06 06 11.5	+0.3
	SNR=1.0						
PGF				eSn	Sn	06 06 45.3	-3.1
	21nm,0.3s,SNR=1.0						
CAF	Calviac	3.13	270	ePg	Pg	06 06 21.5	-0.3
CAF				eSg	Sg	06 07 00.9	-1.5
	62nm,0.5s						
CAF	Calviac	3.13	270	ePg	Pg	06 06 21.5	-0.3
CAF				eSg	Sg	06 07 00.9	-1.5
	31nm,0.5s						
CAF	Calviac	3.13	270	ePn	Pn	06 06 13.2	+1.1
CAF				ePg	Pg	06 06 21.5	-0.3
CAF				eSg	Sg	06 07 00.9	-1.5
THEF	They Montfort	3.23	354	Pn	Pn	06 06 13.5	0.0
LIBD	Limburg	3.23	14	Pg	Pg	06 06 24.8	+1.0
ECH	Echery	3.24	8	Pn	Pn	06 06 13.3	-0.3
ECH	Echery	3.24	8	ePn	Pn	06 06 12.9	-0.7
ECH	Echery	3.24	8	ePg	Pg	06 06 24.9	+1.0
ECH	Echery	3.24	8	ePn	Pn	06 06 12.8	-0.7
ECH				ePg	Pg	06 06 24.9	+1.0
ECH				eSn	Sn	06 06 53.2	+0.6
ECH				eSg	Sg	06 07 07.9	+2.0
TCF	Toulx Ste Croi	3.25	295	ePg	Pg	06 06 24.1	0.0
	SNR=1.0						
TCF				eSg	Sg	06 07 06.0	-0.2
	50nm,0.6s,SNR=1.0						
TCF	Toulx Ste Croi	3.25	295	ePg	Pg	06 06 24.1	0.0
	SNR=1.0						
TCF				eSg	Sg	06 07 06.0	-0.2
	25nm,0.6s,SNR=1.0						
TCF	Toulx Ste Croi	3.25	295	ePn	Pn	06 06 14.4	+0.7
TCF				ePg	Pg	06 06 24.1	0.0
TCF				eSg	Sg	06 07 06.0	-0.2
DAVA	Damuels	3.29	45	⇑iPn	Pn	06 06 17.6	+3.4
DAVA				⇑iSn	Sg	06 07 03.0	-4.3
SFTF	Sexfontaines	3.34	343	eP	Pn	06 06 16.9	+1.9
	baz=154						
SFTF	Sexfontaines	3.34	343	ePg	Pg	06 06 25.2	-0.7
	baz=157						
SFTF				eSg	Sg	06 07 08.6	-0.6
	85nm,0.5s,baz=166						
SFTF	Sexfontaines	3.34	343	ePg	Pg	06 06 25.2	-0.7
SFTF				eSg	Sg	06 07 08.6	-0.6
	42nm,0.5s						
SFTF	Sexfontaines	3.34	343	eP	Pn	06 06 16.9	+1.9
SFTF				ePg	Pg	06 06 25.2	-0.7
SFTF				eSg	Sg	06 07 08.6	-0.6
CDF	Champ du Feu	3.45	9	ePg	Pg	06 06 27.3	-0.6
CDF				eSg	Sg	06 07 11.9	-0.6
	57nm,0.7s,SNR=1.0						
CDF	Champ du Feu	3.45	9	ePg	Pg	06 06 27.3	-0.6
CDF				eSg	Sg	06 07 11.9	-0.6
	28nm,0.7s,SNR=1.0						
CDF	Champ du Feu	3.45	9	ePn	Pn	06 06 15.9	-0.5
CDF				ePg	Pg	06 06 27.3	-0.6
CDF				eSg	Sg	06 07 11.9	-0.6
SPAK	Spaichingen-Ko	3.48	26	Pn	Pn	06 06 13.9	-3.0
SPAK				Pg	Pg	06 06 27.8	-0.7
MTLF	Montolieu	3.49	243	ePg	Pg	06 06 28.1	-0.6
MTLF				eSn	Sn	06 06 56.5	-2.2
	SNR=1.0						
MTLF				eSg	Sg	06 07 13.0	-0.8
	44nm,0.6s						
MTLF	Montolieu	3.49	243	ePg	Pg	06 06 28.1	-0.6
MTLF				eSn	Sn	06 06 56.5	-2.2
	SNR=1.0						
MTLF				eSg	Sg	06 07 13.0	-0.8
	22nm,0.6s						
MTLF	Montolieu	3.49	243	ePn	Pn	06 06 17.9	+0.9
MTLF				ePg	Pg	06 06 28.1	-0.6
MTLF				eSn	Sn	06 06 56.5	-2.2
MTLF				eSg	Sg	06 07 13.0	-0.8
HYF	Humbligny	3.49	312	ePg	Pg	06 06 28.3	-0.5
HYF				eSg	Sg	06 07 13.4	-0.6
RJF	Les Rejaudoux	3.52	277	ePg	Pg	06 06 28.7	-0.6
	SNR=1.0						
RJF				eSg	Sg	06 07 13.7	-1.1
	67nm,0.6s,SNR=1.0						
RJF	Les Rejaudoux	3.52	277	ePg	Pg	06 06 28.7	-0.6
	SNR=1.0						
RJF				eSg	Sg	06 07 13.7	-1.1
	34nm,0.6s,SNR=1.0						
RJF	Les Rejaudoux	3.52	277	ePn	Pn	06 06 18.8	+1.4
RJF				ePg	Pg	06 06 28.7	-0.6
RJF				eSg	Sg	06 07 13.7	-1.1
BFO	Black Forest	3.56	20	ePn	Pn	06 06 18.2	+0.2
BFO	Black Forest	3.56	20	ePg	Pg	06 06 29.5	-0.5
BFO	Black Forest	3.56	20	ePn	Pn	06 06 18.2	+0.3
BFO				ePg	Pg	06 06 29.5	-0.6
BFO				eSg	Sg	06 07 14.7	-1.4
FETA	Feichten	3.58	54	⇑iPn	Pn	06 06 20.0	+1.7
FETA	Feichten	3.58	54	Pn	Pn	06 06 20.0	+1.7
FETA				Sn	Sn	06 07 07.2	+6.1
MEZF	Maizieres J'vi	3.62	345	ePg	Pg	06 06 30.4	-0.9
	baz=162,SNR=1.0						
MEZF				eSg	Sg	06 07 17.6	-0.7
	106nm,0.5s,SNR=1.0						
MEZF	Maizieres J'vi	3.62	345	ePg	Pg	06 06 30.4	-0.9
	SNR=1.0						
MEZF				eSg	Sg	06 07 17.6	-0.7
	53nm,0.5s,SNR=1.0						
MEZF	Maizieres J'vi	3.62	345	ePn	Pn	06 06 19.0	+0.1
MEZF				ePg	Pg	06 06 30.4	-0.9
MEZF				eSg	Sg	06 07 17.6	-0.7
EJON	La Jonquera	3.65	227	Pn	Pn	06 06 21.9	+2.7
	1.3nm,0.2s,SNR=7.9						
EJON	La Jonquera	3.65	227	Pg	Pg	06 06 32.0	+0.2
	11nm,0.5s,SNR=7.9						
EJON				Sn	Sn	06 07 01.1	-1.6
	6.5nm,0.3s,SNR=7.9						
EJON	La Jonquera	3.65	227	Pn	Pn	06 06 21.9	+2.7
EJON				Pg	Pg	06 06 32.0	+0.2
EJON				Sn	Sn	06 07 01.1	-1.6
EJON				Lg		06 07 20.9	
RFYF	Reffroy	3.68	350	eP	Pn	06 06 22.6	+2.9
	baz=160						
RFYF				eSg	Sg	06 07 19.0	-1.1
	53nm,0.3s,baz=168						
RFYF	Reffroy	3.68	350	eP	Pn	06 06 22.6	+2.9
RFYF				eSg	Sg	06 07 19.0	-1.1
	26nm,0.3s						
MOTA	Moosalm	3.97	52	⇑iPn	Pn	06 06 25.5	+1.8
MOTA				⇓iSn	Sn	06 07 13.2	+2.5
MOTA	Moosalm	3.97	52	Pn	Pn	06 06 25.5	+1.8
MOTA				Sn	Sn	06 07 16.6	+5.8
LFF	La Frestale	4.07	271	ePg	Pg	06 06 38.4	-1.4
LFF				eSg	Sg	06 07 30.4	-2.1
	75nm,0.5s,SNR=1.0						
LFF	La Frestale	4.07	271	ePg	Pg	06 06 38.4	-1.4
LFF				eSg	Sg	06 07 30.4	-2.1
	37nm,0.5s,SNR=1.0						
LFF	La Frestale	4.07	271	ePn	Pn	06 06 25.8	+0.8
LFF				ePg	Pg	06 06 38.4	-1.4
LFF				eSg	Sg	06 07 30.4	-2.1
STU	Stuttgart	4.20	25	ePn	Pn	06 06 23.8	-3.0
STU	Stuttgart	4.20	25	ePg	Pg	06 06 40.7	-1.6
STU	Stuttgart	4.20	25	ePn	Pn	06 06 23.8	-3.0
STU				ePg	Pg	06 06 40.7	-1.6
STU				eSg	Sg	06 07 37.5	+0.8
WTTA	Wattenberg	4.24	56	⇑iPn	Pn	06 06 28.6	+1.3
EPF	Esparros	4.84	248	ePg	Pg	06 06 52.7	-2.0
EPF				eSg	Sg	06 07 56.2	-1.2
	20nm,0.5s						
EPF	Esparros	4.84	248	ePg	Pg	06 06 52.7	-2.0
EPF				eSg	Sg	06 07 56.2	-1.2
	10nm,0.5s						
EPF	Esparros	4.84	248	ePn	Pn	06 06 35.7	0.0
EPF				ePg	Pg	06 06 52.7	-2.0
EPF				eSg	Sg	06 07 56.2	-1.2
MFF	Saint Martin d	4.89	291	ePn	Pn	06 06 37.2	+0.9
	SNR=1.0						
MFF				eSg	Sg	06 07 56.6	-2.4
	21nm,0.6s,SNR=1.0						
MFF	Saint Martin d	4.89	291	ePn	Pn	06 06 37.2	+0.9
	SNR=1.0						
MFF				eSg	Sg	06 07 56.6	-2.4
	10nm,0.6s,SNR=1.0						
EBIE	Bielsa	5.13	245	Pn	Pn	06 06 42.6	+3.0
	7.5nm,0.4s,SNR=9.1						
EBIE				Sn	Sn	06 07 39.9	+0.5
	4.7nm,0.4s,SNR=14						
EBIE	Bielsa	5.13	245	Pn	Pn	06 06 42.6	+3.0
EBIE				Sn	Sn	06 07 39.9	+0.5
EBIE				Lg		06 08 09.2	
TRI	Trieste	5.19	80	ePn	Pn	06 06 40.9	+0.6
	9.0nm,0.4s						
TRI				eSn	Sn	06 07 36.3	-4.4
TRI	Trieste	5.19	80	ePn	Pn	06 06 40.9	+0.5
	9.0nm,0.4s						
TRI				eSn	Sn	06 07 36.3	-4.4
GIVF	Givet	5.21	348	ePn	Pn	06 06 41.4	+0.7
	SNR=1.0						
GIVF				eSg	Sg	06 08 06.7	-2.5
	38nm,0.7s						
GIVF	Givet	5.21	348	ePn	Pn	06 06 41.4	+0.7
	SNR=1.0						
GIVF				eSg	Sg	06 08 06.7	-2.5
	19nm,0.7s						
BAIF	Baives	5.28	344	ePn	Pn	06 06 42.5	+0.9
	SNR=1.0						
BAIF				eSg	Sg	06 08 08.9	-2.4
	20nm,0.7s,SNR=1.0						
BAIF	Baives	5.28	344	ePn	Pn	06 06 42.5	+0.9
	SNR=1.0						
BAIF				eSg	Sg	06 08 08.9	-2.4
	9.9nm,0.7s,SNR=1.0						
VOY	Vojsko	5.32	76	e(Pn)	Pn	06 06 43.0	+0.9
VOY				eSn	Sn	06 07 44.8	+1.0
EPOB	Poblet	5.38	229	Pn	Pn	06 06 45.7	+2.7
	1.4nm,0.2s,SNR=7.9						
EPOB				Sn	Sn	06 07 44.8	-0.6
	5.0nm,0.5s,SNR=7.9						
EPOB	Poblet	5.38	229	Pn	Pn	06 06 45.7	+2.7
EPOB				Sn	Sn	06 07 44.8	-0.6
ETSF	Etsaut	5.50	250	eP	Pn	06 06 48.5	+3.9
ETSF				eSg	Sg	06 08 17.1	-1.3
	11nm,0.4s						
ETSF	Etsaut	5.50	250	eP	Pn	06 06 48.5	+3.9
ETSF				eSg	Sg	06 08 17.1	-1.3
	5.7nm,0.4s						
LDF	La Druitiere	5.77	311	ePn	Pn	06 06 46.5	-1.9
	SNR=1.0						
LDF				eSg	Sg	06 08 25.4	-1.7
	39nm,0.6s						
LDF	La Druitiere	5.77	311	ePn	Pn	06 06 46.5	-1.9
	SNR=1.0						
LDF				eSg	Sg	06 08 25.4	-1.7
	20nm,0.6s						
SJPF	Ste Jean	5.86	254	ePn	Pn	06 06 49.3	-0.3
SJPF				eSg	Sg	06 08 26.8	-3.3
	11nm,0.7s,SNR=1.0						
ETOS	Mallorca	5.90	209	Pn	Pn	06 06 51.6	+1.5
	0.9nm,0.4s,SNR=4.0						
ETOS				Sn	Sn	06 07 56.5	-1.7
	2.0nm,0.4s,SNR=4.0						
ETOS	Mallorca	5.90	209	Pn	Pn	06 06 51.6	+1.5
ETOS				Sn	Sn	06 07 56.5	-1.7
VSL	Villasalto	5.92	158	ePn	Pn	06 06 52.3	+1.9
VSL				eSn	Sn	06 07 56.9	-1.8
VSL	Villasalto	5.92	158	ePn	Pn	06 06 52.3	+1.9
VSL				eSn	Sn	06 07 56.9	-1.8
EORO	Oroz-Betelu	6.00	252	Pn	Pn	06 06 53.2	+1.6
	3.1nm,0.3s,SNR=7.1						
EORO				Sn	Sn	06 08 00.3	-0.5
	4.9nm,0.3s,SNR=5.6						
EALK	Alkurruntz	6.02	255	Pn	Pn	06 06 53.5	+1.8
	5.3nm,0.4s,SNR=4.0						
ERTA	Horta de San J	6.06	230	Pn	Pn	06 06 54.5	+2.2
	2.4nm,0.4s,SNR=7.9						
ERTA				Sn	Sn	06 07 59.8	-2.3
	2.8nm,0.3s,SNR=7.9						
ERTA	Horta de San J	6.06	230	Pn	Pn	06 06 54.5	+2.2
ERTA				Sn	Sn	06 07 59.8	-2.3
FLN	La Foliniere	6.06	311	ePn	Pn	06 06 51.9	-0.5
	baz=129						
FLN				eSg	Sg	06 08 33.9	-2.6
	15nm,0.5s						
FLN	La Foliniere	6.06	311	ePn	Pn	06 06 51.9	-0.5
FLN				eSg	Sg	06 08 33.9	-2.6
	7.4nm,0.5s						
GRR	Gorron	6.07	306	ePn	Pn	06 06 53.3	+0.9
	SNR=1.0						
GRR				eSg	Sg	06 08 33.6	-3.0
	7.1nm,0.4s,SNR=1.0						
GRR	Gorron	6.07	306	ePn	Pn	06 06 53.3	+0.9
	SNR=1.0						
GRR				eSg	Sg	06 08 33.6	-3.0
	3.5nm,0.4s,SNR=1.0						
IPRE	Itoiz	6.07	251	Pn	Pn	06 06 56.0	+3.5
	0.9nm,0.2s,SNR=4.0						
IPRE				Sn	Sn	06 08 01.4	-1.0
	4.4nm,0.4s,SNR=4.0						
MOA	Molln	6.09	59	⇓iPn	Pn	06 06 52.5	-0.2
IUSE	Utxeti	6.14	253	Pn	Pn	06 06 55.9	+2.4
	1.5nm,0.2s,SNR=7.9						
IUSE				Sn	Sn	06 08 03.3	-0.9
	4.0nm,0.3s,SNR=4.8						
GEC2	GERESS Array S	6.26	50	ePn	Pn	06 06 54.6	-0.5
GEC2	GERESS Array S	6.26	50	ePn	Pn	06 06 54.6	-0.5
GEC2				ePg	Pg	06 07 25.1	+3.3
GEC2				eSn	Sn	06 08 07.2	+0.1
KHC	Kasperske Hory	6.37	47	Pn	Pn	06 06 58.5	+2.0
KHC				Sn	Sn	06 08 08.4	-1.3
KHC				Sg	Sg	06 08 44.9	-1.3
	8.3nm,0.7s						
KHC	Kasperske Hory	6.37	47	ePN	Pn	06 06 58.5	+2.0
KHC				ePG	Pg	06 07 27.0	+3.2
KHC				eSN	Sn	06 08 08.4	-1.3
KHC				ex	x	06 08 18.5	
KHC				eSG	Sg	06 08 44.9	-1.3
	8.3nm,0.7s						
KHC	Kasperske Hory	6.37	47	ePn	Pn	06 06 58.5	+2.0
	8.3nm,0.7s						
KHC				e		06 07 27.0	
KHC				eSn	Sn	06 08 08.4	-1.3
KHC				e		06 08 18.5	
KHC				eSg	Sg	06 08 44.9	-1.3
NKC	Novy Kostel	6.60	36	eSG	Sg	06 08 52.4	-1.3
MOX	Moxa	6.61	30	ePG	Pg	06 07 30.0	+1.5
MOX				eSG	Sg	06 08 56.7	+2.6
EMOS	Mosqueruela	6.91	230	Pn	Pn	06 07 06.4	+2.4
	0.6nm,0.2s,SNR=7.9						
EMOS	Mosqueruela	6.91	230	Pn	Pn	06 07 06.4	+2.4
SGMF	Saint Gilles	7.01	301	ePn	Pn	06 07 04.7	-0.7
SGMF				eSg	Sg	06 09 03.7	-3.1
	16nm,0.7s						
SGMF	Saint Gilles	7.01	301	ePn	Pn	06 07 04.7	-0.7
SGMF				eSg	Sg	06 09 03.7	-3.1
	7.8nm,0.7s						
QUIF	Quistinic	7.26	297	ePn	Pn	06 07 07.7	-1.1
ELAN	Lanestosa	7.35	259	Pn	Pn	06 07 11.9	+1.9
	1.0nm,0.3s,SNR=7.9						
ELAN				Sn	Sn	06 08 31.8	-2.1
	1.0nm,0.4s,SNR=7.9						
ELAN	Lanestosa	7.35	259	Pn	Pn	06 07 11.9	+1.9
ELAN				Sn	Sn	06 08 31.8	-2.1
PRU	Pruhonice	7.39	45	eSG	Sg	06 09 18.5	-0.5
	13nm,1.1s						
ROSF	Rostrenen	7.48	300	ePn	Pn	06 07 11.1	-0.7
CLL	Collm	7.66	32	ePn	Pn	06 07 10.0	-4.3
CLL				ex	x	06 07 51.0	
CLL				eSg	Sg	06 09 29.0	+1.3
CLL				ex	x	06 09 44.0	
	comp=Z,29nm,1.6s						
CLL	Collm	7.66	32	ePn	Pn	06 07 10.0	-4.3
CLL				eSg	Sg	06 09 29.0	+1.3
BRG	Berggiesshubel	7.71	38	SG	Sg	06 09 30.2	+0.8
	comp=Z,6.2nm,0.9s						
BRG	Berggiesshubel	7.71	38	e	Pg	06 07 51.5	+2.0
MODS	Modra-Piesok	8.15	62	ePN	Pn	06 07 21.9	+0.8
EARI	Arriondas	8.57	263	Pn	Pn	06 07 27.7	+0.9
	comp=Z,0.6nm,0.2s,SNR=6.0						
EARI	Arriondas	8.57	263	Pn	Pn	06 07 27.7	+0.9
EARI				Sn	Sn	06 09 00.2	-3.8
MORC	Moravsky Berou	8.89	54	Pn	Pn	06 07 31.1	-0.1
MORC	Moravsky Berou	8.89	54	Pn	Pn	06 07 31.1	-0.1
MORC				eSn	Sn	06 09 18.6	+6.9
ECAL	Calabor	10.08	257	Pn	Pn	06 07 48.7	+1.2
	comp=Z,2.2nm,0.4s,SNR=7.9						
ECAL	Calabor	10.08	257	Pn	Pn	06 07 48.7	+1.2
	comp=Z,2.2nm,0.4s						
ESK	Eskdalemuir	12.02	333	ePn	Pn	06 08 13.6	-0.4
BR131	Keskin Array S	20.71	95	P	P	06 10 07.6	+4.4
BR131	Keskin Array S	20.71	95	P	P	06 10 07.6	+4.4

NEIC 05 06:28:12.7,3159N×11441W,h12km,ML3.1(ECX),After ECX.

ECX 05 06:28:12.7±0.4,3159N×11441W,h12km,MD3.1,ML3.1, 2C-1D,Gulf of California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ECBX	El Chinero	0.56	258	eP	Pg	06 28 22.5	-1.1
ECBX				eS	Sg	06 28 30.3	-0.7
EMX	El Mayor	0.81	300	⇑eP	Pg	06 28 26.9	-1.5
EMX				eS	Sg	06 28 38.1	-1.0
EMX				⇓e		06 28 51.2	
	comp=E,461nm,0.6s						
SPX	San Pedro Mart	1.05	239	eP	Pb	06 28 31.4	-1.5
SPX				eS	Sb	06 28 45.6	-0.9
RDX	Rancho Dowling	1.35	285	ePN	Pn	06 28 36.6	-0.8
GLA	Glamis	1.50	347	ePn	Pn	06 28 38.0	-1.4
GLA				eSn	Sn	06 28 57.5	-1.4
ENX	Ensenada	1.94	279	ePN	Pn	06 28 45.4	-0.1
ENX				⇑e		06 29 23.9	
	comp=E,138nm,1.3s						
BAR	Barrett	2.21	300	ePn	Pn	06 28 47.4	-1.7
PFO	Pinyon Flat Ob	2.65	320	P	Pn	06 29 05.0	+10
TUC	Tucson	3.17	76	ePn	Pn	06 29 00.8	-1.5
TUC				eSg	Sg	06 29 51.5	-2.9

IDC 05 06:42:58.4±14.0,1777S×17900W,h612km±142km, mb3.3/4,mb1 3.5/4,mb1mx3.1/16,mbtmp3.3/4,Error ellipse: s-maj=101.9km s-min=49.6km az=77.0,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	Stephens Creek	38.20	241	P	P	06 49 28.1	+0.4
	3.4nm,0.7s,baz=87,slow=9.4,SNR=7.2						
WB2	Warramunga Arr	44.09	259	eP	P	06 50 13.5	-0.7
WRA	Warramunga Arr	44.10	259	P	P	06 50 13.7	-0.6
	1.9nm,0.7s,baz=92,slow=6.9,SNR=68						
WRA				PcP	PcP	06 51 45.7	0.0
	0.2nm,0.7s,baz=92,slow=3.4,SNR=5.4						
ASAR	Alice Springs	44.28	254	P	P	06 50 15.8	+0.2
	16nm,0.6s,baz=89,slow=8.2,SNR=307						
ASAR				PcP	PcP	06 51 46.4	+0.1
	0.6nm,0.4s,baz=96,slow=3.9,SNR=4.7						
KAKA	Kakadu	47.02	269	eP	P	06 50 36.6	+0.1
	3.4nm,0.4s						
MAW	Mawson	83.80	200	P	P	06 54 23.6	-0.6
	0.4nm,0.4s,baz=127,slow=5.1,SNR=2.5						
GERES	GERESS Array B	147.33	344	PKPbc	PKPbc	07 01 34.0	-0.2
	0.6nm,0.4s,baz=21,slow=3.4,SNR=5.0						

NNC 05 06:50:08.6±3.9,5435N×8621E,h0km,mb3.5,mpv3.1, Error ellipse: s-maj=32.0km s-min=21.5km az=58.0

IDC 05 06:50:12.1±2.0,5422N×8602E,h0km,mb1 3.3/3, mb1mx3.2/26,mbtmp3.3/3,ML3.1/3,Error ellipse: s-maj=16.4km s-min=2.9km az=69.0

ISC 05 06:50:12.9±2.3,544N±01×860E±02,h10km,n7,σ1s10/11, 6C-2D,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZALV	Zalesovo Beam	0.82	240	Pg	Pg	06 50 25.8	-2.9
	1.7nm,0.3s,baz=65,slow=16,SNR=11						
ZALV				Lg		06 50 37.4	
	3.4nm,0.3s,baz=45,slow=21,SNR=20						
ZALV				Rg		06 50 40.5	
	19nm,0.5s,baz=73,slow=28,SNR=34						
KURK	Kurchatov	5.81	234	Pn	Pn	06 51 40.5	+1.5
	0.3nm,0.3s,baz=51,slow=14,SNR=11						
KURK				Lg		06 53 19.8	
	0.1nm,0.3s,baz=24,slow=20,SNR=4.5						
KURBB	Kurchatov Arra	5.91	234	⇑Pn	Pn	06 51 41.1	+0.8
	0.3nm,0.3s,baz=51,slow=14						
KURBB				⇑Sn	Sn	06 52 49.1	+1.0
	0.6nm,0.7s						
KURBB				⇑Lg		06 53 20.7	
	1.1nm,0.7s,baz=43,slow=19						
MK31	Makanchi Array	7.94	199	⇓Pn	Pn	06 52 07.6	-0.6
	1.5nm,0.7s,baz=26,slow=12,SNR=11						
MK31				⇑Sn	Sn	06 53 42.8	+4.7
	1.2nm,0.8s,baz=282,slow=22,SNR=2.5						
MK31				⇑Lg		06 54 20.8	
	4.4nm,1.2s,baz=18,slow=27,SNR=5.4						
MKAR	Makanchi Array	7.94	199	Pn	Pn	06 52 07.6	-0.7
	0.3nm,0.3s,baz=23,slow=13,SNR=13						
MKAR				Sn	Sn	06 53 32.6	-5.5
	baz=32,slow=27,SNR=2.9						
MKAR				Lg		06 54 21.5	
	0.1nm,0.3s,baz=33,slow=32,SNR=3.3						
VOSK	Vostochnaya	9.10	266	⇓Pn	Pn	06 52 23.6	-0.5
	0.9nm,0.6s						
VOSK				⇑Sn	Sn	06 54 05.8	-0.7
	1.9nm,0.8s						
BVAR	Borovoye Array	9.37	268	Pn	Pn	06 52 28.6	+0.8
	0.1nm,0.3s,baz=68,slow=13,SNR=3.0						

NEIC 05 06:52:06.4,5447N×16157W,h14km,ML3.5(AEIC),After AEIC.,Alaska Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SDPT	Sand Point	1.08	35	P	Pb	06 52 25.4	-1.4
SDPT				S	Sb	06 52 40.0	-0.8
FALS	False Pass	1.14	291	P	Pb	06 52 26.8	-1.0
FALS				S	Sb	06 52 43.1	+0.6
UNV	Unalaska Valle	2.97	260	ePn	Pn	06 52 52.0	-0.9
PPLA	Purkeypile	9.75	26	ePn	Pn	06 54 27.4	+1.5

ISCJB 05 06:52:58.2±1.8,25S±03×1005E±04,h42km,mb4.0/9, Error ellipse: s-maj=75.7km s-min=11.5km az=146.2

NEIC 05 06:52:58.6±1.7,263S×10032E,h35km,mb4.2/2,Error ellipse: s-maj=72.6km s-min=11.5km az=56.0

IDC 05 06:53:02.2±2.1,223S×10085E,h41km±6km,mb3.7/9, mb1 3.8/9,mb1mx3.6/22,mbtmp3.7/9,Error ellipse: s-maj=92.7km s-min=12.8km az=57.0

ISC 05 06:53:00.5±1.8,25S±03×1005E±04,h44km, h44km±2.8km:pP-P,n16,σ1s03/14,mb4.0/9,Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	20.86	356	P	P	06 57 38.3	-0.5
	0.7nm,0.3s,baz=190,slow=14,SNR=4.4						
FITZ	Fitzroy Crossi	29.13	124	P	P	06 58 57.4	-0.1
	0.6nm,0.7s,mb3.5,baz=290,slow=12,SNR=3.3						
WRA	Warramunga Arr	37.32	120	P	P	07 00 08.7	-0.1
	1.6nm,0.4s,mb4.2,baz=303,slow=8.9,SNR=39						
WRA				pP	pP	07 00 21.1	+0.3
	0.6nm,0.5s,baz=299,slow=8.6,SNR=4.1						
WB2	Warramunga Arr	37.33	120	eP	P	07 00 08.5	-0.4
WB2	Warramunga Arr	37.33	120	eP	P	07 00 08.2	-0.7
ASAR	Alice Springs	38.57	126	P	P	07 00 19.8	+0.5
	1.7nm,0.5s,mb4.0,baz=302,slow=7.9,SNR=36						
ASAR				pP	pP	07 00 32.9	+1.6
	1.4nm,0.5s,baz=300,slow=8.3,SNR=7.7						
ASAR				pPcP		07 02 46.7	
	0.3nm,0.5s,baz=303,slow=2.7,SNR=4.1						
CTA	Charters Tower	47.94	115	P	P	07 01 35.0	0.0
	1.0nm,0.4s,mb4.2,baz=309,slow=6.5,SNR=2.3						
STKA	Stephens Creek	48.46	132	P	P	07 01 41.4	+2.6
	0.8nm,0.3s,mb4.2,baz=323,slow=18,SNR=3.8						
STKA	Stephens Creek	48.46	132	eP	P	07 01 37.2	-1.7
	0.9nm,0.5s,mb4.1						
UCH	Uchtor	50.34	335	eP	P	07 01 51.4	-1.6
	2.8nm,0.9s,mb4.3						
SONM	Songino Array	50.37	5	P	P	07 01 53.1	0.0
	0.7nm,0.5s,mb4.0,baz=203,slow=9.6,SNR=4.0						
SONM				pP	pP	07 02 05.3	-0.2
	0.5nm,0.4s,baz=188,slow=8.7,SNR=2.8						
MKAR	Makanchi Array	51.62	344	P	P	07 02 03.0	+0.5
	0.7nm,0.6s,mb3.8,baz=145,slow=8.4,SNR=5.5						
MKAR				pP	pP	07 02 14.4	-0.5
	1.8nm,0.6s,baz=148,slow=8.6,SNR=8.4						
MKAR	Makanchi Array	51.62	344	P	P	07 02 03.0	+0.5
MKAR				pP	pP	07 02 14.4	-0.5
ZALV	Zalesovo Beam	57.73	349	P	P	07 02 49.0	+2.4
	0.7nm,0.3s,mb4.2,baz=168,slow=2.8,SNR=2.1						
ZALV				pP	pP	07 02 59.0	-0.2
	1.3nm,0.4s,baz=175,slow=5.1,SNR=2.9						
TXAR	Lajitas Array	144.77	38	PKP	PKPdf	07 12 33.0	-0.2

0.4nm,0.4s,baz=212,slow=1.6,SNR=14
TXAR pPKP pPKPdf 07 12 46.2 -0.8
1.4nm,0.8s,baz=292,slow=1.4,SNR=9.5
TXAR Lajitas Array 144.77 38 PKP PKPdf 07 12 33.0 -0.2
TXAR pPKP pPKPdf 07 12 46.2 -0.8

IDC 05 07:02:15.9±8.4**,557N×9280E,h0km,mb3.8**/3**,mb1 3.9**/3**, mb1mx3.5**/20**,mbtmp3.8**/3**,Error ellipse: s-maj=385.0km s-min=13.9km az=57.0,Off west coast of northern Sumatera**

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
MKAR Makanchi Array 42.06 349 P P 07 10 09.4 +0.1
0.9nm,0.6s,baz=165,slow=9.0,SNR=8.7
WRA Warramunga Arr 48.07 123 P P 07 10 57.5 0.0
0.2nm,0.4s,baz=299,slow=8.7,SNR=5.8
ZALV Zalesovo Beam 48.67 354 P P 07 11 01.1 -0.5
1.1nm,0.4s,baz=165,slow=7.0,SNR=3.2

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*IDC **05** 07:16:30.6±2.9,266S×14069E,h0km,mb3.5/4,mb1 3.7/5, mb1mx3.6/14,mbtmp3.6/5,ML3.6/1,Error ellipse: s-maj=96.0km s-min=25.1km az=94.0*
*NEIC **05** 07:16:31.1±0.4,272S×14101E,h10km,mb4.4/1,Error ellipse: s-maj=16.1km s-min=9.5km az=109.0*
*ISCJB **05** 07:16:32.1±6.4,28S±0.1×1410E±0.1,h31km±48km, mb3.6/5,Error ellipse: s-maj=27.4km s-min=14.2km az=29.3*
ISC 05 07:16:32.0±6.2**,273S**±010×**1410E**±02**,h15**km±40km**,n9,** σ**0s68**/10**,mb3.6**/5**,Near north coast of New Guinea**

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
KAKA Kakadu 13.05 220 *e*Pn **Pn 07 19 37.7 +0.7**
12nm,0.7s
KAKA *e*Sn **Sn 07 22 02.3 +0.3**
WRA Warramunga Arr 18.31 200 P **Pn 07 20 45.2 -0.4**
0.2nm,0.3s,baz=20,slow=12,SNR=18
FITZ Fitzroy Crossi 21.46 224 P **P 07 21 19.8 -0.3**
0.9nm,0.6s,mb3.2,baz=42,slow=14,SNR=3.7
ASAR Alice Springs 21.92 198 P **P 07 21 24.4 -0.5**
0.5nm,0.7s,mb3.1,baz=27,slow=10,SNR=6.3
DZM Mont Dzumac 31.30 130 P **P 07 22 52.3 +0.5**
ULN Ulaanbaatar 58.47 334 P **P 07 26 28.7 +1.3**
2.3nm,0.7s,mb4.3
MK31 Makanchi Array 71.22 322 P **P 07 27 49.3 -1.2**
MKAR Makanchi Array 71.22 322 P **P 07 27 50.7 +0.2**
0.3nm,0.4s,mb3.6,baz=116,slow=5.5,SNR=4.9
ZALV Zalesovo Beam 73.12 329 P **P 07 28 01.3 -0.4**
0.7nm,0.5s,mb3.9,baz=103,slow=6.2,SNR=3.6

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*ORF **05** 07:16:54.4,2850S×17764W,h30km,mb6.5*
*DJA **05** 07:17:29,25.19S×17949W,h300km,Mw5.9/42*
*MOS **05** 07:17:51.4±1.1,2499S×17947E,h491km,mb6.0/43, MS5.4/10,Error ellipse: s-maj=7.9km s-min=6.3km az=49.8*
*BJI **05** 07:17:51.8,2459S×17966E,h494km,mB5.6,mb5.6*
*IDC **05** 07:17:51.8±0.5,25.12S×17949E,h498km±5km,mb5.2/29, mb1 5.3/33,mb1mx5.3/33,mbtmp5.2/33,Error ellipse: s-maj=7.6km s-min=5.4km az=3.0*
*NEIC **05** 07:17:52.8±0.5,25.19S×17946E,h509km±5km,mb6.0/134, ME5.9,MW6.4,Error ellipse: s-maj=5.2km s-min=3.6km az=159.0,Moment Tensor Solution. s51 Moment tensor: Scale 10^18Nm; Mrr3.44; Mθθ-2.80; Mφφ-0.64; Mrθ0.54; Mθφ-1.95; Mφr-3.57; Best double couple: M0 5.20000×10^18 NP1:φs83.00000°,δ40.00000°,λ139.00000°. NP2: φs206.00000°,δ65.00000°,λ57.00000°. Principal axes: T 5.7600, Plg56.0000°, Azm71.0000°; N -1.4800, Plg29.0000°, Azm221.0000°; P -4.2900, Plg13.0000°, Azm319.0000°; Depth from broadband displacement seismograms. Energy computed from CMT mechanism.*
*GCMT **05** 07:17:52.8±0.1,2527S×17950E,h541km,MW6.5/116, Moment Tensor Solution. s116,c306; s105,c197; Duration: 4s3 Moment tensor: Scale 10^18Nm; Mrr3.54±.03; Mθθ-4.61±.04; Mφφ1.07±.04; Mrθ-0.25±.04; Mθφ-3.46±.04; Mφr-4.07±.04; Best double couple: M0 6.78500×10^18 NP1:φs98.00000°,δ47.00000°, λ148.00000°. NP2:φs211.00000°,δ68.00000°,λ48.00000°. Principal axes: T 6.8870, Plg49.0000°, Azm75.0000°; N -0.2040, Plg38.0000°, Azm230.0000°; P -6.6830, Plg12.0000°, Azm330.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to mantle waves, cutoff=125s.*
*ISCJB **05** 07:17:53.2±0.1,25.17S±003×17941E±002,h519km, mb5.9/158 Error ellipse: s-maj=3.9km s-min=2.5km az=158.1*
*SZGRF **05** 07:17:55.0,25.19S×17982W,h537km,South of Fiji Islands*
*BGS **05** 07:17:56.8±1.2,2286S×17777E,h509km,mb6.0(NEIC)*
ISC 05 07:17:54.3±0.1**,2520S**±003×**17945E**±002**,h521**km**, h521**km±2.2km**:pP-P,n1683,**σ**0s77**/890**,mb5.9**/152**, 385C-268D,South of Fiji Islands**

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
RAO Raoul Island 4.67 150 P **P 07 19 19.5 0.0**
4μm,0.3s,baz=252,slow=3.9,SNR=91
RAO S **S 07 20 23.6 -5.5**
baz=60,slow=19,SNR=1.5
RAO Raoul Island 4.67 150⇓*e*P **P 07 19 19.2 -0.2**
RAO *e*S **S 07 20 25.2 -3.9**
DZM Mont Dzumac 12.32 282⇑*e*P **P 07 20 38.5 +2.4**
URZ Urewera 13.17 188 P **P 07 20 42.0 -2.9**
28nm,0.3s,baz=8.4,slow=3.5,SNR=103
URZ S **S 07 23 04.0 -1.4**
72nm,0.3s,baz=36,slow=22,SNR=12
AFI Afiamalu 13.94 38 P **P 07 20 48.4 -4.8**
82nm,0.3s,baz=32,slow=5.8,SNR=109
AFI S **S 07 23 11.2 -9.5**
89nm,0.3s,baz=43,slow=20,SNR=3.5
AFI Afiamalu 13.94 38 P **P 07 20 48.4 -4.8**
AFI S **S 07 23 11.2 -9.5**
AFI pmax pmax
comp=Z,82nm,0.3s
AFI smax
comp=N,89nm,0.3s
AFI Afiamalu 13.94 38 *e*P **P 07 20 47.3 -5.9**
comp=N,808nm,0.6s
AFI *e*S **S 07 23 08.9 -12**
SNZO South Karori 16.55 193⇑*e*P **P 07 21 17.7 -2.2**
SNZO *e*S **S 07 24 00.5 -7.5**
SNZO *e*ScP ScP 07 28 21.8 -0.8
FUNA Funafuti 16.58 359⇓*e*P **P 07 21 17.4 -3.2**
comp=N,1μm,0.8s
FUNA *e*S **S 07 24 07.8 -1.6**
RAR Rarotonga 19.50 83 P **P 07 21 44.7 -2.7**
comp=N,36nm,0.3s,baz=242,slow=7.8,SNR=60
RAR S **S 07 24 59.1 +2.3**
comp=N,1.7nm,0.3s,baz=339,slow=6.9,SNR=1.6
RAR ScP ScP 07 28 31.1 +1.7
comp=N,0.8nm,0.3s,baz=260,slow=4.8,SNR=4.8
RAR Rarotonga 19.50 83 P **P 07 21 44.7 -2.7**
RAR S **S 07 24 59.1 +2.3**
RAR pmax pmax
comp=Z,36nm,0.3s
RAR smax
comp=N,2.0nm,0.3s
RAR pmax pmax
comp=N,1.0nm,0.3s
RAR Rarotonga 19.50 83 *e*P **P 07 21 44.0 -3.3**
RAR *e*ScP ScP 07 28 28.9 -0.5
RPZ Rata Peaks 19.71 198 P **P 07 21 47.4 -1.4**
comp=N,58nm,0.3s,baz=15,slow=2.8,SNR=50
RPZ S **S 07 25 01.0 +1.6**
comp=N,19nm,0.3s,baz=108,slow=12,SNR=4.6
HNR Honiara 24.28 307 P **P 07 22 28.4 -2.0**
comp=N,900nm,0.7s,mb6.5,baz=163,slow=3.8,SNR=43
HNR S **S 07 26 10.8 -1.8**
comp=N,44nm,0.7s,baz=189,slow=12,SNR=1.9
HNR ScP ScP 07 28 45.0 +3.2
comp=N,73nm,0.5s,baz=223,slow=3.8,SNR=6.5
HNR Honiara 24.28 307⇓*e*P **P 07 22 28.3 -2.1**
HNR *e*S **S 07 26 09.7 -2.9**
HNR pmax pmax
comp=Z,4μm,1.2s,mb6.9
HNR Honiara 24.28 307⇓*e*P **P 07 22 28.3 -2.1**
comp=Z,4μm,1.2s,mb6.9
HNR *e*S **S 07 26 09.7 -2.9**
HNR *e*ScP ScP 07 28 43.4 +1.6
ARMA Armidale 25.12 252 *e*P **P 07 22 39.1 +1.5**
ARMA *e* 07 22 44.3
ARMA *e* 07 23 00.0
ARMA *e* 07 25 01.9
ARMA *e* 07 26 30.7
ARMA *i* SCP ScP 07 28 48.0 +4.0
ARMA *e*SCS ScS 07 32 37.8 +4.3
ARMA *e* 07 55 28.7
CNB Canberra Magne 27.78 242 *e*P **P 07 23 02.6 +1.7**
CNB *e*pP 07 24 30.4
CNB *e*PCP PcP 07 26 03.4 +2.9
CNB *e*S **S 07 27 12.3 +5.4**
CNB *e*SCP ScP 07 28 54.9 +3.0
CNB *e*SCS ScS 07 32 49.2 +4.0
CAN Canberra 28.07 242⇓*e*P **P 07 23 04.8 +1.3**
CAN *e*pP 07 24 30.0
CAN *e*ScP ScP 07 28 55.4 +2.7
TBI Tubuai 28.37 93 *e*P **P 07 23 05.2 -1.1**
comp=Z,1μm,0.8s,mb6.6
PAE Paea 29.74 82 *e*P **P 07 23 16.6 -1.7**
comp=Z,7μm,1.2s,mb7.0
PAE *e*ScP ScP 07 28 58.6 +0.2
comp=Z,1μm,1.3s
PPT Papeete 29.78 81 *e*P **P 07 23 17.2 -1.4**
comp=Z,1μm,1.4s,mb6.2
PPT *e*ScP ScP 07 28 58.7 +0.1
comp=Z,207nm,1.4s
PPT Papeete 29.78 81 P **P 07 23 16.4 -2.1**
comp=Z,382nm,0.6s,mb6.1,baz=216,slow=4.0,SNR=57
PPT ScP ScP 07 29 01.0 +2.5
comp=Z,74nm,0.9s,baz=57,slow=2.6,SNR=5.6
TIAR Tiarei 29.99 82 *e*P **P 07 23 19.0 -1.4**
comp=Z,19μm,1.2s
TIAR *e*ScP ScP 07 28 59.3 +0.1
comp=Z,1μm,1.2s
TVO Taravao 30.00 82 *e*P **P 07 23 18.7 -1.7**
comp=Z,8μm,1.1s,mb7.2
TVO *e*ScP ScP 07 28 59.5 +0.2
comp=Z,2μm,1.2s
CTA Charters Tower 31.00 273 *e*P **P 07 23 29.6 +0.5**
comp=Z,69nm,0.4s,mb5.5
CTA *i* 07 23 32.3
CTA *e*S **S 07 27 58.1 +0.9**
CTA *e*SCP ScP 07 29 06.8 +4.2
CTA *e*SS SS 07 30 45.9 +0.2
CTA *e*SCS ScS 07 33 06.0 +4.8
CTA *e* 07 55 00.9
CTA Charters Tower 31.00 273 P **P 07 23 28.6 -0.5**
comp=Z,312nm,0.4s,mb6.2,baz=99,slow=11,SNR=221
CTA pP 07 24 57.2
comp=Z,38nm,0.5s,baz=97,slow=11,SNR=1.4
CTA S **S 07 27 59.6 +2.4**
comp=Z,13nm,0.7s,baz=203,slow=22,SNR=16
CTA ScP ScP 07 29 06.6 +4.0
comp=Z,242nm,1.0s,baz=118,slow=2.4,SNR=16
CTA Charters Tower 31.00 273 P **P 07 23 28.6 -0.5**
CTA *PP 07 24 57.3
CTA S **S 07 27 59.6 +2.4**
CTA pmax pmax
comp=Z,312nm,0.4s
CTA pmax pmax
comp=Z,38nm,0.5s
CTA smax
comp=N,13nm,0.7s
CTA pmax pmax
comp=N,242nm,1.0s
CTAO Charters Tower 31.00 273⇓*e*P **P 07 23 29.6 +0.5**
CTAO *e**PP 07 24 58.4
CTAO *e*S **S 07 27 57.9 +0.7**
CTAO pmax pmax
comp=Z,436nm,0.6s,mb6.2
CTAO Charters Tower 31.00 273⇓*e*P **P 07 23 29.6 +0.4**
comp=Z,436nm,0.6s,mb6.2
CTAO *e*pP 07 24 58.4
CTAO *e*PP PP 07 25 09.3 +0.5
CTAO *e*S **S 07 27 57.9 +0.7**
CTAO *e*ScP ScP 07 29 06.4 +3.8
CTAO *e*SS SS 07 30 54.5 +8.8
MEH Mehetia 31.03 83 *e*P **P 07 23 27.7 -1.7**
comp=Z,44μm,1.4s
MEH *e*ScP ScP 07 29 02.6 -0.1
comp=Z,11μm,1.2s
TOO Toolangi 31.33 239 *e*P **P 07 23 32.7 +1.0**
TOO *e*pP 07 25 02.8
TOO *e*SCP ScP 07 29 06.3 +2.9
TOO *e*S SS 07 30 57.8 +6.4
TOO *e*SCS ScS 07 33 05.8 +3.5
TOO Toolangi 31.33 239 *e*P **P 07 23 32.7 +1.0**
TOO *e**PP 07 25 02.8
TOO *e* 07 33 05.8
MOO Moorlands 31.59 229 *e*P **P 07 23 36.0 +2.1**
MOO *e*pP 07 25 07.9
MOO *e*PCP PcP 07 26 12.2 +1.8
MOO *e*S **S 07 28 07.9 +2.3**
MOO *e*SCP ScP 07 29 04.2 0.0
MOO *e*SS SS 07 31 00.9 +4.6
MOO *e*SCS ScS 07 33 04.8 +1.3
TAU Tasmania Unive 31.69 228 P **P 07 23 35.3 +0.6**
comp=Z,888nm,1.1s,mb6.2,SNR=17
TAU Tasmania Unive 31.69 228 *e*P **P 07 23 35.4 +0.7**
TAU *e**PP 07 24 59.1
TAU *e* 07 26 12.7
TAU pmax pmax
comp=Z,191nm,1.0s,mb5.6
TAU Tasmania Unive 31.69 228 *e*P **P 07 23 35.4 +0.7**
comp=Z,191nm,1.0s,mb5.6
TAU *e*pP 07 24 59.1
TAU *e*sP sP 07 26 04.3 +0.8
TAU *e*PcP PcP 07 26 12.7 +2.0
PMOR Pomariorio Ree 32.23 78 *e*P **P 07 23 38.1 -1.5**
comp=Z,2μm,1.3s,mb6.4
PMOR *e*pP 07 25 06.3
comp=Z,2μm,2.1s
PMOR *e*ScP ScP 07 29 07.3 +0.5
comp=Z,770nm,1.2s
VAH Vaihoa 32.37 79 *e*P **P 07 23 39.1 -1.7**
comp=Z,2μm,1.4s,mb6.4
VAH *e*pP 07 25 07.4
comp=Z,2μm,2.1s
VAH *e*ScP ScP 07 29 07.5 +0.2
comp=Z,432nm,1.2s
MCQ Macquarie Isla 32.97 202 *e*P **P 07 23 47.7 +2.3**
STKA Stephens Creek 33.79 250⇓*i*P **P 07 23 53.0 +0.3**
comp=Z,43nm,0.4s,mb5.3
STKA *e*pP 07 25 22.5
STKA *e*S **S 07 28 38.8 -0.6**
STKA *e*SCP ScP 07 29 15.4 +3.3
STKA *e*SCS ScS 07 33 16.1 +0.7
STKA *e* 07 54 47.8
STKA Stephens Creek 33.79 250 P **P 07 23 53.1 +0.5**
comp=Z,33nm,0.4s,mb5.2,baz=96,slow=9.9,SNR=84
STKA pP 07 25 20.5
comp=Z,61nm,0.9s,baz=122,slow=19,SNR=1.1
STKA PcP PcP 07 26 20.1 +3.2
comp=Z,57nm,1.0s,baz=74,slow=7.1,SNR=3.0
STKA S **S 07 28 40.0 +0.7**
comp=Z,7.7nm,0.6s,baz=34,slow=23,SNR=1.5
STKA ScP ScP 07 29 15.5 +3.4
comp=Z,117nm,1.0s,baz=65,slow=4.8,SNR=12
PMG Port Moresby 34.47 291⇓*e*P **P 07 23 58.1 -0.5**
PMG *e**PP 07 25 30.6
PMG *e**SP sP 07 26 21.0 -7.2
PMG *e*S **S 07 28 49.9 -0.1**
PMG Port Moresby 34.47 291⇓*e*P **P 07 23 58.1 -0.5**
PMG *e*pP 07 25 30.6
PMG *e*sP sP 07 26 20.9 -7.2
PMG *e*S **S 07 28 49.9 -0.2**
PMG *e*ScP ScP 07 29 17.3 +2.5
XMAS Kiritimati 35.14 43⇑*e*P **P 07 24 02.8 -1.4**
comp=Z,2μm,1.1s,mb6.5
XMAS *e*pP pP 07 25 36.0 +1.6
XMAS *e*ScP ScP 07 29 18.6 +1.4
COEN Coen 35.85 281 *e*P **P 07 24 10.3 +0.2**
comp=Z,387nm,1.4s,mb5.7
COEN *e*pP pP 07 25 41.8 +1.2
COEN *e*S **S 07 29 09.2 -1.5**
ADE Adelaide 36.36 245 *e*P **P 07 24 14.6 +0.6**
ASAR Alice Springs 41.34 262 P **P 07 24 54.5 -0.1**
comp=Z,86nm,0.4s,mb5.6,baz=96,slow=7.3,SNR=240
ASAR PP PP 07 26 42.8 -1.2
comp=Z,53nm,0.8s,baz=93,slow=6.8,SNR=6.4
ASAR ScP ScP 07 29 44.5 +3.5
comp=Z,85nm,0.8s,baz=109,slow=4.0,SNR=15
ASAR S **S 07 30 33.1 +1.7**
comp=Z,32nm,0.6s,baz=99,slow=13,SNR=12
ASAR ScS ScS 07 34 00.8 +1.3
comp=Z,5.8nm,0.8s,baz=78,slow=6.7,SNR=4.0
ASAR Alice Springs 41.34 262 P **P 07 24 54.5 -0.1**
ASAR 07 26 42.8
ASAR S **S 07 30 33.1 +1.7**
ASAR 07 34 00.8
RKT Rikitea 41.49 97 *e*P **P 07 24 54.7 -1.0**
comp=Z,763nm,1.2s,mb6.1
RKT *e*ScP ScP 07 29 42.5 +0.9
comp=Z,332nm,1.3s
TAOE Nuku Hiva Isla 41.71 74 *e*P **P 07 24 56.4 -1.2**
comp=Z,12μm,0.9s
TAOE Nuku Hiva Isla 41.71 74 *e*P **P 07 24 56.1 -1.5**
WB2 Warramunga Arr 41.82 268⇓*i*P **P 07 24 57.6 -0.8**
WB2 *e*SCP ScP 07 29 47.0 +4.0
WB2 *e*S **S 07 30 36.5 -1.9**
WB2 *e*SCS ScS 07 34 04.8 +2.3
WB2 *e* 07 54 12.2
WRA Warramunga Arr 41.83 268 P **P 07 24 56.7 -1.8**
comp=Z,167nm,0.4s,mb5.9,baz=104,slow=8.0,SNR=347
WRA pP pP 07 26 30.0 -2.5
comp=Z,58nm,0.8s,baz=105,slow=7.3,SNR=1.9
WRA PcP PcP 07 26 44.3 +1.9
comp=Z,33nm,0.9s,baz=105,slow=4.5,SNR=5.6
WRA ScP ScP 07 29 47.2 +4.2
comp=Z,232nm,0.9s,baz=102,slow=4.1,SNR=31
WRA S **S 07 30 38.8 +0.2**
comp=Z,45nm,0.8s,baz=102,slow=14,SNR=14
WRA ScS ScS 07 34 03.1 +0.5
comp=Z,11nm,1.1s,baz=123,slow=5.8,SNR=7.3
WRA PKKP 07 48 30.0
comp=Z,0.5nm,0.7s,baz=2.0,slow=1.6,SNR=4.7
WRA Warramunga Arr 41.83 268 P **P 07 24 56.7 -1.8**
WRA *PP pP 07 26 30.0 -2.5
WRA 07 26 44.3
WRA S **S 07 30 38.8 +0.2**
WRA 07 34 03.1
FORT Forrest 45.40 251 *e*P **P 07 25 25.1 -1.0**
comp=Z,210nm,0.5s,mb5.9
FORT *e*SCP ScP 07 29 58.5 +1.0
PTCN Pitcairn Islan 45.45 101 *e*P **P 07 25 26.4 -0.1**
KAKA Kakadu 45.94 277⇓*i*P **P 07 25 29.3 -1.1**
comp=Z,198nm,0.4s,mb6.0
KAKA *e*SCP ScP 07 30 01.7 +1.7
KAKA *e*S **S 07 31 35.2 -1.8**
DRV Dumont d'Urvil 48.16 200 P **P 07 25 49.0 +2.7**
DRV S **S 07 32 14.0 +7.8**
DRV SS SS 07 35 17.0 -27
DRV L 07 38 00.0
FITZ Fitzroy Crossi 50.24 267 *e*P **P 07 26 02.2 -0.3**
comp=Z,200nm,0.5s,mb5.8
FITZ *e*pP pP 07 27 41.8 +0.4
FITZ *e*SCP ScP 07 30 19.4 +1.2
FITZ *e*S **S 07 32 35.6 -0.5**
FITZ *e*SCS ScS 07 35 00.3 +2.2
FITZ Fitzroy Crossi 50.24 267 P **P 07 26 02.2 -0.3**
comp=Z,84nm,0.5s,mb5.4,baz=110,slow=8.6,SNR=163
FITZ pP pP 07 27 38.8 -2.6
comp=Z,13nm,0.6s,baz=35,slow=22,SNR=1.0
FITZ ScP ScP 07 30 21.8 +3.6
comp=Z,49nm,0.8s,baz=202,slow=1.8,SNR=6.2
FITZ S **S 07 32 37.4 +1.3**
comp=Z,12nm,0.9s,baz=209,slow=22,SNR=18
KHU Kahuku 50.40 31⇑*e*P **P 07 26 04.7 +1.1**
KKH Kailua Kona 50.57 30 *e*P **P 07 26 04.3 -0.5**
STCH Steam Cracks 50.76 32⇑*i*P **P 07 26 06.9 +0.8**
POHA Pohakuloa 50.88 31⇑*i*P **P 07 26 08.1 +1.0**
comp=Z,728nm,1.0s,mb6.0
POHA *e*ScP ScP 07 30 21.5 +0.8
HON Honolulu 51.17 27 *e*P **P 07 26 09.8 +0.7**
GUMO Guam 51.21 315 P **P 07 26 07.5 -2.1**
comp=Z,490nm,0.9s,mb5.8,baz=166,slow=6.7,SNR=19
GUMO ScP ScP 07 30 24.5 +2.2
comp=Z,134nm,0.9s,baz=208,slow=22,SNR=4.1
GUMO S **S 07 32 47.7 -1.4**
comp=Z,29nm,0.3s,baz=155,slow=21,SNR=3.5
GUMO Guam 51.21 315 P **P 07 26 07.5 -2.0**
GUMO S **S 07 32 47.7 -1.4**
GUMO pmax pmax
comp=Z,490nm,0.9s,mb5.8
GUMO pmax pmax
comp=N,134nm,0.9s
GUMO smax
comp=N,29nm,0.3s
GUMO Guam 51.21 315⇓*i*P **P 07 26 10.3 +0.7**
GUMO *e*ScP ScP 07 30 23.9 +1.6
KIP Kipapa 51.25 27⇑*i*P **P 07 26 08.3 -1.4**
KIP pmax pmax
comp=Z,726nm,1.4s,mb5.8
KIP Kipapa 51.25 27⇑*i*P **P 07 26 08.3 -1.4**
comp=Z,726nm,1.4s,mb5.8
KIP *e*ScP ScP 07 30 23.3 +1.0
HKL Haleakala 51.38 30 *e*P **P 07 26 11.6 +0.9**
SWI Sorong 52.39 290 P **S 07 33 17.9 +13**
comp=Z,49nm,2.6s,comp=Z,0.3nm
SBA Scott Base 53.06 183 *e*P **P 07 26 23.4 +1.5**
SBA *e* 07 27 23.0
SBA *e*S **S 07 33 19.3 +7.2**
SBA pmax pmax
comp=Z,274nm,0.8s,mb5.6
SBA Scott Base 53.06 183 *e*P **P 07 26 23.4 +1.5**
comp=Z,274nm,0.8s,mb5.6
SBA *e*PcP PcP 07 27 23.0 +1.1
SBA *e*pP pP 07 28 08.4 +6.1
SBA *e*ScP ScP 07 30 32.0 +2.7
SBA *e*S **S 07 33 19.3 +7.1**
MIDW Midway 53.19 4 *e*P **P 07 26 22.2 -1.4**
comp=Z,360nm,0.8s,mb5.8
KLBR Kellerberrin 54.03 248 *e*P **P 07 26 28.6 -1.0**
comp=Z,104nm,0.7s,mb5.3
KLBR *e*pP pP 07 28 10.8 +0.3
KLBR *e*SCP ScP 07 30 35.1 +0.6
KLBR *e*S **S 07 33 25.8 -0.6**
KLBR *e*SCS ScS 07 35 22.3 -2.3
NWAO Narrogin (SRO) 54.25 246 ScP ScP 07 30 39.2 +3.7
comp=Z,48nm,1.1s,baz=80,slow=6.8,SNR=4.4
NWAO S **S 07 33 27.9 -1.3**
comp=Z,3.7nm,0.3s,baz=164,slow=8.7,SNR=1.9
NWAO Narrogin (SRO) 54.25 246⇑*e*P **P 07 26 26.3 -4.8**
NWAO *e*S **S 07 33 28.3 -0.9**
NWAO pmax pmax
comp=Z,606nm,2.5s
NWAO Narrogin (SRO) 54.25 246⇑*e*P **P 07 26 26.3 -4.8**
comp=Z,606nm,2.5s,mb5.5
NWAO *e*pP pP 07 28 12.7 +0.6
NWAO *e*ScP ScP 07 30 37.7 +2.2
NWAO *e*S **S 07 33 28.3 -0.9**
MBWA Marble Bar 54.66 261 *e*P **P 07 26 33.1 -1.0**
comp=Z,126nm,1.1s,mb5.1
MBWA *e*pP pP 07 28 16.7 +1.2
MBWA *e*ScP ScP 07 30 39.8 +2.3
BATI Baumata 54.83 275 P **P 07 26 35.8 +0.4**
comp=Z,215nm,0.6s,mb5.6,baz=177,slow=2.1,SNR=25
BATI pP pP 07 28 13.4 -3.5
comp=Z,24nm,0.3s,baz=257,slow=16,SNR=1.3
BATI ScP ScP 07 30 42.1 +3.8
comp=Z,103nm,0.8s,baz=125,slow=5.2,SNR=3.9
BATI S **S 07 33 36.3 -0.9**
comp=Z,15nm,0.4s,baz=278,slow=8.9,SNR=3.9
MUN Mundaring 55.26 247 *e*P **P 07 26 37.7 -0.5**
MUN *e*pP pP 07 28 20.9 +1.1
MUN *e*SCP ScP 07 30 42.9 +2.9
MUN *e*S **S 07 33 44.4 +1.9**
MUN *e*SCS ScS 07 35 31.2 -2.2
MUN Mundaring 55.26 247 *e*P **P 07 26 37.7 -0.5**
MUN *e**PP pP 07 28 20.9 +1.1
MUN *e*S **S 07 33 44.4 +1.9**
MUN *e* 07 35 31.2
CASY Casey 58.73 206⇓*i*P **P 07 27 00.4 -0.9**
CASY *e*pP pP 07 28 47.0 +2.4
CASY *e* 07 30 55.9
CASY *e*S **S 07 34 22.0 -3.8**
CASY *e*sS sS 07 37 30.8 0.0
CASY *e* 07 41 27.1
KAPI Kappang 60.52 279 P **P 07 27 12.9 -1.3**
comp=Z,841nm,1.1s,mb6.0,SNR=11
KAPI Kappang 60.52 279 ⇑P **P 07 27 14.2 0.0**
SNR=14
KAPI Kappang 60.52 279 P **P 07 27 12.6 -1.6**
comp=Z,47nm,0.6s,mb5.0,baz=100,slow=4.0,SNR=20
KAPI pP pP 07 28 55.8 -2.6

KAPI S **S** 07 34 45.0 -4.8
comp=Z,32nm,0.9s,baz=39,slow=23,SNR=1.3
KAPI eP P 07 27 12.6 -1.6 **KAPI Kappang 60.52 279**
KAPI epP pP 07 28 57.6 -0.8
KAPI eS S 07 34 48.2 -1.6
DAV S **S** 07 35 05.3 +4.3 **DAV Davao (W) 61.42 294**
comp=Z,227nm,0.4s,mb5.8,baz=237,slow=3.8,SNR=5.0
comp=Z,260nm,0.4s,baz=95,slow=14,SNR=3.2
RPN S **S** 07 35 21.2 -0.5 **MTNI Mataram 62.23 273**
comp=Z,180nm,1.8s,comp=Z,5µm
QSPA pP pP 07 29 29.4 +1.9 **BUKP Musuan 62.29 295**
comp=Z,41nm,1.0s,baz=61,slow=6.4,SNR=1.1
QSPA S **S** 07 35 40.4 -0.8 **KHKI Kahang-Kahang 62.84 273**
comp=Z,87nm,1.1s,baz=37,slow=3.7,SNR=30
QSPA pP pP 07 29 40.9 -0.4 **RPN Rapa Nui 63.13 109**
comp=Z,292nm,0.7s,mb5.8,baz=30,slow=1.7,SNR=311
RPN S **S** 07 35 21.2 -0.5 **CBIJ Chichi jima 63.20 323**
comp=Z,396nm,1.0s,mb5.8,baz=141,slow=8.0,SNR=9.4
MIR i S S 07 40 20.0 +1.4 **PAGZ Pagadian 63.66 293**
comp=Z,400nm,1.0s,mb5.9
MIR pmax pmax **MSLP Maasin 63.71 296**
comp=Z,1µm,3.0s
RCP Roxas 66.23 296⇓ eP P 07 27 49.5 -1.2 **PLP Palo 64.20 298**⇑ iP P 07 27 32.2 -5.8
MYLDM Lahad Datu 66.41 288 ⇓P P 07 27 53.8 +1.9 **TBP Tagbilaran 64.28 295**
TSM Tawau 66.51 287 ⇑P P 07 27 53.0 +0.4 **QSPA South Pole Qui 64.89 180**
SDKM Sandakan 67.76 288 ⇑P P 07 28 00.1 -0.1
BJII Banjamegara 68.60 272 P S 07 36 34.4 +7.5 **MIR Mirnyy 65.76 206**K iP P 07 27 46.5 -0.4
KDM Kudat 68.71 289 ⇑P P 07 28 08.3 +2.3
KKM Kota Kinabalu 68.81 288 ⇑P P 07 28 06.8 +0.2
KKM Kota Kinabalu 68.81 288⇓ eP P 07 28 05.7 -0.9
KKM epP pP 07 29 54.1 -0.4
KKM eS S 07 36 25.3 -4.0
KKM LR LR
comp=Z,919nm,21.0s
BATP Bataraza 68.84 291 eP P 07 28 05.8 -1.0
LUBP Lubang 69.46 297 eP P 07 28 07.9 -2.6
BTM Bintulu 70.17 284 ⇑P P 07 28 15.6 +0.8
SBUM Sibu 70.59 282 ⇓P P 07 28 17.7 +0.5
LEM Lembang 70.70 271 P S 07 36 54.7 +3.7
comp=Z,138nm,2.7s,comp=Z,4µm
XMIS Christmas Isla 71.02 267 eP P 07 28 21.6 +1.8
KSM Kuching 71.84 281 ⇓P P 07 28 24.9 +0.3
KSM Kuching 71.84 281⇓ iP P 07 28 23.9 -0.7
KSM epP pP 07 30 14.7 +0.9
KSM eS S 07 37 04.7 +0.9 **MJAR Matsushiro Arr 72.68 326**
comp=Z,159nm,0.9s,mb5.5,baz=161,slow=5.5,SNR=99
MJAR pP pP 07 30 18.1 -0.4
comp=Z,9.5nm,0.9s,baz=189,slow=1.0,SNR=2.9
MJAR S S 07 37 11.3 -1.0
comp=Z,1.6nm,0.5s,baz=110,slow=11,SNR=6.0
MJAR PKPPKP 07 56 02.4
comp=Z,5.0nm,1.0s,baz=328,slow=3.1,SNR=9.6
MJAR Matsushiro Arr 72.68 326 P P 07 28 28.0 -0.9
MJAR *PP pP 07 30 18.1 -0.4
MJAR S S 07 37 11.3 -0.9 **MAJO Matsushiro 72.69 326**⇓ eP P 07 28 28.0 -1.0
MAJO epP pP 07 30 19.1 +0.6 **MAT Matsushiro 72.69 326**
MAT S S 07 37 13.0 +0.8 **NACB Ninganchiao 74.46 307**
comp=Z,2µm,1.4s,mb6.3
ERM pmax pmax **ERM Erimo 74.82 333**
comp=Z,107nm,1.0s,mb5.2
ERM Erimo 74.82 333 eP P 07 28 37.2 -3.7
comp=Z,107nm,1.0s,mb5.2 **YHNB Yeheng 74.92 307**
comp=Z,298nm,1.4s,mb5.5 **TATO Taipei 75.02 307**
YUK Yuzh-Kuril'sk 75.46 336 eP P 07 28 46.0 +1.5
YUK i S S 07 37 47.0 +4.8
YUK ePS 07 38 05.0
YUK e 07 38 39.0
YUK pmax pmax
comp=Z,2µm,6.0s
YUK smax
comp=N,21µm,7.0s
YUK smax
comp=E,10µm,6.0s **AMKA Amchitka 76.24 360**
MAW Mawson 76.36 201 eP P 07 28 49.1 -0.1
comp=E,45nm,0.5s,mb5.2
MAW epP pP 07 30 39.1 -0.9
MAW eS S 07 37 50.9 -0.5
MAW esS sS 07 41 06.6 -2.3 **MAW Mawson 76.36 201**
comp=E,59nm,0.6s,mb5.2,baz=128,slow=7.3,SNR=160
MAW pP pP 07 30 37.4 -2.7
comp=E,7.7nm,0.8s,baz=342,slow=16,SNR=0.8
MAW S S 07 37 49.3 -2.1
comp=E,16nm,1.2s,baz=6.8,slow=22,SNR=7.0 **MAW Mawson 76.36 201**
MAW e*PP pP 07 30 39.1 -0.9
MAW eS S 07 37 50.9 -0.5 **MAW Mawson 76.36 201**
MAW epP pP 07 30 39.1 -0.9
MAW eS S 07 37 50.9 -0.5
MAW esS sS 07 41 06.6 -2.3 **ASAJ Asahikawa 76.80 334**
comp=E,1.6nm,0.3s,baz=13,slow=28,SNR=13 **ADK Adak 76.82 2**
ADK pmax pmax
comp=Z,1µm,1.3s,mb6.2 **ADK Adak 76.82 2**
comp=Z,1µm,1.3s,mb6.2 **QZH Quanzhou 77.12 306**⇓ iP P 07 28 54.8 +0.7
QZH S S 07 38 01.5 +0.7
QZH AMB AMB
comp=Z,360nm,1.2s,mb5.7 **SMY Shemya 77.73 357**
SMY pmax pmax
comp=Z,550nm,1.1s,mb5.8
SMY MLR MLR
comp=Z,2µm,19.0s **SMY Shemya 77.73 357**
comp=Z,550nm,1.1s,mb5.8
SMY LR LR
comp=Z,2µm,19.0s
MYKOM Kota Tinggi 77.75 278 ⇓P P 07 28 58.2 +0.4
PMSA Palmer Station 77.92 157 P P 07 28 57.2 -0.5
comp=Z,218nm,0.9s,mb5.5,baz=235,slow=4.1,SNR=16 **PMSA Palmer Station 77.92 157**⇑ eP P 07 28 57.3 -0.5
comp=Z,394nm,1.0s,mb5.7 **SKR Severo-Kuril's 78.31 345**
KGM Kluang 78.33 278 ⇑P P 07 29 01.7 +0.8
NIKO Nikolski 78.50 7 eP P 07 29 00.9 0.0
comp=Z,800nm,1.0s,mb6.0 **KSRS Korea Array 78.92 321**
comp=Z,87nm,0.7s,mb5.2,baz=135,slow=5.7,SNR=81
KSRS PP PP 07 32 12.8 +0.8
comp=Z,13nm,1.1s,baz=144,slow=9.1,SNR=3.9
KSRS S S 07 38 22.9 +3.8
comp=Z,1.9nm,0.5s,baz=22,slow=12,SNR=4.7
KSRS PKPPKP 07 55 57.3
comp=Z,1.9nm,0.8s,baz=340,slow=0.9,SNR=5.4 **KSRS Korea Array 78.92 321**
KSRS 07 32 12.9
KSRS S S 07 38 22.9 +3.8
KSRS pmax pmax
comp=Z,87nm,0.7s,mb5.2
KSRS pmax pmax
comp=Z,13nm,1.1s
KSRS smax
comp=N,2.0nm,0.5s
KSRS pmax pmax
comp=Z,2.0nm,0.8s **SSE Sheshan 78.97 312**
SSE AP pP 07 30 53.3 -2.5
SSE PP PP 07 32 10.8 -1.8
SSE S S 07 38 19.1 -0.9
SSE SCS ScS 07 38 32.8 -5.4
SSE AMB AMB
comp=Z,1µm,6.6s **SSE Sheshan 78.97 312**
comp=Z,44nm,0.7s,mb4.9
SSE pP pP 07 30 53.3 -2.5
SSE PP PP 07 32 10.8 -1.8
SSE S S 07 38 19.1 -0.9
SSE ScS ScS 07 38 32.8 -5.4
SSE sS sS 07 41 35.7 -3.7
SSE LR LR
comp=Z,2µm,13.8s **YSS Yuzh-Sakhalins 79.09 335**⇓ iP P 07 29 03.4 -0.8
YSS e*PP pP 07 30 54.0 -2.1
YSS e*SP sP 07 31 41.0 -8.6
YSS i S S 07 38 24.0 +3.5
YSS e 07 38 42.0
YSS eSS SS 07 43 39.0 -3.0
YSS eSSS 07 47 04.0
YSS pmax pmax
comp=Z,290nm,1.1s,mb5.5
YSS pmax pmax
comp=N,70nm,0.8s
YSS pmax pmax
comp=Z,900nm,5.0s
YSS smax
comp=N,18µm,8.0s
YSS MLR MLR
comp=E,1µm,17.0s
YSS MLR MLR
comp=Z,1µm,17.0s **YSS Yuzh-Sakhalins 79.09 335**
YSS epP pP 07 30 56.4 +0.3
YSS eS S 07 38 25.4 +4.9 **UNV Unalaska Valle 79.65 8**⇑ iP P 07 29 05.4 -1.5
INCN Inchon 79.69 320 ⇑P P 07 29 08.1 +0.5
SNR=13 **INCN Inchon 79.69 320**
KTGM Kuala Trenggan 79.96 281 ⇓P P 07 29 10.2 +0.6 **PET Petropavlovsk 79.97 347**
PET e*PP pP 07 30 58.5 -2.4
PET e*SP sP 07 31 51.5 -2.8
PET eS S 07 38 23.4 -5.8
PET eSPP 07 39 19.8
PET pmax pmax
comp=Z,118nm,0.7s,mb5.3
PET pmax pmax
comp=Z,900nm,5.5s
PET pmax pmax
comp=Z,400nm,8.7s
PET MLR MLR
comp=Z,2µm,19.0s
PET MLR MLR
comp=Z,1µm,19.0s **PET Petropavlovsk 79.97 347**
AKUT Akutan 80.03 9 eP P 07 29 08.6 -0.3
comp=Z,1µm,1.5s,mb5.9 **GZH Guangzhou 80.05 301**
GZH S S 07 38 31.3 0.0 **PEA0B Petropavlovsk- 80.24 347**
PEA0B epP pP 07 31 02.3 -0.1 **PETK Petropavlovsk- 80.24 347**
comp=Z,127nm,0.9s,mb5.3,baz=121,slow=6.4,SNR=47
PETK pP pP 07 30 58.6 -3.8
comp=Z,8.4nm,0.8s,baz=120,slow=6.0,SNR=1.2
PETK S S 07 38 33.6 +1.6
comp=Z,6.5nm,1.0s,baz=161,slow=14,SNR=2.7 **FRIM Kepong 80.38 278**
QIZ Qiongzhong 80.71 296 P P 07 29 12.1 -1.2
QIZ AP pP 07 31 05.5 -0.2
QIZ PP PP 07 32 27.3 +0.4
QIZ S S 07 38 38.2 0.0
QIZ AMB AMB
comp=Z,884nm,8.2s **VLA Vladivostok 80.83 327**
VLA eS S 07 38 37.7 -0.8
VLA pmax pmax
comp=Z,168nm,1.2s,mb5.3 **VLA Vladivostok 80.83 327**
NJ2 Nanjing 81.13 312 eP P 07 29 15.2 0.0
NJ2 S S 07 38 34.5 -7.5 **IPM Ipoh 81.46 279**⇓ P P 07 29 17.7 +0.4
USHA Ushuaia 81.49 147 P P 07 29 16.8 +0.1
comp=Z,137nm,0.9s,mb5.4,baz=240,slow=5.9,SNR=28 **SYO Syowa Base 81.64 194**⇓ iP P 07 29 14.6 -2.6
SYO Syowa Base 81.64 194⇓ iPcP PcP 07 29 18.8 -2.6 **SDPT Sand Point 82.04 11**
SNCC San Nicolas Is 82.14 48 ⇑P P 07 29 21.2 +0.8
baz=82 **SNCC San Nicolas Is 82.14 48**⇑ iP P 07 29 22.6 +2.2
comp=Z,198nm,1.0s,mb5.5 **KULM Kulim 82.15 280**⇓ P P 07 29 21.2 +0.3
BSC Santa Cruz Isl 82.52 47 ⇑P P 07 29 23.2 +0.9
baz=83,SNR=9.8 **SCI San Clemente I 82.64 48**⇓ P P 07 29 23.8 +0.9
baz=83,SNR=15 **FARB Farallon Islan 82.66 42**⇑ P P 07 29 23.6 +0.7
baz=83,SNR=21 **V03C Hunter Liggett 82.71 45**⇓ P P 07 29 24.2 +1.0
baz=83,SNR=47 **SBC Santa Barbara 82.73 47**⇑ P P 07 29 24.4 +1.1
baz=83 **UBT Ubonrachathani 82.87 290**⇑ P P 07 29 25.5 +1.1
comp=Z,278nm,1.0s,mb5.7 **PKM Peak Mountain 82.94 46**⇓ P P 07 29 25.4 +1.1
baz=83,SNR=48 **JRSC Jasper Ridge 82.94 43**⇑ P P 07 29 25.0 +0.7
baz=83,SNR=23 **SAC San Andreas 82.95 43** eP P 07 29 25.9 +1.6
BLG Laguna Peak 82.97 47 ⇑P P 07 29 25.0 +0.5
baz=83,SNR=14 **CIS Catalina Islan 82.99 48**⇑ P P 07 29 25.0 +0.4
baz=83,SNR=22 **SNG Songkhla 83.02 281** P P 07 29 25.0 -0.2
comp=Z,140nm,0.7s,mb5.6 **MCCM Marconi Confer 83.02 42**⇑ P P 07 29 25.4 +0.7
baz=83,SNR=18 **MCCM Marconi Confer 83.02 42** eP P 07 29 25.6 +1.0
SAO San Andreas Ge 83.04 44 eP P 07 29 24.9 +0.1
MDJ Mudanjiang 83.06 327 P P 07 29 24.4 -0.3
MDJ AP pP 07 31 19.0 +1.0
MDJ PP PP 07 32 44.1 -1.5
MDJ S S 07 38 56.2 -4.5
MDJ SS SS 07 44 39.8 -0.7
MDJ AMB AMB
comp=Z,472nm,4.9s **SMMC Simmler 83.07 46**⇓ P P 07 29 26.0 +1.0
baz=83,SNR=55 **PKD Parkfield 83.11 45**⇑ P P 07 29 25.9 +0.8
baz=83,SNR=58 **PTRM Twissleman Ran 83.14 45** eP P 07 29 27.2 +1.8
U04C Hernandez Rese 83.21 45 ⇑P P 07 29 26.7 +1.1
baz=84,SNR=96 **FMP Fort Macarthur 83.25 48**⇓ P P 07 29 26.4 +0.5
baz=84,SNR=11 **PACP Pacheco Peak 83.29 44**⇑ P P 07 29 26.7 +0.7
baz=84,SNR=118 **CHGN Chignik 83.33 12** eP P 07 29 24.9 -0.8
WENL Wente Vineyard 83.38 43 ⇑P P 07 29 27.6 +1.1
baz=84,SNR=48 **SNAA Sanae 83.38 179** eP P 07 29 24.4 -1.6
SNAA e 07 29 27.4
SNAA e 07 29 32.0 **SNAA Sanae 83.38 179**⇑ iP P 07 29 24.4 -1.6
SNAA eS S 07 38 53.9 -9.4
SNAA pmax pmax
comp=Z,290nm,1.3s **SNAA Sanae 83.38 179**⇑ iP P 07 29 24.4 -1.6
comp=Z,290nm,1.3s,mb5.7
SNAA epP pP 07 31 19.6 +0.3
SNAA esP sP 07 32 11.9 -0.8
SNAA eS S 07 38 53.9 -9.3
SNAA ePKKP PKKPbc 07 47 39.4 -3.9 **WHN Wuhan 83.39 308** P P 07 29 26.8 +0.1
WHN AP pP 07 31 17.6 -2.5
WHN S S 07 39 00.0 -4.7
WHN AMB AMB
comp=Z,107nm,1.1s,mb5.3
WHN AMB AMB
comp=Z,5µm,6.2s **CVS Carmenet Viney 83.40 42**⇓ P P 07 29 27.1 +0.6
baz=84,SNR=80 **HABR Khabarovsk 83.41 332**⇓ eP P 07 29 26.0 -0.3
HABR e pP 07 31 17.4 -2.4
HABR e 07 32 09.1
HABR e 07 32 45.7
HABR e 07 34 42.2
HABR eS S 07 38 58.1 -5.9
HABR e 07 44 44.5
HABR e 07 48 20.2 **HOPS Hopland 83.44 41**⇑ P P 07 29 27.7 +1.0
baz=84,SNR=64 **HOPS Hopland 83.44 41** eP P 07 29 27.1 +0.3
comp=Z,993nm,1.3s,mb6.2
HOPS LR LR
comp=Z,2µm,20.0s **V05C Boulder Hill, 83.47 45**⇓ P P 07 29 28.1 +1.1
baz=84,SNR=31 **OSI Osito Adit 83.49 47**⇑ P P 07 29 27.9 +0.8
baz=84,SNR=38 **OSI Osito Adit 83.49 47** eP P 07 29 27.6 +0.5
comp=Z,1µm,1.4s,mb6.2 **BDM Black Diamond 83.52 43**⇓ P P 07 29 28.0 +0.9
baz=84,SNR=26 **DECC Green Verdugo 83.54 48**⇓ P P 07 29 27.7 +0.3
baz=84,SNR=28 **109C Camp Elliot, M 83.58 49**⇑ P P 07 29 28.3 +0.8
baz=84,SNR=84 **KCPM Cahto Peak 83.58 41** eP P 07 29 28.5 +1.1
DL2 Dalian 83.59 318 P P 07 29 29.1 +1.6
DL2 AP pP 07 31 21.9 +0.9
DL2 PP PP 07 32 48.3 -1.6
DL2 SKS 07 38 57.3
DL2 S S 07 39 08.9 +2.7
DL2 AMB AMB
comp=Z,360nm,6.3s **VNA3 Neumayer Olymp 83.61 177** eP P 07 29 25.9 -1.2
VNA3 e 07 29 29.0
VNA3 e 07 29 33.7 **VNA3 Neumayer Olymp 83.61 177** eP pP 07 31 22.7 +2.2
VNA3 e 07 31 26.8
VNA3 e S 07 39 06.2 +0.7
VNA3 e PKKPbc 07 47 40.7 -2.1
VNA3 e 07 55 38.8
VNA3 e 07 55 43.0 **U05C Westside ANR, 83.62 45**⇓ P P 07 29 28.4 +0.7
baz=84,SNR=20 **MWC Mount Wilson 83.71 48** eP P 07 29 28.4 +0.2
KIPM Iron Peak 83.72 41 eP P 07 29 29.2 +1.1
ARVC Arvin 83.73 47 ⇓P P 07 29 28.9 +0.6
baz=84,SNR=31 **O01C Eel River Cons 83.74 40**⇓ P P 07 29 28.7 +0.5
baz=84,SNR=62 **MNRC McLaughlin Nat 83.75 42**⇑ P P 07 29 28.6 +0.3
baz=84,SNR=138 **BAR Barrett 83.75 50** eP P 07 29 28.4 -0.1
BAR LR LR
comp=Z,2µm,19.0s **LPIG La Paz 83.81 60** i P P 07 29 28.9 0.0
Q03C Winters 83.85 42 ⇓P P 07 29 29.6 +0.8
baz=84,SNR=104 **MAIT Maitri 83.90 184** eP P 07 29 28.1 -0.5
MAIT eS S 07 39 00.3 -8.0 **NVL N'lazarevskaya 83.90 184**c iP P 07 29 27.7 -0.9
NVL i S S 07 38 59.8 -8.6
NVL pmax pmax
comp=Z,271nm,1.1s,mb5.7 **MURC Murrieta 83.92 49**⇓ P P 07 29 30.1 +0.8
baz=84,SNR=155 **BFSC Mount Baldy St 83.98 48**⇓ P P 07 29 30.0 +0.5
baz=84,SNR=151 **VES Vestal, Richgr 83.99 46**⇑ P P 07 29 30.0 +0.4
baz=84,SNR=276 **VNA2 Neumayer--Watz 84.02 178** eP P 07 29 28.2 -1.0
baz=192,slow=3.7
VNA2 e 07 29 31.1
VNA2 e 07 29 35.5 **MONP Monument Peak 84.05 50**⇑ P P 07 29 30.5 +0.6
baz=84,SNR=16 **JCC Jacoby Creek 84.06 40**⇑ P P 07 29 30.7 +1.0
baz=84,SNR=17 **GASB Alder Springs 84.08 41**⇓ P P 07 29 30.8 +1.0
baz=84,SNR=184 **S05C Merced 84.10 44**⇓ P P 07 29 30.4 +0.4
baz=84,SNR=181 **DVTC Desert V Tower 84.14 50**⇓ P P 07 29 30.8 +0.5
baz=84,SNR=50 **EDW2 Edwards Air Fo 84.14 47**⇑ P P 07 29 30.9 +0.6
baz=84,SNR=207 **RCTC Rector, Farmer 84.17 45**⇓ P P 07 29 30.6 +0.2
baz=84,SNR=29 **VNA1 Neumayer--Stat 84.26 177** eP P 07 29 29.2 -1.2
VNA1 e 07 29 32.7
VNA1 e 07 29 36.3
VNA1 e 07 39 08.3
VNA1 e 07 39 16.4
VNA1 e 07 47 39.9
VNA1 e 07 55 41.1
VNA1 e 07 55 44.8 **KHMM Horse Mountain 84.27 40** eP P 07 29 31.9 +1.1
COYC Coyhaique 84.28 138⇑ iP P 07 29 31.1 +0.2
ISA Isabella 84.28 46 ⇓P P 07 29 31.0 0.0
baz=84,SNR=493 **ISA Isabella 84.28 46** eP P 07 29 30.8 -0.2
R04C Big Horse Ranc 84.28 43 ⇑P P 07 29 31.1 +0.1
baz=85,SNR=17 **T06C Millerton Lake 84.29 45**⇑ P P 07 29 30.7 -0.2
baz=85,SNR=290 **SNY Shenyang 84.34 322**⇓ P P 07 29 30.6 -0.5
SNY AP pP 07 31 22.0 -2.9
SNY XP sP 07 32 14.1 -3.8
SNY PP PP 07 32 50.1 -5.8
SNY SKS 07 39 02.2
SNY S S 07 39 22.3 +8.9
SNY AMB AMB
comp=Z,121nm,1.1s,mb5.3 **O02C Red Bluff 84.37 41**⇓ P P 07 29 31.4 +0.1
baz=85,SNR=264 **Q04C Lincoln 84.37 42**⇑ P P 07 29 31.3 -0.1
baz=85,SNR=42 **PFO Pinyon Flat Ob 84.43 49** P P 07 29 32.6 +0.8
comp=Z,2µm,1.6s,mb6.4,SNR=36 **PFO Pinyon Flat Ob 84.43 49**⇓ P P 07 29 32.0 +0.2
baz=85,SNR=53 **PFO Pinyon Flat Ob 84.43 49** eP P 07 29 31.4 -0.4
PFO esP sP 07 32 24.4 +5.8
PFO ePP PP 07 32 56.8 0.0 **N02C Big Bar 84.48 40**⇑ P P 07 29 32.5 +0.6
baz=85,SNR=98 **CMB Columbia Colle 84.49 43**⇓ P P 07 29 32.0 +0.1
baz=85,SNR=274 **CMB Columbia Colle 84.49 43**⇑ eP P 07 29 31.4 -0.5
CMB esP sP 07 32 19.8 +1.1
CMB ePP PP 07 32 57.3 +0.2 **BBRC Big Bear Sol-O 84.49 48**⇑ P P 07 29 32.0 -0.1
baz=85 **SWSC Sam W. Stewart 84.51 50**⇑ P P 07 29 32.1 -0.1
baz=85,SNR=64 **HELL Mitchell Peak 84.53 45**⇓ P P 07 29 31.6 -0.6
baz=85,SNR=197 **KRMB Red Mountain 84.58 39** eP P 07 29 32.8 +0.4
OHCM Honcut 84.62 42 eP P 07 29 31.6 -0.9
OHCM ePP PP 07 32 56.2 -1.9 **CN2 Changchun 84.63 324**⇓ iP P 07 29 32.5 0.0
CN2 eAP pP 07 31 25.5 -0.8
CN2 eS S 07 39 17.3 +1.2
CN2 AMB AMB
comp=Z,200nm,4.0s **M01C Crescent City 84.67 39**⇓ P P 07 29 33.0 +0.3
baz=85 **LRMC Laurel Mountai 84.69 47**⇓ P P 07 29 33.1 +0.1
baz=85,SNR=96 **LAVA Lava Cap Winer 84.71 43**⇑ P P 07 29 33.0 0.0
baz=85,SNR=74 **KCC Kaiser Creek 84.73 45**⇑ P P 07 29 33.3 +0.1
baz=85,SNR=188 **ORV Oroville 84.74 42**⇑ P P 07 29 33.2 +0.1
baz=85,SNR=381 **TIA Tai'an 84.76 314**⇓ P P 07 29 33.8 +0.5
WDC Whiskeytown Da 84.77 40 eP P 07 29 33.2 -0.1
WDC e 07 32 59.0

WDC pmax pmax
comp=Z,1µm,1.5s,mb6.1
WDC Whiskeytown Da 84.77 40 ⇓P P 07 29 33.5 +0.3
baz=85,SNR=192
WDC Whiskeytown Da 84.77 40 eP P 07 29 33.2 0.0
comp=Z,1µm,1.5s,mb6.1
WDC ePP PP 07 32 59.0 -0.4
RRX Edison Barstow 84.80 48 ⇑P P 07 29 33.4 -0.1
baz=85,SNR=20
KBO Bosley Butte 84.85 38 eP P 07 29 34.1 +0.5
BELC Belle Mtn. 84.97 49 ⇓P P 07 29 34.3 -0.1
baz=85,SNR=183
CWC Cottonwood Cre 85.00 46 ⇓P P 07 29 34.6 +0.1
baz=85,SNR=16
R05C Kirkwood Meado 85.09 43 ⇓P P 07 29 34.7 -0.1
baz=85,SNR=232
M02C Callahan 85.11 40 ⇑P P 07 29 35.5 +0.6
baz=85,SNR=200
K01A Sixes 85.11 38 ⇓P P 07 29 35.6 +0.7
baz=85,SNR=16
112A Yuma 85.13 51 ⇓P P 07 29 35.3 +0.1
baz=85,SNR=79
P05C Yuba Gap, Truc 85.13 42 ⇓P P 07 29 34.9 -0.1
baz=85,SNR=210
BC3 Big Chuckw Mtn 85.15 49 ⇑P P 07 29 35.4 +0.1
baz=85,SNR=254
MPMC Manual Prospec 85.16 46 ⇓P P 07 29 35.2 0.0
baz=85,SNR=181
L02A Cave Junction 85.17 39 ⇓P P 07 29 35.2 0.0
baz=86,SNR=40
GSC Goldstone 85.17 47 ⇑P P 07 29 35.1 -0.2
baz=85,SNR=204
GSC Goldstone 85.17 47 eP P 07 29 35.1 -0.2
GSC ePP PP 07 32 56.0 -6.7
MLAC Mammoth Lakes 85.22 45 ⇓P P 07 29 35.3 -0.2
baz=86,SNR=30
HEC Hector,Ludlow 85.22 48 ⇓P P 07 29 35.1 -0.5
baz=86,SNR=162
KEBM Edson Butte 85.22 38 eP P 07 29 36.7 +1.3
MTUM Tungsten Hills 85.23 45 eP P 07 29 35.6 +0.1
GLA Glamis 85.24 50 ⇓P P 07 29 36.0 +0.2
baz=86,SNR=159
GLA Glamis 85.24 50 eP P 07 29 35.8 0.0
OHAK Old Harbor 85.25 14 eP P 07 29 34.4 -0.8
TIN Tinemaha 85.26 45 ⇓P P 07 29 35.8 +0.1
baz=86,SNR=20
O05C Quincy 85.35 42 ⇓P P 07 29 35.9 -0.2
baz=86,SNR=68
WAKR Walker 85.36 44 eP P 07 29 36.4 +0.2
R06C Coleville 85.37 44 ⇑P P 07 29 36.1 -0.1
baz=86,SNR=135
YBH Yreka Blue Hor 85.41 39 ⇓P P 07 29 36.6 +0.3
baz=86,SNR=134
YBH Yreka Blue Hor 85.41 39 eP P 07 29 36.9 +0.6
YBH ePP PP 07 32 59.5 -4.9
KLR Kul'dur 85.41 331 eP P 07 29 33.0 -3.2
KLR e 07 45 13.5
KLR pmax pmax
comp=E,100nm,1.8s
KLR pmax pmax
comp=Z,320nm,1.8s,mb5.5
M03C McCloud 85.45 40 ⇓P P 07 29 36.5 0.0
baz=86,SNR=175
O04C Chester 85.47 41 ⇓P P 07 29 36.4 -0.2
baz=86,SNR=168
K02A Glendale 85.63 38 ⇑P P 07 29 37.7 +0.4
baz=86,SNR=103
BEKR Beckwourth 85.63 42 ⇓P P 07 29 37.4 0.0
baz=86,SNR=204
LBCM Butte Creek Ri 85.63 41 P P 07 29 37.4 0.0
IRM Iron Mountain 85.64 49 ⇓P P 07 29 37.8 +0.1
baz=86,SNR=284
GMRC Granite Mounta 85.64 48 ⇑P P 07 29 37.7 0.0
baz=86,SNR=169
WCN Washoe City 85.65 43 ⇓P P 07 29 37.8 +0.3
baz=86,SNR=69
GRAC Grapevine Rang 85.79 46 ⇑P P 07 29 38.3 0.0
baz=86,SNR=49
P06A Stead Airport, 85.79 42 ⇓P P 07 29 38.3 +0.1
baz=86,SNR=36
FURC Furnace Creek, 85.81 46 ⇑P P 07 29 38.4 0.0
baz=86,SNR=7.2
HUMO Hull Mountain 85.82 39 ⇓P P 07 29 38.6 +0.3
baz=86,SNR=175
HUMO Hull Mountain 85.82 39 eP P 07 29 38.6 +0.3
comp=Z,2µm,1.6s,mb6.4
113A Mohawk Valley, 85.83 51 ⇓P P 07 29 38.5 0.0
baz=86,SNR=111
TUQ Turquoise Moun 85.84 48 ⇑P P 07 29 38.5 0.0
baz=86
Y12C Blythe 85.84 50 ⇓P P 07 29 38.6 0.0
baz=86,SNR=115
SHOC Shoshone 85.86 47 ⇓P P 07 29 38.7 0.0
baz=86,SNR=100
KDAK Kodiak Island 85.92 15 P P 07 29 39.2 +0.8
comp=Z,1µm,1.9s,mb6.2,SNR=10
KDAK Kodiak Island 85.92 15 S S 07 39 19.6 -8.3
comp=Z,8.4nm,1.1s,baz=239,slow=16,SNR=2.2
KDAK Kodiak Island 85.92 15 eP P 07 29 37.6 -0.7
comp=Z,476nm,1.4s,mb5.9
M04C Macdoel 85.94 40 ⇓P P 07 29 39.2 +0.3
baz=86,SNR=176
J02A Umpqua 85.97 38 ⇓P P 07 29 39.3 +0.4
baz=86,SNR=77
Q07A Schurz 86.02 44 ⇓P P 07 29 39.5 +0.2
baz=86
NVAR Mina Array Bea 86.03 44 P P 07 29 39.2 -0.2
comp=Z,145nm,0.8s,mb5.7,baz=224,slow=7.7,SNR=135
NVAR PP PP 07 33 08.1 -1.3
comp=Z,4.0nm,0.8s,baz=209,slow=4.9,SNR=2.5
NVAR S S 07 39 21.2 -8.6
comp=Z,0.2nm,0.3s,baz=347,slow=20,SNR=3.2
NVAR PKKPbc PKKPbc 07 47 37.4 +0.9
comp=Z,1.2nm,0.7s,baz=130,slow=2.3,SNR=3.9
NVAR PKPPKP 07 55 35.3
comp=Z,1.0nm,0.7s,baz=93,slow=3.0,SNR=4.2
NVAR Mina Array Bea 86.03 44 P P 07 29 39.2 -0.2
NVAR PP PP 07 33 08.1 -1.3
NVAR S S 07 39 21.2 -8.6
NVAR PKKPbc PKKPbc 07 47 37.4 +0.9
NVAR P'P' 07 55 35.3
214A Organ Pipe Nat 86.06 52 ⇓P P 07 29 39.6 -0.1
baz=86,SNR=102
M05C Lookout 86.08 41 ⇑P P 07 29 39.8 +0.2
baz=86,SNR=202
R08A Mina 86.11 44 ⇓P P 07 29 39.9 +0.1
baz=86,SNR=28
PAHR Pah Rah Range 86.12 43 eP P 07 29 39.7 -0.1
PAHR ePP PP 07 33 08.3 -1.8
U10A Ash Meadows, A 86.13 47 ⇑P P 07 29 39.8 -0.1
baz=86
O06A Flanigan 86.13 42 ⇑P P 07 29 39.9 +0.1
baz=86,SNR=220
L04A Klamath Falls 86.16 40 ⇑P P 07 29 39.9 0.0
baz=86,SNR=248
LDFC Landfair 86.18 48 eP P 07 29 41.2 +1.0
NNT Nongplab 86.20 286 P P 07 29 41.5 +0.8
I02A Mapleton 86.24 37 ⇓P P 07 29 40.3 0.0
baz=86
S09A Goldfield 86.30 45 ⇑P P 07 29 40.4 -0.3
baz=87,SNR=101
HOG Hogback Mounta 86.31 40 P P 07 29 41.5 +0.9
P07A Fallon 86.33 43 ⇑P P 07 29 40.7 -0.1
baz=87,SNR=17
NEE2 Needles Airpor 86.34 49 ⇓P P 07 29 40.6 -0.3
baz=87
Y13A Salome 86.36 50 ⇑P P 07 29 41.2 +0.1
baz=87,SNR=422
M06C Likely Place G 86.38 41 ⇓P P 07 29 40.9 0.0
baz=87,SNR=179
V11A Goodsprings 86.40 48 ⇓P P 07 29 41.1 -0.1
baz=87,SNR=104
PDMCI Parker Dam,Lak 86.41 49 ⇑P P 07 29 41.2 -0.1
baz=87,SNR=152
MAIG Mazatlaan 86.43 62 i P P 07 29 42.5 +0.8
W12A Cal Nev Ari 86.47 48 ⇓P P 07 29 41.6 0.0
baz=87
N06A Buffalo Meadow 86.48 42 ⇑P P 07 29 41.5 0.0
baz=87,SNR=224
TPNV Topopah Spring 86.49 46 eP P 07 29 41.6 0.0
TPNV pmax pmax
comp=Z,333nm,0.9s,mb6.0
TPNV Topopah Spring 86.49 46 ⇑P P 07 29 41.4 -0.2
baz=87,SNR=90
TPNV Topopah Spring 86.49 46 eP P 07 29 41.6 0.0
comp=Z,332nm,0.9s,mb6.0
TPH Tonopah 86.51 45 eP P 07 29 41.3 -0.4
TPH e 07 33 11.4
TPH pmax pmax
comp=Z,437nm,1.0s,mb6.0
TPH Tonopah 86.51 45 eP P 07 29 41.3 -0.4
comp=Z,437nm,1.0s,mb6.0
TPH esP sP 07 32 33.4 +4.3
TPH ePP PP 07 33 11.4 -1.8
Q08A Gabbs 86.52 44 ⇓P P 07 29 41.6 -0.1
baz=87,SNR=226
I03A Eugene 86.52 37 ⇓P P 07 29 42.0 +0.4
baz=87,SNR=35
K04A Chilquin 86.53 39 ⇑P P 07 29 41.9 +0.3
baz=87,SNR=72
H02A Toledo 86.59 37 ⇓P P 07 29 42.2 +0.3
baz=87
L05A Lakeview 86.69 40 ⇓P P 07 29 42.7 +0.2
baz=87,SNR=294
R09A Tonopah 86.70 45 ⇑P P 07 29 42.5 -0.1
baz=87,SNR=283
J04A Umpqua Nationa 86.71 39 ⇓P P 07 29 42.8 +0.3
baz=87,SNR=186
O07A Toulon 86.71 43 ⇓P P 07 29 42.4 -0.1
baz=87,SNR=285
V12A Nelson 86.72 48 ⇓P P 07 29 42.7 -0.1
baz=87,SNR=111
Z14A Wintersburg 86.73 51 ⇑P P 07 29 42.9 +0.1
baz=87,SNR=197
U11A Corn Creek 86.76 47 ⇓P P 07 29 42.9 0.0
baz=87
X13A Yucca 86.79 49 ⇓P P 07 29 42.9 -0.1
baz=87,SNR=275
S10A Tonopah Range, 86.82 45 ⇓P P 07 29 42.9 -0.3
baz=87,SNR=331
115A Sonoran Desert 86.88 52 ⇑P P 07 29 43.4 -0.1
baz=87,SNR=110
I04A Tendick Farm, 86.89 38 ⇑P P 07 29 43.3 0.0
baz=87,SNR=120
COR Corvallis 86.91 37 eP P 07 29 44.4 +1.0
COR pmax pmax
comp=Z,2µm,1.8s,mb6.5
COR Corvallis 86.91 37 eP P 07 29 44.4 +1.0
comp=Z,2µm,1.8s,mb6.5
MOD Modoc 86.91 40 ⇓P P 07 29 43.6 +0.2
baz=87,SNR=314
MOD Modoc 86.91 40 eP P 07 29 43.1 -0.4
comp=Z,1µm,1.4s,mb6.3
P08A Dixie Valley 86.92 43 ⇓P P 07 29 43.8 +0.3
baz=87,SNR=43
SHPR Sheep Range 86.95 47 eP P 07 29 44.0 +0.2
H03A Soap Creek Ran 86.97 37 ⇓P P 07 29 44.5 +0.8
baz=87,SNR=52
GYA Guiyang 86.98 301 ⇓i P P 07 29 44.2 0.0
GYA PP PP 07 33 19.0 +1.8
GYA SKS 07 39 21.9
GYA S S 07 39 39.2 0.0
GYA AMB AMB
comp=Z,230nm,3.7s
Q09A Carvers 86.98 44 ⇑P P 07 29 44.1 +0.3
baz=87,SNR=109
Y14A Wickenburg 87.00 50 ⇑P P 07 29 44.1 0.0
baz=87,SNR=166
N07B Gerlach 87.02 42 ⇑P P 07 29 44.2 +0.1
baz=87,SNR=130
W13A Hualapai Mount 87.03 49 ⇑P P 07 29 44.2 0.0
baz=87,SNR=177
216A Three Points, 87.06 53 ⇓P P 07 29 45.2 +0.8
baz=87,SNR=281
HEBO Mount Hebo 87.07 36 eP P 07 29 46.8 +2.7
comp=Z,2µm,1.5s,mb6.5
K05A Summer Lake 87.08 40 ⇑P P 07 29 44.8 +0.6
baz=87,SNR=314
116A Eloy 87.18 52 ⇓P P 07 29 45.3 +0.3
baz=87,SNR=264
S11A Rachel 87.21 46 ⇓P P 07 29 45.3 +0.3
baz=88,SNR=46
R10A Warm Springs 87.22 45 ⇓P P 07 29 45.3 +0.2
baz=88,SNR=245
O08A Rochester Mine 87.23 43 ⇓P P 07 29 45.0 0.0
baz=88,SNR=291
J05A Fort Rock 87.23 39 ⇑P P 07 29 45.2 +0.2
baz=88,SNR=452
NST Nakhon Sawan 87.24 289 P P 07 29 47.0 +1.4
Z15A Gila River Ind 87.24 51 ⇑P P 07 29 45.3 +0.1
baz=88,SNR=89
M07A Soldier Meadow 87.27 41 ⇓P P 07 29 45.4 +0.2
baz=88
U12A Valley of Fire 87.33 48 ⇑P P 07 29 45.8 +0.2
baz=88,SNR=118
T11A Corn Creek, Al 87.33 47 ⇑P P 07 29 46.1 +0.5
baz=88,SNR=341
X14A Yava 87.37 50 ⇑P P 07 29 45.8 0.0
baz=88,SNR=221
T12A Moapa 87.37 47 ⇑P P 07 29 46.1 +0.3
baz=88
V13A Grand Canyon W 87.38 48 ⇑P P 07 29 46.0 +0.1
baz=88,SNR=230
G03A Yamhill 87.39 36 ⇓P P 07 29 46.1 +0.4
baz=88
217A Green Valley 87.40 53 ⇓P P 07 29 46.0 0.0
baz=88,SNR=542
P09A Austin 87.42 44 ⇓P P 07 29 46.2 +0.2
baz=88,SNR=75
Q10A Clear Creek Ra 87.47 45 ⇓P P 07 29 46.3 +0.2
baz=88,SNR=215
Y15A Casa Rosa Ranc 87.48 51 ⇓P P 07 29 46.4 +0.1
baz=88,SNR=281
K06A Valley Falls 87.50 40 ⇓P P 07 29 46.7 +0.5
baz=88,SNR=398
N08A GE Springer Mi 87.53 42 ⇑P P 07 29 46.5 +0.1
baz=88
L07A Adell 87.55 41 ⇓P P 07 29 47.0 +0.5
baz=88,SNR=611
H04A Detroit Lake 87.58 37 ⇑P P 07 29 46.9 +0.4
baz=88,SNR=94
BJT Baijiatuan 87.61 317 eP P 07 29 45.5 -1.3
BJT eS S 07 39 50.1 +5.5
BJT pmax pmax
comp=Z,123nm,0.9s
BJT Baijiatuan 87.61 317 eP P 07 29 45.5 -1.4
comp=Z,123nm,0.9s,mb5.6
BJT epP pP 07 31 42.3 +0.6
BJT eS S 07 39 50.0 +5.5
BJI Beijing 87.62 317 P P 07 29 47.4 +0.5
BJI AP pP 07 31 42.5 +0.8
BJI SS SS 07 45 48.9 +2.0
BJI AMB AMB
comp=Z,144nm,1.0s,mb5.7
BJI AMB AMB
comp=Z,1µm,4.4s
BJI Beijing 87.62 317 P P 07 29 47.4 +0.5
BJI *PP pP 07 31 42.5 +0.8
BJI S SKSac 07 39 23.0 -1.9
BJI SS SS 07 45 48.9 +2.0
BJI pmax pmax
comp=Z,144nm,1.0s,mb5.7
BJI MLR MLR
comp=Z,3µm,23.5s
BJI Beijing 87.62 317 P P 07 29 47.4 +0.5
comp=Z,144nm,1.0s,mb5.7
BJI pP pP 07 31 42.5 +0.8
BJI sP sP 07 32 36.5 +2.0
BJI S SKSac 07 39 23.0 -1.9
BJI sS sS 07 43 14.4 +5.0
BJI SS SS 07 45 48.9 +2.0
BJI LR LR
comp=Z,3µm,33.5s
F03A Seaside 87.64 36 ⇓P P 07 29 47.1 +0.3
baz=88
W14A Seligman 87.64 49 ⇓P P 07 29 47.5 +0.5
baz=88,SNR=251
U13A Pakoon Wash 87.70 48 ⇓P P 07 29 47.2 -0.1
baz=88,SNR=293
TUC Tucson 87.70 53 eP P 07 29 48.0 +0.6
TUC e 07 33 22.6
TUC pmax pmax
comp=Z,579nm,1.0s,mb6.3
TUC Tucson 87.70 53 eP P 07 29 48.0 +0.6
comp=Z,579nm,1.0s,mb6.3
TUC epP pP 07 31 46.4 +4.1
TUC ePP PP 07 33 22.6 -0.3
TUC eS S 07 39 34.7 -11
R11A Troy Canyon, C 87.72 45 ⇑P P 07 29 47.3 -0.1
baz=88,SNR=65
PLCA Paso Flores 87.72 134 P P 07 29 47.6 +0.1
comp=Z,99nm,1.0s,mb5.5,baz=222,slow=5.0,SNR=39
PLCA S S 07 39 35.0 -11
comp=Z,1.9nm,1.0s,baz=170,slow=12,SNR=1.8
PLCA PKKPbc PKKPbc 07 47 33.9 +1.8
comp=Z,5.2nm,0.8s,baz=67,slow=3.0,SNR=9.3
PLCA Paso Flores 87.72 134 P P 07 29 47.7 +0.2
PLCA S S 07 39 35.0 -11
PLCA pmax pmax
comp=Z,99nm,1.0s
PLCA smax
comp=N,2.0nm,1.0s
PLCA pmax pmax
comp=Z,5.0nm,0.8s
PLCA Paso Flores 87.72 134 ⇑eP P 07 29 47.6 0.0
comp=Z,607nm,1.6s,mb6.1
PLCA epP pP 07 31 47.9 +5.6
PLCA ePP PP 07 33 22.0 0.0
G04A Mulino 87.75 37 ⇓P P 07 29 47.9 +0.6
baz=88,SNR=79
O09A Fish Creek Ran 87.75 43 ⇓P P 07 29 47.4 -0.1
baz=88,SNR=217
I05A Bend 87.76 38 ⇓P P 07 29 47.8 +0.4
baz=88,SNR=172
S12A Delamar Landin 87.78 46 ⇑P P 07 29 48.3 +0.6
baz=88,SNR=130
Z16A Peralta Trail, 87.79 52 ⇓P P 07 29 47.2 -0.6
baz=88,SNR=210
318A Bisbee 87.83 54 ⇓P P 07 29 47.8 -0.2
baz=88,SNR=608
J06A Christmas Vall 87.83 39 ⇑P P 07 29 47.7 -0.1
baz=88,SNR=455
X15A Humboldt 87.83 50 ⇑P P 07 29 48.2 +0.3
baz=88,SNR=318
V14A Boquillas Ranc 87.85 49 ⇓P P 07 29 48.3 +0.3
baz=88,SNR=281
117A Oracle 87.87 52 ⇓P P 07 29 48.9 +0.7
baz=88,SNR=355
BMN Battle Mountai 87.89 43 eP P 07 29 47.7 -0.4
BMN e 07 33 23.2
BMN pmax pmax
comp=Z,1µm,1.4s,mb6.4
BMN Battle Mountai 87.89 43 eP P 07 29 47.7 -0.4
comp=Z,1µm,1.4s,mb6.4
BMN epP pP 07 31 44.8 +1.8
BMN ePP PP 07 33 23.2 -0.9
P10A Eureka 87.89 44 ⇓P P 07 29 48.0 -0.1
baz=88,SNR=63
SFJM Santa Fe 87.92 66 i P P 07 29 48.1 -0.6
Q11A Duckwater 87.96 45 ⇑P P 07 29 48.3 -0.2
baz=88,SNR=223
K07A Rock Creek Ran 88.02 40 ⇑P P 07 29 48.8 +0.2
baz=88,SNR=563
E03A Lebam 88.04 35 ⇑P P 07 29 49.0 +0.3
baz=88,SNR=62
Y16A Circle Bar Ran 88.04 51 ⇑P P 07 29 49.4 +0.5
baz=88,SNR=564
218A Dragoon 88.06 53 ⇓P P 07 29 49.7 +0.6
baz=88,SNR=275
T13A Saint George 88.08 47 ⇓P P 07 29 49.1 +0.1
baz=88,SNR=317
H05A Madras 88.09 38 ⇑P P 07 29 49.5 +0.6
baz=88,SNR=170
BMW Boistfort Moun 88.17 36 eP P 07 29 49.2 0.0
W15A Williams 88.18 50 ⇑P P 07 29 50.1 +0.5
baz=88,SNR=97
WVOR Wild Horse Val 88.22 41 eP P 07 29 49.4 -0.2
WVOR e 07 33 19.9
WVOR pmax pmax
comp=Z,785nm,1.2s,mb6.3
WVOR Wild Horse Val 88.22 41 eP P 07 29 49.4 -0.2
comp=Z,785nm,1.2s,mb6.3
WVOR ePP PP 07 33 19.9 -6.8
I06A Prineville 88.22 39 ⇓P P 07 29 49.9 +0.3
baz=88,SNR=607
U14A Mt Trumbull 88.23 48 ⇓P P 07 29 50.1 +0.3
baz=88,SNR=324
L08A Fields 88.25 41 ⇑P P 07 29 49.8 +0.1
baz=88,SNR=675
F04A Amboy 88.25 36 ⇓P P 07 29 49.9 +0.3
baz=88,SNR=171
O10A Cortez Mining, 88.25 43 ⇑P P 07 29 50.1 +0.3
baz=89,SNR=160
D03A Wishkah Elem. 88.30 35 ⇑P P 07 29 50.2 +0.3
baz=89,SNR=23
P11A Circle Ranch, 88.30 44 ⇑P P 07 29 50.4 +0.3
baz=89,SNR=33
319A Douglas 88.31 54 ⇓P P 07 29 50.8 +0.5
baz=88,SNR=306
M09A Marrel Ranch, 88.33 42 ⇑P P 07 29 50.4 +0.3
baz=89,SNR=269
VIPM Ingram Point 88.34 38 P P 07 29 50.2 +0.1
R12A Pony Springs, 88.34 46 ⇑P P 07 29 50.3 +0.1
baz=89,SNR=118
SVW2 Sparrevohn 88.34 12 eP P 07 29 50.9 +1.2
X16A Lo Mia Camp, P 88.35 51 ⇑P P 07 29 50.3 -0.1
baz=89,SNR=433
EFI East Falkland 88.38 148 P P 07 29 50.5 +0.2
comp=Z,6µm,0.9s,mb7.3,SNR=47
EFI East Falkland 88.38 148 eP P 07 29 49.7 -0.6
EFI pmax pmax
comp=Z,949nm,0.9s,mb6.5
EFI East Falkland 88.38 148 eP P 07 29 49.7 -0.6
comp=Z,949nm,0.9s,mb6.5
EFI epP pP 07 31 46.9 +1.6
EFI esP sP 07 32 41.1 +2.9
Y17A Roosevelt 88.39 51 ⇑P P 07 29 50.8 +0.2
baz=89,SNR=270
J07A Hines 88.39 40 ⇑P P 07 29 50.6 +0.2
baz=89,SNR=39
G05A Wamic 88.41 37 ⇑P P 07 29 50.4 0.0
baz=89,SNR=62
S13A Holt Ranch, En 88.42 47 ⇓P P 07 29 50.5 -0.1
baz=89,SNR=145
NLWA Neilton Lookou 88.43 35 ⇑P P 07 29 51.1 +0.6
baz=89,SNR=55
NLWA Neilton Lookou 88.43 35 eP P 07 29 50.9 +0.5
comp=Z,517nm,1.1s,mb6.2
NLWA ePP PP 07 33 25.3 -3.0
C03A Quillayute Air 88.44 34 ⇑P P 07 29 51.3 +0.9
baz=89,SNR=39
Z17A San Carlos Hig 88.44 52 ⇓P P 07 29 51.1 +0.2
baz=89,SNR=133
118A Homack Ranch, 88.46 53 ⇑P P 07 29 50.9 -0.1
baz=89,SNR=436
K08A Mann Creek Ran 88.49 41 ⇓P P 07 29 51.2 +0.4
baz=89,SNR=812
OOW Octopus West 88.49 34 P P 07 29 51.8 +1.1
E04A Onalaska 88.51 36 ⇑P P 07 29 51.1 +0.3
baz=89,SNR=55
L09A Wilkinson Ranc 88.55 42 ⇓P P 07 29 51.0 -0.1
baz=89,SNR=179
V15A Kaibab Nationa 88.59 49 ⇑P P 07 29 51.6 +0.1
baz=89,SNR=339
Q12A Willow Creek R 88.60 45 ⇓P P 07 29 51.8 +0.4
baz=89,SNR=182
H06A Lindquist Farm 88.64 38 ⇑P P 07 29 51.9 +0.4
baz=89,SNR=602
W16A Flagstaff 88.65 50 ⇓P P 07 29 52.0 +0.2
baz=89,SNR=224
Z18A Inyonimo 88.65 52 ⇓P P 07 29 52.1 +0.2
baz=89,SNR=51
T14A Hurricane 88.65 48 ⇓P P 07 29 51.8 +0.1
baz=89,SNR=130
219A White Tail Can 88.65 54 ⇑P P 07 29 52.3 +0.4
baz=89,SNR=340
R13A O'Grain Ranch, 88.68 46 ⇓P P 07 29 52.1 +0.3
baz=89,SNR=75
CAIG El Cayaco 88.69 71 i P P 07 29 52.5 +0.1
O11A Cowboy Ranch, 88.69 44 ⇓P P 07 29 52.1 +0.2
baz=89,SNR=336
TIY Taiyuan 88.70 313 eP P 07 29 54.7 +2.7
I07A Izee 88.71 39 ⇓P P 07 29 52.1 +0.3
baz=89,SNR=602
CCUT Cedar City 88.73 47 eP P 07 29 52.1 0.0
CCUT ePP PP 07 33 25.5 -5.3
SEW Seward 88.73 15 eP P 07 29 51.1 -0.4
F05A White Salmon 88.74 37 ⇓P P 07 29 52.4 +0.5
baz=89,SNR=76
X17A Forest Lakes 88.75 51 ⇓P P 07 29 52.4 +0.1
baz=89,SNR=98
G06A Carlson Farm, 88.78 38 ⇓P P 07 29 52.6 +0.5
baz=89,SNR=206
P12A McGill 88.79 45 ⇑P P 07 29 52.5 +0.2
baz=89,SNR=134
D04A Dobbs Creek Ra 88.80 35 ⇓P P 07 29 53.0 +0.8
baz=89,SNR=21
ARUT Antelope Range 88.81 47 eP P 07 29 52.7 +0.2
ARUT e 07 33 28.2
CCHI Chillan 88.83 130 ⇑i P P 07 29 52.6 -0.2
U15A North Rim 88.84 49 ⇑P P 07 29 52.9 +0.3

baz=89,SNR=330
J08A Circle Bar Ran 88.87 40 ⇑P P 07 29 52.7 +0.1
baz=89,SNR=482
ACX Acapulco 88.91 71 *i* P P 07 29 55.3 +1.9
SLKM Skilak Lake 88.91 14 *e*P P 07 29 50.5 -1.9
K09A Rome 88.92 41 ⇑P P 07 29 53.0 +0.2
baz=89,SNR=667
M10A I.L. Ranch, Tu 88.94 42 ⇓P P 07 29 53.4 +0.4
baz=89,SNR=415
S14A Cedar City 88.97 47 ⇑P P 07 29 53.4 +0.1
baz=89,SNR=102
WUAZ Wupatki 88.98 50 ⇓P P 07 29 53.3 0.0
baz=89,SNR=199
WUAZ Wupatki 88.98 50 *e*P P 07 29 53.2 -0.1
comp=Z,562nm,1.3s,mb6.2
WUAZ *es*P sP 07 32 44.9 +3.7
WUAZ *e*PP PP 07 33 32.9 0.0
H07A Lands Inn, Kim 88.99 39 ⇑P P 07 29 52.7 -0.4
baz=89,SNR=545
E05A Randle 89.00 36 ⇑P P 07 29 52.7 -0.4
baz=89,SNR=178
Y18A Canyon Day Jun 89.01 52 ⇑P P 07 29 53.5 0.0
baz=89,SNR=695
119A Ashpeak Ranch, 89.01 53 ⇑P P 07 29 53.3 -0.3
baz=89,SNR=147
F06A Goldendale 89.03 37 ⇑P P 07 29 53.4 +0.1
baz=89,SNR=161
N11A Elko Archery C 89.03 43 ⇓P P 07 29 53.2 -0.2
baz=89,SNR=53
B04A Port Angeles 89.05 34 ⇑P P 07 29 53.9 +0.6
baz=89,SNR=114
Q13A Wheeler Ranch, 89.07 46 ⇓P P 07 29 53.8 +0.2
baz=89,SNR=120
GNW Green Mountain 89.08 35 *e*P P 07 29 53.4 -0.1
T15A Red Dirt Ranch 89.09 48 ⇑P P 07 29 54.0 +0.1
baz=89,SNR=177
C04A Brinnon 89.10 35 ⇓P P 07 29 53.8 +0.2
baz=89,SNR=36
I08A Drewsey 89.14 40 ⇑P P 07 29 54.1 +0.2
baz=89,SNR=262
XAN Xi'an 89.15 308 P P 07 29 54.6 +0.5
XAN AP pP 07 31 47.5 -1.9
XAN XP sP 07 32 37.7 -4.3
XAN SKS 07 39 33.9
XAN S S 07 40 02.0 +3.0
XAN SS SS 07 46 07.3 -1.8
XAN AMB AMB
comp=Z,156nm,1.1s,mb5.8
XAN AMB AMB
comp=Z,579nm,10.3s
W17A Winslow 89.21 50 ⇓P P 07 29 54.5 +0.1
baz=89,SNR=89
D05A Enumclaw 89.28 36 ⇑P P 07 29 54.7 +0.3
baz=90,SNR=238
J09A Fry Pan Ranch, 89.28 40 ⇑P P 07 29 54.4 -0.2
baz=90,SNR=543
ELK Elko 89.30 44 *e*P P 07 29 54.5 -0.2
ELK *e* 07 33 34.0
ELK pmax pmax
comp=Z,467nm,1.3s
ELK MLR MLR
comp=Z,1μm,20.0s
ELK Elko 89.30 44 *e*P P 07 29 54.5 -0.2
comp=Z,467nm,1.3s,mb6.2
ELK *e*PP PP 07 33 34.0 -1.3
ELK LR LR
comp=Z,1μm,20.0s
Z19A T-Link Ranch, 89.31 53 ⇑P P 07 29 54.5 -0.4
baz=90,SNR=64
L10A Juniper Basin 89.31 42 ⇓P P 07 29 54.7 0.0
baz=90,SNR=854
G07A Ruggs Ranch, H 89.34 38 ⇓P P 07 29 54.5 -0.3
baz=90,SNR=210
O12A Currie 89.34 44 ⇑P P 07 29 54.8 -0.1
baz=90,SNR=156
M11A Holland Ranch, 89.35 43 ⇑P P 07 29 55.1 +0.3
baz=90,SNR=412
P13A Bates Ranch, G 89.35 45 ⇑P P 07 29 54.9 0.0
baz=90,SNR=465
ZAIG Zacatecas 89.36 65 *i* P P 07 29 56.8 +1.4
R14A James Farms, M 89.36 47 ⇓P P 07 29 54.8 -0.2
baz=90
E06A Yakima 89.41 37 ⇓P P 07 29 55.3 +0.3
baz=90,SNR=161
KMI Kunming 89.42 298 P P 07 29 57.0 +1.4
KMI AP pP 07 31 51.0 +0.1
KMI XP sP 07 32 40.1 -3.5
KMI PP PP 07 33 38.9 +2.4
KMI SKS 07 39 37.2
KMI S S 07 40 03.2 +1.3
KMI SS SS 07 46 15.4 +2.1
KMI AMB AMB
comp=Z,70nm,1.2s,mb5.4
KMI AMB AMB
comp=Z,505nm,5.4s
KMI Kunming 89.42 298 P P 07 29 57.0 +1.4
KMI *PP pP 07 31 51.0 +0.1
KMI *SP sP 07 32 40.1 -3.5
KMI 07 33 38.9
KMI PPP 07 35 44.7
KMI 07 39 37.2
KMI S S 07 40 03.2 +1.3
KMI SS SS 07 46 15.4 +2.1
KMI SSS 07 49 57.1
KMI pmax pmax
comp=Z,70nm,1.2s,mb5.4
KMI MLR MLR
comp=Z,2μm,23.0s
KMI Kunming 89.42 298 P P 07 29 57.0 +1.4
comp=Z,70nm,1.2s,mb5.4
KMI pP pP 07 31 51.0 +0.1
KMI sP sP 07 32 40.1 -3.5
KMI PP PP 07 33 38.9 +2.4
KMI PPP 07 35 44.7
KMI SKS 07 39 37.2
KMI S S 07 40 03.2 +1.3
KMI PS PS 07 42 22.9 +1.0
KMI sS sS 07 43 25.6 -2.0
KMI SS SS 07 46 15.4 +2.1
KMI SSS 07 49 57.1
KMI LR LR
comp=Z,2μm,23.0s
H08A Prairie City 89.45 39 ⇓P P 07 29 55.2 -0.1
baz=90,SNR=128
X18A Snowflake 89.46 51 ⇓P P 07 29 55.7 +0.2
baz=90,SNR=333
PGC Sidney 89.46 34 *e*P P 07 29 54.8 -0.4
comp=Z,858nm,0.9s,mb6.6
S15A Panguitch 89.46 47 ⇑P P 07 29 56.5 +1.0
baz=90,SNR=168
K10A MacKenzie Ranc 89.47 41 ⇑P P 07 29 55.3 -0.1
baz=90,SNR=479
U16A Tuba City 89.48 49 ⇓P P 07 29 55.8 +0.2
baz=90,SNR=324
N12A Clover Valley, 89.49 44 ⇓P P 07 29 55.4 -0.2
baz=90,SNR=231
CMAR Chiang Mai Arr 89.50 291 P P 07 29 56.5 +0.4
comp=Z,38nm,1.0s,mb5.2,baz=138,slow=3.3,SNR=58
CMAR pP pP 07 31 50.5 -1.0
comp=Z,1.1nm,0.3s,baz=10,slow=21,SNR=1.4
CMAR PP PP 07 33 36.9 -0.3
comp=Z,14nm,1.1s,baz=146,slow=4.6,SNR=2.6
CMAR S S 07 39 49.8 -13
comp=Z,1.2nm,0.3s,baz=216,slow=26,SNR=5.7
CMAR PKKPbc PKKPbc 07 47 27.5 +0.2
comp=Z,14nm,0.8s,baz=288,slow=4.2,SNR=22
CMAR SKKP 07 50 14.7
comp=Z,7.8nm,0.9s,baz=292,slow=6.1,SNR=4.2
CMAR Chiang Mai Arr 89.50 291 *i* P P 07 29 57.5 +1.4
CMAR pmax pmax
comp=Z,39nm,1.0s
RC01 Rabbit Creek A 89.54 14⇑ *e*P P 07 29 54.5 -0.8
comp=Z,430nm,1.1s,mb6.2
RC01 *e*pP pP 07 31 54.7 +4.1
Q14A Sevier Lake (B 89.58 46 ⇑P P 07 29 56.2 +0.3
baz=90,SNR=578
F07A Phinny Hill Vi 89.58 37 ⇑P P 07 29 56.4 +0.6
baz=90,SNR=26
Y19A Nutrioso 89.66 52 ⇓P P 07 29 56.9 +0.4
baz=90,SNR=304
I09A Lost Marbles R 89.66 40 ⇑P P 07 29 56.2 -0.1
baz=90,SNR=166
CHG Chiang Mai 89.66 291 ⇓P P 07 29 57.5 +0.6
comp=Z,60nm,1.0s,mb5.4
CHTO Chiang Mai 89.66 291 ⇓P P 07 29 58.1 +1.2
SNR=18
CHTO Chiang Mai 89.66 291 *e*P P 07 29 57.1 +0.2
CHTO *e* 07 33 38.9
CHTO *e*S SKSac 07 39 41.1 +3.4
CHTO pmax pmax
comp=Z,104nm,1.1s,mb5.6
CHTO Chiang Mai 89.66 291 *e*P P 07 29 57.1 +0.3
comp=Z,104nm,1.1s,mb5.6
CHTO *e*pP pP 07 31 53.2 +1.0
CHTO *e*PP PP 07 33 38.9 +0.5
CHTO *e*S SKSac 07 39 41.1 +3.4
T16A Glen Canyon Da 89.67 48 ⇓P P 07 29 56.7 +0.2
baz=90,SNR=111
O13A Hicks Ranch, I 89.75 45 ⇑P P 07 29 57.0 +0.2
baz=90,SNR=137
G08A Pilot Rock 89.75 38 ⇑P P 07 29 56.7 0.0
baz=90,SNR=305
C05A Tolt Reservoir 89.75 35 ⇑P P 07 29 56.5 -0.1
baz=90,SNR=88
L11A Cat Creek Ranc 89.79 42 ⇓P P 07 29 56.9 0.0
baz=90,SNR=456
X19A St. Johns 89.87 52 ⇓P P 07 29 57.5 0.0
baz=90,SNR=194
A04A Legoe Bay, Lum 89.88 34 ⇑P P 07 29 57.5 +0.4
baz=90,SNR=56
M12A Wells 89.88 43 ⇓P P 07 29 57.7 +0.4
baz=90,SNR=284
D06A Cle Elum 89.89 36 ⇓P P 07 29 57.5 +0.3
baz=90,SNR=106
B05A Bryant 89.91 35 ⇓P P 07 29 57.4 +0.2
baz=90,SNR=101
W18A Petrified Fore 89.91 51 ⇓P P 07 29 57.6 0.0
baz=90,SNR=46
J10A Berg Farm, Mel 89.91 41 ⇑P P 07 29 57.6 +0.2
baz=90,SNR=103
PLIG Platanillo 89.94 70 *i* P P 07 29 59.0 +0.8
JCW Jim Creek 89.95 35 *e*P P 07 29 57.6 +0.2
JCW *e*PP PP 07 33 38.8 -1.3
CRAG Craig 89.95 25 *e*P P 07 29 55.5 -1.8
comp=Z,177nm,0.8s,mb6.0
CRAG LR LR
comp=Z,1μm,18.0s
PAYG Puerto Ayora 89.96 91 *e*P P 07 30 00.1 +1.7
comp=Z,1μm,2.0s,mb6.4
K11A Parker Ranch, 89.97 42 ⇑P P 07 29 58.0 +0.3
baz=90,SNR=368
S16A Weppner Ranch, 90.00 48 ⇑P P 07 29 57.8 -0.2
baz=90,SNR=134
N13A Wendover, West 90.01 44 ⇓P P 07 29 58.0 +0.1
baz=90,SNR=143
EYAK Cordova Ski Ar 90.03 16 *e*PKPdf P 07 29 58.4 +0.8
comp=Z,238nm,0.8s,mb6.1
E07A Sunnyside 90.03 37 ⇑P P 07 29 58.6 +0.7
baz=90,SNR=115
MSU Marysvale 90.04 47 *e*P P 07 29 58.4 +0.3
MSU *e* 07 33 37.9
P14A Drum Mountains 90.04 46 ⇓P P 07 29 58.5 +0.4
baz=90,SNR=31
U17A Shonto 90.04 49 ⇓P P 07 29 58.6 +0.4
baz=90,SNR=112
RSW Rattlesnake Hi 90.07 37 *e*P P 07 29 58.3 +0.2
RSW *e*PP PP 07 33 39.4 -1.8
RSW *e*PKPdf PKiKP 07 34 55.0 +4.7
V18A Ganado 90.08 50 ⇑P P 07 29 58.5 +0.1
baz=90,SNR=254
HAWA Hanford 90.10 37 *e*P P 07 29 58.2 -0.1
comp=Z,613nm,1.4s,mb6.2
HAWA *e*PP PP 07 33 38.6 -2.8
HAWA *e*PKPdf PKiKP 07 34 56.4 +6.1
H09A Durkee 90.12 39 ⇑P P 07 29 58.3 0.0
baz=90,SNR=124
PMR Palmer 90.12 14 *e*P P 07 29 55.8 -2.1
PMR pmax pmax
comp=Z,187nm,1.1s,mb5.8
PMR Palmer 90.12 14 *e*P P 07 29 55.8 -2.2
comp=Z,188nm,1.1s,mb5.8
T17A Navajo Res., N 90.15 49 ⇑P P 07 29 59.0 +0.3
baz=90,SNR=109
W19A Sanders 90.15 51 ⇓P P 07 29 58.9 +0.1
baz=90,SNR=39
F08A Pendleton 90.16 38 ⇓P P 07 29 58.0 -0.5
baz=90,SNR=87
Q15A Fillmore 90.17 46 ⇓P P 07 29 58.7 0.0
baz=90,SNR=99
L12A House Creek Ra 90.23 43 ⇑P P 07 29 58.9 0.0
baz=90,SNR=346
PNIG Pinotepa 90.24 72 *i* P P 07 30 01.8 +2.3
NICH Los Niches 90.25 129 *e*P P 07 29 59.0 -0.4
I10A Payette 90.28 40 ⇑P P 07 29 59.1 0.0
baz=91,SNR=71
C06A Tall Timber Ra 90.32 35 ⇑P P 07 29 59.3 +0.1
baz=91,SNR=28
M13A Montello 90.32 44 ⇑P P 07 29 59.6 +0.2
baz=91,SNR=339
RPW Rockport 90.32 35 *e*P P 07 29 57.6 -1.6
SIT Sitka 90.34 23 *e*P P 07 29 59.3 +0.2
SIT pmax pmax
comp=Z,303nm,1.4s,mb5.9
SIT Sitka 90.34 23 *e*P P 07 29 59.3 +0.3
comp=Z,303nm,1.4s,mb5.9
D07A Quincy 90.35 36 ⇓P P 07 29 59.8 +0.4
baz=91,SNR=60
R16A Teasdale 90.38 47 ⇓P P 07 29 59.7 0.0
baz=91,SNR=50
A05A Maple Falls 90.38 34 ⇑P P 07 29 59.6 +0.2
baz=91,SNR=34
B06A Marblemount 90.38 35 ⇑P P 07 29 59.4 0.0
baz=91,SNR=28
G09A Cove 90.41 39 ⇑P P 07 29 59.9 +0.3
baz=91,SNR=89
ETW Entiat 90.42 36 *e*P P 07 29 59.2 -0.4
ETW *e*pP pP 07 31 57.9 +2.8
ETW *e*PP PP 07 33 40.1 -3.7
E08A Dider Farm, El 90.42 37 ⇓P P 07 30 00.0 +0.3
baz=91,SNR=94
MFID Camas Ranch 90.47 41 ⇑P P 07 30 00.0 0.0
baz=91,SNR=276
LNOR Lincton Mounta 90.48 38 *e*P P 07 29 59.4 -0.6
S17A Black Ridge (B 90.49 48 ⇓P P 07 29 59.9 -0.4
baz=91,SNR=121
YAIG Yautepec 90.52 69 *i* P P 07 30 00.7 -0.1
DUG Dugway 90.53 45 *e*P P 07 29 59.9 -0.5
DUG pmax pmax
comp=Z,317nm,1.4s,mb6.0
DUG MLR MLR
comp=Z,911nm,20.0s
DUG Dugway 90.53 45 ⇓P P 07 30 00.1 -0.3
baz=91,SNR=141
DUG Dugway 90.53 45 *e*P P 07 29 59.9 -0.5
comp=Z,316nm,1.4s,mb6.0
DUG *e*PP PP 07 33 37.3 -7.6
DUG LR LR
comp=Z,911nm,20.0s
P15A Leamington 90.54 46 ⇓P P 07 30 00.5 +0.1
baz=91,SNR=28
K12A Draper Farm, C 90.58 42 ⇑P P 07 30 00.2 -0.3
baz=91,SNR=219
F09A S2 Ranch, Elgi 90.59 38 ⇑P P 07 30 00.6 0.0
baz=91,SNR=59
H10A Noah's Angus R 90.60 40 ⇑P P 07 30 00.2 -0.3
baz=91,SNR=150
C07A Waterville 90.61 36 ⇓P P 07 30 00.5 0.0
baz=91,SNR=76
UNM Universidad Na 90.63 69 *i* P P 07 30 01.8 +0.5
PPLA Purkeypile 90.64 13 *e*P P 07 29 59.1 -1.2
comp=Z,41nm,0.9s,mb5.4
N14A Grayback Hills 90.65 44 ⇓P P 07 30 00.9 -0.1
baz=91,SNR=50
I11A Placerville 90.67 41 ⇑P P 07 30 01.1 +0.1
baz=91,SNR=192
V19A Window Rock 90.70 51 ⇓P P 07 30 00.8 -0.5
baz=91,SNR=55
A06A Chilliwack 90.75 34 ⇑P P 07 30 01.3 +0.2
baz=91,SNR=36
PBVM Pinon 90.76 69 *i* P P 07 30 01.2 -0.7
BGU Big Grassy Mou 90.79 44 *e*P P 07 30 01.4 -0.2
BGU *e*PP PP 07 33 42.2 -4.8
G10A Bishop Farm, J 90.80 39 ⇑P P 07 30 01.2 -0.2
baz=91,SNR=90
O15A The Old Anders 90.80 45 ⇑P P 07 30 01.6 0.0
baz=91,SNR=59
PTVM Pico Tres Padr 90.80 69 *i* P P 07 30 02.9 +0.8
J12A Stokes Ranch, 90.81 42 ⇓P P 07 30 01.4 -0.2
baz=91,SNR=435
D08A Wollman Farm, 90.84 37 ⇓P P 07 30 01.7 0.0
baz=91,SNR=86
T18A Mexican Hat 90.86 49 ⇓P P 07 30 01.8 -0.1
baz=91,SNR=499
L13A Double Diamond 90.86 43 ⇓P P 07 30 01.5 -0.3
baz=91,SNR=89
NLU North Lily Min 90.88 46 *e*P P 07 30 01.9 -0.1
M14A Sheep Mountain 90.91 44 ⇓P P 07 30 01.6 -0.5
baz=91,SNR=282
Q16A Castle Valley 90.92 47 ⇑P P 07 30 02.4 +0.2
baz=91,SNR=171
E09A Wood Farm, Sta 90.94 38 ⇓P P 07 30 02.2 +0.1
baz=91,SNR=110
WRAK Wrangell Islan 90.95 24 *e*P P 07 30 02.1 +0.3
comp=Z,448nm,1.5s,mb6.2
WRAK LR LR
comp=Z,2μm,20.0s
R17A Hanksville Air 90.96 48 ⇓P P 07 30 01.8 -0.6
baz=91,SNR=115
P16A Fountain Green 90.97 46 ⇑P P 07 30 02.9 +0.5
baz=91,SNR=65
HHC Hu-ho-hao-te 90.98 315⇑ *i*P P 07 30 03.7 +1.3
HHC AP pP 07 31 57.3 -0.7
HHC XP sP 07 32 48.5 -2.0
HHC PP PP 07 33 51.2 +2.8
HHC SKS 07 39 45.8
HHC S S 07 40 14.1 -1.0
HHC XS sS 07 43 36.9 -4.9
HHC SS SS 07 46 39.0 +4.0
HHC AMB AMB
comp=Z,694nm,5.5s
PPM Popocatepetl 90.98 69 *i* P P 07 30 04.9 +1.9
TNA Tin City 90.99 5 *e*P P 07 30 01.4 -0.4
comp=Z,256nm,1.0s,mb6.1
B07A Winthrop 91.06 35 ⇓P P 07 30 01.8 -0.8
baz=91,SNR=76
S18A Hurst Farm, Bl 91.06 48 ⇓P P 07 30 02.2 -0.7
baz=91,SNR=41
PNL Peninsula 91.07 20 *e*P P 07 30 02.2 -0.2
comp=Z,107nm,0.8s,mb5.8
K13A Stover Farm, H 91.09 43 ⇓P P 07 30 02.1 -0.7
baz=91,SNR=280
H11A Donnelly 91.09 40 ⇑P P 07 30 02.6 -0.2
baz=91,SNR=247
TMUT Trail Mountain 91.09 47 *e*P P 07 30 03.5 +0.5
N15A Stansbury Isla 91.10 45 ⇓P P 07 30 02.2 -0.8
baz=91,SNR=31
IIO Organos 91.13 69 *i* P P 07 30 04.1 +0.5
F10A Beach Ranch, E 91.14 39 ⇑P P 07 30 02.6 -0.4
baz=91,SNR=204
OD2 Odessa Site #2 91.16 37 *e*P P 07 30 02.3 -0.7
OD2 *e*pP pP 07 32 02.0 +3.4
HIA Hailar 91.18 326⇑ *e*P P 07 30 02.8 -0.3
HIA *e* 07 33 46.4
HIA *e*S S 07 40 19.3 +2.9
HIA pmax pmax
comp=Z,92nm,1.5s
HIA Hailar 91.18 326⇑ *e*P P 07 30 02.8 -0.3
comp=Z,92nm,1.5s,mb5.5
HIA *e*pP pP 07 32 00.0 +1.4
HIA *e*PP PP 07 33 46.4 -3.4
HIA *e*S S 07 40 19.3 +2.9
D09A Jones Farm, Ri 91.18 37 ⇑P P 07 30 03.0 -0.1
baz=92,SNR=53
MPU Maple Canyon 91.20 46 *e*P P 07 30 03.1 -0.4
comp=Z,337nm,1.0s,mb6.2
C08A Higginbotham F 91.21 36 ⇓P P 07 30 03.1 -0.2
baz=92,SNR=25
NOQ North Oquirrh 91.23 45 *e*P P 07 30 03.7 +0.2
L14A Malta 91.27 43 ⇑P P 07 30 03.8 +0.1
baz=92,SNR=177
A07A Ashnola River, 91.28 35 ⇓P P 07 30 03.4 -0.2
baz=92,SNR=68
T19A Beclabito 91.28 50 ⇓P P 07 30 03.7 -0.3
baz=92,SNR=123
G11A Walters Elk Ra 91.35 39 ⇓P P 07 30 03.7 -0.3
baz=92,SNR=277
SPUT South Promonto 91.37 44 *e*P P 07 30 05.9 +1.6
CD2 Chengdu 91.37 304⇓ *i*P P 07 30 05.3 +0.8
CD2 AP pP 07 31 59.2 -0.8
CD2 XP sP 07 32 49.7 -2.9
CD2 PP PP 07 33 54.9 +3.3
CD2 SKS 07 39 48.4
CD2 S S 07 40 22.1 +3.1
CD2 XS sS 07 43 40.8 -5.1
CD2 SS SS 07 46 40.2 -0.7
CD2 AMB AMB
comp=Z,190nm,1.0s,mb6.0
CD2 AMB AMB
comp=Z,790nm,7.2s
O16A Springville 91.39 46 ⇓P P 07 30 03.7 -0.6
baz=92
Y22D IRIS PASSCAL I 91.39 53 ⇓P P 07 30 04.6 +0.1
baz=92
LAZ Ladron 91.39 52 *e*P P 07 30 04.5 0.0
LAZ *e*PP PP 07 33 49.6 -2.1
LENM Lemitar 91.39 53 *e*P P 07 30 05.0 +0.4
HLID Hailey 91.40 42 ⇓P P 07 30 04.5 +0.2
baz=92,SNR=175
HLID Hailey 91.40 42 *e*P P 07 30 03.8 -0.4
comp=Z,283nm,1.4s,mb6.0
HLID *e*PP PP 07 33 47.2 -4.4
B08A Colville Reser 91.41 36 ⇑P P 07 30 03.5 -0.7
baz=92,SNR=67
HVU Hansel Valley 91.42 44 *e*P P 07 29 58.4 -6.0
J13A Cove Ranch, Pi 91.45 42 ⇑P P 07 30 04.5 0.0
baz=92,SNR=309
SRU San Rafael 91.45 47 *e*P P 07 30 04.2 -0.4
SRU *e* 07 33 51.9
SRU pmax pmax
comp=Z,315nm,1.0s,mb6.2
SRU San Rafael 91.45 47 ⇑P P 07 30 04.0 -0.6
baz=92,SNR=331
SRU San Rafael 91.45 47 *e*P P 07 30 04.2 -0.4
comp=Z,315nm,1.0s,mb6.2
SRU *es*P sP 07 32 57.3 +4.6
SRU *e*PP PP 07 33 51.9 -0.2
M15A Larsen Ranch, 91.45 44 ⇓P P 07 30 04.2 -0.4
baz=92,SNR=44
CTU Camp Tracy 91.48 45 *e*P P 07 30 04.5 -0.3
comp=Z,350nm,1.0s,mb6.2
KTH Kantishna Hill 91.49 13 *e*P P 07 30 01.9 -2.3
comp=Z,110nm,0.9s,mb5.8
KTH *e*pP pP 07 31 55.8 -4.0
R18A Canyonlands Na 91.49 48 ⇑P P 07 30 04.4 -0.5
baz=92,SNR=118
P17A Butcher Ranch, 91.50 47 ⇑P P 07 30 04.6 -0.3
baz=92,SNR=136
E10A Myers Farm, Un 91.50 38 ⇓P P 07 30 04.1 -0.6
baz=92,SNR=35
CHUM Lake Minchumin 91.51 12 *e*P P 07 30 02.0 -2.3
comp=Z,142nm,1.3s,mb5.8
CHUM *e*pP pP 07 32 03.8 +3.9
TRF Thorofare Moun 91.53 13 *e*P P 07 30 02.9 -1.5
comp=Z,122nm,0.8s,mb6.0
TRF *e*pP pP 07 32 01.4 +1.4
TXAR Lajitas Array 91.54 58 P P 07 30 05.3 0.0
comp=Z,143nm,0.8s,mb6.1,baz=211,slow=5.1,SNR=157
TXAR PP PP 07 33 53.7 +0.7
comp=Z,10nm,1.1s,baz=230,slow=7.5,SNR=4.1
TXAR S SKSac 07 39 48.9 +1.0
comp=Z,0.6nm,0.8s,baz=107,slow=1.3,SNR=4.3
TXAR PKKPbc PKKPbc 07 47 22.9 +0.3
comp=Z,3.7nm,0.7s,baz=95,slow=3.4,SNR=16
TXAR PKPPKP 07 55 33.0
comp=Z,1.3nm,1.0s,baz=113,slow=2.9,SNR=5.6
TXAR Lajitas Array 91.54 58 P P 07 30 05.3 0.0
TXAR 07 33 53.7
TXAR S SKSac 07 39 48.9 +1.0
TXAR Lajitas Array 91.54 58 P P 07 30 05.3 0.0
TXAR PP PP 07 33 53.7 +0.7
TXAR S SKSac 07 39 48.9 +1.0
TXAR PKKPbc PKKPbc 07 47 22.9 +0.3
TXAR P'P' 07 55 33.0
LMEL Las Melosas 91.57 129 *e*P P 07 30 06.7 +1.2
K14A Jones Ranch, D 91.59 43 ⇓P P 07 30 05.2 0.0
baz=92,SNR=185
JLU Jordanelle 91.63 45 *e*P P 07 30 04.7 -0.8
JLU *e*PP PP 07 33 48.9 -4.5
BNM Barren Site 91.64 53 *e*P P 07 30 05.2 -0.4
BNM *e*PP PP 07 33 48.7 -4.9
C09A Chrisman Ranch 91.64 37 ⇓P P 07 30 05.2 -0.1
baz=92,SNR=46
DAU Daniels Canyon 91.66 46 *e*P P 07 30 06.7 +1.1
S19A Harvey Farm, M 91.68 49 ⇓P P 07 30 05.6 -0.2
baz=92,SNR=124
H12A Diamond D Ranc 91.69 41 ⇓P P 07 30 05.3 -0.2
baz=92,SNR=211
F11A Grangeville 91.69 39 ⇓P P 07 30 04.5 -1.1

baz=92,SNR=36
Q18A Rafter H Ranch 91.70 47 ⇓P **P 07 30 05.2 -0.6**
baz=92,SNR=242
LPM Los Pinos Moun 91.71 53 *e*P **P**
HUIG Huatulco 91.71 73 *e*P **P 07 30 05.2 -1.2**
VHO Vista Hermosa 91.73 72 *i* P **P 07 30 06.5 +0.1**
OXX Oaxaca 91.75 72 *i* P **P 07 30 08.4 +1.9**
I13A Wildhorse Cree 91.77 42 ⇑P **P 07 30 05.6 -0.4**
baz=92,SNR=96
FCH Farellones 91.78 128 *e*P **P 07 30 06.7 +0.2**
L15A Malad City 91.79 44 ⇓P **P 07 30 05.8 -0.3**
baz=92,SNR=222
N16A Rees Ranch, Co 91.79 45 ⇑P **P 07 30 06.4 +0.3**
baz=92,SNR=143
A08A Turner Farm, O 91.80 35 ⇓P **P 07 30 06.1 +0.1**
baz=92,SNR=85
J14A Carey 91.81 42 ⇓P **P 07 30 06.2 0.0**
baz=92,SNR=251
MVCO Mesa Verde 91.84 49 ⇓P **P 07 30 06.7 +0.2**
baz=92,SNR=47
MVCO Mesa Verde 91.84 49 *e*P **P 07 30 06.8 +0.3**
comp=Z,134nm,1.3s,mb5.8
MVCO *e*PP PP 07 33 55.3 +0.2
O17A Robinson Place 91.88 46 ⇓P **P 07 30 06.6 0.0**
baz=92,SNR=990
M16A Huntsville 91.89 45 ⇑P **P 07 30 06.6 0.0**
baz=92,SNR=74
P18A Preston Nutter 91.90 47 ⇓P **P 07 30 06.7 0.0**
baz=92,SNR=45
E11A Bogner Ranch, 91.93 39 ⇑P **P 07 30 05.6 -1.1**
baz=92,SNR=33
BPAW Bear Paw Mtn. 91.97 13 *e*P **P 07 30 05.4 -1.0**
comp=Z,140nm,1.6s,mb5.7
H13A Challis 92.05 41 ⇓P **P 07 30 07.3 +0.1**
baz=92,SNR=105
MCK McKinley 92.06 13 *e*P **P 07 30 05.1 -1.7**
MCK pmax pmax
comp=Z,143nm,1.0s,mb6.0
MCK McKinley 92.06 13 *e*P **P 07 30 05.1 -1.7**
comp=Z,142nm,1.0s,mb6.0
MCK *e*pP pP 07 32 07.0 +4.6
PV10 Paradox Valley 92.06 48 *e*P **P 07 30 04.4 -3.1**
K15A Arbon 92.06 43 ⇑P **P 07 30 06.6 -0.8**
baz=92,SNR=96
B09A Rice 92.08 36 ⇑P **P 07 30 06.7 -0.6**
baz=92,SNR=56
HWUT Hardware Ranch 92.09 44 *e*P **P 07 30 06.8 -0.7**
comp=Z,109nm,0.8s,mb5.9
HWUT *e*PP PP 07 33 56.2 -0.8
F12A Elk City 92.14 40 ⇓P **P 07 30 07.3 -0.3**
baz=92,SNR=160
ANMO Albuquerque 92.15 52 *e*P **P 07 30 07.4 -0.6**
ANMO *e* 07 34 02.2
ANMO pmax pmax
comp=Z,145nm,1.0s
ANMO Albuquerque 92.15 52 *e*P **P 07 30 07.4 -0.5**
comp=Z,145nm,1.0s,mb6.0
ANMO *e*PP PP 07 34 02.2 +4.6
C10A Spilker Farm, 92.17 37 ⇑P **P 07 30 07.5 -0.2**
baz=92,SNR=13
A09A Danville 92.18 36 ⇑P **P 07 30 08.0 +0.2**
baz=92,SNR=47
I14A Mackay 92.18 42 ⇓P **P 07 30 07.8 0.0**
baz=92,SNR=154
SKAG Skagway 92.19 21 *e*P **P 07 30 05.0 -2.5**
comp=Z,188nm,1.0s,mb6.1
SKAG *e*pP pP 07 32 03.1 -0.1
SKAG LR LR
comp=Z,1μm,21.0s
N17A Moffit Pass 92.21 45 ⇑P **P 07 30 08.2 +0.1**
baz=92,SNR=62
Q19A Hogan Spring (92.21 48 ⇓P **P 07 30 07.7 -0.4**
baz=92,SNR=202
PV01 Paradox Valley 92.26 49 *e*P **P 07 30 07.5 -0.9**
D11A Klaveano Farm, 92.26 38 ⇑P **P 07 30 07.5 -0.7**
baz=92,SNR=54
E12A Beaver Dam Sad 92.33 39 ⇑P **P 07 30 08.0 -0.5**
baz=93,SNR=38
G13A Cobalt 92.36 40 ⇑P **P 07 30 08.5 -0.2**
baz=93,SNR=65
GDL2 Guadalupe Moun 92.36 55 *e*P **P 07 30 09.0 0.0**
O18A Roosevelt 92.39 46 ⇓P **P 07 30 08.5 -0.4**
baz=93,SNR=123
L16A Fish Haven 92.39 44 ⇑P **P 07 30 08.2 -0.7**
baz=93,SNR=69
B10A Chitwood Farm, 92.50 37 ⇓P **P 07 30 08.9 -0.3**
baz=93
J15A Blackfoot 92.51 43 ⇓P **P 07 30 09.3 -0.1**
baz=93,SNR=213
NEW Newport 92.54 37 *e*P **P 07 30 08.4 -1.0**
NEW pmax pmax
comp=Z,32nm,1.0s
NEW Newport 92.54 37 *e*P **P 07 30 08.4 -1.0**
comp=Z,32nm,1.0s,mb5.3
H14A Leadore 92.61 41 ⇑P **P 07 30 10.3 +0.5**
baz=93,SNR=78
F13A Darby 92.69 40 ⇑P **P 07 30 09.6 -0.6**
baz=93,SNR=97
A10A Northport 92.72 36 ⇑P **P 07 30 10.0 -0.2**
baz=93,SNR=22
K16A Soda Springs 92.73 43 ⇑P **P 07 30 10.4 0.0**
baz=93,SNR=17
C11A Tepee Creek (N 92.76 37 ⇑P **P 07 30 10.5 +0.1**
baz=93,SNR=154
I15A Monteview 92.80 42 ⇓P **P 07 30 11.3 +0.6**
baz=93,SNR=34
D12A Red Ives Fores 92.82 38 ⇓P **P 07 30 10.4 -0.3**
baz=93
G14A Jackson 92.90 41 ⇑P **P 07 30 11.3 +0.2**
baz=93,SNR=25
J16A Bone 92.95 43 ⇑P **P 07 30 11.9 +0.4**
baz=93,SNR=110
N18A Larsen Ranch, 92.98 46 ⇓P **P 07 30 11.6 0.0**
baz=93,SNR=48
O19A Miners Draw (B 92.99 47 ⇑P **P 07 30 11.6 -0.1**
baz=93,SNR=121
AHID Auburn Hatcher 93.00 44 *e*P **P 07 30 11.6 0.0**
comp=Z,398nm,1.5s,mb6.2
AHID *e*PP PP 07 34 01.0 -3.0
MCMT McKenzie Canyo 93.03 41 *e*P **P 07 30 12.2 +0.4**
MCMT *e*PP PP 07 33 59.6 -4.6
H15A Lima 93.04 42 ⇓P **P 07 30 11.9 +0.1**
baz=93,SNR=63
B11A Sandpoint 93.05 37 ⇓P **P 07 30 11.8 +0.1**
baz=93,SNR=35
C12B Naegeli Ranch, 93.12 38 ⇓P **P 07 30 11.8 -0.3**
baz=93,SNR=63
E13A Victor 93.14 39 ⇓P **P 07 30 11.5 -0.7**
baz=93,SNR=25
RRI2 Red Ridge 93.17 43 *e*P **P 07 30 12.2 -0.3**
comp=Z,386nm,1.5s,mb6.2
RRI2 *e*PP PP 07 34 02.2 -3.1
N19A John Jarvie Ra 93.26 46 ⇓P **P 07 30 12.5 -0.4**
baz=94,SNR=48
F14A Wisdom 93.26 40 ⇑P **P 07 30 12.2 -0.6**
baz=94,SNR=25
DLBC Dease Lake 93.28 24 *e*P **P 07 30 13.6 +1.1**
DLBC *e*PP PP 07 34 06.6 +0.8
COLA College 93.29 13 *e*P **P 07 30 11.1 -1.4**
COLA pmax pmax
comp=Z,102nm,1.0s,mb5.8
COLA College 93.29 13 *e*P **P 07 30 11.1 -1.4**
comp=Z,102nm,1.0s,mb5.8
COLA *e*pP pP 07 32 09.3 +1.1
D13A Huson 93.34 39 ⇑P **P 07 30 12.0 -1.2**
baz=94,SNR=26
I16A Newdale 93.35 43 ⇑P **P 07 30 13.4 +0.2**
baz=94,SNR=104
A11A Hall Mountain, 93.35 36 ⇑P **P 07 30 13.0 -0.2**
baz=94,SNR=41
G15A Dillon 93.43 41 ⇓P **P 07 30 13.0 -0.6**
baz=94,SNR=78
REDW Red Top Meadow 93.47 43 *e*P **P 07 30 13.8 0.0**
comp=Z,345nm,1.5s,mb6.2
REDW *e*PP PP 07 33 54.0 -14
BILL Bilibino 93.47 355 ⇓*e*P **P 07 30 12.2 -1.0**
BILL *e* 07 34 01.6
BILL *i* S SKSac 07 39 57.4 +0.8
BILL pmax pmax
comp=Z,143nm,1.7s,mb5.7
BILL Bilibino 93.47 355 *e*P **P 07 30 12.3 -0.9**
comp=Z,87nm,1.1s,mb5.7
TPAW Teton Pass 93.47 43 *e*P **P 07 30 13.4 -0.4**
comp=Z,247nm,1.5s,mb6.0
TPAW *e*PP PP 07 34 06.1 -1.6
DLMT Dillon 93.47 41 *e*P **P 07 30 14.1 +0.3**
comp=Z,99nm,1.3s,mb5.7
DLMT *e*sP sP 07 33 04.6 +2.6
DLMT *e*PP PP 07 34 06.4 -1.1
B12A Libby 93.49 37 ⇑P **P 07 30 13.3 -0.4**
baz=94,SNR=34
MSO Missoula 93.49 39 *e*P **P 07 30 13.4 -0.4**
comp=Z,16nm,0.8s,mb5.1
MSO *e*PP PP 07 34 03.8 -3.9
E14A Clinton 93.52 40 ⇓P **P 07 30 13.3 -0.7**
baz=94,SNR=48
SNOW Snow King Moun 93.58 43 *e*P **P 07 30 14.2 -0.1**
comp=Z,116nm,0.9s,mb6.0
SNOW *e*pP pP 07 32 18.4 +8.4
SNOW *e*PP PP 07 34 06.0 -2.5
C13A Hot Springs 93.61 38 ⇓P **P 07 30 13.2 -1.1**
baz=94,SNR=10
IMW Indian Meadow 93.69 43 *e*P **P 07 30 14.6 -0.2**
comp=Z,70nm,1.0s,mb5.7
IMW *e*PP PP 07 34 07.7 -1.6
A12A Yaak River Ran 93.72 37 ⇑P **P 07 30 14.7 -0.1**
baz=94,SNR=23
MOOW Moose Ponds 93.73 43 *e*P **P 07 30 15.7 +0.7**
comp=Z,172nm,1.5s,mb6.0
MOOW *e*PP PP 07 34 06.5 -3.1
MOOW *e*PKPdf PKiKP 07 34 57.7 +1.0
LCO Las Campanas 93.74 124 *e*P **P 07 30 15.8 +0.2**
comp=Z,142nm,1.1s,mb6.0
LOHW Long Hollow 93.75 43 *e*P **P 07 30 14.3 -0.8**
comp=Z,198nm,1.5s,mb6.0
LOHW *e*PP PP 07 34 08.5 -1.3
LZH Lanzhou 93.77 308 P **P 07 30 16.0 +0.6**
LZH AP pP 07 32 08.2 -2.9
LZH XP sP 07 32 58.3 -5.3
LZH PP PP 07 34 10.0 -0.1
LZH SKS 07 40 01.0
LZH S S 07 40 40.0 +0.2
LZH XS sS 07 44 03.0 -4.8
LZH SS SS 07 47 17.0 +2.2
LZH AMB AMB
comp=Z,71nm,1.0s,mb5.8
LZH AMB AMB
comp=Z,634nm,8.0s
LZH Lanzhou 93.77 308 P **P 07 30 16.0 +0.6**
LZH *PP pP 07 32 08.2 -2.9
LZH *SP sP 07 32 58.3 -5.3
LZH 07 34 10.0
LZH 07 40 01.0
LZH S S 07 40 40.0 +0.2
LZH SS SS 07 47 17.0 +2.2
LZH pmax pmax
comp=Z,71nm,1.0s,mb5.8
LZH Lanzhou 93.77 308 P **P 07 30 16.0 +0.6**
comp=Z,71nm,1.0s,mb5.8
LZH pP pP 07 32 08.2 -2.9
LZH sP sP 07 32 58.3 -5.3
LZH PP PP 07 34 10.0 -0.1
LZH SKS 07 40 01.0
LZH S S 07 40 40.0 +0.2
LZH sS sS 07 44 03.0 -4.8
LZH SS SS 07 47 17.0 +2.2
F15A Butte 93.79 41 ⇑P **P 07 30 14.8 -0.4**
baz=94,SNR=21
G16A Moss Hill, Enn 93.87 41 ⇓P **P 07 30 15.6 0.0**
baz=94,SNR=63
D14A Greenough 93.88 39 ⇓P **P 07 30 14.7 -0.9**
baz=94,SNR=39
QLMT Earthquake Lak 93.89 42 *e*P **P 07 30 15.6 -0.1**
QLMT *e*pP pP 07 32 15.2 +3.8
I17A Pilgram Creek 93.93 43 ⇓P **P 07 30 16.6 +0.7**
baz=94,SNR=28
H16A Russell Place, 93.93 42 ⇑P **P 07 30 16.1 +0.3**
baz=94,SNR=65
CHMT Chamberlain Mo 93.93 39 *e*P **P 07 30 14.3 -1.5**
CHMT *e*PP PP 07 34 08.8 -2.3
BW06 Boulder Array 93.97 44 ⇓P **P 07 30 15.3 -0.8**
baz=94,SNR=57
BW06 Boulder Array 93.97 44 *e*P **P 07 30 15.2 -0.9**
comp=Z,875nm,1.2s,mb6.8
BW06 *e*PP PP 07 33 58.8 -13
PDAR Pinedale Array 93.97 44 P **P 07 30 15.0 -1.1**
comp=Z,21nm,0.7s,mb5.3,baz=215,slow=3.4,SNR=92
PDAR PP PP 07 34 09.8 -1.7
comp=Z,28nm,1.2s,baz=235,slow=5.2,SNR=9.9
PDAR S SKSac 07 40 01.6 +1.2
comp=Z,0.7nm,0.8s,baz=29,slow=3.4,SNR=5.0
PDAR SKKPbc 07 50 08.9
comp=Z,0.6nm,0.6s,baz=67,slow=3.9,SNR=3.8
PDAR PKPPKP 07 55 25.1
comp=Z,2.1nm,1.1s,baz=73,slow=5.0,SNR=6.1
E15A Deer Lodge 94.02 40 ⇓P **P 07 30 16.1 -0.1**
baz=94,SNR=30
B13A Whitefish 94.05 38 ⇓P **P 07 30 15.8 -0.5**
baz=94
YMR Madison River 94.08 42 *e*P **P 07 30 18.8 +2.2**
comp=Z,192nm,1.4s,mb6.0
YMR *e*PP PP 07 34 13.3 +1.0
C14A Swan Lake 94.12 38 ⇓P **P 07 30 15.7 -0.9**
baz=94
TUIG Tuzandepetl 94.14 72 *i* P **P 07 30 17.2 -0.2**
CFAA Coronel Fontan 94.17 128 P **P 07 30 16.4 -1.1**
comp=Z,10nm,0.9s,mb4.9,baz=246,slow=4.1,SNR=47
CFAA PP PP 07 34 12.8 +0.3
comp=Z,0.8nm,0.8s,baz=244,slow=7.8,SNR=5.8
CFAA S SKSac 07 40 02.4 -0.1
comp=Z,0.1nm,0.4s,baz=123,slow=23,SNR=18
CFAA Coronel Fontan 94.17 128 P **P 07 30 16.4 -1.1**
CFAA PP PP 07 34 12.8 +0.3
CFAA S SKSac 07 40 02.4 -0.1
H17A Grant Village 94.18 42 ⇓P **P 07 30 18.1 +1.1**
baz=94
SDCO Great Sand Dun 94.18 50 *e*P **P 07 30 16.8 -0.4**
comp=Z,241nm,1.3s,mb6.2
SDCO *es*P sP 07 33 09.8 +4.3
SDCO *e*PP PP 07 34 13.4 +0.3
YNR Norris Junctio 94.28 42 ⇑*i*P **P 07 30 20.1 +2.6**
LKWY Lake 94.37 42 ⇑*i*P **P 07 30 20.7 +2.8**
LKWY *e* 07 34 15.6
LKWY pmax pmax
comp=Z,72nm,1.2s,mb5.7
LKWY Lake 94.37 42 ⇑*i*P **P 07 30 20.7 +2.8**
comp=Z,72nm,1.2s,mb5.7
LKWY *e*PP PP 07 34 15.6 +1.1
A13A Flathead Natio 94.39 37 ⇑P **P 07 30 17.2 -0.6**
baz=95,SNR=25
D15A Lincoln 94.42 40 ⇑P **P 07 30 17.4 -0.6**
baz=95,SNR=25
DAWY Dawson 94.61 17 *e*P **P 07 30 17.9 -0.6**
E16A East Helena 94.64 40 ⇑P **P 07 30 19.0 0.0**
baz=95,SNR=15
HRY Holter Researc 94.65 40 *e*P **P 07 30 16.4 -2.7**
B14A Marquette Ranc 94.71 38 ⇓P **P 07 30 18.7 -0.6**
baz=95,SNR=48
TRQA Tornquist 94.71 136 *e*P **P 07 30 18.5 -1.3**
comp=Z,55nm,1.1s,mb5.6
WALA Waterton Lakes 94.74 37 *e*P **P 07 30 20.1 +0.7**
comp=Z,80nm,1.1s,mb5.8
C15A Salmond Ranch, 94.77 39 ⇓P **P 07 30 19.0 -0.6**
baz=95,SNR=19
COLD Coldfoot 94.92 11 *e*P **P 07 30 19.5 -0.3**
comp=Z,154nm,1.7s,mb5.9
COLD *e*pP pP 07 32 20.4 +4.8
RWWY Rawlins 94.94 46 ⇑*i*P **P 07 30 21.9 +1.4**
comp=Z,61nm,1.0s,mb5.7
A14A Double T Ranch 94.96 38 ⇑P **P 07 30 19.6 -0.8**
baz=95,SNR=53
D16A Dana Ranch, Ca 94.98 40 ⇓P **P 07 30 19.9 -0.7**
baz=95,SNR=25
JCT Junction City 95.05 59 *e*P **P 07 30 20.1 -1.2**
JCT pmax pmax
comp=Z,216nm,1.3s,mb6.1
JCT Junction City 95.05 59 *e*P **P 07 30 20.1 -1.2**
comp=Z,216nm,1.3s,mb6.1
JCT *es*P sP 07 33 14.2 +4.6
ISCO Idaho Springs 95.08 48 *e*P **P 07 30 20.8 -0.4**
ISCO *e* 07 34 20.3
ISCO pmax pmax
comp=Z,43nm,0.8s,mb5.6
ISCO Idaho Springs 95.08 48 *e*P **P 07 30 20.8 -0.4**
comp=Z,43nm,0.8s,mb5.6
ISCO *e*pP pP 07 32 18.0 +0.9
ISCO *es*P sP 07 33 13.2 +3.7
ISCO *e*PP PP 07 34 20.3 +0.2
B15A Bradely Ranch, 95.08 38 ⇑P **P 07 30 19.9 -1.1**
baz=95,SNR=26
E17A Martinsdale 95.09 41 ⇓P **P 07 30 20.9 -0.2**
baz=95,SNR=16
C16A Fuhringer Ranc 95.27 39 ⇑P **P 07 30 21.0 -0.9**
baz=96
KVTX Kingsville 95.28 62 *e*P **P 07 30 24.4 +2.0**
comp=Z,569nm,1.8s,mb6.4
A15A Johnson Ranch, 95.35 38 ⇓P **P 07 30 21.5 -0.7**
baz=96,SNR=42
RLMT Red Lodge 95.35 42 *e*P **P 07 30 22.7 +0.4**
comp=Z,84nm,1.2s,mb5.8
CCIG Comitan 95.39 75 *i* P **P 07 30 23.0 -0.2**
GCMT Greycliff 95.45 42 *e*P **P 07 30 23.9 +1.2**
GCMT *e*pP pP 07 32 29.9 +11
F18A Big Timber 95.48 41 ⇑P **P 07 30 22.7 -0.1**
baz=96,SNR=40
AMTX Amarillo 95.58 54 ⇑*i*P **P 07 30 24.6 +1.0**
comp=Z,50nm,0.9s,mb5.7
YAK Yakutsk 95.60 339 *e*P **P 07 30 18.7 -4.3**
YAK *e* 07 34 20.9
YAK *e*S SKSac 07 40 04.4 -3.7
YAK *e**SS 07 43 21.0
YAK pmax pmax
comp=Z,24nm,0.9s,mb5.4
YAK pmax pmax
comp=E,6.0nm,1.1s
YAK pmax pmax
comp=N,5.0nm,1.2s
YAK pmax pmax
comp=Z,250nm,2.0s,mb6.1
YAK pmax pmax
comp=N,116nm,2.3s
YAK pmax pmax
comp=E,121nm,2.5s
YAK smax
comp=E,613μm,1.9s
YAK smax
comp=N,1234μm,2.0s
YAK Yakutsk 95.60 339 *e*P **P 07 30 21.8 -1.2**
comp=N,64nm,0.8s,mb5.9
YAK LR LR
comp=Z,870nm,20.0s
B16A M & M Farms, S 95.62 39 ⇑P **P 07 30 22.9 -0.6**
baz=96,SNR=16
E18A Harlowton 95.70 41 ⇓P **P 07 30 23.4 -0.5**
baz=96,SNR=34
C17A Wharram Farm, 95.75 40 ⇓P **P 07 30 23.8 -0.2**
baz=96,SNR=68
PHWY Pilot Hill 95.90 47 *e*P **P 07 30 24.0 -0.9**
comp=Z,34nm,0.8s,mb5.6
PHWY *e*PP PP 07 34 21.5 -4.8
A16A West Butte Ran 95.97 38 ⇓P **P 07 30 24.6 -0.4**
baz=96,SNR=100
EGMT Eagleton 96.53 40 ⇑P **P 07 30 26.7 -0.9**
baz=97,SNR=11
EGMT Eagleton 96.53 40 *e*P **P 07 30 27.9 +0.3**
comp=Z,74nm,1.4s,mb5.7
EGMT *e*PP PP 07 34 26.8 -4.1
NNA Nana 97.05 107 P **P 07 30 29.8 -1.0**
comp=Z,13nm,0.9s,mb5.2,baz=205,slow=6.6,SNR=4.5
EDM Edmonton 97.31 34 *e*P **P 07 30 30.2 -0.7**
EDM *e* 07 34 30.3
ULN Ulaanbaatar 97.38 320 P **P 07 30 31.8 +0.4**
SNR=14
ULN Ulaanbaatar 97.38 320 ⇑*i*P **P 07 30 30.9 -0.5**
ULN *e* 07 34 34.7
ULN *e*S SKSac 07 40 17.9 0.0
ULN pmax pmax
comp=Z,21nm,1.0s,mb5.3
ULN Ulaanbaatar 97.38 320 ⇑*i*P **P 07 30 30.9 -0.5**
comp=Z,21nm,1.0s,mb5.3
ULN *e*pP pP 07 32 26.6 -0.8
ULN *e*PP PP 07 34 34.7 -2.7
ULN *e*S SKSac 07 40 17.9 0.0
SONM Songino Array 97.75 319 P **P 07 30 32.7 -0.4**
comp=Z,12nm,1.1s,mb5.1,baz=103,slow=3.2,SNR=28
SONM pP pP 07 32 21.2 -7.9
comp=Z,1.2nm,0.7s,baz=140,slow=3.0,SNR=1.4
SONM PP PP 07 34 38.4 -1.7
comp=Z,15nm,1.1s,baz=131,slow=4.5,SNR=4.7
SONM S SKSac 07 40 22.3 +2.5
comp=Z,3.3nm,0.9s,baz=300,slow=2.9,SNR=6.3
SONM SKKP 07 49 57.3
comp=Z,2.8nm,0.8s,baz=325,slow=2.3,SNR=4.2
SONM PKPPKP 07 55 17.9
comp=Z,3.1nm,0.9s,baz=258,slow=1.4,SNR=9.8
SONM Songino Array 97.75 319 P **P 07 30 32.7 -0.3**
SONM *PP pP 07 32 21.2 -7.9
SONM 07 34 38.4
SONM S SKSac 07 40 22.3 +2.5
HKT Hockley 97.93 61 *e*P Pdif 07 30 33.4 -0.6
HKT *e* 07 34 41.5
HKT pmax pmax
comp=Z,122nm,1.8s,mb5.9
HKT Hockley 97.93 61 *e*Pdif Pdif 07 30 33.4 -0.7
comp=Z,122nm,1.8s
HKT *e*PP PP 07 34 41.5 -0.4
ATAH Atahualpa 97.94 102 P Pdif 07 30 36.2 +2.1
comp=Z,24nm,1.0s,baz=208,slow=3.5,SNR=14
ATAH PP PP 07 34 42.8 +0.9
comp=Z,11nm,1.1s,baz=216,slow=4.7,SNR=7.4
LAO LASA Array 97.97 42 *e*Pdif Pdif 07 30 35.6 +1.4
comp=Z,43nm,0.8s
LAO *e*PP PP 07 34 33.5 -8.4
OGNE Ogallala 98.04 49 *e*Pdif Pdif 07 30 35.4 +0.9
comp=Z,201nm,1.4s
OGNE *e*PP PP 07 34 40.2 -2.2
GTA Gaotai 98.13 310 *e*P Pdif 07 30 35.1 +0.2
GTA AP pP 07 32 29.1 -1.9
GTA XP sP 07 33 20.4 -3.0
GTA SKS 07 40 19.6
GTA S Sdif 07 41 16.4 -0.3
GTA SS SS 07 48 17.4 +1.9
GTA AMB AMB
comp=Z,259nm,6.9s
LVC Limon Verde 98.45 120 P Pdif 07 30 38.1 +1.8
comp=Z,32nm,1.0s,baz=248,slow=1.7,SNR=18
LVC PP PP 07 34 42.8 -2.4
comp=Z,11nm,1.1s,baz=252,slow=5.1,SNR=3.3
LVC PKKPbc PKKPbc 07 47 05.4 +1.1
comp=Z,4.5nm,0.7s,baz=275,slow=2.6,SNR=3.5
LVC Limon Verde 98.45 120 P Pdif 07 30 38.1 +1.8
LVC PP PP 07 34 42.8 -2.4
LVC PKKPbc PKKPbc 07 47 05.4 +1.1
CBKS Cedar Bluff 98.70 51 ⇑*i*P Pdif 07 30 38.4 +0.9
CBKS *e* 07 34 45.0
CBKS pmax pmax
comp=Z,23nm,0.8s,mb5.6
CBKS Cedar Bluff 98.70 51 ⇑*i*Pdif Pdif 07 30 38.4 +0.9
comp=Z,23nm,0.8s
CBKS *e*PP PP 07 34 45.0 -2.5
TGUH Tegucigalpa,Un 98.77 79 *e*Pdif Pdif 07 30 39.5 +1.8
comp=Z,13nm,0.6s
TGUH *e*PP PP 07 34 47.3 -1.1
LPA La Plata 99.22 135 *ce*P Pdif 07 30 42.0 +2.3
LPA *ep*P sP 07 33 30.0 +1.3
LPA *e*SP SP 07 42 59.0 +2.1
LPA *e*PS PS 07 44 02.0 -2.1
JTS JuntasAbangare 99.33 83 *e*P Pdif 07 30 42.3 +2.0
JTS *e* 07 34 49.7
JTS pmax pmax
comp=Z,60nm,1.4s
JTS JuntasAbangare 99.33 83 *e*Pdif Pdif 07 30 42.3 +2.0
comp=Z,60nm,1.4s
JTS *e*PP PP 07 34 49.7 -2.9
ARE Arequipa 99.48 113 *e*P Pdif 07 30 44.0 +3.1
DGMT Dagmar 100.01 41 ⇑P Pdif 07 30 42.7 -0.6
baz=100
DGMT Dagmar 100.01 41 ⇑*e*Pdif Pdif 07 30 44.5 +1.3
comp=Z,123nm,1.3s
DGMT *e*PP PP 07 34 55.9 -1.2
TEIG Tepich 100.33 73 PKKPbc PKKPbc 07 46 59.1 +0.2
comp=Z,6.0nm,0.8s,baz=44,slow=6.1,SNR=5.4
TEIG Tepich 100.33 73 *e*Pdif Pdif 07 30 46.0 +1.3
comp=Z,24nm,1.2s
TEIG *e*PP PP 07 34 59.0 -1.0
ZAK Zakamensk 100.75 321 *e*P Pdif 07 30 47.4 +0.8
ZAK pmax pmax
comp=Z,9.0nm,1.4s
KSU1 Kansas State U 101.05 52 *e*P Pdif 07 30 48.7 +0.8
comp=Z,29nm,0.8s
OTAV Otavalo 101.05 95 *e*Pdif Pdif 07 30 50.0 +2.1
comp=Z,8.6nm,1.0s
OTAV *e*PP PP 07 35 05.6 +0.3
TLY Talaya 101.13 322 *e*P Pdif 07 30 48.6 +0.4
TLY *e* 07 35 00.4
TLY *e* 07 40 38.0
TLY *e*S Sdif 07 41 45.9 +4.2

TLY e 07 43 18.4
TLY ePPS 07 44 14.0
TLY pmax pmax
comp=Z,14nm,1.0s
TLY Talaya 101.13 322 eP Pdif 07 30 46.6 -1.6
MIAR Mount Ida 101.51 57 eP Pdif 07 30 50.5 +0.5
MIAR pmax pmax
comp=Z,15nm,1.2s
MIAR Mount Ida 101.51 57 ePdif Pdif 07 30 50.5 +0.6
comp=Z,15nm,1.2s
YKA Yellowknife Ar 101.75 26 P Pdif 07 30 51.0 +0.1
YKA PKiKP PKiKP 07 35 07.6 -2.7
comp=Z,3.6nm,0.9s,baz=239,slow=4.4,SNR=6.2
YKA PKKPbc PKKPbc 07 46 55.7 -0.4
comp=Z,5.5nm,0.8s,baz=242,slow=7.5,SNR=5.4
YKA Yellowknife Ar 101.75 26 P Pdif 07 30 51.0 +0.1
comp=Z,2.7nm,0.5s,baz=45,slow=2.6,SNR=13
LPAZ La Paz 102.35 115 P Pdif 07 30 56.2 +2.5
comp=Z,7.7nm,0.9s,baz=258,slow=2.1,SNR=28
LPAZ PKiKP PKiKP 07 35 10.8 -2.0
comp=Z,22nm,1.3s,baz=229,slow=7.6,SNR=8.5
LPAZ S SKSac 07 40 45.8 +2.2
comp=Z,18nm,1.3s,baz=5.7,slow=25,SNR=10.0
LPAZ PKKPbc PKKPbc 07 46 54.0 +0.8
comp=Z,1.9nm,0.5s,baz=150,slow=5.6,SNR=11
LPAZ La Paz 102.35 115 P Pdif 07 30 56.2 +2.5
LPAZ i 07 35 10.9
LPAZ S SKSac 07 40 45.8 +2.2
LPAZ pmax pmax
comp=Z,8.0nm,0.9s
LPAZ pmax pmax
comp=Z,23nm,1.3s
LPAZ smax
comp=N,18nm,1.3s
LPAZ pmax pmax
comp=Z,2.0nm,0.5s
LPAZ La Paz 102.35 115 ePdif Pdif 07 30 56.1 +2.5
comp=Z,22nm,1.3s
LPAZ ePKPdf PKiKP 07 35 14.0 +1.2
UALR University of 102.54 57 ePdif Pdif 07 30 55.4 +0.9
UALR ePKPdf PKiKP 07 35 10.5 -2.1
TAPN Taplejung 102.59 294 eP PKiKP 07 35 13.8 +0.9
comp=Z,77nm,1.2s
ODAN Odare 102.67 294 eP PKiKP 07 35 13.6 +0.5
comp=Z,67nm,1.1s
ECSD EROS,Sioux Fal 102.85 48 ePdif Pdif 07 30 55.6 -0.2
comp=Z,38nm,1.0s
ECSD ePKPdf PKiKP 07 35 09.3 -3.6
VBMS Vicksburg 103.01 60 ePKPdf PP 07 35 20.4 +0.8
RAMN Ramite 103.36 294 eP PKiKP 07 35 15.9 +1.6
comp=Z,128nm,1.3s
JIRN Jiri 103.95 294 eP PKiKP 07 35 15.6 +0.2
comp=Z,24nm,0.6s
HBAR Harrisburg 104.11 57 ePKPdf PP 07 35 26.6 -1.1
GUN Gumba 104.30 294 eP PKiKP 07 35 17.2 +1.1
comp=Z,109nm,1.2s
CCM Cathedral Cave 104.55 55 eP Pdif 07 31 04.2 +0.7
CCM e 07 35 26.9
CCM pmax pmax
comp=Z,7.0nm,0.8s
CCM Cathedral Cave 104.55 55 ePdif Pdif 07 31 04.2 +0.7
comp=Z,6.8nm,0.8s
CCM ePKPdf PKiKP 07 35 14.8 -1.5
CCM ePP PP 07 35 26.9 -4.0
PKI Pulchoki 104.57 294 eP PKiKP 07 35 17.8 +1.2
comp=Z,60nm,1.0s
PKIN Phulchoki 104.58 294 eP PKiKP 07 35 17.4 +0.8
comp=Z,34nm,1.0s
OXF Oxford 104.70 59 ePKPdf PP 07 35 27.5 -4.5
GNAR Gosnell 104.74 57 ePKPdf PP 07 35 27.2 -5.1
KKN Kakani 104.75 294 eP PKiKP 07 35 16.8 -0.1
comp=Z,78nm,1.1s
DMN Daman 104.83 294 eP PKiKP 07 35 18.3 +1.3
comp=Z,107nm,1.3s
CPUP Villa Florida 104.99 129 Pdiff Pdif 07 31 08.2 +2.8
comp=Z,2.7nm,0.9s,baz=262,slow=1.6,SNR=5.1
CPUP PKiKP PKiKP 07 35 17.2 -0.3
comp=Z,2.1nm,0.7s,baz=209,slow=1.4,SNR=5.0
CPUP PKKPbc PKKPbc 07 46 43.0 -2.8
comp=Z,1.0nm,0.6s,baz=180,slow=12,SNR=3.0
CPUP Villa Florida 104.99 129 P Pdif 07 31 08.2 +2.8
CPUP pmax pmax
comp=Z,3.0nm,0.9s
CPUP pmax pmax
comp=Z,2.0nm,0.7s
CPUP pmax pmax
comp=Z,1.0nm,0.6s
CPUP Villa Florida 104.99 129 ePdif Pdif 07 31 04.2 -1.2
comp=Z,13nm,0.9s
AGMN Agassiz Refuge 105.02 44 ePdif Pdif 07 31 04.6 -1.0
comp=Z,46nm,1.4s
AGMN ePKPdf PKiKP 07 35 14.1 -2.6
FVM French Village 105.14 55 eP Pdif 07 31 06.4 +0.3
FVM pmax pmax
comp=Z,6.0nm,0.6s
FVM French Village 105.14 55 ePdif Pdif 07 31 06.4 +0.3
comp=Z,5.7nm,0.6s
FVM ePKPdf PKiKP 07 35 14.0 -3.3
PARMO Parma 105.18 56 ePKPdf PP 07 35 27.1 -8.4
HALT Halls 105.24 57 PKPdf PP 07 35 28.7 -7.3
BRAL Brewton 105.34 63 ePKPdf PP 07 35 36.9 +0.1
GLAT Glass 105.40 57 PKPdf PP 07 35 28.0 -9.1
ULM Lac du Bonnet 105.71 42 Pdiff Pdif 07 31 10.9 +2.4
comp=Z,6.1nm,0.8s,baz=271,slow=5.5,SNR=5.7
ULM PKiKP PKiKP 07 35 17.6 -0.3
comp=Z,8.0nm,0.7s,baz=203,slow=2.8,SNR=9.3
ULM PP PP 07 35 35.3 -3.6
comp=Z,83nm,1.3s,baz=257,slow=7.2,SNR=14
ULM PKKPbc PKKPbc 07 46 44.2 +0.2
comp=Z,7.9nm,0.9s,baz=111,slow=7.5,SNR=4.4
ULM Lac du Bonnet 105.71 42 Pdif Pdif 07 31 10.9 +2.4
ULM ePKPdf PKiKP 07 35 17.0 -0.9
ULM ePP PP 07 35 35.5 -3.4
SIUC Southern Illin 105.94 56 ePKPdf PKiKP 07 35 17.8 -1.0
LRAL Lakeview Retre 106.08 61 ePKPdf PKiKP 07 35 17.3 -1.9
LRAL ePP PP 07 35 38.5 -3.5
KOLN Koldanda 106.14 293 eP PKiKP 07 35 20.2 +0.7
DANN Dangsing 106.21 294 eP PKiKP 07 35 20.4 +0.8
WVT Waverly 106.46 57 ePKPdf PKiKP 07 35 17.6 -2.2
WVT ePP PP 07 35 39.0 -5.8
ROSC El Rosal 106.73 92 Pdiff Pdif 07 31 17.7 +4.6
comp=Z,1.3nm,0.3s,baz=105,slow=21,SNR=4.3
ROSC PKiKP PKiKP 07 35 22.5 +1.5
comp=Z,3.9nm,0.6s,baz=87,slow=13,SNR=6.0
ROSC PP PP 07 35 44.5 -2.5
comp=Z,5.1nm,0.7s,baz=261,slow=22,SNR=3.9
ROSC El Rosal 106.73 92 ePdif Pdif 07 31 17.9 +4.7
ROSC PKPdf PKiKP 07 35 22.5 +1.5
ROSC PP PP 07 35 44.5 -2.5
HDIL Hopedale 106.82 53 ePKPdf PKiKP 07 35 20.0 -0.3
HDIL ePP PP 07 35 41.9 -5.5
HYB Hyderabad 106.82 282 eP Pdif 07 31 12.0 -1.6
HYB e 07 35 46.0
HYB e 07 41 04.0
HYB Hyderabad 106.82 282 i Pdif Pdif 07 31 12.0 -1.6
HYB ePP PP 07 35 46.0 -1.7
HYB epPKP 07 37 26.0
HYB eSKS SKSac 07 41 04.0 +0.6
HYB e 07 41 56.0
HYB eSP SP 07 44 16.0 -1.4
HYB e 07 45 24.0
HYB ePKKPbc PKKPbc 07 46 41.5 +1.8
HYB ePKKPab PKKPab 07 46 57.0 0.0
HYB eSS SS 07 50 10.0 -4.7
HYB Hyderabad 106.82 282 ePdif Pdif 07 31 12.0 -1.6
HYB ePKP PKiKP 07 35 20.0 -1.0
HYB ePP PP 07 35 46.0 -1.7
HYB epPKP 07 37 26.0
HYB eSKS SKSac 07 41 04.0 +0.6
JFWS Jewell Farm 106.91 50 eP Pdif 07 31 16.8 +2.9
JFWS pmax pmax
comp=Z,13nm,0.9s
JFWS Jewell Farm 106.91 50 ePdif Pdif 07 31 16.8 +2.9
comp=Z,13nm,0.9s
JFWS ePKPdf PKiKP 07 35 19.1 -1.3
USIN University of 107.19 56 ePKPdf PKiKP 07 35 20.2 -0.9
USIN ePP PP 07 35 44.2 -5.8
EYMN Ely 107.66 45 ePKPdf PKiKP 07 35 20.1 -1.6
WMQ Urumqi 108.19 310 PDIF Pdif 07 31 19.3 -0.3
WMQ PP PP 07 35 59.8 +2.7
WMQ PP PP
comp=Z,111nm,6.2s
SIV San Ignacio 108.23 118 Pdiff Pdif 07 31 23.7 +3.9
comp=Z,2.9nm,0.9s,baz=225,slow=4.4,SNR=14
SIV PKiKP PKiKP 07 35 23.1 -0.6
comp=Z,6.2nm,0.7s,baz=258,slow=0.8,SNR=17
SIV PP PP 07 35 53.6 -3.6
comp=Z,2.7nm,0.7s,baz=256,slow=8.8,SNR=3.0
SIV S SKSac 07 41 09.8 +0.1
comp=Z,1.4nm,0.9s,baz=272,slow=22,SNR=8.8
SIV PKKPbc PKKPbc 07 46 34.8 -0.9
comp=Z,1.0nm,0.5s,baz=111,slow=4.6,SNR=7.6
WCI Wyandotte Cave 108.30 56 ePKPdf PKiKP 07 35 21.1 -2.1
COWI Conover 108.64 47 ePdif Pdif 07 31 21.1 -0.6
COWI ePKPdf PKiKP 07 35 20.6 -2.9
COWI ePP PP 07 35 55.3 -5.0
GOGA Godfrey 109.00 61 ePKPdf PKiKP 07 35 23.9 -0.7
GOGA ePP PP 07 36 01.7 -1.4
TKL Tuckaleechee C 109.44 59 ePKPdf PKiKP 07 35 24.6 -0.8
TKL ePP PP 07 36 03.8 -2.4
TZTN Tazewell 109.88 58 ePKPdf PKiKP 07 35 24.1 -2.1
TZTN ePP PP 07 36 06.7 -2.6
JSC Jenkinsville 111.01 61 ePKIKP PKiKP 07 35 28.6 +0.2
JSC e 07 36 12.1
ACSO Alum Creek Sta 111.33 55 ePKPdf PKiKP 07 35 27.9 -0.9
ACSO ePP PP 07 36 13.3 -6.2
ACSO eSKP 07 38 14.0
DDI Dehra Dun 111.56 294 ⇓ i x x 07 35 29.0
DDI ex x 07 41 12.0
SDV Santo Domingo 111.72 90 PKiKP PKiKP 07 35 30.7 +0.4
comp=Z,29nm,0.8s,baz=190,slow=22,SNR=16
SDV PP PP 07 36 18.7 -3.9
comp=Z,4.2nm,0.2s,baz=208,slow=20,SNR=4.0
SDV S SKSac 07 41 23.7 -0.2
comp=Z,3.6nm,0.3s,baz=190,slow=21,SNR=12
SDV Santo Domingo 111.72 90 ePKPdf PKiKP 07 35 29.6 -0.8
NDI New Delhi 111.76 292 eP PKiKP 07 35 28.5 -1.5
NDI ex x 07 41 22.0
ELN Prospectdale 112.22 58 ePKPdf PKiKP 07 35 28.3 -2.3
ELN ePP PP 07 36 18.9 -7.0
BLA Blacksburg 112.47 58 ePKIKP PKiKP 07 35 30.3 -0.8
BLA e 07 36 23.2
BLA e 07 38 15.7
ZAA0 Zalesovo Array 112.63 320 ePKPdf PKiKP 07 35 28.3 -2.6
ZAA0 ePP PP 07 36 20.0 -8.3
ZAA0 eSKP 07 38 17.2
ZALV Zalesovo Beam 112.63 320 Pdiff Pdif 07 31 41.7 +2.4
comp=Z,0.5nm,0.3s,baz=193,slow=6.1,SNR=3.3
ZALV PKiKP PKiKP 07 35 29.0 -1.8
comp=Z,15nm,0.8s,baz=140,slow=1.6,SNR=23
ZALV PP PP 07 36 24.1 -4.2
comp=Z,6.0nm,0.9s,baz=86,slow=4.6,SNR=3.9
ZALV PKKPbc PKKPbc 07 46 21.9 -0.3
comp=Z,2.5nm,0.6s,baz=264,slow=4.4,SNR=5.2
ZALV Zalesovo Beam 112.63 320 Pdif Pdif 07 31 41.7 +2.4
ZALV PKPdf PKiKP 07 35 29.0 -1.8
ZALV PP PP 07 36 24.1 -4.2
ZALV PKKPbc PKKPbc 07 46 21.9 -0.3
MK31 Makanchi Array 112.66 312 eP Pdif 07 31 41.3 +1.8
MK31 e 07 35 29.4
MK31 e 07 38 15.5
MKAR Makanchi Array 112.66 312 Pdiff Pdif 07 31 42.1 +2.6
comp=Z,3.5nm,0.6s,baz=97,slow=5.8,SNR=20
MKAR PKiKP PKiKP 07 35 29.7 -1.4
comp=Z,16nm,0.7s,baz=84,slow=3.8,SNR=32
MKAR PP PP 07 36 28.6 0.0
comp=Z,3.6nm,0.7s,baz=117,slow=4.2,SNR=2.5
MKAR S SKSac 07 41 27.4 +1.2
comp=Z,6.5nm,0.9s,baz=99,slow=7.6,SNR=6.4
MKAR PKKPbc PKKPbc 07 46 20.6 -1.3
comp=Z,32nm,0.9s,baz=288,slow=3.2,SNR=34
MKAR PKPPKP 07 54 52.9
comp=Z,1.5nm,0.7s,baz=286,slow=2.1,SNR=6.6
MKAR Makanchi Array 112.66 312 P Pdif 07 31 42.1 +2.6
MKAR 07 35 29.7
MKAR 07 36 28.7
MKAR S SKSac 07 41 27.4 +1.2
MKAR Makanchi Array 112.66 312 Pdif Pdif 07 31 42.1 +2.6
MKAR PKPdf PKiKP 07 35 29.7 -1.4
MKAR PP PP 07 36 28.6 0.0
MKAR S SKSac 07 41 27.4 +1.2
MKAR PKKPbc PKKPbc 07 46 20.6 -1.3
MKAR P'P' 07 54 52.9
MCWV Mont Chateau 113.52 56 ePKPdf PKiKP 07 35 32.8 -0.3
NVS Novosibirsk 113.71 321 i PKIKP PKiKP 07 35 31.3 -1.6
NVS i PPP 07 38 09.4
NVS i S SKSac 07 41 29.7 -0.2
NVS pmax
comp=N,23nm,1.5s
NVS pmax pmax
comp=E,49nm,1.5s
NVS pmax pmax
comp=Z,89nm,1.5s
NVS smax
comp=N,117nm,1.7s
NVS smax
comp=E,567nm,2.2s
ALLY Alegheny Colle 113.77 54 ePKPdf PKiKP 07 35 32.4 -1.1
ALLY ePP PP 07 36 33.3 -3.2
ERPA Erie 113.98 53 ePKPdf PKiKP 07 35 31.8 -2.0
ERPA ePP PP 07 36 35.0 -3.1
THN Thein Dam 114.07 296 ex x 07 35 31.6
THN ex x 07 41 36.8
URVA University of 114.79 59 ePKPdf PKPdf 07 35 34.1 -1.4
URVA ePP PP 07 36 33.3 -11
URVA eSKP 07 38 21.5
CBN Corbin 115.06 58 ePKPdf PKPdf 07 35 34.9 -1.1
CBN ePP PP 07 36 43.6 -2.1
SSPA Standing Stone 115.20 55 ePKPdf PKPdf 07 35 35.2 -1.0
SSPA ePP PP 07 36 44.5 -2.1
SSPA eSKP 07 38 21.5
SDMD Soldier's Deli 115.73 57 ePKPdf PKPdf 07 35 35.3 -2.0
SDMD ePP PP 07 36 48.8 -1.5
SDMD eSKP 07 38 21.9
KURK Kurchatov 115.79 316 ePKPdf PKPdf 07 35 35.3 -1.7
KURK eSKPdf SKPdf 07 38 24.0 +1.1
KURK ePKKPbc PKKPbc 07 46 11.8 +0.3
KURK ePKKPab PKKPab 07 46 18.4 +2.5
ABPO Ambohimpanom 116.03 231 ePKPdf PKPdf 07 35 38.6 +0.1
ABPO eSKP 07 38 25.8
OPO Ambohidratompo 116.35 232 PKP PKPdf 07 35 41.2 +2.1
comp=E,20nm,0.8s,baz=155,slow=0.8,SNR=31
OPO PKKPbc PKKPbc 07 46 08.7 -0.6
comp=E,3.3nm,0.8s,baz=340,slow=4.5,SNR=5.1
TKM2 Tokmak 2 116.53 307 P PKPdf 07 35 39.8 +1.1
SNR=38
TKM2 Tokmak 2 116.53 307 ePKPdf PKPdf 07 35 37.5 -1.2
TKM2 eSKP 07 38 24.4
BINY Binghamton 116.92 54 ePKPdf PKPdf 07 35 39.2 -0.3
BINY ePP PP 07 36 56.7 -1.6
BINY eSKP 07 38 25.3
KBK Karagaybulak 116.95 307 P PKPdf 07 35 40.9 +1.4
SNR=12
CHMS Chumysh 117.15 307 P PKPdf 07 35 41.0 +1.1
SNR=15
UCH Uchtor 117.19 306 P PKPdf 07 35 42.2 +2.2
SNR=45
UCH Uchtor 117.19 306 ePKPdf PKPdf 07 35 38.7 -1.3
FRU Bishkek 117.22 307 ⇑ i PKIKP PKPdf 07 35 40.0 0.0
FRU e 07 36 59.0
FRU i 07 38 27.0
FRU i S SKSac 07 41 44.0 +0.4
FRU e 07 42 10.0
FRU e 07 46 00.0
FRU pmax pmax
comp=Z,110nm,2.0s
USP Ospenovka 117.38 307 P PKPdf 07 35 41.4 +1.1
SNR=24
BRNJ Basking Ridge 117.69 56 ePKPdf PKPdf 07 35 41.4 +0.4
AML Almayashu 117.77 306 P PKPdf 07 35 43.1 +2.0
SNR=33
AML Almayashu 117.77 306 ePKPdf PKPdf 07 35 40.9 -0.3
EKS2 Erkin-Say 117.80 307 P PKPdf 07 35 43.0 +1.8
SNR=29
EKS2 Erkin-Say 117.80 307 ePKPdf PKPdf 07 35 40.2 -0.9
EKS2 eSKP 07 38 28.9
CPNY Central Park 118.16 56 ePKPdf PKPdf 07 35 41.2 -0.7
CPNY ePP PP 07 37 03.9 -3.1
PAL Palisades 118.24 55 ePKPdf PKPdf 07 35 40.4 -1.7
PAL ePP PP 07 37 01.9 -5.5
PAL eSKP 07 38 26.7
LONY Lake Ozonia 118.32 51 ePKPdf PKPdf 07 35 40.9 -1.2
LONY ePP PP 07 37 06.0 -1.9
LONY eSKP 07 38 26.6
BDFB Brasilia 118.47 126 PKP PKPdf 07 35 44.3 +1.0
comp=Z,24nm,0.9s,baz=215,slow=2.0,SNR=22
BDFB Brasilia 118.47 126 ePKPdf PKPdf 07 35 42.1 -1.2
BDFB ePP PP 07 37 09.2 +0.6
NCB Newcomb 118.48 52 ePKPdf PKPdf 07 35 39.9 -2.5
NCB ePP PP 07 37 05.0 -4.0
NCB eSKP 07 38 27.7
ACCN Adirondack Com 118.79 53 ePKPdf PKPdf 07 35 40.2 -2.9
ACCN ePP PP 07 37 03.9 -7.3
ACCN eSKP 07 38 27.8
FRNY Flat Rock 119.05 51 ePKPdf PKPdf 07 35 41.4 -2.1
FRNY ePP PP 07 37 07.3 -5.6
FRNY eSKP 07 38 29.0
SJG San Juan 119.13 83 ePKIKP PKPdf 07 35 41.7 -2.7
SJG e 07 38 27.3
SUR Sutherland 119.22 201 PKP PKPdf 07 35 45.3 +0.9
comp=Z,110nm,0.7s,baz=135,slow=1.1,SNR=52
SUR PKKPbc PKKPbc 07 45 59.6 -0.3
comp=Z,19nm,0.7s,baz=326,slow=2.1,SNR=7.4
SUR Sutherland 119.22 201 ePKPdf PKPdf 07 35 43.9 -0.5
MDV Middlebury 119.23 52 ePKPdf PKPdf 07 35 41.4 -2.4
MDV ePP PP 07 37 10.2 -3.9
MDV eSKP 07 38 29.2
QUA2 Belchertown 119.59 54 ePKPdf PKPdf 07 35 42.6 -2.0
QUA2 ePP PP 07 37 14.3 -2.2
QUA2 eSKP 07 38 30.4
MTP Monte Pirata 119.66 83 ePKPdf PKPdf 07 35 42.8 -2.7
MTP ePP PP 07 37 15.6 -2.0
HNH Hanover 119.83 53 ePKPdf PKPdf 07 35 44.7 -0.4
HNH ePP PP 07 37 17.4 -0.7
HNH eSKP 07 38 30.0
KBL Kabul 119.98 297 ePKIKP PKPdf 07 35 45.2 -0.4
KBL e 07 37 16.2
KBL e 07 38 31.3
KBL Kabul 119.98 297 ePKPdf PKPdf 07 35 45.2 -0.4
KBL ePP PP 07 37 16.2 -3.2
KBL eSKP 07 38 31.3
KBL ePKPP PKKPbc 07 45 57.7 +1.4
CAM3 Guarapari 120.06 136 eP PKPdf 07 35 45.3 -1.0
CAM3 i 07 35 51.1
CAM3 i 07 36 13.1
BRYW Bryant College 120.14 55 ePKPdf PKPdf 07 35 44.1 -1.6
BRYW ePP PP 07 37 18.5 -1.8
BRYW eSKP 07 38 28.6
LBNH Lisbon 120.16 52 ePKIKP PKPdf 07 35 44.0 -1.6
LBNH e 07 37 19.2
LBNH e 07 38 31.4
HRV Adam Dziewonsk 120.20 54 ePKIKP PKPdf 07 35 45.0 -0.8
HRV e 07 37 17.1
HRV e 07 38 30.7
KK31 Karatay Array 120.24 307 PKIKP PKPdf 07 35 45.0 -0.8
KK31 pmax pmax
comp=Z,63nm,0.8s
FFD Franklin Falls 120.26 53 ePKPdf PKPdf 07 35 44.5 -1.3
FFD ePP PP 07 37 17.1 -4.0
FFD eSKP 07 38 29.7
WES Weston 120.36 54 ePKIKP PKPdf 07 35 44.5 -1.6
WES e 07 37 20.7
WES e 07 38 30.8
TCE Chacachacare 120.47 92 eP PKPdf 07 35 47.5 +0.3
TPP Pointe-a-Pierr 120.59 93 eP PKPdf 07 35 48.4 +1.0
VOSK Vostochnaya 120.70 318 PKIKP PKPdf 07 35 45.2 -1.2
VOSK pmax pmax
comp=Z,98nm,0.8s
TRN Trinidad (W) 120.77 92 eP PKPdf 07 35 46.4 -1.3
TBH Brigand Hill 121.00 93 eP PKPdf 07 35 48.4 +0.2
BOSA Boshof 121.02 207 PKP PKPdf 07 35 48.5 +0.5
comp=Z,49nm,0.8s,baz=152,slow=2.2,SNR=57
BOSA PKKPbc PKKPbc 07 45 52.2 -1.1
comp=Z,25nm,0.7s,baz=329,slow=3.8,SNR=22
BOSA Boshof 121.02 207 PKIKP PKPdf 07 35 48.5 +0.6
BOSA pmax pmax
comp=Z,49nm,0.8s
BOSA pmax pmax
comp=Z,25nm,0.7s
BOSA Boshof 121.02 207 ePKPdf PKPdf 07 35 46.9 -1.1
BVA0 Borovoye Array 121.07 318 i PKIKP PKPdf 07 35 46.1 -1.0
BVA0 pmax pmax
comp=Z,37nm,1.1s
BVAR Borovoye Array 121.07 318 S SKSac 07 41 56.6 0.0
comp=Z,2.6nm,1.0s,baz=92,slow=4.5,SNR=3.0
BVAR PKKPbc PKKPbc 07 45 51.6 -1.1
comp=Z,12nm,0.8s,baz=288,slow=3.0,SNR=13
GRGR Grenville 121.10 91 ePKPdf PKPdf 07 35 45.0 -3.4
GRW Mount Saint Ca 121.11 91 eP PKPdf 07 35 46.5 -1.8
BRVK Borovoye 121.14 318 ⇑ P PKPdf 07 35 47.5 +0.2
SNR=39
BRVK Borovoye 121.14 318 ePKPdf PKPdf 07 35 45.8 -1.4
BRVK eSKP 07 38 33.9
BRVK ePKKP PKKPbc 07 45 51.9 -0.6
TPR Prospect 121.54 92 eP PKPdf 07 35 48.8 -0.4
BOT Bacolet 121.58 92 eP PKPdf 07 35 50.7 +1.4
PKME Peaks-Kenny Pk 122.13 51 ePKPdf PKPdf 07 35 46.6 -2.8
PKME ePP PP 07 37 29.4 -4.1
PKME epPKPdf pPKPdf 07 37 58.8 +6.5
PKME eSKP 07 38 33.3
LZG Guadaloupe-1 122.42 86 eP PKPdf 07 35 51.5 +0.7
HMG Houelmont 122.44 87 eP PKPdf 07 35 51.4 +0.6
TBG Guadaloupe-3 122.44 87 eP PKPdf 07 35 50.5 -0.3
SCG Saint Claude 122.47 86 eP PKPdf 07 35 51.5 +0.6
BIM Bigot 122.50 88 eP PKPdf 07 35 50.0 -1.0
FDF Fort de France 122.50 88 eP PKPdf 07 35 49.1 -1.9
FDF Fort de France 122.50 88 ePKPdf PKPdf 07 35 49.0 -2.0
FDF epPKPdf pPKPdf 07 37 56.5 +2.7
FDF eSKP 07 38 36.7
MGG Marie-Galante 122.76 87 eP PKPdf 07 35 51.6 +0.2
ANWB Willy Bob 122.92 85 ePKPdf PKPdf 07 35 48.4 -3.4
SCHQ Schefferville 123.79 40 PKP PKPdf 07 35 52.4 +0.1
comp=Z,105nm,1.0s,baz=335,slow=1.8,SNR=30
SCHQ PP PP 07 37 43.5 -0.8
comp=Z,53nm,1.2s,baz=267,slow=3.8,SNR=7.7
SCHQ PKKPbc PKKPbc 07 45 42.5 -0.1
comp=Z,2.6nm,0.5s,baz=81,slow=11,SNR=6.9
SCHQ Schefferville 123.79 40 ePKPdf PKPdf 07 35 50.4 -1.9
SCHQ ePP PP 07 37 40.2 -4.1
SCHQ eSKP 07 38 37.0
LBTB Lobatse 124.04 209 PKP PKPdf 07 35 54.6 +0.8
comp=Z,43nm,0.8s,baz=158,slow=3.3,SNR=42
LBTB PKKPbc PKKPbc 07 45 42.6 +0.8
comp=Z,20nm,0.9s,baz=322,slow=4.0,SNR=12
LBTB Lobatse 124.04 209 PKIKP PKPdf 07 35 54.6 +0.8
LBTB pmax pmax
comp=Z,43nm,0.8s
LBTB pmax pmax
comp=Z,20nm,0.9s
LBTB Lobatse 124.04 209 ePKPdf PKPdf 07 35 53.0 -0.8
KBS Kingsbay 125.90 357 ePKPdf PKPdf 07 35 55.3 -0.5
KBS ePP PP 07 37 57.5 +0.1
KBS Kingsbay 125.90 357 ⇑ i PKIKP PKPdf 07 35 55.8 0.0
KBS Kingsbay 125.90 357 ePKPdf PKPdf 07 35 54.7 -1.1
SPB4 Spitsbergen Ar 126.37 356 ePKPdf PKPdf 07 35 55.8 -0.8
SVE Sverdlovsk 126.42 323 ePKIKP PKPdf 07 35 56.7 -0.5
SVE pmax pmax
comp=Z,186nm,1.3s
JMDO Jabal Madar 126.61 280 P PKPdf 07 36 00.3 +1.6
SNR=13
SMDO Samad 126.84 281 P PKPdf 07 35 59.9 +0.8
SNR=14
BIDO Bidbid 126.89 281 P PKPdf 07 36 01.0 +1.8
SNR=8.2
BSY Bisya 127.52 280 ⇑ P PKPdf 07 36 02.3 +1.9
SNR=15
DAG Danmarks Havn 127.61 5 ⇑ i PKIKP PKPdf 07 35 57.9 -1.1
DAG pmax pmax
comp=Z,37nm,0.6s
DAG Danmarks Havn 127.61 5 ⇑ i P PKPdf 07 35 57.9 -1.1
comp=Z,37nm,0.6s
DAG i 07 37 29.2
ARU Arti 127.62 323 i PKIKP PKPdf 07 35 59.0 -0.5
ARU 07 42 15.8
ARU SP SP 07 47 20.1 -2.8
ARU Arti 127.62 323 ePKPdf PKPdf 07 35 57.8 -1.7
HOQ Hoqain 127.63 281 ⇑ P PKPdf 07 36 02.3 +1.7
SNR=9.8
AB31 Akbulak array 127.75 314 i PKIKP PKPdf 07 36 00.2 +0.2
AB31 pmax pmax
comp=Z,144nm,1.4s
SFJD Kangerlussuaq 128.16 23 i PKIKP PKPdf 07 36 00.1 -0.2
SFJD pmax pmax
comp=Z,65nm,0.8s
SFJD Kangerlussuaq 128.16 23 i P PKPdf 07 36 00.1 -0.2
comp=Z,65nm,0.8s
SFJD Kangerlussuaq 128.16 23 i P PP 07 38 10.1 -2.2
SFJD i 07 40 55.6
SUMG Summit 128.25 14 ePKPdf PKPdf 07 36 01.1 +0.8

SUMG eSKP 07 38 31.6
RBK Rabkut 128.71 273 P PKPd 07 36 03.7 +0.9
SNR=25
AKTO Aktyubinsk 128.88 315 PKIKP PKPd 07 36 02.0 -0.1
AKTO pmax pmax
comp=Z,14nm,0.9s
HATD Hatta, Dubai 128.97 282 P PKPd 07 36 03.9 +0.8
SNR=14
WHFO Wadi Hawf 129.24 273 P PKPd 07 36 04.1 +0.3
SNR=21
ABTO Aybut 129.49 272 P PKPd 07 36 05.4 +1.1
SNR=24
LSZ Lusaka 130.98 218 P PKPd 07 36 09.2 +2.0
SNR=22
LSZ Lusaka 130.98 218 PKhKP 07 36 00.6
comp=Z,4.3nm,0.6s,baz=259,slow=5.0,SNR=3.9
LSZ PKP PKPd 07 36 08.8 +1.6
comp=Z,56nm,0.8s,baz=136,slow=1.7,SNR=34
LSZ SKPbc SKPbc 07 38 44.0 +0.9
comp=Z,84nm,0.6s,baz=154,slow=4.2,SNR=36
LSZ Lusaka 130.98 218 PKP PKPd 07 36 00.6 -6.6
LSZ ePKPdf PKPd 07 36 05.9 -1.3
LSZ eSKP 07 38 42.7
TSUM Tsumeb 132.47 204 PKhKP 07 36 03.8
comp=Z,6.4nm,0.8s,baz=182,slow=4.5,SNR=4.9
TSUM PKP PKPd 07 36 11.5 +1.6
comp=Z,63nm,1.0s,baz=115,slow=2.6,SNR=37
TSUM SKPbc SKPbc 07 38 50.8 +2.6
comp=Z,65nm,1.0s,baz=142,slow=5.0,SNR=14
TSUM Tsumeb 132.47 204 ePKPpre 07 36 04.8
TSUM ePKPdf PKPd 07 36 10.6 +0.6
TSUM PKP PKPd 07 36 11.6 +1.6
TSUM ePP PP 07 38 41.1 +1.6
TSUM eSKP 07 38 47.9
TSUM SKPbc SKPbc 07 38 50.8 +2.6
KEV Kevo 132.57 347 ep PKPdf 07 36 01.5 -7.1
comp=Z,3.3nm,0.3s
KEV Kevo 132.57 347 ePKIKP PKPdf 07 36 01.5 -7.1
KEV pmax pmax
comp=Z,3.0nm,0.3s
KEV Kevo 132.57 347 eP PKPdf 07 36 01.5 -7.1
KEV ePKPdf PKPdf 07 36 08.3 -0.3
KEV eSKP 07 38 45.9
APA Apatity 132.79 343⇑ *i* PKIKP PKPdf 07 36 09.0 0.0
APA *i* 07 38 48.0
APA pmax pmax
comp=Z,57nm,1.0s
APA pmax pmax
comp=Z,700nm,8.0s
APA MLR MLR
comp=Z,1μm,26.0s
ARCES ARCESS Array B 133.05 348 PKhKP 07 35 58.5
comp=Z,2.6nm,0.4s,baz=349,slow=0.8,SNR=12
ARCES PKP PKPdf 07 36 08.8 -0.6
comp=Z,68nm,0.6s,baz=48,slow=1.8,SNR=39
ARCES SKPbc SKPbc 07 38 47.9 -0.6
comp=Z,258nm,0.8s,baz=44,slow=3.7,SNR=41
ARCES PKKPbc 07 45 12.6
comp=Z,3.3nm,0.9s,baz=235,slow=1.4,SNR=5.0
ARCES ARCESS Array B 133.05 348 PKHKP 07 35 58.5
ARCES 07 36 08.9
ARCES 07 38 47.9
ARCES ARCESS Array B 133.05 348 PKP 07 35 58.5
ARCES PKP PKPdf 07 36 08.8 -0.6
ARCES SKPbc SKPbc 07 38 47.9 -0.6
ARCES PKKPbc 07 45 12.6
ARE0 ARCESS Array S 133.05 348 ePKPpre 07 36 03.2
ARE0 ePKPdf PKPdf 07 36 08.4 -1.1
ARE0 eSKP 07 38 47.4
TRO Tromso 134.08 351 eP PKPdf 07 36 07.3 -4.1
TRO AMb AMB 07 36 12.2
comp=Z,122nm,1.7s
TRO epPKP pPKPdf 07 38 10.5 -3.9
TRO ePP PP 07 38 47.2 -2.5
TRO eSKS SKSdf 07 42 33.5 +1.0
TRO eSS SS 07 55 59.1 +2.6
KMBO Kilima Mbogo 135.02 240 P PKPdf 07 36 16.5 +1.6
SNR=15
KMBO Kilima Mbogo 135.02 240 PKhKP 07 36 06.2
comp=Z,1.0nm,0.3s,baz=205,slow=14,SNR=5.3
KMBO PKP PKPdf 07 36 17.0 +2.1
comp=Z,38nm,0.9s,baz=28,slow=2.3,SNR=34
KMBO SKPbc SKPbc 07 38 59.5 +2.9
comp=Z,62nm,1.1s,baz=75,slow=2.8,SNR=24
KMBO Kilima Mbogo 135.02 240 ePKHKP 07 36 05.7
KMBO e 07 36 15.8
KMBO e 07 38 58.9
KMBO 07 38 59.5
KMBO Kilima Mbogo 135.02 240 ePKPpre 07 36 05.7
KMBO ePKPdf PKPdf 07 36 15.8 +0.9
KMBO PKP PKPdf 07 36 17.0 +2.1
KMBO eSKP 07 38 58.9
KMBO SKPbc SKPbc 07 38 59.5 +2.9
KLMR Klimovskoe 135.12 333 *i* PKIKP PKPdf 07 36 09.8 -3.8
KLMR *i* 07 38 55.1
KLMR e 07 42 33.9
LOF Lofoten 136.20 352 eP 07 36 11.9
LOF AMb AMB 07 36 20.0
comp=Z,98nm,1.5s
LOF ePP PP 07 39 02.2 -0.7
JOF Joensuu 136.77 339 ep 07 36 06.2
comp=Z,7.6nm,0.3s
JOF Joensuu 136.77 339 ePKHKP 07 36 06.2
JOF pmax pmax
comp=Z,8.0nm,0.3s
MAK Makhachkala 137.06 307 *i* PKPdf 07 36 17.4 -0.3
MAK *i* 07 39 05.9
MAK e 07 42 38.3
MAK pmax pmax
comp=Z,519nm,1.4s
UMR Umm Al-Rimmam 137.16 287 eP PKPdf 07 36 19.2 +0.8
baz=287
UMR AMb AMB 07 36 22.8
comp=Z,356nm,1.0s,baz=287
RDF Al-Radifah 137.23 286 eP PKPdf 07 36 19.7 +1.2
baz=286
RDF AMb AMB 07 36 23.0
comp=Z,423nm,0.9s,baz=286
NAY Al-Naaiem 137.53 287 eP PKPdf 07 36 19.7 +0.6
baz=287
NAY AMb AMB 07 36 23.1
comp=Z,107nm,1.3s,baz=287
RST Umm Al-Ruwaisa 137.77 287 eP PKPdf 07 36 20.1 +0.6
baz=287
RST AMb AMB 07 36 23.6
comp=Z,296nm,1.0s,baz=287
MOR8 Moi Rana 137.94 351 eP PKPdf 07 36 10.1 -8.5
MOR8 AMb AMB 07 36 22.2
comp=Z,76nm,1.1s
MOR8 *i* 07 39 04.0
STOK Stokkvaagen 137.98 352 eP PKPdf 07 36 09.2 -10
STOK AMb AMB 07 36 21.5
comp=Z,168nm,1.8s
MOS Moscow 138.76 328 ePKHKP 07 36 14.0
MOS pmax pmax
comp=Z,271nm,1.5s
MOS pmax pmax
comp=Z,400μm,1.7s
DGRG David-gareji 138.84 305 P PKPdf 07 36 14.6 -6.4
DGRG David-gareji 138.84 305 P SKPbc 07 39 10.3 +3.4
KAF Kangasniemi 138.91 341 ep 07 36 13.0
comp=Z,7.4nm,0.3s
KAF Kangasniemi 138.91 341 ePKHKP 07 36 13.0
KAF pmax pmax
comp=Z,7.0nm,0.3s
MTA Mtatsminda 139.24 305 P PKPdf 07 36 22.6 +0.8
MTA Mtatsminda 139.24 305 P SKPbc 07 39 10.3 +2.4
TBLG Delisi 139.27 305 P PKPdf 07 36 23.2 +1.4
TBLG Delisi 139.27 305 P SKPbc 07 39 10.6 +2.6
GNI Garni 139.50 303⇑P PKPdf 07 36 22.4 +0.1
SNR=19
GNI Garni 139.50 303 SKPbc SKPbc 07 39 10.1 +1.4
comp=Z,38nm,0.9s,baz=156,slow=2.9,SNR=3.3
GNI Garni 139.50 303 ePKPdf PKPdf 07 36 18.2 -4.1
GNI eSKP 07 39 10.6
OBN Obninsk 139.60 328 *i* PKIKP PKPdf 07 36 21.5 -0.5
OBN *e* 07 39 10.9
OBN eSS SS 07 56 57.9 -4.3
OBN pmax pmax
comp=Z,289nm,2.0s
OBN Obninsk 139.60 328 ePKPpre 07 36 15.6
OBN ePKPdf PKPdf 07 36 20.1 -1.9
OBN ePKP PKPdf 07 36 21.5 -0.5
OBN eSKP 07 39 10.0

GOR Gori 139.69 306 P PKPdf 07 36 18.5 -4.1
GOR Gori 139.69 306 P SKPbc 07 39 12.8 +3.7
NSS Namsos 139.84 352 eP PKPdf 07 36 16.0 -6.2
NSS eSS SS 07 57 05.5 +1.5
VOR Voronezh 139.88 322 PKIKP PKPdf 07 36 22.0 -0.6
VOR pmax pmax
comp=Z,540nm,1.8s
ONI Oni 140.06 307 P PKPdf 07 36 19.6 -3.6
ONI Oni 140.06 307 P SKPbc 07 39 13.5 +3.4
VSR Storozhevoye 140.12 321 ePKHKP 07 36 16.7
VSR pmax pmax
comp=Z,10.0nm,1.1s
VSR pmax pmax
comp=N,6.0nm,0.5s
VSR pmax pmax
comp=E,20nm,1.3s
CLDR Caldiran 140.26 302 eP PKPdf 07 36 17.5 -6.2
KIV Kislovodsk 140.31 309⇑P PKPdf 07 36 24.5 +0.9
SNR=18
KIV Kislovodsk 140.31 309⇓ *i* PKIKP PKPdf 07 36 23.4 -0.2
KIV *e* 07 39 12.1
KIV *e* 07 39 28.0
KIV eSS SS 07 57 09.4 -2.1
KIV pmax pmax
comp=Z,144nm,1.5s
KIV Kislovodsk 140.31 309 ePKPdf PKPdf 07 36 23.9 +0.3
KIV eSKP 07 39 10.5
DYDN Diyadin 140.38 302 *i* P PKPdf 07 36 21.5 -2.4
HKR Hakkari 140.56 299 eP PKPdf 07 36 18.9 -5.4
HAKT HAKKARI 140.59 299 *i* P PKPdf 07 36 18.4 -5.9
KARS Kars 140.68 304 eP PKPdf 07 36 21.2 -3.2
VANB Van 140.73 301 eP PKPdf 07 36 19.2 -5.4
AGRB Hanur-Agry 140.91 302 eP PKPdf 07 36 19.7 -5.2
MSL Mosul 141.16 297 ex x 07 36 21.0
MSL *i* x 07 39 17.0
MSL ex x 07 46 05.0
DAGI Agillar 141.48 305 *i* P PKPdf 07 36 20.7 -5.1
VSU Vasula 141.57 337 ePKIKP PKPdf 07 36 24.5 -0.9
DBOC Borcka 141.61 305 *i* P PKPdf 07 36 21.3 -4.7
BCA Borcka 141.62 306 eP PKPdf 07 36 21.2 -4.9
DDEM Demirkent 141.63 305 *i* P PKPdf 07 36 21.8 -4.3
DBAD Bademkaya 141.65 305 *i* P PKPdf 07 36 21.9 -4.2
ERZM Erzurum 142.10 303 *i* P PKPdf 07 36 25.1 -1.9
EZM Erzurum 142.10 303 eP PKPdf 07 36 26.9 -0.1
MOL Molde 142.25 354 eP PKPdf 07 36 23.5 -3.0
MOL AMb AMB 07 36 26.8
comp=Z,182nm,2.3s
BEST Besiri 142.47 300 *i* P PKPdf 07 36 25.5 -2.2
SOC Sochi 142.48 310 ePKHKP PKPdf 07 36 24.4 -3.1
SOC *i* 07 36 29.8
SOC *e* 07 38 26.5
SOC *e* 07 39 18.3
SOC *e* 07 51 18.3
SOC pmax pmax
comp=Z,74nm,1.1s
SOC pmax pmax
comp=Z,93nm,1.0s
SOC Sochi 142.48 310 *i* PKP PKPdf 07 36 25.9 -1.6
DOMB Dombas 142.60 353 eP PKPdf 07 36 22.9 -4.2
DOMB AMb AMB 07 36 27.2
comp=Z,336nm,1.7s
KOPT Kop Dagi 142.74 304 *i* P PKPdf 07 36 26.4 -1.7
MARD Mardin 142.93 299 *i* P PKPdf 07 36 25.4 -3.2
KTUT Trabzon 143.09 305 eP PKPdf 07 36 26.2 -2.5
MACK Trabzon 143.09 305 *i* P PKPdf 07 36 26.8 -1.9
NB2 NORSAR Subarra1 43.28 350 PKP PKPdf 07 36 25.3 -3.1
comp=Z,410nm,1.1s,baz=16,slow=3.2
NB2 NORSAR Subarra1 43.28 350 PKP PKPdf 07 36 25.3 -3.1
baz=16,slow=3.2
NOA NORSAR Array B 143.28 350 PKP PKPdf 07 36 25.8 -2.6
comp=Z,344nm,0.8s,baz=16,slow=5.0,SNR=288
NOA SKPbc SKPbc 07 39 19.8 +2.3
comp=Z,57nm,0.8s,baz=15,slow=4.2,SNR=10
EZC Erzincan 143.30 303 eP PKPdf 07 36 29.1 -0.1
GUMT Gumushane 143.41 305 eP PKPdf 07 36 28.5 -0.7
NAO01 NORSAR Array S 143.51 351 ePKPdf PKPdf 07 36 25.8 -3.0
NAO01 eSKP 07 39 19.0
ANN Anapa 143.68 312 *d* *i* PKIKP PKPdf 07 36 27.5 -2.1
ANN *i* 07 39 49.6
ANN eSS SS 07 57 50.9 +1.1
ANN pmax pmax
comp=Z,696nm,0.9s
HFS Hagfors 143.71 348 PKP PKPdf 07 36 26.5 -2.7
comp=Z,389nm,0.5s,baz=51,slow=4.0,SNR=266
HFS SKPbc SKPbc 07 39 20.4 +1.8
comp=Z,71nm,0.9s,baz=96,slow=1.5,SNR=5.8
PTK Pertek 143.78 302 eP PKPdf 07 36 29.9 -0.1
SVRC Sivrice-ELAZID 143.94 301 eP PKPdf 07 36 29.8 -0.5
MNK Minsk 143.98 332⇑ PKHKP PKPdf 07 36 26.0 -3.8
MNK eSPP 07 51 32.0
MNK ePPS 07 52 28.0
MNK eSS SS 07 57 48.0 -4.1
MNK MLR MLR
comp=Z,4μm,20.0s
ELZG Elazig 144.16 301 *i* P PKPdf 07 36 31.7 +1.0
ASCN Ascension 144.43 156 ePKPdf PKPdf 07 36 31.9 0.0
ASCN eSKP 07 39 19.7
URFA Urfa 144.46 300 eP PKPdf 07 36 32.1 +1.0
RUND Rundenannen 144.56 355 eP PKPdf 07 36 32.2 +1.6
RUND AMb AMB 07 36 36.4
comp=Z,1μm,1.5s
BER Bergen 144.60 355 eP PKPdf 07 36 31.0 +0.3
BER AMb AMB 07 36 34.6
comp=Z,1μm,1.0s
BER epPKP pPKPdf 07 38 31.3 -2.5
BER eSS SS 07 58 01.8 +3.5
MYA Malataya 144.63 301 eP PKPdf 07 36 31.9 +0.5
KONO Kongsberg 144.85 351⇑ eP PKPdf 07 36 30.5 -0.6
KONO Kongsberg 144.85 351⇑ *i*P PKPdf 07 36 30.8 -0.4
KONO epPKP pPKPdf 07 38 29.8 -4.5
KONO eSS SS 07 58 04.7 +3.6
KONO Kongsberg 144.85 351⇑ ePKP PKPdf 07 36 30.6 -0.5
ATAB Bozova 144.87 300 *i* P PKPdf 07 36 32.6 +0.7
ODD1 Odda 144.95 354 eP PKPdf 07 36 29.9 -1.4
ODD1 AMb AMB 07 36 33.0
comp=Z,586nm,1.0s
WAL1 Walls 144.95 1 eP PKPdf 07 36 30.2 -1.1
DARE Darende-Malaty 144.99 303 eP PKPdf 07 36 34.3 +2.2
AKCD Akcadag 145.02 301 *i* P PKPdf 07 36 32.9 +0.8
RSDY Resadiye-TOKAT 145.03 305 eP PKPdf 07 36 33.0 +1.0
LRW Lerwick 145.08 1⇑ eP PKPdf 07 36 31.1 -0.4
SVSK Karacayir 145.39 304 eP PKPdf 07 36 33.1 +0.4
BLS5 Blasjo 145.45 354 eP PKPdf 07 36 32.4 +0.2
BLS5 AMb AMB 07 36 35.8
comp=Z,240nm,1.1s
GZT Gaziantep 145.46 300 *i* P PKPdf 07 36 32.9 -0.1
TOKT Tokat 145.63 305 eP PKPdf 07 36 35.0 +1.9
KMY Karmoy 145.76 355 eP PKPdf 07 36 33.4 +0.7
KMY AMb AMB 07 36 37.3
comp=Z,1μm,1.0s
GAZ Gaziantep 145.77 300 eP PKPdf 07 36 34.5 +1.0
AKASG Malin Array Be 145.77 326 PKPbc PKPbc 07 36 32.5 -2.1
comp=Z,126nm,0.8s,baz=40,slow=3.8,SNR=126
AKASG pPKPbc 07 38 31.6
comp=Z,14nm,0.6s,baz=48,slow=3.9,SNR=1.7
AKASG SKPbc SKPbc 07 39 25.7 +2.1
comp=Z,42nm,0.6s,baz=48,slow=2.8,SNR=8.8
AKASG Malin Array Be 145.77 326 PKPbc PKPbc 07 36 32.5 -2.1
AKASG pPKPbc 07 38 31.6
AKASG SKPbc SKPbc 07 39 25.7 +2.1
AKBB Malin Array Si 145.77 326 ePKPdf PKPdf 07 36 32.7 -0.3
AKBB epPKPdf pPKPdf 07 38 33.9 -2.2
AKBB eSKP 07 39 24.4
KIEV Kiev 145.78 326 ePKPdf PKPdf 07 36 32.1 -0.9
KIEV epPKPdf pPKPdf 07 38 33.6 -2.6
KIEV eSKP 07 39 24.1
KVT Kavak 145.79 307 eP PKPbc 07 36 37.2 +2.2
SIM Simferopol' 145.81 314 ePKP2 PKPab 07 36 35.6 -1.0
SIM pmax pmax
comp=Z,240nm,0.9s
SIM MLR MLR
comp=Z,900nm,19.0s
SARI SarD1z-Kayseri 145.89 302 eP PKPdf 07 36 35.4 +1.8
KMRS Kahramanmaras 145.96 300 eP PKPdf 07 36 34.5 +0.8
STAV Stavanger 146.00 354 eP PKPdf 07 36 33.8 +0.7
STAV AMb AMB 07 36 38.3
comp=Z,715nm,1.8s
PINB Pinarbasi 146.12 302 *i* P PKPdf 07 36 35.3 +1.4
DIKM Dikmen 146.19 308 eP PKPdf 07 36 34.3 +0.3
SUW Suwalki 146.23 335 ePKP PKPdf 07 36 34.3 +0.7
SUW *e* 07 36 37.1
SUW Suwalki 146.23 335 ePKPdf PKPdf 07 36 34.9 +1.3

SUW epPKPdf pPKPdf 07 38 37.6 +0.8
ANDN Andirin 146.38 301 *i* P PKPdf 07 36 34.2 -0.2
SNART Snartemo 146.43 353 eP PKPdf 07 36 35.4 +1.5
SNART AMb AMB 07 36 39.7
comp=Z,598nm,1.7s
BNN Bunyan 146.50 303 eP PKPdf 07 36 34.3 -0.3
BOYT Boyabat 146.52 308 *i* P PKPbc 07 36 38.5 +1.5
RTO Tolsta 146.60 5 eP PKPdf 07 36 33.7 -0.4
COBT Iskenderun 146.63 299 *i* P PKPdf 07 36 35.6 +0.7
YOZ Yozgat 146.71 304 eP PKPdf 07 36 35.1 +0.2
HTY Hatay 146.79 298 eP PKPdf 07 36 36.5 +1.3
KOZT Kozan 146.80 300 eP PKPbc 07 36 38.3 +0.4
CTKT Corum 146.83 306 *i* P PKPdf 07 36 35.9 +0.8
MLA1 Latheron 146.86 3 eP PKPdf 07 36 33.3 -1.3
CEYT Ceyhan 146.95 300 eP PKPdf 07 36 35.7 +0.3
RRH Rhenigidale 147.01 6 eP PKPdf 07 36 35.0 +0.2
YURE YUREGIR 147.08 299 *i* P PKPdf 07 36 37.0 +1.4
RRR Rubha Reidh 147.15 5⇑ eP PKPdf 07 36 35.1 0.0
HWQ Hawqa 147.18 295 eP PKPdf 07 36 36.8 +0.9
MVH1 Achvaich 147.20 4⇑ eP PKPdf 07 36 35.1 0.0
AVNT Avonos 147.27 303 *i* P PKPdf 07 36 32.7 -3.2
RCY Rachaya 147.37 293 eP PKPdf 07 36 37.4 +1.2
CDAG Cicekdag 147.42 305 *i* P PKPdf 07 36 36.8 +0.7
KSK Scoval 147.46 6⇑ eP PKPdf 07 36 35.8 +0.2
BHL Bhannes 147.46 294 eP PKPdf 07 36 37.1 +0.8
ILGA Ilgaz 147.48 308 *i* P PKPdf 07 36 35.5 -0.7
KAC Achnashellach 147.55 5⇑ eP PKPdf 07 36 35.8 +0.1
BALT Daday 147.56 309 *i* P PKPdf 07 36 31.3 -5.0
MCD Coleburn Disti 147.59 3⇑ eP PKPdf 07 36 35.6 -0.1
MDD Dochfour 147.67 4⇑ eP PKPdf 07 36 35.9 0.0
KPL Plockton 147.68 5⇑ eP PKPdf 07 36 36.1 +0.2
MMAI Mount Meron Ar 147.75 292 pPKPbc pPKPbc 07 38 40.0 -2.0
comp=Z,53nm,0.7s,baz=94,slow=4.3,SNR=2.2
MRKH Merkhyat 147.81 259 *e* PKPdf 07 36 36.6 -0.8
baz=113,slow=1.8
MRKH AMb AMB 07 36 45.8
comp=Z,1μm,1.6s
KSB Sheil Bridge 147.82 5⇑ eP PKPdf 07 36 35.8 -0.4
ELDT Eldivan 147.87 307 *i* P PKPdf 07 36 37.7 +0.9
BR131 Keskin Array S 147.94 305 ePKPdf PKPdf 07 36 37.5 +0.6
BR131 ePKPbc PKPbc 07 36 42.0 +1.2
BR131 epPKPdf pPKPdf 07 38 42.6 +2.5
MUD Monsted U'grnd 147.98 350⇑ *i* PKHKP PKPdf 07 36 37.5 +1.0
MUD pmax pmax
comp=Z,490nm,1.1s
MUD Monsted U'grnd 147.98 350⇑ *i*P PKPdf 07 36 37.5 +1.0
comp=Z,493nm,1.1s
MUD *i* 07 46 15.0
KAR1 Arisaig 148.08 5⇑ eP PKPdf 07 36 37.1 +0.5
COP Copenhagen 148.09 346⇑ *i* PKHKP PKPdf 07 36 37.8 +1.1
COP *i* 07 36 42.0
COP pmax pmax
comp=Z,280nm,0.8s
COP Copenhagen 148.09 346⇑ *i*P PKPdf 07 36 37.8 +1.1
comp=Z,282nm,0.8s
COP *i* 07 36 42.0
COP *e* 07 38 38.3
COP *i* 07 46 15.0
KIS Kishinev 148.11 321 *i* PKHKP PKPdf 07 36 37.0 0.0
KIS ePPP 07 43 38.0
KIS pmax pmax
comp=Z,900nm,1.5s
KIS pmax pmax
comp=Z,3μm,2.0s
KIS MLR MLR
comp=Z,1μm,20.0s
KIS MLR MLR
comp=Z,900nm,20.0s
KIS Kishinev 148.11 321⇑ *i* PKIKP PKPdf 07 36 37.0 0.0
KIS M 07 36 43.0
comp=Z,900nm,1.5s
MEST Erdemli 148.29 299 *i* P PKPbc 07 36 41.7 -0.1
WAR Warsaw 148.42 334 ePKP PKPbc 07 36 43.7 +2.1
ANTO Ankara 148.52 306 P PKPdf 07 36 38.0 +0.1
SNR=164
ANTO Ankara 148.52 306 ePKPdf PKPdf 07 36 37.7 -0.2
ANTO epPKPdf pPKPdf 07 38 43.6 +2.5
PHNC Paralimni 148.66 296 ⇓P PKPdf 07 36 39.8 +1.5
comp=Z,4.3nm,1.0s
PHNC S PKPbc 07 36 45.1 +2.4
IAS Iasi 148.72 322 PKP2 PKPbc 07 36 43.7 +1.2
LVV L'vov 148.89 329 ePKHKP PKPdf 07 36 38.2 +0.1
EBH Black Hill 148.91 3⇑ eP PKPdf 07 36 38.3 +0.3
EAB Aberfoyle 148.92 4⇑ eP PKPdf 07 36 38.1 +0.1
RGN Rugen 148.93 344 ePKPdf PKPdf 07 36 34.5 -3.6
RGN ePKPbc PKPbc 07 36 44.1 +1.4
GKP Gorka Klasztor 148.94 339 ePKP PKPdf 07 36 39.4 +1.3
GKP *e* 07 36 44.7
TLCR 149.06 318 PKHKP PKPbc 07 36 43.4 0.0
CSS Prodhromos 149.23 296 P PKPdf 07 36 40.1 +0.9
comp=Z,7.0nm,1.5s
CSS S PKPbc 07 36 43.5 -0.6
CSS Prodhromos 149.23 296 P PKPdf 07 36 39.6 +0.4
EDI Edinburgh 149.25 3⇑ eP PKPdf 07 36 38.8 +0.3
ESY Stoneypath 149.28 2⇑ eP PKPdf 07 36 38.4 -0.2
PGBU Glenifferbraes 149.28 4⇑ eP PKPdf 07 36 38.6 0.0
MAMC Mammari 149.29 297 P PKPdf 07 36 39.6 +0.3
comp=Z,29nm,0.9s
MAMC S PKPbc 07 36 46.2 +1.9
EAU Auchinoon 149.31 3⇑ eP PKPdf 07 36 38.7 +0.1
EBL Broad Law 149.40 3⇑ eP PKPdf 07 36 38.5 -0.3
KDHN Kadinhani 149.41 304 *i* P PKPdf 07 36 37.9 -1.5
HENT Hendek 149.57 309 *i* P PKPdf 07 36 39.4 -0.1
KWP Kalwaria 149.64 329 ePKP PKPdf 07 36 40.6 +1.2
KWP *e* 07 36 46.6
KWP Kalwaria 149.64 329 ePKPdf PKPdf 07 36 39.2 -0.1
KWP ePKPbc PKPbc 07 36 44.0 -0.6
TIRR Tirgusor 149.67 317 ePKPdf PKPdf 07 36 38.9 -0.7
TIRR ePKPbc PKPbc 07 36 44.7 -0.1
XSO Sourhope Farm 149.71 2⇑ eP PKPdf 07 36 39.2 -0.1
ALFC Alevga 149.79 297 P PKPdf 07 36 39.2 -0.9
comp=Z,3.9nm,1.2s
ALFC S PKPbc 07 36 45.7 +0.2
ESK Eskdalemuir 149.85 3⇑ eP PKPdf 07 36 39.2 -0.3
ESK Eskdalemuir 149.85 3 ePKPdf PKPdf 07 36 38.9 -0.6
ESK ePKPbc PKPbc 07 36 45.5 +0.6
ESK epPKPdf pPKPdf 07 38 45.1 +2.3
HARR Harsova 149.85 317 PKHKP PKPbc 07 36 45.4 +0.1
VRI Vrincioaia 149.94 320 PKHKP 07 36 44.2
BWH Wardlaw 149.97 4⇑ eP PKPdf 07 36 39.4 -0.3
ECK Cauldkaine Hil 149.99 3⇑ eP PKPdf 07 36 39.6 -0.1
PLOR Plostina 149.99 320 PKHKP 07 36 47.0
PPCY Paphos 150.04 297⇑P PKPdf 07 36 40.3 -0.2
comp=Z,11nm,1.0s
PPCY S PKPbc 07 36 47.5 +1.4
ESKT Eskisehir 150.05 306 *i* P PKPdf 07 36 39.7 -0.6
BHH Howats Hill 150.07 3⇑ eP PKPdf 07 36 39.9 +0.1
BSEG Bad Segeberg 150.17 347 ePKPbc PKPbc 07 36 47.2 +1.5
BSEG epPKPab pPKPab 07 38 53.7 +2.1
GAL1 Galloway 150.21 5⇑ eP PKPdf 07 36 39.8 -0.3
BORA Eskisehir 150.22 307 *i* P PKPdf 07 36 41.0 +0.5
GCD Castle Douglas 150.26 4⇑ eP PKPdf 07 36 40.4 +0.3
KOLS Kolonicke sedl 150.34 329 *i* PKP PKPdf 07 36 40.6 +0.2
KOLS *e* 07 36 47.8
KOLS *i* 07 38 41.2
XAL Allendale 150.34 2⇑ eP PKPdf 07 36 40.7 +0.5
HLG Helgoland 150.37 350 ePKPbc PKPbc 07 36 48.0 +1.8
BBO1 Bothel 150.43 3⇑ eP PKPdf 07 36 40.7 +0.3
STHS Stebnicka Huta 150.46 331 *i* PKP PKPdf 07 36 41.8 +1.2
STHS *e* 07 36 47.9
OJC Ojcow 150.47 333 ePKPdf PKPdf 07 36 41.5 +0.9
OJC ePKPbc PKPbc 07 36 46.5 0.0
OJC epPKPdf pPKPdf 07 38 45.3 +1.3
OJC eSKKSac SKKSac 07 46 25.1 -1.0
OJC eSS SS 07 59 05.0 +0.7
OJC L 08 32 33.3
comp=Z,1.2nm,24.4s
OJC Ojcow 150.47 333 ePKIKP PKPbc 07 36 46.5 0.0
OJC *e* 07 38 45.3
OJC eSS SS 07 59 05.0 +0.7
UZH Uzhgorod 150.54 328 ePKIKP PKPdf 07 36 41.8 +1.0
UZH *e* 07 38 33.0
UZH *i* 07 44 07.0
UZH *i* 07 52 34.0
RUE Ruedersdorf 150.67 342 ePKPdf PKPdf 07 36 41.8 +1.0
RUE ePKPbc PKPbc 07 36 48.5 +1.5
GMM Mts of Mourne 150.72 6⇑ eP PKPdf 07 36 40.6 -0.2
CRVS Cervenica-Dubn 150.73 330 *i* PKP PKPdf 07 36 41.2 +0.1
CRVS *i* 07 36 47.6
CRVS *i* 07 38 42.4
CRVS Cervenica-Dubn 150.73 330 *i* PKP PKPdf 07 36 41.2 +0.1

CRVS				iPKPdf	PKPbc	07 36 47.7	+0.5
CRVS				i		07 38 42.4	
GIM	North Isle of	150.80	5⇑	eP	PKPdf	07 36 40.6	-0.3
NIE	Niedzica	150.87	331	ePKPdf	PKPdf	07 36 42.7	+1.5
NIE				ePKPbc	PKPbc	07 36 48.3	+0.8
NIE				epPKPdf	pPKPdf	07 38 51.3	+6.7
TKTP	Tekketepe	150.90	304	iP	PKPdf	07 36 41.9	+0.2
PRD	Provadia	150.93	315	P	PKPdf	07 36 42.4	+0.9
DMUB	Kingscourt	150.94	8	eP	PKPdf	07 36 40.9	-0.3
ULDT	Uludag	151.07	308	iP	PKPdf	07 36 40.8	-1.1
VOIR		151.15	321	PKIKP	PKPdf	07 36 42.6	+0.8
GDZ	Gediz	151.19	306	iP	PKPdf	07 36 42.4	+0.3
RAC	Raciborz	151.22	335	ePKPdf	PKPdf	07 36 41.8	0.0
RAC				epPKPdf	pPKPdf	07 38 44.8	-0.3
HPK	Haverah Park	151.26	1⇑	eP	PKPdf	07 36 42.1	+0.4
KSP	Ksiaz	151.30	338	ePKP	PKPdf	07 36 43.1	+1.2
KSP				e		07 36 50.7	
KSP	Ksiaz	151.30	338	ePKPdf	PKPdf	07 36 41.4	-0.4
KSP				ePKPdf	PKPbc	07 36 48.0	-0.4
KSP				i		07 36 50.4	
KSP				ePKPab	PKPab	07 36 56.9	-2.0
KSP				epPKPdf	pPKPdf	07 38 46.7	+1.5
KSP				epPKPab	pPKPab	07 38 53.4	-2.9
KSP				eSKKS	SKKSac	07 46 31.0	+0.5
KSP				e		07 52 46.0	
KSP				eSS	SS	07 59 12.0	-1.2
KSP				eSSS		08 04 56.0	
OKC	Ostrava-Krasne	151.44	334	ePKPDF	PKPdf	07 36 42.6	+0.5
OKC				⇑ePKP	PKPbc	07 36 50.5	+1.7
OKC				epPKP	pPKPdf	07 38 43.4	-2.1
OKC				ex	x	07 49 53.8	
OKC				ex	x	07 52 47.9	
DCN	Croghan	151.44	8⇑	iP	PKPdf	07 36 42.0	0.0
NRDL	Niedersach Rie	151.57	346	ePKPdf	PKPdf	07 36 42.8	+0.6
NRDL				ePKPbc	PKPbc	07 36 50.3	+1.3
NRDL				epPKPab	pPKPab	07 38 59.3	+2.0
DRGR		151.58	325	PKIKP	PKPdf	07 36 43.0	+0.6
DLF	Lyons Farm	151.58	8⇑	iP	PKPdf	07 36 42.1	-0.1
DSB	Dublin	151.65	7	ePKPdf	PKPdf	07 36 42.2	0.0
DSB				ePKPbc	PKPbc	07 36 49.9	+0.8
DSB				ePKPab	PKPab	07 37 01.1	+0.9
DSB				epPKPdf	pPKPdf	07 38 48.8	+3.1
LHO	Holmfirth	151.67	2⇑	eP	PKPdf	07 36 41.6	-0.7
UPC	Upice	151.68	337	ePKPDF	PKPdf	07 36 43.1	+0.7
UPC				⇑ePKP	PKPbc	07 36 51.0	+1.7
DPC	Dobruska-Polom	151.70	337	ePKPDF	PKPdf	07 36 42.6	+0.1
DPC				⇑ePKP	PKPbc	07 36 50.8	+1.5
DPC				epPKP	pPKPdf	07 38 45.7	-0.2
DPC				ex	x	07 43 16.3	
DPC				eSKKS	SKKSac	07 46 32.9	+0.2
DPC				ex	x	07 49 56.2	
DPC				ex	x	07 52 49.6	
GOLH	Golhisar	151.71	302	iP	PKPdf	07 36 43.4	+0.5
MORC	Moravsky Berou	151.72	335	ePKPdf	PKPdf	07 36 42.2	-0.3
MORC				ePKPbc	PKPbc	07 36 50.9	+1.5
MORC				epPKPdf	pPKPdf	07 38 52.6	+6.7
DURS	Dursunbey	151.74	308	iP	PKPdf	07 36 41.4	-1.5
DEMI	Demirci	151.77	306	iP	PKPdf	07 36 41.5	-1.4
JMB	Yambol	151.81	314	P	PKPdf	07 36 43.8	+0.9
JMB	Yambol	151.81	314	P	PKPbc	07 36 50.5	+0.7
CLL	Collm	151.94	342⇑	iPKIKP	PKPdf	07 36 43.2	+0.4
CLL				pmax	pmax		
	comp=Z,140nm,1.4s						
CLL				pmax	pmax		
	comp=Z,527nm,0.9s						
CLL	Collm	151.94	342	ePKPdf	PKPdf	07 36 43.1	+0.3
CLL				ePKPbc	PKPbc	07 36 51.2	+1.4
CLL	Collm	151.94	342	iPKPdf	PKPdf	07 36 43.2	+0.4
	comp=Z,140nm,1.4s						
CLL				⇑iPKPbc	PKPbc	07 36 51.4	+1.6
	comp=Z,527nm,0.9s						
CLL				iPKPab	PKPab	07 37 02.7	+1.1
	comp=Z,202nm,1.1s						
CLL				epPKPab	pPKPab	07 38 55.0	-3.8
	comp=Z,82nm,1.0s						
CLL				ePP	PP	07 40 41.0	+5.3
CLL				ePPP		07 44 03.0	
CLL				ePPPP		07 46 30.0	
CLL				eSKSP		07 50 04.0	
CLL				eSS	SS	07 59 19.0	-0.9
AKAS	Kas	151.94	300	iP	PKPbc	07 36 51.4	+1.0
KBI1	Birley Grange	151.97	1⇑	eP	PKPdf	07 36 42.6	-0.2
BRG	Berggiesshubel	152.04	340	iPKIKP	PKPdf	07 36 43.8	+0.8
BRG				i		07 38 38.1	
BRG				pmax	pmax		
	comp=Z,128nm,1.5s						
BRG				pmax	pmax		
	comp=Z,179nm,0.9s						
BRG				pmax	pmax		
	comp=Z,36nm,1.4s						
BRG				pmax	pmax		
	comp=Z,42nm,1.0s						
BRG				pmax	pmax		
	comp=Z,20nm,1.9s						
BRG				pmax	pmax		
	comp=N,6.0nm,1.2s						
BRG	Berggiesshubel	152.04	340	ePKPdf	PKPdf	07 36 43.6	+0.6
BRG				ePKPbc	PKPbc	07 36 51.6	+1.5
BRG				epPKPab	pPKPab	07 39 01.9	+2.6
BRG	Berggiesshubel	152.04	340	iPKP	PKPdf	07 36 43.8	+0.8
	comp=N,214nm,1.5s						
BRG				i		07 36 51.8	
	comp=N,299nm,0.9s						
BRG				ipPKP	pPKPdf	07 38 38.1	-8.3
	comp=N,60nm,1.4s						
BRG				i		07 38 54.5	
	comp=N,70nm,1.0s						
BRG				i		07 43 19.0	
BRG				e		07 46 34.3	
	comp=N,33nm,1.9s						
BRG				i		07 46 38.0	
BRG				iSKKS	SKKSdf	07 51 16.9	-32
	comp=N,9.2nm,1.1s						
STNC	Stoke	152.12	2⇑	eP	PKPdf	07 36 43.7	+0.7
CLZ	Clausthal	152.12	345	ePKPdf	PKPdf	07 36 43.7	+0.7
CLZ				ePKPbc	PKPbc	07 36 52.1	+1.9
PVCC	Panska Ves	152.15	339	ePKPDF	PKPdf	07 36 43.8	+0.7
PVCC				⇑ePKP	PKPbc	07 36 52.2	+1.9
PVCC				epPKP	pPKPdf	07 38 45.7	-0.8
PVCC				ex	x	07 43 17.8	
PVCC				eSKKS	SKKSac	07 46 35.0	-0.1
PVCC				ex	x	07 52 51.8	
PSZ	Piszkesteto	152.17	330⇑	ePKP	PKPdf	07 36 43.9	+0.7
PSZ	Piszkesteto	152.17	330	ePKPdf	PKPdf	07 36 43.1	-0.1
PSZ				ePKPbc	PKPbc	07 36 51.6	+1.1
PSZ				epPKP	pPKPdf	07 38 59.5	+13
KWE	Weaver Farm	152.20	2⇑	eP	PKPdf	07 36 42.9	-0.2
VYHS	Vyhne	152.20	332	ePKP	PKPdf	07 36 42.1	-1.2
VYHS				e		07 38 38.9	
IBBN	Ibbenburen	152.20	349	ePKPdf	PKPdf	07 36 43.8	+0.7
IBBN				epPKPab	pPKPab	07 39 01.3	+1.4
SART	Tekirdag	152.22	311	iP	PKPdf	07 36 40.4	-3.2
SBD1	Bryn Du	152.25	4⇑	eP	PKPdf	07 36 42.9	-0.3
BALY	Balya	152.30	308	iP	PKPdf	07 36 41.8	-1.9
KOLL	Kolacno	152.32	332	ePKP	PKPdf	07 36 44.2	+0.8
GZR	Gura Zlata	152.45	323	PKIKP	PKPdf	07 36 44.9	+1.2
CWF	Charnwood Fore	152.49	1	eP	PKPdf	07 36 43.3	-0.3
TURN	Turunc	152.55	302	iP	PKPdf	07 36 43.6	-0.6
AEU	East Anglia Un	152.58	358	eP	PKPdf	07 36 44.0	+0.3
PRU	Pruhonice	152.62	339	ePKPDF	PKPdf	07 36 44.2	+0.4
PRU				⇑ePKP	PKPbc	07 36 52.2	+0.8
PRU				epPKP	pPKPdf	07 38 44.5	-2.8
PRU				ex	x	07 43 20.1	
PRU				eSKKS	SKKSac	07 46 40.0	+2.3
PRU				ex	x	07 50 04.1	
PRU				ex	x	07 53 03.5	
HLM1	Long Mynd	152.66	3⇑	eP	PKPdf	07 36 43.8	0.0
WTSB	Winterswijk	152.69	350	ePKP	PKPdf	07 36 44.4	+0.6
WTSB	Winterswijk	152.69	350	ex	PKPbc	07 36 52.7	+1.3
	comp=N,502nm,0.6s						
AYDN	Tasoluk	152.85	304	iP	PKPdf	07 36 43.9	-0.7
TREC	Trest	152.88	337	ePKPDF	PKPdf	07 36 44.7	+0.5
TREC				⇑ePKP	PKPbc	07 36 52.2	+0.2
TREC				epPKP	pPKPdf	07 38 43.8	-3.9
TREC				ex	x	07 53 03.3	
BUD	Budapest	152.88	330⇑	ePKP	PKPdf	07 36 44.6	+0.3
TANN	Tannenbergstha	152.89	342	ePKPdf	PKPdf	07 36 44.7	+0.5
TANN				ePKPbc	PKPbc	07 36 53.2	+1.3
ALN	Alexandroupoli	152.90	312	P	PKPdf	07 36 43.8	-0.7
ALN	Alexandroupoli	152.90	312	P	PKPdf	07 36 49.2	+4.7
MOX	Moxa	152.92	343	ePKP	PKPdf	07 36 44.7	+0.5
	comp=N,183nm,1.7s						
MOX				e		07 36 52.5	
	comp=N,257nm,1.5s						
MOX				e		07 38 58.5	
MOX	Moxa	152.92	343	ePKIKP	PKPdf	07 36 44.7	+0.5
MOX				pmax	pmax		
	comp=Z,183nm,1.7s						
MOX	Moxa	152.92	343	ePKPdf	PKPdf	07 36 44.8	+0.6
MOX				ePKPbc	PKPbc	07 36 53.1	+1.1
MOX				ePKPab	PKPab	07 37 05.2	-0.5
BZS	Buzias	152.93	324	PKIKP	PKPdf	07 36 44.0	-0.4
MODS	Modra-Piesok	152.95	333	iPKP	PKPdf	07 36 44.2	-0.1
MODS				e		07 38 45.5	
KDZ	Kurdzhali	152.96	314	P	PKPdf	07 36 44.3	-0.3
NKC	Novy Kostel	153.06	341	ePKIKP	PKPdf	07 36 44.8	+0.4
NKC				e		07 36 51.4	
NKC				e		07 38 43.7	
NKC	Novy Kostel	153.06	341	ePKPDF	PKPdf	07 36 44.8	+0.4
NKC				⇑ePKP	PKPbc	07 36 51.4	-0.9
NKC				epPKP	pPKPdf	07 38 43.7	-4.2
NKC				ex	x	07 43 25.1	
NKC				eSKKS	SKKSac	07 46 41.3	+1.3
KDAG	Bornova	153.06	306	iP	PKPdf	07 36 45.1	+0.3
HTR	Trewern Hill	153.08	4⇑	eP	PKPdf	07 36 44.4	-0.1
BUG	Bochum--Univer	153.12	349	ePKPdf	PKPdf	07 36 45.2	+0.7
BUG				ePKPbc	PKPbc	07 36 53.6	+1.2
BUG				ePKPab	PKPab	07 37 05.7	-0.9
AYVA	Ayvalik	153.13	308	iP	PKPdf	07 36 45.1	+0.2
UBBA	Unterbreizbach	153.16	345	ePKPdf	PKPdf	07 36 45.0	+0.4
UBBA				ePKPbc	PKPbc	07 36 53.9	+1.4
ZST	Bratislava	153.16	333	iPKP	PKPdf	07 36 43.8	-0.9
ZST				e		07 38 46.4	
MCH1	Michaelchurch	153.18	3⇑	eP	PKPdf	07 36 44.7	+0.2
GCAM	G?zelcaml?	153.32	305	iP	PKPdf	07 36 45.6	+0.3
BOZC	Bozcaada	153.36	310	iP	PKPdf	07 36 44.6	-0.6
BDRM	Kayabasi	153.37	303	iP	PKPdf	07 36 44.9	-0.5
MANZ	Manzenberg	153.37	342	ePKPdf	PKPdf	07 36 45.5	+0.6
MANZ				ePKPbc	PKPbc	07 36 54.5	+1.5
ROTZ	Rotzenmuhle	153.54	341	ePKPdf	PKPdf	07 36 45.7	+0.6
ROTZ				ePKPbc	PKPbc	07 36 54.7	+1.3
ROTZ				ePKPab	PKPab	07 37 08.4	0.0
ROTZ				epPKPab	pPKPab	07 39 08.5	+2.9
HGH	Gray Hill	153.54	3⇑	eP	PKPdf	07 36 44.8	-0.3
URLA	Izmir	153.56	306	iP	PKPdf	07 36 43.4	-2.2
KHC	Kasperske Hory	153.68	339	ePKIKP	PKPdf	07 36 44.5	-0.9
KHC				e		07 38 43.8	
KHC	Kasperske Hory	153.68	339	ePKPDF	PKPdf	07 36 44.5	-0.9
KHC				⇑ePKP	PKPbc	07 36 54.9	+1.2
KHC				ePKPAB	PKPab	07 37 11.0	+2.0
KHC				epPKP	pPKPdf	07 38 43.8	-5.1
KHC				ex	x	07 43 29.8	
KHC				eSKKS	SKKSac	07 46 44.6	+1.2
KHC				ex	x	07 53 12.9	
SOP	Sopron	153.79	333⇑	ePKP	PKPdf	07 36 46.0	+0.4
PSCM	Serra do Cume	153.86	53	ePKP	PKPdf	07 36 47.4	+1.4
VTS	Vitosha	153.87	317	P	PKPdf	07 36 47.7	+1.8
VTS	Vitosha	153.87	317	P	PKPdf	07 36 46.1	+0.3
CONA	Conrad Observa	153.87	334⇑	iPKPdf	PKPdf	07 36 44.8	-0.9
	comp=Z,696nm,3.4s,SNR=39						
CSNA	Conrad Observa	153.87	334⇑	iPKPdf	PKPdf	07 36 44.8	-0.9
	comp=Z,693nm,3.4s						
GEC2	GERESS Array S	153.88	338	ePKPdf	PKPdf	07 36 46.0	+0.3
GEC2				ePKPbc	PKPbc	07 36 55.6	+1.5
GEC2				ePKPab	PKPab	07 37 09.4	-0.5
GERES	GERESS Array B	153.88	338	PKP	PKPdf	07 36 44.6	-1.0
	comp=Z,15nm,0.8s,baz=225,slow=0.9,SNR=70						
GERES				PKPbc	PKPbc	07 36 54.7	+0.6
	comp=Z,30nm,0.8s,baz=32,slow=1.2,SNR=30						
GERES				PKPab	PKPab	07 37 08.7	-1.2
	comp=Z,9.9nm,0.8s,baz=45,slow=1.5,SNR=4.9						
GERES				pPKPbc	pPKPbc	07 38 57.5	+0.9
	comp=Z,12nm,0.9s,baz=336,slow=2.2,SNR=3.0						
GERES	GERESS Array B	153.88	338	PKIKP	PKPdf	07 36 44.6	-1.1
GERES						07 37 08.7	
GRA1	Grafenberg Arr	153.89	342	ePKPdf	PKPdf	07 36 46.2	+0.6
GRA1				ePKPab	PKPab	07 37 10.2	+0.3
GRA1				eSKKSac	SKKSac	07 46 48.6	+4.1
GRA1				eSS	SS	07 59 42.6	+1.7
GRF	Grafenberg Arr	153.89	342	ePKPdf	PKPdf	07 36 46.2	+0.6
GRF				ePKPab	PKPab	07 37 10.2	+0.3
GRF				eSKKSac	SKKSac	07 46 48.6	+4.1
GRF				eSS	SS	07 59 42.6	+1.7
WET	Wettzell	153.89	340	ePKPdf	PKPdf	07 36 46.2	+0.5
WET				ePKPab	PKPab	07 37 10.0	0.0
WOL	Wolverton	153.92	1⇑	eP	PKPdf	07 36 45.5	-0.1
LIA	Limnos Island	153.94	311	P	PKPdf	07 36 45.5	-0.5
HGN	Heimansgroeve	153.99	351	ePKP	PKPdf	07 36 46.3	+0.6
	comp=Z,106nm,1.2s						
HGN	Heimansgroeve	153.99	351	ex	PKPbc	07 36 55.4	+1.2
HGN	Heimansgroeve	153.99	351	ex	PKPab	07 37 11.1	+0.8
BEBN	Eben Emael	154.00	351	PKPdf	PKPdf	07 36 46.6	+0.9
BEBN				PKPbc	PKPbc	07 36 55.5	+1.2
BEBN				PKPab	PKPab	07 37 11.2	+0.9
PKSM	Moragy	154.00	329	PKIKP	PKPdf	07 36 45.6	-0.3
TNS	Taunus Mts	154.06	347	ePKPdf	PKPdf	07 36 46.1	+0.2
TNS				ePKPab	PKPab	07 37 11.0	+0.4
MMB	Musomiste	154.09	315	P	PKPdf	07 36 44.3	-1.9
TFO1	Folkestone	154.09	358⇑	eP	PKPdf	07 36 46.2	+0.3
MEM	Membach	154.13	350	PKPdf	PKPdf	07 36 47.0	+1.1
MEM				PKPbc	PKPbc	07 36 55.9	+1.3
MEM				PKPab	PKPab	07 37 11.4	+0.5
UCC	Uccle	154.16	353	PKPdf	PKPdf	07 36 46.9	+0.9
UCC				PKPbc	PKPbc	07 36 55.6	+1.0
UCC				PKPab	PKPab	07 37 10.7	-0.4
KKB	Krupnik	154.35	316	P	PKPdf	07 36 45.2	-1.3
BCLA	Clavier	154.42	351	PKPdf	PKPdf	07 36 47.2	+0.9
BCLA				PKPbc	PKPbc	07 36 56.4	+1.2
BCLA				PKPab	PKPab	07 37 11.7	-0.4
SNF	Seneffe	154.46	353	PKPdf	PKPdf	07 36 46.7	+0.3
SNF				PKPbc	PKPbc	07 36 56.2	+0.9
SNF				PKPab	PKPab	07 37 10.9	-1.4
MOA	Molln	154.54	336⇑	iPKPdf	PKPdf	07 36 44.5	-2.1
	comp=Z,851nm,4.7s,SNR=8.8						
ARSA	Arzberg	154.56	334⇑	iPKPdf	PKPdf	07 36 45.2	-1.4
	comp=Z,614nm,3.2s,SNR=16						
ABH	Alteburg	154.57	348	PKP	PKPdf	07 36 47.3	+0.7
TOD	Tromm	154.57	346	PKIKP	PKPdf	07 36 47.1	+0.5
MENF	Mencas	154.59	356	PKP	PKPdf	07 36 47.3	+0.7
DYA	Yadsworthy	154.67	5	eP	PKPdf	07 36 46.8	+0.1
SOH	Sokhos	154.72	314	P	PKPdf	07 36 46.1	-1.0
GIVF	Givet	154.79	352⇑	iPKIKP	PKPdf	07 36 47.8	+0.9
	comp=Z,348nm,1.7s						
CCA1	Carnmenellis	154.79	7	eP	PKPdf	07 36 46.9	0.0
DIVS	Divibare	154.80	324	P	PKPdf	07 36 47.4	+0.3
DOU	Dourbes	154.82	352	PKPdf	PKPdf	07 36 47.9	+1.0
DOU				PKPbc	PKPdf	07 36 57.2	+10
DOU				PKPab	PKPab	07 37 13.0	-0.9
RUP	Ruppelstein	154.83	348	PKP	PKPdf	07 36 48.0	+1.1
KNT	Kendrikon	154.84	315	P	PKPdf	07 36 46.4	-0.8
PLG	Polygyros	154.89	313	P	PKPdf	07 36 46.5	-0.8
KOGS	Kog	154.90	332	ePKPdf	PKPdf	07 36 45.9	-1.3
KOGS				ePKPbc	PKPdf	07 36 57.2	+10
KOGS				ePKPab	PKPab	07 37 13.3	-1.1
KOGS				epPKPdf	pPKPdf	07 38 50.2	-0.5
KOGS				epPKPab	pPKPab	07 39 11.7	+0.3
CMA1	Manaccan	154.91	7	eP	PKPdf	07 36 47.1	+0.1
BAIF	Baives	154.91	353⇑	iPKIKP	PKPdf	07 36 48.0	+1.0
	comp=Z,216nm,1.5s						
PAIG	Paliouri	154.95	312	P	PKPdf	07 36 46.6	-0.8
VAY	Valandovo	154.97	316	P	PKPdf	07 36 46.3	-1.1
KTD	Kalmit	154.99	347	PKP	PKPdf	07 36 47.7	+0.5
HORT	Hortiatis	155.00	314	P	PKPdf	07 36 46.6	-0.9
HORT	Hortiatis	155.00	314	P	PKPdf	07 36 47.0	-0.5
WLF	Walferdange	155.02	350	PKPdf	PKPdf	07 36 48.6	+1.4
WLF				PKPbc	PKPdf	07 36 58.3	+11
WLF				PKPab	PKPab	07 37 16.5	+1.8
WLF	Walferdange	155.02	350	ePKPdf	PKPdf	07 36 47.6	+0.4
WLF	Walferdange	155.02	350	ePKPdf	PKPdf	07 36 46.5	-0.7
WLF				ePKPbc	PKPdf	07 36 57.9	+11
WLF				ePKPab	PKPab	07 37 15.0	+0.2
SANT	Santorini	155.11	303	ePKPdf	PKPdf	07 36 47.3	-0.5
SANT				ePKPab	PKPab	07 37 14.4	-1.3
RJOB	Jochberg	155.15	338	ePKPdf	PKPdf	07 36 47.3	-0.1
RJOB				epPKPab	pPKPab	07 39 15.1	+2.7
SOKA	Soboth	155.22	334⇑	iPKPdf	PKPdf	07 36 46.0	-1.5
PERS	Pernice	155.22	334	ePKPdf	PKPdf	07 36 46.1	-1.5
PERS				epPKPdf	pPKPdf	07 38 50.5	-0.6
PERS				e		07 43 36.3	
PERS				e		07 44 27.7	
FUR	Furstenfeldbru	155.25	341	ePKPdf	PKPdf	07 36 47.9	+0.4
FUR				ePKPab	PKPab	07 37 15.9	+0.1
FUR				epPKPab	pPKPab	07 39 16.3	+3.5
STU	Stuttgart	155.26	344	ePKPdf	PKPdf	07 36 47.6	+0.1
STU	Stuttgart	155.26	344	ePKPdf	PKPdf	07 36 48.5	+0.9
GRG	Griva	155.27	315	P	PKPdf	07 36 47.3	-0.5
PDA	Ponta Delgada	155.28	54	ePKP	PKPdf	07 36 51.1	+3.2
LANF	Langenberg	155.37	347	PKP	PKPdf	07 36 48.6	+0.9
CMLA	Cha da Macela	155.38	53	ePKP	PKPdf	07 36 50.2	+2.1
CMLA	Cha da Macela	155.38	53	ePP	PP	07 40 56.1	+0.1
CMLA	Cha da Macela	155.38	53	eSS	SS	07 59 51.4	-7.6
CMLA				eP		08 05 55.4	
CMLA	Cha da Macela	155.38	53	eLQ		08 20 43.5	
CMLA				eLR	LR	08 27 56.4	
KBA	Koelnbreinsper	155.52	337⇑	iPKPdf	PKPdf	07 36 45.8	-2.2
	comp=Z,571nm,3.6s						
OBKA	Obir	155.55	334⇑	iPKPdf	PKPdf	07 36 46.5	-1.5
	comp=Z,766nm,3.9s,SNR=12						
SISC	Sisak	155.60	330	P	PKPdf	07 36 48.8	+0.7
PLE	Pljevlja	155.63	323⇑	iPKP	PKPdf	07 36 48.9	+0.7
IVA	Berane	155.65	321⇑	iPKP	PKPdf	07 36 47.9	-0.4
LIT	Litokhoron	155.66	313	P	PKPdf	07 36 47.4	-1.0
STR	Strasbourg	155.76	346	PKP	PKPdf	07 36 49.5	+1.3
PVY	Plav	155.78	321⇑	iPKP	PKPdf	07 36 47.7	-0.7
MYKA	Terra Mystica	155.79	336⇑	iPKPdf	PKPdf	07 36 45.9	-2.5
	comp=Z,18µm,4.7s						
BFO	Black Forest	155.87	345	ePKPdf	PKPdf	07 36 48.7	+0.3
BFO				ePKPab	PKPab	07 37 18.3	-0.2
BFO				epPKPab	pPKPab	07 39 16.6	+1.2
WATA	Walderalm	155.90	340⇑	iPKPdf	PKPdf	07 36 48.6	+0.1
	comp=Z,145nm,1.6s						
LJU	Ljubljana	155.94	334	ePKIKP	PKPdf	07 36 47.5	-1.0
LJU				e		07 37 19.1	
LJU				e		07 38 40.3	
LJU				e		07 40 56.2	
LJU				e		07 53 29.5	
LJU				e		08 00 06.7	
LJU				e		08 00 52.2	
LJU	Ljubljana	155.94	334	ePKPdf	PKPdf	07 36 47.5	-1.0
LJU				ePKPbc	PKPdf	07 36 59.4	+11
LJU				ePKPab	PKPab	07 37 19.1	+0.3
LJU				e		07 38 40.3	
LJU				epPKPdf	pPKPdf	07 38 51.8	-0.4
LJU				epPKPab	pPKPab	07 39 16.3	+0.6
LJU				ePP	PP	07 40 56.2	-1.9
LJU				e		07 50 28.4	
LJU				e		07 53 29.5	
LJU				e		08 00 06.7	
LJU				e		08 00 52.2	
WTTA	Wattenberg	155.94	339⇑	iPKPdf	PKPdf	07 36 47.5	-1.0
	comp=Z,1µm,4.4s,SNR=34						
SPAK	Spaichingen-Ko	155.98	344	PKP	PKPdf	07 36 48.8	+0.3
UPM	Unac-Piva	155.98	323⇑	iPKP	PKPdf	07 36 48.1	-0.6
LKR	Lokris	156.01	310	P	PKPdf	07 36 48.2	-0.7
RETA	Reutte	156.01	341⇓	iPKPdf	PKPdf	07 36 47.4	-1.2
	comp=Z,875nm,4.5s,SNR=14						
FNA	Florina	156.01	316	P	PKPdf	07 36 48.3	-0.5
FNA	Florina	156.01	316	P	PKPdf	07 36 48.7	-0.1
JSA	Saint Aubin	156.02	3⇑	eP	PKPdf	07 36 48.9	+0.4
CDF	Champ du Feu	156.02	347⇑	iPKIKP	PKPdf	07 36 49.2	+0.6
	comp=Z,162nm,1.4s						
MOTA	Moosalm	156.04	340⇓	iPKPdf	PKPdf	07 36 47.8	-0.8
	comp=Z,105nm,1.3s,SNR=17						
BOJS	Bojanci	156.07	332	ePKPdf	PKPdf	07 36 47.9	-0.8
BOJS				ePKPbc	PKPdf	07 37 00.5	+12
BOJS				ePKPab	PKPab	07 37 20.0	+0.6
BOJS				e		07 38 39.1	
BOJS				epPKPdf	pPKPdf	07 38 52.2	-0.2
BOJS				e		07 46 55.4	
BOJS				e		07 47 44.7	
BOJS				e		07 50 25.6	
BOJS				e		07 53 23.9	
BOJS				e		08 00 06.3	
BOJS				e		08 05 58.1	
CADS	Cadrg	156.09	335	ePKPdf	PKPdf	07 36 47.1	-1.6
ABTA	Abfaltersbach	156.10	337⇓	iPKPdf	PKPdf	07 36 47.2	-1.5
	comp=Z,250nm,1.6s,SNR=44						
NKY	Niksic	156.19	322⇑	iPKP	PKPdf	07 36 48.8	-0.2
VOY	Vojsko	156.20	334	ePKPdf	PKPdf	07 36 47.7	-1.2
VOY				ePKPbc	PKPdf	07 36 59.8	+11
VOY				e		07 37 23.7	
VOY				epPKPab	pPKPab	07 39 17.2	+0.3
LIBD	Limburg	156.21	346	PKP	PKPdf	07 36 48.8	0.0
ECH	Echery	156.24	347	PKP	PKPdf	07 36 48.8	0.0
ECH	Echery	156.24	347	ePKPdf	PKPdf	07 36 48.6	-0.3
ECH				ePKPbc	PKPdf	07 37 00.2	+11
ECH				ePKPab	PKPab	07 37 19.5	-0.6
THL	Klokotos Trika	156.25	313	P	PKPdf	07 36 48.4	-0.7
TTG	Podgorica	156.30	321⇑	iPKP	PKPdf	07 36 48.4	-0.7
AGG	Agios Georgios	156.30	311	P	PKPdf	07 36 49.0	-0.2
LTK	Loutraki	156.31	308	P	PKPdf	07 36 47.9	-1.4
MEZF	Maizieres J'vi	156.33	351⇑	iPKIKP	PKPdf	07 36 50.1	+1.2
	comp=Z,729nm,1.7s						
DID	Didima	156.34	307	P	PKPdf	07 36 48.7	-0.6
FELD	Feldberg im Sc	156.38	346	PKP	PKPdf	07 36 49.5	+0.5
BRY	Bratogost	156.38	323⇑	iPKP	PKPdf	07 36 47.9	-1.3
FETA	Feichten	156.44	340⇑	iPKPdf	PKPdf	07 36 48.2	-0.9
	comp=Z,877nm,3.5s,SNR=30						
THEF	They Montfort	156.44	349	PKP	PKPdf	07 36 49.7	+0.6
DAVA	Damuels	156.45	342⇑	iPKPdf	PKPdf	07 36 48.2	-1.0
	comp=Z,1µm,4.9s,SNR=14						
FLN	La Foliniere	156.48	360⇑	iPKIKP	PKPdf	07 36 49.8	+0.7
	comp=Z,745nm,1.6s						
FLN				eMLR	MLR		
	comp=Z,358nm,21.0s						
FLN	La Foliniere	156.48	360⇑	iPKPdf	PKPdf	07 36 49.8	+0.7
FLN				LR	LR		
	comp=Z,360nm,21.0s						
TRI	Trieste	156.51	334	ePKPdf	PKPdf	07 36 48.5	-0.7
TRI				ePKPab	PKPab	07 37 21.7	+0.3
TRI				eSKP		07 39 23.7	
SKDS	Skadanscina	156.55	334	ePKPdf	PKPdf	07 36 47.8	-1.6
SKDS				ePKPbc	PKPdf	07 37 00.6	+11
SKDS				e		07 46 57.5	
SKDS				e		07 47 46.8	
BUM	Brajici-Budva	156.58	322⇑	iPKP	PKPdf	07 36 48.9	-0.6
MOF	Molkenrain	156.59	347	PKP	PKPdf	07 36 49.7	+0.4
HAU	Haudompre	156.59	348⇑	iPKIKP	PKPdf	07 36 50.1	+0.8
	comp=Z,200nm,1.3s						
HAU				eMLR	MLR		
	comp=Z,678nm,22.8s						
HAU	Haudompre	156.59	348⇑	iPKPdf	PKPdf	07 36 50.1	+0.8
HAU				LR	LR		
	comp=Z,680nm,22.8s						
ULC	Ulcinj	156.60	320⇑	iPKP	PKPdf	07 36 49.4	-0.1
TIR	Tirane	156.62	319	P	PKPdf	07 36 49.7	+0.1
TIR	Tirane	156.62	319	ePKP2	PKPab	07 37 21.2	-0.8
LDF	La Druitiere	156.65	359⇑	iPKIKP	PKPdf	07 36 50.0	+0.6
	comp=Z,494nm,1.6s						
HINF	Hinteralfeld	156.68	347⇑	iPKIKP	PKPdf	07 36 50.0	+0.6
	comp=Z,166nm,1.3s						
HCY	Herceg Novi	156.71	322⇑	iPKP	PKPdf	07 36 48.7	-0.9
ROSF	Rostrenen	156.81	5⇑	iPKIKP	PKPdf	07 36 49.8	+0.2
	comp=Z,136nm,1.4s						
GRR	Gorron	156.85	1⇑	iPKIKP	PKPdf	07 36 50.4	+0.8
	comp=Z,352nm,1.6s						
STON	Ston	156.86	324	P	PKPdf	07 36 48.8	-1.0
BBS	Basel-Blauen	156.88	346	PKP	PKPdf	07 36 50.1	+0.4
SGMF	Saint Gilles	156.93	3⇑	iPKIKP	PKPdf	07 36 50.1	+0.4
	comp=Z,274nm,1.5s						
NVLJ	Novalja	156.98	331	P	PKPdf	07 36 48.8	-1.1
VLX	Vlachokerasia	157.02	307	P	PKPdf	07 36 50.7	+0.5
LOMF	Lomont	157.13	347	PKP	PKPdf	07 36 50.8	+0.8
QUIF	Quistinic	157.23	5⇑	iPKIKP	PKPdf	07 36 50.5	+0.4
TUE	Stuetta	157.34	342	ePKPdf	PKPdf	07 36 48.8	-1.5
TUE				ePKPab	PKPab	07 37 25.1	+0.2
TUE				eSKP		07 39 23.7	
LKD	Levkas	157.59	312	P	PKPdf	07 36 51.1	+0.2
LKD	Levkas	157.59	312	P	PKPdf	07 36 49.5	-1.4
PYL	PYLOS	157.68	307	P	PKPdf	07 36 50.4	-0.6
LOR	Lormes	157.70	352⇑	iPKIKP	PKPdf	07 36 51.6	+0.9
	comp=Z,276nm,1.4s						
LOR				eMLR	MLR		
	comp=Z,1µm,21.8s						
LOR	Lormes	157.70	352⇑	iPKPdf	PKPdf	07 36 51.6	+0.9
LOR				LR	LR		
	comp=Z,1µm,21.8s						
HYF	Humbligny	157.83	354⇑	iPKIKP	PKPdf	07 36 52.2	+1.3
VLS	Valsamata	157.90	311	P	PKPdf	07 36 50.9	-0.4
SSF	Saint Saulge	157.94	353⇑	iPKIKP	PKPdf	07 36 51.9	+0.9
	comp=Z,348nm,1.5s						
CABF	La Chapelle	157.98	348⇑	iPKIKP	PKPdf	07 36 52.4	+1.3
	comp=Z,306nm,1.2s						
AVF	Avril sur Loir	158.23	353⇑	iPKIKP	PKPdf	07 36 51.9	+0.5

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
	comp=Z,127nm,1.3s						
SMF	**Signal de Mont**	**158.31**	**352**	⇑iPKIKP	PKPdf	07 36 52.1	+0.6
	comp=Z,225nm,1.5s						
BGF	**Bois d'Agland**	**158.51**	**354**	⇑iPKIKP	PKPdf	07 36 52.7	+1.0
	comp=Z,521nm,1.5s						
MFF	**Saint Martin d**	**158.64**	**359**	⇑iPKIKP	PKPdf	07 36 52.7	+0.8
	comp=Z,596nm,1.5s						
OG05	**Jujurieux**	**158.65**	**348**	PKP	PKPdf	07 36 52.5	+0.6
TCF	**Toulx Ste Croi**	**158.84**	**355**	⇑iPKIKP	PKPdf	07 36 53.0	+0.9
	comp=Z,380nm,1.4s						
LPL	**La Plagne**	**158.89**	**346**	⇑iPKIKP	PKPdf	07 36 53.5	+1.3
	comp=Z,73nm,1.0s						
LPG	**La Plagne**	**158.91**	**346**	⇑iPKIKP	PKPdf	07 36 53.5	+1.3
	comp=Z,102nm,1.1s						
GDM	**Grand'Maison**	**159.32**	**347**	PKP	PKPdf	07 36 53.6	+0.9
BNI	**Bardonecchia**	**159.34**	**345**	ePKPdf	PKPdf	07 36 53.5	+0.7
BNI				ePKPab	PKPab	07 37 34.2	+0.5
GRN	**Grenoble**	**159.36**	**347**	PKP	PKPdf	07 36 53.6	+0.9
SSB	**Saint Sauveur**	**159.55**	**350**	PKP	PKPdf	07 36 53.8	+0.9
SSB	**Saint Sauveur**	**159.55**	**350**	ePKPdf	PKPdf	07 36 52.2	-0.7
SSB				ePKPab	PKPab	07 37 33.1	-1.4
MBDF	**Montbardon**	**159.63**	**345**	⇑iPKIKP	PKPdf	07 36 53.9	+0.8
	comp=Z,131nm,1.2s						
ORIF	**Oris-en-Rattie**	**159.65**	**347**	⇑iPKIKP	PKPdf	07 36 54.0	+0.9
	comp=Z,138nm,1.5s						
ORIF				eMLR	MLR		
	comp=Z,921nm,21.8s						
FRNF	**Fournols**	**159.70**	**354**	PKP	PKPdf	07 36 54.5	+1.4
TIP	**Timpagrande**	**159.83**	**318**	ePKPdf	PKPdf	07 36 52.4	-1.0
TIP				ePKPab	PKPab	07 37 36.9	+0.8
SURF	**Saint Ours**	**159.85**	**345**	PKP	PKPdf	07 36 54.5	+1.2
CUC	**Castrocucco**	**159.85**	**321**	ePKPdf	PKPdf	07 36 51.2	-2.2
CUC				ePKPab	PKPab	07 37 34.4	-1.7
CUC				eSKP		07 39 32.5	
RJF	**Les Rejaudoux**	**159.87**	**356**	⇑iPKIKP	PKPdf	07 36 54.3	+1.0
	comp=Z,336nm,1.4s						
RJF				eMLR	MLR		
	comp=Z,1μm,19.0s						
RJF	**Les Rejaudoux**	**159.87**	**356**	⇑iPKPdf	PKPdf	07 36 54.3	+1.0
RJF				LR	LR		
	comp=Z,1μm,19.0s						
VIVF	**Saint-Julien-l**	**159.94**	**349**	⇑iPKIKP	PKPdf	07 36 54.6	+1.2
	comp=Z,292nm,1.6s						
OCF	**Saint Nazaire**	**160.09**	**348**	PKP	PKPdf	07 36 54.9	+1.3
OG26	**St.-Nazaire-De**	**160.09**	**348**	PKP	PKPdf	07 36 54.9	+1.3
SAOF	**Saorge**	**160.12**	**343**	PKP	PKPdf	07 36 54.0	+0.4
AUTN	**L'Aution**	**160.15**	**343**	PKP	PKPdf	07 36 54.5	+0.8
TOUF	**Mont Tournerai**	**160.18**	**343**	PKP	PKPdf	07 36 55.6	+1.9
CAF	**Calviac**	**160.20**	**355**	⇑iPKIKP	PKPdf	07 36 54.9	+1.2
	comp=Z,241nm,1.4s						
LUCF	**Luceram**	**160.27**	**343**	PKP	PKPdf	07 36 54.1	+0.3
SBF	**Sospel**	**160.27**	**343**	ePKIKP	PKPdf	07 36 54.2	+0.4
	comp=Z,120nm,1.0s						
LFF	**La Frestale**	**160.28**	**357**	⇑iPKIKP	PKPdf	07 36 54.7	+0.9
	comp=Z,338nm,1.5s						
MVIF	**Mont Vial**	**160.31**	**343**	PKP	PKPdf	07 36 54.5	+0.7
CALN	**Calern**	**160.52**	**344**	PKP	PKPdf	07 36 54.6	+0.5
SMRF	**Simiane la Rot**	**160.61**	**347**	⇑iPKIKP	PKPdf	07 36 55.5	+1.3
	comp=Z,135nm,1.4s						
LIC	**Lamto**	**160.65**	**166**	⇑iPKIKP	PKPdf	07 36 56.0	+0.9
	comp=Z,456nm,1.3s						
LIC				eMLR	MLR		
	comp=Z,725nm,21.8s						
LIC	**Lamto**	**160.65**	**166**	ePKP2	PKPdf	07 36 55.2	+0.1
	comp=Z,812nm,1.8s						
LIC	**Lamto**	**160.65**	**166**	⇑iPKPdf	PKPdf	07 36 56.0	+0.9
LIC				LR	LR		
	comp=Z,360nm,21.8s						
FRF	**La Foret Royal**	**160.76**	**344**	⇑iPKIKP	PKPdf	07 36 54.8	+0.5
	comp=Z,93nm,1.1s						
LASF	**Ste Croix**	**160.83**	**350**	⇑iPKIKP	PKPdf	07 36 55.6	+1.2
	comp=Z,391nm,1.6s						
KIC	**Kosan Boka**	**160.84**	**167**	ePKP2	PKPdf	07 36 55.4	+0.1
	comp=Z,2μm,1.8s						
PGF	**Pioggiola**	**160.99**	**338**	⇑iPKIKP	PKPdf	07 36 55.1	+0.5
	comp=Z,177nm,1.3s						
EMAZ	**Mazaricos**	**160.99**	**19**	PKP	PKPdf	07 36 53.8	-0.8
EMAZ				PKPab	PKPab	07 37 40.0	-0.9
LMR	**La Mourre**	**161.00**	**344**	⇑iPKIKP	PKPdf	07 36 55.0	+0.4
	comp=Z,96nm,1.2s						
TIC	**Toumodi**	**161.06**	**166**	ePKP2	PKPdf	07 36 54.0	-1.6
	comp=Z,2μm,1.7s						
DBIC	**Dimbokro**	**161.12**	**167**	PKP	PKPdf	07 36 55.2	-0.4
	comp=Z,72nm,1.0s,baz=120,slow=1.5,SNR=38						
DBIC				PKPab	PKPab	07 37 41.5	-0.6
	comp=Z,28nm,1.0s,baz=214,slow=5.2,SNR=3.8						
DBIC				pPKPab	pPKPab	07 39 43.6	+5.0
	comp=Z,15nm,1.0s,baz=183,slow=7.5,SNR=2.3						
DBIC	**Dimbokro**	**161.12**	**167**	PKIKP	PKPdf	07 36 55.2	-0.4
DBIC						07 37 41.5	
DBIC						07 39 43.6	
DBIC				pmax	pmax		
	comp=Z,73nm,1.0s						
DBIC				pmax	pmax		
	comp=Z,28nm,1.0s						
DBIC				pmax	pmax		
	comp=Z,15nm,1.0s						
DBIC	**Dimbokro**	**161.12**	**167**	ePKPdf	PKPdf	07 36 55.5	-0.2
DBIC				ePKPab	PKPab	07 37 42.6	+0.4
EPON	**Pontenova**	**161.12**	**15**	PKP	PKPdf	07 36 55.1	+0.4
EPON				PKPab	PKPab	07 37 41.2	-0.3
CORF	**Corte**	**161.16**	**337**	PKP	PKPdf	07 36 54.5	-0.3
STS	**Santiago**	**161.17**	**18**	PKP	PKPdf	07 36 53.0	-1.8
STS				PKPab	PKPab	07 37 38.6	-3.2
EARI	**Arriondas**	**161.54**	**11**	PKP	PKPdf	07 36 55.1	0.0
EARI				PKPab	PKPab	07 37 40.7	-2.6
BBTS	**Babate**	**161.70**	**122**	PKP	PKPdf	07 36 56.2	+0.1
	comp=Z,133nm,1.0s,baz=318,slow=0.7,SNR=16						
BBTS				PKPab	PKPab	07 37 44.0	-0.9
	comp=Z,172nm,1.0s,baz=235,slow=1.6,SNR=14						
BBTS	**Babate**	**161.70**	**122**	PKP	PKPdf	07 36 56.2	+0.1
BBTS				PKPab	PKPab	07 37 44.0	-0.9
MTLF	**Montolieu**	**161.76**	**354**	⇑iPKIKP	PKPdf	07 36 56.3	+0.9
	comp=Z,398nm,1.8s						
ELAN	**Lanestosa**	**161.86**	**7**	PKP	PKPdf	07 36 55.1	-0.3
ELAN				PKPab	PKPab	07 37 44.2	-0.5
EALK	**Alkurruntz**	**162.01**	**2**	PKP	PKPdf	07 36 56.2	+0.6
EALK				PKPab	PKPab	07 37 44.5	-0.9
ERUA	**La Rua**	**162.01**	**16**	PKIKP	PKPdf	07 36 56.0	+0.3
ERUA						07 37 45.2	
ELIZ	**Elizondo**	**162.06**	**2**	PKIKP	PKPdf	07 36 55.5	-0.2
ELIZ						07 37 45.0	
SJPF	**Ste Jean**	**162.12**	**2**	⇑iPKIKP	PKPdf	07 36 57.1	+1.4
	comp=Z,255nm,1.6s						
ATE	**Arette**	**162.16**	**0**	PKP	PKPdf	07 36 56.3	+0.5
REYF	**Montagne du Re**	**162.17**	**360**	PKP	PKPdf	07 36 57.1	+1.3
EPF	**Esparros**	**162.20**	**358**	⇑iPKIKP	PKPdf	07 36 57.0	+1.2
	comp=Z,310nm,1.3s						
MLS	**Moulis**	**162.23**	**356**	PKP	PKPdf	07 36 56.9	+1.0
ELOB	**Lobios**	**162.25**	**19**	PKP	PKPdf	07 36 55.1	-0.8
ELOB				PKPab	PKPab	07 37 45.5	-1.0
MELF	**Melles**	**162.34**	**357**	PKP	PKPdf	07 36 57.1	+1.1
ETSF	**Etsaut**	**162.34**	**0**	⇑iPKIKP	PKPdf	07 36 57.5	+1.5
	comp=Z,78nm,1.0s						
VIEF	**Viey**	**162.35**	**359**	PKP	PKPdf	07 36 57.5	+1.5
PCAB	**Cabril**	**162.41**	**19**	ePKPdf	PKPdf	07 36 56.4	+0.3
PCAB	**Cabril**	**162.41**	**19**	ePKPab	PKPab	07 37 48.0	+0.8
RESF	**Ens**	**162.42**	**358**	PKP	PKPdf	07 36 57.9	+1.9
FILF	**Fillols**	**162.49**	**352**	PKP	PKPdf	07 36 56.9	+0.8
ECAL	**Calabor**	**162.53**	**16**	PKP	PKPdf	07 36 57.2	+1.0
ECAL				PKPab	PKPab	07 37 46.3	-1.4
EBIE	**Bielsa**	**162.55**	**358**	PKP	PKPdf	07 36 57.1	+0.9
EBIE				PKPab	PKPab	07 37 46.5	-1.2
ECRI	**Cripan**	**162.56**	**5**	PKIKP	PKPdf	07 36 56.5	+0.3
ECRI						07 37 48.3	
PBRG	**Braganca**	**162.66**	**16**	ePKPdf	PKPdf	07 36 57.1	+0.8
PBRG	**Braganca**	**162.66**	**16**	ePKPab	PKPab	07 37 48.7	+0.4
VALF	**Valcebollere**	**162.71**	**354**	PKP	PKPdf	07 36 57.7	+1.4
PVRL	**Vila Real**	**162.90**	**19**	ePKPdf	PKPdf	07 36 57.6	+1.0
PVRL	**Vila Real**	**162.90**	**19**	ePKPab	PKPab	07 37 50.1	+0.8
MVO	**Moncorvo**	**163.19**	**17**	ePKPdf	PKPdf	07 36 57.0	+0.2
MVO	**Moncorvo**	**163.19**	**17**	ePKPab	PKPab	07 37 50.6	0.0
MVO				eP		07 39 01.1	
MVO	**Moncorvo**	**163.19**	**17**	ePP	PP	07 41 34.8	-1.8
MVO				eSS	SS	08 01 12.0	-6.3
EMIR	**Miracle**	**163.24**	**355**	PKP	PKPdf	07 36 55.4	-1.4
EMIR				PKPab	PKPab	07 37 51.3	+0.5
PVIS	**Viseu**	**163.36**	**20**	ePKPdf	PKPdf	07 36 57.2	+0.2
PVIS	**Viseu**	**163.36**	**20**	ePKPab	PKPab	07 37 51.9	+0.5
PVIS	**Viseu**	**163.36**	**20**	ePP	PP	07 41 37.3	-0.2
VSL	**Villasalto**	**163.48**	**332**	ePKPdf	PKPdf	07 36 57.4	+0.3
ESAC	**San Caprasio**	**163.52**	**360**	PKP	PKPdf	07 36 57.0	-0.1
ESAC				PKPab	PKPab	07 37 52.2	+0.2
MTE	**Manteigas**	**163.75**	**19**	ePKPdf	PKPdf	07 36 57.4	0.0
MTE	**Manteigas**	**163.75**	**19**	ePKPab	PKPab	07 37 53.6	+0.5
MTE				eP		07 39 00.6	
MTE	**Manteigas**	**163.75**	**19**	ePP	PP	07 41 39.9	+0.3
MTE				eSS	SS	08 01 24.6	+0.4
MTE	**Manteigas**	**163.75**	**19**	ePKPdf	PKPdf	07 36 57.6	+0.3
MTE				ePKPab	PKPab	07 37 53.2	+0.1
MTE				ePP	PP	07 41 38.1	-1.4
EPOB	**Poblet**	**163.83**	**356**	PKP	PKPdf	07 36 56.2	-1.2
EPOB				PKPab	PKPab	07 37 48.6	-4.8
PMAR	**Madeira**	**163.85**	**59**	ePKPdf	PKPdf	07 36 59.2	+1.5
PMAR	**Madeira**	**163.85**	**59**	ePKPab	PKPab	07 37 55.5	+1.5
PMAR				eP		07 39 05.6	
PMAR	**Madeira**	**163.85**	**59**	ePP	PP	07 41 43.1	+1.7
PMPS	**Porto Santo**	**164.16**	**57**	ePKPdf	PKPdf	07 36 59.1	+1.1
PMPS	**Porto Santo**	**164.16**	**57**	ePKPab	PKPab	07 37 55.7	+0.4
PMPS				eP		07 39 06.0	
PMPS	**Porto Santo**	**164.16**	**57**	ePP	PP	07 41 44.2	+1.3
PTOM	**Tomar**	**164.18**	**23**	ePKPdf	PKPdf	07 36 59.4	+1.6
PTOM	**Tomar**	**164.18**	**23**	ePKPab	PKPab	07 37 56.0	+1.0
CHIE	**El Hierro**	**164.21**	**77**	PKP	PKPdf	07 36 58.8	+0.7
CHIE				PKPab	PKPab	07 37 55.4	-0.3
EHIG	**Higuera**	**164.25**	**74**	PKP	PKPdf	07 37 00.2	+2.0
EHIG				PKPab	PKPab	07 37 55.5	-0.5
ERTA	**Horta de San J**	**164.27**	**358**	PKP	PKPdf	07 36 57.8	0.0
ERTA				PKPab	PKPab	07 37 53.9	-1.5
PCBR	**Castelo Branco**	**164.28**	**20**	ePKPdf	PKPdf	07 36 58.4	+0.5
PCBR	**Castelo Branco**	**164.28**	**20**	ePKPab	PKPab	07 37 54.7	-0.8
PCBR				eP		07 39 04.0	
GUD	**Guadarrama**	**164.31**	**10**	PKIKP	PKPdf	07 36 58.2	+0.3
GUD						07 37 54.1	
PMAFR	**Mafra**	**164.43**	**26**	ePKPdf	PKPdf	07 36 59.5	+1.5
PMAFR	**Mafra**	**164.43**	**26**	ePKPab	PKPab	07 37 55.5	-0.7
PMAFR				eP		07 39 01.9	
PMAFR	**Mafra**	**164.43**	**26**	ePP	PP	07 41 43.2	0.0
ALMR	**Almeirim**	**164.53**	**24**	eP	PKPdf	07 36 59.0	+0.9
PMRV	**Marv??o**	**164.69**	**20**	ePKPdf	PKPdf	07 36 58.7	+0.5
PMRV	**Marv??o**	**164.69**	**20**	ePKPab	PKPab	07 37 57.7	+0.4
PMRV				eP		07 39 02.8	
PMRV	**Marv??o**	**164.69**	**20**	ePP	PP	07 41 44.1	-0.3
PMRV				eSS	SS	08 01 27.1	-6.6
EGOM	**La Gomera**	**164.82**	**75**	PKP	PKPdf	07 36 59.0	+0.3
EGOM				PKPab	PKPab	07 37 59.0	+0.5
EMOS	**Mosqueruela**	**164.88**	**360**	PKP	PKPdf	07 36 57.7	-0.6
EMOS				PKPab	PKPab	07 37 55.4	-2.6
PESTR	**Estremoz**	**165.13**	**22**	ePKPdf	PKPdf	07 36 58.9	+0.3
PESTR	**Estremoz**	**165.13**	**22**	ePKPab	PKPab	07 37 59.3	0.0
PESTR				eP		07 39 01.3	
PESTR	**Estremoz**	**165.13**	**22**	ePP	PP	07 41 46.4	-0.3
PESTR				eSS	SS	08 01 41.3	+3.1
ETOS	**Mallorca**	**165.20**	**350**	PKP	PKPdf	07 36 53.5	-5.2
ETOS				PKPab	PKPab	07 37 57.8	-1.7
EVO	**Evora**	**165.28**	**24**	⇑iPKIKP	PKPdf	07 36 58.0	-0.8
	comp=Z,474nm,1.1s						
EVO				eMLR	MLR		
	comp=Z,972nm,21.5s						
EVO	**Evora**	**165.28**	**24**	ePKPdf	PKPdf	07 36 58.7	-0.1
EVO	**Evora**	**165.28**	**24**	ePKPab	PKPab	07 37 59.6	-0.4
EVO				eP		07 39 03.0	
EVO	**Evora**	**165.28**	**24**	ePP	PP	07 41 47.7	+0.1
ESDC	**Sonseca Array**	**165.28**	**10**	PKP	PKPdf	07 36 58.6	-0.1
	comp=Z,0.6nm,0.3s,baz=27,slow=1.0,SNR=17						
ESDC				PKPab	PKPab	07 37 59.1	-0.8
	comp=Z,61nm,0.9s,baz=344,slow=4.0,SNR=36						
ESDC				pPKPab	pPKPab	07 39 57.4	+1.0
	comp=Z,0.8nm,0.5s,baz=43,slow=38,SNR=1.5						
ESDC	**Sonseca Array**	**165.28**	**10**	PKP	PKPdf	07 36 58.3	-0.4
ESDC				PKPab	PKPab	07 37 59.5	-0.3
ESLA	**Sonseca Array**	**165.28**	**10**	ePKPdf	PKPdf	07 36 59.5	+0.8
ESLA				ePKPab	PKPab	07 37 58.8	-1.0
CCAN	**Las Canadas**	**165.34**	**75**	PKP	PKPdf	07 37 00.2	+1.1
CCAN				PKPab	PKPab	07 38 01.5	+0.7
PAB	**San Pablo**	**165.34**	**12**	ePKPdf	PKPdf	07 36 57.2	-1.6
PAB				ePKPab	PKPab	07 37 58.5	-1.7
EBAJ	**Bajamar**	**165.52**	**73**	PKP	PKPdf	07 36 59.5	+0.3
EBAJ				PKPab	PKPab	07 38 02.0	+0.4
ECHE	**Chera**	**165.65**	**1**	PKIKP	PKPdf	07 36 59.9	+0.9
ECHE						07 37 59.6	
PBEJ	**Beja**	**165.78**	**24**	ePKPdf	PKPdf	07 36 59.2	0.0
PBEJ	**Beja**	**165.78**	**24**	ePKPab	PKPab	07 38 01.8	-0.4
PBEJ				eP		07 39 00.4	
PBEJ	**Beja**	**165.78**	**24**	ePP	PP	07 41 49.7	-0.4
PTEO	**Sao Teotonio**	**165.86**	**28**	ePKPdf	PKPdf	07 36 59.8	+0.5
PTEO	**Sao Teotonio**	**165.86**	**28**	ePKPab	PKPab	07 38 03.1	+0.5
PTEO				eP		07 39 04.1	
PTEO	**Sao Teotonio**	**165.86**	**28**	ePP	PP	07 41 50.4	-0.2
PBAR	**Barrancos**	**165.94**	**21**	ePKPdf	PKPdf	07 36 59.8	+0.5
PBAR	**Barrancos**	**165.94**	**21**	ePKPab	PKPab	07 38 03.0	+0.1
PBAR				eP		07 39 02.9	
PBAR	**Barrancos**	**165.94**	**21**	ePP	PP	07 41 50.2	-0.7
PBAR				eSS	SS	08 01 49.7	+3.4
MORF	**Marmelete**	**166.09**	**28**	ePKPdf	PKPdf	07 37 00.0	+0.5
MORF	**Marmelete**	**166.09**	**28**	ePKPab	PKPab	07 38 04.5	+0.9
MORF				eP		07 39 06.2	
MORF	**Marmelete**	**166.09**	**28**	ePP	PP	07 41 50.7	-1.1
MORF				eSS	SS	08 01 50.6	+2.4
PFVI	**Vila Bisbo**	**166.16**	**29**	ePKPdf	PKPdf	07 37 00.3	+0.8
PFVI	**Vila Bisbo**	**166.16**	**29**	ePKPab	PKPab	07 38 04.0	+0.1
PFVI				eP		07 39 04.4	
PFVI	**Vila Bisbo**	**166.16**	**29**	ePP	PP	07 41 51.9	-0.3
PFVI				eSS	SS	08 01 52.3	+3.4
EOSO	**Osorio**	**166.28**	**75**	PKP	PKPdf	07 37 00.7	+0.8
EOSO				PKPab	PKPab	07 38 05.9	+0.9
PVAQ	**Vaqueiros**	**166.39**	**25**	ePKPdf	PKPdf	07 36 59.8	+0.1
PVAQ	**Vaqueiros**	**166.39**	**25**	ePKPab	PKPab	07 38 05.0	+0.1
PVAQ				eP		07 39 04.1	
PVAQ	**Vaqueiros**	**166.39**	**25**	ePP	PP	07 41 53.0	-0.2
PVAQ				eSS	SS	08 01 52.9	+1.9
EMIN	**Mina Concepcio**	**166.43**	**21**	PKP	PKPdf	07 36 59.0	-0.7
EMIN				PKPab	PKPab	07 38 05.6	+0.5
PBDV	**Barranco-do-Ve**	**166.44**	**26**	ePKPdf	PKPdf	07 36 59.9	+0.2
PBDV	**Barranco-do-Ve**	**166.44**	**26**	ePKPab	PKPab	07 38 04.0	-1.1
PBDV				eP		07 39 04.8	
PBDV	**Barranco-do-Ve**	**166.44**	**26**	ePP	PP	07 41 53.4	-0.1
PBDV				eSS	SS	08 01 54.0	+2.4
KEST	**Kesra**	**166.48**	**323**	PKP	PKPdf	07 37 00.8	+1.0
	comp=Z,10nm,0.9s,baz=295,slow=1.6,SNR=18						
KEST				PKPab	PKPab	07 38 05.2	-0.2
	comp=Z,10nm,0.9s,baz=346,slow=5.5,SNR=6.5						
KEST				pPKPab	pPKPab	07 40 03.3	+1.4
	comp=Z,4.1nm,0.9s,baz=27,slow=2.3,SNR=2.6						
EVIA	**Vianos**	**166.50**	**7**	PKIKP	PKPdf	07 36 59.6	-0.1
EVIA						07 38 06.4	
EBEN	**Beniarda**	**166.53**	**359**	PKP	PKPdf	07 36 59.5	-0.2
EBEN				PKPab	PKPab	07 38 07.5	+2.1
ETOB	**Tobarra**	**166.57**	**3**	PKP	PKPdf	07 36 59.1	-0.7
ETOB				PKPab	PKPab	07 38 04.8	-0.8
EADA	**Adamuz**	**166.63**	**14**	PKP	PKPdf	07 36 59.4	-0.5
EADA				PKPab	PKPab	07 38 06.8	+0.9
CMAH	**Djebel Manchou**	**166.72**	**331**	P	PKPdf	07 37 05.0	+5.0
EBAN	**Banos Encina**	**166.79**	**11**	PKIKP	PKPdf	07 37 00.0	0.0
EBAN						07 38 05.7	
CAEH	**'Ain El Ouahch**	**166.83**	**333**	P	PKPdf	07 37 05.0	+5.0
EQES	**Quesada**	**167.25**	**9**	PKP	PKPdf	07 37 00.6	+0.3
EQES				PKPab	PKPab	07 38 12.7	+4.1
ELUQ	**Luque**	**167.28**	**14**	PKIKP	PKPdf	07 37 00.0	-0.3
EHUE	**Huescar**	**167.30**	**7**	PKIKP	PKPdf	07 36 59.8	-0.5
EHUE						07 38 09.0	
DFRA	**Djebel Bou Aff**	**167.42**	**336**	P	PKPdf	07 37 02.0	+1.5
CASM	**Ain Smara**	**167.43**	**333**	P	PKPdf	07 37 03.0	+2.5
CFTV	**Fuerteventura**	**167.50**	**72**	PKP	PKPdf	07 37 00.5	-0.3
CFTV				PKPab	PKPab	07 38 11.2	+0.9
ESPR	**Espera**	**167.51**	**20**	PKP	PKPdf	07 37 00.6	0.0
ESPR				PKPab	PKPab	07 38 09.7	-0.2
ECOG	**Cogollos-Vega**	**167.69**	**11**	PKIKP	PKPdf	07 37 00.1	-0.5
ECOG						07 38 10.6	
ELOJ	**Sierra Loja**	**167.70**	**14**	PKIKP	PKPdf	07 37 00.7	+0.1
ELOJ						07 38 10.5	
SFS	**San Fernando**	**167.77**	**22**	ePKPdf	PKPdf	07 37 03.1	+2.4
SFS				ePKPab	PKPab	07 38 10.0	-1.0
EFAM	**Famara**	**167.80**	**68**	PKP	PKPdf	07 37 01.2	+0.2
EFAM				PKPab	PKPab	07 38 11.9	+0.3
TOA0	**Torodi Ar. Sit**	**167.83**	**190**	ePKPdf	PKPdf	07 36 59.1	-2.3
TOA0				ePKPab	PKPab	07 38 10.7	-0.9
TORD	**Torodi Ar. Bea**	**167.83**	**190**	PKP	PKPdf	07 37 00.7	-0.7
	comp=Z,75nm,1.1s,baz=310,slow=0.6,SNR=123						
TORD				PKPab	PKPab	07 38 10.6	-1.0
	comp=Z,94nm,0.9s,baz=176,slow=2.4,SNR=27						
TORD				pPKPab	pPKPab	07 40 08.1	+0.2
	comp=Z,8.8nm,0.9s,baz=185,slow=2.3,SNR=2.4						
TORD	**Torodi Ar. Bea**	**167.83**	**190**	PKP	PKPdf	07 37 00.7	-0.7
TORD				PKPab	PKPab	07 38 10.6	-1.0
TORD				pPKPab	pPKPab	07 40 08.1	+0.2
ERON	**Agron**	**167.89**	**13**	PKP	PKPdf	07 37 00.3	-0.5
ERON				PKPab	PKPab	07 38 11.8	+0.3
SET	**Setif**	**167.90**	**336**	P	PKPdf	07 37 02.0	+1.2
EJIF	**Jimena Fronter**	**168.02**	**19**	PKIKP	PKPdf	07 37 01.3	+0.4
EJIF						07 38 12.2	
ABA	**Alger-Bouzarea**	**168.03**	**346**	P	PKPdf	07 37 02.1	+1.2
EMIJ	**Mijas**	**168.11**	**17**	PKP	PKPdf	07 36 59.5	-1.4
EMIJ				PKPab	PKPab	07 38 12.8	+0.3
EGUA	**Guajares**	**168.12**	**12**	PKIKP	PKPdf	07 37 00.5	-0.4
EGUA						07 38 11.8	
EBER	**Berja**	**168.17**	**9**	PKP	PKPdf	07 37 00.3	-0.7
EBER				PKPab	PKPab	07 38 12.5	-0.2
ENIJ	**Nijar**	**168.18**	**6**	PKIKP	PKPdf	07 37 00.5	-0.5
ENIJ						07 38 13.2	
AKET	**Djebel Ketaf**	**168.53**	**342**	P	PKPdf	07 37 02.7	+1.5
ADJB	**Djebel Djouab**	**168.55**	**344**	P	PKPdf	07 37 02.4	+1.2
ATAF	**Djebel Tarf**	**168.58**	**340**	P	PKPdf	07 37 02.6	+1.3
EMHD	**Djebel Mahouad**	**168.63**	**345**	P	PKPdf	07 36 59.9	-1.4
EBNR	**Beni Rached**	**168.80**	**351**	P	PKPdf	07 37 01.6	+0.2
ECHA	**Ech Chlef**	**168.96**	**352**	P	PKPdf	07 37 02.0	+0.5
EALB	**Alboran**	**169.08**	**11**	PKP	PKPdf	07 37 00.8	-0.8
EALB				PKPab	PKPab	07 38 08.7	-8.1
EANR	**'Ain N'Sour**	**169.19**	**353**	P	PKPdf	07 37 02.0	+0.4
ETRT	**Tiaret**	**169.72**	**351**	P	PKPdf	07 37 03.2	+1.2
MDT	**Midelt**	**171.62**	**24**	PKP	PKPdf	07 37 04.2	+1.2
	comp=Z,91nm,1.1s,baz=134,slow=0.1,SNR=124						
MDT				PKPab	PKPab	07 38 27.7	-0.5
	comp=Z,33nm,1.0s,baz=324,slow=5.8,SNR=7.5						
MDT				PP	PP	07 42 23.0	+3.8
	comp=Z,38nm,1.3s,baz=341,slow=1.9,SNR=11						
TAM	**Tamanrasset**	**173.95**	**248**	ePKPdf	PKPdf	07 37 04.7	+0.4
TAM				ePKPab	PKPab	07 38 40.6	+1.6

*ISCJB **05** 07:32:56.9±0.3, 5279N±002×229E±003, h10km, Error ellipse: s-maj=2.7km s-min=2.0km az=139.9*

*CSEM **05** 07:32:57.2±0.1, 5310N×235E, h5km, ML3.7/23, Error ellipse: s-maj=1.7km s-min=0.9km az=55.0*

*LDG **05** 07:32:57.7±0.1, 5309N×240E, h10km, Ml3.7/25, Error ellipse: s-maj=1.9km s-min=1.0km az=52.0*

*NEIC **05** 07:32:59.1±0.6, 5285N×225E, h10km, ML3.4(BGS), ML3.6(SZGRF), Error ellipse: s-maj=7.1km s-min=5.5km az=175.0*

*SZGRF **05** 07:33:00.1, 5305N×225E, h10km, mb3.6, North Sea*

*BGS **05** 07:33:01.3±2.0, 5302N×229E, h10km, ML3.4*

ISC 05 07:32:58.3±0.2, **5292N**±001×**235E**±002, **h10**km, **n131, σ1§31**/249, **North Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AWI1	**Witton**	**0.56**	**261**	eP	**Pg**	**07 33 10.2**	**+1.2**
AWI1				eS	**Sg**	**07 33 18.3**	**+2.0**
ABA1	**Baconsthorpe**	**0.73**	**268**	eP	**Pg**	**07 33 12.8**	**+0.4**
AEU	**East Anglia Un**	**0.74**	**247**	eP	**Pg**	**07 33 14.1**	**+1.5**
AEU				S	**Sg**	**07 33 23.3**	**+1.0**
AEU	**East Anglia Un**	**0.74**	**247**	P	**Pg**	**07 33 14.1**	**+1.5**
AEU				S	**Sg**	**07 33 23.3**	**+1.1**
TFO1	**Folkestone**	**1.96**	**203**	eP	**Pn**	**07 33 35.4**	**+3.9**
TFO1				eP		07 33 35.6	
TFO1				AML	AML	07 34 14.1	
	comp=N,439nm,0.4s						
TFO1				AML	AML	07 34 16.8	
	comp=E,397nm,0.5s						
CWF	**Charnwood Fore**	**2.23**	**267**	eP	**Pn**	**07 33 36.5**	**+1.3**
CWF				eS	**Sn**	**07 34 03.9**	**+1.1**
CWF				AML	AML	07 34 13.9	
	comp=E,128nm,0.5s						
CWF				AML	AML	07 34 15.0	
	comp=N,151nm,0.6s						
CWF	**Charnwood Fore**	**2.23**	**267**	eP	**Pn**	**07 33 36.5**	**+1.3**
	SNR=50						
CWF				eS	**Sn**	**07 34 03.8**	**+1.1**
	comp=N,151nm,0.6s,SNR=50						
CWF	**Charnwood Fore**	**2.23**	**267**	P	**Pn**	**07 33 36.5**	**+1.3**
CWF				S	**Sn**	**07 34 03.9**	**+1.1**
KBI1	**Birley Grange**	**2.36**	**280**	eP	**Pn**	**07 33 38.0**	**+0.9**
KWE	**Weaver Farm**	**2.54**	**274**	eP	**Pn**	**07 33 40.6**	**+1.1**
KWE	**Weaver Farm**	**2.54**	**274**	eP	**Pn**	**07 33 40.6**	**+1.1**
	comp=N,534nm,0.7s						
HPK	**Haverah Park**	**2.60**	**295**	AML	AML	07 34 26.6	
	comp=N,381nm,0.4s						
HPK				AML	AML	07 34 28.0	
	comp=E,534nm,0.7s						
HPK	**Haverah Park**	**2.60**	**295**	AML	AML	07 34 26.6	
	comp=N,381nm,0.4s						
HPK				AML	AML	07 34 28.0	
	comp=E,534nm,0.7s						
LHO	**Holmfirth**	**2.60**	**286**	eP	**Pn**	**07 33 41.2**	**+0.8**
LHO	**Holmfirth**	**2.60**	**286**	eP	**Pn**	**07 33 41.2**	**+0.8**
	comp=E,82nm,0.5s						
SNF	**Seneffe**	**2.70**	**153**	PN	**Pn**	**07 33 43.0**	**+1.4**
SNF				PG	**Pg**	**07 33 50.7**	**+0.8**
STNC	**Stoke**	**2.76**	**275**	eP	**Pn**	**07 33 43.9**	**+1.4**
WTSB	**Winterswijk**	**2.88**	**108**	ePg	**Pn**	**07 33 46.3**	**+2.1**
	comp=E,37nm,0.3s						
WTSB				eSg	**Sn**	**07 34 20.4**	**+1.5**
BAIF	**Baives**	**3.09**	**157**	eP	**Pn**	**07 33 49.6**	**+2.5**
BAIF	**Baives**	**3.09**	**157**	ePg	**Pg**	**07 33 57.6**	**+0.1**
BAIF				eSn	**Sn**	**07 34 22.2**	**-1.8**
BAIF				eSg	**Sg**	**07 34 38.7**	**+1.2**
	comp=E,143nm,0.7s						
BAIF	**Baives**	**3.09**	**157**	ePg	**Pg**	**07 33 57.6**	**+0.1**
BAIF				eSn	**Sn**	**07 34 22.2**	**-1.8**
BAIF				eSg	**Sg**	**07 34 38.7**	**+1.2**
	comp=E,72nm,0.7s						
BAIF	**Baives**	**3.09**	**157**	ePn	**Pn**	**07 33 46.8**	**-0.3**
BAIF				ePg	**Pg**	**07 33 57.6**	**+0.1**
BAIF				eSn	**Sn**	**07 34 22.2**	**-1.8**
BAIF				eSg	**Sg**	**07 34 38.7**	**+1.2**
HGN	**Heimansgroeve**	**3.10**	**133**	ePg	**Pg**	**07 34 03.6**	**+6.0**
	comp=E,31nm,0.5s						
HGN				eSg	**Sg**	**07 34 41.7**	**+4.0**
HGN	**Heimansgroeve**	**3.10**	**133**	ePn	**Pg**	**07 33 58.7**	**+1.1**
	comp=E,8.2nm,0.3s						
HGN	**Heimansgroeve**	**3.10**	**133**	ePg	**Pg**	**07 34 03.6**	**+6.1**
	comp=E,31nm,0.5s						
HGN				eSg	**Sg**	**07 34 41.7**	**+4.0**
BCLA	**Clavier**	**3.10**	**143**	PN	**Pn**	**07 33 48.9**	**+1.6**
BCLA				PG	**Pg**	**07 33 59.9**	**+2.1**
BCLA				SN	**Sn**	**07 34 30.0**	**+5.6**
BCLA				SG	**Sg**	**07 34 45.7**	**+7.8**
	comp=N,43nm,0.9s						
DOU	**Dourbes**	**3.16**	**153**	PN	**Pn**	**07 33 49.2**	**+1.3**
DOU				PG	**Pg**	**07 34 00.8**	**+2.1**
DOU				SN	**Sn**	**07 34 29.4**	**+3.8**
DOU				SG	**Sg**	**07 34 46.7**	**+7.1**
	comp=E,36nm,0.7s						
GIVF	**Givet**	**3.22**	**150**	ePg	**Pg**	**07 34 00.0**	**+0.1**
	SNR=1.0						
GIVF				eSg	**Sg**	**07 34 41.3**	**-0.2**
	comp=E,110nm,0.5s,SNR=1.0						
GIVF	**Givet**	**3.22**	**150**	ePg	**Pg**	**07 34 00.0**	**+0.1**
	SNR=1.0						
GIVF				eSg	**Sg**	**07 34 41.3**	**-0.2**
	comp=E,55nm,0.5s,SNR=1.0						
GIVF	**Givet**	**3.22**	**150**	ePn	**Pn**	**07 33 48.2**	**-0.6**
GIVF				ePg	**Pg**	**07 34 00.0**	**+0.1**
GIVF				eSg	**Sg**	**07 34 41.3**	**-0.2**
MEM	**Membach**	**3.24**	**134**	PN	**Pn**	**07 33 51.3**	**+2.2**
MEM				SN	**Sn**	**07 34 31.3**	**+3.6**
MEM				SG	**Sg**	**07 34 50.1**	**+7.8**
	comp=N,42nm,0.4s						
MEM	**Membach**	**3.24**	**134**	Pn	**Pn**	**07 33 51.3**	**+2.2**
MEM				Sn	**Sn**	**07 34 31.3**	**+3.6**
MEM				Sg	**Sg**	**07 34 50.0**	**+7.7**
	comp=N,42nm,0.4s						
IBBN	**Ibbenburen**	**3.35**	**98**	ePn	**Pn**	**07 33 52.6**	**+2.0**
IBBN				eSn	**Sn**	**07 34 31.5**	**+1.1**
MCH1	**Michaelchurch**	**3.40**	**256**	eP	**Pn**	**07 33 52.7**	**+1.4**
MCH1				AML	AML	07 34 49.5	
	comp=N,123nm,0.6s						
MCH1				AML	AML	07 34 55.1	
	comp=E,82nm,0.5s						
HLG	**Helgoland**	**3.53**	**67**	eSn	**Sn**	**07 34 33.6**	**-1.3**
XSO	**Sourhope Farm**	**3.73**	**315**	eP	**Pn**	**07 33 53.9**	**-2.0**
ECK	**Cauldkaine Hil**	**3.94**	**307**	eP	**Pn**	**07 33 58.6**	**-0.2**
WLF	**Walferdange**	**4.04**	**142**	PN	**Pn**	**07 34 01.8**	**+1.7**
WLF				PG	**Pg**	**07 34 17.1**	**+1.5**
WLF				SN	**Sn**	**07 34 51.3**	**+3.9**
WLF				SG	**Sg**	**07 35 15.2**	**+7.3**

	comp=N,32nm,0.8s						
WLF	**Walferdange**	**4.04**	**142**	*e*Pn	**Pn**	**07 34 01.6**	**+1.5**
WLF	**Walferdange**	**4.04**	**142**	*e*Pg	**Pg**	**07 34 15.3**	**-0.3**
WLF				Sn	**Sn**	**07 34 51.2**	**+3.8**
WLF	**Walferdange**	**4.04**	**142**	*e*Pn	**Pn**	**07 34 01.6**	**+1.5**
WLF				*e*Pg	**Pg**	**07 34 15.3**	**-0.3**
WLF				*e*Sn	**Sg**	**07 35 04.7**	**-3.2**
ESK	**Eskdalemuir**	**4.06**	**309**	*e*P	**Pn**	**07 33 59.9**	**-0.4**
ESK	**Eskdalemuir**	**4.06**	**309**	*e*Pn	**Pn**	**07 34 00.2**	**-0.1**
ESK	**Eskdalemuir**	**4.06**	**309**	*e*Pg	**Pg**	**07 34 12.2**	**-3.7**
ESK	**Eskdalemuir**	**4.06**	**309**	*e*Pn	**Pn**	**07 34 00.2**	**-0.1**
ESK				*e*Pg	**Pg**	**07 34 12.2**	**-3.7**
ESK				*e*Sn	**Sn**	**07 34 45.7**	**-2.1**
ESK				*e*Sg	**Sg**	**07 35 04.8**	**-3.7**
ESY	**Stoneypath**	**4.18**	**318**	*e*P	**Pn**	**07 34 01.4**	**-0.6**
EBL	**Broad Law**	**4.26**	**314**	*e*P	**Pn**	**07 34 02.6**	**-0.5**
EDI	**Edinburgh**	**4.42**	**315**	*e*P	**Pn**	**07 34 05.4**	**+0.1**
EAU	**Auchinoon**	**4.48**	**313**	*e*P	**Pn**	**07 34 05.9**	**-0.2**
FLN	**La Foliniere**	**4.53**	**204**	*e*Pn	**Pn**	**07 34 06.4**	**-0.5**
	baz=23						
FLN	**La Foliniere**	**4.53**	**204**	*e*P	**Pn**	**07 34 10.6**	**+3.7**
	baz=21,SNR=1.0						
FLN	**La Foliniere**	**4.53**	**204**	*e*Pg	**Pg**	**07 34 24.1**	**-1.0**
FLN				*e*Sn	**Sn**	**07 34 58.1**	**-1.5**
	baz=24,SNR=1.0						
FLN				*e*Sg	**Sg**	**07 35 24.5**	**+0.8**
	comp=N,53nm,0.7s						
FLN	**La Foliniere**	**4.53**	**204**	*e*P	**Pn**	**07 34 10.6**	**+3.7**
	SNR=1.0						
FLN	**La Foliniere**	**4.53**	**204**	*e*Pg	**Pg**	**07 34 24.1**	**-1.0**
FLN				*e*Sn	**Sn**	**07 34 58.1**	**-1.5**
	SNR=1.0						
FLN				*e*Sg	**Sg**	**07 35 24.5**	**+0.8**
	comp=N,27nm,0.7s						
FLN	**La Foliniere**	**4.53**	**204**	*e*Pn	**Pn**	**07 34 06.4**	**-0.5**
FLN				*e*Pg	**Pg**	**07 34 24.1**	**-1.0**
FLN				*e*Sn	**Sn**	**07 34 58.1**	**-1.5**
FLN				*e*Sg	**Sg**	**07 35 24.5**	**+0.8**
LDF	**La Druitiere**	**4.61**	**201**	*e*P	**Pn**	**07 34 11.7**	**+3.8**
	SNR=1.0						
LDF	**La Druitiere**	**4.61**	**201**	*e*Pg	**Pg**	**07 34 26.3**	**-0.2**
	SNR=1.0						
LDF				*e*Sn	**Sn**	**07 35 00.0**	**-1.4**
	SNR=1.0						
LDF				*e*Sg	**Sg**	**07 35 26.2**	**+0.1**
	comp=N,38nm,0.7s						
LDF	**La Druitiere**	**4.61**	**201**	*e*Pg	**Pg**	**07 34 26.3**	**-0.2**
	SNR=1.0						
LDF				*e*Sn	**Sn**	**07 35 00.0**	**-1.4**
	SNR=1.0						
LDF				*e*Sg	**Sg**	**07 35 26.2**	**+0.1**
	comp=N,19nm,0.7s						
LDF	**La Druitiere**	**4.61**	**201**	*e*Pn	**Pn**	**07 34 07.7**	**-0.2**
LDF				*e*Pg	**Pg**	**07 34 26.3**	**-0.2**
LDF				*e*Sn	**Sn**	**07 35 00.0**	**-1.4**
LDF				*e*Sg	**Sg**	**07 35 26.2**	**+0.1**
GAL1	**Galloway**	**4.61**	**298**	*e*P	**Pn**	**07 34 07.8**	**-0.1**
JLP	**Les Platons**	**4.63**	**219**	*e*P	**Pn**	**07 34 09.6**	**+1.4**
JQE	**Queens East**	**4.64**	**218**	*e*P	**Pn**	**07 34 10.3**	**+2.0**
HTL	**Hartland**	**4.65**	**248**	*e*P	**Pn**	**07 34 09.5**	**+1.1**
JRS	**Jersey**	**4.67**	**219**	*e*P	**Pn**	**07 34 10.3**	**+1.6**
JVM	**Valle D.L. Mar**	**4.69**	**220**	*e*P	**Pn**	**07 34 10.9**	**+1.8**
JSA	**Saint Aubin**	**4.70**	**219**	*e*P	**Pn**	**07 34 10.9**	**+1.8**
RFYF	**Reffroy**	**4.73**	**154**	*e*Sg	**Sg**	**07 35 29.8**	**-0.3**
	comp=N,90nm,0.8s,baz=344						
RFYF	**Reffroy**	**4.73**	**154**	*e*Sg	**Sg**	**07 35 29.8**	**-0.3**
	comp=N,45nm,0.8s						
NRDL	**Niedersach Rie**	**4.74**	**92**	*e*Sn	**Sn**	**07 35 03.2**	**-1.4**
MEZF	**Maizieres J'vi**	**4.74**	**158**	*e*P	**Pn**	**07 34 13.4**	**+3.6**
MEZF				*e*Sn	**Sn**	**07 35 02.1**	**-2.7**
MEZF				*e*Sg	**Sg**	**07 35 30.1**	**-0.4**
	comp=N,51nm,0.6s						
MEZF	**Maizieres J'vi**	**4.74**	**158**	*e*P	**Pn**	**07 34 13.4**	**+3.6**
MEZF				*e*Sn	**Sn**	**07 35 02.1**	**-2.7**
MEZF				*e*Sg	**Sg**	**07 35 30.1**	**-0.4**
	comp=N,25nm,0.6s						
EBH	**Black Hill**	**4.77**	**317**	*e*P	**Pn**	**07 34 09.5**	**-0.6**
BSEG	**Bad Segeberg**	**4.87**	**75**	*e*Pn	**Pn**	**07 34 12.4**	**+0.9**
BSEG				*e*Sn	**Sn**	**07 35 05.2**	**-2.7**
PGBU	**Glenifferbraes**	**4.94**	**309**	*e*P	**Pn**	**07 34 12.1**	**-0.3**
GRR	**Gorron**	**4.97**	**205**	*e*P	**Pn**	**07 34 16.9**	**+3.9**
GRR				*e*Sn	**Sn**	**07 35 08.5**	**-2.0**
	comp=N,22nm,0.4s,SNR=1.0						
GRR				*e*Sg	**Sg**	**07 35 38.9**	**+1.0**
	comp=N,34nm,0.6s						
GRR	**Gorron**	**4.97**	**205**	*e*P	**Pn**	**07 34 16.9**	**+3.9**
GRR				*e*Sn	**Sn**	**07 35 08.5**	**-2.0**
	comp=N,11nm,0.4s,SNR=1.0						
GRR				*e*Sg	**Sg**	**07 35 38.9**	**+1.0**
	comp=N,17nm,0.6s						
GRR	**Gorron**	**4.97**	**205**	*e*Pn	**Pn**	**07 34 12.5**	**-0.5**
GRR				*e*Sn	**Sn**	**07 35 08.5**	**-2.0**
GRR				*e*Sg	**Sg**	**07 35 38.9**	**+1.0**
ELO	**Logie Almond**	**5.00**	**318**	*e*P	**Pn**	**07 34 13.4**	**+0.1**
SFTF	**Sexfontaines**	**5.02**	**159**	*e*Pn	**Pn**	**07 34 12.9**	**-0.7**
	baz=340						
SFTF				*e*Sn	**Sn**	**07 35 08.9**	**-2.7**
SFTF				*e*Sg	**Sg**	**07 35 39.7**	**+0.3**
	comp=N,23nm,0.4s						
SFTF	**Sexfontaines**	**5.02**	**159**	*e*Pn	**Pn**	**07 34 12.9**	**-0.7**
SFTF				*e*Sn	**Sn**	**07 35 08.9**	**-2.7**
SFTF				*e*Sg	**Sg**	**07 35 39.7**	**+0.3**
	comp=N,12nm,0.4s						
CLZ	**Clausthal**	**5.03**	**99**	*e*Pn	**Pn**	**07 34 15.3**	**+1.6**
CLZ				*e*Sn	**Sn**	**07 35 09.8**	**-2.0**
EAB	**Aberfoyle**	**5.09**	**313**	*e*P	**Pn**	**07 34 14.1**	**-0.4**
UBBA	**Unterbreizbach**	**5.18**	**111**	*e*Sn	**Sn**	**07 35 15.0**	**-0.6**
DSB	**Dublin**	**5.27**	**277**	*e*Pn	**Pn**	**07 34 17.7**	**+0.7**
DSB				*e*Sn	**Sn**	**07 35 12.8**	**-5.0**
DSB	**Dublin**	**5.27**	**277**	*e*Pn	**Pn**	**07 34 17.7**	**+0.6**
DSB				*e*Sn	**Sn**	**07 35 12.8**	**-5.0**
DSB				*e*Sg	**Sg**	**07 35 45.8**	**-1.6**
CDF	**Champ du Feu**	**5.49**	**143**	*e*Pn	**Pn**	**07 34 19.5**	**-0.5**
	SNR=1.0						
CDF				*e*Sg	**Sg**	**07 35 52.6**	**-1.9**
	comp=N,21nm,0.7s						
CDF	**Champ du Feu**	**5.49**	**143**	*e*Pn	**Pn**	**07 34 19.5**	**-0.5**
	SNR=1.0						
CDF				*e*Sg	**Sg**	**07 35 52.6**	**-1.9**
	comp=N,10nm,0.7s						
HAU	**Haudompre**	**5.54**	**151**	*e*P	**Pn**	**07 34 23.9**	**+3.2**
HAU				*e*Sn	**Sn**	**07 35 21.9**	**-2.5**
	SNR=1.0						
HAU				*e*Sg	**Sg**	**07 35 56.0**	**-0.1**
	comp=N,42nm,0.7s						
HAU	**Haudompre**	**5.54**	**151**	*e*P	**Pn**	**07 34 23.9**	**+3.2**
HAU				*e*Sn	**Sn**	**07 35 21.9**	**-2.5**
	SNR=1.0						
HAU				*e*Sg	**Sg**	**07 35 56.0**	**-0.1**
	comp=N,21nm,0.7s						
SGMF	**Saint Gilles**	**5.62**	**216**	*e*Pn	**Pn**	**07 34 21.2**	**-0.6**
	SNR=1.0						
SGMF				*e*Sn	**Sn**	**07 35 24.0**	**-2.4**
	comp=N,14nm,0.5s,SNR=1.0						
SGMF				*e*Sg	**Sg**	**07 35 58.6**	**0.0**
	comp=N,45nm,0.7s						
SGMF	**Saint Gilles**	**5.62**	**216**	*e*Pn	**Pn**	**07 34 21.2**	**-0.6**
	SNR=1.0						
SGMF				*e*Sn	**Sn**	**07 35 24.0**	**-2.4**
	comp=N,7.2nm,0.5s,SNR=1.0						
SGMF				*e*Sg	**Sg**	**07 35 58.6**	**0.0**
	comp=N,22nm,0.7s						
LOR	**Lormes**	**5.74**	**170**	*e*Pn	**Pn**	**07 34 23.6**	**+0.1**
	baz=346,SNR=1.0						
LOR				*e*Sn	**Sn**	**07 35 26.6**	**-2.7**
	baz=350,SNR=1.0						
LOR				*e*Sg	**Sg**	**07 36 02.8**	**+0.4**
	comp=N,33nm,0.7s						
LOR	**Lormes**	**5.74**	**170**	*e*Pn	**Pn**	**07 34 23.6**	**+0.1**
	SNR=1.0						
LOR				*e*Sn	**Sn**	**07 35 26.6**	**-2.7**
	SNR=1.0						
LOR				*e*Sg	**Sg**	**07 36 02.8**	**+0.4**
	comp=N,17nm,0.7s						
ROSF	**Rostrenen**	**5.82**	**220**	*e*Pn	**Pn**	**07 34 25.7**	**+1.2**
	SNR=1.0						
ROSF				*e*Sn	**Sn**	**07 35 28.3**	**-2.9**
ROSF				*e*Sg	**Sg**	**07 36 04.4**	**-0.5**
	comp=N,21nm,0.6s						
ROSF	**Rostrenen**	**5.82**	**220**	*e*Pn	**Pn**	**07 34 25.7**	**+1.2**
	SNR=1.0						
ROSF				*e*Sn	**Sn**	**07 35 28.3**	**-2.9**
ROSF				*e*Sg	**Sg**	**07 36 04.4**	**-0.5**
	comp=N,11nm,0.6s						
HINF	**Hinteralfeld**	**5.86**	**149**	*e*Pn	**Pn**	**07 34 24.4**	**-0.8**
	SNR=1.0						
HINF				*e*Sg	**Sg**	**07 36 05.5**	**-0.9**
	comp=N,13nm,0.5s						
HINF	**Hinteralfeld**	**5.86**	**149**	*e*Pn	**Pn**	**07 34 24.4**	**-0.8**
	SNR=1.0						
HINF				*e*Sg	**Sg**	**07 36 05.5**	**-0.9**
	comp=N,6.6nm,0.5s						
SSF	**Saint Saulge**	**5.91**	**172**	*e*Pn	**Pn**	**07 34 25.3**	**-0.5**
	SNR=1.0						
SSF				*e*Sn	**Sn**	**07 35 30.2**	**-3.3**
	SNR=1.0						
SSF				*e*Sg	**Sg**	**07 36 07.6**	**-0.3**
	comp=N,15nm,0.5s						
SSF	**Saint Saulge**	**5.91**	**172**	*e*Pn	**Pn**	**07 34 25.3**	**-0.5**
	SNR=1.0						
SSF				*e*Sn	**Sn**	**07 35 30.2**	**-3.3**
	SNR=1.0						
SSF				*e*Sg	**Sg**	**07 36 07.6**	**-0.3**
	comp=N,7.5nm,0.5s						
BFO	**Black Forest**	**5.96**	**138**	*e*Pn	**Pn**	**07 34 28.0**	**+1.4**
	comp=N,9.2nm,0.4s						
BFO				*e*Sg	**Sg**	**07 36 11.9**	**+2.3**
QUIF	**Quistinic**	**6.12**	**217**	*e*Pn	**Pn**	**07 34 29.3**	**+0.6**
	SNR=1.0						
QUIF				*e*Sn	**Sn**	**07 35 35.2**	**-3.6**
QUIF				*e*Sg	**Sg**	**07 36 13.9**	**-0.8**
	comp=N,23nm,0.6s						
AVF	**Avril sur Loir**	**6.17**	**174**	*e*Pn	**Pn**	**07 34 29.5**	**+0.1**
	SNR=1.0						
AVF				*e*Sn	**Sn**	**07 35 35.7**	**-4.2**
SMF	**Signal de Mont**	**6.36**	**171**	*e*Pn	**Pn**	**07 34 31.5**	**-0.4**
	SNR=1.0						
SMF				*e*Sn	**Sn**	**07 35 40.6**	**-3.9**
	SNR=1.0						
KPL	**Plockton**	**6.38**	**317**	*e*P	**Pn**	**07 34 31.4**	**-0.8**
BGF	**Bois d'Agland**	**6.38**	**177**	*e*Pn	**Pn**	**07 34 32.4**	**+0.2**
	SNR=1.0						
BGF				*e*Sn	**Sn**	**07 35 42.7**	**-2.3**
BGF				*e*Sg	**Sg**	**07 36 22.4**	**-0.4**
	comp=N,39nm,0.5s						
BGF	**Bois d'Agland**	**6.38**	**177**	*e*Pn	**Pn**	**07 34 32.4**	**+0.2**
	SNR=1.0						
BGF				*e*Sn	**Sn**	**07 35 42.7**	**-2.3**
BGF				*e*Sg	**Sg**	**07 36 22.4**	**-0.4**
	comp=N,20nm,0.5s						
KMY	**Karmoy**	**6.51**	**13**	*e*P	**Pn**	**07 34 32.3**	**-1.7**
KMY				*e*S	**Sn**	**07 35 40.5**	**-7.8**
KMY				AML	AML	07 35 45.0	
	comp=Z,11nm,0.3s						
MFF	**Saint Martin d**	**6.53**	**195**	*e*Pn	**Pn**	**07 34 34.8**	**+0.5**
	SNR=1.0						
MFF				*e*Sn	**Sn**	**07 35 46.1**	**-2.6**
	comp=Z,14nm,0.4s,SNR=1.0						
MFF	**Saint Martin d**	**6.53**	**195**	*e*Pn	**Pn**	**07 34 34.8**	**+0.5**
	SNR=1.0						
MFF				*e*Sn	**Sn**	**07 35 46.1**	**-2.6**
	comp=Z,7.2nm,0.4s,SNR=1.0						
TCF	**Toulx Ste Croi**	**6.64**	**181**	*e*Pn	**Pn**	**07 34 35.3**	**-0.5**
	SNR=1.0						
TCF				*e*Sn	**Sn**	**07 35 47.0**	**-4.5**
	comp=Z,6.7nm,0.4s						
TCF	**Toulx Ste Croi**	**6.64**	**181**	*e*Pn	**Pn**	**07 34 35.3**	**-0.5**
	SNR=1.0						
TCF				*e*Sn	**Sn**	**07 35 47.0**	**-4.5**
	comp=Z,3.3nm,0.4s						
CLL	**Collm**	**6.76**	**100**	*e*Sn	**Sn**	**07 36 01.0**	**+6.7**
CABF	**La Chapelle**	**6.76**	**158**	*e*Pn	**Pn**	**07 34 37.9**	**+0.4**
	SNR=1.0						
CABF				*e*Sn	**Sn**	**07 35 51.1**	**-3.4**
BLS5	**Blasjo**	**6.91**	**18**	*e*P	**Pn**	**07 34 38.6**	**-0.8**
BLS5				*e*S	**Sn**	**07 35 50.2**	**-7.8**
BLS5				AML	AML	07 35 58.5	
	comp=Z,7.1nm,0.5s						
ODD1	**Odda**	**7.40**	**17**	*e*P	**Pn**	**07 34 43.2**	**-3.0**
ODD1				*e*S	**Sn**	**07 36 01.4**	**-8.6**
ODD1				AML	AML	07 36 09.7	
	comp=Z,6.6nm,0.2s						
EGD	**Espegrend**	**7.54**	**11**	*e*P	**Pn**	**07 34 43.9**	**-4.2**
RJF	**Les Rejaudoux**	**7.64**	**184**	*e*Pn	**Pn**	**07 34 48.9**	**-0.7**
	SNR=1.0						
RJF				*e*Sn	**Sn**	**07 36 11.4**	**-4.7**
	comp=Z,13nm,0.5s,SNR=1.0						
RJF	**Les Rejaudoux**	**7.64**	**184**	*e*Pn	**Pn**	**07 34 48.9**	**-0.7**
	SNR=1.0						
RJF				*e*Sn	**Sn**	**07 36 11.4**	**-4.7**
	comp=Z,6.6nm,0.5s,SNR=1.0						
ASK	**Askoy**	**7.74**	**11**	*e*P	**Pn**	**07 34 49.4**	**-1.5**
CAF	**Calviac**	**8.00**	**181**	*e*Pn	**Pn**	**07 34 53.9**	**-0.6**
	SNR=1.0						
CAF				*e*Sn	**Sn**	**07 36 20.8**	**-4.2**
	comp=Z,8.8nm,0.4s,SNR=1.0						
CAF	**Calviac**	**8.00**	**181**	*e*Pn	**Pn**	**07 34 53.9**	**-0.6**
	SNR=1.0						
CAF				*e*Sn	**Sn**	**07 36 20.8**	**-4.2**
	comp=Z,4.4nm,0.4s,SNR=1.0						
LFF	**La Frestale**	**8.06**	**188**	*e*Pn	**Pn**	**07 34 54.6**	**-0.7**
VIVF	**Saint-Julien-l**	**8.21**	**168**	*e*Pn	**Pn**	**07 34 57.5**	**+0.1**
	SNR=1.0						
GEC2	**GERESS Array S**	**8.25**	**115**	*e*Pn	**Pn**	**07 35 01.8**	**+3.9**
GEC2				*e*Sn	**Sn**	**07 36 33.0**	**+1.9**
ORIF	**Oris-en-Rattie**	**8.34**	**162**	*e*Pn	**Pn**	**07 34 59.0**	**-0.1**
MBDF	**Montbardon**	**8.70**	**159**	*e*Pn	**Pn**	**07 35 03.4**	**-0.7**
LASF	**Ste Croix**	**8.91**	**173**	*e*Pn	**Pn**	**07 35 07.2**	**+0.3**
MTLF	**Montolieu**	**9.59**	**181**	*e*Pn	**Pn**	**07 35 15.4**	**-0.8**
EPF	**Esparros**	**9.99**	**189**	*e*Pn	**Pn**	**07 35 21.3**	**-0.4**
SJPF	**Ste Jean**	**10.10**	**195**	*e*Pn	**Pn**	**07 35 22.5**	**-0.7**
ETSF	**Etsaut**	**10.21**	**192**	*e*Pn	**Pn**	**07 35 23.3**	**-1.5**
	SNR=1.0						

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*ISCJB **05** 08:04:30.8±0.9, 1728S±007×70.16W±006, h46^{km}±12^{km}, mb4.0/6, Error ellipse: s-maj=12.2km s-min=8.9km az=16.0*
*NEIC **05** 08:04:31.9±1.2, 1726S×7002W, h39^{km}±13^{km}, mb4.2/3, Error ellipse: s-maj=15.4km s-min=12.4km az=50.0*
*IDC **05** 08:04:35.5±2.5, 1741S×6981W, h70^{km}±21^{km}, mb3.7/4, mb1 3.9/6, mb1mx3.6/19, mbtmp3.8/6, MS3.6/1, Ms1 3.6/1, ms1mx3.0/33, Error ellipse: s-maj=31.4km s-min=16.3km az=120.0*
ISC 05 08:04:31.7±0.8**, 1726S**±007×**7015W**±006**, h41**^{km}±12^{km}**, n16,** σ**1^{s}51**/18**, mb4.0**/6**, Near coast of Peru**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARE	**Arequipa**	**1.51**	**302**	*e*P	**Pn**	**08 04 57.0**	**+0.7**
ARE				*e*S	**Sn**	**08 05 13.0**	**-1.7**
LPAZ	**La Paz**	**2.16**	**64**	P	**Pn**	**08 05 05.2**	**-0.1**
	14nm,0.3s,baz=245,slow=11,SNR=446						
LPAZ				S	**Sn**	**08 05 32.2**	**+1.3**
	11nm,0.3s,baz=137,slow=19,SNR=3.2						
LPAZ	**La Paz**	**2.16**	**64**	*e*Pn	**Pn**	**08 05 04.4**	**-0.9**
LPAZ				P		08 05 05.2	
LPAZ				S	**Sn**	**08 05 32.2**	**+1.3**
LVC	**Limon Verde**	**5.45**	**168**	P	**Pn**	**08 05 51.4**	**+0.9**
	1.4nm,0.3s,baz=326,slow=9.6,SNR=12						
LVC				LR	LR	08 08 04.3	
	comp=Z,609nm,22.0s,baz=180,slow=40						
LVC	**Limon Verde**	**5.45**	**168**	*e*Pn	**Pn**	**08 05 51.3**	**+0.8**
LVC				P		08 05 51.4	
LVC				*e*Sn	**Sn**	**08 07 07.8**	**+16**
LVC				LR	LR	08 08 04.3	
SIV	**San Ignacio**	**8.79**	**83**	P	**Pn**	**08 06 34.5**	**-1.9**
	3.4nm,0.3s,baz=273,slow=10,SNR=46						
CPUP	**Villa Florida**	**14.93**	**129**	Pn	**Pn**	**08 08 01.4**	**+1.3**
	8.8nm,0.9s						
TRQA	**Tornquist**	**21.93**	**163**	*e*P	**P**	**08 09 19.9**	**-1.7**
	3.2nm,0.9s,mb3.8						
PLCA	**Paso Flores**	**23.39**	**181**	P	**P**	**08 09 38.3**	**+1.3**
	2.0nm,0.8s,mb3.6,baz=356,slow=12,SNR=4.3						
PLCA	**Paso Flores**	**23.39**	**181**	*e*P	**P**	**08 09 36.8**	**-0.2**
	17nm,1.5s,mb4.3						
PLCA				P		08 09 38.3	
TEIG	**Tepich**	**41.28**	**334**	P	**P**	**08 12 15.2**	**+1.9**
	8.1nm,1.0s,mb4.3						
TXAR	**Lajitas Array**	**56.50**	**325**	P	**P**	**08 14 12.5**	**+2.6**
	0.4nm,0.7s,mb3.6,baz=151,slow=6.9,SNR=5.5						
DBIC	**Dimbokro**	**68.74**	**76**	P	**P**	**08 15 29.9**	**-2.0**
	5.0nm,0.9s,mb4.5,baz=218,slow=14,SNR=3.8						
TORD	**Torodi Ar. Bea**	**77.09**	**72**	P	**P**	**08 16 19.9**	**-1.5**
	1.6nm,0.7s,mb4.1,baz=257,slow=4.8,SNR=12						
ZALV	**Zalesovo Beam**	**138.56**	**22**	PKP	PKPdf	08 23 53.9	+1.1
	0.7nm,0.6s,baz=200,slow=1.1,SNR=2.9						
SONM	**Songino Array**	**149.38**	**5**	PKPbc	PKPbc	08 24 17.7	+1.5
	1.1nm,0.6s,baz=344,slow=3.0,SNR=5.8						

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*ISCJB **05** 08:09:33.0±0.3, 3431N±002×11871W±002, h20^{km}±5^{km}, Error ellipse: s-maj=3.6km s-min=3.0km az=136.5*
*NEIC **05** 08:09:33.0, 3432N×11871W, h7^{km}, ML2.6(PAS), After PAS.*
NEIC Felt at San Fernando and Simi Valley.
ISC 05 08:09:32.9±0.3**, 3431N**±002×**11872W**±002**, h16**^{km}±2^{km}**, n30,** σ**0^{s}59**/47**, 22C-13D, Southern California**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BLCC	**Black Canyon**	**0.07**	**151**	*i* P	**Pg**	**08 09 35.5**	**-0.6**
BALC	**Balcom Canyon**	**0.21**	**270**	⇓*i*P	**Pg**	**08 09 38.0**	**+0.2**
OSI	**Osito Adit**	**0.31**	**359**	⇓P	**Pg**	**08 09 39.2**	**-0.2**
	baz=0.3,SNR=8.4						
OSI				⇑S	**Sg**	**08 09 44.0**	**+0.1**
	baz=0.3						
OSI	**Osito Adit**	**0.31**	**359**	*e*P	**Pg**	**08 09 39.2**	**-0.2**
OSI				*e*S	**Sg**	**08 09 43.7**	**-0.1**
DECC	**Green Verdugo**	**0.32**	**100**	⇑P	**Pg**	**08 09 39.9**	**+0.1**
	baz=0.3						
DECC				⇑S	**Sg**	**08 09 45.0**	**+0.7**
	baz=0.3						
BLG	**Laguna Peak**	**0.35**	**236**	P	**Pg**	**08 09 39.9**	**-0.2**
	baz=0.4,SNR=445						
BLG				⇑S	**Sg**	**08 09 45.7**	**+0.7**
	baz=0.4						
BTPC	**Burnt Peak**	**0.39**	**17**	⇓*i*P	**Pg**	**08 09 40.6**	**-0.3**
BTPC				*i* S	**Sg**	**08 09 46.5**	**+0.1**
QAL	**Quail Lake**	**0.44**	**0**	⇑*i*P	**Pg**	**08 09 41.7**	**-0.1**
QAL				*e*S	**Sg**	**08 09 48.4**	**+0.5**
PASC	**Pasadena Art C**	**0.46**	**107**	⇑*i*P	**Pg**	**08 09 42.1**	**-0.1**
PASC				*i* S	**Sg**	**08 09 48.8**	**+0.4**
LEOC	**Leona Valley**	**0.47**	**46**	⇓*i*P	**Pg**	**08 09 41.9**	**-0.4**
ALPC	**Antelope**	**0.51**	**42**	⇓*i*P	**Pg**	**08 09 42.7**	**-0.4**
ALPC				*e*S	**Sg**	**08 09 50.0**	**0.0**
MWC	**Mount Wilson**	**0.55**	**99**	P	**Pg**	**08 09 43.8**	**0.0**
FMP	**Fort Macarthur**	**0.69**	**149**	⇑S	**Sg**	**08 09 55.6**	**0.0**
	baz=0.7						
ARVC	**Arvin**	**0.82**	**354**	⇑P	**Pb**	**08 09 48.4**	**-0.5**
	baz=0.8						
ARVC				⇑S	**Sb**	**08 09 59.4**	**-0.3**
	baz=0.8						
EDW2	**Edwards Air Fo**	**0.83**	**46**	⇑P	**Pb**	**08 09 48.2**	**-0.7**
	baz=0.8,SNR=182						
EDW2				⇑S	**Sb**	**08 09 59.7**	**-0.1**
	baz=0.8						
SBC	**Santa Barbara**	**0.84**	**279**	⇓S	**Sb**	**08 10 00.9**	**+0.8**
	baz=0.8						
BFSC	**Mount Baldy St**	**0.88**	**94**	⇑P	**Pb**	**08 09 49.2**	**-0.6**
	baz=0.9,SNR=138						
BFSC				⇑S	**Sb**	**08 10 01.8**	**+0.6**
	baz=0.9						
CIS	**Catalina Islan**	**0.94**	**164**	P	**Pb**	**08 09 50.3**	**-0.5**
	baz=0.9,SNR=95						
CIS				⇑S	**Sb**	**08 10 03.4**	**+0.6**
	baz=0.9						
PKM	**Peak Mountain**	**1.08**	**303**	⇑P	**Pb**	**08 09 52.8**	**-0.5**
	baz=1.1,SNR=26						
PKM				⇑S	**Sb**	**08 10 07.9**	**+0.7**
	baz=1.1						
SNCC	**San Nicolas Is**	**1.25**	**213**	⇑S	**Sb**	**08 10 11.7**	**-0.3**
	baz=1.3						
ISA	**Isabella**	**1.37**	**8**	⇓Pb	**Pb**	**08 09 57.8**	**-0.3**
	baz=1.4,SNR=10						
ISA	**Isabella**	**1.37**	**8**	P	**Pn**	**08 09 58.2**	**+0.9**
MURC	**Murrieta**	**1.44**	**119**	⇑Pb	**Pb**	**08 09 59.1**	**-0.3**
	baz=1.4,SNR=21						
MURC				⇑S	**Sn**	**08 10 16.4**	**-0.6**
	baz=1.4						
SMMC	**Simmler**	**1.46**	**314**	⇓Pb	**Pb**	**08 09 59.1**	**-0.5**
	baz=1.5,SNR=26						
SMMC				⇑Sb	**Sb**	**08 10 19.1**	**+1.2**
	baz=1.5						
BBRC	**Big Bear Sol-O**	**1.49**	**91**	⇓Pb	**Pb**	**08 10 00.2**	**+0.1**
	baz=1.5,SNR=13						
BBRC				⇓Sb	**Sb**	**08 10 20.5**	**+1.7**
	baz=1.5						
VES	**Vestal, Richgr**	**1.56**	**349**	⇓Pb	**Pb**	**08 10 00.3**	**-1.0**
	baz=1.6,SNR=16						
VES				⇓S	**Sn**	**08 10 20.1**	**+0.3**
	baz=1.6						
GSC	**Goldstone**	**1.86**	**57**	P	**Pn**	**08 10 05.0**	**+0.9**
109C	**Camp Elliot, M**	**1.95**	**136**	⇑S	**Sn**	**08 10 28.7**	**-0.8**
	baz=2.0						
PKD	**Parkfield**	**2.22**	**318**	⇓P	**Pn**	**08 10 08.4**	**-0.6**
	baz=2.2,SNR=32						
V03C	**Hunter Liggett**	**2.68**	**310**	⇑P	**Pn**	**08 10 14.7**	**-0.7**
	baz=2.7,SNR=40						

IDC 05 08:33:02.0±3.0**, 1931S**×**17330W, h0**^{km}**, mb3.7**/3**, mb1 4.0**/3**, mb1mx3.8**/17**, mbtmp3.7**/3**, Error ellipse: s-maj=321.5km s-min=32.2km az=159.0, Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**49.09**	**255**	P	P	08 41 51.5	+0.1
	0.9nm,0.7s,baz=95,slow=8.2,SNR=11						
WRA	**Warramunga Arr**	**49.15**	**260**	P	P	08 41 51.8	-0.2
	0.3nm,0.2s,baz=96,slow=8.1,SNR=46						
TXAR	**Lajitas Array**	**82.72**	**56**	P	P	08 45 28.1	+0.2
	0.4nm,0.8s,baz=211,slow=5.6,SNR=5.2						

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*IDC **05** 08:36:14.1±2.6, 3225S×17761W, h0^{km}, mb3.8/2, mb1 4.0/3, mb1mx3.7/16, mbtmp3.8/3, ML3.3/1, MS3.4/2, Ms1 3.4/2, ms1mx3.2/18, Error ellipse: s-maj=50.9km s-min=41.3km az=64.0*
ISC 05 08:36:20.1±1.4**, 322S**±01×**1778W**±02**, h35**^{km}**, n8,** σ**1^{s}38**/6**, mb3.7**/2**, South of Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**2.96**	**357**	LR	LR	08 38 05.3	
	comp=Z,240nm,20.2s,baz=120,slow=37						
URZ	**Urewera**	**7.35**	**213**	Pn	**Pn**	**08 38 02.5**	**-2.3**
	0.5nm,0.3s,baz=282,slow=2.4,SNR=4.2						
URZ				Sn	**Sn**	**08 39 27.7**	**+0.8**
	1.4nm,0.3s,baz=127,slow=22,SNR=7.6						
RAR	**Rarotonga**	**19.41**	**60**	LR	LR	08 46 02.5	
	comp=Z,283nm,19.8s,baz=9.3,slow=30						
ASAR	**Alice Springs**	**43.26**	**269**	P	**P**	**08 44 18.9**	**+0.6**
	0.8nm,0.6s,mb3.6,baz=107,slow=8.0,SNR=15						
WRA	**Warramunga Arr**	**44.41**	**274**	P	**P**	**08 44 27.2**	**-0.3**
	0.6nm,0.3s,mb3.7,baz=112,slow=8.0,SNR=23						
VNA3	**Neumayer Olymp**	**76.48**	**176**	*e*	**P**	**08 48 06.3**	**+0.5**
VNA3				*e*		08 48 22.3	
VNA2	**Neumayer--Watz**	**76.92**	**177**	*e*	**P**	**08 48 08.4**	**+0.1**
	baz=174,slow=3.5						
VNA2				*e*		08 48 25.1	
TORD	**Torodi Ar. Bea**	**161.01**	**178**	PKPab	PKPab	08 56 59.0	-0.9
	0.3nm,0.8s,baz=184,slow=3.4,SNR=2.5						

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*BJI **05** 09:22:30.6, 497S×10130E, h39^{km}, mB5.3, mb5.2, Ms5.0, Msz4.7*
*DJA **05** 09:22:31, 437S×10066E, h10^{km}, Mw5.4/17*
*ISCJB **05** 09:22:33.6±0.2, 443S±003×101.17E±003, h28^{km}, mb5.1/99, MS4.5/29, Error ellipse: s-maj=4.2km s-min=3.6km az=44.1*
*MOS **05** 09:22:34.9±1.1, 429S×10142E, h33^{km}, mb5.4/40, MS4.6/8, Error ellipse: s-maj=11.4km s-min=5.9km az=105.6*
*IDC **05** 09:22:35.5±0.5, 434S×10132E, h26^{km}±2^{km}, mb4.8/23, mb1 4.9/24, mb1mx4.8/26, mbtmp4.8/24, ML4.5/1, MS4.4/6, Ms1 4.4/6, ms1mx3.9/34, Error ellipse: s-maj=14.4km s-min=8.2km az=47.0*
*NEIC **05** 09:22:36.4±0.2, 438S×10134E, h35^{km}, mb5.1/41, MS4.9/4, Error ellipse: s-maj=7.3km s-min=4.8km az=47.0*
*SZGRF **05** 09:23:01.3, 262N×101.15E, h28^{km}, mb4.8, MS4.8, Malay Peninsula*
ISC 05 09:22:35.8±0.2**, 442S**±003×**10119E**±003**, h29**^{km}**, h29**^{km}±.7^{km}**:pP-P, n311,** σ**1^{s}07**/278**, mb5.1**/99**, MS4.5**/29**, 25C-10D, Southern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSI	**Kapahiang**	**1.59**	**61**	P	**Pn**	**09 23 01.7**	**-0.3**
	0.0nm,0.0s						
PDSI	**Padang**	**3.56**	**348**	P	**Pn**	**09 23 28.8**	**-0.3**
JMBI	**JAMBI**	**3.70**	**42**	P	**Pb**	**09 23 45.5**	**+5.1**
	0.0nm,0.0s						

PPI Padang Panjang 4.02 349 P Pn 09 23 35.4 0.0
0.0nm,0.0s
PPI Padang Panjang 4.02 349 P Pn 09 23 35.3 -0.1
PPI Padang Panjang 4.02 349 P Pn 09 23 35.4 0.0
RGRI Rengat 4.20 16 P Pn 09 23 46.0 +8.0
0.0nm,0.0s
DSRI Dabo 5.17 41 P Pn 09 23 52.8 +1.5
363nm,1.2s
DSRI Dabo 5.17 41 P Pn 09 23 52.5 +1.2
425nm,1.3s,4μm1.1nm
SBJI Serang 5.20 109 P Pn 09 23 49.7 -2.0
278nm,1.0s
SBJI Serang 5.20 109 P Pn 09 23 56.0 +4.3
814nm,1.3s,7μm2.2nm
PPBI Pangkal Pinang 5.42 66 P Pn 09 23 55.9 +1.2
155nm,1.1s,2μm1.2nm
DBJI Dramaga 5.92 111 P Pn 09 24 02.0 +0.4
464nm,0.7s
DBJI Dramaga 5.92 111 P Pn 09 24 01.7 +0.1
856nm,1.7s,7μm2.8nm
CBJI Citeko 5.97 110 P Pn 09 24 05.0 +2.7
2μm,0.7s,6.9nm
TPI Tanjungpandan 6.66 76 P Pn 09 24 22.3 +11
87nm,1.2s,0.4nm
MYKOM Kota Tinggi 6.72 23 ⇑P Pn 09 24 14.7 +2.2
MYKOM Kota Tinggi 6.72 23 P Pn 09 24 14.3 +1.8
KGM Kluang 6.74 18 ⇓P Pn 09 24 14.3 +1.4
LEM Lembang 6.83 111 P Pn 09 24 15.8 +1.8
780nm,1.1s,7μm2.2nm
JCJI Jatiwangi 7.34 107 P Pn 09 24 31.1 +10
429nm,1.3s,1.8nm
FRIM Kepong 7.62 3 ⇑P Pn 09 24 25.4 +0.5
COCO West Island 8.84 209 Pn Pn 09 24 37.7 -4.0
3μm,0.6s,SNR=6.9
COCO West Island 8.84 209 P Pn 09 24 37.6 -4.1
351nm,0.9s,2μm0.9nm
COCO West Island 8.84 209 *e*Pn Pn 09 24 37.4 -4.3
COCO *e*Sn Sn 09 26 21.0 +0.7
IPM Ipoh 8.84 359 ⇑P Pn 09 24 42.3 +0.6
IPM Ipoh 8.84 359 P Pn 09 24 43.0 +1.3
128nm,1.1s,1μm0.3nm
BJII Banjamegara 8.95 109 P Pn 09 24 43.3 +0.1
118nm,1.5s
KULM Kulim 9.66 357 ⇓P Pn 09 24 53.4 +0.4
KTGM Kuala Trenggan 9.88 11 ⇑P Pn 09 24 57.4 +1.5
PBKI Pangkalan Bun 10.60 81 P Pn 09 25 09.4 +3.6
365nm,1.0s
KSM Kuching 10.83 57 ⇓P Pn 09 25 13.1 +4.1
KSM Kuching 10.83 57 P Pn 09 25 16.8 +7.8
38nm,1.1s
KSM Kuching 10.83 57 *e*Pn Pn 09 25 10.8 +1.9
SJI Sawahan 11.02 108 P Pn 09 25 11.2 -0.4
164nm,0.9s
STKI Sintang 11.20 67 P Pn 09 25 21.0 +6.9
76nm,0.7s
BSI Banda Aceh 11.48 329 P Pn 09 25 17.0 -0.8
310nm,1.0s,2μm
SBUM Sibu 12.96 58 ⇑P Pn 09 25 42.3 +4.2
SBUM Sibu 12.96 58 P Pn 09 25 41.9 +3.7
BBKI Banjar Baru 13.65 86 P Pn 09 25 52.2 +4.6
140nm,1.3s,4μm
BTM Bintulu 14.09 58 ⇑P Pn 09 25 57.9 +4.4
IGBI Denpasar 14.53 108 P Pn 09 26 06.3 +6.7
237nm,0.8s
MTNI Mataram 15.46 106 P Pn 09 26 14.5 +2.6
100nm,0.9s
SMKI Samarinda 16.48 77 P Pn 09 26 27.7 +2.6
174nm,0.8s,6μm
KKM Kota Kinabalu 18.25 55 ⇑P Pn 09 26 47.9 +0.8
KKM Kota Kinabalu 18.25 55 P Pn 09 26 48.3 +1.2
78nm,1.1s,966nm
KKM Kota Kinabalu 18.25 55 *e*Pn Pn 09 26 46.8 -0.3
KAPI Kappang 18.51 93 P Pn 09 26 47.8 -2.4
1.6nm,0.3s,baz=289,slow=8.8,SNR=9.0
KAPI Kappang 18.51 93 P Pn 09 26 50.3 +0.1
52nm,0.8s
KAPI Kappang 18.51 93 *e*P Pn 09 26 48.2 -2.0
TSM Tawau 18.78 63 ⇑P Pn 09 26 54.6 +1.1
SDKM Sandakan 18.85 58 ⇑P Pn 09 26 55.0 +0.6
PCI Palu 18.95 80 P Pn 09 26 56.1 +0.5
393nm,1.1s,3μm
KDM Kudat 19.25 54 ⇓P Pn 09 26 58.8 -0.4
MYLDM Lahad Datu 19.75 61 ⇑P Pn 09 27 05.1 0.0
MYLDM Lahad Datu 19.75 61 P Pn 09 27 05.0 -0.1
UBT Ubonrachathani 19.90 11 P Pn 09 27 05.0 -1.9
NST Nakhon Sawan 19.99 357 P Pn 09 27 05.5 -2.5
KKTK Khon Kaen 20.69 4 P P 09 27 13.2 -0.5
802nm,0.5s
KDI Kendari 21.38 90 P P 09 27 21.2 0.0
163nm,1.1s,8μm,mb5.2
BDT Bhumibol Dam 21.64 354 P P 09 27 23.0 -0.9
22nm,0.9s,mb4.6
CM31 Chiang Mai Arr 22.84 354 *e*P P 09 27 36.8 0.0
180nm,1.5s,mb5.3
CMAR Chiang Mai Arr 22.84 354 P P 09 27 35.0 -1.7
50nm,0.8s,mb5.0,baz=183,slow=8.5,SNR=83
CMAR PcP PcP 09 31 28.9 +1.4
1.8nm,0.4s,baz=209,slow=3.2,SNR=5.3
CMAR pPcP 09 31 37.1
3.4nm,0.8s,baz=205,slow=4.1,SNR=5.4
CMAR LR LR 09 38 26.7
comp=Z,966nm,18.7s,MS4.3,baz=179,slow=42
CMAR Chiang Mai Arr 22.84 354 P P 09 27 35.1 -1.6
CMAR 09 31 28.9
CMAR 09 31 37.1
BATI Baumata 23.01 106 P P 09 27 37.0 -1.5
72nm,0.5s,mb5.3,baz=124,slow=3.7,SNR=8.1
BATI Baumata 23.01 106 P P 09 27 37.6 -1.0
85nm,0.9s,mb5.2
NANT Nan 23.08 359 ⇓P P 09 27 37.0 -2.2
144nm,1.0s,mb5.4
CHG Chiang Mai 23.19 355 ⇑P P 09 27 40.0 -0.4
56nm,1.1s,mb4.9
CHTO Chiang Mai 23.19 355 *e*P P 09 27 40.1 -0.3
CHTO pmax pmax
comp=Z,53nm,1.0s,mb4.9
CHTO Chiang Mai 23.19 355 *e*P P 09 27 40.1 -0.3
comp=Z,53nm,1.0s,mb4.9
MBWA Marble Bar 24.52 134 P P 09 27 59.5 +6.6
comp=Z,34nm,1.3s,mb4.7
MBWA Marble Bar 24.52 134 *e*P P 09 27 58.6 +5.7
QIZ Qiongzhong 24.81 20 P P 09 27 55.1 -0.4
QIZ S S 09 32 19.8 +3.3
QIZ XS sS 09 32 34.4 +3.9
QIZ AMB AMB
comp=Z,33nm,1.1s,mb4.8
QIZ LR LR
comp=E,813nm,15.2s
QIZ LR LR
comp=Z,718nm,17.3s,MS4.2
LBMI Labuha 26.55 83 P P 09 28 20.3 +8.9
comp=Z,136nm,0.9s,mb5.5
FITZ Fitzroy Crossi 27.51 122 *e*P P 09 28 19.3 -0.7
comp=Z,32nm,0.9s,mb5.0
FITZ *e*pP pP 09 28 26.7 -1.8
FITZ Fitzroy Crossi 27.51 122 P P 09 28 19.2 -0.7
comp=Z,19nm,0.8s,mb4.8,baz=293,slow=6.9,SNR=58
FITZ pP pP 09 28 27.0 -1.5
comp=Z,29nm,0.8s,baz=264,slow=5.0,SNR=23
KMI Kunming 29.41 3 P P 09 28 38.0 +1.2
KMI AP pP 09 28 50.5 +5.2
KMI XP sP 09 28 54.6 +5.7
KMI PP PP 09 29 36.9 -6.6
KMI S S 09 33 30.3 +1.4
KMI XS sS 09 33 47.2 +4.1
KMI SS SS 09 35 06.6 -28
KMI SCS ScS 09 39 14.6 -2.4
KMI AMB AMB
comp=Z,44nm,1.0s,mb5.1
KMI AMB AMB
comp=Z,555nm,5.7s
KMI LR LR
comp=N,1μm,13.1s,MS4.8
KMI LR LR
comp=E,1μm,16.3s,MS4.8
KMI LR LR
comp=Z,1μm,16.4s,MS4.6
KMI Kunming 29.41 3 P P 09 28 38.0 +1.2
KMI *PP pP 09 28 50.5 +5.2
KMI 09 29 36.9
KMI PPP 09 29 50.6
KMI S S 09 33 30.3 +1.4
KMI *SS sS 09 33 47.2 +4.1
KMI 09 39 14.6
KMI Kunming 29.41 3 P P 09 28 38.0 +1.2
KMI pP pP 09 28 50.5 +5.2
KMI sP sP 09 28 54.6 +5.7
KMI PP PP 09 29 36.9 -6.6
KMI PPP 09 29 50.6
KMI S S 09 33 30.3 +1.4
KMI sS sS 09 33 47.2 +4.1
KMI SS SS 09 35 06.6 -28
KMI SSS 09 35 27.9
KMI ScS ScS 09 39 14.6 -2.4
GYA Guiyang 31.15 10 P P 09 28 52.3 +0.1
GYA AP pP 09 29 00.5 -0.3
GYA XP sP 09 29 07.6 +3.3
GYA PP PP 09 29 58.4 -4.5
GYA PCP PcP 09 31 46.8 -0.2
GYA S S 09 33 54.0 -2.3
GYA SCP ScP 09 35 26.2 -1.9
GYA PCS PcS 09 35 30.4 -0.9
GYA SS SS 09 35 46.8 -24
GYA AMB AMB
comp=Z,40nm,1.0s,mb5.2
GYA AMB AMB
comp=Z,150nm,4.0s
GYA LR LR
comp=N,530nm,6.8s
GYA LR LR
comp=E,810nm,8.7s
GYA LR LR
comp=Z,850nm,7.0s
HYB Hyderabad 31.15 315 *i* P P 09 28 53.0 +0.7
HYB Hyderabad 31.15 315 *e*P P 09 28 53.0 +0.7
KAKA Kakadu 31.95 107 ⇓*i*P P 09 28 57.1 -2.3
comp=Z,24nm,0.7s,mb5.1
NWAO Narrogin (SRO) 32.08 154 P P 09 28 59.5 -0.7
comp=Z,9.5nm,0.7s,mb4.8,baz=299,slow=7.0,SNR=6.3
NWAO LR LR 09 41 31.5
comp=Z,552nm,19.9s,MS4.2,baz=3.6,slow=35
CD2 Chengdu 35.22 4 ⇑*i*P P 09 29 27.0 -0.6
CD2 AP pP 09 29 36.7 +0.4
CD2 XP sP 09 29 40.8 +1.0
CD2 PP PP 09 30 47.8 -0.1
CD2 PCP PcP 09 31 55.6 -2.7
CD2 S S 09 35 00.5 +1.2
CD2 XS sS 09 35 16.2 +2.6
CD2 PCS PcS 09 35 41.7 -3.6
CD2 SS SS 09 37 20.4 -13
CD2 SCS ScS 09 39 41.1 -5.1
CD2 AMB AMB
comp=Z,60nm,1.1s,mb5.4
CD2 AMB AMB
comp=Z,580nm,7.2s
CD2 LR LR
comp=N,2μm,15.6s,MS5.0
CD2 LR LR
comp=E,2μm,18.0s,MS5.0
CD2 LR LR
comp=Z,1μm,19.2s,MS4.7
LSA Lhasa 35.27 345 P P 09 29 29.3 +1.3
LSA Lhasa 35.27 345 *e*P P 09 29 29.0 +1.0
LSA pmax pmax
comp=Z,26nm,0.9s,mb5.2
LSA Lhasa 35.27 345 *e*P P 09 29 29.0 +0.9
comp=Z,26nm,0.9s,mb5.2
WRA Warramunga Arr 35.77 118 P P 09 29 31.6 -1.0
comp=Z,19nm,0.8s,mb5.1,baz=292,slow=9.6,SNR=99
WRA pP pP 09 29 39.5 -1.8
comp=Z,27nm,0.8s,baz=297,slow=9.4,SNR=26
WRA PcP PcP 09 32 00.1 -0.1
comp=Z,2.0nm,0.6s,baz=315,slow=2.3,SNR=3.8
WRA pPcP 09 32 07.8
comp=Z,2.7nm,0.8s,baz=306,slow=2.4,SNR=4.2
WRA S S 09 35 09.6 +1.3
comp=Z,1.9nm,1.0s,baz=294,slow=15,SNR=3.9
WRA Warramunga Arr 35.77 118 P P 09 29 31.6 -1.0
WRA *PP pP 09 29 39.5 -1.8
WRA 09 32 00.1
WRA S S 09 35 09.6 +1.3
WB2 Warramunga Arr 35.79 118 *e*P P 09 29 31.7 -1.0
WB2 *e*pP pP 09 29 39.9 -1.5
ASAR Alice Springs 36.89 124 P P 09 29 41.7 -0.4
comp=Z,5.8nm,0.8s,mb4.5,baz=293,slow=8.2,SNR=55
ASAR pP pP 09 29 49.9 -0.9
comp=Z,17nm,0.8s,baz=296,slow=7.6,SNR=31
ASAR PcP PcP 09 32 03.8 +0.3
comp=Z,3.6nm,0.8s,baz=301,slow=2.7,SNR=5.8
ASAR pPcP 09 32 11.9
comp=Z,7.5nm,0.8s,baz=296,slow=2.9,SNR=8.9
ASAR S S 09 35 24.4 -0.9
comp=Z,2.0nm,1.1s,baz=294,slow=15,SNR=4.4
ASAR Alice Springs 36.89 124 P P 09 29 41.7 -0.4
ASAR *PP pP 09 29 49.9 -0.9
ASAR 09 32 03.8
ASAR S S 09 35 24.4 -0.9
WHN Wuhan 36.98 19 P P 09 29 42.5 -0.2
WHN AMB AMB
comp=Z,36nm,1.0s,mb5.2
XAN Xi'an 38.94 10 P P 09 29 58.4 -0.8
XAN AP pP 09 30 10.1 +2.2
XAN XP sP 09 30 15.2 +3.7
XAN PP PP 09 31 31.5 +2.6
XAN S S 09 36 00.3 +4.3
XAN AMB AMB
comp=Z,63nm,1.0s,mb5.3
XAN AMB AMB
comp=Z,453nm,6.4s
XAN LR LR
comp=N,120nm,26.4s,MS4.0
XAN LR LR
comp=E,279nm,29.2s,MS4.0
XAN LR LR
comp=Z,215nm,21.7s
NJ2 Nanjing 39.98 24 *e*P P 09 30 10.4 +2.5
NJ2 AP pP 09 30 20.2 +3.6
NJ2 XP sP 09 30 24.2 +4.0
NJ2 PP PP 09 31 47.2 +7.0
NJ2 AMB AMB
comp=Z,20nm,0.7s,mb5.0
NJ2 AMB AMB
comp=Z,560nm,7.1s
NJ2 LR LR
comp=N,520nm,25.4s,MS4.5
NJ2 LR LR
comp=E,840nm,25.8s,MS4.5
NJ2 LR LR
comp=Z,840nm,25.8s,MS4.5
SSE Sheshan 40.15 27 P P 09 30 10.6 +1.3
SSE AMB AMB
comp=Z,58nm,0.7s,mb5.4
SSE AMB AMB
comp=Z,427nm,5.9s
NDI New Delhi 40.19 326 *e*P P 09 30 08.0 -1.7
LZH Lanzhou 40.37 3 P P 09 30 11.5 +0.4
LZH AP pP 09 30 22.3 +2.5
LZH XP sP 09 30 26.8 +3.4
LZH PP PP 09 31 48.1 +3.7
LZH *e*S S 09 36 18.0 +0.6
LZH XS sS 09 36 37.0 +5.2
LZH SS SS 09 39 16.1 -1.0
LZH AMB AMB
comp=Z,100nm,1.4s,mb5.3
LZH AMB AMB
comp=Z,240nm,4.0s
LZH LR LR
comp=E,1μm,16.5s
LZH LR LR
comp=Z,1μm,17.7s,MS4.8
LZH Lanzhou 40.37 3 P P 09 30 11.5 +0.4
LZH *PP pP 09 30 22.3 +2.5
LZH *SP sP 09 30 26.8 +3.4
LZH 09 31 48.1
LZH *e*S S 09 36 18.0 +0.6
LZH *SS sS 09 36 37.0 +5.2
LZH Lanzhou 40.37 3 P P 09 30 11.5 +0.4
LZH pP pP 09 30 22.3 +2.5
LZH sP sP 09 30 26.8 +3.4
LZH PP PP 09 31 48.1 +3.7
LZH *e*S S 09 36 18.0 +0.6
LZH sS sS 09 36 37.0 +5.2
LZH SS SS 09 39 16.1 -1.0
COEN Coen 42.45 106 *e*P P 09 30 25.6 -2.9
comp=Z,11nm,1.0s,mb4.5
GTA Gaotai 43.63 358 P P 09 30 38.1 +0.5
GTA AP pP 09 30 47.3 +0.8
GTA XP sP 09 30 51.2 +1.2
GTA PP PP 09 32 23.2 +3.6
GTA PCP PcP 09 32 25.8 +1.1
GTA S S 09 37 07.2 +1.8
GTA XS sS 09 37 24.4 +4.5
GTA SS SS 09 40 16.6 -4.8
GTA AMB AMB
comp=Z,29nm,1.2s,mb4.9
GTA AMB AMB
comp=Z,150nm,5.7s
GTA LR LR
comp=N,266nm,16.8s,MS4.7
GTA LR LR
comp=E,906nm,19.2s,MS4.7
GTA LR LR
comp=Z,371nm,16.8s,MS4.4
THN Thein Dam 43.92 328 *e*P P 09 30 38.7 -1.4
PMG Port Moresby 45.87 99 ⇑*e*P P 09 30 53.8 -2.2
PMG Port Moresby 45.87 99 *e*P P 09 30 54.9 -1.1
HHC Hu-ho-hao-te 46.04 11 ⇑P P 09 30 57.8 +1.0
HHC AP pP 09 31 09.0 +3.3
HHC XP sP 09 31 11.9 +2.7
HHC PCP PcP 09 32 33.0 0.0
HHC PP PP 09 32 46.8 +1.6
HHC SCP ScP 09 36 21.9 -2.4
HHC PCS PcS 09 36 26.3 -1.0
HHC S S 09 37 42.6 +2.3
HHC XS sS 09 37 58.9 +4.0
HHC SCS ScS 09 40 47.7 -2.8
HHC SS SS 09 41 00.5 -5.3
HHC AMB AMB
comp=Z,39nm,1.0s,mb5.3
HHC AMB AMB
comp=Z,242nm,5.7s
HHC LR LR
comp=N,662nm,14.5s,MS4.9
HHC LR LR
comp=E,769nm,13.4s,MS4.9
HHC LR LR
comp=Z,541nm,12.4s,MS4.7
BJT Baijiatuau 46.32 16 *e*P P 09 30 58.8 -0.2
BJT pmax pmax
comp=Z,49nm,0.6s
BJT Baijiatuau 46.32 16 *e*P P 09 30 58.8 -0.2
comp=Z,49nm,0.6s,mb5.6
BJI Beijing 46.34 16 P P 09 30 58.9 -0.3
BJI AP pP 09 31 10.0 +2.0
BJI XP sP 09 31 13.4 +1.8
BJI S S 09 37 47.5 +2.8
BJI AMB AMB
comp=Z,85nm,0.8s,mb5.7
BJI AMB AMB
comp=Z,311nm,5.7s
BJI LR LR
comp=N,552nm,17.0s,MS4.7
BJI LR LR
comp=E,472nm,19.7s,MS4.7
BJI LR LR
comp=Z,299nm,23.4s,MS4.2
CTA Charters Tower 46.52 114 *e*P P 09 31 00.8 -0.2
comp=Z,20nm,1.0s,mb5.0
CTA *e*pP pP 09 31 08.9 -1.0
CTA Charters Tower 46.52 114 *e*P P 09 31 00.8 -0.2
CTA *e**PP pP 09 31 08.9 -1.0
CTA pmax pmax
comp=Z,20nm,1.0s
CTAO Charters Tower 46.52 114 *e*P P 09 31 00.7 -0.3
CTAO pmax pmax
comp=Z,44nm,1.0s,mb5.3
CTAO Charters Tower 46.52 114 *e*P P 09 31 00.7 -0.3
comp=Z,44nm,1.0s,mb5.3
STKA Stephens Creek 46.67 131 *e*P P 09 31 02.0 0.0
comp=Z,13nm,0.8s,mb4.9
STKA Stephens Creek 46.67 131 P P 09 31 02.4 +0.4
comp=Z,9.9nm,0.7s,mb4.9,baz=294,slow=6.2,SNR=20
DL2 Dalian 47.07 22 P P 09 31 05.6 +0.7
DL2 S S 09 37 57.4 +2.2
DL2 AMB AMB
comp=Z,20nm,0.7s,mb5.2
DL2 LR LR
comp=N,250nm,14.9s,MS4.5
DL2 LR LR
comp=E,250nm,14.4s,MS4.5
DL2 LR LR
comp=Z,360nm,16.5s,MS4.4
KS15 Wonju Array Si 48.50 29 *e*P P 09 31 16.1 0.0
KSRS Korea Array 48.52 29 P P 09 31 15.7 -0.6
comp=Z,38nm,0.9s,mb5.4,baz=217,slow=8.0,SNR=120
KSRS PcP PcP 09 32 41.9 0.0
comp=Z,2.2nm,0.8s,baz=218,slow=3.3,SNR=4.2
KBL Kabul 49.18 325 *e*P P 09 31 20.4 -0.9
KBL pmax pmax
comp=Z,10.0nm,0.8s,mb4.9
KBL Kabul 49.18 325 *e*P P 09 31 20.4 -1.0
comp=Z,10nm,0.8s,mb4.9
WMQ Urumqi 49.54 347 ⇑*i*P P 09 31 24.9 +1.0
WMQ AP pP 09 31 34.9 +2.1
WMQ XP sP 09 31 38.9 +2.6
WMQ PCP PcP 09 32 46.4 +1.0
WMQ PP PP 09 33 19.9 +1.4
WMQ SCP ScP 09 36 37.9 -1.1
WMQ PCS PcS 09 36 41.9 0.0
WMQ S S 09 38 29.9 +0.1
WMQ XS sS 09 38 46.3 +1.8
WMQ SCS ScS 09 41 10.9 -2.7
WMQ SS SS 09 41 58.1 -4.3
WMQ AMB AMB
comp=Z,108nm,0.8s,mb5.9
WMQ LR LR
comp=N,182nm,21.0s,MS4.2
WMQ LR LR
comp=E,170nm,22.3s,MS4.2
WMQ LR LR
comp=Z,249nm,21.6s,MS4.2
SNY Shenyang 50.35 22 ⇑P P 09 31 28.7 -1.4
SNY AMB AMB
comp=Z,18nm,1.1s,mb5.0
SNY LR LR
comp=N,480nm,15.6s,MS4.8
SNY LR LR
comp=E,634nm,16.5s,MS4.8
SNY LR LR
comp=Z,548nm,15.6s,MS4.7
ULHL Ulahol 51.69 336 P P 09 31 40.8 +0.6
SNR=9.5
KZA Kyzart 51.95 336 P P 09 31 41.1 -1.0
SNR=19
SONM Songino Array 52.23 4 P P 09 31 45.0 +0.9
comp=Z,68nm,0.8s,mb5.6,baz=185,slow=8.7,SNR=244
SONM PcP PcP 09 32 55.7 +0.3
comp=Z,10nm,0.8s,baz=185,slow=4.6,SNR=5.3
SONM LR LR 09 55 55.2
comp=Z,342nm,18.5s,MS4.4,baz=109,slow=38
SONM Songino Array 52.23 4 P P 09 31 45.0 +0.9
SONM 09 32 55.7
ULN Ulaanbaatar 52.32 5 ⇑*e*P P 09 31 45.4 +0.7
ULN Ulaanbaatar 52.32 5 *e*P P 09 31 45.9 +1.2
UCH Uchtor 52.38 335 P P 09 31 46.4 +1.1
SNR=14
UCH Uchtor 52.38 335 *e*P P 09 31 46.1 +0.9
comp=Z,12nm,1.0s,mb4.8
TKM2 Tokmak 2 52.51 336 *e*P P 09 31 46.5 +0.2
TKM2 pmax pmax
comp=Z,35nm,0.7s,mb5.4
TKM2 Tokmak 2 52.51 336 P P 09 31 46.9 +0.6
SNR=50
TKM2 Tokmak 2 52.51 336 *e*P P 09 31 46.5 +0.2
comp=Z,35nm,0.7s,mb5.4
KBK Karagaybulak 52.55 336 P P 09 31 47.9 +1.3
SNR=11
AML Almayashu 52.65 334 P P 09 31 48.2 +0.9
SNR=21
AML Almayashu 52.65 334 *e*P P 09 31 46.9 -0.4
comp=Z,15nm,0.8s,mb5.0
AAK Ala-Archa 52.72 335 P P 09 31 48.7 +0.9
SNR=8.9
CN2 Changchun 52.74 22 ⇑P P 09 31 47.2 -0.8
CN2 *e*AP pP 09 31 54.8 -2.1
CN2 *e*S S 09 39 13.0 -1.2
CN2 AMB AMB
comp=Z,10.0nm,0.9s,mb4.8
CN2 AMB AMB
comp=Z,200nm,6.0s
CN2 LR LR
comp=N,400nm,15.0s,MS4.7
CN2 LR LR
comp=E,300nm,15.0s,MS4.7

CN2 LR LR
comp=Z,600nm,17.0s,MS4.7
FRU Bishkek 52.84 336 *i* P **P** **09 31 49.0 +0.3**
FRU *i* pP 09 31 57.0 -0.6
CHMS Chumysh 52.92 336 P **P** **09 31 49.5 +0.2**
SNR=5.2
EKS2 Erkin-Say 53.05 335 P **P** **09 31 51.0 +0.8**
SNR=57
EKS2 Erkin-Say 53.05 335 *e*P **P** **09 31 50.8 +0.6**
comp=Z,40nm,0.8s,mb5.4
USP Ospenovka 53.24 336 P **P** **09 31 51.8 +0.2**
SNR=18
MAJO Matsushiro 53.44 37 *e*P **P** **09 31 51.5 -1.7**
MAJO pmax pmax
comp=Z,31nm,0.9s,mb5.2
MAJO Matsushiro 53.44 37 *e*P **P** **09 31 51.5 -1.7**
comp=Z,31nm,0.9s,mb5.2
MAT Matsushiro 53.44 37 P **P** **09 31 51.2 -2.0**
MJAR Matsushiro Arr 53.44 37 P **P** **09 31 51.8 -1.4**
comp=Z,33nm,0.9s,mb5.2,baz=218,slow=7.5,SNR=62
MK31 Makanchi Array 53.67 344 *e*P **P** **09 31 54.4 -0.3**
MK31 *e* pP 09 32 03.2 -0.5
MKAR Makanchi Array 53.67 344 P **P** **09 31 54.8 +0.1**
comp=Z,37nm,0.8s,mb5.4,baz=144,slow=8.4,SNR=217
MKAR pP pP 09 32 02.6 -1.1
comp=Z,20nm,0.7s,baz=183,slow=8.7,SNR=14
OPO Ambohidratompo 54.54 250 P **P** **09 32 02.8 +1.1**
comp=Z,6.5nm,1.0s,mb4.6,baz=87,slow=9.0,SNR=4.7
OPO pP pP 09 32 11.1 +0.5
comp=Z,4.6nm,0.7s,baz=40,slow=5.2,SNR=6.2
ABPO Ambohimpanom 54.57 250 *e*P **P** **09 32 03.0 +1.2**
comp=Z,5.4nm,0.8s,mb4.6
ABPO *e* pP 09 32 10.9 +0.1
ZAK Zakamensk 54.61 2 *e*P **P** **09 32 01.7 +0.2**
ZAK *e* 09 33 03.8
ZAK pmax pmax
comp=Z,16nm,0.9s,mb5.0
VLA Vladivostok 54.86 27 *e*P **P** **09 32 02.6 -0.9**
VLA pmax pmax
comp=Z,37nm,1.0s,mb5.4
MDJ Mudanjiang 55.06 24 P **P** **09 32 04.1 -0.8**
MDJ AP pP 09 32 13.1 -0.8
MDJ XP sP 09 32 17.0 -0.3
MDJ PP PP 09 34 07.4 -1.0
MDJ SCP ScP 09 37 01.7 -1.2
MDJ PCS PcS 09 37 05.6 -0.3
MDJ S **S** **09 39 44.4 -1.0**
MDJ XS sS 09 39 59.8 -0.5
MDJ SCS ScS 09 41 50.9 -1.1
MDJ AMB AMB
comp=Z,29nm,1.1s,mb5.2
MDJ AMB AMB
comp=Z,216nm,4.4s
MDJ LR LR
comp=N,134nm,24.3s,MS4.1
MDJ LR LR
comp=E,136nm,26.4s,MS4.1
MDJ LR LR
comp=Z,190nm,25.0s,MS4.1
HIA Hailar 55.85 15 *e*P **P** **09 32 09.5 -1.0**
HIA pmax pmax
comp=Z,6.0nm,0.6s
HIA Hailar 55.85 15 *e*P **P** **09 32 09.5 -1.0**
comp=Z,6.1nm,0.6s,mb4.8
MOY Mondy 55.87 360 *e*P **P** **09 32 11.4 +0.8**
TLY Talaya 55.92 2 P **P** **09 32 11.5 +0.6**
comp=Z,182nm,0.9s,mb6.1,SNR=5.3
TLY Talaya 55.92 2 *e*P **P** **09 32 11.7 +0.8**
TLY *e* pP 09 32 19.9 -0.1
TLY pmax pmax
comp=Z,31nm,0.9s,mb5.3
TLY MLR MLR
comp=Z,351nm,16.0s,MS4.5
TLY Talaya 55.92 2 *e*P **P** **09 32 10.4 -0.6**
comp=Z,29nm,0.9s,mb5.3
IRK Irkutsk 56.51 2 *e*P **P** **09 32 15.7 +0.6**
IRK *e* 09 32 34.1
IRK pmax pmax
comp=Z,43nm,1.4s,mb5.3
KURK Kurchatov 58.25 343 P **P** **09 32 27.9 +0.5**
comp=Z,322nm,1.0s,mb6.3,SNR=28
KURK Kurchatov 58.25 343 P **P** **09 32 26.4 -1.0**
comp=Z,32nm,0.9s,mb5.3,baz=160,slow=6.3,SNR=10
KURK Kurchatov 58.25 343 *e*P **P** **09 32 27.0 -0.4**
KURK pmax pmax
comp=Z,102nm,1.2s,mb5.7
KURK Kurchatov 58.25 343 *e*P **P** **09 32 27.0 -0.5**
comp=Z,102nm,1.2s,mb5.7
HNR Honiara 58.48 98 P **P** **09 32 28.0 -1.8**
comp=Z,314nm,1.3s,mb6.2,baz=196,slow=3.9,SNR=6.4
KLR Kul'dur 59.67 23 *e*P **P** **09 32 33.1 -4.2**
KLR pmax pmax
comp=E,24nm,1.0s
KLR pmax pmax
comp=Z,60nm,1.0s,mb5.6
ZAA0 Zalesovo Array 59.75 349 *e*P **P** **09 32 37.6 -0.2**
ZALV Zalesovo Beam 59.75 349 P **P** **09 32 37.3 -0.5**
comp=Z,43nm,0.8s,mb5.5,baz=176,slow=4.5,SNR=49
ZALV LR LR 10 02 23.5
comp=Z,188nm,19.0s,MS4.2,baz=321,slow=40
HABR Khabarovsk 60.41 25 *e*P **P** **09 32 40.4 -2.0**
HABR *e* pP 09 32 49.5 -2.0
HABR *e* 09 33 24.2
HABR *e* 09 34 52.5
HABR S **S** **09 40 53.6 -1.9**
HABR *e* 09 41 10.7
NVS Novosibirsk 60.91 348 *i* P **P** **09 32 43.4 -2.3**
RDF Al-Radifah 61.23 306 *e*P **P** **09 32 48.2 -0.2**
baz=306
RDF AMb AMb 09 32 58.2
comp=Z,41nm,0.8s,mb5.6,baz=306
UMR Umm Al-Rimmam 61.35 307 *e*P **P** **09 32 48.6 -0.6**
baz=307
UMR AMb AMb 09 32 58.6
comp=Z,43nm,1.0s,mb5.5,baz=307
NAY Al-Naaiem 61.60 307 *e*P **P** **09 32 50.5 -0.4**
baz=307
NAY AMb AMb 09 33 00.6
comp=Z,21nm,0.8s,mb5.3,baz=307
MIB Mutribah 61.75 307 *e*P **P** **09 32 51.8 -0.1**
baz=307
MIB AMb AMb 09 33 01.4
comp=Z,48nm,0.9s,mb5.6,baz=307
RST Umm Al-Ruwaisa 61.90 307 *e*P **P** **09 32 52.2 -0.7**
baz=307
RST AMb AMb 09 33 01.9
comp=Z,48nm,0.7s,mb5.7,baz=307
CASY Casey 62.09 176 *e*P **P** **09 32 52.5 -1.0**
comp=Z,19nm,1.3s,mb5.1
CASY *e* pP 09 33 00.9 -1.7
BVAR Borovoye Array 62.85 340 P **P** **09 32 58.1 -0.7**
comp=Z,21nm,0.7s,mb5.4,baz=157,slow=7.7,SNR=7.7
BOD Bodaibo 62.90 8 *e*P **P** **09 32 58.8 -0.2**
BOD pmax pmax
comp=Z,30nm,0.9s,mb5.4
BRVK Borovoye 62.92 340 P **P** **09 32 58.0 -1.2**
comp=Z,149nm,0.7s,mb6.2,SNR=8.6
BRVK Borovoye 62.92 340 *e*P **P** **09 32 58.2 -1.0**
BRVK *e* pP 09 33 06.7 -1.6
BRVK pmax pmax
comp=Z,32nm,0.9s,mb5.5
BRVK Borovoye 62.92 340 *e*P **P** **09 32 58.2 -1.0**
comp=Z,32nm,0.9s,mb5.5
BRVK *e* pP 09 33 06.7 -1.6
YSS Yuzh-Sakhalins 62.92 31 ⇑ *i*P **P** **09 32 57.2 -2.2**
YSS *e* pP 09 33 05.0 -3.5
YSS pmax pmax
comp=Z,50nm,1.0s,mb5.6
YSS Yuzh-Sakhalins 62.92 31 *e*P **P** **09 32 58.7 -0.7**
comp=Z,72nm,0.9s,mb5.8
MAW Mawson 68.25 195 *e*P **P** **09 33 34.1 +0.6**
comp=Z,4.2nm,0.8s,mb4.5
MAW *e*pP pP 09 33 42.6 -0.1
MAW Mawson 68.25 195 P **P** **09 33 34.3 +0.8**
comp=Z,4.9nm,0.8s,mb4.6,baz=32,slow=5.5,SNR=14
MAW LR LR 09 57 56.3
comp=Z,337nm,18.2s,MS4.6,baz=90,slow=31
MAW Mawson 68.25 195 *e*P **P** **09 33 34.1 +0.6**
MAW *e**PP pP 09 33 42.6 -0.1
MAW pmax pmax
comp=Z,4.0nm,0.8s
SVE Sverdlovsk 69.36 338 ⇓ *e*P **P** **09 33 40.7 +0.2**
SVE *e*S S 09 42 50.5 +5.2
SVE *e*SS SS 09 47 19.3 +6.4
SVE pmax pmax
comp=Z,68nm,1.0s,mb5.5
SVE MLR MLR
comp=Z,361nm,20.0s,MS4.6
YAK Yakutsk 69.78 14 *e*P **P** **09 33 41.0 -2.0**
YAK pmax pmax
comp=Z,73nm,0.9s,mb5.6
YAK pmax pmax
comp=N,24nm,1.1s
YAK pmax pmax
comp=E,23nm,1.4s
YAK MLR MLR
comp=Z,459nm,17.0s,MS4.8
YAK MLR MLR
comp=N,370nm,18.0s,MS4.7
YAK MLR MLR
comp=E,191nm,18.0s,MS4.7
YAK Yakutsk 69.78 14 *e*P **P** **09 33 41.8 -1.2**
comp=E,84nm,0.9s,mb5.7
ARU Arti 69.89 336 *c i*P **P** **09 33 43.3 -0.5**
ARU *e*S S 09 42 49.5 -2.0
ARU pmax pmax
comp=Z,44nm,1.2s,mb5.3
ARU Arti 69.89 336 *e*P **P** **09 33 43.7 0.0**
comp=Z,37nm,1.0s,mb5.3
KIV Kislovodsk 71.14 319 ⇓ *e*P **P** **09 33 51.2 -0.5**
KIV *e*SS SS 09 47 39.7 -1.1
KIV pmax pmax
comp=Z,9.0nm,1.0s,mb4.7
KIV MLR MLR
comp=Z,100nm,19.0s,MS4.1
SOC Sochi 72.94 318 *i* P **P** **09 34 03.2 +0.7**
PETK Petropavlovsk- 74.30 31 P **P** **09 34 08.8 -1.4**
comp=Z,7.7nm,0.8s,mb4.7,baz=243,slow=0.8,SNR=7.0
ANN Anapa 74.92 319 *e*P **P** **09 34 11.7 -2.4**
ANN pmax pmax
comp=Z,81nm,1.2s,mb5.5
BOSA Boshof 75.55 242 P **P** **09 34 19.1 +1.0**
comp=Z,4.2nm,1.1s,mb4.3,baz=75,slow=12,SNR=2.6
BOSA LR LR 10 01 07.1
comp=Z,272nm,19.6s,MS4.6,baz=19,slow=30
BR131 Keskin Array S 75.83 313 *e*P **P** **09 34 18.8 -0.6**
comp=Z,5.1nm,0.6s,mb4.6
BR131 *e* pP 09 34 27.1 -1.6
SYO Syowa Base 75.98 199 ⇓ *e*X pP 09 34 27.3 -1.7
TIXI Tiksi 78.05 9 ⇑ *e*P **P** **09 34 29.4 -1.8**
TIXI pmax pmax
comp=Z,17nm,0.6s,mb5.2
TIXI Tiksi 78.05 9 *e*P **P** **09 34 29.7 -1.5**
comp=Z,14nm,0.5s,mb5.1
OBN Obninsk 79.47 328 ⇓ *e*P **P** **09 34 39.1 -0.2**
OBN *e* 09 37 36.8
OBN pmax pmax
comp=Z,19nm,1.1s,mb4.9
OBN MLR MLR
comp=Z,200nm,24.0s,MS4.4
KLMR Klimovskoe 80.51 334 *e*P **P** **09 34 44.4 -0.5**
KLMR pmax pmax
comp=Z,39nm,1.3s,mb5.2
SBA Scott Base 80.67 169 *e*P pP 09 34 53.9 -1.0
SBA pmax pmax
comp=Z,19nm,1.4s,mb4.8
SBA Scott Base 80.67 169 *e*P pP 09 34 53.9 -1.0
comp=Z,19nm,1.4s
TIRR Tirgusor 80.91 316 *e*P **P** **09 34 46.1 -1.3**
TIRR *e* pP 09 34 55.2 -1.6
TIRR pmax pmax
comp=Z,6.0nm,0.9s,mb4.5
TIRR Tirgusor 80.91 316 *e*P **P** **09 34 46.1 -1.3**
comp=Z,6.1nm,0.9s,mb4.5
TIRR *e* pP 09 34 55.2 -1.6
AKASG Malin Array Be 82.11 322 P **P** **09 34 53.0 -0.7**
comp=Z,0.5nm,0.2s,mb4.1,baz=84,slow=5.2,SNR=8.7
AKASG pP pP 09 35 01.6 -1.4
comp=Z,3.1nm,0.7s,baz=79,slow=5.8,SNR=3.5
BUR08 Bucovina Ar. S 83.87 319 *e*P **P** **09 35 03.9 +1.1**
BUR08 *e* pP 09 35 12.3 +0.1
JOF Joensuu 84.90 334 *ep* **P** **09 35 07.4 -0.2**
comp=Z,4.9nm,0.7s,mb4.8
JOF Joensuu 84.90 334 *e*P **P** **09 35 07.4 -0.2**
JOF pmax pmax
comp=Z,5.0nm,0.7s,mb4.8
BILL Bilibino 85.00 20 ⇑ *e*P **P** **09 35 07.2 -0.9**
BILL *e* 09 38 23.2
BILL pmax pmax
comp=Z,12nm,1.0s,mb5.0
BILL MLR MLR
comp=Z,200nm,16.0s,MS4.6
APA Apatity 85.76 339 ⇑ *i*P **P** **09 35 12.0 +0.2**
APA pmax pmax
comp=Z,25nm,1.1s,mb5.4
APA MLR MLR
comp=Z,400nm,21.0s,MS4.8
KOLS Kolonicke sedl 86.05 320 *i* P **P** **09 35 14.8 +1.1**
SUW Suwalki 86.54 325 *e*P **P** **09 35 16.0 0.0**
SUW pmax pmax
comp=Z,21nm,0.7s,mb5.5
SUW Suwalki 86.54 325 *e*P **P** **09 35 16.0 0.0**
comp=Z,21nm,0.7s,mb5.5
STHS Stebnicka Huta 86.81 320 *e*P **P** **09 35 15.5 -1.9**
STHS pmax pmax
comp=Z,4.0nm,0.5s,mb4.9
STHS Stebnicka Huta 86.81 320 *e*P **P** **09 35 15.5 -1.9**
comp=Z,3.7nm,0.5s,mb4.9
KAF Kangasniemi 86.87 333 *ep* **P** **09 35 17.5 +0.1**
comp=Z,7.0nm,0.8s,mb4.9,baz=99,slow=4.4
KAF Kangasniemi 86.87 333 *e*P **P** **09 35 17.5 +0.1**
KAF pmax pmax
comp=Z,7.0nm,0.8s,mb4.9
VYHS Vyhne 88.22 319 *e*P **P** **09 35 24.1 -0.1**
KEV Kevo 88.69 340 *ep* **P** **09 35 25.9 -0.1**
comp=Z,9.4nm,0.8s,mb5.2
KEV Kevo 88.69 340 *e*P **P** **09 35 25.9 -0.1**
KEV pmax pmax
comp=Z,9.0nm,0.8s,mb5.2
ARCES ARCESS Array B 89.14 340 P **P** **09 35 28.7 +0.6**
comp=Z,12nm,0.8s,mb5.3,baz=111,slow=5.3,SNR=25
MORC Moravsky Berou 89.24 320 *e*P **P** **09 35 28.7 -0.3**
MORC *e* pP 09 35 37.6 -0.9
MORC pmax pmax
comp=Z,6.0nm,0.8s,mb5.0
MORC Moravsky Berou 89.24 320 *e*P **P** **09 35 28.7 -0.3**
comp=Z,6.4nm,0.8s,mb5.0
MORC *e* pP 09 35 37.6 -0.8
GOLS Golise 90.07 316 *i* P **P** **09 35 33.7 +0.7**
GOLS *i* pP 09 35 41.9 -0.5
DPC Dobruska-Polom 90.10 320 *e*P **P** **09 35 34.1 +1.1**
DPC *ep*P pP 09 35 41.3 -1.2
DPC AMS AMS 10 32 40.0
comp=Z,400nm,18.5s
SNAA Sanae 90.22 198 *e*P **P** **09 35 34.6 +1.4**
SNAA *e* pP 09 35 43.4 +0.8
SNAA Sanae 90.22 198 *e*P **P** **09 35 34.2 +1.0**
SNAA pmax pmax
comp=Z,9.0nm,0.8s
SNAA Sanae 90.22 198 *e*P **P** **09 35 34.2 +1.1**
comp=Z,9.3nm,0.8s,mb5.2
ARSA Arzberg 90.27 317 ⇑ *i*PcP PcP 09 35 35.2 +0.1
BOJS Bojanci 90.27 315 *i* P **P** **09 35 34.1 +0.2**
BOJS *i* pP 09 35 42.7 -0.7
BOJS *i* 09 35 51.6
UPC Upice 90.31 320 *e*P **P** **09 35 35.6 +1.6**
UPC *ep*P pP 09 35 43.4 -0.1
PERS Pernice 90.48 317 *e*P **P** **09 35 35.4 +0.5**
PERS *e* pP 09 35 43.6 -0.7
SOKA Soboth 90.55 317 ⇑ *i*PcP PcP 09 35 35.8 -0.4
LJU Ljubljana 90.83 316 *e*P **P** **09 35 37.3 +0.8**
PRU Pruhonice 91.20 320 *e*P **P** **09 35 38.7 +0.6**
PRU *ep*P pP 09 35 47.2 -0.4
PRU AMS AMS 10 29 40.0
comp=Z,400nm,26.5s
GEC2 GERESS Array S 91.64 319 *e*P **P** **09 35 41.3 +1.1**
GEC2 pmax pmax
comp=Z,8.0nm,1.1s,mb5.0
GEC2 GERESS Array S 91.64 319 *e*P **P** **09 35 41.3 +1.1**
comp=Z,8.0nm,1.1s,mb5.0
GERES GERESS Array B 91.64 319 P **P** **09 35 40.8 +0.6**
comp=Z,1.5nm,0.7s,mb4.4,baz=90,slow=5.3,SNR=11
GERES pP pP 09 35 49.3 -0.4
comp=Z,3.3nm,0.8s,baz=94,slow=4.1,SNR=7.6
BRG Berggiesshubel 91.66 321 *e*P **P** **09 35 40.5 +0.3**
BRG *e* pP 09 35 49.1 -0.6
BRG pmax pmax
comp=Z,6.0nm,1.4s,mb4.7
BRG pmax pmax
comp=Z,5.0nm,1.2s,mb4.7
BRG Berggiesshubel 91.66 321 *e*P **P** **09 35 40.7 +0.5**
comp=Z,8.0nm,1.1s,mb5.0
BRG *ep*P pP 09 35 49.1 -0.6
BRG Berggiesshubel 91.66 321 *e*P **P** **09 35 40.5 +0.2**
comp=Z,9.7nm,1.4s,mb5.0
BRG *e* pP 09 35 49.1 -0.6
comp=Z,8.5nm,1.1s
KHC Kasperske Hory 91.75 319 *e*P **P** **09 35 41.2 +0.5**
KHC AMS AMS 10 30 00.0
comp=Z,500nm,29.5s
VNA2 Neumayer--Watz 91.84 198 *e*P **P** **09 35 41.9 +1.2**
baz=95,slow=3.6
VNA2 *e* pP 09 35 49.9 -0.3
VNA2 *e* 09 35 55.6
FBE Freiberg 92.03 321 *e*P **P** **09 35 42.6 +0.6**
comp=Z,7.0nm,1.1s,mb4.9
FBE *ep*P pP 09 35 50.7 -0.7
VNA1 Neumayer--Stat 92.20 198 *e*P pP 09 35 51.6 -0.3
VNA1 *e* 09 35 56.3
WET Wettzell 92.20 319 *e*P **P** **09 35 43.9 +1.1**
WET *e*PP pP 09 35 51.9 -0.4
WET pmax pmax
comp=Z,8.0nm,1.0s,mb5.0
WET Wettzell 92.20 319 *e*P **P** **09 35 43.9 +1.1**
comp=Z,8.0nm,1.0s,mb5.0
WET *ep*P pP 09 35 51.9 -0.4
CLL Collm 92.28 321 *e*P pP 09 35 55.0 +2.4
CLL *e* 09 36 03.0
CLL MLR MLR
comp=Z,300nm,19.4s,MS4.8
CLL Collm 92.28 321 *e*P **P** **09 35 43.0 -0.1**
CLL LmV 09 35 00.0
comp=Z,300nm,19.4s
CLL *ep*P pP 09 35 53.0 +0.4
CLL *ex* x 09 36 03.0
VNA3 Neumayer Olymp 92.43 198 *e*P **P** **09 35 44.6 +1.2**
VNA3 *e* pP 09 35 52.4 -0.5
VNA3 *e* 09 35 57.8
WERN Wernitzgruen 92.61 320 *e*P **P** **09 35 45.0 +0.3**
WERD Werda 92.66 320 *e*P **P** **09 35 45.6 +0.7**
comp=Z,6.0nm,1.1s,mb4.9
WERD *ep*P pP 09 35 53.8 -0.6
MOX Moxa 93.11 320 *ep*P pP 09 35 55.0 -1.5
GRA1 Grafenberg Arr 93.32 319 *e*P **P** **09 35 49.4 +1.5**
comp=Z,11nm,0.7s,mb5.4
GRA1 *ep*P pP 09 35 57.2 -0.2
GRA1 *e*PKKP PKKPbc 09 53 05.9 +8.7
GRA1 LR LR
comp=Z,400nm,19.9s,MS4.9
GRF Grafenberg Arr 93.32 319 *e*P **P** **09 35 49.4 +1.5**
GRF *e**PP pP 09 35 57.2 -0.2
GRF *e* 09 53 05.9
GRF pmax pmax
comp=Z,11nm,0.7s,mb5.4
GRF MLR MLR
comp=Z,400nm,19.9s,MS4.9
GRF Grafenberg Arr 93.32 319 *e*P **P** **09 35 49.4 +1.5**
comp=Z,11nm,0.7s,mb5.4
GRF *ep*P pP 09 35 57.2 -0.2
GRF *e*PKKP PKKPbc 09 53 05.9 +8.7
GRF *eL* 10 32 20.8
comp=Z,350nm,19.9s
NB2 NORSAR Subarra 93.82 331 P **P** **09 35 49.5 -0.5**
comp=Z,3.7nm,1.1s,mb4.7,baz=91,slow=5.1
NOA NORSAR Array B 93.82 331 P **P** **09 35 49.8 -0.2**
comp=Z,2.1nm,1.0s,mb4.5,baz=94,slow=4.6,SNR=4.6
NOA pP pP 09 35 58.2 -1.3
comp=Z,1.3nm,0.8s,baz=95,slow=4.5,SNR=4.9
NOA NORSAR Array B 93.82 331 P **P** **09 35 49.8 -0.2**
NOA pP pP 09 35 58.2 -1.3
EDM Edmonton 123.71 24 *e*PKIKP PKPdf 09 41 30.3 -0.4
DLMT Dillon 129.68 31 *e*PKPdf PKPdf 09 41 42.8 +0.4
NVAR Mina Array Bea 130.67 41 PKP PKPdf 09 41 45.5 +1.1
comp=Z,1.5nm,0.7s,baz=262,slow=1.2,SNR=10
NVAR pPKP pPKPdf 09 41 54.2 0.0
comp=Z,1.2nm,0.7s,baz=313,slow=1.2,SNR=5.0
NVAR Mina Array Bea 130.67 41 PKP PKPdf 09 41 45.5 +1.1
NVAR pPKP pPKPdf 09 41 54.2 0.0
ELK Elko 131.25 37 PKP PKPdf 09 41 46.2 +0.8
comp=Z,2.2nm,0.8s,baz=278,slow=3.3,SNR=11
ELK pPKP pPKPdf 09 41 54.6 -0.6
comp=Z,1.9nm,0.9s,baz=328,slow=6.8,SNR=4.2
ELK Elko 131.25 37 PKP PKPdf 09 41 46.2 +0.8
ELK pPKP pPKPdf 09 41 54.6 -0.6
REDW Red Top Meadow 131.97 31 *e*PKPdf PKPdf 09 41 47.0 +0.2
ULM Lac du Bonnet 132.12 15 PKP PKPdf 09 41 46.6 -0.2
comp=Z,5.0nm,0.8s,baz=334,slow=3.9,SNR=5.6
ULM pPKP pPKPdf 09 41 55.4 -1.1
comp=Z,4.2nm,0.8s,baz=193,slow=1.6,SNR=3.4
ULM Lac du Bonnet 132.12 15 PKP PKPdf 09 41 46.6 -0.2
ULM pPKP pPKPdf 09 41 55.4 -1.1
HWUT Hardware Ranch 132.80 34 *e*PKPdf PKPdf 09 41 49.0 +0.6
DUG Dugway 133.03 36 *e*PKIKP PKPdf 09 41 50.6 +1.8
PDAR Pinedale Array 133.06 31 PKP PKPdf 09 41 46.8 -2.1
comp=Z,0.6nm,0.7s,baz=338,slow=1.6,SNR=5.8
ECSD EROS,Sioux Fal 137.81 19 *e*PKPdf PKPdf 09 41 54.8 -2.8
SDCO Great Sand Dun 138.84 33 *e*PKPdf PKPdf 09 41 59.3 -0.4
TUC Tucson 139.19 43 *e*PKPdf PKPdf 09 42 00.7 +0.2
ANMO Albuquerque 140.28 37 *e*PKIKP PKPdf 09 41 58.2 -4.2
CPUP Villa Florida 143.02 213 PKP PKPdf 09 42 09.1 +1.5
comp=Z,1.5nm,0.6s,baz=47,slow=2.9,SNR=3.8
CPUP Villa Florida 143.02 213 PKP PKPdf 09 42 09.1 +1.4
ACSO Alum Creek Sta 144.15 5 *e*PKPdf PKPdf 09 42 06.0 -3.2
CCM Cathedral Cave 144.65 17 *e*PKIKP PKPdf 09 42 07.9 -2.2
BLO Bloomington 144.71 10 *e*PKIKP PKPdf 09 42 08.5 -1.7
OLIL Olney 144.82 13 *e*PKPdf PKPdf 09 42 08.9 -1.4
MCWV Mont Chateau 144.91 1 *e*PKPdf PKPdf 09 42 09.1 -1.4
FVM French Village 144.95 16 *e*PKIKP PKPdf 09 42 08.8 -1.8
SDMD Soldier's Deli 145.13 357 *e*PKPdf PKPdf 09 42 09.2 -1.6
SIUC Southern Illin 145.52 15 *e*PKPdf PKPdf 09 42 11.1 -0.5
USIN University of 145.65 12 *e*PKPdf PKPdf 09 42 11.3 -0.5
WCI Wyandotte Cave 145.66 10 *e*PKIKP PKPdf 09 42 11.2 -0.7
TXAR Lajitas Array 145.82 41 PKPbc PKPbc 09 42 12.6 -0.3
comp=Z,21nm,0.9s,baz=286,slow=0.7,SNR=7.5
PARMO Parma 146.37 16 *e*PKPdf PKPdf 09 42 13.4 +0.3
GLAT Glass 146.87 16 *e*PKPbc PKPbc 09 42 15.6 -0.2
GNAR Gosnell 146.95 17 *e*PKPbc PKPbc 09 42 16.0 0.0
URVA University of 146.99 358 *e*PKPdf PKPdf 09 42 15.6 -0.5
MIAR Mount Ida 147.04 23 *e*PP2 PKPbc 09 42 14.7 -1.6
UALR University of 147.29 21 *e*PKPdf PKPdf 09 42 15.4 +0.7
ELN Prospectdale 147.30 3 *e*PKPdf PKPdf 09 42 14.1 -0.6
WVT Waverly 147.37 14 *e*PKIKP PKPdf 09 42 14.7 -0.1
TZTN Tazewell 147.74 7 *e*PKPbc PKPbc 09 42 17.5 -0.7
OXF Oxford 148.49 17 *e*PKP2 PKPbc 09 42 19.7 -0.5
TKL Tuckaleechee C 148.58 8 PKPbc PKPbc 09 42 20.1 -0.3
comp=Z,27nm,0.7s,baz=107,slow=2.3,SNR=32
NATX Nacogdoches 149.00 27 *e*PKPbc PKPbc 09 42 22.2 +0.6
HKT Hockley 149.94 30 *e*PKPbc PKPbc 09 42 24.3 +0.2
JSC Jenkinsville 150.20 4 *e*PKIKP PKPbc 09 42 24.5 0.0
VBMS Vicksburg 150.25 20 *e*PKPbc PKPbc 09 42 24.4 -0.3
LRAL Lakeview Retre 150.52 14 *e*PKPbc PKPbc 09 42 24.3 -1.0
GOGA Godfrey 150.83 8 *e*PKIKP PKPbc 09 42 25.8 -0.3
LPAZ La Paz 156.87 207 pPKP pPKPdf 09 42 37.0 -2.2
comp=Z,1.2nm,1.0s,baz=72,slow=5.4,SNR=4.1
LPAZ PKPab PKPab 09 43 00.8 +1.8
comp=Z,0.8nm,0.8s,baz=212,slow=3.0,SNR=3.7
LPAZ pPKPab pPKPab 09 43 09.1 +0.5
comp=Z,1.2nm,0.7s,baz=99,slow=6.1,SNR=4.0
OTAV Otavalo 175.83 185 *e*PKPdf PKPdf 09 42 48.5 +4.2

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*IDC **05** 09:33:14.7±2.9, 1759S×17623W, h0km, mb4.5/5, mb1 4.6/6, mb1mx4.2/19, mbtmp4.5/6, ML1.9/1, MS4.2/8, Ms1 4.2/8, ms1mx3.8/28, Error ellipse: s-maj=146.5km s-min=31.5km az=149.0*

*ISCJB **05** 09:33:18.3±0.6, 174S±02×1763W±01, h33km, mb4.7/6, MS4.2/6, Error ellipse: s-maj=25.6km s-min=12.0km az=155.2*

*NEIC **05** 09:33:19.3±2.5, 1785S×17605W, h35km, mb4.9/4, Error ellipse: s-maj=122.0km s-min=13.3km az=147.0*

ISC 05 09:33:20.4±0.6, 175S±02×1763W±01, h35km, n29, σ18 14/19, mb4.7/6, MS4.2/6, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
							h m s	ISC
AFI	**Afiamalu**	**5.62**	**51**	Pn	**Pn**		**09 34 40.1**	**-1.5**
	1.9nm,0.3s,baz=244,slow=23,SNR=5.6							
AFI	**Afiamalu**	**5.62**	**51**	Pn	**Pn**		**09 34 40.1**	**-1.5**
RAO	**Raoul Island**	**11.76**	**187**	LR	LR		09 39 44.2	
	comp=Z,2μm,18.5s,baz=42,slow=33							
RAR	**Rarotonga**	**15.98**	**106**	LR	LR		09 41 22.5	
	comp=Z,752nm,20.4s,baz=314,slow=31							
DZM	**Mont Dzumac**	**16.89**	**252**	*e*Pn	**Pn**		**09 37 15.8**	**+1.7**

PPT	Papeete	25.43	94	eLQ		09 43 48.0	
	400nm,25.5s						
PPT				eLR	LR	09 44 51.0	
	2μm,26.8s,baz=260						
PPT	Papeete	25.43	94	LR	LR	09 45 18.7	
	comp=Z,562nm,20.0s,MS4.1,baz=79,slow=28						
TBI	Tubuai	25.74	107	eLQ		09 44 05.9	
	858nm,34.0s						
TBI				eLR	LR	09 45 02.5	
	875nm,27.2s						
RPZ	Rata Peaks	28.22	200	LR	LR	09 49 32.4	
	comp=Z,432nm,20.9s,MS4.0,baz=203,slow=35						
CTA	Charters Tower	35.53	260	eP	P	09 40 14.1	-0.2
	16nm,0.9s,mb4.9						
CTA	Charters Tower	35.53	260	P	P	09 40 14.2	-0.1
	21nm,0.8s,mb5.1,baz=95,slow=10,SNR=24						
CTA				LR	LR	09 50 32.0	
	comp=Z,342nm,20.8s,MS4.1,baz=14,slow=29						
CTAO	Charters Tower	35.53	260	eP	P	09 40 14.0	-0.3
	29nm,1.0s,mb5.2						
RKT	Rikitea	39.01	105	eLR	LR	09 51 11.2	
	820nm,26.2s,baz=271						
STKA	Stephens Creek	40.60	241	P	P	09 40 57.5	+0.5
	4.3nm,0.8s,mb4.1,baz=84,slow=7.3,SNR=4.4						
WB2	Warramunga Arr	46.70	259	eP	P	09 41 45.0	-1.3
WRA	Warramunga Arr	46.72	259	P	P	09 41 45.0	-1.3
	4.7nm,0.9s,mb4.4,baz=97,slow=6.4,SNR=43						
WRA				LR	LR	09 59 24.4	
	comp=Z,350nm,21.6s,MS4.3,baz=105,slow=34						
ASAR	Alice Springs	46.86	254	P	P	09 41 46.2	-1.2
	8.5nm,0.6s,mb4.8,baz=88,slow=8.4,SNR=130						
FITZ	Fitzroy Crossi	55.11	260	eP	P	09 42 49.2	-0.4
	21nm,0.4s,mb5.5						
FITZ	Fitzroy Crossi	55.11	260	P	P	09 42 49.3	-0.3
	1.4nm,0.6s,mb4.2,baz=123,slow=9.4,SNR=9.7						
FITZ	Fitzroy Crossi	55.11	260	eP	P	09 42 48.8	-0.8
	3.4nm,0.5s,mb4.6						
CBIJ	Chichi jima	59.95	317	LR	LR	10 03 54.0	
	comp=Z,174nm,21.6s,MS4.2,baz=325,slow=31						
COLA	College	84.98	12	eP	P	09 45 53.3	+1.7
	5.6nm,0.8s,mb4.8						
DAWY	Dawson	86.18	15	eP	P	09 45 59.7	+2.1
SNAA	Sanae	90.90	178	e	P	09 46 20.0	-0.1
VNA3	Neumayer Olymp	90.97	176	e	P	09 46 20.1	-0.3
VNA3				e		09 46 22.5	
VNA3				e		09 46 24.9	
VNA3				e	pP	09 46 28.7	-2.9
VNA2	Neumayer--Watz	91.43	176	e	P	09 46 22.6	0.0
VNA2				e		09 46 24.6	
VNA2				e		09 46 26.7	
VNA2				e	pP	09 46 31.5	-2.2
VNA1	Neumayer--Stat	91.64	176	e	P	09 46 24.6	+1.0
VNA1				e		09 46 31.7	
ULM	Lac du Bonnet	97.31	40	LR	LR	10 26 33.5	
	comp=Z,208nm,18.8s,MS4.6,baz=316,slow=33						
CLL	Collm	145.51	350	iP	PKPdf	09 52 58.9	+4.2

*ISCJB **05** 09:38:53.3±0.3, 19.16N±0.03×108.25W±0.02, h10^{km}, mb4.8/59, MS4.7/26, Error ellipse: s-maj=4.9km s-min=2.1km az=30.4*

*IDC **05** 09:38:53.3±0.5, 19.27N×108.49W, h0^{km}, mb4.3/17, mb1 4.4/21, mb1mx4.4/26, mbtmp4.3/21, ML4.0/2, MS4.7/27, Ms1 4.7/27, ms1mx4.6/34, Error ellipse: s-maj=14.2km s-min=11.4km az=35.0*

*MOS **05** 09:38:54.1±1.2, 19.24N×108.24W, h10^{km}, mb5.1/16, Error ellipse: s-maj=9.3km s-min=5.0km az=95.9*

*NEIC **05** 09:38:55.6±0.5, 19.22N×108.29W, h10^{km}, mb5.1/47, Error ellipse: s-maj=8.8km s-min=3.9km az=219.0*

*GCMT **05** 09:38:55.7±0.3, 19.26N×108.44W, h16^{km}±1^{km}, MW5.4/86, Moment Tensor Solution. s36,c43; s86,c148; Duration: 1^{s}2 Moment tensor: Scale 10^{17}Nm; M_{rr}-0.22±.05; $M_{\theta\theta}$-1.03±.04; $M_{\phi\phi}$1.25±.04; $M_{r\theta}$-0.34±.11; $M_{\theta\phi}$-0.74±.04; $M_{\phi r}$0.31±.11; Best double couple: $M_0$1.43300×10^{17} NP1:ϕ_s29.00000°,δ72.00000°,λ0.00000°. NP2: ϕ_s119.00000°,δ90.00000°,λ-162.00000°. Principal axes: T 1.5600, Plg13.0000°, Azm252.0000°; N -0.2540, Plg72.0000°, Azm119.0000°; P -1.3060, Plg13.0000°, Azm345.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*BJI **05** 09:38:55.6, 19.20N×108.30W, h10^{km}, mB5.3, mb5.3, Ms5.2, Msz4.6*

*MEX **05** 09:38:55.9±3.2, 19.29N×108.29W, h11^{km}±18^{km}, MD5.2*

ISC 05 09:38:55.1±0.3,**19.14N**±0.03×**108.31W**±0.02,**h10**^{km}**,n503,** σ0^s**98**/495**,mb4.8**/59**,MS4.7**/26**,143C-140D,Revilla Gigedo Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H06S		2.55	261	iP	Pn	09 39 33.9	-2.5
H06S				iS	Sn	09 40 05.5	-2.0
ANIG	Ahuacatlan	4.03	61	eP	Pn	09 39 55.3	-1.7
ANIG				iS	Sn	09 40 40.6	-3.6
MAIG	Mazatlaan	4.39	23	iP	Pn	09 39 57.5	-4.4
MAIG				iS	Sn	09 40 47.2	-5.9
SFJM	Santa Fe	5.13	74	eP	Pn	09 40 10.8	-1.3
LPIG	La Paz	5.28	340	Pn	Pn	09 40 10.6	-3.4
	2.6nm,0.3s,baz=154,slow=13,SNR=6.3						
LPIG				LR	LR	09 41 49.3	
	comp=Z,15μm,20.1s,baz=164,slow=34						
LPIG	La Paz	5.28	340	iP	Pn	09 40 10.8	-3.2
LPIG				iS	Sn	09 41 09.4	-5.5
LPIG	La Paz	5.28	340	Pn	Pn	09 40 10.6	-3.4
LPIG				iS	Sn	09 41 09.4	-5.5
LPIG				LR	LR	09 41 49.3	
ZAIG	Zacatecas	6.46	55	iP	Pn	09 40 28.5	-1.8
ZAIG				iS	Sn	09 41 38.2	-6.0
ZIIG	Zihuatanejo	6.67	102	iP	Pn	09 40 32.9	-0.3
ZIIG				eS	Sn	09 41 47.9	-1.4
CAIG	El Cayaco	7.92	104	eP	Pn	09 40 49.7	-0.7
CAIG				iS	Sn	09 42 17.9	-2.3
HPIG		8.13	17	eP	Pn	09 40 50.4	-2.8
HPIG				eS	Sn	09 42 20.2	-5.0
ACX	Acapulco	8.30	104	iP	Pn	09 40 57.2	+1.7
PLIG	Platanillo	8.37	94	eP	Pn	09 40 58.1	+1.5
MZVM		8.58	88	eP	Pn	09 41 02.2	+2.8
UNM	Universidad Na	8.62	87	iP	Pn	09 41 01.1	+1.1
PTVM	Pico Tres Padr	8.69	86	iP	Pn	09 41 03.3	+2.4
YAIG	Yautepec	8.74	90	iP	Pn	09 41 05.0	+3.4
DEIG	Demacu	8.81	81	eP	Pn	09 41 01.9	-0.7
DEIG				eS	Sn	09 42 40.7	-1.2
IIO	Organos	9.06	86	iP	Pn	09 41 10.4	+4.5
PPM	Popocatepetl	9.15	89	eP	Pn	09 41 07.1	-0.1
PPM				iP		09 41 09.2	
PPM				iS	Sn	09 42 50.2	-0.2
LNIG	Linares	10.00	53	eP	Pn	09 41 18.2	-0.7
LNIG				eS	Sn	09 43 09.4	-1.8
UTMO	Huajuapan	10.05	96	iP	Pn	09 41 22.2	+2.7
PNIG	Pinotepa	10.07	104	iP	Pn	09 41 19.9	0.0
PNIG				iS	Sn	09 43 12.7	-0.4
HSIG		10.13	347	eP	Pn	09 41 20.6	0.0
HSIG				eS	Sn	09 43 09.5	-4.7
TPIG	Tehuac#an	10.39	92	iP	Pn	09 41 26.9	+2.6
TPIG				iS	Sn	09 43 24.0	+3.1
TXAR	Lajitas Array	10.99	22	Pn	Pn	09 41 31.7	-0.7
	0.4nm,0.3s,baz=199,slow=12,SNR=120						
TXAR				LR	LR	09 45 17.0	
	comp=Z,2μm,20.6s,baz=105,slow=35						
CGIG		11.18	1	eP	Pn	09 41 36.3	+1.3
CGIG				eS	Sn	09 43 35.4	-4.7
VHO	Vista Hermosa	11.19	99	iP	Pn	09 41 34.7	-0.5
VHO				eS	Sn	09 43 40.0	-0.6
319A	Douglas	12.21	356	⇑P	Pn	09 41 49.9	+0.8
	baz=12,SNR=18						
318A	Bisbee	12.34	353	⇓P	Pn	09 41 51.2	+0.4
	baz=12,SNR=22						
217A	Green Valley	12.78	350	⇑P	Pn	09 41 58.0	+1.1
	baz=13						
219A	White Tail Can	12.83	356	⇑P	Pn	09 41 57.6	0.0
	baz=13,SNR=23						
216A	Three Points,	13.12	348	⇓P	Pn	09 42 02.8	+1.3
	baz=13						
TUIG	Tuzandepetl	13.21	93	iP	Pn	09 42 04.5	+1.7
214A	Organ Pipe Nat	13.39	343	⇓P	Pn	09 42 06.3	+1.1
	baz=13						
118A	Homack Ranch,	13.53	354	⇑P	Pn	09 42 08.2	+1.2
	baz=13						
117A	Oracle	13.55	351	⇓P	Pn	09 42 08.8	+1.4
	baz=14						
119A	Ashpeak Ranch,	13.60	356	⇑P	Pn	09 42 09.2	+1.2
	baz=14						
JCT	Junction City	13.67	33	ePn	Pn	09 42 11.0	+2.0
116A	Eloy	13.71	348	⇓P	Pn	09 42 10.7	+1.2
	baz=14						
115A	Sonoran Desert	13.96	346	⇑P	Pn	09 42 14.0	+1.0
	baz=14						
Z19A	T-Link Ranch,	14.12	357	⇓P	Pn	09 42 16.4	+1.2
	baz=14						
Z16A	Peralta Trail,	14.41	349	⇑P	Pn	09 42 20.0	+0.8
	baz=14,SNR=9.4						
112A	Yuma	14.48	338	⇑P	Pn	09 42 20.8	+0.8
	baz=14						
TGIG		14.64	97	iP	Pn	09 42 19.7	-2.6
TGIG				eS	Sn	09 44 59.4	-5.4
Y18A	Canyon Day Jun	14.66	354	⇑P	Pn	09 42 23.4	+0.8
	baz=15						
Y17A	Roosevelt	14.67	352	⇑P	Pn	09 42 23.8	+1.1
	baz=15						
Z14A	Wintersburg	14.76	345	⇑P	Pn	09 42 24.9	+1.0
	baz=15						
Y19A	Nutrioso	14.78	357	⇑P	Pn	09 42 25.3	+1.1
	baz=15						
Y22D	IRIS PASSCAL I	14.92	4	⇓P	Pn	09 42 27.5	+1.4
	baz=15						
Y16A	Circle Bar Ran	14.95	350	⇓P	Pn	09 42 27.0	+0.5
	baz=15,SNR=23						
LENM	Lemitar	15.01	4	ePn	Pn	09 42 28.5	+1.2
BNM	Barren Site	15.02	5	ePn	Pn	09 42 28.2	+0.7
GLA	Glamis	15.03	338	⇓P	Pn	09 42 27.9	+0.2
	baz=15						
GLA	Glamis	15.03	338	ePn	Pn	09 42 27.9	+0.3
LPM	Los Pinos Moun	15.18	5	ePn	Pn	09 42 31.5	+1.9
Y15A	Casa Rosa Ranc	15.18	347	⇓P	Pn	09 42 30.7	+1.1
	baz=15						
LAZ	Ladron	15.24	4	eP	Pn	09 42 31.6	+1.3
X19A	St. Johns	15.25	357	⇓P	Pn	09 42 31.9	+1.4
	baz=15						
X17A	Forest Lakes	15.30	352	⇑P	Pn	09 42 32.1	+1.0
	baz=15						
Y14A	Wickenburg	15.32	345	⇑P	Pn	09 42 31.9	+0.5
	baz=15						
X18A	Snowflake	15.40	355	⇓P	Pn	09 42 32.3	-0.1
	baz=15,SNR=16						
Y13A	Salome	15.42	342	⇑P	Pn	09 42 33.6	+0.8
	baz=15						
BAR	Barrett	15.43	333	eP	Pn	09 42 36.9	+4.0
	179nm,2.3s						
X16A	Lo Mia Camp, P	15.47	350	⇓P	Pn	09 42 34.6	+1.2
	baz=15						
MONP	Monument Peak	15.50	334	⇑P	Pn	09 42 35.0	+1.2
	baz=15						
Y12C	Blythe	15.57	340	⇓P	Pn	09 42 35.5	+0.8
	baz=16						
CCIG	Comitan	15.66	98	eP	Pn	09 42 37.2	+1.2
X15A	Humboldt	15.68	348	⇓P	Pn	09 42 36.6	+0.5
	baz=16,SNR=16						
BC3	Big Chuckw Mtn	15.80	338	⇓P	Pn	09 42 38.2	+0.5
	baz=16						
X14A	Yava	15.80	346	⇑P	Pn	09 42 38.5	+0.8
	baz=16,SNR=6.5						
ANMO	Albuquerque	15.83	6	Pn	Pn	09 42 38.3	+0.2
	0.1nm,0.3s,baz=182,slow=16,SNR=20						
ANMO				LR	LR	09 48 23.9	
	comp=Z,4μm,18.2s,baz=192,slow=36						
ANMO	Albuquerque	15.83	6	eP	Pn	09 42 40.0	+1.9
ANMO	Albuquerque	15.83	6	ePn	Pn	09 42 41.4	+3.3
ANMO				LR	LR	09 48 23.9	
THIG		15.90	103	iP	Pn	09 42 41.1	+2.0
W19A	Sanders	15.94	357	⇑P	Pn	09 42 40.4	+1.0
	baz=16,SNR=6.6						
W18A	Petrified Fore	15.96	356	⇑P	Pn	09 42 40.4	+0.6
	baz=16						
PDMCI	Parker Dam,Lak	15.97	342	⇑P	Pn	09 42 40.6	+0.7
	baz=16						
W17A	Winslow	16.02	353	⇑P	Pn	09 42 41.5	+1.0
	baz=16						
PFO	Pinyon Flat Ob	16.14	335	Pn	Pn	09 42 44.0	+1.9
	115nm,1.2s,SNR=6.5						
PFO	Pinyon Flat Ob	16.14	335	Pn	Pn	09 42 42.8	+0.7
	baz=167,slow=8.6,SNR=7.6						
PFO				LR	LR	09 47 55.3	
	comp=Z,8μm,21.6s,baz=158,slow=34						
PFO	Pinyon Flat Ob	16.14	335	⇑P	Pn	09 42 43.0	+0.9
	baz=16						
PFO	Pinyon Flat Ob	16.14	335	ePn	Pn	09 42 43.4	+1.3
W16A	Flagstaff	16.15	350	⇑P	Pn	09 42 42.5	+0.3
	baz=16						
IRM	Iron Mountain	16.15	339	⇓P	Pn	09 42 43.1	+0.9
	baz=16,SNR=5.8						
X13A	Yucca	16.16	343	⇓P	Pn	09 42 42.9	+0.7
	baz=16,SNR=6.2						
BELC	Belle Mtn.	16.31	337	⇓P	Pn	09 42 45.3	+1.0
	baz=16						
W15A	Williams	16.36	348	⇑P	Pn	09 42 46.0	+1.2
	baz=16,SNR=14						
MURC	Murrieta	16.45	333	⇑P	Pn	09 42 46.9	+1.0
	baz=16						
WUAZ	Wupatki	16.54	351	⇓P	Pn	09 42 48.5	+1.3
	baz=16						
WUAZ	Wupatki	16.54	351	ePn	Pn	09 42 48.9	+1.8
W14A	Seligman	16.56	346	⇓P	Pn	09 42 48.7	+1.3
	baz=16,SNR=20						
V18A	Ganado	16.57	355	⇑P	Pn	09 42 49.0	+1.5
	baz=16,SNR=16						
W13A	Hualapai Mount	16.65	344	⇓P	Pn	09 42 49.4	+0.9
	baz=17,SNR=13						
AMTX	Amarillo	16.75	19	ePn	Pn	09 42 50.4	+0.6
GMRC	Granite Mounta	16.89	339	⇓P	Pn	09 42 52.9	+1.3
	baz=17,SNR=12						
V15A	Kaibab Nationa	16.96	349	⇑P	Pn	09 42 54.0	+1.6
	baz=17,SNR=28						
V14A	Boquillas Ranc	16.97	346	⇑P	Pn	09 42 53.9	+1.3
	baz=17,SNR=6.4						
LDFC	Landfair	16.98	341	ePn	Pn	09 42 54.8	+2.1
W12A	Cal Nev Ari	17.11	341	⇓P	Pn	09 42 55.8	+1.4
	baz=17						
U16A	Tuba City	17.12	352	⇓P	Pn	09 42 56.0	+1.6
	baz=17,SNR=16						
HEC	Hector,Ludlow	17.17	337	⇑P	Pn	09 42 56.3	+1.1
	baz=17						
BFSC	Mount Baldy St	17.19	333	⇓P	Pn	09 42 57.3	+1.9
	baz=17						
SNCC	San Nicolas Is	17.26	327	⇑P	Pn	09 42 58.7	+2.4
	baz=17						
MWC	Mount Wilson	17.35	332	eP	Pn	09 42 58.1	+0.7
V12A	Nelson	17.50	342	⇑P	Pn	09 42 59.7	+0.4
	baz=17,SNR=16						
U17A	Shonto	17.52	354	⇑P	Pn	09 43 00.9	+1.4
	baz=17						
NATX	Nacogdoches	17.58	42	ePn	Pn	09 43 00.0	-0.2
U15A	North Rim	17.58	349	⇑P	Pn	09 43 01.7	+1.5
	baz=18						
T19A	Beclabito	17.64	358	⇑P	Pn	09 43 01.6	+0.7
	baz=18,SNR=16						
U14A	Mt Trumbull	17.74	347	⇓P	Pn	09 43 03.3	+1.2
	baz=18						
GSC	Goldstone	17.77	337	eP	Pn	09 43 03.7	+1.1
GSC				pmax	pmax		
	comp=Z,495nm,2.8s						
GSC	Goldstone	17.77	337	⇑P	Pn	09 43 03.7	+1.1
	baz=18						
GSC	Goldstone	17.77	337	ePn	Pn	09 43 03.7	+1.1
	comp=Z,495nm,2.8s						
V11A	Goodsprings	17.78	341	⇑P	Pn	09 43 03.8	+1.1
	baz=18						
EDW2	Edwards Air Fo	17.88	333	⇑P	Pn	09 43 05.2	+1.3
	baz=18						
U13A	Pakoon Wash	17.91	345	⇑P	Pn	09 43 05.8	+1.4
	baz=18,SNR=24						
T17A	Navajo Res., N	17.92	353	⇑P	Pn	09 43 06.0	+1.6
	baz=18						
T18A	Mexican Hat	17.98	356	⇓P	Pn	09 43 05.5	+0.3
	baz=18,SNR=25						
T16A	Glen Canyon Da	18.00	352	⇓P	Pn	09 43 06.2	+0.8
	baz=18,SNR=5.9						
MVCO	Mesa Verde	18.00	360	⇓P	Pn	09 43 05.9	+0.5
	baz=18,SNR=14						
MVCO	Mesa Verde	18.00	360	ePn	Pn	09 43 06.0	+0.6
	comp=Z,106nm,1.4s						
U12A	Valley of Fire	18.08	344	⇑P	Pn	09 43 06.9	+0.5
	baz=18						
T15A	Red Dirt Ranch	18.17	349	⇑P	Pn	09 43 07.4	-0.1
	baz=18,SNR=14						
SHPR	Sheep Range	18.32	342	eP	Pn	09 43 09.6	+0.3
T14A	Hurricane	18.34	348	⇓P	Pn	09 43 10.1	+0.6
	baz=18						
T12A	Moapa	18.40	343	⇓P	Pn	09 43 10.7	+0.3
	baz=18						
T13A	Saint George	18.48	346	⇑P	Pn	09 43 11.7	+0.5
	baz=18,SNR=11						
S18A	Hurst Farm, Bl	18.54	356	⇓P	Pn	09 43 12.4	+0.3
	baz=18,SNR=6.6						
S19A	Harvey Farm, M	18.55	358	⇓P	Pn	09 43 12.4	+0.2
	baz=18,SNR=15						
S17A	Black Ridge (B	18.56	354	⇓P	Pn	09 43 12.3	+0.1
	baz=18,SNR=6.5						
MPMC	Manual Prospec	18.70	336	⇓P	Pn	09 43 14.0	0.0
	baz=19						
SDCO	Great Sand Dun	18.70	7	ePn	Pn	09 43 14.8	+0.9
PKM	Peak Mountain	18.72	329	⇓P	Pn	09 43 14.0	-0.2
	baz=19						
S16A	Weppner Ranch,	18.74	352	⇓P	Pn	09 43 14.7	+0.4
	baz=19						
ISA	Isabella	18.75	333	eP	Pn	09 43 14.9	+0.3
CCUT	Cedar City	18.87	347	eP	Pn	09 43 15.6	-0.4
TEIG	Tepich	18.89	83	P	Pn	09 43 12.6	-3.9
	comp=Z,0.1nm,0.3s,baz=297,slow=4.5,SNR=3.2						
TEIG				LR	LR	09 50 49.9	
	comp=Z,3μm,21.6s,baz=289,slow=38						
TEIG	Tepich	18.89	83	eP	Pn	09 43 15.9	-0.5
	comp=Z,42nm,1.4s						
PV01	Paradox Valley	18.93	359	eP	Pn	09 43 17.1	+0.4
S13A	Holt Ranch, En	19.00	346	⇓P	Pn	09 43 17.7	0.0
	baz=19						
T11A	Corn Creek, Al	19.02	343	⇑P	Pn	09 43 17.7	-0.1
	baz=19						
TPNV	Topopah Spring	19.06	340	eP	Pn	09 43 18.9	+0.6
ARUT	Antelope Range	19.11	347	eP	Pn	09 43 18.0	-0.9
VES	Vestal, Richgr	19.16	332	⇑P	Pn	09 43 19.6	0.0
	baz=19						
R18A	Canyonlands Na	19.23	356	⇑P	Pn	09 43 18.8	-1.5
	baz=19,SNR=19						
S12A	Delamar Landin	19.27	344	⇑P	Pn	09 43 20.8	0.0
	baz=19						
R17A	Hanksville Air	19.32	354	⇓P	Pn	09 43 19.8	-1.6
	baz=19,SNR=27						
PTRM	Twissleman Ran	19.52	330	eP	Pn	09 43 25.8	+1.9
S11A	Rachel	19.55	342	⇓P	Pn	09 43 24.1	-0.1
	baz=20						
MSU	Marysvale	19.59	351	eP	Pn	09 43 23.1	-1.6
R13A	O'Grain Ranch,	19.60	347	⇓P	Pn	09 43 24.5	-0.3
	baz=20						
RCTC	Rector, Farmer	19.63	333	⇓P	Pn	09 43 24.9	-0.2
	baz=20						
Q19A	Hogan Spring (	19.76	358	⇓P	Pn	09 43 24.8	-1.9
	baz=20,SNR=7.7						
HELL	Mitchell Peak	19.85	334	⇓P	Pn	09 43 26.1	-1.7
	baz=20,SNR=14						
Q16A	Castle Valley	19.86	353	⇑P	Pn	09 43 26.7	-1.2
	baz=20						
R12A	Pony Springs,	19.89	345	⇓P	Pn	09 43 27.4	-0.9
	baz=20						
PKD	Parkfield	19.92	330	⇑P	Pn	09 43 27.8	-0.8
	baz=20						
Q18A	Rafter H Ranch	19.95	356	⇑P	Pn	09 43 27.4	-1.6
	baz=20,SNR=7.0						
SRU	San Rafael	19.99	355	⇓P	Pn	09 43 28.6	-0.8
	baz=20						
SRU	San Rafael	19.99	355	eP	Pn	09 43 28.5	-1.0
S10A	Tonopah Range,	20.06	341	⇓P	P	09 43 28.2	-0.3
	baz=20,SNR=17						
S09A	Goldfield	20.09	339	⇑P	P	09 43 28.6	-0.2
	baz=20,SNR=21						
R11A	Troy Canyon, C	20.16	343	⇓P	P	09 43 29.2	-0.4
	baz=20,SNR=20						
Q14A	Sevier Lake (B	20.24	349	⇑P	P	09 43 30.5	0.0
	baz=20,SNR=8.3						
TMUT	Trail Mountain	20.24	353	ePn	P	09 43 31.1	+0.6
MTUM	Tungsten Hills	20.25	336	eP	P	09 43 31.4	+0.9
R10A	Warm Springs	20.31	342	⇓P	P	09 43 31.4	+0.2
	baz=20,SNR=13						
Q13A	Wheeler Ranch,	20.36	347	⇓P	P	09 43 31.7	0.0
	baz=20						
U04C	Hernandez Rese	20.37	330	⇑P	P	09 43 31.6	-0.2
	baz=20,SNR=5.2						
P17A	Butcher Ranch,	20.37	355	⇓P	P	09 43 31.8	-0.1
	baz=20,SNR=6.0						
TPH	Tonopah	20.40	339	eP	P	09 43 32.9	+0.7
T06C	Millerton Lake	20.41	333	⇓P	P	09 43 31.9	-0.5
	baz=20						
P18A	Preston Nutter	20.48	356	⇑P	P	09 43 33.0	-0.1
	baz=20,SNR=5.9						
R09A	Tonopah	20.50	340	⇓P	P	09 43 33.0	-0.3
	baz=20,SNR=18						
KCC	Kaiser Creek	20.52	334	⇑P	P	09 43 33.9	+0.4
	baz=20,SNR=5.6						
P16A	Fountain Green	20.60	353	⇑P	P	09 43 34.4	0.0
	baz=20,SNR=7.6						
VBMS	Vicksburg	20.61	47	ePn	P	09 43 35.4	+0.8
Q12A	Willow Creek R	20.62	345	⇓P	P	09 43 34.1	-0.5
	baz=21,SNR=18						
Q11A	Duckwater	20.64	344	⇑P	P	09 43 34.3	-0.5
	baz=21,SNR=24						
P15A	Leamington	20.65	351	⇑P	P	09 43 34.7	-0.1
	baz=21,SNR=6.9						
ISCO	Idaho Springs	20.72	6	eP	P	09 43 36.3	+0.7
ISCO				pmax	pmax		
	comp=Z,146nm,1.8s						
ISCO	Idaho Springs	20.72	6	eP	P	09 43 36.3	+0.7
	comp=Z,146nm,1.8s						
TGUH	Tegucigalpa,Un	20.77	101	ePn	P	09 43 40.6	+4.1
P14A	Drum Mountains	20.79	350	⇓P	P	09 43 36.4	0.0
	baz=21,SNR=7.6						
Q10A	Clear Creek Ra	20.83	342	⇑P	P	09 43 36.5	-0.4
	baz=21,SNR=18						
P13A	Bates Ranch, G	20.84	347	⇑P	P	09 43 36.4	-0.5
	baz=21,SNR=19						
R08A	Mina	20.95	338	⇑P	P	09 43 37.7	-0.4
	baz=21,SNR=14						
CBKS	Cedar Bluff	20.97	19	eP	P	09 43 38.1	-0.2
S05C	Merced	20.97	332	⇓P	P	09 43 37.7	-0.6
	baz=21						
NLU	North Lily Min	21.00	352	eP	P	09 43 39.4	+0.8
MPU	Maple Canyon	21.00	353	eP	P	09 43 39.4	+0.7
SAO	San Andreas Ge	21.01	329	eP	P	09 43 45.0	+6.2
UALR	University of	21.05	39	eP	P	09 43 39.2	0.0
	comp=Z,72nm,1.2s,mb4.9						
P12A	McGill	21.05	346	⇑P	P	09 43 38.6	-0.6
	baz=21,SNR=12						
O17A	Robinson Place	21.09	355	⇓P	P	09 43 39.3	-0.3
	baz=21,SNR=11						
O19A	Miners Draw (B	21.10	358	⇑P	P	09 43 39.0	-0.7
	baz=21,SNR=13						
O18A	Roosevelt	21.11	356	⇓P	P	09 43 40.1	+0.3
	baz=21						
PACP	Pacheco Peak	21.13	330	⇑P	P	09 43 40.8	+0.7
	baz=21						
O16A	Springville	21.17	353	⇓P	P	09 43 40.8	+0.3
	baz=21						
DUG	Dugway	21.34	350	eP	P	09 43 43.1	+0.8
DUG				pmax	pmax		
	comp=Z,68nm,1.1s,mb4.9						
DUG	Dugway	21.34	350	⇑P	P	09 43 41.8	-0.5
	baz=21,SNR=30						
DUG	Dugway	21.34	350	eP	P	09 43 43.1	+0.8
	comp=Z,68nm,1.1s,mb4.9						
Q08A	Gabbs	21.35	339	⇓P	P	09 43 42.0	-0.4
	baz=21,SNR=25						
O15A	The Old Anders	21.37	351	⇓P	P	09 43 42.8	+0.2
	baz=21						
O13A	Hicks Ranch, I	21.48	348	⇑P	P	09 43 44.1	+0.3
	baz=21						
JLU	Jordanelle	21.56	353	eP	P	09 43 45.5	+0.8
CMB	Columbia Colle	21.57	333	⇓P	P	09 43 45.0	+0.2
	baz=22						
CMB	Columbia Colle	21.57	333	eP	P	09 43 44.0	-0.9
WAKR	Walker	21.59	336	eP	P	09 43 45.3	+0.4
P10A	Eureka	21.59	343	⇑P	P	09 43 45.3	+0.2
	baz=22						
R06C	Coleville	21.61	336	⇑P	P	09 43 44.7	-0.4
	baz=22,SNR=22						
NOQ	North Oquirrh	21.69	352	eP	P	09 43 45.9	-0.2
	comp=Z,112nm,1.6s,mb5.0						
N19A	John Jarvie Ra	21.69	358	⇑P	P	09 43 46.3	+0.2
	baz=22						
P09A	Austin	21.73	341	⇑P	P	09 43 46.9	+0.5
	baz=22						
O12A	Currie	21.77	347	⇓P	P	09 43 46.4	-0.6
	baz=22,SNR=23						
N18A	Larsen Ranch,	21.80	357	⇑P	P	09 43 47.9	+0.7
	baz=22						
N16A	Rees Ranch, Co	21.84	354	⇓P	P	09 43 47.1	-0.6
	baz=22,SNR=15						
WENL	Wente Vineyard	21.84	330	⇓P	P	09 43 47.9	+0.1
	baz=22						

O11A **Cowboy Ranch,** 21.86 345 ⇓P P 09 43 47.4 -0.5
baz=22,SNR=21
R05C **Kirkwood Meado** 22.01 335 ⇓P P 09 43 49.4 -0.1
baz=22
N14A **Grayback Hills** 22.04 350 ⇓P P 09 43 49.0 -0.8
baz=22,SNR=13
BGU **Big Grassy Mou** 22.09 350 *e*P P 09 43 49.1 -1.2
P08A **Dixie Valley** 22.15 340 ⇓P P 09 43 51.1 +0.1
baz=22
PHWY **Pilot Hill** 22.22 6 *e*P P 09 43 52.1 +0.3
N13A **Wendover, West** 22.23 348 ⇓P P 09 43 51.1 -0.7
baz=22,SNR=8.2
O10A **Cortez Mining,** 22.23 343 ⇓P P 09 43 51.9 +0.1
baz=22
M16A **Huntsville** 22.28 353 ⇓P P 09 43 51.5 -0.9
baz=22,SNR=16
O09A **Fish Creek Ran** 22.31 342 ⇑P P 09 43 51.8 -0.9
baz=22,SNR=16
KSU1 **Kansas State U** 22.32 25 *e*P P 09 43 53.3 +0.4
comp=Z,120nm,1.4s,mb5.1
LAVA **Lava Cap Winer** 22.33 334 ⇓P P 09 43 53.0 +0.2
baz=22
ELK **Elko** 22.34 346 P P 09 43 52.0 -0.9
comp=Z,8.0nm,1.0s,mb4.1,baz=144,slow=9.0,SNR=11
ELK LR LR 09 52 09.3
comp=Z,2μm,18.3s,MS4.6,baz=157,slow=36
SPUT **South Promonto** 22.38 352 *e*P P 09 43 55.0 +1.6
OGNE **Ogallala** 22.39 13 *e*P P 09 43 52.3 -1.2
comp=Z,104nm,1.3s,mb5.1
N12A **Clover Valley,** 22.40 346 ⇓P P 09 43 53.0 -0.6
baz=22,SNR=12
WCN **Washoe City** 22.40 336 ⇓P P 09 43 54.1 +0.4
baz=22
RWWY **Rawlins** 22.50 2 *e*P P 09 43 54.5 -0.1
comp=Z,66nm,1.3s,mb4.9
N11A **Elko Archery C** 22.52 345 ⇓P P 09 43 55.1 +0.1
baz=22
M15A **Larsen Ranch,** 22.53 352 ⇑P P 09 43 54.8 -0.2
baz=22
BRAL **Brewton** 22.54 54 *e*P P 09 43 56.8 +1.6
BMN **Battle Mountai** 22.56 342 *e*P P 09 43 54.1 -1.3
BMN pmax pmax
comp=Z,51nm,1.4s,mb4.8
BMN **Battle Mountai** 22.56 342 *e*P P 09 43 54.1 -1.2
comp=Z,51nm,1.4s,mb4.8
HWUT **Hardware Ranch** 22.57 354 *e*P P 09 43 55.6 +0.2
comp=Z,182nm,2.1s,mb5.1
PAHR **Pah Rah Range** 22.61 337 *e*P P 09 43 57.1 +1.1
comp=Z,80nm,1.4s,mb5.0
M14A **Sheep Mountain** 22.70 350 ⇑P P 09 43 57.0 +0.2
baz=23
M13A **Montello** 22.71 349 ⇓P P 09 43 57.3 +0.4
baz=23
OXF **Oxford** 22.71 44 *e*P P 09 43 57.6 +0.5
OXF pmax pmax
comp=Z,55nm,1.1s,mb4.9
OXF **Oxford** 22.71 44 *e*P P 09 43 57.6 +0.5
comp=Z,55nm,1.1s,mb4.9
O08A **Rochester Mine** 22.72 340 ⇑P P 09 43 56.5 -0.5
baz=23,SNR=10
P05C **Yuba Gap, Truc** 22.74 335 ⇑P P 09 43 56.9 -0.3
baz=23
CVS **Carmenet Viney** 22.75 330 ⇑P P 09 43 57.1 -0.4
baz=23
Q03C **Winters** 22.78 331 ⇓P P 09 43 57.5 -0.2
baz=23
O07A **Toulon** 22.84 339 ⇑P P 09 43 57.4 -0.9
baz=23,SNR=15
HVU **Hansel Valley** 22.89 351 *e*P P 09 43 59.4 +0.6
HVU pmax pmax
comp=Z,31nm,1.1s,mb4.7
HVU **Hansel Valley** 22.89 351 *e*P P 09 43 59.4 +0.6
comp=Z,31nm,1.1s,mb4.7
M12A **Wells** 22.91 347 ⇑P P 09 43 58.4 -0.6
baz=23,SNR=19
L16A **Fish Haven** 22.96 354 ⇓P P 09 43 58.9 -0.7
baz=23
NSHM **Saint Helena R** 22.96 330 *e*P P 09 44 01.5 +1.9
L15A **Malad City** 23.05 352 ⇑P P 09 43 59.8 -0.8
baz=23,SNR=12
M11A **Holland Ranch,** 23.12 346 ⇓P P 09 44 01.2 -0.1
baz=23
BEKR **Beckwourth** 23.12 336 ⇓P P 09 44 01.1 -0.2
baz=23
OHCM **Honcut** 23.13 333 *e*P P 09 44 01.8 +0.4
N08A **GE Springer Mi** 23.16 341 ⇓P P 09 44 01.1 -0.5
baz=23,SNR=9.6
O06A **Flanigan** 23.18 337 ⇑P P 09 44 01.6 -0.3
baz=23,SNR=6.6
L14A **Malta** 23.20 351 ⇑P P 09 44 01.7 -0.5
baz=23,SNR=16
GNAR **Gosnell** 23.25 40 *e*P P 09 44 02.0 -0.7
comp=Z,1μm,1.1s
ORV **Oroville** 23.32 334 ⇓P P 09 44 02.3 -1.1
baz=23,SNR=23
L13A **Double Diamond** 23.37 349 ⇑P P 09 44 03.0 -1.0
baz=23,SNR=9.6
M10A **I.L. Ranch, Tu** 23.39 344 ⇓P P 09 44 03.5 -0.6
baz=23,SNR=9.9
O05C **Quincy** 23.42 335 ⇓P P 09 44 04.1 -0.3
baz=23
N07B **Gerlach** 23.43 339 ⇓P P 09 44 04.5 0.0
baz=23
M09A **Marrel Ranch,** 23.54 343 ⇓P P 09 44 04.8 -0.9
baz=24
LRAL **Lakeview Retre** 23.55 50 *e*P P 09 44 05.8 -0.2
BW06 **Boulder Array** 23.58 358 ⇓P P 09 44 05.1 -0.9
baz=24
BW06 **Boulder Array** 23.58 358 *e*P P 09 44 06.3 +0.3
comp=Z,96nm,2.1s,mb4.9
PDAR **Pinedale Array** 23.58 358 P P 09 44 03.9 -2.1
comp=Z,2.1nm,0.7s,baz=163,slow=12,SNR=14
PDAR PcP PcP 09 47 52.1 +1.2
comp=Z,0.4nm,0.8s,baz=159,slow=2.7,SNR=2.7
PDAR LR LR 09 53 03.2
comp=Z,2μm,18.2s,MS4.7,baz=189,slow=36
K14A **Jones Ranch, D** 23.69 351 ⇓P P 09 44 06.1 -1.0
baz=24,SNR=5.7
N06A **Buffalo Meadow** 23.70 338 ⇑P P 09 44 06.1 -1.1
baz=24,SNR=13
K15A **Arbon** 23.74 352 ⇑P P 09 44 06.6 -1.0
baz=24,SNR=18
K16A **Soda Springs** 23.78 354 ⇓P P 09 44 07.3 -0.6
baz=24
O04C **Chester** 23.80 335 ⇓P P 09 44 07.2 -0.8
baz=24
L11A **Cat Creek Ranc** 23.81 346 ⇑P P 09 44 07.3 -0.9
baz=24,SNR=17
PARMO **Parma** 23.88 39 *e*P P 09 44 08.5 -0.3
L10A **Juniper Basin** 23.89 345 ⇑P P 09 44 08.2 -0.7
baz=24,SNR=12
GASB **Alder Springs** 23.93 332 ⇑P P 09 44 08.9 -0.4
baz=24
K13A **Stover Farm, H** 23.94 349 ⇑P P 09 44 08.9 -0.5
baz=24
CCM **Cathedral Cave** 24.00 35 *e*P P 09 44 09.6 -0.4
CCM pmax pmax
comp=Z,88nm,1.3s,mb5.0
CCM **Cathedral Cave** 24.00 35 *e*P P 09 44 09.6 -0.4
comp=Z,88nm,1.3s,mb5.0
K12A **Draper Farm, C** 24.08 348 ⇓P P 09 44 09.8 -0.9
baz=24,SNR=13
L09A **Wilkinson Ranc** 24.16 343 ⇑P P 09 44 10.3 -1.0
baz=24
JTS **JuntasAbangare** 24.21 108 P P 09 44 13.0 +0.8
comp=Z,2.6nm,0.3s,mb4.1,baz=318,slow=15,SNR=7.4
JTS **JuntasAbangare** 24.21 108 *e*P P 09 44 16.0 +3.8
J16A **Bone** 24.22 354 ⇑P P 09 44 10.7 -1.2
baz=24,SNR=16
REDW **Red Top Meadow** 24.24 355 *e*P P 09 44 10.4 -1.7
comp=Z,56nm,1.2s,mb4.9
RRI2 **Red Ridge** 24.27 355 *e*P P 09 44 08.8 -3.5
comp=Z,174nm,1.8s,mb5.2
M06C **Likely Place G** 24.33 337 ⇑P P 09 44 12.2 -0.7
baz=24,SNR=21
SNOW **Snow King Moun** 24.34 356 *e*P P 09 44 13.0 0.0
TPAW **Teton Pass** 24.38 355 *e*P P 09 44 13.8 +0.5
FVM **French Village** 24.40 36 *e*P P 09 44 13.2 -0.4
FVM pmax pmax
comp=Z,75nm,1.3s,mb5.0
FVM **French Village** 24.40 36 *e*P P 09 44 13.2 -0.4
comp=Z,75nm,1.3s,mb5.0
J15A **Blackfoot** 24.43 353 ⇓P P 09 44 13.3 -0.6
baz=24,SNR=6.6
K11A **Parker Ranch,** 24.45 346 ⇑P P 09 44 13.0 -1.0
baz=24,SNR=12
J14A **Carey** 24.51 351 ⇓P P 09 44 13.8 -0.7
baz=24,SNR=9.0

L08A **Fields** 24.51 342 ⇑P P 09 44 13.5 -1.0
baz=24,SNR=16
WDC **Whiskeytown Da** 24.61 333 ⇓P P 09 44 14.4 -1.1
baz=25
WDC **Whiskeytown Da** 24.61 333 *e*P P 09 44 17.4 +1.9
MOOW **Moose Ponds** 24.62 356 *e*P P 09 44 15.7 +0.2
K10A **MacKenzie Ranc** 24.65 345 ⇑P P 09 44 14.7 -1.1
baz=25
L07A **Adell** 24.66 340 ⇓P P 09 44 15.1 -0.8
baz=25
J13A **Cove Ranch, Pi** 24.68 350 ⇑P P 09 44 15.4 -0.7
baz=25
J12A **Stokes Ranch,** 24.71 348 ⇑P P 09 44 15.5 -0.8
baz=25,SNR=6.2
M05C **Lookout** 24.71 336 ⇓P P 09 44 15.7 -0.7
baz=25,SNR=19
WVT **Waverly** 24.72 43 *e*P P 09 44 13.1 -3.5
I17A **Pilgram Creek** 24.78 356 ⇑P P 09 44 16.2 -0.8
baz=25
K09A **Rome** 24.80 343 ⇑P P 09 44 16.1 -1.1
baz=25,SNR=22
I16A **Newdale** 24.80 355 ⇑P P 09 44 16.8 -0.4
baz=25,SNR=17
WVOR **Wild Horse Val** 24.82 342 *e*P P 09 44 16.6 -0.8
WVOR pmax pmax
comp=Z,66nm,1.2s,mb5.0
WVOR **Wild Horse Val** 24.82 342 *e*P P 09 44 16.6 -0.8
comp=Z,66nm,1.2s,mb5.0
MOD **Modoc** 24.88 338 ⇑P P 09 44 17.4 -0.6
baz=25,SNR=10.0
MOD **Modoc** 24.88 338 *e*P P 09 44 18.8 +0.9
HLID **Hailey** 24.89 349 *e*P P 09 44 17.7 -0.3
comp=Z,25nm,1.0s,mb4.7
SIUC **Southern Illin** 24.90 38 *e*P P 09 44 15.7 -2.5
comp=Z,72nm,1.2s,mb5.1
SLM **Saint Louis** 24.97 35 *e*P P 09 44 17.9 -0.9
SLM pmax pmax
comp=Z,21nm,0.5s,mb4.9
SLM **Saint Louis** 24.97 35 *e*P P 09 44 17.9 -0.9
comp=Z,22nm,0.5s,mb4.9
MFID **Camas Ranch** 25.02 347 ⇓P P 09 44 18.3 -0.9
baz=25,SNR=6.1
M03C **McCloud** 25.02 335 ⇓P P 09 44 18.6 -0.6
baz=25
I15A **Monteview** 25.03 353 ⇑P P 09 44 18.6 -0.7
baz=25,SNR=12
K08A **Mann Creek Ran** 25.05 342 ⇓P P 09 44 18.7 -0.8
baz=25,SNR=15
I14A **Mackay** 25.09 351 ⇑P P 09 44 19.2 -0.6
baz=25,SNR=12
N02C **Big Bar** 25.14 332 ⇑P P 09 44 19.3 -1.0
baz=25
I13A **Wildhorse Cree** 25.18 350 ⇓P P 09 44 20.3 -0.3
baz=25,SNR=26
L05A **Lakeview** 25.19 338 ⇑P P 09 44 19.9 -0.9
baz=25,SNR=7.0
K07A **Rock Creek Ran** 25.24 341 ⇑P P 09 44 20.6 -0.5
baz=25,SNR=17
H17A **Grant Village** 25.25 356 ⇑P P 09 44 20.6 -0.7
baz=25
M04C **Macdoel** 25.34 336 ⇓P P 09 44 21.9 -0.2
baz=25
J09A **Fry Pan Ranch,** 25.41 344 ⇓P P 09 44 21.8 -1.0
baz=25,SNR=8.6
I11A **Placerville** 25.52 347 ⇑P P 09 44 23.5 -0.2
baz=26,SNR=14
YMR **Madison River** 25.55 356 *e*P P 09 44 23.7 -0.3
comp=Z,77nm,1.6s,mb5.0
YNR **Norris Junctio** 25.58 356 *e*P P 09 44 21.9 -2.3
H16A **Russell Place,** 25.61 355 ⇓P P 09 44 24.4 -0.1
baz=26
J08A **Circle Bar Ran** 25.62 343 ⇓P P 09 44 24.2 -0.4
baz=26
YBH **Yreka Blue Hor** 25.64 335 P P 09 44 23.6 -1.3
comp=Z,2.9nm,0.9s,mb3.8,baz=149,slow=5.5,SNR=4.2
YBH LR LR 09 53 56.9
comp=Z,1μm,21.1s,MS4.5,baz=159,slow=36
YBH **Yreka Blue Hor** 25.64 335 ⇓P P 09 44 24.5 -0.3
baz=26
K06A **Valley Falls** 25.66 339 ⇓P P 09 44 24.8 -0.2
baz=26
H15A **Lima** 25.66 353 ⇑P P 09 44 24.7 -0.3
baz=26,SNR=6.6
L04A **Klamath Falls** 25.70 336 ⇓P P 09 44 24.9 -0.4
baz=26
QLMT **Earthquake Lak** 25.75 355 *e*P P 09 44 26.9 +1.1
H14A **Leadore** 25.75 352 ⇑P P 09 44 25.9 +0.1
baz=26
K05A **Summer Lake** 25.81 338 ⇑P P 09 44 26.5 +0.1
baz=26
H13A **Challis** 25.83 350 ⇑P P 09 44 26.1 -0.5
baz=26,SNR=10
I10A **Payette** 25.87 346 ⇑P P 09 44 26.9 0.0
baz=26
MCMT **McKenzie Canyo** 25.89 353 *e*P P 09 44 26.2 -0.8
H12A **Diamond D Ranc** 25.92 349 ⇑P P 09 44 27.9 +0.5
baz=26
USIN **University of** 25.98 39 *e*P P 09 44 28.1 +0.1
I09A **Lost Marbles R** 25.99 344 ⇓P P 09 44 28.1 +0.1
baz=26,SNR=8.3
G16A **Moss Hill, Enn** 26.18 354 ⇓P P 09 44 29.6 -0.1
baz=26,SNR=13
G15A **Dillon** 26.18 353 ⇓P P 09 44 30.4 +0.7
baz=26
OLIL **Olney** 26.23 38 *e*P P 09 44 28.1 -2.1
comp=Z,82nm,1.1s,mb5.2
H11A **Donnelly** 26.29 348 ⇑P P 09 44 29.6 -1.1
baz=26,SNR=12
GOGA **Godfrey** 26.33 52 *e*P P 09 44 32.9 +1.7
GOGA pmax pmax
comp=Z,50nm,1.1s,mb5.0
GOGA **Godfrey** 26.33 52 *e*P P 09 44 32.9 +1.7
comp=Z,50nm,1.1s,mb5.0
H10A **Noah's Angus R** 26.34 346 ⇓P P 09 44 29.9 -1.2
baz=26,SNR=11
G13A **Cobalt** 26.34 351 ⇑P P 09 44 30.9 -0.3
baz=26
L02A **Cave Junction** 26.36 334 ⇓P P 09 44 31.0 -0.3
baz=26
G14A **Jackson** 26.38 352 ⇑P P 09 44 31.7 +0.2
baz=26
DLMT **Dillon** 26.39 353 *e*P P 09 44 31.4 -0.2
comp=Z,21nm,1.3s,mb4.5
DLMT *e*pP pP 09 44 42.9 +8.3
ECSD **EROS,Sioux Fal** 26.41 19 *e*P P 09 44 31.3 -0.5
comp=Z,20nm,1.3s,mb4.5
J05A **Fort Rock** 26.42 338 ⇓P P 09 44 31.9 0.0
baz=26
HUMO **Hull Mountain** 26.48 335 ⇓P P 09 44 32.5 0.0
baz=26
I07A **Izee** 26.58 342 ⇓P P 09 44 34.0 +0.7
baz=26
GCMT **Greycliff** 26.60 358 *e*P P 09 44 32.7 -0.8
H09A **Durkee** 26.62 345 ⇑P P 09 44 34.2 +0.5
baz=27
I06A **Prineville** 26.67 341 ⇓P P 09 44 34.1 0.0
baz=27
J04A **Umpqua Nationa** 26.70 337 ⇑P P 09 44 34.6 +0.2
baz=27
BMO **Blue Mountains** 26.71 346 *e*P P 09 44 29.0 -5.5
comp=Z,31nm,1.5s,mb4.6
F18A **Big Timber** 26.72 358 ⇓P P 09 44 34.7 +0.2
baz=27
H08A **Prairie City** 26.75 343 ⇑P P 09 44 34.8 0.0
baz=27
K02A **Glendale** 26.82 335 ⇑P P 09 44 34.8 -0.7
baz=27
LRM **Limekiln Ridge** 26.83 354 *e*P P 09 44 35.8 +0.3
F15A **Butte** 26.85 354 ⇓P P 09 44 35.6 -0.2
baz=27
HDIL **Hopedale** 26.86 33 *e*P P 09 44 39.3 +3.4
comp=Z,79nm,1.4s,mb5.0
G11A **Walters Elk Ra** 27.01 348 ⇑P P 09 44 35.4 -1.7
baz=27,SNR=6.3
F13A **Darby** 27.04 351 ⇓P P 09 44 36.1 -1.3
baz=27,SNR=17
H07A **Lands Inn, Kim** 27.06 342 ⇓P P 09 44 37.3 -0.4
baz=27
G10A **Bishop Farm, J** 27.09 346 ⇑P P 09 44 37.0 -0.8
baz=27
F12A **Elk City** 27.16 349 ⇑P P 09 44 37.6 -1.0
baz=27,SNR=13
TKL **Tuckaleechee C** 27.18 48 LR LR 09 58 10.9
comp=Z,1μm,18.6s,MS4.5,baz=243,slow=42
I05A **Bend** 27.21 339 ⇑P P 09 44 38.4 -0.5
baz=27
G09A **Cove** 27.23 345 ⇑P P 09 44 39.6 +0.5
baz=27

E17A **Martinsdale** 27.33 356 ⇓P P 09 44 39.4 -0.7
baz=27,SNR=7.8
E18A **Harlowton** 27.38 358 ⇑P P 09 44 40.6 +0.1
baz=27
H06A **Lindquist Farm** 27.42 341 ⇑P P 09 44 40.6 -0.3
baz=27
E15A **Deer Lodge** 27.44 353 ⇓P P 09 44 41.2 +0.2
baz=27
F11A **Grangeville** 27.45 348 ⇓P P 09 44 40.6 -0.6
baz=27,SNR=6.0
E16A **East Helena** 27.46 355 ⇓P P 09 44 41.4 +0.2
baz=27
LAO **LASA Array** 27.53 3 *e*pP pP 09 44 49.2 +4.3
E14A **Clinton** 27.54 352 ⇓P P 09 44 41.3 -0.6
baz=28,SNR=14
HRY **Holter Researc** 27.65 355 *e*P P 09 44 42.8 -0.1
E13A **Victor** 27.66 351 ⇑P P 09 44 42.0 -0.9
baz=28,SNR=5.0
G07A **Ruggs Ranch, H** 27.71 343 ⇓P P 09 44 43.1 -0.4
baz=28
F10A **Beach Ranch, E** 27.76 347 ⇑P P 09 44 42.6 -1.2
baz=28
E12A **Beaver Dam Sad** 27.85 349 ⇑P P 09 44 44.0 -0.7
baz=28
E11A **Bogner Ranch,** 27.91 348 ⇓P P 09 44 43.1 -2.2
baz=28,SNR=12
D16A **Dana Ranch, Ca** 27.94 355 ⇓P P 09 44 44.7 -0.8
baz=28
G06A **Carlson Farm,** 27.97 341 ⇑P P 09 44 45.6 -0.1
baz=28
CHMT **Chamberlain Mo** 28.00 353 *e*P P 09 44 46.0 0.0
MSO **Missoula** 28.00 352 *e*P P 09 44 45.6 -0.4
comp=Z,60nm,1.9s,mb4.9
D15A **Lincoln** 28.04 354 ⇑P P 09 44 46.3 -0.1
baz=28
JFWS **Jewell Farm** 28.18 29 *e*P P 09 44 48.1 +0.4
JFWS pmax pmax
comp=Z,61nm,1.4s,mb5.0
JFWS **Jewell Farm** 28.18 29 *e*P P 09 44 48.1 +0.4
comp=Z,61nm,1.4s,mb5.0
G05A **Wamic** 28.18 340 ⇑P P 09 44 47.9 +0.2
baz=28
D14A **Greenough** 28.19 352 ⇑P P 09 44 46.6 -1.2
baz=28,SNR=16
D13A **Huson** 28.33 351 ⇓P P 09 44 49.0 +0.1
baz=28
C17A **Wharram Farm,** 28.49 357 ⇑P P 09 44 50.2 -0.2
baz=28
F06A **Goldendale** 28.49 342 ⇑P P 09 44 50.1 -0.3
baz=28
D11A **Klaveano Farm,** 28.60 348 ⇓P P 09 44 49.3 -2.1
baz=28,SNR=6.8
C15A **Salmond Ranch,** 28.78 354 ⇓P P 09 44 53.4 +0.4
baz=29
EGMT **Eagleton** 28.84 358 *e*P P 09 44 59.6 +6.1
comp=Z,29nm,1.4s,mb4.8
C12B **Naegeli Ranch,** 29.09 350 ⇑P P 09 44 55.4 -0.3
baz=29
F04A **Amboy** 29.15 340 ⇓P P 09 44 56.2 -0.2
baz=29
E05A **Randle** 29.50 341 ⇓P P 09 44 59.9 +0.5
baz=29
B13A **Whitefish** 29.59 352 ⇑P P 09 44 58.7 -1.4
baz=30
A16A **West Butte Ran** 29.85 356 ⇑P P 09 45 02.2 -0.3
baz=30
NEW **Newport** 29.92 348 *e*P P 09 45 03.5 +0.4
NEW pmax pmax
comp=Z,77nm,2.0s
NEW **Newport** 29.92 348 *e*P P 09 45 03.5 +0.4
comp=Z,77nm,2.0s,mb5.1
A15A **Johnson Ranch,** 29.98 354 ⇓P P 09 45 03.5 -0.1
baz=30
ETW **Entiat** 30.04 344 *e*P P 09 45 04.8 +0.7
A14A **Double T Ranch** 30.05 353 ⇑P P 09 45 04.2 +0.1
baz=30
C07A **Waterville** 30.05 344 ⇓P P 09 45 03.7 -0.5
baz=30
E03A **Lebam** 30.08 339 ⇓P P 09 45 03.8 -0.7
baz=30
ACSO **Alum Creek Sta** 30.24 41 *e*pP pP 09 45 18.8 +10
B09A **Rice** 30.28 347 ⇓P P 09 45 06.2 -0.1
baz=30
B08A **Colville Reser** 30.49 345 ⇓P P 09 45 06.4 -1.7
baz=30,SNR=6.5
A10A **Northport** 30.69 348 ⇑P P 09 45 09.5 -0.3
baz=31
B07A **Winthrop** 30.77 345 ⇑P P 09 45 10.3 -0.4
baz=31
AGMN **Agassiz Refuge** 30.79 16 *e*P P 09 45 11.5 +0.7
comp=Z,30nm,1.4s,mb4.9
JCW **Jim Creek** 31.02 342 *e*P P 09 45 08.0 -4.8
RPW **Rockport** 31.13 343 *e*P P 09 45 14.7 +0.9
COWI **Conover** 31.19 26 *e*P P 09 45 12.7 -1.7
comp=Z,17nm,0.9s,mb4.9
EYMN **Ely** 31.82 22 *e*P P 09 45 17.2 -2.6
comp=Z,43nm,1.2s,mb5.2
ULM **Lac du Bonnet** 32.59 15 P P 09 45 23.8 -2.8
comp=Z,9.5nm,1.0s,mb4.7,baz=213,slow=9.7,SNR=6.3
ULM LR LR 09 58 37.1
comp=Z,1μm,20.5s,MS4.6,baz=24,slow=36
ULM **Lac du Bonnet** 32.59 15 P P 09 45 23.8 -2.8
ULM LR LR 09 58 37.1
EDM **Edmonton** 34.24 355 *e*P P 09 45 39.5 -1.4
OTAV **Otavalo** 34.79 119 *e*P P 09 45 48.1 +2.0
comp=Z,24nm,1.1s,mb5.0
ROSC **El Rosal** 36.04 109 P P 09 45 59.1 +2.2
comp=Z,6.4nm,0.8s,mb4.6,baz=92,slow=22,SNR=5.8
SDV **Santo Domingo** 37.87 100 P P 09 46 12.7 +0.2
comp=Z,4.1nm,0.3s,mb4.7,baz=195,slow=20,SNR=9.2
ATAH **Atahualpa** 39.29 129 P P 09 46 27.2 +2.8
comp=Z,5.1nm,1.1s,mb4.2,baz=318,slow=14,SNR=3.1
SJG **San Juan** 39.89 84 *e*P P 09 46 29.8 +0.4
SJG pmax pmax
comp=Z,120nm,1.4s
SJG **San Juan** 39.89 84 *e*P P 09 46 29.8 +0.3
comp=Z,120nm,1.4s,mb5.4
MTP **Monte Pirata** 40.46 84 *e*P P 09 46 34.6 +0.5
DLBC **Dease Lake** 42.34 343 *e*P P 09 46 52.0 +3.0
YKA **Yellowknife Ar** 43.53 356 P P 09 46 56.6 -2.0
comp=Z,1.3nm,0.7s,mb3.8,baz=172,slow=7.7,SNR=3.1
YKA PcP PcP 09 48 46.5 +0.2
comp=Z,1.5nm,0.8s,baz=167,slow=3.3,SNR=2.7
YKA LR LR 10 05 06.4
comp=Z,635nm,18.1s,MS4.6,baz=150,slow=36
YKA **Yellowknife Ar** 43.53 356 P P 09 46 56.7 -1.9
YKA 09 48 46.5
YKA **Yellowknife Ar** 43.53 356 P P 09 46 56.6 -2.0
YKA PcP PcP 09 48 46.5 +0.2
YKA LR LR 10 05 06.5
SCHQ **Schefferville** 47.49 31 P P 09 47 30.5 +0.4
comp=Z,4.4nm,0.8s,mb4.5,baz=230,slow=13,SNR=5.4
SCHQ LR LR 10 07 58.2
comp=Z,688nm,18.4s,MS4.7,baz=53,slow=37
SCHQ **Schefferville** 47.49 31 *e*P P 09 47 29.3 -0.8
comp=Z,28nm,1.2s,mb5.1
RKT **Rikitea** 49.42 213 *e*S S 09 54 55.1 +2.5
comp=Z,273nm,24.5s
RKT *e*LQ 09 59 32.4
comp=Z,652nm,28.2s
RKT *e*LR LR 10 01 47.1
comp=Z,1μm,28.8s,baz=31
MCK **McKinley** 52.33 339 *e*P P 09 48 07.1 +0.4
MCK pmax pmax
comp=Z,17nm,1.0s,mb4.9
MCK **McKinley** 52.33 339 *e*P P 09 48 07.1 +0.4
comp=Z,17nm,1.0s,mb4.9
TRF **Thorofare Moun** 52.63 338 *e*P P 09 48 07.0 -2.0
comp=Z,74nm,1.3s,mb5.5
COLA **College** 52.70 340 *e*P P 09 48 08.5 -1.0
LPAZ **La Paz** 52.92 129 P P 09 48 13.5 +1.7
comp=Z,3.4nm,0.9s,mb4.3,baz=328,slow=8.2,SNR=13
LPAZ LR LR 10 06 31.9
comp=Z,226nm,21.4s,MS4.2,baz=144,slow=31
PPLA **Purkeypile** 53.00 337 *e*P P 09 48 10.7 -1.0
comp=Z,66nm,1.4s,mb5.4
PPT **Papeete** 54.55 231 *e*S S 09 56 11.3 +8.1
comp=Z,779nm,27.2s
PPT *e*LR LR 10 04 04.6
comp=Z,3μm,26.2s,baz=39
PPT **Papeete** 54.55 231 LR LR 10 05 45.6
comp=Z,842nm,18.1s,MS4.8,baz=49,slow=30
COLD **Coldfoot** 54.96 341 *e*P P 09 48 25.7 -0.3
comp=Z,47nm,1.6s,mb5.3
LVC **Limon Verde** 56.60 135 *e*P P 09 48 38.7 +0.4
TBI **Tubuai** 58.28 225 *e*S S 09 56 57.7 +5.1
comp=Z,638nm,28.8s

TBI				eLR	LR	10 05 43.5	
	comp=Z,2µm,27.5s,baz=44						
CPUP	**Villa Florida**	**67.02**	**131**	P	**P**	**09 49 50.3**	**+1.7**
	comp=Z,4.9nm,0.8s,mb4.6,baz=315,slow=6.4,SNR=9.9						
CPUP				LR	LR	10 13 44.4	
	comp=Z,218nm,21.7s,MS4.3,baz=136,slow=31						
BDFB	**Brasilia**	**68.65**	**116**	P	**P**	**09 50 00.9**	**+1.9**
	comp=Z,2.6nm,0.8s,mb4.2,baz=283,slow=14,SNR=2.6						
PLCA	**Paso Flores**	**69.13**	**150**	P	**P**	**09 50 04.1**	**+2.6**
	comp=Z,6.8nm,0.9s,mb4.5,baz=333,slow=7.3,SNR=9.9						
PLCA				LR	LR	10 13 53.1	
	comp=Z,1µm,20.1s,MS5.1,baz=328,slow=30						
AFI	**Afiamalu**	**70.60**	**247**	LR	LR	10 13 08.0	
	comp=Z,915nm,19.8s,MS5.0,baz=327,slow=29						
BILL	**Bilibino**	**70.71**	**337**	⇑eP	**P**	**09 50 11.7**	**+0.8**
BILL				e*PP	PcP	09 50 35.4	+3.6
BILL				e		09 52 45.9	
BILL				eS	S	09 59 14.9	-10
BILL				pmax	pmax		
	comp=Z,7.0nm,1.2s,mb4.5						
DAG	**Danmarks Havn**	**71.43**	**14**	iP	**P**	**09 50 14.0**	**-1.1**
DAG	**Danmarks Havn**	**71.43**	**14**	eP	**P**	**09 50 14.0**	**-1.1**
TRQA	**Tornquist**	**71.62**	**143**	eP	**P**	**09 50 17.8**	**+1.0**
	comp=Z,50nm,1.8s,mb5.2						
PETK	**Petropavlovsk-**	**77.27**	**322**	P	**P**	**09 50 50.0**	**+0.5**
	comp=Z,6.9nm,0.9s,mb4.6,baz=52,slow=6.0,SNR=4.1						
PETK				LR	LR	10 17 39.6	
	comp=Z,235nm,20.4s,MS4.5,baz=180,slow=30						
RAO	**Raoul Island**	**82.57**	**236**	LR	LR	10 18 07.5	
	comp=Z,559nm,20.8s,MS4.9,baz=86,slow=28						
ARCES	**ARCESS Array B**	**85.70**	**15**	P	**P**	**09 51 32.6**	**-1.3**
	comp=Z,4.5nm,1.0s,mb4.7,baz=339,slow=4.8,SNR=8.6						
NOA	**NORSAR Array B**	**86.67**	**25**	P	**P**	**09 51 38.0**	**-0.9**
	comp=Z,0.2nm,0.5s,baz=308,slow=5.1,SNR=2.5						
NOA				LR	LR	10 29 41.6	
	comp=Z,244nm,21.4s,MS4.6,baz=295,slow=35						
YAK	**Yakutsk**	**87.07**	**336**	eP	**P**	**09 51 46.6**	**+5.9**
YAK				pmax	pmax		
	comp=N,4.0nm,1.1s						
YAK				pmax	pmax		
	comp=Z,21nm,1.1s,mb5.3						
YAK				pmax	pmax		
	comp=E,7.0nm,1.2s						
YSS	**Yuzh-Sakhalins**	**88.44**	**320**	eP	**P**	**09 51 51.2**	**+3.6**
YSS				pmax	pmax		
	comp=Z,6.0nm,1.3s,mb4.7						
ESDC	**Sonseca Array**	**88.48**	**48**	LR	LR	10 30 50.6	
	comp=Z,283nm,20.6s,MS4.7,baz=290,slow=35						
URZ	**Urewera**	**90.18**	**229**	LR	LR	10 22 28.3	
	comp=Z,812nm,21.4s,MS5.1,baz=343,slow=29						
HNR	**Honiara**	**94.67**	**262**	LR	LR	10 25 07.7	
	comp=Z,593nm,21.9s,MS5.0,baz=250,slow=29						
GERES	**GERESS Array B**	**94.95**	**34**	LR	LR	10 34 05.7	
	comp=Z,313nm,21.5s,MS4.8,baz=307,slow=35						
MJAR	**Matsushiro Arr**	**96.33**	**312**	LR	LR	10 28 31.0	
	comp=Z,238nm,19.4s,MS4.7,baz=100,slow=31						
RPZ	**Rata Peaks**	**96.49**	**226**	LR	LR	10 27 33.5	
	comp=Z,603nm,18.9s,MS5.1,baz=204,slow=30						
MDJ	**Mudanjiang**	**97.51**	**322**	P	**P**	**09 52 29.8**	**+0.3**
KEST	**Kesra**	**99.64**	**47**	LR	LR	10 38 12.9	
	comp=Z,123nm,21.2s,MS4.4,baz=197,slow=36						
CN2	**Changchun**	**100.37**	**324**	eP	Pdif	09 52 43.1	+1.0
BJI	**Beijing**	**108.00**	**326**	P	Pdif	09 53 15.2	-0.8
HHC	**Hu-ho-hao-te**	**109.76**	**329**	ePDIF	Pdif	09 53 24.8	+1.0
HHC				PP	PP	09 58 02.7	+5.3
HHC				SKS	SKSdf	10 04 33.0	-6.0
HHC				S	Sdif	10 05 30.7	-5.9
HHC				SS	SS	10 13 19.1	-1.5
HHC				PP	PP		
	comp=Z,155nm,7.7s						
HHC				LR	LR		
	comp=N,327nm,22.3s,MS5.0						
HHC				LR	LR		
	comp=E,281nm,20.9s,MS5.0						
HHC				LR	LR		
	comp=Z,267nm,19.1s,MS4.8						
NJ2	**Nanjing**	**111.95**	**318**	ePKP	PKiKP	09 57 31.4	+0.3
WMQ	**Urumqi**	**115.65**	**347**	PKP	PKPdf	09 57 40.0	+2.2
WMQ				PP	PP	09 58 48.0	+9.0
WMQ				PKS		10 01 15.5	
WMQ				LR	LR		
	comp=N,140nm,19.6s,MS4.9						
WMQ				LR	LR		
	comp=E,255nm,23.2s,MS4.9						
WMQ				LR	LR		
	comp=Z,225nm,20.9s,MS4.8						
LZH	**Lanzhou**	**117.21**	**331**	ePKIKP	PKPdf	09 57 39.5	-1.5
LZH				*PP		09 57 47.0	
LZH	**Lanzhou**	**117.21**	**331**	eP	PKPdf	09 57 39.5	-1.5
LZH				pP		09 57 47.0	
LZH				sP		09 57 49.5	
WRA	**Warramunga Arr**	**121.28**	**258**	PKP	PKPdf	09 57 47.9	-1.3
	comp=Z,0.5nm,0.7s,baz=80,slow=1.6,SNR=6.5						
CD2	**Chengdu**	**121.47**	**328**	ePKP	PKPdf	09 57 48.5	-0.9
CD2				PP	PP	09 59 23.2	+3.4
CD2				SKS	SKSdf	10 04 55.5	-6.3
CD2				SKKS	SKKSac	10 06 11.2	-10
CD2				SS	SS	10 15 51.4	-2.9
CD2				PP	PP		
	comp=Z,80nm,10.2s						
ASAR	**Alice Springs**	**122.29**	**254**	PKP	PKPdf	09 57 49.6	-1.4
	comp=Z,0.7nm,1.0s,baz=85,slow=2.5,SNR=4.1						
GYA	**Guiyang**	**123.37**	**322**	ePDIF	Pdif	09 54 22.3	-2.0
GYA				PKP	PKPdf	09 57 51.8	-1.3
GYA				PP	PP	09 59 34.9	+2.0
GYA				PKS		10 01 26.0	
GYA				SKS	SKSdf	10 04 57.3	-8.2
GYA				PP	PP		
	comp=Z,80nm,7.8s						
GYA				LR	LR		
	comp=N,260nm,20.8s,MS4.9						
GYA				LR	LR		
	comp=E,150nm,21.9s,MS4.9						
GYA				LR	LR		
	comp=Z,110nm,22.4s,MS4.5						
KMI	**Kunming**	**126.63**	**324**	PKP	PKPdf	09 58 00.6	+1.2
KMI				LR	LR		
	comp=Z,118nm,28.1s,MS4.4						
CMAR	**Chiang Mai Arr**	**134.04**	**323**	PKP	PKPdf	09 58 15.1	+1.4
	comp=Z,7.5nm,1.0s,baz=339,slow=2.5,SNR=9.4						

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*ISCJB **05** 09:40:37.6±0.7, 1162S±006×11825E±005, h45km±9km, mb4.3/8, Error ellipse: s-maj=10.9km s-min=5.5km az=33.5*

*DJA **05** 09:40:40.9±0.5, 11S±9×118E±, h35km, mb5.0/4, mB5.8/1, Mjma3.9/7, MLv5.0/7, Mwp4.1/7*

*IDC **05** 09:40:43.7±1.0, 1132S×11823E, h60km±7km, mb4.0/6, mb1 4.0/9, mb1mx3.9/17, mbtmp4.0/9, Error ellipse: s-maj=30.0km s-min=18.4km az=75.0*

*NEIC **05** 09:40:45.1±1.6, 1133S×11875E, h86km±17km, mb4.4/4, Error ellipse: s-maj=20.3km s-min=9.5km az=65.0*

ISC 05 09:40:39.7±0.6**, 1159S**±007×**11825E**±005**, h39**km±9km**, h63**km±1.3km**:pP-P, n40, σ1s16**/53**, mb4.3**/8**, South of Sumbawa**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MTNI	**Mataram**	**3.58**	**325**	P	**Pn**	**09 41 32.5**	**-0.2**
	0.0nm,0.0s						
MTNI	**Mataram**	**3.58**	**325**	P	**Pn**	**09 41 32.3**	**-0.4**
IGBI	**Denpasar**	**4.11**	**312**	P	**Pn**	**09 41 38.8**	**-1.3**
	0.0nm,0.0s						
IGBI	**Denpasar**	**4.11**	**312**	P	**Pn**	**09 41 38.2**	**-1.9**
KHKI	**Kahang-Kahang**	**4.13**	**321**	P	**Pn**	**09 41 40.8**	**+0.5**
	0.0nm,0.0s						
KHKI	**Kahang-Kahang**	**4.13**	**321**	P	**Pn**	**09 41 40.9**	**+0.6**
DNP	**Denpasar**	**4.16**	**314**	P	**Pn**	**09 41 41.0**	**+0.2**
	0.0nm,0.0s						
NBBI	**Negara**	**4.79**	**311**	P	**Pn**	**09 41 49.4**	**-0.1**
BATI	**Baumata**	**5.49**	**76**	P	**Pn**	**09 42 01.0**	**+1.9**
	0.0nm,0.0s						
BATI	**Baumata**	**5.49**	**76**	P	**Pn**	**09 42 01.1**	**+2.0**
	23nm,0.3s,baz=313,slow=4.7,SNR=6.2						
BATI				S	**Sn**	**09 43 00.8**	**-0.2**
	27nm,0.3s,baz=38,slow=21,SNR=11						
BATI	**Baumata**	**5.49**	**76**	P	**Pn**	**09 42 00.5**	**+1.4**
	51nm,0.5s,0.3nm						
KAPI	**Kappang**	**6.70**	**13**	P	**Pn**	**09 42 15.9**	**+0.2**
	1.6nm,0.3s,baz=187,slow=4.9,SNR=8.1						
KAPI				S	**Sn**	**09 43 24.0**	**-6.8**
	21nm,0.3s,baz=188,slow=23,SNR=16						
KAPI	**Kappang**	**6.70**	**13**	ePn	**Pn**	**09 42 16.4**	**+0.8**
	46nm,0.6s						
KAPI				eSn	**Sn**	**09 43 24.5**	**-6.3**
SJI	**Sawahan**	**7.45**	**300**	P	**Pn**	**09 42 25.2**	**-0.7**
	0.0nm,0.0s						
SJI	**Sawahan**	**7.45**	**300**	P	**Pn**	**09 42 25.5**	**-0.4**
BJII	**Banjamegara**	**9.42**	**296**	P	**Pn**	**09 42 54.2**	**+1.2**
	0.0nm,0.0s						
BJII	**Banjamegara**	**9.42**	**296**	P	**Pn**	**09 42 54.7**	**+1.7**
MBWA	**Marble Bar**	**9.62**	**172**	ePn	**Pn**	**09 42 56.6**	**+0.9**
	29nm,0.3s						
MBWA				eSn	**Sn**	**09 44 34.5**	**-8.1**
FITZ	**Fitzroy Crossi**	**9.64**	**133**	P	**Pn**	**09 42 57.9**	**+1.9**
	3.6nm,0.3s,baz=323,slow=10,SNR=71						
FITZ				S	**Sn**	**09 44 39.1**	**-3.9**
	1.2nm,0.3s,baz=210,slow=20,SNR=4.3						
FITZ	**Fitzroy Crossi**	**9.64**	**133**	eP	**Pn**	**09 42 57.9**	**+1.9**
FITZ				S	**Sn**	**09 44 39.1**	**-3.9**
FITZ				eS	**Sn**	**09 44 44.1**	**+1.1**
KAKA	**Kakadu**	**13.92**	**96**	ePn	**Pn**	**09 43 53.0**	**-1.5**
KAKA				eSn	**Sn**	**09 46 22.3**	**-5.6**
KSI	**Kapahiang**	**17.39**	**296**	P	**Pn**	**09 44 37.4**	**-2.2**
	0.0nm,0.0s						
WRA	**Warramunga Arr**	**17.56**	**120**	P	**Pn**	**09 44 41.4**	**-0.2**
	0.8nm,0.3s,baz=295,slow=14,SNR=57						
WRA				S	**Sn**	**09 47 47.7**	**-8.6**
	0.4nm,0.3s,baz=292,slow=24,SNR=7.3						
WB2	**Warramunga Arr**	**17.57**	**120**	eP	**Pn**	**09 44 41.7**	**-0.1**
WB2	**Warramunga Arr**	**17.57**	**120**	ePn	**Pn**	**09 44 39.8**	**-1.9**
WB2				eSn	**Sn**	**09 47 51.1**	**-5.5**
ASAR	**Alice Springs**	**19.13**	**131**	P	**Pn**	**09 45 03.9**	**+3.1**
	0.7nm,0.3s,baz=309,slow=12,SNR=30						
ASAR				S	**S**	**09 48 28.2**	**-6.4**
	0.2nm,0.3s,baz=304,slow=23,SNR=4.4						
KLBR	**Kellerberrin**	**19.91**	**181**	eP	**Pn**	**09 45 14.0**	**+4.1**
	8.6nm,0.8s						
KLBR				eS	**S**	**09 48 35.0**	**-15**
MUN	**Mundaring**	**20.38**	**185**	eP	**P**	**09 45 19.9**	**+6.7**
MUN				eS	**S**	**09 48 46.8**	**-13**
NWAO	**Narrogin (SRO)**	**21.26**	**182**	P	**P**	**09 45 28.1**	**+5.5**
	11nm,0.6s,mb4.3,baz=357,slow=12,SNR=8.8						
NWAO				S	**S**	**09 49 08.7**	**-8.0**
	7.6nm,0.3s,baz=108,slow=20,SNR=6.8						
NWAO	**Narrogin (SRO)**	**21.26**	**182**	eP	**P**	**09 45 28.7**	**+6.1**
	14nm,0.8s,mb4.3						
PMG	**Port Moresby**	**28.50**	**88**	eP	**P**	**09 46 22.5**	**-9.2**
	8.7nm,0.8s,mb4.5						
PALK	**Pallekele**	**41.78**	**295**	P	**P**	**09 48 28.8**	**+3.0**
	55nm,1.5s,mb5.0						
KSRS	**Korea Array**	**49.62**	**10**	P	**P**	**09 49 27.5**	**+0.2**
	0.5nm,0.4s,mb3.9,baz=201,slow=6.5,SNR=4.1						
KSRS				pP	pP	09 49 43.5	+4.9
	0.4nm,0.3s,baz=187,slow=8.8,SNR=3.3						
SONM	**Songino Array**	**60.09**	**351**	P	**P**	**09 50 42.4**	**-0.4**
	1.3nm,0.7s,mb4.1,baz=165,slow=7.7,SNR=6.8						
MK31	**Makanchi Array**	**66.42**	**334**	eP	**P**	**09 51 25.2**	**+0.4**
MKAR	**Makanchi Array**	**66.42**	**334**	P	**P**	**09 51 24.6**	**-0.2**
	0.7nm,0.4s,mb4.0,baz=149,slow=7.4,SNR=3.6						
MKAR				pP	pP	09 51 41.8	+5.2
	2.4nm,0.6s,baz=141,slow=7.8,SNR=8.3						
ZALV	**Zalesovo Beam**	**71.19**	**340**	P	**P**	**09 51 53.8**	**-0.6**
	1.9nm,0.6s,mb4.2,baz=143,slow=5.1,SNR=4.6						
ZALV				pP	pP	09 52 09.9	+3.8
	1.2nm,0.5s,baz=159,slow=4.3,SNR=2.1						
PETK	**Petropavlovsk-**	**72.72**	**24**	P	**P**	**09 52 04.5**	**+0.9**
	2.9nm,0.6s,mb4.4,baz=223,slow=0.8,SNR=9.6						
PETK	**Petropavlovsk-**	**72.72**	**24**	P	**P**	**09 52 04.5**	**+0.9**
LPAZ	**La Paz**	**151.59**	**167**	PKPbc	PKPbc	10 00 33.8	+3.0
	0.2nm,0.4s,baz=24,slow=1.7,SNR=3.5						

NEIC 05 10:00:50.1, 3741S×**17669E, h186**km**, MG3.9**(WEL)**, After WEL., North Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
URZ	**Urewera**	**0.91**	**159**	P	Pn	10 01 17.9	+0.2
MWZ	**Matawai**	**1.14**	**145**	P	Pn	10 01 19.4	0.0
PUZ	**Puketiti**	**1.41**	**119**	P	Pn	10 01 21.1	-0.6
PUZ				S	Sn	10 01 45.8	-0.3
BKZ	**Black Stump Fm**	**1.76**	**185**	P	Pn	10 01 25.4	+0.4
KNZ	**Kokohu**	**1.79**	**155**	P	Pn	10 01 25.5	+0.2
MOVZ	**Moawhango**	**2.13**	**200**	P	Pn	10 01 29.2	+0.3
WAZ	**Wanganui**	**2.70**	**209**	P	Pn	10 01 35.5	+0.2
TSZ	**Takapari Road**	**2.71**	**192**	P	Pn	10 01 35.2	-0.3
KIW	**Kapiti Island**	**3.71**	**201**	P	Pn	10 01 45.8	-1.9
CAW	**Cannon Point**	**3.90**	**198**	P	Pn	10 01 47.9	-2.2
MSWZ	**Moikau Station**	**4.15**	**195**	P	Pn	10 01 50.6	-2.6
TCW	**Tory Channel**	**4.23**	**205**	P	Pn	10 01 51.8	-2.5
THZ	**Tophouse**	**5.24**	**213**	P	Pn	10 02 05.5	-1.7
LTZ	**Lake Taylor**	**6.35**	**211**	P	Pn	10 02 18.0	-3.5
ODZ	**Otahua Downs**	**8.88**	**209**	P	Pn	10 02 50.8	-3.9

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*IDC **05** 10:26:43.0±6.1, 2451N×12702E, h0km, mb3.6/3, mb1 3.8/3, mb1mx3.5/19, mbtmp3.6/3, Error ellipse: s-maj=335.2km s-min=29.5km az=62.0*

*ISCJB **05** 10:26:44.0±0.9, 2491N±005×12790E±009, h33km, mb3.5/3, Error ellipse: s-maj=12.1km s-min=6.8km az=176.2*

*JMA **05** 10:26:45.1±0.4, 2499N×12780E, h78km, M3.0*

ISC 05 10:26:45.7±0.8**, 2495N**±005×**12785E**±009**, h35**km**, n11, σ0s54**/16**, mb3.5**/3**, Southeast of Ryukyu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JJT2	**Tamagusuku 2**	**1.19**	**356**	P	**Pn**	**10 27 06.0**	**+0.1**
JJT2				S	**Sn**	**10 27 22.3**	**+1.4**
NAH1	**Naha**	**1.26**	**353**	eS	**Sn**	**10 27 22.7**	**+0.1**
JKE	**Kume jima 2**	**1.68**	**325**	P	**Pn**	**10 27 12.2**	**-0.4**
JKE				eS	**Sn**	**10 27 32.1**	**-0.7**
JAGN	**Aguni-jima**	**1.73**	**342**	P	**Pn**	**10 27 13.4**	**+0.2**
JAGN				S	**Sn**	**10 27 34.0**	**0.0**
JOW	**Kunigami**	**1.92**	**11**	P	**Pn**	**10 27 15.7**	**-0.2**
JOW				eS	**Sn**	**10 27 39.2**	**+0.4**
JIH	**Iheya**	**2.08**	**3**	eS	**Sn**	**10 27 42.4**	**-0.5**
JTK	**Tokunoshima**	**3.00**	**19**	P	**Pn**	**10 27 30.4**	**-0.3**
JAM	**Amami Oshima**	**3.79**	**24**	P	**Pn**	**10 27 42.2**	**+0.6**
JAM				eS	**Sn**	**10 28 24.0**	**-1.0**
MKAR	**Makanchi Array**	**42.15**	**313**	P	**P**	**10 34 35.0**	**+0.3**
	0.2nm,0.3s,mb3.3,baz=102,slow=10,SNR=4.0						
WRA	**Warramunga Arr**	**45.06**	**171**	P	**P**	**10 34 58.2**	**-0.1**
	1.2nm,0.7s,mb3.8,baz=352,slow=8.7,SNR=12						
ASAR	**Alice Springs**	**48.68**	**173**	P	**P**	**10 35 26.6**	**+0.1**
	0.4nm,0.9s,mb3.5,baz=353,slow=6.7,SNR=4.5						

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*NEIC **05** 11:22:01.3, 1443N×6039W, h68km, MD3.8(TRN), After TRN.*

TRN 05 11:22:00.6, 1444N×**6042W, h26**km**, MD3.8, M2.8**(FDF)**, Windward Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BIM	**Bigot**	**0.63**	**277**	eP	Pb	11 22 14.7	+1.6
BIM				eS	Sb	11 22 25.9	+4.4
FDF	**Fort de France**	**0.76**	**292**	eP	Pb	11 22 16.0	+0.8
FDF				eS	Sb	11 22 29.1	+3.8
FDF	**Fort de France**	**0.76**	**292**	ePn	Pn	11 22 16.2	+0.5
FDF				eSn	Sn	11 22 28.6	+2.3
SLB	**Belfond**	**0.86**	**224**	eP	Pb	11 22 19.2	+2.3
SLB				eS	Sb	11 22 32.4	+4.5
SSV	**Crater Summit**	**1.34**	**214**	eP	Pn	11 22 24.7	+1.1
SSV				eS	Sn	11 22 42.9	+2.4
SVV	**Soufriere Volc**	**1.36**	**215**	eP	Pn	11 22 26.3	+2.4
SVV				eS	Sn	11 22 44.5	+3.5
DWS	**Wesley**	**1.41**	**323**	eP	Pn	11 22 26.5	+1.9
DWS				eS	Sn	11 22 45.3	+3.0
SVB	**Belmont**	**1.42**	**215**	eP	Pn	11 22 26.8	+2.1
SVB				eS	Sn	11 22 44.2	+1.7
GRIC	**Isle de Caille**	**2.42**	**208**	eS	Sn	11 23 08.4	+1.0
GRSS	**Sisters**	**2.42**	**209**	eS	Sn	11 23 08.9	+1.5
GRHS	**Sauteurs**	**2.50**	**208**	eP	Pn	11 22 41.5	+1.8
GRHS				eS	Sn	11 23 12.1	+2.7
GRHS	**Sauteurs**	**2.50**	**208**	eP	Pn	11 22 41.5	+1.8
GRHS				eS	Sn	11 23 14.2	+4.8

IDC 05 11:45:09.8±5.6**, 522S**×**14807E, h0**km**, mb3.6**/3**, mb1 3.6**/4**, mb1mx3.4**/15**, mbtmp3.4**/4**, Error ellipse: s-maj=179.0km s-min=30.9km az=107.0, New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**19.81**	**221**	P	Pn	11 49 42.1	-1.5
	0.0nm,0.3s,baz=41,slow=12,SNR=3.3						
ASAR	**Alice Springs**	**22.86**	**215**	P	P	11 50 14.5	-0.4
	0.6nm,0.7s,baz=45,slow=8.7,SNR=8.4						
FITZ	**Fitzroy Crossi**	**25.38**	**238**	P	P	11 50 39.5	+0.5
	0.5nm,0.5s,baz=49,slow=11,SNR=3.7						
ZALV	**Zalesovo Beam**	**78.93**	**327**	P	P	11 57 15.2	+0.1
	0.4nm,0.3s,baz=122,slow=5.2,SNR=2.8						

IDC 05 11:51:51.9±24.0**, 2320S**×**17919E, h650**km±310km**, mb2.7**/4**, mb1 3.0**/4**, mb1mx2.8**/15**, mbtmp2.7**/4**, Error ellipse: s-maj=292.4km s-min=75.7km az=149.0, South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**30.73**	**269**	P	P	11 57 17.8	+0.4
	3.3nm,0.4s,baz=87,slow=10,SNR=12						
ASAR	**Alice Springs**	**41.42**	**260**	P	P	11 58 44.8	+0.1
	0.2nm,0.5s,baz=91,slow=9.3,SNR=6.8						
WRA	**Warramunga Arr**	**41.71**	**266**	P	P	11 58 47.0	0.0
	0.2nm,0.3s,baz=102,slow=8.3,SNR=12						
TXAR	**Lajitas Array**	**90.70**	**58**	P	P	12 03 47.8	+0.2
	0.4nm,0.7s,baz=210,slow=5.8,SNR=6.2						

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*NEIC **05** 11:59:15.2±5.9, 3025S×17599W, h10km, Error ellipse: s-maj=100.0km s-min=18.3km az=78.0*

IDC 05 11:59:25.5±6.0**, 3030S**×**17766W, h0**km**, mb3.6**/3**, mb1 3.8**/4**, mb1mx3.7**/16**, mbtmp3.7**/4**, ML3.4**/1**, Error ellipse: s-maj=117.3km s-min=19.8km az=101.0, Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**1.07**	**348**	Pn	Pn	11 59 48.2	+0.5
	427nm,0.3s,baz=87,slow=11,SNR=49						
RAO				Sn	Sn	12 00 02.9	-0.4
	433nm,0.3s,baz=88,slow=22,SNR=8.5						
URZ	**Urewera**	**9.04**	**207**	Pn	Pn	12 01 36.2	-1.2
	0.4nm,0.3s,baz=135,slow=19,SNR=3.3						
URZ				Sn	Sn	12 03 11.8	-8.1
	0.4nm,0.3s,baz=319,slow=20,SNR=4.7						
STKA	**Stephens Creek**	**34.79**	**257**	P	P	12 06 19.2	+1.3
	1.4nm,0.6s,baz=120,slow=16,SNR=2.8						
ASAR	**Alice Springs**	**43.41**	**267**	P	P	12 07 30.2	0.0
	0.2nm,0.5s,baz=106,slow=7.5,SNR=7.6						
WB2	**Warramunga Arr**	**44.38**	**272**	eP	P	12 07 37.1	-0.9
WRA	**Warramunga Arr**	**44.39**	**272**	P	P	12 07 37.3	-0.8
	0.6nm,0.5s,baz=111,slow=8.0,SNR=10						

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*IDC **05** 12:12:37.8±3.3, 2020S×170.14E, h0km, mb4.4/4, mb1 4.5/4, mb1mx4.1/15, mbtmp4.4/4, Error ellipse: s-maj=106.3km s-min=45.1km az=146.0*

*NOU **05** 12:12:53.9±0.7, 1974S×16934E, h10km*

ISC 05 12:12:56.2±2.0**, 203S**±04×**1695E**±03**, h125**km±19km**, n15, σ0s59**/20**, mb4.3**/5**, 1C, Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BAYA	**Yate Dam**	**3.10**	**232**	eP	**Pn**	**12 13 43.5**	**-0.4**
BAYA				eS	**Sn**	**12 14 20.9**	**+0.1**
PLUM	**Mont Dore**	**3.36**	**233**	eP	**Pn**	**12 13 47.3**	**0.0**
PLUM				eS	**Sn**	**12 14 27.4**	**+0.6**
DZM	**Mont Dzumac**	**3.40**	**238**	eP	**Pn**	**12 13 47.4**	**-0.4**
DZM				eS	**Sn**	**12 14 26.8**	**-0.9**
LASL	**Noumea**	**3.41**	**234**	eP	**Pn**	**12 13 48.1**	**+0.2**
NORM	**Noumea**	**3.45**	**235**	eP	**Pn**	**12 13 48.7**	**+0.1**
NORM				eS	**Sn**	**12 14 28.8**	**-0.2**
ONTRN	**Noumea**	**3.52**	**234**	eP	**Pn**	**12 13 49.6**	**+0.2**
ONTRN				eS	**Sn**	**12 14 30.1**	**-0.5**
NOUC	**Port Laguerre**	**3.52**	**238**	eP	**Pn**	**12 13 49.8**	**+0.3**
NOUC				eS	**Sn**	**12 14 31.5**	**+0.7**
CTA	**Charters Tower**	**21.85**	**266**	eP	**P**	**12 17 40.4**	**+1.6**
	5.7nm,0.6s,mb4.1						
CTA	**Charters Tower**	**21.85**	**266**	P	**P**	**12 17 40.0**	**+1.2**
	6.4nm,0.5s,mb4.2,baz=90,slow=11,SNR=12						
STKA	**Stephens Creek**	**27.55**	**240**	P	**P**	**12 18 31.9**	**+0.6**
	1.4nm,0.3s,mb4.0,baz=85,slow=10,SNR=4.4						
WB2	**Warramunga Arr**	**33.00**	**264**	eP	**P**	**12 19 18.6**	**-0.9**
WRA	**Warramunga Arr**	**33.01**	**264**	P	**P**	**12 19 18.8**	**-0.8**
	0.5nm,0.3s,mb3.8,baz=93,slow=8.5,SNR=49						
ASAR	**Alice Springs**	**33.16**	**258**	P	**P**	**12 19 20.6**	**-0.3**
	8.3nm,0.6s,mb4.7,baz=91,slow=9.7,SNR=184						
FITZ	**Fitzroy Crossi**	**41.42**	**265**	⇑iP	**P**	**12 20 30.9**	**+0.2**
	6.6nm,0.6s,mb4.6						
GERES	**GERESS Array B**	**145.52**	**331**	PKPbc	PKPbc	12 32 18.2	-1.5
	0.6nm,0.6s,baz=38,slow=5.0,SNR=3.8						

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*IDC **05** 12:13:19.2±2.0, 3597N×14169E, h0km, mb3.4/2, mb1 3.4/5, mb1mx3.3/24, mbtmp3.4/5, ML3.3/3, Error ellipse: s-maj=37.9km s-min=26.1km az=74.0*

*ISCJB **05** 12:13:21.1±1.3, 3601N±003×14166E±008, h21km±8km, mb3.4/2, Error ellipse: s-maj=11.5km s-min=5.8km az=3.4*

*JMA **05** 12:13:23.9±0.2, 3599N×14143E, h39km±2km, M3.2*

ISC 05 12:13:21.3±1.5**, 3601N**±003×**14160E**±008**, h12**km±7km**, n14, σ0s76**/22**, mb3.4**/2**, 3D, Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CHOJ	**Chosi**	**0.67**	**244**	⇓P	**Pg**	**12 13 35.1**	**+0.7**
CHOJ				eS	**Sg**	**12 13 43.4**	**+0.1**
JHO	**Hitachi**	**1.03**	**306**	⇓P	**Pb**	**12 13 40.7**	**-0.4**
JYT	**Yasato**	**1.16**	**281**	⇓P	**Pb**	**12 13 41.9**	**-1.4**
ONAJ	**Iwakimizuishiy**	**1.27**	**330**	P	**Pn**	**12 13 45.0**	**+0.1**
ONAJ				eS	**Sb**	**12 14 01.6**	**+0.1**
BSO1	**Boso 1**	**1.44**	**201**	P	**Pn**	**12 13 47.4**	**+0.2**
BSO1				eS	**Sn**	**12 14 06.3**	**+0.2**
JFK	**Kawauchi**	**1.48**	**337**	P	**Pn**	**12 13 48.1**	**+0.4**
JFK				eS	**Sn**	**12 14 07.4**	**+0.4**
BSO3	**Boso 3**	**1.50**	**217**	P	**Pn**	**12 13 48.1**	**+0.1**
BSO3				eS	**Sn**	**12 14 07.5**	**+0.1**
JAG	**Ashikaga**	**1.79**	**284**	P	**Pn**	**12 13 51.0**	**-1.0**
MJAR	**Matsushiro Arr**	**2.79**	**282**	Pn	**Pn**	**12 14 05.5**	**-0.3**
	3.6nm,0.3s,baz=101,slow=8.4,SNR=32						
MJAR				Sn	**Sn**	**12 14 41.6**	**+2.2**
	2.5nm,0.3s,baz=71,slow=21,SNR=7.4						
MAT	**Matsushiro**	**2.79**	**282**	P	**Pn**	**12 14 05.9**	**+0.1**
MAT				eS	**Sn**	**12 14 37.9**	**-1.6**
JHJ	**Hachijo jima 2**	**3.25**	**208**	Pn	**Pn**	**12 14 12.2**	**+0.2**
	12nm,0.3s,baz=69,slow=20,SNR=8.3						
JHJ				Sn	**Sn**	**12 14 46.5**	**-4.2**
	34nm,0.3s,baz=92,slow=22,SNR=9.8						
ASAJ	**Asahikawa**	**8.14**	**5**	Pn	**Pn**	**12 15 19.4**	**+0.1**
	0.4nm,0.3s,baz=229,slow=10,SNR=5.3						
MKAR	**Makanchi Array**	**44.80**	**303**	P	**P**	**12 21 35.5**	**+0.6**
	0.3nm,0.3s,mb3.7,baz=88,slow=10,SNR=2.6						
WRA	**Warramunga Arr**	**56.06**	**188**	P	**P**	**12 22 59.3**	**-0.9**
	0.1nm,0.4s,mb3.2,baz=4.3,slow=6.8,SNR=5.0						

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*NEIC **05** 12:21:55.9, 3090S×6953W, h163km, MD3.2(GUC), After GUC.*

GUC 05 12:21:55.9±0.8**, 3090S**×**6953W, h163**km±15km**, MD3.2, ML3.5, 3C-8D, Chile-Argentina border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TLL	**Tololo Astrono**	**1.32**	**303**	⇑iP	Pn	12 22 25.9	+1.2
TLL				iS	Sn	12 22 48.0	+1.3
TLL				AML	AML	12 22 51.0	
	comp=E,264nm,0.5s						
TLL	**Tololo Astrono**	**1.32**	**303**	⇑iP	Pn	12 22 25.9	+1.2
TLL				iS	Sn	12 22 48.0	+1.3
OVCH	**Ovalle**	**1.47**	**281**	⇓iP	Pn	12 22 27.1	+1.1
OVCH				iS	Sn	12 22 50.2	+1.0
OVCH				AML	AML	12 22 54.2	
	comp=N,497nm,0.1s						
OVCH	**Ovalle**	**1.47**	**281**	⇓iP	Pn	12 22 27.1	+1.1
OVCH				iS	Sn	12 22 50.2	+1.0
LSCH	**La Serena**	**1.78**	**303**	⇓iP	Pn	12 22 30.6	+1.3
LSCH				iS	Sn	12 22 56.0	+0.9
LSCH				AML	AML	12 22 57.2	
	comp=N,83nm,0.2s						
LSCH	**La Serena**	**1.78**	**303**	⇓iP	Pn	12 22 30.6	+1.3
LSCH				iS	Sn	12 22 56.0	+0.9
CHNG	**Los Chungos**	**1.94**	**239**	eP	Pn	12 22 31.9	+0.7
CHNG				iS	Sn	12 22 58.5	+0.2
CHNG				AML	AML	12 23 06.8	

Code	Station Name	Δ°	AZ°	Op	ISC	h m s	Res ISC
	comp=E,118nm,0.5s						
JACH	Jahuel	1.99	207	i S	Sn	12 23 00.4	+1.1
LCO	Las Campanas	2.14	331	ePn	Pn	12 22 33.9	+0.5
LCO				eSn	Sn	12 23 02.7	+0.4
PACH	Papudo	2.30	224	eS	Sn	12 23 05.0	-0.6
PEL	Peldehue	2.44	203⇓	iP	Pn	12 22 37.5	+0.7
PEL				i S	Sn	12 23 09.0	+0.3
PEL				AML	AML	12 23 13.9	
	comp=E,298nm,0.3s						
FCH	Farellones	2.50	195⇓	iP	Pn	12 22 39.0	+1.4
FCH				i S	Sn	12 23 11.9	+1.9
FCH				AML	AML	12 23 16.4	
	comp=E,174nm,0.2s						
VACH	Vallenar	2.55	335⇓	iP	Pn	12 22 39.2	+0.9
VACH				i S	Sn	12 23 11.1	0.0
VACH				AML	AML	12 23 12.6	
	comp=N,507nm,0.1s						
VACH	Vallenar	2.55	335⇓	iP	Pn	12 22 39.2	+0.9
VACH				i S	Sn	12 23 11.1	0.0
RCDM	Rinconada Maip	2.79	202	eP	Pn	12 22 41.7	+0.6
RCDM				i S	Sn	12 23 16.3	-0.1
RCDM				AML	AML	12 23 18.8	
	comp=E,239nm,0.2s						
RCDM	Rinconada Maip	2.79	202	eP	Pn	12 22 41.7	+0.6
RCDM				S	Sn	12 23 16.3	-0.1
PCH	Pirque	2.83	197	eP	Pn	12 22 42.3	+0.7
PCH				i S	Sn	12 23 18.4	+1.2
LMEL	Las Melosas	2.99	191	AML	AML	12 23 30.6	
	comp=N,174nm,0.2s						
CHCH	Chadas Angostu	3.17	197	i S	Sn	12 23 25.1	+0.5
CACH	El Canelo	3.33	195	i S	Sn	12 23 29.3	+1.0
LNV	Longovilo	3.43	207⇑	iP	Pn	12 22 48.5	-0.7
LNV				i S	Sn	12 23 29.3	-1.3
TRQA	Tornquist	9.47	141	ePn	Pn	12 24 04.7	-3.9
	comp=N,2.6nm,0.6s						

*CSEM **05** 12:29:24.6±0.1, 3902N×2995E, h2km, MD2.9, Error ellipse: s-maj=1.8km s-min=1.5km az=166.0*
*ISK **05** 12:29:25.2, 3902N×2996E, h4km, MD2.9*
*ISCJB **05** 12:29:26.1±0.4, 3901N±003×2998E±003, h10km, Error ellipse: s-maj=3.9km s-min=3.2km az=150.1*
ISC 05 12:29:26.1±0.4**, 3903N**±003×**2996E**±003**, h6**km±5km**, n27, σ0^{s}82**/35**, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ALT	Altintas	0.12	76	PG	Pg	12 29 28.4	-0.3
ALT				eSG	Sg	12 29 30.1	-0.3
GDZ	Gediz	0.38	280	i P	Pg	12 29 32.8	-0.7
SHUT	Suhut-Afyon	0.66	135	ePG	Pg	12 29 38.1	-0.7
SHUT				eSG	Sg	12 29 48.4	+1.0
KHL	Karahalli	0.78	206	ePG	Pg	12 29 40.5	-0.6
KHL				eSG	Sg	12 29 52.1	+0.9
ESKT	Eskisehir	0.85	54	i P	Pg	12 29 41.5	-1.0
SEYT	Eskypehyr	0.85	54	i P	Pg	12 29 41.5	-1.0
SEYT				i S	Sg	12 29 54.5	+1.0
BORA	Eskisehir	0.94	24	i P	Pg	12 29 43.5	-0.6
BORA	Eskisehir	0.94	24	i S	Sg	12 29 56.1	-0.1
DEMI	Demirci	0.97	271	i P	Pg	12 29 44.0	-0.7
DEMI				i S	Sg	12 29 57.5	+0.2
TKTP	Tekketepe	1.02	164	i P	Pg	12 29 46.4	+0.6
TKTP	Tekketepe	1.02	164	i S	Sg	12 30 03.2	+4.1
KULA	Kula-Manisa	1.14	244	ePN	Pn	12 29 47.1	-1.5
CAVI	Cavuskoy	1.18	356	ePN	Pn	12 29 48.4	-0.8
DST	Dursunbey	1.18	300	ePN	Pn	12 29 48.7	-0.5
MANT	Manisa	1.22	244	i P	Pg	12 29 48.7	-0.8
MANT				i S	Sg	12 30 04.5	-0.8
ULDT	Uludag	1.28	331	i P	Pn	12 29 50.3	-0.3
ULDT				i S	Sg	12 30 10.0	+2.6
DURS	Dursunbey	1.29	297	i P	Pn	12 29 51.4	+0.7
DURS				i S	Sg	12 30 09.3	+1.8
GPA	Golpazari	1.29	12	ePN	Pn	12 29 50.5	-0.3
ADVT	Abdulvahap	1.42	353	ePN	Pn	12 29 52.5	0.0
GULT	Gulveren	1.47	17	ePN	Pn	12 29 53.3	+0.1
KIZT	Kizilcal	1.50	95	ePN	Pn	12 29 54.2	+0.6
DNZL	Cakiroluk	1.52	209	i P	Pn	12 29 55.0	+1.2
AKS	Akhisar	1.68	266	ePN	Pn	12 29 56.2	+0.2
BALB	Balikesir	1.73	291	ePN	Pn	12 29 57.3	+0.6
MDU	Mudurnu	1.73	34	ePN	Pn	12 29 56.7	-0.1
KCT	Karacabey	1.75	316	ePN	Pn	12 29 56.9	-0.1
GOLH	Golhisar	1.81	190	i P	Pn	12 30 03.0	+5.1

*NEIC **05** 12:38:53.0, 18.14N×6891W, h103km, MD3.5(RSPR), After RSPR.*
RSPR 05 12:38:53.0, 1814N×6891W, h103km±4km**, MD3.5**/11**, MD3.5**/11**, 8C-3D, Mona Passage**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IMO	Isla Mona	0.95	92⇓	eP	Pn	12 39 13.6	+0.4
IMO				eS	Sn	12 39 28.1	-0.3
CRPR	Cabo Rojo, PR	1.72	94⇓	eP	Pn	12 39 21.7	-0.5
CRPR				eS	Sn	12 39 43.4	-0.9
LSP	Las Mesas	1.73	89⇑	eP	Pn	12 39 22.2	-0.1
LSP				eS	Sn	12 39 45.4	+0.7
AGPR	Aguadilla, PR	1.74	79⇑	eP	Pn	12 39 23.0	+0.6
AGPR				eS	Sn	12 39 44.0	-0.8
AOPR	Arecibo Observ	2.06	84⇑	eP	Pn	12 39 26.2	-0.2
AOPR				eS	Sn	12 39 51.9	-0.2
OBIP	Obispado Ponce	2.19	92⇑	eP	Pn	12 39 27.5	-0.7
CELP	Cerrillos	2.22	91⇑	eP	Pn	12 39 27.9	-0.7
CELP				eS	Sn	12 39 56.0	+0.3
ICM	Isla Caja Muer	2.29	96⇓	eP	Pn	12 39 28.4	-1.0
ICM				eS	Sn	12 39 56.9	-0.4
CPD	Cerro la Pandu	2.85	92⇑	eP	Pn	12 39 36.8	-0.1
CBYP	Canovanas	2.90	87⇑	eP	Pn	12 39 37.2	-0.4
CBYP				eS	Sn	12 40 12.9	+1.0
HUMP	Col San Antoni	2.91	90	eS	Sn	12 40 11.7	-0.4
MTP	Monte Pirata	3.19	90⇑	eP	Pn	12 39 41.0	-0.4
MTP				eS	Sn	12 40 19.8	+1.0

IDC 05 12:47:31.8±3.6**, 281S**×**14103E, h0**km**, mb3.3**/3**, mb1 3.6**/4**, mb1mx3.4**/14**, mbtmp3.4**/4**, ML3.6**/1**, Error ellipse: s-maj=112.2km s-min=28.3km az=94.0, Near north coast of New Guinea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WB2	Warramunga Arr	18.24	200	eP	Pn	12 51 45.5	-1.0
WRA	Warramunga Arr	18.24	200	P	Pn	12 51 46.6	+0.1
	0.2nm,0.3s,baz=19,slow=12,SNR=17						
FITZ	Fitzroy Crossi	21.41	224	P	P	12 52 21.7	+0.2
	0.8nm,0.6s,baz=44,slow=15,SNR=5.6						
ASAR	Alice Springs	21.85	198	P	P	12 52 25.8	-0.4
	0.4nm,0.6s,baz=31,slow=10,SNR=9.0						
MKAR	Makanchi Array	71.29	322	P	P	12 58 53.4	+0.3
	0.6nm,0.7s,baz=97,slow=7.9,SNR=5.4						

MOS 05 12:49:20.3±1.2**, 4327N**×**4251E, h9**km**, mb3.6**/1**, 3D, Error ellipse: s-maj=12.7km s-min=9.8km az=65.2, Western Caucasus**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHAR	Shatzhatmas	0.49	13⇓	ePG	Pg	12 49 30.7	+0.9
SHAR				i S	Sg	12 49 36.8	+0.6
KIV	Kislovodsk	0.70	10	dePG	Pg	12 49 34.4	+0.6
KIV				e		12 49 49.0	
KIV				pmax	pmax		
	comp=Z,33nm,0.5s						
KIV				smax			
	comp=N,177nm,1.0s						
KIV0	Kislovodsk Arr	0.70	11⇓	iPG	Pg	12 49 34.4	+0.6
KIV0				eS	Sg	12 49 43.1	+0.1
KUBR	Kubataba	0.84	50	ePG	Pg	12 49 38.3	+1.8
KUBR				eS	Sg	12 49 51.0	+3.6
PYA	Pyatigorsk	0.86	27	ePG	Pg	12 49 38.4	+1.5
PYA				eS	Sg	12 49 49.8	+1.7
LSNR	Lesken	0.95	89	ePG	Pg	12 49 39.3	+0.7
LSNR				i S	Sg	12 49 54.2	+3.3
ZEI	Tsey	1.13	116	ePG	Pg	12 49 41.4	-0.6
ZEI				eS	Sg	12 49 57.6	+0.9
KORR	Kora	1.15	99	ePG	Pg	12 49 41.5	-0.9
KORR				eS	Sg	12 49 58.1	+0.7
ARNR	Ardon	1.29	93	ePG	Pg	12 49 43.0	-2.1
ARNR				eS	Sb	12 50 00.8	-0.7
PRTR	Priterechnaya	1.38	69	ePG	Pg	12 49 44.0	-2.7
PRTR				eS	Sb	12 50 02.3	-1.5
LACR	Lac	1.38	108	ePG	Pg	12 49 47.5	+0.7
LACR				eS	Sb	12 50 06.2	+2.3

IDC 05 12:54:56.8±3.0**, 250N**×**9564E, h0**km**, mb3.5**/5**, mb1 3.6**/6**, mb1mx3.5**/20**, mbtmp3.5**/6**, ML3.8**/1**, Error ellipse: s-maj=116.1km s-min=22.1km az=61.0, Off west coast of northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	16.19	11	Pn	Pn	12 58 46.8	+1.0
	0.1nm,0.3s,baz=201,slow=12,SNR=3.7						
WRA	Warramunga Arr	44.05	122	P	P	13 03 06.6	-0.1
	0.2nm,0.4s,baz=301,slow=9.1,SNR=6.0						
ASAR	Alice Springs	45.42	127	P	P	13 03 17.8	+0.1
	0.2nm,0.7s,baz=303,slow=7.8,SNR=6.7						
MKAR	Makanchi Array	45.62	347	P	P	13 03 18.9	0.0
	0.5nm,0.3s,baz=162,slow=9.0,SNR=12						
SONM	Songino Array	46.11	10	P	P	13 03 22.2	-0.5
	0.6nm,0.7s,baz=189,slow=8.5,SNR=2.9						
ZALV	Zalesovo Beam	52.05	352	P	P	13 04 08.3	+0.2
	0.8nm,0.6s,baz=189,slow=7.2,SNR=3.9						

KRSC 05 13:01:11.2±1.0**, 5161N**×**15981E, h5**km±5km**, ML3.6, Off east coast of Kamchatka Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RUS	Russkaya	1.15	316	eP	Pg	13 01 33.3	+0.1
RUS				i S	Sg	13 01 49.7	+1.6
GRL	Gorelyy	1.43	312	P	Pn	13 01 38.8	+1.1
SPN	Mys Shipunski	1.50	5	eP	Pn	13 01 40.5	+1.8
SPN				i S	Sn	13 02 01.7	+3.1
PET	Petropavlovsk	1.58	334	eP	Pn	13 01 40.3	+0.4
PET				i S	Sn	13 02 01.7	+1.0
NLC	Nalytchevo	1.59	350	eP	Pn	13 01 38.9	-1.1
NLC				i S	Sn	13 01 59.1	-1.8
AVH	Avacha	1.78	339	P	Pn	13 01 43.9	+1.3
MIPR	Malaya Ipel'ka	2.00	291	P	Pn	13 01 46.8	+1.2
GNL	Ganaly	2.38	332	P	Pn	13 01 51.9	+1.1

*CSEM **05** 13:03:32.7±0.1, 3824N×3643E, h5km, MD2.8, Error ellipse: s-maj=3.1km s-min=2.5km az=137.0*
*ISK **05** 13:03:32.4, 3822N×3648E, h2km, MD2.9*
*ISCJB **05** 13:03:34.0±0.5, 3824N±003×3639E±005, h10km, Error ellipse: s-maj=5.4km s-min=4.7km az=6.8*
*DDA **05** 13:03:34.1, 3825N×3647E, h7km±6km, Md2.8*
ISC 05 13:03:34.5±0.8**, 3824N**±004×**3640E**±006**, h13**km±8km**, n14, σ1^{s}00**/19**, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PINB	Pinarbasi	0.43	0	i P	Pg	13 03 42.2	-0.9
PINB				i S	Sg	13 03 50.1	+1.1
SARI	SarD1z-Kayseri	0.50	28	PG	Pg	13 03 36.9	-7.3
SARI				eSG	Sg	13 03 41.1	-10
BNN	Bunyan	0.75	325	ePG	Pg	13 03 48.0	-1.0
KOZT	Kozan	0.88	211	ePG	Pg	13 03 51.1	-0.4
KOZT				eSG	Sg	13 04 04.2	+1.1
AKCD	Akcadag	1.20	87	i P	Pn	13 03 55.3	-1.7
AKCD				i S	Sb	13 04 13.6	+1.1
GAZ	Gaziantep	1.25	149	ePN	Pn	13 03 55.5	-2.1
GZT	Gaziantep	1.28	133	i P	Pn	13 03 57.3	-0.7
GZT				i S	Sb	13 04 16.0	+1.3
DARE	Darende-Malaty	1.31	57	ePG	Pn	13 03 49.7	-8.8
NIG	Nigde	1.42	265	ePN	Pn	13 04 00.3	+0.4
KARA	Karaisali	1.45	228	ePN	Pn	13 04 00.5	+0.2
MYA	Malataya	1.60	86	ePN	Pn	13 04 01.8	-0.6
YOZ	Yozgat	1.63	329	ePN	Pn	13 04 03.6	+0.7
SVSK	Karacayir	1.74	15	ePN	Pn	13 04 05.1	+0.7
PTK	Pertek	2.43	74	ePN	Pn	13 04 14.3	+0.4

*NEIC **05** 13:28:53.4, 1927N×6891W, h97km, MD3.6(RSPR), After RSPR.*
RSPR 05 13:28:53.4, 1927N×6891W, h97km±6km**, MD3.6**/15**, MD3.6**/15**, 13C-3D, North Atlantic Ocean**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DR08	Loma La Naviza	1.10	254⇑	eP	Pn	13 29 14.7	+0.1
DR08				eS	Sn	13 29 30.0	-0.7
IMO	Isla Mona	1.49	140⇓	eP	Pn	13 29 18.1	-1.3
AGPR	Aguadilla, PR	1.88	115⇑	eP	Pn	13 29 25.4	+1.2
AGPR				eS	Sn	13 29 48.4	+0.6
LSP	Las Mesas	2.04	122⇑	eP	Pn	13 29 26.6	+0.2
LSP				eS	Sn	13 29 51.8	+0.2
CRPR	Cabo Rojo, PR	2.12	126⇑	eP	Pn	13 29 26.7	-0.7
AOPR	Arecibo Observ	2.24	114⇑	eP	Pn	13 29 29.1	+0.2
AOPR				eS	Sn	13 29 56.8	+0.7
GBPR	Guanica, Bosqu	2.31	123	eS	Sn	13 29 57.2	-0.8
OBIP	Obispado Ponce	2.50	119⇓	iP	Pn	13 29 32.4	+0.1
OBIP				eS	Sn	13 30 03.2	+0.9
CELP	Cerrillos	2.51	118⇑	eP	Pn	13 29 32.7	+0.2
CELP				eS	Sn	13 30 02.4	-0.1
ICM	Isla Caja Muer	2.64	121⇑	eP	Pn	13 29 33.0	-1.3
ICM				eS	Sn	13 30 05.7	-0.1
SJG	San Juan	2.85	113⇑	eP	Pn	13 29 37.3	+0.2
SJG	San Juan	2.85	113⇑	eP	Pn	13 29 37.1	0.0
SJG				eS	Sn	13 30 10.3	-0.5
CBYP	Canovanas	3.06	108⇓	eP	Pn	13 29 40.3	+0.5
CBYP				eS	Sn	13 30 15.9	+0.3
CPD	Cerro la Pandu	3.09	113⇑	eP	Pn	13 29 39.9	-0.4
CPD				eS	Sn	13 30 16.0	-0.4
HUMP	Col San Antoni	3.11	111⇑	eP	Pn	13 29 40.3	-0.1
HUMP				eS	Sn	13 30 16.6	-0.2
MTP	Monte Pirata	3.39	110⇑	eP	Pn	13 29 43.6	-0.7
MTP				eS	Sn	13 30 24.9	+1.3
STVI	Saint Thomas	3.85	103⇑	eP	Pn	13 29 50.2	-0.3
STVI				eS	Sn	13 30 35.1	+0.3
TBVI	Tortola	4.15	101	eS	Sn	13 30 42.0	-0.1

*SZGRF **05** 13:31:31.3, 2291S×17677W, h33km, South of Fiji Islands*
*ISCJB **05** 13:31:51.5±1.3, 21.18S±007×1765W±0.1, h182km±14km, mb4.4/18, Error ellipse: s-maj=16.8km s-min=10.1km az=21.0*
*IDC **05** 13:31:52.3±2.2, 21.14S×17643W, h176km±20km, mb4.1/12, mb1 4.1/14, mb1mx4.0/21, mbtmp4.1/14, Error ellipse: s-maj=18.4km s-min=13.0km az=130.0*
*NEIC **05** 13:31:53.1±1.1, 21.13S×17649W, h184km±11km, mb4.6/10, Error ellipse: s-maj=13.7km s-min=8.1km az=128.0*
ISC 05 13:31:51.8±1.3**, 2121S**±007×**1765W**±01**, h171**km±13km**, n71, σ1^{s}03**/39**, mb4.4**/18**, 2D, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	Raoul Island	8.12	189	P	Pn	13 33 49.5	+2.9
	67nm,0.3s,baz=53,slow=20,SNR=3.3						
RAO				S	Sn	13 35 16.5	-0.9
	56nm,0.3s,baz=53,slow=20,SNR=3.4						
RAO	Raoul Island	8.12	189	P	Pn	13 33 49.5	+2.9
RAO				S	Sn	13 35 16.5	-0.9
AFI	Afiamalu	8.52	32	P	Pn	13 33 52.0	-0.1
	2.4nm,0.3s,baz=180,slow=14,SNR=4.7						
AFI				S	Sn	13 35 15.3	-12
	3.0nm,0.3s,baz=108,slow=19,SNR=3.2						
AFI	Afiamalu	8.52	32	ePn	Pn	13 33 52.2	+0.2
	14nm,0.6s						
AFI				eSn	Sn	13 35 19.6	-7.7
DZM	Mont Dzumac	15.92	264	eP	Pn	13 35 32.0	+5.4
DZM	Mont Dzumac	15.92	264	eP	Pn	13 35 31.9	+5.3
URZ	Urewera	17.88	197	P	Pn	13 35 47.7	-2.2
	5.1nm,0.3s,baz=334,slow=4.0,SNR=43						
URZ				S	S	13 38 51.7	-13
	0.9nm,0.3s,baz=127,slow=20,SNR=6.5						
RPZ	Rata Peaks	24.74	202	P	P	13 36 58.8	+1.5
	36nm,0.6s,mb5.1,baz=346,slow=1.7,SNR=18						
ARMA	Armidale	30.07	246	eP	P	13 37 46.9	+1.8
CTA	Charters Tower	34.85	265	eP	P	13 38 27.9	+1.1
	8.4nm,0.5s,mb4.6						
CTA	Charters Tower	34.85	265	P	P	13 38 28.2	+1.4
	11nm,0.6s,mb4.7,baz=96,slow=9.8,SNR=26						
CTAO	Charters Tower	34.85	265	eP	P	13 38 27.5	+0.6
	10.0nm,0.6s,mb4.6						
PMG	Port Moresby	36.90	283	eP	P	13 38 45.1	+0.8
	41nm,1.1s,mb5.0						
STKA	Stephens Creek	38.79	245	eP	P	13 39 00.7	+0.8
	3.8nm,0.4s,mb4.4						
STKA	Stephens Creek	38.79	245	P	P	13 39 00.8	+0.8
	4.1nm,0.4s,mb4.4,baz=88,slow=9.8,SNR=23						
STKA				PcP	PcP	13 41 08.0	+0.1
	1.8nm,0.8s,baz=30,slow=19,SNR=3.7						
ASAR	Alice Springs	45.76	257	P	P	13 39 56.4	0.0
	11nm,0.8s,mb4.5,baz=87,slow=9.0,SNR=168						
ASAR				PcP	PcP	13 41 30.9	-0.4
	1.8nm,0.6s,baz=100,slow=3.8,SNR=6.9						
WB2	Warramunga Arr	45.92	262	eP	P	13 39 57.0	-0.7
WB2				e		13 40 24.8	
WRA	Warramunga Arr	45.93	262	P	P	13 39 57.3	-0.4
	5.8nm,0.6s,mb4.4,baz=96,slow=5.0,SNR=148						
KAKA	Kakadu	49.42	271⇓	iP	P	13 40 24.4	-0.3
	9.9nm,0.5s,mb4.7						
FORT	Forrest	50.34	247	eP	P	13 40 30.4	-1.0
	22nm,0.6s,mb5.0						
FITZ	Fitzroy Crossi	54.36	262	eP	P	13 41 00.7	-0.5
	4.1nm,0.8s,mb4.2						
FITZ	Fitzroy Crossi	54.36	262	P	P	13 41 01.4	+0.2
	1.9nm,0.5s,mb4.0,baz=156,slow=11,SNR=13						
BATI	Baumata	58.38	271	P	P	13 41 31.0	+1.3
	14nm,0.6s,mb5.0,baz=162,slow=16,SNR=4.2						
KLBR	Kellerberrin	59.06	245	eP	P	13 41 33.4	-0.8
	55nm,1.9s,mb5.1						
MBWA	Marble Bar	59.10	257	eP	P	13 41 33.5	-1.1
	5.1nm,0.5s,mb4.6						
NWAO	Narrogin (SRO)	59.34	244	P	P	13 41 35.1	-1.0
	4.2nm,0.8s,mb4.3,baz=90,slow=11,SNR=3.8						
CASY	Casey	63.94	206	eP	P	13 42 06.4	+0.2
MJAR	Matsushiro Arr	71.63	323	P	P	13 42 53.7	-0.9
	1.2nm,0.6s,mb3.8,baz=151,slow=6.8,SNR=3.8						
PETK	Petropavlovsk-	77.33	344	P	P	13 43 26.4	-0.7
	2.5nm,0.9s,mb3.9,baz=112,slow=7.9,SNR=3.7						
NVAR	Mina Array Bea	80.56	43	P	P	13 43 44.0	-1.1
	0.1nm,0.3s,mb3.0,baz=249,slow=7.2,SNR=2.6						
MAW	Mawson	81.39	199	P	P	13 43 49.9	+0.9
	1.6nm,0.7s,mb3.8,baz=93,slow=7.0,SNR=6.2						
TXAR	Lajitas Array	86.23	57	P	P	13 44 15.6	+1.3
	0.4nm,0.8s,mb3.2,baz=230,slow=7.5,SNR=4.8						
VNA3	Neumayer Olymp	87.34	176	e	P	13 44 18.9	-0.1
VNA3				e		13 44 21.1	
VNA3				e		13 44 26.4	
VNA2	Neumayer--Watz	87.80	176	e	P	13 44 21.4	+0.3
	baz=197,slow=3.5						
VNA2				e		13 44 23.6	
VNA2				e		13 44 29.0	
ZALV	Zalesovo Beam	111.94	321	PKiKP	PKiKP	13 50 05.0	-1.1
	1.2nm,0.6s,baz=162,slow=1.9,SNR=6.3						
MKAR	Makanchi Array	112.73	313	PKiKP	PKiKP	13 50 07.0	-0.9
	1.6nm,0.6s,baz=187,slow=0.4,SNR=14						
ARCES	ARCESS Array B	129.87	350	PKP	PKPdf	13 50 39.2	-1.0
	0.9nm,0.5s,baz=0.0,slow=1.2,SNR=6.6						
ARCES	ARCESS Array B	129.87	350	PKP	PKPdf	13 50 39.2	-1.0
NB2	NORSAR Subarra	139.84	354	PKP		13 50 50.8	
	comp=Z,0.5nm,0.6s,baz=14,slow=2.5						
NOA	NORSAR Array B	139.84	354	PKhKP		13 50 51.1	
	comp=Z,0.5nm,0.6s,baz=16,slow=4.1,SNR=4.3						
AKASG	Malin Array Be	144.32	332	PKP	PKPdf	13 51 04.6	-2.7
	comp=Z,1.6nm,0.3s,baz=43,slow=4.5,SNR=13						
AKASG	Malin Array Be	144.32	332	PKP	PKPdf	13 51 04.6	-2.7
STHS	Stebnicka Huta	148.52	338	ePKP	PKPbc	13 51 18.3	+0.1
KOLS	Kolonicke sedl	148.55	336	ePKP	PKPdf	13 51 16.4	+2.0
KSP	Ksiaz	148.77	344	eP	PKPbc	13 51 19.5	+0.7
CRVS	Cervenica-Dubn	148.88	337	i PKP	PKPbc	13 51 19.0	-0.1
CLL	Collm	149.06	348	ePKPbc	PKPbc	13 51 19.6	+0.1
CLL				ePKPab	PKPab	13 51 23.4	-0.8
CLL	Collm	149.06	348⇓	iPKPbc	PKPbc	13 51 19.2	-0.3
	comp=Z,11nm,0.8s						
CLL				i PKPab	PKPab	13 51 23.6	-0.6
	comp=Z,8.0nm,0.6s						
UPC	Upice	149.15	344	ePKPbc	PKPbc	13 51 20.1	+0.4
UPC				ePKPab	PKPab	13 51 24.7	+0.1
DPC	Dobruska-Polom	149.22	344	ePKPbc	PKPbc	13 51 20.5	+0.6
DPC				ePKPab	PKPab	13 51 25.2	+0.4
BRG	Berggiesshubel	149.28	347	ePKPbc	PKPbc	13 51 20.3	+0.3
BRG	Berggiesshubel	149.28	347	i PKP	PKPbc	13 51 20.3	+0.3
	comp=Z,8.7nm,0.8s						
BRG				e		13 51 24.7	
	comp=Z,4.8nm,0.9s						
FBE	Freiberg	149.36	348	ePKPbc	PKPbc	13 51 20.7	+0.5
PVCC	Panska Ves	149.47	346	ePKPbc	PKPbc	13 51 21.1	+0.6
MOX	Moxa	149.94	350	ePKP	PKPbc	13 51 21.7	+0.1
MOX	Moxa	149.94	350	ePKPbc	PKPbc	13 51 21.8	+0.2
MOX				ePKPab	PKPab	13 51 27.1	-0.7
PRU	Pruhonice	149.99	346	ePKPbc	PKPbc	13 51 22.0	+0.2
WERD	Werda	150.01	349	ePKPbc	PKPbc	13 51 22.2	+0.4
WERD				ePKPab	PKPab	13 51 27.7	-0.4
TANN	Tannenbergstha	150.01	349	ePKPbc	PKPbc	13 51 22.1	+0.3
TANN				ePKPab	PKPab	13 51 27.7	-0.4
GUNZ	Gunzen	150.09	349	ePKPbc	PKPbc	13 51 22.5	+0.5
GUNZ				ePKPab	PKPab	13 51 28.3	-0.1
VYHS	Vyhne	150.14	339	i PKP	PKPbc	13 51 22.5	+0.3
WERN	Wernitzgruen	150.15	349	ePKPbc	PKPbc	13 51 22.7	+0.5
WERN				ePKPab	PKPab	13 51 28.9	+0.2
MANZ	Manzenberg	150.49	349	ePKPbc	PKPbc	13 51 23.4	+0.4
ROTZ	Rotzenmuhle	150.68	348	ePKPab	PKPab	13 51 30.9	0.0
MODS	Modra-Piesok	150.74	341	ePKP	PKPbc	13 51 24.4	+0.8
GRA1	Grafenberg Arr	150.93	350	ePKPbc	PKPbc	13 51 25.5	+1.5
GRF	Grafenberg Arr	150.93	350	ePKPbc	PKPbc	13 51 25.5	+1.5
KHC	Kasperske Hory	151.01	346	ePKPbc	PKPbc	13 51 24.5	+0.3
KHC				ePKPab	PKPab	13 51 32.4	+0.1
GEC2	GERESS Array S	151.25	346	ePKPbc	PKPbc	13 51 24.9	+0.1
GERES	GERESS Array B	151.25	346	PKPbc	PKPbc	13 51 24.8	0.0
	comp=Z,0.9nm,0.5s,baz=48,slow=2.0,SNR=7.0						
GERES				PKPab	PKPab	13 51 33.2	0.0
	comp=Z,0.4nm,0.4s,baz=15,slow=5.5,SNR=3.6						
TORD	Torodi Ar. Bea	171.79	167	PKPab	PKPab	13 53 03.5	0.0
	comp=Z,0.5nm,0.7s,baz=149,slow=1.5,SNR=3.7						

*IDC **05** 13:35:12.8±0.9, 264N×12698E, h0km, mb4.0/8, mb1 4.2/8, mb1mx4.0/17, mbtmp4.0/8, MS3.3/1, Ms1 3.3/1, ms1mx2.4/34, Error ellipse: s-maj=54.2km s-min=15.2km az=69.0*
*ISCJB **05** 13:35:15.4±0.7, 265N±009×1270E±02, h33km, mb4.1/11, Error ellipse: s-maj=33.7km s-min=10.2km az=164.6*
*NEIC **05** 13:35:16.5±0.7, 273N×12730E, h35km, mb4.4/5, Error ellipse: s-maj=33.7km s-min=9.4km az=71.0*
ISC 05 13:35:17.7±0.7**, 263N**±009×**1270E**±02**, h35**km**, n17, σ0^{s}56**/15**, mb4.1**/11**, Northern Molucca Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	20.64	184	P	P	13 39 55.3	+0.9
	1.2nm,0.6s,baz=16,slow=11,SNR=5.3						
GUMO	Guam	20.73	57	LR	LR	13 46 11.8	
	comp=Z,87nm,21.8s,baz=0.6,slow=32						
WRA	Warramunga Arr	23.55	163	P	P	13 40 24.9	-0.3
	6.8nm,0.7s,mb4.2,baz=343,slow=10.0,SNR=19						
MBWA	Marble Bar	24.70	196	eP	P	13 40 35.1	-0.5
	4.3nm,0.9s,mb4.0						
ASAR	Alice Springs	26.98	166	P	P	13 40 56.7	+0.4
	1.4nm,0.6s,mb3.7,baz=350,slow=7.3,SNR=9.0						
ASAR				PcP	PcP	13 44 18.9	+1.4
	0.5nm,0.6s,baz=350,slow=2.2,SNR=5.1						
CMAR	Chiang Mai Arr	31.69	302	P	P	13 41 38.2	+0.1
	1.2nm,0.8s,mb3.8,baz=116,slow=7.0,SNR=6.3						
KSRS	Korea Array	34.67	1	P	P	13 42 04.7	+0.8
	1.0nm,0.7s,mb3.9,baz=176,slow=10,SNR=4.9						
NWAO	Narrogin (SRO)	36.56	194	eP	P	13 42 20.2	+0.1
	2.2nm,0.7s,mb4.1						
STKA	Stephens Creek	37.00	159	eP	P	13 42 23.7	-0.3
	3.6nm,0.6s,mb4.4						
STKA	Stephens Creek	37.00	159	P	P	13 42 23.8	-0.2
	5.2nm,0.7s,mb4.5,baz=341,slow=7.7,SNR=7.3						
STKA				PcP	PcP	13 44 46.0	+1.4
	1.5nm,0.6s,baz=315,slow=4.3,SNR=3.5						
STKA	Stephens Creek	37.00	159	eP	P	13 42 22.1	-1.9
	6.1nm,0.8s,mb4.5						
MK31	Makanchi Array	58.62	325	eP	P	13 45 11.4	+0.2
MKAR	Makanchi Array	58.62	325	P	P	13 45 11.4	+0.2
	1.6nm,0.6s,mb4.2,baz=123,slow=8.5,SNR=20						
AML	Almayashu	61.69	317	eP	P	13 45 32.6	+0.2
	2.7nm,0.8s,mb4.4						
ZALV	Zalesovo Beam	61.70	333	P	P	13 45 31.5	-0.6
	0.7nm,0.3s,mb4.2,baz=110,slow=8.4,SNR=3.8						
ARU	Arti	76.02	328	eP	P	13 47 00.4	-0.8
	4.3nm,0.8s,mb4.4						
LVC	Limon Verde	154.83	143	ePKPdf	PKPdf	13 55 04.8	-2.8

*IDC **05** 13:52:32.2±2.3, 3.19S×10101E, h0km, mb3.8/5, mb1 4.0/5, mb1mx3.7/19, mbtmp3.8/5, Error ellipse: s-maj=103.9km s-min=20.6km az=55.0*

ISCJB ***05*** *13:52:34.8±3.3, 32S±06×1010E±08, h33km, mb3.9/5, Error ellipse: s-maj=142.0km s-min=15.7km az=143.9*
NEIC ***05*** *13:52:37.2±2.6, 3.17S×101.10E, h35km, Error ellipse: s-maj=115.0km s-min=12.8km az=54.0*
ISC 05 13:52:37.2±3.3**, 32S**±06×**1011E**±08**, h35**km**, n9,** σ**0.55**/7**,**
mb3.9/5**, Southern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**36.49**	**120**	P	**P**	**13 59 39.4**	**+0.1**
	1.2nm,0.4s,mb4.2,baz=303,slow=9.0,SNR=29						
WB2	**Warramunga Arr**	**36.50**	**120**	*e*P	**P**	**13 59 38.4**	**-1.0**
ASAR	**Alice Springs**	**37.70**	**126**	P	**P**	**13 59 50.4**	**+0.8**
	0.5nm,0.5s,mb3.5,baz=301,slow=8.2,SNR=12						
SONM	**Songino Array**	**51.04**	**5**	P	**P**	**14 01 36.0**	**+0.3**
	0.5nm,0.6s,mb3.6,baz=190,slow=5.9,SNR=2.9						
MK31	**Makanchi Array**	**52.46**	**344**	*e*P	**P**	**14 01 45.9**	**-0.5**
MKAR	**Makanchi Array**	**52.46**	**344**	P	**P**	**14 01 46.6**	**+0.2**
	0.4nm,0.4s,mb3.7,baz=150,slow=8.6,SNR=6.9						
ZALV	**Zalesovo Beam**	**58.54**	**349**	P	**P**	**14 02 30.1**	**+0.1**
	2.9nm,0.7s,mb4.4,baz=160,slow=4.7,SNR=14						
BDFB	**Brasilia**	**144.12**	**238**	PKP	PKPdf	14 12 11.9	+1.6
	13nm,1.2s,baz=203,slow=4.5,SNR=6.3						
TXAR	**Lajitas Array**	**144.98**	**40**	PKPbc	PKPdf	14 12 11.2	-0.3
	0.6nm,0.7s,baz=232,slow=0.7,SNR=6.6						

CSEM ***05*** *13:53:02.6, 3544N×24.18E, h28km, MD3.5/4, After ATH*
ATH 05 13:53:02.6, 3544N×2418E, h28km**, MD3.5**/4**, Crete**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
VAM	**Vamos**	**0.04**	**154**	*e*Pb	Pb	13 53 07.6	+0.3
VAM	**Vamos**	**0.04**	**154**	*e*PB	Pb	13 53 07.6	+0.3
NPS	**Neapolis**	**1.18**	**98**	*e*Pn	Pn	13 53 24.5	+1.2
NPS	**Neapolis**	**1.18**	**98**	*e*PN	Pn	13 53 24.5	+1.2
KYTH	**Kithira**	**1.25**	**312**	*e*Pn	Pn	13 53 25.5	+1.3
KYTH	**Kithira**	**1.25**	**312**	*e*PN	Pn	13 53 25.5	+1.3
VLI	**Veliai**	**1.62**	**322**	*e*Pn	Pn	13 53 32.0	+2.7
VLI	**Veliai**	**1.62**	**322**	*e*PN	Pn	13 53 32.0	+2.7

IDC ***05*** *13:56:03.1±1.4, 276N×12720E, h0km, mb3.6/6, mb1 3.8/6, mb1mx3.6/18, mbtmp3.7/6, Error ellipse: s-maj=91.7km s-min=18.2km az=69.0*
ISCJB ***05*** *13:56:06.2±1.3, 27N±02×1270E±06, h33km, mb3.8/5, Error ellipse: s-maj=86.8km s-min=15.6km az=158.6*
NEIC ***05*** *13:56:08.0±0.9, 274N×12731E, h35km, mb4.7/1, Error ellipse: s-maj=60.7km s-min=11.8km az=69.0*
ISC 05 13:56:08.2±1.2**, 27N**±02×**1273E**±05**, h35**km**, n8,** σ**0.36**/8**,**
mb3.8/5**, Northern Molucca Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**20.75**	**184**	P	**P**	**14 00 46.1**	**0.0**
	0.3nm,0.4s,baz=348,slow=14,SNR=2.6						
WRA	**Warramunga Arr**	**23.57**	**163**	P	**P**	**14 01 15.5**	**-0.3**
	1.3nm,0.5s,mb3.6,baz=343,slow=10,SNR=16						
WB2	**Warramunga Arr**	**23.57**	**163**	*e*P	**P**	**14 01 15.3**	**-0.5**
ASAR	**Alice Springs**	**27.01**	**167**	P	**P**	**14 01 47.5**	**+0.4**
	0.4nm,0.5s,mb3.2,baz=346,slow=7.6,SNR=13						
STKA	**Stephens Creek**	**37.00**	**160**	P	**P**	**14 03 15.3**	**+0.8**
	4.6nm,1.0s,mb4.3,baz=343,slow=7.7,SNR=4.1						
STKA	**Stephens Creek**	**37.00**	**160**	*e*P	**P**	**14 03 14.7**	**+0.2**
	14nm,1.3s,mb4.6						
MKAR	**Makanchi Array**	**58.68**	**325**	P	**P**	**14 06 02.1**	**0.0**
	0.5nm,0.5s,mb3.8,baz=122,slow=8.5,SNR=7.4						
KURK	**Kurchatov**	**62.87**	**328**	P	**P**	**14 06 30.6**	**0.0**
	0.8nm,0.6s,mb4.1,baz=132,slow=6.3,SNR=6.8						

NEIC ***05*** *14:05:38.4±1.1, 32.19S×175.15W, h10km, mb4.4/3, Error ellipse: s-maj=20.3km s-min=14.3km az=97.0*
ISCJB ***05*** *14:05:49.7±4.8, 322S±02×177.1W±07, h10km, mb4.1/4, Error ellipse: s-maj=91.5km s-min=10.7km az=16.1*
IDC ***05*** *14:05:51.4±9.2, 3197S×17726W, h0km, mb4.1/4, mb1 4.2/6, mb1mx3.9/18, mbtmp4.1/6, ML3.7/2, Error ellipse: s-maj=173.5km s-min=33.8km az=103.0*
ISC 05 14:05:55.1±3.7**, 320S**±01×**1772W**±05**, h35**km**, n10,**
σ**1.23**/12**, mb4.1**/4**, Kermadec Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**2.80**	**347**	Pn	**Pn**	**14 06 37.0**	**-0.5**
	57nm,0.3s,baz=217,slow=20,SNR=3.8						
RAO				Sn	**Sn**	**14 07 08.4**	**-1.7**
	77nm,0.3s,baz=91,slow=19,SNR=3.5						
URZ	**Urewera**	**7.79**	**215**	Pn	**Pn**	**14 07 44.7**	**-1.2**
	0.2nm,0.3s,baz=61,slow=17,SNR=4.3						
URZ				Sn	**Sn**	**14 09 11.3**	**-1.5**
	2.4nm,0.3s,baz=174,slow=17,SNR=10						
CTA	**Charters Tower**	**34.74**	**281**	P	**P**	**14 12 44.4**	**+2.3**
	4.8nm,1.0s,mb4.4,baz=93,slow=11,SNR=3.8						
CTA	**Charters Tower**	**34.74**	**281**	P	**P**	**14 12 44.4**	**+2.3**
CTAO	**Charters Tower**	**34.74**	**281**	*e*P	**P**	**14 12 44.1**	**+2.0**
	13nm,1.4s,mb4.7						
STKA	**Stephens Creek**	**34.80**	**259**	P	**P**	**14 12 43.2**	**+0.6**
	1.3nm,0.4s,mb4.2,baz=112,slow=11,SNR=3.4						
STKA	**Stephens Creek**	**34.80**	**259**	P	**P**	**14 12 42.3**	**-0.2**
	3.9nm,0.8s,mb4.4						
ASAR	**Alice Springs**	**43.71**	**268**	P	**P**	**14 13 58.3**	**+1.3**
	0.9nm,0.8s,mb3.6,baz=109,slow=7.6,SNR=26						
WB2	**Warramunga Arr**	**44.83**	**273**	*e*P	**P**	**14 14 06.8**	**+0.8**
WRA	**Warramunga Arr**	**44.84**	**273**	P	**P**	**14 14 06.7**	**+0.6**
	1.4nm,0.6s,mb4.0,baz=112,slow=8.0,SNR=34						

CASC 05 14:12:07.0±3.3**, 896N**×**8155W, h97**km±66km**, MD4.1, 1D,**
Panama

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CNI	**Changuinola**	**1.05**	**296**	*e*P	Pn	14 12 28.3	+0.4
TBS2		**1.10**	**261**	*e*P	Pn	14 12 30.7	+2.3
BRU2	**Volcan**	**1.14**	**262**	*e*P	Pn	14 12 28.3	-0.4
CTCR	**Cotoan**	**1.19**	**267**	*e*P	Pn	14 12 28.9	-0.5
PINA	**Piqa, Costa Ab**	**1.50**	**79**	*e*P	Pn	14 12 33.1	0.0
ACR	**Cerro Adams**	**1.62**	**259**	⇓*i*P	Pn	14 12 32.9	-1.7
BUS	**Buena Vista**	**2.26**	**285**	*e*P	Pn	14 12 44.2	+1.4
PRS1	**Puriscal**	**2.91**	**291**	*e*P	Pn	14 12 53.9	+2.5
PTP	**Ponta Puerca**	**18.01**	**58**	*e*P	Px	14 12 34.2	

SZGRF ***05*** *14:23:46.3, 4294N×13150E, h33km, mb4.7, Priamurye-Northeastern China border region*
ISCJB ***05*** *14:24:44.6±0.2, 4386N±003×13086E±003, h551km±2km, mb4.3/89, Error ellipse: s-maj=4.0km s-min=2.9km az=172.3*
MOS ***05*** *14:24:44.6±0.8, 4387N×13106E, h569km, mb4.3/35, Error ellipse: s-maj=9.8km s-min=5.1km az=118.1*
NEIC ***05*** *14:24:45.6±0.4, 4380N×13094E, h562km±5km, mb4.3/44, Error ellipse: s-maj=5.7km s-min=4.3km az=53.0*
SKHL ***05*** *14:24:45.9±0.1, 4407N×13085E, h563km±12km, mb4.8/8, msh4.7/1, msha4.5/7*
BJI ***05*** *14:24:45.7, 4388N×13088E, h571km, mB4.5, mb4.8*
IDC ***05*** *14:24:46.5±0.5, 4381N×13082E, h573km±5km, mb3.8/28, mb1 3.9/31, mb1mx3.9/37, mbtmp3.8/31, Error ellipse: s-maj=9.3km s-min=6.4km az=75.0*
JMA ***05*** *14:24:47.2±0.4, 4357N×13163E, h597km, M4.3*
DJA ***05*** *14:24:51, 4391N×13064E, h638km, mb4.6/7*
ISC 05 14:24:44.7±0.2**, 4384N**±003×**13087E**±003**, h541**km±2km**,**
h557km±7.0km**:pP-P, n473,** σ**0.87**/504**, mb4.3**/89**,**
113C-117D, Priamurye-Northeastern China border region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
GRTR	**Gornotajezhnoj**	**0.94**	**98**	⇑*i*P	**P**	**14 25 54.3**	**+4.4**
GRTR				*e*S	**S**	**14 26 48.9**	**+5.9**
VLA	**Vladivostok**	**1.04**	**134**	*d i*P	**P**	**14 25 53.8**	**+3.6**
VLA				*i* S	**S**	**14 26 48.2**	**+4.8**
VLA				pmax	pmax		
	comp=Z,313nm,0.7s						
VLA	**Vladivostok**	**1.04**	**134**	⇓*i*P	**P**	**14 25 53.8**	**+3.6**
VLA				AMB	AMB	14 25 54.6	
	comp=Z,313nm,0.7s						
VLA				*e*S	**S**	**14 26 48.2**	**+4.8**
MDJ	**Mudanjiang**	**1.20**	**310**	P	**P**	**14 25 55.2**	**+4.7**
MDJ				S	**S**	**14 26 51.8**	**+7.6**
MDJ				SCP	ScP	14 34 51.2	-0.7
MDJ				PCS	PcS	14 35 44.6	+0.6
MDJ				SCS	ScS	14 38 23.1	-0.7
MDJ				AMB	AMB		
	comp=Z,891nm,0.9s						
MDJ				AMB	AMB		
	comp=Z,428nm,7.3s						
CN2	**Changchun**	**3.93**	**271**	*e*P	**P**	**14 26 09.0**	**+3.7**
CN2				*e*S	**S**	**14 27 13.3**	**+2.2**
CN2				AMB	AMB		
	comp=Z,30nm,0.6s						
CN2				AMB	AMB		
	comp=Z,200nm,4.0s						
TEY	**Ternei**	**4.27**	**72**	*e*P	**P**	**14 26 10.2**	**+2.3**
TEY				AMB	AMB	14 26 16.0	
	comp=Z,34nm,0.9s						
TEY				*e*S	**S**	**14 27 19.0**	**+3.0**
TEY				A		14 27 20.0	
	comp=Z,163nm,1.0s						
KLR	**Kul'dur**	**5.42**	**6**	⇓*i*P	**P**	**14 26 17.4**	**0.0**
KLR				*e*		14 27 32.8	
KLR				pmax	pmax		
	comp=E,90nm,1.6s						
KLR				pmax	pmax		
	comp=Z,370nm,1.6s						
KLR				pmax	pmax		
	comp=N,160nm,1.6s						
KLR				pmax	pmax		
	comp=E,260nm,1.6s						
KLR	**Kul'dur**	**5.42**	**6**	⇓*i*P	**P**	**14 26 17.4**	**0.0**
KLR				AMB	AMB	14 26 18.7	
	comp=E,370nm,1.6s						
KLR				*e*S	**S**	**14 27 32.8**	**-0.6**
KLR				A		14 27 35.2	
	comp=E,160nm,1.6s						
KLR				A		14 27 35.2	
	comp=E,260nm,1.6s						
HABR	**Khabarovsk**	**5.46**	**31**	⇑*i*P	**P**	**14 26 20.9**	**+3.1**
HABR				*e*S	**S**	**14 27 37.6**	**+3.5**
SNY	**Shenyang**	**5.73**	**252**	⇑P	**P**	**14 26 24.5**	**+4.1**
SNY				AMB	AMB		
	comp=Z,76nm,0.5s						
JOSM	**Okushiri--Mats**	**6.55**	**103**	P	**P**	**14 26 27.9**	**-0.1**
KSRS	**Korea Array**	**6.76**	**200**	P	**P**	**14 26 33.4**	**+3.2**
	comp=Z,7.7nm,0.3s,baz=19,slow=8.8,SNR=289						
KSRS				S	**S**	**14 28 01.3**	**+4.9**
	baz=17,slow=15,SNR=7.2						
KSRS	**Korea Array**	**6.76**	**200**	P	**P**	**14 26 33.4**	**+3.2**
KSRS				S	**S**	**14 28 01.3**	**+4.9**
KSRS				pmax	pmax		
	comp=Z,8.0nm,0.3s						
KS15	**Wonju Array Si**	**6.79**	**201**	*e*P	**P**	**14 26 33.5**	**+3.1**
JSK	**Shakotan**	**6.99**	**91**	P	**P**	**14 26 32.1**	**0.0**
JSK				*e*S	**S**	**14 27 59.4**	**-0.8**
INCN	**Inchon**	**7.12**	**208**	*e*P	**P**	**14 26 36.2**	**+2.6**
JKB	**Kayabe**	**7.72**	**101**	P	**P**	**14 26 38.7**	**-0.6**
JKB				*e*S	**S**	**14 28 08.6**	**-4.6**
JHR	**Hokuryu**	**7.85**	**87**	P	**P**	**14 26 40.7**	**+0.1**
GRNR	**Gornyy**	**7.89**	**27**	⇑*i*P	**P**	**14 26 38.0**	**-2.7**
GRNR				AMB	AMB	14 26 38.8	
	comp=Z,36nm,0.6s						
GRNR				*e*S	**S**	**14 28 10.5**	**-5.6**
GRNR				A		14 28 14.1	
	comp=Z,50nm,0.8s						
JOT	**Ohata**	**7.90**	**105**	P	**P**	**14 26 40.2**	**-0.9**
JOT				*e*S	**S**	**14 28 09.0**	**-7.6**
JWK2	**Keihoku**	**8.01**	**76**	P	**P**	**14 26 43.1**	**+1.0**
ASAJ	**Asahikawa**	**8.46**	**84**	P	**P**	**14 26 47.4**	**+0.7**
	comp=Z,5.6nm,0.3s,baz=267,slow=10.0,SNR=130						
ASAJ				S	**S**	**14 28 24.7**	**-2.1**
	baz=92,slow=30,SNR=7.8						
ASAJ	**Asahikawa**	**8.46**	**84**	P	**P**	**14 26 47.4**	**+0.7**
ASAJ				S	**S**	**14 28 24.7**	**-2.1**
ASAJ				pmax	pmax		
	comp=Z,6.0nm,0.3s						
YSS	**Yuzh-Sakhalins**	**8.92**	**65**	*e*P	**P**	**14 26 50.6**	**-0.6**
YSS				*e*S	**S**	**14 28 32.0**	**-3.2**
JHS	**Saijyo**	**9.00**	**168**	P	**P**	**14 26 53.7**	**+1.3**
JHS				*e*S	**S**	**14 28 36.6**	**-0.5**
JMK	**Ichinoseki**	**9.18**	**119**	P	**P**	**14 26 51.9**	**-2.2**
JMK				*e*S	**S**	**14 28 33.3**	**-7.0**
ERM	**Erimo**	**9.20**	**97**	*d i*P	**P**	**14 26 53.9**	**-0.3**
ERM	**Erimo**	**9.20**	**97**	*e*P	**P**	**14 26 53.3**	**-0.9**
	comp=Z,98nm,0.6s						
MAJO	**Matsushiro**	**9.20**	**140**	*e*P	**P**	**14 26 53.1**	**-1.2**
MAT	**Matsushiro**	**9.20**	**140**	P	**P**	**14 26 52.8**	**-1.5**
MAT				*e*S	**S**	**14 28 36.6**	**-4.1**
MAT	**Matsushiro**	**9.20**	**140**	P	**P**	**14 26 53.0**	**-1.3**
MJAR	**Matsushiro Arr**	**9.20**	**140**	P	**P**	**14 26 53.5**	**-0.8**
	comp=Z,2.6nm,0.3s,baz=326,slow=9.8,SNR=53						
JCH	**Churui**	**9.20**	**93**	P	**P**	**14 26 52.2**	**-2.0**
JCH				*e*S	**S**	**14 28 33.9**	**-6.7**
EKMR	**Ekimchan**	**9.34**	**8**	⇓*i*P	**P**	**14 26 53.1**	**-2.2**
EKMR				AMB	AMB	14 26 53.5	
	comp=Z,12nm,0.5s						
EKMR				*e*S	**S**	**14 28 39.0**	**-3.8**
EKMR				A		14 28 41.6	
	comp=Z,70nm,1.2s						
HIA	**Hailar**	**9.39**	**309**	⇓*i*P	**P**	**14 26 58.7**	**+2.7**
HIA				pmax	pmax		
	comp=Z,101nm,0.8s						
HIA	**Hailar**	**9.39**	**309**	⇓*i*P	**P**	**14 26 58.7**	**+2.7**
	comp=Z,101nm,0.8s						
JTKR	**Abashiri--Toko**	**9.41**	**85**	P	**P**	**14 26 56.5**	**+0.2**
JTKR				*e*S	**S**	**14 28 39.6**	**-4.9**
JRY	**Ryogami san**	**9.95**	**139**	P	**P**	**14 26 59.7**	**-2.3**
ZEA	**Zeya**	**10.19**	**348**	⇓*i*P	**P**	**14 27 02.8**	**-1.3**
ZEA				AMB	AMB	14 27 03.7	
	comp=Z,62nm,0.8s						
ZEA				AMB	AMB	14 27 03.7	
	comp=Z,130nm,0.8s						
ZEA				*e*S	**S**	**14 28 56.0**	**-2.8**
ZEA				A		14 28 58.2	
	comp=Z,50nm,1.2s						
ZEA				A		14 28 59.0	
	comp=Z,600nm,7.0s						
ZEA				A		14 28 59.0	
	comp=Z,300nm,7.0s						
JIE	**Ise**	**10.47**	**152**	P	**P**	**14 27 06.0**	**-1.4**
TYV	**Tymovskoe**	**10.63**	**45**	*e*P	**P**	**14 27 11.0**	**+2.3**
JOD2	**Odawara 2**	**10.65**	**141**	P	**P**	**14 27 07.4**	**-1.9**
NEM2	**Nemuro 2**	**10.80**	**87**	P	**P**	**14 27 09.3**	**-1.3**
NEM2				*e*S	**S**	**14 29 03.9**	**-6.8**
KROS	**Kirovskiy**	**10.90**	**348**	⇓*i*P	**P**	**14 27 08.7**	**-2.8**
KROS				AMB	AMB	14 27 09.3	
	comp=Z,30nm,0.6s						
KROS				AMB	AMB	14 27 09.3	
	comp=Z,9.0nm,0.6s						
KROS				AMB	AMB	14 27 09.3	
	comp=Z,35nm,0.6s						
KROS				*e*S	**S**	**14 29 08.0**	**-4.3**
KROS				A		14 29 09.7	
	comp=Z,27nm,0.9s						
BMKR	**Bomnak**	**10.96**	**354**	⇓*i*P	**P**	**14 27 08.9**	**-3.1**
BMKR				AMB	AMB	14 27 09.4	
	comp=Z,46nm,0.6s						
BMKR				*e*S	**S**	**14 29 07.9**	**-5.5**
BMKR				A		14 29 09.0	
	comp=Z,32nm,1.0s						
NKL	**Nikolayevsk**	**11.35**	**31**	*e*P	**P**	**14 27 18.0**	**+1.9**
BJI	**Beijing**	**11.59**	**256**	P	**P**	**14 27 20.7**	**+1.8**
BJI				AMB	AMB		
	comp=Z,71nm,0.7s						
BSO1	**Boso 1**	**12.06**	**136**	P	**P**	**14 27 21.2**	**-2.6**
BSO1				*e*S	**S**	**14 29 29.7**	**-5.1**
JHJ	**Hachijo jima 2**	**12.77**	**144**	P	**P**	**14 27 33.4**	**+2.1**
	comp=Z,17nm,0.3s,baz=280,slow=9.3,SNR=5.0						
CLNS	**Chul'man**	**13.55**	**346**	*e*P	**P**	**14 27 39.0**	**+0.1**
CLNS				pmax	pmax		
	comp=Z,31nm,0.8s						
CLNS				pmax	pmax		
	comp=N,20nm,0.8s						
CLNS				pmax	pmax		
	comp=E,8.0nm,0.8s						
CIT	**Chita**	**14.18**	**311**	*e*P	**P**	**14 27 46.7**	**+1.2**
CIT				pmax	pmax		
	comp=Z,188nm,1.4s						
HHC	**Hu-ho-hao-te**	**14.59**	**265**	*e*P	**P**	**14 27 51.1**	**+1.2**
HHC				XP		14 29 47.8	
HHC				S	**S**	**14 30 20.3**	**-2.2**
HHC				PCP	PcP	14 32 26.5	+3.9
HHC				AMB	AMB		
	comp=Z,38nm,1.1s						
HHC				AMB	AMB		
	comp=Z,280nm,7.7s						
NJ2	**Nanjing**	**15.10**	**223**	*e*P	**P**	**14 27 55.3**	**0.0**
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.5s						
ULN	**Ulaanbaatar**	**17.05**	**292**	*d i*P	**P**	**14 28 15.2**	**+1.1**
ULN	**Ulaanbaatar**	**17.05**	**292**	*e*P	**P**	**14 28 15.4**	**+1.3**
SONM	**Songino Array**	**17.49**	**292**	P	**P**	**14 28 19.6**	**+1.4**
	comp=Z,4.7nm,0.3s,baz=100,slow=9.3,SNR=79						
SONM				ScP	ScP	14 35 06.3	-4.5
	comp=Z,0.3nm,0.3s,baz=159,slow=2.0,SNR=6.1						
BOD	**Bodaibo**	**17.51**	**329**	*e*P	**P**	**14 28 17.9**	**-0.2**
BOD				pmax	pmax		
	comp=Z,43nm,1.2s						
YAK	**Yakutsk**	**18.23**	**358**	*d i*P	**P**	**14 28 24.2**	**-0.5**
YAK				*i* S	**S**	**14 31 19.5**	**-4.2**
YAK				pmax	pmax		
	comp=Z,67nm,0.8s						
YAK				pmax	pmax		
	comp=N,36nm,1.2s						
YAK				pmax	pmax		
	comp=E,6.0nm,1.0s						
YAK				smax			
	comp=E,77μm,1.7s						
YAK				smax			
	comp=N,28μm,1.4s						
YAK	**Yakutsk**	**18.23**	**358**	*e*P	**P**	**14 28 24.3**	**-0.4**
WHN	**Wuhan**	**18.65**	**230**	P	**P**	**14 28 28.3**	**-0.7**
ZAK	**Zakamensk**	**19.81**	**299**	⇑*i*P	**P**	**14 28 39.8**	**+0.6**
ZAK				pmax	pmax		
	comp=Z,22nm,1.1s						
TLY	**Talaya**	**19.83**	**303**	*e*P	**P**	**14 28 40.7**	**+1.4**
TLY				pmax	pmax		
	comp=Z,11nm,0.7s						
TLY	**Talaya**	**19.83**	**303**	*e*P	**P**	**14 28 40.0**	**+0.7**
	comp=Z,10nm,0.7s						
PETK	**Petropavlovsk-**	**19.95**	**53**	PcP	PcP	14 32 29.6	-1.6
	comp=Z,2.2nm,0.7s,baz=210,slow=1.5,SNR=4.8						
PETK				ScP	ScP	14 35 11.8	-4.5
	comp=Z,8.0nm,1.0s,baz=284,slow=5.8,SNR=4.1						
LZH	**Lanzhou**	**22.05**	**259**	*e*P	**P**	**14 29 02.0**	**+2.4**
LZH				XP	sP	14 31 28.2	+5.2
LZH				*e*S	**S**	**14 32 27.6**	**+2.3**
LZH				AMB	AMB		
	comp=Z,38nm,1.0s,mb5.0						
LZH				AMB	AMB		
	comp=Z,180nm,6.0s						
LZH	**Lanzhou**	**22.05**	**259**	*e*P	**P**	**14 29 02.0**	**+2.4**
LZH				sP	sP	14 31 28.2	+5.2
LZH				*e*S	**S**	**14 32 27.6**	**+2.3**
SEY	**Seymchan**	**22.82**	**26**	*e*P	**P**	**14 29 05.7**	**-0.4**
GTA	**Gaotai**	**23.56**	**270**	P	**P**	**14 29 14.8**	**+1.8**
GTA				XP	sP	14 31 42.0	+2.6
GTA				PCP	PcP	14 32 39.1	+0.3
GTA				S	**S**	**14 32 55.1**	**+6.1**
GTA				SCP	ScP	14 35 21.9	-3.9
GTA				AMB	AMB		
	comp=Z,21nm,0.8s,mb4.8						
GTA				AMB	AMB		
	comp=Z,357nm,8.1s						
CD2	**Chengdu**	**24.99**	**248**	*e*P	**P**	**14 29 27.2**	**+1.4**
CD2				S	**S**	**14 33 13.7**	**+2.0**
CD2				AMB	AMB		
	comp=Z,10.0nm,0.7s,mb4.5						
GYA	**Guiyang**	**26.17**	**236**	*e*P	**P**	**14 29 36.0**	**-0.3**
GYA				XP	sP	14 32 10.4	+3.2
GYA				PCP	PcP	14 32 44.5	-0.5
GYA				S	**S**	**14 33 29.7**	**-0.6**
GYA				SCP	ScP	14 35 32.2	-1.3
GYA				PCS	PcS	14 36 25.8	-1.0
GYA				SCS	ScS	14 39 21.2	-3.4
GYA				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb4.4						
KRAR	**Krasnoyarsk**	**26.96**	**310**	*e*P	**P**	**14 29 42.0**	**-0.8**
KRAR				pmax	pmax		
	comp=Z,8.0nm,1.0s,mb4.3						
TIXI	**Tiksi**	**27.90**	**359**	*e*P	**P**	**14 29 50.2**	**-0.6**
TIXI				pmax	pmax		
	comp=Z,10.0nm,0.7s,mb4.5						
TIXI	**Tiksi**	**27.90**	**359**	*e*P	**P**	**14 29 50.2**	**-0.6**
	comp=Z,10nm,0.7s,mb4.6						
KMI	**Kunming**	**29.56**	**240**	P	**P**	**14 30 06.3**	**+0.4**
KMI				XP	sP	14 32 42.8	+4.9
KMI				S	**S**	**14 34 24.3**	**+1.4**
KMI				AMB	AMB		
	comp=Z,7.0nm,0.6s,mb4.4						
KMI	**Kunming**	**29.56**	**240**	P	**P**	**14 30 06.3**	**+0.4**
KMI				sP	sP	14 32 42.8	+4.9
KMI				S	**S**	**14 34 24.3**	**+1.4**
WMQ	**Urumqi**	**30.89**	**285**	P	**P**	**14 30 18.2**	**+1.2**
ZAA0	**Zalesovo Array**	**31.40**	**305**	*e*P	**P**	**14 30 21.3**	**0.0**
ZALV	**Zalesovo Beam**	**31.40**	**305**	P	**P**	**14 30 21.2**	**-0.1**
	comp=Z,18nm,0.5s,mb4.8,baz=75,slow=7.5,SNR=78						
ZALV				PcP	PcP	14 32 55.9	-2.1
	comp=Z,2.2nm,0.5s,baz=56,slow=2.1,SNR=5.5						
ZALV				ScP	ScP	14 35 44.8	-4.9
	comp=Z,8.1nm,0.7s,baz=99,slow=3.2,SNR=28						
ZALV	**Zalesovo Beam**	**31.40**	**305**	P	**P**	**14 30 21.2**	**-0.1**
ZALV						14 32 55.9	
ZALV	**Zalesovo Beam**	**31.40**	**305**	P	**P**	**14 30 21.2**	**-0.1**
ZALV				PcP	PcP	14 32 55.9	-2.1
ZALV				ScP	ScP	14 35 44.8	-4.9
NVS	**Novosibirsk**	**32.32**	**307**	*e*P	**P**	**14 30 28.2**	**-0.9**
NVS				pmax	pmax		
	comp=Z,14nm,0.5s,mb4.8						
NVS				pmax	pmax		
	comp=N,1.0nm,0.4s						
NVS				pmax	pmax		
	comp=E,12nm,0.5s						
MK31	**Makanchi Array**	**33.86**	**292**	⇓*i*P	**P**	**14 30 42.6**	**+0.4**
MKAR	**Makanchi Array**	**33.86**	**292**	P	**P**	**14 30 42.6**	**+0.4**
	comp=E,10nm,0.7s,mb4.5,baz=84,slow=9.6,SNR=89						
MKAR				ScP	ScP	14 35 53.4	-5.1
	comp=E,1.8nm,0.7s,baz=64,slow=5.5,SNR=7.1						
LSA	**Lhasa**	**34.47**	**259**	*e*P	**P**	**14 30 49.4**	**+1.9**
LSA				pmax	pmax		
	comp=Z,4.0nm,0.6s,mb4.1						
LSA	**Lhasa**	**34.47**	**259**	*e*P	**P**	**14 30 49.4**	**+1.8**
	comp=Z,3.5nm,0.6s,mb4.1						
KURK	**Kurchatov**	**35.47**	**300**	P	**P**	**14 30 56.2**	**+0.6**
	comp=Z,45nm,0.6s,mb5.2,baz=80,slow=8.5,SNR=296						
KURK				ScP	ScP	14 35 59.2	-5.0
	comp=Z,1.2nm,0.6s,baz=79,slow=3.6,SNR=5.0						
KURK	**Kurchatov**	**35.47**	**300**	P	**P**	**14 30 56.2**	**+0.6**
KURK				ScP	ScP	14 35 59.2	-5.0
CHTO	**Chiang Mai**	**36.59**	**237**	*e*P	**P**	**14 31 05.7**	**+0.5**
CHTO				pmax	pmax		
	comp=Z,17nm,1.5s,mb4.3						
CHTO	**Chiang Mai**	**36.59**	**237**	*e*P	**P**	**14 31 05.7**	**+0.4**
	comp=Z,17nm,1.5s,mb4.3						
CMAR	**Chiang Mai Arr**	**36.86**	**237**	P	**P**	**14 31 07.8**	**+0.3**
	comp=Z,1.8nm,0.8s,mb3.7,baz=28,slow=8.3,SNR=7.9						
CMAR				PcP	PcP	14 33 13.0	-1.6
	comp=Z,0.9nm,0.4s,baz=3.9,slow=2.0,SNR=5.8						
TAPN	**Taplejung**	**38.29**	**259**	*e*P	**P**	**14 31 20.1**	**+1.0**
ODAN	**Odare**	**38.81**	**259**	*e*P	**P**	**14 31 23.7**	**+0.4**
JIRN	**Jiri**	**39.19**	**261**	*e*P	**P**	**14 31 27.1**	**+0.8**
GUN	**Gumba**	**39.26**	**261**	*e*P	**P**	**14 31 27.8**	**+0.9**
RAMN	**Ramite**	**39.32**	**260**	*e*P	**P**	**14 31 27.5**	**+0.1**
	comp=Z,9.7nm,0.5s,mb4.6						
TKM2	**Tokmak 2**	**39.55**	**289**	⇓*i*P	**P**	**14 31 30.2**	**+1.2**
TKM2				pmax	pmax		
	comp=Z,34nm,0.6s,mb5.0						
TKM2	**Tokmak 2**	**39.55**	**289**	P	**P**	**14 31 30.2**	**+1.2**
	SNR=11						
TKM2	**Tokmak 2**	**39.55**	**289**	⇓*i*P	**P**	**14 31 30.2**	**+1.2**
	comp=Z,34nm,0.6s,mb5.0						
KKN	**Kakani**	**39.76**	**262**	*e*P	**P**	**14 31 31.0**	**0.0**
	comp=Z,11nm,0.6s,mb4.6						
VOSK	**Vostochnaya**	**39.77**	**305**	P	**P**	**14 31 29.6**	**-1.0**
VOSK				pmax	pmax		
	comp=Z,30nm,0.7s,mb4.9						
PKI	**Pulchoki**	**39.80**	**261**	*e*P	**P**	**14 31 31.2**	**0.0**
BVA0	**Borovoye Array**	**40.05**	**305**	*i* P	**P**	**14 31 32.7**	**-0.2**
BVA0				pmax	pmax		
	comp=Z,3.0nm,0.5s,mb4.1						
BVAR	**Borovoye Array**	**40.05**	**305**	P	**P**	**14 31 32.9**	**0.0**
	comp=Z,14nm,0.5s,mb4.8,baz=81,slow=7.6,SNR=71						
BVAR				PcP	PcP	14 33 23.3	-0.9
	comp=Z,1.6nm,0.5s,baz=45,slow=2.2,SNR=3.8						
BVAR				ScP	ScP	14 36 16.7	-5.0
	comp=Z,4.1nm,0.8s,baz=97,slow=3.4,SNR=12						
BVAR				S	**S**	**14 36 57.2**	**-2.6**
	comp=Z,2.1nm,0.8s,baz=77,slow=14,SNR=4.9						
BVAR	**Borovoye Array**	**40.05**	**305**	P	**P**	**14 31 32.9**	**0.0**
BVAR						14 33 23.3	
BVAR				S	**S**	**14 36 57.2**	**-2.6**
KBK	**Karagaybulak**	**40.09**	**288**	P	**P**	**14 31 34.4**	**+1.1**

SNR=6.0
GKN Gorkha 40.10 262 *e*P **P 14 31 33.6 0.0**
BRVK Borovoye 40.11 305 *e*P **P 14 31 33.3 0.0**
USP Ospenovka 40.17 289 P **P 14 31 34.2 +0.2**
SNR=6.8
AAK Ala-Archa 40.41 289 P **P 14 31 36.6 +0.7**
SNR=14
DANN Dangsing 40.53 264 *e*P **P 14 31 38.0 +0.9**
comp=Z,78nm,0.6s,mb5.4
UCH Uchtor 40.54 288 P **P 14 31 38.3 +1.3**
SNR=7.4
UCH Uchtor 40.54 288 *e*P **P 14 31 38.0 +1.0**
comp=Z,4.7nm,0.9s,mb4.0
EKS2 Erkin-Say 40.89 289 P **P 14 31 40.3 +0.6**
SNR=20
EKS2 Erkin-Say 40.89 289⇓ *e*P **P 14 31 40.1 +0.4**
comp=Z,9.7nm,0.7s,mb4.4
KOLN Koldanda 40.98 263 *e*P **P 14 31 41.3 +0.6**
comp=Z,22nm,0.8s,mb4.7
AML Almayashu 41.14 288 P **P 14 31 42.8 +1.1**
SNR=20
AML Almayashu 41.14 288 *e*P **P 14 31 42.9 +1.2**
comp=Z,14nm,0.8s,mb4.5
KK31 Karatay Array 42.94 291 *e*P **P 14 31 55.4 -0.5**
KK31 pmax pmax
comp=Z,10.0nm,0.5s,mb4.6
SVE Sverdlovsk 44.67 313 *e*P **P 14 32 09.2 +0.1**
SVE pmax pmax
comp=Z,54nm,0.9s,mb5.1
ARU Arti 45.89 313 *d i*P **P 14 32 18.1 -0.2**
ARU *e* 14 34 11.0
ARU *e*S **S 14 38 19.8 -3.0**
ARU pmax pmax
comp=Z,58nm,1.0s,mb5.1
ARU Arti 45.89 313 *e*P **P 14 32 18.2 -0.1**
KSM Kuching 45.98 209 *e*P **P 14 32 19.4 -0.2**
AB31 Akbulak array 47.44 303 *i* P **P 14 32 29.9 -0.3**
AB31 pmax pmax
comp=Z,38nm,0.5s,mb5.2
KDAK Kodiak Island 47.70 45 P **P 14 32 31.4 -0.5**
comp=Z,5.6nm,0.6s,mb4.3,baz=276,slow=10,SNR=10
KBL Kabul 47.81 281 *e*P **P 14 32 32.0 -1.2**
KBL pmax pmax
comp=Z,9.0nm,0.9s,mb4.3
KBL Kabul 47.81 281 *e*P **P 14 32 32.0 -1.2**
comp=Z,9.1nm,0.9s,mb4.3
COLA College 47.85 35 *e*P **P 14 32 30.8 -2.2**
AKTK Aktyubinsk 48.16 305 P **P 14 32 34.9 -0.6**
AKTK ScP ScP 14 36 49.9 -5.3
AKTO Aktyubinsk 48.16 305 P **P 14 32 34.9 -0.7**
comp=Z,7.2nm,0.6s,mb4.4,baz=93,slow=7.6,SNR=22
AKTO ScP ScP 14 36 49.9 -5.3
comp=Z,1.5nm,0.6s,baz=77,slow=5.7,SNR=6.3
KAPI Kappang 49.66 195 P **P 14 32 45.0 -2.1**
comp=Z,10nm,0.7s,mb4.3,baz=18,slow=6.7,SNR=5.2
SPITS Spitsbergen Ar 52.15 346 P **P 14 33 04.0 -0.4**
comp=Z,5.9nm,0.8s,mb4.0,baz=12,slow=8.5,SNR=12
KBS Kingsbay 52.44 348⇑ *e*P **P 14 33 05.7 -0.7**
KLMR Klimovskoe 53.59 323 *e*P **P 14 33 13.3 -1.5**
KLMR *e* 14 35 19.8
KLMR pmax pmax
comp=Z,15nm,1.2s,mb4.2
KEV Kevo 54.07 335 *e*p **P 14 33 16.8 -1.3**
comp=Z,11nm,0.5s,mb4.5
KEV Kevo 54.07 335 *e*P **P 14 33 16.8 -1.3**
KEV pmax pmax
comp=Z,11nm,0.5s,mb4.4
BATI Baumata 54.19 189 P **P 14 33 18.1 -1.5**
comp=Z,50nm,0.5s,mb5.1,baz=9.1,slow=1.3,SNR=22
ARCES ARCESS Array B 54.64 335 P **P 14 33 21.4 -0.6**
comp=Z,10nm,0.6s,mb4.2,baz=57,slow=8.9,SNR=54
ARCES ARCESS Array B 54.64 335 P **P 14 33 21.4 -0.6**
ARE0 ARCESS Array S 54.64 335 *e*P **P 14 33 21.0 -1.0**
JOF Joensuu 56.03 327 *e*p **P 14 33 30.2 -1.6**
comp=Z,10nm,0.5s,mb4.3
JOF Joensuu 56.03 327 *e*P **P 14 33 30.2 -1.6**
JOF pmax pmax
comp=Z,10.0nm,0.5s,mb4.3
KAKA Kakadu 56.30 178⇑ *i*P **P 14 33 33.0 -1.3**
comp=Z,9.0nm,0.6s,mb4.2
KAKA Kakadu 56.30 178 *e*P **P 14 33 32.8 -1.5**
comp=Z,15nm,0.5s,mb4.5
OBN Obninsk 57.74 317⇓ *e*P **P 14 33 42.4 -1.2**
OBN *e* 14 35 56.5
OBN *e*S **S 14 41 04.5 +3.5**
OBN pmax pmax
comp=Z,8.0nm,1.0s,mb3.9
OBN Obninsk 57.74 317 *e*P **P 14 33 45.0 +1.4**
KAF Kangasniemi 58.42 328 *e*p **P 14 33 46.3 -1.8**
comp=Z,12nm,0.5s,mb4.4,baz=54,slow=6.3
KAF Kangasniemi 58.42 328 *e*P **P 14 33 46.3 -1.8**
KAF pmax pmax
comp=Z,12nm,0.5s,mb4.4
KIV Kislovodsk 60.40 304⇓ *e*P **P 14 34 00.7 -0.9**
KIV *e*S **S 14 41 30.4 -4.4**
KIV pmax pmax
comp=Z,36nm,1.4s,mb4.5
KIV Kislovodsk 60.40 304 *e*P **P 14 34 01.8 +0.1**
comp=Z,26nm,0.9s,mb4.6
FITZ Fitzroy Crossi 61.83 186⇑ *i*P **P 14 34 10.1 -1.1**
comp=Z,4.2nm,0.5s,mb4.1
FITZ Fitzroy Crossi 61.83 186 P **P 14 34 10.2 -1.0**
comp=Z,2.0nm,0.4s,mb3.9,baz=352,slow=6.5,SNR=25
YKA Yellowknife Ar 61.84 29 P **P 14 34 10.1 -0.7**
comp=Z,1.8nm,0.5s,mb3.8,baz=314,slow=6.3,SNR=8.3
WB2 Warramunga Arr 63.55 176⇑ *i*P **P 14 34 20.5 -1.8**
WB2 *i* 14 34 51.3
WB2 Warramunga Arr 63.55 176 *e*P **P 14 34 20.3 -2.0**
WRA Warramunga Arr 63.55 176 P **P 14 34 20.7 -1.6**
comp=Z,10nm,0.7s,mb4.4,baz=352,slow=6.9,SNR=220
WRA PcP PcP 14 34 51.4 -1.5
comp=Z,4.8nm,0.5s,baz=352,slow=4.9,SNR=17
AKASG Malin Array Be 63.91 316 P **P 14 34 22.7 -1.6**
comp=Z,5.4nm,0.5s,mb4.2,baz=46,slow=6.8,SNR=24
AKASG pP pP 14 36 16.3 +3.4
comp=Z,0.6nm,0.5s,baz=51,slow=7.4,SNR=2.3
AKASG Malin Array Be 63.91 316 P **P 14 34 22.7 -1.6**
AKASG pP pP 14 36 16.3 +3.4
AKBB Malin Array Si 63.91 316 *e*P **P 14 34 22.9 -1.4**
KIEV Kiev 63.92 316 *e*P **P 14 34 22.9 -1.4**
KIEV pmax pmax
comp=Z,9.0nm,0.9s,mb4.2
KIEV Kiev 63.92 316 *e*P **P 14 34 22.9 -1.4**
comp=Z,8.5nm,0.9s,mb4.2
HFS Hagfors 64.39 330 P **P 14 34 25.8 -1.3**
comp=Z,8.4nm,0.5s,mb4.8,baz=64,slow=6.8,SNR=61
NB2 NORSAR Subarra 64.61 332 P **P 14 34 27.3 -1.2**
comp=Z,8.8nm,0.6s,mb4.4,baz=43,slow=6.5
NOA NORSAR Array B 64.61 332 P **P 14 34 27.4 -1.2**
comp=Z,8.0nm,0.6s,mb4.3,baz=42,slow=6.2,SNR=58
NOA pP pP 14 36 21.0 +3.5
comp=Z,2.2nm,0.8s,baz=45,slow=6.8,SNR=8.9
CTA Charters Tower 65.16 164⇑ *i*P **P 14 34 31.3 -1.2**
comp=Z,5.7nm,0.6s,mb4.2
CTA Charters Tower 65.16 164 P **P 14 34 31.3 -1.2**
comp=Z,8.0nm,0.6s,mb4.3,baz=348,slow=8.1,SNR=11
CTA Charters Tower 65.16 164⇑ *i*P **P 14 34 31.3 -1.2**
CTA pmax pmax
comp=Z,6.0nm,0.6s
CTAO Charters Tower 65.16 164 *e*P **P 14 34 31.5 -1.0**
CTAO pmax pmax
comp=Z,9.0nm,0.8s,mb4.2
CTAO Charters Tower 65.16 164 *e*P **P 14 34 31.5 -1.0**
comp=Z,8.5nm,0.8s,mb4.2
ASAR Alice Springs 67.23 177 P **P 14 34 44.4 -0.9**
comp=Z,9.7nm,0.7s,mb4.4,baz=353,slow=6.5,SNR=262
BUR08 Bucovina Ar. S 67.89 315 *e*P **P 14 34 48.6 -0.5**
BR131 Keskin Array S 68.34 305 *e*P **P 14 34 50.8 -1.2**
comp=Z,1.3nm,0.6s,mb3.6
KOLS Kolonicke sedl 68.49 318 *e*P **P 14 34 51.7 -1.0**
E03A Lebam 68.56 46⇑ P **P 14 34 53.4 +0.2**
baz=68
STHS Stebnicka Huta 68.66 319 *i* P **P 14 34 53.3 -0.4**
STHS pmax pmax
comp=Z,11nm,1.7s,mb4.1
STHS Stebnicka Huta 68.66 319 *i* P **P 14 34 53.3 -0.4**
comp=Z,11nm,1.7s,mb4.1
OJC Ojcow 68.78 320 *e*P **P 14 34 53.9 -0.6**
CRVS Cervenica-Dubn 68.90 318 *i* P **P 14 34 54.3 -0.9**
B07A Winthrop 69.01 42⇓ P **P 14 34 55.2 -0.6**
baz=69
NIE Niedzica 69.10 319 *e*P **P 14 34 56.7 +0.3**
A09A Danville 69.39 41⇓ P **P 14 34 57.9 -0.3**
baz=69
C07A Waterville 69.56 43⇑ P **P 14 34 58.6 -0.6**
baz=69

A10A Northport 69.88 41⇓ P **P 14 35 00.8 -0.3**
baz=70
E06A Yakima 69.89 44⇑ P **P 14 35 01.0 -0.1**
baz=70
B09A Rice 69.98 41⇑ P **P 14 35 01.6 -0.1**
baz=70
MORC Moravsky Berou 70.14 321 *e*P **P 14 35 02.4 -0.2**
MORC pmax pmax
comp=Z,7.0nm,0.8s,mb4.2
MORC Moravsky Berou 70.14 321 *e*P **P 14 35 02.4 -0.2**
comp=Z,7.2nm,0.8s,mb4.2
BSEG Bad Segeberg 70.17 327 *e*P **P 14 35 02.4 -0.3**
BSEG pmax pmax
comp=Z,10.0nm,1.0s,mb4.3
BSEG Bad Segeberg 70.17 327 *e*P **P 14 35 02.4 -0.3**
comp=Z,10.0nm,1.0s,mb4.3
DPC Dobruska-Polom 70.28 322 *e*P **P 14 35 03.6 +0.2**
UPC Upice 70.31 322 *e*P **P 14 35 03.4 -0.2**
PSZ Piszkesteto 70.34 318 *e*P **P 14 35 03.2 -0.6**
PSZ pmax pmax
comp=Z,7.0nm,1.0s,mb4.2
PSZ Piszkesteto 70.34 318 *e*P **P 14 35 03.2 -0.6**
comp=Z,7.5nm,1.0s,mb4.2
I03A Eugene 70.43 47⇑ P **P 14 35 04.9 +0.5**
baz=70
VYHS Vyhne 70.44 319 *i* P **P 14 35 04.4 0.0**
A11A Hall Mountain, 70.45 40⇓ P **P 14 35 05.1 +0.6**
baz=70
D08A Wollman Farm, 70.56 43⇓ P **P 14 35 04.4 -0.7**
baz=70
B11A Sandpoint 70.82 41⇓ P **P 14 35 07.0 +0.3**
baz=71
D09A Jones Farm, Ri 70.86 43⇓ P **P 14 35 06.6 -0.2**
baz=71
PVCC Panska Ves 70.93 323 *e*P **P 14 35 07.2 0.0**
BRG Berggiesshubel 70.95 323 *e*P **P 14 35 06.7 -0.6**
BRG pmax pmax
comp=Z,3.0nm,0.7s,mb3.9
BRG Berggiesshubel 70.95 323 *e*P **P 14 35 06.7 -0.6**
comp=Z,4.0nm,0.7s,mb4.1
I04A Tendick Farm, 71.02 47⇑ P **P 14 35 07.6 -0.2**
baz=71
CLL Collm 71.03 324⇓ *i*P **P 14 35 06.8 -1.0**
CLL pmax pmax
comp=Z,7.0nm,0.7s,mb4.3
CLL Collm 71.03 324 *e*P **P 14 35 07.0 -0.8**
comp=Z,11nm,1.1s,mb4.3
CLL Collm 71.03 324⇓ *i*P **P 14 35 06.8 -1.0**
comp=Z,7.0nm,0.7s,mb4.3
CLL Collm 71.03 324⇓ *i*P **P 14 35 06.8 -1.0**
comp=Z,7.0nm,0.7s,mb4.3
K02A Glendale 71.13 49⇑ P **P 14 35 08.5 -0.1**
baz=71
FBE Freiberg 71.17 324 *e*P **P 14 35 08.1 -0.5**
E09A Wood Farm, Sta 71.32 43⇑ P **P 14 35 09.6 0.0**
baz=71
PRU Pruhonice 71.33 322 *e*P **P 14 35 09.0 -0.6**
H06A Lindquist Farm 71.46 45⇑ P **P 14 35 10.3 -0.1**
baz=71
F08A Pendleton 71.51 44⇑ P **P 14 35 11.1 +0.3**
baz=71
HUMO Hull Mountain 71.53 48⇓ P **P 14 35 10.7 -0.2**
baz=71
J04A Umpqua Nationa 71.55 47⇓ P **P 14 35 11.4 +0.4**
baz=71
CLZ Clausthal 71.73 326 *e*P **P 14 35 11.4 -0.5**
CLZ pmax pmax
comp=Z,13nm,1.2s,mb4.2
CLZ Clausthal 71.73 326 *e*P **P 14 35 11.4 -0.5**
comp=Z,13nm,1.2s,mb4.2
B13A Whitefish 71.75 40⇑ P **P 14 35 12.0 0.0**
baz=72
A14A Double T Ranch 71.80 39⇑ P **P 14 35 12.4 +0.1**
baz=72
E10A Myers Farm, Un 71.85 42⇑ P **P 14 35 12.5 -0.2**
baz=72
TANN Tannenbergstha 71.92 324 *e*P **P 14 35 12.7 -0.3**
comp=Z,3.0nm,1.1s,mb3.6
WERD Werda 71.97 324 *e*P **P 14 35 13.0 -0.3**
J05A Fort Rock 71.99 47⇓ P **P 14 35 13.8 +0.3**
baz=72
GUNZ Gunzen 72.02 324 *e*P **P 14 35 13.2 -0.4**
WERN Wernitzgruen 72.06 324 *e*P **P 14 35 13.6 -0.2**
A15A Johnson Ranch, 72.10 38⇑ P **P 14 35 13.8 -0.3**
baz=72
MOX Moxa 72.11 324 *e*P **P 14 35 13.7 -0.4**
comp=Z,4.0nm,0.7s,mb4.0
C13A Hot Springs 72.20 40⇓ P **P 14 35 15.4 +0.7**
baz=72
B14A Marquette Ranc 72.31 39⇑ P **P 14 35 15.5 +0.2**
baz=72
I07A Izee 72.34 45⇓ P **P 14 35 16.1 +0.5**
baz=72
G09A Cove 72.37 44⇑ P **P 14 35 15.9 +0.2**
baz=72
E11A Bogner Ranch, 72.38 42⇓ P **P 14 35 15.4 -0.3**
baz=72
KHC Kasperske Hory 72.39 322 *e*P **P 14 35 15.4 -0.4**
MANZ Manzenberg 72.40 324 *e*P **P 14 35 15.4 -0.4**
comp=Z,3.0nm,0.8s,mb3.8
L04A Klamath Falls 72.40 48⇑ P **P 14 35 16.2 +0.2**
baz=72
M02C Callahan 72.42 49⇓ P **P 14 35 16.9 +0.8**
baz=72
H08A Prairie City 72.46 45⇓ P **P 14 35 16.5 +0.3**
baz=72
ROTZ Rotzenmuhle 72.52 323 *e*P **P 14 35 16.4 -0.1**
comp=Z,6.0nm,0.9s,mb4.0
GEC2 GERESS Array S 72.55 322 *e*P **P 14 35 15.9 -0.8**
GEC2 pmax pmax
comp=Z,3.0nm,1.0s,mb3.7
GEC2 GERESS Array S 72.55 322 *e*P **P 14 35 15.9 -0.8**
comp=Z,3.0nm,1.0s,mb3.7
GERES GERESS Array B 72.55 322 P **P 14 35 16.0 -0.7**
comp=Z,1.5nm,0.6s,mb3.6,baz=48,slow=4.0,SNR=9.6
K05A Summer Lake 72.55 47⇓ P **P 14 35 16.9 0.0**
baz=72
N02C Big Bar 72.56 50⇓ P **P 14 35 17.4 +0.5**
baz=72
J06A Christmas Vall 72.58 46⇓ P **P 14 35 17.3 +0.3**
baz=72
A16A West Butte Ran 72.63 38⇑ P **P 14 35 16.6 -0.5**
baz=72,SNR=6.1
B15A Bradely Ranch, 72.67 39⇓ P **P 14 35 17.2 -0.2**
baz=72,SNR=5.4
D13A Huson 72.68 41⇑ P **P 14 35 17.3 -0.2**
baz=72
G10A Bishop Farm, J 72.69 43⇑ P **P 14 35 17.8 +0.3**
baz=72
WET Wettzell 72.69 323 *e*P **P 14 35 17.2 -0.3**
WET pmax pmax
comp=Z,6.0nm,1.0s,mb4.0
WET Wettzell 72.69 323 *e*P **P 14 35 17.2 -0.3**
comp=Z,6.0nm,1.0s,mb4.0
M04C Macdoel 72.70 48⇑ P **P 14 35 17.9 +0.2**
baz=72
K06A Valley Falls 72.84 47⇓ P **P 14 35 19.0 +0.5**
baz=73
H09A Durkee 72.86 44⇓ P **P 14 35 18.8 +0.2**
baz=73
BMO Blue Mountains 72.91 44 *e*P **P 14 35 19.1 +0.3**
I08A Drewsey 72.94 45⇑ P **P 14 35 19.2 +0.2**
baz=73
B16A M & M Farms, S 72.98 38⇓ P **P 14 35 19.2 +0.1**
baz=73
GRA1 Grafenberg Arr 73.00 324 *e*P **P 14 35 19.2 0.0**
comp=Z,19nm,1.1s,mb4.4
GRF Grafenberg Arr 73.00 324 *e*P **P 14 35 19.2 0.0**
GRF pmax pmax
comp=Z,19nm,1.1s,mb4.4
GRF Grafenberg Arr 73.00 324 *e*P **P 14 35 19.2 0.0**
comp=Z,19nm,1.1s,mb4.4
GRF Grafenberg Arr 73.00 324 *e*P **P 14 35 19.2 0.0**
comp=Z,19nm,1.1s,mb4.4
GRFO Grafenberg 73.00 324 *e*P **P 14 35 19.5 +0.3**
G11A Walters Elk Ra 73.03 43⇑ P **P 14 35 19.0 -0.5**
baz=73
C15A Salmond Ranch, 73.04 39⇑ P **P 14 35 19.6 +0.1**
baz=73
L05A Lakeview 73.06 48⇑ P **P 14 35 20.2 +0.5**
baz=73
D14A Greenough 73.14 40⇑ P **P 14 35 19.9 -0.2**
baz=73
WDC Whiskeytown Da 73.14 50⇓ P **P 14 35 20.1 -0.2**
baz=73
F12A Elk City 73.27 42⇓ P **P 14 35 20.5 -0.3**

baz=73
I09A Lost Marbles R 73.32 45⇓ P **P 14 35 21.3 +0.1**
baz=73
M05C Lookout 73.37 48⇑ P **P 14 35 21.9 +0.4**
baz=73
H10A Noah's Angus R 73.38 44⇑ P **P 14 35 21.3 -0.2**
baz=73
J08A Circle Bar Ran 73.38 45⇓ P **P 14 35 22.1 +0.5**
baz=73
C16A Fuhringer Ranc 73.41 39⇑ P **P 14 35 21.7 0.0**
baz=73
MOD Modoc 73.44 47⇑ P **P 14 35 22.4 +0.4**
baz=73
K07A Rock Creek Ran 73.45 46⇓ P **P 14 35 22.2 +0.2**
baz=73,SNR=5.6
PERS Pernice 73.53 320 *i* P **P 14 35 22.0 -0.3**
D15A Lincoln 73.62 40⇑ P **P 14 35 22.6 -0.3**
baz=73
E14A Clinton 73.63 41⇓ P **P 14 35 23.0 0.0**
baz=73
GASB Alder Springs 73.69 51⇑ P **P 14 35 24.1 +0.8**
baz=73
F13A Darby 73.69 41⇑ P **P 14 35 23.6 +0.3**
baz=73
I10A Payette 73.71 44⇑ P **P 14 35 23.8 +0.4**
baz=73
J09A Fry Pan Ranch, 73.75 45⇑ P **P 14 35 23.9 +0.3**
baz=74,SNR=7.0
RJOB Jochberg 73.78 322 *e*P **P 14 35 23.7 0.0**
comp=Z,6.0nm,0.8s,mb4.1
EKA Eskdalemuir Ar 73.79 335 P **P 14 35 22.8 -0.9**
comp=Z,3.9nm,0.7s,mb4.0,baz=27,slow=4.2,SNR=16
K08A Mann Creek Ran 73.81 46⇑ P **P 14 35 24.4 +0.4**
baz=74
M06C Likely Place G 73.84 48⇓ P **P 14 35 24.8 +0.7**
baz=74
L07A Adell 73.87 47⇑ P **P 14 35 24.6 +0.3**
baz=74,SNR=6.0
C17A Wharram Farm, 73.98 38⇓ P **P 14 35 24.1 -0.8**
baz=74
PDKS Podkum 74.00 319 *e*P **P 14 35 24.3 -0.8**
E15A Deer Lodge 74.02 40⇑ P **P 14 35 25.1 -0.1**
baz=74
D16A Dana Ranch, Ca 74.08 39⇑ P **P 14 35 25.6 +0.2**
baz=74
O04C Chester 74.12 49⇑ P **P 14 35 26.1 +0.3**
baz=74
F14A Wisdom 74.13 41⇓ P **P 14 35 25.6 -0.1**
baz=74
K09A Rome 74.23 45⇑ P **P 14 35 26.5 +0.2**
baz=74
G13A Cobalt 74.25 42⇓ P **P 14 35 25.6 -0.8**
baz=74
VISS Visnje 74.27 319 *i* P **P 14 35 25.5 -1.0**
L08A Fields 74.27 46⇑ P **P 14 35 27.0 +0.4**
baz=74
FORT Forrest 74.31 183 *e*P **P 14 35 25.5 -1.3**
comp=Z,34nm,0.6s,mb5.0
H12A Diamond D Ranc 74.34 43⇑ P **P 14 35 26.8 -0.2**
baz=74,SNR=8.3
E16A East Helena 74.39 40⇓ P **P 14 35 27.3 +0.1**
baz=74
ORV Oroville 74.43 50⇓ P **P 14 35 26.7 -0.8**
baz=74
N06A Buffalo Meadow 74.50 48⇓ P **P 14 35 28.4 +0.4**
baz=74
F15A Butte 74.53 40⇑ P **P 14 35 28.1 +0.2**
baz=74
K10A MacKenzie Ranc 74.61 45⇑ P **P 14 35 28.9 +0.4**
baz=74
H13A Challis 74.62 42⇓ P **P 14 35 28.5 -0.1**
baz=74
MFID Camas Ranch 74.68 44⇑ P **P 14 35 29.2 +0.3**
baz=74,SNR=7.5
CVS Carmenet Viney 74.74 51⇓ P **P 14 35 29.7 +0.4**
baz=74
L09A Wilkinson Ranc 74.75 46⇓ P **P 14 35 29.8 +0.4**
baz=74
I12A Atlanta 74.75 43⇑ P **P 14 35 28.9 -0.4**
baz=74
E17A Martinsdale 74.82 39⇓ P **P 14 35 30.1 +0.5**
baz=74
DLMT Dillon 74.83 41 *e*P **P 14 35 30.4 +0.7**
comp=Z,11nm,0.8s,mb4.3
BEKR Beckwourth 74.84 49⇑ P **P 14 35 29.7 -0.2**
baz=75
N07B Gerlach 74.94 48⇑ P **P 14 35 30.2 -0.3**
baz=75
G15A Dillon 75.03 41⇑ P **P 14 35 30.8 0.0**
baz=75
K11A Parker Ranch, 75.05 45⇑ P **P 14 35 30.9 -0.1**
baz=75
P05C Yuba Gap, Truc 75.10 50⇓ P **P 14 35 31.1 -0.2**
baz=75
MCMT McKenzie Canyo 75.11 41 *e*P **P 14 35 31.2 -0.1**
I13A Wildhorse Cree 75.17 43⇑ P **P 14 35 32.1 +0.5**
baz=75
J12A Stokes Ranch, 75.17 44⇓ P **P 14 35 31.6 0.0**
baz=75
BFO Black Forest 75.27 324 *e*P **P 14 35 31.2 -0.9**
BFO pmax pmax
comp=Z,12nm,1.0s,mb4.3
BFO Black Forest 75.27 324 *e*P **P 14 35 31.5 -0.6**
comp=Z,9.0nm,0.9s,mb4.2
BFO Black Forest 75.27 324 *e*P **P 14 35 31.2 -0.9**
comp=Z,12nm,1.0s,mb4.3
HLID Hailey 75.28 43⇑ P **P 14 35 32.4 +0.1**
baz=75
G16A Moss Hill, Enn 75.30 40⇑ P **P 14 35 32.6 +0.3**
baz=75
L10A Juniper Basin 75.32 45⇑ P **P 14 35 33.0 +0.4**
baz=75,SNR=9.3
H15A Lima 75.36 41⇓ P **P 14 35 32.7 0.0**
baz=75
LAVA Lava Cap Winer 75.41 50⇑ P **P 14 35 33.0 -0.1**
baz=75
O07A Toulon 75.43 48⇓ P **P 14 35 33.6 +0.4**
baz=75
I14A Mackay 75.48 42⇑ P **P 14 35 34.3 +0.9**
baz=75
J13A Cove Ranch, Pi 75.52 43⇓ P **P 14 35 34.3 +0.8**
baz=75
L11A Cat Creek Ranc 75.63 45⇓ P **P 14 35 35.1 +0.9**
baz=75
M10A I.L. Ranch, Tu 75.69 46⇓ P **P 14 35 35.5 +0.9**
baz=75,SNR=6.0
K12A Draper Farm, C 75.72 44⇓ P **P 14 35 35.0 +0.4**
baz=75
O08A Rochester Mine 75.73 47⇑ P **P 14 35 35.4 +0.6**
baz=76,SNR=6.9
F18A Big Timber 75.76 39⇑ P **P 14 35 35.0 +0.2**
baz=76
R05C Kirkwood Meado 75.82 50⇓ P **P 14 35 35.6 +0.3**
baz=76
J14A Carey 75.90 43⇑ P **P 14 35 36.1 +0.4**
baz=76
H16A Russell Place, 75.96 41⇓ P **P 14 35 36.5 +0.5**
baz=76,SNR=5.6
STKA Stephens Creek 75.99 171⇑ *i*P **P 14 35 35.5 -0.6**
comp=Z,8.0nm,0.8s,mb4.3
STKA Stephens Creek 75.99 171 P **P 14 35 35.6 -0.5**
comp=Z,11nm,0.6s,mb4.5,baz=337,slow=6.2,SNR=34
KLBR Kellerberrin 76.02 192 *e*P **P 14 35 34.7 -1.6**
comp=Z,9.9nm,0.8s,mb4.3
CMB Columbia Colle 76.12 50⇓ P **P 14 35 37.0 0.0**
baz=76
CMB Columbia Colle 76.12 50 *e*P **P 14 35 37.2 +0.2**
M11A Holland Ranch, 76.14 45⇑ P **P 14 35 38.1 +1.0**
baz=76,SNR=5.5
DGMT Dagmar 76.14 34⇑ P **P 14 35 36.6 -0.3**
baz=76
R06C Coleville 76.29 49⇓ P **P 14 35 38.4 +0.5**
baz=76
ARMA Armidale 76.31 162 *e*P **P 14 35 38.1 +0.2**
PACP Pacheco Peak 76.33 52⇓ P **P 14 35 38.2 0.0**
baz=76
J15A Blackfoot 76.37 42⇓ P **P 14 35 38.3 0.0**
baz=76
H17A Grant Village 76.51 40⇓ P **P 14 35 40.0 +0.9**
baz=76
RLMT Red Lodge 76.56 39⇓ P **P 14 35 39.4 +0.1**
baz=76
M12A Wells 76.60 45⇓ P **P 14 35 40.0 +0.4**
baz=76
K14A Jones Ranch, D 76.64 43⇓ P **P 14 35 40.3 +0.5**
baz=76
IMW Indian Meadow 76.71 41 *e*P **P 14 35 41.1 +1.0**
I17A Pilgram Creek 76.87 41⇑ P **P 14 35 42.3 +1.3**

baz=77
MOOW **Moose Ponds** 76.92 41 *e*P P 14 35 42.3 +1.1
ELK **Elko** 76.93 45 P P 14 35 41.9 +0.5
comp=Z,2.1nm,0.7s,mb3.7,baz=331,slow=3.6,SNR=7.6
N12A **Clover Valley,** 76.95 45 ⇓P P 14 35 42.3 +0.8
baz=77,SNR=5.1
NVAR **Mina Array Bea** 76.98 49 P P 14 35 42.1 +0.3
comp=Z,6.5nm,0.7s,mb4.2,baz=293,slow=5.2,SNR=41
L14A **Malta** 76.99 43 ⇑P P 14 35 42.6 +0.9
baz=77
M13A **Montello** 77.03 44 ⇓P P 14 35 42.8 +0.9
baz=77
O11A **Cowboy Ranch,** 77.16 46 ⇑P P 14 35 43.3 +0.6
baz=77
K16A **Soda Springs** 77.20 42 ⇓P P 14 35 43.7 +0.8
baz=77
KCC **Kaiser Creek** 77.22 50 ⇑P P 14 35 43.0 -0.1
baz=77
T06C **Millerton Lake** 77.22 51 ⇓P P 14 35 43.2 +0.1
baz=77
M14A **Sheep Mountain** 77.33 44 ⇓P P 14 35 43.9 +0.4
baz=77
NWAO **Narrogin (SRO)** 77.41 192 P P 14 35 43.1 -0.7
comp=Z,10nm,0.7s,mb4.4,baz=327,slow=1.6,SNR=8.7
L15A **Malad City** 77.44 43 ⇓P P 14 35 44.2 +0.1
baz=77
O12A **Currie** 77.53 46 ⇑P P 14 35 45.2 +0.6
baz=77
Q10A **Clear Creek Ra** 77.72 48 ⇑P P 14 35 46.2 +0.5
baz=78
R09A **Tonopah** 77.79 48 ⇓P P 14 35 46.1 0.0
baz=78
HELL **Mitchell Peak** 77.84 51 ⇓P P 14 35 46.1 -0.4
baz=78
L16A **Fish Haven** 77.90 42 ⇑P P 14 35 46.5 -0.1
baz=78
LOR **Lormes** 77.95 326 *e*P P 14 35 45.2 -1.6
comp=Z,6.9nm,0.7s,mb3.8
LOR **Lormes** 77.95 326 *e*P P 14 35 45.2 -1.6
LOR pmax pmax
comp=Z,3.0nm,0.6s,mb3.8
LOR **Lormes** 77.95 326 *e*P P 14 35 45.2 -1.6
comp=Z,3.5nm,0.6s,mb3.9
P12A **McGill** 78.04 46 ⇑P P 14 35 48.1 +0.7
baz=78
S09A **Goldfield** 78.08 49 ⇓P P 14 35 48.2 +0.5
baz=78
HWUT **Hardware Ranch** 78.14 43 *e*P P 14 35 48.2 +0.3
comp=Z,15nm,1.6s,mb4.1
LPL **La Plagne** 78.15 324 *e*P P 14 35 46.7 -1.2
LPG **La Plagne** 78.16 323 *e*P P 14 35 47.2 -0.7
comp=Z,14nm,0.8s,mb4.0
LPG **La Plagne** 78.16 323 *e*P P 14 35 47.2 -0.7
LPG pmax pmax
comp=Z,7.0nm,0.8s,mb4.0
LPG **La Plagne** 78.16 323 *e*P P 14 35 47.2 -0.7
comp=Z,6.8nm,0.8s,mb4.0
R10A **Warm Springs** 78.17 48 ⇑P P 14 35 48.4 +0.2
baz=78
PDAR **Pinedale Array** 78.23 41 P P 14 35 47.9 -0.5
comp=Z,3.0nm,0.7s,mb3.7,baz=22,slow=1.8,SNR=23
PDAR pP pP 14 37 47.8 +4.7
comp=Z,0.8nm,0.9s,baz=342,slow=1.9,SNR=4.5
SSF **Saint Saulge** 78.26 326 *e*P P 14 35 46.9 -1.5
comp=Z,11nm,0.9s,mb3.9
SSF **Saint Saulge** 78.26 326 *e*P P 14 35 46.9 -1.5
SSF pmax pmax
comp=Z,5.0nm,0.9s,mb3.8
SSF **Saint Saulge** 78.26 326 *e*P P 14 35 46.9 -1.5
comp=Z,5.4nm,0.9s,mb3.9
S10A **Tonopah Range,** 78.28 48 ⇓P P 14 35 48.9 +0.1
baz=78
Q12A **Willow Creek R** 78.40 46 ⇑P P 14 35 49.8 +0.5
baz=78
SMF **Signal de Mont** 78.46 326 *e*P P 14 35 48.8 -0.7
R11A **Troy Canyon, C** 78.51 47 ⇓P P 14 35 49.9 0.0
baz=78
P13A **Bates Ranch, G** 78.51 46 ⇓P P 14 35 50.3 +0.4
baz=78
GRAC **Grapevine Rang** 78.53 49 ⇑P P 14 35 50.7 +0.6
baz=78
AVF **Avril sur Loir** 78.54 326 *e*P P 14 35 48.6 -1.4
comp=Z,7.4nm,0.7s,mb3.8
AVF **Avril sur Loir** 78.54 326 *e*P P 14 35 48.6 -1.4
AVF pmax pmax
comp=Z,4.0nm,0.7s,mb3.9
AVF **Avril sur Loir** 78.54 326 *e*P P 14 35 48.6 -1.4
comp=Z,3.7nm,0.7s,mb3.8
DUG **Dugway** 78.58 44 ⇑P P 14 35 51.0 +0.7
baz=78
MBDF **Montbardon** 78.76 323 *e*P P 14 35 49.5 -1.7
comp=Z,11nm,0.7s,mb4.0
MBDF **Montbardon** 78.76 323 *e*P P 14 35 49.5 -1.7
MBDF pmax pmax
comp=Z,5.0nm,0.7s,mb4.0
MBDF **Montbardon** 78.76 323 *e*P P 14 35 49.5 -1.7
comp=Z,5.4nm,0.7s,mb4.0
Q13A **Wheeler Ranch,** 78.88 46 ⇑P P 14 35 52.4 +0.5
baz=79
P14A **Drum Mountains** 78.90 45 ⇑P P 14 35 52.6 +0.6
baz=79
ORIF **Oris-en-Rattie** 78.99 324 *e*P P 14 35 51.3 -1.1
N17A **Moffit Pass** 79.00 43 ⇑P P 14 35 53.0 +0.5
baz=79
MPMC **Manual Prospec** 79.14 50 ⇓P P 14 35 53.5 +0.1
baz=79
TPNV **Topopah Spring** 79.18 49 ⇓P P 14 35 53.8 +0.2
baz=79
P15A **Leamington** 79.32 45 ⇓P P 14 35 54.6 +0.4
baz=79
T11A **Corn Creek, Al** 79.52 48 ⇑P P 14 35 55.5 +0.1
baz=79
VIVF **Saint-Julien-l** 79.56 324 *e*P P 14 35 53.3 -2.1
comp=Z,21nm,1.0s,mb4.1
VIVF **Saint-Julien-l** 79.56 324 *e*P P 14 35 53.3 -2.1
VIVF pmax pmax
comp=Z,10.0nm,1.0s,mb4.1
VIVF **Saint-Julien-l** 79.56 324 *e*P P 14 35 53.3 -2.1
comp=Z,10nm,1.0s,mb4.1
O17A **Robinson Place** 79.62 43 ⇑P P 14 35 56.3 +0.5
baz=79
BLG **Laguna Peak** 79.67 52 ⇓P P 14 35 56.8 +0.6
baz=79
EDW2 **Edwards Air Fo** 79.72 51 ⇓P P 14 35 56.3 -0.2
baz=80
GSC **Goldstone** 80.08 50 ⇓P P 14 35 58.4 +0.1
baz=80
P18A **Preston Nutter** 80.30 43 ⇓P P 14 36 00.1 +0.7
baz=80
T13A **Saint George** 80.38 47 ⇑P P 14 36 00.2 +0.3
baz=80
TUQ **Turquoise Moun** 80.47 50 ⇑P P 14 36 00.6 +0.3
baz=80
SRU **San Rafael** 80.55 44 ⇑P P 14 36 01.4 +0.7
baz=80
CAF **Calviac** 80.58 326 *e*P P 14 36 00.0 -0.7
comp=Z,15nm,1.0s,mb4.1
CAF **Calviac** 80.58 326 *e*P P 14 36 00.0 -0.7
CAF pmax pmax
comp=Z,8.0nm,1.0s,mb4.1
CAF **Calviac** 80.58 326 *e*P P 14 36 00.0 -0.7
comp=Z,7.7nm,1.0s,mb4.1
R17A **Hanksville Air** 80.99 44 ⇓P P 14 36 02.9 0.0
baz=81
GMRC **Granite Mounta** 81.10 50 ⇓P P 14 36 03.5 -0.1
baz=81
Q19A **Hogan Spring (** 81.30 43 ⇓P P 14 36 04.4 -0.2
baz=81
BELC **Belle Mtn.** 81.48 51 ⇑P P 14 36 04.9 -0.7
baz=81
U15A **North Rim** 81.68 47 ⇓P P 14 36 07.1 +0.5
baz=81
W13A **Hualapai Mount** 81.83 49 ⇑P P 14 36 07.9 +0.6
baz=82
IRM **Iron Mountain** 81.84 50 ⇓P P 14 36 07.9 +0.5
baz=82
V14A **Boquillas Ranc** 81.85 48 ⇓P P 14 36 08.3 +0.8
baz=82
S18A **Hurst Farm, Bl** 81.91 44 ⇓P P 14 36 07.9 +0.2
baz=82
BC3 **Big Chuckw Mtn** 82.04 50 ⇑P P 14 36 08.8 +0.3
baz=82
W14A **Seligman** 82.18 48 ⇑P P 14 36 10.1 +1.0
baz=82
V15A **Kaibab Nationa** 82.21 47 ⇑P P 14 36 10.1 +0.8
baz=82
X13A **Yucca** 82.24 49 ⇑P P 14 36 09.9 +0.5
baz=82
PDMCI **Parker Dam,Lak** 82.29 49 ⇑P P 14 36 09.7 0.0
baz=82
T18A **Mexican Hat** 82.39 45 ⇑P P 14 36 10.2 0.0
baz=82
U17A **Shonto** 82.40 46 ⇓P P 14 36 10.9 +0.7
baz=82
Y12C **Blythe** 82.49 50 ⇑P P 14 36 11.2 +0.5
baz=82
U16A **Tuba City** 82.51 46 ⇑P P 14 36 11.1 +0.3
baz=82
W15A **Williams** 82.64 47 ⇓P P 14 36 12.4 +0.9
baz=82
X14A **Yava** 82.84 48 ⇓P P 14 36 13.1 +0.6
baz=83
MVCO **Mesa Verde** 83.03 44 ⇑P P 14 36 13.3 -0.1
baz=83
T19A **Beclabito** 83.06 44 ⇓P P 14 36 14.2 +0.7
baz=83
Y14A **Wickenburg** 83.18 49 ⇓P P 14 36 14.5 +0.3
baz=83
X15A **Humboldt** 83.18 48 ⇑P P 14 36 14.8 +0.6
baz=83
V18A **Ganado** 83.46 46 ⇑P P 14 36 15.9 +0.4
baz=83
Y15A **Casa Rosa Ranc** 83.53 48 ⇑P P 14 36 16.3 +0.3
baz=83
X16A **Lo Mia Camp, P** 83.66 47 ⇓P P 14 36 17.0 +0.4
baz=83
SDCO **Great Sand Dun** 84.08 42 *e*P P 14 36 18.9 +0.4
comp=Z,16nm,2.0s,mb4.2
W19A **Sanders** 84.20 46 ⇓P P 14 36 20.2 +0.9
baz=84
X18A **Snowflake** 84.36 46 ⇓P P 14 36 20.7 +0.7
baz=84
Y17A **Roosevelt** 84.53 48 ⇓P P 14 36 20.9 0.0
baz=84
115A **Sonoran Desert** 84.54 49 ⇑P P 14 36 20.9 -0.1
baz=84
X19A **St. Johns** 84.79 46 ⇑P P 14 36 22.5 +0.4
baz=84
Y19A **Nutrioso** 85.17 46 ⇑P P 14 36 24.6 +0.7
baz=85
118A **Homack Ranch,** 85.81 48 ⇓P P 14 36 28.0 +0.9
baz=86
ANMO **Albuquerque** 85.82 44 P P 14 36 26.9 -0.2
comp=Z,1.2nm,0.8s,mb3.5,baz=307,slow=5.1,SNR=3.6
ANMO **Albuquerque** 85.82 44 *e*P P 14 36 26.4 -0.7
119A **Ashpeak Ranch,** 86.07 47 ⇓P P 14 36 28.6 +0.3
baz=86
318A **Bisbee** 86.72 48 ⇑P P 14 36 31.6 +0.2
baz=86
MIV **Mineville/With** 89.80 17 *e*P P 14 36 38.4 -7.0
MIV *e*pP pP 14 38 36.6 -7.6
TXAR **Lajitas Array** 91.72 45 P P 14 36 55.0 +0.3
comp=Z,1.7nm,0.8s,mb4.1,baz=272,slow=3.3,SNR=16
TXAR **Lajitas Array** 91.72 45 P P 14 36 55.0 +0.3
TORD **Torodi Ar. Bea** 106.81 308 PKiKP PKiKP 14 42 06.3 -2.9
comp=Z,0.1nm,0.4s,baz=44,slow=3.5,SNR=2.6
TORD PP PP 14 42 31.4 -4.0
comp=Z,2.0nm,1.1s,baz=13,slow=8.8,SNR=6.4
MAW **Mawson** 122.26 205 PKP PKPdf 14 42 35.2 -1.7
comp=Z,2.5nm,0.7s,baz=334,slow=5.1,SNR=7.7
QSPA **South Pole Qui** 133.58 180 PKhKP 14 42 41.2
comp=Z,1.5nm,1.1s,baz=26,slow=1.9,SNR=4.4
QSPA PKP PKPdf 14 42 57.6 -0.6
comp=Z,2.9nm,0.6s,baz=272,slow=1.5,SNR=17
QSPA SKPbc SKPbc 14 45 31.4 -4.7
comp=Z,7.3nm,0.9s,baz=306,slow=1.8,SNR=16
QSPA **South Pole Qui** 133.58 180 PKP 14 42 41.2
QSPA PKP PKPdf 14 42 57.6 -0.6
QSPA SKPbc SKPbc 14 45 31.4 -4.7
SNAA **Sanae** 144.39 203 *e*PKPdf PKPdf 14 43 15.9 -2.1
SNAA *e* 14 43 17.4
SNAA *e* 14 43 19.5
SNAA **Sanae** 144.39 203 *e*PKPbc PKPdf 14 43 15.9 -2.0
VNA2 **Neumayer--Watz** 146.04 203 *e*PKPdf PKPdf 14 43 19.0 -1.8
baz=96,slow=1.2
VNA2 *e* 14 43 21.5
VNA2 *e* 14 43 23.7
VNA1 **Neumayer--Stat** 146.43 203 *e*PKPdf PKPdf 14 43 22.4 +0.9
VNA1 *e* 14 43 23.8
VNA1 *e* 14 43 26.7
VNA3 **Neumayer Olymp** 146.50 202 *e*PKPdf PKPdf 14 43 19.2 -2.4
VNA3 *e* 14 43 22.1
VNA3 *e* 14 43 24.2
LPAZ **La Paz** 148.15 36 PKPbc PKPbc 14 43 29.0 -1.0
comp=Z,2.7nm,0.7s,baz=339,slow=3.7,SNR=16
LPAZ pPKPbc pPKPbc 14 45 40.3 +5.2
comp=Z,1.9nm,0.8s,baz=6.1,slow=6.8,SNR=6.2

*CSEM **05** 14:34:16.3±0.1, 8124N×4.19W, h8km, ML2.6, Error ellipse: s-maj=4.4km s-min=3.4km az=25.0*
*NEIC **05** 14:34:17.8±0.7, 81.12N×328W, h10km, mb3.8/1, Error ellipse: s-maj=15.1km s-min=9.8km az=195.0*
*IDC **05** 14:34:17.0±0.8, 8128N×348W, h0km, mb3.8/7, mb1 3.9/9, mb1mx3.6/28, mbtmp3.8/9, ML3.7/2, MS3.3/7, Ms1 3.3/7, ms1mx3.0/30, Error ellipse: s-maj=28.9km s-min=17.2km az=43.0*
*ISCJB **05** 14:34:17.4±2.7, 809N±0.1×30W±0.4, h15km±22km, mb3.7/6, MS3.4/5, Error ellipse: s-maj=18.9km s-min=7.4km az=19.4*
*BER **05** 14:34:19.6±2.8, 8152N×142W, h15km±158km, MD3.0, ML2.8, ML2.6(NAO)*
*NAO **05** 14:34:21.5±6.8, 8136N×0.12E, ML2.6*
ISC 05 14:34:20.1±2.7, 810N±01×30W±04, h17km±19km, n35, σ1§17/41, mb3.7/6, MS3.4/5, North of Svalbard

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
KBS	**Kingsbay**	**3.31**	**121**	*e*P		**Pn**	**14 35 11.0**	**0.0**
KBS				*e*S		**Sn**	**14 35 48.7**	**-1.1**
KBS				AML		AML	14 35 50.5	
	comp=Z,56nm,0.3s							
KBS	**Kingsbay**	**3.31**	**121**	Pn		**Pn**	**14 35 11.1**	**+0.1**
KBS				Sn		**Sn**	**14 35 48.6**	**-1.3**
KBS	**Kingsbay**	**3.31**	**121**	*e*Pn		**Pn**	**14 35 10.4**	**-0.6**
KBS				*e*Sn		**Sn**	**14 35 48.7**	**-1.2**
SPB4	**Spitsbergen Ar**	**4.47**	**119**	*e*Sn		**Sn**	**14 36 18.5**	**+0.3**
SPB4	**Spitsbergen Ar**	**4.47**	**119**	*e*Sn		**Pn**	**14 35 26.9**	**+0.1**
SPB4				*e*Sn		**Sn**	**14 36 18.5**	**+0.3**
SPA0	**Spitsbergen Ar**	**4.47**	**119**	Pn		**Pn**	**14 35 27.1**	**+0.3**
	baz=337,slow=6.9							
SPA0				Sn		**Sn**	**14 36 17.3**	**-1.0**
	baz=328,slow=14							
SPITS	**Spitsbergen Ar**	**4.47**	**119**	Pn		**Pn**	**14 35 27.1**	**+0.2**
	baz=124,slow=10,SNR=131							
SPITS				Sn		**Sn**	**14 36 17.9**	**-0.4**
	baz=128,slow=11,SNR=5.7							
SPITS				LR		LR	14 37 09.0	
	comp=Z,328nm,18.8s,baz=190,slow=37							
SPITS	**Spitsbergen Ar**	**4.47**	**119**	Pn		**Pn**	**14 35 27.1**	**+0.3**
SPITS				Sn		**Sn**	**14 36 17.9**	**-0.4**
DAG	**Danmarks Havn**	**5.17**	**224**	*i* P		**Pn**	**14 35 37.0**	**+0.6**
DAG				*i*			14 36 33.9	
DAG	**Danmarks Havn**	**5.17**	**224**	*e*P		**Pn**	**14 35 37.0**	**+0.6**
DAG				*i*			14 36 33.9	
HSP	**Hornsund**	**5.30**	**129**	*e*Pn		**Pn**	**14 35 39.2**	**+1.0**
HSP				*e*Sn		**Sn**	**14 36 38.1**	**-0.6**
HOPEN	**Hopen**	**6.98**	**115**	*e*P		**Pn**	**14 35 59.8**	**-1.4**
HOPEN				*e*S		**Sn**	**14 37 12.6**	**-7.3**
SUMG	**Summit**	**11.38**	**242**	*e*Pn		**Pn**	**14 36 59.6**	**-1.9**
	comp=Z,1.6nm,0.4s							
SUMG	**Summit**	**11.38**	**242**	*e*Pn		**Pn**	**14 36 59.6**	**-1.9**
	comp=Z,1.6nm,0.4s							
SUMG				*e*Sn		**Sn**	**14 38 58.5**	**-10**
ARA0	**ARCESS Array S**	**13.29**	**133**	Pn		**Pn**	**14 37 27.2**	**-0.3**
ARA0				Sn		**Sn**	**14 39 49.3**	**-5.4**
	baz=350,slow=11							
ARA0	**ARCESS Array S**	**13.29**	**133**	Pn		**Pn**	**14 37 27.2**	**-0.4**
ARCES	**ARCESS Array B**	**13.29**	**133**	Pn		**Pn**	**14 37 27.0**	**-0.6**
	comp=Z,0.3nm,0.3s,baz=346,slow=10.0,SNR=10							
ARCES				Sn		**Sn**	**14 39 49.4**	**-5.2**
	comp=Z,0.1nm,0.3s,baz=25,slow=24,SNR=2.9							
ARCES				LR		LR	14 42 59.6	
	comp=Z,38nm,18.3s,baz=168,slow=38							
NOA	**NORSAR Array B**	**20.42**	**160**	P		**P**	**14 39 00.2**	**+4.5**
	comp=Z,1.0nm,0.7s,baz=346,slow=8.7,SNR=4.2							
NOA	**NORSAR Array B**	**20.42**	**160**	P		**P**	**14 39 00.2**	**+4.4**
NAO01	**NORSAR Array S**	**20.60**	**161**	P		**P**	**14 38 59.4**	**+1.7**
	comp=Z,4.5nm,0.9s							
NAO01	**NORSAR Array S**	**20.60**	**161**	P		**P**	**14 38 59.4**	**+1.7**
	comp=Z,4.5nm,0.9s							
HFS	**Hagfors**	**21.47**	**157**	P		**P**	**14 39 10.9**	**+3.8**
	comp=Z,1.8nm,0.7s,mb3.5,baz=11,slow=8.3,SNR=4.3							
YKA	**Yellowknife Ar**	**32.06**	**306**	LR		LR	14 53 36.1	
	comp=Z,48nm,19.5s,MS3.2,baz=65,slow=36							
SCHQ	**Schefferville**	**32.26**	**257**	LR		LR	14 54 10.7	
	comp=Z,85nm,19.6s,MS3.4,baz=292,slow=37							
ZALV	**Zalesovo Beam**	**36.87**	**80**	LR		LR	15 00 47.8	
	comp=Z,37nm,18.3s,MS3.2,baz=71,slow=43							
KURK	**Kurchatov**	**39.02**	**87**	P		**P**	**14 41 46.8**	**+1.7**
	comp=Z,1.2nm,0.9s,mb3.6,baz=348,slow=7.5,SNR=5.8							
KDAK	**Kodiak Island**	**40.47**	**335**	P		**P**	**14 41 54.2**	**-2.7**
	comp=Z,4.7nm,0.6s,mb4.4,baz=5.6,slow=8.6,SNR=6.0							
KDAK	**Kodiak Island**	**40.47**	**335**	P		**P**	**14 41 54.2**	**-2.8**
ULM	**Lac du Bonnet**	**41.24**	**283**	LR		LR	14 59 10.7	
	comp=Z,68nm,21.1s,MS3.5,baz=194,slow=36							
MKAR	**Makanchi Array**	**43.41**	**85**	P		**P**	**14 42 22.4**	**+1.2**
	comp=Z,0.3nm,0.3s,mb3.5,baz=353,slow=6.7,SNR=6.0							
MKAR				LR		LR	15 02 30.3	
	comp=Z,52nm,18.4s,MS3.5,baz=326,slow=39							
TXAR	**Lajitas Array**	**62.89**	**285**	P		**P**	**14 44 43.9**	**-0.8**
	comp=Z,0.5nm,0.6s,mb3.8,baz=34,slow=4.4,SNR=7.7							
TORD	**Torodi Ar. Bea**	**67.88**	**175**	P		**P**	**14 45 18.8**	**+1.7**
	comp=Z,0.3nm,0.6s,mb3.5,baz=9.2,slow=4.4,SNR=5.9							
TORD	**Torodi Ar. Bea**	**67.88**	**175**	P		**P**	**14 45 18.8**	**+1.7**
WRA	**Warramunga Arr**	**116.36**	**45**	PKP		PKPdf	14 52 59.2	-2.6
	comp=Z,0.2nm,0.9s,baz=325,slow=1.8,SNR=4.4							
ASAR	**Alice Springs**	**119.99**	**46**	PKP		PKPdf	14 53 07.2	-1.5
	comp=Z,0.2nm,0.6s,baz=351,slow=1.8,SNR=6.7							

*NEIC **05** 15:09:59.1±0.9, 4138N×30.14W, h10km, mb3.8/1, Error ellipse: s-maj=57.6km s-min=14.1km az=188.0*
*ISCJB **05** 15:10:00.4±0.9, 412N±02×298W±02, h10km, mb3.6/6, MS3.5/16, Error ellipse: s-maj=35.7km s-min=15.1km az=15.8*
*IDC **05** 15:10:01.1±1.2, 4122N×2969W, h0km, mb3.6/6, mb1 3.8/7, mb1mx3.6/27, mbtmp3.5/7, MS3.5/17, Ms1 3.5/17, ms1mx3.3/44, Error ellipse: s-maj=45.4km s-min=21.8km az=14.0*
ISC 05 15:10:02.7±0.9, 412N±02×297W±02, h10km, n22, σ0§87/10, mb3.6/6, MS3.5/16, Azores Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
PAB	**San Pablo**	**19.39**	**87**	*e*P		**Pn**	**15 14 30.0**	**+0.2**
	5.9nm,1.0s							
ESDC	**Sonseca Array**	**19.65**	**86**	P		**Pn**	**15 14 29.6**	**-3.3**
	baz=275,slow=11,SNR=5.7							
ESDC				LR		LR	15 20 26.4	
	comp=Z,96nm,20.1s,baz=260,slow=32							
MDT	**Midelt**	**21.68**	**105**	P		**P**	**15 14 54.4**	**+0.8**
	1.4nm,0.9s,mb3.4,baz=299,slow=15,SNR=3.7							
MDT				LR		LR	15 21 23.7	
	comp=Z,80nm,20.9s,MS3.1,baz=347,slow=32							
SCHQ	**Schefferville**	**27.94**	**312**	LR		LR	15 25 03.7	
	comp=Z,95nm,20.8s,MS3.4,baz=78,slow=32							
DAVOX	**Davos/Dischmat**	**28.81**	**65**	LR		LR	15 25 28.5	
	comp=Z,108nm,20.2s,MS3.5,baz=85,slow=32							
BBTS	**Babate**	**28.83**	**153**	LR		LR	15 24 30.2	
	comp=Z,66nm,19.8s,MS3.2,baz=274,slow=30							
KEST	**Kesra**	**30.89**	**87**	LR		LR	15 27 01.0	
	comp=Z,30nm,19.1s,MS3.0,baz=250,slow=33							
GERES	**GERESS Array B**	**31.28**	**61**	LR		LR	15 27 09.2	
	comp=Z,69nm,20.3s,MS3.3,baz=272,slow=33							
NOA	**NORSAR Array B**	**31.71**	**37**	LR		LR	15 27 42.6	
	comp=Z,15nm,18.4s,MS2.7,baz=200,slow=34							
JMIC	**Jan Mayen**	**31.73**	**19**	LR		LR	15 26 11.9	
	comp=Z,67nm,20.9s,MS3.3,baz=83,slow=31							
TORD	**Torodi Ar. Bea**	**39.14**	**126**	P		**P**	**15 17 30.0**	**-0.6**
	0.7nm,0.9s,mb3.4,baz=317,slow=6.5,SNR=2.7							
TORD				LR		LR	15 31 51.5	
	comp=Z,78nm,19.0s,MS3.5,baz=310,slow=34							
ELN	**Prospectdale**	**39.27**	**281**	*e*P		**P**	**15 17 24.9**	**-6.6**
ARCES	**ARCESS Array B**	**40.04**	**27**	LR		LR	15 30 15.8	
	comp=Z,47nm,21.7s,MS3.3,baz=75,slow=30							
DBIC	**Dimbokro**	**40.91**	**140**	LR		LR	15 32 58.6	
	comp=Z,66nm,19.0s,MS3.5,baz=319,slow=34							
TKL	**Tuckaleechee C**	**42.13**	**281**	*e*P		**P**	**15 17 49.1**	**-5.9**
ULM	**Lac du Bonnet**	**45.65**	**305**	LR		LR	15 35 49.5	
	comp=Z,110nm,19.4s,MS3.8,baz=46,slow=34							
PDAR	**Pinedale Array**	**57.17**	**300**	P		**P**	**15 19 48.9**	**-0.8**
	0.4nm,0.7s,mb3.6,baz=61,slow=7.3,SNR=2.6							
PDAR				LR		LR	15 44 17.9	
	comp=Z,83nm,18.2s,MS3.9,baz=245,slow=36							
TXAR	**Lajitas Array**	**59.86**	**284**	P		**P**	**15 20 09.3**	**+0.8**
	2.2nm,1.1s,mb4.1,baz=60,slow=7.4,SNR=7.2							
TXAR				LR		LR	15 43 28.2	
	comp=Z,48nm,19.5s,MS3.6,baz=175,slow=34							
ZALV	**Zalesovo Beam**	**69.88**	**35**	P		**P**	**15 21 13.9**	**+0.5**
	0.3nm,0.3s,mb3.6,baz=307,slow=5.2,SNR=2.8							
MKAR	**Makanchi Array**	**73.59**	**42**	P		**P**	**15 21 35.6**	**-0.3**
	0.7nm,0.9s,mb3.6,baz=308,slow=7.1,SNR=4.1							
LSZ	**Lusaka**	**77.58**	**123**	LR		LR	15 55 57.0	
	comp=Z,76nm,18.2s,MS4.1,baz=289,slow=36							
LBTB	**Lobatse**	**83.48**	**131**	LR		LR	15 56 27.2	
	comp=Z,64nm,19.9s,MS4.0,baz=326,slow=33							

KRSC 05 15:21:18.0±1.0, 5177N×15982E, h5km±5km, ML3.9, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
RUS	**Russkaya**	**1.04**	**310**	*e*P		Pg	15 21 38.3	+0.3
RUS				*i* S		Sg	15 21 53.2	+1.6
GRL	**Gorelyy**	**1.33**	**307**	P		Pn	15 21 44.1	+0.9
GRL				*i* S		Sg	15 22 03.4	+2.7
SPN	**Mys Shipunski**	**1.34**	**5**	*e*P		Pn	15 21 45.9	+2.6
SPN				*i* S		Sb	15 22 06.4	+5.5
NLC	**Nalytchevo**	**1.43**	**348**	*e*P		Pn	15 21 44.1	-0.5
NLC				*i* S		Sb	15 22 03.2	-0.5
PET	**Petropavlovsk**	**1.45**	**331**	*e*P		Pn	15 21 45.5	+0.7
PET				*i* S		Sb	15 22 05.4	+1.4
AVH	**Avacha**	**1.64**	**337**	P		Pn	15 21 49.0	+1.6
MIPR	**Malaya Ipel'ka**	**1.96**	**286**	*e*P		Pn	15 21 51.9	+0.1
GNL	**Ganaly**	**2.24**	**330**	*e*P		Pn	15 21 57.0	+1.3
TUMR	**Tumrok**	**3.52**	**3**	P		Pn	15 22 13.9	+0.6
KBTR	**Kurtoberegovo**	**4.79**	**21**	P		Pn	15 22 29.2	-1.4

IDC 05 15:38:16.9±15.0, 3644N×5757E, h0km, mb3.3/4, mb1 3.4/4, mb1mx3.2/23, mbtmp3.4/4, Error ellipse: s-maj=342.6km s-min=32.7km az=176.0, Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
KURK	**Kurchatov**	**20.78**	**40**	P		P	15 42 58.8	-0.5
	0.2nm,0.3s,baz=240,slow=12,SNR=4.6							
MKAR	**Makanchi Array**	**21.10**	**53**	P		P	15 43 03.1	+0.3
	0.9nm,0.8s,baz=253,slow=9.8,SNR=6.9							
AKASG	**Malin Array Be**	**24.80**	**314**	P		P	15 43 40.5	+0.1
	0.2nm,0.3s,baz=112,slow=7.3,SNR=3.4							
ZALV	**Zalesovo Beam**	**25.74**	**39**	P		P	15 43 48.3	-0.5
	1.0nm,0.5s,baz=248,slow=9.2,SNR=5.0							

*ISCJB **05** 15:39:05.0±0.3, 492S±004×10198E±004, h37km, mb4.7/57, MS4.0/16, Error ellipse: s-maj=6.8km s-min=4.3km az=40.2*
*MOS **05** 15:39:05.9±1.0, 457S×10226E, h33km, mb4.9/21, Error ellipse: s-maj=13.9km s-min=7.2km az=102.4*
*BJI **05** 15:39:08.5, 450S×10230E, h35km, mB5.2, mb4.8, Ms4.8, Msz4.7*
*NEIC **05** 15:39:08.6±0.3, 452S×10234E, h35km, mb4.7/18, Error ellipse: s-maj=11.3km s-min=6.1km az=52.0*
NEIC Felt [II] at Bengkulu.
*IDC **05** 15:39:09.7±0.9, 449S×10241E, h41km±5km, mb4.3/19, mb1 4.4/20, mb1mx4.2/27, mbtmp4.3/20, ML4.3/1, MS3.7/9, Ms1 3.7/9, ms1mx3.4/28, Error ellipse: s-maj=27.4km s-min=9.7km az=48.0*
*DJA **05** 15:39:15.3±0.8, 45S±6×102E±, h40km, mB5.6/4, Mjma4.2/11, MLv4.9/12, Mw(mB)5.4/4, Mwp3.9/6*
ISC 05 15:39:07.6±0.3, 488S±004×10201E±004, h39km, h39km±1.5km:pP-P, n161, σ1§35/163, mb4.7/57, MS4.0/16, 8C-10D, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
KSI	**Kapahiang**	**1.35**	**26**	P		**Pn**	**15 39 28.7**	**-1.3**
	0.0nm,0.0s							
KSI	**Kapahiang**	**1.35**	**26**	P		**Pn**	**15 39 28.8**	**-1.2**
JMBI	**JAMBI**	**3.61**	**27**	P		**Pn**	**15 40 00.7**	**-0.4**
	0.0nm,0.0s							

PDSI Padang 4.23 339 P Pn 15 40 10.6 +1.0
0.0nm,0.0s
SBJI Serang 4.29 107 P Pn 15 40 15.0 +4.7
0.0nm,0.0s
SBJI Serang 4.29 107 P Pn 15 40 19.2 +8.9
RGRI Rengat 4.51 4 P Pn 15 40 14.7 +1.3
0.0nm,0.0s
PPI Padang Panjang 4.67 340 P Pn 15 40 16.8 +1.1
0.0nm,0.0s
PPI Padang Panjang 4.67 340 P Pn 15 40 18.9 +3.2
PPBI Pangkal Pinang 4.93 57 P Pn 15 40 18.9 -0.2
0.0nm,0.0s
SKJI Sukabumi 5.00 115 P Pn 15 40 35.6 +16
DBJI Dramaga 5.00 110 P Pn 15 40 22.9 +2.7
0.0nm,0.0s
DBJI Dramaga 5.00 110 P Pn 15 40 24.3 +4.1
CBJI Citeko 5.06 108 P Pn 15 40 26.5 +5.5
0.0nm,0.0s
CBJI Citeko 5.06 108 P Pn 15 40 28.4 +7.4
1µm,0.9s,4.6nm
DSRI Dabo 5.07 31 P Pn 15 40 21.0 -0.1
0.0nm,0.0s
DSRI Dabo 5.07 31 P Pn 15 40 20.8 -0.3
LEM Lembang 5.91 109 P Pn 15 40 35.2 +2.6
0.0nm,0.0s
LEM Lembang 5.91 109 P Pn 15 40 38.7 +6.1
235nm,0.8s,2µm0.8nm
XMIS Christmas Isla 6.64 147 eP Pn 15 40 40.2 -2.4
XMIS eS Sn 15 41 50.3 -6.8
MYKOM Kota Tinggi 6.87 16 ⇑P Pn 15 40 47.0 +1.1
MYKOM Kota Tinggi 6.87 16 P Pn 15 40 47.8 +1.9
KGM Kluang 6.97 11 ⇓P Pn 15 40 48.7 +1.5
BJII Banjamegara 8.04 108 P Pn 15 41 03.9 +2.0
0.0nm,0.0s
BJII Banjamegara 8.04 108 P Pn 15 41 12.0 +10
FRIM Kepong 8.07 357 ⇑P Pn 15 41 05.0 +2.7
COCO West Island 8.88 215 eP Pn 15 41 19.8 +6.3
IPM Ipoh 9.35 354 ⇑P Pn 15 41 24.1 +4.3
IPM Ipoh 9.35 354 P Pn 15 41 25.4 +5.6
29nm,1.0s,0.1nm
SJI Sawahan 10.11 107 P Pn 15 41 32.1 +1.8
0.0nm,0.0s
SJI Sawahan 10.11 107 P Pn 15 41 33.2 +2.9
KULM Kulim 10.19 352 ⇓P Pn 15 41 33.3 +1.9
KTGM Kuala Trenggan 10.20 6 ⇑P Pn 15 41 34.1 +2.5
KSM Kuching 10.42 53 ⇓P Pn 15 41 36.2 +1.6
KSM Kuching 10.42 53 ePn Pn 15 41 34.3 -0.3
KSM eSn Sn 15 43 22.4 -7.7
STKI Sintang 10.66 63 P Pn 15 41 44.9 +7.1
36nm,1.1s,4µm
BSI Banda Aceh 12.29 327 P Pn 15 41 59.3 -0.9
0.0nm,0.0s
SBUM Sibu 12.53 55 ⇑P Pn 15 42 06.1 +2.6
BTM Bintulu 13.67 54 ⇓P Pn 15 42 21.5 +2.5
KHKI Kahang-Kahang 13.95 105 P Pn 15 42 21.1 -1.7
0.0nm,0.0s
MTNI Mataram 14.55 106 P Pn 15 42 27.2 -3.8
0.0nm,0.0s
KAPI Kappang 17.68 91 P Pn 15 43 09.5 -1.5
1.1nm,0.3s,baz=303,slow=6.5,SNR=8.8
KAPI LR LR 15 50 39.3
comp=Z,147nm,20.2s,baz=55,slow=40
KAPI Kappang 17.68 91 ePn Pn 15 43 09.3 -1.7
KKM Kota Kinabalu 17.86 53 ⇓P Pn 15 43 16.1 +2.9
PCI Palu 18.23 78 P Pn 15 43 18.3 +0.5
0.0nm,0.0s
TSM Tawau 18.28 60 ⇑P Pn 15 43 21.1 +2.7
SDKM Sandakan 18.42 56 ⇓P Pn 15 43 20.3 +0.3
KDM Kudat 18.87 52 ⇑P Pn 15 43 25.5 0.0
MYLDM Lahad Datu 19.27 59 ⇓P Pn 15 43 30.3 0.0
KDI Kendari 20.57 88 P P 15 43 43.0 -0.3
0.0nm,0.0s
BATI Baumata 22.11 105 P P 15 43 58.5 -1.2
0.0nm,0.0s
BATI Baumata 22.11 105 P P 15 43 58.3 -1.5
41nm,0.5s,mb5.1,baz=167,slow=1.4,SNR=12
CM31 Chiang Mai Arr 23.38 353 eP P 15 44 10.7 -2.4
24nm,1.0s,mb4.6
CMAR Chiang Mai Arr 23.38 353 P P 15 44 11.4 -1.7
15nm,1.0s,mb4.4,baz=185,slow=8.2,SNR=47
CMAR LR LR 15 53 49.5
comp=Z,87nm,19.2s,MS3.2,baz=165,slow=38
CMAR Chiang Mai Arr 23.38 353 i P P 15 44 11.3 -1.8
CMAR pmax pmax
comp=Z,15nm,1.0s
MBWA Marble Bar 23.62 135 eP P 15 44 17.6 +2.2
CHTO Chiang Mai 23.73 353 eP P 15 44 14.2 -2.1
LBMI Labuha 25.80 81 P P 15 44 34.5 -0.8
comp=Z,0.0nm,0.0s
FITZ Fitzroy Crossi 26.58 122 eP P 15 44 43.1 +0.9
comp=Z,16nm,0.9s,mb4.5
FITZ Fitzroy Crossi 26.58 122 P P 15 44 43.2 +0.9
comp=Z,9.5nm,0.7s,mb4.4,baz=300,slow=7.2,SNR=32
KMI Kunming 29.83 1 P P 15 45 12.9 +1.8
KMI AMB AMB
comp=Z,6.0nm,0.5s,mb4.6
KMI Kunming 29.83 1 P P 15 45 12.9 +1.8
comp=Z,6.0nm,0.5s,mb4.6
KAKA Kakadu 31.04 107 eP P 15 45 19.2 -2.8
comp=Z,6.7nm,0.6s,mb4.7
NWAO Narrogin (SRO) 31.32 155 LR LR 15 55 55.5
comp=Z,182nm,20.3s,MS3.7,baz=96,slow=32
GYA Guiyang 31.47 8 eP P 15 45 25.8 +0.2
GYA AP pP 15 45 34.9 -1.7
GYA XP sP 15 45 38.8 -2.5
GYA PP PP 15 46 28.4 -8.9
GYA PCP PcP 15 48 18.2 -0.1
GYA S S 15 50 28.6 -2.5
GYA XS sS 15 50 45.3 -4.0
GYA SCP ScP 15 51 57.6 -0.9
GYA SCS ScS 15 55 53.5 -2.8
GYA AMB AMB
comp=Z,10.0nm,0.8s,mb4.7
GYA AMB AMB
comp=Z,80nm,4.6s
GYA LR LR
comp=N,560nm,18.8s,MS4.4
GYA LR LR
comp=E,450nm,17.9s,MS4.4
GYA LR LR
comp=Z,510nm,18.4s,MS4.2
SHL Shillong 31.82 342 eP P 15 45 29.5 +0.8
WRA Warramunga Arr 34.84 118 P P 15 45 55.5 +0.3
comp=Z,5.9nm,0.8s,mb4.6,baz=300,slow=9.5,SNR=53
WRA PcP PcP 15 48 29.1 +1.2
comp=Z,1.3nm,0.6s,baz=304,slow=2.5,SNR=4.9
WRA S S 15 51 19.5 -4.2
comp=Z,1.8nm,0.9s,baz=295,slow=16,SNR=8.7
WB2 Warramunga Arr 34.85 118 eP P 15 45 55.4 +0.1
WB2 Warramunga Arr 34.85 118 eP P 15 45 55.5 +0.2
CD2 Chengdu 35.62 3 eP P 15 46 03.2 +1.5
CD2 AP pP 15 46 12.9 +0.2
CD2 XP sP 15 46 17.0 -0.4
CD2 PP PP 15 47 24.0 +0.8
CD2 S S 15 51 35.2 -0.1
CD2 XS sS 15 51 50.7 -3.0
CD2 SS SS 15 53 53.7 -18
CD2 AMB AMB
comp=Z,10.0nm,0.6s,mb4.9
CD2 AMB AMB
comp=Z,30nm,4.8s
CD2 LR LR
comp=E,490nm,10.8s
CD2 LR LR
comp=Z,580nm,14.4s,MS4.5
LSA Lhasa 35.92 344 P P 15 46 05.1 +0.8
LSA Lhasa 35.92 344 eP P 15 46 05.1 +0.8
LSA pmax pmax
comp=Z,8.0nm,0.9s,mb4.7
LSA Lhasa 35.92 344 eP P 15 46 05.0 +0.8
comp=Z,7.6nm,0.9s,mb4.6
ASAR Alice Springs 35.97 124 P P 15 46 06.2 +1.4
comp=Z,3.2nm,0.6s,mb4.5,baz=295,slow=7.6,SNR=120
ASAR PcP PcP 15 48 32.8 +1.7
comp=Z,1.3nm,0.7s,baz=293,slow=2.4,SNR=5.3
ASAR S S 15 51 38.6 -2.2
comp=Z,1.9nm,1.1s,baz=296,slow=14,SNR=8.7
XAN Xi'an 39.25 9 P P 15 46 30.7 -1.7
XAN AP pP 15 46 41.2 -2.3
XAN XP sP 15 46 45.1 -3.1
XAN AMB AMB
comp=Z,5.0nm,1.0s,mb4.2
NJ2 Nanjing 40.07 22 eP P 15 46 38.5 -0.8
NJ2 AP pP 15 46 48.3 -2.1
NJ2 XP sP 15 46 52.3 -2.8
NJ2 PP PP 15 48 14.8 +2.8
NJ2 S S 15 52 41.0 -1.7
NJ2 XS sS 15 52 59.0 -2.2
NJ2 AMB AMB
comp=Z,10.0nm,1.1s,mb4.5
NJ2 AMB AMB
comp=Z,390nm,8.2s
NJ2 LR LR
comp=N,610nm,16.2s,MS4.8
NJ2 LR LR
comp=E,1µm,17.1s,MS4.8
NJ2 LR LR
comp=Z,1µm,17.1s,MS4.8
LZH Lanzhou 40.78 2 eP P 15 46 44.5 -0.6
LZH AP pP 15 46 55.0 -1.2
LZH XP sP 15 46 59.7 -1.2
LZH AMB AMB
comp=Z,16nm,1.2s,mb4.5
LZH AMB AMB
comp=Z,95nm,5.0s
LZH Lanzhou 40.78 2 eP P 15 46 44.5 -0.6
LZH *PP pP 15 46 55.0 -1.2
LZH *SP sP 15 46 59.7 -1.2
LZH pmax pmax
comp=Z,16nm,1.2s,mb4.5
LZH Lanzhou 40.78 2 eP P 15 46 44.5 -0.6
comp=Z,16nm,1.2s,mb4.5
LZH pP pP 15 46 55.0 -1.2
LZH sP sP 15 46 59.7 -1.2
NDI New Delhi 41.02 326 eP P 15 46 47.0 -0.1
GTA Gaotai 44.11 358 eP P 15 47 11.3 -0.8
GTA AP pP 15 47 20.4 -2.9
GTA XP sP 15 47 25.0 -3.0
GTA PP PP 15 48 56.8 +1.3
GTA S S 15 53 42.0 -0.1
GTA XS sS 15 53 55.8 -5.0
GTA SS SS 15 56 50.1 -11
GTA AMB AMB
comp=Z,4.0nm,0.8s,mb4.2
GTA AMB AMB
comp=Z,395nm,6.3s
GTA LR LR
comp=N,164nm,12.0s,MS4.3
GTA LR LR
comp=E,173nm,12.9s,MS4.3
GTA LR LR
comp=Z,235nm,11.1s,MS4.4
PMG Port Moresby 45.00 98 eP P 15 47 17.1 -2.5
CTA Charters Tower 45.60 113 eP P 15 47 24.6 +0.3
comp=Z,8.9nm,0.8s,mb4.8
CTA Charters Tower 45.60 113 P P 15 47 25.2 +1.0
comp=Z,10nm,0.7s,mb4.9,baz=282,slow=9.4
CTA Charters Tower 45.60 113 eP P 15 47 24.6 +0.3
CTA pmax pmax
comp=Z,9.0nm,0.8s
CTAO Charters Tower 45.60 113 eP P 15 47 24.8 +0.5
STKA Stephens Creek 45.76 131 eP P 15 47 27.5 +2.1
comp=Z,7.1nm,0.7s,mb4.7
STKA Stephens Creek 45.76 131 P P 15 47 27.7 +2.3
comp=Z,4.3nm,0.5s,mb4.6,baz=285,slow=6.3,SNR=15
STKA LR LR 16 07 31.7
comp=Z,138nm,18.9s,MS3.9,baz=203,slow=37
HHC Hu-ho-hao-te 46.34 10 eP P 15 47 31.6 +1.9
HHC AP pP 15 47 41.3 +0.3
HHC XP sP 15 47 45.2 -0.5
HHC PCP PcP 15 49 07.9 +3.5
HHC PP PP 15 49 20.3 +1.2
HHC SCP ScP 15 52 57.3 +2.4
HHC PCS PcS 15 53 00.6 +1.7
HHC S S 15 54 15.6 +1.3
HHC XS sS 15 54 30.6 -2.4
HHC SCS ScS 15 57 22.5 +0.7
HHC SS SS 15 57 33.1 -7.4
HHC AMB AMB
comp=Z,16nm,1.0s,mb4.9
HHC AMB AMB
comp=Z,265nm,7.6s
HHC LR LR
comp=N,372nm,14.2s,MS4.6
HHC LR LR
comp=E,317nm,14.6s,MS4.6
HHC LR LR
comp=Z,345nm,13.7s,MS4.5
BJI Beijing 46.56 15 P P 15 47 30.8 -0.7
BJI AMB AMB
comp=Z,14nm,0.8s,mb4.9
BJI AMB AMB
comp=Z,246nm,6.3s
BJI LR LR
comp=N,537nm,18.0s,MS4.6
BJI LR LR
comp=E,345nm,18.0s,MS4.6
BJI LR LR
comp=Z,113nm,22.1s,MS3.8
CHCP Chirah Chowk 46.99 327 P P 15 47 34.6 -0.4
CEP Cherat 47.87 326 P P 15 47 41.0 -0.8
KSRS Korea Array 48.54 28 P P 15 47 45.2 -1.7
comp=Z,3.2nm,0.6s,mb4.5,baz=228,slow=7.0,SNR=15
WMQ Urumqi 50.16 347 P P 15 47 59.3 +0.1
WMQ AP pP 15 48 09.3 -1.3
WMQ XP sP 15 48 13.3 -1.9
WMQ PCP PcP 15 49 19.3 +1.2
WMQ PP PP 15 49 54.8 0.0
WMQ S S 15 55 05.8 -2.5
WMQ XS sS 15 55 21.8 -5.4
WMQ AMB AMB
comp=Z,20nm,1.1s,mb5.1
WMQ AMB AMB
comp=Z,119nm,5.4s
WMQ LR LR
comp=N,45nm,20.3s,MS3.7
WMQ LR LR
comp=E,54nm,19.0s,MS3.7
SONM Songino Array 52.63 4 P P 15 48 17.7 +0.2
comp=E,7.5nm,0.6s,mb4.8,baz=181,slow=8.9,SNR=37
SONM pP pP 15 48 29.6 +0.6
comp=E,14nm,0.8s,baz=183,slow=7.9,SNR=18
SONM LR LR 16 11 42.4
comp=E,80nm,18.6s,MS3.8,baz=236,slow=37
SONM Songino Array 52.63 4 P P 15 48 17.7 +0.1
SONM *PP pP 15 48 29.6 +0.6
ULN Ulaanbaatar 52.70 4 eP P 15 48 18.0 -0.1
ULN e pP 15 48 29.7 +0.1
ULN pmax pmax
comp=Z,11nm,0.9s,mb4.8
ULN Ulaanbaatar 52.70 4 eP P 15 48 18.0 -0.1
comp=Z,11nm,0.9s,mb4.8
ULN e pP 15 48 29.7 +0.1
CN2 Changchun 52.87 21 eP P 15 48 21.4 +2.0
UCH Uchtor 53.13 335 eP P 15 48 22.3 +0.9
comp=Z,2.4nm,0.6s,mb4.3
TKM2 Tokmak 2 53.25 336 eP P 15 48 22.6 +0.3
TKM2 pmax pmax
comp=Z,7.0nm,0.5s,mb4.8
TKM2 Tokmak 2 53.25 336 eP P 15 48 22.6 +0.3
comp=Z,6.7nm,0.5s,mb4.8
MJAR Matsushiro Arr 53.31 36 P P 15 48 20.0 -2.8
comp=Z,0.6nm,0.4s,mb3.8,baz=206,slow=8.3,SNR=3.7
MJAR Matsushiro Arr 53.31 36 P P 15 48 20.0 -2.8
AML Almayashu 53.41 334 eP P 15 48 23.7 +0.3
comp=Z,3.7nm,0.5s,mb4.6
EKS2 Erkin-Say 53.80 334 eP P 15 48 26.9 +0.6
comp=Z,7.0nm,0.8s,mb4.6
MK31 Makanchi Array 54.33 343 eP P 15 48 29.3 -0.8
MKAR Makanchi Array 54.33 343 P P 15 48 29.8 -0.3
comp=Z,7.4nm,0.7s,mb4.7,baz=144,slow=8.1,SNR=69
MKAR LR LR 16 16 55.0
comp=Z,28nm,18.0s,MS3.4,baz=157,slow=42
MKAR Makanchi Array 54.33 343 P P 15 48 29.8 -0.3
MKAR LR LR 16 16 55.0
ZAK Zakamensk 55.05 1 eP P 15 48 34.6 -0.6
ZAK pmax pmax
comp=Z,5.0nm,1.3s,mb4.4
MDJ Mudanjiang 55.14 24 P P 15 48 34.5 -1.5
MDJ AP pP 15 48 43.6 -3.9
MDJ XP sP 15 48 47.4 -4.7
MDJ PP PP 15 50 37.3 -2.4
MDJ SCP ScP 15 53 32.3 -0.3
MDJ PCS PcS 15 53 36.6 0.0
MDJ S S 15 56 14.6 -1.6
MDJ AMB AMB
comp=Z,6.0nm,0.9s,mb4.6
MDJ AMB AMB
comp=Z,107nm,6.2s
MDJ LR LR
comp=N,20nm,17.0s,MS3.8
MDJ LR LR
comp=E,70nm,17.5s,MS3.8
KK31 Karatay Array 55.61 332 i P P 15 48 39.5 +0.1
TLY Talaya 56.35 1 eP P 15 48 43.4 -1.1
TLY pmax pmax
comp=Z,6.0nm,0.8s,mb4.7
KURK Kurchatov 58.92 343 P P 15 49 02.1 -0.5
comp=Z,5.1nm,0.8s,mb4.6,baz=161,slow=6.6,SNR=24
KURK pP pP 15 49 13.5 -0.7
comp=Z,6.5nm,0.9s,baz=152,slow=6.8,SNR=14
KURK Kurchatov 58.92 343 P P 15 49 02.1 -0.5
KURK pP pP 15 49 13.5 -0.7
KLR Kul'dur 59.78 22 eP P 15 49 03.2 -5.4
ZAA0 Zalesovo Array 60.36 348 eP P 15 49 11.7 -0.8
ZALV Zalesovo Beam 60.36 348 P P 15 49 11.7 -0.7
comp=Z,7.0nm,0.4s,mb5.0,baz=169,slow=4.9,SNR=52
ZALV pP pP 15 49 23.8 -0.3
comp=Z,12nm,0.4s,baz=165,slow=5.6,SNR=15
ZALV Zalesovo Beam 60.36 348 P P 15 49 11.7 -0.7
ZALV pP pP 15 49 23.8 -0.3
HABR Khabarovsk 60.47 25 eP P 15 49 09.5 -3.9
HABR e pP 15 49 18.9 -6.1
HABR e 15 49 53.7
HABR e 15 51 22.7
HABR S S 15 57 21.1 -4.8
HABR e 15 57 33.6
HABR e 15 58 57.2
HABR e 16 01 19.3
ASAJ Asahikawa 60.89 32 P P 15 49 15.1 -1.3
comp=Z,4.9nm,0.7s,mb4.7,baz=183,slow=6.9,SNR=7.0
ASAJ LR LR 16 15 13.6
comp=Z,39nm,18.5s,MS3.6,baz=184,slow=36
KRAR Krasnoyarsk 61.14 354 eP P 15 49 16.0 -1.7
KRAR pmax pmax
comp=Z,18nm,1.3s,mb5.0
NAY Al-Naaiem 62.53 306 eP P 15 49 29.3 +1.7
baz=306
NAY AMb AMB 15 49 45.4
comp=Z,10.0nm,0.8s,mb5.0,baz=306
MIB Mutribah 62.67 307 eP P 15 49 29.6 +1.0
baz=307
MIB AMb AMB 15 49 51.5
comp=Z,28nm,0.7s,mb5.5,baz=307
RST Umm Al-Ruwaisa 62.82 307 eP P 15 49 31.1 +1.5
baz=306
RST AMb AMB 15 49 52.2
comp=Z,26nm,0.7s,mb5.5,baz=306
YSS Yuzh-Sakhalins 62.90 30 eP P 15 49 27.7 -2.0
YSS pmax pmax
comp=Z,7.0nm,0.7s,mb4.9
YSS Yuzh-Sakhalins 62.90 30 eP P 15 49 28.0 -1.7
VOSK Vostochnaya 63.11 339 P P 15 49 29.5 -1.5
VOSK pmax pmax
comp=Z,6.0nm,1.0s,mb4.7
BOD Bodaibo 63.24 7 eP P 15 49 30.1 -1.7
BOD e pP 15 49 44.0 +0.5
BOD pmax pmax
comp=Z,6.0nm,0.9s,mb4.7
BOD pmax pmax
comp=Z,8.0nm,0.9s,mb4.8
BVA0 Borovoye Array 63.56 339 i P P 15 49 33.3 -0.7
BVA0 pmax pmax
comp=Z,1.0nm,0.6s,mb4.0
BVAR Borovoye Array 63.56 339 P P 15 49 33.4 -0.6
comp=Z,3.7nm,0.5s,mb4.7,baz=142,slow=8.9,SNR=24
BRVK Borovoye 63.62 339 eP P 15 49 33.8 -0.6
BRVK e pP 15 49 45.9 -0.2
BRVK pmax pmax
comp=Z,4.0nm,0.4s,mb4.8
BRVK Borovoye 63.62 339 eP P 15 49 33.8 -0.7
comp=Z,4.0nm,0.4s,mb4.8
BRVK e pP 15 49 45.9 -0.2
AB31 Akbulak array 65.11 331 i P P 15 49 44.1 -0.1
AB31 pmax pmax
comp=Z,6.0nm,0.6s,mb4.8
AKTK Aktyubinsk 66.83 331 P P 15 49 55.1 -0.1
AKTK pP pP 15 50 07.9 +0.9
AKTO Aktyubinsk 66.83 331 P P 15 49 55.1 -0.1
comp=Z,2.0nm,0.7s,mb4.2,baz=96,slow=9.7,SNR=7.0
AKTO pP pP 15 50 07.9 +0.9
comp=Z,1.4nm,0.4s,baz=140,slow=6.0,SNR=4.7
MAW Mawson 68.03 195 LR LR 16 12 24.0
comp=Z,95nm,20.4s,MS4.0,baz=244,slow=29
YAK Yakutsk 70.03 13 eP P 15 50 12.6 -2.4
YAK e*PP pP 15 50 25.2 -1.6
YAK pmax pmax
comp=Z,40nm,0.8s,mb5.4
YAK Yakutsk 70.03 13 eP P 15 50 12.6 -2.4
comp=Z,40nm,0.8s,mb5.4
YAK epP pP 15 50 25.2 -1.7
SVE Sverdlovsk 70.09 337⇓eP P 15 50 15.9 +0.4
SVE pmax pmax
comp=Z,14nm,1.1s,mb4.8
ARU Arti 70.63 336 d i P P 15 50 18.5 -0.3
ARU e 15 50 35.7
ARU e 15 52 50.8
ARU eS S 15 59 29.4 -0.4
ARU eSS SS 16 03 59.7 -2.5
ARU pmax pmax
comp=Z,11nm,1.2s,mb4.7
ARU Arti 70.63 336 eP P 15 50 18.6 -0.1
comp=Z,5.4nm,0.8s,mb4.5
ASF Jabal al Asfar 71.89 306 P P 15 50 31.0 +4.0
comp=Z,1.6nm,0.8s,mb4.0,baz=36,slow=22,SNR=3.8
KIV Kislovodsk 72.02 319⇓eP P 15 50 28.7 +1.3
KIV e 15 53 07.1
KIV eS S 15 59 49.3 +3.0
KIV pmax pmax
comp=Z,6.0nm,1.0s,mb4.5
BOSA Boshof 76.05 242 LR LR 16 17 58.0
comp=Z,75nm,18.3s,MS4.0,baz=356,slow=30
BR131 Keskin Array S 76.73 313 eP P 15 50 55.6 +0.6
comp=Z,3.0nm,0.8s,mb4.3
SEY Seymchan 77.55 21 eP P 15 50 57.2 -1.8
OBN Obninsk 80.28 328⇑eP P 15 51 14.4 +0.2
OBN e 15 54 16.1
OBN eS S 16 01 13.7 -3.0
OBN pmax pmax
comp=Z,5.0nm,1.2s,mb4.3
KLMR Klimovskoe 81.28 334 eP P 15 51 19.2 -0.2
KLMR pmax pmax
comp=Z,13nm,1.4s,mb4.7
BUR08 Bucovina Ar. S 84.75 319 eP P 15 51 40.3 +2.7
ARCES ARCESS Array B 89.84 340 P P 15 52 02.5 +0.7
comp=Z,4.0nm,0.8s,mb4.8,baz=72,slow=7.8,SNR=8.1
GERES GERESS Array B 92.52 319 P P 15 52 16.4 +1.7
comp=Z,0.2nm,0.4s,mb3.9,baz=93,slow=8.0,SNR=4.3
KHC Kasperske Hory 92.62 319 eP P 15 52 15.2 0.0
UNV Unalaska Valle 94.78 36 eP P 15 52 21.9 -3.1
comp=Z,187nm,1.7s
PDAR Pinedale Array 133.03 32 PKP PKPdf 15 58 22.4 +3.3
comp=Z,1.0nm,0.3s,baz=321,slow=2.1,SNR=8.8
CPUP Villa Florida 143.08 212 PKP PKPdf 15 58 42.5 +4.4
comp=Z,0.2nm,0.3s,baz=90,slow=1.0,SNR=3.5
CCM Cathedral Cave 144.84 18 ePKIKP PKPdf 15 58 38.5 -2.3
TXAR Lajitas Array 145.62 42 PKPbc PKPbc 15 58 43.3 +0.6
comp=Z,10nm,0.8s,baz=294,slow=1.2,SNR=104
SIUC Southern Illin 145.75 16 ePKPbc PKPbc 15 58 42.8 0.0
WCI Wyandotte Cave 145.95 12 ePKP2 PKPab 15 58 43.2 -0.7
MIAR Mount Ida 147.13 24 ePKP2 PKPab 15 58 46.4 -2.2

CSEM ***05*** *16:09:30.3±0.2, 39.27N×2026E, h2km, ML3.5/4, Error ellipse: s-maj=6.2km s-min=3.2km az=84.0*
NEIC ***05*** *16:09:31.1, 39.35N×2025E, h41km, MD3.7(ATH), After ATH.*
ATH ***05*** *16:09:31.1, 39.35N×2025E, h41km±7km, MD3.7/4*
THE ***05*** *16:09:31.0, 39.29N×2012E, h0km±3km, ML3.5/4, Error ellipse: s-maj=4.4km s-min=0.9km az=272.0*
ISCJB ***05*** *16:09:32.1±0.6, 39.30N±003×2025E±005, h10km, Error ellipse: s-maj=5.6km s-min=3.6km az=170.7*

ISC 05 16:09:32.1±0.7, 3929N±002×2025E±005, h0km±6km, n15, σ1§03/28, Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IGT	**Igoumenitsa**	**0.26**	**15**	P	**Pg**	**16 09 36.4**	**-0.6**
IGT				S	**Sg**	**16 09 40.8**	**+0.5**
KEK	**Kerkira**	**0.55**	**321**	eP	**Pg**	**16 09 42.4**	**-0.2**
KEK				eS	**Sg**	**16 09 50.9**	**+1.2**
KEK	**Kerkira**	**0.55**	**321**	eP	**Pg**	**16 09 42.4**	**-0.2**
KEK				eS	**Sg**	**16 09 50.9**	**+1.2**
JAN	**Janina**	**0.60**	**51**	eP	**Pg**	**16 09 42.7**	**-0.8**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JAN				eS	Sg	16 09 52.3	+1.0
JAN	Janina	0.60	51	eP	Pg	16 09 42.7	-0.8
JAN				eS	Sg	16 09 52.3	+1.0
LKD	Levkas	0.66	151	P	Pg	16 09 43.6	-1.1
LKD				S	Sg	16 09 54.8	+1.6
MEV	Metsovon	0.91	56	P	Pg	16 09 49.0	-0.5
MEV				S	Sn	16 10 04.6	-1.3
VLS	Valsamata	1.14	166	P	Pg	16 09 53.6	-0.3
VLS				S	Sg	16 10 09.7	+1.1
VLS	Valsamata	1.14	166	eP	Pg	16 09 52.8	-1.1
VLS				eS	Sg	16 10 09.7	+1.1
VLS	Valsamata	1.14	166	eP	Pg	16 09 52.8	-1.1
VLS				eS	Sg	16 10 09.7	+1.1
KFL	Anninata	1.25	160	P	Pg	16 09 54.9	-1.1
KFL				S	Sn	16 10 14.8	+0.6
EVR	Evrytania	1.27	106	eP	Pg	16 09 53.8	-2.6
EVR	Evrytania	1.27	106	eP	Pg	16 09 53.8	-2.6
AGG	Agios Georgios	1.64	99	P	Pn	16 10 01.9	-0.2
AGG				S	Sg	16 10 26.3	+1.5
FNA	Florina	1.73	30	P	Pn	16 10 03.4	0.0
FNA				S	Sn	16 10 26.9	+0.8

*IDC **05** 16:14:07.9±1.3, 1231N×8778W, h0km, mb4.1/6, mb1 4.4/6, mb1mx4.0/21, mbtmp4.1/6, ML3.2/1, MS3.5/9, Ms1 3.5/9, ms1mx3.2/30, Error ellipse: s-maj=42.9km s-min=19.5km az=47.0*
*CASC **05** 16:14:09.6±2.3, 1189N×8806W, h24km±17km, MD4.1, ML3.6, mb4.6(NEIC)*
*ISCJB **05** 16:14:11.7±1.2, 1191N±006×8793W±010, h60km±11km, mb4.4/15, MS3.7/8, Error ellipse: s-maj=17.6km s-min=6.3km az=150.4*
*BJI **05** 16:14:12.5, 1200N×8750W, h59km, mB5.1, Ms5.2, Msz4.7*
*NEIC **05** 16:14:12.6±1.1, 1196N×8753W, h59km±9km, mb4.6/9, Error ellipse: s-maj=23.9km s-min=9.7km az=62.0*
ISC 05 16:14:09.2±1.9**, 1185N**±005×**8806W**±004**, h22**km±15km**, n80, σ1s18**/61**, mb4.4**/15**, MS3.7**/8**, 2C, Off coast of central America**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CRIN	San Cristobal	1.30	50	eP	Pn	16 14 32.1	+0.1
CRIN				eS	Sn	16 14 49.7	+0.9
CRIN				AML	AML	16 15 00.4	
	comp=N,3μm,0.5s						
TEL3	Telica 3	1.39	59	eP	Pn	16 14 32.3	-0.9
CNCH	Conchagua	1.43	9	eP	x	16 14 33.2	
MIRN	Miramar	1.45	66	eP	Pn	16 14 32.9	-1.1
COPN	Copaltepe	1.48	77	eP	Pn	16 14 34.5	0.0
CNGN	Cerro Negro	1.48	64	eP	Pn	16 14 33.6	-0.9
CNGN				eS	Sn	16 14 53.6	+0.3
CNGN				AML	AML	16 14 58.3	
	comp=N,415nm,0.3s						
VSM	San Miguel	1.58	353	eP	x	16 14 35.5	
MOMN	Momotombo	1.59	69	eP	Pn	16 14 36.2	+0.2
CSAN		1.64	78	eP	Pn	16 14 36.8	+0.1
APYN	Apoyeque	1.72	77	eP	Pn	16 14 37.6	-0.2
XAVN	Gruta Xavier	1.73	80	eP	Pn	16 14 37.8	-0.1
CRUN	El Crucero	1.73	85	eP	Pn	16 14 38.2	+0.3
TISN	Laguna Tiscapa	1.78	80	eP	Pn	16 14 37.9	-0.8
MGAN	Managua	1.80	80	eP	Pn	16 14 39.2	+0.2
MGAN				eS	Sn	16 15 02.1	+0.9
TICN	Ticuantepe	1.80	84	eP	Pn	16 14 39.5	+0.6
WILN	Americas 2	1.86	80	eP	Pn	16 14 38.9	-0.8
HUEN		1.91	75	eP	Pn	16 14 40.4	0.0
CAHU	Cacacuatique	1.91	356	eP	x	16 14 40.6	
CAHU				eS	x	16 15 06.1	
APON	Apoyo	1.96	88	eP	Pn	16 14 41.7	+0.7
LFRS	El Faro	2.01	331	eP	x	16 14 40.9	
BOQS	Boqueron	2.22	328	eP	x	16 14 44.9	
TGUH	Tegucigalpa,Un	2.32	19	eP	Pn	16 14 46.0	-0.1
TGUH	Tegucigalpa,Un	2.32	19	ePn	Pn	16 14 46.1	0.0
CONN	Concepcion	2.41	97	eP	Pn	16 14 47.7	+0.5
SBLS	San Blas	2.49	323	eP	x	16 14 48.4	
SBLS				eS	x	16 15 19.2	
SNJE	San Jose	2.51	323	eP	x	16 14 48.4	
RTR	El Retiro	2.55	323	eP	x	16 14 50.1	
RBDL	Robledal	2.75	325	eP	x	16 14 52.2	
JTS	JuntasAbangare	3.42	117	Pn	Pn	16 15 03.5	+2.2
	comp=N,2.5nm,0.3s,baz=309,slow=17,SNR=5.0						
JTS				Pg	Pn	16 15 10.4	+9.1
	comp=N,3.0nm,0.3s,baz=334,slow=9.4,SNR=27						
JTS				Sn	Sn	16 15 40.1	-1.2
	comp=N,6.6nm,0.3s,baz=248,slow=19,SNR=3.6						
JTS				LR	LR	16 16 38.7	
	comp=N,413nm,20.7s,baz=301,slow=44						
JTS	JuntasAbangare	3.42	117	ePn	Pn	16 14 58.9	-2.4
CGA2	Cerro Gallo 2	3.98	117	eS	Sn	16 15 55.5	+0.7
PRS1	Puriscal	4.13	116	eP	Pn	16 15 14.3	+3.4
BUS	Buena Vista	4.81	118	⇑eP	Pn	16 15 23.9	+3.7
BUS				eS	Sn	16 16 16.4	+1.1
ACR	Cerro Adams	5.77	123	⇑eP	Pn	16 15 37.3	+3.7
TEIG	Tepich	8.33	359	Pn	Pn	16 16 11.2	+2.5
	comp=N,0.6nm,0.3s,baz=175,slow=6.9,SNR=8.1						
TEIG				LR	LR	16 19 57.1	
	comp=N,312nm,18.2s,baz=0.1,slow=44						
TEIG	Tepich	8.33	359	ePn	Pn	16 16 09.9	+1.2
OTAV	Otavalo	14.97	140	ePn	Pn	16 17 37.8	-1.8
	comp=N,2.6nm,0.5s						
CHI2		15.87	116	eP	Px	16 14 31.1	
ATAH	Atahualpa	21.05	152	LR	LR	16 25 01.4	
	comp=N,63nm,20.9s,MS3.0,baz=164,slow=30						
JCT	Junction City	21.50	331	eP	P	16 18 56.9	+0.4
	comp=N,18nm,0.9s,mb4.4						
GOGA	Godfrey	21.87	10	eP	P	16 18 59.5	-1.0
	comp=N,34nm,1.4s,mb4.6						
TXAR	Lajitas Array	22.67	322	P	P	16 19 10.3	+1.2
	comp=N,2.7nm,0.6s,mb3.9,baz=138,slow=10,SNR=29						
MIAR	Mount Ida	23.14	348	eP	P	16 19 13.8	-0.2
UALR	University of	23.15	351	eP	P	16 19 13.9	-0.2
JSC	Jenkinsville	23.17	14	eP	P	16 19 13.8	-0.6
LHS	Liberty Hill	23.47	15	epP	pP	16 19 25.1	+1.4
TKL	Tuckaleechee C	24.02	9	P	P	16 19 21.4	-1.1
	comp=N,16nm,1.0s,mb4.4,baz=180,slow=12,SNR=10						
TKL				LR	LR	16 31 10.5	
	comp=N,84nm,18.6s,MS3.2,baz=212,slow=44						
TKL	Tuckaleechee C	24.02	9	eP	P	16 19 21.1	-1.3
WVT	Waverly	24.17	0	P	P	16 19 22.7	-1.1
	comp=N,4.1nm,0.9s,mb3.9						
AMTX	Amarillo	26.05	334	eP	P	16 19 41.2	+0.2
CCM	Cathedral Cave	26.25	354	eP	P	16 19 40.1	-2.7
SDCO	Great Sand Dun	30.14	332	eP	P	16 20 20.9	+3.4
	comp=N,23nm,2.0s,mb4.6						
ECSD	EROS,Sioux Fal	32.62	348	eP	P	16 20 36.0	-3.2
	comp=N,9.1nm,0.9s,mb4.7						
PDAR	Pinedale Array	36.02	333	P	P	16 21 08.9	+0.2
	comp=N,0.6nm,0.7s,mb3.6,baz=131,slow=9.7,SNR=4.7						
PDAR				PcP	PcP	16 23 36.8	+1.8
	comp=N,0.3nm,0.6s,baz=144,slow=3.4,SNR=3.9						
AGMN	Agassiz Refuge	36.91	351	eP	P	16 21 14.5	-1.7
REDW	Red Top Meadow	37.07	332	eP	P	16 21 18.6	+0.9
	comp=N,12nm,1.1s,mb4.6						
SNOW	Snow King Moun	37.11	332	eP	P	16 21 19.1	+1.1
	comp=N,6.1nm,0.4s,mb4.8						
TPAW	Teton Pass	37.22	332	eP	P	16 21 21.8	+2.9
	comp=N,8.8nm,1.0s,mb4.5						
MOOW	Moose Ponds	37.33	333	eP	P	16 21 22.7	+2.9
NVAR	Mina Array Bea	37.76	320	P	P	16 21 24.2	+0.5
	comp=N,0.2nm,0.4s,mb3.2,baz=137,slow=7.0,SNR=3.0						
NVAR				PcP	PcP	16 23 41.7	+1.4
	comp=N,0.3nm,0.4s,baz=151,slow=2.6,SNR=4.1						
ULM	Lac du Bonnet	38.82	352	P	P	16 21 29.9	-2.5
	comp=N,12nm,0.9s,mb4.6,baz=176,slow=8.1,SNR=6.1						
ULM				LR	LR	16 39 45.3	
	comp=N,57nm,18.1s,MS3.4,baz=310,slow=40						
DGMT	Dagmar	38.91	343	eP	P	16 21 33.5	+0.4
MCMT	McKenzie Canyo	39.12	332	eP	P	16 21 34.8	-0.1
LRM	Limekiln Ridge	39.70	333	eP	P	16 21 41.7	+1.9
EGMT	Eagleton	40.37	337	epP	pP	16 22 02.8	+11
LCO	Las Campanas	43.95	158	P	P	16 22 13.2	-1.5
	comp=N,44nm,1.8s,mb4.9						
SCHQ	Schefferville	46.02	17	P	P	16 22 27.9	-3.0
	comp=N,12nm,1.0s,mb4.8,baz=183,slow=5.5,SNR=5.8						
SCHQ				LR	LR	16 43 39.2	
	comp=N,147nm,19.1s,MS4.0,baz=309,slow=39						
BDFB	Brasilia	48.14	124	eP	P	16 22 42.9	-5.1
KDAK	Kodiak Island	66.55	328	LR	LR	16 58 28.4	
	comp=N,37nm,18.6s,MS3.6,baz=272,slow=40						
NOA	NORSAR Array B	84.18	29	LR	LR	17 07 30.9	
	comp=N,19nm,18.2s,MS3.5,baz=60,slow=38						
AKASG	Malin Array Be	97.35	35	LR	LR	17 15 54.7	
	comp=N,34nm,18.5s,MS3.9,baz=75,slow=38						
MDJ	Mudanjiang	114.25	331	PKP	PKiKP	16 32 47.4	+0.1
MDJ				PP	PP		
	comp=Z,61nm,6.5s						
WMQ	Urumqi	124.46	4	PKP	PKPdf	16 33 06.0	-0.9
HHC	Hu-ho-hao-te	124.51	342	ePKP	PKPdf	16 33 04.6	-2.5
HHC				PP	PP	16 34 51.6	-0.6
HHC				PKS		16 36 39.8	
HHC				SKS	SKSdf	16 40 10.9	-7.0
HHC				SKKS	SKKSac	16 41 42.4	-8.4
HHC				SS	SS	16 51 38.7	-4.5
HHC				PP	PP		
	comp=Z,243nm,5.6s						
HHC				LR	LR		
	comp=N,217nm,21.2s,MS4.9						
HHC				LR	LR		
	comp=E,188nm,20.8s,MS4.9						
HHC				LR	LR		
	comp=Z,158nm,21.2s,MS4.7						
NJ2	Nanjing	129.31	330	ePKP	PKPdf	16 33 12.3	-4.2
CD2	Chengdu	135.99	345	ePKP	PKPdf	16 33 28.1	-1.1
CD2				PP	PP	16 36 11.1	+4.4
CD2				SKS	SKSdf	16 40 27.3	-12
CD2				SKKS	SKKSac	16 42 51.5	-11
CD2				SS	SS	16 53 59.3	-4.9
CD2				PP	PP		
	comp=Z,60nm,10.0s						
ASAR	Alice Springs	138.49	248	PKhKP		16 33 31.0	
	comp=Z,0.2nm,0.8s,baz=93,slow=4.0,SNR=3.0						
ASAR				PKP	PKPdf	16 33 37.8	+3.9
	comp=Z,0.6nm,1.1s,baz=84,slow=2.3,SNR=3.4						
WRA	Warramunga Arr	138.53	253	PKP	PKPdf	16 33 35.9	+1.9
	comp=Z,0.5nm,0.8s,baz=91,slow=3.5,SNR=3.5						
GYA	Guiyang	139.32	340	ePDIF	Pdif	16 30 44.2	-3.2
GYA				PKP	PKPdf	16 33 32.6	-2.8
GYA				XPKP		16 34 00.4	
GYA				PP	PP	16 36 31.0	+3.4
GYA				PP	PP		
	comp=Z,110nm,8.6s						
CMAR	Chiang Mai Arr	149.10	347	PKPbc	PKPbc	16 33 57.5	+0.8
	comp=Z,2.1nm,0.9s,baz=340,slow=3.2,SNR=11						

*IDC **05** 16:17:00.9±1.2, 1222N×8782W, h0km, mb4.2/6, mb1 4.5/6, mb1mx4.0/21, mbtmp4.2/6, ML3.4/1, MS3.5/2, Ms1 3.5/2, ms1mx2.9/30, Error ellipse: s-maj=38.0km s-min=19.5km az=48.0*
*CASC **05** 16:17:02.4±2.3, 1189N×8808W, h14km±8km, MD4.0, ML4.2, mb4.6(NEIC)*
*ISCJB **05** 16:17:07.8±1.2, 1205N±008×877W±01, h83km±10km, mb4.4/17, Error ellipse: s-maj=22.3km s-min=6.8km az=150.5*
*NEIC **05** 16:17:08.0±1.3, 1209N×8768W, h67km±11km, mb4.6/12, Error ellipse: s-maj=18.6km s-min=7.7km az=56.0*
ISC 05 16:17:02.0±2.0**, 1185N**±005×**8810W**±003**, h17**km±13km**, n74, σ1s19**/63**, mb4.5**/17**, 7C-4D, Off coast of central America**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CRIN	San Cristobal	1.33	50	eP	Pn	16 17 25.2	-0.5
CRIN				eS	Sb	16 17 44.7	+1.5
CRIN				AML	AML	16 17 50.1	
	comp=E,5μm,0.6s						
TEL3	Telica 3	1.42	60	eP	Pn	16 17 26.2	-0.8
CNCH	Conchagua	1.44	10	⇑eP	x	16 17 26.8	
CNCH				eS	x	16 17 45.8	
MIRN	Miramar	1.48	67	eP	Pn	16 17 27.4	-0.4
MIRN				eS	Sn	16 17 47.3	+0.6
COPN	Copaltepe	1.51	77	⇓eP	Pn	16 17 28.0	-0.2
CNGN	Cerro Negro	1.52	65	⇓eP	Pn	16 17 27.6	-0.7
CNGN				eP		16 17 28.0	
CNGN				eS	Sn	16 17 50.4	+2.8
VSM	San Miguel	1.58	354	⇑eP	x	16 17 29.0	
VSM				eS	x	16 17 53.2	
BLLM	Bellamira	1.59	355	⇑eP	x	16 17 28.7	
MOMN	Momotombo	1.62	70	eP	Pn	16 17 29.7	-0.1
CSAN		1.68	78	eP	Pn	16 17 30.4	-0.1
APYN	Apoyeque	1.75	77	eP	Pn	16 17 31.4	-0.1
XAVN	Gruta Xavier	1.76	80	eP	Pn	16 17 31.6	0.0
CRUN	El Crucero	1.77	86	eP	Pn	16 17 32.5	+0.8
TISN	Laguna Tiscapa	1.81	81	eP	Pn	16 17 32.0	-0.4
MGAN	Managua	1.84	81	eP	Pn	16 17 32.3	-0.4
MGAN				eS	Sn	16 17 56.2	+0.7
TICN	Ticuantepe	1.84	84	eP	Pn	16 17 33.0	+0.3
SNVI	San Vicente	1.89	338	⇑eP	x	16 17 34.0	
SNVI				eS	x	16 17 58.5	
WILN	Americas 2	1.90	80	eP	Pn	16 17 33.2	-0.3
CAHU	Cacacuatique	1.91	357	eP	x	16 17 34.0	
CAHU				eS	x	16 17 59.0	
HUEN		1.95	75	⇓eP	Pn	16 17 34.1	-0.1
APON	Apoyo	1.99	88	eP	Pn	16 17 34.6	-0.2
LFRS	El Faro	2.00	332	⇑eP	x	16 17 34.2	
LFRS				eP	x	16 17 34.3	
LBRS	Las Brisas	2.09	334	eP	x	16 17 36.9	
LBRS				eS	x	16 18 03.8	
BOQS	Boqueron	2.20	329	eP	x	16 17 38.4	
BOQS				eS	x	16 18 06.1	
TGUH	Tegucigalpa,Un	2.34	20	⇑eP	Pn	16 17 39.3	-0.3
TGUH				eS	Sn	16 18 07.1	-0.8
TGUH	Tegucigalpa,Un	2.34	20	ePn	Pn	16 17 39.9	+0.3
CONN	Concepcion	2.44	96	eP	Pn	16 17 41.3	+0.2
SBLS	San Blas	2.47	323	⇓eP	x	16 17 41.9	
SBLS				eP	x	16 17 42.1	
SNJE	San Jose	2.48	324	eP	x	16 17 43.0	
SNJE				eS	x	16 18 12.5	
RBDL	Robledal	2.73	326	eP	x	16 17 46.2	
RBDL				eS	x	16 18 20.2	
MTO2	Montecristo 2	2.82	334	eP	x	16 17 46.6	
JTS	JuntasAbangare	3.46	116	Pn	Pn	16 17 56.7	+1.7
	comp=E,3.6nm,0.3s,baz=326,slow=14,SNR=5.7						
JTS				Pg	Pg	16 18 03.6	-4.7
	comp=E,8.4nm,0.3s,baz=324,slow=8.5,SNR=6.6						
JTS				Sn	Sn	16 18 34.5	-1.1
	comp=E,7.7nm,0.3s,baz=302,slow=20,SNR=3.7						
JTS	JuntasAbangare	3.46	116	ePn	Pn	16 17 57.2	+2.2
BUS	Buena Vista	4.84	118	⇑iP	Pn	16 18 17.6	+3.6
ACR	Cerro Adams	5.80	123	eP	Pn	16 18 30.4	+3.1
TEIG	Tepich	8.33	359	Pn	Pn	16 19 05.0	+3.0
	comp=E,1.2nm,0.3s,baz=198,slow=2.7,SNR=3.6						
TEIG	Tepich	8.33	359	ePn	Pn	16 19 01.8	-0.2
	comp=E,4.6nm,0.4s						
ROSC	El Rosal	15.29	116	LR	LR	16 26 02.0	
	comp=E,76nm,18.8s,baz=23,slow=36						
CHI2		15.91	116	eP	Px	16 17 24.6	
SDV	Santo Domingo	17.43	98	ePn	Pn	16 21 01.5	-3.0
	comp=E,4.6nm,0.3s						
JCT	Junction City	21.48	331	eP	P	16 21 50.4	+0.7
	comp=E,15nm,0.8s,mb4.4						
GOGA	Godfrey	21.88	10	eP	P	16 21 54.5	+0.5
	comp=E,16nm,0.6s,mb4.6						
TXAR	Lajitas Array	22.64	323	P	P	16 22 03.9	+1.6
	comp=E,3.9nm,0.6s,mb4.0,baz=134,slow=9.6,SNR=26						
MIAR	Mount Ida	23.14	348	eP	P	16 22 07.3	0.0
UALR	University of	23.14	351	eP	P	16 22 07.3	-0.1
TKL	Tuckaleechee C	24.02	9	P	P	16 22 15.4	-0.6
	comp=E,6.9nm,0.8s,mb4.1,baz=189,slow=12,SNR=6.8						
TKL	Tuckaleechee C	24.02	9	eP	P	16 22 14.2	-1.8
AMTX	Amarillo	26.04	334	eP	P	16 22 35.1	+0.7
	comp=E,38nm,1.4s,mb4.7						
CCM	Cathedral Cave	26.25	354	eP	P	16 22 34.6	-1.6
WCI	Wyandotte Cave	26.32	3	eP	P	16 22 35.2	-1.6
	comp=E,11nm,0.7s,mb4.5						
KSU1	Kansas State U	28.17	346	eP	P	16 22 52.5	-1.0
	comp=E,12nm,1.1s,mb4.5						
ECSD	EROS,Sioux Fal	32.61	349	eP	P	16 23 30.9	-1.7
SADO	Sadowa	33.69	12	P	P	16 23 40.2	-1.8
PDAR	Pinedale Array	36.00	333	P	P	16 24 02.5	+0.5
	comp=E,0.5nm,0.4s,mb3.8,baz=115,slow=8.5,SNR=4.8						
PDAR				PcP	PcP	16 26 30.1	+1.6
	comp=E,0.6nm,0.7s,baz=141,slow=5.7,SNR=4.0						
AGMN	Agassiz Refuge	36.91	351	eP	P	16 24 08.1	-1.6
REDW	Red Top Meadow	37.06	332	eP	P	16 24 12.0	+1.0
	comp=E,9.1nm,0.6s,mb4.8						
SNOW	Snow King Moun	37.09	332	eP	P	16 24 13.0	+1.7
	comp=E,15nm,0.8s,mb4.9						
TPAW	Teton Pass	37.20	332	eP	P	16 24 16.6	+4.4
	comp=E,25nm,1.8s,mb4.8						
MOOW	Moose Ponds	37.31	333	eP	P	16 24 16.1	+3.0
NVAR	Mina Array Bea	37.74	320	P	P	16 24 18.8	+1.8
	comp=E,0.7nm,0.8s,mb3.5,baz=121,slow=6.4,SNR=2.5						
NVAR				PcP	PcP	16 26 35.7	+1.9
	comp=E,0.9nm,0.8s,baz=135,slow=3.4,SNR=4.1						
RLMT	Red Lodge	37.77	335	eP	P	16 24 16.9	-0.2
	comp=E,13nm,1.5s,mb4.4						
ULM	Lac du Bonnet	38.82	352	P	P	16 24 23.2	-2.6
	comp=E,11nm,0.7s,mb4.7,baz=165,slow=9.2,SNR=10						
DGMT	Dagmar	38.90	343	eP	P	16 24 26.9	+0.4
MCMT	McKenzie Canyo	39.10	332	eP	P	16 24 29.7	+1.4
LRM	Limekiln Ridge	39.69	333	eP	P	16 24 35.1	+2.0
YBH	Yreka Blue Hor	42.41	321	LR	LR	16 47 06.9	
	comp=E,130nm,18.6s,baz=144,slow=43						
OD2	Odessa Site #2	43.77	330	eP	P	16 25 05.2	-1.3
OD2				e		16 25 13.3	
SCHQ	Schefferville	46.03	17	P	P	16 25 21.6	-2.8
	comp=E,8.3nm,0.7s,mb4.8,baz=213,slow=5.9,SNR=6.5						
CPUP	Villa Florida	48.33	142	P	P	16 25 41.8	-0.9
	comp=E,6.5nm,0.9s,mb4.7						
PNL	Peninsula	60.89	333	eP	P	16 27 13.1	-0.3
	comp=E,378nm,1.7s						
MCK	McKinley	66.73	335	eP	P	16 27 52.5	+0.6
	comp=E,14nm,1.4s,mb4.8						
ASAR	Alice Springs	138.46	248	PKP	PKPdf	16 36 27.3	-0.1
	comp=E,0.3nm,0.7s,baz=68,slow=2.4,SNR=4.5						
WRA	Warramunga Arr	138.49	253	PKP	PKPdf	16 36 27.4	-0.1
	comp=E,0.4nm,0.8s,baz=90,slow=2.7,SNR=5.1						
CMAR	Chiang Mai Arr	149.09	347	PKP	PKPdf	16 36 46.4	+0.3
	comp=E,1.2nm,0.8s,baz=350,slow=1.1,SNR=5.0						
CMAR				PKPbc	PKPbc	16 36 50.7	+0.5
	comp=E,1.4nm,0.9s,baz=338,slow=4.0,SNR=6.3						

*KRSC **05** 16:34:06.1±1.4, 5005N×15691E, h31km±31km, ML4.0*
*MOS **05** 16:34:06.1±2.6, 5005N×15691E, h31km, mb4.2/1, Error ellipse: s-maj=75.7km s-min=20.5km az=78.6*
ISC 05 16:34:08.5±2.3**, 502N**±02×**1568E**±03**, h11**km±24km**, n8, σ0s98**/15**, Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SKR	Severo-Kuril's	0.63	319	ePN	Pg	16 34 17.5	-3.1
SKR				eS	Sg	16 34 29.5	+0.6
SKR				pmax	pmax		
	comp=N,150nm,0.5s						
SKR				pmax	pmax		
	comp=Z,170nm,0.5s						
SKR				pmax	pmax		
	comp=E,150nm,0.4s						
SKR				smax			
	comp=N,1μm,0.2s						
SKR				smax			
	comp=E,520nm,0.2s						
SKR				smax			
	comp=Z,240nm,0.2s						
MIPR	Malaya Ipel'ka	2.07	360	P	Pn	16 34 42.2	-0.9
MIPR				iS	Sn	16 35 08.5	-0.4
RUS	Russkaya	2.48	26	P	Pn	16 34 48.0	-0.8
RUS				iS	Sn	16 35 18.6	-0.5
PET	Petropavlovsk	3.06	22	ePN	Pn	16 34 57.9	+1.2
PET				eS	Sn	16 35 40.3	+7.1
PET				pmax	pmax		
	comp=Z,22nm,0.8s						
PET				smax			
	comp=E,31nm,0.5s						
PET				smax			
	comp=N,40nm,0.7s						
PET	Petropavlovsk	3.06	22	P	Pn	16 34 57.3	+0.6
PET				iS	Sn	16 35 34.0	+0.8
NLC	Nalytchevo	3.37	27	P	Pn	16 35 01.2	+0.2
NLC				iS	Sn	16 35 41.3	+0.3
SPN	Mys Shipunski	3.53	34	P	Pn	16 35 03.2	-0.1
SPN				iS	Sn	16 35 44.6	-0.4
GNL	Ganaly	3.57	11	P	Pn	16 35 05.9	+2.2

*NIED **05** 16:47:00, 3640N×14100E, h44km, Mw3.9 Best double couple: M0 7.10000×10^14 NP1: φs31.00000°, δ49.00000°, λ111.00000°. NP2: φs181.00000°, δ45.00000°, λ68.00000°.*
*ISCJB **05** 16:47:14.8±0.8, 3637N±004×14113E±006, h41km±7km, mb3.6/7, Error ellipse: s-maj=8.7km s-min=5.3km az=31.2*
*JMA **05** 16:47:16.6±0.1, 3636N×14096E, h45km±1km, M3.9*
JMA Felt I J1.
*NEIC **05** 16:47:16.6, 3636N×14096E, h45km, mb4.0/3, After JMA.*
*IDC **05** 16:47:17.5±5.0, 3649N×14104E, h33km±41km, mb3.6/4, mb1 3.7/7, mb1mx3.5/24, mbtmp3.7/7, ML3.6/3, MS3.3/2, Ms1 3.3/2, ms1mx2.7/27, Error ellipse: s-maj=38.8km s-min=29.1km az=127.0*
ISC 05 16:47:15.6±0.9**, 3638N**±003×**14109E**±005**, h28**km±5km**, n25, σ1s00**/39**, mb3.6**/7**, 2C-5D, Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JHO	Hitachi	0.48	299	⇑P	Pb	16 47 26.2	+0.6
JHO				S	Sb	16 47 32.6	+0.3
JYT	Yasato	0.73	259	⇓P	Pb	16 47 29.3	-0.5
JYT				S	Sb	16 47 38.0	-1.5
ONAJ	Iwakimizuishiy	0.76	342	⇑P	Pb	16 47 30.3	0.0
ONAJ				S	Sb	16 47 40.0	-0.2
JFK	Kawauchi	1.00	350	P	Pn	16 47 33.7	-0.1
JFK				S	Sn	16 47 45.8	-1.2
JFT	Otama	1.29	332	⇓P	Pn	16 47 38.8	+1.1
JFT				S	Sn	16 47 54.7	+0.6
JAG	Ashikaga	1.32	273	⇓P	Pn	16 47 37.6	-0.6
JAG				S	Sn	16 47 52.7	-2.1
JFY	Yanaizu	1.51	313	⇓P	Pn	16 47 41.2	+0.4
JFY				iS	Sn	16 48 00.5	+0.9
JKT	Katashina	1.53	285	⇓P	Pn	16 47 41.4	+0.3
JKT				S	Sn	16 47 59.2	-0.8
MJAR	Matsushiro Arr	2.32	275	Pn	Pn	16 47 52.5	+0.5
	22nm,0.3s,baz=90,slow=16,SNR=222						
MJAR				Sn	Sn	16 48 19.1	-0.6
	12nm,0.3s,baz=85,slow=19,SNR=8.7						
MAJO	Matsushiro	2.33	275	ePn	Pn	16 47 52.3	+0.3
MAJO				eSn	Sn	16 48 20.5	+0.8
MAT	Matsushiro	2.33	275	P	Pn	16 47 52.6	+0.6
MAT				eS	Sn	16 48 21.5	+1.8
JHJ	Hachijo jima 2	3.42	199	Pn	Pn	16 48 09.7	+2.6
	4.6nm,0.3s,baz=88,slow=16,SNR=3.4						
JHJ				Sn	Sn	16 48 45.1	-1.7
	12nm,0.3s,baz=73,slow=20,SNR=3.7						
ERM	Erimo	5.86	15	ePn	Pn	16 48 39.6	-0.9
ERM				eSn	Sn	16 49 46.3	-0.4
ASAJ	Asahikawa	7.82	8	Pn	Pn	16 49 07.3	-0.1
	1.5nm,0.3s,baz=205,slow=14,SNR=20						
ASAJ				Sn	Sn	16 50 29.1	-5.8
	0.5nm,0.3s,baz=228,slow=25,SNR=1.9						
JNU	Nakatsue	9.00	252	Pn	Pn	16 49 24.6	+0.9
	baz=209,slow=17						
KSRS	Korea Array	10.59	280	Pn	Pn	16 49 50.2	+4.7
	0.1nm,0.3s,baz=97,slow=14,SNR=6.7						
KSRS				LR	LR	16 53 34.0	
	comp=Z,52nm,21.0s,baz=190,slow=36						
INCN	Inchon	11.62	280	ePn	Pn	16 50 00.2	+0.6
	8.9nm,0.4s						
YAK	Yakutsk	26.65	348	eP	P	16 52 50.8	-0.9
	8.9nm,0.8s,mb4.3						
ENH	Enshi	27.02	266	P	P	16 52 53.6	-1.8
	0.5nm,0.6s,mb3.2						
SONM	Songino Array	27.94	305	P	P	16 53 04.3	+0.9
	0.5nm,0.5s,mb3.4,baz=101,slow=7.5,SNR=4.1						
ZALV	Zalesovo Beam	42.16	313	P	P	16 55 05.4	-0.1
	1.1nm,0.6s,mb3.7,baz=88,slow=6.3,SNR=6.7						
MKAR	Makanchi Array	44.25	303	P	P	16 55 23.1	+0.6
	0.3nm,0.2s,mb3.6,baz=90,slow=9.0,SNR=3.3						
PMG	Port Moresby	45.90	172	eP	P	16 55 37.0	+1.2
KURK	Kurchatov	46.13	309	eP	P	16 55 35.1	-2.2
	1.7nm,0.8s,mb4.0						
NOA	NORSAR Array B	74.69	337	P	P	16 58 52.5	+0.3
	0.2nm,0.5s,mb3.3,baz=37,slow=5.9,SNR=3.9						

*ISCJB **05** 16:51:36.4±0.8, 123N±006×12648E±005, h56km±8km, mb4.4/24, Error ellipse: s-maj=11.0km s-min=7.4km az=40.2*
*BJI **05** 16:51:36.1, 130N×12660E, h35km, mB5.0, mb4.5*
*NEIC **05** 16:51:36.1±0.4, 129N×12662E, h35km, mb4.5/13, Error ellipse: s-maj=11.5km s-min=6.4km az=63.0*
*IDC **05** 16:51:37.6±2.8, 120N×12643E, h40km±24km, mb3.9/10, mb1 4.0/12, mb1mx3.9/17, mbtmp3.9/12, ML3.9/2, MS3.4/4, Ms1 3.4/4, ms1mx3.1/19, Error ellipse: s-maj=32.0km s-min=9.9km az=75.0*
*DJA **05** 16:51:39, 116N×12653E, h30km, MLv4.5/6*
ISC 05 16:51:37.6±0.7**, 122N**±006×**12652E**±005**, h50**km±7km**, n49,**

σ0s.96/47, **mb4.4**/24, **Northern Molucca Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**0.95**	**118**	P	**Pn**	**16 51 54.3**	**-0.4**
TNTI	**Ternate**	**0.95**	**118**	S	**Sn**	**16 52 07.7**	**+0.4**
MNI	**Manado**	**1.70**	**278**	P	**Pn**	**16 52 03.1**	**-1.7**
MNI	**Manado**	**1.70**	**278**	S	**Sn**	**16 52 33.2**	**+7.8**
LBMI	**Labuha**	**2.09**	**152**	P	**Pn**	**16 52 10.4**	**+0.2**
LBMI	**Labuha**	**2.09**	**152**	S	**Sn**	**16 52 39.2**	**+4.2**
SWI	**Sorong**	**5.17**	**114**	P	**Pn**	**16 53 00.0**	**+7.6**
	31nm,0.9s,0.1nm						
KDI	**Kendari**	**6.46**	**217**	P	**Pn**	**16 53 10.5**	**+0.4**
	47nm,1.0s,5µm0.2nm						
KAPI	**Kappang**	**9.17**	**227**	Pn	**Pn**	**16 53 48.3**	**+1.0**
	2.0nm,0.3s,baz=52,slow=12,SNR=7.3						
KAPI				LR	LR	16 57 51.7	
	comp=Z,122nm,19.9s,baz=224,slow=41						
KKM	**Kota Kinabalu**	**11.35**	**295**	*e*Pn	**Pn**	**16 54 17.7**	**+0.6**
KAKA	**Kakadu**	**15.04**	**157**	*e*P	**Pn**	**16 55 05.5**	**-1.5**
	28nm,0.8s						
KSM	**Kuching**	**16.21**	**271**	*e*Pn	**Pn**	**16 55 23.0**	**+0.9**
SJI	**Sawahan**	**17.20**	**239**	P	**Pn**	**16 55 39.0**	**+4.5**
	0.0nm,0.0s						
FITZ	**Fitzroy Crossi**	**19.22**	**183**	*e*P	**Pn**	**16 55 58.0**	**-1.0**
	7.4nm,0.8s						
FITZ	**Fitzroy Crossi**	**19.22**	**183**	P	**Pn**	**16 55 58.5**	**-0.5**
	0.2nm,0.3s,baz=11,slow=10,SNR=10						
GUMO	**Guam**	**21.92**	**55**	LR	LR	17 04 28.2	
	comp=Z,74nm,18.6s,baz=245,slow=35						
WRA	**Warramunga Arr**	**22.39**	**160**	P	**P**	**16 56 31.8**	**0.0**
	11nm,0.5s,mb4.6,baz=339,slow=10,SNR=143						
WRA				PcP	PcP	17 00 26.8	+1.2
	0.7nm,0.8s,baz=332,slow=2.5,SNR=3.6						
WRA				S	**S**	**17 00 35.8**	**+0.7**
	1.2nm,0.9s,baz=336,slow=20,SNR=4.2						
WB2	**Warramunga Arr**	**22.39**	**160**	*e*P	**P**	**16 56 31.4**	**-0.4**
PMG	**Port Moresby**	**23.11**	**118**	*e*P	**P**	**16 56 38.5**	**-0.9**
	13nm,1.0s,mb4.3						
MBWA	**Marble Bar**	**23.21**	**196**	*e*P	**P**	**16 56 40.4**	**-0.1**
	14nm,1.1s,mb4.3						
ASAR	**Alice Springs**	**25.76**	**164**	P	**P**	**16 57 04.5**	**+0.8**
	4.1nm,0.6s,mb4.2,baz=346,slow=7.2,SNR=134						
ASAR				PcP	PcP	17 00 34.9	+2.1
	0.6nm,0.5s,baz=350,slow=2.1,SNR=4.1						
ASAR				S	**S**	**17 01 32.8**	**+3.3**
	0.4nm,0.9s,baz=354,slow=17,SNR=2.6						
CMAR	**Chiang Mai Arr**	**32.03**	**304**	P	**P**	**16 58 00.2**	**+0.6**
	0.5nm,0.7s,mb3.5,baz=142,slow=8.2,SNR=4.5						
STKA	**Stephens Creek**	**35.88**	**158**	*e*P	**P**	**16 58 33.3**	**+0.4**
	4.3nm,0.6s,mb4.6						
STKA	**Stephens Creek**	**35.88**	**158**	P	**P**	**16 58 34.0**	**+1.1**
	5.3nm,0.6s,mb4.6,baz=318,slow=10.0,SNR=13						
STKA	**Stephens Creek**	**35.88**	**158**	*e*P	**P**	**16 58 33.5**	**+0.6**
	8.8nm,0.8s,mb4.7						
KSRS	**Korea Array**	**36.08**	**2**	P	**P**	**16 58 36.9**	**+2.4**
	1.3nm,0.6s,mb4.0,baz=177,slow=9.8,SNR=7.7						
KSRS				LR	LR	17 14 40.7	
	comp=Z,49nm,18.8s,baz=170,slow=38						
MJAR	**Matsushiro Arr**	**36.77**	**16**	P	**P**	**16 58 41.5**	**+1.0**
	1.2nm,0.7s,mb3.9,baz=183,slow=9.1,SNR=4.1						
LZH	**Lanzhou**	**40.57**	**331**	*e*P	**P**	**16 59 13.0**	**+0.7**
LZH				AMB	AMB		
	comp=Z,21nm,1.5s,mb4.5						
LZH				AMB	AMB		
	comp=Z,98nm,4.8s						
LSA	**Lhasa**	**43.97**	**313**	P	**P**	**16 59 41.7**	**+1.6**
LSA	**Lhasa**	**43.97**	**313**	*e*P	**P**	**16 59 40.7**	**+0.7**
	comp=Z,4.5nm,0.6s,mb4.4						
PALK	**Pallekele**	**46.06**	**279**	*e*P	**P**	**16 59 53.0**	**-3.9**
	comp=Z,38nm,1.3s,mb5.2						
SONM	**Songino Array**	**49.60**	**342**	P	**P**	**17 00 23.8**	**0.0**
	comp=Z,0.8nm,0.6s,mb3.9,baz=157,slow=9.1,SNR=4.0						
MKAR	**Makanchi Array**	**59.50**	**326**	P	**P**	**17 01 35.4**	**-0.2**
	comp=Z,2.1nm,0.5s,mb4.4,baz=124,slow=8.3,SNR=29						
MKAR				PcP	PcP	17 02 24.9	+2.2
	comp=Z,1.0nm,0.6s,baz=125,slow=4.0,SNR=2.2						
MKAR	**Makanchi Array**	**59.50**	**326**	P	**P**	**17 01 35.4**	**-0.2**
MKAR				PcP	PcP	17 02 24.9	+2.2
TKM2	**Tokmak 2**	**61.49**	**320**	*e*P	**P**	**17 01 49.4**	**+0.1**
	comp=Z,2.1nm,0.7s,mb4.4						
UCH	**Uchtor**	**61.88**	**318**	*e*P	**P**	**17 01 51.4**	**-0.5**
	comp=Z,2.8nm,0.8s,mb4.4						
AML	**Almayashu**	**62.39**	**318**	*e*P	**P**	**17 01 55.8**	**+0.5**
	comp=Z,4.1nm,0.7s,mb4.7						
EKS2	**Erkin-Say**	**62.57**	**319**	*e*P	**P**	**17 01 57.2**	**+0.7**
	comp=Z,2.3nm,0.8s,mb4.4						
ZALV	**Zalesovo Beam**	**62.72**	**334**	P	**P**	**17 01 56.4**	**-0.9**
	comp=Z,0.5nm,0.4s,mb4.0,baz=139,slow=8.1,SNR=3.2						
ZALV	**Zalesovo Beam**	**62.72**	**334**	P	**P**	**17 01 56.4**	**-0.9**
KURK	**Kurchatov**	**63.74**	**328**	*e*P	**P**	**17 02 02.8**	**-1.3**
	comp=Z,10.0nm,0.7s,mb5.0						
ARU	**Arti**	**76.94**	**328**	*e*P	**P**	**17 03 23.5**	**-1.1**
	comp=Z,4.4nm,0.8s,mb4.4						
MIB	**Mutribah**	**80.01**	**300**	*e*P	**P**	**17 03 41.1**	**-1.0**
	baz=300						
MIB				AMb	AMB	17 04 05.2	
	comp=Z,12nm,0.9s,mb4.8,baz=300						
NAY	**Al-Naaiem**	**80.05**	**299**	*e*P	**P**	**17 03 41.3**	**-1.1**
	baz=299						
NAY				AMb	AMB	17 03 44.5	
	comp=Z,5.0nm,0.8s,mb4.5,baz=299						
RST	**Umm Al-Ruwaisa**	**80.28**	**300**	*e*P	**P**	**17 03 41.9**	**-1.7**
	baz=299						
RST				AMb	AMB	17 03 45.6	
	comp=Z,11nm,0.7s,mb4.9,baz=299						
MAW	**Mawson**	**81.34**	**200**	P	**P**	**17 03 49.4**	**+1.0**
	comp=Z,1.1nm,0.8s,mb3.9,baz=112,slow=16,SNR=2.7						
ARCES	**ARCESS Array B**	**92.72**	**340**	LR	LR	17 50 31.1	
	comp=Z,37nm,20.5s,baz=270,slow=38						
TXAR	**Lajitas Array**	**123.27**	**53**	PKP	PKPdf	17 10 33.0	+3.3
	comp=Z,0.5nm,0.7s,baz=172,slow=1.8,SNR=2.3						
TORD	**Torodi Ar. Bea**	**123.47**	**287**	PKP	PKPdf	17 10 31.9	+1.5
	comp=Z,1.4nm,0.8s,baz=57,slow=1.7,SNR=7.9						

MOS 05 16:54:45.6±0.7**, 43.97N**×**34.02E, h13**km**, mb3.6**/1**, 3D, Error ellipse: s-maj=44.4km s-min=13.5km az=79.4, Black Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YAL	**Yalta**	**0.53**	**11**	⇓*i*P	Pg	16 54 57.4	+1.4
YAL				*i*		16 55 02.4	
YAL				pmax	pmax		
	comp=Z,47nm,0.1s						
YAL				smax			
	comp=N,83nm,0.2s						
YAL				smax			
	comp=E,47nm,0.1s						
YAL	**Yalta**	**0.53**	**11**	*i* P	Pg	16 54 57.4	+1.4
	comp=E,47nm,0.1s						
YAL				*i* S	Sg	16 55 02.4	-0.7
	comp=E,83nm,0.2s						
SEV	**Sevastopol'**	**0.63**	**337**	⇓*i*P	Pg	16 55 00.3	+2.4
SEV				*i*		16 55 07.6	
SEV				pmax	pmax		
	comp=Z,5.0nm,0.1s						
SEV				smax			
	comp=N,22nm,0.1s						
SEV				smax			
	comp=E,12nm,0.1s						
SEV	**Sevastopol'**	**0.63**	**337**	*i* P	Pg	16 55 00.3	+2.4
	comp=E,5.0nm,0.1s						
SEV				*i* S	Sg	16 55 07.6	+1.3
ALU	**Alushta**	**0.77**	**21**	*e*P	Pg	16 55 00.5	0.0
ALU				*i* S	Sg	16 55 07.9	-2.7
ALU				smax			
	comp=N,143nm,0.3s						
ALU	**Alushta**	**0.77**	**21**	*e*P	Pg	16 55 00.5	0.0
	comp=N,143nm,0.3s						
ALU				*i* S	Sg	16 55 07.9	-2.7
SIM	**Simferopol'**	**0.99**	**4**	P	Pb	16 55 05.2	+0.7
SIM				*e*		16 55 15.0	
SIM				smax			
	comp=E,5.0nm,0.1s						
SIM	**Simferopol'**	**0.99**	**4**	P	Pb	16 55 05.2	+0.7
SIM				*e*S	Sb	16 55 15.0	-2.4
SUDU	**Sudak**	**1.16**	**37**	⇓*i*P	Pb	16 55 07.0	-0.5
SUDU				*e*		16 55 19.0	
SUDU				pmax	pmax		
	comp=Z,1.0nm,0.2s						
SUDU				smax			
	comp=N,9.0nm,0.2s						
SUDU				smax			
	comp=E,14nm,0.3s						
SUDU	**Sudak**	**1.16**	**37**	*i* P	Pb	16 55 07.0	-0.5
	comp=E,1.0nm,0.2s						
SUDU				*e*S	Sb	16 55 19.0	-3.5
	comp=E,9.0nm,0.2s						
FEO	**Feodosiya**	**1.44**	**43**	*e*P	Pn	16 55 11.9	+0.5
FEO				*e*		16 55 28.0	
FEO				pmax	pmax		
	comp=Z,12nm,0.2s						
FEO				smax			
	comp=N,16nm,0.3s						
FEO				smax			
	comp=E,131nm,0.3s						
FEO	**Feodosiya**	**1.44**	**43**	*e*P	Pn	16 55 11.9	+0.5
	comp=E,12nm,0.2s						
FEO				*e*S	Sn	16 55 28.0	-2.1

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*CSEM **05** 17:05:46.6, 16.85N×43.44E, h5km, ML3.7, After DHMR*
DHMR 05 17:05:46.6±1.3**, 16.85N**×**43.44E, h6**km±10km**, ML3.7, Western Arabian Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HAJJ	**Hajjah**	**1.15**	**172**	*i* P	Pg	17 06 08.0	-0.7
HAJJ				*i* S	Sg	17 06 25.6	+1.9
HAJJ	**Hajjah**	**1.15**	**172**	*i* P	Pg	17 06 08.0	-0.7
HAJJ				*i* S	Sg	17 06 25.6	+1.9
HAJJ				AML	AML	17 06 32.8	
	comp=Z,2µm,0.3s						
SANA	**San'a**	**1.63**	**153**	*i* P	Pn	17 06 16.3	+0.5
SANA				*i* S	Sn	17 06 38.5	+1.4
DHBB	**Dhamar BB**	**2.44**	**158**	*i* P	Pn	17 06 29.1	+2.0
DHBB				*i* S	Sn	17 07 02.7	+5.4
UDYN	**Al 'Udayn**	**2.91**	**170**	*i* P	Pn	17 06 35.9	+2.4
UDYN				*i* S	Sn	17 07 15.4	+6.6
LBOS		**3.44**	**149**	*i* P	Pn	17 06 43.9	+3.2
LBOS				*i* S	Sn	17 07 28.6	+6.8
BDHA	**Al Bayda'**	**3.52**	**144**	*i* P	Pn	17 06 44.8	+2.9
BDHA				*i* S	Sn	17 07 29.7	+5.9
MUKL	**Al Mukalla**	**5.88**	**113**	*i* S	Sn	17 08 26.2	+3.9

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*DDA **05** 17:12:26.3, 39.14N×29.05E, h15km±2km, Md3.7, Ml3.7*
*CSEM **05** 17:12:26.5±0.0, 39.08N×29.07E, h5km, ML3.7, Error ellipse: s-maj=1.2km s-min=1.0km az=36.0*
*ISK **05** 17:12:26.6, 39.08N×29.05E, h6km, ML3.6*
*ISCJB **05** 17:12:27.6±0.2, 39.11N±0.02×29.05E±0.02, h10km, Error ellipse: s-maj=2.3km s-min=2.2km az=17.9*
ISC 05 17:12:28.0±0.2**, 39.12N**±0.02×**29.04E**±0.02**, h10**km**, n61,** σ**1s.04**/84**, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DEMI	**Demirci**	**0.26**	**253**	*i* P	**Pg**	**17 12 32.6**	**-0.7**
DEMI				*i* S	**Sg**	**17 12 36.2**	**-0.8**
GDZ	**Gediz**	**0.34**	**95**	*i* P	**Pg**	**17 12 34.0**	**-0.8**
GDZ				*i* S	**Sg**	**17 12 38.9**	**-0.5**
DST	**Dursunbey**	**0.58**	**327**	PG	**Pg**	**17 12 38.3**	**-1.0**
DURS	**Dursunbey**	**0.65**	**318**	*i* P	**Pg**	**17 12 39.5**	**-1.1**
DURS				*i* S	**Sg**	**17 12 48.4**	**-0.8**
KULA	**Kula-Manisa**	**0.67**	**206**	PG	**Pg**	**17 12 39.8**	**-1.2**
KULA				SG	**Sg**	**17 12 48.8**	**-1.0**
MANT	**Manisa**	**0.73**	**211**	*i* P	**Pg**	**17 12 41.1**	**-1.1**
MANT				*i* S	**Sg**	**17 12 50.7**	**-1.0**
ALT	**Altintas**	**0.83**	**94**	PG	**Pg**	**17 12 42.8**	**-1.3**
ALT				SG	**Sg**	**17 12 54.0**	**-0.9**
ULDT	**Uludag**	**1.02**	**4**	*i* P	**Pg**	**17 12 46.0**	**-1.8**
ULDT				*i* S	**Sg**	**17 12 57.8**	**-3.3**
BALB	**Balikesir**	**1.04**	**300**	*e*PG	**Pg**	**17 12 47.5**	**-0.5**
BALY	**Balya**	**1.26**	**300**	*i* P	**Pn**	**17 12 50.7**	**-1.1**
BALY				*i* S	**Sb**	**17 13 07.2**	**-1.0**
SHUT	**Suhut-Afyon**	**1.31**	**115**	*e*PN	**Pn**	**17 12 52.1**	**-0.2**
SHUT				*e*SN	**Sn**	**17 13 09.7**	**-0.1**
GEMT	**Gemlik**	**1.32**	**5**	*e*PN	**Pn**	**17 12 52.5**	**0.0**
GEMT				*e*SN	**Sn**	**17 13 10.5**	**+0.4**
BORA	**Eskisehir**	**1.33**	**55**	*i* P	**Pn**	**17 12 51.7**	**-0.9**
BORA				*i* S	**Sb**	**17 13 10.0**	**-0.2**
DENT	**Denizli**	**1.36**	**180**	*e*PN	**Pn**	**17 12 52.5**	**-0.5**
ADVT	**Abdulvahap**	**1.42**	**22**	*e*PN	**Pn**	**17 12 54.1**	**+0.3**
ADVT				*e*SN	**Sn**	**17 13 14.1**	**+1.5**
DNZL	**Cakiroluk**	**1.43**	**180**	*i* P	**Pn**	**17 12 53.2**	**-0.7**
DNZL				*i* S	**Sg**	**17 13 14.9**	**+1.0**
ESKT	**Eskisehir**	**1.46**	**73**	*i* P	**Pn**	**17 12 52.9**	**-1.5**
ESKT				*i* S	**Sn**	**17 13 13.4**	**-0.2**
SEYT	**Eskypehyr**	**1.46**	**73**	*i* P	**Pn**	**17 12 52.9**	**-1.5**
SEYT				*i* S	**Sn**	**17 13 13.4**	**-0.2**
YLV	**Yalova**	**1.47**	**10**	*e*PN	**Pn**	**17 12 53.7**	**-0.8**
TKTP	**Tekketepe**	**1.47**	**137**	*i* P	**Pn**	**17 12 53.8**	**-0.8**
TKTP				*i* S	**Sg**	**17 13 16.7**	**+1.3**
BNT	**Bandirma**	**1.51**	**325**	*e*PN	**Pn**	**17 12 55.5**	**+0.4**
GPA	**Golpazari**	**1.52**	**40**	*e*PN	**Pn**	**17 12 55.6**	**+0.3**
EDC	**Edincik**	**1.53**	**324**	*e*PN	**Pn**	**17 12 56.4**	**+1.1**
KDAG	**Bornova**	**1.56**	**243**	*i* P	**Pn**	**17 12 56.1**	**+0.4**
KDAG				*i* S	**Sn**	**17 13 17.7**	**+1.7**
IZM	**Izmir**	**1.56**	**243**	*e*PN	**Pn**	**17 12 55.2**	**-0.6**
AYDN	**Tasoluk**	**1.72**	**212**	*i* P	**Pn**	**17 12 59.0**	**+1.1**
AYDN				*i* S	**Sn**	**17 13 22.0**	**+2.1**
BLCB	**Balcova**	**1.73**	**246**	*e*PN	**Pn**	**17 12 57.5**	**-0.5**
HRT	**Hereke**	**1.77**	**16**	*e*PN	**Pn**	**17 12 59.2**	**+0.5**
MRMT	**Marmara Adasi**	**1.85**	**324**	*e*PN	**Pn**	**17 13 00.4**	**+0.6**
GOLH	**Golhisar**	**1.92**	**168**	*i* P	**Pn**	**17 13 00.5**	**-0.3**
GOLH				*i* S	**Sg**	**17 13 32.6**	**+2.8**
ISK	**Istanbul-Kandi**	**1.94**	**0**	*e*PN	**Pn**	**17 13 01.2**	**+0.1**
GCAM	**G?zelcaml?**	**2.00**	**226**	*i* P	**Pn**	**17 13 03.9**	**+2.0**
GCAM				*i* S	**Sg**	**17 13 30.4**	**-2.1**
BCK	**Bucak**	**2.06**	**143**	*e*PN	**Pn**	**17 13 01.7**	**-0.9**
URLA	**Izmir**	**2.06**	**249**	*i* P	**Pn**	**17 13 03.9**	**+1.3**
URLA				*i* S	**Sg**	**17 13 31.9**	**-2.2**
BGKT	**Bogazkoy**	**2.07**	**354**	*e*PN	**Pn**	**17 13 03.8**	**+0.9**
MLSB	**Milas**	**2.08**	**209**	*e*PN	**Pn**	**17 13 02.1**	**-0.7**
SILT	**Sile**	**2.08**	**13**	*e*PN	**Pn**	**17 13 04.0**	**+1.0**
RKY	**Sarkoy-Tekirda**	**2.12**	**318**	*e*PN	**Pn**	**17 13 04.0**	**+0.4**
KLYT	**Kilyos**	**2.13**	**0**	*e*PN	**Pn**	**17 13 04.0**	**+0.3**
MFT	**Murefte**	**2.15**	**321**	*e*PN	**Pn**	**17 13 04.9**	**+1.0**
CTKS	**Kestanelik-??a**	**2.15**	**349**	*e*PN	**Pn**	**17 13 04.0**	**0.0**
TKR	**Tekirdag**	**2.20**	**329**	*e*PN	**Pn**	**17 13 05.4**	**+0.8**
SLVT	**Silivri**	**2.20**	**343**	*e*PN	**Pn**	**17 13 05.8**	**+1.2**
HENT	**Hendek**	**2.22**	**39**	*i* P	**Pn**	**17 13 07.2**	**+2.3**
HENT				*i* S	**Sg**	**17 13 37.7**	**-1.7**
KIZT	**Kizilcal**	**2.23**	**95**	*e*PN	**Pn**	**17 13 04.5**	**-0.5**
BDRM	**Kayabasi**	**2.41**	**212**	*i* P	**Pn**	**17 13 08.1**	**+0.7**
BDRM				*i* S	**Sn**	**17 13 38.9**	**+1.9**
CTYL	**Yal??k??y-??at**	**2.42**	**347**	*e*PN	**Pn**	**17 13 08.6**	**+0.9**
ELL	**Elmali**	**2.46**	**164**	*e*PN	**Pn**	**17 13 08.1**	**-0.1**
BODT	**Bodrum**	**2.46**	**214**	*e*PN	**Pn**	**17 13 07.7**	**-0.6**
GADA	**Gvkgeada**	**2.65**	**295**	*e*PN	**Pn**	**17 13 11.8**	**+1.0**
ENEZ	**Enez**	**2.75**	**307**	*e*PN	**Pn**	**17 13 13.2**	**+1.1**
LADK	**Ladik-KONYA**	**2.76**	**108**	*e*PN	**Pn**	**17 13 12.3**	**0.0**
KONT	**Konya--Tatoy**	**2.85**	**113**	*e*PN	**Pn**	**17 13 13.8**	**+0.2**
LOD	**Lodumlu**	**2.98**	**74**	*e*PN	**Pn**	**17 13 16.0**	**+0.6**
ANTO	**Ankara**	**3.00**	**74**	*e*PN	**Pn**	**17 13 15.7**	**+0.1**
EDRB	**Edirne**	**3.24**	**328**	*e*PN	**Pn**	**17 13 20.1**	**+1.2**
HDMB	**Hadim**	**3.47**	**127**	*e*PN	**Pn**	**17 13 22.4**	**+0.4**
SAFT	**Safranbolu**	**3.51**	**52**	*e*PN	**Pn**	**17 13 23.4**	**+0.8**
KDZ	**Kurdzhali**	**3.75**	**314**	Pg	**Pg**	**17 13 38.5**	**-1.3**
DIM	**Dimitrovgrad**	**3.96**	**319**	Pg	**Pg**	**17 13 43.4**	**-0.5**
RZN	**Rozhen**	**4.18**	**309**	Pg	**Pg**	**17 13 49.5**	**+1.4**

CASC 05 17:14:54.3±1.4**, 11.71N**×**88.23W, h33**km±25km**, MD4.0, ML4.1, 1C-1D, Off coast of central America**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TEL3	**Telica 3**	**1.60**	**57**	*e*P	Pn	17 15 19.7	-0.6
CNCH	**Conchagua**	**1.61**	**14**	⇑*e*P	x	17 15 20.4	
CNCH				*e*S	x	17 15 41.5	
MIRN	**Miramar**	**1.65**	**64**	*e*P	Pn	17 15 19.9	-1.1
COPN	**Copaltepe**	**1.67**	**73**	*e*P	Pn	17 15 21.3	+0.1
CNGN	**Cerro Negro**	**1.69**	**62**	*e*P	Pn	17 15 22.3	+0.7
CNGN				*e*S	Sn	17 15 43.1	+1.0
VSM	**San Miguel**	**1.71**	**359**	*e*P	x	17 15 22.5	
VSM				*e*S	x	17 15 45.2	
MOMN	**Momotombo**	**1.79**	**67**	*e*P	Pn	17 15 22.7	-0.3
CSAN		**1.83**	**75**	*e*P	Pn	17 15 24.0	+0.6
CSAN				*e*S	Sn	17 15 45.7	+0.2
CSAN				AML	AML	17 15 47.6	
	comp=Z,2µm,0.2s						
APYN	**Apoyeque**	**1.91**	**74**	⇓*e*P	Pn	17 15 25.1	+0.6
WILN	**Americas 2**	**2.05**	**77**	*e*P	Pn	17 15 26.8	+0.4
CAHU	**Cacacuatique**	**2.05**	**0**	*e*P	x	17 15 26.2	
CAHU				*e*S	x	17 15 52.1	
LFRS	**El Faro**	**2.07**	**337**	*e*P	x	17 15 27.2	
LFRS				*e*S	x	17 15 52.3	
HUEN		**2.11**	**72**	*e*P	Pn	17 15 27.0	-0.2

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*ISCJB **05** 17:31:55.7±0.7, 27.60N±0.05×17.10W±0.04, h10km, Error ellipse: s-maj=7.2km s-min=5.0km az=21.0*
*CSEM **05** 17:31:57.7±0.4, 27.73N×17.08W, h25km, ML4.1, Error ellipse: s-maj=8.5km s-min=5.4km az=27.0*
*CNRM **05** 17:31:58.0, 27.54N×17.19W, h30km, MD4.1*
*NEIC **05** 17:31:59.1, 27.55N×17.27W, h26km, mb4.6/1, MN4.1(MDD), After MDD.*
NEIC Felt [III] in the Canary Islands.
*MDD **05** 17:31:59.1±0.2, 27.54N×17.27W, h28km±8km, mbLg3.8/8, Error ellipse: s-maj=2.8km s-min=1.3km az=167.0, PRIMO TT-model: canary*
MDD EMS: II-III INTENSIDAD MIMA.
ISC 05 17:31:56.1±0.7**, 27.59N**±0.04×**17.21W**±0.04**, h10**km**, n32,** σ**1s.30**/56**, 4C-10D, Canary Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EGOM	**La Gomera**	**0.57**	**360**	⇑P	**Pg**	**17 32 09.3**	**+2.0**
	6µm,0.1s,SNR=18						
EGOM				S	**Sg**	**17 32 15.8**	**+1.1**
	16µm,0.1s,SNR=7.9						
EGOM	**La Gomera**	**0.57**	**360**	P	**Pg**	**17 32 09.3**	**+2.1**
	6µm,0.1s,SNR=18						
CHIE	**El Hierro**	**0.68**	**282**	⇓P	**Pg**	**17 32 10.0**	**+0.6**
	101nm,0.2s,SNR=18						
CHIO	**Chio**	**0.73**	**28**	⇑P	**Pg**	**17 32 12.7**	**+2.4**
	223nm,0.2s,SNR=18						
CCAN	**Las Canadas**	**0.83**	**40**	⇓P	**Pg**	**17 32 13.4**	**+1.4**
	159nm,0.2s,SNR=18						
CCAN				S	**Sg**	**17 32 25.2**	**+2.3**
	104nm,0.2s,SNR=7.9						
CCAN	**Las Canadas**	**0.83**	**40**	P	**Pg**	**17 32 13.4**	**+1.3**
	159nm,0.2s,SNR=18						
CCAN				S	**Sg**	**17 32 22.0**	**-0.8**
	104nm,0.2s,SNR=7.9						
CCAN	**Las Canadas**	**0.83**	**40**	⇓P	**Pg**	**17 32 13.4**	**+1.4**
CCAN				S	**Sg**	**17 32 22.0**	**-0.8**
CRAJ	**Montana Rajada**	**0.86**	**38**	⇓P	**Pg**	**17 32 14.1**	**+1.3**
	128nm,0.1s,SNR=18						
CRAJ				S	**Sg**	**17 32 25.1**	**+1.0**
	7µm,0.2s,SNR=7.9						
CRAJ	**Montana Rajada**	**0.86**	**38**	P	**Pg**	**17 32 14.1**	**+1.3**
	128nm,0.1s,SNR=18						
CRAJ				S	**Sg**	**17 32 25.1**	**+1.0**
	7µm,0.2s,SNR=7.9						
CICO	**Icod de los Vi**	**0.87**	**29**	⇑P	**Pg**	**17 32 14.5**	**+1.6**
	14nm,0.2s,SNR=18						
EHIG	**Higuera**	**1.10**	**331**	⇑P	**Pb**	**17 32 16.6**	**-0.7**
	279nm,0.1s,SNR=18						
EHIG				S	**Sg**	**17 32 29.8**	**-1.8**
	1µm,0.1s,SNR=7.9						
EHIG	**Higuera**	**1.10**	**331**	P	**Pb**	**17 32 16.6**	**-0.7**
	279nm,0.1s,SNR=18						
EHIG				S	**Sg**	**17 32 29.8**	**-1.9**
	1µm,0.1s,SNR=7.9						
EBAJ	**Bajamar**	**1.22**	**39**	⇓P	**Pb**	**17 32 19.2**	**0.0**
	13nm,0.1s,SNR=18						
EBAJ				S	**Sb**	**17 32 33.5**	**-1.5**
	440nm,0.1s,SNR=7.9						
EBAJ	**Bajamar**	**1.22**	**39**	P	**Pb**	**17 32 19.2**	**-0.1**
	13nm,0.1s,SNR=18						
EOSO	**Osorio**	**1.54**	**71**	⇓P	**Pn**	**17 32 23.5**	**-0.1**
	39nm,0.1s,SNR=18						
EOSO				S	**Sn**	**17 32 40.6**	**-3.2**
	110nm,0.1s,SNR=7.9						
EOSO	**Osorio**	**1.54**	**71**	P	**Pn**	**17 32 23.5**	**-0.2**
	39nm,0.1s,SNR=18						
EOSO				S	**Sn**	**17 32 40.6**	**-3.1**
	110nm,0.1s,SNR=7.9						
CFTV	**Fuerteventura**	**2.88**	**73**	⇓P	**Pn**	**17 32 42.0**	**-0.1**
	2.9nm,0.1s,SNR=18						
CFTV				S	**Sn**	**17 33 12.3**	**-4.5**
	91nm,0.3s,SNR=7.9						
CFTV	**Fuerteventura**	**2.88**	**73**	⇓P	**Pn**	**17 32 42.0**	**-0.1**
CFTV				S	**Sn**	**17 33 12.3**	**-4.5**
CFUE	**Fuerteventura**	**3.08**	**69**	⇓P	**Pn**	**17 32 44.3**	**-0.4**
	8.6nm,0.1s,SNR=18						
CFUE				S	**Sn**	**17 33 17.0**	**-4.6**
	165nm,0.1s,SNR=7.9						
EFAM	**Famara**	**3.58**	**64**	⇓P	**Pn**	**17 32 51.5**	**-0.2**
	15nm,0.2s,SNR=18						
EFAM				S	**Sn**	**17 33 29.6**	**-4.6**
	40nm,0.2s,SNR=7.9						
EFAM	**Famara**	**3.58**	**64**	P	**Pn**	**17 32 51.5**	**-0.3**
	15nm,0.2s,SNR=18						
EFAM				S	**Sn**	**17 33 29.6**	**-4.6**
	40nm,0.2s,SNR=7.9						
PMAR	**Madeira**	**5.12**	**3**	*e*Pn	**Pn**	**17 33 09.9**	**-3.0**
PMAR				*e*Sn	**Sn**	**17 34 04.4**	**-7.8**
PMAR				A		17 34 10.9	
	237nm,0.1s						
PMAR	**Madeira**	**5.12**	**3**	*e*Pn	**Pn**	**17 33 09.9**	**-3.0**
PMAR				*e*Sn	**Sn**	**17 34 04.4**	**-7.8**
PMPS	**Porto Santo**	**5.50**	**8**	*e*Pn	**Pn**	**17 33 15.5**	**-2.6**
PMPS				*e*Sn	**Sn**	**17 34 12.1**	**-9.4**
PMPS				A		17 34 18.0	
	52nm,0.1s						
PMPS	**Porto Santo**	**5.50**	**8**	*e*Pn	**Pn**	**17 33 15.5**	**-2.6**
PMPS				*e*Sn	**Sn**	**17 34 12.1**	**-9.4**
JHA	**Jbel Lahdid**	**7.91**	**57**	*e*P	**Pn**	**17 33 52.0**	**+0.8**
JHA				*i* S	**Sn**	**17 35 15.0**	**-5.8**
CIA	**Chichaoua**	**8.35**	**60**	*e*P	**Pn**	**17 33 58.0**	**+0.7**
CIA				*i* S	**Sn**	**17 35 25.5**	**-6.2**
OUK	**Oukaimeden**	**8.91**	**64**	*i* P	**Pn**	**17 34 05.0**	**+0.1**
OUK				*i* S	**Sn**	**17 35 40.0**	**-5.3**
TZC	**Tazercounte**	**10.35**	**61**	*e*P	**Pn**	**17 34 24.0**	**-0.7**
TAM	**Tamanrasset**	**21.11**	**98**	*e*P	**P**	**17 36 44.6**	**+3.7**
DBIC	**Dimbokro**	**23.88**	**148**	*e*P	**P**	**17 37 10.6**	**+0.6**
DBIC	**Dimbokro**	**23.88**	**148**	*e*P	**P**	**17 37 10.6**	**+0.6**
	28nm,1.5s						
DBIC				*e*S	**S**	**17 41 26.4**	**+0.2**

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*DDA **05** 17:52:56.7, 39.14N×29.03E, h6km±5km, Md2.9, Ml2.9*
*CSEM **05** 17:52:56.7±0.1, 39.07N×29.05E, h10km, ML2.9, Error ellipse: s-maj=1.9km s-min=1.5km az=147.0*
*ISCJB **05** 17:52:57.2±0.4, 39.08N±0.03×29.04E±0.03, h8km±5km, Error ellipse: s-maj=5.1km s-min=3.7km az=172.1*
*ISK **05** 17:52:57.2, 39.06N×29.04E, h13km, MD2.8*
ISC 05 17:52:57.6±0.4**, 39.10N**±0.03×**29.04E**±0.03**, h8**km±6km**, n17,** σ**0s.68**/28**, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DEMI	**Demirci**	**0.26**	**257**	*i* P	**Pg**	**17 53 03.0**	**+0.3**
DEMI				*i* S	**Sg**	**17 53 06.6**	**+0.4**
GDZ	**Gediz**	**0.34**	**92**	*i* P	**Pg**	**17 53 04.3**	**-0.1**
GDZ				*i* S	**Sg**	**17 53 09.0**	**+0.1**
DST	**Dursunbey**	**0.60**	**328**	*e*PG	**Pg**	**17 53 10.4**	**+1.3**
KULA	**Kula-Manisa**	**0.66**	**207**	*e*PG	**Pg**	**17 53 10.0**	**-0.2**
KULA				*e*SG	**Sg**	**17 53 18.9**	**+0.2**
DURS	**Dursunbey**	**0.66**	**319**	*i* P	**Pg**	**17 53 10.0**	**-0.4**
DURS				*i* S	**Sg**	**17 53 17.0**	**-2.1**
MANT	**Manisa**	**0.71**	**212**	*i* P	**Pg**	**17 53 11.4**	**0.0**
MANT				*i* S	**Sg**	**17 53 20.8**	**+0.1**
ALT	**Altintas**	**0.84**	**93**	*e*PG	**Pg**	**17 53 14.1**	**+0.5**
ALT				*e*SG	**Sg**	**17 53 24.6**	**0.0**
KHL	**Karahalli**	**0.86**	**154**	*e*PG	**Pg**	**17 53 13.5**	**-0.7**
AKS	**Akhisar**	**0.98**	**257**	*e*PG	**Pg**	**17 53 15.7**	**-0.7**
ULDT	**Uludag**	**1.04**	**4**	*i* P	**Pg**	**17 53 17.0**	**-0.7**
ULDT				*i* S	**Sg**	**17 53 26.5**	**-4.7**
BALB	**Balikesir**	**1.05**	**301**	*e*PG	**Pg**	**17 53 18.0**	**+0.3**
BALB				*e*SG	**Sg**	**17 53 33.3**	**+2.0**
CAVI	**Cavuskoy**	**1.26**	**29**	*e*PN	**Pn**	**17 53 21.4**	**-0.2**
CAVI				*e*SN	**Sn**	**17 53 39.6**	**+0.9**
BALY	**Balya**	**1.27**	**301**	*i* P	**Pn**	**17 53 21.4**	**-0.3**
BALY				*i* S	**Sb**	**17 53 37.6**	**-0.7**
BORA	**Eskisehir**	**1.34**	**54**	*i* P	**Pn**	**17 53 22.1**	**-0.5**
BORA				*i* S	**Sb**	**17 53 40.3**	**0.0**
ADVT	**Abdulvahap**	**1.44**	**22**	*e*PN	**Pn**	**17 53 24.0**	**+0.1**
BNT	**Bandirma**	**1.52**	**326**	*e*PN	**Pn**	**17 53 25.2**	**+0.1**
GULT	**Gulveren**	**1.75**	**40**	*e*PN	**Pn**	**17 53 28.6**	**+0.3**

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*IDC **05** 18:31:22.2±2.5, 5.90N×126.20E, h0km, mb3.3/3, mb1 3.5/3, mb1mx3.3/17, mbtmp3.3/3, Error ellipse: s-maj=207.8km s-min=27.7km az=65.0*
*ISCJB **05** 18:31:33.7±1.1, 5.7N±0.1×126.1E±0.1, h112km±14km,*

mb3.2/3, Error ellipse: s-maj=21.8km s-min=16.7km az=147.6

MAN ***05*** *18:31:36, 5.88N×126.13E, h107km, mb4.6, ML3.5, MS3.4*

ISC 05 18:31:34.9±1.1**, 5.7N**±0.1×**126.1E**±0.1**, h102**km±14km**, n7, σ0ˢ73**/9**, mb3.2**/3**, 1D, Mindanao**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
GSPH	**General Santos**	**1.20**	**288**	⇓*e*P	**Pn**	**18 31 57.1**	**-0.5**
GSPH				*e*S	**Sn**	**18 32 14.4**	**-0.4**
MATI	**Mati**	**1.23**	**8**	*e*P	**Pn**	**18 31 58.5**	**+0.5**
MATI				*e*S	**Sn**	**18 32 15.0**	**-0.6**
BUKP	**Musuan**	**2.38**	**335**	*e*P	**Pn**	**18 32 13.1**	**+0.6**
PAGZ	**Pagadian**	**3.42**	**308**	*e*P	**Pn**	**18 32 27.7**	**+1.3**
WRA	**Warramunga Arr**	**26.76**	**163**	P	**P**	**18 37 04.6**	**-0.6**
	0.2nm,0.3s,mb3.1,baz=342,slow=10,SNR=7.1						
ASAR	**Alice Springs**	**30.18**	**166**	P	**P**	**18 37 36.4**	**+0.8**
	0.3nm,0.6s,mb3.1,baz=346,slow=7.0,SNR=6.9						
MKAR	**Makanchi Array**	**55.57**	**325**	P	**P**	**18 40 58.9**	**-0.9**
	0.2nm,0.4s,mb3.5,baz=106,slow=7.7,SNR=4.5						

IDC ***05*** *18:37:38.3±2.3, 32.78S×179.67W, h0km, mb4.0/3, mb1 4.2/4, mb1mx3.9/17, mbtmp4.1/4, ML3.9/1, MS3.4/3, Ms1 3.4/3, ms1mx2.9/27, Error ellipse: s-maj=52.3km s-min=28.7km az=54.0*

ISC 05 18:37:44.3±1.1**, 32.6S**±0.1×**179.8W**±0.2**, h35**km**, (h40**km±.5km**:pP-P), n11, σ0ˢ73**/8**, mb4.0**/3**, MS3.6**/2**, South of Kermadec Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**3.73**	**26**	LR	LR	18 39 52.0	
	comp=Z,202nm,18.4s,baz=296,slow=35						
URZ	**Urewera**	**6.16**	**203**	Pn	**Pn**	**18 39 07.5**	**-5.2**
	3.0nm,0.3s,baz=354,slow=19,SNR=15						
URZ				Sn	**Sn**	**18 40 22.0**	**+0.1**
	3.3nm,0.3s,baz=143,slow=14,SNR=8.5						
STKA	**Stephens Creek**	**32.55**	**261**	LR	LR	18 56 16.8	
	comp=Z,78nm,20.9s,MS3.4,baz=82,slow=34						
ASAR	**Alice Springs**	**41.53**	**270**	P	**P**	**18 45 28.6**	**+0.2**
	1.7nm,0.8s,mb3.8,baz=113,slow=7.8,SNR=24						
WRA	**Warramunga Arr**	**42.73**	**276**	P	**P**	**18 45 37.9**	**-0.3**
	0.7nm,0.3s,mb3.9,baz=113,slow=7.9,SNR=32						
QSPA	**South Pole Qui**	**57.48**	**180**	P	**P**	**18 47 27.6**	**-1.7**
	1.6nm,0.6s,mb4.3,baz=5.1,slow=1.3,SNR=12						
VNA3	**Neumayer Olymp**	**76.18**	**177**	*e*	**P**	**18 49 28.4**	**+0.1**
VNA3				*e*	pP	18 49 40.1	+0.9
VNA2	**Neumayer--Watz**	**76.59**	**177**	*e*	**P**	**18 49 31.2**	**+0.6**
	baz=180,slow=4.2						
VNA2				*e*	pP	18 49 42.6	+1.0
VNA1	**Neumayer--Stat**	**76.83**	**177**	*e*	**P**	**18 49 32.8**	**+0.8**
VNA1				*e*	pP	18 49 44.0	+1.1
TXAR	**Lajitas Array**	**94.86**	**58**	LR	LR	19 29 43.7	
	comp=Z,36nm,18.3s,MS3.9,baz=5.0,slow=33						
TORD	**Torodi Ar. Bea**	**160.56**	**184**	PKPab	PKPab	18 58 21.5	-0.7
	0.5nm,0.9s,baz=168,slow=5.8,SNR=3.2						

NIED ***05*** *18:46:00, 35.40N×139.20E, h26km, Mw4.0   Best double couple: Mo1.27000×10^15 NP1:φs237.00000°, δ54.00000°, λ95.00000°.   NP2:φs48.00000°, δ37.00000°, λ83.00000°.*

MOS ***05*** *18:46:01.5±0.8, 35.11N×139.67E, h33km, mb4.5/11, Error ellipse: s-maj=27.7km s-min=11.5km az=118.0*

JMA ***05*** *18:46:06.7±0.1, 35.40N×139.27E, h32km±1km, M4.2 Broadband fault plane solution: P waves.   NP1: φs246.00000°, δ41.00000°, λ102.00000°.   NP2: φs51.00000°, δ50.00000°, λ80.00000°.   Principal axes: T Plg81.0000°, Azm270.0000°; N Plg8.0000°, Azm57.0000°; P Plg5.0000°, Azm148.0000°;*

JMA   Felt III J1.

ISCJB ***05*** *18:46:06.2±0.3, 35.35N±0.03×139.32E±0.05, h51km±3km, mb4.2/22 Error ellipse: s-maj=6.9km s-min=4.1km az=159.5*

NEIC ***05*** *18:46:07.2±1.1, 35.25N×139.19E, h45km±9km, mb4.5/7, MW4.0(NIED), Error ellipse: s-maj=10.9km s-min=7.3km az=84.0*

NEIC Recorded [3 JMA] in Kanagawa, Shizuoka, Tokyo and Yamanashi; [2 JMA] Saitama; [1 JMA] in Chiba, Gumma and Nagano Prefectures.

IDC ***05*** *18:46:08.5±0.9, 35.27N×139.16E, h54km±8km, mb3.8/14, mb1 4.0/15, mb1mx3.9/23, mbtmp3.8/15, MS3.2/4, Ms1 3.2/4, ms1mx2.9/35, Error ellipse: s-maj=19.9km s-min=5.5km az=69.0*

ISC 05 18:46:07.0±0.4**, 35.35N**±0.03×**139.31E**±0.05**, h41**km±4km**, n58, σ0ˢ91**/68**, mb4.2**/22**, 1C-6D, Near south coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
JOD2	**Odawara 2**	**0.20**	**246**	⇑P	**Pn**	**18 46 12.9**	**-1.4**
JOD2				S	**Sn**	**18 46 17.7**	**-1.7**
JIM2	**Oshima 3**	**0.64**	**171**	⇓P	**Pn**	**18 46 18.8**	**-0.7**
JIM2				S	**Sn**	**18 46 28.4**	**0.0**
JYN	**Shimob**	**0.65**	**284**	⇓P	**Pn**	**18 46 18.7**	**-1.0**
JYN				S	**Sn**	**18 46 28.0**	**-0.7**
JIZS	**Izushimoda**	**0.72**	**210**	⇓P	**Pn**	**18 46 20.4**	**-0.3**
JIZS				S	**Sn**	**18 46 32.3**	**+1.7**
JRY	**Ryogami san**	**0.75**	**333**	⇓P	**Pn**	**18 46 20.2**	**-0.9**
JRY				S	**Sn**	**18 46 30.1**	**-1.1**
SHZ3	**Shizuoka 3**	**0.95**	**253**	P	**Pn**	**18 46 24.1**	**+0.4**
SHZ3				S	**Sn**	**18 46 37.7**	**+1.7**
JAG	**Ashikaga**	**1.08**	**6**	⇓P	**Pn**	**18 46 25.3**	**-0.3**
JAG				*e*S	**Sn**	**18 46 38.9**	**-0.5**
BSO3	**Boso 3**	**1.12**	**119**	P	**Pn**	**18 46 25.9**	**-0.3**
BSO3				S	**Sn**	**18 46 41.3**	**+0.9**
MJAR	**Matsushiro Arr**	**1.49**	**323**	P	**Pn**	**18 46 32.0**	**+0.7**
	285nm,0.3s,baz=130,slow=17,SNR=1989						
MJAR				S	**Sn**	**18 46 50.6**	**+1.1**
	327nm,0.3s,baz=190,slow=20,SNR=16						
MJAR	**Matsushiro Arr**	**1.49**	**323**	P	**Pn**	**18 46 32.0**	**+0.8**
MJAR				S	**Sn**	**18 46 50.6**	**+1.1**
MJAR				pmax	pmax		
	comp=Z,285nm,0.3s						
MJAR				smax			
	comp=N,327nm,0.3s						
MAJO	**Matsushiro**	**1.49**	**323**	*e*P	**Pn**	**18 46 31.8**	**+0.5**
MAJO				*e*S	**Sn**	**18 46 51.0**	**+1.5**
MAT	**Matsushiro**	**1.49**	**323**	P	**Pn**	**18 46 32.1**	**+0.8**
MAT				S	**Sn**	**18 46 50.8**	**+1.3**
JHJ	**Hachijo jima 2**	**2.25**	**170**	P	**Pn**	**18 46 43.0**	**+1.3**
	comp=N,151nm,0.3s,baz=308,slow=5.7,SNR=42						
JHJ				S	**Sn**	**18 47 09.5**	**+1.2**
	comp=N,183nm,0.3s,baz=67,slow=23,SNR=9.9						
JHJ				LR	LR	18 47 14.9	
	comp=N,702nm,21.2s,baz=314,slow=30						
ASAJ	**Asahikawa**	**9.12**	**15**	P	**Pn**	**18 48 15.9**	**+0.1**
	comp=N,0.5nm,0.3s,baz=220,slow=11,SNR=7.0						
ASAJ				LR	LR	18 51 56.6	
	comp=N,80nm,19.1s,baz=171,slow=38						
KSRS	**Korea Array**	**9.42**	**286**	P	**Pn**	**18 48 28.9**	**+8.8**
	comp=N,0.2nm,0.3s,baz=94,slow=14,SNR=4.1						
MDJ	**Mudanjiang**	**11.88**	**324**	P	**Pn**	**18 48 58.9**	**+5.3**
NACB	**Ninganchiao**	**18.96**	**239**	P	**Pn**	**18 50 17.1**	**-8.6**
	comp=N,631nm,0.9s						
SONM	**Songino Array**	**27.38**	**307**	LR	LR	19 03 06.1	
	comp=N,94nm,21.4s,baz=57,slow=37						
CMAR	**Chiang Mai Arr**	**39.43**	**255**	P	**P**	**18 53 32.9**	**-0.3**
	comp=N,0.4nm,0.6s,mb3.3,baz=53,slow=7.1,SNR=4.2						
ZALV	**Zalesovo Beam**	**41.83**	**314**	P	**P**	**18 53 52.3**	**-0.2**
	comp=N,0.5nm,0.3s,mb3.6,baz=109,slow=7.2,SNR=2.4						
ZALV	**Zalesovo Beam**	**41.83**	**314**	P	**P**	**18 53 52.3**	**-0.2**
ZALV				pmax	pmax		
	comp=Z,1.0nm,0.3s,mb3.9						
MKAR	**Makanchi Array**	**43.60**	**303**	P	**P**	**18 54 06.5**	**-0.5**
	comp=Z,0.7nm,0.6s,mb3.6,baz=87,slow=10,SNR=6.0						
MKAR	**Makanchi Array**	**43.60**	**303**	P	**P**	**18 54 06.5**	**-0.5**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
KURK	**Kurchatov**	**45.66**	**309**	*e*P	**P**	**18 54 22.9**	**-0.4**
KURK				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.5						
KURK	**Kurchatov**	**45.66**	**309**	*e*P	**P**	**18 54 22.9**	**-0.4**
	comp=Z,4.7nm,0.8s,mb4.5						
TKM2	**Tokmak 2**	**48.95**	**299**	*e*P	**P**	**18 54 49.5**	**+0.4**
TKM2				pmax	pmax		
	comp=Z,2.0nm,0.5s,mb4.4						
TKM2	**Tokmak 2**	**48.95**	**299**	*e*P	**P**	**18 54 49.5**	**+0.4**
	comp=Z,2.0nm,0.5s,mb4.4						
KDAK	**Kodiak Island**	**49.49**	**41**	P	**P**	**18 54 53.5**	**+0.6**
	comp=Z,11nm,0.7s,mb5.0,baz=300,slow=2.5,SNR=7.4						
BVAR	**Borovoye Array**	**50.47**	**313**	LR	LR	19 17 04.0	
	comp=Z,30nm,20.8s,baz=247,slow=37						
AML	**Almayashu**	**50.51**	**299**	*e*P	**P**	**18 55 01.9**	**+0.9**
	comp=Z,4.3nm,0.6s,mb4.6						
FITZ	**Fitzroy Crossi**	**54.72**	**196**	*e*P	**P**	**18 55 30.8**	**-1.4**
	comp=Z,1.8nm,0.6s,mb4.3						
WB2	**Warramunga Arr**	**55.19**	**186**	⇓*i*P	**P**	**18 55 34.7**	**-0.8**
WRA	**Warramunga Arr**	**55.19**	**186**	P	**P**	**18 55 34.9**	**-0.7**
	comp=Z,4.8nm,0.5s,mb4.8,baz=0.6,slow=7.6,SNR=163						
WRA	**Warramunga Arr**	**55.19**	**186**	P	**P**	**18 55 34.9**	**-0.6**
WRA				pmax	pmax		
	comp=Z,5.0nm,0.5s						
ARU	**Arti**	**56.51**	**319**	P	**P**	**18 55 45.0**	**+0.3**
ARU				pmax	pmax		
	comp=Z,4.0nm,0.7s,mb4.6						
ARU	**Arti**	**56.51**	**319**	P	**P**	**18 55 45.0**	**+0.4**
	comp=Z,3.6nm,0.7s,mb4.5						
ASAR	**Alice Springs**	**58.91**	**186**	P	**P**	**18 56 01.6**	**-0.3**
	comp=Z,1.8nm,0.6s,mb4.3,baz=18,slow=12,SNR=69						
ASAR	**Alice Springs**	**58.91**	**186**	P	**P**	**18 56 01.6**	**-0.2**
ASAR				pmax	pmax		
	comp=Z,2.0nm,0.6s						
MBWA	**Marble Bar**	**59.19**	**201**	P	**P**	**18 56 00.9**	**-2.9**
	comp=Z,9.9nm,1.2s,mb4.7						
KEV	**Kevo**	**64.41**	**339**	*e*p	**P**	**18 56 38.0**	**-0.4**
	comp=Z,0.7nm,0.4s,mb4.0						
KEV	**Kevo**	**64.41**	**339**	*e*P	**P**	**18 56 38.0**	**-0.4**
KEV				pmax	pmax		
	comp=Z,1.0nm,0.4s,mb4.2						
ARCES	**ARCESS Array B**	**64.97**	**339**	P	**P**	**18 56 42.0**	**0.0**
	comp=Z,1.5nm,0.5s,mb4.3,baz=49,slow=7.0,SNR=22						
ARCES	**ARCESS Array B**	**64.97**	**339**	P	**P**	**18 56 42.0**	**-0.1**
ARCES				pmax	pmax		
	comp=Z,2.0nm,0.5s						
ARE0	**ARCESS Array S**	**64.97**	**339**	P	**P**	**18 56 41.8**	**-0.3**
JOF	**Joensuu**	**66.64**	**332**	*e*p	**P**	**18 56 52.3**	**-0.6**
	comp=Z,1.4nm,0.3s,mb4.5						
JOF	**Joensuu**	**66.64**	**332**	*e*P	**P**	**18 56 52.3**	**-0.6**
JOF				pmax	pmax		
	comp=Z,1.0nm,0.3s,mb4.3						
STKA	**Stephens Creek**	**66.90**	**178**	P	**P**	**18 56 54.3**	**-0.5**
	comp=Z,3.3nm,1.1s,mb4.3,baz=344,slow=7.6,SNR=3.6						
AKASG	**Malin Array Be**	**74.58**	**322**	P	**P**	**18 57 41.5**	**0.0**
	comp=Z,1.0nm,0.4s,mb4.1,baz=46,slow=6.4,SNR=8.2						
AKASG	**Malin Array Be**	**74.58**	**322**	P	**P**	**18 57 41.5**	**0.0**
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.4s						
NB2	**NORSAR Subarra**	**75.07**	**337**	P	**P**	**18 57 43.2**	**-0.9**
	comp=Z,1.4nm,0.6s,mb4.1,baz=42,slow=5.9						
NOA	**NORSAR Array B**	**75.07**	**337**	P	**P**	**18 57 44.0**	**-0.2**
	comp=Z,1.9nm,0.7s,mb4.2,baz=42,slow=5.9,SNR=11						
NOA	**NORSAR Array B**	**75.07**	**337**	P	**P**	**18 57 44.0**	**-0.1**
NOA				pmax	pmax		
	comp=Z,2.0nm,0.7s						
NVAR	**Mina Array Bea**	**77.36**	**52**	P	**P**	**18 57 59.6**	**+2.1**
	comp=Z,1.8nm,0.6s,mb4.2,baz=290,slow=5.0,SNR=11						
PDAR	**Pinedale Array**	**80.06**	**44**	P	**P**	**18 58 13.2**	**+0.9**
	comp=Z,0.5nm,0.6s,mb3.6,baz=202,slow=1.6,SNR=4.6						
CLL	**Collm**	**81.69**	**329**	*e*P	**P**	**18 58 20.0**	**-0.8**
CLL				Lm		18 32 00.0	
	comp=Z,100nm,18.6s						
GERES	**GERESS Array B**	**83.23**	**327**	P	**P**	**18 58 28.3**	**-0.6**
	comp=Z,0.2nm,0.4s,mb3.5,baz=12,slow=6.0,SNR=3.3						
TXAR	**Lajitas Array**	**92.50**	**51**	P	**P**	**18 59 14.7**	**+0.7**
	comp=Z,0.4nm,0.5s,mb4.0,baz=312,slow=2.9,SNR=5.9						
LPAZ	**La Paz**	**149.01**	**59**	PKPbc	PKPbc	19 05 52.7	+1.7
	comp=Z,1.7nm,0.6s,baz=248,slow=2.9,SNR=11						

NIED ***05*** *18:54:00, 31.90N×142.00E, h59km, Mw4.2   Best double couple: Mo1.95000×10^15 NP1:φs310.00000°, δ56.00000°, λ-82.00000°.   NP2:φs116.00000°, δ35.00000°, λ-102.00000°.*

IDC ***05*** *18:54:30.6±1.2, 31.69N×141.90E, h0km, mb3.8/7, mb1 3.9/11, mb1mx3.8/26, mbtmp3.8/11, ML3.6/3, Error ellipse: s-maj=36.2km s-min=17.1km az=71.0*

ISCJB ***05*** *18:54:32.7±0.7, 31.84N±0.05×142.1E±0.1, h33km, mb3.8/7, Error ellipse: s-maj=14.0km s-min=5.0km az=161.1*

JMA ***05*** *18:54:34.0±0.3, 31.85N×142.00E, h59km, M3.6*

NEIC ***05*** *18:54:35.9±0.9, 31.72N×141.84E, h35km, MG3.6(JMA), Error ellipse: s-maj=29.8km s-min=13.1km az=71.0*

ISC 05 18:54:34.8±2.1**, 31.81N**±0.05×**141.9E**±0.1**, h30**km±17km**, n23, σ1ˢ02**/31**, mb3.8**/7**, Southeast of Honshu**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
JHJ2	**Mitsune**	**2.21**	**307**	P	**Pn**	**18 55 09.5**	**+0.1**
JHJ2				*e*S	**Sn**	**18 55 36.3**	**+0.6**
JHJ	**Hachijo jima 2**	**2.24**	**306**	Pn	**Pn**	**18 55 08.6**	**-1.2**
	29nm,0.3s,baz=225,slow=13,SNR=14						
JHJ				Sn	**Sn**	**18 55 32.1**	**-4.2**
	47nm,0.3s,baz=243,slow=23,SNR=6.5						
BSO1	**Boso 1**	**2.95**	**345**	P	**Pn**	**18 55 19.1**	**-0.4**
BSO4	**Boso 4**	**3.44**	**338**	*e*S	**Sn**	**18 56 06.3**	**+0.2**
JHU	**Hanno**	**4.59**	**332**	P	**Pn**	**18 55 42.5**	**+0.3**
JHU				*e*S	**Sn**	**18 56 33.9**	**-0.6**
CBIJ	**Chichi jima**	**4.70**	**177**	Pn	**Pn**	**18 55 41.6**	**-2.1**
	12nm,0.3s,baz=278,slow=23,SNR=15						
CBIJ				Sn	**Sn**	**18 56 32.7**	**-4.5**
	8.7nm,0.3s,baz=277,slow=22,SNR=2.3						
CBIJ	**Chichi jima**	**4.70**	**177**	P	**Pn**	**18 55 43.5**	**-0.2**
JRY	**Ryogami san**	**4.89**	**330**	P	**Pn**	**18 55 48.6**	**+2.3**
JRY				*e*S	**Sn**	**18 56 41.7**	**-0.2**
JNY	**Yasuok**	**4.91**	**317**	P	**Pn**	**18 55 49.5**	**+3.1**
JHO	**Hitachi**	**4.92**	**347**	P	**Pn**	**18 55 46.2**	**-0.4**
JHO				*e*S	**Sn**	**18 56 42.0**	**-0.5**
MJAR	**Matsushiro Arr**	**5.64**	**328**	Pn	**Pn**	**18 55 57.9**	**+1.4**
	0.7nm,0.3s,baz=150,slow=10,SNR=14						
MJAR				Sn	**Sn**	**18 56 59.8**	**-0.4**
	0.8nm,0.3s,baz=56,slow=20,SNR=5.0						
MAJO	**Matsushiro**	**5.64**	**328**	*e*Pn	**Pn**	**18 55 56.2**	**-0.3**
	7.4nm,0.5s						
MAT	**Matsushiro**	**5.64**	**328**	P	**Pn**	**18 55 56.3**	**-0.2**
MAT				*e*S	**Sn**	**18 56 58.7**	**-1.6**
ASAJ	**Asahikawa**	**12.30**	**2**	Pn	**Pn**	**18 57 27.1**	**-0.7**
	0.3nm,0.3s,baz=216,slow=27,SNR=4.6						
KSRS	**Korea Array**	**12.83**	**300**	Pn	**Pn**	**18 57 39.5**	**+4.4**
	0.2nm,0.3s,baz=113,slow=12,SNR=3.3						
CMAR	**Chiang Mai Arr**	**40.87**	**262**	P	**P**	**19 02 14.5**	**+0.3**
	0.5nm,0.8s,mb3.2,baz=51,slow=8.6,SNR=3.9						
MKAR	**Makanchi Array**	**47.41**	**306**	P	**P**	**19 03 06.2**	**0.0**
	0.5nm,0.6s,mb3.6,baz=88,slow=9.1,SNR=4.4						
KURK	**Kurchatov**	**49.61**	**312**	P	**P**	**19 03 23.4**	**+0.3**
	1.2nm,0.6s,mb4.1,baz=87,slow=6.8,SNR=6.9						
WRA	**Warramunga Arr**	**51.97**	**189**	P	**P**	**19 03 40.3**	**-0.8**
	2.2nm,0.8s,mb4.2,baz=5.9,slow=7.6,SNR=19						
BVAR	**Borovoye Array**	**54.49**	**315**	P	**P**	**19 04 02.0**	**+2.6**
	0.3nm,0.5s,mb3.5,baz=90,slow=10,SNR=3.8						
ASAR	**Alice Springs**	**55.69**	**189**	P	**P**	**19 04 07.7**	**-0.7**
	0.9nm,0.7s,mb3.9,baz=356,slow=5.2,SNR=7.8						
TXAR	**Lajitas Array**	**92.95**	**53**	P	**P**	**19 07 46.7**	**+1.4**
	0.5nm,0.7s,mb4.1,baz=270,slow=1.3,SNR=5.7						
TXAR	**Lajitas Array**	**92.95**	**53**	P	**P**	**19 07 46.7**	**+1.4**

NEIC ***05*** *18:54:45.6±10.0, 17.99S×176.91W, h10km, mb4.5/4, Error ellipse: s-maj=205.0km s-min=29.3km az=58.0*

IDC ***05*** *18:54:58.2±15.0, 18.99S×178.54W, h0km, mb4.6/4, mb1 4.6/5, mb1mx4.1/18, mbtmp4.5/5, ML4.2/1, Error ellipse: s-maj=297.4km s-min=37.9km az=55.0*

ISC 05 18:55:11.6±4.2**, 19.1S**±0.3×**178.2W**±0.7**, h143**km±53km**, n9, σ1ˢ24**/11**, mb4.4**/7**, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**19.51**	**191**	P	**P**	**18 59 27.0**	**-0.7**
	0.7nm,0.3s,baz=90,slow=6.1,SNR=4.7						
URZ				S	**S**	**19 02 59.6**	**-0.8**
	1.0nm,0.3s,baz=336,slow=19,SNR=6.2						
RPZ	**Rata Peaks**	**26.14**	**198**	P	**P**	**19 00 34.7**	**+2.3**
	15nm,0.8s,mb4.7,baz=14,slow=8.3,SNR=2.4						
RPZ				S	**S**	**19 04 54.6**	**+1.2**
	13nm,0.9s,baz=45,slow=17,SNR=2.5						
CTAO	**Charters Tower**	**33.48**	**262**	*e*P	**P**	**19 01 39.2**	**+1.7**
	2.9nm,0.6s,mb4.2						
STKA	**Stephens Creek**	**38.25**	**243**	P	**P**	**19 02 18.8**	**+0.8**
	1.6nm,0.4s,mb4.0,baz=99,slow=12,SNR=6.6						
STKA	**Stephens Creek**	**38.25**	**243**	*e*P	**P**	**19 02 18.0**	**0.0**
	1.8nm,0.5s,mb4.0						
WRA	**Warramunga Arr**	**44.64**	**261**	P	**P**	**19 03 10.0**	**-0.3**
	1.6nm,0.3s,mb4.1,baz=97,slow=7.5,SNR=56						
ASAR	**Alice Springs**	**44.69**	**255**	P	**P**	**19 03 10.6**	**0.0**
	11nm,0.6s,mb4.7,baz=92,slow=8.3,SNR=250						
FITZ	**Fitzroy Crossi**	**53.06**	**261**	*e*P	**P**	**19 04 13.7**	**-0.7**
	3.6nm,0.5s,mb4.4						
MBWA	**Marble Bar**	**58.00**	**257**	*e*P	**P**	**19 04 47.4**	**-2.4**
	13nm,1.1s,mb4.7						

NEIC ***05*** *18:59:50.3±2.8, 34.44N×73.70E, h10km, Error ellipse: s-maj=48.4km s-min=15.9km az=136.0*

IDC ***05*** *18:59:50.2±4.1, 34.63N×73.44E, h0km, mb3.8/3, mb1 3.9/4, mb1mx3.5/22, mbtmp3.8/4, ML3.6/1, Error ellipse: s-maj=93.3km s-min=36.4km az=127.0*

ISCJB ***05*** *18:59:56.1±1.0, 34.86N±0.06×73.44E±0.09, h54km±15km, mb3.8/2, Error ellipse: s-maj=13.1km s-min=8.2km az=148.2*

ISC 05 18:59:58.3±0.8**, 34.82N**±0.06×**73.39E**±0.09**, h59**km±14km**, n10, σ1ˢ04**/15**, mb3.8**/2**, 1D, Pakistan**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KBL	**Kabul**	**3.59**	**267**	*e*Pn	**Pn**	**19 00 50.8**	**-0.6**
KBL				*e*Sn	**Sn**	**19 01 35.0**	**+2.4**
KBL				*e*Sg	**Sn**	**19 01 46.0**	**+13**
SMLA	**Simla**	**4.86**	**138**	*i* P	**Pn**	**19 01 07.2**	**-1.7**
SMLA				*i* S	**Sn**	**19 02 04.4**	**+0.5**
SMLA				*i* S	**Sn**	**19 02 05.0**	**+1.1**
SMLA				*e*x	x	19 02 05.5	
	comp=E,134nm,0.3s						
SMLA				*e*x	x	19 02 06.3	
	comp=N,130nm,0.3s						
AML	**Almayashu**	**7.30**	**2**	*e*Pn	**Pn**	**19 01 42.5**	**+0.3**
	comp=N,2.5nm,0.4s						
UCH	**Uchtor**	**7.45**	**6**	*e*Pn	**Pn**	**19 01 45.8**	**+1.6**
	comp=N,2.7nm,0.4s						
KK31	**Karatay Array**	**8.56**	**346**	Pn	**Pn**	**19 01 59.7**	**+0.2**
	comp=N,3.2nm,0.5s,baz=155,slow=11,SNR=79						
KK31				⇓Sn	**Sn**	**19 03 34.1**	**-0.5**
	comp=N,0.5nm,0.3s,baz=159,slow=23,SNR=3.5						
AKTK	**Aktyubinsk**	**19.21**	**329**	P	**Pn**	**19 04 17.4**	**-1.3**
AKTO	**Aktyubinsk**	**19.21**	**329**	P	**Pn**	**19 04 17.4**	**-1.3**
	comp=N,0.2nm,0.3s,baz=127,slow=12,SNR=5.5						
ZALV	**Zalesovo Beam**	**20.74**	**19**	P	**P**	**19 04 33.9**	**+0.1**
	comp=N,2.5nm,0.4s,baz=212,slow=11,SNR=16						
ARCES	**ARCESS Array B**	**43.43**	**338**	P	**P**	**19 07 56.1**	**+1.3**
	comp=N,2.0nm,0.8s,mb3.9,baz=113,slow=9.3,SNR=7.4						
TORD	**Torodi Ar. Bea**	**67.65**	**271**	P	**P**	**19 10 49.6**	**+0.2**
	comp=N,0.4nm,0.4s,mb3.8,baz=48,slow=5.1,SNR=6.7						

ISCJB ***05*** *19:01:38.6±0.9, 28.47N±0.03×105.03E±0.05, h14km±6km, mb3.9/12, Error ellipse: s-maj=8.3km s-min=5.0km az=158.1*

IDC ***05*** *19:01:38.1±0.8, 28.31N×105.01E, h0km, mb3.9/11, mb1 4.0/12, mb1mx3.9/22, mbtmp3.9/12, ML3.9/1, MS3.2/3, Ms1 3.3/3, ms1mx2.7/27, Error ellipse: s-maj=36.6km s-min=15.7km az=55.0*

NEIC ***05*** *19:01:39.8±0.7, 28.46N×105.15E, h10km, mb3.9/2, Error ellipse: s-maj=17.3km s-min=10.6km az=86.0*

BJI ***05*** *19:01:40.2, 28.36N×105.03E, h10km, mb3.9, ML3.8, Ms4.0, Msz3.9*

ISC 05 19:01:40.7±0.8**, 28.49N**±0.03×**105.08E**±0.04**, h12**km±5km**, n31, σ1ˢ31**/44**, mb3.9**/12**, Sichuan**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
GYA	**Guiyang**	**2.46**	**145**	P	**Pn**	**19 02 21.5**	**+0.8**
GYA				PG	**Pg**	**19 02 27.7**	**-0.2**
GYA				S	**Sn**	**19 02 53.7**	**+3.0**
GYA				SG	**Sg**	**19 03 00.2**	**+0.3**
GYA				Smax			
	comp=N,680nm,0.7s						
GYA				Smax			
	comp=E,360nm,0.6s						
CD2	**Chengdu**	**2.67**	**335**	*e*P	**Pn**	**19 02 25.2**	**+1.6**
CD2				PG	**Pg**	**19 02 30.6**	**-1.4**
CD2				S	**Sn**	**19 02 59.1**	**+3.2**
CD2				SG	**Sg**	**19 03 07.4**	**+0.7**
CD2				Smax			
	comp=N,950nm,0.6s						
CD2				Smax			
	comp=E,1μm,0.8s						
KMI	**Kunming**	**3.95**	**213**	P	**Pn**	**19 02 41.9**	**+0.7**
KMI				PG	**Pg**	**19 02 50.0**	**-6.4**
KMI				Smax			
	comp=N,73nm,1.9s						
KMI				Smax			
	comp=E,82nm,1.6s						
KMI				LR	LR		
	comp=N,1μm,6.6s						
KMI				LR	LR		
	comp=E,1μm,8.5s						
XAN	**Xi'an**	**6.44**	**30**	P	**Pn**	**19 03 17.8**	**+2.5**
XAN				PG	**Pg**	**19 03 40.7**	**-3.3**
XAN				S	**Sn**	**19 04 29.1**	**+0.4**
XAN				SG	**Sg**	**19 05 06.8**	**-0.5**
XAN				Smax			
	comp=N,194nm,0.9s						
XAN				Smax			
	comp=E,194nm,0.9s						
LZH	**Lanzhou**	**7.65**	**352**	*e*P	**Pn**	**19 03 38.5**	**+6.6**
LZH				*e*S	**Sn**	**19 05 06.0**	**+7.5**
LZH				XS		19 05 11.0	
LZH				Smax			
	comp=N,17nm,0.6s						
LZH				Smax			
	comp=E,17nm,0.5s						
LZH				LR	LR		
	comp=N,588nm,6.7s						
LZH				LR	LR		
	comp=Z,723nm,7.4s						
LZH	**Lanzhou**	**7.65**	**352**	*e*P	**Pn**	**19 03 38.5**	**+6.6**
	comp=Z,13nm,1.0s						
LZH				sP		19 03 42.1	
LZH				*e*S	**Sn**	**19 05 06.0**	**+7.5**
LZH				sS		19 05 11.0	
WHN	**Wuhan**	**8.33**	**74**	P	**Pn**	**19 03 44.0**	**+2.7**
WHN				S	**Sn**	**19 05 13.5**	**-1.8**
WHN				Smax			
	comp=N,33nm,0.8s						
WHN				Smax			
	comp=E,58nm,0.9s						
CHTO	**Chiang Mai**	**11.15**	**212**	*e*P	**Pn**	**19 04 20.4**	**+0.4**
	comp=E,5.6nm,1.1s						
CMAR	**Chiang Mai Arr**	**11.46**	**211**	Pn	**Pn**	**19 04 25.1**	**+0.9**
	comp=E,0.1nm,0.3s,baz=17,slow=11,SNR=16						
CMAR				LR	LR	19 09 07.1	
	comp=E,106nm,18.9s,baz=40,slow=40						
LSA	**Lhasa**	**12.24**	**279**	P	**Pn**	**19 04 34.6**	**-0.3**
	comp=E,7.9nm,1.6s						
SONM	**Songino Array**	**19.34**	**3**	P	**Pn**	**19 06 07.9**	**+0.9**
	comp=E,0.4nm,0.3s,baz=134,slow=6.4,SNR=2.5						
SONM				LR	LR	19 14 52.2	
	comp=E,129nm,19.7s,baz=52,slow=41						
ULN	**Ulaanbaatar**	**19.41**	**4**	*e*P	**Pn**	**19 06 07.3**	**-0.4**
	comp=E,5.2nm,1.3s						
KSRS	**Korea Array**	**21.11**	**59**	P	**P**	**19 06 25.6**	**+0.4**
	comp=E,0.6nm,0.3s,mb3.3,baz=246,slow=11,SNR=6.0						
KSRS				LR	LR	19 15 36.1	
	comp=E,53nm,20.4s,baz=175,slow=40						
MKAR	**Makanchi Array**	**25.53**	**322**	P	**P**	**19 07 11.1**	**+2.0**
	comp=E,2.7nm,0.9s,mb3.8,baz=125,slow=10,SNR=12						
MKAR	**Makanchi Array**	**25.53**	**322**	P	**P**	**19 07 11.1**	**+2.0**
ZALV	**Zalesovo Beam**	**29.44**	**335**	P	**P**	**19 07 44.6**	**+0.6**
	comp=E,0.6nm,0.5s,mb3.6,baz=136,slow=8.1,SNR=4.3						
KURK	**Kurchatov**	**29.86**	**325**	P	**P**	**19 07 47.1**	**-0.7**
	comp=E,1.6nm,0.9s,mb3.8,baz=133,slow=9.4,SNR=8.2						
KURK	**Kurchatov**	**29.86**	**325**	*e*P	**P**	**19 07 46.1**	**-1.7**
	comp=E,3.5nm,1.0s,mb4.0						
AKTK	**Aktyubinsk**	**41.56**	**315**	P	**P**	**19 09 28.4**	**+0.3**
AKTO	**Aktyubinsk**	**41.56**	**315**	P	**P**	**19 09 28.4**	**+0.3**
	comp=E,0.7nm,0.6s,mb3.5,baz=82,slow=12,SNR=5.1						
ARU	**Arti**	**43.03**	**324**	*e*P	**P**	**19 09 36.9**	**-3.0**
RDF	**Al-Radifah**	**50.02**	**285**	*e*P	**P**	**19 10 33.3**	**-1.9**
	baz=45						
RDF				AMb	AMB	19 10 37.1	
	comp=Z,26nm,0.9s,baz=45						
NAY	**Al-Naaiem**	**50.20**	**286**	*e*P	**P**	**19 10 34.3**	**-2.2**
	baz=44						
NAY				AMb	AMB	19 10 36.4	
	comp=Z,16nm,0.8s,baz=44						
RST	**Umm Al-Ruwaisa**	**50.35**	**286**	*e*P	**P**	**19 10 34.0**	**-3.7**
	baz=44						
RST				AMb	AMB	19 10 39.1	
	comp=Z,8.0nm,0.9s,mb4.8,baz=44						
WRA	**Warramunga Arr**	**55.83**	**146**	P	**P**	**19 11 16.5**	**-1.6**
	comp=Z,2.7nm,0.5s,mb4.5,baz=337,slow=8.3,SNR=38						

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
WB2	Warramunga Arr	55.84	146	eP	P	19 11 16.4	-1.7
ASAR	Alice Springs	58.82	149	P	P	19 11 37.9	-1.2
	comp=Z,1.6nm,0.7s,mb4.2,baz=330,slow=6.8,SNR=21						
AKASG	Malin Array Be	59.80	314	P	P	19 11 45.3	-0.4
	comp=Z,0.3nm,0.3s,mb3.7,baz=66,slow=7.2,SNR=2.7						
ARCES	ARCESS Array B	59.99	336	P	P	19 11 46.5	-0.1
	comp=Z,1.7nm,0.8s,mb4.2,baz=88,slow=8.5,SNR=4.0						
NOA	NORSAR Array B	67.32	328	P	P	19 12 34.6	-0.6
	comp=Z,1.3nm,0.9s,mb3.9,baz=74,slow=5.8,SNR=3.6						
GERES	GERESS Array B	69.99	315	P	P	19 12 52.2	+0.2
	comp=Z,0.3nm,0.6s,mb3.4,baz=76,slow=5.6,SNR=4.2						

*ISCJB **05** 19:57:21.9±1.3, 3654N±006×714E±02, h147km±32km, Error ellipse: s-maj=22.0km s-min=6.3km az=157.8*
*NNC **05** 19:57:25.8±3.5, 37.19N×70.89E, h0km, mb3.6, mpv3.3, Error ellipse: s-maj=29.7km s-min=26.3km az=71.0*
ISC 05 19:57:21.9±1.1, 3652N±007×712E±02, h151km±42km, n8, σ1.07/14, 1C-1D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
THN	Thein Dam	5.50	136	eP	Pn	19 58 42.9	+1.0
THN				eS	Sn	19 59 45.1	+0.6
KK31	Karatay Array	6.60	355	⇓Pn	Pn	19 58 57.7	+1.2
	0.3nm,0.3s,baz=183,slow=12,SNR=22						
KK31				Sn	Sn	20 00 09.6	-1.1
	4.0nm,0.5s,baz=0.0,slow=0.1,SNR=4.8						
TKM2	Tokmak 2	7.22	26	⇑Pn	Pn	19 59 06.6	+1.8
	7.6nm,1.2s						
TKM2				Sn	Sn	20 00 25.4	-0.1
	1.8nm,0.8s						
SMLA	Simla	7.29	136	i P	Pn	19 59 06.2	+0.4
SMLA				i S	Sn	20 00 25.6	-1.8
SMLA				i S	Sn	20 00 26.1	-1.2
SMLA				ex	x	20 00 29.4	
	comp=E,304nm,0.4s						
SMLA				ex	x	20 00 30.6	
	comp=N,268nm,0.5s						
JOSI	Joshimath	9.14	128	eS	Sn	20 01 10.6	-1.2
JOSI				AML	AML	20 01 18.0	
	comp=E,26nm,0.5s						
JOSI				AML	AML	20 01 22.9	
	comp=N,35nm,0.8s						
KHET	Khetri	9.26	154	eS	Sn	20 01 05.3	-9.5
KHET				AML	AML	20 01 14.2	
	comp=E,2.9nm,0.2s						
KHET				AML	AML	20 01 14.9	
	comp=N,6.4nm,0.1s						
SONA	Sohna	9.61	147	eS	Sn	20 01 15.4	-7.7
SONA				AML	AML	20 01 41.0	
	comp=N,11nm,0.2s						
SONA				AML	AML	20 01 41.3	
	comp=E,13nm,0.2s						
AB31	Akbulak array	15.16	331	Pn	Pn	20 00 48.2	+0.2
	comp=E,0.7nm,0.7s,baz=153,slow=11,SNR=6.4						
AB31				Sn	Sn	20 03 35.2	-1.2
	comp=E,0.5nm,0.7s						

*ISCJB **05** 19:59:29.1±2.4, 219N±01×1430E±01, h290km±23km, mb4.0/17, Error ellipse: s-maj=20.6km s-min=16.1km az=18.4*
*IDC **05** 19:59:30.9±3.1, 2184N×14287E, h291km±30km, mb3.3/11, mb1 3.5/13, mb1mx3.4/23, mbtmp3.4/13, Error ellipse: s-maj=24.8km s-min=12.8km az=84.0*
*NEIC **05** 19:59:30.2±2.4, 2186N×14292E, h286km±23km, mb4.0/2, Error ellipse: s-maj=18.6km s-min=11.1km az=83.0*
ISC 05 19:59:29.5±2.2, 219N±01×1430E±01, h280km±20km, n33, σ0.80/29, mb4.0/17, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JHJ	Hachijo jima 2	11.57	346	P	Pn	20 02 09.3	+2.2
	10nm,0.3s,baz=240,slow=23,SNR=4.4						
MJAR	Matsushiro Arr	15.21	345	P	Pn	20 02 49.3	-1.7
	1.8nm,0.3s,baz=167,slow=10,SNR=15						
MAJO	Matsushiro	15.22	345	eP	Pn	20 02 50.4	-0.6
	11nm,0.7s						
MAT	Matsushiro	15.22	345	P	Pn	20 02 50.3	-0.7
KSRS	Korea Array	20.30	323	P	P	20 03 44.8	+0.1
	3.4nm,0.6s,baz=147,slow=9.2,SNR=15						
ASAJ	Asahikawa	22.19	359	P	P	20 04 03.9	+1.2
	2.0nm,0.4s,mb3.8,baz=174,slow=11,SNR=6.3						
ULN	Ulaanbaatar	38.75	321	P	P	20 06 27.1	+0.1
SONM	Songino Array	39.12	320	P	P	20 06 30.3	+0.1
	0.9nm,0.3s,mb3.6,baz=125,slow=7.7,SNR=3.4						
WRA	Warramunga Arr	42.41	192	P	P	20 06 56.9	-0.3
	0.2nm,0.4s,baz=9.5,slow=8.7,SNR=26						
ASAR	Alice Springs	46.12	192	P	P	20 07 25.9	-0.5
	0.2nm,0.7s,baz=23,slow=8.1,SNR=4.4						
LSA	Lhasa	47.05	291	eP	P	20 07 34.5	+0.9
TAPN	Taplejung	50.27	288	eP	P	20 07 58.1	+0.1
	5.4nm,0.4s,mb4.2						
ODAN	Odare	50.61	287	eP	P	20 08 00.4	-0.1
	5.2nm,0.5s,mb4.1						
RAMN	Ramite	51.30	288	eP	P	20 08 05.5	-0.1
	6.2nm,0.5s,mb4.2						
JIRN	Jiri	51.57	289	eP	P	20 08 08.0	+0.3
	8.5nm,0.4s,mb4.4						
GUN	Gumba	51.81	289	eP	P	20 08 10.2	+0.7
KKN	Kakani	52.35	289	eP	P	20 08 13.5	+0.1
DMN	Daman	52.53	289	eP	P	20 08 14.4	-0.3
	3.7nm,0.4s,mb4.0						
GKN	Gorkha	52.89	289	eP	P	20 08 17.6	+0.2
	4.9nm,0.3s,mb4.3						
DANN	Dangsing	53.62	290	eP	P	20 08 23.2	+0.6
	33nm,0.4s,mb5.0						
KOLN	Koldanda	53.83	289	eP	P	20 08 24.4	+0.2
ZALV	Zalesovo Beam	54.00	322	P	P	20 08 24.6	-0.3
	2.5nm,0.5s,mb3.8,baz=104,slow=8.2,SNR=12						
MKAR	Makanchi Array	54.49	313	P	P	20 08 28.5	0.0
	0.3nm,0.2s,mb3.2,baz=85,slow=8.9,SNR=5.2						
MKAR				PcP	PcP	20 09 28.3	+0.2
	0.2nm,0.3s,baz=68,slow=4.6,SNR=2.9						
YKA	Yellowknife Ar	76.37	28	P	P	20 10 47.8	+0.1
	1.0nm,0.5s,mb3.7,baz=293,slow=5.8,SNR=3.8						
ARCES	ARCESS Array B	78.72	341	P	P	20 11 00.8	+0.2
	2.7nm,0.6s,mb4.2,baz=71,slow=8.8,SNR=15						
JOF	Joensuu	80.11	334	ep	P	20 11 06.9	-1.3
	2.5nm,0.3s,mb4.4						
KAF	Kangasniemi	82.51	335	ep	P	20 11 19.8	-1.0
	0.5nm,0.4s,mb3.7						
NVAR	Mina Array Bea	83.14	51	P	P	20 11 26.1	+1.6
	0.7nm,0.6s,mb3.7,baz=274,slow=6.0,SNR=4.9						
NOA	NORSAR Array B	88.74	339	P	P	20 11 49.9	-1.4
	0.6nm,0.8s,mb3.5,baz=44,slow=5.5,SNR=3.7						
TORD	Torodi Ar. Bea	128.53	309	PKP	PKPdf	20 18 04.0	0.0
	0.3nm,0.7s,baz=59,slow=1.5,SNR=3.6						
PLCA	Paso Flores	145.97	131	PKPbc	PKPbc	20 18 37.2	+0.8
	4.7nm,1.2s,baz=289,slow=13,SNR=5.4						
PLCA	Paso Flores	145.97	131	PKPbc	PKPbc	20 18 37.2	+0.8
LPAZ	La Paz	150.06	85	PKPbc	PKPbc	20 18 49.4	+1.5
	0.8nm,0.5s,baz=24,slow=3.9,SNR=4.9						

*INMG **05** 20:02:00.8±2.2, 3649N×1349W, h10km, MD3.6, ML3.2, Error ellipse: s-maj=10.3km s-min=8.9km az=58.0*
*ISCJB **05** 20:02:11.5±0.5, 3687N±003×1228W±004, h10km, Error ellipse: s-maj=4.2km s-min=4.0km az=144.0*
*MDD **05** 20:02:11.8±1.1, 3680N×1273W, h20km, mb4.5/25, Error ellipse: s-maj=10.6km s-min=7.8km az=86.0, PRIMO*
*IGIL **05** 20:02:12.9, 3678N×1277W, h30km, ML3.6*
*NEIC **05** 20:02:12.2, 3687N×1266W, h11km, MG4.2(MDD), After MDD.*
*CSEM **05** 20:02:13.9±0.2, 3653N×1203W, h10km, ML4.2/9, Error ellipse: s-maj=4.0km s-min=2.4km az=86.0*
*LDG **05** 20:02:14.0±0.3, 3690N×1260W, h10km, Md3.9/1, Ml3.6/3, Error ellipse: s-maj=7.4km s-min=4.1km az=43.0*
*CNRM **05** 20:02:14.6, 3678N×1234W, h30km, MD3.9*
ISC 05 20:02:14.1±0.5, 3690N±003×1228W±004, h10km, n152, σ1.24/259, 3C, Azores-Cape St. Vincent Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PFVI	Vila Bisbo	2.78	84	i Pn	Pn	20 02 59.6	+1.0
PFVI				eSn	Sn	20 03 33.1	+1.0
PFVI				A		20 03 35.5	
	98nm,0.1s						
PTEO	Sao Teotonio	2.91	76	i Pn	Pn	20 03 01.6	+1.2
PTEO				eSn	Sn	20 03 37.0	+1.5
PTEO				A		20 03 39.8	
	82nm,0.2s						
PTEO	Sao Teotonio	2.91	76	⇑P	Pn	20 03 01.6	+1.2
PTEO				S	Sn	20 03 37.0	+1.5
	41nm,0.2s						
MORF	Marmelete	2.93	81	ePn	Pn	20 03 01.8	+1.1
MORF				eSn	Sn	20 03 36.8	+0.8
MORF				A		20 03 39.6	
	90nm,0.1s						
MORF	Marmelete	2.93	81	⇑P	Pn	20 03 01.8	+1.1
MORF				S	Sn	20 03 36.8	+0.8
	90nm,0.1s						
PMAFR	Mafra	3.14	48	i Pn	Pn	20 03 04.4	+0.9
PMAFR				eSn	Sn	20 03 42.6	+1.6
PMAFR				A		20 03 54.4	
	47nm,0.4s						
PBDV	Barranco-do-Ve	3.50	83	ePn	Pn	20 03 09.9	+1.4
PBDV				eSn	Sn	20 03 51.3	+1.4
PBDV				A		20 03 57.2	
	43nm,0.2s						
PBDV	Barranco-do-Ve	3.50	83	ePn	Pn	20 03 09.9	+1.4
PBDV				eSn	Sn	20 03 51.3	+1.4
	43nm,0.2s						
MOE	Montemor	3.51	61	ePn	Pn	20 03 09.7	+1.0
MOE				eSn	Sn	20 03 51.1	+0.8
EVOP	Sao Brissos	3.68	63	ePn	Pn	20 03 11.6	+0.7
EVOP				eSn	Sn	20 03 54.5	+0.2
	35nm,0.5s						
PVAQ	Vaqueiros	3.68	81	ePn	Pn	20 03 12.4	+1.4
PVAQ				eSn	Sn	20 03 55.4	+0.9
PVAQ				A		20 03 58.8	
	61nm,0.1s						
PVAQ	Vaqueiros	3.68	81	ePn	Pn	20 03 12.4	+1.4
PVAQ				eSn	Sn	20 03 55.4	+0.9
	61nm,0.1s						
PBEJ	Beja	3.69	71	ePn	Pn	20 03 12.0	+0.9
PBEJ				eSn	Sn	20 03 55.1	+0.5
PBEJ				A		20 03 57.8	
	31nm,0.1s						
PBEJ	Beja	3.69	71	ePn	Pn	20 03 12.0	+0.9
PBEJ				eSn	Sn	20 03 55.1	+0.5
	31nm,0.1s						
ALMR	Almeirim	3.69	51	eP	Pn	20 03 12.0	+0.8
ALMR				eS	Sn	20 03 55.5	+0.8
ALMR				eS	Sn	20 03 55.5	+0.8
ALMR				AML	AML	20 03 58.1	
	comp=E,51nm,0.5s						
ALMR	Almeirim	3.69	51	eP	Pn	20 03 12.0	+0.9
ALMR				eS	Sn	20 03 55.5	+0.8
EVO	Evora	3.76	63	ePn	Pn	20 03 11.6	-0.4
EVO				eSn	Sn	20 03 54.5	-1.8
	comp=E,69nm,0.5s						
EVO	Evora	3.76	63	ePn	Pn	20 03 12.9	+0.9
EVO				eSn	Sn	20 03 56.9	+0.6
EVO				A		20 04 01.2	
	comp=E,39nm,0.1s						
EVO	Evora	3.76	63	ePn	Pn	20 03 12.9	+0.9
EVO				eSn	Sn	20 03 56.9	+0.6
	comp=E,39nm,0.1s						
EGRO	El Granado	3.88	79	⇑P	Pn	20 03 14.8	+1.0
	comp=E,4.5nm,0.1s,SNR=18						
EGRO				S	Sn	20 03 59.4	-0.1
	comp=E,18nm,0.1s,SNR=7.9						
EGRO	El Granado	3.88	79	P	Pn	20 03 14.8	+1.0
	comp=E,4.5nm,0.1s,SNR=18						
EGRO				S	Sn	20 03 59.4	0.0
	comp=E,18nm,0.1s,SNR=7.9						
PTOM	Tomar	4.08	47	ePn	Pn	20 03 17.4	+0.9
PTOM				eSn	Sn	20 04 05.4	+1.1
PTOM				A		20 04 07.8	
	comp=E,19nm,0.1s						
PTOM	Tomar	4.08	47	ePn	Pn	20 03 17.4	+0.9
PTOM				eSn	Sn	20 04 05.4	+1.1
	comp=E,19nm,0.1s						
PESTR	Estremoz	4.20	61	ePn	Pn	20 03 18.6	+0.5
PESTR				eSn	Sn	20 04 07.2	0.0
PESTR				A		20 04 16.2	
	comp=E,9.0nm,0.3s						
PESTR	Estremoz	4.20	61	ePn	Pn	20 03 18.6	+0.5
PESTR				eSn	Sn	20 04 07.2	0.0
	comp=E,9.0nm,0.3s						
PBAR	Barrancos	4.36	71	ePn	Pn	20 03 21.2	+0.9
PBAR				eSn	Sn	20 04 11.6	+0.5
PBAR				A		20 04 16.1	
	comp=E,26nm,0.1s						
PBAR	Barrancos	4.36	71	ePn	Pn	20 03 21.2	+0.9
PBAR				eSn	Sn	20 04 11.6	+0.5
	comp=E,26nm,0.1s						
EMIN	Mina Concepcio	4.55	77	P	Pn	20 03 23.9	+0.9
	comp=E,8.9nm,0.2s,SNR=102						
EMIN				S	Sn	20 04 15.1	-0.8
	comp=E,15nm,0.2s						
EMIN	Mina Concepcio	4.55	77	P	Pn	20 03 23.9	+0.9
	comp=E,8.9nm,0.2s,SNR=102						
EMIN				S	Sn	20 04 15.1	-0.9
	comp=E,15nm,0.2s						
EBAD	Badajoz	4.56	64	P	Pn	20 03 23.8	+0.6
	comp=E,5.7nm,0.1s,SNR=56						
EBAD				S	Sn	20 04 15.8	-0.5
	comp=E,8.5nm,0.1s,SNR=7.6						
EBAD	Badajoz	4.56	64	P	Pn	20 03 23.8	+0.7
	comp=E,5.7nm,0.1s,SNR=56						
EBAD				S	Sn	20 04 15.8	-0.4
	comp=E,8.5nm,0.1s,SNR=7.6						
PMRV	Marv??o	4.61	55	ePn	Pn	20 03 24.3	+0.6
PMRV				eSn	Sn	20 04 17.1	-0.2
PMRV				A		20 04 18.8	
	comp=E,6.9nm,0.2s						
PCBR	Castelo Branco	4.78	51	ePn	Pn	20 03 26.6	+0.5
PCBR				eSn	Sn	20 04 20.8	-0.8
PCBR				A		20 04 32.8	
	comp=E,6.0nm,0.4s						
PCBR	Castelo Branco	4.78	51	ePn	Pn	20 03 26.6	+0.5
PCBR				eSn	Sn	20 04 20.8	-0.8
	comp=E,6.0nm,0.4s						
MTE	Manteigas	5.09	45	ePn	Pn	20 03 31.1	+0.7
MTE				eSn	Sn	20 04 28.6	-0.7
MTE				A		20 04 34.9	
	comp=E,12nm,0.3s						
MTE	Manteigas	5.09	45	P	Pn	20 03 31.1	+0.7
MTE				S	Sn	20 04 28.6	-0.7
	comp=E,6.1nm,0.3s						
MTE	Manteigas	5.09	45	ePn	Pn	20 03 31.1	+0.7
MTE				eSn	Sn	20 04 28.0	-1.3
MTE	Manteigas	5.09	45	ePn	Pn	20 03 29.8	-0.6
	comp=E,7.5nm,0.4s						
MTE				eSn	Sn	20 04 28.0	-1.3
PTO	Porto	5.11	33	ePn	Pn	20 03 31.3	+0.7
PTO				eSn	Sn	20 04 26.9	-2.8
PTO				A		20 04 31.7	
	comp=E,86nm,0.1s						
PTO	Porto	5.11	33	ePn	Pn	20 03 31.3	+0.7
PTO				eSn	Sn	20 04 26.9	-2.8
	comp=E,86nm,0.1s						
PVIS	Viseu	5.12	41	ePn	Pn	20 03 30.8	0.0
PVIS				eSn	Sn	20 04 28.5	-1.5
PVIS				A		20 04 31.6	
	comp=E,16nm,0.1s						
PVIS	Viseu	5.12	41	ePn	Pn	20 03 30.8	0.0
PVIS				eSn	Sn	20 04 28.5	-1.5
	comp=E,16nm,0.1s						
ESPR	Espera	5.15	88	P	Pn	20 03 32.5	+1.3
	comp=E,4.8nm,0.1s,SNR=18						
ESPR				S	Sn	20 04 31.4	+0.6
	comp=E,51nm,0.2s,SNR=8.8						
ESPR	Espera	5.15	88	P	Pn	20 03 32.5	+1.3
	comp=E,4.8nm,0.1s,SNR=18						
ESPR				S	Sn	20 04 31.4	+0.7
	comp=E,51nm,0.2s,SNR=8.8						
EJIF	Jimena Fronter	5.50	93	P	Pn	20 03 37.4	+1.5
	comp=E,2.7nm,0.4s,SNR=7.9						
EJIF				S	Sn	20 04 36.3	-2.9
	comp=E,2.9nm,0.4s,SNR=7.9						
ECAB	El Cabril	5.58	76	P	Pn	20 03 37.8	+0.7
	comp=E,16nm,0.2s,SNR=7.9						
ECAB				S	Sn	20 04 40.6	-0.8
	comp=E,58nm,0.5s						
ECAB	El Cabril	5.58	76	P	Pn	20 03 38.3	+1.1
	comp=E,16nm,0.2s,SNR=42						
ECAB	El Cabril	5.58	76	P	Pn	20 03 38.3	+1.1
ECAB				S	Sn	20 04 40.6	-0.8
PVRL	Vila Real	5.63	38	ePn	Pn	20 03 37.7	-0.1
PVRL				eSn	Sn	20 04 40.0	-2.5
PVRL				A		20 04 43.0	
	comp=E,16nm,0.1s						
PVRL	Vila Real	5.63	38	ePn	Pn	20 03 37.7	-0.1
PVRL				eSn	Sn	20 04 40.0	-2.5
	comp=E,16nm,0.1s						
ECEU	Ceuta	5.66	98	P	Pn	20 03 39.4	+1.2
	comp=E,1.2nm,0.2s,SNR=7.9						
ECEU				S	Sn	20 04 39.5	-3.8
	comp=E,0.6nm,0.1s,SNR=7.9						
ECEU	Ceuta	5.66	98	P	Pn	20 03 39.4	+1.2
	comp=E,1.2nm,0.2s,SNR=7.9						
DKH	Dar Kharkhour	5.77	102	P	Pn	20 03 38.0	-1.8
DKH				S	Sn	20 04 39.0	-7.0
DKH	Dar Kharkhour	5.77	102	i P	Pn	20 03 38.0	-1.8
EPLA	Plasencia	5.80	55	P	Pn	20 03 41.0	+0.9
	comp=E,12nm,0.3s,SNR=17						
EPLA				S	Sn	20 04 46.3	-0.4
	comp=E,1.3nm,0.3s,SNR=7.9						
PCAB	Cabril	5.83	33	ePn	Pn	20 03 40.4	-0.1
PCAB				eSn	Sn	20 04 44.9	-2.4
PCAB				A		20 04 47.1	
	comp=E,11nm,0.1s						
PCAB	Cabril	5.83	33	ePn	Pn	20 03 40.4	-0.1
PCAB				eSn	Sn	20 04 44.9	-2.4
	comp=E,11nm,0.1s						
MVO	Moncorvo	5.90	42	ePn	Pn	20 03 41.6	+0.1
MVO				eSn	Sn	20 04 46.3	-2.9
MVO				A		20 04 51.4	
	comp=E,11nm,0.3s						
MVO	Moncorvo	5.90	42	ePn	Pn	20 03 41.6	+0.1
MVO				eSn	Sn	20 04 46.3	-2.9
	comp=E,11nm,0.3s						
ELOB	Lobios	5.94	32	P	Pn	20 03 42.0	-0.1
	comp=E,6.7nm,0.3s,SNR=7.9						
ELOB				S	Sn	20 04 47.1	-3.0
	comp=E,12nm,0.1s,SNR=7.9						
EMIJ	Mijas	6.04	91	P	Pn	20 03 44.0	+0.6
	comp=E,1.5nm,0.3s,SNR=7.9						
EMIJ				S	Sn	20 04 51.8	-0.9
	comp=E,5.8nm,0.3s,SNR=7.9						
CIA	Chichaoua	6.07	150	i P	Pn	20 03 40.5	-3.4
CIA				i S	Sn	20 04 44.0	-9.4
EADA	Adamuz	6.25	76	P	Pn	20 03 46.9	+0.5
	comp=E,11nm,0.2s,SNR=77						
EADA				S	Sn	20 04 56.9	-1.0
	comp=E,9.0nm,0.2s						
EADA	Adamuz	6.25	76	P	Pn	20 03 47.4	+1.1
EADA				S	Sn	20 04 56.9	-0.9
	comp=E,9.0nm,0.2s						
EADA	Adamuz	6.25	76	P	Pn	20 03 47.4	+1.1
EADA				S	Sn	20 04 56.9	-1.0
ELUQ	Luque	6.43	82	P	Pn	20 03 51.1	+2.3
	comp=E,1.4nm,0.2s,SNR=7.9						
ELUQ				S	Sn	20 05 02.1	-0.2
	comp=E,1.7nm,0.1s,SNR=7.9						
ELOJ	Sierra Loja	6.51	85	P	Pn	20 03 49.6	-0.3
ELOJ				S	Sn	20 05 04.9	+0.7
	comp=E,1.1nm,0.2s,SNR=7.9						
ELOJ	Sierra Loja	6.51	85	P	Pn	20 03 49.6	-0.2
ELOJ				S	Sn	20 05 04.9	+0.8
PBRG	Braganca	6.51	40	ePn	Pn	20 03 49.9	0.0
PBRG				eSn	Sn	20 05 01.7	-2.5
PBRG				A		20 05 04.3	
	comp=E,5.1nm,0.1s						
PBRG	Braganca	6.51	40	ePn	Pn	20 03 49.9	0.0
PBRG				eSn	Sn	20 05 01.7	-2.5
	comp=E,5.1nm,0.1s						
EMAZ	Mazaricos	6.55	22	P	Pn	20 03 48.6	-1.8
	comp=E,3.3nm,0.1s,SNR=7.9						
EMAZ				S	Sn	20 04 57.5	-7.6
	comp=E,14nm,0.1s,SNR=7.9						
ECAL	Calabor	6.61	39	P	Pn	20 03 51.4	+0.1
	comp=E,9.1nm,0.3s,SNR=7.9						
ECAL				S	Sn	20 05 05.0	-1.7
	comp=E,15nm,0.4s,SNR=7.9						
STS	Santiago	6.63	24	P	Pn	20 03 50.4	-1.1
	comp=E,7.3nm,0.1s,SNR=7.9						
STS				S	Sn	20 05 01.3	-5.8
	comp=E,5.8nm,0.1s,SNR=7.9						
KIB	El Ksiba	6.71	128	P	Pn	20 03 50.0	-2.6
KIB				S	Sn	20 05 01.0	-8.1
KIB	El Ksiba	6.71	128	i P	Pn	20 03 50.0	-2.6
TZC	Tazercounte	6.73	133	i P	Pn	20 03 52.0	-1.0
TZC				i S	Sn	20 05 02.0	-7.7
MIF	Mishlifen	6.75	119	P	Pn	20 03 51.0	-2.1
MIF				S	Sn	20 05 03.0	-7.0
MIF	Mishlifen	6.75	119	eP	Pn	20 03 51.0	-2.1
OUK	Oukaimeden	6.76	146	P	Pn	20 03 50.0	-3.3
OUK				S	Sn	20 05 01.0	-9.3
OUK	Oukaimeden	6.76	146	i P	Pn	20 03 50.0	-3.3
ERUA	La Rua	6.77	34	S	Sn	20 05 08.7	-1.8
	comp=E,6.3nm,0.1s,SNR=7.9						
ERUA	La Rua	6.77	34	P	Pn	20 03 51.0	-2.4
ERUA				S	Sn	20 05 08.7	-1.8
EBAN	Banos Encina	6.87	77	P	Pn	20 03 55.7	+0.9
	comp=E,4.9nm,0.2s,SNR=8.9						
EBAN				S	Sn	20 05 11.0	-2.0
	comp=E,6.7nm,0.3s						
EGUA	Guajares	6.99	88	P	Pn	20 03 58.3	+1.8
	comp=E,23nm,1.0s,SNR=7.9						
EGUA				S	Sn	20 05 15.8	-0.2
	comp=E,27nm,0.6s,SNR=7.9						
EQUE	Quentar	7.08	85	P	Pn	20 03 59.2	+1.5
	comp=E,1.7nm,0.3s,SNR=9.3						
EQUE				S	Sn	20 05 18.9	+0.7
	comp=E,6.6nm,0.3s,SNR=7.9						
CZD	Col de Zad	7.09	121	P	Pn	20 03 56.0	-1.8
CZD				S	Sn	20 05 11.0	-7.4
CZD	Col de Zad	7.09	121	eP	Pn	20 03 56.0	-1.8
ESDC	Sonseca Array	7.11	65	P	Pn	20 03 58.5	+0.5
	comp=E,10nm,0.1s,baz=252,slow=13,SNR=66						
ESDC				S	Sn	20 05 17.1	-1.7
	comp=E,1.2nm,0.3s,baz=254,slow=23,SNR=7.9						
ESDC	Sonseca Array	7.11	65	P	Pn	20 03 58.5	+0.5
	comp=E,10nm,0.1s,SNR=66						
ESLA	Sonseca Array	7.11	65	ePn	Pn	20 03 58.4	+0.4
	comp=E,0.7nm,0.3s						
ESLA				eSn	Sn	20 05 16.7	-2.1
ESLA	Sonseca Array	7.11	65	ePn	Pn	20 03 58.4	+0.4
	comp=E,0.7nm,0.3s						
ESLA				eSn	Sn	20 05 16.7	-2.1
TZK	Tazeka	7.18	111	P	Pn	20 03 57.0	-2.0
TZK				S	Sn	20 05 13.0	-7.6
TZK	Tazeka	7.18	111	eP	Pn	20 03 57.0	-2.0
GUD	Guadarrama	7.37	57	P	Pn	20 04 02.4	+0.8
	comp=E,1.4nm,0.2s,SNR=10.0						
GUD				S	Sn	20 05 22.4	-2.9
	comp=E,0.6nm,0.2s,SNR=7.9						
EQES	Quesada	7.39	80	P	Pn	20 04 03.0	+1.0
	comp=E,2.3nm,0.2s,SNR=18						
EQES				S	Sn	20 05 25.9	0.0
	comp=E,3.5nm,0.5s						
EQES	Quesada	7.39	80	P	Pn	20 04 03.0	+1.0
	comp=E,2.3nm,0.2s,SNR=18						
EQES				S	Sn	20 05 25.9	0.0
	comp=E,3.5nm,0.5s						
EQES	Quesada	7.39	80	P	Pn	20 04 03.3	+1.3
EQES				S	Sn	20 05 25.9	0.0
EALB	Alboran	7.52	95	S	Sn	20 05 26.6	-2.4
	comp=E,3.1nm,0.3s,SNR=7.9						
EALB	Alboran	7.52	95	S	Sn	20 05 26.6	-2.4
	comp=E,3.1nm,0.3s,SNR=7.9						
EPON	Pontenova	7.53	30	P	Pn	20 04 03.5	-0.3
	comp=E,2.3nm,0.2s,SNR=7.9						
EPON				S	Sn	20 05 23.6	-5.5
	comp=E,2.2nm,0.2s,SNR=7.9						
EBER	Berja	7.53	87	S	Sn	20 05 29.7	+0.5
	comp=E,4.9nm,0.4s,SNR=7.9						
EBER	Berja	7.53	87	S	Sn	20 05 29.7	+0.5
	comp=E,4.9nm,0.4s,SNR=7.9						
EHUE	Huescar	7.77	80	P	Pn	20 04 08.1	+0.9
	comp=E,0.5nm,0.2s,SNR=7.9						
EHUE				S	Sn	20 05 35.4	+0.1
	comp=E,1.1nm,0.1s,SNR=7.9						
EVIA	Vianos	7.94	74	P	Pn	20 04 09.8	+0.3
	comp=E,2.1nm,0.1s,SNR=7.7						
EVIA				S	Sn	20 05 38.2	-1.1
	comp=E,3.7nm,0.3s,SNR=7.9						
ZFT	Errachidia	8.15	124	eP	Pn	20 04 11.0	-1.4
ZFT				i S	Sn	20 05 37.0	-7.6
EARI	Arriondas	8.38	38	P	Pn	20 04 16.3	+0.9
	comp=E,0.8nm,0.2s,SNR=11						
EARI				S	Sn	20 05 45.9	-4.2
	comp=E,2.2nm,0.3s,SNR=7.9						
EARI	Arriondas	8.38	38	P	Pn	20 04 16.4	+0.9
EARI	Arriondas	8.38	38	P	Pn	20 04 16.4	+0.9
EARI				S	Sn	20 05 47.9	-2.2
CFTV	Fuerteventura	8.60	191	P	Pn	20 04 14.5	-4.1
	comp=E,0.3nm,0.1s,SNR=7.9						
CFTV				S	Sn	20 05 29.8	-26

	comp=E,0.6nm,0.1s,SNR=7.9						
ETOB	**Tobarra**	**8.68**	**75**	P	**Pn**	**20 04 19.7**	**+0.1**
	comp=E,1.7nm,0.2s,SNR=15						
ETOB				S	**Sn**	**20 05 55.8**	**-1.7**
	comp=E,0.8nm,0.1s,SNR=7.9						
ETOB	**Tobarra**	**8.68**	**75**	P	**Pn**	**20 04 19.7**	**+0.1**
	comp=E,1.7nm,0.2s,SNR=15						
ETOB				S	**Sn**	**20 05 55.8**	**-1.7**
	comp=E,0.8nm,0.1s,SNR=7.9						
ELAN	**Lanestosa**	**9.27**	**44**	P	**Pn**	**20 04 28.2**	**+0.5**
	comp=E,0.6nm,0.2s,SNR=6.3						
ELAN				S	**Sn**	**20 06 07.4**	**-4.6**
	comp=E,1.3nm,0.2s,SNR=7.9						
ELAN	**Lanestosa**	**9.27**	**44**	P	**Pn**	**20 04 29.6**	**+1.9**
ELAN	**Lanestosa**	**9.27**	**44**	P	**Pn**	**20 04 29.6**	**+1.9**
ELAN				S	**Sn**	**20 06 09.7**	**-2.3**
ECHE	**Chera**	**9.30**	**70**	P	**Pn**	**20 04 28.6**	**+0.5**
	comp=E,5.8nm,0.6s,SNR=5.7						
ECHE	**Chera**	**9.30**	**70**	P	**Pn**	**20 04 28.6**	**+0.4**
ECRI	**Cripan**	**9.44**	**50**	P	**Pn**	**20 04 30.6**	**+0.6**
	comp=E,1.6nm,0.2s,SNR=7.9						
ECRI	**Cripan**	**9.44**	**50**	P	**Pn**	**20 04 30.6**	**+0.6**
EGOM	**La Gomera**	**9.66**	**207**	P	**Pn**	**20 04 23.1**	**-10**
EMOS	**Mosqueruela**	**9.87**	**66**	P	**Pn**	**20 04 37.8**	**+1.9**
	comp=E,1.2nm,0.3s,SNR=7.9						
EMOS				S	**Sn**	**20 06 24.0**	**-2.7**
	comp=E,1.3nm,0.3s,SNR=7.9						
EMOS	**Mosqueruela**	**9.87**	**66**	P	**Pn**	**20 04 37.8**	**+1.9**
	comp=E,1.2nm,0.3s,SNR=7.9						
IUNC	**Unciti**	**10.14**	**51**	P	**Pn**	**20 04 40.8**	**+1.1**
	comp=E,2.2nm,0.2s,SNR=5.8						
IUNC	**Unciti**	**10.14**	**51**	P	**Pn**	**20 04 40.8**	**+1.1**
	comp=E,2.2nm,0.2s,SNR=5.8						
IUSE	**Utxeti**	**10.21**	**50**	P	**Pn**	**20 04 41.7**	**+1.1**
	comp=E,1.1nm,0.1s,SNR=7.9						
IUSE	**Utxeti**	**10.21**	**50**	P	**Pn**	**20 04 41.7**	**+1.0**
	comp=E,1.1nm,0.1s,SNR=7.9						
EORO	**Oroz-Betelu**	**10.33**	**51**	P	**Pn**	**20 04 43.6**	**+1.3**
	comp=E,1.6nm,0.2s,SNR=13						
EORO	**Oroz-Betelu**	**10.33**	**51**	P	**Pn**	**20 04 43.6**	**+1.3**
	comp=E,1.6nm,0.2s,SNR=13						
ESAC	**San Caprasio**	**10.34**	**59**	P	**Pn**	**20 04 43.8**	**+1.4**
	comp=E,3.6nm,0.2s,SNR=4.0						
ESAC	**San Caprasio**	**10.34**	**59**	P	**Pn**	**20 04 43.9**	**+1.5**
	comp=E,2.9nm,0.2s						
ELIZ	**Elizondo**	**10.35**	**49**	P	**Pn**	**20 04 43.1**	**+0.6**
	comp=E,6.0nm,0.2s,SNR=25						
EALK	**Alkurruntz**	**10.39**	**49**	P	**Pn**	**20 04 44.0**	**+1.0**
	comp=E,1.3nm,0.2s,SNR=7.0						
EALK	**Alkurruntz**	**10.39**	**49**	P	**Pn**	**20 04 44.0**	**+1.0**
	comp=E,1.3nm,0.2s,SNR=7.0						
SJPF	**Ste Jean**	**10.50**	**50**	*e*Pn	**Pn**	**20 04 44.9**	**+0.3**
SJPF				*e*Sn	**Sn**	**20 06 38.2**	**-4.1**
	comp=E,1.0nm,0.3s						
SJPF	**Ste Jean**	**10.50**	**50**	P	**Pn**	**20 04 44.9**	**+0.3**
SJPF				S	**Sn**	**20 06 38.2**	**-4.1**
	comp=E,0.0nm,0.3s						
ERTA	**Horta de San J**	**10.63**	**64**	P	**Pn**	**20 04 46.2**	**-0.1**
	comp=E,0.2nm,0.1s,SNR=7.9						
ERTA				S	**Sn**	**20 06 40.2**	**-5.1**
	comp=E,0.3nm,0.3s,SNR=7.9						
ERTA	**Horta de San J**	**10.63**	**64**	P	**Pn**	**20 04 46.2**	**-0.1**
	comp=E,0.2nm,0.1s,SNR=7.9						
ETSF	**Etsaut**	**10.81**	**53**	*e*Pn	**Pn**	**20 04 49.5**	**+0.7**
EBIE	**Bielsa**	**11.16**	**55**	P	**Pn**	**20 04 55.0**	**+1.4**
	comp=E,3.9nm,0.3s,SNR=28						
EBIE				S	**Sn**	**20 06 57.3**	**-1.2**
	comp=E,0.0nm,0.1s,SNR=7.9						
EBIE	**Bielsa**	**11.16**	**55**	P	**Pn**	**20 04 55.0**	**+1.3**
	comp=E,3.9nm,0.3s,SNR=28						
EBIE				S	**Sn**	**20 06 57.3**	**-1.2**
	SNR=7.9						
EPOB	**Poblet**	**11.29**	**63**	P	**Pn**	**20 04 55.1**	**-0.3**
	comp=E,1.7nm,0.3s,SNR=7.9						
EPOB	**Poblet**	**11.29**	**63**	P	**Pn**	**20 04 55.1**	**-0.3**
	comp=E,0.7nm,0.2s						
EPF	**Esparros**	**11.45**	**54**	*e*Pn	**Pn**	**20 04 58.7**	**+1.1**
EMIR	**Miracle**	**11.79**	**61**	P	**Pn**	**20 05 02.4**	**+0.1**
	comp=E,2.7nm,0.4s,SNR=7.9						
EMIR				S	**Sn**	**20 07 16.8**	**+2.9**
	comp=E,2.1nm,0.2s,SNR=7.9						
EMIR	**Miracle**	**11.79**	**61**	P	**Pn**	**20 05 02.4**	**+0.1**
	comp=E,2.7nm,0.4s,SNR=7.9						
LFF	**La Frestale**	**12.70**	**47**	*e*Pn	**Pn**	**20 05 14.2**	**-0.4**
QUIF	**Quistinic**	**12.89**	**29**	*e*Pn	**Pn**	**20 05 16.0**	**-1.3**
QUIF				*e*Sn	**Sn**	**20 07 31.6**	**-9.1**
	comp=E,1.3nm,0.3s						
QUIF	**Quistinic**	**12.89**	**29**	P	**Pn**	**20 05 16.0**	**-1.3**
QUIF				S	**Sn**	**20 07 31.6**	**-9.1**
	comp=E,0.6nm,0.3s						
ROSF	**Rostrenen**	**13.20**	**27**	*e*Pn	**Pn**	**20 05 19.4**	**-2.1**
MFF	**Saint Martin d**	**13.25**	**39**	*e*Pn	**Pn**	**20 05 21.6**	**-0.6**
RJF	**Les Rejaudoux**	**13.36**	**47**	*e*Pn	**Pn**	**20 05 22.1**	**-1.5**
SGMF	**Saint Gilles**	**13.40**	**29**	*e*Pn	**Pn**	**20 05 22.4**	**-1.8**
CAF	**Calviac**	**13.48**	**49**	*e*Pn	**Pn**	**20 05 24.2**	**-1.0**

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*ISCJB **05** 20:19:33.6±0.4, 39.11N±0.03×29.04E±0.03, h7^{km}±7^{km}, Error ellipse: s-maj=5.1km s-min=3.7km az=8.8*
*ISK **05** 20:19:33.5, 39.10N×29.03E, h6^{km}, MD2.6*
*DDA **05** 20:19:33.5, 39.11N×29.04E, h7^{km}±6^{km}, Md3.3, Ml3.4*
*CSEM **05** 20:19:33.1±0.1, 39.11N×29.02E, h8^{km}, ML3.4, Error ellipse: s-maj=2.4km s-min=2.0km az=12.0*
ISC 05 20:19:34.1±0.4**, 39.12N**±0.03×**29.04E**±0.03**, h9**^{km}±6^{km}**, n15, σ0^{s}60**/25**, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
DEMI	**Demirci**	**0.26**	**254**	*i* P	**Pg**	**20 19 39.6**	**+0.3**
DEMI				*i* S	**Sg**	**20 19 43.0**	**+0.1**
GDZ	**Gediz**	**0.34**	**95**	*i* P	**Pg**	**20 19 41.0**	**+0.2**
GDZ				*i* S	**Sg**	**20 19 44.8**	**-0.7**
DST	**Dursunbey**	**0.58**	**327**	*e*PG	**Pg**	**20 19 45.4**	**+0.1**
DURS	**Dursunbey**	**0.65**	**318**	*i* P	**Pg**	**20 19 46.5**	**-0.1**
DURS				*i* S	**Sg**	**20 19 55.8**	**+0.6**
KULA	**Kula-Manisa**	**0.67**	**206**	*e*PG	**Pg**	**20 19 47.5**	**+0.5**
KULA				*e*SG	**Sg**	**20 19 55.7**	**0.0**
MANT	**Manisa**	**0.73**	**211**	*i* P	**Pg**	**20 19 48.2**	**0.0**
MANT				*i* S	**Sg**	**20 19 57.2**	**-0.4**
ALT	**Altintas**	**0.84**	**94**	*e*PG	**Pg**	**20 19 50.3**	**+0.1**
ALT				*e*SG	**Sg**	**20 20 01.2**	**+0.2**
KHL	**Karahalli**	**0.88**	**154**	*e*PG	**Pg**	**20 19 50.7**	**-0.3**
AKS	**Akhisar**	**0.98**	**256**	*e*PG	**Pg**	**20 19 52.1**	**-0.9**
ULDT	**Uludag**	**1.03**	**4**	*i* P	**Pg**	**20 19 53.9**	**+0.1**
ULDT				*i* S	**Sg**	**20 20 06.0**	**-1.1**
ULDT	**Uludag**	**1.03**	**4**	*i* P	**Pg**	**20 19 53.8**	**0.0**
BALB	**Balikesir**	**1.04**	**301**	*e*PG	**Pg**	**20 19 54.4**	**+0.3**
BALB				*e*SG	**Sg**	**20 20 08.5**	**+1.0**
BALY	**Balya**	**1.26**	**300**	*i* P	**Pn**	**20 19 58.4**	**+0.6**
BALY				*i* S	**Sb**	**20 20 12.7**	**-1.6**
SHUT	**Suhut-Afyon**	**1.31**	**115**	*e*PN	**Pn**	**20 19 58.9**	**+0.5**
BORA	**Eskisehir**	**1.33**	**55**	*i* P	**Pn**	**20 19 58.5**	**-0.3**
BORA				*i* S	**Sb**	**20 20 17.1**	**+0.7**

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*DDA **05** 20:24:59.8, 3925N×2791E, h7^{km}±3^{km}, Md3.0*
CSEM 05 20:24:59.8, 3925N×2791E, h7^{km}, MD3.0, After ERD, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
AKS	**Akhisar**	**0.38**	**192**	*e*PG	Pg	20 25 01.3	-5.8
BALB	**Balikesir**	**0.39**	**357**	*e*PG	Pg	20 25 00.8	-6.6
BALB				*e*SG	Sg	20 25 12.8	+0.3
BALY	**Balya**	**0.54**	**335**	*i* P	Pg	20 25 11.0	+0.8
BALY				*i* S	Sg	20 25 18.3	+1.0
DURS	**Dursunbey**	**0.56**	**51**	*i* P	Pg	20 25 11.2	+0.5
DURS				*i* S	Sg	20 25 18.9	+1.0
DEMI	**Demirci**	**0.66**	**108**	*i* P	Pg	20 25 13.1	+0.6
DEMI				*i* S	Sg	20 25 22.1	+1.0
MANT	**Manisa**	**0.91**	**146**	*i* P	Pg	20 25 17.7	+0.4
MANT				*i* S	Sg	20 25 30.1	+1.0

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*IDC **05** 20:28:59.7±0.5, 1352S×7690W, h0^{km}, mb4.7/16, mb1 4.7/22, mb1mx4.7/24, mbtmp4.6/22, ML3.6/3, MS4.3/17, Ms1 4.3/17, ms1mx4.2/24, Error ellipse: s-maj=19.7km s-min=9.5km az=74.0*
*NEIC **05** 20:29:03.6±2.1, 1361S×7698W, h27^{km}±15^{km}, mb5.0/64, ML4.8(LIM), Error ellipse: s-maj=10.2km s-min=4.9km az=62.0*
NEIC Felt [III] at San Vicente de Canete.
*ISCJB **05** 20:29:03.4±0.2, 1358S±003×7700W±004, h33^{km}, mb4.9/82, MS4.4/16, Error ellipse: s-maj=6.4km s-min=3.5km az=146.5*
*MOS **05** 20:29:03.5±1.5, 1350S×7702W, h33^{km}, mb5.2/22, Error ellipse: s-maj=14.3km s-min=7.5km az=122.2*
*BJI **05** 20:29:03.5, 1360S×7700W, h26^{km}, mB5.3, Ms5.5, Msz5.2*
*GCMT **05** 20:29:03.6±0.3, 1366S×7738W, h18^{km}±1^{km}, MW5.1/56, Moment Tensor Solution. s26,c31; s56,c71; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}3.71±.28; $M_{\theta\theta}$0.07±.15; $M_{\phi\phi}$-3.79±.22; $M_{r\theta}$-2.80±.51; $M_{\theta\phi}$-1.55±.13; $M_{\phi r}$1.17±.50; Best double couple: $M_0$4.95400×10^{16} NP1:ϕ_s227.00000°,δ51.00000°,λ132.00000°. NP2: ϕ_s351.00000°,δ54.00000°,λ50.00000°. Principal axes: T 5.5680, Plg59.0000°, Azm201.0000°; N -1.2340, Plg31.0000°, Azm17.0000°; P -4.3400, Plg2.0000°, Azm108.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
ISC 05 20:29:05.6±0.2**, 1360S**±003×**7694W**±004**, h35**^{km}**, n474, σ0^{s}70**/446**, mb4.9**/82**, MS4.4**/16**, 125C-145D, Near coast of Peru**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
NNA	**Nana**	**1.60**	**3**	Pn	**Pn**	**20 29 28.7**	**-2.8**
	24µm,0.7s						
NNA	**Nana**	**1.60**	**3**	Pg	**Pn**	**20 29 27.9**	**-3.6**
	333nm,0.3s,baz=189,slow=15,SNR=206						
NNA				Lg		20 29 48.7	
	2µm,0.3s,baz=238,slow=6.5,SNR=19						
NNA	**Nana**	**1.60**	**3**	*e*Pn	**Pn**	**20 29 27.3**	**-4.2**
NNA				*e*Sn	**Sn**	**20 29 48.1**	**-2.9**
ARE	**Arequipa**	**5.98**	**119**	*e*P	**Pn**	**20 30 35.0**	**+3.3**
ARE				*e*S	**Sn**	**20 31 51.0**	**+12**
ATAH	**Atahualpa**	**6.71**	**348**	Pn	**Pn**	**20 30 38.5**	**-3.2**
	21nm,0.3s,baz=148,slow=4.6,SNR=72						
ATAH				LR	LR	20 32 53.5	
	comp=Z,2µm,19.6s,baz=89,slow=36						
LPAZ	**La Paz**	**8.92**	**109**	Pn	**Pn**	**20 31 11.3**	**-0.7**
	0.0nm,0.3s,baz=287,slow=11,SNR=3.6						
LPAZ	**La Paz**	**8.92**	**109**	*e*P	**Pn**	**20 31 14.3**	**+2.3**
LPAZ				pmax	pmax		
	comp=Z,77nm,1.1s						
LPAZ	**La Paz**	**8.92**	**109**	*e*Pn	**Pn**	**20 31 14.3**	**+2.3**
	comp=Z,77nm,1.1s						
LVC	**Limon Verde**	**11.77**	**141**	Pn	**Pn**	**20 31 50.2**	**-0.8**
	comp=Z,0.9nm,0.3s,baz=303,slow=9.6,SNR=18						
LVC				LR	LR	20 36 33.6	
	comp=Z,2µm,18.1s,baz=310,slow=38						
LVC	**Limon Verde**	**11.77**	**141**	*e*Pn	**Pn**	**20 31 49.8**	**-1.2**
	comp=Z,79nm,1.2s						
LVC				*e*Sn	**Sn**	**20 33 57.3**	**-3.8**
OTAV	**Otavalo**	**13.83**	**354**	*e*Pn	**Pn**	**20 32 19.9**	**+0.6**
	comp=Z,152nm,1.4s						
OTAV				*e*Sn	**Sn**	**20 34 53.3**	**+1.6**
SIV	**San Ignacio**	**15.52**	**101**	Pn	**Pn**	**20 32 38.5**	**-3.5**
	comp=Z,0.2nm,0.3s,baz=288,slow=13,SNR=8.9						
LCO	**Las Campanas**	**16.39**	**160**	*e*Pn	**Pn**	**20 32 52.5**	**-0.6**
	comp=Z,52nm,1.0s						
ROSC	**El Rosal**	**18.52**	**8**	P	**Pn**	**20 33 17.7**	**-1.8**
	comp=Z,2.6nm,0.3s,baz=270,slow=20,SNR=2.6						
ROSC				LR	LR	20 41 13.8	
	comp=Z,916nm,20.0s,baz=194,slow=40						
ROSC	**El Rosal**	**18.52**	**8**	*e*P	**Pn**	**20 33 20.2**	**+0.7**
CFAA	**Coronel Fontan**	**19.62**	**157**	P	**Pn**	**20 33 30.3**	**-2.3**
	comp=Z,0.3nm,0.3s,baz=334,slow=11,SNR=32						
CFAA				LR	LR	20 40 12.8	
	comp=Z,74nm,20.1s,baz=329,slow=34						
CFAA	**Coronel Fontan**	**19.62**	**157**	P	**Pn**	**20 33 30.3**	**-2.3**
CFAA				LR	LR	20 40 12.8	
FCH	**Farellones**	**20.55**	**164**	⇑*i*P	**P**	**20 33 42.5**	**+1.3**
LMEL	**Las Melosas**	**21.07**	**164**	⇑*i*P	**P**	**20 33 47.8**	**+1.0**
CPUP	**Villa Florida**	**22.32**	**128**	P	**P**	**20 33 58.5**	**-1.8**
	comp=Z,7.1nm,0.9s,mb4.1,baz=288,slow=9.7,SNR=8.0						
CPUP				LR	LR	20 44 36.7	
	comp=Z,2µm,18.8s,MS4.5,baz=284,slow=42						
CPUP	**Villa Florida**	**22.32**	**128**	*e*P	**P**	**20 33 59.1**	**-1.2**
CPUP				pmax	pmax		
	comp=Z,64nm,1.2s						
CPUP	**Villa Florida**	**22.32**	**128**	*e*P	**P**	**20 33 59.1**	**-1.2**
	comp=Z,64nm,1.2s,mb4.9						
BCIP	**Isla Barro Col**	**22.80**	**353**	*e*P	**P**	**20 34 05.5**	**+0.1**
	comp=Z,157nm,1.5s,mb5.2						
SDV	**Santo Domingo**	**23.20**	**16**	P	**P**	**20 34 06.5**	**-3.1**
	comp=Z,20nm,0.8s,mb4.6,baz=227,slow=8.7,SNR=18						
SDV	**Santo Domingo**	**23.20**	**16**	*e*P	**P**	**20 34 08.2**	**-1.4**
	comp=Z,37nm,1.0s,mb4.8						
JTS	**JuntasAbangare**	**25.03**	**341**	P	**P**	**20 34 23.5**	**-3.1**
	comp=Z,1.8nm,0.2s,mb4.2,baz=14,slow=15,SNR=2.7						
JTS				LR	LR	20 43 52.8	
	comp=Z,920nm,18.2s,MS4.3,baz=175,slow=36						
JTS	**JuntasAbangare**	**25.03**	**341**	P	**P**	**20 34 26.0**	**-0.6**
JTS				pmax	pmax		
	comp=Z,35nm,1.8s						
JTS	**JuntasAbangare**	**25.03**	**341**	P	**P**	**20 34 26.0**	**-0.6**
	comp=Z,34nm,1.8s,mb4.6						
PLCA	**Paso Flores**	**27.60**	**169**	P	**P**	**20 34 49.1**	**-0.5**
	comp=Z,13nm,0.9s,mb4.6,baz=336,slow=13,SNR=1.4						
PLCA				LR	LR	20 43 54.6	
	comp=Z,201nm,21.3s,MS3.7,baz=223,slow=32						
PLCA	**Paso Flores**	**27.60**	**169**	*e*P	**P**	**20 34 49.2**	**-0.4**
TRQA	**Tornquist**	**27.75**	**154**	*e*P	**P**	**20 34 48.7**	**-2.3**
	comp=Z,25nm,1.4s,mb4.7						
BDFB	**Brasilia**	**28.05**	**98**	P	**P**	**20 34 52.2**	**-1.7**
	comp=Z,6.6nm,0.9s,mb4.3,baz=242,slow=16,SNR=6.9						
BDFB				LR	LR	20 46 30.7	
	comp=Z,815nm,18.0s,MS4.4,baz=87,slow=38						
TGUH	**Tegucigalpa,Un**	**29.32**	**339**	P	**P**	**20 35 05.1**	**0.0**
TEIG	**Tepich**	**35.42**	**341**	*e*P	**P**	**20 35 58.3**	**-0.1**
	comp=Z,18nm,0.8s,mb5.1						
USHA	**Ushuaia**	**41.67**	**173**	P	**P**	**20 36 50.8**	**+0.3**
	comp=Z,27nm,0.9s,mb4.9,baz=304,slow=3.8,SNR=8.9						
NATX	**Nacogdoches**	**48.20**	**340**	P	**P**	**20 37 42.8**	**0.0**
TXAR	**Lajitas Array**	**49.88**	**329**	P	**P**	**20 37 54.5**	**-1.2**
	comp=Z,4.1nm,0.8s,mb4.5,baz=148,slow=8.6,SNR=43						
TXAR				LR	LR	20 57 40.0	
	comp=Z,540nm,18.2s,MS4.6,baz=245,slow=34						
TXAR	**Lajitas Array**	**49.88**	**329**	P	**P**	**20 37 54.5**	**-1.2**
TXAR				LR	LR	20 57 40.0	
MIAR	**Mount Ida**	**50.42**	**342**	*e*P	**P**	**20 37 58.1**	**-1.6**
MIAR				pmax	pmax		
	comp=Z,19nm,1.1s,mb5.0						
MIAR	**Mount Ida**	**50.42**	**342**	*e*P	**P**	**20 37 58.1**	**-1.6**
	comp=Z,19nm,1.1s,mb5.0						
WVT	**Waverly**	**50.52**	**349**	*e*P	**P**	**20 37 58.0**	**-2.4**
PMSA	**Palmer Station**	**51.88**	**173**	*e*P	**P**	**20 38 09.0**	**-1.3**
FVM	**French Village**	**52.85**	**347**	*e*P	**P**	**20 38 15.3**	**-2.5**
FVM				pmax	pmax		
	comp=Z,10.0nm,0.9s,mb4.8						
FVM	**French Village**	**52.85**	**347**	*e*P	**P**	**20 38 15.3**	**-2.5**
	comp=Z,10.0nm,0.9s,mb4.8						
ACSO	**Alum Creek Sta**	**53.85**	**354**	*e*P	**P**	**20 38 21.8**	**-3.3**
	comp=Z,27nm,1.1s,mb5.1						
319A	**Douglas**	**54.44**	**326**	⇓P	**P**	**20 38 29.9**	**+0.3**
	baz=55,SNR=6.0						
318A	**Bisbee**	**54.88**	**325**	⇓P	**P**	**20 38 33.0**	**+0.2**
	baz=55,SNR=8.1						
219A	**White Tail Can**	**54.91**	**326**	⇑P	**P**	**20 38 33.2**	**+0.2**
	baz=55,SNR=8.1						
218A	**Dragoon**	**55.32**	**326**	⇓P	**P**	**20 38 36.0**	**+0.1**
	baz=56,SNR=9.8						
BRYW	**Bryant College**	**55.46**	**5**	*e*P	**P**	**20 38 35.8**	**-1.0**
	comp=Z,83nm,1.1s,mb5.7						
119A	**Ashpeak Ranch,**	**55.52**	**327**	⇓P	**P**	**20 38 37.6**	**+0.3**
	baz=56						
BINY	**Binghamton**	**55.53**	**1**	*e*P	**P**	**20 38 36.0**	**-1.2**
	comp=Z,17nm,0.9s,mb5.1						
217A	**Green Valley**	**55.59**	**325**	⇑P	**P**	**20 38 38.2**	**+0.3**
	baz=56,SNR=5.8						
RKT	**Rikitea**	**55.59**	**251**	*e*LR	LR	20 54 48.1	
	comp=Z,620nm,27.0s						
LAZ	**Ladron**	**55.71**	**330**	*e*P	**P**	**20 38 38.1**	**-0.5**
118A	**Homack Ranch,**	**55.78**	**326**	⇑P	**P**	**20 38 39.5**	**+0.3**
	baz=56,SNR=8.2						
ANMO	**Albuquerque**	**55.82**	**331**	*e*P	**P**	**20 38 38.9**	**-0.6**
ANMO				pmax	pmax		
	comp=Z,16nm,1.2s						
ANMO	**Albuquerque**	**55.82**	**331**	*e*P	**P**	**20 38 38.9**	**-0.6**
	comp=Z,16nm,1.2s,mb4.9						
Z19A	**T-Link Ranch,**	**55.91**	**327**	⇓P	**P**	**20 38 40.6**	**+0.4**
	baz=56						
TUC	**Tucson**	**55.98**	**325**	*e*P	**P**	**20 38 39.9**	**-0.8**
TUC				pmax	pmax		
	comp=Z,8.0nm,1.3s,mb4.6						
TUC	**Tucson**	**55.98**	**325**	*e*P	**P**	**20 38 39.9**	**-0.7**
	comp=Z,8.1nm,1.3s,mb4.6						
HRV	**Adam Dziewonsk**	**56.05**	**5**	*e*P	**P**	**20 38 40.1**	**-0.8**
HRV				pmax	pmax		
	comp=Z,13nm,0.9s,mb5.0						
HRV	**Adam Dziewonsk**	**56.05**	**5**	*e*P	**P**	**20 38 40.1**	**-0.8**
	comp=Z,13nm,0.9s,mb5.0						
216A	**Three Points,**	**56.12**	**325**	⇓P	**P**	**20 38 41.4**	**-0.3**
	baz=56						
117A	**Oracle**	**56.15**	**326**	⇓P	**P**	**20 38 42.0**	**+0.1**
	baz=56,SNR=10						
Y19A	**Nutrioso**	**56.42**	**328**	⇓P	**P**	**20 38 44.4**	**+0.6**
	baz=57,SNR=6.6						
ACCN	**Adirondack Com**	**56.78**	**3**	*e*P	**P**	**20 38 44.8**	**-1.3**
	comp=Z,46nm,1.4s,mb5.3						
X19A	**St. Johns**	**56.81**	**328**	⇑P	**P**	**20 38 46.9**	**+0.3**
	baz=57						
214A	**Organ Pipe Nat**	**56.86**	**323**	⇑P	**P**	**20 38 47.3**	**+0.3**
	baz=57						
Y17A	**Roosevelt**	**57.06**	**326**	⇑P	**P**	**20 38 48.4**	**0.0**
	baz=57						
HNH	**Hanover**	**57.18**	**4**	*e*P	**P**	**20 38 48.7**	**-0.3**
	comp=Z,67nm,1.3s,mb5.5						
X18A	**Snowflake**	**57.23**	**328**	⇓P	**P**	**20 38 50.1**	**+0.6**
	baz=57						
MDV	**Middlebury**	**57.42**	**3**	*e*P	**P**	**20 38 49.8**	**-0.9**
Y16A	**Circle Bar Ran**	**57.54**	**326**	⇑P	**P**	**20 38 52.0**	**+0.3**
	baz=58,SNR=6.1						
W18A	**Petrified Fore**	**57.57**	**328**	⇓P	**P**	**20 38 52.2**	**+0.2**
	baz=58						
SDCO	**Great Sand Dun**	**57.69**	**333**	*e*P	**P**	**20 38 52.1**	**-0.6**
	comp=Z,17nm,1.2s,mb5.0						
V19A	**Window Rock**	**57.69**	**329**	⇓P	**P**	**20 38 53.1**	**+0.4**
	baz=58						
LBNH	**Lisbon**	**57.74**	**4**	*e*P	**P**	**20 38 52.2**	**-0.7**
LBNH				pmax	pmax		
	comp=Z,38nm,1.4s,mb5.2						
LBNH	**Lisbon**	**57.74**	**4**	*e*P	**P**	**20 38 52.2**	**-0.7**
	comp=Z,38nm,1.4s,mb5.2						
X16A	**Lo Mia Camp, P**	**57.93**	**326**	⇓P	**P**	**20 38 54.7**	**+0.3**
	baz=58,SNR=7.0						
LONY	**Lake Ozonia**	**57.98**	**2**	*e*P	**P**	**20 38 52.7**	**-1.8**
	comp=Z,5.9nm,0.8s,mb4.7						
Y15A	**Casa Rosa Ranc**	**58.07**	**325**	⇓P	**P**	**20 38 55.6**	**+0.1**
	baz=58						
FRNY	**Flat Rock**	**58.23**	**3**	*e*P	**P**	**20 38 55.7**	**-0.6**
	comp=Z,53nm,1.4s,mb5.4						
X15A	**Humboldt**	**58.41**	**326**	⇓P	**P**	**20 38 58.1**	**+0.3**
	baz=59,SNR=6.1						
Y14A	**Wickenburg**	**58.43**	**325**	⇓P	**P**	**20 38 58.3**	**+0.4**
	baz=59						
W16A	**Flagstaff**	**58.49**	**327**	⇑P	**P**	**20 38 59.2**	**+0.8**
	baz=59						
T19A	**Beclabito**	**58.57**	**330**	⇓P	**P**	**20 38 58.3**	**-0.6**
	baz=59,SNR=6.0						
MVCO	**Mesa Verde**	**58.62**	**331**	⇓P	**P**	**20 38 59.0**	**-0.2**
	baz=59						
MVCO	**Mesa Verde**	**58.62**	**331**	*e*P	**P**	**20 38 58.6**	**-0.6**
	comp=Z,8.0nm,0.9s,mb4.8						
WUAZ	**Wupatki**	**58.73**	**327**	⇑P	**P**	**20 39 00.5**	**+0.5**
	baz=59						
X14A	**Yava**	**58.76**	**325**	⇑P	**P**	**20 39 00.4**	**+0.1**
	baz=59,SNR=8.9						
PKME	**Peaks-Kenny Pk**	**58.99**	**6**	*e*P	**P**	**20 39 00.9**	**-0.7**
	comp=Z,19nm,1.1s,mb5.0						
U16A	**Tuba City**	**59.08**	**328**	⇓P	**P**	**20 39 02.9**	**+0.5**
	baz=59						
Y12C	**Blythe**	**59.15**	**324**	⇑P	**P**	**20 39 03.4**	**+0.5**
	baz=59						
U17A	**Shonto**	**59.20**	**329**	⇓P	**P**	**20 39 03.5**	**+0.3**
	baz=59						
T18A	**Mexican Hat**	**59.22**	**330**	⇓P	**P**	**20 39 02.8**	**-0.6**
	baz=60,SNR=12						
PDMCI	**Parker Dam,Lak**	**59.33**	**324**	⇑P	**P**	**20 39 04.2**	**0.0**
	baz=60						
S19A	**Harvey Farm, M**	**59.35**	**331**	⇑P	**P**	**20 39 04.6**	**+0.3**
	baz=60						
X13A	**Yucca**	**59.37**	**325**	⇓P	**P**	**20 39 04.7**	**+0.3**
	baz=60						
V15A	**Kaibab Nationa**	**59.38**	**327**	⇑P	**P**	**20 39 05.1**	**+0.6**
	baz=60						
ISCO	**Idaho Springs**	**59.45**	**335**	*e*P	**P**	**20 39 04.3**	**-0.6**
ISCO				pmax	pmax		
	comp=Z,19nm,1.4s,mb4.9						
ISCO	**Idaho Springs**	**59.45**	**335**	*e*P	**P**	**20 39 04.3**	**-0.7**
	comp=Z,19nm,1.4s,mb4.9						
T17A	**Navajo Res., N**	**59.58**	**329**	⇑P	**P**	**20 39 06.4**	**+0.5**
	baz=60						
BC3	**Big Chuckw Mtn**	**59.62**	**323**	⇓P	**P**	**20 39 06.3**	**+0.1**
	baz=60						
S18A	**Hurst Farm, Bl**	**59.72**	**330**	⇓P	**P**	**20 39 06.6**	**-0.2**
	baz=60,SNR=5.2						
W13A	**Hualapai Mount**	**59.77**	**325**	⇓P	**P**	**20 39 07.6**	**+0.4**
	baz=60,SNR=7.7						
IRM	**Iron Mountain**	**59.81**	**324**	⇑P	**P**	**20 39 07.6**	**+0.1**
	baz=60,SNR=12						
ECSD	**EROS,Sioux Fal**	**59.82**	**344**	*e*P	**P**	**20 39 05.0**	**-2.4**
	comp=Z,19nm,1.3s,mb5.0						
U15A	**North Rim**	**59.91**	**327**	⇑P	**P**	**20 39 08.5**	**+0.4**
	baz=60						
BELC	**Belle Mtn.**	**60.19**	**323**	⇑P	**P**	**20 39 10.3**	**+0.2**
	baz=60						
U14A	**Mt Trumbull**	**60.37**	**327**	⇑P	**P**	**20 39 11.9**	**+0.6**
	baz=61						
V13A	**Grand Canyon W**	**60.38**	**326**	⇓P	**P**	**20 39 11.6**	**+0.2**
	baz=61						
T15A	**Red Dirt Ranch**	**60.40**	**328**	⇓P	**P**	**20 39 12.0**	**+0.5**
	baz=61						
GMRC	**Granite Mounta**	**60.55**	**324**	⇓P	**P**	**20 39 12.8**	**+0.3**
	baz=61						
R17A	**Hanksville Air**	**60.64**	**330**	⇓P	**P**	**20 39 13.3**	**+0.2**
	baz=61,SNR=8.1						
V12A	**Nelson**	**60.77**	**325**	⇓P	**P**	**20 39 14.2**	**+0.2**
	baz=61						
U13A	**Pakoon Wash**	**60.79**	**326**	⇑P	**P**	**20 39 14.5**	**+0.3**
	baz=61						
T14A	**Hurricane**	**60.80**	**327**	⇓P	**P**	**20 39 14.6**	**+0.4**
	baz=61						
Q18A	**Rafter H Ranch**	**60.90**	**331**	⇑P	**P**	**20 39 15.0**	**+0.1**
	baz=61						
R16A	**Teasdale**	**60.91**	**329**	⇑P	**P**	**20 39 15.2**	**+0.2**
	baz=61						
HEC	**Hector,Ludlow**	**60.97**	**323**	⇓P	**P**	**20 39 16.2**	**+0.7**
	baz=61						
SRU	**San Rafael**	**61.09**	**331**	*e*P	**P**	**20 39 15.3**	**-0.9**
SRU				pmax	pmax		
	comp=Z,3.0nm,0.7s,mb4.5						
SRU	**San Rafael**	**61.09**	**331**	⇑P	**P**	**20 39 16.2**	**0.0**
	baz=61						
SRU	**San Rafael**	**61.09**	**331**	*e*P	**P**	**20 39 15.3**	**-0.8**
	comp=Z,3.0nm,0.7s,mb4.5						
V11A	**Goodsprings**	**61.17**	**325**	⇑P	**P**	**20 39 17.2**	**+0.4**
	baz=61						
T13A	**Saint George**	**61.20**	**327**	⇑P	**P**	**20 39 16.9**	**0.0**
	baz=61						
Q16A	**Castle Valley**	**61.26**	**330**	⇑P	**P**	**20 39 17.0**	**-0.3**
	baz=62						
O19A	**Miners Draw (B**	**61.39**	**332**	⇑P	**P**	**20 39 17.8**	**-0.3**
	baz=62						
ARUT	**Antelope Range**	**61.53**	**328**	*e*P	**P**	**20 39 19.6**	**+0.4**
GSC	**Goldstone**	**61.58**	**323**	⇑P	**P**	**20 39 19.5**	**0.0**
	baz=62						
S13A	**Holt Ranch, En**	**61.60**	**327**	⇓P	**P**	**20 39 19.6**	**0.0**
	baz=62,SNR=9.5						
N19A	**John Jarvie Ra**	**61.89**	**333**	⇓P	**P**	**20 39 21.5**	**-0.1**
	baz=62						
EDW2	**Edwards Air Fo**	**61.98**	**322**	⇓P	**P**	**20 39 22.3**	**+0.1**
	baz=62						
O17A	**Robinson Place**	**62.05**	**331**	⇑P	**P**	**20 39 22.6**	**0.0**
	baz=62,SNR=5.8						
T11A	**Corn Creek, Al**	**62.08**	**326**	⇑P	**P**	**20 39 23.2**	**+0.3**
	baz=62,SNR=7.9						
R13A	**O'Grain Ranch,**	**62.10**	**328**	⇑P	**P**	**20 39 24.0**	**+1.0**
	baz=62						
Q14A	**Sevier Lake (B**	**62.35**	**329**	⇑P	**P**	**20 39 25.4**	**+0.7**
	baz=63						
TPNV	**Topopah Spring**	**62.43**	**325**	*e*P	**P**	**20 39 25.4**	**+0.2**
TPNV				pmax	pmax		
	comp=Z,11nm,1.0s,mb4.9						
TPNV	**Topopah Spring**	**62.43**	**325**	⇑P	**P**	**20 39 25.8**	**+0.6**
	baz=63						
TPNV	**Topopah Spring**	**62.43**	**325**	*e*P	**P**	**20 39 25.4**	**+0.2**
	comp=Z,11nm,1.0s,mb4.9						
DAU	**Daniels Canyon**	**62.47**	**331**	*e*P	**P**	**20 39 25.0**	**-0.4**
MPMC	**Manual Prospec**	**62.50**	**324**	⇓P	**P**	**20 39 25.7**	**0.0**
	baz=63,SNR=5.3						
R12A	**Pony Springs,**	**62.55**	**327**	⇑P	**P**	**20 39 26.5**	**+0.5**
	baz=63,SNR=6.4						
JLU	**Jordanelle**	**62.71**	**331**	*e*P	**P**	**20 39 26.9**	**-0.1**
P14A	**Drum Mountains**	**62.71**	**329**	⇓P	**P**	**20 39 27.5**	**+0.4**

baz=63,SNR=6.7
Q13A **Wheeler Ranch,** 62.71 328 ⇓P P 20 39 27.5 +0.4
baz=63,SNR=6.6
ISA **Isabella** 62.80 323 eP P 20 39 27.7 0.0
ISA pmax pmax
comp=Z,27nm,1.6s,mb5.1
ISA **Isabella** 62.80 323 ⇑P P 20 39 28.2 +0.5
baz=63
ISA **Isabella** 62.80 323 eP P 20 39 27.7 0.0
comp=Z,27nm,1.6s,mb5.1
N16A **Rees Ranch, Co** 62.92 331 ⇓P P 20 39 29.2 +0.8
baz=63
O15A **The Old Anders** 62.94 330 ⇑P P 20 39 29.4 +0.8
baz=63
DUG **Dugway** 63.05 330 eP P 20 39 28.9 -0.4
DUG pmax pmax
comp=Z,33nm,1.3s,mb5.3
DUG **Dugway** 63.05 330 ⇑P P 20 39 29.7 +0.5
baz=63
DUG **Dugway** 63.05 330 eP P 20 39 28.9 -0.4
comp=Z,33nm,1.3s,mb5.3
R11A **Troy Canyon, C** 63.08 327 ⇑P P 20 39 29.9 +0.4
baz=63,SNR=7.0
P13A **Bates Ranch, G** 63.08 328 ⇓P P 20 39 29.8 +0.3
baz=63,SNR=10
PKM **Peak Mountain** 63.09 321 ⇑P P 20 39 30.0 +0.4
baz=63
CWC **Cottonwood Cre** 63.11 323 ⇓P P 20 39 30.2 +0.4
baz=63
Q12A **Willow Creek R** 63.19 328 ⇑P P 20 39 30.5 +0.3
baz=63,SNR=6.2
S10A **Tonopah Range,** 63.32 326 ⇑P P 20 39 31.6 +0.5
baz=64,SNR=14
N15A **Stansbury Isla** 63.44 330 ⇓P P 20 39 32.7 +0.9
baz=64
Q11A **Duckwater** 63.48 327 ⇓P P 20 39 32.7 +0.5
baz=64,SNR=9.1
S09A **Goldfield** 63.53 325 ⇓P P 20 39 32.7 +0.2
baz=64,SNR=8.3
HWUT **Hardware Ranch** 63.55 332 eP P 20 39 31.8 -0.7
comp=Z,14nm,0.8s,mb5.0
P12A **McGill** 63.55 328 ⇑P P 20 39 33.3 +0.7
baz=64,SNR=17
BW06 **Boulder Array** 63.58 334 ⇑P P 20 39 31.9 -0.8
baz=64
PDAR **Pinedale Array** 63.58 334 P P 20 39 31.9 -0.8
comp=Z,3.8nm,0.9s,mb4.4,baz=140,slow=7.8,SNR=17
PDAR LR LR 21 06 30.2
comp=Z,201nm,19.8s,MS4.3,baz=125,slow=35
N14A **Grayback Hills** 63.73 330 ⇓P P 20 39 33.5 -0.3
baz=64
TPH **Tonopah** 63.78 325 eP P 20 39 34.5 +0.4
TPH pmax pmax
comp=Z,29nm,1.4s,mb5.1
TPH **Tonopah** 63.78 325 eP P 20 39 34.5 +0.4
comp=Z,29nm,1.4s,mb5.1
R09A **Tonopah** 63.81 326 ⇓P P 20 39 34.7 +0.3
baz=64,SNR=8.3
HELL **Mitchell Peak** 63.82 323 ⇑P P 20 39 34.2 -0.3
baz=64,SNR=10
Q10A **Clear Creek Ra** 63.87 326 ⇑P P 20 39 35.3 +0.6
baz=64,SNR=8.8
AGMN **Agassiz Refuge** 63.88 346 eP P 20 39 33.0 -1.6
comp=Z,12nm,0.7s,mb5.0
MTUM **Tungsten Hills** 64.02 324 eP P 20 39 36.1 +0.3
O12A **Currie** 64.06 329 ⇓P P 20 39 36.4 +0.4
baz=64,SNR=13
L15A **Malad City** 64.24 331 ⇑P P 20 39 36.5 -0.6
baz=64,SNR=6.9
M14A **Sheep Mountain** 64.31 330 ⇑P P 20 39 37.2 -0.4
baz=64,SNR=9.3
KCC **Kaiser Creek** 64.44 323 ⇓P P 20 39 38.0 -0.5
baz=65,SNR=7.4
T06C **Millerton Lake** 64.45 323 ⇑P P 20 39 38.8 +0.2
baz=65
P10A **Eureka** 64.48 327 ⇑P P 20 39 39.2 +0.5
baz=65
K16A **Soda Springs** 64.53 332 ⇑P P 20 39 39.1 +0.2
baz=65,SNR=8.2
M13A **Montello** 64.60 330 ⇓P P 20 39 39.6 +0.1
baz=65
REDW **Red Top Meadow** 64.62 333 eP P 20 39 39.1 -0.4
comp=Z,18nm,1.4s,mb4.9
NVAR **Mina Array Bea** 64.63 325 P P 20 39 40.4 +0.7
comp=Z,6.2nm,0.7s,mb4.7,baz=142,slow=6.9,SNR=29
NVAR **Mina Array Bea** 64.63 325 P P 20 39 40.4 +0.7
N12A **Clover Valley,** 64.65 329 ⇓P P 20 39 40.2 +0.4
baz=65
L14A **Malta** 64.67 331 ⇓P P 20 39 39.3 -0.6
baz=65,SNR=9.7
ELK **Elko** 64.67 329 eP P 20 39 39.7 -0.2
ELK pmax pmax
comp=Z,23nm,1.4s
ELK **Elko** 64.67 329 eP P 20 39 39.7 -0.2
comp=Z,23nm,1.4s,mb5.0
V03C **Hunter Liggett** 64.70 321 ⇓P P 20 39 40.8 +0.6
baz=65
LOHW **Long Hollow** 64.71 334 eP P 20 39 39.4 -0.8
comp=Z,3.8nm,0.8s,mb4.5
RRI2 **Red Ridge** 64.81 333 eP P 20 39 40.2 -0.6
comp=Z,23nm,1.0s,mb5.2
K15A **Arbon** 64.84 332 ⇓P P 20 39 40.5 -0.5
baz=65
J16A **Bone** 64.89 333 ⇓P P 20 39 41.1 -0.2
baz=65
I17A **Pilgram Creek** 64.95 334 ⇑P P 20 39 41.6 0.0
baz=65
O10A **Cortez Mining,** 64.98 327 ⇓P P 20 39 42.7 +0.7
baz=65,SNR=7.8
M12A **Wells** 65.01 329 ⇑P P 20 39 42.0 -0.2
baz=65
K14A **Jones Ranch, D** 65.03 331 ⇑P P 20 39 42.2 -0.1
baz=65
S05C **Merced** 65.04 323 ⇑P P 20 39 42.9 +0.5
baz=65,SNR=5.1
L13A **Double Diamond** 65.04 330 ⇑P P 20 39 42.5 +0.1
baz=65
IMW **Indian Meadow** 65.08 334 eP P 20 39 41.8 -0.8
comp=Z,11nm,1.1s,mb4.8
IMW ePcP PcP 20 40 14.1 -1.1
O09A **Fish Creek Ran** 65.26 327 ⇓P P 20 39 44.1 +0.3
baz=66,SNR=5.5
R06C **Coleville** 65.34 324 ⇑P P 20 39 44.8 +0.4
baz=66,SNR=5.6
J15A **Blackfoot** 65.35 332 ⇓P P 20 39 44.4 +0.1
baz=66,SNR=7.3
RLMT **Red Lodge** 65.38 335 ⇓P P 20 39 44.1 -0.3
baz=66
RLMT **Red Lodge** 65.38 335 eP P 20 39 42.8 -1.6
comp=Z,16nm,1.2s,mb4.9
PACP **Pacheco Peak** 65.38 322 ⇓P P 20 39 44.6 0.0
baz=66
M11A **Holland Ranch,** 65.46 329 ⇓P P 20 39 45.1 +0.1
baz=66,SNR=7.4
CMB **Columbia Colle** 65.54 323 ⇓P P 20 39 45.4 -0.2
baz=66,SNR=5.8
L12A **House Creek Ra** 65.61 330 ⇓P P 20 39 45.6 -0.4
baz=66,SNR=5.8
ULM **Lac du Bonnet** 65.71 347 P P 20 39 44.8 -1.7
comp=Z,21nm,1.0s,mb5.1,baz=160,slow=6.7,SNR=11
ULM LR LR 21 07 59.9
comp=Z,120nm,20.6s,MS4.1,baz=14,slow=36
ULM **Lac du Bonnet** 65.71 347 eP P 20 39 44.4 -2.1
comp=Z,12nm,0.8s,mb5.0
J14A **Carey** 65.79 332 ⇑P P 20 39 47.6 +0.4
baz=66,SNR=14
R05C **Kirkwood Meado** 65.82 324 ⇑P P 20 39 48.1 +0.7
baz=66,SNR=7.8
I15A **Monteview** 65.85 333 ⇑P P 20 39 48.1 +0.6
baz=66
O08A **Rochester Mine** 65.86 326 ⇑P P 20 39 47.8 +0.1
baz=66,SNR=14
H16A **Russell Place,** 65.86 334 ⇓P P 20 39 48.1 +0.5
baz=66,SNR=8.6
K12A **Draper Farm, C** 65.92 330 ⇑P P 20 39 48.5 +0.5
baz=66,SNR=9.7
L11A **Cat Creek Ranc** 65.99 329 ⇑P P 20 39 48.4 0.0
baz=66,SNR=6.4
QLMT **Earthquake Lak** 66.04 334 eP P 20 39 49.0 +0.3
WCN **Washoe City** 66.05 325 ⇑P P 20 39 48.7 -0.2
baz=66
GCMT **Greycliff** 66.09 336 eP P 20 39 48.2 -0.7
J13A **Cove Ranch, Pi** 66.15 331 ⇓P P 20 39 49.5 0.0
baz=66,SNR=6.2
O07A **Toulon** 66.16 326 ⇓P P 20 39 49.7 +0.1
baz=66,SNR=11
F18A **Big Timber** 66.20 336 ⇑P P 20 39 49.4 -0.3
baz=66,SNR=13
I14A **Mackay** 66.23 332 ⇓P P 20 39 50.1 +0.2
baz=66,SNR=7.5
LAVA **Lava Cap Winer** 66.23 324 ⇓P P 20 39 50.0 -0.1
baz=66
L10A **Juniper Basin** 66.28 329 ⇓P P 20 39 50.2 -0.2
baz=66,SNR=18
M09A **Marrel Ranch,** 66.30 328 ⇓P P 20 39 50.7 +0.2
baz=66
DGMT **Dagmar** 66.37 341 ⇓P P 20 39 50.8 0.0
baz=67
HLID **Hailey** 66.39 331 ⇓P P 20 39 51.3 +0.3
baz=67,SNR=11
HLID **Hailey** 66.39 331 eP P 20 39 50.8 -0.2
comp=Z,5.3nm,0.9s,mb4.6
H15A **Lima** 66.40 333 ⇓P P 20 39 51.4 +0.3
baz=67,SNR=8.5
J12A **Stokes Ranch,** 66.48 331 ⇑P P 20 39 52.0 +0.4
baz=67
G16A **Moss Hill, Enn** 66.52 334 ⇑P P 20 39 51.7 -0.1
baz=67,SNR=6.7
I13A **Wildhorse Cree** 66.52 332 ⇑P P 20 39 52.1 +0.3
baz=67
P05C **Yuba Gap, Truc** 66.53 324 ⇑P P 20 39 52.5 +0.6
baz=67,SNR=7.3
K11A **Parker Ranch,** 66.57 330 ⇓P P 20 39 52.3 +0.1
baz=67
N07B **Gerlach** 66.65 326 ⇑P P 20 39 52.7 0.0
baz=67,SNR=11
MCMT **McKenzie Canyo** 66.66 333 eP P 20 39 52.1 -0.5
O06A **Flanigan** 66.68 325 ⇓P P 20 39 52.8 -0.2
baz=67
H14A **Leadore** 66.72 333 ⇓P P 20 39 53.2 +0.1
baz=67
G15A **Dillon** 66.77 333 ⇓P P 20 39 53.5 +0.1
baz=67,SNR=5.6
BEKR **Beckwourth** 66.77 325 ⇑P P 20 39 53.6 +0.1
baz=67,SNR=13
E18A **Harlowton** 66.82 336 ⇑P P 20 39 53.6 -0.1
baz=67,SNR=6.0
L09A **Wilkinson Ranc** 66.84 328 ⇓P P 20 39 54.2 +0.3
baz=67
I12A **Atlanta** 66.91 331 ⇑P P 20 39 54.2 -0.1
baz=67,SNR=6.7
MFID **Camas Ranch** 66.95 330 ⇑P P 20 39 54.7 +0.1
baz=67,SNR=11
CVS **Carmenet Viney** 66.96 322 ⇑P P 20 39 54.8 0.0
baz=67
DLMT **Dillon** 66.97 333 eP P 20 39 54.5 -0.1
comp=Z,16nm,1.2s,mb4.9
K10A **MacKenzie Ranc** 66.99 329 ⇓P P 20 39 54.8 0.0
baz=67,SNR=11
OHCM **Honcut** 67.05 324 eP P 20 39 55.0 -0.3
H13A **Challis** 67.08 332 ⇑P P 20 39 55.3 -0.1
baz=67,SNR=8.0
N06A **Buffalo Meadow** 67.09 326 ⇑P P 20 39 55.5 0.0
baz=67,SNR=16
E17A **Martinsdale** 67.11 335 ⇑P P 20 39 55.2 -0.3
baz=67,SNR=6.1
M07A **Soldier Meadow** 67.18 327 ⇓P P 20 39 56.0 -0.1
baz=67,SNR=5.1
ORV **Oroville** 67.21 324 ⇓P P 20 39 56.5 +0.2
baz=67,SNR=13
G14A **Jackson** 67.25 333 ⇑P P 20 39 56.0 -0.4
baz=68
F15A **Butte** 67.30 334 ⇓P P 20 39 56.6 -0.1
baz=68,SNR=5.4
MNRC **McLaughlin Nat** 67.31 323 ⇑P P 20 39 56.8 -0.1
baz=68
L08A **Fields** 67.32 328 ⇓P P 20 39 56.9 -0.1
baz=68,SNR=9.6
H12A **Diamond D Ranc** 67.35 332 ⇑P P 20 39 57.3 +0.2
baz=68,SNR=8.5
K09A **Rome** 67.37 329 ⇓P P 20 39 57.3 +0.1
baz=68,SNR=20
I11A **Placerville** 67.39 330 ⇓P P 20 39 57.4 0.0
baz=68
J10A **Berg Farm, Mel** 67.42 330 ⇓P P 20 39 57.8 +0.2
baz=68
G13A **Cobalt** 67.48 332 ⇑P P 20 39 58.1 +0.2
baz=68,SNR=9.0
O04C **Chester** 67.49 325 ⇓P P 20 39 58.2 +0.1
baz=68,SNR=5.5
ELFS **Eagle Lake Fie** 67.49 325 ⇓P P 20 39 58.6 +0.5
baz=68
E16A **East Helena** 67.51 335 ⇑P P 20 39 58.2 +0.1
baz=68
F14A **Wisdom** 67.66 333 ⇓P P 20 39 59.1 +0.1
baz=68
M06C **Likely Place G** 67.76 326 ⇓P P 20 39 59.9 +0.1
baz=68
K08A **Mann Creek Ran** 67.78 328 ⇓P P 20 40 00.1 +0.3
baz=68
E15A **Deer Lodge** 67.83 334 ⇑P P 20 39 59.9 -0.1
baz=68
J09A **Fry Pan Ranch,** 67.85 329 ⇑P P 20 39 59.9 -0.4
baz=68,SNR=6.1
D16A **Dana Ranch, Ca** 67.85 335 ⇓P P 20 40 00.1 -0.1
baz=68
I10A **Payette** 67.92 330 ⇓P P 20 40 00.7 0.0
baz=68
EGMT **Eagleton** 67.95 337 ⇓P P 20 40 00.5 -0.3
baz=68
GASB **Alder Springs** 67.97 323 ⇑P P 20 40 02.3 +1.1
baz=68
C17A **Wharram Farm,** 68.02 336 ⇓P P 20 40 00.9 -0.3
baz=68,SNR=10
F13A **Darby** 68.06 333 ⇓P P 20 40 01.6 +0.1
baz=68,SNR=11
K07A **Rock Creek Ran** 68.14 328 ⇓P P 20 40 02.3 +0.2
baz=68
MOD **Modoc** 68.15 326 ⇓P P 20 40 01.8 -0.4
baz=68,SNR=8.9
MOD **Modoc** 68.15 326 eP P 20 40 01.9 -0.3
comp=Z,35nm,1.4s,mb5.2
E14A **Clinton** 68.18 334 ⇓P P 20 40 02.2 0.0
baz=68
J08A **Circle Bar Ran** 68.22 329 ⇑P P 20 40 02.2 -0.4
baz=68
H10A **Noah's Angus R** 68.27 330 ⇓P P 20 40 03.0 +0.1
baz=68
I09A **Lost Marbles R** 68.30 329 ⇓P P 20 40 02.9 -0.2
baz=68
F12A **Elk City** 68.45 332 ⇓P P 20 40 03.9 -0.1
baz=69,SNR=6.2
CHMT **Chamberlain Mo** 68.47 334 eP P 20 40 03.6 -0.5
E13A **Victor** 68.50 333 ⇓P P 20 40 04.7 +0.3
baz=69,SNR=9.3
L05A **Lakeview** 68.53 326 ⇓P P 20 40 05.0 +0.4
baz=69,SNR=5.3
C16A **Fuhringer Ranc** 68.55 336 ⇑P P 20 40 04.5 -0.1
baz=69,SNR=6.8
G11A **Walters Elk Ra** 68.65 331 ⇑P P 20 40 04.8 -0.5
baz=69,SNR=8.8
SCHQ **Schefferville** 68.70 6 P P 20 40 03.6 -1.7
comp=Z,8.5nm,0.8s,mb4.7,baz=124,slow=4.0,SNR=5.9
SCHQ LR LR 21 09 42.0
comp=Z,176nm,21.7s,MS4.3,baz=56,slow=36
D14A **Gronough** 68.71 334 ⇑P P 20 40 05.7 +0.1
baz=69
M03C **McCloud** 68.72 325 ⇑P P 20 40 05.3 -0.4
baz=69
BMO **Blue Mountains** 68.73 330 eP P 20 40 04.8 -1.0
comp=Z,9.3nm,1.3s,mb4.5
K06A **Valley Falls** 68.74 327 ⇓P P 20 40 06.3 +0.4
baz=69,SNR=16
TBI **Tubuai** 68.87 250 eS S 20 49 08.4 -0.9
comp=Z,308nm,31.2s
TBI **Tubuai** 68.87 250 eLR LR 21 00 56.9
comp=Z,507nm,26.0s,baz=83
C15A **Salmond Ranch,** 68.88 335 ⇓P P 20 40 06.9 +0.3
baz=69,SNR=13
M04C **Macdoel** 68.90 326 ⇑P P 20 40 07.0 +0.1
baz=69
F11A **Grangeville** 68.96 332 ⇓P P 20 40 06.5 -0.7
baz=69,SNR=13
G10A **Bishop Farm, J** 68.97 331 ⇓P P 20 40 07.0 -0.2
baz=69,SNR=11
J06A **Christmas Vall** 69.01 328 ⇓P P 20 40 07.3 -0.2
baz=69,SNR=20
B16A **M & M Farms, S** 69.03 336 ⇓P P 20 40 07.1 -0.4
baz=69
K05A **Summer Lake** 69.03 327 ⇓P P 20 40 08.1 +0.4
baz=69
N02C **Big Bar** 69.08 324 ⇑P P 20 40 08.6 +0.5
baz=69,SNR=10
E12A **Beaver Dam Sad** 69.10 332 ⇓P P 20 40 07.7 -0.3
baz=69,SNR=7.3
D13A **Huson** 69.13 334 ⇑P P 20 40 08.1 0.0
baz=69
H08A **Prairie City** 69.16 329 ⇓P P 20 40 08.4 0.0
baz=69,SNR=21
L04A **Klamath Falls** 69.19 326 ⇓P P 20 40 08.3 -0.4
baz=69
M02C **Callahan** 69.20 325 ⇓P P 20 40 08.6 -0.2
baz=69
I07A **Izee** 69.26 329 ⇑P P 20 40 09.8 +0.7
baz=70,SNR=15
G09A **Cove** 69.28 330 ⇑P P 20 40 09.3 +0.1
baz=70,SNR=14
B15A **Bradely Ranch,** 69.29 335 ⇑P P 20 40 09.1 -0.1
baz=70
E11A **Bogner Ranch,** 69.34 332 ⇑P P 20 40 08.7 -0.8
baz=70,SNR=8.1
C14A **Swan Lake** 69.35 334 ⇑P P 20 40 09.3 -0.2
baz=70,SNR=8.2
YBH **Yreka Blue Hor** 69.35 325 ⇓P P 20 40 09.0 -0.7
baz=70
A16A **West Butte Ran** 69.42 336 ⇑P P 20 40 09.4 -0.6
baz=70,SNR=5.8
D12A **Red Ives Fores** 69.49 333 ⇑P P 20 40 09.9 -0.5
baz=70
F10A **Beach Ranch, E** 69.53 331 ⇓P P 20 40 10.7 0.0
baz=70,SNR=14
J05A **Fort Rock** 69.60 327 ⇓P P 20 40 11.2 0.0
baz=70
B14A **Marquette Ranc** 69.62 335 ⇓P P 20 40 10.8 -0.3
baz=70,SNR=6.9
C13A **Hot Springs** 69.63 334 ⇑P P 20 40 11.4 +0.1
baz=70,SNR=7.4
F09A **S2 Ranch, Elgi** 69.65 331 ⇑P P 20 40 11.3 -0.1
baz=70,SNR=7.8
H07A **Lands Inn, Kim** 69.66 329 ⇓P P 20 40 11.6 +0.1
baz=70
PPT **Papeete** 69.71 256 eS S 20 49 20.0 +0.7
comp=Z,548nm,30.2s
PPT **Papeete** 69.71 256 eLR LR 21 01 13.0
comp=Z,406nm,28.2s
PPT **Papeete** 69.71 256 LR LR 21 02 06.1
comp=Z,175nm,18.8s,MS4.3,baz=89,slow=28
G08A **Pilot Rock** 69.86 330 ⇓P P 20 40 12.5 -0.3
baz=70,SNR=12
LNOR **Lincton Mounta** 69.95 331 eP P 20 40 13.0 -0.3
VNA3 **Neumayer Olymp** 69.96 161 eP P 20 40 13.2 +0.2
VNA3 e 20 40 15.5
VNA3 e 20 40 19.4
VNA3 e 20 40 36.1
J04A **Umpqua Nationa** 70.04 327 ⇓P P 20 40 14.0 +0.1
baz=70
C12B **Naegeli Ranch,** 70.04 333 ⇓P P 20 40 14.4 +0.6
baz=70
B13A **Whitefish** 70.12 334 ⇓P P 20 40 14.7 +0.4
baz=70
L02A **Cave Junction** 70.13 325 ⇓P P 20 40 14.8 +0.3
baz=70
F08A **Pendleton** 70.13 330 ⇓P P 20 40 14.2 -0.2
baz=70
H06A **Lindquist Farm** 70.14 329 ⇑P P 20 40 14.7 +0.2
baz=70,SNR=12
A14A **Double T Ranch** 70.16 335 ⇑P P 20 40 14.0 -0.5
baz=70,SNR=6.2
G07A **Ruggs Ranch, H** 70.19 329 ⇑P P 20 40 15.1 +0.4
baz=70,SNR=6.7
VNA1 **Neumayer--Stat** 70.24 161 eP P 20 40 15.4 +0.7
VNA1 e 20 40 17.8
VNA1 e 20 40 21.6
VNA1 e 20 40 38.1
E09A **Wood Farm, Sta** 70.36 331 ⇓P P 20 40 15.4 -0.3
baz=71,SNR=7.0
WALA **Waterton Lakes** 70.43 335 eP P 20 40 15.1 -1.1
comp=Z,16nm,1.1s,mb4.9
K02A **Glendale** 70.47 325 ⇑P P 20 40 16.0 -0.5
baz=71
C11A **Tepee Creek (N** 70.48 333 ⇓P P 20 40 16.6 +0.1
baz=71,SNR=10
I04A **Tendick Farm,** 70.57 327 ⇓P P 20 40 16.4 -0.7
baz=71,SNR=6.5
VNA2 **Neumayer--Watz** 70.59 161 eP P 20 40 17.2 +0.3
baz=296,slow=7.1
VNA2 e 20 40 19.2
VNA2 e 20 40 23.3
VNA2 e 20 40 39.0
G06A **Carlson Farm,** 70.65 329 ⇑P P 20 40 17.6 +0.1
baz=71
D09A **Jones Farm, Ri** 70.83 331 ⇓P P 20 40 18.4 -0.2
baz=71,SNR=5.3
J02A **Umpqua** 70.91 326 ⇓P P 20 40 19.2 0.0
baz=71
RSW **Rattlesnake Hi** 70.96 330 eP P 20 40 19.7 +0.3
B11A **Sandpoint** 70.98 333 ⇑P P 20 40 19.9 +0.3
baz=71
G05A **Wamic** 71.00 328 ⇓P P 20 40 20.1 +0.4
baz=71
A12A **Yaak River Ran** 71.06 334 ⇑P P 20 40 20.3 +0.4
baz=71,SNR=5.5
F06A **Goldendale** 71.09 329 ⇓P P 20 40 20.6 +0.3
baz=71
EGOM **La Gomera** 71.15 54 P P 20 40 21.2 +0.2
comp=Z,132nm,5.3s
I03A **Eugene** 71.16 326 ⇓P P 20 40 21.2 +0.5
baz=71
NEW **Newport** 71.19 333 eP P 20 40 20.1 -0.7
NEW pmax pmax
comp=Z,7.0nm,0.9s
NEW **Newport** 71.19 333 eP P 20 40 20.1 -0.6
comp=Z,6.6nm,0.9s,mb4.6
E07A **Sunnyside** 71.20 330 ⇑P P 20 40 21.6 +0.7
baz=71
OD2 **Odessa Site #2** 71.26 331 eP P 20 40 21.4 +0.1
A11A **Hall Mountain,** 71.38 334 ⇑P P 20 40 22.1 +0.2
baz=72,SNR=7.6
G04A **Mulino** 71.57 328 ⇓P P 20 40 23.4 +0.3
baz=72
H03A **Soap Creek Ran** 71.64 327 ⇓P P 20 40 23.7 +0.1
baz=72
CCAN **Las Canadas** 71.65 54 P P 20 40 25.1 +1.1
comp=Z,19nm,1.8s,mb4.7
C08A **Higginbotham F** 71.70 332 ⇓P P 20 40 24.2 +0.3
baz=72
D07A **Quincy** 71.71 331 ⇓P P 20 40 24.3 +0.4
baz=72
E06A **Yakima** 71.74 330 ⇑P P 20 40 24.2 +0.1
baz=72
B09A **Rice** 71.76 332 ⇑P P 20 40 24.5 +0.3
baz=72
A10A **Northport** 71.91 333 ⇑P P 20 40 25.0 -0.2
baz=72
EBAJ **Bajamar** 72.00 54 P P 20 40 26.4 +0.3
comp=Z,133nm,2.3s,mb5.5
F04A **Amboy** 72.03 328 ⇓P P 20 40 25.9 -0.1
baz=72
C07A **Waterville** 72.11 331 ⇑P P 20 40 26.4 0.0
baz=72
D06A **Cle Elum** 72.13 330 ⇓P P 20 40 26.8 +0.4
baz=72
E05A **Randle** 72.14 329 ⇓P P 20 40 26.7 +0.2
baz=72
ETW **Entiat** 72.18 331 eP P 20 40 26.9 +0.2
SNAA **Sanae** 72.19 161 eP P 20 40 26.4 -0.1
SNAA e 20 40 28.8
SNAA e 20 40 32.7
SNAA e 20 40 44.8
SNAA **Sanae** 72.19 161 eP P 20 40 26.2 -0.3
SNAA pmax pmax
comp=Z,25nm,0.9s
SNAA **Sanae** 72.19 161 eP P 20 40 26.2 -0.3
comp=Z,25nm,0.9s,mb5.1
B08A **Colville Reser** 72.25 332 ⇓P P 20 40 27.0 -0.2
baz=72,SNR=5.1
A09A **Danville** 72.36 333 ⇓P P 20 40 27.8 -0.1
baz=73,SNR=6.1
EOSO **Osorio** 72.41 54 P P 20 40 30.2 +1.6
comp=Z,118nm,2.4s,mb5.4
A08A **Turner Farm, O** 72.66 332 ⇓P P 20 40 29.6 +0.1
baz=73,SNR=6.6
D05A **Enumclaw** 72.68 330 ⇑P P 20 40 30.1 +0.3
baz=73
B07A **Winthrop** 72.69 332 ⇑P P 20 40 29.9 +0.2
baz=73
C05A **Tolt Reservoir** 72.89 330 ⇑P P 20 40 31.1 +0.1
baz=73
A07A **Ashnola River,** 73.23 332 ⇑P P 20 40 33.3 +0.3
baz=74,SNR=10
RPW **Rockport** 73.33 331 eP P 20 40 33.0 -0.6
JCW **Jim Creek** 73.36 330 eP P 20 40 32.6 -1.1
B06A **Marblemount** 73.37 331 ⇑P P 20 40 33.6 -0.2

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
	baz=74						
B05A	Bryant	73.48	330	⇑P	P	20 40 34.3	-0.1
	baz=74						
EDM	Edmonton	73.51	338	eP	P	20 40 33.1	-1.4
C04A	Brinnon	73.53	330	⇑P	P	20 40 34.7	0.0
	baz=74						
CFTV	Fuerteventura	73.73	55	P	P	20 40 37.0	+0.6
	comp=Z,3.5nm,0.5s,mb4.5						
NLWA	Neilton Lookou	73.76	329	⇑P	P	20 40 36.3	+0.2
	baz=74						
NLWA	Neilton Lookou	73.76	329	eP	P	20 40 35.4	-0.7
	comp=Z,27nm,1.2s,mb5.1						
A06A	Chilliwack	73.78	331	⇓P	P	20 40 36.1	-0.1
	baz=74						
A05A	Maple Falls	73.99	331	⇓P	P	20 40 37.4	0.0
	baz=74						
LIC	Lamto	74.04	79	eP	P	20 40 38.1	-0.4
	comp=Z,83nm,1.7s,mb5.4						
TIC	Toumodi	74.16	79	eP	P	20 40 38.8	-0.4
	comp=Z,141nm,1.5s,mb5.7						
DBIC	Dimbokro	74.32	79	P	P	20 40 39.7	-0.5
	comp=Z,9.6nm,0.9s,mb4.7,baz=270,slow=4.8,SNR=7.6						
DBIC				LR	LR	21 12 24.1	
	comp=Z,358nm,18.6s,MS4.7,baz=233,slow=35						
DBIC	Dimbokro	74.32	79	eP	P	20 40 38.9	-1.3
DBIC				pmax	pmax		
	comp=Z,99nm,2.0s						
DBIC	Dimbokro	74.32	79	eP	P	20 40 38.9	-1.3
	comp=Z,99nm,2.0s,mb5.4						
KIC	Kosan Boka	74.35	79	eP	P	20 40 40.0	-0.3
	comp=Z,117nm,1.0s,mb5.8						
NVL	N'lazarevskaya	76.86	160	P	P	20 40 53.0	-0.6
NVL				pmax	pmax		
	comp=Z,27nm,1.2s,mb5.0						
YKA	Yellowknife Ar	81.35	343	P	P	20 41 17.3	-0.8
	comp=Z,7.2nm,0.8s,mb4.7,baz=140,slow=5.5,SNR=9.9						
YKA				LR	LR	21 18 37.4	
	comp=Z,84nm,18.2s,MS4.1,baz=250,slow=37						
YKA	Yellowknife Ar	81.35	343	P	P	20 41 17.3	-0.8
YKA				LR	LR	21 18 37.4	
PFVI	Vila Bisbo	81.42	49	eP	P	20 41 20.6	+1.5
	comp=Z,32nm,1.7s,mb5.0						
MORF	Marmelete	81.61	48	eP	P	20 41 21.8	+1.6
	comp=Z,37nm,2.0s,mb5.0						
PTEO	Sao Teotonio	81.66	48	eP	P	20 41 22.2	+1.8
	comp=Z,29nm,1.9s,mb4.9						
PBDV	Barranco-do-Ve	82.11	49	eP	P	20 41 24.5	+1.7
	comp=Z,21nm,1.5s,mb4.8						
SBA	Scott Base	82.12	191	eP	P	20 41 23.5	+1.3
SBA				pmax	pmax		
	comp=Z,10.0nm,1.0s,mb4.7						
SBA	Scott Base	82.12	191	eP	P	20 41 23.5	+1.3
	comp=Z,10nm,1.0s,mb4.7						
TOA0	Torodi Ar. Sit	82.30	75	eP	P	20 41 24.1	-0.1
TORD	Torodi Ar. Bea	82.30	75	P	P	20 41 24.3	0.0
	comp=Z,32nm,0.9s,mb5.3,baz=262,slow=5.0,SNR=125						
TORD				LR	LR	21 18 34.0	
	comp=Z,280nm,18.2s,MS4.7,baz=225,slow=36						
EGRO	El Granado	82.56	49	P	P	20 41 26.3	+1.2
	comp=Z,6.6nm,0.9s,mb4.7						
EVO	Evora	82.57	48	eP	P	20 41 26.2	+1.0
	comp=Z,17nm,1.9s,mb4.8						
PTOM	Tomar	82.73	46	eP	P	20 41 27.0	+1.0
	comp=Z,24nm,1.6s,mb5.0						
EMIN	Mina Concepcio	83.24	49	P	P	20 41 29.6	+1.0
	comp=Z,4.1nm,1.0s,mb4.4						
EBAD	Badajoz	83.38	48	P	P	20 41 30.7	+1.4
	comp=Z,2.9nm,0.9s,mb4.3						
ESPR	Espera	83.50	50	P	P	20 41 32.0	+2.0
	comp=Z,1.9nm,0.8s,mb4.2						
EJIF	Jimena Fronter	83.63	50	P	P	20 41 32.2	+1.5
EJIF				pmax	pmax		
	comp=Z,52nm,2.1s,mb5.3						
EJIF	Jimena Fronter	83.63	50	P	P	20 41 32.2	+1.5
	comp=Z,52nm,2.1s,mb5.3						
STS	Santiago	83.98	43	P	P	20 41 33.2	+0.9
STS				pmax	pmax		
	comp=Z,137nm,2.4s,mb5.7						
STS	Santiago	83.98	43	P	P	20 41 33.2	+0.9
	comp=Z,137nm,2.4s,mb5.7						
EMIJ	Mijas	84.19	50	P	P	20 41 34.1	+0.6
	comp=Z,81nm,4.7s						
ECAB	El Cabril	84.27	49	P	P	20 41 35.2	+1.3
	comp=Z,103nm,3.6s						
ELOJ	Sierra Loja	84.87	50	P	P	20 41 39.2	+2.2
ELOJ				pmax	pmax		
	comp=Z,3.0nm,0.7s,mb4.5						
ELOJ	Sierra Loja	84.87	50	P	P	20 41 39.2	+2.2
	comp=Z,2.6nm,0.7s,mb4.5						
EADA	Adamuz	84.92	49	P	P	20 41 38.2	+1.0
	comp=Z,61nm,3.5s						
EQES	Quesada	85.90	50	P	P	20 41 44.2	+2.1
	comp=Z,2.1nm,0.7s,mb4.5						
ESDC	Sonseca Array	85.92	48	P	P	20 41 41.4	-0.7
	comp=Z,1.4nm,0.9s,mb4.2,baz=252,slow=4.7,SNR=4.3						
ESDC				LR	LR	21 20 35.8	
	comp=Z,100nm,18.6s,MS4.2,baz=270,slow=36						
ESDC	Sonseca Array	85.92	48	P	P	20 41 43.1	+1.0
	comp=Z,1.6nm,0.9s,mb4.2						
EHUE	Huescar	86.26	50	P	P	20 41 46.4	+2.5
EHUE				pmax	pmax		
	comp=Z,227nm,6.7s						
EHUE	Huescar	86.26	50	P	P	20 41 46.4	+2.5
	comp=Z,227nm,6.7s						
SYO	Syowa Base	86.48	161	⇓eP	P	20 41 42.6	-1.8
TAM	Tamanrasset	88.41	66	eP	P	20 41 55.4	+0.8
SUMG	Summit	89.63	11	eP	P	20 41 59.0	-0.2
	comp=Z,9.5nm,1.1s,mb5.0						
TSUM	Tsumeb	89.77	110	eP	P	20 42 00.8	-0.3
DAWY	Dawson	90.69	337	eP	P	20 42 03.3	-1.0
ESK	Eskdalemuir	92.06	33	eP	P	20 42 09.7	-1.2
MAW	Mawson	93.95	166	P	P	20 42 19.7	+0.3
	comp=Z,4.1nm,0.9s,mb4.9,baz=181,slow=1.0,SNR=6.6						
MAW				LR	LR	21 21 46.2	
	comp=Z,111nm,18.9s,MS4.3,baz=241,slow=34						
MAW	Mawson	93.95	166	eP	P	20 42 18.9	-0.5
MAW				pmax	pmax		
	comp=Z,7.0nm,1.1s						
MAW	Mawson	93.95	166	eP	P	20 42 18.9	-0.6
	comp=Z,6.5nm,1.1s,mb5.0						
COLA	College	94.33	336	eP	P	20 42 19.3	-1.8
LBTB	Lobatse	95.35	117	P	P	20 42 24.8	-2.0
ASF	Jabal al Asfar	117.19	61	PKP	PKPdf	20 47 47.7	0.0
	comp=Z,2.4nm,0.8s,baz=123,slow=7.3,SNR=4.1						
ASAR	Alice Springs	132.24	219	PKP	PKPdf	20 48 16.2	-0.5
	comp=Z,2.4nm,1.0s,baz=139,slow=2.3,SNR=12						
WB2	Warramunga Arr	134.63	223	eP	PKPdf	20 48 20.6	-0.7
WRA	Warramunga Arr	134.63	223	PKP	PKPdf	20 48 21.2	-0.1
	comp=Z,4.5nm,0.8s,baz=135,slow=1.6,SNR=31						
ZAA0	Zalesovo Array	137.25	16	ePKPdf	PKPdf	20 48 22.6	-2.5
ZALV	Zalesovo Beam	137.25	16	PKP	PKPdf	20 48 24.4	-0.7
	comp=Z,4.3nm,0.8s,baz=302,slow=2.8,SNR=11						
MJAR	Matsushiro Arr	141.15	312	PKhKP		20 48 25.4	
	comp=Z,2.9nm,0.8s,baz=98,slow=2.1,SNR=6.9						
FITZ	Fitzroy Crossi	141.42	216	PKhKP		20 48 28.6	
	comp=Z,1.3nm,0.9s,baz=111,slow=19,SNR=3.5						
FITZ				PKP	PKPdf	20 48 32.5	-1.3
	comp=Z,1.5nm,0.8s,baz=266,slow=4.9,SNR=3.8						
MDJ	Mudanjiang	141.71	329	PKP	PKPdf	20 48 30.5	-3.0
MDJ				PP	PP		
	comp=Z,52nm,5.0s						
UCH	Uchtor	142.26	35	ePKPdf	PKPdf	20 48 31.8	-2.8
TKM2	Tokmak 2	142.40	34	ePKIKP	PKPdf	20 48 35.7	+0.9
MKAR	Makanchi Array	142.60	24	PKhKP		20 48 31.8	
	comp=Z,2.3nm,0.9s,baz=341,slow=2.5,SNR=10						
CN2	Changchun	144.31	332	ePKP	PKPdf	20 48 35.2	-2.9
CN2				eAPKP		20 48 45.0	
CN2				ePP	PP	20 51 54.0	+1.2
CN2				eSS	SS	21 10 34.0	-1.7
CN2				PP	PP		
	comp=Z,200nm,8.0s						
CN2				LR	LR		
	comp=N,300nm,20.0s,MS5.3						
CN2				LR	LR		
	comp=E,400nm,20.0s,MS5.3						
CN2				LR	LR		
	comp=Z,500nm,22.0s,MS5.2						
ULN	Ulaanbaatar	145.68	355	ePKP2	PKPab	20 48 41.0	0.0
SONM	Songino Array	145.76	356	PKPbc	PKPbc	20 48 41.2	+0.2
	comp=Z,25nm,0.9s,baz=352,slow=3.2,SNR=45						
WMQ	Urumqi	147.12	21	PKP	PKPdf	20 48 44.5	+1.5
KSRS	Korea Array	147.52	321	PKPbc	PKPbc	20 48 44.2	-2.2
	comp=Z,5.4nm,0.8s,baz=38,slow=2.0,SNR=17						
BJT	Baijiatuau	151.27	339	ePKIKP	PKPbc	20 48 54.7	-1.0
GTA	Gaotai	154.13	6	ePKP	PKPdf	20 48 54.8	+0.8
GTA				PKS		20 52 26.2	
GTA				PP	PP	20 52 55.5	+6.2
GTA				SKS	SKSdf	20 55 59.9	+1.7
GTA				SKKS	SKKSac	20 59 39.0	+1.2
GTA				PP	PP		
	comp=Z,166nm,9.9s						
GTA				LR	LR		
	comp=N,255nm,14.7s,MS5.3						
GTA				LR	LR		
	comp=E,237nm,13.5s,MS5.3						
GTA				LR	LR		
	comp=Z,227nm,13.5s,MS5.2						
NJ2	Nanjing	156.62	324	ePKP	PKPdf	20 48 57.2	-0.3
LZH	Lanzhou	157.60	358	ePKP	PKPdf	20 48 53.5	-5.2
LZH				APKP		20 49 03.4	
LZH				XPKP		20 49 08.5	
LZH				PP	PP		
	comp=Z,58nm,5.0s						
LZH	Lanzhou	157.60	358	eP	PKPdf	20 48 53.5	-5.2
LZH				pP		20 49 03.4	
LZH				sP		20 49 08.5	
CD2	Chengdu	162.76	358	ePKP	PKPdf	20 49 08.2	+3.6
CD2				XPKP		20 49 18.2	
CD2				PKP2	PKPab	20 49 59.4	+6.3
CD2				SKKS	SKKSac	21 00 27.9	+4.6
CD2				SS	SS	21 14 03.0	+6.7
CD2				PP	PP		
	comp=Z,120nm,10.8s						
CD2				LR	LR		
	comp=N,590nm,16.8s						
CD2				LR	LR		
	comp=Z,660nm,14.4s						
GYA	Guiyang	166.77	346	PKP	PKPdf	20 49 04.6	-3.6
GYA				APKP		20 49 18.4	
GYA				PKP2	PKPab	20 50 10.2	-0.7
GYA				PKS		20 52 34.9	
GYA				PP	PP	20 53 57.5	0.0
GYA				SKS	SKSdf	20 56 01.2	-8.6
GYA				SKKS	SKKSac	21 00 40.0	-3.7
GYA				SS	SS	21 14 34.2	-3.5
GYA				PP	PP		
	comp=Z,120nm,7.9s						
GYA				LR	LR		
	comp=N,260nm,22.8s						
GYA				LR	LR		
	comp=E,150nm,21.9s						
GYA				LR	LR		
	comp=Z,210nm,20.4s						
KMI	Kunming	168.53	1	PKP	PKPdf	20 49 09.5	0.0
CMAR	Chiang Mai Arr	173.75	39	PKP	PKPdf	20 49 12.2	0.0
	comp=Z,2.9nm,0.8s,baz=276,slow=1.8,SNR=18						
CMAR				PKPab	PKPab	20 50 42.8	+0.6
	comp=Z,1.7nm,0.9s,baz=320,slow=6.1,SNR=8.1						

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*BJI **05** 20:34:38.7, 461S×10088E, h35^{km}, mB5.3, mb4.7*
*IDC **05** 20:34:41.6±1.2, 382S×10108E, h0^{km}, mb4.4/14, mb1 4.6/15, mb1mx4.4/21, mbtmp4.5/15, ML4.2/1, MS3.7/4, Ms1 3.8/4, ms1mx3.4/25, Error ellipse: s-maj=38.8km s-min=12.1km az=52.0*
*ISCJB **05** 20:34:45.4±1.2, 386S±008×10094E±007, h42^{km}±8^{km}, mb4.7/42, MS3.7/4, Error ellipse: s-maj=16.8km s-min=5.6km az=43.5*
*NEIC **05** 20:34:45.5±0.4, 401S×10083E, h35^{km}, mb4.7/19, Error ellipse: s-maj=12.2km s-min=7.4km az=56.0*
*DJA **05** 20:34:46.8±0.8, 4S±6×101E±, h30^{km}, mB6.0/1, Mjma4.0/10, MLv4.8/10, Mw(mB)5.6/1, Mwp3.5/3*
ISC 05 20:34:47.5±1.0**, 384S**±008×**10096E**±007**, h42**^{km}±7^{km}**, h27**^{km}±1.7^{km}**:pP-P, n90,** σ**1**^{s}**02**/85**, mb4.7**/42**, MS3.7**/4**, 1C, Southern Sumatera**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KSI	Kapahiang	1.64	83	P	Pn	20 35 13.6	-0.3
	0.0nm,0.0s						
KSI	Kapahiang	1.64	83	P	Pn	20 35 14.2	+0.3
PDSI	Padang	2.95	350	P	Pn	20 35 30.5	-1.5
	0.0nm,0.0s						
PDSI	Padang	2.95	350	P	Pn	20 35 30.8	-1.2
PPI	Padang Panjang	3.41	350	P	Pn	20 35 37.9	-0.3
	0.0nm,0.0s						
PPI	Padang Panjang	3.41	350	P	Pn	20 35 38.0	-0.2
JMBI	JAMBI	3.46	51	P	Pn	20 35 46.4	+7.5
RGRI	Rengat	3.73	22	P	Pn	20 35 40.6	-2.0
PPBI	Pangkal Pinang	5.43	72	P	Pn	20 36 06.2	+0.2
	0.0nm,0.0s						
PPBI	Pangkal Pinang	5.43	72	P	Pn	20 36 07.8	+1.8
	23nm,1.0s,9µm0.7nm						
GSI	Gunungsitoli	6.13	326	P	Pn	20 36 14.8	-0.8
MYKOM	Kota Tinggi	6.29	27	P	Pn	20 36 18.9	+1.0
DBJI	Dramaga	6.36	115	P	Pn	20 36 19.7	+0.9
	0.0nm,0.0s						
DBJI	Dramaga	6.36	115	P	Pn	20 36 19.8	+1.0
	142nm,1.0s,0.4nm						
TPI	Tanjungpandan	6.76	81	P	Pn	20 36 25.1	+0.7
	0.0nm,0.0s						
LEM	Lembang	7.26	114	P	Pn	20 36 32.7	+1.6
	0.0nm,0.0s						
LEM	Lembang	7.26	114	P	Pn	20 36 32.9	+1.8
	79nm,1.1s,0.3nm						
COCO	West Island	9.25	206	Pn	Pn	20 36 50.5	-7.8
BJII	Banjamegara	9.37	112	P	Pn	20 37 00.5	+0.4
	0.0nm,0.0s						
BJII	Banjamegara	9.37	112	P	Pn	20 37 00.7	+0.6
BSI	Banda Aceh	10.87	329	P	Pn	20 37 18.6	-2.0
	0.0nm,0.0s						
SJI	Sawahan	11.42	110	P	Pn	20 37 28.2	0.0
	0.0nm,0.0s						
SJI	Sawahan	11.42	110	P	Pn	20 37 36.3	+8.1
SBUM	Sibu	12.87	61	P	Pn	20 37 52.6	+4.6
KKM	Kota Kinabalu	18.12	57	ePn	Pn	20 38 56.2	0.0
KAPI	Kappang	18.77	94	P	Pn	20 39 01.9	-2.2
	0.7nm,0.3s,baz=275,slow=13,SNR=5.0						
KDI	Kendari	21.61	91	P	P	20 39 35.4	+1.3
	0.0nm,0.0s						
CMAR	Chiang Mai Arr	22.25	355	P	P	20 39 39.8	-1.1
	10nm,0.9s,mb4.3,baz=186,slow=9.2,SNR=36						
CMAR				LR	LR	20 49 51.7	
	comp=Z,140nm,18.5s,MS3.4,baz=180,slow=41						
CHTO	Chiang Mai	22.60	355	eP	P	20 39 42.9	-1.7
	12nm,1.2s,mb4.2						
BATI	Baumata	23.39	107	P	P	20 39 51.9	-1.1
	14nm,0.6s,mb4.6,baz=250,slow=1.1,SNR=4.5						
LBMI	Labuha	26.70	84	P	P	20 40 23.1	0.0
	0.0nm,0.0s						
FITZ	Fitzroy Crossi	28.00	122	⇑iP	P	20 40 34.2	-0.5
	11nm,0.9s,mb4.5						
FITZ	Fitzroy Crossi	28.00	122	P	P	20 40 34.4	-0.3
	3.7nm,0.8s,mb4.1,baz=291,slow=7.8,SNR=12						
KAKA	Kakadu	32.34	108	eP	P	20 41 10.7	-2.4
	5.9nm,0.6s,mb4.6						
ODAN	Odare	33.22	338	eP	P	20 41 22.0	+1.4
	27nm,0.6s,mb5.3						
TAPN	Taplejung	33.55	338	eP	P	20 41 25.2	+1.8
	79nm,0.9s,mb5.7						
RAMN	Ramite	33.61	336	eP	P	20 41 25.9	+1.9
	20nm,0.6s,mb5.3						
JIRN	Jiri	34.41	336	eP	P	20 41 32.4	+1.5
	54nm,0.7s,mb5.6						
LSA	Lhasa	34.65	345	P	P	20 41 33.1	+0.1
LSA	Lhasa	34.65	345	eP	P	20 41 34.3	+1.3
	4.7nm,0.7s,mb4.5						
GUN	Gumba	34.75	336	eP	P	20 41 35.5	+1.6
	38nm,0.5s,mb5.5						
DMN	Daman	34.81	335	eP	P	20 41 35.4	+1.0
KKN	Kakani	34.89	335	eP	P	20 41 36.1	+1.0
	29nm,1.0s,mb5.2						
GKN	Gorkha	35.35	335	eP	P	20 41 39.7	+0.6
KOLN	Koldanda	35.61	333	eP	P	20 41 42.0	+0.7
	20nm,0.7s,mb5.2						
DANN	Dangsing	36.03	334	eP	P	20 41 46.1	+1.2
	20nm,0.5s,mb5.3						
WRA	Warramunga Arr	36.25	119	P	P	20 41 46.4	-0.5
	2.7nm,0.5s,mb4.4,baz=301,slow=9.0,SNR=36						
WRA				S	S	20 47 24.7	-0.1
	1.2nm,0.9s,baz=294,slow=16,SNR=5.6						
WRA				LR	LR	20 58 06.1	
	comp=Z,114nm,18.3s,MS3.7,baz=250,slow=39						
WB2	Warramunga Arr	36.26	119	eP	P	20 41 46.4	-0.6
WB2	Warramunga Arr	36.26	119	eP	P	20 41 46.3	-0.7
ASAR	Alice Springs	37.41	125	P	P	20 41 56.9	+0.1
	2.3nm,0.8s,mb4.1,baz=301,slow=8.3,SNR=25						
XAN	Xi'an	38.42	11	P	P	20 42 04.9	-0.2
XAN				AP	pP	20 42 12.8	-3.9
XAN				AMB	AMB		
	comp=Z,29nm,0.8s,mb5.1						
XAN				AMB	AMB		
	comp=Z,357nm,7.7s						
LZH	Lanzhou	39.81	4	eP	P	20 42 17.6	+0.9
LZH				AP	pP	20 42 25.5	-2.9
LZH				XP	sP	20 42 30.0	-3.4
LZH				AMB	AMB		
	comp=Z,30nm,1.0s,mb5.0						
LZH				AMB	AMB		
	comp=Z,103nm,4.8s						
LZH	Lanzhou	39.81	4	eP	P	20 42 17.6	+0.9
	comp=Z,30nm,1.0s,mb5.0						
LZH				pP	pP	20 42 25.5	-2.9
LZH				sP	sP	20 42 30.0	-3.4
GTA	Gaotai	43.05	359	eP	P	20 42 43.9	+0.7
GTA				AMB	AMB		
	comp=Z,9.0nm,1.1s,mb4.4						
HHC	Hu-ho-hao-te	45.52	11	eP	P	20 43 04.2	+1.3
HHC				AMB	AMB		
	comp=Z,12nm,1.1s,mb4.7						
HHC				AMB	AMB		
	comp=Z,266nm,6.1s						
BJT	Baijiatuau	45.83	16	eP	P	20 43 05.8	+0.4
	comp=Z,23nm,0.8s,mb5.2						
PMG	Port Moresby	46.19	99	eP	P	20 43 04.6	-4.0
	comp=Z,8.7nm,0.7s,mb4.8						
CTAO	Charters Tower	46.96	114	eP	P	20 43 13.8	-0.8
	comp=Z,5.6nm,0.8s,mb4.5						
STKA	Stephens Creek	47.22	131	eP	P	20 43 16.9	+0.4
	comp=Z,2.7nm,0.5s,mb4.4						
STKA	Stephens Creek	47.22	131	P	P	20 43 16.9	+0.4
	comp=Z,2.7nm,0.6s,mb4.3,baz=303,slow=8.9,SNR=8.8						
STKA	Stephens Creek	47.22	131	eP	P	20 43 16.7	+0.2
	comp=Z,5.2nm,0.7s,mb4.6						
KSRS	Korea Array	48.13	29	P	P	20 43 23.9	+0.5
	comp=Z,5.6nm,0.9s,mb4.6,baz=221,slow=7.8,SNR=12						
WMQ	Urumqi	48.93	347	P	P	20 43 28.0	-1.4
SONM	Songino Array	51.68	5	P	P	20 43 50.6	+0.4
	comp=Z,8.7nm,0.8s,mb4.8,baz=184,slow=8.8,SNR=18						
UCH	Uchtor	51.76	335	eP	P	20 43 50.3	-0.6
	comp=Z,3.6nm,0.9s,mb4.3						
ULN	Ulaanbaatar	51.77	5	eP	P	20 43 50.9	+0.1
	comp=Z,9.1nm,0.9s,mb4.7						
TKM2	Tokmak 2	51.89	336	eP	P	20 43 52.0	+0.2
	comp=Z,7.6nm,0.8s,mb4.7						
TKM2				e	pP	20 44 00.8	-3.1
AML	Almayashu	52.03	334	eP	P	20 43 53.4	+0.5
	comp=Z,2.7nm,0.6s,mb4.3						
EKS2	Erkin-Say	52.43	335	eP	P	20 43 56.5	+0.7
	comp=Z,9.0nm,0.8s,mb4.8						
MK31	Makanchi Array	53.05	344	eP	P	20 44 00.2	-0.2
MKAR	Makanchi Array	53.05	344	P	P	20 44 00.6	+0.2
	comp=Z,6.9nm,0.7s,mb4.7,baz=148,slow=8.2,SNR=59						
MAJO	Matsushiro	53.11	38	eP	P	20 44 00.5	-0.5
MJAR	Matsushiro Arr	53.12	38	P	P	20 43 59.8	-1.2
	comp=Z,3.2nm,0.6s,mb4.4,baz=216,slow=7.5,SNR=11						
KURK	Kurchatov	57.63	343	eP	P	20 44 32.6	-0.6
	comp=Z,10.0nm,0.9s,mb4.8						
HNR	Honiara	58.79	99	LR	LR	21 10 15.1	
	comp=Z,50nm,19.0s,MS3.7,baz=300,slow=36						
ZAA0	Zalesovo Array	59.15	349	eP	P	20 44 43.4	-0.3
ZALV	Zalesovo Beam	59.15	349	P	P	20 44 43.6	-0.1
	comp=Z,13nm,0.8s,mb5.0,baz=175,slow=4.8,SNR=63						
BRVK	Borovoye	62.30	340	eP	P	20 45 04.4	-0.8
	comp=Z,3.4nm,0.5s,mb4.7						
GNI	Garni	67.51	316	P	P	20 45 35.2	-4.3
	comp=Z,6.7nm,0.9s,mb4.7						
ARU	Arti	69.27	336	P	P	20 45 48.2	-1.8
	comp=Z,3.5nm,0.7s,mb4.4						
YAK	Yakutsk	69.28	14	eP	P	20 45 49.1	-0.9
	comp=Z,25nm,0.8s,mb5.2						
PETK	Petropavlovsk-	73.93	32	P	P	20 46 18.0	-0.2
	comp=Z,1.3nm,0.5s,mb4.1,baz=24,slow=1.8,SNR=4.6						
BUR08	Bucovina Ar. S	83.29	319	eP	P	20 47 10.0	+0.1
ARCES	ARCESS Array B	88.52	340	P	P	20 47 34.4	-0.9
	comp=Z,3.1nm,0.8s,mb4.7,baz=67,slow=3.2,SNR=6.1						
ARCES				LR	LR	21 30 06.1	
	comp=Z,62nm,18.0s,MS4.1,baz=254,slow=38						
GERES	GERESS Array B	91.06	319	P	P	20 47 46.7	-0.9
	comp=Z,0.7nm,1.0s,mb4.0,baz=82,slow=9.6,SNR=4.0						
WCI	Wyandotte Cave	145.14	10	ePKPdf	PKPdf	20 54 16.2	-4.7
TXAR	Lajitas Array	145.53	40	PKPbc	PKPbc	20 54 23.2	+1.2
	comp=Z,14nm,0.8s,baz=284,slow=1.1,SNR=98						
MIAR	Mount Ida	146.60	22	ePKPdf	PKPdf	20 54 24.5	+1.0
WVT	Waverly	146.86	13	ePKPdf	PKPdf	20 54 24.0	+0.1
JCT	Junction City	147.04	34	ePKPbc	PKPbc	20 54 26.9	+0.5
JCT				e		20 54 36.5	

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*RSPR **05** 20:39:45.2, 18.17N×6802W, h107^{km}±2^{km}, MD3.5/14, MD3.5/14*
*NEIC **05** 20:39:45.2, 18.17N×6802W, h107^{km}, MD3.5(RSPR), After RSPR.*
ISC 05 20:39:45.2±1.3**, 182N**±02×**6803W**±006**, h104**^{km}±8^{km}**, n16,** σ**0**^{s}**43**/29**, 11C-3D, Mona Passage**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
IMO	Isla Mona	0.14	126	⇑eP	Pn	20 39 59.6	-0.1
IMO				eS	Sn	20 40 10.8	+0.3
CRPR	Cabo Rojo, PR	0.89	102	⇓eP	Pn	20 40 04.6	-0.1
CRPR				eS	Sn	20 40 19.3	-0.1
LSP	Las Mesas	0.89	91	⇑eP	Pn	20 40 04.8	0.0
AGPR	Aguadilla, PR	0.91	72	⇓iP	Pn	20 40 04.8	-0.2
AGPR				eS	Sn	20 40 20.2	+0.3
GBPR	Guanica, Bosqu	1.11	101	eS	Sn	20 40 23.8	+0.2
AOPR	Arecibo Observ	1.22	82	⇑eP	Pn	20 40 08.0	-0.3
AOPR				eS	Sn	20 40 25.4	-0.4
OBIP	Obispado Ponce	1.36	96	⇑eP	Pn	20 40 10.5	+0.6
OBIP				eS	Sn	20 40 28.5	-0.1
CELP	Cerrillos	1.38	95	⇑eP	Pn	20 40 10.5	+0.3
CELP				eS	Sn	20 40 28.5	-0.6
ICM	Isla Caja Muer	1.46	101	⇑eP	Pn	20 40 10.8	-0.3
ICM				eS	Sn	20 40 30.4	-0.5
SJG	San Juan	1.79	92	⇑eP	Pn	20 40 15.1	0.0
SJG				eS	Sn	20 40 37.4	-0.6
CPD	Cerro la Pandu	2.01	94	⇑eP	Pn	20 40 18.6	+0.5
CPD				eS	Sn	20 40 44.0	+0.8
CBYP	Canovanas	2.06	87	⇑eP	Pn	20 40 18.5	-0.2
CBYP				eS	Sn	20 40 45.2	+0.9
HUMP	Col San Antoni	2.07	91	⇑eP	Pn	20 40 18.6	-0.1
HUMP				eS	Sn	20 40 44.3	-0.1
MTP	Monte Pirata	2.35	92	⇓eP	Pn	20 40 22.9	+0.4
MTP				eS	Sn	20 40 51.9	+0.8
STVI	Saint Thomas	2.92	86	⇑eP	Pn	20 40 29.3	-0.7
STVI				eS	Sn	20 41 04.5	0.0
TBVI	Tortola	3.25	85	eS	Sn	20 41 11.9	-0.4

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*NOU **05** 21:00:15.0±2.5, 2430S×16670E, h10^{km}*
*IDC **05** 21:00:18.2±7.0, 2074S×16792E, h0^{km}, mb3.5/2, mb1 3.7/2, mb1mx3.5/14, mbtmp3.5/2, Error ellipse: s-maj=282.6km s-min=59.5km az=149.0*
ISC 05 21:00:14.8±4.4**, 22S**±1×**1685E**±03**, h3**^{km}±39^{km}**, n6,** σ**0**^{s}**51**/8**, mb3.5**/2**, Loyalty Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
NORM	Noumea	1.96	257	eP	Pn	21 00 49.4	+0.4
NORM				eS	Sn	21 01 13.6	-0.4
DZM	Mont Dzumac	1.97	262	eP	Pn	21 00 49.1	+0.1
DZM				eS	Sn	21 01 14.6	+0.4
NOUC	Port Laguerre	2.10	261	eP	Pn	21 00 50.4	-0.5
NOUC				eS	Sn	21 01 17.6	+0.1
ASAR	Alice Springs	31.96	260	P	P	21 06 42.6	+0.4
	1.0nm,0.8s,mb3.7,baz=80,slow=9.0,SNR=4.8						
WRA	Warramunga Arr	31.98	267	P	P	21 06 42.0	-0.4
	0.4nm,1.0s,mb3.2,baz=96,slow=8.5,SNR=4.9						
GERES	GERESS Array B	146.39	330	PKPbc	PKPbc	21 19 56.6	-0.5
	0.4nm,0.8s,baz=24,slow=2.7,SNR=3.8						

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*IDC **05** 21:30:00.4±0.8, 1370N×14649E, h0^{km}, mb4.1/9, mb1 4.2/9, mb1mx4.0/19, mbtmp4.1/9, MS3.8/1, Ms1 3.7/1, ms1mx2.6/36, Error ellipse: s-maj=23.2km s-min=16.8km az=72.0*
*NEIC **05** 21:30:01.3±0.5, 1367N×14661E, h10^{km}, Error ellipse: s-maj=14.9km s-min=11.8km az=77.0*
*ISCJB **05** 21:30:03.3±3.7, 137N±0.1×1466E±02, h40^{km}±30^{km}, mb4.1/9, Error ellipse: s-maj=30.7km s-min=15.9km az=167.9*
ISC 05 21:30:03.7±6.8**, 1366N**±010×**14656E**±010**, h26**^{km}±48^{km}**, n16,** σ**0**^{s}**79**/14**, mb4.1**/9**, South of Mariana Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
GUMO	Guam	1.65	268	Pn	Pn	21 30 31.1	+0.2
	123nm,0.3s,baz=121,slow=8.1,SNR=30						
GUMO				Sn	Sn	21 30 50.8	-0.5
	97nm,0.3s,baz=352,slow=17,SNR=6.1						
KSRS	Korea Array	28.94	328	P	P	21 36 00.2	-0.7
	3.3nm,0.7s,mb4.2,baz=143,slow=10.0,SNR=10						
WB2	Warramunga Arr	35.48	200	*e*P	P	21 36 57.5	-0.8
WRA	Warramunga Arr	35.49	200	P	P	21 36 58.7	+0.3
	3.2nm,0.8s,mb4.3,baz=21,slow=9.5,SNR=25						
WRA				PcP	PcP	21 39 28.4	+0.8
	0.6nm,0.8s,baz=17,slow=3.7,SNR=5.0						
ASAR	Alice Springs	39.10	199	P	P	21 37 29.8	+0.8
	0.7nm,0.6s,mb3.5,baz=26,slow=9.3,SNR=10						
STKA	Stephens Creek	45.52	186	P	P	21 38 20.9	-0.2
	1.4nm,0.6s,mb4.0,baz=42,slow=16,SNR=3.5						
STKA				LR	LR	21 55 57.3	
	comp=Z,116nm,19.6s,baz=204,slow=34						
CMAR	Chiang Mai Arr	45.91	283	P	P	21 38 24.9	+0.4
	1.1nm,0.7s,mb3.9,baz=77,slow=6.8,SNR=7.4						
SONM	Songino Array	47.63	324	P	P	21 38 37.8	+0.2
	1.9nm,0.8s,mb4.2,baz=90,slow=14,SNR=3.2						
ZALV	Zalesovo Beam	62.53	324	P	P	21 40 24.3	-0.8
	1.3nm,0.4s,mb4.4,baz=102,slow=6.7,SNR=8.7						
MK31	Makanchi Array	62.58	316	*e*P	P	21 40 26.1	+0.5
MKAR	Makanchi Array	62.58	316	P	P	21 40 25.9	+0.3
	1.3nm,0.5s,mb4.3,baz=92,slow=8.6,SNR=26						
ARCES	ARCESS Array B	87.52	342	P	P	21 42 50.9	+2.0
	1.8nm,0.8s,mb4.3,baz=66,slow=9.4,SNR=5.5						
PV01	Paradox Valley	93.01	50	*e*P	P	21 43 13.8	-1.5
DBIC	Dimbokro	145.17	304	PKPbc	PKPbc	21 49 39.8	+0.2
	4.4nm,0.9s,baz=13,slow=6.2,SNR=3.6						
LVC	Limon Verde	145.21	110	PKPbc	PKPbc	21 49 41.0	+1.5
	1.3nm,0.6s,baz=272,slow=8.3,SNR=3.5						
LPAZ	La Paz	146.41	99	PKPbc	PKPbc	21 49 44.6	+1.3
	0.4nm,0.5s,baz=339,slow=4.5,SNR=3.6						

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*NNC **05** 21:50:26.1±6.7, 3827N×7083E, h0km, mb4.2, mpv4.1, Error ellipse: s-maj=92.2km s-min=48.8km az=93.0*
*IDC **05** 21:50:35.1±1.0, 3905N×7169E, h0km, mb3.6/7, mb1 3.7/12, mb1mx3.6/26, mbtmp3.6/12, ML3.3/5, Error ellipse: s-maj=18.4km s-min=17.3km az=145.0*
*MOS **05** 21:50:38.7±2.7, 3929N×7151E, h33km, mb4.1/1, Error ellipse: s-maj=28.7km s-min=12.8km az=76.7*
*ISCJB **05** 21:50:40.8±1.8, 3922N±0.10×7150E±008, h56km±14km, mb3.5/7, Error ellipse: s-maj=17.9km s-min=8.4km az=26.1*
*NEIC **05** 21:50:42.5±2.3, 3970N×7127E, h10km, Error ellipse: s-maj=35.4km s-min=10.9km az=169.0*
ISC 05 21:50:41.8±1.8**, 392N**±01×**7148E**±008**, h49**km±16km**, n34, σ1s13**/41**, mb3.6**/7**, 2C-3D, Tajikistan**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
AML	Almayashu	3.40	29	P	Pn	21 51 31.9	-0.4
	SNR=70						
AML	Almayashu	3.40	29	*e*Pn	Pn	21 51 31.9	-0.5
AML				*e*Sg	Sn	21 52 16.8	+5.4
UCH	Uchtor	3.83	36	P	Pn	21 51 38.0	-0.1
	SNR=33						
UCH	Uchtor	3.83	36	*e*Pn	Pn	21 51 37.8	-0.3
UCH				*e*Sb	Sn	21 52 24.1	+2.3
EKS2	Erkin-Say	3.90	26	P	Pn	21 51 39.5	+0.4
	SNR=24						
EKS2	Erkin-Say	3.90	26	*e*Pn	Pn	21 51 38.6	-0.5
KK31	Karatay Array	3.99	350	⇓Pn	Pn	21 51 42.2	+1.7
	22nm,0.7s						
KK31				⇓Sn	Sn	21 52 43.9	+18
	29nm,0.5s						
AAK	Ala-Archa	4.14	33	P	Pn	21 51 43.6	+1.1
	SNR=30						
KBK	Karagaybulak	4.36	36	P	Pn	21 51 46.3	+0.8
	SNR=23						
CHMS	Chumysh	4.55	32	P	Pn	21 51 48.0	0.0
	SNR=34						
USP	Ospenovka	4.68	28	P	Pn	21 51 49.5	-0.3
	SNR=14						
TKM2	Tokmak 2	4.87	38	P	Pn	21 51 52.2	-0.2
	SNR=12						
TKM2	Tokmak 2	4.87	38	*e*Pn	Pn	21 51 52.1	-0.4
MKAR	Makanchi Array	10.98	43	Pn	Pn	21 53 16.1	0.0
	0.1nm,0.3s,baz=234,slow=16,SNR=6.0						
KURK	Kurchatov	12.59	21	Pn	Pn	21 53 32.1	-5.9
	0.0nm,0.3s,baz=213,slow=12,SNR=7.4						
AB31	Akbulak array	13.02	324	⇑Pn	Pn	21 53 43.1	-0.8
	3.3nm,0.7s,baz=137,slow=12,SNR=46						
AB31				Sn	Sn	21 56 05.7	-1.6
	4.4nm,0.6s,baz=135,slow=24,SNR=15						
BVAR	Borovoye Array	13.88	357	Pn	Pn	21 53 50.3	-5.3
	0.1nm,0.3s,baz=179,slow=13,SNR=2.2						
AKTK	Aktyubinsk	14.74	324	Pn	Pn	21 54 05.5	-1.5
AKTK				Sn	Sn	21 56 49.0	0.0
AKTO	Aktyubinsk	14.74	324	⇓Pn	Pn	21 54 06.2	-0.9
	1.1nm,0.7s						
AKTO				⇑Sn	Sn	21 56 49.2	+0.3
	0.9nm,0.7s						
AKTO	Aktyubinsk	14.74	324	Pn	Pn	21 54 05.5	-1.5
	0.2nm,0.3s,baz=129,slow=15,SNR=6.5						
AKTO				Sn	Sn	21 56 49.0	0.0
	0.1nm,0.3s,baz=344,slow=22,SNR=13						
ZAA0	Zalesovo Array	17.35	27	*e*Pn	Pn	21 54 39.1	-1.0
ZALV	Zalesovo Beam	17.35	27	P	Pn	21 54 39.2	-0.9
	0.7nm,0.3s,baz=213,slow=11,SNR=13						
ZALV	Zalesovo Beam	17.35	27	P	Pn	21 54 39.3	-0.8
ZALV				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ARU	Arti	19.27	338	*e*P	Pn	21 55 03.9	+0.5
HIA	Hailar	35.48	57	*e*P	P	21 57 32.6	-0.8
ARCES	ARCESS Array B	38.84	336	P	P	21 58 02.3	+0.7
	comp=Z,1.6nm,0.9s,mb3.8,baz=108,slow=10,SNR=5.5						
ARCES	ARCESS Array B	38.84	336	P	P	21 58 02.3	+0.7
ARCES				pmax	pmax		
	comp=Z,2.0nm,0.9s						
YAK	Yakutsk	41.59	37	*e*P	P	21 58 21.9	-2.5
GERES	GERESS Array B	41.75	303	P	P	21 58 28.6	+2.7
	comp=Z,0.3nm,0.4s,mb3.3,baz=72,slow=9.4,SNR=5.8						
NOA	NORSAR Array B	42.50	321	P	P	21 58 32.8	+0.9
	comp=Z,0.4nm,0.6s,mb3.3,baz=97,slow=7.8,SNR=2.5						
ESDC	Sonseca Array	56.58	296	P	P	22 00 21.3	+2.0
	comp=Z,0.8nm,0.7s,mb3.9,baz=56,slow=7.6,SNR=3.6						
TORD	Torodi Ar. Bea	66.18	268	P	P	22 01 25.9	+1.3
	comp=Z,0.4nm,0.6s,mb3.6,baz=47,slow=4.5,SNR=5.2						
WRA	Warramunga Arr	83.09	123	P	P	22 03 01.0	-1.2
	comp=Z,0.4nm,0.8s,mb3.5,baz=326,slow=4.6,SNR=3.9						
ASAR	Alice Springs	85.48	125	P	P	22 03 13.9	-0.4
	comp=Z,0.3nm,0.7s,mb3.5,baz=311,slow=4.2,SNR=3.4						

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*NEIC **05** 21:52:34.5, 3264S×7109W, h4km, ML2.6(GUC), After GUC.*
GUC 05 21:52:34.5±0.7**, 3264S×7109W, h4**km±3km**, MD3.6, ML2.6, 6C-2D, Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JACH	Jahuel	0.42	95	⇓*i*P	Pg	21 52 43.4	+0.8
JACH				*i* S	Sg	21 52 49.9	+1.9
PEL	Peldehue	0.60	146	⇑*i*P	Pg	21 52 46.5	+0.4
PEL				*i* S	Sg	21 52 55.9	+1.9
PEL				AML	AML	21 52 58.0	
	comp=E,542nm,0.3s						
CHNG	Los Chungos	0.83	335	⇑*i*P	Pg	21 52 50.8	+0.2
CHNG				*i* S	Sg	21 53 02.4	+1.0
CHNG				AML	AML	21 53 04.2	
	comp=E,624nm,0.5s						
TACH	Talagante	1.01	173	⇑*i*P	Pg	21 52 53.7	-0.3
TACH				*i* S	Sg	21 53 07.8	+0.6
PCH	Pirque	1.09	154	⇑*i*P	Pg	21 52 55.0	-0.4
PCH				*i* S	Sg	21 53 10.2	+0.7
LNV	Longovilo	1.34	192	*e*P	Pn	21 52 58.9	-1.0
CHCH	Chadas Angostu	1.34	164	*e*P	Pn	21 52 59.1	-0.8
CHCH				*i* S	Sg	21 53 17.8	+0.3
LMEL	Las Melosas	1.41	149	⇑*i*P	Pn	21 53 00.3	-0.6
LMEL				*i* S	Sb	21 53 19.9	+0.2
LMEL				AML	AML	21 53 21.7	
	comp=N,125nm,0.3s						
LMEL	Las Melosas	1.41	149	⇑*i*P	Pn	21 53 00.3	-0.6
LMEL				*i* S	Sb	21 53 19.9	+0.2
CACH	El Canelo	1.52	165	⇓*i*P	Pn	21 53 02.9	+0.5
CACH				*i* S	Sn	21 53 24.3	+1.6
CICH	Cipreses	1.76	162	*e*P	Pn	21 53 05.5	-0.2
CICH				*e*S	Sn	21 53 28.7	+0.2
SFDO	San Fernando	1.97	178	*i* P	Pn	21 53 10.3	+1.7
SFDO				*i* S	Sn	21 53 36.3	+2.7

IDC 05 21:53:25.8±1.8**, 469N×12680E, h0**km**, mb3.4**/4**, mb1 3.6**/4**, mb1mx3.5**/18**, mbtmp3.4**/4**, Error ellipse: s-maj=148.6km s-min=21.8km az=66.0, Talaud Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRA	Warramunga Arr	25.57	163	P	P	21 58 56.9	+0.2
	0.3nm,0.4s,baz=343,slow=10,SNR=11						
ASAR	Alice Springs	29.02	166	P	P	21 59 27.6	-0.1
	0.3nm,0.5s,baz=353,slow=7.9,SNR=8.2						
MKAR	Makanchi Array	56.81	325	P	P	22 03 12.4	+0.4
	0.3nm,0.5s,baz=122,slow=7.1,SNR=7.4						
KURK	Kurchatov	60.98	327	P	P	22 03 40.5	-0.4
	0.3nm,0.4s,baz=125,slow=6.8,SNR=3.8						

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*ISCJB **05** 22:00:17.1±1.0, 3930N±003×1999E±006, h5km±5km, Error ellipse: s-maj=7.9km s-min=4.8km az=178.5*
*THE **05** 22:00:18.6, 3932N×2009E, h0km±2km, ML3.2/5, Error ellipse: s-maj=4.0km s-min=1.1km az=268.0*
*CSEM **05** 22:00:18.6±0.1, 3925N×2029E, h2km, ML3.2/5, Error ellipse: s-maj=2.7km s-min=2.4km az=72.0*
*NEIC **05** 22:00:18.4, 3926N×2028E, h15km, MD3.5(ATH), After ATH.*
*ATH **05** 22:00:18.4, 3926N×2028E, h15km±5km, MD3.5/5*
ISC 05 22:00:18.1±0.9**, 3927N**±003×**2008E**±007**, h2**km±5km**, n23, σ1s21**/40**, Greece-Albania border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
IGT	Igoumenitsa	0.33	36	P	Pg	22 00 23.3	-1.1
IGT				S	Sg	22 00 28.8	+0.1
KEK	Kerkira	0.50	334	*e*Pn	Pg	22 00 29.5	+1.8
KEK				*e*Sn	Sg	22 00 38.4	+4.3
KEK	Kerkira	0.50	334	*e*PN	Pg	22 00 29.5	+1.8
KEK				*e*SN	Sg	22 00 38.4	+4.3
JAN	Janina	0.71	56	*e*Pn	Pg	22 00 29.5	-2.2
JAN				*e*Sn	Sg	22 00 37.4	-3.5
JAN	Janina	0.71	56	*e*PN	Pg	22 00 29.5	-2.2
JAN				*e*SN	Sg	22 00 37.4	-3.5
LKD	Levkas	0.71	141	P	Pg	22 00 33.4	+1.7
LKD				S	Sg	22 00 45.1	+4.2
MEV	Metsovon	1.03	59	P	Pg	22 00 35.9	-1.9
MEV				S	Sg	22 00 51.9	+0.8
VLS	Valsamata	1.16	160	P	Pg	22 00 40.8	+0.5
VLS				*e*Sn	Sn	22 00 55.3	-2.4
VLS				S	Sg	22 00 58.6	+3.3
VLS	Valsamata	1.16	160	*e*Pn	Pn	22 00 39.5	-1.8
VLS				*e*Sn	Sn	22 00 55.3	-2.4
VLS	Valsamata	1.16	160	*e*PN	Pn	22 00 39.5	-1.8
VLS				*e*SN	Sn	22 00 55.3	-2.4
EVR	Evrytania	1.39	104	*e*Pn	Pn	22 00 42.5	-1.9
EVR	Evrytania	1.39	104	*e*PN	Pn	22 00 42.5	-1.9
KZN	Kozani	1.66	51	*e*Pn	Pn	22 00 47.5	-0.8
KZN	Kozani	1.66	51	*e*PN	Pn	22 00 47.5	-0.8
AGG	Agios Georgios	1.76	97	P	Pn	22 00 48.9	-0.7
AGG				S	Sn	22 01 14.2	+1.6
FNA	Florina	1.81	33	P	Pn	22 00 50.6	+0.3
FNA				S	Sn	22 01 14.7	+0.9
BIA	Bitola	1.99	28	P	Pn	22 00 52.8	0.0
BIA				S	Sn	22 01 18.0	-0.3
LIT	Litokhoron	2.04	65	P	Pn	22 00 53.6	+0.2
LIT				S	Sn	22 01 20.3	+1.0
GRG	Griva	2.45	46	P	Pn	22 00 59.8	+0.7
GRG				S	Sn	22 01 29.5	-0.1
PLG	Polygyros	2.81	66	P	Pn	22 01 03.5	-0.6
PLG				S	Sn	22 01 39.6	+1.0
PAIG	Paliouri	2.85	75	P	Pn	22 01 04.0	-0.6
KNT	Kendrikon	2.87	48	P	Pn	22 01 05.3	+0.5
OUR	Ouranopolis	3.19	69	P	Pn	22 01 09.9	+0.7

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*NEIC **05** 22:26:45.5, 1794N×10178W, h6km, MD4.1(MEX), After MEX.*
MEX 05 22:26:45.5±0.8**, 1795N×10178W, h6**km±6km**, MD4.1, Near coast of Guerrero**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ZIIG	Zihuatanejo	0.45	139	*i* P	Pg	22 26 53.6	-0.6
ZIIG				*i* S	Sg	22 27 00.6	+0.4
MMIG	Aquila	1.53	283	*i* P	Pn	22 27 10.1	-3.2
MMIG				*i* S	Sn	22 27 28.1	-5.4
CAIG	El Cayaco	1.70	122	*i* P	Pn	22 27 11.8	-3.8
CAIG				*i* S	Sn	22 27 32.9	-4.8
MOIG	Morelia	1.81	18	*i* P	Pn	22 27 13.2	-4.0
MOIG				*i* S	Sn	22 27 36.7	-3.8
ACX	Acapulco	2.08	121	*i* P	Pn	22 27 18.7	-2.2
ACX				*i* S	Sn	22 27 43.8	-3.3
PLIG	Platanillo	2.21	78	*e*P	Pn	22 27 19.9	-2.8
PLIG				*i* S	Sn	22 27 45.2	-5.1
PPM	Popocatepetl	3.19	69	*i* P	Pn	22 27 34.5	-1.7
PPM				*i* S	Sn	22 28 11.8	-2.8
PNIG	Pinotepa	3.82	113	*i* P	Pn	22 27 41.5	-3.3
PNIG				*i* S	Sn	22 28 24.8	-5.3

CASC 05 22:30:18.3±2.0**, 1365N×9034W, h86**km±11km**, MD4.0, ML3.2, 1C-9D, Near coast of Guatemala**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
RTR	El Retiro	0.71	70	⇓*e*P	x	22 30 34.9	
RTR				*e*S	x	22 30 47.5	
SBLS	San Blas	0.72	75	⇓*e*P	x	22 30 35.0	
SBLS				*e*S	x	22 30 47.8	
SBLS				AML	x	22 30 49.5	
	comp=Z,512nm,0.2s						
SNJE	San Jose	0.74	73	⇓*i*P	x	22 30 35.4	
SNJE				*e*S	x	22 30 49.5	
RBDL	Robledal	0.78	54	⇓*i*P	x	22 30 35.2	
RBDL				*e*S	x	22 30 49.3	
PCG	Pacaya	0.78	340	*e*P	Pn	22 30 36.5	+1.1
FUG	Fuego 3	0.93	328	*e*P	Pn	22 30 37.6	+0.6
FUG				*e*S	Sn	22 30 53.9	+3.0
NBG	Las Nubes	0.93	359	⇓*i*P	Pn	22 30 38.0	+1.0
NBG				*e*S	Sn	22 30 52.2	+1.4
BOQS	Boqueron	1.03	85	⇑*e*P	x	22 30 38.4	
BOQS				*e*S	x	22 30 54.7	
BOQS				AML	x	22 30 56.9	
	comp=Z,340nm,0.3s						
FG6		1.04	330	*e*P	Pn	22 30 39.0	+0.7
FG6				*e*S	Sn	22 30 54.1	+0.9
MTO2	Montecristo 2	1.20	52	⇓*i*P	x	22 30 39.7	
LFRS	El Faro	1.24	91	⇓*e*P	x	22 30 40.8	
LFRS				*e*S	x	22 30 58.8	
LBRS	Las Brisas	1.26	86	⇓*e*P	x	22 30 41.1	
JAT	Jato	1.42	298	*e*P	Pn	22 30 44.5	+1.5
JAT				*e*S	Sn	22 30 59.3	-2.2
SNVI	San Vicente	1.46	91	*e*P	x	22 30 43.8	
SNVI				*e*S	x	22 31 03.6	
VSM	San Miguel	2.02	96	*e*P	x	22 30 51.7	
CAHU	Cacacuatique	2.07	87	⇓*i*P	x	22 30 51.4	
CNCH	Conchagua	2.46	98	*e*P	x	22 30 57.0	

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*IDC **05** 22:57:24.2±2.3, 4095N×14310E, h0km, mb3.7/5, mb1 3.6/7, mb1mx3.5/23, mbtmp3.5/7, ML3.0/2, Error ellipse: s-maj=55.5km s-min=22.2km az=84.0*
*ISCJB **05** 22:57:26.7±1.0, 4104N±006×14339E±010, h42km±10km, mb3.7/5, Error ellipse: s-maj=14.1km s-min=6.0km az=34.9*
*JMA **05** 22:57:27.6±0.1, 4109N×14324E, h46km, M3.3*
*NEIC **05** 22:57:27.7, 4109N×14324E, h46km, MG3.3(JMA), After JMA.*
ISC 05 22:57:25.9±1.7**, 4104N**±005×**14339E**±009**, h21**km±12km**, n22, σ0s86**/29**, mb3.7**/5**, 2C-1D, Hokkaido region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ERM	Erimo	0.99	350	*e*Pn	Pn	22 57 44.4	-0.2
ERM				*e*Sn	Sn	22 57 59.3	+1.4
JEM	Erimo	0.99	350	P	Pn	22 57 44.3	-0.3
JEM				*e*S	Sb	22 57 56.7	-0.4
JNBK	Urakawa-nobuka	1.33	339	⇑P	Pn	22 57 49.2	0.0
JANG	Nango	1.57	246	P	Pn	22 57 52.6	0.0
JCH	Churui	1.57	359	P	Pn	22 57 52.9	+0.3
JCH				*e*S	Sn	22 58 11.8	-0.5
JTM	Tenmabayashi	1.78	263	P	Pn	22 57 55.3	-0.1
JTM				*e*S	Sn	22 58 16.7	-0.6
JOT	Ohata	1.80	282	⇑P	Pn	22 57 55.5	-0.2
JKB	Kayabe	1.96	296	P	Pn	22 57 57.8	-0.2
JAK	Akkeshi	2.19	26	P	Pn	22 58 01.7	+0.7
JAK				*e*S	Sn	22 58 27.3	-0.1
JOM	Ohasama	2.24	226	P	Pn	22 58 03.2	+1.4
JAR	Ashorobuto	2.27	7	⇓P	Pn	22 58 02.2	0.0
JAR				*e*S	Sn	22 58 28.2	-1.4
ASAJ	Asahikawa	3.13	349	Pn	Pn	22 58 14.9	+1.0
	1.5nm,0.3s,baz=220,slow=16,SNR=3.9						
ASAJ				Sn	Sn	22 58 56.9	+6.1
	2.1nm,0.3s,baz=189,slow=17,SNR=3.8						
MJAR	Matsushiro Arr	6.04	224	Pn	Pn	22 58 52.2	-1.9
	0.2nm,0.3s,baz=308,slow=9.4,SNR=4.2						
SONM	Songino Array	27.08	297	P	P	23 03 07.1	+0.2
	0.8nm,0.4s,mb3.6,baz=301,slow=12,SNR=3.2						
BUTP	Butuan	35.61	211	*e*P	P	23 04 16.0	-6.1
TBP	Tagbilaran	35.68	214	*e*P	P	23 04 30.4	+7.6
MATI	Mati	37.23	209	*e*P	P	23 04 30.9	-5.0
ZALV	Zalesovo Beam	40.47	309	P	P	23 05 04.9	+2.2
	1.2nm,0.5s,mb3.9,baz=89,slow=8.5,SNR=7.6						
MKAR	Makanchi Array	43.41	299	P	P	23 05 26.3	-0.5
	0.3nm,0.5s,mb3.3,baz=85,slow=10.0,SNR=10						
BVAR	Borovoye Array	49.09	310	P	P	23 06 11.4	-0.1
	2.2nm,0.8s,mb4.2,baz=206,slow=34,SNR=6.7						
WRA	Warramunga Arr	61.25	190	P	P	23 07 40.3	+1.0
	0.2nm,0.4s,mb3.6,baz=6.9,slow=6.7,SNR=5.4						
TAOE	Nuku Hiva Isla	85.70	106	*e*P	P	23 10 02.0	-1.5

IDC 05 23:02:03.1±4.4**, 342S×10074E, h0**km**, mb3.5**/4**, mb1 3.7**/4**, mb1mx3.5**/18**, mbtmp3.5**/4**, MS3.8**/2**, Ms1 3.8**/2**, ms1mx3.1**/27**, Error ellipse: s-maj=187.0km s-min=24.0km az=55.0, Southern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRA	Warramunga Arr	36.65	119	P	P	23 09 11.5	-0.3
	0.3nm,0.4s,baz=308,slow=8.9,SNR=10						
WRA				LR	LR	23 25 51.8	
	comp=Z,125nm,20.3s,baz=20,slow=39						
ASAR	Alice Springs	37.84	125	P	P	23 09 21.8	0.0
	0.5nm,0.6s,baz=299,slow=8.1,SNR=7.5						
SONM	Songino Array	51.28	5	P	P	23 11 09.3	+0.6
	0.5nm,0.3s,baz=207,slow=6.1,SNR=2.9						
MKAR	Makanchi Array	52.58	344	P	P	23 11 18.1	-0.4
	0.2nm,0.3s,baz=162,slow=9.3,SNR=7.1						
KURK	Kurchatov	57.16	343	LR	LR	23 37 27.7	
	comp=Z,90nm,20.0s,baz=120,slow=37						
TXAR	Lajitas Array	145.35	39	PKPbc	PKPbc	23 21 43.2	-0.3
	0.2nm,0.5s,baz=173,slow=0.8,SNR=5.9						

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*IDC **05** 23:03:50.5±0.6, 930N×12675E, h0km, mb4.5/19, mb1 4.6/20, mb1mx4.5/26, mbtmp4.6/20, ML5.4/1, MS4.1/9, Ms1 4.2/9, ms1mx3.7/30, Error ellipse: s-maj=34.5km s-min=11.0km az=74.0*
*MOS **05** 23:03:53.4±1.2, 926N×12689E, h38km, mb4.9/19, Error ellipse: s-maj=16.1km s-min=6.3km az=114.1*
*DJA **05** 23:03:54, 1078N×12761E, h105km, Mw5.4/11*
*ISCJB **05** 23:03:56.1±0.7, 927N±003×12687E±005, h61km±6km, mb4.7/80, Error ellipse: s-maj=8.4km s-min=4.4km az=162.5*
*NEIC **05** 23:04:05.1±1.0, 922N×12695E, h130km±9km, mb4.7/26, Error ellipse: s-maj=9.9km s-min=4.8km az=73.0*
*BJI **05** 23:04:06.2, 940N×12667E, h137km, mB5.2, mb4.6*
ISC 05 23:03:57.3±0.7**, 928N**±003×**12687E**±005**, h56**km±5km**, h139**km±2.5km**: pP-P, n183, σ1s02**/178**, mb4.7**/80**, MS4.2**/15**, 4C-8D, Mindanao**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SCPH	Surigao	1.46	290	*e*P	Pn	23 04 19.1	-2.3
SCPH				*e*S	Sn	23 04 40.1	+0.7
MSLP	Maasin	2.16	293	*e*P	Pn	23 04 30.1	-0.8
MSLP				*e*S	Sn	23 05 02.7	+6.1
BUKP	Musuan	2.27	232	*e*P	Pn	23 04 32.3	0.0
BUKP				*e*S	Sn	23 05 01.0	+1.9
DAV	Davao City (W)	2.54	210	Pn	Pn	23 04 36.9	+0.8
	84nm,0.3s,baz=314,slow=6.7,SNR=19						
DAV				Sn	Sn	23 05 04.2	-1.7
	127nm,0.3s,baz=92,slow=20,SNR=8.9						
PLP	Palo	2.65	315	⇓*e*P	Pn	23 04 36.2	-1.4
PLP				*e*S	Sn	23 05 08.1	-0.4
TBP	Tagbilaran	3.00	278	*e*P	Pn	23 04 41.8	-0.7
LLP	Lapu-Lapu	3.05	290	⇓*e*P	Pn	23 04 43.4	+0.4
LLP				*e*S	Sn	23 05 18.6	+0.3
DCPH	Dipolog City	3.55	259	⇓*e*P	Pn	23 04 50.6	+0.7
DCPH				*e*S	Sn	23 05 30.8	+0.1
PAGZ	Pagadian	3.73	248	*e*P	Pn	23 04 54.7	+2.2
CNP	Catarman	3.88	326	*e*P	Pn	23 04 51.7	-2.8
GUIM	Jordan	4.43	288	*e*P	Pn	23 05 00.5	-1.5
RCP	Roxas	4.65	300	⇓*e*P	Pn	23 05 04.9	-0.2
PVCP	Virac	5.05	328	*e*P	Pn	23 05 11.2	+0.6
KKM	Kota Kinabalu	11.04	254	*e*Pn	Pn	23 06 40.1	+7.5
NACB	Ninganchiao	15.65	342	*e*Pn	Pn	23 07 40.0	+5.6
YHNB	Yeheng	16.18	342	*e*Pn	Pn	23 07 46.5	+5.4
GUMO	Guam	18.15	75	LR	LR	23 14 40.8	
	comp=Z,250nm,21.8s,baz=60,slow=36						
KSM	Kuching	18.21	246	*e*P	Pn	23 08 09.6	+3.3
QIZ	Qiongzhong	19.13	302	P	Pn	23 08 17.0	-0.4
QIZ				S	S	23 11 50.3	+0.2
QIZ				LR	LR		
	comp=E,749nm,14.5s						
QIZ				LR	LR		
	comp=Z,924nm,15.7s						
BATI	Baumata	19.61	189	P	Pn	23 08 22.5	-0.6
	comp=Z,10nm,0.3s,baz=18,slow=0.7,SNR=16						
KAKA	Kakadu	22.53	166	*e*P	P	23 08 52.8	+0.1
	comp=Z,26nm,0.6s,mb4.8						
CBIJ	Chichi jima	22.88	37	LR	LR	23 16 25.2	
	comp=Z,415nm,18.1s,MS3.9,baz=225,slow=33						
NJ2	Nanjing	23.85	343	*e*P	P	23 09 06.3	+0.8
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.4						
WHN	Wuhan	24.17	333	P	P	23 09 09.5	+1.0
GYA	Guiyang	25.66	314	P	P	23 09 23.8	+1.7
GYA				AP	pP	23 09 52.3	+16
GYA				S	S	23 13 40.8	-5.9
GYA				SCP	ScP	23 16 15.3	-11
GYA				PCS	PcS	23 16 30.9	-1.5
GYA				AMB	AMB		
	comp=Z,10.0nm,0.9s,mb4.3						
GYA				AMB	AMB		
	comp=Z,510nm,7.8s						
JHJ	Hachijo jima 2	26.55	25	LR	LR	23 18 57.4	
	comp=Z,605nm,19.5s,MS4.2,baz=239,slow=34						
FITZ	Fitzroy Crossi	27.23	183	*e*P	P	23 09 36.4	+0.2
	comp=Z,29nm,1.4s,mb4.6						
FITZ	Fitzroy Crossi	27.23	183	P	P	23 09 37.3	+1.1
	comp=Z,4.7nm,0.5s,mb4.2,baz=3.9,slow=13,SNR=16						
PMG	Port Moresby	27.43	132	*e*P	P	23 09 37.3	-0.8
PMG	Port Moresby	27.43	132	*e*P	P	23 09 38.2	+0.1
	comp=Z,8.2nm,0.8s,mb4.3						
KMI	Kunming	27.85	307	P	P	23 09 47.2	+5.4
KMI				S	S	23 14 20.3	-1.0
KMI				AMB	AMB		
	comp=Z,4.0nm,0.6s,mb4.2						
KMI				LR	LR		
	comp=Z,307nm,18.8s,MS3.9						
KSRS	Korea Array	28.07	2	P	P	23 09 44.2	+0.7
	comp=Z,3.2nm,0.6s,mb4.1,baz=179,slow=10,SNR=11						
KSRS				LR	LR	23 20 30.2	
	comp=Z,457nm,19.0s,MS4.1,baz=185,slow=36						
KSRS	Korea Array	28.07	2	P	P	23 09 44.3	+0.7
KSRS				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.1						
KSRS				MLR	MLR		
	comp=Z,457nm,19.0s,MS4.1						
CMAR	Chiang Mai Arr	28.57	292	P	P	23 09 48.8	+0.5
	comp=Z,2.5nm,0.7s,mb4.1,baz=105,slow=7.1,SNR=12						
CMAR				ScP	ScP	23 16 40.4	+5.0
	comp=Z,1.0nm,0.3s,baz=126,slow=5.1,SNR=4.7						
CMAR				LR	LR	23 21 34.1	
	comp=Z,362nm,18.9s,MS4.0,baz=281,slow=37						
MJAR	Matsushiro Arr	29.03	19	LR	LR	23 21 06.5	
	comp=Z,581nm,19.1s,MS4.2,baz=195,slow=36						
XAN	Xi'an	29.66	329	P	P	23 09 56.8	-0.9
XAN				AP	pP	23 10 28.8	+17
XAN				S	S	23 14 48.7	-0.8

XAN AMB AMB
comp=Z,5.0nm,0.8s,mb4.3
XAN LR LR
comp=N,150nm,21.6s,MS3.6
XAN LR LR
comp=E,93nm,26.2s,MS3.6
XAN LR LR
comp=Z,149nm,20.0s
WRA Warramunga Arr 29.95 166 P **P** **23 09 59.8 -0.6**
comp=Z,3.2nm,0.6s,mb4.3,baz=347,slow=9.4,SNR=24
WRA Warramunga Arr 29.95 166 *i* P **P** **23 09 59.7 -0.7**
WRA pmax pmax
comp=Z,3.0nm,0.6s
WB2 Warramunga Arr 29.95 166 *eP* **P** **23 10 00.0 -0.4**
WB2 Warramunga Arr 29.95 166 *eP* **P** **23 09 59.9 -0.6**
CD2 Chengdu 30.44 318 P **P** **23 10 07.0 +2.3**
CD2 AP pP 23 10 36.2 +17
CD2 XP sP 23 10 53.0 +28
CD2 PP PP 23 11 12.9 -1.4
CD2 S **S** **23 14 57.3 -4.6**
CD2 XS sS 23 15 50.0 +24
CD2 AMB AMB
comp=Z,10.0nm,0.7s,mb4.7
CD2 AMB AMB
comp=Z,60nm,7.2s
MBWA Marble Bar 31.05 193 *eP* **P** **23 10 10.6 +0.5**
comp=Z,6.0nm,0.5s,mb4.7
BJI Beijing 32.09 344 P **P** **23 10 19.5 +0.4**
BJI AP pP 23 10 50.4 +17
BJI XP sP 23 11 05.6 +26
BJI S **S** **23 15 24.3 -3.1**
BJI AMB AMB
comp=Z,24nm,0.8s,mb5.1
BJI AMB AMB
comp=Z,398nm,5.0s
BJI LR LR
comp=N,573nm,16.0s,MS4.4
BJI LR LR
comp=E,414nm,16.4s,MS4.4
BJI LR LR
comp=Z,258nm,17.6s,MS4.0
ASAR Alice Springs 33.45 168 P **P** **23 10 30.8 -0.4**
comp=Z,2.1nm,0.4s,mb4.4,baz=354,slow=6.8,SNR=48
ASAR PcP PcP 23 13 12.9 +1.4
comp=Z,1.2nm,0.7s,baz=333,slow=1.9,SNR=4.8
LZH Lanzhou 33.93 325 *eP* **P** **23 10 38.9 +3.7**
LZH PCP PcP 23 13 15.0 +2.3
LZH SCP ScP 23 16 42.0 -11
LZH AMB AMB
comp=Z,13nm,1.3s,mb4.7
LZH AMB AMB
comp=Z,69nm,6.1s
LZH LR LR
comp=E,809nm,12.4s
LZH LR LR
comp=Z,966nm,14.6s,MS4.7
HHC Hu-ho-hao-te 34.25 339 ⇑P **P** **23 10 38.9 +1.0**
HHC AP pP 23 11 09.6 +18
HHC XP sP 23 11 26.2 +28
HHC PP PP 23 11 59.4 +3.0
HHC PCP PcP 23 13 11.5 -2.0
HHC S **S** **23 15 55.1 -5.8**
HHC SCP ScP 23 16 42.3 -12
HHC XS sS 23 16 49.9 +25
HHC PCS PcS 23 16 57.9 -1.8
HHC SCS ScS 23 20 43.6 -13
HHC AMB AMB
comp=Z,16nm,1.1s,mb4.9
HHC AMB AMB
comp=Z,186nm,4.7s
HHC LR LR
comp=N,475nm,14.1s,MS4.5
HHC LR LR
comp=E,391nm,13.5s,MS4.5
HHC LR LR
comp=Z,471nm,13.9s,MS4.4
CN2 Changchun 34.42 358 *eP* **P** **23 10 43.6 +4.3**
CN2 *eA*P pP 23 11 14.6 +21
CN2 *eS* **S** **23 16 02.7 -0.7**
CN2 AMB AMB
comp=Z,10.0nm,0.6s,mb4.9
CN2 AMB AMB
comp=Z,200nm,3.0s
CTAO Charters Tower 34.86 147 *eP* **P** **23 10 43.4 0.0**
CTAO pmax pmax
comp=Z,5.0nm,0.9s,mb4.4
CTAO Charters Tower 34.86 147 *eP* **P** **23 10 43.4 -0.1**
comp=Z,4.7nm,0.9s,mb4.4
MDJ Mudanjiang 35.29 3 P **P** **23 10 49.8 +3.0**
MDJ AP pP 23 11 18.2 +17
MDJ XP sP 23 11 33.4 +26
MDJ PP PP 23 12 12.9 +5.1
MDJ S **S** **23 16 15.4 -1.4**
MDJ SCP ScP 23 16 49.6 -8.0
MDJ PCS PcS 23 17 03.2 0.0
MDJ XS sS 23 17 06.3 +26
MDJ AMB AMB
comp=Z,10.0nm,1.8s,mb4.4
MDJ AMB AMB
comp=Z,192nm,6.1s
MDJ LR LR
comp=N,73nm,26.6s
MDJ LR LR
comp=E,128nm,18.1s
MDJ LR LR
comp=Z,178nm,20.0s
MDJ Mudanjiang 35.29 3 *eP* **P** **23 10 47.2 +0.4**
comp=Z,20nm,1.1s,mb5.0
SHL Shillong 36.95 301 *eP* **P** **23 11 03.0 +1.7**
HNR Honiara 37.81 119 LR LR 23 25 26.1
comp=Z,239nm,19.8s,MS4.0,baz=167,slow=34
GTA Gaotai 38.53 326 *eP* **P** **23 11 14.1 -0.4**
GTA AP pP 23 11 45.3 +17
GTA XP sP 23 12 02.0 +27
GTA PP PP 23 12 50.9 +7.4
GTA S **S** **23 16 57.9 -8.5**
GTA XS sS 23 17 52.2 +22
GTA SS SS 23 19 44.9 -13
GTA AMB AMB
comp=Z,4.0nm,1.1s,mb4.1
GTA AMB AMB
comp=Z,238nm,6.6s
GTA LR LR
comp=N,435nm,17.1s,MS4.5
GTA LR LR
comp=E,452nm,16.5s,MS4.5
GTA LR LR
comp=Z,634nm,16.8s,MS4.5
LSA Lhasa 39.09 306 P **P** **23 11 18.9 -0.4**
LSA Lhasa 39.09 306 *eP* **P** **23 11 21.2 +1.9**
LSA pmax pmax
comp=Z,24nm,1.7s,mb4.7
LSA Lhasa 39.09 306 *eP* **P** **23 11 21.2 +1.9**
comp=Z,24nm,1.7s,mb4.7
FORT Forrest 39.84 178 *eP* **P** **23 11 25.2 -0.2**
comp=Z,23nm,0.5s,mb5.2
YSS Yuzh-Sakhalins 39.91 17 *eP* **P** **23 11 25.3 -0.5**
YSS *e* pP 23 11 42.0 +1.8
YSS MLR MLR
comp=Z,200nm,18.0s,MS4.0
YSS Yuzh-Sakhalins 39.91 17 *eP* **P** **23 11 26.8 +1.0**
comp=Z,12nm,0.7s,mb4.7
KLR Kul'dur 40.03 5 *eP* **P** **23 11 25.0 -1.8**
KLR *e* 23 13 37.1
HIA Hailar 40.31 353 *eP* **P** **23 11 29.1 0.0**
TAPN Taplejung 41.07 301 *eP* **P** **23 11 34.8 -0.9**
ODAN Odare 41.19 300 *eP* **P** **23 11 35.9 -0.8**
comp=Z,45nm,0.7s,mb5.2
KLBR Kellerberrin 41.56 192 *eP* **P** **23 11 39.5 -0.1**
comp=Z,32nm,1.3s,mb4.8
RAMN Ramite 41.89 300 *eP* **P** **23 11 41.9 -0.6**
comp=Z,36nm,0.9s,mb5.0
ULN Ulaanbaatar 41.95 340 *eP* **P** **23 11 43.9 +1.3**
ULN pmax pmax
comp=Z,12nm,1.1s,mb4.4
ULN Ulaanbaatar 41.95 340 *eP* **P** **23 11 43.9 +1.3**
comp=Z,12nm,1.1s,mb4.4
SONM Songino Array 42.15 339 P **P** **23 11 44.2 -0.1**
comp=Z,2.4nm,0.6s,mb4.0,baz=161,slow=8.8,SNR=5.0
MUN Mundaring 42.27 194 *eP* **P** **23 11 46.3 +0.9**
JIRN Jiri 42.45 301 *eP* **P** **23 11 46.4 -0.6**
comp=Z,39nm,0.6s,mb5.2
GUN Gumba 42.78 301 *eP* **P** **23 11 49.2 -0.5**
comp=Z,42nm,0.8s,mb5.2
NWAO Narrogin (SRO) 42.96 192 P **P** **23 11 51.3 +0.3**
comp=Z,6.7nm,0.5s,mb4.6,baz=14,slow=9.3,SNR=9.8
NWAO Narrogin (SRO) 42.96 192 *eP* **P** **23 11 51.2 +0.2**
NWAO pmax pmax
comp=Z,13nm,1.1s
NWAO Narrogin (SRO) 42.96 192 *eP* **P** **23 11 51.2 +0.2**
comp=Z,13nm,1.1s,mb4.6
PKI Pulchoki 43.08 301 *eP* **P** **23 11 51.2 -1.0**
KKN Kakani 43.26 301 *eP* **P** **23 11 53.1 -0.5**
comp=Z,29nm,1.0s,mb5.0
STKA Stephens Creek 43.27 162 *eP* **P** **23 11 53.5 0.0**
comp=Z,3.1nm,0.7s,mb4.2
STKA Stephens Creek 43.27 162 P **P** **23 11 53.0 -0.5**
comp=Z,3.3nm,0.7s,mb4.2,baz=331,slow=9.8,SNR=6.4
DMN Daman 43.35 301 *eP* **P** **23 11 53.2 -1.1**
comp=Z,20nm,0.9s,mb4.8
GKN Gorkha 43.86 301 *eP* **P** **23 11 57.2 -1.2**
comp=Z,8.7nm,0.4s,mb4.8
KOLN Koldanda 44.68 300 *eP* **P** **23 12 04.0 -1.0**
comp=Z,30nm,0.8s,mb5.2
DANN Dangsing 44.70 301 *eP* **P** **23 12 04.2 -0.9**
comp=Z,28nm,0.6s,mb5.3
ZAK Zakamensk 45.40 339 *eP* **P** **23 12 10.5 +0.2**
ZAK *e* 23 13 50.1
ZAK pmax pmax
comp=Z,4.0nm,1.4s,mb4.1
TLY Talaya 46.37 340 *eP* **P** **23 12 18.8 +0.9**
TLY pmax pmax
comp=Z,7.0nm,1.0s,mb4.5
TLY Talaya 46.37 340 *eP* **P** **23 12 19.0 +1.1**
comp=Z,7.8nm,0.8s,mb4.7
HYB Hyderabad 47.60 285 *i* P **P** **23 12 28.5 +0.4**
HYB Hyderabad 47.60 285 *eP* **P** **23 12 28.5 +0.4**
WMQ Urumqi 48.37 322 P **P** **23 12 35.5 +1.9**
BOD Bodaibo 49.44 351 *eP* **P** **23 12 43.3 +1.8**
BOD pmax pmax
comp=Z,10.0nm,1.6s,mb4.6
DDI Dehra Dun 50.03 302 *eP* **P** **23 12 45.5 -1.0**
PETK Petropavlovsk- 50.30 24 LR LR
comp=Z,261nm,19.7s,MS4.2,baz=212,slow=36
MK31 Makanchi Array 53.17 323 P **P** **23 13 09.8 +0.1**
MK31 pmax pmax
comp=Z,22nm,1.1s,mb5.0
MK31 Makanchi Array 53.17 323 *eP* **P** **23 13 10.1 +0.4**
MKAR Makanchi Array 53.17 323 P **P** **23 13 09.7 0.0**
comp=Z,9.6nm,0.8s,mb4.8,baz=122,slow=8.0,SNR=46
MKAR PcP PcP 23 14 17.9 +0.8
comp=Z,2.4nm,0.6s,baz=108,slow=5.0,SNR=4.8
MKAR Makanchi Array 53.17 323 P **P** **23 13 09.7 0.0**
MKAR PcP PcP 23 14 17.9 +0.7
TAU Tasmania Unive 55.19 162 *eP* **P** **23 13 23.1 -1.2**
TAU pmax pmax
comp=Z,50nm,1.2s,mb5.4
TAU Tasmania Unive 55.19 162 *eP* **P** **23 13 23.1 -1.2**
comp=Z,50nm,1.2s,mb5.4
ZAA0 Zalesovo Array 55.78 331 *eP* **P** **23 13 28.8 +0.3**
ZALV Zalesovo Beam 55.78 331 P **P** **23 13 27.9 -0.5**
comp=Z,1.7nm,0.4s,mb4.4,baz=119,slow=6.7,SNR=13
ZALV Zalesovo Beam 55.78 331 P **P** **23 13 27.9 -0.6**
TKM2 Tokmak 2 55.79 316 *eP* **P** **23 13 29.3 +0.5**
TKM2 pmax pmax
comp=Z,5.0nm,0.7s,mb4.7
TKM2 Tokmak 2 55.79 316 P **P** **23 13 30.0 +1.2**
SNR=9.6
TKM2 Tokmak 2 55.79 316 *eP* **P** **23 13 29.3 +0.5**
comp=Z,5.3nm,0.7s,mb4.7
KBK Karagaybulak 56.14 316 P **P** **23 13 32.8 +1.5**
SNR=12
UCH Uchtor 56.29 315 P **P** **23 13 33.5 +1.1**
SNR=27
CHMS Chumysh 56.40 316 P **P** **23 13 33.8 +0.7**
SNR=7.4
SEY Seymchan 56.64 14 *eP* **P** **23 13 34.7 +0.3**
USP Ospenovka 56.66 316 P **P** **23 13 34.8 -0.2**
SNR=12
AML Almayashu 56.83 315 P **P** **23 13 38.0 +1.7**
SNR=15
AML Almayashu 56.83 315 *eP* **P** **23 13 37.0 +0.8**
comp=Z,16nm,0.7s,mb5.2
EKS2 Erkin-Say 56.95 315 P **P** **23 13 37.5 +0.4**
SNR=16
EKS2 Erkin-Say 56.95 315 *eP* **P** **23 13 37.5 +0.4**
comp=Z,11nm,0.7s,mb5.0
NVS Novosibirsk 57.05 332 *eP* **P** **23 13 36.5 -1.0**
KURK Kurchatov 57.22 326 P **P** **23 13 38.5 -0.3**
comp=Z,8.9nm,0.6s,mb5.0,baz=125,slow=6.7,SNR=28
KBL Kabul 58.38 305 *eP* **P** **23 13 46.9 -0.4**
KBL pmax pmax
comp=Z,8.0nm,0.6s,mb4.9
KBL Kabul 58.38 305 *eP* **P** **23 13 46.9 -0.3**
comp=Z,8.4nm,0.6s,mb5.0
KK31 Karatay Array 59.37 315 P **P** **23 13 53.3 -0.6**
KK31 pmax pmax
comp=Z,11nm,0.9s,mb4.9
VOSK Vostochnaya 62.37 325 P **P** **23 14 13.1 -1.0**
VOSK pmax pmax
comp=Z,6.0nm,0.8s,mb4.8
BVA0 Borovoye Array 62.82 326 *i* P **P** **23 14 17.3 +0.2**
BVA0 pmax pmax
comp=Z,4.0nm,1.2s,mb4.4
BVAR Borovoye Array 62.82 326 P **P** **23 14 17.8 +0.7**
comp=Z,5.3nm,0.6s,mb4.8,baz=122,slow=7.7,SNR=33
BRVK Borovoye 62.89 326 *eP* **P** **23 14 17.7 +0.1**
AB31 Akbulak array 68.01 319 P **P** **23 14 49.7 -1.1**
AB31 pmax pmax
comp=Z,2.0nm,0.6s,mb4.3
UNV Unalaska Valle 68.84 36 *eP* **P** **23 14 53.4 -2.4**
comp=Z,283nm,1.8s,mb5.9
SVE Sverdlovsk 69.36 327⇑ *eP* **P** **23 15 00.3 +1.3**
SVE pmax pmax
comp=Z,20nm,1.0s,mb5.0
AKTK Aktyubinsk 69.46 320 P **P** **23 14 59.8 0.0**
AKTO Aktyubinsk 69.46 320 P **P** **23 14 59.8 0.0**
comp=Z,3.7nm,0.8s,mb4.4,baz=102,slow=7.7,SNR=17
ARU Arti 70.38 327 *d i* P **P** **23 15 04.8 -0.5**
ARU *e* pP 23 15 22.1 +1.4
ARU *e* 23 17 38.9
ARU *e*PPP 23 19 23.5
ARU *e*S S 23 24 07.2 -6.3
ARU pmax pmax
comp=Z,15nm,1.0s,mb4.9
ARU Arti 70.38 327 *eP* **P** **23 15 04.4 -0.9**
comp=Z,25nm,1.3s,mb5.0
UMR Umm Al-Rimmam 76.09 298 *eP* **P** **23 15 38.5 -1.0**
baz=298
UMR AMb AMB 23 15 40.9
comp=Z,23nm,1.0s,mb5.1,baz=298
CASY Casey 76.30 187 *eP* **P** **23 15 40.2 +0.4**
MIB Mutribah 76.41 298 *eP* **P** **23 15 39.8 -1.5**
baz=298
MIB AMb AMB 23 15 41.9
comp=Z,28nm,0.7s,mb5.3,baz=298
NAY Al-Naaiem 76.52 298 *eP* **P** **23 15 40.1 -1.8**
baz=298
NAY AMb AMB 23 15 42.5
comp=Z,13nm,1.0s,mb4.8,baz=298
GNI Garni 78.09 309 *eP* **P** **23 15 48.6 -1.9**
GNI pmax pmax
comp=Z,11nm,1.3s
BPAW Bear Paw Mtn. 78.28 26 *eP* **P** **23 15 52.4 +1.4**
comp=Z,27nm,1.4s,mb5.0
MCK McKinley 79.17 27 *eP* **P** **23 15 55.6 -0.4**
KIV Kislovodsk 79.46 313⇓ *eP* **P** **23 15 57.2 -0.7**
KIV *eS* S 23 25 49.9 -5.1
KIV pmax pmax
comp=Z,8.0nm,1.0s,mb4.6
KIV Kislovodsk 79.46 313 *eP* **P** **23 15 58.2 +0.2**
comp=Z,6.1nm,0.7s,mb4.6
SOC Sochi 81.63 313 *i* P **P** **23 16 04.9 -4.7**
OBN Obninsk 82.64 325⇓ *eP* **P** **23 16 14.4 -0.2**
OBN *eS* S 23 26 17.9 -10
OBN pmax pmax
comp=Z,5.0nm,0.9s,mb4.5
APA Apatity 82.82 337⇑ *iP* **P** **23 16 17.0 +1.7**
APA *i* 23 27 15.4
APA pmax pmax
comp=Z,36nm,1.2s,mb5.3
APA pmax pmax
comp=Z,27nm,0.7s,mb5.4
JOF Joensuu 84.34 333 *ep* **P** **23 16 23.4 +0.2**
comp=Z,2.0nm,0.4s,mb4.6
KEV Kevo 84.77 340 *ep* **P** **23 16 26.2 +1.0**
comp=Z,0.7nm,0.4s,mb4.1
KEV Kevo 84.77 340 *eP* **P** **23 16 26.2 +1.0**
KEV pmax pmax
comp=Z,1.0nm,0.4s,mb4.3
SPITS Spitsbergen Ar 85.10 349 P **P** **23 16 28.1 +1.3**
comp=Z,12nm,0.8s,mb5.1,baz=355,slow=9.2,SNR=10
SPB4 Spitsbergen Ar 85.11 349 *eP* **P** **23 16 26.8 0.0**
ARCES ARCESS Array B 85.33 340 P **P** **23 16 29.2 +1.2**
comp=Z,10nm,0.6s,mb5.1,baz=82,slow=5.6,SNR=49
ARE0 ARCESS Array S 85.33 340 *eP* **P** **23 16 28.7 +0.7**
KAF Kangasniemi 86.78 332 *ep* **P** **23 16 36.2 +0.9**
comp=Z,1.0nm,0.4s,mb4.4
KAF Kangasniemi 86.78 332 *eP* **P** **23 16 36.2 +0.9**
KAF pmax pmax
comp=Z,1.0nm,0.4s,mb4.4
AKASG Malin Array Be 87.71 321 P **P** **23 16 38.9 -1.2**
comp=Z,2.0nm,0.8s,mb4.4,baz=69,slow=4.6,SNR=5.1
MAW Mawson 88.97 200 P **P** **23 16 47.2 +1.6**
comp=Z,4.3nm,1.1s,mb4.7,baz=72,slow=5.8,SNR=5.1
SBA Scott Base 89.77 172 *eP* **P** **23 16 47.0 -2.2**
SBA pmax pmax
comp=Z,3.0nm,0.9s,mb4.6
SBA Scott Base 89.77 172 *eP* **P** **23 16 47.0 -2.2**
comp=Z,3.2nm,0.9s,mb4.7
SUW Suwalki 90.50 325 *eP* **P** **23 16 52.6 -0.5**
SUW pmax pmax
comp=Z,13nm,0.8s,mb5.3
SUW Suwalki 90.50 325 *eP* **P** **23 16 52.6 -0.4**
comp=Z,13nm,0.8s,mb5.3
DAG Danmarks Havn 91.81 353⇓ *iP* **P** **23 17 00.5 +1.7**
DAG pmax pmax
comp=Z,4.0nm,1.0s,mb4.7
DAG Danmarks Havn 91.81 353⇓ *iP* **P** **23 17 00.5 +1.7**
comp=Z,4.0nm,1.0s,mb4.7
HFS Hagfors 93.20 333 P **P** **23 17 05.0 -0.5**
comp=Z,1.8nm,0.6s,mb4.7,baz=99,slow=8.9,SNR=4.6
HFS Hagfors 93.20 333 P **P** **23 17 05.0 -0.5**
NB2 NORSAR Subarra 93.91 334 P **P** **23 17 08.4 -0.3**
comp=Z,0.8nm,0.6s,mb4.3,baz=64,slow=4.8
NOA NORSAR Array B 93.91 334 P **P** **23 17 09.0 +0.3**
comp=Z,0.9nm,0.7s,mb4.3,baz=64,slow=4.5,SNR=7.4
PSZ Piszkesteto 94.33 320 *eP* **P** **23 17 09.8 -1.1**
PSZ pmax pmax
comp=Z,3.0nm,0.9s,mb4.7
PSZ Piszkesteto 94.33 320 *eP* **P** **23 17 09.8 -1.1**
comp=Z,2.6nm,0.9s,mb4.7
CLL Collm 97.24 325 *eP* **P** **23 17 24.0 -0.1**
CLL pmax pmax
comp=Z,25nm,2.4s,mb5.2
CLL Collm 97.24 325 *eP* **P** **23 17 24.0 -0.1**
comp=Z,25nm,2.4s,mb5.2
SUMG Summit 97.76 356 *eP* **P** **23 17 25.7 -0.3**
comp=Z,3.4nm,1.0s,mb4.8
GERES GERESS Array B 97.84 322 LR LR 00 09 16.0
comp=Z,91nm,18.4s,MS4.3,baz=267,slow=40
REDW Red Top Meadow 105.95 40 *e*PKP PKiKP 23 22 13.3 -2.0
DUG Dugway 106.18 44 *e*PKP PKiKP 23 22 15.2 -0.6
HWUT Hardware Ranch 106.35 42 *e*PKP PKiKP 23 22 14.9 -1.2
TXAR Lajitas Array 118.02 50 PKP PKPdf 23 22 42.0 +3.4
comp=Z,0.5nm,0.7s,baz=239,slow=1.0,SNR=7.1
TXAR Lajitas Array 118.02 50 PKIKP PKPdf 23 22 42.0 +3.4
TXAR pmax pmax
comp=Z,1.0nm,0.7s
TORD Torodi Ar. Bea 121.18 291 PKP PKPdf 23 22 44.7 -0.3
comp=Z,0.6nm,0.6s,baz=60,slow=1.5,SNR=5.4
BRYW Bryant College 126.33 17 *e*PKPdf PKPdf 23 22 53.9 -0.3
JTS JuntasAbangare 142.84 59 *e*PKIKP PKPdf 23 23 22.4 -3.3
PLCA Paso Flores 145.06 157 PKPbc PKPbc 23 23 31.0 +2.7
comp=Z,6.4nm,1.0s,baz=173,slow=5.1,SNR=7.0
PLCA Paso Flores 145.06 157 PKIKP PKPdf 23 23 31.0 +2.2
PLCA pmax pmax
comp=Z,6.0nm,1.0s
NNA Nana 156.54 99 *e*PKPdf PKPdf 23 23 45.2 -1.9
LVC Limon Verde 159.87 133 *e*PKPdf PKPdf 23 23 49.6 -1.3
LPAZ La Paz 163.80 117 PKP PKPdf 23 23 58.8 +3.7
comp=Z,1.4nm,0.9s,baz=338,slow=6.2,SNR=4.9
LPAZ La Paz 163.80 117 *e*PKPdf PKPdf 23 23 55.6 +0.5
SIV San Ignacio 169.77 132 PKP PKPdf 23 24 02.3 +2.7
comp=Z,1.6nm,1.0s,baz=166,slow=9.0,SNR=3.4

*ISCJB **05** 23:05:42.0±2.6, 1362S±004×7701W±006, h9km±16km, mb4.8/47, MS4.4/13, Error ellipse: s-maj=10.9km s-min=4.9km az=148.3*
*IDC **05** 23:05:41.9±0.5, 1355S×7697W, h0km, mb4.6/16, mb1 4.7/19, mb1mx4.6/22, mbtmp4.6/19, ML3.1/2, MS4.3/16, Ms1 4.3/16, ms1mx4.2/21, Error ellipse: s-maj=20.2km s-min=9.4km az=79.0*
*MOS **05** 23:05:46.3±0.9, 1354S×7684W, h39km, mb5.0/8, Error ellipse: s-maj=17.6km s-min=8.4km az=125.7*
*NEIC **05** 23:05:47.4±0.2, 1365S×7698W, h35km, mb4.9/27, ML4.6(LIM), Error ellipse: s-maj=8.0km s-min=3.5km az=59.0*
NEIC Felt [II] at San Vicente de Canete.
*BJI **05** 23:05:47.4, 1360S×7700W, h20km, mB5.3, Ms5.4, Msz5.2*
ISC 05 23:05:47.5±2.0, 1363S±004×7693W±006, h33km±14km, n371, ₙ0°57/348, mb4.8/47, MS4.4/13, 112C-121D, Near coast of Peru

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
NNA	**Nana**	**1.64**	**3**	Pg		**Pn**	**23 06 10.4**	**-3.6**
	130nm,0.3s,baz=188,slow=15,SNR=160							
NNA				Lg			23 06 31.4	
	1μm,0.3s,baz=232,slow=10,SNR=37							
NNA	**Nana**	**1.64**	**3**	*e*Pn		**Pn**	**23 06 10.9**	**-3.1**
ARE	**Arequipa**	**5.96**	**119**	*e*P		**Pn**	**23 07 14.0**	**+0.5**
ATAH	**Atahualpa**	**6.75**	**348**	Pn		**Pn**	**23 07 22.9**	**-1.4**
	9.2nm,0.3s,baz=156,slow=4.7,SNR=27							
ATAH				Sn		**Sn**	**23 08 35.7**	**-4.3**
	4.8nm,0.3s,baz=332,slow=14,SNR=1.6							
ATAH				LR		LR	23 09 35.7	
	comp=Z,2μm,20.8s,baz=89,slow=36							
LPAZ	**La Paz**	**8.91**	**108**	Pn		**Pn**	**23 07 53.1**	**-0.8**
	0.1nm,0.3s,baz=325,slow=8.3,SNR=2.9							
LVC	**Limon Verde**	**11.74**	**141**	Pn		**Pn**	**23 08 32.3**	**-0.4**
	1.1nm,0.3s,baz=296,slow=12,SNR=17							
LVC				Sn		**Sn**	**23 10 40.8**	**-1.9**
	1.2nm,0.3s,baz=44,slow=23,SNR=11							
LVC				LR		LR	23 13 15.4	
	comp=Z,2μm,18.0s,baz=306,slow=38							
LVC	**Limon Verde**	**11.74**	**141**	*e*Pn		**Pn**	**23 08 32.3**	**-0.4**
OTAV	**Otavalo**	**13.86**	**354**	*e*Pn		**Pn**	**23 09 02.8**	**+1.0**
SIV	**San Ignacio**	**15.52**	**101**	Pn		**Pn**	**23 09 26.5**	**+2.6**
	baz=360,slow=2.6							
LCO	**Las Campanas**	**16.36**	**160**	*e*Pn		**Pn**	**23 09 35.0**	**+0.3**
	53nm,1.0s							
ROSC	**El Rosal**	**18.55**	**8**	P		**Pn**	**23 10 03.9**	**+1.9**
	1.5nm,0.3s,baz=269,slow=20,SNR=7.5							
ROSC				LR		LR	23 17 56.2	
	comp=Z,1μm,20.1s,baz=195,slow=40							
ROSC	**El Rosal**	**18.55**	**8**	*e*P		**Pn**	**23 10 03.9**	**+1.9**
CFAA	**Coronel Fontan**	**19.59**	**157**	P		**Pn**	**23 10 13.1**	**-1.2**
	0.1nm,0.3s,baz=333,slow=12,SNR=37							
CFAA				LR		LR	23 16 15.8	
	comp=Z,87nm,21.5s,baz=328,slow=32							
FCH	**Farellones**	**20.52**	**164**	*i* P		**P**	**23 10 24.1**	**+1.1**
LMEL	**Las Melosas**	**21.03**	**164**	⇓*i*P		**P**	**23 10 30.3**	**+1.7**
CPUP	**Villa Florida**	**22.30**	**127**	P		**P**	**23 10 41.9**	**-0.2**
	9.3nm,0.9s,mb4.2,baz=291,slow=11,SNR=7.9							
CPUP				LR		LR	23 21 19.0	
	comp=Z,2μm,19.3s,MS4.5,baz=284,slow=42							
CPUP	**Villa Florida**	**22.30**	**127**	*eP*		**P**	**23 10 42.3**	**+0.1**
CPUP				pmax		pmax		
	comp=Z,46nm,1.0s							
CPUP	**Villa Florida**	**22.30**	**127**	*eP*		**P**	**23 10 42.2**	**+0.1**
	comp=Z,46nm,1.0s,mb4.9							
BCIP	**Isla Barro Col**	**22.83**	**353**	*eP*		**P**	**23 10 49.4**	**+1.5**
	comp=Z,38nm,1.0s,mb4.8							
SDV	**Santo Domingo**	**23.23**	**16**	P		**P**	**23 10 50.8**	**-1.2**
	comp=Z,8.5nm,0.4s,mb4.5,baz=202,slow=14,SNR=8.7							
SDV	**Santo Domingo**	**23.23**	**16**	*eP*		**P**	**23 10 52.4**	**+0.3**
	comp=Z,36nm,1.0s,mb4.8							
JTS	**JuntasAbangare**	**25.07**	**341**	P		**P**	**23 11 06.3**	**-2.7**
	comp=Z,1.7nm,0.2s,mb4.2,baz=322,slow=19,SNR=2.2							
JTS				LR		LR	23 20 35.3	
	comp=Z,985nm,18.4s,MS4.3,baz=172,slow=36							
JTS	**JuntasAbangare**	**25.07**	**341**	*eP*		**P**	**23 11 09.0**	**0.0**
PLCA	**Paso Flores**	**27.57**	**169**	P		**P**	**23 11 31.3**	**-0.1**
	comp=Z,13nm,0.9s,mb4.6,baz=346,slow=10.0,SNR=20							
PLCA				LR		LR	23 20 47.9	
	comp=Z,244nm,20.6s,MS3.8,baz=346,slow=33							
PLCA	**Paso Flores**	**27.57**	**169**	*eP*		**P**	**23 11 31.2**	**-0.3**
PLCA				pmax		pmax		
	comp=Z,38nm,1.4s							
PLCA	**Paso Flores**	**27.57**	**169**	*eP*		**P**	**23 11 31.2**	**-0.2**
	comp=Z,38nm,1.4s,mb4.8							
TRQA	**Tornquist**	**27.72**	**154**	*eP*		**P**	**23 11 32.0**	**-0.8**
BDFB	**Brasilia**	**28.04**	**98**	P		**P**	**23 11 35.2**	**-0.7**

comp=Z,3.7nm,1.0s,mb4.0,baz=267,slow=17,SNR=1.9
USHA Ushuaia 41.64 173 P **P 23 13 32.9 +0.4**
comp=Z,22nm,0.8s,mb4.8,baz=300,slow=4.9,SNR=14
LRAL Lakeview Retre 47.39 348 *eP* **P 23 14 16.9 -1.8**
JCT Junction City 49.07 334 *eP* **P 23 14 32.1 +0.4**
TXAR Lajitas Array 49.91 329 P **P 23 14 37.5 -0.6**
comp=Z,3.9nm,0.9s,mb4.5,baz=150,slow=8.7,SNR=23
TXAR LR LR 23 34 22.2
comp=Z,586nm,18.1s,MS4.6,baz=270,slow=34
TXAR Lajitas Array 49.91 329 P **P 23 14 37.5 -0.6**
TXAR LR LR 23 34 22.2
MIAR Mount Ida 50.45 342 *eP* **P 23 14 41.3 -0.8**
SIUC Southern Illin 52.36 348 *eP* **P 23 14 54.6 -1.7**
GDL2 Guadalupe Moun 52.60 331 *eP* **P 23 14 56.6 -1.6**
ACSO Alum Creek Sta 53.88 354 *eP* **P 23 15 06.0 -1.5**
SSPA Standing Stone 54.00 359 *eP* **P 23 15 10.4 +2.1**
319A Douglas 54.47 326 ⇑P **P 23 15 11.7 -0.2**
baz=55
318A Bisbee 54.91 325 ⇓P **P 23 15 14.7 -0.4**
baz=55,SNR=11
219A White Tail Can 54.94 326 ⇑P **P 23 15 15.0 -0.3**
baz=55,SNR=8.9
218A Dragoon 55.34 326 ⇑P **P 23 15 18.2 -0.1**
baz=56,SNR=7.8
BRYW Bryant College 55.49 5 *eP* **P 23 15 19.0 -0.1**
119A Ashpeak Ranch, 55.55 327 ⇑P **P 23 15 20.3 +0.6**
baz=56
RKT Rikitea 55.58 251 *e*LR LR 23 31 28.2
comp=Z,566nm,26.5s
217A Green Valley 55.62 325 ⇑P **P 23 15 21.0 +0.7**
baz=56
LAZ Ladron 55.74 330 *eP* **P 23 15 21.4 +0.3**
118A Homack Ranch, 55.81 326 ⇑P **P 23 15 21.5 -0.1**
baz=56,SNR=9.7
ANMO Albuquerque 55.85 331 *d* iP **P 23 15 21.7 -0.2**
ANMO Albuquerque 55.85 331 *eP* **P 23 15 21.5 -0.4**
comp=Z,7.2nm,0.9s,mb4.7
WES Weston 55.98 5 *eP* **P 23 15 22.8 +0.2**
TUC Tucson 56.01 325 *eP* **P 23 15 22.8 -0.2**
HRV Adam Dziewonsk 56.08 5 *eP* **P 23 15 23.3 0.0**
HRV pmax pmax
comp=Z,11nm,0.9s,mb4.9
HRV Adam Dziewonsk 56.08 5 *eP* **P 23 15 23.3 0.0**
comp=Z,11nm,0.9s,mb4.9
216A Three Points, 56.15 325 ⇑P **P 23 15 24.2 +0.1**
baz=56
117A Oracle 56.18 326 ⇓P **P 23 15 23.9 -0.4**
baz=56,SNR=12
Y19A Nutrioso 56.45 328 ⇓P **P 23 15 26.8 +0.6**
baz=57
116A Eloy 56.71 325 ⇑P **P 23 15 27.8 -0.3**
baz=57
ACCN Adirondack Com 56.81 3 *eP* **P 23 15 28.6 0.0**
214A Organ Pipe Nat 56.89 324 ⇓P **P 23 15 29.7 +0.4**
baz=57
Y17A Roosevelt 57.09 326 ⇑P **P 23 15 31.0 +0.3**
baz=57
Z16A Peralta Trail, 57.14 326 ⇑P **P 23 15 31.2 +0.1**
baz=57
HNH Hanover 57.22 4 *eP* **P 23 15 31.6 +0.2**
MDV Middlebury 57.45 3 *eP* **P 23 15 32.7 -0.3**
Y16A Circle Bar Ran 57.57 326 ⇓P **P 23 15 34.2 0.0**
baz=58
SDCO Great Sand Dun 57.72 333 *eP* **P 23 15 34.8 -0.2**
comp=Z,10.0nm,1.0s,mb4.8
X16A Lo Mia Camp, P 57.96 326 ⇑P **P 23 15 37.0 +0.2**
baz=58
Y15A Casa Rosa Ranc 58.09 325 ⇓P **P 23 15 37.6 -0.2**
baz=58
FRNY Flat Rock 58.27 3 *eP* **P 23 15 38.1 -0.6**
comp=Z,16nm,0.9s,mb5.0
X15A Humboldt 58.44 326 ⇑P **P 23 15 40.1 -0.1**
baz=59
Y14A Wickenburg 58.46 325 ⇓P **P 23 15 39.8 -0.5**
baz=59
W16A Flagstaff 58.52 327 ⇑P **P 23 15 41.0 +0.2**
baz=59
T19A Beclabito 58.60 330 ⇓P **P 23 15 41.2 0.0**
baz=59
WUAZ Wupatki 58.76 327 ⇓P **P 23 15 42.5 +0.1**
baz=59
X14A Yava 58.79 325 ⇑P **P 23 15 42.9 +0.3**
baz=59
Y13A Salome 58.83 324 ⇓P **P 23 15 42.6 -0.3**
baz=59
U17A Shonto 59.23 329 ⇑P **P 23 15 45.9 +0.3**
baz=59
T18A Mexican Hat 59.25 330 ⇓P **P 23 15 45.0 -0.8**
baz=60,SNR=8.7
S19A Harvey Farm, M 59.38 331 ⇓P **P 23 15 46.8 +0.1**
baz=60
X13A Yucca 59.40 325 ⇑P **P 23 15 46.9 0.0**
baz=60
W14A Seligman 59.45 326 ⇓P **P 23 15 47.6 +0.4**
baz=60
ISCO Idaho Springs 59.48 335 *eP* **P 23 15 46.9 -0.4**
ISCO pmax pmax
comp=Z,5.0nm,1.0s,mb4.5
ISCO Idaho Springs 59.48 335 *eP* **P 23 15 46.9 -0.5**
comp=Z,5.5nm,1.0s,mb4.5
BC3 Big Chuckw Mtn 59.65 323 ⇑P **P 23 15 48.5 -0.1**
baz=60
S18A Hurst Farm, Bl 59.75 330 ⇑P **P 23 15 49.4 +0.2**
baz=60
V14A Boquillas Ranc 59.77 326 ⇓P **P 23 15 49.9 +0.6**
baz=60
W13A Hualapai Mount 59.80 325 ⇓P **P 23 15 50.1 +0.5**
baz=60
IRM Iron Mountain 59.84 324 ⇑P **P 23 15 49.5 -0.3**
baz=60,SNR=8.5
ECSD EROS,Sioux Fal 59.85 344 *eP* **P 23 15 49.8 +0.1**
comp=Z,5.0nm,0.8s,mb4.6
V13A Grand Canyon W 60.41 326 ⇑P **P 23 15 54.2 +0.4**
baz=61
T15A Red Dirt Ranch 60.43 328 ⇓P **P 23 15 54.4 +0.5**
baz=61
S16A Weppner Ranch, 60.57 329 ⇓P **P 23 15 54.4 -0.4**
baz=61
GMRC Granite Mounta 60.57 324 ⇑P **P 23 15 55.3 +0.4**
baz=61
R17A Hanksville Air 60.67 330 ⇑P **P 23 15 55.2 -0.3**
baz=61
U13A Pakoon Wash 60.82 326 ⇑P **P 23 15 57.2 +0.7**
baz=61
T14A Hurricane 60.83 327 ⇓P **P 23 15 57.5 +0.9**
baz=61
Q18A Rafter H Ranch 60.93 331 ⇓P **P 23 15 56.7 -0.6**
baz=61,SNR=7.7
R16A Teasdale 60.95 329 ⇓P **P 23 15 57.9 +0.6**
baz=61
HEC Hector,Ludlow 60.99 323 ⇑P **P 23 15 58.6 +0.8**
baz=61
SRU San Rafael 61.12 331 *eP* **P 23 15 58.2 -0.4**
SRU pmax pmax
comp=Z,6.0nm,1.0s,mb4.7
SRU San Rafael 61.12 331 ⇑P **P 23 15 58.6 0.0**
baz=61
SRU San Rafael 61.12 331 *eP* **P 23 15 58.2 -0.3**
comp=Z,6.0nm,1.0s,mb4.7
U12A Valley of Fire 61.14 326 ⇓P **P 23 15 58.8 +0.1**
baz=61
T13A Saint George 61.23 327 ⇑P **P 23 15 59.7 +0.3**
baz=61
Q16A Castle Valley 61.28 330 ⇑P **P 23 16 00.3 +0.6**
baz=62
BFSC Mount Baldy St 61.37 322 ⇑P **P 23 16 00.2 -0.1**
baz=62
P17A Butcher Ranch, 61.51 331 ⇓P **P 23 16 01.2 0.0**
baz=62
ARUT Antelope Range 61.56 328 *eP* **P 23 16 02.2 +0.7**
S13A Holt Ranch, En 61.63 327 ⇓P **P 23 16 02.6 +0.6**
baz=62
O18A Roosevelt 61.80 332 ⇑P **P 23 16 03.0 -0.1**
baz=62
N19A John Jarvie Ra 61.92 333 ⇑P **P 23 16 03.3 -0.6**
baz=62,SNR=12
Q15A Fillmore 61.94 329 ⇓P **P 23 16 03.8 -0.3**
baz=62
EDW2 Edwards Air Fo 62.01 322 ⇓P **P 23 16 04.4 -0.2**
baz=62
O17A Robinson Place 62.08 331 ⇑P **P 23 16 05.0 0.0**
baz=62,SNR=8.6
T11A Corn Creek, Al 62.10 326 ⇑P **P 23 16 05.0 -0.2**
baz=62,SNR=6.2
N18A Larsen Ranch, 62.21 332 ⇓P **P 23 16 06.0 +0.1**
baz=62
Q14A Sevier Lake (B 62.38 329 ⇓P **P 23 16 07.7 +0.7**
baz=63
TPNV Topopah Spring 62.46 325 ⇑P **P 23 16 08.4 +0.8**
baz=63
FURC Furnace Creek, 62.46 324 ⇓P **P 23 16 08.0 +0.4**
baz=63
DAU Daniels Canyon 62.49 331 *eP* **P 23 16 08.3 +0.5**
MPMC Manual Prospec 62.53 324 ⇓P **P 23 16 07.9 -0.2**
baz=63
R12A Pony Springs, 62.58 327 ⇓P **P 23 16 08.5 +0.1**
baz=63,SNR=8.8
N17A Moffit Pass 62.72 332 ⇓P **P 23 16 09.5 +0.3**
baz=63
P14A Drum Mountains 62.74 329 ⇑P **P 23 16 09.9 +0.5**
baz=63
Q13A Wheeler Ranch, 62.74 328 ⇑P **P 23 16 09.7 +0.3**
baz=63
ISA Isabella 62.83 323 ⇓P **P 23 16 10.2 0.0**
baz=63
N16A Rees Ranch, Co 62.95 331 ⇑P **P 23 16 10.9 +0.1**
baz=63
O15A The Old Anders 62.97 330 ⇓P **P 23 16 11.0 0.0**
baz=63
DUG Dugway 63.08 330 *eP* **P 23 16 11.7 +0.1**
DUG pmax pmax
comp=Z,13nm,0.9s,mb5.1
DUG Dugway 63.08 330 ⇑P **P 23 16 11.6 0.0**
baz=63,SNR=12
DUG Dugway 63.08 330 *eP* **P 23 16 11.7 0.0**
comp=Z,13nm,0.9s,mb5.1
R11A Troy Canyon, C 63.11 327 ⇑P **P 23 16 12.1 +0.2**
baz=63,SNR=7.3
P13A Bates Ranch, G 63.11 328 ⇓P **P 23 16 12.1 +0.2**
baz=63,SNR=7.0
PKM Peak Mountain 63.12 321 ⇑P **P 23 16 11.8 -0.2**
baz=63
S10A Tonopah Range, 63.35 326 ⇑P **P 23 16 13.8 +0.3**
baz=64,SNR=10
R10A Warm Springs 63.45 326 ⇓P **P 23 16 15.1 +1.0**
baz=64,SNR=8.3
Q11A Duckwater 63.51 327 ⇑P **P 23 16 14.8 +0.2**
baz=64,SNR=8.6
S09A Goldfield 63.56 325 ⇓P **P 23 16 14.7 -0.2**
baz=64,SNR=5.6
HWUT Hardware Ranch 63.58 332 *eP* **P 23 16 14.3 -0.6**
comp=Z,15nm,1.1s,mb4.9
P12A McGill 63.58 328 ⇑P **P 23 16 15.3 +0.3**
baz=64,SNR=12
BW06 Boulder Array 63.61 334 ⇓P **P 23 16 14.0 -1.1**
baz=64,SNR=6.9
PDAR Pinedale Array 63.61 334 P **P 23 16 13.9 -1.1**
comp=Z,5.6nm,1.1s,mb4.5,baz=134,slow=8.5,SNR=15
PDAR LR LR 23 45 29.6
comp=Z,265nm,18.6s,MS4.5,baz=244,slow=38
N14A Grayback Hills 63.76 330 ⇑P **P 23 16 16.7 +0.5**
baz=64
TPH Tonopah 63.80 325 *eP* **P 23 16 16.6 +0.1**
TPH pmax pmax
comp=Z,9.0nm,0.9s,mb4.8
TPH Tonopah 63.80 325 *eP* **P 23 16 16.6 +0.1**
comp=Z,9.0nm,0.9s,mb4.8
R09A Tonopah 63.84 326 ⇓P **P 23 16 16.7 -0.1**
baz=64
HELL Mitchell Peak 63.85 323 ⇓P **P 23 16 16.8 -0.1**
baz=64
AGMN Agassiz Refuge 63.91 346 *eP* **P 23 16 16.0 -1.0**
comp=Z,12nm,0.9s,mb4.9
MTUM Tungsten Hills 64.05 324 *eP* **P 23 16 18.4 +0.2**
PKD Parkfield 64.26 322 ⇓P **P 23 16 20.0 +0.5**
baz=64
L15A Malad City 64.27 331 ⇑P **P 23 16 18.8 -0.7**
baz=64
Q09A Carvers 64.32 326 ⇓P **P 23 16 19.5 -0.4**
baz=64
M14A Shep Mountain 64.34 330 ⇑P **P 23 16 19.3 -0.6**
baz=64,SNR=12
O11A Cowboy Ranch, 64.46 328 ⇑P **P 23 16 20.9 +0.2**
baz=65
KCC Kaiser Creek 64.47 323 ⇓P **P 23 16 20.7 -0.2**
baz=65
K16A Soda Springs 64.56 332 ⇑P **P 23 16 22.0 +0.7**
baz=65
NVAR Mina Array Bea 64.66 325 P **P 23 16 22.1 0.0**
comp=Z,6.4nm,0.9s,mb4.7,baz=147,slow=6.0,SNR=11
L14A Matta 64.70 331 ⇓P **P 23 16 21.7 -0.6**
baz=65,SNR=6.3
Q08A Gabbs 64.75 326 ⇑P **P 23 16 22.5 -0.2**
baz=65
RRI2 Red Ridge 64.84 333 *eP* **P 23 16 23.2 0.0**
comp=Z,13nm,0.8s,mb5.0
K15A Arbon 64.87 332 ⇑P **P 23 16 23.2 -0.2**
baz=65
J16A Bone 64.92 333 ⇑P **P 23 16 23.6 0.0**
baz=65
I17A Pilgram Creek 64.98 334 ⇓P **P 23 16 24.4 +0.4**
baz=65
O10A Cortez Mining, 65.01 327 ⇓P **P 23 16 24.8 +0.4**
baz=65
M12A Wells 65.04 329 ⇑P **P 23 16 24.5 0.0**
baz=65
K14A Jones Ranch, D 65.06 331 ⇓P **P 23 16 24.4 -0.2**
baz=65
L13A Double Diamond 65.07 330 ⇑P **P 23 16 24.9 +0.1**
baz=65
IMW Indian Meadow 65.11 334 *eP* **P 23 16 24.7 -0.2**
comp=Z,10nm,1.2s,mb4.7
O09A Fish Creek Ran 65.29 327 ⇓P **P 23 16 26.2 0.0**
baz=66,SNR=5.0
I16A Newdale 65.34 333 ⇓P **P 23 16 27.0 +0.6**
baz=66
R06C Coleville 65.37 324 ⇓P **P 23 16 27.0 +0.3**
baz=66
J15A Blackfoot 65.38 332 ⇑P **P 23 16 26.7 0.0**
baz=66
RLMT Red Lodge 65.41 335 ⇓P **P 23 16 26.7 -0.2**
baz=66
RLMT Red Lodge 65.41 335 *eP* **P 23 16 26.3 -0.5**
comp=Z,11nm,1.2s,mb4.8
PACP Pacheco Peak 65.41 322 ⇑P **P 23 16 26.8 -0.2**
baz=66
M11A Holland Ranch, 65.49 329 ⇑P **P 23 16 27.7 +0.3**
baz=66
CMB Columbia Colle 65.57 323 ⇑P **P 23 16 27.9 -0.2**
baz=66
L12A House Creek Ra 65.64 330 ⇓P **P 23 16 27.7 -0.6**
baz=66
ULM Lac du Bonnet 65.75 347 P **P 23 16 26.8 -2.1**
comp=Z,9.1nm,0.8s,mb4.9,baz=170,slow=5.0,SNR=6.2
ULM LR LR 23 44 30.2
comp=Z,152nm,20.2s,MS4.2,baz=23,slow=36
ULM Lac du Bonnet 65.75 347 *eP* **P 23 16 27.4 -1.5**
comp=Z,12nm,0.9s,mb4.9
J14A Carey 65.82 332 ⇑P **P 23 16 29.6 +0.1**
baz=66,SNR=8.8
O08A Rochester Mine 65.89 326 ⇓P **P 23 16 30.0 0.0**
baz=66,SNR=10.0
H16A Russell Place, 65.89 334 ⇑P **P 23 16 30.0 0.0**
baz=66,SNR=7.7
K12A Draper Farm, C 65.95 330 ⇓P **P 23 16 30.1 -0.2**
baz=66,SNR=12
L11A Cat Creek Ranc 66.02 329 ⇓P **P 23 16 30.3 -0.5**
baz=66,SNR=7.9
WCN Washoe City 66.08 325 ⇓P **P 23 16 30.8 -0.5**
baz=66
GCMT Greycliff 66.12 336 *eP* **P 23 16 31.5 +0.1**
J13A Cove Ranch, Pi 66.18 331 ⇑P **P 23 16 31.8 -0.1**
baz=66,SNR=6.0
O07A Toulon 66.19 326 ⇑P **P 23 16 31.7 -0.3**
baz=66,SNR=9.3
N08A GE Springer Mi 66.23 327 ⇓P **P 23 16 31.9 -0.3**
baz=66
F18A Big Timber 66.23 336 ⇑P **P 23 16 31.8 -0.3**
baz=66,SNR=12
I14A Mackay 66.26 332 ⇓P **P 23 16 32.3 0.0**
baz=66,SNR=9.6
LAVA Lava Cap Winer 66.26 324 ⇓P **P 23 16 32.4 0.0**
baz=66
L10A Juniper Basin 66.31 329 ⇑P **P 23 16 32.6 0.0**
baz=66,SNR=9.8
M09A Marrel Ranch, 66.33 328 ⇓P **P 23 16 32.7 -0.1**
baz=66
HLID Hailey 66.42 331 ⇑P **P 23 16 32.9 -0.4**
baz=67,SNR=6.9
J12A Stokes Ranch, 66.51 331 ⇓P **P 23 16 34.2 +0.3**
baz=67
G16A Moss Hill, Enn 66.55 334 ⇓P **P 23 16 34.3 +0.2**
baz=67
I13A Wildhorse Cree 66.55 332 ⇓P **P 23 16 34.1 -0.1**
baz=67,SNR=12
P05C Yuba Gap, Truc 66.56 324 ⇓P **P 23 16 34.5 +0.1**
baz=67
K11A Parker Ranch, 66.60 330 ⇓P **P 23 16 34.7 +0.1**
baz=67
N07B Gerlach 66.67 326 ⇑P **P 23 16 35.0 0.0**
baz=67
MCMT McKenzie Canyo 66.69 333 *eP* **P 23 16 35.4 +0.4**
H14A Leadore 66.75 333 ⇑P **P 23 16 35.3 -0.1**
baz=67,SNR=6.3
G15A Dillon 66.80 333 ⇓P **P 23 16 35.6 -0.1**
baz=67,SNR=5.8
BEKR Beckwourth 66.80 325 ⇓P **P 23 16 36.0 +0.2**
baz=67,SNR=5.1
E18A Harlowton 66.85 336 ⇑P **P 23 16 36.0 0.0**
baz=67
L09A Wilkinson Ranc 66.87 328 ⇓P **P 23 16 36.3 0.0**
baz=67,SNR=11
I12A Atlanta 66.94 331 ⇓P **P 23 16 36.9 +0.3**
baz=67
MFID Camas Ranch 66.98 330 ⇑P **P 23 16 36.7 -0.2**
baz=67,SNR=8.5
DLMT Dillon 67.00 333 *eP* **P 23 16 36.8 -0.2**
comp=Z,10nm,1.0s,mb4.8
K10A MacKenzie Ranc 67.02 329 ⇑P **P 23 16 36.7 -0.5**
baz=67,SNR=6.0
OHCM Honcut 67.08 324 *eP* **P 23 16 37.5 -0.2**
H13A Challis 67.12 332 ⇑P **P 23 16 37.6 -0.2**
baz=67,SNR=5.7
N06A Buffalo Meadow 67.12 326 ⇑P **P 23 16 37.8 -0.1**
baz=67,SNR=9.4
E17A Martinsdale 67.14 335 ⇑P **P 23 16 38.1 +0.2**
baz=67
M07A Soldier Meadow 67.21 327 ⇓P **P 23 16 38.7 +0.2**
baz=67
ORV Oroville 67.24 324 ⇓P **P 23 16 38.6 0.0**
baz=67,SNR=9.6
G14A Jackson 67.28 333 ⇓P **P 23 16 38.9 +0.1**
baz=68
F15A Butte 67.33 334 ⇑P **P 23 16 39.1 0.0**
baz=68
L08A Fields 67.35 328 ⇑P **P 23 16 38.7 -0.6**
baz=68,SNR=7.5
H12A Diamond D Ranc 67.38 332 ⇓P **P 23 16 39.0 -0.4**
baz=68,SNR=6.5
K09A Rome 67.40 329 ⇑P **P 23 16 39.3 -0.3**
baz=68,SNR=13
I11A Placerville 67.42 330 ⇓P **P 23 16 39.6 -0.1**
baz=68
G13A Cobalt 67.51 332 ⇓P **P 23 16 40.4 +0.1**
baz=68
O04C Chester 67.52 325 ⇑P **P 23 16 40.2 -0.2**
baz=68
E16A East Helena 67.54 335 ⇑P **P 23 16 40.0 -0.4**
baz=68
E15A Deer Lodge 67.86 334 ⇑P **P 23 16 41.9 -0.5**
baz=68
J09A Fry Pan Ranch, 67.88 329 ⇑P **P 23 16 42.2 -0.4**
baz=68,SNR=7.5
D16A Dana Ranch, Ca 67.88 335 ⇓P **P 23 16 42.4 -0.2**
baz=68
EGMT Eagleton 67.98 337 ⇑P **P 23 16 43.3 +0.1**
baz=68
EGMT Eagleton 67.98 337 *eP* **P 23 16 43.0 -0.2**
comp=Z,13nm,1.0s,mb4.9
GASB Alder Springs 68.00 323 ⇓P **P 23 16 43.6 +0.1**
baz=68
C17A Wharram Farm, 68.06 336 ⇓P **P 23 16 43.2 -0.4**
baz=68,SNR=8.9
F13A Darby 68.09 333 ⇑P **P 23 16 43.4 -0.5**
baz=68,SNR=8.0
MOD Modoc 68.18 326 ⇓P **P 23 16 44.3 -0.3**
baz=68
E14A Clinton 68.21 334 ⇓P **P 23 16 44.8 +0.1**
baz=68,SNR=7.0
J08A Circle Bar Ran 68.25 329 ⇑P **P 23 16 44.8 -0.2**
baz=68
M05C Lookout 68.26 326 ⇓P **P 23 16 45.3 +0.2**
baz=68,SNR=6.5
F12A Elk City 68.48 332 ⇑P **P 23 16 46.1 -0.3**
baz=69
E13A Victor 68.53 333 ⇓P **P 23 16 46.9 +0.2**
baz=69
L05A Lakeview 68.56 326 ⇑P **P 23 16 47.3 +0.3**
baz=69
C16A Fuhringer Ranc 68.58 336 ⇑P **P 23 16 46.9 0.0**
baz=69,SNR=5.6
G11A Walters Elk Ra 68.68 331 ⇓P **P 23 16 47.1 -0.4**
baz=69,SNR=7.4
MSO Missoula 68.73 334 *eP* **P 23 16 47.9 0.0**
comp=Z,8.5nm,1.1s,mb4.6
SCHQ Schefferville 68.73 6 P **P 23 16 46.7 -1.0**
comp=Z,10.0nm,0.9s,mb4.8,baz=226,slow=6.8,SNR=4.6
SCHQ LR LR 23 46 11.9
comp=Z,223nm,18.5s,MS4.4,baz=83,slow=35
SCHQ Schefferville 68.73 6 P **P 23 16 46.7 -1.0**
SCHQ LR LR 23 46 11.9
D14A Greenough 68.74 334 ⇑P **P 23 16 47.3 -0.6**
baz=69
M03C McCloud 68.74 325 ⇓P **P 23 16 47.6 -0.5**
baz=69
K06A Valley Falls 68.77 327 ⇑P **P 23 16 48.6 +0.4**
baz=69,SNR=13
TBI Tubuai 68.86 250 *e*S S 23 25 46.0 -5.6
comp=Z,215nm,30.0s
TBI Tubuai 68.86 250 *e*LR LR 23 37 38.3
comp=Z,553nm,26.8s
C15A Salmond Ranch, 68.91 335 ⇓P **P 23 16 49.7 +0.7**
baz=69,SNR=9.1
M04C Macdoel 68.93 326 ⇓P **P 23 16 48.9 -0.3**
baz=69
F11A Grangeville 68.99 332 ⇓P **P 23 16 49.2 -0.3**
baz=69,SNR=9.4
G10A Bishop Farm, J 69.00 331 ⇓P **P 23 16 49.5 -0.1**
baz=69,SNR=6.0
J06A Christmas Vall 69.04 328 ⇑P **P 23 16 49.8 -0.1**
baz=69,SNR=24
N02C Big Bar 69.11 324 ⇓P **P 23 16 50.3 -0.1**
baz=69,SNR=6.4
E12A Beaver Dam Sad 69.13 332 ⇑P **P 23 16 50.3 0.0**
baz=69
D13A Huson 69.16 334 ⇑P **P 23 16 50.3 -0.2**
baz=69
H08A Prairie City 69.19 329 ⇓P **P 23 16 51.1 +0.3**
baz=69,SNR=17
I07A Izee 69.29 329 ⇓P **P 23 16 51.4 -0.1**
baz=70,SNR=13
G09A Cove 69.31 330 ⇑P **P 23 16 51.4 -0.1**
baz=70,SNR=10
B15A Bradley Ranch, 69.32 335 ⇑P **P 23 16 51.6 +0.1**
baz=70
E11A Bogner Ranch, 69.37 332 ⇓P **P 23 16 51.7 -0.2**
baz=70
YBH Yreka Blue Hor 69.38 325 ⇓P **P 23 16 51.4 -0.6**
baz=70
F10A Beach Ranch, E 69.56 331 ⇓P **P 23 16 53.1 0.0**
baz=70,SNR=11
J05A Fort Rock 69.63 327 ⇓P **P 23 16 53.8 +0.2**
baz=70,SNR=6.1
B14A Marquette Ranc 69.65 335 ⇑P **P 23 16 53.8 +0.3**
baz=70
C13A Hot Springs 69.66 334 ⇑P **P 23 16 53.6 0.0**
baz=70,SNR=8.5
F09A S2 Ranch, Elgi 69.68 331 ⇓P **P 23 16 54.1 +0.3**
baz=70
H07A Lands Inn, Kim 69.68 329 ⇑P **P 23 16 54.3 +0.4**
baz=70
PPT Papeete 69.70 256 *e*LR LR 23 37 55.1
comp=Z,364nm,27.0s,baz=104
PPT Papeete 69.70 256 LR LR 23 38 35.9
comp=Z,183nm,19.4s,MS4.3,baz=20,slow=28
E10A Myers Farm, Un 69.88 332 ⇑P **P 23 16 54.8 -0.2**
baz=70
G08A Pilot Rock 69.89 330 ⇑P **P 23 16 54.8 -0.3**
baz=70,SNR=7.6
A15A Johnson Ranch, 69.92 336 ⇓P **P 23 16 54.6 -0.5**
baz=70
VNA3 Neumayer Olymp 69.93 161 *e*Pdiff **P 23 16 55.3 +0.3**
VNA3 *e* 23 16 58.0
VNA3 *e* pP 23 17 06.7 +1.5
VNA3 *e* 23 17 18.0
D11A Klaveano Farm, 69.95 332 ⇓P **P 23 16 55.1 -0.3**
baz=70
LNOR Lincton Mounta 69.98 331 *eP* **P 23 16 55.7 +0.1**
J04A Umpqua Nationa 70.06 327 ⇓P **P 23 16 56.7 +0.5**
baz=70
C12B Naegeli Ranch, 70.07 333 ⇓P **P 23 16 56.4 +0.2**
baz=70
B13A Whitefish 70.15 334 ⇑P **P 23 16 56.2 -0.5**

baz=70
H06A Lindquist Farm 70.17 329 ⇓P P 23 16 57.0 +0.2
baz=70,SNR=12
A14A Double T Ranch 70.19 335 ⇑P P 23 16 56.7 -0.2
baz=70
VNA1 Neumayer--Stat 70.20 161 ePdiff P 23 16 57.6 +0.9
VNA1 e 23 16 59.6
VNA1 e 23 17 09.8
G07A Ruggs Ranch, H 70.22 329 ⇓P P 23 16 56.9 -0.2
baz=70
E09A Wood Farm, Sta 70.39 331 ⇑P P 23 16 57.9 -0.2
baz=71
WALA Waterton Lakes 70.46 335 eP P 23 16 58.2 -0.3
comp=Z,8.6nm,1.1s,mb4.6
K02A Glendale 70.50 325 ⇓P P 23 16 59.0 +0.2
baz=71
C11A Tepee Creek (N 70.51 333 ⇓P P 23 16 58.8 0.0
baz=71,SNR=7.7
VNA2 Neumayer--Watz 70.55 161 ePdiff P 23 16 59.1 +0.3
baz=298,slow=6.8
VNA2 e 23 17 01.3
VNA2 e pP 23 17 09.6 +0.5
VNA2 e 23 17 20.8
I04A Tendick Farm, 70.60 327 ⇓P P 23 16 59.3 -0.2
baz=71
D09A Jones Farm, Ri 70.86 331 ⇓P P 23 17 00.9 -0.1
baz=71
J02A Umpqua 70.94 326 ⇑P P 23 17 02.4 +0.8
baz=71
B11A Sandpoint 71.02 333 ⇑P P 23 17 02.2 +0.4
baz=71
G05A Wamic 71.03 328 ⇓P P 23 17 02.6 +0.5
baz=71
A12A Yaak River Ran 71.09 334 ⇓P P 23 17 02.7 +0.4
baz=71
I03A Eugene 71.19 327 ⇑P P 23 17 03.0 0.0
baz=71
NEW Newport 71.22 333 eP P 23 17 03.0 -0.1
NEW pmax pmax
comp=Z,14nm,1.0s
NEW Newport 71.22 333 eP P 23 17 03.0 -0.1
comp=Z,14nm,1.0s,mb4.8
E07A Sunnyside 71.23 330 ⇓P P 23 17 03.9 +0.6
baz=71
OD2 Odessa Site #2 71.29 331 eP P 23 17 03.9 +0.3
A11A Hall Mountain, 71.41 334 ⇓P P 23 17 04.6 +0.4
baz=72,SNR=6.2
H03A Soap Creek Ran 71.67 327 ⇓P P 23 17 06.3 +0.3
baz=72
C08A Higginbotham F 71.73 332 ⇓P P 23 17 07.0 +0.8
baz=72
D07A Quincy 71.74 331 ⇑P P 23 17 06.8 +0.5
baz=72
E06A Yakima 71.77 330 ⇑P P 23 17 06.9 +0.5
baz=72
B09A Rice 71.79 332 ⇑P P 23 17 07.0 +0.4
baz=72
F04A Amboy 72.06 328 ⇓P P 23 17 08.8 +0.5
baz=72
C07A Waterville 72.14 331 ⇓P P 23 17 09.6 +0.9
baz=72
SNAA Sanae 72.15 161 ePdiff P 23 17 08.2 -0.3
SNAA e 23 17 10.7
SNAA e 23 17 20.3
SNAA e 23 17 28.3
SNAA Sanae 72.15 161 eP P 23 17 08.1 -0.4
SNAA Sanae 72.15 161 eP P 23 17 08.6 +0.1
comp=Z,18nm,0.9s,mb5.0
D06A Ce Elum 72.16 330 ⇓P P 23 17 09.5 +0.7
baz=72
E05A Randle 72.17 329 ⇑P P 23 17 09.3 +0.4
baz=72
ETW Entiat 72.21 331 eP P 23 17 09.4 +0.3
B08A Colville Reser 72.28 332 ⇑P P 23 17 09.6 0.0
baz=72
A09A Danville 72.39 333 ⇓P P 23 17 10.1 -0.1
baz=73
A08A Turner Farm, O 72.69 332 ⇑P P 23 17 12.1 +0.2
baz=73
D05A Enumclaw 72.71 330 ⇑P P 23 17 11.8 -0.3
baz=73
B07A Winthrop 72.72 332 ⇑P P 23 17 12.4 +0.3
baz=73
A07A Ashnola River, 73.26 332 ⇓P P 23 17 15.6 +0.3
baz=74,SNR=7.4
RPW Rockport 73.36 331 eP P 23 17 15.5 -0.5
JCW Jim Creek 73.38 330 eP P 23 17 15.6 -0.5
B05A Bryant 73.51 330 ⇑P P 23 17 16.8 0.0
baz=74
EDM Edmonton 73.54 338 eP P 23 17 16.2 -0.7
C04A Brinnon 73.56 330 ⇑P P 23 17 17.6 +0.4
baz=74
NLWA Neilton Lookou 73.79 329 ⇓P P 23 17 19.0 +0.5
baz=74
NLWA Neilton Lookou 73.79 329 eP P 23 17 19.1 +0.6
comp=Z,21nm,1.1s,mb5.0
A05A Maple Falls 74.02 331 ⇓P P 23 17 20.0 +0.2
baz=74
LIC Lamto 74.04 79 eP P 23 17 20.3 -0.4
comp=Z,73nm,1.5s,mb5.4
TIC Toumodi 74.16 79 eP P 23 17 21.0 -0.4
comp=Z,7.6nm,0.2s,mb5.3
DBIC Dimbokro 74.33 79 P P 23 17 21.6 -0.8
comp=Z,5.1nm,0.8s,mb4.5,baz=181,slow=4.8,SNR=11
DBIC LR LR 23 48 06.4
comp=Z,304nm,18.4s,MS4.6,baz=228,slow=34
KIC Kosan Boka 74.35 79 eP P 23 17 22.2 -0.3
comp=Z,88nm,1.0s,mb5.7
QSPA South Pole Qui 76.51 180 P P 23 17 34.2 +0.4
comp=Z,4.7nm,0.8s,mb4.5,baz=142,slow=2.8,SNR=18
YKA Yellowknife Ar 81.38 343 P P 23 17 59.5 -1.0
comp=Z,5.6nm,0.9s,mb4.5,baz=145,slow=5.0,SNR=5.8
YKA LR LR 23 59 35.2
comp=Z,80nm,18.6s,MS4.1,baz=70,slow=40
YKA Yellowknife Ar 81.38 343 P P 23 17 59.5 -1.0
YKA LR LR 23 59 35.2
MORF Marmelete 81.63 48 eP P 23 18 04.3 +1.8
comp=Z,13nm,2.2s,mb4.5
PBDV Barranco-do-Ve 82.13 49 eP P 23 18 06.7 +1.6
comp=Z,16nm,1.2s,mb4.8
TOA0 Torodi Ar. Sit 82.31 75 eP P 23 18 06.6 +0.1
TORD Torodi Ar. Bea 82.31 75 P P 23 18 06.6 +0.1
comp=Z,21nm,0.9s,mb5.1,baz=265,slow=4.9,SNR=68
TORD LR LR 23 55 25.7
comp=Z,312nm,18.2s,MS4.7,baz=235,slow=36
PBEJ Beja 82.49 48 eP P 23 18 08.3 +1.4
comp=Z,12nm,1.7s,mb4.5
EVO Evora 82.59 48 eP P 23 18 08.6 +1.2
comp=Z,9.4nm,1.6s,mb4.6
PTOM Tomar 82.75 46 eP P 23 18 09.3 +1.1
comp=Z,14nm,1.1s,mb4.9
PCBR Castelo Branco 83.50 47 eP P 23 18 12.7 +0.6
comp=Z,9.2nm,1.5s,mb4.6
ESDC Sonseca Array 85.94 48 LR LR 23 57 09.4
comp=Z,90nm,18.5s,MS4.2,baz=235,slow=36
SYO Syowa Base 86.44 161⇑ eP P 23 18 25.0 -1.4
TAM Tamanrasset 88.42 66 eP P 23 18 37.4 +0.5
DAWY Dawson 90.73 337 eP P 23 18 46.6 0.0
MAW Mawson 93.91 166 P P 23 19 00.9 -0.6
comp=Z,1.7nm,0.4s,mb4.8,baz=239,slow=12,SNR=4.3
MAW LR LR 23 57 44.2
comp=Z,130nm,19.7s,MS4.4,baz=344,slow=33
COLA College 94.36 336 eP P 23 19 01.9 -1.5
CLL Collm 100.47 40 ePdif Pdif 23 19 30.0 -1.3
CLL LmV 00 11 00.0
comp=Z,200nm,18.4s
ALN Alexandroupoli 108.56 51 P Pdif 23 20 04.2 -3.1
ASAR Alice Springs 132.21 219 PKP PKPdf 23 24 58.3 -0.6
comp=Z,1.8nm,0.9s,baz=146,slow=3.2,SNR=9.4
WB2 Warramunga Arr 134.60 223 eP PKPdf 23 25 02.8 -0.6
WRA Warramunga Arr 134.61 223 PKP PKPdf 23 25 02.8 -0.6
comp=Z,2.5nm,0.8s,baz=135,slow=1.8,SNR=22
ZALV Zalesovo Beam 137.28 16 PKP PKPdf 23 25 07.4 0.0
comp=Z,3.3nm,0.9s,baz=283,slow=2.6,SNR=4.2
MDJ Mudanjiang 141.74 329 PKP PKPdf 23 25 14.1 -1.7
MDJ PP PP
comp=Z,64nm,5.2s
MKAR Makanchi Array 142.63 24 PKP PKPdf 23 25 17.1 -0.2
comp=Z,2.7nm,0.9s,baz=287,slow=9.4,SNR=4.3
ZAK Zakamensk 143.35 360 ePKHKP 23 25 09.5
ZAK pmax pmax
comp=Z,2.0nm,1.7s
CN2 Changchun 144.34 332 ePKP PKPdf 23 25 20.4 0.0
SONM Songino Array 145.79 356 PKPbc PKPbc 23 25 23.5 +0.3
comp=Z,24nm,1.1s,baz=357,slow=2.5,SNR=35
KSRS Korea Array 147.55 321 PKPbc PKPbc 23 25 26.9 -1.7
comp=Z,9.0nm,1.1s,baz=38,slow=2.4,SNR=16

BJI Beijing 151.28 339 PKP PKPdf 23 25 31.6 -0.3
NJ2 Nanjing 156.65 324 ePKP PKPdf 23 25 36.7 -3.1
LZH Lanzhou 157.63 358 ePKP PKPdf 23 25 39.0 -1.9
LZH APKP 23 25 49.5
LZH XPKP 23 25 53.8
CD2 Chengdu 162.79 358 ePKP PKPdf 23 25 44.9 -1.9
CD2 XPKP 23 25 56.0
CD2 PKP2 PKPab 23 26 36.2 +0.7
CD2 LR LR
comp=N,250nm,18.8s
CD2 LR LR
comp=Z,310nm,19.4s
GYA Guiyang 166.80 346 PKP PKPdf 23 25 47.3 -3.1
GYA APKP 23 26 00.2
GYA XPKP 23 26 03.7
GYA PKP2 PKPab 23 26 51.8 -1.4
GYA LR LR
comp=N,280nm,24.8s
GYA LR LR
comp=E,190nm,22.9s
GYA LR LR
comp=Z,230nm,24.4s
KMI Kunming 168.57 1 PKP PKPdf 23 25 51.0 -0.7
CMAR Chiang Mai Arr 173.78 39 PKP PKPdf 23 25 54.4 -0.1
comp=Z,1.3nm,0.3s,baz=296,slow=1.3,SNR=10
CMAR PKPab PKPab 23 27 25.1 +0.6
comp=Z,1.3nm,0.7s,baz=313,slow=5.3,SNR=6.5

*BJI **05** 23:17:49.7, 4525N×3624E, h28km, mB5.1, mb4.7, Ms4.8, Msz4.5*
*NNC **05** 23:17:50.5±4.0, 4502N×3776E, h0km, mb4.1, Error ellipse: s-maj=45.9km s-min=27.6km az=142.0*
*ISCJB **05** 23:17:51.4±0.8, 4492N±002×3711E±002, h5km±5km, mb4.4/74, MS3.8/11, Error ellipse: s-maj=2.8km s-min=2.1km az=25.8*
*IDC **05** 23:17:51.9±0.5, 4479N×3718E, h0km, mb4.4/17, mb1 4.5/27, mb1mx4.4/36, mbtmp4.4/27, ML3.9/6, MS3.6/13, Ms1 3.7/13, ms1mx3.3/39, Error ellipse: s-maj=12.2km s-min=8.2km az=13.0*
*CSEM **05** 23:17:52.6±0.0, 4493N×3713E, h15km, mb4.5/51, Ms3.2, Error ellipse: s-maj=1.5km s-min=0.9km az=53.0*
*NEIC **05** 23:17:53.9±0.2, 4494N×3717E, h10km, mb4.4/59, Error ellipse: s-maj=4.7km s-min=3.4km az=184.0*
NEIC Felt [IV] at Novorossiysk. Also felt at Anapa.
*MOS **05** 23:17:53.5±1.0, 4521N×3716E, h14km, mb4.5/40, Error ellipse: s-maj=5.5km s-min=3.0km az=33.7*
MOS Felt (IV) at Novorossiiysk, Anapa.
*SZGRF **05** 23:17:58.4, 4548N×3716E, h10km, mb4.2, Ukraine - Moldova - Southwestern Russia region*

ISC 05 23:17:56.4±0.5, 4491N±002×3712E±002, h28km±4km, n576, σ1$10/613, mb4.4/74, MS3.8/11, 34C-22D, Western Caucasus

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ANN	Anapa	0.25	116	*i* P	Pb	23 18 04.2	+1.3
ANN				*i*		23 18 09.8	
ANN				pmax	pmax		
	comp=E,856nm,0.5s						
ANN				pmax	pmax		
	comp=Z,4μm,0.5s						
ANN				pmax	pmax		
	comp=N,994nm,0.2s						
ANN				smax			
	comp=N,17μm,0.5s						
ANN				smax			
	comp=E,4μm,0.5s						
ANN	Anapa	0.25	116	*i* S	Sb	23 18 09.8	+2.5
KERU	Kerch	0.62	311	*i* P	Pb	23 18 13.5	+4.9
KERU				*e*		23 18 26.1	
KERU				pmax	pmax		
	comp=Z,1μm,0.4s						
KERU				smax			
	comp=N,4μm,0.8s						
FEO	Feodosiya	1.23	276⇑	*i* P	Pn	23 18 20.7	+3.0
FEO				*e*		23 18 38.1	
FEO				pmax	pmax		
	comp=Z,423nm,0.2s						
FEO				smax			
	comp=N,326nm,0.2s						
FEO				smax			
	comp=E,6μm,0.4s						
SUDU	Sudak	1.51	270⇓	*i* P	Pn	23 18 23.4	+1.9
SUDU				eS	Sn	23 18 42.6	+2.4
SUDU				pmax	pmax		
	comp=Z,17nm,0.4s						
SUDU				smax			
	comp=N,469nm,1.0s						
SUDU				smax			
	comp=E,851nm,0.4s						
ALU	Alushta	1.95	264⇑	*i* P	Pn	23 18 28.8	+1.2
ALU				eS	Sn	23 18 52.7	+1.6
ALU				pmax	pmax		
	comp=Z,504nm,0.5s						
ALU				smax			
	comp=N,3μm,0.6s						
SIM	Simferopol'	2.13	272	*c* P	Pn	23 18 32.9	+2.8
SIM				eS	Sn	23 18 58.0	+2.3
SIM				pmax	pmax		
	comp=Z,487nm,0.7s						
SIM				smax			
	comp=E,4μm,0.8s						
YAL	Yalta	2.16	260⇑	*i* P	Pn	23 18 31.7	+1.3
YAL				eS	Sn	23 18 57.0	+0.8
YAL				pmax	pmax		
	comp=Z,230nm,0.3s						
YAL				smax			
	comp=N,383nm,0.2s						
SOC	Sochi	2.29	124	eP	Pn	23 18 32.6	+0.4
SOC				*e*		23 19 01.9	
SOC				pmax	pmax		
	comp=Z,228nm,0.3s						
SOC				MLR	MLR		
	comp=Z,763nm,13.0s						
SOC	Sochi	2.29	124	eP	Pn	23 18 32.6	+0.4
	comp=Z,228nm,0.3s						
SEV	Sevastopol'	2.49	263⇑	*i* P	Pn	23 18 36.0	+1.0
SEV				eS	Sn	23 19 05.0	+0.6
SEV				pmax	pmax		
	comp=Z,84nm,0.3s						
SEV				smax			
	comp=N,897nm,0.2s						
SEV				smax			
	comp=E,284nm,0.2s						
SEV	Sevastopol'	2.49	263	*i* P	Pn	23 18 36.0	+1.0
	comp=E,84nm,0.3s						
SEV				eS	Sn	23 19 05.0	+0.6
DIKM	Dikmen	3.53	203	eP	Pn	23 18 48.9	-0.4
BZK	Bozkurt	3.72	219	eP	Pn	23 18 52.3	+0.4
BOYT	Boyabat	3.84	206	*i* P	Pn	23 18 54.9	+1.3
BYBT	Boyabat	3.84	207	eP	Pn	23 18 53.5	-0.2
KVT	Kavak	3.91	192	eP	Pn	23 18 54.4	0.0
GRSN	GIRESUNGRSN	4.07	168	*i* P	Pn	23 18 55.0	-1.8
KIV	Kislovodsk	4.10	101⇑	eP	Pn	23 18 57.2	+0.1
KIV				eS	Sn	23 19 45.6	+1.5
KIV				pmax	pmax		
	comp=Z,12nm,0.5s						
KIV				MLR	MLR		
	comp=Z,400nm,19.0s						
KIV	Kislovodsk	4.10	101	eP	Pn	23 18 57.2	+0.1
	comp=Z,400nm,19.0s						
KIV	Kislovodsk	4.10	101	ePn	Pn	23 18 57.8	+0.7
KIV				eS	Sn	23 19 45.6	+1.5
KIV	Kislovodsk	4.10	101	ePn	Pn	23 18 57.8	+0.6
ESPY	Espiye-Giresun	4.16	163	eP	Pn	23 18 56.4	-1.6
BALT	Daday	4.34	220	*i* P	Pn	23 19 01.3	+0.9
KTUT	Trabzon	4.38	153	eP	Pn	23 18 59.6	-1.4
MACK	Trabzon	4.42	153	*i* P	Pn	23 19 00.7	-0.8
TOS	Tosya	4.49	211	eP	Pn	23 19 03.2	+0.7
RSDY	Resadiye-TOKAT	4.51	178	eP	Pn	23 19 02.7	-0.1
ILGA	Ilgaz	4.59	214	*i* P	Pn	23 19 04.4	+0.5
TOKT	Tokat	4.61	185	eP	Pn	23 19 04.9	+0.8
CTKT	Corum	4.61	203	*i* P	Pn	23 19 04.8	+0.6
PZAR	Pazar-Rize	4.64	142	eP	Pn	23 19 03.8	-0.8
GUMT	Gumushane	4.77	158	eP	Pn	23 19 05.8	-0.7
BCA	Borcka	4.78	135	eP	Pn	23 19 04.5	-1.9
DBOC	Borcka	4.87	135	*i* P	Pn	23 19 06.5	-1.3
SAFT	Safranbolu	4.90	223	eP	Pn	23 19 08.8	+0.7
SVSK	Karacayir	4.99	181	eP	Pn	23 19 10.0	+0.6
CANT	Cankiri	5.01	212	eP	Pn	23 19 10.3	+0.6

CORM Corum 5.07 202 eP Pn 23 19 11.8 +1.2
ARTV Artvin 5.12 135 *i* P Pn 23 19 10.3 -0.9
DBAD Bademkaya 5.14 138 *i* P Pn 23 19 11.2 -0.2
ONI Oni 5.14 115 P Pn 23 19 12.6 +1.1
ONI S Sn 23 20 09.7 -0.2
ELDT Eldivan 5.19 213 *i* P Pn 23 19 12.9 +0.9
DAGI Agillar 5.20 136 *i* P Pn 23 19 11.6 -0.6
DDEM Demirkent 5.26 138 *i* P Pn 23 19 13.4 +0.4
DDEM Demirkent 5.26 138 *i* P Pn 23 19 13.4 +0.3
YOZ Yozgat 5.43 195 eP Pn 23 19 16.2 +0.8
KOPT Kop Dagi 5.49 152 *i* P Pn 23 19 17.8 +1.6
KDZE Karadeniz Ereo 5.49 231 eP Pn 23 19 16.1 -0.2
EZC Erzincan 5.53 158 eP Pn 23 19 15.9 -0.9
CDAG Cicekdag 5.66 202 *i* P Pn 23 19 18.9 +0.4
BR131 Keskin Array S 5.79 208 ePn Pn 23 19 20.7 +0.4
GOR Gori 5.87 117 P Pn 23 19 22.3 +0.9
GOR S Sn 23 20 24.7 -3.0
TLCR 5.89 276⇑ *i* P Pn 23 19 22.0 +0.3
TLCR 5.89 276 S Sn 23 20 25.0 -3.3
TLCR 5.89 276 P Pn 23 19 22.6 +0.9
EZM Erzurum 5.90 146 eP Pn 23 19 21.8 -0.1
ERZM Erzurum 5.91 146 *i* P Pn 23 19 23.1 +1.2
LOD Lodumlu 5.96 214 eP Pn 23 19 24.0 +1.3
DARE Darende-Malaty 5.97 175 eP Pn 23 19 28.1 +5.2
KAMT Kaman 6.09 206 eP Pn 23 19 25.0 +0.5
BNN Bunyan 6.13 189 eP Pn 23 19 25.7 +0.7
HENT Hendek 6.13 230 *i* P Pn 23 19 25.2 +0.2
KARS Kars 6.14 132 eP Pn 23 19 24.3 -0.9
KIS Kishinev 6.15 293⇓ eP Pn 23 19 26.0 +0.7
KIS pmax pmax
comp=Z,200nm,0.5s
KIS Kishinev 6.15 293⇑ *i* P Pn 23 19 26.4 +1.1
KIS Kishinev 6.15 293 S Sn 23 20 31.7 -3.0
KIS Kishinev 6.15 293⇓ *i* P Pn 23 19 26.0 +0.7
comp=Z,200nm,0.5s
KIS eS Sn 23 20 24.0 -11
comp=Z,2μm,1.0s
KIS LRM 23 22 44.0
comp=Z,300nm,16.0s
KIS Kishinev 6.15 293 eP Pn 23 19 26.0 +0.7
comp=Z,200nm,0.5s
MDU Mudurnu 6.22 226 eP Pn 23 19 26.8 +0.6
TIRR Tirgusor 6.22 269⇓ *i* P Pn 23 19 26.3 0.0
TIRR Tirgusor 6.22 269 S Sn 23 20 32.0 -4.5
TIRR Tirgusor 6.22 269 P Pn 23 19 26.5 +0.2
TIRR Tirgusor 6.22 269 P Pn 23 19 26.5 +0.2
SARI SarD1z-Kayseri 6.23 183 eP Pn 23 19 31.3 +4.9
PTK Pertek 6.25 163 eP Pn 23 19 27.6 +1.0
PINB Pinarbasi 6.25 185 *i* P Pn 23 19 28.1 +1.4
AVNT Avonos 6.35 196 *i* P Pn 23 19 26.5 -1.6
TBLG Delisi 6.40 117 P Pn 23 19 29.0 +0.3
TBLG S Sn 23 20 37.7 -3.1
VSR Storozhevoye 6.46 12 de P Pn 23 19 30.6 +1.1
VSR pmax pmax
comp=N,30nm,0.8s
VSR pmax pmax
comp=Z,20nm,0.8s
VSR pmax pmax
comp=E,20nm,0.9s
CVD Cernavoda 6.51 268⇓ *i* P Pn 23 19 31.2 +0.9
CVD Cernavoda 6.51 268 S Sn 23 20 41.0 -2.6
HARR Harsova 6.54 271⇓ *i* P Pn 23 19 31.1 +0.4
HARR Harsova 6.54 271 P Pn 23 19 31.2 +0.5
GULT Gulveren 6.61 230 eP Pn 23 19 32.2 +0.6
AKCD Akcadag 6.63 175 *i* P Pn 23 19 32.6 +0.7
SILT Sile 6.64 238 eP Pn 23 19 31.5 -0.5
MYA Malataya 6.65 171 eP Pn 23 19 32.6 +0.4
SVRC Sivrice-ELAZID 6.73 165 eP Pn 23 19 34.0 +0.8
GPA Golpazari 6.82 230 eP Pn 23 19 34.9 +0.3
HRT Hereke 6.83 236 eP Pn 23 19 34.4 -0.3
AGRB Hanur-Agry 6.88 139 eP Pn 23 19 34.1 -1.2
KLYT Kilyos 6.95 241 eP Pn 23 19 35.4 -0.9
VOR Voronezh 6.97 11 eP Pn 23 19 36.0 -0.5
VOR pmax pmax
comp=Z,220nm,1.0s
VOR Voronezh 6.97 11 eP Pn 23 19 36.0 -0.5
comp=Z,220nm,1.0s
IAS Iasi 7.03 292⇑ *i* P Pn 23 19 38.0 +0.6
IAS Iasi 7.03 292 S Sn 23 20 54.4 -1.9
IAS Iasi 7.03 292 P Pn 23 19 38.7 +1.3
IAS Iasi 7.03 292 P Pn 23 19 38.7 +1.3
ADVT Abdulvahap 7.04 233 eP Pn 23 19 38.1 +0.5
BORA Eskisehir 7.04 227 *i* P Pn 23 19 36.9 -0.6
ISK Istanbul-Kandi 7.05 240 eP Pn 23 19 36.9 -0.7
NIG Nigde 7.05 196 eP Pn 23 19 39.4 +1.8
CAVI Cavuskoy 7.14 231 eP Pn 23 19 38.3 -0.6
ODB Odobesti 7.15 281 ⇓ *i* P Pn 23 19 40.8 +1.9
ODB Odobesti 7.15 281 S Sn 23 20 56.6 -2.5
BGKT Bogazkoy 7.16 242 eP Pn 23 19 38.3 -0.8
YLV Yalova 7.17 235 eP Pn 23 19 38.3 -0.9
KIZT Kizilcal 7.18 215 eP Pn 23 19 39.8 +0.3
CTKS Kestanelik-??a 7.30 243 eP Pn 23 19 40.0 -1.0
CTYL Yal??k??y-??at 7.31 245 eP Pn 23 19 40.6 -0.6
ANDN Andirin 7.34 185 *i* P Pn 23 19 42.5 +0.8
GEMT Gemlik 7.36 235 eP Pn 23 19 41.3 -0.6
GNI Garni 7.37 128 eP Pn 23 19 40.5 -1.5
GNI Garni 7.37 128 Pn Pn 23 19 41.7 -0.3
comp=Z,0.1nm,0.3s,baz=327,slow=17,SNR=2.1
GNI LR LR 23 23 06.7
comp=Z,252nm,21.5s,baz=313,slow=43
VRI Vrincioaia 7.38 281⇑ *i* P Pn 23 19 43.0 +0.8
VRI Vrincioaia 7.38 281 S Sn 23 21 04.5 -0.4
VRI Vrincioaia 7.38 281 P Pn 23 19 43.3 +1.1
VRI Vrincioaia 7.38 281 P Pn 23 19 43.3 +1.1
CTT Catalca 7.39 242 eP Pn 23 19 42.5 +0.1
ELBA Catalca 7.39 242 *i* P Pn 23 19 41.7 -0.7
KMRS Kahramanmaras 7.40 181 eP Pn 23 19 43.0 +0.5
PLOR Plostina 7.43 281⇑ *i* P Pn 23 19 43.8 +0.9
PLOR Plostina 7.43 281 S Sn 23 21 04.6 -1.6
PLOR Plostina 7.43 281 P Pn 23 19 44.3 +1.4
KOZT Kozan 7.49 188 eP Pn 23 19 44.8 +1.2
SLVT Silivri 7.49 244 eP Pn 23 19 42.6 -1.0
ULDT Uludag 7.58 234 *i* P Pn 23 19 44.2 -0.7
LADK Ladik-KONYA 7.59 210 eP Pn 23 19 45.3 +0.2
CLDR Caldiran 7.67 136 eP Pn 23 19 43.9 -2.2
GAZ Gaziantep 7.73 179 eP Pn 23 19 47.8 +0.6
KARA Karaisali 7.80 192 eP Pn 23 19 48.5 +0.6
KONT Konya--Tatoy 7.82 209 eP Pn 23 19 48.5 +0.3
ALT Altintas 7.84 224 eP Pn 23 19 48.7 +0.3
CRLT Corlu 7.84 244 eP Pn 23 19 47.1 -1.4
AKASG Malin Array Be 7.86 320 Pn Pn 23 19 48.7 0.0
comp=Z,48nm,0.3s,baz=130,slow=13,SNR=161
AKASG Sn Sn 23 21 12.0 -4.7
comp=Z,15nm,0.3s,baz=134,slow=24,SNR=106
AKASG LR LR 23 23 09.9
comp=Z,311nm,21.9s,baz=125,slow=40
AKASG Malin Array Be 7.86 320 P Pn 23 19 48.7 0.0
AKASG 23 21 12.0
AKASG pmax pmax
comp=Z,48nm,0.3s
AKASG smax
comp=N,15nm,0.3s
AKASG MLR MLR
comp=Z,311nm,21.9s
AKASG Malin Array Be 7.86 320 Pn Pn 23 19 48.7 0.0
AKASG Sn Sn 23 21 12.0 -4.7
AKASG LR LR 23 23 09.9
AKBB Malin Array Si 7.86 320 eP Pn 23 19 48.1 -0.6
AKBB eSn Sn 23 21 14.0 -2.7
AKBB Malin Array Si 7.86 320 ePn Pn 23 19 48.1 -0.6
AKBB eSn Sn 23 21 14.0 -2.7
KIEV Kiev 7.86 320 eP Pn 23 19 48.3 -0.5
KIEV pmax pmax
comp=Z,37nm,0.4s
KIEV Kiev 7.86 320 eP Pn 23 19 48.3 -0.5
comp=Z,37nm,0.4s
KIEV Kiev 7.86 320 ePn Pn 23 19 48.3 -0.5
comp=Z,37nm,0.4s
MLR Muntele Rosu 7.92 278 Pn Pn 23 19 50.5 +1.0
comp=Z,7.7nm,0.3s,baz=18,slow=3.9,SNR=113
MLR Sn Sn 23 21 17.6 -0.5
comp=Z,20nm,0.3s,baz=302,slow=20,SNR=12
MLR Muntele Rosu 7.92 278 P Pn 23 19 50.5 +1.0
MLR 23 21 17.6
MLR pmax pmax
comp=Z,8.0nm,0.3s
MLR smax
comp=N,20nm,0.3s
BUC1 Bucharest 7.93 270 S Sn 23 21 17.5 -1.0
JMB Yambol 8.02 256 P Pn 23 19 51.3 +0.4
SHUT Suhut-Afyon 8.03 220 eP Pn 23 19 51.1 +0.1
TKR Tekirdag 8.05 244 eP Pn 23 19 50.5 -0.8

GDZ **Gediz** 8.13 227 *i* P Pn **23 19 52.3 -0.2**
EDRB **Edirne** 8.15 252 *e*P Pn **23 19 51.3 -1.5**
EDC **Edincik** 8.21 239 *e*P Pn **23 19 51.8 -1.7**
MRMT **Marmara Adasi** 8.22 242 *e*P Pn **23 19 53.0 -0.7**
DST **Dursunbey** 8.23 233 *e*P Pn **23 19 53.1 -0.8**
MERS **Mersin** 8.27 195 *e*P Pn **23 19 54.6 +0.2**
MFT **Murefte** 8.32 244 *e*P Pn **23 19 53.1 -1.9**
RKY **Sarkoy-Tekirda** 8.44 243 *e*P Pn **23 19 55.3 -1.4**
VOIR 8.55 278 ⇓*i*P Pn **23 19 59.9 +1.7**
VOIR 8.55 278 S Sn **23 21 32.8 -0.8**
VOIR 8.55 278 P Pn **23 19 59.5 +1.3**
VOIR 8.55 278 P Pn **23 19 59.5 +1.3**
TKTP **Tekketepe** 8.55 219 *i* P Pn **23 19 59.2 +0.9**
DEMI **Demirci** 8.57 230 *i* P Pn **23 19 58.0 -0.3**
BALB **Balikesir** 8.64 236 *e*P Pn **23 19 58.3 -1.1**
HDMB **Hadim** 8.68 205 *e*P Pn **23 20 01.1 +1.1**
BURAR **Bucovina Array** 8.68 292 ⇓*i*P Pn **23 19 59.9 -0.1**
BURAR **Bucovina Array** 8.68 292 S Sn **23 21 31.7 -5.1**
BURAR **Bucovina Array** 8.68 292 ⇓*i*P Pn **23 19 59.9 -0.1**
BURAR **Bucovina Array** 8.68 292 P Pn **23 20 00.7 +0.7**
BUR08 **Bucovina Ar. S** 8.70 293 *e*Pn Pn **23 20 00.0 -0.2**
BALY **Balya** 8.73 237 *i* P Pn **23 19 59.8 -0.9**
LPK **Lapseki** 8.88 243 *e*P Pn **23 20 01.1 -1.6**
BCK **Bucak** 8.92 216 *e*P Pn **23 20 02.5 -0.8**
KULA **Kula-Manisa** 8.99 228 *e*P Pn **23 20 03.9 -0.3**
IKL **Isikli** 9.04 198 *e*P Pn **23 20 05.3 +0.3**
ENEZ **Enez** 9.07 246 *e*P Pn **23 20 03.4 -1.9**
AKS **Akhisar** 9.19 232 *e*P Pn **23 20 06.1 -0.9**
GADA **Gvkgeada** 9.53 244 *e*P Pn **23 20 10.4 -1.2**
AYVA **Ayvalik** 9.56 238 *i* P Pn **23 20 11.2 -0.8**
ELL **Elmali** 9.81 216 *e*P Pn **23 20 15.1 -0.4**
BMR **Baia Mare** 9.83 291 ⇑*i*P Pn **23 20 14.8 -0.9**
BMR **Baia Mare** 9.83 291 S Sn **23 22 01.7 -3.3**
PRK **Paraskevi** 9.85 239 P Pn **23 20 15.8 -0.2**
BLCB **Balcova** 9.96 233 *e*P Pn **23 20 16.5 -1.1**
LVV **L'vov** 10.14 304 *e*P Pn **23 20 19.0 -1.0**
LVV *e*S Sn **23 22 15.2 +2.5**
LVV MLR MLR
comp=N,70nm,10.0s
LVV MLR MLR
comp=E,100nm,10.0s
LVV MLR MLR
comp=Z,100nm,10.0s
LVV L'vov 10.14 304 *e*P Pn **23 20 19.0 -1.0**
LVV *e*S Sn **23 22 15.2 +2.5**
LIA **Limnos Island** 10.15 245 P Pn **23 20 18.6 -1.5**
GZR **Gura Zlata** 10.15 278 ⇑*i*P Pn **23 20 20.3 +0.2**
GZR **Gura Zlata** 10.15 278 S Sn **23 22 10.3 -2.6**
GZR **Gura Zlata** 10.15 278 P Pn **23 20 22.2 +2.1**
OBN **Obninsk** 10.22 358 ⇓*e*P Pn **23 20 21.0 -0.1**
OBN pmax pmax
comp=Z,59nm,0.7s
OBN Obninsk 10.22 358 ⇓*e*P Pn **23 20 21.0 -0.1**
OBN *e*S Sn **23 22 09.0 -5.6**
OBN pmax pmax
comp=Z,59nm,0.7s
OBN MLR MLR
comp=Z,400nm,19.0s
OBN Obninsk 10.22 358 *e*P Pn **23 20 21.0 -0.1**
comp=Z,400nm,19.0s
OBN Obninsk 10.22 358 *e*Pn Pn **23 20 20.6 -0.4**
DRGR 10.23 286 ⇑*i*P Pn **23 20 21.0 -0.2**
DRGR 10.23 286 S Sn **23 22 11.5 -3.4**
DRGR 10.23 286 P Pn **23 20 21.5 +0.3**
DRGR 10.23 286 P Pn **23 20 21.5 +0.3**
VTS **Vitosha** 10.33 262 ⇓*i*P Pn **23 20 19.2 -3.4**
VTS **Vitosha** 10.33 262 S Sn **23 22 11.5 -5.9**
CSS **Prodhromos** 10.35 198 *e*Pn Pn **23 20 23.0 +0.1**
comp=Z,13nm,0.8s
OUR **Ouranopolis** 10.70 249 P Pn **23 20 26.9 -0.8**
UZH **Uzhgorod** 10.83 295 *e*P Pn **23 20 28.3 -1.1**
UZH *i* S Sn **23 22 29.7 +0.2**
MOS **Moscow** 10.85 2 *e*P Pn **23 20 28.1 -1.5**
MOS pmax pmax
comp=Z,211nm,0.7s
MOS pmax pmax
comp=Z,300µm,0.8s
MOS Moscow 10.85 2 *e*P Pn **23 20 29.4 -0.2**
MOS *e* 23 22 23.6
MOS pmax pmax
comp=Z,200nm,0.7s
MOS pmax pmax
comp=Z,226nm,0.7s
MOS Moscow 10.85 2 *e*P Pn **23 20 29.4 -0.2**
comp=Z,226nm,0.7s
KWP Kalwaria 10.87 301 *e*P Pn **23 20 31.5 +1.6**
KWP *e*S Sn **23 22 30.3 -0.2**
KWP Kalwaria 10.87 301 *e*P Pn **23 20 29.8 -0.1**
KWP *e* 23 22 30.7
KWP pmax pmax
comp=Z,39nm,0.6s
KWP Kalwaria 10.87 301 ⇑*i*P Pn **23 20 30.0 +0.1**
KWP Kalwaria 10.87 301 S Sn **23 22 28.0 -2.5**
KWP Kalwaria 10.87 301 *e*P Pn **23 20 29.8 -0.1**
comp=Z,39nm,0.6s
KWP Kalwaria 10.87 301 *e*Pn Pn **23 20 29.8 -0.2**
comp=Z,39nm,0.6s
KWP *e*Sn Sn **23 22 30.7 +0.2**
SOH Sokhos 10.90 253 P Pn **23 20 29.6 -0.8**
BOLS Boljevac 10.91 270 *e*Pn Pn **23 20 30.4 -0.2**
KOLS Kolonicke sedl 10.92 297 *i* P Pn **23 20 30.0 -0.7**
KOLS *e* 23 22 26.2
KOLS Kolonicke sedl 10.92 297 *i* PN Pn **23 20 30.0 -0.7**
KOLS *e*SN Sn **23 22 26.2 -5.6**
KOLS *e*SG 23 23 54.8
BZS Buzias 10.96 279 ⇑*i*P Pn **23 20 30.7 -0.4**
BZS Buzias 10.96 279 S Sn **23 22 30.9 -1.8**
KNT Kendrikon 11.06 255 P Pn **23 20 32.4 -0.2**
PAIG Paliouri 11.11 248 P Pn **23 20 31.9 -1.4**
BARS Barje 11.25 265 *e*Pn Pn **23 20 35.9 +0.7**
CRVS Cervenica-Dubn 11.43 296 *i* PN Pn **23 20 36.1 -1.5**
CRVS *e*SN Sn **23 22 38.1 -6.2**
GRG Griva 11.49 255 P Pn **23 20 38.8 +0.3**
STHS Stebnicka Huta 11.71 298 *i* PN Pn **23 20 41.0 -0.4**
STHS *e*SN Sn **23 22 44.4 -6.6**
GRUS Gruza 11.78 271 *e*Pn Pn **23 20 43.1 +0.6**
LIT Litokhoron 11.81 251 P Pn **23 20 42.7 -0.2**
MMAI Mount Meron Ar 11.95 187 Pn Pn **23 20 43.8 -1.0**
comp=Z,0.7nm,0.3s,baz=7.8,slow=13,SNR=10
MMAI LR LR 23 26 29.7
comp=Z,100nm,21.9s,baz=40,slow=44
DIVS Divibare 12.26 272 *e*Pn Pn **23 20 48.2 -0.8**
PSZ Piszkesteto 12.26 290 ⇓*e*P Pn **23 20 47.9 -1.1**
PSZ Piszkesteto 12.26 290 ⇓*i*P Pn **23 20 47.4 -1.6**
PSZ Piszkesteto 12.26 290 S Sn **23 23 00.9 -3.8**
PSZ Piszkesteto 12.26 290 *e*P Pn **23 20 47.7 -1.3**
NIE Niedzica 12.29 298 *e*P Pn **23 20 49.8 +0.4**
NIE *e*S Sn **23 23 06.1 +0.8**
AGG Agios Georgios 12.47 247 P Pn **23 20 50.9 -1.0**
ASF Jabal al Asfar 12.72 181 Pn Pn **23 20 53.2 -2.1**
comp=Z,0.2nm,0.3s,baz=255,slow=14,SNR=1.7
ASF LR LR 23 26 25.6
comp=Z,128nm,21.7s,baz=40,slow=41
ASF Jabal al Asfar 12.72 181 Pn Pn **23 20 53.2 -2.1**
ASF LR LR 23 26 25.6
BBLS Lazići 12.72 272 *e*Pn Pn **23 20 55.0 -0.3**
DID Didima 12.79 240 P Pn **23 20 55.8 -0.5**
SUW Suwalki 12.83 320 *e*P Pn **23 20 54.2 -2.5**
SUW *e*S Sn **23 23 10.5 -8.0**
SUW Suwalki 12.83 320 *e*Pn Pn **23 20 54.4 -2.3**
OJC Ojcow 12.84 301 *e*P Pn **23 20 54.6 -2.2**
OJC *e*PP 23 21 04.9
OJC *e*S Sn **23 23 09.9 -8.8**
PKSM Moragy 13.02 282 ⇓*i*P Pn **23 20 59.8 +0.5**
PKSM Moragy 13.02 282 S Sn **23 23 16.6 -6.5**
VYHS Vyhne 13.05 292 *i* PN Pn **23 20 58.6 -1.1**
VYHS *e*SN Sn **23 23 17.5 -6.3**
VYHS Vyhne 13.05 292 *i* Pn Pn **23 20 58.8 -0.9**
VYHS Vyhne 13.05 292 *i* Pn Pn **23 20 58.8 -0.9**
VYHS *e*Sn Sn **23 23 17.5 -6.3**
IDI Anoyia 13.40 228 Pn Pn **23 21 03.6 -1.0**
comp=Z,0.5nm,0.3s,baz=44,slow=16,SNR=5.1
OKC Ostrava-Krasne 13.76 298 *e*P Pn **23 21 08.3 -1.1**
OKC AMS AMS 23 27 20.0
comp=Z,300nm,14.4s
MODS Modra-Piesok 14.06 291 *i* PN Pn **23 21 13.0 -0.5**
MORC Moravsky Berou 14.13 297 *e*Pn Pn **23 21 11.7 -2.7**
MORC Moravsky Berou 14.13 297 *e*Pn Pn **23 21 11.7 -2.7**
ZST Bratislava 14.16 291 *e*PN Pn **23 21 23.2 +8.4**
VRAC Vranov 14.64 295 Pn Pn **23 21 20.1 -1.4**
comp=Z,0.5nm,0.3s,baz=79,slow=13,SNR=3.5
VRAC Vranov 14.64 295 P Pn **23 21 20.1 -1.4**
VRAC pmax pmax
comp=Z,1.0nm,0.3s
VSU Vasula 14.99 339 *d*iP Pn **23 21 22.9 -3.2**
DPC Dobruska-Polom 15.02 299 *e*P Pn **23 21 24.6 -1.9**
DPC *ex* x 23 24 01.8
AKTK Aktyubinsk 15.10 61 P Pn **23 21 25.6 -2.0**
comp=Z,46nm,18.1s
AKTK Aktyubinsk 15.10 61 Pn Pn **23 21 25.6 -2.0**
AKTK Sn Sn **23 23 59.7 -14**
AKTK LR LR 23 30 03.7
AKTO Aktyubinsk 15.10 61 ⇑Pn Pn **23 21 20.4 -7.2**
comp=Z,1.4nm,0.6s
AKTO ⇓Sn Sn **23 24 00.1 -14**
comp=Z,5.0nm,0.7s
AKTO Aktyubinsk 15.10 61 Pn Pn **23 21 25.6 -2.0**
comp=Z,0.8nm,0.3s,baz=255,slow=11,SNR=18
AKTO Sn Sn **23 23 59.7 -14**
comp=Z,1.0nm,0.3s,baz=330,slow=14,SNR=5.9
AKTO LR LR 23 30 03.7
comp=Z,46nm,18.1s,baz=239,slow=48
KSP Ksiaz 15.16 300 *e*P Pn **23 21 34.6 +6.3**
KSP Ksiaz 15.16 300 *e*P Pn **23 21 26.8 -1.6**
KSP *e*pP pP 23 21 34.3 -6.3
UPC Upice 15.25 299 *e*P Pn **23 21 27.6 -1.9**
EIL Elat 15.31 187 Pn Pn **23 21 28.2 -2.2**
comp=Z,0.1nm,0.3s,baz=111,slow=17,SNR=1.9
EIL LR LR 23 28 59.0
comp=Z,70nm,19.6s,baz=225,slow=44
EIL Elat 15.31 187 Pn Pn **23 21 28.2 -2.3**
EIL LR LR 23 28 59.0
BOJS Bojanci 15.42 280 *i* P Pn **23 21 38.0 +6.2**
GKP Gorka Klasztor 15.44 310 *e*P Pn **23 21 27.7 -4.3**
SOKA Soboth 15.50 284 ⇑*i*P Pn **23 21 34.0 +1.2**
comp=Z,7.7nm,0.9s
OBKA Obir 15.84 284 ⇑*i*pP pP 23 21 42.6 -5.6
comp=Z,10nm,0.7s,SNR=9.3
LJU Ljubljana 15.88 282 *e*P Pn **23 21 43.4 +5.6**
MOA Molln 16.03 289 ⇑*i*P Pn **23 21 40.7 +1.0**
comp=Z,5.2nm,1.1s
KLMR Klimovskoe 16.04 4 ⇓*e*P Pn **23 21 34.4 -5.3**
KLMR *e*S Sn **23 24 21.3 -15**
KLMR pmax pmax
comp=Z,146nm,1.4s
PRU Pruhonice 16.07 296 AMS AMS 23 28 50.0
comp=Z,300nm,19.3s
AB31 Akbulak array 16.12 66 ⇑Pn Pn **23 21 35.0 -5.8**
comp=Z,4.3nm,0.5s,baz=265,slow=11
AB31 ⇑Sn Sn **23 24 27.7 -11**
comp=Z,22nm,1.0s,baz=257,slow=19
PVCC Panska Ves 16.16 298 *e*P Pn **23 21 39.9 -1.4**
TIP Timpagrande 16.16 256 *e*Pn Pn **23 21 42.5 +1.1**
comp=Z,8.7nm,0.9s
TIP Timpagrande 16.16 256 *e*Pn Pn **23 21 42.5 +1.1**
comp=Z,8.7nm,0.9s
SKDS Skadanscina 16.29 280 *i* P Pn **23 21 47.5 +4.5**
TRI Trieste 16.44 281 *e*P Pn **23 21 46.1 +1.2**
TRI pmax pmax
comp=Z,18nm,0.8s
TRI Trieste 16.44 281 *e*P Pn **23 21 46.1 +1.2**
comp=Z,18nm,0.8s
CUC Castrocucco 16.46 260 *e*Pn Pn **23 21 46.5 +1.3**
comp=Z,8.6nm,0.6s
CUC Castrocucco 16.46 260 *e*Pn Pn **23 21 46.5 +1.3**
comp=Z,8.6nm,0.6s
GEC2 GERESS Array S 16.47 292 *e*P Pn **23 21 45.3 0.0**
GEC2 pmax pmax
comp=Z,14nm,1.1s
GEC2 GERESS Array S 16.47 292 *e*P Pn **23 21 45.3 0.0**
comp=Z,14nm,1.1s
GERES GERESS Array B 16.47 292 Pn Pn **23 21 45.9 +0.6**
comp=Z,0.3nm,0.3s,baz=92,slow=12,SNR=20
KHC Kasperske Hory 16.58 293 *e*P Pn **23 21 46.8 +0.2**
KHC *e*pP pP 23 21 51.0 -5.3
KHC AMS AMS 23 29 20.0
comp=Z,300nm,18.2s
KHC Kasperske Hory 16.58 293 *e*P Pn **23 21 46.8 +0.2**
KHC *e* 23 21 51.0
BRG Berggiesshubel 16.62 299 *e*P Pn **23 21 47.1 0.0**
comp=Z,12nm,0.9s
BRG Berggiesshubel 16.62 299 *e*P Pn **23 21 47.2 +0.1**
comp=Z,5.2nm,1.0s
BRG *i* 23 21 50.8
comp=Z,12nm,0.9s
BRG *e* 23 25 33.5
comp=Z,2.5nm,0.8s
BRG
comp=N,240nm,13.8s
BRG
comp=E,135nm,20.7s
BRG
comp=Z,175nm,12.2s
BRG Berggiesshubel 16.62 299 *e*P Pn **23 21 47.2 +0.1**
comp=Z,3.1nm,1.0s
BRG *i* 23 21 50.8
BRG *e* 23 25 33.5
KBA Koelnbreinsper 16.65 286 ⇑*i*P Pn **23 21 50.3 +2.8**
comp=Z,12nm,0.6s
RJOB Jochberg 17.02 288 *e*P Pn **23 21 53.5 +1.3**
comp=Z,6.0nm,0.8s
WET Wettzell 17.04 293 *e*P Pn **23 21 51.9 -0.5**
WET pmax pmax
comp=Z,13nm,1.1s
WET Wettzell 17.04 293 *e*P Pn **23 21 51.9 -0.5**
comp=Z,13nm,1.1s
RUE Ruedersdorf 17.12 305 *e*Pn Pn **23 21 52.2 -1.2**
comp=Z,21nm,0.6s
RUE Ruedersdorf 17.12 305 *e*Pn Pn **23 21 52.2 -1.1**
comp=Z,21nm,0.6s
ABTA Abfaltersbach 17.23 285 ⇑*i*P Pn **23 21 58.3 +3.4**
comp=Z,12nm,0.8s,SNR=9.8
CLL Collm 17.29 300 *e*P Pn **23 21 54.8 -0.7**
comp=Z,42nm,1.4s
CLL Collm 17.29 300 *i* P Pn **23 21 55.3 -0.2**
comp=Z,42nm,1.4s
CLL *e*pP pP 23 21 58.0 -6.2
CLL Lm 23 29 00.0
comp=N,200nm,19.6s
CLL Lm 23 29 00.0
comp=E,100nm,20.5s
CLL Lm 23 29 00.0
comp=Z,100nm,18.5s
NKC Novy Kostel 17.44 297 *e*P Pn **23 21 55.4 -2.0**
TANN Tannenbergstha 17.46 297 *e*P Pn **23 21 56.2 -1.5**
comp=Z,18nm,1.0s
ROTZ Rotzenmuhle 17.54 295 *e*P Pn **23 21 59.3 +0.7**
comp=Z,2.0nm,0.9s
ARU Arti 17.73 42 *c*iP Pn **23 21 58.0 -3.0**
ARU *e*S Sn **23 25 14.6 -3.0**
ARU pmax pmax
comp=Z,11nm,0.7s
ARU Arti 17.73 42 *i* P Pn **23 21 58.0 -3.0**
comp=Z,11nm,0.7s
ARU *e*S Sn **23 25 14.6 -3.0**
ARU Arti 17.73 42 *e*Pn Pn **23 21 58.6 -2.4**
comp=Z,11nm,0.7s
FINES FINESS Array B 17.79 342 *e*P Pn **23 21 57.0 -4.7**
WTTA Wattenberg 17.81 287 ⇑*i*pP pP 23 22 04.5 -5.5
comp=Z,17nm,0.6s,SNR=13
WATA Walderalm 17.85 287 ⇓*i*Pn Pn **23 22 04.3 +1.8**
comp=Z,8.1nm,1.0s
MOX Moxa 18.03 298 *e*P Pn **23 22 04.2 -0.5**
comp=Z,14nm,1.3s
MOX Moxa 18.03 298 *e*P Pn **23 22 04.2 -0.5**
MOX pmax pmax
comp=Z,14nm,1.3s
MOX Moxa 18.03 298 *e*P Pn **23 22 04.3 -0.4**
comp=Z,8.0nm,0.8s
FUR Furstenfeldbru 18.05 290 *e*P Pn **23 22 05.4 +0.5**
FUR pmax pmax
comp=Z,13nm,0.8s
FUR Furstenfeldbru 18.05 290 *e*P Pn **23 22 05.4 +0.5**
comp=Z,13nm,0.8s
RGN Rugen 18.08 311 *e*Pn Pn **23 22 01.0 -4.2**
comp=Z,66nm,0.6s
GRA1 Grafenberg Arr 18.16 295 *e*P Pn **23 22 05.8 -0.5**
comp=Z,8.0nm,0.8s
GRF Grafenberg Arr 18.16 295 *e*P Pn **23 22 05.8 -0.5**
GRF pmax pmax
comp=Z,8.0nm,0.8s
GRF Grafenberg Arr 18.16 295 *e*P Pn **23 22 05.8 -0.5**
GRF pmax pmax
comp=Z,8.0nm,0.8s
GRF Grafenberg Arr 18.16 295 *e*P Pn **23 22 05.8 -0.5**
comp=Z,8.0nm,0.8s
MOTA Moosalm 18.17 287 ⇓*i*P Pn **23 22 07.4 +0.9**
comp=Z,16nm,0.8s,SNR=22
KAF Kangasniemi 18.35 344 *e*p Pn **23 22 05.4 -3.1**
comp=Z,37nm,0.6s
KAF Kangasniemi 18.35 344 *e*P Pn **23 22 05.4 -3.1**
KAF pmax pmax
comp=Z,37nm,0.6s
JOF Joensuu 18.35 352 *e*p Pn **23 22 05.3 -3.2**
comp=Z,56nm,0.5s
JOF Joensuu 18.35 352 *e*P Pn **23 22 05.3 -3.2**
JOF pmax pmax
comp=Z,57nm,0.5s
RETA Reutte 18.40 287 ⇑*i*P Pn **23 22 09.6 +0.3**
comp=Z,17nm,0.6s,SNR=15
FETA Feichten 18.44 286 *i* P Pn **23 22 10.9 +1.1**
comp=Z,23nm,1.0s,SNR=14
SVE Sverdlovsk 18.93 43 *e*P Pn **23 22 13.7 -1.8**
SVE pmax pmax
comp=Z,35nm,1.4s
SVE Sverdlovsk 18.93 43 *e*P Pn **23 22 13.7 -1.8**
comp=Z,35nm,1.4s
COP Copenhagen 19.00 313 *i* P Pn **23 22 13.0 -3.4**
COP pmax pmax
comp=Z,18nm,0.8s
COP Copenhagen 19.00 313 *i* P Pn **23 22 13.0 -3.4**
comp=Z,18nm,0.8s
CLZ Clausthal 19.00 301 *e*P Pn **23 22 14.9 -1.6**
CLZ pmax pmax
comp=Z,20nm,0.8s
CLZ Clausthal 19.00 301 *e*P Pn **23 22 14.9 -1.6**
comp=Z,20nm,0.8s
DAVA Damuels 19.01 287 *i* Pn Pn **23 22 16.6 +0.1**
comp=Z,12nm,0.6s,SNR=9.9
DAVOX Davos/Dischmat 19.04 285 P Pn **23 22 17.4 +0.5**
comp=Z,5.1nm,0.3s,baz=84,slow=8.7,SNR=73
DAVOX Davos/Dischmat 19.04 285 P Pn **23 22 17.4 +0.5**
UBBA Unterbreizbach 19.07 298 *e*P Pn **23 22 17.9 +0.6**
comp=Z,5.0nm,0.7s
DAVOS Davos 19.09 286 P Pn **23 22 17.4 -0.2**
TUE Stuetta 19.43 285 *e*P Pn **23 22 21.3 -0.3**
comp=Z,60nm,0.6s
TUE Stuetta 19.43 285 *e*P Pn **23 22 21.3 -0.4**
comp=Z,60nm,0.6s
STU Stuttgart 19.44 291 *e*P Pn **23 22 22.1 +0.3**
STU Stuttgart 19.44 291 *e*Pn Pn **23 22 22.1 +0.4**
BSEG Bad Segeberg 19.53 307 *e*P Pn **23 22 20.6 -2.2**
BSEG pmax pmax
comp=Z,36nm,0.8s
BSEG Bad Segeberg 19.53 307 *e*P Pn **23 22 20.6 -2.2**
comp=Z,36nm,0.8s
SPAK Spaichingen-Ko 19.71 289 *e*P Pn **23 22 25.6 +0.6**
TOD Tromm 19.73 294 *e*P Pn **23 22 24.9 -0.2**
TNS Taunus Mts 20.00 296 *e*P Pn **23 22 27.0 -1.3**
TNS pmax pmax
comp=Z,8.0nm,0.8s
TNS Taunus Mts 20.00 296 *e*P Pn **23 22 27.0 -1.3**
comp=Z,8.0nm,0.8s
BFO Black Forest 20.02 290 *e*P P **23 22 27.6 +0.9**
BFO pmax pmax
comp=Z,40nm,0.8s
BFO Black Forest 20.02 290 *e*P P **23 22 27.6 +0.9**
comp=Z,40nm,0.8s
FELD Feldberg im Sc 20.25 289 *e*P P **23 22 30.6 +1.4**
PCP Piancastagn 20.27 279 P P **23 22 31.5 +2.0**
LANF Langenberg 20.36 292 *e*P P **23 22 32.1 +1.6**
STR Strasbourg 20.39 291 *e*P P **23 22 32.3 +1.5**
PGF Pioggiola 20.42 273 *e*P P **23 22 32.0 +0.8**
comp=Z,25nm,0.8s
PGF Pioggiola 20.42 273 *e*P P **23 22 32.0 +0.8**
PGF pmax pmax
comp=Z,13nm,0.8s
PGF Pioggiola 20.42 273 *e*P P **23 22 32.0 +0.8**
comp=Z,13nm,0.8s
FIN Finale Ligure 20.57 278 P P **23 22 33.4 +0.6**
BBS Basel-Blauen 20.60 288 *e*P P **23 22 33.6 +0.5**
IBBN Ibbenburen 20.67 301 *e*P P **23 22 36.0 +2.2**
comp=Z,39nm,0.7s
HFS Hagfors 20.70 326 P P **23 22 34.4 +0.4**
comp=Z,53nm,0.5s,baz=137,slow=13,SNR=317
HFS LR LR 23 31 26.1
comp=Z,513nm,19.1s,MS3.9,baz=89,slow=39
HFS Hagfors 20.70 326 P P **23 22 34.4 +0.4**
HFS pmax pmax
comp=Z,53nm,0.5s
HFS MLR MLR
comp=Z,513nm,19.1s
CDF Champ du Feu 20.72 290 *e*P P **23 22 34.6 +0.3**
comp=Z,25nm,0.8s
CDF Champ du Feu 20.72 290 *e*P P **23 22 34.6 +0.3**
CDF pmax pmax
comp=Z,12nm,0.8s
CDF Champ du Feu 20.72 290 *e*P P **23 22 34.6 +0.3**
comp=Z,12nm,0.8s
ECH Echery 20.80 290 *e*P P **23 22 35.8 +0.6**
ECH Echery 20.80 290 *e*P P **23 22 35.0 -0.2**
ECH Echery 20.80 290 *e*P P **23 22 35.0 -0.2**
MOF Molkenrain 20.83 289 *e*P P **23 22 36.8 +1.2**
BUG Bochum--Univer 20.85 299 *e*P P **23 22 36.9 +1.1**
comp=Z,30nm,0.9s
MUD Monsted U'grnd 20.98 313 *i* P P **23 22 37.8 +0.7**
MUD pmax pmax
comp=Z,28nm,0.9s
MUD Monsted U'grnd 20.98 313 *i* P P **23 22 37.8 +0.7**
comp=Z,28nm,0.9s
MUD *e* 23 22 56.2
HINF Hinteralfeld 21.02 289 *e*P P **23 22 37.8 +0.1**
comp=Z,9.5nm,0.6s,mb4.0
HINF Hinteralfeld 21.02 289 *e*P P **23 22 37.8 +0.1**
HINF pmax pmax
comp=Z,5.0nm,0.6s,mb4.0
HINF Hinteralfeld 21.02 289 *e*P P **23 22 37.8 +0.1**
comp=Z,4.8nm,0.6s,mb4.0
LOMF Lomont 21.07 287 *e*P P **23 22 38.8 +0.6**
LSD Lago del Serru 21.09 282 P P **23 22 39.2 +0.8**
ENR Entracque 21.12 279 P P **23 22 39.4 +0.7**
SBF Sospel 21.19 278 *e*P P **23 22 40.4 +0.9**
comp=Z,41nm,0.8s,mb4.5
SBF Sospel 21.19 278 *e*P P **23 22 40.4 +0.9**
SBF pmax pmax
comp=Z,21nm,0.8s,mb4.5
SBF Sospel 21.19 278 *e*P P **23 22 40.4 +0.9**
comp=Z,20nm,0.8s,mb4.5
LUCF Luceram 21.25 278 *e*P P **23 22 46.5 +6.4**
TOUF Mont Tournerai 21.29 278 *e*P P **23 22 46.0 +5.5**
LPG La Plagne 21.35 282 *e*P P **23 22 41.6 +0.4**
comp=Z,25nm,0.6s,mb4.4
LPG La Plagne 21.35 282 *e*P P **23 22 41.6 +0.4**
LPG pmax pmax
comp=Z,12nm,0.6s,mb4.4
LPG La Plagne 21.35 282 *e*P P **23 22 41.6 +0.4**
comp=Z,12nm,0.6s,mb4.5
LPL La Plagne 21.36 282 *e*P P **23 22 41.7 +0.4**
comp=Z,43nm,0.5s,mb4.8
LPL La Plagne 21.36 282 *e*P P **23 22 41.7 +0.4**
LPL pmax pmax
comp=Z,21nm,0.5s,mb4.7
LPL La Plagne 21.36 282 *e*P P **23 22 41.7 +0.4**
comp=Z,21nm,0.5s,mb4.8
RSL Roselend 21.41 283 *e*P P **23 22 42.2 +0.4**
RRL Rocca Remolon 21.42 281 P P **23 22 42.9 +0.9**
WLF Walferdange 21.45 294 P P **23 22 45.8 +3.5**
WLF Walferdange 21.45 294 *e*P P **23 22 43.0 +0.8**
WLF pmax pmax
comp=Z,13nm,0.9s,mb4.3
WLF Walferdange 21.45 294 *e*P P **23 22 44.4 +2.2**
comp=Z,17nm,1.0s,mb4.3
WLF Walferdange 21.45 294 *e*P P **23 22 43.0 +0.8**
comp=Z,13nm,0.9s,mb4.3
WLF Walferdange 21.45 294 *e*P P **23 22 43.0 +0.8**
comp=Z,13nm,0.9s,mb4.3
MBDF Montbardon 21.47 280 *e*P P **23 22 43.5 +1.0**
comp=Z,41nm,0.5s,mb4.7
MBDF Montbardon 21.47 280 *e*P P **23 22 43.5 +1.0**
MBDF pmax pmax
comp=Z,21nm,0.5s,mb4.7
MBDF Montbardon 21.47 280 *e*P P **23 22 43.5 +1.0**
comp=Z,20nm,0.5s,mb4.7
BNI Bardonecchia 21.48 281 *e*P P **23 22 43.5 +0.9**
BNI Bardonecchia 21.48 281 *e*P P **23 22 43.5 +1.0**
MEM Membach 21.58 296 P P **23 22 45.4 +1.8**
comp=Z,14nm,1.1s,mb4.3
MEM Membach 21.58 296 P P **23 22 45.3 +1.7**
comp=Z,14nm,1.1s,mb4.3
CABF La Chapelle 21.65 286 *e*P P **23 22 44.4 0.0**
comp=Z,43nm,0.9s,mb4.6
CABF La Chapelle 21.65 286 *e*P P **23 22 44.4 0.0**
CABF pmax pmax
comp=Z,22nm,0.9s,mb4.6

CABF La Chapelle 21.65 286 *e*P **P** **23 22 44.4 0.0**
comp=Z,22nm,0.9s,mb4.6
FRF La Foret Royal 21.82 277 *e*P **P** **23 22 48.4 +2.2**
comp=Z,26nm,0.8s,mb4.4
FRF La Foret Royal 21.82 277 *e*P **P** **23 22 48.4 +2.2**
FRF pmax pmax
comp=Z,13nm,0.8s,mb4.4
FRF La Foret Royal 21.82 277 *e*P **P** **23 22 48.4 +2.2**
comp=Z,13nm,0.8s,mb4.4
LMR La Mourre 21.97 277 *e*P **P** **23 22 47.9 0.0**
comp=Z,7.6nm,0.5s,mb4.0
LMR La Mourre 21.97 277 *e*P **P** **23 22 47.9 0.0**
LMR pmax pmax
comp=Z,4.0nm,0.5s,mb4.1
LMR La Mourre 21.97 277 *e*P **P** **23 22 47.9 0.0**
comp=Z,3.8nm,0.5s,mb4.0
ORIF Oris-en-Rattie 22.06 281 *e*P **P** **23 22 48.1 -0.7**
comp=Z,18nm,0.6s,mb4.4
ORIF *e*MLR MLR
comp=Z,173nm,19.8s,MS3.2
ORIF Oris-en-Rattie 22.06 281 *e*P **P** **23 22 48.1 -0.7**
ORIF pmax pmax
comp=Z,9.0nm,0.6s,mb4.4
ORIF Oris-en-Rattie 22.06 281 *e*P **P** **23 22 48.1 -0.7**
comp=Z,9.2nm,0.6s,mb4.4
KONO Kongsberg 22.16 322 *e*P **P** **23 22 49.8 +0.1**
KONO *e*S **S** **23 26 53.2 +1.0**
KONO Kongsberg 22.16 322⇑ *e*P **P** **23 22 49.1 -0.6**
OG05 Jujurieux 22.16 284 *e*P **P** **23 22 50.1 +0.3**
MEZF Maizieres J'vi 22.19 291 *e*P **P** **23 22 50.4 +0.2**
comp=Z,47nm,1.1s,mb4.5
MEZF Maizieres J'vi 22.19 291 *e*P **P** **23 22 50.4 +0.2**
comp=Z,24nm,1.1s,mb4.5
NB2 NORSAR Subarra 22.22 326 P **P** **23 22 50.1 -0.2**
comp=Z,24nm,0.6s,mb4.8,baz=122,slow=10
NOA NORSAR Array B 22.22 326 P **P** **23 22 50.4 0.0**
comp=Z,22nm,0.5s,mb4.8,baz=134,slow=11,SNR=165
NOA LR LR 23 32 22.7
comp=Z,419nm,18.7s,MS3.9,baz=115,slow=39
NOA NORSAR Array B 22.22 326 P **P** **23 22 50.4 +0.1**
NOA pmax pmax
comp=Z,22nm,0.5s
NOA MLR MLR
comp=Z,419nm,18.7s
NAO01 NORSAR Array S 22.24 325 *e*P **P** **23 22 50.5 -0.1**
comp=Z,24nm,0.6s,mb4.8
NAO01 NORSAR Array S 22.24 325 *e*P **P** **23 22 50.5 -0.1**
comp=Z,24nm,0.6s,mb4.8
GIVF Givet 22.32 295 *e*P **P** **23 22 51.0 -0.5**
SMRF Simiane la Rot 22.47 279 *e*P **P** **23 22 53.3 +0.1**
comp=Z,35nm,0.6s,mb4.7
SMRF Simiane la Rot 22.47 279 *e*P **P** **23 22 53.3 +0.1**
comp=Z,18nm,0.6s,mb4.7
SNART Snartemo 22.68 317 *e*P **P** **23 22 56.4 +1.1**
SNART AMb AMB 23 22 57.8
comp=Z,16nm,0.7s,mb4.6
SNART *i* 23 23 00.5
BAIF Baives 22.71 295 *e*P **P** **23 22 56.2 +0.5**
comp=Z,16nm,1.0s,mb4.1
BAIF Baives 22.71 295 *e*P **P** **23 22 56.2 +0.5**
BAIF pmax pmax
comp=Z,8.0nm,1.0s,mb4.1
BAIF Baives 22.71 295 *e*P **P** **23 22 56.2 +0.5**
comp=Z,7.9nm,1.0s,mb4.1
VIVF Saint-Julien-l 22.91 281 *e*P **P** **23 22 56.6 -1.2**
comp=Z,14nm,0.8s,mb4.1
VIVF Saint-Julien-l 22.91 281 *e*P **P** **23 22 56.6 -1.2**
VIVF pmax pmax
comp=Z,7.0nm,0.8s,mb4.1
VIVF Saint-Julien-l 22.91 281 *e*P **P** **23 22 56.6 -1.2**
comp=Z,6.9nm,0.8s,mb4.1
SSB Saint Sauveur 22.92 283 *e*P **P** **23 22 57.6 -0.3**
SSB Saint Sauveur 22.92 283 *e*P **P** **23 22 57.7 -0.2**
SSB Saint Sauveur 22.92 283 *e*P **P** **23 22 57.7 -0.2**
KEST Kesra 22.98 256 P **P** **23 22 59.0 +0.3**
comp=Z,0.9nm,0.7s,mb3.3,baz=355,slow=12,SNR=4.1
BRVK Borovoye 23.07 57 *e*P **P** **23 22 59.4 0.0**
BRVK pmax pmax
comp=Z,19nm,0.7s,mb4.6
BRVK Borovoye 23.07 57 *e*P **P** **23 22 59.4 0.0**
comp=Z,19nm,0.7s,mb4.6
LOR Lormes 23.09 288 *e*P **P** **23 22 59.4 -0.3**
comp=Z,13nm,0.7s,mb4.2
LOR *e*MLR MLR
comp=Z,75nm,17.8s
LOR Lormes 23.09 288 *e*P **P** **23 22 59.4 -0.3**
LOR pmax pmax
comp=Z,6.0nm,0.7s,mb4.1
LOR MLR MLR
comp=Z,80nm,17.8s,MS3.2
LOR Lormes 23.09 288 *e*P **P** **23 22 59.4 -0.3**
comp=Z,6.4nm,0.7s,mb4.2
LOR LR LR
comp=Z,80nm,17.8s,MS3.2
BVA0 Borovoye Array 23.13 58 Pn **P** **23 23 00.5 +0.4**
comp=Z,3.2nm,1.0s,mb3.7,baz=241,slow=2.4,SNR=49
BVA0 Sn **S** **23 27 16.9 +7.6**
comp=Z,0.4nm,0.7s,baz=256,slow=24,SNR=4.5
BVAR Borovoye Array 23.13 58 P **P** **23 23 00.4 +0.3**
comp=Z,2.0nm,0.7s,mb3.7,baz=258,slow=7.4,SNR=8.4
BVAR LR LR 23 32 45.5
comp=Z,109nm,21.1s,baz=71,slow=39
BVAR Borovoye Array 23.13 58 P **P** **23 23 00.4 +0.4**
BVAR pmax pmax
comp=Z,2.0nm,0.7s
BVAR MLR MLR
comp=Z,109nm,21.1s
SMF Signal de Mont 23.18 286 *e*P **P** **23 23 00.6 -0.1**
comp=Z,16nm,0.8s,mb4.2
SMF Signal de Mont 23.18 286 *e*P **P** **23 23 00.6 -0.1**
SMF pmax pmax
comp=Z,8.0nm,0.8s,mb4.2
SMF Signal de Mont 23.18 286 *e*P **P** **23 23 00.6 -0.1**
comp=Z,8.2nm,0.8s,mb4.2
SSF Saint Saulge 23.36 287 *e*P **P** **23 23 00.5 -2.0**
comp=Z,10nm,0.8s,mb4.0
SSF Saint Saulge 23.36 287 *e*P **P** **23 23 00.5 -2.0**
SSF pmax pmax
comp=Z,5.0nm,0.8s,mb4.0
SSF Saint Saulge 23.36 287 *e*P **P** **23 23 00.5 -2.0**
comp=Z,5.1nm,0.8s,mb4.0
PLDF La Plantade 23.44 285 *e*P **P** **23 23 05.4 +2.1**
VOSK Vostochnaya 23.45 58 ⇑Pn **P** **23 23 03.1 -0.3**
comp=Z,16nm,0.8s,mb4.5
VOSK ⇑Sn **S** **23 27 24.5 +10**
comp=Z,8.9nm,1.1s
BLS5 Blasjo 23.48 319 *e*P **P** **23 23 05.5 +1.9**
AVF Avril sur Loir 23.50 287 *e*P **P** **23 23 03.7 -0.2**
comp=Z,11nm,0.7s,mb4.1
AVF Avril sur Loir 23.50 287 *e*P **P** **23 23 03.7 -0.2**
AVF pmax pmax
comp=Z,6.0nm,0.7s,mb4.1
AVF Avril sur Loir 23.50 287 *e*P **P** **23 23 03.7 -0.2**
comp=Z,5.7nm,0.7s,mb4.1
ODD1 Odda 23.61 320 *e*P **P** **23 23 05.7 +0.9**
ODD1 AMb AMB 23 23 10.8
comp=Z,54nm,1.0s,mb4.9
ODD1 Odda 23.61 320 *e*P **P** **23 23 05.7 +0.9**
comp=Z,54nm,1.0s,mb4.9,SNR=33
DOMB Dombas 23.64 326 *e*P **P** **23 23 05.8 +0.8**
DOMB *i* 23 23 11.2
DOMB AMb AMB 23 23 12.3
comp=Z,72nm,1.1s,mb5.0
DOMB Dombas 23.64 326 *e*P **P** **23 23 05.8 +0.8**
comp=Z,72nm,1.1s,mb5.0,SNR=33
LASF Ste Croix 23.66 280 *e*P **P** **23 23 05.0 -0.4**
comp=Z,17nm,0.8s,mb4.3
LASF Ste Croix 23.66 280 *e*P **P** **23 23 05.0 -0.4**
comp=Z,8.7nm,0.8s,mb4.3
BGF Bois d'Agland 23.87 286 *e*P **P** **23 23 06.2 -1.1**
comp=Z,14nm,0.7s,mb4.2
BGF Bois d'Agland 23.87 286 *e*P **P** **23 23 06.2 -1.1**
BGF pmax pmax
comp=Z,7.0nm,0.7s,mb4.2
BGF Bois d'Agland 23.87 286 *e*P **P** **23 23 06.2 -1.1**
comp=Z,6.8nm,0.7s,mb4.2
PYM Petit Puy Mans 23.90 284 *e*P **P** **23 23 08.6 +1.1**
KK31 Karatay Array 23.99 82 ⇑Pn **P** **23 23 07.7 -0.8**
comp=Z,2.3nm,0.4s,mb4.0
KK31 ⇑Sn **S** **23 27 42.1 +19**
NSS Namsos 24.14 333 *e*P **P** **23 23 08.8 -0.8**
NSS AMb AMB 23 23 29.5
comp=Z,38nm,1.2s,mb4.7
NSS Namsos 24.14 333 *e*P **P** **23 23 08.8 -0.8**
comp=Z,38nm,1.2s,mb4.7,SNR=28
TCF Toulx Ste Croi 24.35 286 *e*P **P** **23 23 11.4 -0.3**
comp=Z,26nm,1.0s,mb4.3
TCF Toulx Ste Croi 24.35 286 *e*P **P** **23 23 11.4 -0.3**
TCF pmax pmax
comp=Z,13nm,1.0s,mb4.3
TCF Toulx Ste Croi 24.35 286 *e*P **P** **23 23 11.4 -0.3**
comp=Z,13nm,1.0s,mb4.3
BER Bergen 24.40 321 *e*P **P** **23 23 12.2 +0.2**
MOL Molde 24.52 327 *e*P **P** **23 23 14.7 +1.6**
MOR8 Moi Rana 24.59 338 *e*P **P** **23 23 14.2 +0.6**
MOR8 AMb AMB 23 23 16.0
comp=Z,38nm,0.7s,mb5.1
MOR8 *e* 23 23 22.2
MOR8 Moi Rana 24.59 338 *e*P **P** **23 23 14.2 +0.5**
comp=Z,38nm,0.7s,mb5.1,SNR=28
CAF Calviac 24.71 283 *e*P **P** **23 23 16.1 +1.1**
comp=Z,16nm,1.0s,mb4.2
CAF Calviac 24.71 283 *e*P **P** **23 23 16.1 +1.1**
CAF pmax pmax
comp=Z,8.0nm,1.0s,mb4.2
CAF Calviac 24.71 283 *e*P **P** **23 23 16.1 +1.1**
comp=Z,7.8nm,1.0s,mb4.2
MTLF Montolieu 24.99 279 *e*P **P** **23 23 18.4 +0.9**
comp=Z,5.3nm,0.6s,mb3.9
MTLF Montolieu 24.99 279 *e*P **P** **23 23 18.4 +0.9**
MTLF pmax pmax
comp=Z,3.0nm,0.6s,mb4.0
MTLF Montolieu 24.99 279 *e*P **P** **23 23 18.4 +0.9**
comp=Z,2.7nm,0.6s,mb3.9
FLOS Flostrand 25.01 337 *e*P **P** **23 23 19.2 +1.7**
FLOS AMb AMB 23 23 20.9
comp=Z,83nm,0.7s,mb5.4
RJF Les Rejaudoux 25.01 284 *e*P **P** **23 23 19.1 +1.4**
comp=Z,18nm,0.9s,mb4.3
RJF *e*MLR MLR
comp=Z,132nm,17.8s,MS3.2
RJF Les Rejaudoux 25.01 284 *e*P **P** **23 23 19.1 +1.4**
RJF pmax pmax
comp=Z,9.0nm,0.9s,mb4.3
RJF MLR MLR
comp=Z,130nm,17.8s,MS3.5
RJF Les Rejaudoux 25.01 284 *e*P **P** **23 23 19.1 +1.4**
comp=Z,8.9nm,0.9s,mb4.3
RJF LR LR
comp=Z,130nm,17.8s,MS3.5
STOK Stokkvaagen 25.10 337 *e*P **P** **23 23 19.5 +1.2**
STOK AMb AMB 23 23 21.3
comp=Z,64nm,0.8s,mb5.2
STOK Stokkvaagen 25.10 337 *e*P **P** **23 23 19.5 +1.2**
comp=Z,64nm,0.8s,mb5.2,SNR=28
ARCES ARCESS Array B 25.39 350 P **P** **23 23 21.8 +0.9**
comp=Z,15nm,0.6s,mb4.7,baz=161,slow=9.0,SNR=40
ARCES LR LR 23 34 22.8
comp=Z,249nm,19.0s,MS3.8,baz=161,slow=39
ARCES ARCESS Array B 25.39 350 P **P** **23 23 21.8 +0.9**
ARCES pmax pmax
comp=Z,15nm,0.6s
ARCES MLR MLR
comp=Z,249nm,19.0s
ARCES ARCESS Array B 25.39 350 P **P** **23 23 21.8 +0.9**
ARCES LR LR 23 34 22.8
ARE0 ARCESS Array S 25.39 350 *e*P **P** **23 23 21.7 +0.8**
ARE0 ARCESS Array S 25.39 350 *e*P **P** **23 23 21.7 +0.9**
KEV Kevo 25.43 352 *e*p **P** **23 23 23.5 +2.2**
comp=Z,12nm,0.6s,mb4.6
KEV Kevo 25.43 352 *e*P **P** **23 23 23.5 +2.2**
KEV pmax pmax
comp=Z,12nm,0.6s,mb4.6
KEV Kevo 25.43 352 *e*P **P** **23 23 22.6 +1.3**
SNR=28
LDF La Druitiere 25.61 292 *e*P **P** **23 23 23.2 +0.1**
LFF La Frestale 25.63 283 *e*P **P** **23 23 24.7 +1.4**
comp=Z,29nm,0.8s,mb4.5
LFF La Frestale 25.63 283 *e*P **P** **23 23 24.7 +1.4**
LFF pmax pmax
comp=Z,14nm,0.8s,mb4.5
LFF La Frestale 25.63 283 *e*P **P** **23 23 24.7 +1.4**
comp=Z,14nm,0.8s,mb4.5
FLN La Foliniere 25.83 292 *e*P **P** **23 23 25.4 +0.3**
FLN *e*MLR MLR
comp=Z,208nm,20.0s,MS3.4
FLN La Foliniere 25.83 292 *e*P **P** **23 23 25.4 +0.3**
FLN LR LR
comp=Z,210nm,20.0s,MS3.7
MFF Saint Martin d 25.90 287 *e*P **P** **23 23 25.9 +0.1**
comp=Z,9.5nm,0.8s,mb4.1
MFF Saint Martin d 25.90 287 *e*P **P** **23 23 25.9 +0.1**
MFF pmax pmax
comp=Z,5.0nm,0.8s,mb4.1
MFF Saint Martin d 25.90 287 *e*P **P** **23 23 25.9 +0.1**
comp=Z,4.8nm,0.8s,mb4.1
GRR Gorron 26.12 291 *e*P **P** **23 23 27.7 -0.1**
comp=Z,24nm,0.9s,mb4.4
GRR Gorron 26.12 291 *e*P **P** **23 23 27.7 -0.1**
GRR pmax pmax
comp=Z,12nm,0.9s,mb4.4
GRR Gorron 26.12 291 *e*P **P** **23 23 27.7 -0.1**
comp=Z,12nm,0.9s,mb4.4
EPF Esparros 26.40 279 *e*P **P** **23 23 30.9 +0.6**
comp=Z,5.4nm,0.7s,mb3.9
EPF Esparros 26.40 279 *e*P **P** **23 23 30.9 +0.6**
EPF pmax pmax
comp=Z,3.0nm,0.6s,mb4.0
EPF Esparros 26.40 279 *e*P **P** **23 23 30.9 +0.6**
comp=Z,2.7nm,0.7s,mb3.9
ETSF Etsaut 27.07 279 *e*P **P** **23 23 36.8 +0.5**
comp=Z,12nm,0.7s,mb4.2
ETSF Etsaut 27.07 279 *e*P **P** **23 23 36.8 +0.5**
ETSF pmax pmax
comp=Z,6.0nm,0.7s,mb4.2
ETSF Etsaut 27.07 279 *e*P **P** **23 23 36.8 +0.5**
comp=Z,5.8nm,0.7s,mb4.2
SGMF Saint Gilles 27.27 291 *e*P **P** **23 23 38.1 +0.1**
comp=Z,20nm,1.0s,mb4.3
SGMF Saint Gilles 27.27 291 *e*P **P** **23 23 38.1 +0.1**
SGMF pmax pmax
comp=Z,10.0nm,1.0s,mb4.3
SGMF Saint Gilles 27.27 291 *e*P **P** **23 23 38.1 +0.1**
comp=Z,9.8nm,1.0s,mb4.3
SJPF Ste Jean 27.47 280 *e*P **P** **23 23 41.0 +1.1**
EKA Eskdalemuir Ar 27.48 307 P **P** **23 23 40.5 +0.6**
comp=Z,12nm,0.6s,mb3.6,baz=104,slow=8.3,SNR=7.5
EKA Eskdalemuir Ar 27.48 307 P **P** **23 23 40.5 +0.6**
EKA pmax pmax
comp=Z,1.0nm,0.6s
QUIF Quistinic 27.72 291 *e*P **P** **23 23 42.7 +0.6**
comp=Z,18nm,0.9s,mb4.4
QUIF Quistinic 27.72 291 *e*P **P** **23 23 42.7 +0.6**
QUIF pmax pmax
comp=Z,9.0nm,0.9s,mb4.4
QUIF Quistinic 27.72 291 *e*P **P** **23 23 42.7 +0.6**
comp=Z,8.9nm,0.9s,mb4.4
ROSF Rostrenen 27.73 292 *e*P **P** **23 23 42.3 +0.1**
KURK Kurchatov 28.18 63 P **P** **23 23 45.6 -0.6**
comp=Z,12nm,0.6s,mb3.7,baz=273,slow=9.2,SNR=3.9
KURK Kurchatov 28.18 63 P **P** **23 23 45.6 -0.6**
KURK pmax pmax
comp=Z,1.0nm,0.6s,mb3.6
ESDC Sonseca Array 30.59 275 P **P** **23 24 08.2 +0.5**
comp=Z,0.7nm,0.6s,mb3.7,baz=60,slow=9.5,SNR=5.4
MKAR Makanchi Array 31.19 70 P **P** **23 24 13.2 +0.3**
comp=Z,0.7nm,0.4s,mb3.9,baz=279,slow=8.1,SNR=34
MKAR Makanchi Array 31.19 70 *i* P **P** **23 24 13.1 +0.2**
MKAR pmax pmax
comp=Z,1.0nm,0.4s
ZAA0 Zalesovo Array 31.77 56 *e*P **P** **23 24 17.9 0.0**
ZAA0 Zalesovo Array 31.77 56 *e*P **P** **23 24 17.9 0.0**
ZALV Zalesovo Beam 31.77 56 P **P** **23 24 18.1 +0.2**
comp=Z,1.2nm,0.4s,mb4.1,baz=266,slow=9.1,SNR=8.1
ZALV Zalesovo Beam 31.77 56 P **P** **23 24 18.1 +0.2**
ZALV pmax pmax
comp=Z,1.0nm,0.4s,mb4.0
EVO Evora 33.94 275 *e*P **P** **23 24 39.0 +2.0**
comp=Z,15nm,1.5s,mb4.4
EVOP Sao Brissos 34.02 275 *e*P **P** **23 24 39.0 +1.3**
comp=Z,7.7nm,1.5s,mb4.4
MDT Midelt 34.31 264 P **P** **23 24 40.5 +0.2**
comp=Z,0.7nm,0.5s,mb3.8,baz=66,slow=10.0,SNR=5.0
SPITS Spitsbergen Ar 34.36 353 P **P** **23 24 41.3 +1.1**
comp=Z,8.4nm,0.8s,mb4.7,baz=307,slow=11,SNR=7.9
SPITS Spitsbergen Ar 34.36 353 P **P** **23 24 41.3 +1.0**
SPITS pmax pmax
comp=Z,8.0nm,0.8s
WMQ Urumqi 35.70 73 P **P** **23 24 52.4 +0.2**
TORD Torodi Ar. Bea 43.69 235 P **P** **23 25 58.3 -0.6**
comp=Z,12nm,0.5s,mb4.9,baz=34,slow=8.9,SNR=170
GTA Gaotai 45.78 74 *e*P **P** **23 26 13.1 -2.2**
GTA AMB AMB
comp=Z,2.0nm,1.0s,mb4.0
LZH Lanzhou 50.20 76 *e*P **P** **23 26 49.9 +0.3**
LZH AP pP 23 26 54.5 -3.5
LZH AMB AMB
comp=Z,20nm,1.2s,mb5.0
LZH AMB AMB
comp=Z,86nm,4.6s
LZH Lanzhou 50.20 76 *e*P **P** **23 26 49.9 +0.3**
comp=Z,20nm,1.2s,mb5.0
LZH pP pP 23 26 54.5 -3.5
LZH Lanzhou 50.20 76 *e*P **P** **23 26 49.9 +0.3**
comp=Z,20nm,1.2s,mb5.0
LZH pP pP 23 26 54.5 -3.5
LZH sP sP 23 26 55.5 -5.9
DBIC Dimbokro 52.70 237 P **P** **23 27 07.6 -0.9**
comp=Z,13nm,0.7s,mb5.0,baz=17,slow=8.3,SNR=27
DBIC Dimbokro 52.70 237 P **P** **23 27 07.6 -0.9**
DBIC pmax pmax
comp=Z,13nm,0.7s
DBIC Dimbokro 52.70 237 P **P** **23 27 07.6 -0.9**
TIC Toumodi 52.82 237 *e*P **P** **23 27 08.2 -1.2**
comp=Z,48nm,0.8s,mb5.5
KIC Kosan Boka 52.88 236 *e*P **P** **23 27 08.8 -1.0**
comp=Z,119nm,1.1s
CD2 Chengdu 53.00 81 *e*P **P** **23 27 11.3 +0.7**
CD2 AP pP 23 27 15.8 -3.2
CD2 XP sP 23 27 18.4 -4.0
CD2 PP PP 23 29 12.0 +1.8
CD2 S **S** **23 34 37.7 -0.7**
CD2 SS SS 23 38 15.3 -2.2
CD2 AMB AMB
comp=Z,10.0nm,0.8s,mb4.8
CD2 AMB AMB
comp=Z,20nm,4.8s
CD2 LR LR
comp=N,120nm,14.2s
CD2 LR LR
comp=Z,160nm,15.2s,MS4.2
LIC Lamto 53.16 236⇑ *i*P **P** **23 27 10.9 -1.0**
comp=Z,32nm,0.6s,mb5.2
LIC Lamto 53.16 236 *e*P **P** **23 27 10.9 -1.0**
comp=Z,90nm,0.8s,mb5.7
LIC Lamto 53.16 236⇑ *i*P **P** **23 27 10.9 -1.0**
comp=Z,16nm,0.6s,mb5.2
KMI Kunming 55.74 87 P **P** **23 27 32.4 +1.8**
KMI AMB AMB
comp=Z,7.0nm,1.7s,mb4.4
KMI Kunming 55.74 87 P **P** **23 27 32.4 +1.8**
comp=Z,7.0nm,1.7s,mb4.4
BJI Beijing 56.33 65 P **P** **23 27 33.1 -1.5**
BJI AMB AMB
comp=Z,11nm,0.8s,mb4.9
BJI AMB AMB
comp=Z,331nm,7.4s
BJI Beijing 56.33 65 P **P** **23 27 33.1 -1.5**
comp=Z,11nm,0.8s,mb4.9
CMAR Chiang Mai Arr 57.32 96 LR LR 23 53 56.2
comp=Z,56nm,19.6s,MS3.7,baz=280,slow=38
GYA Guiyang 57.70 84 P **P** **23 27 44.2 -0.2**
GYA AMB AMB
comp=Z,10.0nm,0.8s,mb4.9
SCHQ Schefferville 61.66 320 P **P** **23 28 10.9 -0.3**
comp=Z,3.4nm,0.4s,mb4.8,baz=36,slow=4.6,SNR=6.4
SCHQ Schefferville 61.66 320 P **P** **23 28 10.9 -0.4**
MDJ Mudanjiang 61.93 54 P **P** **23 28 09.5 -3.8**
MDJ AMB AMB
comp=Z,5.0nm,0.6s,mb4.8
MDJ AMB AMB
comp=Z,71nm,5.2s
NJ2 Nanjing 62.72 71 *e*P **P** **23 28 20.7 +1.9**
NJ2 AMB AMB
comp=Z,10.0nm,0.5s,mb5.2
KSRS Korea Array 65.28 61 P **P** **23 28 33.6 -1.9**
comp=Z,2.2nm,0.6s,mb4.3,baz=305,slow=6.3,SNR=7.0
KSRS Korea Array 65.28 61 P **P** **23 28 33.7 -1.8**
KSRS pmax pmax
comp=Z,2.0nm,0.6s,mb4.3
YKA Yellowknife Ar 70.58 347 P **P** **23 29 09.3 +1.0**
comp=Z,9.5nm,0.7s,mb4.8,baz=19,slow=6.1,SNR=12
YKA Yellowknife Ar 70.58 347 P **P** **23 29 09.3 +0.9**
YKA pmax pmax
comp=Z,10.0nm,0.7s
ULM Lac du Bonnet 76.80 331 P **P** **23 29 45.2 +0.1**
comp=Z,5.7nm,0.9s,mb4.5,baz=26,slow=8.3,SNR=3.6
ULM Lac du Bonnet 76.80 331 P **P** **23 29 45.2 +0.1**
EDM Edmonton 79.02 342 *e*P **P** **23 29 58.2 +0.8**
EDM Edmonton 79.02 342 *e*P **P** **23 29 58.1 +0.7**
DCID1 Drake Creek 87.47 338 *e*P **P** **23 30 41.8 +0.7**
comp=Z,31nm,0.5s
DCID1 Drake Creek 87.47 338 *e*P **P** **23 30 41.8 +0.6**
comp=Z,31nm,0.5s
GUMO Guam 92.66 68 LR LR 00 17 07.9
comp=Z,183nm,18.4s,MS4.6,baz=103,slow=38
TXAR Lajitas Array 97.92 326 LR LR 00 15 19.1
comp=Z,84nm,19.1s,MS4.2,baz=5.0,slow=35

*IDC **05** 23:28:26.6±3.4, 788N×12737E, h110km±30km, mb3.5/8, mb1 3.6/8, mb1mx3.4/21, mbtmp3.5/8, Error ellipse: s-maj=40.5km s-min=14.3km az=71.0*
*ISCJB **05** 23:28:31.3±0.8, 751N±006×1265E±0.1, h161km±6km, mb3.7/8, Error ellipse: s-maj=18.0km s-min=8.6km az=167.0*

ISC 05 23:28:32.7±0.8, 751N±006×1265E±01, h154km±6km, n16, σ0°69/21, mb3.7/8, 2C, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MATI	**Mati**	**0.62**	**206**	*e*P	**Pn**	**23 28 54.9**	**-0.3**
MATI				*e*S	**Sn**	**23 29 11.8**	**-0.5**
DAV	**Davao City (W)**	**1.04**	**245**	P	**Pn**	**23 28 58.7**	**+0.5**
	59nm,0.3s,baz=70,slow=12,SNR=4.6						
DAV				S	**Sn**	**23 29 18.5**	**+0.8**
	174nm,0.3s,baz=53,slow=20,SNR=11						
BUKP	**Musuan**	**1.50**	**284**	*e*P	**Pn**	**23 29 03.1**	**+0.5**
BUKP				*e*S	**Sn**	**23 29 25.4**	**-0.1**
CGP	**Cagayan de Oro**	**2.05**	**297**⇑	*i*P	**Pn**	**23 29 08.5**	**-0.1**
CGP				*i* S	**Sn**	**23 29 36.3**	**+0.1**
GSPH	**General Santos**	**2.12**	**228**⇑	*e*P	**Pn**	**23 29 08.9**	**-0.5**
GSPH				*i* S	**Sn**	**23 29 36.5**	**-1.2**
SCPH	**Surigao**	**2.48**	**335**	*e*P	**Pn**	**23 29 14.7**	**+0.9**
SCPH				*e*S	**Sn**	**23 29 44.9**	**-0.6**
PAGZ	**Pagadian**	**3.14**	**276**	*e*P	**Pn**	**23 29 22.9**	**+1.0**
FITZ	**Fitzroy Crossi**	**25.46**	**182**	P	**P**	**23 33 47.9**	**+1.4**
	0.6nm,0.6s,mb3.3,baz=338,slow=5.4,SNR=4.2						
WRA	**Warramunga Arr**	**28.34**	**164**	P	**P**	**23 34 12.4**	**+0.2**
	0.3nm,0.7s,mb3.1,baz=350,slow=9.4,SNR=4.1						
ASAR	**Alice Springs**	**31.81**	**167**	P	**P**	**23 34 42.3**	**-0.5**
	0.2nm,0.5s,mb3.1,baz=348,slow=7.0,SNR=3.2						
PETK	**Petropavlovsk-**	**52.04**	**23**	P	**P**	**23 37 19.6**	**-6.7**
	2.2nm,0.7s,mb3.9,baz=204,slow=12,SNR=3.3						
MKAR	**Makanchi Array**	**54.38**	**324**	P	**P**	**23 37 43.7**	**+0.2**
	2.1nm,0.4s,mb4.2,baz=115,slow=7.5,SNR=57						
ZALV	**Zalesovo Beam**	**57.16**	**332**	P	**P**	**23 38 01.8**	**-1.4**
	0.9nm,0.5s,mb3.9,baz=138,slow=6.3,SNR=4.2						
KURK	**Kurchatov**	**58.48**	**326**	P	**P**	**23 38 12.5**	**0.0**
	2.0nm,0.5s,mb4.2,baz=126,slow=6.7,SNR=19						
BVAR	**Borovoye Array**	**64.08**	**326**	P	**P**	**23 38 49.7**	**-0.4**
	1.0nm,0.4s,mb4.0,baz=132,slow=6.8,SNR=7.7						
TORD	**Torodi Ar. Bea**	**121.50**	**290**	PKP	PKPdf	23 47 08.4	-0.4
	0.4nm,0.7s,baz=70,slow=1.6,SNR=5.5						

*THE **05** 23:39:49.3, 3931N×2000E, h12km±2km, ML2.4/2, Error ellipse: s-maj=4.3km s-min=0.9km az=86.0*
*ISCJB **05** 23:39:51.4±0.8, 3927N±003×2027E±007, h6km±7km, Error ellipse: s-maj=9.5km s-min=5.3km az=170.4*
*ATH **05** 23:39:51.7, 3925N×2027E, h12km, MD3.5/4*
*CSEM **05** 23:39:51.2±0.1, 3921N×2029E, h2km, ML2.4/2, Error ellipse: s-maj=2.5km s-min=1.4km az=74.0*
*NEIC **05** 23:39:51.7, 3925N×2027E, h12km, MD3.5(ATH), After ATH.*

ISC 05 23:39:51.7±0.7, 3924N±003×2028E±007, h3km±11km, n13, σ0°91/21, Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IGT	**Igoumenitsa**	**0.29**	**8**	P	**Pg**	**23 39 56.5**	**-0.9**
IGT				S	**Sg**	**23 40 01.1**	**-0.1**
KEK	**Kerkira**	**0.60**	**322**	*e*Pg	**Pg**	**23 40 02.8**	**-0.4**
KEK				*e*Sb	**Sg**	**23 40 11.9**	**+0.9**
KEK	**Kerkira**	**0.60**	**322**	*e*PG	**Pg**	**23 40 02.8**	**-0.4**
KEK				*e*SB	**Sg**	**23 40 11.9**	**+0.9**
JAN	**Janina**	**0.61**	**47**	*e*Pb	**Pg**	**23 40 02.7**	**-0.6**

JAN				*e*Sb	Sg	23 40 11.7	+0.5
JAN	Janina	0.61	47	*e*PB	Pg	23 40 02.7	-0.6
JAN				*e*SB	Sg	23 40 11.7	+0.5
LKD	Levkas	0.61	151	P	Pg	23 40 03.6	+0.3
LKD				S	Sg	23 40 16.0	+4.8
LKD	Levkas	0.61	151	P	Pg	23 40 03.7	+0.4
VLS	Valsamata	1.09	167	P	Pg	23 40 11.3	-1.3
VLS				S	Sg	23 40 28.4	+1.7
VLS	Valsamata	1.09	167	*e*Pn	Pn	23 40 12.6	-1.3
VLS				S	Sg	23 40 28.4	+1.7
VLS	Valsamata	1.09	167	*e*PN	Pn	23 40 12.6	-1.3
EVR	Evrytania	1.23	105	*e*Pb	Pb	23 40 15.6	0.0
EVR	Evrytania	1.23	105	*e*PB	Pb	23 40 15.6	0.0
FNA	Florina	1.75	28	P	Pn	23 40 24.3	+1.3

*DDA **05** 23:41:43.9, 3758N×4404E, h2km±1km, Md3.2, Ml3.5*
*CSEM **05** 23:41:43.7±0.2, 3765N×4395E, h10km, MD2.9, Error ellipse: s-maj=4.3km s-min=2.3km az=83.0*
*ISK **05** 23:41:44.2, 3765N×4395E, h8km, MD2.9*
ISC 05 23:41:42.5±1.9**, 3755N**±007×**4412E**±009**, h0**km±9km**, n13, σ1°05**/17**, Turkey-Iran border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HKR	Hakkari	0.30	276	*e*PG	Pg	23 41 48.2	0.0
HKR				*e*SG	Sg	23 41 51.9	-0.2
HAKT	HAKKARI	0.33	272	*i* P	Pg	23 41 49.6	+0.9
HAKT				*i* S	Sg	23 41 53.9	+0.9
VANT	Van	1.06	328	*e*PG	Pg	23 42 02.3	-0.6
TVAN	Van	1.13	330	*i* P	Pg	23 42 02.6	-1.5
TVAN				*i* S	Sg	23 42 20.2	+1.4
VANB	Van	1.19	331	*e*PG	Pg	23 42 05.5	+0.2
VANB				*e*SG	Sg	23 42 19.6	-1.3
SIRT	Sirnak	1.33	268	*e*PN	Pn	23 42 07.4	-0.9
MSL	Mosul	1.40	215	*e*x	x	23 42 10.0	
MSL				*e*x	x	23 42 31.0	
CLDR	Caldiran	1.60	354	*e*PN	Pn	23 42 12.1	+0.1
AGRB	Hanur-Agry	2.21	337	*e*PN	Pn	23 42 20.0	-0.4
BEST	Besiri	2.28	279	*i* P	Pb	23 42 24.7	+0.1
BEST				*i* S	Sb	23 42 55.3	+2.0
GNI	Garni	2.64	10	*e*PN	Pn	23 42 28.0	+1.6
MARD	Mardin	2.67	266	*i* P	Pb	23 42 31.1	0.0
MARD				*i* S	Sb	23 43 02.3	-2.1
BHD	Baghdad	4.27	177	*e*x	x	23 42 50.0	
BHD				*e*x	x	23 43 42.0	

IDC 05 23:59:20.3±4.8**, 287S**×**10132E, h0**km**, mb3.4**/3**, mb1 3.6**/3**, mb1mx3.4**/16**, mbtmp3.4**/3**, Error ellipse: s-maj=257.7km s-min=30.0km az=51.0, Southern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	36.42	120	P	P	00 06 26.5	-0.4
	0.2nm,0.8s,baz=296,slow=8.0,SNR=6.8						
ASAR	Alice Springs	37.68	126	P	P	00 06 38.0	+0.4
	0.2nm,0.3s,baz=305,slow=8.3,SNR=3.7						
MKAR	Makanchi Array	52.23	344	P	P	00 08 33.2	+0.2
	0.5nm,0.7s,baz=142,slow=7.3,SNR=3.7						
TXAR	Lajitas Array	144.56	40	PKP	PKPdf	00 18 58.7	-0.8
	0.6nm,0.7s,baz=288,slow=0.9,SNR=9.1						

*THE **06** 00:04:40.7, 3930N×2015E, h0km±3km, ML2.9/5, Error ellipse: s-maj=5.1km s-min=1.2km az=270.0*
*ISCJB **06** 00:04:41.8±0.6, 3931N±003×2023E±005, h10km, Error ellipse: s-maj=5.8km s-min=3.8km az=173.9*
*ATH **06** 00:04:41.9, 3931N×2030E, h3km, MD3.3/4*
*NEIC **06** 00:04:41.9, 3931N×2030E, h3km, MD3.3(ATH), After ATH.*
*CSEM **06** 00:04:41.9±0.3, 3933N×2029E, h2km, ML2.9/5, Error ellipse: s-maj=7.0km s-min=4.9km az=62.0*
ISC 06 00:04:42.0±0.7**, 3931N**±002×**2026E**±005**, h0**km±6km**, n17, σ1°06**/32**, Greece-Albania border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IGT	Igoumenitsa	0.23	14	P	Pg	00 04 45.7	-0.7
IGT				S	Sg	00 04 50.4	+1.0
KEK	Kerkira	0.54	319	*e*Pg	Pg	00 04 52.4	+0.1
KEK				*e*Sg	Sg	00 05 00.9	+1.6
KEK	Kerkira	0.54	319	*e*PG	Pg	00 04 52.4	+0.1
KEK				*e*SG	Sg	00 05 00.9	+1.6
JAN	Janina	0.58	53	*e*Pg	Pg	00 04 52.0	-1.0
JAN				*e*Sg	Sg	00 04 59.7	-0.8
JAN	Janina	0.58	53	*e*PG	Pg	00 04 52.0	-1.0
JAN				*e*SG	Sg	00 04 59.7	-0.8
LKD	Levkas	0.67	153	P	Pg	00 04 53.2	-1.6
LKD				S	Sg	00 05 05.3	+1.8
MEV	Metsovon	0.89	57	P	Pg	00 04 57.9	-1.1
MEV				S	Sg	00 05 12.0	+1.5
VLS	Valsamata	1.16	167	P	Pg	00 05 02.9	-1.2
VLS				S	Sg	00 05 20.4	+1.3
VLS	Valsamata	1.16	167	*e*Pg	Pg	00 05 03.5	-0.6
VLS				*e*Sb	Sb	00 05 19.8	-0.6
VLS				S	Sg	00 05 20.4	+1.3
VLS	Valsamata	1.16	167	*e*Pg	Pg	00 05 03.5	-0.6
VLS				*e*Sb	Sb	00 05 19.8	-0.6
VLS	Valsamata	1.16	167	*e*PG	Pg	00 05 03.5	-0.6
VLS				*e*SB	Sb	00 05 19.8	-0.6
EVR	Evrytania	1.27	107	*e*Pb	Pn	00 05 05.7	-1.2
EVR	Evrytania	1.27	107	*e*PB	Pn	00 05 05.7	-1.2
AGG	Agios Georgios	1.64	99	P	Pn	00 05 12.1	+0.2
AGG				S	Sn	00 05 34.7	+1.0
FNA	Florina	1.71	30	P	Pn	00 05 12.0	-0.9
FNA				S	Sn	00 05 34.8	-0.6
BIA	Bitola	1.90	25	P	Pn	00 05 14.9	-0.6
LIT	Litokhoron	1.90	65	P	Pn	00 05 15.6	+0.1
LIT				S	Sn	00 05 41.8	+1.7

*CSEM **06** 00:05:53.4±0.1, 3904N×2680E, h10km, MD3.3, Error ellipse: s-maj=2.8km s-min=1.6km az=82.0*
*DDA **06** 00:05:53.7, 3908N×2682E, h38km±1km, Md3.3*
*ISK **06** 00:05:53.6, 3907N×2677E, h9km, MD3.0*
*ISCJB **06** 00:05:54.2±0.6, 3907N±002×2681E±004, h8km±4km, Error ellipse: s-maj=4.8km s-min=3.0km az=166.0*
ISC 06 00:05:54.8±0.4**, 3907N**±002×**2680E**±004**, h11**km±3km**, n41, σ0°90**/58**, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AYVA	Ayvalik	0.25	340	*i* P	Pg	00 05 59.5	-0.5
AYVA				*i* S	Sg	00 06 03.3	-0.2
BLCB	Balcova	0.71	165	*e*PG	Pg	00 06 07.8	-0.8
BLCB				*e*SG	Sg	00 06 17.9	0.0
BLCB	Balcova	0.71	165	*e*Sg	Sg	00 06 17.9	0.0
URLA	Izmir	0.73	193	*i* P	Pg	00 06 07.6	-1.3
URLA				*i* S	Sg	00 06 20.6	+2.2
KDAG	Bornova	0.76	151	*i* P	Pg	00 06 08.9	-0.6
KDAG				*i* S	Sg	00 06 21.4	+2.0
KDAG	Bornova	0.76	151	*i* P	Pg	00 06 08.9	-0.6
KDAG				*i* S	Sg	00 06 21.5	+2.0
IZM	Izmir	0.76	152	*e*PG	Pg	00 06 09.3	-0.3
AKS	Akhisar	0.81	103	*e*PG	Pg	00 06 10.6	+0.1
BALY	Balya	0.92	43	*i* P	Pg	00 06 11.6	-1.0
BALY				*i* S	Sg	00 06 24.4	-0.1
BOZC	Bozcaada	0.96	323	*i* P	Pg	00 06 12.3	-1.0
BOZC				*i* S	Sg	00 06 26.0	0.0
BALB	Balikesir	1.01	56	*e*PG	Pg	00 06 13.3	-0.9
BALB				*e*SG	Sg	00 06 29.1	+1.6
BALB	Balikesir	1.01	56	*e*Sg	Sg	00 06 29.1	+1.6
LPK	Lapseki	1.30	359	*e*PN	Pn	00 06 18.6	-0.2
GADA	Gvkgeada	1.32	328	*e*PN	Pn	00 06 18.6	-0.4
GADA				*e*SN	Sn	00 06 37.2	+0.6
DURS	Dursunbey	1.40	67	*i* P	Pn	00 06 19.3	-0.9
DURS				*i* S	Sn	00 06 37.6	-1.1
GCAM	G?zelcaml?	1.41	166	*i* P	Pn	00 06 20.5	+0.2
GCAM				*i* S	Sn	00 06 39.6	+0.7
MANT	Manisa	1.49	112	*i* P	Pn	00 06 20.9	-0.6
MANT				*i* S	Sn	00 06 39.9	-0.9
DEMI	Demirci	1.49	91	*i* P	Pn	00 06 20.4	-1.1
DEMI				*i* S	Sn	00 06 40.1	-0.8
DST	Dursunbey	1.51	69	*e*PN	Pn	00 06 21.2	-0.6
EDC	Edincik	1.51	32	*e*PN	Pn	00 06 21.1	-0.7
BNT	Bandirma	1.55	34	*e*PN	Pn	00 06 21.7	-0.5
KULA	Kula-Manisa	1.56	110	*e*PN	Pn	00 06 22.7	+0.4
RKY	Sarkoy-Tekirda	1.64	10	*e*PN	Pn	00 06 23.9	+0.3
SART	Tekirdag	1.64	10	*i* P	Pn	00 06 23.3	-0.2
SART				*i* S	Sn	00 06 44.4	-0.2
AYDN	Tasoluk	1.64	149	*i* P	Pn	00 06 22.7	-0.9
AYDN				*i* S	Sn	00 06 43.0	-1.6
AYDN	Tasoluk	1.64	149	*i* P	Pn	00 06 22.7	-0.9
AYDN				*i* S	Sn	00 06 43.0	-1.6
MRMT	Marmara Adasi	1.65	22	*e*PN	Pn	00 06 23.3	-0.3
KCT	Karacabey	1.69	45	*e*PN	Pn	00 06 24.7	+0.4
ENEZ	Enez	1.73	344	*e*PN	Pn	00 06 25.3	+0.4
MFT	Murefte	1.75	12	*e*PN	Pn	00 06 24.8	-0.3
GDZ	Gediz	2.09	89	*i* P	Pn	00 06 32.2	+2.6
GDZ				*i* S	Sn	00 07 00.4	+4.8
CRLT	Corlu	2.18	19	*e*PN	Pn	00 06 30.8	-0.1
GEMT	Gemlik	2.29	53	*e*PN	Pn	00 06 32.6	+0.2
SLVT	Silivri	2.41	26	*e*PN	Pn	00 06 34.9	+0.8
YLV	Yalova	2.48	52	*e*PN	Pn	00 06 36.6	+1.5
CTKS	Kestanelik-??a	2.53	31	*e*PN	Pn	00 06 36.8	+1.1
BGKT	Bogazkoy	2.59	35	*e*PN	Pn	00 06 37.2	+0.6
ISK	Istanbul-Kandi	2.64	40	*e*PN	Pn	00 06 37.7	+0.4
ADVT	Abdulvahap	2.64	58	*e*PN	Pn	00 06 38.6	+1.3
KLYT	Kilyos	2.77	38	*e*PN	Pn	00 06 40.0	+0.9
GULT	Gulveren	3.17	63	*e*PN	Pn	00 06 46.0	+1.4

*ISK **06** 00:42:09.4, 39.12N×2928E, h6km, MD2.7*
*CSEM **06** 00:42:12.7±0.3, 39.10N×2897E, h14km±4km, MD2.9, Error ellipse: s-maj=11.0km s-min=7.6km az=93.0*
*ISCJB **06** 00:42:13.5±0.6, 39.11N±003×2903E±004, h5km±9km, Error ellipse: s-maj=5.6km s-min=5.2km az=155.5*
*DDA **06** 00:42:13.3, 39.12N×2905E, h7km±5km, Md2.9*
ISC 06 00:42:13.9±0.5**, 3911N**±003×**2905E**±004**, h5**km±11km**, n10, σ0°61**/19**, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DEMI	Demirci	0.27	255	*i* P	Pg	00 42 19.6	+0.5
DEMI				*i* S	Sg	00 42 23.3	+0.8
DEMI	Demirci	0.27	255	*i* P	Pg	00 42 19.5	+0.5
DEMI				*i* S	Sg	00 42 23.3	+0.8
GDZ	Gediz	0.34	94	*i* P	Pg	00 42 20.8	+0.3
GDZ				*i* S	Sg	00 42 25.1	+0.2
DST	Dursunbey	0.59	327	*e*PG	Pg	00 42 23.8	-1.3
DST				*e*SG	Sg	00 42 33.2	+0.4
DURS	Dursunbey	0.66	318	*i* P	Pg	00 42 27.1	+0.6
DURS				*i* S	Sg	00 42 35.0	0.0
KULA	Kula-Manisa	0.67	207	*e*PG	Pg	00 42 25.2	-1.5
KULA				*e*SG	Sg	00 42 35.6	+0.2
MANT	Manisa	0.73	212	*i* P	Pg	00 42 28.0	+0.2
MANT				*i* S	Sg	00 42 37.0	-0.3
KHL	Karahalli	0.87	155	*e*PG	Pg	00 42 25.2	-5.5
ULDT	Uludag	1.03	4	*i* P	Pg	00 42 33.5	-0.1
ULDT				*i* S	Sg	00 42 46.5	-0.4
BORA	Eskisehir	1.33	54	*i* P	Pn	00 42 39.2	+0.1
BORA				*i* S	Sb	00 42 57.0	+0.3

*ISCJB **06** 00:49:47.7±0.5, 41.15N±003×44.10E±004, h10km, Error ellipse: s-maj=5.7km s-min=2.8km az=140.2*
*CSEM **06** 00:49:47.3±0.3, 4120N×4409E, h10km, MD3.3, Error ellipse: s-maj=7.0km s-min=2.4km az=135.0*
*TIF **06** 00:49:47.2, 41.18N×44.15E, h16km±1km*
*MOS **06** 00:49:49.3±1.5, 41.15N×4431E, h14km, mb3.8/1, Error ellipse: s-maj=59.2km s-min=9.7km az=87.9*
*DDA **06** 00:49:52.3, 4102N×4370E, h22km, Md3.3*
ISC 06 00:49:47.4±0.7**, 4116N**±003×**4407E**±006**, h3**km±7km**, n18, σ0°51**/33**, Western Caucasus**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TBLG	Delisi	0.77	41	Pg	Pg	00 50 01.5	-0.6
TBLG				Sg	Sg	00 50 12.1	+0.1
MTA	Mtatsminda	0.77	45	P	Pg	00 50 01.4	-0.7
MTA				S	Sg	00 50 11.8	-0.2
GOR	Gori	0.83	2	P	Pg	00 50 02.5	-0.8
GOR				S	Sg	00 50 15.4	+1.2
DIGO	Kars	0.91	216	*i* P	Pg	00 50 04.6	-0.2
DIGO				*i* S	Sg	00 50 17.4	+0.8
DGRG	David-gareji	1.03	73	P	Pg	00 50 07.3	+0.2
DGRG				S	Sg	00 50 20.7	+0.3
ONI	Oni	1.50	342	P	Pn	00 50 14.2	-1.0
ONI				S	Sn	00 50 34.9	-0.4
ARTV	Artvin	1.62	272	*i* P	Pn	00 50 16.5	-0.4
ARTV				*i* S	Sn	00 50 37.9	-0.2
ZEI	Tsey	1.62	356	*i* Pn	Pn	00 50 16.8	-0.1
DAGI	Agillar	1.63	268	*i* P	Pn	00 50 16.8	-0.2
DAGI				*i* S	Sn	00 50 38.5	0.0
LACR	Lac	1.68	6	*i* Pn	Pn	00 50 17.8	+0.1
DDEM	Demirkent	1.77	262	*i* P	Pn	00 50 19.1	+0.1
DDEM				*i* S	Sn	00 50 42.8	+0.8
DBAD	Bademkaya	1.80	266	*i* P	Pn	00 50 19.6	+0.2
DBAD				*i* S	Sn	00 50 42.5	-0.1
DBOC	Borcka	1.82	277	*i* P	Pn	00 50 19.9	+0.2
DBOC				*i* S	Sn	00 50 42.5	-0.7
KORR	Kora	1.93	360	*i* Pn	Pb	00 50 23.1	-0.2
VLKR	Vladikavkaz	1.94	13	*e*Pn	Pb	00 50 23.5	0.0
VLKR				*e*Sg	Sb	00 50 49.3	+1.2
SNJR	Sundja	1.99	16	*i* Pn	Pb	00 50 24.9	+0.6
SNJR				*i* Sg	Sg	00 50 51.3	-0.1
ARNR	Ardon	2.04	4	*e*Pn	Pb	00 50 25.3	+0.2
ARNR				*e*Sg	Sg	00 50 52.8	-0.2
LSNR	Lesken	2.13	355	*i* Pn	Pb	00 50 26.5	-0.1
LSNR				*e*Sb	Sb	00 50 53.8	+0.4

*NEIC **06** 01:12:31.3, 1980N×6799W, h38km, MD3.7(RSPR), After RSPR.*
RSPR 06 01:12:31.3, 1980N×**6799W, h38**km±30km**, MD3.7**/13**, MD3.7**/13**, 12C-2D, Mona Passage**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AGPR	Aguadilla, PR	1.57	148	⇑*e*P	Pn	01 12 55.2	-1.4
AGPR				*e*S	Sn	01 13 14.9	-0.7
LSP	Las Mesas	1.83	152	⇑*e*P	Pn	01 12 58.8	-1.4
LSP				*e*S	Sn	01 13 21.3	-0.9
AOPR	Arecibo Observ	1.86	141	⇑*e*P	Pn	01 13 00.3	-0.3
CRPR	Cabo Rojo, PR	1.97	155	⇑*e*P	Pn	01 13 00.6	-1.6
CRPR				*e*S	Sn	01 13 24.0	-1.7
GBPR	Guanica, Bosqu	2.10	150	*e*S	Sn	01 13 28.5	-0.4
GBPR	Guanica, Bosqu	2.10	150	⇓*e*P	Pn	01 13 03.8	-0.2
CELP	Cerrillos	2.18	142	⇑*e*P	Pn	01 13 04.9	-0.1
CELP				*e*S	Sn	01 13 29.6	-1.1
OBIP	Obispado Ponce	2.19	143	⇑*e*P	Pn	01 13 04.8	-0.3
OBIP				*e*S	Sn	01 13 29.8	-1.2
ICM	Isla Caja Muer	2.35	144	⇑*e*P	Pn	01 13 06.0	-1.5
ICM				*e*S	Sn	01 13 34.4	-0.8
SJG	San Juan	2.42	134	⇓*e*P	Pn	01 13 07.6	-0.8
SJG				*e*S	Sn	01 13 35.4	-1.3
HUMP	Col San Antoni	2.62	129	⇑*e*P	Pn	01 13 10.0	-1.0
HUMP				*e*S	Sn	01 13 40.7	-0.8
CPD	Cerro la Pandu	2.64	131	⇑*e*P	Pn	01 13 10.7	-0.6
CPD				*e*S	Sn	01 13 40.9	-1.2
MTP	Monte Pirata	2.87	126	⇑*e*P	Pn	01 13 13.3	-1.2
MTP	Monte Pirata	2.87	126	*e*S	Sn	01 13 46.5	-1.2
MTP	Monte Pirata	2.87	126	*e*Pn	Pn	01 13 13.3	-1.1
MTP				*e*Sn	Sn	01 13 49.3	+1.5
STVI	Saint Thomas	3.21	116	⇑*e*P	Pn	01 13 18.8	-0.5
STVI				*e*S	Sn	01 13 56.2	-0.2
TBVI	Tortola	3.48	113	⇑*e*P	Pn	01 13 22.0	-0.9
TBVI				*e*S	Sn	01 14 01.9	-0.9
ABV	Anegada	3.62	107	*e*S	Sn	01 14 06.3	0.0

*ISCJB **06** 01:30:32.4±1.2, 3682N±007×2790E±005, h28km±7km, Error ellipse: s-maj=12.3km s-min=7.0km az=3.2*
*CSEM **06** 01:30:32.6±0.2, 3692N×2790E, h25km, MD2.7, Error ellipse: s-maj=4.6km s-min=2.8km az=8.0*
*ISK **06** 01:30:33.1, 3694N×2787E, h28km, MD2.7*
*DDA **06** 01:30:34.1, 3692N×2788E, h7km±2km, Md2.9*
ISC 06 01:30:32.6±1.2**, 3683N**±007×**2790E**±005**, h25**km±9km**, n14, σ0°85**/23**, Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YER	Yerkesik	0.43	45	*e*PG	Pb	01 30 42.3	+0.6
YER				*e*SG	Sb	01 30 48.6	+0.6
BDRM	Kayabasi	0.44	303	*i* P	Pb	01 30 41.5	-0.3
BDRM				*i* S	Sb	01 30 47.6	-0.4
BDRM	Kayabasi	0.44	303	*i* P	Pb	01 30 41.5	-0.3
BDRM				*i* S	Sb	01 30 47.6	-0.4
MLSB	Milas	0.48	348	*e*PG	Pb	01 30 42.1	-0.4
MLSB				*e*SG	Sb	01 30 48.0	-1.2
BODT	Bodrum	0.53	297	*e*PG	Pb	01 30 43.6	+0.3
BODT				*e*SG	Sb	01 30 50.9	+0.4
TURN	Turunc	0.57	85	*i* P	Pb	01 30 40.5	-3.4
TURN				*i* S	Sb	01 30 45.2	-6.4
AYDN	Tasoluk	0.83	359	*i* P	Pb	01 30 48.7	+0.2
AYDN				*i* S	Sb	01 30 58.8	-0.5
GCAM	G?zelcaml?	1.02	329	*i* P	Pn	01 30 52.3	+0.9
GCAM				*i* S	Sb	01 31 05.9	+1.2
ELL	Elmali	1.61	92	*e*PN	Pn	01 31 00.6	+1.0
ELL	Elmali	1.61	92	*e*Pn	Pn	01 31 00.5	+1.0
BLCB	Balcova	1.70	337	*e*PN	Pn	01 31 00.1	-0.6
MANT	Manisa	1.74	17	*i* P	Pb	01 31 04.9	+0.9
MANT				*i* S	Sb	01 31 29.3	+3.9
KULA	Kula-Manisa	1.79	19	*e*PN	Pn	01 31 01.5	-0.5
AKS	Akhisar	2.05	358	*e*PN	Pn	01 31 04.3	-1.2

*ISCJB **06** 01:36:41.8±1.5, 1509S±009×7623W±0.10, h47km±18km, mb3.7/3, Error ellipse: s-maj=20.3km s-min=6.7km az=138.4*
*NEIC **06** 01:36:43.3±0.8, 1500S×7621W, h35km, mb3.6/1, Error ellipse: s-maj=22.6km s-min=10.2km az=59.0*
*IDC **06** 01:36:44.6±2.4, 1500S×76.11W, h56km±22km, mb3.6/3, mb1 4.0/7, mb1mx3.8/18, mbtmp3.8/7, ML4.2/4, MS3.1/3, Ms1 3.2/3, ms1mx2.7/29, Error ellipse: s-maj=33.1km s-min=12.1km az=55.0*
ISC 06 01:36:43.9±1.3**, 1506S**±008×**7626W**±010**, h46**km±16km**, n16, σ1°06**/22**, mb3.7**/3**, Off coast of Peru**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NNA	Nana	3.11	349	P	Pn	01 37 29.9	-0.6
	31nm,0.3s,baz=201,slow=12,SNR=17						
NNA				S	Sn	01 38 07.8	+1.4
	64nm,0.3s,baz=28,slow=19,SNR=5.7						
NNA	Nana	3.11	349	*e*Pn	Pn	01 37 30.2	-0.3
NNA				Sn	Sn	01 38 07.6	+1.2
ARE	Arequipa	4.80	107	*e*P	Pn	01 37 53.0	-0.7
ARE				*e*S	Sn	01 38 49.0	+1.0
LPAZ	La Paz	7.92	100	P	Pn	01 38 36.2	-0.4
	1.2nm,0.3s,baz=292,slow=9.6,SNR=31						
LPAZ				S	Sn	01 40 04.8	-0.2
	baz=130,slow=15,SNR=1.7						
LPAZ				LR	LR	01 41 51.4	
	comp=Z,142nm,19.9s,baz=55,slow=39						
LPAZ	La Paz	7.92	100	*e*Pn	Pn	01 38 36.5	0.0
ATAH	Atahualpa	8.28	345	P	Pn	01 38 40.8	-0.7
	0.6nm,0.3s,baz=137,slow=19,SNR=5.5						
ATAH				S	Sn	01 40 09.4	-4.3
	1.2nm,0.3s,baz=66,slow=19,SNR=1.8						
LVC	Limon Verde	10.23	138	P	Pn	01 39 07.1	-1.1
	1.2nm,0.3s,baz=314,slow=12,SNR=11						
LVC				S	Sn	01 40 55.9	-5.8
	0.4nm,0.3s,baz=94,slow=19,SNR=4.6						
LVC				LR	LR	01 42 22.4	
	comp=Z,104nm,21.6s,baz=294,slow=33						
LVC	Limon Verde	10.23	138	*e*Pn	Pn	01 39 07.0	-1.2
LVC				Sn	Sn	01 41 00.7	-0.9
SIV	San Ignacio	14.67	96	P	Pn	01 40 01.3	-7.3
	0.2nm,0.3s,baz=282,slow=9.7,SNR=5.0						
OTAV	Otavalo	15.36	352	Pn	Pn	01 40 18.0	+0.3
	8.5nm,2.0s						
CFAA	Coronel Fontan	18.03	157	P	Pn	01 40 53.8	+2.7
	0.0nm,0.3s,baz=333,slow=12,SNR=4.2						
CPUP	Villa Florida	20.93	125	P	P	01 41 24.4	+1.5
	0.6nm,0.6s,baz=299,slow=16,SNR=3.2						
CPUP				LR	LR	01 50 13.5	
	comp=Z,64nm,20.1s,baz=58,slow=39						
PLCA	Paso Flores	26.05	170	P	P	01 42 13.3	+0.3
	0.8nm,0.8s,mb3.3,baz=282,slow=9.3,SNR=3.3						
TXAR	Lajitas Array	51.46	329	P	P	01 45 44.5	-0.3
	0.6nm,0.8s,mb3.6,baz=143,slow=10,SNR=5.5						
TORD	Torodi Ar. Bea	82.07	74	P	P	01 48 58.3	-1.7
	2.1nm,0.7s,mb4.2,baz=258,slow=4.0,SNR=18						
WRA	Warramunga Arr	134.01	222	PKP	PKPdf	01 55 57.9	+0.8
	0.3nm,0.8s,baz=147,slow=1.6,SNR=3.5						

*IDC **06** 01:38:58.1±0.8, 3438N×7425E, h0km, mb4.0/9, mb1 4.2/13, mb1mx4.0/24, mbtmp4.0/13, ML3.9/4, Error ellipse: s-maj=25.8km s-min=15.8km az=52.0*
*ISCJB **06** 01:39:02.3±0.7, 3454N±003×7461E±006, h53km±9km, mb3.9/9, Error ellipse: s-maj=9.1km s-min=4.6km az=153.3*
*MOS **06** 01:39:02.7±1.2, 3466N×7454E, h40km, mb4.2/8, Error ellipse: s-maj=20.3km s-min=10.9km az=103.7*
*NDI **06** 01:39:03.0±2.9, 3467N×7432E, h51km, ML4.1, mb4.2(NEIC)*
*BJI **06** 01:39:04.2, 3448N×7440E, h55km, mb3.7, ML3.4*
*NEIC **06** 01:39:05.4±1.6, 3452N×7440E, h51km±15km, mb4.2/1, Error ellipse: s-maj=12.9km s-min=12.0km az=172.0*
*NNC **06** 01:39:08.5±4.3, 35.13N×7353E, h0km, mb3.7, mpv3.8, Error ellipse: s-maj=42.8km s-min=23.1km az=32.0*
ISC 06 01:39:03.6±0.5**, 3457N**±003×**7456E**±006**, h38**km±8km**, n69, σ1°33**/88**, mb3.9**/9**, 6C-5D, Southwestern Kashmir**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JMU	Jammu	1.87	171	*e*P	Pn	01 39 32.5	-0.7
JMU				*e*S	Sn	01 39 57.5	+1.9
DLH	Dalhousie	2.34	150	*e*P	Pn	01 39 41.2	+1.6
DLH				*e*x	x	01 40 13.4	
THN	Thein Dam	2.34	155	*e*P	Pn	01 39 42.1	+2.5
THN				*e*x	x	01 40 13.4	
PONG	Pong	2.86	156	*e*P	Pn	01 39 50.0	+3.3
PONG				*e*x	x	01 40 30.0	
BHK	Bhakra	3.51	153	*e*x	x	01 40 02.4	
BHK				*e*S	Sn	01 40 35.2	-0.8
SDNR	Sundarnagar	3.67	146	*e*P	Pn	01 39 59.6	+1.7
SDNR				*e*x	x	01 40 55.0	
SMLA	Simla	4.08	147	*e*P	Pn	01 40 06.0	+2.6
SMLA				*e*S	Sn	01 40 51.0	+1.1
SMLA				AML	AML	01 41 12.5	
	comp=N,887nm,0.3s						
SMLA				AML	AML	01 41 12.6	
	comp=E,627nm,0.5s						
KBL	Kabul	4.55	271	*e*P	Pn	01 40 10.1	+0.1
KSH	Kashi	5.06	12	P	Pn	01 40 24.9	+8.0
KSH				S	Sn	01 41 12.2	-1.9
KSH				Smax			
	comp=N,99nm,0.5s						
KSH				Smax			
	comp=E,95nm,0.2s						
DDI	Dehra Dun	5.17	144	*e*P	Pn	01 40 20.0	+1.6
DDI				*e*x	x	01 41 23.0	
JOSI	Joshimath	5.82	132	*e*P	Pn	01 40 30.5	+3.1
JOSI				*e*S	Sn	01 41 32.1	-0.7
JOSI				AML	AML	01 42 07.0	
	comp=N,324nm,0.6s						
JOSI				AML	AML	01 42 09.5	
	comp=E,243nm,0.6s						
KALG	Kalgarh	6.18	144	*e*P	Pn	01 40 32.3	-0.1
KALG				*e*S	Sn	01 41 39.4	-2.4
AYAN	Aya Nagar	6.46	159	*e*P	Pn	01 40 37.7	+1.6
AYAN				*e*S	Sn	01 41 47.3	-1.2
KHET	Khetri	6.57	170	*e*P	Pn	01 40 38.0	+0.4
KHET				*e*S	Sn	01 41 47.7	-3.6
KHET				*e*S	Sn	01 41 47.9	-3.4
SONA	Sohna	6.66	160	*e*P	Pn	01 40 40.8	+1.8
SONA				*e*S	Sn	01 41 51.3	-2.3
SONA				*e*S	Sn	01 41 52.1	-1.5
AGRA	Agra	7.87	157	*e*P	Pn	01 40 54.8	-0.8
AGRA				*e*S	Sn	01 42 18.9	-4.5
AGRA				AML	AML	01 43 10.0	
	comp=E,103nm,0.4s						
AGRA				AML	AML	01 43 14.2	
	comp=N,78nm,0.6s						
AJM	Ajmer	8.07	179	*e*P	Pn	01 40 58.0	-0.3
AJM				*e*S	Sn	01 42 22.1	-6.1
TKM2	Tokmak 2	8.37	5	⇑Pn	Pn	01 41 07.3	+4.9
	comp=N,1.8nm,0.3s						
TKM2				⇑Sn	Sn	01 42 38.3	+2.6
	comp=N,4.1nm,0.5s						
KK31	Karatay Array	9.08	341	⇓Pn	Pn	01 41 13.1	+1.0
	comp=N,1.0nm,0.2s,baz=148,slow=11						
KK31				⇑Sn	Sn	01 42 51.3	-1.7
	comp=N,16nm,0.5s,baz=159,slow=22						

DANN Dangsing 10.01 126 *e*P **Pn** **01 41 24.7 -0.1**
comp=N,27nm,0.2s
KOLN Koldanda 10.29 129 *e*P **Pn** **01 41 28.4 -0.3**
comp=N,32nm,0.4s
GKN Gorkha 10.82 125 *e*P **Pn** **01 41 36.2 +0.2**
comp=N,54nm,0.3s
DMN Daman 11.39 125 *e*P **Pn** **01 41 43.7 -0.1**
KKN Kakani 11.39 123 *e*P **Pn** **01 41 43.2 -0.7**
comp=N,43nm,0.5s
PKIN Phulchoki 11.61 124 *e*P **Pn** **01 41 45.9 -0.9**
PKI Pulchoki 11.62 124 *e*P **Pn** **01 41 46.1 -0.9**
GUN Gumba 11.74 121 *e*P **Pn** **01 41 47.8 -0.7**
comp=N,31nm,0.3s
JIRN Jiri 12.11 122 *e*P **Pn** **01 41 53.1 -0.5**
comp=N,112nm,0.3s
RAMN Ramite 12.83 123 *e*P **Pn** **01 42 02.2 -1.3**
comp=N,16nm,0.3s
TAPN Taplejung 13.38 119 *e*P **Pn** **01 42 10.1 -0.8**
comp=N,74nm,0.4s
ODAN Odare 13.44 121 *e*P **Pn** **01 42 10.5 -1.3**
comp=N,19nm,0.3s
MK31 Makanchi Array 13.53 23 ⇓Pn **Pn** **01 42 22.7 +10**
comp=N,769µm,0.1s,baz=204,slow=11,SNR=29
MKAR Makanchi Array 13.53 23 Pn **Pn** **01 42 16.6 +3.7**
comp=N,0.2nm,0.3s,baz=206,slow=12,SNR=5.2
KURBB Kurchatov Arra 16.30 9 ⇓Pn **Pn** **01 42 48.2 -1.3**
comp=N,0.6nm,0.6s
KURK Kurchatov 16.40 9 Pn **Pn** **01 42 49.1 -1.7**
comp=N,0.1nm,0.3s,baz=198,slow=11,SNR=11
AB31 Akbulak array 18.21 328 Pn **Pn** **01 43 12.1 -1.2**
comp=N,0.9nm,0.5s,baz=137,slow=13,SNR=32
AB31 ⇑Sn **Sn** **01 46 22.9 -13**
comp=N,4.0nm,0.9s,baz=150,slow=22,SNR=7.1
VOSK Vostochnaya 18.32 353 ⇓Pn **Pn** **01 43 13.6 -1.0**
comp=N,3.5nm,0.8s
BVA0 Borovoye Array 18.68 352 ⇑Pn **Pn** **01 43 19.5 +0.6**
comp=N,0.4nm,0.4s,baz=157,slow=9.2,SNR=27
BVAR Borovoye Array 18.68 352 P **Pn** **01 43 19.7 +0.7**
comp=N,1.9nm,0.3s,baz=156,slow=8.8,SNR=29
BVAR Borovoye Array 18.68 352 P **Pn** **01 43 19.7 +0.7**
BVAR pmax pmax
comp=Z,2.0nm,0.3s
BRVK Borovoye 18.73 352 *e*P **Pn** **01 43 20.1 +0.6**
BRVK pmax pmax
comp=Z,10.0nm,0.7s
BRVK Borovoye 18.73 352 *e*P **Pn** **01 43 20.1 +0.6**
comp=Z,10nm,0.7s
AKTK Aktyubinsk 19.93 328 P **Pn** **01 43 32.1 -1.8**
AKTK S **S** **01 47 08.9 -5.2**
AKTO Aktyubinsk 19.93 328 ⇓Pn **Pn** **01 43 31.1 -2.7**
comp=Z,0.9nm,0.6s
AKTO ⇑Sn **Sn** **01 47 07.1 -10**
comp=Z,0.3nm,0.8s
AKTO Aktyubinsk 19.93 328 P **Pn** **01 43 32.1 -1.8**
comp=Z,0.5nm,0.3s,baz=124,slow=10,SNR=14
AKTO S **S** **01 47 08.9 -5.2**
comp=Z,0.1nm,0.3s,baz=204,slow=20,SNR=4.3
AKTO Aktyubinsk 19.93 328 P **Pn** **01 43 32.1 -1.8**
AKTO S **S** **01 47 08.9 -5.1**
AKTO pmax pmax
comp=Z,1.0nm,0.3s
ZAA0 Zalesovo Array 20.68 17 *e*P **P** **01 43 41.5 +1.4**
ZALV Zalesovo Beam 20.68 17 P **P** **01 43 40.4 +0.3**
comp=Z,3.1nm,0.4s,baz=211,slow=11,SNR=16
ZALV Zalesovo Beam 20.68 17 P **P** **01 43 40.4 +0.3**
ZALV pmax pmax
comp=Z,3.0nm,0.4s
GTA Gaotai 20.71 69 *e*P **P** **01 43 46.3 +5.7**
GTA AMB AMB
comp=Z,3.0nm,0.8s
NVS Novosibirsk 21.15 14 *e*P **P** **01 43 44.6 -0.6**
CMAR Chiang Mai Arr 26.98 120 P **P** **01 44 43.0 +1.2**
comp=Z,1.1nm,0.4s,mb3.8,baz=298,slow=10,SNR=7.5
CMAR Chiang Mai Arr 26.98 120 P **P** **01 44 43.1 +1.2**
CMAR pmax pmax
comp=Z,1.0nm,0.4s
AKASG Malin Array Be 36.41 310 P **P** **01 46 03.4 -0.9**
comp=Z,0.8nm,0.5s,mb3.9,baz=85,slow=7.8,SNR=5.1
AKASG Malin Array Be 36.41 310 P **P** **01 46 03.4 -0.9**
AKASG pmax pmax
comp=Z,1.0nm,0.5s
ARCES ARCESS Array B 44.03 338 P **P** **01 47 08.5 +1.4**
comp=Z,3.0nm,0.7s,mb4.1,baz=110,slow=8.9,SNR=26
ARCES ARCESS Array B 44.03 338 P **P** **01 47 08.5 +1.4**
ARCES pmax pmax
comp=Z,3.0nm,0.7s
GERES GERESS Array B 46.41 307 P **P** **01 47 28.6 +2.3**
comp=Z,0.2nm,0.5s,mb3.3,baz=91,slow=8.8,SNR=3.5
NB2 NORSAR Subarra 47.65 324 P **P** **01 47 35.3 -0.5**
comp=Z,1.2nm,0.6s,mb4.1,baz=94,slow=7.9
NOA NORSAR Array B 47.65 324 P **P** **01 47 35.7 -0.1**
comp=Z,0.8nm,0.6s,mb3.9,baz=96,slow=7.6,SNR=8.5
NOA NORSAR Array B 47.65 324 P **P** **01 47 35.7 -0.1**
NOA pmax pmax
comp=Z,1.0nm,0.6s
NOA NORSAR Array B 47.65 324 P **P** **01 47 35.7 -0.1**
TORD Torodi Ar. Bea 68.62 272 P **P** **01 50 01.2 -1.9**
comp=Z,1.9nm,0.6s,mb4.2,baz=47,slow=5.8,SNR=25
WRA Warramunga Arr 78.51 124 P **P** **01 51 02.0 +1.0**
comp=Z,1.1nm,0.6s,mb4.0,baz=323,slow=5.5,SNR=14
WRA Warramunga Arr 78.51 124 P **P** **01 51 02.0 +0.9**
WRA pmax pmax
comp=Z,1.0nm,0.6s
ASAR Alice Springs 80.77 127 P **P** **01 51 14.3 +1.1**
comp=Z,1.0nm,0.7s,mb3.9,baz=311,slow=5.0,SNR=13
ASAR Alice Springs 80.77 127 P **P** **01 51 14.4 +1.1**
ASAR pmax pmax
comp=Z,1.0nm,0.7s
YKA Yellowknife Ar 82.99 4 P **P** **01 51 25.6 +1.2**
comp=Z,1.0nm,0.5s,mb4.1,baz=350,slow=5.5,SNR=4.0
YKA Yellowknife Ar 82.99 4 P **P** **01 51 25.6 +1.2**
YKA pmax pmax
comp=Z,1.0nm,0.5s

IDC ***06*** *02:30:37.4±7.6, 681S×12964E, h110km±70km, mb3.8/4, mb1 3.9/7, mb1mx3.7/15, mbtmp3.8/7, MS3.0/1, Ms1 3.0/1, ms1mx2.4/33, Error ellipse: s-maj=96.8km s-min=27.9km az=61.0*
ISCJB ***06*** *02:30:44.7±1.5, 732S×009×12948E±008, h208km±16km, mb3.8/4, Error ellipse: s-maj=16.4km s-min=9.1km az=38.2*
ISC 06 02:30:47.8±1.4**, 757S**×009**×12944E**±008**, h230**km±15km**, n12**, σ1°01/18**, mb3.8/4, Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**5.90**	**150**	*e*P	**Pn**	**02 32 14.3**	**0.0**
	23nm,0.3s						
KAKA				*e*S	**S**	**02 33 22.2**	**-1.1**
BATI	**Baumata**	**6.28**	**245**	P	**Pn**	**02 32 20.0**	**+0.9**
	9.7nm,0.3s,baz=165,slow=7.0,SNR=6.0						
BATI				S	**S**	**02 33 30.4**	**-1.4**
	15nm,0.3s,baz=163,slow=3.9,SNR=4.9						
BATI				LR	LR	02 35 00.1	
	comp=Z,122nm,19.7s,baz=303,slow=39						
FITZ	**Fitzroy Crossi**	**11.10**	**199**	*e*P	**Pn**	**02 33 22.8**	**+2.2**
	6.7nm,0.3s						
FITZ				*e*S	**S**	**02 35 24.8**	**-0.1**
FITZ	**Fitzroy Crossi**	**11.10**	**199**	P	**Pn**	**02 33 23.0**	**+2.5**
	1.2nm,0.3s,baz=28,slow=13,SNR=41						
FITZ				S	**S**	**02 35 25.1**	**+0.2**
	0.5nm,0.3s,baz=287,slow=20,SNR=4.1						
WRA	**Warramunga Arr**	**13.19**	**159**	P	**Pn**	**02 33 47.8**	**+1.1**
	1.0nm,0.3s,baz=339,slow=13,SNR=42						
WRA				S	**S**	**02 36 12.8**	**-0.6**
	2.3nm,0.3s,baz=330,slow=22,SNR=12						
WB2	**Warramunga Arr**	**13.19**	**159**	*e*P	**Pn**	**02 33 47.8**	**+1.1**
WB2				*e*S	**S**	**02 36 12.8**	**-0.7**
ASAR	**Alice Springs**	**16.57**	**165**	P	**P**	**02 34 33.2**	**+7.1**
	1.0nm,0.3s,baz=342,slow=11,SNR=78						
ASAR				S	**S**	**02 37 37.2**	**+10**
	0.5nm,0.3s,baz=345,slow=22,SNR=6.8						
STKA	**Stephens Creek**	**26.71**	**157**	P	**P**	**02 36 11.9**	**+5.9**
	1.2nm,0.4s,mb3.9,baz=317,slow=12,SNR=3.2						
MKAR	**Makanchi Array**	**68.39**	**327**	P	**P**	**02 41 24.2**	**-0.4**
	1.7nm,0.4s,mb4.0,baz=117,slow=8.1,SNR=8.9						
ZALV	**Zalesovo Beam**	**71.84**	**334**	P	**P**	**02 41 44.1**	**-1.3**
	0.7nm,0.5s,mb3.5,baz=116,slow=6.7,SNR=2.7						
KURK	**Kurchatov**	**72.71**	**329**	P	**P**	**02 41 50.6**	**+0.1**
	0.9nm,0.6s,mb3.6,baz=132,slow=5.3,SNR=4.4						
TORD	**Torodi Ar. Bea**	**128.37**	**281**	PKP	PKPdf	02 49 31.6	+3.6
	0.3nm,0.6s,baz=29,slow=2.7,SNR=2.8						

BJI ***06*** *02:36:35.7, 5440N×16140W, h34km, mB4.7, mb4.8, Ms4.7, Msz4.4*
ISCJB ***06*** *02:36:39.8±1.2, 544N±0.1×16141W±0.10, h60km±7km, mb4.2/18, MS3.8/8, Error ellipse: s-maj=21.5km s-min=7.5km az=162.8*
IDC ***06*** *02:36:39.7±4.0, 5445N×16153W, h43km±37km, mb4.0/11, mb1 4.1/12, mb1mx3.9/25, mbtmp4.0/12, ML3.5/1, MS3.8/8, Ms1 3.8/8, ms1mx3.3/49, Error ellipse: s-maj=29.9km s-min=17.5km az=174.0*
NEIC ***06*** *02:36:39.7, 5439N×16140W, h34km, mb4.4/3, ML3.8(PMR), ML4.0(AEIC), After AEIC.*
ISC 06 02:36:40.9±1.1**, 545N**±01×**16140W**±010**, h54**km±7km**, n43, σ1°23/38, mb4.2/18, MS3.8/8, Alaska Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SDPT	**Sand Point**	**1.02**	**31**	*e*Pn	**Pn**	**02 36 58.4**	**-0.5**
FALS	**False Pass**	**1.23**	**288**	P	**Pn**	**02 37 00.5**	**-1.2**
FALS				S	**Sn**	**02 37 17.9**	**+0.7**
CHGN	**Chignik**	**2.49**	**42**	*e*P	**Pn**	**02 37 20.1**	**+1.2**
AKUT	**Akutan**	**2.59**	**264**	*e*P	**Pn**	**02 37 22.1**	**+1.9**
UNV	**Unalaska Valle**	**3.07**	**260**	*e*Pn	**Pn**	**02 37 26.3**	**-0.5**
KDAK	**Kodiak Island**	**5.93**	**53**	P	**Pn**	**02 38 05.1**	**-0.9**
	1.3nm,0.3s,baz=103,slow=23,SNR=8.1						
KDAK				S	**Sn**	**02 39 10.6**	**-1.9**
	baz=336,slow=20,SNR=2.2						
KDAK	**Kodiak Island**	**5.93**	**53**	*e*Pn	**Pn**	**02 38 05.7**	**-0.3**
KDAK				S	**Sn**	**02 39 10.6**	**-1.9**
PPLA	**Purkeypile**	**9.69**	**26**	Pn	**Pn**	**02 39 00.6**	**+3.2**
	57nm,1.4s						
DAWY	**Dawson**	**14.70**	**40**	Pn	**Pn**	**02 40 04.8**	**-0.5**
PETK	**Petropavlovsk-**	**23.96**	**284**	P	**P**	**02 41 49.5**	**-0.3**
	11nm,0.7s,mb4.4,baz=81,slow=13,SNR=11						
PETK				LR	LR	02 49 44.7	
	comp=Z,49nm,18.2s,MS3.0,baz=259,slow=33						
YKA	**Yellowknife Ar**	**25.21**	**53**	LR	LR	02 51 40.1	
	comp=Z,25nm,18.6s,MS2.8,baz=70,slow=36						
YBH	**Yreka Blue Hor**	**28.42**	**101**	LR	LR	02 50 59.1	
	comp=Z,119nm,19.6s,MS3.5,baz=352,slow=30						
ULM	**Lac du Bonnet**	**38.94**	**68**	P	**P**	**02 44 01.8**	**+0.7**
	3.3nm,0.9s,mb4.0,baz=333,slow=10.0,SNR=3.7						
ULM	**Lac du Bonnet**	**38.94**	**68**	P	**P**	**02 44 01.8**	**+0.7**
MJAR	**Matsushiro Arr**	**44.47**	**272**	P	**P**	**02 44 45.0**	**-1.5**
	0.7nm,0.3s,mb3.8,baz=40,slow=7.9,SNR=4.0						
TXAR	**Lajitas Array**	**48.10**	**97**	P	**P**	**02 45 16.4**	**+1.3**
	0.2nm,0.7s,mb3.2,baz=313,slow=4.5,SNR=2.9						
KSRS	**Korea Array**	**49.80**	**281**	P	**P**	**02 45 28.1**	**+0.2**
	4.4nm,0.8s,mb4.5,baz=46,slow=7.1,SNR=12						
SCHQ	**Schefferville**	**50.54**	**48**	LR	LR	03 09 09.9	
	comp=Z,66nm,18.8s,MS3.7,baz=59,slow=38						
BJI	**Beijing**	**54.59**	**291**	P	**P**	**02 46 00.4**	**-3.0**
BJI				AMB	AMB		
	comp=Z,5.0nm,0.6s,mb4.7						
BJI	**Beijing**	**54.59**	**291**	P	**P**	**02 46 00.4**	**-3.0**
	comp=Z,5.0nm,0.6s,mb4.7						
JOW	**Kunigami**	**57.31**	**271**	LR	LR	03 06 16.6	
	comp=Z,498nm,20.9s,MS4.6,baz=204,slow=31						
NJ2	**Nanjing**	**58.86**	**283**	*e*P	**P**	**02 46 35.1**	**+1.3**
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb5.0						
ZALV	**Zalesovo Beam**	**58.94**	**321**	LR	LR	03 15 10.2	
	comp=Z,31nm,18.8s,MS3.5,baz=169,slow=39						
XAN	**Xi'an**	**62.92**	**291**	P	**P**	**02 46 58.9**	**-2.5**
XAN				AMB	AMB		
	comp=Z,3.0nm,1.0s,mb4.4						
GTA	**Gaotai**	**63.61**	**301**	*e*P	**P**	**02 47 06.3**	**+0.5**
GTA				AP	pP	02 47 12.6	-8.0
GTA				AMB	AMB		
	comp=Z,4.0nm,1.1s,mb4.4						
KURK	**Kurchatov**	**63.80**	**322**	P	**P**	**02 47 07.4**	**+0.6**
	comp=Z,0.5nm,0.3s,mb4.1,baz=33,slow=5.8,SNR=3.3						
BVAR	**Borovoye Array**	**64.58**	**328**	P	**P**	**02 47 12.7**	**+0.7**
	comp=Z,3.2nm,0.7s,mb4.5,baz=44,slow=6.6,SNR=15						
NB2	**NORSAR Subarra**	**64.67**	**4**	P	**P**	**02 47 13.0**	**+0.6**
	comp=Z,0.7nm,0.6s,mb3.9,baz=357,slow=6.5						
NOA	**NORSAR Array B**	**64.67**	**4**	P	**P**	**02 47 12.3**	**-0.1**
	comp=Z,2.2nm,0.9s,mb4.2,baz=357,slow=6.6,SNR=5.9						
GYA	**Guiyang**	**69.99**	**288**	P	**P**	**02 47 44.0**	**-2.6**
GYA				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.8						
CLL	**Collm**	**74.47**	**4**	*e*P	**P**	**02 48 14.0**	**+1.1**
AKASG	**Malin Array Be**	**74.81**	**353**	P	**P**	**02 48 14.8**	**-0.1**
	comp=Z,2.6nm,0.6s,mb4.4,baz=7.5,slow=5.6,SNR=13						
GRA1	**Grafenberg Arr**	**76.01**	**5**	*e*P	**P**	**02 48 23.4**	**+1.6**
	comp=Z,3.0nm,0.9s,mb4.2						
GRF	**Grafenberg Arr**	**76.01**	**5**	*e*P	**P**	**02 48 23.4**	**+1.6**
	comp=Z,3.0nm,0.9s,mb4.2						
STHS	**Stebnicka Huta**	**76.45**	**358**	*e*P	**P**	**02 48 24.7**	**+0.4**
GERES	**GERESS Array B**	**76.96**	**3**	P	**P**	**02 48 27.8**	**+0.6**
	comp=Z,1.0nm,0.7s,mb3.8,baz=12,slow=6.8,SNR=9.2						
VYHS	**Vyhne**	**77.39**	**360**	*e*P	**P**	**02 48 27.1**	**-2.5**
ESDC	**Sonseca Array**	**84.23**	**17**	P	**P**	**02 49 06.7**	**+0.4**
	comp=Z,0.6nm,0.7s,mb3.8,baz=343,slow=4.1,SNR=5.6						
CTA	**Charters Tower**	**86.69**	**228**	LR	LR	03 21 27.4	
	comp=Z,267nm,20.5s,MS4.6,baz=314,slow=31						
WRA	**Warramunga Arr**	**92.12**	**238**	P	**P**	**02 49 43.1**	**-1.0**
	comp=Z,0.5nm,0.8s,mb3.9,baz=30,slow=5.6,SNR=3.6						
WRA				LR	LR	03 28 29.7	
	comp=Z,294nm,18.5s,MS4.8,baz=115,slow=34						
WRA	**Warramunga Arr**	**92.12**	**238**	P	**P**	**02 49 43.1**	**-1.0**
WRA				LR	LR	03 28 29.7	
QSPA	**South Pole Qui**	**144.26**	**180**	PKP	PKPdf	02 56 07.3	-1.4
	comp=Z,17nm,0.7s,baz=351,slow=0.7,SNR=15						
QSPA	**South Pole Qui**	**144.26**	**180**	PKP	PKPdf	02 56 07.3	-1.5

ISCJB ***06*** *02:37:12.4±0.3, 1201S×005×16581E±006, h26km, mb5.1/59, MS4.4/20, Error ellipse: s-maj=8.5km s-min=6.7km az=164.8*
BJI ***06*** *02:37:13.3, 1148S×16598E, h19km, mB5.4, mb5.1, Ms5.3, Msz4.8*
MOS ***06*** *02:37:13.8±1.4, 1193S×16579E, h33km, mb5.1/34, Error ellipse: s-maj=11.2km s-min=8.4km az=41.4*
IDC ***06*** *02:37:14.3±4.5, 1199S×16584E, h27km±29km, mb4.7/17, mb1 4.8/18, mb1mx4.7/24, mbtmp4.8/18, ML5.2/1, MS4.1/11, Ms1 4.1/11, ms1mx3.8/34, Error ellipse: s-maj=20.2km s-min=15.5km az=91.0*
NEIC ***06*** *02:37:16.1±2.2, 1198S×16586E, h44km±17km, mb5.1/22, Error ellipse: s-maj=13.5km s-min=8.0km az=92.0*
DJA ***06*** *02:37:29, 1240S×16533E, h125km, Mw5.5/8*
ISC 06 02:37:14.4±0.3**, 1200S**±005×**16585E**±006**, h28**km±1.2km**:pP-P, n239,** σ0°**86**/125**, mb5.1**/59**, MS4.4**/20**, 10C-12D, Santa Cruz Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**6.34**	**293**	Pn	**Pn**	**02 38 46.5**	**+0.4**
	59nm,0.3s,baz=340,slow=1.3,SNR=10						
HNR				Sn	**Sn**	**02 39 56.4**	**-1.2**
	12nm,0.3s,baz=17,slow=19,SNR=2.9						
HNR				LR	LR	02 40 52.8	
	comp=Z,964nm,20.1s,baz=126,slow=35						
HNR	**Honiara**	**6.34**	**293**	P	**Pn**	**02 38 46.5**	**+0.4**
HNR						02 39 56.4	
HNR				pmax	pmax		
	comp=Z,59nm,0.3s						
HNR				smax			
	comp=N,12nm,0.3s						
HNR				MLR	MLR		
	comp=Z,964nm,20.1s						
HNR	**Honiara**	**6.34**	**293**	*e*Pn	**Pn**	**02 38 46.3**	**+0.3**
	comp=Z,636nm,0.8s						
DZM	**Mont Dzumac**	**10.03**	**177**	*e*P	**Pn**	**02 39 36.4**	**-0.2**
PMG	**Port Moresby**	**18.55**	**276**	*d*P	**Pn**	**02 41 30.0**	**+0.6**
PMG	**Port Moresby**	**18.55**	**276**	*e*P	**Pn**	**02 41 30.2**	**+0.7**
CTA	**Charters Tower**	**20.46**	**244**	*e*P	**P**	**02 41 51.1**	**+1.1**
	comp=Z,27nm,0.8s						
CTA	**Charters Tower**	**20.46**	**244**	P	**P**	**02 41 51.4**	**+1.4**
	comp=Z,33nm,0.8s,baz=78,slow=13,SNR=31						
CTA				LR	LR	02 48 33.2	
	comp=Z,398nm,21.6s,MS3.7,baz=292,slow=33						
CTA	**Charters Tower**	**20.46**	**244**	*e*P	**P**	**02 41 51.1**	**+1.1**
CTA				pmax	pmax		
	comp=Z,27nm,0.8s						
CTAO	**Charters Tower**	**20.46**	**244**	*e*P	**P**	**02 41 51.3**	**+1.3**
CTAO				pmax	pmax		
	comp=Z,46nm,0.9s						
CTAO	**Charters Tower**	**20.46**	**244**	*e*P	**P**	**02 41 51.3**	**+1.3**
	comp=Z,46nm,0.9s						
AFI	**Afiamalu**	**21.88**	**97**	LR	LR	02 49 24.9	
	comp=Z,640nm,19.4s,MS4.0,baz=269,slow=33						
COEN	**Coen**	**22.18**	**262**	*e*P	**P**	**02 42 08.7**	**+0.2**
	comp=Z,15nm,0.8s,mb4.5						

ARMA Armidale 22.57 214 *e*P **P** **02 42 13.6 +1.1**
RAO Raoul Island 22.87 141 LR LR 02 49 43.6
comp=Z,565nm,18.5s,MS4.0,baz=59,slow=33
STKA Stephens Creek 29.83 225 LR LR 02 54 59.9
comp=Z,571nm,19.4s,MS4.2,baz=32,slow=36
WB2 Warramunga Arr 31.26 251 *e*P **P** **02 43 31.6 -0.3**
WB2 Warramunga Arr 31.26 251 *e* **P** **02 43 31.5 -0.5**
WRA Warramunga Arr 31.27 251 P **P** **02 43 31.4 -0.7**
comp=Z,13nm,0.9s,mb4.8,baz=79,slow=9.3,SNR=52
WRA PcP PcP 02 46 25.8 -0.4
comp=Z,4.4nm,1.0s,baz=66,slow=2.1,SNR=7.0
WRA PKiKP PKiKP 02 53 54.6 -1.6
comp=Z,0.7nm,0.9s,baz=86,slow=0.3,SNR=5.7
WRA LR LR 02 55 40.3
comp=Z,165nm,19.4s,MS3.7,baz=65,slow=35
WRA Warramunga Arr 31.27 251 P **P** **02 43 31.4 -0.7**
WRA 02 46 25.8
WRA *i* 02 53 54.6
WRA pmax pmax
comp=Z,13nm,0.9s
WRA pmax pmax
comp=Z,4.0nm,1.0s
WRA pmax pmax
comp=Z,1.0nm,0.9s
WRA MLR MLR
comp=Z,165nm,19.4s
WRA Warramunga Arr 31.27 251 P **P** **02 43 31.4 -0.7**
WRA PcP PcP 02 46 25.8 -0.4
RPZ Rata Peaks 31.92 173 P **P** **02 43 38.2 +0.7**
comp=Z,40nm,0.8s,mb5.3,baz=201,slow=8.5,SNR=8.6
ASAR Alice Springs 32.47 245 P **P** **02 43 41.5 -1.1**
comp=Z,21nm,0.8s,mb5.1,baz=73,slow=9.4,SNR=133
ASAR PcP PcP 02 46 29.6 +0.2
comp=Z,4.2nm,1.1s,baz=75,slow=4.6,SNR=5.6
ASAR ScP ScP 02 50 11.2 -0.4
comp=Z,0.4nm,0.7s,baz=46,slow=2.7,SNR=3.3
ASAR Alice Springs 32.47 245 P **P** **02 43 41.6 -1.0**
ASAR 02 46 29.7
ASAR pmax pmax
comp=Z,21nm,0.8s
ASAR pmax pmax
comp=Z,4.0nm,1.1s
KAKA Kakadu 32.64 265 *e*P **P** **02 43 43.0 -1.2**
comp=Z,20nm,0.6s,mb5.2
FITZ Fitzroy Crossi 39.25 256 *e*P **P** **02 44 40.0 -0.8**
comp=Z,20nm,0.9s,mb4.8
FITZ *e* 02 44 58.6
FITZ *e*PCP PcP 02 46 50.5 +0.9
FITZ Fitzroy Crossi 39.25 256 P **P** **02 44 40.2 -0.5**
comp=Z,14nm,0.9s,mb4.7,baz=84,slow=10.0,SNR=27
FITZ PcP PcP 02 46 48.5 -1.1
comp=Z,3.9nm,0.8s,baz=151,slow=5.4,SNR=4.3
FITZ LR LR 03 00 55.2
comp=Z,237nm,18.6s,MS4.0,baz=71,slow=36
FORT Forrest 39.59 236 *e*P **P** **02 44 43.6 +0.1**
comp=Z,44nm,0.8s,mb5.2
BATI Baumata 41.41 268 P **P** **02 44 58.8 +0.1**
comp=Z,30nm,0.3s,mb5.3,baz=232,slow=0.8,SNR=5.9
PPT Papeete 43.37 103 *e*S **S** **02 51 47.0 +5.8**
comp=Z,54nm,25.0s
PPT *e*LQ 02 55 29.3
comp=Z,798nm,28.8s
PPT *e*LR LR 02 57 21.3
comp=Z,181nm,20.2s,baz=282
TBI Tubuai 43.88 111 *e*LR LR 02 57 34.3
comp=Z,267nm,24.5s,baz=289
MBWA Marble Bar 45.00 252 *e*P **P** **02 45 27.4 -0.2**
comp=Z,42nm,0.9s,mb5.3
KAPI Kappang 46.07 275 *e*P **P** **02 45 35.5 -0.7**
comp=Z,58nm,1.2s,mb5.4
KLBR Kellerberrin 48.29 238 *e*P **P** **02 45 52.9 -0.5**
comp=Z,23nm,0.8s,mb5.2
NWAO Narrogin (SRO) 49.02 237 P **P** **02 45 58.9 -0.1**
comp=Z,15nm,0.7s,mb5.1,baz=87,slow=8.9,SNR=9.4
NWAO Narrogin (SRO) 49.02 237 P **P** **02 45 58.9 -0.1**
NWAO pmax pmax
comp=Z,15nm,0.7s
MUN Mundaring 49.66 238 *e*P **P** **02 46 04.1 +0.2**
KKM Kota Kinabalu 52.52 287 *e*P **P** **02 46 26.0 +0.5**
MJAR Matsushiro Arr 54.87 333 P **P** **02 46 40.7 -1.6**
comp=Z,10.0nm,1.0s,mb4.8,baz=165,slow=7.3,SNR=17
MJAR Matsushiro Arr 54.87 333 P **P** **02 46 40.7 -1.6**
MJAR pmax pmax
comp=Z,10.0nm,1.0s
MAJO Matsushiro 54.87 333 *e*P **P** **02 46 41.6 -0.7**
MAJO pmax pmax
comp=Z,19nm,1.0s,mb5.1
MAJO Matsushiro 54.87 333 *e*P **P** **02 46 41.6 -0.7**
comp=Z,19nm,1.0s,mb5.1
MAT Matsushiro 54.87 333 P **P** **02 46 41.0 -1.3**
MAT *e*S **S** **02 54 28.8 +6.9**
KSM Kuching 56.77 280 *e*P **P** **02 46 56.9 +0.5**
RKT Rikitea 57.16 110 *e*LR LR 03 03 46.7
comp=Z,223nm,25.8s
ASAJ Asahikawa 59.73 341 LR LR 03 13 46.0
comp=Z,166nm,18.4s,MS4.2,baz=234,slow=37
KSRS Korea Array 60.72 326 P **P** **02 47 24.1 +0.6**
comp=Z,5.0nm,0.8s,mb4.7,baz=132,slow=7.6,SNR=17
KSRS PcP PcP 02 48 08.5 +1.2
comp=Z,5.6nm,0.9s,baz=139,slow=5.2,SNR=6.2
KSRS Korea Array 60.72 326 P **P** **02 47 24.1 +0.6**
KSRS 02 48 08.5
KSRS pmax pmax
comp=Z,5.0nm,0.8s,mb4.7
KSRS pmax pmax
comp=Z,6.0nm,1.0s,mb4.7
YSS Yuzh-Sakhalins 62.23 342 ⇑*i*P **P** **02 47 32.1 -1.3**
YSS *e* pP 02 47 41.4 -0.8
YSS Yuzh-Sakhalins 62.23 342 *e*P **P** **02 47 33.1 -0.3**
NJ2 Nanjing 62.77 316 *e*P **P** **02 47 39.2 +1.8**
NJ2 AP pP 02 47 46.9 +0.7
NJ2 XP sP 02 47 50.2 +0.7
NJ2 PP PP 02 49 59.0 +3.1
NJ2 S **S** **02 56 11.0 +6.2**
NJ2 XS sS 02 56 22.0 +2.7
NJ2 AMB AMB
comp=Z,20nm,0.8s,mb5.3
NJ2 AMB AMB
comp=Z,940nm,6.1s
NJ2 LR LR
comp=N,610nm,15.3s,MS5.2
NJ2 LR LR
comp=E,1µm,16.3s,MS5.2
NJ2 LR LR
comp=Z,1µm,16.3s,MS5.2
MDJ Mudanjiang 65.24 332 P **P** **02 47 53.7 +0.4**
MDJ AP pP 02 47 59.8 -2.3
MDJ PCP PcP 02 48 26.2 +0.6
MDJ PP PP 02 50 17.1 -0.2
MDJ S S 02 56 35.3 +0.3
MDJ XS sS 02 56 47.5 -2.0
MDJ SCS ScS 02 57 47.6 +1.0
MDJ SS SS 03 00 49.8 +1.4
MDJ AMB AMB
comp=Z,22nm,0.9s,mb5.2
MDJ AMB AMB
comp=Z,143nm,5.1s
MDJ LR LR
comp=N,339nm,6.1s
MDJ LR LR
comp=Z,424nm,5.8s
MDJ Mudanjiang 65.24 332 *e*P **P** **02 47 53.5 +0.1**
comp=Z,28nm,1.1s,mb5.2
CASY Casey 65.53 201 *e*P **P** **02 47 54.5 -0.4**
SBA Scott Base 65.85 180 *e*P **P** **02 47 58.0 +1.2**
SBA pmax pmax
comp=Z,31nm,1.2s,mb5.2
SBA Scott Base 65.85 180 *e*P **P** **02 47 58.0 +1.2**
comp=Z,31nm,1.2s,mb5.2
HABR Khabarovsk 66.11 338 *e*P **P** **02 47 58.7 -0.1**
HABR *e* pP 02 48 07.9 +0.2
HABR *e* 02 50 23.7
HABR *e*S S 02 56 45.6 +0.2
HABR *e* 02 57 02.1
HABR *e* 02 57 51.7
HABR *e* 03 01 02.0
CN2 Changchun 66.61 329 ⇓P **P** **02 48 02.3 +0.1**
CN2 *e*AP pP 02 48 10.3 -0.7
CN2 *e*S S 02 56 50.8 -0.9
CN2 AMB AMB
comp=Z,40nm,0.8s,mb5.5
CN2 AMB AMB
comp=Z,400nm,6.0s
CN2 LR LR
comp=N,500nm,14.0s,MS5.0

CN2 LR LR
comp=E,400nm,14.0s,MS5.0
CN2 LR LR
comp=Z,700nm,16.0s,MS5.0
KLR Kul'dur 67.97 337 *e*P **P 02 48 06.6 -4.1**
KLR pmax pmax
comp=E,28nm,1.6s
KLR pmax pmax
comp=Z,65nm,1.6s,mb5.4
GYA Guiyang 69.04 304 P **P 02 48 18.6 +0.7**
GYA AP pP 02 48 26.9 +0.2
GYA XP sP 02 48 31.7 +1.7
GYA PCP PcP 02 48 41.9 0.0
GYA PP PP 02 50 53.2 +2.4
GYA SCP 02 52 42.3
GYA S S 02 57 21.4 -0.1
GYA SKS 02 58 11.4
GYA SS SS 03 01 49.6 +1.6
GYA AMB AMB
comp=Z,20nm,0.6s,mb5.2
GYA AMB AMB
comp=Z,80nm,4.4s
GYA LR LR
comp=N,1μm,16.1s,MS5.2
GYA LR LR
comp=E,620nm,17.2s,MS5.2
GYA LR LR
comp=Z,740nm,15.8s,MS5.0
BJT Baijiatuau 69.28 321 *e*P **P 02 48 18.8 -0.3**
BJI Beijing 69.29 321 P **P 02 48 19.3 +0.2**
BJI S S 02 57 23.4 -0.5
BJI SS SS 03 01 53.8 +2.4
BJI AMB AMB
comp=Z,21nm,1.1s,mb5.0
BJI AMB AMB
comp=Z,255nm,7.3s
BJI LR LR
comp=N,526nm,15.7s,MS5.0
BJI LR LR
comp=E,312nm,15.5s,MS5.0
BJI LR LR
comp=Z,132nm,20.9s
BJI Beijing 69.29 321 P **P 02 48 19.3 +0.2**
comp=Z,21nm,1.1s,mb5.0
BJI S S 02 57 23.4 -0.5
BJI SS SS 03 01 53.8 +2.4
BJI LR LR
comp=Z,130nm,20.9s,MS4.2
XAN Xi'an 70.84 313 P **P 02 48 29.4 +0.6**
XAN AP pP 02 48 36.8 -0.9
XAN PP PP 02 51 07.5 +1.3
XAN S S 02 57 45.9 +3.6
XAN SCS ScS 02 58 33.1 +2.2
XAN AMB AMB
comp=Z,17nm,1.0s,mb4.9
XAN AMB AMB
comp=Z,600nm,6.4s
XAN LR LR
comp=Z,129nm,22.3s,MS4.1
KMI Kunming 71.71 302 P **P 02 48 35.8 +1.6**
KMI AP pP 02 48 46.6 +3.5
KMI S S 02 57 54.7 +2.0
KMI AMB AMB
comp=Z,31nm,1.2s,mb5.1
KMI LR LR
comp=Z,92nm,20.9s,MS4.0
KMI Kunming 71.71 302 P **P 02 48 35.8 +1.6**
comp=Z,31nm,1.2s,mb5.1
KMI pP pP 02 48 46.6 +3.5
KMI S S 02 57 54.7 +2.0
KMI LR LR
comp=Z,90nm,20.9s,MS4.0
MIR Mirnyy 72.25 204⇓ *i*P **P 02 48 37.0 +0.3**
MIR pmax pmax
comp=Z,200nm,1.0s,mb6.0
CMAR Chiang Mai Arr 72.59 294 P **P 02 48 40.1 +0.5**
comp=Z,10nm,0.9s,mb4.8,baz=120,slow=4.7,SNR=26
CMAR Chiang Mai Arr 72.59 294 *i* P **P 02 48 41.2 +1.6**
CMAR pmax pmax
comp=Z,11nm,0.9s
HHC Hu-ho-hao-te 72.63 320⇑P **P 02 48 41.1 +1.7**
HHC AP pP 02 48 51.2 +2.9
HHC XP sP 02 48 55.9 +4.3
HHC PCP PcP 02 48 58.9 +2.1
HHC PP PP 02 51 26.1 +4.7
HHC S S 02 58 03.2 +0.6
HHC SKS 02 58 40.1
HHC SCS ScS 02 58 42.7 -2.1
HHC AMB AMB
comp=Z,28nm,1.1s,mb5.1
HHC AMB AMB
comp=Z,392nm,5.9s
HHC LR LR
comp=N,281nm,15.1s,MS4.9
HHC LR LR
comp=E,443nm,16.3s,MS4.9
HHC LR LR
comp=Z,386nm,16.1s,MS4.8
CHTO Chiang Mai 72.71 294 *e*P **P 02 48 40.6 +0.3**
CHTO pmax pmax
comp=Z,9.0nm,0.8s,mb4.8
CHTO Chiang Mai 72.71 294 *e*P **P 02 48 40.6 +0.3**
comp=Z,8.9nm,0.8s,mb4.8
HIA Hailar 73.25 330 *e*P **P 02 48 43.1 +0.2**
HIA pmax pmax
comp=Z,8.0nm,0.6s
HIA Hailar 73.25 330 *e*P **P 02 48 43.1 +0.2**
comp=Z,7.8nm,0.6s,mb4.8
CD2 Chengdu 73.27 308⇑ *i*P **P 02 48 44.4 +1.0**
CD2 AP pP 02 48 53.7 +1.4
CD2 XP sP 02 48 57.7 +2.1
CD2 PP PP 02 51 30.1 +3.1
CD2 S S 02 58 10.0 -0.3
CD2 XS sS 02 58 26.1 +1.1
CD2 SS SS 03 02 54.9 +2.1
CD2 AMB AMB
comp=Z,30nm,0.6s,mb5.4
CD2 AMB AMB
comp=Z,60nm,5.2s
CD2 LR LR
comp=N,760nm,14.4s
CD2 LR LR
comp=Z,380nm,12.0s,MS4.9
LZH Lanzhou 75.48 312 *e*P **P 02 48 57.5 +1.4**
LZH AP pP 02 49 06.0 +0.9
LZH XP sP 02 49 11.0 +2.6
LZH PP PP 02 51 49.3 +3.6
LZH *e*S S 02 58 34.0 -0.9
LZH XS sS 02 58 50.1 +0.5
LZH AMB AMB
comp=Z,56nm,1.5s,mb5.3
LZH AMB AMB
comp=Z,370nm,7.0s
LZH Lanzhou 75.48 312 *e*P **P 02 48 57.5 +1.4**
LZH *PP pP 02 49 06.0 +0.9
LZH *SP sP 02 49 11.0 +2.6
LZH 02 51 49.3
LZH *e*S S 02 58 34.0 -0.9
LZH pmax pmax
comp=Z,56nm,1.5s,mb5.3
LZH Lanzhou 75.48 312 *e*P **P 02 48 57.5 +1.4**
comp=Z,56nm,1.5s,mb5.3
LZH pP pP 02 49 06.0 +0.9
LZH sP sP 02 49 11.0 +2.6
LZH PP PP 02 51 49.3 +3.6
LZH *e*S S 02 58 34.0 -0.9
LZH sS sS 02 58 50.1 +0.5
CLNS Chul'man 76.50 338 *e*P **P 02 49 02.6 +1.1**
CLNS pmax pmax
comp=E,6.0nm,0.9s
CLNS pmax pmax
comp=Z,26nm,1.2s,mb5.0
CLNS pmax pmax
comp=N,13nm,1.2s
QSPA South Pole Qui 78.01 180 P **P 02 49 09.8 +0.1**
comp=N,33nm,1.0s,mb5.2,baz=19,slow=2.1,SNR=54
YAK Yakutsk 79.04 344 *e*P **P 02 49 13.7 -1.8**
YAK pmax pmax
comp=Z,16nm,0.8s,mb5.0
YAK pmax pmax
comp=N,6.0nm,1.2s
ULN Ulaanbaatar 79.13 324 *d i*P **P 02 49 17.0 +0.6**
ULN Ulaanbaatar 79.13 324 *e*P **P 02 49 16.8 +0.4**
comp=N,100nm,1.8s,mb5.4
SONM Songino Array 79.50 324 P **P 02 49 18.8 +0.5**
comp=N,4.7nm,0.8s,mb4.5,baz=141,slow=4.8,SNR=6.4
SONM Songino Array 79.50 324 P **P 02 49 18.8 +0.5**
SONM pmax pmax
comp=Z,5.0nm,0.8s
GTA Gaotai 79.80 314 P **P 02 49 21.6 +1.4**
GTA AP pP 02 49 30.1 +0.9
GTA XP sP 02 49 33.6 +1.2
GTA S S 02 59 23.8 +2.3
GTA XS sS 02 59 36.7 +0.4
GTA AMB AMB
comp=Z,21nm,1.3s,mb4.9
GTA AMB AMB
comp=Z,515nm,7.2s
GTA LR LR
comp=N,257nm,16.2s,MS4.8
GTA LR LR
comp=E,207nm,17.1s,MS4.8
GTA LR LR
comp=Z,145nm,18.9s,MS4.3
SHL Shillong 81.06 299 *e*P **P 02 49 27.5 +0.2**
BOD Bodaibo 81.44 335 *e*P **P 02 49 28.2 -0.3**
BOD pmax pmax
comp=Z,20nm,1.5s,mb4.8
ZAK Zakamensk 82.54 325 *e*P **P 02 49 33.6 -0.9**
ZAK pmax pmax
comp=Z,14nm,1.4s,mb4.8
IRK Irkutsk 82.92 327 *e*P **P 02 49 36.7 +0.3**
IRK pmax pmax
comp=Z,39nm,1.7s,mb5.2
TLY Talaya 82.97 326 *e*P **P 02 49 36.9 +0.2**
TLY pmax pmax
comp=Z,39nm,1.7s,mb5.2
MAW Mawson 83.88 202 *e*P **P 02 49 41.9 +0.7**
comp=Z,6.3nm,1.1s,mb4.7
MAW Mawson 83.88 202 P **P 02 49 41.9 +0.7**
comp=Z,8.8nm,1.1s,mb4.8,baz=80,slow=9.2,SNR=9.2
MAW Mawson 83.88 202 P **P 02 49 41.9 +0.7**
MAW pmax pmax
comp=Z,9.0nm,1.1s
COLA College 84.16 18 *e*P **P 02 49 43.5 +1.0**
COLA College 84.16 18 *e*P **P 02 49 42.0 -0.5**
comp=Z,4.1nm,0.7s,mb4.7
YBH Yreka Blue Hor 84.48 45 P **P 02 49 48.6 +3.9**
comp=Z,6.1nm,1.1s,mb4.6,baz=230,slow=6.8,SNR=3.8
YBH Yreka Blue Hor 84.48 45 P **P 02 49 48.6 +3.9**
YBH pmax pmax
comp=Z,6.0nm,1.2s
TAPN Taplejung 85.16 299 *e*P **P 02 49 48.6 +0.1**
comp=Z,46nm,1.3s,mb5.4
ODAN Odare 85.30 299 *e*P **P 02 49 49.6 +0.4**
comp=Z,27nm,0.8s,mb5.5
RAMN Ramite 86.00 298 *e*P **P 02 49 52.8 +0.1**
comp=Z,42nm,1.4s,mb5.5
JIRN Jiri 86.54 299 *e*P **P 02 49 55.7 +0.4**
NVAR Mina Array Bea 86.56 50 P **P 02 49 55.8 +0.7**
comp=Z,0.8nm,0.6s,mb4.1,baz=240,slow=7.2,SNR=3.3
GUN Gumba 86.88 299 *e*P **P 02 49 57.6 +0.7**
PKI Pulchoki 87.19 299 *e*P **P 02 49 58.5 0.0**
comp=Z,28nm,1.1s,mb5.4
DMN Daman 87.46 299 *e*P **P 02 49 59.9 +0.1**
comp=Z,42nm,1.0s,mb5.6
WVOR Wild Horse Val 87.57 46 *e*P **P 02 49 56.4 -3.6**
WVOR pmax pmax
comp=Z,40nm,0.9s,mb5.7
WVOR Wild Horse Val 87.57 46 *e*P **P 02 49 56.4 -3.5**
comp=Z,40nm,0.9s,mb5.7
GKN Gorkha 87.96 299 *e*P **P 02 50 01.7 -0.5**
comp=Z,33nm,1.0s,mb5.5
KOLN Koldanda 88.79 299 *e*P **P 02 50 05.4 -0.7**
DANN Dangsing 88.80 299 *e*P **P 02 50 05.5 -0.6**
comp=Z,22nm,0.8s,mb5.5
WMQ Urumqi 89.84 315 P **P 02 50 10.3 -0.3**
WMQ AP pP 02 50 18.3 -1.4
WMQ XP sP 02 50 21.8 -1.2
WMQ PP PP 02 53 45.3 +1.7
WMQ SKS 03 00 37.3
WMQ S S 03 00 59.3 -1.8
WMQ XS sS 03 01 12.8 -3.4
WMQ AMB AMB
comp=Z,11nm,0.9s,mb5.2
WMQ AMB AMB
comp=Z,138nm,3.5s
WMQ LR LR
comp=N,60nm,20.5s,MS4.1
WMQ LR LR
comp=E,55nm,23.6s,MS4.1
WMQ LR LR
comp=Z,64nm,18.5s
SYO Syowa Base 90.90 197⇓ *e*P **P 02 50 14.3 -0.9**
SYO Syowa Base 90.90 197⇓ *e*PcP PcP 02 50 15.4 -0.8
MK31 Makanchi Array 94.29 317 *e*P **P 02 50 31.4 +0.3**
MKAR Makanchi Array 94.29 317 P **P 02 50 31.4 +0.3**
comp=Z,7.6nm,0.9s,mb5.2,baz=99,slow=6.3,SNR=21
MKAR Makanchi Array 94.29 317 *i* P **P 02 50 31.6 +0.5**
MKAR pmax pmax
comp=Z,8.0nm,0.9s
MKAR Makanchi Array 94.29 317 P **P 02 50 31.4 +0.3**
ZAA0 Zalesovo Array 94.39 324 *e*P **P 02 50 30.3 -1.1**
ZALV Zalesovo Beam 94.39 324 P **P 02 50 30.1 -1.4**
comp=Z,6.3nm,0.8s,mb5.1,baz=103,slow=4.7,SNR=18
ZALV Zalesovo Beam 94.39 324 P **P 02 50 30.1 -1.3**
ZALV pmax pmax
comp=Z,6.0nm,0.9s,mb5.0
ANMO Albuquerque 94.90 55 LR LR 03 28 16.7
comp=Z,143nm,18.4s,MS4.5,baz=155,slow=32
NVS Novosibirsk 95.50 325 *e*P **P 02 50 33.3 -3.2**
NVS pmax pmax
comp=N,8.0nm,1.6s
NVS pmax pmax
comp=E,15nm,1.6s
NVS pmax pmax
comp=Z,26nm,1.6s,mb5.4
YKA Yellowknife Ar 95.77 27 LR LR 03 36 23.5
comp=Z,35nm,18.0s,MS3.9,baz=255,slow=37
SNAA Sanae 96.17 184 *e*P **P 02 50 37.4 -2.0**
SNAA *e* pP 02 50 44.7 -3.8
SNAA *e* 02 50 51.3
SNAA Sanae 96.17 184 *e*P **P 02 50 38.1 -1.3**
SNAA pmax pmax
comp=Z,7.0nm,1.1s
SNAA Sanae 96.17 184 *e*P **P 02 50 38.1 -1.3**
comp=Z,6.7nm,1.1s,mb5.0
TXAR Lajitas Array 96.19 61 LR LR 03 27 07.4
comp=Z,188nm,18.2s,MS4.6,baz=85,slow=31
VNA3 Neumayer Olymp 96.89 181 *e*P **P 02 50 41.4 -1.2**
VNA3 *e* pP 02 50 49.0 -2.7
VNA3 *e* 02 50 54.1
VNA2 Neumayer--Watz 97.14 182 *e*P **P 02 50 42.5 -1.3**
baz=126,slow=2.4
VNA2 *e* pP 02 50 50.2 -2.7
VNA2 *e* 02 50 55.7
KURK Kurchatov 97.44 320 P **P 02 50 44.3 -1.1**
comp=Z,0.8nm,0.8s,mb4.2,baz=96,slow=3.6,SNR=5.3
KURK Kurchatov 97.44 320 P **P 02 50 44.3 -1.1**
KURK pmax pmax
comp=Z,1.0nm,0.8s,mb4.3
BVAR Borovoye Array 102.77 322 P Pdif 02 51 07.9 -1.3
comp=Z,1.2nm,0.7s,baz=77,slow=6.4,SNR=4.3
BVAR Borovoye Array 102.77 322 P Pdif 02 51 07.9 -1.3
BVAR pmax pmax
comp=Z,1.0nm,0.7s
ARCES ARCESS Array B 117.28 345 PKP PKPdf 02 55 55.6 -0.9
comp=Z,1.5nm,0.5s,baz=78,slow=2.1,SNR=17
ARCES ARCESS Array B 117.28 345 PKIKP PKPdf 02 55 55.6 -0.9
ARCES pmax pmax
comp=Z,2.0nm,0.5s
JOF Joensuu 119.86 338 *e*p PKPdf 02 55 59.3 -2.3
comp=Z,3.6nm,0.7s
JOF Joensuu 119.86 338 *e*PKIKP PKPdf 02 55 59.3 -2.3
JOF pmax pmax
comp=Z,4.0nm,0.7s
OBN Obninsk 121.67 328 *i* PKIKP PKPdf 02 56 03.9 -1.5
OBN pmax pmax
comp=Z,8.0nm,1.0s
KAF Kangasniemi 122.17 339 *e*p PKPdf 02 56 03.6 -2.5
comp=Z,4.2nm,0.8s
KAF Kangasniemi 122.17 339 *e*PKIKP PKPdf 02 56 03.6 -2.5
KAF pmax pmax
comp=Z,4.0nm,0.8s
LBTB Lobatse 126.56 226 *e*PKIKP PKPdf 02 56 15.5 -0.2
NB2 NORSAR Subarra127.65 345 PKPdf PKPdf 02 56 15.7 -0.9
comp=Z,4.0nm,1.1s,baz=31,slow=1.9
NOA NORSAR Array B127.65 345 PKP PKPdf 02 56 15.6 -1.1
comp=Z,2.1nm,0.9s,baz=30,slow=1.9,SNR=6.7
NOA NORSAR Array B127.65 345 PKIKP PKPdf 02 56 15.6 -1.0
NOA pmax pmax
comp=Z,2.0nm,0.9s
AKASG Malin Array Be 127.72 326 PKP PKPdf 02 56 16.6 -0.5
comp=Z,0.6nm,0.4s,baz=61,slow=2.3,SNR=12
AKASG Malin Array Be 127.72 326 PKIKP PKPdf 02 56 16.6 -0.5
AKASG pmax pmax
comp=Z,1.0nm,0.4s
AKBB Malin Array Si 127.72 326 *e*PKIKP PKPdf 02 56 16.5 -0.6
BR131 Keskin Array S 129.68 312 *e*PKPdf PKPdf 02 56 21.2 0.0
LSZ Lusaka 130.09 238 *e*PKIKP PKPdf 02 56 22.9 +0.3
BUR08 Bucovina Ar. S 131.60 325 *e*PKPdf PKPdf 02 56 25.4 +0.9
BURAR Bucovina Array 131.60 325⇑ *i*P PKPdf 02 56 25.1 +0.5
KWP Kalwaria 131.76 328⇓ *i*P PKPdf 02 56 25.6 +0.8
KWP Kalwaria 131.76 328⇓P PKPdf 02 56 25.6 +0.8
KOLS Kolonicke sedl 132.42 328 *e*PKP PKPdf 02 56 27.2 +1.1
KOLS Kolonicke sedl 132.42 328 *e*PKP PKPdf 02 56 27.3 +1.2
BMR Baia Mare 132.53 326⇓ *i*P PKPdf 02 56 25.4 -0.9
BMR Baia Mare 132.53 326⇓P PKPdf 02 56 25.4 -1.0
STHS Stebnicka Huta 132.64 329 *e*PKP PKPdf 02 56 28.2 +1.7
DRGR 133.48 325⇓ *i*P PKPdf 02 56 28.3 +0.2
DRGR 133.48 325⇓P PKPdf 02 56 28.3 +0.1
MORC Moravsky Berou 134.19 332 *e*PKIKP PKPdf 02 56 29.7 +0.3
GZR Gura Zlata 134.25 324⇑ *i*P PKPdf 02 56 29.5 -0.1
GZR Gura Zlata 134.25 324⇑P PKPdf 02 56 29.4 -0.2
PSZ Piszkesteto 134.29 328 *e*PKIKP PKPdf 02 56 29.6 0.0
DPC Dobruska-Polom 134.34 333 *e*PKPdf PKPdf 02 56 29.8 +0.2
UPC Upice 134.36 333 *e*PKPdf PKPdf 02 56 29.7 0.0
VYHS Vyhne 134.45 330 *e*PKP PKPdf 02 56 28.9 -1.0
BZS Buzias 134.78 325⇑ *i*P PKPdf 02 56 30.3 -0.3
BZS Buzias 134.78 325⇑P PKPdf 02 56 30.3 -0.3
PVCC Panska Ves 134.97 334 *e*PKPdf PKPdf 02 56 31.4 +0.6
BRG Berggiesshubel 134.97 335 *e*PKIKP PKPdf 02 56 30.9 +0.1
BRG pmax pmax
comp=Z,4.0nm,1.4s
BRG Berggiesshubel 134.97 335 *e*PKP PKPdf 02 56 30.9 +0.1
comp=Z,6.0nm,1.4s
CLL Collm 135.02 336 *i* PKIKP PKPdf 02 56 30.9 0.0
CLL pmax pmax
comp=Z,5.0nm,1.0s
CLL Collm 135.02 336 *e*PKPdf PKPdf 02 56 32.0 +1.1
CLL Collm 135.02 336 *i* PKPdf PKPdf 02 56 30.9 0.0
comp=Z,5.0nm,1.0s
PRU Puhonice 135.39 334 *e*PKPdf PKPdf 02 56 32.4 +0.8
TREC Trest 135.48 333 *e*PKPdf PKPdf 02 56 31.6 -0.2
PKSM Moragy 136.04 327⇑ *i*P PKPdf 02 56 32.9 -0.1
PKSM Moragy 136.04 327⇑P PKPdf 02 56 32.9 -0.1
KHC Kasperske Hory 136.44 334 *e*PKPdf PKPdf 02 56 33.3 -0.3
GERES GERESS Array B 136.60 333 PKhKP 02 56 21.9
comp=Z,0.7nm,0.8s,baz=61,slow=3.8,SNR=5.4
GERES PKP PKPdf 02 56 33.7 -0.2
comp=Z,1.2nm,0.9s,baz=45,slow=0.4,SNR=7.7
GERES GERESS Array B 136.60 333 PKHKP 02 56 21.9
GERES 02 56 33.7
GERES pmax pmax
comp=Z,1.0nm,0.8s
GERES pmax pmax
comp=Z,1.0nm,0.9s
GRA1 Grafenberg Arr 136.99 336 *e*PKPdf PKPdf 02 56 36.2 +1.6
GRF Grafenberg Arr 136.99 336 *e*PKPdf PKPdf 02 56 36.2 +1.6
MEM Membach 138.12 341 PKP PKPdf 02 56 38.5 +1.8
WLF Walferdange 138.88 340 PKP PKPdf 02 56 40.9 +2.8
DOU Dourbes 139.01 342 PKP PKPdf 02 56 40.3 +2.0
TIP Timpagrande 141.49 320 *e*PKPdf PKPdf 02 56 43.0 -0.2
LPL La Plagne 142.16 336 *e*PKIKP PKPdf 02 56 40.6 -3.5
BNI Bardonecchia 142.56 336 *e*PKIKP PKPdf 02 56 41.5 -3.4
MBDF Montbardon 142.79 335 *e*PKIKP PKPdf 02 56 41.6 -3.7
comp=Z,14nm,1.0s
ORIF Oris-en-Rattie 142.99 336 *e*PKIKP PKPdf 02 56 41.8 -3.9
comp=Z,29nm,0.9s
SAOF Saorge 143.06 334 PKP PKPdf 02 56 42.0 -3.8
AUTN L'Aution 143.10 334 PKP PKPdf 02 56 42.3 -3.6
TOUF Mont Tournerai 143.17 334 PKP PKPdf 02 56 42.6 -3.4
SBF Sospel 143.21 334 *e*PKIKP PKPdf 02 56 41.8 -4.3
comp=Z,92nm,1.0s
OCF Saint Nazaire 143.50 336 PKP PKPdf 02 56 44.4 -2.2
OG26 St.-Nazaire-De 143.50 336 PKP PKPdf 02 56 44.4 -2.2
VIVF Saint-Julien-l 143.51 337 *e*PKIKP PKPdf 02 56 43.6 -3.0
comp=Z,61nm,1.2s
PGF Pioggiola 143.52 331 *e*PKIKP PKPdf 02 56 41.3 -5.4
comp=Z,28nm,0.8s
CALN Calern 143.53 334 PKP PKPdf 02 56 43.6 -3.0
MFF Saint Martin d 143.54 344 *e*PKIKP PKPdf 02 56 43.1 -3.5
comp=Z,14nm,0.9s
CORF Corte 143.63 330 PKP PKPdf 02 56 44.2 -2.7
LBL Lubilhac 143.71 339 PKP PKPdf 02 56 46.0 -0.9
FRF La Foret Royal 143.79 334 *e*PKIKP PKPdf 02 56 44.0 -3.1
comp=Z,116nm,1.2s
SMRF Simiane la Rot 143.90 336 *e*PKIKP PKPdf 02 56 45.0 -2.3
comp=Z,95nm,1.4s
LMR La Mourre 144.03 334 *e*PKIKP PKPdf 02 56 45.0 -2.5
comp=Z,145nm,1.1s
OSPF L'Ospedale 144.09 330 PKP PKPdf 02 56 46.0 -1.7
RJF Les Rejaudoux 144.22 341 *e*PKIKP PKPdf 02 56 45.7 -2.1
comp=Z,90nm,1.5s
CAF Calviac 144.38 340 *e*PKIKP PKPdf 02 56 46.6 -1.5
comp=Z,39nm,1.2s
LASF Ste Croix 144.48 337 *e*PKIKP PKPdf 02 56 47.0 -1.3
comp=Z,85nm,1.0s
LFF La Frestale 144.79 342 *e*PKIKP PKPdf 02 56 47.6 -1.2
comp=Z,40nm,1.1s
MTLF Montolieu 145.72 339 *e*PKIKP PKPdf 02 56 50.9 +0.5
comp=Z,51nm,1.0s
MLS Moulis 146.44 340 PKP PKPdf 02 56 53.3 +1.6
RESF Ens 146.83 340 PKP PKPdf 02 56 55.3 +2.9
VIEF Viey 146.87 341 PKP PKPdf 02 56 54.9 +2.5
SJPF Ste Jean 147.04 342 *e*PKIKP PKPdf 02 56 50.0 -2.7
comp=Z,26nm,1.1s
KEST Kesra 148.24 322 PKPbc PKPbc 02 56 58.5 +0.3
comp=Z,11nm,0.9s,baz=321,slow=3.8,SNR=20
PCAB Cabril 149.93 351 *e*PKPbc PKPbc 02 57 02.4 +0.1
MVO Moncorvo 150.29 349 *e*PKPbc PKPbc 02 57 03.2 0.0
PVRL Vila Real 150.30 350 *e*PKPbc PKPbc 02 57 02.9 -0.3
ESDC Sonseca Array 151.00 344 PKPbc PKPbc 02 57 04.6 -0.4
comp=Z,3.5nm,0.9s,baz=16,slow=2.3,SNR=18
ESDC PKPab PKPab 02 57 13.6 +1.2
comp=Z,4.3nm,0.8s,baz=16,slow=3.5,SNR=13
ESLA Sonseca Array 151.00 344 *e*PKPbc PKPbc 02 57 04.4 -0.5
MTE Manteigas 151.12 350 *e*PKPbc PKPbc 02 57 04.7 -0.5
MTE Manteigas 151.12 350 *e*PKPdf PKPdf 02 56 59.4 +0.1
MTE *e*PKPbc PKPbc 02 57 04.8 -0.4
PAB San Pablo 151.23 344 *e*PKIKP PKPdf 02 57 05.5 +6.0
PCBR Castelo Branco 151.65 349 *e*PKPbc PKPbc 02 57 06.3 -0.1
PTOM Tomar 152.03 351 *e*PKPbc PKPbc 02 57 07.3 0.0
PMRV Marv??o 152.04 349 *e*PKPbc PKPbc 02 57 06.8 -0.5
EVO Evora 153.02 349 *e*PKIKP PKPdf 02 57 01.2 -1.0
comp=Z,30nm,1.4s
TOA0 Torodi Ar. Sit 164.50 276 *e*PKPdf PKPdf 02 57 15.9 -0.6
TOA0 *e*PKPab PKPab 02 58 12.5 +1.2
TORD Torodi Ar. Bea 164.50 276 PKP PKPdf 02 57 16.0 -0.5
comp=Z,5.6nm,1.1s,baz=350,slow=1.2,SNR=20
TORD PKPab PKPab 02 58 11.6 +0.2
comp=Z,3.1nm,0.9s,baz=87,slow=3.1,SNR=5.3
KIC Kosan Boka 169.16 240 *e*PKP1 PKPdf 02 57 19.2 -0.9
comp=Z,84nm,1.2s
LIC Lamto 169.32 238 *e*PKIKP PKPdf 02 57 19.4 -0.8
comp=Z,32nm,1.2s
LIC Lamto 169.32 238 *e*PKP1 PKPdf 02 57 18.4 -1.8
comp=Z,54nm,1.5s
DBIC Dimbokro 169.41 241 PKPab PKPab 02 58 33.3 +0.2
comp=Z,6.9nm,1.0s,baz=130,slow=4.7,SNR=4.2
DBIC Dimbokro 169.41 241 *e*PKIKP PKPdf 02 57 19.9 -0.3
DBIC *e* 02 58 32.7
TIC Toumodi 169.54 240 *e*PKP1 PKPdf 02 57 18.4 -1.9
comp=Z,96nm,1.2s

AUST ***06*** *02:39:31.8, 36.07S×136.11E, h10km, ML4.2*
NEIC ***06*** *02:39:31.0, 36.07S×136.11E, h10km, ML4.2(AUST), After AUST.*
ISCJB ***06*** *02:39:36.8±2.2, 355S±0.1×1362E±0.1, h10km, Error ellipse: s-maj=19.8km s-min=11.7km az=14.0*
IDC ***06*** *02:39:39.0±5.7, 35.35S×136.26E, h0km, mb1 3.7/4, mb1mx3.6/14, mbtmp3.5/4, ML3.6/4, Error ellipse: s-maj=64.5km s-min=27.3km az=174.0*
ISC 06 02:39:37.5±2.2, 356S±01×1361E±01, h10km, n8, σ1s05/12, Near coast of South Australia

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**5.85**	**53**	Pn		**Pn**		**02 41 04.0**	**-0.3**
	0.9nm,0.3s,baz=222,slow=12,SNR=9.4								
STKA				Sn		**Sn**		**02 42 10.9**	**-0.4**
	2.1nm,0.3s,baz=317,slow=21,SNR=3.5								
STKA				Lg				02 42 37.8	

	4.6nm,0.3s,baz=301,slow=21,SNR=6.4						
STKA	**Stephens Creek**	**5.85**	**53**	*e*Pn	**Pn**	**02 41 04.8**	**+0.6**
STKA				Sn	**Sn**	**02 42 12.1**	**+0.8**
STKA				Lg		02 42 37.8	
CAN	**Canberra**	**10.50**	**92**	Pn	**Pn**	**02 42 00.8**	**-7.2**
ASAR	**Alice Springs**	**12.02**	**350**	Pn	**Pn**	**02 42 29.8**	**+0.9**
	0.6nm,0.3s,baz=176,slow=8.2,SNR=20						
ASAR				Sn	**Sn**	**02 44 44.5**	**+1.5**
	0.3nm,0.3s,baz=172,slow=22,SNR=3.3						
WB2	**Warramunga Arr**	**15.65**	**354**	*e*P	**Pn**	**02 43 17.3**	**-0.8**
WB2	**Warramunga Arr**	**15.65**	**354**	Pn	**Pn**	**02 43 17.7**	**-0.4**
WRA	**Warramunga Arr**	**15.65**	**354**	Pn	**Pn**	**02 43 16.9**	**-1.2**
	0.4nm,0.3s,baz=171,slow=12,SNR=18						
WRA				Sn	**Sn**	**02 46 09.8**	**-1.8**
	0.1nm,0.3s,baz=178,slow=24,SNR=3.3						
FITZ	**Fitzroy Crossi**	**19.73**	**329**	P	**Pn**	**02 44 09.3**	**+0.5**
	0.1nm,0.3s,baz=179,slow=9.5,SNR=3.0						

*NEIC **06** 03:01:28.1, 39.14N×26.96E, h16km, MD3.2(ISK), MD3.6(ATH), After ATH.*
*ATH **06** 03:01:28.1, 39.14N×26.96E, h16km±3km, MD3.6/3*
*THE **06** 03:01:29.4, 39.00N×26.95E, h10km±3km, ML3.8/2, Error ellipse: s-maj=4.0km s-min=1.5km az=255.0*
*DDA **06** 03:01:29.4, 39.10N×26.78E, h26km±1km, Md3.0*
*ISK **06** 03:01:29.6, 39.07N×26.74E, h4km, MD3.2*
*ISCJB **06** 03:01:30.1±0.4, 39.07N±001×26.78E±002, h5km±3km, Error ellipse: s-maj=3.2km s-min=2.4km az=163.6*
*CSEM **06** 03:01:30.1±0.1, 39.05N×26.72E, h10km, MD3.0, Error ellipse: s-maj=1.5km s-min=1.0km az=78.0*
ISC 06 03:01:30.8±0.4, **39.07N**±001×**26.78E**±003, **h7**km±3km, **n65**, σ**1s01**/97, **Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AYVA	**Ayvalik**	**0.25**	**344**	*i* P	**Pg**	**03 01 35.6**	**-0.1**
AYVA				*i* S	**Sg**	**03 01 39.5**	**+0.3**
PRK	**Paraskevi**	**0.43**	**295**	P	**Pg**	**03 01 39.5**	**+0.3**
PRK				S	**Sg**	**03 01 49.9**	**+5.0**
PRK	**Paraskevi**	**0.43**	**295**	P	**Pg**	**03 01 39.5**	**+0.3**
PRK				*e*Sn	**Sg**	**03 01 46.3**	**+1.4**
PRK				S	**Sg**	**03 01 49.9**	**+5.0**
PRK	**Paraskevi**	**0.43**	**295**	*e*Pn	**Pg**	**03 01 39.3**	**+0.1**
PRK				*e*Sn	**Sg**	**03 01 46.3**	**+1.4**
PRK	**Paraskevi**	**0.43**	**295**	*e*PN	**Pg**	**03 01 39.3**	**+0.1**
PRK				*e*SN	**Sg**	**03 01 46.3**	**+1.4**
BLCB	**Balcova**	**0.71**	**163**	*e*PG	**Pg**	**03 01 43.9**	**-0.6**
BLCB				*e*SG	**Sg**	**03 01 54.6**	**+0.9**
URLA	**Izmir**	**0.72**	**192**	*i* P	**Pg**	**03 01 43.7**	**-0.9**
URLA				*i* S	**Sg**	**03 01 55.5**	**+1.5**
KDAG	**Bornova**	**0.76**	**150**	*i* P	**Pg**	**03 01 44.7**	**-0.8**
KDAG				*i* S	**Sg**	**03 01 58.2**	**+2.8**
IZM	**Izmir**	**0.77**	**150**	*e*PG	**Pg**	**03 01 45.7**	**+0.2**
AKS	**Akhisar**	**0.83**	**103**	*e*PG	**Pg**	**03 01 47.0**	**+0.3**
EZN	**Ezine**	**0.84**	**335**	*e*PG	**Pg**	**03 01 46.0**	**-0.9**
EZN				*e*SG	**Sg**	**03 01 57.4**	**-0.3**
CHOS	**Chios island**	**0.88**	**220**	P	**Pg**	**03 01 47.0**	**-0.8**
CHOS				S	**Sg**	**03 02 00.7**	**+1.5**
BALY	**Balya**	**0.94**	**44**	*i* P	**Pg**	**03 01 47.7**	**-1.1**
BALY				*i* S	**Sg**	**03 02 00.6**	**-0.4**
BOZC	**Bozcaada**	**0.96**	**324**	*i* P	**Pg**	**03 01 48.3**	**-0.9**
BOZC				*i* S	**Sg**	**03 02 01.7**	**0.0**
BALB	**Balikesir**	**1.03**	**56**	*e*PG	**Pg**	**03 01 49.5**	**-1.0**
BALB				*e*SG	**Sg**	**03 02 05.0**	**+1.2**
LPK	**Lapseki**	**1.30**	**359**	*e*PN	**Pn**	**03 01 54.4**	**-1.0**
GADA	**Gvkgeada**	**1.31**	**329**	*e*PN	**Pn**	**03 01 55.0**	**-0.5**
SMG	**Samos**	**1.36**	**178**	*e*Pn	**Pn**	**03 01 54.9**	**-1.2**
SMG				*e*Sn	**Sn**	**03 02 15.1**	**+0.8**
SMG	**Samos**	**1.36**	**178**	*e*PN	**Pn**	**03 01 54.9**	**-1.2**
SMG				*e*SN	**Sn**	**03 02 15.1**	**+0.8**
GCAM	**G?zelcaml?**	**1.41**	**165**	*i* P	**Pn**	**03 01 55.9**	**-0.9**
GCAM				*i* S	**Sb**	**03 02 15.5**	**0.0**
DURS	**Dursunbey**	**1.42**	**67**	*i* P	**Pn**	**03 01 55.5**	**-1.4**
DURS				*i* S	**Sb**	**03 02 14.9**	**-0.9**
LIA	**Limnos Island**	**1.49**	**304**	P	**Pn**	**03 01 57.1**	**-0.8**
LIA				S	**Sn**	**03 02 18.1**	**+0.5**
LIA	**Limnos Island**	**1.49**	**304**	*e*Pn	**Pn**	**03 01 57.8**	**-0.1**
LIA				S	**Sn**	**03 02 18.1**	**+0.5**
LIA				*e*Sn	**Sn**	**03 02 19.3**	**+1.7**
LIA	**Limnos Island**	**1.49**	**304**	*e*PN	**Pn**	**03 01 57.8**	**-0.1**
LIA				*e*SN	**Sn**	**03 02 19.3**	**+1.7**
MANT	**Manisa**	**1.50**	**112**	*i* P	**Pn**	**03 01 56.7**	**-1.4**
MANT				*i* S	**Sn**	**03 02 15.5**	**-2.4**
DEMI	**Demirci**	**1.51**	**90**	*i* P	**Pn**	**03 01 56.8**	**-1.4**
DEMI				*i* S	**Sn**	**03 02 15.5**	**-2.5**
DST	**Dursunbey**	**1.53**	**69**	*e*PN	**Pn**	**03 01 58.1**	**-0.3**
BNT	**Bandirma**	**1.56**	**34**	*e*PN	**Pn**	**03 01 59.0**	**+0.1**
KULA	**Kula-Manisa**	**1.57**	**110**	*e*PN	**Pn**	**03 01 59.5**	**+0.5**
LOS	**Limnos**	**1.57**	**304**	P	**Pn**	**03 01 58.8**	**-0.3**
AYDN	**Tasoluk**	**1.65**	**148**	*i* P	**Pn**	**03 01 58.6**	**-1.5**
AYDN				*i* S	**Sn**	**03 02 22.8**	**+1.3**
RKY	**Sarkoy-Tekirda**	**1.65**	**11**	*e*PN	**Pn**	**03 02 00.1**	**0.0**
SART	**Tekirdag**	**1.65**	**11**	*i* P	**Pn**	**03 01 59.7**	**-0.4**
SART				*i* S	**Sn**	**03 02 20.6**	**-0.9**
MRMT	**Marmara Adasi**	**1.66**	**22**	*e*PN	**Pn**	**03 02 00.9**	**+0.6**
KCT	**Karacabey**	**1.71**	**45**	*e*PN	**Pn**	**03 02 01.3**	**+0.3**
ENEZ	**Enez**	**1.74**	**344**	*e*PN	**Pn**	**03 02 01.4**	**0.0**
ENEZ				*e*SN	**Sn**	**03 02 24.4**	**+0.7**
MFT	**Murefte**	**1.76**	**12**	*e*PN	**Pn**	**03 02 02.5**	**+0.8**
MFT				*e*SN	**Sn**	**03 02 25.0**	**+0.7**
ALN	**Alexandroupoli**	**1.91**	**343**	P	**Pn**	**03 02 03.0**	**-0.8**
ALN				S	**Sn**	**03 02 28.0**	**-0.1**
MLSB	**Milas**	**1.93**	**156**	*e*PN	**Pn**	**03 02 04.7**	**+0.7**
TKR	**Tekirdag**	**2.01**	**17**	*e*PN	**Pn**	**03 02 06.0**	**+0.9**
BODT	**Bodrum**	**2.04**	**168**	*e*PN	**Pn**	**03 02 05.7**	**+0.1**
BDRM	**Kayabasi**	**2.06**	**165**	*i* P	**Pn**	**03 02 04.4**	**-1.4**
BDRM				*i* S	**Sn**	**03 02 37.9**	**+6.1**
GDZ	**Gediz**	**2.10**	**89**	*i* P	**Pn**	**03 02 05.0**	**-1.3**
GDZ				*i* S	**Sn**	**03 02 36.2**	**+3.5**
ULDT	**Uludag**	**2.11**	**59**	*i* P	**Pn**	**03 02 06.4**	**-0.1**
ULDT				*i* S	**Sn**	**03 02 34.1**	**+1.1**
CRLT	**Corlu**	**2.19**	**19**	*e*PN	**Pn**	**03 02 07.8**	**+0.3**
APE	**Apeiranthos**	**2.22**	**207**	P	**Pn**	**03 02 05.0**	**-3.0**
APE	**Apeiranthos**	**2.22**	**207**	*e*Pb	**Pb**	**03 02 08.0**	**-3.3**
APE	**Apeiranthos**	**2.22**	**207**	*e*PB	**Pb**	**03 02 08.0**	**-3.3**
YER	**Yerkesik**	**2.26**	**148**	*e*PN	**Pn**	**03 02 09.6**	**+1.1**
RDO	**Rodhopi**	**2.29**	**336**	*e*Pb	**Pb**	**03 02 07.2**	**-5.1**
RDO	**Rodhopi**	**2.29**	**336**	*e*PB	**Pb**	**03 02 07.2**	**-5.1**
GEMT	**Gemlik**	**2.31**	**53**	*e*PN	**Pn**	**03 02 10.1**	**+1.0**
SLVT	**Silivri**	**2.42**	**26**	*e*PN	**Pn**	**03 02 11.9**	**+1.2**
OUR	**Ouranopolis**	**2.50**	**301**	P	**Pn**	**03 02 10.4**	**-1.5**
CTKS	**Kestanelik-??a**	**2.54**	**31**	*e*PN	**Pn**	**03 02 12.8**	**+0.5**
PAIG	**Paliouri**	**2.55**	**291**	P	**Pn**	**03 02 12.8**	**+0.3**
ALT	**Altintas**	**2.59**	**89**	*e*PN	**Pn**	**03 02 14.2**	**+1.2**
BGKT	**Bogazkoy**	**2.61**	**35**	*e*PN	**Pn**	**03 02 14.2**	**+0.9**
CAVI	**Cavuskoy**	**2.62**	**63**	*e*PN	**Pn**	**03 02 14.7**	**+1.2**
ISK	**Istanbul-Kandi**	**2.66**	**40**	*e*PN	**Pn**	**03 02 14.7**	**+0.8**
ADVT	**Abdulvahap**	**2.66**	**58**	*e*PN	**Pn**	**03 02 14.7**	**+0.7**
EDRB	**Edirne**	**2.78**	**359**	*e*PN	**Pn**	**03 02 16.1**	**+0.4**
KLYT	**Kilyos**	**2.79**	**38**	*e*PN	**Pn**	**03 02 17.0**	**+1.2**
HRT	**Hereke**	**2.83**	**51**	*e*PN	**Pn**	**03 02 17.8**	**+1.5**
SOH	**Sokhos**	**3.16**	**305**	P	**Pn**	**03 02 20.6**	**-0.3**

*DDA **06** 03:03:18.5, 39.08N×26.78E, h27km±1km, Md3.6*
*CSEM **06** 03:03:18.6±0.1, 39.06N×26.78E, h10km, MD3.6, Error ellipse: s-maj=1.2km s-min=1.0km az=54.0*
*ATH **06** 03:03:18.2, 39.04N×26.77E, h25km±3km, MD3.6/3*
*NEIC **06** 03:03:19.0, 39.07N×26.77E, h9km, MD3.3(ISK), MD3.6(ATH), After ISK.*
*ISK **06** 03:03:19.0, 39.08N×26.77E, h9km, MD3.3*
*ISCJB **06** 03:03:19.4±0.4, 39.06N±001×26.79E±002, h11km±3km, Error ellipse: s-maj=3.0km s-min=2.4km az=154.2*
*THE **06** 03:03:20.3, 39.06N×26.77E, h10km±1km, ML3.8/3, Error ellipse: s-maj=1.9km s-min=0.7km az=259.0*
ISC 06 03:03:19.9±0.3, **39.06N**±001×**26.78E**±002, **h12**km±2km, **n73**, σ**0s90**/106, **Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AYVA	**Ayvalik**	**0.26**	**345**	*i* P	**Pg**	**03 03 24.8**	**-0.5**
AYVA				*i* S	**Sg**	**03 03 28.6**	**-0.2**
PRK	**Paraskevi**	**0.43**	**295**	P	**Pg**	**03 03 28.4**	**-0.1**
PRK				S	**Sg**	**03 03 35.4**	**+1.1**
PRK	**Paraskevi**	**0.43**	**295**	P	**Pg**	**03 03 28.4**	**-0.1**
PRK				*e*Sb	**Sg**	**03 03 34.5**	**+0.2**
PRK				S	**Sg**	**03 03 35.4**	**+1.1**
PRK	**Paraskevi**	**0.43**	**295**	*e*Pb	**Pg**	**03 03 27.4**	**-1.1**
PRK				*e*Sb	**Sg**	**03 03 34.5**	**+0.2**
PRK	**Paraskevi**	**0.43**	**295**	*e*PB	**Pg**	**03 03 27.4**	**-1.1**
PRK				*e*SB	**Sg**	**03 03 34.5**	**+0.2**
BLCB	**Balcova**	**0.71**	**163**	PG	**Pg**	**03 03 33.1**	**-0.5**
BLCB				SG	**Sg**	**03 03 43.6**	**+0.7**
URLA	**Izmir**	**0.71**	**191**	*i* P	**Pg**	**03 03 32.8**	**-1.0**
URLA				*i* S	**Sg**	**03 03 44.2**	**+1.0**
KDAG	**Bornova**	**0.76**	**150**	*i* P	**Pg**	**03 03 34.0**	**-0.6**
KDAG				*i* S	**Sg**	**03 03 47.3**	**+2.6**
KDAG	**Bornova**	**0.76**	**150**	*i* P	**Pg**	**03 03 34.0**	**-0.7**
KDAG				*i* S	**Sg**	**03 03 47.3**	**+2.7**
IZM	**Izmir**	**0.76**	**150**	PG	**Pg**	**03 03 33.9**	**-0.8**
AKS	**Akhisar**	**0.83**	**102**	*e*PG	**Pg**	**03 03 36.1**	**+0.2**
EZN	**Ezine**	**0.84**	**336**	*e*PG	**Pg**	**03 03 35.6**	**-0.5**
CHOS	**Chios island**	**0.88**	**220**	P	**Pg**	**03 03 36.4**	**-0.5**
CHOS				S	**Sg**	**03 03 49.7**	**+1.3**
BALY	**Balya**	**0.94**	**44**	*i* P	**Pg**	**03 03 36.7**	**-1.4**
BALY				*i* S	**Sg**	**03 03 50.0**	**-0.4**
BOZC	**Bozcaada**	**0.96**	**325**	*i* P	**Pg**	**03 03 37.4**	**-1.0**
BOZC				*i* S	**Sg**	**03 03 50.7**	**-0.2**
BALB	**Balikesir**	**1.03**	**56**	*e*PG	**Pg**	**03 03 38.9**	**-0.9**
BALB				*e*SG	**Sg**	**03 03 53.9**	**+0.6**
LPK	**Lapseki**	**1.31**	**359**	*e*PN	**Pn**	**03 03 43.5**	**-0.5**
GADA	**Gvkgeada**	**1.32**	**329**	*e*PN	**Pn**	**03 03 43.8**	**-0.3**
GADA				*e*SN	**Sn**	**03 04 01.6**	**+0.1**
SMG	**Samos**	**1.35**	**178**	*e*Pn	**Pn**	**03 03 43.0**	**-1.5**
SMG				*e*Sn	**Sn**	**03 04 01.9**	**-0.5**
SMG	**Samos**	**1.35**	**178**	*e*PN	**Pn**	**03 03 43.0**	**-1.5**
SMG				*e*SN	**Sn**	**03 04 01.9**	**-0.5**
GCAM	**G?zelcaml?**	**1.41**	**165**	*i* P	**Pn**	**03 03 45.1**	**-0.2**
GCAM				*i* S	**Sn**	**03 04 03.8**	**0.0**
DURS	**Dursunbey**	**1.42**	**67**	*i* P	**Pn**	**03 03 44.7**	**-0.8**
DURS				*i* S	**Sn**	**03 04 03.3**	**-0.8**
LIA	**Limnos Island**	**1.49**	**305**	P	**Pn**	**03 03 46.3**	**-0.1**
LIA				S	**Sn**	**03 04 05.7**	**-0.1**
LIA	**Limnos Island**	**1.49**	**305**	*e*Pn	**Pn**	**03 03 45.8**	**-0.6**
LIA				*e*Sn	**Sn**	**03 04 05.7**	**-0.1**
LIA	**Limnos Island**	**1.49**	**305**	*e*PN	**Pn**	**03 03 45.8**	**-0.6**
LIA				*e*SN	**Sn**	**03 04 05.7**	**-0.1**
MANT	**Manisa**	**1.50**	**112**	*i* P	**Pn**	**03 03 45.9**	**-0.8**
MANT				*i* S	**Sn**	**03 04 04.2**	**-1.9**
DEMI	**Demirci**	**1.51**	**90**	*i* P	**Pn**	**03 03 46.0**	**-0.7**
DEMI				*i* S	**Sn**	**03 04 04.8**	**-1.5**
EDC	**Edincik**	**1.53**	**33**	*e*PN	**Pn**	**03 03 46.7**	**-0.4**
DST	**Dursunbey**	**1.54**	**69**	*e*PN	**Pn**	**03 03 46.6**	**-0.5**
BNT	**Bandirma**	**1.56**	**34**	*e*PN	**Pn**	**03 03 47.0**	**-0.5**
KULA	**Kula-Manisa**	**1.57**	**110**	*e*PN	**Pn**	**03 03 47.1**	**-0.5**
KULA				*e*SN	**Sn**	**03 04 09.1**	**+1.3**
LOS	**Limnos**	**1.57**	**304**	P	**Pn**	**03 03 47.7**	**+0.1**
AYDN	**Tasoluk**	**1.65**	**148**	*i* P	**Pn**	**03 03 47.5**	**-1.1**
AYDN				*i* S	**Sn**	**03 04 08.1**	**-1.5**
RKY	**Sarkoy-Tekirda**	**1.65**	**11**	*e*PN	**Pn**	**03 03 48.8**	**+0.1**
RKY				*e*SN	**Sn**	**03 04 10.0**	**+0.1**
SART	**Tekirdag**	**1.66**	**11**	*i* P	**Pn**	**03 03 48.1**	**-0.6**
SART				*i* S	**Sn**	**03 04 09.8**	**-0.1**
MRMT	**Marmara Adasi**	**1.66**	**22**	*e*PN	**Pn**	**03 03 48.2**	**-0.6**
MRMT				*e*SN	**Sn**	**03 04 10.4**	**+0.3**
KCT	**Karacabey**	**1.71**	**45**	*e*PN	**Pn**	**03 03 49.0**	**-0.5**
ENEZ	**Enez**	**1.74**	**344**	*e*PN	**Pn**	**03 03 50.1**	**+0.2**
ENEZ				*e*SN	**Sn**	**03 04 13.2**	**+1.2**
MFT	**Murefte**	**1.77**	**13**	*e*PN	**Pn**	**03 03 51.0**	**+0.8**
ALN	**Alexandroupoli**	**1.92**	**343**	P	**Pn**	**03 03 51.8**	**-0.5**
ALN				S	**Sn**	**03 04 16.2**	**-0.2**
MLSB	**Milas**	**1.93**	**156**	*e*PN	**Pn**	**03 03 53.4**	**+0.9**
TKR	**Tekirdag**	**2.01**	**17**	*e*PN	**Pn**	**03 03 53.6**	**0.0**
BODT	**Bodrum**	**2.04**	**168**	*e*PN	**Pn**	**03 03 55.2**	**+1.2**
GDZ	**Gediz**	**2.10**	**88**	*i* P	**Pn**	**03 03 54.3**	**-0.6**
GDZ				*i* S	**Sn**	**03 04 19.3**	**-1.7**
ULDT	**Uludag**	**2.12**	**59**	*i* P	**Pn**	**03 03 55.2**	**+0.1**
ULDT				*i* S	**Sn**	**03 04 20.5**	**-0.8**
CRLT	**Corlu**	**2.19**	**19**	*e*PN	**Pn**	**03 03 55.6**	**-0.6**
APE	**Apeiranthos**	**2.22**	**207**	*e*Pn	**Pn**	**03 03 54.1**	**-2.4**
APE	**Apeiranthos**	**2.22**	**207**	*e*PN	**Pn**	**03 03 54.1**	**-2.4**
YER	**Yerkesik**	**2.26**	**148**	*e*PN	**Pn**	**03 03 57.5**	**+0.5**
KHL	**Karahalli**	**2.27**	**108**	*e*PN	**Pn**	**03 03 58.5**	**+1.2**
RDO	**Rodhopi**	**2.29**	**336**	*e*Pn	**Pn**	**03 03 56.6**	**-0.8**
RDO	**Rodhopi**	**2.29**	**336**	*e*PN	**Pn**	**03 03 56.6**	**-0.8**
GEMT	**Gemlik**	**2.31**	**53**	*e*PN	**Pn**	**03 03 58.2**	**+0.4**
SLVT	**Silivri**	**2.43**	**26**	*e*PN	**Pn**	**03 03 59.1**	**-0.3**
CTT	**Catalca**	**2.44**	**31**	*e*PN	**Pn**	**03 04 00.8**	**+1.3**
YLV	**Yalova**	**2.50**	**52**	*e*PN	**Pn**	**03 04 01.8**	**+1.4**
OUR	**Ouranopolis**	**2.50**	**301**	P	**Pn**	**03 04 00.2**	**-0.2**
CTKS	**Kestanelik-??a**	**2.54**	**31**	*e*PN	**Pn**	**03 04 02.1**	**+1.2**
PAIG	**Paliouri**	**2.55**	**291**	P	**Pn**	**03 04 00.9**	**-0.1**
ALT	**Altintas**	**2.60**	**89**	*e*PN	**Pn**	**03 04 02.1**	**+0.4**
BGKT	**Bogazkoy**	**2.61**	**35**	*e*PN	**Pn**	**03 04 03.1**	**+1.2**
CAVI	**Cavuskoy**	**2.63**	**63**	*e*PN	**Pn**	**03 04 03.5**	**+1.4**
ISK	**Istanbul-Kandi**	**2.66**	**40**	*e*PN	**Pn**	**03 04 03.5**	**+1.0**
ADVT	**Abdulvahap**	**2.66**	**58**	*e*PN	**Pn**	**03 04 03.4**	**+0.8**
CTYL	**Yal??k??y-??at**	**2.67**	**25**	*e*PN	**Pn**	**03 04 03.5**	**+0.8**
EDRB	**Edirne**	**2.78**	**360**	*e*PN	**Pn**	**03 04 05.4**	**+1.1**
KLYT	**Kilyos**	**2.79**	**38**	*e*PN	**Pn**	**03 04 05.8**	**+1.5**
HRT	**Hereke**	**2.83**	**51**	*e*PN	**Pn**	**03 04 06.0**	**+1.1**
GPA	**Golpazari**	**2.99**	**65**	*e*PN	**Pn**	**03 04 08.0**	**+0.9**
SHUT	**Suhut-Afyon**	**2.99**	**99**	*e*PN	**Pn**	**03 04 08.1**	**+1.0**
SILT	**Sile**	**3.03**	**46**	*e*PN	**Pn**	**03 04 08.0**	**+0.3**
ELL	**Elmali**	**3.39**	**132**	*e*PN	**Pn**	**03 04 14.1**	**+1.6**
KIZT	**Kizilcal**	**3.98**	**91**	*e*PN	**Pn**	**03 04 22.1**	**+1.3**

*MOS **06** 03:03:35.9±0.9, 23.19S×177.17W, h142km, mb5.3/34, Error ellipse: s-maj=9.3km s-min=7.7km az=141.4*
*GCMT **06** 03:03:36.3±0.1, 23.34S×176.76W, h168km±1km, MW5.3/91, Moment Tensor Solution. s79,c119; s91,c161; Duration: 1s1 Moment tensor: Scale 10^{17}Nm; Mrr0.26±.02; Mθθ0.20±.03; Mφφ-0.45±.03; Mrθ-0.35±.02; Mθφ-0.09±.03; Mφr-1.19±.02; Best double couple: M0 1.29400×10^{17} NP1:φs345.00000°, δ9.00000°, λ59.00000°. NP2:φs197.00000°, δ82.00000°, λ95.00000°. Principal axes: T 1.1980, Plg53.0000°, Azm112.0000°; N 0.1920, Plg5.0000°, Azm16.0000°; P -1.3900, Plg37.0000°, Azm283.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **06** 03:03:36.3±1.0, 23.24S×177.18W, h140km±8km, mb5.2/86 Error ellipse: s-maj=7.3km s-min=4.3km az=151.0*
*BJI **06** 03:03:36.2, 23.20S×177.20W, h139km, mB5.4, mb5.1*
*BGS **06** 03:03:36.2±5.1, 23.24S×177.18W, h140km, mb5.2(NEIC)*
*ISCJB **06** 03:03:37.7±1.0, 23.31S±004×177.23W±003, h162km±9km, mb5.1/111, Error ellipse: s-maj=7.8km s-min=4.2km az=156.4*
*IDC **06** 03:03:37.1±1.1, 23.21S×177.19W, h144km±9km, mb4.9/22, mb1 5.1/24, mb1mx5.0/28, mbtmp4.9/24, MS4.1/10, Ms1 4.1/10, ms1mx3.8/28, Error ellipse: s-maj=11.4km s-min=10.1km az=144.0*
*SZGRF **06** 03:03:41.1, 23.13S×177.49W, h176km, South of Fiji Islands*
*DJA **06** 03:03:44, 23.23S×177.50W, h190km, Mw5.6/17*
ISC 06 03:03:39.2±1.0, **23.32S**±005×**177.19W**±003, **h164**km±9km, **h172**km±2.2km**:pP-P, n856,** σ**0s71**/572, **mb5.1**/111, **217C-165D, South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**5.95**	**186**	P	**Pn**	**03 05 04.8**	**-0.5**
	70nm,0.3s,baz=127,slow=19,SNR=7.1						
RAO				S	**Sn**	**03 06 12.6**	**-0.2**
	488nm,0.3s,baz=248,slow=24,SNR=12						
RAO	**Raoul Island**	**5.95**	**186**	P	**Pn**	**03 05 04.8**	**-0.5**
RAO				S	**Sn**	**03 06 12.6**	**-0.2**
AFI	**Afiamalu**	**10.67**	**30**	P	**Pn**	**03 06 00.0**	**-7.8**
	28nm,0.3s,baz=258,slow=0.6,SNR=16						
AFI				S	**Sn**	**03 07 47.2**	**-19**
	35nm,0.3s,baz=39,slow=20,SNR=9.0						
AFI	**Afiamalu**	**10.67**	**30**	*e*P	**Pn**	**03 06 00.1**	**-7.7**
AFI				pmax	pmax		
	comp=Z,95nm,0.6s						
AFI	**Afiamalu**	**10.67**	**30**	*e*Pn	**Pn**	**03 06 00.1**	**-7.7**
	comp=Z,95nm,0.6s						
AFI				*e*Sn	**Sn**	**03 07 46.4**	**-20**
FUNA	**Funafuti**	**15.11**	**346**	*e*P	**Pn**	**03 07 05.2**	**+0.7**
	comp=Z,115nm,1.0s						
URZ	**Urewera**	**15.67**	**197**	P	**Pn**	**03 07 07.9**	**-3.2**
	comp=Z,9.5nm,0.3s,baz=77,slow=1.7,SNR=29						
URZ				S	**S**	**03 09 51.9**	**-14**
	comp=Z,5.2nm,0.3s,baz=84,slow=22,SNR=10.0						
URZ				LR	LR	03 12 29.5	
	comp=Z,342nm,19.4s,baz=203,slow=34						
RAR	**Rarotonga**	**16.26**	**86**	P	**Pn**	**03 07 16.9**	**-1.5**
	comp=Z,2.5nm,0.3s,baz=247,slow=7.0,SNR=7.4						
RAR				S	**S**	**03 10 03.8**	**-15**
	comp=Z,4.4nm,0.3s,baz=38,slow=18,SNR=4.4						
RAR	**Rarotonga**	**16.26**	**86**	*e*P	**Pn**	**03 07 16.9**	**-1.5**
RAR				pmax	pmax		
	comp=Z,619nm,1.6s						
RAR	**Rarotonga**	**16.26**	**86**	*e*P	**Pn**	**03 07 16.9**	**-1.6**
	comp=Z,619nm,1.6s						
RPZ	**Rata Peaks**	**22.54**	**203**	P	**P**	**03 08 23.0**	**-2.4**
	comp=Z,19nm,0.5s,mb4.8,baz=42,slow=3.0,SNR=14						
TBI	**Tubuai**	**25.45**	**96**	*e*LQ		03 13 49.9	
	comp=Z,877nm,29.0s						
TBI				*e*LR	LR	03 15 38.5	
	comp=Z,1µm,26.2s,baz=274						
HNR	**Honiara**	**25.86**	**299**	P	**P**	**03 08 58.0**	**+2.2**
	comp=Z,349nm,0.8s,mb6.1,baz=206,slow=1.2,SNR=13						
HNR				LR	LR	03 16 23.1	
	comp=Z,545nm,20.5s,baz=286,slow=30						
HNR	**Honiara**	**25.86**	**299**	*e*P	**P**	**03 08 57.9**	**+2.1**
HNR				pmax	pmax		
	comp=Z,461nm,0.9s,mb6.1						
HNR	**Honiara**	**25.86**	**299**	*e*P	**P**	**03 08 57.9**	**+2.1**
	comp=Z,461nm,0.9s,mb6.1						
PPT	**Papeete**	**26.47**	**83**	*e*P	**P**	**03 08 59.8**	**-1.5**
	comp=Z,86nm,1.3s,mb5.2						
PPT				*e*LQ		03 14 22.7	
	comp=Z,2µm,25.5s						
PPT				*e*LR	LR	03 16 00.3	
	comp=Z,944nm,26.2s,baz=254						
PPT	**Papeete**	**26.47**	**83**	LR	LR	03 17 57.0	
	comp=Z,315nm,19.0s,baz=254,slow=32						
PPT	**Papeete**	**26.47**	**83**	*e*P	**P**	**03 08 59.8**	**-1.5**
	comp=Z,86nm,1.3s,mb5.2						
PPT				*e*LQ		03 14 22.7	
TIAR	**Tiarei**	**26.69**	**83**	*e*P	**P**	**03 09 01.8**	**-1.4**
	comp=Z,960nm,1.2s,mb6.3						
TVO	**Taravao**	**26.71**	**83**	*e*P	**P**	**03 09 02.2**	**-1.2**
	comp=Z,803nm,1.3s,mb6.2						
TVO	**Taravao**	**26.71**	**83**	*e*P	**P**	**03 09 02.2**	**-1.2**
TVO				pmax	pmax		
	comp=Z,803nm,1.3s,mb6.2						
ARMA	**Armidale**	**28.64**	**249**	*e*P	**P**	**03 09 22.0**	**+1.5**
ARMA				*e*pP	pP	03 09 59.5	+4.9
CNB	**Canberra Magne**	**31.37**	**240**	*e*P	**P**	**03 09 46.7**	**+2.2**
CTA	**Charters Tower**	**34.06**	**268**	⇓*i*P	**P**	**03 10 08.7**	**+0.6**
	comp=Z,56nm,0.4s,mb5.6						
CTA				*e*S	**S**	**03 15 19.7**	**-2.0**
CTA	**Charters Tower**	**34.06**	**268**	P	**P**	**03 10 09.1**	**+1.0**
	comp=Z,70nm,0.3s,mb5.8,baz=93,slow=10,SNR=133						
CTA				S	**S**	**03 15 19.4**	**-2.3**
	comp=Z,5.5nm,0.8s,baz=206,slow=22,SNR=6.7						
CTA				ScP	ScP	03 16 14.4	+2.8
	comp=Z,13nm,1.1s,baz=171,slow=2.7,SNR=5.1						
CTA	**Charters Tower**	**34.06**	**268**	⇓*i*P	**P**	**03 10 08.7**	**+0.6**
CTA				*e*S	**S**	**03 15 19.7**	**-2.0**
CTA				pmax	pmax		
	comp=Z,56nm,0.4s						
CTAO	**Charters Tower**	**34.06**	**268**	*e*P	**P**	**03 10 07.9**	**-0.2**
CTAO				*e*S	**S**	**03 15 21.0**	**-0.7**
CTAO				*e*		03 16 14.2	
CTAO				pmax	pmax		
	comp=Z,175nm,0.8s,mb5.8						
CTAO	**Charters Tower**	**34.06**	**268**	*e*P	**P**	**03 10 07.9**	**-0.1**
	comp=Z,175nm,0.8s,mb5.8						
CTAO				*e*S	**S**	**03 15 20.9**	**-0.7**
CTAO				*e*ScP	ScP	03 16 14.2	+2.6
TOO	**Toolangi**	**34.93**	**237**	*e*P	**P**	**03 10 16.2**	**+0.9**
PMG	**Port Moresby**	**36.78**	**286**	⇑*e*P	**P**	**03 10 30.9**	**-0.4**
PMG	**Port Moresby**	**36.78**	**286**	⇑*i*P	**P**	**03 10 31.4**	**+0.1**
PMG				pmax	pmax		
	comp=Z,544nm,0.9s						
PMG	**Port Moresby**	**36.78**	**286**	⇑*i*P	**P**	**03 10 31.4**	**0.0**
	comp=Z,544nm,0.9s,mb6.2						
PMG				*e*pP	pP	03 11 08.9	+2.5
PMG				*e*ScP	ScP	03 16 22.0	+0.4
STKA	**Stephens Creek**	**37.33**	**248**	⇑*i*P	**P**	**03 10 36.5**	**+0.7**
	comp=Z,25nm,1.0s,mb4.8						
STKA				*e*pP	pP	03 11 16.0	+5.1
STKA				*e*SCP	ScP	03 16 25.5	+2.1
STKA	**Stephens Creek**	**37.33**	**248**	P	**P**	**03 10 35.6**	**-0.2**
	comp=Z,9.2nm,0.4s,mb4.8,baz=92,slow=8.7,SNR=25						
STKA				ScP	ScP	03 16 25.8	+2.4
	comp=Z,13nm,1.0s,baz=116,slow=1.5,SNR=7.4						
COEN	**Coen**	**38.59**	**277**	⇓*i*P	**P**	**03 10 46.9**	**+0.4**
	comp=Z,40nm,0.9s,mb5.0						
COEN				*e*PP	PP	03 12 23.6	+5.3
RKT	**Rikitea**	**38.70**	**98**	*e*LQ		03 19 34.9	
	comp=Z,578nm,27.0s						
RKT				*e*LR	LR	03 21 36.4	
	comp=Z,631nm,26.5s,baz=260						
ASAR	**Alice Springs**	**44.67**	**259**	P	**P**	**03 11 36.0**	**+0.1**
	comp=Z,82nm,1.0s,mb5.3,baz=92,slow=8.2,SNR=307						
ASAR				PcP	PcP	03 13 16.1	+0.4
	comp=Z,6.8nm,0.8s,baz=117,slow=2.0,SNR=4.4						
ASAR				ScP	ScP	03 16 54.8	+2.2
	comp=Z,3.2nm,1.0s,baz=132,slow=4.7,SNR=5.3						
ASAR				S	**S**	**03 17 58.0**	**-2.1**
	comp=Z,2.7nm,0.9s,baz=98,slow=16,SNR=6.1						
ASAR	**Alice Springs**	**44.67**	**259**	P	**P**	**03 11 36.0**	**+0.1**
ASAR						03 13 16.1	
ASAR				S	**S**	**03 17 58.0**	**-2.1**
WB2	**Warramunga Arr**	**45.01**	**265**	⇓*i*P	**P**	**03 11 37.6**	**-1.0**
WB2				*e*SCP	ScP	03 16 56.6	+2.6
WB2				*e*S	**S**	**03 17 58.6**	**-6.4**
WB2				*e*SCS	ScS	03 21 19.2	+0.4
WRA	**Warramunga Arr**	**45.02**	**265**	P	**P**	**03 11 38.1**	**-0.7**
	comp=Z,121nm,1.0s,mb5.5,baz=99,slow=8.0,SNR=256						
WRA				ScP	ScP	03 16 56.3	+2.3
	comp=Z,6.5nm,0.9s,baz=105,slow=4.3,SNR=10						
WRA				S	**S**	**03 18 01.2**	**-4.0**
	comp=Z,9.5nm,1.0s,baz=102,slow=14,SNR=10						
KAKA	**Kakadu**	**48.84**	**273**	⇓*i*P	**P**	**03 12 07.3**	**-1.1**
	comp=Z,109nm,0.8s,mb5.5						
KAKA				*e*SCP	ScP	03 17 12.0	+1.9
KAKA				*e*S	**S**	**03 18 55.4**	**-4.0**
FORT	**Forrest**	**48.93**	**249**	*e*P	**P**	**03 12 08.0**	**-0.8**
	comp=Z,79nm,0.6s,mb5.5						
GUMO	**Guam**	**52.19**	**311**	P	**P**	**03 12 33.6**	**+0.2**
	comp=Z,110nm,0.9s,mb5.5,baz=200,slow=6.2,SNR=3.9						
FITZ	**Fitzroy Crossi**	**53.45**	**264**	*e*P	**P**	**03 12 42.1**	**-0.6**
	comp=Z,125nm,1.0s,mb5.6						
FITZ				*e*S	**S**	**03 20 00.3**	**-2.4**
FITZ	**Fitzroy Crossi**	**53.45**	**264**	LR	LR	03 33 00.2	
	comp=Z,265nm,20.6s,baz=314,slow=33						
SBA	**Scott Base**	**55.12**	**184**	*e*P	**P**	**03 12 56.3**	**+2.4**
SBA				pmax	pmax		
	comp=Z,60nm,1.3s,mb5.2						
SBA	**Scott Base**	**55.12**	**184**	*e*P	**P**	**03 12 56.3**	**+2.4**
	comp=Z,60nm,1.3s,mb5.2						
KLBR	**Kellerberrin**	**57.59**	**246**	*e*P	**P**	**03 13 11.3**	**-0.8**
	comp=Z,44nm,0.8s,mb5.3						
BATI	**Baumata**	**57.77**	**272**	P	**P**	**03 13 14.2**	**+0.7**
	comp=Z,117nm,0.6s,mb5.9,baz=90,slow=1.0,SNR=5.3						
NWAO	**Narrogin (SRO)**	**57.82**	**245**	LR	LR	03 36 36.0	
	comp=Z,181nm,18.2s,baz=309,slow=34						
MBWA	**Marble Bar**	**58.01**	**259**	*e*P	**P**	**03 13 13.7**	**-1.4**
	comp=Z,76nm,1.0s,mb5.5						
MBWA				*e*PP	PP	03 15 22.6	-2.9
MBWA				*e*ScP	ScP	03 17 49.5	-0.6
MUN	**Mundaring**	**58.82**	**246**	*e*P	**P**	**03 13 20.0**	**-0.6**
CASY	**Casey**	**61.76**	**206**	*e*P	**P**	**03 13 40.3**	**+0.3**
KAPI	**Kappang**	**63.31**	**276**	P	**P**	**03 13 50.1**	**-1.0**
	comp=Z,16nm,0.9s,mb4.9,baz=322,slow=23,SNR=9.2						
KAPI	**Kappang**	**63.31**	**276**	*e*P	**P**	**03 13 48.9**	**-2.3**
	comp=Z,163nm,1.8s,mb5.6						
CBIJ	**Chichi jima**	**63.66**	**320**	LR	LR	03 36 47.3	
	comp=Z,258nm,20.5s,baz=166,slow=31						
QSPA	**South Pole Qui**	**66.76**	**180**	P	**P**	**03 14 13.7**	**+1.4**
	comp=Z,55nm,0.8s,mb5.4,baz=30,slow=1.3,SNR=148						
MIR	**Mirnyy**	**68.78**	**205**	*e*P	**P**	**03 14 27.0**	**+1.9**
MIR				pmax	pmax		
	comp=Z,100nm,1.5s,mb5.3						
MYLDM	**Lahad Datu**	**68.80**	**286**	⇑P	**P**	**03 14 26.8**	**+0.6**
TSM	**Tawau**	**68.96**	**285**	⇑P	**P**	**03 14 27.7**	**+0.6**
SDKM	**Sandakan**	**70.17**	**286**	⇓P	**P**	**03 14 34.5**	**0.0**
KDM	**Kudat**	**71.07**	**287**	⇑P	**P**	**03 14 41.8**	**+1.8**
KKM	**Kota Kinabalu**	**71.22**	**285**	⇑P	**P**	**03 14 41.7**	**+0.8**
KKM	**Kota Kinabalu**	**71.22**	**285**	*e*P	**P**	**03 14 39.9**	**-1.0**
BTM	**Bintulu**	**72.77**	**281**	⇓P	**P**	**03 14 49.9**	**-0.3**
MJAR	**Matsushiro Arr**	**72.92**	**324**	P	**P**	**03 14 48.7**	**-1.7**
	comp=Z,12nm,0.9s,mb4.6,baz=160,slow=5.9,SNR=24						
MAJO	**Matsushiro**	**72.92**	**324**	*e*P	**P**	**03 14 49.1**	**-1.3**
MAJO				pmax	pmax		
	comp=Z,16nm,0.9s,mb4.8						
MAJO	**Matsushiro**	**72.92**	**324**	*e*P	**P**	**03 14 49.1**	**-1.3**
	comp=Z,16nm,0.9s,mb4.8						

MAT **Matsushiro** 72.92 324 P P 03 14 49.2 -1.2
MAT eS S 03 24 01.6 -2.0
SBUM **Sibu** 73.23 280 ⇑P P 03 14 53.3 +0.4
KSM **Kuching** 74.56 278 ⇓P P 03 15 00.7 +0.2
KSM **Kuching** 74.56 278 eP P 03 15 00.5 -0.1
ASAJ **Asahikawa** 76.55 331 P P 03 15 11.3 +0.2
comp=Z,13nm,0.7s,mb4.7,baz=218,slow=7.6,SNR=12
UNV **Unalaska Valle** 77.40 6 eP P 03 15 13.9 -1.7
comp=Z,60nm,1.1s,mb5.1
YSS **Yuzh-Sakhalins** 78.74 333 eP P 03 15 21.0 -2.2
YSS pmax pmax
comp=Z,30nm,1.0s,mb4.9
YSS **Yuzh-Sakhalins** 78.74 333 eP P 03 15 22.8 -0.4
PETK **Petropavlovsk-** 79.17 345 P P 03 15 24.4 -1.0
comp=Z,14nm,0.8s,mb4.7,baz=132,slow=7.4,SNR=15
PETK **Petropavlovsk-** 79.17 345 P P 03 15 24.4 -1.0
MAW **Mawson** 79.18 200 ⇑iP P 03 15 26.5 +1.0
comp=Z,16nm,0.9s,mb4.6
MAW **Mawson** 79.18 200 P P 03 15 26.6 +1.1
comp=Z,22nm,0.9s,mb4.8,baz=129,slow=7.3,SNR=30
MAW LR LR 03 51 31.8
comp=Z,65nm,18.0s,baz=97,slow=36
MAW **Mawson** 79.18 200 ⇑iP P 03 15 26.5 +1.0
MAW pmax pmax
comp=Z,16nm,0.9s
V03C **Hunter Liggett** 79.23 43 ⇓P P 03 15 26.8 +0.6
baz=80
KSRS **Korea Array** 79.49 319 LR LR 03 45 45.4
comp=Z,127nm,18.6s,baz=342,slow=32
SAO **San Andreas Ge** 79.57 42 eP P 03 15 28.2 +0.2
SAO pmax pmax
comp=Z,60nm,1.4s,mb5.0
SAO **San Andreas Ge** 79.57 42 eP P 03 15 28.2 +0.2
comp=Z,60nm,1.4s,mb5.0
PKD **Parkfield** 79.62 44 ⇑P P 03 15 28.7 +0.4
baz=80,SNR=5.1
U04C **Hernandez Rese** 79.73 43 ⇑P P 03 15 29.7 +0.9
baz=80
DECC **Green Verdugo** 80.02 46 ⇓P P 03 15 30.4 -0.1
baz=80
HOPS **Hopland** 80.02 40 eP P 03 15 30.7 +0.4
comp=Z,56nm,1.1s,mb5.1
MWC **Mount Wilson** 80.18 46 eP P 03 15 31.4 0.0
MWC pmax pmax
comp=Z,47nm,0.9s,mb5.1
MWC **Mount Wilson** 80.18 46 eP P 03 15 31.4 0.0
comp=Z,47nm,0.9s,mb5.1
MNRC **McLaughlin Nat** 80.32 40 ⇑P P 03 15 32.5 +0.5
baz=81
O01C **Eel River Cons** 80.34 39 ⇑P P 03 15 33.2 +1.1
baz=81
MURC **Murrieta** 80.39 47 ⇓P P 03 15 32.2 -0.2
baz=81,SNR=8.5
BFSC **Mount Baldy St** 80.46 46 ⇓P P 03 15 32.8 0.0
baz=81,SNR=5.4
VES **Vestal, Richgr** 80.49 44 P P 03 15 33.2 +0.3
baz=81,SNR=16
MYKOM **Kota Tinggi** 80.58 276 ⇓P P 03 15 34.9 +0.9
DVTC **Desert V Tower** 80.59 48 ⇓P P 03 15 34.0 +0.4
baz=81
EDW2 **Edwards Air Fo** 80.62 46 ⇑P P 03 15 34.0 +0.4
baz=81,SNR=20
GASB **Alder Springs** 80.66 40 ⇑P P 03 15 34.3 +0.5
baz=81
RCTC **Rector, Farmer** 80.68 44 ⇑P P 03 15 33.2 -0.7
baz=81
ISA **Isabella** 80.78 45 ⇑iP P 03 15 34.8 +0.3
ISA pmax pmax
comp=Z,60nm,1.1s,mb5.1
ISA **Isabella** 80.78 45 ⇓P P 03 15 34.9 +0.4
baz=81,SNR=24
ISA **Isabella** 80.78 45 ⇑iP P 03 15 34.8 +0.4
comp=Z,60nm,1.1s,mb5.1
T06C **Millerton Lake** 80.81 43 ⇑P P 03 15 34.5 -0.1
baz=81,SNR=14
CHGN **Chignik** 80.89 10 eP P 03 15 33.7 -0.8
PFO **Pinyon Flat Ob** 80.90 48 P P 03 15 35.0 -0.2
comp=Z,21nm,0.9s,mb4.8,baz=256,slow=3.9,SNR=12
PFO **Pinyon Flat Ob** 80.90 48 ⇑iP P 03 15 35.4 +0.2
PFO pmax pmax
comp=Z,71nm,1.5s,mb5.1
PFO **Pinyon Flat Ob** 80.90 48 ⇑P P 03 15 35.4 +0.3
baz=81,SNR=7.3
PFO **Pinyon Flat Ob** 80.90 48 ⇑iP P 03 15 35.4 +0.3
comp=Z,71nm,1.5s,mb5.1
O02C **Red Bluff** 80.96 39 ⇓P P 03 15 35.8 +0.5
baz=81
CMB **Columbia Colle** 81.03 42 ⇑iP P 03 15 35.7 0.0
CMB pmax pmax
comp=Z,47nm,1.5s,mb4.9
CMB **Columbia Colle** 81.03 42 ⇓P P 03 15 35.9 +0.1
baz=81,SNR=13
CMB **Columbia Colle** 81.03 42 ⇑iP P 03 15 35.6 -0.1
comp=Z,47nm,1.5s,mb4.9
CMB epP pP 03 16 18.1 +1.9
HELL **Mitchell Peak** 81.04 44 ⇓P P 03 15 35.6 -0.3
baz=81,SNR=9.8
N02C **Big Bar** 81.09 38 ⇓P P 03 15 36.3 +0.4
baz=81
KGM **Kluang** 81.15 276 ⇓P P 03 15 38.3 +1.2
LRMC **Laurel Mountai** 81.18 45 P P 03 15 37.2 +0.6
baz=81,SNR=8.7
OHCM **Honcut** 81.19 40 eP P 03 15 36.6 +0.1
KCC **Kaiser Creek** 81.25 43 P P 03 15 37.4 +0.5
baz=82,SNR=12
LAVA **Lava Cap Winer** 81.27 41 ⇑P P 03 15 36.8 -0.2
baz=82
ORV **Oroville** 81.32 40 ⇑P P 03 15 37.2 -0.1
baz=82,SNR=10.0
WDC **Whiskeytown Da** 81.37 39 eP P 03 15 37.8 +0.3
WDC pmax pmax
comp=Z,73nm,1.5s,mb5.1
WDC **Whiskeytown Da** 81.37 39 ⇑P P 03 15 37.5 +0.1
baz=82,SNR=8.1
WDC **Whiskeytown Da** 81.37 39 eP P 03 15 37.8 +0.4
comp=Z,73nm,1.5s,mb5.1
BELC **Belle Mtn.** 81.43 47 ⇑P P 03 15 38.2 +0.2
baz=82,SNR=15
CWC **Cottonwood Cre** 81.50 44 ⇑P P 03 15 38.5 +0.2
baz=82,SNR=13
112A **Yuma** 81.57 49 ⇓P P 03 15 39.1 +0.3
baz=82,SNR=5.1
BC3 **Big Chuckw Mtn** 81.61 48 ⇑P P 03 15 39.1 +0.2
baz=82,SNR=10
GSC **Goldstone** 81.65 46 eP P 03 15 38.9 -0.2
GSC pmax pmax
comp=Z,76nm,1.5s,mb5.1
GSC **Goldstone** 81.65 46 ⇑P P 03 15 39.3 +0.2
baz=82,SNR=16
GSC **Goldstone** 81.65 46 eP P 03 15 38.9 -0.2
comp=Z,76nm,1.5s,mb5.1
MPMC **Manual Prospec** 81.65 45 ⇓P P 03 15 39.6 +0.6
baz=82,SNR=27
P05C **Yuba Gap, Truc** 81.69 41 ⇑P P 03 15 39.0 -0.2
baz=82,SNR=13
GLA **Glamis** 81.69 49 eP P 03 15 40.1 +0.7
GLA pmax pmax
comp=Z,91nm,1.3s,mb5.2
GLA **Glamis** 81.69 49 ⇓P P 03 15 39.9 +0.5
baz=82,SNR=9.2
GLA **Glamis** 81.69 49 eP P 03 15 40.1 +0.7
comp=Z,90nm,1.3s,mb5.2
HEC **Hector,Ludlow** 81.69 47 ⇓P P 03 15 39.5 +0.2
baz=82,SNR=22
M02C **Callahan** 81.72 38 ⇓P P 03 15 39.9 +0.6
baz=82,SNR=7.4
MTUM **Tungsten Hills** 81.74 43 eP P 03 15 40.0 +0.5
R06C **Coleville** 81.91 42 ⇑P P 03 15 40.5 +0.2
baz=82,SNR=12
O05C **Quincy** 81.92 40 ⇑P P 03 15 40.7 +0.3
baz=82,SNR=6.8
YBH **Yreka Blue Hor** 82.02 38 P P 03 15 41.0 +0.1
comp=Z,12nm,0.9s,mb4.5,baz=184,slow=0.8,SNR=17
YBH **Yreka Blue Hor** 82.02 38 eP P 03 15 41.3 +0.4
YBH pmax pmax
comp=Z,65nm,1.6s
YBH **Yreka Blue Hor** 82.02 38 ⇑P P 03 15 41.0 +0.2
baz=82,SNR=7.8
YBH **Yreka Blue Hor** 82.02 38 eP P 03 15 41.3 +0.4
comp=Z,65nm,1.6s,mb5.0
O04C **Chester** 82.05 40 ⇓P P 03 15 41.1 0.0
baz=82,SNR=13
M03C **McCloud** 82.06 39 ⇓P P 03 15 41.3 +0.3
baz=82,SNR=7.5
IRM **Iron Mountain** 82.10 48 ⇓P P 03 15 41.6 +0.2
baz=82,SNR=10
GMRC **Granite Mounta** 82.11 47 ⇑P P 03 15 41.4 -0.1
baz=82,SNR=7.4
BEKR **Beckwourth** 82.19 41 ⇓P P 03 15 41.7 -0.1
baz=82,SNR=17
WCN **Washoe City** 82.20 41 ⇑P P 03 15 42.1 +0.2
baz=82,SNR=12
LBCM **Butte Creek Ri** 82.22 39 P P 03 15 42.3 +0.4
NJ2 **Nanjing** 82.25 310 eP P 03 15 40.7 -1.6
NJ2 AMB AMB
comp=Z,10.0nm,0.6s,mb4.6
113A **Mohawk Valley,** 82.27 50 ⇓P P 03 15 42.5 +0.1
baz=82,SNR=5.9
K02A **Glendale** 82.27 37 ⇑P P 03 15 42.1 0.0
baz=82
Y12C **Blythe** 82.30 48 ⇓P P 03 15 42.6 +0.1
baz=82,SNR=10
FURC **Furnace Creek,** 82.31 45 ⇓P P 03 15 42.5 0.0
baz=82,SNR=9.9
TUQ **Turquoise Moun** 82.31 46 ⇑P P 03 15 42.8 +0.3
baz=82,SNR=7.5
SHOC **Shoshone** 82.35 46 ⇓P P 03 15 42.5 -0.2
baz=83,SNR=10
HUMO **Hull Mountain** 82.46 37 ⇑P P 03 15 43.8 +0.7
baz=83,SNR=8.4
HUMO **Hull Mountain** 82.46 37 eP P 03 15 43.9 +0.7
comp=Z,69nm,1.5s,mb5.1
M04C **Macdoel** 82.55 38 ⇓P P 03 15 43.6 0.0
baz=83,SNR=7.1
NVAR **Mina Array Bea** 82.56 43 P P 03 15 44.1 +0.3
comp=Z,9.6nm,0.8s,mb4.6,baz=222,slow=8.0,SNR=45
U10A **Ash Meadows, A** 82.62 45 ⇓P P 03 15 44.8 +0.7
baz=83,SNR=8.6
J02A **Umpqua** 82.62 36 ⇑P P 03 15 44.3 +0.4
baz=83
KTGM **Kuala Trenggan** 82.66 279 ⇓P P 03 15 46.5 +1.6
M05C **Lookout** 82.68 39 ⇑P P 03 15 44.5 +0.2
baz=83,SNR=14
PAHR **Pah Range** 82.68 41 eP P 03 15 44.8 +0.4
comp=Z,80nm,1.6s,mb5.2
QIZ **Qiongzhong** 82.69 294 P P 03 15 44.6 -0.3
QIZ S S 03 25 48.3 -0.8
QIZ AMB AMB
comp=Z,425nm,7.8s
O06A **Flanigan** 82.70 41 ⇓P P 03 15 45.0 +0.6
baz=83,SNR=9.0
L04A **Klamath Falls** 82.78 38 ⇑P P 03 15 45.3 +0.5
baz=83,SNR=7.0
NEE2 **Needles Airpor** 82.81 47 ⇑P P 03 15 45.1 0.0
baz=83
Y13A **Salome** 82.81 49 ⇓P P 03 15 46.0 +0.9
baz=83,SNR=8.1
S09A **Goldfield** 82.82 44 ⇑P P 03 15 44.9 -0.2
baz=83,SNR=7.6
PDMCI **Parker Dam,Lak** 82.87 48 ⇑P P 03 15 45.7 +0.2
baz=83,SNR=11
V11A **Goodsprings** 82.88 46 ⇓P P 03 15 44.9 -0.6
baz=83,SNR=12
W12A **Cal Nev Ari** 82.94 47 ⇓P P 03 15 46.2 +0.4
baz=83
M06C **Likely Place G** 82.97 39 ⇑P P 03 15 45.9 +0.1
baz=83,SNR=8.9
TPNV **Topopah Spring** 82.98 45 eP P 03 15 46.1 +0.1
TPNV pmax pmax
comp=Z,87nm,1.7s,mb5.2
TPNV **Topopah Spring** 82.98 45 ⇑P P 03 15 45.9 -0.1
baz=83,SNR=12
TPNV **Topopah Spring** 82.98 45 eP P 03 15 46.1 +0.1
comp=Z,87nm,1.7s,mb5.2
TPH **Tonopah** 83.03 43 eP P 03 15 46.5 +0.3
TPH pmax pmax
comp=Z,68nm,1.4s,mb5.2
TPH **Tonopah** 83.03 43 eP P 03 15 46.5 +0.3
comp=Z,68nm,1.4s,mb5.2
Q08A **Gabbs** 83.05 43 ⇓P P 03 15 46.1 -0.2
baz=83,SNR=18
N06A **Buffalo Meadow** 83.06 40 ⇑P P 03 15 46.0 -0.2
baz=83,SNR=21
Z14A **Wintersburg** 83.17 49 ⇓P P 03 15 47.3 +0.3
baz=83,SNR=23
FRIM **Kepong** 83.19 276 ⇓P P 03 15 49.2 +1.6
V12A **Nelson** 83.20 47 ⇑P P 03 15 47.2 +0.1
baz=83,SNR=8.1
R09A **Tonopah** 83.22 43 ⇓P P 03 15 47.0 -0.2
baz=83,SNR=19
X13A **Yucca** 83.25 48 ⇓P P 03 15 47.8 +0.4
baz=84,SNR=23
MDJ **Mudanjiang** 83.25 325 P P 03 15 47.4 +0.3
MDJ S S 03 25 52.6 -1.1
MDJ AMB AMB
comp=Z,19nm,0.8s,mb4.9
MDJ AMB AMB
comp=Z,167nm,5.7s
MDJ LR LR
comp=N,250nm,5.6s
MDJ LR LR
comp=E,316nm,5.9s
MDJ LR LR
comp=Z,299nm,6.2s
MDJ **Mudanjiang** 83.25 325 eP P 03 15 46.9 -0.2
comp=Z,18nm,0.9s,mb4.8
MDJ epP pP 03 16 28.4 +0.6
HABR **Khabarovsk** 83.25 330 eP P 03 15 46.5 -0.6
HABR e 03 19 00.3
HABR eS S 03 25 49.3 -4.3
HABR e 03 26 49.1
HABR e 03 27 12.5
HABR e 03 34 52.0
O07A **Toulon** 83.27 41 P P 03 15 47.7 +0.3
baz=84,SNR=34
L05A **Lakeview** 83.30 39 ⇑P P 03 15 47.9 +0.5
baz=84,SNR=15
115A **Sonoran Desert** 83.31 50 ⇓P P 03 15 48.1 +0.3
baz=84
S10A **Tonopah Range,** 83.33 44 P P 03 15 48.2 +0.4
baz=84,SNR=56
J04A **Umpqua Nationa** 83.34 37 ⇑P P 03 15 48.2 +0.6
baz=84
MPOR **Mary's Peak** 83.39 35 P P 03 15 49.1 +1.3
Y14A **Wickenburg** 83.45 49 P P 03 15 49.1 +0.7
baz=84,SNR=28
P08A **Dixie Valley** 83.47 42 ⇑P P 03 15 49.4 +1.0
baz=84
216A **Three Points,** 83.49 51 ⇑P P 03 15 48.9 +0.3
baz=84,SNR=11
W13A **Hualapai Mount** 83.49 48 P P 03 15 49.5 +0.9
baz=84,SNR=24
Q09A **Carvers** 83.50 43 P P 03 15 49.1 +0.6
baz=84,SNR=14
MOD **Modoc** 83.51 39 ⇓P P 03 15 48.7 +0.1
baz=84,SNR=17
MOD **Modoc** 83.51 39 eP P 03 15 48.4 -0.1
comp=Z,32nm,1.0s,mb5.0
I04A **Tendick Farm,** 83.54 37 P P 03 15 48.8 +0.1
baz=84,SNR=6.3
N07B **Gerlach** 83.59 41 ⇓P P 03 15 49.1 +0.1
baz=84,SNR=14
116A **Elko** 83.61 51 ⇓P P 03 15 49.6 +0.3
baz=84,SNR=18
H03A **Soap Creek Ran** 83.65 35 ⇑P P 03 15 49.7 +0.5
baz=84,SNR=5.4
Z15A **Gila River Ind** 83.68 50 ⇓P P 03 15 49.6 0.0
baz=84
K05A **Summer Lake** 83.69 38 P P 03 15 50.4 +0.9
baz=84,SNR=22
S11A **Rachel** 83.72 45 ⇓P P 03 15 49.1 -0.6
baz=84,SNR=9.8
R10A **Warm Springs** 83.74 44 ⇑P P 03 15 50.1 +0.4
baz=84,SNR=35
IRO **Indian Ridge** 83.76 36 P P 03 15 49.7 -0.1
O08A **Rochester Mine** 83.78 41 ⇑P P 03 15 50.2 +0.2
baz=84,SNR=32
U12A **Valley of Fire** 83.81 46 ⇓P P 03 15 50.7 +0.5
baz=84,SNR=14
X14A **Yava** 83.82 48 ⇑P P 03 15 50.9 +0.6
baz=84,SNR=25
T11A **Corn Creek, Al** 83.82 45 ⇑P P 03 15 50.8 +0.6
baz=84,SNR=31
217A **Green Valley** 83.83 52 ⇓P P 03 15 50.8 +0.4
baz=84,SNR=29
V13A **Grand Canyon W** 83.85 47 ⇑P P 03 15 50.9 +0.5
baz=84,SNR=31
M07A **Soldier Meadow** 83.85 40 ⇑P P 03 15 50.3 0.0
baz=84,SNR=10.0
T12A **Moapa** 83.86 46 ⇓P P 03 15 50.1 -0.3
baz=84,SNR=5.4
J05A **Fort Rock** 83.86 37 ⇑P P 03 15 50.7 +0.4
baz=84,SNR=24
Y15A **Casa Rosa Ranc** 83.92 49 ⇑P P 03 15 51.2 +0.4
baz=84,SNR=32
P09A **Austin** 83.96 42 ⇑P P 03 15 51.0 +0.1
baz=84,SNR=6.2
Q10A **Clear Creek Ra** 83.99 43 ⇑P P 03 15 51.2 +0.1
baz=84,SNR=21
N08A **GE Springer Mi** 84.09 41 P P 03 15 51.9 +0.4
baz=84,SNR=30
W14A **Seligman** 84.10 48 ⇓P P 03 15 52.3 +0.6
baz=84,SNR=39
K06A **Valley Falls** 84.11 38 P P 03 15 52.2 +0.6
baz=84,SNR=27
TUC **Tucson** 84.13 51 ⇑iP P 03 15 52.9 +1.0
TUC pmax pmax
comp=Z,48nm,0.9s,mb5.2
TUC **Tucson** 84.13 51 ⇑iP P 03 15 52.9 +1.0
comp=Z,48nm,0.9s,mb5.2
L07A **Adell** 84.14 39 P P 03 15 52.5 +0.8
baz=84,SNR=14
SYO **Syowa Base** 84.16 193 ‖eP P 03 15 48.6 -2.9
SYO **Syowa Base** 84.16 193 ‖ePcP PcP 03 15 54.4 -0.6
U13A **Pakoon Wash** 84.18 46 P P 03 15 53.1 +1.1
baz=84,SNR=30
Z16A **Peralta Trail,** 84.22 50 P P 03 15 53.4 +1.0
baz=84,SNR=23
R11A **Troy Canyon, C** 84.23 44 ⇑P P 03 15 52.0 -0.3
baz=84,SNR=15
IPM **Ipoh** 84.24 277 ⇓P P 03 15 49.2 -3.7
H04A **Detroit Lake** 84.24 36 ⇑P P 03 15 52.0 -0.2
baz=84
318A **Bisbee** 84.25 52 ⇓P P 03 15 52.9 +0.3
baz=84,SNR=30
S12A **Delamar Landin** 84.28 45 ⇓P P 03 15 53.3 +0.8
baz=84,SNR=33
X15A **Humboldt** 84.28 49 P P 03 15 53.6 +1.0
baz=84,SNR=37
O09A **Fish Creek Ran** 84.30 42 ⇓P P 03 15 52.5 -0.1
baz=84,SNR=17
117A **Oracle** 84.30 51 ⇓P P 03 15 52.9 +0.1
baz=84,SNR=33
V14A **Boquillas Ranc** 84.32 47 ⇑P P 03 15 53.3 +0.5
baz=84,SNR=34
M08A **Happy Creek Ra** 84.36 40 ⇓P P 03 15 52.3 -0.5
baz=85
I05A **Bend** 84.41 37 ⇓P P 03 15 52.8 -0.2
baz=85,SNR=5.7
P10A **Eureka** 84.42 43 ⇓P P 03 15 53.3 +0.1
baz=85,SNR=10
BMN **Battle Mountai** 84.44 42 ⇑iP P 03 15 53.4 +0.1
BMN pmax pmax
comp=Z,57nm,1.4s,mb5.1
BMN **Battle Mountai** 84.44 42 ⇑iP P 03 15 53.4 +0.1
comp=Z,57nm,1.4s,mb5.1
J06A **Christmas Vall** 84.45 38 ⇓P P 03 15 52.9 -0.3
baz=85,SNR=21
Q11A **Duckwater** 84.47 44 ⇑P P 03 15 53.3 -0.2
baz=85,SNR=21
Y16A **Circle Bar Ran** 84.48 50 ⇑P P 03 15 54.4 +0.8
baz=85,SNR=44
218A **Dragoon** 84.49 52 ⇓P P 03 15 53.8 +0.1
baz=85,SNR=60
T13A **Saint George** 84.56 46 ⇑P P 03 15 54.4 +0.4
baz=85,SNR=15
K07A **Rock Creek Ran** 84.61 39 ⇓P P 03 15 54.5 +0.4
baz=85,SNR=28
W15A **Williams** 84.64 48 ⇓P P 03 15 55.9 +1.5
baz=85,SNR=5.0
U14A **Mt Trumbull** 84.70 47 ⇑P P 03 15 55.4 +0.7
baz=85,SNR=25
319A **Douglas** 84.73 53 ⇑P P 03 15 55.7 +0.7
baz=85,SNR=30
E03A **Lebam** 84.75 34 ⇓P P 03 15 55.3 +0.6
baz=85,SNR=8.6
X16A **Lo Mia Camp, P** 84.80 49 ⇓P P 03 15 56.0 +0.8
baz=85,SNR=25
O10A **Cortez Mining,** 84.80 42 ⇑P P 03 15 55.7 +0.6
baz=85
Y17A **Roosevelt** 84.83 50 ⇓P P 03 15 56.1 +0.7
baz=85,SNR=19
L08A **Fields** 84.83 40 P P 03 15 55.7 +0.5
baz=85,SNR=31
R12A **Pony Springs,** 84.84 45 ⇓P P 03 15 55.6 +0.2
baz=85,SNR=20
I06A **Prineville** 84.85 37 ⇓P P 03 15 55.9 +0.6
baz=85,SNR=21
BMW **Boistfort Moun** 84.88 34 eP P 03 15 56.1 +0.8
Z17A **San Carlos Hig** 84.88 51 ⇑P P 03 15 56.8 +1.1
baz=85,SNR=6.7
118A **Homack Ranch,** 84.89 51 P P 03 15 56.9 +1.2
baz=85,SNR=41
M09A **Marrel Ranch,** 84.89 41 ⇓P P 03 15 55.9 +0.3
baz=85,SNR=14
KULM **Kulim** 84.91 278 ⇑P P 03 15 58.0 +1.7
S13A **Holt Ranch, En** 84.91 45 ⇑P P 03 15 56.3 +0.6
baz=85,SNR=21
F04A **Amboy** 84.94 35 ⇓P P 03 15 55.9 +0.3
baz=85,SNR=9.3
CN2 **Changchun** 84.98 322 eP P 03 15 55.9 0.0
CN2 eS S 03 26 07.9 -3.1
CN2 AMB AMB
comp=Z,30nm,1.0s,mb5.0
CN2 AMB AMB
comp=Z,200nm,3.0s
VIPM **Ingram Point** 84.99 37 P P 03 15 56.2 +0.3
J07A **Hines** 85.00 38 ⇓P P 03 15 56.4 +0.4
baz=85
D03A **Wishkah Elem.** 85.03 33 ⇓P P 03 15 57.0 +1.0
baz=85
V15A **Kaibab Nationa** 85.05 48 ⇑P P 03 15 57.3 +0.8
baz=85,SNR=20
219A **White Tail Can** 85.07 52 ⇑P P 03 15 57.3 +0.7
baz=85,SNR=20
G05A **Wamic** 85.08 36 ⇓P P 03 15 56.5 +0.1
baz=85
K08A **Mann Creek Ran** 85.08 39 ⇓P P 03 15 56.8 +0.4
baz=85,SNR=16
CROR **Criterion Ridg** 85.09 36 P P 03 15 56.9 +0.5
W16A **Flagstaff** 85.10 49 ⇑P P 03 15 57.5 +0.8
baz=85,SNR=7.7
Q12A **Willow Creek R** 85.11 44 ⇑P P 03 15 56.8 +0.1
baz=85,SNR=10
L09A **Wilkinson Ranc** 85.13 40 ⇓P P 03 15 56.9 +0.2
baz=85,SNR=10
T14A **Hurricane** 85.13 46 ⇓P P 03 15 57.1 +0.3
baz=85,SNR=16
NLWA **Neilton Lookou** 85.16 33 ⇑P P 03 15 57.0 +0.2
baz=85
NLWA **Neilton Lookou** 85.16 33 eP P 03 15 57.4 +0.7
comp=Z,30nm,1.2s,mb4.9
R13A **O'Grain Ranch,** 85.17 45 ⇑P P 03 15 57.4 +0.3
baz=85,SNR=12
SNAA **Sanae** 85.19 178 eP P 03 15 55.1 -1.5
SNAA e 03 15 57.9
SNAA e 03 16 05.9
SNAA **Sanae** 85.19 178 ⇑iP P 03 15 56.0 -0.6
SNAA pmax pmax
comp=Z,28nm,1.0s
SNAA **Sanae** 85.19 178 ⇑iP P 03 15 56.0 -0.6
comp=Z,28nm,1.0s,mb5.0
X17A **Forest Lakes** 85.19 50 ⇑P P 03 15 58.2 +1.0
baz=85
CCUT **Cedar City** 85.22 46 ⇑iP P 03 15 58.0 +0.8
O11A **Cowboy Ranch,** 85.22 43 ⇓P P 03 15 57.4 +0.2
baz=85,SNR=27
H06A **Lindquist Farm** 85.29 37 ⇑P P 03 15 57.4 0.0
baz=86,SNR=17
VNA3 **Neumayer Olymp** 85.29 176 eP P 03 15 56.1 -1.1
VNA3 e 03 15 59.3
ARUT **Antelope Range** 85.30 45 eP P 03 15 58.4 +0.8
U15A **North Rim** 85.31 47 ⇑P P 03 15 58.6 +0.9
baz=86,SNR=16
P12A **McGill** 85.31 43 ⇑P P 03 15 57.8 +0.1
baz=86,SNR=14
TDL **Tradedollar La** 85.32 35 P P 03 15 58.4 +0.9
KLR **Kul'dur** 85.32 329 eP P 03 15 52.7 -4.8
I07A **Izee** 85.34 38 ⇓P P 03 15 57.6 -0.1
baz=86,SNR=17
WUAZ **Wupatki** 85.43 48 ⇓P P 03 15 58.4 +0.1
baz=86
WUAZ **Wupatki** 85.43 48 ⇑iP P 03 15 58.8 +0.4
comp=Z,58nm,1.6s,mb5.1
119A **Ashpeak Ranch,** 85.44 52 ⇑P P 03 15 58.7 +0.3
baz=86,SNR=32
G06A **Carlson Farm,** 85.44 36 ⇑P P 03 15 57.9 -0.2
baz=86,SNR=10.0
Y18A **Canyon Day Jun** 85.44 50 ⇓P P 03 15 59.6 +1.1
baz=86,SNR=60
J08A **Circle Bar Ran** 85.47 39 ⇑P P 03 15 58.1 -0.2

baz=86,SNR=17
M10A I.L. Ranch, Tu 85.50 41 ⇓P P 03 15 58.5 -0.1
baz=86,SNR=20
K09A Rome 85.50 40 ⇑P P 03 15 58.4 -0.1
baz=86,SNR=28
T15A Red Dirt Ranch 85.57 47 ⇓P P 03 15 59.6 +0.6
baz=86,SNR=16
Q13A Wheeler Ranch, 85.58 44 ⇑P P 03 15 58.8 -0.2
baz=86
H07A Lands Inn, Kim 85.62 37 ⇓P P 03 15 58.8 -0.2
baz=86,SNR=15
E05A Randle 85.69 35 ⇑P P 03 15 59.5 +0.1
baz=86,SNR=8.4
F06A Goldendale 85.70 36 ⇓P P 03 15 59.6 +0.1
baz=86
Z19A T-Link Ranch, 85.73 51 ⇓P P 03 16 00.8 +0.9
baz=86,SNR=5.9
VNA2 Neumayer--Watz 85.74 177 *e*P P 03 15 59.0 -0.4
VNA2 *e* 03 16 01.8
VNA2 *e* 03 16 08.1
VNA2 *e* pP 03 16 41.7 +1.5
I08A Drewsey 85.76 38 ⇓P P 03 15 59.8 +0.1
baz=86,SNR=12
B04A Port Angeles 85.79 33 ⇑P P 03 15 59.0 -0.8
baz=86
C04A Brinnon 85.83 33 ⇓P P 03 16 00.6 +0.6
baz=86,SNR=7.0
ELK Elko 85.84 42 *e*P P 03 16 00.1 -0.1
ELK pmax pmax
comp=Z,32nm,1.5s
ELK Elko 85.84 42 *e*P P 03 16 00.1 -0.2
comp=Z,32nm,1.5s,mb4.8
P13A Bates Ranch, G 85.87 44 ⇓P P 03 16 00.6 +0.2
baz=86,SNR=20
O12A Currie 85.87 43 ⇓P P 03 15 59.7 -0.7
baz=86
L10A Juniper Basin 85.87 41 ⇓P P 03 16 00.4 0.0
baz=86,SNR=18
J09A Fry Pan Ranch, 85.88 39 ⇑P P 03 16 00.5 +0.2
baz=86,SNR=16
X18A Snowflake 85.90 50 ⇓P P 03 16 00.9 +0.2
baz=86,SNR=11
M11A Holland Ranch, 85.90 41 ⇑P P 03 16 00.9 +0.3
baz=86,SNR=18
U16A Tuba City 85.94 48 ⇓P P 03 16 00.5 -0.3
baz=86,SNR=5.6
S15A Panguitch 85.94 46 ⇑P P 03 16 01.5 +0.6
baz=86,SNR=13
VNA1 Neumayer--Stat 85.97 176 *e*P P 03 15 59.7 -0.8
VNA1 *e* 03 16 02.8
D05A Enumclaw 85.99 34 ⇑P P 03 16 01.3 +0.5
baz=86,SNR=11
G07A Ruggs Ranch, H 85.99 37 P P 03 16 01.0 +0.2
baz=86,SNR=7.8
N12A Clover Valley, 86.03 42 P P 03 16 01.4 +0.2
baz=86,SNR=11
K10A MacKenzie Ranc 86.05 40 P P 03 16 01.6 +0.3
baz=86,SNR=13
Q14A Sevier Lake (B 86.08 45 ⇑P P 03 16 01.7 +0.2
baz=86,SNR=28
H08A Prairie City 86.08 38 P P 03 16 00.9 -0.4
baz=86,SNR=8.3
Y19A Nutrioso 86.09 51 P P 03 16 03.1 +1.5
baz=86,SNR=29
E06A Yakima 86.09 35 ⇓P P 03 16 01.2 -0.2
baz=86,SNR=7.0
F07A Phinny Hill Vi 86.24 36 ⇑P P 03 16 01.9 -0.2
baz=86
X19A St. Johns 86.31 50 ⇓P P 03 16 03.4 +0.7
baz=86,SNR=13
W18A Petrified Fore 86.36 49 ⇑P P 03 16 03.3 +0.3
baz=87,SNR=6.6
L11A Cat Creek Ranc 86.36 41 ⇓P P 03 16 02.7 0.0
baz=87,SNR=7.6
SLKM Skilak Lake 86.37 13 *e*P P 03 16 01.9 -0.4
G08A Pilot Rock 86.39 37 ⇑P P 03 16 02.6 -0.2
baz=87,SNR=19
M12A Wells 86.43 42 ⇓P P 03 16 03.0 -0.1
baz=87,SNR=7.2
C05A Tolt Reservoir 86.47 34 ⇓P P 03 16 03.3 +0.2
baz=87,SNR=13
U17A Shonto 86.50 48 ⇓P P 03 16 04.7 +1.1
baz=87,SNR=7.3
MSU Marysvale 86.53 45 *e*P P 03 16 04.2 +0.5
N13A Wendover, West 86.55 43 ⇑P P 03 16 03.9 +0.2
baz=87,SNR=5.2
EBG Ellensburg 86.55 35 P P 03 16 04.2 +0.7
P14A Drum Mountains 86.55 44 ⇑P P 03 16 03.9 +0.1
baz=87,SNR=7.0
D06A Cle Elum 86.58 35 ⇓P P 03 16 03.9 +0.1
baz=87,SNR=6.9
B05A Bryant 86.64 33 ⇓P P 03 16 04.3 +0.3
baz=87,SNR=9.0
JCW Jim Creek 86.67 33 *e*P P 03 16 04.2 +0.1
E07A Sunnyside 86.70 36 ⇓P P 03 16 04.6 +0.3
baz=87,SNR=7.1
H09A Durkee 86.73 38 ⇓P P 03 16 03.8 -0.7
baz=87,SNR=8.0
RSW Rattlesnake Hi 86.74 36 *e*P P 03 16 04.8 +0.3
HAWA Hanford 86.77 36 *e*P P 03 16 04.6 -0.1
comp=Z,77nm,1.8s,mb5.2
HAWA *e*pP pP 03 16 46.1 +0.5
L12A House Creek Ra 86.79 41 ⇑P P 03 16 04.4 -0.4
baz=87,SNR=7.9
PLCA Paso Flores 86.80 133 P P 03 16 05.8 +0.7
comp=Z,27nm,1.0s,mb5.0,baz=230,slow=5.2,SNR=31
PLCA LR LR 03 46 45.1
comp=Z,102nm,20.1s,baz=72,slow=30
PLCA Paso Flores 86.80 133 *e*P P 03 16 05.6 +0.4
PLCA pmax pmax
comp=Z,50nm,1.2s
PLCA Paso Flores 86.80 133 *e*P P 03 16 05.6 +0.5
comp=Z,50nm,1.2s,mb5.2
F08A Pendleton 86.81 37 ⇑P P 03 16 04.7 -0.1
baz=87,SNR=8.7
M13A Montello 86.86 42 ⇑P P 03 16 04.8 -0.4
baz=87,SNR=12
R16A Teasdale 86.86 46 ⇑P P 03 16 05.2 -0.1
baz=87,SNR=7.4
D07A Quincy 87.04 35 ⇑P P 03 16 05.5 -0.4
baz=87,SNR=5.1
G09A Cove 87.04 37 ⇓P P 03 16 05.7 -0.3
baz=87,SNR=6.1
MFID Camas Ranch 87.05 40 ⇓P P 03 16 05.6 -0.5
baz=87,SNR=9.0
DUG Dugway 87.05 44 *e*P P 03 16 05.7 -0.4
DUG pmax pmax
comp=Z,3.0nm,0.8s,mb4.2
DUG Dugway 87.05 44 *e*P P 03 16 05.7 -0.5
comp=Z,2.9nm,0.8s,mb4.2
RPW Rockport 87.05 33 *e*P P 03 16 05.4 -0.6
BMO Blue Mountains 87.05 38 *e*P P 03 16 05.4 -0.6
BMO pmax pmax
comp=Z,37nm,1.6s,mb5.0
BMO Blue Mountains 87.05 38 *e*P P 03 16 05.4 -0.7
comp=Z,37nm,1.6s,mb5.0
ETW Entiat 87.11 35 *e*P P 03 16 06.2 -0.1
LNOR Lincton Mounta 87.13 37 *e*P P 03 16 06.3 -0.1
K12A Draper Farm, C 87.14 41 ⇑P P 03 16 06.4 -0.2
baz=87,SNR=5.6
H10A Noah's Angus R 87.21 38 ⇓P P 03 16 06.1 -0.7
baz=87,SNR=11
I11A Placerville 87.26 39 ⇑P P 03 16 06.4 -0.7
baz=88,SNR=6.4
C07A Waterville 87.31 35 ⇑P P 03 16 06.8 -0.4
baz=88,SNR=8.2
T18A Mexican Hat 87.32 48 ⇓P P 03 16 07.6 0.0
baz=88,SNR=22
WTV Waterville 87.37 35 P P 03 16 07.4 -0.1
J12A Stokes Ranch, 87.38 40 ⇑P P 03 16 06.7 -1.0
baz=88,SNR=8.9
Q16A Castle Valley 87.41 46 ⇓P P 03 16 06.2 -1.7
baz=88,SNR=8.9
G10A Bishop Farm, J 87.42 38 ⇓P P 03 16 06.5 -1.3
baz=88,SNR=11
R17A Hanksville Air 87.44 46 ⇓P P 03 16 06.5 -1.6
baz=88,SNR=7.7
M14A Sheep Mountain 87.44 42 ⇓P P 03 16 07.0 -1.0
baz=88,SNR=8.8
D08A Wollman Farm, 87.52 36 ⇓P P 03 16 07.9 -0.3
baz=88,SNR=12
PMR Palmer 87.58 13 *e*P P 03 16 08.1 0.0
PMR pmax pmax
comp=Z,42nm,1.2s,mb5.1
PMR Palmer 87.58 13 *e*P P 03 16 08.1 0.0
comp=Z,42nm,1.2s,mb5.1
TMUT Trail Mountain 87.59 45 *e*P P 03 16 09.3 +0.6

E09A Wood Farm, Sta 87.60 36 ⇑P P 03 16 08.0 -0.6
baz=88,SNR=11
K13A Stover Farm, H 87.64 41 ⇓P P 03 16 08.4 -0.5
baz=88,SNR=6.0
I12A Atlanta 87.68 40 ⇓P P 03 16 09.0 -0.1
baz=88,SNR=13
H11A Donnelly 87.70 39 ⇑P P 03 16 08.0 -1.2
baz=88,SNR=10
MPU Maple Canyon 87.70 44 *e*P P 03 16 09.5 +0.2
comp=Z,10nm,0.9s,mb4.7
B07A Winthrop 87.77 34 ⇑P P 03 16 08.9 -0.4
baz=88,SNR=10
F10A Beach Ranch, E 87.77 37 ⇑P P 03 16 08.8 -0.7
baz=88,SNR=22
LAZ Ladron 87.82 51 *e*P P 03 16 10.6 +0.6
LENM Lemitar 87.82 51 *e*P P 03 16 10.5 +0.5
OD2 Odessa Site #2 87.83 35 *e*P P 03 16 09.6 -0.1
D09A Jones Farm, Ri 87.85 36 ⇑P P 03 16 09.6 -0.1
baz=88,SNR=17
O16A Springville 87.89 44 ⇑P P 03 16 10.4 +0.3
baz=88,SNR=7.7
SRU San Rafael 87.94 46 ⇑*i*P P 03 16 10.3 -0.1
SRU pmax pmax
comp=Z,29nm,1.0s,mb5.1
SRU San Rafael 87.94 46 P P 03 16 10.8 +0.4
baz=88,SNR=24
SRU San Rafael 87.94 46 ⇑*i*P P 03 16 10.3 -0.1
comp=Z,29nm,1.0s,mb5.1
TXAR Lajitas Array 87.94 57 P P 03 16 11.1 +0.4
comp=Z,12nm,0.9s,mb4.7,baz=214,slow=7.6,SNR=104
TXAR PKKPbc PKKPbc 03 34 00.1 +3.7
comp=Z,1.4nm,0.9s,baz=83,slow=3.8,SNR=10
G11A Walters Elk Ra 87.97 38 ⇓P P 03 16 09.8 -0.6
baz=88,SNR=29
HLID Hailey 87.97 40 ⇓P P 03 16 10.7 +0.2
baz=88,SNR=12
HLID Hailey 87.97 40 ⇑*i*P P 03 16 10.4 0.0
comp=Z,7.6nm,1.1s,mb4.4
P17A Butcher Ranch, 87.99 45 ⇑P P 03 16 10.8 +0.2
baz=88,SNR=16
A07A Ashnola River, 88.01 33 ⇑P P 03 16 10.6 +0.1
baz=88,SNR=9.4
J13A Cove Ranch, Pi 88.02 41 ⇑P P 03 16 10.9 +0.2
baz=88,SNR=14
BNM Barren Site 88.06 51 *e*P P 03 16 11.3 +0.1
BNM *e*pP pP 03 16 53.2 +1.1
B08A Colville Reser 88.11 34 ⇓P P 03 16 10.5 -0.5
baz=88,SNR=14
K14A Jones Ranch, D 88.14 42 ⇓P P 03 16 10.6 -0.6
baz=88,SNR=5.4
JLU Jordanelle 88.14 44 *e*P P 03 16 11.1 -0.2
LPM Los Pinos Moun 88.14 51 *e*P P 03 16 11.8 +0.4
E10A Myers Farm, Un 88.15 37 ⇑P P 03 16 09.5 -1.7
baz=88,SNR=8.9
DAU Daniels Canyon 88.16 44 *e*P P 03 16 10.6 -0.8
Q18A Rafter H Ranch 88.19 46 ⇓P P 03 16 10.7 -0.9
baz=88,SNR=15
H12A Diamond D Ranc 88.28 39 ⇓P P 03 16 11.7 -0.2
baz=88,SNR=15
EFI East Falkland 88.32 147 *e*P P 03 16 11.0 -1.1
EFI pmax pmax
comp=Z,108nm,1.4s,mb5.5
EFI East Falkland 88.32 147 *e*P P 03 16 11.0 -1.2
comp=Z,108nm,1.4s,mb5.5
C09A Chrisman Ranch 88.32 35 ⇓P P 03 16 11.4 -0.5
baz=89,SNR=9.3
F11A Grangeville 88.32 38 ⇑P P 03 16 10.5 -1.6
baz=88,SNR=8.4
L15A Malad City 88.32 42 ⇑P P 03 16 10.7 -1.5
baz=88,SNR=6.9
G12A Big Creek, Yel 88.34 39 ⇓P P 03 16 11.7 -0.5
baz=89
J14A Carey 88.37 41 ⇑P P 03 16 12.3 -0.1
baz=89,SNR=10
O17A Robinson Place 88.38 45 ⇓P P 03 16 12.9 +0.4
baz=89,SNR=50
P18A Preston Nutter 88.39 45 ⇑P P 03 16 12.1 -0.4
baz=89,SNR=8.6
BJI Beijing 88.41 315 P P 03 16 12.6 0.0
BJI SS SS 03 32 36.4 -2.4
BJI AMB AMB
comp=Z,14nm,1.7s,mb4.5
BJI AMB AMB
comp=Z,237nm,7.2s
BJI LR LR
comp=N,385nm,6.6s
BJI LR LR
comp=E,538nm,7.3s
BJI LR LR
comp=Z,76nm,38.7s
BJI Beijing 88.41 315 P P 03 16 12.6 0.0
comp=Z,14nm,1.7s,mb4.5
BJI S SKSac 03 26 26.8 +0.7
BJI SS SS 03 32 36.4 -2.4
A08A Turner Farm, O 88.52 34 ⇑P P 03 16 13.0 +0.1
baz=89,SNR=24
E11A Bogner Ranch, 88.57 37 ⇑P P 03 16 12.2 -1.0
baz=89,SNR=6.9
ANMO Albuquerque 88.58 51 P P 03 16 13.7 +0.2
comp=Z,20nm,1.0s,mb5.0,baz=220,slow=5.4,SNR=38
ANMO Albuquerque 88.58 51 ⇑*i*P P 03 16 13.7 +0.2
ANMO *e**PP pP 03 16 55.2 +0.6
ANMO pmax pmax
comp=Z,34nm,1.1s
ANMO Albuquerque 88.58 51 ⇑*i*P P 03 16 13.7 +0.1
comp=Z,34nm,1.1s,mb5.2
ANMO *e*pP pP 03 16 55.2 +0.5
HWUT Hardware Ranch 88.61 43 *e*P P 03 16 12.7 -0.8
comp=Z,13nm,1.4s,mb4.7
H13A Challis 88.64 40 ⇑P P 03 16 13.1 -0.4
baz=89,SNR=10
GYA Guiyang 88.69 299 P P 03 16 15.7 +1.4
GYA PP PP 03 19 46.8 +1.1
GYA S S 03 26 42.0 -5.4
GYA SS SS 03 32 40.6 -2.7
GYA AMB AMB
comp=Z,60nm,1.2s,mb5.4
GYA AMB AMB
comp=Z,420nm,6.8s
GYA LR LR
comp=N,860nm,20.8s
GYA LR LR
comp=E,590nm,21.8s
GYA LR LR
comp=Z,740nm,22.4s
PV01 Paradox Valley 88.72 47 *e*P P 03 16 13.8 -0.4
I14A Mackay 88.75 40 ⇓P P 03 16 14.5 +0.4
baz=89,SNR=15
F12A Elk City 88.75 38 ⇑P P 03 16 13.6 -0.4
baz=89
B09A Rice 88.77 35 ⇑P P 03 16 12.5 -1.6
baz=89,SNR=13
A09A Danville 88.88 34 ⇓P P 03 16 13.4 -1.2
baz=89,SNR=14
O18A Roosevelt 88.89 45 ⇑P P 03 16 14.2 -0.7
baz=89,SNR=6.1
D11A Klaveano Farm, 88.91 37 ⇑P P 03 16 13.8 -1.0
baz=89,SNR=12
G13A Cobalt 88.95 39 ⇑P P 03 16 14.1 -0.9
baz=89,SNR=14
E12A Beaver Dam Sad 88.96 38 ⇓P P 03 16 13.5 -1.6
baz=89,SNR=7.5
KTH Kantishna Hill 89.01 11 *e*P P 03 16 13.6 -1.2
comp=Z,18nm,0.8s,mb5.0
KTH *e*pP pP 03 16 55.7 -0.2
TRF Thorofare Moun 89.04 12 *e*P P 03 16 14.2 -0.8
comp=Z,38nm,0.7s,mb5.4
J15A Bixby 89.07 41 ⇑P P 03 16 15.3 -0.3
baz=89,SNR=17
CHUM Lake Minchumin 89.07 11 *e*P P 03 16 14.1 -1.1
comp=Z,18nm,0.9s,mb5.0
H14A Leadore 89.19 40 ⇑P P 03 16 16.6 +0.4
baz=89
NEW Newport 89.22 35 *e*P P 03 16 15.5 -0.7
NEW pmax pmax
comp=Z,52nm,1.8s
NEW Newport 89.22 35 *e*P P 03 16 15.5 -0.7
comp=Z,52nm,1.8s,mb5.2
SEY Seymchan 89.28 347 ⇓*i*P P 03 16 15.2 -0.9
F13A Darby 89.30 39 ⇓P P 03 16 15.4 -1.2
baz=90,SNR=22
I15A Monteview 89.37 41 ⇓P P 03 16 16.6 -0.4
baz=90,SNR=8.0
A10A Northport 89.42 35 ⇑P P 03 16 16.7 -0.5
baz=90,SNR=8.0
C11A Tepee Creek (N 89.43 36 ⇑P P 03 16 17.1 0.0
baz=90,SNR=34

D12A Red Ives Fores 89.46 37 ⇓P P 03 16 16.7 -0.7
baz=90
N18A Larsen Ranch, 89.48 44 ⇑P P 03 16 15.6 -2.0
baz=90,SNR=6.3
O19A Miners Draw (B 89.48 45 ⇓P P 03 16 17.0 -0.6
baz=90,SNR=9.3
G14A Jackson 89.49 39 ⇑P P 03 16 17.6 +0.1
baz=90,SNR=6.8
J16A Bone 89.50 42 ⇑P P 03 16 17.7 +0.1
baz=90,SNR=18
AHID Auburn Hatcher 89.53 42 *e*P P 03 16 17.4 -0.4
comp=Z,10nm,0.9s,mb4.8
MCK McKinley 89.55 12 *e*P P 03 16 16.5 -0.9
MCK pmax pmax
comp=Z,40nm,1.1s,mb5.3
MCK McKinley 89.55 12 *e*P P 03 16 16.5 -0.9
comp=Z,40nm,1.1s,mb5.3
NST Nakhon Sawan 89.59 287 P P 03 16 19.7 +1.0
comp=Z,35nm,0.8s,mb5.3
MCMT McKenzie Canyo 89.61 40 *e*P P 03 16 18.2 +0.1
H15A Lima 89.62 40 ⇑P P 03 16 18.5 +0.4
baz=90,SNR=12
RRI2 Red Ridge 89.72 42 *e*P P 03 16 18.5 -0.1
comp=Z,39nm,1.3s,mb5.2
B11A Sandpoint 89.72 36 ⇓P P 03 16 18.0 -0.5
baz=90,SNR=18
E13A Victor 89.75 38 ⇑P P 03 16 18.0 -0.8
baz=90,SNR=7.5
N19A John Jarvie Ra 89.76 45 ⇑P P 03 16 17.8 -1.1
baz=90,SNR=8.6
C12B Naegeli Ranch, 89.77 36 ⇑P P 03 16 18.5 -0.3
baz=90,SNR=16
F14A Wisdom 89.86 39 ⇓P P 03 16 19.3 0.0
baz=90,SNR=11
I16A Newdale 89.90 41 ⇑P P 03 16 19.8 +0.3
baz=90,SNR=17
D13A Huson 89.98 37 ⇓P P 03 16 19.4 -0.4
baz=90,SNR=7.5
REDW Red Top Meadow 90.01 42 ⇑*i*P P 03 16 20.1 +0.1
comp=Z,46nm,1.4s,mb5.2
G15A Dillon 90.01 40 ⇑P P 03 16 19.9 0.0
baz=90,SNR=28
TPAW Teton Pass 90.02 42 *e*P P 03 16 19.7 -0.4
comp=Z,39nm,1.5s,mb5.1
A11A Hall Mountain, 90.04 35 ⇓P P 03 16 20.2 +0.3
baz=90,SNR=9.8
DLMT Dillon 90.06 40 *e*P P 03 16 20.2 0.0
comp=Z,24nm,1.2s,mb5.0
MSO Missoula 90.12 38 *e*P P 03 16 19.2 -1.2
comp=Z,17nm,1.4s,mb4.8
SNOW Snow King Moun 90.12 42 *e*P P 03 16 20.7 +0.2
comp=Z,32nm,1.1s,mb5.2
E14A Clinton 90.14 38 ⇑P P 03 16 19.2 -1.3
baz=90
B12A Libby 90.16 36 ⇓P P 03 16 20.0 -0.6
baz=90,SNR=6.5
IMW Indian Meadow 90.25 41 *e*P P 03 16 21.7 +0.6
comp=Z,34nm,1.2s,mb5.2
MOOW Moose Ponds 90.28 42 *e*P P 03 16 21.5 +0.2
comp=Z,18nm,1.4s,mb4.8
LOHW Long Hollow 90.30 42 *e*P P 03 16 21.5 +0.2
comp=Z,59nm,1.8s,mb5.2
F15A Butte 90.39 39 ⇑P P 03 16 21.4 -0.3
baz=91,SNR=7.3
A12A Yaak River Ran 90.40 35 ⇓P P 03 16 21.2 -0.4
baz=91,SNR=8.0
XAN Xi'an 90.43 307 P P 03 16 22.6 +0.4
XAN S S 03 27 02.0 -1.2
XAN AMB AMB
comp=Z,11nm,0.7s,mb4.9
XAN LR LR
comp=E,73nm,23.5s
XAN LR LR
comp=Z,110nm,17.6s
G16A Moss Hill, Enn 90.45 40 ⇑P P 03 16 21.9 -0.1
baz=91,SNR=15
QLMT Earthquake Lak 90.46 40 *e*P P 03 16 22.7 +0.6
I17A Pilgram Creek 90.48 42 ⇑P P 03 16 21.4 -0.8
baz=91,SNR=7.6
BW06 Boulder Array 90.50 43 ⇑P P 03 16 21.3 -1.0
baz=91,SNR=18
BW06 Boulder Array 90.50 43 *e*P P 03 16 21.6 -0.7
comp=Z,40nm,1.4s,mb5.2
PDAR Pinedale Array 90.50 43 P P 03 16 22.0 -0.3
comp=Z,10nm,0.9s,mb4.8,baz=207,slow=2.8,SNR=67
PDAR PP PP 03 19 56.4 -3.3
comp=Z,1.6nm,1.1s,baz=240,slow=2.9,SNR=3.7
PDAR PKKPbc PKKPbc 03 33 55.1 +4.5
comp=Z,1.1nm,0.9s,baz=93,slow=3.1,SNR=7.5
H16A Russell Place, 90.50 41 ⇓P P 03 16 22.4 +0.2
baz=91,SNR=25
D14A Greenough 90.50 38 ⇓P P 03 16 21.4 -0.8
baz=91,SNR=12
CHMT Chamberlain Mo 90.55 38 *e*P P 03 16 22.0 -0.4
E15A Deer Lodge 90.63 39 ⇑P P 03 16 22.4 -0.4
baz=91,SNR=9.6
SDCO Great Sand Dun 90.63 49 *e*P P 03 16 22.7 -0.4
comp=Z,23nm,1.5s,mb5.0
YMR Madison River 90.65 41 *e*P P 03 16 23.5 +0.6
comp=Z,71nm,1.5s,mb5.5
COLA College 90.79 12 *e*P P 03 16 22.4 -0.7
COLA pmax pmax
comp=Z,27nm,1.0s,mb5.2
COLA College 90.79 12 *e*P P 03 16 22.4 -0.7
comp=Z,27nm,1.0s,mb5.2
YNR Norris Junctio 90.84 41 *e*P P 03 16 24.1 +0.2
D15A Lincoln 91.04 38 ⇓P P 03 16 24.3 -0.4
baz=91,SNR=12
A13A Flathead Natio 91.06 36 ⇓P P 03 16 24.3 -0.5
baz=91,SNR=6.1
E16A East Helena 91.24 39 ⇑P P 03 16 25.2 -0.4
baz=92,SNR=5.1
HRY Holter Researc 91.25 39 *e*P P 03 16 25.6 -0.1
KMI Kunming 91.29 297 P P 03 16 26.8 +0.4
KMI AMB AMB
comp=Z,15nm,1.0s,mb5.0
B14A Marquette Ranc 91.36 37 P P 03 16 25.9 -0.3
baz=92,SNR=19
C15A Salmond Ranch, 91.40 38 ⇓P P 03 16 25.6 -0.8
baz=92,SNR=5.9
RWWY Rawlins 91.44 45 *e*P P 03 16 25.9 -0.8
comp=Z,52nm,1.5s,mb5.3
JCT Junction City 91.45 57 *e*P P 03 16 26.0 -1.0
JCT pmax pmax
comp=Z,26nm,1.1s,mb5.2
JCT Junction City 91.45 57 *e*P P 03 16 26.0 -1.1
comp=Z,26nm,1.1s,mb5.2
ISCO Idaho Springs 91.55 47 *e*P P 03 16 26.7 -0.6
ISCO pmax pmax
comp=Z,21nm,1.6s,mb4.9
ISCO Idaho Springs 91.55 47 *e*P P 03 16 26.6 -0.6
comp=Z,21nm,1.6s,mb4.9
D16A Dana Ranch, Ca 91.59 39 ⇓P P 03 16 26.6 -0.6
baz=92,SNR=11
CHRT Chiangrai 91.60 291 ⇓P P 03 16 28.0 0.0
comp=Z,313nm,1.0s,mb6.3
A14A Double T Ranch 91.62 36 ⇓P P 03 16 26.3 -1.1
baz=92,SNR=9.3
B15A Bradely Ranch, 91.72 37 ⇓P P 03 16 26.6 -1.3
baz=92
CMAR Chiang Mai Arr 91.76 289 P P 03 16 29.9 +1.2
comp=Z,29nm,0.9s,mb5.3,baz=123,slow=3.1,SNR=60
CMAR PP PP 03 20 08.6 -1.5
comp=Z,1.1nm,0.3s,baz=137,slow=6.5,SNR=5.5
HHC Hu-ho-hao-te 91.85 314 *e*P P 03 16 29.3 +0.7
HHC SKS 03 26 44.3
HHC S S 03 27 13.3 -2.4
HHC AMB AMB
comp=Z,15nm,1.1s,mb4.9
HHC AMB AMB
comp=Z,284nm,5.6s
HHC LR LR
comp=N,448nm,21.0s
HHC LR LR
comp=E,539nm,20.2s
HHC LR LR
comp=Z,319nm,20.8s
C16A Fuhringer Ranc 91.90 38 ⇑P P 03 16 27.8 -0.9
baz=92,SNR=7.6
CHG Chiang Mai 91.90 290 ⇑P P 03 16 31.1 +1.7
comp=Z,46nm,0.8s,mb5.6
CHTO Chiang Mai 91.90 290 *e*P P 03 16 30.0 +0.6
CHTO pmax pmax
comp=Z,40nm,0.9s,mb5.5
CHTO Chiang Mai 91.90 290 *e*P P 03 16 30.0 +0.6
comp=Z,40nm,0.9s,mb5.4
RLMT Red Lodge 91.91 41 ⇑P P 03 16 28.9 +0.1
baz=92,SNR=8.4

RLMT **Red Lodge** 91.91 41 *e*P P 03 16 28.9 +0.1
comp=Z,22nm,1.4s,mb5.0
DAWY **Dawson** 91.95 16 *e*P P 03 16 28.5 0.0
A15A **Johnson Ranch,** 92.00 37 ⇓P P 03 16 28.7 -0.4
baz=92,SNR=8.3
AMTX **Amarillo** 92.00 53 *e*P P 03 16 28.6 -0.9
comp=Z,5.3nm,0.6s,mb4.8
F18A **Big Timber** 92.05 40 ⇓P P 03 16 28.4 -1.0
baz=92,SNR=6.8
B16A **M & M Farms, S** 92.25 37 ⇓P P 03 16 29.1 -1.1
baz=92,SNR=5.8
E18A **Harlowton** 92.29 40 ⇑P P 03 16 30.3 -0.2
baz=92,SNR=9.9
C17A **Wharram Farm,** 92.36 38 ⇓P P 03 16 29.8 -1.0
baz=93,SNR=13
A16A **West Butte Ran** 92.61 37 ⇑P P 03 16 31.1 -0.8
baz=93,SNR=21
CD2 **Chengdu** 92.93 302 ⇑*i*P P 03 16 34.7 +0.8
CD2 PP PP 03 20 22.5 +3.4
CD2 SKS 03 26 50.2
CD2 S S 03 27 23.4 -2.4
CD2 SS SS 03 33 45.2 +0.9
CD2 AMB AMB
comp=Z,10.0nm,1.2s,mb4.8
CD2 AMB AMB
comp=Z,30nm,4.8s
CD2 LR LR
comp=N,880nm,12.0s
CD2 LR LR
comp=Z,600nm,8.4s
EGMT **Eagleton** 93.15 38 ⇑P P 03 16 33.8 -0.7
baz=93
TRQA **Tornquist** 93.87 134 *e*P P 03 16 37.7 -0.5
comp=Z,24nm,1.4s,mb5.1
EDM **Edmonton** 94.06 33 *e*P P 03 16 37.3 -1.2
HKT **Hockley** 94.33 59 *e*P P 03 16 40.7 +0.4
NNA **Nana** 94.61 105 *e*P P 03 16 42.3 +0.3
comp=Z,65nm,1.5s,mb5.6
YAK **Yakutsk** 94.99 338 *e*P P 03 16 43.0 +0.5
YAK pmax pmax
comp=Z,15nm,0.9s,mb5.2
ATAH **Atahualpa** 95.27 100 P P 03 16 47.2 +2.2
comp=Z,14nm,1.1s,mb5.1,baz=256,slow=3.5,SNR=8.2
JTS **JuntasAbangare** 96.04 81 P P 03 16 49.1 +0.7
comp=Z,7.4nm,0.8s,mb5.1,baz=312,slow=2.6,SNR=5.3
JTS **JuntasAbangare** 96.04 81 *e*P P 03 16 48.5 0.0
JTS pmax pmax
comp=Z,11nm,1.0s
JTS **JuntasAbangare** 96.04 81 *e*P P 03 16 48.5 +0.1
comp=Z,11nm,1.0s,mb5.1
DGMT **Dagmar** 96.59 40 ⇑P P 03 16 49.8 -0.3
baz=97
DGMT **Dagmar** 96.59 40 *e*P P 03 16 49.8 -0.4
comp=Z,10nm,0.9s,mb5.2
LVC **Limon Verde** 96.66 118 *e*P P 03 16 53.2 +2.0
comp=Z,7.6nm,1.0s,mb5.0
TEIG **Tepich** 96.83 71 LR LR 03 51 12.7
comp=Z,71nm,19.1s,baz=341,slow=30
ULN **Ulaanbaatar** 97.97 319 *e*P P 03 16 57.1 +0.7
ULN **Ulaanbaatar** 97.97 319 *e*P P 03 16 55.5 -0.8
comp=Z,3.0nm,0.8s,mb4.8
OTAV **Otavalo** 98.12 93 *e*P P 03 16 57.5 -0.5
comp=Z,2.5nm,0.9s,mb4.6
GTA **Gaotai** 99.33 309 *e*P Pdif 03 17 07.2 +4.6
GTA S S 03 28 19.8 -0.5
GTA AMB AMB
comp=Z,2.0nm,1.3s,mb4.4
GTA AMB AMB
comp=Z,111nm,5.7s
GTA LR LR
comp=N,150nm,13.8s
GTA LR LR
comp=E,180nm,13.8s
GTA LR LR
comp=Z,312nm,13.2s
LPAZ **La Paz** 100.29 113 P Pdif 03 17 09.5 +2.7
comp=Z,3.5nm,0.9s,baz=234,slow=4.1,SNR=13
WMQ **Urumqi** 109.32 310 PDIF Pdif 03 17 48.0 +1.0
WMQ PP PP 03 22 25.5 +3.3
WMQ S Sdif 03 29 40.5 -3.1
WMQ PP PP
comp=Z,309nm,5.0s
WMQ LR LR
comp=N,75nm,23.6s
WMQ LR LR
comp=E,69nm,20.6s
WMQ LR LR
comp=Z,69nm,19.3s
ZALV **Zalesovo Beam** 113.14 320 PKiKP PKiKP 03 21 55.6 -1.0
comp=Z,3.3nm,0.8s,baz=141,slow=5.0,SNR=6.5
MK31 **Makanchi Array** 113.66 312 *e*PKIKP PKiKP 03 21 56.7 -1.2
MKAR **Makanchi Array** 113.66 312 PKiKP PKiKP 03 21 56.9 -1.0
comp=Z,5.9nm,0.9s,baz=64,slow=6.7,SNR=12
MKAR PKKPbc PKKPbc 03 32 41.0 -1.7
comp=Z,2.3nm,0.8s,baz=276,slow=4.8,SNR=5.7
NVS **Novosibirsk** 114.17 321 *e*PKIKP PKiKP 03 22 01.8 +3.2
NVS *e* 03 28 28.9
KURK **Kurchatov** 116.56 316 PKP PKPdf 03 22 02.1 -1.3
comp=Z,5.8nm,0.8s,baz=78,slow=2.0,SNR=8.1
KURK PKKPbc PKKPbc 03 32 31.6 -1.1
comp=Z,0.5nm,0.3s,baz=273,slow=3.8,SNR=4.6
TKM2 **Tokmak 2** 117.83 307 *e*PKIKP PKPdf 03 22 05.8 -0.3
UCH **Uchtor** 118.55 307 *e*PKPdf PKPdf 03 22 08.1 +0.6
EKS2 **Erkin-Say** 119.14 307 *e*PKPdf PKPdf 03 22 09.1 +0.5
AML **Almayashu** 119.14 306 *e*PKPdf PKPdf 03 22 08.7 +0.1
OPO **Ambohidratompo** 119.91 230 PKP PKPdf 03 22 11.2 +0.4
comp=Z,1.4nm,0.7s,baz=42,slow=3.4,SNR=3.1
BVAR **Borovoye Array** 121.70 319 PKP PKPdf 03 22 12.8 -0.4
comp=Z,2.3nm,0.4s,baz=11,slow=1.5,SNR=15
BRVK **Borovoye** 121.76 319 *e*PKPdf PKPdf 03 22 14.5 +1.2
KBL **Kabul** 121.87 297 *e*PKIKP PKPdf 03 22 14.5 +0.4
SUR **Sutherland** 122.01 198 PKP PKPdf 03 22 15.1 +0.5
comp=Z,9.3nm,0.8s,baz=250,slow=2.1,SNR=4.8
SUR **Sutherland** 122.01 198 *e*PKPdf PKPdf 03 22 14.8 +0.2
SVE **Sverdlovsk** 126.72 325 *e*PKIKP PKPdf 03 22 22.8 +0.1
SVE pmax pmax
comp=Z,19nm,0.9s
LBTB **Lobatse** 127.12 206 PKP PKPdf 03 22 25.3 +0.7
comp=Z,4.5nm,1.1s,baz=232,slow=1.5,SNR=3.8
LBTB **Lobatse** 127.12 206 *e*PKPdf PKPdf 03 22 24.9 +0.4
ARU **Arti** 127.93 324 *i* PKIKP PKPdf 03 22 25.5 +0.5
ARU 03 29 12.9
ARU **Arti** 127.93 324 *e*PKPdf PKPdf 03 22 25.4 +0.4
KEV **Kevo** 131.37 349 *ep* PKPdf 03 22 30.3 -0.9
comp=Z,11nm,1.0s
KEV **Kevo** 131.37 349 *e*PKIKP PKPdf 03 22 30.3 -0.9
KEV pmax pmax
comp=Z,11nm,1.0s
ARCES **ARCESS Array B** 131.82 350 PKP PKPdf 03 22 32.5 +0.4
comp=Z,8.4nm,0.9s,baz=69,slow=1.0,SNR=16
ARCES SKPbc SKPbc 03 25 44.4 +1.7
comp=Z,20nm,1.0s,baz=19,slow=4.1,SNR=15
LSZ **Lusaka** 134.31 215 PKP PKPdf 03 22 38.5 +0.1
comp=Z,2.9nm,0.8s,baz=239,slow=2.2,SNR=7.2
LSZ SKPbc SKPbc 03 25 53.6 +0.8
comp=Z,1.5nm,0.4s,baz=104,slow=2.9,SNR=4.6
LSZ **Lusaka** 134.31 215 *e*PKPdf PKPdf 03 22 38.9 +0.5
LSZ *e*SKP 03 25 54.2
LSZ *e* 03 26 05.7
KLMR **Klimovskoe** 134.75 336 *e*PKIKP PKPdf 03 22 39.0 +1.2
TSUM **Tsumeb** 135.35 200 PKP PKPdf 03 22 40.1 -0.1
comp=Z,4.0nm,0.9s,baz=325,slow=1.7,SNR=4.5
TSUM **Tsumeb** 135.35 200 *e*PKPdf PKPdf 03 22 39.4 -0.9
TSUM *e*SKP 03 25 57.9
JOF **Joensuu** 136.03 342 *ep* PKPdf 03 22 38.4 -1.7
comp=Z,10nm,0.7s
JOF **Joensuu** 136.03 342 *e*PKIKP PKPdf 03 22 38.4 -1.7
JOF pmax pmax
comp=Z,10.0nm,0.7s
KAF **Kangasniemi** 138.06 344 *ep* PKPdf 03 22 43.9 0.0
comp=Z,5.7nm,0.7s
KAF **Kangasniemi** 138.06 344 *e*PKIKP PKPdf 03 22 43.9 0.0
KAF pmax pmax
comp=Z,6.0nm,0.7s
KMBO **Kilima Mbogo** 138.62 239 PKhKP 03 22 44.0
comp=Z,2.7nm,0.8s,baz=168,slow=2.9,SNR=6.1
KMBO SKPbc SKPbc 03 26 07.3 +1.4
comp=Z,14nm,1.1s,baz=31,slow=2.3,SNR=12
KMBO **Kilima Mbogo** 138.62 239 *e*PKPdf PKPdf 03 22 43.6 -2.8
KMBO *e*SKP 03 26 06.8
KMBO *e* 03 26 18.4
OBN **Obninsk** 139.58 331 ⇑*e*PKHKP 03 22 38.8
OBN *i* 03 22 46.1
OBN *e* 03 23 33.8
OBN pmax pmax
comp=Z,5.0nm,1.2s
OBN pmax pmax
comp=Z,17nm,0.9s
GNI **Garni** 140.99 306 ⇑*i*PKIKP PKPdf 03 22 49.1 -0.8
GNI **Garni** 140.99 306 *e*PKPdf PKPdf 03 22 49.2 -0.7
KIV **Kislovodsk** 141.42 312 *i* PKIKP PKPdf 03 22 47.5 -3.1
KIV pmax pmax
comp=Z,15nm,1.3s
NB2 **NORSAR Subarra** 141.85 353 PKP 03 22 45.0
comp=Z,1.5nm,0.6s,baz=16,slow=3.2
NOA **NORSAR Array B** 141.85 353 PKhKP 03 22 44.5
comp=Z,2.3nm,0.8s,baz=20,slow=2.6,SNR=7.5
NOA PKP PKPdf 03 22 50.7 -0.1
comp=Z,3.5nm,0.9s,baz=17,slow=4.6,SNR=9.2
NOA SKPbc SKPbc 03 26 14.7 +1.8
comp=Z,3.2nm,1.0s,baz=14,slow=4.2,SNR=4.1
NOA **NORSAR Array B** 141.85 353 PKHKP 03 22 44.5
NOA 03 22 50.7
NOA **NORSAR Array B** 141.85 353 PKP 03 22 44.5
NOA PKP PKPdf 03 22 50.7 -0.1
NOA SKPbc SKPbc 03 26 14.7 +1.8
NAO01 **NORSAR Array S** 142.08 354 *e*PKPdf PKPdf 03 22 49.6 -1.6
DBAD **Bademkaya** 143.02 308 *i* P PKPdf 03 22 49.9 -3.6
KONO **Kongsberg** 143.38 354 ⇑*i*PKIKP PKPdf 03 22 54.2 +0.7
ANN **Anapa** 144.59 316 *i* PKHKP 03 22 52.5
ANN pmax pmax
comp=Z,124nm,2.0s
MARD **Mardin** 144.63 302 *i* P PKPdf 03 22 55.1 -1.4
DIYA **Diyarbakir** 145.00 303 *i* P PKPdf 03 22 56.6 -0.4
KAC **Achnashellach** 145.35 8 ⇑*e*P PKPdf 03 22 56.6 -0.5
MCD **Coleburn Disti** 145.49 6 ⇑*e*P PKPdf 03 22 56.4 -0.9
MDO **Dochfour** 145.52 7 *e*P PKPdf 03 22 57.9 +0.6
ELZG **Elazig** 145.72 305 *i* P PKPbc 03 23 00.1 +1.1
SUW **Suwalki** 145.73 339 *e*PKPdf PKPdf 03 22 57.9 +0.2
SUW **Suwalki** 145.73 339 *e*PKPbc PKPbc 03 22 57.9 -0.6
SUW *ep*PKPdf pPKPdf 03 23 42.2 +1.2
AKASG **Malin Array Be** 145.82 330 PKPbc PKPbc 03 22 57.7 -1.2
comp=Z,31nm,0.7s,baz=40,slow=4.1,SNR=66
AKASG SKPbc SKPbc 03 26 23.4 +0.7
comp=Z,7.9nm,0.8s,baz=44,slow=2.5,SNR=10
AKBB **Malin Array Si** 145.82 330 *e*PKIKP PKPdf 03 22 57.7 -0.3
KIEV **Kiev** 145.84 330 *e*PKIKP PKPdf 03 22 57.6 -0.5
ATAB **Bozova** 146.51 303 *i* P PKPbc 03 23 01.5 +0.2
MUD **Monsted U'grnd** 146.57 354 ⇓*i*PKP2 PKPbc 03 23 00.8 -0.1
MUD pmax pmax
comp=Z,80nm,1.1s
MUD **Monsted U'grnd** 146.57 354 ⇓*i*P PKPbc 03 23 00.8 -0.1
comp=Z,80nm,1.1s
AKCD **Akcadag** 146.58 305 *i* P PKPbc 03 23 01.9 +0.4
SIM **Simferopol'** 146.60 318 *de*PKP2 PKPab 03 23 02.1 -0.7
SIM pmax pmax
comp=Z,64nm,0.7s
EAB **Aberfoyle** 146.75 7 *e*P PKPdf 03 22 57.7 -1.7
EBH **Black Hill** 146.78 6 *e*P PKPdf 03 23 00.8 +1.3
COP **Copenhagen** 146.90 350 *e*PKP2 PKPbc 03 23 01.6 -0.2
COP pmax pmax
comp=Z,26nm,1.2s
COP **Copenhagen** 146.90 350 *i* P PKPbc 03 23 01.6 -0.2
comp=Z,26nm,1.2s
GZT **Gaziantep** 147.10 303 *i* P PKPbc 03 23 03.3 +0.3
EDI **Edinburgh** 147.13 6 *e*P PKPdf 03 23 00.1 0.0
EAU **Auchinoon** 147.18 7 *e*P PKPdf 03 22 58.8 -1.4
ESY **Stoneypath** 147.19 6 *e*P PKPbc 03 23 01.3 -1.4
EBL **Broad Law** 147.30 6 ⇑*e*P PKPbc 03 23 02.4 -0.6
PINB **Pinarbasi** 147.60 306 *i* P PKPbc 03 23 04.4 0.0
XSO **Sourhope Farm** 147.65 5 ⇑*e*P PKPbc 03 23 02.2 -1.6
ESK **Eskdalemuir** 147.73 6 *e*P PKPbc 03 23 02.8 -1.3
ESK **Eskdalemuir** 147.73 6 *e*PKPbc PKPbc 03 23 03.1 -1.0
ECK **Cauldkaine Hil** 147.87 6 ⇑*e*P PKPbc 03 23 03.5 -1.0
ANDN **Andirin** 147.97 304 *i* P PKPbc 03 23 05.6 +0.2
GAL1 **Galloway** 148.00 8 ⇑*e*P PKPbc 03 23 03.7 -1.2
CTKT **Corum** 148.08 310 *i* P PKPbc 03 23 05.7 +0.1
GKP **Gorka Klasztor** 148.15 344 *e*PKP PKPbc 03 23 05.3 0.0
XAL **Allendale** 148.28 6 ⇑*e*P PKPbc 03 23 04.7 -0.9
COBT **Iskenderun** 148.34 302 *i* P PKPbc 03 23 06.7 +0.3
GIM **North Isle of** 148.59 8 *e*P PKPbc 03 23 05.8 -0.6
ILGA **Ilgaz** 148.65 312 *i* P PKPbc 03 23 07.6 +0.6
BALT **Daday** 148.67 313 *i* P PKPbc 03 23 07.2 +0.1
ASF **Jabal al Asfar** 148.68 294 PKPbc PKPbc 03 23 08.0 +0.6
comp=Z,30nm,0.9s,baz=354,slow=1.5,SNR=52
AVNT **Avonos** 148.71 307 *i* P PKPdf 03 23 04.5 +1.3
YURE **YUREGIR** 148.74 303 *i* P PKPbc 03 23 06.5 -0.9
LVV **L'vov** 148.75 333 ⇑*i*PKP2 PKPbc 03 23 06.6 -0.4
CDAG **Cicekdag** 148.76 309 *i* P PKPbc 03 23 06.7 -0.6
BSEG **Bad Segeberg** 148.91 351 *e*PKPbc PKPbc 03 23 07.1 -0.1
DCN **Croghan** 149.06 12 ⇑*i*P PKPbc 03 23 06.7 -0.9
ELDT **Eldivan** 149.09 311 *i* P PKPbc 03 23 08.1 0.0
HPK **Haverah Park** 149.22 5 *e*P PKPbc 03 23 07.4 -0.6
DLF **Lyons Farm** 149.24 11 *i* P PKPbc 03 23 07.0 -1.0
BR131 **Keskin Array S** 149.24 309 *e*PKPbc PKPbc 03 23 07.7 -0.8
GULE **Gulek** 149.25 304 *i* P PKPdf 03 22 55.2 -8.9
BHL **Bhannes** 149.42 298 *e*P PKPbc 03 23 09.4 +0.2
KWP **Kalwaria** 149.44 334 *e*PKP PKPbc 03 23 08.8 +0.1
KWP **Kalwaria** 149.44 334 ⇑*i*P PKPbc 03 23 08.6 -0.1
KWP **Kalwaria** 149.44 334 *e*PKPbc PKPbc 03 23 08.3 -0.4
TLCR 149.61 322 ⇑*i*P PKPbc 03 23 09.4 +0.2
TLCR 149.61 322 ⇑*e*P PKPbc 03 23 09.4 +0.2
LHO **Holmfirth** 149.61 6 ⇑*e*P PKPbc 03 23 08.3 -0.7
RUE **Ruedersdorf** 149.70 347 *e*PKPbc PKPbc 03 23 09.4 +0.2
RUE *e*PKPab PKPab 03 23 14.5 -0.4
BUR08 **Bucovina Ar. S** 149.85 329 *e*PKPbc PKPbc 03 23 10.3 +0.6
BURAR **Bucovina Array** 149.87 329 ⇑*i*P PKPbc 03 23 10.6 +0.8
BURAR **Bucovina Array** 149.87 329 ⇑P PKPbc 03 23 10.6 +0.9
KBI1 **Birley Grange** 149.93 5 ⇑*e*P PKPbc 03 23 09.0 -0.7
MEST **Erdemli** 149.95 303 *i* P PKPbc 03 23 10.2 -0.2
OJC **Ojcow** 150.04 338 *e*PKP PKPbc 03 23 10.2 +0.1
SBD1 **Bryn Du** 150.10 7 ⇑*e*P PKPbc 03 23 09.4 -0.8
KWE **Weaver Farm** 150.14 6 ⇑*e*P PKPbc 03 23 09.8 -0.5
KOLS **Kolonicke sedl** 150.17 334 *e*PKP PKPbc 03 23 10.8 +0.3
STHS **Stebnicka Huta** 150.18 335 *e*PKP PKPbc 03 23 11.0 +0.5
ODB **Odobesti** 150.20 325 ⇑*i*P PKPbc 03 23 11.6 +1.0
TIRR **Tirgusor** 150.27 321 PKIKP PKPbc 03 23 11.0 +0.1
TIRR **Tirgusor** 150.27 321 ⇓*i*P PKPbc 03 23 10.8 -0.1
VRI **Vrincioaia** 150.31 325 PKIKP PKPbc 03 23 11.1 +0.2
VRI **Vrincioaia** 150.31 325 ⇑*i*P PKPbc 03 23 11.0 +0.1
NRDL **Niedersach Rie** 150.34 351 *e*PKPbc PKPbc 03 23 10.7 0.0
PLOR **Plostina** 150.37 325 ⇓*i*P PKPbc 03 23 11.2 +0.2
UZH **Uzhgorod** 150.40 333 *e*PKIKP PKPbc 03 23 12.3 +1.3
UZH *e* 03 23 14.0
HARR **Harsova** 150.41 322 ⇑*i*P PKPbc 03 23 10.2 -1.0
CWF **Charnwood Fore** 150.46 5 ⇑*e*P PKPbc 03 23 10.1 -0.9
PHNC **Paralimni** 150.47 300 P PKPbc 03 23 11.1 -0.6
CRVS **Cervenica-Dubn** 150.51 335 *e*PKP PKPbc 03 23 11.6 +0.3
HLM1 **Long Mynd** 150.52 7 ⇑*e*P PKPbc 03 23 10.4 -0.8
NIE **Niedzica** 150.53 336 *e*PKP PKPbc 03 23 12.2 +0.9
KSP **Ksiaz** 150.59 342 *e*PKP PKPbc 03 23 12.1 +0.7
KSP **Ksiaz** 150.59 342 ⇓*i*PKP PKPbc 03 23 12.0 +0.6
KSP *ep*PKPdf 03 23 50.8 +1.8
EIL **Elat** 150.61 289 PKPbc PKPbc 03 23 12.5 +0.3
comp=Z,57nm,1.0s,baz=348,slow=2.8,SNR=35
EIL PKPab PKPab 03 23 20.2 +0.7
comp=Z,22nm,0.8s,baz=279,slow=9.1,SNR=6.7
HENT **Hendek** 150.67 313 *i* P PKPbc 03 23 11.3 -0.6
IBBN **Ibbenburen** 150.81 354 *e*PKPbc PKPbc 03 23 12.0 +0.1
IBBN *ep*PKPbc pPKPbc 03 23 57.8 +3.0
HTR **Trewern Hill** 150.91 8 ⇑*e*P PKPbc 03 23 10.8 -1.3
OKC **Ostrava-Krasne** 150.93 339 *e*PKPbc PKPbc 03 23 12.3 +0.1
OKC *e*PKPab PKPab 03 23 16.8 -3.3
CLZ **Clausthal** 150.93 350 *e*PKPbc PKPbc 03 23 12.3 +0.1
CLL **Collm** 150.97 347 ⇑*i*PKIKP PKPdf 03 23 08.3 +1.9
CLL *e* 03 23 58.0
CLL pmax pmax
comp=Z,3.0nm,1.1s
CLL pmax pmax
comp=Z,46nm,0.8s
CLL **Collm** 150.97 347 *e*PKPbc PKPbc 03 23 12.0 -0.3
CLL **Collm** 150.97 347 ⇑*i*PKPbc PKPbc 03 23 12.0 -0.3
comp=Z,46nm,0.8s
CLL *e*PKPab PKPab 03 23 18.0 -2.2
comp=Z,55nm,1.0s
CLL *i* x x 03 23 35.8
CLL *ep*PKPab pPKPab 03 23 58.0 -3.9
comp=Z,24nm,1.0s
CLL *e*PP PP 03 26 49.0 -1.5
CLL **Collm** 150.97 347 *i* PKP PKPdf 03 23 08.3 +1.9
CLL ⇑*i*PKP PKPbc 03 23 12.0 -0.3
CLL *ep*PKP pPKPdf 03 23 58.0 +8.4
UPC **Upice** 150.97 343 *e*PKPbc PKPbc 03 23 12.7 +0.4
MCH1 **Michaelchurch** 151.02 7 ⇑*e*P PKPbc 03 23 11.4 -0.9
DPC **Dobruska-Polom** 151.03 342 *e*PKPbc PKPbc 03 23 12.8 +0.4
DPC *e*PKPab PKPab 03 23 17.5 -3.0
CSS **Prodhromos** 151.04 301 P PKPbc 03 23 12.9 -0.1
comp=Z,1.2nm,1.1s
MAMC **Mammari** 151.07 301 P PKPbc 03 23 13.4 +0.3
BRG **Berggiesshubel** 151.16 345 *i* PKIKP PKPbc 03 23 12.9 +0.2
BRG pmax pmax
comp=Z,19nm,0.7s
BRG pmax pmax
comp=Z,12nm,1.0s
BRG pmax pmax
comp=N,5.0nm,1.3s
BRG **Berggiesshubel** 151.16 345 *e*PKPbc PKPbc 03 23 12.6 -0.1
BRG **Berggiesshubel** 151.16 345 *i* PKP PKPbc 03 23 12.9 +0.2
comp=N,31nm,0.7s
BRG *ep*PKP pPKPbc 03 23 57.9 +2.3
comp=N,20nm,1.0s
BRG *e*SKKS 03 38 02.7
comp=N,8.7nm,1.3s
MORC **Moravsky Berou** 151.17 340 *e*PKPdf PKPdf 03 23 06.0 -0.8
MORC *e*PKPbc PKPbc 03 23 12.3 -0.5
WTSB **Winterswijk** 151.24 355 *e*PKP PKPdf 03 23 12.5 +5.7
comp=N,64nm,1.1s
WTSB **Winterswijk** 151.24 355 *ex* x 03 23 55.8
ESKT **Eskisehir** 151.29 311 *i* P PKPbc 03 23 12.9 -0.6
PVCC **Panska Ves** 151.33 344 *e*PKPbc PKPbc 03 23 13.3 +0.2
PVCC *e*PKPab PKPab 03 23 18.2 -3.6
HGH **Gray Hill** 151.40 7 *e*P PKPbc 03 23 12.4 -0.9
BORA **Eskisehir** 151.40 312 *i* P PKPbc 03 23 13.4 -0.2
VOIR 151.47 326 ⇓*i*P PKPbc 03 23 15.4 +1.8
ALFC **Alevga** 151.56 301 P PKPbc 03 23 13.7 -0.5
comp=N,1.7nm,0.7s
DRGR 151.63 331 ⇑*i*P PKPbc 03 23 13.6 -0.3
DRGR 151.63 331 P PKPbc 03 23 14.4 +0.4
BUG **Bochum--Univer** 151.72 354 *e*PKPbc PKPbc 03 23 13.9 -0.1
BUG *ep*PKPbc pPKPbc 03 23 59.8 +2.9
PRU **Pruhonice** 151.84 344 *e*PKPbc PKPbc 03 23 14.4 +0.1
PRU *ex* x 03 23 19.1
VYHS **Vyhne** 151.84 337 *e*PKP PKPbc 03 23 14.2 -0.2
PPCY **Paphos** 151.84 301 P PKPbc 03 23 14.1 -0.7
MOX **Moxa** 151.87 348 *e*PKP PKPbc 03 23 13.4 -1.0
comp=N,39nm,1.4s
MOX **Moxa** 151.87 348 *e*PKIKP PKPbc 03 23 13.4 -1.0
MOX pmax pmax
comp=Z,39nm,1.4s
KOLL **Kolacno** 151.92 338 *e*PKP PKPbc 03 23 16.1 +1.6
TANN **Tannenbergstha** 151.92 347 *e*PKPbc PKPbc 03 23 14.4 -0.1
PSZ **Piszkesteto** 151.93 335 *e*PKP PKPbc 03 23 16.0 +1.4
PSZ **Piszkesteto** 151.93 335 ⇑*i*P PKPbc 03 23 15.4 +0.8
PSZ **Piszkesteto** 151.93 335 *e*PKPdf PKPdf 03 23 07.1 -0.9
PSZ *e*PKPbc PKPbc 03 23 13.8 -0.7
PSZ P 03 23 14.2
PSZ *e*PKPab PKPab 03 23 23.9 -0.4
UBBA **Unterbreizbach** 151.98 350 *e*PKPab PKPab 03 23 23.5 -1.0
NKC **Novy Kostel** 152.10 347 *e*PKPbc PKPbc 03 23 14.8 -0.1
NKC *ex* x 03 23 19.5
TREC **Trest** 152.21 342 *e*PKPbc PKPbc 03 23 15.0 -0.2
TREC *ex* x 03 23 20.3
GDZ **Gediz** 152.43 311 *i* P PKPbc 03 23 17.4 +1.4
MODS **Modra-Piesok** 152.48 339 *e*PKP PKPbc 03 23 16.8 +1.0
MODS **Modra-Piesok** 152.48 339 *e*PKP PKPbc 03 23 16.9 +1.1
BEBN **Eben Emael** 152.48 356 PKPab PKPab 03 23 25.9 -0.7
HGN **Heimansgroeve** 152.50 356 *e*PKP PKPbc 03 23 15.3 -0.5
comp=Z,32nm,0.9s
HGN **Heimansgroeve** 152.50 356 *ex* x 03 23 59.0
UCC **Uccle** 152.54 358 PKPbc PKPbc 03 23 15.8 -0.1
UCC E 03 23 21.6
UCC PKPab PKPab 03 23 26.7 -0.8
ROTZ **Rotzenmuhle** 152.59 347 *e*PKPab PKPab 03 23 26.3 -0.8
ROTZ *ep*PKPbc pPKPbc 03 24 01.8 +2.9
BUD **Budapest** 152.62 336 *e*PKP PKPbc 03 23 17.9 +1.8
GZR **Gura Zlata** 152.64 328 PKIKP PKPbc 03 23 15.2 -1.0
GZR **Gura Zlata** 152.64 328 ⇓*i*P PKPbc 03 23 17.5 +1.3
MEM **Membach** 152.65 356 PKPbc PKPbc 03 23 16.0 -0.1
MEM E 03 23 21.6
MEM APKP 03 24 00.7
TNS **Taunus Mts** 152.79 352 *e*PKPbc PKPbc 03 23 16.4 0.0
TNS *e*PKPab PKPab 03 23 27.2 -0.7
SNF **Seneffe** 152.84 358 PKPbc PKPbc 03 23 16.5 0.0
SNF E 03 23 22.2
SNF PKPab PKPab 03 23 27.7 -0.4
SNF APKP 03 24 02.7
GRA1 **Grafenberg Arr** 152.86 348 *e*PKPab PKPab 03 23 27.8 -0.4
GRF **Grafenberg Arr** 152.86 348 *e*PKPab PKPab 03 23 27.8 -0.4
KHC **Kasperske Hory** 152.87 344 *e*PKPdf PKPdf 03 23 09.0 -0.3
KHC PKPbc PKPbc 03 23 16.3 -0.3
KHC *ex* x 03 23 20.7
KHC **Kasperske Hory** 152.87 344 *e*PKP PKPdf 03 23 09.0 -0.3
KHC *e* 03 23 16.3
KHC *e* 03 23 20.7
BCLA **Clavier** 152.88 357 PKPbc PKPbc 03 23 16.0 -0.6
BCLA E 03 23 22.9
BCLA PKPab PKPab 03 23 27.7 -0.6
BCLA APKP 03 23 59.3
DURS **Dursunbey** 152.88 313 *i* P PKPbc 03 23 17.5 +0.5
DEMI **Demirci** 152.98 311 *i* P PKPbc 03 23 16.9 -0.4
BZS **Buzias** 153.02 330 ⇑*i*P PKPbc 03 23 18.5 +1.4
BZS **Buzias** 153.02 330 P PKPbc 03 23 18.3 +1.2
WET **Wettzell** 153.03 345 *e*PKPbc PKPbc 03 23 17.2 +0.2
WET *e*PKPab PKPab 03 23 28.7 -0.2
WET *ep*PKPbc pPKPbc 03 24 02.6 +2.7
GEC2 **GERESS Array S** 153.10 344 *e*PKPbc PKPbc 03 23 17.0 -0.2
GERES **GERESS Array B** 153.10 344 PKP PKPdf 03 23 09.2 -0.4
comp=Z,0.9nm,0.8s,baz=329,slow=1.6,SNR=6.3
GERES PKPbc PKPbc 03 23 17.2 0.0
comp=Z,6.4nm,0.8s,baz=87,slow=2.8,SNR=21
ABH **Alteburg** 153.23 353 PKP PKPbc 03 23 16.1 -1.3
DOU **Dourbes** 153.24 357 PKPbc PKPbc 03 23 17.5 +0.1
DOU E 03 23 24.2
DOU APKP 03 24 02.9
SOP **Sopron** 153.32 339 *e*PKP PKPbc 03 23 17.8 +0.1
CONA **Conrad Observa** 153.33 340 ⇓*i*PKiKP PKiKP 03 23 17.6 -0.2
comp=Z,34nm,0.9s
TOD **Tromm** 153.34 351 PKIKP PKPbc 03 23 15.6 -2.0
BALY **Balya** 153.38 314 *i* P PKPbc 03 23 16.5 -1.5
RUP **Ruppelstein** 153.46 354 PKIKP PKPbc 03 23 16.3 -1.6
AKAS **Kas** 153.52 305 *i* P PKPbc 03 23 17.5 -0.9
WLF **Walferdange** 153.57 355 *e*PKPbc PKPbc 03 23 18.8 +0.7
WLF *e*PKPab PKPab 03 23 30.7 -0.5
WLF *ep*PKPbc pPKPbc 03 24 04.8 +3.7
WLF **Walferdange** 153.57 355 *e*PKPdf PKPdf 03 23 10.0 -0.3
WLF *e*PKPbc PKPbc 03 23 18.1 -0.1
WLF PKPbc PKPbc 03 23 18.1 0.0
WLF PKPab PKPab 03 23 30.7 -0.5
WLF APKP 03 24 05.0
WLF **Walferdange** 153.57 355 PKP PKPdf 03 23 12.6 +2.3
PKSM **Moragy** 153.82 335 ⇑*i*P PKPdf 03 23 10.4 -0.4
PKSM **Moragy** 153.82 335 ⇑P PKPdf 03 23 10.4 -0.3
PKSM P 03 23 17.0
LANF **Langenberg** 154.09 352 PKP PKPbc 03 23 17.6 -1.7
STU **Stuttgart** 154.10 350 *e*PKPbc PKPbc 03 23 17.8 -1.5
STU **Stuttgart** 154.10 350 *e*PKPdf PKPdf 03 23 10.1 -1.0
STU *e*PKPbc PKPbc 03 23 17.9 -1.4
STU *e*PKPab PKPab 03 23 30.0 -0.5
FUR **Furstenfeldbru** 154.30 347 *e*PKPab PKPab 03 23 33.9 -0.5
VTS **Vitosha** 154.38 323 ⇓*i*P PKPbc 03 23 16.4 -3.7
ROSF **Rostrenen** 154.57 9 *e*PKIKP PKPdf 03 23 10.9 -0.8
BFO **Black Forest** 154.66 351 *e*PKIKP PKPbc 03 23 18.2 -2.3
BFO *e* 03 23 34.9
BFO **Black Forest** 154.66 351 *e*PKPab PKPab 03 23 34.9 -1.0
PERS **Pernice** 154.71 340 *i* PKPdf PKPbc 03 23 17.4 -3.3
PERS *i* PKPbc PKPbc 03 23 24.9 +4.3
SGMF **Saint Gilles** 154.75 8 *e*PKIKP PKPdf 03 23 11.5 -0.5
ECH **Echery** 154.91 353 *e*PKIKP PKPbc 03 23 18.8 -2.2
ECH *e* 03 23 36.1
FELD **Feldberg im Sc** 155.15 352 PKP PKPdf 03 23 18.5 +6.0
HINF **Hinteralfeld** 155.34 353 *e*PKIKP PKPdf 03 23 11.7 -1.1
comp=Z,7.9nm,1.0s
FETA **Feichten** 155.51 347 ⇑*i*PKPdf PKPdf 03 23 13.1 0.0
comp=Z,17nm,1.0s,SNR=6.3
VISS **Visnje** 155.53 339 *i* PKPdf PKPdf 03 23 12.1 -1.0
VISS *i* PKPbc PKPdf 03 23 18.8 +5.7
VISS *i* PKPab PKPab 03 23 27.1 -13
VISS *e* 03 23 39.3
BOJS **Bojanci** 155.66 338 *e*PKPdf PKPdf 03 23 12.6 -0.8
BOJS *i* PKPbc PKPdf 03 23 19.1 +5.8
BOJS *i* PKPab PKPab 03 23 27.6 -13
BOJS *i* 03 23 54.4
JAVS **Javornik** 155.70 341 *i* PKPdf PKPdf 03 23 19.3 +5.9
JAVS *i* PKPbc PKPdf 03 23 27.3 +14
JAVS *i* PKPab PKPab 03 23 39.2 -1.2
JAVS *i* 03 24 22.4
TRI **Trieste** 155.96 341 *e*PKIKP PKPdf 03 23 12.8 -0.9
TRI *e* 03 23 40.0
LOR **Lormes** 156.09 358 *e*PKIKP PKPdf 03 23 13.1 -0.7

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
	comp=Z,16nm,1.3s						
HYF	Humbligny	156.10	0	ePKIKP	PKPdf	03 23 13.4	-0.4
SSF	Saint Saulge	156.30	359	ePKIKP	PKPdf	03 23 13.5	-0.6
	comp=Z,11nm,1.1s						
TUE	Stuetta	156.30	349	ePKPdf	PKPdf	03 23 14.1	0.0
TUE				ePKPab	PKPab	03 23 42.6	-0.4
SANT	Santorini	156.51	309	ePKPdf	PKPdf	03 23 14.3	-0.5
AVF	Avril sur Loir	156.58	359	ePKIKP	PKPdf	03 23 13.6	-0.9
	comp=Z,5.5nm,1.0s						
CABF	La Chapelle	156.61	354	ePKIKP	PKPdf	03 23 14.3	-0.2
	comp=Z,18nm,1.0s						
SMF	Signal de Mont	156.71	358	ePKIKP	PKPdf	03 23 13.6	-1.1
TCF	Toulx Ste Croi	157.08	1	ePKIKP	PKPdf	03 23 14.5	-0.6
	comp=Z,7.2nm,0.9s						
AGO	Saint Agoulin	157.32	359	PKP	PKPdf	03 23 23.6	+8.2
PLDF	La Plantade	157.39	359	PKP	PKPdf	03 23 24.3	+8.8
LPL	La Plagne	157.63	353	ePKIKP	PKPdf	03 23 15.6	-0.2
LPG	La Plagne	157.64	353	ePKIKP	PKPdf	03 23 15.8	-0.1
BNI	Bardonecchia	158.09	353	ePKPdf	PKPdf	03 23 13.4	-3.1
BNI				ePKPdif		03 23 23.9	
BNI				ePKPab	PKPab	03 23 50.5	-0.2
MBDF	Montbardon	158.40	352	ePKIKP	PKPdf	03 23 16.3	-0.5
PCAB	Cabril	159.54	24	ePKPab	PKPab	03 23 56.8	-0.4
FRF	La Foret Royal	159.56	352	ePKIKP	PKPdf	03 23 17.0	-1.2
	comp=Z,14nm,1.0s						
LMR	La Mourre	159.80	352	ePKIKP	PKPdf	03 23 17.3	-1.2
	comp=Z,15nm,1.1s						
PVRL	Vila Real	160.03	24	ePKPab	PKPab	03 23 59.0	-0.3
PGF	Pioggiola	160.14	346	ePKIKP	PKPdf	03 23 19.1	+0.2
	comp=Z,60nm,1.4s						
EPF	Esparros	160.23	5	ePKIKP	PKPdf	03 23 18.4	-0.6
	comp=Z,9.8nm,0.9s						
TIP	Timpagrande	160.24	326	ePKPdf	PKPdf	03 23 16.3	-2.9
TIP				ePKPdif		03 23 25.2	
TIP				ePKPab	PKPab	03 23 59.2	-1.1
MVO	Moncorvo	160.38	23	ePKPdf	PKPdf	03 23 19.6	+0.4
MVO	Moncorvo	160.38	23	ePKPab	PKPab	03 24 00.6	-0.2
PVIS	Viseu	160.45	25	ePKPab	PKPab	03 24 00.8	-0.4
MTE	Manteigas	160.86	25	ePKPdf	PKPdf	03 23 19.8	0.0
MTE	Manteigas	160.86	25	ePKPab	PKPab	03 24 02.7	-0.3
MTE	Manteigas	160.86	25	ePKPdf	PKPdf	03 23 18.9	-0.8
MTE				ePKPab	PKPab	03 24 02.0	-0.9
PTOM	Tomar	161.17	28	ePKPdf	PKPdf	03 23 20.3	+0.2
PTOM	Tomar	161.17	28	ePKPab	PKPab	03 24 03.8	-0.5
PCBR	Castelo Branco	161.37	25	ePKPdf	PKPdf	03 23 19.9	-0.4
PCBR				iP		03 23 29.2	
PCBR	Castelo Branco	161.37	25	ePKPab	PKPab	03 24 04.6	-0.6
LIC	Lamto	161.40	155	ePKP2	PKPab	03 24 06.0	0.0
	comp=Z,68nm,1.2s						
LIC	Lamto	161.40	155	eP	PKPab	03 24 05.3	-0.7
	comp=Z,86nm,1.3s						
KIC	Kosan Boka	161.64	155	eP	PKPab	03 24 06.7	-0.3
	comp=Z,89nm,1.0s						
PMRV	Marv??o	161.75	26	ePKPdf	PKPdf	03 23 20.6	-0.1
PMRV	Marv??o	161.75	26	ePKPab	PKPab	03 24 06.3	-0.6
TIC	Toumodi	161.79	154	eP	PKPab	03 24 07.0	-0.7
	comp=Z,137nm,1.1s						
DBIC	Dimbokro	161.88	155	PKP	PKPdf	03 23 20.7	-1.0
	comp=Z,5.5nm,0.9s,baz=113,slow=2.9,SNR=5.3						
DBIC				PKPab	PKPab	03 24 07.4	-0.6
	comp=Z,13nm,1.0s,baz=198,slow=5.3,SNR=6.6						
DBIC	Dimbokro	161.88	155	ePKPdf	PKPdf	03 23 20.2	-1.5
DBIC				ePKPab	PKPab	03 24 08.0	0.0
PESTR	Estremoz	162.15	27	ePKPab	PKPab	03 24 08.0	-0.6
EVO	Evora	162.24	29	⇑iPKIKP	PKPdf	03 23 21.2	-0.1
	comp=Z,21nm,1.3s						
EVO	Evora	162.24	29	ePKPdf	PKPdf	03 23 21.1	-0.2
EVO				iP		03 23 30.5	
EVO	Evora	162.24	29	ePKPab	PKPab	03 24 08.4	-0.7
PTEO	Sao Teotonio	162.70	32	iP	PKPdf	03 23 30.9	+9.2
PTEO	Sao Teotonio	162.70	32	ePKPab	PKPab	03 24 10.8	-0.3
ESDC	Sonseca Array	162.71	18	PKP	PKPdf	03 23 22.0	+0.3
	comp=Z,0.4nm,0.7s,baz=0.4,slow=4.3,SNR=5.3						
ESDC				PKPab	PKPab	03 24 10.5	-0.5
	comp=Z,1.7nm,0.8s,baz=314,slow=2.5,SNR=8.1						
ESDC				PP	PP	03 27 56.6	+1.3
	comp=Z,0.1nm,0.4s,baz=346,slow=5.4,SNR=4.2						
PBEJ	Beja	162.72	30	ePKPdf	PKPdf	03 23 21.8	0.0
PBEJ				iP		03 23 30.3	
MORF	Marmelete	162.93	33	ePKPdf	PKPdf	03 23 22.6	+0.6
MORF				iP		03 23 31.6	
PBAR	Barrancos	162.96	27	ePKPdf	PKPdf	03 23 22.1	+0.1
PBAR				iP		03 23 31.4	
PFVI	Vila Bisbo	162.97	33	ePKPdf	PKPdf	03 23 22.0	0.0
PBDV	Barranco-do-Ve	163.32	31	ePKPdf	PKPdf	03 23 23.3	+0.9
PBDV				iP		03 23 31.9	
KEST	Kesra	166.39	337	PKPab	PKPab	03 24 29.2	+1.9
	comp=Z,2.8nm,0.8s,baz=5.5,slow=5.5,SNR=6.0						
TOA0	Torodi Ar. Sit	169.83	174	ePKPdf	PKPdf	03 23 26.2	-1.7
TOA0				ePKPab	PKPab	03 24 42.6	-0.4
TORD	Torodi Ar. Bea	169.83	174	PKP	PKPdf	03 23 26.4	-1.5
	comp=Z,7.8nm,0.9s,baz=314,slow=1.2,SNR=33						
TORD				PKPab	PKPab	03 24 42.5	-0.4
	comp=Z,11nm,1.0s,baz=191,slow=4.0,SNR=19						
TORD				PP	PP	03 28 34.2	+2.6
	comp=Z,6.8nm,1.3s,baz=164,slow=5.3,SNR=5.8						
TORD	Torodi Ar. Bea	169.83	174	PKP	PKPdf	03 23 26.4	-1.5
TORD				PKPab	PKPab	03 24 42.5	-0.4
TORD				PP	PP	03 28 34.2	+2.6
TAM	Tamanrasset	177.45	259	ePKIKP	PKPdf	03 23 29.7	-0.8
TAM				e		03 25 17.7	
TAM	Tamanrasset	177.45	259	ePKPdf	PKPdf	03 23 29.7	-0.9
TAM				ePKPab	PKPab	03 25 17.7	+0.7
TAM				e		03 25 38.5	

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*ISCJB **06** 03:15:23.2±1.1, 3600N±006×2152E±007, h10^{km}, Error ellipse: s-maj=9.4km s-min=7.7km az=36.5*
*CSEM **06** 03:15:23.3±0.3, 36.11N×2158E, h2^{km}, ML3.2/4, Error ellipse: s-maj=7.0km s-min=2.8km az=48.0*
*THE **06** 03:15:24.5, 3599N×2153E, h18^{km}±4^{km}, ML3.2/4, Error ellipse: s-maj=5.0km s-min=2.3km az=190.0*
*NEIC **06** 03:15:28.0, 3628N×2178E, h29^{km}, MD3.6(ATH), After ATH.*
*ATH **06** 03:15:28.0, 3628N×2178E, h29^{km}±4^{km}, MD3.6/4*
ISC 06 03:15:23.7±1.1**, 3599N**±006×**2156E**±008**, h10**^{km}**, n19,** σ**0^{s}73**/24**, Central Mediterranean Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PYL	PYLOS	0.91	9	P	Pg	03 15 41.3	0.0
PYL				S	Sg	03 15 54.6	+1.4
ITM	Ithomi	1.22	14	ePn	Pn	03 15 45.9	-0.9
ITM	Ithomi	1.22	14	ePN	Pn	03 15 45.9	-0.9
KYTH	Kithira	1.23	76	ePn	Pn	03 15 47.2	+0.3
KYTH	Kithira	1.23	76	ePN	Pn	03 15 47.2	+0.3
VLI	Veliai	1.32	56	ePn	Pn	03 15 48.0	-0.2
VLI	Veliai	1.32	56	ePN	Pn	03 15 48.0	-0.2
VLX	Vlachokerasia	1.52	25	P	Pn	03 15 50.5	-0.5
VLX				S	Sn	03 16 11.5	+0.6
DID	Didima	2.02	41	P	Pn	03 15 57.3	-0.5
DID				S	Sn	03 16 23.2	+0.1
RLS	Riolos of Patr	2.06	358	ePb	Pn	03 15 59.0	+0.6
RLS	Riolos of Patr	2.06	358	ePB	Pn	03 15 59.0	+0.6
KFL	Anninata	2.20	344	P	Pn	03 16 00.4	+0.1
VAM	Vamos	2.22	104	ePb	Pb	03 16 04.6	+0.6
VAM	Vamos	2.22	104	ePB	Pb	03 16 04.6	+0.6
VLS	Valsamata	2.32	341	P	Pn	03 16 00.9	-1.0
VLS				S	Sn	03 16 29.5	-0.9
LTK	Loutraki	2.32	29	P	Pn	03 16 01.4	-0.5
LTK				S	Sn	03 16 29.8	-0.6
LKR	Lokris	2.89	23	P	Pn	03 16 09.6	-0.2
TIP	Timpagrande	4.97	311	ePn	Pn	03 16 40.0	+1.7
TIP	Timpagrande	4.97	311	ePn	Pn	03 16 40.0	+1.7

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*ISCJB **06** 03:26:01.0±0.7, 3897N±002×2309E±004, h4^{km}±5^{km}, Error ellipse: s-maj=5.1km s-min=3.0km az=7.3*
*CSEM **06** 03:26:01.3±0.1, 3896N×23.12E, h10^{km}, MD3.6, Error ellipse: s-maj=2.3km s-min=1.3km az=103.0*
*NEIC **06** 03:26:01.2, 3896N×2308E, h26^{km}, MD3.6(ATH), After ATH.*
*ATH **06** 03:26:01.2, 3896N×2308E, h26^{km}±1^{km}, MD3.6/11*
*THE **06** 03:26:01.8, 3897N×2307E, h2^{km}±1^{km}, ML3.3/3, Error ellipse: s-maj=1.3km s-min=0.6km az=269.0*
ISC 06 03:26:02.0±0.5**, 3897N**±002×**2308E**±004**, h8**^{km}±4^{km}**, n39,** σ**1^{s}02**/58**, 4C, Greece**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LKR	Lokris	0.33	191	P	Pg	03 26 08.2	-0.2
LKR				S	Sg	03 26 13.2	+0.4
LKR	Lokris	0.33	191	⇑iPb	Pg	03 26 08.1	-0.3
LKR				eSb	Sg	03 26 13.4	+0.6
LKR	Lokris	0.33	191	⇑iPB	Pg	03 26 08.1	-0.3
LKR				eSB	Sg	03 26 13.4	+0.6
NEO	Neokhori	0.35	19	⇑iPb	Pg	03 26 10.0	+1.1
NEO				eSb	Sg	03 26 15.6	+2.0
NEO	Neokhori	0.35	19	⇑iPB	Pg	03 26 10.0	+1.1
NEO				eSB	Sg	03 26 15.6	+2.0
AGG	Agios Georgios	0.58	275	P	Pg	03 26 12.3	-1.0
AGG				S	Sg	03 26 21.2	+0.3
LTK	Loutraki	0.95	185	P	Pg	03 26 19.0	-1.3
LTK				S	Sg	03 26 34.2	+1.6
EVR	Evrytania	0.99	267	ePn	Pn	03 26 20.2	-1.9
EVR				eSn	Sn	03 26 35.0	-1.3
EVR	Evrytania	0.99	267	ePN	Pn	03 26 20.2	-1.9
EVR				eSN	Sn	03 26 35.0	-1.3
PAIG	Paliouri	1.06	26	P	Pg	03 26 22.1	-0.3
LIT	Litokhoron	1.22	338	P	Pb	03 26 24.3	-0.9
LIT				S	Sb	03 26 42.5	+1.5
PLG	Polygyros	1.43	11	P	Pn	03 26 27.4	-0.7
PLG	Polygyros	1.43	11	ePn	Pn	03 26 27.1	-1.0
PLG	Polygyros	1.43	11	ePN	Pn	03 26 27.1	-1.0
DID	Didima	1.47	175	P	Pn	03 26 27.6	-1.1
DID				S	Sn	03 26 49.5	+1.5
OUR	Ouranopolis	1.53	27	P	Pn	03 26 28.9	-0.6
RLS	Riolos of Patr	1.56	235	ePn	Pn	03 26 29.7	-0.2
RLS				eSn	Sn	03 26 50.4	+0.1
RLS	Riolos of Patr	1.56	235	ePN	Pn	03 26 29.7	-0.2
RLS				eSN	Sn	03 26 50.4	+0.1
HORT	Hortiatis	1.62	1	P	Pn	03 26 31.2	+0.4
HORT				S	Sn	03 26 53.6	+1.7
MEV	Metsovon	1.65	300	P	Pn	03 26 31.0	-0.1
MEV				S	Sn	03 26 53.2	+0.7
KZN	Kozani	1.67	323	ePn	Pn	03 26 31.3	-0.2
KZN				eSn	Sn	03 26 52.7	-0.4
KZN	Kozani	1.67	323	ePN	Pn	03 26 31.3	-0.2
KZN				eSN	Sn	03 26 52.7	-0.4
VLX	Vlachokerasia	1.69	199	P	Pn	03 26 31.4	-0.3
VLX				S	Sn	03 26 54.5	+1.0
SOH	Sokhos	1.86	6	P	Pn	03 26 34.1	+0.1
LIA	Limnos Island	1.87	60	P	Pn	03 26 33.6	-0.6
LIA	Limnos Island	1.87	60	ePb	Pb	03 26 33.5	-2.9
LIA	Limnos Island	1.87	60	ePB	Pb	03 26 33.5	-2.9
ITM	Ithomi	2.01	207	ePn	Pn	03 26 35.0	-1.1
ITM	Ithomi	2.01	207	ePN	Pn	03 26 35.0	-1.1
GRG	Griva	2.05	345	P	Pn	03 26 36.6	-0.1
KNT	Kendrikon	2.19	356	P	Pn	03 26 38.7	+0.1
FNA	Florina	2.23	325	P	Pn	03 26 39.5	+0.3
VLI	Veliai	2.25	183	ePb	Pb	03 26 39.2	-3.7
VLI	Veliai	2.25	183	ePB	Pb	03 26 39.2	-3.7
PYL	PYLOS	2.33	207	P	Pn	03 26 41.3	+0.8
PYL				S	Sn	03 27 11.2	+2.0
NVR	Nevrokopi	2.45	14	ePn	Pn	03 26 41.7	-0.5
NVR	Nevrokopi	2.45	14	ePN	Pn	03 26 41.7	-0.5
APE	Apeiranthos	2.71	134	ePn	Pn	03 26 45.6	-0.2
APE	Apeiranthos	2.71	134	ePN	Pn	03 26 45.6	-0.2

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*SZGRF **06** 03:34:24.0, 3682N×2188E, h10^{km}, mb4.0, Southern Greece*
*ISCJB **06** 03:34:28.0±0.1, 3728N±001×2165E±002, h10^{km}, mb4.4/58, MS3.5/9, Error ellipse: s-maj=2.1km s-min=1.7km az=31.5*
*IDC **06** 03:34:27.2±0.6, 3733N×2180E, h0^{km}, mb4.2/15, mb1 4.2/25, mb1mx4.1/36, mbtmp4.0/25, ML3.6/7, MS3.3/6, Ms1 3.3/6, ms1mx2.9/44, Error ellipse: s-maj=13.4km s-min=12.4km az=169.0*
*BJI **06** 03:34:28.9, 3730N×2180E, h10^{km}, mB4.8, mb4.7, Ms4.8, Msz4.3*
*ATH **06** 03:34:28.9, 3735N×2175E, h10^{km}±1^{km}, MD4.2/18, ML3.9*
*NEIC **06** 03:34:28.9, 3735N×2175E, h10^{km}, mb4.1/60, ML4.1(PDG), ML3.9(ATH), ML4.6(THE), After ATH.*
*CSEM **06** 03:34:29.4±0.1, 3734N×2169E, h2^{km}, Ms2.9, Error ellipse: s-maj=2.4km s-min=1.3km az=49.0*
*THE **06** 03:34:30.2, 3734N×2174E, h0^{km}±2^{km}, ML4.5/5, Error ellipse: s-maj=2.8km s-min=0.9km az=201.0*
*PDG **06** 03:34:31.8±0.8, 3729N×2167E, h26^{km}±6^{km}, ML4.1/9, Error ellipse: s-maj=3.2km s-min=2.3km az=90.0*
*MOS **06** 03:34:31.0±1.2, 3729N×2171E, h33^{km}, mb4.5/24, Error ellipse: s-maj=5.2km s-min=2.8km az=105.7*
*BGS **06** 03:34:35.4±2.3, 3793N×2130E, h10^{km}, mb4.7*
*PRU **06** 03:34:35.9, 3783N×1825E, h0^{km}, M4.1*
*HLW **06** 03:34:41.4, 3673N×2263E, h54^{km}, Mb3.8*
ISC 06 03:34:29.4±0.3**, 3727N**±001×**2170E**±002**, h10**^{km}±2^{km}**, n433,** σ**1^{s}32**/491**, mb4.4**/58**, MS3.5**/9**, 37C-14D, Southern Greece**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ITM	Ithomi	0.21	117	ePg	Pg	03 34 33.7	0.0
ITM				eSg	Sg	03 34 37.5	+0.9
ITM	Ithomi	0.21	117	ePG	Pg	03 34 33.7	0.0
ITM				eSG	Sg	03 34 37.5	+0.9
PYL	PYLOS	0.38	174	P	Pg	03 34 37.5	+0.6
PYL				S	Sg	03 34 43.8	+1.9
VLX	Vlachokerasia	0.55	80	P	Pg	03 34 39.1	-1.1
VLX				S	Sg	03 34 47.0	-0.4
RLS	Riolos of Patr	0.81	347	ePb	Pg	03 34 43.6	-1.4
RLS				eSb	Sg	03 34 53.4	-2.1
RLS	Riolos of Patr	0.81	347	ePB	Pg	03 34 43.6	-1.4
RLS				eSB	Sg	03 34 53.4	-2.1
KFL	Anninata	1.10	320	P	Pg	03 34 49.6	-1.0
KFL				S	Sg	03 35 06.7	+1.7
VLI	Veliai	1.14	119	⇑iPg	Pg	03 34 50.3	-1.0
VLI	Veliai	1.14	119	⇑iPG	Pg	03 34 50.3	-1.0
DID	Didima	1.25	79	P	Pg	03 34 51.7	-1.7
DID				S	Sg	03 35 10.5	+0.9
LTK	Loutraki	1.26	53	P	Pg	03 34 51.5	-2.1
LTK				S	Sg	03 35 08.8	-1.1
VLS	Valsamata	1.26	316	ePb	Pb	03 34 52.4	-0.9
VLS				eSb	Sb	03 35 09.5	0.0
VLS				S	Sb	03 35 12.6	+3.1
VLS	Valsamata	1.26	316	ePb	Pb	03 34 52.4	-0.9
VLS				eSb	Sb	03 35 09.5	0.0
VLS	Valsamata	1.26	316	ePB	Pb	03 34 52.4	-0.9
VLS				eSB	Sb	03 35 09.5	0.0
KYTH	Kithira	1.46	132	ePb	Pb	03 34 56.8	+0.1
KYTH	Kithira	1.46	132	ePB	Pb	03 34 56.8	+0.1
NAIG	Nisos Aigina	1.50	71	ePb	Pb	03 34 56.2	-1.2
NAIG	Nisos Aigina	1.50	71	ePB	Pb	03 34 56.2	-1.2
EVR	Evrytania	1.64	3	⇑iPb	Pb	03 34 58.7	-1.1
EVR				eSb	Sb	03 35 19.0	-1.6
EVR	Evrytania	1.64	3	⇑iPB	Pb	03 34 58.7	-1.1
EVR				eSB	Sb	03 35 19.0	-1.6
LKD	Levkas	1.65	330	P	Pg	03 34 58.9	-2.3
LKD				S	Sg	03 35 21.6	-1.0
LKR	Lokris	1.72	36	P	Pn	03 34 59.3	-0.1
LKR	Lokris	1.72	36	⇑iPb	Pb	03 34 59.6	-1.5
LKR	Lokris	1.72	36	⇑iPB	Pb	03 34 59.6	-1.5
KVR	Kavouri	1.74	71	ePg	Pg	03 34 59.7	-3.1
KVR	Kavouri	1.74	71	ePG	Pg	03 34 59.7	-3.1
ATH	Athens Observa	1.75	66	ePb	Pg	03 35 00.3	-2.7
ATH				eSb	Sg	03 35 23.2	-2.5
ATH	Athens Observa	1.75	66	ePB	Pg	03 35 00.3	-2.7
ATH				eSB	Sg	03 35 23.2	-2.5
AGG	Agios Georgios	1.82	16	P	Pn	03 35 01.0	+0.3
AGG				S	Sn	03 35 24.8	+1.0
AGG	Agios Georgios	1.82	16	P	Pn	03 35 01.0	+0.3
AGG				S	Sn	03 35 23.6	-0.2
PTL	Penteli	1.89	65	ePn	Pn	03 35 02.0	+0.3
PTL	Penteli	1.89	65	ePN	Pn	03 35 02.0	+0.3
NEO	Neokhori	2.36	30	ePn	Pn	03 35 08.4	+0.2
NEO	Neokhori	2.36	30	ePN	Pn	03 35 08.4	+0.2
JAN	Janina	2.47	345	ePb	Pn	03 35 10.0	+0.3
JAN	Janina	2.47	345	P	Pn	03 35 13.6	+3.9
JAN	Janina	2.47	345	P	Pn	03 35 13.6	+3.9
JAN	Janina	2.47	345	ePB	Pn	03 35 10.0	+0.3
IGT	Igoumenitsa	2.50	335	P	Pn	03 35 10.8	+0.7
VAM	Vamos	2.75	132	ePb	Pn	03 35 15.5	+2.0
VAM	Vamos	2.75	132	ePB	Pn	03 35 15.5	+2.0
KEK	Kerkira	2.86	329	ePn	Pn	03 35 16.5	+1.5
KEK	Kerkira	2.86	329	ePN	Pn	03 35 16.5	+1.5
LIT	Litokhoron	2.89	12	P	Pn	03 35 16.7	+1.2
SRN	Sarande	2.92	333	ePN	Pn	03 35 17.8	+1.9
KZN	Kozani	3.03	1	ePb	Pn	03 35 18.5	+1.1
KZN	Kozani	3.03	1	P	Pn	03 35 22.1	+4.7
KZN	Kozani	3.03	1	ePB	Pn	03 35 18.5	+1.1
THR5	Thira Island,	3.05	105	P	Pn	03 35 18.4	+0.7
APE	Apeiranthos	3.07	93	⇑iP	Pn	03 35 19.0	+1.0
APE	Apeiranthos	3.07	93	P	Pn	03 35 18.9	+0.9
APE	Apeiranthos	3.07	93	ePn	Pn	03 35 19.1	+1.1
APE	Apeiranthos	3.07	93	ePn	Pn	03 35 19.1	+1.1
APE	Apeiranthos	3.07	93	ePN	Pn	03 35 19.1	+1.1
PAIG	Paliouri	3.07	30	P	Pn	03 35 18.1	+0.1
THR4	Thira Island,	3.08	104	P	Pn	03 35 20.6	+2.5
THR3	Thira Island,	3.09	105	P	Pn	03 35 21.4	+3.1
THR6	Thira Island,	3.11	106	P	Pn	03 35 21.4	+2.9
SANT	Santorini	3.15	105	P	Pn	03 35 22.4	+3.3
SANT	Santorini	3.15	105	ePn	Pn	03 35 21.5	+2.4
THR1	Thera Island	3.15	105	P	Pn	03 35 21.4	+2.3
IDI	Anoyia	3.25	127	Pn	Pn	03 35 20.8	+0.3
	3.7nm,0.3s,baz=316,slow=16,SNR=28						
IDI				Sn	Sn	03 36 04.5	+5.3
	14nm,0.3s,baz=342,slow=20,SNR=5.8						
SIVA	Sivas	3.38	131	P	Pn	03 35 25.1	+2.9
PLG	Polygyros	3.38	23	P	Pn	03 35 23.4	+1.1
PLG	Polygyros	3.38	23	ePn	Pn	03 35 23.3	+1.0
PLG	Polygyros	3.38	23	ePN	Pn	03 35 23.3	+1.0
KBN	Korca	3.42	348	ePN	Pn	03 35 26.4	+3.6
HORT	Hortiatis	3.50	18	P	Pn	03 35 24.7	+0.9
HORT				S	Sn	03 36 06.4	+1.2
FNA	Florina	3.52	356	P	Pn	03 35 25.0	+0.9
FNA				S	Sn	03 36 07.8	+2.1
OUR	Ouranopolis	3.54	30	P	Pn	03 35 24.9	+0.5
CHOS	Chios island	3.63	71	P	Pn	03 35 26.4	+0.8
LAST	Lasithi	3.71	123	P	Pn	03 35 28.5	+1.7
LAST				S	Sn	03 36 14.7	+4.1
GRG	Griva	3.72	8	P	Pn	03 35 28.5	+1.6
NPS	Neapolis	3.75	121	ePn	Pn	03 35 29.8	+2.5
NPS	Neapolis	3.75	121	ePN	Pn	03 35 29.8	+2.5
BIA	Bitola	3.75	356	P	Pn	03 35 29.1	+1.7
LOS	Limnos	3.75	44	P	Pn	03 35 27.5	+0.1
SOH	Sokhos	3.77	19	P	Pn	03 35 28.9	+1.3
SOH				S	Sn	03 36 13.6	+1.6
LIA	Limnos Island	3.79	45	P	Pn	03 35 27.9	+0.1
LIA	Limnos Island	3.79	45	ePn	Pn	03 35 28.6	+0.8
LIA	Limnos Island	3.79	45	ePN	Pn	03 35 28.6	+0.8
KNT	Kendrikon	4.00	13	P	Pn	03 35 31.8	+1.1
KNT				S	Sn	03 36 18.7	+1.2
PRK	Paraskevi	4.11	60	ePn	Pn	03 35 33.2	+1.0
PRK	Paraskevi	4.11	60	ePN	Pn	03 35 33.2	+1.0
SMG	Samos	4.11	82	P	Pn	03 35 34.2	+1.9
TIR	Tirane	4.31	341	ePN	Pn	03 35 37.3	+2.3
TIR	Tirane	4.31	341	ePn	Pn	03 35 36.5	+1.5
TIR	Tirane	4.31	341	ePn	Pn	03 35 36.5	+1.5
TIP	Timpagrande	4.33	298	ePn	Pn	03 35 36.0	+0.7
TIP				eSn	Sn	03 36 25.1	-0.7
TIP	Timpagrande	4.33	298	ePn	Pn	03 35 36.0	+0.7
TIP				eSn	Sn	03 36 25.1	-0.6
PHP	Peshkopia	4.51	348	ePN	Pn	03 35 39.9	+2.1
MMB	Musomiste	4.59	19	P	Pn	03 35 40.8	+2.0
KKB	Krupnik	4.71	13	P	Pn	03 35 44.6	+4.1
KARP	Karpathos	4.73	110	ePn	Pn	03 35 42.7	+1.9
KARP	Karpathos	4.73	110	ePN	Pn	03 35 42.7	+1.9
PE1	Pezze di Greco	4.85	318	ePn	Pn	03 35 43.4	+1.0
RDO	Rodhopi	4.88	36	ePn	Pn	03 35 43.6	+0.7
RDO	Rodhopi	4.88	36	ePN	Pn	03 35 43.6	+0.7
PUK	Puka	4.96	344	ePN	Pn	03 35 45.3	+1.3
RZN	Rozhen	4.99	27	P	Pn	03 35 46.3	+2.0
ULC	Ulcinj	5.05	339	⇑iPn	Pn	03 35 46.4	+1.2
ULC				eSn	Sn	03 36 43.7	+0.1
KDZ	Kurdzhali	5.23	32	P	Pn	03 35 48.9	+1.2
BCI	Bajram Curri	5.24	347	ePN	Pn	03 35 50.9	+3.1
CUC	Castrocucco	5.35	302	ePn	Pn	03 35 50.9	+1.7
	60nm,0.6s						
CUC				Sn	Sn	03 36 50.3	-0.5
CUC	Castrocucco	5.35	302	ePn	Pn	03 35 50.9	+1.7
	60nm,0.6s						
CUC				Sn	Sn	03 36 50.3	-0.5
VTS	Vitosha	5.44	12	⇓iP	Pn	03 35 54.8	+4.3
VTS	Vitosha	5.44	12	P	Pn	03 35 54.3	+3.8
VTS	Vitosha	5.44	12	⇓P	Pn	03 35 54.8	+4.3
BUM	Brajici-Budva	5.46	338	⇑iPn	Pn	03 35 50.7	-0.2
BUM				eSn	Sn	03 36 53.2	-0.6
PVY	Plav	5.48	347	⇑iPn	Pn	03 35 53.1	+2.0
PVY				eSn	Sn	03 36 53.5	-0.6
PDG	Podgorica	5.48	341	⇑iPn	Pn	03 35 51.4	+0.3
PDG				eSn	Sn	03 36 53.7	-0.5
TTG	Podgorica	5.48	341	⇑iPn	Pn	03 35 51.4	+0.3
TTG				eSn	Sn	03 36 53.7	-0.5
LTBQ	Tobruq	5.52	160	eS	Sn	03 36 53.1	-2.0
	40nm,0.5s,SNR=23						
DIM	Dimitrovgrad	5.61	31	P	Pn	03 35 55.4	+2.5
HCY	Herceg Novi	5.72	336	⇑iPn	Pn	03 35 53.9	-0.5
HCY				eSn	Sn	03 36 59.6	-0.5
BEY	Berane	5.76	347	⇑iPn	Pn	03 35 56.3	+1.4
BEY				eSn	Sn	03 37 00.6	-0.4
IVA	Berane	5.76	347	⇑iPn	Pn	03 35 56.3	+1.4
IVA				eSn	Sn	03 37 00.6	-0.4
VAE	Valguarnera	5.80	274	Pn	Pn	03 35 58.5	+3.0
	1.8nm,0.3s,baz=318,slow=7.1,SNR=11						
VAE				Sn	Sn	03 37 05.6	+3.4
	5.1nm,0.3s,baz=108,slow=20,SNR=2.4						
VAE				LR	LR	03 38 24.8	
	comp=Z,154nm,18.5s,baz=330,slow=40						
NKY	Niksic	5.91	340	⇑iPn	Pn	03 35 58.3	+1.3
NKY				eSn	Sn	03 37 04.4	-0.3
BRY	Bratogost	6.12	338	⇑iPn	Pn	03 35 59.6	-0.2
BRY				eSn	Sn	03 37 09.2	-0.7
UPM	Unac-Piva	6.29	341	⇑iPn	Pn	03 36 03.5	+1.2
UPM				eSn	Sn	03 37 13.1	-1.1
PLE	Pljevlja	6.30	345	⇓iPn	Pn	03 36 03.6	+1.3
PLE				eSn	Sn	03 37 04.2	-10
STON	Ston	6.38	333	ePn	Pn	03 36 02.4	-1.0
STON				Sn	Sn	03 37 12.5	-3.7
JMB	Yambol	6.41	34	eP	Pn	03 36 11.6	+7.8
SLUM		6.46	152	⇑iP	Pn	03 36 03.5	-1.0
SLUM				S	Sn	03 37 03.3	-15
LJBD	Adjabya	6.46	192	iP	Pn	03 36 05.3	+0.7
	SNR=22						
SZH	Strazhica	6.81	27	eP	Pn	03 36 15.3	+6.0
DIVS	Divibare	6.94	350	ePn	Pn	03 36 11.1	0.0
PRD	Provadia	7.35	35	P	Pn	03 36 17.6	+0.8
HMAT	Matruh	7.61	142	⇑eP	Pn	03 36 18.6	-1.8
LUJL	Ujela	8.14	182	iP	Pn	03 36 26.5	-1.1
	SNR=22						
GZR	Gura Zlata	8.15	5	⇑iP	Pn	03 36 29.8	+2.0
GZR	Gura Zlata	8.15	5	⇑P	Pn	03 36 29.8	+2.1
BLY	Banja Luka	8.21	337	ePn	Pn	03 36 26.6	-1.9
VOIR		8.54	16	⇓iP	Pn	03 36 40.9	+7.9
TIRR	Tirgusor	8.79	33	P	Pn	03 36 38.2	+1.6
TIRR				pmax	pmax		
	comp=Z,32nm,1.5s						
TIRR	Tirgusor	8.79	33	P	Pn	03 36 38.2	+1.6
	comp=Z,32nm,1.5s						
TIRR	Tirgusor	8.79	33	Pn	Pn	03 36 38.2	+1.6
	comp=Z,32nm,1.5s						
MLR	Muntele Rosu	8.81	20	Pn	Pn	03 36 38.3	+1.6
	baz=170,slow=11						
NVLJ	Novalja	8.93	327	ePn	Pn	03 36 38.7	+0.3
NVLJ				Sn	Sn	03 38 15.5	-3.4
PKSM	Moragy	9.22	347	⇑iP	Pn	03 36 41.2	-1.2
PKSM	Moragy	9.22	347	⇑P	Pn	03 36 41.2	-1.1
PLOR	Plostina	9.34	22	⇑iP	Pn	03 36 47.5	+3.5
LZLA	Zalla	9.36	203	iP	Pn	03 36 42.7	-1.7
	SNR=22						
VRI	Vrincioaia	9.38	22	⇑iP	Pn	03 36 47.7	+3.2
VRI	Vrincioaia	9.38	22	⇑P	Pn	03 36 47.7	+3.2
LJFR	Jufra	9.52	213	iP	Pn	03 36 45.2	-1.4
	comp=Z,40nm,0.9s,SNR=22						
BOJS	Bojanci	9.54	332	ePn	Pn	03 36 46.2	-0.5
BOJS				eSn	Sn	03 38 28.1	-5.9
DRGR		9.54	4	⇓iP	Pn	03 36 44.8	-2.0
DRGR		9.54	4	⇓P	Pn	03 36 44.8	-2.0
BR131	Keskin Array S	9.68	72	ePn	Pn	03 36 50.1	+1.4
	comp=Z,1.6nm,0.6s						
BR131	Keskin Array S	9.68	72	ePn	Pn	03 36 50.1	+1.4
	comp=Z,1.6nm,0.6s						
VISS	Visnje	9.95	331	ePn	Pn	03 36 51.6	-0.7
VISS				eSn	Sn	03 38 37.6	-6.4
KEST	Kesra	10.06	265	Pn	Pn	03 36 54.1	+0.1
	comp=Z,0.1nm,0.3s,baz=128,slow=9.7,SNR=4.2						
KEST				Sn	Sn	03 38 45.6	-1.3
	comp=Z,0.1nm,0.3s,baz=246,slow=20,SNR=3.1						
TRI	Trieste	10.31	327	eP	Pn	03 36 56.2	-1.1
TRI				e		03 38 48.4	
TRI				pmax	pmax		

TRI Trieste 10.31 327 *e*Pn Pn 03 36 56.2 -1.1
comp=Z,7.4nm,0.6s
TRI Trieste 10.31 327 *e*Pn Pn 03 36 56.2 -1.2
comp=Z,7.4nm,0.6s
TRI *e*Sn Sn 03 38 48.4 -4.6
JAVS Javornik 10.33 329 *i* Pn Pn 03 36 56.5 -1.1
JAVS *i* Sn Sn 03 38 47.7 -5.8
VOY Vojsko 10.51 329 *e*Pn Pn 03 37 00.3 +0.2
VOY *e* 03 37 04.3
VOY *e* 03 38 54.4
PERS Pernice 10.56 334 *i* Pn Pn 03 37 00.8 +0.1
PERS *i* Sn Sn 03 38 53.1 -5.8
SOKA Soboth 10.62 334⇑ *i*Pn Pn 03 36 59.8 -1.8
SOKA ⇓ *i*Sn Sn 03 38 52.1 -8.4
OBKA Obir 10.65 332⇑ *i*Pn Pn 03 36 60.0 -2.0
OBKA ⇑ *i*Sn Sn 03 38 59.1 -2.1
BURAR Bucovina Array 10.66 13⇓ *i*P Pn 03 37 06.2 +4.2
BURAR Bucovina Array 10.66 13⇓ P Pn 03 37 06.2 +4.2
PSZ Piszkesteto 10.72 353⇑ *e*P Pn 03 37 03.8 +0.9
PSZ Piszkesteto 10.72 353⇑ *i*P Pn 03 37 03.7 +0.8
PSZ Piszkesteto 10.72 353 *e*Pn Pn 03 37 03.2 +0.3
comp=Z,8.3nm,0.8s
AWBH 10.79 144⇓ *e*P Pn 03 37 02.8 -1.2
ARSA Arzberg 10.96 337⇑ *i*Pn Pn 03 37 04.6 -1.6
ARSA ⇓ *i*Sn Sn 03 39 05.2 -3.7
PGF Pioggiola 11.08 302 *e*P Pn 03 37 10.8 +2.9
comp=Z,43nm,1.2s
PGF Pioggiola 11.08 302 *e*P Pn 03 37 10.8 +2.9
PGF pmax pmax
comp=Z,21nm,1.2s
PGF Pioggiola 11.08 302 *e*P Pn 03 37 10.8 +2.9
comp=Z,21nm,1.2s
GLL Jalalah 11.35 130⇑ *e*P Pn 03 37 09.1 -2.4
VYHS Vyhne 11.41 350 *e*PN Pn 03 37 11.1 -1.2
HFRF Wahat Farafira 11.54 149⇓ *e*P Pn 03 37 13.0 -1.2
AMAG Maghara 11.62 121⇑ *e*P Pn 03 37 13.6 -1.6
CRVS Cervenica-Dubn 11.63 359 *e*PN Pn 03 37 19.3 +4.0
SUZ 11.88 125 P Pn 03 37 17.0 -1.9
MOA Molln 11.90 335⇑ *i*Pn Pn 03 37 17.6 -1.4
MOA ⇓ *i*Sn Sn 03 39 30.0 -1.8
MMAI Mount Meron Ar 11.99 107 Pn Pn 03 37 19.0 -1.5
comp=Z,0.8nm,0.3s,baz=320,slow=12,SNR=4.2
MMAI Sn Sn 03 39 27.7 -6.5
comp=Z,0.9nm,0.3s,baz=312,slow=21,SNR=3.1
STHS Stebnicka Huta 12.14 359 *e*PN Pn 03 37 28.0 +5.6
RJOB Jochberg 12.34 331 *e*P Pn 03 37 25.1 +0.1
comp=Z,14nm,1.1s
VRAC Vranov 12.59 345 Pn Pn 03 37 27.5 -1.0
baz=170,slow=9.4,SNR=4.4
OKC Ostrava-Krasne 12.82 350 *e*P Pn 03 37 44.3 +13
OKC AMS AMS 03 44 30.0
comp=Z,200nm,9.1s
TREC Trest 12.83 341 AMS AMS 03 43 00.0
comp=Z,500nm,9.6s
DAVOX Davos/Dischmat 12.93 321 Pn Pn 03 37 32.5 -0.6
comp=Z,0.1nm,0.3s,baz=141,slow=17,SNR=2.3
DAVOX Sn Sn 03 39 52.6 -4.3
comp=Z,0.3nm,0.3s,baz=345,slow=20,SNR=3.0
GEC2 GERESS Array S 12.95 336 *e*P Pn 03 37 33.8 +0.4
GERES GERESS Array B 12.95 336 Pn Pn 03 37 33.0 -0.4
comp=Z,0.3nm,0.3s,baz=154,slow=13,SNR=28
GERES LR LR 03 43 22.7
comp=Z,134nm,19.1s,baz=219,slow=41
TUE Stuetta 12.99 319 *e*Pn Pn 03 37 34.1 +0.1
DAVOS Davos 13.01 321 P Pn 03 37 32.5 -1.7
DAVOS 03 39 52.6
KHC Kasperske Hory 13.24 336 *e*P Pn 03 37 39.1 +1.8
KHC *ex* x 03 37 46.0
KHC AMS AMS 03 43 30.0
comp=Z,300nm,10.1s
EIL Elat 13.40 121 Pn Pn 03 37 40.2 +0.6
comp=Z,0.4nm,0.3s,baz=1.9,slow=5.4,SNR=6.7
EIL Sn Sn 03 39 57.0 -12
comp=Z,0.4nm,0.3s,baz=0.0,slow=18,SNR=3.6
EIL Elat 13.40 121 Pn Pn 03 37 40.2 +0.6
EIL Sn Sn 03 39 57.0 -12
HDK1 Dakhla 13.41 149⇑ P Pn 03 37 39.6 -0.2
WET Wettzell 13.48 334 *e*P Pn 03 37 41.5 +0.8
MBDF Montbardon 13.50 308 *e*P Pn 03 37 42.0 +1.1
comp=Z,17nm,0.9s
MBDF Montbardon 13.50 308 *e*P Pn 03 37 42.0 +1.1
MBDF pmax pmax
comp=Z,8.0nm,0.9s
MBDF Montbardon 13.50 308 *e*P Pn 03 37 42.0 +1.1
comp=Z,8.4nm,0.9s
DPC Dobruska-Polom 13.63 345 *e*P Pn 03 37 48.3 +5.6
DPC *ex* x 03 37 52.3
DPC AMS AMS 03 43 40.0
comp=Z,300nm,12.7s
PRU Pruhonice 13.72 340 *e*P Pn 03 37 43.5 -0.3
PRU *ex* x 03 37 51.4
PRU AMS AMS 03 43 30.0
comp=Z,400nm,9.8s
LPL La Plagne 13.91 311 *e*P Pn 03 37 48.4 +1.8
comp=Z,5.2nm,0.6s
LPL La Plagne 13.91 311 *e*P Pn 03 37 48.4 +1.8
LPL pmax pmax
comp=Z,3.0nm,0.6s
LPL La Plagne 13.91 311 *e*P Pn 03 37 48.4 +1.8
comp=Z,2.6nm,0.6s
ORIF Oris-en-Rattie 14.15 308 *e*P Pn 03 37 53.2 +3.4
comp=Z,18nm,1.1s
ORIF *e*MLR MLR
comp=Z,175nm,22.8s
ORIF Oris-en-Rattie 14.15 308 *e*P Pn 03 37 53.2 +3.4
ORIF pmax pmax
comp=Z,9.0nm,1.0s
ORIF Oris-en-Rattie 14.15 308 *e*P Pn 03 37 53.2 +3.4
comp=Z,8.8nm,1.0s
PVCC Panska Ves 14.20 341 *e*P Pn 03 37 51.0 +0.5
PVCC AMS AMS 03 43 50.0
comp=Z,400nm,10.4s
AKASG Malin Array Be 14.46 19 Pn Pn 03 37 52.9 -1.2
baz=207,slow=12,SNR=2.5
GRA1 Grafenberg Arr 14.54 332 *e*P Pn 03 38 01.8 +6.8
GRF Grafenberg Arr 14.54 332 *e*P Pn 03 38 01.8 +6.8
FELD Feldberg im Sc 14.61 321 *e*P Pn 03 37 58.8 +2.8
BRG Berggiesshubel 14.68 340 *e*P Pn 03 38 03.9 +6.9
BRG pmax pmax
comp=Z,7.0nm,1.6s
BRG Berggiesshubel 14.68 340 *e*P Pn 03 38 02.4 +5.4
BRG Berggiesshubel 14.68 340 *e*P Pn 03 38 03.9 +6.9
comp=Z,12nm,1.6s
TANN Tannenbergstha 14.71 336 *e*P Pn 03 37 58.9 +1.5
BFO Black Forest 14.75 323 *e*P Pn 03 37 57.6 -0.4
BFO pmax pmax
comp=Z,7.0nm,1.0s
BFO Black Forest 14.75 323 *e*Pn Pn 03 37 57.6 -0.4
comp=Z,7.0nm,1.0s
CABF La Chapelle 14.88 314 *e*P Pn 03 37 59.3 -0.4
comp=Z,16nm,0.8s
CABF La Chapelle 14.88 314 *e*P Pn 03 37 59.3 -0.4
CABF pmax pmax
comp=Z,8.0nm,0.8s
CABF La Chapelle 14.88 314 *e*P Pn 03 37 59.3 -0.4
comp=Z,8.2nm,0.8s
LOMF Lomont 14.89 317 *e*P Pn 03 38 07.3 +7.5
HINF Hinteralfeld 15.16 319 *e*P Pn 03 38 04.2 +0.7
comp=Z,12nm,0.8s
HINF Hinteralfeld 15.16 319 *e*P Pn 03 38 04.2 +0.7
HINF pmax pmax
comp=Z,6.0nm,0.8s
HINF Hinteralfeld 15.16 319 *e*P Pn 03 38 04.2 +0.7
comp=Z,6.0nm,0.8s
MOX Moxa 15.19 335 *e*P Pn 03 38 04.3 +0.4
ECH Echery 15.26 320 *e*P Pn 03 38 05.4 +0.6
ECH Echery 15.26 320 *e*Pn Pn 03 38 05.3 +0.5
CDF Champ du Feu 15.33 321 *e*P Pn 03 38 07.3 +1.6
comp=Z,13nm,1.0s
CDF Champ du Feu 15.33 321 *e*P Pn 03 38 07.3 +1.6
CDF pmax pmax
comp=Z,6.0nm,1.0s
CDF Champ du Feu 15.33 321 *e*P Pn 03 38 07.3 +1.6
comp=Z,6.4nm,1.0s
CLL Collm 15.33 339 *i* P Pn 03 38 10.2 +4.5
CLL pmax pmax
comp=Z,15nm,1.2s
CLL Collm 15.33 339 *e*P Pn 03 38 10.0 +4.3
comp=Z,14nm,1.2s
CLL Collm 15.33 339 *i* (sP) sP 03 38 10.2 -4.4
CLL *i* PP 03 38 11.6
comp=Z,15nm,1.2s
CLL *ex* x 03 38 28.0
CLL *e*SS 03 41 12.0
CLL Collm 15.33 339 *i* P Pn 03 38 10.2 +4.5
comp=Z,15nm,1.2s
CLL *e*S Sn 03 41 12.0 +16
TOD Tromm 15.45 327 *e*P Pn 03 38 13.2 +5.9
LANF Langenberg 15.46 324 *e*P Pn 03 38 13.9 +6.6
HAU Haudompre 15.54 318 *e*P Pn 03 38 08.1 -0.4
comp=Z,32nm,1.0s
HAU *e*MLR MLR
comp=Z,135nm,17.2s
HAU Haudompre 15.54 318 *e*P Pn 03 38 08.1 -0.4
HAU pmax pmax
comp=Z,16nm,1.0s
HAU Haudompre 15.54 318 *e*P Pn 03 38 08.1 -0.4
comp=Z,16nm,1.0s
THEF They Montfort 15.87 319 *e*P Pn 03 38 17.8 +5.0
RUE Ruedersdorf 16.19 342 *e*Pn Pn 03 38 17.1 +0.2
comp=Z,34nm,1.5s
SMF Signal de Mont 16.22 311 *e*P Pn 03 38 17.5 +0.2
comp=Z,4.8nm,0.6s
SMF Signal de Mont 16.22 311 *e*P Pn 03 38 17.5 +0.2
SMF pmax pmax
comp=Z,2.0nm,0.6s
SMF Signal de Mont 16.22 311 *e*P Pn 03 38 17.5 +0.2
comp=Z,2.4nm,0.6s
PYM Petit Puy Mans 16.33 307 *e*P Pn 03 38 22.6 +3.9
EPOB Poblet 16.46 291 P Pn 03 38 23.2 +2.7
comp=Z,6.8nm,0.7s
LOR Lormes 16.52 313 *e*P Pn 03 38 21.7 +0.6
comp=Z,12nm,1.0s
LOR *e*MLR MLR
comp=Z,85nm,20.8s
LOR Lormes 16.52 313 *e*P Pn 03 38 21.7 +0.6
LOR pmax pmax
comp=Z,6.0nm,1.0s
LOR Lormes 16.52 313 *e*P Pn 03 38 21.7 +0.6
comp=Z,5.8nm,1.0s
MEZF Maizieres J'vi 16.54 318 *e*P Pn 03 38 22.0 +0.7
comp=Z,76nm,1.3s
MEZF Maizieres J'vi 16.54 318 *e*P Pn 03 38 22.0 +0.7
comp=Z,76nm,1.3s
AVF Avril sur Loir 16.59 311 *e*P Pn 03 38 22.4 +0.5
comp=Z,19nm,1.2s
AVF Avril sur Loir 16.59 311 *e*P Pn 03 38 22.4 +0.5
AVF pmax pmax
comp=Z,10.0nm,1.2s
AVF Avril sur Loir 16.59 311 *e*P Pn 03 38 22.4 +0.5
comp=Z,9.6nm,1.2s
SSF Saint Saulge 16.62 312 *e*P Pn 03 38 23.8 +1.4
comp=Z,16nm,1.0s
SSF Saint Saulge 16.62 312 *e*P Pn 03 38 23.8 +1.4
SSF pmax pmax
comp=Z,8.0nm,1.0s
SSF Saint Saulge 16.62 312 *e*P Pn 03 38 23.8 +1.4
comp=Z,8.2nm,1.0s
CAF Calviac 16.63 303 *e*P Pn 03 38 26.2 +3.7
comp=Z,13nm,1.0s
CAF Calviac 16.63 303 *e*P Pn 03 38 26.2 +3.7
CAF pmax pmax
comp=Z,7.0nm,1.0s
CAF Calviac 16.63 303 *e*P Pn 03 38 26.2 +3.7
comp=Z,6.7nm,1.0s
WLF Walferdange 16.71 323 P Pn 03 38 29.2 +5.7
comp=Z,12nm,1.3s
WLF Walferdange 16.71 323 *e*P Pn 03 38 24.8 +1.3
WLF pmax pmax
comp=Z,20nm,1.1s
WLF Walferdange 16.71 323 *e*P Pn 03 38 24.8 +1.2
comp=Z,20nm,1.1s
SUW Suwalki 16.77 3 *e*P Pn 03 38 25.1 +0.8
SUW pmax pmax
comp=Z,44nm,0.8s
SUW Suwalki 16.77 3 *e*P Pn 03 38 25.1 +0.9
comp=Z,44nm,0.8s
BGF Bois d'Agland 16.79 309 *e*P Pn 03 38 25.2 +0.7
comp=Z,20nm,1.0s
BGF Bois d'Agland 16.79 309 *e*P Pn 03 38 25.2 +0.7
BGF pmax pmax
comp=Z,10.0nm,1.0s
BGF Bois d'Agland 16.79 309 *e*P Pn 03 38 25.2 +0.7
comp=Z,9.9nm,1.0s
TCF Toulx Ste Croi 17.06 308 *e*P Pn 03 38 28.7 +0.7
comp=Z,11nm,1.0s
TCF Toulx Ste Croi 17.06 308 *e*P Pn 03 38 28.7 +0.7
TCF pmax pmax
comp=Z,5.0nm,1.0s
TCF Toulx Ste Croi 17.06 308 *e*P Pn 03 38 28.7 +0.7
comp=Z,5.4nm,1.0s
RJF Les Rejaudoux 17.13 304 *e*P Pn 03 38 32.0 +3.2
comp=Z,4.5nm,0.7s
RJF *e*MLR MLR
comp=Z,147nm,17.2s
RJF Les Rejaudoux 17.13 304 *e*P Pn 03 38 32.0 +3.2
RJF pmax pmax
comp=Z,2.0nm,0.7s
RJF Les Rejaudoux 17.13 304 *e*P Pn 03 38 32.0 +3.2
comp=Z,2.3nm,0.7s
KIV Kislovodsk 17.26 61 *e*P Pn 03 38 29.6 -0.8
EBEN Beniarda 17.34 281 P Pn 03 38 32.9 +1.4
comp=Z,82nm,1.9s
EBIE Bielsa 17.37 295 P Pn 03 38 33.7 +1.9
comp=Z,3.8nm,0.7s
EMOS Mosqueruela 17.54 287 P Pn 03 38 35.2 +1.2
comp=Z,26nm,1.6s
HGN Heimansgroeve 17.57 325 *e*P Pn 03 38 37.1 +2.9
comp=Z,12nm,1.4s
BCLA Clavier 17.62 323 P Pn 03 38 33.2 -1.8
comp=Z,12nm,2.3s
GIVF Givet 17.65 322 *e*P Pn 03 38 36.3 +1.1
comp=Z,48nm,1.0s
GIVF Givet 17.65 322 *e*P Pn 03 38 36.3 +1.1
GIVF pmax pmax
comp=Z,24nm,1.0s
GIVF Givet 17.65 322 *e*P Pn 03 38 36.3 +1.1
comp=Z,24nm,1.0s
DOU Dourbes 17.76 322 P Pn 03 38 39.2 +2.7
comp=Z,7.7nm,1.2s
ETSF Etsaut 17.91 295 *e*P Pn 03 38 40.0 +1.4
comp=Z,11nm,0.8s
ETSF Etsaut 17.91 295 *e*P Pn 03 38 40.0 +1.4
ETSF pmax pmax
comp=Z,6.0nm,0.8s
ETSF Etsaut 17.91 295 *e*P Pn 03 38 40.0 +1.4
comp=Z,5.6nm,0.8s
BAIF Baives 17.93 321 *e*P Pn 03 38 40.1 +1.4
comp=Z,27nm,1.2s
BAIF Baives 17.93 321 *e*P Pn 03 38 40.1 +1.4
BAIF pmax pmax
comp=Z,13nm,1.2s
BAIF Baives 17.93 321 *e*P Pn 03 38 40.1 +1.4
comp=Z,13nm,1.2s
WTSB Winterswijk 18.06 329 *e*P Pn 03 38 43.2 +2.9
comp=Z,13nm,1.1s
GNI Garni 18.20 74 *e*P Pn 03 38 40.8 -1.4
GNI pmax pmax
comp=Z,12nm,1.5s
GNI Garni 18.20 74 *e*Pn Pn 03 38 40.8 -1.4
comp=Z,12nm,1.5s
SJPF Ste Jean 18.43 296 *e*P Pn 03 38 46.4 +1.5
comp=Z,23nm,1.0s
SJPF Ste Jean 18.43 296 *e*P Pn 03 38 46.4 +1.5
SJPF pmax pmax
comp=Z,12nm,1.0s
SJPF Ste Jean 18.43 296 *e*P Pn 03 38 46.4 +1.5
comp=Z,12nm,1.0s
MFF Saint Martin d 18.68 307 *e*P Pn 03 38 49.7 +1.8
comp=Z,14nm,1.0s
MFF Saint Martin d 18.68 307 *e*P Pn 03 38 49.7 +1.8
MFF pmax pmax
comp=Z,7.0nm,1.0s
MFF Saint Martin d 18.68 307 *e*P Pn 03 38 49.7 +1.8
comp=Z,6.8nm,1.0s
EHUE Huescar 19.26 279 P Pn 03 38 54.3 -0.7
EHUE pmax pmax
comp=Z,13nm,1.4s
EHUE Huescar 19.26 279 P Pn 03 38 54.3 -0.7
comp=Z,13nm,1.4s
ECRI Cripan 19.28 294 P Pn 03 38 55.5 +0.3
ECRI pmax pmax
comp=Z,8.0nm,0.8s
ECRI Cripan 19.28 294 P Pn 03 38 55.5 +0.2
comp=Z,8.4nm,0.8s
LDF La Druitiere 19.50 312 *e*P Pn 03 38 55.9 -1.9
comp=Z,30nm,0.8s
LDF La Druitiere 19.50 312 *e*P Pn 03 38 55.9 -1.9
LDF pmax pmax
comp=Z,15nm,0.8s
LDF La Druitiere 19.50 312 *e*P Pn 03 38 55.9 -1.9
comp=Z,15nm,0.8s
EBER Berja 19.61 276 P Pn 03 38 58.1 -1.0
comp=Z,20nm,1.1s
EQES Quesada 19.64 279 P Pn 03 38 58.1 -1.5
comp=Z,9.1nm,0.8s
FLN La Foliniere 19.79 312 *e*P Pn 03 39 00.5 -0.8
comp=Z,36nm,0.9s
FLN *e*MLR MLR
comp=Z,89nm,17.0s
FLN La Foliniere 19.79 312 *e*P Pn 03 39 00.5 -0.8
FLN pmax pmax
comp=Z,18nm,0.9s
FLN La Foliniere 19.79 312 *e*P Pn 03 39 00.5 -0.8
comp=Z,18nm,0.9s
GRR Gorron 19.85 311 *e*P Pn 03 39 02.0 +0.1
comp=Z,20nm,0.9s
GRR Gorron 19.85 311 *e*P Pn 03 39 02.0 +0.1
GRR pmax pmax
comp=Z,10.0nm,0.9s
GRR Gorron 19.85 311 *e*P Pn 03 39 02.0 +0.1
comp=Z,10.0nm,0.9s
EALB Alboran 19.89 274 P Pn 03 39 00.7 -1.8
comp=Z,28nm,1.1s
ELAN Lanestosa 20.05 295 P P 03 39 03.1 +0.6
comp=Z,22nm,1.0s
ECOG Cogollos-Vega 20.09 278 P P 03 39 04.6 +1.5
ECOG pmax pmax
comp=Z,4.0nm,0.8s
ECOG Cogollos-Vega 20.09 278 P P 03 39 04.6 +1.5
comp=Z,4.3nm,0.8s
EGUA Guajares 20.16 276 P P 03 39 04.1 +0.3
EGUA pmax pmax
comp=Z,79nm,1.1s
EGUA Guajares 20.16 276 P P 03 39 04.1 +0.3
comp=Z,79nm,1.1s
EBAN Banos Encina 20.16 280 P P 03 39 04.0 +0.1
EBAN pmax pmax
comp=Z,5.0nm,0.8s
EBAN Banos Encina 20.16 280 P P 03 39 04.0 +0.1
comp=Z,5.3nm,0.8s
ESDC Sonseca Array 20.21 285 P P 03 39 04.6 +0.2
comp=Z,3.3nm,0.8s,baz=82,slow=11,SNR=10
ESDC Sonseca Array 20.21 285 P P 03 39 04.3 -0.1
comp=Z,14nm,1.5s
ESLA Sonseca Array 20.21 285 *e*P P 03 39 04.9 +0.5
comp=Z,3.1nm,1.0s
GUD Guadarrama 20.36 288 P P 03 39 06.9 +0.9
GUD pmax pmax
comp=Z,19nm,0.9s
GUD Guadarrama 20.36 288 P P 03 39 06.9 +0.9
comp=Z,19nm,0.9s
OBN Obninsk 20.52 25 *e*P P 03 39 09.4 +1.8
OBN *e* 03 39 24.2
OBN pmax pmax
comp=Z,7.0nm,0.8s
OBN MLR MLR
comp=Z,100nm,17.0s,MS3.2
ELUQ Luque 20.61 279 P P 03 39 08.4 -0.3
ELUQ pmax pmax
comp=Z,18nm,1.0s
ELUQ Luque 20.61 279 P P 03 39 08.4 -0.4
comp=Z,18nm,1.0s
EADA Adamuz 20.79 281 P P 03 39 10.3 -0.3
comp=Z,12nm,1.0s
SGMF Saint Gilles 20.83 309 *e*P P 03 39 10.3 -0.7
comp=Z,18nm,0.7s
SGMF Saint Gilles 20.83 309 *e*P P 03 39 10.3 -0.7
SGMF pmax pmax
comp=Z,9.0nm,0.7s
SGMF Saint Gilles 20.83 309 *e*P P 03 39 10.3 -0.7
comp=Z,9.0nm,0.7s
QUIF Quistinic 21.08 308 *e*P P 03 39 13.2 -0.5
comp=Z,29nm,1.0s,mb4.3
QUIF Quistinic 21.08 308 *e*P P 03 39 13.2 -0.5
QUIF pmax pmax
comp=Z,14nm,1.0s,mb4.2
QUIF Quistinic 21.08 308 *e*P P 03 39 13.2 -0.5
comp=Z,14nm,1.0s,mb4.3
EMIJ Mijas 21.16 276 P P 03 39 15.5 +0.9
comp=Z,7.2nm,0.7s,mb4.1
ROSF Rostrenen 21.30 309 *e*P P 03 39 15.5 -0.6
comp=Z,82nm,1.0s,mb4.7
ROSF Rostrenen 21.30 309 *e*P P 03 39 15.5 -0.6
ROSF pmax pmax
comp=Z,41nm,1.0s,mb4.7
ROSF Rostrenen 21.30 309 *e*P P 03 39 15.5 -0.6
comp=Z,41nm,1.0s,mb4.7
EARI Arriondas 21.34 295 P P 03 39 15.9 -0.7
comp=Z,19nm,1.2s,mb4.3
MOS Moscow 21.38 25 *e*P P 03 39 20.2 +3.3
MOS pmax pmax
comp=Z,65nm,1.2s,mb4.8
VSU Vasula 21.46 7 *e*P P 03 39 16.6 -1.1
ESPR Espera 21.96 277 P P 03 39 22.6 -0.7
comp=Z,2.0nm,0.6s,mb3.7
MDT Midelt 21.97 266 P P 03 39 23.7 +0.3
comp=Z,3.8nm,0.7s,mb3.9,baz=80,slow=10,SNR=15
MDT LR LR 03 48 16.7
comp=Z,60nm,19.4s,MS3.0,baz=121,slow=38
PBRG Braganca 22.34 291 *e*P P 03 39 26.0 -1.3
comp=Z,17nm,1.5s,mb4.2
ECAL Calabor 22.35 291 P P 03 39 26.5 -0.9
comp=Z,24nm,1.1s,mb4.5
RST Umm Al-Ruwaisa 22.46 103 *e*P P 03 39 25.8 -2.9
baz=103
RST AMb AMB 03 39 35.3
comp=Z,31nm,1.2s,mb4.6,baz=103
EMIN Mina Concepcio 22.48 280 P P 03 39 28.6 -0.2
comp=Z,7.6nm,1.0s,mb4.1
HGH Gray Hill 22.49 317 *e*P P 03 39 27.3 -1.4
MVO Moncorvo 22.55 289 *e*P P 03 39 28.8 -0.7
comp=Z,26nm,1.5s,mb4.4
MIB Mutribah 22.59 102 *e*P P 03 39 27.8 -2.3
baz=102
MIB AMb AMB 03 39 40.0
comp=Z,27nm,0.9s,mb4.7,baz=102
EBAD Badajoz 22.63 283 P P 03 39 29.1 -1.4
comp=Z,2.9nm,0.7s,mb3.8
KBI1 Birley Grange 22.70 322 *e*P P 03 39 29.0 -2.0
PBAR Barrancos 22.71 281 *e*P P 03 39 31.9 +0.6
comp=Z,10nm,1.7s,mb4.0
KWE Weaver Farm 22.72 321 *e*P P 03 39 30.2 -1.1
NAY Al-Naaiem 22.76 103 *e*P P 03 39 29.2 -2.7
baz=103
NAY AMb AMB 03 39 38.7
comp=Z,19nm,1.0s,mb4.5,baz=103
MCH1 Michaelchurch 22.77 318 *e*P P 03 39 30.4 -1.4
MCH1 AMb AMB 03 39 32.5
comp=Z,59nm,1.6s,mb4.8
PMRV Marv??o 22.87 284 *e*P P 03 39 31.6 -1.4
comp=Z,16nm,1.5s,mb4.2
PCBR Castelo Branco 22.91 285 *e*P P 03 39 32.7 -0.7
comp=Z,11nm,1.8s,mb4.0
MTE Manteigas 22.94 287 *e*P P 03 39 33.0 -0.7
comp=Z,14nm,1.5s,mb4.2
LHO Holmfirth 23.03 322 *e*P P 03 39 33.0 -1.5
PESTR Estremoz 23.07 283 *e*P P 03 39 33.4 -1.7
comp=Z,12nm,1.0s,mb4.3
EGRO El Granado 23.14 280 P P 03 39 35.4 -0.5
comp=Z,6.9nm,1.2s,mb4.0
PVIS Viseu 23.20 288 *e*P P 03 39 36.2 -0.2
comp=Z,13nm,0.5s,mb4.6
PCAB Cabril 23.30 290 *e*P P 03 39 36.0 -1.5
comp=Z,16nm,1.4s,mb4.3
PVAQ Vaqueiros 23.35 279 *e*P P 03 39 37.8 -0.2
comp=Z,16nm,1.1s,mb4.3
EVO Evora 23.43 282 *e*P P 03 39 38.9 0.0
EVO *e*MLR MLR
comp=Z,68nm,19.0s,MS2.8
HFS Hagfors 23.45 350 P P 03 39 36.6 -2.2
comp=Z,3.7nm,0.5s,mb4.1,baz=156,slow=11,SNR=36
HFS Hagfors 23.45 350 P P 03 39 36.6 -2.2
HFS pmax pmax
comp=Z,4.0nm,0.5s
PBDV Barranco-do-Ve 23.54 279 *e*P P 03 39 39.8 -0.2
comp=Z,21nm,1.0s,mb4.5
KONO Kongsberg 23.71 345 *e*P P 03 39 39.3 -2.0
NAO01 NORSAR Array S 24.57 347 *e*P P 03 39 48.0 -1.1
comp=Z,5.0nm,0.7s,mb4.2
ECK Cauldkaine Hil 24.60 325 *e*P P 03 39 49.0 -0.5
NB2 NORSAR Subarra 24.69 348 P P 03 39 48.9 -1.4
comp=Z,0.3nm,0.6s,mb3.0,baz=152,slow=10
NOA NORSAR Array B 24.69 348 P P 03 39 49.1 -1.2
comp=Z,1.9nm,0.6s,mb3.8,baz=155,slow=9.0,SNR=16
NOA LR LR 03 51 08.2
comp=Z,70nm,18.4s,MS3.2,baz=25,slow=41
NOA NORSAR Array B 24.69 348 P P 03 39 49.1 -1.2

NOA pmax pmax
comp=Z,2.0nm,0.6s
NOA MLR MLR
comp=Z,70nm,18.4s
EKA Eskdalemuir Ar 24.70 325 P **P** **03 39 50.4 0.0**
comp=Z,8.6nm,0.7s,mb4.4,baz=127,slow=9.7,SNR=37
EKA Eskdalemuir Ar 24.70 325 P **P** **03 39 50.4 0.0**
EKA pmax pmax
comp=Z,9.0nm,0.7s
ESK Eskdalemuir 24.71 325 *e*P **P** **03 39 49.5 -1.0**
ESK AMb AMB 03 39 56.5
comp=Z,34nm,1.9s,mb4.5
ESK Eskdalemuir 24.71 325 *e*P **P** **03 39 50.1 -0.4**
ESK pmax pmax
comp=Z,11nm,0.7s,mb4.5
ESK Eskdalemuir 24.71 325 *e*P **P** **03 39 50.1 -0.5**
comp=Z,11nm,0.7s,mb4.5
KAF Kangasniemi 25.03 5 *e*p **P** **03 39 52.3 -1.0**
comp=Z,2.5nm,0.5s,mb4.0
KAF Kangasniemi 25.03 5 *e*P **P** **03 39 52.3 -1.0**
KAF pmax pmax
comp=Z,3.0nm,0.5s,mb4.1
EDI Edinburgh 25.07 326 *e*P **P** **03 39 53.7 -0.1**
EDI AMb AMB 03 40 01.1
comp=Z,59nm,1.6s,mb4.9
KLMR Klimovskoe 26.16 20 *i* P **P** **03 40 01.3 -2.3**
KLMR pmax pmax
comp=Z,29nm,1.3s,mb4.7
JOF Joensuu 26.34 10 *e*p **P** **03 40 03.1 -2.1**
comp=Z,2.6nm,0.6s,mb3.9
JOF Joensuu 26.34 10 *e*P **P** **03 40 03.1 -2.1**
JOF pmax pmax
comp=Z,3.0nm,0.6s,mb4.0
TOA0 Torodi Ar. Sit 29.95 222 *e*P **P** **03 40 38.8 +0.9**
TORD Torodi Ar. Bea 29.95 222 P **P** **03 40 38.2 +0.4**
comp=Z,3.5nm,0.8s,mb4.2,baz=32,slow=9.0,SNR=33
ARU Arti 31.13 40*d* *i*P **P** **03 40 47.0 -1.0**
ARU *e* 03 41 45.3
ARU *e*S **S** **03 45 51.1 -2.3**
ARU *e*SS SS 03 47 30.3 -36
ARU pmax pmax
comp=Z,12nm,2.5s,mb4.3
SVE Sverdlovsk 32.35 40 *e*P **P** **03 40 57.3 -1.3**
ARCES ARCESS Array B 32.39 2 P **P** **03 40 57.6 -1.2**
comp=Z,2.8nm,0.6s,mb4.3,baz=188,slow=9.2,SNR=22
ARCES ARCESS Array B 32.39 2 P **P** **03 40 57.6 -1.2**
ARCES pmax pmax
comp=Z,3.0nm,0.6s
KEV Kevo 32.67 3 *e*p **P** **03 41 00.1 -1.2**
comp=Z,2.6nm,0.5s,mb4.4
KEV Kevo 32.67 3 *e*P **P** **03 41 00.1 -1.2**
KEV pmax pmax
comp=Z,3.0nm,0.5s,mb4.5
BRVK Borovoye 36.94 49 *e*P **P** **03 41 37.6 -0.7**
BRVK pmax pmax
comp=Z,9.0nm,0.9s,mb4.6
BRVK Borovoye 36.94 49 *e*P **P** **03 41 37.6 -0.7**
comp=Z,8.9nm,0.9s,mb4.6
DBIC Dimbokro 38.89 225 P **P** **03 41 54.8 -0.4**
comp=Z,5.2nm,0.8s,mb4.3,baz=33,slow=13,SNR=6.3
DBIC Dimbokro 38.89 225 *e*P **P** **03 41 55.1 -0.1**
DBIC pmax pmax
comp=Z,8.0nm,0.9s
DBIC Dimbokro 38.89 225 *e*P **P** **03 41 55.1 -0.1**
comp=Z,7.8nm,0.9s,mb4.4
TIC Toumodi 39.00 225 *e*P **P** **03 41 56.5 +0.4**
comp=Z,26nm,0.6s,mb5.2
KIC Kosan Boka 39.08 225 *e*P **P** **03 41 57.3 +0.5**
comp=Z,53nm,1.1s,mb5.2
LIC Lamto 39.35 225 *e*P **P** **03 41 59.7 +0.7**
comp=Z,16nm,0.7s,mb4.5
LIC Lamto 39.35 225 *e*P **P** **03 41 59.6 +0.6**
comp=Z,106nm,2.0s,mb5.2
LIC Lamto 39.35 225 *e*P **P** **03 41 59.7 +0.7**
comp=Z,7.8nm,0.7s,mb4.5
NVS Novosibirsk 44.62 46 *e*P **P** **03 42 39.8 -1.9**
NVS pmax pmax
comp=N,2.0nm,0.7s
NVS pmax pmax
comp=E,4.0nm,0.7s
NVS pmax pmax
comp=Z,9.0nm,0.7s,mb4.7
MKAR Makanchi Array 44.99 58 P **P** **03 42 42.9 -1.9**
comp=Z,1.1nm,0.5s,mb3.9,baz=278,slow=7.0,SNR=8.1
MKAR Makanchi Array 44.99 58 *i* P **P** **03 42 43.2 -1.5**
MKAR pmax pmax
comp=Z,1.0nm,0.5s
ZAA0 Zalesovo Array 45.61 48 *e*P **P** **03 42 48.0 -1.6**
ZALV Zalesovo Beam 45.61 48 P **P** **03 42 47.5 -2.0**
comp=Z,6.2nm,0.6s,mb4.7,baz=278,slow=8.7,SNR=20
ZALV LR LR 04 02 58.1
comp=Z,50nm,18.2s,MS3.5,baz=51,slow=38
ZALV Zalesovo Beam 45.61 48 P **P** **03 42 47.5 -2.1**
ZALV pmax pmax
comp=Z,6.0nm,0.6s,mb4.7
ZALV MLR MLR
comp=Z,50nm,18.2s,MS3.5
WMQ Urumqi 49.39 61 P **P** **03 43 20.4 +1.3**
WMQ PCP PcP 03 44 42.4 +1.0
WMQ PP PP 03 45 15.0 +2.0
WMQ SCP ScP 03 48 32.9 -3.9
WMQ S **S** **03 50 22.4 -3.4**
WMQ AMB AMB
comp=Z,6.0nm,0.5s,mb4.9
WMQ AMB AMB
comp=Z,179nm,4.5s
WMQ LR LR
comp=N,43nm,20.0s,MS3.7
WMQ LR LR
comp=E,59nm,17.0s,MS3.7
WMQ LR LR
comp=Z,52nm,20.0s,MS3.5
GTA Gaotai 59.43 62 *e*P **P** **03 44 38.4 +6.1**
GTA AP pP 03 44 42.0 +6.5
GTA XP sP 03 44 43.8 +7.1
GTA AMB AMB
comp=Z,2.0nm,1.3s,mb4.0
LZH Lanzhou 63.77 63 *e*P **P** **03 45 03.5 +1.9**
LZH AP pP 03 45 09.0 +4.2
LZH XP sP 03 45 11.9 +5.8
LZH AMB AMB
comp=Z,160nm,5.2s
CD2 Chengdu 66.24 68 *e*P **P** **03 45 17.7 0.0**
CD2 AMB AMB
comp=Z,10.0nm,0.8s,mb4.9
CD2 AMB AMB
comp=Z,20nm,6.2s
HHC Hu-ho-hao-te 66.78 56 *e*P **P** **03 45 21.3 +0.3**
HHC PCP PcP 03 45 50.3 +0.4
HHC PP PP 03 47 49.6 +1.9
HHC SCP 03 49 48.8
HHC PCS 03 49 54.3
HHC S S 03 54 07.4 -5.8
HHC XS sS 03 54 29.5 +11
HHC SCS ScS 03 55 10.8 -7.5
HHC SS SS 03 58 27.6 -2.8
HHC AMB AMB
comp=Z,12nm,1.0s,mb4.9
HHC AMB AMB
comp=Z,352nm,6.4s
HHC LR LR
comp=N,191nm,17.7s,MS4.5
HHC LR LR
comp=E,155nm,17.6s,MS4.5
HHC LR LR
comp=Z,145nm,16.3s,MS4.3
KMI Kunming 68.46 74 P **P** **03 45 31.8 -0.1**
KMI PP PP 03 48 03.1 +0.3
KMI S S 03 54 28.2 -5.6
KMI SS SS 03 58 52.9 -4.3
KMI AMB AMB
comp=Z,12nm,1.4s,mb4.7
KMI LR LR
comp=Z,54nm,18.6s,MS3.8
CMAR Chiang Mai Arr 69.09 82 P **P** **03 45 34.9 -1.0**
comp=Z,1.3nm,0.3s,mb4.3,baz=305,slow=6.4,SNR=2.5
CMAR Chiang Mai Arr 69.09 82 P **P** **03 45 34.9 -1.0**
CMAR pmax pmax
comp=Z,1.0nm,0.3s
GYA Guiyang 70.73 71 P **P** **03 45 43.2 -2.7**
GYA AP pP 03 45 58.9 +10
GYA PCP PcP 03 46 03.8 -3.0
GYA PP PP 03 48 22.0 -0.4
GYA S S 03 54 51.4 -9.2
GYA AMB AMB
comp=Z,10.0nm,0.9s,mb4.8
GYA AMB AMB
comp=Z,60nm,5.8s
CN2 Changchun 73.82 47 *e*P **P** **03 46 03.7 -0.4**
NJ2 Nanjing 76.46 60 *e*P **P** **03 46 20.4 +0.9**
KSRS Korea Array 79.18 51 P **P** **03 46 32.9 -1.7**
comp=Z,1.7nm,0.6s,mb4.2,baz=301,slow=4.1,SNR=6.2
KSRS Korea Array 79.18 51 P **P** **03 46 32.9 -1.6**
KSRS pmax pmax
comp=Z,2.0nm,0.6s,mb4.2
PETK Petropavlovsk- 82.23 25 LR LR 04 29 06.0
comp=Z,22nm,19.8s,MS3.5,baz=262,slow=40
MJAR Matsushiro Arr 85.95 46 P **P** **03 47 08.9 -0.9**
comp=Z,2.5nm,0.7s,mb4.5,baz=314,slow=5.1,SNR=7.9
MJAR Matsushiro Arr 85.95 46 P **P** **03 47 08.9 -0.9**
MJAR pmax pmax
comp=Z,3.0nm,0.7s
PDAR Pinedale Array 88.82 326 P **P** **03 47 23.8 +0.2**
comp=Z,0.4nm,0.7s,mb3.9,baz=46,slow=4.3,SNR=3.7
TXAR Lajitas Array 96.27 314 P **P** **03 47 59.0 +0.7**
comp=Z,0.2nm,0.8s,mb3.6,baz=17,slow=4.3,SNR=3.2
WRA Warramunga Arr 119.56 93 PKP PKPdf 03 53 17.9 -1.8
comp=Z,0.1nm,0.3s,baz=315,slow=1.8,SNR=6.8
ASAR Alice Springs 121.14 97 PKP PKPdf 03 53 21.3 -1.3
comp=Z,0.4nm,0.6s,baz=308,slow=1.6,SNR=4.2

*DDA **06** 03:45:08.2,3966N×4146E,h9km±2km, Md3.3*
*CSEM **06** 03:45:08.5±0.3,3969N×4146E,h0km±1km, MD2.9, Error ellipse: s-maj=4.7km s-min=3.0km az=150.0*
*ISCJB **06** 03:45:10.5±0.5,3970N±003×4140E±005,h10km, Error ellipse: s-maj=5.4km s-min=3.5km az=14.7*
*ISK **06** 03:45:10.0,3981N×4144E,h9km, MD2.9*
ISC 06 03:45:10.4±0.7,3972N±003×4144E±005,h3km±5km,n15,
σ0s98/25,Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
ERZM	**Erzurum**	**0.19**	**343**	*i* P		**Pg**	**03 45 13.6**	**-0.5**
ERZM				*i* S		**Sg**	**03 45 18.2**	**+1.7**
EZM	**Erzurum**	**0.19**	**342**	PG		**Pg**	**03 45 13.3**	**-0.7**
KOPT	**Kop Dagi**	**0.78**	**292**	*i* P		**Pg**	**03 45 23.6**	**-1.8**
KOPT				*i* S		**Sg**	**03 45 36.1**	**+0.6**
DDEM	**Demirkent**	**1.19**	**11**	*i* P		**Pg**	**03 45 32.3**	**-0.9**
DDEM				*i* S		**Sg**	**03 45 50.1**	**+1.4**
AGRB	**Hanur-Agry**	**1.21**	**96**	*e*PN		**Pn**	**03 45 33.3**	**-0.9**
AGRB				*e*SN		**Sn**	**03 45 51.8**	**+0.7**
DBAD	**Bademkaya**	**1.31**	**9**	*i* P		**Pg**	**03 45 34.3**	**-1.2**
DBAD				*i* S		**Sg**	**03 45 52.8**	**+0.3**
DAGI	**Agillar**	**1.40**	**15**	*i* P		**Pn**	**03 45 36.1**	**-0.7**
DAGI				*i* S		**Sg**	**03 45 56.7**	**+1.3**
ARTV	**Artvin**	**1.51**	**14**	*i* P		**Pn**	**03 45 38.0**	**-0.4**
ARTV				*i* S		**Sn**	**03 45 59.5**	**+1.0**
DBOC	**Borcka**	**1.63**	**6**	*i* P		**Pn**	**03 45 39.6**	**-0.4**
DBOC				*i* S		**Sn**	**03 46 01.9**	**+0.4**
GUMT	**Gumushane**	**1.67**	**297**	*e*PN		**Pn**	**03 45 39.8**	**-0.8**
BCA	**Borcka**	**1.73**	**5**	*e*PN		**Pn**	**03 45 39.2**	**-2.1**
PTK	**Pertek**	**1.79**	**243**	*e*PN		**Pn**	**03 45 41.9**	**-0.3**
PTK				*e*SN		**Sn**	**03 46 06.5**	**+1.0**
BEST	**Besiri**	**1.83**	**184**	*i* P		**Pg**	**03 45 45.4**	**-0.1**
BEST				*i* S		**Sg**	**03 46 10.8**	**+1.5**
SVRC	**Sivrice-ELAZID**	**2.13**	**232**	*e*PN		**Pn**	**03 45 47.3**	**+0.4**
ESPY	**Espiye-Giresun**	**2.39**	**301**	*e*PN		**Pn**	**03 45 50.8**	**+0.3**

*ISCJB **06** 04:01:07.7±0.4,3907N±002×2678E±003,h6km±4km, Error ellipse: s-maj=4.0km s-min=3.2km az=145.7*
*ISK **06** 04:01:07.2,3907N×2678E,h9km, MD3.0*
*DDA **06** 04:01:08.0,3910N×2683E,h7km±4km, Md2.9*
*CSEM **06** 04:01:07.1±0.1,3905N×2680E,h8km, MD2.9, Error ellipse: s-maj=1.9km s-min=1.5km az=67.0*
*THE **06** 04:01:10.1,3902N×2661E,h8km, ML2.7/3, Error ellipse: s-maj=1.6km s-min=0.5km az=265.0*
ISC 06 04:01:08.1±0.4,3907N±002×2677E±003,h7km±3km,n33,
σ0s77/48,1C-2D,Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
AYVA	**Ayvalik**	**0.25**	**345**	*i* P		**Pg**	**04 01 13.4**	**+0.3**
AYVA				*i* S		**Sg**	**04 01 17.4**	**+1.0**
PRK	**Paraskevi**	**0.43**	**295**	P		**Pg**	**04 01 16.9**	**+0.4**
PRK				S		**Sg**	**04 01 22.2**	**+0.1**
BLCB	**Balcova**	**0.71**	**163**	*e*PG		**Pg**	**04 01 21.4**	**-0.5**
BLCB				*e*SG		**Sg**	**04 01 31.4**	**+0.3**
URLA	**Izmir**	**0.72**	**191**	⇓*i*P		**Pg**	**04 01 21.2**	**-0.8**
URLA				*i* S		**Sg**	**04 01 34.5**	**+3.2**
KDAG	**Bornova**	**0.77**	**150**	*e*P		**Pg**	**04 01 22.7**	**-0.2**
KDAG				*e*S		**Sg**	**04 01 35.1**	**+2.3**
IZM	**Izmir**	**0.77**	**150**	*e*PG		**Pg**	**04 01 22.8**	**-0.1**
AKS	**Akhisar**	**0.83**	**103**	*e*PG		**Pg**	**04 01 24.1**	**0.0**
EZN	**Ezine**	**0.83**	**336**	*e*PG		**Pg**	**04 01 23.2**	**-1.0**
CHOS	**Chios island**	**0.88**	**220**	P		**Pg**	**04 01 24.6**	**-0.5**
CHOS				S		**Sg**	**04 01 35.7**	**-0.8**
BALY	**Balya**	**0.94**	**44**	⇓*i*P		**Pg**	**04 01 25.6**	**-0.6**
BALY				*i* S		**Sg**	**04 01 38.7**	**+0.3**
BALY	**Balya**	**0.94**	**44**	*i* P		**Pg**	**04 01 25.5**	**-0.7**
BALY				*i* S		**Sg**	**04 01 38.7**	**+0.3**
BOZC	**Bozcaada**	**0.95**	**324**	⇓*i*P		**Pg**	**04 01 26.1**	**-0.4**
BOZC				*i* S		**Sg**	**04 01 39.6**	**+0.8**
BALB	**Balikesir**	**1.03**	**56**	*e*PG		**Pg**	**04 01 27.2**	**-0.8**
BALB				*e*SG		**Sg**	**04 01 41.6**	**+0.2**
LPK	**Lapseki**	**1.30**	**360**	*e*PN		**Pn**	**04 01 31.9**	**-0.8**
GADA	**Gvkgeada**	**1.31**	**329**	*e*PN		**Pn**	**04 01 32.4**	**-0.5**
DURS	**Dursunbey**	**1.42**	**67**	*e*P		**Pn**	**04 01 33.2**	**-1.2**
DURS				*e*S		**Sb**	**04 01 52.8**	**-0.5**
LIA	**Limnos Island**	**1.48**	**305**	P		**Pn**	**04 01 35.2**	**0.0**
LIA				S		**Sn**	**04 01 54.3**	**-0.5**
MANT	**Manisa**	**1.51**	**112**	*e*P		**Pn**	**04 01 36.7**	**+1.1**
MANT				*e*S		**Sn**	**04 01 56.8**	**+1.4**
EDC	**Edincik**	**1.53**	**33**	*e*PN		**Pn**	**04 01 35.6**	**-0.2**
DST	**Dursunbey**	**1.54**	**69**	*e*PN		**Pn**	**04 01 34.7**	**-1.2**
BNT	**Bandirma**	**1.56**	**34**	*e*PN		**Pn**	**04 01 34.7**	**-1.6**
LOS	**Limnos**	**1.57**	**304**	P		**Pn**	**04 01 36.7**	**+0.3**
KULA	**Kula-Manisa**	**1.57**	**110**	*e*PN		**Pn**	**04 01 35.6**	**-0.8**
RKY	**Sarkoy-Tekirda**	**1.65**	**11**	*e*PN		**Pn**	**04 01 37.4**	**-0.1**
SART	**Tekirdag**	**1.65**	**11**	*e*P		**Pn**	**04 01 37.6**	**+0.1**
SART				*e*S		**Sn**	**04 01 59.9**	**+1.0**
MRMT	**Marmara Adasi**	**1.66**	**22**	*e*PN		**Pn**	**04 01 37.9**	**+0.2**
ENEZ	**Enez**	**1.73**	**344**	*e*PN		**Pn**	**04 01 38.8**	**+0.2**
MFT	**Murefte**	**1.76**	**13**	*e*PN		**Pn**	**04 01 38.9**	**-0.1**
ALN	**Alexandroupoli**	**1.91**	**343**	P		**Pn**	**04 01 42.0**	**+0.9**
ALN				S		**Sn**	**04 02 06.5**	**+1.1**
YLV	**Yalova**	**2.50**	**52**	*e*PN		**Pn**	**04 01 49.2**	**0.0**
CTKS	**Kestenalik-??a**	**2.54**	**31**	*e*PN		**Pn**	**04 01 49.9**	**+0.1**
EDRB	**Edirne**	**2.78**	**360**	*e*PN		**Pn**	**04 01 53.1**	**+0.1**
GULT	**Gulveren**	**3.19**	**64**	*e*PN		**Pn**	**04 01 59.1**	**+0.4**

*GII **06** 04:29:46.0±0.0,3543N×2469E,h0km, mb4.4/1, ML4.0/2*
*NEIC **06** 04:30:17.5,3458N×2698E,h23km, mb4.0/32, MD4.1(ATH), After ATH.*
*ATH **06** 04:30:17.5,3458N×2698E,h23km±5km, MD4.1/12*
*ISCJB **06** 04:30:17.6±0.2,3449N±002×2708E±002,h54km±3km, mb4.1/53, MS3.2/7, Error ellipse: s-maj=4.0km s-min=2.3km az=36.5*
*CSEM **06** 04:30:18.3±0.3,3471N×2701E,h12km, Ms2.9, Error ellipse: s-maj=8.6km s-min=2.6km az=166.0*
*MOS **06** 04:30:18.7±1.1,3483N×2695E,h33km, mb4.3/34, Error ellipse: s-maj=8.9km s-min=4.2km az=115.8*
*THE **06** 04:30:18.2,3464N×2702E,h0km±3km, ML4.0/1, Error ellipse: s-maj=6.8km s-min=1.5km az=111.0*
*HLW **06** 04:30:21.7,3434N×2722E,h40km, Mb4.0*
*IDC **06** 04:30:24.5±2.4,3492N×2679E,h66km±21km, mb3.9/15, mb1 4.0/19, mb1mx3.9/29, mbtmp4.0/19, MS3.3/3, Ms1 3.3/3, ms1mx2.7/41, Error ellipse: s-maj=21.6km s-min=12.2km az=153.0*
ISC 06 04:30:19.4±0.2,3452N±002×2704E±002,h46km±3km,
n293,σ1s10/304,mb4.1/53,MS3.2/7,10C-5D,Eastern Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
ZKR	**Zakros**	**0.90**	**312**	P		**Pn**	**04 30 33.0**	**-2.6**
ZKR				S		**Sn**	**04 30 46.7**	**-0.8**
KARP	**Karpathos**	**1.03**	**6**	*e*Pn		**Pn**	**04 30 36.2**	**-1.3**
KARP	**Karpathos**	**1.03**	**6**	*e*PN		**Pn**	**04 30 36.2**	**-1.3**
NPS	**Neapolis**	**1.39**	**303**	*e*Pn		**Pn**	**04 30 42.6**	**+0.3**
NPS	**Neapolis**	**1.39**	**303**	*e*PN		**Pn**	**04 30 42.6**	**+0.3**

LAST Lasithi 1.43 297 P **Pn** **04 30 42.8 -0.1**
LAST S **Sn** **04 31 02.1 +1.6**
LAST Lasithi 1.43 297 P **Pn** **04 30 44.4 +1.5**
SIVA Sivas 1.90 286 P **Pn** **04 30 51.2 +1.9**
ARG Arkhangelos 1.92 27 *e*Pn **Pn** **04 30 51.3 +1.8**
ARG Arkhangelos 1.92 27 *e*PN **Pn** **04 30 51.3 +1.8**
IDI Anoyia 1.92 294 P **Pn** **04 30 50.9 +1.3**
11nm,0.3s,baz=76,slow=14,SNR=58
NISR Nisiros 2.09 2 *e*Pn **Pn** **04 30 53.0 +1.1**
NISR Nisiros 2.09 2 *e*PN **Pn** **04 30 53.0 +1.1**
SANT Santorini 2.25 326 P **Pn** **04 30 54.0 -0.1**
SANT Santorini 2.25 326 *e*Pn **Pn** **04 30 54.0 0.0**
THR5 Thira Island, 2.27 324 P **Pn** **04 30 54.4 0.0**
THR3 Thira Island, 2.31 325 P **Pn** **04 30 55.0 +0.1**
THR5 Thira Island, 2.34 324 P **Pn** **04 30 55.1 -0.3**
VAM Vamos 2.49 292 *e*Pb **Pn** **04 30 59.0 +1.6**
VAM Vamos 2.49 292 *e*PB **Pn** **04 30 59.0 +1.6**
BDRM Kayabasi 2.56 7 *e*P **Pn** **04 30 58.1 -0.3**
KSL Kastellorizon 2.65 51 *e*Pn **Pn** **04 31 00.5 +1.0**
KSL Kastellorizon 2.65 51 *e*PN **Pn** **04 31 00.5 +1.0**
TURN Turunc 2.67 28 *e*P **Pn** **04 30 57.8 -2.1**
AKAS Kas 2.71 50 ⇑*i*P **Pn** **04 31 01.6 +1.2**
AKAS Kas 2.71 50 *i* P **Pn** **04 31 01.6 +1.2**
APE Apeiranthos 2.82 335 P **Pn** **04 31 01.9 -0.1**
APE Apeiranthos 2.82 335 *e*Pn **Pn** **04 31 02.0 0.0**
APE Apeiranthos 2.82 335 *e*PN **Pn** **04 31 02.0 0.0**
GCAM G?zelcaml? 3.18 3 *e*P **Pn** **04 31 07.7 +0.8**
SMG Samos 3.19 357 *e*Pn **Pn** **04 31 07.3 +0.3**
SMG Samos 3.19 357 *e*PN **Pn** **04 31 07.3 +0.3**
AYDN Tasoluk 3.21 12 ⇑*i*P **Pn** **04 31 08.0 +0.8**
SLUM 3.38 207 ⇓P **Pn** **04 31 10.9 +1.3**
SLUM S **Sn** **04 31 46.7 -1.9**
GOLH Golhisar 3.40 36 ⇑*i*P **Pn** **04 31 11.9 +2.0**
HMAT Matruh 3.41 179 ⇑*e*P **Pn** **04 31 10.6 +0.5**
DNZL Cakiroluk 3.56 27 *e*P **Pn** **04 31 13.0 +0.9**
LTBQ Tobruq 3.58 228 *i* P **Pn** **04 31 15.1 +2.7**
SNR=101
KYTH Kithira 3.71 299 *e*Pn **Pn** **04 31 14.5 +0.4**
KYTH Kithira 3.71 299 *e*PN **Pn** **04 31 14.5 +0.4**
URLA Izmir 3.85 355 *e*P **Pn** **04 31 16.2 +0.1**
KDAG Bornova 3.88 3 *e*P **Pn** **04 31 16.8 +0.3**
CHOS Chios island 3.94 349 P **Pn** **04 31 17.3 0.0**
VLI Veliai 4.00 305 *e*Pn **Pn** **04 31 18.2 +0.1**
VLI Veliai 4.00 305 *e*PN **Pn** **04 31 18.2 +0.1**
MANT Manisa 4.15 17 *e*P **Pn** **04 31 20.5 +0.3**
DID Didima 4.29 315 P **Pn** **04 31 22.0 0.0**
NAIG Nisos Aigina 4.32 319 *e*Pn **Pn** **04 31 23.5 +0.9**
NAIG Nisos Aigina 4.32 319 *e*PN **Pn** **04 31 23.5 +0.9**
ATH Athens Observa 4.37 323 *e*Pn **Pn** **04 31 24.0 +0.8**
ATH Athens Observa 4.37 323 *e*PN **Pn** **04 31 24.0 +0.8**
AKMC Akamas 4.39 82 P **Pn** **04 31 22.4 -1.0**
PPCY Paphos 4.39 84 P **Pn** **04 31 22.9 -0.6**
TKTP Tekketepe 4.40 36 *e*P **Pn** **04 31 24.4 +0.7**
ALFC Alevga 4.62 80 P **Pn** **04 31 25.8 -0.8**
7.6nm,0.4s
VLX Vlachokerasia 4.73 308 P **Pn** **04 31 27.7 -0.4**
PRK Paraskevi 4.76 353 P **Pn** **04 31 29.2 +0.7**
LTK Loutraki 4.80 318 P **Pn** **04 31 29.5 +0.4**
ITM Ithomi 4.93 304 *e*Pn **Pn** **04 31 31.5 +0.7**
ITM Ithomi 4.93 304 *e*PN **Pn** **04 31 31.5 +0.7**
GDZ Gediz 4.97 23 *e*P **Pn** **04 31 31.7 +0.3**
CSS Prodhromos 5.20 83 P **Pn** **04 31 33.8 -0.8**
CSS Prodhromos 5.20 83 P **Pn** **04 31 34.5 -0.1**
DURS Dursunbey 5.20 12 *e*P **Pn** **04 31 34.9 +0.3**
BALY Balya 5.23 5 ⇑*i*P **Pn** **04 31 35.6 +0.6**
LKR Lokris 5.25 323 P **Pn** **04 31 36.9 +1.7**
NEO Neokhori 5.67 329 P **Pn** **04 31 36.0 -5.0**
KDHN Kadinhani 5.72 44 *e*P **Pn** **04 31 42.8 +1.1**
AGG Agios Georgios 5.87 321 P **Pn** **04 31 45.0 +1.2**
AGG S **Sn** **04 32 50.5 +0.8**
MEST Erdemli 6.15 68 *e*P **Pn** **04 31 48.3 +0.7**
HSAF As Saff 6.21 141 ⇑P **Pn** **04 31 48.3 -0.2**
HHAG Hagoal 6.25 135 ⇑P **Pn** **04 31 48.8 -0.3**
GLL Jalalah 6.32 140 P **Pn** **04 31 50.1 0.0**
GLL S **Sn** **04 32 54.1 -6.9**
VLS Valsamata 6.35 307 P **Pn** **04 31 52.4 +2.0**
AWBH 6.38 165 ⇑P **Pn** **04 31 51.1 +0.3**
AMAG Maghara 6.49 125 ⇓*e*P **Pn** **04 31 51.8 -0.4**
LKD Levkas 6.62 311 P **Pn** **04 31 53.8 -0.3**
RSH 6.66 120 P **Pn** **04 31 54.3 -0.3**
SUZ 6.77 132 P **Pn** **04 31 56.1 -0.1**
LJBD Adjabya 6.79 240 *i* P **Pn** **04 31 56.6 +0.2**
SNR=95
SLTI Sal'it 7.07 107 Pn **Pn** **04 31 59.7 -0.5**
HRSH Kfar Ka'horesh 7.11 102 P **Pn** **04 31 54.3 -6.6**
MMAI Mount Meron Ar 7.13 100 P **Pn** **04 32 01.0 0.0**
5.6nm,0.3s,baz=262,slow=12,SNR=18
MMAI S **Sn** **04 33 20.1 -0.6**
8.2nm,0.3s,baz=271,slow=22,SNR=7.4
ZNM 7.13 134 ⇓P **Pn** **04 32 00.9 -0.3**
KZIT Kziot 7.17 118 Pn **Pn** **04 32 00.6 -1.1**
KSDI Kefar Szold 7.29 98 Pn **Pn** **04 32 02.1 -1.2**
MMLI Mount Malkishu 7.31 104 Pn **Pn** **04 32 02.7 -0.8**
RTMI Retamim 7.31 116 Pn **Pn** **04 32 02.3 -1.3**
HRI Mount Hermon 7.34 97 Pn **Pn** **04 32 01.8 -2.2**
BR131 Keskin Array S 7.40 43 *e*Pn **Pn** **04 32 06.1 +1.3**
1.3nm,0.4s
BR131 Keskin Array S 7.40 43 *e*Pn **Pn** **04 32 06.1 +1.3**
1.3nm,0.4s
HFRF Wahat Farafira 7.43 171 ⇓P **Pn** **04 32 05.7 +0.6**
HMDT Nahal Hemdat 7.45 105 Pn **Pn** **04 32 05.3 -0.2**
HNKL Nakhl 7.45 126 P **Pn** **04 32 05.6 0.0**
YTIR Yattir 7.49 113 Pn **Pn** **04 32 06.1 +0.2**
DSI Dead Sea 7.60 110 Pn **Pn** **04 32 07.1 -0.4**
RMNI Mount Ramon 7.60 119 Pn **Pn** **04 32 06.9 -0.7**
MZDA Masada 7.70 112 Pn **Pn** **04 32 08.4 -0.5**
KRMI Paran Flat 7.85 122 Pn **Pn** **04 32 10.1 -0.9**
PRNI Paran 7.91 119 Pn **Pn** **04 32 11.2 -0.6**
ZFRI Zfri 7.93 118 Pn **Pn** **04 32 12.1 +0.1**
GRB Gharib 7.93 140 P **Pn** **04 32 12.4 +0.3**
HRFI Mount Harif 8.11 121 Pn **Pn** **04 32 14.3 -0.3**
MBRI Mt Berech 8.17 123 Pn **Pn** **04 32 15.0 -0.4**
EIL Elat 8.27 124 P **Pn** **04 32 16.8 0.0**
2.7nm,0.3s,baz=13,slow=21,SNR=64
EIL S **Sn** **04 33 46.7 -2.2**
3.1nm,0.3s,baz=322,slow=19,SNR=6.4
EIL Elat 8.27 124 P **Pn** **04 32 16.8 0.0**
EIL S **Sn** **04 33 46.7 -2.2**
TR2 8.37 135 P **Pn** **04 32 18.7 0.0**
HBST Basata 8.41 127 ⇑*e*P **Pn** **04 32 18.9 +0.2**
HKAT Jabal Katrina 8.42 133 P **Pn** **04 32 18.6 -0.2**
ASF Jabal al Asfar 8.58 103 P **Pn** **04 32 20.0 -0.9**
0.4nm,0.3s,baz=155,slow=7.9,SNR=3.8
ASF S **Sn** **04 33 56.6 +0.3**
0.4nm,0.3s,baz=226,slow=19,SNR=3.8
TIP Timpagrande 9.46 302 *e*Pn **Pn** **04 32 30.7 -2.2**
6.9nm,0.3s
TIP Timpagrande 9.46 302 *e*Pn **Pn** **04 32 30.7 -2.3**
6.9nm,0.3s
HSFG 9.90 141 P **Pn** **04 32 39.5 +0.4**
CUC Castrocucco 10.48 305 *e*Pn **Pn** **04 32 44.7 -2.2**
29nm,0.6s
CUC Castrocucco 10.48 305 *e*Pn **Pn** **04 32 44.6 -2.2**
29nm,0.6s
VAE Valguarnera 10.64 290 P **Pn** **04 32 50.1 +0.9**
1.6nm,0.3s,baz=80,slow=9.3,SNR=5.2
VAE S **Sn** **04 34 45.9 -1.0**
1.3nm,0.3s,baz=275,slow=11,SNR=3.7
MLR Muntele Rosu 10.99 356 P **Pn** **04 32 54.8 +0.9**
0.6nm,0.3s,baz=293,slow=13,SNR=3.6
MLR Muntele Rosu 10.99 356 P **Pn** **04 32 54.8 +0.9**
MLR pmax pmax
comp=Z,1.0nm,0.3s
KOLS Kolonicke sedl 14.83 348 *i* P **Pn** **04 33 50.4 +4.4**
GNI Garni 15.16 63 LR LR 04 41 17.6
comp=Z,114nm,21.6s,baz=292,slow=43
VYHS Vyhne 15.24 339 *e*PN **Pn** **04 33 50.9 -0.4**
KIV Kislovodsk 15.34 47 *e*P **Pn** **04 33 52.4 -0.2**
KIV pmax pmax
comp=Z,6.0nm,0.8s
KIV MLR MLR
comp=Z,100nm,13.0s
KIV Kislovodsk 15.34 47 *e*P **Pn** **04 33 52.4 -0.2**
comp=Z,100nm,13.0s
STHS Stebnicka Huta 15.49 346 *i* P **Pn** **04 33 58.7 +4.2**
STHS pmax pmax
comp=Z,5.0nm,0.8s
STHS Stebnicka Huta 15.49 346 *i* P **Pn** **04 33 58.7 +4.2**
comp=Z,5.3nm,0.8s
AKASG Malin Array Be 16.25 5 P **Pn** **04 34 03.7 -0.5**
comp=Z,6.0nm,0.3s,baz=194,slow=11,SNR=28
AKASG Malin Array Be 16.25 5 P **Pn** **04 34 03.7 -0.6**

AKASG pmax pmax
comp=Z,6.0nm,0.3s
AKASG Malin Array Be 16.25 5 P **Pn 04 34 03.7 -0.5**
GEC2 GERESS Array S 17.40 329 *eP* **Pn 04 34 17.7 -0.9**
GEC2 pmax pmax
comp=Z,5.0nm,1.3s
GEC2 GERESS Array S 17.40 329 *eP* **Pn 04 34 17.7 -0.9**
comp=Z,5.0nm,1.3s
GERES GERESS Array B 17.40 329 P **Pn 04 34 16.9 -1.7**
comp=Z,0.5nm,0.3s,baz=136,slow=11,SNR=15
GERES GERESS Array B 17.40 329 P **Pn 04 34 16.9 -1.7**
GERES pmax pmax
comp=Z,1.0nm,0.3s
DPC Dobruska-Polom 17.66 337 *eP* **Pn 04 34 20.0 -1.8**
KHC Kasperske Hory 17.67 330 *eP* **Pn 04 34 20.1 -1.9**
KHC Kasperske Hory 17.67 330 *eP* **Pn 04 34 19.8 -2.2**
SBF Sospel 17.80 307 *eP* **Pn 04 34 22.2 -1.3**
MIB Mutribah 17.82 100 *eP* **Pn 04 34 26.7 +2.8**
baz=100
MIB AMb AMB 04 34 27.6
comp=Z,25nm,0.7s,baz=100
UPC Upice 17.89 337 *eP* **Pn 04 34 23.2 -1.5**
NAY Al-Naaiem 17.94 101 *eP* **Pn 04 34 28.2 +2.8**
baz=102
NAY AMb AMB 04 34 29.6
comp=Z,12nm,1.0s,baz=102
PRU Pruhonice 17.97 333 *eP* **Pn 04 34 23.4 -2.2**
WET Wettzell 17.98 329 *eP* **Pn 04 34 24.7 -1.0**
WET pmax pmax
comp=Z,10.0nm,1.6s
WET Wettzell 17.98 329 *eP* **Pn 04 34 24.7 -1.0**
comp=Z,10.0nm,1.6s
UMR Umm Al-Rimmam 18.21 100 *eP* **Pn 04 34 30.6 +1.9**
baz=100
UMR AMb AMB 04 34 32.6
comp=Z,22nm,0.7s,baz=100
MBDF Montbardon 18.60 309 *eP* **Pn 04 34 32.2 -1.1**
comp=Z,8.9nm,0.7s
MBDF Montbardon 18.60 309 *eP* **Pn 04 34 32.2 -1.1**
MBDF pmax pmax
comp=Z,4.0nm,0.7s
MBDF Montbardon 18.60 309 *eP* **Pn 04 34 32.2 -1.1**
comp=Z,4.4nm,0.7s
BRG Berggiesshubel 18.92 334 *eP* **Pn 04 34 34.8 -2.3**
BRG pmax pmax
comp=Z,1.0nm,0.8s
BRG Berggiesshubel 18.92 334 *eP* **Pn 04 34 34.8 -2.3**
comp=Z,1.0nm,0.8s
LPG La Plagne 18.96 311 *eP* **Pn 04 34 37.8 +0.1**
comp=Z,8.0nm,0.7s
LPG La Plagne 18.96 311 *eP* **Pn 04 34 37.8 +0.1**
LPG pmax pmax
comp=Z,4.0nm,0.7s
LPG La Plagne 18.96 311 *eP* **Pn 04 34 37.8 +0.1**
comp=Z,4.0nm,0.7s
LPL La Plagne 18.98 311 *eP* **Pn 04 34 38.1 +0.2**
comp=Z,5.9nm,0.5s
LPL La Plagne 18.98 311 *eP* **Pn 04 34 38.1 +0.2**
LPL pmax pmax
comp=Z,3.0nm,0.5s
LPL La Plagne 18.98 311 *eP* **Pn 04 34 38.1 +0.2**
comp=Z,3.0nm,0.5s
TANN Tannenbergstha 19.12 331 *eP* **Pn 04 34 38.4 -1.2**
comp=Z,6.0nm,1.1s
ORIF Oris-en-Rattie 19.25 309 *eP* **Pn 04 34 39.2 -1.9**
ORIF *e*MLR MLR
comp=Z,100nm,20.0s
BFO Black Forest 19.61 320 *eP* **Pn 04 34 50.4 +5.1**
BFO pmax pmax
comp=Z,4.0nm,0.7s
BFO Black Forest 19.61 320 *eP* **Pn 04 34 50.4 +5.1**
comp=Z,4.0nm,0.7s
CLL Collm 19.62 333 *eP* **Pn 04 34 44.1 -1.3**
comp=Z,6.0nm,0.6s
CLL Collm 19.62 333 *i* P **Pn 04 34 43.9 -1.5**
comp=Z,5.0nm,0.6s
CLL *es*P sP 04 34 51.0 -10
CLL Collm 19.62 333 *eP* **Pn 04 34 42.0 -3.4**
MOX Moxa 19.65 330 *eP* **Pn 04 34 45.9 +0.1**
comp=Z,6.0nm,1.0s
MOX Moxa 19.65 330 *eP* **Pn 04 34 46.0 +0.2**
CABF La Chapelle 19.91 314 *eP* **Pn 04 34 46.3 -2.6**
comp=Z,14nm,0.7s
CABF La Chapelle 19.91 314 *eP* **Pn 04 34 46.3 -2.6**
CABF pmax pmax
comp=Z,7.0nm,0.7s
CABF La Chapelle 19.91 314 *eP* **Pn 04 34 46.3 -2.6**
comp=Z,7.2nm,0.7s
VIVF Saint-Julien-l 20.01 308 *eP* **P 04 34 47.9 -0.1**
HINF Hinteralfeld 20.11 317 *eP* **P 04 34 47.8 -1.3**
comp=Z,3.2nm,0.5s
HINF Hinteralfeld 20.11 317 *eP* **P 04 34 47.8 -1.3**
HINF pmax pmax
comp=Z,2.0nm,0.5s
HINF Hinteralfeld 20.11 317 *eP* **P 04 34 47.8 -1.3**
comp=Z,1.6nm,0.5s
CDF Champ du Feu 20.22 319 *eP* **P 04 34 49.5 -0.8**
HAU Haudompre 20.49 317 *eP* **P 04 34 52.0 -1.3**
comp=Z,6.7nm,0.5s
HAU *e*MLR MLR
comp=Z,91nm,17.8s,MS2.9
HAU Haudompre 20.49 317 *eP* **P 04 34 52.0 -1.3**
HAU pmax pmax
comp=Z,3.0nm,0.5s
HAU MLR MLR
comp=Z,90nm,17.8s,MS3.2
HAU Haudompre 20.49 317 *eP* **P 04 34 52.0 -1.3**
comp=Z,3.3nm,0.5s
HAU LR LR
comp=Z,90nm,17.8s,MS3.2
TNS Taunus Mts 20.76 325 *eP* **P 04 34 56.0 -0.2**
TNS pmax pmax
comp=Z,14nm,1.4s
TNS Taunus Mts 20.76 325 *eP* **P 04 34 56.0 -0.2**
comp=Z,14nm,1.4s
CLZ Clausthal 21.07 330 *eP* **P 04 34 57.8 -1.6**
CLZ pmax pmax
comp=Z,23nm,2.0s,mb4.2
CLZ Clausthal 21.07 330 *eP* **P 04 34 57.8 -1.6**
comp=Z,23nm,2.0s,mb4.2
SMF Signal de Mont 21.29 312 *eP* **P 04 35 00.5 -1.4**
comp=Z,6.2nm,0.6s,mb3.8
SMF Signal de Mont 21.29 312 *eP* **P 04 35 00.5 -1.4**
SMF pmax pmax
comp=Z,3.0nm,0.6s,mb3.8
SMF Signal de Mont 21.29 312 *eP* **P 04 35 00.5 -1.4**
comp=Z,3.1nm,0.6s,mb3.8
MEZF Maizieres J'vi 21.49 317 *eP* **P 04 35 03.6 -0.4**
comp=Z,11nm,0.6s,mb4.1
MEZF Maizieres J'vi 21.49 317 *eP* **P 04 35 03.6 -0.4**
comp=Z,5.3nm,0.6s,mb4.1
LOR Lormes 21.56 313 *eP* **P 04 35 03.4 -1.4**
comp=Z,5.9nm,0.6s,mb3.9
LOR *e*MLR MLR
comp=Z,109nm,18.5s,MS3.0
LOR Lormes 21.56 313 *eP* **P 04 35 03.4 -1.4**
LOR pmax pmax
comp=Z,3.0nm,0.6s,mb3.9
LOR MLR MLR
comp=Z,110nm,18.5s,MS3.3
LOR Lormes 21.56 313 *eP* **P 04 35 03.4 -1.4**
comp=Z,3.0nm,0.6s,mb3.9
LOR LR LR
comp=Z,110nm,18.5s,MS3.3
OBN Obninsk 21.64 15 *i*P **P 04 35 04.7 -0.8**
OBN pmax pmax
comp=Z,25nm,1.0s,mb4.6
OBN MLR MLR
comp=Z,100nm,15.0s,MS3.3
OBN Obninsk 21.64 15 *i* P **P 04 35 04.7 -0.8**
comp=Z,100nm,15.0s
AVF Avril sur Loir 21.66 312 *eP* **P 04 35 04.1 -1.7**
comp=Z,5.6nm,0.8s,mb3.8
AVF Avril sur Loir 21.66 312 *eP* **P 04 35 04.1 -1.7**
AVF pmax pmax
comp=Z,3.0nm,0.8s,mb3.8
AVF Avril sur Loir 21.66 312 *eP* **P 04 35 04.1 -1.7**
comp=Z,2.8nm,0.8s,mb3.8
SSF Saint Saulge 21.68 312 *eP* **P 04 35 05.0 -1.1**
comp=Z,13nm,0.8s,mb4.1
SSF Saint Saulge 21.68 312 *eP* **P 04 35 05.0 -1.1**
SSF pmax pmax
comp=Z,7.0nm,0.8s,mb4.1
SSF Saint Saulge 21.68 312 *eP* **P 04 35 05.0 -1.1**
comp=Z,6.5nm,0.8s,mb4.1
BGF Bois d'Agland 21.87 311 *eP* **P 04 35 06.6 -1.5**
comp=Z,7.0nm,0.5s,mb4.0
BGF Bois d'Agland 21.87 311 *eP* **P 04 35 06.6 -1.5**
BGF pmax pmax
comp=Z,4.0nm,0.5s,mb4.1
BGF Bois d'Agland 21.87 311 *eP* **P 04 35 06.6 -1.5**
comp=Z,3.5nm,0.5s,mb4.0
TAM Tamanrasset 22.15 244 *eP* **P 04 35 15.0 +3.7**
MEM Membach 22.21 323 P **P 04 35 11.6 0.0**
comp=Z,4.1nm,1.2s,mb3.7
RJF Les Rejaudoux 22.25 307 *eP* **P 04 35 11.7 -0.5**
RJF *e*MLR MLR
comp=Z,78nm,18.5s,MS2.9
RJF Les Rejaudoux 22.25 307 *eP* **P 04 35 11.7 -0.5**
RJF LR LR
comp=Z,80nm,18.5s,MS3.2
BCLA Clavier 22.45 322 P **P 04 35 15.7 +1.5**
comp=Z,12nm,2.3s,mb3.9
BCLA Clavier 22.45 322 P **P 04 35 15.6 +1.4**
comp=Z,12nm,2.3s,mb3.9
LFF La Frestale 22.85 305 *eP* **P 04 35 15.8 -0.6**
BAIF Baives 22.81 320 *eP* **P 04 35 17.1 -0.9**
comp=Z,21nm,0.9s,mb4.3
BAIF Baives 22.81 320 *eP* **P 04 35 17.1 -0.9**
BAIF pmax pmax
comp=Z,11nm,0.9s,mb4.3
BAIF Baives 22.81 320 *eP* **P 04 35 17.1 -0.9**
comp=Z,11nm,0.9s,mb4.3
ETSF Etsaut 23.02 300 *eP* **P 04 35 22.1 +1.7**
comp=Z,2.4nm,0.4s,mb3.7
ETSF Etsaut 23.02 300 *eP* **P 04 35 22.1 +1.7**
ETSF pmax pmax
comp=Z,1.0nm,0.4s,mb3.6
ETSF Etsaut 23.02 300 *eP* **P 04 35 22.1 +1.7**
comp=Z,1.2nm,0.4s,mb3.7
SJPF Ste Jean 23.55 300 *eP* **P 04 35 26.8 +1.3**
comp=Z,9.2nm,0.7s,mb4.0
SJPF Ste Jean 23.55 300 *eP* **P 04 35 26.8 +1.3**
SJPF pmax pmax
comp=Z,5.0nm,0.7s,mb4.0
SJPF Ste Jean 23.55 300 *eP* **P 04 35 26.8 +1.3**
comp=Z,4.6nm,0.7s,mb4.0
MFF Saint Martin d 23.79 309 *eP* **P 04 35 28.6 +0.9**
comp=Z,8.3nm,0.7s,mb4.0
MFF Saint Martin d 23.79 309 *eP* **P 04 35 28.6 +0.9**
MFF pmax pmax
comp=Z,4.0nm,0.7s,mb4.0
MFF Saint Martin d 23.79 309 *eP* **P 04 35 28.6 +0.9**
comp=Z,4.2nm,0.7s,mb4.0
LDF La Druitiere 24.55 313 *eP* **P 04 35 34.0 -0.6**
comp=Z,3.9nm,0.6s,mb4.3
LDF La Druitiere 24.55 313 *eP* **P 04 35 34.0 -0.6**
LDF pmax pmax
comp=Z,6.0nm,0.6s,mb4.3
LDF La Druitiere 24.55 313 *eP* **P 04 35 34.0 -0.6**
comp=Z,6.4nm,0.6s,mb4.3
FLN La Foliniere 24.84 313 *eP* **P 04 35 36.7 -0.5**
comp=Z,19nm,0.6s,mb4.5
FLN *e*MLR MLR
comp=Z,80nm,21.2s,MS2.9
FLN La Foliniere 24.84 313 *eP* **P 04 35 36.7 -0.5**
FLN pmax pmax
comp=Z,10.0nm,0.6s,mb4.5
FLN MLR MLR
comp=Z,80nm,21.3s,MS3.2
FLN La Foliniere 24.84 313 *eP* **P 04 35 36.7 -0.5**
comp=Z,9.6nm,0.6s,mb4.5
FLN LR LR
comp=Z,80nm,21.3s,MS3.2
GRR Gorron 24.91 312 *eP* **P 04 35 37.4 -0.5**
comp=Z,7.2nm,0.5s,mb4.2
GRR Gorron 24.91 312 *eP* **P 04 35 37.4 -0.5**
GRR pmax pmax
comp=Z,4.0nm,0.5s,mb4.2
GRR Gorron 24.91 312 *eP* **P 04 35 37.4 -0.5**
comp=Z,3.6nm,0.5s,mb4.2
ESDC Sonseca Array 25.18 291 P **P 04 35 41.2 +0.8**
comp=Z,1.9nm,0.4s,mb4.0,baz=82,slow=9.5,SNR=27
ESLA Sonseca Array 25.18 291 *eP* **P 04 35 41.3 +0.9**
comp=Z,0.4nm,0.7s,mb3.1
ESLA Sonseca Array 25.18 291 *eP* **P 04 35 41.3 +0.9**
comp=Z,0.4nm,0.7s,mb3.1
SGMF Saint Gilles 25.91 311 *eP* **P 04 35 46.3 -0.6**
comp=Z,6.6nm,0.6s,mb4.0
SGMF Saint Gilles 25.91 311 *eP* **P 04 35 46.3 -0.6**
SGMF pmax pmax
comp=Z,3.0nm,0.6s,mb4.0
SGMF Saint Gilles 25.91 311 *eP* **P 04 35 46.3 -0.6**
comp=Z,3.3nm,0.6s,mb4.0
QUIF Quistinic 26.18 310 *eP* **P 04 35 48.8 -0.5**
comp=Z,8.9nm,0.7s,mb4.1
QUIF Quistinic 26.18 310 *eP* **P 04 35 48.8 -0.5**
QUIF pmax pmax
comp=Z,4.0nm,0.7s,mb4.1
QUIF Quistinic 26.18 310 *eP* **P 04 35 48.8 -0.5**
comp=Z,4.4nm,0.7s,mb4.1
MDT Midelt 26.34 275 P **P 04 35 52.7 +1.7**
comp=Z,0.8nm,0.7s,mb3.4,baz=89,slow=8.9,SNR=4.4
MDT LR 04 48 42.6
comp=Z,87nm,19.7s,MS3.3,baz=64,slow=42
ROSF Rostrenen 26.39 311 *eP* **P 04 35 50.6 -0.6**
comp=Z,7.9nm,0.5s,mb4.2
ROSF Rostrenen 26.39 311 *eP* **P 04 35 50.6 -0.6**
ROSF pmax pmax
comp=Z,4.0nm,0.5s,mb4.2
ROSF Rostrenen 26.39 311 *eP* **P 04 35 50.6 -0.6**
comp=Z,4.0nm,0.5s,mb4.2
HFS Hagfors 27.07 345 P **P 04 35 55.9 -1.3**
comp=Z,4.8nm,0.7s,mb4.1,baz=147,slow=9.4,SNR=13
HFS Hagfors 27.07 345 P **P 04 35 55.9 -1.3**
HFS pmax pmax
comp=Z,5.0nm,0.7s
PBRG Braganca 27.41 295 *eP* **P 04 36 01.0 +0.5**
comp=Z,6.6nm,1.4s,mb4.0
KLMR Klimovskoe 27.56 13 *i* P **P 04 36 01.4 -0.2**
KLMR pmax pmax
comp=Z,14nm,0.7s,mb4.7
KLMR Klimovskoe 27.56 13 *i* P **P 04 36 01.4 -0.2**
comp=Z,14nm,0.7s,mb4.7
AKTK Aktyubinsk 27.58 45 P **P 04 36 03.3 +1.4**
comp=Z,3.0nm,0.8s,mb4.0
AKTK Aktyubinsk 27.58 45 P **P 04 36 03.3 +1.4**
AKTO Aktyubinsk 27.58 45 P **P 04 36 03.3 +1.4**
comp=Z,2.9nm,0.8s,mb4.0,baz=247,slow=10,SNR=12
AKTO Aktyubinsk 27.58 45 P **P 04 36 03.3 +1.4**
AKTO pmax pmax
comp=Z,3.0nm,0.8s,mb4.0
PBAR Barrancos 27.59 288 *eP* **P 04 36 02.7 +0.5**
comp=Z,5.4nm,1.3s,mb4.0
KAF Kangasniemi 27.62 359 *ep* **P 04 36 02.0 -0.1**
comp=Z,1.5nm,0.4s,mb4.0
KAF Kangasniemi 27.62 359 *eP* **P 04 36 02.0 -0.1**
KAF pmax pmax
comp=Z,2.0nm,0.4s,mb4.1
PMRV Marv??o 27.83 290 *eP* **P 04 36 04.4 +0.1**
comp=Z,7.2nm,1.1s,mb4.2
PVAQ Vaqueiros 28.18 286 *eP* **P 04 36 07.8 +0.3**
comp=Z,7.6nm,1.9s,mb4.0
NAO01 NORSAR Array S 28.33 343 *eP* **P 04 36 08.0 -0.5**
comp=Z,6.2nm,0.7s,mb4.3
NAO01 NORSAR Array S 28.33 343 *eP* **P 04 36 08.0 -0.5**
comp=Z,6.2nm,0.7s,mb4.3
EVO Evora 28.34 288 *eP* **P 04 36 10.0 +1.1**
comp=Z,4.1nm,0.9s,mb3.8
EVO Evora 28.34 288 *eP* **P 04 36 09.8 +0.9**
comp=Z,6.6nm,1.8s,mb4.0
PBDV Barranco-do-Ve 28.37 286 *eP* **P 04 36 09.9 +0.8**
comp=Z,8.9nm,1.5s,mb4.2
NB2 NORSAR Subarra 28.43 344 P **P 04 36 07.9 -1.4**
comp=Z,1.1nm,0.6s,mb3.7,baz=160,slow=9.3
NOA NORSAR Array B 28.43 344 P **P 04 36 08.2 -1.1**
comp=Z,1.6nm,0.6s,mb3.8,baz=160,slow=6.5,SNR=12
NOA NORSAR Array B 28.43 344 P **P 04 36 08.2 -1.1**
NOA pmax pmax
comp=Z,2.0nm,0.6s
EVOP Sao Brissos 28.43 288 *eP* **P 04 36 10.0 +0.4**
comp=Z,2.0nm,0.9s,mb3.8
JOF Joensuu 28.55 4 *ep* **P 04 36 09.8 -0.6**
comp=Z,4.0nm,0.4s,mb4.5
JOF Joensuu 28.55 4 *eP* **P 04 36 09.8 -0.6**
JOF pmax pmax
comp=Z,4.0nm,0.4s,mb4.5
EKA Eskdalemuir Ar 29.46 324 P **P 04 36 18.1 -0.4**
comp=Z,1.4nm,0.5s,mb4.0,baz=128,slow=11,SNR=14
EKA Eskdalemuir Ar 29.46 324 P **P 04 36 18.2 -0.3**
EKA pmax pmax
comp=Z,1.0nm,0.5s
ARU Arti 30.68 35*c* *i*P **P 04 36 29.3 0.0**
ARU 04 39 25.9
ARU *e*S **S 04 41 25.5 -3.0**
ARU pmax pmax
comp=Z,6.0nm,1.2s,mb4.3
ARU Arti 30.68 35 *i* P **P 04 36 29.3 0.0**
comp=Z,6.0nm,1.2s,mb4.3
ARU *e*S **S 04 41 25.5 -3.0**
TOA0 Torodi Ar. Sit 31.30 233 *eP* **P 04 36 37.9 +2.7**
TORD Torodi Ar. Bea 31.30 233 P **P 04 36 37.6 +2.4**
comp=Z,3.7nm,0.6s,mb4.4,baz=34,slow=8.6,SNR=72
ARCES ARCESS Array B 35.08 359 P **P 04 37 06.6 -1.0**
comp=Z,1.0nm,0.4s,mb4.1,baz=180,slow=8.5,SNR=16
ARCES PcP PcP 04 39 40.3 +1.9
comp=Z,2.6nm,0.9s,baz=163,slow=3.4,SNR=3.8
ARCES ARCESS Array B 35.08 359 P **P 04 37 06.6 -1.0**
ARCES 04 39 40.3
ARCES pmax pmax
comp=Z,1.0nm,0.4s
ARCES pmax pmax
comp=Z,3.0nm,0.9s
ARCES ARCESS Array B 35.08 359 P **P 04 37 06.6 -1.0**
ARCES PcP PcP 04 39 40.2 +1.9
KEV Kevo 35.29 360 *ep* **P 04 37 09.2 -0.2**
comp=Z,2.2nm,0.5s,mb4.3
KEV Kevo 35.29 360 *eP* **P 04 37 09.2 -0.2**
KEV pmax pmax
comp=Z,2.0nm,0.5s,mb4.3
BVAR Borovoye Array 35.69 45 P **P 04 37 15.7 +2.7**
comp=Z,1.7nm,0.7s,mb4.1,baz=256,slow=6.0,SNR=9.8
BVAR Borovoye Array 35.69 45 P **P 04 37 15.7 +2.7**
BVAR pmax pmax
comp=Z,2.0nm,0.7s
KURK Kurchatov 40.40 50 P **P 04 37 54.6 +1.9**
comp=Z,6.5nm,0.9s,mb4.3,baz=276,slow=9.0,SNR=17
KURK PcP PcP 04 39 58.1 +3.1
comp=Z,1.0nm,0.8s,baz=284,slow=4.2,SNR=3.9
KURK Kurchatov 40.40 50 P **P 04 37 54.6 +1.9**
KURK 04 39 58.1
KURK pmax pmax
comp=Z,7.0nm,1.0s,mb4.3
KURK pmax pmax
comp=Z,1.0nm,0.8s,mb3.6
DBIC Dimbokro 40.40 234 P **P 04 37 57.7 +4.6**
comp=Z,3.5nm,0.9s,mb4.1,baz=26,slow=8.5,SNR=4.0
DBIC Dimbokro 40.40 234 P **P 04 37 57.7 +4.5**
DBIC pmax pmax
comp=Z,4.0nm,0.9s
DBIC Dimbokro 40.40 234 P **P 04 37 57.7 +4.6**
MKAR Makanchi Array 42.85 56 P **P 04 38 15.6 +2.8**
comp=Z,1.9nm,0.5s,mb4.0,baz=276,slow=6.6,SNR=11
MKAR Makanchi Array 42.85 56 P **P 04 38 15.6 +2.8**
MKAR pmax pmax
comp=Z,2.0nm,0.5s
NVS Novosibirsk 43.46 44 *eP* **P 04 38 18.8 +1.2**
NVS pmax pmax
comp=N,4.0nm,1.0s
NVS pmax pmax
comp=E,6.0nm,1.0s
NVS pmax pmax
comp=Z,10.0nm,1.0s,mb4.5
ZALV Zalesovo Beam 44.34 46 P **P 04 38 26.6 +1.9**
comp=Z,1.4nm,0.3s,mb4.1,baz=268,slow=10,SNR=6.9
ZALV LR LR 04 58 01.2
comp=Z,32nn,19.4s,MS3.2,baz=198,slow=38
ZALV Zalesovo Beam 44.34 46 P **P 04 38 26.6 +1.9**
ZALV pmax pmax
comp=Z,1.0nm,0.3s,mb4.0
ZALV MLR MLR
comp=Z,32nn,19.4s,MS3.2
ZAK Zakamensk 56.01 49 *eP* **P 04 39 54.4 +1.3**
ZAK pmax pmax
comp=Z,3.0nm,1.1s,mb4.2
ZAK Zakamensk 56.01 49 *eP* **P 04 39 54.4 +1.3**
comp=Z,3.0nm,1.1s,mb4.2
ULN Ulaanbaatar 59.11 51 *eP* **P 04 40 15.9 +1.0**
BOD Bodaibo 60.01 38 *eP* **P 04 40 21.7 +0.7**
BOD pmax pmax
comp=Z,3.0nm,0.9s,mb4.3
BOD Bodaibo 60.01 38 *eP* **P 04 40 21.7 +0.7**
comp=Z,3.0nm,0.9s,mb4.3
SCHQ Schefferville 64.67 320 P **P 04 40 52.9 +0.7**
comp=Z,4.1nm,0.6s,mb4.6,baz=62,slow=7.9,SNR=7.8
MJAR Matsushiro Arr 84.60 49 P **P 04 42 50.4 +2.5**
comp=Z,2.7nm,0.8s,mb4.4,baz=299,slow=5.8,SNR=5.2

SZGRF ***06*** *04:36:46.8, 3854N∿4194E, h33km, mb4.2, Turkey*
DDA ***06*** *04:36:53.9, 3943N∿4072E, h14km±2km, Md3.8*
NEIC ***06*** *04:36:53.8, 3948N∿4064E, h5km, mb4.1/13, MD3.8(DDA), ML3.9(ISK), After ISK.*
MOS ***06*** *04:36:54.0±1.0, 3946N∿4068E, h10km, mb4.2/20, Error ellipse: s-maj=8.5km s-min=5.8km az=100.8*
ISK ***06*** *04:36:54.4, 3949N∿4064E, h5km, ML3.9*
ISCJB ***06*** *04:36:55.3±0.2, 3946N±002∿4061E±002, h10km, mb4.0/25, MS3.4/2, Error ellipse: s-maj=2.9km s-min=2.2km az=136.0*
CSEM ***06*** *04:36:56.1±0.1, 3950N∿4064E, h15km, mb4.0/21, Error ellipse: s-maj=1.9km s-min=1.5km az=144.0*
IDC ***06*** *04:36:58.8±2.4, 3939N∿4066E, h35km±24km, mb3.8/11, mb1 3.9/15, mb1mx3.8/28, mbtmp3.8/15, ML3.5/3, MS3.1/5, Ms1 3.1/5, ms1mx2.7/40, Error ellipse: s-maj=18.2km s-min=12.1km az=159.0*

ISC 06 04:36:55.1±0.5, 3945N±002∿4068E±002, h0km±3km, n151, σ1§26/179, mb4.1/25, MS3.4/2, 4C-3D, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time h m s	Res ISC
				Op	ISC		
KOPT	**Kop Dagi**	**0.58**	**346**	*i* P	**Pg**	**04 37 06.0**	**-0.2**
KOPT				*i* S	**Sg**	**04 37 16.0**	**+2.2**
ERZM	**Erzurum**	**0.70**	**49**	*i* P	**Pg**	**04 37 07.6**	**-0.8**
ERZM				*i* S	**Sg**	**04 37 26.6**	**+9.1**
EZC	**Erzincan**	**0.73**	**294**	PG	**Pg**	**04 37 14.5**	**+5.4**
EZC				SG	**Sg**	**04 37 30.4**	**+12**
SVRC	**Sivrice-ELAZID**	**1.52**	**225**	*e*PN	**Pn**	**04 37 23.7**	**+0.3**
SVRC				*e*SN	**Sn**	**04 37 45.0**	**+1.2**
DIYA	**Diyarbakir**	**1.59**	**196**	*i* P	**Pn**	**04 37 23.3**	**-1.1**
DIYA				*i* S	**Sn**	**04 37 46.6**	**+1.0**
BEST	**Besiri**	**1.62**	**163**	*i* P	**Pn**	**04 37 24.0**	**-0.9**
BEST				*i* S	**Sn**	**04 37 47.1**	**+0.6**
ELZG	**Elazig**	**1.63**	**235**	*i* P	**Pn**	**04 37 23.4**	**-1.6**
ELZG				*i* S	**Sn**	**04 37 49.5**	**+2.9**
MACK	**Trabzon**	**1.65**	**335**	*i* P	**Pn**	**04 37 24.6**	**-0.6**
MACK				*i* S	**Sn**	**04 37 50.1**	**+3.1**
DDEM	**Demirkent**	**1.66**	**29**	*i* P	**Pn**	**04 37 24.6**	**-0.8**
DDEM				*i* S	**Sn**	**04 37 48.6**	**+1.3**
KTUT	**Trabzon**	**1.69**	**336**	*e*PN	**Pn**	**04 37 25.7**	**0.0**
KTUT				*e*SN	**Sn**	**04 37 48.1**	**0.0**
PZAR	**Pazar-Rize**	**1.73**	**5**	*e*PN	**Pn**	**04 37 27.1**	**+0.6**
DBAD	**Bademkaya**	**1.75**	**26**	*i* P	**Pn**	**04 37 26.0**	**-0.6**
DBAD				*i* S	**Sn**	**04 37 50.4**	**+0.8**
AGRB	**Hanur-Agry**	**1.79**	**85**	*e*PN	**Pn**	**04 37 27.1**	**-0.2**
AGRB				*e*SN	**Sn**	**04 37 52.7**	**+2.0**
DAGI	**Agillar**	**1.88**	**30**	*i* P	**Pn**	**04 37 28.3**	**-0.2**
DAGI				*i* S	**Sn**	**04 37 54.8**	**+1.9**
ARTV	**Artvin**	**1.98**	**28**	*i* P	**Pn**	**04 37 29.4**	**-0.4**
ARTV				*i* S	**Sn**	**04 37 57.9**	**+2.7**
DBOC	**Borcka**	**2.04**	**21**	*i* P	**Pn**	**04 37 30.4**	**-0.2**
DBOC				*i* S	**Sn**	**04 37 58.5**	**+1.8**
MYA	**Malataya**	**2.09**	**238**	*e*PN	**Pn**	**04 37 31.4**	**+0.1**
ESPY	**Espiye-Giresun**	**2.09**	**315**	*e*PN	**Pn**	**04 37 31.2**	**-0.2**
BCA	**Borcka**	**2.12**	**20**	*e*PN	**Pn**	**04 37 31.4**	**-0.3**
BCA				*e*SN	**Sn**	**04 37 59.6**	**+0.9**
MARD	**Mardin**	**2.13**	**178**	*i* P	**Pn**	**04 37 30.2**	**-1.7**
MARD				*i* S	**Sn**	**04 37 53.6**	**-5.5**
KARS	**Kars**	**2.19**	**57**	*e*PN	**Pn**	**04 37 33.3**	**+0.6**
VANB	**Van**	**2.28**	**111**	*e*PN	**Pn**	**04 37 36.0**	**+2.1**
DIGO	**Kars**	**2.28**	**64**	*i* P	**Pn**	**04 37 33.7**	**-0.3**
DIGO				*i* S	**Sn**	**04 38 06.5**	**+3.7**
DARE	**Darende-Malaty**	**2.29**	**258**	*e*PN	**Pn**	**04 37 40.3**	**+6.2**
DYDN	**Diyadin**	**2.33**	**87**	*i* P	**Pn**	**04 37 36.3**	**+1.7**
DYDN				*i* S	**Sg**	**04 38 08.9**	**-1.0**
VANT	**Van**	**2.34**	**115**	*e*PN	**Pn**	**04 37 35.1**	**+0.4**
GRSN	**GIRESUNGRSN**	**2.36**	**309**	*i* P	**Pn**	**04 37 34.8**	**-0.3**
GRSN				*i* S	**Sg**	**04 38 11.1**	**+0.2**
AKCD	**Akcadag**	**2.44**	**243**	*i* P	**Pn**	**04 37 35.5**	**-0.7**
AKCD				*i* S	**Sg**	**04 38 14.6**	**+1.1**
URFA	**Urfa**	**2.48**	**217**	*e*PN	**Pn**	**04 37 37.4**	**+0.7**
CLDR	**Caldiran**	**2.53**	**96**	*e*PN	**Pn**	**04 37 39.3**	**+2.0**
ATAB	**Bozova**	**2.72**	**224**	*i* P	**Pn**	**04 37 38.9**	**-1.1**
ATAB				*i* S	**Sg**	**04 38 21.4**	**-1.2**
RSDY	**Resadiye-TOKAT**	**2.75**	**291**	*e*PN	**Pn**	**04 37 40.7**	**+0.4**
SVSK	**Karacayir**	**2.88**	**280**	*e*PN	**Pn**	**04 37 43.1**	**+1.0**

HAKT	HAKKARI	3.04	128	i P	Pn	04 37 46.0	+1.7
HAKT				i S	Sg	04 38 29.7	-2.8
HKR	Hakkari	3.04	127	ePN	Pn	04 37 45.4	+1.0
SARI	SarD1z-Kayseri	3.19	257	ePN	Pn	04 37 52.1	+5.6
GNI	Garni	3.21	76	Pn	Pn	04 37 48.5	+1.8
	8.0nm,0.3s,baz=300,slow=4.9,SNR=9.0						
GNI	Garni	3.21	76	eP	Pn	04 37 47.6	+1.0
GNI	Garni	3.21	76	ePn	Pn	04 37 48.8	+2.2
GNI	Garni	3.21	76	ePn	Pn	04 37 47.6	+1.0
TOKT	Tokat	3.30	287	ePN	Pn	04 37 49.4	+1.4
PINB	Pinarbasi	3.42	258	i P	Pn	04 37 57.1	+7.6
PINB				i S	Sg	04 38 45.8	+0.9
KMRS	Kahramanmaras	3.55	238	ePN	Pn	04 37 53.2	+1.9
GAZ	Gaziantep	3.55	231	ePN	Pn	04 37 52.7	+1.3
MSL	Mosul	3.60	147	ex	x	04 38 02.0	
MSL				ex	x	04 38 47.0	
GOR	Gori	3.63	45	P	Pn	04 37 55.5	+2.9
GOR				S	Sg	04 38 53.6	+1.9
ONI	Oni	3.76	33	P	Pn	04 38 01.8	+7.5
ONI				S	Sg	04 38 53.7	-2.2
BNN	Bunyan	3.81	262	ePN	Pn	04 37 56.5	+1.6
TBLG	Delisi	3.84	52	P	Pn	04 37 55.5	+0.2
MTA	Mtatsminda	3.85	53	P	Pg	04 38 07.7	-1.2
MTA				S	Sg	04 39 06.6	+7.8
KVT	Kavak	3.90	296	ePN	Pn	04 37 57.0	+0.8
DGRG	David-gareji	4.10	59	P	Pg	04 38 14.6	+1.0
DGRG				S	Sg	04 38 59.8	-6.9
YOZ	Yozgat	4.15	274	ePN	Pn	04 38 01.3	+1.7
SOC	Sochi	4.19	350	eP	Pn	04 37 59.7	-0.5
SOC				e		04 38 49.8	
SOC				pmax	pmax		
	comp=Z,42nm,0.5s						
SOC				MLR	MLR		
	comp=Z,204nm,10.0s						
SOC	Sochi	4.19	350	eP	Pn	04 37 59.7	-0.5
	comp=Z,42nm,0.5s						
SOC				eS	Sn	04 38 49.8	-0.1
	comp=Z,204nm,10.0s						
KOZT	Kozan	4.29	244	ePN	Pn	04 38 03.2	+1.7
SHAR	Shatzhatmas	4.54	19⇑	iP	Pn	04 38 06.1	+1.1
KIV	Kislovodsk	4.74	18	eP	Pn	04 38 06.1	-1.7
KIV				pmax	pmax		
	comp=Z,8.0nm,0.9s						
KIV	Kislovodsk	4.74	18	eP	Pn	04 38 06.1	-1.7
	comp=Z,8.0nm,0.9s						
KIV	Kislovodsk	4.74	18	Pn	Pn	04 38 07.6	-0.2
KIV	Kislovodsk	4.74	18	Pn	Pn	04 38 07.6	-0.2
PYA	Pyatigorsk	4.91	20⇓	iP	Pn	04 38 11.0	+0.9
NIG	Nigde	4.93	256	ePN	Pn	04 38 12.8	+2.5
KAMT	Kaman	5.40	271	ePN	Pn	04 38 19.0	+2.2
BR131	Keskin Array S	5.45	275	ePn	Pn	04 38 17.3	-0.2
	comp=Z,5.3nm,0.6s						
BR131	Keskin Array S	5.45	275	ePn	Pn	04 38 17.3	-0.1
	comp=Z,5.3nm,0.6s						
BHL	Bhannes	6.85	218	eP	Pn	04 38 36.7	-0.1
MMAI	Mount Meron Ar	7.71	215	Pn	Pn	04 38 51.4	+2.8
	comp=Z,1.5nm,0.3s,baz=68,slow=15,SNR=6.9						
MMAI				Lg		04 41 07.4	
	comp=Z,0.7nm,0.3s,baz=28,slow=31,SNR=3.1						
MMAI				LR	LR	04 42 36.1	
	comp=Z,47nm,20.3s,baz=230,slow=44						
ASF	Jabal al Asfar	7.88	204	Pn	Pn	04 38 51.1	+0.1
	comp=Z,0.2nm,0.3s,baz=289,slow=13,SNR=6.1						
ASF				Lg		04 41 10.7	
	comp=Z,0.3nm,0.3s,baz=100,slow=24,SNR=3.5						
ASF				LR	LR	04 42 11.8	
	comp=Z,91nm,21.2s,baz=26,slow=40						
EIL	Elat	10.84	208	Lg		04 42 49.0	
	comp=Z,0.2nm,0.3s,baz=109,slow=22,SNR=2.3						
EIL				LR	LR	04 43 56.7	
	comp=Z,88nm,20.7s,baz=85,slow=39						
APE	Apeiranthos	12.15	263	eP	Pn	04 39 46.0	-3.3
MLR	Muntele Rosu	12.44	304	Pn	Pn	04 39 59.1	+5.9
	comp=Z,0.1nm,0.3s,baz=165,slow=19,SNR=4.0						
AKASG	Malin Array Be	13.84	328	Pn	Pn	04 40 11.8	-0.6
	comp=Z,0.5nm,0.3s,baz=134,slow=11,SNR=8.0						
AKASG	Malin Array Be	13.84	328	i P	Pn	04 40 12.3	0.0
AKASG				pmax	pmax		
	comp=Z,2.0nm,0.7s						
AKASG	Malin Array Be	13.84	328	i P	Pn	04 40 12.3	0.0
	comp=Z,2.0nm,0.7s						
OBN	Obninsk	15.91	351⇓	iP	Pn	04 40 38.4	-1.7
OBN				pmax	pmax		
	comp=Z,24nm,1.3s						
OBN	Obninsk	15.91	351	i P	Pn	04 40 38.4	-1.7
	comp=Z,24nm,1.3s						
AKTK	Aktyubinsk	16.43	42	P	Pn	04 40 46.1	-0.7
AKTK	Aktyubinsk	16.43	42	Pn	Pn	04 40 46.0	-0.7
AKTO	Aktyubinsk	16.43	42	Pn	Pn	04 40 46.0	-0.7
	comp=Z,0.2nm,0.3s,baz=236,slow=12,SNR=6.8						
DPC	Dobruska-Polom	20.31	310	eP	P	04 41 36.1	+3.7
TREC	Trest	20.44	307	eP	P	04 41 34.6	+0.8
ARU	Arti	20.68	29c	iP	P	04 41 34.9	-1.4
ARU				ePPP		04 41 59.7	
ARU				eS	S	04 45 26.9	-1.1
ARU				eSS		04 45 45.2	
ARU				pmax	pmax		
	comp=Z,10.0nm,1.0s						
ARU	Arti	20.68	29	i P	P	04 41 34.9	-1.4
	comp=Z,10.0nm,1.0s						
VSU	Vasula	21.04	339c	iP	P	04 41 39.5	-0.7
VSU	Vasula	21.04	339	i P	P	04 41 39.5	-0.7
PRU	Pruhonice	21.25	308	eP	P	04 41 41.9	-0.6
PVCC	Panska Ves	21.42	310	eP	P	04 41 43.6	-0.8
GEC2	GERESS Array S	21.42	305	eP	P	04 41 46.5	+2.1
GEC2				pmax	pmax		
	comp=Z,6.0nm,1.3s,mb3.8						
GEC2	GERESS Array S	21.42	305	eP	P	04 41 46.5	+2.1
	comp=Z,6.0nm,1.3s,mb3.8						
GERES	GERESS Array B	21.42	305	P	P	04 41 44.1	-0.3
	comp=Z,1.6nm,0.9s,mb3.4,baz=112,slow=10,SNR=11						
GERES	GERESS Array B	21.42	305	P	P	04 41 44.1	-0.3
GERES				pmax	pmax		
	comp=Z,2.0nm,0.9s						
KLMR	Klimovskoe	21.44	358d	iP	P	04 41 43.0	-1.5
KLMR				e		04 42 03.2	
KLMR				eS	S	04 45 42.2	-0.7
KLMR				pmax	pmax		
	comp=Z,25nm,1.3s,mb4.4						
KLMR	Klimovskoe	21.44	358	i P	P	04 41 43.0	-1.5
	comp=Z,25nm,1.3s,mb4.4						
KHC	Kasperske Hory	21.58	306	eP	P	04 41 44.3	-1.8
BRG	Berggiesshubel	21.91	310	eP	P	04 41 49.9	+0.2
BRG				pmax	pmax		
	comp=Z,3.0nm,1.3s,mb3.6						
BRG	Berggiesshubel	21.91	310	eP	P	04 41 49.9	+0.2
	comp=Z,2.8nm,1.3s,mb3.5						
CLL	Collm	22.62	311	i P	P	04 41 56.3	-0.9
CLL				pmax	pmax		
	comp=Z,4.0nm,1.1s,mb3.9						
CLL	Collm	22.62	311	i (P)	P	04 41 56.3	-0.9
	comp=Z,4.0nm,1.1s,mb3.9						
CLL				i x	x	04 42 07.7	
GRA1	Grafenberg Arr	23.21	306	eP	P	04 42 03.3	-0.2
	comp=Z,10.0nm,1.2s,mb4.2						
GRF	Grafenberg Arr	23.21	306	eP	P	04 42 03.3	-0.2
GRF				pmax	pmax		
	comp=Z,10.0nm,1.2s,mb4.2						
GRF	Grafenberg Arr	23.21	306	eP	P	04 42 03.3	-0.2
GRF				pmax	pmax		
	comp=Z,10.0nm,1.2s,mb4.2						
GRF	Grafenberg Arr	23.21	306	eP	P	04 42 03.3	-0.2
	comp=Z,10.0nm,1.2s,mb4.2						
PGF	Pioggiola	24.04	288	eP	P	04 42 10.4	-1.2
	comp=Z,23nm,1.1s,mb4.3						
PGF	Pioggiola	24.04	288	eP	P	04 42 10.4	-1.2
PGF				pmax	pmax		
	comp=Z,11nm,1.1s,mb4.3						
PGF	Pioggiola	24.04	288	eP	P	04 42 10.4	-1.2
	comp=Z,11nm,1.1s,mb4.3						
JOF	Joensuu	24.17	350	ep	P	04 42 10.8	-1.8
	comp=Z,8.5nm,0.9s,mb4.3						
JOF	Joensuu	24.17	350	eP	P	04 42 10.8	-1.8
JOF				pmax	pmax		
	comp=Z,9.0nm,0.9s,mb4.3						
KAF	Kangasniemi	24.33	344	ep	P	04 42 12.1	-2.0
	comp=Z,2.1nm,0.6s,mb3.8						
KAF	Kangasniemi	24.33	344	eP	P	04 42 12.1	-2.0
KAF				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb3.8						
BVAR	Borovoye Array	24.41	46	P	P	04 42 14.2	-0.7
	comp=Z,0.6nm,0.5s,mb3.4,baz=231,slow=7.1,SNR=3.8						
BVAR	Borovoye Array	24.41	46	P	P	04 42 14.2	-0.8
BVAR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
KEST	Kesra	25.04	271	P	P	04 42 20.4	-0.4
	comp=Z,3.6nm,0.9s,mb4.1,baz=187,slow=1.1,SNR=5.3						
SBF	Sospel	25.13	291	eP	P	04 42 20.2	-1.3
CDF	Champ du Feu	25.50	302	eP	P	04 42 24.8	-0.1
MBDF	Montbardon	25.59	293	eP	P	04 42 26.1	+0.3
	comp=Z,3.7nm,0.6s,mb3.9						
MBDF	Montbardon	25.59	293	eP	P	04 42 26.1	+0.3
MBDF				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb3.9						
MBDF	Montbardon	25.59	293	eP	P	04 42 26.1	+0.3
	comp=Z,1.9nm,0.6s,mb3.9						
LPG	La Plagne	25.61	295	eP	P	04 42 26.1	+0.1
	comp=Z,8.3nm,1.0s,mb4.0						
LPG	La Plagne	25.61	295	eP	P	04 42 26.1	+0.1
LPG				pmax	pmax		
	comp=Z,4.0nm,1.0s,mb4.0						
LPG	La Plagne	25.61	295	eP	P	04 42 26.1	+0.1
	comp=Z,4.2nm,1.0s,mb4.0						
LPL	La Plagne	25.63	295	eP	P	04 42 26.0	-0.1
	comp=Z,6.7nm,0.9s,mb4.0						
LPL	La Plagne	25.63	295	eP	P	04 42 26.0	-0.1
LPL				pmax	pmax		
	comp=Z,3.0nm,0.9s,mb3.9						
LPL	La Plagne	25.63	295	eP	P	04 42 26.0	-0.1
	comp=Z,3.3nm,0.9s,mb4.0						
FRF	La Foret Royal	25.71	290	eP	P	04 42 25.9	-0.9
	comp=Z,20nm,1.2s,mb4.3						
FRF	La Foret Royal	25.71	290	eP	P	04 42 25.9	-0.9
FRF				pmax	pmax		
	comp=Z,10.0nm,1.2s,mb4.3						
FRF	La Foret Royal	25.71	290	eP	P	04 42 25.9	-0.9
	comp=Z,9.9nm,1.2s,mb4.3						
CABF	La Chapelle	26.12	297	eP	P	04 42 29.5	-1.1
	comp=Z,29nm,1.1s,mb4.5						
CABF	La Chapelle	26.12	297	eP	P	04 42 29.5	-1.1
CABF				pmax	pmax		
	comp=Z,15nm,1.1s,mb4.5						
CABF	La Chapelle	26.12	297	eP	P	04 42 29.5	-1.1
	comp=Z,15nm,1.1s,mb4.5						
HFS	Hagfors	26.72	330	P	P	04 42 34.2	-1.6
	comp=Z,3.9nm,0.8s,mb4.2,baz=132,slow=8.8,SNR=5.8						
HFS	Hagfors	26.72	330	P	P	04 42 34.2	-1.6
HFS				pmax	pmax		
	comp=Z,4.0nm,0.8s						
KURK	Kurchatov	28.75	54	P	P	04 42 52.5	-1.6
	comp=Z,0.7nm,0.6s,mb3.7,baz=265,slow=9.0,SNR=5.8						
KURK	Kurchatov	28.75	54	P	P	04 42 52.5	-1.6
KURK				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb3.8						
MKAR	Makanchi Array	30.95	63	P	P	04 43 12.9	-0.7
	comp=Z,1.2nm,0.7s,mb4.0,baz=283,slow=7.9,SNR=4.8						
MKAR	Makanchi Array	30.95	63	P	P	04 43 12.9	-0.7
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
ARCES	ARCESS Array B	31.21	350	P	P	04 43 15.3	-0.3
	comp=Z,3.2nm,0.9s,mb4.3,baz=152,slow=11,SNR=4.8						
ARCES				LR	LR	04 55 30.5	
	comp=Z,39nm,19.9s,MS3.1,baz=236,slow=36						
ARCES	ARCESS Array B	31.21	350	P	P	04 43 15.3	-0.3
ARCES				pmax	pmax		
	comp=Z,3.0nm,0.9s						
ARCES				MLR	MLR		
	comp=Z,39nm,20.0s						
EKA	Eskdalemuir Ar	33.02	313	P	P	04 43 30.8	-0.9
	comp=Z,1.8nm,0.9s,mb4.0,baz=100,slow=8.5,SNR=3.5						
EKA	Eskdalemuir Ar	33.02	313	P	P	04 43 30.8	-0.9
EKA				pmax	pmax		
	comp=Z,2.0nm,0.9s						
ESDC	Sonseca Array	34.15	285	P	P	04 43 40.0	-1.7
	comp=Z,1.5nm,0.6s,mb4.1,baz=64,slow=9.1,SNR=6.7						
JMIC	Jan Mayen	40.21	337	LR	LR	05 02 41.3	
	comp=Z,91nm,19.1s,MS3.6,baz=76,slow=38						
TORD	Torodi Ar. Bea	43.17	244	P	P	04 44 55.5	-2.2
	comp=Z,2.7nm,1.1s,mb3.9,baz=47,slow=6.7,SNR=11						
TORD				PP	PP	04 46 40.1	+2.3
	comp=Z,0.5nm,0.5s,baz=32,slow=8.6,SNR=13						
ULN	Ulaanbaatar	47.40	57c	iP	P	04 45 29.8	-1.1
ULN	Ulaanbaatar	47.40	57	i P	P	04 45 29.8	-1.1
BOD	Bodaibo	49.19	43	eP	P	04 45 41.8	-2.8
BOD				pmax	pmax		
	comp=Z,4.0nm,1.9s,mb4.1						
BOD	Bodaibo	49.19	43	eP	P	04 45 41.8	-2.8
	comp=Z,4.0nm,1.9s,mb4.1						
DBIC	Dimbokro	52.28	244	P	P	04 46 06.4	-2.0
	comp=Z,5.4nm,0.9s,mb4.5,baz=14,slow=12,SNR=3.2						
DBIC	Dimbokro	52.28	244	P	P	04 46 06.4	-2.0
DBIC				pmax	pmax		
	comp=Z,5.0nm,0.9s						
LIC	Lamto	52.72	243	eP	P	04 46 09.3	-2.4
	comp=Z,62nm,1.3s,mb5.1						
LIC	Lamto	52.72	243	eP	P	04 46 09.3	-2.4
	comp=Z,31nm,1.3s,mb5.1						

*ISCJB **06** 04:45:59.3±1.8, 534S±009×1293E±02, h228km±18km, mb3.8/3, Error ellipse: s-maj=31.8km s-min=12.8km az=165.0*
*NEIC **06** 04:46:00.7±2.8, 531S×12942E, h228km±33km, mb4.1/1, Error ellipse: s-maj=39.0km s-min=20.0km az=61.0*
*IDC **06** 04:46:05.7±4.3, 555S×129.18E, h279km±38km, mb3.5/3, mb1 3.5/6, mb1mx3.3/16, mbtmp3.4/6, Error ellipse: s-maj=75.7km s-min=11.4km az=68.0*
ISC 06 04:46:02.4±1.8**, 544S**±010×**1294E**±02**, h249**km±19km**, n11, σ0s70**/14**, mb3.8**/3**, 1D, Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KAKA	Kakadu	7.82	158⇓	iP	Pn	04 47 52.9	-0.5
	3.5nm,0.2s						
KAKA				eS	S	04 49 15.2	-7.6
FITZ	Fitzroy Crossi	13.11	196	eP	Pn	04 48 59.2	-0.5
	4.2nm,0.3s						
FITZ				eS	S	04 51 20.9	-4.6
FITZ	Fitzroy Crossi	13.11	196	P	Pn	04 48 59.9	+0.1
	0.7nm,0.3s,baz=31,slow=12,SNR=26						
FITZ				S	S	04 51 20.0	-5.5
	0.1nm,0.3s,baz=84,slow=19,SNR=2.9						
FITZ	Fitzroy Crossi	13.11	196	ePn	Pn	04 49 00.0	+0.3
FITZ				eS	S	04 51 26.1	+0.6
WRA	Warramunga Arr	15.19	162	P	Pn	04 49 24.8	-0.2
	0.8nm,0.3s,baz=348,slow=12,SNR=16						
ASAR	Alice Springs	18.63	167	P	P	04 50 03.8	+1.9
	0.4nm,0.3s,baz=350,slow=12,SNR=48						
ASAR				S	S	04 53 20.4	-0.5
	0.1nm,0.3s,baz=350,slow=22,SNR=11						
CMAR	Chiang Mai Arr	38.29	309	P	P	04 52 59.4	0.0
	2.1nm,0.5s,mb3.9,baz=138,slow=7.4,SNR=7.2						
MKAR	Makanchi Array	66.61	327	P	P	04 56 25.9	-0.2
	1.0nm,0.5s,mb3.7,baz=122,slow=8.4,SNR=6.7						
KURK	Kurchatov	70.89	329	P	P	04 56 52.1	-0.2
	1.1nm,0.5s,mb3.8,baz=124,slow=5.5,SNR=5.9						
TORD	Torodi Ar. Bea	127.92	282	PKP	PKPdf	05 04 38.8	-0.7
	0.4nm,0.9s,baz=72,slow=1.9,SNR=4.1						
CPUP	Villa Florida	147.75	169	PKPbc	PKPbc	05 05 18.4	0.0
	0.6nm,0.5s,baz=180,slow=1.0,SNR=3.1						

*ISCJB **06** 04:53:30.4±0.8, 3732N±004×2173E±004, h10km±7km, Error ellipse: s-maj=6.5km s-min=5.0km az=24.5*
*CSEM **06** 04:53:30.5±0.1, 3732N×2174E, h12km, MD3.5, Error ellipse: s-maj=4.4km s-min=2.0km az=44.0*
*NEIC **06** 04:53:30.2, 3734N×2176E, h15km, MD3.5(ATH), After ATH.*
*ATH **06** 04:53:30.2, 3734N×2176E, h15km±2km, MD3.5/6*
*THE **06** 04:53:31.4, 3730N×2178E, h10km±2km, ML3.3/3, Error ellipse: s-maj=3.0km s-min=1.0km az=177.0*
ISC 06 04:53:31.1±0.6**, 3732N**±003×**2176E**±004**, h11**km±5km**, n27, σ1s03**/39**, 2D, Southern Greece**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ITM	Ithomi	0.20	136⇓	iPb	Pg	04 53 34.9	-0.4
ITM				eSb	Sg	04 53 38.4	+0.2
ITM	Ithomi	0.20	136⇓	iPB	Pg	04 53 34.9	-0.4
ITM				eSB	Sg	04 53 38.4	+0.2
PYL	PYLOS	0.42	181	P	Pg	04 53 38.7	-0.8
PYL				S	Sg	04 53 45.9	+0.8
VLX	Vlachokerasia	0.50	84	P	Pg	04 53 40.7	-0.2
VLX				S	Sg	04 53 48.1	+0.6
RLS	Riolos of Patr	0.77	343	ePn	Pn	04 53 44.9	-3.0
RLS				eSn	Sg	04 53 55.8	-0.3
RLS	Riolos of Patr	0.77	343	ePN	Pn	04 53 44.9	-3.0
RLS				eSN	Sg	04 53 55.8	-0.3
KFL	Anninata	1.10	316	P	Pb	04 53 51.2	-0.9
KFL				S	Sg	04 54 09.4	+2.8
VLI	Veliai	1.12	122	ePn	Pn	04 53 52.0	-0.7
VLI	Veliai	1.12	122	ePN	Pn	04 53 52.0	-0.7
LTK	Loutraki	1.19	54	P	Pb	04 53 52.7	-1.0
LTK				S	Sb	04 54 09.9	+0.8
DID	Didima	1.19	81	P	Pb	04 53 53.0	-0.7
DID				S	Sb	04 54 09.9	+0.7
VLS	Valsamata	1.26	313	P	Pn	04 53 53.6	-1.0
VLS				S	Sb	04 54 13.4	+2.4
VLS	Valsamata	1.26	313	ePn	Pn	04 53 53.5	-1.1
VLS				eSn	Sn	04 54 11.5	0.0
VLS	Valsamata	1.26	313	ePN	Pn	04 53 53.5	-1.1
VLS				eSN	Sn	04 54 11.5	0.0
NAIG	Nisos Aigina	1.45	72	ePn	Pn	04 53 57.0	-0.2
NAIG	Nisos Aigina	1.45	72	ePN	Pn	04 53 57.0	-0.2
KYTH	Kithira	1.46	135	ePn	Pn	04 53 58.8	+1.4
KYTH	Kithira	1.46	135	ePN	Pn	04 53 58.8	+1.4
EVR	Evrytania	1.59	2	ePn	Pn	04 53 59.6	+0.4
EVR	Evrytania	1.59	2	ePN	Pn	04 53 59.6	+0.4
LKD	Levkas	1.64	328	P	Pn	04 54 00.1	+0.3
LKR	Lokris	1.65	36	P	Pn	04 54 00.6	+0.6
LKR	Lokris	1.65	36	ePn	Pn	04 54 00.8	+0.8
LKR	Lokris	1.65	36	ePN	Pn	04 54 00.8	+0.8
AGG	Agios Georgios	1.76	15	P	Pn	04 54 01.3	-0.2
NEO	Neokhori	2.29	30	ePb	Pb	04 54 09.1	-3.4
NEO	Neokhori	2.29	30	ePB	Pb	04 54 09.1	-3.4

*ISCJB **06** 04:56:19.8±0.5, 1343N±004×12070E±007, h85km±5km, mb4.2/7, Error ellipse: s-maj=11.5km s-min=6.1km az=168.5*
*MAN **06** 04:56:20, 1341N×12068E, h58km, mb4.1, ML2.9, MS2.6*
*IDC **06** 04:56:24.8±15.0, 1348N×12105E, h120km±152km, mb3.7/6, mb1 3.9/6, mb1mx3.5/21, mbtmp3.7/6, MS3.0/1, Ms1 3.3/1, ms1mx2.7/29, Error ellipse: s-maj=74.9km s-min=14.3km az=62.0*
ISC 06 04:56:20.7±0.5**, 1343N**±004×**12071E**±007**, h78**km±5km**, n16, σ0s60**/21**, mb4.2**/7**, 2C, Mindoro**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LUBP	Lubang	0.55	304	eP	Pn	04 56 34.8	+0.1
LUBP				eS	Sn	04 56 44.8	-0.3
SJMP	San Jose	1.04	157	eP	Pn	04 56 40.8	+0.6
SJMP				eS	Sn	04 56 55.1	+0.5
NBP	Mount Natib	1.34	348⇑	eP	Pn	04 56 44.0	+0.1
BUSP	Coron	1.50	199	eP	Pn	04 56 46.0	0.0
BUSP				eS	Sn	04 57 04.2	-0.8
OTRP	Odiongan	1.66	129	eP	Pn	04 56 48.4	+0.3
OTRP				eS	Sn	04 57 08.8	0.0
PCPH	Palayan	2.15	10⇑	eP	Pn	04 56 55.0	+0.3
PCPH				eS	Sn	04 57 19.8	-0.8
ENPP	El Nido	2.54	210	eP	Pn	04 57 00.0	+0.2
CUYO	Cuyo Island	2.58	173	eP	Pn	04 57 00.5	+0.2
CMAR	Chiang Mai Arr	21.51	286	P	P	05 01 07.8	+4.3
	0.7nm,0.4s,mb3.4,baz=94,slow=8.2,SNR=4.6						
CMAR				LR	LR	05 10 21.4	
	comp=Z,40nm,18.1s,baz=65,slow=38						
BATI	Baumata	23.66	173	P	P	05 01 25.7	+0.5
	42nm,0.4s,mb5.2,baz=50,slow=14,SNR=5.7						
WRA	Warramunga Arr	35.77	158	P	P	05 03 11.5	-0.9
	1.4nm,0.3s,mb4.4,baz=332,slow=11,SNR=24						
WB2	Warramunga Arr	35.77	158	eP	P	05 03 11.1	-1.4
ASAR	Alice Springs	39.06	161	P	P	05 03 39.6	-0.6
	1.2nm,0.4s,mb4.1,baz=338,slow=7.0,SNR=32						
NWAO	Narrogin (SRO)	46.21	184	P	P	05 04 38.7	+0.7
	5.6nm,0.5s,mb4.5,baz=15,slow=9.3,SNR=10						
MKAR	Makanchi Array	46.26	324	P	P	05 04 39.1	+0.8
	0.8nm,0.5s,mb3.7,baz=134,slow=8.7,SNR=4.7						
KURK	Kurchatov	50.42	326	P	P	05 05 10.8	+0.5
	1.2nm,0.5s,mb4.1,baz=134,slow=7.7,SNR=14						

FUNV 06 05:06:31.4, 1257N×7126W, h4km, MW3.6, 3C-2D, Near north coast of Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
IMOV	Isla Los Monje	0.41	121	eP	Pg	05 06 39.6	+0.4
IMOV				eS	Sg	05 06 45.1	+0.6
DABV	Dabajuro	1.75	159	eP	Pn	05 07 01.5	-1.0
SIQV	Siquisique	2.38	143⇑	eP	Pn	05 07 10.3	-0.9
SIQV				eS	Sn	05 07 39.2	-1.6
QARV	Quebrada Arrib	2.46	163⇑	eP	Pn	05 07 12.3	+0.1
QARV				eS	Sn	05 07 40.9	-1.8
JACV	Jacura	2.80	121	eP	Pn	05 07 16.6	-0.3
JACV				eS	Sn	05 07 50.0	-1.1
CURV	Curarigua	2.84	153	eP	Pn	05 07 16.4	-1.1
TEPV	Terepaima	3.29	142⇑	eP	Pn	05 07 22.6	-1.1
SANV	Sanarito	3.49	151	eP	Pn	05 07 25.4	-1.0
VIGV	El Vigia	3.71	182	eP	Pn	05 07 28.4	-1.0
VIGV				eS	Sn	05 08 10.3	-3.2
TURV	Turiamo	3.96	122⇓	eP	Pn	05 07 30.7	-2.2
TURV				eS	Sn	05 08 16.0	-3.8
SOCV	Socops	4.28	175	eP	Pn	05 07 36.3	-1.0
CAPV	Capacho	4.79	193	eP	Pn	05 07 42.3	-2.0
BAUV	El Baul	4.79	138	eP	Pn	05 07 43.5	-0.9
BIRV	Birongo	5.32	113	eP	Pn	05 07 48.8	-2.8
ELOV	Elorza	5.80	162	eP	Pn	05 07 57.1	-1.2
MERV	Las Mercedes	5.88	124	eP	Pn	05 07 57.9	-1.5
PCRV	Puerto La Cruz	6.92	109⇓	eP	Pn	05 08 11.8	-1.8
CAOV	Caicara del Or	7.13	137	eP	Pn	05 08 14.6	-1.8

*ISK **06** 06:11:50.0, 3953N×4065E, h5km, MD3.1*
*DDA **06** 06:11:50.4, 3943N×4076E, h17km±1km, Md3.4*
*CSEM **06** 06:11:50.4±0.1, 3949N×4058E, h2km, MD3.1, Error ellipse: s-maj=2.4km s-min=1.9km az=121.0*
*ISCJB **06** 06:11:51.9±0.4, 3945N±002×4065E±005, h10km, Error ellipse: s-maj=5.3km s-min=3.3km az=17.1*
ISC 06 06:11:52.3±0.4**, 3945N**±003×**4065E**±005**, h10**km**, n24, σ1s27**/38**, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KOPT	Kop Dagi	0.58	348	i P	Pg	06 12 02.0	-1.5
KOPT				i S	Sg	06 12 12.3	+1.1
KOPT	Kop Dagi	0.58	348	i P	Pg	06 12 02.0	-1.6
KOPT				i S	Sg	06 12 12.3	+1.1
EZC	Erzincan	0.71	295	ePG	Pg	06 12 10.7	+4.6
EZM	Erzurum	0.71	50	PG	Pg	06 12 04.0	-2.1
ERZM	Erzurum	0.71	50	i P	Pg	06 12 03.7	-2.5
ERZM				i S	Sg	06 12 13.2	-2.3
PTK	Pertek	1.13	241	ePN	Pn	06 12 13.6	-0.6
GUMT	Gumushane	1.35	319	ePN	Pn	06 12 16.0	-1.3
SVRC	Sivrice-ELAZID	1.50	225	ePN	Pn	06 12 19.9	+0.7
DIYA	Diyarbakir	1.58	195	i P	Pn	06 12 19.8	-0.6
DIYA				i S	Sn	06 12 41.8	+1.0
BEST	Besiri	1.63	162	i P	Pn	06 12 20.4	-0.7
BEST				i S	Sn	06 12 42.7	+0.6
DDEM	Demirkent	1.67	30	i P	Pn	06 12 21.2	-0.4
DDEM				i S	Sn	06 12 44.1	+1.0
DDEM	Demirkent	1.67	30	i P	Pn	06 12 21.2	-0.4
DDEM				i S	Sn	06 12 44.1	+1.0
KTUT	Trabzon	1.68	337	ePN	Pn	06 12 20.8	-0.9
DBAD	Bademkaya	1.76	27	i P	Pn	06 12 22.4	-0.4
DBAD				i S	Sn	06 12 46.3	+1.1
AGRB	Hanur-Agry	1.82	85	ePN	Pn	06 12 23.7	+0.1
AGRB				eSN	Sn	06 12 48.0	+1.3
DAGI	Agillar	1.89	30	i P	Pn	06 12 24.2	-0.5
DAGI				i S	Sn	06 12 50.7	+2.2
ARTV	Artvin	1.99	29	i P	Pn	06 12 25.6	-0.4
ARTV				i S	Sn	06 12 53.7	+2.8
DBOC	Borcka	2.05	22	i P	Pn	06 12 25.7	-1.1
DBOC				i S	Sn	06 12 54.2	+1.9
MYA	Malataya	2.07	238	ePN	Pn	06 12 27.8	+0.8
ESPY	Espiye-Giresun	2.08	315	ePN	Pn	06 12 26.5	-0.7
BCA	Borcka	2.13	20	ePN	Pn	06 12 27.5	-0.4
MARD	Mardin	2.14	177	i P	Pn	06 12 26.6	-1.4
MARD				i S	Sn	06 12 49.5	-5.1
GRSN	GIRESUNGRSN	2.34	310	i P	Pn	06 12 32.8	+1.9
GRSN				i S	Sn	06 13 05.0	+5.2
SIRT	Sirnak	2.40	144	ePN	Pn	06 12 33.3	+1.7

*CNRM **06** 06:29:18.8, 3527N×601W, h74km, MD3.4*
*MDD **06** 06:29:21.6±0.7, 3525N×589W, h61km±9km, mb3.7/9, Error ellipse: s-maj=7.0km s-min=5.1km az=20.0, PRIMO*
*ISCJB **06** 06:29:22.3±0.6, 3551N±004×587W±002, h73km±6km,*

Error ellipse: s-maj=6.3km s-min=3.2km az=9.5
*CSEM **06** 06:29:22.8±0.2,3552N×589W,h53km±2km,ML2.9/3, Error ellipse: s-maj=3.5km s-min=1.8km az=9.0*
*NEIC **06** 06:29:23.0,3535N×588W,h53km,MG3.6(MDD),After MDD.*
*INMG **06** 06:29:22.9±1.0,3536N×592W,h50km±6km,MD2.8,ML2.5, Error ellipse: s-maj=4.4km s-min=2.5km az=16.0*
*LDG **06** 06:29:23.4±0.2,3536N×589W,h25km,Ml3.1/4,Error ellipse: s-maj=4.3km s-min=2.1km az=1.0*
ISC 06 06:29:23.4±0.6,**3549N**±004×**586W**±002,**h62km**±7km,**n104,** σ**1s11**/193,**1D,Strait of Gibraltar**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DKH	**Dar Kharkhour**	**0.40**	**90**	P	**Pn**	**06 29 33.0**	**-1.6**
DKH				S	**Sn**	**06 29 42.5**	**-0.3**
DKH	**Dar Kharkhour**	**0.40**	**90**	*i* S	**Sn**	**06 29 42.5**	**-0.3**
ECEU	**Ceuta**	**0.57**	**43**	P	**Pn**	**06 29 36.5**	**+0.3**
	SNR=7.9						
ECEU				S	**Sn**	**06 29 45.7**	**+0.1**
	22nm,0.3s,SNR=4.9						
ECEU	**Ceuta**	**0.57**	**43**	P	**Pn**	**06 29 36.5**	**+0.2**
	SNR=7.9						
ECEU				S	**Sn**	**06 29 45.7**	**0.0**
	22nm,0.3s,SNR=4.9						
RSA	**Sarsar**	**0.61**	**178**	P	**Pn**	**06 29 29.0**	**-7.8**
RSA				S	**Sn**	**06 29 38.0**	**-8.5**
EJIF	**Jimena Fronter**	**1.01**	**18**	P	**Pn**	**06 29 42.9**	**+1.2**
	1.7nm,0.2s,SNR=7.9						
EJIF				S	**Sn**	**06 29 55.4**	**+0.1**
	10nm,0.4s,SNR=7.9						
EJIF	**Jimena Fronter**	**1.01**	**18**	P	**Pn**	**06 29 42.9**	**+1.2**
EJIF				S	**Sn**	**06 29 55.4**	**+0.1**
ESPR	**Espera**	**1.38**	**360**	P	**Pn**	**06 29 47.3**	**+0.8**
	1.4nm,0.1s,SNR=5.3						
ESPR				S	**Sn**	**06 30 06.2**	**+2.3**
	15nm,0.2s,SNR=8.6						
ESPR	**Espera**	**1.38**	**360**	P	**Pn**	**06 29 47.3**	**+0.8**
	1.4nm,0.1s,SNR=5.3						
ESPR				S	**Sn**	**06 30 03.9**	**0.0**
	15nm,0.2s,SNR=8.6						
ESPR	**Espera**	**1.38**	**360**	P	**Pn**	**06 29 47.3**	**+0.8**
ESPR				S	**Sn**	**06 30 03.9**	**0.0**
EMIJ	**Mijas**	**1.39**	**39**	P	**Pn**	**06 29 46.3**	**-0.4**
	0.8nm,0.1s,SNR=8.6						
EMIJ				S	**Sn**	**06 30 05.2**	**+1.1**
	11nm,0.2s						
MIF	**Mishlifen**	**2.14**	**166**	P	**Pn**	**06 29 51.0**	**-5.8**
MIF				S	**Sn**	**06 30 12.5**	**-10**
ELOJ	**Sierra Loja**	**2.15**	**39**	P	**Pn**	**06 29 59.9**	**+2.9**
	2.4nm,0.2s,SNR=4.0						
ELOJ				S	**Sn**	**06 30 23.1**	**+0.5**
	4.5nm,0.2s,SNR=4.0						
ELOJ	**Sierra Loja**	**2.15**	**39**	P	**Pn**	**06 29 59.9**	**+2.9**
ELOJ				S	**Sn**	**06 30 23.1**	**+0.5**
ERON	**Agron**	**2.25**	**47**	P	**Pn**	**06 30 00.6**	**+2.3**
	5.3nm,0.3s,SNR=4.0						
ERON				S	**Sn**	**06 30 25.8**	**+0.8**
	2.9nm,0.3s,SNR=4.0						
EALB	**Alboran**	**2.34**	**78**	P	**Pn**	**06 29 58.1**	**-1.4**
	2.6nm,0.1s,SNR=7.9						
EALB				S	**Sn**	**06 30 24.6**	**-2.5**
	10nm,0.2s,SNR=7.9						
EALB	**Alboran**	**2.34**	**78**	P	**Pn**	**06 29 58.1**	**-1.4**
	2.6nm,0.1s,SNR=7.9						
EALB				S	**Sn**	**06 30 24.6**	**-2.5**
	10nm,0.2s,SNR=7.9						
EMIN	**Mina Concepcio**	**2.37**	**344**	P	**Pn**	**06 30 00.2**	**+0.3**
	1.0nm,0.1s,SNR=12						
EMIN				S	**Sn**	**06 30 28.0**	**+0.1**
	6.0nm,0.1s						
EMIN	**Mina Concepcio**	**2.37**	**344**	P	**Pn**	**06 30 00.2**	**+0.3**
	1.0nm,0.1s,SNR=12						
EMIN				S	**Sn**	**06 30 28.0**	**+0.1**
	6.0nm,0.1s						
EMEL	**Melilla**	**2.38**	**94**	S	**Sn**	**06 30 23.3**	**-4.7**
	36nm,0.2s,SNR=4.0						
PBDV	**Barranco-do-Ve**	**2.42**	**317**	*e*P	**Pn**	**06 30 00.1**	**-0.6**
PBDV				*e*S	**Sn**	**06 30 28.8**	**-0.4**
PBDV				A		06 30 30.3	
	7.5nm,0.2s						
PBDV	**Barranco-do-Ve**	**2.42**	**317**	*e*P	**Pn**	**06 30 00.1**	**-0.6**
PBDV				*e*S	**Sn**	**06 30 28.8**	**-0.4**
	7.5nm,0.2s						
EGRO	**El Granado**	**2.43**	**328**	P	**Pn**	**06 30 00.7**	**0.0**
	6.5nm,0.1s,SNR=28						
EGRO				S	**Sn**	**06 30 29.4**	**+0.1**
	22nm,0.1s						
EGRO	**El Granado**	**2.43**	**328**	P	**Pn**	**06 30 00.7**	**0.0**
	6.5nm,0.1s,SNR=28						
EGRO				S	**Sn**	**06 30 29.4**	**+0.1**
	22nm,0.1s						
PVAQ	**Vaqueiros**	**2.43**	**322**	*i* P	**Pn**	**06 30 00.6**	**-0.2**
PVAQ				*e*S	**Sn**	**06 30 29.4**	**0.0**
PVAQ				A		06 30 31.5	
	20nm,0.1s						
PVAQ	**Vaqueiros**	**2.43**	**322**	⇓P	**Pn**	**06 30 00.6**	**-0.2**
PVAQ				S	**Sn**	**06 30 29.4**	**0.0**
	20nm,0.1s						
ELUQ	**Luque**	**2.43**	**31**	P	**Pn**	**06 30 01.5**	**+0.7**
	0.8nm,0.1s,SNR=4.0						
ELUQ				S	**Sn**	**06 30 30.7**	**+1.3**
	14nm,0.2s,SNR=7.9						
ECOG	**Cogollos-Vega**	**2.57**	**45**	S	**Sn**	**06 30 33.5**	**+0.8**
	3.9nm,0.2s,SNR=7.9						
EQUE	**Quentar**	**2.60**	**48**	P	**Pn**	**06 30 04.3**	**+1.3**
	0.6nm,0.2s,SNR=7.9						
EQUE				S	**Sn**	**06 30 33.5**	**+0.1**
	4.9nm,0.3s,SNR=6.5						
EQUE	**Quentar**	**2.60**	**48**	P	**Pn**	**06 30 04.3**	**+1.3**
	0.6nm,0.2s,SNR=7.9						
EQUE				S	**Sn**	**06 30 33.5**	**+0.1**
	4.9nm,0.3s,SNR=6.5						
ECAB	**El Cabril**	**2.61**	**8**	P	**Pn**	**06 30 03.8**	**+0.6**
	0.7nm,0.1s,SNR=5.8						
ECAB				S	**Sn**	**06 30 33.9**	**+0.3**
	23nm,0.2s,SNR=20						
ECAB	**El Cabril**	**2.61**	**8**	P	**Pn**	**06 30 03.8**	**+0.6**
	0.7nm,0.1s,SNR=5.8						
ECAB				S	**Sn**	**06 30 33.9**	**+0.2**
	23nm,0.2s,SNR=20						
EBER	**Berja**	**2.78**	**59**	P	**Pn**	**06 30 04.8**	**-0.8**
	1.3nm,0.2s,SNR=7.9						
EBER				S	**Sn**	**06 30 37.3**	**-0.6**
	5.1nm,0.3s,SNR=7.9						
EBER	**Berja**	**2.78**	**59**	P	**Pn**	**06 30 04.8**	**-0.7**
	1.3nm,0.2s,SNR=7.9						
EBER				S	**Sn**	**06 30 37.3**	**-0.6**
	5.1nm,0.3s,SNR=7.9						
PBAR	**Barrancos**	**2.85**	**341**	*e*P	**Pn**	**06 30 06.8**	**+0.4**
PBAR				*e*S	**Sn**	**06 30 39.8**	**+0.3**
PBAR				A		06 30 43.3	
	9.1nm,0.1s						
PBAR	**Barrancos**	**2.85**	**341**	*e*P	**Pn**	**06 30 06.8**	**+0.4**
PBAR				*e*S	**Sn**	**06 30 39.8**	**+0.3**
	9.1nm,0.1s						
EADA	**Adamuz**	**2.87**	**21**	P	**Pn**	**06 30 07.5**	**+0.8**
	0.9nm,0.1s,SNR=7.9						
EADA				S	**Sn**	**06 30 40.1**	**+0.1**
	10nm,0.2s,SNR=11						
EADA	**Adamuz**	**2.87**	**21**	P	**Pn**	**06 30 07.5**	**+0.8**
	0.9nm,0.1s,SNR=7.9						
EADA				S	**Sn**	**06 30 40.1**	**+0.1**
	10nm,0.2s,SNR=11						
MORF	**Marmelete**	**2.90**	**310**	*e*P	**Pn**	**06 30 05.8**	**-1.3**
MORF				*e*S	**Sn**	**06 30 39.3**	**-1.4**
MORF				A		06 30 46.3	
	10nm,0.1s						
MORF	**Marmelete**	**2.90**	**310**	*e*P	**Pn**	**06 30 05.8**	**-1.3**
MORF				*e*S	**Sn**	**06 30 39.3**	**-1.4**
	10nm,0.1s						
MORF	**Marmelete**	**2.90**	**310**	*e*P	**Pn**	**06 30 05.8**	**-1.3**
MORF				*e*S	**Sn**	**06 30 39.0**	**-1.7**
PFVI	**Vila Bisbo**	**2.91**	**305**	*e*P	**Pn**	**06 30 05.7**	**-1.6**
PFVI				*e*S	**Sn**	**06 30 39.4**	**-1.6**
PFVI				A		06 30 42.6	
	5.0nm,0.1s						
PFVI	**Vila Bisbo**	**2.91**	**305**	*e*P	**Pn**	**06 30 05.7**	**-1.6**
PFVI				*e*S	**Sn**	**06 30 39.4**	**-1.6**
	5.0nm,0.1s						
PFVI	**Vila Bisbo**	**2.91**	**305**	*e*P	**Pn**	**06 30 05.7**	**-1.6**
PFVI				*e*S	**Sn**	**06 30 39.1**	**-1.9**
PBEJ	**Beja**	**3.01**	**328**	*e*P	**Pn**	**06 30 08.7**	**+0.1**
PBEJ				*e*S	**Sn**	**06 30 43.5**	**+0.1**
PBEJ				A		06 30 44.5	
	9.0nm,0.1s						
PBEJ	**Beja**	**3.01**	**328**	*e*P	**Pn**	**06 30 08.7**	**+0.1**
PBEJ				*e*S	**Sn**	**06 30 43.5**	**+0.1**
	9.0nm,0.1s						
PTEO	**Sao Teotonio**	**3.09**	**312**	*e*P	**Pn**	**06 30 09.0**	**-0.8**
PTEO				*e*S	**Sn**	**06 30 44.5**	**-1.0**
PTEO				A		06 30 48.8	
	7.7nm,0.1s						
PTEO	**Sao Teotonio**	**3.09**	**312**	*e*P	**Pn**	**06 30 09.0**	**-0.8**
PTEO				*e*S	**Sn**	**06 30 44.5**	**-1.0**
	7.7nm,0.1s						
EBAN	**Banos Encina**	**3.15**	**31**	P	**Pn**	**06 30 11.1**	**+0.5**
	1.4nm,0.1s,SNR=7.9						
EBAN				S	**Sn**	**06 30 46.8**	**0.0**
	8.2nm,0.1s,SNR=9.7						
EQES	**Quesada**	**3.22**	**43**	P	**Pn**	**06 30 12.2**	**+0.7**
	1.7nm,0.1s,SNR=4.8						
EQES				S	**Sn**	**06 30 48.5**	**-0.1**
	14nm,0.3s						
EQES	**Quesada**	**3.22**	**43**	P	**Pn**	**06 30 12.2**	**+0.7**
	1.7nm,0.1s,SNR=4.8						
EQES				S	**Sn**	**06 30 48.5**	**-0.1**
	14nm,0.3s						
ENIJ	**Nijar**	**3.30**	**62**	S	**Sn**	**06 30 49.4**	**-1.2**
	1.8nm,0.2s,SNR=4.0						
EBAD	**Badajoz**	**3.39**	**345**	P	**Pn**	**06 30 14.4**	**+0.6**
	1.2nm,0.1s,SNR=11						
EBAD				S	**Sn**	**06 30 52.8**	**0.0**
	7.6nm,0.1s						
EBAD	**Badajoz**	**3.39**	**345**	P	**Pn**	**06 30 14.4**	**+0.5**
	1.2nm,0.1s,SNR=11						
EBAD				S	**Sn**	**06 30 52.8**	**-0.1**
	7.6nm,0.1s						
EVO	**Evora**	**3.50**	**331**	*e*Pn	**Pn**	**06 30 16.0**	**+0.7**
EVO				*e*Sn	**Sn**	**06 30 55.6**	**+0.2**
	18nm,0.2s						
EVO	**Evora**	**3.50**	**331**	*e*P	**Pn**	**06 30 15.6**	**+0.3**
EVO				*e*S	**Sn**	**06 30 55.4**	**0.0**
EVO				A		06 30 56.4	
	22nm,0.3s						
EVO	**Evora**	**3.50**	**331**	*e*P	**Pn**	**06 30 15.6**	**+0.3**
EVO				*e*S	**Sn**	**06 30 55.4**	**0.0**
	22nm,0.3s						
EHUE	**Huescar**	**3.50**	**48**	P	**Pn**	**06 30 16.5**	**+1.1**
	0.6nm,0.1s,SNR=7.9						
EHUE				S	**Sn**	**06 30 55.6**	**0.0**
	1.7nm,0.2s,SNR=7.9						
EVOP	**Sao Brissos**	**3.54**	**330**	*e*Pn	**Pn**	**06 30 16.0**	**+0.1**
EVOP				*e*Sn	**Sn**	**06 30 55.6**	**-0.8**
	9.1nm,0.2s						
MOE	**Montemor**	**3.63**	**327**	*e*P	**Pn**	**06 30 17.4**	**+0.3**
MOE				*e*S	**Sn**	**06 30 59.1**	**+0.4**
MOE	**Montemor**	**3.63**	**327**	*e*P	**Pn**	**06 30 17.4**	**+0.3**
MOE				*e*S	**Sn**	**06 30 58.7**	**0.0**
PESTR	**Estremoz**	**3.65**	**338**	*e*P	**Pn**	**06 30 18.1**	**+0.7**
PESTR				*e*S	**Sn**	**06 30 59.2**	**+0.1**
PESTR				A		06 31 01.9	
	7.4nm,0.3s						
PESTR	**Estremoz**	**3.65**	**338**	*e*P	**Pn**	**06 30 18.1**	**+0.7**
PESTR				*e*S	**Sn**	**06 30 59.2**	**+0.1**
	7.4nm,0.3s						
ZFT	**Errachidia**	**3.66**	**160**	P	**Pn**	**06 30 11.5**	**-6.1**
ZFT				S	**Sn**	**06 30 49.0**	**-11**
PMRV	**Marv??o**	**4.12**	**343**	*e*P	**Pn**	**06 30 25.1**	**+1.3**
PMRV				*e*S	**Sn**	**06 31 11.1**	**+0.4**
PMRV				A		06 31 12.8	
	4.8nm,0.2s						
PMRV	**Marv??o**	**4.12**	**343**	*e*P	**Pn**	**06 30 25.1**	**+1.3**
PMRV				*e*S	**Sn**	**06 31 11.1**	**+0.4**
	4.8nm,0.2s						
EVIA	**Vianos**	**4.13**	**39**	P	**Pn**	**06 30 24.9**	**+0.9**
	1.7nm,0.1s,SNR=6.3						
EVIA				S	**Sn**	**06 31 09.4**	**-1.7**
	4.0nm,0.1s,SNR=8.9						
PMAFR	**Mafra**	**4.41**	**323**	*e*P	**Pn**	**06 30 28.0**	**+0.2**
PMAFR				*e*S	**Sn**	**06 31 16.9**	**-1.0**
ESDC	**Sonseca Array**	**4.44**	**19**	P	**Pn**	**06 30 28.6**	**+0.4**
	0.6nm,0.1s,baz=198,slow=14,SNR=3.6						
ESDC				S	**Sn**	**06 31 16.8**	**-1.8**
	4.6nm,0.1s,baz=202,slow=22,SNR=8.7						
ESDC	**Sonseca Array**	**4.44**	**19**	P	**Pn**	**06 30 28.6**	**+0.4**
	0.6nm,0.1s,baz=198,slow=14,SNR=3.6						
ESDC				S	**Sn**	**06 31 16.8**	**-1.8**
	4.6nm,0.1s,baz=202,slow=22,SNR=8.7						
PCBR	**Castelo Branco**	**4.53**	**344**	*e*P	**Pn**	**06 30 30.8**	**+1.3**
PCBR				*e*S	**Sn**	**06 31 19.6**	**-1.2**
PCBR				A		06 31 22.2	
	5.0nm,0.2s						
PCBR	**Castelo Branco**	**4.53**	**344**	*e*P	**Pn**	**06 30 30.8**	**+1.3**
PCBR				*e*S	**Sn**	**06 31 19.6**	**-1.2**
	5.0nm,0.2s						
EPLA	**Plasencia**	**4.57**	**358**	P	**Pn**	**06 30 31.5**	**+1.4**
	0.6nm,0.1s,SNR=7.9						
EPLA				S	**Sn**	**06 31 21.1**	**-0.8**
	11nm,0.1s,SNR=16						
OUK	**Oukaimeden**	**4.59**	**202**	P	**Pn**	**06 30 23.0**	**-7.3**
OUK				S	**Sn**	**06 31 09.0**	**-13**
PTOM	**Tomar**	**4.60**	**335**	*e*P	**Pn**	**06 30 31.3**	**+1.0**
PTOM				*e*S	**Sn**	**06 31 22.7**	**+0.3**
PTOM				A		06 31 26.2	
	5.5nm,0.2s						
PTOM	**Tomar**	**4.60**	**335**	*e*P	**Pn**	**06 30 31.3**	**+1.0**
PTOM				*e*S	**Sn**	**06 31 22.7**	**+0.3**
	5.5nm,0.2s						
CIA	**Chichaoua**	**4.60**	**213**	P	**Pn**	**06 30 23.0**	**-7.5**
CIA				S	**Sn**	**06 31 09.0**	**-14**
ETOB	**Tobarra**	**4.67**	**46**	P	**Pn**	**06 30 31.6**	**+0.3**
	1.8nm,0.1s,SNR=8.4						
ETOB				S	**Sn**	**06 31 21.8**	**-2.4**
	2.8nm,0.1s,SNR=7.9						
ETOB	**Tobarra**	**4.67**	**46**	P	**Pn**	**06 30 31.6**	**+0.3**
	1.8nm,0.1s,SNR=8.4						
ETOB				S	**Sn**	**06 31 21.8**	**-2.4**
	2.8nm,0.1s,SNR=7.9						
GUD	**Guadarrama**	**5.32**	**14**	P	**Pn**	**06 30 41.7**	**+1.4**
	0.2nm,0.2s,SNR=7.9						
GUD				S	**Sn**	**06 31 37.9**	**-2.3**
	1.6nm,0.2s,SNR=6.4						
PVIS	**Viseu**	**5.46**	**343**	*e*P	**Pn**	**06 30 43.5**	**+1.3**
PVIS				*e*S	**Sn**	**06 31 43.9**	**+0.3**
PVIS				A		06 31 45.4	
	3.9nm,0.1s						
PVIS	**Viseu**	**5.46**	**343**	*e*P	**Pn**	**06 30 43.5**	**+1.3**
PVIS				*e*S	**Sn**	**06 31 43.9**	**+0.3**
	3.9nm,0.1s						
MVO	**Moncorvo**	**5.74**	**351**	*e*P	**Pn**	**06 30 47.4**	**+1.4**
MVO				*e*S	**Sn**	**06 31 50.0**	**-0.5**
MVO				A		06 31 53.2	
	5.1nm,0.2s						
MVO	**Moncorvo**	**5.74**	**351**	*e*P	**Pn**	**06 30 47.4**	**+1.4**
MVO				*e*S	**Sn**	**06 31 50.0**	**-0.5**
	5.1nm,0.2s						
PVRL	**Vila Real**	**5.96**	**346**	*e*S	**Sn**	**06 31 55.4**	**-0.5**
PVRL				A		06 31 59.3	
	6.1nm,0.1s						
PVRL	**Vila Real**	**5.96**	**346**	*e*S	**Sn**	**06 31 55.4**	**-0.5**
	6.1nm,0.1s						
EMOS	**Mosqueruela**	**6.46**	**40**	S	**Sn**	**06 32 06.1**	**-2.1**
	1.1nm,0.2s,SNR=4.0						
ECAL	**Calabor**	**6.48**	**354**	P	**Pn**	**06 30 57.9**	**+1.8**
	0.7nm,0.2s,SNR=7.9						
ECAL				S	**Sn**	**06 32 06.6**	**-2.0**
	3.7nm,0.2s,SNR=7.9						
ECAL	**Calabor**	**6.48**	**354**	P	**Pn**	**06 30 57.9**	**+1.8**
	0.7nm,0.2s,SNR=7.9						
ELOB	**Lobios**	**6.60**	**346**	P	**Pn**	**06 30 58.7**	**+0.9**
	0.2nm,0.1s,SNR=7.9						
ELOB				S	**Sn**	**06 32 09.3**	**-2.2**
	0.8nm,0.1s,SNR=7.9						
EARI	**Arriondas**	**7.82**	**3**	S	**Sn**	**06 32 37.8**	**-3.6**
	0.2nm,0.1s,SNR=7.9						
EPON	**Pontenova**	**7.89**	**353**	S	**Sn**	**06 32 38.2**	**-5.1**
	0.5nm,0.2s,SNR=7.9						
ELAN	**Lanestosa**	**7.96**	**13**	P	**Pn**	**06 31 17.9**	**+1.6**
	0.1nm,0.1s,SNR=7.9						
ELAN				S	**Sn**	**06 32 41.9**	**-3.0**
	1.7nm,0.2s,SNR=7.9						
ELAN	**Lanestosa**	**7.96**	**13**	P	**Pn**	**06 31 17.9**	**+1.6**
	0.1nm,0.1s,SNR=7.9						
SJPF	**Ste Jean**	**8.42**	**24**	*e*Pn	**Pn**	**06 31 23.1**	**+0.5**
SJPF				*e*Sn	**Sn**	**06 32 53.2**	**-2.9**
	0.7nm,0.3s						
SJPF	**Ste Jean**	**8.42**	**24**	*e*Pn	**Pn**	**06 31 23.1**	**+0.5**
SJPF				*e*Sn	**Sn**	**06 32 53.2**	**-2.9**
	0.3nm,0.3s						
EALK	**Alkurruntz**	**8.42**	**22**	S	**Sn**	**06 32 53.0**	**-3.2**
	4.7nm,0.4s,SNR=7.9						
ETSF	**Etsaut**	**8.46**	**27**	*e*Pn	**Pn**	**06 31 24.9**	**+1.7**
ETSF				*e*Sn	**Sn**	**06 32 54.3**	**-2.9**
	0.9nm,0.3s						
ETSF	**Etsaut**	**8.46**	**27**	*e*Pn	**Pn**	**06 31 24.9**	**+1.7**
ETSF				*e*Sn	**Sn**	**06 32 54.3**	**-2.9**
	0.4nm,0.3s						
EBIE	**Bielsa**	**8.57**	**31**	S	**Sn**	**06 32 56.2**	**-3.5**
	0.3nm,0.2s,SNR=7.9						
EMIR	**Miracle**	**8.63**	**40**	S	**Sn**	**06 32 57.2**	**-4.0**
	0.8nm,0.2s,SNR=4.0						
EPF	**Esparros**	**8.93**	**31**	*e*Pn	**Pn**	**06 31 29.8**	**+0.2**
EPF				*e*Sn	**Sn**	**06 33 04.8**	**-3.9**
	1.4nm,0.3s						
EPF	**Esparros**	**8.93**	**31**	*e*Pn	**Pn**	**06 31 29.8**	**+0.2**
EPF				*e*Sn	**Sn**	**06 33 04.8**	**-3.9**
	0.7nm,0.3s						
MTLF	**Montolieu**	**10.02**	**36**	*e*Pn	**Pn**	**06 31 44.0**	**-0.5**

*ISCJB **06** 06:30:46.8±1.0,3193S±004×703W±02,h128km±11km, Error ellipse: s-maj=21.3km s-min=6.5km az=173.0*
*GUC **06** 06:30:46.6±0.6,3192S×70.15W,h120km±5km,MD3.2, ML3.1*
*NEIC **06** 06:30:46.6,3192S×70.15W,h120km,MD3.7(GUC),After GUC.*
ISC 06 06:30:47.3±1.0,**3192S**±004×**703W**±02,**h127km**±12km,**n18,** σ**0s51**/34,**5C-5D,Chile-Argentina border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PTCH	**Petorca**	**0.66**	**239**	⇓*i*P	**Pn**	**06 31 06.6**	**-0.5**
PTCH				*i* S	**Sn**	**06 31 21.8**	**-0.3**
PTCH				AML	AML	06 31 23.2	
	comp=E,756nm,0.7s						
PTCH	**Petorca**	**0.66**	**239**	⇓*i*P	**Pn**	**06 31 06.6**	**-0.5**
PTCH				*i* S	**Sn**	**06 31 21.8**	**-0.3**
JACH	**Jahuel**	**0.81**	**201**	⇓*i*P	**Pn**	**06 31 07.8**	**-0.4**
JACH				*i* S	**Sn**	**06 31 23.5**	**-0.6**
PACH	**Papudo**	**1.17**	**238**	⇑*i*P	**Pn**	**06 31 11.8**	**+0.2**
PACH				*i* S	**Sn**	**06 31 30.4**	**+0.3**
ROCH	**El Roble**	**1.22**	**211**	*i* S	**Sn**	**06 31 31.9**	**+0.8**
PEL	**Peldehue**	**1.27**	**196**	⇑*i*P	**Pn**	**06 31 12.0**	**-0.6**
PEL				*i* S	**Sn**	**06 31 31.4**	**-0.6**
PEL				AML	AML	06 31 32.3	
	comp=E,430nm,0.8s						
FCH	**Farellones**	**1.40**	**181**	⇓*i*P	**Pn**	**06 31 13.7**	**-0.3**
FCH				*i* S	**Sn**	**06 31 34.6**	**+0.1**
FCH				AML	AML	06 31 38.3	
	comp=E,213nm,0.3s						
CLCH	**Cerro Calan**	**1.49**	**189**	*e*P	**Pn**	**06 31 14.3**	**-0.7**
CLCH				*i* S	**Sn**	**06 31 36.2**	**0.0**
CLCH				AML	AML	06 31 40.5	
	comp=E,273nm,0.7s						
PCH	**Pirque**	**1.71**	**187**	⇓*i*P	**Pn**	**06 31 17.3**	**-0.3**
PCH				*i* S	**Sn**	**06 31 41.0**	**+0.3**
TLL	**Tololo Astrono**	**1.81**	**345**	*e*P	**Pn**	**06 31 19.2**	**+0.3**
TLL				*i* S	**Sn**	**06 31 43.6**	**+0.7**
TLL				AML	AML	06 31 46.8	
	comp=N,209nm,0.5s						
TLL	**Tololo Astrono**	**1.81**	**345**	*e*P	**Pn**	**06 31 19.2**	**+0.3**
TLL				*i* S	**Sn**	**06 31 43.6**	**+0.7**
TACH	**Talagante**	**1.82**	**198**	⇑*i*P	**Pn**	**06 31 18.7**	**-0.2**
TACH				*i* S	**Sn**	**06 31 42.5**	**-0.5**
LMEL	**Las Melosas**	**1.92**	**179**	⇑*i*P	**Pn**	**06 31 19.9**	**-0.2**
LMEL				*e*S	**Sn**	**06 31 46.4**	**+1.2**
LMEL				AML	AML	06 31 53.3	
	comp=N,156nm,0.2s						
LMEL	**Las Melosas**	**1.92**	**179**	⇑*i*P	**Pn**	**06 31 19.9**	**-0.2**
LMEL				S	**Sn**	**06 31 46.4**	**+1.2**
CHCH	**Chadas Angostu**	**2.03**	**189**	*e*P	**Pn**	**06 31 21.1**	**-0.3**
CHCH				*i* S	**Sn**	**06 31 47.8**	**+0.1**
CACH	**El Canelo**	**2.21**	**187**	*e*P	**Pn**	**06 31 24.3**	**+0.7**
CACH				*i* S	**Sn**	**06 31 52.6**	**+1.0**
LNV	**Longovilo**	**2.25**	**205**	*e*P	**Pn**	**06 31 23.7**	**-0.4**
CICH	**Cipreses**	**2.39**	**183**	*e*P	**Pn**	**06 31 26.0**	**+0.1**
CICH				*i* S	**Sn**	**06 31 55.8**	**+0.1**

*ISCJB **06** 06:38:56.7±1.0,4028N±004×2532E±005,h7km±8km, Error ellipse: s-maj=6.3km s-min=5.9km az=147.5*
*ATH **06** 06:38:56.5,4025N×2529E,h25km±1km,MD3.2/5*
*NEIC **06** 06:38:56.5,4025N×2529E,h25km,MD3.2(ATH),After ATH.*
*CSEM **06** 06:38:56.3±0.1,4030N×2531E,h10km,MD3.2,Error ellipse: s-maj=2.6km s-min=2.5km az=95.0*
*THE **06** 06:38:57.3,4028N×2531E,h10km,ML2.8/3,Error ellipse: s-maj=0.7km s-min=0.4km az=213.0*
ISC 06 06:38:57.1±0.7,**4028N**±004×**2532E**±005,**h12km**±6km,**n16,** σ**0s58**/26,**2C,Aegean Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LOS	**Limnos**	**0.39**	**208**	P	**Pg**	**06 39 04.6**	**-0.3**
LOS				S	**Sg**	**06 39 09.9**	**-0.2**
LIA	**Limnos Island**	**0.40**	**195**	P	**Pg**	**06 39 04.9**	**-0.1**
LIA				S	**Sg**	**06 39 10.6**	**+0.3**
LIA	**Limnos Island**	**0.40**	**195**	⇑*i*Pb	**Pg**	**06 39 04.9**	**-0.1**
LIA				*e*Sb	**Sg**	**06 39 10.4**	**+0.1**
LIA	**Limnos Island**	**0.40**	**195**	⇑*i*PB	**Pg**	**06 39 04.9**	**-0.1**
LIA				*e*SB	**Sg**	**06 39 10.4**	**+0.1**
ALN	**Alexandroupoli**	**0.83**	**42**	P	**Pg**	**06 39 12.9**	**-0.2**
ALN				S	**Sg**	**06 39 24.8**	**+0.9**
RDO	**Rodhopi**	**0.88**	**11**	*e*Pn	**Pn**	**06 39 14.0**	**-1.3**
RDO	**Rodhopi**	**0.88**	**11**	*e*PN	**Pn**	**06 39 14.0**	**-1.3**
OUR	**Ouranopolis**	**1.02**	**273**	P	**Pb**	**06 39 16.4**	**-0.3**
OUR				S	**Sb**	**06 39 31.0**	**+0.9**
PRK	**Paraskevi**	**1.27**	**144**	P	**Pn**	**06 39 20.3**	**-0.3**
PRK				S	**Sb**	**06 39 37.8**	**+0.6**
PRK	**Paraskevi**	**1.27**	**144**	*e*Pn	**Pn**	**06 39 20.3**	**-0.3**
PRK				S	**Sb**	**06 39 37.8**	**+0.6**
PRK	**Paraskevi**	**1.27**	**144**	*e*PN	**Pn**	**06 39 20.3**	**-0.3**
PLG	**Polygyros**	**1.43**	**274**	P	**Pn**	**06 39 22.4**	**-0.5**
PLG				S	**Sn**	**06 39 42.2**	**+0.5**
PLG	**Polygyros**	**1.43**	**274**	*e*Pn	**Pn**	**06 39 22.1**	**-0.8**
PLG				S	**Sn**	**06 39 42.2**	**+0.5**
PLG	**Polygyros**	**1.43**	**274**	*e*PN	**Pn**	**06 39 22.1**	**-0.8**
NVR	**Nevrokopi**	**1.54**	**314**	*e*Pn	**Pn**	**06 39 24.5**	**+0.2**
NVR	**Nevrokopi**	**1.54**	**314**	*e*PN	**Pn**	**06 39 24.5**	**+0.2**

*NEIC **06** 07:06:46.3±2.9,274S×15244E,h63km±20km,mb4.3/2, Error ellipse: s-maj=34.2km s-min=12.7km az=173.0*
*IDC **06** 07:07:28.0±2.8,528S×15064E,h225km±21km,mb3.5/4, mb1 3.6/5,mb1mx3.3/16,mbtmp3.5/5,Error ellipse: s-maj=45.2km s-min=28.0km az=125.0*
ISC 06 07:07:26.4±3.6,**51S**±02×**1509E**±02,**h240km**±20km,**n12,** σ**0s40**/12,**mb4.0**/4,**New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.67**	**221**	Pn	**Pn**	**07 08 45.3**	**-5.0**
	44nm,0.7s						
PMG	**Port Moresby**	**5.67**	**221**	*e*S	**S**	**07 09 57.1**	**-0.1**
CTA	**Charters Tower**	**15.59**	**196**	P	**Pn**	**07 10 54.0**	**-0.1**
	0.3nm,0.3s,baz=18,slow=12,SNR=7.7						
CTAO	**Charters Tower**	**15.59**	**196**	*e*P	**Pn**	**07 10 55.1**	**+1.1**
	4.9nm,0.9s						
KAKA	**Kakadu**	**19.73**	**246**	*e*P	**P**	**07 11 38.1**	**-0.2**
	5.2nm,0.3s						
EIDS	**Eidsvold**	**20.18**	**179**	*e*P	**P**	**07 11 42.3**	**-0.6**
WB2	**Warramunga Arr**	**21.85**	**226**	*e*P	**P**	**07 12 00.0**	**+0.1**
WRA	**Warramunga Arr**	**21.86**	**226**	P	**P**	**07 12 00.0**	**0.0**
	4.8nm,0.5s,mb4.3,baz=52,slow=9.6,SNR=93						
WRA				S	**S**	**07 15 44.1**	**-0.2**
	0.9nm,0.6s,baz=47,slow=16,SNR=7.2						
WRA				ScP	ScP	07 19 08.5	+3.8
	0.5nm,1.0s,baz=50,slow=2.9,SNR=5.6						
ASAR	**Alice Springs**	**24.69**	**220**	P	**P**	**07 12 26.4**	**+0.6**
	1.6nm,0.3s,mb4.1,baz=53,slow=9.0,SNR=88						
FITZ	**Fitzroy Crossi**	**27.86**	**240**	P	**P**	**07 12 54.0**	**-0.2**
	0.4nm,0.3s,mb3.5,baz=69,slow=8.6,SNR=9.7						
STKA	**Stephens Creek**	**28.05**	**197**	P	**P**	**07 12 55.6**	**0.0**
	1.4nm,0.4s,mb4.0,baz=32,slow=16,SNR=5.6						
TORD	**Torodi Ar. Bea**	**148.58**	**287**	PKPbc	PKPbc	07 26 48.0	+2.1
	0.4nm,0.9s,baz=80,slow=3.4,SNR=3.0						

*MOS **06** 07:15:34.9±1.0,4252N×4737E,h15km,mb4.4/1,Error ellipse: s-maj=9.9km s-min=7.0km az=36.1*
*ISCJB **06** 07:15:35.9±0.7,4271N±003×4749E±003,h18km±7km,*

Error ellipse: s-maj=5.1km s-min=3.8km az=176.7
*CSEM **06** 07:15:36.7±0.1,4248N×4745E,h2km,mb4.4,Error ellipse: s-maj=3.0km s-min=2.1km az=2.0*
*NNC **06** 07:15:41.0±4.7,4261N×4823E,h0km,mb3.4,Error ellipse: s-maj=43.7km s-min=35.3km az=20.0*
ISC 06 07:15:36.2±0.8**,4267N**±003×**4744E**±003**,h9**km±5km**,n44,** σ**1s12**/67**,7C-9D,Eastern Caucasus**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MNSR	Manas	0.21	81	ePG	Pg	07 15 45.0	+4.5
MAK	Makhachkala	0.29	9	⇑iPG	Pg	07 15 43.7	+1.6
MAK				e		07 15 54.6	
MAK				pmax	pmax		
	comp=Z,2µm,0.7s						
MAK				smax			
	comp=E,7µm,0.6s						
MAK	Makhachkala	0.29	9	i Pg	Pg	07 15 43.7	+1.6
	comp=E,2µm,0.7s						
MAK				eSg	Sg	07 15 54.6	+8.5
URKR	Urkarakh	0.52	164	i Pg	Pg	07 15 45.0	-1.3
URKR				eSg	Sg	07 15 55.0	+1.8
XNZR	Khunzakh	0.56	257	ePg	Pg	07 15 39.0	-8.0
AKT	Akhty	1.21	170	i PG	Pg	07 15 55.0	-4.4
AKT				i S	Sb	07 16 14.5	-0.4
SEKA	Sheki	1.47	187	P	Pn	07 16 02.0	-0.9
	SNR=24						
SIZA	Siyzn	1.93	145	P	Pn	07 16 14.7	+5.5
	SNR=4.5						
DGRG	David-gareji	1.96	232	P	Pn	07 16 08.4	-1.2
DGRG				S	Sn	07 16 47.2	+13
SNJR	Sundja	1.97	283	ePn	Pn	07 16 10.0	+0.2
PQL	Pirkuli	2.07	155	P	Pn	07 16 16.1	+5.0
	SNR=9.5						
VLKR	Vladikavkaz	2.07	281	ePn	Pn	07 16 11.6	+0.5
GANJ	Ganja	2.19	203	P	Pn	07 16 12.1	-0.6
	SNR=52						
GANJ				S	Sn	07 16 41.5	+1.6
MTA	Mtatsminda	2.20	245	P	Pn	07 16 11.4	-1.5
MTA				S	Sn	07 16 42.5	+2.3
TBLG	Delisi	2.22	246	PN	Pn	07 16 11.6	-1.5
TBLG				S	Sn	07 16 43.0	+2.4
TBLG	Delisi	2.22	246	P	Pn	07 16 11.6	-1.6
TBLG				S	Sn	07 16 43.3	+2.7
BTKR	Batakoyurt	2.24	289	ePn	Pn	07 16 14.0	+0.6
BTKR				eSn	Sn	07 16 42.2	+1.0
TRKR	Terskaya	2.24	299	ePn	Pn	07 16 14.0	+0.5
TRKR				eSn	Sn	07 16 42.2	+0.9
LACR	Lac	2.32	275	⇑iPN	Pn	07 16 12.5	-2.1
LACR				i S	Sn	07 16 41.1	-2.1
ARNR	Ardon	2.38	284	ePn	Pn	07 16 16.1	+0.7
ARNR				eSn	Sn	07 16 45.6	+0.9
BRDA	Brd	2.41	185	P	Pn	07 16 18.9	+3.1
	SNR=5.5						
KORR	Kora	2.52	281	ePn	Pn	07 16 17.6	+0.4
KORR				eSn	Sn	07 16 48.1	+0.1
PRTR	Priterechnaya	2.55	296	ePn	Pn	07 16 18.0	+0.3
PRTR				eSn	Sn	07 16 49.6	+0.7
GOR	Gori	2.56	256	P	Pn	07 16 16.9	-1.0
GOR				S	Sn	07 16 49.7	+0.5
ZEI	Tsey	2.61	273	ePn	Pn	07 16 18.0	-0.6
ZEI				eSn	Sn	07 16 49.4	-1.0
LSNR	Lesken	2.73	284	ePn	Pn	07 16 20.3	+0.1
LSNR				eSn	Sn	07 16 53.9	+0.6
ONI	Oni	2.95	270	P	Pn	07 16 23.2	0.0
ONI				S	Sn	07 16 53.4	-5.2
KUBR	Kubataba	3.16	292	i Pn	Pn	07 16 24.9	-1.1
GNI	Garni	3.23	220c	iPN	Pn	07 16 23.2	-3.9
PYA	Pyatigorsk	3.48	295	⇑iPN	Pn	07 16 28.0	-2.4
SHAR	Shatzhatmas	3.65	289	⇓iPN	Pn	07 16 31.4	-1.4
KIV	Kislovodsk	3.70	292c	iPN	Pn	07 16 33.2	-0.3
KIV				e		07 16 43.1	
KIV				i S	Sn	07 17 17.0	-0.2
KIV						07 17 31.5	
KIV				pmax	pmax		
	comp=Z,18nm,1.2s						
KIV				smax			
	comp=Z,85nm,0.9s						
KIV				pmax	pmax		
	comp=E,178nm,1.0s						
KIV	Kislovodsk	3.70	292	i Pn	Pn	07 16 33.2	-0.3
	comp=E,18nm,1.2s						
KIV				i Sn	Sn	07 17 17.0	-0.2
AKTO	Aktyubinsk	10.64	39	⇓Pn	Pn	07 18 09.0	+0.4
	comp=E,0.6nm,1.1s						
AKTO				⇓Sn	Sn	07 20 06.4	-1.4
	comp=E,0.7nm,0.8s						
AB31	Akbulak array	10.91	49	⇓Pn	Pn	07 18 12.9	+0.6
	comp=E,0.3nm,0.3s,baz=238,slow=14,SNR=19						
AB31				⇓Sn	Sn	07 20 14.9	+0.5
	comp=E,1.3nm,0.5s,baz=231,slow=26,SNR=4.5						
ARU	Arti	15.52	24	eP	Pn	07 19 24.4	+9.4
KK31	Karatay Array	16.91	81	⇓Pn	Pn	07 19 33.7	+0.8
	comp=E,0.4nm,0.4s,baz=288,slow=13,SNR=5.6						
KK31				⇓Sn	Sn	07 22 39.5	-1.3
	comp=E,0.6nm,0.5s,baz=265,slow=28,SNR=3.8						
VSU	Vasula	20.43	328d	iP	P	07 20 13.5	0.0
KRAR	Krasnoyarsk	31.85	49c	iP	P	07 22 02.0	+0.8
KRAR				MLR	MLR		
	comp=Z,100nm,19.0s						
KRAR	Krasnoyarsk	31.85	49	i P	P	07 22 02.0	+0.8
	comp=Z,100nm,19.0s						
TLY	Talaya	38.38	56	⇓iP	P	07 22 58.0	+0.5
TLY				pmax	pmax		
	comp=Z,6.0nm,1.7s						
TLY	Talaya	38.38	56	i P	P	07 22 58.0	+0.5
	comp=Z,6.0nm,1.7s						
ULN	Ulaanbaatar	41.37	62c	iP	P	07 23 23.0	+0.7
ULN	Ulaanbaatar	41.37	62	i P	P	07 23 23.0	+0.7

*IDC **06** 07:40:34.7±0.8,1358S×7698W,h0km,mb4.1/5,mb1 4.2/9, mb1mx4.0/19,mbtmp3.9/9,ML3.6/4,MS3.6/8,Ms1 3.6/8, ms1mx3.4/23,Error ellipse: s-maj=35.4km s-min=16.1km az=67.0*
*ISCJB **06** 07:40:36.2±3.2,1358S±005×77.1W±0.1,h21km±23km, mb4.0/6,MS3.6/6,Error ellipse: s-maj=20.5km s-min=6.9km az=163.1*
*NEIC **06** 07:40:40.0±0.6,1362S×7702W,h35km,mb4.2/1, ML4.3(LIM),Error ellipse: s-maj=18.0km s-min=9.2km az=64.0*
NEIC Felt [II] at Pisco and San Vicente de Canete.
ISC 06 07:40:39.7±3.2**,1357S**±005×**770W**±01**,h32**km±23km**,n32,** σ**1s17**/30**,mb4.0**/6**,MS3.6**/6**,Near coast of Peru**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
NNA	Nana	1.57	5	Pn	Pn	07 41 02.8	-2.6
	68nm,0.3s,baz=181,slow=13,SNR=84						
NNA				Sn	Sn	07 41 23.0	-1.8
	484nm,0.3s,baz=248,slow=12,SNR=16						
NNA	Nana	1.57	5	Pn	Pn	07 41 02.8	-2.6
NNA				Sn	Sn	07 41 23.0	-1.8
NNA				eSn	Sn	07 41 23.4	-1.4
ARE	Arequipa	6.03	119	eP	Pn	07 42 16.0	+9.2
ARE				eS	Sn	07 43 36.0	+21
ATAH	Atahualpa	6.67	348	Pn	Pn	07 42 14.9	-0.7
	3.3nm,0.3s,baz=147,slow=9.0,SNR=15						
ATAH				Sn	Sn	07 43 29.9	-0.6
	3.0nm,0.3s,baz=96,slow=20,SNR=2.6						
ATAH				LR	LR	07 45 13.7	
	comp=Z,313nm,18.0s,baz=98,slow=43						
LPAZ	La Paz	8.97	109	Pn	Pn	07 42 50.0	+2.8
	0.2nm,0.3s,baz=300,slow=15,SNR=15						
LPAZ	La Paz	8.97	109	Pn	Pn	07 42 50.0	+2.8
LVC	Limon Verde	11.82	141	Pn	Pn	07 43 24.2	-2.0
	0.3nm,0.3s,baz=300,slow=11,SNR=6.2						
LVC				LR	LR	07 47 36.6	
	comp=Z,278nm,20.9s,baz=318,slow=36						
LVC	Limon Verde	11.82	141	ePn	Pn	07 43 25.1	-1.1
LVC				LR	LR	07 47 36.6	
OTAV	Otavalo	13.79	354	eP	Pn	07 43 55.6	+2.4
	10nm,1.0s						
SIV	San Ignacio	15.57	101	Pn	Pn	07 44 17.1	0.0
	0.0nm,0.3s,baz=270,slow=16,SNR=4.2						
ROSC	El Rosal	18.49	8	P	Pn	07 44 56.1	+2.5
CFAA	Coronel Fontan	19.67	157	P	Pn	07 45 06.9	-0.8
	0.0nm,0.3s,baz=328,slow=11,SNR=15						
CPUP	Villa Florida	22.38	128	LR	LR	07 56 11.6	
	comp=Z,184nm,20.3s,MS3.5,baz=302,slow=42						
JTS	JuntasAbangare	24.99	341	LR	LR	07 54 03.5	
	comp=Z,117nm,20.8s,MS3.4,baz=78,slow=32						
PLCA	Paso Flores	27.64	169	P	P	07 46 23.5	-1.1
	1.6nm,0.7s,mb3.7,baz=1.1,slow=11,SNR=5.1						
PLCA				LR	LR	07 55 33.4	
	comp=Z,77nm,19.7s,MS3.3,baz=88,slow=32						
TXAR	Lajitas Array	49.83	329	P	P	07 49 29.9	+0.1
	1.4nm,0.9s,mb4.0,baz=147,slow=9.6,SNR=16						
TXAR				LR	LR	08 08 48.0	
	comp=Z,53nm,18.1s,MS3.6,baz=185,slow=34						
PDAR	Pinedale Array	63.53	334	P	P	07 51 06.5	-0.4
	0.6nm,0.6s,mb3.8,baz=126,slow=7.5,SNR=4.2						
NVAR	Mina Array Bea	64.58	325	P	P	07 51 15.1	+1.1
	1.4nm,0.8s,mb4.1,baz=124,slow=7.3,SNR=6.8						
VNA3	Neumayer Olymp	70.01	161	e	P	07 51 47.8	-0.1
VNA3				e		07 51 51.8	
VNA3				e		07 52 00.9	
VNA1	Neumayer--Stat	70.28	161	e	P	07 51 50.4	+0.8
VNA1				e		07 51 53.9	
VNA1				e		07 52 02.8	
VNA2	Neumayer--Watz	70.63	161	e	P	07 51 51.7	0.0
	baz=290,slow=6.4						
VNA2				e		07 51 55.2	
VNA2				e		07 52 03.6	
OD2	Odessa Site #2	71.21	331	eP	P	07 51 56.0	+0.5
SNAA	Sanae	72.23	161	e	P	07 52 00.8	-0.6
SNAA				e		07 52 04.6	
SNAA				e		07 52 13.9	
SNAA	Sanae	72.23	161	eP	P	07 52 00.7	-0.7
	2.2nm,0.8s,mb4.1						
DBIC	Dimbokro	74.36	79	LR	LR	08 25 31.5	
	comp=Z,52nm,18.3s,MS3.9,baz=268,slow=36						
TOA0	Torodi Ar. Sit	82.34	75	eP	P	07 52 58.9	-0.1
TORD	Torodi Ar. Bea	82.34	75	P	P	07 52 59.2	+0.2
	6.8nm,1.0s,mb4.5,baz=265,slow=4.9,SNR=22						
TORD				LR	LR	08 31 54.5	
	comp=Z,58nm,18.3s,MS4.0,baz=280,slow=37						
DLBC	Dease Lake	83.73	335	P	P	07 53 06.1	+0.9
	baz=157,slow=7.7						
ASAR	Alice Springs	132.24	219	PKP	PKPdf	07 59 50.6	-0.7
	0.5nm,0.8s,baz=99,slow=2.9,SNR=4.2						
WRA	Warramunga Arr	134.63	223	PKP	PKPdf	07 59 55.5	-0.4
	0.7nm,0.8s,baz=136,slow=1.8,SNR=6.7						
ULN	Ulaanbaatar	145.64	355	eP	PKPdf	08 00 15.0	0.0
KSRS	Korea Array	147.47	321	PKPbc	PKPbc	08 00 19.6	-1.4
	1.6nm,0.6s,baz=62,slow=3.0,SNR=4.7						

*IDC **06** 07:51:38.5±1.0,3731N×7466E,h0km,mb3.8/6, mb1 3.9/11,mb1mx3.8/25,mbtmp3.8/11,ML3.6/4,MS3.0/2, Ms1 3.0/2,ms1mx2.6/36,Error ellipse: s-maj=23.8km s-min=20.2km az=75.0*
*NNC **06** 07:51:42.6±5.7,3769N×7428E,h0km,mb4.0,mpv4.3, Error ellipse: s-maj=54.0km s-min=30.1km az=20.0*
*BJI **06** 07:51:44.5,3771N×7452E,h67km,mb4.2,ML3.9*
*ISCJB **06** 07:51:45.0±0.5,3736N±003×7485E±007,h111km±9km, mb3.9/7,Error ellipse: s-maj=9.4km s-min=3.8km az=158.5*
*NEIC **06** 07:51:48.2±1.2,3763N×7446E,h85km±10km,mb4.2/4, Error ellipse: s-maj=13.6km s-min=10.1km az=132.0*
ISC 06 07:51:45.9±0.4**,3732N**±003×**7482E**±007**,h99**km±8km**,n62,** σ**1s34**/72**,mb3.9**/7**,6C-4D,Tajikistan-Xinjiang border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
AML	Almayashu	4.88	350	P	Pn	07 52 55.8	-1.1
	SNR=19						
AML	Almayashu	4.88	350	ePn	Pn	07 52 55.0	-1.9
UCH	Uchtor	4.91	357	P	Pn	07 52 57.5	+0.2
	SNR=18						
UCH	Uchtor	4.91	357	ePn	Pn	07 52 56.2	-1.1
THN	Thein Dam	4.93	171	eP	Pn	07 53 00.4	+2.8
THN				ex	x	07 54 25.4	
AAK	Ala-Archa	5.31	357	P	Pn	07 53 04.2	+1.4
	SNR=19						
KBK	Karagaybulak	5.33	1	P	Pn	07 53 04.8	+1.9
	SNR=15						
EKS2	Erkin-Say	5.39	352	P	Pn	07 53 03.3	-0.5
	SNR=30						
EKS2	Erkin-Say	5.39	352	ePn	Pn	07 53 03.1	-0.7
	25nm,0.8s						
KBL	Kabul	5.45	241	Pn	Pn	07 53 05.0	+0.4
	48nm,0.9s						
TKM2	Tokmak 2	5.63	6	⇑Pn	Pn	07 53 06.5	-0.5
	30nm,0.5s						
TKM2				⇓Sn	Sn	07 54 09.7	-0.5
	44nm,0.7s						
TKM2	Tokmak 2	5.63	6	P	Pn	07 53 06.7	-0.3
	SNR=19						
TKM2	Tokmak 2	5.63	6	ePn	Pn	07 53 06.3	-0.7
	43nm,0.6s						
TKM2				eSn	Sn	07 54 11.1	+0.9
CHMS	Chumysh	5.67	359	P	Pn	07 53 08.9	+1.3
	SNR=11						
SDNR	Sundarnagar	6.07	162	eP	Pn	07 53 15.0	+1.9
SDNR				ex	x	07 54 48.0	
SMLA	Simla	6.47	162	i P	Pn	07 53 23.0	+4.4
SMLA				i S	Sn	07 54 32.4	+1.4
SMLA				ex	x	07 54 37.0	
	comp=N,148nm,0.3s						
SMLA				ex	x	07 54 41.9	
	comp=E,279nm,0.4s						
KK31	Karatay Array	6.65	332	Pn	Pn	07 53 17.9	-3.0
	comp=E,9.9nm,0.5s,baz=139,slow=12,SNR=201						
KK31				⇑Sn	Sn	07 54 30.5	-4.6
	comp=E,13nm,0.5s,baz=153,slow=24,SNR=12						
DDI	Dehra Dun	7.48	158	eP	Pn	07 53 33.9	+1.7
JOSI	Joshimath	7.81	148	eP	Pn	07 53 38.9	+2.2
JOSI				eS	Sn	07 55 04.3	+0.8
JOSI				AML	AML	07 55 19.4	
	comp=E,156nm,0.6s						
JOSI				AML	AML	07 55 20.2	
	comp=N,178nm,0.9s						
NDI	New Delhi	8.84	166	eP	Pn	07 53 53.0	+2.2
NDI				eS	Sn	07 55 26.0	-2.7
SONA	Sohna	9.24	167	eS	Sn	07 55 35.6	-2.8
KHET	Khetri	9.26	175	eS	Sn	07 55 36.5	-2.3
MK31	Makanchi Array	10.97	28	Pn	Pn	07 54 19.4	-0.2
	comp=N,3.4nm,0.8s,baz=210,slow=14,SNR=11						
MKAR	Makanchi Array	10.97	28	Pn	Pn	07 54 19.2	-0.3
	comp=N,0.2nm,0.3s,baz=207,slow=12,SNR=8.5						
DANN	Dangsing	11.68	137	eP	Pn	07 54 28.9	-0.3
	comp=N,24nm,0.4s						
DANN				eS	Sn	07 56 37.9	+0.3
WMQ	Urumqi	11.74	52	P	Pn	07 54 30.0	0.0
KOLN	Koldanda	12.05	140	eP	Pn	07 54 33.9	-0.4
	comp=N,14nm,0.4s						
GKN	Gorkha	12.43	136	eP	Pn	07 54 38.0	-1.2
PKI	Pulchoki	13.20	134	eP	Pn	07 54 48.5	-0.8
GUN	Gumba	13.21	132	eP	Pn	07 54 48.6	-0.9
KURBB	Kurchatov Arra	13.56	10	⇓Pn	Pn	07 54 56.3	+2.4
	comp=N,0.2nm,0.2s						
KURK	Kurchatov	13.66	10	Pn	Pn	07 54 50.4	-4.9
	baz=197,slow=12,SNR=6.6						
KURK				Lg		07 58 42.1	
	comp=N,0.1nm,0.3s,baz=201,slow=31,SNR=5.1						
RAMN	Ramite	14.36	133	eP	Pn	07 55 03.8	-0.6
TAPN	Taplejung	14.73	129	eP	Pn	07 55 07.9	-1.3
ODAN	Odare	14.89	131	eP	Pn	07 55 10.1	-1.1
VOSK	Vostochnaya	15.64	351	⇓Pn	Pn	07 55 20.8	+0.4
	comp=N,0.9nm,0.6s						
BVA0	Borovoye Array	16.01	350	⇑Pn	Pn	07 55 29.3	+4.3
	comp=N,1.1nm,0.7s,baz=155,slow=10,SNR=35						
BVAR	Borovoye Array	16.01	350	Pn	Pn	07 55 23.8	-1.2
	comp=N,0.1nm,0.3s,baz=134,slow=10,SNR=5.6						
BVAR				LR	LR	08 01 35.2	
	comp=N,56nm,20.0s,baz=224,slow=37						
BRVK	Borovoye	16.05	350	ePn	Pn	07 55 25.0	-0.6
	comp=N,20nm,0.8s						
AB31	Akbulak array	16.08	323	⇑Pn	Pn	07 55 22.0	-3.9
	comp=N,1.6nm,0.6s,baz=131,slow=12,SNR=28						
AB31				⇑Sn	Sn	07 58 09.6	-14
	comp=N,1.5nm,0.7s,baz=135,slow=24,SNR=2.8						
AKTK	Aktyubinsk	17.80	323	P	Pn	07 55 45.6	-1.3
AKTK				S	S	07 58 57.5	-7.8
AKTO	Aktyubinsk	17.80	323	⇑Pn	Pn	07 55 47.2	+0.3
	comp=N,1.1nm,0.9s						
AKTO				⇓Sn	Sn	07 58 55.9	-9.2
	comp=N,0.7nm,1.0s						
AKTO	Aktyubinsk	17.80	323	P	Pn	07 55 45.6	-1.3
	comp=N,0.7nm,0.3s,baz=123,slow=15,SNR=16						
AKTO				S	S	07 58 57.5	-7.8
	comp=N,0.1nm,0.3s,baz=138,slow=9.7,SNR=4.1						
ZAA0	Zalesovo Array	18.01	19	eP	Pn	07 55 48.2	-1.2
ZALV	Zalesovo Beam	18.01	19	P	Pn	07 55 49.0	-0.4
	comp=N,0.3nm,0.3s,baz=208,slow=12,SNR=12						
ZALV				LR	LR	08 03 10.0	
	comp=N,48nm,18.7s,baz=274,slow=38						
GTA	Gaotai	19.69	76	eP	Pn	07 56 13.4	+3.9
GTA				AMB	AMB		
	comp=Z,5.0nm,0.9s						
ARU	Arti	22.01	335	eP	P	07 56 35.4	+3.7
	comp=Z,6.3nm,0.9s,mb4.0						
SONM	Songino Array	25.35	55	P	P	07 57 07.4	+4.0
	comp=Z,0.6nm,0.4s,mb3.4,baz=226,slow=7.8,SNR=2.1						
JOF	Joensuu	36.74	328	ep	P	07 58 45.1	+2.0
ARCES	ARCESS Array B	41.59	336	P	P	07 59 28.1	+4.7
	comp=Z,1.2nm,0.5s,mb3.9,baz=113,slow=9.3,SNR=15						
NB2	NORSAR Subarra	45.59	322	P	P	08 00 00.3	+4.7
	comp=Z,0.9nm,0.6s,mb3.7,baz=92,slow=7.9						
NOA	NORSAR Array B	45.59	322	P	P	08 00 00.9	+5.3
	comp=Z,1.0nm,0.6s,mb3.7,baz=93,slow=7.6,SNR=4.6						
LPG	La Plagne	50.32	302	eP	P	08 00 32.2	-0.1
	comp=Z,5.4nm,0.8s,mb4.3						
LPG	La Plagne	50.32	302	eP	P	08 00 32.2	-0.1
	comp=Z,2.7nm,0.8s,mb4.2						
LPL	La Plagne	50.33	302	eP	P	08 00 32.7	+0.4
CABF	La Chapelle	50.46	304	eP	P	08 00 33.3	0.0
SSF	Saint Saulge	52.04	305	eP	P	08 00 44.9	-0.2
	comp=Z,1.8nm,0.4s,mb4.2						
SSF	Saint Saulge	52.04	305	eP	P	08 00 44.9	-0.2
	comp=Z,0.9nm,0.4s,mb4.2						
TORD	Torodi Ar. Bea	68.79	271	P	P	08 02 42.6	+3.0
	comp=Z,0.8nm,0.5s,mb3.8,baz=48,slow=4.9,SNR=9.8						
WRA	Warramunga Arr	79.88	125	P	P	08 03 50.3	+6.6
	comp=Z,0.2nm,0.6s,baz=326,slow=5.5,SNR=6.8						
ASAR	Alice Springs	82.26	127	P	P	08 04 03.2	+7.0
	comp=Z,0.4nm,0.8s,baz=318,slow=4.0,SNR=3.2						
CASY	Casey	106.87	166	ePKPdf	PKiKP	08 10 05.5	+6.8

*NIED **06** 07:55:00,4160N×142.10E,h53km,Mw3.8 Best double couple: M0 5.35000×10^14 NP1:φs13.00000°,δ63.00000°, λ85.00000°. NP2:φs204.00000°,δ27.00000°,λ100.00000°.*
*MOS **06** 07:55:18.7±3.0,4165N×14195E,h33km,mb4.3/9,Error ellipse: s-maj=17.9km s-min=11.2km az=69.6*
*ISCJB **06** 07:55:20.7±0.4,4156N±003×14207E±005,h70km±4km, mb4.0/9,Error ellipse: s-maj=6.6km s-min=4.2km az=38.8*
*JMA **06** 07:55:21.1±0.1,4156N×14206E,h66km±2km,M3.7 Broadband fault plane solution: P waves. NP1: φs151.00000°,δ11.00000°,λ44.00000°. NP2:φs17.00000°, δ82.00000°,λ98.00000°. Principal axes: T Plg52.0000°, Azm296.0000°; N Plg8.0000°, Azm196.0000°; P Plg37.0000°, Azm100.0000°;*
JMA Felt II J1.
*NEIC **06** 07:55:21.1,4156N×14206E,h66km,MG3.7(JMA),After JMA.*
NEIC Recorded [2 JMA] in Aomori Prefecture, Honshu. Recorded [1 JMA] in southwestern Hokkaido.
*IDC **06** 07:55:22.8±1.7,4162N×14238E,h83km±17km,mb3.7/7, mb1 3.7/10,mb1mx3.5/24,mbtmp3.6/10,Error ellipse: s-maj=29.3km s-min=13.4km az=93.0*
ISC 06 07:55:21.6±0.4**,4156N**±003×**14207E**±005**,h61**km±4km**, n44,** σ**0s68**/55**,mb4.1**/9**,1C-10D,Hokkaido region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JOT	Ohata	0.79	257	⇓P	Pn	07 55 36.8	-0.2
JOT				eS	Sn	07 55 48.6	+0.3
JKB	Kayabe	0.84	293	⇓P	Pn	07 55 37.1	-0.5
JNBK	Urakawa-nobuka	0.88	35	⇑P	Pn	07 55 37.6	-0.5
ERM	Erimo	0.93	61	⇓iPn	Pn	07 55 38.6	-0.2
ERM				eSn	Sn	07 55 51.9	+0.4
JEM	Erimo	0.93	61	P	Pn	07 55 38.6	-0.2
JEM				eS	Sn	07 55 51.5	0.0
JTM	Tenmabayashi	1.08	225	⇓P	Pn	07 55 40.6	-0.2
JTM				eS	Sn	07 55 54.8	-0.2
JNB	Noboribetsu	1.19	320	⇓P	Pn	07 55 41.5	-0.6
JNB				eS	Sn	07 55 56.6	-0.8
JBT2	Biratori 2	1.23	10	P	Pn	07 55 43.1	+0.3
JSR	Shiriuchi	1.24	269	⇓P	Pn	07 55 42.7	-0.1
JANG	Nango	1.26	200	P	Pn	07 55 42.8	-0.3
JANG				eS	Sn	07 55 58.4	-0.8
JEW	Eniwo	1.36	340	⇓P	Pn	07 55 44.5	+0.1
JEW				eS	Sn	07 56 01.5	+0.1
JYM2	Yakumo 2	1.38	294	⇓P	Pn	07 55 45.1	+0.3
JCH	Churui	1.43	42	P	Pn	07 55 46.0	+0.7
JOSM	Okushiri--Mats	2.01	286	P	Pn	07 55 52.7	-0.4
JAR	Ashorobuto	2.14	35	P	Pn	07 55 55.3	+0.3
JAR				eS	Sn	07 56 20.5	+0.1
JSK	Shakotan	2.14	327	⇓P	Pn	07 55 55.3	+0.3
JOM	Ohasama	2.17	196	P	Pn	07 55 55.6	+0.2
ASAJ	Asahikawa	2.58	8	P	Pn	07 56 02.0	+1.1
	8.1nm,0.3s,baz=217,slow=13,SNR=21						
ASAJ				S	Sn	07 56 31.6	+0.4
	6.8nm,0.3s,baz=331,slow=30,SNR=14						
ASAJ	Asahikawa	2.58	8	P	Pn	07 56 02.1	+1.1
ASAJ				S	Sn	07 56 31.6	+0.4
ASAJ				pmax	pmax		
	comp=Z,8.0nm,0.3s						
ASAJ				smax			
	comp=N,7.0nm,0.3s						
YUK	Yuzh-Kuril'sk	3.73	47	⇓iP	Pn	07 56 16.5	-0.1
YUK				eS	Sn	07 56 56.1	-3.1
YUK				pmax	pmax		
	comp=Z,350nm,0.3s						
YUK				smax			
	comp=N,400nm,0.5s						
YUK				smax			
	comp=E,760nm,0.5s						
MAJO	Matsushiro	5.84	212	P	Pn	07 56 46.7	+1.0
MJAR	Matsushiro Arr	5.84	212	P	Pn	07 56 48.6	+2.9
	comp=E,0.8nm,0.3s,baz=23,slow=14,SNR=6.1						
MJAR	Matsushiro Arr	5.84	212	P	Pn	07 56 48.6	+2.9
MJAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
KSRS	Korea Array	11.67	254	P	Pn	07 58 10.9	+5.6
	comp=Z,0.7nm,0.3s,baz=65,slow=14,SNR=5.5						
KSRS	Korea Array	11.67	254	P	Pn	07 58 10.9	+5.6
KSRS				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ZALV	Zalesovo Beam	39.37	308	P	P	08 02 45.0	+0.2
	comp=Z,1.1nm,0.4s,mb4.0,baz=90,slow=6.4,SNR=5.4						
ZALV	Zalesovo Beam	39.37	308	P	P	08 02 45.0	+0.2
ZALV				pmax	pmax		
	comp=Z,1.0nm,0.4s,mb3.9						
MKAR	Makanchi Array	42.29	298	P	P	08 03 09.1	+0.1
	comp=Z,0.8nm,0.6s,mb3.5,baz=88,slow=14,SNR=4.6						
MKAR	Makanchi Array	42.29	298	P	P	08 03 09.1	+0.2
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
KURK	Kurchatov	43.66	305	P	P	08 03 20.4	+0.4
	comp=Z,2.8nm,0.7s,mb4.1,baz=78,slow=8.7,SNR=7.4						
KURK	Kurchatov	43.66	305	P	P	08 03 20.4	+0.4
KURK				pmax	pmax		
	comp=Z,3.0nm,0.7s,mb4.1						
BVAR	Borovoye Array	47.99	309	P	P	08 03 54.3	+0.2
	comp=Z,1.7nm,0.3s,mb4.5,baz=82,slow=10,SNR=9.9						
BVAR	Borovoye Array	47.99	309	P	P	08 03 54.3	+0.2
BVAR				pmax	pmax		
	comp=Z,2.0nm,0.3s						
TKM2	Tokmak 2	48.05	295	eP	P	08 03 55.7	+1.1
TKM2				pmax	pmax		
	comp=Z,3.0nm,0.5s,mb4.6						
TKM2	Tokmak 2	48.05	295	eP	P	08 03 55.7	+1.1
	comp=Z,2.9nm,0.5s,mb4.6						
WRA	Warramunga Arr	61.61	188	P	P	08 05 31.8	-1.0
	comp=Z,0.9nm,0.6s,mb4.1,baz=6.4,slow=7.2,SNR=19						
WRA	Warramunga Arr	61.61	188	P	P	08 05 31.8	-0.9
WRA				pmax	pmax		
	comp=Z,1.0nm,0.6s						
JOF	Joensuu	62.23	331	ep	P	08 05 35.2	-1.2
	comp=Z,1.5nm,0.5s,mb4.4						
JOF	Joensuu	62.23	331	eP	P	08 05 35.2	-1.2
JOF				pmax	pmax		
	comp=Z,2.0nm,0.5s,mb4.5						
ASAR	Alice Springs	65.34	188	P	P	08 05 57.2	0.0
	comp=Z,0.6nm,0.8s,mb3.7,baz=5.4,slow=6.9,SNR=6.9						
ASAR	Alice Springs	65.34	188	P	P	08 05 57.3	0.0
ASAR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
NB2	NORSAR Subarra	70.22	337	P	P	08 06 27.1	-0.5
	comp=Z,0.5nm,0.5s,mb3.7,baz=35,slow=6.5						
NOA	NORSAR Array B	70.22	337	P	P	08 06 26.8	-0.8
	comp=Z,0.8nm,0.7s,mb3.8,baz=39,slow=6.3,SNR=3.9						
NOA	NORSAR Array B	70.22	337	P	P	08 06 26.8	-0.8
NOA				pmax	pmax		
	comp=Z,1.0nm,0.7s						

FUNV 06 07:58:43.1, 5.34N×73.44W, h106^{km}, MW3.6, 1D, Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CAPV	**Capacho**	**2.75**	**24**	eP	Pn	07 59 24.7	-1.0
CAPV				eS	Sn	07 59 56.4	-2.0
SOCV	**Socops**	**3.89**	**41⇓**	eP	Pn	07 59 39.4	-1.6
SOCV				eS	Sn	08 00 21.9	-3.9
VIGV	**El Vigia**	**4.04**	**30**	eP	Pn	07 59 41.6	-1.4
VIGV				eS	Sn	08 00 24.5	-4.9
QARV	**Quebrada Arrib**	**5.63**	**31**	eP	Pn	08 00 02.5	-2.0
QARV				eS	Sn	08 01 01.2	-6.7
SANV	**Sanarito**	**5.66**	**43**	eP	Pn	08 00 03.0	-1.9
CURV	**Curarigua**	**5.78**	**36**	eP	Pn	08 00 04.2	-2.4
TEPV	**Terepaima**	**6.23**	**42**	eP	Pn	08 00 10.2	-2.4
SIQV	**Siquisique**	**6.38**	**34**	eP	Pn	08 00 12.7	-2.0
CAOV	**Caicara del Or**	**7.34**	**74**	eP	Pn	08 00 24.1	-3.6
IMOV	**Isla Los Monje**	**7.41**	**20**	eP	Pn	08 00 26.1	-2.5
TURV	**Turiamo**	**7.52**	**47**	eP	Pn	08 00 27.5	-2.6
BIRV	**Birongo**	**8.74**	**54**	eP	Pn	08 00 44.0	-2.7
CUPV	**Cœpira**	**8.91**	**58**	eP	Pn	08 00 46.1	-3.0

*IDC **06** 08:06:48.5±1.9, 3.01S×100.94E, h0^{km}, mb4.2/8, mb1 4.3/9, mb1mx4.0/19, mbtmp4.2/9, ML4.0/1, MS3.9/1, Ms1 3.9/1, ms1mx2.7/26, Error ellipse: s-maj=68.2km s-min=16.9km az=56.0*
*ISCJB **06** 08:06:51.7±1.0, 3.2S±.02×100.9E±.02, h33^{km}, mb4.5/13, Error ellipse: s-maj=36.2km s-min=9.6km az=137.1*
*NEIC **06** 08:06:53.8±1.0, 3.01S×100.96E, h35^{km}, mb4.8/2, Error ellipse: s-maj=36.0km s-min=10.2km az=52.0*
*DJA **06** 08:06:56, 2.94S×100.50E, h10^{km}, MLv4.7/4*
ISC 06 08:06:54.2±1.0, **3.1S**±.02×**101.0E**±.02, **h35^{km}, n25, σ0^{s}89**/24, **mb4.5**/13, **Southern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KSI	**Kapahiang**	**1.67**	**108**	P	**Pn**	**08 07 32.2**	**+11**
PPI	**Padang Panjang**	**2.73**	**347**	P	**Pn**	**08 07 37.4**	**+1.8**
DSRI	**Dabo**	**4.45**	**54**	P	**Pn**	**08 08 11.1**	**+12**
KAPI	**Kappang**	**18.80**	**96**	P	**Pn**	**08 11 12.2**	**+0.7**
	0.5nm,0.3s,baz=264,slow=16,SNR=3.4						
CMAR	**Chiang Mai Arr**	**21.56**	**355**	P	**P**	**08 11 37.3**	**-3.5**
	1.3nm,0.4s,mb3.7,baz=188,slow=10,SNR=4.7						
ODAN	**Odare**	**32.59**	**337**	eP	**P**	**08 13 22.7**	**+0.2**
	17nm,0.6s,mb5.1						
TAPN	**Taplejung**	**32.91**	**338**	eP	**P**	**08 13 25.7**	**+0.4**
	31nm,0.9s,mb5.2						
RAMN	**Ramite**	**32.99**	**336**	eP	**P**	**08 13 26.8**	**+0.8**
JIRN	**Jiri**	**33.78**	**336**	eP	**P**	**08 13 33.3**	**+0.4**
GUN	**Gumba**	**34.13**	**336**	eP	**P**	**08 13 36.6**	**+0.6**
KKN	**Kakani**	**34.28**	**335**	eP	**P**	**08 13 37.3**	**+0.1**
GKN	**Gorkha**	**34.74**	**334**	eP	**P**	**08 13 41.6**	**+0.4**
KOLN	**Koldanda**	**35.01**	**332**	eP	**P**	**08 13 44.1**	**+0.6**
DANN	**Dangsing**	**35.43**	**333**	eP	**P**	**08 13 47.3**	**+0.2**
	18nm,0.5s,mb5.3						
WRA	**Warramunga Arr**	**36.56**	**120**	P	**P**	**08 13 57.2**	**+0.2**
	1.9nm,0.5s,mb4.2,baz=304,slow=9.0,SNR=29						
ASAR	**Alice Springs**	**37.78**	**126**	P	**P**	**08 14 08.1**	**+0.8**
	0.7nm,0.6s,mb3.6,baz=302,slow=8.5,SNR=9.1						
STKA	**Stephens Creek**	**47.65**	**131**	P	**P**	**08 15 27.1**	**-0.1**
	1.5nm,0.6s,mb4.2,baz=315,slow=5.7,SNR=4.3						
SONM	**Songino Array**	**50.98**	**5**	P	**P**	**08 15 52.1**	**-0.3**
	3.7nm,0.7s,mb4.4,baz=176,slow=8.2,SNR=4.8						
EKS2	**Erkin-Say**	**51.81**	**335**	eP	**P**	**08 15 58.5**	**-0.2**
	6.4nm,0.9s,mb4.5						
MKAR	**Makanchi Array**	**52.39**	**344**	P	**P**	**08 16 02.1**	**-0.8**
	2.7nm,0.6s,mb4.3,baz=134,slow=6.9,SNR=11						
KURK	**Kurchatov**	**56.98**	**343**	eP	**P**	**08 16 35.2**	**-0.9**
	11nm,0.8s,mb4.9						
ZAA0	**Zalesovo Array**	**58.47**	**349**	eP	**P**	**08 16 44.9**	**-1.6**
ZALV	**Zalesovo Beam**	**58.47**	**349**	P	**P**	**08 16 45.3**	**-1.2**
	11nm,0.8s,mb5.0,baz=170,slow=5.1,SNR=28						
PETK	**Petropavlovsk-**	**73.31**	**32**	P	**P**	**08 18 20.2**	**-1.9**
	2.8nm,1.0s,mb4.1,baz=306,slow=5.0,SNR=4.2						
TXAR	**Lajitas Array**	**144.97**	**39**	PKP	PKPdf	08 26 27.6	-0.8
	1.4nm,0.6s,baz=254,slow=0.7,SNR=28						

*BJI **06** 08:07:38.2, 4.09S×100.82E, h35^{km}, mB5.3, mb4.9, Ms4.7, Msz4.4*
*ISCJB **06** 08:07:44.8±0.4, 3.28S±.005×100.74E±.005, h32^{km}, mb4.6/39, MS3.7/8, Error ellipse: s-maj=8.3km s-min=6.2km az=39.0*
*MOS **06** 08:07:46.5±1.0, 2.77S×101.18E, h33^{km}, mb4.9/12, Error ellipse: s-maj=19.4km s-min=9.7km az=103.9*
*NEIC **06** 08:07:47.6±0.4, 3.07S×100.96E, h35^{km}, mb4.6/14, Error ellipse: s-maj=14.5km s-min=7.4km az=45.0*
NEIC Felt [III] at Mukomuko, Sumatra.
*IDC **06** 08:07:48.9±2.8, 2.92S×101.05E, h44^{km}±23^{km}, mb4.2/15, mb1 4.3/16, mb1mx4.2/21, mbtmp4.3/16, ML4.1/1, MS3.3/3, Ms1 3.3/3, ms1mx2.8/27, Error ellipse: s-maj=30.9km s-min=13.1km az=55.0*
*DJA **06** 08:08:48, 3.14S×104.79E, h376^{km}, mb4.5/6*
ISC 06 08:07:47.1±0.4, **3.28S**±.006×**100.72E**±.005, **h34^{km}, h34^{km}**±.7^{km}**: pP-P, n96, σ1^{s}36**/97, **mb4.6**/39, **MS3.7**/8, **11C-5D, Southern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
RGRI	**Rengat**	**3.33**	**29**	P	**Pn**	**08 08 35.1**	**-1.6**
	0.0nm,0.0s						
GSI	**Gunungsitoli**	**5.54**	**325**	P	**Pn**	**08 09 09.7**	**+2.6**
KGM	**Kluang**	**5.87**	**26**	⇑P	**Pn**	**08 09 10.9**	**-0.7**
MYKOM	**Kota Tinggi**	**5.93**	**32**	⇑P	**Pn**	**08 09 11.7**	**-0.8**
IPM	**Ipoh**	**7.71**	**2**	⇓P	**Pn**	**08 09 41.1**	**+4.1**
KULM	**Kulim**	**8.51**	**360**	⇓P	**Pn**	**08 09 53.6**	**+5.6**
KTGM	**Kuala Trenggan**	**8.88**	**16**	⇑P	**Pn**	**08 09 55.0**	**+1.9**
KSM	**Kuching**	**10.68**	**64**	⇓P	**Pn**	**08 10 19.5**	**+1.7**
SJI	**Sawahan**	**11.85**	**112**	P	**Pn**	**08 10 35.0**	**+1.3**
	0.0nm,0.0s						
SBUM	**Sibu**	**12.82**	**64**	⇑P	**Pn**	**08 10 49.0**	**+1.9**
SBUM	**Sibu**	**12.82**	**64**	P	**Pn**	**08 10 49.6**	**+2.5**
BTM	**Bintulu**	**13.93**	**63**	⇓P	**Pn**	**08 11 04.7**	**+2.5**
KKM	**Kota Kinabalu**	**18.03**	**59**	ePn	**Pn**	**08 11 52.4**	**-2.8**
TSM	**Tawau**	**18.72**	**66**	⇓P	**Pn**	**08 12 05.9**	**+2.4**
KDM	**Kudat**	**19.01**	**58**	⇑P	**Pn**	**08 12 08.6**	**+1.6**
KAPI	**Kappang**	**19.06**	**96**	P	**Pn**	**08 12 06.0**	**-1.6**
	0.6nm,0.3s,baz=276,slow=11,SNR=11						
KAPI				LR	LR	08 20 13.1	
	comp=Z,99nm,18.9s,baz=271,slow=40						
KAPI	**Kappang**	**19.06**	**96**	P	**Pn**	**08 12 07.4**	**-0.2**
	49nm,1.1s						
KAPI	**Kappang**	**19.06**	**96**	eP	**Pn**	**08 12 04.4**	**-3.2**
	31nm,0.9s						
CMAR	**Chiang Mai Arr**	**21.67**	**355**	P	**P**	**08 12 30.4**	**-4.5**
	5.2nm,0.8s,mb4.0,baz=190,slow=10,SNR=10.0						
QIZ	**Qiongzhong**	**23.92**	**22**	P	**P**	**08 12 52.9**	**-5.1**
QIZ				S	**S**	**08 17 05.5**	**-6.8**
KMI	**Kunming**	**28.30**	**4**	P	**P**	**08 13 38.1**	**+0.5**
KMI				LR	LR		
	comp=Z,118nm,17.8s,MS3.5						
FITZ	**Fitzroy Crossi**	**28.51**	**123**	eP	**P**	**08 13 39.5**	**0.0**
	comp=Z,6.6nm,0.8s,mb4.4						
FITZ	**Fitzroy Crossi**	**28.51**	**123**	P	**P**	**08 13 39.0**	**-0.5**
	comp=Z,3.1nm,0.8s,mb4.1,baz=251,slow=5.2,SNR=6.5						
FITZ				LR	LR	08 25 18.2	
	comp=Z,37nm,21.9s,MS2.9,baz=140,slow=37						
FITZ	**Fitzroy Crossi**	**28.51**	**123**	P	**P**	**08 13 44.4**	**+4.9**
	comp=Z,15nm,0.8s,mb4.8						
GYA	**Guiyang**	**30.12**	**11**	P	**P**	**08 13 54.3**	**+0.6**
GYA				AP	pP	08 14 03.4	-0.2
GYA				XP	sP	08 14 10.6	+2.9
GYA				PCP	PcP	08 16 55.2	+0.4
GYA				S	**S**	**08 18 49.6**	**-0.7**
GYA				SCP	ScP	08 20 33.8	-0.9
GYA				SCS	ScS	08 24 27.3	-3.0
GYA				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.6						
GYA				AMB	AMB		
	comp=Z,90nm,5.2s						
GYA				LR	LR		
	comp=N,560nm,16.8s,MS4.4						
GYA				LR	LR		
	comp=E,490nm,17.8s,MS4.4						
GYA				LR	LR		
	comp=Z,440nm,17.4s,MS4.2						
CD2	**Chengdu**	**34.12**	**5**	eP	**P**	**08 14 29.7**	**+1.0**
CD2				AP	pP	08 14 39.4	+0.7
CD2				XP	sP	08 14 43.3	+0.5
CD2				PP	PP	08 15 44.0	-2.5
CD2				S	**S**	**08 19 51.7**	**-0.9**
CD2				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.9						
CD2				AMB	AMB		
	comp=Z,30nm,4.2s						
CD2				LR	LR		
	comp=E,580nm,10.8s						
CD2				LR	LR		
	comp=Z,440nm,9.6s						
WRA	**Warramunga Arr**	**36.73**	**119**	P	**P**	**08 14 50.5**	**-0.9**
	comp=Z,8.2nm,0.8s,mb4.6,baz=293,slow=9.8,SNR=21						
WRA				PcP	PcP	08 17 13.9	+0.4
	comp=Z,0.8nm,0.7s,baz=302,slow=2.5,SNR=4.7						
WRA				S	**S**	**08 20 27.2**	**-5.9**
	comp=Z,0.6nm,0.9s,baz=295,slow=16,SNR=3.6						
WB2	**Warramunga Arr**	**36.74**	**119**	eP	**P**	**08 14 50.9**	**-0.6**
XAN	**Xi'an**	**37.92**	**11**	P	**P**	**08 14 58.0**	**-3.2**
XAN				S	**S**	**08 20 52.1**	**+1.4**
XAN				AMB	AMB		
	comp=Z,18nm,0.6s,mb5.0						
XAN				AMB	AMB		
	comp=Z,606nm,5.4s						
XAN				LR	LR		
	comp=N,29nm,17.3s,MS3.7						
XAN				LR	LR		
	comp=E,87nm,16.5s,MS3.7						
XAN				LR	LR		
	comp=Z,132nm,22.8s						
ASAR	**Alice Springs**	**37.92**	**125**	P	**P**	**08 15 01.8**	**+0.4**
	comp=Z,3.3nm,0.9s,mb4.0,baz=303,slow=8.1,SNR=12						
ASAR				PcP	PcP	08 17 18.1	+1.0
	comp=Z,1.4nm,0.7s,baz=300,slow=2.5,SNR=7.9						
ASAR				S	**S**	**08 20 46.9**	**-4.2**
	comp=Z,0.8nm,0.8s,baz=295,slow=15,SNR=6.7						
NDI	**New Delhi**	**38.99**	**326**	eP	**P**	**08 15 09.0**	**-1.3**
NJ2	**Nanjing**	**39.13**	**25**	eP	**P**	**08 15 12.4**	**+0.9**
NJ2				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb4.5						
LZH	**Lanzhou**	**39.27**	**4**	eP	**P**	**08 15 16.5**	**+4.0**
LZH				AP	pP	08 15 25.7	+3.1
LZH				XP	sP	08 15 30.5	+3.8
LZH				AMB	AMB		
	comp=Z,21nm,1.5s,mb4.7						
LZH				AMB	AMB		
	comp=Z,85nm,4.2s						
HHC	**Hu-ho-hao-te**	**45.02**	**12**	eP	**P**	**08 16 00.9**	**+1.5**
HHC				AP	pP	08 16 11.2	+1.7
HHC				XP	sP	08 16 14.8	+1.2
HHC				PCP	PcP	08 17 40.6	+0.6
HHC				PP	PP	08 17 47.7	+2.6
HHC				SCP	ScP	08 21 30.2	+0.1
HHC				PCS	PcS	08 21 34.2	+0.6
HHC				S	**S**	**08 22 36.7**	**+0.9**
HHC				XS	sS	08 22 53.0	+0.4
HHC				AMB	AMB		
	comp=Z,21nm,1.1s,mb4.9						
HHC				AMB	AMB		
	comp=Z,226nm,5.6s						
HHC				LR	LR		
	comp=N,313nm,15.2s,MS4.6						
HHC				LR	LR		
	comp=E,401nm,15.7s,MS4.6						
HHC				LR	LR		
	comp=Z,273nm,16.3s,MS4.3						
BJI	**Beijing**	**45.38**	**17**	P	**P**	**08 16 03.2**	**+1.0**
BJI				AMB	AMB		
	comp=Z,5.0nm,0.8s,mb4.4						
BJI	**Beijing**	**45.38**	**17**	P	**P**	**08 16 03.2**	**+1.0**
	comp=Z,5.0nm,0.8s,mb4.4						
CTAO	**Charters Tower**	**47.41**	**114**	eP	**P**	**08 16 17.8**	**-0.7**
CTAO				pmax	pmax		
	comp=Z,5.0nm,0.7s,mb4.5						
CTAO	**Charters Tower**	**47.41**	**114**	eP	**P**	**08 16 17.8**	**-0.7**
	comp=Z,4.6nm,0.7s,mb4.5						
KSRS	**Korea Array**	**47.76**	**29**	P	**P**	**08 16 17.2**	**-3.7**
	comp=Z,1.7nm,0.7s,mb4.2,baz=223,slow=8.4,SNR=6.1						
STKA	**Stephens Creek**	**47.77**	**131**	P	**P**	**08 16 22.2**	**+1.1**
	comp=Z,4.1nm,0.7s,mb4.5,baz=322,slow=10,SNR=5.4						
STKA	**Stephens Creek**	**47.77**	**131**	eP	**P**	**08 16 21.8**	**+0.7**
	comp=Z,3.9nm,0.7s,mb4.5						
WMQ	**Urumqi**	**48.33**	**347**	P	**P**	**08 16 25.5**	**+0.3**
WMQ				AP	pP	08 16 35.5	0.0
WMQ				XP	sP	08 16 39.5	0.0
WMQ				PCP	PcP	08 17 53.0	+1.4
WMQ				PP	PP	08 18 16.0	-2.1
WMQ				SCP	ScP	08 21 43.5	-0.4
WMQ				S	**S**	**08 23 21.5**	**-1.5**
WMQ				AMB	AMB		
	comp=Z,59nm,0.7s,mb5.7						
WMQ				AMB	AMB		
	comp=Z,152nm,5.2s						
WMQ				LR	LR		
	comp=N,57nm,17.0s						
WMQ				LR	LR		
	comp=Z,48nm,18.0s,MS3.5						
SONM	**Songino Array**	**51.15**	**5**	P	**P**	**08 16 45.8**	**-0.7**
	comp=Z,15nm,0.8s,mb5.0,baz=181,slow=9.1,SNR=19						
UCH	**Uchtor**	**51.15**	**335**	P	**P**	**08 16 48.2**	**+1.5**
	SNR=5.0						
ULN	**Ulaanbaatar**	**51.23**	**5⇑**	eP	**P**	**08 16 46.1**	**-1.1**
ULN	**Ulaanbaatar**	**51.23**	**5**	eP	**P**	**08 16 46.2**	**-1.0**
	comp=Z,8.2nm,0.8s,mb4.7						
TKM2	**Tokmak 2**	**51.29**	**336**	eP	**P**	**08 16 48.2**	**+0.5**
TKM2	**Tokmak 2**	**51.29**	**336**	P	**P**	**08 16 48.2**	**+0.5**
	SNR=12						
TKM2	**Tokmak 2**	**51.29**	**336**	eP	**P**	**08 16 48.3**	**+0.6**
	comp=Z,13nm,0.8s,mb4.9						
AML	**Almayashu**	**51.42**	**334**	P	**P**	**08 16 50.0**	**+1.3**
	SNR=11						
AML	**Almayashu**	**51.42**	**334**	eP	**P**	**08 16 49.8**	**+1.0**
	comp=Z,10nm,0.7s,mb4.9						
EKS2	**Erkin-Say**	**51.82**	**335**	P	**P**	**08 16 52.8**	**+1.0**
	SNR=15						
EKS2	**Erkin-Say**	**51.82**	**335**	eP	**P**	**08 16 52.3**	**+0.6**
	comp=Z,21nm,0.8s,mb5.1						
CN2	**Changchun**	**51.87**	**23**	eP	**P**	**08 16 54.7**	**+2.6**
USP	**Ospenovka**	**52.02**	**336**	P	**P**	**08 16 53.5**	**+0.3**
	SNR=7.3						
MK31	**Makanchi Array**	**52.45**	**344**	eP	**P**	**08 16 55.6**	**-0.7**
MKAR	**Makanchi Array**	**52.45**	**344**	P	**P**	**08 16 56.0**	**-0.4**
	comp=Z,13nm,0.7s,mb5.0,baz=147,slow=8.1,SNR=27						
MKAR				LR	LR	08 42 11.3	
	comp=Z,40nm,19.8s,MS3.5,baz=175,slow=40						
MJAR	**Matsushiro Arr**	**52.82**	**38**	P	**P**	**08 16 56.1**	**-3.2**
	comp=Z,1.7nm,0.7s,mb4.1,baz=214,slow=7.7,SNR=5.7						
ZAK	**Zakamensk**	**53.50**	**2**	eP	**P**	**08 16 57.7**	**-6.3**
ZAK				pmax	pmax		
	comp=Z,3.0nm,1.1s,mb4.1						
TLY	**Talaya**	**54.81**	**2**	eP	**P**	**08 17 12.8**	**-0.7**
TLY				pmax	pmax		
	comp=Z,9.0nm,0.9s,mb4.8						
TLY				MLR	MLR		
	comp=Z,102nm,17.0s,MS4.0						
TLY	**Talaya**	**54.81**	**2**	eP	**P**	**08 17 12.8**	**-0.6**
	comp=Z,7.5nm,0.8s,mb4.8						
ZAA0	**Zalesovo Array**	**58.55**	**349**	eP	**P**	**08 17 38.9**	**-1.1**
ZALV	**Zalesovo Beam**	**58.55**	**349**	P	**P**	**08 17 38.9**	**-1.2**
	comp=Z,38nm,0.8s,mb5.5,baz=170,slow=5.3,SNR=54						
NVS	**Novosibirsk**	**59.70**	**348**	eP	**P**	**08 17 45.3**	**-2.7**
NVS				pmax	pmax		
	comp=N,8.0nm,0.8s						
NVS				pmax	pmax		
	comp=E,3.0nm,0.8s						
NVS				pmax	pmax		
	comp=Z,8.0nm,0.8s,mb4.8						
BOD	**Bodaibo**	**61.84**	**8**	eP	**P**	**08 17 59.9**	**-2.6**
BOD				pmax	pmax		
	comp=Z,5.0nm,0.9s,mb4.6						
YSS	**Yuzh-Sakhalins**	**62.19**	**31⇑**	eP	**P**	**08 18 02.3**	**-2.8**
YSS				pmax	pmax		
	comp=Z,11nm,0.8s,mb5.0						
MAK	**Makhachkala**	**66.41**	**320**	eP	**P**	**08 18 32.5**	**-0.3**
MAK				e		08 19 01.0	
MAK				ePPP		08 22 37.4	
MAK				pmax	pmax		
	comp=Z,331nm,1.1s						
SVE	**Sverdlovsk**	**68.13**	**338⇑**	eP	**P**	**08 18 43.4**	**0.0**
SVE				pmax	pmax		
	comp=Z,16nm,0.9s,mb5.0						
ARU	**Arti**	**68.66**	**336**	eP	**P**	**08 18 46.0**	**-0.8**
ARU				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.5						
ARU	**Arti**	**68.66**	**336**	eP	**P**	**08 18 46.0**	**-0.8**
	comp=Z,5.4nm,0.8s,mb4.5						
YAK	**Yakutsk**	**68.80**	**14⇑**	eP	**P**	**08 18 44.8**	**-2.7**
GOF	**Gofitskoye**	**70.24**	**320**	eP	**P**	**08 18 51.0**	**-5.7**
EIL	**Elat**	**70.82**	**303**	P	**P**	**08 19 00.8**	**+0.2**
	comp=Z,4.6nm,0.8s,mb4.5,baz=72,slow=12,SNR=4.3						
EIL	**Elat**	**70.82**	**303**	P	**P**	**08 19 00.8**	**+0.2**
PETK	**Petropavlovsk-**	**73.58**	**32**	P	**P**	**08 19 14.3**	**-2.3**
	comp=Z,2.6nm,0.6s,mb4.3,baz=214,slow=2.0,SNR=8.0						
BR131	**Keskin Array S**	**74.71**	**313**	eP	**P**	**08 19 24.4**	**+0.9**
	comp=Z,1.4nm,0.5s,mb4.2						
SEY	**Seymchan**	**76.54**	**22⇑**	eP	**P**	**08 19 32.1**	**-1.4**
OBN	**Obninsk**	**78.26**	**328c**	iP	**P**	**08 19 43.5**	**+0.2**
OBN				e		08 19 48.0	
OBN				pmax	pmax		
	comp=Z,14nm,1.0s,mb4.8						
AKASG	**Malin Array Be**	**80.93**	**322**	iP	**P**	**08 19 58.7**	**+0.8**
BUR08	**Bucovina Ar. S**	**82.71**	**319**	eP	**P**	**08 20 09.4**	**+2.1**
ARCES	**ARCESS Array B**	**87.92**	**340**	P	**P**	**08 20 32.4**	**-0.5**
	comp=Z,3.3nm,0.8s,mb4.6,baz=111,slow=5.0,SNR=5.3						
GERES	**GERESS Array B**	**90.48**	**319**	P	**P**	**08 20 46.1**	**+0.7**
	comp=Z,1.0nm,0.7s,mb4.3,baz=98,slow=4.0,SNR=5.9						
BRG	**Berggiesshubel**	**90.48**	**321**	eP	**P**	**08 20 49.8**	**+4.5**
BRG				pmax	pmax		
	comp=Z,1.0nm,0.5s,mb4.4						
BRG	**Berggiesshubel**	**90.48**	**321**	eP	**P**	**08 20 49.8**	**+4.5**
	comp=Z,2.0nm,0.5s,mb4.7						
CLL	**Collm**	**91.11**	**321**	eP	**P**	**08 20 49.0**	**+0.8**
CLL				pmax	pmax		
	comp=Z,3.0nm,1.0s,mb4.6						
CLL	**Collm**	**91.11**	**321**	eP	**P**	**08 20 49.0**	**+0.8**
	comp=Z,3.0nm,1.0s,mb4.6						
NB2	**NORSAR Subarra**	**92.61**	**331**	P	**P**	**08 20 55.2**	**+0.3**
	comp=Z,0.7nm,0.7s,mb4.2,baz=96,slow=4.6						
NOA	**NORSAR Array B**	**92.61**	**331**	P	**P**	**08 20 54.9**	**-0.1**
	comp=Z,0.8nm,0.7s,mb4.3,baz=94,slow=5.1,SNR=4.2						
CHGN	**Chignik**	**98.75**	**34**	eP	**P**	**08 21 18.4**	**-4.6**
AHID	**Auburn Hatcher**	**131.54**	**31**	ePKPdf	PKPdf	08 26 52.4	-4.1
CPUP	**Villa Florida**	**143.70**	**215**	PKP	PKPdf	08 27 20.3	+0.9
	comp=Z,0.3nm,0.3s,baz=27,slow=2.3,SNR=2.8						
CPUP	**Villa Florida**	**143.70**	**215**	ePKPdf	PKPdf	08 27 20.3	+1.0
TXAR	**Lajitas Array**	**145.25**	**39**	PKP	PKPdf	08 27 21.3	-0.7
	comp=Z,5.0nm,0.7s,baz=282,slow=1.1,SNR=24						
TXAR				SKPbc	SKPbc	08 30 56.8	-2.3
	comp=Z,0.3nm,0.7s,baz=72,slow=0.7,SNR=4.3						
MIAR	**Mount Ida**	**146.17**	**21**	ePKP2	PKPab	08 27 23.5	-1.5
WVT	**Waverly**	**146.37**	**13**	ePKP2	PKPab	08 27 23.5	-2.2
JCT	**Junction City**	**146.71**	**33**	ePKP2	PKPab	08 27 25.1	-2.1

*NEIC **06** 08:11:04.0, 10.13N×60.42W, h72^{km}, MD3.8(TRN), After TRN.*
TRN 06 08:11:04.0, 10.13N×60.42W, h72^{km}, MD3.8, Trinidad

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TBH	**Brigand Hill**	**0.73**	**299**	eP	Pn	08 11 19.3	-0.1
TBH				eS	Sn	08 11 31.1	+0.2
TPP	**Pointe-a-Pierr**	**1.04**	**281**	eS	Sn	08 11 37.2	-0.1
BOT	**Bacolet**	**1.08**	**344**	eP	Pn	08 11 23.4	-0.2
BOT				eS	Sn	08 11 38.3	+0.2
TRN	**Trinidad (W)**	**1.10**	**298**	eP	Pn	08 11 23.7	-0.2
TRN				eS	Sn	08 11 39.4	+0.7
TPR	**Prospect**	**1.11**	**341**	eP	Pn	08 11 24.6	+0.7
TPR				eS	Sn	08 11 38.6	-0.3
TOSP	**Speyside**	**1.17**	**354**	eP	Pn	08 11 24.2	-0.5
TOSP				eS	Sn	08 11 40.6	+0.3
TCE	**Chacachacare**	**1.43**	**293**	eP	Pn	08 11 28.3	+0.2
TCE				eS	Sn	08 11 46.8	+0.4
GRW	**Mount Saint Ca**	**2.36**	**329**	eP	Pn	08 11 40.8	+0.2
GRW				eS	Sn	08 12 07.2	-1.4
GRHS	**Sauteurs**	**2.41**	**330**	eP	Pn	08 11 41.3	+0.1
GRHS				eS	Sn	08 12 08.6	-1.1
GRIC	**Isle de Caille**	**2.43**	**332**	eP	Pn	08 11 41.6	+0.1
GRIC				eS	Sn	08 12 09.4	-0.9
GRSS	**Sisters**	**2.46**	**332**	eP	Pn	08 11 42.0	+0.1
GRSS				eS	Sn	08 12 09.9	-1.0
SVB	**Belmont**	**3.23**	**345**	eP	Pn	08 11 53.5	+1.1
SVB				eS	Sn	08 12 28.8	-1.0
SVV	**Soufriere Volc**	**3.27**	**346**	eP	Pn	08 11 53.5	+0.6
SVV				eS	Sn	08 12 29.2	-1.4
SSV	**Crater Summit**	**3.27**	**347**	eP	Pn	08 11 53.7	+0.8
SSV				eS	Sn	08 12 30.1	-0.6
SLB	**Belfond**	**3.73**	**351**	eP	Pn	08 11 59.9	+0.7
SLB				eS	Sn	08 12 40.5	-1.4

*ISCJB **06** 08:16:58.5±1.2, 36.07N±.006×27.02E±.006, h24^{km}±16^{km}, Error ellipse: s-maj=10.9km s-min=7.6km az=18.7*
*NEIC **06** 08:16:58.0, 36.06N×27.01E, h31^{km}, MD3.3(ATH), After ATH.*
*CSEM **06** 08:16:58.0, 36.06N×27.01E, h31^{km}, MD3.3/5, After ATH*
*ATH **06** 08:16:58.0, 36.06N×27.01E, h31^{km}±1^{km}, MD3.3/5*
ISC 06 08:16:58.5±0.9, **36.10N**±.005×**26.99E**±.006, **h15^{km}**±8^{km}, **n13, σ0^{s}98**/20, **Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
NISR	**Nisiros**	**0.53**	**12**	ePn	**Pg**	**08 17 09.8**	**+0.9**
NISR	**Nisiros**	**0.53**	**12**	ePN	**Pg**	**08 17 09.8**	**+0.9**
KARP	**Karpathos**	**0.57**	**166**	ePn	**Pg**	**08 17 09.5**	**-0.1**
KARP				eSn	**Sg**	**08 17 17.2**	**0.0**
KARP	**Karpathos**	**0.57**	**166**	ePN	**Pg**	**08 17 09.5**	**-0.1**
KARP				eSN	**Sg**	**08 17 17.2**	**0.0**
ARG	**Arkhangelos**	**0.93**	**82**	ePn	**Pn**	**08 17 16.4**	**-0.5**
ARG				eSb	**Sb**	**08 17 28.5**	**+0.2**
ARG	**Arkhangelos**	**0.93**	**82**	ePN	**Pn**	**08 17 16.4**	**-0.5**
ARG				eSB	**Sb**	**08 17 28.5**	**+0.2**
ZKR	**Zakros**	**1.17**	**213**	P	**Pn**	**08 17 21.2**	**+1.0**
SANT	**Santorini**	**1.27**	**283**	ePn	**Pn**	**08 17 19.8**	**-1.8**
SANT				eSn	**Sn**	**08 17 40.2**	**+1.9**
NPS	**Neapolis**	**1.40**	**234**	ePn	**Pn**	**08 17 23.3**	**-0.1**
NPS				eSn	**Sn**	**08 17 40.8**	**-0.7**
NPS	**Neapolis**	**1.40**	**234**	ePN	**Pn**	**08 17 23.3**	**-0.1**
NPS				eSN	**Sn**	**08 17 40.8**	**-0.7**
APE	**Apeiranthos**	**1.52**	**310**	ePb	**Pb**	**08 17 24.9**	**-1.5**
APE	**Apeiranthos**	**1.52**	**310**	ePB	**Pb**	**08 17 24.9**	**-1.5**
LAST	**Lasithi**	**1.54**	**233**	P	**Pn**	**08 17 26.2**	**+0.8**

*GII **06** 08:21:12.8±0.6, 33.41N×35.38E, h0^{km}, ML1.9/2, EXPLOSION*
*ISCJB **06** 08:21:13.8±0.7, 33.42N±.003×35.34E±.006, h0^{km}, Error ellipse: s-maj=8.1km s-min=3.4km az=17.7*
*GRAL **06** 08:21:13.6±0.4, 33.33N×35.31E, h3^{km}±4^{km}, MD2.9*
*CSEM **06** 08:21:13.6, 33.33N×35.31E, h3^{km}, ML2.9, After GRAL*
ISC 06 08:21:14.5±0.7, **33.42N**±.003×**35.35E**±.006, **h0^{km}, n14, σ0^{s}83**/19, **Jordan - Syria region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MATL	**Matirih**	**0.07**	**349**	eP	**Pg**	**08 21 16.5**	**+0.7**
KSDI	**Kefar Szold**	**0.35**	**131**	Pg	**Pg**	**08 21 20.0**	**-1.1**
HRI	**Mount Hermon**	**0.36**	**115**	Pg	**Pg**	**08 21 20.4**	**-0.9**
HNTI	**Hanita**	**0.36**	**203**	Pg	**Pg**	**08 21 20.9**	**-0.5**
MMC7	**Mount Meron ar**	**0.40**	**174**	Pg	**Pg**	**08 21 20.9**	**-1.1**
MMC7				Sg	**Sg**	**08 21 28.2**	**+1.0**
RCY	**Rachaya**	**0.40**	**81**	eP	**Pg**	**08 21 21.9**	**-0.2**
RCY				eS	**Sg**	**08 21 28.2**	**+0.9**
RCY	**Rachaya**	**0.40**	**81**	eP	**Pg**	**08 21 21.9**	**-0.2**
RCY				eS	**Sg**	**08 21 28.2**	**+0.8**
MMC6	**Mount Meron ar**	**0.41**	**175**	Sg	**Sg**	**08 21 28.6**	**+1.0**
BHL	**Bhannes**	**0.55**	**28**	eP	**Pg**	**08 21 24.9**	**-0.1**
OFRI	**'Ofer**	**0.85**	**201**	Pg	**Pg**	**08 21 30.6**	**-0.2**
MMLI	**Mount Malkishu**	**0.98**	**176**	Pg	**Pg**	**08 21 32.4**	**-0.8**
HWQ	**Hawqa**	**0.99**	**30**	eP	**Pg**	**08 21 33.1**	**-0.4**
HWQ				eS	**Sg**	**08 21 47.3**	**+0.9**
HMDT	**Nahal Hemdat**	**1.17**	**173**	Pg	**Pg**	**08 21 36.0**	**-1.0**
HMDT				Sg	**Sg**	**08 21 52.9**	**+0.7**
SLTI	**Sal'it**	**1.20**	**192**	Sg	**Sg**	**08 21 54.3**	**+1.2**

*CSEM **06** 08:25:44.8±0.1, 37.61N×21.19E, h30^{km}, MD3.5, Error ellipse: s-maj=2.7km s-min=1.7km az=29.0*
*ISCJB **06** 08:25:45.7±0.7, 37.64N±.004×21.24E±.005, h31^{km}±5^{km}, Error ellipse: s-maj=8.2km s-min=5.1km az=138.2*
*THE **06** 08:25:45.8, 37.64N×21.23E, h25^{km}±1^{km}, ML3.3/2, Error ellipse: s-maj=2.0km s-min=0.5km az=259.0*
*ATH **06** 08:25:46.4, 37.81N×21.17E, h33^{km}±2^{km}, MD3.5/4*
*NEIC **06** 08:25:46.4, 37.81N×21.17E, h33^{km}, MD3.5(ATH), After ATH.*
ISC 06 08:25:45.8±0.7, **37.64N**±.004×**21.22E**±.005, **h29^{km}**±6^{km}, **n18, σ0^{s}65**/31, **Southern Greece**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
RLS	Riolos of Patr	0.46	25	ePb	Pb	08 25 54.7	-0.8
RLS				eSb	Sb	08 26 01.6	-0.6
RLS	Riolos of Patr	0.46	25	ePB	Pb	08 25 54.7	-0.8
RLS				eSB	Sb	08 26 01.6	-0.6
KFL	Anninata	0.58	324	P	Pb	08 25 57.3	-0.2
KFL				S	Sb	08 26 06.0	+0.5
VLS	Valsamata	0.73	317	P	Pb	08 25 59.7	-0.3
VLS				S	Sb	08 26 10.8	+1.1
VLS	Valsamata	0.73	317	ePn	Pn	08 25 59.0	-1.2
VLS	Valsamata	0.73	317	P	Pb	08 25 59.7	-0.3
VLS				S	Sb	08 26 10.8	+1.1
VLS	Valsamata	0.73	317	ePN	Pn	08 25 59.0	-1.2
PYL	PYLOS	0.85	151	P	Pn	08 26 00.9	-0.9
PYL				S	Sb	08 26 13.8	+0.9
LKD	Levkas	1.16	337	P	Pn	08 26 06.2	+0.1
LKD				S	Sn	08 26 21.1	+0.2
EVR	Evrytania	1.36	20	ePn	Pn	08 26 09.6	+0.8
EVR				eSn	Sn	08 26 25.0	-0.9
EVR	Evrytania	1.36	20	ePN	Pn	08 26 09.6	+0.8
EVR				eSN	Sn	08 26 25.0	-0.9
LTK	Loutraki	1.44	74	P	Pn	08 26 09.5	-0.3
LTK				S	Sn	08 26 27.6	-0.1
DID	Didima	1.61	94	P	Pn	08 26 11.6	-0.6
DID				S	Sn	08 26 32.5	+0.5
AGG	Agios Georgios	1.64	32	P	Pn	08 26 12.9	+0.3
AGG				S	Sn	08 26 33.4	+0.7
VLI	Veliai	1.65	123	ePn	Pn	08 26 17.0	+4.2
VLI	Veliai	1.65	123	ePN	Pn	08 26 17.0	+4.2
LKR	Lokris	1.73	54	P	Pn	08 26 13.9	0.0
LKR				S	Sn	08 26 35.7	+0.7
IGT	Igoumenitsa	2.02	340	P	Pn	08 26 17.8	0.0

NEIC 06 09:12:14.7, 3780S×17867E, h30km, ML4.0(WEL), After WEL., Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MXZ	Matakaoa Point	0.37	309	P	Pb	09 12 22.9	-0.2
MXZ				S	Sb	09 12 27.9	-1.0
PUZ	Puketiti	0.43	230	P	Pb	09 12 24.1	+0.2
PUZ				S	Sb	09 12 30.3	0.0
MWZ	Matawai	1.05	239	P	Pn	09 12 32.8	-0.5
WIZ	White Island	1.21	283	P	Pn	09 12 35.3	-0.2
URZ	Urewera	1.31	249	P	Pn	09 12 36.8	-0.2
KNZ	Kokohu	1.45	212	P	Pn	09 12 37.9	-0.9
EDRZ	Edgecumbe	1.56	258	P	Pn	09 12 40.7	+0.4
MARZ	Manawahe	1.59	263	P	Pn	09 12 40.4	-0.4
TAZ	Tarawera	1.76	255	P	Pn	09 12 44.4	+1.3
TGRZ	Tauranga	1.91	271	P	Pn	09 12 44.3	-0.9
KARZ	Kaharoa	1.93	263	P	Pn	09 12 45.3	-0.2
BKZ	Black Stump Fm	2.19	231	P	Pn	09 12 48.6	-0.4
KUZ	Kuaotunu	2.58	293	P	Pn	09 12 53.2	-1.1
WTVZ	West Tongariro	2.75	241	P	Pn	09 12 56.5	-0.3
NGZ	Ngauruhoe	2.77	239	P	Pn	09 12 56.8	-0.2
MOVZ	Moawhango	2.79	234	P	Pn	09 12 56.4	-0.9
TWVZ	Taurewa	2.84	242	P	Pn	09 12 57.8	-0.1
MKAZ	Moumakai	2.87	283	P	Pn	09 12 57.7	-0.7
TSZ	Takapari Road	3.09	222	P	Pn	09 12 59.3	-2.1
OTAZ	Otara	3.10	285	P	Pn	09 13 01.5	-0.1
KAAZ	Kauri Point	3.31	286	P	Pn	09 13 04.7	+0.3
WAZ	Wanganui	3.48	235	P	Pn	09 13 07.0	+0.2
RAEZ	Rainy Point	3.67	245	P	Pn	09 13 08.1	-1.2
MRZ	Mangatainoka R	3.73	219	P	Pn	09 13 07.4	-2.8
NEZ	North Egmont	3.88	246	P	Pn	09 13 13.5	+1.3
WCZ	Waipu Caves	3.93	297	P	Pn	09 13 12.9	-0.1
MTW	Mount Morrison	4.16	215	P	Pn	09 13 12.4	-3.6
CAW	Cannon Point	4.32	219	P	Pn	09 13 15.4	-2.9
SNZO	South Karori	4.66	220	ePn	Pn	09 13 23.2	+0.3
NNZ	Nelson	5.33	229	P	Pn	09 13 27.9	-4.2
QRZ	Quartz Range	5.64	236	P	Pn	09 13 34.2	-2.2
THZ	Tophouse	5.95	226	P	Pn	09 13 36.9	-3.8
KHZ	Kahutara	6.06	219	P	Pn	09 13 40.1	-2.1
LTZ	Lake Taylor	6.98	223	P	Pn	09 13 51.2	-3.6

*IDC **06** 09:32:34.8±0.5, 024S×12524E, h0km, mb4.6/15, mb1 4.7/16, mb1mx4.7/18, mbtmp4.6/16, ML4.2/1, MS3.7/9, Ms1 3.8/9, ms1mx3.5/25, Error ellipse: s-maj=27.1km s-min=11.8km az=70.0*

*MOS **06** 09:32:38.4±1.2, 031S×125.16E, h38km, mb5.1/22, Error ellipse: s-maj=17.4km s-min=6.8km az=116.6*

*ISCJB **06** 09:32:39.3±0.2, 034S±003×12529E±004, h44km, mb4.9/66, MS3.9/16, Error ellipse: s-maj=5.9km s-min=3.9km az=143.7*

*BJI **06** 09:32:40.6, 025S×12530E, h42km, mB5.2, mb4.9, Ms4.9, Msz4.4*

*NEIC **06** 09:32:41.1±1.4, 030S×12534E, h46km±13km, mb4.9/21, Error ellipse: s-maj=12.3km s-min=6.0km az=55.0*

*DJA **06** 09:32:44, 036S×12560E, h34km, Mw5.2/4*

ISC 06 09:32:41.3±0.2, **035S**±003×**12532E**±004, **h46**km, **h46**km±2.2km**:pP-P, n162,** σ1§**25**/167, **mb4.9**/66, **MS3.9**/16, **10C-6D, Southern Molucca Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MNI	Manado	1.84	345	P	Pn	09 33 11.7	+1.2
	0.0nm,0.0s						
LBMI	Labuha	2.20	98	P	Pn	09 33 14.8	-0.6
	0.0nm,0.0s						
TNTI	Ternate	2.33	62	P	Pn	09 33 17.6	+0.4
AAI	Ambon	4.39	139	P	Pn	09 33 46.0	+0.5
	0.0nm,0.0s						
AAI	Ambon	4.39	139	P	Pn	09 33 46.0	+0.5
	0.0nm,0.0s						
KDI	Kendari	4.49	217	P	Pn	09 33 52.3	+5.4
	0.0nm,0.0s						
KDI	Kendari	4.49	217	P	Pn	09 33 47.5	+0.6
PCI	Palu	5.51	264	P	Pn	09 34 06.7	+5.8
	2μm,1.0s,5.2nm						
SWI	Sorong	5.96	95	P	Pn	09 34 09.4	+2.3
	120nm,0.8s						
SWI	Sorong	5.96	95	P	Pn	09 34 09.2	+2.1
	99nm,0.8s,1μm0.4nm						
KAPI	Kappang	7.24	230	Pn	Pn	09 34 25.7	+1.1
	7.2nm,0.3s,baz=17,slow=3.8,SNR=12						
KAPI				Sn	Sn	09 35 43.3	-2.3
	13nm,0.3s,baz=122,slow=22,SNR=9.4						
KAPI	Kappang	7.24	230	P	Pn	09 34 25.2	+0.5
	74nm,0.6s,994nm0.3nm						
KAPI	Kappang	7.24	230	ePn	Pn	09 34 25.6	+0.9
KAPI				eSn	Sn	09 35 40.6	-5.0
DAV	Davao City (W)	7.37	2	LR	LR	09 37 34.2	
	comp=Z,1μm,18.7s,baz=150,slow=41						
SMKI	Samarinda	8.11	269	P	Pn	09 34 45.5	+8.9
	247nm,0.8s						
SMKI	Samarinda	8.11	269	P	Pn	09 34 45.3	+8.7
	198nm,0.8s						
MYLDM	Lahad Datu	8.75	309	⇑P	Pn	09 34 53.1	+7.7
MYLDM	Lahad Datu	8.75	309	P	Pn	09 34 53.3	+8.0
TSM	Tawau	8.75	302	⇓P	Pn	09 34 49.0	+3.7
BATI	Baumata	9.94	189	Pn	Pn	09 35 06.9	+5.3
	5.7nm,0.3s,baz=355,slow=2.9,SNR=8.9						
BATI				LR	LR	09 39 41.4	
	comp=Z,619nm,22.0s,baz=356,slow=43						
BATI	Baumata	9.94	189	P	Pn	09 35 08.8	+7.2
	81nm,0.9s						
SDKM	Sandakan	10.06	306	⇑P	Pn	09 35 08.3	+5.0
KKM	Kota Kinabalu	11.09	305	⇓P	Pn	09 35 24.3	+7.0
KKM	Kota Kinabalu	11.09	305	P	Pn	09 35 22.1	+4.7
	42nm,0.9s						
KKM	Kota Kinabalu	11.09	305	ePn	Pn	09 35 18.5	+1.2
KKM				eSn	Sn	09 37 21.8	+1.8
SBUM	Sibu	13.39	282	P	Pn	09 35 59.3	+10
STKI	Sintang	13.85	272	P	Pn	09 36 02.7	+7.6
	56nm,0.7s						
KAKA	Kakadu	14.17	150	⇑iP	Pn	09 35 57.6	-1.9
	61nm,0.6s						
KSM	Kuching	15.12	277	⇑P	Pn	09 36 19.6	+7.6
KSM	Kuching	15.12	277	P	Pn	09 36 16.2	+4.2
	68nm,0.6s,826nm						
KSM	Kuching	15.12	277	ePn	Pn	09 36 14.2	+2.2
SJI	Sawahan	15.38	241	P	Pn	09 36 22.8	+7.5
	93nm,0.5s						
BJII	Banjamegara	17.04	246	P	Pn	09 36 41.0	+4.5
	135nm,1.8s						
FITZ	Fitzroy Crossi	17.65	179	eP	Pn	09 36 42.6	-1.3
	28nm,0.9s						
FITZ	Fitzroy Crossi	17.65	179	P	Pn	09 36 43.0	-1.0
	0.6nm,0.3s,baz=9.8,slow=9.9,SNR=40						
FITZ				LR	LR	09 42 24.3	
	comp=Z,111nm,20.7s,baz=2.8,slow=33						
LEM	Lembang	18.80	250	P	Pn	09 36 59.2	+1.2
	163nm,1.0s						
DBJI	Dramaga	19.53	251	P	Pn	09 37 07.0	+0.3
	177nm,1.2s						
DSRI	Dabo	20.74	270	P	P	09 37 18.3	0.0
	69nm,0.9s						
WRA	Warramunga Arr	21.39	156	P	P	09 37 23.8	-1.3
	45nm,0.7s,mb4.9,baz=336,slow=11,SNR=147						
WB2	Warramunga Arr	21.39	156	⇑iP	P	09 37 23.8	-1.4
MBWA	Marble Bar	21.39	194	eP	P	09 37 25.1	-0.1
	88nm,1.0s,mb5.0						
MYKOM	Kota Tinggi	21.57	276	⇓P	P	09 37 27.7	+0.5
XMIS	Christmas Isla	22.00	242	eP	P	09 37 32.2	+0.4
COEN	Coen	22.25	128	eP	P	09 37 35.5	+1.0
	26nm,0.6s,mb4.8						
PMG	Port Moresby	23.53	113	eP	P	09 37 47.7	+0.1
PMG				pmax	pmax		
	comp=Z,42nm,1.0s						
PMG	Port Moresby	23.53	113	eP	P	09 37 47.7	0.0
	comp=Z,42nm,1.0s,mb4.8						
QIZ	Qiongzhong	24.53	323	P	P	09 37 54.7	-2.0
QIZ				S	S	09 42 04.1	-10
QIZ				LR	LR		
	comp=Z,161nm,21.4s,MS3.5						
ASAR	Alice Springs	24.63	161	P	P	09 37 57.5	-0.1
	comp=Z,50nm,1.1s,mb5.0,baz=341,slow=10.0,SNR=141						
ASAR				PcP	PcP	09 41 35.3	+0.8
	comp=Z,3.1nm,1.0s,baz=352,slow=1.9,SNR=4.6						
ASAR				ScP	ScP	09 45 11.9	+2.3
	comp=Z,0.4nm,0.8s,baz=349,slow=0.9,SNR=4.3						
ASAR	Alice Springs	24.63	161	P	P	09 37 57.5	-0.1
ASAR						09 41 35.3	
PDSI	Padang	24.86	269	P	P	09 38 01.6	+1.7
	comp=Z,34nm,1.3s,mb4.7						
KULM	Kulim	25.27	283	⇓P	P	09 38 07.0	+3.5
CTA	Charters Tower	28.37	135	eP	P	09 38 32.4	+1.0
	comp=Z,6.0nm,0.9s,mb4.2						
CTA	Charters Tower	28.37	135	P	P	09 38 31.6	+0.3
	comp=Z,6.7nm,0.8s,mb4.3,baz=336,slow=12,SNR=7.0						
CTA	Charters Tower	28.37	135	eP	P	09 38 32.4	+1.0
CTA				pmax	pmax		
	comp=Z,6.0nm,0.9s						
CTAO	Charters Tower	28.37	135	eP	P	09 38 32.0	+0.6
CTAO				pmax	pmax		
	comp=Z,13nm,1.1s,mb4.5						
CTAO	Charters Tower	28.37	135	eP	P	09 38 32.0	+0.6
	comp=Z,13nm,1.1s,mb4.5						
FORT	Forrest	30.38	175	eP	P	09 38 48.9	-0.1
	comp=Z,38nm,0.6s,mb5.3						
KLBR	Kellerberrin	31.89	192	eP	P	09 39 02.1	-0.2
	comp=Z,64nm,1.8s,mb5.2						
CMAR	Chiang Mai Arr	31.95	307	P	P	09 39 02.5	-0.5
	comp=Z,2.9nm,0.9s,mb4.1,baz=131,slow=8.6,SNR=6.6						
CMAR				PcP	PcP	09 41 54.7	+2.1
	comp=Z,1.3nm,0.7s,baz=152,slow=1.8,SNR=4.3						
CMAR				LR	LR	09 51 10.3	
	comp=Z,151nm,21.3s,MS3.6,baz=299,slow=35						
CMAR	Chiang Mai Arr	31.95	307	P	P	09 39 02.6	-0.5
CMAR						09 41 54.7	
CHTO	Chiang Mai	32.15	308	eP	P	09 39 04.2	-0.6
CHTO				pmax	pmax		
	comp=Z,23nm,1.3s,mb4.8						
CHTO	Chiang Mai	32.15	308	eP	P	09 39 04.2	-0.6
	comp=Z,23nm,1.3s,mb4.8						
GYA	Guiyang	32.15	327	P	P	09 39 06.7	+2.0
GYA				AP	pP	09 39 18.9	+1.9
GYA				XP	sP	09 39 23.6	+1.1
GYA				PP	PP	09 40 14.5	-3.5
GYA				PCP	PcP	09 41 52.8	-0.2
GYA				S	S	09 44 15.3	+1.1
GYA				XS	sS	09 44 37.6	+2.7
GYA				SCP	ScP	09 45 31.8	-1.2
GYA				PCS	PcS	09 45 39.0	+1.0
GYA				SS	SS	09 46 11.2	-23
GYA				AMB	AMB		
	comp=Z,20nm,0.9s,mb5.0						
GYA				AMB	AMB		
	comp=Z,120nm,5.0s						
GYA				LR	LR		
	comp=N,660nm,16.8s,MS4.5						
GYA				LR	LR		
	comp=E,590nm,18.8s,MS4.5						
GYA				LR	LR		
	comp=Z,640nm,17.4s,MS4.4						
MUN	Mundaring	32.62	194	eP	P	09 39 08.3	-0.4
NWAO	Narrogin (SRO)	33.29	192	LR	LR	09 53 32.0	
	comp=Z,115nm,21.8s,MS3.5,baz=69,slow=38						
KMI	Kunming	33.44	321	P	P	09 39 19.9	+3.9
KMI				AP	pP	09 39 32.5	+4.2
KMI				XP	sP	09 39 37.7	+3.8
KMI				PP	PP	09 40 33.1	+0.7
KMI				S	S	09 44 36.8	+2.4
KMI				SS	SS	09 46 43.1	-17
KMI				AMB	AMB		
	comp=Z,9.0nm,1.7s,mb4.4						
KMI				AMB	AMB		
	comp=Z,305nm,4.8s						
KMI				LR	LR		
	comp=Z,93nm,23.0s,MS3.4						
KMI	Kunming	33.44	321	P	P	09 39 19.9	+3.9
KMI				*PP	pP	09 39 32.5	+4.2
KMI				*SP	sP	09 39 37.7	+3.8
KMI						09 40 33.1	
KMI				S	S	09 44 36.8	+2.4
KMI				pmax	pmax		
	comp=Z,9.0nm,1.7s,mb4.4						
KMI				MLR	MLR		
	comp=Z,90nm,23.0s,MS3.4						
KMI	Kunming	33.44	321	P	P	09 39 19.9	+3.9
	comp=Z,9.0nm,1.7s,mb4.4						
KMI				pP	pP	09 39 32.5	+4.2
KMI				sP	sP	09 39 37.7	+3.8
KMI				PP	PP	09 40 33.1	+0.7
KMI				S	S	09 44 36.8	+2.4
KMI				sS	sS	09 45 01.0	+5.9
KMI				SS	SS	09 46 43.1	-17
KMI				SSS		09 47 09.9	
KMI				LR	LR		
	comp=Z,90nm,23.0s,MS3.4						
STKA	Stephens Creek	34.93	155	⇑iP	P	09 39 29.4	+0.5
	comp=Z,31nm,1.1s,mb5.2						
STKA	Stephens Creek	34.93	155	P	P	09 39 29.5	+0.6
	comp=Z,42nm,0.9s,mb5.4,baz=327,slow=8.6,SNR=79						
EIDS	Eidsvold	35.19	137	eP	P	09 39 31.7	+0.6
EIDS				epP	pP	09 39 43.1	-0.4
CD2	Chengdu	37.22	329	⇑iP	P	09 39 49.2	+0.8
CD2				AP	pP	09 40 01.4	+0.5
CD2				XP	sP	09 40 07.0	+0.6
CD2				PP	PP	09 41 17.9	+3.8
CD2				S	S	09 45 33.8	+1.4
CD2				XS	sS	09 45 54.2	+1.0
CD2				SS	SS	09 48 07.7	-9.3
CD2				AMB	AMB		
	comp=Z,20nm,0.8s,mb5.0						
CD2				AMB	AMB		
	comp=Z,60nm,5.2s						
CD2				LR	LR		
	comp=N,680nm,14.4s,MS4.9						
CD2				LR	LR		
	comp=E,940nm,10.8s,MS4.9						
CD2				LR	LR		
	comp=Z,690nm,13.2s,MS4.6						
XAN	Xi'an	37.51	337	P	P	09 39 49.8	-1.0
XAN				S	S	09 45 40.9	+4.3
XAN				AMB	AMB		
	comp=Z,7.0nm,0.8s,mb4.4						
XAN				AMB	AMB		
	comp=Z,45nm,16.4s						
XAN				LR	LR		
	comp=Z,152nm,26.9s,MS3.7						
KSRS	Korea Array	37.69	3	P	P	09 39 51.9	-0.4
	comp=Z,3.7nm,0.9s,mb4.1,baz=177,slow=9.7,SNR=8.0						
MAJO	Matsushiro	38.60	17	eP	P	09 39 58.9	-1.1
MAJO				pmax	pmax		
	comp=Z,16nm,0.6s,mb4.9						
MAJO	Matsushiro	38.60	17	eP	P	09 39 58.9	-1.1
	comp=Z,16nm,0.6s,mb4.9						
MAT	Matsushiro	38.60	17	P	P	09 39 58.6	-1.4
MJAR	Matsushiro Arr	38.60	17	P	P	09 39 58.7	-1.3
	comp=Z,3.4nm,0.7s,mb4.2,baz=193,slow=8.0,SNR=12						
ARMA	Armidale	38.98	143	eP	P	09 40 04.9	+1.6
BJI	Beijing	41.05	349	P	P	09 40 20.8	+0.5
BJI				AMB	AMB		
	comp=Z,11nm,0.9s,mb4.5						
BJI	Beijing	41.05	349	P	P	09 40 20.8	+0.5
	comp=Z,11nm,0.9s,mb4.5						
CAN	Canberra	41.21	150	eP	P	09 40 23.6	+2.0
CNB	Canberra Magne	41.38	150	eP	P	09 40 25.4	+2.3
LZH	Lanzhou	41.39	333	eP	P	09 40 24.0	+0.9
LZH				AMB	AMB		
	comp=Z,25nm,1.0s,mb4.8						
LZH				AMB	AMB		
	comp=Z,200nm,7.6s						
LZH	Lanzhou	41.39	333	eP	P	09 40 24.0	+0.9
	comp=Z,25nm,1.0s,mb4.8						
LZH				pP	pP	09 40 29.1	-6.6
LZH				sP	sP	09 40 32.5	-8.7
TOO	Toolangi	41.46	156	eP	P	09 40 25.7	+2.0
HHC	Hu-ho-hao-te	42.87	345	eP	P	09 40 37.7	+2.6
HHC				AP	pP	09 40 49.6	+1.9
HHC				XP	sP	09 40 54.1	+0.9
HHC				PP	PP	09 42 20.0	+4.7
HHC				PCP	PcP	09 42 29.7	+4.3
HHC				SCP	ScP	09 46 14.3	+1.4
HHC				PCS	PcS	09 46 19.6	+2.0
HHC				S	S	09 46 59.7	+3.3
HHC				XS	sS	09 47 19.8	+2.2
HHC				SS	SS	09 50 06.2	-3.0
HHC				SCS	ScS	09 50 32.0	0.0
HHC				AMB	AMB		
	comp=Z,19nm,1.0s,mb4.8						
HHC				AMB	AMB		
	comp=Z,339nm,5.9s						
HHC				LR	LR		
	comp=N,466nm,15.2s,MS4.6						
HHC				LR	LR		
	comp=E,480nm,17.1s,MS4.6						
HHC				LR	LR		
	comp=Z,352nm,16.3s,MS4.3						
CN2	Changchun	43.95	0	eP	P	09 40 47.6	+3.8
LSA	Lhasa	44.20	315	P	P	09 40 47.7	+1.7
LSA				AMB	AMB		
	comp=Z,20nm,0.9s,mb4.8						
MDJ	Mudanjiang	44.93	4	P	P	09 40 53.3	+1.7
MDJ				AP	pP	09 41 04.5	+0.2
MDJ				XP	sP	09 41 09.6	-0.1
MDJ				PP	PP	09 42 38.9	+1.6
MDJ				PCS	PcS	09 46 27.1	+1.2
MDJ				S	S	09 47 29.6	+3.3
MDJ				XS	sS	09 47 47.9	+0.3
MDJ				AMB	AMB		
	comp=Z,6.0nm,0.7s,mb4.5						
MDJ				AMB	AMB		
	comp=Z,198nm,6.2s						
MDJ				LR	LR		
	comp=Z,77nm,24.8s,MS3.5						
ODAN	Odare	45.42	310	eP	P	09 40 55.8	0.0
	comp=Z,24nm,0.8s,mb5.0						
TAPN	Taplejung	45.42	310	eP	P	09 40 55.3	-0.5
	comp=Z,17nm,0.6s,mb5.0						
GTA	Gaotai	45.94	332	P	P	09 41 00.6	+0.9
GTA				AP	pP	09 41 13.1	+0.7
GTA				XP	sP	09 41 18.3	+0.5
GTA				S	S	09 47 41.8	+0.7
GTA				XS	sS	09 48 03.1	+0.7
GTA				SS	SS	09 50 58.8	-7.8
GTA				AMB	AMB		
	comp=Z,16nm,1.0s,mb4.9						
GTA				AMB	AMB		
	comp=Z,232nm,6.3s						
GTA				LR	LR		
	comp=N,157nm,16.2s,MS4.3						
GTA				LR	LR		
	comp=E,203nm,15.0s,MS4.3						
GTA				LR	LR		
	comp=Z,282nm,15.0s,MS4.3						
RAMN	Ramite	46.07	309	eP	P	09 41 00.2	-0.8
	comp=Z,36nm,0.6s,mb5.5						
JIRN	Jiri	46.74	310	eP	P	09 41 05.3	-0.9
	comp=Z,26nm,0.4s,mb5.5						
GUN	Gumba	47.10	310	eP	P	09 41 07.8	-1.2
PKI	Pulchoki	47.30	309	eP	P	09 41 09.7	-0.9
	comp=Z,14nm,0.6s,mb5.0						
PKIN	Phulchoki	47.31	309	eP	P	09 41 10.0	-0.7
	comp=Z,12nm,0.5s,mb5.0						
KKN	Kakani	47.51	309	eP	P	09 41 11.1	-1.1
	comp=Z,9.5nm,0.4s,mb5.2						
DMN	Daman	47.55	309	eP	P	09 41 12.2	-0.3
GKN	Gorkha	48.11	309	eP	P	09 41 15.3	-1.5
	comp=Z,18nm,0.5s,mb5.3						
KOLN	Koldanda	48.80	308	eP	P	09 41 20.7	-1.5
	comp=Z,49nm,0.7s,mb5.7						
DANN	Dangsing	48.95	309	eP	P	09 41 21.7	-1.6
	comp=Z,42nm,0.5s,mb5.7						
HYB	Hyderabad	49.30	293	i P	P	09 41 24.0	-2.1
HYB	Hyderabad	49.30	293	eP	P	09 41 24.0	-2.1
ULN	Ulaanbaatar	50.58	344d	iP	P	09 41 35.5	+0.2
ULN				i *PP	pP	09 41 48.7	+0.5
ULN	Ulaanbaatar	50.58	344	eP	P	09 41 36.8	+1.5
	comp=Z,7.4nm,0.9s,mb4.6						
SONM	Songino Array	50.73	344	P	P	09 41 33.8	-2.7
	comp=Z,5.1nm,0.8s,mb4.5,baz=161,slow=10,SNR=3.3						
ZAK	Zakamensk	53.93	343	eP	P	09 42 01.0	+0.9
ZAK				pmax	pmax		
	comp=Z,3.0nm,1.2s,mb4.1						
TLY	Talaya	54.98	344	eP	P	09 42 08.8	+1.1
TLY				e		09 45 31.3	
TLY				pmax	pmax		
	comp=Z,7.0nm,0.8s,mb4.7						
TLY				MLR	MLR		
	comp=Z,74nm,15.0s,MS3.9						
WMQ	Urumqi	55.31	327	P	P	09 42 11.8	+1.5
WMQ				AP	pP	09 42 24.8	+1.5
WMQ				XP	sP	09 42 29.8	+1.2
WMQ				PCP	PcP	09 43 11.8	+1.3
WMQ				PP	PP	09 44 17.3	+2.9
WMQ				SCP	ScP	09 47 05.8	+0.1
WMQ				S	S	09 49 50.3	-0.7
WMQ				XS	sS	09 50 11.8	-0.9
WMQ				AMB	AMB		
	comp=Z,9.0nm,0.6s,mb5.0						
WMQ				AMB	AMB		
	comp=Z,147nm,5.2s						
WMQ				LR	LR		
	comp=N,77nm,20.3s,MS4.0						
WMQ				LR	LR		
	comp=E,143nm,24.5s,MS4.0						
WMQ				LR	LR		
	comp=Z,82nm,20.3s,MS3.8						
SMLA	Simla	55.32	309	i P	P	09 42 09.4	-1.2
CLNS	Chul'man	57.00	360	eP	P	09 42 22.2	+0.1
CLNS				pmax	pmax		
	comp=N,5.0nm,1.3s						
CLNS				pmax	pmax		
	comp=E,4.0nm,1.1s						
CLNS				pmax	pmax		
	comp=Z,11nm,1.6s,mb4.6						
BOD	Bodaibo	58.69	353	eP	P	09 42 33.3	-0.6
BOD				pmax	pmax		
	comp=Z,12nm,1.2s,mb4.8						
PETK	Petropavlovsk-	59.71	22	P	P	09 42 42.1	+1.0
	comp=Z,7.3nm,0.8s,mb4.8,baz=179,slow=4.3,SNR=14						
MK31	Makanchi Array	60.14	327	eP	P	09 42 43.6	-0.5
MKAR	Makanchi Array	60.14	327	P	P	09 42 42.4	-1.7
	comp=Z,6.6nm,0.5s,mb4.9,baz=123,slow=8.5,SNR=40						
MKAR				LR	LR	10 10 20.0	
	comp=Z,92nm,18.7s,MS4.0,baz=174,slow=38						
TKM2	Tokmak 2	61.91	321	eP	P	09 42 56.3	+0.1
TKM2				pmax	pmax		
	comp=Z,10.0nm,0.6s,mb5.1						
TKM2	Tokmak 2	61.91	321	P	P	09 42 57.8	+1.5
	SNR=19						
TKM2	Tokmak 2	61.91	321	eP	P	09 42 56.3	+0.1
	comp=Z,10nm,0.6s,mb5.1						
UCH	Uchtor	62.27	319	P	P	09 43 00.7	+2.1
	SNR=15						
YAK	Yakutsk	62.30	2c	iP	P	09 42 59.1	+0.6
YAK				pmax	pmax		
	comp=Z,18nm,0.8s,mb5.2						
AML	Almayashu	62.76	319	P	P	09 43 04.1	+2.1
	SNR=17						
USP	Ospenovka	62.78	320	P	P	09 43 03.4	+1.3
	SNR=8.9						
KBL	Kabul	62.94	310	eP	P	09 43 03.1	-0.2
KBL				pmax	pmax		
	comp=Z,9.0nm,0.6s,mb5.1						
KBL	Kabul	62.94	310	eP	P	09 43 03.1	-0.2

	comp=Z,9.0nm,0.6s,mb5.1						
EKS2	**Erkin-Say**	**62.95**	**320**	P	**P**	**09 43 04.8**	**+1.5**
	SNR=12						
EKS2	**Erkin-Say**	**62.95**	**320**	eP	**P**	**09 43 04.6**	**+1.4**
	comp=Z,6.4nm,0.6s,mb4.9						
ZAA0	**Zalesovo Array**	**63.60**	**335**	eP	**P**	**09 43 06.8**	**-0.4**
ZAA0				epP	pP	09 43 22.6	+2.1
ZAA0				esP	sP	09 43 26.8	+1.0
ZALV	**Zalesovo Beam**	**63.60**	**335**	P	**P**	**09 43 04.9**	**-2.4**
	comp=Z,1.9nm,0.4s,mb4.4,baz=106,slow=5.3,SNR=11						
ZALV				LR	LR	10 09 33.0	
	comp=Z,45nm,19.6s,MS3.7,baz=121,slow=35						
NVS	**Novosibirsk**	**64.89**	**335**	eP	**P**	**09 43 12.9**	**-2.8**
KK31	**Karatay Array**	**65.29**	**319**	i P	**P**	**09 43 18.9**	**+0.4**
KK31				pmax	pmax		
	comp=Z,5.0nm,0.6s,mb4.7						
VOSK	**Vostochnaya**	**69.52**	**328**	P	**P**	**09 43 44.1**	**-1.0**
VOSK				pmax	pmax		
	comp=Z,6.0nm,0.7s,mb4.6						
BVA0	**Borovoye Array**	**69.98**	**328**	i P	**P**	**09 43 46.7**	**-1.2**
BVA0				pmax	pmax		
	comp=Z,1.0nm,0.8s,mb3.8						
BRVK	**Borovoye**	**70.06**	**328**	eP	**P**	**09 43 46.9**	**-1.5**
BRVK				pmax	pmax		
	comp=Z,16nm,0.9s,mb5.0						
BRVK	**Borovoye**	**70.06**	**328**	eP	**P**	**09 43 46.9**	**-1.4**
	comp=Z,16nm,0.9s,mb5.0						
TIXI	**Tiksi**	**71.91**	**1**	⇑eP	**P**	**09 43 59.1**	**-0.2**
TIXI				pmax	pmax		
	comp=Z,19nm,1.5s,mb4.8						
AB31	**Akbulak array**	**74.43**	**322**	i P	**P**	**09 44 13.1**	**-1.5**
AB31				pmax	pmax		
	comp=Z,3.0nm,0.5s,mb4.5						
AKTK	**Aktyubinsk**	**75.99**	**323**	P	**P**	**09 44 22.5**	**-1.0**
AKTO	**Aktyubinsk**	**75.99**	**323**	P	**P**	**09 44 22.5**	**-1.0**
	comp=Z,9.7nm,0.6s,mb4.9,baz=105,slow=7.7,SNR=30						
ARU	**Arti**	**77.63**	**328**	d iP	**P**	**09 44 30.8**	**-1.8**
ARU				e	pP	09 44 40.0	-6.2
ARU				eS	S	09 54 17.9	-2.9
ARU				SS	SS	09 59 16.2	-4.9
ARU				pmax	pmax		
	comp=Z,18nm,1.7s,mb4.7						
ARU	**Arti**	**77.63**	**328**	eP	**P**	**09 44 31.4**	**-1.2**
	comp=Z,7.8nm,0.9s,mb4.6						
MIB	**Mutribah**	**79.75**	**300**	eP	**P**	**09 44 44.6**	**-0.3**
	baz=300						
MIB				AMb	AMB	09 44 49.6	
	comp=Z,21nm,1.1s,mb5.0,baz=300						
NAY	**Al-Naaiem**	**79.77**	**300**	eP	**P**	**09 44 44.2**	**-0.8**
	baz=300						
NAY				AMb	AMB	09 44 52.4	
	comp=Z,10.0nm,1.1s,mb4.7,baz=300						
RST	**Umm Al-Ruwaisa**	**80.01**	**300**	eP	**P**	**09 44 45.6**	**-0.7**
	baz=300						
RST				AMb	AMB	09 44 51.4	
	comp=Z,21nm,0.8s,mb5.1,baz=300						
KMBO	**Kilima Mbogo**	**88.06**	**269**	P	**P**	**09 45 28.9**	**+1.3**
	comp=Z,4.9nm,0.8s,mb4.8,baz=62,slow=7.1,SNR=9.8						
KMBO	**Kilima Mbogo**	**88.06**	**269**	eP	**P**	**09 45 29.4**	**+1.8**
KMBO				pmax	pmax		
	comp=Z,7.0nm,0.9s						
KMBO	**Kilima Mbogo**	**88.06**	**269**	eP	**P**	**09 45 29.4**	**+1.7**
	comp=Z,6.5nm,0.9s,mb4.9						
KLMR	**Klimovskoe**	**88.25**	**331**	i P	**P**	**09 45 25.5**	**-1.9**
KLMR				pmax	pmax		
	comp=Z,24nm,1.4s,mb5.2						
ANN	**Anapa**	**88.74**	**315**	eP	**P**	**09 45 28.8**	**-1.3**
ANN				pmax	pmax		
	comp=Z,111nm,1.3s,mb6.0						
OBN	**Obninsk**	**89.56**	**325**	⇑eP	**P**	**09 45 33.2**	**-0.6**
OBN				pmax	pmax		
	comp=Z,13nm,0.8s,mb5.3						
ARCES	**ARCESS Array B**	**93.76**	**340**	P	**P**	**09 45 51.4**	**-1.5**
	comp=Z,1.6nm,0.7s,mb4.5,baz=72,slow=5.8,SNR=4.5						
ARCES				LR	LR	10 29 33.7	
	comp=Z,42nm,19.4s,MS3.9,baz=230,slow=36						
AKASG	**Malin Array Be**	**94.14**	**321**	P	**P**	**09 45 56.0**	**+0.9**
	comp=Z,0.3nm,0.2s,mb4.3,baz=77,slow=4.1,SNR=5.8						
AKASG				LR	LR	10 30 46.6	
	comp=Z,35nm,19.3s,MS3.8,baz=250,slow=37						
AKASG	**Malin Array Be**	**94.14**	**321**	P	**P**	**09 45 56.0**	**+0.9**
AKASG				LR	LR	10 30 46.6	
BUR08	**Bucovina Ar. S**	**97.08**	**318**	eP	**P**	**09 46 08.5**	**0.0**
TORD	**Torodi Ar. Bea**	**122.74**	**285**	PKP	PKPdf	09 51 33.4	+0.2
	comp=Z,0.7nm,0.6s,baz=89,slow=2.1,SNR=6.5						
TORD				PKKPbc	PKKPbc	10 01 28.4	+2.3
	comp=Z,1.4nm,1.1s,baz=272,slow=4.6,SNR=3.7						
TXAR	**Lajitas Array**	**125.16**	**54**	PKP	PKPdf	09 51 37.7	+0.2
	comp=Z,0.3nm,0.7s,baz=297,slow=0.6,SNR=4.9						
PLCA	**Paso Flores**	**136.64**	**162**	PKP	PKPdf	09 52 00.6	+1.8
	comp=Z,1.2nm,1.0s,baz=224,slow=3.4,SNR=3.2						
CPUP	**Villa Florida**	**153.36**	**175**	PKPbc	PKPbc	09 52 36.1	+0.8
	comp=Z,0.6nm,0.3s,baz=172,slow=1.8,SNR=4.4						
CPUP				PKPab	PKPab	09 52 47.9	+0.7
	comp=Z,2.5nm,0.7s,baz=162,slow=7.7,SNR=4.4						
LPAZ	**La Paz**	**158.80**	**142**	PKPab	PKPab	09 53 13.8	+3.0
	comp=Z,2.7nm,0.8s,baz=212,slow=3.5,SNR=13						
SIV	**San Ignacio**	**162.59**	**159**	PKPab	PKPab	09 53 28.5	+1.3
	comp=Z,0.9nm,0.9s,baz=246,slow=16,SNR=4.4						
BDFB	**Brasilia**	**162.81**	**202**	PKPab	PKPab	09 53 29.7	+1.6
	comp=Z,0.6nm,0.4s,baz=146,slow=3.6,SNR=3.4						

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*ISCJB **06** 09:34:09.7±0.6, 2193S±007×681W±01, h114km±9km, mb4.1/1, Error ellipse: s-maj=18.0km s-min=10.5km az=14.2*
*IDC **06** 09:34:10.4±0.8, 2196S×6813W, h110km±11km, mb3.6/2, mb1 3.4/7, mb1mx3.3/19, mbtmp3.3/7, Error ellipse: s-maj=29.6km s-min=16.7km az=124.0*
*NEIC **06** 09:34:10.3±0.8, 2195S×6814W, h109km±18km, Error ellipse: s-maj=17.4km s-min=10.7km az=98.0*
ISC 06 09:34:10.9±0.6**, 2192S**±007×**681W**±01**, h104**km±8km**, n18, σ0**^{s}**91**/21**, mb4.1**/1**, Chile-Bolivia border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**1.03**	**228**	P	**Pn**	**09 34 32.3**	**+0.3**
	214nm,0.3s,baz=18,slow=8.1,SNR=1503						
LVC				S	**Sn**	**09 34 48.0**	**+0.2**
	171nm,0.3s,baz=251,slow=23,SNR=64						
LVC	**Limon Verde**	**1.03**	**228**	ePn	**Pn**	**09 34 32.2**	**+0.2**
LVC				eSn	**Sn**	**09 34 47.9**	**0.0**
LPAZ	**La Paz**	**5.60**	**360**	P	**Pn**	**09 35 32.8**	**+1.0**
	0.8nm,0.3s,baz=172,slow=7.2,SNR=34						
LPAZ	**La Paz**	**5.60**	**360**	P	**Pn**	**09 35 32.8**	**+1.0**
LPAZ				ePn	**Pn**	**09 35 33.6**	**+1.8**
ARE	**Arequipa**	**6.31**	**329**	P	**Pn**	**09 35 41.0**	**-0.5**
ARE				eS	**Sn**	**09 36 43.0**	**-9.1**
SIV	**San Ignacio**	**8.88**	**50**	P	**Pn**	**09 36 15.3**	**-1.1**
	4.3nm,0.3s,baz=237,slow=12,SNR=78						
SIV				S	**Sn**	**09 37 48.6**	**-6.1**
	0.3nm,0.3s,baz=252,slow=20,SNR=4.0						
CFAA	**Coronel Fontan**	**9.65**	**181**	P	**Pn**	**09 36 24.0**	**-2.8**
	0.1nm,0.3s,baz=0.7,slow=13,SNR=8.7						
CFAA	**Coronel Fontan**	**9.65**	**181**	P	**Pn**	**09 36 24.0**	**-2.8**
CPUP	**Villa Florida**	**10.76**	**116**	P	**Pn**	**09 36 43.0**	**+1.0**
	0.5nm,0.3s,baz=266,slow=14,SNR=3.1						
PLCA	**Paso Flores**	**18.87**	**186**	P	**P**	**09 38 22.2**	**-0.8**
	0.2nm,0.3s,baz=1.8,slow=10,SNR=6.9						
BDFB	**Brasilia**	**20.00**	**75**	P	**P**	**09 38 35.3**	**-0.1**
	1.2nm,0.5s,baz=233,slow=15,SNR=2.4						
VNA3	**Neumayer Olymp**	**59.44**	**161**	e	**P**	**09 44 02.8**	**+0.5**
VNA3				e		09 44 04.9	
VNA1	**Neumayer--Stat**	**59.64**	**160**	e	**P**	**09 44 04.6**	**+0.9**
VNA1				e		09 44 06.8	
VNA2	**Neumayer--Watz**	**60.01**	**161**	e	**P**	**09 44 06.8**	**+0.6**
	baz=303,slow=7.8						
SNAA	**Sanae**	**61.64**	**161**	e	**P**	**09 44 17.2**	**0.0**
SNAA				e		09 44 18.9	
TORD	**Torodi Ar. Bea**	**76.78**	**70**	P	**P**	**09 45 50.6**	**-1.0**
	2.4nm,0.6s,mb4.1,baz=254,slow=5.6,SNR=22						
ASAR	**Alice Springs**	**129.89**	**207**	PKP	PKPdf	09 53 07.2	-1.8
	0.6nm,0.8s,baz=132,slow=2.2,SNR=5.5						
WRA	**Warramunga Arr**	**132.98**	**209**	PKP	PKPdf	09 53 13.3	-1.6
	0.4nm,0.6s,baz=148,slow=1.7,SNR=3.5						

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*THR **06** 10:15:16.1±1.7, 3582N×5201E, h15km±29km, ML2.7*
*CSEM **06** 10:15:17.2, 3575N×5193E, h8km, ML2.6, After THR*
*KISR **06** 10:16:18.1, 3229N×4775E, h25km, ML1.7*
ISC 06 10:15:16.2±2.8**, 3582N**±009×**520E**±02**, h6**km±11km**, n9, σ1**^{s}**12**/15**, Northern and central Iran**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
DAMV	**Damavand**	**0.20**	**196**	ePg	**Pg**	**10 15 20.4**	**+0.2**
DAMV				AML	AML	10 15 23.4	
	comp=N,3μm,0.1s						
CHTH	**Charan**	**0.75**	**277**	ePg	**Pg**	**10 15 30.4**	**-0.2**
CHTH				eSg	**Sg**	**10 15 40.2**	**-0.1**
THKV	**Tehran--Karaj**	**0.95**	**276**	ePg	**Pg**	**10 15 34.5**	**+0.1**
THKV				AML	AML	10 15 50.4	
	comp=N,125nm,0.2s						
GHVR	**GHOM**	**1.47**	**205**	ePg	**Pg**	**10 15 43.8**	**-0.6**
GHVR				eSg	**Sg**	**10 16 03.5**	**0.0**
GHVR				AML	AML	10 16 08.6	
	comp=N,114nm,0.5s						
GHVR	**GHOM**	**1.47**	**205**	ePg	**Pg**	**10 15 44.0**	**-0.4**
	SNR=91						
GHVR				eSg	**Sg**	**10 16 03.5**	**0.0**
	comp=N,114nm,0.5s,SNR=91						
ASAO	**Ashtian**	**2.08**	**233**	ePg	**Pn**	**10 15 53.0**	**+1.3**
ASAO				AML	AML	10 16 23.2	
	comp=E,31nm,0.3s						
RST	**Umm Al-Ruwaisa**	**7.60**	**215**	eP	**Pn**	**10 17 05.2**	**-2.3**
	baz=193						
RST				eS	**Pg**	**10 17 40.4**	**-1.4**
	baz=193						
RST				AML	AML	10 17 46.3	
	comp=Z,3.0nm,0.4s,baz=193						
NAY	**Al-Naaiem**	**7.70**	**213**	eP	**Pn**	**10 17 08.1**	**-0.9**
	baz=188						
NAY				eS	**Pg**	**10 17 45.8**	**+2.1**
	baz=188						
NAY				AML	AML	10 17 52.8	
	comp=Z,1.0nm,0.3s,baz=188						
RDF	**Al-Radifah**	**7.85**	**210**	eP	**Pn**	**10 17 12.4**	**+1.4**
	baz=183						
RDF				eS	**Pg**	**10 17 52.9**	**+6.2**
	baz=183						
RDF				AML	AML	10 17 58.1	
	comp=Z,4.0nm,0.4s,baz=183						

BER 06 10:57:22.2±0.3**, 7192N**×**1145W, h15**km**, MD3.4, ML2.9, 1C, Jan Mayen Island region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JNW	**Jan Mayen West**	**1.31**	**131**	eP	Pn	10 57 42.7	-3.2
JNW				eS	Sb	10 57 57.7	-5.4
JNW				AML	AML	10 58 00.1	
	comp=Z,309nm,0.3s						
JNW	**Jan Mayen West**	**1.31**	**131**	eP	Pn	10 57 42.7	-3.2
	SNR=53						
JNW				eS	Sb	10 57 57.7	-5.4
	comp=Z,309nm,0.3s,SNR=53						
JMI	**Jan Mayen**	**1.32**	**137**	eP	Pn	10 57 42.7	-3.3
JMI				eS	Sb	10 57 57.8	-5.5
JMI				AML	AML	10 58 05.1	
	comp=Z,234nm,0.4s						
JMI	**Jan Mayen**	**1.32**	**137**	eP	Pn	10 57 42.7	-3.3
	SNR=53						
JMI				eS	Sb	10 57 57.8	-5.5
	comp=Z,234nm,0.4s,SNR=53						
JNE	**Jan Mayen East**	**1.37**	**131**	eS	Sn	10 57 58.9	-5.7
JNE				AML	AML	10 58 02.0	
	comp=Z,348nm,0.1s						
JNE	**Jan Mayen East**	**1.37**	**131**	eS	Sn	10 57 58.9	-5.7
	comp=Z,348nm,0.1s,SNR=53						
DAG	**Danmarks Havn**	**5.25**	**342**	⇑iP	Pn	10 58 42.0	+2.0
	comp=Z,25nm,0.5s						
DAG				e		10 59 38.0	

IDC 06 11:22:13.9±3.0**, 4857S**×**16457E, h0**km**, mb3.6**/2**, mb1 3.9**/3**, mb1mx3.7**/11**, mbtmp3.7**/3**, ML3.7**/1**, MS3.4**/3**, Ms1 3.4**/3**, ms1mx3.2**/12**, Error ellipse: s-maj=71.0km s-min=32.0km az=161.0, Off west coast of South Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
RPZ	**Rata Peaks**	**6.62**	**45**	Pn	Pn	11 23 52.4	0.0
	1.5nm,0.3s,baz=229,slow=5.2,SNR=6.0						
RPZ				Sn	Sn	11 25 10.3	+1.8
	2.5nm,0.3s,baz=43,slow=16,SNR=3.7						
RAO	**Raoul Island**	**23.51**	**41**	LR	LR	11 37 11.0	
	comp=Z,74nm,18.1s,baz=72,slow=38						
STKA	**Stephens Creek**	**24.05**	**305**	LR	LR	11 34 48.5	
	comp=Z,131nm,21.6s,baz=206,slow=31						
ASAR	**Alice Springs**	**34.69**	**305**	P	P	11 29 05.5	+0.3
	0.5nm,0.7s,baz=137,slow=8.2,SNR=11						
WRA	**Warramunga Arr**	**37.50**	**309**	P	P	11 29 29.1	-0.3
	0.6nm,0.6s,baz=143,slow=8.3,SNR=13						
WRA				LR	LR	11 45 10.1	
	comp=Z,55nm,20.4s,baz=285,slow=37						
AKASG	**Malin Array Be**	**151.33**	**291**	PKPbc	PKPbc	11 42 08.3	-0.2
	1.5nm,0.5s,baz=86,slow=2.6,SNR=5.7						

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*SGS **06** 11:22:36.4, 3015N×3620E, h6km*
*GII **06** 11:22:36.9±1.5, 2983N×3620E, h0km, ML1.9/1, EXPLOSION*
*ISCJB **06** 11:22:37.5±0.7, 2986N±003×3625E±005, h0km, Error ellipse: s-maj=6.0km s-min=4.5km az=175.7*
*CSEM **06** 11:22:38.3±0.4, 2970N×3620E, h2km, ML2.2, Error ellipse: s-maj=8.3km s-min=4.6km az=73.0*
*HLW **06** 11:22:46.4, 2962N×3586E, h20km, Mb2.2*
ISC 06 11:22:37.7±0.7**, 2986N**±003×**3628E**±005**, h0**km**, n32, σ1**^{s}**16**/40**, 3C-1D, Western Arabian Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
AQBJ	**Aqaba**	**1.07**	**263**	Pg	**Pg**	**11 22 57.5**	**-0.8**
AQBJ				Sg	**Sg**	**11 23 14.7**	**+2.5**
HRFI	**Mount Harif**	**1.09**	**280**	Pg	**Pg**	**11 22 57.7**	**-0.9**
EIL	**Elat**	**1.17**	**261**	Pg	**Pg**	**11 22 59.7**	**-0.4**
EIL				Sg	**Sg**	**11 23 16.4**	**+1.2**
ZFRI	**Zfri**	**1.18**	**306**	Pg	**Pg**	**11 22 59.5**	**-0.8**
MBRI	**Mt Berech**	**1.19**	**267**	Pg	**Pg**	**11 22 59.3**	**-1.1**
MBRI				Sg	**Sg**	**11 23 16.6**	**+0.8**
HQLS		**1.19**	**243**	S	**Sg**	**11 23 15.9**	**-0.2**
HQLS		**1.19**	**243**	P	**Pg**	**11 22 59.2**	**-1.5**
HQLS		**1.19**	**243**	S	**Sg**	**11 23 16.2**	**+0.1**
HQLS		**1.19**	**243**	P	**Pg**	**11 22 59.2**	**-1.4**
HQLS		**1.19**	**243**	P	**Pg**	**11 22 59.2**	**-1.4**
HQLS				S	**Sg**	**11 23 15.9**	**-0.2**
PRNI	**Paran**	**1.21**	**294**	Pg	**Pg**	**11 22 59.7**	**-1.2**
JLOS		**1.31**	**212**	S	**Sg**	**11 23 20.9**	**+1.0**
JLOS		**1.31**	**212**	P	**Pg**	**11 23 02.4**	**-0.5**
JLOS		**1.31**	**212**	P	**Pg**	**11 23 02.4**	**-0.5**
JLOS				S	**Sg**	**11 23 20.9**	**+1.0**
KRMI	**Paran Flat**	**1.37**	**281**	Pn	**Pn**	**11 23 02.6**	**-1.5**
RMNI	**Mount Ramon**	**1.50**	**300**	Pn	**Pn**	**11 23 05.0**	**-0.9**
MZDA	**Masada**	**1.65**	**332**	Pn	**Pn**	**11 23 07.9**	**0.0**
TBKS	**Tabuk**	**1.65**	**172**	S	**Sn**	**11 23 32.0**	**+2.2**
TBKS	**Tabuk**	**1.65**	**172**	P	**Pn**	**11 23 07.9**	**0.0**
TBKS	**Tabuk**	**1.65**	**172**	P	**Pn**	**11 23 08.0**	**+0.1**
BDAS	**Al Bad‘**	**1.75**	**216**	S	**Sn**	**11 23 33.4**	**+0.9**
BDAS	**Al Bad‘**	**1.75**	**216**	P	**Pn**	**11 23 08.4**	**-1.0**
BDAS	**Al Bad‘**	**1.75**	**216**	P	**Pn**	**11 23 08.4**	**-1.0**
DSI	**Dead Sea**	**1.87**	**336**	Pn	**Pn**	**11 23 11.4**	**+0.3**
DSI				Sn	**Sn**	**11 23 37.7**	**+2.3**
HNKL	**Nakhl**	**1.99**	**273**	⇑eP	**Pn**	**11 23 12.8**	**+0.1**
HNKL				S	**Sn**	**11 23 32.9**	**-5.4**
RSHS		**2.02**	**220**	P	**Pn**	**11 23 11.4**	**-1.7**
RSHS		**2.02**	**220**	P	**Pn**	**11 23 11.6**	**-1.5**
HKAT	**Jabal Katrina**	**2.40**	**237**	⇑eP	**Pn**	**11 23 17.7**	**-0.6**
HMDT	**Nahal Hemdat**	**2.47**	**345**	Pn	**Pn**	**11 23 21.0**	**+1.7**
TR2		**2.67**	**237**	P	**Pn**	**11 23 21.3**	**-0.8**
AMAG	**Maghara**	**2.77**	**287**	⇓P	**Pn**	**11 23 25.4**	**+2.1**
SUZ		**2.99**	**271**	⇑eP	**Pn**	**11 23 26.8**	**+0.4**
SUZ				S	**Sn**	**11 23 56.5**	**-6.5**

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*ISCJB **06** 11:22:51.3±4.6, 219N±01×1430E±03, h101km±44km, mb3.8/8, Error ellipse: s-maj=44.2km s-min=18.2km az=168.3*
*IDC **06** 11:22:54.6±7.3, 2188N×14309E, h116km±68km, mb3.4/9, mb1 3.5/10, mb1mx3.4/22, mbtmp3.4/10, Error ellipse: s-maj=39.1km s-min=15.2km az=79.0*
ISC 06 11:22:52.2±4.3**, 219N**±01×**1431E**±03**, h93**km±41km**, n10, σ0**^{s}**84**/10**, mb3.8**/8**, Mariana Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MJAR	**Matsushiro Arr**	**15.22**	**345**	P	**Pn**	**11 26 21.2**	**-0.7**
	baz=170,slow=12,SNR=4.7						
KSRS	**Korea Array**	**20.33**	**323**	P	**P**	**11 27 23.2**	**+2.4**
	2.0nm,0.7s,baz=134,slow=11,SNR=8.2						
SONM	**Songino Array**	**39.16**	**320**	P	**P**	**11 30 10.3**	**-0.4**
	1.0nm,0.5s,mb3.9,baz=123,slow=7.8,SNR=4.0						
WRA	**Warramunga Arr**	**42.45**	**192**	P	**P**	**11 30 37.4**	**-0.6**
	0.9nm,0.9s,mb3.5,baz=16,slow=8.9,SNR=9.5						
ASAR	**Alice Springs**	**46.16**	**192**	P	**P**	**11 31 07.1**	**-0.4**
	0.5nm,0.6s,mb3.4,baz=15,slow=10,SNR=14						
STKA	**Stephens Creek**	**53.48**	**182**	P	**P**	**11 32 04.0**	**+1.1**
	2.6nm,1.0s,mb4.2,baz=7.1,slow=8.1,SNR=3.6						
ZALV	**Zalesovo Beam**	**54.03**	**322**	P	**P**	**11 32 06.2**	**-0.5**
	1.2nm,0.5s,mb4.2,baz=102,slow=6.2,SNR=6.4						
MKAR	**Makanchi Array**	**54.53**	**313**	P	**P**	**11 32 10.2**	**-0.2**
	0.2nm,0.3s,mb3.7,baz=103,slow=6.2,SNR=2.8						
KURK	**Kurchatov**	**57.30**	**317**	P	**P**	**11 32 30.1**	**-0.1**
	1.4nm,0.7s,mb4.1,baz=94,slow=7.7,SNR=6.6						
NVAR	**Mina Array Bea**	**83.07**	**51**	P	**P**	**11 35 07.9**	**+0.2**
	0.5nm,0.6s,mb3.5,baz=270,slow=6.3,SNR=2.5						

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*IDC **06** 12:07:56.3±9.2, 558S×15366E, h39km±74km, mb3.7/3, mb1 4.0/4, mb1mx3.6/17, mbtmp3.9/4, ML4.3/1, MS3.1/2, Ms1 3.1/2, ms1mx2.7/31, Error ellipse: s-maj=93.7km s-min=30.4km az=161.0*
*ISCJB **06** 12:07:58.4±4.1, 59S±04×15381E±010, h66km±28km, mb3.8/4, Error ellipse: s-maj=74.5km s-min=13.8km az=173.2*
*NEIC **06** 12:07:59.6±4.5, 573S×15384E, h76km±19km, mb4.2/2, Error ellipse: s-maj=93.1km s-min=13.7km az=183.0*
ISC 06 12:08:00.3±3.8**, 58S**±05×**15382E**±010**, h76**km±24km**, n11, σ0**^{s}**32**/10**, mb3.8**/4**, New Ireland region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
HNR	**Honiara**	**7.04**	**121**	Pn	**Pn**	**12 09 40.7**	**-0.1**
	4.6nm,0.3s,baz=238,slow=3.6,SNR=4.5						
HNR				LR	LR	12 12 22.5	
	comp=Z,119nm,18.1s,baz=188,slow=36						
PMG	**Port Moresby**	**7.49**	**241**	ePn	**Pn**	**12 09 47.2**	**+0.3**
	38nm,0.4s						
PMG				eSn	**Sn**	**12 11 10.1**	**-0.2**
CTA	**Charters Tower**	**15.95**	**207**	LR	LR	12 16 55.1	
	comp=Z,67nm,21.3s,baz=42,slow=33						
KAKA	**Kakadu**	**22.16**	**251**	eP	**P**	**12 12 50.0**	**-0.2**
	8.5nm,0.6s,mb4.2						
WB2	**Warramunga Arr**	**23.55**	**232**	eP	**P**	**12 13 04.6**	**+0.6**
WB2	**Warramunga Arr**	**23.55**	**232**	eP	**P**	**12 13 04.7**	**+0.7**
WRA	**Warramunga Arr**	**23.56**	**232**	P	**P**	**12 13 03.9**	**-0.1**
	2.0nm,0.7s,mb3.6,baz=57,slow=9.6,SNR=30						
WRA				PcP	PcP	12 16 48.2	+0.6
	1.1nm,0.4s,baz=53,slow=2.6,SNR=24						
ASAR	**Alice Springs**	**26.10**	**225**	P	**P**	**12 13 27.1**	**0.0**
	1.2nm,0.5s,mb3.6,baz=57,slow=8.9,SNR=27						
ASAR				PcP	PcP	12 16 53.6	+0.5
	1.3nm,0.6s,baz=60,slow=2.4,SNR=18						
FITZ	**Fitzroy Crossi**	**30.08**	**244**	eP	**P**	**12 14 02.6**	**-0.1**
	2.4nm,0.6s,mb4.0						
FITZ	**Fitzroy Crossi**	**30.08**	**244**	P	**P**	**12 14 02.1**	**-0.6**
	1.6nm,0.6s,mb3.8,baz=88,slow=11,SNR=10						
TORD	**Torodi Ar. Bea**	**151.58**	**287**	PKPbc	PKPbc	12 27 46.5	-0.4
	1.0nm,0.4s,baz=98,slow=2.0,SNR=16						

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*GII **06** 12:11:54.3±0.7, 3377N×3666E, h0km, ML2.5/3, EXPLOSION*
*GRAL **06** 12:11:54.6±0.6, 3361N×3692E, h15km±942km, MD3.0*
ISC 06 12:11:53.4±1.6**, 3367N**±005×**369E**±01**, h0**km**, n13, σ0**^{s}**74**/17**, Jordan - Syria region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
RCY	**Rachaya**	**0.92**	**259**	eP	**Pg**	**12 12 10.7**	**-0.2**
RCY				eS	**Sg**	**12 12 22.1**	**-0.6**
HWQ	**Hawqa**	**0.99**	**308**	eP	**Pg**	**12 12 12.4**	**0.0**
HWQ				eS	**Sg**	**12 12 26.3**	**+1.0**
HRI	**Mount Hermon**	**1.05**	**248**	Pg	**Pg**	**12 12 13.0**	**-0.5**
BHL	**Bhannes**	**1.06**	**283**	eP	**Pg**	**12 12 13.7**	**0.0**
KSHT	**Keshet**	**1.14**	**233**	Pg	**Pg**	**12 12 14.9**	**-0.2**
KSHT				Sg	**Sg**	**12 12 31.3**	**+1.4**
KSDI	**Kefar Szold**	**1.14**	**246**	Pg	**Pg**	**12 12 14.4**	**-0.7**
MMA0	**Mount Meron ar**	**1.41**	**243**	Pg	**Pg**	**12 12 19.4**	**-1.0**
MMC7	**Mount Meron ar**	**1.41**	**243**	Pg	**Pg**	**12 12 19.4**	**-1.1**
MMC6	**Mount Meron ar**	**1.42**	**243**	Pg	**Pg**	**12 12 19.6**	**-0.9**
MMLI	**Mount Malkishu**	**1.74**	**226**	Pn	**Pn**	**12 12 25.1**	**+0.3**
HMDT	**Nahal Hemdat**	**1.82**	**220**	Pn	**Pn**	**12 12 26.1**	**+0.1**
OFRI	**‘Ofer**	**1.91**	**237**	Pn	**Pn**	**12 12 27.8**	**+0.6**
SLTI	**Sal’it**	**2.11**	**228**	Pn	**Pn**	**12 12 30.6**	**+0.7**
SLTI				Sn	**Sn**	**12 12 58.0**	**+1.2**

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*THE **06** 12:16:19.9, 3714N×2168E, h0km±2km, ML2.7/4, Error ellipse: s-maj=3.3km s-min=1.0km az=288.0*
*ISCJB **06** 12:16:20.3±1.7, 3707N±006×217E±01, h18km±6km, Error ellipse: s-maj=19.0km s-min=7.5km az=24.7*
*CSEM **06** 12:16:20.4±0.4, 3701N×2180E, h10km, ML2.7/4, Error ellipse: s-maj=11.6km s-min=6.1km az=117.0*
*ATH **06** 12:16:21.1, 3725N×2194E, h21km±4km, MD3.2/3*
ISC 06 12:16:21.1±1.4**, 3706N**±006×**218E**±01**, h13**km±4km**, n10, σ1**^{s}**14**/18**, 2D, Southern Greece**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PYL	**PYLOS**	**0.16**	**186**	P	**Pg**	**12 16 24.5**	**-0.5**
PYL				S	**Sg**	**12 16 29.2**	**+1.5**
ITM	**Ithomi**	**0.18**	**47**	⇓iPb	**Pg**	**12 16 24.8**	**-0.5**
ITM				eSb	**Sg**	**12 16 28.0**	**-0.2**
ITM	**Ithomi**	**0.18**	**47**	⇓iPB	**Pg**	**12 16 24.8**	**-0.5**
ITM				eSB	**Sg**	**12 16 28.0**	**-0.2**
VLX	**Vlachokerasia**	**0.58**	**57**	P	**Pg**	**12 16 31.1**	**-1.4**
VLX				S	**Sg**	**12 16 40.6**	**+0.3**
VLI	**Veliai**	**1.00**	**109**	ePn	**Pn**	**12 16 40.0**	**-0.8**
VLI				eSn	**Sn**	**12 16 53.0**	**-1.7**
VLI	**Veliai**	**1.00**	**109**	ePN	**Pn**	**12 16 40.0**	**-0.8**
VLI				eSN	**Sn**	**12 16 53.0**	**-1.7**
DID	**Didima**	**1.26**	**69**	P	**Pn**	**12 16 43.6**	**-0.7**
DID				S	**Sb**	**12 17 02.6**	**+1.9**
KYTH	**Kithira**	**1.28**	**127**	ePn	**Pn**	**12 16 46.0**	**+1.3**
KYTH	**Kithira**	**1.28**	**127**	ePN	**Pn**	**12 16 46.0**	**+1.3**
LTK	**Loutraki**	**1.36**	**44**	P	**Pn**	**12 16 45.1**	**-0.6**
LTK				S	**Sn**	**12 17 05.3**	**+1.7**

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*IDC **06** 12:29:11.4±1.3, 1586S×17494W, h0km, mb4.2/7, mb1 4.5/7, mb1mx4.2/16, mbtmp4.2/7, MS4.4/4, Ms1 4.4/4, ms1mx3.8/40, Error ellipse: s-maj=73.5km s-min=20.0km az=149.0*
*NEIC **06** 12:29:11.6±1.2, 1606S×17465W, h10km, Error ellipse: s-maj=66.8km s-min=12.4km az=148.0*
*ISCJB **06** 12:29:15.2±1.1, 158S±04×1750W±02, h33km, mb4.2/7, Error ellipse: s-maj=58.8km s-min=14.1km az=148.4*
ISC 06 12:29:17.1±1.1**, 159S**±04×**1750W**±02**, h35**km**, n28, σ0**^{s}**72**/13**, mb4.2**/7**, Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**3.66**	**58**	Pn	**Pn**	**12 30 05.5**	**-5.7**
	21nm,0.3s,baz=265,slow=1.0,SNR=18						
AFI				LR	LR	12 31 21.4	
	comp=Z,6μm,19.3s,baz=221,slow=36						
AFI	**Afiamalu**	**3.66**	**58**	Pn	**Pn**	**12 30 05.5**	**-5.7**
AFI				LR	LR	12 31 21.4	
RAO	**Raoul Island**	**13.59**	**191**	LR	LR	12 36 59.3	
	comp=Z,2μm,18.0s,baz=350,slow=34						
RAR	**Rarotonga**	**15.36**	**113**	LR	LR	12 37 26.3	
	comp=Z,646nm,20.2s,baz=288,slow=32						
DZM	**Mont Dzumac**	**18.61**	**248**	eP	**Pn**	**12 33 32.7**	**+0.7**
PPT	**Papeete**	**24.39**	**98**	eLQ		12 39 25.1	
	6μm,26.0s						
PPT				eLR	LR	12 40 32.1	
	587nm,23.0s						
TBI	**Tubuai**	**25.14**	**111**	eLQ		12 39 48.9	
	4μm,27.5s						
TBI				eLR	LR	12 40 59.3	
	750nm,26.0s						
RKT	**Rikitea**	**38.30**	**107**	eLR	LR	12 47 12.5	
	360nm,23.2s						
STKA	**Stephens Creek**	**42.48**	**240**	P	**P**	**12 37 09.6**	**+0.6**
	4.6nm,1.0s,mb4.1,baz=76,slow=2.6,SNR=5.6						
WB2	**Warramunga Arr**	**48.24**	**257**	eP	**P**	**12 37 54.3**	**-0.5**
WRA	**Warramunga Arr**	**48.25**	**257**	P	**P**	**12 37 53.6**	**-1.3**
	7.5nm,1.1s,mb4.6,baz=91,slow=7.7,SNR=15						
ASAR	**Alice Springs**	**48.52**	**252**	P	**P**	**12 37 57.0**	**0.0**

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
	2.1nm,0.7s,mb4.3,baz=88,slow=8.4,SNR=15						
PETK	**Petropavlovsk-**	**72.63**	**343**	P	**P**	**12 40 41.5**	**+0.8**
	3.0nm,0.9s,mb4.2,baz=132,slow=8.7,SNR=3.9						
PETK	**Petropavlovsk-**	**72.63**	**343**	P	**P**	**12 40 41.5**	**+0.8**
NVAR	**Mina Array Bea**	**75.70**	**43**	P	**P**	**12 40 58.2**	**-0.8**
	1.4nm,0.7s,mb4.0,baz=224,slow=9.1,SNR=7.1						
NVAR	**Mina Array Bea**	**75.70**	**43**	P	**P**	**12 40 58.2**	**-0.8**
TXAR	**Lajitas Array**	**82.14**	**57**	P	**P**	**12 41 35.3**	**+0.7**
	0.9nm,1.1s,mb3.6,baz=212,slow=4.4,SNR=6.3						
PDAR	**Pinedale Array**	**83.64**	**42**	P	**P**	**12 41 41.9**	**-0.1**
	1.6nm,0.9s,mb4.2,baz=224,slow=2.9,SNR=12						
GIVF	**Givet**	**145.86**	**0**	*e*PKP1	PKPab	12 48 57.0	+4.0
BAIF	**Baives**	**145.90**	**1**	*e*PKP1	PKPab	12 48 57.6	+4.4
	10.0nm,0.9s						
KHC	**Kasperske Hory**	**146.10**	**350**	*e*PKP	PKPdf	12 48 54.0	+1.5
CDF	**Champ du Feu**	**147.50**	**357**	*e*PKP1	PKPab	12 49 02.3	+2.9
	13nm,1.1s						
LOR	**Lormes**	**148.68**	**2**	*e*PKP1	PKPab	12 49 05.4	+1.2
	18nm,1.3s						
SSF	**Saint Saulge**	**148.88**	**2**	*e*PKP1	PKPab	12 49 06.1	+1.1
	14nm,1.2s						
AVF	**Avril sur Loir**	**149.14**	**2**	*e*PKP1	PKPab	12 49 06.4	+0.3
SMF	**Signal de Mont**	**149.31**	**2**	*e*PKP1	PKPab	12 49 06.7	0.0
TCF	**Toulx Ste Croi**	**149.59**	**4**	*e*PKP1	PKPab	12 49 07.5	-0.4
ORIF	**Oris-en-Rattie**	**151.04**	**359**	*e*PKP1	PKPab	12 49 10.7	-3.2
	8.6nm,1.0s						

*ISCJB **06** 12:30:06.4±2.0, 6.32S±0.10×130.77E±0.10, h173km±22km, mb3.6/3, Error ellipse: s-maj=19.8km s-min=10.1km az=44.1*

*IDC **06** 12:30:09.3±5.2, 6.17S×130.56E, h171km±48km, mb3.4/3, mb1 3.6/5, mb1mx3.3/14, mbtmp3.6/5, Error ellipse: s-maj=44.8km s-min=17.4km az=76.0*

ISC 06 12:30:11.7±1.7**, 6.66S**±0.09×**130.64E**±0.09**, h219**km±18km**, n10, σ0.68**/17**, mb3.5**/3**, Banda Sea**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**6.27**	**164**	*e*P	**Pn**	**12 31 42.0**	**-0.7**
	21nm,0.6s						
KAKA				*e*S	**S**	**12 32 55.5**	**+0.3**
BATI	**Baumata**	**7.75**	**242**	P	**Pn**	**12 32 01.9**	**+0.2**
	12nm,0.3s,baz=134,slow=2.2,SNR=13						
BATI				S	**S**	**12 33 29.8**	**+0.1**
	2.6nm,0.3s,baz=90,slow=14,SNR=4.3						
FITZ	**Fitzroy Crossi**	**12.37**	**203**	*e*P	**Pn**	**12 33 01.4**	**+0.6**
	4.6nm,0.3s						
FITZ				*e*S	**S**	**12 35 15.5**	**-3.3**
FITZ	**Fitzroy Crossi**	**12.37**	**203**	P	**Pn**	**12 33 01.4**	**+0.7**
	1.0nm,0.3s,baz=37,slow=12,SNR=36						
FITZ				S	**S**	**12 35 16.2**	**-2.6**
	1.3nm,0.3s,baz=230,slow=19,SNR=9.5						
WRA	**Warramunga Arr**	**13.68**	**165**	P	**Pn**	**12 33 16.8**	**-0.3**
	0.6nm,0.3s,baz=352,slow=13,SNR=36						
WRA				S	**S**	**12 35 50.0**	**+0.7**
	1.1nm,0.3s,baz=337,slow=20,SNR=8.7						
WB2	**Warramunga Arr**	**13.69**	**165**	*e*P	**Pn**	**12 33 17.3**	**+0.2**
WB2				*e*S	**S**	**12 35 49.1**	**-0.2**
ASAR	**Alice Springs**	**17.20**	**170**	P	**P**	**12 34 04.2**	**+6.6**
	0.6nm,0.3s,baz=349,slow=10,SNR=64						
ASAR				S	**S**	**12 37 19.4**	**+14**
	0.3nm,0.3s,baz=346,slow=15,SNR=5.2						
PETK	**Petropavlovsk-**	**63.81**	**18**	P	**P**	**12 40 19.8**	**-0.6**
	2.6nm,1.1s,mb3.8,baz=189,slow=5.6,SNR=3.1						
MKAR	**Makanchi Array**	**68.29**	**326**	P	**P**	**12 40 49.2**	**+0.2**
	0.8nm,0.5s,mb3.6,baz=115,slow=8.5,SNR=7.1						
KURK	**Kurchatov**	**72.56**	**328**	P	**P**	**12 41 15.0**	**+0.3**
	0.3nm,0.5s,mb3.2,baz=133,slow=5.4,SNR=2.6						

*ATH **06** 12:30:40.3, 37.19N×21.47E, h4km, MD3.4/3*

*CSEM **06** 12:30:41.8±0.2, 37.07N×21.54E, h10km, ML3.1/2, Error ellipse: s-maj=3.8km s-min=2.2km az=41.0*

*ISCJB **06** 12:30:42.9±0.6, 37.11N±0.04×21.63E±0.04, h10km, Error ellipse: s-maj=6.3km s-min=3.9km az=42.3*

*THE **06** 12:30:42.5, 37.15N×21.63E, h0km±2km, ML3.1/2, Error ellipse: s-maj=2.1km s-min=0.7km az=220.0*

ISC 06 12:30:42.7±0.7**, 37.14N**±0.04×**21.60E**±0.04**, h0**km±6km**, n13, σ0.97**/24**, Southern Greece**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
ITM	**Ithomi**	**0.27**	**81**	*e*Pg	**Pg**	**12 30 48.0**	**+0.2**
ITM				*e*Sg	**Sg**	**12 30 52.3**	**+1.0**
ITM	**Ithomi**	**0.27**	**81**	*e*PG	**Pg**	**12 30 48.0**	**+0.2**
ITM				*e*SG	**Sg**	**12 30 52.3**	**+1.0**
PYL	**PYLOS**	**0.27**	**154**	P	**Pg**	**12 30 47.6**	**-0.2**
PYL				S	**Sg**	**12 30 52.4**	**+1.1**
VLX	**Vlachokerasia**	**0.67**	**69**	P	**Pg**	**12 30 54.4**	**-1.1**
VLX				S	**Sg**	**12 31 03.6**	**-0.5**
VLI	**Veliai**	**1.15**	**111**	*e*Pg	**Pg**	**12 31 04.0**	**-0.8**
VLI				*e*Sb	**Sb**	**12 31 22.5**	**+1.6**
VLI	**Veliai**	**1.15**	**111**	*e*PG	**Pg**	**12 31 04.0**	**-0.8**
VLI				*e*SB	**Sb**	**12 31 22.5**	**+1.6**
KFL	**Anninata**	**1.16**	**327**	P	**Pg**	**12 31 04.3**	**-0.7**
KFL				S	**Sg**	**12 31 21.5**	**+1.4**
VLS	**Valsamata**	**1.31**	**323**	P	**Pg**	**12 31 06.7**	**-1.1**
VLS				S	**Sg**	**12 31 26.3**	**+1.5**
DID	**Didima**	**1.36**	**74**	P	**Pg**	**12 31 06.9**	**-1.8**
DID				S	**Sg**	**12 31 27.2**	**+0.9**
KYTH	**Kithira**	**1.44**	**126**	*e*Pn	**Pn**	**12 31 09.0**	**-0.9**
KYTH	**Kithira**	**1.44**	**126**	*e*PN	**Pn**	**12 31 09.0**	**-0.9**
LKD	**Levkas**	**1.74**	**335**	P	**Pn**	**12 31 14.0**	**-0.1**
LKD				S	**Sn**	**12 31 36.7**	**-0.2**
AGG	**Agios Georgios**	**1.97**	**17**	P	**Pn**	**12 31 16.6**	**-0.6**
AGG				S	**Sn**	**12 31 42.9**	**+0.3**

IDC 06 12:35:33.4±6.0**, 22.43N**×**145.76E, h0**km**, mb3.6**/8**, mb1 3.6**/8**, mb1mx3.6**/22**, mbtmp3.6**/8**, Error ellipse: s-maj=233.1km s-min=21.7km az=77.0, North Pacific Ocean**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KSRS	**Korea Array**	**21.47**	**318**	P	P	12 40 25.1	+1.6
	1.2nm,0.6s,baz=122,slow=10,SNR=5.4						
SONM	**Songino Array**	**40.34**	**319**	P	P	12 43 11.9	-0.7
	0.8nm,0.7s,baz=133,slow=6.7,SNR=4.3						
WRA	**Warramunga Arr**	**43.56**	**196**	P	P	12 43 39.3	+0.1
	0.3nm,0.5s,baz=16,slow=9.2,SNR=4.1						
ASAR	**Alice Springs**	**47.24**	**195**	P	P	12 44 08.3	-0.1
	0.3nm,0.6s,baz=18,slow=9.4,SNR=5.3						
ZALV	**Zalesovo Beam**	**55.14**	**321**	P	P	12 45 07.6	+0.2
	0.5nm,0.5s,baz=126,slow=7.3,SNR=3.3						
MKAR	**Makanchi Array**	**55.98**	**312**	P	P	12 45 12.7	-0.9
	0.4nm,0.6s,baz=95,slow=9.6,SNR=2.9						
KURK	**Kurchatov**	**58.58**	**317**	P	P	12 45 31.9	0.0
	0.8nm,0.8s,baz=92,slow=7.8,SNR=3.7						
BVAR	**Borovoye Array**	**63.68**	**319**	P	P	12 46 07.2	+0.8
	1.1nm,0.7s,baz=74,slow=6.3,SNR=4.3						

IDC 06 12:36:17.2±5.8**, 22.45N**×**146.05E, h0**km**, mb3.8**/8**, mb1 3.9**/8**, mb1mx3.8**/22**, mbtmp3.8**/8**, Error ellipse: s-maj=221.1km s-min=20.1km az=77.0, North Pacific Ocean**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KSRS	**Korea Array**	**21.63**	**318**	P	P	12 41 10.4	+1.4
	2.0nm,0.8s,baz=141,slow=9.0,SNR=7.1						
SONM	**Songino Array**	**40.50**	**319**	P	P	12 43 57.2	-0.5
	1.0nm,0.5s,baz=132,slow=8.0,SNR=6.1						
WRA	**Warramunga Arr**	**43.66**	**196**	P	P	12 44 24.6	+0.8
	0.5nm,0.5s,baz=17,slow=9.0,SNR=7.7						
ASAR	**Alice Springs**	**47.34**	**195**	P	P	12 44 52.1	-0.8
	0.6nm,0.6s,baz=15,slow=9.9,SNR=10.0						
ZALV	**Zalesovo Beam**	**55.29**	**321**	P	P	12 45 51.6	-0.7
	1.1nm,0.5s,baz=109,slow=6.9,SNR=6.0						
MKAR	**Makanchi Array**	**56.16**	**312**	P	P	12 45 57.8	-0.9
	0.2nm,0.5s,baz=92,slow=8.2,SNR=4.3						
KURK	**Kurchatov**	**58.75**	**317**	P	P	12 46 16.8	-0.1
	1.1nm,0.6s,baz=92,slow=7.5,SNR=5.4						
BVAR	**Borovoye Array**	**63.83**	**319**	P	P	12 46 52.9	+1.7
	1.6nm,0.6s,baz=81,slow=9.2,SNR=5.5						

*ISCJB **06** 12:38:26.8±0.9, 19.62S±0.05×177.72W±0.05, h350km±9km, mb4.7/44, Error ellipse: s-maj=9.5km s-min=5.0km az=44.4*

*IDC **06** 12:38:27.4±2.0, 19.64S×177.64W, h348km±20km, mb4.3/16, mb1 4.5/18, mb1mx4.4/23, mbtmp4.4/18, Error ellipse: s-maj=13.8km s-min=10.5km az=129.0*

*NEIC **06** 12:38:27.4±0.8, 19.63S×177.71W, h343km±8km, mb4.8/26, Error ellipse: s-maj=8.2km s-min=3.6km az=140.0*

*BJI **06** 12:38:31.8, 18.68S×178.56W, h342km, mB5.2, mb4.9*

ISC 06 12:38:27.1±1.1**, 19.65S**±0.05×**177.68W**±0.05**, h340**km±11km**, h349**km±2.4km**:pP-P, n379, σ0.64**/360**, mb4.7**/44**, 125C-123D, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**8.03**	**46**	P	**Pn**	**12 40 21.3**	**-0.2**
	46nm,0.3s,baz=187,slow=1.2,SNR=61						
AFI				S	**S**	**12 41 46.5**	**-8.2**
	12nm,0.3s,baz=47,slow=20,SNR=3.6						
AFI	**Afiamalu**	**8.03**	**46**	*e*Pn	**Pn**	**12 40 21.4**	**-0.1**
	166nm,0.4s						
AFI				*e*Sn	**S**	**12 41 51.3**	**-3.4**
RAO	**Raoul Island**	**9.57**	**181**	S	**S**	**12 42 27.5**	**-0.9**
	350nm,0.3s,baz=56,slow=23,SNR=9.8						
DZM	**Mont Dzumac**	**15.04**	**258**	*e*P	**P**	**12 41 46.2**	**+3.6**
URZ	**Urewera**	**19.09**	**193**	P	**P**	**12 42 24.8**	**-1.2**
	15nm,0.3s,baz=286,slow=1.7,SNR=23						
URZ				S	**S**	**12 45 37.3**	**-6.7**
	3.1nm,0.3s,baz=107,slow=23,SNR=9.5						
HNR	**Honiara**	**23.89**	**292**	P	**P**	**12 43 12.8**	**+1.4**
	16nm,0.4s,mb4.6,baz=172,slow=3.0,SNR=4.6						
RPZ	**Rata Peaks**	**25.79**	**199**	P	**P**	**12 43 29.1**	**+1.1**
	9.3nm,0.4s,mb4.4,baz=36,slow=14,SNR=6.3						
XMAS	**Kiritimati**	**29.31**	**45**	*e*P	**P**	**12 44 00.6**	**+1.1**
EIDS	**Eidsvold**	**29.38**	**253**	*e*P	**P**	**12 44 06.6**	**+6.6**
ARMA	**Armidale**	**29.72**	**243**	*e*P	**P**	**12 44 04.5**	**+1.6**
CNB	**Canberra Magne**	**32.96**	**235**	*e*P	**P**	**12 44 32.2**	**+1.2**
CTA	**Charters Tower**	**33.89**	**263**	*e*P	**P**	**12 44 39.4**	**+0.3**
	21nm,0.4s,mb4.7						
CTA	**Charters Tower**	**33.89**	**263**	P	**P**	**12 44 39.4**	**+0.3**
	23nm,0.4s,mb4.8,baz=88,slow=10,SNR=71						
CTAO	**Charters Tower**	**33.89**	**263**	*e*P	**P**	**12 44 39.4**	**+0.3**
	68nm,1.2s,mb4.8						
TOO	**Toolangi**	**36.65**	**233**	*e*P	**P**	**12 45 02.7**	**+0.5**
STKA	**Stephens Creek**	**38.44**	**243**	⇑*i*P	**P**	**12 45 17.7**	**+0.5**
	19nm,0.5s,mb4.6						
STKA	**Stephens Creek**	**38.44**	**243**	P	**P**	**12 45 17.8**	**+0.6**
	21nm,0.5s,mb4.6,baz=92,slow=9.2,SNR=81						
WB2	**Warramunga Arr**	**45.01**	**261**	*e*P	**P**	**12 46 09.0**	**-1.2**
ASAR	**Alice Springs**	**45.02**	**256**	P	**P**	**12 46 09.8**	**-0.3**
	39nm,0.4s,mb4.9,baz=91,slow=8.0,SNR=1421						
WRA	**Warramunga Arr**	**45.03**	**261**	P	**P**	**12 46 09.4**	**-0.8**
	18nm,0.4s,mb4.6,baz=99,slow=5.6,SNR=760						
FORT	**Forrest**	**49.91**	**246**	*e*P	**P**	**12 46 46.5**	**-0.9**
	53nm,0.5s,mb5.0						
KLBR	**Kellerberrin**	**58.70**	**244**	*e*P	**P**	**12 47 49.1**	**-1.0**
	92nm,1.3s,mb5.0						
SBA	**Scott Base**	**58.74**	**184**	*e*P	**P**	**12 47 52.1**	**+2.5**
	77nm,1.3s,mb5.0						
NWAO	**Narrogin (SRO)**	**59.02**	**243**	P	**P**	**12 47 51.7**	**-0.6**
	11nm,0.6s,mb4.5,baz=87,slow=7.0,SNR=14						
NWAO	**Narrogin (SRO)**	**59.02**	**243**	P	**P**	**12 47 51.7**	**-0.6**
MUN	**Mundaring**	**59.97**	**244**	*e*P	**P**	**12 47 58.5**	**-0.3**
CASY	**Casey**	**64.86**	**205**	*e*P	**P**	**12 48 29.8**	**-0.4**
MJAR	**Matsushiro Arr**	**69.70**	**323**	P	**P**	**12 49 00.6**	**-0.2**
	16nm,0.7s,mb4.9,baz=157,slow=6.2,SNR=6.5						
MAT	**Matsushiro**	**69.71**	**323**	P	**P**	**12 49 00.9**	**+0.1**
QSPA	**South Pole Qui**	**70.42**	**180**	P	**P**	**12 49 05.4**	**+1.0**
	36nm,0.9s,mb5.1,baz=49,slow=2.2,SNR=144						
PETK	**Petropavlovsk-**	**75.53**	**345**	P	**P**	**12 49 34.1**	**-0.3**
	11nm,0.6s,mb4.8,baz=111,slow=8.6,SNR=12						
KSRS	**Korea Array**	**76.45**	**318**	P	**P**	**12 49 40.9**	**+1.0**
	6.1nm,0.9s,mb4.3,baz=135,slow=6.3,SNR=3.3						
MWC	**Mount Wilson**	**78.00**	**47**	*e*P	**P**	**12 49 49.2**	**+0.7**
	24nm,0.8s,mb5.0						
EDW2	**Edwards Air Fo**	**78.41**	**46**	⇑P	**P**	**12 49 51.1**	**+0.2**
	baz=79						
MONP	**Monument Peak**	**78.42**	**49**	⇓P	**P**	**12 49 51.5**	**+0.6**
	baz=79						
T06C	**Millerton Lake**	**78.47**	**44**	⇓P	**P**	**12 49 51.0**	**0.0**
	baz=79						
Q04C	**Lincoln**	**78.48**	**42**	⇓P	**P**	**12 49 51.5**	**+0.4**
	baz=79						
ISA	**Isabella**	**78.52**	**46**	⇓P	**P**	**12 49 51.8**	**+0.4**
	baz=79						
ISA	**Isabella**	**78.52**	**46**	*e*P	**P**	**12 49 52.0**	**+0.6**
	20nm,1.0s,mb4.8						
DVTC	**Desert V Tower**	**78.52**	**49**	⇓P	**P**	**12 49 50.6**	**-0.9**
	baz=79						
CMB	**Columbia Colle**	**78.63**	**43**	⇑P	**P**	**12 49 51.6**	**-0.4**
	baz=79						
CMB	**Columbia Colle**	**78.63**	**43**	*e*P	**P**	**12 49 51.7**	**-0.2**
	15nm,0.9s,mb4.7						
OHCM	**Honcut**	**78.71**	**41**	*e*P	**P**	**12 49 52.7**	**+0.3**
HELL	**Mitchell Peak**	**78.73**	**44**	⇓P	**P**	**12 49 52.3**	**-0.2**
	baz=79						
PFO	**Pinyon Flat Ob**	**78.78**	**48**	⇓P	**P**	**12 49 53.1**	**+0.2**
	baz=79						
PFO	**Pinyon Flat Ob**	**78.78**	**48**	*e*P	**P**	**12 49 53.3**	**+0.5**
	9.8nm,1.2s,mb4.4						
WDC	**Whiskeytown Da**	**78.82**	**40**	*e*P	**P**	**12 49 53.5**	**+0.6**
LAVA	**Lava Cap Winer**	**78.83**	**42**	⇓P	**P**	**12 49 52.9**	**-0.1**
	baz=79						
ORV	**Oroville**	**78.83**	**41**	⇑P	**P**	**12 49 52.3**	**-0.7**
	baz=79,SNR=13						
KCC	**Kaiser Creek**	**78.91**	**44**	⇑P	**P**	**12 49 53.0**	**-0.4**
	baz=79						
LRMC	**Laurel Mountai**	**78.95**	**46**	⇓P	**P**	**12 49 53.7**	**0.0**
	baz=79						
CWC	**Cottonwood Cre**	**79.22**	**45**	⇓P	**P**	**12 49 55.2**	**+0.1**
	baz=79						
P05C	**Yuba Gap, Truc**	**79.24**	**42**	⇑P	**P**	**12 49 55.0**	**-0.2**
	baz=79,SNR=7.0						
BELC	**Belle Mtn.**	**79.31**	**48**	⇑P	**P**	**12 49 56.1**	**+0.4**
	baz=80,SNR=7.9						
MPMC	**Manual Prospec**	**79.41**	**46**	⇓P	**P**	**12 49 56.3**	**+0.2**
	baz=80						
O05C	**Quincy**	**79.44**	**41**	⇓P	**P**	**12 49 56.2**	**0.0**
	baz=80,SNR=6.1						
GSC	**Goldstone**	**79.45**	**47**	⇑P	**P**	**12 49 56.5**	**+0.1**
	baz=80						
GSC	**Goldstone**	**79.45**	**47**	*e*P	**P**	**12 49 57.0**	**+0.6**
WAKR	**Walker**	**79.51**	**43**	*e*P	**P**	**12 49 57.3**	**+0.6**
BC3	**Big Chuckw Mtn**	**79.51**	**49**	⇑P	**P**	**12 49 57.2**	**+0.4**
	baz=80,SNR=6.2						
R06C	**Coleville**	**79.51**	**43**	⇓P	**P**	**12 49 56.4**	**-0.2**
	baz=80,SNR=17						
O04C	**Chester**	**79.55**	**40**	⇓P	**P**	**12 49 56.9**	**+0.1**
	baz=80,SNR=6.1						
NJ2	**Nanjing**	**79.57**	**309**	*e*P	**P**	**12 49 57.6**	**+0.5**
GLA	**Glamis**	**79.64**	**49**	⇑P	**P**	**12 49 58.3**	**+0.8**
	baz=80,SNR=8.2						
GLA	**Glamis**	**79.64**	**49**	*e*P	**P**	**12 49 58.4**	**+1.0**
	22nm,1.0s,mb4.8						
BEKR	**Beckwourth**	**79.73**	**41**	⇑P	**P**	**12 49 57.7**	**-0.1**
	baz=80,SNR=11						
WCN	**Washoe City**	**79.77**	**42**	⇑P	**P**	**12 49 58.1**	**+0.1**
	baz=80,SNR=6.5						
GMRC	**Granite Mounta**	**79.96**	**48**	⇑P	**P**	**12 49 59.1**	**0.0**
	baz=80,SNR=5.0						
M04C	**Macdoel**	**79.98**	**39**	⇑P	**P**	**12 49 58.8**	**-0.3**
	baz=80,SNR=5.5						
IRM	**Iron Mountain**	**79.99**	**48**	⇓P	**P**	**12 49 59.8**	**+0.5**
	baz=80,SNR=10.0						
MDJ	**Mudanjiang**	**80.00**	**325**	P	**P**	**12 50 00.0**	**+0.9**
MDJ				AMB	AMB		
	comp=Z,70nm,1.0s,mb5.3						
MDJ				AMB	AMB		
	comp=Z,2μm,6.0s						
FURC	**Furnace Creek,**	**80.06**	**46**	⇓P	**P**	**12 49 58.0**	**-1.6**
	baz=80						
TUQ	**Turquoise Moun**	**80.13**	**47**	⇓P	**P**	**12 49 60.0**	**0.0**
	baz=80						
SHOC	**Shoshone**	**80.14**	**46**	⇑P	**P**	**12 50 00.0**	**0.0**
	baz=80						
L04A	**Klamath Falls**	**80.19**	**39**	⇓P	**P**	**12 49 59.1**	**-1.0**
	baz=80,SNR=6.9						
NVAR	**Mina Array Bea**	**80.20**	**43**	P	**P**	**12 50 00.7**	**+0.4**
	comp=Z,6.6nm,0.8s,mb4.4,baz=225,slow=8.1,SNR=25						
Y12C	**Blythe**	**80.22**	**49**	⇑P	**P**	**12 50 00.8**	**+0.2**
	baz=80,SNR=5.6						
O06A	**Flanigan**	**80.23**	**41**	⇑P	**P**	**12 49 59.3**	**-1.1**
	baz=80,SNR=7.7						
M06C	**Likely Place G**	**80.45**	**40**	⇑P	**P**	**12 50 01.8**	**+0.3**
	baz=81,SNR=8.6						
LDFC	**Landfair**	**80.50**	**48**	*e*P	**P**	**12 50 03.4**	**+1.4**
S09A	**Goldfield**	**80.50**	**44**	⇓P	**P**	**12 50 01.9**	**-0.1**
	baz=81,SNR=6.0						
N06A	**Buffalo Meadow**	**80.57**	**41**	⇑P	**P**	**12 50 02.0**	**-0.2**
	baz=81,SNR=11						
Q08A	**Gabbs**	**80.68**	**43**	⇑P	**P**	**12 50 02.8**	**0.0**
	baz=81,SNR=10.0						
TPH	**Tonopah**	**80.70**	**44**	*e*P	**P**	**12 50 03.3**	**+0.3**
	comp=Z,18nm,1.1s,mb4.7						
TPNV	**Topopah Spring**	**80.73**	**45**	*e*P	**P**	**12 50 04.1**	**+0.9**
L05A	**Lakeview**	**80.74**	**39**	⇓P	**P**	**12 50 03.1**	**+0.1**
	baz=81,SNR=5.8						
Y13A	**Salome**	**80.75**	**49**	⇑P	**P**	**12 50 03.9**	**+0.6**
	baz=81,SNR=6.3						
PDMCI	**Parker Dam,Lak**	**80.78**	**49**	⇑P	**P**	**12 50 04.2**	**+0.7**
	baz=81,SNR=6.7						
O07A	**Toulon**	**80.82**	**42**	⇑P	**P**	**12 50 03.7**	**+0.1**
	baz=81						
R09A	**Tonopah**	**80.89**	**44**	⇑P	**P**	**12 50 04.3**	**+0.3**
	baz=81,SNR=5.5						
MOD	**Modoc**	**80.97**	**40**	⇑P	**P**	**12 50 04.4**	**+0.1**
	baz=81,SNR=14						
MOD	**Modoc**	**80.97**	**40**	*e*P	**P**	**12 50 04.1**	**-0.1**
	comp=Z,7.9nm,0.8s,mb4.5						
S10A	**Tonopah Range,**	**81.03**	**44**	⇓P	**P**	**12 50 04.8**	**+0.1**
	baz=81,SNR=15						
K05A	**Summer Lake**	**81.11**	**39**	⇓P	**P**	**12 50 05.3**	**+0.3**
	baz=81,SNR=8.8						
N07B	**Gerlach**	**81.12**	**41**	⇓P	**P**	**12 50 04.5**	**-0.6**
	baz=81,SNR=7.7						
X13A	**Yucca**	**81.15**	**49**	⇑P	**P**	**12 50 05.9**	**+0.5**
	baz=81,SNR=7.7						
Z14A	**Wintersburg**	**81.15**	**50**	⇓P	**P**	**12 50 06.4**	**+0.9**
	baz=81,SNR=5.8						
SHPR	**Sheep Range**	**81.23**	**46**	*e*P	**P**	**12 50 06.9**	**+1.1**
J05A	**Fort Rock**	**81.25**	**38**	⇑P	**P**	**12 50 05.3**	**-0.4**
	baz=81,SNR=17						
115A	**Sonoran Desert**	**81.34**	**51**	⇑P	**P**	**12 50 07.0**	**+0.5**
	baz=82						
O08A	**Rochester Mine**	**81.35**	**42**	⇓P	**P**	**12 50 06.1**	**-0.2**
	baz=82,SNR=14						
M07A	**Soldier Meadow**	**81.35**	**40**	⇑P	**P**	**12 50 06.1**	**-0.2**
	baz=82,SNR=5.4						
W13A	**Hualapai Mount**	**81.37**	**48**	⇓P	**P**	**12 50 07.0**	**+0.5**
	baz=82,SNR=9.0						
Y14A	**Wickenburg**	**81.40**	**49**	⇑P	**P**	**12 50 07.2**	**+0.4**
	baz=82,SNR=8.5						
R10A	**Warm Springs**	**81.42**	**44**	⇑P	**P**	**12 50 07.0**	**+0.3**
	baz=82,SNR=24						
S11A	**Rachel**	**81.44**	**45**	⇑P	**P**	**12 50 06.7**	**-0.2**
	baz=82						
K06A	**Valley Falls**	**81.53**	**39**	⇓P	**P**	**12 50 07.0**	**-0.1**
	baz=82,SNR=18						
216A	**Three Points,**	**81.57**	**52**	⇓P	**P**	**12 50 08.2**	**+0.5**
	baz=82,SNR=7.1						
P09A	**Austin**	**81.58**	**43**	⇑P	**P**	**12 50 07.5**	**0.0**
	baz=82						
T11A	**Corn Creek, Al**	**81.58**	**46**	⇓P	**P**	**12 50 07.8**	**+0.2**
	baz=82,SNR=11						
N08A	**GE Springer Mi**	**81.64**	**41**	⇓P	**P**	**12 50 07.8**	**0.0**
	baz=82,SNR=6.5						
Q10A	**Clear Creek Ra**	**81.65**	**44**	⇓P	**P**	**12 50 09.7**	**+1.8**
	baz=82,SNR=6.1						
116A	**Eloy**	**81.66**	**51**	P	**P**	**12 50 09.2**	**+1.1**
	baz=82,SNR=7.6						
Z15A	**Gila River Ind**	**81.69**	**50**	⇑P	**P**	**12 50 08.5**	**+0.3**
	baz=82						
V13A	**Grand Canyon W**	**81.69**	**47**	⇓P	**P**	**12 50 08.7**	**+0.5**
	baz=82,SNR=6.5						
X14A	**Yava**	**81.75**	**49**	⇓P	**P**	**12 50 08.5**	**0.0**
	baz=82,SNR=12						
I05A	**Bend**	**81.76**	**37**	⇑P	**P**	**12 50 08.2**	**-0.2**
	baz=82						
J06A	**Christmas Vall**	**81.86**	**39**	⇓P	**P**	**12 50 09.1**	**+0.2**
	baz=82,SNR=11						
M08A	**Happy Creek Ra**	**81.87**	**41**	⇑P	**P**	**12 50 09.9**	**+0.9**
	baz=82,SNR=7.2						
O09A	**Fish Creek Ran**	**81.89**	**42**	⇑P	**P**	**12 50 09.3**	**+0.2**
	baz=82,SNR=7.9						
Y15A	**Casa Rosa Ranc**	**81.89**	**50**	⇑P	**P**	**12 50 09.8**	**+0.6**
	baz=82,SNR=18						
R11A	**Troy Canyon, C**	**81.93**	**45**	⇓P	**P**	**12 50 09.7**	**+0.3**
	baz=82,SNR=9.5						
217A	**Green Valley**	**81.93**	**52**	⇑P	**P**	**12 50 10.6**	**+1.1**
	baz=82,SNR=12						
E03A	**Lebam**	**81.98**	**34**	⇓P	**P**	**12 50 09.3**	**-0.1**
	baz=82						
W14A	**Seligman**	**81.99**	**48**	⇑P	**P**	**12 50 10.4**	**+0.7**
	baz=82,SNR=14						
U13A	**Pakoon Wash**	**82.00**	**47**	⇓P	**P**	**12 50 10.4**	**+0.7**
	baz=82,SNR=10						
BMN	**Battle Mountai**	**82.02**	**42**	*e*P	**P**	**12 50 10.0**	**+0.2**
	comp=Z,28nm,1.3s,mb4.9						
S12A	**Delamar Landin**	**82.02**	**46**	⇑P	**P**	**12 50 10.3**	**+0.5**
	baz=82,SNR=18						
P10A	**Eureka**	**82.05**	**43**	⇑P	**P**	**12 50 10.4**	**+0.4**
	baz=82,SNR=6.1						
K07A	**Rock Creek Ran**	**82.06**	**39**	⇓P	**P**	**12 50 10.1**	**+0.2**
	baz=82,SNR=10						
Q11A	**Duckwater**	**82.15**	**44**	⇓P	**P**	**12 50 10.7**	**+0.2**
	baz=82,SNR=12						
V14A	**Boquillas Ranc**	**82.19**	**48**	⇑P	**P**	**12 50 11.4**	**+0.6**
	baz=82,SNR=13						
TUC	**Tucson**	**82.21**	**52**	*e*P	**P**	**12 50 12.3**	**+1.3**
	comp=Z,38nm,1.4s,mb5.0						
X15A	**Humboldt**	**82.23**	**49**	⇓P	**P**	**12 50 11.3**	**+0.3**
	baz=82,SNR=17						
I06A	**Prineville**	**82.24**	**38**	⇓P	**P**	**12 50 10.5**	**-0.3**
	baz=82,SNR=16						
WVOR	**Wild Horse Val**	**82.28**	**40**	*e*P	**P**	**12 50 11.4**	**+0.3**
	comp=Z,16nm,1.0s,mb4.8						
L08A	**Fields**	**82.32**	**40**	⇑P	**P**	**12 50 10.8**	**-0.5**
	baz=82,SNR=16						
VIPM	**Ingram Point**	**82.34**	**37**	P	**P**	**12 50 11.5**	**+0.2**
T13A	**Saint George**	**82.35**	**46**	⇑P	**P**	**12 50 11.8**	**+0.2**
	baz=82,SNR=7.6						
117A	**Oracle**	**82.37**	**52**	⇑P	**P**	**12 50 12.7**	**+0.9**
	baz=82,SNR=12						
318A	**Bisbee**	**82.39**	**53**	⇑P	**P**	**12 50 12.2**	**+0.3**
	baz=83,SNR=12						
O10A	**Cortez Mining,**	**82.40**	**43**	⇑P	**P**	**12 50 11.9**	**+0.1**
	baz=83						
CROR	**Criterion Ridg**	**82.42**	**37**	P	**P**	**12 50 12.1**	**+0.3**
J07A	**Hines**	**82.43**	**39**	⇓P	**P**	**12 50 11.8**	**0.0**
	baz=83,SNR=9.2						
M09A	**Marrel Ranch,**	**82.43**	**41**	⇑P	**P**	**12 50 11.6**	**-0.3**
	baz=83,SNR=7.5						
MAW	**Mawson**	**82.47**	**200**	*e*P	**P**	**12 50 11.6**	**-0.1**
	comp=Z,9.6nm,1.2s,mb4.5						
MAW	**Mawson**	**82.47**	**200**	P	**P**	**12 50 11.4**	**-0.3**
	comp=Z,10nm,0.8s,mb4.7,baz=122,slow=6.5,SNR=21						
Y16A	**Circle Bar Ran**	**82.47**	**50**	⇑P	**P**	**12 50 13.0**	**+0.8**
	baz=83,SNR=12						
U14A	**Mt Trumbull**	**82.54**	**47**	⇑P	**P**	**12 50 13.0**	**+0.5**
	baz=83,SNR=24						
K08A	**Mann Creek Ran**	**82.54**	**40**	⇑P	**P**	**12 50 12.4**	**0.0**
	baz=83,SNR=16						
R12A	**Pony Springs,**	**82.57**	**45**	⇑P	**P**	**12 50 13.4**	**+0.7**
	baz=83,SNR=7.4						
218A	**Dragoon**	**82.60**	**52**	⇓P	**P**	**12 50 13.6**	**+0.6**
	baz=83,SNR=18						
L09A	**Wilkinson Ranc**	**82.64**	**41**	⇑P	**P**	**12 50 12.7**	**-0.2**
	baz=83,SNR=10.0						
H06A	**Lindquist Farm**	**82.64**	**37**	⇓P	**P**	**12 50 12.4**	**-0.4**
	baz=83,SNR=19						
S13A	**Holt Ranch, En**	**82.68**	**46**	⇑P	**P**	**12 50 13.3**	**+0.1**
	baz=83,SNR=7.4						
I07A	**Izee**	**82.73**	**38**	⇓P	**P**	**12 50 13.5**	**+0.1**
	baz=83,SNR=14						
X16A	**Lo Mia Camp, P**	**82.76**	**50**	⇑P	**P**	**12 50 14.3**	**+0.6**
	baz=83,SNR=20						
G06A	**Carlson Farm,**	**82.77**	**37**	⇓P	**P**	**12 50 13.2**	**-0.3**
	baz=83						
VTHM	**Trough**	**82.78**	**37**	P	**P**	**12 50 13.8**	**+0.3**
Q12A	**Willow Creek R**	**82.80**	**44**	P	**P**	**12 50 14.1**	**+0.3**
	baz=83,SNR=9.1						
Y17A	**Roosevelt**	**82.84**	**51**	⇑P	**P**	**12 50 14.8**	**+0.7**
	baz=83,SNR=5.8						
O11A	**Cowboy Ranch,**	**82.85**	**43**	P	**P**	**12 50 14.5**	**+0.4**
	baz=83,SNR=13						
319A	**Douglas**	**82.89**	**53**	⇓P	**P**	**12 50 15.7**	**+1.2**
	baz=83,SNR=15						
J08A	**Circle Bar Ran**	**82.91**	**39**	⇑P	**P**	**12 50 13.8**	**-0.5**
	baz=83,SNR=16						
Z17A	**San Carlos Hig**	**82.92**	**51**	⇓P	**P**	**12 50 15.4**	**+0.8**
	baz=83						
T14A	**Hurricane**	**82.94**	**47**	⇑P	**P**	**12 50 15.1**	**+0.5**
	baz=83,SNR=8.6						
V15A	**Kaibab Nationa**	**82.94**	**48**	⇓P	**P**	**12 50 15.2**	**+0.6**
	baz=83,SNR=12						
E05A	**Randle**	**82.96**	**35**	⇑P	**P**	**12 50 13.9**	**-0.5**
	baz=83						
118A	**Homack Ranch,**	**82.98**	**52**	⇑P	**P**	**12 50 15.8**	**+1.0**
	baz=83,SNR=14						

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
P12A	McGill	82.98	44	P	P	12 50 15.2	+0.5
	baz=83,SNR=9.7						
K09A	Rome	82.99	40	⇓P	P	12 50 14.7	0.0
	baz=83,SNR=25						
CCUT	Cedar City	83.00	46	*e*P	P	12 50 15.4	+0.6
F06A	Goldendale	83.01	36	⇓P	P	12 50 14.1	-0.6
	baz=83						
W16A	Flagstaff	83.03	49	⇓P	P	12 50 15.8	+0.7
	baz=83,SNR=5.8						
C04A	Brinnon	83.04	34	⇓P	P	12 50 14.0	-0.7
	baz=83						
M10A	I.L. Ranch, Tu	83.05	41	⇓P	P	12 50 15.1	+0.1
	baz=83,SNR=17						
ARUT	Antelope Range	83.07	46	*e*P	P	12 50 15.4	+0.2
WPW	White Pass	83.16	35	P	P	12 50 15.7	+0.3
U15A	North Rim	83.16	48	⇓P	P	12 50 16.6	+0.9
	baz=83,SNR=24						
I08A	Drewsey	83.18	39	⇓P	P	12 50 15.8	+0.2
	baz=83,SNR=11						
219A	White Tail Can	83.20	53	⇓P	P	12 50 17.0	+0.9
	baz=83,SNR=12						
D05A	Enumclaw	83.22	35	⇓P	P	12 50 15.3	-0.4
	baz=83						
Q13A	Wheeler Ranch,	83.29	45	⇓P	P	12 50 16.3	0.0
	baz=84,SNR=12						
G07A	Ruggs Ranch, H	83.34	37	⇓P	P	12 50 16.1	-0.3
	baz=84,SNR=8.3						
J09A	Fry Pan Ranch,	83.34	39	⇓P	P	12 50 16.5	+0.1
	baz=84,SNR=14						
WUAZ	Wupatki	83.35	49	⇑P	P	12 50 17.1	+0.4
	baz=84,SNR=6.3						
WUAZ	Wupatki	83.35	49	*e*P	P	12 50 17.5	+0.8
E06A	Yakima	83.37	36	⇓P	P	12 50 16.5	0.0
	baz=84						
T15A	Red Dirt Ranch	83.40	47	⇑P	P	12 50 17.3	+0.4
	baz=84,SNR=19						
L10A	Juniper Basin	83.40	41	⇓P	P	12 50 16.8	0.0
	baz=84,SNR=20						
ELK	Elko	83.45	43	*e*P	P	12 50 17.2	+0.2
	comp=Z,13nm,1.1s,mb4.7						
H08A	Prairie City	83.47	38	P	P	12 50 16.9	-0.2
	baz=84,SNR=5.3						
M11A	Holland Ranch,	83.47	42	⇑P	P	12 50 17.8	+0.6
	baz=84,SNR=5.4						
Y18A	Canyon Day Jun	83.47	51	⇓P	P	12 50 18.4	+1.0
	baz=84,SNR=8.7						
O12A	Currie	83.51	43	⇑P	P	12 50 16.5	-0.9
	baz=84,SNR=9.1						
119A	Ashpeak Ranch,	83.53	52	⇓P	P	12 50 17.9	+0.2
	baz=84,SNR=10						
K10A	MacKenzie Ranc	83.55	40	⇓P	P	12 50 17.3	-0.2
	baz=84,SNR=12						
P13A	Bates Ranch, G	83.56	44	⇑P	P	12 50 17.5	-0.1
	baz=84,SNR=13						
F07A	Phinny Hill Vi	83.56	36	⇓P	P	12 50 17.4	-0.1
	baz=84						
N12A	Clover Valley,	83.64	43	⇑P	P	12 50 18.2	+0.2
	baz=84,SNR=11						
C05A	Tolt Reservoir	83.70	34	⇓P	P	12 50 16.7	-1.4
	baz=84,SNR=5.9						
I09A	Lost Marbles R	83.70	39	⇓P	P	12 50 18.3	+0.1
	baz=84						
S15A	Panguitch	83.75	46	⇓P	P	12 50 19.0	+0.4
	baz=84,SNR=6.3						
G08A	Pilot Rock	83.75	37	⇑P	P	12 50 18.3	-0.2
	baz=84,SNR=16						
Q14A	Sevier Lake (B	83.80	45	⇓P	P	12 50 18.7	-0.2
	baz=84,SNR=21						
U16A	Tuba City	83.83	48	⇑P	P	12 50 19.5	+0.4
	baz=84,SNR=12						
B05A	Bryant	83.84	34	⇓P	P	12 50 18.3	-0.5
	baz=84						
L11A	Cat Creek Ranc	83.90	41	⇓P	P	12 50 19.1	-0.1
	baz=84,SNR=11						
O13A	Hicks Ranch, I	83.93	44	⇓P	P	12 50 19.4	-0.1
	baz=84						
E07A	Sunnyside	84.00	36	⇓P	P	12 50 18.9	-0.8
	baz=84						
M12A	Wells	84.02	42	⇓P	P	12 50 20.0	+0.1
	baz=84,SNR=9.8						
RSW	Rattlesnake Hi	84.05	36	P	P	12 50 20.4	+0.5
K11A	Parker Ranch,	84.06	41	⇓P	P	12 50 20.0	-0.1
	baz=84,SNR=5.7						
HAWA	Hanford	84.08	36	*e*P	P	12 50 20.0	-0.1
	comp=Z,33nm,1.4s,mb5.0						
Y19A	Nutrioso	84.13	51	⇑P	P	12 50 20.8	+0.2
	baz=84						
H09A	Durkee	84.14	38	⇓P	P	12 50 20.3	-0.2
	baz=84,SNR=13						
F08A	Pendleton	84.16	37	⇑P	P	12 50 20.5	+0.1
	baz=84,SNR=6.1						
N13A	Wendover, West	84.17	43	⇑P	P	12 50 20.7	0.0
	baz=84						
GBL	Gable Mountain	84.24	36	P	P	12 50 21.3	+0.4
P14A	Drum Mountains	84.25	45	⇓P	P	12 50 21.4	+0.3
	baz=84,SNR=5.1						
S16A	Weppner Ranch,	84.29	47	⇑P	P	12 50 21.2	-0.1
	baz=84						
MSU	Marysvale	84.30	46	*e*P	P	12 50 22.3	+1.0
I10A	Payette	84.32	39	⇓P	P	12 50 20.9	-0.4
	baz=84						
L12A	House Creek Ra	84.35	42	⇓P	P	12 50 21.6	+0.1
	baz=84,SNR=6.8						
ETW	Entiat	84.37	35	*e*P	P	12 50 21.4	0.0
U17A	Shonto	84.39	48	⇓P	P	12 50 22.4	+0.6
	baz=85						
E08A	Dider Farm, El	84.40	36	⇓P	P	12 50 21.2	-0.5
	baz=85						
Q15A	Fillmore	84.41	45	⇑P	P	12 50 22.2	+0.3
	baz=85						
G09A	Cove	84.43	38	⇑P	P	12 50 21.8	-0.1
	baz=85,SNR=6.1						
BMO	Blue Mountains	84.46	38	*e*P	P	12 50 21.8	-0.3
M13A	Montello	84.46	43	P	P	12 50 22.5	+0.4
	baz=85,SNR=12						
V18A	Ganado	84.47	49	⇑P	P	12 50 22.0	-0.3
	baz=85,SNR=5.7						
T17A	Navajo Res., N	84.48	48	⇑P	P	12 50 21.9	-0.4
	baz=85,SNR=6.5						
MFID	Camas Ranch	84.54	40	⇓P	P	12 50 22.4	-0.1
	baz=85,SNR=7.3						
C07A	Waterville	84.57	35	⇑P	P	12 50 22.0	-0.5
	baz=85,SNR=5.4						
F09A	S2 Ranch, Elgi	84.60	37	⇓P	P	12 50 22.4	-0.3
	baz=85						
WTV	Waterville	84.63	35	P	P	12 50 22.6	-0.2
H10A	Noah's Angus R	84.64	39	⇑P	P	12 50 22.5	-0.5
	baz=85,SNR=16						
A06A	Chilliwack	84.67	33	⇓P	P	12 50 22.7	-0.2
	baz=85						
I11A	Placerville	84.73	40	⇓P	P	12 50 22.9	-0.5
	baz=85,SNR=7.0						
D08A	Wollman Farm,	84.81	36	⇓P	P	12 50 23.1	-0.6
	baz=85						
G10A	Bishop Farm, J	84.82	38	⇑P	P	12 50 23.3	-0.4
	baz=85,SNR=12						
J12A	Stokes Ranch,	84.89	41	⇑P	P	12 50 24.0	-0.2
	baz=85,SNR=10						
B07A	Winthrop	85.00	34	⇑P	P	12 50 24.0	-0.6
	baz=85						
M14A	Sheep Mountain	85.06	43	⇓P	P	12 50 24.6	-0.5
	baz=85						
OD2	Odessa Site #2	85.13	36	*e*P	P	12 50 25.1	-0.1
H11A	Donnelly	85.14	39	⇓P	P	12 50 24.4	-1.0
	baz=85,SNR=16						
F10A	Beach Ranch, E	85.14	38	⇑P	P	12 50 24.2	-1.2
	baz=85,SNR=13						
D09A	Jones Farm, Ri	85.16	36	⇓P	P	12 50 24.0	-1.4
	baz=85,SNR=6.4						
I12A	Atlanta	85.17	40	⇑P	P	12 50 24.7	-0.9
	baz=85						
C08A	Higginbotham F	85.17	35	⇑P	P	12 50 24.7	-0.8
	baz=85						
T18A	Mexican Hat	85.20	48	⇑P	P	12 50 26.0	+0.2
	baz=85,SNR=16						
R17A	Hanksville Air	85.25	47	⇓P	P	12 50 25.4	-0.7
	baz=85						
TMUT	Trail Mountain	85.34	46	*e*P	P	12 50 27.7	+1.2
B08A	Colville Reser	85.36	35	⇓P	P	12 50 25.4	-1.0
	baz=86,SNR=6.4						
G11A	Walters Elk Ra	85.38	38	⇑P	P	12 50 26.0	-0.5
	baz=86,SNR=24						
BJI	Beijing	85.50	315	P	P	12 50 28.5	+1.2
BJI				AMB	AMB		
	comp=Z,20nm,0.9s,mb5.0						
J13A	Cove Ranch, Pi	85.54	41	⇑P	P	12 50 27.2	-0.2
	baz=86,SNR=9.4						
C09A	Chrisman Ranch	85.61	36	⇑P	P	12 50 26.8	-0.8
	baz=86						
SRU	San Rafael	85.71	46	⇓P	P	12 50 28.2	-0.2
	baz=86,SNR=9.9						
SRU	San Rafael	85.71	46	*e*P	P	12 50 28.8	+0.5
F11A	Grangeville	85.71	38	⇑P	P	12 50 26.9	-1.3
	baz=86,SNR=5.9						
D10A	Wagner Farm, O	85.73	37	P	P	12 50 27.8	-0.5
	baz=86						
A08A	Turner Farm, O	85.74	34	⇓P	P	12 50 27.2	-1.0
	baz=86,SNR=8.7						
H12A	Diamond D Ranc	85.75	40	P	P	12 50 28.2	-0.2
	baz=86,SNR=12						
G12A	Big Creek, Yel	85.78	39	⇑P	P	12 50 28.1	-0.5
	baz=86						
R18A	Canyonlands Na	85.79	47	⇑P	P	12 50 28.8	0.0
	baz=86						
I13A	Wildhorse Cree	85.85	40	⇓P	P	12 50 28.1	-0.8
	baz=86						
LAZ	Ladron	85.89	51	*e*P	P	12 50 29.9	+0.6
J14A	Carey	85.91	41	⇓P	P	12 50 29.2	0.0
	baz=86,SNR=8.5						
L15A	Malad City	85.94	43	⇑P	P	12 50 29.0	-0.3
	baz=86						
E11A	Bogner Ranch,	85.94	38	⇓P	P	12 50 28.4	-0.9
	baz=86						
Q18A	Rafter H Ranch	85.97	46	⇓P	P	12 50 28.7	-0.9
	baz=86						
N16A	Rees Ranch, Co	85.98	44	⇓P	P	12 50 29.9	+0.3
	baz=86						
B09A	Rice	86.03	35	⇑P	P	12 50 28.9	-0.8
	baz=86,SNR=6.1						
O17A	Robinson Place	86.10	45	⇑P	P	12 50 30.2	0.0
	baz=86,SNR=10						
H13A	Challis	86.12	40	⇓P	P	12 50 30.0	-0.2
	baz=86,SNR=7.7						
A09A	Danville	86.12	35	⇓P	P	12 50 29.9	-0.1
	baz=86,SNR=6.1						
BNM	Barren Site	86.15	52	*e*P	P	12 50 31.0	+0.4
F12A	Elk City	86.17	38	⇑P	P	12 50 29.9	-0.5
	baz=86						
LPM	Los Pinos Moun	86.22	52	*e*P	P	12 50 31.6	+0.6
D11A	Klaveano Farm,	86.26	37	P	P	12 50 30.4	-0.4
	baz=86,SNR=5.7						
I14A	Mackay	86.27	41	⇑P	P	12 50 31.5	+0.6
	baz=86,SNR=7.9						
TXAR	Lajitas Array	86.34	57	P	P	12 50 31.8	+0.2
	comp=Z,6.5nm,0.7s,mb4.6,baz=218,slow=6.0,SNR=91						
E12A	Beaver Dam Sad	86.34	38	⇑P	P	12 50 30.5	-0.7
	baz=86						
PV10	Paradox Valley	86.37	47	*e*P	P	12 50 31.5	-0.1
G13A	Cobalt	86.41	39	⇑P	P	12 50 31.4	-0.2
	baz=87,SNR=9.5						
GYA	Guiyang	86.49	300	P	P	12 50 31.9	-0.5
GYA				AP	pP	12 51 51.8	-0.1
GYA				XP	sP	12 52 27.6	+0.3
GYA				PP	PP	12 54 01.0	+1.2
GYA				SKS		13 00 22.5	
GYA				S	S	13 00 37.8	-1.7
GYA				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb4.6						
GYA				AMB	AMB		
	comp=Z,80nm,6.2s						
Q19A	Hogan Spring (	86.50	47	⇑P	P	12 50 31.8	-0.3
	baz=87,SNR=6.0						
J15A	Blackfoot	86.62	42	⇓P	P	12 50 32.7	+0.1
	baz=87,SNR=8.9						
ANMO	Albuquerque	86.63	51	*e*P	P	12 50 33.1	+0.2
	comp=Z,7.7nm,0.9s,mb4.5						
H14A	Leadore	86.68	40	⇓P	P	12 50 32.1	-0.7
	baz=87,SNR=6.8						
F13A	Darby	86.73	39	⇑P	P	12 50 32.6	-0.5
	baz=87,SNR=16						
C11A	Tepee Creek (N	86.75	36	⇑P	P	12 50 32.3	-0.8
	baz=87						
D12A	Red Ives Fores	86.82	37	⇓P	P	12 50 32.9	-0.5
	baz=87						
K16A	Soda Springs	86.87	42	⇓P	P	12 50 33.8	0.0
	baz=87						
G14A	Jackson	86.95	40	P	P	12 50 34.2	+0.1
	baz=87,SNR=8.8						
B11A	Sandpoint	87.02	36	⇑P	P	12 50 33.4	-0.9
	baz=87						
J16A	Bone	87.08	42	⇓P	P	12 50 35.2	+0.4
	baz=87,SNR=6.0						
MCMT	McKenzie Canyo	87.11	40	*e*P	P	12 50 35.2	+0.3
H15A	Lima	87.12	40	⇑P	P	12 50 35.1	+0.2
	baz=87,SNR=8.8						
E13A	Victor	87.16	38	⇑P	P	12 50 33.9	-1.2
	baz=87						
O19A	Miners Draw (B	87.23	45	⇓P	P	12 50 35.2	-0.4
	baz=87						
RRI2	Red Ridge	87.30	42	*e*P	P	12 50 36.1	+0.3
D13A	Huson	87.35	38	⇓P	P	12 50 35.4	-0.6
	baz=88						
I16A	Newdale	87.46	41	⇑P	P	12 50 36.6	+0.1
	baz=88,SNR=11						
N19A	John Jarvie Ra	87.48	45	⇑P	P	12 50 36.4	-0.4
	baz=88						
G15A	Dillon	87.50	40	⇑P	P	12 50 36.8	+0.1
	baz=88,SNR=12						
DLMT	Dillon	87.54	40	*e*P	P	12 50 37.2	+0.3
E14A	Clinton	87.55	39	⇓P	P	12 50 36.2	-0.7
	baz=88						
REDW	Red Top Meadow	87.60	42	*e*P	P	12 50 37.8	+0.5
TPAW	Teton Pass	87.60	42	*e*P	P	12 50 37.8	+0.6
SYO	Syowa Base	87.62	193	⇓*e*P	P	12 50 34.2	-2.8
SYO	Syowa Base	87.62	193	⇓*e*PcP	PcP	12 50 36.6	-2.0
SNOW	Snow King Moun	87.71	42	*e*P	P	12 50 38.5	+0.7
IMW	Indian Meadow	87.81	42	*e*P	P	12 50 38.8	+0.5
F15A	Butte	87.85	39	⇑P	P	12 50 37.4	-0.9
	baz=88,SNR=7.4						
XAN	Xi'an	87.86	307	P	P	12 50 39.7	+1.0
XAN				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb4.6						
MOOW	Moose Ponds	87.86	42	*e*P	P	12 50 38.9	+0.4
LRM	Limekiln Ridge	87.86	39	*e*P	P	12 50 38.8	+0.3
LOHW	Long Hollow	87.88	42	*e*P	P	12 50 38.6	+0.1
D14A	Greenough	87.90	38	⇑P	P	12 50 37.5	-1.1
	baz=88						
G16A	Moss Hill, Enn	87.95	40	⇑P	P	12 50 38.7	-0.1
	baz=88,SNR=8.9						
CHMT	Chamberlain Mo	87.96	38	*e*P	P	12 50 38.7	-0.2
QLMT	Earthquake Lak	87.97	41	*e*P	P	12 50 40.2	+1.2
H16A	Russell Place,	88.02	41	⇓P	P	12 50 38.4	-0.8
	baz=88,SNR=8.0						
E15A	Deer Lodge	88.06	39	⇑P	P	12 50 39.1	-0.3
	baz=88						
C14A	Swan Lake	88.12	37	⇑P	P	12 50 38.6	-1.0
	baz=88						
BW06	Boulder Array	88.13	43	⇓P	P	12 50 39.2	-0.6
	baz=88						
BW06	Boulder Array	88.13	43	*e*P	P	12 50 39.7	-0.1
PDAR	Pinedale Array	88.13	43	P	P	12 50 39.2	-0.6
	comp=Z,2.7nm,0.8s,mb4.1,baz=211,slow=2.9,SNR=25						
YMR	Madison River	88.18	41	*e*P	P	12 50 40.9	+0.9
	comp=Z,5.7nm,0.6s,mb4.6						
A13A	Flathead Natio	88.37	36	⇑P	P	12 50 39.9	-0.8
	baz=88						
D15A	Lincoln	88.45	38	⇑P	P	12 50 40.4	-0.8
	baz=89						
SDCO	Great Sand Dun	88.57	49	*e*P	P	12 50 42.2	+0.2
	comp=Z,2.3nm,0.8s,mb4.1						
B14A	Marquette Ranc	88.71	37	⇑P	P	12 50 41.2	-1.1
	baz=89						
C15A	Salmond Ranch,	88.78	38	⇓P	P	12 50 41.1	-1.5
	baz=89						
SNAA	Sanae	88.85	178	*e*P	P	12 50 41.4	-1.3
SNAA				*e*		12 50 42.8	
SNAA				*e*		12 57 48.6	
SNAA				*e*		12 57 57.3	
SNAA				*e*		12 58 05.5	
SNAA				*e*		12 59 31.9	
SNAA	Sanae	88.85	178	*e*P	P	12 50 41.9	-0.9
	comp=Z,11nm,1.1s,mb4.6						
A14A	Double T Ranch	88.95	36	⇓P	P	12 50 41.5	-1.9
	baz=89						
VNA3	Neumayer Olymp	88.97	176	*e*P	P	12 50 42.7	-0.6
VNA3				*e*		12 50 44.0	
VNA3				*e*		12 57 51.6	
VNA3				*e*		12 58 00.2	
VNA3				*e*		12 58 09.7	
VNA3				*e*		12 59 38.0	
HHC	Hu-ho-hao-te	88.97	314	*e*P	P	12 50 43.8	0.0
HHC				AP	pP	12 52 05.9	+2.2
HHC				XP	sP	12 52 40.9	+1.8
HHC				PP	PP	12 54 21.6	+2.3
HHC				SKS		13 00 38.2	
HHC				S	S	13 00 57.9	-4.3
HHC				AMB	AMB		
	comp=Z,25nm,1.0s,mb5.0						
HHC				AMB	AMB		
	comp=Z,500nm,5.5s						
HHC				LR	LR		
	comp=N,372nm,17.2s						
HHC				LR	LR		
	comp=E,457nm,20.6s						
HHC				LR	LR		
	comp=Z,689nm,20.1s						
KMI	Kunming	89.23	297	P	P	12 50 47.1	+1.7
KMI				AMB	AMB		
	comp=Z,10.0nm,1.2s,mb4.5						
C16A	Fuhringer Ranc	89.29	38	⇓P	P	12 50 44.6	-0.5
	baz=90						
A15A	Johnson Ranch,	89.33	37	⇑P	P	12 50 43.8	-1.5
	baz=90						
VNA2	Neumayer--Watz	89.42	177	*e*P	P	12 50 45.3	-0.1
	baz=203,slow=3.4						
VNA2				*e*		12 50 46.6	
VNA2				*e*		12 57 51.8	
VNA2				*e*		12 58 00.4	
VNA2				*e*		12 58 09.8	
VNA2				*e*		12 59 38.1	
GCMT	Greycliff	89.53	40	*e*P	P	12 50 46.4	+0.2
F18A	Big Timber	89.56	40	⇓P	P	12 50 46.1	-0.3
	baz=90						
PLCA	Paso Flores	89.64	133	P	P	12 50 47.1	+0.1
	comp=Z,3.0nm,1.1s,mb4.1,baz=219,slow=7.2,SNR=2.8						
VNA1	Neumayer--Stat	89.64	176	*e*P	P	12 50 46.6	+0.2
VNA1				*e*		12 50 47.9	
VNA1				*e*		12 57 53.4	
VNA1				*e*		12 58 02.8	
VNA1				*e*		12 58 11.3	
VNA1				*e*		12 59 41.4	
E18A	Harlowton	89.76	40	⇑P	P	12 50 46.1	-1.2
	baz=90						
C17A	Wharram Farm,	89.78	38	⇓P	P	12 50 46.0	-1.4
	baz=90						
JCT	Junction City	89.87	58	*e*P	P	12 50 48.2	0.0
	comp=Z,5.6nm,1.0s,mb4.5						
A16A	West Butte Ran	89.96	37	⇑P	P	12 50 46.8	-1.3
	baz=90						
EGMT	Eagleton	90.56	38	⇑P	P	12 50 50.1	-0.9
	baz=91						
CD2	Chengdu	90.58	303	*e*P	P	12 50 50.9	-0.6
CD2				AP	pP	12 52 13.3	+1.7
CD2				XP	sP	12 52 48.9	+2.0
CD2				PP	PP	12 54 33.5	+1.3
CD2				SKS		13 00 46.9	
CD2				S	S	13 01 13.6	-3.8
CD2				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.8						
DGMT	Dagmar	94.08	40	⇑P	P	12 51 06.4	-0.8
	baz=94						
DGMT	Dagmar	94.08	40	*e*P	P	12 51 06.9	-0.3
	comp=Z,22nm,1.2s,mb5.0						
ARCES	ARCESS Array B	128.14	350	PKP	PKPdf	12 56 51.5	-0.8
	comp=Z,12nm,0.9s,baz=284,slow=0.4,SNR=7.5						
AKASG	Malin Array Be	142.41	332	PKhKP		12 57 13.6	
	comp=Z,1.3nm,0.3s,baz=44,slow=4.1,SNR=5.3						
AKASG				SKPbc	SKPbc	13 00 20.9	-3.4
	comp=Z,4.2nm,0.8s,baz=38,slow=3.1,SNR=5.3						
EKA	Eskdalemuir Ar	144.13	5	PKP	PKPdf	12 57 19.3	-2.9
	comp=Z,9.5nm,0.8s,baz=336,slow=3.0,SNR=9.6						
DMUB	Kingscourt	145.08	10	*e*P	PKPdf	12 57 23.2	-0.7
DLF	Lyons Farm	145.72	9	*e*P	PKPdf	12 57 23.6	-1.4
TLCR		146.39	325	⇑*i*P	PKPdf	12 57 27.5	+1.1
BURAR	Bucovina Array	146.46	332	⇓*i*P	PKPdf	12 57 28.1	+1.6
CLL	Collm	147.30	348	*i* PKPbc	PKPbc	12 57 30.1	-0.5
	comp=Z,52nm,1.0s						
CLL				*e*PKPab	PKPab	12 57 33.0	-0.4
	comp=Z,44nm,1.1s						
CLL				*e*pPKPbc	pPKPbc	12 58 55.0	+0.9
BRG	Berggiesshubel	147.51	346	*e*PKP	PKPdf	12 57 30.9	+2.8
	comp=Z,30nm,1.0s						
MLR	Muntele Rosu	147.67	328	PKPbc	PKPbc	12 57 30.7	-1.1
	baz=79,slow=10						
VOIR		148.15	329	⇑*i*P	PKPdf	12 57 33.2	+3.9
DRGR		148.19	333	⇑*i*P	PKPdf	12 57 32.7	+3.3
BCLA	Clavier	149.20	356	PKPbc	PKPbc	12 57 37.2	+1.7
GZR	Gura Zlata	149.25	331	⇓*i*P	PKPdf	12 57 34.6	+3.5
GERES	GERESS Array B	149.46	345	PKPbc	PKPbc	12 57 34.5	-1.7
	comp=Z,23nm,0.9s,baz=36,slow=2.5,SNR=11						
DOU	Dourbes	149.56	357	PKPbc	PKPbc	12 57 35.6	-0.8
BZS	Buzias	149.59	333	⇓*i*P	PKPdf	12 57 35.3	+3.7
WLF	Walferdange	149.89	355	PKPbc	PKPbc	12 57 37.7	+0.5
PKSM	Moragy	150.30	337	⇓*i*P	PKPdf	12 57 37.1	+4.4
VTS	Vitosha	151.12	327	⇑*i*P	PKPdf	12 57 39.8	+5.7
DAVOX	Davos/Dischmat	152.24	349	PKPbc	PKPbc	12 57 40.8	-1.9
	comp=Z,33nm,0.7s,baz=7.3,slow=9.8,SNR=11						

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*SZGRF **06** 12:38:46.3, 18.28N×147.68E, h33km, mb5.9, Mariana Islands region*

*NEIC **06** 12:38:49.2±0.1, 18.73N×147.15E, h20km, mb6.0/196, ME6.4, MS5.9/197, MW6.0, Error ellipse: s-maj=3.3km s-min=3.1km az=120.0, Moment Tensor Solution. s29 Moment tensor: Scale 10^{18}Nm; M_{rr}-0.04; $M_{\theta\theta}$0.48; $M_{\phi\phi}$-0.44; $M_{r\theta}$-0.13; $M_{\theta\phi}$-1.09; $M_{\phi r}$0.48; Best double couple: $M_0$1.30000×10^{18} NP1:ϕ_s258.00000°,δ67.00000°, λ180.00000°. NP2:ϕ_s348.00000°,δ90.00000°,λ23.00000°. Principal axes: T 1.3100, Plg16.0000°, Azm215.0000°; N -0.0600, Plg67.0000°, Azm348.0000°; P -1.2600, Plg15.0000°, Azm121.0000°; Broadband fault plane solution: P waves. NP1:ϕ_s274.00000°,δ40.00000°, λ172.00000°. NP2:ϕ_s10.00000°,δ85.00000°,λ50.00000°. Principal axes: T Plg37.0000°, Azm245.0000°; N Plg0.0000°, Azm0.0000°; P Plg29.0000°, Azm131.0000°; Depth from synthetics of broadband displacement seismograms. Energy computed from BB mechanism.*

NEIC Felt on Saipan.

*MOS **06** 12:38:49.5±1.0, 18.74N×147.13E, h33km, mb6.2/96, MS5.7/83 Error ellipse: s-maj=6.9km s-min=3.9km az=112.4*

*BJI **06** 12:38:50.0, 18.95N×146.99E, h16km, mB6.1, mb6.1, Ms5.8, Msz5.6*

*GCMT **06** 12:38:51.3±0.1, 18.84N×147.45E, h36km, MW6.1/112, Moment Tensor Solution. s97,c236; s112,c392; Duration: 2^{s}6 Moment tensor: Scale 10^{18}Nm; M_{rr}0.20±.01; $M_{\theta\theta}$-0.35±.01; $M_{\phi\phi}$0.14±.01; $M_{r\theta}$-0.02±.01; $M_{\theta\phi}$-1.11±.01; $M_{\phi r}$1.05±.02; Best double couple: $M_0$1.55700×10^{18} NP1:ϕ_s273.00000°,δ48.00000°, λ172.00000°. NP2:ϕ_s8.00000°,δ84.00000°,λ43.00000°. Principal axes: T 1.5900, Plg33.0000°, Azm240.0000°; N -0.0680, Plg47.0000°, Azm15.0000°; P -1.5230, Plg24.0000°, Azm133.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*

*ISCJB **06** 12:38:52.9±0.1, 18.74N±0.02×147.16E±0.01, h60km, mb6.0/285 Error ellipse: s-maj=2.8km s-min=1.8km az=167.3*

*IDC **06** 12:38:53.9±1.2, 18.70N×147.19E, h59km±9km, mb5.6/32, mb1 5.6/34, mb1mx5.6/34, mbtmp5.6/34, MS5.7/41, Ms1 5.7/41, ms1mx5.6/43, Error ellipse: s-maj=9.9km s-min=6.1km az=85.0*

*DJA **06** 12:39:51, 17.07N×146.34E, h650km, Mw6.1/7*

ISC 06 12:38:54.6±0.1**, 18.76N**±0.02×**147.17E**±0.01**, h62**km**, h62**km±1.0km**:pP-P, n1513, σ0^{s}80**/1178**, mb6.0**/285**, 328C-213D, Mariana Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
GUMO	Guam	5.60	204	P	Pn	12 40 15.9	+0.6
	2µm,0.3s,baz=72,slow=2.4,SNR=691						
GUMO				S	Sn	12 41 16.7	-1.6
	2µm,0.3s,baz=140,slow=24,SNR=16						
GUMO				LR	LR	12 42 12.8	
	comp=Z,21µm,18.0s,baz=25,slow=36						
GUMO	Guam	5.60	204	*e*Pn	Pn	12 40 15.9	+0.6
CBIJ	Chichi jima	9.48	332	P	Pn	12 41 05.2	-3.2
	439nm,0.3s,baz=135,slow=4.6,SNR=64						
CBIJ				S	Sn	12 42 45.8	-7.6
	783nm,0.3s,baz=129,slow=23,SNR=10						
JHJ	Hachijo jima 2	15.76	337	P	Pn	12 42 28.9	-3.7
	53nm,0.3s,baz=190,slow=14,SNR=8.4						
JHJ				S	Sn	12 45 16.7	-10

29nm,0.3s,baz=321,slow=18,SNR=3.8
JOW Kunigami 19.17 298 P **Pn 12 43 12.7 -1.9**
19nm,0.3s,baz=124,slow=8.3,SNR=50
JOW LR LR 12 49 21.1
comp=Z,38µm,21.9s,baz=123,slow=33
MJAR Matsushiro Arr 19.39 338 P **Pn 12 43 14.8 -2.3**
4.4nm,0.3s,baz=167,slow=9.5,SNR=173
MJAR S **S 12 46 49.4 -2.0**
3.7nm,0.3s,baz=157,slow=16,SNR=4.6
MJAR LR LR 12 50 26.0
comp=Z,11µm,19.8s,baz=145,slow=36
MJAR Matsushiro Arr 19.39 338 P **Pn 12 43 14.8 -2.3**
MJAR S **S 12 46 49.4 -2.0**
MJAR pmax pmax
comp=Z,4.0nm,0.3s
MJAR smax
comp=N,4.0nm,0.3s
MJAR MLR MLR
comp=Z,11µm,19.8s
MAJO Matsushiro 19.39 338 *e*P **Pn 12 43 15.3 -1.8**
BESP Borongan 22.13 254 *e*P **P 12 43 47.5 +2.2**
CNP Catarman 22.53 257 *e*P **P 12 43 50.8 +1.3**
PVCP Virac 22.68 260 *e*P **P 12 43 52.2 +1.1**
PLP Palo 22.71 254⇑ *e*P **P 12 43 51.7 +0.4**
SCPH Surigao 22.80 250 *e*P **P 12 43 52.3 0.0**
BUTP Butuan 23.05 248 *e*P **P 12 43 54.7 -0.2**
OCLP Ormoc 23.09 254 *e*P **P 12 43 56.1 +0.8**
MSLP Maasin 23.22 251 *e*P **P 12 43 57.0 +0.4**
ERM Erimo 23.43 352 P **P 12 43 59.8 +1.6**
comp=Z,2µm,0.9s,mb6.6,SNR=29
ERM Erimo 23.43 352 *e*P **P 12 43 58.9 +0.7**
ERM pmax pmax
comp=Z,683nm,1.2s,mb6.0
ERM MLR MLR
comp=Z,16µm,19.0s
ERM Erimo 23.43 352 *e*P **P 12 43 58.9 +0.7**
comp=Z,683nm,1.2s,mb6.0
ERM LR LR
comp=Z,16µm,19.0s
MATI Mati 23.49 243 *e*P **P 12 43 58.8 -0.2**
MMPH Masbate 23.54 258⇓ *e*P **P 12 44 00.6 +1.1**
MMPH *i* S 12 44 11.8
PALP Palanan 23.60 270 *e*P **P 12 44 00.2 +0.2**
SGCP Mt. Cagua 23.82 273 *e*P **P 12 44 01.6 -0.5**
LLP Lapu-Lapu 23.95 253⇑ *e*P **P 12 44 03.1 -0.2**
LLP *e*S **S 12 48 15.7 -0.1**
DAV Davao City (W) 24.00 244 P **P 12 44 04.1 +0.4**
comp=Z,1µm,0.7s,mb6.4,baz=41,slow=3.8,SNR=38
DAV LR LR 12 51 54.8
comp=Z,27µm,20.8s,baz=70,slow=32
DAV Davao City (W) 24.00 244⇑ *i*P **P 12 44 01.1 -2.6**
BUKP Musuan 24.04 246 *e*P **P 12 44 03.9 -0.3**
CVP Callao Caves 24.09 272 *e*P **P 12 44 05.1 +0.6**
AUQP San Andres 24.14 261 *e*P **P 12 44 07.4 +2.4**
CAUP Cauayan 24.19 270 *e*P **P 12 44 06.4 +1.0**
TBP Tagbilaran 24.30 251 *e*P **P 12 44 05.2 -1.3**
NACB Ninganchiao 24.38 287 *e*P **P 12 44 07.4 +0.3**
comp=Z,1µm,1.1s,mb6.3
KCP Kidapawan 24.45 244⇓ *i*P **P 12 44 08.9 +1.0**
POLP Polillo Island 24.48 264 *e*P **P 12 44 10.6 +2.5**
TATO Taipei 24.60 289 *e*P **P 12 44 09.9 +0.8**
comp=Z,530nm,1.1s,mb6.0
TATO LR LR
comp=Z,13µm,19.0s
RCP Roxas 24.62 257⇑ *e*P **P 12 44 09.2 -0.1**
BALP Baler 24.62 267 *e*P **P 12 44 09.2 -0.1**
APYP Conner 24.62 272 *e*P **P 12 44 08.2 -1.2**
KALP Kalibo 24.95 257⇓ *e*P **P 12 44 08.2 -4.2**
OTRP Odiongan 25.03 259 *e*P **P 12 44 13.8 +0.7**
GSPH General Santos 25.05 243⇓ *e*P **P 12 44 12.8 -0.5**
CTBH Cotabato--PC H 25.07 246 *e*P **P 12 44 14.6 +1.1**
CTBH *e*S pP 12 44 33.8 +5.3
GUIM Jordan 25.09 255 *e*P **P 12 44 14.0 +0.3**
PCPH Palayan 25.11 267⇑ *e*P **P 12 44 13.8 0.0**
KSRS Korea Array 25.11 322 P **P 12 44 13.5 -0.1**
comp=Z,377nm,0.8s,mb6.0,baz=137,slow=9.9,SNR=435
KSRS ScP ScP 12 51 21.4 +1.0
comp=Z,6.1nm,1.1s,baz=124,slow=3.3,SNR=3.2
KSRS LR LR 12 53 13.2
comp=Z,20µm,21.4s,baz=136,slow=34
KSRS P3KPbc 13 17 27.8
comp=Z,3.9nm,0.8s,baz=313,slow=3.6,SNR=6.2
KSRS Korea Array 25.11 322 P **P 12 44 13.5 -0.1**
KSRS pmax pmax
comp=Z,377nm,0.8s,mb6.0
KSRS pmax pmax
comp=N,6.0nm,1.1s
KSRS MLR MLR
comp=Z,20µm,21.4s
KSRS pmax pmax
comp=Z,4.0nm,0.8s
KS15 Wonju Array Si 25.12 322 *e*P **P 12 44 13.9 +0.2**
ABRA Dolores 25.15 272 *e*P **P 12 44 13.0 -1.2**
PIP Pasuquin 25.17 273⇑ *e*P **P 12 44 11.6 -2.7**
DCPH Dipolog City 25.22 250⇓ *e*P **P 12 44 14.8 -0.1**
YUK Yuzh-Kuril'sk 25.22 358 *e*P **P 12 44 20.0 +5.5**
YUK *e*SP 12 44 31.5
YUK *e* 12 45 04.5
YUK *e*SS 12 49 41.0
YUK pmax pmax
comp=N,8µm,5.0s
YUK pmax pmax
comp=Z,5µm,5.0s
YUK pmax pmax
comp=N,10µm,3.0s
YUK pmax pmax
comp=E,5µm,3.0s
YUK pmax pmax
comp=Z,5µm,3.0s
YUK MLR MLR
comp=N,6µm,17.0s
YUK MLR MLR
comp=E,6µm,17.0s
YUK MLR MLR
comp=Z,9µm,17.0s
PAGZ Pagadian 25.53 248 *e*P **P 12 44 18.2 +0.6**
ASAJ Asahikawa 25.57 352 P **P 12 44 18.4 +0.7**
comp=Z,58nm,0.6s,mb5.3,baz=211,slow=13,SNR=71
ASAJ S **S 12 48 54.9 +14**
comp=Z,29nm,1.0s,baz=259,slow=19,SNR=1.8
ASAJ LR LR 12 55 35.4
comp=Z,11µm,19.2s,baz=176,slow=39
SJMP San Jose 25.84 260 *e*P **P 12 44 21.5 +1.1**
INCN Inchon 25.90 320⇑ P **P 12 44 21.9 +1.1**
SNR=51
INCN Inchon 25.90 320 *e*P **P 12 44 20.4 -0.3**
comp=Z,1µm,1.4s,mb6.2
INCN LR LR
comp=Z,13µm,20.0s
NBP Mount Natib 25.91 265⇓ *e*P **P 12 44 21.3 +0.2**
NBP *e*S pP 12 44 37.1 +0.9
BOLP Bolinao 26.08 269 *e*P **P 12 44 24.2 +1.6**
SCZP Santa Cruz 26.19 268 *e*P **P 12 44 23.1 -0.5**
LUBP Lubang 26.31 263 *e*P **P 12 44 25.3 +0.6**
CUYO Cuyo Island 26.45 256 *e*P **P 12 44 25.8 -0.1**
SSE Sheshan 26.50 303⇑ P **P 12 44 25.5 -0.7**
SSE S **S 12 48 54.4 -1.6**
SSE AMB AMB
comp=Z,432nm,0.9s,mb6.0
SSE AMB AMB
comp=Z,1µm,4.4s
SSE LR LR
comp=N,14µm,25.6s
SSE LR LR
comp=E,8µm,25.5s
SSE LR LR
comp=Z,14µm,31.9s
SSE Sheshan 26.50 303⇑ P **P 12 44 25.5 -0.7**
comp=Z,432nm,0.9s,mb6.0
SSE pP pP 12 44 39.9 -1.4
SSE sP sP 12 44 48.6 -0.1
SSE S **S 12 48 54.4 -1.6**
SSE sS sS 12 49 22.0 +0.2
SSE LR LR
comp=Z,14µm,31.9s
BUSP Coron 26.83 259 *e*P **P 12 44 29.2 -0.2**
QZH Quanzhou 27.19 288⇑ *i*P **P 12 44 31.6 -1.0**
QZH XP sP 12 44 44.4 -11
QZH S **S 12 49 07.0 -0.1**
QZH AMB AMB
comp=Z,760nm,0.9s,mb6.2
QZH LR LR
comp=N,10µm,16.1s
QZH LR LR
comp=E,26µm,15.6s
QZH LR LR
comp=Z,37µm,19.7s
VLA Vladivostok 27.50 335*d i*P **P 12 44 36.6 +1.5**
VLA *i* *PP pP 12 44 50.8 +0.6
VLA *i* S **S 12 49 16.0 +4.5**
VLA pmax pmax
comp=Z,564nm,1.3s,mb5.9
VLA MLR MLR
comp=Z,10µm,18.0s
VLA Vladivostok 27.50 335 *i*P **P 12 44 36.4 +1.3**
ENPP El Nido 27.80 258 *e*P **P 12 44 38.7 +0.6**
PMG Port Moresby 27.99 180*c i*P **P 12 44 38.6 -1.1**
PMG Port Moresby 27.99 180 *e*P **P 12 44 39.0 -0.7**
PMG LR LR
comp=Z,8µm,20.0s
YSS Yuzh-Sakhalins 28.35 354⇑ *i*P **P 12 44 41.0 -1.6**
YSS *e* 12 44 50.4
YSS *i* 12 45 30.0
YSS *e*S **S 12 49 22.0 -2.8**
YSS *e*SSS 12 51 10.0
YSS pmax pmax
comp=Z,60nm,1.0s,mb5.2
YSS MLR MLR
comp=N,7µm,18.0s
YSS MLR MLR
comp=Z,5µm,18.0s
YSS MLR MLR
comp=E,5µm,17.0s
YSS Yuzh-Sakhalins 28.35 354 *e*P **P 12 44 42.5 -0.1**
comp=E,282nm,0.9s,mb5.9
YSS LR LR
comp=Z,3µm,21.0s
NJ2 Nanjing 28.70 303 *e*P **P 12 44 44.5 -1.4**
NJ2 PP PP 12 45 39.3 -12
NJ2 S **S 12 49 23.0 -7.6**
NJ2 XS sS 12 49 44.0 -13
NJ2 AMB AMB
comp=Z,40nm,0.9s,mb5.2
NJ2 AMB AMB
comp=Z,1µm,6.1s
NJ2 LR LR
comp=N,10µm,25.4s
NJ2 LR LR
comp=E,16µm,30.4s
NJ2 LR LR
comp=Z,16µm,30.4s
PPR Puerto Princes 28.93 256⇑ *e*P **P 12 44 51.0 +2.8**
MDJ Mudanjiang 29.67 334 P **P 12 44 55.7 +1.3**
MDJ S **S 12 49 48.7 +3.1**
MDJ AMB AMB
comp=Z,177nm,1.2s,mb5.7
MDJ AMB AMB
comp=Z,1µm,4.8s
MDJ LR LR
comp=E,12µm,18.4s
MDJ LR LR
comp=Z,15µm,18.1s
MDJ Mudanjiang 29.67 334⇑ *i*P **P 12 44 55.6 +1.3**
comp=Z,543nm,1.4s,mb6.1
MDJ LR LR
comp=Z,16µm,20.0s
DL2 Dalian 29.89 318⇑ *i*P **P 12 44 56.0 -0.4**
DL2 S **S 12 49 48.1 -1.1**
DL2 AMB AMB
comp=Z,360nm,1.2s,mb6.0
DL2 AMB AMB
comp=Z,850nm,4.9s
DL2 LR LR
comp=N,3µm,25.0s
DL2 LR LR
comp=E,5µm,23.4s
DL2 LR LR
comp=Z,7µm,22.4s
BATP Bataraza 30.15 255 *e*P **P 12 45 00.3 +1.4**
SNY Shenyang 30.53 324⇑ P **P 12 45 01.6 -0.4**
SNY S **S 12 49 56.8 -2.3**
SNY SS SS 12 51 41.5 -30
SNY AMB AMB
comp=Z,187nm,0.9s,mb5.9
SNY AMB AMB
comp=Z,2µm,9.4s
SNY LR LR
comp=N,14µm,22.2s
SNY LR LR
comp=E,8µm,21.8s
SNY LR LR
comp=Z,16µm,25.3s
HNR Honiara 30.72 155 P **P 12 45 01.7 -2.2**
comp=Z,68nm,0.7s,mb5.6,baz=237,slow=6.1,SNR=7.4
HNR LR LR 12 57 06.9
comp=Z,24µm,18.8s,baz=306,slow=36
HNR Honiara 30.72 155 P **P 12 45 01.7 -2.2**
HNR pmax pmax
comp=Z,68nm,0.7s,mb5.6
HNR MLR MLR
comp=Z,24µm,18.8s
HNR Honiara 30.72 155 *e*P **P 12 45 02.2 -1.7**
comp=Z,404nm,1.0s,mb6.2
HNR LR LR
comp=Z,26µm,20.0s
CN2 Changchun 30.92 329⇑ P **P 12 45 05.8 +0.4**
CN2 *e*S **S 12 50 05.0 -0.3**
CN2 AMB AMB
comp=Z,200nm,5.0s
CN2 LR LR
comp=N,13µm,19.0s
CN2 LR LR
comp=E,9µm,19.0s
CN2 LR LR
comp=Z,13µm,21.0s
MYLDM Lahad Datu 31.05 248⇓ P **P 12 45 09.0 +2.1**
HKC Hong Kong Obse 31.06 282 P **P 12 45 05.0 -1.9**
HABR Khabarovsk 31.23 344⇑ *i*P **P 12 45 08.7 +0.7**
HABR *e* pP 12 45 22.6 -0.7
HABR *e* 12 46 12.0
HABR *e* 12 48 01.0
HABR *e*S **S 12 50 12.2 +2.3**
HABR *e* 12 52 01.7
HABR *e* 12 55 36.7
HABR pmax pmax
comp=Z,266nm,1.4s,mb5.9
TIA Tai'an 31.64 309⇑ P **P 12 45 12.5 +0.7**
TIA S **S 12 50 11.0 -5.7**
TIA AMB AMB
comp=Z,618nm,1.2s,mb6.3
TIA LR LR
comp=N,2µm,13.0s
TIA LR LR
comp=E,2µm,13.0s
KDM Kudat 31.77 252⇑ P **P 12 45 14.2 +0.9**
GZH Guangzhou 31.84 284 P **P 12 45 12.5 -1.3**
GZH S **S 12 50 19.2 -0.9**
GZH AMB AMB
comp=Z,292nm,1.4s,mb5.9
GZH LR LR
comp=N,9µm,21.9s
GZH LR LR
comp=E,6µm,22.5s
GZH LR LR
comp=Z,12µm,23.7s
WHN Wuhan 31.93 298⇑ *i*P **P 12 45 14.3 -0.2**
WHN PCP PcP 12 48 04.6 +0.9
WHN S **S 12 50 30.3 +8.9**
WHN LR LR
comp=N,15µm,14.0s
WHN LR LR
comp=E,21µm,16.0s
WHN LR LR
comp=Z,37µm,20.6s
SDKM Sandakan 31.99 250⇑ P **P 12 45 15.4 +0.2**
TSM Tawau 32.02 247⇓ P **P 12 45 16.4 +0.9**
SKR Severo-Kuril's 32.64 11 P **P 12 45 28.0 +7.6**
SKR *e* 12 48 11.0
SKR *e*S **S 12 50 41.0 +9.2**
SKR *e*PS 12 55 40.0
SKR pmax pmax
comp=Z,5µm,4.0s
SKR pmax pmax
comp=E,180nm,1.0s
SKR pmax pmax
comp=Z,220nm,1.0s,mb6.0
SKR smax
comp=N,5µm,12.0s
SKR smax
comp=E,6µm,12.0s
SKR MLR MLR
comp=N,3µm,16.0s
SKR MLR MLR
comp=E,8µm,16.0s
SKR MLR MLR
comp=Z,7µm,16.0s
KKM Kota Kinabalu 32.69 251⇓ P **P 12 45 23.1 +1.7**
KKM Kota Kinabalu 32.69 251⇑ *i*P **P 12 45 21.8 +0.5**
comp=Z,904nm,0.8s,mb6.8
KKM LR LR
comp=Z,17µm,21.0s
COEN Coen 32.75 187 *e*P **P 12 45 21.4 -0.2**
comp=Z,769nm,0.8s,mb6.7
COEN *e*S **S 12 50 34.7 +0.6**
KLR Kul'dur 32.84 341 *e*P **P 12 45 18.5 -3.7**
KLR *e* 12 46 42.0
KLR *e*S **S 12 50 29.0 -6.0**
KLR pmax pmax
comp=N,1µm,7.0s
KLR pmax pmax
comp=Z,2µm,7.0s
MIDW Midway 33.76 67 PFAKE 12 45 40.0 +10
MIDW LR LR
comp=Z,16µm,21.0s
BJT Baijiatuau 34.06 315 *e*P **P 12 45 32.6 -0.3**
BJT *e*S **S 12 50 50.2 -3.9**
BJT pmax pmax
comp=Z,3µm,1.4s
BJT MLR MLR
comp=Z,11µm,22.0s
BJT Baijiatuau 34.06 315 *e*P **P 12 45 32.6 -0.3**
comp=Z,3µm,1.4s,mb7.0
BJT *e*S **S 12 50 50.2 -3.9**
BJT LR LR
comp=Z,11µm,22.0s
BJI Beijing 34.06 315 P **P 12 45 32.9 -0.1**
BJI AMB AMB
comp=Z,1µm,1.2s,mb6.7
BJI AMB AMB
comp=Z,5µm,3.5s
BJI LR LR
comp=N,19µm,20.6s
BJI LR LR
comp=E,17µm,22.1s
BJI LR LR
comp=Z,12µm,27.7s
BJI Beijing 34.06 315 P **P 12 45 32.9 -0.1**
comp=Z,1µm,1.2s,mb6.7
BJI S **S 12 50 58.7 +4.5**
BJI LR LR
comp=Z,12µm,27.7s
KAKA Kakadu 34.48 206⇑ *i*P **P 12 45 34.9 -1.9**
comp=Z,174nm,0.8s,mb6.0
PEA0B Petropavlovsk- 35.25 11 *e*P **P 12 45 45.0 +2.1**
PETK Petropavlovsk- 35.25 11 P **P 12 45 42.5 -0.5**
comp=Z,14nm,1.1s,mb4.8,baz=179,slow=6.7,SNR=12
PETK PcP PcP 12 48 12.1 -0.5
comp=Z,44nm,1.0s,baz=134,slow=4.3,SNR=4.0
PETK PKiKP PKiKP 12 55 32.5 -1.3
comp=Z,2.5nm,0.7s,baz=103,slow=4.7,SNR=5.7
PETK LR LR 12 59 40.0
comp=Z,5µm,19.1s,baz=192,slow=35
PETK Petropavlovsk- 35.25 11 P **P 12 45 42.5 -0.5**
PETK PcP PcP 12 48 12.1 -0.5
QIZ Qiongzhong 35.27 277 P **P 12 45 42.9 -0.8**
QIZ PP PP 12 47 03.7 -1.0
QIZ S **S 12 51 10.7 -2.6**
QIZ AMB AMB
comp=Z,192nm,1.3s,mb5.9
QIZ AMB AMB
comp=Z,1µm,8.8s
QIZ LR LR
comp=E,9µm,21.9s
QIZ LR LR
comp=Z,14µm,21.9s
PET Petropavlovsk 35.35 12 *e*P **P 12 45 46.4 +2.6**
PET *e* 12 46 59.9
PET *e* 12 48 12.9
PET *e*S **S 12 51 16.3 +2.7**
PET pmax pmax
comp=Z,2µm,5.6s
PET pmax pmax
comp=Z,1µm,7.2s
PET pmax pmax
comp=Z,102nm,1.1s,mb5.7
PET pmax pmax
comp=Z,1µm,8.3s
PET Petropavlovsk 35.35 12 *e*P **P 12 45 46.7 +2.8**
comp=Z,305nm,1.6s,mb6.0
PET LR LR
comp=Z,6µm,19.0s
TIY Taiyuan 35.68 309⇑ *i*P **P 12 45 49.2 +2.3**
TIY S **S 12 51 19.1 -0.1**
TIY AMB AMB
comp=Z,3µm,3.4s
TIY LR LR
comp=N,7µm,16.2s
TIY LR LR
comp=E,3µm,11.7s
TIY LR LR
comp=Z,2µm,14.7s
ENH Enshi 35.99 296 PFAKE 12 46 00.0 +10
ENH LR LR
comp=Z,3.0nm,21.0s
BTM Bintulu 36.75 249⇑ P **P 12 45 57.9 +1.6**
BATI Baumata 36.96 221 P **P 12 45 56.0 -2.0**
comp=Z,697nm,0.8s,mb6.5,baz=80,slow=0.6,SNR=99
BATI S **S 12 51 33.3 -5.8**
comp=Z,24nm,0.8s,baz=324,slow=7.9,SNR=6.0
BATI LR LR 13 00 17.1
comp=Z,7µm,21.8s,baz=58,slow=35
HHC Hu-ho-hao-te 37.56 314⇑ *i*P **P 12 46 03.6 +0.7**
HHC PP PP 12 47 33.9 +4.3
HHC PCP PcP 12 48 21.0 +1.2
HHC AMB AMB
comp=Z,350nm,1.1s,mb6.0
HHC LR LR
comp=N,7µm,14.5s
HHC LR LR
comp=E,6µm,15.1s
HHC LR LR
comp=Z,9µm,16.2s
HIA Hailar 37.58 330⇑ *i*P **P 12 46 03.5 +0.6**
HIA *e*S **S 12 51 42.7 -5.1**
HIA pmax pmax
comp=Z,680nm,1.2s
HIA MLR MLR
comp=Z,10µm,20.0s
HIA Hailar 37.58 330⇑ *i*P **P 12 46 03.5 +0.5**
comp=Z,680nm,1.2s,mb6.2
HIA *e*S **S 12 51 42.7 -5.1**
HIA LR LR
comp=Z,10µm,20.0s
SBUM Sibu 37.86 249⇓ P **P 12 46 07.3 +1.6**
GYA Guiyang 38.05 289⇑ *i*P **P 12 46 07.9 +0.7**
GYA PP PP 12 47 39.7 +4.6
GYA PCP PcP 12 48 23.7 +2.1
GYA AMB AMB
comp=Z,220nm,1.1s,mb5.8
GYA AMB AMB
comp=Z,2µm,5.7s
GYA LR LR
comp=N,5µm,19.5s
GYA LR LR
comp=E,5µm,18.3s
GYA LR LR
comp=Z,6µm,17.1s
BTO Baotou 38.53 312 *i*P **P 12 46 11.7 +0.6**
BTO S **S 12 51 59.8 -2.6**
CTA Charters Tower 38.62 181 *e*P **P 12 46 11.5 -0.4**
comp=Z,122nm,1.3s,mb5.5
CTA *e*PP PP 12 47 59.6 +18
CTA *e*S **S 12 52 02.7 -1.3**
CTA Charters Tower 38.62 181 P **P 12 46 11.3 -0.6**
comp=Z,123nm,0.9s,mb5.7,baz=7.4,slow=9.2,SNR=34
CTA S **S 12 52 02.6 -1.4**
comp=Z,19nm,1.1s,baz=225,slow=17,SNR=8.4
CTA LR LR 13 00 55.5
comp=Z,5µm,21.0s,baz=5.7,slow=34
CTA Charters Tower 38.62 181 P **P 12 46 11.3 -0.6**
CTA S **S 12 52 02.6 -1.4**
CTA pmax pmax
comp=Z,123nm,0.9s
CTA smax
comp=N,19nm,1.1s
CTA MLR MLR

comp=Z,5μm,21.0s
CTAO Charters Tower 38.62 181 *e*P **P** **12 46 11.7 -0.2**
CTAO pmax pmax
comp=Z,626nm,1.5s,mb6.1
CTAO MLR MLR
comp=Z,6μm,22.0s
CTAO Charters Tower 38.62 181 *e*P **P** **12 46 11.7 -0.2**
comp=Z,626nm,1.5s,mb6.1
CTAO LR LR
comp=Z,6μm,22.0s
SMY Shemya 39.87 25 PFAKE 12 46 30.0 +8.0
SMY LR LR
comp=Z,10μm,22.0s
KSM Kuching 40.00 249 ⇑P **P** **12 46 23.6 -0.1**
KSM Kuching 40.00 249 *e*P **P** **12 46 23.0 -0.7**
comp=Z,873nm,0.8s,mb6.5
KSM *e*pP pP 12 46 36.0 -3.2
KSM *e*sP sP 12 46 43.7 -2.8
KSM *e*PcP PcP 12 48 29.1 +1.2
UBT Ubonrachathani 40.39 272 ⇑P **P** **12 46 28.4 +1.5**
WB2 Warramunga Arr 40.47 199 *e*P **P** **12 46 27.1 -0.2**
WB2 *e*S **S** **12 52 31.4 -0.3**
WRA Warramunga Arr 40.47 199 P **P** **12 46 26.0 -1.3**
comp=Z,702nm,0.9s,mb6.4,baz=16,slow=9.0,SNR=514
WRA PcP PcP 12 48 29.6 +0.5
comp=Z,40nm,0.5s,baz=17,slow=3.3,SNR=5.9
WRA ScP ScP 12 52 15.3 +2.1
comp=Z,9.1nm,1.0s,baz=12,slow=4.7,SNR=5.2
WRA S **S** **12 52 30.0 -1.8**
comp=Z,22nm,1.1s,baz=20,slow=14,SNR=7.4
WRA LR LR 13 04 00.4
comp=Z,5μm,19.7s,baz=30,slow=37
WRA P3KPbc 13 16 20.8
comp=Z,0.4nm,0.7s,baz=197,slow=3.7,SNR=5.6
WRA PKPPKP 13 18 47.5
comp=Z,3.4nm,1.1s,baz=183,slow=2.0,SNR=4.9
WRA P4KPbc 13 24 35.6
comp=Z,1.4nm,0.9s,baz=25,slow=5.1,SNR=13
WRA Warramunga Arr 40.47 199 P **P** **12 46 26.0 -1.3**
WRA 12 48 29.6
WRA S **S** **12 52 30.0 -1.7**
WRA pmax pmax
comp=Z,703nm,1.0s
WRA pmax pmax
comp=Z,40nm,0.5s
WRA pmax pmax
comp=N,9.0nm,1.0s
WRA smax
comp=N,22nm,1.1s
WRA MLR MLR
comp=Z,5μm,19.7s
WRA pmax pmax
comp=Z,3.0nm,1.1s
WRA pmax pmax
comp=Z,1.0nm,0.9s
WRA Warramunga Arr 40.47 199 P **P** **12 46 26.0 -1.4**
WRA PcP PcP 12 48 29.6 +0.5
WRA ScP ScP 12 52 15.3 +2.1
WRA S **S** **12 52 30.0 -1.8**
WRA LR LR 13 04 00.4
WRA *e* 13 16 20.8
WRA P'P' 13 18 47.5
CD2 Chengdu 40.97 296 ⇑*i*P **P** **12 46 31.0 -0.5**
CD2 PP PP 12 48 09.8 +2.8
CD2 PCP PcP 12 48 30.8 0.0
CD2 AMB AMB
comp=Z,350nm,1.1s,mb5.9
CD2 AMB AMB
comp=Z,2μm,7.2s
CD2 LR LR
comp=N,16μm,27.6s
CD2 LR LR
comp=E,11μm,25.2s
CD2 LR LR
comp=Z,12μm,22.8s
AMKA Amchitka 41.24 30 *e*P **P** **12 46 35.1 +1.8**
comp=Z,129nm,1.3s,mb5.4
CLNS Chul'man 41.50 342*c i*P **P** **12 46 35.7 +0.3**
CLNS *e**PP pP 12 46 42.5 -8.6
CLNS *e*PPP 12 48 22.0
CLNS *e* 12 48 35.7
CLNS *e*S **S** **12 52 39.0 -7.3**
CLNS pmax pmax
comp=Z,294nm,1.0s,mb5.9
CLNS pmax pmax
comp=N,215nm,1.1s
CLNS pmax pmax
comp=E,72nm,1.1s
CLNS smax
comp=E,1000μm,13.3s
CLNS smax
comp=N,1355μm,10.7s
KMI Kunming 41.55 287 P **P** **12 46 37.2 +0.9**
KMI PP PP 12 48 16.8 +3.5
KMI PCP PcP 12 48 34.6 +1.8
KMI AMB AMB
comp=Z,193nm,1.6s,mb5.5
KMI AMB AMB
comp=Z,2μm,8.0s
KMI LR LR
comp=N,6μm,22.4s
KMI LR LR
comp=E,5μm,21.2s
KMI LR LR
comp=Z,7μm,30.1s
KMI Kunming 41.55 287 P **P** **12 46 37.2 +0.9**
KMI *PP pP 12 46 51.6 -0.4
KMI 12 48 16.8
KMI 12 48 34.6
KMI PPP 12 48 47.9
KMI S **S** **12 52 48.5 +0.5**
KMI SS SS 12 55 47.5 -7.3
KMI SSS 12 56 31.2
KMI 12 56 33.6
KMI pmax pmax
comp=Z,193nm,1.6s,mb5.5
KMI Kunming 41.55 287 P **P** **12 46 37.2 +0.9**
comp=Z,193nm,1.6s,mb5.5
KMI pP pP 12 46 51.6 -0.4
KMI sP sP 12 46 57.9 -1.3
KMI PP PP 12 48 16.8 +3.5
KMI PcP PcP 12 48 34.6 +1.8
KMI PPP 12 48 47.9
KMI ScP ScP 12 52 18.7 +1.0
KMI S **S** **12 52 48.5 +0.5**
KMI sS sS 12 53 12.9 -1.7
KMI SS SS 12 55 47.5 -7.3
KMI SSS 12 56 31.2
KMI ScS ScS 12 56 33.6 -0.8
KMI LR LR
comp=Z,7μm,30.1s
FUNA Funafuti 41.63 128 PFAKE 12 46 50.0 +13
FUNA LR LR
comp=Z,14μm,20.0s
LZH Lanzhou 41.77 303 *e*P **P** **12 46 38.9 +0.9**
LZH PP PP 12 48 17.2 +1.7
LZH S **S** **12 52 51.9 +1.0**
LZH SS SS 12 55 56.0 -2.8
LZH AMB AMB
comp=Z,780nm,1.0s,mb6.3
LZH AMB AMB
comp=Z,4μm,4.0s
LZH LR LR
comp=N,11μm,15.1s
LZH LR LR
comp=Z,17μm,16.9s
LZH Lanzhou 41.77 303 *e*P **P** **12 46 38.9 +0.9**
LZH *PP pP 12 46 54.1 +0.4
LZH 12 48 17.2
LZH S **S** **12 52 51.9 +1.0**
LZH SS SS 12 55 56.0 -2.8
LZH pmax pmax
comp=Z,780nm,1.0s,mb6.3
LZH MLR MLR
comp=Z,17μm,16.9s
LZH Lanzhou 41.77 303 *e*P **P** **12 46 38.9 +0.9**
comp=Z,780nm,1.0s,mb6.3
LZH pP pP 12 46 54.1 +0.4
LZH sP sP 12 47 00.0 -0.9
LZH PP PP 12 48 17.2 +1.7
LZH S **S** **12 52 51.9 +1.0**
LZH sS sS 12 53 19.0 +1.4
LZH SS SS 12 55 56.0 -2.8
LZH LR LR
comp=Z,17μm,16.9s

FITZ Fitzroy Crossi 42.30 211 *e*P **P** **12 46 41.8 -0.6**
comp=Z,873nm,1.1s,mb6.3
FITZ *e*PCP PcP 12 48 36.2 +1.0
FITZ *e*S **S** **12 52 57.7 -1.2**
FITZ Fitzroy Crossi 42.30 211 P **P** **12 46 42.1 -0.3**
comp=Z,323nm,0.8s,mb6.0,baz=32,slow=11,SNR=568
FITZ PcP PcP 12 48 36.4 +1.2
comp=Z,139nm,0.9s,baz=142,slow=1.5,SNR=5.7
FITZ LR LR 13 04 19.6
comp=Z,2μm,20.9s,baz=225,slow=36
CIT Chita 42.36 329 *e*P **P** **12 46 43.6 +1.1**
CIT *e* 12 46 53.0
CIT *e* 12 48 20.1
CIT *e*S **S** **12 53 02.4 +3.3**
CIT pmax pmax
comp=Z,953nm,1.6s,mb6.2
ADK Adak 43.52 32 *e*P **P** **12 46 53.1 +1.2**
ADK pmax pmax
comp=Z,487nm,1.4s,mb6.0
ADK MLR MLR
comp=Z,5μm,20.0s
ADK Adak 43.52 32 *e*P **P** **12 46 53.1 +1.2**
comp=Z,487nm,1.4s,mb6.0
ADK LR LR
comp=Z,5μm,20.0s
ULN Ulaanbaatar 43.59 321 P **P** **12 46 53.3 +0.8**
SNR=290
ULN Ulaanbaatar 43.59 321⇑*e*P **P** **12 46 53.5 +1.0**
ULN Ulaanbaatar 43.59 321 *e*P **P** **12 46 53.7 +1.2**
comp=Z,447nm,1.0s,mb6.2
ULN LR LR
comp=Z,12μm,20.0s
SONM Songino Array 43.97 321 P **P** **12 46 56.1 +0.5**
comp=Z,298nm,1.0s,mb6.0,baz=128,slow=8.6,SNR=729
SONM S **S** **12 53 23.5 +0.6**
comp=Z,7.1nm,1.1s,baz=134,slow=4.2,SNR=2.4
SONM LR LR 13 06 28.3
comp=Z,13μm,19.4s,baz=115,slow=38
SONM Songino Array 43.97 321 P **P** **12 46 56.1 +0.5**
SONM S **S** **12 53 23.5 +0.6**
SONM pmax pmax
comp=Z,298nm,1.0s
SONM smax
comp=N,7.0nm,1.1s
SONM MLR MLR
comp=Z,13μm,19.4s
ASAR Alice Springs 44.11 198 P **P** **12 46 57.0 +0.1**
comp=Z,346nm,0.8s,mb6.1,baz=18,slow=6.4,SNR=501
ASAR S **S** **12 53 25.4 +0.1**
comp=Z,6.4nm,0.8s,baz=16,slow=18,SNR=4.8
ASAR PKPPKP 13 18 00.1
comp=Z,0.5nm,0.5s,baz=194,slow=2.5,SNR=4.4
ASAR P4KPbc 13 24 51.2
comp=Z,2.8nm,0.7s,baz=18,slow=4.4,SNR=23
SEY Seymchan 44.28 3⇑*e*P **P** **12 46 58.2 +0.4**
CHRT Chiangrai 44.62 280 ⇑P **P** **12 47 02.0 +0.9**
comp=Z,645nm,1.0s,mb6.4
NOUC Port Laguerre 44.72 154 *e*P **P** **12 47 01.0 -0.8**
DZM Mont Dzumac 44.75 154 *e*P **P** **12 47 00.9 -1.1**
DZM Mont Dzumac 44.75 154⇓*i*P **P** **12 47 02.0 0.0**
comp=Z,291nm,1.1s,mb6.0
YAK Yakutsk 44.93 348 *e*P **P** **12 47 02.4 -0.6**
YAK *e**PP pP 12 47 07.9 -11
YAK *e* 12 48 49.3
YAK *e*S **S** **12 53 42.5 +6.2**
YAK *e* 12 56 54.2
YAK *e*SSS 12 57 47.9
YAK pmax pmax
comp=Z,449nm,0.9s,mb6.3
YAK pmax pmax
comp=N,141nm,0.9s
YAK pmax pmax
comp=E,54nm,1.1s
YAK pmax pmax
comp=Z,137nm,0.9s,mb5.8
YAK pmax pmax
comp=N,93nm,0.9s
YAK pmax pmax
comp=E,35nm,0.8s
YAK smax
comp=E,195μm,2.2s
YAK smax
comp=N,1231μm,3.5s
YAK MLR MLR
comp=Z,5μm,17.0s
YAK MLR MLR
comp=N,4μm,16.0s
YAK MLR MLR
comp=E,1μm,15.0s
YAK Yakutsk 44.93 348 *e*P **P** **12 47 02.5 -0.5**
YAK LR LR
comp=Z,5μm,19.0s
NST Nakhon Sawan 44.94 274⇓P **P** **12 47 04.8 +1.1**
comp=Z,558nm,0.9s,mb6.4
KTGM Kuala Trenggan 44.95 258⇓P **P** **12 47 06.2 +2.4**
CHG Chiang Mai 45.54 278 ⇑P **P** **12 47 09.0 +0.5**
comp=Z,164nm,1.2s,mb5.8
CHTO Chiang Mai 45.54 278 P **P** **12 47 09.2 +0.8**
SNR=38
CHTO Chiang Mai 45.54 278 *e*P **P** **12 47 08.7 +0.2**
CHTO pmax pmax
comp=Z,271nm,1.3s,mb6.0
CHTO MLR MLR
comp=Z,8μm,20.0s
CHTO Chiang Mai 45.54 278 *e*P **P** **12 47 08.7 +0.2**
comp=Z,271nm,1.3s,mb6.0
CHTO LR LR
comp=Z,8μm,20.0s
CM31 Chiang Mai Arr 45.59 278 PFAKE 12 47 20.0 +11
CM31 LR LR
comp=Z,5μm,20.0s
CMAR Chiang Mai Arr 45.59 278 P **P** **12 47 09.7 +0.8**
comp=Z,368nm,1.1s,mb6.2,baz=66,slow=6.4,SNR=614
CMAR PcP PcP 12 48 47.3 +0.8
comp=Z,48nm,0.9s,baz=96,slow=2.2,SNR=4.5
CMAR LR LR 13 04 34.8
comp=Z,7μm,21.1s,baz=78,slow=34
CMAR PKPPKP 13 18 39.0
comp=Z,1.2nm,0.9s,baz=301,slow=4.7,SNR=4.9
CMAR Chiang Mai Arr 45.59 278 P **P** **12 47 09.7 +0.8**
CMAR 12 48 47.3
CMAR pmax pmax
comp=Z,368nm,1.1s
CMAR pmax pmax
comp=Z,48nm,0.9s
CMAR pmax pmax
comp=Z,1.0nm,0.9s
CMAR Chiang Mai Arr 45.59 278 P **P** **12 47 09.7 +0.8**
CMAR PcP PcP 12 48 47.3 +0.8
CMAR LR LR 13 04 34.8
CMAR P'P' 13 18 39.0
GTA Gaotai 45.62 307⇑*i*P **P** **12 47 09.8 +1.0**
GTA PCP PcP 12 48 46.8 +0.5
GTA PP PP 12 48 58.2 +1.6
GTA PCS PcS 12 52 39.7 -0.7
GTA S **S** **12 53 48.0 +1.0**
GTA SS SS 12 57 07.5 -4.2
GTA AMB AMB
comp=Z,347nm,1.5s,mb6.1
GTA AMB AMB
comp=Z,3μm,6.6s
GTA LR LR
comp=N,10μm,21.0s
GTA LR LR
comp=E,10μm,19.2s
GTA LR LR
comp=Z,10μm,19.8s
MYKOM **Kota Tinggi 45.66 254** ⇑P **P** **12 47 11.7 +2.3**
BOD Bodaibo 46.01 336 *e*P **P** **12 47 11.4 -0.2**
BOD *e* pP 12 47 29.1 +1.6
BOD pmax pmax
comp=Z,103nm,1.5s,mb5.5
BOD pmax pmax
comp=Z,164nm,1.4s,mb5.8
KGM Kluang 46.05 254⇓P **P** **12 47 14.6 +2.1**
SNG Songkhla 46.66 262 P **P** **12 47 19.0 +1.6**
comp=Z,960nm,1.0s,mb6.7
ZAK Zakamensk 46.94 323⇓*i*P **P** **12 47 19.4 +0.4**
ZAK *e* 12 48 46.7
ZAK *e* 12 54 02.4
ZAK *e* 12 57 01.8
ZAK pmax pmax
comp=Z,207nm,1.3s,mb5.9
IPM Ipoh 47.21 258 ⇑P **P** **12 47 23.1 +1.5**
IRK Irkutsk 47.24 325⇑*i*P **P** **12 47 21.7 +0.4**
IRK *e* 12 47 31.9
IRK *e*S **S** **12 54 14.4 +4.6**
IRK pmax pmax
comp=Z,443nm,1.4s,mb6.2
KULM Kulim 47.27 260 ⇑P **P** **12 47 23.7 +1.6**
TLY Talaya 47.32 324 P **P** **12 47 23.2 +1.3**
SNR=90
TLY Talaya 47.32 324*c i*P **P** **12 47 22.7 +0.8**
TLY *e*S **S** **12 54 11.6 +0.7**
TLY *e*PS 12 54 24.3
TLY *e* 12 57 14.6
TLY *e*SS SS 12 57 37.0 -1.9
TLY pmax pmax
comp=Z,369nm,1.3s,mb6.2
TLY MLR MLR
comp=Z,7μm,19.0s
TLY Talaya 47.32 324 *e*P **P** **12 47 22.9 +1.0**
comp=Z,405nm,1.3s,mb6.2
TLY LR LR
comp=Z,8μm,20.0s
MBWA Marble Bar 47.92 215⇓P **P** **12 47 27.6 +0.7**
SNR=94
MBWA Marble Bar 47.92 215 *e*P **P** **12 47 26.6 -0.4**
MBWA LR LR
comp=Z,2μm,21.0s
NIKO Nikolski 48.17 34 *e*P **P** **12 47 28.3 -0.2**
comp=Z,337nm,1.0s,mb6.3
MOY Mondy 48.80 323 *e*P **P** **12 47 33.9 +0.6**
MOY pmax pmax
comp=Z,354nm,2.1s,mb6.0
ARMA Armidale 49.08 175⇑*i*P **P** **12 47 36.2 +0.5**
ARMA *e*S **S** **12 54 38.5 +2.4**
UNV Unalaska Valle 49.82 34 *e*P **P** **12 47 40.8 -0.3**
comp=Z,161nm,1.1s,mb6.0
XMIS Christmas Isla 50.21 238⇑*i*P **P** **12 47 43.4 -1.2**
AKUT Akutan 50.33 34 *e*P **P** **12 47 46.0 +1.1**
STKA Stephens Creek 50.63 186⇑*i*P **P** **12 47 46.7 -0.7**
comp=Z,177nm,0.6s,mb6.2
STKA *e*S **S** **12 54 56.4 -1.3**
STKA Stephens Creek 50.63 186 P **P** **12 47 47.0 -0.4**
comp=Z,263nm,0.8s,mb6.2,baz=350,slow=8.3,SNR=67
STKA S **S** **12 54 55.5 -2.2**
comp=Z,17nm,1.1s,baz=133,slow=19,SNR=4.1
STKA LR LR 13 08 39.6
comp=Z,9μm,20.5s,baz=2.3,slow=35
KIP Kipapa 51.34 77 *e*P **P** **12 47 52.1 -1.0**
KIP *e**PP pP 12 48 08.3 -0.9
KIP pmax pmax
comp=Z,442nm,1.3s,mb6.2
KIP MLR MLR
comp=Z,9μm,22.0s
KIP Kipapa 51.34 77 *e*P **P** **12 47 52.1 -1.0**
comp=Z,442nm,1.3s,mb6.2
KIP *e*pP pP 12 48 08.3 -0.9
KIP LR LR
comp=Z,9μm,22.0s
SHL Shillong 51.35 288 *i* P **P** **12 47 52.5 -0.6**
SHL *e*PCP PcP 12 49 07.0 -0.2
SHL *e*SCP ScP 12 53 04.0 +5.5
SHL *ex* x 12 55 06.5
LSA Lhasa 51.80 293 P **P** **12 47 58.7 +2.3**
LSA PP PP 12 49 54.0 -0.7
LSA S **S** **12 55 12.9 -1.4**
LSA AMB AMB
comp=Z,380nm,1.0s,mb6.3
LSA AMB AMB
comp=Z,2μm,10.0s
LSA LR LR
comp=N,4μm,22.0s
LSA LR LR
comp=E,6μm,27.0s
LSA LR LR
comp=Z,8μm,25.0s
LSA Lhasa 51.80 293⇑*i*P **P** **12 47 58.2 +1.8**
LSA *e*S **S** **12 55 18.1 +3.8**
LSA pmax pmax
comp=Z,290nm,0.9s,mb6.2
LSA MLR MLR
comp=Z,8μm,22.0s
LSA Lhasa 51.80 293⇑*i*P **P** **12 47 58.2 +1.7**
comp=Z,290nm,0.9s,mb6.2
LSA *e*S **S** **12 55 18.1 +3.8**
LSA LR LR
comp=Z,8μm,22.0s
AFI Afiamalu 51.87 126 P **P** **12 47 56.2 -0.8**
comp=Z,143nm,0.9s,mb5.9,baz=317,slow=2.9,SNR=15
AFI LR LR 13 04 53.4
comp=Z,8μm,21.3s,baz=315,slow=30
AFI Afiamalu 51.87 126 *e*P **P** **12 47 56.2 -0.8**
AFI LR LR
comp=Z,9μm,22.0s
FORT Forrest 52.57 201⇑*i*P **P** **12 48 02.1 +0.2**
comp=Z,806nm,0.7s,mb6.8
GAMB Gambell 52.88 22 *e*P **P** **12 48 05.2 +1.3**
comp=Z,329nm,1.3s,mb6.1
GAMB *e*pP pP 12 48 20.4 +0.3
SDPT Sand Point 53.63 34 *e*P **P** **12 48 09.1 -0.4**
CAN Canberra 53.81 178 *e*P **P** **12 48 11.5 +0.6**
comp=Z,344nm,1.2s,mb6.2
CNB Canberra Magne 53.82 178⇑*i*P **P** **12 48 11.6 +0.6**
POHA Pohakuloa 53.88 79 *e*P **P** **12 48 11.8 -0.1**
comp=Z,209nm,0.9s,mb6.1
POHA *e*pP pP 12 48 28.1 0.0
POHA LR LR
comp=Z,12μm,20.0s
KHU Kahuku 53.88 80 *e*P **P** **12 48 11.8 -0.1**
KHU *e**PP pP 12 48 29.6 +1.5
TIXI Tiksi 53.97 353⇑*e*P **P** **12 48 10.7 -1.0**
TIXI pmax pmax
comp=Z,81nm,0.9s,mb5.7
TIXI Tiksi 53.97 353 *e*P **P** **12 48 11.3 -0.4**
TIXI LR LR
comp=Z,3μm,20.0s
ADE Adelaide 54.03 189⇑*i*P **P** **12 48 13.1 +0.5**
GTK Gangtok 54.14 291 *ex* x 12 48 09.0
SLGI Shiliguri 54.37 290 *e*P **P** **12 48 15.1 -0.2**
CAL Calcutta 54.89 285⇑*i*P **P** **12 48 19.7 +0.6**
CAL *ex* x 12 55 38.7
KRAR Krasnoyarsk 54.90 326*c i*P **P** **12 48 18.5 -0.2**
KRAR pmax pmax
comp=Z,282nm,1.3s,mb6.1
TAPN Taplejung 54.94 291 *e*P **P** **12 48 20.4 +0.9**
comp=Z,2μm,1.1s,mb7.0
CHGN Chignik 55.06 34 *e*P **P** **12 48 21.7 +1.9**
SHBG Sahibganj 55.18 288 *e*P **P** **12 48 21.2 0.0**
TNA Tin City 55.26 21 *e*P **P** **12 48 14.9 -6.2**
comp=Z,198nm,1.2s,mb6.0
ODAN Odare 55.27 290 *e*P **P** **12 48 22.5 +0.6**
comp=Z,3μm,1.3s,mb7.1
WMQ Urumqi 55.32 311⇑*i*P **P** **12 48 23.5 +1.5**
WMQ PCP PcP 12 49 23.5 +1.6
WMQ PP PP 12 50 29.0 +2.9
WMQ PCS PcS 12 53 22.0 +0.1
WMQ S **S** **12 56 01.0 -0.5**
WMQ SCS ScS 12 58 03.5 -2.1
WMQ SS SS 12 59 45.8 -0.7
WMQ AMB AMB
comp=Z,2μm,1.1s,mb7.0
WMQ AMB AMB
comp=Z,1μm,4.9s
WMQ LR LR
comp=N,6μm,26.3s
WMQ LR LR
comp=E,8μm,26.8s
WMQ LR LR
comp=Z,8μm,27.5s
RAMN Ramite 55.96 290 *e*P **P** **12 48 27.4 +0.6**
comp=Z,910nm,0.9s,mb6.8
TOO Toolangi 56.05 182 *e*P **P** **12 48 27.8 +0.7**
TOO *e*S **S** **12 56 15.5 +4.4**
JIRN Jiri 56.26 291 *e*P **P** **12 48 30.0 +1.0**
comp=Z,2μm,0.8s,mb7.1
GUN Gumba 56.52 291 *e*P **P** **12 48 31.7 +0.9**
comp=Z,2μm,1.3s,mb7.0
XMAS Kiritimati 56.69 100 *e*P **P** **12 48 31.4 -0.8**
comp=Z,135nm,0.8s,mb6.0
XMAS LR LR
comp=Z,9μm,20.0s
BOK Bokaro 56.95 287 *e*P **P** **12 48 34.7 +0.8**
PKI Pulchoki 56.96 291 *e*P **P** **12 48 34.2 +0.3**
comp=Z,627nm,0.8s,mb6.7
PKIN Phulchoki 56.97 291 *e*P **P** **12 48 34.4 +0.4**
comp=Z,411nm,0.8s,mb6.5
KKN Kakani 57.06 291 *e*P **P** **12 48 35.0 +0.4**
comp=Z,801nm,0.9s,mb6.7
DMN Daman 57.23 291 *e*P **P** **12 48 36.0 +0.2**

comp=Z,776nm,0.9s,mb6.7
KLBR Kellerberrin 57.47 210⇑ *i*P P **12 48 36.8 -0.5**
comp=Z,781nm,0.9s,mb6.7
BWNR Bhubaneshwar 57.55 283 *e*P P **12 48 38.0 -0.2**
BWNR *ex* x 12 56 23.0
GKN Gorkha 57.60 292 *e*P P **12 48 38.9 +0.4**
comp=Z,2µm,1.2s,mb7.1
OHAK Old Harbor 58.03 34 *e*P P **12 48 41.8 +0.9**
SVW2 Sparrevohn 58.10 29 *e*P P **12 48 41.9 +0.6**
DANN Dangsing 58.34 292 *e*P P **12 48 44.4 +0.8**
comp=Z,1µm,0.7s,mb7.1
COCO West Island 58.38 242 P P **12 48 45.8 +1.8**
SNR=13
COCO West Island 58.38 242 *e*P P **12 48 44.5 +0.5**
COCO LR LR
comp=Z,3µm,22.0s
RAO Raoul Island 58.43 144 P P **12 48 43.6 -0.5**
comp=Z,206nm,0.8s,mb6.2,baz=245,slow=22,SNR=2.9
RAO LR LR 13 10 52.7
comp=Z,6µm,20.2s,baz=339,slow=33
RAO Raoul Island 58.43 144 P P **12 48 43.6 -0.5**
RAO LR LR 13 10 52.7
MUN Mundaring 58.53 211⇑ *i*P P **12 48 44.7 0.0**
KOLN Koldanda 58.54 292 *e*P P **12 48 45.3 +0.3**
comp=Z,486nm,0.7s,mb6.6
KDAK Kodiak Island 58.55 33 P P **12 48 43.6 -0.9**
comp=Z,25nm,0.7s,mb5.3,baz=240,slow=5.9,SNR=13
KDAK LR LR 13 10 06.2
comp=Z,6µm,22.0s,baz=254,slow=32
KDAK Kodiak Island 58.55 33 *e*P P **12 48 44.5 0.0**
KDAK LR LR
comp=Z,1µm,20.0s
ZAA0 Zalesovo Array 58.82 322 *e*P P **12 48 46.1 -0.4**
ZALV Zalesovo Beam 58.82 322 P P **12 48 46.2 -0.2**
comp=Z,186nm,0.7s,mb6.2,baz=99,slow=6.5,SNR=552
ZALV LR LR 13 15 43.7
comp=Z,4µm,19.7s,baz=99,slow=38
ZALV PKPPKP 13 18 18.7
comp=Z,2.5nm,0.8s,baz=276,slow=4.0,SNR=4.6
ZALV Zalesovo Beam 58.82 322 P P **12 48 46.2 -0.3**
ZALV pmax pmax
comp=Z,186nm,0.7s,mb6.2
ZALV MLR MLR
comp=Z,4µm,19.7s
ZALV pmax pmax
comp=Z,3.0nm,0.8s
ZALV Zalesovo Beam 58.82 322 P P **12 48 46.2 -0.2**
ZALV LR LR 13 15 43.7
ZALV P'P' 13 18 18.7
NWAO Narrogin (SRO) 58.83 209 P P **12 48 46.7 0.0**
comp=Z,610nm,0.8s,mb6.7,baz=43,slow=7.2,SNR=193
NWAO LR LR 13 14 44.9
comp=Z,4µm,19.1s,baz=32,slow=37
NWAO Narrogin (SRO) 58.83 209 P P **12 48 46.7 0.0**
NWAO pmax pmax
comp=Z,610nm,0.8s
NWAO MLR MLR
comp=Z,4µm,19.1s
NWAO Narrogin (SRO) 58.83 209 *e*P P **12 48 46.5 -0.2**
NWAO LR LR
comp=Z,3µm,20.0s
MK31 Makanchi Array 59.42 314 *i* P P **12 48 51.5 +0.7**
MK31 pmax pmax
comp=Z,793nm,0.9s,mb6.8
MKAR Makanchi Array 59.42 314 P P **12 48 51.3 +0.5**
comp=Z,555nm,0.9s,mb6.6,baz=91,slow=8.5,SNR=1034
MKAR LR LR 13 17 27.4
comp=Z,5µm,18.2s,baz=92,slow=39
MKAR PKPPKP 13 18 20.5
comp=Z,0.8nm,0.8s,baz=158,slow=1.3,SNR=4.0
MKAR P4KPbc 13 25 59.6
comp=Z,2.4nm,1.0s,baz=69,slow=6.6,SNR=8.9
MKAR Makanchi Array 59.42 314 *i* P P **12 48 51.2 +0.4**
MKAR pmax pmax
comp=Z,555nm,0.9s
MKAR Makanchi Array 59.42 314 P P **12 48 51.3 +0.5**
MKAR LR LR 13 17 27.4
MKAR P'P' 13 18 20.5
NVS Novosibirsk 59.89 323⇑ *i*P P **12 48 53.5 -0.4**
NVS *i* S S **12 57 01.0 0.0**
NVS *i* PS 12 57 26.0
NVS pmax pmax
comp=Z,478nm,1.3s,mb6.4
NVS pmax pmax
comp=N,108nm,1.2s
NVS pmax pmax
comp=E,380nm,1.2s
NVS pmax pmax
comp=Z,197nm,2.1s,mb5.8
NVS pmax pmax
comp=N,76nm,1.9s
NVS pmax pmax
comp=E,80nm,1.4s
NVS smax
comp=N,480nm,2.2s
NVS smax
comp=E,344nm,2.2s
PPLA Purkeypile 60.20 27 *e*P P **12 48 56.8 +1.0**
comp=E,487nm,1.4s,mb6.3
VIS Vishakhapatnam 60.34 280 *e*P P **12 48 58.0 +0.5**
SLKM Skilak Lake 60.43 30 *e*P P **12 48 56.8 -0.6**
CHUM Lake Minchumin 60.46 26 *e*P P **12 48 58.1 +0.6**
comp=E,200nm,1.1s,mb6.1
FIB Fire Island 60.62 30 *e*P P **12 48 59.2 +0.5**
FIB pmax pmax
comp=Z,188nm,0.8s,mb6.3
FIB Fire Island 60.62 30 *e*P P **12 48 59.2 +0.5**
comp=Z,188nm,0.8s,mb6.3
IMA2 Indian Mountai 60.65 24 *e*P P **12 48 59.6 +0.7**
SEW Seward 60.70 31 *e*P P **12 48 58.8 -0.5**
comp=Z,215nm,1.0s,mb6.2
RC01 Rabbit Creek A 60.81 30 *e*P P **12 48 59.5 -0.5**
comp=Z,191nm,1.2s,mb6.1
KTH Kantishna Hill 60.95 27 *e*P P **12 49 00.7 -0.2**
comp=Z,434nm,1.1s,mb6.5
BPAW Bear Paw Mtn. 61.08 26⇑ *e*P P **12 49 01.9 0.0**
comp=Z,598nm,1.4s,mb6.5
BPAW *ep*P pP 12 49 18.1 -0.3
TRF Thorofare Moun 61.19 27 *e*P P **12 49 01.9 -0.7**
comp=Z,214nm,0.9s,mb6.3
TRF *ep*P pP 12 49 18.8 -0.3
PMR Palmer 61.22 29 *e*P P **12 49 02.4 -0.4**
PMR pmax pmax
comp=Z,185nm,1.7s,mb5.9
PMR MLR MLR
comp=Z,8µm,23.0s
PMR Palmer 61.22 29 *e*P P **12 49 02.4 -0.4**
comp=Z,185nm,1.7s,mb5.9
PMR LR LR
comp=Z,8µm,23.0s
PTH Pithoragarh 61.31 294 *e*P P **12 49 03.8 -0.2**
PTH *ex* x 12 57 20.9
TAU Tasmania Unive 61.36 180 *e*P P **12 49 04.1 +0.2**
TAU MLR MLR
comp=Z,7µm,21.0s
MCK McKinley 61.85 27 *e*P P **12 49 06.4 -0.6**
KURK Kurchatov 62.16 318 P P **12 49 08.6 -0.7**
comp=Z,150nm,0.7s,mb6.2,baz=51,slow=6.6,SNR=234
KURK S S **12 57 31.9 +1.9**
comp=Z,15nm,1.2s,baz=100,slow=11,SNR=5.5
KURK LR LR 13 16 06.3
comp=Z,6µm,21.5s,baz=105,slow=36
KURK PKPPKP 13 18 10.2
comp=Z,1.0nm,0.5s,baz=244,slow=3.4,SNR=4.2
KURK Kurchatov 62.16 318 P P **12 49 08.6 -0.7**
KURK S S **12 57 31.9 +2.0**
KURK pmax pmax
comp=Z,151nm,0.7s,mb6.2
KURK smax
comp=N,15nm,1.2s
KURK MLR MLR
comp=Z,6µm,21.5s
KURK Kurchatov 62.16 318 *e*P P **12 49 09.2 0.0**
comp=Z,973nm,1.3s,mb6.8
KURK *e*S S **12 57 32.1 +2.2**
KURK LR LR
comp=Z,10µm,19.0s
COLD Coldfoot 62.35 23 *e*P P **12 49 10.7 +0.4**
comp=Z,151nm,1.2s,mb6.0
COLD *ep*P pP 12 49 27.6 +0.7
JBP Jabalpur 62.41 287 *e*P P **12 49 12.3 +0.9**
JBP *e*S S **12 57 34.7 +0.7**
COLA College 62.60 26 *d*iP P **12 49 11.0 -1.0**
COLA *i* *PP pP 12 49 28.8 +0.2
COLA College 62.60 26 *e*P P **12 49 11.2 -0.8**
comp=Z,132nm,1.1s,mb6.0
COLA LR LR
comp=Z,7µm,20.0s
DDI Dehra Dun 63.08 295⇑ *i*P P **12 49 14.6 -1.2**
DDI *ex* x 12 58 01.0
AAA Alma-Ata 63.09 310 *i* P P **12 49 16.9 +1.2**
AAA *i* S S **12 57 46.0 +4.0**
AAA pmax pmax
comp=Z,7µm,1.6s,mb7.5
AAA smax
comp=E,3µm,3.5s
AAA MLR MLR
comp=Z,6µm,20.0s
URZ Urewera 63.31 154 P P **12 49 15.7 -1.3**
comp=Z,36nm,0.7s,mb5.6,baz=325,slow=3.5,SNR=17
URZ LR LR 13 12 55.3
comp=Z,10µm,21.3s,baz=340,slow=32
NGP Nagpur 63.62 285⇑ *i*P P **12 49 16.9 -2.7**
NGP AMb AMB 12 49 18.5
comp=Z,371nm,1.8s,mb6.1
NGP *ex* x 12 57 45.4
SMLA Simla 63.75 296 *i* P P **12 49 20.0 -0.2**
SMLA *i* x x 12 57 52.0
SDNR Sundarnagar 63.87 296 *e*P P **12 49 20.0 -1.0**
KSH Kashi 63.97 305⇑ *i*P P **12 49 23.8 +2.3**
KSH PCP PcP 12 49 59.6 +3.0
KSH PP PP 12 51 45.8 +3.1
KSH *e*SCP 12 53 55.2
KSH *e*PCS 12 54 01.7
KSH *e*S **S** **12 57 51.8 -1.2**
KSH *e*SCS ScS 12 59 07.5 -2.5
KSH *e*SS SS 13 02 01.5 -0.8
KSH AMB AMB
comp=Z,300nm,0.8s,mb6.4
KSH AMB AMB
comp=Z,15µm,2.6s
KSH LR LR
comp=N,6µm,10.5s
KSH LR LR
comp=E,6µm,10.4s
KSH LR LR
comp=Z,7µm,18.9s
NDI New Delhi 64.02 293 *e*P P **12 49 20.0 -2.1**
NDI *ex* x 12 57 53.0
TKM2 Tokmak 2 64.09 309 *e*P P **12 49 23.4 +1.1**
TKM2 *e**PP pP 12 49 39.0 +0.1
TKM2 *e*S **S** **12 58 01.3 +6.9**
TKM2 pmax pmax
comp=Z,137nm,0.6s,mb6.2
TKM2 MLR MLR
comp=Z,4µm,19.0s
TKM2 Tokmak 2 64.09 309 P P **12 49 23.3 +1.1**
SNR=443
TKM2 Tokmak 2 64.09 309 *e*P P **12 49 23.4 +1.2**
comp=Z,137nm,0.6s,mb6.2
TKM2 *ep*P pP 12 49 39.0 +0.1
TKM2 *e*S **S** **12 58 01.3 +7.0**
TKM2 LR LR
comp=Z,4µm,19.0s
MDRS Chennai 64.29 276 *e*P P **12 49 24.3 +0.3**
BHK Bhakra 64.35 296 *e*P P **12 49 23.0 -1.2**
KBK Karagaybulak 64.58 309 P P **12 49 27.1 +1.7**
SNR=230
PONG Pong 64.68 297 *e*P P **12 49 25.0 -1.3**
CHMS Chumysh 64.71 309 P P **12 49 27.1 +0.9**
SNR=145
FRU Bishkek 64.81 309⇑ *i*P P **12 49 28.0 +1.0**
FRU *e*S **S** **12 58 08.0 +4.7**
FRU *i* 12 58 26.0
FRU *e* 12 59 18.0
FRU *e*SS SS 13 02 24.0 +8.7
FRU pmax pmax
comp=Z,3µm,4.0s
FRU smax
comp=E,4µm,9.0s
THN Thein Dam 64.82 298 *e*P P **12 49 25.4 -1.8**
THN *e*S **S** **12 58 06.9 +3.2**
HYB Hyderabad 64.85 281 *e*P P **12 49 28.0 +0.4**
HYB *e* 12 51 50.0
HYB *e*S **S** **12 58 04.0 -0.5**
HYB *e* 12 59 16.0
HYB pmax pmax
comp=Z,564nm,0.8s,mb6.7
HYB Hyderabad 64.85 281⇑ *i*P P **12 49 28.0 +0.4**
comp=Z,564nm,0.8s,mb6.7
HYB *e*PP PP 12 51 50.0 -0.9
HYB *e*S **S** **12 58 04.0 -0.5**
HYB *e*ScS ScS 12 59 16.0 -1.5
HYB Hyderabad 64.85 281 *e*P P **12 49 28.0 +0.4**
comp=Z,564nm,0.8s,mb6.7
HYB *e*PP PP 12 51 50.0 -0.9
HYB *e*S **S** **12 58 04.0 -0.5**
HYB *e*ScS ScS 12 59 16.0 -1.5
USP Ospenovka 64.88 310 P P **12 49 28.0 +0.6**
SNR=367
AAK Ala-Archa 64.91 309 P P **12 49 29.0 +1.4**
SNR=187
UCH Uchtor 64.92 308 P P **12 49 29.6 +1.9**
SNR=684
UCH Uchtor 64.92 308 *e*P P **12 49 29.6 +1.9**
comp=Z,589nm,0.9s,mb6.6
UCH *ep*P pP 12 49 41.2 -3.2
UCH LR LR
comp=Z,4µm,22.0s
SNZO South Karori 64.99 157 *e*P P **12 49 27.0 -0.9**
SNZO LR LR
comp=Z,5µm,20.0s
RAR Rarotonga 65.40 125 P P **12 49 29.7 -1.3**
comp=Z,61nm,0.7s,mb5.7,baz=276,slow=3.4,SNR=6.7
RAR LR LR 13 13 37.4
comp=Z,7µm,19.7s,baz=318,slow=32
EKS2 Erkin-Say 65.44 309 P P **12 49 32.5 +1.5**
SNR=160
EKS2 Erkin-Say 65.44 309 *e*P P **12 49 32.0 +0.9**
comp=Z,343nm,1.0s,mb6.3
EKS2 *e*S S 12 58 13.5 +2.5
EKS2 LR LR
comp=Z,4µm,20.0s
PALK Pallekele 65.45 270 P P **12 49 32.6 +1.0**
SNR=7.4
PALK Pallekele 65.45 270⇑ *i*P P **12 49 32.0 +0.4**
comp=Z,309nm,1.0s,mb6.3
PALK LR LR
comp=Z,5µm,20.0s
AML Almayashu 65.53 308 P P **12 49 33.9 +2.2**
SNR=57
AML Almayashu 65.53 308 *e*P P **12 49 33.5 +1.8**
comp=Z,129nm,1.4s,mb5.8
AML *e*S S 12 58 15.7 +3.6
AML LR LR
comp=Z,4µm,21.0s
AKL Akola 65.57 285 *e*P P **12 49 31.8 -0.5**
AKL *ex* x 12 58 10.6
RPZ Rata Peaks 65.92 161 P P **12 49 32.1 -1.8**
comp=Z,73nm,0.8s,mb5.8,baz=193,slow=1.0,SNR=14
DAWY Dawson 66.06 27 *e*P P **12 49 34.8 +0.3**
AJM Ajmer 66.62 291 *e*P P **12 49 39.0 0.0**
AJM AMb AMB 12 49 40.5
comp=Z,363nm,0.8s,mb6.5
VOSK Vostochnaya 66.96 320 P P **12 49 40.4 -0.2**
VOSK pmax pmax
comp=Z,790nm,1.8s,mb6.4
BVA0 Borovoye Array 67.31 320 P P **12 49 42.9 +0.1**
BVA0 pmax pmax
comp=Z,202nm,1.1s,mb6.1
BVAR Borovoye Array 67.31 320 P P **12 49 43.0 +0.2**
comp=Z,713nm,0.9s,mb6.7,baz=91,slow=7.4,SNR=729
BVAR S S 12 58 34.9 +1.6
comp=Z,8.8nm,0.9s,baz=79,slow=7.7,SNR=5.5
BVAR PKPPKP 13 18 11.4
comp=Z,1.4nm,0.7s,baz=243,slow=1.3,SNR=6.0
BVAR LR LR 13 21 09.3
comp=Z,11µm,19.8s,baz=82,slow=38
BRVK Borovoye 67.38 320 P P **12 49 43.8 +0.5**
SNR=330
BRVK Borovoye 67.38 320 *e*P P **12 49 43.5 +0.3**
BRVK LR LR
comp=Z,11µm,20.0s
KOD Kodaikanal 67.67 274 *e*P P **12 49 46.4 +0.7**
SIT Sitka 67.68 35 PFAKE 12 50 00.0 +15
SIT LR LR
comp=Z,6µm,20.0s
SKAG Skagway 67.69 33 *e*P P **12 49 45.0 -0.1**
comp=Z,186nm,2.0s,mb5.8
SKAG LR LR
comp=Z,4µm,23.0s
KK31 Karatay Array 67.80 310 *i* P P **12 49 46.8 +0.7**
KK31 pmax pmax
comp=Z,1µm,0.8s,mb6.9
TRD Trivandrum 68.63 272 *e*P P **12 49 52.2 +0.4**
KAD Karad 68.94 282 *e*P P **12 49 53.0 -0.6**
POO Poona 68.96 283 *e*P P **12 49 53.4 -0.4**
VIB Van Inlet 69.42 39 P P **12 49 55.9 -0.1**
DIB Dawson Inlet, 69.46 39 P P **12 49 56.0 -0.2**
GOA Goa 69.71 280 *e*P P **12 49 58.4 -0.1**
BHV Bhavnagar 69.79 287 *e*P P **12 49 58.5 -0.4**
BOM Bombay 69.83 284 *ex* P P **12 49 54.8 -4.3**
comp=Z,522nm,1.1s,mb6.4
BOM *e*S S 12 58 52.2 -12
KBL Kabul 70.04 301 *e*P P **12 50 00.4 +0.3**
KBL *e*S S 12 59 06.5 +0.2
KBL pmax pmax
comp=Z,554nm,1.0s,mb6.4
KBL Kabul 70.04 301 *e*P P **12 50 00.4 +0.3**
comp=Z,554nm,1.0s,mb6.4
KBL *e*S S 12 59 06.5 +0.2
DLBC Dease Lake 70.47 34 *e*P P **12 50 02.9 +0.6**
BHJ Bhuj 71.70 289 *e*P P **12 50 11.0 +0.6**
BHJ AMb AMB 12 50 13.5
comp=Z,299nm,1.1s,mb6.2
PPT Papeete 71.89 116 *e*P P **12 50 12.1 +0.6**
comp=Z,138nm,1.3s,mb5.7
PPT *ep*P pP 12 50 27.7 -0.8
comp=Z,228nm,1.3s
PPT *e*S S 12 59 25.9 -2.2
comp=Z,2µm,23.0s
PPT *e*LQ 13 08 37.0
comp=Z,14µm,29.5s
PPT *e*LR LR 13 11 59.9
comp=Z,32µm,23.0s,baz=300
PPT Papeete 71.89 116 P P **12 50 11.3 -0.2**
comp=Z,73nm,1.0s,mb5.6,baz=240,slow=4.3,SNR=4.4
PPT LR LR 13 15 36.4
comp=Z,15µm,20.2s,baz=268,slow=31
PAE Paea 71.93 116 *e*P P **12 50 12.1 +0.3**
comp=Z,604nm,1.1s,mb6.4
PAE *ep*P pP 12 50 27.7 -1.0
comp=Z,1µm,1.2s
PAE Paea 71.93 116 *e*P P **12 50 12.1 +0.3**
PAE *e**PP pP 12 50 27.7 -1.0
PAE pmax pmax
comp=Z,604nm,1.1s,mb6.4
TIAR Tiarei 72.08 116 *e*P P **12 50 13.3 +0.6**
comp=Z,1µm,1.1s,mb6.7
TIAR *ep*P pP 12 50 28.8 -0.8
comp=Z,1µm,1.0s
PMOR Pomariorio Ree 72.20 113 *e*P P **12 50 13.6 +0.1**
comp=Z,402nm,1.0s,mb6.3
PMOR *ep*P pP 12 50 29.5 -0.9
comp=Z,650nm,1.2s
BBB Bella Bella 72.21 40 LR LR 13 15 31.9
comp=Z,7µm,20.9s,baz=325,slow=30
TVO Taravao 72.26 116 *e*P P **12 50 14.6 +0.8**
comp=Z,1µm,1.2s,mb6.7
TVO Taravao 72.26 116 *e*P P **12 50 14.6 +0.8**
TVO pmax pmax
comp=Z,1µm,1.2s,mb6.8
VAH Vaihoa 72.54 113 *e*P P **12 50 15.3 -0.1**
comp=Z,195nm,1.1s,mb6.0
VAH *ep*P pP 12 50 31.3 -1.1
comp=Z,303nm,1.2s
SVE Sverdlovsk 72.63 325⇓ *e*P P **12 50 16.0 +0.7**
SVE *e*PPP 12 54 40.3
SVE *e*S S 12 59 35.5 +0.1
SVE *e*SS SS 13 04 14.9 -0.2
SVE pmax pmax
comp=Z,446nm,1.4s,mb6.2
SVE MLR MLR
comp=Z,2µm,18.0s
MEH Mehetia 73.31 116 *e*P P **12 50 20.3 +0.3**
comp=Z,3µm,1.0s,mb7.1
ARU Arti 73.82 325*c* *i*P P **12 50 22.4 0.0**
ARU *e* *pP 12 50 36.8 -2.6
ARU *e* 12 53 03.8
ARU *e*PPP 12 54 52.1
ARU *e*S S 12 59 50.5 +1.6
ARU *e* 13 00 22.6
ARU *e*SS SS 13 04 31.7 -1.6
ARU pmax pmax
comp=Z,473nm,1.2s,mb6.3
ARU MLR MLR
comp=Z,5µm,22.0s
ARU Arti 73.82 325⇑ *i*P P **12 50 22.4 0.0**
comp=Z,572nm,1.3s,mb6.3
ARU *e*S S 12 59 50.9 +2.0
ARU LR LR
comp=Z,5µm,22.0s
AB31 Akbulak array 74.24 317 *i* P P **12 50 24.5 -0.5**
AB31 pmax pmax
comp=Z,559nm,1.1s,mb6.4
AB31 Akbulak array 74.24 317 *i* P P **12 50 24.6 -0.4**
TBI Tubuai 74.67 122 *e*P P **12 50 28.2 +0.4**
comp=Z,148nm,0.9s,mb5.9
TBI *e*S S 13 00 00.5 +1.1
comp=Z,3µm,26.0s
TBI *e*SS SS 13 04 49.8 +1.5
comp=Z,1µm,35.0s
TBI *e*LQ 13 10 06.6
comp=Z,5µm,30.2s
TBI *e*LR LR 13 12 44.9
comp=Z,7µm,23.8s,baz=302
TBI Tubuai 74.67 122 *e*P P **12 50 28.2 +0.4**
comp=Z,148nm,0.9s,mb5.9
TBI *e*S S 13 00 00.5 +1.1
TBI *e*SS SS 13 04 49.8 +1.5
TBI *e*LQ 13 10 06.6
AKTK Aktyubinsk 75.24 319 P P **12 50 30.7 0.0**
AKTK LR LR 13 23 42.0
AKTO Aktyubinsk 75.24 319 P P **12 50 30.7 0.0**
comp=Z,81nm,0.7s,mb5.8,baz=88,slow=7.4,SNR=170
AKTO LR LR 13 23 42.0
comp=Z,3µm,21.7s,baz=266,slow=36
AKTO Aktyubinsk 75.24 319 P P **12 50 30.7 0.0**
AKTO pmax pmax
comp=Z,81nm,0.7s,mb5.8
AKTO MLR MLR
comp=Z,3µm,21.7s
NLWA Neilton Lookou 75.75 45⇓ P P **12 50 34.1 +0.4**
baz=76
NLWA Neilton Lookou 75.75 45 PFAKE 12 50 40.0 +6.3
NLWA LR LR
comp=Z,8µm,21.0s
PGC Sidney 75.76 43 *e*P P **12 50 34.5 +0.9**
comp=Z,203nm,1.0s,mb6.0
B04A Port Angeles 75.85 44⇓ P P **12 50 34.7 +0.5**
baz=76,SNR=8.4
D03A Wishkah Elem. 75.87 45⇓ P P **12 50 35.0 +0.6**
baz=76
E03A Lebam 76.13 45⇑ P P **12 50 36.4 +0.5**
baz=76,SNR=8.1
A04A Legoe Bay, Lum 76.22 43⇑ P P **12 50 36.3 -0.1**
baz=76
C04A Brinnon 76.27 44⇑ P P **12 50 37.1 +0.5**
baz=76,SNR=18
F03A Seaside 76.27 46⇑ P P **12 50 36.9 +0.2**
baz=76,SNR=8.7
K01A Sixes 76.33 49⇓ P P **12 50 37.7 +0.6**
baz=76,SNR=7.1
BMW Boistfort Moun 76.38 45 *e*P P **12 50 37.8 +0.5**
GNW Green Mountain 76.40 44 *e*P P **12 50 38.3 +1.0**
comp=Z,222nm,1.2s,mb6.0
GNW *e*PcP PcP 12 50 47.8 -1.2
KEBM Edson Butte 76.41 49 *e*P P **12 50 38.6 +1.1**
comp=Z,344nm,1.0s,mb6.2
KEBM *e*PcP PcP 12 50 50.0 +0.9
KEBM *ep*P pP 12 50 55.2 +0.6
I02A Mapleton 76.51 48⇓ P P **12 50 38.3 +0.2**
baz=76,SNR=5.6
D04A Dobbs Creek Ra 76.52 45⇑ P P **12 50 38.1 0.0**
baz=76
A05A Maple Falls 76.56 43⇓ P P **12 50 38.0 -0.3**
baz=76,SNR=11
G03A Yamhill 76.60 46⇑ P P **12 50 37.7 -0.9**
baz=76,SNR=8.2
KBO Bosley Butte 76.64 50 *e*P P **12 50 40.0 +1.1**
comp=Z,161nm,1.3s,mb5.8
KBO *e*PcP PcP 12 50 49.3 -0.8
E04A Onalaska 76.69 45⇑ P P **12 50 39.6 +0.6**
baz=77
TAOE Nuku Hiva Isla 76.71 104 *e*P P **12 50 39.7 0.0**
comp=Z,657nm,0.9s,mb6.6
TAOE *e*S S 13 00 20.8 -1.5

comp=Z,8µm,26.3s
B05A Bryant 76.72 43 ⇑P P 12 50 39.7 +0.6
baz=77,SNR=13
H03A Soap Creek Ran 76.74 47 ⇑P P 12 50 39.8 +0.4
baz=77,SNR=13
COR Corvallis 76.75 47 *e*P P 12 50 40.9 +1.5
COR pmax pmax
comp=Z,200nm,1.2s,mb5.9
COR MLR MLR
comp=Z,3µm,20.0s
COR Corvallis 76.75 47 *e*P P 12 50 40.9 +1.5
comp=Z,200nm,1.2s,mb5.9
COR LR LR
comp=Z,3µm,20.0s
J02A Umpqua 76.84 48 ⇑P P 12 50 40.3 +0.4
baz=77,SNR=12
JCW Jim Creek 76.84 43 *e*P P 12 50 40.7 +0.8
I03A Eugene 76.91 48 ⇓P P 12 50 40.8 +0.4
baz=77,SNR=13
A06A Chilliwack 76.92 42 ⇑P P 12 50 40.5 +0.2
baz=77,SNR=7.4
KRMB Red Mountain 77.03 50 *e*P P 12 50 41.9 +0.8
comp=Z,123nm,1.3s,mb5.7
K02A Glendale 77.04 49 ⇓P P 12 50 41.3 +0.2
baz=77,SNR=14
D05A Enumclaw 77.04 44 ⇑P P 12 50 41.4 +0.4
baz=77,SNR=13
F04A Amboy 77.05 46 ⇑P P 12 50 41.3 +0.3
baz=77,SNR=21
RPW Rockport 77.06 43 *e*P P 12 50 41.2 +0.2
comp=Z,61nm,1.0s,mb5.5
B06A Marblemount 77.06 43 ⇓P P 12 50 40.9 -0.2
baz=77
L02A Cave Junction 77.10 50 ⇑P P 12 50 41.7 +0.2
baz=77,SNR=14
C05A Tolt Reservoir 77.12 44 ⇑P P 12 50 41.5 +0.1
baz=77,SNR=16
G04A Mulino 77.18 46 ⇓P P 12 50 42.0 +0.2
baz=77,SNR=13
LON Longmire 77.26 45 *e*P P 12 50 42.5 +0.2
LON pmax pmax
comp=Z,73nm,1.1s,mb5.5
LON Longmire 77.26 45 *e*P P 12 50 42.5 +0.2
comp=Z,73nm,1.1s,mb5.5
YKA Yellowknife Ar 77.28 28 P P 12 50 41.3 -0.7
comp=Z,26nm,0.7s,mb5.3,baz=287,slow=5.3,SNR=26
YKA LR LR 13 24 19.1
comp=Z,2µm,19.8s,baz=155,slow=35
YKA Yellowknife Ar 77.28 28 *i* P P 12 50 41.2 -0.8
YKA pmax pmax
comp=Z,26nm,0.7s
E05A Randle 77.34 45 ⇑P P 12 50 42.4 -0.3
baz=77,SNR=9.2
O01C Eel River Cons 77.42 52 ⇓P P 12 50 43.5 +0.2
baz=77,SNR=5.7
HUMO Hull Mountain 77.46 49 ⇑P P 12 50 43.2 -0.3
baz=77,SNR=22
HUMO Hull Mountain 77.46 49 *e*P P 12 50 44.0 +0.6
comp=Z,178nm,1.4s,mb5.8
HUMO *e*PcP PcP 12 50 53.8 +0.2
HUMO LR LR
comp=Z,11µm,22.0s
H04A Detroit Lake 77.50 47 ⇑P P 12 50 43.3 -0.3
baz=77,SNR=14
I04A Tendick Farm, 77.56 48 P P 12 50 44.0 0.0
baz=78,SNR=28
C06A Tall Timber Ra 77.58 43 ⇑P P 12 50 44.1 +0.1
baz=78,SNR=13
A07A Ashnola River, 77.64 42 ⇓P P 12 50 44.4 +0.1
baz=78,SNR=18
N02C Big Bar 77.64 51 ⇑P P 12 50 44.6 +0.1
baz=78,SNR=21
F05A White Salmon 77.71 46 ⇓P P 12 50 44.7 0.0
baz=78,SNR=15
KCPM Cahto Peak 77.71 52 *e*P P 12 50 46.0 +1.1
comp=Z,162nm,1.1s,mb5.9
KCPM *e*PcP PcP 12 50 55.2 +0.4
KIPM Iron Peak 77.75 52 *e*P P 12 50 46.3 +1.2
comp=Z,585nm,1.5s,mb6.3
KIPM *e*PcP PcP 12 50 55.4 +0.4
KIPM *e*pP pP 12 51 03.3 +1.0
D06A Cle Elum 77.80 44 ⇓P P 12 50 45.3 +0.1
baz=78,SNR=20
M02C Callahan 77.83 50 ⇑P P 12 50 45.9 +0.4
baz=78,SNR=23
YBH Yreka Blue Hor 77.85 50 LR LR 13 17 41.7
comp=Z,10µm,21.9s,baz=227,slow=30
YBH Yreka Blue Hor 77.85 50 *e*P P 12 50 46.4 +0.8
YBH *e* 12 50 56.0
YBH pmax pmax
comp=Z,68nm,0.9s
YBH MLR MLR
comp=Z,9µm,22.0s
YBH Yreka Blue Hor 77.85 50 ⇓P P 12 50 46.1 +0.4
baz=78,SNR=28
YBH Yreka Blue Hor 77.85 50 *e*P P 12 50 46.4 +0.8
comp=Z,68nm,0.9s,mb5.6
YBH *e*PcP PcP 12 50 56.0 +0.6
YBH LR LR
comp=Z,9µm,22.0s
E06A Yakima 77.87 45 ⇓P P 12 50 45.7 +0.1
baz=78,SNR=17
B07A Winthrop 77.95 43 ⇑P P 12 50 46.0 0.0
baz=78,SNR=19
ALE Alert 77.96 4 P P 12 50 46.0 +0.4
comp=Z,860nm,0.9s,mb6.7,SNR=13
G05A Wamic 77.96 46 ⇓P P 12 50 46.2 0.0
baz=78,SNR=6.7
ABKT Ailbek 77.99 306 P P 12 50 47.5 +1.0
comp=Z,3µm,1.0s,mb7.2,SNR=67
ETW Entiat 78.03 44 *e*P P 12 50 46.6 +0.1
comp=Z,115nm,0.7s,mb5.9
ETW *e*PcP PcP 12 50 56.3 +0.3
ETW *e*pP pP 12 51 04.2 +0.5
DGAR Diego Garcia 78.07 258 P P 12 50 47.9 +0.5
SNR=5.8
DGAR Diego Garcia 78.07 258 ⇑*i*P P 12 50 47.2 -0.1
DGAR pmax pmax
comp=Z,2µm,1.3s,mb6.9
DGAR MLR MLR
comp=Z,4µm,22.0s
DGAR Diego Garcia 78.07 258 ⇑*i*P P 12 50 47.2 -0.1
comp=Z,2µm,1.3s,mb6.9
DGAR LR LR
comp=Z,4µm,22.0s
H05A Madras 78.17 47 ⇓P P 12 50 47.2 -0.2
baz=78,SNR=32
O02C Red Bluff 78.18 52 ⇓P P 12 50 47.7 +0.2
baz=78,SNR=16
C07A Waterville 78.19 44 ⇓P P 12 50 46.9 -0.5
baz=78,SNR=29
F06A Goldendale 78.20 46 ⇑P P 12 50 47.5 +0.1
baz=78,SNR=14
WDC Whiskeytown Da 78.26 51 *e*P P 12 50 48.6 +0.7
WDC pmax pmax
comp=Z,73nm,1.3s,mb5.5
WDC MLR MLR
comp=Z,20µm,22.0s
WDC Whiskeytown Da 78.26 51 ⇓P P 12 50 47.9 0.0
baz=78,SNR=17
WDC Whiskeytown Da 78.26 51 *e*P P 12 50 48.6 +0.6
comp=Z,73nm,1.3s,mb5.5
WDC LR LR
comp=Z,20µm,22.0s
HOPS Hopland 78.26 53 *e*P P 12 50 48.4 +0.4
comp=Z,43nm,1.0s,mb5.3
HOPS LR LR
comp=Z,10µm,22.0s
I05A Bend 78.27 47 ⇓P P 12 50 48.2 +0.3
baz=78,SNR=18
L04A Klamath Falls 78.33 49 ⇓P P 12 50 48.4 +0.1
baz=78,SNR=18
K04A Chiluqin 78.33 49 ⇓P P 12 50 48.9 +0.6
baz=78,SNR=9.4
GASB Alder Springs 78.36 52 ⇓P P 12 50 49.2 +0.7
baz=78,SNR=8.7
A08A Turner Farm, O 78.37 42 ⇑P P 12 50 48.4 0.0
baz=78,SNR=11
D07A Quincy 78.37 44 P P 12 50 48.5 +0.1
baz=78,SNR=24
M03C McCloud 78.39 50 ⇓P P 12 50 49.1 +0.4
baz=78,SNR=15
G06A Carlson Farm, 78.43 46 ⇓P P 12 50 48.8 0.0
baz=78,SNR=12
M04C Macdoel 78.47 50 ⇑P P 12 50 49.1 +0.1
baz=78,SNR=23
B08A Colville Reser 78.48 43 ⇓P P 12 50 48.9 -0.1
baz=78,SNR=48
J05A Fort Rock 78.52 48 ⇓P P 12 50 49.7 +0.4
baz=78,SNR=33
E07A Sunnyside 78.61 45 ⇑P P 12 50 49.7 0.0
baz=78,SNR=17
MCCM Marconi Confer 78.62 54 PFAKE 12 51 00.0 +10
MCCM LR LR
comp=Z,8µm,22.0s
NSHM Saint Helena R 78.73 53 *e*P P 12 50 50.9 +0.3
NSHM *e*pP pP 12 51 08.0 +0.2
F07A Phinny Hill Vi 78.74 45 ⇓P P 12 50 50.5 0.0
baz=79,SNR=11
H06A Lindquist Farm 78.77 47 ⇑P P 12 50 50.4 -0.2
baz=79,SNR=23
MNRC McLaughlin Nat 78.77 53 ⇑P P 12 50 50.4 -0.3
baz=79,SNR=22
A09A Danville 78.80 42 ⇓P P 12 50 50.7 0.0
baz=79,SNR=14
C08A Higginbotham F 78.82 43 ⇑P P 12 50 50.5 -0.4
baz=79,SNR=59
RSW Rattlesnake Hi 78.83 45 *e*P P 12 50 51.5 +0.6
comp=Z,65nm,0.7s,mb5.7
RSW *e*pP pP 12 51 08.7 +0.6
HAWA Hanford 78.87 45 *e*P P 12 50 51.5 +0.4
comp=Z,43nm,0.7s,mb5.5
HAWA LR LR
comp=Z,4µm,20.0s
CVS Carmenet Viney 78.89 53 ⇓P P 12 50 50.9 -0.6
baz=79,SNR=7.4
K05A Sumner Lake 78.90 49 ⇓P P 12 50 52.0 +0.6
baz=79,SNR=24
I06A Prineville 79.06 47 ⇓P P 12 50 52.8 +0.5
baz=79,SNR=17
M05C Lookout 79.08 50 ⇑P P 12 50 52.2 -0.2
baz=79,SNR=12
G07A Ruggs Ranch, H 79.08 46 ⇓P P 12 50 52.4 +0.1
baz=79,SNR=15
D08A Wollman Farm, 79.10 44 ⇑P P 12 50 52.1 -0.3
baz=79,SNR=22
L05A Lakeview 79.12 49 ⇑P P 12 50 52.6 -0.1
baz=79,SNR=11
OD2 Odessa Site #2 79.15 44 *e*P P 12 50 52.7 0.0
comp=Z,151nm,1.0s,mb5.9
Q03C Winters 79.15 53 ⇓P P 12 50 53.3 +0.4
baz=79,SNR=6.1
E08A Dider Farm, El 79.16 45 ⇑P P 12 50 53.0 +0.2
baz=79,SNR=20
B09A Rice 79.23 43 ⇑P P 12 50 53.0 -0.1
baz=79,SNR=24
J06A Christmas Vall 79.29 48 ⇓P P 12 50 53.1 -0.4
baz=79,SNR=13
ORV Oroville 79.30 52 ⇑P P 12 50 53.4 -0.3
baz=79,SNR=54
JRSC Jasper Ridge 79.31 54 ⇓P P 12 50 53.1 -0.6
baz=79
C09A Chrisman Ranch 79.32 43 ⇓P P 12 50 53.3 -0.3
baz=79,SNR=37
SPB4 Spitsbergen Ar 79.33 351 *e*P P 12 50 52.2 -0.9
H07A Lands Inn, Kim 79.33 47 ⇓P P 12 50 53.5 -0.2
baz=79
K06A Valley Falls 79.34 48 ⇓P P 12 50 53.8 0.0
baz=79,SNR=16
OHCM Honcut 79.37 52 *e*P P 12 50 53.9 -0.2
O04C Chester 79.40 51 ⇑P P 12 50 54.4 +0.2
baz=79,SNR=37
KBS Kingsbay 79.42 352 *e*P P 12 50 53.8 +0.2
KBS *e**PP pP 12 51 12.4 +1.6
KBS pmax pmax
comp=Z,220nm,1.1s,mb6.0
KBS MLR MLR
comp=Z,2µm,20.0s
KBS Kingsbay 79.42 352 *e*P P 12 50 53.8 +0.2
comp=Z,220nm,1.1s,mb6.0
KBS *e*pP pP 12 51 12.4 +1.6
KBS LR LR
comp=Z,2µm,20.0s
A10A Northport 79.45 42 ⇓P P 12 50 54.2 -0.1
baz=78,SNR=24
D09A Jones Farm, Ri 79.50 44 ⇑P P 12 50 54.5 -0.1
baz=79,SNR=58
I07A Izee 79.52 47 ⇑P P 12 50 54.3 -0.5
baz=79,SNR=8.8
F08A Pendleton 79.54 45 ⇑P P 12 50 55.0 +0.2
baz=79,SNR=43
MOD Modoc 79.54 49 ⇑P P 12 50 54.9 -0.1
baz=80,SNR=32
MOD Moc 79.54 49 *e*P P 12 50 55.4 +0.4
comp=Z,152nm,1.2s,mb5.8
MOD LR LR
comp=Z,7µm,20.0s
G08A Pilot Rock 79.56 46 ⇓P P 12 50 54.7 -0.3
baz=80,SNR=18
Q04C Lincoln 79.58 53 ⇑P P 12 50 54.9 -0.4
baz=80,SNR=13
M06C Likely Place G 79.61 50 ⇑P P 12 50 55.3 0.0
baz=80,SNR=39
WENL Wente Vineyard 79.62 54 ⇓P P 12 50 55.2 -0.3
baz=80,SNR=7.9
O05C Quincy 79.62 51 ⇓P P 12 50 55.4 0.0
baz=80,SNR=15
E09A Wood Farm, Sta 79.76 44 ⇑P P 12 50 56.0 0.0
baz=80,SNR=30
J07A Hines 79.84 48 ⇓P P 12 50 56.6 +0.1
baz=80,SNR=28
LNOR Lincton Mounta 79.85 45 *e*P P 12 50 56.8 +0.3
comp=Z,34nm,1.0s,mb5.2
NEW Newport 79.93 42 *e*P P 12 50 56.9 0.0
NEW *e**PP pP 12 51 14.5 +0.4
NEW pmax pmax
comp=Z,206nm,1.0s
NEW Newport 79.93 42 *e*P P 12 50 56.9 0.0
comp=Z,206nm,1.0s,mb6.0
NEW *e*pP pP 12 51 14.5 +0.4
C10A Spilker Farm, 79.94 43 ⇓P P 12 50 56.8 -0.1
baz=80,SNR=14
H08A Prairie City 79.97 46 ⇑P P 12 50 57.0 -0.1
baz=80,SNR=18
P05C Yuba Gap, Truc 80.03 52 ⇑P P 12 50 57.7 0.0
baz=80,SNR=16
BEKR Beckwourth 80.06 51 ⇑P P 12 50 57.7 -0.1
baz=80,SNR=44
K07A Rock Creek Ran 80.08 48 ⇑P P 12 50 57.7 -0.2
baz=80,SNR=46
LAVA Lava Cap Winer 80.08 52 P P 12 50 58.1 +0.2
baz=80,SNR=30
SAO San Andreas Ge 80.09 55 *e*P P 12 50 59.1 +1.1
SAO *e**PP pP 12 51 15.5 +0.3
SAO pmax pmax
comp=Z,35nm,1.1s,mb5.2
SAO MLR MLR
comp=Z,3µm,21.0s
SAO San Andreas Ge 80.09 55 *e*P P 12 50 59.1 +1.1
comp=Z,35nm,1.1s,mb5.2
SAO *e*pP pP 12 51 15.5 +0.2
SAO LR LR
comp=Z,3µm,21.0s
F09A S2 Ranch, Elgi 80.15 45 ⇑P P 12 50 58.2 +0.1
baz=80,SNR=17
D10A Wagner Farm, O 80.18 44 P P 12 50 58.0 -0.3
baz=80
N06A Buffalo Meadow 80.20 50 ⇑P P 12 50 58.1 -0.4
baz=80,SNR=32
L07A Adell 80.20 49 ⇓P P 12 50 58.8 +0.3
baz=80,SNR=44
A11A Hall Mountain, 80.21 42 ⇓P P 12 50 59.0 +0.6
baz=80,SNR=19
I08A Drewsey 80.21 47 ⇓P P 12 50 58.4 -0.1
baz=80,SNR=14
G09A Cove 80.36 46 ⇓P P 12 50 59.0 -0.2
baz=80,SNR=18
B11A Sandpoint 80.36 42 ⇓P P 12 50 59.0 -0.2
baz=80,SNR=16
O06A Flanigan 80.37 51 ⇑P P 12 50 59.2 -0.3
baz=80,SNR=40
J08A Circle Bar Ran 80.43 48 ⇑P P 12 50 59.7 0.0
baz=80,SNR=36
P06A Stead Airport, 80.45 51 ⇑P P 12 51 00.3 +0.4
baz=80,SNR=8.8
E10A Myers Farm, Un 80.46 44 P P 12 51 00.1 +0.3
baz=80,SNR=25
V03C Hunter Liggett 80.46 55 ⇓P P 12 51 00.4 +0.4
baz=80,SNR=8.5
M07A Soldier Meadow 80.50 50 ⇑P P 12 51 00.2 +0.1
baz=80,SNR=27
CMB Columbia Colle 80.55 53 *e*P P 12 51 00.7 +0.3
CMB pmax pmax
comp=Z,127nm,1.2s,mb5.7
CMB MLR MLR
comp=Z,8µm,22.0s
CMB Columbia Colle 80.55 53 ⇓P P 12 51 00.3 -0.2
baz=80,SNR=47
CMB Columbia Colle 80.55 53 *e*P P 12 51 00.7 +0.2
comp=Z,128nm,1.2s,mb5.7
CMB LR LR
comp=Z,8µm,22.0s
WVOR Wild Horse Val 80.58 48 *e*P P 12 51 01.0 +0.5
WVOR pmax pmax
comp=Z,83nm,0.9s,mb5.7
WVOR Wild Horse Val 80.58 48 *e*P P 12 51 01.0 +0.4
comp=Z,83nm,0.9s,mb5.7
K08A Mann Creek Ran 80.61 48 ⇓P P 12 51 00.2 -0.4
baz=80,SNR=39
C11A Tepee Creek (N 80.61 43 ⇑P P 12 51 00.3 -0.3
baz=80
H09A Durkee 80.62 46 ⇓P P 12 51 00.8 +0.1
baz=80,SNR=12
A12A Yaak River Ran 80.66 42 ⇓P P 12 51 01.2 +0.3
baz=81,SNR=23
WCN Washoe City 80.66 52 ⇓P P 12 51 00.7 -0.3
baz=81,SNR=20
EDM Edmonton 80.70 37 *e*P P 12 51 00.7 -0.2
U04C Hernandez Rese 80.72 55 ⇑P P 12 51 00.9 -0.5
baz=81,SNR=12
I09A Lost Marbles R 80.77 47 ⇓P P 12 51 01.1 -0.4
baz=81,SNR=17
S05C Merced 80.79 54 ⇓P P 12 51 01.1 -0.6
baz=81,SNR=13
D11A Klaveano Farm, 80.80 43 ⇓P P 12 51 00.9 -0.7
baz=81,SNR=28
G10A Bishop Farm, J 80.80 45 ⇓P P 12 51 01.3 -0.3
baz=81,SNR=38
BMO Blue Mountains 80.81 46 PFAKE 12 51 10.0 +8.3
BMO LR LR
comp=Z,6µm,20.0s
N07B Gerlach 80.82 50 ⇓P P 12 51 02.1 +0.2
baz=81,SNR=34
B12A Libby 80.85 42 ⇑P P 12 51 01.9 +0.1
baz=81,SNR=13
L08A Fields 80.86 49 ⇓P P 12 51 02.3 +0.2
baz=81,SNR=40
J09A Fry Pan Ranch, 80.94 47 ⇑P P 12 51 02.4 0.0
baz=81,SNR=36
PKD Parkfield 81.02 55 ⇑P P 12 51 02.5 -0.6
baz=81,SNR=19
M08A Happy Creek Ra 81.05 49 ⇑P P 12 51 03.4 +0.3
baz=81,SNR=12
O07A Toulon 81.07 51 ⇑P P 12 51 02.8 -0.4
baz=81
E11A Bogner Ranch, 81.09 44 ⇓P P 12 51 02.6 -0.6
baz=81,SNR=27
R06C Coleville 81.12 52 ⇑P P 12 51 03.4 -0.1
baz=81,SNR=22
C12B Naegeli Ranch, 81.15 43 ⇑P P 12 51 02.8 -0.7
baz=81,SNR=7.1
K09A Roms 81.15 48 ⇓P P 12 51 03.4 -0.1
baz=81,SNR=26
U05C Westside ANR, 81.23 55 ⇑P P 12 51 04.5 +0.4
baz=81,SNR=9.8
H10A Noah's Angus R 81.26 46 ⇑P P 12 51 03.1 -1.0
baz=81,SNR=21
F11A Grangeville 81.27 45 ⇑P P 12 51 03.1 -1.0
baz=81,SNR=19
G11A Walters Elk Ra 81.34 45 ⇓P P 12 51 03.6 -0.9
baz=81,SNR=31
T06C Millerton Lake 81.36 54 ⇑P P 12 51 04.4 -0.4
baz=81,SNR=56
PTRM Twissleman Ran 81.36 55 *e*P P 12 51 05.5 +0.6
I10A Payette 81.38 46 ⇓P P 12 51 04.7 -0.1
baz=81,SNR=9.4
WBK Wadi Bani Khal 81.39 291 P P 12 51 06.0 +0.8
SNR=18
L09A Wilkinson Ranc 81.39 49 ⇑P P 12 51 05.0 +0.2
baz=81,SNR=45
N08A GE Springer Mi 81.43 50 ⇓P P 12 51 05.2 +0.2
baz=81,SNR=24
D12A Red Ives Fores 81.44 43 ⇓P P 12 51 04.7 -0.2
baz=81,SNR=14
A13A Flathead Natio 81.44 41 ⇓P P 12 51 04.9 -0.1
baz=81
APA Apatity 81.45 339 ⇓*i*P P 12 51 04.4 -0.2
APA *i* 12 51 11.0
APA *i* *PP pP 12 51 19.7 -2.2
APA *i* S S 13 01 11.0 +0.1
APA *i* SSS 13 10 00.0
APA pmax pmax
comp=Z,190nm,1.0s,mb6.0
APA pmax pmax
comp=Z,2µm,14.0s
APA MLR MLR
comp=Z,4µm,20.0s
E12A Beaver Dam Sad 81.49 44 ⇑P P 12 51 04.8 -0.4
baz=81,SNR=41
O08A Rochester Mine 81.56 50 ⇑P P 12 51 06.0 +0.2
baz=82,SNR=45
KCC Kaiser Creek 81.56 54 ⇑P P 12 51 06.0 +0.2
baz=82,SNR=32
B13A Whitefish 81.58 42 ⇑P P 12 51 05.9 +0.2
baz=82,SNR=26
SMMC Simmler 81.62 56 ⇑P P 12 51 05.9 -0.4
baz=82,SNR=8.2
WALA Waterton Lakes 81.71 41 *e*P P 12 51 07.3 +1.0
comp=Z,122nm,1.1s,mb5.7
H11A Donnelly 81.73 46 ⇓P P 12 51 05.8 -0.8
baz=82,SNR=21
K10A MacKenzie Ranc 81.73 48 ⇑P P 12 51 06.4 -0.3
baz=82,SNR=32
M09A Marrel Ranch, 81.73 49 ⇓P P 12 51 07.0 +0.3
baz=82,SNR=18
C13A Hot Springs 81.74 43 ⇑P P 12 51 06.4 -0.2
baz=82,SNR=34
P08A Dixie Valley 81.79 51 ⇓P P 12 51 06.8 -0.2
baz=82,SNR=6.9
BIDO Bidbid 81.87 292 ⇓P P 12 51 08.1 +0.4
SNR=49
PKM Peak Mountain 81.89 56 ⇑P P 12 51 08.0 +0.4
baz=82,SNR=18
F12A Elk City 81.91 45 ⇑P P 12 51 06.7 -0.7
baz=82
HELL Mitchell Peak 81.98 54 ⇑P P 12 51 07.4 -0.7
baz=82,SNR=26
D13A Huson 82.00 43 ⇓P P 12 51 07.1 -0.9
baz=82,SNR=20
NVAR Mina Array Bea 82.00 52 P P 12 51 08.4 +0.3
comp=Z,31nm,0.9s,mb5.2,baz=269,slow=5.5,SNR=42
NVAR PKKPbc PKKPbc 13 09 38.6 +0.8
comp=Z,3.4nm,0.9s,baz=154,slow=3.0,SNR=6.0
NVAR PKPPKP 13 17 37.4
comp=Z,0.5nm,0.7s,baz=142,slow=3.4,SNR=2.6
NVAR Mina Array Bea 82.00 52 P P 12 51 08.4 +0.3
NVAR PKKPbc PKKPbc 13 09 38.6 +0.8
NVAR P'P' 13 17 37.4
I11A Placerville 82.01 46 ⇑P P 12 51 07.4 -0.7
baz=82,SNR=21
A14A Double T Ranch 82.05 41 ⇑P P 12 51 08.1 0.0
baz=82,SNR=27
G12A Big Creek, Yel 82.06 45 ⇑P P 12 51 07.9 -0.4
baz=82
KLMR Klimovskoe 82.06 332 *c* *i*P P 12 51 07.3 -0.7
KLMR *e* 12 51 12.6
KLMR *PP pP 12 51 24.2 -1.0
KLMR *e* 12 54 15.3
KLMR *e*S S 13 01 16.9 -0.5
KLMR *e*SSS 13 10 03.6
KLMR pmax pmax
comp=Z,313nm,1.6s,mb6.0
KLMR MLR MLR
comp=Z,3µm,16.0s
SMDO Samad 82.07 292 P P 12 51 09.3 +0.5
SNR=16
MTUM Tungsten Hills 82.13 53 *e*P P 12 51 09.3 +0.5
Q08A Gabbs 82.15 52 ⇑P P 12 51 09.0 +0.1
baz=82,SNR=31
VES Vestal, Richgr 82.18 55 ⇑P P 12 51 08.4 -0.7
baz=82,SNR=30
BMN Battle Mountai 82.19 50 *e*P P 12 51 09.6 +0.5
BMN pmax pmax
comp=Z,158nm,1.4s,mb5.8
BMN MLR MLR
comp=Z,12µm,22.0s
BMN Battle Mountai 82.19 50 *e*P P 12 51 09.6 +0.5
comp=Z,158nm,1.4s,mb5.8
BMN LR LR
comp=Z,12µm,22.0s
JMDO Jabal Madar 82.22 291 P P 12 51 10.3 +0.7
SNR=13
L10A Juniper Basin 82.23 48 ⇓P P 12 51 09.3 0.0

baz=82,SNR=25
C14A Swan Lake 82.24 42 ⇑P P 12 51 08.8 -0.3
baz=82,SNR=28
MFID Camas Ranch 82.26 47 ⇓P P 12 51 09.4 0.0
baz=82,SNR=36
O09A Fish Creek Ran 82.30 50 ⇑P P 12 51 09.9 +0.2
baz=82,SNR=24
KEV Kevo 82.30 342 *ep* **P 12 51 07.5 -1.6**
comp=Z,58nm,0.7s,mb5.6
KEV Kevo 82.30 342 *eP* **P 12 51 07.5 -1.6**
KEV pmax pmax
comp=Z,58nm,0.7s,mb5.6
K11A Parker Ranch, 82.32 48 ⇑P P 12 51 09.8 +0.1
baz=82,SNR=32
B14A Marquette Ranc 82.34 42 ⇓P P 12 51 09.8 +0.1
baz=82,SNR=18
M10A I.L. Ranch, Tu 82.35 49 ⇑P P 12 51 09.9 0.0
baz=82,SNR=7.4
E13A Victor 82.39 44 ⇓P P 12 51 09.7 -0.3
baz=82,SNR=19
MSO Missoula 82.42 43 *eP* **P 12 51 11.1 +0.9**
comp=Z,26nm,1.1s,mb5.1
MSO *epP* pP 12 51 27.0 -0.4
MSO LR LR
comp=Z,6µm,22.0s
A15A Johnson Ranch, 82.47 41 ⇓P P 12 51 10.2 -0.2
baz=82,SNR=36
F13A Darby 82.51 44 P P 12 51 10.2 -0.4
baz=82,SNR=49
P09A Austin 82.53 51 ⇓P P 12 51 10.9 0.0
baz=82,SNR=12
H12A Diamond D Ranc 82.56 46 ⇑P P 12 51 10.2 -0.7
baz=82,SNR=15
HOQ Hoqain 82.57 292 P P 12 51 11.7 +0.3
SNR=66
ARVC Arvin 82.59 56 P P 12 51 11.5 +0.2
baz=82,SNR=9.6
SNCC San Nicolas Is 82.61 58 PFAKE 12 51 20.0 +8.6
SNCC LR LR
comp=Z,5µm,19.0s
I12A Atlanta 82.61 46 ⇑P P 12 51 11.0 -0.3
baz=82
D14A Greenough 82.62 43 ⇓P P 12 51 10.3 -0.9
baz=82,SNR=7.4
L11A Cat Creek Ranc 82.70 48 ⇑P P 12 51 11.3 -0.5
baz=83,SNR=22
ISA Isabella 82.71 55 *eP* **P 12 51 11.7 -0.2**
ISA pmax pmax
comp=Z,55nm,1.2s,mb5.5
ISA MLR MLR
comp=Z,3µm,20.0s
ISA Isabella 82.71 55 ⇓P P 12 51 11.3 -0.6
baz=83,SNR=17
ISA Isabella 82.71 55 *eP* **P 12 51 11.7 -0.2**
comp=Z,55nm,1.2s,mb5.5
ISA LR LR
comp=Z,3µm,20.0s
BLG Laguna Peak 82.72 57 ⇑P P 12 51 12.4 +0.4
baz=83,SNR=5.2
BANOM Banah 82.76 295 ⇑P P 12 51 12.6 +0.3
SNR=41
O10A Cortez Mining, 82.76 50 ⇓P P 12 51 12.8 +0.7
baz=83,SNR=10
CWC Cottonwood Cre 82.78 54 ⇑P P 12 51 12.2 0.0
baz=83,SNR=5.1
G13A Cobalt 82.80 45 ⇓P P 12 51 11.7 -0.4
baz=83,SNR=36
B15A Bradely Ranch, 82.81 41 ⇓P P 12 51 11.8 -0.3
baz=83,SNR=22
J12A Stokes Ranch, 82.81 47 ⇓P P 12 51 11.1 -1.1
baz=83,SNR=24
OSI Osito Adit 82.83 56 *eP* **P 12 51 12.7 +0.1**
comp=Z,54nm,0.8s,mb5.6
CHMT Chamberlain Mo 82.84 43 *eP* **P 12 51 11.9 -0.4**
comp=Z,30nm,1.1s,mb5.2
E14A Clinton 82.85 43 ⇓P P 12 51 11.3 -1.1
baz=83
ARCES ARCESS Array B 82.86 342 P P 12 51 11.9 -0.1
comp=Z,69nm,0.8s,mb5.7,baz=54,slow=6.4,SNR=63
ARCES LR LR 13 33 47.2
comp=Z,6µm,20.1s,baz=64,slow=40
ARE0 ARCESS Array S 82.86 342 *eP* **P 12 51 12.0 0.0**
M11A Holland Ranch, 82.91 49 ⇓P P 12 51 12.0 -0.9
baz=83,SNR=14
BSY Bisya 82.91 292 P P 12 51 13.9 +0.7
SNR=44
TPH Tonopah 82.92 52 *eP* **P 12 51 13.3 +0.4**
TPH pmax pmax
comp=Z,70nm,1.0s,mb5.7
TPH MLR MLR
comp=Z,7µm,20.0s
TPH Tonopah 82.92 52 *eP* **P 12 51 13.3 +0.4**
comp=Z,70nm,1.0s,mb5.7
TPH LR LR
comp=Z,7µm,20.0s
C15A Salmond Ranch, 82.96 42 ⇓P P 12 51 12.0 -1.0
baz=83,SNR=12
H13A Challis 82.96 45 ⇑P P 12 51 12.5 -0.5
baz=83,SNR=12
R09A Tonopah 82.98 52 ⇑P P 12 51 12.9 -0.4
baz=83,SNR=36
P10A Eureka 83.00 51 ⇓P P 12 51 12.8 -0.6
baz=83,SNR=9.6
S09A Goldfield 83.03 53 ⇑P P 12 51 12.4 -1.2
baz=83,SNR=22
F14A Wisdom 83.14 44 ⇑P P 12 51 14.0 +0.1
baz=83,SNR=6.5
N11A Elko Archery C 83.15 49 ⇑P P 12 51 14.3 +0.2
baz=83,SNR=9.2
K12A Draper Farm, C 83.15 47 ⇑P P 12 51 14.0 0.0
baz=83,SNR=18
HLID Hailey 83.18 46 ⇓P P 12 51 13.6 -0.6
baz=83,SNR=12
HLID Hailey 83.18 46 *eP* **P 12 51 14.7 +0.5**
comp=Z,21nm,0.4s,mb5.5
A16A West Butte Ran 83.19 41 ⇓P P 12 51 14.0 -0.1
baz=83,SNR=30
DAC Darwin (Calif) 83.20 54 PFAKE 12 51 20.0 +5.6
DAC LR LR
comp=Z,5µm,20.0s
HATD Hatta, Dubai 83.23 294 P P 12 51 15.4 +0.6
SNR=43
L12A House Creek Ra 83.23 48 ⇓P P 12 51 14.7 +0.2
baz=83,SNR=30
DECC Green Verdugo 83.25 56 ⇑P P 12 51 14.7 0.0
baz=83
G14A Jackson 83.27 45 ⇓P P 12 51 14.5 -0.1
baz=83,SNR=9.8
D15A Lincoln 83.27 43 ⇓P P 12 51 14.7 +0.2
baz=83,SNR=7.4
I13A Wildhorse Cree 83.27 46 ⇓P P 12 51 14.6 0.0
baz=83,SNR=17
Q10A Clear Creek Ra 83.30 51 ⇑P P 12 51 14.7 -0.1
baz=83,SNR=11
B16A M & M Farms, S 83.31 41 ⇓P P 12 51 14.6 -0.1
baz=83,SNR=17
EDW2 Edwards Air Fo 83.33 56 ⇓P P 12 51 14.9 -0.1
baz=83,SNR=17
MPMC Manual Prospec 83.35 54 ⇑P P 12 51 15.1 -0.1
baz=83,SNR=24
LRMC Laurel Mountai 83.38 55 ⇓P P 12 51 15.5 +0.2
baz=83
E15A Deer Lodge 83.40 43 ⇓P P 12 51 14.9 -0.4
baz=83,SNR=35
J13A Cove Ranch, Pi 83.40 47 ⇑P P 12 51 15.2 -0.1
baz=83,SNR=24
O11A Cowboy Ranch, 83.43 50 ⇓P P 12 51 15.5 0.0
baz=83,SNR=12
S10A Tonopah Range, 83.44 52 ⇑P P 12 51 15.7 +0.1
baz=83,SNR=52
CIS Catalina Islan 83.46 57 ⇓P P 12 51 15.7 -0.1
baz=83,SNR=5.7
MWC Mount Wilson 83.48 56 *eP* **P 12 51 16.2 +0.3**
MWC pmax pmax
comp=Z,203nm,1.5s,mb5.9
MWC MLR MLR
comp=Z,5µm,20.0s
MWC Mount Wilson 83.48 56 *eP* **P 12 51 16.2 +0.3**
comp=Z,203nm,1.5s,mb5.9
MWC LR LR
comp=Z,5µm,20.0s
C16A Fuhringer Ranc 83.50 42 ⇓P P 12 51 15.2 -0.5
baz=83,SNR=32
ELK Elko 83.53 49 PKPPKP 13 17 35.9
comp=Z,0.5nm,0.2s,baz=171,slow=5.1,SNR=4.0
ELK LR LR 13 21 48.7
comp=Z,10µm,21.3s,baz=314,slow=31
ELK Elko 83.53 49 *eP* **P 12 51 16.7 +0.7**
ELK *epmax* pmax
comp=Z,92nm,0.8s
ELK MLR MLR
comp=Z,12µm,21.0s
ELK Elko 83.53 49 *eP* **P 12 51 16.6 +0.6**
comp=Z,92nm,0.8s,mb6.0
ELK LR LR
comp=Z,12µm,21.0s
M12A Wells 83.54 49 ⇑P P 12 51 16.5 +0.4
baz=83,SNR=30
H14A Leadore 83.54 45 ⇓P P 12 51 16.1 +0.1
baz=83,SNR=26
P11A Circle Ranch, 83.54 51 ⇑P P 12 51 16.1 0.0
baz=83
R10A Warm Springs 83.54 52 ⇓P P 12 51 15.6 -0.5
baz=84,SNR=12
N12A Clover Valley, 83.64 49 ⇑P P 12 51 16.2 -0.4
baz=84,SNR=18
FURC Furnace Creek, 83.70 54 ⇑P P 12 51 17.1 +0.1
baz=84,SNR=12
F15A Butte 83.70 44 ⇓P P 12 51 16.6 -0.2
baz=84,SNR=29
K13A Storm Farm, H 83.72 47 ⇓P P 12 51 17.6 +0.7
baz=84,SNR=19
I14A Mackay 83.72 46 ⇓P P 12 51 16.9 0.0
baz=84,SNR=30
DLMT Dillon 83.80 44 *eP* **P 12 51 17.9 +0.6**
comp=Z,79nm,1.3s,mb5.7
MCMT McKenzie Canyo 83.82 45 *eP* **P 12 51 17.7 +0.3**
comp=Z,79nm,0.9s,mb5.8
Q11A Duckwater 83.84 51 ⇓P P 12 51 17.8 +0.1
baz=84,SNR=18
J14A Carey 83.88 46 ⇑P P 12 51 18.3 +0.6
baz=84,SNR=55
D16A Dana Ranch, Ca 83.89 42 ⇓P P 12 51 17.0 -0.7
baz=84,SNR=22
G15A Dillon 83.94 44 ⇑P P 12 51 17.5 -0.6
baz=84,SNR=10
E16A East Helena 83.99 43 ⇓P P 12 51 17.5 -0.8
baz=84,SNR=28
L13A Double Diamond 84.00 48 ⇓P P 12 51 18.0 -0.4
baz=84,SNR=24
TPNV Topopah Spring 84.01 53 *eP* **P 12 51 18.7 +0.1**
TPNV pmax pmax
comp=Z,69nm,1.1s,mb5.7
TPNV MLR MLR
comp=Z,6µm,22.0s
TPNV Topopah Spring 84.01 53 ⇓P P 12 51 18.4 -0.2
baz=84,SNR=11
TPNV Topopah Spring 84.01 53 *eP* **P 12 51 18.7 +0.1**
comp=Z,69nm,1.1s,mb5.7
TPNV LR LR
comp=Z,6µm,22.0s
H15A Lima 84.03 45 ⇓P P 12 51 19.1 +0.6
baz=84,SNR=14
O12A Currie 84.04 50 ⇑P P 12 51 18.9 +0.2
baz=84,SNR=23
R11A Troy Canyon, C 84.06 52 ⇓P P 12 51 18.5 -0.3
baz=84,SNR=39
M13A Montello 84.09 48 ⇑P P 12 51 18.5 -0.4
baz=84,SNR=39
GSC Goldstone 84.11 55 *eP* **P 12 51 19.3 +0.2**
GSC pmax pmax
comp=Z,89nm,1.3s,mb5.7
GSC MLR MLR
comp=Z,3µm,21.0s
GSC Goldstone 84.11 55 ⇓P P 12 51 18.2 -1.0
baz=84,SNR=17
GSC Goldstone 84.11 55 *eP* **P 12 51 19.3 +0.1**
comp=Z,88nm,1.3s,mb5.7
GSC LR LR
comp=Z,3µm,21.0s
U10A Ash Meadows, A 84.12 54 ⇑P P 12 51 18.5 -0.6
baz=84,SNR=15
S11A Rachel 84.17 52 ⇓P P 12 51 19.1 -0.3
baz=84
C17A Wharram Farm, 84.18 42 ⇑P P 12 51 18.5 -0.6
baz=84,SNR=29
P12A McGill 84.19 50 ⇑P P 12 51 19.7 +0.3
baz=84,SNR=21
N13A Wendover, West 84.23 49 ⇑P P 12 51 19.6 0.0
baz=84,SNR=9.7
MAK Makhachkala 84.24 313 *d iP* **P 12 51 21.1 +1.5**
MAK *i* 12 54 36.8
MAK *i* S S 13 01 40.6 +0.4
MAK pmax pmax
comp=E,169nm,0.7s
MAK pmax pmax
comp=Z,3µm,1.5s,mb7.1
MAK pmax pmax
comp=N,214nm,0.9s
MAK smax
comp=E,6132µm,7.4s
MAK smax
comp=N,6680µm,7.9s
MAK MLR MLR
comp=E,18µm,19.0s
MAK MLR MLR
comp=Z,16µm,23.0s
DAG Danmarks Havn 84.29 357 *⇓ iP* **P 12 51 18.9 -0.3**
DAG pmax pmax
comp=Z,77nm,1.0s,mb5.8
DAG MLR MLR
comp=Z,2µm,20.0s
DAG MLR MLR
comp=N,680nm,17.0s
DAG Danmarks Havn 84.29 357 *⇓ iP* **P 12 51 18.9 -0.3**
comp=N,77nm,1.0s,mb5.8
DAG
comp=Z,2µm,20.0s
SHOC Shoshone 84.33 54 ⇓P P 12 51 20.2 0.0
baz=84,SNR=7.1
I15A Monteview 84.35 46 ⇑P P 12 51 19.8 -0.3
baz=84,SNR=17
MURC Murrieta 84.35 57 ⇓P P 12 51 20.2 -0.1
baz=84
G16A Moss Hill, Enn 84.37 44 ⇓P P 12 51 20.3 +0.1
baz=84,SNR=31
K14A Jones Ranch, D 84.38 47 ⇓P P 12 51 20.6 +0.3
baz=84,SNR=21
Q12A Willow Creek R 84.39 51 ⇑P P 12 51 20.4 0.0
baz=84,SNR=18
L14A Malta 84.51 48 ⇑P P 12 51 21.2 +0.2
baz=84,SNR=36
E17A Martinsdale 84.54 43 ⇑P P 12 51 20.9 -0.1
baz=84,SNR=22
JOF Joensuu 84.54 336 *ep* **P 12 51 18.7 -2.0**
comp=Z,195nm,0.8s,mb6.3
JOF Joensuu 84.54 336 *eP* **P 12 51 18.7 -2.0**
JOF pmax pmax
comp=Z,195nm,0.8s,mb6.3
J15A Blackfoot 84.59 46 ⇓P P 12 51 22.1 +0.7
baz=84,SNR=72
TRO Tromso 84.60 344 *eP* **P 12 51 18.7 -2.2**
TRO *e*SKS 13 01 43.2
TRO AMS AMS 13 34 42.9
comp=Z,3µm,20.6s
M14A Sheep Mountain 84.62 48 ⇑P P 12 51 22.0 +0.4
baz=84,SNR=29
HEC Hector,Ludlow 84.64 55 ⇑P P 12 51 22.0 +0.2
baz=84,SNR=5.7
O13A Hicks Ranch, I 84.64 50 ⇓P P 12 51 21.8 +0.1
baz=84,SNR=8.7
EGMT Eagleton 84.66 41 ⇓P P 12 51 21.6 0.0
baz=84,SNR=19
EGMT Eagleton 84.66 41 *eP* **P 12 51 21.7 0.0**
comp=Z,168nm,1.1s,mb6.1
EGMT *epP* pP 12 51 38.9 0.0
T11A Corn Creek, Al 84.69 53 ⇓P P 12 51 21.6 -0.4
baz=85,SNR=15
TUQ Turquoise Moun 84.75 54 ⇑P P 12 51 21.8 -0.6
baz=85,SNR=7.1
QLMT Earthquake Lak 84.76 44 *eP* **P 12 51 23.1 +0.9**
comp=Z,44nm,0.8s,mb5.7
K15A Arbon 84.78 47 ⇓P P 12 51 22.7 +0.3
baz=85,SNR=25
R12A Pony Springs, 84.79 51 ⇑P P 12 51 22.6 +0.1
baz=85,SNR=18
P13A Bates Ranch, G 84.84 50 P P 12 51 23.0 +0.3
baz=85,SNR=32
S12A Delamar Landin 84.85 52 ⇑P P 12 51 23.6 +0.8
baz=85,SNR=13
H16A Russell Place, 84.93 45 ⇑P P 12 51 23.1 0.0
baz=85,SNR=20
HVU Hansel Valley 84.93 48 *eP* **P 12 51 23.9 +0.8**
HVU pmax pmax
comp=Z,103nm,1.1s,mb5.9
HVU Hansel Valley 84.93 48 *eP* **P 12 51 23.9 +0.8**
comp=Z,103nm,1.1s,mb5.9
PFO Pinyon Flat Ob 84.94 56 LR LR 13 25 52.8
comp=Z,4µm,18.6s,baz=280,slow=33
PFO Pinyon Flat Ob 84.94 56 *eP* **P 12 51 23.4 +0.1**
PFO pmax pmax
comp=Z,70nm,1.1s,mb5.7
PFO MLR MLR
comp=Z,5µm,19.0s
PFO Pinyon Flat Ob 84.94 56 ⇑P P 12 51 23.1 -0.2
baz=85,SNR=12
PFO Pinyon Flat Ob 84.94 56 *eP* **P 12 51 23.4 +0.1**
comp=Z,70nm,1.1s,mb5.7
PFO LR LR
comp=Z,5µm,19.0s
VRHR Novokhopersk 84.95 322 *deP* **P 12 51 22.5 -0.5**
VRHR *e*S S 13 01 46.9 0.0
VRHR pmax pmax
comp=Z,50nm,0.5s,mb5.9
VRHR pmax pmax
comp=N,60nm,0.9s
VRHR pmax pmax
comp=E,70nm,0.7s
VRHR smax
comp=N,5µm,6.2s
VRHR smax
comp=Z,710nm,4.5s
VRHR smax
comp=E,3µm,6.3s
VRHR MLR MLR
comp=Z,3µm,17.0s
VRHR MLR MLR
comp=N,2µm,20.0s
VRHR MLR MLR
comp=E,2µm,18.0s
N14A Grayback Hills 84.96 49 ⇓P P 12 51 23.0 -0.3
baz=85,SNR=19
V11A Goodsprings 85.00 54 ⇑P P 12 51 23.8 +0.2
baz=85,SNR=11
Q13A Wheeler Ranch, 85.01 51 ⇑P P 12 51 23.8 +0.3
baz=85,SNR=10
BGU Big Grassy Mou 85.05 49 *eP* **P 12 51 24.0 +0.3**
comp=E,34nm,1.0s,mb5.4
BAR Barrett 85.06 57 PFAKE 12 51 30.0 +6.0
BAR LR LR
comp=Z,4µm,19.0s
I16A Newdale 85.07 45 ⇓P P 12 51 24.1 +0.3
baz=85,SNR=24
E18A Harlowton 85.11 42 ⇓P P 12 51 24.3 +0.4
baz=85,SNR=37
L15A Malad City 85.12 47 ⇑P P 12 51 24.0 0.0
baz=85,SNR=40
YMR Madison River 85.13 44 *eP* **P 12 51 25.7 +1.6**
comp=Z,355nm,1.4s,mb6.3
YMR LR LR
comp=Z,9µm,22.0s
MOS Moscow 85.16 328 *eP* **P 12 51 21.2 -2.7**
MOS pmax pmax
comp=Z,406nm,1.3s,mb6.4
MOS pmax pmax
comp=Z,900µm,1.9s
BELC Belle Mtn. 85.17 56 ⇓P P 12 51 23.5 -0.9
baz=85,SNR=10
GMRC Granite Mounta 85.17 55 ⇓P P 12 51 24.5 0.0
baz=85,SNR=17
MONP Monument Peak 85.20 57 ⇑P P 12 51 25.0 +0.3
baz=85,SNR=9.9
J16A Bone 85.20 46 ⇓P P 12 51 24.7 +0.3
baz=85,SNR=12
M15A Larsen Ranch, 85.27 48 ⇓P P 12 51 24.7 -0.1
baz=85,SNR=11
YNR Norris Junctio 85.30 44 *eP* **P 12 51 27.1 +2.2**
comp=Z,246nm,1.3s,mb6.2
R13A O'Grain Ranch, 85.31 51 ⇑P P 12 51 25.4 +0.3
baz=85,SNR=16
SPUT South Promonto 85.32 48 *eP* **P 12 51 25.5 +0.4**
comp=Z,118nm,1.1s,mb5.9
DRV Dumont d'Urvil 85.34 183 P Px 12 51 37.0
DRV S S 13 01 44.0 -5.7
DRV SS SS 13 07 30.0 +3.8
DRV L 13 14 00.0
DRV R 13 20 00.0
RRI2 Red Ridge 85.37 46 *eP* **P 12 51 26.3 +1.0**
comp=Z,77nm,0.9s,mb5.8
RRI2 *e*PP PP 12 54 50.2 +6.6
DCID1 Drake Creek 85.37 46 *eP* **P 12 51 26.4 +1.1**
comp=Z,182nm,1.1s,mb6.1
K16A Soda Springs 85.38 46 ⇑P P 12 51 25.9 +0.6
baz=85,SNR=50
N15A Stansbury Isla 85.42 48 ⇑P P 12 51 25.6 0.0
baz=85
IMW Indian Meadow 85.43 45 *eP* **P 12 51 26.4 +0.8**
comp=Z,102nm,1.1s,mb5.9
DUG Dugway 85.46 49 *eP* **P 12 51 26.2 +0.4**
DUG *e**PP pP 12 51 43.3 +0.2
DUG pmax pmax
comp=Z,93nm,1.0s,mb5.9
DUG Dugway 85.46 49 ⇓P P 12 51 25.3 -0.5
baz=85,SNR=41
DUG Dugway 85.46 49 *eP* **P 12 51 26.2 +0.4**
comp=Z,93nm,1.0s,mb5.9
DUG *ep*P pP 12 51 43.3 +0.2
U12A Valley of Fire 85.48 53 ⇑P P 12 51 26.2 +0.2
baz=85,SNR=10
V12A Nelson 85.48 54 ⇑P P 12 51 26.2 +0.2
baz=85,SNR=16
P14A Drum Mountains 85.48 50 ⇓P P 12 51 26.0 +0.1
baz=85,SNR=28
F18A Big Timber 85.49 43 ⇓P P 12 51 25.9 +0.1
baz=85,SNR=25
LDFC Landfair 85.50 55 *eP* **P 12 51 26.5 +0.4**
comp=Z,89nm,0.9s,mb6.0
DVTC Desert V Tower 85.53 57 ⇑P P 12 51 26.1 -0.1
baz=85
LKWY Lake 85.54 44 PFAKE 12 51 40.0 +14
LKWY LR LR
comp=Z,7µm,22.0s
Q14A Sevier Lake (B 85.54 50 ⇓P P 12 51 26.2 0.0
baz=85,SNR=32
GCMT Greycliff 85.56 43 *eP* **P 12 51 26.6 +0.4**
comp=Z,40nm,0.9s,mb5.7
TPAW Teton Pass 85.57 46 *eP* **P 12 51 26.9 +0.6**
comp=Z,75nm,1.2s,mb5.8
S13A Holt Ranch, En 85.60 52 ⇓P P 12 51 26.5 -0.1
baz=86,SNR=17
MOOW Moose Ponds 85.61 45 *eP* **P 12 51 27.4 +0.9**
comp=Z,444nm,2.1s,mb6.3
I17A Pilgram Creek 85.66 45 ⇑P P 12 51 27.2 +0.5
baz=86,SNR=19
O15A The Old Anders 85.67 49 ⇓P P 12 51 28.3 +1.5
baz=86,SNR=8.7
REDW Red Top Meadow 85.68 46 *eP* **P 12 51 28.6 +1.7**
comp=Z,98nm,1.3s,mb5.9
BC3 Big Chuckw Mtn 85.71 56 ⇓P P 12 51 27.2 0.0
baz=86,SNR=12
SNOW Snow King Moun 85.71 46 *eP* **P 12 51 27.5 +0.5**
comp=Z,151nm,1.6s,mb6.0
SNOW *e*PP PP 12 54 53.9 +7.5
AHID Auburn Hatcher 85.73 46 *eP* **P 12 51 27.6 +0.6**
comp=Z,136nm,1.1s,mb6.1
AHID LR LR
comp=Z,6µm,20.0s
SHAO Shalim 85.75 287 P P 12 51 28.2 +0.5
SNR=13
T13A Saint George 85.76 52 ⇑P P 12 51 27.5 +0.2
baz=86,SNR=28
LOHW Long Hollow 85.76 45 *eP* **P 12 51 27.8 +0.6**
comp=Z,26nm,0.9s,mb5.5
IRM Iron Mountain 85.78 55 ⇑P P 12 51 26.9 -0.6
baz=86,SNR=12
L16A Fish Haven 85.78 47 ⇓P P 12 51 27.3 0.0
baz=86,SNR=14
NOQ North Oquirrh 85.79 49 *eP* **P 12 51 28.6 +1.2**
comp=Z,9.9nm,0.8s,mb5.1
HWUT Hardware Ranch 85.83 48 *eP* **P 12 51 28.0 +0.4**
comp=Z,111nm,1.0s,mb6.0
HWUT LR LR
comp=Z,4µm,22.0s
ARUT Antelope Range 85.84 52 *eP* **P 12 51 28.3 +0.6**
comp=Z,69nm,0.9s,mb5.9
M16A Huntsville 85.89 48 ⇓P P 12 51 27.5 -0.5
baz=86,SNR=5.2
U13A Pakoon Wash 85.92 53 ⇑P P 12 51 27.4 -0.8
baz=86,SNR=32
OBN Obninsk 85.98 327 *c iP* **P 12 51 27.0 -1.0**
OBN *i* 12 51 37.3
OBN *i* 12 54 47.5
OBN *i* S S 13 01 50.2 -6.7

OBN pmax pmax
comp=Z,352nm,1.6s,mb6.3
OBN MLR MLR
comp=Z,6µm,18.0s
OBN Obninsk 85.98 327 *e*P **P 12 51 27.3 -0.7**
comp=Z,286nm,1.3s,mb6.3
OBN LR LR
comp=Z,7µm,20.0s
CCUT Cedar City 85.98 52 *e*P **P 12 51 29.3 +0.8**
comp=Z,63nm,1.1s,mb5.8
CTU Camp Tracy 86.04 48 *e*P **P 12 51 30.0 +1.4**
comp=Z,72nm,1.0s,mb5.9
S14A Cedar City 86.05 52 ⇓P **P 12 51 28.8 0.0**
baz=86,SNR=12
P15A Leamington 86.06 50 ⇑P **P 12 51 28.3 -0.5**
baz=86,SNR=25
VOR Voronezh 86.07 324 *e*P **P 12 51 27.0 -1.5**
VOR *e*S S 13 01 56.0 -1.9
VOR pmax pmax
comp=Z,300nm,2.0s,mb6.2
NLU North Lily Min 86.07 49 *e*P **P 12 51 29.2 +0.4**
comp=Z,114nm,1.1s,mb6.0
RLMT Red Lodge 86.08 44 PFAKE 12 51 40.0 +11
RLMT LR LR
comp=Z,5µm,22.0s
V13A Grand Canyon W 86.10 54 ⇑P **P 12 51 28.9 -0.1**
baz=86,SNR=16
N16A Rees Ranch, Co 86.19 48 ⇓P **P 12 51 29.4 +0.1**
baz=86,SNR=9.4
Q15A Fillmore 86.19 50 ⇑P **P 12 51 29.3 -0.1**
baz=86,SNR=8.0
DGRG David-gareji 86.26 312 P **P 12 51 30.2 +0.5**
DGRG S S 13 01 54.9 -5.3
JLU Jordanelle 86.28 48 *e*P **P 12 51 30.0 +0.1**
comp=Z,102nm,1.0s,mb6.0
FFC Flin Flon 86.29 33 *e*P **P 12 51 29.3 -0.3**
FFC *e**PP pP 12 51 46.7 -0.3
FFC pmax pmax
comp=Z,183nm,1.0s,mb6.3
FFC MLR MLR
comp=Z,3µm,20.0s
FFC Flin Flon 86.29 33 *e*P **P 12 51 29.3 -0.2**
comp=Z,183nm,1.0s,mb6.3
FFC *e*pP pP 12 51 46.7 -0.2
FFC LR LR
comp=Z,3µm,20.0s
VSR Storozhevoye 86.31 323 *ce*P **P 12 51 28.8 -0.9**
VSR *e*S S 13 01 59.7 -0.6
VSR pmax pmax
comp=Z,30nm,0.9s,mb5.5
VSR pmax pmax
comp=N,20nm,1.0s
VSR pmax pmax
comp=E,30nm,0.8s
VSR smax
comp=N,2µm,11.6s
VSR smax
comp=Z,180nm,8.4s
VSR smax
comp=E,2µm,9.1s
VSR MLR MLR
comp=Z,1µm,17.0s
VSR MLR MLR
comp=N,890nm,16.0s
VSR MLR MLR
comp=E,2µm,18.0s
T14A Hurricane 86.36 52 ⇑P **P 12 51 29.9 -0.4**
baz=86
MPU Maple Canyon 86.36 49 *e*P **P 12 51 30.5 +0.2**
comp=E,148nm,1.5s,mb6.0
MPU LR LR
comp=Z,13µm,22.0s
O16A Springville 86.39 49 ⇓P **P 12 51 30.3 -0.1**
baz=86,SNR=29
GLA Glamis 86.41 56 *e*P **P 12 51 30.2 -0.4**
GLA *e* 12 54 56.5
GLA pmax pmax
comp=Z,49nm,1.0s,mb5.7
GLA MLR MLR
comp=Z,4µm,19.0s
GLA Glamis 86.41 56 ⇓P **P 12 51 30.5 -0.1**
baz=86,SNR=12
GLA Glamis 86.41 56 *e*P **P 12 51 30.2 -0.4**
comp=Z,49nm,1.0s,mb5.7
GLA *e*PP PP 12 54 56.5 +4.1
GLA LR LR
comp=Z,4µm,19.0s
Y12C Blythe 86.41 56 ⇑P **P 12 51 30.6 0.0**
baz=86,SNR=9.3
W13A Hualapai Mount 86.44 54 ⇓P **P 12 51 30.9 +0.1**
baz=86,SNR=18
DAU Daniels Canyon 86.49 49 *e*P **P 12 51 31.5 +0.6**
comp=Z,113nm,1.1s,mb6.0
MVU Marysvale 86.49 51 PFAKE 12 51 40.0 +9.1
MVU LR LR
comp=Z,9µm,22.0s
U14A Mt Trumbull 86.51 53 ⇓P **P 12 51 30.8 -0.3**
baz=86,SNR=27
MSU Marysvale 86.52 51 *e*P **P 12 51 31.7 +0.7**
comp=Z,51nm,1.1s,mb5.7
PDMCI Parker Dam,Lak 86.52 55 ⇑P **P 12 51 31.2 0.0**
baz=86,SNR=13
MTA Mtatsminda 86.57 313 P **P 12 51 31.0 -0.2**
MTA S S 13 01 54.6 -8.6
N17A Moffit Pass 86.59 48 ⇑P **P 12 51 30.8 -0.6**
baz=86,SNR=12
TBLG Delisi 86.60 313 P **P 12 51 31.3 -0.1**
RKT Rikitea 86.64 116 *e*S S 13 02 04.6 +0.3
comp=Z,3µm,31.5s
RKT *e*SS SS 13 07 39.1 -7.9
comp=Z,773nm,26.0s
RKT *e*LQ 13 14 46.0
comp=Z,7µm,28.0s
RKT *e*LR LR 13 18 38.7
comp=Z,16µm,30.5s,baz=290
RKT Rikitea 86.64 116 *e*P **P 12 51 31.5 -0.3**
RKT *e*S S 13 02 04.6 +0.3
RKT pmax pmax
comp=Z,89nm,1.0s,mb6.0
RKT Rikitea 86.64 116 *e*P **P 12 51 31.5 -0.3**
comp=Z,88nm,1.0s,mb6.0
RKT *e*S S 13 02 04.6 +0.3
RKT *e*SS SS 13 07 39.1 -7.9
RKT *e*LQ 13 14 46.0
X13A Yucca 86.66 55 ⇑P **P 12 51 31.9 +0.1**
baz=87,SNR=18
S15A Panguitch 86.68 51 ⇓P **P 12 51 32.1 +0.2**
baz=87,SNR=10.0
BW06 Boulder Array 86.79 46 ⇓P **P 12 51 31.7 -0.6**
baz=87
BW06 Boulder Array 86.79 46 PFAKE 12 51 40.0 +7.7
BW06 LR LR
comp=Z,5µm,20.0s
PDAR Pinedale Array 86.79 46 P **P 12 51 31.6 -0.6**
comp=Z,7.0nm,0.7s,mb5.0,baz=238,slow=2.4,SNR=30
PDAR PP PP 12 54 57.9 +2.8
comp=Z,4.5nm,1.0s,baz=213,slow=4.1,SNR=1.9
PDAR PKKPbc PKKPbc 13 09 25.8 -1.1
comp=Z,3.1nm,0.9s,baz=114,slow=3.7,SNR=5.6
PDAR LR LR 13 25 08.8
comp=Z,4µm,20.4s,baz=323,slow=32
V14A Boquillas Ranc 86.85 54 ⇑P **P 12 51 32.7 0.0**
baz=87,SNR=32
T15A Red Dirt Ranch 86.90 52 ⇑P **P 12 51 33.1 +0.2**
baz=87,SNR=16
KAF Kangasniemi 86.93 336 *ep* **P 12 51 29.9 -2.6**
comp=Z,49nm,0.8s,mb5.8,baz=52,slow=4.4
KAF Kangasniemi 86.93 336 *e*P **P 12 51 29.9 -2.6**
KAF pmax pmax
comp=Z,49nm,0.8s,mb5.8
Y13A Salome 86.93 55 ⇓P **P 12 51 33.6 +0.4**
baz=87
TMUT Trail Mountain 86.93 50 *e*P **P 12 51 33.6 +0.6**
comp=Z,79nm,1.0s,mb5.9
GOR Gori 86.94 313 P **P 12 51 31.0 -2.0**
O17A Robinson Place 86.94 49 ⇓P **P 12 51 33.2 +0.2**
baz=87,SNR=38
W14A Seligman 87.01 54 ⇑P **P 12 51 33.6 0.0**
baz=87,SNR=23
Q16A Castle Valley 87.10 50 ⇑P **P 12 51 34.1 +0.3**
baz=87,SNR=40
R16A Teasdale 87.11 51 ⇓P **P 12 51 34.7 +0.8**
baz=87,SNR=41
KIV Kislovodsk 87.13 316 P **P 12 51 34.1 +0.2**
SNR=26
KIV Kislovodsk 87.13 316 *c i*P **P 12 51 33.5 -0.4**
KIV *i* 12 55 01.3
KIV *i*S S 13 01 59.7 -8.8
KIV pmax pmax
comp=Z,123nm,1.0s,mb6.1
KIV Kislovodsk 87.13 316 ⇓*i*P **P 12 51 33.6 -0.3**
KIV Kislovodsk 87.13 316 *e*P **P 12 51 33.6 -0.3**
comp=Z,163nm,1.0s,mb6.2
KIV LR LR
comp=Z,5µm,19.0s
ONI Oni 87.16 314 P **P 12 51 34.4 +0.3**
ONI S S 13 02 01.2 -7.6
U15A North Rim 87.18 53 ⇑P **P 12 51 34.8 +0.5**
baz=87,SNR=39
GNI Garni 87.19 311 *e*P **P 12 51 35.1 +0.9**
GNI Garni 87.19 311 ⇓P **P 12 51 34.0 -0.3**
SNR=48
GNI Garni 87.19 311 ⇑*i*P **P 12 51 34.7 +0.4**
GNI pmax pmax
comp=Z,287nm,1.0s
GNI MLR MLR
comp=Z,2µm,19.0s
GNI Garni 87.19 311 ⇑*i*P **P 12 51 34.7 +0.4**
comp=Z,287nm,1.0s,mb6.5
GNI LR LR
comp=Z,2µm,19.0s
RBK Rabkut 87.20 287 P **P 12 51 34.2 -0.5**
SNR=55
P17A Butcher Ranch, 87.20 49 ⇑P **P 12 51 35.2 +0.8**
baz=87,SNR=15
S16A Weapprnr Ranch, 87.23 51 ⇓P **P 12 51 35.0 +0.5**
baz=87,SNR=22
113A Mohawk Valley, 87.34 56 ⇑P **P 12 51 34.7 -0.4**
baz=87,SNR=7.1
N18A Larsen Ranch, 87.39 48 P **P 12 51 34.6 -0.7**
baz=87,SNR=32
LAO LASA Array 87.40 41 *e*P **P 12 51 35.6 +0.4**
comp=Z,279nm,1.0s,mb6.5
LAO LR LR
comp=Z,7µm,22.0s
X14A Yava 87.42 55 ⇓P **P 12 51 35.2 -0.3**
baz=87,SNR=21
O18A Roosevelt 87.43 48 ⇓P **P 12 51 35.0 -0.4**
baz=87,SNR=20
WHFO Wadi Hawf 87.46 288 P **P 12 51 35.6 -0.4**
SNR=46
V15A Kaibab Nationa 87.49 53 ⇑P **P 12 51 36.2 +0.4**
baz=87,SNR=39
SRU San Rafael 87.50 50 *e*P **P 12 51 35.7 -0.1**
SRU pmax pmax
comp=Z,54nm,0.8s,mb5.8
SRU San Rafael 87.50 50 ⇑P **P 12 51 35.6 -0.1**
baz=87,SNR=57
SRU San Rafael 87.50 50 *e*P **P 12 51 35.7 -0.1**
comp=Z,79nm,0.8s,mb6.0
P18A Preston Nutter 87.50 49 ⇓P **P 12 51 35.4 -0.4**
baz=87,SNR=18
Y14A Wickenburg 87.53 55 ⇓P **P 12 51 36.0 0.0**
baz=87,SNR=23
R17A Hanksville Air 87.62 50 ⇑P **P 12 51 36.1 -0.3**
baz=88,SNR=87
W15A Williams 87.65 54 ⇑P **P 12 51 37.0 +0.4**
baz=88,SNR=21
N19A John Jarvie Ra 87.77 47 ⇓P **P 12 51 36.4 -0.6**
baz=88,SNR=22
Z14A Wintersburg 87.78 56 ⇓P **P 12 51 37.3 +0.1**
baz=88,SNR=8.1
Q18A Rafter H Ranch 87.78 49 ⇓P **P 12 51 36.6 -0.6**
baz=88,SNR=27
S17A Black Ridge (B 87.85 51 ⇑P **P 12 51 37.0 -0.5**
baz=88,SNR=23
DGMT Dagmar 87.87 39 ⇑P **P 12 51 36.9 -0.5**
baz=88
DGMT Dagmar 87.87 39 *e*P **P 12 51 37.1 -0.3**
comp=Z,78nm,1.1s,mb5.8
DGMT LR LR
comp=Z,6µm,20.0s
X15A Humboldt 87.92 54 ⇑P **P 12 51 38.6 +0.7**
baz=88,SNR=47
O19A Miners Draw (B 88.04 48 ⇑P **P 12 51 38.3 -0.1**
baz=88,SNR=27
Y15A Casa Rosa Ranc 88.04 55 ⇓P **P 12 51 37.9 -0.6**
baz=88,SNR=37
DIGO Kars 88.05 312 ⇑*i*P **P 12 51 39.0 +0.6**
ABTO Aybut 88.07 288 P **P 12 51 38.6 -0.3**
SNR=92
T17A Navajo Res., N 88.08 52 ⇑P **P 12 51 38.7 +0.1**
baz=88,SNR=28
U16A Tuba City 88.16 52 ⇑P **P 12 51 39.4 +0.4**
baz=88,SNR=29
CLDR Caldiran 88.16 311 *e*P **P 12 51 39.8 +0.9**
DYDN Diyadin 88.17 311 ⇑*i*P **P 12 51 39.7 +0.7**
KARS Kars 88.17 312 *e*P **P 12 51 40.2 +1.2**
WUAZ Wupatki 88.20 53 ⇑P **P 12 51 39.3 +0.1**
baz=88,SNR=30
WUAZ Wupatki 88.20 53 *e*P **P 12 51 40.2 +0.9**
comp=Z,86nm,0.9s,mb6.0
WUAZ LR LR
comp=Z,4µm,20.0s
R18A Canyonlands Na 88.23 50 ⇑P **P 12 51 38.8 -0.5**
baz=88,SNR=20
MOR8 Moi Rana 88.23 343 *e*P **P 12 51 37.1 -1.6**
MOR8 *e*pP pP 12 51 48.0 -8.1
W16A Flagstaff 88.24 54 ⇓P **P 12 51 39.6 +0.2**
baz=88,SNR=12
U17A Shonto 88.34 52 ⇑P **P 12 51 40.3 +0.5**
baz=88,SNR=16
214A Organ Pipe Nat 88.38 57 ⇑P **P 12 51 41.0 +0.8**
baz=88,SNR=14
Z15A Gila River Ind 88.42 55 ⇑P **P 12 51 40.9 +0.6**
baz=88,SNR=6.1
S18A Hurst Farm, BI 88.42 51 ⇓P **P 12 51 40.2 0.0**
baz=88,SNR=18
Q19A Hogan Spring (88.46 49 ⇓P **P 12 51 40.0 -0.3**
baz=88,SNR=10
STOK Stokkvaagen 88.51 343 *e*P **P 12 51 39.6 -0.4**
X16A Lo Mia Camp, P 88.56 54 ⇓P **P 12 51 40.7 -0.2**
baz=88,SNR=15
115A Sonoran Desert 88.58 56 ⇓P **P 12 51 40.5 -0.5**
baz=88,SNR=7.5
AGRB Hanur-Agry 88.65 311 *e*P **P 12 51 42.0 +0.8**
T18A Mexican Hat 88.72 51 ⇓P **P 12 51 40.7 -0.9**
baz=89,SNR=21
Y16A Circle Bar Ran 88.73 55 ⇓P **P 12 51 41.4 -0.3**
baz=89,SNR=21
ARTV Artvin 88.75 313 ⇑*i*P **P 12 51 42.0 +0.3**
UMR Umm Al-Rimmam 88.78 301 *e*P **P 12 51 41.1 -1.0**
baz=301
UMR AMb AMb 12 51 42.7
comp=Z,446nm,1.1s,mb6.7,baz=301
DAGI Agillar 88.81 313 ⇑*i*P **P 12 51 42.2 +0.2**
SUMG Summit 88.81 2 *e*P **P 12 51 42.9 +1.6**
comp=Z,17nm,1.0s,mb5.3
RWWY Rawlins 88.81 46 *e*P **P 12 51 42.2 +0.3**
comp=Z,80nm,1.1s,mb6.0
PV10 Paradox Valley 88.85 50 *e*P **P 12 51 42.8 +0.6**
comp=Z,3µm,1.1s,mb7.5
BCA Borcka 88.86 314 *e*P **P 12 51 42.1 -0.1**
DBOC Borcka 88.87 313 ⇑*i*P **P 12 51 42.3 0.0**
VSU Vasula 88.87 333 ⇑*i*P **P 12 51 40.6 -1.3**
HKR Hakkari 88.89 309 *e*P **P 12 51 43.2 +0.7**
HAKT HAKKARI 88.92 309 ⇑*i*P **P 12 51 42.9 +0.3**
KBD Kabd 88.93 300 *e*P **P 12 51 41.8 -1.0**
baz=300
KBD AMb AMb 12 51 45.1
comp=Z,188nm,1.8s,mb6.1,baz=300
DBAD Bademkaya 88.98 313 ⇑*i*P **P 12 51 43.0 +0.3**
DDEM Demirkent 89.00 313 ⇑*i*P **P 12 51 43.2 +0.3**
MIB Mutribah 89.00 301 *e*P **P 12 51 42.2 -0.9**
baz=301
MIB AMb AMb 12 51 43.6
comp=Z,789nm,0.9s,mb7.0,baz=301
S19A Harvey Farm, M 89.02 50 ⇓P **P 12 51 42.6 -0.4**
baz=89,SNR=15
116A Eloy 89.04 56 ⇑P **P 12 51 43.2 0.0**
baz=89,SNR=12
X17A Forest Lakes 89.08 54 ⇑P **P 12 51 43.6 +0.2**
baz=89
CASY Casey 89.12 194 *e*P **P 12 51 43.0 +0.3**
RDF Al-Radifah 89.14 300 *e*P **P 12 51 42.7 -1.1**
baz=300
RDF AMb AMb 12 51 44.1
comp=Z,335nm,1.5s,mb6.5,baz=300
V18A Ganado 89.22 53 ⇓P **P 12 51 44.6 +0.6**
baz=89,SNR=22
SOC Sochi 89.25 316 *c i*P **P 12 51 42.7 -1.3**
SOC *e* 12 55 16.8
SOC *e*PPP 12 57 10.5
SOC *e*S SKSac 13 02 07.6 -1.2
SOC *e* 13 02 26.2
SOC pmax pmax
comp=Z,183nm,1.5s,mb6.2
SOC pmax pmax
comp=Z,478µm,6.2s
SOC Sochi 89.25 316 *i*P **P 12 51 42.8 -1.2**
NAY Al-Naaiem 89.27 301 *e*P **P 12 51 43.2 -1.1**
baz=301
NAY AMb AMb 12 51 44.7
comp=Z,342nm,1.3s,mb6.5,baz=301
PV01 Paradox Valley 89.28 50 *e*P **P 12 51 44.5 +0.2**
comp=Z,9µm,1.1s
Y17A Roosevelt 89.29 55 ⇓P **P 12 51 44.3 0.0**
baz=89,SNR=15
RST Umm Al-Ruwaisa 89.38 301 *e*P **P 12 51 43.5 -1.4**
baz=301
RST AMb AMb 12 51 45.0
comp=Z,502nm,1.1s,mb6.8,baz=301
216A Three Points, 89.44 56 ⇓P **P 12 51 45.7 +0.6**
baz=89,SNR=23
T19A Beclabito 89.46 51 ⇓P **P 12 51 45.1 0.0**
baz=89,SNR=27
X18A Snowflake 89.66 54 ⇓P **P 12 51 45.5 -0.6**
baz=90,SNR=8.5
ERZM Erzurum 89.67 312 ⇑*i*P **P 12 51 47.0 +1.0**
MVCO Mesa Verde 89.70 51 ⇑P **P 12 51 45.4 -0.8**
baz=90,SNR=11
MVCO Mesa Verde 89.70 51 *e*P **P 12 51 46.9 +0.7**
comp=Z,122nm,1.3s,mb6.1
MVCO LR LR
comp=Z,4µm,21.0s
Z17A San Carlos Hig 89.72 55 ⇑P **P 12 51 46.3 -0.1**
baz=90,SNR=11
117A Oracle 89.79 56 ⇓P **P 12 51 46.6 -0.2**
baz=90,SNR=15
TUC Tucson 89.85 56 *e*P **P 12 51 47.8 +0.8**
TUC pmax pmax
comp=Z,48nm,1.3s,mb5.7
TUC MLR MLR
comp=Z,3µm,20.0s
TUC Tucson 89.85 56 *e*P **P 12 51 47.8 +0.8**
comp=Z,48nm,1.3s,mb5.7
TUC LR LR
comp=Z,3µm,20.0s
Y18A Canyon Day Jun 89.88 54 ⇑P **P 12 51 47.6 +0.5**
baz=90,SNR=29
217A Green Valley 90.03 56 ⇑P **P 12 51 47.6 -0.2**
baz=90,SNR=34
BHD Baghdad 90.07 305 *ex* x 12 51 46.0
BHD *ex* x 13 02 11.5
BHD *ex* x 13 02 30.5
BHD *ex* x 13 02 52.5
BHD Baghdad 90.07 305 *ex* x 12 51 47.0
BHD *ex* x 12 51 23.0
BHD *ex* x 12 55 23.0
BHD *ex* x 13 02 13.0
BHD *ex* x 13 02 32.0
BHD *ex* x 13 02 54.0
PHWY Pilot Hill 90.17 46 *e*P **P 12 51 49.1 +0.7**
comp=Z,167nm,1.5s,mb6.2
ANN Anapa 90.19 318 *c i*P **P 12 51 47.1 -1.2**
ANN *e**PP pP 12 52 05.1 -0.7
ANN *e* 12 55 23.1
ANN *e* 13 02 15.3
ANN *e* 13 02 28.2
ANN *e*PS PS 13 03 43.8 -7.5
ANN *e*SS SS 13 08 46.6 +10
ANN pmax pmax
comp=Z,181nm,1.7s,mb6.1
ANN Anapa 90.19 318 ⇑*i*P **P 12 51 47.0 -1.3**
X19A St. Johns 90.20 53 ⇓P **P 12 51 49.1 +0.5**
baz=90,SNR=10
118A Homack Ranch, 90.36 55 ⇑P **P 12 51 48.7 -0.7**
baz=90,SNR=25
Y19A Nutrioso 90.41 54 ⇑P **P 12 51 49.7 +0.1**
baz=90,SNR=11
218A Dragoon 90.56 56 ⇓P **P 12 51 51.2 +0.8**
baz=90,SNR=45
MNK Minsk 90.64 329 ⇑*i*P **P 12 51 47.0 -3.2**
MNK pmax pmax
comp=Z,11µm,1.0s
MNK pmax pmax
comp=N,370nm,1.2s
MNK pmax pmax
comp=E,550nm,1.2s
ISCO Idaho Springs 90.70 47 *e*P **P 12 51 51.6 +0.8**
ISCO pmax pmax
comp=Z,43nm,1.1s,mb5.7
ISCO MLR MLR
comp=Z,4µm,20.0s
ISCO Idaho Springs 90.70 47 *e*P **P 12 51 51.6 +0.7**
comp=Z,43nm,1.1s,mb5.7
ISCO LR LR
comp=Z,4µm,20.0s
GUMT Gumushane 90.75 313 *e*P **P 12 51 51.7 +0.6**
318A Bisbee 90.81 56 ⇑P **P 12 51 52.0 +0.5**
baz=91,SNR=32
EZC Erzincan 90.82 313 *e*P **P 12 51 53.7 +2.3**
119A Ashpeak Ranch, 90.83 55 ⇑P **P 12 51 52.0 +0.4**
baz=91,SNR=19
ESPY Espiye-Giresun 91.06 314 *e*P **P 12 51 50.3 -2.2**
MARD Mardin 91.16 310 ⇑*i*P **P 12 51 53.0 0.0**
219A White Tail Can 91.17 56 ⇓P **P 12 51 53.4 +0.3**
baz=91,SNR=16
DIYA Diyarbakir 91.38 311 ⇑*i*P **P 12 51 54.1 +0.1**
319A Douglas 91.39 56 ⇑P **P 12 51 54.8 +0.6**
baz=91,SNR=12
PTK Pertek 91.48 312 *e*P **P 12 51 55.2 +0.7**
SDCO Great Sand Dun 91.66 49 *e*P **P 12 51 55.9 +0.6**
comp=Z,62nm,1.4s,mb5.7
SDCO LR LR
comp=Z,10µm,21.0s
ULM Lac du Bonnet 91.76 35 P **P 12 51 55.0 -0.4**
comp=Z,28nm,0.8s,mb5.7,baz=301,slow=5.2,SNR=25
ULM PKKPbc PKKPbc 13 09 13.5 -1.4
comp=Z,4.4nm,0.8s,baz=296,slow=5.4,SNR=3.0
ULM LR LR 13 28 05.4
comp=Z,6µm,22.0s,baz=309,slow=32
ULM Lac du Bonnet 91.76 35 *e*P **P 12 51 55.0 -0.4**
comp=Z,160nm,1.4s,mb6.2
ULM *e*pP pP 12 52 13.6 +0.6
ULM LR LR
comp=Z,7µm,21.0s
SVRC Sivrice-ELAZID 91.76 312 *e*P **P 12 51 56.5 +0.7**
LAZ Ladron 91.84 53 *e*P **P 12 51 57.1 +0.9**
comp=Z,12nm,1.0s,mb5.2
ELZG Elazig 91.94 312 ⇑*i*P **P 12 51 57.5 +0.9**
AKASG Malin Array Be 92.04 326 P **P 12 51 55.2 -1.6**
comp=Z,18nm,0.8s,mb5.5,baz=46,slow=5.2,SNR=50
AKASG PP PP 12 55 34.5 -2.1
comp=Z,5.4nm,0.8s,baz=48,slow=8.3,SNR=4.1
AKASG LR LR 13 35 57.4
comp=Z,4µm,21.3s,baz=70,slow=37
AKASG Malin Array Be 92.04 326 P **P 12 51 55.2 -1.6**
AKASG 12 55 34.5
AKASG pmax pmax
comp=Z,19nm,0.8s
AKASG pmax pmax
comp=Z,5.0nm,0.8s
AKASG MLR MLR
comp=Z,4µm,21.3s
AKASG Malin Array Be 92.04 326 P **P 12 51 55.2 -1.6**
AKASG PP PP 12 55 34.5 -2.1
AKASG LR LR 13 35 57.4
AKBB Malin Array Si 92.04 326 *eP* **P 12 51 55.2 -1.6**
KIEV Kiev 92.05 326 *eP* **P 12 51 55.3 -1.6**
KIEV pmax pmax
comp=Z,50nm,1.1s,mb5.8
KIEV MLR MLR
comp=Z,4µm,22.0s
KIEV Kiev 92.05 326 *eP* **P 12 51 55.3 -1.6**
comp=Z,50nm,1.1s,mb5.8
KIEV LR LR
comp=Z,4µm,22.0s
LENM Lemitar 92.06 53 *eP* **P 12 51 58.9 +1.6**
comp=Z,3.4nm,0.7s,mb4.8
ANMO Albuquerque 92.13 52 LR LR 13 26 12.8
comp=Z,6µm,21.9s,baz=281,slow=31
ANMO Albuquerque 92.13 52 ⇑*eP* **P 12 51 56.3 -1.2**
ANMO Albuquerque 92.13 52 *eP* **P 12 51 58.4 +0.9**
comp=Z,41nm,1.1s,mb5.7
ANMO *e*PP PP 12 55 40.9 +3.0
ANMO LR LR
comp=Z,6µm,22.0s
SIM Simferopol' 92.20 319 *ce*P **P 12 51 57.5 -0.2**
SIM *e* 12 55 42.0

SIM 13 02 29.8
SIM *e*PS PS 13 04 06.4 -7.1
SIM pmax pmax
comp=Z,62nm,0.7s,mb6.0
RSDY Resadiye-TOKAT 92.25 314 *e*P **P 12 51 58.1 +0.2**
LPM Los Pinos Moun 92.26 53 *e*P **P 12 51 58.4 +0.2**
comp=Z,27nm,1.4s,mb5.4
BNM Barren Site 92.33 53 *e*P **P 12 51 59.1 +0.6**
comp=Z,18nm,1.2s,mb5.3
MYA Malataya 92.41 312 *e*P **P 12 51 59.7 +1.0**
URFA Urfa 92.51 311 *e*P **P 12 51 57.7 -1.6**
OGNE Ogallala 92.65 45 *e*P **P 12 52 00.0 +0.2**
comp=Z,70nm,1.5s,mb5.9
OGNE LR LR
comp=Z,3μm,21.0s
SVSK Karacayir 92.69 314 *e*P **P 12 52 00.5 +0.5**
AKCD Akcadag 92.78 312⇑*i*P **P 12 52 01.0 +0.5**
KVT Kavak 92.80 315 *e*P **P 12 52 00.7 +0.1**
AGMN Agassiz Refuge 92.81 37 *e*P **P 12 51 59.9 -0.5**
comp=Z,134nm,1.3s,mb6.2
AGMN *e*pP pP 12 52 17.5 -0.4
TOKT Tokat 92.82 314 *e*P **P 12 51 59.4 -1.2**
ATAB Bozova 92.88 311⇑*i*P **P 12 52 01.1 +0.2**
MOL Molde 92.92 343 AMS AMS 13 42 11.0
comp=Z,2μm,15.2s
NB2 NORSAR Subarra 92.99 340 P **P 12 51 59.5 -1.5**
comp=Z,38nm,1.1s,mb5.7,baz=43,slow=5.1
NOA NORSAR Array B 92.99 340 P **P 12 51 59.7 -1.3**
comp=Z,9.8nm,0.8s,mb5.3,baz=43,slow=4.7,SNR=24
NOA PP PP 12 55 41.9 -1.8
comp=Z,11nm,1.0s,baz=39,slow=7.4,SNR=5.0
NOA LR LR 13 36 16.4
comp=Z,2μm,21.1s,baz=45,slow=37
NOA NORSAR Array B 92.99 340 P **P 12 51 59.7 -1.3**
NOA 12 55 41.9
NOA pmax pmax
comp=Z,10.0nm,0.8s
NOA pmax pmax
comp=Z,11nm,1.0s
NOA MLR MLR
comp=Z,2μm,21.1s
NOA NORSAR Array B 92.99 340 P **P 12 51 59.7 -1.3**
NOA PP PP 12 55 41.9 -1.8
NOA LR LR 13 36 16.4
DIKM Dikmen 93.06 316 *e*P **P 12 52 01.1 -0.6**
MSEY Mahe Island 93.08 266 PFAKE 12 52 10.0 +7.7
MSEY LR LR
comp=Z,3μm,21.0s
SUW Suwalki 93.13 331 *e*P **P 12 52 00.9 -0.9**
SUW Suwalki 93.13 331 *e*P **P 12 52 00.8 -0.9**
SUW pmax pmax
comp=Z,484nm,1.1s,mb6.8
SUW Suwalki 93.13 331 *e*P **P 12 52 00.8 -0.9**
comp=Z,484nm,1.1s,mb6.8
NAO01 NORSAR Array S 93.25 340 *e*P **P 12 52 00.8 -1.4**
comp=Z,58nm,1.3s,mb5.8
NAO01 LR LR
comp=Z,3μm,20.0s
LPIG La Paz 93.32 63 LR LR 13 27 44.2
comp=Z,10μm,19.6s,baz=295,slow=31
SARI SarD1z-Kayseri 93.46 313 *e*P **P 12 52 05.5 +1.9**
SFJD Kangerlussuaq 93.48 7 LR LR 13 35 31.9
comp=Z,1μm,21.1s,baz=320,slow=36
SFJD Kangerlussuaq 93.48 7 *i*P **P 12 52 02.9 -0.2**
SFJD *i* 13 03 01.9
SFJD pmax pmax
comp=Z,94nm,1.1s,mb6.1
SFJD MLR MLR
comp=Z,2μm,20.0s
SFJD Kangerlussuaq 93.48 7 *i*P **P 12 52 02.9 -0.2**
comp=Z,94nm,1.1s,mb6.1
SFJD *i* 13 02 56.1
SFJD *i* 13 03 01.9
SFJD
comp=Z,2μm,20.0s
PINB Pinarbasi 93.67 313⇑*i*P **P 12 52 04.7 +0.1**
BZK Bozkurt 93.73 317 *e*P **P 12 52 05.6 +0.8**
GAZ Gaziantep 93.78 311 *e*P **P 12 52 05.3 +0.2**
KMRS Kahramanmaras 93.85 312 *e*P **P 12 52 05.1 -0.4**
CTKT Corum 93.86 315⇑*i*P **P 12 52 05.1 -0.3**
YOZ Yozgat 93.97 314 *e*P **P 12 52 06.2 +0.3**
BNN Bunyan 93.97 313 *e*P **P 12 52 06.1 +0.1**
MIR Mirnyy 94.06 199α*i*P **P 12 52 06.0 +0.4**
MIR *i* 12 52 17.0
MIR *i* 12 55 50.0
MIR *i* S SKSac 13 02 36.0 +1.4
MIR *i* 13 09 30.0
MIR pmax pmax
comp=Z,600nm,1.0s,mb7.0
MIR pmax pmax
comp=Z,1μm,4.0s
MIR MLR MLR
comp=Z,2μm,20.0s
CORM Corum 94.18 315 *e*P **P 12 52 07.1 +0.2**
ANDN Andirin 94.21 312⇑*i*P **P 12 52 07.1 0.0**
KIS Kishinev 94.30 323 *e*P **P 12 52 06.0 -1.3**
KIS Kishinev 94.30 323 *e*PP PP 12 55 50.0 -4.3
KIS Kishinev 94.30 323 *e*PPP 12 58 34.0
KIS *e*SKS SKSac 13 02 41.0 +3.9
KIS *e*S S 13 03 20.0 +6.1
KIS LRM 13 38 48.0
comp=Z,3μm,20.0s
MNTX Cornudas Mount 94.30 55 PFAKE 12 52 20.0 +12
MNTX LR LR
comp=Z,4.0nm,21.0s
BALT Daday 94.34 316⇑*i*P **P 12 52 07.3 -0.3**
ILGA Ilgaz 94.36 316⇑*i*P **P 12 52 07.6 -0.1**
KONO Kongsberg 94.58 340 *e*P **P 12 52 07.5 -0.8**
KONO *e*PP PP 12 55 53.3 -2.7
KONO *e* 13 04 37.3
KONO *e*SS SS 13 09 41.1 +2.6
KONO AMS AMS 13 42 13.8
comp=Z,2μm,18.8s
KONO Kongsberg 94.58 340⇑*e*P **P 12 52 06.2 -2.1**
CDAG Cicekdag 94.62 314⇑*i*P **P 12 52 08.4 -0.5**
KOZT Kozan 94.62 312 *e*P **P 12 52 11.7 +2.7**
CANT Cankiri 94.64 316 *e*P **P 12 52 09.6 +0.6**
AVNT Avonos 94.69 313⇑*i*P **P 12 52 06.5 -2.8**
ECSD EROS,Sioux Fal 94.77 41 *e*P **P 12 52 08.6 -1.0**
comp=Z,100nm,1.5s,mb6.0
ELDT Eldivan 94.83 316⇑*i*P **P 12 52 09.2 -0.6**
CEYT Ceyhan 94.90 312 *e*P **P 12 52 10.5 +0.2**
SAFT Safranbolu 94.94 316 *e*P **P 12 52 10.8 +0.4**
BR131 Keskin Array S 95.06 315 *e*P **P 12 52 10.2 -0.8**
comp=Z,39nm,0.9s,mb5.8
BR131 LR LR
comp=Z,2μm,20.0s
YURE YUREGIR 95.06 311⇑*i*P **P 12 52 11.1 +0.1**
NIG Nigde 95.18 313 *e*P **P 12 52 12.4 +0.9**
KAMT Kaman 95.19 314 *e*P **P 12 52 11.4 -0.1**
CBKS Cedar Bluff 95.21 46 PFAKE 12 52 20.0 +8.4
CBKS LR LR
comp=Z,3μm,20.0s
KARA Karaisali 95.27 312 *e*P **P 12 52 11.7 -0.2**
LVV L'vov 95.28 327⇓*i*P **P 12 52 10.2 -1.5**
LVV *e* 12 56 00.8
LVV *e* 12 58 01.6
LVV *e* 13 02 44.0
LVV *e*S S 13 03 19.2 -3.1
LVV *e* 13 04 41.6
LVV *e* 13 09 56.6
LVV *e* 13 13 31.6
LVV MLR MLR
comp=N,600nm,21.0s
LVV MLR MLR
comp=E,2μm,21.0s
LVV MLR MLR
comp=Z,3μm,21.0s
BER Bergen 95.31 342 *e*P **P 12 52 10.3 -1.3**
BER *e*PP PP 12 56 01.8 +0.1
BER *i* 13 04 49.7
BER *e*SS SS 13 09 54.6 +5.7
BER AMS AMS 13 37 24.5
comp=Z,2μm,21.7s
LOD Lodumlu 95.57 315 *e*P **P 12 52 13.6 +0.4**
AMTX Amarillo 95.69 50 *e*P **P 12 52 14.2 +0.3**
comp=Z,50nm,1.0s,mb5.9
AMTX LR LR
comp=Z,5μm,21.0s
MERS Mersin 95.83 312 *e*P **P 12 52 13.8 -0.7**
BUR08 Bucovina Ar. S 95.95 325 *e*P **P 12 52 14.1 -0.8**
BURAR Bucovina Array 95.96 325⇑*i*P **P 12 52 13.9 -1.0**
BURAR Bucovina Array 95.96 325⇑⇑P **P 12 52 13.9 -0.9**
HWQ Hawqa 96.02 309 *e*P **P 12 52 14.4 -1.0**

KWP Kalwaria 96.07 327⇑*i*P **P 12 52 13.9 -1.4**
KWP Kalwaria 96.07 327 *e*P **P 12 52 14.4 -0.9**
comp=Z,62nm,1.1s,mb6.0
KWP LR LR
comp=Z,4μm,21.0s
VRI Vrincioaia 96.13 323⇓*i*P **P 12 52 15.0 -0.7**
VRI Vrincioaia 96.13 323⇓P **P 12 52 15.0 -0.6**
PLOR Plostina 96.18 323⇓*i*P **P 12 52 19.4 +3.5**
MEST Erdemli 96.23 312⇑*i*P **P 12 52 15.3 -1.1**
GKP Gorka Klasztor 96.30 332 *e*P **P 12 52 15.2 -1.0**
BHL Bhannes 96.40 309 *e*P **P 12 52 16.2 -1.0**
COP Copenhagen 96.56 336 *e*P **P 12 52 18.5 +1.1**
COP *i* 12 56 12.3
COP *e* 13 03 32.8
COP pmax pmax
comp=Z,25nm,1.1s,mb5.6
COP MLR MLR
comp=Z,1μm,22.0s
COP Copenhagen 96.56 336 *i*P **P 12 52 18.5 +1.1**
comp=Z,25nm,1.1s,mb5.6
COP *i* 12 56 12.3
COP *e* 13 03 32.8
COP *i* 13 05 26.1
COP
comp=Z,1μm,22.0s
COP Copenhagen 96.56 336 *e*P **P 12 52 18.5 +1.1**
comp=Z,25nm,1.1s,mb5.6
COP *i* 12 56 12.3
COP *e* 13 03 32.8
COP *i* 13 05 26.1
COP LR LR
comp=Z,1μm,22.0s
TXAR Lajitas Array 96.65 56 P **P 12 52 18.1 -0.3**
comp=Z,2.8nm,0.8s,mb4.7,baz=273,slow=4.9,SNR=10
TXAR PP PP 12 56 15.5 +2.2
comp=Z,3.4nm,1.0s,baz=237,slow=5.0,SNR=3.1
TXAR PKKP PKKPbc 13 08 56.4 -5.0
comp=Z,1.1nm,0.9s,baz=64,slow=2.9,SNR=3.5
TXAR PKKPbc PKKPbc 13 09 03.2 +1.8
comp=Z,8.0nm,0.8s,baz=131,slow=5.1,SNR=29
TXAR PKPPKP 13 17 12.2
comp=Z,1.4nm,1.1s,baz=28,slow=4.1,SNR=4.6
TXAR LR LR 13 31 51.7
comp=Z,4μm,18.9s,baz=25,slow=33
TXAR Lajitas Array 96.65 56 P **P 12 52 18.1 -0.3**
TXAR 12 56 15.5
TXAR pmax pmax
comp=Z,3.0nm,0.8s
TXAR pmax pmax
comp=Z,3.0nm,1.0s
TXAR Lajitas Array 96.65 56 P **P 12 52 18.1 -0.3**
TXAR PP PP 12 56 15.4 +2.2
TXAR PKKP PKKPbc 13 08 56.4 -5.0
TXAR PKKPbc PKKPbc 13 09 03.2 +1.8
TXAR P'P' 13 17 12.2
TXAR LR LR 13 31 51.7
KIZT Kizilcal 96.67 315 *e*P **P 12 52 18.1 -0.1**
EREN Erenkoy 96.72 311 *e*P **P 12 52 17.6 -1.0**
IKL Isikli 96.72 312 *e*P **P 12 52 17.6 -1.0**
KOLS Kolonicke sedl 96.73 327 *i*P **P 12 52 17.0 -1.3**
KOLS Kolonicke sedl 96.73 327 *i*P **P 12 52 17.1 -1.2**
KOLS *e*S SKSac 13 03 02.3 +12
GULT Gulveren 96.77 317 *e*P **P 12 52 17.6 -1.1**
KONT Konya--Tatoy 96.81 314 *e*P **P 12 52 04.1 -15**
UZH Uzhgorod 96.91 327 *i*P **P 12 52 18.0 -1.1**
UZH *e* 12 56 17.0
UZH *e*PPP 12 58 17.0
UZH *e* 13 02 48.0
UZH *e*S S 13 03 36.0 -0.5
UZH MLR MLR
comp=Z,1μm,18.0s
STHS Stebnicka Huta 96.95 328 *i*P **P 12 52 18.3 -1.0**
STHS pmax pmax
comp=Z,27nm,2.3s,mb5.3
STHS Stebnicka Huta 96.95 328 *i*P **P 12 52 18.3 -1.0**
comp=Z,27nm,2.3s,mb5.3
SILT Sile 96.95 318 *e*P **P 12 52 17.6 -1.9**
SBA Scott Base 97.08 176 *e*P **P 12 52 16.3 -2.8**
SBA pmax pmax
comp=Z,96nm,1.9s,mb5.9
SBA MLR MLR
comp=Z,2μm,20.0s
SBA Scott Base 97.08 176 *e*P **P 12 52 16.2 -2.9**
comp=Z,96nm,1.9s,mb5.9
SBA LR LR
comp=Z,2μm,20.0s
BORA Eskisehir 97.10 316⇑*i*P **P 12 52 18.9 -1.3**
OJC Ojcow 97.15 329 *e*P **P 12 52 19.0 -1.2**
OJC *e*sP sP 12 52 44.6 +0.1
OJC *e*PP PP 12 56 16.8 +0.6
OJC *e*SKSac SKSac 13 02 50.9 -1.1
OJC *e*S S 13 03 35.5 -3.0
OJC L 13 40 21.1
comp=Z,5.3nm,19.1s
OJC Ojcow 97.15 329 *e*P **P 12 52 19.0 -1.2**
OJC *e* 12 56 16.8
OJC *e* 13 02 50.9
OJC *e*S S 13 03 35.5 -3.0
OJC Ojcow 97.15 329 *e*P **P 12 52 19.0 -1.2**
OJC *e*sP sP 12 52 44.8 +0.3
OJC *e*PP PP 12 56 16.8 +0.6
OJC *e*SKSac SKSac 13 02 50.9 -1.1
OJC *e*S S 13 03 35.5 -3.0
OJC LR LR
comp=Z,5μm,19.1s
CRVS Cervenica-Dubn 97.16 327 *e*P **P 12 52 18.2 -2.1**
CRVS *e*S SKSac 13 02 48.8 -3.4
KSU1 Kansas State U 97.18 45 PFAKE 12 52 30.0 +9.4
KSU1 LR LR
comp=Z,3μm,21.0s
MUD Monsted U'grnd 97.18 338 *i*P **P 12 52 21.6 +1.4**
MUD *i* 12 56 16.7
MUD *i* 13 03 41.9
MUD pmax pmax
comp=Z,42nm,1.2s,mb5.7
MUD MLR MLR
comp=Z,4μm,20.0s
MUD Monsted U'grnd 97.18 338 *i*P **P 12 52 21.6 +1.4**
comp=Z,42nm,1.2s,mb5.7
MUD *i* 12 56 16.7
MUD *i* 13 03 12.2
MUD *i* 13 03 41.9
MUD
comp=Z,4μm,20.0s
MUD Monsted U'grnd 97.18 338 *i*P **P 12 52 21.6 +1.4**
comp=Z,42nm,1.2s,mb5.7
MUD *i* 12 56 16.7
MUD *i* 13 03 12.2
MUD *i* 13 03 41.9
MUD
comp=Z,4μm,20.0s
ADVT Abdulvahap 97.28 317 *e*P **P 12 52 19.3 -1.7**
KLYT Kilyos 97.28 318 *e*P **P 12 52 18.2 -2.8**
LFK Lefkose 97.30 311 *e*P **P 12 52 20.7 -0.4**
CAVI Cavuskoy 97.33 317 *e*P **P 12 52 19.9 -1.4**
NIE Niedzica 97.41 328 *e*P **P 12 52 21.0 -0.4**
YLV Yalova 97.44 317 *e*P **P 12 52 20.2 -1.5**
BGKT Bogazkoy 97.49 318 *e*P **P 12 52 22.1 +0.2**
CSS Prodhromos 97.59 311⇑P **P 12 52 21.5 -1.0**
comp=Z,0.8nm,1.0s
CSS Prodhromos 97.59 311 P **P 12 52 21.2 -1.3**
CTKS Kestanelik-??a 97.63 318 *e*P **P 12 52 21.0 -1.6**
SHUT Suhut-Afyon 97.72 315 *e*P **P 12 52 22.7 -0.3**
ALT Altintas 97.76 316 *e*P **P 12 52 22.7 -0.5**
DRGR 97.82 325⇑*i*P **P 12 52 22.2 -1.1**
DRGR 97.82 325⇑⇑P **P 12 52 22.2 -1.0**
SLVT Silivri 97.82 318 *e*P **P 12 52 23.2 -0.2**
COWI Conover 97.83 36 PFAKE 12 52 30.0 +6.7
COWI LR LR
comp=Z,4μm,20.0s
LEF Lefka 97.83 311 *e*P **P 12 52 22.8 -0.8**
SCIA State Center 97.86 41 P **P 12 52 23.5 -0.1**
comp=Z,37nm,1.0s,mb5.9
SCIA LR LR
comp=Z,5μm,22.0s
RAC Raciborz 98.01 330 *e*P **P 12 52 23.8 -0.3**
RAC MLR MLR
comp=Z,5μm,20.0s
ALFC Alevga 98.02 311 P **P 12 52 23.2 -1.3**
comp=Z,1.4nm,0.9s
JMB Yambol 98.14 320 P **P 12 52 22.3 -2.5**
TKTP Tekketepe 98.15 315⇑*i*P **P 12 52 23.2 -1.7**
GDZ Gediz 98.16 316⇑*i*P **P 12 52 23.9 -1.1**
OKC Ostrava-Krasne 98.20 329 *e*P **P 12 52 23.6 -1.3**
OKC *e* 12 56 23.8

OKC *e* 13 03 47.6
OKC *e*SP SP 13 05 20.8 +10
OKC MLR MLR
comp=Z,4μm,19.6s
OKC Ostrava-Krasne 98.20 329 *e*P **P 12 52 23.6 -1.3**
OKC *e*pP pP 12 52 29.4 -13
OKC *e*PP PP 12 56 23.8 -0.5
OKC *e*SKS 13 03 08.2
OKC *e*S S 13 03 47.6 +0.1
OKC *e*SP SP 13 05 20.8 +10
OKC AMS AMS 13 40 00.0
comp=Z,4μm,19.6s
OKC Ostrava-Krasne 98.20 329 *e*Pdif **P 12 52 23.6 -1.3**
OKC *e*PP PP 12 56 23.8 -0.5
OKC *e*SKS 13 03 08.2
OKC *e* 13 03 47.6
OKC *e*SP SP 13 05 20.8 +10
KSP Ksiaz 98.39 331 *e*P **P 12 52 25.1 -0.7**
KSP Ksiaz 98.39 331⇑*e*P **P 12 52 25.0 -0.7**
KSP *e**PP pP 12 52 34.8 -8.5
KSP *e* 12 56 22.5
KSP *e* 13 02 59.5
KSP *e*SP SP 13 05 13.0 +0.3
KSP *e*SS SS 13 10 36.0 +3.2
KSP Ksiaz 98.39 331⇑*e*P **P 12 52 25.0 -0.7**
KSP *e*pP pP 12 52 34.8 -8.5
KSP *e*PP PP 12 56 22.5 -3.2
KSP *e*SKS 13 02 59.5
KSP *e*SP SP 13 05 13.0 +0.3
KSP *e*SS SS 13 10 36.0 +3.2
KSP LR LR
comp=Z,9μm,19.3s
EDRB Edirne 98.40 319 *e*P **P 12 52 25.6 -0.4**
MORC Moravsky Berou 98.53 330 *e*P **P 12 52 25.4 -1.0**
MORC pmax pmax
comp=Z,8.0nm,0.9s,mb5.2
MORC Moravsky Berou 98.53 330 *e*Pdif **P 12 52 25.7 -0.7**
MORC *e*PP PP 12 56 27.8 +1.0
DURS Dursunbey 98.54 317⇑*i*P **P 12 52 25.6 -1.1**
MRMT Marmara Adasi 98.56 318 *e*P **P 12 52 26.7 -0.1**
PSZ Piszkesteto 98.60 327 *e*P **P 12 52 25.5 -1.2**
PSZ pmax pmax
comp=Z,52nm,1.6s,mb5.8
PSZ MLR MLR
comp=Z,4μm,20.0s
PSZ Piszkesteto 98.60 327⇑*e*P **P 12 52 25.7 -1.0**
PSZ Piszkesteto 98.60 327⇑*i*P **P 12 52 25.6 -1.1**
MFT Murefte 98.66 318 *e*P **P 12 52 26.0 -1.1**
BSEG Bad Segeberg 98.68 336 *e*Pdiff **P 12 52 26.1 -0.9**
BSEG *e*PP PP 12 56 27.6 -0.2
BSEG *e*SP SP 13 05 25.1 +9.4
DEMI Demirci 98.68 316⇑*i*P **P 12 52 26.2 -1.2**
DPC Dobruska-Polom 98.72 331 *e*P **P 12 52 26.6 -0.6**
DPC *e* 12 52 35.7
DPC *e* 12 56 28.8
DPC *e* 13 03 49.7
DPC *e*SP SP 13 05 19.3 +3.0
DPC *e*SP SP 13 05 20.0 +3.7
DPC MLR MLR
comp=Z,5μm,18.5s
DPC Dobruska-Polom 98.72 331 *e*P **P 12 52 26.6 -0.6**
DPC *e*pP pP 12 52 35.7 -9.1
DPC *e*x x 12 55 27.0
DPC *e*PP PP 12 56 28.8 +0.6
DPC *e*x x 13 03 14.6
DPC *e*S S 13 03 49.7 -2.1
DPC *e*SP SP 13 05 19.3 +3.0
DPC AMS AMS 13 42 30.0
comp=Z,5μm,18.5s
DPC Dobruska-Polom 98.72 331 *e*Pdif **P 12 52 26.6 -0.6**
DPC *e* 12 52 35.7
DPC *e* 12 55 27.0
DPC *e*PP PP 12 56 28.8 +0.6
DPC *e*SKS 13 03 14.6
DPC *e* 13 03 49.7
DPC *e*SP SP 13 05 19.3 +3.0
DPC *e*SP SP 13 05 20.0 +3.7
DPC LR LR
comp=Z,5μm,18.5s
UPC Upice 98.75 331 *e*P **P 12 52 25.6 -1.8**
UPC *e*pP pP 12 52 35.1 -10
UPC *e*PP PP 12 56 28.5 +0.1
VYHS Vyhne 98.76 328 PDIF **P 12 52 26.2 -1.2**
VYHS *e*PP PP 12 56 25.1 -3.5
VYHS Vyhne 98.76 328 *i*P **P 12 52 26.2 -1.2**
VYHS *e*PP PP 12 56 25.2 -3.4
VYHS *e*S SKSac 13 03 02.4 +2.1
VYHS *e*SS SS 13 10 38.2 +0.1
SART Tekirdag 98.77 318⇑*i*P **P 12 52 26.8 -0.9**
RKY Sarkoy-Tekirda 98.78 318 *e*P **P 12 52 27.2 -0.5**
BALB Balikesir 98.91 317 *e*P **P 12 52 25.0 -3.3**
BALY Balya 99.02 317⇑*i*P **P 12 52 27.9 -1.0**
JFWS Jewell Farm 99.09 39 PFAKE 12 52 40.0 +11
JFWS LR LR
comp=Z,9μm,22.0s
JCT Junction City 99.13 54 PFAKE 12 52 40.0 +10
JCT LR LR
comp=Z,3μm,21.0s
BZS Buzias 99.15 325⇑*i*P **P 12 52 28.0 -1.2**
BZS Buzias 99.15 325⇑P **P 12 52 28.0 -1.2**
DNZL Cakiroluk 99.19 315⇑*i*P **P 12 52 29.1 -0.5**
ALN Alexandroupoli 99.37 319 P **P 12 52 27.2 -3.1**
ENEZ Enez 99.39 319 *e*P **P 12 52 29.9 -0.6**
PVCC Panska Ves 99.39 332 *e*PDIF **P 12 52 29.5 -0.7**
PVCC *e*pP pP 12 52 40.4 -7.4
PVCC *e*PP PP 12 56 33.6 +0.3
PVCC AMS AMS 13 43 30.0
comp=Z,3μm,18.2s
BRG Berggiesshubel 99.43 332 *e*P **P 12 52 29.4 -1.0**
BRG 12 56 30.0
BRG S S 13 03 57.0 -0.8
BRG SS SS 13 10 44.0 -3.3
BRG pmax pmax
comp=Z,13nm,1.1s,mb5.4
BRG pmax pmax
comp=Z,23nm,1.6s,mb5.5
BRG pmax pmax
comp=Z,25nm,2.5s,mb5.3
BRG MLR MLR
comp=N,2μm,21.3s
BRG MLR MLR
comp=E,1μm,17.4s
BRG MLR MLR
comp=Z,1μm,18.0s
BRG Berggiesshubel 99.43 332 *e*Pdiff **P 12 52 29.5 -0.9**
BRG *e*PP PP 12 56 33.7 +0.1
BRG *e*SP SP 13 05 32.7 +8.8
BRG Berggiesshubel 99.43 332 *e*PDIF **P 12 52 29.4 -1.0**
comp=Z,21nm,1.1s,mb5.6
BRG *e* pP 12 52 48.4 +0.5
comp=Z,38nm,1.6s
BRG PP PP 12 56 30.0 -3.6
BRG *e* 13 03 21.0
BRG SKS 13 03 24.0
BRG S S 13 03 57.0 -0.8
BRG *e* 13 07 19.2
comp=Z,42nm,2.5s
BRG SS SS 13 10 44.0 -3.3
BRG
comp=N,4μm,21.3s
BRG
comp=E,2μm,17.4s
BRG
comp=Z,2μm,18.0s
BRG Berggiesshubel 99.43 332 *e*Pdif **P 12 52 29.4 -1.0**
comp=Z,13nm,1.1s,mb5.4
BRG *e* pP 12 52 48.4 +0.5
BRG PP PP 12 56 30.0 -3.6
BRG *e* 13 03 21.0
BRG SKS 13 03 24.0
BRG S S 13 03 57.0 -0.8
BRG *e* 13 07 19.2
BRG SS SS 13 10 44.0 -3.3
BRG LR LR
comp=Z,1μm,18.0s
CLL Collm 99.53 333 *i*P Pdif 12 52 29.7 -1.1
CLL *e* 12 56 35.0
CLL *e*S S 13 03 55.0 -3.6
CLL pmax pmax
comp=Z,22nm,1.1s,mb5.5
CLL pmax pmax
comp=Z,134nm,1.5s,mb6.2

CLL MLR MLR
comp=Z,5µm,20.4s
CLL Collm 99.53 333 *e*Pdiff Pdif 12 52 29.7 -1.1
CLL *e*SP SP 13 05 33.8 +8.9
CLL Collm 99.53 333⇑ *i*Pdif Pdif 12 52 29.7 -1.1
comp=Z,22nm,1.1s
CLL *e*Plp 12 52 30.0
CLL *e*Pmax 12 52 30.0
CLL *e*sPdif 12 52 40.0
CLL *ex* x 12 52 47.0
CLL *e*PP PP 12 56 35.0 +0.7
comp=Z,134nm,1.5s
CLL *e*PPlp 12 56 42.0
CLL *e*PPlp 12 56 42.0
CLL *e*PPlp 12 56 42.0
CLL *e*sPP 12 56 52.0
CLL *e*PPP 12 58 36.0
CLL *e*sSKSac 13 03 23.0
CLL *e*Sdif S 13 03 55.0 -3.6
comp=N,500nm,12.2s
CLL *e*Sdif S 13 03 55.0 -3.6
comp=E,700nm,15.9s
CLL *e*PS PS 13 05 37.0 +3.9
CLL *e*SS SS 13 10 50.0 +1.3
CLL LmV 13 41 00.0
comp=Z,5µm,20.4s
CLL Collm 99.53 333 *i* Pdif Pdif 12 52 29.7 -1.1
comp=Z,22nm,1.1s
CLL *e*PP PP 12 56 35.0 +0.7
CLL *e*Sdif S 13 03 55.0 -3.6
CLL LR LR
comp=Z,5µm,20.4s
RDO Rodhopi 99.54 319 *e*P Pdif 12 52 29.7 -1.1
RDO Rodhopi 99.54 319 *e*P Pdif 12 52 29.7 -1.1
AKAS Kas 99.58 313 *e*P Pdif 12 52 28.7 -2.3
MODS Modra-Piesok 99.61 329 *i* P Pdif 12 52 30.9 -0.2
MODS pmax pmax
comp=Z,11nm,1.5s,mb5.1
MODS Modra-Piesok 99.61 329 *i* P Pdif 12 52 30.9 -0.2
comp=Z,11nm,1.5s
MODS *e*S SKSac 13 03 19.6 +15
MODS *e*SS SS 13 11 10.9 +21
PRU Pruhonice 99.79 331 *e*P Pdif 12 52 31.3 -0.6
PRU *e* 12 56 35.6
PRU *e* 13 03 56.9
PRU *e*SP SP 13 05 26.9 -0.9
PRU MLR MLR
comp=Z,4µm,18.4s
PRU Pruhonice 99.79 331 *e*PDIF Pdif 12 52 31.3 -0.6
PRU *ex* x 12 55 35.4
PRU *e*PP PP 12 56 35.6 -0.7
PRU *ex* x 13 03 17.0
PRU *e*SDIF S 13 03 56.9 -3.9
PRU *e*SP SP 13 05 26.9 -0.9
PRU AMS AMS 13 43 50.0
comp=Z,4µm,18.4s
TREC Trest 99.84 330 *e*PDIF Pdif 12 52 31.2 -1.0
TREC *e*PP PP 12 56 37.0 +0.3
TREC AMS AMS 13 38 50.0
comp=Z,4µm,19.6s
NRDL Niedersach Rie 99.86 335 *e*Pdiff Pdif 12 52 31.7 -0.5
NRDL *e*PP PP 12 56 36.8 +0.1
NRDL *e*SP SP 13 05 37.1 +8.7
BOZC Bozcaada 99.96 318⇑ *i*P Pdif 12 52 31.7 -1.0
AYDN Tasoluk 99.98 315⇑ *i*P Pdif 12 52 33.0 +0.2
VTS Vitosha 100.10 322⇑ *i*P Pdif 12 52 33.2 -0.1
VTS Vitosha 100.10 322⇑ P Pdif 12 52 33.2 -0.1
PRK Paraskevi 100.16 317 P Pdif 12 52 32.8 -0.8
PRK Paraskevi 100.16 317 *e*P Pdif 12 52 33.0 -0.6
PRK Paraskevi 100.16 317 *e*P Pdif 12 52 33.0 -0.6
CLZ Clausthal 100.24 334 *e*Pdiff Pdif 12 52 33.1 -0.8
CLZ *e*PP PP 12 56 40.1 +0.4
CLZ *e*SP SP 13 05 42.3 +10
PKSM Moragy 100.36 326⇑ *i*P Pdif 12 52 33.0 -1.5
PKSM Moragy 100.36 326⇑ *e*P Pdif 12 52 33.4 -1.1
GCAM G?zelcaml? 100.39 316⇑ *i*P Pdif 12 52 34.2 -0.4
TANN Tannenbergstha 100.41 332 *e*Pdiff Pdif 12 52 34.0 -0.7
TANN *e*PP PP 12 56 41.3 +0.3
TANN *e*SP SP 13 05 43.8 +9.3
NVR Nevrokopi 100.45 320 *e*P Pdif 12 52 34.4 -0.5
NVR Nevrokopi 100.45 320 *e*P Pdif 12 52 34.4 -0.5
LIA Limnos Island 100.48 318 *e*P Pdif 12 52 34.1 -0.9
LIA Limnos Island 100.48 318 *e*P Pdif 12 52 34.1 -0.9
NKC Novy Kostel 100.55 332 *e*P Pdif 12 52 34.6 -0.7
NKC *e* 12 56 42.4
NKC MLR MLR
comp=Z,4µm,19.0s
NKC Novy Kostel 100.55 332 *e*PDIF Pdif 12 52 34.6 -0.7
NKC *e*PP PP 12 56 42.4 +0.3
NKC *ex* x 13 03 27.3
NKC AMS AMS 13 41 20.0
comp=Z,4µm,19.0s
NKC Novy Kostel 100.55 332 *e*Pdif Pdif 12 52 34.6 -0.7
NKC *e*PP PP 12 56 42.4 +0.3
NKC *e*SKS 13 03 27.3
ARG Arkhangelos 100.60 314 *e*P Pdif 12 52 35.1 -0.4
ARG Arkhangelos 100.60 314 *e*P Pdif 12 52 35.1 -0.4
CONA Conrad Observa 100.61 329 *i* Pdiff Pdif 12 52 35.5 0.0
comp=Z,13nm,1.1s,SNR=6.9
CSNA Conrad Observa 100.61 329⇑ *i*Pdiff Pdif 12 52 35.5 -0.1
comp=Z,12nm,1.1s
MOX Moxa 100.61 333 *e*PDIFF Pdif 12 52 35.0 -0.6
comp=Z,24nm,1.5s
MOX *e* 12 56 43.3
comp=Z,202nm,1.9s
MOX
comp=Z,2µm,19.0s
MOX Moxa 100.61 333 *e*P Pdif 12 52 35.0 -0.6
MOX *e* 12 56 43.3
MOX pmax pmax
comp=Z,24nm,1.5s
MOX pmax pmax
comp=Z,202nm,1.9s
MOX MLR MLR
comp=Z,2µm,19.0s
MOX Moxa 100.61 333 *e*Pdiff Pdif 12 52 34.9 -0.7
MOX *e*SP SP 13 05 46.7 +10
SMG Samos 100.65 316 *e*P Pdif 12 52 34.9 -0.9
SMG Samos 100.65 316 *e*P Pdif 12 52 34.9 -0.9
BODT Bodrum 100.69 315 *e*P Pdif 12 52 34.7 -1.3
CHOS Chios island 100.78 317 P Pdif 12 52 35.5 -0.8
KHC Kasperske Hory 100.84 331 *e*P Pdif 12 52 35.9 -0.7
KHC *e* 12 56 44.9
KHC *e* 13 04 06.0
KHC *e*SP SP 13 05 40.3 +1.2
KHC MLR MLR
comp=Z,4µm,17.4s
KHC Kasperske Hory 100.84 331 *e*PDIF Pdif 12 52 35.9 -0.7
KHC *ex* x 12 52 41.8
KHC *ex* x 12 55 39.9
KHC *e*PP PP 12 56 44.9 +0.6
KHC *ex* x 12 57 32.5
KHC *ex* x 12 57 56.0
KHC *ex* x 13 03 27.5
KHC *e*SDIF Sdif 13 04 06.0 -3.5
KHC *e*SP SP 13 05 40.3 +1.2
KHC AMS AMS 13 44 10.0
comp=Z,4µm,17.4s
MANZ Manzenberg 100.88 332 *e*Pdiff Pdif 12 52 36.4 -0.4
MANZ *e*SP SP 13 05 48.3 +8.8
IBBN Ibbenburen 100.92 336 *e*Pdiff Pdif 12 52 36.4 -0.6
IBBN *e*SP SP 13 05 48.6 +8.8
GEC2 GERESS Array S 100.99 331 *e*Pdiff Pdif 12 52 36.6 -0.7
GEC2 *e*PP PP 12 56 46.1 +0.7
GEC2 *e*SP SP 13 05 54.0 +13
GERES GERESS Array B 100.99 331 P Pdif 12 52 36.1 -1.1
comp=Z,4.2nm,0.9s,baz=44,slow=4.1,SNR=23
GERES PP PP 12 56 44.7 -0.8
comp=Z,9.9nm,1.0s,baz=46,slow=7.6,SNR=7.1
GERES GERESS Array B 100.99 331 P Pdif 12 52 36.1 -1.2
GERES 12 56 44.7
GERES pmax pmax
comp=Z,4.0nm,0.9s
GERES pmax pmax
comp=Z,10.0nm,1.0s
ROTZ Rotzenmuhle 101.00 332 *e*Pdiff Pdif 12 52 37.2 -0.1
ROTZ *e*PP PP 12 56 45.7 +0.2
ROTZ *e*SP SP 13 05 49.7 +9.0
DIVS Divibare 101.00 324 P Pdif 12 52 35.5 -1.8
HDIL Hopedale 101.06 40 PFAKE 12 52 50.0 +12
HDIL LR LR
comp=Z,6µm,21.0s
GLMI Grayling 101.10 35 PFAKE 12 52 50.0 +12
GLMI LR LR
comp=Z,4µm,21.0s
WET Wettzell 101.15 331 *e*Pdiff Pdif 12 52 37.6 -0.4
WET *e*SP SP 13 05 55.6 +13
UBBA Unterbreizbach 101.17 334 *e*Pdiff Pdif 12 52 37.0 -1.1
UBBA *e*PP PP 12 56 46.5 -0.2
UBBA *e*SP SP 13 05 51.5 +9.1
SCHQ Schefferville 101.17 19 PFAKE 12 52 50.0 +12
SCHQ LR LR
comp=Z,3µm,19.0s
ARSA Arzberg 101.24 329⇑ *i*Pdiff Pdif 12 52 37.8 -0.6
comp=Z,9.6nm,1.1s,SNR=5.3
VAY Valandovo 101.24 321 P Pdif 12 52 37.5 -0.9
CCM Cathedral Cave 101.28 43 PFAKE 12 52 50.0 +11
CCM LR LR
comp=Z,5µm,20.0s
PLG Polygyros 101.28 320 P Pdif 12 52 37.1 -1.5
PLG Polygyros 101.28 320 *e*P Pdif 12 52 37.8 -0.8
PLG Polygyros 101.28 320 *e*P Pdif 12 52 37.8 -0.8
MOA Molln 101.43 330⇑ *i*Pdiff Pdif 12 52 38.6 -0.6
comp=Z,14nm,1.4s,SNR=5.0
GRA1 Grafenberg Arr 101.49 333 *e*Pdif Pdif 12 52 39.3 -0.2
GRA1 *e*Sdif Sdif 13 03 47.1 -28
GRA1 *e*SP SP 13 05 38.9 -7.0
GRA1 *e*SS SS 13 11 17.9 +2.0
GRA1 LR LR
comp=Z,4µm,20.4s
GRF Grafenberg Arr 101.49 333 *e*Pdiff Pdif 12 52 39.3 -0.2
GRF *e*Sdiff Sdif 13 03 47.1 -28
GRF *e*SP SP 13 05 38.9 -7.0
GRF *e*SS SS 13 11 17.9 +2.0
GRF *e*L 13 36 50.6
comp=Z,4µm,20.4s
WTSB Winterswijk 101.56 336 *e*PKP PP 12 56 49.3 -0.3
WTSB Winterswijk 101.56 336 *e*PKP PP 12 56 49.3 -0.3
comp=Z,96nm,1.8s
KARP Karpathos 101.62 314 *e*P Pdif 12 52 39.6 -0.5
KARP Karpathos 101.62 314 *e*P Pdif 12 52 39.6 -0.5
MIAR Mount Ida 101.64 47 *e*P Pdif 12 52 41.2 +1.0
MIAR pmax pmax
comp=Z,32nm,1.4s
MIAR Mount Ida 101.64 47 *e*Pdif Pdif 12 52 41.2 +1.0
comp=Z,32nm,1.4s
BUG Bochum--Univer 101.79 336 *e*Pdiff Pdif 12 52 40.6 -0.2
BUG *e*PP PP 12 56 51.2 -0.1
BUG *e*SP SP 13 05 58.0 +9.0
PERS Pernice 101.87 328 *i* PP PP 12 56 53.5 +1.4
PERS *i* 12 57 39.0
KVTX Kingsville 101.99 55 PFAKE 12 52 50.0 +8.3
KVTX LR LR
comp=Z,3µm,20.0s
EKA Eskdalemuir Ar 102.01 343 PP PP 12 56 51.4 -1.4
comp=Z,9.4nm,1.0s,baz=44,slow=7.3,SNR=6.3
LIT Litokhoron 102.03 320 P Pdif 12 52 40.9 -1.0
ESK Eskdalemuir 102.04 343 PFAKE 12 52 50.0 +8.1
ESK LR LR
comp=Z,3µm,22.0s
RJOB Jochberg 102.20 330 *e*Pdiff Pdif 12 52 42.1 -0.6
RJOB *e*PP PP 12 56 55.4 +0.8
RJOB *e*SP SP 13 05 47.1 -6.5
TNS Taunus Mts 102.26 334 *e*Pdiff Pdif 12 52 42.2 -0.7
TNS *e*SP SP 13 06 03.8 +10
SANT Santorini 102.31 315 P Pdif 12 52 41.1 -2.0
NATX Nacogdoches 102.33 50 PFAKE 12 52 50.0 +6.8
NATX LR LR
comp=Z,5µm,19.0s
KZN Kozani 102.34 320 *e*P Pdif 12 52 42.8 -0.5
KZN Kozani 102.34 320 *e*P Pdif 12 52 42.8 -0.5
HKT Hockley 102.39 52 PFAKE 12 52 50.0 +6.5
HKT LR LR
comp=Z,3µm,19.0s
OHR Ohrid 102.42 321 P Pdif 12 52 42.2 -1.5
LKR Lokris 102.58 318 *e*P Pdif 12 52 42.7 -1.7
LKR Lokris 102.58 318 *e*P Pdif 12 52 42.7 -1.7
BOJS Bojanci 102.58 328 *i* PP PP 12 56 53.1 -4.5
BOJS *i* 12 57 41.8
VISS Visnje 102.58 328 *i* PP PP 12 56 53.6 -3.9
VISS *i* 12 57 41.3
TOD Tromm 102.59 334 *e*P Pdif 12 52 43.7 -0.7
FUR Furstenfeldbru 102.59 331 *e*Pdiff Pdif 12 52 44.2 -0.2
FUR *e*SP SP 13 05 50.6 -7.1
THL Klokotos Trika 102.64 320 P Pdif 12 52 42.4 -2.2
THL Klokotos Trika 102.64 320 *e*P Pdif 12 52 42.5 -2.1
THL Klokotos Trika 102.64 320 *e*P Pdif 12 52 42.5 -2.1
TIR Tirane 102.82 322 PFAKE 12 53 00.0 +15
TIR LR LR
comp=Z,4µm,20.0s
HGN Heimansgroeve 102.84 336 *e*S Sdif 13 04 29.6 +3.4
VOY Vojsko 102.89 329 *e*PP PP 12 56 59.9 +0.1
VOY *e* 12 57 40.7
BEBN Eben Emael 102.91 336 PP PP 12 57 05.0 +5.3
MEM Membach 102.94 336 PP PP 12 57 00.8 +0.8
LAST Lasithi 102.98 314 P Pdif 12 52 44.3 -1.8
STU Stuttgart 103.06 333 *e*Pdiff Pdif 12 52 46.0 -0.5
STU *e*SP SP 13 06 11.1 +8.6
EVR Evrytania 103.17 319 *e*P Pdif 12 52 45.9 -1.0
EVR Evrytania 103.17 319 *e*P Pdif 12 52 45.9 -1.0
TRI Trieste 103.19 328 PFAKE 12 53 00.0 +13
TRI LR LR
comp=Z,6µm,20.0s
RUP Ruppelstein 103.23 335 *e*P Pdif 12 52 46.4 -0.8
JAN Janina 103.30 320 *e*P Pdif 12 52 47.2 -0.3
JAN Janina 103.30 320 *e*P Pdif 12 52 47.2 -0.3
BCLA Clavier 103.36 336 PP PP 12 57 05.2 +2.2
UCC Uccle 103.41 337 PKP 12 57 29.9
LANF Langenberg 103.49 334 *e*P Pdif 12 52 47.4 -1.0
WLF Walferdange 103.63 335 PP PP 12 57 01.7 -3.4
WLF Walferdange 103.63 335 *e*P Pdif 12 52 49.2 +0.2
WLF pmax pmax
comp=Z,27nm,1.1s
WLF MLR MLR
comp=Z,4µm,19.0s
WLF Walferdange 103.63 335 *e*Pdiff Pdif 12 52 49.0 0.0
WLF *e*SP SP 13 06 02.0 -6.4
WLF Walferdange 103.63 335 *e*Pdif Pdif 12 52 49.2 +0.2
comp=Z,27nm,1.1s
WLF LR LR
comp=Z,4µm,19.0s
SNF Seneffe 103.67 337 PP PP 12 57 03.5 -1.9
SPAK Spaichingen-Ko 103.74 333 *e*P Pdif 12 52 48.8 -0.7
BFO Black Forest 103.77 333 *e*Pdiff Pdif 12 52 49.0 -0.6
BFO *e*SP SP 13 06 02.3 -7.7
VLI Veliai 103.77 317 *e*P Pdif 12 52 48.3 -1.3
VLI Veliai 103.77 317 *e*P Pdif 12 52 48.3 -1.3
GIVF Givet 103.80 336 *e*P Pdif 12 52 48.5 -1.3
DAVA Damuels 103.88 332⇑ *i*Pdiff Pdif 12 52 49.6 -0.5
comp=Z,15nm,1.1s
DOU Dourbes 103.89 336 PP PP 12 57 03.9 -3.1
KEK Kerkira 103.90 321 *e*P Pdif 12 52 49.5 -0.7
KEK Kerkira 103.90 321 *e*P Pdif 12 52 49.5 -0.7
RLS Riolos of Patr 103.90 319 *e*P Pdif 12 52 50.0 -0.2
RLS Riolos of Patr 103.90 319 *e*P Pdif 12 52 50.0 -0.2
BAIF Baives 104.07 336 *e*P Pdif 12 52 49.8 -1.2
comp=Z,18nm,1.1s
BAIF Baives 104.07 336 *e*P Pdif 12 52 49.8 -1.2
BAIF pmax pmax
comp=Z,9.0nm,1.1s
BAIF Baives 104.07 336 *e*P Pdif 12 52 49.8 -1.2
comp=Z,8.8nm,1.1s
ITM Ithomi 104.14 318 *e*P Pdif 12 52 50.4 -0.9
ITM Ithomi 104.14 318 *e*P Pdif 12 52 50.4 -0.9
CDF Champ du Feu 104.15 334 *e*P Pdif 12 52 50.3 -1.0
comp=Z,47nm,1.4s
CDF Champ du Feu 104.15 334 *e*P Pdif 12 52 50.3 -1.0
CDF pmax pmax
comp=Z,24nm,1.4s
CDF Champ du Feu 104.15 334 *e*P Pdif 12 52 50.3 -1.0
comp=Z,24nm,1.4s
FELD Feldberg im Sc 104.25 333 *e*P Pdif 12 52 50.1 -1.7
DAVOX Davos/Dischmat 104.25 331 PKiKP PKiKP 12 57 09.9 +1.5
comp=Z,25nm,1.0s,baz=91,slow=2.9,SNR=11
WCI Wyandotte Cave 104.32 41 PFAKE 12 53 00.0 +7.9
WCI LR LR
comp=Z,6µm,21.0s
ECH Echery 104.35 334 *e*P Pdif 12 52 50.5 -1.7
ECH Echery 104.35 334 *e*Pdif Pdif 12 52 51.6 -0.6
comp=Z,10nm,1.2s
VLS Valsamata 104.37 319 *e*P Pdif 12 52 51.8 -0.5
VLS Valsamata 104.37 319 *e*P Pdif 12 52 51.8 -0.5
PYL PYLOS 104.43 318 P Pdif 12 52 51.0 -1.6
OXF Oxford 104.52 45 PFAKE 12 53 00.0 +7.0
OXF LR LR
comp=Z,4µm,21.0s
WVT Waverly 104.62 43 PFAKE 12 53 00.0 +6.6
WVT LR LR
comp=Z,4µm,21.0s
MOF Molkenrain 104.64 333 *e*P Pdif 12 52 52.5 -1.0
TUE Stuetta 104.73 331 PFAKE 12 53 00.0 +6.1
TUE LR LR
comp=Z,5µm,20.0s
BBS Basel-Blauen 104.78 333 *e*P Pdif 12 52 53.0 -1.1
HINF Hinteralfeld 104.79 334 *e*P Pdif 12 52 52.8 -1.4
HAU Haudompre 104.86 334 *e*P Pdif 12 52 53.4 -1.1
HAU *e*MLR MLR
comp=Z,3µm,21.5s
HAU Haudompre 104.86 334 *e*P Pdif 12 52 53.4 -1.1
HAU LR LR
comp=Z,3µm,21.5s
ABPO Ambohimpanom 104.97 255 PFAKE 12 53 10.0 +15
ABPO LR LR
comp=Z,2µm,22.0s
MEZF Maizieres J'vi 104.99 335 *e*P Pdif 12 52 54.4 -0.7
ACSO Alum Creek Sta 105.02 37 PFAKE 12 57 20.0 +10
ACSO LR LR
comp=Z,7µm,20.0s
MAW Mawson 105.02 203 *e*P PKiKP 12 57 13.3 +4.2
comp=Z,59nm,1.0s
MAW Mawson 105.02 203 Pdiff Pdif 12 52 54.7 -0.5
comp=Z,9.7nm,0.8s,baz=55,slow=4.8,SNR=14
MAW PP PP 12 57 13.3 -2.7
comp=Z,75nm,1.0s,baz=72,slow=10,SNR=26
MAW PKKPbc PKKPbc 13 08 41.9 +2.9
comp=Z,5.2nm,1.1s,baz=279,slow=10,SNR=4.7
MAW Mawson 105.02 203 P Pdif 12 52 54.7 -0.5
MAW 12 57 13.3
MAW pmax pmax
comp=Z,10.0nm,0.8s
MAW pmax pmax
comp=Z,75nm,1.0s
MAW pmax pmax
comp=Z,5.0nm,1.1s
MAW Mawson 105.02 203 *e*Pdif Pdif 12 52 56.0 +0.8
comp=Z,2.6nm,0.9s
MAW LR LR
comp=Z,4µm,22.0s
VBMS Vicksburg 105.05 48 PFAKE 12 57 20.0 +10
VBMS LR LR
comp=Z,7µm,22.0s
ERPA Erie 105.41 34 PFAKE 12 57 20.0 +9.3
ERPA LR LR
comp=Z,6µm,22.0s
VLC Villacollemand 105.97 329 PFAKE 12 57 20.0 +8.4
VLC LR LR
comp=Z,3µm,20.0s
TIP Timpagrande 106.04 322 *e*Pdif Pdif 12 53 00.1 +0.4
comp=Z,26nm,1.2s
TIP LR LR
comp=Z,3µm,21.0s
CUC Castrocucco 106.04 323 PFAKE 12 57 20.0 +8.1
CUC LR LR
comp=Z,3µm,21.0s
CABF La Chapelle 106.06 333 *e*P Pdif 12 52 58.9 -0.9
comp=Z,51nm,1.7s
CABF La Chapelle 106.06 333 *e*P Pdif 12 52 58.9 -0.9
CABF pmax pmax
comp=Z,26nm,1.7s
CABF La Chapelle 106.06 333 *e*P Pdif 12 52 58.9 -0.9
comp=Z,26nm,1.7s
LOR Lormes 106.46 335 *e*P Pdif 12 53 00.6 -1.0
comp=Z,14nm,1.1s
LOR *e*MLR MLR
comp=Z,4µm,19.8s
LOR Lormes 106.46 335 *e*P Pdif 12 53 00.6 -1.0
LOR pmax pmax
comp=Z,7.0nm,1.1s
LOR MLR MLR
comp=Z,4µm,19.8s
LOR Lormes 106.46 335 *e*P Pdif 12 53 00.6 -1.0
comp=Z,6.9nm,1.1s
LOR LR LR
comp=Z,4µm,19.8s
LPL La Plagne 106.63 332 *e*P Pdif 12 53 01.6 -0.8
comp=Z,22nm,1.4s
LPL La Plagne 106.63 332 *e*P Pdif 12 53 01.6 -0.8
LPL pmax pmax
comp=Z,11nm,1.4s
LPL La Plagne 106.63 332 *e*P Pdif 12 53 01.6 -0.8
comp=Z,11nm,1.4s
LPG La Plagne 106.64 332 *e*P Pdif 12 53 01.7 -0.7
SSF Saint Saulge 106.77 335 *e*P Pdif 12 53 02.0 -1.0
FLN La Foliniere 106.86 338 *e*P Pdif 12 53 02.3 -1.1
comp=Z,34nm,1.2s
FLN *e*MLR MLR
comp=Z,3µm,21.5s
FLN La Foliniere 106.86 338 *e*P Pdif 12 53 02.3 -1.1
FLN pmax pmax
comp=Z,17nm,1.2s
FLN MLR MLR
comp=Z,3µm,21.5s
FLN La Foliniere 106.86 338 *e*P Pdif 12 53 02.3 -1.1
comp=Z,17nm,1.2s
FLN LR LR
comp=Z,3µm,21.5s
LDF La Druitiere 106.87 338 *e*P Pdif 12 53 02.3 -1.1
comp=Z,68nm,1.5s
LDF La Druitiere 106.87 338 *e*P Pdif 12 53 02.3 -1.1
LDF pmax pmax
comp=Z,34nm,1.5s
LDF La Druitiere 106.87 338 *e*P Pdif 12 53 02.3 -1.1
comp=Z,34nm,1.5s
SMF Signal de Mont 106.97 335 *e*P Pdif 12 53 02.8 -1.1
comp=Z,27nm,1.2s
SMF Signal de Mont 106.97 335 *e*P Pdif 12 53 02.8 -1.1
SMF pmax pmax
comp=Z,13nm,1.2s
SMF Signal de Mont 106.97 335 *e*P Pdif 12 53 02.8 -1.1
comp=Z,13nm,1.2s
NCB Newcomb 106.98 30 PFAKE 12 57 20.0 +6.5
NCB LR LR
comp=Z,3µm,22.0s
LRAL Lakeview Retre 107.01 45 *e*PKPdf PKiKP 12 57 13.8 -0.1
LRAL LR LR
comp=Z,4µm,22.0s
BNI Bardonecchia 107.02 332 PFAKE 12 57 20.0 +6.4
BNI LR LR
comp=Z,3µm,22.0s
AVF Avril sur Loir 107.05 335 *e*P Pdif 12 53 03.3 -0.9
comp=Z,33nm,1.2s
AVF Avril sur Loir 107.05 335 *e*P Pdif 12 53 03.3 -0.9
AVF pmax pmax
comp=Z,16nm,1.2s
AVF Avril sur Loir 107.05 335 *e*P Pdif 12 53 03.3 -0.9
comp=Z,16nm,1.2s
TZTN Tazewell 107.07 41 PFAKE 12 57 20.0 +6.1
TZTN LR LR
comp=Z,4µm,22.0s
CEL Celeste 107.15 322 PFAKE 12 57 20.0 +6.0
CEL LR LR
comp=Z,23µm,20.0s
MCWV Mont Chateau 107.19 36 PFAKE 12 57 20.0 +5.9
MCWV LR LR
comp=Z,7µm,22.0s
GRR Gorron 107.31 338 *e*P Pdif 12 53 04.5 -0.9
comp=Z,23nm,1.1s
GRR Gorron 107.31 338 *e*P Pdif 12 53 04.5 -0.9
GRR pmax pmax
comp=Z,12nm,1.1s
GRR Gorron 107.31 338 *e*P Pdif 12 53 04.5 -0.9
comp=Z,12nm,1.1s
BINY Binghamton 107.44 32 PFAKE 12 57 20.0 +5.6
BINY LR LR
comp=Z,6µm,20.0s
BGF Bois d'Agland 107.44 335 *e*P Pdif 12 53 05.1 -0.9
comp=Z,28nm,1.2s
BGF Bois d'Agland 107.44 335 *e*P Pdif 12 53 05.1 -0.9
BGF pmax pmax
comp=Z,14nm,1.2s
BGF Bois d'Agland 107.44 335 *e*P Pdif 12 53 05.1 -0.9
comp=Z,14nm,1.2s
SSPA Standing Stone 107.58 34 PFAKE 12 57 30.0 +15
SSPA LR LR
comp=Z,5µm,21.0s
SBF Sospel 107.59 331 *e*P Pdif 12 53 06.9 +0.3
LBNH Lisbon 107.84 28 PFAKE 12 57 30.0 +15
LBNH LR LR
comp=Z,2µm,20.0s
TCF Toulx Ste Croi 107.92 335 *e*P Pdif 12 53 09.8 +1.7
SGMF Saint Gilles 108.00 339 *e*P Pdif 12 53 07.7 -0.8

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
VIVF	**Saint-Julien-l**	**108.05**	**333**	*e*P	Pdif	12 53 07.8	-0.9
BRAL	**Brewton**	**108.16**	**47**	PFAKE		12 57 30.0	+14
BRAL				LR	LR		
	comp=Z,6µm,21.0s						
ROSF	**Rostrenen**	**108.17**	**340**	*e*P	Pdif	12 53 08.4	-0.8
PKME	**Peaks-Kenny Pk**	**108.17**	**26**	PFAKE		12 57 30.0	+14
PKME				LR	LR		
	comp=Z,3µm,20.0s						
QUIF	**Quistinic**	**108.50**	**339**	*e*P	Pdif	12 53 09.5	-1.2
MFF	**Saint Martin d**	**108.56**	**337**	*e*P	Pdif	12 53 10.7	-0.2
QSPA	**South Pole Qui**	**108.57**	**180**	Pdiff	Pdif	12 53 11.7	+0.7
	comp=Z,6.5nm,1.0s,baz=25,slow=4.3,SNR=4.0						
QSPA				PKiKP	PKiKP	12 57 15.6	+0.2
	comp=Z,11nm,0.8s,baz=350,slow=1.5,SNR=16						
QSPA				PKKPbc	PKKPbc	13 08 25.3	-2.9
	comp=Z,5.4nm,1.1s,baz=304,slow=2.3,SNR=8.2						
QSPA	**South Pole Qui**	**108.57**	**180**	Pdif	Pdif	12 53 11.7	+0.7
QSPA				PKPdf	PKiKP	12 57 15.6	+0.2
QSPA				PKKPbc	PKKPbc	13 08 25.3	-2.9
RJF	**Les Rejaudoux**	**109.00**	**335**	*e*P	Pdif	12 53 12.4	-0.5
RJF				*e*MLR	MLR		
	comp=Z,4µm,22.8s						
RJF	**Les Rejaudoux**	**109.00**	**335**	*e*P	Pdif	12 53 12.4	-0.5
RJF				LR	LR		
	comp=Z,4µm,22.8s						
LASF	**Ste Croix**	**109.03**	**333**	*e*P	Pdif	12 53 12.3	-0.7
CAF	**Calviac**	**109.09**	**335**	*e*P	Pdif	12 53 13.0	-0.3
	comp=Z,10nm,1.0s						
GOGA	**Godfrey**	**109.12**	**43**	PFAKE		12 57 30.0	+12
GOGA				LR	LR		
	comp=Z,5µm,21.0s						
KMBO	**Kilima Mbogo**	**109.20**	**275**	Pdiff	Pdif	12 53 14.9	+1.1
	comp=Z,2.0nm,0.8s,baz=185,slow=23,SNR=3.6						
KMBO				PKiKP	PKiKP	12 57 19.3	+0.8
	comp=Z,4.6nm,0.8s,baz=355,slow=3.8,SNR=3.8						
KMBO				PP	PP	12 57 50.3	+2.3
	comp=Z,5.0nm,0.8s,baz=56,slow=13,SNR=4.5						
KMBO	**Kilima Mbogo**	**109.20**	**275**	P	Pdif	12 53 14.9	+1.1
KMBO						12 57 50.3	
KMBO				pmax	pmax		
	comp=Z,2.0nm,0.8s						
KMBO				pmax	pmax		
	comp=Z,5.0nm,0.9s						
KMBO				pmax	pmax		
	comp=Z,5.0nm,0.9s						
KMBO	**Kilima Mbogo**	**109.20**	**275**	Pdif	Pdif	12 53 14.9	+1.1
KMBO				*e*PKPdf	PKiKP	12 57 16.3	-2.2
KMBO				LR	LR		
	comp=Z,2µm,22.0s						
HRV	**Adam Dziewonsk**	**109.36**	**29**	PFAKE		12 57 30.0	+12
HRV				LR	LR		
	comp=Z,2µm,20.0s						
WES	**Weston**	**109.56**	**29**	PFAKE		12 57 30.0	+12
WES				LR	LR		
	comp=Z,2µm,19.0s						
CBN	**Corbin**	**109.58**	**36**	PFAKE		12 57 30.0	+11
CBN				LR	LR		
	comp=Z,9µm,22.0s						
VSL	**Villasalto**	**109.91**	**326**	PFAKE		12 57 30.0	+11
VSL				LR	LR		
	comp=Z,2µm,19.0s						
RPN	**Rapa Nui**	**110.00**	**113**	PFAKE		12 57 30.0	+10
RPN				LR	LR		
	comp=Z,8µm,22.0s						
CNNC	**Cliffs of the**	**111.36**	**38**	PFAKE		12 57 30.0	+8.0
CNNC				LR	LR		
	comp=Z,7µm,21.0s						
NHSC	**New Hope**	**111.41**	**42**	PFAKE		12 57 30.0	+7.8
NHSC				LR	LR		
	comp=Z,4µm,22.0s						
EBIE	**Bielsa**	**111.72**	**334**	PKP	PKiKP	12 57 21.9	-0.6
KEST	**Kesra**	**112.67**	**324**	PKiKP	PKiKP	12 57 24.7	+0.2
	comp=Z,4.1nm,1.0s,baz=290,slow=7.1,SNR=6.8						
KEST				PP	PP	12 58 10.8	-0.7
	comp=Z,3.4nm,1.0s,baz=344,slow=11,SNR=5.1						
CMAH	**Djebel Manchou**	**113.07**	**326**	P	PKiKP	12 57 24.0	-1.2
TEIG	**Tepich**	**113.26**	**57**	PKKPbc	PKKPbc	13 08 10.5	-0.7
	comp=Z,8.1nm,0.7s,baz=274,slow=24,SNR=3.7						
TEIG	**Tepich**	**113.26**	**57**	PFAKE		12 57 40.0	+14
TEIG				LR	LR		
	comp=Z,4µm,22.0s						
ABSA	**Djebel Ababsia**	**113.30**	**325**	P	PKiKP	12 57 24.0	-1.7
SYO	**Syowa Base**	**113.66**	**202**	⇓*e*P	PKiKP	12 57 24.0	-1.3
SYO	**Syowa Base**	**113.66**	**202**	⇓*e*P	PKiKP	12 57 29.6	+4.3
DWPF	**Disney**	**113.81**	**46**	PFAKE		12 57 40.0	+13
DWPF				LR	LR		
	comp=Z,4µm,20.0s						
CASM	**Ain Smara**	**113.84**	**326**	P	PKiKP	12 57 26.0	-0.7
DFRA	**Djebel Bou Aff**	**113.95**	**327**	P	PKiKP	12 57 28.0	+1.1
SET	**Setif**	**114.46**	**327**	P	PKiKP	12 57 26.0	-1.9
STS	**Santiago**	**114.71**	**341**	PKIKP	PKiKP	12 57 28.1	-0.1
ECHE	**Chera**	**114.77**	**333**	PKIKP	PKiKP	12 57 28.5	+0.1
GUD	**Guadarrama**	**115.16**	**336**	PKIKP	PKiKP	12 57 29.9	+0.8
ABA	**Alger-Bouzarea**	**115.19**	**329**	P	PKiKP	12 57 32.0	+2.7
ELOB	**Lobios**	**115.47**	**340**	PKP	PKPdf	12 57 28.4	-1.3
ADJB	**Djebel Djouab**	**115.50**	**328**	P	PKiKP	12 57 31.1	+1.2
PCAB	**Cabril**	**115.60**	**340**	*e*PP	PP	12 58 33.1	+1.4
EMHD	**Djebel Mahouad**	**115.70**	**328**	P	PKiKP	12 57 31.6	+1.3
MVO	**Moncorvo**	**115.75**	**339**	*e*PKPdf	PKPdf	12 57 30.4	+0.1
MVO	**Moncorvo**	**115.75**	**339**	*e*PP	PP	12 58 33.6	+0.8
MVO				*e*LR	LR	13 39 33.6	
	comp=Z,2µm,20.0s						
ETOB	**Tobarra**	**115.80**	**333**	PKP	PKPdf	12 57 30.6	+0.1
PVRL	**Vila Real**	**115.89**	**339**	*e*PKPdf	PKPdf	12 57 30.6	+0.1
PVRL	**Vila Real**	**115.89**	**339**	*e*PP	PP	12 58 35.5	+1.8
ESDC	**Sonseca Array**	**115.92**	**336**	PKP	PKPdf	12 57 29.7	-0.9
	comp=Z,1.9nm,0.7s,baz=25,slow=3.0,SNR=8.5						
ESDC				PP	PP	12 58 24.7	-9.4
	comp=Z,4.9nm,0.8s,baz=24,slow=6.3,SNR=7.5						
ESDC				PKKPbc	PKKPbc	13 08 00.8	-1.9
	comp=Z,1.8nm,0.8s,baz=222,slow=2.9,SNR=7.8						
ESDC	**Sonseca Array**	**115.92**	**336**	PKP	PKPdf	12 57 29.6	-1.0
ESLA	**Sonseca Array**	**115.92**	**336**	PFAKE		12 57 40.0	+9.4
ESLA				LR	LR		
	comp=Z,15µm,19.0s						
PAB	**San Pablo**	**116.18**	**336**	*e*PKIKP	PKPdf	12 57 31.6	+0.5
PAB				MLR	MLR		
	comp=Z,2µm,20.0s						
EVIA	**Vianos**	**116.21**	**334**	PKIKP	PKPdf	12 57 31.4	+0.2
EBNR	**Beni Rached**	**116.33**	**329**	P	PKPdf	12 57 40.0	+8.5
PVIS	**Viseu**	**116.45**	**339**	*e*PKPdf	PKPdf	12 57 32.0	+0.4
PVIS	**Viseu**	**116.45**	**339**	*e*PP	PP	12 58 39.0	+1.4
MTE	**Manteigas**	**116.61**	**339**	*e*PKPdf	PKPdf	12 57 32.3	+0.4
MTE				*e*SS	SS	13 14 49.5	+10
MTE				*e*LR	LR	13 39 34.2	
	comp=Z,2µm,20.0s						
MTE	**Manteigas**	**116.61**	**339**	*e*PKPdf	PKPdf	12 57 31.9	-0.1
MTE				LR	LR		
	comp=Z,3µm,22.0s						
EANR	**'Ain N'Sour**	**116.81**	**330**	P	PKPdf	12 57 32.9	+0.5
EHUE	**Huescar**	**116.94**	**333**	PKIKP	PKPdf	12 57 32.3	-0.4
PCBR	**Castelo Branco**	**117.08**	**338**	*e*PKPdf	PKPdf	12 57 33.0	+0.1
PCBR	**Castelo Branco**	**117.08**	**338**	*e*PP	PP	12 58 43.8	+1.7
EBAN	**Banos Encina**	**117.14**	**335**	PKIKP	PKPdf	12 57 32.7	-0.3
EQES	**Quesada**	**117.16**	**334**	PKP	PKPdf	12 57 33.4	+0.3
ETRT	**Tiaret**	**117.16**	**329**	P	PKPdf	12 57 33.8	+0.7
TGUH	**Tegucigalpa,Un**	**117.23**	**63**	PFAKE		12 57 40.0	+6.3
TGUH				LR	LR		
	comp=Z,5µm,21.0s						
PMRV	**Marv??o**	**117.42**	**338**	*e*PKPdf	PKPdf	12 57 33.5	0.0
PMRV	**Marv??o**	**117.42**	**338**	*e*PP	PP	12 58 46.4	+2.0
PMRV				*e*SS	SS	13 14 59.6	+10
PMRV				*e*LQ		13 26 54.5	
PMRV				*e*LR	LR	13 35 42.7	
	comp=Z,3µm,20.0s						
EADA	**Adamuz**	**117.46**	**335**	PKP	PKPdf	12 57 34.0	+0.3
ENIJ	**Nijar**	**117.49**	**333**	PKIKP	PKPdf	12 57 33.4	-0.3
ECOG	**Cogollos-Vega**	**117.81**	**334**	PKIKP	PKPdf	12 57 33.9	-0.4
EBER	**Berja**	**117.84**	**333**	PKP	PKPdf	12 57 34.7	+0.3
ELUQ	**Luque**	**117.86**	**335**	PKIKP	PKPdf	12 57 33.9	-0.5
ECAB	**El Cabril**	**117.87**	**336**	PKP	PKPdf	12 57 34.5	+0.1
EBAD	**Badajoz**	**117.88**	**337**	PKP	PKPdf	12 57 33.9	-0.5
PESTR	**Estremoz**	**117.99**	**338**	*e*PKPdf	PKPdf	12 57 34.3	-0.3
PESTR	**Estremoz**	**117.99**	**338**	*e*PP	PP	12 58 52.1	+3.7
PESTR				*e*SS	SS	13 15 05.6	+8.5
PESTR				*e*LQ		13 26 19.7	
PESTR				*e*LR	LR	13 33 56.4	
ERON	**Agron**	**118.13**	**334**	PKP	PKPdf	12 57 33.9	-1.1
ELOJ	**Sierra Loja**	**118.16**	**334**	PKIKP	PKPdf	12 57 34.4	-0.6
EGUA	**Guajares**	**118.19**	**334**	PKIKP	PKPdf	12 57 33.7	-1.4
PBAR	**Barrancos**	**118.40**	**337**	*e*PKPdf	PKPdf	12 57 35.5	+0.1
PBAR	**Barrancos**	**118.40**	**337**	*e*PP	PP	12 58 50.3	-1.0
PBAR				*e*SS	SS	13 15 11.6	+9.1
PBAR				*e*LQ		13 26 09.4	
PBAR				*e*LR	LR	13 35 00.3	
	comp=Z,3µm,18.0s						
EVO	**Evora**	**118.44**	**338**	⇑*i*PKIKP	PKPdf	12 57 35.4	-0.1
	comp=Z,50nm,1.3s						
EVO				*e*MLR	MLR		
	comp=Z,3µm,21.0s						
EVO	**Evora**	**118.44**	**338**	*e*PKPdf	PKPdf	12 57 35.6	+0.1
EVO	**Evora**	**118.44**	**338**	*e*PP	PP	12 58 52.1	+0.6
PMAFR	**Mafra**	**118.50**	**339**	*e*LQ		13 27 44.0	
PMAFR				*e*LR	LR	13 35 19.1	
	comp=Z,1µm,20.0s						
EMIN	**Mina Concepcio**	**118.62**	**337**	PKP	PKPdf	12 57 35.7	-0.2
EALB	**Alboran**	**118.72**	**333**	PKP	PKPdf	12 57 35.3	-0.8
PBEJ	**Beja**	**118.83**	**338**	*e*PKPdf	PKPdf	12 57 36.5	+0.2
PBEJ	**Beja**	**118.83**	**338**	*e*PP	PP	12 58 55.1	+0.9
EMIJ	**Mijas**	**118.92**	**334**	PKP	PKPdf	12 57 34.9	-1.6
ESPR	**Espera**	**119.09**	**335**	PKP	PKPdf	12 57 37.3	+0.5
EGRO	**El Granado**	**119.13**	**337**	PKP	PKPdf	12 57 37.1	+0.2
EJIF	**Jimena Fronter**	**119.30**	**335**	PKIKP	PKPdf	12 57 37.6	+0.4
PVAQ	**Vaqueiros**	**119.33**	**337**	*e*PKPdf	PKPdf	12 57 37.6	+0.3
PVAQ				*e*SS	SS	13 15 24.3	+10
PVAQ				*e*LQ		13 26 07.2	
PVAQ				*e*LR	LR	13 41 14.5	
	comp=Z,2µm,18.0s						
PBDV	**Barranco-do-Ve**	**119.55**	**337**	*e*PKPdf	PKPdf	12 57 38.3	+0.6
PBDV	**Barranco-do-Ve**	**119.55**	**337**	*e*PP	PP	12 59 00.5	+1.3
PBDV				*e*SS	SS	13 15 27.2	+10
PBDV				*e*LQ		13 26 11.4	
PBDV				*e*LR	LR	13 41 20.1	
	comp=Z,2µm,18.0s						
PTEO	**Sao Teotonio**	**119.57**	**338**	*e*PKPdf	PKPdf	12 57 38.0	+0.3
SFS	**San Fernando**	**119.58**	**335**	PFAKE		12 57 50.0	+12
SFS				LR	LR		
	comp=Z,5µm,19.0s						
MORF	**Marmelete**	**119.76**	**338**	*e*PKPdf	PKPdf	12 57 38.1	0.0
MORF	**Marmelete**	**119.76**	**338**	*e*PP	PP	12 59 01.5	+0.9
MORF				*e*SS	SS	13 15 36.0	+16
MORF				*e*LR	LR	13 39 24.7	
	comp=Z,2µm,20.0s						
PFVI	**Vila Bisbo**	**119.97**	**338**	*e*PKPdf	PKPdf	12 57 38.8	+0.3
PFVI	**Vila Bisbo**	**119.97**	**338**	*e*PP	PP	12 59 01.5	-0.6
PFVI				*e*SS	SS	13 15 43.3	+21
PFVI				*e*LQ		13 26 22.0	
PFVI				*e*LR	LR	13 35 49.9	
	comp=Z,2µm,20.0s						
BBSR	**BB Station**	**120.71**	**31**	PFAKE		12 57 50.0	+10
BBSR				LR	LR		
	comp=Z,3µm,21.0s						
PAYG	**Puerto Ayora**	**120.89**	**79**	PFAKE		12 57 50.0	+9.1
PAYG				LR	LR		
	comp=Z,2µm,19.0s						
JTS	**JuntasAbangare**	**121.05**	**65**	PFAKE		12 57 50.0	+8.9
JTS				LR	LR		
	comp=Z,4µm,22.0s						
NVL	**N'lazarevskaya**	**121.67**	**196**	PKIKP	PKPdf	12 57 41.0	+0.4
NVL				*e*		13 15 44.8	
NVL				pmax	pmax		
	comp=Z,55nm,1.1s						
NVL				MLR	MLR		
	comp=N,737nm,20.0s						
NVL				MLR	MLR		
	comp=E,912nm,20.0s						
NVL				MLR	MLR		
	comp=Z,2µm,20.0s						
MAIT	**Maitri**	**121.68**	**196**	*e*PKPab	PKPdf	12 57 41.3	+0.6
LSZ	**Lusaka**	**121.79**	**263**	*e*PKIKP	PKPdf	12 57 43.6	+1.2
LSZ				MLR	MLR		
	comp=Z,2µm,21.0s						
RTC	**Rabat Centre**	**122.00**	**335**	PFAKE		12 57 50.0	+7.5
RTC				LR	LR		
	comp=Z,1µm,22.0s						
MDT	**Midelt**	**122.05**	**332**	PKP	PKPdf	12 57 43.2	+0.6
	comp=Z,20nm,0.9s,baz=70,slow=1.9,SNR=24						
TAM	**Tamanrasset**	**124.23**	**316**	*e*PKIKP	PKPdf	12 57 47.7	+0.6
TAM				*e*		12 59 29.7	
LBTB	**Lobatse**	**125.77**	**252**	*e*PKIKP	PKPdf	12 57 50.2	+0.3
LBTB				*e*		12 59 41.7	
LBTB				MLR	MLR		
	comp=Z,2µm,20.0s						
BCIP	**Isla Barro Col**	**125.97**	**63**	*e*PKPdf	PKPdf	12 57 50.3	-0.3
BCIP				LR	LR		
	comp=Z,4µm,22.0s						
PMAR	**Madeira**	**126.59**	**343**	*e*PKPdf	PKPdf	12 57 52.4	+1.1
PMAR	**Madeira**	**126.59**	**343**	*e*PP	PP	12 59 57.1	+11
EFAM	**Famara**	**128.87**	**338**	PKP	PKPdf	12 57 56.0	+0.2
PMSA	**Palmer Station**	**129.50**	**163**	PFAKE		12 58 10.0	+14
PMSA				LR	LR		
	comp=Z,3µm,22.0s						
CFTV	**Fuerteventura**	**129.72**	**338**	PKP	PKPdf	12 57 57.8	+0.4
SUR	**Sutherland**	**130.21**	**243**	*e*PKPdf	PKPdf	12 57 54.5	-3.6
SUR				LR	LR		
	comp=Z,2µm,19.0s						
EOSO	**Osorio**	**130.53**	**340**	PKP	PKPdf	12 57 57.8	-1.1
CCAN	**Las Canadas**	**130.73**	**341**	PKP	PKPdf	12 58 00.3	+1.0
EHIG	**Higuera**	**130.77**	**342**	PKP	PKPdf	12 58 00.2	+0.9
EGOM	**La Gomera**	**130.97**	**342**	PKP	PKPdf	12 57 59.7	-0.1
MTP	**Monte Pirata**	**131.26**	**43**	*e*PKPdf	PKPdf	12 58 00.5	-0.1
OTAV	**Otavalo**	**131.41**	**72**	*e*PKPdf	PKPdf	12 58 02.1	+1.1
OTAV				LR	LR		
	comp=Z,4µm,21.0s						
TSUM	**Tsumeb**	**132.46**	**261**	*e*PKPdf	PKPdf	12 57 59.7	-3.0
TSUM				LR	LR		
	comp=Z,2µm,22.0s						
ROSC	**El Rosal**	**132.87**	**64**	PKP	PKPdf	12 58 04.7	+1.0
	comp=Z,4.4nm,0.3s,baz=272,slow=21,SNR=13						
ROSC	**El Rosal**	**132.87**	**64**	*e*PKPdf	PKPdf	12 58 04.2	+0.5
TOA0	**Torodi Ar. Sit**	**133.49**	**310**	*e*PKPdf	PKPdf	12 58 04.7	-0.2
TORD	**Torodi Ar. Bea**	**133.49**	**310**	PKhKP		12 57 46.9	
	comp=Z,1.6nm,1.0s,baz=3.6,slow=4.2,SNR=9.3						
TORD				PKP	PKPdf	12 58 04.3	-0.5
	comp=Z,25nm,1.1s,baz=16,slow=1.4,SNR=23						
TORD				PP	PP	13 00 21.5	-11
	comp=Z,13nm,1.1s,baz=57,slow=4.2,SNR=4.1						
TORD	**Torodi Ar. Bea**	**133.49**	**310**	PKP	PKPdf	12 58 04.3	-0.5
TORD				PP	PP	13 00 21.5	-11
SDV	**Santo Domingo**	**133.69**	**57**	*e*PKPdf	PKPdf	12 58 05.4	+0.1
SDV				LR	LR		
	comp=Z,688nm,20.0s						
ATAH	**Atahualpa**	**134.20**	**81**	PKP	PKPdf	12 58 07.5	+1.4
	comp=Z,21nm,0.9s,baz=318,slow=3.6,SNR=12						
FDF	**Fort de France**	**136.57**	**42**	*e*PKPdf	PKPdf	12 58 10.4	-0.2
NNA	**Nana**	**137.12**	**88**	PKP	PKPdf	12 58 11.1	-0.5
	comp=Z,14nm,0.9s,baz=287,slow=3.8,SNR=3.3						
NNA	**Nana**	**137.12**	**88**	PKP	PKPdf	12 58 11.1	-0.5
NNA				LR	LR		
	comp=Z,3µm,20.0s						
GRGR	**Grenville**	**138.17**	**45**	PFAKE		12 58 20.0	+6.5
GRGR				LR	LR		
	comp=Z,4µm,22.0s						
BBGH	**Gun Hill**	**138.78**	**42**	PFAKE		12 58 20.0	+5.3
BBGH				LR	LR		
	comp=Z,6µm,22.0s						
PLCA	**Paso Flores**	**141.02**	**132**	PKhKP		12 58 13.3	
	comp=Z,11nm,1.1s,baz=250,slow=3.6,SNR=12						
PLCA	**Paso Flores**	**141.02**	**132**	PKP		12 58 13.3	
PLCA				*e*PKPdf	PKPdf	12 58 16.5	-1.5
PLCA				LR	LR		
	comp=Z,2µm,22.0s						
EFI	**East Falkland**	**141.62**	**155**	PFAKE		12 58 30.0	+11
EFI				LR	LR		
	comp=Z,2µm,21.0s						
DBIC	**Dimbokro**	**142.59**	**310**	PKhKP		12 58 17.1	
	comp=Z,41nm,0.8s,baz=30,slow=4.0,SNR=30						
DBIC	**Dimbokro**	**142.59**	**310**	*e*PKPdf	PKPdf	12 58 17.2	-4.4
DBIC				*e*PP	PP	13 01 29.4	+0.2
DBIC				LR	LR		
	comp=Z,2µm,22.0s						
KIC	**Kosan Boka**	**142.72**	**309**	*e*P	PKPdf	12 58 17.0	-4.8
	comp=Z,914nm,1.3s						
TIC	**Toumodi**	**142.73**	**310**	*e*P	PKPdf	12 58 15.9	-5.9
	comp=Z,753nm,1.4s						
LIC	**Lamto**	**143.02**	**310**	⇑*i*PKIKP	PKPdf	12 58 18.6	-3.8
	comp=Z,347nm,0.9s						
LIC				*e*MLR	MLR		
	comp=Z,2µm,22.5s						
LIC	**Lamto**	**143.02**	**310**	*e*P	PKPdf	12 58 18.0	-4.4
	comp=Z,482nm,0.9s						
LIC	**Lamto**	**143.02**	**310**	⇑*i*PKPdf	PKPdf	12 58 18.6	-3.8
LIC				LR	LR		
	comp=Z,990nm,22.5s						
ARE	**Arequipa**	**143.13**	**93**	*e*PKIKP	PKPdf	12 58 23.0	+0.6
CLCH	**Cerro Calan**	**143.35**	**121**	⇑*i*P	PKPdf	12 58 21.3	-1.0
FCH	**Farellones**	**143.57**	**121**	⇑*i*P	PKPdf	12 58 22.6	-0.1
TLL	**Tololo Astrono**	**143.78**	**116**	⇓*i*P	PKPdf	12 58 21.6	-1.6
LCO	**Las Campanas**	**144.04**	**114**	⇓*i*P	PKPdf	12 58 21.5	-2.2
LCO	**Las Campanas**	**144.04**	**114**	*e*PKPdf	PKPdf	12 58 23.0	-0.7
LCO				*e*pPKPdf	pPKPdf	12 58 42.1	+0.3
LCO				LR	LR		
	comp=Z,5µm,21.0s						
CEN1	**Los Morros**	**144.89**	**104**	*e*P	PKPdf	12 58 25.7	+0.4
CFAA	**Coronel Fontan**	**145.66**	**119**	PKPbc	PKPbc	12 58 27.0	+0.2
	comp=Z,7.0nm,0.9s,baz=259,slow=3.0,SNR=52						
LVC	**Limon Verde**	**146.08**	**103**	PKPbc	PKPbc	12 58 29.3	+0.9
	comp=Z,44nm,0.7s,baz=273,slow=2.4,SNR=33						
LVC	**Limon Verde**	**146.08**	**103**	*e*PKP	PKPbc	12 58 29.8	+1.4
LVC				LR	LR		
	comp=Z,5µm,21.0s						
LPAZ	**La Paz**	**146.28**	**91**	PKPbc	PKPbc	12 58 29.4	+0.3
	comp=Z,36nm,0.7s,baz=334,slow=2.2,SNR=67						
LPAZ	**La Paz**	**146.28**	**91**	*e*PKPbc	PKPbc	12 58 29.9	+0.8
LPAZ				LR	LR		
	comp=Z,4µm,22.0s						
TRQA	**Tornquist**	**148.16**	**133**	*e*PKPdf	PKPdf	12 58 30.2	-0.2
TRQA				LR	LR		
	comp=Z,2µm,20.0s						
SIV	**San Ignacio**	**152.92**	**89**	PKP	PKPdf	12 58 38.8	+0.4
	comp=Z,12nm,1.0s,baz=270,slow=1.3,SNR=29						
SIV				PKPbc	PKPbc	12 58 45.8	+0.2
	comp=Z,16nm,0.7s,baz=294,slow=2.5,SNR=28						
SHEL	**Horse Pasture**	**154.01**	**272**	*e*PKPbc	PKPbc	12 58 47.7	-0.3
SHEL				LR	LR		
	comp=Z,2µm,21.0s						
TRIS	**Tristan da Cun**	**154.38**	**220**	*e*PKPdf	PKPdf	12 58 41.7	+1.8
TRIS				*e*PKPbc	PKPbc	12 58 49.5	+1.3
TRIS				LR	LR		
	comp=Z,1µm,20.0s						
CPUP	**Villa Florida**	**156.18**	**113**	PKP	PKPdf	12 58 42.7	+0.1
	comp=Z,12nm,1.0s,baz=261,slow=0.8,SNR=8.4						
CPUP				PKPab	PKPab	12 59 11.7	+1.0
	comp=Z,20nm,0.8s,baz=232,slow=3.1,SNR=3.9						
CPUP	**Villa Florida**	**156.18**	**113**	PKIKP	PKPdf	12 58 42.7	0.0
CPUP				pmax	pmax		
	comp=Z,12nm,1.0s						
CPUP				pmax	pmax		
	comp=Z,21nm,0.8s						
CPUP	**Villa Florida**	**156.18**	**113**	*e*PKPdf	PKPdf	12 58 42.8	+0.1
CPUP				LR	LR		
	comp=Z,375nm,20.0s						
BDFB	**Brasilia**	**165.17**	**80**	PFAKE		12 59 00.0	+7.3
BDFB				LR	LR		
	comp=Z,3µm,21.0s						
SPB	**Sao Paulo**	**165.56**	**112**	*e*PKPdf	PKPdf	12 58 54.2	+1.4
VAO	**Valinhos**	**166.13**	**110**	⇑*i*P	PKPdf	12 58 54.3	+1.0
VAO				*i*		12 59 02.4	
VAO				*i*		12 59 31.5	
VAO				*i*		12 59 58.1	
VAO				*i*		13 00 22.0	
VAO				*i*		13 00 55.5	
VAO				*i*		13 01 20.9	

ISCJB ***06*** *12:41:11.8±0.4, 4498N±002×1165E±004, h10km, Error ellipse: s-maj=4.2km s-min=2.6km az=9.0*
CSEM ***06*** *12:41:11.9±0.1, 4498N×1158E, h25km, ML2.9/7, Error ellipse: s-maj=3.3km s-min=1.4km az=98.0*
VIE ***06*** *12:41:13.2±0.6, 4506N×1149E, h8km±4km, mb2.1/7, ML2.9/7, Error ellipse: s-maj=3.5km s-min=3.1km az=83.0 64 km N of Bologna*
ROM ***06*** *12:41:13.2±0.3, 4498N×1172E, h11km±1km, Md2.6/8, Ml2.0/4, Error ellipse: s-maj=4.3km s-min=2.2km az=85.0*
ISC 06 12:41:13.0±0.4, **4497N**±002×**1163E**±004, **h10**km, **n17, σ1§25**/32, **5C-3D, Northern Italy**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TEOL	**Teolo**	**0.39**	**4**	⇑*i*Pg	**Pg**	**12 41 20.8**	**+0.1**
TEOL				*i* Sg	**Sg**	**12 41 27.8**	**+1.9**
CGRP	**Cima Grappa**	**0.92**	**7**	⇓*i*Pg	**Pg**	**12 41 30.4**	**-0.2**
CGRP				*i* Sg	**Sg**	**12 41 45.0**	**+2.4**
PZZT	**Monte Pizzetto**	**1.00**	**213**	Pg	**Pg**	**12 41 31.7**	**-0.6**
PZZT				Sg	**Sg**	**12 41 47.3**	**+2.0**
	15nm,0.4s						
SALO	**Salr**	**1.01**	**310**	Pg	**Pg**	**12 41 32.8**	**+0.3**
SALO				Sg	**Sg**	**12 41 47.8**	**+2.1**
	95nm,0.5s						
MAGA	**Magasa**	**1.07**	**319**	Pg	**Pg**	**12 41 32.5**	**-1.1**
MAGA				Sg	**Sg**	**12 41 48.2**	**+0.7**
CTI	**Castel Tesino**	**1.08**	**1**	Pg	**Pg**	**12 41 33.1**	**-0.6**
CTI				Sg	**Sg**	**12 41 48.5**	**+0.8**
SFI	**Santa Sofia**	**1.08**	**172**	Pg	**Pg**	**12 41 33.0**	**-0.7**
SFI				Sg	**Sg**	**12 41 49.1**	**+1.4**
	9.0nm,0.2s						
BDI	**Bagni Di Lucca**	**1.17**	**219**	Pg	**Pg**	**12 41 34.9**	**-0.6**
BDI				Sg	**Sg**	**12 41 52.7**	**+2.0**
	22nm,0.5s						
CAE	**Caneva**	**1.18**	**28**	⇑*e*Pg	**Pg**	**12 41 35.1**	**-0.6**
CAE				*e*Sg	**Sg**	**12 41 53.6**	**+2.5**
MABI	**Malga Bissina**	**1.34**	**325**	Pg	**Pg**	**12 41 37.7**	**-1.0**
MABI				Sg	**Sg**	**12 41 55.8**	**-0.2**
	14nm,0.2s						
MLNI	**Malnisio**	**1.36**	**30**	⇑*e*Pg	**Pg**	**12 41 38.4**	**-0.8**
MLNI				*e*Sg	**Sg**	**12 41 58.6**	**+1.7**
APPI	**Appiano**	**1.53**	**350**	Pg	**Pg**	**12 41 41.3**	**-1.1**
APPI				Sg	**Sg**	**12 42 01.9**	**-0.4**
PIEI	**Pieia**	**1.58**	**155**	Pg	**Pg**	**12 41 41.3**	**-1.9**
BRMO	**Bormio**	**1.74**	**330**	Pg	**Pg**	**12 41 45.1**	**-1.3**
VOY	**Vojsko**	**1.91**	**56**	*e*(Pn)	**Pg**	**12 41 48.8**	**-0.9**
VOY				*e*		12 42 09.8	
VOY				*e*(Sn)	**Sg**	**12 42 15.2**	**+0.7**
FETA	**Feichten**	**2.14**	**343**	⇓*i*Pg	**Pg**	**12 41 52.2**	**-1.9**
FETA				⇑*i*Sg	**Sg**	**12 42 20.6**	**-1.3**
	2.8nm,0.2s						
WTTA	**Wattenberg**	**2.29**	**0**	⇓*e*Pg	**Pg**	**12 41 55.4**	**-1.6**
	SNR=7.8						
WTTA				⇑*i*Sg	**Sg**	**12 42 26.9**	**+0.2**
	6.2nm,0.2s						

ISCJB ***06*** *12:52:21.4±0.3, 4223S±004×17296E±006, h79km±6km, mb3.9/2, Error ellipse: s-maj=9.1km s-min=3.7km az=39.9*
IDC ***06*** *12:52:21.2±2.5, 4209S×17300E, h52km±23km, mb3.6/2, mb1 3.9/4, mb1mx3.7/14, mbtmp3.8/4, ML4.0/2, MS2.9/2, Ms1 2.9/2, ms1mx2.7/24, Error ellipse: s-maj=33.7km s-min=25.8km az=142.0*
NEIC ***06*** *12:52:22.9, 4220S×17290E, h68km, ML4.7(WEL), After WEL.*
NEIC Felt [IV] at Murchison.
ISC 06 12:52:22.6±0.3, **4223S**±004×**17296E**±006, **h68**km±6km, **n67, σ0§89**/69, **mb3.9**/2, **South Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHZ	**Kahutara**	**0.47**	**113**	*e*P	**Pn**	**12 52 35.3**	**+0.3**
KHZ				S	**Sn**	**12 52 45.4**	**+1.4**
THZ	**Tophouse**	**0.47**	**355**	P	**Pn**	**12 52 34.7**	**-0.3**
THZ				S	**Sn**	**12 52 42.2**	**-1.8**
LTZ	**Lake Taylor**	**0.75**	**223**	P	**Pn**	**12 52 38.6**	**+0.7**
BSWZ	**Blackbirch Sta**	**0.86**	**53**	P	**Pn**	**12 52 40.2**	**+1.0**
DSZ	**Denniston Nort**	**0.99**	**299**	P	**Pn**	**12 52 40.5**	**-0.3**
CMWZ	**Cape Campbell**	**1.05**	**63**	P	**Pn**	**12 52 43.2**	**+1.5**
NNZ	**Nelson**	**1.06**	**17**	P	**Pn**	**12 52 41.5**	**-0.3**
CRLZ	**Canterbury Las**	**1.37**	**190**	P	**Pn**	**12 52 46.1**	**+0.4**
TCW	**Tory Channel**	**1.42**	**45**	P	**Pn**	**12 52 46.7**	**+0.3**
QRZ	**Quartz Range**	**1.44**	**347**	*e*P	**Pn**	**12 52 45.6**	**-1.1**
MQZ	**McQueen's Vall**	**1.49**	**189**	P	**Pn**	**12 52 47.3**	**-0.1**
SNZO	**South Karori**	**1.60**	**55**	*e*Pn	**Pn**	**12 52 49.2**	**+0.4**
SNZO				*e*Sn	**Sn**	**12 53 06.6**	**-2.0**
MRW	**Makara Radio**	**1.64**	**53**	P	**Pn**	**12 52 49.5**	**+0.1**
BHW	**Baring Head**	**1.65**	**61**	P	**Pn**	**12 52 49.5**	**0.0**
WEL	**Wellington**	**1.65**	**56**	P	**Pn**	**12 52 49.7**	**+0.2**
WVZ	**Waitaha Valley**	**1.84**	**242**	P	**Pn**	**12 52 52.7**	**+0.6**
MSWZ	**Moikau Station**	**1.90**	**65**	P	**Pn**	**12 52 52.5**	**-0.3**
CAW	**Cannon Point**	**1.94**	**55**	P	**Pn**	**12 52 53.2**	**-0.2**
KIW	**Kapiti Island**	**2.00**	**48**	P	**Pn**	**12 52 54.5**	**+0.3**
PAWZ	**Paruwai Farm**	**2.03**	**66**	P	**Pn**	**12 52 54.0**	**-0.6**
RPZ	**Rata Peaks**	**2.04**	**223**	P	**Pn**	**12 52 54.8**	**+0.1**
	33nm,0.3s,baz=28,slow=2.8,SNR=90						
RPZ				S	**Sn**	**12 53 18.8**	**-0.3**
	295nm,0.3s,baz=278,slow=2.4,SNR=31						
RPZ				LR	LR	12 53 32.0	
	comp=Z,308nm,21.2s,baz=213,slow=33						
MTW	**Mount Morrison**	**2.19**	**61**	P	**Pn**	**12 52 55.9**	**-0.8**
MRZ	**Mangatainoka R**	**2.52**	**52**	P	**Pn**	**12 53 00.4**	**-0.8**
FOZ	**Fox Glacier**	**2.75**	**240**	P	**Pn**	**12 53 03.8**	**-0.5**

WAZ Wanganui 2.91 32 P Pn 12 53 07.7 +1.2
LBZ Lake Benmore 2.96 222 P Pn 12 53 07.4 +0.3
NWEZ Newall Road 3.03 13 P Pn 12 53 09.5 +1.3
NEZ North Egmont 3.08 17 P Pn 12 53 09.9 +1.0
RAEZ Rainy Point 3.14 21 P Pn 12 53 11.1 +1.5
TSZ Takapari Road 3.14 47 P Pn 12 53 08.6 -1.0
ODZ Otahua Downs 3.27 210 P Pn 12 53 11.3 -0.2
VRZ Vera Road 3.39 24 P Pn 12 53 14.0 +0.9
WNVZ Wahianoa 3.53 36 P Pn 12 53 15.5 +0.6
MOVZ Moawhango 3.53 38 P Pn 12 53 14.4 -0.6
FWVZ Far West T-bar 3.57 34 P Pn 12 53 16.1 +0.6
TUVZ Tukino 3.60 36 P Pn 12 53 16.4 +0.5
WPVZ Whakapapa 3.61 34 P Pn 12 53 16.3 +0.3
NGZ Ngauruhoe 3.65 34 P Pn 12 53 16.8 +0.1
TWVZ Taurewa 3.68 32 P Pn 12 53 16.8 -0.2
WTVZ West Tongariro 3.70 34 P Pn 12 53 17.2 -0.1
KATZ Kakaramea 3.86 34 P Pn 12 53 19.9 +0.4
RATZ Rangitukua 3.98 33 P Pn 12 53 21.2 0.0
HIZ Hauiti 3.99 22 P Pn 12 53 21.3 +0.1
EAZ Earnscleugh 4.00 220 P Pn 12 53 20.8 -0.5
BKZ Black Stump Fm 4.07 42 P Pn 12 53 20.6 -1.8
WATZ Wairara 4.11 32 P Pn 12 53 23.2 +0.3
TUZ Tuapeka 4.43 212 P Pn 12 53 27.3 +0.1
KNZ Kokohu 4.81 50 P Pn 12 53 29.2 -3.3
TOZ Tahuroa Road 4.90 24 P Pn 12 53 33.7 0.0
URZ Urewera 5.08 40 P Pn 12 53 33.1 -3.1
7.3nm,0.3s,baz=235,slow=7.5,SNR=35
URZ S Sn 12 54 27.0 -6.5
98nm,0.3s,baz=105,slow=17,SNR=21
URZ LR LR 12 54 56.6
comp=Z,127nm,21.5s,baz=73,slow=31
URZ Urewera 5.08 40 P Pn 12 53 33.1 -3.1
WHZ Wether Hill Ro 5.14 223 P Pn 12 53 35.5 -1.5
MWZ Matawai 5.23 43 P Pn 12 53 35.4 -2.8
MKAZ Moumakai 5.39 19 P Pn 12 53 40.4 0.0
WTAZ Waiatarua 5.44 14 P Pn 12 53 42.1 +1.1
OTAZ Otara 5.49 17 P Pn 12 53 42.9 +1.1
KAAZ Kauri Point 5.57 15 P Pn 12 53 43.9 +1.1
PUZ Puketiti 5.81 46 P Pn 12 53 42.3 -3.8
KUZ Kuaotunu 5.88 22 P Pn 12 53 46.8 -0.3
MXZ Matakaoa Point 6.22 43 P Pn 12 53 48.4 -3.3
WCZ Waipu Caves 6.38 10 P Pn 12 53 54.1 +0.2
OUZ Omahuta 7.02 4 P Pn 12 54 02.6 -0.1
ASAR Alice Springs 37.24 287 P P 12 59 27.4 -0.2
0.5nm,0.6s,mb3.6,baz=127,slow=7.2,SNR=13
WRA Warramunga Arr 39.38 292 P P 12 59 45.9 +0.3
1.5nm,0.4s,mb4.1,baz=127,slow=8.5,SNR=46
DBIC Dimbokro 144.53 184 PKP PKPdf 13 11 52.1 +0.6
2.1nm,0.4s,baz=126,slow=2.3,SNR=8.1
ARCES ARCESS Array B 147.89 339 PKPbc PKPbc 13 11 57.9 -0.7
2.5nm,0.8s,baz=72,slow=4.0,SNR=4.0
TORD Torodi Ar. Bea 150.04 197 PKPbc PKPbc 13 12 06.4 +0.7
2.8nm,0.6s,baz=152,slow=2.0,SNR=20

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*SZGRF **06** 12:56:51.0, 45.04N × 145.66E, h148km, mb4.7, Hokkaido, Japan, region*
*BGS **06** 12:56:56.3±2.1, 43.81N × 145.63E, h145km, mb4.9*
*MOS **06** 12:56:56.5±0.9, 44.30N × 145.52E, h134km, mb4.6/61, Error ellipse: s-maj=7.0km s-min=4.8km az=99.4*
*BJI **06** 12:56:57.7, 44.39N × 145.54E, h147km, mB5.5, mb5.1*
*SKHL **06** 12:56:57.9±0.1, 44.35N × 145.85E, h131km±27km, mb6.5/1, mbh5.9/1, Ms5.0/2, msh5.9/2*
*ISCJB **06** 12:56:57.7±0.1, 44.27N±0.02 × 145.59E±0.02, h145km, mb4.7/137, Error ellipse: s-maj=3.5km s-min=1.8km az=162.0*
*IDC **06** 12:56:58.6±0.4, 44.29N × 145.62E, h145km±3km, mb4.5/37, mb1 4.5/41, mb1mx4.5/43, mbtmp4.4/41, Error ellipse: s-maj=7.7km s-min=6.7km az=150.0*
*JMA **06** 12:56:58.3±0.2, 44.18N × 145.74E, h143km±1km, M4.5 Broadband fault plane solution: P waves. NP1: ϕ_s346.00000°, δ38.00000°, λ37.00000°. NP2: ϕ_s225.00000°, δ68.00000°, λ122.00000°. Principal axes: T Plg55.0000°, Azm176.0000°; N Plg30.0000°, Azm32.0000°; P Plg17.0000°, Azm292.0000°;*
JMA Felt I J1.
*NEIC **06** 12:56:59.3±0.1, 44.30N × 145.46E, mb4.6/71 Error ellipse: s-maj=4.0km s-min=2.6km az=156.0*
NEIC Recorded [1 JMA] in eastern Hokkaido.
*DJA **06** 12:57:04, 44.14N × 145.02E, h162km, mb5.1/9*
ISC 06 12:56:59.6±0.1, **44.27N**±0.02 × **145.52E**±0.02, **h147**km, **h147**km±1.1km**:pP-P, n738,** σ0.**76**/748, **mb4.7**/137, **174C-160D, Hokkaido region**

Code Station Name Δ° AZ° Phase ID (Op ISC) Time (h m s) Res (ISC)
YUK Yuzh-Kuril'sk 0.34 133⇑ *i*PN Pn 12 57 18.0 -1.9
YUK *e*S Sn 12 57 33.0 -2.2
YUK pmax pmax
comp=N,2μm,0.3s
YUK pmax pmax
comp=Z,14μm,0.3s
YUK pmax pmax
comp=E,1900μm,0.3s
YUK pmax pmax
comp=N,4μm,0.5s
YUK pmax pmax
comp=E,6μm,0.5s
YUK pmax pmax
comp=Z,15μm,0.5s
YUK smax
comp=N,23μm,0.5s
YUK smax
comp=E,27μm,0.5s
YUK smax
comp=N,100μm,1.0s
YUK smax
comp=E,195μm,1.0s
YUK Yuzh-Kuril'sk 0.34 133⇑ *i*P Pn 12 57 18.0 -1.9
YUK AMB AMB 12 57 18.9
comp=E,2μm,0.2s
YUK AMB AMB 12 57 18.9
comp=E,2μm,0.2s
YUK AMB AMB 12 57 18.9
comp=E,14μm,0.2s
YUK *e*S Sn 12 57 33.0 -2.2
YUK A 12 57 34.3
comp=E,100μm,1.0s
YUK A 12 57 34.3
comp=E,195μm,1.0s
YUK A 12 57 34.3
comp=E,23μm,0.5s
YUK A 12 57 34.3
comp=E,27μm,0.5s
JRA Rausu 0.43 221 ⇑P Pn 12 57 18.8 -1.4
JRA *e*S Sn 12 57 34.5 -1.4
JNK Nakash 0.89 220 ⇑P Pn 12 57 22.1 -1.0
NEM2 Nemuro 2 0.92 170 ⇓P Pn 12 57 20.6 -2.8
NEM2 *e*S Sn 12 57 37.3 -4.1
JTKR Abashiri--Toko 1.19 256 ⇓P Pn 12 57 25.5 -0.3
JTKR *e*S Sn 12 57 46.0 +0.3
JAK Akkeshi 1.40 205 ⇑P Pn 12 57 26.4 -1.5
JAK *e*S Sn 12 57 47.9 -1.5
JMP Maruseppu 1.57 261 ⇓P Pn 12 57 29.8 +0.2
JMP *e*S Sn 12 57 53.5 +0.9
JAR Ashorobuto 1.59 233 ⇓P Pn 12 57 29.8 -0.1
JOB Onbets 1.83 222 ⇓P Pn 12 57 32.1 -0.4
KUR Kuril'sk 1.94 59 PN Pn 12 57 28.0 -5.7
KUR *e*S Sn 12 57 53.0 -6.9
KUR pmax pmax
comp=N,890nm,0.8s
KUR pmax pmax
comp=E,2μm,0.8s
KUR pmax pmax
comp=Z,7μm,0.8s
KUR pmax pmax
comp=N,3μm,1.0s
KUR pmax pmax
comp=Z,18μm,1.0s
KUR smax
comp=N,5μm,0.8s
KUR smax
comp=E,3μm,0.8s
KUR smax
comp=N,45μm,1.2s
KUR Kuril'sk 1.94 59⇓ *i*P Pn 12 57 28.0 -5.7
KUR ⇑ *i*P 12 57 28.0
KUR AMB AMB 12 57 29.0
comp=N,18μm,1.0s
KUR AMB AMB 12 57 29.0
comp=N,4μm,1.0s
KUR AMB AMB 12 57 29.0
comp=N,2μm,1.0s
KUR AMB AMB 12 57 29.0
comp=N,2μm,0.7s
KUR AMB AMB 12 57 29.0
comp=N,1μm,0.7s
KUR AMB AMB 12 57 29.0
comp=N,7μm,0.7s
KUR *e*S Sn 12 57 53.0 -6.9
KUR A 12 57 55.0
comp=N,5μm,0.8s
KUR A 12 57 55.0
comp=N,3μm,0.8s
KUR A 12 57 55.0
comp=N,25μm,1.6s
KUR A 12 57 55.0
comp=N,15μm,1.6s
KUR A 12 57 55.0
comp=N,45μm,2.0s
KUR A 12 57 55.0
comp=N,32μm,2.0s
JKK2 Kamakawa 2 2.03 260 ⇓P Pn 12 57 35.5 +0.7
JKK2 *e*S Sn 12 58 04.0 +2.1
ASAJ Asahikawa 2.10 267 P Pn 12 57 36.8 +1.1
comp=N,366nm,0.3s,baz=89,slow=13,SNR=4920
ASAJ S Sn 12 58 04.8 +1.3
comp=N,29nm,0.3s,baz=263,slow=22,SNR=23
ASAJ Asahikawa 2.10 267 ⇓P Pn 12 57 36.7 +1.0
ASAJ *e*S Sn 12 58 06.1 +2.7
ASAJ Asahikawa 2.10 267 PN Pn 12 57 36.8 +1.1
ASAJ S Sn 12 58 04.8 +1.4
ASAJ pmax pmax
comp=Z,366nm,0.3s
ASAJ smax
comp=N,29nm,0.3s
JSE Soyaes 2.20 289 ⇓P Pn 12 57 37.4 +0.5
JSE *e*S Sn 12 58 06.6 +1.0
JCH Churui 2.28 224 ⇓P Pn 12 57 36.9 -0.9
JCH *e*S Sn 12 58 06.1 -1.1
JFR Furan 2.39 244 ⇓P Pn 12 57 39.6 +0.5
JFR *e*S Sn 12 58 10.8 +1.3
JAB Ashibetsu 2.50 253 ⇓P Pn 12 57 41.8 +1.3
ERM Erimo 2.84 218 *e*P Pn 12 57 44.8 +0.1
ERM Erimo 2.84 218 *e*Pn Pn 12 57 45.1 +0.4
ERM *e*Sn Sn 12 58 21.9 +2.4
YSS Yuzh-Sakhalins 3.31 325⇓ *i*PN Pn 12 57 49.8 -0.9
YSS *i* S Sn 12 58 29.8 -0.6
YSS pmax pmax
comp=N,120nm,0.5s
YSS pmax pmax
comp=E,110nm,0.5s
YSS pmax pmax
comp=Z,130nm,0.5s
YSS smax
comp=N,4μm,2.0s
YSS Yuzh-Sakhalins 3.31 325⇓ *i*P Pn 12 57 49.8 -0.9
YSS AMB AMB 12 57 50.8
comp=N,130nm,0.5s
YSS AMB AMB 12 57 50.8
comp=N,120nm,0.5s
YSS AMB AMB 12 57 50.8
comp=N,110nm,0.5s
YSS *i* S Sn 12 58 29.8 -0.6
YSS A 12 58 33.0
comp=N,4μm,2.0s
YSS Yuzh-Sakhalins 3.31 325 *e*Pn Pn 12 57 51.1 +0.4
UGL Uglegorsk 5.37 335⇓ *i*P Pn 12 58 18.2 +0.6
UGL AMB AMB 12 58 19.5
comp=N,450nm,1.0s
UGL *e*S Sn 12 59 22.0 +3.4
UGL A 12 59 25.0
comp=N,4μm,4.0s
UGL A 12 59 25.0
comp=N,4μm,4.0s
UGL A 12 59 29.0
comp=N,2μm,2.0s
UGL A 12 59 29.0
comp=N,2μm,2.0s
UGL A 12 59 29.0
comp=N,2μm,2.0s
UGL AMS AMS 13 00 06.0
comp=N,6μm,18.0s
UGL AMS AMS 13 00 06.0
comp=N,6μm,18.0s
UGL AMS AMS 13 00 06.0
comp=N,6μm,20.0s
HABR Khabarovsk 8.37 304⇓ *i*PN Pn 12 58 59.7 +2.0
HABR *e*S Sn 13 00 33.9 +3.2
MAJO Matsushiro 9.51 218 *e*PN Pn 12 59 11.3 -1.8
MAT Matsushiro 9.51 218 P Pn 12 59 11.2 -1.9
MAT *e*S Sn 13 01 02.4 +3.9
MJAR Matsushiro Arr 9.51 218 P Pn 12 59 11.4 -1.7
comp=N,1.7nm,0.3s,baz=30,slow=12,SNR=38
MJAR Matsushiro Arr 9.51 218 PN Pn 12 59 11.5 -1.6
MJAR pmax pmax
comp=Z,2.0nm,0.3s
SKR Severo-Kuril's 9.62 44 *e*P Pn 12 59 11.5 -2.9
SKR AMB AMB 12 59 17.5
comp=Z,80nm,0.5s
SKR AMS AMS 13 00 20.0
comp=Z,7μm,16.0s
SKR AMS AMS 13 00 20.0
comp=Z,3μm,16.0s
SKR AMS AMS 13 00 20.0
comp=Z,8μm,16.0s
SKR AMS AMS 13 00 20.0
comp=Z,3μm,16.0s
SKR AMS AMS 13 00 20.0
comp=Z,8μm,16.0s
SKR AMS AMS 13 00 20.0
comp=Z,6μm,16.0s
VLA Vladivostok 9.94 268 *e*PN Pn 12 59 18.4 -0.2
VLA pmax pmax
comp=Z,88nm,0.9s
KLR Kul'dur 10.67 303 *e*PN Pn 12 59 25.1 -3.1
KLR pmax pmax
comp=E,240nm,1.4s
KLR pmax pmax
comp=Z,300nm,1.4s
MDJ Mudanjiang 11.39 277 P Pn 12 59 37.3 -0.5
MDJ AMB AMB
comp=Z,138nm,0.7s
MDJ AMB AMB
comp=Z,3μm,16.9s
MDJ Mudanjiang 11.39 277 *e*Pn Pn 12 59 38.0 +0.2
comp=Z,106nm,0.8s
PEA0B Petropavlovsk- 11.95 38 *e*Pn Pn 12 59 42.9 -2.1
PETK Petropavlovsk- 11.95 38 P Pn 12 59 42.4 -2.6
comp=Z,1.1nm,0.3s,baz=89,slow=17,SNR=37
JHJ Hachijo jima 2 11.99 204 S Sn 13 01 49.1 -9.2
comp=Z,18nm,0.3s,baz=246,slow=23,SNR=4.6
PET Petropavlovsk 12.32 40*c i*PN Pn 12 59 48.4 -1.5
CN2 Changchun 14.45 275 *e*P Pn 13 00 16.3 -0.7
CN2 *e*XP 13 00 57.8
CN2 *e*S Sn 13 02 53.0 -4.1
CN2 AMB AMB
comp=Z,60nm,1.1s
CN2 AMB AMB
comp=Z,2μm,8.0s
KSRS Korea Array 14.94 249 P Pn 13 00 22.2 -1.0
comp=Z,2.3nm,0.3s,baz=61,slow=12,SNR=119
KSRS PcP PcP 13 05 20.6 -1.5
comp=Z,0.2nm,0.3s,baz=74,slow=0.5,SNR=5.8
KSRS ScP ScP 13 08 42.2 +0.2
comp=Z,0.0nm,0.3s,baz=21,slow=1.4,SNR=8.9
KS15 Wonju Array Si 14.97 249 *e*Pn Pn 13 00 22.5 -1.1
INCN Inchon 15.79 251 *e*Pn Pn 13 00 32.9 -0.9
comp=Z,52nm,0.8s
SNY Shenyang 16.21 269 ⇑P Pn 13 00 38.8 -0.1
SNY AMB AMB
comp=Z,38nm,0.7s
HIA Hailar 18.31 295*c i*P P 13 01 00.7 -1.4
HIA Hailar 18.31 295 *e*P P 13 01 00.3 -1.8
comp=Z,32nm,0.8s
DL2 Dalian 18.63 262⇑ *i*P P 13 01 06.5 +0.8
DL2 AMB AMB
comp=Z,80nm,0.8s
SEY Seymchan 19.12 10⇓ *i*P P 13 01 09.7 -1.1
YAK Yakutsk 20.07 338 *e*P P 13 01 23.2 +2.2
YAK pmax pmax
comp=E,17nm,1.2s
YAK pmax pmax
comp=Z,42nm,1.0s
YAK pmax pmax
comp=N,33nm,1.5s
YAK Yakutsk 20.07 338 *e*P P 13 01 20.0 -1.0
YAK *e*pP 13 01 52.8
BJT Baijiatuau 22.11 269 *e*P P 13 01 41.7 -1.3
BJT pmax pmax
comp=Z,211nm,1.1s
BJT Baijiatuau 22.11 269 *e*P P 13 01 41.7 -1.3
comp=Z,211nm,1.1s,mb5.5
JOW Kunigami 22.27 224 P P 13 01 45.9 +1.2
comp=Z,33nm,0.8s,mb4.8,baz=70,slow=8.6,SNR=4.8
BOD Bodaibo 23.74 316 *e*P P 13 01 54.0 -3.9
BOD pmax pmax
comp=Z,17nm,1.4s,mb4.4
NJ2 Nanjing 24.14 249 *e*P P 13 02 03.0 +1.2
NJ2 AP 13 02 31.7
NJ2 PP 13 02 44.9
NJ2 XP sP 13 02 48.5 -0.9
NJ2 S S 13 06 06.0 -2.9
NJ2 XS sS 13 06 57.0 -5.7
NJ2 AMB AMB
comp=Z,80nm,1.1s,mb5.2
NJ2 AMB AMB
comp=Z,850nm,8.4s
NJ2 LR LR
comp=N,580nm,15.9s
NJ2 LR LR
comp=E,2μm,15.9s
NJ2 LR LR
comp=Z,2μm,15.9s
HHC Hu-ho-hao-te 25.14 274 *e*P P 13 02 11.3 +0.5
HHC AP pP 13 02 39.7 -1.7
HHC PP 13 02 55.4
HHC PCP PcP 13 05 45.7 +4.9
HHC S S 13 06 23.5 -1.1
HHC XS sS 13 07 13.4 -5.3
HHC SS 13 07 34.6
HHC SCP ScP 13 09 08.2 +2.3
HHC AMB AMB
comp=Z,61nm,1.1s,mb5.0
HHC AMB AMB
comp=Z,7μm,9.3s
HHC LR LR
comp=N,2μm,15.7s
HHC LR LR
comp=E,2μm,16.2s
HHC LR LR
comp=Z,2μm,16.2s
ULN Ulaanbaatar 26.74 291⇑ *e*P P 13 02 25.3 +0.2
ULN Ulaanbaatar 26.74 291 *e*P P 13 02 25.5 +0.4
SONM Songino Array 27.18 291 P P 13 02 29.8 +0.8
comp=Z,26nm,0.8s,mb4.9,baz=84,slow=8.0,SNR=89
SONM ScP ScP 13 09 11.8 0.0
comp=Z,1.2nm,0.9s,baz=126,slow=3.9,SNR=5.3
SONM Songino Array 27.18 291 P P 13 02 29.8 +0.7
SONM pmax pmax
comp=Z,26nm,0.8s
SONM pmax pmax
comp=N,1.0nm,0.9s
ZAK Zakamensk 28.97 297 *e*P P 13 02 44.0 -0.9
ZAK pmax pmax
comp=Z,7.0nm,1.2s,mb4.3
XAN Xi'an 29.94 263 P P 13 02 54.0 +0.3
XAN AMB AMB
comp=Z,13nm,1.3s,mb4.5
LZH Lanzhou 32.58 270 *e*P P 13 03 17.8 +1.0
LZH AP pP 13 03 46.8 -1.4
LZH XP sP 13 04 02.9 -2.2
LZH AMB AMB
comp=Z,79nm,1.0s,mb5.4
LZH AMB AMB
comp=Z,446nm,6.0s
LZH Lanzhou 32.58 270 *e*P P 13 03 17.8 +1.0
LZH *PP pP 13 03 46.8 -1.4
LZH *SP sP 13 04 02.9 -2.2
LZH pmax pmax
comp=Z,79nm,1.0s,mb5.4
LZH Lanzhou 32.58 270 *e*P P 13 03 17.8 +1.0
comp=Z,79nm,1.0s,mb5.4
LZH pP pP 13 03 46.8 -1.4
LZH sP sP 13 04 02.9 -2.2
GTA Gaotai 34.05 278 *e*P P 13 03 30.6 +1.1
GTA SCP ScP 13 09 36.2 +1.5
GTA AMB AMB
comp=Z,25nm,1.1s,mb4.9
KRAR Krasnoyarsk 34.88 309*c i*P P 13 03 34.7 -1.7
KRAR pmax pmax
comp=Z,15nm,0.4s,mb5.0
CD2 Chengdu 35.30 262⇓ *i*P P 13 03 40.6 +0.3
CD2 AP pP 13 04 11.3 -0.7
CD2 XP sP 13 04 27.8 -0.9
CD2 PP PP 13 05 04.5 +1.2
CD2 S S 13 09 02.7 -0.6
CD2 XS sS 13 09 56.3 -2.4
CD2 SS SS 13 11 28.8 -11
CD2 AMB AMB
comp=Z,70nm,0.7s,mb5.4
CD2 AMB AMB
comp=Z,180nm,6.2s
GYA Guiyang 35.92 253 P P 13 03 45.8 +0.1
GYA AP pP 13 04 18.2 +0.8
GYA XP sP 13 04 34.8 +0.6
GYA PP PP 13 05 13.5 +3.2
GYA PCP PcP 13 06 11.3 +1.9
GYA S S 13 09 13.2 +0.3
GYA SCP ScP 13 09 41.4 -0.2
GYA PCS PcS 13 09 55.8 -1.3
GYA SS SS 13 11 42.5 -12
GYA AMB AMB
comp=Z,20nm,0.8s,mb4.8
GYA AMB AMB
comp=Z,110nm,4.6s
GYA LR LR
comp=N,920nm,17.7s
GYA LR LR
comp=E,1μm,16.8s
GYA LR LR
comp=Z,1μm,16.8s
IMA2 Indian Mountai 38.92 35 *e*P P 13 04 05.5 -4.9
KMI Kunming 39.49 255 P P 13 04 16.0 +0.3
KMI AP pP 13 04 48.8 +1.0
KMI PP PP 13 05 52.9 +3.6
KMI AMB AMB
comp=Z,26nm,1.1s,mb4.8
KMI Kunming 39.49 255 P P 13 04 16.0 +0.3
comp=Z,26nm,1.1s,mb4.8
KMI pP pP 13 04 48.8 +1.0
KMI PP PP 13 05 52.9 +3.6
ZAA0 Zalesovo Array 39.74 306 *e*P P 13 04 16.4 -1.0
ZALV Zalesovo Beam 39.74 306 P P 13 04 16.7 -0.7
comp=Z,12nm,0.4s,mb4.9,baz=92,slow=7.9,SNR=29
ZALV PcP PcP 13 06 20.1 -0.6
comp=Z,5.9nm,0.5s,baz=90,slow=3.6,SNR=8.9
ZALV ScP ScP 13 09 55.1 -0.5
comp=Z,3.2nm,0.7s,baz=60,slow=3.6,SNR=7.5
ZALV Zalesovo Beam 39.74 306 P P 13 04 16.7 -0.7
ZALV 13 06 20.1
ZALV pmax pmax
comp=Z,13nm,0.4s,mb4.9
ZALV pmax pmax
comp=Z,6.0nm,0.5s,mb4.5
ZALV pmax pmax
comp=N,3.0nm,0.7s
KDAK Kodiak Island 39.77 48 P P 13 04 15.8 -1.8
comp=N,9.9nm,0.5s,mb4.7,baz=291,slow=5.1,SNR=14
BPAW Bear Paw Mtn. 40.03 38 *e*P P 13 04 20.0 +0.3
comp=N,5.4nm,0.8s,mb4.2
KTH Kantishna Hill 40.08 39 *e*P P 13 04 20.7 +0.7
comp=N,4μm,1.2s
COLD Coldfoot 40.35 33 *e*P P 13 04 22.2 0.0
TRF Thorofare Moun 40.37 39 *e*P P 13 04 22.6 +0.2
comp=N,6.3nm,0.7s,mb4.3
NVS Novosibirsk 40.47 308⇑ *i*P P 13 04 22.6 -0.8
NVS *e* pP 13 04 54.5 -1.2
NVS pmax pmax
comp=N,14nm,1.3s
NVS pmax pmax
comp=Z,19nm,1.3s,mb4.6
NVS pmax pmax
comp=E,17nm,1.1s
WMQ Urumqi 40.81 290⇓ *i*P P 13 04 27.2 +0.9
WMQ AP pP 13 04 59.5 +0.8
WMQ XP sP 13 05 17.7 +2.4
WMQ PP PP 13 06 06.9 +3.7
WMQ PCP PcP 13 06 25.7 +1.3
WMQ SCP ScP 13 10 01.2 +1.2
WMQ S S 13 10 26.2 +0.2

WMQ XS sS 13 11 25.2 +2.8
WMQ AMB AMB
comp=Z,44nm,0.7s,mb5.2
WMQ AMB AMB
comp=Z,207nm,4.5s
RC01 Rabbit Creek A 40.81 42 *e*P **P 13 04 26.2 +0.1**
comp=Z,7.7nm,0.5s,mb4.6
MCK McKinley 40.95 38 *e*P **P 13 04 27.2 0.0**
PMR Palmer 41.05 41 *e*P **P 13 04 27.8 -0.2**
COLA College 41.35 36*c i*P **P 13 04 30.0 -0.5**
COLA *j* *PP pP 13 05 03.6 +0.7
COLA College 41.35 36 *e*P **P 13 04 30.6 +0.1**
comp=Z,33nm,0.7s,mb5.1
MK31 Makanchi Array 43.30 297 *e*P **P 13 04 46.7 +0.3**
MKAR Makanchi Array 43.30 297 P **P 13 04 46.5 0.0**
comp=Z,34nm,0.7s,mb5.1,baz=80,slow=9.1,SNR=207
MKAR PcP PcP 13 06 33.1 +0.6
comp=Z,1.7nm,0.6s,baz=53,slow=2.4,SNR=3.1
MKAR ScP ScP 13 10 10.2 +0.3
comp=Z,1.0nm,0.6s,baz=57,slow=4.6,SNR=3.9
MKAR Makanchi Array 43.30 297 P **P 13 04 46.5 +0.1**
MKAR 13 06 33.1
MKAR pmax pmax
comp=Z,34nm,0.7s
MKAR pmax pmax
comp=Z,2.0nm,0.6s
MKAR pmax pmax
comp=N,1.0nm,0.6s
KURK Kurchatov 44.26 303 P **P 13 04 54.1 +0.1**
comp=N,45nm,0.6s,mb5.3,baz=72,slow=8.9,SNR=230
KURK Kurchatov 44.26 303 *e*P **P 13 04 53.2 -0.8**
LSA Lhasa 45.00 270 *e*P **P 13 05 02.3 +2.1**
LSA pmax pmax
comp=Z,7.0nm,0.5s,mb4.5
LSA Lhasa 45.00 270 *e*P **P 13 05 02.3 +2.1**
comp=Z,7.3nm,0.5s,mb4.6
DAWY Dawson 45.09 37 *e*P **P 13 05 00.5 +0.1**
CHTO Chiang Mai 46.31 252 *e*P **P 13 05 11.4 +0.8**
CHTO pmax pmax
comp=Z,15nm,0.7s,mb4.7
CHTO Chiang Mai 46.31 252 *e*P **P 13 05 11.4 +0.9**
comp=Z,15nm,0.7s,mb4.7
CM31 Chiang Mai Arr 46.55 252 *e*P **P 13 05 13.7 +1.2**
comp=Z,16nm,1.0s,mb4.6
CMAR Chiang Mai Arr 46.55 252 P **P 13 05 12.9 +0.4**
comp=Z,5.2nm,0.7s,mb4.3,baz=43,slow=7.1,SNR=24
CMAR pP pP 13 05 45.5 0.0
comp=Z,1.3nm,0.7s,baz=42,slow=9.7,SNR=1.7
CMAR PcP PcP 13 06 45.4 +1.1
comp=Z,1.2nm,0.7s,baz=12,slow=1.7,SNR=4.8
CMAR ScP ScP 13 10 24.3 +0.5
comp=Z,1.0nm,0.7s,baz=33,slow=2.6,SNR=5.9
CMAR Chiang Mai Arr 46.55 252 P **P 13 05 12.9 +0.4**
CMAR *PP pP 13 05 45.5 -0.1
CMAR 13 06 45.4
CMAR pmax pmax
comp=Z,5.0nm,0.7s
CMAR pmax pmax
comp=Z,1.0nm,0.7s
CMAR pmax pmax
comp=Z,1.0nm,0.7s
CMAR pmax pmax
comp=N,1.0nm,0.7s
VOSK Vostochnaya 48.04 308 P **P 13 05 22.4 -1.1**
VOSK pmax pmax
comp=Z,18nm,0.7s,mb4.8
BVA0 Borovoye Array 48.26 309 *i* P **P 13 05 25.0 -0.2**
BVA0 pmax pmax
comp=Z,2.0nm,0.5s,mb4.0
BVAR Borovoye Array 48.26 309 P **P 13 05 24.4 -0.9**
comp=Z,8.8nm,0.5s,mb4.7,baz=75,slow=8.7,SNR=42
BVAR PcP PcP 13 06 50.1 +0.2
comp=Z,3.7nm,0.7s,baz=44,slow=4.3,SNR=4.8
BVAR ScP ScP 13 10 29.3 -1.1
comp=Z,2.3nm,0.8s,baz=45,slow=4.4,SNR=4.0
BVAR Borovoye Array 48.26 309 P **P 13 05 24.4 -0.8**
BVAR 13 06 50.1
BVAR pmax pmax
comp=Z,9.0nm,0.5s
BVAR pmax pmax
comp=Z,4.0nm,0.7s
BVAR pmax pmax
comp=N,2.0nm,0.8s
BRVK Borovoye 48.31 309 *e*P **P 13 05 24.8 -0.8**
TAPN Taplejung 48.83 270 *e*P **P 13 05 31.1 +1.2**
comp=N,49nm,0.8s,mb5.2
TKM2 Tokmak 2 49.22 294 *e*P **P 13 05 33.7 +1.0**
TKM2 *e* *PP pP 13 06 09.1 +3.0
TKM2 pmax pmax
comp=Z,50nm,0.8s,mb5.2
TKM2 Tokmak 2 49.22 294 P **P 13 05 33.8 +1.1**
SNR=38
TKM2 Tokmak 2 49.22 294 *e*P **P 13 05 33.7 +1.0**
comp=Z,50nm,0.8s,mb5.2
TKM2 *e*pP pP 13 06 09.1 +3.0
ODAN Odare 49.34 270 *e*P **P 13 05 35.2 +1.3**
comp=Z,14nm,0.4s,mb4.9
CHMS Chumysh 49.73 295 P **P 13 05 37.0 +0.4**
SNR=7.3
JIRN Jiri 49.74 271 *e*P **P 13 05 37.9 +1.1**
comp=Z,40nm,0.5s,mb5.3
KBK Karagaybulak 49.76 294 P **P 13 05 37.9 +1.0**
SNR=16
USP Ospenovka 49.78 295 P **P 13 05 37.6 +0.7**
SNR=48
GUN Gumba 49.81 272 *e*P **P 13 05 38.2 +0.8**
comp=Z,54nm,0.5s,mb5.4
RAMN Ramite 49.86 270 *e*P **P 13 05 38.5 +0.7**
AAK Ala-Archa 50.07 294 P **P 13 05 39.8 +0.7**
SNR=17
UCH Uchtor 50.25 294 P **P 13 05 41.6 +1.1**
SNR=9.8
UCH Uchtor 50.25 294 *e*P **P 13 05 41.1 +0.7**
comp=Z,12nm,0.9s,mb4.5
KKN Kakani 50.31 272 *e*P **P 13 05 41.8 +0.6**
comp=Z,26nm,0.6s,mb5.0
PKI Pulchoki 50.35 272 *e*P **P 13 05 42.1 +0.7**
PKIN Phulchoki 50.35 272 *e*P **P 13 05 42.0 +0.5**
EKS2 Erkin-Say 50.53 295 P **P 13 05 43.2 +0.6**
SNR=6.4
EKS2 Erkin-Say 50.53 295 *e*P **P 13 05 43.2 +0.6**
comp=Z,36nm,0.7s,mb5.1
DMN Daman 50.54 272 *e*P **P 13 05 43.8 +0.9**
comp=Z,42nm,0.7s,mb5.2
GKN Gorkha 50.65 273 *e*P **P 13 05 44.4 +0.7**
comp=Z,32nm,0.5s,mb5.2
AML Almayashu 50.83 294 P **P 13 05 46.2 +1.4**
SNR=31
AML Almayashu 50.83 294 *e*P **P 13 05 46.2 +1.4**
comp=Z,210nm,1.1s,mb5.7
DANN Dangsing 51.08 274 *e*P **P 13 05 48.2 +1.3**
comp=Z,182nm,0.8s,mb5.8
KOLN Koldanda 51.53 273 *e*P **P 13 05 51.3 +1.0**
comp=Z,57nm,0.8s,mb5.2
SVE Sverdlovsk 51.95 316 *e*P **P 13 05 52.0 -1.0**
SVE pmax pmax
comp=Z,11nm,0.6s,mb4.7
KK31 Karatay Array 52.43 297 *i* P **P 13 05 56.5 -0.2**
KK31 pmax pmax
comp=Z,38nm,0.7s,mb5.1
ARU Arti 53.16 316*c i*P **P 13 06 00.4 -1.4**
ARU *e* 13 07 02.6
ARU *e*PPP 13 09 09.0
ARU *e*S **S 13 13 20.2 -0.6**
ARU pmax pmax
comp=Z,24nm,1.7s,mb4.7
ARU Arti 53.16 316 *e*P **P 13 06 01.0 -0.8**
PMG Port Moresby 53.44 178⇑ *e*P **P 13 06 04.5 +0.2**
SPITS Spitsbergen Ar 54.05 349 P **P 13 06 08.0 -0.1**
comp=Z,13nm,1.1s,mb4.6,baz=1.8,slow=7.8,SNR=4.2
SPITS Spitsbergen Ar 54.05 349 P **P 13 06 08.0 0.0**
SPITS pmax pmax
comp=Z,13nm,1.1s
SPITS Spitsbergen Ar 54.05 349 P **P 13 06 08.0 -0.1**
HNR Honiara 55.02 163 P **P 13 06 15.0 -0.8**
comp=Z,47nm,0.7s,mb5.3,baz=204,slow=3.9,SNR=5.9
HNR Honiara 55.02 163 P **P 13 06 15.0 -0.8**
HNR pmax pmax
comp=Z,47nm,0.7s,mb5.3
AB31 Akbulak array 55.82 308 *i* P **P 13 06 20.9 -0.2**
AB31 pmax pmax
comp=Z,5.0nm,0.2s,mb5.0
YKA Yellowknife Ar 56.03 33 P **P 13 06 21.8 -0.6**
comp=Z,1.2nm,0.6s,mb3.9,baz=304,slow=7.4,SNR=5.3
YKA pP pP 13 06 56.5 -0.1
comp=Z,9.1nm,0.8s,baz=303,slow=7.3,SNR=7.2

YKA Yellowknife Ar 56.03 33 P **P 13 06 21.8 -0.6**
YKA *PP pP 13 06 56.5 -0.1
YKA pmax pmax
comp=Z,1.0nm,0.6s
YKA pmax pmax
comp=Z,9.0nm,0.9s
YKA Yellowknife Ar 56.03 33 P **P 13 06 21.8 -0.6**
YKA pP pP 13 06 56.5 -0.1
AKTK Aktyubinsk 56.30 310 P **P 13 06 23.9 -0.6**
AKTO Aktyubinsk 56.30 310 P **P 13 06 23.9 -0.6**
comp=Z,7.5nm,0.7s,mb4.7,baz=59,slow=8.0,SNR=24
AKTO Aktyubinsk 56.30 310 P **P 13 06 23.9 -0.7**
AKTO pmax pmax
comp=Z,8.0nm,0.7s,mb4.7
BATI Baumata 57.73 206 P **P 13 06 34.3 -0.6**
comp=Z,13nm,0.5s,mb5.0,baz=127,slow=3.0,SNR=3.4
KEV Kevo 57.81 339 *ep* **P 13 06 32.4 -2.5**
comp=Z,5.1nm,0.6s,mb4.5
KEV Kevo 57.81 339 *e*P **P 13 06 32.4 -2.5**
KEV pmax pmax
comp=Z,5.0nm,0.6s,mb4.5
KBL Kabul 57.91 289 *e*P **P 13 06 35.4 -0.7**
KBL pmax pmax
comp=Z,44nm,0.9s,mb5.3
KBL Kabul 57.91 289 *e*P **P 13 06 35.4 -0.7**
comp=Z,44nm,0.9s,mb5.3
KAKA Kakadu 57.94 195 *e*P **P 13 06 35.9 -0.5**
comp=Z,18nm,0.6s,mb5.1
COEN Coen 57.98 183 *e*P **P 13 06 37.0 +0.3**
comp=Z,4.1nm,0.6s,mb4.4
ARCES ARCESS Array B 58.35 339 P **P 13 06 37.1 -1.5**
comp=Z,6.3nm,1.0s,mb4.4,baz=42,slow=5.7,SNR=7.8
ARCES ARCESS Array B 58.35 339 P **P 13 06 37.1 -1.5**
ARCES pmax pmax
comp=Z,6.0nm,1.0s
NLWA Neilton Lookou 59.66 52⇑P **P 13 06 47.7 -0.2**
baz=59
C04A Brinnon 59.98 51⇑P **P 13 06 49.7 -0.4**
baz=60
JCW Jim Creek 60.30 50 *e*P **P 13 06 52.3 0.0**
B06A Marblemount 60.36 50⇑P **P 13 06 51.8 -1.0**
baz=60
RPW Rockport 60.38 50 *e*P **P 13 06 53.2 +0.3**
D04A Dobbs Creek Ra 60.42 52⇑P **P 13 06 52.5 -0.6**
baz=60
A07A Ashnola River, 60.66 49⇓P **P 13 06 54.8 +0.1**
baz=60,SNR=7.5
C05A Tolt Reservoir 60.71 51⇑P **P 13 06 55.0 -0.1**
baz=60,SNR=5.4
E04A Onalaska 60.76 52⇑P **P 13 06 56.1 +0.6**
baz=60
D05A Enumclaw 60.84 51⇑P **P 13 06 56.5 +0.5**
baz=61
C06A Tall Timber Ra 61.02 50⇑P **P 13 06 57.6 +0.4**
baz=61
JOF Joensuu 61.08 332 *ep* **P 13 06 56.2 -1.1**
comp=Z,3.8nm,0.6s,mb4.4
JOF Joensuu 61.08 332 *e*P **P 13 06 56.2 -1.1**
JOF pmax pmax
comp=Z,4.0nm,0.6s,mb4.4
B07A Winthrop 61.14 49⇓P **P 13 06 57.9 -0.1**
baz=61,SNR=9.6
FMW Mount Fremont 61.16 51 P **P 13 06 58.7 +0.5**
LVP Lakeview Peak 61.24 53 P **P 13 06 59.5 +0.8**
F04A Amboy 61.31 53⇓P **P 13 06 59.4 +0.2**
baz=61,SNR=7.5
A08A Turner Farm, O 61.31 48⇓P **P 13 06 59.2 +0.1**
baz=61,SNR=9.9
E05A Randle 61.32 52⇑P **P 13 06 59.0 -0.2**
baz=61
D06A Cle Elum 61.47 51⇑P **P 13 06 59.9 -0.4**
baz=61
ETW Entiat 61.52 50 *e*P **P 13 07 01.0 +0.5**
C07A Waterville 61.62 50 P **P 13 07 01.2 0.0**
baz=61,SNR=7.6
HYB Hyderabad 61.62 267 *i* P **P 13 07 01.5 -0.1**
HYB Hyderabad 61.62 267 *e*P **P 13 07 01.5 -0.1**
TBM Table Mountain 61.62 51 P **P 13 07 01.6 +0.3**
B08A Colville Reser 61.62 49 P **P 13 07 01.4 +0.2**
baz=61,SNR=11
A09A Danville 61.67 48 P **P 13 07 01.9 +0.4**
baz=61,SNR=18
WTV Waterville 61.67 50 P **P 13 07 01.4 -0.1**
E06A Yakima 61.77 51⇑P **P 13 07 02.8 +0.5**
baz=62
EBG Ellensburg 61.79 51 P **P 13 07 03.1 +0.7**
EDM Edmonton 61.81 42 *e*P **P 13 07 02.3 -0.1**
EDM *e* *PP pP 13 07 37.8 +0.5
F05A White Salmon 61.88 52⇑P **P 13 07 03.3 +0.3**
baz=62
K01A Sixes 61.91 57⇓P **P 13 07 03.6 +0.3**
baz=62
I03A Eugene 61.94 55⇓P **P 13 07 04.0 +0.5**
baz=62
D07A Quincy 61.95 50⇑P **P 13 07 03.2 -0.3**
baz=62
C08A Higginbotham F 62.12 49⇑P **P 13 07 04.4 -0.2**
baz=62,SNR=5.8
J02A Umpqua 62.12 56⇓P **P 13 07 05.4 +0.8**
baz=62
A10A Northport 62.21 48⇓P **P 13 07 05.3 +0.1**
baz=62,SNR=10
B09A Rice 62.23 48⇑P **P 13 07 05.5 +0.2**
baz=62,SNR=7.8
F06A Goldendale 62.34 52⇑P **P 13 07 05.6 -0.4**
baz=62
E07A Sunnyside 62.39 51⇓P **P 13 07 06.2 -0.2**
baz=62
C09A Chrisman Ranch 62.53 49 P **P 13 07 07.5 +0.2**
baz=62,SNR=8.9
OD2 Odessa Site #2 62.53 50 *e*P **P 13 07 07.3 0.0**
I04A Tendick Farm, 62.56 55⇓P **P 13 07 08.3 +0.7**
baz=62,SNR=6.2
D08A Wollman Farm, 62.62 50⇑P **P 13 07 07.6 -0.3**
baz=62,SNR=6.8
RSW Rattlesnake Hi 62.64 51 *e*P **P 13 07 08.4 +0.4**
HAWA Hanford 62.67 51 *e*P **P 13 07 08.9 +0.7**
comp=Z,14nm,1.0s,mb4.7
G06A Carlson Farm, 62.73 52⇓P **P 13 07 09.2 +0.5**
baz=62
H05A Maras 62.74 53⇓P **P 13 07 08.7 -0.1**
baz=62,SNR=7.1
F07A Phinny Hill Vi 62.74 52⇑P **P 13 07 09.3 +0.6**
baz=62,SNR=6.8
A11A Hall Mountain, 62.86 47⇑P **P 13 07 10.0 +0.6**
baz=63,SNR=9.5
NEW Newport 62.87 48 *e*P **P 13 07 09.6 0.0**
NEW pmax pmax
comp=Z,11nm,0.8s
NEW Newport 62.87 48 *e*P **P 13 07 09.6 +0.1**
comp=Z,10nm,0.8s,mb4.7
E08A Dider Farm, El 62.88 51⇑P **P 13 07 09.5 -0.1**
baz=63,SNR=6.9
HUMO Hull Mountain 62.93 56⇑P **P 13 07 10.3 +0.2**
baz=63
D09A Jones Farm, Ri 62.95 50⇓P **P 13 07 09.6 -0.5**
baz=63
C10A Spilker Farm, 63.04 49⇑P **P 13 07 11.1 +0.4**
baz=63
J04A Umpqua Nationa 63.06 55⇓P **P 13 07 11.7 +0.8**
baz=63
B11A Sandpoint 63.17 48⇓P **P 13 07 11.4 -0.1**
baz=63
VIPM Ingram Point 63.17 53 P **P 13 07 12.1 +0.5**
H06A Lindquist Farm 63.20 53⇑P **P 13 07 11.8 0.0**
baz=63
G07A Ruggs Ranch, H 63.26 52⇓P **P 13 07 11.6 -0.6**
baz=63
KAF Kangasniemi 63.32 333 *ep* **P 13 07 10.9 -1.4**
comp=Z,1.6nm,0.5s,mb4.1,baz=43,slow=6.2
KAF Kangasniemi 63.32 333 *e*P **P 13 07 10.9 -1.4**
KAF pmax pmax
comp=Z,2.0nm,0.5s,mb4.2
E09A Wood Farm, Sta 63.37 50⇓P **P 13 07 12.5 -0.3**
baz=63,SNR=5.8
F08A Pendleton 63.45 51⇓P **P 13 07 13.0 -0.4**
baz=63,SNR=7.7
KHMM Horse Mountain 63.50 58 *e*P **P 13 07 15.3 +1.5**
J05A Fort Rock 63.55 55⇓P **P 13 07 14.7 +0.6**
baz=63,SNR=8.8
C11A Tepee Creek (N 63.59 48⇑P **P 13 07 14.6 +0.2**
baz=63
YBH Yreka Blue Hor 63.60 57 *e*P **P 13 07 15.6 +1.1**
YBH pmax pmax
comp=Z,11nm,0.9s
YBH Yreka Blue Hor 63.60 57⇓P **P 13 07 15.2 +0.8**
baz=63,SNR=6.2

YBH Yreka Blue Hor 63.60 57 *e*P **P 13 07 15.6 +1.1**
comp=Z,11nm,0.9s,mb4.7
G08A Pilot Rock 63.65 52⇑P **P 13 07 15.1 +0.3**
baz=63,SNR=5.9
LNOR Lincton Mounta 63.68 51 *e*P **P 13 07 14.7 -0.2**
M02C Callahan 63.72 57⇑P **P 13 07 16.1 +0.8**
baz=64
H07A Lands Inn, Kim 63.73 53⇑P **P 13 07 14.9 -0.4**
baz=64
I06A Prineville 63.75 53⇓P **P 13 07 15.7 +0.3**
baz=64
N02C Big Bar 63.79 58⇓P **P 13 07 16.1 +0.4**
baz=64
L04A Klamath Falls 63.83 56⇓P **P 13 07 15.9 0.0**
baz=64
A13A Flathead Natio 63.89 46⇓P **P 13 07 16.1 -0.2**
baz=64
E10A Myers Farm, Un 63.95 50⇓P **P 13 07 16.4 -0.3**
baz=64,SNR=13
LHEM Herd Peak 63.96 56 P **P 13 07 17.5 +0.7**
D11A Klaveano Farm, 64.03 49⇑P **P 13 07 16.8 -0.4**
baz=64,SNR=11
CTA Charters Tower 64.04 179 *e*P **P 13 07 16.8 -0.6**
comp=Z,3.3nm,0.5s,mb4.4
CTA Charters Tower 64.04 179 P **P 13 07 16.1 -1.4**
comp=Z,4.5nm,0.5s,mb4.5,baz=348,slow=8.0,SNR=11
CTA Charters Tower 64.04 179 *e*P **P 13 07 16.8 -0.6**
CTA pmax pmax
comp=Z,3.0nm,0.5s
CTAO Charters Tower 64.04 179 *e*P **P 13 07 16.9 -0.5**
CTAO pmax pmax
comp=Z,5.0nm,0.6s,mb4.5
CTAO Charters Tower 64.04 179 *e*P **P 13 07 16.9 -0.6**
comp=Z,5.0nm,0.6s,mb4.5
I07A Izee 64.07 53⇑P **P 13 07 17.3 -0.2**
baz=64
WALA Waterton Lakes 64.08 46 *e*P **P 13 07 17.6 +0.2**
comp=Z,9.2nm,0.9s,mb4.6
K05A Summer Lake 64.08 55⇑P **P 13 07 18.5 +0.9**
baz=64,SNR=12
C12B Naegeli Ranch, 64.09 48⇓P **P 13 07 17.6 0.0**
baz=64,SNR=6.7
M04C Macdoel 64.09 56⇑P **P 13 07 17.9 +0.2**
baz=64,SNR=9.1
OBN Obninsk 64.20 323⇓ *i* P **P 13 07 16.3 -1.8**
OBN *e* *PP pP 13 07 54.3 +1.1
OBN pmax pmax
comp=Z,7.0nm,0.4s,mb4.8
J06A Christmas Vall 64.20 54⇑P **P 13 07 18.8 +0.4**
baz=64,SNR=8.8
F10A Beach Ranch, E 64.20 50⇓P **P 13 07 18.7 +0.4**
baz=64
B13A Whitefish 64.21 47⇓P **P 13 07 18.7 +0.4**
baz=64,SNR=8.5
M03C McCloud 64.23 57⇑P **P 13 07 18.8 +0.2**
baz=64
H08A Prairie City 64.28 52⇑P **P 13 07 19.2 +0.3**
baz=64,SNR=7.4
G09A Cove 64.32 51⇑P **P 13 07 19.3 +0.2**
baz=64,SNR=7.0
BSMT Bassoo Peak 64.37 47 *e*P **P 13 07 19.7 +0.4**
A14A Double T Ranch 64.38 46⇑P **P 13 07 19.5 +0.1**
baz=64
WDC Whiskeytown Da 64.40 58⇓P **P 13 07 19.8 +0.1**
baz=64
K06A Valley Falls 64.42 54⇑P **P 13 07 20.1 +0.4**
baz=64,SNR=9.5
O02C Red Bluff 64.49 58⇑P **P 13 07 21.0 +0.7**
baz=64
E11A Bogner Ranch, 64.53 49⇑P **P 13 07 19.8 -0.6**
baz=64
L05A Lakeview 64.53 55⇑P **P 13 07 21.2 +0.6**
baz=64,SNR=7.7
D12A Red Ives Fores 64.56 48⇑P **P 13 07 20.2 -0.5**
baz=64
C13A Hot Springs 64.59 47⇑P **P 13 07 21.0 +0.2**
baz=64,SNR=6.4
J07A Hines 64.61 54⇓P **P 13 07 20.2 -0.9**
baz=64
FITZ Fitzroy Crossi 64.67 201 *e*P **P 13 07 21.9 +0.3**
comp=Z,15nm,0.8s,mb4.9
FITZ Fitzroy Crossi 64.67 201 P **P 13 07 21.6 0.0**
comp=Z,8.1nm,0.7s,mb4.6,baz=17,slow=8.2,SNR=24
FITZ pP pP 13 07 55.1 -1.7
comp=Z,3.5nm,0.9s,baz=6.0,slow=9.4,SNR=2.8
G10A Bishop Farm, J 64.68 51⇓P **P 13 07 21.3 -0.1**
baz=64,SNR=8.6
WB2 Warramunga Arr 64.71 192 *e*P **P 13 07 21.0 -0.8**
WRA Warramunga Arr 64.71 192 P **P 13 07 20.7 -1.1**
comp=Z,27nm,0.7s,mb5.2,baz=9.4,slow=6.6,SNR=213
WRA pP pP 13 07 54.4 -2.5
comp=Z,1.8nm,0.5s,baz=6.4,slow=4.5,SNR=1.9
WRA Warramunga Arr 64.71 192 P **P 13 07 20.7 -1.1**
WRA *PP pP 13 07 54.4 -2.5
WRA pmax pmax
comp=Z,27nm,0.7s
WRA pmax pmax
comp=Z,2.0nm,0.5s
I08A Drewsey 64.71 53⇑P **P 13 07 22.0 +0.3**
baz=64,SNR=7.3
A15A Johnson Ranch, 64.73 46⇑P **P 13 07 21.1 -0.6**
baz=64
H09A Durkee 64.76 52⇓P **P 13 07 22.2 +0.3**
baz=64
M05C Lookout 64.76 56⇑P **P 13 07 22.2 +0.2**
baz=64
E12A Beaver Dam Sad 64.84 49 P **P 13 07 23.0 +0.5**
baz=65,SNR=28
B14A Marquette Ranc 64.84 46⇓P **P 13 07 22.3 -0.2**
baz=65
F11A Grangeville 64.84 50 P **P 13 07 22.8 +0.2**
baz=65,SNR=19
BMO Blue Mountains 64.85 51 *e*P **P 13 07 22.9 +0.4**
GASB Alder Springs 64.85 58⇑P **P 13 07 23.2 +0.6**
baz=65
MOD Modoc 64.93 55⇓P **P 13 07 23.1 0.0**
baz=65,SNR=10
MOD Modoc 64.93 55 *e*P **P 13 07 23.6 +0.4**
C14A Swan Lake 64.97 47⇑P **P 13 07 23.2 -0.1**
baz=65,SNR=6.9
D13A Huson 65.01 48 P **P 13 07 23.8 +0.2**
baz=65,SNR=10
K07A Rock Creek Ran 65.07 54⇓P **P 13 07 24.4 +0.4**
baz=65,SNR=13
G11A Walters Elk Ra 65.08 50 P **P 13 07 24.3 +0.2**
baz=65,SNR=23
J08A Circle Bar Ran 65.10 53⇑P **P 13 07 24.7 +0.5**
baz=65,SNR=12
I09A Lost Marbles R 65.14 52⇓P **P 13 07 24.7 +0.3**
baz=65,SNR=6.3
B15A Bradely Ranch, 65.24 46⇑P **P 13 07 25.1 +0.1**
baz=65
H10A Noah's Angus R 65.32 51⇓P **P 13 07 25.2 -0.4**
baz=65,SNR=15
A16A West Butte Ran 65.33 45⇑P **P 13 07 25.0 -0.6**
baz=65
F12A Elk City 65.42 49⇑P **P 13 07 26.7 +0.4**
baz=65
L07A Adell 65.43 55⇓P **P 13 07 27.1 +0.8**
baz=65,SNR=12
O04C Chester 65.43 57⇓P **P 13 07 26.2 -0.2**
baz=65,SNR=14
MSO Missoula 65.45 48 *e*P **P 13 07 26.9 +0.5**
K08A Mann Creek Ran 65.48 54⇓P **P 13 07 26.8 +0.2**
baz=65,SNR=9.3
MNRC McLaughlin Nat 65.49 59⇑P **P 13 07 26.7 -0.1**
baz=65
J09A Fry Pan Ranch, 65.52 53⇑P **P 13 07 27.5 +0.5**
baz=65,SNR=9.6
D14A Greenough 65.53 47⇑P **P 13 07 26.1 -0.7**
baz=65,SNR=12
C15A Salmond Ranch, 65.56 46⇓P **P 13 07 27.4 +0.3**
baz=65,SNR=13
E13A Victor 65.57 48⇑P **P 13 07 26.9 -0.3**
baz=65
B16A M & M Farms, S 65.62 46⇑P **P 13 07 27.0 -0.4**
baz=65,SNR=5.4
ORV Oroville 65.65 58⇓P **P 13 07 27.1 -0.8**
baz=65,SNR=8.8
H11A Donnelly 65.66 51⇑P **P 13 07 27.3 -0.5**
baz=65,SNR=7.8
O05C Quincy 65.76 57⇑P **P 13 07 27.5 -1.0**
baz=66,SNR=6.0
CHMT Chamberlain Mo 65.77 48 *e*P **P 13 07 28.3 -0.1**
OHCM Honcut 65.80 58 *e*P **P 13 07 28.5 -0.3**
F13A Darby 65.90 49⇓P **P 13 07 28.6 -0.7**
baz=66
L08A Fields 65.90 54⇑P **P 13 07 30.0 +0.6**

baz=66,SNR=9.5
M07A Soldier Meadow 65.92 55 P **P 13 07 30.4 +1.0**
baz=66,SNR=29
N06A Buffalo Meadow 65.92 56 ⇓P **P 13 07 29.8 +0.3**
baz=66,SNR=8.0
K09A Rome 65.94 53 ⇓P **P 13 07 29.6 0.0**
baz=66,SNR=5.4
E14A Clinton 65.95 48 ⇓P **P 13 07 28.3 -1.3**
baz=66
FFC Flin Flon 65.98 36 *e*P **P 13 07 28.7 -0.9**
FFC *e**PP pP 13 08 05.1 +0.2
C16A Fuhringer Ranc 65.99 46 ⇓P **P 13 07 29.7 -0.1**
baz=66,SNR=16
D15A Lincoln 66.07 47 ⇓P **P 13 07 30.2 -0.2**
baz=66
BEKR Beckwourth 66.15 57 ⇓P **P 13 07 30.6 -0.4**
baz=66,SNR=16
Q04C Lincoln 66.17 58 ⇓P **P 13 07 30.8 -0.4**
baz=66
I11A Placerville 66.19 51 ⇓P **P 13 07 30.8 -0.4**
baz=66
O06A Flanigan 66.29 57 ⇑P **P 13 07 32.2 +0.3**
baz=66,SNR=7.1
M08A Happy Creek Ra 66.34 55 ⇑P **P 13 07 31.7 -0.5**
baz=66
P05C Yuba Gap, Truc 66.35 58 ⇑P **P 13 07 32.1 -0.2**
baz=66
K10A MacKenzie Ranc 66.39 53 ⇑P **P 13 07 32.5 +0.1**
baz=66,SNR=10
G13A Cobalt 66.40 50 ⇓P **P 13 07 31.4 -1.1**
baz=66,SNR=7.0
H12A Diamond D Ranc 66.40 50 ⇓P **P 13 07 32.2 -0.3**
baz=66,SNR=6.9
L09A Wilkinson Ranc 66.40 54 ⇓P **P 13 07 32.9 +0.4**
baz=66,SNR=7.9
E15A Deer Lodge 66.40 48 ⇑P **P 13 07 32.2 -0.3**
baz=66,SNR=10
MFID Camas Ranch 66.58 52 ⇓P **P 13 07 33.8 +0.2**
baz=66,SNR=5.7
D16A Dana Ranch, Ca 66.59 47 ⇑P **P 13 07 33.8 +0.2**
baz=66,SNR=5.4
C17A Wharram Farm, 66.61 46 ⇑P **P 13 07 33.1 -0.6**
baz=66,SNR=5.2
LAVA Lava Cap Winer 66.61 58 ⇑P **P 13 07 33.4 -0.6**
baz=66,SNR=7.8
HRY Holter Researc 66.65 47 *e*P **P 13 07 34.9 +0.8**
H13A Challis 66.72 50 ⇓P **P 13 07 34.3 -0.2**
baz=66,SNR=11
I12A Atlanta 66.72 51 ⇑P **P 13 07 35.0 +0.4**
baz=66
E16A East Helena 66.84 47 ⇓P **P 13 07 35.4 +0.2**
baz=67
F15A Butte 66.86 48 ⇑P **P 13 07 35.4 0.0**
baz=67,SNR=13
O07A Toulon 66.86 56 ⇑P **P 13 07 35.2 -0.3**
baz=67
EGMT Eagleton 66.86 45 ⇓P **P 13 07 35.2 -0.2**
baz=67
EGMT Eagleton 66.86 45 *e*P **P 13 07 35.8 +0.4**
K11A Parker Ranch, 66.87 52 ⇓P **P 13 07 34.9 -0.6**
baz=67
WCN Washoe City 66.87 57 ⇑P **P 13 07 35.8 +0.3**
baz=67,SNR=7.3
LRM Limekiln Ridge 66.89 48 *e*P **P 13 07 36.1 +0.5**
LRM *e*pP pP 13 08 10.5 -0.5
M09A Marrel Ranch, 66.90 54 ⇓P **P 13 07 35.8 0.0**
baz=67
N08A GE Springer Mi 66.91 55 ⇓P **P 13 07 36.0 +0.2**
baz=67
L10A Juniper Basin 67.06 53 ⇓P **P 13 07 37.1 +0.4**
baz=67,SNR=7.4
J12A Stokes Ranch, 67.09 52 P **P 13 07 37.4 +0.5**
baz=67,SNR=7.7
DLMT Dillon 67.11 48 *e*P **P 13 07 37.9 +0.9**
H14A Leadore 67.17 49 ⇑P **P 13 07 36.7 -0.7**
baz=67
O08A Rochester Mine 67.20 56 ⇑P **P 13 07 38.3 +0.6**
baz=67,SNR=10.0
I13A Wildhorse Cree 67.21 50 ⇑P **P 13 07 38.1 +0.5**
baz=67,SNR=11
HLID Hailey 67.27 51 ⇓P **P 13 07 38.5 +0.5**
baz=67,SNR=10
HLID Hailey 67.27 51 *e*P **P 13 07 38.6 +0.5**
comp=Z,7.4nm,1.1s,mb4.4
CMB Columbia Colle 67.28 59 ⇓P **P 13 07 37.8 -0.4**
baz=67,SNR=10
CMB Columbia Colle 67.28 59 *e*P **P 13 07 38.5 +0.3**
G15A Dillon 67.30 49 ⇓P **P 13 07 38.4 +0.2**
baz=67,SNR=14
E17A Martinsdale 67.32 47 ⇑P **P 13 07 38.1 -0.2**
baz=67,SNR=9.5
MCMT McKenzie Canyo 67.32 49 *e*P **P 13 07 39.2 +0.9**
MCMT *e*pP pP 13 08 13.5 -0.1
PACP Pacheco Peak 67.37 60 ⇓P **P 13 07 38.0 -0.7**
baz=67
M10A I.L. Ranch, Tu 67.37 54 ⇓P **P 13 07 39.6 +0.9**
baz=67,SNR=11
L11A Cat Creek Ranc 67.41 53 ⇑P **P 13 07 39.3 +0.3**
baz=67,SNR=14
J13A Cove Ranch, Pi 67.51 51 ⇓P **P 13 07 39.4 -0.1**
baz=67,SNR=9.6
R06C Coleville 67.54 58 ⇓P **P 13 07 40.4 +0.5**
baz=67,SNR=7.8
WAKR Walker 67.56 58 *e*P **P 13 07 40.7 +0.8**
H15A Lima 67.57 49 ⇑P **P 13 07 39.9 +0.1**
baz=67
I14A Mackay 67.57 50 ⇑P **P 13 07 40.2 +0.3**
baz=67
K12A Draper Farm, C 67.59 52 ⇓P **P 13 07 40.4 +0.3**
baz=67
G16A Moss Hill, Enn 67.62 48 ⇑P **P 13 07 40.5 +0.3**
baz=67,SNR=9.4
P08A Dixie Valley 67.63 56 ⇑P **P 13 07 40.9 +0.6**
baz=67
BMN Battle Mountai 67.67 55 *e*P **P 13 07 41.2 +0.6**
BMN pmax pmax
comp=Z,12nm,1.0s,mb4.6
BMN Battle Mountai 67.67 55 *e*P **P 13 07 41.2 +0.7**
comp=Z,12nm,1.0s,mb4.6
E18A Harlowton 67.74 46 ⇑P **P 13 07 40.5 -0.5**
baz=68
S05C Merced 67.75 59 ⇓P **P 13 07 39.9 -1.2**
baz=68,SNR=5.0
L12A House Creek Ra 67.84 52 ⇓P **P 13 07 41.7 0.0**
baz=68
O09A Fish Creek Ran 67.85 55 ⇓P **P 13 07 42.1 +0.4**
baz=68,SNR=9.3
M11A Holland Ranch, 67.86 53 ⇓P **P 13 07 42.8 +1.0**
baz=68,SNR=8.7
J14A Carey 67.93 51 ⇑P **P 13 07 43.4 +1.2**
baz=68,SNR=20
K13A Stover Farm, H 68.05 51 ⇓P **P 13 07 44.0 +1.1**
baz=68
QLMT Earthquake Lak 68.08 48 *e*P **P 13 07 43.7 +0.6**
Q08A Gabbs 68.25 57 ⇑P **P 13 07 44.4 +0.1**
baz=68,SNR=9.8
H16A Russell Place, 68.27 48 ⇑P **P 13 07 44.3 +0.1**
baz=68
P09A Austin 68.28 56 ⇓P **P 13 07 45.0 +0.6**
baz=68,SNR=5.1
F18A Big Timber 68.28 47 ⇓P **P 13 07 44.5 +0.2**
baz=68,SNR=8.1
NVAR Mina Array Bea 68.30 57 P **P 13 07 44.8 +0.3**
comp=Z,10nm,0.8s,mb4.6,baz=297,slow=6.8,SNR=29
NVAR pP pP 13 08 18.6 -1.4
comp=Z,4.2nm,0.8s,baz=283,slow=6.1,SNR=3.7
T06C Millerton Lake 68.35 59 ⇑P **P 13 07 44.2 -0.7**
baz=68,SNR=5.9
M12A Wells 68.37 53 ⇓P **P 13 07 44.7 -0.2**
baz=68,SNR=8.9
GCMT Greycliff 68.38 47 *e*P **P 13 07 45.3 +0.4**
GCMT *e*pP pP 13 08 20.9 +0.5
KCC Kaiser Creek 68.39 59 P **P 13 07 45.4 +0.3**
baz=68,SNR=7.0
SFJD Kangerlussuaq 68.39 7 P **P 13 07 43.6 -1.0**
comp=Z,3.7nm,0.5s,mb4.4,baz=306,slow=14,SNR=2.9
SFJD Kangerlussuaq 68.39 7 P **P 13 07 43.6 -1.0**
SFJD pmax pmax
comp=Z,4.0nm,0.5s,mb4.4
ASAR Alice Springs 68.43 191 P **P 13 07 45.5 +0.2**
comp=Z,13nm,0.7s,mb4.8,baz=11,slow=6.5,SNR=115
ASAR pP pP 13 08 19.1 -1.8
comp=Z,1.7nm,0.8s,baz=11,slow=6.7,SNR=1.7
ASAR Alice Springs 68.43 191 P **P 13 07 45.6 +0.3**
ASAR *PP pP 13 08 19.1 -1.8
ASAR pmax pmax
comp=Z,13nm,0.7s
ASAR pmax pmax
comp=Z,2.0nm,0.8s
J15A Blackfoot 68.48 50 ⇑P **P 13 07 46.5 +0.9**
baz=68,SNR=6.3
L13A Double Diamond 68.49 52 ⇑P **P 13 07 46.9 +1.2**
baz=68
KIV Kislovodsk 68.54 311 *c iP* **P 13 07 47.2 +1.3**
KIV *i* 13 08 13.1
KIV *i* *PP pP 13 08 22.7 +1.3
KIV pmax pmax
comp=Z,80nm,1.0s,mb5.4
KIV Kislovodsk 68.54 311 ⇑*iP* **P 13 07 47.4 +1.5**
KIV Kislovodsk 68.54 311 *eP* **P 13 07 47.0 +1.1**
comp=Z,34nm,0.6s,mb5.3
ELK Elko 68.62 54 *eP* **P 13 07 46.8 +0.3**
ELK pmax pmax
comp=Z,3.0nm,0.8s
ELK Elko 68.62 54 *eP* **P 13 07 46.8 +0.3**
comp=Z,2.6nm,0.8s,mb4.0
K14A Jones Ranch, D 68.62 51 ⇓P **P 13 07 46.9 +0.4**
baz=68,SNR=5.4
P10A Eureka 68.63 55 ⇑P **P 13 07 47.1 +0.4**
baz=68,SNR=7.0
N12A Clover Valley, 68.67 53 ⇑P **P 13 07 47.0 +0.2**
baz=68,SNR=8.2
I16A Newdale 68.68 49 ⇓P **P 13 07 47.5 +0.7**
baz=68,SNR=10.0
NB2 NORSAR Subarra 68.69 338 P **P 13 07 45.1 -1.5**
comp=Z,10nm,0.9s,mb4.6,baz=32,slow=6.5
NOA NORSAR Array B 68.69 338 P **P 13 07 44.9 -1.7**
comp=Z,7.5nm,0.9s,mb4.4,baz=33,slow=6.2,SNR=21
NOA NORSAR Array B 68.69 338 P **P 13 07 44.9 -1.7**
NOA pmax pmax
comp=Z,8.0nm,0.9s
HFS Hagfors 68.75 336 P **P 13 07 45.5 -1.5**
comp=Z,4.5nm,0.4s,mb4.6,baz=46,slow=6.4,SNR=41
HFS Hagfors 68.75 336 P **P 13 07 45.5 -1.5**
HFS pmax pmax
comp=Z,5.0nm,0.4s
O11A Cowboy Ranch, 68.78 54 P **P 13 07 48.1 +0.6**
baz=68,SNR=5.5
K15A Arbon 68.89 51 ⇑P **P 13 07 49.2 +1.0**
baz=69,SNR=7.9
L14A Malta 68.92 52 ⇓P **P 13 07 48.8 +0.5**
baz=69,SNR=8.2
IMW Indian Meadow 68.97 49 *eP* **P 13 07 49.9 +1.3**
comp=Z,6.7nm,0.7s,mb4.5
IMW *epP* pP 13 08 24.9 +0.8
HELL Mitchell Peak 68.98 59 ⇓P **P 13 07 48.6 -0.2**
baz=69,SNR=16
J16A Bone 69.01 50 ⇓P **P 13 07 49.7 +0.8**
baz=69,SNR=7.1
DCID1 Drake Creek 69.03 49 *eP* **P 13 07 51.2 +2.2**
RRI2 Red Ridge 69.12 49 *eP* **P 13 07 50.6 +1.0**
N13A Wendover, West 69.14 53 ⇑P **P 13 07 50.5 +0.7**
baz=69
I17A Pilgram Creek 69.15 49 ⇓P **P 13 07 51.3 +1.6**
baz=69,SNR=5.3
R09A Topah 69.16 57 ⇓P **P 13 07 49.8 -0.1**
baz=69,SNR=7.8
MOOW Moose Ponds 69.17 49 *eP* **P 13 07 50.8 +1.0**
MOOW *epP* pP 13 08 25.5 +0.1
TPH Tonopah 69.18 57 *eP* **P 13 07 50.8 +0.8**
Q10A Clear Creek Ra 69.18 56 ⇓P **P 13 07 48.8 -1.3**
baz=69,SNR=6.4
M14A Sheep Mountain 69.21 52 ⇓P **P 13 07 48.8 -1.3**
baz=69
O12A Currie 69.22 54 ⇑P **P 13 07 50.2 0.0**
baz=69,SNR=5.3
TPAW Teton Pass 69.23 49 *eP* **P 13 07 51.6 +1.4**
comp=Z,17nm,1.0s,mb4.7
MBWA Marble Bar 69.25 206 *eP* **P 13 07 50.6 +0.1**
comp=Z,15nm,0.9s,mb4.7
DGMT Dagmar 69.31 42 ⇑P **P 13 07 49.7 -0.9**
baz=69,SNR=5.2
DGMT Dagmar 69.31 42 *eP* **P 13 07 50.7 +0.1**
DGMT *epP* pP 13 08 24.7 -1.5
K16A Soda Springs 69.32 50 ⇓P **P 13 07 50.4 -0.4**
baz=69,SNR=11
LOHW Long Hollow 69.33 49 *eP* **P 13 07 51.9 +1.0**
comp=Z,20nm,1.5s,mb4.6
SNOW Snow King Moun 69.35 49 *eP* **P 13 07 52.3 +1.3**
REDW Red Top Meadow 69.37 49 *eP* **P 13 07 52.0 +0.9**
comp=Z,16nm,1.3s,mb4.6
S09A Goldfield 69.40 57 ⇑P **P 13 07 49.9 -1.5**
baz=69,SNR=5.8
L15A Malad City 69.42 51 ⇑P **P 13 07 50.1 -1.3**
baz=69,SNR=6.0
VES Vestal, Richgr 69.48 60 ⇓P **P 13 07 51.3 -0.7**
baz=69
LAO LASA Array 69.54 44 *eP* **P 13 07 52.5 +0.4**
comp=Z,15nm,0.8s,mb4.8
R10A Warm Springs 69.59 56 ⇓P **P 13 07 52.0 -0.5**
baz=69
Q11A Duckwater 69.61 55 ⇑P **P 13 07 51.4 -1.2**
baz=69
PKM Peak Mountain 69.63 61 ⇑P **P 13 07 51.5 -1.3**
baz=69
P12A McGill 69.64 54 ⇑P **P 13 07 51.4 -1.4**
baz=69,SNR=9.5
S10A Tonopah Range, 69.65 57 ⇑P **P 13 07 51.4 -1.5**
baz=69,SNR=7.2
N14A Grayback Hills 69.73 52 ⇓P **P 13 07 52.1 -1.3**
baz=70,SNR=5.4
M15A Larsen Ranch, 69.74 52 ⇓P **P 13 07 54.0 +0.5**
baz=70,SNR=11
O13A Hicks Ranch, I 69.75 53 ⇑P **P 13 07 53.6 +0.2**
baz=70
GRAC Grapevine Rang 69.78 58 ⇓P **P 13 07 54.3 +0.5**
baz=70,SNR=10
GNI Garni 69.89 307 P **P 13 07 54.1 -0.3**
comp=Z,6.4nm,0.4s,mb4.7,baz=205,slow=15,SNR=4.7
GNI Garni 69.89 307 ⇑*eP* **P 13 07 55.6 +1.3**
GNI pmax pmax
comp=Z,34nm,1.4s
GNI Garni 69.89 307 *eP* **P 13 07 56.5 +2.1**
Q12A Willow Creek R 69.97 55 ⇑P **P 13 07 55.2 +0.3**
baz=70,SNR=7.1
ISA Isabella 69.97 60 *eP* **P 13 07 54.5 -0.4**
R11A Troy Canyon, C 69.98 56 ⇓P **P 13 07 55.0 +0.1**
baz=70,SNR=11
HWUT Hardware Ranch 70.14 51 *eP* **P 13 07 56.5 +0.7**
P13A Bates Ranch, G 70.17 54 ⇓P **P 13 07 55.9 -0.1**
baz=70,SNR=5.6
M16A Huntsville 70.30 51 ⇑P **P 13 07 55.8 -1.0**
baz=70,SNR=6.7
MPMC Manual Prospec 70.32 59 ⇓P **P 13 07 57.0 -0.1**
baz=70,SNR=11
S11A Rachel 70.34 56 ⇑P **P 13 07 57.4 +0.3**
baz=70
DUG Dugway 70.38 53 ⇑P **P 13 07 57.8 +0.5**
baz=70,SNR=12
DUG Dugway 70.38 53 *eP* **P 13 07 57.9 +0.6**
FURC Furnace Creek, 70.44 58 ⇑P **P 13 07 57.8 0.0**
baz=70,SNR=14
AKASG Malin Array Be 70.46 323 P **P 13 07 56.6 -1.0**
comp=Z,2.6nm,0.4s,mb4.3,baz=40,slow=6.5,SNR=24
AKASG pP pP 13 08 32.6 -0.7
comp=Z,3.6nm,0.7s,baz=40,slow=6.2,SNR=1.9
AKASG Malin Array Be 70.46 323 P **P 13 07 56.6 -1.0**
AKASG *PP pP 13 08 32.6 -0.7
AKASG pmax pmax
comp=Z,3.0nm,0.4s
AKASG pmax pmax
comp=Z,4.0nm,0.7s
BW06 Boulder Array 70.47 49 ⇓P **P 13 07 57.6 -0.3**
baz=70
BW06 Boulder Array 70.47 49 *eP* **P 13 07 58.0 +0.2**
PDAR Pinedale Array 70.47 49 P **P 13 07 57.5 -0.3**
comp=Z,6.7nm,0.6s,mb4.5,baz=318,slow=2.0,SNR=26
PDAR pP pP 13 08 31.9 -1.6
comp=Z,5.1nm,0.8s,baz=280,slow=1.8,SNR=5.9
KIEV Kiev 70.47 323 *eP* **P 13 07 57.1 -0.6**
TPNV Topopah Spring 70.50 57 P **P 13 07 58.3 +0.2**
baz=70,SNR=10
TPNV Topopah Spring 70.50 57 *eP* **P 13 07 58.5 +0.4**
Q13A Wheeler Ranch, 70.50 54 ⇓P **P 13 07 58.6 +0.5**
baz=70,SNR=10.0
O15A The Old Anders 70.52 53 ⇓P **P 13 07 58.3 +0.2**
baz=70
R12A Pony Springs, 70.57 55 ⇑P **P 13 07 58.7 +0.2**
baz=70
P14A Drum Mountains 70.63 53 ⇑P **P 13 07 59.1 +0.2**
baz=70,SNR=8.5
N16A Rees Ranch, Co 70.70 51 ⇑P **P 13 07 59.6 +0.3**
baz=70,SNR=5.2
EDW2 Edwards Air Fo 70.78 60 ⇓P **P 13 07 59.9 +0.1**
baz=71
JLU Jordanelle 70.88 52 *eP* **P 13 08 01.0 +0.7**
S12A Delamar Landin 70.90 56 ⇓P **P 13 08 00.9 +0.3**
baz=71,SNR=7.8
Q14A Sevier Lake (B 70.91 54 ⇓P **P 13 08 00.9 +0.4**
baz=71,SNR=13
T11A Corn Creek, Al 70.92 56 ⇓P **P 13 08 00.9 +0.3**
baz=71,SNR=11
NLU North Lily Min 70.96 53 *eP* **P 13 08 01.7 +0.9**
DECC Green Verdugo 70.98 61 ⇓P **P 13 08 01.2 +0.1**
baz=71
N17A Moffit Pass 71.00 51 ⇑P **P 13 08 01.3 +0.3**
baz=71,SNR=11
R13A O'Grain Ranch, 71.05 55 ⇓P **P 13 08 01.1 -0.3**
baz=71
P15A Leamington 71.10 53 ⇓P **P 13 08 02.0 +0.3**
baz=71,SNR=5.4
O16A Springville 71.12 52 ⇓P **P 13 08 02.3 +0.5**
baz=71,SNR=8.4
DAU Daniels Canyon 71.12 52 *eP* **P 13 08 02.9 +1.1**
SHOC Shoshone 71.17 58 ⇓P **P 13 08 01.3 -0.8**
baz=71
MPU Maple Canyon 71.17 52 *eP* **P 13 08 03.0 +0.9**
GSC Goldstone 71.24 59 *eP* **P 13 08 02.4 -0.2**
GSC pmax pmax
comp=Z,9.0nm,0.7s,mb4.6
GSC Goldstone 71.24 59 ⇓P **P 13 08 02.2 -0.4**
baz=71,SNR=5.8
GSC Goldstone 71.24 59 *eP* **P 13 08 02.4 -0.2**
comp=Z,9.0nm,0.7s,mb4.6
RRX Edison Barstow 71.40 59 ⇓P **P 13 08 03.0 -0.5**
baz=71
BFSC Mount Baldy St 71.41 60 ⇑P **P 13 08 03.1 -0.6**
baz=71
Q15A Fillmore 71.42 53 ⇓P **P 13 08 04.1 +0.4**
baz=71
P16A Fountain Green 71.43 53 ⇓P **P 13 08 04.4 +0.7**
baz=71
SHPR Sheep Range 71.45 57 *eP* **P 13 08 04.4 +0.6**
S13A Holt Ranch, En 71.51 55 ⇓P **P 13 08 04.4 +0.2**
baz=71,SNR=8.5
O17A Robinson Place 71.56 52 ⇑P **P 13 08 04.8 +0.4**
baz=71,SNR=6.1
ARUT Antelope Range 71.62 55 *eP* **P 13 08 05.1 +0.3**
TUQ Turquoise Moun 71.69 58 ⇑P **P 13 08 05.7 +0.4**
baz=72
ULM Lac du Bonnet 71.79 36 P **P 13 08 04.6 -1.1**
comp=Z,4.7nm,0.7s,mb4.3,baz=324,slow=13,SNR=5.2
ULM Lac du Bonnet 71.79 36 P **P 13 08 04.6 -1.1**
S14A Cedar City 71.80 55 ⇑P **P 13 08 06.1 +0.2**
baz=72
HEC Hector,Ludlow 71.84 59 ⇓P **P 13 08 06.0 -0.2**
baz=72,SNR=9.2
T13A Saint George 71.85 56 ⇑P **P 13 08 06.3 0.0**
baz=72,SNR=10
MSU Marysvale 71.87 54 *eP* **P 13 08 07.3 +1.0**
U12A Valley of Fire 71.87 57 ⇓P **P 13 08 06.2 -0.1**
baz=72
TMUT Trail Mountain 71.90 53 *eP* **P 13 08 07.4 +0.9**
O18A Roosevelt 71.92 51 ⇓P **P 13 08 07.5 +0.9**
baz=72,SNR=7.9
N19A John Jarvie Ra 71.95 50 ⇓P **P 13 08 06.4 -0.4**
baz=72,SNR=7.1
P17A Butcher Ranch, 72.04 52 ⇓P **P 13 08 07.8 +0.4**
baz=72,SNR=7.3
MURC Murrieta 72.12 60 ⇑P **P 13 08 07.3 -0.5**
baz=72
V12A Nelson 72.15 57 ⇓P **P 13 08 08.0 0.0**
baz=72
Q16A Castle Valley 72.17 53 P **P 13 08 08.7 +0.5**
baz=72,SNR=5.6
P18A Preston Nutter 72.22 52 ⇓P **P 13 08 08.9 +0.5**
baz=72,SNR=7.8
U13A Pakoon Wash 72.22 56 ⇑P **P 13 08 09.1 +0.7**
baz=72,SNR=18
GMRC Granite Mounta 72.29 59 ⇓P **P 13 08 08.9 0.0**
baz=72,SNR=9.3
T14A Hurricane 72.31 55 ⇑P **P 13 08 09.6 +0.7**
baz=72,SNR=5.0
S15A Panguitch 72.33 55 ⇓P **P 13 08 09.2 +0.2**
baz=72,SNR=6.6
O19A Miners Draw (B 72.39 51 ⇓P **P 13 08 09.5 +0.2**
baz=72
SRU San Rafael 72.41 52 ⇓P **P 13 08 09.8 +0.2**
baz=72,SNR=22
SRU San Rafael 72.41 52 *eP* **P 13 08 09.9 +0.3**
R16A Teasdale 72.42 54 ⇓P **P 13 08 10.8 +1.2**
baz=72
V13A Grand Canyon W 72.59 57 ⇑P **P 13 08 10.9 +0.3**
baz=72,SNR=12
BELC Belle Mtn. 72.60 59 ⇑P **P 13 08 10.0 -0.8**
baz=72
Q18A Rafter H Ranch 72.64 52 ⇑P **P 13 08 10.4 -0.5**
baz=72
U14A Mt Tmbull 72.69 56 ⇑P **P 13 08 11.3 +0.1**
baz=72,SNR=13
S16A Weppner Ranch, 72.74 54 ⇑P **P 13 08 12.0 +0.5**
baz=72,SNR=13
T15A Red Dirt Ranch 72.76 55 ⇓P **P 13 08 12.1 +0.5**
baz=72,SNR=8.4
R17A Hanksville Air 72.78 53 ⇓P **P 13 08 11.4 -0.3**
baz=72,SNR=12
IRM Iron Mountain 73.02 59 ⇑P **P 13 08 13.2 0.0**
baz=73,SNR=5.6
W13A Hualapai Mount 73.16 57 P **P 13 08 14.4 +0.5**
baz=73,SNR=8.0
BC3 Big Chuckw Mtn 73.17 59 ⇑P **P 13 08 14.1 +0.1**
baz=73
U15A North Rim 73.21 55 ⇑P **P 13 08 14.7 +0.5**
baz=73,SNR=11
Q19A Hogan Spring (73.23 52 ⇑P **P 13 08 13.8 -0.5**
baz=73,SNR=18
S17A Black Ridge (B 73.26 54 P **P 13 08 14.9 +0.3**
baz=73,SNR=24
V14A Boquillas Ranc 73.26 57 ⇓P **P 13 08 14.3 -0.3**
baz=73,SNR=18
R18A Canyonlands Na 73.27 53 ⇑P **P 13 08 14.1 -0.5**
baz=73
X13A Yucca 73.53 58 P **P 13 08 16.5 +0.3**
baz=73,SNR=13
PDMCI Parker Dam,Lak 73.54 58 ⇑P **P 13 08 16.1 -0.1**
baz=73,SNR=6.5
W14A Seligman 73.56 57 ⇑P **P 13 08 16.2 -0.2**
baz=73,SNR=13
Y12C Blythe 73.67 59 ⇑P **P 13 08 16.9 -0.2**
baz=74
S18A Hurst Farm, Bl 73.69 53 P **P 13 08 17.3 +0.3**
baz=74,SNR=15
V15A Kaibab Nationa 73.69 56 ⇑P **P 13 08 16.8 -0.4**
baz=74,SNR=6.2
T17A Navajo Res., N 73.70 54 ⇑P **P 13 08 16.5 -0.6**
baz=74
GLA Glamis 73.96 59 ⇑P **P 13 08 18.0 -0.7**
baz=74,SNR=5.1
U17A Shonto 74.05 54 ⇓P **P 13 08 18.1 -1.1**
baz=74,SNR=7.2
Y13A Salome 74.06 58 ⇑P **P 13 08 19.1 -0.1**
baz=74
W15A Williams 74.08 56 ⇑P **P 13 08 17.2 -2.1**
baz=74
U16A Tuba City 74.09 55 ⇓P **P 13 08 20.0 +0.6**
baz=74,SNR=14
T18A Mexican Hat 74.14 54 ⇓P **P 13 08 18.9 -0.8**
baz=74,SNR=8.3
S19A Harvey Farm, M 74.14 53 ⇑P **P 13 08 19.6 -0.1**
baz=74,SNR=6.3
X14A Yava 74.18 57 ⇓P **P 13 08 20.0 +0.1**
baz=74,SNR=10.0
PV01 Paradox Valley 74.19 52 *eP* **P 13 08 20.2 +0.2**
PV01 *epP* pP 13 08 55.8 -0.2
Y14A Wickenburg 74.47 58 ⇓P **P 13 08 21.8 +0.1**
baz=74,SNR=8.7
BUR08 Bucovina Ar. S 74.50 323 *eP* **P 13 08 21.9 +0.3**
BURAR Bucovina Array 74.52 323 ⇑*iP* **P 13 08 21.9 +0.2**
BURAR Bucovina Array 74.52 323 ⇑P **P 13 08 21.9 +0.2**
X15A Humboldt 74.57 57 ⇓P **P 13 08 22.3 +0.1**
baz=74,SNR=11
OJC Ojcow 74.71 327 *eP* **P 13 08 22.8 0.0**
KOLS Kolonicke sedl 74.74 325 *eP* **P 13 08 18.6 -4.3**
KOLS Kolonicke sedl 74.74 325 *eP* **P 13 08 18.9 -4.0**
STHS Stebnicka Huta 74.78 326 *eP* **P 13 08 24.0 +0.9**
113A Mohawk Valley, 74.81 59 ⇑P **P 13 08 22.5 -1.1**
baz=75
Y15A Casa Rosa Ranc 74.87 57 ⇑P **P 13 08 24.4 +0.4**
baz=75,SNR=8.2
MVCO Mesa Verde 74.88 53 ⇓P **P 13 08 22.7 -1.3**
baz=75,SNR=6.5

MVCO Mesa Verde 74.88 53 eP P 13 08 24.5 +0.5
X16A Lo Mia Camp, P 75.09 56 ⇓P P 13 08 25.3 +0.1
baz=75,SNR=10
V18A Ganado 75.09 55 ⇑P P 13 08 25.7 +0.5
baz=75,SNR=5.0
Y16A Circle Bar Ran 75.44 57 ⇑P P 13 08 25.3 -1.9
baz=75
MLR Muntele Rosu 75.82 321 P P 13 08 29.6 +0.5
comp=Z,3.2nm,0.6s,mb4.1,baz=105,slow=4.9,SNR=4.5
MLR Muntele Rosu 75.82 321 P P 13 08 29.6 +0.4
MLR pmax pmax
comp=Z,3.0nm,0.6s
STKA Stephens Creek 75.86 183 eP P 13 08 29.6 +0.3
comp=Z,12nm,0.9s,mb4.5
STKA Stephens Creek 75.86 183 P P 13 08 29.0 -0.3
comp=Z,14nm,0.8s,mb4.7,baz=347,slow=7.6,SNR=25
UPC Upice 75.91 329 eP P 13 08 28.2 -1.4
UPC epP pP 13 09 06.6 +0.9
DPC Dobruska-Polom 75.92 329 eP P 13 08 29.9 +0.2
DPC epP pP 13 09 06.1 +0.3
KPL Plockton 75.93 344 eP P 13 08 29.2 -0.4
KPL AMb AMB 13 08 30.5
comp=Z,73nm,1.9s,mb5.0
116A Eloy 76.21 58 ⇑P P 13 08 30.8 -0.8
baz=76
DRGR 76.23 324⇑iP P 13 08 37.7 +6.2
VOIR 76.26 321⇑iP P 13 08 32.6 +0.9
VOIR 76.26 321 ⇑P P 13 08 32.6 +0.9
CLL Collm 76.31 332 i P P 13 08 31.0 -0.8
CLL e*PP pP 13 09 08.0 0.0
CLL eS SKSac 13 18 37.0 +8.0
CLL pmax pmax
comp=Z,6.0nm,0.5s,mb4.5
CLL Collm 76.31 332 epP pP 13 09 07.9 -0.1
CLL Collm 76.31 332 i P P 13 08 31.0 -0.8
comp=Z,6.0nm,0.5s,mb4.5
CLL i (PcP) PcP 13 08 41.0 -2.1
CLL epP pP 13 09 08.0 0.0
comp=Z,11nm,0.8s
CLL ePP PP 13 11 22.0 -2.4
CLL eSKSac SKSac 13 18 30.0 +1.0
CLL ePS 13 19 08.0
CLL Collm 76.31 332 i P P 13 08 31.0 -0.8
comp=Z,6.0nm,0.5s,mb4.5
CLL epP pP 13 09 08.0 0.0
CLL eS SKSac 13 18 37.0 +8.0
BR131 Keskin Array S 76.33 313 eP P 13 08 32.5 +0.4
comp=Z,3.5nm,0.6s,mb4.2
BRG Berggiesshubel 76.34 331 eP P 13 08 29.9 -2.1
BRG pmax pmax
comp=Z,3.0nm,1.4s,mb3.7
BRG Berggiesshubel 76.34 331 eP P 13 08 29.9 -2.1
comp=Z,5.7nm,1.4s,mb4.0
X19A St. Johns 76.36 55 ⇓P P 13 08 32.2 -0.2
baz=76,SNR=7.9
ECSD EROS,Sioux Fal 76.37 41 eP P 13 08 31.9 -0.4
FORT Forrest 76.37 195⇑iP P 13 08 32.5 +0.3
comp=Z,42nm,0.5s,mb5.3
Y18A Canyon Day Jun 76.37 56 ⇓P P 13 08 32.6 +0.1
baz=76,SNR=7.3
PVCC Panska Ves 76.41 330 eP P 13 08 33.3 +0.9
VYHS Vyhne 76.47 327 i P P 13 08 32.9 +0.1
ESY Stoneypath 76.62 342 eP P 13 08 33.0 -0.5
VRAC Vranov 76.67 328 P P 13 08 34.0 +0.1
comp=Z,2.6nm,0.6s,mb4.0,baz=60,slow=6.0,SNR=4.5
VRAC Vranov 76.67 328 P P 13 08 34.0 +0.1
VRAC pmax pmax
comp=Z,3.0nm,0.6s
117A Oracle 76.79 57 ⇑P P 13 08 33.9 -0.9
baz=77
PRU Pruhonice 76.87 330 eP P 13 08 34.8 -0.2
PRU epP pP 13 09 09.6 -1.6
XSO Sourhope Farm 76.93 342 eP P 13 08 34.6 -0.6
TUC Tucson 76.94 58 eP P 13 08 36.4 +0.7
TUC pmax pmax
comp=Z,39nm,2.1s,mb4.7
TUC Tucson 76.94 58 eP P 13 08 36.4 +0.6
comp=Z,39nm,2.1s,mb4.7
TREC Trest 77.10 329 eP P 13 08 36.1 -0.2
TREC epP pP 13 09 12.6 +0.1
PGBU Glenifferbraes 77.12 343 eP P 13 08 36.1 -0.2
PGBU AMb AMB 13 08 37.9
comp=Z,86nm,1.9s,mb5.0
118A Homack Ranch, 77.21 57 ⇑P P 13 08 37.5 +0.3
baz=77,SNR=8.0
EKA Eskdalemuir Ar 77.28 342 P P 13 08 37.0 -0.1
comp=Z,6.5nm,0.7s,mb4.4,baz=23,slow=5.1,SNR=26
EKA Eskdalemuir Ar 77.28 342 P P 13 08 37.1 -0.1
EKA pmax pmax
comp=Z,7.0nm,0.7s
217A Green Valley 77.30 58 ⇓P P 13 08 36.8 -0.9
baz=77
GZR Gura Zlata 77.30 323⇑iP P 13 08 35.9 -1.6
GZR Gura Zlata 77.30 323 ⇑P P 13 08 35.9 -1.6
ESK Eskdalemuir 77.31 342 eP P 13 08 36.8 -0.5
NKC Novy Kostel 77.40 331 eP P 13 08 40.1 +2.1
ECK Cauldkaine Hil 77.42 342 eP P 13 08 37.4 -0.5
XAL Allendale 77.51 342 eP P 13 08 37.2 -1.2
SCHQ Schefferville 77.52 18 P P 13 08 37.7 -0.8
comp=Z,4.9nm,0.7s,mb4.2,baz=260,slow=11,SNR=3.4
SCHQ Schefferville 77.52 18 P P 13 08 37.7 -0.8
218A Dragoon 77.63 57 ⇑P P 13 08 40.1 +0.5
baz=77,SNR=5.7
LAZ Ladron 77.64 54 eP P 13 08 40.7 +1.1
LAZ epP pP 13 09 15.5 -0.3
ANMO Albuquerque 77.64 53⇑eP P 13 08 39.0 -0.6
ANMO i *PP pP 13 09 14.4 -1.5
ROTZ Rotzenmuhle 77.88 331 epP pP 13 09 17.2 +0.3
KHC Kasperske Hory 77.93 330 eP P 13 08 41.0 +0.1
KHC epP pP 13 09 15.7 -1.5
318A Bisbee 78.03 58 ⇑P P 13 08 41.7 -0.2
baz=78
GAL1 Galloway 78.05 343 eP P 13 08 40.2 -1.2
GAL1 AMb AMB 13 08 42.3
comp=Z,35nm,1.7s,mb4.7
219A White Tail Can 78.08 57 ⇑P P 13 08 42.4 +0.3
baz=78,SNR=6.6
GERES GERESS Array B 78.13 330 P P 13 08 41.4 -0.6
comp=Z,1.5nm,0.6s,mb3.8,baz=42,slow=5.6,SNR=6.7
GERES pP pP 13 09 17.7 -0.7
comp=Z,4.8nm,1.0s,baz=0.0,slow=1.3,SNR=4.2
GERES GERESS Array B 78.13 330 P P 13 08 41.4 -0.6
GERES *PP pP 13 09 17.7 -0.6
GERES pmax pmax
comp=Z,2.0nm,0.6s
GERES pmax pmax
comp=Z,5.0nm,1.0s
WET Wettzell 78.17 330 epP pP 13 09 19.2 +0.6
GRA1 Grafenberg Arr 78.28 332 eP P 13 08 42.7 -0.1
comp=Z,6.0nm,0.9s,mb4.2
GRA1 epP pP 13 09 19.3 +0.1
GRF Grafenberg Arr 78.28 332 eP P 13 08 42.7 -0.1
GRF e*PP pP 13 09 19.3 +0.1
GRF pmax pmax
comp=Z,6.0nm,0.9s,mb4.2
GRF Grafenberg Arr 78.28 332 eP P 13 08 42.7 -0.1
GRF e*PP pP 13 09 19.3 +0.1
GRF pmax pmax
comp=Z,6.0nm,0.9s,mb4.2
GRF Grafenberg Arr 78.28 332 eP P 13 08 42.7 -0.1
comp=Z,6.0nm,0.9s,mb4.2
GRF epP pP 13 09 19.3 +0.1
319A Douglas 78.51 57 ⇓P P 13 08 44.8 +0.4
baz=78,SNR=5.5
LHO Holmfirth 78.64 341 eP P 13 08 44.6 -0.1
SBD1 Bryn Du 79.55 341 eP P 13 08 49.2 -0.5
KLBR Kellerberrin 79.63 204 eP P 13 08 50.0 -0.2
comp=Z,11nm,0.8s,mb4.5
BAIF Baives 80.19 336 eP P 13 08 54.1 +0.9
comp=Z,17nm,1.2s,mb4.2
BAIF Baives 80.19 336 eP P 13 08 54.1 +0.9
BAIF pmax pmax
comp=Z,8.0nm,1.2s,mb4.2
BAIF Baives 80.19 336 eP P 13 08 54.1 +0.9
comp=Z,8.4nm,1.2s,mb4.2
HTR Trewern Hill 80.32 341 eP P 13 08 52.7 -1.1
MCH1 Michaelchurch 80.33 341 eP P 13 08 53.6 -0.3
MCH1 AMb AMB 13 08 55.1
comp=Z,32nm,1.4s,mb4.8
AMTX Amarillo 80.38 50 eP P 13 08 54.8 +0.3
comp=Z,4.9nm,0.6s,mb4.3
CDF Champ du Feu 80.70 333 eP P 13 08 55.1 -0.8
comp=Z,6.1nm,0.7s,mb4.0
CDF epP pP 13 09 32.6 +0.1
CDF Champ du Feu 80.70 333 eP P 13 08 55.1 -0.8
CDF e*PP pP 13 09 32.6 +0.1
CDF pmax pmax
comp=Z,3.0nm,0.7s,mb4.0
CDF Champ du Feu 80.70 333 eP P 13 08 55.1 -0.8
comp=Z,3.0nm,0.7s,mb4.0
CDF epP pP 13 09 32.6 +0.1
NWAO Narrogin (SRO) 81.04 204 P P 13 08 57.4 -0.3
comp=Z,15nm,0.7s,mb4.7,baz=6.4,slow=2.2,SNR=11
NWAO Narrogin (SRO) 81.04 204 P P 13 08 57.4 -0.3
NWAO pmax pmax
comp=Z,15nm,0.7s
DAVOS Davos 81.22 331 P P 13 08 58.7 0.0
DAVOX Davos/Dischmat 81.24 331 P P 13 08 58.7 -0.1
comp=Z,4.4nm,0.6s,mb4.2,baz=67,slow=4.2,SNR=4.8
MEZF Maizieres J'vi 81.32 335 eP P 13 08 58.5 -0.7
comp=Z,20nm,1.0s,mb4.4
MEZF Maizieres J'vi 81.32 335 eP P 13 08 58.5 -0.7
comp=Z,20nm,1.0s,mb4.7
HINF Hinteralfeld 81.36 333 eP P 13 08 58.1 -1.3
comp=Z,13nm,1.0s,mb4.2
HINF Hinteralfeld 81.36 333 eP P 13 08 58.1 -1.3
HINF pmax pmax
comp=Z,7.0nm,1.0s,mb4.2
HINF Hinteralfeld 81.36 333 eP P 13 08 58.1 -1.3
comp=Z,6.7nm,1.0s,mb4.2
TOO Toolangi 81.46 180 eP P 13 09 01.0 +1.2
FLN La Foliniere 82.68 338 eP P 13 09 05.2 -1.1
comp=Z,18nm,0.8s,mb4.5
FLN La Foliniere 82.68 338 eP P 13 09 05.2 -1.1
FLN pmax pmax
comp=Z,9.0nm,0.8s,mb4.5
FLN La Foliniere 82.68 338 eP P 13 09 05.2 -1.1
comp=Z,9.2nm,0.8s,mb4.6
LDF La Druitiere 82.74 338 eP P 13 09 06.3 -0.3
LOR Lormes 82.78 335 eP P 13 09 05.9 -1.0
comp=Z,8.1nm,0.7s,mb4.2
LOR epP pP 13 09 43.5 -0.1
LOR Lormes 82.78 335 eP P 13 09 05.9 -1.0
LOR e*PP pP 13 09 43.5 -0.1
LOR pmax pmax
comp=Z,4.0nm,0.7s,mb4.3
LOR Lormes 82.78 335 eP P 13 09 05.9 -1.0
comp=Z,4.1nm,0.7s,mb4.3
LOR epP pP 13 09 43.5 -0.1
EIL Elat 82.94 305 P P 13 09 08.7 +0.7
comp=Z,6.7nm,0.5s,mb4.6,baz=0.6,slow=6.3,SNR=11
SSF Saint Saulge 83.08 335 eP P 13 09 08.2 -0.2
GRR Gorron 83.12 338 eP P 13 09 08.5 -0.1
comp=Z,19nm,0.7s,mb4.6
GRR epP pP 13 09 45.4 +0.1
GRR Gorron 83.12 338 eP P 13 09 08.5 -0.1
GRR e*PP pP 13 09 45.4 +0.1
GRR pmax pmax
comp=Z,10.0nm,0.7s,mb4.7
GRR Gorron 83.12 338 eP P 13 09 08.5 -0.1
comp=Z,9.6nm,0.7s,mb4.6
GRR epP pP 13 09 45.4 +0.1
TXAR Lajitas Array 83.33 55 P P 13 09 10.2 +0.2
comp=Z,44nm,1.1s,mb5.1,baz=286,slow=3.3,SNR=66
TXAR pP pP 13 09 45.4 -1.4
comp=Z,6.6nm,0.7s,baz=308,slow=4.5,SNR=5.6
TXAR Lajitas Array 83.33 55 P P 13 09 10.3 +0.3
TXAR *PP pP 13 09 45.4 -1.4
TXAR pmax pmax
comp=Z,44nm,1.2s
TXAR pmax pmax
comp=Z,7.0nm,0.7s
TXAR Lajitas Array 83.33 55 P P 13 09 10.2 +0.2
TXAR pP pP 13 09 45.4 -1.4
SMF Signal de Mont 83.35 335 eP P 13 09 09.0 -0.8
comp=Z,12nm,0.7s,mb4.5
SMF epP pP 13 09 46.6 +0.1
SMF Signal de Mont 83.35 335 eP P 13 09 09.0 -0.8
SMF e*PP pP 13 09 46.6 +0.1
SMF pmax pmax
comp=Z,6.0nm,0.7s,mb4.4
SMF Signal de Mont 83.35 335 eP P 13 09 09.0 -0.8
comp=Z,6.2nm,0.7s,mb4.5
SMF epP pP 13 09 46.6 +0.1
AVF Avril sur Loir 83.37 335 eP P 13 09 09.0 -0.9
comp=Z,5.6nm,0.5s,mb4.2
AVF Avril sur Loir 83.37 335 eP P 13 09 09.0 -0.9
AVF pmax pmax
comp=Z,3.0nm,0.5s,mb4.3
AVF Avril sur Loir 83.37 335 eP P 13 09 09.0 -0.9
comp=Z,2.8nm,0.5s,mb4.2
LPL La Plagne 83.42 332 eP P 13 09 09.9 -0.3
comp=Z,11nm,0.7s,mb4.4
LPL epP pP 13 09 47.7 +0.8
LPL La Plagne 83.42 332 eP P 13 09 09.9 -0.3
LPL e*PP pP 13 09 47.7 +0.8
LPL pmax pmax
comp=Z,5.0nm,0.7s,mb4.3
LPL La Plagne 83.42 332 eP P 13 09 09.9 -0.3
comp=Z,5.3nm,0.7s,mb4.4
LPL epP pP 13 09 47.7 +0.8
LPG La Plagne 83.43 332 eP P 13 09 10.1 -0.1
comp=Z,17nm,0.9s,mb4.5
LPG La Plagne 83.43 332 eP P 13 09 10.1 -0.1
LPG pmax pmax
comp=Z,9.0nm,0.9s,mb4.5
LPG La Plagne 83.43 332 eP P 13 09 10.1 -0.1
comp=Z,8.7nm,0.9s,mb4.5
SGMF Saint Gilles 83.69 339 eP P 13 09 10.8 -0.7
comp=Z,8.0nm,0.6s,mb4.3
SGMF Saint Gilles 83.69 339 eP P 13 09 10.8 -0.7
SGMF pmax pmax
comp=Z,4.0nm,0.6s,mb4.3
SGMF Saint Gilles 83.69 339 eP P 13 09 10.8 -0.7
comp=Z,4.0nm,0.6s,mb4.3
BGF Bois d'Agland 83.73 335 eP P 13 09 11.6 -0.1
ROSF Rostrenen 83.80 340 eP P 13 09 11.6 -0.4
MBDF Montbardon 84.10 332 eP P 13 09 13.3 -0.3
comp=Z,10nm,0.9s,mb4.3
MBDF Montbardon 84.10 332 eP P 13 09 13.3 -0.3
MBDF pmax pmax
comp=Z,5.0nm,0.9s,mb4.2
MBDF Montbardon 84.10 332 eP P 13 09 13.3 -0.3
comp=Z,5.2nm,0.9s,mb4.3
QUIF Quistinic 84.16 339 eP P 13 09 13.3 -0.6
comp=Z,10nm,0.7s,mb4.4
QUIF Quistinic 84.16 339 eP P 13 09 13.3 -0.6
QUIF pmax pmax
comp=Z,5.0nm,0.7s,mb4.3
QUIF Quistinic 84.16 339 eP P 13 09 13.3 -0.6
comp=Z,5.1nm,0.7s,mb4.4
TCF Toulx Ste Croi 84.16 335 eP P 13 09 14.0 +0.1
comp=Z,14nm,0.7s,mb4.5
TCF Toulx Ste Croi 84.16 335 eP P 13 09 14.0 +0.1
TCF pmax pmax
comp=Z,7.0nm,0.7s,mb4.5
TCF Toulx Ste Croi 84.16 335 eP P 13 09 14.0 +0.1
comp=Z,7.2nm,0.7s,mb4.5
IDI Anoyia 84.23 315 P P 13 09 13.4 -1.1
comp=Z,20nm,0.5s,mb5.1,baz=38,slow=9.8,SNR=26
ORIF Oris-en-Rattie 84.23 332 eP P 13 09 14.5 +0.2
comp=Z,12nm,0.7s,mb4.5
ORIF epP pP 13 09 53.6 +2.5
ORIF Oris-en-Rattie 84.23 332 eP P 13 09 14.5 +0.2
ORIF e*PP pP 13 09 53.6 +2.5
ORIF pmax pmax
comp=Z,6.0nm,0.7s,mb4.4
ORIF Oris-en-Rattie 84.23 332 eP P 13 09 14.5 +0.2
comp=Z,6.1nm,0.7s,mb4.4
ORIF epP pP 13 09 53.6 +2.5
MFF Saint Martin d 84.56 337 eP P 13 09 15.5 -0.4
comp=Z,15nm,0.9s,mb4.4
MFF Saint Martin d 84.56 337 eP P 13 09 15.5 -0.4
MFF pmax pmax
comp=Z,7.0nm,0.9s,mb4.4
MFF Saint Martin d 84.56 337 eP P 13 09 15.5 -0.4
comp=Z,7.4nm,0.9s,mb4.4
SBF Sospel 84.63 331 eP P 13 09 15.3 -1.0
comp=Z,17nm,0.7s,mb4.6
SBF Sospel 84.63 331 eP P 13 09 15.3 -1.0
SBF pmax pmax
comp=Z,9.0nm,0.7s,mb4.6
SBF Sospel 84.63 331 eP P 13 09 15.3 -1.0
comp=Z,8.7nm,0.7s,mb4.6
VIVF Saint-Julien-l 84.68 333 eP P 13 09 16.0 -0.6
comp=Z,9.8nm,0.7s,mb4.4
VIVF Saint-Julien-l 84.68 333 eP P 13 09 16.0 -0.6
VIVF pmax pmax
comp=Z,5.0nm,0.7s,mb4.3
VIVF Saint-Julien-l 84.68 333 eP P 13 09 16.0 -0.6
comp=Z,4.9nm,0.7s,mb4.3
PGF Pioggiola 85.21 329 eP P 13 09 18.1 -1.2
comp=Z,7.0nm,0.7s,mb4.2
PGF Pioggiola 85.21 329 eP P 13 09 18.1 -1.2
PGF pmax pmax
comp=Z,4.0nm,0.6s,mb4.3
PGF Pioggiola 85.21 329 eP P 13 09 18.1 -1.2
comp=Z,3.5nm,0.6s,mb4.3
RJF Les Rejaudoux 85.26 335 eP P 13 09 19.3 -0.2
comp=Z,6.5nm,0.6s,mb4.3
CAF Calviac 85.44 335 eP P 13 09 20.7 +0.4
comp=Z,19nm,0.9s,mb4.5
LASF Ste Croix 85.64 333 eP P 13 09 21.2 -0.2
LFF La Frestale 85.82 336 eP P 13 09 22.2 0.0
comp=Z,18nm,0.5s,mb4.7
MTLF Montolieu 86.82 334 eP P 13 09 27.3 +0.1
comp=Z,2.0nm,0.5s,mb3.9
MTLF Montolieu 86.82 334 eP P 13 09 27.3 +0.1
MTLF pmax pmax
comp=Z,1.0nm,0.5s,mb3.9
MTLF Montolieu 86.82 334 eP P 13 09 27.3 +0.1
comp=Z,1.0nm,0.5s,mb3.9
EPF Esparros 87.68 335 eP P 13 09 31.4 +0.1
ETSF Etsaut 88.07 336 eP P 13 09 33.7 +0.6
comp=Z,15nm,0.6s,mb4.7
ETSF Etsaut 88.07 336 eP P 13 09 33.7 +0.6
ETSF pmax pmax
comp=Z,7.0nm,0.6s,mb4.7
ETSF Etsaut 88.07 336 eP P 13 09 33.7 +0.6
comp=Z,7.3nm,0.6s,mb4.7
ESDC Sonseca Array 92.03 337 P P 13 09 50.6 -1.0
comp=Z,1.8nm,0.6s,mb4.3,baz=18,slow=4.2,SNR=9.5
TORD Torodi Ar. Bea 114.06 321 PKP PKiKP 13 15 19.6 -1.9
comp=Z,0.3nm,0.3s,baz=23,slow=2.3,SNR=7.7
TORD PKKPbc PKKPbc 13 26 01.2 +0.1
comp=Z,1.0nm,0.4s,baz=217,slow=1.9,SNR=17
DBIC Dimbokro 122.69 324 PKP PKPdf 13 15 36.7 -1.5
comp=Z,2.0nm,0.6s,baz=360,slow=3.4,SNR=5.0
DBIC Dimbokro 122.69 324 PKIKP PKPdf 13 15 36.7 -1.5
DBIC pmax pmax
comp=Z,2.0nm,0.6s
MAW Mawson 127.39 209 PKP PKPdf 13 15 45.1 -0.3
comp=Z,0.9nm,0.5s,baz=249,slow=1.0,SNR=6.1
MAW Mawson 127.39 209 PKIKP PKPdf 13 15 45.1 -0.3
MAW pmax pmax
comp=Z,1.0nm,0.5s
LPAZ La Paz 140.20 56 PKP PKPdf 13 16 11.7 +0.7
comp=Z,1.8nm,0.7s,baz=16,slow=4.4,SNR=9.1
LPAZ La Paz 140.20 56 PKIKP PKPdf 13 16 11.7 +0.7
LPAZ pmax pmax
comp=Z,2.0nm,0.7s
SNAA Sanae 148.58 199 ePKPdf PKPdf 13 16 23.5 -0.3
SNAA e 13 16 27.3
SNAA e 13 16 31.5
SNAA e 13 17 05.3
BDFB Brasilia 149.24 26 PKPbc PKPbc 13 16 29.6 -1.3
baz=246,slow=20
VNA2 Neumayer--Watz 150.13 198 ePKPdf PKPdf 13 16 27.0 +0.7
VNA2 e 13 16 31.9
VNA2 e 13 16 39.4
VNA2 e 13 17 10.8
VNA3 Neumayer Olymp 150.36 196 ePKPdf PKPbc 13 16 31.9 -0.1
VNA3 e 13 16 39.4
VNA3 e 13 17 11.0
VNA1 Neumayer--Stat 150.53 197 ePKPdf PKPbc 13 16 32.5 +0.1
VNA1 e 13 16 40.4
PLCA Paso Flores 153.31 95 PKPbc PKPbc 13 16 39.5 -0.2
comp=Z,4.1nm,0.7s,baz=263,slow=2.7,SNR=14
PLCA Paso Flores 153.31 95 PKIKP PKPbc 13 16 39.5 -0.2
PLCA pmax pmax
comp=Z,4.0nm,0.7s
CPUP Villa Florida 154.30 53 PKPbc PKPbc 13 16 41.7 -0.5
comp=Z,0.7nm,0.4s,baz=327,slow=4.2,SNR=3.1
CPUP Villa Florida 154.30 53 PKIKP PKPbc 13 16 41.7 -0.5
CPUP pmax pmax
comp=Z,1.0nm,0.4s

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*CSEM **06** 12:57:08.5±0.3, 3735N×2161E, h12km, MD3.1, Error ellipse: s-maj=7.5km s-min=4.2km az=102.0*
*THE **06** 12:57:09.8, 3739N×2167E, h7km±2km, ML2.6/2, Error ellipse: s-maj=3.0km s-min=0.4km az=135.0*
*ATH **06** 12:57:10.6, 37.17N×2161E, h4km, MD3.1/3*
ISC 06 12:57:08.6±2.9**, 374N**±01×**216E**±01**, h4km**±18km**, n9, σ0ˢ77**/14**, Southern Greece**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ITM	**Ithomi**	**0.35**	**131**	ePg	**Pg**	**12 57 15.5**	**+0.2**
ITM				eSg	**Sg**	**12 57 19.3**	**-0.5**
ITM	**Ithomi**	**0.35**	**131**	ePG	**Pg**	**12 57 15.5**	**+0.2**
ITM				eSG	**Sg**	**12 57 19.3**	**-0.5**
PYL	**PYLOS**	**0.53**	**168**	P	**Pg**	**12 57 19.1**	**+0.4**
PYL				S	**Sg**	**12 57 26.4**	**+0.9**
VLX	**Vlachokerasia**	**0.62**	**93**	P	**Pg**	**12 57 20.5**	**0.0**
VLX				S	**Sg**	**12 57 28.8**	**+0.2**
LTK	**Loutraki**	**1.24**	**60**	P	**Pn**	**12 57 32.2**	**-0.6**
LTK				S	**Sb**	**12 57 49.9**	**+0.9**
VLI	**Veliai**	**1.27**	**122**	ePb	**Pb**	**12 57 33.0**	**-0.1**
VLI	**Veliai**	**1.27**	**122**	ePB	**Pb**	**12 57 33.0**	**-0.1**
KYTH	**Kithira**	**1.61**	**134**	ePg	**Pg**	**12 57 37.5**	**-2.0**
KYTH	**Kithira**	**1.61**	**134**	ePG	**Pg**	**12 57 37.5**	**-2.0**

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*DJA **06** 13:40:48, 026N×13441E, h30km, Mw5.4/3*
*IDC **06** 13:41:05.6±1.1, 057S×13285E, h0km, mb4.2/6, mb1 4.4/8, mb1mx4.1/17, mbtmp4.2/8, ML4.4/2, Error ellipse: s-maj=56.6km s-min=13.5km az=77.0*
*ISCJB **06** 13:41:07.3±0.8, 066S±006×13328E±008, h33km, mb4.2/7, Error ellipse: s-maj=12.2km s-min=8.1km az=155.5*
*NEIC **06** 13:41:09.5±0.8, 055S×13335E, h35km, mb4.3/6, Error ellipse: s-maj=16.2km s-min=11.1km az=64.0*
ISC 06 13:41:10.0±0.8**, 059S**±008×**13311E**±009**, h35km, n30, σ1ˢ13**/38**, mb4.2**/7**, Irian Jaya region**

Code Station Name Δ° AZ° Phase ID (Op ISC) Time (h m s) Res ISC
SWI Sorong 1.87 262 P Pn 13 41 39.0 -0.5
SWI Sorong 1.87 262 P Pn 13 41 39.0 -0.5
LBMI Labuha 5.61 269 P Pn 13 42 29.0 -2.0
52nm,0.9s
AAI Ambon 5.79 238 P Pn 13 42 34.9 +1.4
266nm,0.8s,2μm0.7nm
AAI Ambon 5.79 238 P Pn 13 42 33.5 0.0
266nm,0.8s,2μm
KAKA Kakadu 12.06 183 eP Pn 13 43 58.6 -0.9
76nm,0.5s
KAKA eS Sn 13 46 06.6 -6.2
KAKA Kakadu 12.06 183 ePn Pn 13 43 58.6 -0.9
KAKA eSn Sn 13 46 06.3 -6.5
BATI Baumata 13.40 224 Pn Pn 13 44 18.4 +0.6
1.9nm,0.3s,baz=166,slow=3.2,SNR=11
BATI Baumata 13.40 224 P Pn 13 44 19.6 +1.8
49nm,1.1s
KAPI Kappang 14.04 252 Pn Pn 13 44 30.1 +3.5
1.0nm,0.3s,baz=196,slow=23,SNR=7.4
PMG Port Moresby 16.50 122 ePn Pn 13 44 54.7 -4.3
13nm,1.0s
FITZ Fitzroy Crossi 18.89 202 eP Pn 13 45 26.9 -1.4
9.0nm,0.4s
FITZ eS S 13 48 43.6 -17
FITZ Fitzroy Crossi 18.89 202 P Pn 13 45 26.5 -1.8
0.4nm,0.3s,baz=31,slow=13,SNR=16
FITZ S S 13 48 46.3 -14
0.5nm,0.3s,baz=144,slow=20,SNR=3.7
FITZ Fitzroy Crossi 18.89 202 P Pn 13 45 36.9 +8.6
28nm,1.1s,1μm
WRA Warramunga Arr 19.27 176 P Pn 13 45 32.8 -0.1
1.6nm,0.3s,baz=355,slow=12,SNR=82
WRA S S 13 48 58.0 -10
0.7nm,0.3s,baz=356,slow=24,SNR=5.9
WB2 Warramunga Arr 19.27 176 eP Pn 13 45 32.4 -0.6
WB2 eS S 13 48 59.3 -9.0
WB2 Warramunga Arr 19.27 176 eP Pn 13 45 32.1 -0.8
WB2 eS S 13 49 00.1 -8.2
ASAR Alice Springs 22.95 178 P P 13 46 12.6 +1.2
14nm,0.8s,mb4.4,baz=355,slow=12,SNR=106
ASAR S S 13 50 25.1 +5.8
3.5nm,1.0s,baz=0.0,slow=23,SNR=8.1
CTA Charters Tower 23.26 147 eP P 13 46 17.7 +3.0
6.5nm,0.9s,mb4.1
CTA Charters Tower 23.26 147 P P 13 46 16.7 +2.0
7.7nm,0.8s,mb4.2,baz=334,slow=12,SNR=10
CTAO Charters Tower 23.26 147 P P 13 46 20.1 +5.4
13nm,0.9s,mb4.3

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CTAO	Charters Tower	23.26	147	eP	P	13 46 14.2	-0.4
	8.3nm,0.8s,mb4.2						
MBWA	Marble Bar	24.26	212	P	P	13 46 25.8	+1.8
MBWA	Marble Bar	24.26	212	eP	P	13 46 23.5	-0.5
	19nm,1.1s,mb4.4						
STKA	Stephens Creek	32.13	166	P	P	13 47 34.9	+0.6
	2.2nm,0.4s,mb4.4,baz=352,slow=3.9,SNR=5.6						
STKA	Stephens Creek	32.13	166	eP	P	13 47 34.3	0.0
	7.0nm,0.9s,mb4.5						
SONM	Songino Array	53.54	338	P	P	13 50 28.2	+1.0
	0.8nm,0.6s,mb3.8,baz=148,slow=7.5,SNR=5.9						
MKAR	Makanchi Array	64.75	324	P	P	13 51 45.0	+0.1
	1.2nm,0.9s,mb3.9,baz=112,slow=8.3,SNR=7.4						
MKAR	Makanchi Array	64.75	324	P	P	13 51 45.0	+0.1
ZALV	Zalesovo Beam	67.35	331	P	P	13 52 00.8	-0.7
	1.0nm,0.5s,mb4.1,baz=110,slow=4.6,SNR=4.0						

*IDC **06** 13:41:33.0±1.3,4835S×16447E,h0^{km},mb4.0/5, mb1 4.2/6,mb1mx4.1/12,mbtmp4.0/6,ML3.6/1,Error ellipse: s-maj=31.1km s-min=25.9km az=67.0*
*ISCJB **06** 13:41:35.7±0.9,485S±0.1×1645E±0.1,h33^{km},mb3.9/5, Error ellipse: s-maj=17.2km s-min=10.2km az=139.3*
*NEIC **06** 13:41:37.1±0.8,4844S×16462E,h35^{km},Error ellipse: s-maj=17.7km s-min=13.7km az=99.0*
ISC 06 13:41:38.1±0.8,**4848S**±009×**1644E**±01,**h35**^{km},**n9, σ1^{s}00**/9,**mb3.9**/5,**Off west coast of South Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
RPZ	Rata Peaks	6.64	47	Pn	Pn	13 43 09.6	-3.6
	1.2nm,0.3s,baz=229,slow=11,SNR=4.2						
RPZ				Sn	Sn	13 44 27.6	+0.1
	5.2nm,0.3s,baz=45,slow=22,SNR=7.1						
MCQ	Macquarie Isla	6.92	207	ePn	Pn	13 43 15.6	-1.2
CNB	Canberra Magne	17.22	314	eP	Pn	13 45 36.3	+0.5
STKA	Stephens Creek	23.91	306	P	P	13 46 49.3	+0.8
	1.6nm,0.7s,mb3.6,baz=126,slow=12,SNR=3.4						
ASAR	Alice Springs	34.54	305	P	P	13 48 22.4	-0.7
	2.6nm,0.8s,mb4.2,baz=146,slow=8.2,SNR=9.1						
WRA	Warramunga Arr	37.35	309	P	P	13 48 46.1	-1.1
	3.8nm,0.9s,mb4.2,baz=143,slow=7.8,SNR=6.7						
QSPA	South Pole Qui	41.65	180	P	P	13 49 23.7	+1.4
	0.7nm,0.8s,mb3.3,baz=20,slow=15,SNR=4.2						
CMAR	Chiang Mai Arr	88.42	300	P	P	13 54 27.2	+0.8
	0.9nm,0.6s,mb4.2,baz=164,slow=3.6,SNR=5.9						
TORD	Torodi Ar. Bea	141.96	208	PKP	PKPdf	14 01 05.8	-0.6
	0.6nm,0.7s,baz=186,slow=2.1,SNR=3.5						

IDC 06 14:08:07.8±3.5,**577S**×**15107E**,**h0**^{km},**mb3.7**/3,**mb1 3.9**/3, **mb1mx3.5**/15,**mbtmp3.7**/3,**MS3.5**/1,**Ms1 3.5**/1, **ms1mx2.6**/32,**Error ellipse: s-maj=107.8km s-min=50.4km az=120.0,New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
HNR	Honiara	9.52	113	LR	LR	14 13 17.8	
	comp=Z,237nm,18.2s,baz=360,slow=32						
WRA	Warramunga Arr	21.51	228	P	P	14 12 58.9	+0.3
	0.8nm,0.5s,baz=55,slow=11,SNR=20						
ASAR	Alice Springs	24.28	221	P	P	14 13 27.2	+0.3
	2.0nm,0.8s,baz=51,slow=9.6,SNR=25						
FITZ	Fitzroy Crossi	27.68	242	P	P	14 13 58.1	+0.3
	1.2nm,0.8s,baz=47,slow=11,SNR=6.6						
TORD	Torodi Ar. Bea	148.94	286	PKPbc	PKPbc	14 27 57.6	-1.2
	0.7nm,0.7s,baz=95,slow=2.4,SNR=3.9						

*ISCJB **06** 14:08:56.2±0.5,2191N±006×1431E±0.1,h33^{km},mb4.4/26, Error ellipse: s-maj=17.9km s-min=8.3km az=170.1*
*IDC **06** 14:08:58.8±7.8,2188N×143.12E,h40^{km}±70^{km},mb4.0/14, mb1 4.2/15,mb1mx4.1/23,mbtmp4.0/15,ML3.7/1,Error ellipse: s-maj=27.0km s-min=13.7km az=79.0*
*BJI **06** 14:08:58.0,2190N×14320E,h35^{km},mB5.0,mb4.9*
*NEIC **06** 14:08:58.1±0.3,2192N×143.18E,h35^{km},mb4.6/12,Error ellipse: s-maj=12.6km s-min=6.0km az=77.0*
ISC 06 14:08:58.2±0.5,**2192N**±006×**1432E**±01,**h35**^{km},**n40, σ0^{s}92**/38,**mb4.4**/26,**Mariana Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MJAR	Matsushiro Arr	15.20	345	Pn	Pn	14 12 29.2	-0.9
	0.3nm,0.3s,baz=151,slow=10,SNR=5.4						
MJAR	Matsushiro Arr	15.20	345	Pn	Pn	14 12 29.2	-0.9
MAJO	Matsushiro	15.20	345	ePn	Pn	14 12 29.4	-0.7
	14nm,1.0s						
MAT	Matsushiro	15.20	345	P	Pn	14 12 27.4	-2.7
KSRS	Korea Array	20.34	323	P	P	14 13 34.5	+3.1
	8.4nm,0.7s,baz=140,slow=8.6,SNR=28						
ULN	Ulaanbaatar	38.79	321	eP	P	14 16 19.9	+0.5
	3.3nm,0.8s,mb4.1						
SONM	Songino Array	39.17	320	P	P	14 16 22.9	+0.4
	3.7nm,0.6s,mb4.3,baz=130,slow=7.5,SNR=28						
YAK	Yakutsk	41.15	350	eP	P	14 16 37.3	-1.4
	10nm,1.0s,mb4.4						
CMAR	Chiang Mai Arr	41.56	273	P	P	14 16 43.1	+0.5
	1.8nm,0.6s,mb3.9,baz=62,slow=7.6,SNR=14						
CTA	Charters Tower	41.86	176	P	P	14 16 45.5	+0.5
	8.0nm,1.1s,mb4.2,baz=338,slow=7.3,SNR=5.5						
CTAO	Charters Tower	41.86	176	eP	P	14 16 45.4	+0.4
	4.0nm,0.7s,mb4.2						
WB2	Warramunga Arr	42.49	192	eP	P	14 16 49.9	-0.3
WRA	Warramunga Arr	42.49	192	P	P	14 16 49.7	-0.4
	2.0nm,0.7s,mb3.9,baz=17,slow=9.0,SNR=18						
FITZ	Fitzroy Crossi	43.32	205	P	P	14 16 55.9	-1.0
	1.9nm,1.0s,mb3.8,baz=0.0,slow=10,SNR=4.3						
ASAR	Alice Springs	46.20	192	P	P	14 17 19.5	-0.3
	1.9nm,0.6s,mb4.2,baz=16,slow=9.7,SNR=40						
WMQ	Urumqi	50.44	309	P	P	14 17 52.5	+0.2
STKA	Stephens Creek	53.51	182	P	P	14 18 14.0	-1.2
	2.9nm,0.8s,mb4.2,baz=350,slow=6.9,SNR=6.6						
STKA	Stephens Creek	53.51	182	eP	P	14 18 15.0	-0.2
	5.1nm,1.0s,mb4.4						
ZAA0	Zalesovo Array	54.03	322	eP	P	14 18 18.7	-0.2
ZALV	Zalesovo Beam	54.03	322	P	P	14 18 18.7	-0.1
	8.5nm,0.9s,mb4.7,baz=102,slow=6.7,SNR=25						
MK31	Makanchi Array	54.55	313	eP	P	14 18 23.3	+0.6
MKAR	Makanchi Array	54.55	313	P	P	14 18 22.7	0.0
	1.7nm,0.6s,mb4.3,baz=91,slow=8.8,SNR=14						
KURK	Kurchatov	57.31	317	eP	P	14 18 42.3	-0.1
	6.5nm,0.9s,mb4.7						
TKM2	Tokmak 2	59.21	308	eP	P	14 18 57.0	+1.2
	6.7nm,1.0s,mb4.6						
UCH	Uchtor	60.04	307	eP	P	14 19 03.2	+1.6
	7.1nm,1.0s,mb4.7						
AML	Almayashu	60.65	307	eP	P	14 19 07.0	+1.3
	6.7nm,0.9s,mb4.8						
BRVK	Borovoye	62.56	319	eP	P	14 19 18.9	+0.5
	11nm,0.9s,mb5.0						
ARU	Arti	69.08	324	eP	P	14 19 59.2	-1.2
	4.8nm,1.0s,mb4.4						
YKA	Yellowknife Ar	76.26	28	P	P	14 20 43.7	+0.9
	1.5nm,0.5s,mb4.2,baz=293,slow=6.1,SNR=4.8						
YKA	Yellowknife Ar	76.26	28	P	P	14 20 43.7	+0.9
YBH	Yreka Blue Hor	78.68	50	P	P	14 20 57.8	+0.9
	2.2nm,0.8s,mb4.1,baz=195,slow=0.9,SNR=4.0						
ARCES	ARCESS Array B	78.71	341	P	P	14 20 57.0	+0.5
	1.5nm,0.8s,mb4.0,baz=78,slow=6.7,SNR=4.3						
NVAR	Mina Array Bea	83.01	51	P	P	14 21 21.1	+1.1
	1.5nm,0.7s,mb4.1,baz=271,slow=5.1,SNR=6.8						
RDF	Al-Radifah	84.33	299	eP	P	14 21 26.9	-0.2
	baz=43						
RDF				AMb	AMB	14 21 27.5	
	comp=Z,19nm,0.8s,mb5.3,baz=43						
NAY	Al-Naaiem	84.47	299	eP	P	14 21 27.6	-0.1
	baz=43						
NAY				AMb	AMB	14 21 34.9	
	comp=Z,12nm,1.3s,mb4.9,baz=43						
RST	Umm Al-Ruwaisa	84.57	299	eP	P	14 21 27.7	-0.5
	baz=43						
RST				AMb	AMB	14 21 30.1	
	comp=Z,15nm,1.0s,mb5.1,baz=43						
AKASG	Malin Array Be	87.33	324	P	P	14 21 39.8	-1.6
	comp=Z,1.3nm,0.6s,mb4.3,baz=50,slow=4.7,SNR=7.4						
BR131	Keskin Array S	90.19	313	eP	P	14 21 54.5	-0.7
	comp=Z,2.9nm,1.0s,mb4.6						
PLCA	Paso Flores	145.90	131	PKPbc	PKPbc	14 28 34.0	-0.1
	comp=Z,1.3nm,0.8s,baz=23,slow=1.6,SNR=3.0						
LPAZ	La Paz	149.92	85	PKPbc	PKPbc	14 28 45.3	-0.2
	comp=Z,1.7nm,0.8s,baz=14,slow=3.3,SNR=7.4						

*IDC **06** 14:26:49.7±2.7,3287S×178.11W,h0^{km},mb4.1/4, mb1 4.3/5,mb1mx3.9/18,mbtmp4.1/5,ML4.0/1,Error ellipse: s-maj=60.6km s-min=44.2km az=131.0*
*NEIC **06** 14:26:54.7±1.6,3306S×17809W,h35^{km},mb4.3/1,Error ellipse: s-maj=32.6km s-min=18.8km az=103.0*
ISC 06 14:26:53.9±5.0,**331S**±02×**1780W**±07,**h35**^{km},**n10**,**σ0^{s}24**/7, **mb4.1**/4,**South of Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
URZ	Urewera	6.55	216	Pn	Pn	14 28 27.9	+0.1
	3.1nm,0.3s,baz=314,slow=3.2,SNR=18						
URZ				Sn	Sn	14 29 41.2	0.0
	5.4nm,0.3s,baz=227,slow=20,SNR=7.0						
CTA	Charters Tower	34.33	283	P	P	14 33 37.8	+0.4
	2.1nm,0.5s,mb4.3,baz=115,slow=12,SNR=4.2						
CTAO	Charters Tower	34.33	283	eP	P	14 33 37.8	+0.4
	2.3nm,0.6s,mb4.3						
ASAR	Alice Springs	43.05	270	P	P	14 34 50.4	-0.1
	1.6nm,0.7s,mb3.9,baz=110,slow=7.4,SNR=19						
WRA	Warramunga Arr	44.28	275	P	P	14 35 00.0	-0.4
	2.2nm,0.4s,mb4.2,baz=114,slow=7.7,SNR=35						
FITZ	Fitzroy Crossi	52.42	272	P	P	14 36 03.1	-0.1
	1.2nm,0.7s,mb3.9,baz=191,slow=12,SNR=3.8						
KEV	Kevo	140.71	347	ep	PKPdf	14 46 22.8	+4.0
KAF	Kangasniemi	147.04	339	ep	PKPbc	14 46 35.7	+3.6
NB2	NORSAR Subarra	151.37	351	PKP	PKPbc	14 46 45.3	+2.2
	comp=Z,0.5nm,0.6s,baz=17,slow=2.6						
NOA	NORSAR Array B	151.37	351	PKPbc	PKPbc	14 46 44.0	+1.0
	comp=Z,1.0nm,0.9s,baz=16,slow=4.1,SNR=4.3						

PGC 06 14:37:04.0,5025N×13027W,h10^{km},ML2.9,Mw3.5,8D, 207km west of Pt. Hardy, Bc Vancouver Island Region, Vancouver Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
HOLB	Holberg	1.42	73	⇓Pn	Pn	14 37 27.3	-2.5
PHC	Port Hardy	1.87	75	⇑Pn	Pn	14 37 33.8	-2.2
PHC				⇓Sn	Sn	14 37 55.5	-4.1
MAYB	Maynard	1.99	84	⇓Pn	Pn	14 37 35.5	-2.2
MAYB				⇓Sn	Sn	14 38 00.1	-2.5
BBB	Bella Bella	2.36	34	⇓Pn	Pn	14 37 41.2	-1.6
WOSB	Woss	2.38	91	⇓Pn	Pn	14 37 42.2	-0.8
BNB	Barry Inlet	2.50	339	⇓Pn	Pn	14 37 43.0	-1.8
MOBC	Moresby Island	3.08	341	⇓Pn	Pn	14 37 51.7	-1.0

*IDC **06** 14:48:56.5±1.3,3506N×138.13E,h0^{km},mb3.4/2, mb1 3.7/3,mb1mx3.3/23,mbtmp3.6/3,ML3.2/1,Error ellipse: s-maj=68.0km s-min=17.8km az=89.0*
*ISCJB **06** 14:48:59.2±0.7,3538N±004×13936E±006,h27^{km}±6^{km}, mb3.5/2,Error ellipse: s-maj=9.4km s-min=4.5km az=149.9*
*JMA **06** 14:48:59.6±0.1,3539N×13929E,h32^{km}±1^{km},M3.1 Broadband fault plane solution: P waves. NP1: ϕ_s16.00000°,δ41.00000°,λ95.00000°. NP2:ϕ_s190.00000°, δ49.00000°,λ86.00000°. Principal axes: T Plg85.0000°, Azm66.0000°; N Plg3.0000°, Azm193.0000°; P Plg4.0000°, Azm283.0000°;*
JMA Felt II J1.
ISC 06 14:48:59.3±0.7,**3539N**±004×**13936E**±006,**h25**^{km}±6^{km}, **n13**,σ**0^{s}76**/22,**mb3.5**/2,**1C-3D,Near south coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JOD2	Odawara 2	0.26	241	⇑P	Pb	14 49 05.9	+0.3
JOD2				eS	Sb	14 49 10.4	+0.5
JIM2	Oshima 3	0.67	175	P	Pb	14 49 11.6	-0.7
JIM2				eS	Sb	14 49 21.8	+0.6
JYN	Shimob	0.68	280	⇓P	Pb	14 49 11.6	-0.8
JYN				eS	Sb	14 49 21.1	-0.3
JRY	Ryogami san	0.73	329	⇓P	Pb	14 49 13.1	-0.3
JRY				eS	Sb	14 49 23.1	+0.1
JIZS	Izushimoda	0.78	211	P	Pb	14 49 13.9	-0.2
SHZ3	Shizuoka 3	1.00	252	⇓P	Pn	14 49 17.0	-0.7
SHZ3				eS	Sb	14 49 30.8	+0.3
JAG	Ashikaga	1.04	4	P	Pn	14 49 18.2	-0.1
BSO3	Boso 3	1.11	121	P	Pn	14 49 18.6	-0.6
BSO3				eS	Sn	14 49 34.3	+0.6
MJAR	Matsushiro Arr	1.48	321	Pn	Pn	14 49 24.5	+0.1
	23nm,0.3s,baz=165,slow=8.9,SNR=306						
MJAR				Sn	Sn	14 49 44.2	+1.2
	17nm,0.3s,baz=157,slow=24,SNR=10						
MAT	Matsushiro	1.49	321	P	Pn	14 49 25.0	+0.6
MAT				S	Sn	14 49 43.3	+0.3
JHJ	Hachijo jima 2	2.29	171	Pn	Pn	14 49 36.5	+1.0
	14nm,0.3s,baz=58,slow=19,SNR=4.5						
JHJ				Sn	Sn	14 50 03.9	+1.0
	32nm,0.3s,baz=241,slow=24,SNR=6.7						
WRA	Warramunga Arr	55.23	186	P	P	14 58 27.8	-2.4
	0.5nm,0.5s,mb3.8,baz=0.7,slow=7.5,SNR=18						
ASAR	Alice Springs	58.96	186	P	P	14 58 55.6	-1.0
	0.2nm,0.7s,mb3.3,baz=20,slow=11,SNR=7.3						

GUC 06 14:49:37.1±0.5,**2500S**×**6893W**,**h100**^{km},**ML3.6**,**3D, Chile-Argentina border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CPN1	Cerro Paranal	1.39	285	⇓iP	Pn	14 50 03.1	+1.1
CPN1				iS	Sn	14 50 22.8	+2.0
CPN1				AML	AML	14 50 23.9	
	comp=E,1μm,0.4s						
ANCH	Antofagasta	1.89	314	⇓iP	Pn	14 50 08.7	+0.6
ANCH				iS	Sn	14 50 31.9	+0.1
ANCH				AML	AML	14 50 34.5	
	comp=N,980nm,0.3s						
CEN1	Los Morros	1.98	324	⇓iP	Pn	14 50 09.2	-0.3
CEN1				iS	Sn	14 50 33.4	-0.7
CEN1				AML	AML	14 50 34.8	
	comp=E,528nm,0.7s						
CPCH	Copiapo	2.67	208	eP	Pn	14 50 18.6	+0.1
CPCH				iS	Sn	14 50 50.9	+0.7

*IDC **06** 14:58:10.8±2.6,280S×139.12E,h0^{km},mb3.3/3,mb1 3.8/5, mb1mx3.6/15,mbtmp3.7/5,ML4.2/2,Error ellipse: s-maj=69.7km s-min=19.3km az=93.0*
*ISCJB **06** 14:58:12.2±1.6,27S±0.1×1393E±02,h33^{km},mb3.4/2, Error ellipse: s-maj=29.2km s-min=13.7km az=11.9*
*NEIC **06** 14:58:16.8±1.8,285S×13888E,h35^{km},Error ellipse: s-maj=50.0km s-min=16.6km az=91.0*
ISC 06 14:58:20.4±3.1,**30S**±01×**1389E**±03,**h70**^{km}±23^{km},**n7, σ1^{s}01**/9,**mb3.3**/2,**Irian Jaya**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KAKA	Kakadu	11.58	213	eP	Pn	15 01 02.1	-0.7
	2.7nm,0.4s						
KAKA				eS	Sn	15 03 19.8	+9.3
BATI	Baumata	16.76	244	P	Pn	15 02 12.1	+1.4
	2.9nm,0.3s,baz=53,slow=2.9,SNR=5.7						
WB2	Warramunga Arr	17.41	195	eP	Pn	15 02 18.8	+0.1
WRA	Warramunga Arr	17.41	195	P	Pn	15 02 19.2	+0.5
	0.5nm,0.3s,baz=19,slow=12,SNR=32						
WRA				S	S	15 05 36.4	-0.2
	0.1nm,0.3s,baz=8.7,slow=22,SNR=3.8						
FITZ	Fitzroy Crossi	19.86	220	P	Pn	15 02 45.3	-2.8
	0.5nm,0.6s,baz=44,slow=16,SNR=3.1						
ASAR	Alice Springs	21.10	193	P	P	15 03 00.0	+0.8
	1.2nm,0.6s,mb3.4,baz=22,slow=10,SNR=32						
MKAR	Makanchi Array	70.16	322	P	P	15 09 25.2	-0.4
	0.3nm,0.6s,mb3.3,baz=98,slow=7.9,SNR=2.9						

*ISCJB **06** 15:10:23.9±2.3,1003N±004×1261E±0.1,h32^{km}±14^{km}, Error ellipse: s-maj=18.5km s-min=7.0km az=171.1*
*MAN **06** 15:10:23,1006N×12603E,h13^{km},mb4.4,ML3.2,MS3.0*
ISC 06 15:10:22.8±1.9,**1005N**±004×**12611E**±008,**h16**^{km}±9^{km},**n8, σ1^{s}06**/15,**1D,Philippine Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SCPH	Surigao	0.67	246	eP	Pg	15 10 35.6	-0.4
SCPH				eS	Sg	15 10 45.0	+0.1
BUTP	Butuan	1.18	204	eP	Pn	15 10 43.9	-0.8
BUTP				eS	Sb	15 11 02.0	+2.1
MSLP	Maasin	1.24	274	eP	Pn	15 10 44.9	-0.5
MSLP				eS	Sb	15 11 01.6	0.0
PLP	Palo	1.57	315	⇓eP	Pn	15 10 49.3	-0.7
PLP				iS	Sn	15 11 09.9	-0.1
BESP	Borongan	1.68	337	eP	Pn	15 10 51.8	+0.3
BESP				eS	Sn	15 11 14.6	+1.9
OCLP	Ormoc	1.78	304	eP	Pn	15 10 53.8	+0.9
BUKP	Musuan	2.40	206	eP	Pn	15 11 02.7	+1.3
BUKP				eS	Sn	15 11 28.4	-2.1
CNP	Catarman	2.83	330	eP	Pn	15 11 06.1	-1.2
CNP				eS	Sn	15 11 40.6	-0.5

IDC 06 15:16:42.3±3.8,**514S**×**15280E**,**h0**^{km},**mb3.3**/2,**mb1 3.6**/2, **mb1mx3.3**/15,**mbtmp3.3**/2,**Error ellipse: s-maj=169.0km s-min=48.5km az=122.0,New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRA	Warramunga Arr	23.23	229	P	P	15 21 50.7	-0.6
	0.4nm,0.4s,baz=54,slow=9.8,SNR=16						
ASAR	Alice Springs	25.91	223	P	P	15 22 16.7	+0.5
	0.3nm,0.3s,baz=54,slow=9.1,SNR=6.8						
TORD	Torodi Ar. Bea	150.41	288	PKPbc	PKPbc	15 36 36.8	-0.2
	0.6nm,0.7s,baz=92,slow=1.6,SNR=5.3						

MAN 06 15:17:53,1252N×12090E,h14^{km},mb4.3,ML3.1,MS2.9, 1C,Mindoro

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SJMP	San Jose	0.22	106	eP	Pg	15 17 59.2	+1.3
SJMP				eS	Sg	15 18 03.7	+2.4
BUSP	Coron	0.86	233	eP	Pg	15 18 10.2	+0.5
BUSP				eS	Sg	15 18 21.9	+1.0
OTRP	Odiongan	1.11	98	eP	Pb	15 18 13.7	-0.3
OTRP				eS	Sb	15 18 30.7	+2.4
LUBP	Lubang	1.36	332	eP	Pn	15 18 17.1	-0.5
LUBP				eS	Sn	15 18 36.5	+1.0
CUYO	Cuyo Island	1.67	176	eP	Pn	15 18 21.3	-0.5
CUYO				eS	Sn	15 18 48.4	+5.4
ENPP	El Nido	1.95	228	eP	Pn	15 18 26.5	+0.8
ENPP				eS	Sn	15 18 51.5	+1.6
NBP	Mount Natib	2.25	348	⇑eP	Pn	15 18 30.2	+0.3
POLP	Polilio Island	2.41	25	eP	Pn	15 18 34.6	+2.5

*ISK **06** 15:21:52.7,3873N×3346E,h27^{km},MD2.8*
*ISCJB **06** 15:21:56.8±0.6,3888N±004×3422E±004,h10^{km},Error ellipse: s-maj=5.2km s-min=4.7km az=25.5*
*DDA **06** 15:21:56.3,3885N×3429E,h7^{km}±4^{km},Md2.9*
*CSEM **06** 15:21:58.0±0.0,3905N×3406E,h12^{km},MD2.9,Error ellipse: s-maj=0.8km s-min=0.5km az=160.0*
ISC 06 15:21:57.7±0.7,**3887N**±004×**3423E**±005,**h10**^{km},**n10, σ1^{s}30**/16,**1C,Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
AVNT	Avonos	0.50	100	⇑iP	Pg	15 22 04.4	-3.1
AVNT				iS	Sg	15 22 12.6	-1.4
KAMT	Kaman	0.64	321	ePG	Pg	15 22 07.0	-3.0
KAMT				eSG	Sg	15 22 17.2	-1.2
CDAG	Cicekdag	0.76	9	eP	Pg	15 22 11.3	-1.1
CDAG				eS	Sg	15 22 22.4	+0.1
NIG	Nigde	0.82	158	ePN	Pg	15 22 13.2	-0.2
YOZ	Yozgat	1.15	48	ePN	Pn	15 22 20.5	+0.7
BNN	Bunyan	1.27	90	ePN	Pg	15 22 23.3	+1.3
CORM	Corum	1.34	13	ePN	Pn	15 22 22.1	-0.3
CORM				eSN	Sn	15 22 42.1	+1.7
KDHN	Kadinhani	1.69	259	eP	Pn	15 22 26.7	-0.5
KDHN				eS	Sg	15 22 53.6	+1.6
CTKT	Corum	1.80	14	eP	Pg	15 22 31.9	-0.4
CTKT				eS	Sg	15 22 56.2	+0.5
SVSK	Karacayir	2.39	63	ePN	Pn	15 22 39.4	+2.6

*GRAL **06** 15:43:46.5±0.3,3336N×3563E,h30^{km}±1^{km},MD2.9*
*GII **06** 15:43:46.0±0.7,3350N×3555E,h0^{km},EXPLOSION*
*CSEM **06** 15:43:46.5,3336N×3563E,h29^{km},ML2.9,After GRAL*
*ISCJB **06** 15:43:48.1±0.5,3346N±003×3555E±005,h0^{km},Error ellipse: s-maj=7.0km s-min=3.7km az=24.1*
ISC 06 15:43:48.4±0.5,**3346N**±003×**3556E**±005,**h0**^{km},**n15, σ1^{s}06**/20,**Jordan - Syria region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MATL	Matirih	0.20	280	eP	Pg	15 43 53.1	+0.9
RCY	Rachaya	0.22	82	eP	Pg	15 43 52.6	0.0
RCY				eS	Sg	15 43 57.0	+1.6
HRI	Mount Hermon	0.24	142	Pg	Pg	15 43 52.5	-0.4
KSDI	Kefar Szold	0.28	162	Pg	Pg	15 43 53.4	-0.3
MMC1	Mount Meron ar	0.44	197	Pg	Pg	15 43 56.5	-0.4
MMC7	Mount Meron ar	0.45	198	Pg	Pg	15 43 56.9	-0.2
MMA1	Mount Meron ar	0.45	196	Pg	Pg	15 43 56.8	-0.3
MMA1				Sg	Sg	15 44 05.1	+2.1
BHL	Bhannes	0.46	10	eP	Pg	15 43 56.9	-0.3
BHL				eS	Sg	15 44 04.5	+1.4
MMA0	Mount Meron ar	0.46	197	Pg	Pg	15 43 56.7	-0.4
MMA0				Sg	Sg	15 44 05.4	+2.3
MMA2	Mount Meron ar	0.46	196	Pg	Pg	15 43 56.8	-0.5
MMC6	Mount Meron ar	0.46	198	Pg	Pg	15 43 57.0	-0.3
HWQ	Hawqa	0.88	21	eP	Pg	15 44 03.1	-2.3
MMLI	Mount Malkishu	1.02	187	Pg	Pg	15 44 07.3	-0.7
HMDT	Nahal Hemdat	1.20	181	Pg	Pg	15 44 10.5	-0.9
SLTI	Sal'it	1.29	200	Pn	Pn	15 44 12.3	-1.4
SLTI				Sn	Sn	15 44 32.2	+0.6

TAP 06 16:25:25.4,2495N×12225E,h124^{km},ML3.6,C,Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
NWF	Wu-fen Shan	0.44	286	eP	Pn	16 25 44.1	+0.7
	baz=282						
NWF				eS	Sn	16 25 56.9	-0.1
	baz=282						
ILA	Ilan	0.49	248	P	Pn	16 25 44.2	+0.5
	baz=253						
ILA				eS	Sn	16 25 57.6	+0.1
	baz=253						
TWC	Suao	0.50	227	P	Pn	16 25 43.8	+0.1
	baz=229						
TWE	Neicheng	0.57	247	P	Pn	16 25 44.5	+0.3
	baz=250						
TWA	Mucha	0.60	273	P	Pn	16 25 44.6	+0.2
	baz=267						
TWA				eS	Sn	16 25 57.9	-0.9
	baz=267						
TAP1	Taipei	0.66	278	eP	Pn	16 25 45.0	+0.2
	baz=276						
TWY	Chenhua	0.67	299	eP	Pn	16 25 46.0	+1.1
	baz=291						
ENTT	Nioudou	0.69	243	eP	Pn	16 25 45.7	+0.6
	baz=242						
ENTT				S	Sn	16 26 00.4	+0.5
	baz=242						
PCYT	Pengchaiyu	0.69	347	eP	Pn	16 25 46.1	+1.0
	baz=347						
ENA	Nanau	0.70	222	P	Pn	16 25 45.8	+0.7
	baz=222						
ENA				eS	Sn	16 25 59.9	-0.1
	baz=222						
TWS1	Kuangyinshan	0.77	281	eP	Pn	16 25 46.2	+0.6
	baz=284						
TWS1				eS	Sn	16 26 02.7	+1.7
	baz=284						
NNS	Nan Shan	0.94	238	eP	Pn	16 25 48.3	+1.0
	baz=236						
NNS				S	Sn	16 26 04.0	+0.3
	baz=236						
NCU	National Centr	0.96	271	eP	Pn	16 25 48.3	+0.9
	baz=277						
TWD	Chiawan	1.05	214	P	Pn	16 25 48.3	0.0
	baz=224						
TWD				eS	Sn	16 26 04.5	-1.1
	baz=224						
HSN	Hsinchu	1.17	263	eP	Pn	16 25 49.9	+0.5
	baz=261						
NSTT	Nanjuang	1.18	255	eP	Pn	16 25 50.1	+0.6
	baz=247						
NSTT				eS	Sn	16 26 07.2	-0.6
	baz=247						
WHF	Hehuan Shan	1.20	228	P	Pn	16 25 51.0	+1.2
	baz=230						

WHF				S	Sn	16 26 08.8	+0.5
	baz=230						
ESL	**Shilin**	**1.35**	**213**	eP	Pn	16 25 51.5	0.0
	baz=217						
ESL				eS	Sn	16 26 09.2	-2.0
	baz=217						
NSY	**Sanyi**	**1.45**	**249**	eP	Pn	16 25 53.5	+0.9
	baz=247						
NSY				eS	Sn	16 26 13.7	+0.5
	baz=247						
TWQ1	**Liyutan**	**1.47**	**246**	eP	Pn	16 25 53.5	+0.7
	baz=244						
SMLT	**Sun Moon Lake**	**1.62**	**229**	eP	Pn	16 25 55.8	+1.3
	baz=233						
SMLT				eS	Sn	16 26 18.1	+1.4
	baz=233						
TYC	**Yuchr**	**1.64**	**231**	eP	Pn	16 25 55.9	+1.1
	baz=235						
TYC				eS	Sn	16 26 17.8	+0.7
	baz=235						
EHY	**Hungye**	**1.67**	**211**	eP	Pn	16 25 55.8	+0.7
	baz=208						
TWF1	**Yuli**	**1.81**	**209**	eP	Pn	16 25 56.9	+0.1
	baz=211						

NEIC 06 16:28:59.5, 3815S×17615E, h179^{km}, MG4.2(WEL)**, After WEL., North Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KARZ	**Kaharoa**	**0.15**	**30**	P	Pn	16 29 23.6	+0.4
MARZ	**Manawahe**	**0.45**	**69**	P	Pn	16 29 24.3	+0.4
URZ	**Urewera**	**0.76**	**99**	P	Pn	16 29 24.9	-0.6
RATZ	**Rangitukua**	**0.78**	**202**	P	Pn	16 29 25.9	+0.4
BKZ	**Black Stump Fm**	**1.05**	**165**	P	Pn	16 29 27.6	+0.2
TWVZ	**Taurewa**	**1.08**	**211**	P	Pn	16 29 27.9	+0.3
MWZ	**Matawai**	**1.10**	**100**	P	Pn	16 29 27.5	-0.3
MWZ				S	Sn	16 29 50.1	+0.5
WPVZ	**Whakapapa**	**1.16**	**204**	P	Pn	16 29 28.5	+0.2
MOVZ	**Moawhango**	**1.29**	**194**	P	Pn	16 29 29.1	-0.3
VRZ	**Vera Road**	**1.46**	**228**	P	Pn	16 29 31.1	+0.1
KNZ	**Kokohu**	**1.48**	**127**	P	Pn	16 29 31.4	+0.3
PUZ	**Puketiti**	**1.66**	**88**	P	Pn	16 29 32.4	-0.5
MXZ	**Matakaoa Point**	**1.80**	**72**	P	Pn	16 29 34.1	-0.3
TSZ	**Takapari Road**	**1.91**	**184**	P	Pn	16 29 34.9	-0.6
KIW	**Kapiti Island**	**2.87**	**199**	P	Pn	16 29 44.2	-2.3
MTW	**Mount Morrison**	**3.05**	**189**	P	Pn	16 29 46.1	-2.5
CAW	**Cannon Point**	**3.07**	**195**	P	Pn	16 29 46.6	-2.3
MSWZ	**Moikau Station**	**3.33**	**192**	P	Pn	16 29 49.4	-2.7
TCW	**Tory Channel**	**3.38**	**205**	P	Pn	16 29 50.1	-2.6
NNZ	**Nelson**	**3.74**	**214**	P	Pn	16 29 53.6	-3.5
QRZ	**Quartz Range**	**3.87**	**225**	P	Pn	16 29 54.8	-4.1
THZ	**Tophouse**	**4.39**	**214**	P	Pn	16 30 02.2	-3.2
KHZ	**Kahutara**	**4.71**	**204**	P	Pn	16 30 06.2	-3.3
ODZ	**Otahua Downs**	**8.03**	**209**	P	Pn	16 30 48.4	-4.6

IDC 06 17:17:57.8±6.2**, 779S×12270E, h373^{km}**±17^{km}**, mb3.0**/1**, mb1 2.9**/5**, mb1mx2.7**/17**, mbtmp2.7**/5**, Error ellipse: s-maj=120.9km s-min=79.8km az=64.0, Flores Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BATI	**Baumata**	**2.58**	**158**	P	Pn	17 18 55.6	+0.2
	4.3nm,0.3s,baz=117,slow=2.3,SNR=24						
BATI				S	S	17 19 42.1	+0.3
	17nm,0.3s,baz=343,slow=19,SNR=12						
FITZ	**Fitzroy Crossi**	**10.64**	**165**	P	Pn	17 20 23.8	+0.5
	0.4nm,0.3s,baz=340,slow=13,SNR=18						
WRA	**Warramunga Arr**	**16.53**	**138**	P	P	17 21 28.3	+0.4
	0.1nm,0.3s,baz=314,slow=12,SNR=14						
ASAR	**Alice Springs**	**19.09**	**147**	P	P	17 21 55.5	+0.3
	0.2nm,0.3s,baz=325,slow=11,SNR=22						
STKA	**Stephens Creek**	**29.73**	**146**	P	P	17 23 30.1	-1.1
	0.7nm,0.5s,baz=314,slow=8.7,SNR=3.0						

*IDC **06** 17:28:50.3±3.0, 2971N×6754E, h0^{km}, mb3.5/8, mb1 3.7/8, mb1mx3.5/25, mbtmp3.6/8, MS2.9/1, Ms1 2.9/1, ms1mx2.3/28, Error ellipse: s-maj=81.3km s-min=24.9km az=83.0*
*NEIC **06** 17:28:53.3±2.2, 2969N×6796E, h10^{km}, mb4.3/1, Error ellipse: s-maj=58.5km s-min=18.3km az=86.0*
ISC 06 17:29:00.0±2.4**, 2996N**±009×**681E**±01**, h46**^{km}±18^{km}**, n17,** σ**1^{s}01**/22**, mb3.6**/8**, Pakistan**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KBL	**Kabul**	**4.63**	**9**	ePn	**Pn**	**17 30 11.6**	**+4.2**
KBL				eSn	**Sn**	**17 31 09.4**	**+10**
SMLA	**Simla**	**7.87**	**79**	i P	**Pn**	**17 30 52.0**	**+0.1**
SMLA				i S	**Sn**	**17 32 19.0**	**-0.6**
SMLA				i S	**Sn**	**17 32 19.6**	**+0.1**
SMLA				ex	x	17 32 22.7	
	comp=N,344nm,0.4s						
SMLA				ex	x	17 32 23.4	
	comp=E,159nm,0.4s						
AML	**Almayashu**	**12.94**	**19**	ePn	**Pn**	**17 32 01.6**	**+0.4**
	comp=E,10.0nm,0.5s						
AML				eSn	**Sn**	**17 34 22.4**	**-1.3**
UCH	**Uchtor**	**13.27**	**21**	ePn	**Pn**	**17 32 06.2**	**+0.5**
UCH				eSn	**Sn**	**17 34 31.7**	**-0.1**
EKS2	**Erkin-Say**	**13.46**	**18**	ePn	**Pn**	**17 32 08.0**	**-0.3**
	comp=E,2.9nm,0.6s						
TKM2	**Tokmak 2**	**14.25**	**23**	ePn	**Pn**	**17 32 19.0**	**+0.1**
MK31	**Makanchi Array**	**20.08**	**29**	eP	**P**	**17 33 31.2**	**+1.7**
MKAR	**Makanchi Array**	**20.08**	**29**	P	**P**	**17 33 29.5**	**0.0**
	comp=E,1.5nm,0.6s,baz=219,slow=11,SNR=4.0						
KURK	**Kurchatov**	**22.17**	**18**	P	**P**	**17 33 49.9**	**-2.0**
	comp=E,1.1nm,0.6s,mb3.4,baz=210,slow=9.9,SNR=4.2						
KURK				LR	LR	17 43 49.0	
	comp=E,32nm,19.8s,baz=155,slow=40						
KURK	**Kurchatov**	**22.17**	**18**	P	**P**	**17 33 49.9**	**-2.0**
KURK				LR	LR	17 43 49.0	
BVAR	**Borovoye Array**	**23.10**	**3**	P	**P**	**17 34 00.8**	**-1.0**
	comp=E,1.4nm,0.7s,mb3.5,baz=187,slow=10.0,SNR=3.0						
BRVK	**Borovoye**	**23.13**	**3**	eP	**P**	**17 34 02.6**	**+0.6**
	comp=E,11nm,1.1s,mb4.2						
ZALV	**Zalesovo Beam**	**26.85**	**22**	P	**P**	**17 34 37.1**	**+1.1**
	comp=E,0.3nm,0.5s,mb3.1,baz=226,slow=9.8,SNR=2.4						
SONM	**Songino Array**	**34.28**	**48**	P	**P**	**17 35 42.9**	**+1.3**
	comp=E,0.5nm,0.9s,mb3.5,baz=258,slow=7.2,SNR=3.4						
KSRS	**Korea Array**	**49.57**	**65**	P	**P**	**17 37 47.9**	**+1.5**
	comp=E,1.1nm,0.8s,mb4.0,baz=276,slow=7.0,SNR=4.0						
WRA	**Warramunga Arr**	**80.73**	**119**	P	**P**	**17 41 07.3**	**-1.4**
	comp=E,0.5nm,0.8s,mb3.5,baz=319,slow=4.9,SNR=7.2						
ASAR	**Alice Springs**	**82.63**	**123**	P	**P**	**17 41 17.4**	**-1.2**
	comp=E,0.4nm,0.7s,mb3.6,baz=308,slow=6.7,SNR=7.3						

*IDC **06** 18:53:00.6±1.7, 4868S×16458E, h0^{km}, mb3.8/4, mb1 4.0/6, mb1mx3.9/12, mbtmp3.9/6, ML3.8/2, MS3.7/5, Ms1 3.6/5, ms1mx3.3/17, Error ellipse: s-maj=47.9km s-min=27.0km az=162.0*
*ISCJB **06** 18:53:03.7±0.8, 487S±0.1×1647E±0.1, h33^{km}, mb4.0/6, MS3.7/4, Error ellipse: s-maj=20.1km s-min=9.2km az=144.7*
*NEIC **06** 18:53:03.9±5.7, 4867S×16459E, h21^{km}±41^{km}, mb4.3/3, Error ellipse: s-maj=20.6km s-min=15.2km az=200.0*
ISC 06 18:53:05.9±0.8**, 487S**±01×**1646E**±01**, h35**^{km}**, n15,** σ**0^{s}86**/11**, mb4.0**/6**, MS3.7**/4**, Off west coast of South Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
RPZ	**Rata Peaks**	**6.70**	**45**	Pn	**Pn**	**18 54 40.5**	**-1.1**
	3.2nm,0.3s,baz=147,slow=1.7,SNR=9.2						
RPZ				Sn	**Sn**	**18 55 57.7**	**+1.1**
	baz=294,slow=19,SNR=2.0						
TAU	**Tasmania Unive**	**13.33**	**289**	ePn	**Pn**	**18 56 06.9**	**-5.5**
URZ	**Urewera**	**13.81**	**46**	Pn	**Pn**	**18 56 18.2**	**-0.8**
	0.3nm,0.3s,baz=171,slow=15,SNR=3.0						
URZ				LR	LR	19 01 33.8	
	comp=Z,266nm,21.5s,baz=231,slow=37						
STKA	**Stephens Creek**	**24.12**	**306**	P	**P**	**18 58 19.4**	**+1.2**
	3.3nm,1.0s,mb3.7,baz=71,slow=3.1,SNR=4.2						
STKA				LR	LR	19 06 42.7	
	comp=Z,297nm,18.3s,MS3.8,baz=203,slow=34						
STKA	**Stephens Creek**	**24.12**	**306**	eP	**P**	**18 58 18.8**	**+0.6**
	8.6nm,1.2s,mb4.1						
STKA				LR	LR	19 06 42.7	
CASY	**Casey**	**32.62**	**217**	P	**P**	**18 59 33.6**	**-0.2**
	11nm,1.5s,mb4.6						
ASAR	**Alice Springs**	**34.75**	**305**	P	**P**	**18 59 52.5**	**-0.1**
	0.5nm,0.5s,mb3.7,baz=137,slow=7.7,SNR=24						
ASAR				PcP	PcP	19 02 25.4	-0.4
	0.6nm,0.8s,baz=136,slow=3.3,SNR=4.1						
WRA	**Warramunga Arr**	**37.56**	**309**	P	**P**	**19 00 15.6**	**-1.2**
	0.8nm,0.8s,mb3.5,baz=149,slow=9.8,SNR=12						
WRA				PcP	PcP	19 02 34.3	+0.1
	1.3nm,1.0s,baz=143,slow=2.8,SNR=5.1						
WRA				LR	LR	19 13 25.2	
	comp=Z,148nm,21.0s,MS3.8,baz=235,slow=33						
PPT	**Papeete**	**48.32**	**66**	LR	LR	19 17 11.9	
	comp=Z,68nm,19.1s,MS3.6,baz=222,slow=30						
MAW	**Mawson**	**50.20**	**209**	LR	LR	19 20 40.4	
	comp=Z,40nm,18.7s,MS3.5,baz=68,slow=33						
PLCA	**Paso Flores**	**78.55**	**141**	P	**P**	**19 05 03.8**	**+0.4**
	4.2nm,1.3s,mb4.2						
CMAR	**Chiang Mai Arr**	**88.62**	**300**	P	**P**	**19 05 56.2**	**+1.1**
	0.6nm,0.9s,mb3.9,baz=156,slow=4.6,SNR=3.6						
TORD	**Torodi Ar. Bea**	**141.84**	**208**	PKP	PKPdf	19 12 33.8	-0.1
	0.7nm,0.9s,baz=160,slow=2.9,SNR=3.1						
AKASG	**Malin Array Be**	**151.36**	**291**	PKPbc	PKPbc	19 12 54.5	-0.3
	1.6nm,0.6s,baz=80,slow=2.7,SNR=8.5						
GERES	**GERESS Array B**	**160.84**	**282**	PKPab	PKPab	19 13 45.3	+1.4
	0.2nm,0.6s,baz=68,slow=5.4,SNR=4.1						

*ISCJB **06** 19:18:48.9±0.7, 2390S±006×669W±0.1, h209^{km}±10^{km}, mb3.1/2, Error ellipse: s-maj=16.0km s-min=9.7km az=163.2*
*IDC **06** 19:18:49.4±1.0, 2395S×6684W, h188^{km}±11^{km}, mb3.0/2, mb1 3.3/8, mb1mx3.2/19, mbtmp3.1/8, Error ellipse: s-maj=17.1km s-min=13.1km az=74.0*
*NEIC **06** 19:18:49.6±0.7, 2389S×6684W, h192^{km}±7^{km}, Error ellipse: s-maj=11.8km s-min=9.0km az=78.0*
ISC 06 19:18:49.8±0.7**, 2390S**±007×**669W**±01**, h199**^{km}±10^{km}**, n17,** σ**0^{s}85**/22**, mb3.1**/2**, Jujuy Province**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**2.29**	**304**	P	**Pn**	**19 19 32.5**	**+1.1**
	15nm,0.3s,baz=131,slow=5.6,SNR=85						
LVC				S	**Sn**	**19 20 03.7**	**0.0**
	19nm,0.3s,baz=260,slow=21,SNR=33						
LVC	**Limon Verde**	**2.29**	**304**	ePn	**Pn**	**19 19 32.0**	**+0.6**
LVC				P		19 19 32.5	
LVC				eSn	**Sn**	**19 19 58.6**	**-5.1**
LVC				S	**Sn**	**19 20 03.7**	**0.0**
LPAZ	**La Paz**	**7.67**	**351**	P	**Pn**	**19 20 39.5**	**+0.6**
	0.6nm,0.3s,baz=161,slow=7.0,SNR=18						
LPAZ				S	**Sn**	**19 22 02.5**	**-3.1**
	baz=319,slow=21,SNR=3.6						
LPAZ	**La Paz**	**7.67**	**351**	ePn	**Pn**	**19 20 38.6**	**-0.2**
LPAZ				P		19 20 39.5	
LPAZ				S	**Sn**	**19 22 02.5**	**-3.1**
LPAZ				eSn	**Sn**	**19 22 06.0**	**+0.5**
CFAA	**Coronel Fontan**	**7.77**	**189**	P	**Pn**	**19 20 40.0**	**0.0**
	0.2nm,0.3s,baz=12,slow=11,SNR=39						
CFAA				S	**Sn**	**19 22 01.5**	**-6.2**
	0.4nm,0.3s,baz=258,slow=23,SNR=14						
CFAA	**Coronel Fontan**	**7.77**	**189**	P	**Pn**	**19 20 40.0**	**0.0**
CFAA				S	**Sn**	**19 22 01.5**	**-6.2**
CPUP	**Villa Florida**	**8.96**	**108**	P	**Pn**	**19 20 55.4**	**-0.1**
	0.3nm,0.3s,baz=274,slow=19,SNR=2.8						
SIV	**San Ignacio**	**9.56**	**36**	P	**Pn**	**19 21 02.4**	**-1.1**
	0.6nm,0.3s,baz=219,slow=14,SNR=11						
TRQA	**Tornquist**	**14.71**	**165**	Pn	**Pn**	**19 22 07.5**	**-0.9**
BDFB	**Brasilia**	**19.52**	**69**	P	**P**	**19 23 03.8**	**+1.5**
	0.7nm,0.3s,baz=229,slow=17,SNR=8.2						
BDFB	**Brasilia**	**19.52**	**69**	P	**P**	**19 23 03.8**	**+1.5**
BDFB				P		19 23 05.9	
WVT	**Waverly**	**62.92**	**341**	P	**P**	**19 28 54.5**	**-0.4**
TXAR	**Lajitas Array**	**63.68**	**324**	P	**P**	**19 28 59.8**	**-0.3**
	0.3nm,0.8s,mb3.0,baz=152,slow=6.0,SNR=3.2						
TORD	**Torodi Ar. Bea**	**76.40**	**69**	P	**P**	**19 30 18.3**	**+0.6**
	0.4nm,0.5s,mb3.3,baz=259,slow=5.4,SNR=3.7						
ASAR	**Alice Springs**	**128.60**	**205**	PKP	PKPdf	19 37 35.1	+1.3
	0.4nm,0.9s,baz=160,slow=5.7,SNR=2.8						
WRA	**Warramunga Arr**	**131.78**	**207**	PKP	PKPdf	19 37 40.9	+1.0
	0.3nm,0.9s,baz=157,slow=1.7,SNR=5.5						
MKAR	**Makanchi Array**	**146.36**	**40**	PKPbc	PKPbc	19 38 08.5	+1.4
	0.4nm,0.6s,baz=294,slow=3.3,SNR=4.6						

*IDC **06** 19:42:57.5±1.1, 1025N×12264E, h0^{km}, mb3.4/6, mb1 3.5/6, mb1mx3.4/18, mbtmp3.4/6, Error ellipse: s-maj=44.9km s-min=21.6km az=67.0*
*ISCJB **06** 19:43:05.4±0.4, 1041N±003×12247E±004, h63^{km}±6^{km}, mb3.4/6, Error ellipse: s-maj=7.1km s-min=3.8km az=142.3*
*MAN **06** 19:43:05, 1040N×12247E, h40^{km}, mb4.9, ML3.8, MS3.8*
ISC 06 19:43:06.4±0.4**, 1041N**±003×**12247E**±004**, h56**^{km}±6^{km}**, n25,** σ**0^{s}97**/37**, mb3.4**/6**, 1C-2D, Panay**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
GUIM	**Jordan**	**0.24**	**29**	eP	**Pn**	**19 43 14.7**	**-1.0**
GUIM				eS	**Sn**	**19 43 21.6**	**-0.8**
RCP	**Roxas**	**1.17**	**13**⇓	eP	**Pn**	**19 43 26.0**	**-0.6**
RCP				eS	**Sn**	**19 43 42.7**	**+1.0**
KALP	**Kalibo**	**1.27**	**354**⇑	eP	**Pn**	**19 43 29.3**	**+1.4**
KALP				eS	**Sn**	**19 43 46.6**	**+2.7**
SNPH	**Sibulan**	**1.30**	**145**	i P	**Pn**	**19 43 28.0**	**-0.4**
SNPH				i S	**Sn**	**19 43 46.0**	**+1.2**
LLP	**Lapu-Lapu**	**1.47**	**94**⇓	eP	**Pn**	**19 43 29.7**	**-1.0**
LLP				eS	**Sn**	**19 43 47.5**	**-1.4**
CUYO	**Cuyo Island**	**1.49**	**287**	eP	**Pn**	**19 43 30.6**	**-0.4**
CUYO				eS	**Sn**	**19 43 48.8**	**-0.6**
TBP	**Tagbilaran**	**1.55**	**117**	eP	**Pn**	**19 43 31.1**	**-0.5**
TBP				eS	**Sn**	**19 43 49.9**	**-0.8**
OTRP	**Odiongan**	**1.99**	**347**	eP	**Pn**	**19 43 37.5**	**-0.2**
OTRP				eS	**Sn**	**19 44 01.5**	**0.0**
DCPH	**Dipolog City**	**2.01**	**154**	eS	**Sn**	**19 44 01.0**	**-1.1**
OCLP	**Ormoc**	**2.19**	**73**	eP	**Pn**	**19 43 40.2**	**-0.3**
SJMP	**San Jose**	**2.43**	**327**	eP	**Pn**	**19 43 43.4**	**-0.3**
SJMP				eS	**Sn**	**19 44 12.3**	**0.0**
PAGZ	**Pagadian**	**2.70**	**160**	eP	**Pn**	**19 43 47.6**	**+0.2**
PAGZ				eS	**Sn**	**19 44 21.5**	**+2.5**
CNP	**Catarman**	**3.00**	**46**	eP	**Pn**	**19 43 51.2**	**-0.2**
ENPP	**El Nido**	**3.10**	**285**	eP	**Pn**	**19 43 52.9**	**0.0**
BESP	**Borongan**	**3.14**	**68**	eP	**Pn**	**19 43 54.8**	**+1.3**
BUTP	**Butuan**	**3.42**	**115**	eP	**Pn**	**19 43 57.5**	**+0.2**
BUKP	**Musuan**	**3.59**	**134**	eP	**Pn**	**19 44 00.6**	**+1.0**
BUKP				eS	**Sn**	**19 44 42.3**	**+1.5**
LUBP	**Lubang**	**3.96**	**327**	eP	**Pn**	**19 44 05.4**	**+0.8**
LUBP				eS	**Sn**	**19 44 49.4**	**-0.3**
BATP	**Bataraza**	**4.88**	**251**	eP	**Pn**	**19 44 17.1**	**-0.2**
CMAR	**Chiang Mai Arr**	**24.13**	**292**	P	**P**	**19 48 18.0**	**+0.8**
	0.7nm,0.9s,mb3.1,baz=125,slow=8.9,SNR=4.1						
WRA	**Warramunga Arr**	**32.35**	**159**	P	**P**	**19 49 26.2**	**-4.4**
	0.1nm,0.4s,mb3.0,baz=332,slow=10,SNR=3.9						
ASAR	**Alice Springs**	**35.67**	**162**	P	**P**	**19 49 56.3**	**-3.0**
	0.2nm,0.6s,mb3.2,baz=340,slow=7.2,SNR=4.3						
SONM	**Songino Array**	**39.69**	**343**	P	**P**	**19 50 33.1**	**+0.1**
	0.3nm,0.6s,mb3.2,baz=160,slow=9.4,SNR=5.4						
MKAR	**Makanchi Array**	**49.70**	**324**	P	**P**	**19 51 51.8**	**-0.9**
	0.4nm,0.9s,mb3.5,baz=128,slow=9.3,SNR=2.6						
PETK	**Petropavlovsk-**	**51.12**	**27**	P	**P**	**19 52 02.8**	**-0.6**
	2.6nm,0.9s,mb4.2,baz=245,slow=9.4,SNR=3.8						

*ISCJB **06** 19:44:18.1±2.7, 5732S±008×260W±0.1, h67^{km}±26^{km}, mb4.6/22, Error ellipse: s-maj=13.5km s-min=9.7km az=27.2*
*NEIC **06** 19:44:19.9±1.8, 5736S×2599W, h68^{km}±16^{km}, mb4.7/16, Error ellipse: s-maj=9.5km s-min=7.1km az=211.0*
*IDC **06** 19:44:21.9±1.5, 5741S×26.19W, h83^{km}±11^{km}, mb4.4/12, mb1 4.4/13, mb1mx4.3/17, mbtmp4.4/13, MS3.9/11, Ms1 3.8/11, ms1mx3.7/24, Error ellipse: s-maj=17.0km s-min=14.0km az=52.0*
ISC 06 19:44:19.1±2.2**, 5734S**±008×**261W**±01**, h59**^{km}±22^{km}**, n69,** σ**0^{s}95**/44**, mb4.7**/22**, MS3.9**/10**, South Sandwich Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
VNA1	**Neumayer--Stat**	**15.36**	**157**	e	**Pn**	**19 47 55.6**	**+3.8**
VNA1				e		19 47 58.9	
VNA1				e		19 48 01.8	
VNA3	**Neumayer Olymp**	**15.56**	**160**	e	**Pn**	**19 47 54.3**	**-0.1**
VNA3				e		19 47 57.3	
VNA3				e		19 47 59.4	
VNA2	**Neumayer--Watz**	**15.76**	**157**	e	**Pn**	**19 47 57.7**	**+0.8**
VNA2				e		19 48 00.7	
VNA2				e		19 48 04.3	
SNAA	**Sanae**	**17.30**	**155**	e	**Pn**	**19 48 16.5**	**+0.3**
SNAA				e		19 48 18.8	
SNAA				e		19 48 21.1	
SNAA	**Sanae**	**17.30**	**155**	ePn	**Pn**	**19 48 15.3**	**-1.0**
	17nm,0.9s						
EFI	**East Falkland**	**19.30**	**273**	eP	**Pn**	**19 48 41.4**	**+1.0**
PMSA	**Palmer Station**	**19.55**	**232**	P	**Pn**	**19 48 42.0**	**-1.3**
	0.7nm,0.3s,baz=80,slow=15,SNR=2.8						
PMSA				LR	LR	19 55 11.9	
	comp=Z,387nm,19.1s,baz=139,slow=33						
PMSA	**Palmer Station**	**19.55**	**232**	P	**Pn**	**19 48 42.0**	**-1.3**
	69nm,1.0s						
PMSA				LR	LR	19 55 11.9	
MAIT	**Maitri**	**20.82**	**145**	eP	**P**	**19 48 54.5**	**-0.7**
USHA	**Ushuaia**	**23.49**	**258**	P	**P**	**19 49 23.5**	**+0.2**
	24nm,1.0s,mb4.6,baz=89,slow=9.6,SNR=6.4						
USHA				LR	LR	19 56 38.6	
	comp=Z,386nm,18.5s,MS3.9,baz=92,slow=32						
TRQA	**Tornquist**	**30.41**	**294**	eP	**P**	**19 50 24.3**	**-1.1**
	2.8nm,0.6s,mb4.2						
PLCA	**Paso Flores**	**32.84**	**281**	P	**P**	**19 50 46.4**	**-0.4**
	4.6nm,0.9s,mb4.4,baz=141,slow=7.8,SNR=8.8						
PLCA				PcP	PcP	19 53 29.7	-0.6
	1.0nm,0.7s,baz=290,slow=14,SNR=2.8						
PLCA				ScP	ScP	19 57 06.0	-2.9
	2.0nm,0.6s,baz=160,slow=5.3,SNR=7.4						
PLCA				LR	LR	20 04 34.0	
	comp=Z,132nm,19.2s,MS3.6,baz=159,slow=37						
PLCA	**Paso Flores**	**32.84**	**281**	eP	**P**	**19 50 46.2**	**-0.6**
	5.1nm,0.9s,mb4.5						
PLCA				PcP	PcP	19 53 29.7	-0.6
PLCA				ScP	ScP	19 57 06.0	-2.9
PLCA				LR	LR	20 04 34.0	
QSPA	**South Pole Qui**	**32.90**	**180**	P	**P**	**19 50 47.9**	**+0.9**
	40nm,0.6s,baz=206,slow=2.9,SNR=514						
QSPA				PcP	PcP	19 53 29.9	+0.1
	2.8nm,0.8s,baz=97,slow=2.4,SNR=3.2						
QSPA				ScP	ScP	19 57 06.8	-1.7
	5.2nm,0.6s,baz=229,slow=1.7,SNR=18						
QSPA	**South Pole Qui**	**32.90**	**180**	P	**P**	**19 50 47.9**	**+0.9**
QSPA				PcP	PcP	19 53 29.9	+0.1
QSPA				ScP	ScP	19 57 06.8	-1.7
CPUP	**Villa Florida**	**38.13**	**311**	P	**P**	**19 51 31.9**	**-0.4**
	7.7nm,0.7s,mb4.5,baz=133,slow=6.7,SNR=19						
CPUP				PcP	PcP	19 53 46.1	0.0
	3.0nm,0.6s,baz=154,slow=2.7,SNR=5.2						
CPUP				ScP	ScP	19 57 24.4	-4.0
	2.5nm,0.7s,baz=153,slow=4.4,SNR=5.4						
CPUP				LR	LR	20 05 36.6	
	comp=Z,46nm,19.5s,MS3.3,baz=256,slow=33						
CPUP	**Villa Florida**	**38.13**	**311**	P	**P**	**19 51 31.9**	**-0.4**
CPUP				ePcP	PcP	19 53 46.0	0.0
CPUP				PcP	PcP	19 53 46.1	0.0
CPUP				ScP	ScP	19 57 24.4	-4.0
CPUP				LR	LR	20 05 36.6	
MAW	**Mawson**	**38.74**	**142**	P	**P**	**19 51 36.5**	**-0.5**
	2.7nm,0.6s,mb4.1,baz=225,slow=6.4,SNR=8.2						
MAW				LR	LR	20 05 12.7	
	comp=Z,74nm,20.4s,MS3.5,baz=69,slow=32						
MAW	**Mawson**	**38.74**	**142**	P	**P**	**19 51 36.5**	**-0.5**
MAW				e	pP	19 51 54.1	+2.2
MAW				LR	LR	20 05 12.7	
SUR	**Sutherland**	**40.41**	**72**	P	**P**	**19 51 51.7**	**+0.4**
BDFB	**Brasilia**	**44.80**	**329**	P	**P**	**19 52 28.3**	**+1.4**
	5.6nm,0.6s,mb4.6,baz=151,slow=10,SNR=9.1						
SBA	**Scott Base**	**44.83**	**184**	eP	**P**	**19 52 27.4**	**+0.9**
	48nm,1.4s,mb5.1						
LVC	**Limon Verde**	**46.48**	**300**	eP	**P**	**19 52 38.6**	**-1.6**
	4.6nm,0.6s,mb4.6						
LBTB	**Lobatse**	**48.82**	**71**	eP	**P**	**19 52 57.5**	**-0.8**
	6.4nm,0.6s,mb4.8						
TSUM	**Tsumeb**	**49.80**	**59**	eP	**P**	**19 53 05.5**	**-0.4**
	11nm,1.0s,mb4.8						
LPAZ	**La Paz**	**51.63**	**305**	P	**P**	**19 53 20.4**	**+0.9**
	9.5nm,0.5s,mb5.0,baz=150,slow=7.0,SNR=54						
LPAZ				ScP	ScP	19 58 20.5	-3.3
	0.6nm,0.6s,baz=152,slow=6.6,SNR=3.5						
LPAZ				LR	LR	20 13 11.6	
	comp=Z,62nm,20.9s,MS3.6,baz=360,slow=34						
LPAZ	**La Paz**	**51.63**	**305**	P	**P**	**19 53 20.4**	**+0.9**
LPAZ				ScP	ScP	19 58 20.5	-3.3
LPAZ				LR	LR	20 13 11.6	
CASY	**Casey**	**52.48**	**159**	eP	**P**	**19 53 25.2**	**-0.1**
	4.9nm,0.9s,mb4.4						
CASY				e	pP	19 53 42.7	+2.0
LSZ	**Lusaka**	**58.29**	**67**	eP	**P**	**19 54 06.9**	**-0.7**
	24nm,1.1s,mb5.1						
LIC	**Lamto**	**65.63**	**23**	eP	**P**	**19 54 56.9**	**0.0**
	19nm,0.5s,mb5.4						
KIC	**Kosan Boka**	**65.83**	**23**	eP	**P**	**19 54 57.1**	**-1.0**
	48nm,0.9s						
TIC	**Toumodi**	**66.04**	**23**	eP	**P**	**19 54 59.5**	**0.0**
	46nm,0.9s						
DBIC	**Dimbokro**	**66.10**	**23**	P	**P**	**19 54 59.9**	**+0.1**
	3.4nm,0.4s,mb4.7,baz=178,slow=7.6,SNR=13						
DBIC				LR	LR	20 16 34.9	
	comp=Z,77nm,19.8s,MS3.9,baz=122,slow=29						
DBIC	**Dimbokro**	**66.10**	**23**	eP	**P**	**19 54 59.5**	**-0.4**
	10nm,0.8s,mb4.9						
DBIC				LR	LR	20 16 34.9	
OTAV	**Otavalo**	**70.88**	**303**	eP	**P**	**19 55 30.9**	**+1.2**
	3.1nm,0.9s,mb4.2						
TOA0	**Torodi Ar. Sit**	**73.89**	**28**	eP	**P**	**19 55 47.7**	**+0.1**
TORD	**Torodi Ar. Bea**	**73.89**	**28**	P	**P**	**19 55 47.9**	**+0.3**
	17nm,0.6s,mb5.2,baz=200,slow=6.7,SNR=297						
TORD				LR	LR	20 21 01.9	
	comp=Z,84nm,19.1s,MS4.0,baz=185,slow=30						
KMBO	**Kilima Mbogo**	**74.94**	**68**	P	**P**	**19 55 56.7**	**+2.9**
	2.2nm,1.0s,mb4.1,baz=213,slow=8.7,SNR=4.6						
KMBO				LR	LR	20 24 42.5	
	comp=Z,125nm,21.9s,MS4.2,baz=273,slow=32						
KMBO	**Kilima Mbogo**	**74.94**	**68**	eP	**P**	**19 55 56.6**	**+2.8**
	4.8nm,1.1s,mb4.3						
KMBO				LR	LR	20 24 42.5	
GRGR	**Grenville**	**75.18**	**324**	eP	**P**	**19 55 55.7**	**+0.7**
	70nm,0.7s						
SDV	**Santo Domingo**	**75.36**	**314**	eP	**P**	**19 55 55.9**	**-0.2**
	14nm,0.8s,mb5.0						
STKA	**Stephens Creek**	**90.52**	**170**	P	**P**	**19 57 12.9**	**-1.5**
	1.7nm,0.8s,mb4.4,baz=201,slow=14,SNR=3.1						
PPT	**Papeete**	**91.92**	**233**	LR	LR	20 28 30.2	
	comp=Z,236nm,20.0s,MS4.6,baz=170,slow=29						
MBWA	**Marble Bar**	**96.72**	**148**	P	**P**	**19 57 45.6**	**+2.6**
	7.3nm,1.0s,mb5.1						
KEST	**Kesra**	**97.41**	**28**	LR	LR	20 35 48.6	
	comp=Z,41nm,21.9s,MS3.9,baz=241,slow=32						
ASAR	**Alice Springs**	**97.57**	**162**	P	**P**	**19 57 46.0**	**-0.8**
	0.7nm,0.7s,mb4.3,baz=180,slow=3.4,SNR=12						
WRA	**Warramunga Arr**	**101.28**	**161**	P	Pdif	19 58 01.4	-2.1
	0.4nm,0.8s,baz=194,slow=3.6,SNR=4.0						
WRA	**Warramunga Arr**	**101.28**	**161**	P	Pdif	19 58 01.4	-2.1
PDAR	**Pinedale Array**	**121.55**	**301**	PKP	PKPdf	20 03 03.4	-1.6
	1.0nm,0.7s,baz=151,slow=3.4,SNR=2.6						
PDAR				SKP		20 06 32.1	
	0.7nm,0.6s,baz=151,slow=5.7,SNR=4.9						
BGU	**Big Grassy Mou**	**121.77**	**297**	eP	PKPdf	20 03 05.7	+0.2
NVAR	**Mina Array Bea**	**122.46**	**292**	PKP	PKPdf	20 03 08.1	+1.2
	1.3nm,0.6s,baz=134,slow=3.8,SNR=9.3						
MOOW	**Moose Ponds**	**122.86**	**301**	ePKPdf	PKPdf	20 03 07.6	+0.2
CMAR	**Chiang Mai Arr**	**124.03**	**110**	PKP	PKPdf	20 03 10.6	+0.1
	0.9nm,0.7s,baz=235,slow=3.8,SNR=5.8						
MSO	**Missoula**	**126.66**	**301**	ePKPdf	PKPdf	20 03 15.0	+0.4
BMO	**Blue Mountains**	**126.79**	**297**	ePKPdf	PKPdf	20 03 14.9	0.0
ARCES	**ARCESS Array B**	**131.92**	**22**	PKP	PKPdf	20 03 24.3	+0.4
	3.6nm,0.8s,baz=16,slow=14,SNR=4.1						
YKA	**Yellowknife Ar**	**137.54**	**317**	PKP	PKPdf	20 03 34.5	-0.1
	9.9nm,0.8s,baz=128,slow=2.1,SNR=11						
YKA				SKPbc	SKPbc	20 07 00.4	-2.3
	7.2nm,0.8s,baz=130,slow=3.3,SNR=9.7						
YKA	**Yellowknife Ar**	**137.54**	**317**	PKP	PKPdf	20 03 34.5	-0.1
YKA				SKPbc	SKPbc	20 07 00.4	-2.3
ZALV	**Zalesovo Beam**	**142.38**	**65**	PKP	PKPdf	20 03 42.3	-1.4
	1.2nm,0.5s,baz=225,slow=1.4,SNR=3.8						
ZALV				SKPbc	SKPbc	20 07 11.4	-4.6
	0.4nm,0.5s,baz=207,slow=4.8,SNR=4.0						
DAWY	**Dawson**	**148.11**	**310**	ePKPbc	PKPbc	20 03 55.7	-0.8
EYAK	**Cordova Ski Ar**	**149.67**	**302**	ePKPbc	PKPbc	20 04 01.4	+0.8
SONM	**Songino Array**	**150.17**	**88**	PKPbc	PKPbc	20 04 02.0	-0.2
	2.5nm,0.6s,baz=228,slow=3.4,SNR=14						
ULN	**Ulaanbaatar**	**150.55**	**88**	ePKPbc	PKPbc	20 04 04.5	+1.4
RC01	**Rabbit Creek A**	**151.70**	**301**	ePKPbc	PKPbc	20 04 05.2	-0.1
COLA	**College**	**151.85**	**310**	ePKPab	PKPab	20 04 14.6	-0.4
KDAK	**Kodiak Island**	**151.93**	**294**	ePKPdf	PKPdf	20 03 57.8	-1.6
KDAK				ePKPbc	PKPbc	20 04 05.1	-0.8

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
BPAW	Bear Paw Mtn.	153.02	307	ePKPbc	PKPbc	20 04 07.9	-0.3
COLD	Coldfoot	153.18	314	ePKPbc	PKPbc	20 04 08.3	-0.2
PPLA	Purkeypile	153.29	305	ePKPbc	PKPbc	20 04 08.3	-0.6

ISCJB 06 19:53:44.5±1.0, 43S±0.1×1006E±0.1, h27^{km}, mb4.0/11, Error ellipse: s-maj=22.7km s-min=11.8km az=136.4
IDC 06 19:53:47.9±2.3, 4.16S×10087E, h26^{km}±4^{km}, mb3.6/8, mb1 3.8/8, mb1mx3.6/20, mbtmp3.7/8, Error ellipse: s-maj=86.0km s-min=13.2km az=56.0
NEIC 06 19:53:47.7±0.8, 430S×10066E, h35^{km}, mb4.4/3, Error ellipse: s-maj=19.5km s-min=10.5km az=47.0
ISC 06 19:53:46.7±1.0, 43S±01×1007E±01, h29^{km}, h29^{km}±1.3^{km}:pP-P, n15, σ0^{s}62/14, mb4.0/11, Southwest of Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSM	Kuching	11.24	59	Pn	Pn	19 56 25.0	-0.6
KKM	Kota Kinabalu	18.65	57	P	Pn	19 58 03.8	+0.9
CMAR	Chiang Mai Arr	22.70	356	P	P	19 58 45.7	-0.5
	1.0nm,0.6s,mb3.4,baz=187,slow=8.7,SNR=9.4						
CMAR				pP		19 58 53.2	
	0.8nm,0.7s,baz=185,slow=8.0,SNR=4.0						
BATI	Baumata	23.56	106	P	P	19 58 55.3	+0.1
	8.5nm,0.8s,mb4.2,baz=97,slow=22,SNR=3.5						
FITZ	Fitzroy Crossi	28.02	121	P	P	19 59 35.1	-0.5
	1.3nm,0.9s,mb3.5,baz=255,slow=17,SNR=2.7						
WRA	Warramunga Arr	36.30	118	P	P	20 00 48.1	-0.1
	0.3nm,0.3s,mb3.6,baz=309,slow=9.4,SNR=14						
WRA				pP	pP	20 00 56.3	-0.3
	0.5nm,0.5s,baz=303,slow=9.1,SNR=4.5						
ASAR	Alice Springs	37.40	124	P	P	20 00 58.5	+1.1
	0.2nm,0.4s,mb3.3,baz=300,slow=7.4,SNR=14						
ASAR				pP	pP	20 01 06.0	0.0
	0.5nm,0.4s,baz=299,slow=7.8,SNR=6.7						
SONM	Songino Array	52.18	5	P	P	20 02 55.3	+0.6
	1.4nm,0.9s,mb3.9,baz=188,slow=9.1,SNR=12						
SONM				pP	pP	20 03 03.2	-0.3
	1.2nm,0.9s,baz=190,slow=9.6,SNR=5.0						
TKM2	Tokmak 2	52.21	337	P	P	20 02 54.5	-0.5
	1.7nm,0.8s,mb4.0						
MKAR	Makanchi Array	53.42	344	P	P	20 03 04.7	+0.7
	0.9nm,0.5s,mb4.0,baz=161,slow=8.6,SNR=13						
KURK	Kurchatov	58.00	344	eP	P	20 03 36.9	+0.1
	2.5nm,0.9s,mb4.2						
HNR	Honiara	59.04	98	eP	P	20 03 43.7	-1.0
	21nm,0.7s,mb5.3						
ZALV	Zalesovo Beam	59.55	349	P	P	20 03 47.2	-0.3
	1.2nm,0.5s,mb4.2,baz=178,slow=5.5,SNR=6.3						
ZALV				pP	pP	20 03 56.4	+0.1
	0.8nm,0.4s,baz=182,slow=7.2,SNR=3.3						
ZALV	Zalesovo Beam	59.55	349	P	P	20 03 47.2	-0.3
ZALV				pP	pP	20 03 56.4	+0.1
TXAR	Lajitas Array	146.10	40	PKPbc	PKPbc	20 13 26.1	+1.4
	1.0nm,0.9s,baz=321,slow=1.8,SNR=7.0						
TXAR				pPKPbc	pPKPbc	20 13 34.0	-0.2
	0.2nm,0.4s,baz=202,slow=2.5,SNR=3.2						

NEIC 06 19:56:54.9, 1838N×10184W, h33^{km}, MD4.0(MEX), After MEX.
MEX 06 19:56:54.9±1.1, 1838N×10183W, h27^{km}±19^{km}, MD4.0, Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZIIG	Zihuatanejo	0.85	156	i P	Pb	19 57 07.7	-3.3
ZIIG				i S	Sb	19 57 19.7	-2.3
MOIG	Morelia	1.43	25	eP	Pn	19 57 16.2	-2.9
MOIG				i S	Sn	19 57 34.1	-2.8
MMIG	Aquila	1.44	266	i P	Pn	19 57 16.1	-3.1
MMIG				i S	Sn	19 57 34.8	-2.5
CAIG	El Cayaco	2.00	131	i P	Pn	19 57 25.1	-1.8
CAIG				i S	Sn	19 57 48.5	-2.6
EZ5V		2.00	303	eP	Pn	19 57 25.9	-1.1
EZ5V				i S	Sn	19 57 48.5	-2.6
R15V		2.18	291	eP	Pn	19 57 26.9	-2.5
R15V				i S	Sn	19 57 52.9	-2.7
PLIG	Platanillo	2.21	89	i P	Pn	19 57 28.3	-1.6
PLIG				i S	Sn	19 57 52.8	-3.6
ACX	Acapulco	2.37	129	i P	Pn	19 57 32.2	+0.2
SFJM	Santa Fe	2.38	332	i P	Pn	19 57 33.3	+1.1
SFJM				i S	Sn	19 58 05.5	+4.9
PNIG	Pinotepa	4.05	119	eP	Pn	19 57 53.5	-1.8
PNIG				i S	Sn	19 58 39.5	-2.3
PNIG	Pinotepa	4.05	119	i P	Pn	19 57 53.5	-1.8
PNIG				i S	Sn	19 58 39.5	-2.3

ISCJB 06 20:09:28.1±1.0, 3507N±006×2671E±004, h10^{km}, Error ellipse: s-maj=8.8km s-min=4.7km az=160.1
CSEM 06 20:09:28.3±0.2, 35.15N×2671E, h2^{km}, MD3.6, Error ellipse: s-maj=4.0km s-min=2.0km az=155.0
THE 06 20:09:29.1, 35.10N×2666E, h0^{km}±4^{km}, Error ellipse: s-maj=10.2km s-min=1.2km az=134.0
NEIC 06 20:09:29.8, 3535N×2664E, h3^{km}, MD3.6(ATH), After ATH.
ATH 06 20:09:29.8, 3535N×2664E, h3^{km}, MD3.6/6
ISC 06 20:09:28.1±1.0, 3512N±008×2671E±005, h1^{km}±7^{km}, n25, σ0^{s}67/41, 4D, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZKR	Zakros	0.41	270	P	Pg	20 09 35.9	0.0
ZKR				S	Sg	20 09 43.3	+2.1
KARP	Karpathos	0.56	40	⇓iPg	Pg	20 09 38.6	-0.3
KARP	Karpathos	0.56	40	⇓iPG	Pg	20 09 38.6	-0.3
NPS	Neapolis	0.91	279	⇓iPg	Pg	20 09 45.6	0.0
NPS				eSg	Sg	20 09 57.0	-0.4
NPS	Neapolis	0.91	279	⇓iPG	Pg	20 09 45.6	0.0
NPS				eSG	Sg	20 09 57.0	-0.4
LAST	Lasithi	1.01	273	P	Pg	20 09 46.8	-0.7
LAST				S	Sn	20 10 03.6	-0.7
SIVA	Sivas	1.56	267	P	Pn	20 09 57.0	0.0
ARG	Arkhangelos	1.59	46	ePb	Pn	20 09 58.4	+1.0
ARG				eSb	Sn	20 10 18.2	-0.4
ARG	Arkhangelos	1.59	46	ePB	Pn	20 09 58.4	+1.0
ARG				eSB	Sn	20 10 18.2	-0.4
THR1	Thera Island	1.61	321	P	Pn	20 09 57.8	+0.1
THR1				S	Sn	20 10 19.2	0.0
SANT	Santorini	1.61	321	ePn	Pn	20 09 56.9	-0.8
SANT	Santorini	1.61	321	P	Pn	20 09 57.6	-0.1
SANT	Santorini	1.61	321	ePn	Pn	20 09 56.9	-0.9
THR6	Thira Island,	1.64	319	P	Pn	20 09 57.2	-0.8
THR6				S	Sn	20 10 20.1	+0.4
THR3	Thira Island,	1.67	321	P	Pn	20 09 58.6	+0.1
THR3				S	Sn	20 10 20.4	-0.3
THR5	Thira Island,	1.71	320	P	Pn	20 09 59.3	+0.3
THR5				S	Sn	20 10 21.3	-0.2
VAM	Vamos	2.08	279	ePg	Pg	20 10 07.0	-0.9
VAM	Vamos	2.08	279	ePG	Pg	20 10 07.0	-0.9
APE	Apeiranthos	2.17	334	P	Pn	20 10 05.3	-0.1
APE				S	Sn	20 10 33.0	+0.1
APE	Apeiranthos	2.17	334	ePg	Pn	20 10 05.6	+0.2
APE				eSn	Sn	20 10 32.3	-0.6
APE				S	Sn	20 10 33.0	+0.1
APE	Apeiranthos	2.17	334	ePg	Pn	20 10 05.6	+0.2
APE				eSn	Sn	20 10 32.3	-0.6
APE	Apeiranthos	2.17	334	ePG	Pn	20 10 05.6	+0.2
APE				eSN	Sn	20 10 32.3	-0.6
CHOS	Chios island	3.31	351	P	Pn	20 10 20.9	-0.1
CHOS				S	Sn	20 11 01.6	+0.7
VLI	Veliai	3.46	299	ePn	Pn	20 10 24.5	+1.4
VLI	Veliai	3.46	299	ePN	Pn	20 10 24.5	+1.4

ISCJB 06 20:09:48.5±2.1, 134S±0.1×77.1W±02, h53^{km}±18^{km}, mb3.9/6, Error ellipse: s-maj=36.2km s-min=11.2km az=149.3
NEIC 06 20:09:50.7±1.7, 1323S×7672W, h55^{km}±14^{km}, mb4.3/2, Error ellipse: s-maj=38.2km s-min=12.9km az=61.0
IDC 06 20:09:51.5±2.9, 13.19S×7685W, h53^{km}±22^{km}, mb3.4/4, mb1 3.8/7, mb1mx3.6/18, mbtmp3.6/7, ML4.0/3, Error ellipse: s-maj=54.4km s-min=19.4km az=51.0
ISC 06 20:09:51.8±1.7, 132S±01×769W±02, h58^{km}±14^{km}, n19, σ1^{s}32/18, mb3.9/6, Near coast of Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NNA	Nana	1.22	2	P	Pn	20 10 10.8	-1.9
	52nm,0.3s,baz=185,slow=13,SNR=81						
NNA				S	Sn	20 10 31.8	+3.5
	248nm,0.3s,baz=188,slow=14,SNR=15						
NNA	Nana	1.22	2	ePn	Pn	20 10 10.6	-2.1
NNA				P		20 10 10.8	
NNA				eSn	Sn	20 10 31.0	+2.7
NNA				S	Sn	20 10 31.8	+3.5
ATAH	Atahualpa	6.35	346	P	Pn	20 11 21.9	-0.9
	2.5nm,0.3s,baz=155,slow=5.1,SNR=9.6						
LPAZ	La Paz	9.00	111	P	Pn	20 12 00.9	+1.7
	0.3nm,0.3s,baz=304,slow=11,SNR=13						
LVC	Limon Verde	12.03	142	P	Pn	20 12 41.0	+0.4
	0.5nm,0.3s,baz=310,slow=12,SNR=3.8						
LVC	Limon Verde	12.03	142	ePn	Pn	20 12 39.9	-0.6
TXAR	Lajitas Array	49.58	329	P	P	20 18 38.0	+0.8
	0.4nm,0.6s,mb3.6,baz=149,slow=9.2,SNR=6.4						
HWUT	Hardware Ranch	63.23	331	P	P	20 20 14.1	0.0
PDAR	Pinedale Array	63.26	334	P	P	20 20 14.9	+0.7
	0.4nm,0.6s,mb3.7,baz=126,slow=9.3,SNR=3.0						
PDAR	Pinedale Array	63.26	334	P	P	20 20 14.9	+0.6
NVAR	Mina Array Bea	64.34	325	P	P	20 20 22.4	+0.9
	0.6nm,0.6s,mb3.8,baz=142,slow=7.7,SNR=4.4						
CMB	Columbia Colle	65.26	323	P	P	20 20 28.1	+0.6
	2.4nm,0.9s,mb4.2						
SNAA	Sanae	72.53	161	eP	P	20 21 08.7	-3.5
	5.8nm,1.4s,mb4.3						
TOA0	Torodi Ar. Sit	82.15	75	eP	P	20 22 04.4	-2.6
TORD	Torodi Ar. Bea	82.15	75	P	P	20 22 06.6	-0.4
	1.0nm,0.7s,mb3.8,baz=279,slow=5.9,SNR=10						
ASAR	Alice Springs	132.57	220	PKP	PKPdf	20 28 59.4	-1.3
	0.3nm,0.9s,baz=134,slow=2.7,SNR=3.4						
WRA	Warramunga Arr	134.95	224	PKP	PKPdf	20 29 04.0	-1.3
	0.3nm,0.8s,baz=128,slow=1.8,SNR=3.8						
ULN	Ulaanbaatar	145.30	355	ePKPdf	PKPdf	20 29 23.6	+0.5
SONM	Songino Array	145.38	356	PKPbc	PKPbc	20 29 23.8	+0.6
	1.9nm,1.0s,baz=335,slow=2.7,SNR=12						

IDC 06 20:16:46.5±21.0, 1704S×17953W, h573^{km}±221^{km}, mb2.9/5, mb1 3.1/5, mb1mx2.9/17, mbtmp2.9/5, Error ellipse: s-maj=133.4km s-min=54.4km az=93.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	Stephens Creek	38.12	240	P	P	20 23 17.6	+0.1
	1.0nm,0.8s,baz=75,slow=12,SNR=2.8						
WRA	Warramunga Arr	43.74	259	P	P	20 24 01.8	-0.4
	0.3nm,0.4s,baz=90,slow=8.1,SNR=22						
ASAR	Alice Springs	44.00	253	P	P	20 24 03.9	-0.3
	3.2nm,0.5s,baz=88,slow=8.1,SNR=119						
FITZ	Fitzroy Crossi	52.12	260	P	P	20 25 05.1	+0.5
	0.5nm,0.5s,baz=95,slow=11,SNR=5.4						
MJAR	Matsushiro Arr	66.58	324	P	P	20 26 40.6	+0.1
	0.4nm,0.6s,baz=150,slow=5.0,SNR=4.6						
GERES	GERESS Array B	146.50	344	PKPbc	PKPbc	20 35 23.3	-0.7
	0.4nm,0.5s,baz=28,slow=2.3,SNR=5.1						

ISCJB 06 20:18:17.4±5.8, 229S±0.1×1743W±0.1, h8^{km}±40^{km}, mb4.4/8, Error ellipse: s-maj=18.7km s-min=17.8km az=166.7
IDC 06 20:18:19.9±17.0, 2272S×17458W, h0^{km}, mb4.2/5, mb1 4.3/5, mb1mx3.9/18, mbtmp4.2/5, Error ellipse: s-maj=329.5km s-min=137.1km az=82.0
NEIC 06 20:18:21.1±5.3, 2286S×17429W, h20^{km}±36^{km}, mb4.5/6, Error ellipse: s-maj=14.7km s-min=13.5km az=199.0
ISC 06 20:18:20.9±6.0, 229S±01×1743W±01, h18^{km}±41^{km}, n16, σ0^{s}86/16, mb4.4/8, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	Raoul Island	7.15	206	Pn	Pn	20 20 05.0	+0.4
RAR	Rarotonga	13.56	86	P	Pn	20 21 32.1	-0.3
FUNA	Funafuti	15.56	335	ePn	Pn	20 21 59.6	+0.1
CTA	Charters Tower	36.75	267	eP	P	20 25 27.9	+0.4
	2.3nm,0.3s,mb4.5						
CTA	Charters Tower	36.75	267	P	P	20 25 27.6	+0.1
	3.2nm,0.3s,mb4.6,baz=91,slow=12,SNR=9.0						
CTAO	Charters Tower	36.75	267	eP	P	20 25 27.7	+0.2
	3.4nm,0.3s,mb4.7						
STKA	Stephens Creek	39.97	247	eP	P	20 25 54.8	+0.3
STKA	Stephens Creek	39.97	247	P	P	20 25 54.6	+0.2
	0.9nm,0.4s,mb3.9,baz=82,slow=8.1,SNR=7.8						
ASAR	Alice Springs	47.38	258	P	P	20 26 53.9	-0.4
	1.2nm,0.5s,mb4.1,baz=96,slow=7.2,SNR=23						
WB2	Warramunga Arr	47.71	263	eP	P	20 26 56.2	-0.7
WRA	Warramunga Arr	47.72	263	P	P	20 26 56.3	-0.7
	2.1nm,0.3s,mb4.6,baz=102,slow=8.2,SNR=134						
KAKA	Kakadu	51.48	272	eP	P	20 27 26.2	+0.5
	1.9nm,0.6s,mb4.2						
FITZ	Fitzroy Crossi	56.15	263	eP	P	20 28 01.1	+1.3
	3.0nm,1.5s,mb4.1						
FITZ	Fitzroy Crossi	56.15	263	P	P	20 28 00.4	+0.6
	0.4nm,0.3s,mb3.9,baz=106,slow=7.4,SNR=5.8						
CASY	Casey	63.34	206	eP	P	20 28 46.4	-2.1
	3.0nm,0.7s,mb4.5						
PMSA	Palmer Station	77.75	156	P	P	20 30 18.0	+1.5
	36nm,1.0s,mb5.3						

MAN 06 20:34:19, 907N×12552E, h48^{km}, mb3.9, ML2.7, MS2.4, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BUTP	Butuan	0.14	135	eP	Pn	20 34 28.0	+1.2
BUTP				eS	Sn	20 34 35.6	+3.3
SCPH	Surigao	0.71	358	eP	Pn	20 34 34.6	+1.9
SCPH				eS	Sn	20 34 46.6	+3.9
MATI	Mati	2.23	161	eP	Pn	20 34 55.9	+2.3
MATI				eS	Sn	20 35 26.3	+6.4

DDA 06 20:40:39.0, 3725N×2707E, h7^{km}±4^{km}, Md2.7
CSEM 06 20:40:38.6±0.4, 3726N×2726E, h20^{km}, MD2.7, Error ellipse: s-maj=13.4km s-min=7.7km az=72.0
ISC 06 20:40:35.5±2.3, 369N±01×272E±01, h55^{km}±13^{km}, n7, σ0^{s}94/14, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BODT	Bodrum	0.17	45	ePG	Pn	20 40 44.0	-0.2
BODT				eSG	Sn	20 40 49.8	-0.7
BDRM	Kayabasi	0.26	61	eP	Pn	20 40 46.0	+1.2
BDRM				eS	Sn	20 40 52.0	+0.6
MLSB	Milas	0.61	54	ePG	Pn	20 40 47.0	-1.3
MLSB				eSG	Sn	20 40 57.9	+0.2
GCAM	G?zelcaml?	0.76	4	eP	Pn	20 40 47.9	-2.4
GCAM				eS	Sn	20 40 55.1	-5.8
AYDN	Tasoluk	0.92	38	eP	Pn	20 40 53.0	+0.7
AYDN				eS	Sn	20 41 04.6	0.0
URLA	Izmir	1.49	343	eP	Pn	20 41 00.8	+0.9
URLA				eS	Sn	20 41 18.6	+0.3
URLA	Izmir	1.49	343	eP	Pn	20 41 00.8	+0.9
URLA				eS	Sn	20 41 18.5	+0.3

MOS 06 20:43:14.3±1.2, 41.19N×4397E, h11^{km}, mb3.8/1, Error ellipse: s-maj=58.8km s-min=13.2km az=80.6
CSEM 06 20:43:14.3±1.1, 41.19N×4397E, h11^{km}, mb3.8, Error ellipse: s-maj=23.7km s-min=7.2km az=41.0, After OBN
TIF 06 20:43:16.8, 4147N×4401E, h14^{km}±1^{km}
ISC 06 20:43:16.7±1.7, 4144N±008×4392E±007, h10^{km}, n10, σ0^{s}86/15, 2D, Turkey-Georgia-Armenia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GOR	Gori	0.56	15	P	Pg	20 43 27.5	-0.2
GOR				S	Sg	20 43 35.8	+0.8
TBLG	Delisi	0.68	65	P	Pg	20 43 29.4	-0.5
TBLG				S	Sg	20 43 38.9	+0.1
MTA	Mtatsminda	0.70	69	P	Pg	20 43 29.4	-0.9
MTA				S	Sg	20 43 38.4	-1.1
DGRG	David-gareji	1.10	89	P	Pb	20 43 37.3	-0.4
DGRG				S	Sg	20 43 54.6	+2.6
ONI	Oni	1.19	343	P	Pb	20 43 38.7	-0.6
ONI				S	Sb	20 43 54.5	-0.3
ZEI	Tsey	1.33	359	⇓iPG	Pg	20 43 42.0	-0.2
LACR	Lac	1.41	11	⇓iPN	Pn	20 43 43.0	+0.6
KORR	Kora	1.65	4	ePN	Pn	20 43 47.4	+1.7
SNJR	Sundja	1.76	22	ePN	Pg	20 43 50.3	-0.1
ARNR	Ardon	1.77	9	ePN	Pg	20 43 50.3	-0.3

ISCJB 06 20:55:03.6±0.5, 3623N±002×159W±003, h10^{km}, Error ellipse: s-maj=4.3km s-min=2.8km az=40.6
CSEM 06 20:55:04.0±0.1, 3620N×157W, h15^{km}, ML2.5, Error ellipse: s-maj=2.4km s-min=1.5km az=138.0
CRAAG 06 20:55:05.0, 36.18N×157W, Mb2.5
MDD 06 20:55:06.0±1.0, 36.18N×157W, h12^{km}±7^{km}, mbLg2.5/39, Error ellipse: s-maj=7.5km s-min=5.0km az=137.0, PRIMO
NEIC 06 20:55:05.8, 36.18N×157W, h13^{km}, MN2.5(MDD), After MDD.
INMG 06 20:55:07.2±1.1, 3626N×157W, h26^{km}±9^{km}, ML2.4, Error ellipse: s-maj=3.6km s-min=2.7km az=139.0
ISC 06 20:55:05.1±0.5, 3622N±002×166W±003, h10^{km}, n113, σ1^{s}30/201, 2C-1D, Western Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ENIJ	Nijar	0.87	330	⇓P	Pg	20 55 22.6	+0.8
	46nm,0.2s,SNR=18						
ENIJ				S	Sg	20 55 34.0	+0.9
	218nm,0.3s						
USTO	Oran	1.03	118	P	Pg	20 55 33.0	+8.2
EALB	Alboran	1.15	256	⇑P	Pb	20 55 27.2	+0.2
	43nm,0.3s,SNR=18						
EALB				S	Sb	20 55 43.0	+1.1
	60nm,0.3s						
EALB	Alboran	1.15	256	P	Pb	20 55 27.1	+0.1
	43nm,0.3s,SNR=5.0						
EALB				S	Sb	20 55 43.0	+1.1
	60nm,0.3s						
EALB	Alboran	1.15	256	P	Pb	20 55 27.1	+0.1
EALB				S	Sb	20 55 43.0	+1.1
EBER	Berja	1.20	305	P	Pb	20 55 27.9	+0.1
	14nm,0.3s,SNR=50						
EBER				S	Sb	20 55 45.0	+1.7
	220nm,0.4s,SNR=22						
EBER	Berja	1.20	305	P	Pb	20 55 27.9	+0.1
	14nm,0.3s,SNR=50						
EBER				S	Sb	20 55 45.0	+1.6
	220nm,0.4s,SNR=22						
EMLI	Melilla	1.39	229	P	Pn	20 55 29.9	-0.7
	44nm,0.1s,SNR=7.9						
EMLI				S	Sn	20 55 48.8	-0.2
	76nm,0.1s,SNR=7.9						
EMEL	Melilla	1.40	229	P	Pn	20 55 29.9	-0.7
	44nm,0.1s,SNR=7.9						
EMEL				S	Sn	20 55 48.8	-0.3
	76nm,0.1s,SNR=7.9						
CART	Cartagena	1.46	21	ePn	Pn	20 55 28.3	-3.2
CART	Cartagena	1.46	21	ePn	Pn	20 55 28.3	-3.3
ZAI	Zaio	1.53	216	i P	Pn	20 55 32.5	+0.1
ZAI				i S	Sn	20 55 50.0	-2.3
EGUA	Guajares	1.65	292	P	Pn	20 55 33.8	-0.2
	6.9nm,0.1s,SNR=7.9						
EGUA				S	Sn	20 55 55.0	-0.4
	165nm,0.4s,SNR=7.9						
EGUA	Guajares	1.65	292	P	Pn	20 55 33.8	-0.3
	6.9nm,0.1s,SNR=7.9						
EGUA				S	Sn	20 55 54.8	-0.5
	165nm,0.4s,SNR=7.9						
EGUA	Guajares	1.65	292	P	Pn	20 55 33.8	-0.2
EGUA				S	Sn	20 55 54.8	-0.6
EQUE	Quentar	1.73	305	⇑P	Pn	20 55 36.9	+1.6
	6.8nm,0.4s,SNR=39						
EQUE				S	Sn	20 55 58.2	+0.8
	55nm,1.0s,SNR=12						
EQUE	Quentar	1.73	305	P	Pn	20 55 36.7	+1.5
	6.8nm,0.4s,SNR=39						
EQUE				S	Sn	20 55 58.2	+0.8
	55nm,1.0s,SNR=12						
EHUE	Huescar	1.76	335	P	Pn	20 55 36.4	+0.8
	0.7nm,0.2s,SNR=7.9						
EHUE				S	Sn	20 55 58.4	+0.5
	682nm,3.4s,SNR=7.9						
ECOG	Cogollos-Vega	1.86	305	P	Pn	20 55 38.0	+1.0
	5.0nm,0.2s,SNR=9.1						
ECOG				S	Sn	20 56 01.6	+1.2
	196nm,1.2s,SNR=8.3						
ECOG	Cogollos-Vega	1.86	305	P	Pn	20 55 38.6	+1.7
	5.0nm,0.2s,SNR=9.1						
ECOG				S	Sn	20 56 01.6	+1.2
	196nm,1.2s,SNR=8.3						
ECOG	Cogollos-Vega	1.86	305	P	Pn	20 55 38.6	+1.6
ECOG				S	Sn	20 56 01.6	+1.2
ERON	Agron	1.90	295	P	Pn	20 55 38.6	+1.1
	1.2nm,0.1s,SNR=7.9						
ERON				S	Sn	20 56 02.8	+1.3
	11nm,0.7s,SNR=7.9						
ERON	Agron	1.90	295	P	Pn	20 55 38.0	+0.5
	1.2nm,0.1s,SNR=7.9						
ERON				S	Sn	20 56 02.8	+1.3
	11nm,0.7s,SNR=7.9						
ERON	Agron	1.90	295	P	Pn	20 55 38.0	+0.5
ERON				S	Sn	20 56 02.8	+1.3
EQES	Quesada	1.94	325	P	Pn	20 55 40.2	+2.2
	5.5nm,0.4s,SNR=33						
EQES				S	Sn	20 56 04.0	+1.5
	10nm,0.4s,SNR=5.8						
EQES	Quesada	1.94	325	P	Pn	20 55 39.9	+1.8
	5.5nm,0.4s,SNR=33						
EQES				S	Sn	20 56 04.0	+1.5
	10nm,0.4s,SNR=5.8						
EQES	Quesada	1.94	325	P	Pn	20 55 39.9	+1.8
EQES				S	Sn	20 56 04.0	+1.5
ELOJ	Sierra Loja	2.20	296	P	Pn	20 55 42.5	+0.8
	7.0nm,0.4s,SNR=6.1						
ELOJ				S	Sn	20 56 09.0	0.0
	9.9nm,0.6s,SNR=5.4						
ELOJ	Sierra Loja	2.20	296	P	Pn	20 55 43.0	+1.3
	7.0nm,0.4s,SNR=6.1						
ELOJ				S	Sn	20 56 10.0	+1.0
	9.9nm,0.6s,SNR=5.4						
ELOJ	Sierra Loja	2.20	296	P	Pn	20 55 43.0	+1.2
ELOJ				S	Sn	20 56 10.0	+1.0
ETOB	Tobarra	2.42	2	P	Pn	20 55 45.0	+0.3
	6.0nm,0.3s,SNR=15						
ETOB				S	Sn	20 56 12.4	-2.0
	11nm,0.3s,SNR=6.6						
ETOB	Tobarra	2.42	2	P	Pn	20 55 45.0	+0.3
	6.0nm,0.3s,SNR=15						
ETOB				S	Sn	20 56 12.4	-2.0
	11nm,0.3s,SNR=6.6						
ELUQ	Luque	2.48	303	P	Pn	20 55 46.6	+1.1
	1.3nm,0.1s,SNR=7.9						
ELUQ				S	Sn	20 56 16.5	+0.7
	63nm,1.0s,SNR=7.9						
ELUQ	Luque	2.48	303	P	Pn	20 55 42.2	-3.3
ELUQ				P		20 55 46.6	
ELUQ				S	Sn	20 56 16.2	+0.4
ELUQ				S	Sn	20 56 16.5	+0.7
EVIA	Vianos	2.50	345	P	Pn	20 55 46.4	+0.5
	5.9nm,0.2s,SNR=7.8						
EVIA				S	Sn	20 56 16.8	+0.4
	14nm,0.3s,SNR=7.3						
EMIJ	Mijas	2.53	279	P	Pn	20 55 45.4	-0.8
	1.1nm,0.2s,SNR=33						
EMIJ				S	Sn	20 56 15.2	-1.9
	4.8nm,0.3s,SNR=8.4						
EBAN	Banos Encina	2.58	319	P	Pn	20 55 48.1	+1.3
	2.4nm,0.3s,SNR=7.5						
EBAN				S	Sn	20 56 18.1	0.0
	27nm,0.7s,SNR=4.0						
EBAN	Banos Encina	2.58	319	P	Pn	20 55 47.2	+0.4
	2.4nm,0.3s,SNR=7.5						
EBAN				S	Sn	20 56 18.1	-0.1
	27nm,0.7s						
EBAN	Banos Encina	2.58	319	P	Pn	20 55 47.2	+0.4
EBAN				S	Sn	20 56 18.1	0.0
EBEN	Beniarda	2.73	24	P	Pn	20 55 47.7	-1.3
	23nm,1.1s						
EBEN				S	Sn	20 56 19.8	-2.2
	44nm,2.1s,SNR=7.9						
EBEN	Beniarda	2.73	24	P	Pn	20 55 48.2	-0.7
	23nm,1.1s						
EBEN				S	Sn	20 56 19.8	-2.2
	44nm,2.1s,SNR=7.9						
EBEN	Beniarda	2.73	24	P	Pn	20 55 48.2	-0.8
EBEN				S	Sn	20 56 19.8	-2.2
ECEU	Ceuta	3.03	265	P	Pn	20 55 53.3	+0.3
	0.5nm,0.1s,SNR=7.9						
ECEU				S	Sn	20 56 28.2	-1.1
	6.9nm,0.9s,SNR=7.9						
EADA	Adamuz	3.03	311	P	Pn	20 55 53.8	+0.7

	4.8nm,0.4s,SNR=5.9						
EADA				S	Sn	20 56 29.0	-0.4
	3.5nm,0.3s,SNR=5.3						
EADA	**Adamuz**	**3.03**	**311**	P	**Pn**	**20 55 53.8**	**+0.7**
	4.8nm,0.4s,SNR=5.9						
EADA				S	**Sn**	**20 56 29.0**	**-0.4**
	3.5nm,0.3s,SNR=5.3						
EJIF	**Jimena Fronter**	**3.08**	**275**	P	**Pn**	**20 55 54.5**	**+0.8**
	0.8nm,0.4s,SNR=7.9						
EJIF				S	**Sn**	**20 56 30.7**	**0.0**
	1.9nm,0.3s,SNR=7.9						
EJIF	**Jimena Fronter**	**3.08**	**275**	P	**Pn**	**20 55 53.8**	**0.0**
	0.8nm,0.4s,SNR=7.9						
EJIF				S	**Sn**	**20 56 30.7**	**0.0**
	1.9nm,0.3s,SNR=7.9						
EJIF	**Jimena Fronter**	**3.08**	**275**	P	**Pn**	**20 55 53.8**	**0.0**
EJIF				S	**Sn**	**20 56 30.7**	**0.0**
ECHE	**Chera**	**3.41**	**9**	P	**Pn**	**20 55 58.4**	**+0.1**
	129nm,0.4s,SNR=4.5						
ECHE				S	**Sn**	**20 56 37.3**	**-1.4**
	53nm,0.7s,SNR=7.9						
ECHE	**Chera**	**3.41**	**9**	P	**Pn**	**20 55 58.4**	**+0.1**
ECHE				P		20 56 02.0	
ECHE				S	**Sn**	**20 56 37.3**	**-1.4**
ECHE				S	**Sn**	**20 56 41.0**	**+2.3**
ESPR	**Espera**	**3.44**	**282**	P	**Pn**	**20 55 59.4**	**+0.8**
	0.9nm,0.3s,SNR=4.0						
ESPR				S	**Sn**	**20 56 40.2**	**+0.8**
	3.5nm,0.2s						
ESPR	**Espera**	**3.44**	**282**	P	**Pn**	**20 55 59.5**	**+0.8**
ESPR	**Espera**	**3.44**	**282**	P	**Pn**	**20 55 59.5**	**+0.8**
ESPR				S	**Sn**	**20 56 38.4**	**-1.1**
ECAB	**El Cabril**	**3.52**	**303**	P	**Pn**	**20 56 00.6**	**+0.7**
	1.5nm,0.3s,SNR=7.4						
ECAB				S	**Sn**	**20 56 40.5**	**-1.1**
	23nm,0.7s						
ECAB	**El Cabril**	**3.52**	**303**	P	**Pn**	**20 56 00.6**	**+0.7**
	1.5nm,0.3s,SNR=7.4						
ECAB				S	**Sn**	**20 56 40.9**	**-0.7**
	23nm,0.7s						
ECAB	**El Cabril**	**3.52**	**303**	P	**Pn**	**20 56 00.6**	**+0.7**
ECAB				S	**Sn**	**20 56 40.9**	**-0.7**
EIBI	**Ibiza**	**3.68**	**40**	P	**Pn**	**20 56 00.5**	**-1.5**
	0.2nm,0.4s,SNR=7.9						
EIBI				S	**Sn**	**20 56 39.6**	**-5.8**
	7.6nm,0.2s,SNR=18						
EIBI	**Ibiza**	**3.68**	**40**	P	**Pn**	**20 56 00.5**	**-1.5**
	0.2nm,0.4s,SNR=7.9						
EIBI	**Ibiza**	**3.68**	**40**	P	**Pn**	**20 56 00.5**	**-1.5**
EIBI				S	**Sn**	**20 56 40.1**	**-5.3**
ESDC	**Sonseca Array**	**3.90**	**333**	P	**Pn**	**20 56 06.5**	**+1.5**
	1.2nm,0.3s,baz=148,slow=17,SNR=12						
ESDC				S	**Sn**	**20 56 49.0**	**-1.8**
	SNR=7.9						
ESDC	**Sonseca Array**	**3.90**	**333**	P	**Pn**	**20 56 06.5**	**+1.5**
	1.2nm,0.3s,SNR=12						
ESDC				S	**Sn**	**20 56 50.2**	**-0.6**
	1.1nm,0.3s,SNR=6.0						
ESDC	**Sonseca Array**	**3.90**	**333**	P	**Pn**	**20 56 06.5**	**+1.5**
ESDC				S	**Sn**	**20 56 50.2**	**-0.6**
ESLA	**Sonseca Array**	**3.90**	**333**	*e*Pn	**Pn**	**20 56 06.4**	**+1.4**
ESLA	**Sonseca Array**	**3.90**	**333**	*e*Pg	**Pg**	**20 56 19.8**	**+0.1**
ESLA	**Sonseca Array**	**3.90**	**333**	*e*Pn	**Pn**	**20 56 06.4**	**+1.4**
ESLA				*e*Pg	**Pg**	**20 56 19.8**	**+0.1**
EMOS	**Mosqueruela**	**4.24**	**12**	P	**Pn**	**20 56 10.7**	**+1.0**
	2.0nm,0.4s,SNR=7.9						
EMOS				S	**Sn**	**20 56 56.6**	**-2.7**
	6.5nm,1.0s,SNR=7.9						
EMOS	**Mosqueruela**	**4.24**	**12**	P	**Pn**	**20 56 10.7**	**+1.0**
	2.0nm,0.4s,SNR=7.9						
EMOS				S	**Sn**	**20 56 56.6**	**-2.6**
	6.5nm,1.0s,SNR=7.9						
EMIN	**Mina Concepcio**	**4.30**	**293**	P	**Pn**	**20 56 10.7**	**+0.2**
	0.3nm,0.2s,SNR=7.9						
EMIN				S	**Sn**	**20 56 58.9**	**-1.8**
	1.7nm,0.3s						
EMIN	**Mina Concepcio**	**4.30**	**293**	P	**Pn**	**20 56 10.7**	**+0.2**
	0.3nm,0.2s,SNR=7.9						
PBAR	**Barrancos**	**4.71**	**296**	*e*S	**Sn**	**20 57 08.2**	**-2.7**
PBAR				A		20 57 50.0	
	2.9nm,0.5s						
PBAR	**Barrancos**	**4.71**	**296**	*e*S	**Sn**	**20 57 08.2**	**-2.7**
	2.9nm,0.5s						
GUD	**Guadarrama**	**4.83**	**337**	P	**Pn**	**20 56 19.3**	**+1.5**
	0.5nm,0.3s,SNR=4.0						
GUD				S	**Sn**	**20 57 16.5**	**+2.7**
	2.2nm,0.4s,SNR=4.0						
GUD	**Guadarrama**	**4.83**	**337**	P	**Pn**	**20 56 18.1**	**+0.3**
	0.5nm,0.3s,SNR=5.3						
GUD	**Guadarrama**	**4.83**	**337**	P	**Pn**	**20 56 18.1**	**+0.3**
GUD				S	**Sn**	**20 57 11.6**	**-2.2**
EGRO	**El Granado**	**4.85**	**287**	P	**Pn**	**20 56 19.3**	**+1.2**
	2.3nm,0.4s,SNR=7.9						
EGRO				S	**Sn**	**20 57 12.0**	**-2.2**
	7.3nm,0.8s,SNR=7.9						
EGRO	**El Granado**	**4.85**	**287**	P	**Pn**	**20 56 19.3**	**+1.3**
	2.3nm,0.4s,SNR=7.9						
EBAD	**Badajoz**	**4.95**	**302**	P	**Pn**	**20 56 19.6**	**+0.2**
	0.9nm,0.5s,SNR=4.6						
EBAD				S	**Sn**	**20 57 14.4**	**-2.3**
	2.1nm,0.3s,SNR=8.3						
EBAD	**Badajoz**	**4.95**	**302**	P	**Pn**	**20 56 19.6**	**+0.1**
	0.9nm,0.5s,SNR=4.6						
ERTA	**Horta de San J**	**4.98**	**18**	P	**Pn**	**20 56 18.9**	**-1.0**
	3.1nm,0.6s,SNR=7.9						
ERTA				S	**Sn**	**20 57 13.9**	**-3.6**
	3.5nm,0.6s,SNR=7.9						
ERTA	**Horta de San J**	**4.98**	**18**	P	**Pn**	**20 56 18.9**	**-1.0**
	3.1nm,0.6s,SNR=7.9						
PVAQ	**Vaqueiros**	**5.00**	**285**	*e*P	**Pn**	**20 56 20.3**	**+0.2**
PVAQ				*e*S	**Sn**	**20 57 16.1**	**-1.9**
PVAQ				A		20 57 19.3	
	2.6nm,0.2s						
PVAQ	**Vaqueiros**	**5.00**	**285**	*e*P	**Pn**	**20 56 20.3**	**+0.2**
PVAQ				*e*S	**Sn**	**20 57 16.1**	**-1.9**
	2.6nm,0.2s						
ETOS	**Mallorca**	**5.00**	**44**	P	**Pn**	**20 56 19.1**	**-1.1**
	6.1nm,0.7s,SNR=5.7						
ETOS				S	**Sn**	**20 57 12.2**	**-5.8**
	5.0nm,0.6s,SNR=7.9						
ETOS	**Mallorca**	**5.00**	**44**	P	**Pn**	**20 56 19.1**	**-1.1**
	6.1nm,0.7s,SNR=5.7						
ETOS	**Mallorca**	**5.00**	**44**	P	**Pn**	**20 56 19.1**	**-1.1**
ETOS				S	**Sn**	**20 57 12.9**	**-5.1**
PBDV	**Barranco-do-Ve**	**5.14**	**283**	*e*P	**Pn**	**20 56 23.3**	**+1.3**
PBDV				*e*S	**Sn**	**20 57 18.3**	**-3.1**
PBDV				A		20 57 21.8	
	2.7nm,0.7s						
PBDV	**Barranco-do-Ve**	**5.14**	**283**	P	**Pn**	**20 56 23.3**	**+1.3**
PBDV				S	**Sn**	**20 57 18.3**	**-3.1**
	2.7nm,0.7s						
EPLA	**Plasencia**	**5.18**	**319**	P	**Pn**	**20 56 24.2**	**+1.6**
	1.2nm,0.2s,SNR=7.9						
EPLA				S	**Sn**	**20 57 20.1**	**-2.3**
	7.2nm,1.0s,SNR=7.9						
EPLA	**Plasencia**	**5.18**	**319**	P	**Pn**	**20 56 20.3**	**-2.4**
EPLA				P		20 56 24.2	
EPLA				S	**Sn**	**20 57 20.1**	**-2.3**
EPLA				S	**Sn**	**20 57 21.9**	**-0.5**
PBEJ	**Beja**	**5.27**	**292**	*e*S	**Sn**	**20 57 21.0**	**-3.7**
PESTR	**Estremoz**	**5.40**	**301**	*e*P	**Pn**	**20 56 26.4**	**+0.8**
PESTR				*e*S	**Sn**	**20 57 25.3**	**-2.5**
PESTR				A		20 58 13.5	
	3.8nm,0.5s						
PESTR	**Estremoz**	**5.40**	**301**	P	**Pn**	**20 56 26.4**	**+0.8**
PESTR				S	**Sn**	**20 57 25.3**	**-2.5**
	1.9nm,0.5s						
PMRV	**Marv??o**	**5.55**	**307**	*e*S	**Sn**	**20 57 28.7**	**-2.8**
PMRV				A		20 58 13.4	
	3.7nm,0.7s						
EPOB	**Poblet**	**5.55**	**22**	P	**Pn**	**20 56 27.7**	**0.0**
	0.9nm,0.4s,SNR=7.9						
EPOB				S	**Sn**	**20 57 26.6**	**-5.0**
	3.4nm,0.7s,SNR=7.9						
EPOB	**Poblet**	**5.55**	**22**	P	**Pn**	**20 56 28.2**	**+0.5**
	0.9nm,0.4s,SNR=7.9						
EPOB	**Poblet**	**5.55**	**22**	P	**Pn**	**20 56 28.2**	**+0.5**
EPOB				S	**Sn**	**20 57 26.6**	**-5.0**
EVO	**Evora**	**5.56**	**296**	*e*P	**Pn**	**20 56 28.6**	**+0.8**
EVO				*e*S	**Sn**	**20 57 28.6**	**-3.1**
EVO				A		20 57 31.9	
	2.3nm,0.5s						
EVO	**Evora**	**5.56**	**296**	P	**Pn**	**20 56 28.6**	**+0.8**
EVO				S	**Sn**	**20 57 28.6**	**-3.1**
	2.3nm,0.5s						
PCBR	**Castelo Branco**	**5.84**	**310**	*e*P	**Pn**	**20 56 33.4**	**+1.7**
PCBR				*e*S	**Sn**	**20 57 34.3**	**-4.4**
PCBR				A		20 58 27.0	
	3.2nm,0.7s						
PCBR	**Castelo Branco**	**5.84**	**310**	P	**Pn**	**20 56 33.4**	**+1.7**
PCBR				S	**Sn**	**20 57 34.3**	**-4.4**
	1.6nm,0.7s						
MVO	**Moncorvo**	**6.48**	**321**	*e*P	**Pn**	**20 56 42.6**	**+2.2**
MVO				*e*S	**Sn**	**20 57 51.0**	**-3.4**
MVO				A		20 58 37.8	
	3.0nm,0.4s						
ELIZ	**Elizondo**	**6.93**	**1**	P	**Pn**	**20 56 50.6**	**+3.9**
ECAL	**Calabor**	**6.94**	**327**	P	**Pn**	**20 56 48.3**	**+1.5**
	0.3nm,0.4s,SNR=7.9						
ECAL	**Calabor**	**6.94**	**327**	P	**Pn**	**20 56 48.3**	**+1.5**
ECAL				P		20 56 52.0	
EALK	**Alkurruntz**	**6.99**	**1**	P	**Pn**	**20 56 47.2**	**-0.3**
	2.2nm,0.7s,SNR=7.9						
EALK	**Alkurruntz**	**6.99**	**1**	P	**Pn**	**20 56 47.2**	**-0.2**
EALK				P		20 56 51.4	
ELAN	**Lanestosa**	**7.13**	**350**	P	**Pn**	**20 56 49.5**	**+0.1**
	1.0nm,0.9s,SNR=7.9						
ELAN	**Lanestosa**	**7.13**	**350**	P	**Pn**	**20 56 49.5**	**0.0**
ELAN				P		20 56 52.8	
ELAN				S	**Sn**	**20 58 25.6**	**+15**
ELOB	**Lobios**	**7.52**	**321**	P	**Pn**	**20 56 55.6**	**+0.9**
	1.3nm,0.5s,SNR=7.9						
ELOB				S	**Sn**	**20 58 16.6**	**-3.4**
	72nm,4.2s,SNR=7.9						
ELOB	**Lobios**	**7.52**	**321**	P	**Pn**	**20 56 55.6**	**+0.9**
	1.3nm,0.5s,SNR=7.9						
EARI	**Arriondas**	**7.58**	**340**	P	**Pn**	**20 56 57.8**	**+2.2**
	1.1nm,1.1s,SNR=7.9						
EARI	**Arriondas**	**7.58**	**340**	P	**Pn**	**20 56 56.0**	**+0.5**
	1.1nm,1.1s,SNR=7.9						
EARI	**Arriondas**	**7.58**	**340**	P	**Pn**	**20 56 56.0**	**+0.5**

IDC 06 21:04:42.7±29.0**,2328S**×**17366W,h0^{km},mb3.9**/4**, mb1 4.0**/4**,mb1mx3.7**/16**,mbtmp3.9**/4**,Error ellipse: s-maj=532.4km s-min=163.5km az=78.0,Tonga Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**37.30**	**267**	P	P	21 11 57.2	+0.4
	2.2nm,0.4s,baz=97,slow=11,SNR=7.0						
STKA	**Stephens Creek**	**40.35**	**248**	P	P	21 12 21.9	-0.3
	0.7nm,0.6s,baz=95,slow=11,SNR=2.7						
ASAR	**Alice Springs**	**47.87**	**259**	P	P	21 13 22.4	-0.2
	0.2nm,0.3s,baz=95,slow=7.3,SNR=9.8						
WRA	**Warramunga Arr**	**48.26**	**264**	P	P	21 13 25.7	-0.1
	0.7nm,0.3s,baz=102,slow=8.4,SNR=35						

IDC 06 21:04:57.7±2.0**,319S**×**12970E,h0^{km},mb3.8**/2**,mb1 3.9**/3**, mb1mx3.5**/15**,mbtmp3.8**/3**,ML3.6**/1**,Error ellipse: s-maj=117.2km s-min=27.2km az=69.0,Seram**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**17.26**	**165**	P	Pn	21 09 01.2	+0.9
	0.2nm,0.3s,baz=345,slow=12,SNR=20						
ASAR	**Alice Springs**	**20.76**	**169**	P	P	21 09 40.0	-0.3
	1.7nm,0.4s,baz=346,slow=12,SNR=52						
MKAR	**Makanchi Array**	**64.90**	**326**	P	P	21 15 39.1	+0.1
	1.9nm,1.2s,baz=113,slow=5.8,SNR=3.1						

IDC 06 21:21:23.1±13.0**,2186N**×**14315E,h281^{km}**±102^{km}**, mb2.9**/4**,mb1 3.0**/4**,mb1mx2.7**/20**,mbtmp2.9**/4**,Error ellipse: s-maj=281.3km s-min=20.5km az=76.0,Mariana Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSRS	**Korea Array**	**20.36**	**323**	P	P	21 25 39.0	+0.2
	0.7nm,0.5s,baz=143,slow=8.9,SNR=4.7						
WRA	**Warramunga Arr**	**42.43**	**192**	P	P	21 28 50.8	0.0
	0.4nm,0.5s,baz=14,slow=9.3,SNR=9.6						
ZALV	**Zalesovo Beam**	**54.06**	**322**	P	P	21 30 18.6	-0.2
	0.4nm,0.3s,baz=99,slow=8.9,SNR=3.3						
MKAR	**Makanchi Array**	**54.56**	**313**	P	P	21 30 22.6	+0.1
	0.2nm,0.5s,baz=96,slow=7.2,SNR=3.3						

NEIC 06 22:01:44.2,5177N×**17853E,h77^{km},MG3.5**(AEIC)**,After AEIC.,Rat Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AMKA	**Amchitka**	**0.62**	**129**	*e*P	Pn	22 01 58.1	-0.7
SMY	**Shemya**	**2.89**	**291**	P	Pn	22 02 27.4	-0.6
ADK	**Adak**	**2.97**	**86**	P	Pn	22 02 27.6	-1.4
FX1	**Attu Island--F**	**3.48**	**291**	P	Pn	22 02 33.4	-2.5
FX1				S	Sn	22 03 14.4	-1.5

IDC 06 22:07:54.2±2.0**,276S**×**14225E,h0^{km},mb3.8**/5**,mb1 3.9**/6**, mb1mx3.7**/15**,mbtmp3.8**/6**,ML3.7**/1**,Error ellipse: s-maj=90.5km s-min=22.7km az=87.0,Near north coast of New Guinea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WB2	**Warramunga Arr**	**18.74**	**204**	*e*P	Pn	22 12 14.8	-0.2
WRA	**Warramunga Arr**	**18.74**	**204**	P	Pn	22 12 13.7	-1.3
	0.2nm,0.3s,baz=24,slow=11,SNR=23						
ASAR	**Alice Springs**	**22.29**	**201**	P	P	22 12 53.8	+0.5
	0.7nm,0.7s,baz=26,slow=11,SNR=7.5						
STKA	**Stephens Creek**	**28.97**	**181**	P	P	22 13 55.7	+0.3
	2.1nm,0.9s,baz=338,slow=5.4,SNR=2.6						
MKAR	**Makanchi Array**	**72.02**	**321**	P	P	22 19 20.7	+0.8
	0.9nm,0.6s,baz=102,slow=6.6,SNR=2.8						
ZALV	**Zalesovo Beam**	**73.79**	**329**	P	P	22 19 29.7	-0.6
	0.7nm,0.5s,baz=108,slow=4.7,SNR=4.7						
BVAR	**Borovoye Array**	**81.39**	**325**	P	P	22 20 13.2	+0.4
	0.8nm,0.7s,baz=120,slow=8.7,SNR=5.2						
LPAZ	**La Paz**	**144.51**	**123**	PKP	PKPdf	22 27 33.6	-0.1
	1.1nm,0.7s,baz=288,slow=4.8,SNR=5.8						

*IDC **06** 22:24:27.6±3.2,472S×10064E,h0^{km},mb3.5/6,mb1 3.6/6, mb1mx3.5/18,mbtmp3.5/6,Error ellipse: s-maj=130.7km s-min=20.9km az=55.0*
*ISCJB **06** 22:24:32.1±1.4,45S±02×1009E±02,h33^{km},mb3.6/7, Error ellipse: s-maj=35.2km s-min=15.7km az=144.4*
*NEIC **06** 22:24:34.3±1.1,450S×10092E,h35^{km},mb3.9/1,Error ellipse: s-maj=30.2km s-min=11.5km az=55.0*
ISC 06 22:24:34.5±1.4**,45S**±02×**1010E**±02**,h35^{km},n8,**σ**0§40**/8**, mb3.6**/7**,Southwest of Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KKM	**Kota Kinabalu**	**18.48**	**56**	*e*P	**Pn**	**22 28 48.0**	**-0.1**
CMAR	**Chiang Mai Arr**	**22.88**	**355**	P	**P**	**22 29 35.0**	**-0.2**
	0.7nm,0.5s,mb3.3,baz=183,slow=8.2,SNR=5.3						
WRA	**Warramunga Arr**	**35.96**	**118**	P	**P**	**22 31 31.7**	**-0.4**
	0.3nm,0.5s,mb3.5,baz=303,slow=9.1,SNR=2.9						
ASAR	**Alice Springs**	**37.05**	**124**	P	**P**	**22 31 41.1**	**-0.4**
	0.1nm,0.3s,mb3.1,baz=324,slow=8.4,SNR=4.3						
CTAO	**Charters Tower**	**46.72**	**113**	*e*P	**P**	**22 33 01.3**	**+0.9**
	1.8nm,1.2s,mb3.9						
SONM	**Songino Array**	**52.32**	**5**	P	**P**	**22 33 43.1**	**+0.4**
	0.7nm,0.6s,mb3.8,baz=184,slow=8.5,SNR=6.4						
SONM				PcP	PcP	22 34 52.0	-1.6
	0.2nm,0.6s,baz=174,slow=2.9,SNR=2.5						
MKAR	**Makanchi Array**	**53.66**	**344**	P	**P**	**22 33 52.6**	**0.0**
	0.5nm,0.6s,mb3.6,baz=155,slow=8.9,SNR=7.8						
ZALV	**Zalesovo Beam**	**59.77**	**349**	P	**P**	**22 34 35.7**	**-0.2**
	0.3nm,0.3s,mb3.8,baz=143,slow=3.7,SNR=2.4						

*CSEM **06** 22:28:14.3±1.1,3863N×2953W,h5^{km},ML3.3,Error ellipse: s-maj=12.5km s-min=9.1km az=170.0,After PDA*
PDA 06 22:28:14.3±1.1**,3863N**×**2953W,h5^{km},MD3.6,ML3.3, Error ellipse: s-maj=12.5km s-min=9.1km az=170.0, Azores Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCED	**Cedros**	**0.65**	**90**	*e*P	Pg	22 28 24.9	-1.8
PCED				*i* S	Sg	22 28 33.2	-1.9
PCED				A		22 28 35.9	
	953nm,0.2s						
PCED	**Cedros**	**0.65**	**90**	*e*P	Pg	22 28 24.9	-1.8
PCED				*i* S	Sg	22 28 33.2	-1.9
CALA	**Caldeira**	**0.65**	**94**	*e*P	Pg	22 28 25.1	-1.7
CALA				*e*S	Sg	22 28 33.3	-1.9
HOR	**Horta**	**0.71**	**98**	*e*P	Pg	22 28 25.8	-2.2
HOR				*e*S	Sg	22 28 34.9	-2.3
PICO	**Pico**	**0.87**	**98**	*e*P	Pg	22 28 29.1	-2.0
PICO				*e*S	Sg	22 28 39.5	-2.9
ROSA	**Rosais**	**1.01**	**85**	*i* P	Pg	22 28 30.4	-3.3
ROSA				*e*S	Sg	22 28 41.9	-4.9
PMAN	**Manadas**	**1.13**	**90**	*e*S	Sg	22 28 45.2	-5.3
PMAN				A		22 28 46.6	
	200nm,0.2s						
PGRA	**Graciosa**	**1.27**	**71**	*e*S	Sg	22 28 48.7	-6.5
PGRA				A		22 28 52.5	
	66nm,0.2s						

*IDC **06** 22:55:48.0±2.2,2125S×169.12E,h0^{km},mb3.7/7, mb1 4.0/7,mb1mx3.8/16,mbtmp3.8/7,MS3.5/5,Ms1 3.5/5, ms1mx3.1/33,Error ellipse: s-maj=93.1km s-min=28.4km az=154.0*
*NEIC **06** 22:55:50.2±4.1,2140S×16906E,h10^{km},Error ellipse: s-maj=75.8km s-min=59.4km az=150.0*
*ISCJB **06** 22:55:51.1±1.3,214S±04×1691E±02,h33^{km},mb3.7/7, MS3.4/4,Error ellipse: s-maj=59.9km s-min=9.9km az=159.0*
ISC 06 22:55:53.2±1.3**,214S**±04×**1691E**±02**,h35^{km},n15,** σ**1§01**/13**,mb3.7**/7**,MS3.4**/4**,Southeast of Loyalty Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**2.53**	**255**	*e*P	**Pn**	**22 56 30.0**	**-1.7**
DZM				*e*S	**Sn**	**22 57 01.3**	**-0.2**
DZM	**Mont Dzumac**	**2.53**	**255**	*e*Pn	**Pn**	**22 56 30.7**	**-1.1**
NOUC	**Port Laguerre**	**2.67**	**255**	*e*P	**Pn**	**22 56 31.5**	**-2.1**
NOUC				*e*S	**Sn**	**22 57 05.7**	**+0.9**
AFI	**Afiamalu**	**19.70**	**71**	LR	LR	23 06 10.5	
	comp=Z,150nm,19.4s,baz=128,slow=32						
CTA	**Charters Tower**	**21.38**	**269**	P	**P**	**23 00 39.5**	**+1.7**
	3.3nm,0.9s,mb3.7,baz=96,slow=10,SNR=4.6						
CTA				LR	LR	23 08 26.9	
	comp=Z,114nm,18.9s,MS3.3,baz=52,slow=35						
STKA	**Stephens Creek**	**26.61**	**241**	P	**P**	**23 01 29.7**	**+1.3**
	1.1nm,0.6s,mb3.5,baz=39,slow=9.5,SNR=2.8						
STKA				LR	LR	23 10 46.1	
	comp=Z,98nm,18.8s,MS3.4,baz=24,slow=34						
STKA	**Stephens Creek**	**26.61**	**241**	P	**P**	**23 01 29.7**	**+1.3**
STKA				LR	LR	23 10 46.1	
WRA	**Warramunga Arr**	**32.50**	**266**	P	**P**	**23 02 20.3**	**-0.4**
	0.5nm,0.6s,mb3.5,baz=99,slow=7.7,SNR=8.4						
WRA				LR	LR	23 15 46.3	
	comp=Z,72nm,20.0s,MS3.4,baz=175,slow=37						
ASAR	**Alice Springs**	**32.52**	**259**	P	**P**	**23 02 20.9**	**+0.1**
	1.2nm,0.8s,mb3.9,baz=84,slow=8.5,SNR=11						
PPT	**Papeete**	**39.09**	**92**	*e*LR	LR	23 14 07.2	
	68nm,24.5s						
PPT	**Papeete**	**39.09**	**92**	LR	LR	23 15 57.3	
	comp=Z,99nm,18.9s,MS3.7,baz=16,slow=31						
FITZ	**Fitzroy Crossi**	**40.92**	**267**	P	**P**	**23 03 32.5**	**0.0**
	1.1nm,0.6s,mb3.7,baz=159,slow=11,SNR=6.2						
SONM	**Songino Array**	**88.86**	**323**	P	**P**	**23 08 43.3**	**-0.3**
	0.1nm,0.5s,mb3.4,baz=80,slow=3.2,SNR=2.0						
NVAR	**Mina Array Bea**	**90.35**	**49**	P	**P**	**23 08 50.8**	**+0.1**
	0.6nm,0.8s,mb4.0,baz=227,slow=6.1,SNR=2.7						
GERES	**GERESS Array B**	**146.32**	**330**	PKPbc	PKPbc	23 15 30.0	0.0
	0.3nm,0.6s,baz=116,slow=3.1,SNR=3.8						

*DDA **06** 23:04:44.0,3886N×2720E,h7^{km}±5^{km},Md3.6*
*CSEM **06** 23:04:44.2±0.0,3884N×2720E,h15^{km},MD3.4,Error ellipse: s-maj=1.1km s-min=0.9km az=92.0*
*ISK **06** 23:04:44.3,3884N×2723E,h16^{km},MD3.4*
*ISCJB **06** 23:04:45.4±0.3,3883N±002×2720E±002,h25^{km}±3^{km}, Error ellipse: s-maj=3.0km s-min=2.7km az=154.6*
*THE **06** 23:04:45.7,3880N×2723E,h17^{km}±5^{km},ML3.7/3,Error ellipse: s-maj=6.3km s-min=1.5km az=117.0*
*NEIC **06** 23:04:46.8,3875N×2686E,h33^{km},MD3.4(ISK), MD3.7(ATH),After ATH.*
*ATH **06** 23:04:46.8,3875N×2686E,h33^{km}±3^{km},MD3.7/7*
ISC 06 23:04:45.2±0.4**,3883N**±002×**2720E**±002**,h16^{km}**±3^{km}**,n77,** σ**0§78**/110**,3C-5D,Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDAG	**Bornova**	**0.43**	**173**	*e*P	**Pg**	**23 04 53.8**	**-0.1**
KDAG				*i* S	**Sg**	**23 05 00.2**	**+0.5**
IZM	**Izmir**	**0.44**	**174**	PG	**Pg**	**23 04 53.6**	**-0.4**
BLCB	**Balcova**	**0.46**	**196**	PG	**Pg**	**23 04 53.9**	**-0.5**
BLCB				SG	**Sg**	**23 05 01.6**	**+0.9**
AKS	**Akhisar**	**0.48**	**84**	PG	**Pg**	**23 04 54.8**	**0.0**
AKS				SG	**Sg**	**23 05 00.8**	**-0.4**
AYVA	**Ayvalik**	**0.62**	**320**	⇓*i*P	**Pg**	**23 04 56.6**	**-0.7**
AYVA				*i* S	**Sg**	**23 05 07.8**	**+2.1**
URLA	**Izmir**	**0.67**	**225**	⇑*i*P	**Pg**	**23 04 57.3**	**-1.0**
URLA				*i* S	**Sg**	**23 05 11.5**	**+4.4**
PRK	**Paraskevi**	**0.83**	**300**	P	**Pb**	**23 05 00.7**	**-0.6**
PRK				S	**Sb**	**23 05 14.4**	**+2.2**
PRK	**Paraskevi**	**0.83**	**300**	P	**Pb**	**23 05 00.7**	**-0.6**
PRK				*e*Sn	**Sn**	**23 05 11.0**	**-3.2**
PRK				S	**Sb**	**23 05 14.4**	**+2.2**
PRK	**Paraskevi**	**0.83**	**300**	*e*Pn	**Pn**	**23 05 00.5**	**-1.8**
PRK				*e*Sn	**Sn**	**23 05 11.0**	**-3.2**
PRK	**Paraskevi**	**0.83**	**300**	*e*PN	**Pn**	**23 05 00.5**	**-1.8**
PRK				*e*SN	**Sn**	**23 05 11.0**	**-3.2**
BALB	**Balikesir**	**0.96**	**33**	PG	**Pg**	**23 05 02.9**	**-1.0**
BALB				SG	**Sg**	**23 05 16.5**	**-0.1**
BALY	**Balya**	**0.96**	**20**	*e*P	**Pb**	**23 05 02.5**	**-1.0**
BALY				*e*S	**Sb**	**23 05 16.7**	**+0.6**
BALY	**Balya**	**0.96**	**20**	*e*P	**Pb**	**23 05 02.5**	**-1.0**
BALY				*e*S	**Sb**	**23 05 16.7**	**+0.7**
CHOS	**Chios island**	**1.00**	**244**	P	**Pb**	**23 05 03.7**	**-0.4**
CHOS				S	**Sb**	**23 05 18.5**	**+1.4**
MANT	**Manisa**	**1.12**	**107**	⇓*i*P	**Pb**	**23 05 06.3**	**+0.2**
MANT				*i* S	**Sb**	**23 05 21.3**	**+0.9**
GCAM	**G?zelcaml?**	**1.13**	**179**	⇑*i*P	**Pn**	**23 05 06.0**	**-0.3**
GCAM				*i* S	**Sb**	**23 05 22.4**	**+1.7**
SMG	**Samos**	**1.16**	**194**	*e*Pn	**Pn**	**23 05 06.0**	**-0.7**
SMG				*e*Sn	**Sn**	**23 05 20.9**	**-1.3**
SMG	**Samos**	**1.16**	**194**	*e*PN	**Pn**	**23 05 06.0**	**-0.7**
SMG				*e*SN	**Sn**	**23 05 20.9**	**-1.3**
KULA	**Kula-Manisa**	**1.19**	**105**	*e*PN	**Pn**	**23 05 07.1**	**0.0**
KULA				*e*SN	**Sn**	**23 05 22.0**	**-0.9**
DEMI	**Demirci**	**1.20**	**79**	⇓*i*P	**Pn**	**23 05 07.4**	**+0.1**
DEMI				*i* S	**Sb**	**23 05 23.1**	**+0.3**
EZN	**Ezine**	**1.20**	**326**	*e*PN	**Pn**	**23 05 06.9**	**-0.4**
DURS	**Dursunbey**	**1.25**	**52**	⇑*i*P	**Pn**	**23 05 07.7**	**-0.3**
DURS				*i* S	**Sb**	**23 05 24.5**	**+0.2**
AYDN	**Tasoluk**	**1.29**	**155**	⇓*i*P	**Pn**	**23 05 08.4**	**0.0**
AYDN				*i* S	**Sb**	**23 05 26.2**	**+1.0**
AYDN	**Tasoluk**	**1.29**	**155**	*i* P	**Pn**	**23 05 08.4**	**-0.1**
AYDN				*i* S	**Sb**	**23 05 26.2**	**+1.0**
BOZC	**Bozcaada**	**1.34**	**319**	⇓*i*P	**Pn**	**23 05 08.9**	**-0.4**
BOZC				*i* S	**Sn**	**23 05 25.9**	**-0.9**
DST	**Dursunbey**	**1.35**	**55**	*e*PN	**Pn**	**23 05 09.1**	**-0.3**
LPK	**Lapseki**	**1.58**	**348**	*e*PN	**Pn**	**23 05 12.6**	**+0.1**
EDC	**Edincik**	**1.60**	**18**	*e*PN	**Pn**	**23 05 12.4**	**-0.4**
MLSB	**Milas**	**1.60**	**163**	*e*PN	**Pn**	**23 05 12.9**	**+0.1**
BNT	**Bandirma**	**1.62**	**20**	*e*PN	**Pn**	**23 05 12.4**	**-0.6**
KCT	**Karacabey**	**1.69**	**32**	*e*PN	**Pn**	**23 05 13.8**	**-0.2**
GADA	**Gvkgeada**	**1.69**	**324**	*e*PN	**Pn**	**23 05 14.5**	**+0.5**
GADA				*e*SN	**Sn**	**23 05 35.4**	**+0.1**
BODT	**Bodrum**	**1.77**	**177**	*e*PN	**Pn**	**23 05 15.2**	**0.0**
DENT	**Denizli**	**1.80**	**126**	*e*PN	**Pn**	**23 05 15.4**	**-0.1**
RKY	**Sarkoy-Tekirda**	**1.85**	**359**	*e*PN	**Pn**	**23 05 16.4**	**+0.2**
RKY				*e*SN	**Sn**	**23 05 40.0**	**+0.6**
KHL	**Karahalli**	**1.89**	**105**	*e*PN	**Pn**	**23 05 17.0**	**+0.2**
LIA	**Limnos Island**	**1.89**	**305**	P	**Pn**	**23 05 17.0**	**+0.2**
LIA				S	**Sn**	**23 05 40.7**	**+0.4**
LIA	**Limnos Island**	**1.89**	**305**	*e*Pb	**Pn**	**23 05 17.0**	**+0.2**
LIA				*e*Sn	**Sn**	**23 05 38.2**	**-2.1**
LIA				S	**Sn**	**23 05 40.7**	**+0.4**
LIA	**Limnos Island**	**1.89**	**305**	*e*Pb	**Pn**	**23 05 17.0**	**+0.2**
LIA				*e*Sn	**Sn**	**23 05 38.2**	**-2.1**
LIA	**Limnos Island**	**1.89**	**305**	*e*PB	**Pn**	**23 05 17.0**	**+0.2**
LIA				*e*SN	**Sn**	**23 05 38.2**	**-2.1**
YER	**Yerkesik**	**1.90**	**153**	*e*PN	**Pn**	**23 05 16.3**	**-0.6**
MFT	**Murefte**	**1.95**	**2**	*e*PN	**Pn**	**23 05 17.6**	**-0.1**
LOS	**Limnos**	**1.98**	**305**	P	**Pn**	**23 05 18.5**	**+0.5**
LOS				S	**Sn**	**23 05 42.6**	**+0.2**
ENEZ	**Enez**	**2.07**	**337**	*e*PN	**Pn**	**23 05 19.8**	**+0.5**

TKR	**Tekirdag**	**2.17**	**7**	*e*PN	**Pn**	**23 05 20.9**	**+0.3**
APE	**Apeiranthos**	**2.20**	**217**	*e*Pn	**Pn**	**23 05 20.3**	**-0.7**
APE	**Apeiranthos**	**2.20**	**217**	*e*PN	**Pn**	**23 05 20.3**	**-0.7**
GEMT	**Gemlik**	**2.22**	**43**	*e*PN	**Pn**	**23 05 20.7**	**-0.6**
ALN	**Alexandroupoli**	**2.25**	**337**	P	**Pn**	**23 05 22.1**	**+0.4**
ALN				S	**Sn**	**23 05 49.8**	**+0.7**
ALT	**Altintas**	**2.28**	**83**	*e*PN	**Pn**	**23 05 21.6**	**-0.5**
YLV	**Yalova**	**2.41**	**43**	*e*PN	**Pn**	**23 05 24.7**	**+0.8**
CAVI	**Cavuskoy**	**2.46**	**55**	*e*PN	**Pn**	**23 05 25.3**	**+0.7**
SLVT	**Silivri**	**2.52**	**18**	*e*PN	**Pn**	**23 05 25.2**	**-0.2**
ADVT	**Abdulvahap**	**2.53**	**50**	*e*PN	**Pn**	**23 05 24.8**	**-0.8**
CTKS	**Kestanelik-??a**	**2.60**	**22**	*e*PN	**Pn**	**23 05 26.7**	**+0.1**
SHUT	**Suhut-Afyon**	**2.64**	**95**	*e*PN	**Pn**	**23 05 27.6**	**+0.5**
BGKT	**Bogazkoy**	**2.64**	**27**	*e*PN	**Pn**	**23 05 27.1**	**0.0**
RDO	**Rodhopi**	**2.64**	**332**	*e*Pn	**Pn**	**23 05 27.9**	**+0.8**
RDO	**Rodhopi**	**2.64**	**332**	*e*PN	**Pn**	**23 05 27.9**	**+0.8**
ISK	**Istanbul-Kandi**	**2.65**	**32**	*e*PN	**Pn**	**23 05 26.7**	**-0.6**
ARG	**Arkhangelos**	**2.71**	**164**	*e*Pn	**Pn**	**23 05 31.3**	**+3.2**
ARG	**Arkhangelos**	**2.71**	**164**	*e*PN	**Pn**	**23 05 31.3**	**+3.2**
CTYL	**Yal??k??y-??at**	**2.77**	**17**	*e*PN	**Pn**	**23 05 28.5**	**-0.4**
KLYT	**Kilyos**	**2.80**	**30**	*e*PN	**Pn**	**23 05 29.0**	**-0.4**
GPA	**Golpazari**	**2.81**	**58**	*e*PN	**Pn**	**23 05 29.0**	**-0.5**
THR3	**Thira Island,**	**2.81**	**211**	P	**Pn**	**23 05 29.0**	**-0.4**
SANT	**Santorini**	**2.82**	**210**	P	**Pn**	**23 05 28.2**	**-1.4**
SILT	**Sile**	**2.98**	**38**	*e*PN	**Pn**	**23 05 32.6**	**+0.8**
BCK	**Bucak**	**3.00**	**116**	*e*PN	**Pn**	**23 05 32.8**	**+0.7**
GULT	**Gulveren**	**3.02**	**57**	*e*PN	**Pn**	**23 05 32.2**	**-0.1**
EDRB	**Edirne**	**3.03**	**354**	*e*PN	**Pn**	**23 05 33.1**	**+0.6**
MDU	**Mudurnu**	**3.50**	**61**	*e*PN	**Pn**	**23 05 38.6**	**-0.3**
NVR	**Nevrokopi**	**3.59**	**316**	*e*Pn	**Pn**	**23 05 40.8**	**+0.7**
NVR	**Nevrokopi**	**3.59**	**316**	*e*PN	**Pn**	**23 05 40.8**	**+0.7**
KIZT	**Kizilcal**	**3.65**	**88**	*e*PN	**Pn**	**23 05 40.9**	**-0.1**
BR131	**Keskin Array S**	**5.08**	**78**	*e*Pn	**Pn**	**23 06 02.4**	**+1.8**
	0.9nm,0.3s						
BR131	**Keskin Array S**	**5.08**	**78**	*e*Pn	**Pn**	**23 06 02.4**	**+1.8**
	0.9nm,0.3s						

BJI 06 23:07:45.3, 4161N×12315E, h14km, ML3.7, 1D, Northeastern China

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNY	**Shenyang**	**0.39**	**56**	⇓PG	Pg	23 07 51.9	-1.2
SNY				SG	Sg	23 07 58.2	-0.2
SNY				Smax			
	comp=N,2μm,0.2s						
SNY				Smax			
	comp=E,1μm,0.1s						
CN2	**Changchun**	**2.77**	**37**	*e*PG	Pg	23 08 36.0	-2.3
CN2				*e*SG	Sg	23 09 10.6	-3.6
CN2				Smax			
	comp=N,100nm,0.7s						
CN2				Smax			
	comp=E,100nm,0.7s						
DL2	**Dalian**	**2.94**	**204**	PG	Pg	23 08 36.4	-5.3
DL2				SG	Sg	23 09 13.5	-6.3
DL2				Smax			
	comp=N,200nm,0.6s						
DL2				Smax			
	comp=E,210nm,0.6s						

*IDC **06** 23:11:33.3±1.6, 1136N×12665E, h0km, mb3.7/5, mb1 3.9/5, mb1mx3.6/18, mbtmp3.7/5, Error ellipse: s-maj=163.8km s-min=21.2km az=68.0*
*ISCJB **06** 23:11:45.1±0.5, 1074N±004×12544E±006, h98km±5km, mb3.6/5, Error ellipse: s-maj=10.5km s-min=6.1km az=7.1*
*MAN **06** 23:11:46, 1072N×12544E, h63km, mb4.6, ML3.4, MS3.4*
ISC 06 23:11:46.2±0.5**, 1075N**±004×**12541E**±006**, h92**km±5km**, n19, σ1ṣ08**/28**, mb3.6**/5**, 4C, Leyte**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLP	**Palo**	**0.59**	**314**	⇑*e*P	**Pn**	**23 12 00.8**	**-1.1**
PLP				*i* S	**Sn**	**23 12 12.9**	**-0.7**
MSLP	**Maasin**	**0.82**	**222**	*e*P	**Pn**	**23 12 03.3**	**-0.9**
MSLP				*e*S	**Sn**	**23 12 17.1**	**-0.4**
BESP	**Borongan**	**0.84**	**2**	*e*P	**Pn**	**23 12 03.7**	**-0.7**
BESP				*e*S	**Sn**	**23 12 18.3**	**+0.3**
OCLP	**Ormoc**	**0.84**	**291**	*e*P	**Pn**	**23 12 04.5**	**+0.2**
SCPH	**Surigao**	**0.97**	**176**	*e*P	**Pn**	**23 12 03.0**	**-2.8**
LLP	**Lapu-Lapu**	**1.49**	**253**	⇑*e*P	**Pn**	**23 12 11.8**	**-0.1**
LLP				*e*S	**Sn**	**23 12 31.2**	**-0.1**
BUTP	**Butuan**	**1.78**	**173**	*e*P	**Pn**	**23 12 15.4**	**-0.3**
BUTP				*e*S	**Sn**	**23 12 40.5**	**+2.4**
TBP	**Tagbilaran**	**1.86**	**236**	*e*P	**Pn**	**23 12 16.9**	**+0.3**
TBP				*e*S	**Sn**	**23 12 40.2**	**+0.5**
CNP	**Catarman**	**1.90**	**337**	*e*P	**Pn**	**23 12 17.6**	**+0.5**
CNP				*e*S	**Sn**	**23 12 42.1**	**+1.4**
RCP	**Roxas**	**2.74**	**287**	⇑*e*P	**Pn**	**23 12 29.7**	**+1.4**
GUIM	**Jordan**	**2.78**	**268**	*e*P	**Pn**	**23 12 29.5**	**+0.7**
BUKP	**Musuan**	**2.88**	**187**	*e*P	**Pn**	**23 12 30.1**	**0.0**
BUKP				*e*S	**Sn**	**23 13 07.5**	**+3.5**
DCPH	**Dipolog City**	**2.96**	**223**	⇑*e*P	**Pn**	**23 12 30.0**	**-1.3**
DCPH				*e*S	**Sn**	**23 13 05.4**	**-0.6**
MATI	**Mati**	**3.87**	**167**	*e*P	**Pn**	**23 12 45.3**	**+1.7**
WRA	**Warramunga Arr**	**31.74**	**164**	P	**P**	**23 18 00.7**	**-1.0**
	0.3nm,0.9s,mb3.0,baz=344,slow=9.4,SNR=3.8						
ASAR	**Alice Springs**	**35.20**	**166**	P	**P**	**23 18 33.4**	**+1.7**
	0.3nm,0.5s,mb3.4,baz=346,slow=9.5,SNR=4.5						
STKA	**Stephens Creek**	**45.13**	**160**	P	**P**	**23 19 52.7**	**-0.9**
	2.0nm,1.1s,mb3.8,baz=336,slow=10.0,SNR=3.0						
MKAR	**Makanchi Array**	**51.14**	**323**	P	**P**	**23 20 40.1**	**+0.4**
	0.6nm,0.5s,mb3.9,baz=119,slow=7.1,SNR=15						
ARCES	**ARCESS Array B**	**83.45**	**340**	P	**P**	**23 24 01.6**	**-1.6**
	2.5nm,1.0s,mb4.0,baz=72,slow=8.6,SNR=2.7						

*IDC **06** 23:12:22.5±1.8, 3639N×14140E, h0km, mb3.6/2, mb1 3.6/5, mb1mx3.4/24, mbtmp3.6/5, ML3.3/3, Error ellipse: s-maj=34.1km s-min=22.9km az=85.0*
*ISCJB **06** 23:12:25.6±0.8, 3644N±004×14136E±007, h33km, mb3.6/2, Error ellipse: s-maj=7.9km s-min=5.0km az=7.1*
*NEIC **06** 23:12:27.1, 3645N×14120E, h45km, MG3.4(JMA), After JMA.*
*JMA **06** 23:12:27.1±0.1, 3645N×14120E, h45km±2km, M3.4 Broadband fault plane solution: P waves. NP1: φs213.00000°, δ7.00000°, λ57.00000°. NP2: φs67.00000°, δ84.00000°, λ94.00000°. Principal axes: T Plg51.0000°, Azm341.0000°; N Plg4.0000°, Azm246.0000°; P Plg39.0000°, Azm153.0000°;*
ISC 06 23:12:27.2±0.8**, 3646N**±004×**14130E**±007**, h35**km**, n17, σ0ṣ98**/25**, mb3.6**/2**, 1C-4D, Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHO	**Hitachi**	**0.61**	**284**	⇓P	**Pn**	**23 12 38.3**	**-1.0**
JHO				S	**Sn**	**23 12 46.0**	**-1.8**
ONAJ	**Iwakimizuishiy**	**0.76**	**328**	⇓P	**Pn**	**23 12 40.6**	**-0.7**
CHOJ	**Chosi**	**0.84**	**205**	⇑P	**Pn**	**23 12 41.7**	**-0.7**
JYT	**Yasato**	**0.92**	**256**	P	**Pn**	**23 12 42.7**	**-0.9**
JYT				*e*S	**Sn**	**23 12 53.5**	**-2.1**
JFK	**Kawauchi**	**0.96**	**339**	⇓P	**Pn**	**23 12 43.7**	**-0.5**
JFK				S	**Sn**	**23 12 55.6**	**-1.1**
JFT	**Otama**	**1.31**	**324**	⇓P	**Pn**	**23 12 49.6**	**+0.7**
JFT				S	**Sn**	**23 13 05.5**	**+0.4**
JMM	**Marumori**	**1.46**	**344**	P	**Pn**	**23 12 51.2**	**+0.2**
JMM				S	**Sn**	**23 13 08.6**	**-0.3**
JAG	**Ashikaga**	**1.49**	**269**	P	**Pn**	**23 12 50.8**	**-0.6**
JFY	**Yanaizu**	**1.59**	**307**	P	**Pn**	**23 12 53.4**	**+0.6**
JKT	**Katashina**	**1.68**	**281**	P	**Pn**	**23 12 54.4**	**+0.4**
MJAR	**Matsushiro Arr**	**2.49**	**273**	Pn	**Pn**	**23 13 06.0**	**+0.9**
	3.9nm,0.3s,baz=91,slow=9.2,SNR=37						
MJAR				Sn	**Sn**	**23 13 36.8**	**+2.5**
	4.6nm,0.3s,baz=310,slow=42,SNR=6.6						
MAJO	**Matsushiro**	**2.49**	**273**	*e*Pn	**Pn**	**23 13 06.0**	**+0.8**
MAT	**Matsushiro**	**2.49**	**273**	P	**Pn**	**23 13 06.6**	**+1.4**
MAT				*e*S	**Sn**	**23 13 35.2**	**+0.8**
JHJ	**Hachijo jima 2**	**3.56**	**201**	Pn	**Pn**	**23 13 18.8**	**-1.1**
	8.3nm,0.3s,baz=81,slow=23,SNR=2.7						
JHJ				Sn	**Sn**	**23 14 01.5**	**+0.8**
	26nm,0.3s,baz=252,slow=21,SNR=4.0						
ASAJ	**Asahikawa**	**7.71**	**7**	Pn	**Pn**	**23 14 17.3**	**+0.5**
	0.4nm,0.3s,baz=358,slow=28,SNR=4.8						
ZALV	**Zalesovo Beam**	**42.23**	**313**	P	**P**	**23 20 17.5**	**+0.9**
	0.6nm,0.3s,mb3.7,baz=104,slow=6.0,SNR=4.0						
WRA	**Warramunga Arr**	**56.48**	**188**	P	**P**	**23 22 05.7**	**+0.1**
	0.3nm,0.5s,mb3.6,baz=4.9,slow=7.6,SNR=7.5						

*NIED **06** 23:19:00, 2370N×12580E, h86km, Mw4.4 Best double couple: M0 5.28000×10^15 NP1: φs39.00000°, δ78.00000°, λ69.00000°. NP2: φs280.00000°, δ23.00000°, λ150.00000°.*
JMA 06 23:19:34.5±0.4**, 2365N**×**12582E, h74**km**, M3.6, Southwestern Ryukyu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JOGS	**Gusukube**	**1.17**	**341**	P	Pn	23 19 55.5	+0.2
JOGS				*e*S	Sn	23 20 11.5	+0.6
JMJ	**Miyako jima 2**	**1.25**	**338**	P	Pn	23 19 56.7	+0.3
JMJ				*e*S	Sn	23 20 12.9	+0.1
JTJ	**Tarama**	**1.42**	**314**	P	Pn	23 19 58.5	0.0
JTJ				*e*S	Sn	23 20 16.4	-0.2
JKRS	**Kuro-shima**	**1.76**	**290**	P	Pn	23 20 04.0	+1.0
JKRS				*e*S	Sn	23 20 25.2	+0.6
JKE	**Kume jima 2**	**2.81**	**18**	*e*S	Sn	23 20 47.1	-2.8
JJT2	**Tamagusuku 2**	**3.03**	**35**	P	Pn	23 20 19.3	-0.9
JOW	**Kunigami**	**3.87**	**35**	P	Pn	23 20 30.6	-1.0
JOW				*e*S	Sn	23 21 11.5	-4.3
JIH	**Iheya**	**3.89**	**30**	P	Pn	23 20 30.9	-1.0
JTK	**Tokunoshima**	**4.99**	**34**	P	Pn	23 20 45.0	-1.9
JAM	**Amami Oshima**	**5.84**	**35**	P	Pn	23 20 56.4	-2.0

JMA 06 23:24:28.9±0.4**, 4404N**×**14809E, h0**km**, M3.8, Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEM2	**Nemuro 2**	**1.83**	**249**	P	Pn	23 25 01.9	+0.3
NEM2				*e*S	Sn	23 25 26.1	+0.7
JRA	**Rausu**	**2.15**	**268**	P	Pn	23 25 06.7	+0.8
JRA				*e*S	Sn	23 25 34.6	+1.4
JAK	**Akkeshi**	**2.68**	**248**	P	Pn	23 25 14.3	+1.0
JAR	**Ashorobuto**	**3.22**	**258**	P	Pn	23 25 22.6	+1.9
JNBK	**Urakawa-nobuka**	**4.28**	**248**	P	Pn	23 25 37.3	+2.0
JKB	**Kayabe**	**5.61**	**250**	P	Pn	23 25 55.2	+1.7
JKB				*e*S	Sn	23 26 59.6	+1.0
JOT	**Ohata**	**5.83**	**245**	P	Pn	23 25 57.8	+1.3
JOT				*e*S	Sn	23 27 03.8	-0.2

*ISK **06** 23:38:52.4, 3602N×2846E, h61km, ML3.4*
*ISCJB **06** 23:38:53.5±0.2, 3607N±002×2857E±002, h69km±5km, mb3.2/2, Error ellipse: s-maj=3.6km s-min=2.3km az=19.3*
*CSEM **06** 23:38:53.9±0.1, 3617N×2856E, h48km±1km, Mw3.3, Error ellipse: s-maj=1.7km s-min=0.9km az=10.0*
*IDC **06** 23:38:54.4±2.5, 3599N×2848E, h42km±27km, mb3.2/2, mb1 3.5/5, mb1mx3.2/23, mbtmp3.4/5, ML3.5/3, Error ellipse: s-maj=37.6km s-min=13.3km az=6.0*
*DDA **06** 23:38:54.2, 3622N×2848E, h38km±1km, Md3.5*
*NEIC **06** 23:38:54.3, 3622N×2849E, h56km, MD3.8(ATH), After ATH.*
*ATH **06** 23:38:54.3, 3622N×2849E, h56km±1km, MD3.8/9*
*NIC **06** 23:38:55.2±0.1, 3650N×2881E, h55km, mb4.1, ML3.6, MW3.3*
*THE **06** 23:38:55.2, 3619N×2864E, h32km±8km, ML4.0/2, Error ellipse: s-maj=8.6km s-min=1.3km az=203.0*
*GRAL **06** 23:38:56.3±1.1, 3548N×2879E, h0km±999km, MD4.1*
*GII **06** 23:38:59.6±0.7, 3575N×2879E, h50km, mb4.1/2, ML3.8/3*
*HLW **06** 23:39:02.7, 3535N×2863E, h33km, Mb4.0*
ISC 06 23:38:55.0±0.2**, 3610N**±002×**2856E**±002**, h54**km±7km**, n122, σ1ṣ02**/167**, mb3.3**/2**, 12C-7D, Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARG	**Arkhangelos**	**0.37**	**289**	⇓*i*P	**Pn**	**23 39 04.8**	**-0.3**
ARG				*e*S	**Sn**	**23 39 12.0**	**-0.4**
ARG	**Arkhangelos**	**0.37**	**289**	⇓*i*P	**Pn**	**23 39 04.8**	**-0.3**
ARG				*e*S	**Sn**	**23 39 12.0**	**-0.4**
TURN	**Turunc**	**0.77**	**3**	⇓*i*P	**Pn**	**23 39 09.0**	**-0.9**
TURN				*i* S	**Sn**	**23 39 18.4**	**-2.3**
KSL	**Kastellorizon**	**0.83**	**86**	*e*P	**Pn**	**23 39 11.5**	**+0.9**
KSL	**Kastellorizon**	**0.83**	**86**	*e*P	**Pn**	**23 39 11.5**	**+0.9**
AKAS	**Kas**	**0.86**	**81**	⇑*i*P	**Pn**	**23 39 12.0**	**+1.1**
AKAS				*i* S	**Sn**	**23 39 24.1**	**+1.4**
AKAS	**Kas**	**0.86**	**81**	*i* P	**Pn**	**23 39 12.0**	**+1.0**
AKAS				*i* S	**Sn**	**23 39 24.0**	**+1.3**
YER	**Yerkesik**	**1.06**	**348**	*e*PN	**Pn**	**23 39 13.8**	**+0.2**
YER				*e*SN	**Sn**	**23 39 27.9**	**+0.6**
KARP	**Karpathos**	**1.26**	**244**	*e*P	**Pn**	**23 39 17.2**	**+0.9**
KARP				*e*S	**Sn**	**23 39 33.2**	**+1.0**
KARP	**Karpathos**	**1.26**	**244**	*e*P	**Pn**	**23 39 17.2**	**+0.9**
KARP				*e*S	**Sn**	**23 39 33.2**	**+1.0**
NISR	**Nisiros**	**1.26**	**294**	*e*P	**Pn**	**23 39 15.0**	**-1.3**
NISR	**Nisiros**	**1.26**	**294**	*e*P	**Pn**	**23 39 15.0**	**-1.3**
BDRM	**Kayabasi**	**1.32**	**317**	⇑*i*P	**Pn**	**23 39 16.4**	**-0.6**
BDRM				*i* S	**Sn**	**23 39 32.6**	**-1.0**
MLSB	**Milas**	**1.35**	**333**	*e*PN	**Pn**	**23 39 16.5**	**-1.0**
MLSB				*e*SN	**Sn**	**23 39 34.0**	**-0.3**
BODT	**Bodrum**	**1.39**	**314**	*e*PN	**Pn**	**23 39 17.1**	**-1.0**
BODT				SN	**Sn**	**23 39 34.0**	**-1.3**
GOLH	**Golhisar**	**1.39**	**35**	⇓*i*P	**Pn**	**23 39 19.6**	**+1.5**
GOLH				*i* S	**Sn**	**23 39 37.7**	**+2.3**
DNZL	**Cakiroluk**	**1.64**	**14**	⇓*i*P	**Pn**	**23 39 21.6**	**+0.2**
DNZL				*i* S	**Sn**	**23 39 42.4**	**+1.1**
AYDN	**Tasoluk**	**1.65**	**341**	*e*P	**Pn**	**23 39 22.3**	**+0.7**
AYDN				*e*S	**Sn**	**23 39 41.1**	**-0.6**
DENT	**Denizli**	**1.69**	**13**	*e*PN	**Pn**	**23 39 22.1**	**-0.1**
ANTB	**Antalya**	**1.87**	**64**	*e*PN	**Pn**	**23 39 24.8**	**+0.2**
GCAM	**G?zelcaml?**	**1.92**	**327**	⇑*i*P	**Pn**	**23 39 24.7**	**-0.6**
GCAM				*i* S	**Sn**	**23 39 46.3**	**-2.0**
SMG	**Samos**	**2.12**	**320**	*e*P	**Pn**	**23 39 26.9**	**-1.1**
SMG				*e*S	**Sn**	**23 39 50.8**	**-2.3**
SMG	**Samos**	**2.12**	**320**	*e*P	**Pn**	**23 39 26.9**	**-1.1**
SMG				*e*S	**Sn**	**23 39 50.8**	**-2.3**
BCK	**Bucak**	**2.12**	**50**	*e*PN	**Pn**	**23 39 28.0**	**0.0**
ZKR	**Zakros**	**2.15**	**243**	P	**Pn**	**23 39 29.9**	**+1.5**
ZKR				S	**Sn**	**23 39 55.3**	**+1.5**
ZKR	**Zakros**	**2.15**	**243**	P	**Pn**	**23 39 29.8**	**+1.4**
ZKR				S	**Sn**	**23 39 55.3**	**+1.5**
KHL	**Karahalli**	**2.35**	**19**	*e*PN	**Pn**	**23 39 31.5**	**+0.3**
KULA	**Kula-Manisa**	**2.41**	**2**	*e*PN	**Pn**	**23 39 31.7**	**-0.3**
IZM	**Izmir**	**2.52**	**336**	*e*PN	**Pn**	**23 39 32.2**	**-1.2**
SANT	**Santorini**	**2.52**	**277**	P	**Pn**	**23 39 32.9**	**-0.6**
SANT	**Santorini**	**2.52**	**277**	P	**Pn**	**23 39 33.5**	**0.0**
THR1	**Thera Island**	**2.52**	**277**	P	**Pn**	**23 39 33.4**	**-0.1**
THR1				S	**Sn**	**23 40 03.3**	**+0.3**
NPS	**Neapolis**	**2.54**	**252**	*e*P	**Pn**	**23 39 33.9**	**+0.2**
NPS	**Neapolis**	**2.54**	**252**	*e*P	**Pn**	**23 39 33.9**	**+0.2**
THR6	**Thira Island,**	**2.57**	**277**	P	**Pn**	**23 39 34.3**	**+0.2**
THR6				S	**Sn**	**23 40 04.4**	**+0.3**
THR3	**Thira Island,**	**2.57**	**278**	P	**Pn**	**23 39 34.2**	**0.0**
THR4	**Thira Island,**	**2.58**	**279**	P	**Pn**	**23 39 34.3**	**0.0**
THR4				S	**Sn**	**23 40 05.7**	**+1.3**
BLCB	**Balcova**	**2.58**	**333**	*e*PN	**Pn**	**23 39 33.5**	**-0.8**
THR5	**Thira Island,**	**2.61**	**278**	P	**Pn**	**23 39 35.0**	**+0.2**
THR5				S	**Sn**	**23 40 06.8**	**+1.5**
APE	**Apeiranthos**	**2.62**	**293**	*e*P	**Pn**	**23 39 34.9**	**0.0**
APE	**Apeiranthos**	**2.62**	**293**	*e*P	**Pn**	**23 39 34.9**	**0.0**
LAST	**Lasithi**	**2.68**	**250**	P	**Pn**	**23 39 36.0**	**+0.4**
LAST	**Lasithi**	**2.68**	**250**	P	**Pn**	**23 39 36.3**	**+0.7**
AKS	**Akhisar**	**2.84**	**348**	*e*PN	**Pn**	**23 39 37.8**	**-0.1**
SHUT	**Suhut-Afyon**	**2.92**	**32**	*e*PN	**Pn**	**23 39 39.5**	**+0.5**
CHOS	**Chios island**	**3.03**	**320**	P	**Pn**	**23 39 39.7**	**-0.8**
CHOS				S	**Sn**	**23 40 14.3**	**-1.3**
IDI	**Anoyia**	**3.09**	**256**	P	**Pn**	**23 39 41.4**	**+0.1**
	10nm,0.3s,baz=64,slow=13,SNR=163						
IDI				S	**Sn**	**23 40 14.3**	**-2.8**
	16nm,0.3s,baz=93,slow=21,SNR=7.7						
ALT	**Altintas**	**3.20**	**22**	*e*PN	**Pn**	**23 39 43.7**	**+0.9**
SIVA	**Sivas**	**3.24**	**252**	P	**Pn**	**23 39 44.7**	**+1.4**
SIVA	**Sivas**	**3.24**	**252**	P	**Pn**	**23 39 45.5**	**+2.2**
AKMC	**Akamas**	**3.26**	**108**	⇑*e*P	**Pn**	**23 39 44.2**	**+0.6**
HDMB	**Hadim**	**3.28**	**74**	*e*PN	**Pn**	**23 39 44.6**	**+0.7**
PPCY	**Paphos**	**3.32**	**110**	⇑*e*P	**Pn**	**23 39 45.0**	**+0.5**
ALFC	**Alevga**	**3.42**	**105**	P	**Pn**	**23 39 45.8**	**-0.1**
	12nm,0.2s						
ALFC				S	**Sn**	**23 40 25.6**	**+0.4**
DST	**Dursunbey**	**3.50**	**1**	*e*PN	**Pn**	**23 39 46.6**	**-0.4**
KONT	**Konya--Tatoy**	**3.56**	**58**	*e*PN	**Pn**	**23 39 48.9**	**+1.2**
BALB	**Balikesir**	**3.58**	**352**	*e*PN	**Pn**	**23 39 49.2**	**+1.3**
VAM	**Vamos**	**3.61**	**260**	*e*P	**Pn**	**23 39 49.7**	**+1.3**
VAM	**Vamos**	**3.61**	**260**	*e*P	**Pn**	**23 39 49.7**	**+1.3**
PRK	**Paraskevi**	**3.63**	**331**	P	**Pn**	**23 39 48.3**	**-0.3**
PRK				S	**Sn**	**23 40 27.8**	**-2.4**
LEF	**Lefka**	**3.66**	**104**	*e*PN	**Pn**	**23 39 48.5**	**-0.7**
LADK	**Ladik-KONYA**	**3.69**	**54**	*e*PN	**Pn**	**23 39 51.0**	**+1.4**
SZAC	**Souni-Zanaja**	**3.78**	**110**	P	**Pn**	**23 39 51.3**	**+0.6**
KIZT	**Kizilcal**	**3.83**	**43**	*e*PN	**Pn**	**23 39 52.3**	**+0.9**
CSS	**Prodhromos**	**4.05**	**105**	P	**Pn**	**23 39 54.7**	**+0.2**
	2.7nm,0.3s						
CSS				S	**Sn**	**23 40 40.7**	**0.0**
CSS	**Prodhromos**	**4.05**	**105**	P	**Pn**	**23 39 54.1**	**-0.4**
CSS				S	**Sn**	**23 40 38.9**	**-1.8**
CSS	**Prodhromos**	**4.05**	**105**	*e*Pn	**Pn**	**23 39 54.6**	**+0.1**
CSS				S	**Sn**	**23 40 40.7**	**0.0**
EZN	**Ezine**	**4.12**	**335**	*e*PN	**Pn**	**23 39 55.2**	**-0.2**
LFK	**Lefkose**	**4.13**	**100**	*e*PN	**Pn**	**23 39 56.1**	**+0.5**
IKL	**Isikli**	**4.15**	**87**	*e*PN	**Pn**	**23 39 57.2**	**+1.3**
KYTH	**Kithira**	**4.47**	**274**	*e*P	**Pn**	**23 40 00.2**	**0.0**
KYTH	**Kithira**	**4.47**	**274**	*e*P	**Pn**	**23 40 00.2**	**0.0**
DID	**Didima**	**4.49**	**290**	P	**Pn**	**23 40 01.2**	**+0.7**
VLI	**Veliai**	**4.57**	**279**	*e*P	**Pn**	**23 40 02.5**	**+0.9**
VLI	**Veliai**	**4.57**	**279**	*e*P	**Pn**	**23 40 02.5**	**+0.9**
GADA	**Gvkgeada**	**4.59**	**334**	*e*PN	**Pn**	**23 40 02.3**	**+0.4**
PHNC	**Paralimni**	**4.60**	**102**	P	**Pn**	**23 40 03.7**	**+1.8**
LIA	**Limnos Island**	**4.63**	**326**	P	**Pn**	**23 40 02.6**	**+0.2**
LIA	**Limnos Island**	**4.63**	**326**	*e*P	**Pn**	**23 40 02.5**	**+0.1**
LIA	**Limnos Island**	**4.63**	**326**	*e*P	**Pn**	**23 40 02.5**	**+0.1**
LTK	**Loutraki**	**4.87**	**295**	P	**Pn**	**23 40 06.9**	**+1.3**
VLX	**Vlachokerasia**	**5.12**	**286**	P	**Pn**	**23 40 10.9**	**+1.8**
VLX				S	**Sn**	**23 41 07.4**	**+0.5**
HMAT	**Matruh**	**5.14**	**194**	⇑*e*P	**Pn**	**23 40 08.0**	**-1.4**
HMAT				S	**Sn**	**23 40 55.1**	**-12**
ALN	**Alexandroupoli**	**5.18**	**338**	P	**Pn**	**23 40 09.8**	**-0.1**
ALN				S	**Sn**	**23 41 06.2**	**-2.1**
SLUM		**5.37**	**212**	⇑*e*P	**Pn**	**23 40 12.8**	**+0.2**
SLUM				S	**Sn**	**23 41 03.9**	**-9.2**
ITM	**Ithomi**	**5.44**	**283**	P	**Pn**	**23 40 17.8**	**+4.3**
EVR	**Evrytania**	**6.06**	**300**	P	**Pn**	**23 40 25.2**	**+3.3**
BHL	**Bhannes**	**6.22**	**109**	*e*Pn	**Pn**	**23 40 22.8**	**-1.5**
BHL				Sn	**Sn**	**23 41 27.4**	**-6.6**
HWQ	**Hawqa**	**6.32**	**105**	*e*Pn	**Pn**	**23 40 25.2**	**-0.3**
HWQ				Sn	**Sn**	**23 41 31.1**	**-5.2**
HWQ	**Hawqa**	**6.32**	**105**	*e*Pn	**Pn**	**23 40 25.2**	**-0.3**
HWQ				Sn	**Sn**	**23 41 31.1**	**-5.2**
OFRI	**'Ofer**	**6.35**	**121**	Pn	**Pn**	**23 40 26.5**	**+0.6**
MMC6	**Mount Meron ar**	**6.42**	**117**	Pn	**Pn**	**23 40 27.0**	**0.0**
HRSH	**Kfar Ka'horesh**	**6.51**	**119**	⇑*e*P	**Pn**	**23 40 30.8**	**+2.6**
RCY	**Rachaya**	**6.52**	**111**	*e*Pn	**Pn**	**23 40 27.9**	**-0.4**
RCY				Sn	**Sn**	**23 41 34.9**	**-6.4**
KSDI	**Kefar Szold**	**6.53**	**114**	Pn	**Pn**	**23 40 28.2**	**-0.3**
HRI	**Mount Hermon**	**6.55**	**113**	Pn	**Pn**	**23 40 28.7**	**-0.1**
SLTI	**Sal'it**	**6.61**	**124**	Pn	**Pn**	**23 40 28.7**	**-0.9**
FKH	**Fakeheh**	**6.69**	**104**	*e*Pn	**Pn**	**23 40 30.8**	**+0.1**
FKH				Sn	**Sn**	**23 41 40.8**	**-4.7**
VLS	**Valsamata**	**6.69**	**290**	P	**Pn**	**23 40 33.7**	**+3.0**
RSH		**6.70**	**138**	P	**Pn**	**23 40 30.8**	**0.0**
KOT	**Kottamia**	**6.74**	**155**	⇑*e*P	**Pn**	**23 40 30.5**	**-0.8**
KOT				S	**Sn**	**23 41 34.4**	**-12**
KSHT	**Keshet**	**6.75**	**115**	Pn	**Pn**	**23 40 32.5**	**+1.1**
MMLI	**Mount Malkishu**	**6.75**	**121**	Pn	**Pn**	**23 40 31.6**	**+0.1**
HMDT	**Nahal Hemdat**	**6.93**	**122**	Pn	**Pn**	**23 40 34.1**	**+0.1**
HMDT				Sn	**Sn**	**23 41 48.8**	**-2.7**
KZIT	**Kziot**	**7.11**	**135**	Pn	**Pn**	**23 40 35.9**	**-0.6**
RTMI	**Retamim**	**7.18**	**133**	Pn	**Pn**	**23 40 37.1**	**-0.2**
SUZ		**7.20**	**149**	⇑P	**Pn**	**23 40 37.1**	**-0.6**
YTIR	**Yattir**	**7.22**	**129**	Pn	**Pn**	**23 40 37.7**	**-0.3**
DSI	**Dead Sea**	**7.25**	**127**	Pn	**Pn**	**23 40 37.6**	**-0.8**
DSI				Sn	**Sn**	**23 41 56.3**	**-3.0**
ZAF		**7.58**	**153**	⇓P	**Pn**	**23 40 42.1**	**-0.8**
HNKL	**Nakhl**	**7.65**	**142**	⇑P	**Pn**	**23 40 43.5**	**-0.3**
AWBH		**7.76**	**178**	⇓P	**Pn**	**23 40 43.6**	**-1.8**
PRNI	**Paran**	**7.87**	**135**	Pn	**Pn**	**23 40 46.1**	**-0.8**
PRNI				Sn	**Sn**	**23 42 09.7**	**-4.9**
KRMI	**Paran Flat**	**7.89**	**137**	Pn	**Pn**	**23 40 47.0**	**-0.2**
ASF	**Jabal al Asfar**	**7.95**	**117**	P	**Pn**	**23 40 48.1**	**+0.3**
	0.4nm,0.3s,baz=204,slow=12,SNR=3.9						
ASF				S	**Sn**	**23 42 15.1**	**-1.2**
	0.6nm,0.3s,baz=310,slow=20,SNR=3.4						
HRFI	**Mount Harif**	**8.13**	**136**	Pn	**Pn**	**23 40 50.1**	**-0.3**
HRFI				Sn	**Sn**	**23 42 15.7**	**-5.1**
MBRI	**Mt Berech**	**8.25**	**138**	Pn	**Pn**	**23 40 50.7**	**-1.4**
EIL	**Elat**	**8.37**	**138**	Pn	**Pn**	**23 40 53.2**	**-0.4**
HFRF	**Wahat Farafira**	**8.93**	**181**	⇑*e*P	**Pn**	**23 40 59.9**	**-1.4**
GERES	**GERESS Array B**	**16.76**	**324**	P	**Pn**	**23 42 47.8**	**+1.9**
	0.1nm,0.3s,baz=138,slow=11,SNR=5.8						
ESDC	**Sonseca Array**	**25.84**	**288**	P	**P**	**23 44 20.6**	**-0.7**
	0.2nm,0.4s,mb3.0,baz=79,slow=9.3,SNR=5.7						
TORD	**Torodi Ar. Bea**	**33.24**	**233**	P	**P**	**23 45 27.4**	**+0.2**
	0.3nm,0.3s,mb3.7,baz=36,slow=8.4,SNR=14						

JMA 06 23:42:44.8±0.2**, 4385N**×**14716E, h35**km**, M3.6, Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEM2	**Nemuro 2**	**1.14**	**245**	P	Pn	23 43 04.9	+0.7
NEM2				*e*S	Sn	23 43 19.5	+1.0
JRA	**Rausu**	**1.48**	**274**	P	Pn	23 43 09.8	+1.0
JRA				*e*S	Sn	23 43 28.5	+1.6
JNK	**Nakash**	**1.79**	**262**	P	Pn	23 43 14.1	+1.0
JNK				*e*S	Sn	23 43 35.6	+1.0
JAK	**Akkeshi**	**1.99**	**245**	P	Pn	23 43 16.7	+0.8
JAK				*e*S	Sn	23 43 39.9	+0.4
JTKR	**Abashiri--Toko**	**2.35**	**274**	P	Pn	23 43 22.0	+1.1
JAR	**Ashorobuto**	**2.52**	**259**	P	Pn	23 43 25.0	+1.7
JAR				*e*S	Sn	23 43 54.9	+2.1
JOB	**Onbets**	**2.60**	**250**	P	Pn	23 43 25.8	+1.5
JOB				*e*S	Sn	23 43 55.9	+1.2
JMP	**Maruseppu**	**2.75**	**275**	P	Pn	23 43 27.7	+1.3
JCH	**Churui**	**3.04**	**247**	P	Pn	23 43 31.4	+1.1
JFR	**Furan**	**3.39**	**260**	P	Pn	23 43 38.4	+3.2
JNBK	**Urakawa-nobuka**	**3.59**	**246**	P	Pn	23 43 38.9	+1.0

*ISK **06** 23:49:45.3, 3624N×2843E, h6km, MD3.2*
*DDA **06** 23:49:47.9, 3632N×2850E, h7km±6km, Md3.1*
*NEIC **06** 23:49:48.5, 3621N×2842E, h52km, MD3.3(ATH), After ATH.*
*ISCJB **06** 23:49:48.6±0.7, 3620N±004×2847E±004, h50km±10km, Error ellipse: s-maj=7.0km s-min=5.6km az=155.9*
*CSEM **06** 23:49:48.5±0.2, 3620N×2851E, h32km±1km, MD3.3, Error ellipse: s-maj=3.3km s-min=2.4km az=167.0*
*ATH **06** 23:49:48.5, 3621N×2842E, h52km, MD3.3/4*
ISC 06 23:49:49.2±0.7**, 3619N**±004×**2847E**±004**, h47**km±11km**, n18, σ1ṣ01**/31**, 3C-3D, Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARG	**Arkhangelos**	**0.28**	**276**	⇓*i*P	**Pn**	**23 49 57.8**	**0.0**
ARG				*e*S	**Sn**	**23 50 04.7**	**+0.7**
ARG	**Arkhangelos**	**0.28**	**276**	⇓*i*P	**Pn**	**23 49 57.8**	**0.0**
ARG				*e*S	**Sn**	**23 50 04.7**	**+0.7**
TURN	**Turunc**	**0.69**	**9**	⇓*i*P	**Pn**	**23 50 02.1**	**-0.6**
TURN				*i* S	**Sn**	**23 50 11.6**	**-0.8**
AKAS	**Kas**	**0.92**	**87**	⇑*i*P	**Pn**	**23 50 05.1**	**-0.6**
AKAS				*i* S	**Sn**	**23 50 17.1**	**-0.7**
YER	**Yerkesik**	**0.95**	**351**	*e*PG	**Pn**	**23 50 02.9**	**-3.3**
YER				*e*SG	**Sn**	**23 50 16.3**	**-2.4**
BDRM	**Kayabasi**	**1.20**	**317**	*e*P	**Pn**	**23 50 09.6**	**0.0**
BDRM				*e*S	**Sn**	**23 50 25.8**	**+1.1**
MLSB	**Milas**	**1.24**	**333**	*e*PN	**Pn**	**23 50 08.0**	**-2.0**
MLSB				*e*SN	**Sn**	**23 50 25.1**	**-0.5**
KARP	**Karpathos**	**1.24**	**239**	⇑*i*P	**Pn**	**23 50 10.3**	**+0.2**
KARP				*e*S	**Sn**	**23 50 26.1**	**+0.5**
KARP	**Karpathos**	**1.24**	**239**	⇑*i*P	**Pn**	**23 50 10.3**	**+0.2**
KARP				*e*S	**Sn**	**23 50 26.1**	**+0.5**
BODT	**Bodrum**	**1.28**	**313**	*e*PN	**Pn**	**23 50 09.4**	**-1.2**
BODT				*e*SN	**Sn**	**23 50 26.4**	**-0.1**
GOLH	**Golhisar**	**1.36**	**40**	*e*P	**Pn**	**23 50 13.0**	**+1.3**
GOLH				*e*S	**Sn**	**23 50 30.6**	**+1.9**
AYDN	**Tasoluk**	**1.54**	**342**	*e*P	**Pn**	**23 50 15.4**	**+1.2**
AYDN				*e*S	**Sn**	**23 50 34.1**	**+1.0**
DNZL	**Cakiroluk**	**1.57**	**17**	*e*P	**Pn**	**23 50 14.6**	**+0.1**
DNZL				*e*S	**Sn**	**23 50 34.6**	**+0.9**
SMG	**Samos**	**2.00**	**320**	*e*P	**Pn**	**23 50 20.8**	**+0.3**
SMG	**Samos**	**2.00**	**320**	*e*P	**Pn**	**23 50 20.8**	**+0.3**
BCK	**Bucak**	**2.12**	**53**	*e*PN	**Pn**	**23 50 22.3**	**+0.2**
NPS	**Neapolis**	**2.50**	**249**	*e*P	**Pn**	**23 50 27.1**	**-0.2**
NPS	**Neapolis**	**2.50**	**249**	*e*P	**Pn**	**23 50 27.1**	**-0.2**

*KNET **06** 23:56:46.6±0.3, 4245N×7443E, h17km±2km, ml2.8, Error*

ellipse: s-maj=2.3km s-min=1.5km az=98.0
*ISCJB **06** 23:56:47.8±0.5, 4247N±003×7442E±004, h10^{km}, Error ellipse: s-maj=4.8km s-min=3.5km az=137.4*
*NNC **06** 23:56:48.6±2.4, 4260N×7443E, h0^{km}, mb3.8, mpv3.3, Error ellipse: s-maj=53.7km s-min=6.1km az=171.0*
ISC 06 23:56:48.3±0.5**, 4247N**±003×**7441E**±004**, h10^{km}, n14, σ1^{s}09**/24**, 14C-6D, Kyrgyzstan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AAK	**Ala-Archa**	**0.17**	**22**	P	**Pg**	**23 56 51.6**	**-0.4**
	779nm,0.2s,SNR=1145						
AAK				⇑S	**Sg**	**23 56 54.3**	**-0.3**
	1μm,0.3s						
UCH	**Uchtor**	**0.26**	**162**	⇑P	**Pg**	**23 56 53.1**	**-0.4**
	185nm,0.3s,SNR=468						
UCH				⇓S	**Sg**	**23 56 57.0**	**+0.1**
	3μm,0.3s						
KBK	**Karagaybulak**	**0.44**	**65**	P	**Pg**	**23 56 56.5**	**-0.4**
	156nm,0.2s,SNR=485						
KBK				⇓S	**Sg**	**23 57 03.0**	**+0.2**
	2μm,0.3s						
EKS2	**Erkin-Say**	**0.50**	**292**	P	**Pg**	**23 56 57.8**	**-0.2**
	331nm,0.3s,SNR=936						
EKS2				⇑S	**Sg**	**23 57 05.9**	**+1.3**
	144nm,0.2s						
CHMS	**Chumysh**	**0.58**	**26**	⇑P	**Pg**	**23 56 59.2**	**-0.4**
	124nm,0.2s,SNR=69						
CHMS				⇑S	**Sg**	**23 57 07.4**	**+0.1**
	191nm,0.1s						
AML	**Almayashu**	**0.63**	**237**	⇑P	**Pg**	**23 57 00.1**	**-0.3**
	73nm,0.3s,SNR=200						
AML				⇓S	**Sg**	**23 57 08.5**	**-0.1**
	1μm,0.4s						
USP	**Ospenovka**	**0.80**	**5**	⇑P	**Pg**	**23 57 03.1**	**-0.5**
	57nm,0.2s,SNR=32						
USP				⇑S	**Sg**	**23 57 14.0**	**0.0**
	262nm,0.2s						
TKM2	**Tokmak 2**	**0.99**	**63**	⇓P	**Pg**	**23 57 06.0**	**-1.3**
	12nm,0.3s						
TKM2				⇓S	**Sg**	**23 57 19.2**	**-0.9**
	103nm,0.5s						
TKM2	**Tokmak 2**	**0.99**	**63**	⇑P	**Pg**	**23 57 06.1**	**-1.1**
	36nm,0.3s,SNR=58						
TKM2				⇑S	**Sg**	**23 57 19.4**	**-0.7**
	176nm,0.2s						
KNDC	**Almaty**	**2.02**	**68**	⇑Pn	**Pn**	**23 57 25.5**	**+3.1**
	50nm,0.6s						
KNDC				⇑Lg		23 57 53.0	
	121nm,0.5s						
KK31	**Karatay Array**	**2.94**	**284**	⇓Pn	**Pn**	**23 57 37.8**	**+2.8**
	9.7nm,0.6s,baz=100,slow=11,SNR=194						
KK31				Sn	**Sg**	**23 58 19.8**	**-2.7**
	10nm,0.3s,baz=101,slow=25,SNR=14						
MK31	**Makanchi Array**	**7.09**	**50**	Pn	**Pn**	**23 58 34.6**	**+2.6**
	1.2nm,0.3s,baz=226,slow=12,SNR=55						
KURBB	**Kurchatov Arra**	**8.63**	**18**	⇑Pn	**Pn**	**23 58 54.6**	**+1.5**
	0.2nm,0.6s						
AB31	**Akbulak array**	**12.14**	**309**	⇑Pn	**Pn**	**23 59 40.3**	**-0.8**
	2.4nm,0.8s,baz=120,slow=13,SNR=23						

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*SSNC **07** 00:13:23.5, 1788N×7005W, h50^{km}, MD4.8, ML4.5*
*SZGRF **07** 00:13:26.3, 1832N×6956W, h33^{km}, mb4.5, Dominican Republic region*
*ISCJB **07** 00:13:29.2±0.8, 1957N±004×6980W±004, h33^{km}±8^{km}, mb4.4/43, MS3.8/14, Error ellipse: s-maj=6.8km s-min=5.7km az=2.3*
*IDC **07** 00:13:31.9±3.7, 1959N×6986W, h40^{km}±35^{km}, mb3.8/14, mb1 4.1/18, mb1mx4.0/25, mbtmp3.9/18, ML3.6/4, MS3.7/13, Ms1 3.7/13, ms1mx3.5/28, Error ellipse: s-maj=18.9km s-min=15.0km az=48.0*
*BJI **07** 00:13:34.4, 1930N×6970W, h70^{km}, mB5.3, Ms5.0, Msz4.6*
*NEIC **07** 00:13:34.5±0.5, 1931N×6970W, h70^{km}±5^{km}, mb4.5/33, Error ellipse: s-maj=7.5km s-min=5.6km az=202.0*
ISC 07 00:13:31.9±0.7**, 1956N**±005×**6974W**±004**, h37^{km}**±8^{km}**, n124, σ1^{s}05**/118**, mb4.4**/43**, MS3.8**/14**, 1D, Dominican Republic region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AGPR	**Aguadilla, PR**	**2.71**	**113**	*e*Pn	**Pn**	**00 14 13.1**	**+0.1**
MPR	**Mayaguez**	**2.80**	**118**	*e*Pn	**Pn**	**00 14 14.5**	**+0.3**
AOPR	**Arecibo Observ**	**3.07**	**113**	*e*Pn	**Pn**	**00 14 19.3**	**+1.4**
CBYP	**Canovanas**	**3.89**	**109**	*e*Pn	**Pn**	**00 14 34.1**	**+4.9**
CPD	**Cerro la Pandu**	**3.92**	**112**	*e*Pn	**Pn**	**00 14 29.4**	**-0.3**
HUMP	**Col San Antoni**	**3.94**	**110**	*e*Pn	**Pn**	**00 14 28.4**	**-1.5**
MTP	**Monte Pirata**	**4.22**	**109**	*e*Pn	**Pn**	**00 14 32.6**	**-1.1**
MASC	**Masc**	**4.27**	**279**	*e*P	**Pn**	**00 14 30.1**	**-4.3**
MASC				*e*S	**Sn**	**00 15 18.5**	**-4.6**
	comp=N,4.2nm,0.2s						
MASC				*e*			
	comp=E,4.8nm,0.2s						
MOAC	**Moa**	**5.03**	**284**	*e*P	**Pn**	**00 14 40.1**	**-4.7**
MOAC				*e*S	**Sn**	**00 15 56.7**	**+15**
	comp=N,204nm,0.9s						
MOAC				*e*			
	comp=E,168nm,1.4s						
RCC	**Rio Carpintero**	**5.63**	**275**	*e*P	**Pn**	**00 14 48.1**	**-4.9**
RCC				*e*S	**Sn**	**00 15 50.9**	**-5.6**
	comp=N,93nm,0.3s						
RCC				*e*			
	comp=E,116nm,0.2s						
LMGC	**Las Mercedes**	**6.86**	**275**	*e*P	**Pn**	**00 15 00.7**	**-9.3**
LMGC				*e*S	**Sn**	**00 16 20.0**	**-6.8**
	comp=N,216nm,1.6s						
LMGC				*e*			
	comp=E,258nm,1.5s						
SDV	**Santo Domingo**	**10.64**	**185**	P	**Pn**	**00 16 01.8**	**-0.1**
	comp=E,3.5nm,0.3s,baz=186,slow=22,SNR=11						
SDV				S	**Sn**	**00 18 01.4**	**+1.6**
	comp=E,2.0nm,0.3s,baz=283,slow=19,SNR=5.0						
SDV				LR	LR	00 20 30.1	
	comp=E,695nm,19.5s,baz=52,slow=39						
SDV	**Santo Domingo**	**10.64**	**185**	*e*Pn	**Pn**	**00 15 59.7**	**-2.2**
ROSC	**El Rosal**	**15.28**	**198**	P	**Pn**	**00 17 05.6**	**+0.6**
	comp=E,0.9nm,0.3s,baz=69,slow=23,SNR=6.0						
ROSC				S	**S**	**00 19 51.4**	**-17**
	comp=E,0.6nm,0.3s,baz=252,slow=20,SNR=2.2						
ROSC				LR	LR	00 23 04.7	
	comp=E,97nm,20.3s,baz=15,slow=38						
JTS	**JuntasAbangare**	**17.33**	**240**	P	**Pn**	**00 17 31.2**	**+0.1**
	comp=E,0.2nm,0.3s,baz=43,slow=12,SNR=6.3						
JTS				LR	LR	00 24 16.8	
	comp=E,182nm,18.9s,baz=61,slow=37						
JTS	**JuntasAbangare**	**17.33**	**240**	*e*Pn	**Pn**	**00 17 30.9**	**-0.2**
	comp=E,23nm,1.3s						
TEIG	**Tepich**	**17.45**	**275**	P	**Pn**	**00 17 30.0**	**-2.5**
	comp=E,0.5nm,0.3s,baz=79,slow=8.9,SNR=4.5						
TEIG				LR	LR	00 24 43.0	
	comp=E,167nm,19.1s,baz=226,slow=39						
TGUH	**Tegucigalpa,Un**	**17.65**	**255**	*e*Pn	**Pn**	**00 17 35.6**	**+0.6**
JSC	**Jenkinsville**	**17.89**	**327**	*e*P	**Pn**	**00 17 36.0**	**-1.8**
URVA	**University of**	**19.20**	**341**	*e*P	**Pn**	**00 17 52.0**	**-1.6**
CBN	**Corbin**	**19.73**	**342**	*e*P	**Pn**	**00 18 01.8**	**+1.8**
CBN				*e*pP	pP	00 18 15.7	+7.8
BLA	**Blacksburg**	**19.92**	**334**	*e*P	**Pn**	**00 18 04.5**	**+2.2**
	comp=E,18nm,0.7s						
ELN	**Prospectdale**	**20.07**	**334**	*e*P	**P**	**00 18 05.4**	**+3.4**
TKL	**Tuckaleechee C**	**20.26**	**325**	P	**P**	**00 18 01.9**	**-2.2**
	comp=E,4.0nm,1.0s,baz=132,slow=9.0,SNR=2.9						
TKL				S	**S**	**00 21 34.5**	**-15**
	comp=E,6.0nm,0.6s,baz=91,slow=10.0,SNR=4.2						
TKL	**Tuckaleechee C**	**20.26**	**325**	P	**P**	**00 18 01.9**	**-2.2**
TKL				S	**S**	**00 21 34.5**	**-15**
LRAL	**Lakeview Retre**	**20.45**	**314**	*e*P	**P**	**00 18 11.1**	**+4.9**
CPCT	**Cooper Cave**	**20.52**	**324**	*e*P	**P**	**00 18 10.9**	**+4.0**
SDMD	**Soldier's Deli**	**20.71**	**344**	*e*P	**P**	**00 18 12.8**	**+3.8**
	comp=E,20nm,0.9s						
TZTN	**Tazewell**	**20.82**	**327**	*e*P	**P**	**00 18 12.8**	**+2.7**
OTAV	**Otavalo**	**21.01**	**205**	*e*P	**P**	**00 18 12.5**	**+0.1**
SSPA	**Standing Stone**	**22.14**	**343**	*e*P	**P**	**00 18 29.2**	**+4.9**
	comp=E,14nm,0.9s,mb4.4						
WVT	**Waverly**	**22.93**	**320**	*e*P	**P**	**00 18 35.7**	**+3.0**
	comp=E,108nm,2.7s,mb4.8						
HRV	**Adam Dziewonsk**	**22.93**	**357**	*e*pP	pP	00 18 50.6	+8.2
ACSO	**Alum Creek Sta**	**23.54**	**334**	*e*P	**P**	**00 18 41.3**	**+2.5**
	comp=E,13nm,0.7s,mb4.5						
MDV	**Middlebury**	**24.54**	**354**	*e*pP	pP	00 19 07.0	+8.7
MIAR	**Mount Ida**	**25.86**	**310**	*e*P	**P**	**00 18 59.5**	**-0.6**
	comp=E,76nm,2.3s,mb4.8						
SADO	**Sadowa**	**26.33**	**345**	LR	LR	00 27 30.1	
	comp=E,163nm,19.8s,MS3.6,baz=209,slow=32						
TXAR	**Lajitas Array**	**32.28**	**294**	P	**P**	**00 19 56.1**	**-1.2**
	comp=E,1.1nm,0.8s,mb3.8,baz=109,slow=11,SNR=14						
TXAR				PcP	PcP	00 22 43.7	-1.3
	comp=E,0.6nm,0.9s,baz=89,slow=3.7,SNR=3.2						
TXAR				LR	LR	00 37 10.9	
	comp=E,86nm,19.9s,MS3.4,baz=125,slow=44						
GDL2	**Guadalupe Moun**	**33.45**	**299**	*e*pP	pP	00 20 28.5	+11
SCHQ	**Schefferville**	**35.29**	**3**	LR	LR	00 34 19.3	
	comp=E,275nm,18.1s,MS4.0,baz=107,slow=35						
LPAZ	**La Paz**	**35.65**	**177**	P	**P**	**00 20 27.6**	**+1.0**
	comp=E,0.9nm,0.7s,mb3.8,baz=23,slow=17,SNR=3.4						
LPAZ				LR	LR	00 36 49.6	
	comp=E,114nm,21.7s,MS3.6,baz=266,slow=39						
BNM	**Barren Site**	**35.77**	**302**	*e*P	**P**	**00 20 27.0**	**-0.5**
ANMO	**Albuquerque**	**35.84**	**303**	*e*P	**P**	**00 20 27.9**	**-0.2**
ISCO	**Idaho Springs**	**36.79**	**311**	*e*P	**P**	**00 20 36.2**	**0.0**
ULM	**Lac du Bonnet**	**37.00**	**332**	P	**P**	**00 20 38.0**	**+0.2**
	comp=E,3.9nm,0.9s,mb4.2,baz=165,slow=6.3,SNR=4.0						
ULM	**Lac du Bonnet**	**37.00**	**332**	P	**P**	**00 20 38.0**	**+0.2**
PDAR	**Pinedale Array**	**40.67**	**314**	P	**P**	**00 21 07.0**	**-1.6**
	comp=E,0.6nm,0.9s,mb3.2,baz=123,slow=5.5,SNR=4.5						
PDAR				PcP	PcP	00 23 08.8	-1.1
	comp=E,0.6nm,0.6s,baz=107,slow=5.0,SNR=3.9						
MPU	**Maple Canyon**	**41.22**	**309**	*e*P	**P**	**00 21 18.2**	**+5.0**
LOHW	**Long Hollow**	**41.70**	**314**	*e*P	**P**	**00 21 15.9**	**-1.1**
REDW	**Red Top Meadow**	**41.77**	**314**	*e*P	**P**	**00 21 18.7**	**+1.0**
	comp=E,10nm,1.2s,mb4.3						
ARUT	**Antelope Range**	**42.00**	**305**	*e*P	**P**	**00 21 18.6**	**-1.0**
SPUT	**South Promonto**	**42.20**	**310**	*e*P	**P**	**00 21 26.9**	**+5.7**
NVAR	**Mina Array Bea**	**45.88**	**305**	P	**P**	**00 21 50.1**	**-0.7**
	comp=E,1.7nm,0.8s,mb4.0,baz=102,slow=6.6,SNR=8.6						
CPUP	**Villa Florida**	**47.17**	**165**	P	**P**	**00 22 01.8**	**+0.8**
	comp=E,0.7nm,0.5s,mb3.9,baz=329,slow=8.0,SNR=3.1						
YKA	**Yellowknife Ar**	**52.77**	**336**	P	**P**	**00 22 42.4**	**-0.6**
	comp=E,3.3nm,0.9s,mb4.3,baz=112,slow=6.7,SNR=2.7						
YKA				LR	LR	00 45 10.9	
	comp=E,63nm,18.0s,MS3.7,baz=110,slow=36						
ESDC	**Sonseca Array**	**59.32**	**55**	P	**P**	**00 23 30.8**	**+0.6**
	comp=E,2.5nm,0.6s,mb4.4,baz=276,slow=7.0,SNR=37						
ESLA	**Sonseca Array**	**59.32**	**55**	*e*P	**P**	**00 23 30.0**	**-0.3**
	comp=E,1.3nm,0.9s,mb4.0						
SJPF	**Ste Jean**	**61.35**	**51**	*e*P	**P**	**00 23 44.5**	**+0.5**
	comp=E,11nm,0.9s,mb4.7						
SJPF	**Ste Jean**	**61.35**	**51**	*e*P	**P**	**00 23 44.5**	**+0.5**
	comp=E,5.7nm,0.9s,mb4.7						
GRR	**Gorron**	**61.67**	**45**	*e*P	**P**	**00 23 46.0**	**-0.1**
	comp=E,69nm,1.6s,mb5.2						
GRR	**Gorron**	**61.67**	**45**	*e*P	**P**	**00 23 46.0**	**-0.1**
	comp=E,35nm,1.6s,mb5.2						
ETSF	**Etsaut**	**61.84**	**51**	*e*P	**P**	**00 23 47.8**	**+0.5**
	comp=E,12nm,1.1s,mb4.6						
ETSF	**Etsaut**	**61.84**	**51**	*e*P	**P**	**00 23 47.8**	**+0.5**
	comp=E,5.9nm,1.1s,mb4.6						
FLN	**La Foliniere**	**61.94**	**45**	*e*P	**P**	**00 23 48.3**	**+0.4**
FLN				*e*MLR	MLR		
	comp=Z,160nm,20.2s,MS3.9						
FLN	**La Foliniere**	**61.94**	**45**	*e*P	**P**	**00 23 48.3**	**+0.4**
FLN				LR	LR		
	comp=Z,160nm,20.3s,MS4.2						
MFF	**Saint Martin d**	**62.12**	**47**	*e*P	**P**	**00 23 49.1**	**0.0**
	comp=Z,17nm,0.9s,mb4.8						
MFF	**Saint Martin d**	**62.12**	**47**	*e*P	**P**	**00 23 49.1**	**0.0**
	comp=Z,8.4nm,0.9s,mb4.9						
LDF	**La Druitiere**	**62.17**	**45**	*e*P	**P**	**00 23 49.2**	**-0.2**
	comp=Z,34nm,1.3s,mb5.0						
LDF	**La Druitiere**	**62.17**	**45**	*e*P	**P**	**00 23 49.2**	**-0.2**
	comp=Z,17nm,1.3s,mb5.0						
EPF	**Esparros**	**62.49**	**51**	*e*P	**P**	**00 23 52.2**	**+0.5**
	comp=Z,8.5nm,0.9s,mb4.6						
EPF	**Esparros**	**62.49**	**51**	*e*P	**P**	**00 23 52.2**	**+0.5**
	comp=Z,4.3nm,0.9s,mb4.6						
DAG	**Danmarks Havn**	**62.60**	**12**	⇓*i*P	**P**	**00 23 55.1**	**+3.2**
	comp=Z,2.7nm,0.6s,mb4.5						
LFF	**La Frestale**	**62.74**	**49**	*e*P	**P**	**00 23 53.2**	**-0.1**
	comp=Z,12nm,0.9s,mb4.7						
LFF	**La Frestale**	**62.74**	**49**	*e*P	**P**	**00 23 53.2**	**-0.1**
	comp=Z,6.0nm,0.9s,mb4.7						
RJF	**Les Rejaudoux**	**63.28**	**48**	*e*P	**P**	**00 23 56.5**	**-0.4**
	comp=Z,6.9nm,0.8s,mb4.5						
RJF				*e*MLR	MLR		
	comp=Z,76nm,21.5s,MS3.5						
RJF	**Les Rejaudoux**	**63.28**	**48**	*e*P	**P**	**00 23 56.5**	**-0.4**
	comp=Z,3.5nm,0.8s,mb4.5						
RJF				LR	LR		
	comp=Z,80nm,21.5s,MS3.9						
CAF	**Calviac**	**63.68**	**49**	*e*P	**P**	**00 23 59.4**	**-0.2**
	comp=Z,8.3nm,1.0s,mb4.4						
CAF	**Calviac**	**63.68**	**49**	*e*P	**P**	**00 23 59.4**	**-0.2**
	comp=Z,4.2nm,1.0s,mb4.4						
TCF	**Toulx Ste Croi**	**63.75**	**47**	*e*P	**P**	**00 23 59.5**	**-0.5**
	comp=Z,13nm,1.0s,mb4.6						
TCF	**Toulx Ste Croi**	**63.75**	**47**	*e*P	**P**	**00 23 59.5**	**-0.5**
	comp=Z,6.6nm,1.0s,mb4.6						
MTLF	**Montolieu**	**63.86**	**51**	*e*P	**P**	**00 24 00.7**	**0.0**
	comp=Z,17nm,1.1s,mb4.7						
MTLF	**Montolieu**	**63.86**	**51**	*e*P	**P**	**00 24 00.7**	**0.0**
	comp=Z,8.6nm,1.1s,mb4.7						
DBIC	**Dimbokro**	**64.15**	**92**	LR	LR	00 49 15.6	
	comp=Z,52nm,19.6s,MS3.7,baz=293,slow=33						
BGF	**Bois d'Agland**	**64.18**	**47**	*e*P	**P**	**00 24 02.2**	**-0.6**
	comp=Z,6.5nm,0.8s,mb4.4						
BGF	**Bois d'Agland**	**64.18**	**47**	*e*P	**P**	**00 24 02.2**	**-0.6**
	comp=Z,3.3nm,0.8s,mb4.4						
AVF	**Avril sur Loir**	**64.52**	**47**	*e*P	**P**	**00 24 04.4**	**-0.6**
	comp=Z,11nm,1.0s,mb4.5						
AVF	**Avril sur Loir**	**64.52**	**47**	*e*P	**P**	**00 24 04.4**	**-0.6**
	comp=Z,5.4nm,1.0s,mb4.5						
LOR	**Lormes**	**64.85**	**46**	*e*P	**P**	**00 24 06.6**	**-0.6**
	comp=Z,11nm,0.9s,mb4.6						
LOR				*e*MLR	MLR		
	comp=Z,118nm,19.5s,MS3.8						
LOR	**Lormes**	**64.85**	**46**	*e*P	**P**	**00 24 06.6**	**-0.6**
	comp=Z,5.3nm,0.9s,mb4.6						
LOR				LR	LR		
	comp=Z,120nm,19.5s,MS4.1						
SMF	**Signal de Mont**	**64.86**	**47**	*e*P	**P**	**00 24 06.6**	**-0.7**
	comp=Z,7.1nm,0.8s,mb4.4						
SMF	**Signal de Mont**	**64.86**	**47**	*e*P	**P**	**00 24 06.6**	**-0.7**
	comp=Z,3.5nm,0.8s,mb4.4						
LASF	**Ste Croix**	**65.00**	**50**	*e*P	**P**	**00 24 08.5**	**+0.3**
	comp=Z,7.3nm,0.8s,mb4.4						
GIVF	**Givet**	**65.41**	**43**	*e*P	**P**	**00 24 10.3**	**-0.4**
VIVF	**Saint-Julien-l**	**65.54**	**49**	*e*P	**P**	**00 24 12.2**	**+0.5**
	comp=Z,8.6nm,0.9s,mb4.5						
VIVF	**Saint-Julien-l**	**65.54**	**49**	*e*P	**P**	**00 24 12.2**	**+0.5**
	comp=Z,4.3nm,0.9s,mb4.5						
MEZF	**Maizieres J'vi**	**65.61**	**45**	*e*P	**P**	**00 24 11.8**	**-0.3**
	comp=Z,24nm,1.0s,mb4.9						
MEZF	**Maizieres J'vi**	**65.61**	**45**	*e*P	**P**	**00 24 11.8**	**-0.3**
	comp=Z,24nm,1.0s,mb5.2						
ORIF	**Oris-en-Rattie**	**66.39**	**49**	*e*P	**P**	**00 24 17.0**	**-0.2**
	comp=Z,4.0nm,0.8s,mb4.2						
ORIF				*e*MLR	MLR		
	comp=Z,69nm,18.8s,MS3.6						
ORIF	**Oris-en-Rattie**	**66.39**	**49**	*e*P	**P**	**00 24 17.0**	**-0.2**
	comp=Z,2.0nm,0.8s,mb4.2						
LPL	**La Plagne**	**66.94**	**48**	*e*P	**P**	**00 24 21.0**	**+0.3**
	comp=Z,6.1nm,0.8s,mb4.4						
LPL	**La Plagne**	**66.94**	**48**	*e*P	**P**	**00 24 21.0**	**+0.3**
	comp=Z,3.0nm,0.8s,mb4.4						
LPG	**La Plagne**	**66.96**	**48**	*e*P	**P**	**00 24 21.3**	**+0.5**
	comp=Z,10.0nm,1.0s,mb4.5						
LPG	**La Plagne**	**66.96**	**48**	*e*P	**P**	**00 24 21.3**	**+0.5**
	comp=Z,5.0nm,1.0s,mb4.5						
MBDF	**Montbardon**	**67.04**	**49**	*e*P	**P**	**00 24 21.7**	**+0.4**
	comp=Z,8.1nm,0.9s,mb4.4						
MBDF	**Montbardon**	**67.04**	**49**	*e*P	**P**	**00 24 21.7**	**+0.4**
	comp=Z,4.1nm,0.9s,mb4.5						
FRF	**La Foret Royal**	**67.06**	**50**	*e*P	**P**	**00 24 20.9**	**-0.5**
TORD	**Torodi Ar. Bea**	**68.43**	**83**	P	**P**	**00 24 30.1**	**-0.5**
	comp=Z,2.4nm,0.8s,mb4.3,baz=298,slow=6.8,SNR=8.2						
TORD				LR	LR	00 52 14.7	
	comp=Z,90nm,19.2s,MS4.0,baz=280,slow=34						
NOA	**NORSAR Array B**	**68.73**	**31**	P	**P**	**00 24 33.2**	**+1.6**
	comp=Z,1.2nm,0.8s,mb3.9,baz=275,slow=6.4,SNR=5.6						
NOA				LR	LR	00 50 56.3	
	comp=Z,43nm,20.4s,MS3.7,baz=290,slow=33						
TAM	**Tamanrasset**	**69.54**	**72**	*e*P	**P**	**00 24 36.1**	**-1.2**
GRA1	**Grafenberg Arr**	**69.56**	**43**	*e*P	**P**	**00 24 41.6**	**+4.6**
	comp=Z,5.0nm,1.3s,mb4.3						
GRF	**Grafenberg Arr**	**69.56**	**43**	*e*P	**P**	**00 24 41.6**	**+4.6**
	comp=Z,5.0nm,1.3s,mb4.3						
KEST	**Kesra**	**70.20**	**58**	P	**P**	**00 24 40.9**	**-0.3**
	comp=Z,1.3nm,0.7s,mb4.0,baz=132,slow=19,SNR=4.1						
KHC	**Kasperske Hory**	**71.16**	**44**	*e*P	**P**	**00 24 50.5**	**+3.7**
GERES	**GERESS Array B**	**71.28**	**44**	P	**P**	**00 24 47.7**	**+0.2**
	comp=Z,0.9nm,0.9s,mb3.7,baz=309,slow=4.8,SNR=5.0						
GERES				LR	LR	00 51 58.8	
	comp=Z,79nm,18.9s,MS4.0,baz=284,slow=32						
GERES	**GERESS Array B**	**71.28**	**44**	P	**P**	**00 24 47.7**	**+0.2**
GERES				LR	LR	00 51 58.8	
ARCES	**ARCESS Array B**	**73.67**	**21**	P	**P**	**00 25 00.3**	**-1.1**
	comp=Z,2.1nm,0.7s,mb4.2,baz=299,slow=5.3,SNR=7.0						
WMQ	**Urumqi**	**113.63**	**18**	PKP	PKiKP	00 32 03.0	-3.5
CN2	**Changchun**	**115.44**	**348**	*e*PKP	PKPdf	00 32 07.2	-2.8
CN2				PP	PP	00 33 14.9	+4.6
HHC	**Hu-ho-hao-te**	**119.90**	**359**	*e*PKP	PKPdf	00 32 13.2	-5.4
HHC				XPKP		00 32 50.6	
HHC				PP	PP	00 33 42.3	+1.0
HHC				PKS		00 35 48.5	
HHC				PP	PP		
	comp=Z,111nm,5.1s						
HHC				LR	LR		
	comp=N,137nm,20.3s,MS4.9						
HHC				LR	LR		
	comp=E,204nm,18.3s,MS4.9						
HHC				LR	LR		
	comp=Z,92nm,19.3s,MS4.4						
NJ2	**Nanjing**	**128.03**	**351**	*e*PKP	PKPdf	00 32 37.6	+3.1
CD2	**Chengdu**	**129.44**	**7**	*e*PKP	PKPdf	00 32 33.5	-3.7
GYA	**Guiyang**	**134.13**	**4**	*e*PDIF	Pdif	00 29 41.8	-3.1
GYA				PKP	PKPdf	00 32 41.5	-4.7
GYA				XPKP		00 33 13.2	
GYA				PP	PP	00 35 18.4	+3.0
GYA				PP	PP		
	comp=Z,70nm,7.9s						
STKA	**Stephens Creek**	**149.33**	**240**	PKPbc	PKPbc	00 33 16.9	-0.4
	comp=Z,1.7nm,0.8s,baz=153,slow=2.3,SNR=3.1						
ASAR	**Alice Springs**	**157.65**	**255**	PKPab	PKPab	00 33 55.5	-1.8
	comp=Z,0.5nm,0.7s,baz=108,slow=3.8,SNR=5.4						

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*MOS **07** 00:37:00.7±1.1, 321S×10104E, h33^{km}, mb4.9/5, Error ellipse: s-maj=23.8km s-min=11.3km az=107.7*
*BJI **07** 00:37:01.5, 317S×10126E, h46^{km}, mB5.1, mb4.8*
*ISCJB **07** 00:37:01.9±0.5, 340S±005×10099E±005, h48^{km}, mb4.6/31, Error ellipse: s-maj=8.5km s-min=4.8km az=38.7*
*IDC **07** 00:37:04.6±1.0, 3.18S×101.13E, h46^{km}±4^{km}, mb4.0/14, mb1 4.1/15, mb1mx4.0/23, mbtmp4.1/15, MS3.2/1, Ms1 3.2/1, ms1mx2.8/29, Error ellipse: s-maj=39.9km s-min=12.0km az=53.0*
*NEIC **07** 00:37:04.8±0.6, 321S×101.15E, mb4.6/5, Error ellipse: s-maj=23.8km s-min=6.3km az=49.0*
*DJA **07** 00:37:05, 317S×10121E, h15^{km}, MLv4.4/8*
ISC 07 00:37:04.4±0.5**, 337S**±005×**10102E**±005**, h50^{km}, h50^{km}**±1.2^{km}**:pP-P, n85, σ1^{s}12**/85**, mb4.6**/31**, 11C-9D, Southern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSI	**Kapahiang**	**1.59**	**100**	P	**Sn**	**00 37 48.1**	**-1.6**
	0.0nm,0.0s						
KSI	**Kapahiang**	**1.59**	**100**	P	**Pn**	**00 37 30.7**	**+0.5**
KSI	**Kapahiang**	**1.59**	**100**	S	**Sn**	**00 37 51.2**	**+1.5**
PDSI	**Padang**	**2.51**	**347**	P	**Pn**	**00 37 41.5**	**-1.3**
	0.0nm,0.0s						
PDSI	**Padang**	**2.51**	**347**	P	**Pn**	**00 37 41.7**	**-1.1**
PDSI	**Padang**	**2.51**	**347**	S	**Sn**	**00 38 11.6**	**-0.5**
PPI	**Padang Panjang**	**2.96**	**348**	P	**Pn**	**00 37 48.8**	**-0.2**
	0.0nm,0.0s						
PPI	**Padang Panjang**	**2.96**	**348**	P	**Pn**	**00 37 50.6**	**+1.6**
JMBI	**JAMBI**	**3.14**	**57**	P	**Pn**	**00 37 47.5**	**-3.9**
	0.0nm,0.0s						
JMBI	**JAMBI**	**3.14**	**57**	P	**Pn**	**00 37 57.8**	**+6.4**
RGRI	**Rengat**	**3.28**	**24**	P	**Pn**	**00 37 52.6**	**-0.7**
	0.0nm,0.0s						
RGRI	**Rengat**	**3.28**	**24**	P	**Pn**	**00 37 52.3**	**-1.0**
DSRI	**Dabo**	**4.57**	**51**	P	**Pn**	**00 38 09.5**	**-1.6**
	0.0nm,0.0s						
DSRI	**Dabo**	**4.57**	**51**	P	**Pn**	**00 38 09.8**	**-1.3**
PPBI	**Pangkal Pinang**	**5.25**	**77**	P	**Pn**	**00 38 18.5**	**-1.9**
	0.0nm,0.0s						
PPBI	**Pangkal Pinang**	**5.25**	**77**	P	**Pn**	**00 38 20.7**	**+0.3**
KGM	**Kluang**	**5.82**	**23**	⇓P	**Pn**	**00 38 27.8**	**-0.4**
MYKOM	**Kota Tinggi**	**5.86**	**29**	⇑P	**Pn**	**00 38 28.0**	**-0.7**
MYKOM	**Kota Tinggi**	**5.86**	**29**	P	**Pn**	**00 38 28.1**	**-0.6**
TPI	**Tanjungpandan**	**6.65**	**85**	P	**Pn**	**00 38 35.0**	**-4.7**
	0.0nm,0.0s						
IPM	**Ipoh**	**7.80**	**0**	⇓P	**Pn**	**00 38 58.2**	**+2.8**
IPM	**Ipoh**	**7.80**	**0**	P	**Pn**	**00 38 56.9**	**+1.5**
KULM	**Kulim**	**8.61**	**358**	⇓P	**Pn**	**00 39 08.2**	**+1.7**
KTGM	**Kuala Trenggan**	**8.89**	**14**	⇑P	**Pn**	**00 39 11.7**	**+1.2**
KSM	**Kuching**	**10.46**	**63**	⇑P	**Pn**	**00 39 32.9**	**+1.1**
BSI	**Banda Aceh**	**10.50**	**327**	P	**Pn**	**00 39 31.5**	**-0.9**
	0.0nm,0.0s						
SBUM	**Sibu**	**12.60**	**63**	⇓P	**Pn**	**00 40 01.7**	**+0.6**
KKM	**Kota Kinabalu**	**17.82**	**58**	⇓P	**Pn**	**00 41 11.1**	**+2.1**
SDKM	**Sandakan**	**18.47**	**61**	⇑P	**Pn**	**00 41 16.7**	**-0.2**
TSM	**Tawau**	**18.48**	**66**	⇓P	**Pn**	**00 41 19.5**	**+2.5**
KAPI	**Kappang**	**18.75**	**96**	P	**Pn**	**00 41 19.3**	**-1.0**
	0.4nm,0.3s,baz=265,slow=12,SNR=6.6						
KDM	**Kudat**	**18.80**	**57**	⇓P	**Pn**	**00 41 23.5**	**+2.6**
MYLDM	**Lahad Datu**	**19.42**	**64**	⇓P	**Pn**	**00 41 32.4**	**+4.1**
CMAR	**Chiang Mai Arr**	**21.79**	**355**	P	**P**	**00 41 51.8**	**-0.5**
	3.1nm,0.8s,mb3.8,baz=186,slow=8.6,SNR=16						
CMAR	**Chiang Mai Arr**	**21.79**	**355**	⇑*e*P	**P**	**00 41 52.0**	**-0.3**
FITZ	**Fitzroy Crossi**	**28.21**	**123**	P	**P**	**00 42 52.6**	**-0.2**
	1.7nm,0.7s,mb3.8,baz=0.0,slow=9.1,SNR=6.9						
FITZ				LR	LR	00 53 05.6	
	comp=Z,55nm,21.9s,baz=116,slow=34						
ODAN	**Odare**	**32.81**	**337**	*e*P	**P**	**00 43 34.0**	**+0.7**
	27nm,0.8s,mb5.2						
TAPN	**Taplejung**	**33.13**	**338**	*e*P	**P**	**00 43 37.0**	**+1.0**
	60nm,0.9s,mb5.5						
RAMN	**Ramite**	**33.21**	**336**	*e*P	**P**	**00 43 37.9**	**+1.2**
	21nm,0.8s,mb5.1						
JIRN	**Jiri**	**34.00**	**336**	*e*P	**P**	**00 43 44.4**	**+0.8**
PKI	**Pulchoki**	**34.25**	**335**	*e*P	**P**	**00 43 46.6**	**+0.9**
GUN	**Gumba**	**34.35**	**336**	*e*P	**P**	**00 43 47.6**	**+1.0**
	47nm,0.8s,mb5.5						
KKN	**Kakani**	**34.49**	**335**	*e*P	**P**	**00 43 48.4**	**+0.5**
GKN	**Gorkha**	**34.96**	**334**	*e*P	**P**	**00 43 52.6**	**+0.7**
KOLN	**Koldanda**	**35.22**	**333**	*e*P	**P**	**00 43 55.0**	**+0.9**
	27nm,0.7s,mb5.3						
DANN	**Dangsing**	**35.64**	**333**	*e*P	**P**	**00 43 58.5**	**+0.7**
	23nm,0.4s,mb5.4						
WRA	**Warramunga Arr**	**36.43**	**120**	P	**P**	**00 44 04.6**	**-0.1**
	3.8nm,0.5s,mb4.6,baz=304,slow=8.9,SNR=33						
WRA				S	**S**	**00 49 39.0**	**-4.1**
	0.3nm,0.7s,baz=292,slow=20,SNR=3.1						
WB2	**Warramunga Arr**	**36.44**	**120**	*e*P	**P**	**00 44 04.1**	**-0.6**
ASAR	**Alice Springs**	**37.63**	**125**	P	**P**	**00 44 15.8**	**+1.1**
	2.3nm,0.5s,mb4.1,baz=302,slow=8.4,SNR=29						
ASAR				PcP	PcP	00 46 33.0	+1.3
	0.2nm,0.3s,baz=6.8,slow=2.6,SNR=4.2						
ASAR				S	**S**	**00 49 58.0**	**-3.3**
	0.3nm,0.5s,baz=292,slow=17,SNR=4.5						
XAN	**Xi'an**	**37.95**	**11**	P	**P**	**00 44 14.2**	**-3.1**
XAN				AMB	AMB		
	comp=Z,11nm,0.8s,mb4.6						
XAN				AMB	AMB		
	comp=Z,208nm,4.6s						
NJ2	**Nanjing**	**39.09**	**24**	*e*P	**P**	**00 44 24.1**	**-2.8**
NJ2				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb4.5						
CTAO	**Charters Tower**	**47.10**	**114**	*e*P	**P**	**00 45 32.0**	**+0.1**
CTAO				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.3						
CTAO	**Charters Tower**	**47.10**	**114**	*e*P	**P**	**00 45 32.0**	**+0.2**
	comp=Z,3.3nm,0.8s,mb4.3						
STKA	**Stephens Creek**	**47.48**	**131**	*e*P	**P**	**00 45 35.9**	**+1.2**
	comp=Z,7.5nm,1.9s,mb4.3						
STKA	**Stephens Creek**	**47.48**	**131**	P	**P**	**00 45 36.1**	**+1.4**
	comp=Z,1.6nm,0.5s,mb4.2,baz=306,slow=8.4,SNR=6.9						
KSRS	**Korea Array**	**47.69**	**29**	P	**P**	**00 45 34.8**	**-1.4**
	comp=Z,0.7nm,0.5s,mb4.0,baz=218,slow=6.5,SNR=3.8						
WMQ	**Urumqi**	**48.48**	**347**	P	**P**	**00 45 42.2**	**+0.1**
SONM	**Songino Array**	**51.21**	**5**	P	**P**	**00 46 02.5**	**-0.3**
	comp=Z,2.7nm,0.6s,mb4.4,baz=188,slow=9.7,SNR=23						
SONM				PcP	PcP	00 47 17.1	-0.4
	comp=Z,0.5nm,0.4s,baz=181,slow=4.2,SNR=3.6						
SONM	**Songino Array**	**51.21**	**5**	P	**P**	**00 46 02.5**	**-0.3**
SONM				PcP	PcP	00 47 17.1	-0.4
ULN	**Ulaanbaatar**	**51.30**	**5**	⇑*e*P	**P**	**00 46 02.9**	**-0.5**
TKM2	**Tokmak 2**	**51.49**	**336**	*e*P	**P**	**00 46 05.5**	**+0.5**
TKM2				*e**PP	pP	00 46 18.4	-0.2
TKM2				pmax	pmax		
	comp=Z,8.0nm,0.8s,mb4.7						
TKM2	**Tokmak 2**	**51.49**	**336**	*e*P	**P**	**00 46 05.5**	**+0.5**
	comp=Z,8.2nm,0.8s,mb4.7						
TKM2				*e*pP	pP	00 46 18.4	-0.1

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**51.63**	**334**	*e*P	**P**	**00 46 07.0**	**+0.9**
	comp=Z,5.0nm,0.8s,mb4.5						
AML				*e*pP	pP	00 46 20.5	+0.8
EKS2	**Erkin-Say**	**52.03**	**335**	*e*P	**P**	**00 46 09.9**	**+0.9**
	comp=Z,14nm,1.0s,mb4.8						
EKS2				*e*pP	pP	00 46 22.4	-0.3
MKAR	**Makanchi Array**	**52.62**	**344**	P	**P**	**00 46 12.9**	**-0.4**
	comp=Z,5.8nm,0.6s,mb4.7,baz=153,slow=7.9,SNR=34						
MKAR				pP	pP	00 46 26.4	-0.5
	comp=Z,0.8nm,0.4s,baz=149,slow=7.6,SNR=3.1						
MKAR				sP	sP	00 46 31.3	-1.4
	comp=Z,2.1nm,0.7s,baz=148,slow=7.3,SNR=4.2						
MKAR	**Makanchi Array**	**52.62**	**344**	P	**P**	**00 46 12.9**	**-0.4**
MKAR				*PP	pP	00 46 26.4	-0.5
MKAR	**Makanchi Array**	**52.62**	**344**	P	**P**	**00 46 12.9**	**-0.4**
MKAR				pP	pP	00 46 26.4	-0.5
MKAR				sP	sP	00 46 31.3	-1.4
KURK	**Kurchatov**	**57.20**	**343**	P	**P**	**00 46 45.0**	**-1.3**
	comp=Z,2.3nm,0.6s,mb4.4,baz=155,slow=7.5,SNR=12						
KURK				pP	pP	00 46 57.6	-2.5
	comp=Z,1.3nm,0.3s,baz=156,slow=7.7,SNR=2.7						
KURK				sP	sP	00 47 03.9	-1.9
	comp=Z,1.4nm,0.3s,baz=154,slow=7.4,SNR=2.7						
KURK	**Kurchatov**	**57.20**	**343**	P	**P**	**00 46 45.1**	**-1.2**
KURK				*PP	pP	00 46 57.6	-2.5
ZAA0	**Zalesovo Array**	**58.70**	**349**	*e*P	**P**	**00 46 56.1**	**-0.6**
ZAA0				*e*pP	pP	00 47 10.2	-0.4
ZAA0				*e*sP	sP	00 47 15.1	-1.2
ZALV	**Zalesovo Beam**	**58.70**	**349**	P	**P**	**00 46 55.9**	**-0.9**
	comp=Z,18nm,0.8s,mb5.2,baz=160,slow=4.7,SNR=89						
ZALV				sP	sP	00 47 14.6	-1.7
	comp=Z,9.7nm,0.8s,baz=174,slow=5.0,SNR=5.1						
KRAR	**Krasnoyarsk**	**59.56**	**355**	*c i*P	**P**	**00 47 02.1**	**-0.6**
KRAR				pmax	pmax		
	comp=Z,11nm,0.3s,mb5.4						
BVAR	**Borovoye Array**	**61.81**	**340**	P	**P**	**00 47 17.1**	**-1.0**
	comp=Z,3.0nm,0.8s,mb4.5,baz=137,slow=7.7,SNR=12						
BVAR				pP	pP	00 47 30.8	-1.2
	comp=Z,1.7nm,0.6s,baz=141,slow=8.8,SNR=5.0						
YSS	**Yuzh-Sakhalins**	**62.11**	**31**	⇑*e*P	**P**	**00 47 18.5**	**-1.7**
YSS				pmax	pmax		
	comp=Z,4.0nm,0.5s,mb4.8						
AKTK	**Aktyubinsk**	**65.04**	**331**	P	**P**	**00 47 38.5**	**-0.9**
AKTO	**Aktyubinsk**	**65.04**	**331**	P	**P**	**00 47 38.5**	**-0.9**
	comp=Z,1.4nm,0.8s,mb4.1,baz=126,slow=8.7,SNR=4.6						
SVE	**Sverdlovsk**	**68.33**	**337**	*e*P	**P**	**00 47 59.1**	**-1.2**
SVE				pmax	pmax		
	comp=Z,8.0nm,1.0s,mb4.7						
ARU	**Arti**	**68.86**	**336**	*d i*P	**P**	**00 48 03.1**	**-0.5**
ARU				*e*		00 50 33.5	
ARU				*e*PPP		00 52 16.6	
ARU				*e*S	S	00 57 03.5	-0.4
ARU				*e*SS	SS	01 01 25.0	-5.0
ARU				pmax	pmax		
	comp=Z,13nm,2.5s,mb4.4						
PETK	**Petropavlovsk-**	**73.50**	**32**	P	**P**	**00 48 30.6**	**-1.2**
	comp=Z,4.4nm,0.8s,mb4.5,baz=208,slow=8.0,SNR=4.8						
SEY	**Seymchan**	**76.51**	**22**	⇑*e*P	**P**	**00 48 48.5**	**-0.4**
OBN	**Obninsk**	**78.49**	**328**	⇑*e*P	**P**	**00 48 54.5**	**-5.6**
OBN				*e*		00 49 01.0	
OBN				pmax	pmax		
	comp=Z,21nm,1.7s,mb4.8						
GERES	**GERESS Array B**	**90.75**	**319**	P	**P**	**00 50 03.4**	**+1.3**
	comp=Z,0.6nm,0.7s,mb4.0,baz=90,slow=5.3,SNR=7.5						
KONO	**Kongsberg**	**93.61**	**329**	⇑*e*P	**P**	**00 50 11.6**	**-3.5**
TXAR	**Lajitas Array**	**145.13**	**40**	PKP	PKPdf	00 56 37.0	-0.2
	comp=Z,2.8nm,0.6s,baz=296,slow=1.2,SNR=46						
TXAR				pPKP	pPKPdf	00 56 50.9	-1.4
	comp=Z,2.3nm,0.8s,baz=282,slow=1.1,SNR=8.2						
JCT	**Junction City**	**146.62**	**34**	*e*PKP2	PKPab	00 56 40.6	-1.7

*IDC **07** 01:16:58.8±3.1, 1924S×16892E, h0^{km}, mb4.2/4, mb1 4.5/4, mb1mx4.0/15, mbtmp4.2/4, Error ellipse: s-maj=228.9km s-min=30.1km az=159.0*
*ISCJB **07** 01:17:06.7±1.4, 169S±02×1678E±02, h33^{km}, mb4.2/4, Error ellipse: s-maj=31.0km s-min=24.0km az=23.8*
ISC 07 01:17:08.5±1.5**, 169S**±02×**1679E**±02**, h35^{km}, n6,** σ**1^{s}00**/6**, mb4.2**/4**, Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**5.34**	**194**	*e*P	**Pn**	**01 18 25.8**	**+0.1**
WRA	**Warramunga Arr**	**31.93**	**259**	P	**P**	**01 23 31.5**	**+0.4**
	0.8nm,0.4s,mb3.9,baz=95,slow=8.5,SNR=6.9						
ASAR	**Alice Springs**	**32.52**	**252**	P	**P**	**01 23 34.9**	**-1.3**
	8.1nm,0.5s,mb4.9,baz=83,slow=8.8,SNR=153						
FITZ	**Fitzroy Crossi**	**40.24**	**262**	*e*P	**P**	**01 24 42.8**	**+0.6**
	2.0nm,0.4s,mb4.2						
FITZ	**Fitzroy Crossi**	**40.24**	**262**	P	**P**	**01 24 43.2**	**+1.0**
	2.3nm,0.8s,mb4.0,baz=114,slow=9.8,SNR=13						
NVAR	**Mina Array Bea**	**88.23**	**49**	P	**P**	**01 29 56.1**	**-0.1**
	0.5nm,0.7s,mb3.9,baz=206,slow=7.4,SNR=6.3						

*NEIC **07** 01:17:58.1, 1936N×6594W, h7^{km}, MD3.6(RSPR), After RSPR.*
*RSPR **07** 01:17:58.1, 1936N×6594W, h7^{km}±2^{km}, MD3.6/15, MD3.6/15*
ISC 07 01:17:56.5±1.6**, 1936N**±006×**6594W**±003**, h18^{km}**±11^{km}**, n21,** σ**0^{s}55**/41**, 17C-4D, Puerto Rico region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CBYP	**Canovanas**	**1.08**	**176**	⇑*e*P	**Pb**	**01 18 16.7**	**0.0**
HUMP	**Col San Antoni**	**1.21**	**176**	⇓*e*P	**Pn**	**01 18 17.7**	**-0.8**
HUMP				*e*S	**Sb**	**01 18 33.4**	**-0.8**
SJG	**San Juan**	**1.26**	**189**	⇑*e*P	**Pn**	**01 18 19.0**	**-0.2**
SJG				*e*S	**Sb**	**01 18 36.1**	**+0.6**
SJG	**San Juan**	**1.26**	**189**	⇑*e*P	**Pn**	**01 18 19.0**	**-0.2**
SJG				*e*S	**Sb**	**01 18 36.7**	**+1.2**
AOPR	**Arecibo Observ**	**1.27**	**218**	⇓*e*P	**Pn**	**01 18 18.8**	**-0.5**
AOPR				*e*S	**Sb**	**01 18 35.2**	**-0.7**
MTP	**Monte Pirata**	**1.30**	**164**	⇑*e*P	**Pn**	**01 18 19.2**	**-0.6**
MTP				*e*S	**Sb**	**01 18 37.2**	**+0.3**
MTP	**Monte Pirata**	**1.30**	**164**	⇑*e*P	**Pn**	**01 18 19.2**	**-0.6**
MTP				*e*S	**Sb**	**01 18 37.0**	**+0.1**
CPD	**Cerro la Pandu**	**1.31**	**179**	⇑*e*P	**Pn**	**01 18 19.5**	**-0.4**
CPD				*e*S	**Sn**	**01 18 36.1**	**-0.9**
STVI	**Saint Thomas**	**1.36**	**137**	⇑*e*P	**Pn**	**01 18 20.9**	**+0.2**
STVI				*e*S	**Sn**	**01 18 38.6**	**+0.4**
CELP	**Cerrillos**	**1.41**	**206**	⇑*e*P	**Pn**	**01 18 21.1**	**-0.2**
CELP				*e*S	**Sn**	**01 18 39.7**	**+0.2**
AGPR	**Aguadilla, PR**	**1.42**	**232**	⇑*e*P	**Pn**	**01 18 21.4**	**0.0**
AGPR				*e*S	**Sn**	**01 18 39.6**	**0.0**
OBIP	**Obispado Ponce**	**1.45**	**206**	⇓*e*P	**Pn**	**01 18 22.1**	**+0.2**
OBIP				*e*S	**Sn**	**01 18 40.2**	**-0.2**
ICM	**Isla Caja Muer**	**1.56**	**201**	⇑*e*P	**Pn**	**01 18 23.8**	**+0.5**
ICM				*e*S	**Sn**	**01 18 43.6**	**+0.6**
TBVI	**Tortola**	**1.56**	**127**	⇑*e*P	**Pn**	**01 18 22.9**	**-0.4**
TBVI				*e*S	**Sn**	**01 18 43.2**	**+0.1**
TBVI	**Tortola**	**1.56**	**127**	⇑*e*P	**Pn**	**01 18 22.9**	**-0.4**
TBVI				*e*S	**Sn**	**01 18 43.0**	**0.0**
LSP	**Las Mesas**	**1.60**	**223**	⇑*e*P	**Pn**	**01 18 23.9**	**0.0**
LSP				*e*S	**Sn**	**01 18 44.8**	**+0.7**
LSP	**Las Mesas**	**1.60**	**223**	⇑*e*P	**Pn**	**01 18 23.9**	**0.0**
LSP				*e*S	**Sn**	**01 18 44.1**	**-0.1**
ABV	**Anegada**	**1.64**	**112**	⇓*e*P	**Pn**	**01 18 25.1**	**+0.7**
ABV				*e*S	**Sn**	**01 18 43.8**	**-1.2**
GBPR	**Guanica, Bosqu**	**1.64**	**213**	⇑*e*P	**Pn**	**01 18 25.3**	**+0.8**
GBPR				*e*S	**Sn**	**01 18 45.0**	**-0.1**
CRPR	**Cabo Rojo, PR**	**1.75**	**220**	⇑*e*P	**Pn**	**01 18 26.0**	**+0.1**
CRPR				*e*S	**Sn**	**01 18 47.5**	**-0.2**
CDVI	**St. Croix**	**1.94**	**145**	⇑*e*P	**Pn**	**01 18 29.5**	**+0.9**
CDVI				*e*S	**Sn**	**01 18 53.5**	**+0.9**

IDC 07 01:45:20.5±3.5**, 208S**×**9960E, h33^{km}**±6^{km}**, mb3.4**/5**, mb1 3.5**/5**, mb1mx3.3**/18**, mbtmp3.4**/5**, Error ellipse: s-maj=147.7km s-min=18.6km az=57.0, Southern Sumatera**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**38.30**	**120**	P	P	01 52 37.5	-0.8
	0.3nm,0.5s,baz=25,slow=30,SNR=3.3						
WRA				pP	pP	01 52 48.4	+0.4
	0.9nm,0.5s,baz=301,slow=9.1,SNR=4.7						
ASAR	**Alice Springs**	**39.53**	**126**	P	P	01 52 47.6	-0.9
	0.3nm,0.7s,baz=291,slow=7.8,SNR=3.9						
ASAR				pP	pP	01 52 59.1	+0.8
	0.6nm,0.6s,baz=304,slow=7.7,SNR=5.3						
SONM	**Songino Array**	**50.06**	**6**	P	P	01 54 12.7	+0.6
	0.7nm,0.9s,baz=193,slow=5.9,SNR=3.4						
SONM				pP	pP	01 54 21.6	-0.4
	0.5nm,0.6s,baz=193,slow=7.8,SNR=3.3						
MKAR	**Makanchi Array**	**51.00**	**345**	P	P	01 54 19.1	-0.1
	0.9nm,0.7s,baz=153,slow=11,SNR=5.8						
ZALV	**Zalesovo Beam**	**57.17**	**350**	P	P	01 55 03.6	-0.4
	0.7nm,0.3s,baz=174,slow=6.0,SNR=7.2						
TXAR	**Lajitas Array**	**145.01**	**37**	PKPbc	PKPbc	02 04 54.9	+0.4
	0.8nm,0.7s,baz=266,slow=1.4,SNR=11						
TXAR				pPKPbc		02 05 04.2	
	0.5nm,0.8s,baz=217,slow=1.4,SNR=4.9						

TAP 07 01:49:09.2, 2105N×**12211E, h158^{km}**±1^{km}**, ML3.9, D, Taiwan region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
TWK1	**Hengchun**	**1.50**	**306**	*e*P	Pn	01 49 39.8	+0.4
	baz=306						
TWK1				*e*S	Sn	01 50 02.6	0.0
	baz=306						
HEN	**Hengchun**	**1.59**	**307**	*e*S	Sn	01 50 04.7	+0.5
	baz=308						
TAW	**Tawu**	**1.72**	**319**	*e*S	Sn	01 50 05.8	-0.9
	baz=323						
EAST	**Anshuo**	**1.77**	**319**	P	Pn	01 49 42.8	+0.6
	baz=323						
EAST				*e*S	Sn	01 50 07.0	-0.7
	baz=323						
ECL	**Taimali**	**1.87**	**325**	*e*P	Pn	01 49 43.3	0.0
	baz=330						
ECL				*e*S	Sn	01 50 08.4	-1.3
	baz=330						
SCZT	**Fangliau**	**1.91**	**314**	P	Pn	01 49 44.6	+0.8
	baz=307						
SCZT				*e*S	Sn	01 50 09.8	-0.6
	baz=307						
TWG	**Pinlang**	**2.00**	**331**	*e*P	Pn	01 49 45.4	+0.5
	baz=326						
TWG				*e*S	Sn	01 50 10.4	-2.0
	baz=326						
SSD	**Sandimen**	**2.17**	**321**	P	Pn	01 49 47.5	+0.7
	baz=327						
SSD				*e*S	Sn	01 50 14.7	-1.1
	baz=327						
ELDTW	**Lidau**	**2.35**	**335**	*e*S	Sn	01 50 18.4	-1.3
	baz=335						
TWM1	**Shoushan**	**2.36**	**319**	*e*P	Pn	01 49 50.6	+1.7
	baz=319						
TWM1				*e*S	Sn	01 50 21.5	+1.8
	baz=319						
TWF1	**Yuli**	**2.41**	**342**	*e*S	Sn	01 50 18.3	-2.6
	baz=347						
EHY	**Hungye**	**2.55**	**344**	*e*P	Pn	01 49 51.0	-0.3
	baz=343						
EHY				*e*S	Sn	01 50 21.7	-2.1
	baz=343						
CHN4	**Tsaushan**	**2.68**	**329**	*e*P	Pn	01 49 55.2	+2.3
	baz=322						
CHN4				*e*S	Sn	01 50 24.9	-1.9
	baz=322						
SCLT	**Jiali**	**2.76**	**320**	*e*S	Sn	01 50 27.9	-0.6
	baz=328						
CHN5	**Tsauling**	**2.86**	**333**	*e*S	Sn	01 50 29.1	-1.5
	baz=332						
SMLT	**Sun Moon Lake**	**3.03**	**339**	*e*S	Sn	01 50 34.2	-0.3
	baz=330						
TYC	**Yuchr**	**3.06**	**338**	*e*S	Sn	01 50 35.1	-0.2
	baz=330						

IDC 07 02:26:26.6±39.0**, 1551S**×**16723E, h0^{km}, mb3.9**/4**, mb1 4.1**/4**, mb1mx3.8**/17**, mbtmp3.9**/4**, Error ellipse: s-maj=677.6km s-min=97.3km az=70.0, Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**28.47**	**231**	P	P	02 32 23.4	0.0
	3.3nm,0.6s,baz=52,slow=7.8,SNR=8.5						
WRA	**Warramunga Arr**	**31.61**	**257**	P	P	02 32 51.0	-0.4
	0.2nm,0.3s,baz=80,slow=5.9,SNR=2.8						
ASAR	**Alice Springs**	**32.37**	**250**	P	P	02 32 58.2	+0.1
	1.0nm,0.4s,baz=78,slow=8.8,SNR=29						
FITZ	**Fitzroy Crossi**	**39.84**	**260**	P	P	02 34 02.4	+0.3
	0.7nm,0.5s,baz=103,slow=10,SNR=4.4						

*NEIC **07** 02:30:59.0, 1599N×9394W, h60^{km}, MD4.3(MEX), After MEX.*
MEX 07 02:30:58.9±0.9**, 1599N**×**9395W, h65^{km}**±32^{km}**, MD4.3, Near coast of Chiapas**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
TGIG		**1.12**	**46**	*i* P	Pn	02 31 17.2	-1.4
TGIG				*i* S	Sn	02 31 31.7	-1.7
SCX	**San Cristobal**	**1.47**	**60**	*i* P	Pn	02 31 22.8	-0.5
SCX				*i* S	Sn	02 31 40.5	-1.1
CCIG	**Comitan**	**1.77**	**80**	*e*P	Pn	02 31 25.2	-2.1
CCIG				*i* S	Sn	02 31 46.4	-2.5
THIG		**1.95**	**123**	*i* P	Pn	02 31 28.7	-1.2
THIG				*i* S	Sn	02 31 51.9	-1.4
TUIG	**Tuzandepetl**	**2.08**	**348**	*e*P	Pn	02 31 29.4	-2.1
TUIG				*i* S	Sn	02 31 54.1	-2.3
HUIG	**Huatulco**	**2.08**	**264**	*i* P	Pn	02 31 29.6	-2.0
HUIG				*i* S	Sn	02 31 53.9	-2.6
VHO	**Vista Hermosa**	**2.87**	**292**	*i* P	Pn	02 31 43.1	+0.8
VHO				*i* S	Sn	02 32 15.2	-0.6
PNIG	**Pinotepa**	**4.03**	**276**	*i* P	Pn	02 31 56.4	-1.7
PNIG				*i* S	Sn	02 32 41.3	-2.8
TPIG	**Tehuac#an**	**4.05**	**307**	*e*P	Pn	02 31 57.0	-1.4
TPIG				*i* S	Sn	02 32 43.9	-0.8

IDC 07 03:04:43.5±4.3**, 4891S**×**16338E, h0^{km}, mb3.7**/3**, mb1 4.0**/3**, mb1mx3.7**/11**, mbtmp3.7**/3**, MS3.2**/3**, Ms1 3.2**/3**, ms1mx3.0**/24**, Error ellipse: s-maj=383.4km s-min=66.7km az=43.0, Off west coast of South Island**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
RPZ	**Rata Peaks**	**7.43**	**49**	LR	LR	03 08 36.5	
	comp=Z,118nm,21.0s,baz=70,slow=31						
URZ	**Urewera**	**14.55**	**48**	LR	LR	03 14 16.2	
	comp=Z,96nm,19.2s,baz=241,slow=39						
CNB	**Canberra Magne**	**17.07**	**318**	*e*P	Pn	03 08 47.2	+3.8
TOO	**Toolangi**	**17.22**	**304**	*e*P	Pn	03 08 50.4	+5.0
ASAR	**Alice Springs**	**34.25**	**307**	P	P	03 11 31.8	+0.7
	0.8nm,0.6s,baz=138,slow=8.2,SNR=23						
WRA	**Warramunga Arr**	**37.11**	**311**	P	P	03 11 55.3	-0.3
	0.8nm,0.8s,baz=147,slow=7.8,SNR=4.6						
FITZ	**Fitzroy Crossi**	**43.26**	**302**	P	P	03 12 46.0	-0.7
	1.0nm,0.6s,baz=182,slow=11,SNR=7.1						
FITZ				LR	LR	03 29 56.6	
	comp=Z,60nm,20.4s,baz=259,slow=35						
AKASG	**Malin Array Be**	**150.72**	**291**	PKPbc	PKPbc	03 24 36.5	-0.2
	0.4nm,0.4s,baz=85,slow=2.2,SNR=5.0						

*IDC **07** 03:25:24.7±2.2, 1193S×126.16E, h0^{km}, mb3.8/2, mb1 4.1/6, mb1mx3.8/16, mbtmp4.0/6, ML4.0/4, Error ellipse: s-maj=38.0km s-min=21.6km az=51.0*
*ISCJB **07** 03:25:26.0±0.8, 1199S±007×126.11E±006, h33^{km}, mb3.8/2, Error ellipse: s-maj=11.0km s-min=6.5km az=37.1*
*DJA **07** 03:25:31, 1198S×12587E, h100^{km}, MLv4.6/3*
ISC 07 03:25:28.6±0.7**, 1196S**±007×**12607E**±006**, h35^{km}, n10,** σ**1^{s}35**/19**, mb3.8**/2**, Timor Sea**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
BATI	**Baumata**	**2.94**	**306**	Pn	**Pn**	**03 26 13.2**	**+0.5**
	39nm,0.3s,baz=148,slow=1.3,SNR=82						
BATI				Sn	**Sn**	**03 26 45.5**	**-1.3**
	41nm,0.3s,baz=241,slow=23,SNR=7.1						
KNA	**Kununurra**	**4.59**	**146**	*e*P	**Pn**	**03 26 37.8**	**+2.3**
KNA				*e*		03 26 46.5	
KNA				*e*S	**Sn**	**03 27 27.5**	**0.0**
	365nm,0.4s						
FITZ	**Fitzroy Crossi**	**6.12**	**184**	*e*P	**Pn**	**03 26 56.7**	**+0.2**
FITZ				*e*S	**Sn**	**03 28 00.7**	**-4.6**
	89nm,0.4s						
FITZ	**Fitzroy Crossi**	**6.12**	**184**	Pn	**Pn**	**03 26 56.7**	**+0.1**
	2.2nm,0.3s,baz=10.0,slow=12,SNR=164						
FITZ				Sn	**Sn**	**03 28 01.8**	**-3.5**
	6.5nm,0.3s,baz=47,slow=16,SNR=13						
FITZ				Lg		03 28 40.2	
	10.0nm,0.3s,baz=300,slow=20,SNR=5.4						
KAKA	**Kakadu**	**6.27**	**98**	*e*P	**Pn**	**03 27 00.8**	**+2.2**
KAKA				*e*S	**Sn**	**03 28 07.8**	**-1.2**
	20nm,0.2s						
WRA	**Warramunga Arr**	**11.23**	**136**	Pn	**Pn**	**03 28 05.5**	**-1.1**
	1.1nm,0.3s,baz=315,slow=13,SNR=14						
WRA				Sn	**Sn**	**03 30 03.8**	**-7.2**
	5.4nm,0.3s,baz=310,slow=25,SNR=14						
WB2	**Warramunga Arr**	**11.24**	**136**	*e*P	**Pn**	**03 28 05.2**	**-1.6**
WB2				*e*S	**Sn**	**03 30 02.5**	**-8.7**
ASAR	**Alice Springs**	**13.82**	**148**	Pn	**Pn**	**03 28 41.5**	**-0.5**
	0.9nm,0.3s,baz=323,slow=12,SNR=93						
ASAR				Sn	**Sn**	**03 31 03.7**	**-11**
	1.6nm,0.3s,baz=324,slow=23,SNR=20						
NWAO	**Narrogin (SRO)**	**22.39**	**200**	P	**P**	**03 30 25.2**	**+1.4**
	4.1nm,0.5s,mb4.2,baz=21,slow=10,SNR=7.3						
STKA	**Stephens Creek**	**24.44**	**147**	P	**P**	**03 30 45.8**	**+1.7**
	1.1nm,0.8s,mb3.3,baz=339,slow=8.6,SNR=2.4						
STKA				S	**S**	**03 35 07.0**	**+5.1**
	0.9nm,0.6s,baz=53,slow=20,SNR=2.1						

*ISCJB **07** 03:36:09.2±0.9, 44S±0.1×1062W±0.1, h10^{km}, mb4.3/23, MS3.9/17, Error ellipse: s-maj=20.2km s-min=13.8km az=29.6*
*IDC **07** 03:36:13.0±3.2, 385S×10556W, h0^{km}, mb3.7/6, mb1 4.0/6, mb1mx3.9/14, mbtmp3.7/6, MS3.9/17, Ms1 3.9/17, ms1mx3.8/23, Error ellipse: s-maj=139.4km s-min=30.5km az=58.0*
*NEIC **07** 03:36:15.3±1.7, 375S×10539W, h10^{km}, mb4.5/17, Error ellipse: s-maj=69.6km s-min=17.1km az=58.0*
ISC 07 03:36:11.1±0.9**, 44S**±01×**1063W**±01**, h10^{km}, n137,** σ**0^{s}72**/123**, mb4.3**/23**, MS3.9**/17**, 42C-48D, Central East Pacific Rise**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
JTS	**JuntasAbangare**	**25.79**	**55**	LR	LR	03 49 02.4	
	comp=Z,656nm,21.1s,MS4.1,baz=287,slow=31						
ATAH	**Atahualpa**	**27.86**	**97**	LR	LR	03 50 04.3	
	comp=Z,232nm,21.0s,MS3.7,baz=99,slow=30						
LPIG	**La Paz**	**28.63**	**352**	LR	LR	03 50 36.5	
	comp=Z,398nm,18.7s,MS4.0,baz=175,slow=31						
RKT	**Rikitea**	**33.37**	**233**	*e*LR	LR	03 51 47.3	
	626nm,27.8s						
TXAR	**Lajitas Array**	**33.66**	**4**	P	**P**	**03 42 52.0**	**-0.2**
	0.5nm,1.0s,mb3.4,baz=183,slow=9.9,SNR=3.2						
TXAR				PcP	PcP	03 45 33.8	+1.6
	0.4nm,0.9s,baz=186,slow=2.7,SNR=3.9						
TXAR				LR	LR	03 54 08.3	
	comp=Z,234nm,18.0s,MS4.0,baz=355,slow=32						
TXAR	**Lajitas Array**	**33.66**	**4**	P	**P**	**03 42 52.0**	**-0.2**
TXAR				PcP	PcP	03 45 33.8	+1.6
TXAR				LR	LR	03 54 08.3	
318A	**Bisbee**	**35.84**	**355**	⇓P	**P**	**03 43 09.9**	**-1.1**
	baz=37						
217A	**Green Valley**	**36.26**	**353**	⇓P	**P**	**03 43 14.7**	**0.0**
	baz=38,SNR=7.3						
219A	**White Tail Can**	**36.34**	**356**	⇓P	**P**	**03 43 16.3**	**+1.0**
	baz=38,SNR=6.3						
TUC	**Tucson**	**36.79**	**354**	*e*P	**P**	**03 43 18.7**	**-0.4**
	1.9nm,0.9s,mb3.9						
Y15A	**Casa Rosa Ranc**	**38.60**	**352**	⇓P	**P**	**03 43 34.8**	**+0.4**
	baz=40,SNR=8.6						
LAZ	**Ladron**	**38.63**	**359**	*e*P	**P**	**03 43 30.4**	**-4.3**
X19A	**St. Johns**	**38.75**	**356**	⇓P	**P**	**03 43 35.6**	**-0.1**
	baz=40						
X17A	**Forest Lakes**	**38.80**	**354**	⇓P	**P**	**03 43 36.2**	**+0.2**
	baz=40						
BC3	**Big Chuckw Mtn**	**38.86**	**348**	⇓P	**P**	**03 43 37.7**	**+1.1**
	baz=40						
X16A	**Lo Mia Camp, P**	**38.95**	**353**	⇓P	**P**	**03 43 37.9**	**+0.6**
	baz=40						
ANMO	**Albuquerque**	**39.17**	**360**	LR	LR	03 57 15.2	
	comp=Z,123nm,19.5s,MS3.7,baz=339,slow=33						
LPAZ	**La Paz**	**39.25**	**110**	LR	LR	03 57 12.3	
	comp=Z,86nm,19.7s,MS3.6,baz=112,slow=32						
WUAZ	**Wupatki**	**40.02**	**354**	⇓P	**P**	**03 43 46.9**	**+0.6**
	baz=42						
WUAZ	**Wupatki**	**40.02**	**354**	*e*P	**P**	**03 43 47.3**	**+1.0**
	11nm,1.1s,mb4.5						
V18A	**Ganado**	**40.08**	**355**	⇓P	**P**	**03 43 47.9**	**+1.1**
	baz=42						
V14A	**Boquillas Ranc**	**40.37**	**351**	⇓P	**P**	**03 43 50.0**	**+0.9**
	baz=42,SNR=8.3						
LVC	**Limon Verde**	**40.40**	**120**	LR	LR	03 54 38.2	
	comp=Z,94nm,19.2s,MS3.6,baz=287,slow=28						
V15A	**Kaibab Nationa**	**40.42**	**353**	⇓P	**P**	**03 43 50.3**	**+0.7**
	baz=42,SNR=7.0						
U16A	**Tuba City**	**40.62**	**354**	⇓P	**P**	**03 43 51.5**	**+0.3**
	baz=42						
V12A	**Nelson**	**40.75**	**349**	⇓P	**P**	**03 43 52.9**	**+0.6**
	baz=42						
U17A	**Shonto**	**41.02**	**355**	⇓P	**P**	**03 43 55.1**	**+0.6**
	baz=43						
T19A	**Beclabito**	**41.13**	**357**	⇓P	**P**	**03 43 54.8**	**-0.6**
	baz=43						
U14A	**Mt Trumbull**	**41.15**	**352**	⇑P	**P**	**03 43 56.6**	**+1.1**
	baz=43,SNR=5.7						
U13A	**Pakoon Wash**	**41.26**	**351**	⇑P	**P**	**03 43 56.4**	**-0.1**
	baz=43						
T17A	**Navajo Res., N**	**41.43**	**355**	⇓P	**P**	**03 43 58.2**	**+0.4**
	baz=43						
T18A	**Mexican Hat**	**41.49**	**356**	⇑P	**P**	**03 43 58.9**	**+0.6**
	baz=43,SNR=6.8						
S18A	**Hurst Farm, Bl**	**42.05**	**356**	⇑P	**P**	**03 44 03.1**	**+0.2**
	baz=44,SNR=7.4						
S17A	**Black Ridge (B**	**42.06**	**355**	⇓P	**P**	**03 44 03.4**	**+0.4**
	baz=44						
S16A	**Weppner Ranch,**	**42.23**	**354**	⇑P	**P**	**03 44 04.4**	**-0.1**
	baz=44,SNR=7.0						
S15A	**Panguitch**	**42.27**	**353**	⇑P	**P**	**03 44 05.3**	**+0.5**
	baz=44						
T11A	**Corn Creek, Al**	**42.29**	**349**	⇑P	**P**	**03 44 05.7**	**+0.8**
	baz=44,SNR=6.7						
PV01	**Paradox Valley**	**42.40**	**357**	*e*P	**P**	**03 44 01.9**	**-3.9**
ARUT	**Antelope Range**	**42.53**	**352**	*e*P	**P**	**03 44 08.2**	**+1.4**
HELL	**Mitchell Peak**	**42.60**	**345**	⇑P	**P**	**03 44 08.1**	**+0.7**
	baz=44						
R16A	**Teasdale**	**42.77**	**354**	⇑P	**P**	**03 44 08.5**	**-0.3**
	baz=44						
R17A	**Hanksville Air**	**42.83**	**355**	⇑P	**P**	**03 44 09.3**	**0.0**
	baz=44,SNR=8.4						
MSU	**Marysvale**	**43.07**	**353**	*e*P	**P**	**03 44 12.2**	**+0.9**
S10A	**Tonopah Range,**	**43.22**	**348**	⇑P	**P**	**03 44 12.5**	**+0.1**
	baz=45						
Q19A	**Hogan Spring (**	**43.26**	**357**	⇓P	**P**	**03 44 11.8**	**-0.9**
	baz=45						
R11A	**Troy Canyon, C**	**43.43**	**349**	⇑P	**P**	**03 44 13.5**	**-0.6**
	baz=45						
SRU	**San Rafael**	**43.50**	**355**	⇓P	**P**	**03 44 13.1**	**-1.6**
	baz=45						
SRU	**San Rafael**	**43.50**	**355**	*e*P	**P**	**03 44 13.0**	**-1.7**
	5.6nm,1.1s,mb4.2						
Q15A	**Fillmore**	**43.58**	**353**	⇓P	**P**	**03 44 16.5**	**+1.2**
	baz=45						
Q14A	**Sevier Lake (B**	**43.68**	**352**	⇑P	**P**	**03 44 15.7**	**-0.5**
	baz=45,SNR=5.6						
Q13A	**Wheeler Ranch,**	**43.76**	**351**	⇓P	**P**	**03 44 17.5**	**+0.7**
	baz=45,SNR=8.2						
P17A	**Butcher Ranch,**	**43.88**	**355**	⇑P	**P**	**03 44 16.7**	**-1.1**
	baz=45						
NVAR	**Mina Array Bea**	**44.08**	**346**	P	**P**	**03 44 20.9**	**+1.6**
	0.4nm,0.3s,mb3.6,baz=178,slow=8.8,SNR=4.6						
PPT	**Papeete**	**44.34**	**249**	*e*S	**S**	**03 50 56.2**	**-0.2**
	56nm,24.0s						
PPT				*e*LR	LR	03 56 45.4	
	475nm,26.2s						
PPT	**Papeete**	**44.34**	**249**	LR	LR	03 57 48.8	
	comp=Z,230nm,21.1s,MS4.1,baz=87,slow=29						
MPU	**Maple Canyon**	**44.50**	**354**	*e*P	**P**	**03 44 22.7**	**0.0**
	14nm,1.1s,mb4.7						
O19A	**Miners Draw (B**	**44.59**	**357**	⇑P	**P**	**03 44 23.8**	**+0.4**
	baz=46						
O17A	**Robinson Place**	**44.59**	**355**	⇑P	**P**	**03 44 24.4**	**+1.0**
	baz=46						
CFAA	**Coronel Fontan**	**44.76**	**132**	LR	LR	03 58 11.1	
	comp=Z,31nm,21.8s,MS3.2,baz=317,slow=30						
DUG	**Dugway**	**44.81**	**353**	*e*P	**P**	**03 44 25.4**	**+0.2**
	19nm,1.5s,mb4.7						
DAU	**Daniels Canyon**	**44.86**	**355**	*e*P	**P**	**03 44 25.1**	**-0.5**
TKL	**Tuckaleechee C**	**45.12**	**26**	LR	LR	04 03 52.1	
	comp=Z,88nm,18.3s,MS3.7,baz=265,slow=38						
O12A	**Currie**	**45.16**	**351**	⇑P	**P**	**03 44 28.2**	**+0.2**

	baz=47						
N19A	John Jarvie Ra	45.18	357	⇓P	P	03 44 27.9	-0.2
	baz=47						
N18A	Larsen Ranch,	45.29	356	⇓P	P	03 44 29.0	0.0
	baz=47						
ELK	Elko	45.70	350	eP	P	03 44 33.2	+0.9
	5.5nm,1.1s,mb4.4						
TBI	Tubuai	45.70	242	eS	S	03 51 15.4	-0.6
	86nm,26.5s						
TBI				eLR	LR	03 57 31.6	
	344nm,28.2s						
N12A	Clover Valley,	45.77	351	⇓P	P	03 44 33.1	+0.3
	baz=47						
M16A	Huntsville	45.79	354	⇓P	P	03 44 32.4	-0.6
	baz=47						
O07A	Toulon	45.86	347	⇓P	P	03 44 33.1	-0.4
	baz=48						
ORV	Oroville	45.96	344	⇓P	P	03 44 34.9	+0.6
	baz=48						
HWUT	Hardware Ranch	46.07	354	eP	P	03 44 35.6	+0.4
	5.4nm,1.0s,mb4.4						
M13A	Montello	46.14	352	⇓P	P	03 44 35.8	+0.1
	baz=48						
M12A	Wells	46.30	351	⇑P	P	03 44 37.2	+0.2
	baz=48						
M11A	Holland Ranch,	46.46	350	⇑P	P	03 44 38.9	+0.7
	baz=48						
N07B	Gerlach	46.47	347	⇓P	P	03 44 39.6	+1.3
	baz=48						
L15A	Malad City	46.55	354	⇓P	P	03 44 39.0	+0.1
	baz=48						
L14A	Malta	46.68	353	⇓P	P	03 44 39.6	-0.3
	baz=48,SNR=6.7						
M10A	I.L. Ranch, Tu	46.68	349	⇑P	P	03 44 39.7	-0.3
	baz=48						
M08A	Happy Creek Ra	46.98	348	⇓P	P	03 44 43.1	+0.8
	baz=49						
BW06	Boulder Array	47.07	357	eP	P	03 44 41.6	-1.4
	3.0nm,0.9s,mb4.2						
PDAR	Pinedale Array	47.07	357	P	P	03 44 41.8	-1.2
	1.6nm,0.8s,mb4.0,baz=156,slow=7.5,SNR=5.2						
PDAR				LR	LR	04 02 19.3	
	comp=Z,211nm,18.5s,MS4.1,baz=65,slow=34						
L11A	Cat Creek Ranc	47.17	350	⇑P	P	03 44 44.2	+0.4
	baz=49						
N02C	Big Bar	47.66	343	⇑P	P	03 44 47.7	+0.1
	baz=49						
L08A	Fields	47.68	348	⇑P	P	03 44 48.1	+0.4
	baz=49						
L07A	Adell	47.73	347	⇑P	P	03 44 48.3	+0.1
	baz=49,SNR=6.8						
RRI2	Red Ridge	47.77	355	eP	P	03 44 48.1	-0.4
	7.5nm,0.9s,mb4.7						
K11A	Parker Ranch,	47.81	350	⇓P	P	03 44 48.6	-0.1
	baz=49,SNR=8.5						
SNOW	Snow King Moun	47.84	356	eP	P	03 44 48.7	-0.3
	1.8nm,0.6s,mb4.3						
TPAW	Teton Pass	47.88	355	eP	P	03 44 48.8	-0.5
	4.5nm,0.9s,mb4.5						
K10A	MacKenzie Ranc	47.96	349	⇑P	P	03 44 49.6	-0.3
	baz=50						
WVOR	Wild Horse Val	47.98	348	eP	P	03 44 51.0	+1.0
	14nm,1.5s,mb4.8						
LOHW	Long Hollow	47.98	356	eP	P	03 44 49.2	-0.9
	7.0nm,1.6s,mb4.4						
K09A	Rome	48.05	349	⇓P	P	03 44 50.7	+0.1
	baz=50,SNR=8.1						
J12A	Stokes Ranch,	48.12	351	⇓P	P	03 44 50.1	-1.0
	baz=50						
MOOW	Moose Ponds	48.13	356	eP	P	03 44 50.5	-0.6
	2.0nm,0.8s,mb4.2						
J13A	Cove Ranch, Pi	48.14	352	⇑P	P	03 44 50.9	-0.4
	baz=50						
I16A	Newdale	48.31	355	⇓P	P	03 44 52.3	-0.3
	baz=50						
PLCA	Paso Flores	48.32	144	LR	LR	04 00 12.4	
	comp=Z,288nm,18.2s,MS4.3,baz=18,slow=30						
YBH	Yreka Blue Hor	48.33	344	P	P	03 44 53.5	+0.8
	2.3nm,0.8s,mb4.2,baz=111,slow=9.4,SNR=3.8						
HLID	Hailey	48.33	352	⇑P	P	03 44 52.8	0.0
	baz=50						
HLID	Hailey	48.33	352	eP	P	03 44 53.3	+0.5
	6.6nm,1.0s,mb4.6						
MFID	Camas Ranch	48.40	351	⇓P	P	03 44 53.4	+0.1
	baz=50,SNR=8.0						
I15A	Monteview	48.53	354	⇑P	P	03 44 54.9	+0.6
	baz=50						
I13A	Wildhorse Cree	48.64	352	⇑P	P	03 44 55.2	0.0
	baz=50,SNR=8.6						
I12A	Atlanta	48.66	351	⇓P	P	03 44 55.3	0.0
	baz=50						
J09A	Fry Pan Ranch,	48.67	349	⇓P	P	03 44 56.0	+0.5
	baz=50						
K06A	Valley Falls	48.69	346	⇑P	P	03 44 55.9	+0.3
	baz=50						
K05A	Summer Lake	48.77	346	⇓P	P	03 44 56.1	-0.1
	baz=50						
I11A	Placerville	48.91	351	⇑P	P	03 44 56.1	-1.1
	baz=50,SNR=8.6						
J06A	Christmas Vall	49.09	347	⇑P	P	03 44 58.7	0.0
	baz=51						
H14A	Leadore	49.24	353	⇓P	P	03 44 59.7	0.0
	baz=51,SNR=7.8						
QLMT	Earthquake Lak	49.26	355	eP	P	03 45 00.4	+0.6
H13A	Challis	49.30	352	⇓P	P	03 44 59.9	-0.3
	baz=51						
H12A	Diamond D Ranc	49.36	352	⇓P	P	03 44 59.4	-1.3
	baz=51,SNR=7.2						
G15A	Dillon	49.69	354	⇑P	P	03 45 02.6	-0.6
	baz=51						
G13A	Cobalt	49.81	353	⇑P	P	03 45 03.8	-0.3
	baz=51						
H08A	Prairie City	49.98	348	⇑P	P	03 45 05.5	+0.1
	baz=52,SNR=8.0						
F14A	Wisdom	50.42	354	⇑P	P	03 45 08.1	-0.6
	baz=52						
G09A	Cove	50.54	349	⇑P	P	03 45 09.5	-0.2
	baz=52						
G07A	Ruggs Ranch, H	50.90	348	⇓P	P	03 45 12.1	-0.2
	baz=53						
F09A	S2 Ranch, Elgi	50.98	350	⇓P	P	03 45 12.7	-0.2
	baz=53						
E14A	Clinton	51.03	354	⇓P	P	03 45 12.8	-0.4
	baz=53						
CPUP	Villa Florida	51.57	120	P	P	03 45 19.1	+1.3
	0.3nm,0.3s,mb3.7,baz=337,slow=3.7,SNR=3.2						
CPUP				LR	LR	04 03 13.7	
	comp=Z,109nm,21.5s,MS3.9,baz=36,slow=32						
D12A	Red Ives Fores	51.88	352	⇑P	P	03 45 18.6	-1.1
	baz=54						
C17A	Wharram Farm,	51.99	356	⇓P	P	03 45 19.5	-1.0
	baz=54						
D11A	Klaveano Farm,	52.02	351	⇑P	P	03 45 19.4	-1.3
	baz=54						
OD2	Odessa Site #2	52.75	349	eP	P	03 45 25.7	-0.4
NEW	Newport	53.33	351	eP	P	03 45 29.8	-0.6
	4.3nm,0.9s,mb4.4						
A16A	West Butte Ran	53.36	356	⇑P	P	03 45 29.5	-1.1
	baz=55						
A15A	Johnson Ranch,	53.48	355	⇑P	P	03 45 30.1	-1.4
	baz=55						
A14A	Double T Ranch	53.55	354	⇑P	P	03 45 30.3	-1.7
	baz=55						
ULM	Lac du Bonnet	55.20	8	LR	LR	04 07 42.7	
	comp=Z,172nm,18.7s,MS4.2,baz=216,slow=35						
YKA	Yellowknife Ar	67.04	356	P	P	03 47 02.8	-1.3
	1.2nm,0.8s,mb4.0,baz=161,slow=6.4,SNR=2.8						
YKA				LR	LR	04 15 01.1	
	comp=Z,83nm,18.3s,MS4.0,baz=155,slow=35						
SCHQ	Schefferville	67.49	23	LR	LR	04 19 28.8	
	comp=Z,157nm,18.2s,MS4.3,baz=120,slow=39						
MCK	McKinley	75.08	342	eP	P	03 47 56.7	+3.8
	4.7nm,0.9s,mb4.4						
PETK	Petropavlovsk-	97.14	323	LR	LR	04 25 15.5	
	comp=Z,60nm,18.4s,MS4.1,baz=269,slow=30						

IDC ***07*** *03:49:23.7±1.0, 1253N×8774W, h0km, mb4.0/7, mb1 4.3/8, mb1mx3.9/23, mbtmp4.0/8, ML3.3/1, MS3.8/3, Ms1 3.8/3, ms1mx3.0/27, Error ellipse: s-maj=51.0km s-min=16.7km az=56.0*

ISCJB ***07*** *03:49:25.4±1.1, 1209N±007×8827W±007, h36km±12km, mb4.2/12, MS3.9/3, Error ellipse: s-maj=13.0km s-min=8.8km az=136.7*

CASC ***07*** *03:49:25.0±3.1, 1194N×8832W, h31km±21km, MD4.1, ML3.7, mb4.7(NEIC)*

NEIC ***07*** *03:49:30.9±1.7, 1234N×8781W, h68km±15km, mb4.7/6, Error ellipse: s-maj=31.4km s-min=9.6km az=60.0*

ISC 07 03:49:28.3±1.1**, 1215N**±007×**8811W**±009**, h48**km±13km**, n54,** $\sigma 1^{s}08$/43**, mb4.2**/12**, MS3.9**/3**, 8C-2D, Off coast of central America**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CNCH	Conchagua	1.16	14	⇑eP	x	03 49 48.0	
CNCH				eS	x	03 50 09.4	
CNCH				AML	x	03 50 11.1	
	comp=Z,2μm,0.4s						
VSM	San Miguel	1.29	353	eP	x	03 49 49.7	
BLLM	Bellamira	1.30	355	eP	x	03 49 49.5	
TEL3	Telica 3	1.31	71	eP	Pn	03 49 49.5	-0.6
MIRN	Miramar	1.40	78	⇑eP	Pn	03 49 50.8	-0.6
COPN	Copaltepe	1.49	88	⇓iP	Pn	03 49 52.0	-0.6
COPN				eS	Sn	03 50 16.3	+5.4
MOMN	Momotombo	1.56	80	⇓eP	Pn	03 49 53.5	0.0
MOMN				eS	Sn	03 50 15.2	+2.6
CAHU	Cacacuatique	1.62	357	⇑eP	x	03 49 54.4	
CAHU				eS	x	03 50 20.0	
SNVI	San Vicente	1.62	334	eP	x	03 49 53.7	
SNVI				eS	x	03 50 15.2	
SNVI				AML	x	03 50 18.1	
	comp=Z,135nm,0.3s						
CSAN		1.65	88	eP	Pn	03 49 53.6	-1.3
CSAN				eS	Sn	03 50 17.1	+2.2
APYN	Apoyeque	1.72	87	⇑eP	Pn	03 49 55.4	-0.5
LFRS	El Faro	1.74	328	eP	x	03 49 54.1	
LFRS				eS	x	03 50 15.9	
XAVN	Gruta Xavier	1.75	90	eP	Pn	03 49 55.4	-0.8
CRUN	El Crucero	1.78	95	eP	Pn	03 49 56.4	-0.2
TISN	Laguna Tiscapa	1.80	90	eP	Pn	03 49 56.2	-0.6
MGAN	Managua	1.82	90	eP	Pn	03 49 56.6	-0.6
MGAN				eS	Sn	03 50 23.1	+4.0
LBRS	Las Brisas	1.83	330	eP	x	03 49 56.2	
TICN	Ticuantepe	1.84	93	eP	Pn	03 49 57.2	-0.2
SNET	Serv Nac Est T	1.88	325	eP	x	03 49 55.3	
SNET				eP	x	03 49 56.0	
SNET				eS	x	03 50 19.4	
HUEN		1.91	84	eP	Pn	03 49 58.2	-0.1
BOQS	Boqueron	1.95	324	⇑eP	x	03 49 57.5	
BOQS				eS	x	03 50 22.4	
APON	Apoyo	2.01	96	eP	Pn	03 49 59.0	-0.9
TGUH	Tegucigalpa,Un	2.07	23	⇑iP	Pn	03 50 01.5	+0.9
TGUH				eS	Sn	03 50 31.9	+6.7
TGUH				AML	AML	03 50 35.9	
	comp=N,2μm,0.6s						
TGUH	Tegucigalpa,Un	2.07	23	ePn	Pn	03 50 01.1	+0.5
SBLS	San Blas	2.24	319	⇑eP	x	03 50 01.3	
SBLS				eS	x	03 50 28.2	
SNJE	San Jose	2.25	320	eP	x	03 50 01.4	
SNJE				eS	x	03 50 28.8	
RTR	El Retiro	2.30	320	eP	x	03 50 02.4	
RTR				eS	x	03 50 29.8	
RBDL	Robledal	2.49	322	eP	x	03 50 05.3	
RBDL				eS	x	03 50 35.5	
CONN	Concepcion	2.50	103	eP	Pn	03 50 05.4	-1.1
CONN				eS	Sn	03 50 35.6	-0.2
JTS	JuntasAbangare	3.60	120	Pn	Pn	03 50 21.4	-0.2
	comp=N,2.5nm,0.3s,baz=308,slow=21,SNR=13						
JTS				Sn	Sn	03 51 00.3	-2.7
	comp=N,7.3nm,0.3s,baz=290,slow=18,SNR=5.8						
JCR	Jicaral	3.73	127	eP	Pn	03 50 22.6	-0.7
CGA2	Cerro Gallo 2	4.16	120	eP	Pn	03 50 30.9	+1.6
PRS1	Puriscal	4.30	120	eP	Pn	03 50 33.0	+1.7
BUS	Buena Vista	4.99	121	⇑eP	Pn	03 50 42.0	+1.3
ACR	Cerro Adams	5.97	125	eP	Pn	03 50 55.1	+0.9
TEIG	Tepich	8.04	359	Pn	Pn	03 51 22.7	+0.2
	comp=N,0.5nm,0.3s,baz=126,slow=19,SNR=4.5						
JCT	Junction City	21.22	331	eP	P	03 54 10.2	0.0
	comp=N,5.0nm,0.4s,mb4.2						
TXAR	Lajitas Array	22.41	322	P	P	03 54 23.4	+0.5
	comp=N,4.7nm,0.9s,mb3.9,baz=145,slow=10,SNR=27						
MIAR	Mount Ida	22.85	348	eP	P	03 54 28.3	+0.8
	comp=N,16nm,0.8s,mb4.5						
TKL	Tuckaleechee C	23.74	9	P	P	03 54 34.3	-1.8
	comp=N,6.7nm,0.9s,mb4.1,baz=182,slow=12,SNR=5.6						
PDAR	Pinedale Array	35.74	333	P	P	03 56 22.8	+0.3
	comp=N,0.8nm,0.8s,mb3.7,baz=132,slow=12,SNR=5.8						
PDAR				PcP	PcP	03 58 51.8	+2.1
	comp=N,0.5nm,0.6s,baz=126,slow=5.8,SNR=3.8						
AGMN	Agassiz Refuge	36.62	351	eP	P	03 56 28.5	-1.3
	comp=N,5.1nm,0.5s,mb4.6						
REDW	Red Top Meadow	36.80	332	eP	P	03 56 32.3	+0.9
	comp=N,9.2nm,1.0s,mb4.6						
NVAR	Mina Array Bea	37.51	320	P	P	03 56 40.0	+2.4
	comp=N,0.7nm,0.8s,mb3.5,baz=139,slow=8.4,SNR=3.6						
NVAR				PcP	PcP	03 58 58.1	+3.0
	comp=N,0.5nm,0.7s,baz=134,slow=4.5,SNR=4.4						
ULM	Lac du Bonnet	38.53	352	P	P	03 56 44.5	-1.5
	comp=N,8.6nm,0.6s,mb4.7,baz=171,slow=9.6,SNR=19						
ULM	Lac du Bonnet	38.53	352	eP	P	03 56 44.2	-1.8
	comp=N,7.4nm,0.6s,mb4.6						
DGMT	Dagmar	38.62	343	eP	P	03 56 47.0	+0.2
	comp=N,8.6nm,0.8s,mb4.5						
SIV	San Ignacio	38.69	136	P	P	03 56 48.6	+0.8
	comp=N,2.0nm,0.7s,mb4.0,baz=325,slow=9.8,SNR=13						
SIV				PcP	PcP	03 59 03.2	+4.0
	comp=N,1.0nm,0.5s,baz=308,slow=1.8,SNR=7.6						
YKA	Yellowknife Ar	53.74	345	P	P	03 58 44.6	-0.7
	comp=N,1.3nm,0.7s,mb4.0,baz=140,slow=7.3,SNR=5.8						
DBIC	Dimbokro	82.06	85	LR	LR	04 35 45.9	
	comp=N,46nm,18.6s,MS3.9,baz=52,slow=34						
TORD	Torodi Ar. Bea	87.11	77	LR	LR	04 34 23.0	
	comp=N,60nm,21.8s,MS4.0,baz=165,slow=31						
GERES	GERESS Array B	88.59	40	LR	LR	04 42 27.4	
	comp=N,41nm,18.8s,MS3.9,baz=84,slow=36						
WRA	Warramunga Arr	138.56	254	PKP	PKPdf	04 08 52.3	+2.6
	comp=N,0.1nm,0.4s,baz=86,slow=1.9,SNR=2.6						
CMAR	Chiang Mai Arr	148.81	347	PKPbc	PKPbc	04 09 11.4	0.0
	comp=N,1.1nm,0.4s,baz=320,slow=2.3,SNR=4.6						

TRN 07 04:00:15.4, 1678N×6188W, h95km, MD3.7, M2.7(FDF)**, 5C, Leeward Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BPA	Boggy Peak	0.27	6	eP	Pn	04 00 30.7	+1.5
BPA				eS	Sn	04 00 41.1	+1.5
MBRY		0.27	254	⇑iP	Pn	04 00 30.1	+0.8
MBRY				eS	Sn	04 00 41.1	+1.6
MBLG		0.27	258	⇑iP	Pn	04 00 30.4	+1.1
MBLG				i S	Sn	04 00 41.2	+1.6
MBWH		0.30	263	i P	Pn	04 00 30.3	+1.0
MBWH				i S	Sn	04 00 41.2	+1.4
MLYT	Lee's Yard	0.30	259	⇑iP	Pn	04 00 30.7	+1.3
MLYT				eS	Sn	04 00 41.8	+2.0
MBGB		0.33	262	⇑iP	Pn	04 00 31.0	+1.5
MBGB				eS	Sn	04 00 42.1	+2.0
LZG	Guadaloupe-1	0.64	171	eP	Pn	04 00 33.4	+1.5
SCG	Saint Claude	0.77	165	eP	Pn	04 00 34.9	+1.8
HMG	Houelmont	0.81	167	eP	Pn	04 00 35.1	+1.7
DEG	La Desirade	0.92	120	eP	Pn	04 00 34.9	+0.4
DEG				eS	Sn	04 00 51.0	+2.1
TBG	Guadaloupe-3	0.95	166	eP	Pn	04 00 36.3	+1.4
MGG	Marie-Galante	1.01	147	⇑eP	Pn	04 00 37.0	+1.4
DWS	Wesley	1.32	155	eP	Pn	04 00 41.0	+1.7
DWS				eS	Sn	04 00 59.4	+2.2
FDF	Fort de France	2.15	161	eP	Pn	04 00 50.5	+0.7
FDF				eS	Sn	04 01 17.0	+0.9
BIM	Bigot	2.38	161	eP	Pn	04 00 53.9	+1.1

IDC ***07*** *04:10:04.5±1.0, 986N×8270W, h0km, mb3.8/6, mb1 4.1/7, mb1mx3.8/21, mbtmp3.8/7, ML3.6/1, MS3.4/1, Ms1 3.4/1, ms1mx2.7/31, Error ellipse: s-maj=29.5km s-min=15.8km az=16.0*

ISCJB ***07*** *04:10:06.8±0.9, 986N±004×8261W±003, h26km±7km, mb3.7/6, Error ellipse: s-maj=7.5km s-min=5.3km az=19.5*

CASC ***07*** *04:10:07.2±2.8, 984N×8267W, h13km±15km, MD4.0*

NEIC ***07*** *04:10:07.7±1.4, 946N×8278W, h38km±11km, Error ellipse: s-maj=29.0km s-min=11.6km az=202.0*

ISC 07 04:10:06.8±1.0**, 982N**±004×**8265W**±004**, h14**km±6km**, n29,** $\sigma 0^{s}86$/31**, mb3.7**/6**, 6C-7D, Panama-Costa Rica border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LIO	Limon	0.42	295	⇑eP	Pg	04 10 16.4	+1.2
BAR1		0.87	229	⇑iP	Pg	04 10 23.1	-0.6
BAR1				eS	Sg	04 10 34.4	-0.8
CTCR	Cotoan	0.93	187	⇓iP	Pb	04 10 24.1	-0.5
BRU2	Volcan	1.02	182	⇓eP	Pb	04 10 25.6	-0.6
BRU2				eS	Sb	04 10 40.6	+1.0
TBS2		1.02	180	⇓eP	Pb	04 10 29.6	+3.3
TBS2				eS	Sb	04 10 42.7	+3.2
BUS	Buena Vista	1.13	256	⇓iP	Pb	04 10 26.9	-1.1
ACR	Cerro Adams	1.27	204	⇑eP	Pn	04 10 29.7	-0.5
ACR				eS	Sb	04 10 46.4	-0.4
SJS	Escuela Geolog	1.39	275	eP	Pn	04 10 32.8	+1.0
SJS				eS	Sn	04 10 49.4	-0.5
PRS1	Puriscal	1.65	276	⇑eP	Pn	04 10 35.6	+0.3
CGA2	Cerro Gallo 2	1.80	276	⇑eP	Pn	04 10 37.2	-0.2
CGA2				eS	Sn	04 10 60.0	-0.1
JTS	JuntasAbangare	2.32	282	Pn	Pn	04 10 44.2	-0.3
	17nm,0.3s,baz=0.7,slow=22,SNR=53						
JTS				Lg		04 11 15.1	
	50nm,0.3s,baz=270,slow=19,SNR=3.9						
JCR	Jicaral	2.43	271	⇓eP	Pn	04 10 47.0	+0.9
PINA	Piqa, Costa Ab	2.61	102	⇓eP	Pn	04 10 47.9	-0.7
BCIP	Isla Barro Col	2.85	103	⇑eP	Pn	04 10 51.2	-0.6
BCIP	Isla Barro Col	2.85	103	ePn	Pn	04 10 51.3	-0.5
BCIP				eSn	Sn	04 11 22.6	-3.4
ACLA	Agua Clara, Si	2.94	99	eP	Pn	04 10 53.8	+0.8
TGUH	Tegucigalpa,Un	6.18	313	ePn	Pn	04 11 37.9	+0.2
	50nm,0.8s						
PTP	Ponta Puerca	18.51	61	⇓eP	Px	04 10 36.0	
PTP				eS	Sx	04 10 57.5	
SWET	Sewanee	25.45	354	eP	P	04 15 34.5	+0.1
TKL	Tuckaleechee C	25.74	358	LR	LR	04 26 42.3	
	comp=Z,90nm,20.3s,baz=6.0,slow=39						
PDAR	Pinedale Array	40.37	329	P	P	04 17 44.1	-0.1
	0.3nm,0.7s,mb3.2,baz=107,slow=10,SNR=2.9						
NVAR	Mina Array Bea	42.79	318	P	P	04 18 04.5	+0.4
	0.3nm,0.6s,mb3.2,baz=140,slow=7.1,SNR=3.0						
PLCA	Paso Flores	51.53	168	P	P	04 19 12.8	+0.7
	1.9nm,0.6s,mb4.2,baz=331,slow=9.6,SNR=8.7						
YKA	Yellowknife Ar	57.43	343	P	P	04 19 53.9	-0.9
	0.8nm,0.9s,mb3.8,baz=152,slow=4.8,SNR=4.1						
ESDC	Sonseca Array	75.11	52	P	P	04 21 49.5	+0.9
	1.9nm,0.7s,mb4.1,baz=281,slow=5.8,SNR=20						
TORD	Torodi Ar. Bea	82.36	78	P	P	04 22 28.1	-0.8
	0.6nm,0.7s,mb3.6,baz=252,slow=5.0,SNR=5.7						
ASAR	Alice Springs	142.52	244	PKhKP		04 29 35.5	
	0.6nm,0.7s,baz=112,slow=4.1,SNR=8.6						
WRA	Warramunga Arr	142.94	250	PKhKP		04 29 37.0	
	0.3nm,0.3s,baz=100,slow=3.1,SNR=10						
CMAR	Chiang Mai Arr	151.86	357	PKPbc	PKPbc	04 30 01.6	-0.6
	1.5nm,0.4s,baz=319,slow=1.9,SNR=4.8						

MAN 07 04:12:00, 1322N×12435E, h53km, mb4.1, ML2.9, MS2.6, Luzon

IDC 07 04:49:00.9±4.5**, 5016N×12971W, h0km, mb3.3**/2**, mb1 3.7**/5**, mb1mx3.5**/23**, mbtmp3.5**/5**, ML3.5**/1**, MS3.1**/3**, Ms1 3.1**/3**, ms1mx2.7**/21**, Error ellipse: s-maj=70.7km s-min=17.7km az=85.0, Vancouver Island region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BBB	Bella Bella	2.26	26	Pn	Pn	04 49 37.8	-1.7
	22nm,0.3s,baz=216,slow=12,SNR=10						
BBB				Sn	Sn	04 50 05.5	-2.5
	17nm,0.3s,baz=322,slow=21,SNR=8.5						
YBH	Yreka Blue Hor	9.73	147	LR	LR	04 54 36.8	
	comp=Z,110nm,19.0s,baz=340,slow=34						
YKA	Yellowknife Ar	14.87	28	Pn	Pn	04 52 30.1	-2.0
	0.1nm,0.3s,baz=211,slow=13,SNR=3.0						
YKA				LR	LR	04 58 39.1	
	comp=Z,39nm,19.1s,baz=135,slow=39						
PDAR	Pinedale Array	15.70	110	Pn	Pn	04 52 45.1	+1.9
	0.0nm,0.3s,baz=314,slow=9.3,SNR=6.3						
ULM	Lac du Bonnet	21.55	77	P	P	04 53 53.5	+2.0
	0.7nm,0.4s,baz=297,slow=9.0,SNR=2.0						
TXAR	Lajitas Array	28.62	127	P	P	04 54 58.7	-0.1
	0.3nm,0.8s,baz=331,slow=9.2,SNR=2.6						
TXAR				LR	LR	05 07 20.7	
	comp=Z,59nm,18.6s,baz=185,slow=38						

NEIC ***07*** *04:49:48.0, 14.14N×61.06W, h19km, MD3.7(TRN), After TRN.*

TRN 07 04:49:47.4, 1415N×6102W, h18km, MD3.7, 2C-1D, Windward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SLW	Petit Monier	0.15	149	eP	Pg	04 49 52.5	+0.9
SLB	Belfond	0.32	184	⇓iP	Pg	04 49 56.9	+2.6
SLB				eS	Sg	04 50 02.2	+3.2
BIM	Bigot	0.36	352	⇑iP	Pg	04 49 57.2	+2.1
BIM				⇑iS	Sg	04 50 03.0	+2.8
FDF	Fort de France	0.59	348	eP	Pg	04 50 00.6	+1.5
FDF				eS	Sg	04 50 09.0	+1.9
FDF	Fort de France	0.59	348	ePg	Pg	04 50 00.3	+1.2
FDF				eSg	Sg	04 50 09.7	+2.7
SSV	Crater Summit	0.84	192	eP	Pb	04 50 05.4	+1.9
SSV				eS	Sb	04 50 18.3	+3.9
SVV	Soufriere Volc	0.85	193	eP	Pb	04 50 06.6	+2.9
SVV				eS	Sb	04 50 19.2	+4.4
BHS	Barnard House	0.86	187	eP	Pb	04 50 05.6	+1.8
BHS				eS	Sb	04 50 19.3	+4.3
SVB	Belmont	0.91	195	eP	Pb	04 50 06.0	+1.4
SVB				eS	Sb	04 50 19.3	+2.9
DBCT	Belle View Cho	1.16	344	eP	Pn	04 50 10.1	+1.3
DBCT				eS	Sb	04 50 26.8	+3.2

IDC 07 04:55:23.2±1.7**, 177N×12490E, h0km, mb4.0**/4**, mb1 4.1**/5**, mb1mx3.8**/17**, mbtmp3.9**/5**, 1C, Error ellipse: s-maj=124.7km s-min=23.2km az=66.0, Minahassa Peninsula, Sulawesi**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	19.76	178	P	Pn	04 59 54.5	-1.9
	0.3nm,0.3s,baz=0.0,slow=11,SNR=10						
WRA	Warramunga Arr	23.48	157	P	P	05 00 35.4	+0.5
	5.7nm,0.6s,baz=336,slow=9.9,SNR=37						
WB2	Warramunga Arr	23.48	157	⇑iP	P	05 00 35.3	+0.4
ASAR	Alice Springs	26.76	161	P	P	05 01 04.3	-0.5
	0.6nm,0.4s,baz=339,slow=7.0,SNR=14						
STKA	Stephens Creek	37.02	156	P	P	05 02 34.4	-0.4
	2.2nm,0.6s,baz=332,slow=9.1,SNR=6.8						
MKAR	Makanchi Array	58.15	327	P	P	05 05 19.5	+0.7
	0.4nm,0.3s,baz=125,slow=7.5,SNR=5.2						

ISCJB ***07*** *05:11:39.0±1.1, 3502S±0.10×1799W±02, h10km, mb4.4/5, Error ellipse: s-maj=23.5km s-min=12.0km az=23.3*

IDC ***07*** *05:11:38.2±1.8, 3485S×17967W, h0km, mb4.2/5, mb1 4.3/6, mb1mx4.1/17, mbtmp4.2/6, ML4.3/1, MS3.2/2, Ms1 3.2/2, ms1mx2.8/27, Error ellipse: s-maj=45.5km s-min=26.5km az=48.0*

NEIC ***07*** *05:11:43.0±0.8, 3492S×17976W, h30km, mb4.8/1, Error ellipse: s-maj=18.1km s-min=16.1km az=115.0*

ISC 07 05:11:40.8±1.2**, 350S**±01×**1799W**±02**, h10**km**, n12,** $\sigma 0^{s}97$/10**, mb4.4**/5**, East of North Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	Urewera	4.06	216	Pn	Pn	05 12 44.1	+1.3
	17nm,0.3s,baz=34,slow=3.6,SNR=58						
URZ				Sn	Sn	05 13 29.1	-1.3
	13nm,0.3s,baz=109,slow=22,SNR=6.1						
URZ				LR	LR	05 14 29.2	
	comp=Z,158nm,21.4s,baz=262,slow=40						
DZM	Mont Dzumac	17.60	313	ePn	Pn	05 15 38.1	-8.0
STKA	Stephens Creek	32.17	264	LR	LR	05 30 39.9	
	comp=Z,79nm,18.5s,baz=24,slow=35						
CTA	Charters Tower	33.32	288	P	P	05 18 19.9	+1.0
	2.0nm,0.8s,mb4.1,baz=94,slow=13,SNR=4.1						
ASAR	Alice Springs	41.52	273	P	P	05 19 28.6	+0.3
	5.7nm,0.5s,mb4.5,baz=116,slow=7.5,SNR=66						
WB2	Warramunga Arr	42.92	278	eP	P	05 19 39.4	-0.4
WRA	Warramunga Arr	42.93	278	P	P	05 19 39.5	-0.5
	3.3nm,0.7s,mb4.2,baz=122,slow=7.5,SNR=24						
FITZ	Fitzroy Crossi	50.96	275	P	P	05 20 42.7	+0.1
	0.6nm,0.7s,baz=120,slow=8.1,SNR=3.0						
QSPA	South Pole Qui	55.12	180	P	P	05 21 13.7	+1.1
	2.7nm,0.9s,mb4.3,baz=331,slow=1.0,SNR=11						

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
ELK	Elko	95.97	44	eP	P	05 25 06.1	-1.6
	4.2nm,1.0s,mb4.8						
NOA	NORSAR Array B	152.99	348	PKPbc	PKPbc	05 31 36.2	-1.2
	0.9nm,1.0s,baz=22,slow=4.8,SNR=3.6						
TORD	Torodi Ar. Bea	158.19	184	PKPab	PKPab	05 32 10.9	-1.3
	1.0nm,0.9s,baz=169,slow=3.6,SNR=3.8						

PGC 07 05:36:21.9, 4996N×13009W, h10km, ML2.9, Mw3.5, 4D, 206km Wsw of Pt. Hardy, Bc Vancouver Island Region, Vancouver Island region

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
HOLB	Holberg	1.43	61	⇑Pn	Pn	05 36 45.8	-2.0
BPBC	Brooks Peninsu	1.51	82	⇑Pn	Pn	05 36 46.5	-2.4
PHC	Port Hardy	1.86	65	⇓Pn	Pn	05 36 51.5	-2.2
PHC				⇑Sn	Sn	05 37 13.6	-3.6
MAYB	Maynard	1.93	76	⇓Pn	Pn	05 36 53.0	-1.6
WOSB	Woss	2.28	84	⇑Pn	Pn	05 36 58.5	-1.0
BBB	Bella Bella	2.55	28	⇓Pn	Pn	05 37 02.1	-1.1
BBB				⇓Sn	Sn	05 37 30.6	-3.8

PGC 07 05:40:46.9, 4996N×13003W, h10km, ML3.3, Mw4.0, 202km Wsw of Pt. Hardy, Bc Vancouver Island Region
IDC 07 05:40:48.9±2.1, 50.11N×129.75W, h0km, mb3.9/3, mb1 4.0/8, mb1mx3.7/26, mbtmp3.8/8, ML3.9/5, MS3.6/19, Ms1 3.6/19, ms1mx3.5/38, Error ellipse: s-maj=37.4km s-min=11.3km az=78.0
ISCJB 07 05:40:50.6±0.6, 5021N±004×12954W±008, h10km, mb4.5/8, MS3.7/14, Error ellipse: s-maj=7.9km s-min=4.5km az=158.6
BJI 07 05:40:50.0, 5020N×12960W, h10km, mB5.1, mb4.8, Ms4.4, Msz4.3
NEIC 07 05:40:52.1±1.0, 5021N×12961W, h10km, mb4.3/10, Error ellipse: s-maj=14.5km s-min=6.6km az=72.0
ISC 07 05:40:52.1±0.6, 5025N±004×12958W±008, h10km, n94, σ1.32/85, mb4.5/8, MS3.7/14, 4D, Vancouver Island region

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
HOLB	Holberg	1.00	66	⇑Pn	Pn	05 41 10.5	-1.8
BPBC	Brooks Peninsu	1.16	94	⇑Pn	Pn	05 41 11.2	-3.2
PHC	Port Hardy	1.45	71	⇓Pn	Pn	05 41 16.3	-2.0
PHC				⇑Sn	Sn	05 41 38.9	+1.6
MAYB	Maynard	1.55	83	⇑Pn	Pn	05 41 17.4	-2.3
EDB	Eliza Dome	1.63	102	⇑Pn	Pn	05 41 16.8	-4.0
WOSB	Woss	1.93	91	⇑Pn	Pn	05 41 22.7	-2.3
BBB	Bella Bella	2.15	25	Pn	Pn	05 41 26.8	-1.1
	46nm,0.3s,baz=225,slow=14,SNR=79						
BBB				Sn	Sn	05 41 55.6	+1.0
	61nm,0.3s,baz=319,slow=23,SNR=16						
BBB	Bella Bella	2.15	25	⇑Pn	Pn	05 41 26.8	-1.2
BBB				⇑Sn	Sn	05 41 55.2	+0.6
GDR	Gold River	2.33	100	⇓Pn	Pn	05 41 27.0	-3.5
BNB	Barry Inlet	2.70	331	⇓Pn	Pn	05 41 29.8	-5.8
BTB	Buttle Lake	2.74	105	⇓Pn	Pn	05 41 33.8	-2.2
MOBC	Moresby Island	3.26	334	⇑Pn	Pn	05 41 39.2	-4.1
PGC	Sidney	4.30	109	ePn	Pn	05 41 56.2	-1.4
GNW	Green Mountain	5.20	118	ePn	Pn	05 42 10.4	+0.6
JCW	Jim Creek	5.42	109	ePn	Pn	05 42 11.9	-1.0
RPW	Rockport	5.57	106	ePn	Pn	05 42 14.8	-0.1
WRAK	Wrangell Islan	6.40	346	Pn	Pn	05 42 27.1	+0.7
ETW	Entiat	6.64	110	ePn	Pn	05 42 29.7	0.0
RSW	Rattlesnake Hi	7.69	116	ePn	Pn	05 42 42.9	-1.2
OD2	Odessa Site #2	7.72	108	ePn	Pn	05 42 43.5	-1.0
HAWA	Hanford	7.72	116	ePn	Pn	05 42 43.1	-1.5
	6.7nm,0.7s						
DLBC	Dease Lake	8.21	358	Pn	Pn	05 42 51.5	+0.3
	baz=193,slow=16						
DLBC	Dease Lake	8.21	358	Pn	Pn	05 42 51.9	+0.7
DLBC				eSn	Sn	05 44 29.5	+5.6
NEW	Newport	8.39	99	ePn	Pn	05 42 53.7	+0.1
LNOR	Linction Mounta	8.74	116	ePn	Pn	05 42 57.4	-1.0
YBH	Yreka Blue Hor	9.76	148	Pn	Pn	05 43 10.7	-1.7
	0.1nm,0.3s,baz=152,slow=5.9,SNR=4.5						
BMO	Blue Mountains	9.89	118	ePn	Pn	05 43 13.6	-0.7
HLID	Hailey	12.32	117	ePn	Pn	05 43 48.4	+0.8
DLMT	Dillon	12.41	107	ePn	Pn	05 43 48.1	-0.6
MCMT	McKenzie Canyo	12.53	109	ePn	Pn	05 43 49.5	-0.8
PAHR	Pah Rah Range	12.76	142	ePn	Pn	05 43 54.2	+0.7
EGMT	Eagleton	13.17	92	ePn	Pn	05 44 00.6	+1.6
YMR	Madison River	13.76	107	ePn	Pn	05 44 07.5	+0.4
	6.6nm,1.0s						
ELK	Elko	13.81	128	Pn	Pn	05 44 10.6	+2.7
	0.1nm,0.3s,baz=319,slow=12,SNR=4.0						
ELK				LR	LR	05 49 08.7	
	comp=Z,159nm,20.8s,baz=308,slow=36						
ELK	Elko	13.81	128	Pn	Pn	05 44 10.6	+2.7
ELK				LR	LR	05 49 08.7	
IMW	Indian Meadow	14.18	109	ePn	Pn	05 44 13.8	+1.0
DCID1	Drake Creek	14.20	111	ePn	Pn	05 44 14.8	+1.6
RRI2	Red Ridge	14.26	112	Pn	Pn	05 44 15.5	+1.6
	8.8nm,1.0s						
NVAR	Mina Array Bea	14.28	142	Pn	Pn	05 44 12.8	-1.4
	0.1nm,0.3s,baz=326,slow=11,SNR=5.3						
NVAR	Mina Array Bea	14.28	142	Pn	Pn	05 44 12.8	-1.5
MOOW	Moose Ponds	14.38	110	ePn	Pn	05 44 17.3	+1.8
TPAW	Teton Pass	14.40	111	ePn	Pn	05 44 20.0	+4.2
REDW	Red Top Meadow	14.53	111	eP	Pn	05 44 25.0	+7.3
	18nm,1.0s						
SNOW	Snow King Moun	14.53	111	eP	Pn	05 44 26.0	+8.4
	18nm,0.9s						
LOHW	Long Hollow	14.54	110	ePn	Pn	05 44 19.9	+2.1
RLMT	Red Lodge	14.59	103	eP	Pn	05 44 25.7	+7.3
	18nm,1.5s						
AHID	Auburn Hatcher	14.73	113	eP	Pn	05 44 27.8	+7.4
	15nm,1.0s						
YKA	Yellowknife Ar	14.76	28	Pn	Pn	05 44 20.6	0.0
	0.1nm,0.3s,baz=214,slow=13,SNR=7.7						
YKA				LR	LR	05 50 22.3	
	comp=Z,59nm,19.4s,baz=210,slow=38						
YKA	Yellowknife Ar	14.76	28	Pn	Pn	05 44 20.6	0.0
YKA				LR	LR	05 50 22.3	
TPH	Tonopah	15.03	139	ePn	Pn	05 44 24.6	+0.2
KDAK	Kodiak Island	15.43	308	LR	LR	05 48 47.1	
	comp=Z,398nm,21.3s,baz=120,slow=31						
DUG	Dugway	15.47	124	ePn	Pn	05 44 31.5	+1.2
BW06	Boulder Array	15.65	111	ePn	Pn	05 44 34.4	+1.8
	25nm,1.5s						
PDAR	Pinedale Array	15.65	111	Pn	Pn	05 44 33.4	+0.8
	0.3nm,0.3s,baz=318,slow=13,SNR=14						
PDAR				LR	LR	05 50 45.1	
	comp=Z,241nm,21.8s,baz=327,slow=38						
LAO	LASA Array	15.88	94	ePn	Pn	05 44 36.5	+1.1
	16nm,1.0s						
JLU	Jordanelle	15.93	120	ePn	Pn	05 44 37.6	+1.4
NLU	North Lily Min	16.04	123	ePn	Pn	05 44 38.7	+1.1
TPNV	Topopah Spring	16.39	139	ePn	Pn	05 44 43.3	+1.1
DGMT	Dagmar	16.61	86	ePn	Pn	05 44 46.3	+1.4
	15nm,0.9s						
ISA	Isabella	16.66	147	ePn	Pn	05 44 47.0	+1.5
ARUT	Antelope Range	16.98	131	ePn	Pn	05 44 50.7	+1.1
MSU	Marysvale	17.05	127	ePn	Pn	05 44 50.9	+0.4
FFC	Flin Flon	17.34	64	ePn	Pn	05 44 53.8	-0.2
	11nm,0.8s						
SRU	San Rafael	17.48	122	ePn	Pn	05 44 56.8	+1.0
RWWY	Rawlins	17.70	110	ePn	Pn	05 44 59.8	+1.3
	36nm,1.8s						
PV10	Paradox Valley	18.82	121	eP	Pn	05 45 10.4	-1.9
PFO	Pinyon Flat Ob	19.23	145	LR	LR	05 53 00.1	
	comp=Z,123nm,19.9s,baz=320,slow=38						
PV01	Paradox Valley	19.25	121	eP	Pn	05 45 15.2	-2.2
ISCO	Idaho Springs	19.82	113	eP	Pn	05 45 23.5	-0.7
	39nm,2.3s						
ULM	Lac du Bonnet	21.45	77	P	P	05 45 40.9	+0.6
	17nm,0.8s,mb4.4,baz=285,slow=10,SNR=15						
ULM				LR	LR	05 54 45.1	
	comp=Z,277nm,19.9s,MS3.6,baz=68,slow=39						
ULM	Lac du Bonnet	21.45	77	eP	P	05 45 41.0	+0.8
	21nm,0.9s,mb4.5						
AGMN	Agassiz Refuge	21.98	82	eP	P	05 45 47.0	+1.1
ANMO	Albuquerque	22.74	123	P	P	05 45 52.8	-1.4
	2.2nm,0.8s,mb3.6,baz=324,slow=8.1,SNR=9.1						
ANMO				LR	LR	05 55 46.5	
	comp=Z,143nm,18.5s,MS3.4,baz=156,slow=39						
ANMO	Albuquerque	22.74	123	eP	P	05 45 53.2	-1.0
	18nm,2.0s,mb4.2						
LAZ	Ladron	22.80	125	P	P	05 45 53.7	-1.1
ECSD	EROS,Sioux Fal	23.27	93	eP	P	05 45 59.5	-0.2
AMTX	Amarillo	25.45	116	eP	P	05 46 18.2	-1.7
	19nm,1.1s,mb4.5						
TXAR	Lajitas Array	28.61	127	P	P	05 46 47.4	-1.1
	0.6nm,0.8s,mb3.4,baz=336,slow=6.7,SNR=6.8						
TXAR				LR	LR	05 58 59.5	
	comp=Z,192nm,19.1s,MS3.7,baz=180,slow=38						
LPIG	La Paz	30.10	143	LR	LR	05 57 15.1	
	comp=Z,78nm,21.4s,MS3.3,baz=147,slow=33						
OXF	Oxford	33.12	103	eP	P	05 47 26.6	-1.6
	15nm,0.8s,mb5.0						
SCHQ	Schefferville	37.30	58	LR	LR	06 03 56.3	
	comp=Z,316nm,19.4s,MS4.1,baz=40,slow=37						
PETK	Petropavlovsk-	43.40	303	LR	LR	06 04 19.0	
	comp=Z,32nm,19.8s,MS3.2,baz=259,slow=32						
ARCES	ARCESS Array B	59.14	10	LR	LR	06 15 30.3	
	comp=Z,48nm,21.1s,MS3.6,baz=305,slow=35						
ROSC	El Rosal	64.58	115	LR	LR	06 24 19.3	
	comp=Z,44nm,18.4s,MS3.7,baz=17,slow=40						
NOA	NORSAR Array B	64.68	20	LR	LR	06 19 44.1	
	comp=Z,43nm,18.2s,MS3.7,baz=50,slow=36						
KSRS	Korea Array	69.29	304	LR	LR	06 20 08.3	
	comp=Z,71nm,18.0s,MS4.0,baz=198,slow=34						
PPT	Papeete	69.78	200	LR	LR	06 17 19.5	
	comp=Z,145nm,19.6s,MS4.2,baz=274,slow=32						
ZALV	Zalesovo Beam	72.23	339	LR	LR	06 25 55.1	
	comp=Z,35nm,21.1s,MS3.6,baz=51,slow=37						
GERES	GERESS Array B	76.37	24	LR	LR	06 25 02.8	
	comp=Z,39nm,18.1s,MS3.8,baz=97,slow=35						
NJ2	Nanjing	78.20	306	eP	P	05 52 54.4	+2.7
MKAR	Makanchi Array	79.49	338	LR	LR	06 32 31.4	
	comp=Z,42nm,18.3s,MS3.8,baz=358,slow=39						
LZH	Lanzhou	81.97	319	eP	P	05 53 12.5	+0.5
LZH				AP	pP	05 53 15.5	+0.2
LZH				XP	sP	05 53 17.5	+1.0
LZH				AMB	AMB		
	comp=Z,13nm,1.0s,mb4.8						
LZH				AMB	AMB		
	comp=Z,53nm,4.3s						
CD2	Chengdu	86.42	316	eP	P	05 53 33.2	-1.5
CD2				AMB	AMB		
	comp=Z,10.0nm,0.9s,mb5.0						
CD2				AMB	AMB		
	comp=Z,30nm,5.8s						
GYA	Guiyang	88.86	312	P	P	05 53 47.0	+0.5
GYA				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb5.1						

NEIC 07 05:43:44.5±0.4, 1753S×17458W, h20km, Error ellipse: s-maj=22.4km s-min=11.8km az=139.0
ISCJB 07 05:43:46.8±2.0, 173S±0.1×1744W±0.1, h75km±19km, mb4.0/13, Error ellipse: s-maj=21.4km s-min=12.7km az=145.3
IDC 07 05:43:48.8±3.0, 1731S×17433W, h81km±27km, mb3.9/13, mb1 4.0/14, mb1mx3.9/23, mbtmp3.9/14, Error ellipse: s-maj=23.5km s-min=13.1km az=139.0
ISC 07 05:43:48.0±1.8, 174S±01×1743W±01, h72km±17km, n49, σ0.53/25, mb4.0/13, 2C-1D, Tonga Islands

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
AFI	Afiamalu	4.22	36	P	Pn	05 44 50.1	+0.2
	33nm,0.3s,baz=277,slow=16,SNR=41						
AFI				S	Sn	05 45 33.5	-4.5
	141nm,0.3s,baz=46,slow=22,SNR=12						
AFI	Afiamalu	4.22	36	P	Pn	05 44 50.1	+0.2
AFI				S	Sn	05 45 33.5	-4.5
URZ	Urewera	22.14	198	P	P	05 48 37.2	-0.4
	13nm,0.4s,mb4.6,baz=166,slow=0.1,SNR=22						
HNR	Honiara	26.20	284	eP	P	05 49 16.2	0.0
	98nm,0.7s						
HNR				epP	pP	05 49 22.5	-11
HNR				esP	sP	05 49 25.1	-16
CAN	Canberra	37.14	234	eP	P	05 50 48.1	-3.7
CTA	Charters Tower	37.36	259	P	P	05 50 54.1	+0.2
	0.9nm,0.5s,mb4.0,baz=96,slow=12,SNR=3.6						
STKA	Stephens Creek	42.30	242	P	P	05 51 35.3	+0.6
	2.3nm,0.6s,mb4.1,baz=96,slow=9.6,SNR=8.6						
WB2	Warramunga Arr	48.53	258	eP	P	05 52 23.6	-0.6
WRA	Warramunga Arr	48.54	258	P	P	05 52 24.5	+0.2
	1.4nm,0.4s,mb4.2,baz=97,slow=7.1,SNR=53						
ASAR	Alice Springs	48.67	254	P	P	05 52 25.2	+0.1
	3.7nm,0.5s,mb4.6,baz=90,slow=7.7,SNR=108						
FITZ	Fitzroy Crossi	56.94	259	P	P	05 53 26.6	+0.4
	0.6nm,0.6s,mb3.8,baz=79,slow=10,SNR=3.9						
QSPA	South Pole Qui	72.70	180	P	P	05 55 08.5	+0.8
	2.6nm,0.7s,mb4.2,baz=45,slow=1.3,SNR=21						
PETK	Petropavlovsk-	74.21	343	P	P	05 55 15.8	-0.9
	4.5nm,0.9s,mb4.2,baz=116,slow=10,SNR=3.7						
PETK	Petropavlovsk-	74.21	343	P	P	05 55 15.8	-0.9
NVAR	Mina Array Bea	76.38	42	P	P	05 55 29.6	+0.1
	1.1nm,0.8s,mb3.6,baz=225,slow=10.0,SNR=7.8						
TXAR	Lajitas Array	82.44	56	P	P	05 56 03.4	+0.6
	0.9nm,0.8s,mb3.6,baz=217,slow=7.9,SNR=9.4						
PV01	Paradox Valley	82.72	46	eP	P	05 56 03.9	-0.1
ANMO	Albuquerque	82.74	50	P	P	05 56 04.7	+0.5
	0.5nm,0.4s,mb3.7,baz=228,slow=6.5,SNR=4.2						
PDAR	Pinedale Array	84.31	42	P	P	05 56 11.8	-0.3
	1.5nm,0.6s,mb4.0,baz=209,slow=3.0,SNR=14						
MAW	Mawson	85.66	199	P	P	05 56 18.5	+0.1
	0.8nm,0.5s,mb3.9,baz=120,slow=14,SNR=5.8						
VNA3	Neumayer Olymp	91.00	175	e	P	05 56 43.1	-0.7
VNA3				e		05 56 45.9	
SNAA	Sanae	91.01	177	e	P	05 56 43.2	-0.6
SNAA				e		05 56 46.0	
VNA2	Neumayer--Watz	91.49	176	e	P	05 56 46.1	+0.1
	baz=194,slow=4.3						
VNA2				e		05 56 48.3	
MKAR	Makanchi Array	111.53	314	PKiKP	PKiKP	06 02 12.7	-1.4
	0.4nm,0.6s,baz=96,slow=3.2,SNR=3.9						
ARCES	ARCESS Array B	126.40	351	PKP	PKPdf	06 02 40.9	-1.1
	1.8nm,0.8s,baz=40,slow=1.5,SNR=4.5						
CLL	Collm	145.62	352	i PKPbc	PKPbc	06 03 17.4	-0.8
BURAR	Bucovina Array	145.81	336	⇑iP	PKPdf	06 03 19.8	+1.5
BAIF	Baives	147.35	2	ePKP1	PKPbc	06 03 25.1	+1.8
	12nm,1.0s						
PSZ	Piszkesteto	147.35	342	⇑iP	PKPbc	06 03 24.6	+1.2
DRGR		147.43	338	⇓iP	PKPbc	06 03 23.4	-0.2
GERES	GERESS Array B	147.91	350	PKPbc	PKPbc	06 03 23.7	-1.2
	0.6nm,0.7s,baz=27,slow=3.3,SNR=6.8						
ROSF	Rostrenen	148.25	11	ePKP1	PKPbc	06 03 24.7	-1.1
FLN	La Foliniere	148.27	8	ePKP1	PKPbc	06 03 25.0	-0.8
SGMF	Saint Gilles	148.46	11	ePKP1	PKPbc	06 03 25.4	-0.9
	9.2nm,0.7s						
LDF	La Druitiere	148.49	7	ePKP1	PKPbc	06 03 25.5	-0.9
GRR	Gorron	148.59	8	ePKP1	PKPbc	06 03 26.0	-0.7
	7.6nm,0.6s						
CDF	Champ du Feu	148.99	358	ePKP1	PKPbc	06 03 27.4	-0.3
	2.8nm,0.6s						
HAU	Haudompre	149.42	359	ePKP1	PKPbc	06 03 28.4	-0.4
	3.2nm,0.6s						
HINF	Hinteralfeld	149.60	358	ePKP1	PKPbc	06 03 28.5	-0.7
	1.9nm,0.5s						
LOR	Lormes	150.13	2	ePKP1	PKPbc	06 03 30.2	-0.3
SSF	Saint Saulge	150.32	3	ePKP1	PKPbc	06 03 30.8	-0.2
MFF	Saint Martin d	150.44	8	ePKP1	PKPbc	06 03 30.6	-0.7
	4.2nm,0.8s						
AVF	Avril sur Loir	150.58	3	ePKP1	PKPbc	06 03 31.0	-0.6
BGF	Bois d'Agland	150.78	4	ePKP1	PKPbc	06 03 32.4	+0.3
CABF	La Chapelle	150.82	359	ePKP1	PKPbc	06 03 32.5	+0.3
	7.5nm,0.8s						
TCF	Toulx Ste Croi	151.00	5	ePKP1	PKPbc	06 03 32.8	+0.2
LPG	La Plagne	151.92	358	ePKP1	PKPbc	06 03 36.3	+1.5
TORD	Torodi Ar. Bea	174.34	137	PKP	PKPdf	06 03 47.6	-2.6
	0.4nm,0.8s,baz=333,slow=1.6,SNR=2.4						
TORD				PKPab	PKPab	06 05 22.4	-0.3
	0.4nm,0.7s,baz=256,slow=4.1,SNR=3.6						
TORD	Torodi Ar. Bea	174.34	137	PKP	PKPdf	06 03 47.6	-2.6
TORD				PKPab	PKPab	06 05 22.4	-0.4

IPEC 07 05:50:47.7±0.3, 5154N×1620E, h0km, ML2.2/4, Error ellipse: s-maj=1.9km s-min=1.5km az=41.0
ISCJB 07 05:50:47.7±0.6, 5141N±003×1609E±003, h0km, Error ellipse: s-maj=4.6km s-min=2.5km az=15.1
NEIC 07 05:50:49.0±1.9, 5147N×1608E, h5km, ML2.6(SZGRF), Error ellipse: s-maj=19.4km s-min=7.2km az=212.0
CSEM 07 05:50:49.1±0.2, 5147N×16.10E, h0km, ML3.2/13, Error ellipse: s-maj=3.0km s-min=1.6km az=14.0
WAR 07 05:50:49.3, 5150N×1609E, ML2.5, Mining Induced
VIE 07 05:50:50.4±0.5, 5130N×1609E, h0km, mb2.1/2, ML2.6/4, Error ellipse: s-maj=3.2km s-min=3.0km az=109.0 68 km WNW of Wroclaw Suspected Mining induced.
PRU 07 05:50:50.3, 5142N×1606E, h0km
ISC 07 05:50:48.7±0.6, 5146N±003×1608E±003, h0km, n30, σ0.89/59, 5C-1D, Poland

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KSP	Ksiaz	0.63	167	ePg	Pg	05 51 01.4	+0.6
KSP				eSg	Sg	05 51 10.4	+1.4
KSP	Ksiaz	0.63	167	ePg	Pg	05 51 01.3	+0.5
KSP				eSg	Sg	05 51 09.4	+0.4
KSP	Ksiaz	0.63	167	ePg	Pg	05 51 01.5	+0.7
KSP				eSg	Sg	05 51 09.4	+0.4
UPC	Upice	0.95	182	ePG	Pg	05 51 07.3	+0.3
DPC	Dobruska-Polom	1.12	172	ePG	Pg	05 51 10.3	+0.1
DPC				eSG	Sg	05 51 24.9	+0.2
	40nm,0.5s						
PVCC	Panska Ves	1.33	226	ePG	Pg	05 51 14.6	+0.4
PVCC				eSG	Sg	05 51 32.9	+1.4
	125nm,0.2s						
BRG	Berggiesshubel	1.47	247	PN	Pn	05 51 16.1	-0.3
BRG				PG	Pg	05 51 17.0	+0.2
BRG				SG	Sg	05 51 36.8	+1.0
	46nm,0.6s						
PRU	Pruhonice	1.77	214	ePG	Pg	05 51 22.3	-0.2
PRU				eSG	Sg	05 51 45.3	-0.1
	23nm,0.4s						
MORC	Moravsky Berou	1.93	150	ePn	Pn	05 51 22.0	-0.7
MORC				eSg	Sg	05 51 49.3	-1.2
	13nm,0.4s						
MORC	Moravsky Berou	1.93	150	ePn	Pn	05 51 22.0	-0.7
MORC				eSn	Sn	05 51 46.6	-1.0
CLL	Collm	1.93	267	ePg	Pg	05 51 25.0	-0.7
CLL				i Sg	Sg	05 51 50.6	-0.1
	comp=Z,12nm,0.7s						
CLL				i x	x	05 51 55.6	
CLL	Collm	1.93	267	ePg	Pg	05 51 25.0	-0.7
CLL				i Sg	Sg	05 51 50.6	-0.1
OKC	Ostrava-Krasne	2.09	140	eSG	Sg	05 51 55.5	-0.4
	comp=Z,16nm,0.5s						
VRAC	Vranov	2.18	171	ePn	Pn	05 51 26.3	+0.1
VRAC				eSg	Sg	05 51 58.3	-0.4
	comp=Z,11nm,0.3s						
TREC	Trest	2.20	190	ePG	Pg	05 51 28.9	-1.9
KRUC	Moravsky	2.41	175	ePn	Pn	05 51 29.5	+0.2
KRUC				eSg	Sg	05 52 05.6	-0.4
	comp=Z,10.0nm,0.5s						
NKC	Novy Kostel	2.61	243	ePN	Pn	05 51 32.4	+0.4
NKC				ePG	Pg	05 51 36.5	-2.1
NKC				eSG	Sg	05 52 13.2	+0.8
	comp=Z,31nm,0.3s						
OJC	Ojcow	2.67	116	ePg	Pg	05 51 39.2	-0.6
OJC				eSg	Sg	05 52 14.6	+0.3
JAVC	Velka Javorina	2.80	158	ePn	Pn	05 51 35.8	+1.1
JAVC				eSg	Sg	05 52 19.3	+0.8
	comp=Z,18nm,1.2s						
KHC	Kasperske Hory	2.83	215	ePN	Pn	05 51 35.4	+0.3
KHC				ePG	Pg	05 51 41.2	-1.7
KHC				eSN	Sn	05 52 09.8	0.0
KHC				eSG	Sg	05 52 18.4	-1.1
	comp=Z,6.3nm,0.3s						
MOX	Moxa	2.93	256	ePG	Pg	05 51 44.5	-0.3
MOX				eSG	Sg	05 52 23.7	+0.9
GEC2	GERESS Array S	3.03	211	ePn	Pn	05 51 38.8	+0.9
WET	Wettzell	3.09	223	ePn	Pn	05 51 39.7	+1.0
WET				eSg	Sg	05 52 25.5	-2.6
MODS	Modra-Piesok	3.19	165	eSG	Sg	05 52 31.4	+0.4
NIE	Niedzica	3.39	125	ePg	Pg	05 51 53.0	-0.7
NIE				eSg	Sg	05 52 37.2	-0.4
CONA	Conrad Observa	3.54	182	⇓iPn	Pn	05 51 44.2	-0.6
CONA				⇑iSg	Sg	05 52 42.4	+0.1
	comp=Z,6.3nm,0.4s						
CSNA	Conrad Observa	3.54	182	⇑iPn	Pn	05 51 44.2	-0.6
CSNA				⇑iSg	Sg	05 52 42.3	+0.1
	comp=Z,8.6nm,0.5s						
CSNA	Conrad Observa	3.54	182	Pn	Pn	05 51 44.2	-0.6
CSNA				Sg	Sg	05 52 42.3	0.0
	comp=Z,8.6nm,0.5s						
MOA	Molln	3.80	199	⇑iPn	Pn	05 51 48.9	+0.5
MOA				⇑iSg	Sg	05 52 52.0	+1.3
	comp=Z,6.5nm,0.5s						
STHS	Stebnicka Huta	3.88	120	ePG	Pg	05 52 04.3	+1.2
STHS				eSG	Sg	05 52 56.2	+2.8

NEIC 07 06:05:25.8, 1435N×6088W, h91km, MD3.7(TRN), After TRN.
TRN 07 06:05:26.4, 1415N×6040W, h71km, MD3.7, M3.0(FDF), Windward Islands

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SLB	Belfond	0.70	242	eP	Pn	06 05 42.5	+1.1
SLB				eS	Sn	06 05 54.1	+1.7
BIM	Bigot	0.74	299	eP	Pn	06 05 43.0	+1.2
BIM				eS	Sn	06 05 55.0	+1.8
FDF	Fort de France	0.93	309	eP	Pn	06 05 45.6	+1.6
FDF				eS	Sn	06 05 59.0	+1.9
BHS	Barnard House	1.11	220	eP	Pn	06 05 48.1	+1.9
BHS				eS	Sn	06 06 03.6	+2.5
SSV	Crater Summit	1.12	223	eP	Pn	06 05 47.5	+1.0
SSV				eS	Sn	06 06 02.9	+1.3
SVV	Soufriere Volc	1.15	224	eP	Pn	06 05 47.7	+0.9
SVV				eS	Sn	06 06 04.0	+2.0
SVB	Belmont	1.20	223	eP	Pn	06 05 48.0	+0.5
SVB				eS	Sn	06 06 05.3	+1.9

IDC 07 06:39:21.5±8.1, 402S×14187E, h0km, mb3.3/2, mb1 3.5/3, mb1mx3.4/13, mbtmp3.3/3, ML3.3/1, Error ellipse: s-maj=297.5km s-min=32.2km az=92.0, New Guinea

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	17.44	204	P	Pn	06 43 28.0	+1.6
	0.1nm,0.3s,baz=26,slow=12,SNR=3.8						
ASAR	Alice Springs	20.99	201	P	P	06 44 05.8	-0.7
	0.3nm,0.6s,baz=26,slow=11,SNR=3.4						
MKAR	Makanchi Array	72.76	322	P	P	06 50 51.8	+0.2
	0.6nm,0.7s,baz=119,slow=8.0,SNR=6.4						

MAN 07 06:41:56, 1169N×12563E, h7km, mb4.3, ML3.2, MS3.0, 2C, Samar

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
BESP	Borongan	0.21	243	eP	Pg	06 42 03.7	+3.6
BESP				eS	Sg	06 42 11.0	+8.1
PLP	Palo	0.82	230	⇑eP	Pg	06 42 11.4	-0.5
PLP				eS	Sg	06 42 24.6	+2.1
OCLP	Ormoc	1.18	237	eP	Pg	06 42 18.6	-0.1
OCLP				eS	Sg	06 42 32.0	-2.2
CNP	Catarman	1.24	311	eP	Pn	06 42 17.7	-2.1
CNP				eS	Sg	06 42 28.0	-8.0
MSLP	Maasin	1.72	206	eP	Pn	06 42 27.3	+0.9
MSLP				eS	Sn	06 42 52.3	+3.6
SCPH	Surigao	1.91	184	⇑eP	Pn	06 42 29.1	+0.2
SCPH				eS	Sn	06 42 53.6	+0.4
PVCP	Virac	2.37	323	eP	Pn	06 42 36.6	+1.2
PVCP				eS	Sn	06 43 09.9	+5.2
TBP	Tagbilaran	2.64	221	eP	Pn	06 42 39.2	+0.2
OTRP	Odiongan	3.59	281	eP	Pn	06 42 52.9	+0.8
BUKP	Musuan	3.83	188	eP	Pn	06 42 59.0	+3.6

ISCJB 07 06:56:35.8±0.9, 214S±03×16931E±0.10, h33km, mb4.0/5, Error ellipse: s-maj=38.5km s-min=11.2km az=170.0
IDC 07 06:56:42.2±15.0, 2147S×16924E, h75km±130km, mb3.8/5, mb1 4.0/5, mb1mx3.7/16, mbtmp3.8/5, MS3.3/1, Ms1 3.3/1, ms1mx2.9/22, Error ellipse: s-maj=122.1km s-min=48.4km az=160.0
ISC 07 06:56:37.5±1.0, 215S±03×16933E±009, h35km, n13, σ0.98/13, mb4.0/5, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
DZM	Mont Dzumac	2.73	258	eP	Pn	06 57 17.7	-1.2
DZM				eS	Sn	06 57 51.5	+0.8
NOUC	Port Laguerre	2.87	258	eP	Pn	06 57 19.7	-1.1
NOUC				eS	Sn	06 57 58.5	+4.4
CTA	Charters Tower	21.62	270	eP	P	07 01 26.7	+2.0
	4.4nm,0.8s,mb3.9						
CTA	Charters Tower	21.62	270	P	P	07 01 26.8	+2.0

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
	5.2nm,0.8s,mb4.0,baz=102,slow=13,SNR=11						
CTA				LR	LR	07 08 41.3	
	comp=Z,76nm,20.1s,baz=230,slow=33						
WRA	Warramunga Arr	32.72	266	P	P	07 03 05.7	-1.4
	0.8nm,0.8s,mb3.7,baz=96,slow=7.8,SNR=5.9						
ASAR	Alice Springs	32.73	259	P	P	07 03 07.1	+0.1
	2.0nm,0.7s,mb4.1,baz=83,slow=9.2,SNR=27						
FITZ	Fitzroy Crossi	41.15	267	eP	P	07 04 19.0	+0.3
	4.5nm,0.8s,mb4.2						
FITZ	Fitzroy Crossi	41.15	267	P	P	07 04 18.9	+0.2
	2.4nm,0.7s,mb4.0,baz=128,slow=8.3,SNR=12						
VNA3	Neumayer Olymp	87.48	180	e	P	07 09 21.0	-0.1
VNA3				e		07 09 26.1	
VNA2	Neumayer--Watz	87.77	181	e	P	07 09 23.2	+0.7
	baz=192,slow=2.5						
VNA2				e		07 09 28.1	
NVAR	Mina Array Bea	90.25	48	P	P	07 09 34.7	+0.1
	1.2nm,0.7s,mb4.3,baz=226,slow=8.8,SNR=15						
GERES	GERESS Array B	146.53	330	PKPbc	PKPbc	07 16 14.6	-0.4
	1.2nm,0.8s,baz=33,slow=3.2,SNR=7.7						
ESDC	Sonseca Array	161.03	344	PKPab	PKPab	07 17 16.7	-0.5
	0.1nm,0.3s,baz=22,slow=5.7,SNR=4.5						

KRSC 07 07:05:09.1±1.2**,5415N×15809E,h305^{km}**±65^{km}**,ML3.9, Kamchatka Peninsula**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
GNL	Ganaly	0.46	191	eP	Pn	07 05 49.2	+1.0
NLC	Nalytchevo	1.23	142	eP	Pn	07 05 52.5	+1.3
NLC				i S	S	07 06 24.6	-0.1
TUMR	Tumrok	1.65	46	eP	Pn	07 05 56.1	+2.5
RUS	Russkaya	1.74	171	eP	Pn	07 05 56.0	+1.6
RUS				i S	S	07 06 29.7	-0.8
MKZ	Mys Kozlova	2.17	78	eP	Pn	07 05 59.3	+1.8
MKZ				i S	S	07 06 35.6	-0.6
KBTR	Krutoberegovo	3.41	51	eP	Pn	07 06 11.0	+1.9
KBTR				i S	S	07 06 55.7	-1.4

JMA 07 07:17:54.0±0.3**,4389N×14743E,h3^{km},M3.9, Kuril Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
NEM2	Nemuro 2	1.33	247	P	Pn	07 18 19.2	-0.3
NEM2				eS	Sg	07 18 37.5	+0.7
JRA	Rausu	1.67	272	P	Pn	07 18 24.5	+0.4
JRA				eS	Sn	07 18 46.2	+0.2
JNK	Nakash	1.99	262	P	Pn	07 18 29.0	+0.5
JNK				eS	Sn	07 18 54.0	+0.1
JAK	Akkeshi	2.18	247	P	Pn	07 18 31.6	+0.5
JAK				eS	Sn	07 18 59.0	+0.3
JTKR	Abashiri--Toko	2.55	273	P	Pn	07 18 37.8	+1.7
JTKR				eS	Sn	07 19 10.8	+3.2
JAR	Ashorobuto	2.73	259	P	Pn	07 18 40.1	+1.5
JAR				eS	Sn	07 19 13.9	+1.9
JOB	Onbets	2.80	251	eS	Sn	07 19 14.8	+0.9
JMP	Maruseppu	2.94	274	P	Pn	07 18 42.4	+0.8
JCH	Churui	3.23	248	P	Pn	07 18 46.9	+1.3
JCH				eS	Sn	07 19 25.7	+1.1

*ISCJB **07** 07:39:14.3±0.2,2464N±002×12250E±002,h111^{km}±1^{km}, mb4.3/37,Error ellipse: s-maj=3.6km s-min=2.4km az=157.1*
*BJI **07** 07:39:15.3,2471N×12252E,h110^{km},mB4.8,mb4.3*
*TAP **07** 07:39:15.8,2460N×12248E,h99^{km},ML5.0,B*
*NEIC **07** 07:39:15.0±0.8,2473N×12253E,h103^{km}±7^{km},mb4.4/12, Error ellipse: s-maj=11.0km s-min=9.8km az=64.0*
NEIC Recorded [3 TAP] in I-lan, [2 TAP] in Hua-lien and [1 TAP] in T'ai-pei Counties.
*IDC **07** 07:39:16.1±2.8,2482N×12261E,h114^{km}±26^{km},mb3.8/13, mb1 3.9/14,mb1mx3.8/23,mbtmp3.8/14,MS3.4/5, Ms1 3.4/5,ms1mx2.9/42,Error ellipse: s-maj=21.2km s-min=12.2km az=58.0*
*JMA **07** 07:39:16.4±0.2,2468N×12254E,h97^{km}±2^{km},M4.2*
ISC 07 07:39:15.2±0.2**,2464N**±002**×12250E**±002**,h106^{km}**±1^{km}**, n131,**σ0^{s}**99**/196**,mb4.3**/37**,15C-11D,Taiwan region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
YOJ	Yonaguni jima	0.49	111	P	Pn	07 39 31.8	+0.2
YOJ				eS	Sn	07 39 43.3	-0.6
YOJ	Yonaguni jima	0.49	111	⇑iP	Pn	07 39 31.8	+0.2
	baz=110						
YOJ				S	Sn	07 39 42.5	-1.4
	baz=110						
TWB1	Santiao Chiao	0.59	308	i P	Pn	07 39 32.7	+0.3
	baz=308						
TWB1				S	Sn	07 39 44.6	-0.6
	baz=308						
TWC	Suao	0.60	267	⇓iP	Pn	07 39 32.2	-0.1
	baz=268						
TWC				eS	Sn	07 39 43.8	-1.4
	baz=268						
ILA	Ilan	0.70	281	⇓iP	Pn	07 39 33.6	+0.4
	baz=284						
ILA				i S	Sn	07 39 46.4	-0.3
	baz=284						
ENA	Nanau	0.73	253	⇓P	Pn	07 39 33.6	+0.2
	baz=260						
ENA				eS	Sn	07 39 46.7	-0.4
	baz=260						
TWE	Neicheng	0.77	276	⇓iP	Pn	07 39 34.3	+0.5
	baz=283						
TWE				S	Sn	07 39 46.7	-1.0
	baz=283						
EHP	Heping Village	0.77	245	P	Pn	07 39 33.8	0.0
	baz=254						
EHP				eS	Sn	07 39 47.8	0.0
	baz=254						
NWF	Wu-fen Shan	0.78	303	⇓iP	Pn	07 39 34.7	+0.7
	baz=299						
NWF				S	Sn	07 39 48.0	0.0
	baz=299						
TWA	Mucha	0.90	292	⇓iP	Pn	07 39 35.5	+0.4
	baz=301						
TWA				eS	Sn	07 39 49.1	-0.9
	baz=301						
NACB	Ninganchiao	0.95	241	eP	Pn	07 39 34.9	-0.7
NACB				eS	Sn	07 39 50.2	-0.7
TAP1	Taipei	0.97	294	P	Pn	07 39 36.1	+0.3
	baz=303						
TAP1				eS	Sn	07 39 50.8	-0.6
	baz=303						
TATO	Taipei	0.98	290	eP	Pn	07 39 35.7	-0.2
TATO				eS	Sn	07 39 50.4	-1.1
TWD	Chiawan	1.00	236	⇓iP	Pn	07 39 35.8	-0.3
	baz=233						
TWD				S	Sn	07 39 50.8	-1.0
	baz=233						
TWY	Chenhua	1.04	308	⇓iP	Pn	07 39 37.3	+0.8
	baz=303						
TWY				S	Sn	07 39 52.4	-0.1
	baz=303						
NNS	Nan Shan	1.05	259	⇓iP	Pn	07 39 37.2	+0.6
	baz=255						
NNS				eS	Sn	07 39 52.3	-0.5
	baz=255						
HWA	Hwalien	1.05	231	P	Pn	07 39 36.4	-0.2
	baz=226						
HWA				eS	Sn	07 39 52.4	-0.4
	baz=226						
PCYT	Pengchaiyu	1.06	338	eP	Pn	07 39 37.4	+0.6
	baz=333						
TWS1	Kuangyinshan	1.09	295	⇓iP	Pn	07 39 37.6	+0.6
	baz=303						
TWS1				S	Sn	07 39 53.2	-0.3
	baz=303						
ESF	Shoufeng Towns	1.19	230	eP	Pn	07 39 37.8	-0.4
	baz=226						
ESF				eS	Sn	07 39 54.4	-1.1
	baz=226						
NCU	National Centr	1.24	286	P	Pn	07 39 39.3	+0.6
	baz=288						
NCU				eS	Sn	07 39 56.9	+0.3
	baz=288						
TWT	Tachien	1.27	253	P	Pn	07 39 40.3	+1.2
	baz=254						
TWT				eS	Sn	07 39 57.2	+0.1
	baz=254						
ESL	Shilin	1.28	230	⇓iP	Pn	07 39 38.8	-0.4
	baz=240						
ESL				eS	Sn	07 39 55.4	-1.9
	baz=240						
HATJ	Hateruma jima	1.32	116	P	Pn	07 39 40.4	+0.7
HATJ				eS	Sn	07 39 58.8	+0.6
NSTT	Nanjuang	1.37	270	i P	Pn	07 39 40.9	+0.7
	baz=271						
NSTT				S	Sn	07 39 58.8	-0.3
	baz=271						
HSN	Hsinchu	1.40	277	P	Pn	07 39 41.1	+0.4
	baz=271						
HSN				eS	Sn	07 39 59.5	-0.4
	baz=271						
JKRS	Kuro-shima	1.43	106	P	Pn	07 39 41.7	+0.7
JKRS				eS	Sn	07 40 00.7	+0.2
JIJ	Ishigaki jima	1.52	100	P	Pn	07 39 42.3	+0.3
JIJ				S	Sn	07 40 01.6	-0.8
EHY	Hungye	1.56	224	⇑iP	Pn	07 39 41.9	-0.7
	baz=224						
EHY				eS	Sn	07 40 00.8	-2.5
	baz=224						
NSY	Sanyi	1.60	262	P	Pn	07 39 44.2	+1.1
	baz=263						
NSY				S	Sn	07 40 04.6	+0.4
	baz=263						
SMLT	Sun Moon Lake	1.65	243	⇑iP	Pn	07 39 44.7	+1.1
	baz=244						
SMLT				eS	Sn	07 40 05.4	+0.3
	baz=244						
TYC	Yuchr	1.67	244	⇑P	Pn	07 39 45.0	+1.1
	baz=240						
TYC				eS	Sn	07 40 06.6	+0.9
	baz=240						
TWF1	Yuli	1.69	221	⇑iP	Pn	07 39 43.6	-0.5
	baz=228						
TWF1				eS	Sn	07 40 03.8	-2.4
	baz=228						
TCU	Taichung	1.74	254	⇑P	Pn	07 39 45.6	+0.9
	baz=263						
YUS	Yu-Shan	1.82	231	P	Pn	07 39 46.9	+1.1
	baz=227						
YUS				eS	Sn	07 40 08.5	-0.6
	baz=227						
WNT	Mingjian	1.82	246	P	Pn	07 39 47.0	+1.2
	baz=247						
WNT				eS	Sn	07 40 10.1	+1.0
	baz=247						
CHKT	Chengkung	1.85	214	P	Pn	07 39 45.6	-0.6
	baz=208						
CHKT				eS	Sn	07 40 07.0	-2.8
	baz=208						
ALS	Alishan	1.92	234	⇑iP	Pn	07 39 48.5	+1.5
	baz=229						
ALS				eS	Sn	07 40 11.8	+0.6
	baz=229						
CHN5	Tsauling	1.96	238	eP	Pn	07 39 48.9	+1.3
	baz=239						
CHN5				eS	Sn	07 40 13.4	+1.1
	baz=239						
ELDTW	Lidau	1.98	224	P	Pn	07 39 47.6	-0.2
	baz=219						
ELDTW				eS	Sn	07 40 10.9	-1.9
	baz=219						
JTJ	Tarama	2.00	90	P	Pn	07 39 49.4	+1.4
JTJ				eS	Sn	07 40 14.0	+0.9
WGK	Gukeng	2.01	242	eP	Pn	07 39 49.2	+1.0
	baz=252						
WGK				eS	Sn	07 40 14.9	+1.6
	baz=252						
CHN2	Minshiung	2.16	240	P	Pn	07 39 51.4	+1.3
	baz=240						
CHN2				S	Sn	07 40 17.8	+1.1
	baz=240						
CHN4	Tsaushan	2.17	234	⇑iP	Pn	07 39 51.5	+1.3
	baz=234						
CHN4				S	Sn	07 40 17.9	+1.0
	baz=234						
WTCT	Ta-ch'eng	2.17	250	P	Pn	07 39 50.7	+0.4
	baz=250						
WTCT				S	Sn	07 40 16.4	-0.6
	baz=250						
STYT	Tauyuan	2.17	228	⇑P	Pn	07 39 51.4	+1.1
	baz=235						
STYT				S	Sn	07 40 17.6	+0.6
	baz=235						
TWG	Pinlang	2.24	216	P	Pn	07 39 50.4	-0.7
	baz=220						
TWG				eS	Sn	07 40 16.2	-2.3
	baz=220						
TTN	Taitung	2.25	214	eP	Pn	07 39 51.1	-0.2
	baz=220						
TTN				eS	Sn	07 40 19.0	+0.1
	baz=220						
TWK	Hsinying	2.29	234	⇑P	Pn	07 39 52.8	+0.9
	baz=234						
TWK				eS	Sn	07 40 19.9	0.0
	baz=234						
WSF	Szhu	2.31	245	⇑P	Pn	07 39 52.7	+0.6
	baz=253						
WSF				eS	Sn	07 40 20.2	0.0
	baz=253						
SGST	Jiashian	2.34	229	P	Pn	07 39 53.8	+1.3
	baz=237						
SGST				eS	Sn	07 40 22.0	+0.9
	baz=237						
CHN8	Yiju	2.46	239	P	Pn	07 39 54.6	+0.6
	baz=239						
CHN8				S	Sn	07 40 24.2	+0.5
	baz=239						
ECL	Taimali	2.48	215	eP	Pn	07 39 53.2	-1.1
	baz=210						
ECL				eS	Sn	07 40 21.2	-3.1
	baz=210						
JMJ	Miyako jima 2	2.54	85	P	Pn	07 39 56.1	+1.0
JMJ				eS	Sn	07 40 25.5	-0.2
JMJ	Miyako jima 2	2.54	85	eP	Pn	07 39 56.0	+1.0
	baz=92						
JMJ				eS	Sn	07 40 25.4	-0.3
	baz=92						
SSD	Sandimen	2.55	223	⇑iP	Pn	07 39 56.4	+1.2
	baz=216						
SSD				eS	Sn	07 40 26.4	+0.5
	baz=216						
SCLT	Jiali	2.57	236	P	Pn	07 39 56.4	+1.0
	baz=245						
SCLT				eS	Sn	07 40 26.9	+0.6
	baz=245						
TAI1	Yung-k'ang	2.62	233	eP	Pn	07 39 57.0	+0.9
	baz=233						
TAI1				eS	Sn	07 40 28.8	+1.2
	baz=233						
TWM1	Shoushan	2.63	227	eP	Pn	07 39 57.9	+1.7
	baz=227						
JOGS	Gusukube	2.64	87	eS	Sn	07 40 28.5	+0.5
TAW	Tawu	2.71	213	eP	Pn	07 39 56.6	-0.7
	baz=213						
TAW				eS	Sn	07 40 26.9	-2.7
	baz=213						
EAST	Anshuo	2.71	214	⇑P	Pn	07 39 56.7	-0.6
	baz=211						
EAST				eS	Sn	07 40 27.7	-2.0
	baz=211						
LAY	Lan-yu	2.73	199	eP	Pn	07 39 56.8	-0.8
	baz=199						
LAY				eS	Sn	07 40 26.6	-3.6
	baz=199						
SCZT	Fangliau	2.84	218	eP	Pn	07 39 59.8	+0.7
	baz=227						
SCZT				eS	Sn	07 40 33.3	+0.5
	baz=227						
PNG	Penghu	2.90	249	⇑iP	Pn	07 39 59.1	-0.7
	baz=249						
PNG				eS	Sn	07 40 31.0	-3.1
	baz=249						
HEN	Hengchun	3.08	212	eP	Pn	07 40 02.8	+0.6
	baz=207						
TWK1	Hengchun	3.10	211	eP	Pn	07 40 02.1	-0.4
	baz=206						
TWK1				eS	Sn	07 40 37.4	-1.6
	baz=206						
QZH	Quanzhou	3.57	276	⇑iP	Pn	07 40 08.5	-0.2
QZH				S	Sn	07 40 43.7	-6.4
QZH				Smax			
	comp=N,420nm,0.6s						
QZH				Smax			
	comp=E,380nm,0.8s						
KNM	Kinmen	3.71	267	eP	Pn	07 40 12.0	+1.4
	baz=267						
KNM				eS	Sn	07 40 52.9	-0.6
	baz=267						
JKE	Kume jima 2	4.22	66	P	Pn	07 40 18.3	+0.8
JKE				eS	Sn	07 41 06.3	+0.6
JAGN	Aguni-jima	4.70	65	P	Pn	07 40 24.6	+0.7
JAGN				eS	Sn	07 41 18.0	+0.7
JOW	Kunigami	5.64	66	P	Pn	07 40 36.2	-0.5
	comp=E,28nm,0.3s,baz=212,slow=8.4,SNR=164						
JOW				S	Sn	07 41 37.4	-2.8
	comp=E,11nm,0.3s,baz=120,slow=26,SNR=6.0						
JOW	Kunigami	5.64	66	P	Pn	07 40 36.2	-0.5
JOW				eS	Sn	07 41 37.8	-2.4
JOW	Kunigami	5.64	66	eP	Pn	07 40 36.1	-0.6
	baz=67						
JTK	Tokunoshima	6.58	60	P	Pn	07 40 48.3	-1.2
JTK				eS	Sn	07 42 00.0	-3.1
JAM	Amami Oshima	7.39	58	P	Pn	07 40 58.6	-1.8
JAM				eS	Sn	07 42 19.0	-3.6
KSRS	Korea Array	13.59	19	P	Pn	07 42 26.1	+2.6
	comp=E,1.4nm,0.3s,baz=195,slow=11,SNR=18						
XAN	Xi'an	15.09	311	P	Pn	07 42 47.3	+4.6
XAN				AMB	AMB		
	comp=Z,9.0nm,0.7s						
BJT	Baijiatuau	16.23	342	ePn	Pn	07 42 54.9	-2.1
	comp=Z,9.4nm,0.4s						
CD2	Chengdu	17.72	295	P	Pn	07 43 14.4	-0.8
CD2				AMB	AMB		
	comp=Z,30nm,1.2s						
CD2				AMB	AMB		
	comp=Z,80nm,5.8s						
LZH	Lanzhou	19.70	310	eP	P	07 43 38.6	+2.5
LZH				AMB	AMB		
	comp=Z,50nm,1.3s						
LZH				AMB	AMB		
	comp=Z,210nm,4.0s						
LZH	Lanzhou	19.70	310	eP	P	07 43 38.6	+2.5
	comp=Z,50nm,1.3s						
LZH				pP		07 43 41.6	
LZH				sP	sP	07 43 43.4	-26
CHTO	Chiang Mai	22.63	260	eP	P	07 44 07.9	+0.3
	comp=Z,4.3nm,0.9s,mb3.8						
CMAR	Chiang Mai Arr	22.75	259	P	P	07 44 10.2	+1.4
	comp=Z,1.2nm,0.5s,mb3.5,baz=56,slow=7.1,SNR=7.7						
CMAR				LR	LR	07 54 00.5	
	comp=Z,26nm,18.9s,baz=190,slow=39						
GTA	Gaotai	24.14	313	eP	P	07 44 21.8	+0.5
GTA				AMB	AMB		
	comp=Z,7.0nm,1.1s,mb3.9						
ULN	Ulaanbaatar	26.22	336	eP	P	07 44 40.1	+0.1
	comp=Z,4.3nm,0.4s,mb4.2						
SONM	Songino Array	26.44	335	P	P	07 44 42.1	+0.1
	comp=Z,6.1nm,0.5s,mb4.3,baz=151,slow=10,SNR=43						
SONM				LR	LR	07 55 27.6	
	comp=Z,68nm,18.0s,baz=97,slow=37						
LSA	Lhasa	28.30	287	P	P	07 44 57.5	-1.3
	comp=Z,3.3nm,0.4s,mb4.2						
KAPI	Kappang	29.59	186	LR	LR	07 58 46.6	
	comp=Z,80nm,18.2s,baz=293,slow=39						
YAK	Yakutsk	37.69	6	eP	P	07 46 19.8	-0.2
	comp=Z,12nm,0.4s,mb5.1						
PETK	Petropavlovsk-	38.82	34	LR	LR	08 05 21.3	
	comp=Z,13nm,18.1s,baz=0.5,slow=40						
MKAR	Makanchi Array	38.86	315	P	P	07 46 29.8	-0.2
	comp=Z,5.3nm,0.8s,mb4.4,baz=100,slow=11,SNR=30						
MKAR				PcP	PcP	07 48 38.7	-0.3
	comp=Z,2.6nm,0.7s,baz=90,slow=5.2,SNR=15						
MKAR	Makanchi Array	38.86	315	P	P	07 46 29.8	-0.2
MKAR				PcP	PcP	07 48 38.7	-0.3
ZALV	Zalesovo Beam	40.53	326	P	P	07 46 42.5	-1.2
	comp=Z,4.8nm,0.4s,mb4.7,baz=118,slow=8.5,SNR=19						
ZALV				PcP	PcP	07 48 42.2	-1.9
	comp=Z,1.2nm,0.5s,baz=132,slow=3.8,SNR=4.6						
TKM2	Tokmak 2	42.44	307	eP	P	07 47 00.3	+0.8
	comp=Z,8.1nm,0.7s,mb4.6						
KURK	Kurchatov	42.52	319	P	P	07 46 59.6	-0.5
	comp=Z,1.2nm,0.3s,mb4.1,baz=115,slow=9.3,SNR=9.2						
KURK				PcP	PcP	07 48 50.1	-0.7
	comp=Z,1.3nm,0.7s,baz=118,slow=3.1,SNR=6.3						
UCH	Uchtor	43.12	306	eP	P	07 47 07.0	+1.9
	comp=Z,11nm,1.1s,mb4.5						
WRA	Warramunga Arr	45.79	164	P	P	07 47 26.9	+0.5
	comp=Z,2.1nm,0.6s,mb4.1,baz=346,slow=8.7,SNR=21						
WRA				PcP	PcP	07 49 02.4	+0.1
	comp=Z,0.5nm,0.8s,baz=337,slow=3.6,SNR=5.5						
WB2	Warramunga Arr	45.79	164	eP	P	07 47 26.8	+0.4
KBL	Kabul	47.06	295	eP	P	07 47 37.5	+1.2
	comp=Z,5.3nm,0.6s,mb4.5						
BVAR	Borovoye Array	48.09	320	P	P	07 47 43.6	-0.3
	comp=Z,2.7nm,0.5s,mb4.3,baz=104,slow=7.4,SNR=20						
BVAR				PcP	PcP	07 49 09.6	-0.5
	comp=Z,2.0nm,0.5s,baz=124,slow=3.3,SNR=8.6						
ASAR	Alice Springs	49.27	166	P	P	07 47 55.1	+1.8
	comp=Z,0.4nm,0.4s,mb3.7,baz=349,slow=13,SNR=20						
ASAR				PcP	PcP	07 49 14.8	+0.1
	comp=Z,1.1nm,0.9s,baz=357,slow=2.8,SNR=5.5						
ARU	Arti	55.47	323	P	P	07 48 36.9	-1.9
	comp=Z,2.8nm,0.6s,mb4.5						
MIB	Mutribah	65.95	293	eP	P	07 49 49.8	-0.6
	baz=303						
MIB				AMb	AMB	07 49 50.4	
	comp=Z,13nm,0.7s,mb4.9,baz=303						
RDF	Al-Radifah	66.01	292	eP	P	07 49 50.3	-0.4
	baz=302						
RDF				AMb	AMB	07 49 53.2	
	comp=Z,24nm,1.1s,mb4.9,baz=302						
NAY	Al-Naaiem	66.18	293	eP	P	07 49 50.7	-1.1
	baz=303						
NAY				AMb	AMB	07 49 54.1	
	comp=Z,9.0nm,1.3s,mb4.4,baz=303						
RST	Umm Al-Ruwaisa	66.32	293	eP	P	07 49 51.1	-1.6
	baz=303						
RST				AMb	AMB	07 49 59.4	
	comp=Z,11nm,1.5s,mb4.5,baz=303						
JOF	Joensuu	68.90	331	ep	P	07 50 07.6	-0.7
	comp=Z,1.3nm,0.3s,mb4.2						
KEV	Kevo	69.00	338	ep	P	07 50 08.0	-0.8
	comp=Z,1.1nm,0.3s,mb4.2						
ARCES	ARCESS Array B	69.57	338	P	P	07 50 11.6	-0.7
	comp=Z,0.8nm,0.4s,mb3.9,baz=66,slow=6.7,SNR=12						
ARCES	ARCESS Array B	69.57	338	P	P	07 50 11.6	-0.7
KAF	Kangasniemi	71.36	330	ep	P	07 50 23.2	-0.1
	comp=Z,0.5nm,0.4s,mb3.7						
AKASG	Malin Array Be	73.33	318	P	P	07 50 33.2	-2.0
	comp=Z,0.4nm,0.4s,mb3.6,baz=64,slow=6.5,SNR=4.1						
AKASG	Malin Array Be	73.33	318	P	P	07 50 33.2	-2.0
NB2	NORSAR Subarra	78.38	332	P	P	07 51 02.5	-1.3
	comp=Z,0.7nm,0.5s,mb3.6,baz=56,slow=5.6						
NOA	NORSAR Array B	78.38	332	P	P	07 51 02.8	-1.0
	comp=Z,1.0nm,0.7s,mb3.6,baz=57,slow=5.7,SNR=4.7						
GERES	GERESS Array B	83.25	321	P	P	07 51 29.8	-0.1
	comp=Z,0.6nm,0.6s,mb3.6,baz=149,slow=6.2,SNR=5.4						
BORG	Borgarnes	86.60	345	LR	LR	08 33 10.5	
	comp=Z,122nm,18.6s,baz=102,slow=37						
LPG	La Plagne	89.05	321	eP	P	07 51 58.6	+0.2
	comp=Z,7.9nm,0.7s,mb4.5						
LPL	La Plagne	89.05	321	eP	P	07 51 58.5	+0.1
	comp=Z,5.4nm,0.6s,mb4.4						
SBF	Sospel	89.58	319	eP	P	07 52 00.7	-0.2
SMF	Signal de Mont	90.01	323	eP	P	07 52 02.3	-0.6
	comp=Z,13nm,1.0s,mb4.7						
AVF	Avril sur Loir	90.19	323	eP	P	07 52 03.0	-0.8
	comp=Z,3.4nm,0.8s,mb4.2						
FRF	La Foret Royal	90.22	319	eP	P	07 52 03.7	-0.2
	comp=Z,5.5nm,0.6s,mb4.5						
SMRF	Simiane la Rot	90.61	320	eP	P	07 52 05.1	-0.7
VIVF	Saint-Julien-l	90.62	321	eP	P	07 52 05.3	-0.5
	comp=Z,6.7nm,0.8s,mb4.5						
CAF	Calviac	92.05	322	eP	P	07 52 12.5	+0.1
	comp=Z,9.2nm,0.9s,mb4.7						
RJF	Les Rejaudoux	92.12	323	eP	P	07 52 12.9	+0.2
	comp=Z,7.6nm,0.7s,mb4.7						
NVAR	Mina Array Bea	95.28	44	P	P	07 52 28.2	+0.8
	comp=Z,0.5nm,0.6s,mb4.2,baz=292,slow=4.1,SNR=5.8						
VNA2	Neumayer--Watz	125.69	198	e	PKPdf	07 58 03.6	+0.2
	baz=64,slow=0.7						
VNA3	Neumayer Olymp	126.15	197	e	PKPdf	07 58 04.4	+0.1

*BJI **07** 07:55:52.7,2440N×10980W,h10^{km},Ms4.8,Msz4.6*
*IDC **07** 07:55:56.9±1.9,2452N×10966W,h0^{km},mb3.3/1, mb1 4.4/7,mb1mx4.0/24,mbtmp4.0/7,ML3.5/5,MS3.5/7, Ms1 3.5/7,ms1mx3.2/32,Error ellipse: s-maj=33.2km s-min=8.3km az=133.0*
*ISCJB **07** 07:55:58.2±0.6,2460N±005×10984W±007,h10^{km}, mb4.4/3,MS3.4/5,Error ellipse: s-maj=10.2km s-min=4.8km az=29.2*

*NEIC **07** 07:55:58.7±1.0, 2442N×10976W, h10km, mb4.2/13, Error ellipse: s-maj=12.6km s-min=7.9km az=150.0*

ISC 07 07:55:58.9±0.8, **2448N**±006×**10977W**±007, **h10**km, **n145**, σ1s**16**/142, **mb4.4**/3, **MS3.4**/5, **44C-36D, Gulf of California**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPIG	**La Paz**	**0.62**	**233**	Pg	**Pg**	**07 56 11.4**	**+0.5**
	1µm,0.3s,baz=211,slow=5.2,SNR=1947						
LPIG				Lg		07 56 20.2	
	3µm,0.3s,baz=333,slow=18,SNR=89						
LPIG	**La Paz**	**0.62**	**233**	*i* P	**Pg**	**07 56 11.4**	**+0.5**
LPIG				*i* S	**Sg**	**07 56 19.8**	**+0.6**
319A	**Douglas**	**6.88**	**3**	⇓P	**Pn**	**07 57 36.6**	**-3.2**
	baz=7.2,SNR=9.6						
318A	**Bisbee**	**6.93**	**358**	⇓P	**Pn**	**07 57 37.4**	**-3.1**
	baz=7.3						
TXAR	**Lajitas Array**	**7.28**	**47**	Pn	**Pn**	**07 57 43.4**	**-1.9**
	0.9nm,0.3s,baz=226,slow=13,SNR=80						
TXAR				Pg	**Pg**	**07 58 05.8**	**-12**
	0.5nm,0.3s,baz=227,slow=16,SNR=6.5						
TXAR				Sn	**Sn**	**07 59 03.6**	**-4.4**
	0.7nm,0.3s,baz=224,slow=21,SNR=5.7						
TXAR				Lg		07 59 42.8	
	0.3nm,0.3s,baz=243,slow=27,SNR=3.0						
219A	**White Tail Can**	**7.50**	**3**	⇑P	**Pn**	**07 57 45.9**	**-2.4**
	baz=7.9						
TUC	**Tucson**	**7.85**	**354**	*e*Pn	**Pn**	**07 57 50.5**	**-2.7**
214A	**Organ Pipe Nat**	**7.91**	**341**	⇓P	**Pn**	**07 57 50.5**	**-3.5**
	baz=8.2						
117A	**Oracle**	**8.10**	**354**	⇓P	**Pn**	**07 57 53.9**	**-2.8**
	baz=8.4,SNR=10						
118A	**Homack Ranch,**	**8.13**	**359**	⇑P	**Pn**	**07 57 54.5**	**-2.4**
	baz=8.5,SNR=7.0						
116A	**Eloy**	**8.23**	**348**	⇓P	**Pn**	**07 57 56.2**	**-2.1**
	baz=8.5,SNR=10						
115A	**Sonoran Desert**	**8.47**	**346**	⇑P	**Pn**	**07 57 59.8**	**-1.8**
	baz=8.8						
Z17A	**San Carlos Hig**	**8.80**	**356**	⇑P	**Pn**	**07 58 05.3**	**-0.9**
	baz=9.1,SNR=7.0						
Y18A	**Canyon Day Jun**	**9.26**	**359**	⇑P	**Pn**	**07 58 11.9**	**-0.7**
	baz=9.6,SNR=13						
Z14A	**Wintersburg**	**9.27**	**343**	⇓P	**Pn**	**07 58 11.7**	**-1.0**
	baz=9.6,SNR=5.9						
Y19A	**Nutrioso**	**9.45**	**3**	⇓P	**Pn**	**07 58 15.8**	**+0.7**
	baz=9.8,SNR=9.6						
Y16A	**Circle Bar Ran**	**9.48**	**351**	⇑P	**Pn**	**07 58 14.6**	**-0.9**
	baz=9.8						
GLA	**Glamis**	**9.62**	**334**	Pn	**Pn**	**07 58 16.6**	**-0.9**
Y15A	**Casa Rosa Ranc**	**9.70**	**347**	⇓P	**Pn**	**07 58 18.1**	**-0.4**
	baz=10.0,SNR=13						
Y14A	**Wickenburg**	**9.84**	**344**	⇑P	**Pn**	**07 58 21.2**	**+0.8**
	baz=10,SNR=13						
X17A	**Forest Lakes**	**9.86**	**355**	⇑P	**Pn**	**07 58 20.7**	**0.0**
	baz=10,SNR=7.0						
X19A	**St. Johns**	**9.92**	**2**	⇑P	**Pn**	**07 58 22.3**	**+0.7**
	baz=10,SNR=8.1						
X16A	**Lo Mia Camp, P**	**10.01**	**352**	⇓P	**Pn**	**07 58 23.0**	**+0.2**
	baz=10,SNR=14						
BNM	**Barren Site**	**10.01**	**15**	*e*Pn	**Pn**	**07 58 24.7**	**+1.9**
LAZ	**Ladron**	**10.14**	**12**	*e*Pn	**Pn**	**07 58 26.0**	**+1.4**
X15A	**Humboldt**	**10.20**	**348**	⇑P	**Pn**	**07 58 24.5**	**-0.8**
	baz=10,SNR=12						
X14A	**Yava**	**10.31**	**345**	⇓P	**Pn**	**07 58 26.0**	**-0.9**
	baz=11,SNR=10						
BC3	**Big Chuckw Mtn**	**10.40**	**333**	⇑P	**Pn**	**07 58 28.6**	**+0.4**
	baz=11,SNR=5.1						
W19A	**Sanders**	**10.60**	**2**	⇓P	**Pn**	**07 58 32.1**	**+1.3**
	baz=11,SNR=7.0						
JCT	**Junction City**	**10.67**	**54**	*e*Pn	**Pn**	**07 58 34.2**	**+2.3**
X13A	**Yucca**	**10.68**	**342**	⇓P	**Pn**	**07 58 32.0**	**+0.1**
	baz=11,SNR=23						
PFO	**Pinyon Flat Ob**	**10.81**	**329**	Pn	**Pn**	**07 58 34.4**	**+0.7**
	0.1nm,0.3s,baz=150,slow=9.4,SNR=9.3						
PFO				LR	LR	08 02 05.7	
	comp=Z,293nm,21.6s,baz=299,slow=34						
PFO	**Pinyon Flat Ob**	**10.81**	**329**	Pn	**Pn**	**07 58 34.4**	**+0.7**
	3.7nm,1.1s						
PFO				LR	LR	08 02 05.7	
ANMO	**Albuquerque**	**10.82**	**15**	Pn	**Pn**	**07 58 34.4**	**+0.6**
	0.1nm,0.3s,baz=209,slow=16,SNR=5.3						
ANMO	**Albuquerque**	**10.82**	**15**	Pn	**Pn**	**07 58 34.4**	**+0.6**
W15A	**Williams**	**10.88**	**349**	⇑P	**Pn**	**07 58 36.4**	**+1.7**
	baz=11,SNR=13						
W14A	**Seligman**	**11.07**	**346**	⇑P	**Pn**	**07 58 37.3**	**0.0**
	baz=11,SNR=31						
WUAZ	**Wupatki**	**11.08**	**353**	*e*Pn	**Pn**	**07 58 38.6**	**+1.1**
W13A	**Hualapai Mount**	**11.16**	**342**	⇓P	**Pn**	**07 58 39.8**	**+1.2**
	baz=12,SNR=38						
V14A	**Boquillas Ranc**	**11.48**	**346**	⇑P	**Pn**	**07 58 43.0**	**0.0**
	baz=12,SNR=12						
W12A	**Cal Nev Ari**	**11.65**	**339**	⇓P	**Pn**	**07 58 46.1**	**+0.8**
	baz=12,SNR=6.1						
U16A	**Tuba City**	**11.68**	**355**	⇑P	**Pn**	**07 58 46.5**	**+0.9**
	baz=12,SNR=14						
V13A	**Grand Canyon W**	**11.90**	**343**	⇑P	**Pn**	**07 58 49.6**	**+0.9**
	baz=12,SNR=12						
V12A	**Nelson**	**12.04**	**340**	⇓P	**Pn**	**07 58 51.4**	**+0.9**
	baz=12,SNR=16						
U17A	**Shonto**	**12.10**	**357**	⇓P	**Pn**	**07 58 52.6**	**+1.2**
	baz=12						
U15A	**North Rim**	**12.10**	**350**	⇓P	**Pn**	**07 58 53.1**	**+1.7**
	baz=12,SNR=8.0						
T19A	**Beclabito**	**12.32**	**3**	⇓P	**Pn**	**07 58 56.1**	**+1.7**
	baz=13,SNR=6.8						
V11A	**Goodsprings**	**12.33**	**338**	⇓P	**Pn**	**07 58 54.5**	**0.0**
	baz=13,SNR=6.9						
GSC	**Goldstone**	**12.38**	**332**	*e*Pn	**Pn**	**07 58 56.6**	**+1.3**
U13A	**Pakoon Wash**	**12.43**	**344**	⇓P	**Pn**	**07 58 56.4**	**+0.5**
	baz=13,SNR=10						
T18A	**Mexican Hat**	**12.61**	**360**	⇓P	**Pn**	**07 58 58.9**	**+0.5**
	baz=13						
MVCO	**Mesa Verde**	**12.73**	**5**	Pn	**Pn**	**07 58 54.6**	**-5.5**
SHPR	**Sheep Range**	**12.85**	**340**	*e*Pn	**Pn**	**07 59 03.1**	**+1.5**
S18A	**Hurst Farm, Bl**	**13.17**	**359**	⇑P	**Pn**	**07 59 06.4**	**+0.5**
	baz=14						
MPMC	**Manual Prospec**	**13.32**	**332**	⇑P	**Pn**	**07 59 07.0**	**-1.0**
	baz=14,SNR=18						
CCUT	**Cedar City**	**13.38**	**348**	*e*P	**Pn**	**07 59 11.4**	**+2.5**
ISA	**Isabella**	**13.44**	**328**	⇑P	**Pn**	**07 59 08.5**	**-1.2**
	baz=14,SNR=8.2						
ISA	**Isabella**	**13.44**	**328**	*e*Pn	**Pn**	**07 59 09.9**	**+0.1**
S13A	**Holt Ranch, En**	**13.52**	**346**	⇑P	**Pn**	**07 59 11.7**	**+1.0**
	baz=14,SNR=10.0						
T11A	**Corn Creek, Al**	**13.55**	**341**	⇑P	**Pn**	**07 59 10.6**	**-0.5**
	baz=14,SNR=12						
TPNV	**Topopah Spring**	**13.61**	**337**	⇑P	**Pn**	**07 59 10.7**	**-1.4**
	baz=14,SNR=8.2						
TPNV	**Topopah Spring**	**13.61**	**337**	*e*Pn	**Pn**	**07 59 13.9**	**+1.8**
S12A	**Delamar Landin**	**13.79**	**343**	⇑P	**Pn**	**07 59 14.1**	**-0.3**
	baz=14,SNR=21						
R13A	**O'Grain Ranch,**	**14.12**	**346**	⇑P	**Pn**	**07 59 20.8**	**+1.9**
	baz=14,SNR=5.7						
MSU	**Marysvale**	**14.13**	**352**	*e*Pn	**Pn**	**07 59 22.1**	**+3.0**
Q19A	**Hogan Spring (**	**14.44**	**2**	⇑P	**Pn**	**07 59 23.6**	**+0.4**
	baz=15,SNR=5.6						
SRU	**San Rafael**	**14.60**	**358**	*e*Pn	**Pn**	**07 59 26.7**	**+1.2**
S10A	**Tonopah Range,**	**14.61**	**338**	⇑P	**Pn**	**07 59 25.6**	**0.0**
	baz=15,SNR=12						
R11A	**Troy Canyon, C**	**14.68**	**342**	⇓P	**Pn**	**07 59 26.6**	**0.0**
	baz=15,SNR=12						
Q13A	**Wheeler Ranch,**	**14.87**	**347**	⇑P	**Pn**	**07 59 30.6**	**+1.4**
	baz=15,SNR=20						
MTUM	**Tungsten Hills**	**14.87**	**332**	*e*Pn	**Pn**	**07 59 30.0**	**+0.8**
TPH	**Tonopah**	**14.96**	**337**	*e*Pn	**Pn**	**07 59 31.6**	**+1.2**
	15nm,1.0s						
R09A	**Tonopah**	**15.06**	**337**	⇑P	**Pn**	**07 59 30.7**	**-1.0**
	baz=15,SNR=16						
Q12A	**Willow Creek R**	**15.13**	**345**	⇓P	**Pn**	**07 59 32.7**	**0.0**
	baz=16,SNR=21						
KCC	**Kaiser Creek**	**15.19**	**330**	⇑P	**Pn**	**07 59 32.4**	**-1.0**
	baz=15,SNR=14						
P14A	**Drum Mountains**	**15.32**	**350**	⇑P	**Pn**	**07 59 34.9**	**-0.2**
	baz=16,SNR=17						
P13A	**Bates Ranch, G**	**15.35**	**347**	⇑P	**Pn**	**07 59 35.3**	**-0.3**
	baz=16,SNR=9.0						
Q10A	**Clear Creek Ra**	**15.36**	**340**	⇑P	**Pn**	**07 59 35.2**	**-0.6**
	baz=16,SNR=6.9						
MPU	**Maple Canyon**	**15.57**	**355**	*e*P	**Pn**	**07 59 43.7**	**+5.3**
ISCO	**Idaho Springs**	**15.67**	**12**	*e*Pn	**Pn**	**07 59 42.6**	**+2.9**
NVAR	**Mina Array Bea**	**15.68**	**334**	Pn	**Pn**	**07 59 44.2**	**+4.2**
	0.3nm,0.3s,baz=157,slow=12,SNR=38						
NVAR	**Mina Array Bea**	**15.68**	**334**	Pn	**Pn**	**07 59 44.2**	**+4.2**
O19A	**Miners Draw (B**	**15.78**	**2**	⇑P	**Pn**	**07 59 40.5**	**-0.7**
	baz=16,SNR=19						
DUG	**Dugway**	**15.87**	**351**	⇓P	**Pn**	**07 59 43.3**	**+0.9**
	baz=16,SNR=7.1						
DUG	**Dugway**	**15.87**	**351**	*e*Pn	**Pn**	**07 59 43.6**	**+1.2**
	18nm,1.1s						
DAU	**Daniels Canyon**	**15.93**	**356**	*e*Pn	**Pn**	**07 59 44.7**	**+1.5**
JLU	**Jordanelle**	**16.14**	**355**	*e*Pn	**Pn**	**07 59 48.7**	**+2.9**
WAKR	**Walker**	**16.21**	**332**	*e*P	**Pn**	**07 59 50.6**	**+3.8**
CMB	**Columbia Colle**	**16.26**	**329**	*e*Pn	**Pn**	**07 59 46.7**	**-0.7**
O11A	**Cowboy Ranch,**	**16.37**	**344**	⇓P	**Pn**	**07 59 49.1**	**+0.3**
	baz=17						
N17A	**Moffit Pass**	**16.44**	**357**	⇓P	**Pn**	**07 59 49.5**	**-0.1**
	baz=17						
N14A	**Grayback Hills**	**16.57**	**351**	⇑P	**Pn**	**07 59 49.9**	**-1.5**
	baz=17,SNR=7.4						
ELK	**Elko**	**16.85**	**346**	Pn	**Pn**	**07 59 54.9**	**0.0**
	0.0nm,0.3s,baz=172,slow=8.5,SNR=9.8						
ELK				LR	LR	08 05 47.5	
	comp=Z,203nm,19.5s,baz=124,slow=35						
M16A	**Huntsville**	**16.86**	**355**	⇑P	**Pn**	**07 59 53.0**	**-1.9**
	baz=17,SNR=9.5						
N12A	**Clover Valley,**	**16.91**	**346**	⇓P	**Pn**	**07 59 54.0**	**-1.6**
	baz=17,SNR=9.4						
HWUT	**Hardware Ranch**	**17.14**	**355**	*e*Pn	**Pn**	**07 59 59.5**	**+1.0**
	22nm,1.0s						
HVU	**Hansel Valley**	**17.43**	**352**	*e*Pn	**Pn**	**08 00 02.3**	**+0.2**
L15A	**Malad City**	**17.61**	**354**	⇑P	**Pn**	**08 00 04.0**	**-0.3**
	baz=18,SNR=8.0						
N07B	**Gerlach**	**17.98**	**337**	⇓P	**Pn**	**08 00 08.5**	**-0.5**
	baz=18,SNR=7.1						
BW06	**Boulder Array**	**18.24**	**0**	⇓P	**Pn**	**08 00 11.0**	**-1.1**
	baz=19,SNR=19						
BW06	**Boulder Array**	**18.24**	**0**	*e*Pn	**Pn**	**08 00 11.6**	**-0.5**
PDAR	**Pinedale Array**	**18.24**	**0**	P	**Pn**	**08 00 11.8**	**-0.2**
	0.1nm,0.3s,baz=170,slow=13,SNR=54						
K13A	**Stover Farm, H**	**18.47**	**350**	⇓P	**Pn**	**08 00 14.9**	**0.0**
	baz=19,SNR=7.5						
J16A	**Bone**	**18.80**	**356**	⇓P	**Pn**	**08 00 17.9**	**-1.0**
	baz=19,SNR=14						
REDW	**Red Top Meadow**	**18.85**	**358**	*e*P	**Pn**	**08 00 19.8**	**+0.2**
	14nm,1.3s						
RRI2	**Red Ridge**	**18.86**	**356**	*e*Pn	**Pn**	**08 00 20.8**	**+1.1**
	20nm,1.2s						
SNOW	**Snow King Moun**	**18.95**	**358**	*e*P	**Pn**	**08 00 21.1**	**+0.4**
	23nm,1.4s						
K11A	**Parker Ranch,**	**18.96**	**346**	⇑P	**Pn**	**08 00 19.4**	**-1.4**
	baz=19,SNR=6.5						
TPAW	**Teton Pass**	**18.98**	**357**	*e*P	**Pn**	**08 00 21.4**	**+0.2**
	13nm,1.2s						
J15A	**Blackfoot**	**19.00**	**354**	⇑P	**Pn**	**08 00 21.1**	**-0.2**
	baz=19,SNR=8.9						
J14A	**Carey**	**19.04**	**352**	⇓P	**Pn**	**08 00 21.5**	**-0.3**
	baz=19,SNR=5.1						
LOHW	**Long Hollow**	**19.09**	**358**	*e*P	**Pn**	**08 00 21.8**	**-0.7**
DCID1	**Drake Creek**	**19.10**	**357**	*e*Pn	**Pn**	**08 00 23.9**	**+1.4**
J13A	**Cove Ranch, Pi**	**19.21**	**350**	⇑P	**Pn**	**08 00 22.0**	**-1.9**
	baz=20,SNR=6.3						
MOOW	**Moose Ponds**	**19.23**	**358**	*e*Pn	**Pn**	**08 00 25.5**	**+1.3**
K09A	**Rome**	**19.32**	**342**	⇑P	**Pn**	**08 00 23.9**	**-1.3**
	baz=20,SNR=16						
IMW	**Indian Meadow**	**19.39**	**357**	*e*P	**Pn**	**08 00 25.3**	**-0.7**
HLID	**Hailey**	**19.41**	**350**	*e*P	**Pn**	**08 00 25.6**	**-0.6**
	28nm,2.0s						
I14A	**Mackay**	**19.63**	**352**	⇑P	**Pn**	**08 00 29.4**	**+0.5**
	baz=20,SNR=8.4						
YBH	**Yreka Blue Hor**	**20.29**	**331**	P	**P**	**08 00 34.7**	**-0.1**
	2.0nm,1.0s,baz=122,slow=7.4,SNR=4.1						
YBH				LR	LR	08 07 57.2	
	comp=Z,98nm,21.5s,MS3.1,baz=151,slow=36						
QLMT	**Earthquake Lak**	**20.34**	**357**	*e*Pn	**P**	**08 00 38.8**	**+3.5**
MCMT	**McKenzie Canyo**	**20.45**	**354**	*e*P	**P**	**08 00 37.8**	**+1.3**
RLMT	**Red Lodge**	**20.59**	**1**	*e*P	**P**	**08 00 38.0**	**-0.1**
	8.2nm,1.1s						
H10A	**Noah's Angus R**	**20.85**	**346**	⇓P	**P**	**08 00 39.2**	**-1.6**
	baz=21,SNR=10						
DLMT	**Dillon**	**20.96**	**354**	*e*P	**P**	**08 00 42.7**	**+0.8**
	11nm,1.1s						
BMO	**Blue Mountains**	**21.23**	**345**	*e*P	**P**	**08 00 44.4**	**-0.5**
GCMT	**Greycliff**	**21.26**	**0**	*e*P	**P**	**08 00 45.1**	**-0.1**
LRM	**Limekiln Ridge**	**21.40**	**355**	*e*P	**P**	**08 00 47.7**	**+0.9**
F13A	**Darby**	**21.57**	**351**	⇓P	**P**	**08 00 47.0**	**-1.6**
	baz=22,SNR=14						
G09A	**Cove**	**21.74**	**345**	⇑P	**P**	**08 00 49.2**	**-1.2**
	baz=22,SNR=11						
F11A	**Grangeville**	**21.97**	**348**	⇑P	**P**	**08 00 51.7**	**-1.1**
	baz=22,SNR=7.5						
E13A	**Victor**	**22.20**	**352**	⇑P	**P**	**08 00 54.6**	**-0.7**
	baz=22,SNR=8.9						
LAO	**LASA Array**	**22.34**	**6**	*e*P	**P**	**08 00 56.2**	**-0.6**
	40nm,1.4s,mb4.7						
E11A	**Bogner Ranch,**	**22.43**	**348**	⇓P	**P**	**08 00 55.3**	**-2.5**
	baz=23,SNR=5.4						
MSO	**Missoula**	**22.55**	**353**	*e*P	**P**	**08 01 02.7**	**+3.8**
	14nm,1.4s,mb4.2						
CHMT	**Chamberlain Mo**	**22.56**	**354**	*e*P	**P**	**08 00 59.0**	**-0.1**
NEW	**Newport**	**24.44**	**348**	*e*P	**P**	**08 01 16.4**	**-1.2**
	9.8nm,0.9s,mb4.2						
A14A	**Double T Ranch**	**24.61**	**354**	⇓P	**P**	**08 01 18.8**	**-0.5**
	baz=25,SNR=10.0						
WALA	**Waterton Lakes**	**24.75**	**353**	*e*P	**P**	**08 01 20.6**	**+0.2**
TKL	**Tuckaleechee C**	**25.03**	**58**	LR	LR	08 11 53.3	
	comp=Z,203nm,20.3s,MS3.6,baz=84,slow=38						
ULM	**Lac du Bonnet**	**27.89**	**19**	LR	LR	08 13 13.3	
	comp=Z,142nm,18.6s,MS3.6,baz=296,slow=37						
YKA	**Yellowknife Ar**	**38.14**	**356**	LR	LR	08 21 29.6	
	comp=Z,66nm,18.2s,MS3.5,baz=70,slow=40						
ROSC	**El Rosal**	**39.25**	**114**	LR	LR	08 21 55.3	
	comp=Z,44nm,20.0s,MS3.3,baz=25,slow=40						
PPT	**Papeete**	**57.04**	**227**	*e*LR	LR	08 22 21.3	
	147nm,27.5s						
CD2	**Chengdu**	**116.24**	**328**	*e*PKP	PKPdf	08 14 37.5	-5.6

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*MOS **07** 08:33:15.3±1.6, 4448N×14901E, h52km, mb4.4/11, Error ellipse: s-maj=14.1km s-min=12.5km az=22.3*

*ISCJB **07** 08:33:18.8±0.9, 4420N±006×14882E±008, h87km±8km, mb4.3/20, Error ellipse: s-maj=10.7km s-min=8.4km az=139.1*

*SKHL **07** 08:33:18.8±2.1, 4459N×14862E, h53km±22km, mb5.2/3*

*JMA **07** 08:33:19.5±0.3, 4450N×14876E, h30km, M5.1*

*NEIC **07** 08:33:20.3±1.1, 4442N×14881E, h80km±9km, mb4.9/1, Error ellipse: s-maj=13.0km s-min=8.6km az=148.0*

*IDC **07** 08:33:20.3±2.7, 4440N×14877E, h81km±24km, mb3.9/15, mb1 4.1/18, mb1mx4.0/25, mbtmp3.9/18, Error ellipse: s-maj=17.4km s-min=13.8km az=150.0*

ISC 07 08:33:20.1±0.8, **4423N**±006×**14882E**±008, **h81**km±7km, **n95**, σ1s**18**/101, **mb4.3**/20, **2C-6D, Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**1.21**	**326**κ	*i*PN	**Pn**	**08 33 35.0**	**-6.7**
KUR				*i* S	**Sn**	**08 33 49.5**	**-8.5**
KUR				pmax	pmax		
	comp=N,590nm,0.8s						
KUR				pmax	pmax		
	comp=E,1µm,0.8s						
KUR				pmax	pmax		
	comp=Z,2µm,0.8s						
KUR				pmax	pmax		
	comp=Z,2µm,1.0s						
KUR				smax			
	comp=N,20µm,1.2s						
KUR				smax			
	comp=E,17µm,1.2s						
KUR				smax			
	comp=N,10µm,0.7s						
KUR				smax			
	comp=E,3µm,0.7s						
KUR	**Kuril'sk**	**1.21**	**326**	⇓*i*P	**Pn**	**08 33 35.0**	**-6.7**
KUR				⇓*i*P		08 33 35.0	
KUR				AMB	AMB	08 33 36.0	
	comp=E,410nm,0.6s						
KUR				AMB	AMB	08 33 36.0	
	comp=E,730nm,0.6s						
KUR				AMB	AMB	08 33 36.0	
	comp=E,2µm,0.6s						
KUR				AMB	AMB	08 33 38.0	
	comp=E,2µm,1.0s						
KUR				*i* S	**Sn**	**08 33 49.5**	**-8.5**
KUR				A		08 33 50.0	
	comp=E,20µm,1.2s						
KUR				A		08 33 50.0	
	comp=E,17µm,1.2s						
KUR				A		08 33 53.5	
	comp=E,10µm,0.7s						
KUR				A		08 33 53.5	
	comp=E,3µm,0.7s						
YUK	**Yuzh-Kuril'sk**	**2.14**	**266**	⇓*i*PN	**Pn**	**08 33 53.7**	**-0.1**
YUK				*i* S	**Sn**	**08 34 17.8**	**-1.8**
YUK				pmax	pmax		
	comp=N,760nm,0.3s						
YUK				pmax	pmax		
	comp=E,760nm,0.3s						
YUK				pmax	pmax		
	comp=Z,2µm,0.3s						
YUK				smax			
	comp=N,6µm,0.5s						
YUK				smax			
	comp=E,3µm,0.5s						
YUK				smax			
	comp=N,8µm,0.8s						
YUK				smax			
	comp=E,10µm,0.8s						
YUK	**Yuzh-Kuril'sk**	**2.14**	**266**	⇓*i*P	**Pn**	**08 33 53.7**	**-0.1**
YUK				AMB	AMB	08 33 55.0	
	comp=E,760nm,0.2s						
YUK				AMB	AMB	08 33 55.0	
	comp=E,2µm,0.2s						
YUK				*i* S	**Sn**	**08 34 17.8**	**-1.8**
YUK				A		08 34 20.0	
	comp=E,6µm,0.5s						
YUK				A		08 34 20.0	
	comp=E,3µm,0.5s						
YUK				A		08 34 21.0	
	comp=E,8µm,0.8s						
YUK				A		08 34 21.0	
	comp=E,10µm,0.8s						
NEM2	**Nemuro 2**	**2.39**	**250**	P	**Pn**	**08 33 56.7**	**-0.5**
NEM2				*e*S	**Sn**	**08 34 23.8**	**-1.8**
JRA	**Rausu**	**2.68**	**265**	P	**Pn**	**08 34 01.7**	**+0.6**
JRA				*e*S	**Sn**	**08 34 32.8**	**+0.2**
JNK	**Nakash**	**3.03**	**259**	P	**Pn**	**08 34 05.9**	**0.0**
JNK				*e*S	**Sn**	**08 34 40.5**	**-0.6**
JAK	**Akkeshi**	**3.24**	**249**	P	**Pn**	**08 34 08.2**	**-0.4**
JAK				*e*S	**Sn**	**08 34 44.1**	**-2.0**
JTKR	**Abashiri--Toko**	**3.55**	**267**	P	**Pn**	**08 34 13.3**	**+0.5**
JAR	**Ashorobuto**	**3.78**	**257**	P	**Pn**	**08 34 16.6**	**+0.7**
JAR				*e*S	**Sn**	**08 34 59.2**	**0.0**
JOB	**Onbets**	**3.86**	**252**	P	**Pn**	**08 34 17.3**	**+0.2**
JOB				*e*S	**Sn**	**08 34 59.9**	**-1.3**
JMP	**Maruseppu**	**3.94**	**269**	P	**Pn**	**08 34 19.0**	**+0.9**
JCH	**Churui**	**4.29**	**250**	P	**Pn**	**08 34 22.8**	**-0.1**
JCH				*e*S	**Sn**	**08 35 09.2**	**-2.6**
JKK2	**Kamakawa 2**	**4.39**	**267**	P	**Pn**	**08 34 25.5**	**+1.2**
ASAJ	**Asahikawa**	**4.48**	**271**	P	**Pn**	**08 34 26.9**	**+1.4**
	comp=E,20nm,0.3s,baz=75,slow=18,SNR=169						
ASAJ				S	**Sn**	**08 35 27.2**	**+11**
	comp=E,7.0nm,0.3s,baz=338,slow=20,SNR=3.5						
ASAJ	**Asahikawa**	**4.48**	**271**	P	**Pn**	**08 34 26.8**	**+1.3**
JSE	**Soyaes**	**4.51**	**281**	P	**Pn**	**08 34 26.4**	**+0.5**
JFR	**Furan**	**4.64**	**259**	P	**Pn**	**08 34 29.2**	**+1.5**
JEM	**Erimo**	**4.70**	**244**	P	**Pn**	**08 34 30.0**	**+1.5**
ERM	**Erimo**	**4.70**	**244**	*e*Pn	**Pn**	**08 34 30.0**	**+1.5**
ERM				*e*Sn	**Sn**	**08 35 20.9**	**-0.9**
JAB	**Ashibetsu**	**4.83**	**264**	P	**Pn**	**08 34 32.5**	**+2.3**
JNBK	**Urakawa-nobuka**	**4.84**	**248**	P	**Pn**	**08 34 30.0**	**-0.4**
JBT2	**Biratori 2**	**4.92**	**255**	P	**Pn**	**08 34 31.6**	**+0.2**
JSS	**Shosan**	**5.00**	**274**	P	**Pn**	**08 34 35.2**	**+2.6**
JWK2	**Keihoku**	**5.05**	**285**	P	**Pn**	**08 34 35.0**	**+1.8**
YSS	**Yuzh-Sakhalins**	**5.05**	**305**	⇑*i*PN	**Pn**	**08 34 31.0**	**-2.3**
YSS				pmax	pmax		
	comp=Z,70nm,0.5s						
YSS	**Yuzh-Sakhalins**	**5.05**	**305**	⇑*i*P	**Pn**	**08 34 31.0**	**-2.3**
YSS				AMB	AMB	08 34 32.0	
	comp=Z,70nm,0.5s						
YSS				*e*S	**Sn**	**08 35 25.0**	**-5.2**
YSS				A		08 35 30.0	
	comp=Z,90nm,0.6s						
YSS				A		08 35 30.0	
	comp=Z,70nm,0.6s						
YSS	**Yuzh-Sakhalins**	**5.05**	**305**	*e*Pn	**Pn**	**08 34 32.5**	**-0.7**
YSS				*e*Sn	**Sn**	**08 35 29.9**	**-0.3**
JHR	**Hokuryu**	**5.14**	**267**	P	**Pn**	**08 34 36.7**	**+2.2**
JEW	**Eniwo**	**5.54**	**258**	P	**Pn**	**08 34 41.3**	**+1.4**
JNB	**Noboribetsu**	**5.94**	**255**	P	**Pn**	**08 34 45.6**	**+0.2**
JSK	**Shakotan**	**6.10**	**265**	P	**Pn**	**08 34 49.8**	**+2.2**
JKB	**Kayabe**	**6.17**	**250**	P	**Pn**	**08 34 48.2**	**-0.3**
JKB				*e*S	Sx	08 35 53.5	
JYM2	**Yakumo 2**	**6.53**	**254**	P	**Pn**	**08 34 53.6**	**+0.2**
JSH	**Shimam**	**6.58**	**259**	P	**Pn**	**08 34 55.3**	**+1.1**
JANG	**Nango**	**6.65**	**237**	P	**Pn**	**08 34 53.2**	**-1.9**
JANG				*e*S	Sx	08 36 03.7	
JTM	**Tenmabayashi**	**6.68**	**242**	P	**Pn**	**08 34 55.1**	**-0.4**
JTM				*e*S	Sx	08 36 05.0	
JTH	**Tanohata**	**6.72**	**233**	*e*S	Sx	08 36 04.6	
JSR	**Shiriuchi**	**6.74**	**249**	P	**Pn**	**08 34 56.1**	**-0.2**
JSR				*e*S	Sx	08 36 06.9	
JOSM	**Okushiri--Mats**	**7.16**	**256**	P	**Pn**	**08 35 02.3**	**+0.2**
JOSM				*e*S	Sx	08 36 19.4	
OFUJ	**Ofunato**	**7.43**	**229**	P	**Pn**	**08 35 04.2**	**-1.5**
OFUJ				*e*S	Sx	08 36 23.6	
JRG	**Rokugo**	**7.79**	**234**	P	**Pn**	**08 35 09.9**	**-0.8**
JRG				*e*S	Sx	08 36 33.3	
JIO	**Ouri**	**8.05**	**227**	P	**Pn**	**08 35 13.0**	**-1.3**
JIO				*e*S	Sx	08 36 37.4	
JYA	**Atsumi**	**8.86**	**234**	*e*S	Sx	08 36 59.5	
JFY	**Yanaizu**	**9.70**	**228**	P	**Pn**	**08 35 36.8**	**+0.1**
PETK	**Petropavlovsk-**	**10.64**	**30**	P	**Pn**	**08 35 46.4**	**-3.0**
	comp=Z,0.5nm,0.3s,baz=208,slow=12,SNR=13						
KSRS	**Korea Array**	**17.18**	**254**	P	**Pn**	**08 37 14.2**	**-0.6**
	comp=Z,0.4nm,0.3s,baz=58,slow=12,SNR=3.1						
SONM	**Songino Array**	**29.40**	**292**	P	**P**	**08 39 15.6**	**+0.1**
	comp=Z,1.8nm,0.5s,mb3.9,baz=78,slow=8.2,SNR=16						
SONM	**Songino Array**	**29.40**	**292**	*e*P	**P**	**08 39 15.5**	**0.0**
SONM				pmax	pmax		
	comp=Z,2.0nm,0.5s						
KDAK	**Kodiak Island**	**38.03**	**48**	P	**P**	**08 40 29.2**	**-0.9**
	comp=Z,7.0nm,0.6s,mb4.7,baz=302,slow=19,SNR=8.3						
KDAK	**Kodiak Island**	**38.03**	**48**	*e*P	**P**	**08 40 29.2**	**-0.9**
	comp=Z,11nm,0.7s,mb4.8						
ZALV	**Zalesovo Beam**	**41.67**	**307**	PcP	PcP	08 42 55.5	0.0
	comp=Z,0.6nm,0.4s,baz=58,slow=3.7,SNR=3.9						
MKAR	**Makanchi Array**	**45.43**	**298**	P	**P**	**08 41 29.9**	**-0.6**
	comp=Z,4.0nm,0.6s,mb4.3,baz=76,slow=8.1,SNR=36						
MKAR				PcP	PcP	08 43 08.5	+0.2
	comp=Z,0.5nm,0.6s,baz=72,slow=4.9,SNR=3.1						
MKAR	**Makanchi Array**	**45.43**	**298**	P	**P**	**08 41 29.9**	**-0.6**
MKAR						08 43 08.5	
MKAR				pmax	pmax		
	comp=Z,4.0nm,0.6s						
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
MKAR	**Makanchi Array**	**45.43**	**298**	P	**P**	**08 41 29.9**	**-0.6**
MKAR				PcP	PcP	08 43 08.5	+0.2
CMAR	**Chiang Mai Arr**	**48.82**	**255**	*i* P	**P**	**08 41 57.5**	**+0.3**
CMAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
YKA	**Yellowknife Ar**	**54.73**	**34**	P	**P**	**08 42 40.3**	**-0.3**
	comp=Z,1.8nm,0.7s,mb4.2,baz=299,slow=7.0,SNR=6.0						
YKA	**Yellowknife Ar**	**54.73**	**34**	P	**P**	**08 42 40.3**	**-0.3**
YKA				pmax	pmax		
	comp=Z,2.0nm,0.7s						
YKA	**Yellowknife Ar**	**54.73**	**34**	P	**P**	**08 42 40.3**	**-0.3**
AKTK	**Aktyubinsk**	**58.13**	**311**	P	**P**	**08 43 03.8**	**-1.1**
AKTO	**Aktyubinsk**	**58.13**	**311**	P	**P**	**08 43 03.8**	**-1.1**
	comp=Z,0.8nm,0.4s,mb4.1,baz=48,slow=7.8,SNR=5.2						
AKTO	**Aktyubinsk**	**58.13**	**311**	P	**P**	**08 43 03.8**	**-1.1**
AKTO				pmax	pmax		
	comp=Z,1.0nm,0.4s,mb4.2						
JCW	**Jim Creek**	**58.47**	**52**	*e*P	**P**	**08 43 07.3**	**0.0**
ARCES	**ARCESS Array B**	**59.21**	**340**	P	**P**	**08 43 10.1**	**-2.1**
	comp=Z,1.9nm,0.8s,mb4.2,baz=41,slow=7.6,SNR=5.5						
ARCES	**ARCESS Array B**	**59.21**	**340**	P	**P**	**08 43 10.1**	**-2.0**
ARCES				pmax	pmax		
	comp=Z,2.0nm,0.8s						
EDM	**Edmonton**	**60.23**	**43**	*e*P	**P**	**08 43 19.0**	**-0.3**
FFC	**Flin Flon**	**64.59**	**37**	*e*P	**P**	**08 43 45.7**	**-2.7**
	comp=Z,55nm,1.2s,mb5.3						
FFC				LR	LR		
	comp=Z,817nm,20.0s						
WRA	**Warramunga Arr**	**65.22**	**195**	P	**P**	**08 43 52.8**	**0.0**
	comp=Z,1.4nm,0.7s,mb3.9,baz=13,slow=6.8,SNR=12						
WRA	**Warramunga Arr**	**65.22**	**195**	*e*P	**P**	**08 43 53.5**	**+0.7**
WRA				pmax	pmax		
	comp=Z,1.0nm,0.7s						
NVAR	**Mina Array Bea**	**66.30**	**59**	P	**P**	**08 44 00.7**	**+1.0**
	comp=Z,2.6nm,0.7s,mb4.2,baz=293,slow=7.4,SNR=9.1						
PDAR	**Pinedale Array**	**68.67**	**51**	P	**P**	**08 44 15.0**	**+0.4**
	comp=Z,7.2nm,1.1s,mb4.4,baz=157,slow=3.7,SNR=5.3						
ASAR	**Alice Springs**	**68.94**	**195**	P	**P**	**08 44 18.4**	**+2.1**
	comp=Z,0.7nm,0.5s,mb3.8,baz=12,slow=6.1,SNR=13						
ASAR	**Alice Springs**	**68.94**	**195**	*e*P	**P**	**08 44 18.6**	**+2.4**

ASAR pmax pmax
comp=Z,1.0nm,0.5s
NLU North Lily Min 69.07 54 *e*P **P 08 44 11.9 -5.2**
NB2 NORSAR Subarra 69.58 340 P **P 08 44 18.4 -1.5**
comp=Z,0.8nm,0.5s,mb3.8,baz=30,slow=6.5
NOA NORSAR Array B 69.58 340 P **P 08 44 18.6 -1.3**
comp=Z,1.0nm,0.4s,mb4.0,baz=30,slow=6.4,SNR=14
NOA NORSAR Array B 69.58 340 P **P 08 44 18.6 -1.3**
NOA pmax pmax
comp=Z,1.0nm,0.4s
KIV Kislovodsk 70.33 313 *e*P **P 08 44 25.3 +0.5**
KIV pmax pmax
comp=Z,9.0nm,0.7s,mb4.7
AKASG Malin Array Be 71.90 324 P **P 08 44 33.1 -1.0**
comp=Z,0.8nm,0.5s,mb3.9,baz=34,slow=5.8,SNR=5.6
AKASG Malin Array Be 71.90 324 P **P 08 44 33.1 -1.0**
AKASG pmax pmax
comp=Z,1.0nm,0.5s
MLR Muntele Rosu 77.31 323 P **P 08 45 07.0 +1.5**
comp=Z,1.7nm,0.7s,mb3.9,baz=126,slow=16,SNR=3.8
MLR Muntele Rosu 77.31 323 P **P 08 45 07.0 +1.5**
MLR pmax pmax
comp=Z,2.0nm,0.7s
MIB Mutribah 77.33 299 *e*P **P 08 45 07.3 +1.4**
baz=299
MIB AMb AMB 08 45 08.0
comp=Z,9.0nm,0.5s,mb4.8,baz=299
CLL Collm 77.43 333 *e*P **P 08 45 05.0 -1.1**
NAY Al-Naaiem 77.77 299 *e*P **P 08 45 09.8 +1.4**
baz=299
NAY AMb AMB 08 45 14.3
comp=Z,9.0nm,1.3s,mb4.3,baz=299
RDF Al-Radifah 77.80 298 *e*P **P 08 45 10.1 +1.6**
baz=298
RDF AMb AMB 08 45 12.1
comp=Z,17nm,0.5s,mb5.0,baz=298
GERES GERESS Array B 79.32 332 P **P 08 45 16.2 -0.4**
comp=Z,0.4nm,0.5s,mb3.5,baz=35,slow=4.9,SNR=3.6
TXAR Lajitas Array 81.38 57 P **P 08 45 28.3 +0.4**
comp=Z,2.4nm,0.5s,mb4.3,baz=298,slow=4.2,SNR=53
TXAR Lajitas Array 81.38 57 P **P 08 45 28.3 +0.4**
TXAR pmax pmax
comp=Z,2.0nm,0.5s
TORD Torodi Ar. Bea 115.53 324 PKP PKPdf 08 51 52.0 -1.0
comp=Z,0.8nm,1.1s,baz=6.3,slow=1.6,SNR=6.2
SNAA Sanae 149.28 197 *e* PKPbc 08 52 58.8 +0.8
VNA2 Neumayer--Watz 150.78 196 *e* PKPbc 08 53 03.1 +1.5
VNA3 Neumayer Olymp 150.94 194 *e* PKPbc 08 53 03.2 +1.2
PLCA Paso Flores 150.94 97 PKPbc PKPbc 08 53 03.4 +0.4
comp=Z,1.0nm,0.5s,baz=144,slow=0.9,SNR=6.7
PLCA Paso Flores 150.94 97 PKIKP PKPbc 08 53 03.4 +0.5
PLCA pmax pmax
comp=Z,1.0nm,0.5s

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*IDC **07** 08:34:08.1±0.6, 0.45S×91.45W, h0km, mb5.0/15, mb1 5.1/18, mb1mx5.1/22, mbtmp5.0/18, ML3.6/3, MS4.6/22, Ms1 4.6/22, ms1mx4.4/30, Error ellipse: s-maj=23.1km s-min=11.9km az=60.0*
*ISCJB **07** 08:34:08.7±0.2, 0.39S±0.03×91.27W±0.03, h10km, mb5.2/136, MS4.7/171, Error ellipse: s-maj=5.8km s-min=3.0km az=39.3*
*NEIC **07** 08:34:10.2±0.2, 0.41S×91.28W, h10km, mb5.3/116, MS4.7/148, Error ellipse: s-maj=5.3km s-min=3.0km az=50.0*
*BJI **07** 08:34:10.2, 0.40S×91.30W, h10km, mB5.5, Ms5.2, Msz5.0*
*GCMT **07** 08:34:10.2±0.2, 0.51S×91.49W, h21km±1km, MW5.2/73, Moment Tensor Solution. s44,c62; s73,c126; Duration: 1s0 Moment tensor: Scale 10^{16}Nm; M_{rr}-0.27±.16; $M_{\theta\theta}$3.86±.13; $M_{\phi\phi}$-3.58±.17; $M_{r\theta}$4.98±.38; $M_{\theta\phi}$-4.98±.12; $M_{\phi r}$1.34±.29; Best double couple: $M_0$8.07300×10^{16} NP1:ϕ_s162.00000°, δ50.00000°, λ-1.00000°. NP2: ϕ_s252.00000°, δ89.00000°, λ-140.00000°. Principal axes: T 8.2750, Plg26.0000°, Azm20.0000°; N -0.3990, Plg50.0000°, Azm253.0000°; P -7.8710, Plg27.0000°, Azm125.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*MOS **07** 08:34:12.4±0.8, 0.33S×91.22W, h33km, mb5.5/35, MS4.6/34 Error ellipse: s-maj=14.1km s-min=5.1km az=106.8*
ISC 07 08:34:10.5±0.2, **0.40S**±0.03×**91.25W**±0.03, **h10**km, **(h18**km±3.7km**:pP-P), n680,** σ0s**84**/588, **mb5.2**/136, **MS4.7**/171, **167C-139D, Galapagos Islands**

Code Station Name Δ° AZ° Phase ID Time Res
Op ISC h m s ISC
PAYG Puerto Ayora 1.00 106⇓*i*Pg **Pg 08 34 29.4 -0.5**
PAYG *e*Sg **Sg 08 34 43.9 +0.9**
JTS JuntasAbangare 12.33 30 Pn **Pn 08 37 09.1 +2.7**
0.2nm,0.3s,baz=186,slow=3.5,SNR=6.4
JTS LR LR 08 40 52.4
comp=Z,6µm,18.7s,baz=233,slow=32
JTS JuntasAbangare 12.33 30 *e*Pn **Pn 08 37 11.0 +4.6**
JTS *e*Sn Sn 08 40 00.2 +36
OTAV Otavalo 12.82 87 *e*Pn **Pn 08 37 14.6 +1.6**
OTAV *e*Sn **Sn 08 39 44.1 +8.3**
ATAH Atahualpa 14.40 117 Pn **Pn 08 37 38.5 +3.9**
0.3nm,0.3s,baz=294,slow=18,SNR=5.2
BCIP Isla Barro Col 14.82 50 *e*Pn **Pn 08 37 39.4 -0.9**
ROSC El Rosal 17.69 73 P **Pn 08 38 20.5 +3.3**
0.9nm,0.3s,baz=145,slow=2.2,SNR=41
ROSC LR LR 08 44 40.6
comp=Z,1µm,18.1s,baz=44,slow=35
ROSC El Rosal 17.69 73 *e*P **Pn 08 38 20.1 +2.8**
ROSC *e*S Sn 08 42 03.2 +29
NNA Nana 18.36 129 Pn **Pn 08 38 27.0 +1.6**
485nm,1.0s,SNR=5.6
NNA Nana 18.36 129 P **Pn 08 38 26.4 +1.0**
1.5nm,0.3s,baz=310,slow=9.0,SNR=14
NNA LR LR 08 44 05.9
comp=Z,2µm,20.1s,baz=310,slow=32
NNA Nana 18.36 129 *e*Pn **Pn 08 38 27.2 +1.8**
65nm,0.9s
TEIG Tepich 20.71 8 P **P 08 38 52.0 +0.9**
96nm,0.8s,baz=201,slow=6.1,SNR=37
TEIG LR LR 08 46 02.3
comp=Z,2µm,18.4s,MS4.5,baz=7.5,slow=34
TEIG Tepich 20.71 8 *e*P **P 08 38 51.2 +0.1**
146nm,0.9s
TEIG LR LR
comp=Z,2µm,21.0s,MS4.4
SDV Santo Domingo 22.52 65 P **P 08 39 12.6 +2.0**
comp=Z,32nm,0.8s,mb4.8,baz=254,slow=7.9,SNR=20
SDV LR LR 08 46 32.4
comp=Z,831nm,21.9s,MS4.1,baz=163,slow=33
SDV Santo Domingo 22.52 65 *e*P **P 08 39 12.1 +1.4**
comp=Z,42nm,0.8s,mb4.9
SDV LR LR
comp=Z,377nm,21.0s,MS3.8
MCJ Malvern 22.58 36⇑*e*P **P 08 39 13.1 +1.9**
PCJ Portland Cotta 22.75 37⇑*e*P **P 08 39 14.5 +1.4**
CVJ Coleyville 22.91 35⇑*i*P **P 08 39 15.7 +0.9**
HOJ Hope 23.20 37⇑*i*P **P 08 39 19.2 +1.4**
STH Stony Hill 23.22 37⇑*i*P **P 08 39 19.3 +1.3**
BNJ Bonny Gate 23.32 36⇑*e*P **P 08 39 21.2 +2.1**
ARE Arequipa 25.18 130 *e*P **P 08 39 38.0 +1.6**
LPAZ La Paz 27.73 126 P **P 08 40 01.5 +2.0**
comp=Z,24nm,0.8s,mb4.9,baz=304,slow=8.3,SNR=124
LPAZ LR LR 08 50 24.4
comp=Z,2µm,21.6s,MS4.7,baz=307,slow=35
LPAZ La Paz 27.73 126⇓*i*P **P 08 40 01.2 +1.8**
LPAZ pmax pmax
comp=Z,83nm,1.3s
LPAZ MLR MLR
comp=Z,3µm,21.0s
LPAZ La Paz 27.73 126⇓*i*P **P 08 40 01.2 +1.7**
comp=Z,83nm,1.3s,mb5.2
LPAZ LR LR
comp=Z,3µm,21.0s,MS4.8
KVTX Kingsville 28.51 348 *e*P **P 08 40 07.8 +1.6**
KVTX LR LR
comp=Z,935nm,21.0s,MS4.4
DWPF Disney 29.87 18 PFAKE 08 40 30.0 +12
DWPF LR LR
comp=Z,1µm,20.0s,MS4.5
HKT Hockley 30.50 352 *e*P **P 08 40 24.1 +0.2**
HKT pmax pmax
comp=Z,90nm,1.8s,mb5.2
HKT MLR MLR
comp=Z,850nm,19.0s,MS4.4
HKT Hockley 30.50 352 *e*P **P 08 40 24.1 +0.2**
comp=Z,90nm,1.8s,mb5.2
HKT LR LR
comp=Z,850nm,19.0s,MS4.4
CPD Cerro la Pandu 30.93 52 *e*P **P 08 40 27.8 -0.1**
CPD pmax pmax
comp=Z,41nm,0.8s,mb5.3
CPD Cerro la Pandu 30.93 52 *e*P **P 08 40 27.8 -0.1**
comp=Z,41nm,0.8s,mb5.3
LVC Limon Verde 30.98 137⇓*i*P **P 08 40 30.2 +1.9**
comp=Z,77nm,1.0s,mb5.5
LVC LR LR
comp=Z,2µm,22.0s,MS4.7
HUMP Col San Antoni 31.04 52 *e*P **P 08 40 27.7 -1.2**
BRAL Brewton 31.50 7 PFAKE 08 40 40.0 +7.3
BRAL LR LR
comp=Z,841nm,22.0s,MS4.4
JCT Junction City 31.77 346 *e*P **P 08 40 35.6 +0.5**
JCT pmax pmax
comp=Z,50nm,0.8s,mb5.4
JCT MLR MLR
comp=Z,274nm,19.0s,MS4.0
JCT Junction City 31.77 346 *e*P **P 08 40 35.6 +0.5**
comp=Z,50nm,0.8s,mb5.4
JCT LR LR
comp=Z,274nm,19.0s,MS4.0
TXAR Lajitas Array 31.86 339 P **P 08 40 36.6 +0.7**
comp=Z,20nm,0.7s,mb5.0,baz=152,slow=10,SNR=263
TXAR PcP PcP 08 43 26.2 -0.5
comp=Z,0.3nm,0.6s,baz=113,slow=4.1,SNR=3.2
TXAR LR LR 08 52 15.2
comp=Z,3µm,18.8s,MS5.0,baz=275,slow=34
TXAR Lajitas Array 31.86 339 P **P 08 40 36.6 +0.7**
TXAR 08 43 26.3
GRGR Grenville 31.91 66 PFAKE 08 40 50.0 +13
GRGR LR LR
comp=Z,523nm,19.0s,MS4.2
NATX Nacogdoches 32.15 355 *e*P **P 08 40 39.4 +0.9**
comp=Z,85nm,0.7s,mb5.7
NATX LR LR
comp=Z,551nm,20.0s,MS4.2
VBMS Vicksburg 32.45 1 *e*P **P 08 40 42.0 +1.0**
comp=Z,206nm,1.3s,mb5.8
VBMS LR LR
comp=Z,1µm,22.0s,MS4.6
LRAL Lakeview Retre 33.50 6 *e*P **P 08 40 50.4 +0.2**
comp=Z,20nm,1.0s,mb5.0
LRAL LR LR
comp=Z,776nm,20.0s,MS4.4
BBGH Gun Hill 34.18 66 PFAKE 08 41 10.0 +14
BBGH LR LR
comp=Z,1µm,20.0s,MS4.7
GOGA Godfrey 34.42 12 *e*P **P 08 40 58.0 -0.2**
GOGA MLR MLR
comp=Z,838nm,22.0s,MS4.4
LCO Las Campanas 34.56 147⇑*i*P **P 08 41 01.1 +1.6**
LCO Las Campanas 34.56 147 *e*P **P 08 41 00.8 +1.3**
comp=Z,132nm,1.0s,mb5.8
LCO LR LR
comp=Z,3µm,22.0s,MS5.0
GDL2 Guadalupe Moun 34.72 340 *e*P **P 08 41 01.7 +0.9**
OXF Oxford 34.77 3 *e*P **P 08 41 00.9 -0.4**
OXF pmax pmax
comp=Z,157nm,1.1s,mb5.8
OXF MLR MLR
comp=Z,988nm,22.0s,MS4.5
OXF Oxford 34.77 3 *e*P **P 08 41 00.9 -0.4**
comp=Z,157nm,1.1s,mb5.8
OXF LR LR
comp=Z,988nm,22.0s,MS4.5
MIAR Mount Ida 34.83 357 *e*P **P 08 41 02.0 +0.2**
MIAR pmax pmax
comp=Z,95nm,0.9s,mb5.7
MIAR MLR MLR
comp=Z,659nm,21.0s,MS4.4
MIAR Mount Ida 34.83 357 *e*P **P 08 41 02.0 +0.3**
comp=Z,95nm,0.9s,mb5.7
MIAR LR LR
comp=Z,659nm,21.0s,MS4.4
NHSC New Hope 34.93 16 *e*P **P 08 41 03.1 +0.5**
comp=Z,76nm,0.9s,mb5.6
NHSC LR LR
comp=Z,395nm,19.0s,MS4.2
UALR University of 35.01 358⇑*i*P **P 08 41 03.7 +0.4**
comp=Z,59nm,0.9s,mb5.5
COW Cow Castle Cre 35.04 15 *e*P **P 08 41 04.2 +0.6**
MET Memphis--Engin 35.36 2 *e*P **P 08 41 06.3 -0.1**
TLL Tololo Astrono 35.42 149 *i* P **P 08 41 08.7 +1.8**
JSC Jenkinsville 35.75 14 *e*P **P 08 41 09.9 +0.2**
HBAR Harrisburg 35.78 1 *e*P **P 08 41 10.5 +0.6**
SWET Sewanee 35.78 7 *e*P **P 08 41 09.8 -0.2**
SWET *e*PcP PcP 08 43 43.7 +6.0
319A Douglas 35.93 333 ⇑P **P 08 41 12.0 +0.7**
baz=36,SNR=38
HALT Halls 36.17 3 *e*P **P 08 41 12.9 -0.3**
GNAR Gosnell 36.20 2⇑*i*P **P 08 41 13.9 +0.4**
comp=Z,2µm,1.3s
CPCT Cooper Cave 36.22 9⇑*i*P **P 08 41 13.8 +0.2**
318A Bisbee 36.31 332 ⇑P **P 08 41 15.2 +0.7**
baz=36,SNR=33
AMTX Amarillo 36.43 345⇑*i*P **P 08 41 16.0 +0.5**
AMTX *e*PcP PcP 08 43 46.0 +6.3
AMTX LR LR
comp=Z,318nm,19.0s,MS4.1
219A White Tail Can 36.45 334 ⇑P **P 08 41 16.5 +0.8**
baz=37,SNR=38
WVT Waverly 36.49 5 *e*P **P 08 41 15.4 -0.5**
WVT pmax pmax
comp=Z,46nm,1.0s,mb5.4
WVT MLR MLR
comp=Z,719nm,21.0s,MS4.4
WVT Waverly 36.49 5 *e*P **P 08 41 15.4 -0.5**
comp=Z,46nm,1.0s,mb5.4
WVT LR LR
comp=Z,719nm,21.0s,MS4.4
GLAT Glass 36.53 3⇑*i*P **P 08 41 16.5 +0.2**
TKL Tuckaleechee C 36.55 10 P **P 08 41 16.2 -0.3**
comp=Z,15nm,0.9s,mb4.8,baz=186,slow=8.8,SNR=11
TKL LR LR 08 56 59.0
comp=Z,495nm,18.3s,MS4.3,baz=8.5,slow=37
UTMT University of 36.63 3⇑*i*P **P 08 41 17.4 +0.3**
comp=Z,224nm,1.1s,mb5.9
PVMO Portageville 36.66 2 *e*P **P 08 41 18.1 +0.7**
comp=Z,207nm,1.0s,mb5.9
218A Dragoon 36.79 333 ⇑P **P 08 41 19.6 +1.0**
baz=37,SNR=37
PARMO Parma 36.91 2 *e*P **P 08 41 20.1 +0.6**
217A Green Valley 36.98 332 P **P 08 41 21.2 +1.0**
baz=37,SNR=48
119A Ashpeak Ranch, 37.13 334 ⇑P **P 08 41 22.4 +0.9**
baz=37,SNR=22
BNM Barren Site 37.28 339 *e*P **P 08 41 24.1 +1.4**
118A Homack Ranch, 37.31 333 ⇑P **P 08 41 23.8 +0.7**
baz=37,SNR=26
TUC Tucson 37.41 332⇑*i*P **P 08 41 24.4 +0.5**
TUC pmax pmax
comp=Z,30nm,0.9s,mb5.1
TUC MLR MLR
comp=Z,1µm,19.0s,MS4.8
TUC Tucson 37.41 332⇑*i*P **P 08 41 24.4 +0.5**
comp=Z,30nm,0.9s,mb5.1
TUC LR LR
comp=Z,1µm,19.0s,MS4.8
LENM Lemitar 37.42 338 *e*P **P 08 41 25.2 +1.3**
LENM *e*pP pP 08 41 32.5 +5.5
LPM Los Pinos Moun 37.42 339 *e*P **P 08 41 24.8 +0.8**
TZTN Tazewell 37.45 10 *e*P **P 08 41 23.8 -0.3**
comp=Z,18nm,0.9s,mb4.9
TZTN *e*PP PP 08 42 49.3 -0.4
TZTN LR LR
comp=Z,762nm,20.0s,MS4.5
216A Three Points, 37.47 331 ⇓P **P 08 41 25.1 +0.7**
baz=38,SNR=10
Z19A T-Link Ranch, 37.56 335 ⇓P **P 08 41 25.6 +0.4**
baz=38,SNR=6.0
CNNC Cliffs of the 37.59 18 *e*P **P 08 41 24.8 -0.6**
comp=Z,35nm,0.8s,mb5.1
CNNC *e*pP pP 08 41 32.0 +3.6
CNNC LR LR
comp=Z,516nm,20.0s,MS4.3
117A Oracle 37.60 333 ⇓P **P 08 41 26.2 +0.7**
baz=38,SNR=27
LAZ Ladron 37.69 338 *e*P **P 08 41 27.6 +1.4**
Z18A Geronimo 37.72 334 ⇓P **P 08 41 27.5 +1.0**
baz=38,SNR=12
CFAA Coronel Fontan 37.91 147 P **P 08 41 28.5 +0.4**
comp=Z,7.2nm,0.9s,mb4.4,baz=314,slow=7.3,SNR=79
ANMO Albuquerque 37.94 339 *e*P **P 08 41 29.1 +0.8**
ANMO *e**PP pP 08 41 36.8 +5.4
ANMO pmax pmax
comp=Z,44nm,0.9s
ANMO MLR MLR
comp=Z,3µm,20.0s
ANMO Albuquerque 37.94 339 *e*P **P 08 41 29.1 +0.8**
comp=Z,44nm,0.9s,mb5.2
ANMO *e*pP pP 08 41 36.8 +5.4
ANMO LR LR
comp=Z,3µm,20.0s,MS5.1
SIUC Southern Illin 37.98 3 *e*P **P 08 41 29.0 +0.4**
comp=Z,112nm,0.9s,mb5.6
SIUC *e*pP pP 08 41 35.6 +3.9
116A Eloy 38.05 331 ⇑P **P 08 41 29.9 +0.6**
baz=38,SNR=32
Z17A San Carlos Hig 38.09 333 ⇑P **P 08 41 30.3 +0.6**
baz=38,SNR=16
214A Organ Pipe Nat 38.10 330 ⇑P **P 08 41 30.3 +0.5**
baz=38,SNR=18
Y19A Nutrioso 38.13 335 ⇑P **P 08 41 31.3 +1.4**
baz=38,SNR=38
CLCH Cerro Calan 38.16 151⇓*i*P **P 08 41 30.7 +0.5**
FVM French Village 38.20 1 *e*P **P 08 41 30.2 -0.3**
FVM pmax pmax
comp=Z,21nm,1.0s,mb4.8
FVM French Village 38.20 1 *e*P **P 08 41 30.2 -0.3**
comp=Z,21nm,1.0s,mb4.8
FCH Farellones 38.22 151⇓*i*P **P 08 41 31.7 +1.0**
CCM Cathedral Cave 38.27 0 *e*P **P 08 41 31.2 +0.2**
CCM *e**PP pP 08 41 38.6 +4.5
CCM pmax pmax
comp=Z,122nm,0.7s,mb5.7
CCM MLR MLR
comp=Z,971nm,21.0s,MS4.6
CCM Cathedral Cave 38.27 0 *e*P **P 08 41 31.2 +0.2**
comp=Z,122nm,0.7s,mb5.7
CCM *e*pP pP 08 41 38.5 +4.4
CCM LR LR
comp=Z,971nm,21.0s,MS4.6
Y18A Canyon Day Jun 38.31 334 ⇓P **P 08 41 32.1 +0.6**
baz=38,SNR=24
USIN University of 38.32 5 *e*P **P 08 41 31.9 +0.4**
comp=Z,187nm,0.9s,mb5.8
115A Sonoran Desert 38.42 331 ⇑P **P 08 41 33.4 +1.0**
baz=38,SNR=19
X19A St. Johns 38.55 336 ⇓P **P 08 41 34.5 +1.0**
baz=39,SNR=50
Z16A Peralta Trail, 38.56 332 ⇓P **P 08 41 34.1 +0.5**
baz=39,SNR=15
Y17A Roosevelt 38.59 333 ⇓P **P 08 41 34.3 +0.5**
baz=39,SNR=14
ELN Prospectdale 38.69 13 *e*P **P 08 41 34.1 -0.4**
LMEL Las Melosas 38.69 151⇓*i*P **P 08 41 35.5 +0.8**
WCI Wyandotte Cave 38.71 6 *e*P **P 08 41 34.2 -0.6**
WCI pmax pmax
comp=Z,91nm,0.9s,mb5.5
WCI Wyandotte Cave 38.71 6 *e*P **P 08 41 34.2 -0.6**
comp=Z,91nm,0.9s,mb5.5
BLA Blacksburg 38.75 14 *e*P **P 08 41 35.2 +0.1**
BLA pmax pmax
comp=Z,66nm,1.0s,mb5.3
BLA MLR MLR
comp=Z,620nm,19.0s,MS4.5
BLA Blacksburg 38.75 14 *e*P **P 08 41 35.2 +0.1**
comp=Z,66nm,1.0s,mb5.3
BLA LR LR
comp=Z,620nm,19.0s,MS4.5
SLM Saint Louis 38.86 1 *e*P **P 08 41 36.1 +0.1**
SLM pmax pmax
comp=Z,30nm,0.6s,mb5.2
SLM Saint Louis 38.86 1 *e*P **P 08 41 36.1 +0.1**
comp=Z,30nm,0.6s,mb5.2
Z15A Gila River Ind 38.87 332 ⇓P **P 08 41 36.8 +0.6**
baz=39,SNR=13
X18A Snowflake 38.91 335 ⇓P **P 08 41 37.6 +1.0**
baz=39,SNR=29
Y16A Circle Bar Ran 39.04 333 ⇓P **P 08 41 38.6 +1.0**
baz=39,SNR=22
X17A Forest Lakes 39.12 334 ⇑P **P 08 41 39.5 +1.2**
baz=39,SNR=44
W19A Sanders 39.19 336 ⇑P **P 08 41 39.6 +0.8**
baz=39,SNR=15
113A Mohawk Valley, 39.24 329 ⇑P **P 08 41 39.9 +0.6**
baz=39,SNR=11
Z14A Wintersburg 39.30 331 ⇑P **P 08 41 40.6 +0.7**
baz=39,SNR=20
W18A Petrified Fore 39.33 336 ⇑P **P 08 41 40.9 +0.9**
baz=40,SNR=23
X16A Lo Mia Camp, P 39.47 333 ⇓P **P 08 41 42.3 +1.1**
baz=40,SNR=31
112A Yuma 39.48 328 ⇑P **P 08 41 41.6 +0.3**
baz=40,SNR=12
Y15A Casa Rosa Ranc 39.49 332 ⇑P **P 08 41 42.2 +0.8**
baz=40,SNR=33
V19A Window Rock 39.58 337 ⇑P **P 08 41 42.9 +0.8**
baz=40,SNR=19
KSU1 Kansas State U 39.62 353 *e*P **P 08 41 42.7 +0.4**
comp=Z,248nm,0.7s,mb6.0
KSU1 LR LR
comp=Z,675nm,20.0s,MS4.5
BLO Bloomington 39.62 6 *e*P **P 08 41 42.2 -0.2**
BLO *e* 08 43 55.3
BLO pmax pmax
comp=Z,74nm,0.9s,mb5.4
BLO Bloomington 39.62 6 *e*P **P 08 41 42.2 -0.2**
comp=Z,74nm,0.9s,mb5.4
BLO *e*PcP PcP 08 43 55.3 +5.9
CBKS Cedar Bluff 39.80 350 *e*P **P 08 41 44.4 +0.6**
CBKS pmax pmax
comp=Z,131nm,1.0s,mb5.6
CBKS MLR MLR
comp=Z,466nm,21.0s,MS4.3
CBKS Cedar Bluff 39.80 350 *e*P **P 08 41 44.4 +0.5**
comp=Z,131nm,1.0s,mb5.6
CBKS LR LR
comp=Z,466nm,21.0s,MS4.3
Y14A Wickenburg 39.80 331 ⇓P **P 08 41 44.6 +0.7**
baz=40,SNR=35
URVA University of 39.86 17 *e*P **P 08 41 43.8 -0.5**
X15A Humboldt 39.89 333 ⇓P **P 08 41 45.5 +0.9**
baz=40,SNR=34
V18A Ganado 39.93 336 P **P 08 41 45.6 +0.6**
baz=40,SNR=14
GLA Glamis 40.01 329 *e*P **P 08 41 46.6 +0.9**
GLA pmax pmax
comp=Z,74nm,1.1s,mb5.3
GLA MLR MLR
comp=Z,542nm,21.0s,MS4.4
GLA Glamis 40.01 329 ⇓P **P 08 41 46.3 +0.6**
baz=40,SNR=5.5
GLA Glamis 40.01 329 *e*P **P 08 41 46.6 +0.9**
comp=Z,74nm,1.1s,mb5.3
GLA LR LR
comp=Z,542nm,21.0s,MS4.4
W16A Flagstaff 40.08 334 ⇑P **P 08 41 47.3 +1.1**
baz=40,SNR=12
Y13A Salome 40.10 330 ⇑P **P 08 41 46.9 +0.4**
baz=40,SNR=23
SDCO Great Sand Dun 40.18 342 *e*P **P 08 41 48.0 +0.9**
comp=Z,94nm,1.5s,mb5.3
SDCO LR LR
comp=Z,1µm,19.0s,MS4.7
X14A Yava 40.18 332 ⇓P **P 08 41 48.1 +1.0**
baz=40,SNR=31
WUAZ Wupatki 40.36 334 ⇑P **P 08 41 49.8 +1.2**
baz=40,SNR=78
WUAZ Wupatki 40.36 334 *e*P **P 08 41 49.9 +1.3**
comp=Z,132nm,1.1s,mb5.6
WUAZ LR LR
comp=Z,1µm,19.0s,MS4.8
Y12C Blythe 40.40 329 ⇑P **P 08 41 49.7 +0.7**
baz=40,SNR=22
SWSC Sam W. Stewart 40.44 327 ⇑P **P 08 41 50.0 +0.8**
baz=40
W15A Williams 40.48 333 ⇓P **P 08 41 50.9 +1.3**
baz=41,SNR=34
CBN Corbin 40.49 17 PFAKE 08 42 00.0 +10
CBN LR LR
comp=Z,407nm,19.0s,MS4.3
T19A Beclabito 40.55 338 ⇓P **P 08 41 50.2 +0.1**
baz=41,SNR=21
MVCO Mesa Verde 40.69 339 ⇓P **P 08 41 51.9 +0.6**
baz=41,SNR=38
MVCO Mesa Verde 40.69 339 *e*P **P 08 41 52.0 +0.7**
comp=Z,79nm,1.1s,mb5.3
MVCO LR LR
comp=Z,2µm,19.0s,MS4.9

BAR **Barrett** 40.72 326 *e*P P 08 41 52.4 +0.8
comp=Z,50nm,1.0s,mb5.1
BAR LR LR
comp=Z,1µm,20.0s,MS4.7
X13A Yucca 40.73 331 ⇑P P 08 41 52.3 +0.6
baz=41,SNR=16
MONP Monument Peak 40.74 327 ⇓P P 08 41 52.2 +0.5
baz=41
U16A Tuba City 40.79 335 ⇓P P 08 41 53.0 +0.9
baz=41,SNR=68
HDIL Hopedale 40.80 2 *e*P P 08 41 52.1 -0.1
comp=Z,67nm,0.7s,mb5.4
HDIL *e*PcP PcP 08 43 59.3 +6.1
HDIL LR LR
comp=Z,900nm,22.0s,MS4.6
BC3 Big Chuckw Mtn 40.81 328 ⇓P P 08 41 53.1 +0.8
baz=41,SNR=15
W14A Seligman 40.88 332 ⇓P P 08 41 54.0 +1.1
baz=41,SNR=23
V15A Kaibab Nationa 40.97 334 ⇓P P 08 41 54.7 +1.1
baz=41,SNR=27
U17A Shonto 40.99 336 ⇑P P 08 41 54.4 +0.6
baz=41,SNR=32
IRM Iron Mountain 41.04 329 ⇓P P 08 41 55.0 +0.7
baz=41,SNR=17
BBSR BB Station 41.13 35 *e*P P 08 42 02.6 +7.6
comp=Z,85nm,1.2s,mb5.2
BBSR LR LR
comp=Z,662nm,19.0s,MS4.5
ACSO Alum Creek Sta 41.14 10 *e*P P 08 41 54.8 -0.2
comp=Z,112nm,1.4s,mb5.3
ACSO LR LR
comp=Z,724nm,22.0s,MS4.5
T18A Mexican Hat 41.14 337 ⇑P P 08 41 55.4 +0.4
baz=41,SNR=52
MCWV Mont Chateau 41.21 13 *e*P P 08 41 54.6 -0.9
comp=Z,10nm,0.8s,mb4.5
MCWV LR LR
comp=Z,800nm,19.0s,MS4.6
V14A Boquillas Ranc 41.24 333 ⇓P P 08 41 56.8 +1.0
baz=41,SNR=35
PFO Pinyon Flat Ob 41.30 327 P P 08 41 57.2 +0.8
comp=Z,149nm,1.1s,mb5.5,SNR=6.0
PFO Pinyon Flat Ob 41.30 327 *e*P P 08 41 57.3 +0.9
PFO pmax pmax
comp=Z,24nm,1.0s,mb4.8
PFO MLR MLR
comp=Z,1µm,21.0s,MS4.8
PFO Pinyon Flat Ob 41.30 327 ⇓P P 08 41 57.0 +0.6
baz=41,SNR=9.5
PFO Pinyon Flat Ob 41.30 327 *e*P P 08 41 57.3 +0.9
comp=Z,24nm,1.0s,mb4.8
PFO LR LR
comp=Z,1µm,21.0s,MS4.8
BELC Belle Mtn 41.36 328 ⇑P P 08 41 57.7 +0.8
baz=42,SNR=13
T17A Navajo Res., N 41.39 336 ⇑P P 08 41 58.1 +1.1
baz=42,SNR=47
S19A Harvey Farm, M 41.40 338 ⇓P P 08 41 57.5 +0.4
baz=42,SNR=54
U15A North Rim 41.53 334 ⇓P P 08 41 59.3 +1.1
baz=42,SNR=33
PV01 Paradox Valley 41.54 339 *e*P P 08 41 59.1 +0.9
T16A Glen Canyon Da 41.67 335 ⇑P P 08 42 00.0 +0.7
baz=42,SNR=15
S18A Hurst Farm, Bl 41.67 337 ⇓P P 08 41 59.9 +0.5
baz=42,SNR=21
SDMD Soldier's Deli 41.76 17 *e*P P 08 41 59.5 -0.6
comp=Z,18nm,0.8s,mb4.8
GMRC Granite Mounta 41.79 329 ⇓P P 08 42 01.1 +0.7
baz=42,SNR=15
V13A Grand Canyon W 41.82 332 P P 08 42 01.5 +0.9
baz=42,SNR=40
U14A Mt Trumbull 41.92 333 ⇑P P 08 42 02.3 +1.0
baz=42,SNR=29
PV10 Paradox Valley 41.92 339 *e*P P 08 42 01.3 0.0
S17A Black Ridge (B 41.94 337 ⇑P P 08 42 02.3 +0.8
baz=42,SNR=17
T15A Red Dirt Ranch 42.07 334 ⇑P P 08 42 03.4 +0.9
baz=42,SNR=19
ISCO Idaho Springs 42.11 343 *e*P P 08 42 03.6 +0.7
ISCO pmax pmax
comp=Z,71nm,0.9s,mb5.3
ISCO MLR MLR
comp=Z,1µm,21.0s,MS4.8
ISCO Idaho Springs 42.11 343 *e*P P 08 42 03.6 +0.7
comp=Z,71nm,0.9s,mb5.3
ISCO LR LR
comp=Z,1µm,21.0s,MS4.8
V12A Nelson 42.14 331 ⇓P P 08 42 03.9 +0.8
baz=42,SNR=29
SCIA State Center 42.15 358 *e*P P 08 42 02.3 -0.9
comp=Z,45nm,1.0s,mb5.0
SCIA LR LR
comp=Z,774nm,20.0s,MS4.6
HEC Hector,Ludlow 42.17 329 ⇓P P 08 42 04.4 +0.9
baz=42,SNR=22
R18A Canyonlands Na 42.24 338 ⇑P P 08 42 04.0 0.0
baz=42,SNR=39
OGNE Ogallala 42.30 348 *e*P P 08 42 05.1 +0.6
comp=Z,194nm,0.8s,mb5.8
OGNE LR LR
comp=Z,754nm,21.0s,MS4.5
S16A Weppner Ranch, 42.33 336 ⇓P P 08 42 05.2 +0.5
baz=42,SNR=46
T14A Hurricane 42.41 334 ⇑P P 08 42 05.9 +0.5
baz=42,SNR=13
BFSC Mount Baldy St 42.43 327 ⇑P P 08 42 06.3 +0.7
baz=42,SNR=10
TUQ Turquoise Moun 42.44 330 ⇓P P 08 42 06.6 +0.9
baz=42,SNR=21
V11A Goodsprings 42.51 330 ⇑P P 08 42 06.9 +0.7
baz=43,SNR=17
Q19A Hogan Spring (42.52 339 ⇓P P 08 42 06.5 +0.3
baz=43,SNR=32
U12A Valley of Fire 42.55 332 ⇓P P 08 42 06.8 +0.3
baz=43
R17A Hanksville Air 42.58 337 P P 08 42 07.2 +0.5
baz=43,SNR=35
S15A Panguitch 42.61 335 ⇑P P 08 42 08.2 +1.2
baz=43,SNR=32
SSPA Standing Stone 42.62 15 *e*P P 08 42 06.5 -0.5
comp=Z,13nm,1.0s,mb4.6
SSPA LR LR
comp=Z,337nm,20.0s,MS4.2
MWC Mount Wilson 42.64 327 *e*P P 08 42 08.2 +0.9
MWC pmax pmax
comp=Z,36nm,1.1s,mb5.0
MWC MLR MLR
comp=Z,438nm,19.0s,MS4.4
MWC Mount Wilson 42.64 327 *e*P P 08 42 08.2 +0.9
comp=Z,36nm,1.1s,mb5.0
MWC LR LR
comp=Z,438nm,19.0s,MS4.4
T13A Saint George 42.74 333 ⇑P P 08 42 09.0 +0.9
baz=43,SNR=20
R16A Teasdale 42.77 336 ⇑P P 08 42 08.9 +0.6
baz=43,SNR=18
GSC Goldstone 42.78 329 *e*P P 08 42 09.6 +1.1
GSC pmax pmax
comp=Z,52nm,1.1s,mb5.2
GSC MLR MLR
comp=Z,882nm,20.0s,MS4.7
GSC Goldstone 42.78 329 ⇑P P 08 42 09.4 +1.0
baz=43,SNR=18
GSC Goldstone 42.78 329 *e*P P 08 42 09.6 +1.1
comp=Z,52nm,1.1s,mb5.2
GSC LR LR
comp=Z,882nm,20.0s,MS4.7
SHPR Sheep Range 42.91 331 *e*P P 08 42 10.2 +0.7
SHPR *e*PcP PcP 08 44 07.6 +7.4
CCUT Cedar City 42.94 334 *e*P P 08 42 11.2 +1.5
Q18A Rafter H Ranch 42.96 338 ⇓P P 08 42 10.2 +0.4
baz=43,SNR=28
S14A Cedar City 43.03 334 ⇓P P 08 42 10.8 +0.4
baz=43,SNR=38
ALLY Alegheny Colle 43.05 12 *e*P P 08 42 10.5 0.0
comp=Z,69nm,1.1s,mb5.3
EDW2 Edwards Air Fo 43.09 327 ⇑P P 08 42 11.3 +0.4
baz=43,SNR=29
SRU San Rafael 43.11 338 *e*P P 08 42 11.1 0.0
SRU pmax pmax
comp=Z,14nm,1.0s,mb4.7
SRU San Rafael 43.11 338 ⇓P P 08 42 11.2 +0.1
baz=43,SNR=27
SRU San Rafael 43.11 338 *e*P P 08 42 11.1 0.0
comp=Z,14nm,1.0s,mb4.7
JFWS Jewell Farm 43.13 1 *e*P P 08 42 10.2 -0.9
JFWS *e* 08 44 07.1
JFWS pmax pmax
comp=Z,71nm,0.2s,mb6.0
JFWS MLR MLR
comp=Z,1µm,21.0s,MS4.8
JFWS Jewell Farm 43.13 1 *e*P P 08 42 10.2 -0.9
comp=Z,71nm,0.2s,mb6.0
JFWS *e*PcP PcP 08 44 07.1 +6.3
JFWS LR LR
comp=Z,1µm,21.0s,MS4.8
ARUT Antelope Range 43.17 334 *e*P P 08 42 12.8 +1.3
S13A Holt Ranch, En 43.18 333 ⇓P P 08 42 12.6 +1.0
baz=43,SNR=41
Q16A Castle Valley 43.19 337 ⇑P P 08 42 12.4 +0.7
baz=43,SNR=28
MSU Marysvale 43.24 336 *e*P P 08 42 13.0 +0.8
MSU *e*PcP PcP 08 44 09.0 +7.7
MVU Marysvale 43.25 336 PFAKE 08 42 20.0 +7.8
MVU LR LR
comp=Z,958nm,22.0s,MS4.7
OSI Osito Adit 43.30 326 ⇑P P 08 42 12.8 +0.2
baz=43
OSI Osito Adit 43.30 326 *e*P P 08 42 12.5 -0.1
comp=Z,40nm,1.0s,mb5.1
U10A Ash Meadows, A 43.41 330 ⇑P P 08 42 14.5 +1.0
baz=44,SNR=11
R14A James Farms, M 43.42 335 ⇑P P 08 42 14.1 +0.5
baz=44,SNR=12
P18A Preston Nutter 43.46 339 P P 08 42 14.5 +0.6
baz=44,SNR=30
PHWY Pilot Hill 43.47 344 *e*P P 08 42 14.2 +0.4
comp=Z,14nm,0.8s,mb4.8
PHWY *e*PcP PcP 08 44 08.9 +6.9
P17A Butcher Ranch, 43.51 338 ⇑P P 08 42 14.6 +0.3
baz=44,SNR=18
T11A Corn Creek, Al 43.53 332 ⇑P P 08 42 15.3 +0.9
baz=44,SNR=19
ERPA Erie 43.53 12 *e*P P 08 42 14.3 -0.1
comp=Z,62nm,1.0s,mb5.3
ERPA LR LR
comp=Z,436nm,19.0s,MS4.4
TMUT Trail Mountain 43.53 337 *e*P P 08 42 14.3 -0.2
S12A Delamar Landin 43.65 333 ⇓P P 08 42 16.2 +0.7
baz=44,SNR=11
O19A Miners Draw (B 43.66 340 ⇓P P 08 42 15.7 +0.2
baz=44,SNR=20
MPMC Manual Prospec 43.72 329 ⇓P P 08 42 16.7 +0.7
baz=44,SNR=45
R13A O'Grain Ranch, 43.73 334 ⇑P P 08 42 17.0 +0.9
baz=44,SNR=22
ARVC Arvin 43.73 327 ⇓P P 08 42 16.6 +0.5
baz=44,SNR=6.2
Q15A Fillmore 43.74 336 ⇓P P 08 42 16.1 0.0
baz=44,SNR=19
TPNV Topopah Spring 43.79 331 *e*P P 08 42 17.8 +1.2
TPNV *e* 08 44 10.2
TPNV pmax pmax
comp=Z,23nm,1.1s,mb4.8
TPNV MLR MLR
comp=Z,1µm,19.0s,MS4.8
TPNV Topopah Spring 43.79 331 ⇑P P 08 42 17.6 +1.0
baz=44,SNR=25
TPNV Topopah Spring 43.79 331 *e*P P 08 42 17.8 +1.2
comp=Z,23nm,1.1s,mb4.8
TPNV *e*PcP PcP 08 44 10.2 +7.0
TPNV LR LR
comp=Z,1µm,19.0s,MS4.8
ISA Isabella 43.94 328 *e*P P 08 42 18.0 +0.2
ISA *e* 08 44 10.7
ISA pmax pmax
comp=Z,28nm,1.1s,mb4.9
ISA MLR MLR
comp=Z,505nm,19.0s,MS4.5
ISA Isabella 43.94 328 ⇑P P 08 42 18.3 +0.5
baz=44,SNR=17
ISA Isabella 43.94 328 *e*P P 08 42 18.0 +0.2
comp=Z,28nm,1.1s,mb4.9
ISA *e*PcP PcP 08 44 10.7 +6.9
ISA LR LR
comp=Z,505nm,19.0s,MS4.5
O18A Roosevelt 43.94 339 ⇑P P 08 42 18.4 +0.7
baz=44,SNR=26
DAC Darwin (Calif) 43.94 329 PFAKE 08 42 30.0 +12
DAC LR LR
comp=Z,1µm,21.0s,MS4.7
P16A Fountain Green 43.98 337 ⇓P P 08 42 19.0 +0.9
baz=44,SNR=12
S11A Rachel 44.10 332 ⇑P P 08 42 20.0 +0.9
baz=44
Q14A Sevier Lake (B 44.10 335 ⇓P P 08 42 19.8 +0.7
baz=44,SNR=34
PKM Peak Mountain 44.12 326 ⇓P P 08 42 19.8 +0.5
baz=44,SNR=7.3
PAL Palisades 44.12 19 *e*P P 08 42 18.9 -0.3
PAL pmax pmax
comp=Z,50nm,1.0s,mb5.2
PAL Palisades 44.12 19 *e*P P 08 42 18.9 -0.3
comp=Z,50nm,1.0s,mb5.2
R12A Pony Springs, 44.13 333 ⇓P P 08 42 20.2 +0.9
baz=44,SNR=28
O17A Robinson Place 44.14 338 ⇑P P 08 42 19.8 +0.5
baz=44,SNR=36
P15A Leamington 44.19 337 ⇓P P 08 42 20.2 +0.4
baz=44,SNR=12
ECSD EROS,Sioux Fal 44.20 354 *e*P P 08 42 18.8 -1.0
comp=Z,138nm,0.7s,mb5.8
ECSD LR LR
comp=Z,595nm,19.0s,MS4.5
N19A John Jarvie Ra 44.21 340 ⇑P P 08 42 20.1 +0.2
baz=44,SNR=52
RWWY Rawlins 44.32 343 *e*P P 08 42 21.2 +0.5
comp=Z,56nm,1.3s,mb5.1
MPU Maple Canyon 44.32 337 *e*P P 08 42 21.3 +0.5
comp=Z,13nm,0.8s,mb4.7
MPU *e*PcP PcP 08 44 12.3 +7.4
MPU LR LR
comp=Z,1µm,21.0s,MS4.8
PLCA Paso Flores 44.33 157 P P 08 42 20.6 -0.1
comp=Z,36nm,1.1s,mb5.0,baz=331,slow=9.3,SNR=44
PLCA PcP PcP 08 44 03.8 -1.1
comp=Z,3.3nm,0.7s,baz=334,slow=6.9,SNR=5.2
PLCA LR LR 08 57 23.3
comp=Z,1µm,18.1s,MS4.8,baz=328,slow=32
PLCA Paso Flores 44.33 157 P P 08 42 20.7 -0.1
PLCA 08 44 03.8
PLCA Paso Flores 44.33 157 P P 08 42 20.6 -0.1
PLCA PcP PcP 08 44 03.8 -1.1
PLCA LR LR 08 57 23.3
Q13A Wheeler Ranch, 44.39 334 ⇓P P 08 42 22.0 +0.7
baz=44,SNR=23
VES Vestal, Richgr 44.40 327 P P 08 42 22.0 +0.5
baz=44,SNR=33
O16A Springville 44.44 338 ⇑P P 08 42 21.3 -0.5
baz=45,SNR=7.3
NLU North Lily Min 44.44 337 *e*P P 08 42 21.9 +0.2
N18A Larsen Ranch, 44.46 340 ⇑P P 08 42 22.1 +0.3
baz=45,SNR=19
SMMC Simmler 44.52 326 ⇑P P 08 42 23.1 +0.7
baz=45,SNR=7.7
DAU Daniels Canyon 44.52 338 *e*P P 08 42 22.9 +0.5
DAU *e* 08 44 12.8
P14A Drum Mountains 44.53 336 ⇑P P 08 42 23.3 +0.9
baz=45,SNR=37
BINY Binghamton 44.59 16 *e*P P 08 42 22.6 -0.3
comp=Z,23nm,0.8s,mb5.0
BINY LR LR
comp=Z,604nm,20.0s,MS4.5
R11A Troy Canyon, C 44.59 333 ⇓P P 08 42 23.8 +0.8
baz=45,SNR=18
S10A Tonopah Range, 44.73 331 ⇑P P 08 42 24.8 +0.7
baz=45,SNR=22
JLU Jordanelle 44.76 338 *e*P P 08 42 25.1 +0.9
P13A Bates Ranch, G 44.81 335 ⇑P P 08 42 25.5 +0.8
baz=45,SNR=18
Q12A Willow Creek R 44.82 334 ⇓P P 08 42 25.3 +0.6
baz=45,SNR=13
N17A Moffit Pass 44.83 339 ⇑P P 08 42 25.5 +0.6
baz=45,SNR=20
S09A Goldfield 44.88 331 ⇑P P 08 42 25.7 +0.4
baz=45,SNR=23
R10A Warm Springs 44.88 332 ⇑P P 08 42 26.4 +1.1
baz=45,SNR=16
PTRM Twissleman Ran 44.89 326 *e*P P 08 42 26.5 +1.1
DUG Dugway 44.94 337 *e*P P 08 42 26.3 +0.6
DUG pmax pmax
comp=Z,116nm,1.8s,mb5.4
DUG MLR MLR
comp=Z,1µm,20.0s,MS4.8
DUG Dugway 44.94 337 ⇓P P 08 42 26.2 +0.5
baz=45,SNR=22
DUG Dugway 44.94 337 *e*P P 08 42 26.3 +0.6
comp=Z,116nm,1.8s,mb5.4
DUG LR LR
comp=Z,1µm,20.0s,MS4.8
HELL Mitchell Peak 45.00 328 ⇑P P 08 42 26.5 +0.3
baz=45,SNR=19
N16A Rees Ranch, Co 45.01 338 ⇑P P 08 42 26.9 +0.7
baz=45,SNR=12
Q11A Duckwater 45.03 333 ⇑P P 08 42 27.3 +0.8
baz=45,SNR=31
NOQ North Oquirrh 45.06 337 *e*P P 08 42 27.0 +0.3
TPH Tonopah 45.15 331 *e*P P 08 42 27.5 0.0
TPH *e* 08 44 07.6
TPH *e* 08 44 14.9
TPH pmax pmax
comp=Z,40nm,1.1s,mb5.2
TPH MLR MLR
comp=Z,858nm,19.0s,MS4.7
TPH Tonopah 45.15 331 *e*P P 08 42 27.5 0.0
comp=Z,40nm,1.1s,mb5.2
TPH *e*PcP PcP 08 44 07.6 -0.3
TPH *e*PP PP 08 44 14.9 +1.8
TPH LR LR
comp=Z,858nm,19.0s,MS4.7
P12A McGill 45.21 334 ⇑P P 08 42 28.4 +0.6
baz=45,SNR=18
R09A Tonopah 45.21 331 ⇑P P 08 42 28.3 +0.4
baz=45,SNR=26
MTUM Tungsten Hills 45.27 329 *e*P P 08 42 29.4 +1.0
BDFB Brasilia 45.27 112 P P 08 42 28.9 +0.1
comp=Z,42nm,0.8s,mb5.3,baz=269,slow=14,SNR=31
BDFB LR LR 09 01 37.1
comp=Z,1µm,19.3s,MS4.8,baz=238,slow=36
BDFB Brasilia 45.27 112 P P 08 42 28.9 +0.1
BDFB LR LR 09 01 37.1
PKD Parkfield 45.28 326 ⇑P P 08 42 28.6 +0.1
baz=45
Q10A Clear Creek Ra 45.35 332 ⇑P P 08 42 30.3 +1.3
baz=46,SNR=28
O13A Hicks Ranch, I 45.36 335 ⇑P P 08 42 29.5 +0.5
baz=46,SNR=7.4
GLMI Grayling 45.42 7 *e*P P 08 42 28.6 -0.8
comp=Z,40nm,0.8s,mb5.3
GLMI LR LR
comp=Z,589nm,20.0s,MS4.5
M16A Huntsville 45.45 338 ⇓P P 08 42 29.8 +0.1
baz=46,SNR=18
MLAC Mammoth Lakes 45.62 329 ⇓P P 08 42 31.9 +0.8
baz=46,SNR=26
KCC Kaiser Creek 45.64 328 ⇓P P 08 42 30.9 -0.4
baz=46,SNR=12
N14A Grayback Hills 45.65 337 ⇓P P 08 42 31.6 +0.3
baz=46,SNR=20
BGU Big Grassy Mou 45.65 337 *e*P P 08 42 31.8 +0.4
HWUT Hardware Ranch 45.68 339 *e*P P 08 42 31.6 0.0
comp=Z,78nm,1.3s,mb5.5
HWUT LR LR
comp=Z,2µm,20.0s,MS5.1
O12A Currie 45.79 335 ⇑P P 08 42 32.4 -0.1
baz=46,SNR=15
R08A Mina 45.80 330 ⇑P P 08 42 33.2 +0.6
baz=46,SNR=14
M15A Larsen Ranch, 45.88 338 ⇓P P 08 42 32.5 -0.6
baz=46,SNR=8.5
NVAR Mina Array Bea 45.96 330 P P 08 42 34.3 +0.4
comp=Z,18nm,0.8s,mb5.1,baz=163,slow=9.4,SNR=127
NVAR PP PP 08 44 18.1 -3.6
comp=Z,7.7nm,1.0s,baz=144,slow=5.0,SNR=5.3
L16A Fish Haven 45.99 339 ⇑P P 08 42 33.3 -0.7
baz=46,SNR=6.5
BW06 Boulder Array 46.02 341 ⇑P P 08 42 33.5 -0.8
baz=46,SNR=15
BW06 Boulder Array 46.02 341 *e*P P 08 42 33.6 -0.6
BW06 *e*PcP PcP 08 44 17.5 +6.7
BW06 LR LR
comp=Z,1µm,19.0s,MS5.0
PDAR Pinedale Array 46.02 341 P P 08 42 33.6 -0.6
comp=Z,7.9nm,1.0s,mb4.6,baz=142,slow=7.5,SNR=40
PDAR PcP PcP 08 44 09.8 -1.0
comp=Z,1.6nm,0.9s,baz=144,slow=6.4,SNR=2.4
PDAR LR LR 09 01 12.9
comp=Z,1µm,20.2s,MS4.8,baz=167,slow=35
O11A Cowboy Ranch, 46.08 334 ⇑P P 08 42 35.2 +0.5
baz=46,SNR=20
Q08A Gabbs 46.11 331 ⇑P P 08 42 35.5 +0.4
baz=46,SNR=28
TRQA Tornquist 46.14 148 *e*P P 08 42 34.1 -1.2
comp=Z,78nm,1.5s,mb5.4
TRQA *e*PcP PcP 08 44 10.3 -1.0
TRQA LR LR
comp=Z,1µm,20.0s,MS4.9
WES Weston 46.23 20 PFAKE 08 42 50.0 +14
WES LR LR
comp=Z,2µm,22.0s,MS5.0
HRV Adam Dziewonsk 46.25 20 PFAKE 08 42 50.0 +14
HRV LR LR
comp=Z,895nm,20.0s,MS4.7
M14A Sheep Mountain 46.26 337 ⇑P P 08 42 36.0 -0.2
baz=46,SNR=32
HVU Hansel Valley 46.28 338 *e*P P 08 42 36.1 -0.2
HVU pmax pmax
comp=Z,38nm,1.0s,mb5.3
HVU Hansel Valley 46.28 338 *e*P P 08 42 36.1 -0.2
comp=Z,38nm,1.0s,mb5.3
L15A Malad City 46.33 338 ⇓P P 08 42 35.7 -1.0
baz=46,SNR=11
COWI Conover 46.34 2 *e*P P 08 42 34.9 -1.8
comp=Z,27nm,1.1s,mb5.1
COWI LR LR
comp=Z,577nm,19.0s,MS4.5
ACCN Adirondack Com 46.35 18 *e*P P 08 42 36.8 0.0
comp=Z,44nm,1.5s,mb5.2
SAO San Andreas Ge 46.38 326 *e*P P 08 42 42.4 +5.2
SAO MLR MLR
comp=Z,469nm,20.0s,MS4.4
ELK Elko 46.40 335 *e*P P 08 42 37.9 +0.6
ELK pmax pmax
comp=Z,30nm,1.0s
ELK MLR MLR
comp=Z,925nm,19.0s
ELK Elko 46.40 335 *e*P P 08 42 37.9 +0.6
comp=Z,30nm,1.0s,mb5.2
ELK LR LR
comp=Z,925nm,19.0s,MS4.8
N12A Clover Valley, 46.40 335 ⇓P P 08 42 37.3 0.0
baz=46,SNR=17
PACP Pacheco Peak 46.46 326 ⇓P P 08 42 37.6 -0.3
baz=47,SNR=6.4
M13A Montello 46.47 336 ⇓P P 08 42 37.4 -0.4
baz=47,SNR=16
AHID Auburn Hatcher 46.53 340 *e*P P 08 42 37.5 -0.8
comp=Z,13nm,1.0s,mb4.8
AHID *e*PcP PcP 08 44 12.3 -0.2
AHID LR LR
comp=Z,1µm,19.0s,MS4.9
WAKR Walker 46.59 329 *e*P P 08 42 39.7 +0.9
Q07A Schurz 46.60 330 ⇑P P 08 42 39.7 +0.8
baz=47
R06C Coleville 46.61 329 ⇑P P 08 42 39.7 +0.7
baz=47,SNR=12
N11A Elko Archery C 46.67 334 ⇓P P 08 42 39.5 +0.1
baz=47,SNR=6.1
L14A Malta 46.68 337 ⇑P P 08 42 38.6 -0.8
baz=47,SNR=12
NCB Newcomb 46.72 17 *e*P P 08 42 38.8 -0.9
comp=Z,53nm,1.5s,mb5.2
NCB LR LR
comp=Z,734nm,20.0s,MS4.6
CMB Columbia Colle 46.73 328 *e*P P 08 42 39.7 -0.2
CMB pmax pmax
comp=Z,30nm,1.2s,mb5.1
CMB MLR MLR
comp=Z,427nm,19.0s,MS4.4
CMB Columbia Colle 46.73 328 ⇓P P 08 42 39.6 -0.3
baz=47,SNR=20
CMB Columbia Colle 46.73 328 *e*P P 08 42 39.7 -0.2
comp=Z,30nm,1.2s,mb5.1
CMB LR LR
comp=Z,427nm,19.0s,MS4.4
K16A Soda Springs 46.76 339 ⇑P P 08 42 39.6 -0.5
baz=47,SNR=6.9
O09A Fish Creek Ran 46.80 333 ⇑P P 08 42 40.6 +0.2
baz=47,SNR=17
M12A Wells 46.82 336 ⇓P P 08 42 40.4 -0.2

baz=47,SNR=16
P08A Dixie Valley 46.84 331 ⇑P P 08 42 40.5 -0.2
baz=47
K15A Arbon 46.97 339 ⇑P P 08 42 41.0 -0.8
baz=47,SNR=9.7
REDW Red Top Meadow 46.98 340 eP P 08 42 41.6 -0.1
comp=Z,62nm,1.3s,mb5.4
BMN Battle Mountai 47.02 333 eP P 08 42 42.2 +0.1
BMN pmax pmax
comp=Z,18nm,0.9s,mb5.0
BMN MLR MLR
comp=Z,835nm,19.0s,MS4.7
BMN Battle Mountai 47.02 333 eP P 08 42 42.2 0.0
comp=Z,18nm,0.9s,mb5.0
BMN LR LR
comp=Z,835nm,19.0s,MS4.7
SNOW Snow King Moun 47.03 341 eP P 08 42 42.1 -0.1
comp=Z,57nm,1.2s,mb5.4
MDV Middlebury 47.06 18 eP P 08 42 41.3 -1.1
HNH Hanover 47.08 19 eP P 08 42 49.9 +7.4
K14A Jones Ranch, D 47.09 338 ⇓P P 08 42 41.7 -0.9
baz=47,SNR=12
RRI2 Red Ridge 47.12 340 eP P 08 42 42.6 -0.3
comp=Z,41nm,1.4s,mb5.2
TPAW Teton Pass 47.12 340 eP P 08 42 42.5 -0.4
comp=Z,73nm,1.7s,mb5.3
J16A Bone 47.16 340 ⇓P P 08 42 42.7 -0.5
baz=47,SNR=10
R04C Big Horse Ranc 47.19 328 ⇑P P 08 42 43.2 -0.2
baz=47,SNR=10
M11A Holland Ranch, 47.20 335 ⇑P P 08 42 43.6 +0.1
baz=47,SNR=20
LONY Lake Ozonia 47.22 16 eP P 08 42 43.1 -0.5
comp=Z,24nm,0.8s,mb5.2
LONY LR LR
comp=Z,1μm,20.0s,MS4.8
MOOW Moose Ponds 47.29 341 eP P 08 42 43.5 -0.6
comp=Z,7.2nm,0.9s,mb4.6
DCID1 Drake Creek 47.30 340 eP P 08 42 44.4 +0.2
comp=Z,52nm,1.0s,mb5.4
O08A Rochester Mine 47.34 332 ⇓P P 08 42 44.3 -0.3
baz=48,SNR=12
WCN Washoe City 47.36 330 ⇓P P 08 42 45.1 +0.3
baz=48,SNR=11
I17A Pilgram Creek 47.38 341 ⇑P P 08 42 44.7 -0.2
baz=48
BDM Black Diamond 47.47 327 ⇑P P 08 42 45.9 +0.3
baz=48,SNR=6.3
L12A House Creek Ra 47.47 336 ⇓P P 08 42 44.9 -0.7
baz=48,SNR=12
PAHR Pah Rah Range 47.48 330 eP P 08 42 46.2 +0.5
comp=Z,32nm,1.2s,mb5.1
IMW Indian Meadow 47.48 341 eP P 08 42 45.2 -0.5
comp=Z,36nm,1.7s,mb5.0
IMW ePcP PcP 08 44 16.0 +0.1
K13A Stover Farm, H 47.53 337 ⇑P P 08 42 45.3 -0.7
baz=48,SNR=6.8
J15A Blackfoot 47.56 339 ⇑P P 08 42 45.7 -0.5
baz=48,SNR=14
O07A Toulon 47.59 331 ⇑P P 08 42 46.3 -0.3
baz=48,SNR=9.7
M10A I.L. Ranch, Tu 47.60 334 ⇑P P 08 42 46.5 -0.1
baz=48,SNR=9.6
I16A Newdale 47.65 340 P P 08 42 46.6 -0.3
baz=48,SNR=19
LBNH Lisbon 47.67 19 PFAKE 08 43 00.0 +13
LBNH LR LR
comp=Z,998nm,20.0s,MS4.8
FRNY Flat Rock 47.70 17 eP P 08 42 47.1 -0.2
comp=Z,32nm,1.1s,mb5.3
N08A GE Springer Mi 47.72 332 ⇓P P 08 42 47.6 0.0
baz=48
P05C Yuba Gap, Truc 47.79 329 ⇑P P 08 42 48.6 +0.5
baz=48,SNR=21
L11A Cat Creek Ranc 47.79 335 ⇓P P 08 42 47.5 -0.6
baz=48,SNR=10
K12A Draper Farm, C 47.84 336 ⇑P P 08 42 47.9 -0.5
baz=48,SNR=7.1
Q04C Lincoln 47.85 328 ⇓P P 08 42 48.5 -0.1
baz=48,SNR=12
J14A Carey 47.89 338 ⇑P P 08 42 48.5 -0.3
baz=48,SNR=24
LKWY Lake 47.91 342 PFAKE 08 43 00.0 +11
LKWY LR LR
comp=Z,1μm,21.0s,MS4.9
L10A Juniper Basin 48.02 335 ⇓P P 08 42 49.5 -0.4
baz=48,SNR=9.4
Q03C Winters 48.04 327 ⇓P P 08 42 49.8 -0.3
baz=48,SNR=7.5
O06A Flanigan 48.05 330 ⇑P P 08 42 50.2 0.0
baz=48,SNR=7.5
COYC Coyhaique 48.06 162 ⇓iP P 08 42 50.4 +0.3
RLMT Red Lodge 48.06 343 P P 08 42 49.4 -0.8
baz=48,SNR=5.9
RLMT Red Lodge 48.06 343 eP P 08 42 49.0 -1.2
comp=Z,13nm,1.1s,mb4.9
RLMT LR LR
comp=Z,819nm,20.0s,MS4.7
RKT Rikitea 48.08 239 eLR LR 08 56 35.8
comp=Z,428nm,26.5s,baz=61
I15A Monteview 48.10 339 ⇑P P 08 42 50.3 -0.1
baz=48,SNR=6.1
EYMN Ely 48.16 360 eP P 08 42 49.4 -1.4
EYMN comp=Z,34nm,0.9s,mb5.4
EYMN LR LR
comp=Z,733nm,21.0s,MS4.6
MCCM Marconi Confer 48.16 326 PFAKE 08 43 00.0 +9.0
MCCM LR LR
comp=Z,581nm,20.0s,MS4.6
YMR Madison River 48.18 341 eP P 08 42 51.4 +0.3
comp=Z,38nm,1.3s,mb5.3
YMR LR LR
comp=Z,958nm,21.0s,MS4.8
J13A Cove Ranch, Pi 48.20 338 ⇑P P 08 42 50.9 -0.4
baz=48,SNR=16
OHCM Honcut 48.27 328 eP P 08 42 51.9 0.0
NSHM Saint Helena R 48.28 327 eP P 08 42 52.2 +0.3
H16A Russell Place, 48.30 341 ⇑P P 08 42 52.2 +0.2
baz=48,SNR=9.5
SPB Sao Paulo 48.34 122 eP P 08 42 52.0 -0.7
I14A Mackay 48.38 339 ⇑P P 08 42 53.0 +0.3
baz=48,SNR=26
K11A Parker Ranch, 48.41 336 ⇓P P 08 42 52.1 -0.8
baz=48
HLID Hailey 48.43 338 ⇑P P 08 42 52.6 -0.4
baz=49,SNR=24
HLID Hailey 48.43 338 eP P 08 42 53.1 0.0
comp=Z,63nm,1.3s,mb5.5
HLID LR LR
comp=Z,759nm,20.0s,MS4.7
J12A Stokes Ranch, 48.43 337 ⇑P P 08 42 52.2 -0.8
baz=49,SNR=15
ORV Oroville 48.44 329 ⇑P P 08 42 53.2 0.0
baz=48,SNR=31
O05C Quincy 48.44 329 ⇓P P 08 42 53.6 +0.4
baz=49,SNR=8.6
QLMT Earthquake Lak 48.47 341 eP P 08 42 54.0 +0.7
L09A Wilkinson Ranc 48.49 334 ⇑P P 08 42 53.1 -0.4
baz=49,SNR=14
N06A Buffalo Meadow 48.50 331 ⇓P P 08 42 53.5 -0.1
baz=49,SNR=18
I13A Wildhorse Cree 48.62 338 ⇓P P 08 42 54.4 0.0
baz=49,SNR=19
AGMN Agassiz Refuge 48.67 356 eP P 08 42 54.0 -0.8
comp=Z,104nm,0.9s,mb5.9
AGMN LR LR
comp=Z,673nm,20.0s,MS4.6
M07A Soldier Meadow 48.68 332 ⇓P P 08 42 54.0 -0.9
baz=49,SNR=12
H15A Lima 48.70 340 ⇓P P 08 42 55.2 +0.2
baz=49,SNR=12
LAO LASA Array 48.70 346 eP P 08 42 54.2 -0.8
comp=Z,41nm,1.1s,mb5.4
LAO LR LR
comp=Z,1μm,20.0s,MS4.8
K10A MacKenzie Ranc 48.77 335 ⇓P P 08 42 55.0 -0.6
baz=49,SNR=9.8
GCMT Greycliff 48.79 343 eP P 08 42 55.0 -0.7
O04C Chester 48.80 330 ⇓P P 08 42 55.7 -0.2
baz=49,SNR=12
MFID Camas Ranch 48.86 336 ⇓P P 08 42 55.5 -0.8
baz=49,SNR=16
I12A Atlanta 48.90 337 ⇓P P 08 42 56.5 -0.1
baz=49
F18A Big Timber 48.91 343 ⇑P P 08 42 56.1 -0.5
baz=49,SNR=11
H14A Leadore 48.95 339 ⇑P P 08 42 57.0 +0.1
baz=49,SNR=18
G16A Moss Hill, Enn 48.95 341 ⇓P P 08 42 56.7 -0.2
baz=49,SNR=12
MCMT McKenzie Canyo 48.95 340 eP P 08 42 57.3 +0.3
K09A Rome 49.07 334 ⇓P P 08 42 57.6 -0.4
baz=49,SNR=41
G15A Dillon 49.12 340 ⇑P P 08 42 58.0 -0.3
baz=49,SNR=7.2
GASB Alder Springs 49.15 328 ⇑P P 08 42 59.1 +0.5
baz=49,SNR=9.6
M06C Likely Place G 49.16 331 ⇑P P 08 42 58.6 -0.1
baz=49,SNR=5.2
H13A Challis 49.23 338 ⇑P P 08 42 58.8 -0.4
baz=49,SNR=12
L07A Adell 49.25 332 ⇑P P 08 42 59.1 -0.3
baz=49,SNR=15
WVOR Wild Horse Val 49.26 333 eP P 08 42 59.2 -0.2
WVOR pmax pmax
WVOR comp=Z,52nm,1.8s,mb5.3
WVOR MLR MLR
comp=Z,723nm,20.0s,MS4.7
WVOR Wild Horse Val 49.26 333 eP P 08 42 59.2 -0.2
comp=Z,52nm,1.8s,mb5.3
WVOR LR LR
comp=Z,723nm,20.0s,MS4.7
I11A Placerville 49.33 337 ⇑P P 08 42 59.6 -0.3
baz=50,SNR=16
DLMT Dillon 49.33 340 eP P 08 42 59.7 -0.2
comp=Z,46nm,1.6s,mb5.3
K08A Mann Creek Ran 49.43 334 ⇑P P 08 42 59.8 -0.9
baz=50,SNR=11
H12A Diamond D Ranc 49.44 338 P P 08 43 00.6 -0.2
baz=50,SNR=24
PKME Peaks-Kenny Pk 49.46 20 eP P 08 43 00.5 -0.4
comp=Z,46nm,1.0s,mb5.5
PKME LR LR
comp=Z,985nm,19.0s,MS4.8
G14A Jackson 49.52 339 ⇓P P 08 43 01.4 0.0
baz=50
E18A Harlowton 49.56 343 ⇓P P 08 43 00.9 -0.8
baz=50,SNR=7.0
O02C Red Bluff 49.57 328 ⇑P P 08 43 00.3 -1.5
baz=50
J09A Fry Pan Ranch, 49.60 335 ⇑P P 08 43 01.4 -0.6
baz=50,SNR=14
M05C Lookout 49.61 330 ⇑P P 08 43 01.5 -0.6
baz=50,SNR=15
MOD Modoc 49.61 332 ⇑P P 08 43 01.3 -0.8
baz=50,SNR=12
MOD Modoc 49.61 332 eP P 08 43 01.8 -0.4
comp=Z,26nm,1.2s,mb5.1
MOD ePcP PcP 08 44 24.0 +0.4
MOD LR LR
comp=Z,788nm,20.0s,MS4.7
KCPM Cahto Peak 49.64 327 eP P 08 43 03.3 +1.0
LTIM Timbered Crate 49.64 330 P P 08 43 02.2 -0.1
EMWW East Machias 49.65 22 eP P 08 43 02.5 +0.1
G13A Cobalt 49.67 339 ⇑P P 08 43 01.6 -0.9
baz=50,SNR=11
KIPM Iron Peak 49.67 327 eP P 08 43 03.1 +0.5
LRM Limekiln Ridge 49.69 341 eP P 08 43 02.1 -0.5
F15A Butte 49.72 341 ⇓P P 08 43 01.9 -0.9
baz=50,SNR=5.1
WDC Whiskeytown Da 49.73 329 eP P 08 43 00.7 -2.4
WDC e 08 44 23.3
WDC pmax pmax
comp=Z,8.0nm,0.8s,mb4.8
WDC MLR MLR
comp=Z,423nm,19.0s,MS4.5
WDC Whiskeytown Da 49.73 329 ⇓P P 08 43 00.9 -2.2
baz=50,SNR=6.1
WDC Whiskeytown Da 49.73 329 eP P 08 43 00.7 -2.4
comp=Z,7.9nm,0.8s,mb4.8
WDC ePcP PcP 08 44 23.3 -0.8
WDC LR LR
comp=Z,423nm,19.0s,MS4.5
K07A Rock Creek Ran 49.74 333 ⇑P P 08 43 02.5 -0.6
baz=50
E17A Martinsdale 49.75 342 ⇓P P 08 43 02.7 -0.4
baz=50
I10A Payette 49.81 336 ⇑P P 08 43 02.8 -0.8
baz=50
J08A Circle Bar Ran 49.92 334 ⇑P P 08 43 04.0 -0.5
baz=50,SNR=6.1
DGMT Dagmar 49.96 349 eP P 08 43 04.4 -0.2
comp=Z,67nm,0.7s,mb5.8
DGMT LR LR
comp=Z,506nm,20.0s,MS4.5
L05A Lakeview 49.98 331 ⇑P P 08 43 05.4 +0.5
baz=50,SNR=7.2
F14A Wisdom 49.99 340 ⇓P P 08 43 03.5 -1.4
baz=50
LASM Arnica Sink 50.00 330 P P 08 43 04.7 -0.4
H11A Donnelly 50.01 337 ⇑P P 08 43 04.0 -1.0
baz=50,SNR=12
M03C McCloud 50.03 330 ⇑P P 08 43 04.0 -1.3
baz=50,SNR=6.4
E16A East Helena 50.07 342 ⇓P P 08 43 04.7 -0.8
baz=50,SNR=9.2
G12A Big Creek, Yel 50.10 338 ⇓P P 08 43 04.6 -1.2
baz=50
I09A Lost Marbles R 50.11 335 ⇓P P 08 43 04.6 -1.2
baz=50
H10A Noah's Angus R 50.20 336 ⇑P P 08 43 04.2 -2.3
baz=50,SNR=8.0
M04C Macdoel 50.27 330 ⇓P P 08 43 06.2 -0.9
baz=50,SNR=12
E15A Deer Lodge 50.28 341 P P 08 43 06.0 -1.1
baz=50,SNR=6.9
K06A Valley Falls 50.28 332 ⇑P P 08 43 06.4 -0.8
baz=50,SNR=6.3
F13A Darby 50.30 339 P P 08 43 06.5 -0.8
baz=50,SNR=9.4
N02C Big Bar 50.31 328 P P 08 43 07.4 0.0
baz=50,SNR=23
D16A Dana Ranch, Ca 50.47 342 ⇑P P 08 43 07.7 -0.8
baz=51,SNR=5.3
M02C Callahan 50.49 329 ⇑P P 08 43 07.3 -1.5
baz=51
K05A Summer Lake 50.53 332 ⇓P P 08 43 08.9 -0.2
baz=51,SNR=9.1
KHMM Horse Mountain 50.57 328 eP P 08 43 10.0 +0.5
J06A Christmas Vall 50.59 333 ⇓P P 08 43 08.8 -0.8
baz=51
L04A Klamath Falls 50.59 331 ⇑P P 08 43 09.0 -0.6
baz=51,SNR=6.3
F12A Elk City 50.61 338 ⇑P P 08 43 08.3 -1.3
baz=51
ULM Lac du Bonnet 50.62 356 P P 08 43 08.5 -1.1
comp=Z,109nm,0.9s,mb5.8,baz=179,slow=7.4,SNR=102
ULM LR LR 09 05 01.2
comp=Z,610nm,20.8s,MS4.6,baz=187,slow=37
BMO Blue Mountains 50.65 336 eP P 08 43 08.6 -1.3
comp=Z,5.9nm,1.2s,mb4.4
BMO ePcP PcP 08 44 25.5 -1.8
BMO LR LR
comp=Z,768nm,19.0s,MS4.7
YBH Yreka Blue Hor 50.67 330 eP P 08 43 08.9 -1.2
YBH pmax pmax
comp=Z,9.0nm,0.8s
YBH MLR MLR
comp=Z,471nm,19.0s
YBH Yreka Blue Hor 50.67 330 ⇓P P 08 43 08.0 -2.1
baz=51,SNR=8.4
YBH Yreka Blue Hor 50.67 330 eP P 08 43 08.9 -1.3
comp=Z,9.2nm,0.8s,mb4.8
YBH LR LR
comp=Z,471nm,19.0s,MS4.5
G11A Walters Elk Ra 50.69 337 ⇓P P 08 43 08.7 -1.6
baz=51,SNR=9.3
C17A Wharram Farm, 50.77 343 ⇑P P 08 43 09.8 -1.1
baz=51,SNR=18
D15A Lincoln 50.78 341 ⇓P P 08 43 10.2 -0.7
baz=51,SNR=6.5
E13A Victor 50.82 340 P P 08 43 10.5 -0.6
baz=51,SNR=6.8
BUOR Burton Butte 50.84 330 P P 08 43 11.0 -0.4
EGMT Eagleton 50.84 344 ⇓P P 08 43 10.4 -1.0
baz=51,SNR=6.2
EGMT Eagleton 50.84 344 eP P 08 43 11.0 -0.3
comp=Z,8.3nm,0.8s,mb4.7
EGMT LR LR
comp=Z,926nm,20.0s,MS4.8
CHMT Chamberlain Mo 50.91 341 eP P 08 43 11.7 -0.2
G10A Bishop Farm, J 50.94 337 ⇓P P 08 43 10.3 -1.8
baz=51,SNR=11
H08A Prairie City 50.94 335 ⇓P P 08 43 11.0 -1.1
baz=51,SNR=12
F11A Grangeville 51.06 338 ⇓P P 08 43 11.6 -1.4
baz=51
MSO Missoula 51.07 340 eP P 08 43 12.9 -0.1
MSO LR LR
comp=Z,645nm,20.0s,MS4.6
J05A Fort Rock 51.12 332 ⇑P P 08 43 12.9 -0.6
baz=51,SNR=6.8
KRMB Red Mountain 51.13 329 eP P 08 43 13.4 -0.2
D14A Greenough 51.14 341 ⇓P P 08 43 11.7 -1.9
baz=51,SNR=5.5
I06A Prineville 51.16 333 ⇓P P 08 43 13.2 -0.6
baz=51,SNR=6.0
C16A Fuhringer Ranc 51.22 342 ⇑P P 08 43 13.3 -0.9
baz=51
E12A Beaver Dam Sad 51.29 339 ⇓P P 08 43 13.4 -1.3
baz=51
L02A Cave Junction 51.43 329 ⇓P P 08 43 15.1 -0.8
baz=52,SNR=5.5
HUMO Hull Mountain 51.44 330 PFAKE 08 43 30.0 +14
HUMO LR LR
comp=Z,469nm,20.0s,MS4.5
E11A Bogner Ranch, 51.47 338 ⇑P P 08 43 15.5 -0.6
baz=52,SNR=6.7
D13A Huson 51.48 340 ⇑P P 08 43 15.4 -0.7
baz=52,SNR=24
J04A Umpqua Nationa 51.50 331 ⇓P P 08 43 16.0 -0.3
baz=52,SNR=9.2
F10A Beach Ranch, E 51.54 337 ⇓P P 08 43 15.9 -0.7
baz=52,SNR=7.3
G08A Pilot Rock 51.68 335 P P 08 43 16.9 -0.8
baz=52,SNR=8.3
D12A Red Ives Fores 51.75 339 ⇓P P 08 43 16.7 -1.5
baz=52
B16A M & M Farms, S 51.76 343 ⇑P P 08 43 16.8 -1.3
baz=52,SNR=5.2
VIPM Ingram Point 51.78 333 P P 08 43 18.5 0.0
I05A Bend 51.81 333 ⇓P P 08 43 18.1 -0.5
baz=52,SNR=6.1
K02A Glendale 51.82 330 ⇑P P 08 43 17.9 -0.8
baz=52,SNR=7.2
C14A Swan Lake 51.82 341 ⇓P P 08 43 18.2 -0.5
baz=52,SNR=5.3
H06A Lindquist Farm 51.83 334 ⇓P P 08 43 18.2 -0.6
baz=52
LNOR Lincton Mounta 51.88 336 eP P 08 43 18.1 -1.1
B15A Bradely Ranch, 51.92 342 ⇑P P 08 43 18.0 -1.4
baz=52,SNR=6.1
F08A Pendleton 52.02 336 ⇓P P 08 43 18.9 -1.3
baz=52
C13A Hot Springs 52.02 340 ⇓P P 08 43 19.2 -1.0
baz=52,SNR=5.4
D11A Klaveano Farm, 52.10 338 ⇓P P 08 43 19.1 -1.7
baz=52,SNR=7.4
A16A West Butte Ran 52.20 343 ⇓P P 08 43 20.8 -0.7
baz=52,SNR=9.7
BSMT Bassoo Peak 52.24 340 P P 08 43 21.6 -0.2
VTHM Trough 52.28 334 P P 08 43 22.5 +0.4
KEBM Edson Butte 52.32 330 eP P 08 43 23.0 +0.5
E09A Wood Farm, Sta 52.35 337 ⇑P P 08 43 20.8 -1.8
baz=52,SNR=11
C12B Naegeli Ranch, 52.36 340 ⇓P P 08 43 21.6 -1.1
baz=52,SNR=9.3
A15A Johnson Ranch, 52.57 342 ⇓P P 08 43 23.5 -0.7
baz=53,SNR=16
B13A Whitefish 52.59 341 ⇑P P 08 43 23.6 -0.8
baz=53,SNR=6.5
HAWA Hanford 52.81 336 eP P 08 43 23.6 -2.4
comp=Z,10nm,1.0s,mb4.7
HAWA LR LR
comp=Z,733nm,21.0s,MS4.7
RSW Rattlesnake Hi 52.83 336 eP P 08 43 25.5 -0.8
F06A Goldendale 52.84 334 ⇑P P 08 43 25.6 -0.7
baz=53,SNR=7.6
GBL Gable Mountain 52.95 336 P P 08 43 27.4 +0.4
A13A Flathead Natio 53.06 341 ⇑P P 08 43 27.4 -0.4
baz=53
E07A Sunnyside 53.08 336 ⇑P P 08 43 27.8 -0.2
baz=53,SNR=7.0
COR Corvallis 53.08 332 PFAKE 08 43 40.0 +12
COR LR LR
comp=Z,783nm,21.0s,MS4.7
MDW Midway 53.08 336 P P 08 43 27.9 -0.1
D08A Wollman Farm, 53.10 337 ⇓P P 08 43 27.0 -1.2
baz=53
OD2 Odessa Site #2 53.29 337 P P 08 43 29.0 -0.6
B11A Sandpoint 53.29 339 ⇓P P 08 43 28.0 -1.6
baz=53
NEW Newport 53.41 339 eP P 08 43 29.7 -0.8
comp=Z,177nm,2.6s,mb5.5
NEW ePcP PcP 08 44 37.0 -0.6
NEW LR LR
comp=Z,1μm,21.0s,MS4.9
EPH Ephrata 53.61 336 P P 08 43 31.4 -0.5
EBG Ellensburg 53.65 335 P P 08 43 32.4 +0.2
A11A Hall Mountain, 53.73 340 ⇓P P 08 43 31.3 -1.5
baz=54,SNR=9.4
C08A Higginbotham F 53.74 337 ⇓P P 08 43 32.4 -0.5
baz=54,SNR=8.1
B09A Rice 53.92 338 ⇑P P 08 43 32.8 -1.4
baz=54,SNR=5.9
LON Longmire 54.05 334 eP P 08 43 34.4 -0.8
LON pmax pmax
comp=Z,8.0nm,0.9s,mb4.7
LON Longmire 54.05 334 eP P 08 43 34.4 -0.8
comp=Z,7.7nm,0.9s,mb4.6
ETW Entiat 54.11 336 eP P 08 43 34.7 -0.8
A10A Northport 54.17 339 ⇑P P 08 43 33.5 -2.5
baz=54,SNR=5.1
B08A Colville Reser 54.32 337 ⇑P P 08 43 35.5 -1.6
baz=54,SNR=6.7
A09A Danville 54.54 338 ⇓P P 08 43 36.8 -1.9
baz=55,SNR=6.4
JCW Jim Creek 55.23 335 eP P 08 43 42.0 -1.8
RPW Rockport 55.26 336 eP P 08 43 42.4 -1.5
FFC Flin Flon 55.65 352 P P 08 43 45.8 -0.8
comp=Z,186nm,1.1s,mb6.0,SNR=9.1
A05A Maple Falls 55.93 336 ⇓P P 08 43 47.0 -1.7
baz=56
EDM Edmonton 56.53 344 eP P 08 43 52.0 -0.9
EDM e 08 44 54.0
EFI East Falkland 58.23 156 eP P 08 44 04.9 0.0
EFI e 08 46 16.4
EFI pmax pmax
comp=Z,207nm,1.3s,mb6.0
EFI MLR MLR
comp=Z,1μm,19.0s,MS5.0
EFI East Falkland 58.23 156 eP P 08 44 04.9 0.0
comp=Z,207nm,1.3s,mb6.0
EFI ePP PP 08 46 16.4 +2.5
EFI LR LR
comp=Z,1μm,19.0s,MS5.0
SCHQ Schefferville 58.59 16 P P 08 44 06.2 -1.3
comp=Z,5.9nm,0.6s,mb4.8,baz=0.1,slow=18,SNR=6.5
SCHQ LR LR 09 09 16.0
comp=Z,517nm,19.2s,MS4.7,baz=254,slow=36
PPT Papeete 59.80 250 eS S 08 52 30.0 +1.7
comp=Z,626nm,27.5s
PPT eLQ 08 59 33.2
comp=Z,2μm,30.2s
PPT eLR LR 09 01 57.8
comp=Z,169nm,24.8s
PPT Papeete 59.80 250 LR LR 09 03 15.6
comp=Z,230nm,18.2s,MS4.3,baz=88,slow=29
TBI Tubuai 60.86 243 eS S 08 52 43.8 +2.0
comp=Z,156nm,27.0s
TBI eLQ 08 59 48.8
comp=Z,904nm,33.0s
TBI eLR LR 09 02 27.4
comp=Z,364nm,25.8s,baz=76
YKA Yellowknife Ar 65.16 348 P P 08 44 50.1 -1.4
comp=Z,25nm,0.7s,mb5.3,baz=149,slow=6.3,SNR=62
YKA PP PP 08 47 13.8 -1.1
comp=Z,2.4nm,0.8s,baz=149,slow=8.8,SNR=3.8
YKA LR LR 09 14 45.1
comp=Z,213nm,18.6s,MS4.4,baz=140,slow=37
YKA Yellowknife Ar 65.16 348 P P 08 44 50.1 -1.4
YKA 08 47 13.8
RAR Rarotonga 69.87 248 LR LR 09 06 49.5
comp=Z,143nm,19.5s,MS4.2,baz=102,slow=28
DAWY Dawson 73.31 340 eP P 08 45 41.2 -0.8
KDAK Kodiak Island 75.46 331 PFAKE 08 46 10.0 +15
KDAK LR LR
comp=Z,142nm,19.0s,MS4.3
PMR Palmer 75.63 335 PFAKE 08 46 10.0 +14
PMR LR LR
comp=Z,375nm,19.0s,MS4.7
MCK McKinley 76.61 337 eP P 08 46 00.0 -1.1

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
MCK				pmax	pmax		
	comp=Z,14nm,1.0s,mb4.8						
MCK	**McKinley**	**76.61**	**337**	*e*P	**P**	**08 46 00.0**	**-1.0**
	comp=Z,14nm,1.0s,mb4.8						
COLA	**College**	**76.78**	**339**⇑	*e*P	**P**	**08 46 00.8**	**-1.2**
COLA	**College**	**76.78**	**339**	PFAKE		08 46 10.0	+8.0
COLA				LR	LR		
	comp=Z,483nm,20.0s,MS4.8						
TRF	**Thorofare Moun**	**77.00**	**337**	*e*P	**P**	**08 46 02.0**	**-1.3**
	comp=Z,14nm,0.8s,mb4.9						
KTH	**Kantishna Hill**	**77.30**	**337**	*e*P	**P**	**08 46 03.3**	**-1.7**
	comp=Z,14nm,0.9s,mb4.9						
PPLA	**Purkeypile**	**77.51**	**336**	*e*P	**P**	**08 46 05.2**	**-0.9**
	comp=Z,62nm,1.5s,mb5.3						
BPAW	**Bear Paw Mtn.**	**77.58**	**337**	*e*P	**P**	**08 46 05.0**	**-1.5**
	comp=Z,19nm,1.0s,mb5.0						
CHUM	**Lake Minchumin**	**78.00**	**337**	*e*P	**P**	**08 46 07.4**	**-1.5**
	comp=Z,11nm,0.6s,mb5.0						
SVW2	**Sparrevohn**	**78.21**	**333**	*e*P	**P**	**08 46 08.9**	**-1.2**
COLD	**Coldfoot**	**78.79**	**340**	*e*P	**P**	**08 46 13.2**	**0.0**
	comp=Z,45nm,1.3s,mb5.2						
IMA2	**Indian Mountai**	**79.49**	**338**	P	**P**	**08 46 12.8**	**-4.2**
AFI	**Afiamalu**	**80.70**	**256**	LR	LR	09 14 25.6	
	comp=Z,126nm,20.9s,MS4.2,baz=206,slow=30						
ALE	**Alert**	**83.80**	**4**	P	**P**	**08 46 38.0**	**-1.6**
	comp=Z,130nm,0.9s,mb6.1,SNR=8.9						
EVO	**Evora**	**84.95**	**51**	*e*P	**P**	**08 46 47.0**	**+0.7**
	comp=Z,20nm,2.5s,mb4.8						
PVIS	**Viseu**	**85.22**	**49**	*e*P	**P**	**08 46 47.1**	**-0.5**
	comp=Z,29nm,1.7s,mb5.1						
MTE	**Manteigas**	**85.46**	**50**	PFAKE		08 47 00.0	+11
MTE				LR	LR		
	comp=Z,277nm,22.0s,MS4.6						
PCBR	**Castelo Branco**	**85.47**	**50**	*e*P	**P**	**08 46 49.9**	**+1.1**
	comp=Z,26nm,1.5s,mb5.1						
PMRV	**Marv??o**	**85.50**	**51**	*e*P	**P**	**08 46 50.5**	**+1.5**
	comp=Z,15nm,1.3s,mb5.0						
RTC	**Rabat Centre**	**85.57**	**56**	PFAKE		08 47 00.0	+11
RTC				LR	LR		
	comp=Z,159nm,19.0s,MS4.4						
MVO	**Moncorvo**	**85.91**	**49**	*e*P	**P**	**08 46 50.1**	**-0.9**
	comp=Z,22nm,1.6s,mb5.2						
SFS	**San Fernando**	**86.25**	**54**	PFAKE		08 47 00.0	+7.2
SFS				LR	LR		
	comp=Z,275nm,20.0s,MS4.7						
LIC	**Lamto**	**86.29**	**84**	*e*P	**P**	**08 46 52.0**	**-1.5**
	comp=Z,78nm,0.8s,mb6.0						
TIC	**Toumodi**	**86.30**	**83**	*e*P	**P**	**08 46 52.1**	**-1.4**
	comp=Z,42nm,0.7s,mb5.8						
DAG	**Danmarks Havn**	**86.44**	**13**⇑	*e*P	**P**	**08 46 52.1**	**-0.8**
DAG				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.7						
DAG	**Danmarks Havn**	**86.44**	**13**⇑	*i*P	**P**	**08 46 52.1**	**-0.8**
	comp=Z,3.7nm,0.8s,mb4.7						
DAG	**Danmarks Havn**	**86.44**	**13**⇑	*e*P	**P**	**08 46 52.1**	**-0.8**
	comp=Z,3.7nm,0.8s,mb4.7						
DBIC	**Dimbokro**	**86.47**	**83**	P	**P**	**08 46 53.1**	**-1.2**
	comp=Z,12nm,0.7s,mb5.2,baz=239,slow=5.5,SNR=17						
DBIC				LR	LR	09 25 58.1	
	comp=Z,234nm,18.1s,MS4.6,baz=249,slow=36						
KIC	**Kosan Boka**	**86.58**	**84**	*e*P	**P**	**08 46 53.6**	**-1.3**
	comp=Z,97nm,0.9s,mb6.0						
VNA3	**Neumayer Olymp**	**86.91**	**161**	*e*P	**P**	**08 46 53.6**	**-1.7**
VNA3				*e*	pP	08 46 56.2	-2.4
VNA3				*e*		08 46 59.2	
VNA1	**Neumayer--Stat**	**87.29**	**161**	*e*P	**P**	**08 46 56.0**	**-1.1**
VNA1				*e*	pP	08 46 57.9	-2.6
VNA1				*e*	pP	08 47 00.2	-0.3
VNA2	**Neumayer--Watz**	**87.61**	**161**	*e*P	**P**	**08 46 57.4**	**-1.3**
VNA2				*e*	pP	08 47 00.1	-1.9
VNA2				*e*		08 47 02.6	
PAB	**San Pablo**	**87.86**	**51**	*e*P	**P**	**08 47 00.5**	**-0.1**
PAB				pmax	pmax		
	comp=Z,20nm,1.6s,mb5.1						
PAB				MLR	MLR		
	comp=Z,388nm,20.0s,MS4.8						
PAB	**San Pablo**	**87.86**	**51**	*e*P	**P**	**08 47 00.5**	**-0.1**
	comp=Z,20nm,1.6s,mb5.1						
PAB				LR	LR		
	comp=Z,388nm,20.0s,MS4.8						
ESDC	**Sonseca Array**	**88.16**	**50**	P	**P**	**08 47 01.5**	**-0.5**
	comp=Z,1.5nm,0.8s,mb4.3,baz=281,slow=4.1,SNR=7.4						
ESDC				LR	LR	09 19 17.0	
	comp=Z,197nm,21.5s,MS4.5,baz=295,slow=31						
ESLA	**Sonseca Array**	**88.16**	**50**	PFAKE		08 47 10.0	+8.0
ESLA				LR	LR		
	comp=Z,2μm,20.0s,MS5.5						
SNAA	**Sanae**	**89.12**	**162**	*e*P	**P**	**08 47 03.7**	**-2.1**
SNAA				*e*	pP	08 47 05.8	-3.4
SNAA				*e*	pP	08 47 07.7	-1.4
SNAA	**Sanae**	**89.12**	**162**⇓	*e*P	**P**	**08 47 04.1**	**-1.7**
SNAA	**Sanae**	**89.12**	**162**	*e*P	**P**	**08 47 04.4**	**-1.4**
	comp=Z,15nm,1.3s,mb5.2						
FUNA	**Funafuti**	**89.50**	**262**	PFAKE		08 47 20.0	+11
FUNA				LR	LR		
	comp=Z,6μm,20.0s,MS6.0						
URZ	**Urewera**	**91.04**	**232**	LR	LR	09 16 58.8	
	comp=Z,161nm,19.5s,MS4.5,baz=333,slow=28						
SBA	**Scott Base**	**92.13**	**192**	PFAKE		08 47 30.0	+10
SBA				LR	LR		
	comp=Z,306nm,20.0s,MS4.8						
TORD	**Torodi Ar. Bea**	**92.96**	**77**	P	**P**	**08 47 22.5**	**-2.4**
	comp=Z,1.3nm,1.0s,mb4.3,baz=239,slow=3.7,SNR=4.5						
TORD				LR	LR	09 26 47.3	
	comp=Z,252nm,19.6s,MS4.7,baz=285,slow=34						
WLF	**Walferdange**	**95.11**	**40**	PFAKE		08 47 40.0	+6.0
WLF				LR	LR		
	comp=Z,295nm,21.0s,MS4.7						
BNI	**Bardonecchia**	**95.90**	**45**	PFAKE		08 47 50.0	+12
BNI				LR	LR		
	comp=Z,166nm,20.0s,MS4.5						
NOA	**NORSAR Array B**	**96.38**	**29**	LR	LR	09 24 41.2	
	comp=Z,171nm,21.4s,MS4.5,baz=275,slow=31						
BFO	**Black Forest**	**96.68**	**41**	PFAKE		08 47 50.0	+8.8
BFO				LR	LR		
	comp=Z,229nm,19.0s,MS4.7						
TUE	**Stuetta**	**97.59**	**43**	PFAKE		08 48 00.0	+15
TUE				LR	LR		
	comp=Z,199nm,20.0s,MS4.6						
VSL	**Villasalto**	**98.46**	**50**	PFAKE		08 48 00.0	+11
VSL				LR	LR		
	comp=Z,227nm,20.0s,MS4.7						
VLC	**Villacollemand**	**98.63**	**45**	PFAKE		08 48 00.0	+10
VLC				LR	LR		
	comp=Z,170nm,22.0s,MS4.5						
CLL	**Collm**	**99.21**	**38**	*e*SKSac	SKSac	08 58 33.0	+2.0
CLL				*e*Sdif	S	08 59 36.0	+12
CLL				*e*SP	SP	09 00 43.0	-6.8
CLL				*e*SS	SS	09 06 03.0	-9.4
CLL				*e*x	x	09 07 09.0	
CLL				*e*SSS		09 10 09.0	
CLL				LmV		09 33 00.0	
	comp=Z,100nm,20.1s						
TRI	**Trieste**	**100.75**	**44**	PFAKE		08 48 10.0	+11
TRI				LR	LR		
	comp=Z,176nm,20.0s,MS4.6						
PET	**Petropavlovsk**	**102.30**	**325**	PFAKE		08 48 20.0	+14
PET				LR	LR		
	comp=Z,237nm,22.0s,MS4.7						
CUC	**Castrocucco**	**103.29**	**49**	PFAKE		08 48 20.0	+9.5
CUC				LR	LR		
	comp=Z,188nm,20.0s,MS4.6						
DRV	**Dumont d'Urvil**	**104.06**	**199**	SKKS	SKKSac	08 59 30.0	-6.5
DRV				R		09 23 00.0	
TIP	**Timpagrande**	**104.17**	**50**	PFAKE		08 48 30.0	+16
TIP				LR	LR		
	comp=Z,135nm,21.0s,MS4.5						
PSZ	**Piszkesteto**	**104.35**	**40**	PFAKE		08 48 30.0	+15
PSZ				LR	LR		
	comp=Z,213nm,19.0s,MS4.7						
TIXI	**Tiksi**	**104.41**	**348**	PFAKE		08 48 30.0	+14
TIXI				LR	LR		
	comp=Z,250nm,20.0s,MS4.8						
TIR	**Tirane**	**106.01**	**47**	PFAKE		08 52 50.0	+15
TIR				LR	LR		
	comp=Z,154nm,20.0s,MS4.5						
TSUM	**Tsumeb**	**107.63**	**110**	PFAKE		08 52 50.0	+11
TSUM				LR	LR		
	comp=Z,573nm,19.0s,MS5.2						
KIEV	**Kiev**	**109.14**	**35**	PFAKE		08 52 50.0	+9.2
KIEV				LR	LR		
	comp=Z,328nm,19.0s,MS4.9						
OBN	**Obninsk**	**110.98**	**29**	PFAKE		08 53 00.0	+16
OBN				LR	LR		
	comp=Z,142nm,19.0s,MS4.6						
YAK	**Yakutsk**	**111.24**	**341**	PFAKE		08 53 00.0	+16
YAK				LR	LR		
	comp=Z,205nm,21.0s,MS4.7						
SANT	**Santorini**	**111.53**	**51**	PFAKE		08 53 00.0	+14
SANT				LR	LR		
	comp=Z,92nm,19.0s,MS4.4						
CASY	**Casey**	**111.67**	**189**	PFAKE		08 53 00.0	+15
CASY				LR	LR		
	comp=Z,323nm,21.0s,MS4.9						
LSZ	**Lusaka**	**118.20**	**108**	PFAKE		08 53 10.0	+11
LSZ				LR	LR		
	comp=Z,564nm,22.0s,MS5.2						
ARU	**Arti**	**119.08**	**19**	PFAKE		08 53 10.0	+10
ARU				LR	LR		
	comp=Z,267nm,20.0s,MS4.9						
KIV	**Kislovodsk**	**120.39**	**37**	PFAKE		08 53 10.0	+7.5
KIV				LR	LR		
	comp=Z,131nm,19.0s,MS4.6						
PMG	**Port Moresby**	**121.05**	**259**	PFAKE		08 53 20.0	+15
PMG				LR	LR		
	comp=Z,107nm,21.0s,MS4.5						
MDJ	**Mudanjiang**	**123.03**	**326**	PFAKE		08 53 20.0	+12
MDJ				LR	LR		
	comp=Z,223nm,19.0s,MS4.8						
GNI	**Garni**	**123.77**	**40**	PFAKE		08 53 20.0	+11
GNI				LR	LR		
	comp=Z,97nm,20.0s,MS4.5						
HIA	**Hailar**	**124.53**	**336**	PFAKE		08 53 20.0	+10
HIA				LR	LR		
	comp=Z,302nm,20.0s,MS5.0						
BRVK	**Borovoye**	**125.31**	**14**	PFAKE		08 53 20.0	+8.3
BRVK				LR	LR		
	comp=Z,317nm,21.0s,MS5.0						
CN2	**Changchun**	**125.83**	**328**	*e*PKP	PKPdf	08 53 07.6	-5.3
ZAA0	**Zalesovo Array**	**126.54**	**3**	*e*PKPdf	PKPdf	08 53 12.0	-2.0
ZALV	**Zalesovo Beam**	**126.54**	**3**	PKP	PKPdf	08 53 12.1	-1.9
	comp=Z,2.9nm,0.6s,baz=308,slow=1.5,SNR=15						
ZALV				PP	PP	08 55 07.0	-1.8
	comp=Z,0.8nm,0.5s,baz=350,slow=8.0,SNR=5.3						
TLY	**Talaya**	**127.38**	**348**	PFAKE		08 53 30.0	+14
TLY				LR	LR		
	comp=Z,161nm,21.0s,MS4.7						
KMBO	**Kilima Mbogo**	**128.49**	**92**	PFAKE		08 53 30.0	+11
KMBO				LR	LR		
	comp=Z,335nm,21.0s,MS5.0						
ZAK	**Zakamensk**	**128.69**	**348**	*e*PKIKP	PKPdf	08 53 19.7	+1.5
ZAK				pmax	pmax		
	comp=Z,4.0nm,1.3s						
KURK	**Kurchatov**	**129.14**	**8**	*e*PKIKP	PKPdf	08 53 17.9	-1.1
KURK				MLR	MLR		
	comp=Z,312nm,20.0s,MS5.0						
ASAR	**Alice Springs**	**130.07**	**238**	PKP	PKPdf	08 53 19.6	-2.0
	comp=Z,1.8nm,0.9s,baz=97,slow=2.1,SNR=15						
ULN	**Ulaanbaatar**	**130.12**	**344**	*e*PKIKP	PKPdf	08 53 21.1	+0.1
ULN				MLR	MLR		
	comp=Z,247nm,20.0s,MS4.9						
SONM	**Songino Array**	**130.33**	**344**	PKP	PKPdf	08 53 20.5	-0.9
	comp=Z,0.7nm,0.8s,baz=288,slow=1.4,SNR=4.4						
WRA	**Warramunga Arr**	**130.99**	**243**	PKP	PKPdf	08 53 21.9	-1.5
	comp=Z,2.2nm,0.6s,baz=102,slow=2.3,SNR=22						
BJI	**Beijing**	**133.31**	**331**	P	Pdif	08 50 23.6	-0.4
BJI				MLR	MLR		
	comp=Z,160nm,26.4s,MS4.6						
BJT	**Baijiatuau**	**133.33**	**331**	PFAKE		08 53 40.0	+13
BJT				LR	LR		
	comp=Z,345nm,19.0s,MS5.1						
MKAR	**Makanchi Array**	**133.45**	**6**	PKP	PKPdf	08 53 25.5	-1.8
	comp=Z,0.4nm,0.7s,baz=20,slow=3.9,SNR=4.0						
HHC	**Hu-ho-hao-te**	**134.73**	**336**	*e*PKP	PKPdf	08 53 30.7	+0.8
HHC				PP	PP	08 56 07.4	+5.1
HHC				PKS		08 57 04.8	
HHC				SKS	SKSdf	09 00 39.9	-1.5
HHC				SKKS	SKKSac	09 03 00.1	+1.0
HHC				SS	SS	09 13 59.9	+5.8
HHC				PP	PP		
	comp=Z,155nm,4.8s						
HHC				LR	LR		
	comp=N,275nm,20.8s,MS5.2						
HHC				LR	LR		
	comp=E,349nm,21.4s,MS5.2						
HHC				LR	LR		
	comp=Z,175nm,18.9s,MS4.8						
ABPO	**Ambohimpanom**	**134.92**	**118**	PFAKE		08 53 40.0	+9.1
ABPO				LR	LR		
	comp=Z,432nm,20.0s,MS5.2						
EKS2	**Erkin-Say**	**135.83**	**16**	PFAKE		08 53 40.0	+8.1
EKS2				LR	LR		
	comp=Z,262nm,22.0s,MS4.9						
TKM2	**Tokmak 2**	**136.06**	**14**	*e*PKIKP	PKPdf	08 53 32.1	-0.2
TKM2				MLR	MLR		
	comp=Z,216nm,21.0s,MS4.8						
AML	**Almayashu**	**136.30**	**16**	PFAKE		08 53 40.0	+7.2
AML				LR	LR		
	comp=Z,199nm,19.0s,MS4.9						
UCH	**Uchtor**	**136.44**	**15**	*e*PKPdf	PKPdf	08 53 34.0	+0.9
UCH				LR	LR		
	comp=Z,199nm,21.0s,MS4.8						
WMQ	**Urumqi**	**136.76**	**1**	PKP	PKPdf	08 53 35.2	+1.6
WMQ				PP	PP	08 56 20.9	+6.2
WMQ				SKKS	SKKSac	09 03 11.9	+0.9
WMQ				SS	SS	09 14 22.2	+4.5
WMQ				PP	PP		
	comp=Z,97nm,5.2s						
WMQ				LR	LR		
	comp=E,143nm,25.2s						
WMQ				LR	LR		
	comp=Z,204nm,25.2s,MS4.8						
NJ2	**Nanjing**	**137.59**	**321**	*e*PKP	PKPdf	08 53 31.0	-4.5
GTA	**Gaotai**	**139.88**	**347**	*e*PKP	PKPdf	08 53 41.0	+1.5
GTA				SKS	SKSdf	09 00 49.5	-0.7
GTA				PP	PP		
	comp=Z,94nm,5.7s						
GTA				LR	LR		
	comp=N,171nm,19.2s,MS5.0						
GTA				LR	LR		
	comp=E,161nm,19.2s,MS5.0						
GTA				LR	LR		
	comp=Z,238nm,19.8s,MS4.9						
MBWA	**Marble Bar**	**142.91**	**233**	PFAKE		08 54 00.0	+15
MBWA				LR	LR		
	comp=Z,206nm,19.0s,MS4.9						
MSEY	**Mahe Island**	**146.38**	**99**	PFAKE		08 54 00.0	+8.3
MSEY				LR	LR		
	comp=Z,260nm,20.0s,MS5.0						
CD2	**Chengdu**	**146.48**	**336**	*e*PKP	PKPdf	08 53 50.6	-0.8
CD2				PKP2	PKPab	08 53 53.8	+0.2
CD2				APKP		08 53 55.8	
CD2				XPKP		08 53 58.6	
CD2				PP	PP	08 57 18.0	+3.7
CD2				SKS	SKSdf	09 00 51.1	-10
CD2				SKKS	SKKSac	09 04 00.6	-7.3
CD2				PP	PP		
	comp=Z,130nm,10.2s						
CD2				LR	LR		
	comp=N,160nm,18.4s						
CD2				LR	LR		
	comp=Z,140nm,16.8s,MS4.8						
DDI	**Dehra Dun**	**148.56**	**18**	*e*x	PKPbc	08 53 57.0	-1.4
KAPI	**Kappang**	**148.57**	**260**	PFAKE		08 54 10.0	+15
KAPI				LR	LR		
	comp=Z,157nm,19.0s,MS4.8						
GYA	**Guiyang**	**148.88**	**328**	PKP	PKPdf	08 53 54.2	-1.3
GYA				PKP2	PKPab	08 54 04.3	+1.1
GYA				PKS		08 57 26.8	
GYA				PP	PP	08 57 30.5	+1.9
GYA				SKS	SKSdf	09 01 02.4	-1.8
GYA				SKKS	SKKSac	09 04 18.9	-2.7
GYA				SS	SS	09 16 40.2	+1.1
GYA				PP	PP		
	comp=Z,260nm,8.4s						
GYA				LR	LR		
	comp=Z,1μm,24.8s,MS5.7						
LSA	**Lhasa**	**150.78**	**356**	*e*PKPab	PKPab	08 54 10.7	0.0
LSA				LR	LR		
	comp=Z,201nm,20.0s,MS4.9						
KMI	**Kunming**	**151.95**	**332**	PKP	PKPdf	08 54 01.0	+0.7
KMI				SS	SS	09 17 11.0	-1.9
KMI				LR	LR		
	comp=Z,93nm,30.6s,MS4.4						
KKM	**Kota Kinabalu**	**152.02**	**282**	PFAKE		08 54 10.0	+9.3
KKM				LR	LR		
	comp=Z,206nm,22.0s,MS4.9						
QIZ	**Qiongzhong**	**152.24**	**313**	PFAKE		08 54 10.0	+9.2
QIZ				LR	LR		
	comp=Z,237nm,22.0s,MS5.0						
CHTO	**Chiang Mai**	**159.15**	**332**	PFAKE		08 54 20.0	+10
CHTO				LR	LR		
	comp=Z,170nm,19.0s,MS4.9						
CMAR	**Chiang Mai Arr**	**159.45**	**331**	PKP	PKPdf	08 54 09.2	-1.2
	comp=Z,0.7nm,0.3s,baz=306,slow=3.8,SNR=4.1						
CMAR				PKPab	PKPab	08 54 47.0	-0.9
	comp=Z,2.3nm,0.7s,baz=3.9,slow=4.1,SNR=8.3						
PALK	**Pallekele**	**169.47**	**49**	PFAKE		08 54 30.0	+11
PALK				LR	LR		
	comp=Z,250nm,19.0s						

IDC 07 08:48:51.8±11.0**, 22.18N**×**143.07E, h318km**±95km**, mb3.3**/7**, mb1 3.5**/7**, mb1mx3.2**/20**, mbtmp3.3**/7**, Error ellipse: s-maj=79.7km s-min=32.5km az=4.0, Volcano Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSRS	**Korea Array**	**20.07**	**323**	P	P	08 53 02.4	+0.1
	4.7nm,0.8s,baz=146,slow=8.8,SNR=13						
SONM	**Songino Array**	**38.91**	**320**	P	P	08 55 47.5	+0.2
	0.8nm,0.6s,baz=127,slow=8.3,SNR=8.9						
ZALV	**Zalesovo Beam**	**53.77**	**321**	P	P	08 57 41.5	-0.4
	1.7nm,0.5s,baz=98,slow=8.1,SNR=7.0						
MKAR	**Makanchi Array**	**54.30**	**312**	P	P	08 57 45.8	-0.1
	0.8nm,0.8s,baz=105,slow=6.2,SNR=5.0						
MKAR				PcP	PcP	08 58 45.8	+0.3
	0.6nm,0.6s,baz=71,slow=4.5,SNR=4.3						
YKA	**Yellowknife Ar**	**76.08**	**28**	P	P	09 00 04.3	-0.2
	1.0nm,0.5s,baz=292,slow=5.8,SNR=7.8						
ARCES	**ARCESS Array B**	**78.44**	**341**	P	P	09 00 17.6	+0.3
	1.9nm,0.7s,baz=75,slow=8.6,SNR=7.9						
NVAR	**Mina Array Bea**	**82.92**	**51**	P	P	09 00 42.3	+0.7
	0.9nm,0.7s,baz=278,slow=6.9,SNR=6.3						
LPAZ	**La Paz**	**150.00**	**84**	PKPbc	PKPbc	09 08 05.8	+0.2
	0.6nm,0.5s,baz=332,slow=4.6,SNR=6.3						

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*IDC **07** 08:53:58.1±0.8, 6.68N×72.88W, h168km±10km, mb2.9/1, mb1 3.5/3, mb1mx3.0/20, mbtmp3.3/3, Error ellipse: s-maj=41.6km s-min=7.9km az=132.0*
*ISCJB **07** 08:53:59.5±1.0, 6.8N±0.1×72.9W±0.1, h140km±13km, Error ellipse: s-maj=25.9km s-min=7.5km az=39.4*
*FUNV **07** 08:54:04.4, 7.01N×72.81W, h134km, MW3.5*
ISC 07 08:54:00.5±1.1**, 6.8N**±0.1×**72.9W**±0.1**, h135km**±14km**, n17, σ1^{s}09**/21**, 4C-1D, Northern Colombia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAPV	**Capacho**	**1.20**	**29**⇑	*i*P	**Pn**	**08 54 27.5**	**+1.7**
CAPV				*e*S	**Sn**	**08 54 43.7**	**-1.3**
ROSC	**El Rosal**	**2.41**	**216**	P	**Pn**	**08 54 39.9**	**+0.1**
	18nm,0.3s,baz=70,slow=7.3,SNR=52						
ROSC				S	**Sn**	**08 55 09.6**	**-0.4**
	43nm,0.3s,baz=72,slow=19,SNR=17						
SOCV	**Socops**	**2.50**	**54**⇑	*e*P	**Pn**	**08 54 42.1**	**+1.3**
SOCV				*e*S	**Sn**	**08 55 09.7**	**-2.3**
VIGV	**El Vigia**	**2.52**	**37**⇑	*i*P	**Pn**	**08 54 41.8**	**+0.6**
VIGV				*e*S	**Sn**	**08 55 08.2**	**-4.4**
SDV	**Santo Domingo**	**3.05**	**47**	P	**Pn**	**08 54 49.0**	**+1.2**
	12nm,0.3s,baz=248,slow=1.1,SNR=14						
SDV				S	**Sn**	**08 55 26.7**	**+2.3**
	26nm,0.3s,baz=81,slow=22,SNR=45						
ELOV	**Elorza**	**3.39**	**87**	*e*P	**Pn**	**08 54 53.8**	**+1.3**
QARV	**Quebrada Arrib**	**4.11**	**35**⇑	*e*P	**Pn**	**08 55 01.4**	**-0.4**
QARV				*e*S	**Sn**	**08 55 44.4**	**-5.1**
SANV	**Sanarito**	**4.27**	**51**	*e*P	**Pn**	**08 55 04.0**	**0.0**
CURV	**Curarigua**	**4.31**	**42**	*e*P	**Pn**	**08 55 04.3**	**-0.1**
TEPV	**Terepaima**	**4.82**	**49**⇓	*i*P	**Pn**	**08 55 11.4**	**+0.1**
SIQV	**Siquisique**	**4.88**	**38**	*e*P	**Pn**	**08 55 11.2**	**-0.9**
BAUV	**El Baul**	**5.25**	**66**	*e*P	**Pn**	**08 55 16.1**	**-1.0**
CAOV	**Caicara del Or**	**6.54**	**85**	*e*P	**Pn**	**08 55 34.4**	**0.0**
BIRV	**Birongo**	**7.50**	**60**	*e*P	**Pn**	**08 55 45.9**	**-1.3**
CUPV	**Cœpira**	**7.74**	**65**	*e*P	**Pn**	**08 55 49.9**	**-0.5**
ASAR	**Alice Springs**	**149.29**	**234**	PKPbc	PKPbc	09 13 25.6	-8.5
	0.3nm,0.7s,baz=112,slow=2.1,SNR=4.2						
WRA	**Warramunga Arr**	**150.53**	**241**	PKPbc	PKPbc	09 13 31.7	-5.6
	0.2nm,0.3s,baz=108,slow=2.5,SNR=5.6						

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*IDC **07** 09:09:47.1±2.3, 4.80S×142.07E, h0km, mb3.7/5, mb1 3.8/6, mb1mx3.7/12, mbtmp3.8/6, ML3.8/1, Error ellipse: s-maj=94.3km s-min=25.1km az=100.0*
*ISCJB **07** 09:09:57.7±3.4, 5.0S±0.2×142.2E±0.2, h118km±42km, mb3.8/4, Error ellipse: s-maj=34.8km s-min=18.7km az=142.0*
*NEIC **07** 09:09:57.9±2.2, 4.98S×142.08E, h99km±27km, Error ellipse: s-maj=23.6km s-min=12.2km az=143.0*
ISC 07 09:09:58.5±2.9**, 5.0S**±0.2×**142.1E**±0.2**, h104km**±36km**, n12, σ0^{s}32**/12**, mb3.8**/4**, New Guinea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**6.64**	**131**	*e*P	**Pn**	**09 11 33.6**	**0.0**
	51nm,0.7s						
KAKA	**Kakadu**	**12.23**	**231**	*e*P	**Pn**	**09 12 49.2**	**0.0**
	9.3nm,0.6s						
KAKA	**Kakadu**	**12.23**	**231**	*e*P	**Pn**	**09 12 49.2**	**-0.1**
WB2	**Warramunga Arr**	**16.64**	**206**	*e*P	**Pn**	**09 13 45.5**	**-0.1**
WB2	**Warramunga Arr**	**16.64**	**206**	*e*P	**Pn**	**09 13 45.5**	**-0.1**
WRA	**Warramunga Arr**	**16.65**	**206**	Pn	**Pn**	**09 13 45.4**	**-0.2**
	0.4nm,0.3s,baz=27,slow=12,SNR=10						
ASAR	**Alice Springs**	**20.16**	**202**	P	**P**	**09 14 25.1**	**+0.5**
	0.8nm,0.6s,baz=34,slow=12,SNR=12						
KSRS	**Korea Array**	**44.28**	**344**	P	**P**	**09 17 58.2**	**+0.4**
	0.9nm,0.4s,mb3.9,baz=157,slow=8.2,SNR=4.1						
PETK	**Petropavlovsk-**	**59.39**	**11**	P	**P**	**09 19 49.4**	**-0.4**
	2.8nm,0.8s,mb4.4,baz=167,slow=6.4,SNR=4.0						
PETK	**Petropavlovsk-**	**59.39**	**11**	P	**P**	**09 19 49.4**	**-0.4**
SONM	**Songino Array**	**61.27**	**333**	P	**P**	**09 20 03.0**	**+0.3**
	0.3nm,0.6s,mb3.5,baz=135,slow=5.2,SNR=3.0						
MKAR	**Makanchi Array**	**73.68**	**322**	P	**P**	**09 21 20.4**	**-0.5**
	0.6nm,0.6s,mb3.5,baz=102,slow=12,SNR=4.8						

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*NIED **07** 10:06:00, 37.70N×141.60E, h38km, Mw3.6 Best double couple: Mo3.31000×10^14 NP1:φs206.00000°, δ62.00000°, λ47.00000°. NP2:φs89.00000°, δ50.00000°, λ142.00000°.*
*JMA **07** 10:06:17.9, 37.66N×141.57E, h52km±1km, M3.8 Broadband fault plane solution: P waves. NP1: φs53.00000°, δ33.00000°, λ144.00000°. NP2: φs174.00000°, δ72.00000°, λ63.00000°. Principal axes: T Plg55.0000°, Azm50.0000°; N Plg26.0000°, Azm184.0000°; P Plg22.0000°, Azm285.0000°;*
JMA Felt I J1.
ISC 07 10:06:17.4±1.4**, 37.66N**±0.04×**141.64E**±0.09**, h28km**±6km**, n12, σ0^{s}53**/22**, 2C-9D, Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JFK	**Kawauchi**	**0.68**	**245** ⇑	P	**Pb**	**10 06 30.8**	**+0.2**
JFK				S	**Sb**	**10 06 40.0**	**+0.3**
JMM	**Marumori**	**0.70**	**287** ⇓	P	**Pb**	**10 06 31.1**	**0.0**
JMM				S	**Sb**	**10 06 40.7**	**+0.2**
JIO	**Ouri**	**0.83**	**344** ⇓	P	**Pn**	**10 06 33.4**	**+0.3**
JIO				S	**Sb**	**10 06 44.2**	**+0.3**
ONAJ	**Iwakimizuishiy**	**0.87**	**231** ⇑	P	**Pn**	**10 06 33.3**	**-0.4**
ONAJ				S	**Sb**	**10 06 44.2**	**-1.0**
JOU	**Okura**	**1.05**	**313** ⇓	P	**Pn**	**10 06 35.8**	**-0.3**
JOU				S	**Sn**	**10 06 49.1**	**-0.7**
JFT	**Otama**	**1.05**	**263** ⇓	P	**Pn**	**10 06 36.2**	**+0.1**
JFT				S	**Sn**	**10 06 49.6**	**-0.2**
JMK	**Ichinoseki**	**1.33**	**346** ⇓	P	**Pn**	**10 06 40.3**	**+0.2**
JMK				S	**Sn**	**10 06 56.7**	**-0.1**
JYS	**Shirataka**	**1.37**	**295** ⇓	P	**Pn**	**10 06 40.2**	**-0.3**
JYS				S	**Sn**	**10 06 57.8**	**+0.1**
JFY	**Yanaizu**	**1.56**	**261** ⇓	P	**Pn**	**10 06 42.9**	**-0.3**
JFY				S	**Sn**	**10 07 02.0**	**-0.5**
JYK	**Kaneyama**	**1.61**	**322** ⇓	P	**Pn**	**10 06 44.0**	**+0.1**
JYA	**Atsumi**	**1.79**	**302** ⇓	P	**Pn**	**10 06 46.0**	**-0.3**
MAT	**Matsushiro**	**2.96**	**249**	P	**Pn**	**10 07 03.3**	**+0.8**
MAT				S	**Sn**	**10 07 38.8**	**+1.7**

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*ISCJB **07** 10:15:12.0±0.9, 39.89N±0.05×40.68E±0.04, h1km±8km, Error ellipse: s-maj=8.6km s-min=5.5km az=176.6*
*ISK **07** 10:15:12.2, 39.90N×40.64E, h6km, MD2.9*
*CSEM **07** 10:15:12.1±0.1, 39.91N×40.63E, h8km, MD2.8, Error ellipse: s-maj=2.9km s-min=2.1km az=166.0*

*DDA **07** 10:15:13.9, 3995N×4083E, h7km±2km, Md2.8*
ISC 07 10:15:12.7±0.8**, 3990N**±005×**4070E**±004**, h5**km±7km**, n11, σ0^{s}60**/16**, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KOPT	**Kop Dagi**	**0.20**	**308**	*i* P	**Pg**	**10 15 16.9**	**+0.5**
KOPT				*i* S	**Sg**	**10 15 23.5**	**+4.4**
EZM	**Erzurum**	**0.51**	**89**	*e*PG	**Pg**	**10 15 23.4**	**+0.9**
ERZM	**Erzurum**	**0.52**	**89**	*i* P	**Pg**	**10 15 22.6**	**+0.1**
ERZM				*i* S	**Sg**	**10 15 28.2**	**-1.0**
EZC	**Erzincan**	**0.69**	**258**	*e*PG	**Pg**	**10 15 31.8**	**+5.8**
GUMT	**Gumushane**	**1.09**	**301**	*e*PG	**Pg**	**10 15 32.7**	**-0.9**
GUMT				*e*SG	**Sg**	**10 15 47.7**	**+0.1**
DBAD	**Bademkaya**	**1.35**	**34**	*i* P	**Pn**	**10 15 37.7**	**-0.5**
DBAD				*i* S	**Sb**	**10 15 55.5**	**-0.7**
PTK	**Pertek**	**1.43**	**226**	*e*PN	**Pn**	**10 15 39.0**	**-0.2**
PTK				*e*SN	**Sn**	**10 15 58.0**	**-0.4**
DAGI	**Agillar**	**1.50**	**38**	*i* P	**Pn**	**10 15 40.8**	**+0.5**
DBOC	**Borcka**	**1.62**	**27**	*i* P	**Pn**	**10 15 42.4**	**+0.5**
BCA	**Borcka**	**1.70**	**24**	*e*PN	**Pn**	**10 15 43.4**	**+0.4**
AGRB	**Hanur-Agry**	**1.80**	**100**	*e*PN	**Pn**	**10 15 45.1**	**+0.7**

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*ISCJB **07** 10:16:37.7±0.3, 1947N±004×12007E±008, h28km, mb4.2/21, MS3.6/8, Error ellipse: s-maj=10.8km s-min=4.9km az=161.0*
*IDC **07** 10:16:39.4±0.5, 1951N×12005E, h27km±3km, mb4.0/16, mb1 4.1/18, mb1mx4.1/23, mbtmp4.0/18, ML3.5/1, MS3.6/10, Ms1 3.7/10, ms1mx3.4/33, Error ellipse: s-maj=20.8km s-min=10.3km az=69.0*
*NEIC **07** 10:16:39.3±0.3, 1945N×120.12E, mb4.6/6, Error ellipse: s-maj=9.6km s-min=6.2km az=80.0*
*BJI **07** 10:16:48.9, 2049N×11951E, h28km, mB4.8, mb4.4, ML3.8, Ms4.3, Msz4.1*
ISC 07 10:16:39.6±0.3**, 1947N**±004×**12013E**±008**, h30**km**, h30**km±.6km**:pP-P, n51, σ1^{s}06**/49**, mb4.2**/21**, MS3.6**/8**, 3C-5D, Philippine Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PIP	**Pasuquin**	**1.23**	**158⇑**	*i*P	**Pn**	**10 17 00.8**	**0.0**
PIP				*e*S	**Sn**	**10 17 14.7**	**-1.6**
SIPP	**Brgy, Tapao**	**1.57**	**168⇑**	*e*P	**Pn**	**10 17 03.4**	**-2.1**
SIPP				*e*S	**Sn**	**10 17 27.3**	**+2.6**
CVP	**Callao Caves**	**2.38**	**137**	*e*P	**Pn**	**10 17 18.6**	**+2.0**
NACB	**Ninganchiao**	**4.88**	**16**	*e*P	**Pn**	**10 17 51.7**	**+0.8**
TATO	**Taipei**	**5.62**	**13**	*e*P	**Pn**	**10 18 02.5**	**+1.3**
QZH	**Quanzhou**	**5.63**	**346⇓**	*i*P	**Pn**	**10 17 57.1**	**-4.2**
QZH				S	**Sn**	**10 18 56.2**	**-8.8**
QZH				Smax			
	comp=N,200nm,1.1s						
QZH				Smax			
	comp=E,90nm,0.8s						
DAV	**Davao City (W)**	**13.41**	**156**	LR	LR	10 25 45.4	
	comp=E,635nm,18.5s,baz=348,slow=40						
KMI	**Kunming**	**17.04**	**292**	P	**Pn**	**10 20 43.5**	**+7.7**
CD2	**Chengdu**	**18.66**	**311**	*e*P	**Pn**	**10 20 53.4**	**-2.3**
CD2				AMB	AMB		
	comp=Z,10.0nm,0.8s						
KSRS	**Korea Array**	**19.17**	**19**	P	**Pn**	**10 21 00.6**	**-1.2**
	comp=Z,0.1nm,0.3s,baz=204,slow=12,SNR=17						
KSRS				LR	LR	10 29 16.2	
	comp=Z,123nm,18.2s,baz=210,slow=40						
CMAR	**Chiang Mai Arr**	**20.06**	**271**	P	**P**	**10 21 11.2**	**+0.6**
	comp=Z,0.1nm,0.3s,baz=72,slow=8.0,SNR=9.6						
CMAR				PcP	PcP	10 25 26.6	+0.9
	comp=Z,0.1nm,0.3s,baz=86,slow=0.8,SNR=4.4						
CMAR				LR	LR	10 29 05.5	
	comp=Z,62nm,18.9s,MS3.0,baz=90,slow=37						
BJT	**Baijiatuau**	**20.76**	**351**	*e*P	**P**	**10 21 17.9**	**-0.1**
	comp=Z,21nm,0.6s						
BJI	**Beijing**	**20.78**	**351**	P	**P**	**10 21 18.0**	**-0.2**
BJI				AMB	AMB		
	comp=Z,32nm,0.7s						
LZH	**Lanzhou**	**21.89**	**322**	*e*P	**P**	**10 21 33.7**	**+3.5**
LZH				AP		10 21 38.0	
LZH				XP	sP	10 21 41.0	-1.2
LZH				AMB	AMB		
	comp=Z,29nm,1.3s,mb4.5						
LZH				AMB	AMB		
	comp=Z,140nm,5.4s						
MAJO	**Matsushiro**	**23.26**	**39**	P	**P**	**10 21 44.1**	**-0.6**
	comp=Z,17nm,1.0s,mb4.4						
MJAR	**Matsushiro Arr**	**23.26**	**39**	P	**P**	**10 21 44.2**	**-0.5**
	comp=Z,5.2nm,1.2s,mb3.8,baz=227,slow=6.8,SNR=5.8						
GUMO	**Guam**	**24.41**	**100**	LR	LR	10 28 55.9	
	comp=Z,143nm,21.9s,MS3.4,baz=264,slow=30						
SONM	**Songino Array**	**30.42**	**342**	P	**P**	**10 22 49.3**	**+0.1**
	comp=Z,0.9nm,0.7s,mb3.6,baz=153,slow=6.5,SNR=7.0						
SONM				LR	LR	10 35 28.6	
	comp=Z,220nm,20.7s,MS3.8,baz=161,slow=37						
ASAJ	**Asahikawa**	**30.93**	**32**	LR	LR	10 36 29.5	
	comp=Z,56nm,19.5s,MS3.2,baz=300,slow=38						
KAKA	**Kakadu**	**34.20**	**158**	*e*P	**P**	**10 23 22.0**	**-0.6**
FITZ	**Fitzroy Crossi**	**37.72**	**171**	*e*P	**P**	**10 23 50.9**	**-1.9**
	comp=Z,3.0nm,1.0s,mb4.0						
FITZ				*e*	pP	10 24 00.5	-1.2
FITZ	**Fitzroy Crossi**	**37.72**	**171**	P	**P**	**10 23 51.8**	**-1.0**
	comp=Z,1.7nm,0.9s,mb3.8,baz=5.6,slow=18,SNR=4.2						
FITZ	**Fitzroy Crossi**	**37.72**	**171**	*e*P	**P**	**10 23 51.8**	**-1.0**
	comp=Z,9.5nm,1.0s,mb4.5						
FITZ				*e*	pP	10 24 00.5	-1.2
MKAR	**Makanchi Array**	**41.18**	**320**	P	**P**	**10 24 21.7**	**+0.3**
	comp=Z,5.1nm,0.9s,mb4.2,baz=116,slow=8.5,SNR=32						
MKAR				LR	LR	10 41 43.1	
	comp=Z,72nm,20.5s,MS3.5,baz=261,slow=37						
WRA	**Warramunga Arr**	**41.57**	**160**	P	**P**	**10 24 24.8**	**0.0**
	comp=Z,3.4nm,0.6s,mb4.1,baz=341,slow=9.0,SNR=35						
WRA				pP	pP	10 24 33.5	-0.2
	comp=Z,7.3nm,0.6s,baz=344,slow=8.9,SNR=25						
WRA				PcP	PcP	10 26 22.6	+0.8
	comp=Z,2.0nm,0.9s,baz=337,slow=3.7,SNR=6.2						
WB2	**Warramunga Arr**	**41.57**	**160**	*e*P	**P**	**10 24 24.5**	**-0.3**
ZAA0	**Zalesovo Array**	**43.75**	**330**	*e*P	**P**	**10 24 41.8**	**-0.4**
ZALV	**Zalesovo Beam**	**43.75**	**330**	P	**P**	**10 24 40.9**	**-1.3**
	comp=Z,3.1nm,0.8s,mb4.1,baz=114,slow=7.0,SNR=10						
ZALV				pP	pP	10 24 49.8	-1.4
	comp=Z,3.2nm,0.8s,baz=125,slow=7.3,SNR=3.7						
ZALV				LR	LR	10 43 44.1	
	comp=Z,94nm,18.8s,MS3.7,baz=260,slow=37						
PETK	**Petropavlovsk-**	**44.34**	**32**	P	**P**	**10 24 47.5**	**+0.6**
	comp=Z,1.7nm,0.7s,mb3.9,baz=257,slow=9.6,SNR=3.2						
PETK				pP	pP	10 24 56.3	+0.4
	comp=Z,3.3nm,0.8s,baz=236,slow=3.9,SNR=2.6						
UCH	**Uchtor**	**44.60**	**311**	*e*P	**P**	**10 24 50.9**	**+1.7**
	comp=Z,10nm,1.3s,mb4.5						
ASAR	**Alice Springs**	**44.93**	**162**	P	**P**	**10 24 52.5**	**+0.6**
	comp=Z,2.2nm,0.5s,mb4.2,baz=347,slow=7.0,SNR=73						
ASAR				pP	pP	10 25 01.2	+0.3
	comp=Z,4.5nm,0.5s,baz=343,slow=7.1,SNR=19						
AML	**Almayashu**	**45.16**	**311**	*e*P	**P**	**10 24 54.9**	**+1.3**
	comp=Z,3.7nm,0.9s,mb4.2						
AML				*e*	pP	10 25 03.2	+0.6
KURK	**Kurchatov**	**45.18**	**324**	P	**P**	**10 24 53.5**	**-0.1**
	comp=Z,8.2nm,0.8s,mb4.6,baz=123,slow=7.7,SNR=63						
KURK				pP	pP	10 25 02.2	-0.4
	comp=Z,8.2nm,0.7s,baz=122,slow=7.7,SNR=14						
BVAR	**Borovoye Array**	**50.78**	**323**	P	**P**	**10 25 37.3**	**+0.4**
	comp=Z,0.8nm,0.5s,mb3.9,baz=124,slow=13,SNR=4.8						
STKA	**Stephens Creek**	**55.04**	**158**	*e*P	**P**	**10 26 09.6**	**+1.0**
	comp=Z,4.4nm,0.8s,mb4.5						
STKA	**Stephens Creek**	**55.04**	**158**	P	**P**	**10 26 09.8**	**+1.2**
	comp=Z,2.8nm,0.7s,mb4.4,baz=360,slow=8.1,SNR=4.9						
STKA	**Stephens Creek**	**55.04**	**158**	*e*P	**P**	**10 26 09.5**	**+0.9**
ARCES	**ARCESS Array B**	**73.54**	**339**	LR	LR	11 03 52.2	
	comp=Z,65nm,21.8s,MS3.9,baz=124,slow=39						
AKASG	**Malin Array Be**	**75.75**	**319**	P	**P**	**10 28 20.7**	**-1.8**
	comp=Z,1.4nm,0.6s,mb4.0,baz=66,slow=4.8,SNR=9.2						
VRI	**Vrincioaia**	**78.59**	**315⇓**	*i*P	**P**	**10 28 39.7**	**+1.2**
BURAR	**Bucovina Array**	**79.09**	**317⇓**	*i*P	**P**	**10 28 41.5**	**+0.3**
KWP	**Kalwaria**	**80.07**	**319⇓**	*i*P	**P**	**10 28 46.9**	**+0.4**
DRGR		**80.97**	**316⇓**	*i*P	**P**	**10 28 51.5**	**+0.1**
HFS	**Hagfors**	**81.19**	**331**	P	**P**	**10 28 51.7**	**-0.5**
	comp=Z,2.4nm,0.8s,mb4.2,baz=104,slow=5.0,SNR=5.6						
HFS				pP	pP	10 28 59.9	-2.0
	comp=Z,3.2nm,0.6s,baz=90,slow=7.4,SNR=10						
NB2	**NORSAR Subarra**	**81.92**	**332**	P	**P**	**10 28 55.1**	**-1.0**
	comp=Z,11nm,1.2s,mb4.7,baz=66,slow=5.6						
NOA	**NORSAR Array B**	**81.92**	**332**	P	**P**	**10 28 55.4**	**-0.7**
	comp=Z,4.9nm,1.1s,mb4.3,baz=65,slow=5.0,SNR=4.1						
NOA				pP	pP	10 29 03.8	-1.9
	comp=Z,2.2nm,0.6s,baz=65,slow=5.3,SNR=7.2						
NOA				LR	LR	11 09 01.3	
	comp=Z,62nm,18.5s,MS4.0,baz=50,slow=38						
BZS	**Buzias**	**82.07**	**316⇑**	*i*P	**P**	**10 28 47.8**	**-9.4**
BRG	**Berggiesshubel**	**84.86**	**322**	*e*P	**P**	**10 29 20.0**	**+8.6**
	comp=Z,6.3nm,0.9s,mb4.7						
GERES	**GERESS Array B**	**85.85**	**321**	P	**P**	**10 29 15.8**	**-0.6**
	comp=Z,0.9nm,0.8s,mb4.0,baz=54,slow=6.8,SNR=6.9						
GERES				pP	pP	10 29 25.3	-0.7
	comp=Z,1.0nm,0.6s,baz=71,slow=4.5,SNR=6.2						
YKA	**Yellowknife Ar**	**87.68**	**22**	P	**P**	**10 29 25.5**	**+0.4**
	comp=Z,2.8nm,0.9s,mb4.5,baz=316,slow=4.1,SNR=8.4						
YKA				pP	pP	10 29 34.1	-0.7
	comp=Z,2.6nm,0.6s,baz=310,slow=4.5,SNR=11						
TXAR	**Lajitas Array**	**115.67**	**42**	PKP	PKPdf	10 35 20.2	+0.7
	comp=Z,0.3nm,0.6s,baz=198,slow=1.8,SNR=4.3						
TXAR				pPKP	pPKPdf	10 35 29.1	-0.4
	comp=Z,0.2nm,0.5s,baz=206,slow=1.8,SNR=2.6						

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*IDC **07** 10:32:19.1±0.7, 1830S×174.15W, h0km, mb4.5/13, mb1 4.7/14, mb1mx4.5/23, mbtmp4.5/14, ML2.6/1, MS3.8/12, Ms1 3.8/12, ms1mx3.5/29, Error ellipse: s-maj=30.3km s-min=13.9km az=138.0*
*NEIC **07** 10:32:20.4±0.3, 1831S×174.11W, h10km, mb4.7/9, Error ellipse: s-maj=13.2km s-min=7.8km az=142.0*
*ISCJB **07** 10:32:22.6±0.4, 1830S±009×1743W±0.1, h33km, mb4.6/18, MS4.0/11, Error ellipse: s-maj=17.1km s-min=8.9km az=42.9*
ISC 07 10:32:24.6±0.4**, 182S**±01×**1743W**±01**, h35**km**, n53, σ0^{s}87**/40**, mb4.6**/18**, MS4.0**/11**, 1C, Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**4.92**	**29**	Pn	**Pn**	**10 33 33.4**	**-2.8**
	14nm,0.3s,baz=85,slow=5.6,SNR=17						
AFI				Sn	**Sn**	**10 34 23.3**	**-8.6**
	62nm,0.3s,baz=72,slow=22,SNR=8.5						
AFI				LR	LR	10 35 09.0	
	comp=Z,302nm,20.2s,baz=244,slow=34						
AFI	**Afiamalu**	**4.92**	**29**	Pn	**Pn**	**10 33 33.4**	**-2.8**
AFI				Sn	**Sn**	**10 34 23.3**	**-8.6**
AFI				LR	LR	10 35 09.0	
RAR	**Rarotonga**	**13.96**	**105**	Pn	**Pn**	**10 35 33.6**	**-6.4**
	3.3nm,0.3s,baz=261,slow=20,SNR=8.3						
RAR				LR	LR	10 39 09.3	
	comp=Z,377nm,21.5s,baz=73,slow=30						
RAR	**Rarotonga**	**13.96**	**105**	*e*Pn	**Pn**	**10 35 33.6**	**-6.4**
RAR				LR	LR	10 39 09.3	
DZM	**Mont Dzumac**	**18.51**	**255**	*e*P	**Pn**	**10 36 43.2**	**+4.9**
URZ	**Urewera**	**21.32**	**199**	P	**P**	**10 37 06.1**	**-2.4**
	16nm,0.5s,mb4.7,baz=22,slow=6.2,SNR=21						
URZ				S	**S**	**10 40 56.7**	**-6.7**
	6.4nm,0.8s,baz=323,slow=20,SNR=5.2						
PPT	**Papeete**	**23.50**	**92**	*e*LR	LR	10 42 50.8	
	569nm,27.8s,baz=256						
PPT	**Papeete**	**23.50**	**92**	LR	LR	10 43 53.4	
	comp=Z,198nm,20.0s,MS3.6,baz=92,slow=30						
TBI	**Tubuai**	**23.72**	**107**	*e*LR	LR	10 43 00.1	
	404nm,30.2s,baz=267						
RPZ	**Rata Peaks**	**28.26**	**203**	P	**P**	**10 38 13.8**	**-0.6**
	15nm,1.0s,mb4.6,baz=76,slow=4.2,SNR=3.9						
RKT	**Rikitea**	**37.00**	**104**	*e*LR	LR	10 49 20.5	
	437nm,32.0s						
CTA	**Charters Tower**	**37.29**	**261**	*e*P	**P**	**10 39 33.5**	**0.0**
	13nm,0.7s,mb4.9						
CTA	**Charters Tower**	**37.29**	**261**	P	**P**	**10 39 34.1**	**+0.6**
	14nm,0.6s,mb5.0,baz=96,slow=10,SNR=48						
CTA				LR	LR	10 52 36.1	
	comp=Z,124nm,21.7s,MS3.7,baz=48,slow=33						
CTAO	**Charters Tower**	**37.29**	**261**	*e*P	**P**	**10 39 34.0**	**+0.5**
	15nm,0.7s,mb4.9						
STKA	**Stephens Creek**	**41.95**	**242**	*e*P	**P**	**10 40 11.8**	**-0.4**
	5.1nm,2.0s						
STKA	**Stephens Creek**	**41.95**	**242**	P	**P**	**10 40 12.0**	**-0.2**
	1.2nm,0.5s,baz=112,slow=16,SNR=5.3						
STKA				LR	LR	10 56 06.0	
	comp=Z,101nm,20.5s,MS3.7,baz=26,slow=34						
STKA	**Stephens Creek**	**41.95**	**242**	*e*P	**P**	**10 40 12.3**	**+0.1**
WB2	**Warramunga Arr**	**48.44**	**259**	*e*P	**P**	**10 41 03.5**	**-0.4**
WRA	**Warramunga Arr**	**48.45**	**259**	P	**P**	**10 41 03.8**	**-0.2**
	8.7nm,0.3s,mb5.2,baz=98,slow=5.9,SNR=35						
WRA				LR	LR	10 59 19.7	
	comp=Z,88nm,20.3s,MS3.7,baz=185,slow=33						
ASAR	**Alice Springs**	**48.50**	**254**	P	**P**	**10 41 04.3**	**0.0**
	12nm,0.6s,mb5.1,baz=91,slow=8.1,SNR=128						
ASAR				S	**S**	**10 47 59.5**	**-4.0**
	0.6nm,0.8s,baz=94,slow=15,SNR=6.9						
KAKA	**Kakadu**	**51.52**	**268**	*e*P	**P**	**10 41 27.5**	**+0.1**
FITZ	**Fitzroy Crossi**	**56.86**	**260**	P	**P**	**10 42 07.3**	**+1.0**
	2.0nm,0.5s,mb4.4,baz=84,slow=9.3,SNR=4.8						
FITZ	**Fitzroy Crossi**	**56.86**	**260**	*e*P	**P**	**10 42 06.9**	**+0.6**
	4.3nm,0.6s,mb4.7						
SBA	**Scott Base**	**60.37**	**185**	*e*P	**P**	**10 42 31.8**	**+2.1**
	3.3nm,0.8s,mb4.4						
MBWA	**Marble Bar**	**61.81**	**255**	*e*P	**P**	**10 42 39.7**	**-0.8**
	28nm,1.1s,mb5.3						
CASY	**Casey**	**67.50**	**205**	*e*P	**P**	**10 43 16.8**	**0.0**
	4.4nm,0.8s,mb4.5						
PETK	**Petropavlovsk-**	**75.08**	**343**	P	**P**	**10 44 03.1**	**+0.5**
	2.1nm,0.8s,mb4.1,baz=108,slow=7.9,SNR=4.1						
LPIG	**La Paz**	**75.22**	**58**	LR	LR	11 08 23.6	
	comp=Z,76nm,21.0s,MS4.0,baz=315,slow=29						
PFO	**Pinyon Flat Ob**	**75.45**	**47**	LR	LR	11 08 10.0	
	comp=Z,80nm,20.3s,MS4.0,baz=232,slow=28						
YBH	**Yreka Blue Hor**	**76.35**	**37**	P	**P**	**10 44 10.2**	**+0.1**
	2.0nm,0.8s,mb4.1,baz=268,slow=1.3,SNR=8.2						
YBH				LR	LR	11 09 54.0	
	comp=Z,66nm,20.7s,MS3.9,baz=320,slow=30						
YBH	**Yreka Blue Hor**	**76.35**	**37**	⇑P	**P**	**10 44 10.5**	**+0.4**
	baz=74						
NVAR	**Mina Array Bea**	**76.98**	**42**	P	**P**	**10 44 13.8**	**0.0**
	3.4nm,0.9s,mb4.3,baz=227,slow=9.6,SNR=19						
NVAR	**Mina Array Bea**	**76.98**	**42**	P	**P**	**10 44 13.8**	**0.0**
KSRS	**Korea Array**	**77.62**	**316**	LR	LR	11 16 34.9	
	comp=Z,53nm,18.1s,MS3.9,baz=137,slow=34						
ELK	**Elko**	**80.25**	**41**	LR	LR	11 10 59.5	
	comp=Z,693nm,22.0s,MS5.0,baz=262,slow=29						
HLID	**Hailey**	**82.33**	**39**	*e*P	**P**	**10 44 42.8**	**+0.1**
	5.5nm,1.5s,mb4.3						
TXAR	**Lajitas Array**	**82.87**	**56**	P	**P**	**10 44 46.3**	**+0.5**
	4.7nm,1.1s,mb4.4,baz=224,slow=5.2,SNR=24						
PV01	**Paradox Valley**	**83.27**	**46**	*e*P	**P**	**10 44 47.7**	**0.0**
MCMT	**McKenzie Canyo**	**83.97**	**39**	*e*P	**P**	**10 44 50.8**	**-0.4**
MCK	**McKinley**	**84.05**	**11**	*e*P	**P**	**10 44 51.7**	**+0.6**
	4.4nm,1.0s,mb4.5						
QLMT	**Earthquake Lak**	**84.82**	**39**	*e*P	**P**	**10 44 56.1**	**+0.7**
MAW	**Mawson**	**84.85**	**199**	P	**P**	**10 44 56.2**	**+0.9**
	1.0nm,0.7s,mb4.1,baz=152,slow=9.6,SNR=2.7						
PDAR	**Pinedale Array**	**84.92**	**42**	P	**P**	**10 44 55.5**	**-0.5**
	1.3nm,0.9s,mb4.0,baz=209,slow=4.9,SNR=8.4						
PDAR				LR	LR	11 19 26.4	
	comp=Z,45nm,18.4s,MS3.9,baz=171,slow=33						
WALA	**Waterton Lakes**	**85.70**	**35**	*e*P	**P**	**10 45 04.3**	**+4.5**
	12nm,0.3s,mb5.6						
ULM	**Lac du Bonnet**	**96.64**	**39**	LR	LR	11 21 58.9	
	comp=Z,118nm,18.8s,MS4.4,baz=253,slow=31						
CLL	**Collm**	**146.51**	**352**	*e*PKPbc	PKPbc	10 52 02.0	0.0
BAIF	**Baives**	**148.23**	**2**	*e*PKP1	PKPbc	10 52 07.3	+0.5
GRA1	**Grafenberg Arr**	**148.31**	**353**	*e*PKP	PKPab	10 52 10.8	+0.6
GERES	**GERESS Array B**	**148.80**	**350**	PKPbc	PKPbc	10 52 08.7	+0.4
	0.6nm,0.8s,baz=29,slow=3.0,SNR=4.7						
GRR	**Gorron**	**149.45**	**9**	*e*PKP1	PKPbc	10 52 10.8	+0.8
	27nm,1.2s						
LOR	**Lormes**	**151.01**	**3**	*e*PKP1	PKPbc	10 52 14.9	+1.1
SSF	**Saint Saulge**	**151.20**	**3**	*e*PKP1	PKPbc	10 52 15.5	+1.3
	7.5nm,0.9s						
BGF	**Bois d'Agland**	**151.66**	**4**	*e*PKP1	PKPbc	10 52 16.2	+0.9

MOS 07 11:00:31.5±0.2**, 4262N**×**4693E, h10**km**, mb4.0**/1**, Error ellipse: s-maj=26.4km s-min=12.0km az=20.3, Eastern Caucasus**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MAK	**Makhachkala**	**0.55**	**51**	*e*PG	Pg	11 00 43.3	+1.1
SNJR	**Sundja**	**1.62**	**287**	*e*PG	Pg	11 01 00.8	-1.7
SNJR				*e*S	Sn	11 01 24.2	+3.2
BTKR	**Batakoyurt**	**1.91**	**294**	*e*PN	Pn	11 01 05.1	+1.1
BTKR				*e*S	Sn	11 01 31.6	+3.6
LACR	**Lac**	**1.95**	**277**	*e*PN	Pn	11 01 05.8	+1.2
LACR				*e*S	Sn	11 01 32.9	+3.8
TRKR	**Terskaya**	**1.95**	**305**	*e*PN	Pn	11 01 05.6	+1.0
TRKR				*e*S	Sn	11 01 32.4	+3.3
ARNR	**Ardon**	**2.03**	**287**	*e*PN	Pn	11 01 06.8	+1.1
ARNR				*e*S	Sn	11 01 34.8	+3.8
KMSR	**Komsomolskaya**	**2.07**	**292**	*e*PN	Pn	11 01 07.5	+1.2
KMSR				*e*S	Sn	11 01 35.8	+3.6
KORR	**Kora**	**2.15**	**284**	*e*PN	Pn	11 01 08.7	+1.3
KORR				*e*S	Sn	11 01 38.0	+3.8
ZEI	**Tsey**	**2.24**	**275**	*e*PN	Pn	11 01 09.7	+1.1
ZEI				*e*S	Sn	11 01 40.2	+4.0

CASC 07 11:01:40.2±1.7**, 834N**×**8288W, h3**km±10km**, MD4.1, 3C-4D, Panama-Costa Rica border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ACR	**Cerro Adams**	**0.42**	**318⇑**	*e*P	Pg	11 01 48.6	+0.4
ACR				*e*S	Sg	11 01 56.2	+2.5
BRU2	**Volcan**	**0.49**	**23⇓**	*i*P	Pg	11 01 50.4	+0.8
BRU2				*e*S	Sg	11 01 59.7	+3.8
CTCR	**Cotoan**	**0.56**	**13⇓**	*i*P	Pg	11 01 51.7	+0.6
BAR1		**0.99**	**335⇓**	*e*P	Pg	11 01 58.4	-0.8
BAR1				*e*S	Sg	11 02 13.4	+1.4
CNI	**Changuinola**	**1.13**	**19⇓**	*e*P	Pg	11 02 00.6	-1.2
CNI				*e*S	Sg	11 02 16.8	+0.4
BUS	**Buena Vista**	**1.48**	**324⇑**	*e*P	Pn	11 02 06.2	-1.5
BUS				*e*S	Sb	11 02 28.5	+0.9
LIO	**Limon**	**1.66**	**355**	*e*P	Pn	11 02 09.7	-0.4
LIO				*e*S	Sn	11 02 33.1	+1.2
PRS1	**Puriscal**	**2.15**	**319**	*e*P	Pn	11 02 15.8	-1.2
PRS1				*e*S	Sn	11 02 43.7	-0.6
CGA2	**Cerro Gallo 2**	**2.28**	**317**	*e*P	Pn	11 02 18.9	+0.2
CGA2				*e*S	Sn	11 02 48.1	+0.8
JCR	**Jicaral**	**2.66**	**304**	*e*P	Pn	11 02 24.5	+0.5
PTP	**Ponta Puerca**	**19.45**	**58⇑**	*i*P		11 01 44.0	

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*ISCJB **07** 11:02:08.2±0.9, 18.1S±0.1×178.4W±0.1, h515km±13km, mb3.7/11, Error ellipse: s-maj=22.8km s-min=10.4km az=145.5*
*NEIC **07** 11:02:09.2±0.9, 18.12S×178.37W, h519km±11km, mb4.1/3, Error ellipse: s-maj=15.9km s-min=8.3km az=148.0*
*IDC **07** 11:02:10.1±1.8, 1809S×17850W, h529km±22km, mb3.3/9, mb1 3.5/10, mb1mx3.3/18, mbtmp3.3/10, Error ellipse: s-maj=24.5km s-min=11.1km az=145.0*
ISC 07 11:02:08.7±0.9**, 181S**±01×**1783W**±01**, h510**km±12km**, n23, σ0^{s}87**/23**, mb3.7**/11**, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**7.57**	**57**	P	**P**	**11 04 02.5**	**+1.4**
	2.0nm,0.3s,baz=238,slow=13,SNR=3.7						
AFI				S	**S**	**11 05 32.0**	**-1.1**
	2.3nm,0.3s,baz=174,slow=17,SNR=4.2						
AFI	**Afiamalu**	**7.57**	**57**	*e*P	**P**	**11 04 01.8**	**+0.7**
AFI				*e*S	**S**	**11 05 31.9**	**-1.2**
DZM	**Mont Dzumac**	**14.82**	**252**	*e*P	**P**	**11 05 18.2**	**+1.3**
URZ	**Urewera**	**20.46**	**190**	P	**P**	**11 06 09.8**	**-1.0**
	9.2nm,0.5s,baz=30,slow=3.2,SNR=8.3						
SNZO	**South Karori**	**23.87**	**193**	*e*P	**P**	**11 06 41.4**	**-0.1**
CTA	**Charters Tower**	**33.47**	**261**	*e*P	**P**	**11 08 05.0**	**-0.3**
	5.4nm,0.9s,mb4.1						
CTAO	**Charters Tower**	**33.47**	**261**	*e*P	**P**	**11 08 05.2**	**-0.2**
	6.4nm,0.8s,mb4.2						
PMG	**Port Moresby**	**34.55**	**280**	P	**P**	**11 08 15.0**	**+0.5**
STKA	**Stephens Creek**	**38.58**	**241**	P	**P**	**11 08 48.6**	**+1.0**
	1.0nm,0.4s,mb3.7,baz=62,slow=8.7,SNR=5.2						
STKA	**Stephens Creek**	**38.58**	**241**	*e*P	**P**	**11 08 48.7**	**+1.1**
WB2	**Warramunga Arr**	**44.64**	**260**	*e*P	**P**	**11 09 34.5**	**-1.2**
WRA	**Warramunga Arr**	**44.66**	**260**	P	**P**	**11 09 34.7**	**-1.1**
	3.3nm,0.4s,mb4.2,baz=93,slow=6.8,SNR=231						
ASAR	**Alice Springs**	**44.79**	**254**	P	**P**	**11 09 36.7**	**-0.1**
	28nm,0.5s,mb5.0,baz=89,slow=8.0,SNR=872						
ASAR				S	**S**	**11 15 32.0**	**-4.7**
	0.9nm,0.8s,baz=89,slow=14,SNR=8.7						
PETK	**Petropavlovsk-**	**73.89**	**345**	P	**P**	**11 12 49.8**	**-1.2**
	1.2nm,0.6s,mb3.5,baz=127,slow=6.4,SNR=3.8						
YBH	**Yreka Blue Hor**	**78.65**	**39**	P	**P**	**11 13 17.9**	**+0.4**
	2.1nm,0.9s,mb3.5,baz=88,slow=3.0,SNR=6.9						
NVAR	**Mina Array Bea**	**79.53**	**44**	P	**P**	**11 13 22.9**	**+0.5**
	0.8nm,0.7s,mb3.2,baz=225,slow=9.1,SNR=7.2						
MAW	**Mawson**	**83.69**	**200**	P	**P**	**11 13 43.2**	**+0.1**
	0.6nm,0.4s,mb3.4,baz=134,slow=0.8,SNR=4.3						
TXAR	**Lajitas Array**	**86.05**	**58**	P	**P**	**11 13 56.9**	**+1.5**
	0.7nm,0.7s,mb3.4,baz=217,slow=5.4,SNR=11						
BW06	**Boulder Array**	**87.46**	**43**	*e*P	**P**	**11 14 01.3**	**-0.3**
	1.0nm,0.7s,mb3.5						
PDAR	**Pinedale Array**	**87.46**	**43**	P	**P**	**11 14 01.8**	**+0.1**
	0.4nm,0.6s,mb3.2,baz=216,slow=2.8,SNR=4.9						
BUR08	**Bucovina Ar. S**	**144.81**	**332**	*e*PKP	PKPdf	11 20 47.5	+0.2
GERES	**GERESS Array B**	**147.83**	**345**	PKPbc	PKPbc	11 20 54.9	-1.0
	1.1nm,0.5s,baz=22,slow=3.4,SNR=13						
DAVOX	**Davos/Dischmat**	**150.62**	**348**	PKPbc	PKPbc	11 21 02.2	-0.6
	2.0nm,0.4s,baz=247,slow=7.7,SNR=6.5						

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*BJI **07** 11:49:36.5, 970S×10770E, h5km, mB5.1, mb4.8, Ms5.3, Msz4.9*
*IDC **07** 11:49:37.9±0.5, 966S×10771E, h0km, mb4.5/16, mb1 4.6/18, mb1mx4.6/22, mbtmp4.5/18, ML4.9/2, MS3.5/5, Ms1 3.5/5, ms1mx3.2/25, Error ellipse: s-maj=21.4km s-min=11.6km az=57.0*
*NEIC **07** 11:49:38.5±4.0, 966S×10773E, h6km±24km, mb4.7/19, Error ellipse: s-maj=9.9km s-min=5.1km az=60.0*
*DJA **07** 11:49:39, 980S×10767E, h10km, Mw5.3/7*
*MOS **07** 11:49:40.9±1.2, 956S×10781E, h33km, mb4.9/16, Error ellipse: s-maj=15.0km s-min=7.7km az=104.0*
*ISCJB **07** 11:49:41.6±0.7, 973S±004×10773E±004, h42km±5km, mb4.8/60, MS3.6/5, Error ellipse: s-maj=7.7km s-min=5.1km az=39.4*
ISC 07 11:49:44.4±0.7**, 969S**±004×**10777E**±004**, h49**km±5km**, h42**km±1.5km**:pP-P, n170, σ1^{s}01**/155**, mb4.8**/60**, MS3.6**/5**, 14C-11D, South of Jawa**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
XMIS	**Christmas Isla**	**2.23**	**249⇑**	*i*P	**Pn**	**11 50 13.5**	**-5.5**
XMIS				*e*S	**Sn**	**11 50 35.7**	**-10**
XMIS	**Christmas Isla**	**2.23**	**249**	P	**Pn**	**11 50 13.4**	**-5.6**
XMIS	**Christmas Isla**	**2.23**	**249**	*e*Pn	**Pn**	**11 50 13.4**	**-5.6**
XMIS				*e*S	**Sn**	**11 50 35.7**	**-10**
CLJI	**Cilicap**	**2.31**	**32**	P	**Pn**	**11 50 20.2**	**+0.2**
	0.0nm,0.0s						
CLJI	**Cilicap**	**2.31**	**32**	P	**Pn**	**11 50 18.9**	**-1.1**
LEM	**Lembang**	**2.84**	**357**	P	**Pn**	**11 50 26.5**	**-0.9**
	0.0nm,0.0s						
SKJI	**Sukabumi**	**2.92**	**336**	P	**Pn**	**11 50 30.1**	**+1.6**
	0.0nm,0.0s						
SKJI	**Sukabumi**	**2.92**	**336**	P	**Pn**	**11 50 26.4**	**-2.1**
BJII	**Banjamegara**	**3.02**	**39**	P	**Pn**	**11 50 28.7**	**-1.1**
	0.0nm,0.0s						
JCJI	**Jatiwangi**	**3.21**	**9**	P	**Pn**	**11 50 28.6**	**-3.8**
	0.0nm,0.0s						
UGM	**Wanagama**	**3.24**	**57**	P	**Pn**	**11 50 31.1**	**-1.7**
DBJI	**Dramaga**	**3.27**	**342**	P	**Pn**	**11 50 31.5**	**-1.8**
	0.0nm,0.0s						
CBJI	**Citeko**	**3.37**	**344**	P	**Pn**	**11 50 29.2**	**-5.4**
	0.0nm,0.0s						
SMRI	**Semarang**	**3.72**	**45**	P	**Pn**	**11 50 39.3**	**-0.1**
SBJI	**Serang**	**3.90**	**335**	P	**Pn**	**11 50 43.4**	**+1.5**
	0.0nm,0.0s						
SBJI	**Serang**	**3.90**	**335**	P	**Pn**	**11 50 41.2**	**-0.7**
SJI	**Sawahan**	**4.40**	**64**	P	**Pn**	**11 50 48.5**	**-0.2**
	0.0nm,0.0s						
BLSI	**Bandar Lampung**	**4.97**	**330**	P	**Pn**	**11 50 56.9**	**+0.3**
	111nm,0.5s,0.6nm						
TPI	**Tanjungpandan**	**6.88**	**359**	P	**Pn**	**11 51 23.1**	**+0.2**
	69nm,0.9s,472nm0.2nm						
NBBI	**Negara**	**6.89**	**80**	P	**Pn**	**11 51 23.2**	**+0.3**
	432nm,0.6s,8μm2.4nm						
IGBI	**Denpasar**	**7.33**	**84**	P	**Pn**	**11 51 29.7**	**+0.8**
	529nm,0.8s						
IGBI	**Denpasar**	**7.33**	**84**	P	**Pn**	**11 51 28.3**	**-0.6**
	316nm,0.5s,3.6nm						
DNP	**Denpasar**	**7.41**	**83**	P	**Pn**	**11 51 31.3**	**+1.2**
PPBI	**Pangkal Pinang**	**7.65**	**348**	P	**Pn**	**11 51 37.4**	**+4.0**
	32nm,1.0s						
PPBI	**Pangkal Pinang**	**7.65**	**348**	P	**Pn**	**11 51 34.6**	**+1.2**
	25nm,0.8s,2μm0.2nm						
KHKI	**Kahang-Kahang**	**7.85**	**81**	P	**Pn**	**11 51 35.5**	**-0.6**
	158nm,0.7s						
KHKI	**Kahang-Kahang**	**7.85**	**81**	P	**Pn**	**11 51 35.6**	**-0.5**
KSI	**Kapahiang**	**7.90**	**319**	P	**Pn**	**11 51 36.5**	**-0.3**
	158nm,0.8s,0.7nm						
MTNI	**Mataram**	**8.36**	**84**	P	**Pn**	**11 51 42.5**	**-0.6**

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
	272nm,0.8s						
MTNI	**Mataram**	**8.36**	**84**	P	**Pn**	**11 51 42.3**	**-0.8**
	225nm,0.8s,1.4nm						
KSM	**Kuching**	**11.37**	**13**	⇑P	**Pn**	**11 52 28.0**	**+3.7**
SBUM	**Sibu**	**12.84**	**20**	⇑P	**Pn**	**11 52 46.0**	**+1.6**
BTM	**Bintulu**	**13.85**	**23**	⇑P	**Pn**	**11 53 01.1**	**+2.9**
PCI	**Palu**	**14.84**	**55**	P	**Pn**	**11 53 12.9**	**+1.6**
	106nm,0.9s						
PCI	**Palu**	**14.84**	**55**	P	**Pn**	**11 53 12.1**	**+0.8**
	89nm,0.9s,977nm						
IPM	**Ipoh**	**15.60**	**334**	⇑P	**Pn**	**11 53 25.5**	**+4.3**
KTGM	**Kuala Trenggan**	**15.61**	**343**	⇓P	**Pn**	**11 53 26.2**	**+4.8**
BATI	**Baumata**	**15.66**	**93**	P	**Pn**	**11 53 21.5**	**-0.5**
	48nm,1.0s						
BATI	**Baumata**	**15.66**	**93**	Pn	**Pn**	**11 53 18.8**	**-3.2**
	13nm,0.3s,baz=299,slow=3.2,SNR=15						
BATI				Sn	**Sn**	**11 56 00.9**	**-14**
	3.1nm,0.3s,baz=114,slow=20,SNR=4.6						
MBWA	**Marble Bar**	**16.20**	**136**	P	**Pn**	**11 53 24.7**	**-4.2**
MBWA	**Marble Bar**	**16.20**	**136**	*e*P	**Pn**	**11 53 22.0**	**-6.9**
	11nm,0.4s						
KULM	**Kulim**	**16.48**	**334**	⇓P	**Pn**	**11 53 34.3**	**+1.8**
TSM	**Tawau**	**17.15**	**36**	⇑P	**Pn**	**11 53 41.5**	**+0.7**
KKM	**Kota Kinabalu**	**17.75**	**29**	⇑P	**Pn**	**11 53 47.7**	**-0.4**
KKM	**Kota Kinabalu**	**17.75**	**29**	*e*P	**Pn**	**11 53 42.5**	**-5.6**
SDKM	**Sandakan**	**17.89**	**32**	⇓P	**Pn**	**11 53 50.8**	**+1.0**
MYLDM	**Lahad Datu**	**18.23**	**36**	⇑P	**Pn**	**11 53 55.9**	**+1.9**
MYLDM	**Lahad Datu**	**18.23**	**36**	P	**Pn**	**11 53 55.7**	**+1.7**
FITZ	**Fitzroy Crossi**	**19.24**	**118**	*e*P	**Pn**	**11 54 05.1**	**-1.1**
	4.1nm,0.3s						
FITZ				*e*S	**S**	**11 57 20.9**	**-19**
FITZ	**Fitzroy Crossi**	**19.24**	**118**	P	**Pn**	**11 54 05.5**	**-0.8**
	1.2nm,0.3s,baz=291,slow=8.2,SNR=36						
FITZ				S	**S**	**11 57 22.5**	**-18**
	0.4nm,0.3s,baz=187,slow=23,SNR=7.1						
FITZ	**Fitzroy Crossi**	**19.24**	**118**	P	**Pn**	**11 54 05.9**	**-0.3**
	21nm,1.4s						
BSI	**Banda Aceh**	**19.55**	**320**	P	**Pn**	**11 54 10.2**	**+0.4**
	111nm,1.1s						
BSI	**Banda Aceh**	**19.55**	**320**	P	**Pn**	**11 54 09.6**	**-0.2**
	94nm,1.1s						
AAI	**Ambon**	**21.13**	**75**	P	**P**	**11 54 31.1**	**+5.7**
	84nm,0.7s,mb5.2						
AAI	**Ambon**	**21.13**	**75**	P	**P**	**11 54 31.2**	**+5.8**
	122nm,0.7s,mb5.3						
LBMI	**Labuha**	**21.59**	**67**	P	**P**	**11 54 31.6**	**+1.3**
	87nm,0.9s,mb5.2						
LBMI	**Labuha**	**21.59**	**67**	P	**P**	**11 54 30.3**	**0.0**
	64nm,1.1s,mb5.0						
TNTI	**Ternate**	**22.10**	**63**	P	**P**	**11 54 35.4**	**-0.4**
MUN	**Mundaring**	**23.52**	**162**	*e*P	**P**	**11 54 50.2**	**-0.1**
KAKA	**Kakadu**	**24.38**	**99**	⇓*i*P	**P**	**11 54 58.2**	**-0.1**
	21nm,0.6s,mb4.8						
NWAO	**Narrogin (SRO)**	**24.72**	**161**	P	**P**	**11 54 59.8**	**-1.4**
	12nm,0.8s,mb4.5,baz=323,slow=13,SNR=9.3						
NWAO				LR	LR	12 05 43.6	
	comp=Z,139nm,18.2s,MS3.5,baz=116,slow=39						
WRA	**Warramunga Arr**	**27.59**	**115**	P	**P**	**11 55 26.9**	**-0.4**
	9.0nm,0.7s,mb4.5,baz=287,slow=11,SNR=44						
WRA				PcP	PcP	11 58 45.2	+1.0
	2.3nm,0.7s,baz=291,slow=2.0,SNR=8.4						
WB2	**Warramunga Arr**	**27.60**	**115**	*e*P	**P**	**11 55 27.2**	**-0.2**
ASAR	**Alice Springs**	**28.56**	**122**	P	**P**	**11 55 36.0**	**+0.1**
	6.5nm,0.6s,mb4.5,baz=299,slow=8.7,SNR=23						
ASAR				PcP	PcP	11 58 47.9	+1.3
	2.1nm,0.6s,baz=292,slow=1.7,SNR=12						
CMAR	**Chiang Mai Arr**	**29.29**	**343**	P	**P**	**11 55 41.9**	**-0.4**
	4.8nm,0.9s,mb4.2,baz=178,slow=8.6,SNR=26						
CMAR				PcP	PcP	11 58 50.5	+2.2
	1.4nm,0.6s,baz=191,slow=4.2,SNR=7.1						
CHTO	**Chiang Mai**	**29.63**	**343**	*e*P	**P**	**11 55 44.8**	**-0.5**
CHTO				pmax	pmax		
	comp=Z,8.0nm,0.9s,mb4.5						
CHTO	**Chiang Mai**	**29.63**	**343**	*e*P	**P**	**11 55 44.8**	**-0.6**
	comp=Z,7.7nm,0.9s,mb4.4						
GYA	**Guiyang**	**35.94**	**358**	⇑*i*P	**P**	**11 56 41.4**	**+1.0**
GYA				AMB	AMB		
	comp=Z,20nm,0.9s,mb5.0						
STKA	**Stephens Creek**	**38.31**	**130**	⇓*i*P	**P**	**11 57 00.8**	**+0.3**
	comp=Z,15nm,0.6s,mb4.9						
STKA	**Stephens Creek**	**38.31**	**130**	P	**P**	**11 57 01.0**	**+0.5**
	comp=Z,20nm,0.7s,mb5.0,baz=301,slow=8.6,SNR=50						
STKA				PcP	PcP	11 59 14.9	+1.2
	comp=Z,3.4nm,0.5s,baz=305,slow=6.0,SNR=4.3						
CTA	**Charters Tower**	**38.51**	**110**	*e*P	**P**	**11 57 03.7**	**+1.3**
	comp=Z,5.5nm,0.7s,mb4.4						
CTA	**Charters Tower**	**38.51**	**110**	P	**P**	**11 57 03.9**	**+1.6**
	comp=Z,6.2nm,0.7s,mb4.5,baz=275,slow=12,SNR=14						
CTA	**Charters Tower**	**38.51**	**110**	*e*P	**P**	**11 57 03.7**	**+1.3**
CTA				pmax	pmax		
	comp=Z,6.0nm,0.7s						
PMG	**Port Moresby**	**38.83**	**93**	*e*P	**P**	**11 57 07.3**	**+2.2**
CD2	**Chengdu**	**40.55**	**355**	P	**P**	**11 57 17.2**	**-1.9**
CD2				AMB	AMB		
	comp=Z,20nm,0.8s,mb4.8						
CD2				AMB	AMB		
	comp=Z,60nm,5.8s						
ODAN	**Odare**	**41.37**	**332**	*e*P	**P**	**11 57 26.2**	**+0.3**
	comp=Z,37nm,0.7s,mb5.1						
TAPN	**Taplejung**	**41.64**	**333**	*e*P	**P**	**11 57 28.9**	**+0.8**
	comp=Z,46nm,0.8s,mb5.2						
RAMN	**Ramite**	**41.81**	**331**	*e*P	**P**	**11 57 30.1**	**+0.5**
LSA	**Lhasa**	**42.30**	**338**	*e*P	**P**	**11 57 34.4**	**+0.9**
LSA				pmax	pmax		
	comp=Z,26nm,0.8s,mb4.9						
LSA	**Lhasa**	**42.30**	**338**	*e*P	**P**	**11 57 34.4**	**+0.9**
	comp=Z,26nm,0.8s,mb4.9						
JIRN	**Jiri**	**42.61**	**331**	*e*P	**P**	**11 57 36.4**	**+0.4**
	comp=Z,53nm,0.7s,mb5.3						
NJ2	**Nanjing**	**42.83**	**14**	*e*P	**P**	**11 57 36.4**	**-1.4**
NJ2				AMB	AMB		
	comp=Z,20nm,1.0s,mb4.8						
PKI	**Pulchoki**	**42.91**	**330**	*e*P	**P**	**11 57 38.6**	**+0.1**
	comp=Z,28nm,0.8s,mb5.0						
GUN	**Gumba**	**42.96**	**331**	*e*P	**P**	**11 57 39.5**	**+0.6**
	comp=Z,46nm,0.7s,mb5.3						
DMN	**Daman**	**43.09**	**330**	*e*P	**P**	**11 57 39.9**	**0.0**
	comp=Z,42nm,0.8s,mb5.2						
KKN	**Kakani**	**43.15**	**330**	*e*P	**P**	**11 57 40.5**	**+0.1**
	comp=Z,44nm,0.9s,mb5.2						
GKN	**Gorkha**	**43.65**	**330**	*e*P	**P**	**11 57 44.4**	**0.0**
	comp=Z,26nm,0.6s,mb5.1						
KOLN	**Koldanda**	**43.98**	**328**	*e*P	**P**	**11 57 47.2**	**+0.1**
	comp=Z,36nm,0.7s,mb5.2						
DANN	**Dangsing**	**44.37**	**329**	*e*P	**P**	**11 57 50.3**	**+0.1**
	comp=Z,57nm,0.8s,mb5.4						
LZH	**Lanzhou**	**45.67**	**356**	*e*P	**P**	**11 58 04.0**	**+3.6**
LZH				AMB	AMB		
	comp=Z,28nm,1.0s,mb5.2						
LZH				AMB	AMB		
	comp=Z,120nm,4.0s						
GTA	**Gaotai**	**49.40**	**352**	*e*P	**P**	**11 58 29.6**	**+0.3**
GTA				AP	pP	11 58 34.2	-8.4
GTA				XP	sP	11 58 36.7	-12
GTA				AMB	AMB		
	comp=Z,3.0nm,1.6s,mb4.1						
KSRS	**Korea Array**	**50.55**	**21**	P	**P**	**11 58 38.4**	**+0.3**
	comp=Z,0.7nm,0.7s,mb3.7,baz=232,slow=7.6,SNR=3.0						
MAJO	**Matsushiro**	**54.16**	**30**	P	**P**	**11 59 02.5**	**-2.4**
MAJO				pmax	pmax		
	comp=Z,7.0nm,1.0s,mb4.5						
MAJO	**Matsushiro**	**54.16**	**30**	P	**P**	**11 59 02.5**	**-2.3**
	comp=Z,7.5nm,1.0s,mb4.6						
MJAR	**Matsushiro Arr**	**54.16**	**30**	P	**P**	**11 59 02.1**	**-2.8**
	comp=Z,4.5nm,0.9s,mb4.4,baz=208,slow=7.2,SNR=12						
WMQ	**Urumqi**	**56.29**	**343**	P	**P**	**11 59 21.0**	**+0.9**
CASY	**Casey**	**56.55**	**179**	*e*P	**P**	**11 59 21.5**	**-0.1**
	comp=Z,8.4nm,1.1s,mb4.7						
SONM	**Songino Array**	**57.28**	**359**	P	**P**	**11 59 26.7**	**-0.3**
	comp=Z,4.8nm,0.6s,mb4.7,baz=176,slow=5.9,SNR=21						
SONM				LR	LR	12 24 42.4	
	comp=Z,61nm,18.8s,MS3.7,baz=158,slow=37						
ULN	**Ulaanbaatar**	**57.30**	**359**	⇓*e*P	**P**	**11 59 27.3**	**+0.2**
ULN	**Ulaanbaatar**	**57.30**	**359**	*e*P	**P**	**11 59 26.7**	**-0.4**
	comp=Z,8.2nm,0.7s,mb4.9						
HIA	**Hailar**	**59.63**	**9**	*e*P	**P**	**11 59 42.5**	**-0.9**
ZAK	**Zakamensk**	**59.94**	**357**	*e*P	**P**	**11 59 43.8**	**-1.7**
ZAK				pmax	pmax		
	comp=Z,4.0nm,1.3s,mb4.3						
TKM2	**Tokmak 2**	**60.03**	**333**	*e*P	**P**	**11 59 45.7**	**-0.5**
TKM2				pmax	pmax		
	comp=Z,7.0nm,0.6s,mb4.9						
TKM2	**Tokmak 2**	**60.03**	**333**	*e*P	**P**	**11 59 45.7**	**-0.5**
	comp=Z,6.8nm,0.6s,mb4.8						
AML	**Almayashu**	**60.28**	**331**	*e*P	**P**	**11 59 47.4**	**-0.6**
	comp=Z,3.6nm,0.8s,mb4.5						
EKS2	**Erkin-Say**	**60.65**	**332**	*e*P	**P**	**11 59 50.6**	**+0.1**
	comp=Z,4.9nm,0.8s,mb4.7						
MK31	**Makanchi Array**	**60.66**	**340**	*e*P	**P**	**11 59 50.4**	**0.0**
MKAR	**Makanchi Array**	**60.66**	**340**	P	**P**	**11 59 50.5**	**+0.1**
	comp=Z,5.8nm,0.6s,mb4.9,baz=144,slow=7.7,SNR=40						
MKAR				LR	LR	12 27 16.5	
	comp=Z,24nm,19.1s,MS3.4,baz=236,slow=37						
TLY	**Talaya**	**61.22**	**357**	*e*P	**P**	**11 59 55.2**	**+1.1**
TLY				pmax	pmax		
	comp=Z,4.0nm,1.0s,mb4.5						
HVS	**Khovu-Aksy**	**61.79**	**350**	*e*P	**P**	**11 59 57.9**	**-0.1**
HVS				pmax	pmax		
	comp=Z,17nm,1.3s,mb5.0						
HABR	**Khabarovsk**	**62.72**	**20**	*e*P	**P**	**12 00 05.6**	**+1.3**
HABR				*e*	pP	12 00 17.0	-1.0
HABR				*e*S	**S**	**12 08 30.6**	**+1.3**
YSS	**Yuzh-Sakhalins**	**64.43**	**26**	⇑*e*P	**P**	**12 00 13.9**	**-1.7**
YSS				pmax	pmax		
	comp=Z,30nm,1.0s,mb5.3						
MAW	**Mawson**	**65.04**	**197**	⇓*i*P	**P**	**12 00 20.1**	**+0.8**
	comp=Z,7.0nm,0.8s,mb4.7						
MAW	**Mawson**	**65.04**	**197**	P	**P**	**12 00 20.1**	**+0.8**
	comp=Z,10nm,0.9s,mb4.9,baz=50,slow=6.3,SNR=19						
MAW				LR	LR	12 20 51.6	
	comp=Z,43nm,21.4s,MS3.6,baz=64,slow=29						
MAW	**Mawson**	**65.04**	**197**	⇓*i*P	**P**	**12 00 20.1**	**+0.8**
MAW				pmax	pmax		
	comp=Z,7.0nm,0.8s						
KURK	**Kurchatov**	**65.27**	**340**	P	**P**	**12 00 20.7**	**-0.3**
	comp=Z,2.5nm,0.6s,mb4.5,baz=153,slow=6.4,SNR=12						
ZALV	**Zalesovo Beam**	**66.31**	**345**	P	**P**	**12 00 26.8**	**-0.8**
	comp=Z,1.4nm,0.3s,mb4.4,baz=160,slow=4.7,SNR=6.5						
ZALV				LR	LR	12 30 12.3	
	comp=Z,36nm,18.8s,MS3.6,baz=236,slow=37						
ZALV	**Zalesovo Beam**	**66.31**	**345**	P	**P**	**12 00 26.8**	**-0.8**
ZALV				LR	LR	12 30 12.3	
BOD	**Bodaibo**	**67.46**	**4**	*e*P	**P**	**12 00 34.1**	**-0.7**
BOD				pmax	pmax		
	comp=Z,7.0nm,1.0s,mb4.7						
NAY	**Al-Naaiem**	**69.96**	**306**	*e*P	**P**	**12 00 50.4**	**-0.7**
	baz=306						
NAY				AMb	AMB	12 00 52.5	
	comp=Z,9.0nm,1.2s,mb4.6,baz=306						
MIB	**Mutribah**	**70.11**	**306**	*e*P	**P**	**12 00 51.2**	**-0.8**
	baz=307						
MIB				AMb	AMB	12 00 52.5	
	comp=Z,14nm,1.1s,mb4.8,baz=307						
BVAR	**Borovoye Array**	**70.12**	**337**	P	**P**	**12 00 51.5**	**0.0**
	comp=Z,1.6nm,0.5s,mb4.2,baz=144,slow=10,SNR=6.8						
RST	**Umm Al-Ruwaisa**	**70.26**	**306**	*e*P	**P**	**12 00 51.8**	**-1.1**
	baz=306						
RST				AMb	AMB	12 00 53.0	
	comp=Z,13nm,1.0s,mb4.8,baz=306						
KMBO	**Kilima Mbogo**	**70.61**	**272**	P	**P**	**12 00 55.9**	**+0.5**
	comp=Z,2.7nm,0.9s,mb4.2,baz=55,slow=10.0,SNR=6.3						
KMBO	**Kilima Mbogo**	**70.61**	**272**	*e*P	**P**	**12 00 56.8**	**+1.4**
KMBO				pmax	pmax		
	comp=Z,3.0nm,0.9s						
KMBO	**Kilima Mbogo**	**70.61**	**272**	*e*P	**P**	**12 00 56.8**	**+1.4**
	comp=Z,3.5nm,0.9s,mb4.3						
SYO	**Syowa Base**	**73.27**	**200**	⇑*e*P	**P**	**12 01 09.2**	**-1.0**
SYO	**Syowa Base**	**73.27**	**200**	⇑*e*P	pP	12 01 21.5	-2.8
YAK	**Yakutsk**	**73.51**	**11**	*e*P	**P**	**12 01 10.5**	**-1.2**
YAK				pmax	pmax		
	comp=Z,24nm,1.0s,mb5.1						
YAK	**Yakutsk**	**73.51**	**11**	*e*P	**P**	**12 01 11.3**	**-0.4**
	comp=Z,27nm,0.8s,mb5.2						
AKTK	**Aktyubinsk**	**73.81**	**329**	P	**P**	**12 01 13.7**	**0.0**
AKTO	**Aktyubinsk**	**73.81**	**329**	P	**P**	**12 01 13.7**	**0.0**
	comp=Z,1.3nm,0.5s,mb4.1,baz=151,slow=7.9,SNR=4.3						
SBA	**Scott Base**	**74.28**	**169**	*e*P	**P**	**12 01 14.9**	**-1.2**
SBA				pmax	pmax		
	comp=Z,3.0nm,1.0s,mb4.2						
SBA	**Scott Base**	**74.28**	**169**	*e*P	**P**	**12 01 14.8**	**-1.2**
	comp=Z,3.3nm,1.0s,mb4.2						
PETK	**Petropavlovsk-**	**75.56**	**28**	P	**P**	**12 01 24.0**	**+0.2**
	comp=Z,5.9nm,0.8s,mb4.6,baz=183,slow=2.1,SNR=14						
SVE	**Sverdlovsk**	**76.76**	**336**	⇓*e*P	**P**	**12 01 31.3**	**+0.8**
SVE				pmax	pmax		
	comp=Z,15nm,1.0s,mb4.9						
ARU	**Arti**	**77.36**	**334**	*c i*P	**P**	**12 01 34.1**	**+0.2**
ARU				*e*S	S	12 11 23.0	+2.7
ARU				SS	SS	12 16 20.8	+0.9
ARU				pmax	pmax		
	comp=Z,14nm,1.7s,mb4.6						
ARU	**Arti**	**77.36**	**334**	*e*P	**P**	**12 01 34.0**	**+0.1**
	comp=Z,7.1nm,1.0s,mb4.5						
KIV	**Kislovodsk**	**79.38**	**318**	*e*P	**P**	**12 01 44.0**	**-1.3**
KIV				pmax	pmax		
	comp=Z,9.0nm,1.1s,mb4.6						
SEY	**Seymchan**	**80.07**	**19**	*e*P	**P**	**12 01 48.6**	**0.0**
TIXI	**Tiksi**	**82.37**	**7**	*e*P	**P**	**12 02 00.3**	**-0.4**
TIXI				pmax	pmax		
	comp=Z,12nm,1.0s,mb4.8						
BR131	**Keskin Array S**	**84.17**	**312**	*e*P	**P**	**12 02 10.1**	**-0.6**
	comp=Z,5.0nm,1.1s,mb4.6						
MOS	**Moscow**	**87.05**	**328**	*e*P	**P**	**12 02 21.6**	**-3.0**
SNAA	**Sanae**	**87.21**	**197**	*e*P	**P**	**12 02 26.1**	**+0.9**
SNAA				*e*	pP	12 02 38.9	-0.6
SNAA	**Sanae**	**87.21**	**197**	⇑*e*P	**P**	**12 02 26.6**	**+1.4**
OBN	**Obninsk**	**87.38**	**327**	κ*e*P	**P**	**12 02 26.5**	**+0.3**
OBN				*e*		12 02 35.1	
OBN				pmax	pmax		
	comp=Z,29nm,1.4s,mb5.3						
KLMR	**Klimovskoe**	**88.10**	**333**	*e*P	**P**	**12 02 29.0**	**-0.5**
KLMR				pmax	pmax		
	comp=Z,44nm,1.6s,mb5.4						
VNA2	**Neumayer--Watz**	**88.85**	**197**	*e*P	**P**	**12 02 34.8**	**+1.8**
	baz=88,slow=3.5						
VNA2				*e*	pP	12 02 47.3	-0.1
VNA1	**Neumayer--Stat**	**89.24**	**197**	*e*P	**P**	**12 02 36.8**	**+2.0**
VNA1				*e*	pP	12 02 49.1	-0.1
VNA3	**Neumayer Olymp**	**89.36**	**197**	*e*P	**P**	**12 02 36.9**	**+1.5**
VNA3				*e*	pP	12 02 49.5	-0.2
TORD	**Torodi Ar. Bea**	**107.68**	**281**	PKiKP	PKiKP	12 08 07.7	+0.5
	comp=Z,0.8nm,0.7s,baz=97,slow=1.3,SNR=4.7						
YKA	**Yellowknife Ar**	**119.09**	**21**	PKP	PKPdf	12 08 27.7	+0.2
	comp=Z,0.9nm,0.7s,baz=295,slow=1.3,SNR=5.4						
YKA	**Yellowknife Ar**	**119.09**	**21**	PKP	PKPdf	12 08 27.7	+0.2
NVAR	**Mina Array Bea**	**129.84**	**47**	PKP	PKPdf	12 08 52.3	+3.4
	comp=Z,0.6nm,0.8s,baz=257,slow=1.6,SNR=4.2						
PDAR	**Pinedale Array**	**133.66**	**38**	PKP	PKPdf	12 08 57.3	+1.3
	comp=Z,0.4nm,0.8s,baz=162,slow=0.9,SNR=3.5						
TXAR	**Lajitas Array**	**144.68**	**52**	PKP	PKPdf	12 09 17.4	+0.9
	comp=Z,4.2nm,0.7s,baz=256,slow=1.5,SNR=62						
LONY	**Lake Ozonia**	**145.13**	**3**	*e*PKPbc	PKPbc	12 09 16.4	+0.1
NCB	**Newcomb**	**145.80**	**3**	*e*PKPbc	PKPbc	12 09 19.1	+0.6
CCM	**Cathedral Cave**	**146.97**	**28**	*e*PKP2	PKPab	12 09 22.8	-0.7
JCT	**Junction City**	**147.02**	**47**	*e*PKP2	PKPab	12 09 23.9	-0.1
BINY	**Binghamton**	**147.45**	**5**	*e*PKPbc	PKPbc	12 09 24.0	+0.8
BLO	**Bloomington**	**147.97**	**21**	*e*PKP2	PKPab	12 09 25.3	-2.1
ACSO	**Alum Creek Sta**	**148.11**	**16**	*e*PKPbc	PKPbc	12 09 25.4	+0.3
MIAR	**Mount Ida**	**148.47**	**35**	*e*PKP2	PKPab	12 09 27.4	-2.2
SSPA	**Standing Stone**	**148.77**	**8**	*e*PKPbc	PKPbc	12 09 27.4	+0.5
WCI	**Wyandotte Cave**	**148.89**	**22**	*e*PKP2	PKPab	12 09 28.0	-3.2
WVT	**Waverly**	**150.10**	**26**	*e*PKP2	PKPab	12 09 31.0	-5.1
OXF	**Oxford**	**150.70**	**30**	*e*PKIKP	PKPbc	12 09 32.3	+0.5
OXF				*e*		12 09 39.2	
TZTN	**Tazewell**	**151.36**	**19**	*e*PKPbc	PKPbc	12 09 34.3	+1.0
LPAZ	**La Paz**	**153.88**	**189**	PKPbc	PKPbc	12 09 40.0	+0.6
	comp=Z,1.3nm,0.7s,baz=35,slow=2.4,SNR=6.6						

CSEM ***07*** *11:57:14.9±0.1, 3791N×29.14E, h5km, MD2.8, Error ellipse: s-maj=1.9km s-min=1.6km az=127.0*
ISK ***07*** *11:57:14.3, 3793N×29.13E, h5km, MD2.8*
ISCJB ***07*** *11:57:15.8±0.6, 3791N±002×29.13E±003, h4km±5km, Error ellipse: s-maj=4.7km s-min=4.0km az=5.3*
DDA ***07*** *11:57:16.2, 3792N×29.12E, h8km±4km, Md2.8*
ISC 07 11:57:16.4±0.5**, 3792N**±002×**2913E**±004**, h9**km±5km**, n19, σ0**^{s}**80**/31**, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DENT	**Denizli**	**0.18**	**206**	PG	**Pg**	**11 57 18.9**	**-1.3**
KHL	**Karahalli**	**0.51**	**37**	*e*PG	**Pg**	**11 57 25.2**	**-1.1**
KHL				*e*SG	**Sg**	**11 57 33.4**	**+0.4**
KULA	**Kula-Manisa**	**0.70**	**328**	*e*PG	**Pg**	**11 57 28.9**	**-1.1**
KULA				*e*SG	**Sg**	**11 57 39.4**	**+0.2**
MANT	**Manisa**	**0.73**	**322**	*i* P	**Pg**	**11 57 30.7**	**+0.2**
MANT				*i* S	**Sg**	**11 57 41.9**	**+1.8**
GOLH	**Golhisar**	**0.76**	**153**	*i* P	**Pg**	**11 57 30.1**	**-0.9**
GOLH				*i* S	**Sg**	**11 57 43.1**	**+2.3**
TKTP	**Tekketepe**	**0.95**	**82**	*i* P	**Pg**	**11 57 35.1**	**+0.5**
TKTP				*i* S	**Sg**	**11 57 53.2**	**+6.3**
AYDN	**Tasoluk**	**1.02**	**256**	*i* P	**Pg**	**11 57 35.4**	**-0.7**
AYDN				*i* S	**Sg**	**11 57 49.6**	**+0.2**
YER	**Yerkesik**	**1.03**	**221**	*e*PG	**Pg**	**11 57 35.5**	**-0.6**
YER				*e*SG	**Sg**	**11 57 50.6**	**+1.0**
TURN	**Turunc**	**1.12**	**202**	*i* P	**Pb**	**11 57 42.2**	**+4.3**
TURN				*i* S	**Sg**	**11 58 01.6**	**+9.1**
DEMI	**Demirci**	**1.17**	**344**	*i* P	**Pb**	**11 57 38.5**	**-0.3**
DEMI				*i* S	**Sb**	**11 57 54.7**	**+0.6**
DEMI	**Demirci**	**1.17**	**344**	*i* P	**Pb**	**11 57 38.5**	**-0.3**
DEMI				*i* S	**Sb**	**11 57 54.7**	**+0.6**
GDZ	**Gediz**	**1.20**	**13**	*i* P	**Pb**	**11 57 38.8**	**-0.5**
GDZ				*i* S	**Sb**	**11 57 55.3**	**+0.3**
BCK	**Bucak**	**1.24**	**111**	*e*PN	**Pn**	**11 57 39.6**	**-0.3**
BCK				*e*SN	**Sn**	**11 57 57.2**	**+0.5**
MLSB	**Milas**	**1.24**	**241**	*e*PN	**Pn**	**11 57 39.3**	**-0.6**
SHUT	**Suhut-Afyon**	**1.29**	**60**	*e*PN	**Pn**	**11 57 40.2**	**-0.3**
ALT	**Altintas**	**1.37**	**34**	*e*PN	**Pn**	**11 57 41.4**	**-0.3**
AKS	**Akhisar**	**1.42**	**313**	*e*PN	**Pn**	**11 57 42.4**	**+0.1**
IZM	**Izmir**	**1.55**	**289**	*e*PN	**Pn**	**11 57 44.5**	**+0.3**
BODT	**Bodrum**	**1.68**	**240**	*e*PN	**Pn**	**11 57 46.0**	**+0.1**

IDC ***07*** *12:42:07.9±1.4, 1026S×16162E, h78km±9km, mb3.3/4, mb1 3.5/5, mb1mx3.4/17, mbtmp3.4/5, MS3.0/1, Ms1 3.0/1, ms1mx2.4/12, Error ellipse: s-maj=24.9km s-min=14.3km az=40.0*
ISCJB ***07*** *12:42:08.5±3.8, 104S±02×1615E±03, h95km±26km, mb3.3/4, Error ellipse: s-maj=46.1km s-min=21.3km az=29.3*
NEIC ***07*** *12:42:08.1±1.0, 1031S×16161E, mb3.7/1, Error ellipse: s-maj=22.4km s-min=14.0km az=128.0*
ISC 07 12:42:08.8±3.7**, 103S**±02×**1616E**±02**, h84**km±26km**, h81**km±2.9km**: pP-P, n10, σ0**^{s}**47**/11**, mb3.3**/4**, Bougainville - Solomon Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**1.80**	**299**	P	**Pn**	**12 42 38.1**	**-0.1**
	283nm,0.3s,baz=159,slow=4.4,SNR=135						
HNR				S	**Sn**	**12 43 00.5**	**0.0**
	191nm,0.3s,baz=178,slow=23,SNR=6.3						
CTA	**Charters Tower**	**17.66**	**235**	P	**Pn**	**12 46 10.8**	**+1.4**
	0.4nm,0.3s,baz=66,slow=11,SNR=7.8						
CTA				LR	LR	12 52 14.8	
	comp=Z,52nm,19.2s,baz=48,slow=34						
CTAO	**Charters Tower**	**17.66**	**235**	P	**Pn**	**12 46 08.8**	**-0.7**
	4.0nm,0.8s						
WB2	**Warramunga Arr**	**27.91**	**247**	*e*P	**P**	**12 47 51.2**	**+0.1**
WRA	**Warramunga Arr**	**27.92**	**247**	P	**P**	**12 47 51.7**	**+0.5**
	1.0nm,0.5s,mb3.6,baz=76,slow=8.9,SNR=19						
WRA				pP	pP	12 48 10.6	0.0
	1.0nm,0.4s,baz=77,slow=9.1,SNR=5.0						
ASAR	**Alice Springs**	**29.52**	**240**	P	**P**	**12 48 04.8**	**-0.6**
	0.3nm,0.8s,mb3.0,baz=62,slow=10,SNR=4.8						
ASAR				pP	pP	12 48 24.2	-0.6
	0.4nm,0.6s,baz=67,slow=9.4,SNR=3.9						
FITZ	**Fitzroy Crossi**	**35.61**	**253**	*e*P	**P**	**12 48 58.3**	**-0.4**
SONM	**Songino Array**	**75.67**	**325**	P	**P**	**12 53 45.3**	**+0.5**
	0.3nm,0.5s,mb3.3,baz=126,slow=7.3,SNR=3.4						
SONM				pP	pP	12 54 05.2	-1.7
	1.1nm,0.9s,baz=127,slow=3.8,SNR=3.8						
MKAR	**Makanchi Array**	**90.18**	**318**	P	**P**	**12 54 59.6**	**-0.2**
	0.2nm,0.7s,mb3.4,baz=90,slow=3.2,SNR=2.6						
GCMT	**Greycliff**	**96.45**	**45**	*e*P	**P**	**12 55 28.6**	**-0.1**

IDC 07 13:10:53.2±19.0**, 1944S**×**6457E, h0**km**, mb3.6**/3**, mb1 3.8**/3**, mb1mx3.4**/19**, mbtmp3.6**/3**, Error ellipse: s-maj=596.9km s-min=55.7km az=62.0, Mauritius - Reunion region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**64.06**	**107**	P	P	13 21 29.4	0.0
	0.6nm,0.9s,baz=270,slow=5.6,SNR=5.1						
WRA	**Warramunga Arr**	**65.22**	**104**	P	P	13 21 37.1	+0.1
	0.6nm,1.1s,baz=259,slow=6.5,SNR=4.7						
SONM	**Songino Array**	**76.75**	**27**	P	P	13 22 46.6	+0.3
	0.4nm,0.8s,baz=225,slow=5.9,SNR=3.0						

ISCJB ***07*** *13:29:12.0±0.7, 377S±0.1×510E±02, h10km, mb3.9/8, MS3.7/9, Error ellipse: s-maj=24.0km s-min=16.2km az=38.2*
IDC ***07*** *13:29:12.2±1.0, 3774S×5097E, h0km, mb3.9/7, mb1 4.1/7, mb1mx3.8/20, mbtmp3.9/7, MS3.7/9, Ms1 3.7/9, ms1mx3.5/30, Error ellipse: s-maj=33.8km s-min=27.8km az=44.0*
NEIC ***07*** *13:29:13.6±0.6, 3772S×5095E, h10km, mb4.2/1, Error ellipse: s-maj=17.6km s-min=15.5km az=122.0*
ISC 07 13:29:13.9±0.7**, 377S**±01×**510E**±02**, h10**km**, n22, σ0**^{s}**36**/14**, mb3.9**/8**, MS3.7**/9**, South Indian Ocean**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LBTB	**Lobatse**	**25.02**	**293**	LR	LR	13 42 55.8	
	comp=Z,110nm,19.5s,MS3.4,baz=340,slow=33						
SUR	**Sutherland**	**25.23**	**273**	LR	LR	13 42 45.5	
	comp=Z,119nm,19.5s,MS3.4,baz=48,slow=32						
MAW	**Mawson**	**30.71**	**171**	LR	LR	13 44 35.3	
	comp=Z,233nm,22.0s,MS3.8,baz=159,slow=30						
KMBO	**Kilima Mbogo**	**38.52**	**338**	LR	LR	13 50 49.8	
	comp=Z,189nm,19.7s,MS3.9,baz=350,slow=34						
SNAA	**Sanae**	**43.49**	**202**	*e*	**P**	**13 37 16.7**	**-0.2**
SNAA				*e*		13 37 22.0	
SNAA				*e*		13 37 26.1	
SNAA	**Sanae**	**43.49**	**202**	*e*P	**P**	**13 37 16.2**	**-0.7**
	5.8nm,1.1s,mb4.2						
VNA2	**Neumayer--Watz**	**44.64**	**203**	*e*	**P**	**13 37 26.7**	**+0.6**
	baz=77,slow=7.8						
VNA2				*e*		13 37 32.0	
VNA2				*e*		13 37 36.5	
VNA3	**Neumayer Olymp**	**45.44**	**203**	*e*	**P**	**13 37 32.5**	**0.0**
VNA3				*e*		13 37 37.7	
VNA3				*e*		13 37 42.1	
QSPA	**South Pole Qui**	**52.51**	**180**	P	**P**	**13 38 26.4**	**-0.2**
	4.8nm,1.0s,mb4.4,baz=272,slow=5.0,SNR=10						
FITZ	**Fitzroy Crossi**	**67.17**	**96**	P	**P**	**13 40 08.2**	**0.0**
	1.6nm,0.9s,mb4.0,baz=173,slow=8.1,SNR=3.3						
DBIC	**Dimbokro**	**68.16**	**298**	LR	LR	14 08 20.3	
	comp=Z,57nm,19.1s,MS3.8,baz=110,slow=34						
TORD	**Torodi Ar. Bea**	**68.52**	**307**	P	**P**	**13 40 16.7**	**0.0**
	1.7nm,1.0s,mb3.9,baz=144,slow=2.8,SNR=5.1						
TORD				LR	LR	14 09 28.2	
	comp=Z,107nm,18.8s,MS4.1,baz=130,slow=35						
TORD	**Torodi Ar. Bea**	**68.52**	**307**	P	**P**	**13 40 16.7**	**0.0**
TORD				LR	LR	14 09 28.2	
ASAR	**Alice Springs**	**70.55**	**105**	P	**P**	**13 40 29.6**	**+0.3**
	0.6nm,0.5s,mb3.8,baz=228,slow=5.9,SNR=19						
CMAR	**Chiang Mai Arr**	**71.76**	**48**	P	**P**	**13 40 37.0**	**+0.5**
	0.6nm,0.8s,mb3.6,baz=235,slow=7.7,SNR=4.7						
WRA	**Warramunga Arr**	**72.95**	**102**	P	**P**	**13 40 43.8**	**+0.1**
	1.1nm,0.8s,mb3.9,baz=231,slow=5.0,SNR=11						
WB2	**Warramunga Arr**	**72.96**	**102**	P	**P**	**13 40 43.3**	**-0.5**
CFAA	**Coronel Fontan**	**90.77**	**228**	LR	LR	14 12 51.1	
	comp=Z,5.5nm,20.0s,MS3.0,baz=300,slow=29						
KURK	**Kurchatov**	**91.31**	**17**	P	**P**	**13 42 18.7**	**-0.4**
	0.3nm,0.7s,mb3.7,baz=238,slow=5.4,SNR=1.9						
KURK	**Kurchatov**	**91.31**	**17**	P	**P**	**13 42 18.7**	**-0.4**
ZALV	**Zalesovo Beam**	**95.81**	**19**	LR	LR	14 22 38.9	
	comp=Z,26nm,18.4s,MS3.8,baz=63,slow=33						
SONM	**Songino Array**	**98.40**	**34**	LR	LR	14 23 46.7	
	comp=Z,67nm,18.4s,MS4.2,baz=88,slow=33						

DJA ***07*** *13:35:55, 3620N×142.17E, h10km, mb5.3/11*
BJI ***07*** *13:35:58.4, 3560N×14128E, h57km, mB5.1, mb4.9, Ms4.3, Msz4.2*
NIED ***07*** *13:36:00, 3570N×14070E, h62km, Mw4.9 Best double couple: $M_0$2.72000×10^16 NP1:ϕ_s198.00000°, δ88.00000°, λ-84.00000°. NP2:ϕ_s302.00000°, δ6.00000°, λ-165.00000°.*
MOS ***07*** *13:36:01.7±0.8, 3559N×14054E, h33km, mb5.0/72, MS4.1/14, Error ellipse: s-maj=8.9km s-min=4.5km az=115.2*
ISCJB ***07*** *13:36:03.6±0.3, 3563N±002×14056E±002, h46km±2km, mb4.8/137, MS4.1/36, Error ellipse: s-maj=4.2km s-min=3.3km az=162.2*
SZGRF ***07*** *13:36:04.1, 36.18N×14036E, h48km, mb4.8, Near east*

coast of eastern Honshu, Japan
*IDC **07** 13:36:04.1±1.5,35.59N×140.54E,h39km±12km,mb4.4/31, mb1 4.5/32,mb1mx4.5/36,mbtmp4.4/32,ML5.3/2,MS4.0/19, Ms1 4.0/19,ms1mx3.8/37,Error ellipse: s-maj=12.9km s-min=8.6km az=97.0*
*JMA **07** 13:36:04.2±0.1,35.68N×140.73E,h45km±1km,M4.8 Broadband fault plane solution: P waves. NP1: φs196.00000°,δ12.00000°,λ86.00000°. NP2:φs21.00000°, δ78.00000°,λ91.00000°. Principal axes: T Plg57.0000°, Azm292.0000°; N Plg1.0000°, Azm201.0000°; P Plg33.0000°, Azm110.0000°;*
JMA Felt II J1.
*GCMT **07** 13:36:06.2±0.4,35.82N×140.62E,h24km,MW5.0/60, Moment Tensor Solution. s17,c18; s60,c97; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mr0.77±.12; Mθθ-0.46±.08; Mφφ-0.30±.07; Mrθ1.53±.17; Mθφ-0.86±.05; Mφr4.11±.14; Best double couple: Mo4.51700×10¹⁶ NP1:φs260.00000°,δ10.00000°,λ149.00000°. NP2: φs21.00000°,δ85.00000°,λ81.00000°. Principal axes: T 4.4480, Plg50.0000°, Azm281.0000°; N 0.1390, Plg9.0000°, Azm22.0000°; P -4.5860, Plg39.0000°, Azm119.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **07** 13:36:06.2±0.7,35.57N×140.51E,h58km±5km,mb4.9/66, MW4.9(NIED) Error ellipse: s-maj=3.8km s-min=3.7km az=150.0*
NEIC Felt [III] at Yokohama and [II] at Tokyo and Yokosuka. Felt at Ayase, Chiba, Isehara, Kawasaki, Oyama, Tachikawa, Yachimata, Yamato, Yotsukaido and Zushi. Recorded [2 JMA] in Chiba, Ibaraki, Kanagawa and Shizuoka; [1 JMA] in Nagano, Saitama, Tochigi, Tokyo and Yamanashi Prefectures.

ISC 07 13:36:04.7±0.3,35.63N±002×140.57E±002,h42km±2km, h46km±2.1km:pP-P,n476,σ0s80/500,mb4.8/137,MS4.1/36, 76C-72D,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CHOJ	**Chosi**	**0.25**	**73**	⇓P	**Pn**	**13 36 11.3**	**-1.3**
CHOJ				*eS*	**Sn**	**13 36 16.6**	**-1.5**
JCN	**Nagara**	**0.37**	**235**	⇓P	**Pn**	**13 36 15.8**	**+2.0**
JCN				S	**Sn**	**13 36 25.1**	**+4.9**
BSO4	**Boso 4**	**0.67**	**196**	P	**Pn**	**13 36 18.8**	**+1.1**
BSO4				*eS*	**Sn**	**13 36 28.7**	**+1.7**
JYT	**Yasato**	**0.67**	**333**	⇓P	**Pn**	**13 36 17.6**	**-0.1**
JYT				*eS*	**Sn**	**13 36 26.6**	**-0.5**
BSO3	**Boso 3**	**0.83**	**183**	P	**Pn**	**13 36 20.5**	**+0.6**
JHO	**Hitachi**	**0.98**	**0**	P	**Pn**	**13 36 21.4**	**-0.5**
JAG	**Ashikaga**	**1.20**	**312**	P	**Pn**	**13 36 28.1**	**+3.1**
MJAR	**Matsushiro Arr**	**2.11**	**296**	Pn	**Pn**	**13 36 40.0**	**+2.4**
	101nm,0.3s,baz=99,slow=15,SNR=1123						
MJAR	**Matsushiro Arr**	**2.11**	**296**	P	**Pn**	**13 36 40.0**	**+2.5**
MJAR				pmax	pmax		
	comp=Z,101nm,0.3s						
MAJO	**Matsushiro**	**2.12**	**296**	*eP*	**Pn**	**13 36 40.0**	**+2.5**
MAT	**Matsushiro**	**2.12**	**296**	P	**Pn**	**13 36 40.0**	**+2.5**
MAT				S	**Sn**	**13 37 08.5**	**+5.9**
JHJ	**Hachijo jima 2**	**2.59**	**195**	Pn	**Pn**	**13 36 44.2**	**+0.2**
	comp=Z,474nm,0.3s,baz=359,slow=2.0,SNR=35						
JHJ				Sn	**Sn**	**13 37 14.0**	**-0.3**
	comp=Z,1μm,0.3s,baz=204,slow=23,SNR=13						
JHJ				LR	LR	13 37 16.7	
	comp=Z,2μm,18.3s,baz=24,slow=29						
ERM	**Erimo**	**6.69**	**17**	*eP*	**Pn**	**13 37 38.7**	**-1.6**
ERM				pmax	pmax		
	comp=Z,126nm,0.8s						
ERM	**Erimo**	**6.69**	**17**	*ePn*	**Pn**	**13 37 38.7**	**-1.6**
	comp=Z,126nm,0.8s						
ASAJ	**Asahikawa**	**8.62**	**10**	Pn	**Pn**	**13 38 03.9**	**-2.8**
	comp=Z,3.0nm,0.3s,baz=221,slow=12,SNR=28						
ASAJ	**Asahikawa**	**8.62**	**10**	P	**Pn**	**13 38 03.9**	**-2.8**
ASAJ				pmax	pmax		
	comp=Z,3.0nm,0.3s						
CBIJ	**Chichi jima**	**8.62**	**170**	Pn	**Pn**	**13 38 03.5**	**-3.3**
	comp=Z,211nm,0.3s,baz=265,slow=22,SNR=20						
CBIJ				Sn	**Sn**	**13 39 32.0**	**-11**
	comp=Z,32nm,0.3s,baz=117,slow=4.5,SNR=3.4						
YUK	**Yuzh-Kuril'sk**	**9.33**	**24**	P	**Pn**	**13 38 21.0**	**+4.6**
VLA	**Vladivostok**	**10.04**	**321**	P	**Pn**	**13 38 26.0**	**-0.3**
VLA				MLR	MLR		
	comp=Z,600nm,16.0s						
KSRS	**Korea Array**	**10.34**	**284**	Pn	**Pn**	**13 38 36.0**	**+5.8**
	comp=Z,1.2nm,0.3s,baz=100,slow=14,SNR=58						
KSRS				LR	LR	13 42 40.5	
	comp=Z,1μm,19.5s,baz=137,slow=38						
KSRS	**Korea Array**	**10.34**	**284**	P	**Pn**	**13 38 36.1**	**+5.8**
KSRS				pmax	pmax		
	comp=Z,1.0nm,0.3s						
KSRS				MLR	MLR		
	comp=Z,1μm,19.5s						
KS15	**Wonju Array Si**	**10.36**	**284**	*ePn*	**Pn**	**13 38 36.6**	**+5.9**
KUR	**Kuril'sk**	**11.08**	**28**	*eP*	**Pn**	**13 38 38.0**	**-2.5**
KUR				pmax	pmax		
	comp=N,70nm,0.9s						
KUR				pmax	pmax		
	comp=E,100nm,0.9s						
KUR				pmax	pmax		
	comp=Z,140nm,0.9s						
YSS	**Yuzh-Sakhalins**	**11.43**	**8**	⇑*iP*	**Pn**	**13 38 45.0**	**-0.2**
YSS				*eS*	**Sn**	**13 40 53.0**	**+1.5**
YSS				pmax	pmax		
	comp=Z,30nm,0.8s						
YSS				MLR	MLR		
	comp=Z,500nm,16.0s						
YSS	**Yuzh-Sakhalins**	**11.43**	**8**	*ePn*	**Pn**	**13 38 42.1**	**-3.1**
MDJ	**Mudanjiang**	**12.28**	**320**	P	**Pn**	**13 38 57.1**	**+0.3**
MDJ				AMB	AMB		
	comp=Z,8.0nm,1.4s						
MDJ				AMB	AMB		
	comp=Z,247nm,4.9s						
MDJ				LR	LR		
	comp=N,585nm,25.6s						
MDJ				LR	LR		
	comp=E,513nm,26.8s						
MDJ				LR	LR		
	comp=Z,1μm,25.6s						
MDJ	**Mudanjiang**	**12.28**	**320**	P	**Pn**	**13 38 57.7**	**+0.9**
	comp=Z,47nm,1.1s						
HABR	**Khabarovsk**	**13.46**	**344**	P	**Pn**	**13 39 09.4**	**-3.6**
HABR				*e*		13 41 37.0	
JOW	**Kunigami**	**13.68**	**234**	LR	LR	13 44 12.7	
	comp=Z,544nm,18.6s,baz=26,slow=36						
CN2	**Changchun**	**14.20**	**310**	*eP*	**Pn**	**13 39 28.8**	**+5.8**
CN2				*e*AP		13 39 36.1	
CN2				*eS*	**Sn**	**13 42 05.6**	**+6.6**
CN2				AMB	AMB		
	comp=Z,20nm,0.9s						
CN2				AMB	AMB		
	comp=Z,200nm,3.0s						
CN2				LR	LR		
	comp=N,600nm,10.0s						
CN2				LR	LR		
	comp=E,400nm,10.0s						
CN2				LR	LR		
	comp=Z,600nm,12.0s						
SNY	**Shenyang**	**14.62**	**300**	⇓P	**Pn**	**13 39 34.4**	**+5.7**
SNY				S	**Sn**	**13 42 05.8**	**-3.6**
SNY				AMB	AMB		
	comp=Z,33nm,0.8s						
SNY				LR	LR		
	comp=N,445nm,24.0s						
SNY				LR	LR		
	comp=E,908nm,25.8s						
SNY				LR	LR		
	comp=Z,934nm,29.4s						
KLR	**Kul'dur**	**15.05**	**337**	*eP*	**Pn**	**13 39 31.0**	**-3.3**
KLR				MLR	MLR		
	comp=N,1μm,16.0s						
KLR				MLR	MLR		
	comp=E,500nm,16.0s						
DL2	**Dalian**	**15.43**	**288**	P	**Pn**	**13 39 44.5**	**+5.2**
DL2				*eS*	**S**	**13 42 38.9**	**-4.6**
DL2				AMB	AMB		
	comp=Z,40nm,0.9s						
DL2				LR	LR		
	comp=N,660nm,22.2s						
DL2				LR	LR		
	comp=E,700nm,22.9s						
DL2				LR	LR		
	comp=Z,640nm,23.4s						
SSE	**Sheshan**	**16.81**	**260**	*eP*	**Pn**	**13 39 57.8**	**+0.9**
SSE				XP	sP	13 40 15.1	+1.0
SSE				S	**S**	**13 43 02.7**	**-9.1**
SSE				XS	sS	13 43 26.8	-1.2
SSE				AMB	AMB		
	comp=Z,38nm,1.3s						
SSE				AMB	AMB		
	comp=Z,844nm,4.4s						
SSE				LR	LR		
	comp=N,345nm,21.8s						
SSE				LR	LR		
	comp=E,151nm,21.8s						
SSE				LR	LR		
	comp=Z,367nm,21.7s						
SSE	**Sheshan**	**16.81**	**260**	*eP*	**Pn**	**13 39 57.8**	**+0.9**
	comp=Z,38nm,1.3s						
SSE				sP	sP	13 40 15.1	+1.0
SSE				S	**S**	**13 43 02.7**	**-9.1**
SSE				sS	sS	13 43 26.8	-1.2
NJ2	**Nanjing**	**18.38**	**265**	*eP*	**Pn**	**13 40 18.4**	**+2.1**
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.6s						
SKR	**Severo-Kuril's**	**18.78**	**32**	*eP*	**Pn**	**13 40 19.0**	**-2.0**
SKR				*e*		13 43 46.0	
SKR				pmax	pmax		
	comp=N,30nm,0.5s						
SKR				pmax	pmax		
	comp=E,30nm,0.5s						
SKR				pmax	pmax		
	comp=Z,40nm,0.5s						
TIA	**Tai'an**	**18.99**	**279**	⇓P	**Pn**	**13 40 22.0**	**-1.6**
BJI	**Beijing**	**19.74**	**290**	P	**Pn**	**13 40 30.7**	**-1.8**
BJI				S	**S**	**13 44 11.9**	**+0.9**
BJI				AMB	AMB		
	comp=Z,51nm,1.2s						
BJI				LR	LR		
	comp=N,456nm,28.4s						
BJI				LR	LR		
	comp=E,549nm,28.1s						
BJI				LR	LR		
	comp=Z,890nm,31.4s						
BJI	**Beijing**	**19.74**	**290**	P	**Pn**	**13 40 30.7**	**-1.8**
	comp=Z,51nm,1.2s						
BJI				sP	sP	13 40 43.2	-3.2
BJI				S	**S**	**13 44 11.9**	**+0.9**
BJT	**Baijiatuan**	**19.74**	**290**	*eP*	**Pn**	**13 40 29.8**	**-2.8**
BJT				pmax	pmax		
	comp=Z,44nm,0.6s						
BJT	**Baijiatuan**	**19.74**	**290**	*eP*	**Pn**	**13 40 29.8**	**-2.8**
	comp=Z,44nm,0.6s						
HIA	**Hailar**	**20.45**	**318**	*eP*	**P**	**13 40 36.2**	**-2.2**
HIA				pmax	pmax		
	comp=Z,13nm,0.8s						
HIA	**Hailar**	**20.45**	**318**	*eP*	**P**	**13 40 36.2**	**-2.2**
	comp=Z,13nm,0.8s						
PEA0B	**Petropavlovsk-**	**21.24**	**29**	*eP*	**P**	**13 40 47.6**	**+0.7**
PETK	**Petropavlovsk-**	**21.24**	**29**	P	**P**	**13 40 46.8**	**-0.1**
	comp=Z,15nm,0.8s,mb4.3,baz=220,slow=8.3,SNR=12						
PETK				LR	LR	13 48 46.0	
	comp=Z,97nm,20.8s,MS3.2,baz=100,slow=36						
PET	**Petropavlovsk**	**21.57**	**31**	*eP*	**P**	**13 40 54.5**	**+4.1**
PET				*eS*	**S**	**13 44 42.3**	**-4.5**
PET				pmax	pmax		
	comp=Z,68nm,1.3s,mb4.9						
PET				MLR	MLR		
	comp=Z,200nm,20.0s,MS3.5						
PET	**Petropavlovsk**	**21.57**	**31**	*eP*	**P**	**13 40 52.7**	**+2.3**
	comp=Z,142nm,1.5s,mb5.2						
GUMO	**Guam**	**22.29**	**169**	P	**P**	**13 40 57.2**	**-1.2**
	comp=Z,68nm,0.5s,mb5.3,baz=74,slow=3.7,SNR=3.1						
GUMO	**Guam**	**22.29**	**169**	P	**P**	**13 40 57.2**	**-1.1**
GUMO				pmax	pmax		
	comp=Z,68nm,0.5s,mb5.3						
WHN	**Wuhan**	**22.51**	**264**	⇑P	**P**	**13 41 01.0**	**+0.3**
HHC	**Hu-ho-hao-te**	**23.31**	**292**	*eP*	**P**	**13 41 07.8**	**-1.2**
HHC				AP		13 41 17.1	
HHC				PP		13 41 38.6	
HHC				PCP	PcP	13 44 54.9	0.0
HHC				S	**S**	**13 45 16.0**	**-2.2**
HHC				AMB	AMB		
	comp=Z,40nm,1.1s,mb4.8						
HHC				AMB	AMB		
	comp=Z,94nm,4.7s						
HHC				LR	LR		
	comp=N,313nm,11.0s,MS4.3						
HHC				LR	LR		
	comp=E,482nm,10.5s,MS4.3						
HHC				LR	LR		
	comp=Z,452nm,13.7s,MS4.1						
CLNS	**Chul'man**	**23.71**	**338**	*eP*	**P**	**13 41 11.6**	**-0.9**
CLNS				pmax	pmax		
	comp=Z,21nm,0.7s,mb4.7						
CLNS				pmax	pmax		
	comp=N,19nm,0.7s						
CLNS				pmax	pmax		
	comp=E,15nm,0.8s						
CLNS				MLR	MLR		
	comp=Z,216nm,15.0s,MS3.7						
CLNS				MLR	MLR		
	comp=N,161nm,14.0s,MS3.8						
CLNS				MLR	MLR		
	comp=E,112nm,11.0s,MS3.8						
XAN	**Xi'an**	**25.97**	**276**	P	**P**	**13 41 32.0**	**-1.3**
XAN				S	**S**	**13 45 54.8**	**-6.1**
XAN				AMB	AMB		
	comp=Z,24nm,1.0s,mb4.7						
XAN				AMB	AMB		
	comp=Z,152nm,3.6s						
XAN				LR	LR		
	comp=N,148nm,16.6s,MS4.0						
XAN				LR	LR		
	comp=E,454nm,21.6s,MS4.0						
XAN				LR	LR		
	comp=Z,732nm,23.5s,MS4.1						
YAK	**Yakutsk**	**27.30**	**349**	*ciP*	**P**	**13 41 44.1**	**-0.8**
YAK				*e*		13 42 33.0	
YAK				*e*		13 45 09.3	
YAK				*eS*	**S**	**13 46 16.3**	**-5.0**
YAK				*e*		13 52 30.5	
YAK				pmax	pmax		
	comp=Z,25nm,0.9s,mb4.7						
YAK				pmax	pmax		
	comp=N,21nm,1.1s						
YAK				pmax	pmax		
	comp=Z,23nm,1.2s,mb4.6						
YAK				pmax	pmax		
	comp=N,51nm,1.5s						
YAK				pmax	pmax		
	comp=E,63nm,2.2s						
YAK				smax			
	comp=N,138μm,2.8s						
YAK				smax			
	comp=E,124μm,3.8s						
YAK	**Yakutsk**	**27.30**	**349**	*eP*	**P**	**13 41 44.0**	**-1.0**
	comp=E,30nm,0.8s,mb4.9						
ULN	**Ulaanbaatar**	**27.61**	**307**	*ciP*	**P**	**13 41 47.6**	**-0.3**
ULN	**Ulaanbaatar**	**27.61**	**307**	*eP*	**P**	**13 41 46.7**	**-1.2**
SONM	**Songino Array**	**28.03**	**306**	P	**P**	**13 41 51.1**	**-0.5**
	comp=E,7.3nm,0.7s,mb4.4,baz=105,slow=8.7,SNR=27						
SONM				ScP	ScP	13 48 43.0	+0.1
	comp=E,3.0nm,1.1s,baz=118,slow=3.7,SNR=12						
SONM				LR	LR	13 53 14.9	
	comp=E,317nm,21.1s,MS3.9,baz=98,slow=37						
SONM	**Songino Array**	**28.03**	**306**	P	**P**	**13 41 51.1**	**-0.6**
SONM				pmax	pmax		
	comp=Z,7.0nm,0.7s						
SONM				pmax	pmax		
	comp=N,3.0nm,1.1s						
SONM				MLR	MLR		
	comp=Z,317nm,21.1s						
SEY	**Seymchan**	**28.30**	**11**	*iP*	**P**	**13 41 55.6**	**+1.8**
BOD	**Bodaibo**	**28.37**	**330**	*eP*	**P**	**13 41 54.3**	**-0.3**
BOD				pmax	pmax		
	comp=Z,17nm,0.9s,mb4.7						
LZH	**Lanzhou**	**29.66**	**282**	*eP*	**P**	**13 42 06.0**	**-0.2**
LZH				AP	pP	13 42 15.5	-2.1
LZH				PP	PP	13 43 02.5	-11
LZH				*eS*	**S**	**13 46 57.0**	**-1.9**
LZH				AMB	AMB		
	comp=Z,72nm,1.5s,mb5.2						
LZH				AMB	AMB		
	comp=Z,260nm,4.3s						
LZH				LR	LR		
	comp=E,1μm,15.8s						
LZH				LR	LR		
	comp=Z,2μm,16.9s,MS4.7						
LZH	**Lanzhou**	**29.66**	**282**	*eP*	**P**	**13 42 06.0**	**-0.2**
LZH				*PP	pP	13 42 15.5	-2.1
LZH				*SP	sP	13 42 19.6	-3.1
LZH						13 43 02.5	
LZH				*eS	**S**	**13 46 57.0**	**-1.9**
LZH				*SS	sS	13 47 13.6	-4.4
LZH				SS	SS	13 48 32.1	-34
LZH				pmax	pmax		
	comp=Z,72nm,1.5s,mb5.2						
LZH				MLR	MLR		
	comp=Z,2μm,16.9s,MS4.7						
LZH	**Lanzhou**	**29.66**	**282**	*eP*	**P**	**13 42 06.0**	**-0.2**
	comp=Z,72nm,1.5s,mb5.2						
LZH				pP	pP	13 42 15.5	-2.1
LZH				sP	sP	13 42 19.6	-3.1
LZH				PP	PP	13 43 02.5	-11
LZH				*eS	**S**	**13 46 57.0**	**-1.9**
LZH				sS	sS	13 47 13.6	-4.4
LZH				SS	SS	13 48 32.1	-34
LZH				LR	LR		
	comp=Z,2μm,16.9s,MS4.7						
GYA	**Guiyang**	**30.33**	**262**	⇓*iP*	**P**	**13 42 11.2**	**-1.1**
GYA				AP	pP	13 42 20.8	-2.9
GYA				XP	sP	13 42 28.6	-0.1
GYA				PP	PP	13 43 14.2	-7.0
GYA				S	**S**	**13 47 10.0**	**+0.3**
GYA				AMB	AMB		
	comp=Z,30nm,1.0s,mb5.0						
GYA				AMB	AMB		
	comp=Z,300nm,4.5s						
GYA				LR	LR		
	comp=N,520nm,16.7s,MS4.4						
GYA				LR	LR		
	comp=E,450nm,17.8s,MS4.4						
GYA				LR	LR		
	comp=Z,570nm,18.2s,MS4.3						
IRK	**Irkutsk**	**30.56**	**314**	*eP*	**P**	**13 42 14.8**	**+0.8**
IRK				pmax	pmax		
	comp=Z,20nm,0.9s,mb5.0						
ZAK	**Zakamensk**	**30.63**	**310**	*eP*	**P**	**13 42 13.7**	**-1.0**
ZAK				pmax	pmax		
	comp=Z,6.0nm,0.9s,mb4.4						
TLY	**Talaya**	**30.76**	**313**	*eP*	**P**	**13 42 15.1**	**-0.7**
TLY				*e*		13 43 35.4	
TLY				*eS*	**S**	**13 47 20.8**	**+4.9**
TLY				*eSS	SS	13 49 06.7	-21
TLY				pmax	pmax		
	comp=Z,8.0nm,0.8s,mb4.6						
TLY				MLR	MLR		
	comp=Z,196nm,16.0s,MS3.9						
TLY	**Talaya**	**30.76**	**313**	*eP*	**P**	**13 42 15.1**	**-0.7**
CD2	**Chengdu**	**31.01**	**272**	⇑*iP*	**P**	**13 42 17.7**	**-0.6**
CD2				PP	PP	13 43 20.2	-8.5
CD2				S	**S**	**13 47 19.0**	**-1.3**
CD2				AMB	AMB		
	comp=Z,30nm,0.8s,mb5.2						
CD2				AMB	AMB		
	comp=Z,60nm,5.8s						
CD2				LR	LR		
	comp=N,560nm,16.8s,MS4.5						
CD2				LR	LR		
	comp=E,840nm,20.4s,MS4.5						
CD2				LR	LR		
	comp=Z,1μm,19.2s,MS4.6						
QIZ	**Qiongzhong**	**31.74**	**247**	P	**P**	**13 42 25.1**	**+0.4**
QIZ				S	**S**	**13 47 30.0**	**-1.8**
QIZ				LR	LR		
	comp=N,304nm,23.0s						
QIZ				LR	LR		
	comp=Z,290nm,23.3s,MS3.9						
GTA	**Gaotai**	**32.35**	**289**	⇑P	**P**	**13 42 30.1**	**+0.2**
GTA				AP	pP	13 42 40.0	-1.4
GTA				S	**S**	**13 47 41.5**	**+0.5**
GTA				AMB	AMB		
	comp=Z,12nm,0.8s,mb4.8						
GTA				AMB	AMB		
	comp=Z,114nm,6.0s						
GTA				LR	LR		
	comp=N,225nm,18.6s,MS4.2						
GTA				LR	LR		
	comp=E,382nm,21.6s,MS4.2						
GTA				LR	LR		
	comp=Z,487nm,21.3s,MS4.2						
KMI	**Kunming**	**34.09**	**263**	P	**P**	**13 42 44.1**	**-1.1**
KMI				AP	pP	13 42 54.3	-2.4
KMI				PP	PP	13 44 00.2	-2.7
KMI				S	**S**	**13 48 08.1**	**-0.1**
KMI				SS	SS	13 50 18.6	-18
KMI				AMB	AMB		
	comp=Z,23nm,0.9s,mb5.1						
KMI				LR	LR		
	comp=N,379nm,4.9s						
KMI				LR	LR		
	comp=E,516nm,5.3s						
KMI				LR	LR		
	comp=Z,455nm,16.5s,MS4.3						
KMI	**Kunming**	**34.09**	**263**	P	**P**	**13 42 44.1**	**-1.1**
KMI				*PP	pP	13 42 54.3	-2.4
KMI				*SP	sP	13 42 58.3	-3.5
KMI						13 44 00.2	
KMI				PPP		13 44 18.1	
KMI				S	**S**	**13 48 08.1**	**-0.1**
KMI				*SS	sS	13 48 25.2	-2.2
KMI				SS	SS	13 50 18.6	-18
KMI				SSS		13 50 45.2	
KMI				pmax	pmax		
	comp=Z,23nm,0.9s,mb5.1						
KMI				MLR	MLR		
	comp=Z,460nm,16.5s,MS4.3						
KMI	**Kunming**	**34.09**	**263**	P	**P**	**13 42 44.1**	**-1.1**
	comp=Z,23nm,0.9s,mb5.1						
KMI				pP	pP	13 42 54.3	-2.4
KMI				sP	sP	13 42 58.3	-3.5
KMI				PP	PP	13 44 00.2	-2.7
KMI				PPP		13 44 18.1	
KMI				S	**S**	**13 48 08.1**	**-0.1**
KMI				sS	sS	13 48 25.2	-2.2
KMI				SS	SS	13 50 18.6	-18
KMI				SSS		13 50 45.2	
KMI				LR	LR		
	comp=Z,460nm,16.5s,MS4.3						
TIXI	**Tiksi**	**36.60**	**354**	*eP*	**P**	**13 43 06.2**	**-0.1**
TIXI				pmax	pmax		
	comp=Z,7.0nm,0.7s,mb4.6						
HVS	**Khovu-Aksy**	**36.74**	**310**	⇑*iP*	**P**	**13 43 09.1**	**+1.4**
CHTO	**Chiang Mai**	**40.29**	**257**	*eP*	**P**	**13 43 37.7**	**-0.2**
CMAR	**Chiang Mai Arr**	**40.49**	**256**	P	**P**	**13 43 39.5**	**0.0**
	comp=Z,1.1nm,0.6s,mb3.8,baz=48,slow=7.8,SNR=8.4						
CMAR	**Chiang Mai Arr**	**40.49**	**256**	P	**P**	**13 43 39.5**	**0.0**
CMAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
WMQ	**Urumqi**	**40.88**	**298**	⇑*iP*	**P**	**13 43 43.1**	**+0.6**
WMQ				AP	pP	13 43 55.6	+1.4
WMQ				XP	sP	13 44 01.1	+1.9
WMQ				PP	PP	13 45 21.6	+4.5
WMQ				PCP	PcP	13 45 43.1	+0.6
WMQ				PCS	PcS	13 49 33.1	-0.2
WMQ				S	**S**	**13 49 51.6**	**+0.7**
WMQ				XS	sS	13 50 12.6	+2.3
WMQ				SCS	ScS	13 53 41.1	-2.6
WMQ				AMB	AMB		
	comp=Z,43nm,1.0s,mb5.0						
WMQ				LR	LR		
	comp=N,108nm,20.3s,MS4.0						
WMQ				LR	LR		
	comp=E,233nm,24.1s,MS4.0						
WMQ				LR	LR		
	comp=Z,272nm,24.8s,MS4.0						
LSA	**Lhasa**	**41.67**	**276**	P	**P**	**13 43 51.2**	**+2.1**
LSA				AMB	AMB		
	comp=Z,40nm,0.9s,mb5.0						
LSA	**Lhasa**	**41.67**	**276**	*eP*	**P**	**13 43 51.2**	**+2.1**
LSA				pmax	pmax		
	comp=Z,24nm,0.8s,mb4.9						
LSA	**Lhasa**	**41.67**	**276**	*eP*	**P**	**13 43 51.1**	**+2.0**
	comp=Z,24nm,0.8s,mb4.9						
ZAA0	**Zalesovo Array**	**42.37**	**314**	*eP*	**P**	**13 43 54.1**	**-0.4**
ZALV	**Zalesovo Beam**	**42.37**	**314**	P	**P**	**13 43 54.4**	**-0.2**
	comp=Z,19nm,0.8s,mb4.8,baz=89,slow=6.8,SNR=84						
ZALV				ScP	ScP	13 49 33.6	-0.8
	comp=Z,0.6nm,0.6s,baz=104,slow=6.1,SNR=3.5						
ZALV				LR	LR	14 01 38.4	
	comp=Z,80nm,20.1s,MS3.6,baz=70,slow=36						
ZALV	**Zalesovo Beam**	**42.37**	**314**	P	**P**	**13 43 54.4**	**-0.1**
ZALV				pmax	pmax		

comp=Z,19nm,0.8s,mb4.8
ZALV pmax pmax
comp=N,1.0nm,0.6s
ZALV MLR MLR
comp=Z,80nm,20.1s,MS3.6
SHL Shillong 42.72 270 *eP* **P 13 43 57.0 -0.7**
NVS Novosibirsk 43.33 315⇑ *iP* **P 13 44 01.0 -1.3**
NVS pmax pmax
comp=Z,24nm,0.9s,mb4.9
NVS pmax pmax
comp=N,5.0nm,1.0s
NVS pmax pmax
comp=E,22nm,0.9s
MK31 Makanchi Array 44.30 303 *i* P **P 13 44 10.5 +0.3**
MK31 pmax pmax
comp=Z,10.0nm,0.6s,mb4.7
MK31 Makanchi Array 44.30 303 *eP* **P 13 44 10.3 +0.1**
MKAR Makanchi Array 44.30 303 P **P 13 44 10.4 +0.3**
comp=Z,14nm,0.8s,mb4.8,baz=89,slow=10.0,SNR=126
MKAR ScP ScP 13 49 42.4 0.0
comp=Z,0.5nm,0.7s,baz=64,slow=3.7,SNR=3.2
MKAR LR LR 14 03 30.0
comp=Z,133nm,18.2s,MS3.9,baz=87,slow=37
MKAR Makanchi Array 44.30 303 P **P 13 44 10.5 +0.3**
MKAR pmax pmax
comp=Z,14nm,0.8s
MKAR pmax pmax
comp=N,1.0nm,0.7s
MKAR MLR MLR
comp=Z,133nm,18.2s
TAPN Taplejung 45.37 275 *eP* **P 13 44 20.2 +1.3**
comp=Z,29nm,0.8s,mb5.2
ODAN Odare 45.83 274 *eP* **P 13 44 22.6 0.0**
comp=Z,23nm,0.6s,mb5.3
KURK Kurchatov 46.27 309 P **P 13 44 26.0 +0.2**
comp=Z,43nm,0.9s,mb5.4,baz=85,slow=8.2,SNR=113
KURK Kurchatov 46.27 309 P **P 13 44 26.0 +0.3**
KURK pmax pmax
comp=Z,43nm,0.9s,mb5.4
KURK Kurchatov 46.27 309 *eP* **P 13 44 25.4 -0.4**
comp=Z,60nm,0.9s,mb5.5
RAMN Ramite 46.43 275 *eP* **P 13 44 27.5 +0.1**
comp=Z,107nm,0.9s,mb5.8
JIRN Jiri 46.47 276 *eP* **P 13 44 28.7 +1.0**
comp=Z,92nm,0.9s,mb5.7
GUN Gumba 46.62 277 *eP* **P 13 44 30.4 +1.6**
comp=Z,108nm,1.0s,mb5.8
PKI Pulchoki 47.14 276 *eP* **P 13 44 33.0 +0.1**
comp=Z,32nm,0.8s,mb5.3
KKN Kakani 47.16 277 *eP* **P 13 44 33.3 +0.3**
comp=Z,122nm,1.0s,mb5.8
DMN Daman 47.37 277 *eP* **P 13 44 35.4 +0.7**
comp=Z,29nm,0.9s,mb5.2
GKN Gorkha 47.59 277 *eP* **P 13 44 36.5 +0.1**
comp=Z,85nm,0.8s,mb5.8
DANN Dangsing 48.16 278 *eP* **P 13 44 41.6 +0.8**
comp=Z,252nm,0.8s
KOLN Koldanda 48.52 277 *eP* **P 13 44 44.0 +0.4**
comp=Z,44nm,0.8s,mb5.5
KDAK Kodiak Island 48.60 41 P **P 13 44 42.8 -1.0**
comp=Z,10.0nm,0.7s,mb4.9,baz=211,slow=16,SNR=7.3
KAKA Kakadu 48.69 191 *eP* **P 13 44 43.3 -1.5**
comp=Z,23nm,0.6s,mb5.4
PPLA Purkeypile 48.71 34 *eP* **P 13 44 45.4 +0.9**
comp=Z,3.1nm,0.6s,mb4.5
COEN Coen 49.38 177 *eP* **P 13 44 49.8 -0.3**
comp=Z,40nm,1.4s,mb5.3
TKM2 Tokmak 2 49.71 299 *eP* **P 13 44 53.3 +0.9**
TKM2 pmax pmax
comp=Z,19nm,0.6s,mb5.3
TKM2 Tokmak 2 49.71 299 *eP* **P 13 44 53.3 +0.9**
comp=Z,19nm,0.6s,mb5.3
FRU Bishkek 50.42 299 *eP* **P 13 44 59.0 +1.1**
COLA College 50.63 32 *eP* **P 13 44 59.1 0.0**
COLA pmax pmax
comp=Z,3.0nm,0.6s,mb4.4
COLA College 50.63 32 *eP* **P 13 44 59.1 0.0**
comp=Z,3.3nm,0.6s,mb4.4
UCH Uchtor 50.66 299 *eP* **P 13 45 00.7 +1.0**
comp=Z,16nm,1.0s,mb4.9
VOSK Vostochnaya 50.72 313 P **P 13 44 59.3 -0.6**
VOSK pmax pmax
comp=Z,26nm,0.9s,mb5.2
BVA0 Borovoye Array 51.02 313 *i* P **P 13 45 02.2 0.0**
BVA0 pmax pmax
comp=Z,3.0nm,0.9s,mb4.2
BVAR Borovoye Array 51.02 313 P **P 13 45 02.2 0.0**
comp=Z,5.2nm,0.5s,mb4.7,baz=90,slow=8.9,SNR=47
BVAR Borovoye Array 51.02 313 P **P 13 45 02.2 0.0**
BVAR pmax pmax
comp=Z,5.0nm,0.5s
EKS2 Erkin-Say 51.07 299 *eP* **P 13 45 02.7 0.0**
comp=Z,6.5nm,0.8s,mb4.6
BRVK Borovoye 51.08 313 *eP* **P 13 45 02.5 -0.1**
AML Almayashu 51.27 299 *eP* **P 13 45 05.6 +1.4**
comp=Z,39nm,0.8s,mb5.4
THN Thein Dam 52.96 286 *ex* x 13 45 15.6
KK31 Karatay Array 53.24 301 *i* P **P 13 45 19.0 +0.1**
KK31 pmax pmax
comp=Z,19nm,0.9s,mb5.0
FITZ Fitzroy Crossi 55.28 197 *eP* **P 13 45 33.3 -0.5**
comp=Z,14nm,0.6s,mb5.2
FITZ Fitzroy Crossi 55.28 197 P **P 13 45 33.5 -0.4**
comp=Z,8.4nm,0.6s,mb5.0,baz=21,slow=9.5,SNR=54
FITZ LR LR 14 07 22.7
comp=Z,64nm,19.0s,MS3.7,baz=227,slow=34
WB2 Warramunga Arr 55.58 187 *eP* **P 13 45 34.5 -1.5**
WRA Warramunga Arr 55.58 187 P **P 13 45 34.6 -1.3**
comp=Z,7.0nm,0.5s,mb5.0,baz=1.2,slow=7.7,SNR=94
WRA S **S 13 53 19.1 +0.4**
comp=Z,1.2nm,1.0s,baz=4.2,slow=14,SNR=4.7
WRA Warramunga Arr 55.58 187 P **P 13 45 34.6 -1.4**
WRA S **S 13 53 19.1 +0.4**
WRA pmax pmax
comp=Z,7.0nm,0.5s
WRA smax
comp=N,1.0nm,1.0s
CTA Charters Tower 55.67 174 *eP* **P 13 45 34.9 -1.7**
comp=N,2.6nm,0.6s,mb4.4
CTA Charters Tower 55.67 174 LR LR 14 07 07.1
comp=N,152nm,21.8s,MS4.0,baz=36,slow=34
CTA Charters Tower 55.67 174 *eP* **P 13 45 34.9 -1.7**
CTA pmax pmax
comp=Z,3.0nm,0.6s
CTAO Charters Tower 55.67 174 *eP* **P 13 45 35.4 -1.2**
CTAO pmax pmax
comp=Z,9.0nm,1.2s,mb4.7
CTAO Charters Tower 55.67 174 *eP* **P 13 45 35.4 -1.2**
comp=Z,9.2nm,1.2s,mb4.7
SVE Sverdlovsk 55.75 319⇓ *eP* **P 13 45 37.2 +0.4**
SVE *e*SSS 13 59 05.1
SVE pmax pmax
comp=Z,36nm,0.9s,mb5.4
SVE MLR MLR
comp=Z,201nm,12.0s,MS4.4
ARU Arti 56.96 319 *c iP* **P 13 45 45.3 -0.2**
ARU *e* 13 46 38.0
ARU *e*S **S 13 53 38.0 +1.6**
ARU *e*SS SS 13 57 24.7 0.0
ARU pmax pmax
comp=Z,44nm,1.0s,mb5.4
ARU Arti 56.96 319 *eP* **P 13 45 45.4 -0.1**
KBL Kabul 57.28 291 *eP* **P 13 45 47.7 -0.4**
KBL pmax pmax
comp=Z,10.0nm,0.9s,mb4.8
KBL Kabul 57.28 291 *eP* **P 13 45 47.7 -0.4**
comp=Z,10nm,0.9s,mb4.9
HYB Hyderabad 57.49 269 *i* P **P 13 45 50.0 +0.3**
HYB Hyderabad 57.49 269 *eP* **P 13 45 50.0 +0.3**
AB31 Akbulak array 58.33 311 *i* P **P 13 45 55.1 -0.1**
AB31 pmax pmax
comp=Z,9.0nm,0.5s,mb5.1
AKTO Aktyubinsk 59.11 312 P **P 13 45 58.1 -2.5**
AKTO pmax pmax
comp=Z,3.0nm,1.1s,mb4.2
ASAR Alice Springs 59.31 187 P **P 13 46 01.1 -1.1**
comp=Z,2.8nm,0.5s,mb4.5,baz=18,slow=11,SNR=53
ASAR S **S 13 54 07.3 -0.2**
comp=Z,0.8nm,1.0s,baz=19,slow=12,SNR=4.1
ASAR Alice Springs 59.31 187 P **P 13 46 01.1 -1.1**
ASAR S **S 13 54 07.4 -0.1**
ASAR pmax pmax
comp=Z,3.0nm,0.5s
ASAR smax
comp=N,1.0nm,1.0s
MBWA Marble Bar 59.83 203 *eP* **P 13 46 05.1 -0.7**
DLBC Dease Lake 60.15 37 P **P 13 46 08.2 +0.6**
comp=N,1.9nm,0.6s,mb4.3,baz=90,slow=1.0,SNR=4.8
DZM Mont Dzumac 62.41 153 *eP* **P 13 46 23.9 +0.7**
APA Apatity 63.68 336⇑ *eP* **P 13 46 24.0 -7.2**
APA *i* 13 46 30.6
APA pmax pmax
comp=Z,29nm,1.2s,mb5.2
APA MLR MLR
comp=Z,900nm,25.0s,MS4.8
KLMR Klimovskoe 64.58 328 *eP* **P 13 46 35.6 -1.6**
KLMR pmax pmax
comp=Z,11nm,0.7s,mb5.0
ARCES ARCESS Array B 65.07 339 P **P 13 46 40.1 -0.1**
comp=Z,6.8nm,0.9s,mb4.7,baz=59,slow=8.8,SNR=9.5
ARCES LR LR 14 18 17.1
comp=Z,196nm,18.8s,MS4.3,baz=255,slow=39
ARCES ARCESS Array B 65.07 339 P **P 13 46 40.1 -0.1**
ARCES pmax pmax
comp=Z,7.0nm,0.9s
ARCES MLR MLR
comp=Z,196nm,18.8s
YKA Yellowknife Ar 65.36 30 P **P 13 46 41.6 -0.7**
comp=Z,1.8nm,0.8s,mb4.2,baz=301,slow=6.6,SNR=6.2
YKA LR LR 14 14 17.3
comp=Z,28nm,20.5s,MS3.4,baz=90,slow=35
JOF Joensuu 66.88 332 *ep* **P 13 46 51.1 -0.9**
comp=Z,1.9nm,0.4s,mb4.5
JOF Joensuu 66.88 332 *eP* **P 13 46 51.1 -0.9**
JOF pmax pmax
comp=Z,2.0nm,0.4s,mb4.5
FORT Forrest 67.10 192 *eP* **P 13 46 53.1 -0.5**
comp=Z,44nm,0.7s,mb5.6
STKA Stephens Creek 67.16 179 *eP* **P 13 46 52.8 -1.2**
comp=Z,7.6nm,1.6s,mb4.5
STKA Stephens Creek 67.16 179 P **P 13 46 53.5 -0.5**
comp=Z,3.6nm,0.7s,mb4.5,baz=347,slow=4.1,SNR=6.5
STKA LR LR 14 13 18.5
comp=Z,133nm,19.5s,MS4.2,baz=24,slow=33
OBN Obninsk 68.81 323⇓ *eP* **P 13 47 04.2 0.0**
OBN *i* 13 47 10.8
OBN *i* pP 13 47 17.1 +0.5
OBN pmax pmax
comp=Z,18nm,1.4s,mb4.8
OBN MLR MLR
comp=Z,100nm,15.0s,MS4.2
KAF Kangasniemi 69.24 333 *ep* **P 13 47 06.1 -0.7**
comp=Z,1.4nm,0.3s,mb4.4,baz=50,slow=5.8
KAF Kangasniemi 69.24 333 *eP* **P 13 47 06.1 -0.7**
KAF pmax pmax
comp=Z,1.0nm,0.3s,mb4.2
VSR Storozhevoye 69.54 319 *de*P **P 13 47 08.9 +0.1**
VSR pmax pmax
comp=Z,6.0nm,0.6s,mb4.7
VSR pmax pmax
comp=N,9.0nm,0.7s
VSR pmax pmax
comp=E,5.0nm,0.8s
KLBR Kellerberrin 70.22 201 *eP* **P 13 47 12.6 -0.5**
comp=E,79nm,2.0s,mb5.3
C07A Waterville 70.25 45⇓ P **P 13 47 13.1 -0.1**
baz=70
KIV Kislovodsk 71.31 311 *eP* **P 13 47 20.2 +0.4**
KIV pmax pmax
comp=Z,35nm,1.0s,mb5.2
KIV MLR MLR
comp=Z,75nm,19.0s,MS4.0
KIV Kislovodsk 71.31 311⇑ *iP* **P 13 47 20.4 +0.6**
KIV Kislovodsk 71.31 311 *eP* **P 13 47 20.6 +0.9**
NEW Newport 71.61 43 *eP* **P 13 47 22.0 +0.5**
NWAO Narrogin (SRO) 71.62 201 P **P 13 47 21.6 0.0**
comp=Z,5.5nm,0.5s,mb4.7,baz=27,slow=7.6,SNR=9.5
NWAO Narrogin (SRO) 71.62 201 P **P 13 47 21.6 0.0**
NWAO pmax pmax
comp=Z,6.0nm,0.5s
YBH Yreka Blue Hor 71.75 52 P **P 13 47 23.7 +1.2**
comp=Z,2.7nm,0.8s,mb4.2,baz=0.7,slow=3.0,SNR=8.9
YBH Yreka Blue Hor 71.75 52 P **P 13 47 23.7 +1.2**
YBH pmax pmax
comp=Z,3.0nm,0.8s
G07A Ruggs Ranch, H 71.76 47⇑ P **P 13 47 22.5 0.0**
baz=72
GNI Garni 71.99 307 *i* P **P 13 47 25.4 +1.4**
GNI pmax pmax
comp=Z,25nm,1.4s
SUMG Summit 72.08 360 P **P 13 47 25.2 +1.2**
I06A Prineville 72.14 49⇓ P **P 13 47 25.3 +0.5**
baz=72
K05A Summer Lake 72.37 50⇑ P **P 13 47 26.5 +0.3**
baz=72
J06A Christmas Vall 72.54 49⇓ P **P 13 47 27.2 0.0**
baz=72
K06A Valley Falls 72.73 50⇑ P **P 13 47 28.9 +0.6**
baz=73
D11A Klaveano Farm, 72.73 44⇓ P **P 13 47 27.4 -0.8**
baz=73,SNR=5.0
G10A Bishop Farm, J 73.25 46⇑ P **P 13 47 31.2 -0.1**
baz=73
C13A Hot Springs 73.36 43⇑ P **P 13 47 32.6 +0.6**
baz=73
BMO Blue Mountains 73.39 47 *eP* **P 13 47 33.0 +0.8**
BMO pmax pmax
comp=Z,31nm,2.1s,mb4.9
BMO Blue Mountains 73.39 47 *eP* **P 13 47 33.0 +0.9**
comp=Z,31nm,2.1s,mb4.9
K07A Rock Creek Ran 73.41 49⇑ P **P 13 47 32.8 +0.5**
baz=73,SNR=5.2
E12A Beaver Dam Sad 73.52 44⇑ P **P 13 47 32.9 0.0**
baz=73,SNR=7.4
ORV Oroville 73.69 53⇓ P **P 13 47 33.2 -0.8**
baz=74,SNR=5.9
G11A Walters Elk Ra 73.69 46⇓ P **P 13 47 33.6 -0.3**
baz=74,SNR=13
L07A Adell 73.72 50⇑ P **P 13 47 34.3 +0.1**
baz=74,SNR=8.4
D13A Huson 73.76 43⇓ P **P 13 47 34.0 -0.3**
baz=74
H10A Noah's Angus R 73.86 47⇑ P **P 13 47 34.7 -0.3**
baz=74,SNR=6.3
J09A Fry Pan Ranch, 73.96 48⇑ P **P 13 47 35.8 +0.3**
baz=74
ANN Anapa 74.01 314 *eP* **P 13 47 41.4 +5.6**
ANN pmax pmax
comp=Z,34nm,1.5s,mb5.1
F12A Elk City 74.07 45⇓ P **P 13 47 36.4 +0.2**
baz=74
B15A Bradely Ranch, 74.10 42⇓ P **P 13 47 36.3 0.0**
baz=74,SNR=8.5
M07A Soldier Meadow 74.17 50⇓ P **P 13 47 36.8 0.0**
baz=74,SNR=6.8
L08A Fields 74.24 49⇑ P **P 13 47 37.5 +0.3**
baz=74,SNR=6.9
BEKR Beckwourth 74.25 52⇑ P **P 13 47 37.3 0.0**
baz=74,SNR=8.7
D14A Greenough 74.30 43⇓ P **P 13 47 36.5 -0.9**
baz=74,SNR=5.6
C15A Salmond Ranch, 74.39 42⇓ P **P 13 47 38.3 +0.3**
baz=74,SNR=9.5
LAVA Lava Cap Winer 74.62 53⇓ P **P 13 47 39.1 -0.3**
baz=74
C16A Fuhringer Ranc 74.84 42⇓ P **P 13 47 40.3 -0.3**
baz=75,SNR=6.2
AKASG Malin Array Be 74.99 322 P **P 13 47 40.6 -0.7**
comp=Z,7.0nm,0.7s,mb4.7,baz=47,slow=6.0,SNR=29
AKASG Malin Array Be 74.99 322 P **P 13 47 40.6 -0.8**
AKASG pmax pmax
comp=Z,7.0nm,0.7s
AKBB Malin Array Si 74.99 322 *eP* **P 13 47 41.0 -0.4**
KIEV Kiev 75.00 322 *eP* **P 13 47 40.7 -0.7**
KIEV pmax pmax
comp=Z,13nm,0.8s,mb4.9
KIEV Kiev 75.00 322 *eP* **P 13 47 40.7 -0.7**
comp=Z,13nm,0.8s,mb4.9
O07A Toulon 75.04 51⇓ P **P 13 47 41.7 -0.2**
baz=75,SNR=5.9
HFS Hagfors 75.08 336 P **P 13 47 41.6 -0.2**
comp=Z,2.9nm,0.5s,mb4.5,baz=67,slow=3.9,SNR=14
HFS Hagfors 75.08 336 P **P 13 47 41.6 -0.1**
HFS pmax pmax
comp=Z,3.0nm,0.5s
E15A Deer Lodge 75.17 43⇓ P **P 13 47 42.0 -0.5**
baz=75
NB2 NORSAR Subarra 75.21 337 P **P 13 47 42.3 -0.2**
comp=Z,14nm,0.9s,mb4.9,baz=42,slow=5.9
NOA NORSAR Array B 75.21 337 P **P 13 47 42.2 -0.2**
comp=Z,7.9nm,0.7s,mb4.7,baz=40,slow=5.7,SNR=4.3
NOA LR LR 14 23 38.3
comp=Z,172nm,19.4s,MS4.4,baz=30,slow=38
NOA NORSAR Array B 75.21 337 P **P 13 47 42.3 -0.2**
NOA pmax pmax
comp=Z,8.0nm,0.7s
NOA MLR MLR
comp=Z,173nm,19.4s
CMB Columbia Colle 75.25 54⇑ P **P 13 47 43.1 0.0**
baz=75,SNR=5.1
CMB Columbia Colle 75.25 54 *eP* **P 13 47 43.1 0.0**
I12A Atlanta 75.27 47⇓ P **P 13 47 42.8 -0.3**
baz=75
K11A Parker Ranch, 75.32 48⇑ P **P 13 47 43.8 +0.3**
baz=75
H13A Challis 75.34 45⇓ P **P 13 47 43.7 +0.2**
baz=75,SNR=8.1
D16A Dana Ranch, Ca 75.41 42⇑ P **P 13 47 43.4 -0.5**
baz=75
L10A Juniper Basin 75.45 49⇑ P **P 13 47 44.1 -0.2**
baz=75,SNR=5.8
C17A Wharram Farm, 75.47 41⇑ P **P 13 47 43.6 -0.6**
baz=75
UMR Umm Al-Rimmam 75.56 296 *eP* **P 13 47 44.2 -0.9**
baz=296
F15A Butte 75.59 44⇓ P **P 13 47 44.7 -0.3**
baz=75,SNR=7.7
LRM Limekiln Ridge 75.63 44 *eP* **P 13 47 45.7 +0.6**
S05C Merced 75.66 54⇑ P **P 13 47 45.4 -0.2**
baz=76
MIB Mutribah 75.70 296 *eP* **P 13 47 45.4 -0.5**
baz=296
MIB AMb AMB 13 47 52.6
comp=Z,27nm,1.0s,mb5.1,baz=296
M10A I.L. Ranch, Tu 75.73 49⇓ P **P 13 47 46.1 +0.3**
baz=76,SNR=7.0
EGMT Eagleton 75.78 41 *eP* **P 13 47 45.3 -0.7**
comp=Z,16nm,1.1s,mb4.8
DLMT Dillon 75.82 44 *eP* **P 13 47 46.5 +0.3**
comp=Z,9.8nm,1.0s,mb4.7
L11A Cat Creek Ranc 75.84 48⇑ P **P 13 47 46.0 -0.5**
baz=76,SNR=7.9
BHD Baghdad 75.93 301 *ex* x 13 48 23.0
G15A Dillon 76.00 44⇑ P **P 13 47 47.1 -0.2**
baz=76
RDF Al-Radifah 76.03 296 *eP* **P 13 47 47.3 -0.4**
baz=296
RDF AMb AMB 13 47 48.5
comp=Z,73nm,0.8s,mb5.7,baz=296
NAY Al-Naaiem 76.08 296 *eP* **P 13 47 47.3 -0.7**
baz=296
NAY AMb AMB 13 47 54.8
comp=Z,19nm,1.0s,mb5.0,baz=296
O09A Fish Creek Ran 76.10 50⇑ P **P 13 47 47.8 -0.2**
baz=76
RST Umm Al-Ruwaisa 76.12 296 *eP* **P 13 47 47.4 -0.8**
baz=296
RST AMb AMB 13 47 48.5
comp=Z,37nm,1.0s,mb5.3,baz=296
E17A Martinsdale 76.13 42⇑ P **P 13 47 48.6 +0.6**
baz=76
I14A Mackay 76.18 46⇑ P **P 13 47 49.0 +0.7**
baz=76,SNR=14
T06C Milleton Lake 76.27 54⇓ P **P 13 47 49.2 +0.3**
baz=76
KCC Kaiser Creek 76.34 54⇓ P **P 13 47 49.1 -0.3**
baz=76
G16A Moss Hill, Enn 76.35 44⇑ P **P 13 47 49.1 -0.2**
baz=76
NVAR Mina Array Bea 76.38 52 P **P 13 47 50.2 +0.6**
comp=Z,4.4nm,0.6s,mb4.6,baz=293,slow=5.6,SNR=38
J14A Carey 76.50 46⇓ P **P 13 47 50.9 +0.8**
baz=76,SNR=5.8
PTRM Twissleman Ran 76.69 56 P **P 13 47 52.7 +1.3**
M12A Wells 76.78 48⇑ P **P 13 47 51.7 -0.1**
baz=77,SNR=5.6
ELK Elko 76.98 49 P **P 13 47 54.1 +1.2**
comp=Z,1.5nm,0.4s,mb4.2,baz=293,slow=6.0,SNR=7.3
ELK Elko 76.98 49 P **P 13 47 54.1 +1.2**
ELK pmax pmax
comp=Z,2.0nm,0.4s
N12A Clover Valley, 77.04 49⇑ P **P 13 47 53.5 +0.3**
baz=77
J15A Blackfoot 77.09 46⇓ P **P 13 47 54.1 +0.6**
baz=77
F18A Big Timber 77.10 42⇓ P **P 13 47 53.2 -0.3**
baz=77
R09A Tonopah 77.28 52 P **P 13 47 55.0 +0.3**
baz=77,SNR=11
VES Vestal, Richgr 77.34 55⇓ P **P 13 47 55.0 0.0**
baz=77
I16A Newdale 77.35 45⇓ P **P 13 47 55.6 +0.7**
baz=77,SNR=8.3
Q10A Clear Creek Ra 77.37 51⇑ P **P 13 47 55.1 0.0**
baz=77,SNR=5.5
L14A Malta 77.43 47⇓ P **P 13 47 56.2 +0.7**
baz=77,SNR=6.0
S09A Goldfield 77.48 53⇓ P **P 13 47 55.5 -0.3**
baz=77,SNR=5.4
H17A Grant Village 77.55 44⇓ P **P 13 47 55.7 -0.3**
baz=77
O12A Currie 77.56 49⇑ P **P 13 47 56.5 +0.3**
baz=77,SNR=7.1
IMW Indian Meadow 77.65 45 *eP* **P 13 47 57.7 +1.1**
comp=Z,30nm,2.0s,mb4.9
M14A Sheep Mountain 77.68 48⇓ P **P 13 47 56.8 0.0**
baz=78
RRI2 Red Ridge 77.77 45 *eP* **P 13 47 58.9 +1.6**
comp=Z,11nm,1.3s,mb4.6
S10A Tonopah Range, 77.77 52 P **P 13 47 57.8 +0.4**
baz=78,SNR=7.8
MOOW Moose Ponds 77.85 45 *eP* **P 13 47 59.3 +1.6**
TPAW Teton Pass 77.89 45 *eP* **P 13 47 59.1 +1.1**
comp=Z,30nm,1.8s,mb4.9
K16A Soda Springs 77.92 46⇑ P **P 13 47 58.7 +0.5**
baz=78,SNR=6.0
P12A McGill 77.93 50⇓ P **P 13 47 58.8 +0.6**
baz=78,SNR=6.3
REDW Red Top Meadow 78.03 45 *eP* **P 13 48 00.3 +1.6**
comp=Z,17nm,1.4s,mb4.8
R11A Troy Canyon, C 78.17 51⇓ P **P 13 47 59.0 -0.6**
baz=78,SNR=7.5
N14A Grayback Hills 78.17 48⇑ P **P 13 47 58.9 -0.6**
baz=78
MPMC Manual Prospec 78.27 54⇓ P **P 13 47 59.7 -0.5**
baz=78
S11A Rachel 78.48 52⇓ P **P 13 48 02.1 +0.7**
baz=78
P13A Bates Ranch, G 78.50 50⇓ P **P 13 48 01.5 +0.1**
baz=78
TPNV Topopah Spring 78.56 53⇓ P **P 13 48 00.9 -1.0**
baz=78
TPNV Topopah Spring 78.56 53 *eP* **P 13 48 01.3 -0.6**
EDW2 Edwards Air Fo 78.62 55⇓ P **P 13 48 01.8 -0.3**
baz=78
HWUT Hardware Ranch 78.69 47 *eP* **P 13 48 02.6 +0.2**
comp=Z,11nm,1.3s,mb4.6
DUG Dugway 78.79 48⇓ P **P 13 48 02.8 -0.2**
baz=79
DUG Dugway 78.79 48 *eP* **P 13 48 03.4 +0.4**
R12A Pony Springs, 78.80 51⇓ P **P 13 48 03.5 +0.4**
baz=79,SNR=5.2
KWP Kalwaria 78.87 324⇓ *iP* **P 13 48 04.4 +1.2**
BORG Borgarnes 78.94 352 P **P 13 48 05.4 +2.1**
comp=Z,9.0nm,0.8s,mb4.8,baz=111,slow=4.7,SNR=3.5
BUR08 Bucovina Ar. S 78.97 322 *eP* **P 13 48 04.2 +0.4**
BURAR Bucovina Array 78.98 321⇑ *iP* **P 13 48 04.3 +0.4**
BURAR Bucovina Array 78.98 321⇑ P **P 13 48 04.3 +0.4**
P14A Drum Mountains 79.00 49⇑ P **P 13 48 04.0 -0.2**
baz=79,SNR=5.6
T11A Corn Creek, Al 79.06 52⇓ P **P 13 48 04.5 0.0**
baz=79,SNR=6.8
BW06 Boulder Array 79.14 45⇓ P **P 13 48 04.8 0.0**
baz=79
BW06 Boulder Array 79.14 45 *eP* **P 13 48 04.9 0.0**
comp=Z,47nm,2.6s,mb5.0
PDAR Pinedale Array 79.14 45 P **P 13 48 04.7 -0.2**
comp=Z,3.0nm,0.6s,mb4.4,baz=271,slow=1.8,SNR=31
Q14A Sevier Lake (B 79.24 50⇓ P **P 13 48 05.8 +0.3**
baz=79,SNR=8.5
VRI Vrincioaia 79.35 319⇓ *iP* **P 13 48 07.1 +1.2**
JLU Jordanelle 79.37 47 *eP* **P 13 48 07.5 +1.4**
KOLS Kolonicke sedl 79.55 324 *iP* **P 13 48 07.5 +0.5**
O16A Springville 79.58 48⇓ P **P 13 48 07.0 -0.3**
baz=79
STHS Stebnicka Huta 79.71 325 *iP* **P 13 48 08.7 +0.9**
STHS pmax pmax
comp=Z,7.0nm,1.3s,mb4.4
STHS Stebnicka Huta 79.71 325 *iP* **P 13 48 08.7 +0.9**
comp=Z,6.8nm,1.3s,mb4.4

S13A Holt Ranch, En 79.72 51 ⇓P P 13 48 08.0 -0.1
baz=80
OJC Ojcow 79.82 326 eP P 13 48 07.9 -0.5
RAR Rarotonga 79.90 125 LR LR 14 19 12.4
comp=Z,159nm,18.5s,MS4.4,baz=59,slow=32
O17A Robinson Place 80.05 47 ⇓P P 13 48 09.8 -0.1
baz=80
NIE Niedzica 80.14 325 eP P 13 48 11.3 +1.1
MSU Marysvale 80.21 49 eP P 13 48 11.7 +1.0
U13A Pakoon Wash 80.36 52 ⇑P P 13 48 11.6 +0.1
baz=80
PFO Pinyon Flat Ob 80.40 56 P P 13 48 12.2 +0.3
comp=Z,4.3nm,0.9s,mb4.4,baz=300,slow=7.3,SNR=5.1
PFO LR LR 14 16 01.7
comp=Z,168nm,20.7s,MS4.4,baz=72,slow=30
PFO Pinyon Flat Ob 80.40 56 ⇑P P 13 48 11.9 0.0
baz=80
P17A Butcher Ranch, 80.50 48 ⇓P P 13 48 11.9 -0.3
baz=80
N19A John Jarvie Ra 80.54 46 ⇑P P 13 48 12.4 -0.1
baz=80
R16A Teasdale 80.78 49 ⇑P P 13 48 13.3 -0.5
baz=81
DRGR 80.80 322 ⇑iP P 13 48 14.5 +0.7
DRGR 80.80 322 ⇑P P 13 48 14.5 +0.7
OKC Ostrava-Krasne 80.84 326 eP P 13 48 13.9 0.0
SRU San Rafael 80.85 48 ⇓P P 13 48 14.1 -0.1
baz=81
SRU San Rafael 80.85 48 eP P 13 48 13.7 -0.5
BSEG Bad Segeberg 81.00 333 eP P 13 48 14.4 -0.2
BSEG pmax pmax
comp=Z,8.0nm,0.9s,mb4.7
BSEG Bad Segeberg 81.00 333 eP P 13 48 14.4 -0.2
comp=Z,8.0nm,0.9s,mb4.7
ULM Lac du Bonnet 81.05 33 P P 13 48 15.7 +0.7
comp=Z,2.5nm,0.8s,mb4.2,baz=0.0,slow=4.0,SNR=3.5
MORC Moravsky Berou 81.16 327 eP P 13 48 15.4 -0.2
MORC pmax pmax
comp=Z,22nm,1.6s,mb4.8
MORC Moravsky Berou 81.16 327 eP P 13 48 15.4 -0.2
comp=Z,22nm,1.6s,mb4.8
R17A Hanksville Air 81.17 49 ⇑P P 13 48 15.9 0.0
baz=81
DVTC Desert V Tower 81.20 56 ⇑P P 13 48 15.1 -1.1
baz=81
DPC Dobruska-Polom 81.28 328 eP P 13 48 16.6 +0.4
DPC epP pP 13 48 30.8 +1.9
UPC Upice 81.30 328 eP P 13 48 16.7 +0.4
UPC epP pP 13 48 31.0 +2.0
V14A Boquillas Ranc 81.38 52 ⇑P P 13 48 17.2 +0.2
baz=81
PSZ Piszkesteto 81.40 324 ⇑iP P 13 48 18.0 +1.1
PSZ Piszkesteto 81.40 324 eP P 13 48 17.3 +0.4
VYHS Vyhne 81.49 325 i P P 13 48 17.6 +0.2
X13A Yucca 81.55 53 ⇑P P 13 48 18.0 0.0
baz=81
S17A Black Ridge (B 81.60 50 ⇓P P 13 48 18.0 -0.2
baz=81
W14A Seligman 81.66 53 ⇓P P 13 48 18.9 +0.4
baz=82
R18A Canyonlands Na 81.69 48 ⇓P P 13 48 18.9 +0.3
baz=82
Q19A Hogan Spring (81.71 48 ⇓P P 13 48 18.9 +0.2
baz=82
GZR Gura Zlata 81.73 321 ⇑iP P 13 48 19.3 +0.6
GZR Gura Zlata 81.73 321 ⇑P P 13 48 19.3 +0.6
PVCC Panska Ves 81.90 329 eP P 13 48 18.9 -0.6
BRG Berggiesshubel 81.91 329 eP P 13 48 19.5 0.0
BRG e 13 48 27.7
BRG e 13 51 27.0
BRG pmax pmax
comp=Z,3.0nm,0.9s,mb4.2
BRG pmax pmax
comp=Z,4.0nm,0.9s,mb4.3
BRG pmax pmax
comp=Z,18nm,2.2s,mb4.6
BRG Berggiesshubel 81.91 329 eP P 13 48 19.4 -0.1
comp=Z,6.0nm,0.9s,mb4.5
BRG Berggiesshubel 81.91 329 eP P 13 48 19.5 -0.1
comp=Z,5.5nm,0.9s,mb4.5
BRG e 13 48 27.7
comp=Z,5.8nm,0.9s
BRG e 13 51 27.0
comp=Z,31nm,2.2s
CLL Collm 81.97 330 i P P 13 48 19.1 -0.7
CLL i *PP pP 13 48 30.4 -2.1
CLL i *SP sP 13 48 33.9 -3.4
CLL pmax pmax
comp=Z,12nm,0.9s,mb4.8
CLL MLR MLR
comp=Z,200nm,15.6s,MS4.6
CLL Collm 81.97 330 eP P 13 48 19.4 -0.4
comp=Z,12nm,0.9s,mb4.8
CLL Collm 81.97 330 i P P 13 48 19.1 -0.7
comp=Z,12nm,0.9s,mb4.8
CLL i PcP PcP 13 48 25.3 0.0
comp=Z,8.0nm,1.1s
CLL i x x 13 48 27.5
comp=Z,13nm,1.1s
CLL i x x 13 48 30.4
CLL i pP pP 13 48 33.9 +1.4
comp=Z,18nm,1.1s
CLL ePP PP 13 51 27.0 -0.1
CLL eS S 13 58 42.0 +11
CLL ePS 13 59 26.0
CLL eSS SS 14 04 06.0 +17
CLL ex x 14 04 48.0
CLL eSSS 14 07 30.0
CLL eSSSS 14 10 18.0
CLL Collm 81.97 330 i P P 13 48 19.1 -0.7
comp=Z,12nm,0.9s,mb4.8
CLL i 13 48 27.5
CLL i pP pP 13 48 30.4 -2.1
CLL i sP sP 13 48 33.9 -3.4
CLL eS S 13 58 42.0 +11
CLL LR LR
comp=Z,200nm,15.6s,MS4.6
Y13A Salome 82.02 54 ⇓P P 13 48 20.6 +0.2
baz=82
S18A Hurst Farm, Bl 82.07 49 ⇓P P 13 48 20.7 0.0
baz=82
BZS Buzias 82.16 322 ⇓iP P 13 48 21.1 +0.1
BZS Buzias 82.16 322 ⇓P P 13 48 21.1 +0.1
PV10 Paradox Valley 82.22 48 eP P 13 48 22.2 +0.8
PRU Pruhonice 82.32 328 eP P 13 48 22.0 +0.3
U16A Tuba City 82.33 51 ⇑P P 13 48 22.6 +0.5
baz=82
TREC Trest 82.42 327 eP P 13 48 22.4 +0.1
TREC epP pP 13 48 37.0 +2.1
T18A Mexican Hat 82.49 49 ⇑P P 13 48 22.3 -0.6
baz=82
S19A Harvey Farm, M 82.56 49 ⇓P P 13 48 23.1 -0.1
baz=82
WUAZ Wupatki 82.56 51 eP P 13 48 23.5 +0.2
comp=Z,7.9nm,1.1s,mb4.7
CLZ Clausthal 82.61 331 eP P 13 48 23.3 +0.1
CLZ e*PP pP 13 48 37.4 +1.6
CLZ pmax pmax
comp=Z,9.0nm,1.0s,mb4.8
CLZ Clausthal 82.61 331 eP P 13 48 23.3 +0.1
comp=Z,9.0nm,1.0s,mb4.8
CLZ epP pP 13 48 37.4 +1.6
X15A Humboldt 82.65 53 ⇓P P 13 48 23.8 0.0
baz=82
PV01 Paradox Valley 82.65 48 eP P 13 48 24.5 +0.8
TANN Tannenbergstha 82.87 330 eP P 13 48 24.7 +0.1
comp=Z,2.0nm,1.0s,mb4.1
MOX Moxa 83.04 330 eP P 13 48 25.5 +0.1
comp=Z,7.0nm,1.2s,mb4.6
MOX Moxa 83.04 330 eP P 13 48 25.5 +0.1
MOX pmax pmax
comp=Z,7.0nm,1.2s,mb4.6
MOX Moxa 83.04 330 eP P 13 48 25.3 -0.1
comp=Z,8.0nm,1.3s,mb4.6
MOX epP pP 13 48 39.3 +1.2
T19A Beclabito 83.21 49 ⇑P P 13 48 26.9 +0.3
baz=83
PKSM Moragy 83.21 324 ⇑iP P 13 48 25.8 -0.6
IBBN Ibbenburen 83.23 333 eP P 13 48 26.2 -0.2
comp=Z,9.0nm,0.7s,mb4.9
MANZ Manzenberg 83.34 329 eP P 13 48 27.1 +0.1
comp=Z,4.0nm,0.7s,mb4.6
KHC Kasperske Hory 83.38 328 eP P 13 48 27.5 +0.3
KHC epP pP 13 48 41.2 +1.3
VTS Vitosha 83.42 319 ⇑iP P 13 48 27.7 +0.1
VTS Vitosha 83.42 319 ⇑P P 13 48 27.7 +0.2
ROTZ Rotzenmuhle 83.47 329 eP P 13 48 27.6 -0.1
comp=Z,5.0nm,0.9s,mb4.5
GEC2 GERESS Array S 83.54 328 eP P 13 48 28.4 +0.4
GEC2 e*PP pP 13 48 42.0 +1.3
GEC2 pmax pmax
comp=Z,6.0nm,1.2s,mb4.6
GEC2 GERESS Array S 83.54 328 eP P 13 48 28.4 +0.4
comp=Z,6.0nm,1.2s,mb4.6
GEC2 epP pP 13 48 42.0 +1.3
GERES GERESS Array B 83.54 328 P P 13 48 27.8 -0.3
comp=Z,1.5nm,0.7s,mb4.2,baz=37,slow=5.8,SNR=14
GERES LR LR 14 26 41.4
comp=Z,107nm,19.2s,MS4.2,baz=27,slow=36
GERES GERESS Array B 83.54 328 P P 13 48 27.8 -0.2
GERES pmax pmax
comp=Z,2.0nm,0.7s
GERES MLR MLR
comp=Z,107nm,19.2s
UBBA Unterbreizbach 83.55 331 eP P 13 48 28.9 +0.8
comp=Z,2.0nm,0.8s,mb4.3
WET Wettzell 83.67 328 eP P 13 48 29.0 +0.3
WET pmax pmax
comp=Z,10.0nm,1.5s,mb4.7
WET Wettzell 83.67 328 eP P 13 48 29.0 +0.3
comp=Z,10.0nm,1.5s,mb4.7
GRA1 Grafenberg Arr 83.94 330 eP P 13 48 30.4 +0.3
comp=Z,21nm,1.2s,mb5.1
GRA1 epP pP 13 48 43.9 +1.1
GRF Grafenberg Arr 83.94 330 eP P 13 48 30.4 +0.3
GRF e*PP pP 13 48 43.9 +1.1
GRF pmax pmax
comp=Z,21nm,1.2s,mb5.1
GRF Grafenberg Arr 83.94 330 eP P 13 48 30.4 +0.3
GRF e*PP pP 13 48 43.9 +1.1
GRF pmax pmax
comp=Z,21nm,1.2s,mb5.1
GRF Grafenberg Arr 83.94 330 eP P 13 48 30.4 +0.3
comp=Z,21nm,1.2s,mb5.1
GRF epP pP 13 48 43.9 +1.1
Y17A Roosevelt 84.05 53 ⇑P P 13 48 31.3 +0.4
baz=84
X18A Snowflake 84.09 51 ⇑P P 13 48 31.7 +0.5
baz=84
EKA Eskdalemuir Ar 84.22 340 P P 13 48 31.6 +0.2
comp=Z,1.4nm,0.6s,mb4.3,baz=37,slow=4.8,SNR=13
EKA PP PP 13 51 42.5 -2.9
comp=Z,1.2nm,0.8s,baz=33,slow=6.8,SNR=2.8
EKA Eskdalemuir Ar 84.22 340 P P 13 48 31.6 +0.2
EKA 13 51 42.5
EKA pmax pmax
comp=Z,1.0nm,0.6s
EKA pmax pmax
comp=Z,1.0nm,0.8s
Y18A Canyon Day Jun 84.52 52 ⇓P P 13 48 33.2 -0.1
baz=84
X19A St. Johns 84.58 51 ⇑P P 13 48 34.0 +0.4
baz=84
PPT Papeete 84.63 116 eLR LR 14 14 50.9
comp=Z,370nm,26.2s,baz=312
PPT Papeete 84.63 116 LR LR 14 19 00.0
comp=Z,181nm,20.2s,MS4.5,baz=87,slow=30
TNS Taunus Mts 84.63 331 eP P 13 48 33.7 +0.1
TNS pmax pmax
comp=Z,6.0nm,1.1s,mb4.6
TNS Taunus Mts 84.63 331 eP P 13 48 33.7 +0.1
comp=Z,6.0nm,1.1s,mb4.6
SDCO Great Sand Dun 84.75 47 eP P 13 48 35.5 +1.1
comp=Z,17nm,1.8s,mb4.9
RJOB Jochberg 84.77 328 eP P 13 48 34.1 -0.2
comp=Z,7.0nm,1.4s,mb4.6
117A Oracle 84.82 53 ⇑P P 13 48 34.6 -0.2
baz=85
MEM Membach 85.25 333 P P 13 48 36.1 -0.6
217A Green Valley 85.27 54 ⇑P P 13 48 37.3 +0.1
baz=85
118A Homack Ranch, 85.28 53 ⇓P P 13 48 37.1 -0.1
baz=85
BCLA Clavier 85.67 333 P P 13 48 38.3 -0.4
WLF Walferdange 85.96 332 P P 13 48 40.4 +0.2
comp=Z,8.1nm,1.8s,mb4.7
WLF Walferdange 85.96 332 eP P 13 48 40.3 +0.1
comp=Z,8.0nm,1.0s,mb4.9
ANMO Albuquerque 86.01 49 P P 13 48 41.8 +1.1
comp=Z,3.4nm,0.9s,mb4.5,baz=315,slow=5.3,SNR=6.7
ANMO Albuquerque 86.01 49 P P 13 48 41.8 +1.0
ANMO pmax pmax
comp=Z,3.0nm,1.0s
318A Bisbee 86.03 54 ⇓P P 13 48 40.6 -0.4
baz=86
GIVF Givet 86.10 333 eP P 13 48 40.2 -0.7
219A White Tail Can 86.15 53 ⇑P P 13 48 41.0 -0.5
baz=86
BFO Black Forest 86.19 330 eP P 13 48 41.1 -0.3
BFO pmax pmax
comp=Z,9.0nm,0.9s,mb5.0
BFO Black Forest 86.19 330 eP P 13 48 41.1 -0.3
comp=Z,9.0nm,0.9s,mb5.0
BAIF Baives 86.36 334 eP P 13 48 41.5 -0.7
comp=Z,8.6nm,0.9s,mb4.7
BAIF Baives 86.36 334 eP P 13 48 41.5 -0.7
BAIF pmax pmax
comp=Z,4.0nm,0.9s,mb4.7
BAIF Baives 86.36 334 eP P 13 48 41.5 -0.7
comp=Z,4.3nm,0.9s,mb4.7
CDF Champ du Feu 86.54 331 ⇑iP P 13 48 42.7 -0.4
comp=Z,16nm,0.9s,mb5.0
CDF Champ du Feu 86.54 331 ⇑iP P 13 48 42.7 -0.4
CDF pmax pmax
comp=Z,8.0nm,0.9s,mb5.0
CDF Champ du Feu 86.54 331 ⇑iP P 13 48 42.7 -0.4
comp=Z,7.8nm,0.9s,mb4.9
ECH Echery 86.75 331 eP P 13 48 43.8 -0.3
HINF Hinteralfeld 87.19 331 eP P 13 48 45.2 -1.1
TBI Tubuai 88.40 120 eLR LR 14 16 44.5
comp=Z,250nm,26.8s,baz=308
CABF La Chapelle 88.47 331 eP P 13 48 51.7 -0.7
AMTX Amarillo 88.95 47 eP P 13 48 55.2 +0.3
LPL La Plagne 89.10 330 eP P 13 48 55.0 -0.4
comp=Z,3.5nm,0.5s,mb4.6
LPL La Plagne 89.10 330 eP P 13 48 55.0 -0.4
LPL pmax pmax
comp=Z,2.0nm,0.5s,mb4.7
LPL La Plagne 89.10 330 eP P 13 48 55.0 -0.4
comp=Z,1.8nm,0.5s,mb4.7
FLN La Foliniere 89.10 335 eP P 13 48 54.6 -0.7
FLN eMLR MLR
comp=Z,205nm,21.5s,MS4.2
FLN La Foliniere 89.10 335 eP P 13 48 54.6 -0.7
FLN LR LR
comp=Z,200nm,21.5s,MS4.5
LPG La Plagne 89.11 329 eP P 13 48 55.2 -0.2
comp=Z,6.5nm,0.7s,mb4.8
LPG La Plagne 89.11 329 eP P 13 48 55.2 -0.2
LPG pmax pmax
comp=Z,3.0nm,0.7s,mb4.7
LPG La Plagne 89.11 329 eP P 13 48 55.2 -0.2
comp=Z,3.3nm,0.7s,mb4.8
SSF Saint Saulge 89.11 332 eP P 13 48 54.7 -0.7
LDF La Druitiere 89.13 335 eP P 13 48 54.6 -0.9
SMF Signal de Mont 89.33 332 eP P 13 48 56.0 -0.4
AVF Avril sur Loir 89.39 332 eP P 13 48 56.1 -0.6
comp=Z,11nm,0.7s,mb5.0
AVF Avril sur Loir 89.39 332 eP P 13 48 56.1 -0.6
AVF pmax pmax
comp=Z,5.0nm,0.7s,mb5.0
AVF Avril sur Loir 89.39 332 eP P 13 48 56.1 -0.6
comp=Z,5.4nm,0.7s,mb5.0
GRR Gorron 89.55 335 eP P 13 48 57.1 -0.4
MBDF Montbardon 89.72 329 eP P 13 48 57.3 -1.0
comp=Z,9.5nm,0.9s,mb4.8
MBDF Montbardon 89.72 329 eP P 13 48 57.3 -1.0
MBDF pmax pmax
comp=Z,5.0nm,0.9s,mb4.8
MBDF Montbardon 89.72 329 eP P 13 48 57.3 -1.0
comp=Z,4.8nm,0.9s,mb4.8
BGF Bois d'Agland 89.78 332 eP P 13 48 57.4 -1.2
ORIF Oris-en-Rattie 89.94 330 eP P 13 48 58.7 -0.6
comp=Z,7.6nm,0.9s,mb4.7
ORIF eMLR MLR
comp=Z,101nm,21.2s,MS3.9
ORIF Oris-en-Rattie 89.94 330 eP P 13 48 58.7 -0.6
ORIF pmax pmax
comp=Z,4.0nm,0.9s,mb4.8
ORIF Oris-en-Rattie 89.94 330 eP P 13 48 58.7 -0.6
comp=Z,3.8nm,0.9s,mb4.7
TCF Toulx Ste Croi 90.25 333 eP P 13 49 00.4 -0.3
comp=Z,21nm,1.4s,mb5.0
TCF Toulx Ste Croi 90.25 333 eP P 13 49 00.4 -0.3
TCF pmax pmax
comp=Z,10.0nm,1.4s,mb5.0
TCF Toulx Ste Croi 90.25 333 eP P 13 49 00.4 -0.3
comp=Z,10nm,1.4s,mb5.0
ROSF Rostrenen 90.39 337 eP P 13 49 01.1 -0.3
VIVF Saint-Julien-l 90.48 330 eP P 13 49 01.3 -0.6
comp=Z,9.5nm,0.9s,mb4.8
VIVF Saint-Julien-l 90.48 330 eP P 13 49 01.3 -0.6
VIVF pmax pmax
comp=Z,5.0nm,0.9s,mb4.8
VIVF Saint-Julien-l 90.48 330 eP P 13 49 01.3 -0.6
comp=Z,4.8nm,0.9s,mb4.8
MFF Saint Martin d 90.84 334 ⇑iP P 13 49 03.3 -0.2
comp=Z,15nm,0.9s,mb5.0
MFF Saint Martin d 90.84 334 ⇑iP P 13 49 03.3 -0.2
MFF pmax pmax
comp=Z,8.0nm,0.9s,mb5.0
MFF Saint Martin d 90.84 334 ⇑iP P 13 49 03.3 -0.2
comp=Z,7.7nm,0.9s,mb5.0
LMR La Mourre 90.96 328 eP P 13 49 03.1 -1.0
comp=Z,44nm,1.2s,mb5.3
LMR La Mourre 90.96 328 eP P 13 49 03.1 -1.0
LMR pmax pmax
comp=Z,22nm,1.2s,mb5.4
LMR La Mourre 90.96 328 eP P 13 49 03.1 -1.0
comp=Z,22nm,1.2s,mb5.4
RJF Les Rejaudoux 91.34 332 eP P 13 49 05.2 -0.6
comp=Z,17nm,1.0s,mb5.0
RJF eMLR MLR
comp=Z,141nm,22.0s,MS4.1
RJF Les Rejaudoux 91.34 332 eP P 13 49 05.2 -0.6
RJF pmax pmax
comp=Z,9.0nm,1.0s,mb5.0
RJF MLR MLR
comp=Z,140nm,22.0s,MS4.4
RJF Les Rejaudoux 91.34 332 eP P 13 49 05.2 -0.6
comp=Z,8.6nm,1.0s,mb5.0
RJF LR LR
comp=Z,140nm,22.0s,MS4.4
CAF Calviac 91.45 332 eP P 13 49 06.6 +0.2
comp=Z,9.9nm,0.9s,mb4.8
CAF Calviac 91.45 332 eP P 13 49 06.6 +0.2
CAF pmax pmax
comp=Z,5.0nm,0.9s,mb4.8
CAF Calviac 91.45 332 eP P 13 49 06.6 +0.2
comp=Z,4.9nm,0.9s,mb4.8
TXAR Lajitas Array 91.52 52 P P 13 49 07.2 +0.2
comp=Z,1.6nm,0.7s,mb4.5,baz=298,slow=3.5,SNR=23
TXAR LR LR 14 27 35.3
comp=Z,89nm,18.4s,MS4.2,baz=0.0,slow=34
TXAR Lajitas Array 91.52 52 P P 13 49 07.2 +0.2
TXAR LR LR 14 27 35.3
LFF La Frestale 91.94 333 eP P 13 49 08.7 +0.1
comp=Z,11nm,0.8s,mb5.0
LFF La Frestale 91.94 333 eP P 13 49 08.7 +0.1
LFF pmax pmax
comp=Z,5.0nm,0.8s,mb4.9
LFF La Frestale 91.94 333 eP P 13 49 08.7 +0.1
comp=Z,5.4nm,0.8s,mb4.9
MTLF Montolieu 92.72 331 eP P 13 49 12.2 -0.1
comp=Z,8.9nm,0.9s,mb4.9
MTLF Montolieu 92.72 331 eP P 13 49 12.2 -0.1
MTLF pmax pmax
comp=Z,4.0nm,0.9s,mb4.8
MTLF Montolieu 92.72 331 eP P 13 49 12.2 -0.1
comp=Z,4.4nm,0.9s,mb4.9
ETSF Etsaut 94.17 332 eP P 13 49 19.1 +0.2
comp=Z,14nm,1.1s,mb5.0
ETSF Etsaut 94.17 332 eP P 13 49 19.1 +0.2
ETSF pmax pmax
comp=Z,7.0nm,1.1s,mb5.0
ETSF Etsaut 94.17 332 eP P 13 49 19.1 +0.2
comp=Z,6.8nm,1.1s,mb5.0
KEST Kesra 95.71 322 LR LR 14 37 21.8
comp=Z,38nm,19.7s,MS3.9,baz=290,slow=38
TORD Torodi Ar. Bea 117.82 314 PKP PKPdf 13 54 46.0 -1.0
comp=Z,0.3nm,0.5s,baz=17,slow=1.3,SNR=4.6
LPAZ La Paz 147.99 60 PKPbc PKPbc 13 55 46.6 +0.8
comp=Z,4.3nm,0.8s,baz=345,slow=3.7,SNR=10
LPAZ La Paz 147.99 60 ePKPbc PKPbc 13 55 46.2 +0.4

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*ISCJB **07** 14:01:44.2±1.8, 1198N±007×8837W±004, h15km±18km, mb3.8/6, Error ellipse: s-maj=12.2km s-min=6.1km az=12.5*
*CASC **07** 14:01:45.9±2.9, 1204N×8825W, h6km±7km, MD4.0, ML2.7, mb4.4(NEIC)*
*IDC **07** 14:01:46.4±1.5, 1289N×8737W, h0km, mb3.7/5, mb1 4.1/6, mb1mx3.8/21, mbtmp3.7/6, ML3.0/1, MS2.9/3, Ms1 2.9/3, ms1mx2.7/27, Error ellipse: s-maj=82.5km s-min=22.4km az=52.0*
*NEIC **07** 14:01:51.6±2.7, 1224N×8785W, h67km±26km, mb4.4/1, Error ellipse: s-maj=49.5km s-min=14.7km az=57.0*
ISC 07 14:01:44.2±1.8, **1199N**±007×**8829W**±005, **h2**km±15km, **n47**, σ1§25/41, **mb3.8**/6, **9C-5D, Off coast of central America**

Code Station Name Δ° AZ° Phase ID (Op ISC) Time (h m s) Res (ISC)
CNCH Conchagua 1.35 19⇑eP x 14 02 09.8
CNCH eP x 14 02 09.9
VSM San Miguel 1.43 1 eP x 14 02 10.9
VSM eP x 14 02 11.2
VSM eS x 14 02 31.5
BLLM Bellamira 1.44 2⇑eP x 14 02 11.2
TEL3 Telica 3 1.52 68⇑eP Pn 14 02 11.6 -0.9
MIRN Miramar 1.60 74 eP Pn 14 02 12.8 -0.8
MIRN eS Sn 14 02 32.6 -2.3
CNGN Cerro Negro 1.63 72⇑eP Pn 14 02 13.0 -1.0
CNGN eS Sn 14 02 36.9 +1.3
COPN Copaltepe 1.67 83⇓eP Pn 14 02 14.1 -0.4
COPN eS Sn 14 02 38.3 +1.8
SNVI San Vicente 1.70 342 eP x 14 02 15.4
SNVI eS x 14 02 39.6
MOMN Momotombo 1.76 76 eP Pn 14 02 15.6 -0.2
MOMN eS Sn 14 02 37.6 -1.1
CAHU Cacacuatique 1.77 2⇑eP x 14 02 16.4
CAHU eP x 14 02 16.6
LFRS El Faro 1.79 335⇑eP x 14 02 15.8
LFRS eP x 14 02 15.9
LFRS eS x 14 02 38.0
CSAN 1.83 84 eP Pn 14 02 16.7 -0.1
CSAN eS Sn 14 02 42.5 +1.9
LBRS Las Brisas 1.88 337 eP x 14 02 17.7
APYN Apoyeque 1.91 83⇓eP Pn 14 02 17.7 -0.1
APYN eS Sn 14 02 43.9 +1.4
XAVN Gruta Xavier 1.93 85 eP Pn 14 02 18.5 +0.5
XAVN eS Sn 14 02 41.4 -1.4
CRUN El Crucero 1.94 90 eP Pn 14 02 18.8 +0.5
TISN Laguna Tiscapa 1.98 86 eP Pn 14 02 18.7 -0.1
TISN eS Sn 14 02 45.8 +1.6
BOQS Boqueron 1.98 331⇑eP x 14 02 19.2
BOQS eS x 14 02 45.9
MGAN Managua 2.00 85 eP Pn 14 02 19.3 +0.2
MGAN eS Sn 14 02 42.8 -1.9
TICN Ticuantepe 2.01 89⇓eP Pn 14 02 19.4 +0.2
APON Apoyo 2.17 92 eP Pn 14 02 21.9 +0.5
SBLS San Blas 2.25 325⇑eP x 14 02 23.1
SBLS eS x 14 02 50.8
SNJE San Jose 2.26 326 eP x 14 02 23.0
SNJE eS x 14 02 52.9
TGUH Tegucigalpa,Un 2.28 26⇑eP Pn 14 02 23.2 +0.4
TGUH eS Sn 14 02 52.6 +1.1
TGUH Tegucigalpa,Un 2.28 26 ePn Pn 14 02 22.8 0.0
RTR El Retiro 2.31 325⇓eP x 14 02 24.2
RTR eS x 14 02 57.0
RBDL Robledal 2.51 327 eP x 14 02 27.5
RBDL eS x 14 03 01.2
MTO2 Montecristo 2 2.61 336 eP x 14 02 28.5
MTO2 eS x 14 03 02.3
CONN Concepcion 2.64 99⇓eP Pn 14 02 27.9 +0.1
CONN AML AML 14 02 59.4
comp=Z,43nm,0.5s
JTS JuntasAbangare 3.68 117 Pn Pn 14 02 42.7 +0.5
comp=Z,1.5nm,0.3s,baz=306,slow=21,SNR=4.1
JTS Sn Sn 14 03 23.7 -2.6
comp=Z,5.6nm,0.3s,baz=291,slow=20,SNR=4.4
JTS LR LR 14 04 23.1
comp=Z,180nm,20.9s,baz=182,slow=45
JTS JuntasAbangare 3.68 117 ePn Pn 14 02 42.9 +0.6
JTS Sn Sn 14 03 23.7 -2.6

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JTS				LR	LR	14 04 23.1	
BUS	**Buena Vista**	**5.07**	**118**	eP	**Pn**	**14 03 04.3**	**+3.1**
ACR	**Cerro Adams**	**6.03**	**123**	eP	**Pn**	**14 03 17.4**	**+2.9**
TEIG	**Tepich**	**8.19**	**0**	LR	LR	14 07 07.9	
	comp=Z,162nm,20.9s,baz=203,slow=44						
BCIP	**Isla Barro Col**	**8.77**	**108**	Pn	**Pn**	**14 03 50.7**	**-1.5**
ROSC	**El Rosal**	**15.51**	**116**	LR	LR	14 11 51.8	
	comp=Z,37nm,20.7s,baz=20,slow=40						
JCT	**Junction City**	**21.27**	**332**	eP	**P**	**14 06 31.1**	**-0.9**
TXAR	**Lajitas Array**	**22.42**	**323**	P	**P**	**14 06 45.5**	**+1.2**
	comp=Z,1.5nm,0.8s,mb3.5,baz=144,slow=10,SNR=13						
MIAR	**Mount Ida**	**22.96**	**349**	eP	**P**	**14 06 49.1**	**-0.8**
	comp=Z,15nm,1.0s,mb4.4						
PDAR	**Pinedale Array**	**35.79**	**333**	P	**P**	**14 08 44.8**	**-0.1**
	comp=Z,0.8nm,1.0s,mb3.6,baz=128,slow=12,SNR=3.8						
NVAR	**Mina Array Bea**	**37.51**	**320**	P	**P**	**14 09 01.3**	**+1.7**
	comp=Z,0.5nm,0.8s,mb3.3,baz=121,slow=8.8,SNR=3.7						
NVAR	**Mina Array Bea**	**37.51**	**320**	P	**P**	**14 09 01.3**	**+1.7**
ULM	**Lac du Bonnet**	**38.65**	**352**	P	**P**	**14 09 06.3**	**-2.8**
	comp=Z,5.9nm,0.8s,mb4.4,baz=173,slow=12,SNR=6.0						
YKA	**Yellowknife Ar**	**53.84**	**345**	P	**P**	**14 11 04.4**	**-3.9**
	comp=Z,1.0nm,0.7s,mb3.8,baz=158,slow=6.4,SNR=3.8						
ASAR	**Alice Springs**	**138.34**	**248**	PKP	PKPdf	14 21 17.4	+5.3
	comp=Z,0.3nm,0.8s,baz=95,slow=2.0,SNR=2.9						
WRA	**Warramunga Arr**	**138.36**	**253**	PKP	PKPdf	14 21 17.4	+5.2
	comp=Z,0.3nm,0.8s,baz=91,slow=2.1,SNR=5.4						
CMAR	**Chiang Mai Arr**	**148.91**	**347**	PKPbc	PKPbc	14 21 34.8	+0.1
	comp=Z,0.9nm,0.7s,baz=336,slow=3.9,SNR=7.4						

IDC 07 14:20:44.5±7.5**,1756S**×**17313W,h0**km**,mb3.7**/3**, mb1 3.9**/4**,mb1mx3.7**/19**,mbtmp3.7**/4**,ML1.4**/1**,Error ellipse: s-maj=246.3km s-min=33.3km az=127.0,Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**3.86**	**20**	Pn	Pn	14 21 45.2	+0.1
	1.6nm,0.3s,baz=180,slow=7.1,SNR=2.2						
AFI				Sn	Sn	14 22 20.0	-11
	13nm,0.3s,baz=55,slow=22,SNR=8.7						
STKA	**Stephens Creek**	**43.22**	**242**	P	P	14 28 47.1	-0.5
	1.1nm,0.8s,baz=80,slow=6.1,SNR=2.6						
WRA	**Warramunga Arr**	**49.64**	**259**	P	P	14 29 37.9	-0.3
	0.4nm,0.8s,baz=95,slow=7.0,SNR=4.1						
ASAR	**Alice Springs**	**49.72**	**254**	P	P	14 29 39.3	+0.5
	1.9nm,0.7s,baz=87,slow=8.2,SNR=30						

*ISCJB **07** 14:39:14.1±0.2,4446N±001×723E±002,h15km±2km, Error ellipse: s-maj=3.0km s-min=2.0km az=156.7*
*GEN **07** 14:39:14.9,4445N×725E,h14km,ML2.0*
*ROM **07** 14:39:14.4±0.2,4445N×722E,h15km±4km,Md2.5/10, Ml2.1/9,Error ellipse: s-maj=5.4km s-min=1.8km az=58.0*
*CSEM **07** 14:39:14.9±0.1,4445N×729E,h5km,ML2.6/13,Error ellipse: s-maj=1.5km s-min=0.8km az=63.0*
*NEIC **07** 14:39:15.8,4443N×728E,h5km,ML2.5(STR), ML2.6(LDG),After STR.*
*LDG **07** 14:39:15.4±0.1,4445N×728E,h2km,Md2.8/2,Ml2.6/15, Error ellipse: s-maj=2.4km s-min=1.4km az=70.0*
*STR **07** 14:39:15.8±0.3,4443N×728E,h5km,Ml2.5,Error ellipse: s-maj=0.0km s-min=0.0km az=0.0*
ISC 07 14:39:14.6±0.2**,4446N**±001×**726E**±002**,h15**km±2km**,n68, σ0ˢ82**/135**,Northern Italy**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
DOI	**San Damiano**	**0.04**	**346**	Pg	**Pg**	**14 39 17.9**	**+0.6**
DOI				Sg	**Sg**	**14 39 19.7**	**+0.5**
	7µm,0.2s						
STV	**Sant Anna di V**	**0.22**	**168**	Pg	**Pg**	**14 39 19.9**	**+0.3**
STV				Sg	**Sg**	**14 39 22.8**	**-0.1**
	467nm,0.1s						
ENR	**Entracque**	**0.26**	**154**	P	**Pg**	**14 39 20.5**	**+0.3**
MBDF	**Montbardon**	**0.44**	**307**	ePg	**Pg**	**14 39 23.8**	**+0.4**
	SNR=1.0						
MBDF				eSg	**Sg**	**14 39 29.9**	**+0.6**
	212nm,0.2s,SNR=1.0						
MBDF	**Montbardon**	**0.44**	**307**	ePg	**Pg**	**14 39 23.8**	**+0.4**
	SNR=1.0						
MBDF				eSg	**Sg**	**14 39 29.9**	**+0.6**
	106nm,0.2s,SNR=1.0						
TOUF	**Mont Tournerai**	**0.45**	**181**	Pg	**Pg**	**14 39 23.9**	**+0.3**
AUTN	**L'Aution**	**0.48**	**166**	Pg	**Pg**	**14 39 24.4**	**+0.2**
AUTN				Sg	**Sg**	**14 39 30.9**	**+0.2**
SAOF	**Saorge**	**0.52**	**156**	Pg	**Pg**	**14 39 24.9**	**0.0**
SAOF				Sg	**Sg**	**14 39 31.7**	**-0.2**
RRL	**Rocca Remolon**	**0.57**	**324**	P	**Pg**	**14 39 25.9**	**+0.1**
MVIF	**Mont Vial**	**0.57**	**188**	Pg	**Pg**	**14 39 26.2**	**+0.3**
MVIF				Sg	**Sg**	**14 39 33.8**	**+0.3**
LUCF	**Luceram**	**0.57**	**174**	Pg	**Pg**	**14 39 25.9**	**0.0**
LUCF				Sg	**Sg**	**14 39 33.8**	**+0.3**
SBF	**Sospel**	**0.61**	**168**	ePg	**Pg**	**14 39 26.7**	**+0.1**
	SNR=1.0						
SBF				eSg	**Sg**	**14 39 34.4**	**-0.4**
	40nm,0.2s,SNR=1.0						
SBF	**Sospel**	**0.61**	**168**	ePg	**Pg**	**14 39 26.7**	**+0.1**
	SNR=1.0						
SBF				eSg	**Sg**	**14 39 34.4**	**-0.4**
	20nm,0.2s,SNR=1.0						
RORO	**Rocca Rossa**	**0.68**	**121**	P	**Pg**	**14 39 27.6**	**-0.2**
RORO				S	**Sg**	**14 39 36.2**	**-0.6**
RSP	**Reno Superiore**	**0.68**	**0**	Pg	**Pg**	**14 39 27.6**	**-0.4**
	48nm,0.1s						
NEGI	**Seborga**	**0.69**	**152**	P	**Pg**	**14 39 27.9**	**-0.2**
IMI	**Imperia**	**0.72**	**140**	Pg	**Pg**	**14 39 28.3**	**-0.3**
IMI				S	**Sg**	**14 39 37.4**	**-0.6**
IMI				Sg	**Sg**	**14 39 38.0**	**0.0**
BNI	**Bardonecchia**	**0.72**	**325**	Pg	**Pg**	**14 39 28.8**	**+0.1**
	21nm,0.7s						
BNI				eSg	**Sg**	**14 39 37.2**	**-1.0**
BNI	**Bardonecchia**	**0.72**	**325**	ePg	**Pg**	**14 39 28.5**	**-0.2**
BNI				eSg	**Sg**	**14 39 37.2**	**-1.0**
FIN	**Finale Ligure**	**0.73**	**110**	Pg	**Pg**	**14 39 28.7**	**-0.1**
FIN				S	**Sg**	**14 39 37.8**	**-0.5**
REVF	**Revere**	**0.73**	**174**	Pg	**Pg**	**14 39 29.0**	**+0.2**
CALN	**Calern**	**0.76**	**201**	Pg	**Pg**	**14 39 30.0**	**+0.6**
CALN				Sg	**Sg**	**14 39 39.4**	**0.0**
MONC	**Moncucco Torin**	**0.77**	**38**	Pg	**Pg**	**14 39 30.6**	**+0.9**
	75nm,0.4s						
QLNO	**Quiliano**	**0.79**	**100**	Pg	**Pg**	**14 39 30.1**	**+0.1**
	22nm,0.3s						
PCP	**Piancastagn**	**0.92**	**85**	Pg	**Pg**	**14 39 32.5**	**0.0**
	45nm,0.2s						
PCP				S	**Sb**	**14 39 43.7**	**-0.7**
LSD	**Lago del Serru**	**1.00**	**355**	Pg	**Pg**	**14 39 33.1**	**-0.9**
	36nm,0.2s						
LSD				S	**Sb**	**14 39 46.4**	**-0.3**
FRF	**La Foret Royal**	**1.01**	**206**	ePn	**Pn**	**14 39 34.2**	**0.0**
	SNR=1.0						
FRF				eSg	**Sg**	**14 39 46.3**	**-0.9**
	49nm,0.2s,SNR=1.0						
FRF				eSn	**Sn**	**14 39 48.2**	**+0.1**
	SNR=1.0						
FRF	**La Foret Royal**	**1.01**	**206**	ePn	**Pn**	**14 39 34.2**	**0.0**
	SNR=1.0						
FRF				eSg	**Sg**	**14 39 46.3**	**-0.9**
	25nm,0.2s,SNR=1.0						
FRF				eSn	**Sn**	**14 39 48.2**	**+0.1**
	SNR=1.0						
FRF	**La Foret Royal**	**1.01**	**206**	ePg	**Pg**	**14 39 33.5**	**-0.5**
FRF				ePn	**Pn**	**14 39 34.2**	**0.0**
FRF				eSg	**Sg**	**14 39 46.3**	**-0.9**
FRF				eSn	**Sn**	**14 39 48.2**	**+0.1**
ORIF	**Oris-en-Rattie**	**1.08**	**295**	ePn	**Pn**	**14 39 35.6**	**+0.3**
	SNR=1.0						
ORIF				eSg	**Sg**	**14 39 49.0**	**-0.7**
	34nm,0.2s,SNR=1.0						
ORIF	**Oris-en-Rattie**	**1.08**	**295**	ePg	**Pg**	**14 39 35.4**	**-0.2**
	SNR=1.0						
ORIF				eSg	**Sg**	**14 39 49.0**	**-0.7**
	17nm,0.2s,SNR=1.0						
ORIF	**Oris-en-Rattie**	**1.08**	**295**	ePg	**Pg**	**14 39 35.4**	**-0.2**
ORIF				ePn	**Pn**	**14 39 35.6**	**+0.3**
ORIF				eSg	**Sg**	**14 39 49.0**	**-0.7**
LPG	**La Plagne**	**1.09**	**341**	ePg	**Pg**	**14 39 35.7**	**-0.1**
LPG				eSg	**Sg**	**14 39 51.4**	**+1.3**
	19nm,0.3s						
LPG	**La Plagne**	**1.09**	**341**	ePg	**Pg**	**14 39 35.7**	**-0.1**
LPG				eSg	**Sg**	**14 39 51.4**	**+1.3**
	9.6nm,0.3s						
TRAV	**Traversella**	**1.10**	**18**	P	**Pb**	**14 39 34.6**	**-0.8**
TRAV				S	**Sb**	**14 39 47.9**	**-1.8**
LPL	**La Plagne**	**1.12**	**341**	ePg	**Pg**	**14 39 36.0**	**-0.2**
LPL				eSg	**Sg**	**14 39 51.0**	**+0.2**
	18nm,0.3s,SNR=1.0						
LPL	**La Plagne**	**1.12**	**341**	ePg	**Pg**	**14 39 36.0**	**-0.2**
LPL				eSg	**Sg**	**14 39 51.0**	**+0.2**
	9.2nm,0.3s,SNR=1.0						
LMR	**La Mourre**	**1.25**	**206**	ePg	**Pg**	**14 39 38.4**	**-0.4**
	SNR=1.0						
LMR				eSg	**Sg**	**14 39 54.0**	**-1.1**
	69nm,0.2s,SNR=1.0						
LMR	**La Mourre**	**1.25**	**206**	ePg	**Pg**	**14 39 38.4**	**-0.4**
	SNR=1.0						
LMR				eSg	**Sg**	**14 39 54.0**	**-1.1**
	34nm,0.2s,SNR=1.0						
LMR	**La Mourre**	**1.25**	**206**	ePn	**Pn**	**14 39 37.9**	**+0.3**
LMR				ePg	**Pg**	**14 39 38.4**	**-0.4**
LMR				eSg	**Sg**	**14 39 54.0**	**-1.1**
SMRF	**Simiane la Rot**	**1.31**	**249**	ePg	**Pg**	**14 39 40.5**	**+0.7**
	SNR=1.0						
SMRF				eSg	**Sg**	**14 39 56.6**	**-0.2**
	43nm,0.3s,SNR=1.0						
SMRF	**Simiane la Rot**	**1.31**	**249**	ePg	**Pg**	**14 39 40.5**	**+0.7**
	SNR=1.0						
SMRF				eSg	**Sg**	**14 39 56.6**	**-0.2**
	21nm,0.3s,SNR=1.0						
SMRF	**Simiane la Rot**	**1.31**	**249**	ePn	**Pn**	**14 39 39.0**	**+0.6**
SMRF				ePg	**Pg**	**14 39 40.5**	**+0.7**
SMRF				eSg	**Sg**	**14 39 56.6**	**-0.2**
VIVF	**Saint-Julien-l**	**1.89**	**283**	ePg	**Pg**	**14 39 50.4**	**-0.5**
VIVF				eSn	**Sn**	**14 40 09.6**	**-0.3**
	8.6nm,0.3s,SNR=1.0						
VIVF	**Saint-Julien-l**	**1.89**	**283**	ePg	**Pg**	**14 39 50.4**	**-0.5**
VIVF				eSn	**Sn**	**14 40 09.6**	**-0.3**
	4.3nm,0.3s,SNR=1.0						
VIVF	**Saint-Julien-l**	**1.89**	**283**	ePn	**Pn**	**14 39 47.6**	**+1.2**
VIVF				ePg	**Pg**	**14 39 50.4**	**-0.5**
VIVF				eSn	**Sn**	**14 40 09.6**	**-0.3**
PGF	**Pioggiola**	**2.29**	**146**	ePn	**Pn**	**14 39 51.8**	**-0.1**
PGF				eSg	**Sg**	**14 40 17.6**	**-11**
	3.8nm,0.2s						
CABF	**La Chapelle**	**2.30**	**339**	eP	**Pn**	**14 39 55.2**	**+3.2**
CABF				ePg	**Pg**	**14 39 58.1**	**-0.6**
LASF	**Ste Croix**	**2.48**	**262**	ePn	**Pn**	**14 39 55.0**	**+0.6**
	SNR=1.0						
LASF				eSn	**Sn**	**14 40 23.8**	**-0.6**
	2.6nm,0.2s,SNR=1.0						
LASF	**Ste Croix**	**2.48**	**262**	ePn	**Pn**	**14 39 55.0**	**+0.6**
	SNR=1.0						
LASF				eSn	**Sn**	**14 40 23.8**	**-0.6**
	1.3nm,0.2s,SNR=1.0						
SMF	**Signal de Mont**	**3.25**	**313**	ePn	**Pn**	**14 40 07.5**	**+2.5**
	SNR=1.0						
SMF				eSn	**Sn**	**14 40 40.7**	**-2.7**
	SNR=1.0						
SMF				eSg	**Sg**	**14 40 57.7**	**-1.1**
	2.8nm,0.4s,SNR=1.0						
SMF	**Signal de Mont**	**3.25**	**313**	ePn	**Pn**	**14 40 07.5**	**+2.5**
	SNR=1.0						
SMF				eSn	**Sn**	**14 40 40.7**	**-2.7**
	SNR=1.0						
SMF				eSg	**Sg**	**14 40 57.7**	**-1.1**
	1.4nm,0.4s,SNR=1.0						
HINF	**Hinteralfeld**	**3.37**	**355**	ePn	**Pn**	**14 40 08.1**	**+1.4**
	SNR=1.0						
HINF				eSn	**Sn**	**14 40 45.9**	**-0.4**
	1.4nm,0.3s,SNR=1.0						
HINF	**Hinteralfeld**	**3.37**	**355**	ePn	**Pn**	**14 40 08.1**	**+1.4**
	SNR=1.0						
HINF				eSn	**Sn**	**14 40 45.9**	**-0.4**
	0.7nm,0.3s,SNR=1.0						
AVF	**Avril sur Loir**	**3.60**	**312**	ePn	**Pn**	**14 40 11.1**	**+1.3**
	SNR=1.0						
AVF				eSn	**Sn**	**14 40 51.1**	**-0.9**
	1.2nm,0.2s,SNR=1.0						
AVF	**Avril sur Loir**	**3.60**	**312**	ePn	**Pn**	**14 40 11.1**	**+1.3**
	SNR=1.0						
AVF				eSn	**Sn**	**14 40 51.1**	**-0.9**
	0.6nm,0.2s,SNR=1.0						
HAU	**Haudompre**	**3.60**	**350**	ePn	**Pn**	**14 40 10.0**	**+0.1**
LOR	**Lormes**	**3.68**	**321**	ePg	**Pg**	**14 40 23.7**	**-1.3**
LOR				eSn	**Sn**	**14 40 53.2**	**-0.8**
	1.4nm,0.3s						
LOR	**Lormes**	**3.68**	**321**	ePg	**Pg**	**14 40 23.7**	**-1.3**
LOR				eSn	**Sn**	**14 40 53.2**	**-0.8**
	0.7nm,0.3s						
LOR	**Lormes**	**3.68**	**321**	ePn	**Pn**	**14 40 12.0**	**+1.1**
LOR				ePg	**Pg**	**14 40 23.7**	**-1.3**
LOR				eSn	**Sn**	**14 40 53.2**	**-0.8**
SSF	**Saint Saulge**	**3.69**	**316**	ePn	**Pn**	**14 40 12.3**	**+1.1**
	SNR=1.0						
CAF	**Calviac**	**3.73**	**279**	ePn	**Pn**	**14 40 13.1**	**+1.4**
	SNR=1.0						
BGF	**Bois d'Agland**	**3.74**	**306**	ePn	**Pn**	**14 40 13.6**	**+1.7**
	SNR=1.0						
MTLF	**Montolieu**	**3.81**	**255**	ePg	**Pg**	**14 40 25.9**	**-1.8**
MTLF				eSn	**Sn**	**14 40 55.7**	**-1.7**
	1.4nm,0.3s,SNR=1.0						
MTLF	**Montolieu**	**3.81**	**255**	ePg	**Pg**	**14 40 25.9**	**-1.8**
MTLF				eSn	**Sn**	**14 40 55.7**	**-1.7**
	0.7nm,0.3s,SNR=1.0						
CDF	**Champ du Feu**	**3.95**	**0**	ePn	**Pn**	**14 40 15.3**	**+0.6**
CDF				eSn	**Sn**	**14 40 59.9**	**-0.8**
	1.1nm,0.2s,SNR=1.0						
CDF	**Champ du Feu**	**3.95**	**0**	ePn	**Pn**	**14 40 15.3**	**+0.6**
CDF				eSn	**Sn**	**14 40 59.9**	**-0.8**
	0.6nm,0.2s,SNR=1.0						
TCF	**Toulx Ste Croi**	**4.00**	**299**	ePn	**Pn**	**14 40 17.3**	**+1.9**
	SNR=1.0						

*THR **07** 14:47:10.9±0.7,3954N×5200E,h15km,ML3.2*
*ISCJB **07** 14:47:11.5±0.7,3972N±006×521E±01,h33km,Error ellipse: s-maj=14.8km s-min=7.3km az=22.8*
*CSEM **07** 14:47:11.8±0.3,3942N×5199E,h10km,ML3.1,Error ellipse: s-maj=13.7km s-min=7.8km az=109.0*
ISC 07 14:47:13.8±0.7**,3968N**±006×**521E**±01**,h35**km**,n7,**σ**1ˢ16**/9**, 3C-1D,Caspian Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
GRMI	**Germi**	**3.34**	**256**	ePn	**Pn**	**14 48 04.0**	**+0.5**
GRMI				AML	AML	14 48 44.0	
	comp=N,46nm,0.2s						
GRMI				AML	AML	14 48 46.9	
	comp=E,38nm,0.2s						
MRVT	**Maraveh tapeh**	**3.75**	**121**	ePn	**Pn**	**14 48 09.7**	**+0.5**
CHTH	**Charan**	**3.83**	**191**	ePn	**Pn**	**14 48 09.8**	**-0.5**
ZNJK	**Zanjan**	**4.00**	**222**	ePn	**Pn**	**14 48 11.8**	**-0.9**
DAMV	**Damavand**	**4.04**	**181**	ePn	**Pn**	**14 48 12.9**	**-0.2**
DAMV				AML	AML	14 48 57.6	
	comp=N,87nm,0.6s						
AB31	**Akbulak array**	**11.11**	**28**	⇑Pn	**Pn**	**14 49 51.1**	**+1.0**
	comp=N,0.1nm,0.3s,baz=212,slow=13,SNR=5.6						
AB31				⇓Sn	**Sn**	**14 51 50.4**	**-2.5**
	comp=N,0.2nm,0.3s,baz=206,slow=25,SNR=12						
AKTO	**Aktyubinsk**	**11.55**	**19**	⇑Pn	**Pn**	**14 49 58.5**	**+2.5**
	comp=N,0.7nm,1.5s						
AKTO				⇑Sn	**Sn**	**14 52 03.2**	**-0.5**
	comp=N,0.4nm,0.8s						

*CSEM **07** 14:47:36.5±0.1,4673N×976E,h10km,ML2.6/9,Error ellipse: s-maj=1.4km s-min=1.2km az=166.0*
*VIE **07** 14:47:36.8±0.1,4677N×977E,h8km±1km,mb1.5/3, ML2.2/7,Error ellipse: s-maj=0.9km s-min=0.8km az=42.0*
*ISCJB **07** 14:47:36.4±0.3,4678N±002×973E±002,h8km±5km,Error ellipse: s-maj=3.5km s-min=2.4km az=18.8*
*ROM **07** 14:47:36.5±0.6,4679N×973E,h9km±3km,Md2.4/7, Ml1.7/5,Error ellipse: s-maj=10.4km s-min=3.5km az=175.0*
*ZUR **07** 14:47:37.0,4677N×974E,h6km±2km,ML2.1/7*
*LDG **07** 14:47:38.3±0.5,4667N×974E,h10km,Ml2.3/4,Error ellipse: s-maj=7.7km s-min=5.8km az=134.0*
*STR **07** 14:47:40.4±0.4,4687N×963E,h5km,Ml2.3,Error ellipse: s-maj=0.0km s-min=0.0km az=0.0*
ISC 07 14:47:37.3±0.3**,4677N**±002×**975E**±002**,h9**km±4km**,n31,** σ**0ˢ56**/53**,8C-8D,Switzerland**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
DAVOX	**Davos/Dischmat**	**0.09**	**81**	⇓iPg	**Pg**	**14 47 39.7**	**0.0**
	8µm,0.2s						
DAVOX				i Sg	**Sg**	**14 47 41.3**	**0.0**
	8µm,0.2s						
VDL	**Val di Lei**	**0.35**	**217**	⇑iPg	**Pg**	**14 47 44.1**	**-0.1**
	330nm,0.1s						
FUORN	**Ofenpass-Fuorn**	**0.38**	**112**	⇓iPg	**Pg**	**14 47 44.8**	**0.0**
	250nm,0.2s						
PLONS	**Plons/SG**	**0.38**	**318**	i Pg	**Pg**	**14 47 44.4**	**-0.4**
	147nm,0.1s						
PLONS				eSg	**Sg**	**14 47 49.5**	**-0.4**
	147nm,0.1s						
BERNI	**Berninapass**	**0.40**	**152**	⇓iPg	**Pg**	**14 47 45.2**	**+0.1**
	241nm,0.2s						
TUE	**Stuetta**	**0.41**	**224**	Pg	**Pg**	**14 47 45.0**	**-0.3**
TUE				Sg	**Sg**	**14 47 50.8**	**+0.2**
	33nm,0.2s						
BRMO	**Bormio**	**0.52**	**124**	Pg	**Pg**	**14 47 47.2**	**-0.2**
BRMO				Sg	**Sg**	**14 47 54.5**	**+0.4**
	23nm,0.2s						
LLS	**Linth-Limmern**	**0.52**	**279**	⇑iPg	**Pg**	**14 47 46.9**	**-0.5**
	49nm,0.2s						
DAVA	**Damuels**	**0.53**	**9**	⇑ePg	**Pg**	**14 47 47.4**	**-0.2**
	SNR=14						
DAVA				⇓iSg	**Sg**	**14 47 54.4**	**-0.1**
	44nm,0.2s						
FETA	**Feichten**	**0.72**	**69**	ePg	**Pg**	**14 47 50.7**	**-0.5**
	SNR=25						
FETA				⇓iSg	**Sg**	**14 48 00.7**	**+0.2**
	5.4nm,0.1s						
WILA	**Wila**	**0.87**	**319**	ePn	**Pn**	**14 47 54.3**	**-1.4**
	178nm,0.2s						
MABI	**Malga Bissina**	**0.89**	**143**	Pg	**Pg**	**14 47 54.1**	**-0.3**
MABI				Sg	**Sg**	**14 48 06.7**	**+0.8**
	9.0nm,0.2s						
RETA	**Reutte**	**1.00**	**43**	⇓iPg	**Pg**	**14 47 55.9**	**-0.6**
RETA				⇓iSg	**Sg**	**14 48 09.7**	**+0.3**
	6.3nm,0.1s						
APPI	**Appiano**	**1.06**	**105**	Pg	**Pg**	**14 47 57.4**	**-0.2**
APPI				Sg	**Sg**	**14 48 10.9**	**-0.5**
	18nm,0.3s						
MOTA	**Moosalm**	**1.09**	**57**	⇑ePg	**Pg**	**14 47 57.6**	**-0.7**
	SNR=9.3						
MOTA				⇓iSg	**Sg**	**14 48 12.6**	**+0.1**
	4.9nm,0.2s						
VAI	**Varese**	**1.13**	**218**	Pg	**Pg**	**14 47 58.5**	**-0.5**
	9.0nm,0.3s						
MAGA	**Magasa**	**1.16**	**148**	Pg	**Pg**	**14 47 59.8**	**+0.1**
MAGA				Sg	**Sg**	**14 48 15.6**	**+0.9**
	40nm,0.4s						
WTTA	**Wattenberg**	**1.38**	**68**	⇑iPn	**Pn**	**14 48 02.4**	**-0.3**
WTTA				⇑iPg	**Pg**	**14 48 03.2**	**-0.6**
WTTA				⇑iSn	**Sn**	**14 48 21.5**	**+0.4**
WTTA				⇑iSg	**Sg**	**14 48 22.4**	**+0.6**
	4.4nm,0.2s						
SPAK	**Spaichingen-Ko**	**1.49**	**334**	Pg	**Pg**	**14 48 06.2**	**+0.3**
FELD	**Feldberg im Sc**	**1.63**	**314**	Pg	**Pg**	**14 48 08.4**	**-0.1**
FELD				Sg	**Sg**	**14 48 29.3**	**-0.3**
BBS	**Basel-Blauen**	**1.68**	**295**	Pg	**Pg**	**14 48 09.9**	**+0.3**
BBS				Sg	**Sg**	**14 48 31.9**	**+0.5**
HINF	**Hinteralfeld**	**2.24**	**299**	ePn	**Pn**	**14 48 15.0**	**+0.5**
HINF	**Hinteralfeld**	**2.24**	**299**	ePg	**Pg**	**14 48 20.8**	**+0.6**
HINF				eSg	**Sg**	**14 48 50.0**	**+0.9**
	2.3nm,0.3s						
HINF	**Hinteralfeld**	**2.24**	**299**	ePg	**Pg**	**14 48 20.8**	**+0.6**
HINF				eSg	**Sg**	**14 48 50.0**	**+0.9**
	1.1nm,0.3s						
CDF	**Champ du Feu**	**2.35**	**315**	ePn	**Pn**	**14 48 16.5**	**+0.4**
CDF	**Champ du Feu**	**2.35**	**315**	ePg	**Pg**	**14 48 23.0**	**+0.6**
CDF				eSg	**Sg**	**14 48 55.0**	**+2.2**
	3.8nm,0.5s						
CDF	**Champ du Feu**	**2.35**	**315**	ePg	**Pg**	**14 48 23.0**	**+0.6**
CDF				eSg	**Sg**	**14 48 55.0**	**+2.2**
	1.9nm,0.5s						
CABF	**La Chapelle**	**2.53**	**268**	ePg	**Pg**	**14 48 25.0**	**-0.8**
CABF				eSg	**Sg**	**14 48 57.9**	**-0.6**
	3.3nm,0.3s						
CABF	**La Chapelle**	**2.53**	**268**	ePg	**Pg**	**14 48 25.0**	**-0.8**
CABF				eSg	**Sg**	**14 48 57.9**	**-0.6**
	1.6nm,0.3s						
HAU	**Haudompre**	**2.62**	**299**	eSg	**Sg**	**14 49 01.2**	**-0.4**
	6.7nm,0.3s						
HAU	**Haudompre**	**2.62**	**299**	eSg	**Sg**	**14 49 01.2**	**-0.4**
	3.3nm,0.3s						

IDC 07 15:01:38.5±9.3**,134S**×**13787E,h0**km**,mb3.6**/2**,mb1 3.8**/3**, mb1mx3.5**/14**,mbtmp3.6**/3**,ML3.5**/1**,Error ellipse: s-maj=418.4km s-min=27.3km az=83.0,Near north coast of Irian Jaya**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**18.81**	**190**	P	Pn	15 05 59.0	-1.2
	0.2nm,0.3s,baz=11,slow=12,SNR=15						
ASAR	**Alice Springs**	**22.53**	**190**	P	P	15 06 40.8	+0.7
	2.9nm,0.7s,baz=17,slow=12,SNR=41						
MKAR	**Makanchi Array**	**68.19**	**322**	P	P	15 12 40.9	+0.1
	0.2nm,0.4s,baz=106,slow=7.0,SNR=3.4						

*CSEM **07** 16:02:59.4±0.1,3783N×3057E,h2km,MD3.1,Error ellipse: s-maj=1.8km s-min=1.4km az=71.0*
*ISK **07** 16:03:00.1,3781N×3051E,h9km,MD3.0*
*ISCJB **07** 16:03:01.2±0.4,3781N±003×3058E±004,h10km,Error ellipse: s-maj=4.3km s-min=3.6km az=151.2*
*DDA **07** 16:03:01.4,3786N×3056E,h7km±6km,Md3.1*
ISC 07 16:03:01.1±0.6**,3782N**±003×**3059E**±004**,h3**km±5km**,n20,** σ**1ˢ07**/29**,Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TKTP	**Tekketepe**	**0.31**	**315**	i P	**Pg**	**16 03 06.4**	**-0.6**
TKTP				i S	**Sg**	**16 03 12.5**	**+1.4**
BCK	**Bucak**	**0.36**	**181**	ePG	**Pg**	**16 03 07.5**	**-0.5**
BCK				eSG	**Sg**	**16 03 13.1**	**+0.4**
SHUT	**Suhut-Afyon**	**0.73**	**357**	ePG	**Pg**	**16 03 14.3**	**-0.8**
SHUT				eSG	**Sg**	**16 03 25.9**	**+1.3**
ANTB	**Antalya**	**0.92**	**177**	ePG	**Pg**	**16 03 18.3**	**-0.4**
KHL	**Karahalli**	**0.98**	**301**	ePG	**Pg**	**16 03 18.6**	**-1.4**
GOLH	**Golhisar**	**1.01**	**235**	i P	**Pg**	**16 03 20.5**	**+0.1**
GOLH				i S	**Sg**	**16 03 35.8**	**+2.4**
DNZL	**Cakiroluk**	**1.23**	**264**	i P	**Pg**	**16 03 23.6**	**-1.1**
DNZL				i S	**Sg**	**16 03 42.0**	**+1.2**
ALT	**Altintas**	**1.29**	**343**	ePN	**Pn**	**16 03 24.3**	**-1.7**
KDHN	**Kadinhani**	**1.39**	**59**	i P	**Pn**	**16 03 28.9**	**+1.5**
KDHN				i S	**Sb**	**16 03 47.1**	**+1.4**
KONT	**Konya--Tatoy**	**1.40**	**84**	ePN	**Pn**	**16 03 27.3**	**-0.2**
LADK	**Ladik-KONYA**	**1.45**	**74**	ePN	**Pn**	**16 03 28.9**	**+0.7**
KIZT	**Kizilcal**	**1.46**	**43**	ePN	**Pn**	**16 03 28.1**	**-0.2**
GDZ	**Gediz**	**1.54**	**326**	i P	**Pn**	**16 03 28.6**	**-0.8**
GDZ				i S	**Sn**	**16 03 50.9**	**+1.1**
KULA	**Kula-Manisa**	**1.67**	**295**	ePN	**Pn**	**16 03 29.7**	**-1.6**
HDMB	**Hadim**	**1.73**	**119**	ePN	**Pn**	**16 03 32.1**	**0.0**
MANT	**Manisa**	**1.74**	**293**	i P	**Pn**	**16 03 30.9**	**-1.2**
MANT				i S	**Sn**	**16 03 56.6**	**+1.8**
DEMI	**Demirci**	**1.91**	**310**	i P	**Pn**	**16 03 33.2**	**-1.3**
DEMI				i S	**Sn**	**16 03 59.5**	**+0.4**
GULT	**Gulveren**	**2.61**	**359**	ePN	**Pn**	**16 03 43.6**	**-0.5**
YLV	**Yalova**	**2.90**	**341**	ePN	**Pn**	**16 03 47.4**	**-0.7**
IKL	**Isikli**	**2.93**	**122**	ePN	**Pn**	**16 03 49.0**	**+0.4**

IDC 07 16:17:26.9±60.0**,2185S**×**17787W,h0**km**,mb3.9**/3**, mb1 4.0**/3**,mb1mx3.7**/14**,mbtmp3.9**/3**,MS3.1**/1**,Ms1 3.1**/1**, ms1mx2.3**/25**,Error ellipse: s-maj=1095.0km s-min=171.3km az=85.0,Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
HNR	**Honiara**	**24.63**	**297**	LR	LR	16 31 14.9	
	comp=Z,41nm,18.3s,baz=143,slow=34						
STKA	**Stephens Creek**	**37.33**	**246**	P	P	16 24 40.1	-1.0
	1.5nm,0.8s,baz=72,slow=6.4,SNR=3.0						
ASAR	**Alice Springs**	**44.34**	**258**	P	P	16 25 39.2	+0.2
	1.0nm,0.8s,baz=100,slow=7.1,SNR=14						
WRA	**Warramunga Arr**	**44.55**	**263**	P	P	16 25 41.0	+0.2
	0.3nm,0.3s,baz=96,slow=8.3,SNR=44						

JMA 07 16:23:58.7,3743N×**13841E,h20**km±2km**,M2.0,Near west coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JIZZ	**Izumozaki**	**0.26**	**67**	P	Pb	16 24 04.8	+0.1
JJN	**Nakama**	**0.38**	**211**	P	Pb	16 24 06.6	-0.2
JJN				S	Sb	16 24 13.0	+0.8

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
JHK	**Hiroka**	**0.52**	**110**	P	Pb	16 24 08.3	-0.8
JHK				S	Sb	16 24 15.6	-0.5
JSD	**Sado**	**0.62**	**349**	P	Pb	16 24 10.4	-0.4
JSD				S	Sb	16 24 19.3	+0.3
JNS	**Sasagawa**	**0.82**	**61**	P	Pb	16 24 13.8	-0.4
MAT	**Matsushiro**	**0.90**	**190**	P	Pb	16 24 14.8	-0.8
MAT				S	Sb	16 24 26.9	-0.3
MAT	**Matsushiro**	**0.90**	**190**	P	Pb	16 24 15.0	-0.6
MAT				S	Sb	16 24 26.9	-0.3
JKT	**Katashina**	**0.94**	**134**	P	Pb	16 24 16.0	-0.3
JKT				S	Sb	16 24 28.2	-0.2

*ISCJB **07** 16:58:43.2±1.1, 19.75S±0.07×68.7W±0.2, h136km±12km, mb3.7/2, Error ellipse: s-maj=25.7km s-min=11.8km az=179.1*
*IDC **07** 16:58:43.5±1.6, 19.73S×68.70W, h128km±14km, mb3.7/2, mb1 3.6/6, mb1mx3.3/20, mbtmp3.4/6, Error ellipse: s-maj=33.1km s-min=14.5km az=91.0*
*NEIC **07** 16:58:44.7±0.9, 19.80S×68.57W, h138km±10km, Error ellipse: s-maj=16.9km s-min=12.9km az=71.0*
ISC 07 16:58:44.1±1.1**, 19.76S**±0.07×**68.7W**±0.2**, h132**km±12km**, n10,** σ**0s72**/12**, mb3.7**/2**, Chile-Bolivia border region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**2.85**	**184**	P	**Pn**	**16 59 28.4**	**-0.5**
	13nm,0.3s,baz=359,slow=8.4,SNR=112						
LVC				S	**Sn**	**16 59 56.5**	**-6.9**
	18nm,0.3s,baz=338,slow=9.0,SNR=10						
LVC	**Limon Verde**	**2.85**	**184**	P	**Pn**	**16 59 28.4**	**-0.5**
LVC				S	**Sn**	**16 59 56.5**	**-6.9**
LPAZ	**La Paz**	**3.49**	**9**	P	**Pn**	**16 59 38.1**	**+0.9**
	1.8nm,0.3s,baz=191,slow=8.2,SNR=66						
LPAZ				S	**Sn**	**17 00 18.0**	**-0.3**
	0.6nm,0.3s,baz=231,slow=18,SNR=2.5						
ARE	**Arequipa**	**4.23**	**320**	*e*P	**Pn**	**16 59 51.0**	**+4.0**
ARE				*e*S	**Sn**	**17 00 28.0**	**-7.9**
SIV	**San Ignacio**	**8.15**	**64**	P	**Pn**	**17 00 38.7**	**-0.9**
	1.7nm,0.3s,baz=263,slow=10,SNR=52						
CPUP	**Villa Florida**	**12.32**	**124**	P	**Pn**	**17 01 36.0**	**+0.9**
	0.3nm,0.3s,baz=295,slow=12,SNR=3.3						
TORD	**Torodi Ar. Bea**	**76.56**	**71**	P	**P**	**17 10 20.5**	**+0.1**
	0.5nm,0.5s,mb3.4,baz=250,slow=5.4,SNR=5.2						
YKA	**Yellowknife Ar**	**89.62**	**341**	P	**P**	**17 11 26.0**	**-0.3**
	1.4nm,0.7s,mb4.0,baz=129,slow=4.8,SNR=5.5						
ASAR	**Alice Springs**	**131.55**	**208**	PKP	PKPdf	17 17 41.5	-0.4
	0.1nm,0.5s,baz=141,slow=1.7,SNR=4.8						
WRA	**Warramunga Arr**	**134.56**	**211**	PKP	PKPdf	17 17 47.3	-0.3
	0.1nm,0.3s,baz=139,slow=1.5,SNR=7.8						

*ISCJB **07** 17:19:04.8±1.0, 7.4S±0.1×125.3E±0.1, h356km±12km, mb3.2/2, Error ellipse: s-maj=22.9km s-min=11.3km az=42.3*
*NEIC **07** 17:19:04.3±2.1, 7.39S×125.15E, h332km±27km, mb4.4/1, Error ellipse: s-maj=25.7km s-min=17.6km az=76.0*
*IDC **07** 17:19:06.5±1.9, 7.47S×125.18E, h358km±28km, mb2.9/2, mb1 2.9/5, mb1mx2.7/16, mbtmp2.8/5, Error ellipse: s-maj=51.4km s-min=19.0km az=59.0*
ISC 07 17:19:05.7±1.0**, 7.4S**±0.1×**125.4E**±0.1**, h346**km±12km**, n10,** σ**0s61**/14**, mb3.2**/2**, Banda Sea**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
BATI	**Baumata**	**3.28**	**211**	P	**Pn**	**17 20 08.1**	**+0.8**
	57nm,0.3s,baz=57,slow=1.2,SNR=179						
BATI				S	**S**	**17 20 56.7**	**-0.1**
	12nm,0.3s,baz=280,slow=1.1,SNR=4.2						
KAKA	**Kakadu**	**8.75**	**128**	*e*Pn	**Pn**	**17 21 08.7**	**-0.1**
KAKA				*e*S	**S**	**17 22 48.7**	**-0.7**
FITZ	**Fitzroy Crossi**	**10.66**	**179**	P	**Pn**	**17 21 30.8**	**-0.8**
	0.8nm,0.3s,baz=5.2,slow=11,SNR=44						
FITZ	**Fitzroy Crossi**	**10.66**	**179**	*e*Pn	**Pn**	**17 21 30.4**	**-1.2**
	7.6nm,0.4s						
WRA	**Warramunga Arr**	**15.22**	**146**	P	**P**	**17 22 23.4**	**+0.4**
	0.2nm,0.3s,baz=317,slow=14,SNR=19						
WRA				S	**S**	**17 25 06.9**	**+0.2**
	0.0nm,0.3s,baz=328,slow=20,SNR=4.1						
WB2	**Warramunga Arr**	**15.23**	**146**	*e*P	**P**	**17 22 23.6**	**+0.5**
ASAR	**Alice Springs**	**18.15**	**154**	P	**P**	**17 22 55.0**	**+0.5**
	0.2nm,0.3s,baz=330,slow=9.5,SNR=24						
ASAR				S	**S**	**17 26 12.7**	**+8.5**
	0.1nm,0.3s,baz=321,slow=21,SNR=5.3						
MJAR	**Matsushiro Arr**	**45.32**	**15**	P	**P**	**17 26 51.2**	**+0.8**
	0.6nm,0.6s,mb2.9,baz=181,slow=8.1,SNR=3.9						
MK31	**Makanchi Array**	**66.10**	**329**	P	**P**	**17 29 15.6**	**-0.9**
MKAR	**Makanchi Array**	**66.10**	**329**	P	**P**	**17 29 16.1**	**-0.4**
	0.4nm,0.5s,mb3.4,baz=123,slow=7.1,SNR=7.5						

*LDG **07** 17:24:23.1±0.5, 16.02S×167.65E, h10km, Mb4.1/2, Error ellipse: s-maj=70.4km s-min=39.2km az=36.0*
*ISCJB **07** 17:24:40.8±2.0, 16.08S±0.08×167.8E±0.1, h166km±14km, mb4.5/19, Error ellipse: s-maj=21.3km s-min=8.8km az=151.9*
*IDC **07** 17:24:41.0±2.6, 16.07S×167.84E, h152km±21km, mb4.2/14, mb1 4.2/14, mb1mx4.0/22, mbtmp4.2/14, Error ellipse: s-maj=20.2km s-min=15.7km az=82.0*
*NEIC **07** 17:24:44.6±1.9, 16.25S×167.65E, h172km±16km, mb4.5/11, Error ellipse: s-maj=16.0km s-min=12.4km az=79.0*
ISC 07 17:24:40.8±1.8**, 16.05S**±0.07×**167.8E**±0.1**, h153**km±13km**, n69,** σ**0s80**/38**, mb4.5**/19**, Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**6.13**	**192**	*e*P	**Pn**	**17 26 09.6**	**+0.3**
DZM				*e*S	**Sn**	**17 27 19.0**	**+0.6**
DZM	**Mont Dzumac**	**6.13**	**192**	*e*Pn	**Pn**	**17 26 09.6**	**+0.3**
DZM				*e*Sn	**Sn**	**17 27 17.9**	**-0.5**
HNR	**Honiara**	**10.12**	**310**	P	**Pn**	**17 27 07.0**	**+4.6**
	15nm,0.3s,baz=162,slow=7.0,SNR=16						
HNR				S	**Sn**	**17 28 53.6**	**-1.0**
	4.7nm,0.3s,baz=195,slow=10.0,SNR=2.2						
CTA	**Charters Tower**	**20.90**	**256**	*e*P	**P**	**17 29 12.2**	**+0.9**
	7.4nm,0.6s						
CTA				*e*		17 29 44.5	
CTA	**Charters Tower**	**20.90**	**256**	P	**P**	**17 29 12.2**	**+0.9**
	8.7nm,0.5s,baz=84,slow=11,SNR=37						
CTAO	**Charters Tower**	**20.90**	**256**	*e*P	**P**	**17 29 12.0**	**+0.7**
	9.8nm,0.6s						
CTAO				*e*		17 29 43.5	
URZ	**Urewera**	**23.59**	**162**	P	**P**	**17 29 38.1**	**+0.6**
	6.1nm,0.7s,mb4.2,baz=43,slow=3.7,SNR=5.0						
CNB	**Canberra Magne**	**25.32**	**217**	*e*P	**P**	**17 29 54.1**	**+0.8**
RPZ	**Rata Peaks**	**27.71**	**175**	P	**P**	**17 30 15.0**	**+0.3**
	6.8nm,0.6s,mb4.6,baz=310,slow=22,SNR=6.7						
STKA	**Stephens Creek**	**28.58**	**232**	*e*P	**P**	**17 30 23.0**	**+0.4**
	10nm,0.8s,mb4.6						
STKA	**Stephens Creek**	**28.58**	**232**	P	**P**	**17 30 23.1**	**+0.5**
	14nm,0.8s,mb4.8,baz=52,slow=7.7,SNR=23						
STKA				PcP	PcP	17 33 29.6	-0.5
	2.0nm,0.8s,baz=96,slow=2.3,SNR=3.7						
TOO	**Toolangi**	**29.14**	**218**	*e*P	**P**	**17 30 29.0**	**+1.6**
WRA	**Warramunga Arr**	**32.06**	**258**	P	**P**	**17 30 52.5**	**-0.9**
	4.4nm,0.5s,mb4.4,baz=83,slow=7.7,SNR=103						
WRA				PcP	PcP	17 33 39.0	-0.3
	0.7nm,0.7s,baz=84,slow=2.4,SNR=5.9						
WRA				ScP	ScP	17 37 08.9	+0.1
	1.3nm,0.8s,baz=89,slow=3.7,SNR=12						
ASAR	**Alice Springs**	**32.74**	**251**	P	**P**	**17 30 59.4**	**+0.1**
	31nm,0.5s,mb5.3,baz=78,slow=8.8,SNR=645						
ASAR				ScP	ScP	17 37 11.6	+0.5
	2.3nm,1.0s,baz=93,slow=3.9,SNR=11						
KAKA	**Kakadu**	**34.42**	**271**	*e*P	**P**	**17 31 13.2**	**-0.7**
	3.6nm,0.8s,mb4.2						
FORT	**Forrest**	**39.11**	**241**	*e*P	**P**	**17 31 53.5**	**+0.1**
	31nm,0.5s,mb5.2						
FITZ	**Fitzroy Crossi**	**40.33**	**261**	*e*P	**P**	**17 32 03.4**	**-0.2**
	16nm,0.4s,mb5.0						
FITZ	**Fitzroy Crossi**	**40.33**	**261**	P	**P**	**17 32 03.8**	**+0.2**
	12nm,0.6s,mb4.7,baz=90,slow=9.1,SNR=71						
BATI	**Baumata**	**43.34**	**272**	P	**P**	**17 32 29.6**	**+1.5**
	11nm,0.7s,mb4.6,baz=177,slow=4.2,SNR=6.0						
MBWA	**Marble Bar**	**45.74**	**256**	*e*P	**P**	**17 32 46.8**	**-0.3**
	22nm,0.8s,mb4.8						
KLBR	**Kellerberrin**	**47.95**	**242**	*e*P	**P**	**17 33 03.1**	**-1.0**
	5.3nm,0.4s,mb4.5						
NWAO	**Narrogin (SRO)**	**48.55**	**240**	P	**P**	**17 33 08.4**	**-0.3**
	21nm,0.9s,mb4.8,baz=95,slow=8.4,SNR=10						
MUN	**Mundaring**	**49.30**	**241**	*e*P	**P**	**17 33 14.4**	**0.0**
MJAR	**Matsushiro Arr**	**59.32**	**332**	P	**P**	**17 34 26.5**	**-0.1**
	2.0nm,0.7s,mb4.1,baz=176,slow=8.0,SNR=8.5						
CASY	**Casey**	**62.52**	**203**	*e*P	**P**	**17 34 46.9**	**-1.0**
	4.3nm,0.8s,mb4.3						
ASAJ	**Asahikawa**	**64.16**	**340**	P	**P**	**17 34 59.9**	**+1.0**
	4.6nm,0.6s,mb4.5,baz=153,slow=6.8,SNR=6.7						
CMAR	**Chiang Mai Arr**	**75.98**	**294**	P	**P**	**17 36 12.5**	**+1.0**
	0.7nm,0.7s,mb3.4,baz=130,slow=4.4,SNR=4.5						
MAW	**Mawson**	**80.87**	**202**	P	**P**	**17 36 37.7**	**+0.3**
	4.8nm,1.0s,mb4.1,baz=116,slow=3.2,SNR=6.3						
MAW	**Mawson**	**80.87**	**202**	*e*P	**P**	**17 36 37.5**	**0.0**
	11nm,1.3s,mb4.3						
SONM	**Songino Array**	**83.88**	**323**	P	**P**	**17 36 54.2**	**+0.9**
	1.2nm,0.8s,mb3.7,baz=144,slow=5.8,SNR=8.6						
SNAA	**Sanae**	**92.27**	**183**	*e*	**P**	**17 37 32.0**	**-1.1**
SNAA				*e*		17 37 34.0	
SNAA	**Sanae**	**92.27**	**183**	*e*P	**P**	**17 37 31.7**	**-1.4**
	3.8nm,0.9s,mb4.4						
VNA3	**Neumayer Olymp**	**92.91**	**181**	*e*	**P**	**17 37 34.9**	**-1.1**
VNA3				*e*		17 37 37.0	
VNA2	**Neumayer--Watz**	**93.19**	**182**	*e*	**P**	**17 37 36.5**	**-0.8**
	baz=180,slow=3.8						
VNA2				*e*		17 37 39.0	
VNA1	**Neumayer--Stat**	**93.48**	**181**	*e*	**P**	**17 37 37.7**	**-1.0**
VNA1				*e*		17 37 40.1	
ARCES	**ARCESS Array B**	**121.66**	**345**	PKP	PKPdf	17 43 15.2	-0.5
	0.9nm,0.4s,baz=76,slow=1.9,SNR=13						
CDF	**Champ du Feu**	**144.00**	**338**	*e*PKP1	PKPdf	17 43 56.2	-1.9
	3.3nm,0.6s						
HINF	**Hinteralfeld**	**144.65**	**338**	*e*PKP1	PKPdf	17 43 58.1	-1.1
	5.3nm,0.6s						
HAU	**Haudompre**	**144.67**	**338**	*e*PKP1	PKPdf	17 43 59.1	-0.2
	14nm,0.6s						
MEZF	**Maizieres J'vi**	**144.69**	**340**	*e*PKP1	PKPdf	17 43 58.7	-0.6
TUE	**Stuetta**	**144.77**	**334**	*e*PKPbc	PKPdf	17 43 59.0	-0.5
CABF	**La Chapelle**	**145.95**	**337**	*e*PKP1	PKPbc	17 44 03.0	+0.5
	5.4nm,0.6s						
FLN	**La Foliniere**	**146.00**	**346**	*e*PKP1	PKPbc	17 44 02.2	-0.3
	16nm,0.7s						
LDF	**La Druitiere**	**146.07**	**346**	*e*PKP1	PKPbc	17 44 02.4	-0.4
	9.0nm,0.6s						
LOR	**Lormes**	**146.16**	**340**	*e*PKP1	PKPbc	17 44 03.2	+0.1
	10nm,0.7s						
GRR	**Gorron**	**146.44**	**346**	*e*PKP1	PKPbc	17 44 03.7	-0.1
	11nm,0.7s						
SSF	**Saint Saulge**	**146.45**	**340**	*e*PKP1	PKPbc	17 44 04.2	+0.3
	11nm,0.6s						
LPL	**La Plagne**	**146.61**	**336**	*e*PKP1	PKPbc	17 44 05.1	+0.7
	5.8nm,0.6s						
LPG	**La Plagne**	**146.62**	**336**	*e*PKP1	PKPbc	17 44 05.2	+0.7
	7.1nm,0.7s						
SMF	**Signal de Mont**	**146.71**	**340**	*e*PKP1	PKPbc	17 44 04.4	-0.3
AVF	**Avril sur Loir**	**146.74**	**340**	*e*PKP1	PKPbc	17 44 04.2	-0.6
SGMF	**Saint Gilles**	**146.93**	**348**	*e*PKP1	PKPbc	17 44 04.9	-0.3
ROSF	**Rostrenen**	**146.98**	**349**	*e*PKP1	PKPbc	17 44 04.8	-0.6
BGF	**Bois d'Agland**	**147.11**	**341**	*e*PKP1	PKPbc	17 44 05.9	+0.1
	7.5nm,0.6s						
ORIF	**Oris-en-Rattie**	**147.45**	**336**	*e*PKP1	PKPbc	17 44 07.0	+0.2
	5.5nm,0.6s						
TCF	**Toulx Ste Croi**	**147.55**	**341**	*e*PKP1	PKPbc	17 44 07.0	0.0
	3.5nm,0.6s						
MFF	**Saint Martin d**	**147.93**	**344**	*e*PKP1	PKPbc	17 44 07.9	-0.1
	11nm,0.7s						
VIVF	**Saint-Julien-l**	**147.96**	**337**	*e*PKP1	PKPbc	17 44 08.7	+0.5
	5.7nm,0.8s						
PGF	**Pioggiola**	**147.96**	**330**	*e*PKP1	PKPbc	17 44 08.3	+0.1
FRF	**La Foret Royal**	**148.25**	**334**	*e*PKP1	PKPbc	17 44 09.0	+0.1
SMRF	**Simiane la Rot**	**148.35**	**335**	*e*PKP1	PKPbc	17 44 09.6	+0.4
	8.1nm,0.8s						
LMR	**La Mourre**	**148.49**	**333**	*e*PKP1	PKPbc	17 44 09.3	-0.3
LASF	**Ste Croix**	**148.93**	**337**	*e*PKP1	PKPbc	17 44 10.9	+0.2
	7.5nm,0.8s						
LFF	**La Frestale**	**149.21**	**342**	*e*PKP1	PKPbc	17 44 11.3	0.0
MTLF	**Montolieu**	**150.16**	**339**	*e*PKP1	PKPbc	17 44 13.6	-0.1
	3.6nm,0.7s						
EPF	**Esparros**	**151.06**	**341**	*e*PKP1	PKPbc	17 44 16.2	+0.4
	5.0nm,0.9s						
SJPF	**Ste Jean**	**151.45**	**343**	*e*PKP1	PKPbc	17 44 17.0	+0.3
	3.2nm,0.6s						
ETSF	**Etsaut**	**151.46**	**342**	*e*PKP1	PKPbc	17 44 17.3	+0.5
	4.6nm,0.5s						
TORD	**Torodi Ar. Bea**	**166.28**	**260**	PKP	PKPdf	17 44 28.0	-0.6
	0.6nm,0.8s,baz=359,slow=0.7,SNR=2.8						
TORD				PKPab	PKPab	17 45 30.3	-0.4
	0.8nm,0.7s,baz=107,slow=3.2,SNR=4.3						

*ISCJB **07** 17:27:30.6±0.8, 19.9N±0.1×95.93E±0.08, h10km, mb3.8/5, Error ellipse: s-maj=20.6km s-min=5.6km az=30.4*
*IDC **07** 17:27:30.0±1.5, 19.62N×95.63E, h0km, mb3.8/6, mb1 3.8/7, mb1mx3.5/24, mbtmp3.7/7, ML3.2/1, Error ellipse: s-maj=34.1km s-min=15.3km az=33.0*
*NEIC **07** 17:27:35.3±1.4, 19.74N×95.77E, h35km, Error ellipse: s-maj=42.7km s-min=8.7km az=218.0*
ISC 07 17:27:32.4±0.8**, 19.8N**±0.1×**95.81E**±0.08**, h10**km**, n15,** σ**1s09**/22**, mb3.8**/5**, Myanmar**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CHTO	**Chiang Mai**	**3.13**	**108**	*e*Pn	**Pn**	**17 28 20.8**	**-1.0**
CHTO				*e*Sn	**Sn**	**17 29 02.0**	**+2.7**
CM31	**Chiang Mai Arr**	**3.26**	**114**	*e*Pn	**Pn**	**17 28 24.5**	**+0.8**
CM31				*e*Sn	**Sn**	**17 29 04.2**	**+1.6**
CMAR	**Chiang Mai Arr**	**3.26**	**114**	Pn	**Pn**	**17 28 24.8**	**+1.1**
	0.7nm,0.3s,baz=285,slow=13,SNR=17						
CMAR				Pg	**Pg**	**17 28 32.5**	**-2.4**
	5.0nm,0.3s,baz=291,slow=16,SNR=50						
CMAR				Lg		17 29 13.4	
	7.2nm,0.3s,baz=289,slow=26,SNR=7.2						
CHRT	**Chiangrai**	**3.74**	**89**	PN	**Pn**	**17 28 31.0**	**+0.8**
CHRT				PG	**Pg**	**17 28 42.5**	**-1.6**
CHRT				SG	**Sg**	**17 29 27.0**	**-5.6**
BDT	**Bhumibol Dam**	**3.98**	**130**	PG	**Pg**	**17 28 48.0**	**-0.7**
BDT				SG	**Sg**	**17 29 35.0**	**-5.2**
NANT	**Nan**	**4.73**	**102**	PN	**Pg**	**17 29 02.5**	**-0.6**
NANT				SG	**Sg**	**17 30 04.0**	**-0.4**
MK31	**Makanchi Array**	**29.08**	**341**	*e*P	**P**	**17 33 32.1**	**-0.9**
MKAR	**Makanchi Array**	**29.08**	**341**	P	**P**	**17 33 33.2**	**+0.2**
	1.0nm,0.8s,mb3.6,baz=143,slow=11,SNR=9.0						
MKAR	**Makanchi Array**	**29.08**	**341**	P	**P**	**17 33 33.2**	**+0.2**
SONM	**Songino Array**	**29.22**	**15**	P	**P**	**17 33 35.8**	**+1.6**
	0.3nm,0.7s,baz=195,slow=10,SNR=2.6						
KURK	**Kurchatov**	**33.68**	**340**	P	**P**	**17 34 13.1**	**-0.4**
	1.1nm,0.5s,mb4.0,baz=148,slow=8.7,SNR=4.5						
ZALV	**Zalesovo Beam**	**35.08**	**349**	P	**P**	**17 34 25.9**	**+0.4**
	0.9nm,0.5s,mb3.9,baz=171,slow=10,SNR=5.6						
AKTK	**Aktyubinsk**	**42.69**	**325**	P	**P**	**17 35 29.1**	**-0.2**
AKTO	**Aktyubinsk**	**42.69**	**325**	P	**P**	**17 35 29.1**	**-0.2**
	0.7nm,0.4s,mb3.7,baz=130,slow=14,SNR=2.7						
GERES	**GERESS Array B**	**70.21**	**316**	P	**P**	**17 38 45.6**	**+0.1**
	0.4nm,0.5s,mb3.6,baz=78,slow=6.2,SNR=5.4						

*IDC **07** 18:21:55.8±2.6, 4.28S×153.09E, h0km, mb4.0/4, mb1 4.2/4, mb1mx3.7/16, mbtmp4.0/4, Error ellipse: s-maj=71.1km s-min=42.2km az=112.0*
NEIC 07 18:22:01.1±1.9**, 4.45S**×**153.15E, h35**km**, mb4.2**/4**, Error ellipse: s-maj=45.7km s-min=30.5km az=132.0, New Ireland region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**7.72**	**230**	*e*Pn	Pn	18 23 49.0	-2.1
	14nm,0.7s						
PMG				*e*Sn	Sn	18 25 07.5	-10
KAKA	**Kakadu**	**22.04**	**247**	*e*P	P	18 26 53.9	+0.9
	4.8nm,0.6s						
WB2	**Warramunga Arr**	**23.92**	**228**	*e*P	P	18 27 12.5	+0.4
WRA	**Warramunga Arr**	**23.93**	**228**	P	P	18 27 13.5	+1.4
	2.5nm,0.3s,baz=52,slow=9.8,SNR=56						
ASAR	**Alice Springs**	**26.64**	**222**	P	P	18 27 36.8	+0.1
	0.3nm,0.5s,baz=58,slow=9.1,SNR=7.9						
STKA	**Stephens Creek**	**29.36**	**200**	*e*P	P	18 28 01.6	+0.7
	1.9nm,0.6s						
STKA	**Stephens Creek**	**29.36**	**200**	P	P	18 28 01.4	+0.5
	2.3nm,0.5s,baz=33,slow=10.0,SNR=10						
STKA	**Stephens Creek**	**29.36**	**200**	*e*P	P	18 28 01.0	+0.1
	3.8nm,0.7s						
FITZ	**Fitzroy Crossi**	**30.13**	**241**	*e*P	P	18 28 08.4	+0.5
	1.8nm,0.4s						
FITZ	**Fitzroy Crossi**	**30.13**	**241**	P	P	18 28 08.3	+0.4
	1.6nm,0.6s,baz=68,slow=11,SNR=11						
MBWA	**Marble Bar**	**36.44**	**240**	*e*P	P	18 29 03.4	+0.5
	12nm,1.1s						
TORD	**Torodi Ar. Bea**	**150.53**	**289**	PKPbc	PKPbc	18 41 49.5	-0.9
	0.4nm,0.4s,baz=73,slow=2.1,SNR=9.2						

*IDC **07** 18:30:34.8±2.5, 12.23N×125.46E, h21km±15km, mb4.6/27, mb1 4.7/28, mb1mx4.7/30, mbtmp4.7/28, ML4.3/1, MS4.3/29, Ms1 4.3/29, ms1mx4.2/37, Error ellipse: s-maj=19.1km s-min=8.8km az=77.0*
*MOS **07** 18:30:34.7±0.9, 12.27N×125.51E, h33km, mb5.3/35, MS4.7/12, Error ellipse: s-maj=12.8km s-min=5.2km az=121.9*
*MAN **07** 18:30:34, 12.25N×125.51E, h7km, mb5.4, ML4.4, MS4.7*
MAN INTENSITY III - TACLOBAN CITY.
*ISCJB **07** 18:30:36.6±0.5, 12.29N±0.02×125.58E±0.03, h52km±4km, mb5.1/113, MS4.5/46, Error ellipse: s-maj=5.2km s-min=3.5km az=152.9*
*BJI **07** 18:30:40.6, 12.21N×125.44E, h95km, mB5.2, mb4.9*
*NEIC **07** 18:30:43.2±0.2, 12.19N×125.54E, mb5.0/44, Error ellipse: s-maj=6.0km s-min=3.7km az=69.0*
NEIC Felt [III PIVS] at Tacloban, Leyte.
*GCMT **07** 18:30:43.2±0.3, 12.54N×125.81E, h87km±4km, MW5.1/65, Moment Tensor Solution. s16,c18; s65,c89; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-2.95±.28; $M_{\theta\theta}$4.98±.19; $M_{\phi\phi}$-2.03±.20; $M_{r\theta}$-0.48±.17; $M_{\theta\phi}$2.43±.16; $M_{\phi r}$2.56±.12; Best double couple: $M_0$5.60700×10^{16} NP1:ϕ_s108.00000°, δ58.00000°, λ-35.00000°. NP2: ϕ_s218.00000°, δ61.00000°, λ-142.00000°. Principal axes: T 5.7520, Plg2.0000°, Azm342.0000°; N -0.2900, Plg44.0000°, Azm250.0000°; P -5.4620, Plg46.0000°, Azm74.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*DJA **07** 18:30:45, 12.39N×125.41E, h110km, Mw5.2/16*
ISC 07 18:30:38.6±0.4**, 12.26N**±0.02×**125.56E**±0.03**, h56**km±3km**, h72**km±11.4km**: pP-P, n348,** σ**0s99**/363**, mb5.1**/113**, MS4.5**/46**, 48C-26D, Samar**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CNP	**Catarman**	**0.92**	**286**	*e*P	**Pn**	**18 30 51.4**	**-4.0**
CNP				*e*S	**Sn**	**18 31 09.7**	**+2.0**
PLP	**Palo**	**1.23**	**208**	⇓*e*P	**Pn**	**18 30 57.0**	**-2.5**
PLP				*e*S	**Sn**	**18 31 14.0**	**-1.1**
OCLP	**Ormoc**	**1.52**	**218**	*e*P	**Pn**	**18 31 02.8**	**-0.7**
OCLP				*e*S	**Sn**	**18 31 26.3**	**+4.1**
MMPH	**Masbate**	**1.90**	**273**	⇑*i*P	**Pn**	**18 31 07.2**	**-1.4**
MMPH				*i* S	**Sn**	**18 31 31.7**	**+0.3**
PVCP	**Virac**	**1.92**	**314**	*e*P	**Pn**	**18 31 05.5**	**-3.3**
PVCP				*e*S	**Sn**	**18 31 37.3**	**+5.5**
MSLP	**Maasin**	**2.22**	**198**	*e*P	**Pn**	**18 31 13.5**	**+0.5**
MSLP				*e*S	**Sn**	**18 31 53.9**	**+15**
SCPH	**Surigao**	**2.46**	**182**	⇑*e*P	**Pn**	**18 31 14.7**	**-1.6**
LLP	**Lapu-Lapu**	**2.48**	**219**	⇑*i*P	**Pn**	**18 31 15.7**	**-0.9**
LLP				*e*S	**Sn**	**18 31 48.6**	**+2.9**
RCP	**Roxas**	**2.84**	**256**	⇑*e*P	**Pn**	**18 31 20.9**	**-0.7**
RCP				*e*S	**Sn**	**18 31 54.1**	**-0.5**
AUQP	**San Andres**	**3.01**	**291**	*e*P	**Pn**	**18 31 23.3**	**-0.5**
TBP	**Tagbilaran**	**3.05**	**213**	*e*P	**Pn**	**18 31 24.2**	**-0.2**
TBP				*e*S	**Sn**	**18 31 55.4**	**-4.2**
KALP	**Kalibo**	**3.21**	**260**	⇑*e*P	**Pn**	**18 31 25.7**	**-0.8**
BUTP	**Butuan**	**3.27**	**179**	*e*P	**Pn**	**18 31 27.9**	**+0.5**
BUTP				*e*S	**Sn**	**18 32 23.7**	**+19**
GUIM	**Jordan**	**3.34**	**241**	*e*P	**Pn**	**18 31 27.6**	**-0.6**
GUIM				*e*S	**Sn**	**18 32 12.3**	**+5.6**
GQP	**Guinayangan**	**3.45**	**299**	⇓*e*P	**Pn**	**18 31 27.4**	**-2.5**
GQP				*e*S	**Sn**	**18 32 11.3**	**+1.7**
OTRP	**Odiongan**	**3.46**	**272**	*e*P	**Pn**	**18 31 28.9**	**-1.1**
OTRP				*e*S	**Sn**	**18 32 12.4**	**+2.5**
CGP	**Cagayan de Oro**	**3.87**	**193**	⇓*e*P	**Pn**	**18 31 35.4**	**-0.2**
CGP				*e*S	**Sn**	**18 32 25.6**	**+5.7**
DCPH	**Dipolog City**	**4.25**	**211**	⇑*e*P	**Pn**	**18 31 40.6**	**-0.2**
DCPH				*i* S	**Sn**	**18 32 35.8**	**+6.6**
POLP	**Polilio Island**	**4.30**	**305**	*e*P	**Pn**	**18 31 43.4**	**+1.9**
SJMP	**San Jose**	**4.35**	**273**	*e*P	**Pn**	**18 31 42.1**	**0.0**
SJMP				*e*S	**Sn**	**18 32 31.7**	**+0.1**
BUKP	**Musuan**	**4.38**	**187**	*e*P	**Pn**	**18 31 43.9**	**+1.4**
BUKP				*e*S	**Sn**	**18 32 19.0**	**-13**
CUYO	**Cuyo Island**	**4.67**	**253**	*e*P	**Pn**	**18 31 46.3**	**-0.3**
CUYO				*e*S	**Sn**	**18 32 40.8**	**+1.3**
PAGZ	**Pagadian**	**4.88**	**206**	*e*P	**Pn**	**18 31 50.0**	**+0.6**
DAV	**Davao City (W)**	**5.15**	**180**	Pn	**Pn**	**18 32 01.2**	**+8.0**
	26nm,0.3s,baz=74,slow=18,SNR=2.8						
DAV				Sn	Sn	18 33 19.5	+28
	18nm,0.3s,baz=258,slow=20,SNR=3.6						
DAV				LR	LR	18 34 10.0	
	comp=Z,6μm,20.0s,baz=256,slow=42						
BALP	**Baler**	**5.20**	**312**	*e*P	**Pn**	**18 31 51.8**	**-2.0**
BALP				*e*S	**Sn**	**18 32 58.8**	**+6.4**
KCP	**Kidapawan**	**5.23**	**185**	⇑*e*P	**Pn**	**18 31 56.0**	**+1.6**
BUSP	**Coron**	**5.25**	**268**	*e*P	**Pn**	**18 31 54.0**	**-0.6**
MATI	**Mati**	**5.32**	**173**	*e*P	**Pn**	**18 31 57.4**	**+1.9**
MATI				*e*S	Sn	18 33 18.1	+23
LUBP	**Lubang**	**5.39**	**286**	*e*P	**Pn**	**18 31 58.8**	**+2.4**
PCPH	**Palayan**	**5.44**	**308**	⇑*e*P	**Pn**	**18 31 51.0**	**-6.2**
PCPH				*e*S	**Sn**	**18 32 52.9**	**-5.6**
NBP	**Mount Natib**	**5.58**	**297**	⇑*e*P	**Pn**	**18 31 59.6**	**+0.5**
NBP				*i* S	**Sn**	**18 33 02.5**	**+0.5**
PALP	**Palanan**	**5.66**	**328**	*e*P	**Pn**	**18 31 57.4**	**-2.8**
CAUP	**Cauayan**	**5.90**	**323**	*e*P	**Pn**	**18 32 01.3**	**-2.2**
CAUP				*e*S	**Sn**	**18 33 02.8**	**-7.0**
ENPP	**El Nido**	**6.10**	**261**	*e*P	**Pn**	**18 32 05.5**	**-0.7**
BCPH	**Baguio City Da**	**6.34**	**311**	⇑*e*P	**Pn**	**18 32 08.5**	**-0.9**
SCZP	**Santa Cruz**	**6.51**	**303**	*e*P	**Pn**	**18 32 14.0**	**+2.2**
CVP	**Callao Caves**	**6.51**	**327**	⇑*i*P	**Pn**	**18 32 11.4**	**-0.4**
ABRA	**Dolores**	**7.12**	**319**	*e*P	**Pn**	**18 32 18.1**	**-2.1**
ABRA				*e*S	**Sn**	**18 33 47.6**	**+7.9**
BATP	**Bataraza**	**8.37**	**247**	*e*P	**Pn**	**18 32 39.0**	**+1.7**
MYLDM	**Lahad Datu**	**9.91**	**225**	⇓P	**Pn**	**18 33 03.4**	**+5.0**
KDM	**Kudat**	**10.11**	**239**	⇓P	**Pn**	**18 33 07.0**	**+5.9**
SDKM	**Sandakan**	**10.56**	**232**	⇓P	**Pn**	**18 33 12.5**	**+5.2**
TSM	**Tawau**	**10.97**	**225**	⇓P	**Pn**	**18 33 21.5**	**+8.5**
KKM	**Kota Kinabalu**	**11.10**	**237**	⇓P	**Pn**	**18 33 18.4**	**+3.7**
KKM	**Kota Kinabalu**	**11.10**	**237**	*e*Pn	**Pn**	**18 33 18.4**	**+3.7**
NACB	**Ninganchiao**	**12.44**	**343**	*e*Pn	**Pn**	**18 33 36.8**	**+3.9**
JOW	**Kunigami**	**14.72**	**10**	Pn	**Pn**	**18 34 03.6**	**0.0**
	2.4nm,0.3s,baz=141,slow=18,SNR=5.5						
JOW				LR	LR	18 39 23.1	
	comp=Z,706nm,18.8s,baz=123,slow=36						
BTM	**Bintulu**	**15.28**	**235**	⇓P	**Pn**	**18 34 15.2**	**+4.2**
SBUM	**Sibu**	**16.42**	**235**	⇑P	**Pn**	**18 34 28.9**	**+3.4**
QIZ	**Qiongzhong**	**16.56**	**296**	P	**Pn**	**18 34 25.3**	**-1.9**
QIZ				S	**S**	**18 37 30.9**	**-8.4**
QIZ				AMB	AMB		
	comp=Z,12nm,1.1s						
QIZ				AMB	AMB		
	comp=Z,323nm,10.7s						
QIZ				LR	LR		
	comp=E,2μm,18.7s						
QIZ				LR	LR		
	comp=Z,3μm,19.9s						
QIZ	**Qiongzhong**	**16.56**	**296**	*e*Pn	**Pn**	**18 34 28.0**	**+0.7**
	comp=Z,18nm,1.1s						
KAPI	**Kappang**	**18.10**	**199**	P	**Pn**	**18 34 48.3**	**+2.0**
	comp=Z,255nm,1.1s,SNR=7.1						
KAPI	**Kappang**	**18.10**	**199**	P	**Pn**	**18 34 47.6**	**+1.3**
	SNR=9.9						
KAPI	**Kappang**	**18.10**	**199**	P	**Pn**	**18 34 47.0**	**+0.8**
	comp=Z,0.4nm,0.3s,baz=5.9,slow=7.4,SNR=9.8						
KAPI	**Kappang**	**18.10**	**199**	*e*P	**Pn**	**18 34 47.3**	**+1.0**
	comp=Z,46nm,1.1s						
KSM	**Kuching**	**18.53**	**236**	⇓P	**Pn**	**18 34 52.2**	**+0.7**
KSM	**Kuching**	**18.53**	**236**	*e*P	**Pn**	**18 34 51.9**	**+0.4**
GUMO	**Guam**	**18.86**	**84**	LR	LR	18 40 45.8	
	comp=Z,955nm,18.2s,baz=268,slow=32						
GUMO	**Guam**	**18.86**	**84**	*e*P	**Pn**	**18 34 55.8**	**+0.4**
GUMO				pmax	pmax		
	comp=Z,88nm,0.8s						
GUMO	**Guam**	**18.86**	**84**	*e*P	**Pn**	**18 34 55.8**	**+0.3**
	comp=Z,88nm,0.8s						
SSE	**Sheshan**	**19.18**	**349**	*e*P	**Pn**	**18 35 00.6**	**+1.5**
SSE				AP	pP	18 35 18.8	+8.8
SSE				PP		18 35 22.4	
SSE				S	**S**	**18 38 32.2**	**0.0**
SSE				XS	sS	18 38 57.8	+5.7
SSE				AMB	AMB		
	comp=Z,48nm,0.7s						
SSE				AMB	AMB		
	comp=Z,467nm,3.5s						
SSE				LR	LR		
	comp=N,116nm,19.2s						
SSE				LR	LR		
	comp=E,671nm,19.3s						
SSE				LR	LR		

comp=Z,521nm,20.4s
SSE Sheshan 19.18 349 *e*P **Pn** **18 35 00.6 +1.5**
comp=Z,48nm,0.7s
SSE pP pP 18 35 18.8 +8.8
SSE PP 18 35 22.4
SSE sP sP 18 35 30.9 +14
SSE S **S** **18 38 32.2 0.0**
SSE sS sS 18 38 57.8 +5.7
UBT Ubonrachathani 20.18 281 ⇑P **P** **18 35 09.0 +0.3**
NJ2 Nanjing 20.65 344 *e*P **P** **18 35 16.1 +2.5**
NJ2 AMB AMB
comp=Z,20nm,0.8s
WHN Wuhan 20.95 332 ⇓P **P** **18 35 17.5 +0.5**
WHN LR LR
comp=Z,3μm,14.3s,MS4.8
CBIJ Chichi jima 21.48 44 LR LR 18 42 09.0
comp=Z,808nm,18.5s,MS4.2,baz=174,slow=32
BATI Baumata 22.39 185 P **P** **18 35 32.2 -0.3**
comp=Z,82nm,0.5s,mb5.4,baz=278,slow=0.4,SNR=43
BATI S **S** **18 39 38.5 +3.0**
comp=Z,12nm,0.7s,baz=90,slow=20,SNR=5.1
BATI LR LR 18 44 06.5
comp=Z,596nm,19.5s,MS4.0,baz=196,slow=36
KKTK Khon Kaen 22.40 283 P **P** **18 35 30.5 -2.1**
comp=Z,926nm,0.9s,mb6.2
GYA Guiyang 22.71 311 ⇑*i*P **P** **18 35 34.4 -1.3**
GYA AP 18 35 56.7
GYA PP 18 36 07.8
GYA PCP PcP 18 39 25.6 -0.9
GYA S **S** **18 39 31.9 -8.5**
GYA SS 18 40 23.4
GYA SCP ScP 18 42 51.2 -8.4
GYA AMB AMB
comp=Z,20nm,1.0s,mb4.5
GYA AMB AMB
comp=Z,320nm,6.2s
GYA LR LR
comp=N,2μm,16.2s,MS4.7
GYA LR LR
comp=E,2μm,15.9s,MS4.7
GYA LR LR
comp=Z,2μm,15.8s,MS4.7
KTGM Kuala Trenggan 23.20 255 ⇓P **P** **18 35 40.5 -0.5**
MYKOM Kota Tinggi 23.90 246 ⇑P **P** **18 35 47.5 +0.1**
KGM Kluang 24.28 247 ⇑P **P** **18 35 51.6 +0.7**
JHJ Hachijo jima 2 24.51 30 LR LR 18 43 17.7
comp=Z,846nm,18.6s,MS4.3,baz=312,slow=31
KMI Kunming 25.07 304 P **P** **18 35 58.6 +0.6**
KMI AP pP 18 36 21.6 +10
KMI XP sP 18 36 33.3 +15
KMI PP 18 36 41.8
KMI S **S** **18 40 14.6 -4.1**
KMI AMB AMB
comp=Z,41nm,1.1s,mb4.9
KMI LR LR
comp=N,1μm,20.7s,MS4.6
KMI LR LR
comp=E,2μm,18.2s,MS4.6
KMI LR LR
comp=Z,2μm,16.7s,MS4.7
KMI Kunming 25.07 304 P **P** **18 35 58.6 +0.6**
KMI *SP sP 18 36 33.3 +15
KMI 18 36 41.8
KMI S **S** **18 40 14.6 -4.1**
KMI pmax pmax
comp=Z,41nm,1.1s,mb4.9
KMI MLR MLR
comp=Z,2μm,16.7s,MS4.7
KMI Kunming 25.07 304 P **P** **18 35 58.6 +0.6**
comp=Z,41nm,1.1s,mb4.9
KMI pP pP 18 36 21.6 +10
KMI sP sP 18 36 33.3 +15
KMI PP 18 36 41.8
KMI PPP 18 36 54.9
KMI S **S** **18 40 14.6 -4.1**
KMI SS 18 41 24.2
KMI SSS 18 41 44.0
KMI LR LR
comp=Z,2μm,16.7s,MS4.7
KSRS Korea Array 25.18 4 P **P** **18 35 58.4 -0.4**
comp=Z,12nm,0.9s,mb4.4,baz=182,slow=11,SNR=21
KSRS LR LR 18 45 33.0
comp=Z,392nm,21.5s,MS3.9,baz=190,slow=36
IPM Ipoh 25.46 254 ⇓P **P** **18 36 01.7 +0.1**
KULM Kulim 25.56 256 ⇑P **P** **18 36 03.8 +1.2**
KAKA Kakadu 25.73 164 *e*P **P** **18 36 02.8 -1.2**
comp=Z,21nm,0.4s,mb5.0
CM31 Chiang Mai Arr 26.38 287 *e*P **P** **18 36 09.7 -0.3**
comp=Z,37nm,0.7s,mb5.0
CMAR Chiang Mai Arr 26.38 287 P **P** **18 36 09.0 -0.9**
comp=Z,36nm,0.9s,mb4.9,baz=84,slow=7.5,SNR=25
CMAR PcP PcP 18 39 35.8 +1.2
comp=Z,3.5nm,1.0s,baz=112,slow=1.3,SNR=6.2
CMAR ScP ScP 18 43 14.1 +4.1
comp=Z,0.7nm,0.8s,baz=142,slow=2.8,SNR=4.5
CMAR LR LR 18 47 31.4
comp=Z,1μm,18.1s,MS4.4,baz=95,slow=39
CMAR Chiang Mai Arr 26.38 287 P **P** **18 36 09.0 -1.0**
CMAR 18 39 35.8
XAN Xi'an 26.46 328 P **P** **18 36 09.8 -0.7**
XAN PP 18 37 00.8
XAN S **S** **18 40 32.6 -7.9**
XAN AMB AMB
comp=Z,88nm,1.0s,mb5.2
XAN AMB AMB
comp=Z,263nm,7.4s
XAN LR LR
comp=N,354nm,14.8s,MS4.4
XAN LR LR
comp=E,673nm,13.9s,MS4.4
XAN LR LR
comp=Z,1μm,15.1s,MS4.6
MAJO Matsushiro 26.73 23 *e*P **P** **18 36 14.1 +1.3**
MAJO pmax pmax
comp=Z,3.0nm,0.7s,mb3.9
MAJO Matsushiro 26.73 23 *e*P **P** **18 36 14.1 +1.2**
comp=Z,3.0nm,0.7s,mb3.9
MJAR Matsushiro Arr 26.73 23 P **P** **18 36 13.4 +0.6**
comp=Z,1.1nm,0.9s,baz=215,slow=14,SNR=3.6
MJAR PcP PcP 18 39 36.0 +0.8
comp=Z,1.8nm,0.9s,baz=190,slow=4.0,SNR=4.1
MJAR LR LR 18 45 24.7
comp=Z,692nm,19.4s,baz=215,slow=33
MJAR Matsushiro Arr 26.73 23 P **P** **18 36 13.4 +0.6**
MJAR 18 39 36.0
DL2 Dalian 26.77 353 P **P** **18 36 16.5 +3.3**
DL2 AP pP 18 36 37.5 +10
DL2 *e*S **S** **18 40 48.2 +3.0**
DL2 SS 18 42 04.8
DL2 AMB AMB
comp=Z,40nm,0.9s,mb5.0
DL2 LR LR
comp=N,390nm,11.6s,MS4.3
DL2 LR LR
comp=E,510nm,15.0s,MS4.3
DL2 LR LR
comp=Z,450nm,13.6s,MS4.2
CD2 Chengdu 27.40 316 ⇑*i*P **P** **18 36 18.5 -0.4**
CD2 AP pP 18 36 40.0 +7.2
CD2 PP 18 37 11.4
CD2 S **S** **18 40 51.2 -4.1**
CD2 SS 18 42 17.2
CD2 AMB AMB
comp=Z,50nm,0.9s,mb5.0
CD2 AMB AMB
comp=Z,570nm,7.2s
CD2 LR LR
comp=N,2μm,20.4s,MS5.0
CD2 LR LR
comp=E,3μm,16.8s,MS5.0
CD2 LR LR
comp=Z,1μm,21.6s,MS4.4
BJI Beijing 28.89 345 P **P** **18 36 31.5 -0.6**
BJI S **S** **18 41 20.2 +1.6**
BJI XS sS 18 41 56.4 +14
BJI AMB AMB
comp=Z,23nm,0.9s,mb4.9
BJI LR LR
comp=N,681nm,17.5s,MS4.4
BJI LR LR
comp=E,440nm,14.0s,MS4.4
BJI LR LR
comp=Z,366nm,23.8s
BJI Beijing 28.89 345 P **P** **18 36 31.5 -0.6**
comp=Z,23nm,0.9s,mb4.9
BJI sP sP 18 37 06.0 +13
BJI S **S** **18 41 20.2 +1.6**
BJI sS sS 18 41 56.4 +14
BJI LR LR
comp=Z,370nm,23.8s,MS3.9
SNY Shenyang 29.51 357 ⇑P **P** **18 36 37.2 -0.4**
SNY S **S** **18 41 29.3 +1.0**
SNY AMB AMB
comp=Z,27nm,1.5s,mb4.8
SNY LR LR
comp=N,575nm,13.5s,MS4.5
SNY LR LR
comp=E,570nm,12.9s,MS4.5
SNY LR LR
comp=Z,514nm,13.2s,MS4.3
FITZ Fitzroy Crossi 30.16 180 ⇑*i*P **P** **18 36 42.9 -0.7**
comp=Z,30nm,1.1s,mb4.9
FITZ Fitzroy Crossi 30.16 180 P **P** **18 36 43.0 -0.6**
comp=Z,14nm,0.9s,mb4.7,baz=10.0,slow=10,SNR=30
PMG Port Moresby 30.39 134 *e*P **P** **18 36 43.7 -2.0**
PMG pmax pmax
comp=Z,19nm,1.2s
PMG Port Moresby 30.39 134 *e*P **P** **18 36 43.7 -2.0**
comp=Z,20nm,1.2s,mb4.7
LZH Lanzhou 30.77 324 *e*P **P** **18 36 49.8 +1.0**
LZH PP PP 18 37 56.0 -3.1
LZH PCP PcP 18 39 44.2 -1.0
LZH *e*S **S** **18 41 46.0 -2.2**
LZH SS SS 18 43 34.4 -27
LZH AMB AMB
comp=Z,81nm,1.4s,mb5.4
LZH AMB AMB
comp=Z,240nm,4.0s
LZH LR LR
comp=N,2μm,14.7s
LZH LR LR
comp=Z,3μm,16.5s,MS5.0
LZH Lanzhou 30.77 324 *e*P **P** **18 36 49.8 +1.0**
comp=Z,81nm,1.4s,mb5.4
LZH pP pP 18 37 04.4 +1.6
LZH sP sP 18 37 21.3 +12
LZH PcP PcP 18 39 44.2 -1.0
LZH *e*S **S** **18 41 46.0 -2.2**
LZH sS sS 18 42 22.3 +10
LZH SS SS 18 43 34.4 -27
LZH LR LR
comp=Z,3μm,16.5s,MS5.0
HHC Hu-ho-hao-te 31.03 339 *e*P **P** **18 36 51.1 +0.1**
HHC AP pP 18 37 15.6 +11
HHC XP sP 18 37 28.9 +17
HHC PP PP 18 37 58.1 -3.8
HHC PCP PcP 18 39 44.1 -1.7
HHC S **S** **18 41 47.7 -4.4**
HHC XS sS 18 42 30.9 +15
HHC SCP ScP 18 43 17.6 -6.5
HHC PCS PcS 18 43 26.1 -3.7
HHC SS SS 18 43 41.4 -25
HHC SCS ScS 18 47 11.5 -10
HHC AMB AMB
comp=Z,24nm,1.0s,mb5.0
HHC AMB AMB
comp=Z,178nm,5.6s
HHC LR LR
comp=N,494nm,12.5s,MS4.5
HHC LR LR
comp=E,584nm,13.9s,MS4.5
HHC LR LR
comp=Z,414nm,14.7s,MS4.2
COEN Coen 31.35 146 *e*P **P** **18 36 53.3 -0.8**
comp=Z,13nm,1.2s,mb4.6
WRA Warramunga Arr 33.14 165 P **P** **18 37 08.3 -1.4**
comp=Z,2.0nm,0.7s,mb4.2,baz=345,slow=9.0,SNR=27
WRA PcP PcP 18 39 52.3 +0.4
comp=Z,3.7nm,0.9s,baz=341,slow=3.2,SNR=7.6
WRA ScP ScP 18 43 34.7 +3.1
comp=Z,2.0nm,0.9s,baz=341,slow=3.8,SNR=5.5
WRA Warramunga Arr 33.14 165 P **P** **18 37 08.3 -1.4**
WRA 18 39 52.3
WB2 Warramunga Arr 33.14 165 *e*P **P** **18 37 09.0 -0.8**
MBWA Marble Bar 33.70 190 *e*P **P** **18 37 14.3 -0.3**
comp=Z,11nm,0.9s,mb4.8
SHL Shillong 34.39 298 *e*P **P** **18 37 20.0 -0.6**
GTA Gaotai 35.37 324 ⇑P **P** **18 37 29.5 +0.6**
GTA PCP PcP 18 39 59.3 +1.3
GTA S **S** **18 43 03.0 +3.5**
GTA SS SS 18 45 20.6 -15
GTA AMB AMB
comp=Z,28nm,1.3s,mb5.0
GTA AMB AMB
comp=Z,186nm,4.2s
GTA LR LR
comp=N,641nm,18.6s,MS4.5
GTA LR LR
comp=E,506nm,18.0s,MS4.5
GTA LR LR
comp=Z,828nm,17.4s,MS4.5
LSA Lhasa 36.33 304 P **P** **18 37 38.6 +1.3**
LSA AMB AMB
comp=Z,30nm,1.0s,mb5.2
LSA Lhasa 36.33 304 *e*P **P** **18 37 38.1 +0.8**
LSA pmax pmax
comp=Z,56nm,1.2s,mb5.4
LSA Lhasa 36.33 304 *e*P **P** **18 37 38.1 +0.8**
comp=Z,56nm,1.2s,mb5.4
ASAR Alice Springs 36.62 167 P **P** **18 37 39.3 -0.4**
comp=Z,1.9nm,0.3s,mb4.3,baz=340,slow=6.4,SNR=32
ASAR ScP ScP 18 43 46.8 +2.7
comp=Z,2.4nm,0.9s,baz=8.5,slow=1.9,SNR=8.8
HABR Khabarovsk 36.96 11 *e*P **P** **18 37 37.6 -4.7**
HABR *e* pP 18 37 47.0 -10
HABR *e* pP 18 37 52.2 -4.3
HABR *e*S **S** **18 43 21.7 -1.9**
HABR *e* 18 43 38.7
HABR *e* 18 45 57.4
HABR *e* 18 47 48.9
HIA Hailar 37.21 354 *e*P **P** **18 37 43.5 -1.0**
HIA pmax pmax
comp=Z,12nm,0.9s
HIA Hailar 37.21 354 *e*P **P** **18 37 43.5 -0.9**
comp=Z,12nm,0.9s,mb4.7
KLR Kul'dur 37.22 7 *e*P **P** **18 37 49.3 +4.8**
CTA Charters Tower 38.05 147 *e*P **P** **18 37 52.8 +1.0**
comp=Z,5.9nm,0.9s,mb4.3
CTA Charters Tower 38.05 147 P **P** **18 37 53.0 +1.1**
comp=Z,2.6nm,0.8s,mb4.0,baz=334,slow=11,SNR=4.4
CTA LR LR 18 55 48.5
comp=Z,373nm,18.9s,MS4.2,baz=332,slow=40
CTA Charters Tower 38.05 147 *e*P **P** **18 37 52.8 +1.0**
CTA pmax pmax
comp=Z,6.0nm,0.9s
CTAO Charters Tower 38.05 147 *e*P **P** **18 37 52.2 +0.4**
CTAO pmax pmax
comp=Z,17nm,1.2s,mb4.7
CTAO Charters Tower 38.05 147 *e*P **P** **18 37 52.2 +0.4**
comp=Z,17nm,1.2s,mb4.7
TAPN Taplejung 38.47 299 *e*P **P** **18 37 55.5 +0.1**
comp=Z,113nm,1.2s,mb5.5
ODAN Odare 38.62 298 *e*P **P** **18 37 56.6 -0.1**
comp=Z,167nm,1.0s,mb5.7
ULN Ulaanbaatar 38.73 340 P **P** **18 37 58.3 +1.0**
SNR=9.0
ULN Ulaanbaatar 38.73 340 *c i*P **P** **18 37 57.9 +0.6**
ULN Ulaanbaatar 38.73 340 *e*P **P** **18 37 57.7 +0.4**
comp=Z,25nm,1.1s,mb4.9
SONM Songino Array 38.93 339 P **P** **18 37 58.8 -0.1**
comp=Z,21nm,1.0s,mb4.8,baz=154,slow=5.8,SNR=85
SONM LR LR 18 55 04.1
comp=Z,500nm,19.2s,MS4.4,baz=151,slow=38
RAMN Ramite 39.33 298 *e*P **P** **18 38 02.8 +0.2**
comp=Z,158nm,0.9s,mb5.7
JIRN Jiri 39.86 299 *e*P **P** **18 38 07.2 +0.2**
comp=Z,136nm,1.0s,mb5.7
GUN Gumba 40.19 299 *e*P **P** **18 38 09.8 +0.1**
comp=Z,216nm,0.9s,mb5.9
HNR Honiara 40.39 121 LR LR 18 52 30.7
comp=Z,686nm,20.5s,MS4.5,baz=309,slow=32
PKI Pulchoki 40.51 298 *e*P **P** **18 38 11.7 -0.7**
comp=Z,141nm,1.0s,mb5.5
PKIN Phulchoki 40.52 298 *e*P **P** **18 38 11.9 -0.6**
KKN Kakani 40.67 298 *e*P **P** **18 38 13.4 -0.3**
comp=Z,177nm,1.1s,mb5.6
DMN Daman 40.78 298 *e*P **P** **18 38 14.2 -0.4**
comp=Z,156nm,1.0s,mb5.6
GKN Gorkha 41.27 299 *e*P **P** **18 38 17.9 -0.8**
comp=Z,171nm,1.1s,mb5.6
DANN Dangsing 42.11 299 *e*P **P** **18 38 25.2 -0.3**
comp=Z,226nm,1.0s,mb5.8
KOLN Koldanda 42.11 298 *e*P **P** **18 38 25.3 -0.3**
comp=Z,136nm,0.9s,mb5.6
ZAK Zakamensk 42.17 339 *e*P **P** **18 38 25.3 -0.4**
ZAK *e* 18 40 20.0
ZAK pmax pmax
comp=Z,4.0nm,1.3s,mb3.9
FORT Forrest 42.85 177 *e*P **P** **18 38 31.7 +0.3**
comp=Z,40nm,0.7s,mb5.2
TLY Talaya 43.14 340 *e*P **P** **18 38 33.9 +0.4**
TLY *e* 18 38 40.6
TLY *e* 18 40 29.0
TLY *e*S **S** **18 45 02.6 +6.8**
TLY pmax pmax
comp=Z,17nm,1.3s,mb4.6
TLY MLR MLR
comp=Z,221nm,18.0s,MS4.1
TLY Talaya 43.14 340 *e*P **P** **18 38 34.2 +0.7**
comp=Z,9.1nm,0.9s,mb4.5
KLBR Kellerberrin 44.23 190 *e*P **P** **18 38 37.9 -4.6**
comp=Z,42nm,1.2s,mb5.0
CLNS Chul'man 44.49 359 *e*P **P** **18 38 40.2 -4.0**
CLNS pmax pmax
comp=Z,21nm,1.0s,mb4.8
CLNS pmax pmax
comp=N,13nm,1.0s
CLNS pmax pmax
comp=E,8.0nm,1.1s
EIDS Eidsvold 44.91 146 *e*P **P** **18 38 53.5 +5.5**
WMQ Urumqi 45.25 321 ⇑*i*P **P** **18 38 51.3 +0.8**
WMQ AP pP 18 39 13.8 +8.8
WMQ PCP PcP 18 40 29.8 +0.1
WMQ PP PP 18 40 41.8 +4.7
WMQ S **S** **18 45 23.8 -2.9**
WMQ SCS ScS 18 48 35.8 -6.5
WMQ AMB AMB
comp=Z,24nm,1.2s,mb4.9
WMQ LR LR
comp=N,622nm,16.0s,MS4.8
WMQ LR LR
comp=E,662nm,17.0s,MS4.8
WMQ LR LR
comp=Z,771nm,17.0s,MS4.7
NWAO Narrogin (SRO) 45.63 190 *e*P **P** **18 38 52.9 -0.6**
NWAO pmax pmax
comp=Z,22nm,1.1s
NWAO Narrogin (SRO) 45.63 190 *e*P **P** **18 38 52.9 -0.6**
comp=Z,22nm,1.1s,mb5.0
HYB Hyderabad 45.65 282 *i* P **P** **18 38 54.0 0.0**
HYB Hyderabad 45.65 282 *e*P **P** **18 38 54.0 0.0**
JOSI Joshimath 46.18 301 *e*P **P** **18 38 58.1 +0.1**
BOD Bodaibo 46.32 351 *e*P **P** **18 38 58.4 -0.3**
BOD pmax pmax
comp=Z,8.0nm,1.1s,mb4.6
STKA Stephens Creek 46.49 161 *e*P **P** **18 39 00.8 +0.4**
comp=Z,12nm,0.9s,mb4.8
STKA Stephens Creek 46.49 161 P **P** **18 39 00.6 +0.3**
comp=Z,4.8nm,0.8s,mb4.5,baz=352,slow=5.3,SNR=9.4
STKA Stephens Creek 46.49 161 *e*P **P** **18 38 59.8 -0.6**
comp=Z,38nm,1.3s,mb5.2
HVS Khovu-Aksy 46.62 333 ⇓*i*P **P** **18 39 02.0 +0.8**
HVS pmax pmax
comp=Z,161nm,1.8s,mb5.7
AGRA Agra 46.95 296 *e*P **P** **18 39 03.0 -1.1**
AGRA AMb AMB 18 39 05.3
comp=Z,73nm,1.3s,mb5.4
ASOR Ausora 47.35 298 *e*P **P** **18 39 05.8 -1.4**
DDI Dehra Dun 47.40 300 *e*P **P** **18 39 06.2 -1.4**
NDI New Delhi 47.81 298 *ex* x 18 39 07.5
AYAN Aya Nagar 47.86 297 *e*P **P** **18 39 09.4 -1.8**
AYAN AMb AMB 18 39 11.9
comp=Z,54nm,1.0s,mb5.5
SONA Sohna 47.86 297 *e*P **P** **18 39 09.6 -1.6**
SONA AMb AMB 18 39 11.0
comp=Z,98nm,1.4s,mb5.7
PETK Petropavlovsk- 48.14 26 P **P** **18 39 14.2 +1.3**
comp=Z,8.8nm,1.0s,mb4.7,baz=211,slow=2.0,SNR=8.1
PETK LR LR 18 56 55.2
comp=Z,265nm,21.8s,MS4.2,baz=222,slow=33
SMLA Simla 48.31 301 ⇓*i*P **P** **18 39 14.9 +0.2**
PET Petropavlovsk 48.49 26 *e*P **P** **18 39 11.2 -4.4**
KHET Khetri 48.95 297 *e*P **P** **18 39 19.0 -0.6**
KHET AMb AMB 18 39 20.4
comp=Z,38nm,0.8s,mb5.5
YAK Yakutsk 49.78 3 *i*P **P** **18 39 25.0 -0.4**
YAK pmax pmax
comp=Z,17nm,1.1s,mb5.0
YAK pmax pmax
comp=N,16nm,1.2s
YAK Yakutsk 49.78 3 *e*P **P** **18 39 25.5 +0.1**
comp=N,25nm,1.0s,mb5.2
THN Thein Dam 49.79 302 *e*P **P** **18 39 24.1 -1.9**
MK31 Makanchi Array 50.04 322 ⇑*i*P **P** **18 39 28.2 +0.6**
MKAR Makanchi Array 50.04 322 P **P** **18 39 28.3 +0.7**
comp=N,28nm,0.9s,mb5.3,baz=118,slow=8.1,SNR=201
MKAR LR LR 19 00 39.6
comp=N,322nm,18.9s,MS4.3,baz=131,slow=36
MKAR Makanchi Array 50.04 322 P **P** **18 39 28.3 +0.7**
MKAR LR LR 19 00 39.6
POO Poona 50.12 284 *e*P **P** **18 39 27.0 -1.6**
KRAR Krasnoyarsk 50.47 337 *c i*P **P** **18 39 31.3 +0.7**
KRAR pmax pmax
comp=Z,39nm,2.0s,mb5.1
CNB Canberra Magne 52.41 155 *e*P **P** **18 39 45.5 +0.1**
ZAA0 Zalesovo Array 52.56 331 *e*P **P** **18 39 46.1 -0.2**
ZALV Zalesovo Beam 52.56 331 P **P** **18 39 45.7 -0.7**
comp=Z,12nm,0.9s,mb4.8,baz=112,slow=6.6,SNR=42
ZALV LR LR 19 03 46.9
comp=Z,261nm,18.1s,MS4.3,baz=331,slow=38
ZALV Zalesovo Beam 52.56 331 P **P** **18 39 45.7 -0.7**
ZALV LR LR 19 03 46.9
TKM2 Tokmak 2 52.77 315 ⇑*e*P **P** **18 39 48.9 +0.8**
TKM2 pmax pmax
comp=Z,12nm,1.0s,mb4.8
TKM2 Tokmak 2 52.77 315 P **P** **18 39 49.0 +0.9**
SNR=12
TKM2 Tokmak 2 52.77 315 ⇑*e*P **P** **18 39 48.9 +0.7**
comp=Z,12nm,1.0s,mb4.8
TOO Toolangi 52.98 160 *e*P **P** **18 39 51.4 +1.8**
KBK Karagaybulak 53.13 315 P **P** **18 39 52.0 +1.2**
SNR=17
UCH Uchtor 53.30 314 P **P** **18 39 53.9 +1.9**
SNR=37
UCH Uchtor 53.30 314 ⇑*e*P **P** **18 39 53.7 +1.7**
comp=Z,82nm,1.3s,mb5.5
CHMS Chumysh 53.38 315 P **P** **18 39 53.1 +0.5**
SNR=9.2
USP Ospenovka 53.65 315 P **P** **18 39 55.2 +0.7**
SNR=17
NVS Novosibirsk 53.84 331 ⇑*i*P **P** **18 39 54.8 -0.9**
NVS *e*S **S** **18 47 20.1 -6.3**
NVS pmax pmax
comp=Z,80nm,2.2s,mb5.3
NVS pmax pmax
comp=N,38nm,2.3s
NVS pmax pmax
comp=E,41nm,2.2s
NVS smax
comp=N,25nm,2.2s
AML Almayashu 53.85 314 P **P** **18 39 57.0 +1.0**
SNR=26
AML Almayashu 53.85 314 ⇑*e*P **P** **18 39 57.3 +1.3**
comp=N,47nm,1.2s,mb5.3
EKS2 Erkin-Say 53.95 314 P **P** **18 39 57.9 +1.1**
SNR=18
EKS2 Erkin-Say 53.95 314 *e*P **P** **18 39 57.5 +0.8**
comp=N,52nm,1.4s,mb5.3
KURK Kurchatov 54.05 325 P **P** **18 39 57.6 +0.2**
comp=N,39nm,0.9s,mb5.3,baz=120,slow=7.1,SNR=43
KURK LR LR 19 03 41.9
comp=N,226nm,18.8s,MS4.3,baz=160,slow=37
KBL Kabul 55.66 303 ⇑*i*P **P** **18 40 09.0 -0.2**
KBL pmax pmax
comp=Z,90nm,1.4s,mb5.6
KBL Kabul 55.66 303 ⇑*i*P **P** **18 40 09.0 -0.3**
comp=Z,90nm,1.4s,mb5.6

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
KK31	Karatay Array	56.38	314	iP	P	18 40 14.1	-0.1
KK31				pmax	pmax		
	comp=Z,38nm,1.1s,mb5.3						
VOSK	Vostochnaya	59.21	325	P	P	18 40 33.4	-0.5
VOSK				pmax	pmax		
	comp=Z,51nm,1.2s,mb5.4						
TIXI	Tiksi	59.39	1	eP	P	18 40 34.5	-0.4
TIXI				pmax	pmax		
	comp=Z,15nm,1.0s,mb5.0						
TIXI	Tiksi	59.39	1	eP	P	18 40 34.9	+0.1
	comp=Z,14nm,0.9s,mb5.0						
BVA0	Borovoye Array	59.65	325	iP	P	18 40 36.7	-0.3
BVA0				pmax	pmax		
	comp=Z,13nm,1.2s,mb4.8						
BVAR	Borovoye Array	59.65	325	P	P	18 40 37.3	+0.3
	comp=Z,32nm,0.9s,mb5.3,baz=115,slow=8.8,SNR=106						
BVAR				LR	LR	19 08 51.8	
	comp=Z,462nm,18.1s,MS4.7,baz=12,slow=38						
BRVK	Borovoye	59.72	325	P	P	18 40 38.3	+0.9
	SNR=28						
BRVK	Borovoye	59.72	325	eP	P	18 40 37.8	+0.3
ABKT	Ailbek	64.81	306	P	P	18 41 12.8	+1.0
	comp=Z,208nm,1.2s,mb6.0,SNR=20						
AB31	Akbulak array	64.93	319	iP	P	18 41 12.2	-0.2
AB31				pmax	pmax		
	comp=Z,70nm,1.3s,mb5.5						
SVE	Sverdlovsk	66.18	327	⇓eP	P	18 41 20.6	+0.4
SVE				ePPP		18 45 21.3	
SVE				eSS	SS	18 54 21.0	-0.2
SVE				pmax	pmax		
	comp=Z,57nm,1.1s,mb5.5						
SVE				MLR	MLR		
	comp=Z,581nm,19.0s,MS4.8						
AKTK	Aktyubinsk	66.37	320	P	P	18 41 21.8	+0.2
AKTK				LR	LR	19 12 09.7	
AKTO	Aktyubinsk	66.37	320	P	P	18 41 21.8	+0.2
	comp=Z,10nm,1.0s,mb4.8,baz=87,slow=8.0,SNR=22						
AKTO				LR	LR	19 12 09.7	
	comp=Z,326nm,19.4s,MS4.5,baz=314,slow=38						
ARU	Arti	67.20	326c	iP	P	18 41 26.4	-0.4
ARU				e		18 41 51.0	
ARU				e		18 43 53.6	
ARU				ePPP		18 45 32.1	
ARU				eS	S	18 50 23.8	+6.7
ARU				pmax	pmax		
	comp=Z,44nm,1.2s,mb5.4						
ARU				MLR	MLR		
	comp=Z,389nm,17.0s,MS4.7						
ARU	Arti	67.20	326	eP	P	18 41 26.5	-0.2
AFI	Afiamalu	67.32	111	LR	LR	19 04 34.3	
	comp=Z,238nm,20.9s,MS4.4,baz=52,slow=30						
RBK	Rabkut	68.83	284	P	P	18 41 37.7	0.0
	SNR=5.9						
WHFO	Wadi Hawf	69.19	285	⇓P	P	18 41 39.6	-0.3
	SNR=13						
RPZ	Rata Peaks	69.41	146	LR	LR	19 12 59.0	
	comp=Z,204nm,18.2s,MS4.4,baz=277,slow=37						
URZ	Urewera	69.60	139	LR	LR	19 10 41.4	
	comp=Z,190nm,18.6s,MS4.4,baz=148,slow=35						
ABTO	Aybut	69.70	284	P	P	18 41 43.0	-0.1
	SNR=9.2						
MAK	Makhachkala	73.04	311	eP	P	18 42 06.2	+3.4
MAK				e	pP	18 42 21.6	+3.3
MAK				eS	S	18 51 29.8	+3.8
MAK				pmax	pmax		
	comp=Z,355nm,1.9s,mb6.0						
UMR	Umm Al-Rimmam	73.57	297	eP	P	18 42 05.4	-0.9
	baz=297						
UMR				AMb	AMB	18 42 10.7	
	comp=Z,37nm,1.1s,mb5.2,baz=297						
RDF	Al-Radifah	73.77	297	eP	P	18 42 06.7	-0.8
	baz=297						
RDF				AMb	AMB	18 42 10.3	
	comp=Z,38nm,1.2s,mb5.2,baz=297						
NAY	Al-Naaiem	74.01	297	eP	P	18 42 07.3	-1.5
	baz=297						
NAY				AMb	AMB	18 42 08.6	
	comp=Z,26nm,1.2s,mb5.0,baz=297						
RST	Umm Al-Ruwaisa	74.20	297	eP	P	18 42 08.5	-1.4
	baz=297						
RST				AMb	AMB	18 42 09.9	
	comp=Z,34nm,1.3s,mb5.1,baz=297						
IMA2	Indian Mountai	75.13	25	eP	P	18 42 14.8	+0.3
GNI	Garni	75.23	309	⇓P	P	18 42 16.4	+0.7
	SNR=8.6						
GNI	Garni	75.23	309	P	P	18 42 16.7	+1.0
	comp=Z,5.0nm,0.8s,mb4.5,baz=174,slow=5.9,SNR=11						
GNI	Garni	75.23	309c	iP	P	18 42 16.8	+1.2
GNI				pmax	pmax		
	comp=Z,42nm,1.5s						
KDAK	Kodiak Island	75.39	33	P	P	18 42 17.4	+1.3
	comp=Z,5.5nm,0.6s,mb4.7,baz=299,slow=24,SNR=6.6						
KDAK	Kodiak Island	75.39	33	P	P	18 42 17.4	+1.3
BPAW	Bear Paw Mtn.	76.20	27	eP	P	18 42 21.6	+0.9
	comp=Z,17nm,1.1s,mb4.9						
KIV	Kislovodsk	76.50	313	⇑P	P	18 42 23.6	+0.8
	SNR=7.9						
KIV	Kislovodsk	76.50	313c	iP	P	18 42 23.2	+0.4
KIV				e	pP	18 42 35.6	-2.8
KIV				eS	S	18 52 11.2	+6.7
KIV				pmax	pmax		
	comp=Z,28nm,1.0s,mb5.2						
KIV				MLR	MLR		
	comp=Z,392nm,18.0s,MS4.8						
KIV	Kislovodsk	76.50	313	⇑iP	P	18 42 23.3	+0.5
KIV	Kislovodsk	76.50	313	eP	P	18 42 22.8	0.0
	comp=Z,38nm,1.1s,mb5.2						
KIV				⇑iP		18 42 23.2	
COLD	Coldfoot	76.56	23	eP	P	18 42 24.1	+1.5
	comp=Z,7.5nm,0.9s,mb4.6						
MCK	McKinley	77.11	27	eP	P	18 42 25.8	0.0
MCK				pmax	pmax		
	comp=Z,32nm,1.3s,mb5.1						
MCK	McKinley	77.11	27	eP	P	18 42 25.8	0.0
	comp=Z,32nm,1.3s,mb5.1						
KLMR	Klimovskoe	77.47	330	iP	P	18 42 27.7	-0.2
KLMR				pmax	pmax		
	comp=Z,67nm,1.5s,mb5.3						
VSR	Storozhevoye	78.31	320d	eP	P	18 42 32.6	-0.2
VSR				pmax	pmax		
	comp=Z,10.0nm,1.1s,mb4.7						
VSR				pmax	pmax		
	comp=N,9.0nm,1.2s						
VSR				pmax	pmax		
	comp=E,10.0nm,1.1s						
SOC	Sochi	78.68	312	eP	P	18 42 31.4	-3.6
SOC				i		18 45 35.9	
SOC				eS	S	18 52 29.3	+1.3
SOC				e		18 52 50.4	
SOC				pmax	pmax		
	comp=Z,391nm,17.6s						
SOC				MLR	MLR		
	comp=Z,381nm,17.0s,MS4.8						
MOS	Moscow	78.83	325	iP	P	18 42 34.1	-1.4
MOS				pmax	pmax		
	comp=Z,55nm,1.0s,mb5.4						
CASY	Casey	79.10	186	eP	P	18 42 36.1	-0.5
OBN	Obninsk	79.49	324κ	iP	P	18 42 39.4	+0.3
OBN				e		18 42 45.1	
OBN				e		18 52 48.8	
OBN				PS		18 53 43.0	
OBN				pmax	pmax		
	comp=Z,52nm,1.2s,mb5.3						
OBN				MLR	MLR		
	comp=Z,300nm,16.0s,MS4.7						
OBN	Obninsk	79.49	324	eP	P	18 42 38.7	-0.4
APA	Apatity	79.59	337	⇓iP	P	18 42 39.8	+0.3
APA				i		18 42 46.8	
APA				pmax	pmax		
	comp=Z,21nm,1.0s,mb5.0						
APA				MLR	MLR		
	comp=Z,1μm,17.0s,MS5.2						
ANN	Anapa	80.17	314	eP	P	18 42 41.7	-1.3
ANN				eS	S	18 52 50.8	+7.1
ANN				pmax	pmax		
	comp=Z,36nm,1.2s,mb5.2						
RAR	Rarotonga	80.48	114	LR	LR	19 13 29.1	
	comp=Z,170nm,19.4s,MS4.4,baz=274,slow=32						
JOF	Joensuu	81.12	332	ep	P	18 42 47.4	-0.4
	comp=Z,11nm,0.8s,mb4.8						
JOF	Joensuu	81.12	332	eP	P	18 42 47.4	-0.4
JOF				pmax	pmax		
	comp=Z,11nm,0.8s,mb4.8						
DAWY	Dawson	81.28	26	eP	P	18 42 47.6	-0.9
ARCES	ARCESS Array B	82.10	340	P	P	18 42 53.4	+0.6
	comp=Z,20nm,0.9s,mb5.0,baz=74,slow=6.8,SNR=23						
ARCES				LR	LR	19 23 17.0	
	comp=Z,188nm,18.4s,MS4.5,baz=270,slow=38						
ARE0	ARCESS Array S	82.10	340	eP	P	18 42 53.4	+0.5
ASF	Jabal al Asfar	82.47	301	P	P	18 42 56.6	+1.0
	comp=Z,16nm,1.0s,mb4.9,baz=12,slow=0.2,SNR=16						
SIM	Simferopol'	82.48	314	eP	P	18 42 56.0	+0.7
SIM				pmax	pmax		
	comp=Z,17nm,1.0s,mb4.9						
SIM				MLR	MLR		
	comp=Z,230nm,18.3s,MS4.6						
KAF	Kangasniemi	83.56	332	ep	P	18 43 00.2	-0.3
	comp=Z,16nm,1.0s,mb5.1,baz=73,slow=4.9						
KAF	Kangasniemi	83.56	332	eP	P	18 43 00.2	-0.3
KAF				pmax	pmax		
	comp=Z,16nm,1.0s,mb5.1						
MMAI	Mount Meron Ar	83.57	302	P	P	18 43 02.5	+1.4
	comp=Z,17nm,1.0s,mb5.1,baz=70,slow=4.9,SNR=8.0						
BR131	Keskin Array S	83.75	309	eP	P	18 43 01.0	-1.0
	comp=Z,1.4nm,0.6s,mb4.3						
AKASG	Malin Array Be	84.60	321	P	P	18 43 05.6	-0.5
	comp=Z,19nm,1.0s,mb5.2,baz=64,slow=4.8,SNR=52						
AKASG				LR	LR	19 24 50.9	
	comp=Z,223nm,21.4s,MS4.5,baz=120,slow=38						
AKASG	Malin Array Be	84.60	321	iP	P	18 43 05.5	-0.5
AKASG				pmax	pmax		
	comp=Z,19nm,1.0s						
AKASG	Malin Array Be	84.60	321	P	P	18 43 05.6	-0.5
AKASG				LR	LR	19 24 50.9	
AKBB	Malin Array Si	84.60	321	eP	P	18 43 05.4	-0.6
KIEV	Kiev	84.61	321	eP	P	18 43 05.1	-1.0
KIEV				pmax	pmax		
	comp=Z,27nm,1.1s,mb5.3						
KIEV	Kiev	84.61	321	eP	P	18 43 05.1	-1.0
	comp=Z,27nm,1.1s,mb5.3						
CSS	Prodhromos	84.89	305	eP	P	18 43 07.7	-0.1
	comp=Z,71nm,1.0s,mb5.8						
KIS	Kishinev	85.69	317	eP	P	18 43 11.0	-0.6
KIS				e		18 43 20.0	
KIS	Kishinev	85.69	317	eUNK	P	18 43 11.0	-0.6
TLCR		86.11	315	⇑iP	P	18 43 14.2	+0.5
TLCR		86.11	315	⇑P	P	18 43 14.2	+0.5
TIRR	Tirgusor	86.56	315	⇓iP	P	18 43 15.9	0.0
TIRR	Tirgusor	86.56	315	⇓P	P	18 43 15.9	0.0
HARR	Harsova	86.84	315	⇑iP	P	18 43 17.9	+0.6
HARR	Harsova	86.84	315	⇑P	P	18 43 17.9	+0.7
SUW	Suwalki	87.33	325	eP	P	18 43 19.5	+0.1
SUW	Suwalki	87.33	325	eP	P	18 43 18.9	-0.6
SUW				pmax	pmax		
	comp=Z,115nm,1.3s,mb6.0						
SUW	Suwalki	87.33	325	eP	P	18 43 18.9	-0.5
	comp=Z,115nm,1.3s,mb6.0						
VRI	Vrincioaia	87.37	316	⇑iP	P	18 43 21.3	+1.5
VRI	Vrincioaia	87.37	316	⇑P	P	18 43 21.3	+1.5
BURAR	Bucovina Array	87.91	318	⇓iP	P	18 43 23.2	+0.8
BURAR	Bucovina Array	87.91	318	⇓P	P	18 43 23.2	+0.8
BUR08	Bucovina Ar. S	87.91	318	eP	P	18 43 22.1	-0.3
MLR	Muntele Rosu	87.99	316	P	P	18 43 23.1	+0.3
	comp=Z,2.6nm,0.9s,mb4.5,baz=86,slow=6.8,SNR=7.0						
KMBO	Kilima Mbogo	88.59	269	P	P	18 43 26.7	+0.4
	comp=Z,4.9nm,1.1s,mb4.8,baz=53,slow=6.5,SNR=6.8						
KMBO				LR	LR	19 18 02.2	
	comp=Z,164nm,21.0s,MS4.4,baz=297,slow=32						
KMBO	Kilima Mbogo	88.59	269	P	P	18 43 26.7	+0.4
KMBO				LR	LR	19 18 02.2	
PPT	Papeete	88.84	108	eS	S	18 54 06.2	-4.8
	comp=Z,201nm,25.0s						
PPT	Papeete	88.84	108	eLR	LR	19 11 43.6	
	comp=Z,260nm,22.5s,baz=295						
PPT	Papeete	88.84	108	LR	LR	19 16 00.2	
	comp=Z,189nm,19.5s,MS4.5,baz=265,slow=31						
KWP	Kalwaria	88.92	321	⇑iP	P	18 43 28.3	+1.2
KWP	Kalwaria	88.92	321	⇑P	P	18 43 28.3	+1.2
KOLS	Kolonicke sedl	89.41	320	eP	P	18 43 28.5	-0.9
UZH	Uzhgorod	89.49	320	iP	P	18 43 30.0	+0.2
DRGR		89.78	318	⇑iP	P	18 43 30.5	-0.7
DRGR		89.78	318	⇑P	P	18 43 30.5	-0.7
STHS	Stebnicka Huta	89.90	321	iP	P	18 43 33.2	+1.5
STHS				pmax	pmax		
	comp=Z,4.0nm,1.1s,mb4.7						
STHS	Stebnicka Huta	89.90	321	iP	P	18 43 33.2	+1.5
	comp=Z,4.1nm,1.1s,mb4.7						
CRVS	Cervenica-Dubn	89.92	320	iP	P	18 43 32.7	+0.9
TBI	Tubuai	90.25	114	eLR	LR	19 12 29.7	
	comp=Z,290nm,25.0s						
OJC	Ojcow	90.52	322	eP	P	18 43 34.7	+0.2
NB2	NORSAR Subarra	90.68	334	P	P	18 43 34.0	-1.1
	comp=Z,3.2nm,0.8s,mb4.7,baz=63,slow=4.6						
NOA	NORSAR Array B	90.68	334	P	P	18 43 34.3	-0.8
	comp=Z,5.7nm,0.9s,mb4.9,baz=64,slow=4.8,SNR=14						
NOA				LR	LR	19 28 14.2	
	comp=Z,260nm,18.6s,MS4.7,baz=40,slow=38						
SANT	Santorini	90.80	307	eP	P	18 43 33.8	-2.3
	comp=Z,19nm,1.0s,mb5.4						
MAW	Mawson	91.32	200	P	P	18 43 36.7	-1.0
	comp=Z,3.5nm,1.0s,mb4.6,baz=314,slow=4.6,SNR=4.6						
VYHS	Vyhne	91.70	320	iP	P	18 43 40.3	+0.2
MORC	Moravsky Berou	92.03	322	eP	P	18 43 41.1	-0.5
MORC				pmax	pmax		
	comp=Z,14nm,1.7s,mb5.0						
MORC	Moravsky Berou	92.03	322	eP	P	18 43 41.1	-0.5
	comp=Z,14nm,1.7s,mb5.0						
YKA	Yellowknife Ar	92.23	24	LR	LR	19 23 56.1	
	comp=Z,32nm,19.4s,MS3.8,baz=150,slow=35						
DPC	Dobruska-Polom	92.55	323	eP	P	18 43 44.0	+0.1
DPC				AMS	AMS	19 28 10.0	
	comp=Z,200nm,22.7s						
UPC	Upice	92.67	323	eP	P	18 43 45.2	+0.7
TREC	Trest	93.45	322	eP	P	18 43 48.7	+0.5
PVCC	Panska Ves	93.51	323	eP	P	18 43 49.1	+0.7
BRG	Berggiesshubel	93.73	324	eP	P	18 43 49.3	-0.1
BRG				pmax	pmax		
	comp=Z,4.0nm,1.0s,mb4.8						
BRG	Berggiesshubel	93.73	324	eP	P	18 43 49.1	-0.3
BRG	Berggiesshubel	93.73	324	eP	P	18 43 49.2	-0.1
	comp=Z,5.8nm,1.0s,mb5.0						
PRU	Pruhonice	93.74	323	eP	P	18 43 49.3	-0.2
PRU				AMS	AMS	19 29 40.0	
	comp=Z,300nm,18.6s						
CLL	Collm	94.08	324	iP	P	18 43 50.7	-0.3
CLL				eS	S	18 54 47.0	-10
CLL				pmax	pmax		
	comp=Z,8.0nm,1.2s,mb5.0						
CLL				MLR	MLR		
	comp=Z,300nm,17.3s,MS4.8						
CLL	Collm	94.08	324	eP	P	18 43 50.7	-0.3
CLL	Collm	94.08	324	iP	P	18 43 50.7	-0.3
	comp=Z,8.0nm,1.2s,mb5.0						
CLL				eS	S	18 54 47.0	-10
CLL				ex	x	18 55 14.0	
CLL				Lm		19 26 00.0	
	comp=N,200nm,19.8s						
CLL				Lm		19 26 00.0	
	comp=E,100nm,19.8s						
CLL	Collm	94.08	324	iP	P	18 43 50.7	-0.3
	comp=E,8.0nm,1.2s,mb5.0						
CLL				e		18 44 24.0	
CLL				eS	S	18 54 47.0	-10
CLL				e		18 55 14.0	
CLL				LR	LR		
	comp=Z,300nm,17.3s,MS4.8						
KHC	Kasperske Hory	94.67	322	eP	P	18 43 54.0	+0.3
KHC	Kasperske Hory	94.67	322	eP	P	18 43 53.5	-0.2
GEC2	GERESS Array S	94.71	322	eP	P	18 43 54.3	+0.4
GERES	GERESS Array B	94.71	322	P	P	18 43 54.1	+0.1
	comp=Z,1.5nm,1.0s,mb4.4,baz=46,slow=3.9,SNR=9.0						
GERES				LR	LR	19 29 44.2	
	comp=Z,214nm,18.2s,MS4.7,baz=347,slow=38						
TANN	Tannenbergstha	94.78	324	eP	P	18 43 54.7	+0.5
NEUB	Neuenburg	94.82	325	eP	P	18 43 54.4	0.0
WERD	Werda	94.85	324	eP	P	18 43 54.8	+0.3
NKC	Novy Kostel	94.86	324	eP	P	18 43 54.6	0.0
GUNZ	Gunzen	94.88	324	eP	P	18 43 54.9	+0.3
WET	Wettzell	95.08	323	eP	P	18 43 55.8	+0.2
MOX	Moxa	95.16	324	eP	P	18 43 55.9	-0.1
MANZ	Manzenberg	95.17	324	eP	P	18 43 56.5	+0.5
ROTZ	Rotzenmuhle	95.21	323	eP	P	18 43 56.7	+0.5
GRA1	Grafenberg Arr	95.81	324	ePdif	P	18 43 59.8	+0.9
GRF	Grafenberg Arr	95.81	324	eP	P	18 43 59.8	+0.9
LPG	La Plagne	100.45	321	ePP	PP	18 48 25.2	-1.3
	comp=Z,20nm,1.2s						
LPL	La Plagne	100.45	321	ePP	PP	18 48 25.4	-1.1
	comp=Z,18nm,1.2s						
NVAR	Mina Array Bea	101.98	46	P	Pdif	18 44 29.4	+3.0
	comp=Z,0.2nm,0.3s,baz=309,slow=5.7,SNR=3.2						
RKT	Rikitea	103.31	111	eLR	LR	19 18 32.1	
	comp=Z,250nm,35.0s						
CCUT	Cedar City	105.84	45	ePKP	PKiKP	18 48 55.1	-1.4
ESDC	Sonseca Array	110.25	321	PP	PP	18 49 40.2	+1.3
	comp=Z,0.2nm,0.6s,baz=55,slow=7.7,SNR=7.4						
ANMO	Albuquerque	111.95	44	ePKIKP	PKiKP	18 49 07.5	-0.5
TORD	Torodi Ar. Bea	118.88	293	PKP	PKPdf	18 49 21.1	-0.7
	comp=Z,0.9nm,0.6s,baz=64,slow=2.8,SNR=6.9						
PLCA	Paso Flores	148.29	156	PKPbc	PKPbc	18 50 20.2	+1.3
	comp=Z,12nm,1.0s,baz=218,slow=3.8,SNR=16						
PLCA	Paso Flores	148.29	156	ePKPbc	PKPbc	18 50 17.6	-1.3
PLCA				ePKPab	PKPab	18 50 20.7	-1.3
SDV	Santo Domingo	153.54	38	ePKPbc	PKPbc	18 50 32.9	+0.9
NNA	Nana	158.09	92	ePKPdf	PKPdf	18 50 29.7	-0.6
LVC	Limon Verde	162.79	129	PKPdf	PKPdf	18 50 34.5	-0.7
CPUP	Villa Florida	165.74	169	PKP	PKPdf	18 50 38.8	+1.0
	comp=Z,0.3nm,0.3s,baz=115,slow=3.3,SNR=4.8						
LPAZ	La Paz	166.13	108	PKP	PKPdf	18 50 40.5	+2.2
	comp=Z,1.0nm,0.9s,baz=35,slow=4.8,SNR=5.1						
LPAZ	La Paz	166.13	108	ePKPdf	PKPdf	18 50 38.9	+0.6
SIV	San Ignacio	172.57	121	PKP	PKPdf	18 50 43.0	+0.7
	comp=Z,3.0nm,1.0s,baz=187,slow=1.7,SNR=9.2						

IDC 07 18:42:09.0±2.0**,223N**×**12598E,h0km,mb3.1**/3**,mb1 3.3**/3**, mb1mx3.2**/16**,mbtmp3.1**/3**,MS3.9**/1**,Ms1 3.9**/1**, ms1mx2.8**/15**,Error ellipse: s-maj=183.0km s-min=24.7km az=65.0,Talaud Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	Davao City (W)	4.83	355	LR	LR	18 45 17.0	
	comp=Z,1μm,18.0s,baz=206,slow=39						
WRA	Warramunga Arr	23.51	160	P	P	18 47 20.5	-0.4
	0.2nm,0.3s,baz=338,slow=10,SNR=8.6						
ASAR	Alice Springs	26.87	164	P	P	18 47 51.9	+0.4
	0.2nm,0.7s,baz=354,slow=8.4,SNR=3.5						
MKAR	Makanchi Array	58.37	326	P	P	18 52 06.1	0.0
	0.1nm,0.5s,baz=126,slow=7.5,SNR=3.1						

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*ISK **07** 18:46:30.9,3834N×3920E,h5km,MD2.7*
*DDA **07** 18:46:30.6,3832N×3925E,h5km±2km,Md2.9*
*CSEM **07** 18:46:30.8±0.2,3834N×3925E,h8km,MD2.7,Error ellipse: s-maj=5.1km s-min=4.1km az=117.0*
*ISCJB **07** 18:46:31.7±0.6,3832N±004×3926E±004,h7km±6km, Error ellipse: s-maj=6.5km s-min=5.6km az=10.3*
ISC 07 18:46:32.0±0.6**,3834N**±004×**3926E**±004**,h12km**±5km**,n8, σ0s97**/15**,Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SVRC	Sivrice-ELAZID	0.05	45	PG	Pg	18 46 33.2	-1.1
SVRC				SG	Sg	18 46 34.9	-1.1
ELZG	Elazig	0.27	306	iP	Pg	18 46 37.1	-0.4
ELZG				iS	Sg	18 46 42.2	+1.0
PTK	Pertek	0.56	11	ePG	Pg	18 46 42.4	-0.5
PTK				eSG	Sg	18 46 52.3	+2.0
MYA	Malataya	0.66	269	ePG	Pg	18 46 43.8	-0.9
DIYA	Diyarbakir	0.80	121	iP	Pg	18 46 47.5	+0.1
DIYA				iS	Sg	18 46 59.3	+1.5
URFA	Urfa	0.96	201	ePG	Pg	18 46 50.3	-0.2
URFA				eSG	Sg	18 47 04.3	+1.2
AKCD	Akcadag	1.05	268	iP	Pb	18 46 48.0	-4.1
AKCD				iS	Sb	18 47 05.9	0.0
MARD	Mardin	1.58	130	iP	Pn	18 46 59.6	-0.2
MARD				iS	Sn	18 47 19.2	-0.9

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*NEIC **07** 19:52:04.4±1.7,344S×10170E,h35km,mb4.2/1,Error ellipse: s-maj=84.7km s-min=11.3km az=53.0*
NEIC Felt [III] at Muaraaman.
*ISCJB **07** 19:52:09.5±1.5,29S±0.1×1025E±0.1,h82km±12km, mb3.8/9,Error ellipse: s-maj=27.0km s-min=10.5km az=37.7*
*DJA **07** 19:52:12,293S×10221E,h10km,MLv4.3/5*
*IDC **07** 19:52:25.0±16.0,350S×10180E,h234km±156km,mb3.1/8, mb1 3.2/8,mb1mx3.1/19,mbtmp3.1/8,MS3.0/1,Ms1 3.0/1, ms1mx2.3/33,Error ellipse: s-maj=110.2km s-min=14.0km az=59.0*
ISC 07 19:52:10.1±1.6**,30S**±01×**1024E**±01**,h68km**±13km**,n25, σ1s02**/24**,mb3.8**/9**,Southern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSI	Kapahiang	0.71	166	P	Pn	19 52 15.8	-9.2
	0.0nm,0.0s						
KSI	Kapahiang	0.71	166	P	Pn	19 52 16.7	-8.3
JMBI	JAMBI	1.80	43	P	Pn	19 52 39.7	+0.7
	0.0nm,0.0s						
JMBI	JAMBI	1.80	43	P	Pn	19 52 45.1	+6.1
RGRI	Rengat	2.60	358	P	Pn	19 52 49.8	0.0
	0.0nm,0.0s						
PDSI	Padang	2.83	316	P	Pn	19 52 52.4	-0.5
	0.0nm,0.0s						
PDSI	Padang	2.83	316	P	Pn	19 52 54.7	+1.8
PPI	Padang Panjang	3.21	321	P	Pn	19 52 57.3	-0.8
	0.0nm,0.0s						
PPI	Padang Panjang	3.21	321	P	Pn	19 53 01.6	+3.5
PPBI	Pangkal Pinang	3.80	78	P	Pn	19 53 05.9	-0.3
	0.0nm,0.0s						
MYKOM	Kota Tinggi	4.93	17	P	Pn	19 53 22.6	+0.9
TPI	Tanjungpandan	5.23	88	P	Pn	19 53 24.4	-1.4
	0.0nm,0.0s						
CBJI	Citeko	5.59	128	P	Pn	19 53 37.8	+7.0
	112nm,1.3s,0.7nm						
CMAR	Chiang Mai Arr	21.56	351	P	P	19 57 00.9	+6.8
	0.4nm,0.6s,mb2.9,baz=180,slow=8.1,SNR=4.0						
FITZ	Fitzroy Crossi	27.28	125	LR	LR	20 10 07.7	
	comp=Z,33nm,20.4s,baz=156,slow=39						
WRA	Warramunga Arr	35.42	121	P	P	19 59 00.5	+0.6
	0.3nm,0.4s,mb3.4,baz=306,slow=8.4,SNR=7.4						
WB2	Warramunga Arr	35.44	121	eP	P	19 58 59.4	-0.6
ASAR	Alice Springs	36.74	127	P	P	19 59 11.5	+0.4
	1.1nm,0.7s,mb3.9,baz=297,slow=7.6,SNR=9.2						
STKA	Stephens Creek	46.71	132	P	P	20 00 33.5	+1.1
	1.3nm,0.7s,mb3.8,baz=310,slow=7.8,SNR=3.4						
SONM	Songino Array	50.70	3	P	P	20 01 05.6	+2.9
	0.9nm,0.5s,mb4.0,baz=183,slow=10.0,SNR=8.7						
EKS2	Erkin-Say	52.28	333	eP	P	20 01 12.7	-1.9
	2.4nm,0.8s,mb4.3						
MK31	Makanchi Array	52.63	343	eP	P	20 01 16.7	-0.4
MKAR	Makanchi Array	52.63	343	P	P	20 01 17.1	0.0
	0.8nm,0.7s,mb3.9,baz=153,slow=9.0,SNR=7.3						
KURK	Kurchatov	57.23	342	P	P	20 01 49.3	-1.0
	0.8nm,0.6s,mb3.9,baz=158,slow=7.2,SNR=3.6						
ZALV	Zalesovo Beam	58.58	348	P	P	20 01 59.6	0.0
	1.5nm,0.7s,mb4.1,baz=178,slow=4.5,SNR=5.3						

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*BJI **07** 19:57:43.3,3021N×13182E,h40km,mB4.7,mb4.3*
*ISCJB **07** 19:57:44.3±0.6,3100N±004×13195E±005,h47km±6km, mb4.1/18,MS3.5/2,Error ellipse: s-maj=7.7km s-min=5.5km az=27.1*
*JMA **07** 19:57:44.6±0.1,3100N×13193E,h50km±2km,M4.1*
*NEIC **07** 19:57:46.0±0.9,3100N×13178E,h40km±10km,mb4.3/4, Error ellipse: s-maj=9.8km s-min=6.9km az=86.0*
*IDC **07** 19:57:46.8±0.9,3098N×13166E,h43km±7km,mb3.8/13, mb1 4.0/15,mb1mx3.8/27,mbtmp3.8/15,ML3.5/3,MS3.5/2, Ms1 3.5/2,ms1mx2.7/38,Error ellipse: s-maj=18.8km s-min=10.7km az=86.0*
ISC 07 19:57:45.9±0.6**,3099N**±003×**13187E**±005**,h40km**±7km**, h46km**±.9km**:pP-P,n39,σ0s82**/47**,mb4.1**/18**,MS3.5**/2**,10C, Kyushu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNAR	Kushima--Naru	0.74	316	⇑P	Pn	19 57 59.4	-0.4
JNAR				eS	Sn	19 58 10.4	+0.5
JTSR	Tashiro 2	0.83	282	⇑P	Pn	19 58 00.7	-0.4
JTN	Tanegashima 3	0.84	246	⇑P	Pn	19 58 01.0	-0.2
JTN				S	Sn	19 58 13.5	+1.2
JTZ	Takazaki	1.12	324	⇑P	Pn	19 58 04.6	-0.5
JTZ				S	Sn	19 58 19.7	+0.3
JTSN	Tsuno	1.29	346	⇑P	Pn	19 58 06.6	-0.7
JTSN				S	Sn	19 58 22.8	-0.6
JSU	Suzuyama	1.31	293	⇑P	Pn	19 58 07.9	+0.2
JKC	Kuchinoerabu	1.54	250	⇑P	Pn	19 58 10.8	0.0
JKC				S	Sn	19 58 30.2	+0.7
JZO	Okuchi	1.58	317	⇑P	Pn	19 58 11.2	-0.1
JZO				eS	Sn	19 58 31.1	+0.6
JIU2	Izumi 2	1.79	330	⇑P	Pn	19 58 14.4	+0.1

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
JIU2				S	Sn	19 58 35.6	-0.1
JSJ	**Shimokoshiki**	**1.97**	**291**	⇑P	**Pn**	**19 58 16.3**	**-0.4**
JOW	**Kunigami**	**5.21**	**218**	P	**Pn**	**19 59 01.1**	**-0.1**
	9.1nm,0.3s,baz=85,slow=21,SNR=28						
JOW				S	**Sn**	**19 59 57.1**	**-2.9**
	20nm,0.3s,baz=142,slow=26,SNR=7.4						
KSRS	**Korea Array**	**7.22**	**334**	P	**Pn**	**19 59 30.2**	**+1.3**
	0.1nm,0.3s,baz=156,slow=14,SNR=2.7						
MAJO	**Matsushiro**	**7.64**	**42**	*e*Pn	**Pn**	**19 59 34.1**	**-0.6**
	5.2nm,0.4s						
MAT	**Matsushiro**	**7.64**	**42**	P	**Pn**	**19 59 34.2**	**-0.5**
MAT				*e*S	**Sn**	**20 00 59.6**	**-0.4**
MJAR	**Matsushiro Arr**	**7.64**	**42**	P	**Pn**	**19 59 36.8**	**+2.2**
	0.8nm,0.3s,baz=237,slow=14,SNR=13						
XAN	**Xi'an**	**19.58**	**285**	P	**Pn**	**20 02 10.6**	**-1.5**
XAN				AMB	AMB		
	comp=Z,5.0nm,0.9s						
XAN				AMB	AMB		
	comp=Z,51nm,3.6s						
HIA	**Hailar**	**20.43**	**337**	*e*P	**P**	**20 02 19.2**	**-0.3**
	comp=Z,3.6nm,0.3s						
GUMO	**Guam**	**21.05**	**142**	*e*P	**P**	**20 02 26.6**	**0.0**
	comp=Z,80nm,0.4s,mb5.4						
LZH	**Lanzhou**	**23.86**	**290**	*e*P	**P**	**20 02 57.5**	**+1.9**
LZH				AP		20 03 02.5	
LZH				AMB	AMB		
	comp=Z,19nm,1.5s,mb4.3						
LZH				AMB	AMB		
	comp=Z,104nm,5.0s						
ULN	**Ulaanbaatar**	**25.36**	**319**	*e*P	**P**	**20 03 08.6**	**-0.5**
	comp=Z,9.0nm,1.3s,mb4.1						
SONM	**Songino Array**	**25.71**	**318**	P	**P**	**20 03 11.7**	**-0.5**
	comp=Z,1.2nm,0.6s,mb3.6,baz=132,slow=9.6,SNR=8.5						
SONM				pP	pP	20 03 23.5	+0.4
	comp=Z,2.0nm,1.0s,baz=134,slow=9.6,SNR=6.8						
GTA	**Gaotai**	**27.40**	**297**	*e*P	**P**	**20 03 27.5**	**-0.1**
GTA				AMB	AMB		
	comp=Z,3.0nm,0.8s,mb3.9						
CMAR	**Chiang Mai Arr**	**32.28**	**255**	P	**P**	**20 04 10.8**	**-0.3**
	comp=Z,0.9nm,0.6s,mb3.8,baz=57,slow=7.9,SNR=9.2						
ZALV	**Zalesovo Beam**	**40.61**	**318**	LR	LR	20 23 53.7	
	comp=Z,53nm,19.2s,MS3.4,baz=243,slow=39						
MKAR	**Makanchi Array**	**40.99**	**307**	P	**P**	**20 05 24.0**	**-0.8**
	comp=Z,0.6nm,0.5s,mb3.5,baz=85,slow=11,SNR=9.7						
MKAR				pP	pP	20 05 36.5	+0.5
	comp=Z,0.4nm,0.6s,baz=84,slow=12,SNR=3.7						
MKAR				LR	LR	20 24 19.3	
	comp=Z,65nm,18.9s,MS3.5,baz=194,slow=39						
MKAR	**Makanchi Array**	**40.99**	**307**	P	**P**	**20 05 24.0**	**-0.8**
MKAR				pP	pP	20 05 36.5	+0.5
MKAR				LR	LR	20 24 19.3	
BATI	**Baumata**	**41.71**	**192**	P	**P**	**20 05 30.6**	**-0.4**
	comp=Z,8.7nm,0.6s,mb4.6,baz=36,slow=3.6,SNR=6.7						
KURK	**Kurchatov**	**43.77**	**313**	P	**P**	**20 05 46.9**	**-0.5**
	comp=Z,2.1nm,0.7s,mb4.0,baz=98,slow=9.1,SNR=10						
KURK				pP	pP	20 05 58.6	+0.1
	comp=Z,1.1nm,0.6s,baz=98,slow=8.7,SNR=5.5						
FITZ	**Fitzroy Crossi**	**49.18**	**188**	P	**P**	**20 06 30.8**	**+0.7**
	comp=Z,2.2nm,0.6s,mb4.4,baz=28,slow=8.9,SNR=16						
FITZ				pP	pP	20 06 42.9	+1.5
	comp=Z,3.1nm,1.1s,baz=204,slow=22,SNR=3.6						
WRA	**Warramunga Arr**	**50.70**	**177**	P	**P**	**20 06 41.8**	**+0.3**
	comp=Z,1.5nm,0.4s,mb4.2,baz=353,slow=7.9,SNR=31						
CTA	**Charters Tower**	**52.63**	**163**	P	**P**	**20 06 55.9**	**-0.2**
	comp=Z,3.1nm,0.7s,mb4.4,baz=338,slow=7.8,SNR=6.1						
CTAO	**Charters Tower**	**52.63**	**163**	*e*P	**P**	**20 06 55.9**	**-0.1**
	comp=Z,2.9nm,0.7s,mb4.3						
MBWA	**Marble Bar**	**53.15**	**194**	*e*P	**P**	**20 06 58.1**	**-1.7**
	comp=Z,3.9nm,0.8s,mb4.4						
ASAR	**Alice Springs**	**54.38**	**178**	P	**P**	**20 07 09.7**	**+0.9**
	comp=Z,1.8nm,0.5s,mb4.3,baz=12,slow=13,SNR=53						
STKA	**Stephens Creek**	**63.20**	**171**	P	**P**	**20 08 10.8**	**+0.9**
	comp=Z,3.6nm,0.6s,mb4.7,baz=340,slow=8.0,SNR=14						
STKA	**Stephens Creek**	**63.20**	**171**	P	**P**	**20 08 10.8**	**+0.8**
NOA	**NORSAR Array B**	**76.44**	**334**	P	**P**	**20 09 30.4**	**-0.6**
	comp=Z,0.4nm,0.6s,mb3.5,baz=60,slow=6.8,SNR=3.2						
GERES	**GERESS Array B**	**83.29**	**324**	P	**P**	**20 10 09.0**	**+0.7**
	comp=Z,0.3nm,0.8s,mb3.4,baz=20,slow=4.3,SNR=3.7						
NVAR	**Mina Array Bea**	**84.93**	**48**	P	**P**	**20 10 18.4**	**+1.5**
	comp=Z,0.4nm,0.6s,mb3.8,baz=304,slow=5.6,SNR=4.4						

NEIC 07 20:03:02.0, 6175N×15072W, h64km, ML3.4(AEIC), ML3.6(PMR), After AEIC., Southern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SKT	**Skwentna**	**0.45**	**302**	P	Pn	20 03 12.8	-1.0
SKT				S	Sn	20 03 21.4	-0.9
FIB	**Fire Island**	**0.64**	**156**	P	Pn	20 03 16.2	+0.5
FIB				S	Sn	20 03 28.0	+2.2
PMR	**Palmer**	**0.77**	**101**	*e*P	Pn	20 03 16.3	-1.0
RC01	**Rabbit Creek A**	**0.81**	**144**	P	Pn	20 03 17.1	-0.6
RC01				S	Sn	20 03 29.8	+0.4
SML	**Sawmill**	**1.14**	**86**	P	Pn	20 03 21.5	-0.4
SML				S	Sn	20 03 37.1	+0.4
SLKM	**Skilak Lake**	**1.27**	**169**	P	Pn	20 03 23.0	-0.6
PPLA	**Purkeypile**	**1.34**	**330**	*e*Pn	Pn	20 03 18.2	-6.4
TRF	**Thorofare Moun**	**1.72**	**6**	*e*Pn	Pn	20 03 29.0	-0.7
SEW	**Seward**	**1.76**	**159**	P	Pn	20 03 29.9	-0.2
KTH	**Kantishna Hill**	**1.82**	**357**	P	Pn	20 03 30.6	-0.4
MCK	**McKinley**	**2.16**	**22**	P	Pn	20 03 35.1	-0.4
CHUM	**Lake Minchumin**	**2.27**	**342**	P	Pn	20 03 36.5	-0.5
SVW2	**Sparrevohn**	**2.43**	**257**	*e*P	Pn	20 03 38.0	-1.2
EYAK	**Cordova Ski Ar**	**2.69**	**114**	P	Pn	20 03 41.2	-1.6
TT01	**Tatalina**	**2.74**	**298**	P	Pn	20 03 42.5	-0.9
PAX	**Paxson**	**2.74**	**61**	P	Pn	20 03 43.6	+0.2
MID	**Middleton Isla**	**3.17**	**135**	*e*P	Pn	20 03 49.7	+0.3
RAGM	**Ragged Mountai**	**3.24**	**112**	P	Pn	20 03 49.1	-1.2
COLA	**College**	**3.40**	**21**	P	Pn	20 03 51.5	-1.0
ILB	**Eielson Array**	**3.50**	**28**	P	Pn	20 03 53.3	-0.5
IL1	**Eielson Array**	**3.50**	**28**	P	Pn	20 03 53.2	-0.5
DOT	**Dot Lake**	**3.61**	**55**	P	Pn	20 03 55.1	-0.2
KDAK	**Kodiak Island**	**4.09**	**194**	*e*Pn	Pn	20 04 03.4	+1.5
GCSA	**Galena City Sc**	**4.10**	**320**	P	Pn	20 04 01.6	-0.5
BCA3	**Beaver Creek A**	**4.36**	**68**	P	Pn	20 04 05.2	-0.4
IM3	**Indian Mountai**	**4.46**	**344**	P	Pn	20 04 06.3	-0.6
IMA2	**Indian Mountai**	**4.54**	**344**	*e*P	Pn	20 04 07.3	-0.6
OHAK	**Old Harbor**	**4.72**	**197**	*e*P	Pn	20 04 10.0	-0.5
COLD	**Coldfoot**	**5.51**	**2**	P	Pn	20 04 20.9	-0.4
DAWY	**Dawson**	**5.67**	**61**	P	Pn	20 04 23.1	-0.4
BM3	**Burnt Mountain**	**6.27**	**22**	P	Pn	20 04 30.6	-1.1

*ATH **07** 20:16:16.7, 3529N×26.13E, h45km, MD3.2/5*
*NEIC **07** 20:16:16.7, 3529N×26.13E, h45km, MD3.2(ATH), After ATH.*
*CSEM **07** 20:16:16.9±0.1, 3529N×26.12E, h30km, MD3.2, Error ellipse: s-maj=3.3km s-min=3.0km az=13.0*
*ISCJB **07** 20:16:17.7±0.5, 3535N±008×26.12E±005, h32km±9km, Error ellipse: s-maj=13.1km s-min=6.3km az=13.7*
*THE **07** 20:16:18.4, 3533N×26.13E, h28km±4km, Error ellipse: s-maj=5.5km s-min=0.7km az=150.0*
ISC 07 20:16:17.9±0.6**, 3535N**±008×**2612E**±005**, h31**km±9km**, n21,** σ0^s**46**/31**, Crete**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ZKR	**Zakros**	**0.24**	**160**	P	**Pb**	**20 16 24.2**	**-0.6**
ZKR				S	**Sb**	**20 16 29.6**	**+0.2**
NPS	**Neapolis**	**0.42**	**259**	*e*P	**Pb**	**20 16 26.9**	**-0.3**
NPS	**Neapolis**	**0.42**	**259**	*e*P	**Pb**	**20 16 26.9**	**-0.3**
LAST	**Lasithi**	**0.55**	**251**	P	**Pb**	**20 16 29.4**	**+0.1**
LAST				S	**Sb**	**20 16 37.5**	**+0.5**
KARP	**Karpathos**	**0.88**	**76**	*e*P	**Pn**	**20 16 33.8**	**-0.3**
KARP				*e*S	**Sn**	**20 16 46.1**	**+0.3**
KARP	**Karpathos**	**0.88**	**76**	*e*P	**Pn**	**20 16 33.8**	**-0.3**
KARP				*e*S	**Sn**	**20 16 46.1**	**+0.3**
SIVA	**Sivas**	**1.12**	**253**	P	**Pn**	**20 16 37.0**	**-0.4**
THR1	**Thera Island**	**1.15**	**333**	P	**Pn**	**20 16 37.6**	**-0.3**
THR1				S	**Sn**	**20 16 53.0**	**+0.4**
SANT	**Santorini**	**1.16**	**333**	*e*Pn	**Pn**	**20 16 36.9**	**-1.0**
SANT	**Santorini**	**1.16**	**333**	P	**Pn**	**20 16 37.5**	**-0.4**
SANT				*e*Sn	**Sn**	**20 16 51.6**	**-1.0**
SANT	**Santorini**	**1.16**	**333**	*e*Pn	**Pn**	**20 16 36.9**	**-1.0**
SANT				*e*Sn	**Sn**	**20 16 51.6**	**-1.1**
THR6	**Thira Island,**	**1.17**	**330**	P	**Pn**	**20 16 38.8**	**+0.7**
THR6				S	**Sn**	**20 16 53.2**	**+0.3**
THR3	**Thira Island,**	**1.21**	**332**	P	**Pn**	**20 16 39.0**	**+0.3**
THR5	**Thira Island,**	**1.24**	**330**	P	**Pn**	**20 16 39.2**	**+0.1**
VAM	**Vamos**	**1.57**	**273**	*e*P	**Pn**	**20 16 43.7**	**+0.1**
VAM	**Vamos**	**1.57**	**273**	*e*P	**Pn**	**20 16 43.7**	**+0.1**
APE	**Apeiranthos**	**1.78**	**345**	P	**Pn**	**20 16 46.6**	**0.0**
APE				S	**Sn**	**20 17 08.1**	**-0.1**
APE	**Apeiranthos**	**1.78**	**345**	*e*P	**Pn**	**20 16 47.3**	**+0.7**
APE				S	**Sn**	**20 17 08.1**	**-0.1**
APE	**Apeiranthos**	**1.78**	**345**	*e*P	**Pn**	**20 16 47.3**	**+0.7**
ARG	**Arkhangelos**	**1.85**	**61**	*e*P	**Pn**	**20 16 47.7**	**+0.2**
ARG	**Arkhangelos**	**1.85**	**61**	*e*P	**Pn**	**20 16 47.7**	**+0.2**

*IDC **07** 20:16:52.5±1.1, 696N×12593E, h0km, mb3.4/6, mb1 3.6/7, mb1mx3.5/20, mbtmp3.5/7, ML4.2/1, Error ellipse: s-maj=24.1km s-min=7.6km az=28.0*
*ISCJB **07** 20:16:55.1±0.8, 686N±004×12571E±005, h24km±6km, mb3.5/7, Error ellipse: s-maj=8.2km s-min=6.3km az=154.9*
*NEIC **07** 20:16:57.8±0.7, 692N×12581E, h35km, mb4.3/4, Error ellipse: s-maj=19.9km s-min=11.5km az=77.0*
ISC 07 20:16:55.0±0.8**, 687N**±004×**12569E**±004**, h11**km±5km**, n22,** σ1^s**16**/29**, mb3.5**/7**, 1C-3D, Mindanao**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**0.23**	**331**	Pg	**Pg**	**20 16 59.6**	**-0.2**
	1µm,0.3s,baz=174,slow=1.4,SNR=164						
DAV				Lg		20 17 04.4	
	2µm,0.3s,baz=75,slow=20,SNR=174						
MATI	**Mati**	**0.57**	**83**	*e*P	**Pg**	**20 17 08.4**	**+2.2**
MATI				*e*S	**Sg**	**20 17 27.4**	**+14**
KCP	**Kidapawan**	**0.61**	**283**	⇑*e*P	**Pg**	**20 17 06.2**	**-0.6**
KCP				*e*S	**Sg**	**20 17 14.1**	**-0.8**
GSPH	**General Santos**	**1.07**	**223**	⇓*e*P	**Pb**	**20 17 14.9**	**-0.7**
GSPH				*e*S	**Sb**	**20 17 30.6**	**+1.0**
BUKP	**Musuan**	**1.18**	**328**	*e*P	**Pb**	**20 17 15.4**	**-2.0**
BUKP				*e*S	**Sb**	**20 17 37.3**	**+4.6**
CGP	**Cagayan de Oro**	**1.86**	**328**	⇓*e*P	**Pn**	**20 17 27.5**	**+0.7**
CGP				*e*S	**Sn**	**20 17 49.8**	**-0.5**
BUTP	**Butuan**	**2.08**	**358**	*e*P	**Pn**	**20 17 30.3**	**+0.3**
BUTP				*e*S	**Sn**	**20 18 15.2**	**+19**
PAGZ	**Pagadian**	**2.48**	**293**	*e*P	**Pn**	**20 17 35.8**	**+0.3**
PAGZ				*e*S	**Sn**	**20 18 07.8**	**+2.0**
SCPH	**Surigao**	**2.90**	**356**	⇓*e*P	**Pn**	**20 17 42.0**	**+0.9**
MSLP	**Maasin**	**3.34**	**346**	*e*P	**Pn**	**20 17 48.8**	**+1.5**
BATI	**Baumata**	**17.08**	**187**	P	**Pn**	**20 20 56.5**	**+2.4**
	0.8nm,0.3s,baz=321,slow=6.5,SNR=3.1						
GUMO	**Guam**	**20.01**	**69**	*e*P	**P**	**20 21 26.2**	**-1.8**
	35nm,0.7s						
KAKA	**Kakadu**	**20.58**	**161**	*e*P	**P**	**20 21 35.0**	**+0.9**
	5.2nm,0.6s						
FITZ	**Fitzroy Crossi**	**24.81**	**180**	*e*P	**P**	**20 22 17.1**	**-0.3**
	1.5nm,0.5s,mb3.8						
FITZ	**Fitzroy Crossi**	**24.81**	**180**	P	**P**	**20 22 17.1**	**-0.3**
	0.5nm,0.5s,mb3.3,baz=12,slow=14,SNR=4.6						
PMG	**Port Moresby**	**26.82**	**127**	*e*P	**P**	**20 22 34.0**	**-1.6**
	3.7nm,0.2s,mb4.6						
WRA	**Warramunga Arr**	**27.97**	**162**	P	**P**	**20 22 44.7**	**-1.1**
	0.2nm,0.3s,mb3.2,baz=345,slow=11,SNR=5.4						
ASAR	**Alice Springs**	**31.39**	**165**	P	**P**	**20 23 14.9**	**-1.2**
	0.4nm,0.6s,mb3.4,baz=351,slow=7.6,SNR=7.4						
STKA	**Stephens Creek**	**41.41**	**159**	P	**P**	**20 24 41.7**	**0.0**
	0.7nm,0.4s,mb3.6,baz=336,slow=10.0,SNR=3.3						
STKA	**Stephens Creek**	**41.41**	**159**	P	**P**	**20 24 41.7**	**0.0**
SONM	**Songino Array**	**44.01**	**341**	P	**P**	**20 25 02.3**	**-0.2**
	0.2nm,0.6s,mb3.0,baz=157,slow=7.7,SNR=2.4						
MKAR	**Makanchi Array**	**54.41**	**325**	P	**P**	**20 26 21.4**	**-0.7**
	0.3nm,0.7s,mb3.4,baz=118,slow=9.0,SNR=3.1						

*CSEM **07** 20:39:43.4±0.1, 3709N×2933E, h2km, MD3.4, Error ellipse: s-maj=3.0km s-min=1.7km az=4.0*
*ISCJB **07** 20:39:44.8±0.7, 37.12N±004×2934E±003, h5km±5km, Error ellipse: s-maj=6.7km s-min=4.1km az=5.8*
*ISK **07** 20:39:44.8, 37.18N×2932E, h12km, MD3.2*
*DDA **07** 20:39:46.0, 3705N×2927E, h7km±13km, Md3.4*
ISC 07 20:39:45.4±0.6**, 3712N**±004×**2935E**±003**, h7**km±5km**, n23,** σ1^s**15**/35**, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
GOLH	**Golhisar**	**0.21**	**55**	*i* P	**Pg**	**20 39 50.3**	**+0.7**
GOLH				*i* S	**Sg**	**20 39 58.7**	**+6.3**
DNZL	**Cakiroluk**	**0.62**	**338**	*i* P	**Pg**	**20 39 57.5**	**+0.2**
DNZL				*i* S	**Sg**	**20 40 10.6**	**+5.2**
TURN	**Turunc**	**0.64**	**248**	*i* P	**Pg**	**20 40 01.4**	**+3.6**
TURN				*i* S	**Sg**	**20 40 17.2**	**+11**
DENT	**Denizli**	**0.68**	**339**	*e*PG	**Pg**	**20 39 57.8**	**-0.8**
YER	**Yerkesik**	**0.85**	**272**	*e*PG	**Pg**	**20 40 00.2**	**-1.5**
YER				*e*SG	**Sg**	**20 40 13.6**	**+0.9**
AKAS	**Kas**	**0.91**	**167**	*i* P	**Pg**	**20 40 00.2**	**-2.6**
AKAS				*i* S	**Sg**	**20 40 16.7**	**+2.2**
BCK	**Bucak**	**1.05**	**71**	*e*PG	**Pg**	**20 40 05.3**	**-0.2**
ANTB	**Antalya**	**1.07**	**101**	*e*PN	**Pn**	**20 40 06.2**	**-0.6**
ANTB				*e*SN	**Sn**	**20 40 22.3**	**+0.4**
TKTP	**Tekketepe**	**1.20**	**40**	*i* P	**Pg**	**20 40 09.6**	**+1.1**
TKTP				*i* S	**Sg**	**20 40 31.0**	**+6.9**
KHL	**Karahalli**	**1.21**	**7**	*e*PN	**Pn**	**20 40 07.1**	**-1.6**
MLSB	**Milas**	**1.27**	**279**	*e*PN	**Pn**	**20 40 08.5**	**-1.0**
MLSB				*e*SN	**Sn**	**20 40 25.9**	**-0.8**
AYDN	**Tasoluk**	**1.29**	**295**	*i* P	**Pn**	**20 40 09.8**	**+0.1**
AYDN				*i* S	**Sb**	**20 40 29.7**	**+3.0**
KULA	**Kula-Manisa**	**1.50**	**339**	*e*PN	**Pn**	**20 40 11.2**	**-1.4**
MANT	**Manisa**	**1.51**	**336**	*i* P	**Pn**	**20 40 13.8**	**+1.0**
MANT				*i* S	**Sn**	**20 40 36.6**	**+3.9**
BDRM	**Kayabasi**	**1.52**	**269**	*i* P	**Pn**	**20 40 13.6**	**+0.6**
BDRM				*i* S	**Sn**	**20 40 32.7**	**-0.3**
BODT	**Bodrum**	**1.63**	**269**	*e*PN	**Pn**	**20 40 14.0**	**-0.4**
GCAM	**G?zelcaml?**	**1.78**	**290**	*i* P	**Pn**	**20 40 16.9**	**+0.4**
GCAM				*i* S	**Sn**	**20 40 42.3**	**+2.9**
IZM	**Izmir**	**2.09**	**308**	*e*PN	**Pn**	**20 40 19.5**	**-1.2**
BLCB	**Balcova**	**2.22**	**305**	*e*PN	**Pn**	**20 40 21.4**	**-1.2**
HDMB	**Hadim**	**2.52**	**93**	*e*PN	**Pn**	**20 40 27.8**	**+1.1**
KONT	**Konya--Tatoy**	**2.54**	**70**	*e*PN	**Pn**	**20 40 27.3**	**+0.4**
LADK	**Ladik-KONYA**	**2.63**	**65**	*e*PN	**Pn**	**20 40 28.3**	**0.0**
KIZT	**Kizilcal**	**2.67**	**48**	*e*PN	**Pn**	**20 40 28.3**	**-0.5**

*ISCJB **07** 20:45:19.0±1.7, 2370S±009×1794E±0.1, h514km±23km, mb3.9/8, Error ellipse: s-maj=17.6km s-min=13.5km az=0.4*
*IDC **07** 20:45:19.5±2.2, 2370S×17946E, h506km±24km, mb3.5/8, mb1 3.6/10, mb1mx3.4/18, mbtmp3.6/10, Error ellipse: s-maj=22.2km s-min=17.6km az=39.0*
*NEIC **07** 20:45:19.2±1.1, 2368S×17944E, h501km±18km, mb4.2/2, Error ellipse: s-maj=15.5km s-min=12.5km az=124.0*
ISC 07 20:45:19.1±1.4**, 2379S**±009×**1795E**±01**, h502**km±19km**, n19,** σ0^s**90**/21**, mb3.9**/8**, South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**12.85**	**42**	P	**P**	**20 48 06.2**	**-0.7**
	2.0nm,0.3s,baz=197,slow=11,SNR=2.8						
AFI	**Afiamalu**	**12.85**	**42**	P	**P**	**20 48 06.2**	**-0.7**
URZ	**Urewera**	**14.56**	**187**	P	**P**	**20 48 25.8**	**+1.3**
	3.7nm,0.3s,baz=334,slow=2.7,SNR=15						
URZ				S	**S**	**20 50 55.2**	**-2.2**
	1.4nm,0.3s,baz=96,slow=23,SNR=14						
CTA	**Charters Tower**	**30.98**	**270**	P	**P**	**20 50 55.9**	**+0.9**
	14nm,0.3s,mb4.8,baz=95,slow=11,SNR=32						
CTAO	**Charters Tower**	**30.98**	**270**	*e*P	**P**	**20 50 55.6**	**+0.7**
	6.7nm,0.4s,mb4.4						
STKA	**Stephens Creek**	**34.30**	**248**	P	**P**	**20 51 23.8**	**+0.7**
	1.8nm,0.5s,mb3.8,baz=78,slow=14,SNR=9.2						
STKA	**Stephens Creek**	**34.30**	**248**	*e*P	**P**	**20 51 23.5**	**+0.4**
	1.3nm,0.4s,mb3.7						
ASAR	**Alice Springs**	**41.57**	**261**	P	**P**	**20 52 22.5**	**0.0**
	2.2nm,0.7s,mb3.7,baz=94,slow=8.1,SNR=22						
ASAR				S	**S**	**20 57 57.3**	**-4.6**
	0.6nm,0.8s,baz=95,slow=16,SNR=6.1						
WB2	**Warramunga Arr**	**41.91**	**266**	*e*P	**P**	**20 52 24.4**	**-0.9**
WRA	**Warramunga Arr**	**41.92**	**266**	P	**P**	**20 52 25.0**	**-0.4**
	1.0nm,0.3s,mb3.7,baz=90,slow=5.8,SNR=78						
WRA				ScP	ScP	20 57 11.6	-0.2
	0.4nm,0.6s,baz=95,slow=3.8,SNR=5.9						
WRA				S	**S**	**20 58 03.3**	**-3.8**
	0.6nm,1.0s,baz=105,slow=14,SNR=3.9						
FITZ	**Fitzroy Crossi**	**50.34**	**266**	P	**P**	**20 53 29.6**	**0.0**
	0.4nm,0.4s,mb3.1,baz=108,slow=16,SNR=3.6						
QSPA	**South Pole Qui**	**66.29**	**180**	P	**P**	**20 55 18.2**	**+1.7**
	4.5nm,0.5s,mb4.4,baz=12,slow=0.8,SNR=24						
QSPA	**South Pole Qui**	**66.29**	**180**	P	**P**	**20 55 18.2**	**+1.7**
MAW	**Mawson**	**77.68**	**201**	P	**P**	**20 56 23.5**	**+0.5**
	4.4nm,0.5s,mb4.1,baz=138,slow=6.9,SNR=25						
PETK	**Petropavlovsk-**	**78.88**	**347**	P	**P**	**20 56 29.4**	**0.0**
	2.2nm,0.7s,mb3.8,baz=111,slow=8.1,SNR=4.9						
SNAA	**Sanae**	**84.78**	**179**	*e*	**P**	**20 56 58.8**	**-0.7**
SNAA				*e*		20 57 00.8	
SNAA				*e*		20 57 08.4	
VNA3	**Neumayer Olymp**	**85.01**	**177**	*e*	**P**	**20 57 00.3**	**-0.3**
VNA3				*e*		20 57 01.9	
VNA3				*e*		20 57 08.8	
VNA2	**Neumayer--Watz**	**85.42**	**178**	*e*	**P**	**20 57 02.6**	**0.0**
	baz=201,slow=3.8						
VNA2				*e*		20 57 04.3	
VNA2				*e*		20 57 12.0	
TORD	**Torodi Ar. Bea**	**169.20**	**192**	PKPab	PKPab	21 05 43.6	-0.7
	2.4nm,1.0s,baz=164,slow=3.8,SNR=24						

IDC 07 21:02:09.0±2.4**, 353S**×**12873E, h0**km**, mb3.5**/2**, mb1 3.6**/3**, mb1mx3.4**/15**, mbtmp3.4**/3**, ML2.9**/1**, Error ellipse: s-maj=180.7km s-min=28.7km az=68.0, Seram**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**17.20**	**162**	P	Pn	21 06 09.0	-1.9
	0.1nm,0.3s,baz=344,slow=12,SNR=3.7						
ASAR	**Alice Springs**	**20.63**	**166**	P	P	21 06 51.1	+0.9
	2.0nm,1.0s,baz=344,slow=10,SNR=13						
MKAR	**Makanchi Array**	**64.65**	**327**	P	P	21 12 48.7	+0.1
	0.3nm,0.6s,baz=115,slow=7.7,SNR=4.5						

NEIC 07 21:18:56.6, 3777S×17682E, h2km, ML3.9(WEL), After WEL., North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MARZ	**Manawahe**	**0.24**	**208**	P	Pg	21 19 02.1	+0.8
MARZ				S	Sg	21 19 05.5	+1.0
EDRZ	**Edgecumbe**	**0.34**	**191**	P	Pg	21 19 03.9	+0.7
WIZ	**White Island**	**0.38**	**50**	P	Pg	21 19 04.7	+0.7
LIRZ	**Lichensteins R**	**0.41**	**236**	P	Pg	21 19 05.7	+1.1
MKRZ	**Makatiti**	**0.46**	**217**	P	Pg	21 19 06.7	+1.2
KARZ	**Kaharoa**	**0.52**	**241**	P	Pg	21 19 07.5	+0.9
TAZ	**Tarawera**	**0.52**	**208**	P	Pg	21 19 07.8	+1.2
URZ	**Urewera**	**0.54**	**155**	P	Pg	21 19 06.6	-0.4
MWZ	**Matawai**	**0.79**	**135**	P	Pg	21 19 11.8	-0.1
TOZ	**Tahuroa Road**	**1.04**	**272**	P	Pg	21 19 15.1	-1.6
PUZ	**Puketiti**	**1.18**	**105**	P	Pg	21 19 19.3	+0.1
MXZ	**Matakaoa Point**	**1.20**	**80**	P	Pg	21 19 18.4	-1.2
KUZ	**Kuaotunu**	**1.35**	**319**	P	Pn	21 19 20.6	-1.9
KNZ	**Kokohu**	**1.42**	**152**	P	Pn	21 19 22.7	-0.7
MKAZ	**Moumakai**	**1.47**	**296**	P	Pn	21 19 21.1	-3.1
TWVZ	**Taurewa**	**1.69**	**219**	P	Pn	21 19 26.7	-0.5
WCZ	**Waipu Caves**	**2.70**	**312**	P	Pn	21 19 38.7	-2.3

*ISCJB **07** 21:19:05.8±0.3, 4677N±002×973E±002, h11km±4km, Error ellipse: s-maj=3.0km s-min=2.4km az=10.4*
*ZUR **07** 21:19:06.6, 4677N×974E, h5km±2km, ML2.3/8*
*VIE **07** 21:19:06.4±0.1, 4678N×976E, h7km±1km, mb1.4/5, ML2.2/8, Error ellipse: s-maj=0.7km s-min=0.7km az=37.0 6 km WSW of Davos*
*ROM **07** 21:19:06.8±0.5, 4673N×974E, h7km±4km, Md2.4/9, Ml1.8/1, Error ellipse: s-maj=11.2km s-min=3.8km az=176.0*
*CSEM **07** 21:19:06.1±0.1, 4672N×976E, h10km, ML2.6/7, Error ellipse: s-maj=1.3km s-min=1.0km az=178.0*
*LDG **07** 21:19:07.3±0.4, 4665N×978E, h10km, Ml2.4/4, Error ellipse: s-maj=7.5km s-min=5.3km az=136.0*
*STR **07** 21:19:09.5±0.3, 4683N×962E, h5km, Ml2.4, Error ellipse: s-maj=0.0km s-min=0.0km az=0.0*
*PRU **07** 21:19:10.2, 4692N×986E, h6km*
ISC 07 21:19:06.8±0.3**, 4676N**±002×**975E**±002**, h10**km±4km**, n39,** σ0^s**72**/69**, 8C-9D, Switzerland**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
DAVOX	**Davos/Dischmat**	**0.09**	**77**	⇓*i*Pg	**Pg**	**21 19 09.2**	**0.0**
	9µm,0.2s						
DAVOX				*i* Sg	**Sg**	**21 19 10.8**	**-0.2**
	9µm,0.2s						
VDL	**Val di Lei**	**0.35**	**217**	⇑*i*Pg	**Pg**	**21 19 13.7**	**+0.1**
	419nm,0.1s						
FUORN	**Ofenpass-Fuorn**	**0.38**	**112**	⇓*i*Pg	**Pg**	**21 19 14.4**	**+0.2**
	286nm,0.2s						
PLONS	**Plons/SG**	**0.38**	**319**	⇓*i*Pg	**Pg**	**21 19 14.0**	**-0.3**
	183nm,0.1s						
PLONS				*e*Sg	**Sg**	**21 19 19.0**	**-0.5**
	183nm,0.1s						
BERNI	**Berninapass**	**0.40**	**152**	⇓*i*Pg	**Pg**	**21 19 14.8**	**+0.3**
	290nm,0.2s						
BERNI				*e*Sg	**Sg**	**21 19 20.3**	**+0.6**
	290nm,0.2s						
TUE	**Stuetta**	**0.40**	**224**	Pg	**Pg**	**21 19 14.6**	**0.0**
TUE				Sg	**Sg**	**21 19 20.3**	**+0.3**
BRMO	**Bormio**	**0.52**	**123**	Pg	**Pg**	**21 19 16.8**	**0.0**
BRMO				Sg	**Sg**	**21 19 24.1**	**+0.6**
DAVA	**Damuels**	**0.53**	**9**	⇑*e*Pg	**Pg**	**21 19 16.9**	**-0.2**
	SNR=24						
DAVA				⇑*i*Sg	**Sg**	**21 19 24.3**	**+0.1**
	46nm,0.2s						
FETA	**Feichten**	**0.72**	**68**	*e*Pg	**Pg**	**21 19 20.2**	**-0.5**
	SNR=29						
FETA				⇓*i*Sg	**Sg**	**21 19 29.7**	**-0.3**
	5.9nm,0.1s						
MUO	**Muotathal**	**0.79**	**286**	⇑*i*Pg	**Pg**	**21 19 21.9**	**-0.1**
	210nm,0.2s						
MUO				*e*Sg	**Sg**	**21 19 32.2**	**-0.2**
	210nm,0.2s						
WILA	**Wila**	**0.87**	**319**	*i* Pn	**Pn**	**21 19 23.9**	**-1.2**
	263nm,0.2s						
MABI	**Malga Bissina**	**0.88**	**143**	Pg	**Pg**	**21 19 23.5**	**-0.2**
MUGIO	**Muggio**	**0.97**	**211**	Pg	**Pg**	**21 19 25.2**	**-0.3**
MUGIO				Sg	**Sg**	**21 19 37.5**	**-0.6**
MDI	**Monti di Nese**	**0.98**	**182**	Pg	**Pg**	**21 19 26.1**	**+0.4**
	23nm,0.4s						
RETA	**Reutte**	**1.00**	**43**	⇑*i*Pg	**Pg**	**21 19 25.4**	**-0.6**
RETA				⇑*i*Sg	**Sg**	**21 19 39.3**	**+0.3**
	8.5nm,0.1s						
APPI	**Appiano**	**1.06**	**105**	Pg	**Pg**	**21 19 26.9**	**-0.2**
MOTA	**Moosalm**	**1.09**	**57**	*e*Pg	**Pg**	**21 19 27.2**	**-0.6**
	SNR=21						
MOTA				⇑*i*Sg	**Sg**	**21 19 42.1**	**+0.1**
	3.4nm,0.1s						
VAI	**Varese**	**1.12**	**218**	Pg	**Pg**	**21 19 28.1**	**-0.2**
	11nm,0.3s						
MAGA	**Magasa**	**1.16**	**148**	Pg	**Pg**	**21 19 29.2**	**+0.2**
MAGA				Sg	**Sg**	**21 19 44.8**	**+0.8**
SLE	**Schleitheim**	**1.32**	**320**	*e*Pn	**Pn**	**21 19 26.6**	**-4.6**
	120nm,0.3s						
WATA	**Walderalm**	**1.37**	**65**	⇓*i*Pg	**Pg**	**21 19 32.4**	**-0.7**
WATA				⇓*i*Sg	**Sg**	**21 19 51.6**	**+0.6**
	3.3nm,0.2s						
WTTA	**Wattenberg**	**1.39**	**68**	⇓*i*Pn	**Pn**	**21 19 32.1**	**0.0**
WTTA				⇓*i*Pg	**Pg**	**21 19 32.8**	**-0.5**
WTTA				⇑*i*Sg	**Sg**	**21 19 52.0**	**+0.7**
	4.8nm,0.2s						
WTTA	**Wattenberg**	**1.39**	**68**	Pg	**Pg**	**21 19 32.8**	**-0.5**
WTTA				Sg	**Sg**	**21 19 52.0**	**+0.7**
	4.8nm,0.2s						
MMK	**Mattmark**	**1.43**	**241**	Pg	**Pg**	**21 19 33.1**	**-1.0**
SPAK	**Spaichingen-Ko**	**1.49**	**334**	Pg	**Pg**	**21 19 35.8**	**+0.4**
SPAK				Sg	**Sg**	**21 19 55.4**	**+0.6**
FELD	**Feldberg im Sc**	**1.63**	**314**	Pg	**Pg**	**21 19 38.0**	**0.0**
FELD				Sg	**Sg**	**21 19 59.1**	**-0.1**
BBS	**Basel-Blauen**	**1.69**	**296**	Pg	**Pg**	**21 19 39.3**	**+0.2**
BBS				Sg	**Sg**	**21 20 01.3**	**+0.4**
HINF	**Hinteralfeld**	**2.24**	**299**	*e*Pn	**Pn**	**21 19 43.1**	**-0.7**
HINF	**Hinteralfeld**	**2.24**	**299**	*e*Pg	**Pg**	**21 19 51.3**	**+1.7**
HINF				*e*Sg	**Sg**	**21 20 20.0**	**+1.4**
	3.1nm,0.3s						
HINF	**Hinteralfeld**	**2.24**	**299**	*e*Pg	**Pg**	**21 19 51.3**	**+1.7**
HINF				*e*Sg	**Sg**	**21 20 20.0**	**+1.4**
	1.5nm,0.3s						
CDF	**Champ du Feu**	**2.35**	**316**	*e*Pn	**Pn**	**21 19 46.1**	**+0.7**
CDF	**Champ du Feu**	**2.35**	**316**	*e*Pg	**Pg**	**21 19 52.8**	**+0.9**
CDF				*e*Sg	**Sg**	**21 20 24.5**	**+2.2**
	6.9nm,0.6s						
CDF	**Champ du Feu**	**2.35**	**316**	*e*Pg	**Pg**	**21 19 52.8**	**+0.9**
CDF				*e*Sg	**Sg**	**21 20 24.5**	**+2.2**
	3.5nm,0.6s						
CABF	**La Chapelle**	**2.53**	**268**	*e*Pg	**Pg**	**21 19 54.7**	**-0.5**
CABF				*e*Sg	**Sg**	**21 20 27.7**	**-0.2**
	2.6nm,0.3s						
CABF	**La Chapelle**	**2.53**	**268**	*e*Pg	**Pg**	**21 19 54.7**	**-0.5**
CABF				*e*Sg	**Sg**	**21 20 27.7**	**-0.2**

	1.3nm,0.3s						
HAU	**Haudompre**	**2.63**	**300**	*e*Pn	**Pn**	**21 19 49.1**	**-0.1**
HAU	**Haudompre**	**2.63**	**300**	*e*Pg	**Pg**	**21 19 56.2**	**-0.9**
HAU				*e*Sg	**Sg**	**21 20 29.6**	**-1.5**
	6.7nm,0.3s						
HAU	**Haudompre**	**2.63**	**300**	*e*Pg	**Pg**	**21 19 56.2**	**-0.9**
HAU				*e*Sg	**Sg**	**21 20 29.6**	**-1.5**
	3.3nm,0.3s						
KHC	**Kasperske Hory**	**3.50**	**46**	*e*PN	**Pn**	**21 20 02.2**	**+1.0**
KHC				*e*PG	**Pg**	**21 20 10.9**	**-2.9**
KHC				*e*SN	**Sn**	**21 20 42.9**	**+0.3**
KHC				*e*SG	**Sg**	**21 20 55.5**	**-3.6**

*ISCJB **07** 21:35:11.1±0.7, 2426S±005×6710W±008, h172km±8km, mb3.4/3, Error ellipse: s-maj=12.0km s-min=8.1km az=5.5*
*IDC **07** 21:35:12.0±1.2, 2426S×6707W, h161km±12km, mb3.2/2, mb1 3.3/8, mb1mx3.2/20, mbtmp3.2/8, Error ellipse: s-maj=17.3km s-min=15.6km az=35.0*
*NEIC **07** 21:35:12.1±0.7, 2429S×6712W, h168km±8km, mb4.0/4, Error ellipse: s-maj=12.7km s-min=8.8km az=96.0*
ISC 07 21:35:12.1±0.7**, 2425S**±005×**6705W**±008**, h163**km±8km**, n23,** σ**1^{s}08**/24**, mb3.4**/3**, Chile-Argentina border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**2.36**	**313**	P	**Pn**	**21 35 53.6**	**+1.4**
	25nm,0.3s,baz=148,slow=6.0,SNR=103						
LVC				S	**Sn**	**21 36 23.4**	**+0.3**
	99nm,0.3s,baz=302,slow=21,SNR=80						
LVC	**Limon Verde**	**2.36**	**313**	P	**Pn**	**21 35 53.6**	**+1.4**
LVC				S	**Sn**	**21 36 23.4**	**+0.3**
LCO	**Las Campanas**	**5.76**	**214**	*e*Pn	**Pn**	**21 36 32.6**	**-3.2**
	18nm,0.4s						
CFAA	**Coronel Fontan**	**7.41**	**188**	P	**Pn**	**21 36 56.9**	**-0.6**
	0.1nm,0.3s,baz=32,slow=11,SNR=6.8						
CFAA				S	**Sn**	**21 38 14.8**	**-5.7**
	0.1nm,0.3s,baz=230,slow=17,SNR=6.3						
LPAZ	**La Paz**	**7.98**	**352**	P	**Pn**	**21 37 07.3**	**+2.0**
	0.6nm,0.3s,baz=142,slow=4.7,SNR=10						
LPAZ				S	**Sn**	**21 38 32.1**	**-2.4**
	0.1nm,0.3s,baz=338,slow=19,SNR=2.3						
CPUP	**Villa Florida**	**9.04**	**105**	P	**Pn**	**21 37 19.6**	**+0.4**
	0.5nm,0.3s,baz=266,slow=12,SNR=5.5						
CPUP	**Villa Florida**	**9.04**	**105**	*e*Pn	**Pn**	**21 37 20.9**	**+1.7**
SIV	**San Ignacio**	**9.94**	**35**	P	**Pn**	**21 37 30.9**	**-0.3**
	0.7nm,0.3s,baz=221,slow=14,SNR=14						
SIV				S	**Sn**	**21 39 20.6**	**-1.0**
	baz=272,slow=23,SNR=3.7						
PLCA	**Paso Flores**	**16.70**	**189**	P	**Pn**	**21 38 55.9**	**-0.7**
	0.1nm,0.3s,baz=351,slow=9.2,SNR=2.7						
PLCA	**Paso Flores**	**16.70**	**189**	*e*P	**Pn**	**21 38 57.6**	**+1.0**
	1.6nm,0.4s						
BDFB	**Brasilia**	**19.82**	**68**	P	**P**	**21 39 31.5**	**+1.2**
	0.5nm,0.3s,baz=226,slow=15,SNR=3.2						
BDFB	**Brasilia**	**19.82**	**68**	*e*P	**P**	**21 39 30.3**	**0.0**
	15nm,1.5s						
SDV	**Santo Domingo**	**33.11**	**354**	P	**P**	**21 41 33.0**	**+0.2**
TEIG	**Tepich**	**48.80**	**333**	*e*P	**P**	**21 43 40.0**	**-0.9**
SNAA	**Sanae**	**59.13**	**161**	*e*P	**P**	**21 44 54.9**	**-0.2**
	0.9nm,0.8s,mb3.6						
NCB	**Newcomb**	**68.20**	**354**	*e*P	**P**	**21 45 54.3**	**-0.4**
TORD	**Torodi Ar. Bea**	**76.70**	**69**	P	**P**	**21 46 45.9**	**+0.2**
	0.4nm,0.4s,mb3.4,baz=257,slow=5.3,SNR=27						
PDAR	**Pinedale Array**	**77.33**	**329**	P	**P**	**21 46 49.8**	**+1.2**
	0.2nm,0.4s,mb3.1,baz=128,slow=5.8,SNR=2.6						
ESK	**Eskdalemuir**	**96.03**	**31**	*e*P	**P**	**21 48 20.3**	**-0.1**
ASAR	**Alice Springs**	**128.22**	**205**	PKP	PKPdf	21 53 59.1	-0.6
	0.3nm,0.5s,baz=121,slow=2.0,SNR=3.8						
WRA	**Warramunga Arr**	**131.39**	**207**	PKP	PKPdf	21 54 05.4	-0.4
	0.3nm,0.4s,baz=161,slow=1.8,SNR=7.9						
ZALV	**Zalesovo Beam**	**143.63**	**28**	PKP	PKPdf	21 54 25.8	-1.3
	0.6nm,0.4s,baz=316,slow=4.0,SNR=3.4						
MKAR	**Makanchi Array**	**146.74**	**40**	PKPbc	PKPbc	21 54 33.6	-1.1
	1.1nm,0.7s,baz=320,slow=2.5,SNR=9.6						

*ISCJB **07** 21:51:33.9±0.5, 3932N±003×2790E±004, h10km, Error ellipse: s-maj=5.1km s-min=3.6km az=149.6*
*ISK **07** 21:51:33.0, 3935N×2789E, h24km, MD2.9*
*CSEM **07** 21:51:33.3±0.1, 3933N×2795E, h17km±1km, MD2.9, Error ellipse: s-maj=3.4km s-min=2.7km az=54.0*
*DDA **07** 21:51:33.7, 3933N×2787E, h7km±1km, Md2.8*
ISC 07 21:51:34.1±0.6**, 3932N**±004×**2789E**±004**, h12**km±12km**, n11,** σ**0^{s}87**/19**, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BALB	**Balikesir**	**0.32**	**358**	*e*PG	**Pg**	**21 51 40.3**	**-0.4**
BALB				*e*SG	**Sg**	**21 51 45.5**	**+0.4**
AKS	**Akhisar**	**0.44**	**188**	*e*PG	**Pg**	**21 51 43.3**	**+0.4**
BALY	**Balya**	**0.47**	**333**	*i* P	**Pg**	**21 51 42.7**	**-0.8**
BALY				*i* S	**Sg**	**21 51 49.6**	**-0.1**
DURS	**Dursunbey**	**0.53**	**58**	*i* P	**Pg**	**21 51 44.1**	**-0.4**
DURS				*i* S	**Sg**	**21 51 52.5**	**+0.9**
DURS	**Dursunbey**	**0.53**	**58**	*i* P	**Pg**	**21 51 44.1**	**-0.4**
DURS				*i* S	**Sg**	**21 51 52.5**	**+0.9**
DST	**Dursunbey**	**0.64**	**63**	*e*PG	**Pg**	**21 51 45.8**	**-0.8**
DEMI	**Demirci**	**0.70**	**113**	*i* P	**Pg**	**21 51 47.7**	**+0.1**
DEMI				*i* S	**Sg**	**21 51 58.0**	**+1.3**
AYVA	**Ayvalik**	**0.93**	**270**	*i* P	**Pg**	**21 51 52.1**	**-0.1**
AYVA				*i* S	**Sg**	**21 52 06.5**	**+2.2**
MANT	**Manisa**	**0.97**	**148**	*i* P	**Pb**	**21 51 52.6**	**-0.3**
MANT				*i* S	**Sb**	**21 52 06.5**	**+0.8**
KULA	**Kula-Manisa**	**1.00**	**143**	*e*PG	**Pg**	**21 51 52.1**	**-1.3**
KULA				*e*SG	**Sg**	**21 52 06.4**	**-0.1**
IZM	**Izmir**	**1.04**	**208**	*e*PG	**Pg**	**21 51 52.7**	**-1.5**

KRSC 07 21:55:24.9±0.4**, 5170N**×**16001E, h5**km±5km**, ML3.5, Off east coast of Kamchatka Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
RUS	**Russkaya**	**1.18**	**309**	*e*P	Pg	21 55 47.9	+0.4
RUS				*i* S	Sg	21 56 03.9	+1.1
SPN	**Mys Shipunski**	**1.40**	**0**	P	Pn	21 55 52.9	+1.8
SPN				*i* S	Sb	21 56 13.5	+3.9
GRL	**Gorelyy**	**1.47**	**306**	*e*P	Pn	21 55 53.8	+1.8
NLC	**Nalytchevo**	**1.53**	**345**	*e*P	Pn	21 55 53.6	+0.8
NLC				*i* S	Sn	21 56 14.5	+1.4
PET	**Petropavlovsk**	**1.57**	**328**	*e*P	Pn	21 55 54.6	+1.3
PET				*i* S	Sn	21 56 15.6	+1.6
AVH	**Avacha**	**1.75**	**334**	P	Pn	21 55 57.9	+2.0
AVH				*i* S	Sn	21 56 21.3	+2.8
MIPR	**Malaya Ipel'ka**	**2.09**	**287**	*e*P	Pn	21 56 01.5	+0.9
MIPR				*i* S	Sn	21 56 28.2	+1.3
GNL	**Ganaly**	**2.36**	**329**	*e*P	Pn	21 56 06.9	+2.6
GNL				*e*S	Sn	21 56 36.8	+3.2
MKZ	**Mys Kozlova**	**3.04**	**19**	*e*P	Pn	21 56 14.1	+0.5
MKZ				*i* S	Sn	21 56 51.2	+0.8
KBTR	**Krutoberegovo**	**4.81**	**19**	P	Pn	21 56 38.7	+0.8

*ATH **07** 21:57:31.5, 3767N×2358E, h11km±9km, MD2.6/4*
*ISCJB **07** 21:57:32.8±0.8, 3780N±004×2362E±004, h1km±8km, Error ellipse: s-maj=6.7km s-min=5.1km az=21.3*
*CSEM **07** 21:57:32.9±0.1, 3778N×2351E, h5km, ML2.1/2, Error ellipse: s-maj=3.6km s-min=2.5km az=144.0*
*THE **07** 21:57:33.4, 3779N×2360E, h1km±5km, ML2.1/2, Error ellipse: s-maj=5.1km s-min=1.4km az=130.0*
ISC 07 21:57:33.3±0.6**, 3779N**±004×**2361E**±004**, h3**km±6km**, n20,** σ**0^{s}82**/26**, Southern Greece**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
NAIG	**Nisos Aigina**	**0.10**	**252**	*e*Pg	**Pg**	**21 57 34.5**	**-0.8**
NAIG	**Nisos Aigina**	**0.10**	**252**	*e*PG	**Pg**	**21 57 34.5**	**-0.8**
KVR	**Kavouri**	**0.14**	**73**	*e*Pg	**Pg**	**21 57 36.0**	**0.0**
KVR	**Kavouri**	**0.14**	**73**	*e*PG	**Pg**	**21 57 36.0**	**0.0**
ATH	**Athens Observa**	**0.20**	**25**	*e*Pb	**Pg**	**21 57 37.8**	**+0.5**
ATH	**Athens Observa**	**0.20**	**25**	*e*PB	**Pg**	**21 57 37.8**	**+0.5**
PTL	**Penteli**	**0.33**	**38**	*e*Pb	**Pg**	**21 57 40.0**	**+0.3**
PTL	**Penteli**	**0.33**	**38**	*e*PB	**Pg**	**21 57 40.0**	**+0.3**
DID	**Didima**	**0.41**	**226**	P	**Pg**	**21 57 40.5**	**-0.6**
LTK	**Loutraki**	**0.56**	**295**	P	**Pg**	**21 57 44.0**	**0.0**
LTK				S	**Sg**	**21 57 53.1**	**+1.8**
LKR	**Lokris**	**0.98**	**331**	P	**Pg**	**21 57 52.1**	**-0.1**
LKR				S	**Sg**	**21 58 05.5**	**+0.5**
LKR	**Lokris**	**0.98**	**331**	*e*Pb	**Pb**	**21 57 51.8**	**-1.2**
LKR	**Lokris**	**0.98**	**331**	P	**Pg**	**21 57 52.1**	**-0.1**
LKR				S	**Sg**	**21 58 05.5**	**+0.5**
LKR	**Lokris**	**0.98**	**331**	*e*PB	**Pb**	**21 57 51.8**	**-1.2**
VLX	**Vlachokerasia**	**1.06**	**247**	P	**Pg**	**21 57 53.1**	**-0.6**
VLX				S	**Sg**	**21 58 08.2**	**+0.8**
AOS	**Alonnisos**	**1.40**	**9**	P	**Pn**	**21 57 58.7**	**-1.0**
AGG	**Agios Georgios**	**1.59**	**321**	P	**Pn**	**21 58 02.0**	**-0.3**
AGG				S	**Sn**	**21 58 23.7**	**+0.4**
XOR	**Xorichti**	**1.61**	**348**	P	**Pn**	**21 58 02.0**	**-0.6**
APE	**Apeiranthos**	**1.69**	**115**	P	**Pn**	**21 58 02.7**	**-1.0**
APE				S	**Sn**	**21 58 27.5**	**+1.6**
THR3	**Thira Island,**	**1.99**	**133**	P	**Pn**	**21 58 08.6**	**+0.8**

*DDA **07** 22:04:26.7, 3768N×3537E, h7km±9km, Md3.0*
*ISCJB **07** 22:04:31.8±0.6, 3754N±004×3568E±004, h3km±11km, Error ellipse: s-maj=6.9km s-min=4.9km az=179.8*
*ISK **07** 22:04:31.1, 3755N×3569E, h12km, MD2.8*
*CSEM **07** 22:04:31.0±0.1, 3756N×3569E, h5km, MD2.8, Error ellipse: s-maj=2.3km s-min=1.6km az=6.0*
ISC 07 22:04:32.5±0.6**, 3753N**±004×**3568E**±004**, h11**km±9km**, n13,** σ**0^{s}94**/21**, 1C, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CEYT	**Ceyhan**	**0.52**	**174**	*e*PG	**Pg**	**22 04 42.0**	**-0.5**
CEYT	**Ceyhan**	**0.52**	**174**	*e*Pg	**Pg**	**22 04 42.4**	**-0.2**
CEYT				*e*Sg	**Sg**	**22 04 50.5**	**+1.1**
ANDN	**Andirin**	**0.53**	**84**	⇑*i*P	**Pg**	**22 04 42.5**	**-0.3**
ANDN				*i* S	**Sg**	**22 04 51.6**	**+1.7**
KARA	**Karaisali**	**0.56**	**242**	*e*PG	**Pg**	**22 04 43.0**	**-0.4**
KARA				*e*SG	**Sg**	**22 04 51.8**	**+1.0**
KARA	**Karaisali**	**0.56**	**242**	*e*Pg	**Pg**	**22 04 43.1**	**-0.3**
KARA				*e*Sg	**Sg**	**22 04 51.1**	**+0.3**
KMRS	**Kahramanmaras**	**0.97**	**91**	*e*PG	**Pg**	**22 04 49.7**	**-1.5**
KMRS				*e*SG	**Sg**	**22 05 03.3**	**-0.5**
KMRS	**Kahramanmaras**	**0.97**	**91**	*e*Pg	**Pg**	**22 04 50.2**	**-1.0**
KMRS				*e*Sg	**Sg**	**22 05 03.3**	**-0.5**
NIG	**Nigde**	**1.03**	**305**	*e*PG	**Pg**	**22 04 51.1**	**-1.1**
NIG				*e*SG	**Sg**	**22 05 05.6**	**0.0**
MERS	**Mersin**	**1.13**	**235**	*e*PN	**Pn**	**22 04 53.4**	**-0.9**
BNN	**Bunyan**	**1.33**	**6**	*e*PN	**Pn**	**22 04 56.7**	**-0.4**
BNN	**Bunyan**	**1.33**	**6**	*e*Pn	**Pn**	**22 04 55.9**	**-1.1**
SARI	**SarD1z-Kayseri**	**1.40**	**35**	*e*PG	**Pn**	**22 04 51.6**	**-6.4**
AVNT	**Avonos**	**1.41**	**333**	*i* P	**Pn**	**22 04 58.7**	**+0.6**
AVNT				*i* S	**Sb**	**22 05 18.5**	**+1.7**

*NEIC **07** 22:17:46.7, 1670N×9975W, h12km, MD3.8(MEX), After MEX.*
MEX 07 22:17:46.7±0.6**, 1670N**×**9975W, h12**km±3km**, MD3.8, Near coast of Guerrero**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ACX	**Acapulco**	**0.23**	**316**	*i* P	Pg	22 17 51.2	-0.3
ACX				*i* S	Sg	22 17 54.5	-0.3
CAIG	**El Cayaco**	**0.60**	**305**	*e*P	Pg	22 17 56.9	-1.5
CAIG				*i* S	Sg	22 18 04.9	-1.5
PNIG	**Pinotepa**	**1.59**	**101**	*i* P	Pn	22 18 10.6	-4.1
PNIG				*i* S	Sn	22 18 30.6	-4.5
PLIG	**Platanillo**	**1.70**	**8**	*e*P	Pn	22 18 12.9	-3.2
PLIG				*i* S	Sn	22 18 32.8	-5.1
ZIIG	**Zihuatanejo**	**1.87**	**299**	*e*P	Pn	22 18 16.2	-2.3
ZIIG				*i* S	Sn	22 18 38.5	-3.6
UTMO	**Huajuapan**	**2.17**	**59**	*e*P	Pn	22 18 20.9	-1.8
UTMO				*i* S	Sn	22 18 46.1	-3.5

*ATH **07** 22:44:22.1, 3764N×2371E, h8km±6km, MD2.9/5, ML2.6*
*ISCJB **07** 22:44:23.6±0.8, 3781N±005×2373E±005, h4km±7km, Error ellipse: s-maj=9.3km s-min=6.2km az=147.3*
*CSEM **07** 22:44:23.6±0.2, 3774N×2368E, h10km, ML2.1/2, Error ellipse: s-maj=5.3km s-min=4.3km az=160.0*
*THE **07** 22:44:24.0, 3780N×2370E, h0km±4km, ML2.1/2, Error ellipse: s-maj=4.7km s-min=1.4km az=65.0*
ISC 07 22:44:24.1±0.8**, 3780N**±005×**2372E**±006**, h7**km±7km**, n17,** σ**0^{s}76**/20**, Southern Greece**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KVR	**Kavouri**	**0.05**	**50**	*e*Pg	**Pg**	**22 44 26.0**	**+0.3**
KVR	**Kavouri**	**0.05**	**50**	*e*PG	**Pg**	**22 44 26.0**	**+0.3**
ATH	**Athens Observa**	**0.18**	**359**	*e*Pb	**Pg**	**22 44 28.6**	**+0.9**
ATH	**Athens Observa**	**0.18**	**359**	*e*PB	**Pg**	**22 44 28.6**	**+0.9**
NAIG	**Nisos Aigina**	**0.19**	**259**	*e*Pg	**Pg**	**22 44 26.5**	**-1.4**
NAIG	**Nisos Aigina**	**0.19**	**259**	*e*PG	**Pg**	**22 44 26.5**	**-1.4**
PTL	**Penteli**	**0.28**	**24**	*e*Pb	**Pg**	**22 44 30.0**	**+0.4**
PTL	**Penteli**	**0.28**	**24**	*e*PB	**Pg**	**22 44 30.0**	**+0.4**
DID	**Didima**	**0.48**	**233**	P	**Pg**	**22 44 32.4**	**-1.0**
DID				S	**Sg**	**22 44 40.5**	**+0.8**
LTK	**Loutraki**	**0.64**	**291**	P	**Pg**	**22 44 35.7**	**-0.7**
LTK				S	**Sg**	**22 44 45.2**	**+0.4**
LKR	**Lokris**	**1.02**	**327**	P	**Pg**	**22 44 43.5**	**-0.3**
LKR	**Lokris**	**1.02**	**327**	*e*Pb	**Pb**	**22 44 43.8**	**-0.4**
LKR	**Lokris**	**1.02**	**327**	*e*PB	**Pb**	**22 44 43.8**	**-0.4**
VLX	**Vlachokerasia**	**1.15**	**249**	P	**Pg**	**22 44 45.4**	**-0.8**
VLX				S	**Sg**	**22 45 02.3**	**+1.2**
APE	**Apeiranthos**	**1.61**	**116**	P	**Pn**	**22 44 52.9**	**-0.1**
AGG	**Agios Georgios**	**1.64**	**319**	P	**Pn**	**22 44 53.3**	**-0.1**
PYL	**PYLOS**	**1.82**	**241**	P	**Pn**	**22 44 56.7**	**+0.9**

*ISK **07** 22:53:18.6, 39.16N×28.13E, h4km, MD2.9*
*CSEM **07** 22:53:18.7±0.1, 39.16N×28.15E, h8km, MD2.9, Error ellipse: s-maj=1.8km s-min=1.6km az=128.0*
*ISCJB **07** 22:53:19.1±0.5, 39.15N±002×28.12E±003, h2km±5km, Error ellipse: s-maj=4.3km s-min=3.7km az=143.9*
*DDA **07** 22:53:19.1, 39.18N×28.14E, h7km±5km, Md2.8*
ISC 07 22:53:19.8±0.4**, 3916N**±002×**2813E**±003**, h7**km±5km**, n20,** σ**0^{s}72**/31**, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
AKS	**Akhisar**	**0.37**	**221**	*e*PG	**Pg**	**22 53 27.0**	**0.0**
DEMI	**Demirci**	**0.47**	**104**	*i* P	**Pg**	**22 53 29.1**	**+0.1**
DEMI				*i* S	**Sg**	**22 53 35.9**	**+0.8**
DEMI	**Demirci**	**0.47**	**104**	*i* P	**Pg**	**22 53 29.0**	**+0.1**
DEMI				*i* S	**Sg**	**22 53 35.9**	**+0.8**
BALB	**Balikesir**	**0.52**	**338**	*e*PG	**Pg**	**22 53 29.6**	**-0.2**
BALB				*e*SG	**Sg**	**22 53 37.4**	**+0.8**
DURS	**Dursunbey**	**0.52**	**31**	*i* P	**Pg**	**22 53 29.0**	**-0.8**
DURS				*e*S	**Sg**	**22 53 41.1**	**+4.6**
DST	**Dursunbey**	**0.59**	**41**	*e*PG	**Pg**	**22 53 30.2**	**-1.0**
BALY	**Balya**	**0.70**	**326**	*i* P	**Pg**	**22 53 33.0**	**-0.2**
BALY				*i* S	**Sg**	**22 53 41.6**	**-0.8**
MANT	**Manisa**	**0.75**	**153**	*i* P	**Pg**	**22 53 34.4**	**+0.2**
MANT				*i* S	**Sg**	**22 53 43.0**	**-0.8**
KULA	**Kula-Manisa**	**0.77**	**147**	*e*PG	**Pg**	**22 53 34.6**	**+0.1**
KULA				*e*SG	**Sg**	**22 53 44.6**	**+0.1**
IZM	**Izmir**	**1.02**	**222**	*e*PG	**Pg**	**22 53 38.4**	**-0.9**
IZM				*e*SG	**Sg**	**22 53 53.6**	**+1.1**
GDZ	**Gediz**	**1.06**	**93**	*i* P	**Pg**	**22 53 39.8**	**-0.2**
GDZ				*i* S	**Sg**	**22 53 54.0**	**+0.3**
AYVA	**Ayvalik**	**1.12**	**278**	*i* P	**Pg**	**22 53 41.0**	**-0.3**
AYVA				*i* S	**Sg**	**22 53 57.3**	**+1.4**
BLCB	**Balcova**	**1.15**	**228**	*e*PN	**Pn**	**22 53 40.7**	**-1.5**
BLCB				*e*SN	**Sn**	**22 53 57.7**	**-0.4**
BNT	**Bandirma**	**1.21**	**353**	*e*PN	**Pn**	**22 53 41.8**	**-1.2**
MRMT	**Marmara Adasi**	**1.50**	**344**	*e*PN	**Pn**	**22 53 47.4**	**+0.4**
YLV	**Yalova**	**1.70**	**34**	*e*PN	**Pn**	**22 53 50.7**	**+0.9**
MFT	**Murefte**	**1.75**	**339**	*e*PN	**Pn**	**22 53 51.4**	**+0.9**
ADVT	**Abdulvahap**	**1.78**	**44**	*e*PN	**Pn**	**22 53 51.3**	**+0.4**
BODT	**Bodrum**	**2.19**	**197**	*e*PN	**Pn**	**22 53 56.8**	**+0.3**
GULT	**Gulveren**	**2.24**	**55**	*e*PN	**Pn**	**22 53 57.7**	**+0.5**

*IDC **07** 23:40:04.4±3.8, 2177S×7079W, h46km±34km, mb3.6/3, mb1 3.8/5, mb1mx3.5/17, mbtmp3.7/5, ML4.2/2, Error ellipse: s-maj=37.8km s-min=33.8km az=112.0*
*ISCJB **07** 23:40:05.9±1.0, 2194S±005×708W±0.1, h80km±11km, mb3.9/4, Error ellipse: s-maj=18.3km s-min=7.5km az=173.7*
*NEIC **07** 23:40:05.3±1.6, 2178S×7076W, h58km±16km, mb4.0/2, Error ellipse: s-maj=16.5km s-min=13.3km az=100.0*
ISC 07 23:40:07.6±0.8**, 2192S**±005×**7054W**±009**, h74**km±9km**, n18,** σ**1^{s}48**/21**, mb3.9**/4**, Near coast of northern Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**1.66**	**115**	P	**Pn**	**23 40 35.8**	**+1.0**
	96nm,0.3s,baz=295,slow=10,SNR=460						
LVC				S	**Sn**	**23 40 53.8**	**-1.7**
	463nm,0.3s,baz=55,slow=22,SNR=154						
LVC	**Limon Verde**	**1.66**	**115**	P	**Pn**	**23 40 35.8**	**+1.0**
LVC				S	**Sn**	**23 40 53.8**	**-1.7**
ARE	**Arequipa**	**5.50**	**350**	*e*P	**Pn**	**23 41 29.0**	**+2.1**
ARE				*e*S	**Sn**	**23 42 29.0**	**+0.2**
LPAZ	**La Paz**	**6.04**	**23**	P	**Pn**	**23 41 38.7**	**+4.3**
	0.8nm,0.3s,baz=189,slow=6.2,SNR=50						
LCO	**Las Campanas**	**7.07**	**181**	*e*Pn	**Pn**	**23 41 48.6**	**+0.3**
LCO				*e*Sn	**Sn**	**23 43 07.5**	**+0.4**
SIV	**San Ignacio**	**10.72**	**58**	P	**Pn**	**23 42 35.1**	**-3.2**
	1.1nm,0.3s,baz=243,slow=12,SNR=28						
PLCA	**Paso Flores**	**18.76**	**180**	P	**Pn**	**23 44 20.3**	**-1.4**
	0.1nm,0.3s,baz=347,slow=14,SNR=3.2						
PLCA	**Paso Flores**	**18.76**	**180**	*e*P	**Pn**	**23 44 19.7**	**-2.1**
	0.9nm,0.6s						
BDFB	**Brasilia**	**22.21**	**78**	P	**P**	**23 44 59.7**	**+1.7**
	2.5nm,0.6s,mb3.7,baz=251,slow=15,SNR=4.0						
BDFB	**Brasilia**	**22.21**	**78**	*e*P	**P**	**23 44 58.0**	**0.0**
BBGH	**Gun Hill**	**36.47**	**18**	*e*P	**P**	**23 47 04.8**	**-0.8**
	45nm,0.7s						
TGUH	**Tegucigalpa,Un**	**39.34**	**334**	*e*P	**P**	**23 47 26.9**	**-2.9**
	5.4nm,0.4s,mb4.7						
TEIG	**Tepich**	**45.33**	**336**	*e*P	**P**	**23 48 15.7**	**-2.6**
SNAA	**Sanae**	**62.39**	**161**	*e*P	**P**	**23 50 24.1**	**+2.0**
PDAR	**Pinedale Array**	**73.72**	**331**	P	**P**	**23 51 33.0**	**-0.4**
	0.2nm,0.3s,mb3.4,baz=76,slow=41,SNR=3.3						
TOA0	**Torodi Ar. Sit**	**78.92**	**71**	*e*P	**P**	**23 52 04.5**	**+1.1**
TORD	**Torodi Ar. Bea**	**78.92**	**71**	P	**P**	**23 52 04.8**	**+1.3**
	1.1nm,0.7s,mb3.8,baz=254,slow=5.6,SNR=10						
TORD				pP	pP	23 52 16.9	-6.5
	1.3nm,0.4s,baz=254,slow=5.4,SNR=7.4						
TORD				sP	sP	23 52 23.1	-8.5
	0.9nm,0.6s,baz=241,slow=5.0,SNR=3.3						
MKAR	**Makanchi Array**	**146.85**	**35**	PKPbc	PKPbc	23 59 40.0	-1.3
	0.5nm,0.8s,baz=286,slow=3.1,SNR=2.9						

*ISCJB **07** 23:40:28.3±0.7, 2431S±005×6694W±010, h197km±7km, mb3.4/5, Error ellipse: s-maj=14.7km s-min=8.4km az=165.9*
*IDC **07** 23:40:28.5±1.0, 2433S×6694W, h186km±9km, mb3.3/5, mb1 3.6/9, mb1mx3.4/18, mbtmp3.3/9, Error ellipse: s-maj=19.1km s-min=12.3km az=62.0*
*NEIC **07** 23:40:29.8±0.8, 2424S×6690W, h194km±9km, mb4.4/2, Error ellipse: s-maj=15.6km s-min=9.1km az=68.0*
ISC 07 23:40:29.1±0.7**, 2433S**±005×**6692W**±010**, h189**km±7km**, n20,** σ**0^{s}75**/17**, mb3.4**/5**, Salta Province**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**2.50**	**313**	P	**Pn**	**23 41 13.3**	**+1.0**
	90nm,0.3s,baz=241,slow=20,SNR=1.8						
LVC				S	**Sn**	**23 41 45.0**	**-0.9**
	61nm,0.3s,baz=269,slow=21,SNR=2.0						
CFAA	**Coronel Fontan**	**7.34**	**189**	P	**Pn**	**23 42 14.7**	**+1.0**
	0.1nm,0.3s,baz=14,slow=11,SNR=11						
CFAA				S	**Sn**	**23 43 36.1**	**-0.5**
	0.2nm,0.3s,baz=275,slow=20,SNR=8.9						
LPAZ	**La Paz**	**8.08**	**352**	P	**Pn**	**23 42 23.4**	**0.0**
	0.7nm,0.3s,baz=126,slow=8.0,SNR=3.6						
CPUP	**Villa Florida**	**8.90**	**105**	P	**Pn**	**23 42 33.8**	**-0.4**
	0.3nm,0.3s,baz=270,slow=11,SNR=6.0						
SIV	**San Ignacio**	**9.94**	**35**	P	**Pn**	**23 42 48.3**	**+0.5**
	0.5nm,0.3s,baz=250,slow=16,SNR=4.9						
TRQA	**Tornquist**	**14.32**	**164**	*e*P	**Pn**	**23 43 47.3**	**+4.0**
	2.6nm,0.5s						
NNA	**Nana**	**15.46**	**321**	*e*Pn	**Pn**	**23 43 57.0**	**-0.5**
	83nm,2.0s						
OTAV	**Otavalo**	**26.85**	**334**	P	**P**	**23 45 51.8**	**-0.5**
TGUH	**Tegucigalpa,Un**	**43.02**	**330**	P	**P**	**23 48 09.9**	**-0.2**
TXAR	**Lajitas Array**	**63.98**	**324**	P	**P**	**23 50 42.4**	**+0.1**
	0.4nm,0.8s,mb3.3,baz=150,slow=7.5,SNR=4.9						
TORD	**Torodi Ar. Bea**	**76.62**	**69**	P	**P**	**23 51 58.8**	**-0.5**
	0.4nm,0.4s,mb3.4,baz=257,slow=5.6,SNR=15						
PDAR	**Pinedale Array**	**77.46**	**329**	P	**P**	**23 52 04.2**	**+0.9**
	0.4nm,0.5s,mb3.3,baz=123,slow=7.6,SNR=2.6						
ULM	**Lac du Bonnet**	**78.56**	**342**	P	**P**	**23 52 08.7**	**-0.5**
	1.9nm,0.5s,mb4.0,baz=162,slow=5.4,SNR=3.8						
NVAR	**Mina Array Bea**	**78.83**	**321**	P	**P**	**23 52 12.4**	**+1.4**
	0.4nm,0.8s,mb3.1,baz=169,slow=8.9,SNR=3.8						
MAW	**Mawson**	**81.11**	**163**	P	**P**	**23 52 21.8**	**-1.0**
ASAR	**Alice Springs**	**128.19**	**205**	PKP	PKPdf	23 59 12.2	-1.3
	0.5nm,0.7s,baz=155,slow=2.6,SNR=4.2						
WRA	**Warramunga Arr**	**131.37**	**207**	PKP	PKPdf	23 59 17.1	-2.5
	0.5nm,0.3s,baz=171,slow=1.6,SNR=6.3						
ZALV	**Zalesovo Beam**	**143.65**	**28**	PKP	PKPdf	23 59 39.9	-1.1
	0.6nm,0.4s,baz=305,slow=4.5,SNR=4.8						
ZALV	**Zalesovo Beam**	**143.65**	**28**	PKP	PKPdf	23 59 39.9	-1.1
MKAR	**Makanchi Array**	**146.73**	**40**	PKPbc	PKPbc	23 59 48.0	-0.5
	2.2nm,0.7s,baz=323,slow=2.6,SNR=21						

DJA 07 23:41:11, 976S×**11738E, h25**km**, MLv3.6**/3**, Sumbawa region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MTNI	**Mataram**	**1.64**	**313**	P	Pn	23 41 38.1	-0.1
KHKI	**Kahang-Kahang**	**2.23**	**308**	P	Pn	23 41 46.8	+0.4
KHKI	**Kahang-Kahang**	**2.23**	**308**	S	Sn	23 42 15.0	+1.8
IGBI	**Denpasar**	**2.40**	**293**	P	Pn	23 41 49.2	+0.5
IGBI	**Denpasar**	**2.40**	**293**	S	Sn	23 42 18.9	+1.7

IDC 07 23:41:54.3±4.4**, 418S**×**10145E, h0**km**, mb3.5**/5**, mb1 3.7**/5**, mb1mx3.5**/18**, mbtmp3.5**/5**, Error ellipse: s-maj=172.4km s-min=23.8km az=58.0, Southern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**22.63**	**354**	P	P	23 46 57.5	+0.6
	0.6nm,0.3s,baz=182,slow=9.2,SNR=5.1						
WRA	**Warramunga Arr**	**35.66**	**119**	P	P	23 48 52.5	-2.0
	0.1nm,0.4s,baz=292,slow=9.8,SNR=2.9						
ASAR	**Alice Springs**	**36.82**	**125**	P	P	23 49 06.2	+1.9
	0.2nm,0.6s,baz=300,slow=7.4,SNR=3.2						
SONM	**Songino Array**	**51.98**	**4**	P	P	23 51 05.5	+0.3
	1.0nm,0.7s,baz=193,slow=8.5,SNR=5.5						
MKAR	**Makanchi Array**	**53.51**	**344**	P	P	23 51 16.0	-0.5
	0.5nm,0.7s,baz=148,slow=8.5,SNR=3.8						
TXAR	**Lajitas Array**	**145.47**	**41**	PKPbc	PKPbc	00 01 34.4	-0.7
	0.2nm,0.5s,baz=117,slow=1.4,SNR=3.8						

*TAP **07** 23:45:56.9, 2433N×12162E, h26km, ML3.7, B*
*ISCJB **07** 23:45:57.6±0.3, 2433N±002×12170E±003, h22km±3km, Error ellipse: s-maj=4.4km s-min=2.3km az=18.3*
*NEIC **07** 23:45:57.0, 2433N×12164E, h23km, ML4.1(TAP), After TAP.*
NEIC Recorded [3 TAP] in Hua-lien, I-lan and T'ai-chung Counties.
ISC 07 23:45:57.6±0.3**, 2433N**±002×**12169E**±003**, h21**km±3km**, n44,** σ**1^{s}00**/75**, 4C-3D, Taiwan**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
EHP	**Heping Village**	**0.05**	**112**	P	**Pb**	**23 46 01.8**	**+0.4**
	baz=101						
EHP				*i* S	**Sb**	**23 46 05.6**	**+1.7**
	baz=101						
ENA	**Nanau**	**0.11**	**26**	⇓*i*P	**Pb**	**23 46 02.2**	**+0.3**
	baz=46						
ENA				S	**Sb**	**23 46 05.5**	**+0.8**
	baz=46						
NACB	**Ninganchiao**	**0.18**	**209**	*e*P	**Pb**	**23 46 01.9**	**-0.7**
NACB				*e*S	**Sb**	**23 46 05.4**	**-0.5**
TWD	**Chiawan**	**0.26**	**199**	⇓*i*P	**Pb**	**23 46 03.4**	**-0.4**
	baz=186						
TWD				S	**Sb**	**23 46 07.7**	**-0.3**
	baz=186						
NNS	**Nan Shan**	**0.31**	**291**	⇑*i*P	**Pb**	**23 46 03.8**	**-0.7**
	baz=296						
NNS				S	**Sb**	**23 46 08.0**	**-1.2**
	baz=296						
TWC	**Suao**	**0.32**	**28**	⇓*i*P	**Pb**	**23 46 04.8**	**+0.2**
	baz=32						
TWC				*i* S	**Sb**	**23 46 10.1**	**+0.7**
	baz=32						
HWA	**Hwalien**	**0.36**	**192**	P	**Pb**	**23 46 05.2**	**-0.1**
	baz=191						
HWA				S	**Sb**	**23 46 11.7**	**+1.2**
	baz=191						

TWE	**Neicheng** baz=11	**0.39**	**357**	⇑*i*P		**Pb**	**23 46 05.6**	**-0.2**
TWE	baz=11			*i* S		**Sb**	**23 46 11.3**	**-0.2**
ILA	**Ilan** baz=13	**0.44**	**7**	*e*P		**Pb**	**23 46 06.5**	**-0.2**
ILA	baz=13			S		**Sb**	**23 46 13.4**	**+0.5**
TWT	**Tachien** baz=260	**0.47**	**261**	⇑P		**Pb**	**23 46 06.9**	**-0.4**
TWT	baz=260			S		**Sb**	**23 46 12.8**	**-1.0**
ESF	**Shoufeng Towns** baz=193	**0.49**	**200**	*e*P		**Pb**	**23 46 06.8**	**-0.7**
ESL	**Shilin** baz=199	**0.56**	**205**	*e*P		**Pb**	**23 46 07.5**	**-1.3**
ESL	baz=199			*e*S		**Sb**	**23 46 15.8**	**-0.6**
TWA	**Mucha** baz=1.0	**0.66**	**352**	P		**Pb**	**23 46 10.0**	**-0.4**
TWA	baz=1.0			S		**Sb**	**23 46 18.9**	**-0.2**
TATO	**Taipei**	**0.67**	**344**	*e*P		**Pb**	**23 46 10.1**	**-0.5**
TATO				*e*S		**Sb**	**23 46 18.0**	**-1.4**
NSTT	**Nanjuang** baz=298	**0.69**	**296**	⇑*i*P		**Pb**	**23 46 10.5**	**-0.6**
NSTT	baz=298			S		**Sb**	**23 46 19.0**	**-1.2**
TAP1	**Taipei** baz=351	**0.72**	**348**	*i* P		**Pb**	**23 46 11.7**	**+0.2**
TAP1	baz=351			S		**Sb**	**23 46 20.9**	**-0.1**
TWB1	**Santiao Chiao** baz=19	**0.73**	**22**	*e*P		**Pb**	**23 46 11.6**	**0.0**
TWB1	baz=19			S		**Sb**	**23 46 21.2**	**0.0**
NWF	**Wu-fen Shan** baz=14	**0.74**	**6**	*e*P		**Pb**	**23 46 12.0**	**+0.1**
NWF	baz=14			*e*S		**Sb**	**23 46 22.1**	**+0.5**
NCU	**National Centr** baz=322	**0.78**	**325**	*e*P		**Pb**	**23 46 12.6**	**0.0**
NCU	baz=322			*e*S		**Sb**	**23 46 23.6**	**+0.8**
HSN	**Hsinchu** baz=319	**0.81**	**306**	*e*P		**Pb**	**23 46 12.7**	**-0.3**
HSN	baz=319			*e*S		**Sb**	**23 46 24.5**	**+1.1**
SMLT	**Sun Moon Lake** baz=237	**0.85**	**239**	*e*P		**Pb**	**23 46 13.1**	**-0.5**
SMLT	baz=237			*e*S		**Sb**	**23 46 23.5**	**-1.1**
NSY	**Sanyi** baz=276	**0.85**	**276**	*e*P		**Pb**	**23 46 13.7**	**0.0**
NSY	baz=276			*e*S		**Sb**	**23 46 25.0**	**+0.3**
TYC	**Yuchr** baz=237	**0.87**	**241**	P		**Pb**	**23 46 13.4**	**-0.6**
TYC	baz=237			*e*S		**Sb**	**23 46 23.9**	**-1.4**
EHY	**Hungye** baz=190	**0.89**	**202**	*e*P		**Pb**	**23 46 12.3**	**-2.0**
EHY	baz=190			*e*S		**Sb**	**23 46 25.2**	**-0.5**
TCU	**Taichung** baz=271	**0.94**	**259**	*e*P		**Pb**	**23 46 15.8**	**+0.6**
TCU	baz=271			*e*S		**Sb**	**23 46 29.4**	**+2.1**
TWY	**Chenhua** baz=359	**0.95**	**355**	*e*P		**Pb**	**23 46 15.7**	**+0.3**
WNT	**Mingjian** baz=243	**1.02**	**244**	*e*P		**Pb**	**23 46 16.6**	**0.0**
WNT	baz=243			*e*S		**Sb**	**23 46 32.2**	**+2.6**
TWF1	**Yuli** baz=198	**1.04**	**200**	*e*P		**Pb**	**23 46 15.5**	**-1.3**
TWF1	baz=198			*e*S		**Sb**	**23 46 29.4**	**-0.6**
YUS	**Yu-Shan** baz=205	**1.07**	**219**	*e*P		**Pn**	**23 46 16.2**	**-1.2**
ALS	**Alishan** baz=214	**1.15**	**225**	*e*P		**Pn**	**23 46 18.1**	**-0.3**
ALS	baz=214			*e*S		**Sb**	**23 46 35.2**	**+1.9**
CHN5	**Tsauling** baz=231	**1.18**	**232**	*e*P		**Pn**	**23 46 19.4**	**+0.6**
CHN5	baz=231			*e*S		**Sb**	**23 46 35.0**	**+1.0**
WGK	**Gukeng** baz=224	**1.21**	**238**	*e*P		**Pn**	**23 46 20.1**	**+0.7**
WGK	baz=224			*e*S		**Sb**	**23 46 36.8**	**+1.7**
YOJ	**Yonaguni jima** baz=84	**1.21**	**83**	*e*P		**Pn**	**23 46 19.9**	**+0.6**
ELDTW	**Lidau** baz=196	**1.29**	**209**	*e*P		**Pn**	**23 46 18.5**	**-1.9**
STYT	**Tauyuan** baz=213	**1.44**	**217**	*e*P		**Pn**	**23 46 22.5**	**+0.1**
TWK	**Hsinying** baz=225	**1.53**	**226**	*e*P		**Pn**	**23 46 25.2**	**+1.6**
TWK	baz=225			*e*S		**Sn**	**23 46 45.4**	**+2.5**
SGST	**Jiashian** baz=204	**1.60**	**219**	*e*P		**Pn**	**23 46 26.5**	**+1.8**
CHN8	**Yiju** baz=233	**1.67**	**234**	*e*P		**Pn**	**23 46 25.3**	**-0.3**
CHN8	baz=233			*e*S		**Sn**	**23 46 49.2**	**+2.8**
SSD	**Sandimen** baz=194	**1.85**	**212**	*e*P		**Pn**	**23 46 28.9**	**+0.8**
PNG	**Penghu** baz=246	**2.09**	**249**	*e*P		**Pn**	**23 46 29.8**	**-1.6**
WDGT	**Dungji** baz=237	**2.14**	**241**	*e*P		**Pn**	**23 46 33.6**	**+1.5**
KNM	**Kinmen** baz=269	**2.97**	**272**	*e*P		**Pn**	**23 46 43.0**	**-0.5**
QIZ	**Qiongzhong**	**12.21**	**247**	Pn		**Pn**	**23 48 47.1**	**-3.2**
MDJ	**Mudanjiang**	**21.24**	**16**	*e*P		**P**	**23 50 41.3**	**-0.8**

*ATH **07** 23:45:59.1, 3767N×2384E, h10km, MD2.4/3, ML2.3*
*CSEM **07** 23:45:59.1, 3767N×2384E, h10km, MD2.8/3, After ATH*
*ISCJB **07** 23:46:01.3±0.7, 3783N±004×2374E±005, h5km±6km, Error ellipse: s-maj=7.4km s-min=6.2km az=28.3*
*THE **07** 23:46:01.4, 3780N×2377E, h0km±2km, ML2.1/2, Error ellipse: s-maj=2.5km s-min=1.0km az=237.0*

ISC 07 23:46:01.5±0.8, 3782N±004×2377E±006, h5km±7km, n13, σ0§71/17, Southern Greece

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KVR	**Kavouri**	**0.01**	**14**	*e*Pg	**Pg**	**23 46 02.5**	**+0.1**
KVR	**Kavouri**	**0.01**	**14**	*e*PG	**Pg**	**23 46 02.5**	**+0.1**
ATH	**Athens Observa**	**0.16**	**346**	*e*Pb	**Pg**	**23 46 05.5**	**+0.8**
ATH	**Athens Observa**	**0.16**	**346**	*e*PB	**Pg**	**23 46 05.5**	**+0.8**
NAIG	**Nisos Aigina**	**0.23**	**256**	*e*Pg	**Pg**	**23 46 05.0**	**-0.9**
NAIG	**Nisos Aigina**	**0.23**	**256**	*e*PG	**Pg**	**23 46 05.0**	**-0.9**
DID	**Didima**	**0.52**	**234**	P	**Pg**	**23 46 10.5**	**-1.0**
DID				S	**Sg**	**23 46 19.6**	**+1.3**
LTK	**Loutraki**	**0.67**	**288**	P	**Pg**	**23 46 13.8**	**-0.5**
LTK				S	**Sg**	**23 46 23.6**	**+0.7**
VLX	**Vlachokerasia**	**1.19**	**248**	P	**Pg**	**23 46 24.0**	**-0.3**
AOS	**Alonnisos**	**1.36**	**4**	P	**Pn**	**23 46 26.7**	**-0.4**
APE	**Apeiranthos**	**1.59**	**117**	P	**Pn**	**23 46 29.4**	**-0.9**
APE				S	**Sn**	**23 46 52.3**	**+1.0**
XOR	**Xorichti**	**1.61**	**344**	P	**Pn**	**23 46 30.7**	**+0.1**
AGG	**Agios Georgios**	**1.65**	**317**	P	**Pn**	**23 46 31.3**	**+0.1**
AGG				S	**Sg**	**23 46 54.4**	**-0.1**

NEIC 07 23:49:07.8, 3808S×17897W, h33km, ML3.9(WEL), After WEL., East of North Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PUZ	**Puketiti**	**2.19**	**269**	P	Pn	23 49 41.3	-0.5
PUZ				S	Sn	23 50 05.5	-2.3
MXZ	**Matakaoa Point**	**2.22**	**283**	P	Pn	23 49 41.6	-0.6
MWZ	**Matawai**	**2.77**	**264**	P	Pn	23 49 49.3	-0.5
MWZ				S	Sn	23 50 20.3	-1.8
KNZ	**Kokohu**	**2.79**	**249**	P	Pn	23 49 49.4	-0.8
URZ	**Urewera**	**3.10**	**265**	P	Pn	23 49 54.6	+0.3
BKZ	**Black Stump Fm**	**3.72**	**252**	P	Pn	23 50 02.9	+0.1
MOVZ	**Moawhango**	**4.33**	**251**	P	Pn	23 50 11.6	+0.3
MRZ	**Mangatainoka R**	**4.95**	**237**	P	Pn	23 50 17.6	-2.2
MRZ				S	Sn	23 51 12.1	-3.7

2007 OCT

*ISCJB **07** 23:49:58.6±0.5, 1161S×1463W×009, h10km, mb3.9/14, MS3.9/20, Error ellipse: s-maj=14.1km s-min=7.1km az=27.1*
*IDC **07** 23:49:58.8±1.0, 1163S×1406W, h0km, mb3.8/11, mb1 3.9/11, mb1mx3.8/22, mbtmp3.9/11, MS3.9/20, Ms1 3.9/20, ms1mx3.8/23, Error ellipse: s-maj=40.1km s-min=15.5km az=143.0*
*NEIC **07** 23:49:60.0±0.5, 1165S×1406W, h10km, mb4.7/5, Error ellipse: s-maj=15.4km s-min=8.3km az=129.0*

ISC 07 23:50:00.7±0.5, 1161S±006×1413W±009, h10km, n38, σ1§14/25, mb3.9/14, MS3.9/20, Ascension Island region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ASCN	**Ascension**	**3.66**	**356**	*e*Pn	**Pn**	**23 50 56.5**	**-0.9**
ASCN				*e*Sn	**Sn**	**23 51 39.1**	**-1.5**
LIC	**Lamto** 73nm,1.3s	**19.90**	**28**	*e*P	**Pn**	**23 54 33.7**	**-0.4**
KIC	**Kosan Boka** 178nm,1.6s	**20.15**	**28**	*e*P	**P**	**23 54 37.5**	**+2.3**
TIC	**Toumodi** 71nm,1.0s	**20.27**	**27**	*e*P	**P**	**23 54 38.8**	**+2.2**
DBIC	**Dimbokro** 7.9nm,1.1s,baz=189,slow=14,SNR=4.4	**20.37**	**27**	P	**P**	**23 54 38.4**	**+0.8**
DBIC	comp=Z,215nm,19.8s,MS3.5,baz=186,slow=32			LR	LR	00 00 43.7	
BBTS	**Babate** comp=Z,176nm,18.3s,MS3.6,baz=72,slow=31	**26.21**	**355**	LR	LR	00 03 26.1	
TORD	**Torodi Ar. Bea** 2.0nm,1.0s,mb3.8,baz=216,slow=8.0,SNR=5.9	**29.18**	**33**	P	**P**	**23 56 01.1**	**-1.4**
TORD	comp=Z,210nm,20.7s,MS3.7,baz=220,slow=32			LR	LR	00 05 38.8	
TSUM	**Tsumeb** comp=Z,297nm,20.1s,MS4.0,baz=320,slow=30	**31.46**	**108**	LR	LR	00 05 50.1	
BDFB	**Brasilia** 3.9nm,1.0s,mb4.3,baz=101,slow=9.3,SNR=4.1	**33.15**	**259**	P	**P**	**23 56 37.8**	**+0.3**
BOSA	**Boshof** comp=Z,217nm,18.8s,MS4.0,baz=331,slow=32	**40.45**	**121**	LR	LR	00 11 38.8	
LSZ	**Lusaka** 0.7nm,0.5s,mb3.5,baz=230,slow=7.9,SNR=3.7	**41.28**	**100**	P	**P**	**23 57 45.7**	**-0.9**
CPUP	**Villa Florida** 2.3nm,0.7s,mb4.0,baz=66,slow=8.8,SNR=10	**43.18**	**244**	P	**P**	**23 58 03.3**	**+1.4**
CPUP	comp=Z,111nm,19.7s,MS3.8,baz=70,slow=31			LR	LR	00 12 35.7	
CPUP	**Villa Florida** 15nm,0.8s,mb4.8	**43.18**	**244**	*e*P	**P**	**23 58 01.6**	**-0.4**
CPUP				LR	LR	00 12 35.7	
SIV	**San Ignacio** 0.8nm,0.7s,mb3.7,baz=64,slow=13,SNR=4.8	**45.72**	**259**	P	**P**	**23 58 22.1**	**-0.4**
HOPE	**Hope Point** 0.1nm,0.4s,mb3.1	**46.11**	**198**	P	**P**	**23 58 23.7**	**-1.2**
ESDC	**Sonseca Array** 0.1nm,0.3s,mb3.2,baz=178,slow=7.3,SNR=4.5	**51.89**	**10**	P	**P**	**23 59 08.5**	**-0.8**
ESDC	comp=Z,89nm,19.5s,MS3.8,baz=135,slow=34			LR	LR	00 19 12.7	
ESDC	**Sonseca Array**	**51.89**	**10**	P	**P**	**23 59 08.5**	**-0.8**
ESDC				LR	LR	00 19 12.7	
KEST	**Kesra** 1.6nm,0.9s,mb4.0,baz=251,slow=13,SNR=3.7	**52.05**	**24**	P	**P**	**23 59 12.2**	**+1.5**
KEST	comp=Z,39nm,18.1s,MS3.5,baz=327,slow=33			LR	LR	00 18 46.2	
LPAZ	**La Paz** 1.9nm,0.8s,mb4.1,baz=112,slow=6.5,SNR=8.5	**52.49**	**258**	P	**P**	**23 59 15.0**	**+0.6**
LPAZ	**La Paz** 2.1nm,0.8s,mb4.1	**52.49**	**258**	*e*P	**P**	**23 59 14.1**	**-0.2**
LVC	**Limon Verde**	**53.23**	**250**	P	**P**	**23 59 19.0**	**-0.7**
EFI	**East Falkland** 9.4nm,0.7s,mb4.8	**53.43**	**213**	*e*P	**P**	**23 59 19.4**	**-1.3**
CFAA	**Coronel Fontan** 0.5nm,0.9s,mb3.5,baz=86,slow=9.4,SNR=6.1	**53.53**	**239**	P	**P**	**23 59 21.3**	**-0.5**
LCO	**Las Campanas** 10nm,0.7s,mb5.0	**55.30**	**243**	*e*P	**P**	**23 59 35.9**	**+1.1**
PLCA	**Paso Flores** comp=Z,47nm,21.1s,MS3.6,baz=208,slow=30	**57.19**	**229**	LR	LR	00 18 35.6	
USHA	**Ushuaia** comp=Z,77nm,18.3s,MS3.9,baz=53,slow=31	**60.41**	**213**	LR	LR	00 21 02.4	
ROSC	**El Rosal** comp=Z,110nm,19.9s,MS4.0,baz=0.6,slow=32	**62.06**	**282**	LR	LR	00 23 11.3	
OTAV	**Otavalo** 3.3nm,1.0s,mb4.3	**64.92**	**276**	*e*P	**P**	**00 00 42.5**	**+1.5**
GERES	**GERESS Array B** comp=Z,164nm,18.6s,MS4.2,baz=218,slow=35	**65.02**	**20**	LR	LR	00 27 43.3	
AKASG	**Malin Array Be** 0.1nm,0.3s,mb3.2,baz=223,slow=7.3,SNR=6.8	**72.62**	**27**	P	**P**	**00 01 27.6**	**-0.6**
AKASG				LR	LR	00 34 40.2	
MAW	**Mawson** comp=Z,90nm,18.9s,MS4.1,baz=265,slow=37	**74.39**	**157**	LR	LR	00 26 15.3	
HFS	**Hagfors** comp=Z,131nm,18.2s,MS4.3,baz=69,slow=38	**74.89**	**14**	LR	LR	00 37 57.9	
NOA	**NORSAR Array B** comp=Z,79nm,18.4s,MS4.0,baz=265,slow=34	**75.15**	**12**	LR	LR	00 32 10.6	
SCHQ	**Schefferville** comp=Z,61nm,18.4s,MS4.0,baz=111,slow=31	**79.60**	**322**	LR	LR	00 30 40.9	
VBMS	**Vicksburg**	**84.87**	**304**	P	**P**	**00 02 37.4**	**+1.3**
ARCES	**ARCESS Array B** comp=Z,67nm,19.4s,MS4.0,baz=198,slow=36	**85.51**	**13**	LR	LR	00 40 50.4	
ULM	**Lac du Bonnet** comp=Z,59nm,19.6s,MS4.0,baz=14,slow=31	**93.61**	**320**	LR	LR	00 39 02.3	
TXAR	**Lajitas Array** comp=Z,36nm,20.6s,MS3.8,baz=5.0,slow=35	**95.19**	**299**	LR	LR	00 44 53.4	

TAP 08 00:01:38.3, 2433N×12162E, h24km, ML3.5, 2C-3D, B, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
EHP	**Heping Village** baz=98	**0.11**	**98**	*i* P	Pb	00 01 43.1	+0.2
EHP	baz=98			*e*S	Sb	00 01 46.5	+0.5
ENA	**Nanau** baz=47	**0.15**	**48**	⇓*i*P	Pb	00 01 43.5	+0.2
ENA	baz=47			*e*S	Sb	00 01 46.8	+0.1
TWD	**Chiawan** baz=185	**0.25**	**185**	⇓*i*P	Pb	00 01 44.6	+0.2
TWD	baz=185			*i* S	Sb	00 01 49.3	+0.7
NNS	**Nan Shan** baz=297	**0.25**	**297**	⇑*i*P	Pb	00 01 45.1	+0.6
NNS	baz=297			*i* S	Sb	00 01 49.3	+0.6
HWA	**Hwalien** baz=190	**0.35**	**182**	P	Pb	00 01 46.6	+0.6
HWA	baz=190			*e*S	Sb	00 01 52.4	+1.2
TWC	**Suao** baz=32	**0.35**	**37**	⇓*i*P	Pb	00 01 46.1	+0.1
TWC	baz=32			*i* S	Sb	00 01 51.2	-0.1
TWE	**Neicheng** baz=12	**0.40**	**6**	⇑*i*P	Pb	00 01 46.9	+0.2
TWE	baz=12			*i* S	Sb	00 01 52.4	0.0
TWT	**Tachien** baz=260	**0.41**	**260**	*e*P	Pb	00 01 47.9	+0.9
TWT	baz=260			S	Sb	00 01 54.1	+1.3
ILA	**Ilan** baz=14	**0.45**	**15**	*e*P	Pb	00 01 47.7	0.0
ILA	baz=14			S	Sb	00 01 54.9	+0.8
ESF	**Shoufeng Towns** baz=193	**0.46**	**193**	*e*P	Pb	00 01 48.1	+0.3
ESL	**Shilin** baz=199	**0.54**	**198**	*e*P	Pb	00 01 48.7	-0.3
ESL	baz=199			*e*S	Sb	00 01 56.9	+0.5
NSTT	**Nanjuang** baz=298	**0.64**	**299**	*i* P	Pb	00 01 51.7	+1.0
NSTT	baz=298			*i* S	Sb	00 02 00.3	+1.0
TWA	**Mucha** baz=354	**0.65**	**357**	*e*P	Pb	00 01 51.5	+0.5
TWA	baz=354			*e*S	Sb	00 02 00.1	+0.4
TAP1	**Taipei** baz=352	**0.71**	**353**	*e*P	Pb	00 01 53.0	+0.9
TAP1	baz=352			*e*S	Sb	00 02 02.9	+1.4
NCU	**National Centr** baz=320	**0.75**	**329**	*e*P	Pb	00 01 54.0	+1.3
NCU	baz=320			*e*S	Sb	00 02 04.4	+1.9
NWF	**Wu-fen Shan** baz=14	**0.76**	**11**	*e*P	Pb	00 01 53.2	+0.4
NWF	baz=14			*e*S	Sb	00 02 03.4	+0.7
HSN	**Hsinchu** baz=323	**0.76**	**309**	*e*P	Pb	00 01 54.1	+1.3
TWB1	**Santiao Chiao** baz=19	**0.76**	**26**	*e*P	Pb	00 01 53.2	+0.4
TWB1	baz=19			*e*S	Sb	00 02 02.7	-0.1
NSY	**Sanyi** baz=277	**0.79**	**277**	*e*P	Pb	00 01 55.0	+1.7
NSY	baz=277			*e*S	Sb	00 02 06.7	+3.2
SMLT	**Sun Moon Lake** baz=237	**0.79**	**236**	*e*P	Pb	00 01 54.3	+1.0
SMLT	baz=237			*e*S	Sb	00 02 05.1	+1.5
TYC	**Yuchr** baz=237	**0.81**	**239**	P	Pb	00 01 54.8	+1.1
TYC	baz=237			*e*S	Sb	00 02 04.9	+0.6
EHY	**Hungye** baz=190	**0.86**	**198**	*e*P	Pb	00 01 54.1	-0.5
EHY	baz=190			*e*S	Sb	00 02 06.7	+1.0
TCU	**Taichung** baz=271	**0.88**	**259**	*e*P	Pb	00 01 56.1	+1.3
TCU	baz=271			*e*S	Sb	00 02 09.1	+2.9
TWY	**Chenhua** baz=359	**0.95**	**359**	*e*P	Pb	00 01 57.2	+1.2
WNT	**Mingjian** baz=243	**0.96**	**243**	P	Pb	00 01 58.2	+1.9
WNT	baz=243			*e*S	Sb	00 02 13.2	+4.6
TWF1	**Yuli** baz=199	**1.01**	**197**	*e*P	Pn	00 01 57.2	+0.3
TWF1	baz=199			*e*S	Sb	00 02 11.6	+1.6
YUS	**Yu-Shan** baz=205	**1.03**	**216**	*e*P	Pn	00 01 57.8	+0.6
CHN5	**Tsauling** baz=231	**1.12**	**230**	*e*P	Pn	00 02 00.9	+2.3
CHN5	baz=231			*e*S	Sn	00 02 16.6	+3.4
WGK	**Gukeng** baz=224	**1.16**	**237**	*e*P	Pn	00 02 01.6	+2.6
WGK	baz=224			*e*S	Sn	00 02 18.8	+4.8
ELDTW	**Lidau** baz=196	**1.26**	**206**	*e*P	Pn	00 02 01.8	+1.4
TWK	**Hsinying** baz=225	**1.48**	**225**	*e*P	Pn	00 02 06.5	+3.1
TWK	baz=225			*e*S	Sn	00 02 27.1	+5.1
SGST	**Jiashian** baz=205	**1.56**	**218**	*e*P	Pn	00 02 07.5	+3.0
EAST	**Anshou** baz=186	**2.06**	**200**	*e*P	Pn	00 02 15.7	+4.3

IDC 08 00:37:26.0±8.5, 3033S×17832W, h0km, mb4.1/4, mb1 4.3/4, mb1mx3.9/15, mbtmp4.1/4, Error ellipse: s-maj=219.1km s-min=35.5km az=38.0, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek** 1.2nm,0.5s,baz=92,slow=9.1,SNR=5.4	**34.23**	**257**	P	P	00 44 13.7	+0.1
ASAR	**Alice Springs** 1.3nm,0.6s,baz=105,slow=7.6,SNR=18	**42.84**	**267**	P	P	00 45 25.9	-0.1
WRA	**Warramunga Arr** 1.4nm,0.3s,baz=113,slow=7.7,SNR=5.8	**43.82**	**272**	P	P	00 45 34.0	0.0
QSPA	**South Pole Qui** 1.7nm,0.7s,baz=69,slow=0.5,SNR=7.7	**59.78**	**180**	P	P	00 47 32.8	+0.4
VNA3	**Neumayer Olymp**	**78.40**	**176**	*e*	P	00 49 24.3	-3.7
VNA3				*e*		00 49 29.0	
VNA2	**Neumayer--Watz** baz=189,slow=5.5	**78.83**	**177**	*e*	P	00 49 27.2	-3.2
VNA2				*e*		00 49 32.0	

*ISK **08** 01:02:05.8, 37.19N×30.12E, h10km, MD2.9*
*CSEM **08** 01:02:05.6±0.1, 37.19N×30.12E, h10km, MD2.9, Error ellipse: s-maj=3.7km s-min=2.6km az=11.0*
*ISCJB **08** 01:02:07.2±0.7, 37.17N±004×30.18E±004, h12km±7km, Error ellipse: s-maj=7.4km s-min=5.9km az=178.9*
*DDA **08** 01:02:08.3, 3723N×3026E, h7km±16km, Md3.0*

ISC 08 01:02:07.5±0.6, 3718N±004×3018E±005, h15km±6km, n10, σ1§04/16, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BCK	**Bucak**	**0.44**	**49**	*e*PG	**Pg**	**01 02 14.6**	**-1.6**
BCK				*e*SG	**Sg**	**01 02 22.6**	**+0.5**
ANTB	**Antalya**	**0.47**	**126**	*e*PG	**Pg**	**01 02 16.6**	**-0.3**
ANTB				*e*SG	**Sg**	**01 02 24.1**	**+0.9**
GOLH	**Golhisar**	**0.49**	**277**	*i* P	**Pg**	**01 02 15.6**	**-1.6**
GOLH				*i* S	**Sg**	**01 02 25.7**	**+1.8**
TKTP	**Tekketepe**	**0.87**	**8**	*i* P	**Pb**	**01 02 23.6**	**-0.7**
TKTP				*i* S	**Sb**	**01 02 37.5**	**+1.7**
AKAS	**Kas**	**1.05**	**206**	*i* P	**Pb**	**01 02 27.9**	**+0.6**
AKAS				*i* S	**Sb**	**01 02 47.1**	**+6.4**
KHL	**Karahalli**	**1.26**	**336**	*e*PN	**Pn**	**01 02 30.2**	**-0.3**
TURN	**Turunc**	**1.29**	**257**	*e*P	**Pn**	**01 02 35.5**	**+4.5**
TURN				*e*S	**Sb**	**01 02 56.7**	**+8.8**
YER	**Yerkesik**	**1.51**	**269**	*e*PN	**Pn**	**01 02 33.0**	**-1.0**
HDMB	**Hadim**	**1.86**	**96**	*e*PN	**Pn**	**01 02 39.0**	**+0.2**
KONT	**Konya--Tatoy**	**1.90**	**65**	*e*PN	**Pn**	**01 02 39.2**	**-0.2**

IDC 08 01:02:32.4±3.0, 4818N×15287E, h0km, mb3.8/4, mb1 4.0/5, mb1mx3.6/22, mbtmp3.7/5, ML2.9/1, MS3.3/1, Ms1 3.3/1, ms1mx2.2/32, Error ellipse: s-maj=76.9km s-min=37.3km az=178.0, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PETK	**Petropavlovsk-** 0.3nm,0.3s,baz=190,slow=11,SNR=4.5	**5.81**	**30**	Pn	Pn	01 04 00.6	+0.8
ZALV	**Zalesovo Beam** 0.8nm,0.5s,baz=64,slow=6.1,SNR=3.8	**41.65**	**304**	P	P	01 10 23.4	+1.3
MKAR	**Makanchi Array** comp=Z,32nm,18.1s,baz=178,slow=39	**46.15**	**296**	LR	LR	01 32 50.4	
NB2	**NORSAR Subarra** comp=Z,1.6nm,0.6s,baz=29,slow=6.5	**66.82**	**341**	P	P	01 13 25.5	+0.1
NOA	**NORSAR Array B** comp=Z,1.5nm,0.6s,baz=28,slow=6.1,SNR=5.4	**66.82**	**341**	P	P	01 13 25.2	-0.1
TXAR	**Lajitas Array** comp=Z,0.4nm,0.8s,baz=283,slow=5.5,SNR=4.2	**76.94**	**61**	P	P	01 14 27.2	+0.6
GERES	**GERESS Array B** comp=Z,0.1nm,0.5s,baz=40,slow=7.7,SNR=4.5	**77.10**	**334**	P	P	01 14 26.1	-1.1

*ISCJB **08** 01:12:33.4±0.9, 2320N±003×7030E±002, h16km±7km, mb4.1/29, MS3.4/5, Error ellipse: s-maj=5.3km s-min=3.7km az=14.3*
*IDC **08** 01:12:33.3±0.6, 2307N×7002E, h0km, mb3.9/18, mb1 4.0/18, mb1mx4.0/27, mbtmp3.9/18, MS3.4/5, Ms1 3.4/5, ms1mx3.1/30, Error ellipse: s-maj=17.5km s-min=13.9km az=24.0*
*NEIC **08** 01:12:34.7±0.4, 2310N×6998E, h10km, mb4.5/14, Error ellipse: s-maj=8.8km s-min=7.0km az=36.0*
NEIC Felt [IV] at Gandhidham. Also felt in Kachchh.
*BJI **08** 01:12:34.7, 2310N×7000E, h10km, mb4.4, Ms4.1*
*NDI **08** 01:12:37.0±4.1, 2315N×7009E, h10km, ML4.5, mb4.5(NEIC)*
*SZGRF **08** 01:13:42.7, 2947N×6526E, h33km, mb4.4, Pakistan*

ISC 08 01:12:34.6±0.9, 2318N±003×7026E±003, h9km±6km, n99, σ1§54/102, mb4.1/29, MS3.4/5, 2C-2D, Southern India

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BHJ	**Bhuj**	**0.56**	**278**	*e*P	**Pg**	**01 12 45.5**	**0.0**
BHJ				*e*S	**Sg**	**01 12 51.8**	**-1.0**
BHJ	comp=N,42μm,0.2s			AML	AML	01 12 53.8	
BHJ	comp=E,32μm,0.4s			AML	AML	01 12 54.5	
BHV	**Bhavnagar**	**2.25**	**129**	*e*P	**Pn**	**01 13 15.5**	**+3.4**
BHV				*ex*	x	01 13 26.0	
BOM	**Bombay**	**4.89**	**150**	*i* P	**Pn**	**01 13 46.3**	**-2.0**

BOM				eS	Sn	01 14 42.7	-2.3
BOM				ex	x	01 14 48.5	
	comp=N,1µm,0.4s						
BOM				ex	x	01 14 48.5	
	comp=E,1µm,0.4s						
AJM	Ajmer	5.16	50	eS	Sn	01 14 54.7	+2.9
AJM				AML	AML	01 15 19.3	
	comp=N,2µm,0.4s						
AJM				AML	AML	01 15 20.6	
	comp=E,2µm,0.4s						
POO	Poona	5.72	143	iS	Sn	01 15 05.0	-0.6
POO				ex	x	01 15 23.9	
AKL	Akola	6.74	110	eP	Pn	01 14 18.0	+4.2
AKL				eS	Sn	01 15 31.5	+0.7
KAD	Karad	6.91	147	eP	Pn	01 14 19.7	+3.5
KAD				ex	x	01 15 40.1	
LATR	Latur	7.56	128	ex	x	01 14 32.0	
LATR				ex	x	01 16 13.0	
NDI	New Delhi	8.32	47	ex	Pn	01 14 36.0	+0.5
NDI				ex	x	01 16 02.0	
GOA	Goa	8.36	156	eP	Pn	01 14 38.4	+2.4
GOA				eS	Sn	01 16 06.6	-3.9
GOA				ex	x	01 17 05.4	
	comp=E,397nm,0.5s						
GOA				ex	x	01 17 05.6	
	comp=N,296nm,0.5s						
NGP	Nagpur	8.40	102	ex	Pn	01 14 37.5	+1.0
NGP				eS	Sn	01 16 10.9	-0.6
NGP				AML	AML	01 17 11.2	
	comp=N,216nm,0.6s						
NGP				AML	AML	01 17 14.4	
	comp=E,130nm,0.3s						
JBP	Jabalpur	8.95	88	eP	Pn	01 14 46.4	+2.3
JBP				eS	Sn	01 16 25.2	+0.1
HYB	Hyderabad	9.67	125	iP	Pn	01 14 56.0	+2.0
HYB				eS	Sn	01 16 49.0	+6.2
HYB	Hyderabad	9.67	125	eP	Pn	01 14 56.0	+2.0
HYB				eS	Sn	01 16 37.5	-5.3
BHK	Bhakra	9.86	32	ex	x	01 15 02.4	
BHK				ex	x	01 17 11.2	
DDI	Dehra Dun	9.96	43	eP	Pn	01 15 03.4	+5.5
DDI				eS	Sn	01 16 49.6	-0.2
SMLA	Simla	10.02	36	iP	Pn	01 15 00.8	+2.0
SMLA				ix	x	01 16 57.3	
PONG	Pong	10.09	29	ex	x	01 16 00.0	
SDNR	Sundarnagar	10.21	34	eP	Pn	01 15 04.5	+3.1
SDNR				ex	x	01 17 05.5	
THN	Thein Dam	10.40	26	ex	Pn	01 15 03.8	-0.2
THN				ex	x	01 17 33.9	
WBK	Wadi Bani Khal	10.42	269	⇑P	Pn	01 15 07.0	+2.7
	SNR=13						
CEP	Cherat	10.70	7	P	Pn	01 15 06.2	-1.9
CEP				S	Sn	01 17 04.0	-4.1
ALBI	Allahabad	10.75	76	ex	Pn	01 15 09.0	+0.2
CHCP	Chirah Chowk	10.77	14	P	Pn	01 15 08.6	-0.4
PTH	Pithoragarh	10.95	53	ex	Pn	01 15 11.2	-0.3
PTH				eS	Sn	01 17 11.1	-3.1
BIDO	Bidbid	11.15	274	⇑P	Pn	01 15 16.2	+1.9
	SNR=12						
SMDO	Samad	11.23	272	P	Pn	01 15 17.8	+2.4
	SNR=8.7						
JMDO	Jabal Madar	11.24	268	P	Pn	01 15 18.5	+3.0
	SNR=9.4						
KBL	Kabul	11.37	355	ePn	Pn	01 15 16.2	-1.0
	comp=E,21nm,0.6s						
KBL				Sn	Sn	01 17 27.2	+2.8
VJD	Vijayawada	11.81	122	ix	x	01 18 37.0	
KOLN	Koldanda	12.89	66	eP	Pn	01 15 37.4	-0.6
	comp=E,58nm,0.5s						
DANN	Dangsing	13.21	64	eP	Pn	01 15 42.1	-0.3
	comp=E,94nm,0.7s						
VIS	Vishakhapatnam	13.40	112	eP	Pn	01 15 46.3	+1.3
MDRS	Chennai	13.82	135	ex	x	01 15 59.0	
GKN	Gorkha	13.83	67	eP	Pn	01 15 49.3	-1.7
	comp=E,54nm,0.3s						
DMN	Daman	14.12	69	eP	Pn	01 15 53.3	-1.6
	comp=E,39nm,0.3s						
KKN	Kakani	14.32	68	eP	Pn	01 15 55.7	-1.9
	comp=E,95nm,0.5s						
BOK	Bokaro	14.36	84	ex	Pn	01 15 57.7	-0.4
PKIN	Phulchoki	14.37	69	eP	Pn	01 15 56.3	-1.9
	comp=E,92nm,0.5s						
PKI	Pulchoki	14.38	69	eP	Pn	01 15 56.3	-2.1
	comp=E,116nm,0.5s						
BWNR	Bhubaneshwar	14.73	98	eP	Pn	01 16 04.0	+0.8
BWNR				ex	x	01 18 56.0	
GUN	Gumba	14.87	68	eP	Pn	01 16 02.9	-2.1
JIRN	Jiri	15.07	69	eP	Pn	01 16 05.0	-2.8
	comp=E,85nm,0.4s						
RAMN	Ramite	15.28	72	eP	Pn	01 16 08.2	-2.4
	comp=E,90nm,0.4s						
ODAN	Odare	15.96	73	eP	Pn	01 16 17.4	-2.0
	comp=E,133nm,0.6s						
WHFO	Wadi Hawf	16.30	254	⇓P	Pn	01 16 30.7	+6.8
	SNR=22						
TAPN	Taplejung	16.32	72	eP	Pn	01 16 22.4	-1.7
	comp=E,101nm,0.7s						
ABTO	Aybut	16.93	253	⇓P	Pn	01 16 39.0	+7.2
	SNR=6.3						
AML	Almayashu	19.11	8	eP	Pn	01 16 59.2	+0.6
	comp=E,23nm,0.5s						
UCH	Uchtor	19.32	10	eP	Pn	01 17 02.6	+1.5
	comp=E,525nm,2.1s						
EKS2	Erkin-Say	19.65	8	eP	Pn	01 17 06.5	+1.5
	comp=E,10nm,0.6s						
LSA	Lhasa	19.79	66	P	Pn	01 17 09.8	+3.0
LSA				AMB	AMB		
	comp=Z,40nm,0.8s						
LSA	Lhasa	19.79	66	eP	Pn	01 17 07.9	+1.1
	comp=Z,41nm,0.9s						
TKM2	Tokmak 2	20.18	11	eP	P	01 17 11.1	+1.7
WMQ	Urumqi	25.11	31	eP	P	01 18 03.0	+3.3
MKAR	Makanchi Array	25.48	19	P	P	01 18 03.9	+0.9
	comp=Z,3.9nm,0.9s,mb4.0,baz=210,slow=9.8,SNR=8.0						
CMAR	Chiang Mai Arr	27.20	95	P	P	01 18 20.2	+1.4
	comp=Z,1.0nm,0.4s,mb3.7,baz=280,slow=11,SNR=8.8						
KURK	Kurchatov	28.25	11	P	P	01 18 30.0	+2.1
	comp=Z,0.4nm,0.4s,mb3.4,baz=208,slow=8.9,SNR=3.7						
KURK				LR	LR	01 30 23.2	
	comp=Z,64nm,19.6s,MS3.2,baz=175,slow=38						
BVAR	Borovoye Array	29.80	0	P	P	01 18 43.5	+1.9
	comp=Z,0.3nm,0.4s,mb3.4,baz=59,slow=22,SNR=2.4						
GTA	Gaotai	29.82	50	eP	P	01 18 44.6	+2.6
GTA				AP	pP	01 18 48.1	+3.4
GTA				AMB	AMB		
	comp=Z,4.0nm,1.0s,mb4.1						
ZALV	Zalesovo Beam	32.63	16	P	P	01 19 06.9	+0.4
	comp=Z,0.6nm,0.4s,mb3.8,baz=229,slow=9.7,SNR=4.2						
ZALV				LR	LR	01 31 48.3	
	comp=Z,16nm,18.2s,MS2.8,baz=240,slow=35						
XAN	Xi'an	35.44	63	P	P	01 19 32.2	+0.9
XAN				AP	pP	01 19 43.2	+9.2
XAN				AMB	AMB		
	comp=Z,14nm,0.8s,mb4.9						
XAN				AMB	AMB		
	comp=Z,31nm,3.1s						
XAN				LR	LR		
	comp=E,71nm,30.5s						
SONM	Songino Array	37.82	40	P	P	01 19 53.9	+2.6
	comp=E,4.3nm,0.7s,mb4.3,baz=242,slow=8.1,SNR=37						
KMBO	Kilima Mbogo	40.19	238	LR	LR	01 37 41.0	
	comp=E,73nm,19.5s,MS3.5,baz=280,slow=38						
IDI	Anoyia	41.06	298	P	P	01 20 18.4	-0.2
	comp=E,3.5nm,0.7s,mb4.1,baz=117,slow=7.5,SNR=7.8						
AKASG	Malin Array Be	41.97	321	P	P	01 20 25.5	-0.4
	comp=E,0.5nm,0.3s,mb3.6,baz=107,slow=7.0,SNR=2.9						
GERES	GERESS Array B	51.03	315	P	P	01 21 36.1	-0.9
	comp=E,0.2nm,0.5s,mb3.4,baz=91,slow=9.8,SNR=3.3						
KSRS	Korea Array	51.05	60	P	P	01 21 37.5	+0.2
	comp=E,3.3nm,0.7s,mb4.4,baz=263,slow=6.9,SNR=6.1						
BRG	Berggiesshubel	51.23	317	eP	P	01 21 39.2	+0.8
	comp=E,2.5nm,1.0s,mb4.1						
BRG				e		01 21 44.3	
	comp=E,4.0nm,0.9s						
GRA1	Grafenberg Arr	52.76	316	eP	P	01 21 56.0	+6.1
	comp=E,5.0nm,0.9s,mb4.4						
GRF	Grafenberg Arr	52.76	316	eP	P	01 21 56.0	+6.1
	comp=Z,5.0nm,0.9s,mb4.4						
ARCES	ARCESS Array B	53.40	342	P	P	01 21 53.2	-1.0
	comp=Z,2.7nm,0.9s,mb4.2,baz=74,slow=6.9,SNR=6.1						
ARCES	ARCESS Array B	53.40	342	P	P	01 21 53.2	-1.0
KEST	Kesra	53.73	298	P	P	01 21 56.2	-1.1
	comp=Z,1.8nm,1.0s,mb3.9,baz=82,slow=12,SNR=2.5						
CDF	Champ du Feu	55.22	314	eP	P	01 22 06.4	-1.5
	comp=Z,5.7nm,0.9s,mb4.3						
CDF	Champ du Feu	55.22	314	eP	P	01 22 06.4	-1.5
	comp=Z,2.8nm,0.9s,mb4.3						
MBDF	Montbardon	55.43	309	eP	P	01 22 08.3	-1.2
	comp=Z,4.3nm,0.6s,mb4.3						
MBDF	Montbardon	55.43	309	eP	P	01 22 08.3	-1.2
	comp=Z,2.2nm,0.6s,mb4.4						
HINF	Hinteralfeld	55.47	313	eP	P	01 22 08.0	-1.7
	comp=Z,6.5nm,0.8s,mb4.4						
HINF	Hinteralfeld	55.47	313	eP	P	01 22 08.0	-1.7
	comp=Z,3.3nm,0.8s,mb4.4						
LPL	La Plagne	55.47	310	eP	P	01 22 08.2	-1.5
CABF	La Chapelle	55.95	312	eP	P	01 22 12.1	-1.0
	comp=Z,22nm,1.3s,mb4.7						
CABF	La Chapelle	55.95	312	eP	P	01 22 12.1	-1.0
	comp=Z,11nm,1.3s,mb4.7						
VIVF	Saint-Julien-l	56.93	309	eP	P	01 22 18.5	-1.7
	comp=Z,11nm,1.1s,mb4.5						
VIVF	Saint-Julien-l	56.93	309	eP	P	01 22 18.5	-1.7
	comp=Z,5.7nm,1.1s,mb4.5						
SMF	Signal de Mont	57.50	312	eP	P	01 22 22.6	-1.5
	comp=Z,16nm,1.3s,mb4.6						
SMF	Signal de Mont	57.50	312	eP	P	01 22 22.6	-1.5
	comp=Z,8.1nm,1.3s,mb4.6						
SSF	Saint Saulge	57.73	312	eP	P	01 22 24.2	-1.5
	comp=Z,3.8nm,0.8s,mb4.2						
SSF	Saint Saulge	57.73	312	eP	P	01 22 24.2	-1.5
	comp=Z,1.9nm,0.8s,mb4.2						
ESDC	Sonseca Array	63.77	304	P	P	01 23 05.9	-1.2
	comp=Z,0.4nm,0.6s,mb3.6,baz=70,slow=6.6,SNR=7.1						
TORD	Torodi Ar. Bea	65.41	274	P	P	01 23 17.4	-0.8
	comp=Z,1.3nm,0.7s,mb4.0,baz=74,slow=5.0,SNR=10						
BOSA	Boshof	67.32	222	P	P	01 23 28.2	-1.9
	comp=Z,4.7nm,1.1s,mb4.4,baz=26,slow=11,SNR=1.8						
BOSA	Boshof	67.32	222	P	P	01 23 28.2	-1.9
FITZ	Fitzroy Crossi	67.89	122	P	P	01 23 35.3	+1.4
	comp=Z,0.6nm,0.6s,mb3.8,baz=170,slow=23,SNR=3.6						
PETK	Petropavlovsk-	70.31	40	LR	LR	02 00 47.9	
	comp=Z,20nm,19.4s,MS3.4,baz=86,slow=41						
DBIC	Dimbokro	73.74	270	LR	LR	01 56 33.0	
	comp=Z,54nm,20.0s,MS3.8,baz=52,slow=36						
WRA	Warramunga Arr	75.78	119	P	P	01 24 22.4	+1.1
	comp=Z,3.3nm,0.8s,mb4.3,baz=312,slow=5.5,SNR=18						
ASAR	Alice Springs	77.39	123	P	P	01 24 31.6	+1.3
	comp=Z,2.0nm,0.8s,mb4.1,baz=306,slow=6.0,SNR=26						
NVAR	Mina Array Bea	118.19	8	PKP	PKPdf	01 31 24.5	+2.0
	comp=Z,0.3nm,0.6s,baz=338,slow=2.1,SNR=3.4						

*ISCJB **08** 01:31:19.4±2.6, 215S±02×16848E±007, h12^{km}±17^{km}, mb4.0/8, MS3.5/5, Error ellipse: s-maj=27.5km s-min=8.5km az=162.5*

*IDC **08** 01:31:19.2±1.2, 2160S×16840E, h0^{km}, mb3.9/8, mb1 4.1/8, mb1mx4.1/15, mbtmp4.0/8, MS3.6/6, Ms1 3.6/6, ms1mx3.2/25, Error ellipse: s-maj=45.1km s-min=25.4km az=153.0*

*NOU **08** 01:31:19.9±1.0, 2091S×16829E, h10^{km}*

*NEIC **08** 01:31:24.8±0.8, 2152S×16834E, h35^{km}, mb4.3/2, Error ellipse: s-maj=28.8km s-min=13.2km az=155.0*

ISC 08 01:31:19.8±3.2**, 216S**±02×**16846E**±007**, h5**^{km}±20^{km}**, n25, σ0^{s}48**/24**, mb4.0**/8**, MS3.5**/5**, Loyalty Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	Mont Dzumac	1.93	255	eP	Pn	01 31 53.0	-0.4
DZM				eS	Sn	01 32 18.3	+0.2
DZM	Mont Dzumac	1.93	255	ePn	Pn	01 31 53.3	-0.1
DZM				Sn	Sn	01 32 17.7	-0.4
NORM	Noumea	1.94	250	eP	Pn	01 31 53.8	+0.2
NORM				eS	Sn	01 32 18.6	+0.2
ONTRN	Noumea	1.99	249	eP	Pn	01 31 54.5	+0.3
ONTRN				eS	Sn	01 32 19.6	0.0
NOUC	Port Laguerre	2.07	255	eP	Pn	01 31 55.2	0.0
NOUC				eS	Sn	01 32 21.4	0.0
URZ	Urewera	18.21	158	LR	LR	01 41 43.9	
	comp=Z,78nm,18.9s,baz=264,slow=34						
CTA	Charters Tower	20.81	270	eP	P	01 36 07.8	+5.6
	7.7nm,0.9s						
CTA	Charters Tower	20.81	270	P	P	01 36 02.6	+0.4
	0.8nm,0.3s,baz=220,slow=10,SNR=3.0						
CTA				LR	LR	01 42 59.0	
	comp=Z,125nm,21.8s,MS3.2,baz=58,slow=34						
STKA	Stephens Creek	26.02	241	eP	P	01 36 55.4	+1.4
	3.3nm,0.8s,mb3.9						
STKA	Stephens Creek	26.02	241	P	P	01 36 53.4	-0.6
	5.5nm,1.0s,mb4.0,baz=108,slow=8.7,SNR=6.2						
STKA				LR	LR	01 45 40.8	
	comp=Z,139nm,20.5s,MS3.5,baz=23,slow=33						
RAR	Rarotonga	29.56	95	LR	LR	01 46 35.8	
	comp=Z,153nm,19.1s,MS3.6,baz=62,slow=31						
WRA	Warramunga Arr	31.91	267	P	P	01 37 45.7	-0.8
	0.8nm,0.6s,mb3.7,baz=101,slow=8.2,SNR=3.3						
WRA				LR	LR	01 50 37.5	
	comp=Z,104nm,19.9s,MS3.5,baz=105,slow=36						
ASAR	Alice Springs	31.92	260	P	P	01 37 45.5	-1.1
	1.6nm,0.8s,mb3.9,baz=84,slow=9.2,SNR=18						
PPT	Papeete	39.66	92	eLR	LR	01 49 26.5	
	72nm,27.2s						
FITZ	Fitzroy Crossi	40.34	267	eP	P	01 38 58.9	+0.2
	6.9nm,0.6s,mb4.6						
FITZ	Fitzroy Crossi	40.34	267	LR	LR	01 55 41.4	
	comp=Z,126nm,18.9s,MS3.8,baz=259,slow=36						
MAW	Mawson	75.99	202	P	P	01 43 08.2	+0.5
	1.3nm,0.7s,mb4.0,baz=83,slow=12,SNR=3.6						
CMAR	Chiang Mai Arr	78.81	295	P	P	01 43 24.9	+0.7
	0.7nm,0.3s,mb4.0,baz=220,slow=29,SNR=2.9						
SNAA	Sanae	86.79	183	e	P	01 44 04.5	-0.4
SNAA				e		01 44 09.9	
VNA3	Neumayer Olymp	87.41	181	e	P	01 44 07.4	-0.5
VNA3				e		01 44 12.7	
VNA2	Neumayer--Watz	87.69	181	e	P	01 44 09.5	+0.3
	baz=190,slow=4.1						
VNA2				e		01 44 15.0	
SONM	Songino Array	88.66	323	P	P	01 44 14.0	0.0
	0.5nm,0.7s,mb4.0,baz=116,slow=3.4,SNR=4.3						
NVAR	Mina Array Bea	90.89	49	P	P	01 44 24.9	+0.1
	0.5nm,0.6s,mb4.0,baz=224,slow=8.6,SNR=5.2						
ARCES	ARCESS Array B	127.13	345	PKP	PKPdf	01 50 24.7	+0.2
	3.5nm,1.1s,baz=318,slow=1.6,SNR=2.5						
GERES	GERESS Array B	146.17	330	PKPbc	PKPbc	01 51 00.5	-0.6
	1.0nm,0.7s,baz=29,slow=3.0,SNR=10.0						

*ISCJB **08** 01:36:54.9±0.3, 4934N±002×678E±003, h0^{km}, Error ellipse: s-maj=3.0km s-min=2.4km az=12.5*

*LDG **08** 01:36:56.6±0.1, 4937N×684E, h1^{km}, Md2.7/1, Ml2.4/11, Error ellipse: s-maj=1.6km s-min=1.3km az=86.0, Suspected Mining induced.*

*BGR **08** 01:36:56.4±0.3, 4936N×680E, h1^{km}, ML1.6/2, Error ellipse: s-maj=4.4km s-min=3.3km az=147.0*

*BNS **08** 01:36:57.1±0.3, 4940N×677E, h1^{km}, ML1.4*

ISC 08 01:36:55.8±0.3**, 4935N**±002×**680E**±003**, h0**^{km}**, n32, σ0^{s}81**/48**, Germany**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RUP	Ruppelstein	0.40	25	ePg	Pg	01 37 03.3	0.0
	SNR=9.6						
WLF	Walferdange	0.53	307	ePg	Pg	01 37 06.8	+0.9
	SNR=4.6						
WLF				eSg	Sg	01 37 12.6	-0.1
	SNR=4.5						
WLF	Walferdange	0.53	307	P	Pg	01 37 09.8	+3.9
ABH	Alteburg	0.72	42	ePg	Pg	01 37 09.8	+0.1
	SNR=1.9						
LANF	Langenberg	0.76	119	ePg	Pg	01 37 10.2	0.0
	SNR=7.6						
KTD	Kalmit	0.84	91	ePg	Pg	01 37 12.7	+0.8
	SNR=3.1						
BGG	Burgeitz	0.93	22	ePg	Pg	01 37 13.9	+0.3
HILG	Hillesheim	0.95	355	ePg	Pg	01 37 14.1	+0.1
HILG				eSg	Sg	01 37 26.7	+0.4
	8.2nm,0.4s						
CDF	Champ du Feu	0.99	161	ePg	Pg	01 37 15.0	+0.4
CDF	Champ du Feu	0.99	161	ePn	Pn	01 37 15.8	-1.0
CDF				eSg	Sg	01 37 28.1	+0.7
CDF				eSn	Sn	01 37 29.9	-1.5
	9.0nm,0.2s						
RFYF	Reffroy	1.13	231	ePn	Pn	01 37 18.8	0.0
	baz=53						
RFYF				eSn	Sn	01 37 34.5	-0.5
	7.7nm,0.2s						
ECH	Echery	1.16	168	ePg	Pg	01 37 18.6	+0.7
	SNR=4.0						
KOE	Koeppel	1.24	29	ePg	Pg	01 37 19.4	-0.1
THEF	They Montfort	1.24	206	ePg	Pg	01 37 19.8	+0.3
	SNR=5.8						
TOD	Tromm	1.33	78	ePg	Pg	01 37 20.7	-0.6
	SNR=2.5						
MEM	Membach	1.36	338	P	Pg	01 37 21.6	-0.3
HAU	Haudompre	1.37	193	ePg	Pg	01 37 22.2	+0.1
HAU				eSg	Sg	01 37 41.4	+1.5
	8.2nm,0.3s						
TNS	Taunus Mts	1.38	50	ePg	Pg	01 37 22.3	0.0
	SNR=3.5						
TNS				eSg	Sg	01 37 40.3	+0.2
	SNR=2.1						
MEZF	Maizieres J'vi	1.43	234	ePn	Pn	01 37 22.9	0.0
	baz=54						
MEZF				eSg	Sg	01 37 43.9	+2.3
	3.9nm,0.2s						
BCLA	Clavier	1.45	319	P	Pn	01 37 23.9	+0.7
GIVF	Givet	1.49	301	ePn	Pn	01 37 22.9	-0.9
GIVF				eSg	Sg	01 37 44.3	+0.7
	8.8nm,0.3s						
MOF	Molkenrain	1.51	171	ePg	Pg	01 37 25.3	+0.5
	SNR=6.1						
HINF	Hinteralfeld	1.53	179	ePn	Pn	01 37 25.1	+0.8
HINF				eSg	Sg	01 37 45.5	+0.6
	14nm,0.2s						
DOU	Dourbes	1.62	299	P	Pn	01 37 25.9	+0.5
SFTF	Sexfontaines	1.63	226	ePn	Pn	01 37 25.1	-0.6
	baz=56						
SFTF	Sexfontaines	1.63	226	ePg	Pg	01 37 27.7	+0.7
	baz=48						
SFTF				eSg	Sg	01 37 49.1	+1.0
	2.4nm,0.2s						
BAIF	Baives	1.83	294	ePn	Pn	01 37 27.9	-0.5
BAIF	Baives	1.83	294	ePg	Pg	01 37 30.5	-0.3
BAIF				eSg	Sg	01 37 55.0	+0.5
	3.8nm,0.3s						
LOR	Lormes	2.86	224	ePn	Pn	01 37 41.5	-1.1
	baz=49						
LOR				eSn	Sn	01 38 15.3	-2.4
LOR				eSg	Sg	01 38 27.4	-0.2
	1.9nm,0.3s						
SSF	Saint Saulge	3.17	225	ePn	Pn	01 37 45.6	-1.3
SSF				eSg	Sg	01 38 37.7	0.0
	1.3nm,0.3s						
SMF	Signal de Mont	3.35	217	ePn	Pn	01 37 48.3	-1.1
SMF				eSn	Sn	01 38 28.0	-1.9
LDF	La Druitiere	4.62	263	ePn	Pn	01 38 06.4	-0.4

MAN 08 01:38:27, 834N×12435E, h24^{km}, mb4.2, ML3.0, MS2.8, 3C-1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CGP	Cagayan de Oro	0.36	72	⇑iP	Pb	01 38 36.0	+1.1
CGP				iS	Sb	01 38 41.5	+1.3
BUKP	Musuan	0.84	123	eP	Pb	01 38 44.7	+1.7
BUKP				eS	Sb	01 38 56.6	+2.7
DCPH	Dipolog City	1.02	284	⇓eP	Pn	01 38 45.4	-0.3
DCPH				eS	Sb	01 38 59.1	+0.2
PAGZ	Pagadian	1.08	243	eP	Pn	01 38 47.0	+0.4
PAGZ				eS	Sb	01 39 01.5	+0.9
CTBH	Cotabato--PC H	1.12	185	⇑iP	Pn	01 38 49.0	+1.8
CTBH				iS	Sn	01 39 04.1	+2.3
BUTP	Butuan	1.40	64	eP	Pn	01 38 54.1	+3.0
TBP	Tagbilaran	1.42	340	eP	Pn	01 38 51.0	-0.3
TBP				eS	Sn	01 39 04.4	-4.9
SNPH	Sibulan	1.48	312	iP	Pn	01 38 53.5	+1.3
SNPH				iS	Sn	01 39 13.0	+2.2
SCPH	Surigao	1.82	38	⇑eP	Pn	01 38 57.8	+1.0
SCPH				eS	Sn	01 39 20.8	+1.7

*TEH **08** 02:34:02.8, 3473N×5304E, h2^{km}, ML3.8*

*CSEM **08** 02:34:50.2±0.1, 3473N×5305E, h5^{km}, ML3.7, Error ellipse: s-maj=1.4km s-min=1.4km az=164.0*

*ISCJB **08** 02:34:51.2±0.5, 3481N±002×5306E±003, h6^{km}±5^{km}, Error ellipse: s-maj=4.6km s-min=3.7km az=9.6*

*THR **08** 02:34:52.1±0.3, 3471N×5296E, h18^{km}±3^{km}, ML3.8*

ISC 08 02:34:53.1±0.5**, 3486N**±002×**5306E**±003**, h16**^{km}±5^{km}**, n28, σ1^{s}21**/43**, Northern and central Iran**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IFIR	Firoozkooh	0.82	343	ePg	Pg	02 35 08.9	-0.2
IFIR				e	Sg	02 35 27.7	+7.7
ISFB	Sefidab	0.84	233	ePg	Pg	02 35 05.5	-3.9
ISFB				e	Sg	02 35 21.4	+1.0
IANJ	Anjilo	0.93	49	ePg	Pg	02 35 10.0	-1.2
ISHM	Shahmirzad	0.97	11	ePg	Pg	02 35 11.7	-0.2
ISHM				e		02 35 42.7	
IVRN	Varamin	1.10	278	ePg	Pg	02 35 11.5	-2.9
IVRN				eSg	Sg	02 35 27.9	-0.9
IVRN	Varamin	1.10	278	ePg	Pg	02 35 11.2	-3.2
IVRN				ePg	Pg	02 35 11.5	-2.9
IVRN				eSg	Sg	02 35 27.9	-0.9
IVRN				e		02 35 35.5	
DAMV	Damavand	1.18	311	ePg	Pg	02 35 15.0	-0.8
DAMV				AML	AML	02 35 40.3	
	comp=E,2µm,0.3s						
IALA	Alasht	1.24	351	ePg	Pg	02 35 15.8	-1.2
IALA				e		02 35 44.7	
IKIA	Kiasar	1.44	21	ePn	Pn	02 35 20.5	+2.0
IKIA				e		02 35 52.6	
GHVR	GHOM	1.50	256	ePg	Pn	02 35 18.5	-0.8
GHVR				AML	AML	02 35 47.2	
	comp=E,1µm,0.5s						
GHVR				AML	AML	02 35 52.3	
	comp=N,838nm,0.3s						
IGLO	Ghaloghah	1.76	21	ePn	Pn	02 35 25.4	+2.5
IGLO				e		02 36 06.4	
CHTH	Charan	1.89	304	ePN5	Pn	02 35 26.1	+1.4
CHTH				AML	AML	02 35 58.0	
	comp=E,1µm,0.4s						
IKLH	Kolahrood	1.96	219	ePn	Pn	02 35 24.3	-1.4
IKLH				eSn	Sn	02 35 48.3	-1.6
IKLH	Kolahrood	1.96	219	ePn	Pn	02 35 24.3	-1.4
IKLH				eSn	Sn	02 35 48.3	-1.6
IKLH				e		02 35 55.7	
IZEF	Zefreh	2.05	197	ePn	Pn	02 35 25.6	-1.2
IZEF				e	Sg	02 35 59.5	+0.6
NASN	Na'in	2.06	186	ePg	Pn	02 35 27.1	+0.1
NASN	Na'in	2.06	186	ePn	Pn	02 35 27.1	+0.1
	SNR=52						
NASN				eSg	Sg	02 35 53.9	-5.5
	SNR=91						
IMHD	Mahdasht	2.12	294	ePn	Pn	02 35 29.0	+1.2
IMHD				e	Sg	02 36 07.8	+6.4
IGAR	Gharneh	2.59	199	ePn	Pn	02 35 33.3	-1.0
IGAR				e	Sg	02 36 15.9	-0.3
IRAZ	Razeghan	2.62	283	ePn	Pn	02 35 35.5	+0.8
IRAZ				e	Sg	02 36 18.4	+1.1
IPIR	Pirpir	2.82	220	e	Sg	02 36 24.8	+1.1
ICHK	Chekchek	2.84	156	ePn	Pn	02 35 37.0	-0.7
ICHK				e	Sg	02 36 31.1	+6.8
ISAD	Sadrabad	2.98	170	e	Sg	02 36 30.0	+1.1
IMEH	Mehriz	3.69	159	ePn	Pn	02 35 48.5	-1.0
IMEH				e	Sg	02 36 53.0	+1.2
MRVT	Maraveh tapeh	3.72	40	ePn	Pn	02 35 53.0	+3.2
MRVT	Maraveh tapeh	3.72	40	ePn	Pn	02 35 53.0	+3.2
	SNR=52						
IPAY	Payeh	5.09	70	ePn	Pn	02 36 09.7	+1.0
IPAY				e	Sb	02 37 21.1	-1.6
IKOO	Kooshah	5.52	114	ePn	Pn	02 36 14.1	-0.5
IKOO				e		02 36 20.6	

*IDC **08** 02:35:52.9±18.0, 1856S×17068E, h0^{km}, mb4.0/4, mb1 4.2/4, mb1mx3.8/16, mbtmp4.0/4, Error ellipse: s-maj=307.5km s-min=118.2km az=61.0*

ISC 08 02:36:21.8±3.7**, 1809S**±009×**1677E**±05**, h35**^{km}**, n7, σ0^{s}43**/9**, mb4.3**/4**, 1D, Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	Mont Dzumac	4.13	196	eP	Pn	02 37 22.0	-0.4
DZM				eS	Sn	02 38 09.3	-0.1
NOUC	Port Laguerre	4.19	198	eP	Pn	02 37 23.7	+0.4
NOUC				eS	Sn	02 38 11.2	+0.1
CTA	Charters Tower	20.33	261	P	P	02 41 00.3	+5.1
	2.1nm,0.8s,baz=102,slow=9.8,SNR=4.8						
STKA	Stephens Creek	27.24	235	P	P	02 41 57.8	-5.0
	2.1nm,0.6s,mb3.8,baz=87,slow=12,SNR=2.8						

WRA	Warramunga Arr	31.54	261	P	P	02 42 40.3	-0.6
	0.9nm,0.7s,mb3.7,baz=96,slow=8.5,SNR=7.4						
ASAR	Alice Springs	31.98	254	P	P	02 42 44.8	-0.1
	7.4nm,0.7s,mb4.6,baz=82,slow=8.9,SNR=79						
FITZ	Fitzroy Crossi	39.89	263	⇓iP	P	02 43 53.3	+0.7
	14nm,0.6s,mb4.9						

*IDC **08** 03:12:04.0±2.0, 3.72S×150.13E, h0km, mb4.4/8, mb1 4.5/8, mb1mx4.3/18, mbtmp4.4/8, MS4.1/19, Ms1 4.1/19, ms1mx4.0/22, Error ellipse: s-maj=65.5km s-min=15.5km az=116.0*

*GCMT **08** 03:12:05.2±0.2, 3.44S×149.48E, h17km±1km, MW5.0/82, Moment Tensor Solution. s27,c34; s82,c124; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}0.52±.12; $M_{\theta\theta}$0.88±.12; $M_{\phi\phi}$-1.39±.13; $M_{r\theta}$0.47±.29; $M_{\theta\phi}$3.66±.10; $M_{\phi r}$0.11±.27; Best double couple: $M_0$3.86700×10^{16} NP1:ϕ_s8.00000°,δ83.00000°,λ176.00000°. NP2: ϕ_s99.00000°,δ86.00000°,λ7.00000°. Principal axes: T 3.6380, Plg8.0000°, Azm324.0000°; N 0.4610, Plg82.0000°, Azm127.0000°; P -4.0960, Plg2.0000°, Azm233.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*NEIC **08** 03:12:05.2±1.3, 3.76S×150.22E, h10km, mb4.5/3 Error ellipse: s-maj=45.3km s-min=11.4km az=102.0*

*ISCJB **08** 03:12:08.6±1.5, 3.77S±0.10×149.8E±0.3, h33km, mb4.4/7, MS4.1/16, Error ellipse: s-maj=39.6km s-min=12.6km az=8.7*

ISC 08 03:12:10.3±1.5**, 3.78S**±0.10×**149.9E**±0.3**, h35km, n30, σ1.06**/14**, mb4.4**/7**, MS4.1**/16**, Bismarck Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PMG	Port Moresby	6.20	206	ePn	Pn	03 13 40.8	+1.3
	11nm,0.6s						
CTA	Charters Tower	16.59	192	LR	LR	03 22 26.5	
	comp=Z,333nm,18.8s,baz=13,slow=37						
CTAO	Charters Tower	16.59	192	Pn	Pn	03 15 59.2	-1.1
	7.9nm,0.8s						
GUMO	Guam	17.95	344	LR	LR	03 21 20.0	
	comp=Z,983nm,21.4s,baz=146,slow=31						
KAKA	Kakadu	19.38	242	eP	Pn	03 16 31.5	-3.1
	20nm,0.7s						
WB2	Warramunga Arr	22.07	222	eP	P	03 17 02.2	-0.2
WRA	Warramunga Arr	22.07	222	P	P	03 17 01.9	-0.5
	15nm,0.8s,mb4.4,baz=42,slow=10,SNR=32						
WRA				S	S	03 21 12.1	+8.0
	0.3nm,0.4s,baz=50,slow=18,SNR=5.1						
WRA				LR	LR	03 26 18.1	
	comp=Z,689nm,20.3s,MS4.1,baz=45,slow=38						
ASAR	Alice Springs	25.07	217	P	P	03 17 32.2	+0.6
	8.9nm,0.9s,mb4.3,baz=51,slow=8.4,SNR=51						
DAV	Davao City (W)	26.52	294	LR	LR	03 28 13.2	
	comp=Z,104nm,19.1s,MS3.4,baz=327,slow=36						
BATI	Baumata	26.76	255	P	P	03 17 46.9	-0.2
	16nm,0.3s,mb5.0,baz=104,slow=12,SNR=3.9						
FITZ	Fitzroy Crossi	27.66	237	eP	P	03 17 57.1	+2.0
	20nm,0.6s,mb4.9						
FITZ	Fitzroy Crossi	27.66	237	P	P	03 17 55.4	+0.3
	9.4nm,0.6s,mb4.6,baz=56,slow=15,SNR=26						
FITZ				LR	LR	03 29 53.1	
	comp=Z,688nm,18.2s,MS4.3,baz=50,slow=38						
STKA	Stephens Creek	29.01	195	LR	LR	03 30 55.8	
	comp=Z,435nm,18.8s,MS4.1,baz=13,slow=39						
MJAR	Matsushiro Arr	41.56	346	LR	LR	03 34 12.2	
	comp=Z,204nm,20.2s,MS4.0,baz=165,slow=32						
KSRS	Korea Array	45.82	336	LR	LR	03 35 52.2	
	comp=Z,176nm,21.9s,MS4.0,baz=144,slow=31						
CMAR	Chiang Mai Arr	54.80	296	LR	LR	03 44 00.3	
	comp=Z,119nm,18.7s,MS4.0,baz=283,slow=35						
PETK	Petropavlovsk-	57.06	6	LR	LR	03 43 06.8	
	comp=Z,84nm,18.9s,MS3.9,baz=181,slow=33						
PPT	Papeete	60.83	108	eLR	LR	03 40 54.7	
	132nm,25.5s						
PPT	Papeete	60.83	108	LR	LR	03 45 29.1	
	comp=Z,171nm,18.6s,MS4.2,baz=254,slow=33						
TBI	Tubuai	61.65	114	eLR	LR	03 41 19.1	
	308nm,31.8s						
SONM	Songino Array	63.92	329	P	P	03 22 39.3	-0.4
	1.0nm,0.7s,mb4.0,baz=137,slow=5.0,SNR=4.3						
SONM				LR	LR	03 48 37.9	
	comp=Z,154nm,20.1s,MS4.2,baz=145,slow=34						
MKAR	Makanchi Array	77.64	319	P	P	03 24 04.6	+1.4
	1.0nm,0.9s,baz=110,slow=6.6,SNR=2.9						
MKAR				LR	LR	03 58 20.2	
	comp=Z,105nm,18.3s,baz=257,slow=36						
ZALV	Zalesovo Beam	78.69	327	LR	LR	03 57 41.4	
	comp=Z,108nm,19.9s,MS4.2,baz=236,slow=35						
KURK	Kurchatov	81.17	322	P	P	03 24 22.8	+0.4
	0.6nm,0.2s,mb4.1,baz=101,slow=5.0,SNR=2.6						
KURK				LR	LR	04 01 50.3	
	comp=Z,88nm,18.9s,MS4.1,baz=105,slow=37						
MAW	Mawson	85.38	203	LR	LR	04 00 58.1	
	comp=Z,190nm,19.5s,MS4.5,baz=60,slow=34						
BVAR	Borovoye Array	86.68	323	P	P	03 24 49.1	-1.3
	0.4nm,0.4s,mb4.0,baz=230,slow=41,SNR=2.8						
BVAR				LR	LR	04 00 39.1	
	comp=Z,126nm,21.7s,MS4.3,baz=82,slow=34						
AKTO	Aktyubinsk	94.06	320	LR	LR	04 07 09.3	
	comp=Z,156nm,18.6s,MS4.5,baz=249,slow=35						
YKA	Yellowknife Ar	95.89	28	LR	LR	04 11 02.4	
	comp=Z,29nm,18.6s,MS3.8,baz=180,slow=37						
GERES	GERESS Array B	121.64	327	PKP	PKPdf	03 30 59.9	-0.6
	0.2nm,0.7s,baz=316,slow=5.4,SNR=2.7						
TORD	Torodi Ar. Bea	147.21	288	PKPbc	PKPbc	03 31 50.8	-0.3
	3.5nm,0.9s,baz=54,slow=2.5,SNR=14						

*ISCJB **08** 03:19:47.0±0.8, 38.56N±0.07×75.5E±0.1, h33km, mb3.9/7, MS3.5/2, Error ellipse: s-maj=12.9km s-min=9.4km az=143.9*

*IDC **08** 03:19:49.5±6.7, 38.56N×75.71E, h50km±61km, mb3.7/7, mb1 3.8/10, mb1mx3.6/26, mbtmp3.6/10, ML3.7/2, MS3.3/1, Ms1 3.3/1, ms1mx2.4/40, Error ellipse: s-maj=54.0km s-min=24.4km az=9.0*

*BJI **08** 03:19:49.8, 39.29N×75.25E, h27km, ML3.4*

*NEIC **08** 03:19:50.0±2.0, 38.67N×75.49E, h41km±16km, Error ellipse: s-maj=21.5km s-min=11.1km az=193.0*

ISC 08 03:19:48.0±2.9**, 38.6N**±0.1×**75.5E**±0.1**, h26km**±19km**, n28, σ0.98**/31**, mb3.9**/7**, MS3.5**/2**, 3C-3D, Southern Xinjiang**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KSH	Kashi	1.03	21	⇓iP	Pn	03 20 00.0	-6.7
KSH				S	Sn	03 20 10.7	-10
KSH				Smax			
	comp=N,6μm,0.7s						
KSH				Smax			
	comp=E,7μm,0.5s						
UCH	Uchtor	3.75	349	P	Pn	03 20 44.4	+0.4
	SNR=36						
UCH	Uchtor	3.75	349	ePn	Pn	03 20 44.2	+0.3
AML	Almayashu	3.83	339	P	Pn	03 20 45.4	+0.3
	SNR=16						
AML	Almayashu	3.83	339	ePn	Pn	03 20 45.4	+0.3
KBK	Karagaybulak	4.12	354	P	Pn	03 20 51.0	+1.9
	SNR=7.1						
AAK	Ala-Archa	4.15	350	P	Pn	03 20 50.9	+1.4
	SNR=9.5						
EKS2	Erkin-Say	4.31	343	P	Pb	03 21 01.8	-1.1
	SNR=6.3						
EKS2	Erkin-Say	4.31	343	ePn	Pn	03 20 51.9	+0.1
TKM2	Tokmak 2	4.36	1	⇑Pn	Pn	03 20 52.4	-0.1
	comp=E,13nm,0.7s						
TKM2				⇓Lg		03 21 54.0	
	comp=E,61nm,0.7s						
TKM2	Tokmak 2	4.36	1	P	Pn	03 20 53.1	+0.6
	SNR=14						
TKM2	Tokmak 2	4.36	1	ePn	Pn	03 20 52.2	-0.3
KK31	Karatay Array	5.91	322	⇑Pn	Pn	03 21 13.4	-0.3
	comp=E,2.2nm,0.4s,baz=140,slow=14,SNR=49						
KK31				⇑Sn	Sn	03 22 20.2	-0.4
	comp=E,3.3nm,0.3s,baz=148,slow=21						
KK31				⇓Lg		03 22 44.7	
	comp=E,15nm,0.6s,baz=137,slow=29						
KK31	Karatay Array	5.91	322	Pn	Pn	03 21 13.4	-0.3
KK31				Sn	Sn	03 22 20.2	-0.4
KK31				Lg		03 22 44.7	
MKAR	Makanchi Array	9.63	29	P	Pn	03 22 03.7	-1.0
	comp=E,0.4nm,0.3s,baz=197,slow=13,SNR=12						
MKAR	Makanchi Array	9.63	29	P	Pn	03 22 03.7	-1.0
BVAR	Borovoye Array	14.90	348	P	Pn	03 23 17.5	+0.9
	comp=E,0.5nm,0.3s,baz=163,slow=11,SNR=8.6						
ZALV	Zalesovo Beam	16.67	20	P	Pn	03 23 39.0	-0.5
	baz=206,slow=9.5,SNR=3.3						
KMI	Kunming	26.62	112	P	P	03 25 26.2	+1.9
	comp=E,20nm,0.5s						
KMI				LR	LR		
	comp=Z,200nm,20.6s,MS3.6						
ARCES	ARCESS Array B	40.69	336	P	P	03 27 24.8	-0.8
	comp=Z,2.3nm,0.6s,mb4.0,baz=106,slow=8.6,SNR=16						
KSRS	Korea Array	40.86	75	P	P	03 27 24.9	-2.6
	comp=Z,1.9nm,0.8s,mb3.8,baz=43,slow=17,SNR=2.9						
GERES	GERESS Array B	44.70	304	P	P	03 27 59.5	+1.0
	comp=Z,0.6nm,0.7s,mb3.6,baz=70,slow=7.7,SNR=6.7						
GERES				LR	LR	03 49 44.4	
	comp=Z,33nm,19.4s,MS3.3,baz=128,slow=40						
NB2	NORSAR Subarra	44.95	322	P	P	03 27 59.6	-0.7
	comp=Z,1.5nm,0.8s,mb3.9,baz=92,slow=8.6						
NOA	NORSAR Array B	44.95	322	P	P	03 27 59.8	-0.5
	comp=Z,1.9nm,0.8s,mb4.0,baz=92,slow=7.8,SNR=3.8						
DAVOX	Davos/Dischmat	47.68	302	P	P	03 28 21.8	-0.1
	comp=Z,1.1nm,0.4s,mb4.3,baz=84,slow=10						
ESDC	Sonseca Array	59.65	298	P	P	03 29 49.1	-0.6
	comp=Z,0.6nm,0.5s,mb3.9,baz=55,slow=7.2,SNR=10						
TORD	Torodi Ar. Bea	69.31	271	P	P	03 30 53.0	-0.3
	comp=Z,0.6nm,0.3s,mb4.0,baz=49,slow=5.8,SNR=45						
TORD	Torodi Ar. Bea	69.31	271	P	P	03 30 53.0	-0.3

*CSEM **08** 03:50:25.6±0.1, 48.25N×3.60W, h12km, ML3.4/26, Error ellipse: s-maj=1.5km s-min=1.1km az=36.0*

*BGS **08** 03:50:26.1±0.6, 48.20N×3.60W, h10km, ML2.6*

*LDG **08** 03:50:27.8±0.2, 48.22N×3.49W, h11km, Md3.4/3, Ml3.3/32, Error ellipse: s-maj=2.7km s-min=2.2km az=108.0*

*NEIC **08** 03:50:27.8, 48.22N×3.49W, h11km, ML3.3(LDG), ML3.5(STR), After LDG.*

*STR **08** 03:50:32.3±0.5, 48.29N×2.80W, h5km, Ml3.3, Error ellipse: s-maj=0.0km s-min=0.0km az=0.0*

ISC 08 03:50:26.1±0.3**, 48.20N**±0.02×**3.40W**±0.03**, h10km, n104, σ1.23**/231**, France**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ROSF	Rostrenen	0.16	33	ePg	Pg	03 50 31.6	+1.9
	SNR=1.0						
ROSF				eSg	Sg	03 50 34.6	+2.5
	602nm,0.2s,SNR=1.0						
ROSF	Rostrenen	0.16	33	ePg	Pg	03 50 31.6	+1.9
	SNR=1.0						
ROSF				eSg	Sg	03 50 34.6	+2.5
	301nm,0.2s,SNR=1.0						
QUIF	Quistinic	0.33	151	ePg	Pg	03 50 34.9	+2.3
	SNR=1.0						
QUIF				eSg	Sg	03 50 40.0	+3.0
	389nm,0.2s,SNR=1.0						
QUIF	Quistinic	0.33	151	ePg	Pg	03 50 34.9	+2.3
	SNR=1.0						
QUIF				eSg	Sg	03 50 40.0	+3.0
	195nm,0.2s,SNR=1.0						
SGMF	Saint Gilles	0.57	84	ePn	Pg	03 50 41.2	+4.0
	SNR=1.0						
SGMF				eSg	Sg	03 50 48.5	+3.9
	146nm,0.2s,SNR=1.0						
SGMF				eSn	Sg	03 50 50.6	+6.0
	SNR=1.0						
SGMF	Saint Gilles	0.57	84	ePn	Pg	03 50 41.2	+4.0
	SNR=1.0						
SGMF				eSg	Sg	03 50 48.5	+3.9
	73nm,0.2s,SNR=1.0						
SGMF				eSn	Sg	03 50 50.6	+6.0
	SNR=1.0						
SGMF	Saint Gilles	0.57	84	ePg	Pg	03 50 39.5	+2.3
SGMF				ePn	Pg	03 50 41.2	+4.0
SGMF				eSg	Sg	03 50 48.5	+3.9
SGMF				eSn	Sg	03 50 50.6	+6.0
JSA	Saint Aubin	1.28	39	P	Pn	03 50 50.2	+0.1
JSA				S	Sb	03 51 07.7	+0.9
JSA				AML	AML	03 51 10.2	
	114nm,0.3s						
JSA				AML	AML	03 51 10.5	
	79nm,0.4s						
JSA	Saint Aubin	1.28	39	eP	Pn	03 50 50.2	+0.1
JSA				eS	Sb	03 51 07.7	+0.9
JSA				AML	AML	03 51 10.2	
	comp=N,114nm,0.3s						
JSA				AML	AML	03 51 10.5	
	comp=E,79nm,0.4s						
JSA	Saint Aubin	1.28	39	eP	Pn	03 50 50.2	+0.1
JSA				eS	Sb	03 51 07.7	+0.9
	comp=E,79nm,0.4s						
JVM	Valle D.L. Mar	1.29	38	eP	Pn	03 50 50.3	+0.1
JRS	Jersey	1.32	41	eP	Pn	03 50 50.7	+0.1
JRS				eS	Sb	03 51 08.3	+0.5
JRS				AML	AML	03 51 11.2	
	comp=E,71nm,0.2s						
JRS	Jersey	1.32	41	eP	Pn	03 50 50.7	+0.1
JRS				eS	Sb	03 51 08.3	+0.4
	comp=E,71nm,0.2s						
JQE	Queens East	1.35	42	eP	Pn	03 50 51.2	+0.2
JLP	Les Platons	1.35	39	eP	Pn	03 50 51.2	+0.2
GRR	Gorron	1.71	83	ePn	Pn	03 50 56.3	+0.4
	SNR=1.0						
GRR	Gorron	1.71	83	eP	Pn	03 50 57.8	+1.9
GRR	Gorron	1.71	83	ePg	Pg	03 51 00.1	+1.2
GRR				eSn	Sn	03 51 17.4	-0.4
	SNR=1.0						
GRR				eSg	Sg	03 51 23.3	+2.2
	comp=E,86nm,0.2s,SNR=1.0						
GRR	Gorron	1.71	83	eP	Pn	03 50 57.8	+1.9
GRR	Gorron	1.71	83	ePg	Pg	03 51 00.1	+1.2
GRR				eSn	Sn	03 51 17.4	-0.4
	SNR=1.0						
GRR				eSg	Sg	03 51 23.3	+2.2
	comp=E,43nm,0.2s,SNR=1.0						
GRR	Gorron	1.71	83	eP	Pn	03 50 57.8	+1.9
GRR				ePg	Pg	03 51 00.1	+1.2
GRR				eSn	Sn	03 51 17.4	-0.4
GRR				eSg	Sg	03 51 23.3	+2.2
FLN	La Foliniere	2.02	73	ePn	Pn	03 51 01.2	+0.9
	baz=247,SNR=1.0						
FLN	La Foliniere	2.02	73	eP	Pn	03 51 02.7	+2.4
	baz=251						
FLN	La Foliniere	2.02	73	ePg	Pg	03 51 06.1	+1.2
	baz=254						
FLN				eSn	Sn	03 51 24.6	-1.0
FLN				eSg	Sg	03 51 32.7	+1.6
	comp=E,33nm,0.2s,baz=250,SNR=1.0						
FLN	La Foliniere	2.02	73	eP	Pn	03 51 02.7	+2.4
FLN	La Foliniere	2.02	73	ePg	Pg	03 51 06.1	+1.2
FLN				eSn	Sn	03 51 24.6	-1.0
FLN				eSg	Sg	03 51 32.7	+1.6
	comp=E,16nm,0.2s,SNR=1.0						
FLN	La Foliniere	2.02	73	ePn	Pn	03 51 01.2	+0.9
FLN				ePg	Pg	03 51 06.1	+1.2
FLN				eSn	Sn	03 51 24.6	-1.0
FLN				eSg	Sg	03 51 32.7	+1.6
CMA1	Manaccan	2.20	330	eP	Pn	03 51 01.2	-1.4
CMA1	Manaccan	2.20	330	eP	Pn	03 51 01.2	-1.4
LDF	La Druitiere	2.22	79	ePg	Pg	03 51 10.2	+1.5
LDF				eSn	Sn	03 51 29.7	-0.7
LDF				eSg	Sg	03 51 38.9	+1.4
	comp=E,45nm,0.2s,SNR=1.0						
LDF	La Druitiere	2.22	79	ePg	Pg	03 51 10.2	+1.5
LDF				eSn	Sn	03 51 29.7	-0.7
LDF				eSg	Sg	03 51 38.9	+1.4
	comp=E,23nm,0.2s,SNR=1.0						
LDF	La Druitiere	2.22	79	ePn	Pn	03 51 03.8	+0.8
LDF				ePg	Pg	03 51 10.2	+1.5
LDF				eSn	Sn	03 51 29.7	-0.7
LDF				eSg	Sg	03 51 38.9	+1.4
DYA	Yadsworthy	2.26	351	P	Pn	03 51 02.3	-1.3
DYA				S	Sn	03 51 28.9	-2.6
DYA				AML	AML	03 51 38.8	
	comp=E,44nm,0.4s						
DYA				AML	AML	03 51 38.9	
	comp=E,41nm,0.3s						
DYA	Yadsworthy	2.26	351	eP	Pn	03 51 02.3	-1.3
DYA				eS	Sn	03 51 28.9	-2.6
DYA				AML	AML	03 51 38.8	
	comp=N,44nm,0.4s						
DYA				AML	AML	03 51 38.9	
	comp=E,41nm,0.3s						
DYA	Yadsworthy	2.26	351	eP	Pn	03 51 02.3	-1.2
DYA				eS	Sn	03 51 28.9	-2.5
	comp=E,41nm,0.3s						
CCA1	Carnmenellis	2.32	330	eP	Pn	03 51 02.4	-1.9
CSA1	St Austell	2.36	336	eP	Pn	03 51 03.5	-1.4
MFF	Saint Martin d	2.73	125	ePg	Pg	03 51 18.9	+0.5
	SNR=1.0						
MFF				eSn	Sn	03 51 41.9	-1.1
MFF				eSg	Sg	03 51 55.2	+1.4
	comp=E,38nm,0.2s,SNR=1.0						
MFF	Saint Martin d	2.73	125	ePg	Pg	03 51 18.9	+0.5
	SNR=1.0						
MFF				eSn	Sn	03 51 41.9	-1.1
MFF				eSg	Sg	03 51 55.2	+1.4
	comp=E,19nm,0.2s,SNR=1.0						
MFF	Saint Martin d	2.73	125	ePn	Pn	03 51 10.6	+0.6
MFF				ePg	Pg	03 51 18.9	+0.5
MFF				eSn	Sn	03 51 41.9	-1.1
MFF				eSg	Sg	03 51 55.2	+1.4
HTL	Hartland	2.88	346	eP	Pn	03 51 10.6	-1.4
HTL				eS	Sn	03 51 43.9	-2.8
HTL				AML	AML	03 52 03.8	
	comp=E,21nm,0.5s						
HTL				AML	AML	03 52 04.9	
	comp=N,24nm,0.5s						
HTL	Hartland	2.88	346	eP	Pn	03 51 10.6	-1.5
HTL				eS	Sn	03 51 43.9	-2.8
	comp=N,24nm,0.5s						
HTR	Trewern Hill	3.88	1	eP	Pn	03 51 24.9	-0.9
HYF	Humbligny	4.18	101	ePn	Pn	03 51 30.7	+0.8
HYF				ePg	Pg	03 51 46.3	+0.1
HYF				eSg	Sg	03 52 41.2	+0.8
TCF	Toulx Ste Croi	4.28	115	ePg	Pg	03 51 48.5	+0.5
	SNR=1.0						
TCF				eSn	Sn	03 52 18.4	-2.7
	SNR=1.0						
TCF				eSg	Sg	03 52 43.5	+0.1
	comp=N,19nm,0.4s,SNR=1.0						
TCF	Toulx Ste Croi	4.28	115	ePg	Pg	03 51 48.5	+0.5
	SNR=1.0						
TCF				eSn	Sn	03 52 18.4	-2.7
	SNR=1.0						
TCF				eSg	Sg	03 52 43.5	+0.1
	comp=N,9.3nm,0.4s,SNR=1.0						
TCF	Toulx Ste Croi	4.28	115	ePn	Pn	03 51 32.0	+0.8
TCF				ePg	Pg	03 51 48.5	+0.5
TCF				eSn	Sn	03 52 18.4	-2.7
TCF				eSg	Sg	03 52 43.5	+0.1
LFF	La Frestale	4.34	137	ePn	Pn	03 51 33.0	+0.9
	SNR=1.0						
LFF				eSn	Sn	03 52 19.0	-3.6
	comp=N,6.7nm,0.2s						
LFF				eSg	Sg	03 52 45.1	-0.3
	comp=N,33nm,0.5s,SNR=1.0						
LFF	La Frestale	4.34	137	ePn	Pn	03 51 33.0	+0.9
	SNR=1.0						
LFF				eSn	Sn	03 52 19.0	-3.6
	comp=N,3.3nm,0.2s						
LFF				eSg	Sg	03 52 45.1	-0.3
	comp=N,17nm,0.5s,SNR=1.0						
RJF	Les Rejaudoux	4.45	129	ePn	Pn	03 51 34.2	+0.5
	SNR=1.0						
RJF				eSn	Sn	03 52 22.1	-3.4
	comp=N,11nm,0.3s						
RJF				eSg	Sg	03 52 49.4	+0.3
	comp=N,30nm,0.3s,SNR=1.0						
RJF	Les Rejaudoux	4.45	129	ePn	Pn	03 51 34.2	+0.5
	SNR=1.0						
RJF				eSn	Sn	03 52 22.1	-3.4
	comp=N,5.3nm,0.3s						
RJF				eSg	Sg	03 52 49.4	+0.3
	comp=N,15nm,0.3s,SNR=1.0						
BGF	Bois d'Agland	4.55	109	ePn	Pn	03 51 35.6	+0.6
	SNR=1.0						
BGF				eSn	Sn	03 52 25.2	-2.8
	comp=N,25nm,0.4s,SNR=1.0						
BGF				eSg	Sg	03 52 53.1	+0.8
	comp=N,38nm,0.4s						
BGF	Bois d'Agland	4.55	109	ePn	Pn	03 51 35.6	+0.6
	SNR=1.0						
BGF				eSn	Sn	03 52 25.2	-2.8
	comp=N,13nm,0.4s,SNR=1.0						
BGF				eSg	Sg	03 52 53.1	+0.8
	comp=N,19nm,0.4s						
AVF	Avril sur Loir	4.79	105	ePn	Pn	03 51 38.4	+0.1
	SNR=1.0						
AVF				eSn	Sn	03 52 30.5	-3.3
AVF				eSg	Sg	03 52 59.8	-0.1
	comp=N,3.6nm,0.3s						
AVF	Avril sur Loir	4.79	105	ePn	Pn	03 51 38.4	+0.1
	SNR=1.0						
AVF				eSn	Sn	03 52 30.5	-3.3
AVF				eSg	Sg	03 52 59.8	-0.1
	comp=N,1.8nm,0.3s						
SSF	Saint Saulge	4.81	101	ePg	Pg	03 51 57.8	-0.4
	SNR=1.0						
SSF				eSn	Sn	03 52 31.3	-2.9
	SNR=1.0						
SSF				eSg	Sg	03 53 00.4	-0.1
	comp=N,11nm,0.4s,SNR=1.0						
SSF	Saint Saulge	4.81	101	ePg	Pg	03 51 57.8	-0.4
	SNR=1.0						
SSF				eSn	Sn	03 52 31.3	-2.9
	SNR=1.0						
SSF				eSg	Sg	03 53 00.4	-0.1
	comp=N,5.7nm,0.4s,SNR=1.0						
SSF	Saint Saulge	4.81	101	ePn	Pn	03 51 38.9	+0.4
SSF				ePg	Pg	03 51 57.8	-0.4
SSF				eSn	Sn	03 52 31.3	-2.9
SSF				eSg	Sg	03 53 00.4	-0.1
AGO	Saint Agoulin	4.95	113	Pn	Pn	03 51 40.6	+0.1
AGO				Sg	Sg	03 53 03.2	-1.8
LOR	Lormes	4.99	98	ePn	Pn	03 51 41.3	+0.3
	baz=279						
LOR	Lormes	4.99	98	ePg	Pg	03 52 01.2	-0.4
	baz=281						
LOR				eSn	Sn	03 52 35.5	-3.2
LOR				eSg	Sg	03 53 06.3	+0.1
	comp=N,6.2nm,0.3s						
LOR	Lormes	4.99	98	ePg	Pg	03 52 01.2	-0.4
LOR				eSn	Sn	03 52 35.5	-3.2
LOR				eSg	Sg	03 53 06.3	+0.1
	comp=N,3.1nm,0.3s						
LOR	Lormes	4.99	98	ePn	Pn	03 51 41.3	+0.3
LOR				ePg	Pg	03 52 01.2	-0.4
LOR				eSn	Sn	03 52 35.5	-3.2
LOR				eSg	Sg	03 53 06.3	+0.1
CAF	Calviac	5.00	129	ePn	Pn	03 51 41.7	+0.6
	SNR=1.0						
CAF				eSn	Sn	03 52 34.6	-4.3
	comp=N,11nm,0.2s,SNR=1.0						
CAF				eSg	Sg	03 53 06.7	+0.3
	comp=N,16nm,0.3s						
CAF	Calviac	5.00	129	ePn	Pn	03 51 41.7	+0.6
	SNR=1.0						
CAF				eSn	Sn	03 52 34.6	-4.3
	comp=N,5.6nm,0.2s,SNR=1.0						
CAF				eSg	Sg	03 53 06.7	+0.3
	comp=N,7.8nm,0.3s						
PYM	Petit Puy Mans	5.03	117	Pn	Pn	03 51 42.4	+0.9
PYM				Sg	Sg	03 53 05.9	-1.5
EARI	Arriondas	5.06	195	P	Pn	03 51 43.5	+1.5
EARI	Arriondas	5.06	195	P	Pn	03 51 43.5	+1.4
EARI				S	Sn	03 52 33.8	-6.8
EALK	Alkurruntz	5.16	164	P	Pn	03 51 43.8	+0.5
EALK	Alkurruntz	5.16	164	P	Pn	03 51 43.8	+0.4
EALK				S	Sn	03 52 38.8	-4.0
SMF	Signal de Mont	5.16	105	ePn	Pn	03 51 43.5	+0.2
	SNR=1.0						
SMF				eSn	Sn	03 52 39.8	-3.0
SMF				eSg	Sg	03 53 11.5	-0.1
	comp=N,9.9nm,0.6s,SNR=1.0						
SMF	Signal de Mont	5.16	105	ePn	Pn	03 51 43.5	+0.2
	SNR=1.0						
SMF				eSn	Sn	03 52 39.8	-3.0
SMF				eSg	Sg	03 53 11.5	-0.1
	comp=N,4.9nm,0.6s,SNR=1.0						
ELIZ	Elizondo	5.21	165	P	Pn	03 51 44.3	+0.3
ELIZ	Elizondo	5.21	165	P	Pn	03 51 44.3	+0.3
ELIZ				S	Sn	03 52 39.9	-4.2
PLDF	La Plantade	5.29	112	Pn	Pn	03 51 46.1	+0.9
PLDF				Sg	Sg	03 53 15.0	-0.9
SJPF	Ste Jean	5.31	163	ePn	Pn	03 51 45.5	0.0
	SNR=1.0						
SJPF				eSn	Sn	03 52 39.9	-6.8
	comp=N,2.7nm,0.3s						
BAIF	Baives	5.33	67	eSn	Sn	03 52 43.6	-3.5
	comp=N,3.4nm,0.2s,SNR=1.0						
BAIF	Baives	5.33	67	eSn	Sn	03 52 43.6	-3.5
	comp=N,1.7nm,0.2s,SNR=1.0						

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
LBL	Lubilhac	5.45	121	Pn	Pn	03 51 48.2	+0.8
LBL				Sg	Sg	03 53 21.4	+0.3
EPON	Pontenova	5.54	210	P	Pn	03 51 50.1	+1.6
EPON	Pontenova	5.54	210	P	Pn	03 51 50.1	+1.6
EPON				S	Sn	03 52 46.6	-5.6
SFTF	Sexfontaines	5.64	87	ePn	Pn	03 51 50.4	+0.4
	baz=266						
SFTF				eSn	Sn	03 52 50.6	-4.2
SFTF				eSg	Sg	03 53 26.8	-0.4
	comp=N,9.4nm,0.4s						
SFTF	Sexfontaines	5.64	87	ePn	Pn	03 51 50.4	+0.4
SFTF				eSn	Sn	03 52 50.6	-4.2
SFTF				eSg	Sg	03 53 26.8	-0.4
	comp=N,4.7nm,0.4s						
MEZF	Maizieres J'vi	5.64	84	ePn	Pn	03 51 49.8	-0.2
	baz=266						
MEZF				eSg	Sg	03 53 26.9	-0.3
	comp=N,9.9nm,0.4s						
MEZF	Maizieres J'vi	5.64	84	ePn	Pn	03 51 49.8	-0.2
MEZF				eSg	Sg	03 53 26.9	-0.3
	comp=N,4.9nm,0.4s						
ETSF	Etsaut	5.67	158	ePn	Pn	03 51 50.1	-0.2
	SNR=1.0						
ETSF				eSn	Sn	03 52 47.8	-7.6
	comp=N,3.1nm,0.4s						
EPF	Esparros	5.80	152	ePg	Pg	03 52 14.5	-2.7
	SNR=1.0						
EPF				eSn	Sn	03 52 52.4	-6.3
	comp=N,5.8nm,0.2s						
EPF	Esparros	5.80	152	ePn	Pn	03 51 52.0	-0.2
EPF				ePg	Pg	03 52 14.5	-2.7
EPF				eSn	Sn	03 52 52.4	-6.3
EBIE	Bielsa	6.05	154	P	Pn	03 51 56.6	+0.9
EBIE				S	Sn	03 53 02.9	-2.1
MTLF	Montolieu	6.25	139	ePn	Pn	03 51 58.7	+0.4
	SNR=1.0						
MTLF				eSn	Sn	03 53 03.2	-6.6
	comp=N,4.1nm,0.4s,SNR=1.0						
MTLF	Montolieu	6.25	139	ePn	Pn	03 51 58.7	+0.4
	SNR=1.0						
MTLF				eSn	Sn	03 53 03.2	-6.6
	comp=N,2.0nm,0.4s,SNR=1.0						
VIVF	Saint-Julien-l	6.50	118	eSn	Sn	03 53 12.4	-3.5
VIVF				eSg	Sg	03 53 54.2	-0.4
	comp=N,4.3nm,0.3s						
VIVF	Saint-Julien-l	6.50	118	eSn	Sn	03 53 12.4	-3.5
VIVF				eSg	Sg	03 53 54.2	-0.4
	comp=N,2.2nm,0.3s						
LASF	Ste Croix	6.52	127	ePn	Pn	03 52 02.6	+0.6
	SNR=1.0						
LASF				eSn	Sn	03 53 12.0	-4.3
LASF				eSg	Sg	03 53 54.5	-0.7
	comp=N,11nm,0.5s						
LASF	Ste Croix	6.52	127	ePn	Pn	03 52 02.6	+0.6
	SNR=1.0						
LASF				eSn	Sn	03 53 12.0	-4.3
LASF				eSg	Sg	03 53 54.5	-0.7
	comp=N,5.4nm,0.5s						
HAU	Haudompre	6.54	88	eSg	Sg	03 53 51.4	-4.4
	comp=N,4.2nm,0.3s,SNR=1.0						
CABF	La Chapelle	6.64	100	ePn	Pn	03 52 03.2	-0.4
	SNR=1.0						
CABF				eSg	Sg	03 53 58.0	-1.0
	comp=N,3.1nm,0.5s						
CABF	La Chapelle	6.64	100	ePn	Pn	03 52 03.2	-0.4
	SNR=1.0						
CABF				eSg	Sg	03 53 58.0	-1.0
	comp=N,1.5nm,0.5s						
HINF	Hinteralfeld	6.89	89	eSg	Sg	03 54 05.8	-1.4
	comp=N,3.6nm,0.3s						
HINF	Hinteralfeld	6.89	89	eSg	Sg	03 54 05.8	-1.4
	comp=N,1.8nm,0.3s						
CDF	Champ du Feu	7.13	84	ePg	Pg	03 52 40.1	-2.4
	SNR=1.0						
EMIR	Miracle	7.19	149	P	Pn	03 52 15.0	+3.8
EMIR	Miracle	7.19	149	P	Pn	03 52 15.0	+3.7
EMIR				S	Sn	03 53 35.6	+2.7
LPL	La Plagne	7.45	107	ePn	Pn	03 52 14.7	-0.1

*ISCJB **08** 04:22:00.8±0.8, 3978N±004×2776E±004, h1^{km}±7^{km}, Error ellipse: s-maj=7.4km s-min=4.6km az=13.6*
*ISK **08** 04:22:00.3, 3970N×2774E, h5^{km}, MD2.7*
*DDA **08** 04:22:00.7, 3974N×2777E, h7^{km}±1^{km}, Md2.9*
*CSEM **08** 04:22:00.3±0.1, 3974N×2774E, h6^{km}±1^{km}, MD2.9, Error ellipse: s-maj=4.2km s-min=1.8km az=43.0*

ISC 08 04:22:01.1±0.6, **3976N**±004×**2774E**±004, **h6**^{km}±4^{km}, **n13**, σ**0^{s}65**/20, **Turkey**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
BALY	Balya	0.10	257	i P	Pg	04 22 03.4	+0.2
BALY				i S	Sg	04 22 05.5	+0.9
BALB	Balikesir	0.16	139	PG	Pg	04 22 03.8	-0.6
BALB				eSG	Sg	04 22 06.3	-0.3
DURS	Dursunbey	0.59	106	i P	Pg	04 22 11.8	-0.6
DURS				i S	Sg	04 22 20.1	+0.1
DST	Dursunbey	0.70	103	ePG	Pg	04 22 13.4	-1.2
DST				eSG	Sg	04 22 24.1	+0.4
RKY	Sarkoy-Tekirda	1.02	335	ePN	Pn	04 22 22.0	0.0
DEMI	Demirci	1.04	133	i P	Pg	04 22 20.9	-0.2
MFT	Murefte	1.08	341	ePN	Pn	04 22 22.6	-0.2
EZN	Ezine	1.09	274	ePN	Pn	04 22 21.4	-1.6
ULDT	Uludag	1.14	70	i P	Pg	04 22 23.3	+0.4
ULDT				i S	Sg	04 22 38.0	+0.3
MANT	Manisa	1.42	153	i P	Pn	04 22 28.8	+1.3
MANT				i S	Sb	04 22 46.5	+0.2
KULA	Kula-Manisa	1.44	150	ePN	Pn	04 22 27.2	-0.5
YLV	Yalova	1.49	57	ePN	Pn	04 22 28.9	+0.5
GDZ	Gediz	1.50	116	i P	Pn	04 22 29.3	+0.6
GDZ				i S	Sn	04 22 48.7	+0.1

*ISCJB **08** 04:41:53.3±1.8, 18.1S±02×1797E±02, h517^{km}±30^{km}, mb3.6/6, Error ellipse: s-maj=37.6km s-min=18.7km az=143.1*
*IDC **08** 04:41:55.1±2.1, 1833S×17987E, h534^{km}±30^{km}, mb3.1/6, mb1 3.5/7, mb1mx3.2/17, mbtmp3.2/7, Error ellipse: s-maj=39.2km s-min=15.8km az=155.0*

ISC 08 04:41:54.6±1.6, **181S**±02×**1798E**±02, **h521**^{km}±28^{km}, **n11**, σ**1^{s}21**/8, **mb3.6**/6, **Fiji Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
AFI	Afiamalu	9.15	64	P	P	04 44 03.2	-0.3
	5.0nm,0.3s,baz=55,slow=12,SNR=4.6						
RAO	Raoul Island	11.26	170	P	P	04 44 25.7	+0.5
	153nm,0.3s,baz=315,slow=22,SNR=3.9						
WRA	Warramunga Arr	42.89	260	P	P	04 49 07.6	+0.4
	1.9nm,0.3s,mb4.1,baz=95,slow=7.7,SNR=17						
ASAR	Alice Springs	43.06	255	P	P	04 49 06.8	-1.7
	1.4nm,0.4s,mb3.9,baz=92,slow=8.2,SNR=35						
FITZ	Fitzroy Crossi	51.28	261	P	P	04 50 10.8	+0.2
	0.7nm,0.3s,mb3.4,baz=160,slow=23,SNR=14						
MJAR	Matsushiro Arr	67.08	325	P	P	04 51 57.2	+1.1
	1.6nm,0.4s,mb4.0,baz=325,slow=26,SNR=7.3						
NVAR	Mina Array Bea	80.80	45	P	P	04 53 12.9	-1.0
	0.3nm,0.4s,mb3.0,baz=231,slow=8.2,SNR=4.1						
PDAR	Pinedale Array	88.72	44	P	P	04 53 53.1	+0.6
	0.4nm,0.7s,mb3.4,baz=204,slow=0.9,SNR=3.5						
ARCES	ARCESS Array B	126.23	349	PKhKP		04 59 46.0	
	1.7nm,0.9s,baz=329,slow=19,SNR=2.4						
ARCES				PKP	PKPdf	04 59 55.4	-1.7
	2.8nm,1.0s,baz=43,slow=1.6,SNR=7.4						
AKASG	Malin Array Be	139.94	331	PKP	PKPdf	05 00 20.1	-3.2
	1.9nm,0.4s,baz=40,slow=3.8,SNR=6.4						
GERES	GERESS Array B	147.36	343	PKPbc	PKPbc	05 00 40.2	+0.7
	0.5nm,0.7s,baz=80,slow=1.5,SNR=4.1						

*ISCJB **08** 04:44:46.8±0.8, 2489N±006×12194E±003, h107^{km}±5^{km}, Error ellipse: s-maj=9.3km s-min=4.5km az=171.2*
*JMA **08** 04:44:46.9±0.3, 2495N×12198E, h108^{km}, M3.2*
*TAP **08** 04:44:47.1, 2490N×12190E, h106^{km}, ML4.0, C*

ISC 08 04:44:47.2±0.8, **2491N**±006×**12193E**±003, **h106**^{km}±5^{km}, **n39**, σ**0^{s}62**/55, **4D**, **Taiwan**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
TWB1	Santiao Chiao	0.11	26	⇓iP	Pn	04 45 02.1	+0.2
	baz=34						
TWB1				S	Sn	04 45 12.7	-0.2
	baz=34						
NWF	Wu-fen Shan	0.22	320	⇓P	Pn	04 45 02.2	+0.1
	baz=327						
NWF				S	Sn	04 45 13.4	+0.1
	baz=327						
ILA	Ilan	0.22	231	eP	Pn	04 45 02.2	+0.1
	baz=227						
ILA				eS	Sn	04 45 13.8	+0.5
	baz=227						
TWE	Neicheng	0.30	233	P	Pn	04 45 02.7	+0.2
	baz=231						
TWE				eS	Sn	04 45 14.4	+0.5
	baz=231						
TWC	Suao	0.30	195	⇓iP	Pn	04 45 02.6	+0.1
	baz=189						
TWC				S	Sn	04 45 13.7	-0.3
	baz=189						
TWA	Mucha	0.33	283	P	Pn	04 45 02.9	+0.4
	baz=285						
TWA				eS	Sn	04 45 14.2	0.0
	baz=285						
TAP1	Taipei	0.40	290	eP	Pn	04 45 03.1	+0.2
	baz=292						
TAP1				eS	Sn	04 45 14.5	-0.3
	baz=292						
TWY	Chenhua	0.48	321	eP	Pn	04 45 03.5	0.0
	baz=323						
ENA	Nanau	0.51	200	P	Pn	04 45 04.0	+0.3
	baz=197						
ENA				eS	Sn	04 45 16.8	+0.8
	baz=197						
NCU	National Centr	0.68	276	eP	Pn	04 45 05.1	+0.1
	baz=276						
NNS	Nan Shan	0.69	228	P	Pn	04 45 05.0	0.0
	baz=226						
PCYT	Pengchaiyu	0.73	10	eP	Pn	04 45 05.9	+0.5
	baz=11						
TWD	Chiawan	0.88	201	eP	Pn	04 45 05.8	-1.0
	baz=199						
HSN	Hsinchu	0.88	264	eP	Pn	04 45 06.5	-0.3
	baz=265						
HSN				eS	Sn	04 45 20.7	-0.9
	baz=265						
NSTT	Nanjuang	0.89	252	eP	Pn	04 45 06.6	-0.3
	baz=252						
NSTT				eS	Sn	04 45 21.0	-0.8
	baz=252						
TWT	Tachien	0.95	227	eP	Pn	04 45 08.0	+0.5
	baz=226						
HWA	Hwalien	0.97	198	eP	Pn	04 45 07.7	-0.1
	baz=196						
YOJ	Yonaguni jima	1.07	114	P	Pn	04 45 08.7	-0.1
YOJ				S	Sn	04 45 25.2	0.0
NSY	Sanyi	1.17	246	eP	Pn	04 45 09.9	0.0
	baz=245						
NSY				eS	Sn	04 45 27.3	+0.2
	baz=245						
ESL	Shilin	1.18	203	eP	Pn	04 45 08.7	-1.3
	baz=201						
TCU	Taichung	1.37	237	eP	Pn	04 45 12.0	-0.2
	baz=236						
SMLT	Sun Moon Lake	1.39	223	eP	Pn	04 45 12.4	0.0
	baz=222						
TYC	Yuchr	1.40	225	⇓iP	Pn	04 45 12.4	-0.2
	baz=224						
TYC				eS	Sn	04 45 31.2	-0.6
	baz=224						
EHY	Hungye	1.50	202	eP	Pn	04 45 12.2	-1.5
	baz=200						
TWF1	Yuli	1.65	201	eP	Pn	04 45 14.9	-0.7
	baz=199						
YUS	Yu-Shan	1.67	213	eP	Pn	04 45 16.9	+1.1
	baz=211						
ALS	Alishan	1.73	217	eP	Pn	04 45 16.9	+0.3
	baz=216						
IRIF	Iriomote-Funau	1.73	109	P	Pn	04 45 16.2	-0.4
CHN5	Tsauling	1.73	222	eP	Pn	04 45 16.5	-0.2
	baz=220						
CHKT	Chengkung	1.87	196	eP	Pn	04 45 19.2	+0.9
	baz=195						
ELDTW	Lidau	1.90	206	eP	Pn	04 45 19.0	+0.2
	baz=205						
JKRS	Kuro-shima	2.00	109	P	Pn	04 45 20.2	+0.2
JKRS				eS	Sn	04 45 45.4	+0.3
STYT	Tauyuan	2.04	212	eP	Pn	04 45 22.3	+1.8
	baz=211						
JIJ	Ishigaki jima	2.08	105	P	Pn	04 45 20.7	-0.3
JIJ				S	Sn	04 45 45.8	-1.1
TWK	Hsinying	2.10	219	eP	Pn	04 45 22.8	+1.5
	baz=218						
TWG	Pinlang	2.22	201	eP	Pn	04 45 22.8	-0.1
	baz=200						
SSD	Sandimen	2.46	209	eP	Pn	04 45 26.7	+0.8
	baz=208						
JTJ	Tarama	2.53	95	P	Pn	04 45 26.9	+0.1
JTJ				eS	Sn	04 45 57.4	+0.1
PNG	Penghu	2.55	239	eP	Pn	04 45 25.7	-1.4
	baz=238						

*ISCJB **08** 04:50:19.4±0.9, 3930N±003×2018E±006, h7^{km}±6^{km}, Error ellipse: s-maj=8.2km s-min=5.1km az=176.3*
*ATH **08** 04:50:19.8, 3933N×2029E, h39^{km}, MD3.5/4*
*CSEM **08** 04:50:19.0±0.3, 3925N×2015E, h8^{km}, ML3.2/4, Error ellipse: s-maj=7.2km s-min=4.8km az=78.0*
*THE **08** 04:50:20.7, 3930N×2029E, h2^{km}±2^{km}, ML3.2/4, Error ellipse: s-maj=3.9km s-min=0.8km az=265.0*

ISC 08 04:50:20.4±0.6, **3928N**±003×**2029E**±007, **h4**^{km}±6^{km}, **n15**, σ**0^{s}95**/24, **2D**, **Greece-Albania border region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
IGT	Igoumenitsa	0.26	8	P	Pg	04 50 24.5	-0.9
IGT				S	Sg	04 50 28.6	-0.3
KEK	Kerkira	0.58	319	⇓P	Pg	04 50 30.9	-0.6
KEK				eS	Sg	04 50 40.9	+1.9
KEK	Kerkira	0.58	319	⇓PN	Pg	04 50 30.9	-0.6
KEK				eSN	Sg	04 50 40.9	+1.9
LKD	Levkas	0.63	153	P	Pg	04 50 32.5	0.0
MEV	Metsovon	0.89	55	P	Pg	04 50 37.0	-0.4
VLS	Valsamata	1.12	168	P	Pg	04 50 42.0	+0.1
VLS				S	Sg	04 50 58.1	+1.7
VLS	Valsamata	1.12	168	eP	Pg	04 50 40.5	-1.4
VLS				S	Sg	04 50 58.1	+1.7
VLS	Valsamata	1.12	168	ePB	Pg	04 50 40.5	-1.4
VLS				eSN	Sn	04 50 58.3	-0.3
KFL	Anninata	1.23	161	P	Pg	04 50 44.0	+0.1
THL	Klokotos Trika	1.37	77	P	Pn	04 50 46.0	-0.2
THL				S	Sb	04 51 05.7	+1.3
THL	Klokotos Trika	1.37	77	ePN	Pn	04 50 44.1	-2.1
RLS	Riolos of Patr	1.53	142	eP	Pn	04 50 46.8	-1.6
RLS	Riolos of Patr	1.53	142	ePN	Pn	04 50 46.8	-1.6
AGG	Agios Georgios	1.61	98	P	Pn	04 50 49.9	+0.4
AGG				S	Sn	04 51 11.2	+0.5
FNA	Florina	1.72	29	P	Pn	04 50 51.4	+0.3
FNA				S	Sn	04 51 13.7	+0.2

MAN 08 05:04:46, **1512N**×**12198E**, **h1**^{km}, **mb4.2**, **ML3.0**, **MS2.8**, **1C-1D**, **Luzon**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
POLP	Polilio Island	0.39	186	eP	Pg	05 04 55.2	+1.6
POLP				eS	Sg	05 05 02.0	+3.3
BALP	Baler	0.73	328	eP	Pg	05 05 01.2	+1.2
BALP				eS	Sg	05 05 14.6	+5.2
PCPH	Palayan	0.96	297	⇑eP	Pg	05 05 05.8	+1.3
PCPH				eS	Sg	05 05 21.7	+4.8
GQP	Guinayangan	1.29	160	⇓eP	Pg	05 05 10.7	0.0
GQP				eS	Sg	05 05 28.0	+0.4
NBP	Mount Natib	1.56	256	eP	Pn	05 05 17.2	+2.3
CAUP	Cauayan	1.82	355	eP	Pn	05 05 18.8	+0.4
CAUP				eS	Sn	05 05 43.7	+1.6
PVCP	Virac	2.59	125	eP	Pn	05 05 32.6	+3.5
PVCP				eS	Sn	05 06 03.9	+2.6

IDC 08 05:04:54.9±4.5, **496S**×**14751E**, **h0**^{km}, **mb4.4**/2, **mb1 4.7**/3, **mb1mx4.0**/14, **mbtmp4.5**/3, **Error ellipse: s-maj=121.4km s-min=32.9km az=103.0**, **Bismarck Sea**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	19.65	220	P	Pn	05 09 26.1	-0.6
	2.1nm,0.3s,baz=44,slow=12,SNR=70						
ASAR	Alice Springs	22.76	214	P	P	05 09 58.3	-0.6
	6.5nm,0.5s,baz=47,slow=8.9,SNR=104						
FITZ	Fitzroy Crossi	25.05	237	P	P	05 10 21.4	+0.2
	5.8nm,0.6s,baz=68,slow=11,SNR=23						
MKAR	Makanchi Array	77.03	320	P	P	05 16 50.0	+0.1
	0.1nm,0.3s,baz=120,slow=5.4,SNR=4.5						

KRSC 08 05:10:22.9±0.9, **5297N**×**15878E**, **h127**^{km}±23^{km}, **ML3.7**, **Near east coast of Kamchatka Peninsula**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PET	Petropavlovsk	0.09	305	eP	Pn	05 10 40.6	+0.5
PET				i S	Sn	05 10 53.1	0.0
AVH	Avacha	0.30	355	eP	Pn	05 10 41.8	+1.2
AVH				i S	Sn	05 10 55.7	+1.7
NLC	Nalytchevo	0.40	59	eP	Pn	05 10 41.5	+0.5
NLC				i S	Sn	05 10 56.2	+1.5
RUS	Russkaya	0.56	197	eP	Pn	05 10 42.1	+0.1
RUS				i S	Sn	05 10 55.9	-0.4
SPN	Mys Shipunski	0.76	80	eP	Pn	05 10 44.4	+1.0
SPN				i S	Sn	05 10 59.8	+0.9
GNL	Ganaly	0.88	326	eP	Pn	05 10 44.8	+0.4
GNL				i S	Sn	05 11 00.4	-0.3
MIPR	Malaya Ipel'ka	1.42	241	eP	Pn	05 10 50.4	+0.6
MKZ	Mys Kozlova	2.37	47	eP	Pn	05 11 02.3	+1.1
MKZ				i S	Sn	05 11 30.5	-0.1
TUMR	Tumrok	2.45	19	P	Pn	05 11 04.5	+2.2
KBTR	Krutoberegovo	4.01	34	eP	Pn	05 11 24.2	+1.7
KBTR				i S	Sn	05 12 09.1	+0.3

*CSEM **08** 05:11:33.6±0.2, 3928N×2024E, h2^{km}, ML3.3/3, Error ellipse: s-maj=5.9km s-min=3.8km az=61.0*
*THE **08** 05:11:33.6, 3931N×20.19E, h0^{km}±2^{km}, ML3.3/3, Error ellipse: s-maj=4.2km s-min=0.6km az=274.0*
*ISCJB **08** 05:11:34.4±0.6, 3929N±003×20.19E±006, h10^{km}, Error ellipse: s-maj=6.5km s-min=3.8km az=162.6*
*ATH **08** 05:11:34.2, 3923N×20.17E, h12^{km}±3^{km}, MD3.5/6*
*NEIC **08** 05:11:34.2, 3923N×20.17E, h12^{km}, MD3.5(ATH), After ATH.*

ISC 08 05:11:34.4±0.6, **3928N**±003×**2024E**±005, **h2**^{km}±6^{km}, **n23**, σ**1^{s}02**/35, **2D**, **Greece-Albania border region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
IGT	Igoumenitsa	0.26	16	P	Pg	05 11 38.6	-0.9
IGT				S	Sg	05 11 42.1	-0.8
KEK	Kerkira	0.55	322	ePb	Pg	05 11 45.2	+0.2
KEK				eSb	Sg	05 11 53.1	+1.0
KEK	Kerkira	0.55	322	ePB	Pg	05 11 45.2	+0.2
KEK				eSB	Sg	05 11 53.1	+1.0
LKD	Levkas	0.66	150	P	Pg	05 11 46.7	-0.2
LKD				S	Sg	05 11 57.1	+1.7
MEV	Metsovon	0.92	56	P	Pg	05 11 50.9	-1.1
VLS	Valsamata	1.13	166	P	Pg	05 11 55.9	-0.2
VLS				eSb	Sb	05 12 10.8	-1.1
VLS				S	Sg	05 12 13.2	+2.4
VLS	Valsamata	1.13	166	ePb	Pb	05 11 55.2	-1.5
VLS				eSb	Sb	05 12 10.8	-1.1
VLS	Valsamata	1.13	166	ePB	Pb	05 11 55.2	-1.5
VLS				eSB	Sb	05 12 10.8	-1.1
KFL	Anninata	1.24	160	P	Pg	05 11 57.5	-0.7
THL	Klokotos Trika	1.41	78	P	Pn	05 11 59.8	-1.2
THL				S	Sg	05 12 20.6	+1.0
THL	Klokotos Trika	1.41	78	ePn	Pn	05 12 00.1	-0.9
THL				S	Sg	05 12 20.6	+1.0
THL	Klokotos Trika	1.41	78	ePN	Pn	05 12 00.1	-0.9
RLS	Riolos of Patr	1.55	141	⇓iPg	Pg	05 12 02.8	-1.4
RLS				eSb	Sb	05 12 24.6	+0.6
RLS	Riolos of Patr	1.55	141	⇓iPG	Pg	05 12 02.8	-1.4
RLS				eSB	Sb	05 12 24.6	+0.6
KZN	Kozani	1.57	49	ePb	Pb	05 12 05.1	+1.0
KZN	Kozani	1.57	49	ePB	Pb	05 12 05.1	+1.0
AGG	Agios Georgios	1.65	98	P	Pn	05 12 04.1	-0.2
FNA	Florina	1.74	30	P	Pn	05 12 06.4	+0.8
LIT	Litokhoron	1.92	64	P	Pn	05 12 09.7	+1.6
LTK	Loutraki	2.48	120	P	Pn	05 12 15.2	-0.6
ITM	Ithomi	2.48	147	Pb	Pn	05 12 15.7	-0.1
ITM	Ithomi	2.48	147	⇑PB	Pn	05 12 15.7	-0.1
SG1	Sgolgore (BA)	3.15	301	ePn	Pn	05 12 25.3	+0.4

*IDC **08** 05:21:34.8±1.3, 3935N×2020E, h0^{km}, mb3.5/4, mb1 3.6/9, mb1mx3.5/29, mbtmp3.5/9, ML3.3/5, Error ellipse: s-maj=21.3km s-min=18.9km az=102.0*
*ISCJB **08** 05:21:35.9±0.7, 3928N±003×20.10E±004, h11^{km}±5^{km}, mb3.5/4, Error ellipse: s-maj=5.8km s-min=4.5km az=161.4*
*THE **08** 05:21:35.4, 3930N×20.11E, h0^{km}±4^{km}, ML3.8/4, Error ellipse: s-maj=7.0km s-min=0.8km az=276.0*
*CSEM **08** 05:21:36.3±0.1, 3929N×2029E, h2^{km}, ML3.8/4, Error ellipse: s-maj=3.1km s-min=1.8km az=96.0*
*ATH **08** 05:21:36.0, 3928N×2030E, h3^{km}, MD3.8/8*
*NEIC **08** 05:21:38.0, 3932N×20.13E, h10^{km}, MD3.8(ATH), After ATH.*

ISC 08 05:21:36.4±0.6, **3928N**±002×**2019E**±004, **h4**^{km}±4^{km}, **n47**, σ**1^{s}30**/61, **mb3.5**/4, **4D**, **Greece-Albania border region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
IGT	Igoumenitsa	0.28	24	P	Pg	05 21 41.2	-0.6
IGT				S	Sg	05 21 45.9	+0.4
KEK	Kerkira	0.53	326	ePg	Pg	05 21 47.7	+1.2
KEK				eSg	Sg	05 21 54.9	+1.5
KEK	Kerkira	0.53	326	ePG	Pg	05 21 47.7	+1.2
KEK				eSG	Sg	05 21 54.9	+1.5
LKD	Levkas	0.67	147	P	Pg	05 21 49.1	-0.2
LKD				S	Sg	05 21 59.8	+1.8
MEV	Metsovon	0.95	57	P	Pg	05 21 53.2	-1.5
VLS	Valsamata	1.14	164	P	Pg	05 21 57.1	-1.2
VLS				S	Sg	05 22 15.0	+1.9
VLS	Valsamata	1.14	164	ePb	Pb	05 21 57.5	-1.2
VLS				eSb	Sb	05 22 12.9	-0.9
VLS				S	Sg	05 22 15.0	+1.9
VLS	Valsamata	1.14	164	ePb	Pb	05 21 57.5	-1.2
VLS				eSb	Sb	05 22 12.9	-0.9
VLS	Valsamata	1.14	164	ePB	Pb	05 21 57.5	-1.2
VLS				eSB	Sb	05 22 12.9	-0.9
KFL	Anninata	1.26	158	P	Pg	05 22 00.3	-0.2
EVR	Evrytania	1.31	105	ePb	Pb	05 21 59.4	-2.2
EVR	Evrytania	1.31	105	ePB	Pb	05 21 59.4	-2.2
THL	Klokotos Trika	1.45	78	P	Pn	05 22 02.4	-0.9
THL				S	Sb	05 22 23.6	+1.0
THL	Klokotos Trika	1.45	78	⇓Pg	Pg	05 22 01.3	-2.8
THL	Klokotos Trika	1.45	78	P	Pn	05 22 02.4	-0.9
THL				S	Sb	05 22 23.6	+1.0
THL	Klokotos Trika	1.45	78	⇓PG	Pg	05 22 01.3	-2.8
RLS	Riolos of Patr	1.58	140	ePb	Pb	05 22 04.9	-1.2
RLS	Riolos of Patr	1.58	140	ePB	Pb	05 22 04.9	-1.2
KZN	Kozani	1.60	49	ePb	Pb	05 22 04.8	-1.6
KZN	Kozani	1.60	49	ePB	Pb	05 22 04.8	-1.6
AGG	Agios Georgios	1.69	98	P	Pn	05 22 06.6	0.0
AGG				S	Sn	05 22 30.7	+2.0
FNA	Florina	1.76	31	P	Pn	05 22 08.2	+0.5
FNA				S	Sn	05 22 30.1	-0.4
LIT	Litokhoron	1.96	64	P	Pn	05 22 12.1	+1.7
TIR	Tirane	2.08	353	ePn	Pn	05 22 12.8	+0.7
TIR	Tirane	2.08	353	ePn	Pn	05 22 12.8	+0.7
LKR	Lokris	2.28	105	P	Pn	05 22 14.9	+0.1
NEO	Neokhori	2.36	88	P	Pn	05 22 18.3	+2.5
GRG	Griva	2.39	45	P	Pn	05 22 17.4	+1.1
ITM	Ithomi	2.50	146	⇓Pn	Pn	05 22 19.2	+1.4
ITM	Ithomi	2.50	146	⇓PN	Pn	05 22 19.2	+1.4
LTK	Loutraki	2.51	119	P	Pn	05 22 16.8	-1.2
PLG	Polygyros	2.74	65	P	Pn	05 22 22.2	+1.1
SG1	Sgolgore (BA)	3.11	301	ePn	Pn	05 22 28.2	+2.0
BAI	Bari	3.12	307	ePn	Pn	05 22 30.4	+4.0
VLI	Veliai	3.35	139	ePn	Pn	05 22 31.6	+2.1
VLI	Veliai	3.35	139	ePN	Pn	05 22 31.6	+2.1
BARS	Barje	3.75	19	ePn	Pn	05 22 34.9	0.0
DIVS	Divibare	4.82	358	ePn	Pn	05 22 48.8	-0.9
IDI	Anoyia	5.47	135	Pn	Pn	05 22 58.2	-0.5
	0.6nm,0.3s,baz=14,slow=10.0,SNR=3.5						
IDI				Sn	Sn	05 23 55.2	-6.7
	2.0nm,0.3s,baz=344,slow=16,SNR=6.7						
MLR	Muntele Rosu	7.53	33	Pn	Pn	05 23 28.0	+1.1
	0.2nm,0.3s,baz=196,slow=7.4,SNR=4.7						
KEST	Kesra	9.31	251	Pn	Pn	05 23 50.6	-0.8

0.0nm,0.3s,baz=52,slow=20,SNR=2.5
DAVOX Davos/Dischmat 10.63 318 Pn **Pn** **05 24 09.3 -0.1**
0.4nm,0.3s,baz=170,slow=18,SNR=2.8
GERES GERESS Array B 10.64 336 Pn **Pn** **05 24 08.0 -1.4**
0.2nm,0.3s,baz=160,slow=13,SNR=5.2
HFS Hagfors 21.28 351 P **P** **05 26 20.7 -2.8**
1.7nm,0.8s,mb3.5,baz=166,slow=9.2,SNR=6.5
EKA Eskdalemuir Ar 22.39 324 P **P** **05 26 34.5 -1.0**
1.1nm,0.7s,mb3.4,baz=123,slow=9.1,SNR=5.0
TORD Torodi Ar. Bea 30.73 217 P **P** **05 27 52.7 +0.1**
0.7nm,0.8s,mb3.5,baz=26,slow=8.9,SNR=4.5
MKAR Makanchi Array 44.96 59 P **P** **05 29 49.9 -2.5**
0.3nm,0.4s,mb3.4,baz=272,slow=6.8,SNR=4.5

PRE 08 05:44:39.1±1.0**, 2184S×3261E, h5^{km}, ML4.3, Mozambique**

Code Station Name Δ° AZ° Phase ID (Op ISC) Time (h m s) Res ISC
MOPA Mopani 2.01 214 eP Pn 05 45 14.1 +0.3
MOPA eS Sn 05 45 39.0 -0.3
MOPA AML AML 05 45 54.5
comp=Z,2μm,0.3s
MSNA Messina 2.45 258 eP Pn 05 45 20.7 +0.9
MSNA eS Sn 05 45 50.5 +0.4
MSNA AML AML 05 46 18.3
comp=Z,250nm,0.3s
POGA Pongola 5.58 189 eP Pn 05 46 03.4 +0.6
POGA eS Sn 05 47 04.6 -2.8
POGA AML AML 05 47 55.8
comp=Z,55nm,0.6s
PRYS Parys 6.97 222 eP Pn 05 46 22.6 +0.7
PRYS eS Sn 05 47 38.3 -3.2
PRYS AML AML 05 48 37.1
comp=Z,39nm,0.6s
LBTB Lobatse 7.17 243 eP Pn 05 46 26.3 +1.6
LBTB eS Sn 05 47 44.1 -2.5
LBTB AML AML 05 48 59.7
comp=Z,56nm,0.6s
BOSA Boshof 9.47 223 eP Pn 05 46 57.0 +0.8
BOSA eS Sn 05 48 39.3 -3.9
BOSA AML AML 05 49 57.3
comp=Z,15nm,0.7s
HVD Gariep Dam 10.81 215 eP Pn 05 47 16.0 +1.4
HVD eS Sn 05 49 11.3 -4.7
HVD AML AML 05 50 33.6
comp=Z,11nm,0.7s
UPI Upington 12.16 235 eP Pn 05 47 35.1 +2.0
UPI eS Sn 05 49 43.0 -6.2
UPI AML AML 05 51 16.7
comp=Z,12nm,0.6s

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*MOS **08** 05:58:03.3±1.5, 3442N×2467E, h33^{km}, mb4.2/7, Error ellipse: s-maj=12.6km s-min=7.5km az=102.4*
*CSEM **08** 05:58:06.1±0.2, 3470N×2465E, h30^{km}, mb4.1/3, Error ellipse: s-maj=4.8km s-min=2.7km az=177.0*
*IDC **08** 05:58:07.6±1.8, 3481N×2498E, h35^{km}±12^{km}, mb3.6/9, mb1 3.7/12, mb1mx3.7/27, mbtmp3.6/12, ML4.1/3, MS2.4/1, Ms1 2.4/1, ms1mx1.9/33, Error ellipse: s-maj=20.9km s-min=17.9km az=7.0*
*ISCJB **08** 05:58:07.4±0.8, 3474N±007×2476E±004, h53^{km}±5^{km}, mb3.8/12, Error ellipse: s-maj=12.3km s-min=4.9km az=6.0*
*THE **08** 05:58:11.9, 3505N×2477E, h26^{km}±2^{km}, Error ellipse: s-maj=5.3km s-min=1.6km az=202.0*
*ATH **08** 05:58:11.8, 35.15N×2485E, h39^{km}±3^{km}, MD3.9/6*
*NEIC **08** 05:58:11.8, 35.15N×2485E, h39^{km}, mb3.9/6, MD3.9(ATH), After ATH.*
*DDA **08** 05:58:27.1, 3623N×2572E, h10^{km}±3^{km}, Md3.5*
ISC 08 05:58:08.1±0.8**, 3470N**±007×**2473E**±004**, h45^{km}**±6^{km}**, n88, σ1^{s}33**/100**, mb3.8**/12**, 7D, Crete**

Code Station Name Δ° AZ° Phase ID (Op ISC) Time (h m s) Res ISC
SIVA Sivas 0.32 12 P **Pn** **05 58 15.2 -1.7**
SIVA S **Sn** **05 58 20.7 -2.5**
IDI Anoyia 0.60 13 Pg **Pn** **05 58 18.2 -2.1**
251nm,0.3s,baz=193,slow=15,SNR=286
IDI Lg 05 58 26.0
533nm,0.3s,baz=52,slow=19,SNR=109
LAST Lasithi 0.77 53 P **Pn** **05 58 22.2 -0.3**
LAST S **Sn** **05 58 31.6 -1.4**
VAM Vamos 0.83 328 Pn **Pn** **05 58 24.9 +1.6**
VAM eSn **Sn** **05 58 33.8 -0.6**
VAM Vamos 0.83 328 ⇑PN **Pn** **05 58 24.9 +1.6**
VAM eSN **Sn** **05 58 33.8 -0.6**
NPS Neapolis 0.92 52 ⇓Pn **Pn** **05 58 24.7 +0.2**
NPS eSn **Sn** **05 58 34.0 -2.6**
NPS Neapolis 0.92 52 ⇓PN **Pn** **05 58 24.7 +0.2**
NPS eSN **Sn** **05 58 34.0 -2.6**
ZKR Zakros 1.29 71 P **Pn** **05 58 31.9 +2.3**
ZKR S **Sn** **05 58 47.6 +1.9**
THR6 Thira Island, 1.74 18 P **Pn** **05 58 35.4 -0.4**
SANT Santorini 1.77 19 ePn **Pn** **05 58 35.7 -0.5**
SANT Santorini 1.77 19 P **Pn** **05 58 35.9 -0.3**
SANT Santorini 1.77 19 ePn **Pn** **05 58 35.7 -0.5**
THR5 Thira Island, 1.78 16 P **Pn** **05 58 36.0 -0.4**
THR5 S **Sn** **05 58 53.0 -4.9**
KYTH Kithira 2.10 319 ePn **Pn** **05 58 41.0 +0.3**
KYTH Kithira 2.10 319 ePN **Pn** **05 58 41.0 +0.3**
KARP Karpathos 2.17 66 ⇓Pn **Pn** **05 58 44.1 +2.5**
KARP Karpathos 2.17 66 ⇓PN **Pn** **05 58 44.1 +2.5**
APE Apeiranthos 2.45 15 P **Pn** **05 58 44.6 -0.9**
APE Apeiranthos 2.45 15 ⇓Pn **Pn** **05 58 44.9 -0.6**
APE Apeiranthos 2.45 15 ⇓Pn **Pn** **05 58 44.9 -0.6**
APE Apeiranthos 2.45 15 ⇓PN **Pn** **05 58 44.9 -0.6**
VLI Veliai 2.48 325 Pn **Pn** **05 58 48.1 +2.1**
VLI Veliai 2.48 325 PN **Pn** **05 58 48.1 +2.1**
DID Didima 3.05 337 P **Pn** **05 58 53.2 -0.5**
BODT Bodrum 3.15 41 ePN **Pn** **05 58 55.9 +0.7**
ARG Arkhangelos 3.16 60 P **Pn** **05 58 57.2 +2.0**
BDRM Kayabasi 3.23 42 i P **Pn** **05 58 57.4 +1.2**
ITM Ithomi 3.36 318 P **Pn** **05 58 58.8 +0.8**
MLSB Milas 3.58 43 ePN **Pn** **05 58 54.6 -6.4**
LTK Loutraki 3.61 337 P **Pn** **05 59 00.7 -0.7**
GCAM G?zelcaml? 3.61 33 i P **Pn** **05 59 02.9 +1.4**
YER Yerkesik 3.77 49 ePN **Pn** **05 59 03.7 +0.1**
TURN Turunc 3.82 54 i P **Pn** **05 59 01.0 -3.4**
TURN i S **Sn** **05 59 38.2 -10**
CHOS Chios island 3.83 16 P **Pn** **05 59 04.3 -0.2**
URLA Izmir 3.95 22 i P **Pn** **05 59 06.0 -0.1**
BLCB Balcova 4.12 26 ePN **Pn** **05 59 07.8 -0.7**
IZM Izmir 4.21 28 ePN **Pn** **05 59 07.3 -2.5**
KDAG Bornova 4.22 28 i P **Pn** **05 59 11.8 +2.0**
AKAS Kas 4.26 68 i P **Pn** **05 59 10.8 +0.4**
AKAS i S **Sn** **05 59 59.1 +0.3**
GOLH Golhisar 4.66 56 i P **Pn** **05 59 16.9 +1.0**
GOLH i S **Sn** **06 00 10.5 +1.7**
KULA Kula-Manisa 4.95 39 ePN **Pn** **05 59 13.8 -6.1**
BALY Balya 5.53 24 i P **Pn** **05 59 28.9 +1.0**
TKTP Tekketepe 5.61 52 i P **Pn** **05 59 29.2 +0.4**
DURS Dursunbey 5.73 30 i P **Pn** **05 59 32.0 +1.4**
BR131 Keskin Array S 8.70 52 ePn **Pn** **06 00 12.6 +1.4**
2.2nm,0.6s
BR131 Keskin Array S 8.70 52 ePn **Pn** **06 00 12.6 +1.4**
2.2nm,0.6s
MMAI Mount Meron Ar 9.04 98 Sn **Sn** **06 01 54.1 -2.2**
3.1nm,0.3s,baz=284,slow=27,SNR=4.5
EIL Elat 10.01 117 Pn **Pn** **06 00 28.6 -0.6**
0.8nm,0.3s,baz=165,slow=9.3,SNR=8.5
EIL Sn **Sn** **06 02 16.7 -3.4**
1.0nm,0.3s,baz=288,slow=18,SNR=4.4
EIL Elat 10.01 117 Sn **Sn** **06 02 16.7 -3.4**
EIL Elat 10.01 117 Pn **Pn** **06 00 28.6 -0.6**
EIL Sn **Sn** **06 02 16.7 -3.5**
MLR Muntele Rosu 10.82 5 Pn **Pn** **06 00 43.1 +2.9**
0.2nm,0.3s,baz=148,slow=12,SNR=4.4
AKASG Malin Array Be 16.32 10 Pn **Pn** **06 01 53.0 -0.9**
1.2nm,0.3s,baz=200,slow=11,SNR=5.3
GERES GERESS Array B 16.32 333 Pn **Pn** **06 01 55.8 +1.8**
0.3nm,0.3s,baz=152,slow=12,SNR=16
GNI Garni 16.79 65 LR LR 06 08 12.9
comp=Z,12nm,18.4s,baz=162,slow=36
SMF Signal de Mont 19.77 313 eP **Pn** **06 02 34.1 -1.9**
4.6nm,0.6s
SMF Signal de Mont 19.77 313 eP **Pn** **06 02 34.1 -1.9**
SMF pmax pmax
comp=Z,2.0nm,0.6s
SMF Signal de Mont 19.77 313 eP **Pn** **06 02 34.1 -1.9**
comp=Z,2.3nm,0.6s
LOR Lormes 20.07 315 eP **P** **06 02 37.5 0.0**
comp=Z,4.7nm,0.5s
LOR Lormes 20.07 315 eP **P** **06 02 37.5 0.0**
LOR pmax pmax
comp=Z,2.0nm,0.5s
LOR Lormes 20.07 315 eP **P** **06 02 37.5 0.0**
comp=Z,2.3nm,0.5s
SSF Saint Saulge 20.17 314 eP **P** **06 02 38.6 0.0**
comp=Z,7.1nm,0.8s
SSF Saint Saulge 20.17 314 eP **P** **06 02 38.6 0.0**
SSF pmax pmax
comp=Z,4.0nm,0.8s
SSF Saint Saulge 20.17 314 eP **P** **06 02 38.6 0.0**
comp=Z,3.5nm,0.8s
BAIF Baives 21.47 322 eP **P** **06 02 51.7 -0.8**
comp=Z,8.5nm,0.6s,mb3.9
BAIF Baives 21.47 322 eP **P** **06 02 51.7 -0.8**
BAIF pmax pmax
comp=Z,4.0nm,0.6s,mb3.9
BAIF Baives 21.47 322 eP **P** **06 02 51.7 -0.8**
comp=Z,4.2nm,0.6s,mb4.0
SJPF Ste Jean 21.81 300 eP **P** **06 02 57.5 +1.2**
MFF Saint Martin d 22.20 310 eP **P** **06 03 00.9 +0.5**
comp=Z,8.5nm,0.7s,mb4.0
MFF Saint Martin d 22.20 310 eP **P** **06 03 00.9 +0.5**
MFF pmax pmax
comp=Z,4.0nm,0.7s,mb4.0
MFF Saint Martin d 22.20 310 eP **P** **06 03 00.9 +0.5**
comp=Z,4.2nm,0.7s,mb4.0
ESDC Sonseca Array 23.34 291 P **P** **06 03 12.8 +0.3**
comp=Z,0.7nm,0.5s,mb3.4,baz=75,slow=9.4,SNR=5.2
FLN La Foliniere 23.34 315 eP **P** **06 03 12.1 -0.3**
comp=Z,6.8nm,0.4s,mb4.1
FLN La Foliniere 23.34 315 eP **P** **06 03 12.1 -0.3**
FLN pmax pmax
comp=Z,3.0nm,0.4s,mb4.1
FLN La Foliniere 23.34 315 eP **P** **06 03 12.1 -0.3**
comp=Z,3.4nm,0.4s,mb4.1
SGMF Saint Gilles 24.37 312 eP **P** **06 03 21.7 0.0**
QUIF Quistinic 24.61 311 eP **P** **06 03 21.6 -2.4**
ROSF Rostrenen 24.84 312 eP **P** **06 03 26.1 +0.1**
HFS Hagfors 26.44 348 P **P** **06 03 38.9 -1.5**
comp=Z,1.4nm,0.6s,mb3.6,baz=138,slow=11,SNR=5.4
EKA Eskdalemuir Ar 28.21 326 P **P** **06 03 58.2 +1.8**
comp=Z,0.6nm,0.4s,mb3.5,baz=128,slow=8.9,SNR=6.0
TORD Torodi Ar. Bea 29.92 230 P **P** **06 04 15.3 +3.4**
comp=Z,1.9nm,0.6s,mb4.0,baz=36,slow=8.5,SNR=22
TORD Torodi Ar. Bea 29.92 230 P **P** **06 04 15.3 +3.4**
ARCES ARCESS Array B 34.89 0 P **P** **06 04 54.1 -0.7**
comp=Z,0.3nm,0.5s,mb3.5,baz=170,slow=7.4,SNR=3.7
MKAR Makanchi Array 44.32 56 P **P** **06 06 13.3 -0.2**
comp=Z,0.4nm,0.4s,mb3.5,baz=286,slow=6.2,SNR=6.8
ZALV Zalesovo Beam 45.58 46 P **P** **06 06 22.4 -1.0**
comp=Z,0.8nm,0.3s,mb4.1,baz=267,slow=9.3,SNR=4.4
ZALV Zalesovo Beam 45.58 46 P **P** **06 06 22.4 -1.0**
ZALV pmax pmax
comp=Z,1.0nm,0.3s,mb4.2
SONM Songino Array 60.05 50 P **P** **06 08 08.9 -1.4**
comp=Z,0.4nm,0.5s,mb3.7,baz=168,slow=15,SNR=1.9
CMAR Chiang Mai Arr 66.98 83 P **P** **06 08 54.4 -2.1**
comp=Z,1.4nm,0.5s,mb4.2,baz=238,slow=30,SNR=4.6
CMAR Chiang Mai Arr 66.98 83 P **P** **06 08 54.4 -2.1**
CMAR pmax pmax
comp=Z,1.0nm,0.5s

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*ISCJB **08** 06:08:48.9±0.6, 1037N±005×6235W±003, h19^{km}±7^{km}, Error ellipse: s-maj=8.6km s-min=4.1km az=168.9*
*FUNV **08** 06:08:49.4, 1039N×6234W, h5^{km}, MW2.8*
*TRN **08** 06:08:55.6, 1051N×6203W, h10^{km}, MD3.0*
ISC 08 06:08:49.1±0.6**, 1041N**±004×**6236W**±003**, h11^{km}**±4^{km}**, n17, σ1^{s}00**/27**, 1D, Near coast of Venezuela**

Code Station Name Δ° AZ° Phase ID (Op ISC) Time (h m s) Res ISC
GUIV Guiria 0.28 29 eP **Pg** **06 08 54.8 0.0**
GUIV eS **Sg** **06 08 59.1 +0.6**
GUNV Guanoco 0.62 247⇓iP **Pg** **06 09 00.7 -0.6**
GUNV eS **Sg** **06 09 10.4 +0.9**
TCE Chacachacare 0.66 64 eP **Pg** **06 09 01.9 -0.1**
TCE eS **Sg** **06 09 07.4 -3.3**
TPP Pointe-a-Pierr 0.90 95 eP **Pg** **06 09 08.2 +1.7**
CRUV Carupano 0.90 287 eP **Pg** **06 09 05.5 -1.0**
CRUV eS **Sg** **06 09 18.2 -0.2**
TRN Trinidad (W) 0.97 75 eP **Pg** **06 09 07.3 -0.5**
TRN eS **Sg** **06 09 17.2 -3.3**
ITEV Isla Los Testi 1.21 321 eP **Pn** **06 09 11.8 -0.2**
ITEV eS **Sb** **06 09 28.5 +0.7**
TBH Brigand Hill 1.27 86 eP **Pn** **06 09 14.0 +1.2**
TPR Prospect 1.74 63 eP **Pn** **06 09 21.0 +1.8**
TPR eS **Sn** **06 09 40.5 -0.9**
GRW Mount Saint Ca 1.87 21 eP **Pn** **06 09 25.7 +4.6**
PCRV Puerto La Cruz 2.25 264 eP **Pn** **06 09 26.4 +0.1**
PRGV PARIAGUAN 2.79 234 eP **Pn** **06 09 34.5 +0.9**
CUPV Cœpira 3.39 264 eP **Pn** **06 09 42.9 +0.9**
CUPV eS **Sn** **06 10 22.0 -0.3**
BIRV Birongo 3.85 271 eP **Pn** **06 09 48.9 +0.6**
BIRV eS **Sn** **06 10 32.1 -1.4**
LUEV Luepa 4.62 169 eP **Pn** **06 09 58.0 -0.9**
CAOV Caicara del Or 4.97 232 eP **Pn** **06 10 02.9 -0.8**
BAUV El Baul 5.79 256 eP **Pn** **06 10 14.8 -0.1**
BAUV eS **Sn** **06 11 17.5 -3.9**

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*IDC **08** 06:11:33.9±2.2, 344S×13783E, h0^{km}, mb3.7/2, mb1 4.0/6, mb1mx3.8/15, mbtmp3.9/6, ML4.0/4, Error ellipse: s-maj=52.0km s-min=27.4km az=76.0*
*NEIC **08** 06:11:39.7±1.2, 355S×13771E, h35^{km}, mb3.5/2, Error ellipse: s-maj=19.2km s-min=13.1km az=51.0*
*ISCJB **08** 06:11:42.8±2.9, 37S±0.1×1376E±02, h85^{km}±27^{km}, Error ellipse: s-maj=30.1km s-min=17.9km az=154.4*
ISC 08 06:11:46.9±1.9**, 394S**±010×**1375E**±01**, h97^{km}**±17^{km}**, n11, σ1^{s}28**/15**, Irian Jaya**

Code Station Name Δ° AZ° Phase ID (Op ISC) Time (h m s) Res ISC
KAKA Kakadu 10.03 209 eP **Pn** **06 14 07.1 -0.9**
2.4nm,0.3s
KAKA eS **Sn** **06 15 54.9 -3.9**
WB2 Warramunga Arr 16.19 191 eP **Pn** **06 15 30.6 +1.8**
WB2 eS **S** **06 18 35.7 +0.7**
WRA Warramunga Arr 16.19 191 Pn **Pn** **06 15 31.0 +2.2**
0.8nm,0.3s,baz=12,slow=13,SNR=32
WRA Sn **Sn** **06 18 20.2 -8.0**
0.1nm,0.3s,baz=4.1,slow=24,SNR=4.6
KAPI Kappang 17.69 266 P **Pn** **06 15 48.2 +1.0**
0.4nm,0.3s,baz=47,slow=19,SNR=2.2
CTA Charters Tower 18.19 153 P **Pn** **06 15 52.5 -0.7**
0.4nm,0.3s,baz=338,slow=12,SNR=3.4
CTAO Charters Tower 18.19 153 eP **Pn** **06 15 52.8 -0.4**
2.1nm,0.5s
FITZ Fitzroy Crossi 18.22 219 eP **Pn** **06 15 54.4 +0.9**
0.7nm,0.4s
FITZ Fitzroy Crossi 18.22 219 P **Pn** **06 15 54.8 +1.2**
0.2nm,0.3s,baz=62,slow=10,SNR=6.3
FITZ Fitzroy Crossi 18.22 219 eP **Pn** **06 15 54.2 +0.7**
2.0nm,0.7s
ASAR Alice Springs 19.91 190 P **Pn** **06 16 12.4 -0.9**
2.0nm,0.5s,baz=19,slow=12,SNR=29
ASAR S **S** **06 19 49.0 -0.7**
4.2nm,0.8s,baz=13,slow=24,SNR=21
MKAR Makanchi Array 70.01 323 P **P** **06 22 46.4 -1.8**
0.5nm,0.6s,baz=115,slow=6.8,SNR=4.4

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*ISCJB **08** 06:32:06.5±0.6, 4194N±004×2171E±004, h5^{km}±9^{km}, Error ellipse: s-maj=6.4km s-min=5.5km az=158.4*
*CSEM **08** 06:32:06.0±0.1, 4193N×2169E, h10^{km}, ML3.3/1, Error ellipse: s-maj=3.5km s-min=2.4km az=109.0*
*THE **08** 06:32:07.9, 4188N×2173E, h2^{km}±30^{km}, ML3.3/1, Error ellipse: s-maj=30.5km s-min=0.7km az=0.0*
*BEO **08** 06:32:08.6±1.3, 4199N×2169E, ML2.2/2*
ISC 08 06:32:07.0±0.6**, 4193N**±003×**2170E**±005**, h5^{km}**±15^{km}**, n10, σ0^{s}72**/16**, Northwestern Balkan Peninsula**

Code Station Name Δ° AZ° Phase ID (Op ISC) Time (h m s) Res ISC
SKO Skopje 0.20 283 P **Pg** **06 32 11.5 +0.6**
SKO S **Sg** **06 32 13.7 +0.1**
STIP Stip 0.43 123 P **Pg** **06 32 14.5 -0.8**
STIP S **Sg** **06 32 21.1 +0.2**
BARS Barje 0.89 5 ePg **Pg** **06 32 23.2 -0.9**
BARS eSg **Sg** **06 32 34.8 -0.9**
BIA Bitola 0.95 197 P **Pg** **06 32 24.7 -0.5**
BIA S **Sg** **06 32 38.1 +0.6**
OHR Ohrid 1.06 220 P **Pg** **06 32 26.7 -0.6**
GRG Griva 1.10 151 P **Pg** **06 32 27.9 -0.2**
FNA Florina 1.17 192 P **Pg** **06 32 29.2 -0.2**
FNA S **Sg** **06 32 45.0 +0.5**
KNT Kendrikon 1.18 130 P **Pg** **06 32 29.1 -0.5**
VTS Vitosha 1.30 59 ePn **Pn** **06 32 31.9 +0.1**
VTS eSg **Sg** **06 32 49.4 +0.6**
ZAPS Zavoj 1.51 27 ePn **Pg** **06 32 38.1 +2.1**

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*ISCJB **08** 06:35:48.8±0.7, 2427S±005×6704W±009, h169^{km}±8^{km}, mb3.3/5, Error ellipse: s-maj=13.9km s-min=8.2km az=174.1*
*IDC **08** 06:35:49.5±1.0, 2425S×6706W, h162^{km}±9^{km}, mb3.3/5, mb1 3.5/11, mb1mx3.4/20, mbtmp3.3/11, Error ellipse: s-maj=16.0km s-min=11.1km az=67.0*
*NEIC **08** 06:35:50.0±0.7, 2421S×6702W, h165^{km}±8^{km}, mb4.0/2, Error ellipse: s-maj=12.0km s-min=8.5km az=83.0*
ISC 08 06:35:49.8±0.6**, 2427S**±005×**6702W**±009**, h161^{km}**±8^{km}**, n17, σ0^{s}84**/19**, mb3.3**/5**, Chile-Argentina border region**

Code Station Name Δ° AZ° Phase ID (Op ISC) Time (h m s) Res ISC
LVC Limon Verde 2.39 313 P **Pn** **06 36 31.2 +1.0**
40nm,0.3s,baz=141,slow=5.5,SNR=607
LVC S **Sn** **06 37 01.1 -0.2**
52nm,0.3s,baz=5.7,slow=18,SNR=29
LVC Limon Verde 2.39 313 ePn **Pn** **06 36 31.1 +0.9**
LVC S **Sn** **06 37 01.1 -0.2**
CFAA Coronel Fontan 7.39 188 P **Pn** **06 37 34.8 -0.2**
0.1nm,0.3s,baz=28,slow=11,SNR=14
CFAA S **Sn** **06 38 57.0 -0.7**
0.2nm,0.3s,baz=258,slow=22,SNR=8.1
LPAZ La Paz 8.01 352 P **Pn** **06 37 44.0 +0.7**
1.8nm,0.3s,baz=164,slow=9.3,SNR=89
LPAZ La Paz 8.01 352 ePn **Pn** **06 37 43.1 -0.2**
2.5nm,0.3s
CPUP Villa Florida 9.01 105 P **Pn** **06 37 56.0 -0.5**
0.1nm,0.3s,baz=251,slow=12,SNR=3.1
SIV San Ignacio 9.95 35 P **Pn** **06 38 08.3 -0.7**
0.6nm,0.3s,baz=224,slow=14,SNR=14
TRQA Tornquist 14.40 164 ePn **Pn** **06 39 09.1 +2.8**
5.2nm,0.7s
PLCA Paso Flores 16.68 189 P **Pn** **06 39 33.9 -0.3**
0.1nm,0.3s,baz=283,slow=8.1,SNR=2.5
PLCA Paso Flores 16.68 189 P **Pn** **06 39 33.9 -0.3**
BDFB Brasilia 19.80 68 P **P** **06 40 08.6 +0.7**
0.8nm,0.3s,baz=233,slow=16,SNR=12
TXAR Lajitas Array 63.88 325 P **P** **06 46 05.5 +0.1**
0.2nm,0.4s,mb3.3,baz=139,slow=6.6,SNR=4.5
QSPA South Pole Qui 65.94 180 P **P** **06 46 18.8 +0.8**
0.3nm,0.3s,mb3.6,baz=125,slow=1.3,SNR=3.5
TORD Torodi Ar. Bea 76.68 69 P **P** **06 47 23.1 -0.4**
1.5nm,0.8s,mb3.7,baz=264,slow=5.8,SNR=11
PDAR Pinedale Array 77.36 329 P **P** **06 47 27.0 +0.3**
0.3nm,0.6s,mb3.1,baz=138,slow=9.8,SNR=2.8
NVAR Mina Array Bea 78.73 321 P **P** **06 47 32.8 -1.5**
0.2nm,0.7s,mb2.9,baz=104,slow=18,SNR=3.6
WRA Warramunga Arr 131.38 207 PKP PKPdf 06 54 43.4 -0.3
0.1nm,0.3s,baz=155,slow=1.7,SNR=5.3

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*ISCJB **08** 06:54:16.2±0.8, 2534N±007×1001E±02, h10^{km}, mb3.7/5, Error ellipse: s-maj=21.6km s-min=9.5km az=7.1*
*IDC **08** 06:54:17.2±1.1, 2560N×10059E, h0^{km}, mb3.7/5, mb1 3.8/6, mb1mx3.6/22, mbtmp3.7/6, ML3.8/1, Error ellipse: s-maj=45.3km s-min=18.4km az=74.0*
*BJI **08** 06:54:19.4, 2541N×10006E, h19^{km}, ML3.6, Ms3.3, Msz3.7*
ISC 08 06:54:18.0±0.7**, 2541N**±006×**1003E**±02**, h10^{km}, n8, σ1^{s}35**/11**, mb3.7**/5**, 1C, Yunnan**

Code Station Name Δ° AZ° Phase ID (Op ISC) Time (h m s) Res ISC
CD2 Chengdu 6.28 28 eP **Pn** **06 55 53.3 +2.6**
CD2 S **Sn** **06 57 08.6 +6.1**
CD2 SG **Sg** **06 57 37.3 -2.4**
CD2 Smax
comp=N,40nm,1.0s
CD2 Smax
comp=E,40nm,1.0s
CD2 LR LR
comp=E,210nm,8.4s
CD2 LR LR
comp=Z,540nm,8.4s
NANT Nan 6.59 177 ⇑P **Pn** **06 55 55.0 0.0**
comp=Z,156nm,1.0s
CMAR Chiang Mai Arr 7.03 190 Pn **Pn** **06 56 04.7 +3.6**
comp=Z,0.4nm,0.3s,baz=9.5,slow=11,SNR=4.1
CMAR Pg **Pg** **06 56 30.9 -1.9**
comp=Z,1.0nm,0.3s,baz=358,slow=16,SNR=19
CMAR Lg 06 57 59.5
comp=Z,1.0nm,0.3s,baz=8.9,slow=30,SNR=6.0
SONM Songino Array 22.90 11 P **P** **06 59 20.7 -1.1**
comp=Z,1.0nm,0.8s,mb3.3,baz=196,slow=11,SNR=5.0
MKAR Makanchi Array 25.70 331 P **P** **06 59 48.4 +0.1**
comp=Z,2.7nm,0.8s,mb3.8,baz=140,slow=9.6,SNR=14
KURK Kurchatov 30.26 332 P **P** **07 00 29.2 +0.2**
comp=Z,1.1nm,0.4s,mb4.0,baz=136,slow=9.6,SNR=4.2
WRA Warramunga Arr 55.93 141 P **P** **07 03 57.2 +0.7**
comp=Z,0.7nm,0.6s,mb3.9,baz=329,slow=7.8,SNR=6.2
ASAR Alice Springs 58.66 144 P **P** **07 04 16.2 +0.4**
comp=Z,0.2nm,0.3s,mb3.6,baz=327,slow=6.7,SNR=3.7

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*KRSC **08** 07:01:32.7±0.0, 5359N×16008E, h80^{km}±50^{km}, ML3.8*
*ISCJB **08** 07:01:33.1±0.8, 5357N±005×1601E±01, h82^{km}±9^{km}, Error ellipse: s-maj=12.1km s-min=5.6km az=33.9*
ISC 08 07:01:33.9±0.8**, 5357N**±005×**1601E**±01**, h79^{km}**±9^{km}**, n17, σ0^{s}74**/26**, Near east coast of Kamchatka Peninsula**

Code Station Name Δ° AZ° Phase ID (Op ISC) Time (h m s) Res ISC
SPN Mys Shipunski 0.47 184 eP **Pn** **07 01 47.4 +0.2**
SPN i S **Sn** **07 01 57.0 0.0**
NLC Nalytchevo 0.59 228 eP **Pn** **07 01 48.2 -0.1**
NLC i S **Sn** **07 01 59.3 +0.3**
KII Karymskiy 0.60 322 eP **Pn** **07 01 47.6 -0.8**
KII i S **Sn** **07 01 57.9 -1.3**
AVH Avacha 0.86 250 eP **Pn** **07 01 51.3 +0.2**
AVH i S **Sn** **07 02 05.1 +1.1**
PET Petropavlovsk 1.01 238 eP **Pn** **07 01 53.1 +0.1**
PET i S **Sn** **07 02 07.9 +0.7**
GNL Ganaly 1.28 277 eP **Pn** **07 01 55.5 -0.8**
MKZ Mys Kozlova 1.39 44 eP **Pn** **07 01 57.4 -0.3**
MKZ i S **Sn** **07 02 15.2 -0.4**
RUS Russkaya 1.48 220 eP **Pn** **07 01 58.8 0.0**
RUS i S **Sn** **07 02 17.8 +0.2**
TUMR Tumrok 1.72 1 eP **Pn** **07 02 02.2 +0.2**
TUMR i S **Sn** **07 02 24.6 +1.3**
KMNR Kamenistaya 2.20 2 eP **Pn** **07 02 07.8 -0.5**
BZMR Bezymyannaya 2.39 6 eP **Pn** **07 02 11.9 +1.0**
MIPR Malaya Ipel'ka 2.39 239 P **Pn** **07 02 09.4 -1.5**
KPT Kopyto 2.41 2 eP **Pn** **07 02 10.9 -0.3**
ZLN Zelenaya 2.49 9 eP **Pn** **07 02 11.2 -1.1**
KRSR Krestovskiy 2.67 6 eP **Pn** **07 02 16.4 +1.7**
SRDR Sredinnyy 2.77 356 eP **Pn** **07 02 15.8 -0.2**
KBTR Krutoberegovo 3.09 30 eP **Pn** **07 02 20.7 +0.4**
KBTR i S **Sn** **07 02 56.3 +0.2**

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*IDC **08** 07:17:27.9±3.1, 1870N×10480W, h0^{km}, mb3.3/2, mb1 3.7/4, mb1mx3.5/22, mbtmp3.4/4, ML3.2/2, Error ellipse: s-maj=110.6km s-min=40.3km az=89.0*
*ISCJB **08** 07:17:31.6±1.6, 1880N±007×10452W±006, h30^{km}±9^{km}, mb3.3/2, Error ellipse: s-maj=13.4km s-min=7.9km az=35.3*
*NEIC **08** 07:17:31.9, 1886N×10464W, h10^{km}, MD4.3(MEX), After MEX.*
*MEX **08** 07:17:32.2±1.0, 1884N×10466W, h18^{km}±54^{km}, MD4.3*
ISC 08 07:17:31.2±1.7**, 1877N**±006×**10450W**±006**, h15^{km}**±9^{km}**, n16, σ0^{s}94**/24**, mb3.3**/2**, 2D, Near coast of Jalisco**

Code Station Name Δ° AZ° Phase ID (Op ISC) Time (h m s) Res ISC
R15V 0.63 51⇓iP **Pg** **07 17 43.1 -0.6**
R15V i S **Sg** **07 17 52.3 +0.2**
COLM Colima 0.87 62⇓iP **Pb** **07 17 47.6 -0.4**
COLM i S **Sb** **07 18 00.2 +0.8**
COLM Colima 0.87 62 i P **Pb** **07 17 47.6 -0.5**

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
COLM				*i* S	Sb	07 18 00.5	+1.1
EZ5V		1.11	50	*i* P	Pb	07 17 51.4	-0.7
EZ5V				*i* S	Sb	07 18 05.3	-0.9
MMIG	Aquila	1.20	113	*i* P	Pn	07 17 53.4	0.0
MMIG				*i* S	Sb	07 18 08.9	0.0
SFJM	Santa Fe	2.19	39	*i* P	Pn	07 18 07.5	+0.4
ZIIG	Zihuatanejo	3.11	111	*e*P	Pn	07 18 20.1	+0.4
ZIIG				*i* S	Sn	07 18 56.4	-0.3
ZIIG	Zihuatanejo	3.11	111	*e*P	Pn	07 18 20.1	+0.4
ZIIG				*i* S	Sn	07 18 56.9	+0.3
MOIG	Morelia	3.26	73	*i* P	Pn	07 18 22.7	+0.9
MOIG				*i* S	Sn	07 19 00.6	+0.3
MOIG	Morelia	3.26	73	*i* P	Pn	07 18 22.7	+0.9
MOIG				*i* S	Sn	07 18 58.8	-1.5
TXAR	Lajitas Array	10.54	4	Pn	Pn	07 20 03.6	+1.9
	0.1nm,0.3s,baz=179,slow=14,SNR=4.2						
ANMO	Albuquerque	16.21	354	Pn	Pn	07 21 19.7	+1.3
	0.1nm,0.3s,baz=153,slow=11,SNR=3.9						
ANMO	Albuquerque	16.21	354	Pn	Pn	07 21 19.7	+1.3
NVAR	Mina Array Bea	22.98	331	P	P	07 22 34.5	-0.8
	0.8nm,0.7s,mb3.3,baz=163,slow=11,SNR=8.3						
ELK	Elko	23.76	339	P	P	07 22 40.5	-2.6
	0.4nm,0.3s,mb3.3,baz=198,slow=13,SNR=4.3						
WRA	Warramunga Arr	124.72	258	PKP	PKPdf	07 36 29.8	-1.3
	0.2nm,0.7s,baz=76,slow=2.9,SNR=4.8						

CASC ***08*** *07:19:52.8±2.8, 12.04N×88.22W, h2km±6km, MD4.2, ML3.7, mb4.6(NEIC)*

ISCJB ***08*** *07:19:57.8±0.8, 12.09N±0.05×87.94W±0.07, h66km±8km, mb4.4/35, Error ellipse: s-maj=11.7km s-min=6.5km az=153.4*

IDC ***08*** *07:19:59.9±2.5, 12.38N×87.65W, h58km±23km, mb3.9/11, mb1 4.1/14, mb1mx3.9/26, mbtmp3.9/14, ML3.0/3, MS3.6/12, Ms1 3.5/12, ms1mx3.3/35, Error ellipse: s-maj=35.0km s-min=13.6km az=60.0*

BJI ***08*** *07:20:00.6, 12.20N×87.70W, h75km, mB4.9, Ms5.1, Msz4.8*

NEIC ***08*** *07:20:00.6±1.2, 12.19N×87.67W, h75km±11km, mb4.6/29, Error ellipse: s-maj=16.1km s-min=8.0km az=57.0*

ISC 08 07:20:00.0±0.7, **12.17N**±0.05×**87.81W**±0.07, **h69**km±9km, **n226**, σ0.83/209, **mb4.4**/35, **79C-49D, Near coast of Nicaragua**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TEL3	Telica 3	1.03	67⇑	*e*P	Pn	07 20 18.4	-0.4
CNCH	Conchagua	1.10	359⇑	*i*P	x	07 20 17.4	
CNCH				*e*S	x	07 20 35.4	
MIRN	Miramar	1.11	76⇓	*e*P	Pn	07 20 19.3	-0.5
CNGN	Cerro Negro	1.14	73⇑	*e*P	Pn	07 20 19.7	-0.5
CNGN				*e*S	Sn	07 20 45.1	+10
COPN	Copaltepe	1.19	89⇓	*i*P	Pn	07 20 20.7	-0.2
COPN				AML	AML	07 20 47.2	
	comp=Z,2µm,0.4s						
MOMN	Momotombo	1.27	79	*e*P	Pn	07 20 22.1	+0.2
MOMN				*e*S	Sn	07 20 48.6	+10
VSM	San Miguel	1.33	340⇑	*i*P	x	07 20 19.3	
BLLM	Bellamira	1.33	342⇑	*i*P	x	07 20 19.0	
BLLM				*e*S	x	07 20 38.5	
CSAN		1.36	89	*e*P	Pn	07 20 23.1	0.0
CSAN				*e*S	Sn	07 20 48.2	+7.7
APYN	Apoyeque	1.43	87⇓	*e*P	Pn	07 20 23.9	-0.1
APYN				*e*S	Sn	07 20 51.6	+9.5
XAVN	Gruta Xavier	1.45	91⇑	*e*P	Pn	07 20 24.2	-0.1
XAVN				*e*S	Sn	07 20 51.9	+9.2
CRUN	El Crucero	1.49	97⇓	*e*P	Pn	07 20 25.0	+0.2
TISN	Laguna Tiscapa	1.51	91⇓	*e*P	Pn	07 20 24.9	-0.2
TISN				*e*S	Sn	07 20 51.9	+7.9
MGAN	Managua	1.53	91⇑	*e*P	Pn	07 20 25.7	+0.4
TICN	Ticuantepe	1.55	95⇑	*e*P	Pn	07 20 25.8	+0.2
WILN	Americas 2	1.59	90⇑	*e*P	Pn	07 20 25.9	-0.2
HUEN		1.61	84⇓	*e*P	Pn	07 20 26.6	+0.1
HUEN				*e*S	Sn	07 20 54.0	+7.6
HUEN				AML	AML	07 20 59.4	
	comp=Z,335nm,0.8s						
CAHU	Cacacuatique	1.64	346⇑	*i*P	x	07 20 24.3	
CAHU				*e*S	x	07 20 47.1	
APON	Apoyo	1.73	98⇑	*e*P	Pn	07 20 28.0	0.0
SNVI	San Vicente	1.75	325	*e*P	x	07 20 23.2	
SNVI				*e*S	x	07 20 46.2	
LFRS	El Faro	1.89	320⇑	*i*P	x	07 20 24.2	
TGUH	Tegucigalpa,Un	1.95	16	*e*P	Pn	07 20 30.5	-0.5
TGUH				*e*S	Sn	07 20 58.2	+3.6
TGUH	Tegucigalpa,Un	1.95	16	*e*Pn	Pn	07 20 30.5	-0.5
LBRS	Las Brisas	1.97	323⇑	*e*P	x	07 20 26.4	
SNET	Serv Nac Est T	2.05	318	*e*P	x	07 20 26.3	
SNET				*e*S	x	07 20 51.6	
SSN	San Juan del S	2.10	114	*e*P	Pn	07 20 31.8	-1.2
BOQS	Boqueron	2.12	318⇑	*e*P	x	07 20 27.6	
BOQS				*e*S	x	07 20 54.0	
CONN	Concepcion	2.22	105⇑	*e*P	Pn	07 20 34.1	-0.5
SBLS	San Blas	2.42	313⇑	*e*P	x	07 20 31.5	
SBLS				*e*S	x	07 21 00.5	
SNJE	San Jose	2.43	314⇑	*e*P	x	07 20 31.8	
RTR	El Retiro	2.48	314⇑	*i*P	x	07 20 32.7	
RTR				*e*S	x	07 21 02.5	
RBDL	Robledal	2.66	317	*e*P	x	07 20 35.6	
RBDL				*e*S	x	07 21 06.7	
MTO2	Montecristo 2	2.69	326	*e*P	x	07 20 36.0	
VCR	Vista de Mar	2.95	133	*e*P	Pn	07 20 43.7	-0.9
CUI	Cuipilapa	2.98	120⇑	*e*P	Pn	07 20 44.8	-0.3
2RIO	Dos Rios de Up	3.01	123	*e*P	Pn	07 20 45.5	+0.1
JTS	JuntasAbangare	3.37	123	P	Pn	07 20 49.8	-0.5
	comp=Z,2.7nm,0.3s,baz=311,slow=22,SNR=14						
JTS				S	Sn	07 21 50.3	+21
	comp=Z,7.8nm,0.3s,baz=96,slow=23,SNR=6.2						
JTS				LR	LR	07 22 28.0	
	comp=Z,646nm,20.4s,baz=294,slow=44						
JTS	JuntasAbangare	3.37	123	*e*Pn	Pn	07 20 49.8	-0.4
JCR	Jicaral	3.51	131	*e*P	Pn	07 20 51.8	-0.5
FORC	Fortuna	3.51	118	*e*P	Pn	07 20 51.6	-0.6
FG6		3.82	309	*e*P	Pn	07 20 51.4	-5.0
CGA2	Cerro Gallo 2	3.92	123	*e*P	Pn	07 20 58.9	+1.1
BUS	Buena Vista	4.75	123⇓	*e*P	Pn	07 21 10.5	+1.3
BAR1		5.29	123	*e*P	Pn	07 21 16.9	+0.3
ACR	Cerro Adams	5.75	127	*e*P	Pn	07 21 24.1	+1.3
TEIG	Tepich	8.03	357	P	Pn	07 21 52.0	-2.0
	comp=Z,1.3nm,0.3s,baz=184,slow=6.1,SNR=7.7						
TEIG				LR	LR	07 25 39.8	
	comp=Z,478nm,18.2s,baz=137,slow=43						
TEIG	Tepich	8.03	357	*e*Pn	Pn	07 21 54.8	+0.9
TEIG				LR	LR	07 25 39.9	
ROSC	El Rosal	15.18	117	P	Pn	07 23 31.2	+0.7
	comp=Z,0.3nm,0.3s,baz=116,slow=17,SNR=2.7						
ROSC				LR	LR	07 28 45.4	
	comp=Z,58nm,20.0s,baz=14,slow=35						
ROSC	El Rosal	15.18	117	*e*Pn	Pn	07 23 28.2	-2.3
ROSC				LR	LR	07 28 45.4	
SDV	Santo Domingo	17.20	99	P	Pn	07 23 58.8	+2.9
	comp=Z,0.7nm,0.3s,baz=359,slow=23,SNR=3.4						
HKT	Hockley	19.20	338	*e*P	Pn	07 24 19.8	-0.1
	comp=Z,13nm,1.0s						
VBMS	Vicksburg	20.11	353	*e*P	P	07 24 30.2	+2.0
	comp=Z,34nm,0.7s						
NATX	Nacogdoches	20.50	343	*e*P	P	07 24 33.0	+0.6
	comp=Z,41nm,1.1s						
LRAL	Lakeview Retre	20.79	2	*e*P	P	07 24 38.5	+3.0
	comp=Z,19nm,0.9s						
ATAH	Atahualpa	21.22	153	P	P	07 24 44.3	+4.0
	comp=Z,2.7nm,0.7s,mb3.7,baz=40,slow=14,SNR=2.0						
ATAH				LR	LR	07 32 23.9	
	comp=Z,138nm,19.4s,baz=128,slow=35						
JCT	Junction City	21.34	330	*e*P	P	07 24 40.3	-1.3
	comp=Z,23nm,0.8s,mb4.6						
GOGA	Godfrey	21.52	10	*e*P	P	07 24 44.7	+1.3
	comp=Z,15nm,0.6s,mb4.5						
TXAR	Lajitas Array	22.57	322	P	P	07 24 53.9	-0.8
	comp=Z,16nm,0.8s,mb4.4,baz=139,slow=9.9,SNR=43						
TXAR				PcP	PcP	07 28 48.9	+3.0
	comp=Z,1.3nm,0.9s,baz=167,slow=2.2,SNR=4.5						
TXAR				LR	LR	07 35 11.6	
	comp=Z,85nm,18.9s,baz=180,slow=40						
JSC	Jenkinsville	22.81	14	*e*P	P	07 24 58.5	+1.4
UALR	University of	22.88	350	*e*P	P	07 24 58.0	+0.2
	comp=Z,20nm,0.8s,mb4.5						
MIAR	Mount Ida	22.89	348	*e*P	P	07 24 57.4	-0.5
	comp=Z,47nm,0.9s,mb4.8						
SWET	Sewanee	23.01	4	*e*P	P	07 24 58.9	-0.3
CPCT	Cooper Cave	23.37	7	*e*P	P	07 25 04.4	+1.9
TKL	Tuckaleechee C	23.67	8	P	P	07 25 05.6	+0.3
	comp=Z,15nm,0.8s,mb4.3,baz=180,slow=12,SNR=15						
TKL				LR	LR	07 37 01.6	
	comp=Z,86nm,19.0s,baz=63,slow=44						
TKL	Tuckaleechee C	23.67	8	*e*P	P	07 25 05.9	+0.6
SIUC	Southern Illin	25.47	357	*e*P	P	07 25 21.4	-0.3
	comp=Z,20nm,1.1s,mb4.5						
ELN	Prospectdale	25.75	13	P	P	07 25 24.9	+0.8
AMTX	Amarillo	25.89	333	*e*P	P	07 25 25.2	-0.3
	comp=Z,18nm,0.6s,mb4.7						
CCM	Cathedral Cave	25.96	354	*e*P	P	07 25 24.8	-1.3
	comp=Z,7.5nm,0.6s,mb4.3						
WCI	Wyandotte Cave	25.99	3	*e*P	P	07 25 25.7	-0.6
	comp=Z,11nm,0.8s,mb4.3						
BNM	Barren Site	27.80	325	*e*P	P	07 25 45.3	+2.7
LPM	Los Pinos Moun	27.92	325	*e*P	P	07 25 47.1	+3.4
LENM	Lemitar	28.00	325	*e*P	P	07 25 48.3	+3.8
LAZ	Ladron	28.27	325	*e*P	P	07 25 47.8	+0.9
ACSO	Alum Creek Sta	28.28	8	*e*P	P	07 25 46.5	-0.4
	comp=Z,4.9nm,0.7s,mb4.2						
ANMO	Albuquerque	28.30	326	P	P	07 25 48.1	+1.0
	comp=Z,1.8nm,0.7s,mb3.7,baz=146,slow=11,SNR=6.6						
ANMO	Albuquerque	28.30	326	*e*P	P	07 25 48.6	+1.5
	comp=Z,1.5nm,0.7s,mb3.6						
TUC	Tucson	29.11	317	*e*P	P	07 25 58.1	+3.8
Y19A	Nutrioso	29.20	321	⇓P	P	07 25 56.6	+1.5
	baz=30						
X19A	St. Johns	29.54	322	⇑P	P	07 26 00.7	+2.5
	baz=30						
Y18A	Canyon Day Jun	29.56	320	⇑P	P	07 26 00.9	+2.5
	baz=30						
SDCO	Great Sand Dun	29.99	331	*e*P	P	07 26 03.0	+1.0
	comp=Z,4.6nm,0.9s,mb4.1						
SCIA	State Center	30.00	352	*e*P	P	07 26 01.7	-0.4
	comp=Z,6.6nm,0.4s,mb4.6						
W18A	Petrified Fore	30.28	323	⇓P	P	07 26 06.3	+1.6
	baz=30						
X16A	Lo Mia Camp, P	30.86	320	⇑P	P	07 26 11.2	+1.4
	baz=31						
MVCO	Mesa Verde	31.08	327	⇑P	P	07 26 13.4	+1.7
	baz=31						
X15A	Humboldt	31.41	319	⇑P	P	07 26 14.4	-0.3
	baz=32						
WUAZ	Wupatki	31.54	321	*e*P	P	07 26 20.0	+4.2
ISCO	Idaho Springs	31.71	333	P	P	07 26 18.2	+1.0
U16A	Tuba City	31.81	323	⇓P	P	07 26 18.6	+0.5
	baz=32						
S19A	Harvey Farm, M	31.82	327	⇑P	P	07 26 18.1	0.0
	baz=32						
V15A	Kaibab Nationa	32.23	321	⇑P	P	07 26 21.8	0.0
	baz=32						
PV10	Paradox Valley	32.23	328	*e*P	P	07 26 23.2	+1.3
S18A	Hurst Farm, Bl	32.24	326	⇓P	P	07 26 21.8	-0.1
	baz=32						
ECSD	EROS,Sioux Fal	32.36	348	*e*P	P	07 26 21.6	-1.2
	comp=Z,10nm,0.8s,mb4.6						
W14A	Seligman	32.41	319	⇓P	P	07 26 23.4	0.0
	baz=33						
S17A	Black Ridge (B	32.65	325	⇑P	P	07 26 24.6	-0.9
	baz=33						
V14A	Boquillas Ranc	32.69	320	⇓P	P	07 26 25.7	-0.1
	baz=33						
R18A	Canyonlands Na	32.69	327	⇓P	P	07 26 26.2	+0.3
	baz=33						
Q19A	Hogan Spring (	32.78	328	⇑P	P	07 26 27.1	+0.4
	baz=33						
PHWY	Pilot Hill	32.89	335	*e*P	P	07 26 35.7	+8.2
IRM	Iron Mountain	33.14	316	⇑P	P	07 26 29.2	-0.6
	baz=33						
T15A	Red Dirt Ranch	33.14	323	⇓P	P	07 26 29.4	-0.4
	baz=33						
R17A	Hanksville Air	33.16	326	⇑P	P	07 26 29.9	0.0
	baz=33						
S16A	Weppner Ranch,	33.16	324	⇑P	P	07 26 30.1	+0.1
	baz=33						
U14A	Mt Trumbull	33.23	321	⇓P	P	07 26 30.2	-0.4
	baz=34						
SADO	Sadowa	33.33	11	P	P	07 26 30.9	-0.4
SADO	Sadowa	33.33	11	P	P	07 26 30.9	-0.4
Q18A	Rafter H Ranch	33.35	327	⇑P	P	07 26 32.4	+0.9
	baz=34						
R16A	Teasdale	33.49	325	⇓P	P	07 26 33.2	+0.4
	baz=34						
SRU	San Rafael	33.56	327	⇓P	P	07 26 32.7	-0.7
	baz=34						
COWI	Conover	33.84	358	*e*P	P	07 26 34.3	-1.4
	comp=Z,4.0nm,0.7s,mb4.4						
GMRC	Granite Mounta	33.84	316	⇑P	P	07 26 35.6	-0.3
	baz=34						
T13A	Saint George	34.07	321	⇑P	P	07 26 38.1	+0.3
	baz=34						
N19A	John Jarvie Ra	34.22	331	⇑P	P	07 26 39.0	-0.1
	baz=34						
S13A	Holt Ranch, En	34.40	322	⇓P	P	07 26 40.2	-0.5
	baz=35						
N18A	Larsen Ranch,	34.52	330	⇑P	P	07 26 41.0	-0.7
	baz=35						
O16A	Springville	34.87	327	⇓P	P	07 26 45.1	+0.4
	baz=35						
N17A	Moffit Pass	35.07	329	⇓P	P	07 26 47.2	+0.8
	baz=35						
P14A	Drum Mountains	35.29	325	⇑P	P	07 26 48.4	+0.1
	baz=36						
Q13A	Wheeler Ranch,	35.40	324	⇑P	P	07 26 50.3	+1.0
	baz=36						
S11A	Rachel	35.60	320	⇓P	P	07 26 51.1	+0.1
	baz=36						
P13A	Bates Ranch, G	35.73	324	⇑P	P	07 26 53.3	+1.1
	baz=36						
BW06	Boulder Array	35.86	332	⇑P	P	07 26 54.7	+1.5
	baz=36						
PDAR	Pinedale Array	35.86	332	P	P	07 26 52.6	-0.5
	comp=Z,3.0nm,1.0s,mb4.2,baz=106,slow=8.6,SNR=12						
PDAR				PcP	PcP	07 29 20.9	+1.6
	comp=Z,1.4nm,0.8s,baz=131,slow=5.0,SNR=7.0						
HWUT	Hardware Ranch	35.93	329	*e*P	P	07 26 53.9	+0.1
	comp=Z,4.6nm,0.8s,mb4.5						
R11A	Troy Canyon, C	35.94	321	⇓P	P	07 26 54.6	+0.7
	baz=36						
N14A	Grayback Hills	36.23	327	⇓P	P	07 26 56.8	+0.4
	baz=36						
Q11A	Duckwater	36.29	322	⇑P	P	07 26 56.5	-0.5
	baz=36						
L15A	Malad City	36.64	329	⇑P	P	07 26 59.3	-0.5
	baz=37						
AGMN	Agassiz Refuge	36.64	351	*e*P	P	07 26 58.6	-1.2
	comp=Z,13nm,0.5s,mb5.1						
Q10A	Clear Creek Ra	36.73	321	⇓P	P	07 27 00.9	+0.2
	baz=37						
M14A	Sheep Mountain	36.78	327	⇓P	P	07 27 00.9	-0.1
	baz=37						
REDW	Red Top Meadow	36.91	332	*e*P	P	07 27 02.1	0.0
	comp=Z,20nm,1.0s,mb5.0						
LOHW	Long Hollow	36.99	332	*e*P	P	07 27 03.2	+0.4
	comp=Z,13nm,1.1s,mb4.8						
L14A	Malta	37.10	328	⇑P	P	07 27 03.4	-0.3
	baz=37						
M13A	Montello	37.12	326	⇓P	P	07 27 03.6	-0.3
	baz=37						
RRI2	Red Ridge	37.12	331	*e*P	P	07 27 03.7	-0.2
	comp=Z,9.1nm,0.9s,mb4.7						
MOOW	Moose Ponds	37.16	332	*e*P	P	07 27 04.4	+0.2
	comp=Z,6.3nm,1.1s,mb4.5						
J16A	Bone	37.20	331	⇑P	P	07 27 04.7	+0.1
	baz=38						
I17A	Pilgram Creek	37.22	332	⇑P	P	07 27 04.6	-0.1
	baz=38						
ELK	Elko	37.29	325	P	P	07 27 06.1	+0.7
	comp=Z,1.2nm,0.8s,mb3.9,baz=152,slow=6.1,SNR=6.5						
ELK				PcP	PcP	07 29 25.8	+2.2
	comp=Z,0.5nm,0.5s,baz=212,slow=9.3,SNR=3.8						
IMW	Indian Meadow	37.37	332	*e*P	P	07 27 06.2	+0.2
	comp=Z,5.6nm,1.0s,mb4.5						
K14A	Jones Ranch, D	37.44	329	⇓P	P	07 27 05.7	-0.8
	baz=38,SNR=9.3						
I16A	Newdale	37.60	332	⇑P	P	07 27 06.9	-1.1
	baz=38						
RLMT	Red Lodge	37.61	335	⇓P	P	07 27 07.8	-0.2
	baz=38,SNR=5.8						
RLMT	Red Lodge	37.61	335	*e*P	P	07 27 07.8	-0.3
	comp=Z,10nm,1.1s,mb4.6						
NVAR	Mina Array Bea	37.68	319	P	P	07 27 09.7	+0.9
	comp=Z,2.9nm,1.1s,mb4.0,baz=133,slow=8.4,SNR=6.6						
NVAR				PcP	PcP	07 29 27.4	+2.6
	comp=Z,1.9nm,0.9s,baz=144,slow=4.4,SNR=8.8						
NVAR	Mina Array Bea	37.68	319	P	P	07 27 09.7	+0.9
NVAR				PcP	PcP	07 29 27.4	+2.6
J15A	Blackfoot	37.70	330	⇓P	P	07 27 08.7	0.0
	baz=38						
Q08A	Gabbs	37.70	320	⇓P	P	07 27 09.8	+0.9
	baz=38						
H16A	Russell Place,	38.13	333	⇓P	P	07 27 12.0	-0.4
	baz=38						
J14A	Carey	38.17	329	⇓P	P	07 27 12.6	-0.2
	baz=38						
QLMT	Earthquake Lak	38.31	333	*e*P	P	07 27 15.6	+1.6
F18A	Big Timber	38.43	335	⇑P	P	07 27 14.2	-0.7
	baz=39,SNR=5.7						
L11A	Cat Creek Ranc	38.53	326	⇑P	P	07 27 15.1	-0.8
	baz=39						
ULM	Lac du Bonnet	38.55	352	P	P	07 27 13.9	-1.9
	comp=Z,14nm,0.6s,mb5.0,baz=167,slow=9.4,SNR=18						
ULM				LR	LR	07 44 04.6	
	comp=Z,59nm,22.0s,baz=32,slow=38						
J13A	Cove Ranch, Pi	38.56	329	⇑P	P	07 27 15.7	-0.3
	baz=39						
I14A	Mackay	38.58	330	⇓P	P	07 27 15.9	-0.3
	baz=39						
DGMT	Dagmar	38.68	343	⇑P	P	07 27 16.6	-0.4
	baz=39,SNR=9.4						
DGMT	Dagmar	38.68	343	*e*P	P	07 27 16.6	-0.4
	comp=Z,44nm,0.9s,mb5.3						
G16A	Moss Hill, Enn	38.79	333	⇓P	P	07 27 18.7	+0.8
	baz=39,SNR=7.3						
HLID	Hailey	38.80	329	⇓P	P	07 27 16.7	-1.4
	baz=39						
I13A	Wildhorse Cree	38.90	329	⇑P	P	07 27 17.9	-1.0
	baz=39						
J12A	Stokes Ranch,	38.93	328	⇑P	P	07 27 18.7	-0.4
	baz=39						
MCMT	McKenzie Canyo	38.96	331	*e*P	P	07 27 20.4	+1.0
E18A	Harlowton	39.05	336	⇑P	P	07 27 19.5	-0.5
	baz=39						
H14A	Leadore	39.05	331	⇑P	P	07 27 19.9	-0.2
	baz=39						
G15A	Dillon	39.05	332	⇑P	P	07 27 20.4	+0.3
	baz=39,SNR=6.8						
DLMT	Dillon	39.25	332	*e*P	P	07 27 22.7	+0.9
	comp=Z,18nm,1.3s,mb4.7						
E17A	Martinsdale	39.35	335	⇑P	P	07 27 22.0	-0.5
	baz=40						
H13A	Challis	39.44	330	⇓P	P	07 27 23.2	-0.2
	baz=40,SNR=8.1						
LRM	Limekiln Ridge	39.54	333	*e*P	P	07 27 25.2	+1.1
G14A	Jackson	39.56	331	⇓P	P	07 27 24.8	+0.4
	baz=40						
F15A	Butte	39.57	333	⇑P	P	07 27 24.4	-0.1
	baz=40						
H12A	Diamond D Ranc	39.73	329	⇑P	P	07 27 25.8	+0.1
	baz=40						
E16A	East Helena	39.75	334	⇑P	P	07 27 25.6	-0.3
	baz=40,SNR=5.9						
I11A	Placerville	39.84	328	⇑P	P	07 27 25.9	-0.8
	baz=40						
K09A	Rome	39.98	325	⇑P	P	07 27 27.8	-0.1
	baz=40						
E15A	Deer Lodge	40.09	333	⇓P	P	07 27 28.2	-0.5
	baz=40,SNR=6.2						
D16A	Dana Ranch, Ca	40.09	335	⇑P	P	07 27 28.7	0.0
	baz=40						
EGMT	Eagleton	40.18	337	⇑P	P	07 27 28.7	-0.7
	baz=40						
C17A	Wharram Farm,	40.25	336	⇓P	P	07 27 29.5	-0.5
	baz=40,SNR=8.3						
F13A	Darby	40.38	331	⇑P	P	07 27 31.3	+0.2
	baz=41						
J09A	Fry Pan Ranch,	40.42	326	⇑P	P	07 27 30.7	-0.8
	baz=41						
H11A	Donnelly	40.42	329	⇓P	P	07 27 30.8	-0.7
	baz=41						
K08A	Mann Creek Ran	40.43	325	⇑P	P	07 27 30.7	-0.9
	baz=41						
E14A	Clinton	40.46	332	⇓P	P	07 27 31.3	-0.5
	baz=41						
L07A	Adell	40.47	323	⇑P	P	07 27 31.5	-0.4
	baz=41						
D15A	Lincoln	40.51	334	⇑P	P	07 27 32.4	+0.2
	baz=41						
H10A	Noah's Angus R	40.72	328	⇑P	P	07 27 33.2	-0.7
	baz=41						
CHMT	Chamberlain Mo	40.73	333	*e*P	P	07 27 33.7	-0.3
C16A	Fuhringer Ranc	40.78	335	⇑P	P	07 27 33.5	-0.9
	baz=41						
E13A	Victor	40.80	332	⇑P	P	07 27 34.4	-0.1
	baz=41						
K07A	Rock Creek Ran	40.84	324	⇑P	P	07 27 34.6	-0.4
	baz=41						
D14A	Greenough	40.97	333	⇑P	P	07 27 35.6	-0.4
	baz=41						
MSO	Missoula	40.97	333	*e*P	P	07 27 35.8	-0.2
	comp=Z,9.6nm,1.2s,mb4.5						
C15A	Salmond Ranch,	41.12	335	⇑P	P	07 27 36.8	-0.3
	baz=41,SNR=5.7						
G10A	Bishop Farm, J	41.39	328	⇑P	P	07 27 39.7	+0.2
	baz=42						
D13A	Huson	41.41	332	⇓P	P	07 27 39.6	0.0
	baz=42						
E12A	Beaver Dam Sad	41.42	331	⇓P	P	07 27 38.9	-0.8
	baz=42						
B15A	Bradely Ranch,	41.52	335	⇓P	P	07 27 39.9	-0.6
	baz=42						
E11A	Bogner Ranch,	41.69	330	⇑P	P	07 27 43.0	+1.2
	baz=42,SNR=5.2						
D12A	Red Ives Fores	41.78	332	⇑P	P	07 27 41.7	-0.9
	baz=42						
F10A	Beach Ranch, E	41.92	329	⇓P	P	07 27 43.4	-0.3
	baz=42						
A15A	Johnson Ranch,	42.12	336	⇓P	P	07 27 44.6	-0.7
	baz=42,SNR=9.3						
YBH	Yreka Blue Hor	42.34	321	LR	LR	07 47 06.6	
	comp=Z,87nm,18.8s,baz=313,slow=38						
A14A	Double T Ranch	42.39	335	⇓P	P	07 27 47.1	-0.5
	baz=43,SNR=9.3						
A11A	Hall Mountain,	43.65	333	⇓P	P	07 27 57.3	-0.4
	baz=44						
B09A	Rice	44.08	331	⇑P	P	07 28 00.5	-0.7
	baz=44						
G04A	Mulino	44.22	325	⇑P	P	07 28 00.9	-1.5
	baz=44						
EDM	Edmonton	45.75	339	*e*P	P	07 28 13.4	-0.9
CPUP	Villa Florida	48.40	143	P	P	07 28 35.9	+0.5
	comp=Z,1.0nm,0.8s,mb3.7,baz=329,slow=13,SNR=3.6						
YKA	Yellowknife Ar	53.79	345	P	P	07 29 14.2	-1.1
	comp=Z,3.0nm,0.7s,mb4.4,baz=115,slow=12,SNR=4.3						
YKA				LR	LR	07 55 24.7	
	comp=Z,39nm,18.8s,baz=125,slow=40						
KDAK	Kodiak Island	66.42	328	LR	LR	08 05 37.8	
	comp=Z,103nm,18.2s,baz=273,slow=41						
ARCES	ARCESS Array B	86.57	19	P	P	07 32 34.5	-0.8
	comp=Z,1.0nm,0.8s,mb3.8,baz=290,slow=5.7,SNR=4.1						
ARCES				LR	LR	08 10 39.8	
	comp=Z,52nm,18.0s,baz=262,slow=35						
ARCES	ARCESS Array B	86.57	19	P	P	07 32 34.5	-0.8
ARCES				LR	LR	08 10 39.8	
GERES	GERESS Array B	88.38	40	LR	LR	08 13 35.7	
	comp=Z,41nm,18.2s,baz=71,slow=36						
WMQ	Urumqi	124.14	4	*e*PKP	PKPdf	07 38 46.5	-4.5
WMQ				XPKP		07 39 16.0	
HHC	Hu-ho-hao-te	124.29	342	*e*PKP	PKPdf	07 38 46.4	-4.9
HHC				XPKP		07 39 24.7	
HHC				PP	PP	07 40 36.6	+0.6
HHC				PKS		07 42 20.8	
HHC				SKS	SKSdf	07 45 52.4	-5.0
HHC				SS	SS	07 57 20.4	-1.3
HHC				PP	PP		
	comp=Z,72nm,5.9s						
HHC				LR	LR		
	comp=N,132nm,21.5s						
HHC				LR	LR		
	comp=E,187nm,21.1s						
HHC				LR	LR		
	comp=Z,145nm,19.4s						
NJ2	Nanjing	129.16	331	*e*PKP	PKPdf	07 38 57.3	-3.6
CD2	Chengdu	135.75	346	*e*PKP	PKPdf	07 39 10.2	-3.2
ASAR	Alice Springs	138.84	248	PKP	PKPdf	07 39 20.6	+1.4
	comp=Z,0.6nm,0.6s,baz=100,slow=1.9,SNR=5.7						
WRA	Warramunga Arr	138.85	254	PKP	PKPdf	07 39 20.6	+1.3
	comp=Z,0.9nm,0.9s,baz=92,slow=2.4,SNR=9.7						
GYA	Guiyang	139.11	340	*e*PDIF	Pdif	07 36 27.5	-3.9
GYA				PKP	PKPdf	07 39 17.6	-2.1
GYA				XPKP		07 39 48.2	
GYA				PP	PP	07 42 14.0	+2.5
GYA				PP	PP		
	comp=Z,80nm,7.9s						
CMAR	Chiang Mai Arr	148.85	348	PKPbc	PKPbc	07 39 39.1	-1.6
	comp=Z,3.9nm,0.8s,baz=336,slow=3.4,SNR=16						

*BJI **08** 07:41:11.3, 27.08S×107.21W, h10km, mB5.3, Ms5.3, Msz4.9*
*IDC **08** 07:41:12.7±0.8, 26.59S×107.17W, h0km, mb4.2/9, mb1 4.4/9, mb1mx4.3/15, mbtmp4.2/9, MS3.7/11, Ms1 3.7/11, ms1mx3.5/21, Error ellipse: s-maj=24.5km s-min=17.4km az=19.0*
*ISCJB **08** 07:41:13.8±4.9, 26.65S±0.07×107.17W±0.07, h20km±35km, mb4.7/33, MS4.2/16, Error ellipse: s-maj=11.9km s-min=10.3km az=4.5*
*MOS **08** 07:41:13.8±1.1, 26.39S×107.13W, h10km, mb5.0/7, Error ellipse: s-maj=29.6km s-min=12.5km az=95.3*
*NEIC **08** 07:41:13.2±0.4, 26.81S×107.16W, h10km, mb5.0/26, Error ellipse: s-maj=9.9km s-min=9.3km az=194.0*
ISC 08 07:41:15.2±6.1**, 26.70S**±0.07×**107.21W**±0.07**, h16**km±37km**, h16**km±2.2km**:pP-P, n100,** σ**0.85**/80**, mb4.7**/33**, MS4.2**/16**, Easter Island region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
RPN	Rapa Nui	1.95	257	Pn	Pn	07 41 47.0	-0.6
	3µm,0.5s,SNR=35						
RPN	Rapa Nui	1.95	257	Pn	Pn	07 41 46.9	-0.7
	415µm,0.3s,baz=67,slow=9.7,SNR=41						
RPN				Sn	Sn	07 42 10.0	-1.7
	367µm,0.3s,baz=321,slow=22,SNR=9.9						
RPN				T		07 43 59.2	
	320µm,0.3s,baz=315,slow=19,SNR=4.6						
RPN	Rapa Nui	1.95	257	ePn	Pn	07 41 46.8	-0.8
RPN				eSn	Sn	07 42 11.8	+0.1
PLCA	Paso Flores	33.29	124	P	P	07 47 53.6	+1.6
	3.8nm,0.8s,mb4.4,baz=307,slow=9.5,SNR=9.2						
PLCA				LR	LR	07 57 54.3	
	comp=Z,123nm,18.0s,MS3.7,baz=91,slow=30						
PLCA	Paso Flores	33.29	124	eP	P	07 47 56.7	+4.7
PLCA				pmax	pmax		
	comp=Z,6.0nm,1.0s						
PLCA	Paso Flores	33.29	124	eP	P	07 47 56.6	+4.7
	comp=Z,5.6nm,1.0s,mb4.5						
CFAA	Coronel Fontan	34.26	108	P	P	07 48 00.9	+0.4
	comp=Z,1.0nm,0.9s,mb3.7,baz=272,slow=7.6,SNR=10						
CFAA				LR	LR	07 57 09.9	
	comp=Z,5.7nm,20.9s,baz=271,slow=28						
LVC	Limon Verde	34.95	92	LR	LR	07 58 30.9	
	comp=Z,154nm,20.9s,MS3.7,baz=253,slow=30						
LPAZ	La Paz	37.67	82	P	P	07 48 29.8	-0.1
	comp=Z,2.6nm,0.9s,mb4.0,baz=258,slow=3.0,SNR=13						
LPAZ				LR	LR	07 59 44.8	
	comp=Z,71nm,20.9s,MS3.5,baz=263,slow=30						
LPAZ	La Paz	37.67	82	P	P	07 48 29.8	-0.1
LPAZ				LR	LR	07 59 44.8	
OTAV	Otavalo	38.52	51	eP	P	07 48 37.1	+0.1
	comp=Z,2.4nm,0.7s,mb4.0						
PPT	Papeete	40.13	274	LR	LR	08 00 36.7	
	comp=Z,318nm,19.1s,MS4.2,baz=94,slow=29						
SIV	San Ignacio	44.06	86	P	P	07 49 21.1	-1.5
	comp=Z,4.0nm,0.8s,mb4.2,baz=251,slow=9.7,SNR=21						
ROSC	El Rosal	44.68	50	P	P	07 49 27.1	-0.4
	comp=Z,2.4nm,0.4s,mb4.4,baz=96,slow=17,SNR=4.5						
TXAR	Lajitas Array	55.82	4	P	P	07 50 51.2	-0.4
	comp=Z,1.4nm,0.8s,mb4.0,baz=188,slow=8.2,SNR=16						
TXAR				LR	LR	08 10 12.8	
	comp=Z,59nm,19.9s,MS3.7,baz=350,slow=31						
JCT	Junction City	57.30	8	eP	P	07 51 02.4	+0.3
JCT				pmax	pmax		
	comp=Z,11nm,0.9s,mb4.9						
JCT	Junction City	57.30	8	eP	P	07 51 02.4	+0.2
	comp=Z,11nm,0.9s,mb4.9						
BAR	Barrett	59.73	351	eP	P	07 51 19.9	+0.8
	comp=Z,56nm,2.0s,mb5.2						
BNM	Barren Site	60.52	1	eP	P	07 51 24.8	+0.4
LENM	Lemitar	60.53	0	eP	P	07 51 24.5	-0.1
LAZ	Ladron	60.77	0	eP	P	07 51 25.6	-0.5
ANMO	Albuquerque	61.32	1	eP	P	07 51 31.3	+1.4
ANMO				pmax	pmax		
	comp=Z,40nm,2.6s						
ANMO	Albuquerque	61.32	1	eP	P	07 51 31.3	+1.5
	comp=Z,40nm,2.6s,mb5.1						
MWC	Mount Wilson	61.46	350	eP	P	07 51 32.2	+1.4
MWC				pmax	pmax		
	comp=Z,9.0nm,0.8s,mb5.0						
MWC	Mount Wilson	61.46	350	eP	P	07 51 32.2	+1.4
	comp=Z,9.4nm,0.8s,mb5.0						
GSC	Goldstone	62.33	351	eP	P	07 51 37.9	+1.2
GSC				pmax	pmax		
	comp=Z,36nm,2.0s,mb5.2						
GSC	Goldstone	62.33	351	eP	P	07 51 37.9	+1.2
	comp=Z,36nm,2.0s,mb5.2						
LRAL	Lakeview Retre	62.44	19	eP	P	07 51 37.0	-0.4
	comp=Z,5.0nm,0.7s,mb4.8						
ISA	Isabella	62.93	350	eP	P	07 51 41.8	+1.1
SHPR	Sheep Range	63.31	353	eP	P	07 51 44.4	+1.2
MVCO	Mesa Verde	63.58	359	eP	P	07 51 45.1	+0.1
	comp=Z,16nm,0.9s,mb5.0						
SDCO	Great Sand Dun	64.12	2	eP	P	07 51 49.0	+0.5
CCUT	Cedar City	64.17	355	eP	P	07 51 49.3	+0.5
PV01	Paradox Valley	64.50	359	eP	P	07 51 50.4	-0.7
SWET	Sewanee	64.78	19	eP	P	07 51 51.6	-1.3
UTMT	University of	65.04	16	eP	P	07 51 54.3	-0.3
WVT	Waverly	65.11	17	eP	P	07 51 53.3	-1.7
TPH	Tonopah	65.11	351	eP	P	07 51 56.2	+1.2
TPH				pmax	pmax		
	comp=Z,9.0nm,1.0s,mb4.8						
TPH	Tonopah	65.11	351	eP	P	07 51 56.1	+1.2
	comp=Z,8.9nm,1.0s,mb4.8						
SRU	San Rafael	65.54	357	eP	P	07 51 57.8	+0.1
CMB	Columbia Colle	65.57	349	eP	P	07 51 58.8	+0.9
CMB				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.6						
CMB	Columbia Colle	65.57	349	eP	P	07 51 58.8	+0.8
	comp=Z,4.6nm,0.8s,mb4.6						
NVAR	Mina Array Bea	65.61	350	P	P	07 51 59.4	+1.2
	comp=Z,8.6nm,0.8s,mb4.8,baz=179,slow=9.2,SNR=35						
NVAR	Mina Array Bea	65.61	350	P	P	07 51 59.4	+1.2
WAKR	Walker	65.86	350	eP	P	07 52 01.4	+1.6
CCM	Cathedral Cave	66.13	14	eP	P	07 52 00.5	-1.1
CCM				pmax	pmax		
	comp=Z,8.0nm,1.0s,mb4.7						
CCM	Cathedral Cave	66.13	14	eP	P	07 52 00.5	-1.1
	comp=Z,8.4nm,1.0s,mb4.7						
TZTN	Tazewell	66.74	21	eP	P	07 52 04.8	-0.7
	comp=Z,13nm,1.0s,mb4.9						
DAU	Daniels Canyon	66.87	357	eP	P	07 52 06.1	-0.1
JLU	Jordanelle	67.07	356	eP	P	07 52 08.4	+0.9
VNA3	Neumayer Olymp	67.36	160	eP	P	07 52 10.3	+1.2
VNA3				e		07 52 12.1	
VNA3				e	pP	07 52 14.6	+0.3
VNA1	Neumayer--Stat	67.98	159	eP	P	07 52 14.3	+1.3
VNA1				e		07 52 16.9	
VNA1				e	pP	07 52 19.2	+1.0
RWWY	Rawlins	68.04	360	eP	P	07 52 11.0	-2.6
HWUT	Hardware Ranch	68.08	356	eP	P	07 52 13.0	-0.9
	comp=Z,4.2nm,1.0s,mb4.4						
VNA2	Neumayer--Watz	68.17	160	eP	P	07 52 14.3	+0.1
VNA2				e		07 52 16.9	
VNA2				e	pP	07 52 19.8	+0.4
VNA2				e		07 52 30.5	
VNA2				e		07 52 39.2	
WDC	Whiskeytown Da	68.44	347	eP	P	07 52 16.4	+0.3
HDIL	Hopedale	68.95	15	eP	P	07 52 18.9	-0.4
PDAR	Pinedale Array	69.15	358	P	P	07 52 19.9	-0.7
	comp=Z,1.2nm,0.6s,mb4.0,baz=173,slow=6.9,SNR=11						
PDAR				LR	LR	08 17 25.6	
	comp=Z,77nm,20.5s,MS3.9,baz=347,slow=32						
SNAA	Sanae	69.29	161	eP	P	07 52 20.9	-0.2
SNAA				e	pP	07 52 23.8	-2.6
SNAA				e	pP	07 52 27.0	+0.6
SNAA				e		07 52 37.9	
SNAA	Sanae	69.29	161	eP	P	07 52 19.9	-1.2
SNAA				pmax	pmax		
	comp=Z,2.0nm,0.8s						
SNAA	Sanae	69.29	161	eP	P	07 52 19.9	-1.2
	comp=Z,1.8nm,0.8s,mb4.0						
MOD	Modoc	69.32	350	eP	P	07 52 22.2	+0.6
	comp=Z,3.7nm,0.9s,mb4.3						
YBH	Yreka Blue Hor	69.58	348	LR	LR	08 15 42.1	
	comp=Z,106nm,19.9s,MS4.1,baz=225,slow=30						
SNOW	Snow King Moun	69.89	357	eP	P	07 52 24.8	-0.2
	comp=Z,90nm,3.0s						
TPAW	Teton Pass	69.93	357	eP	P	07 52 24.9	-0.4
	comp=Z,4.8nm,0.8s,mb4.5						
LOHW	Long Hollow	70.03	357	eP	P	07 52 25.7	-0.2
	comp=Z,3.2nm,0.8s,mb4.3						
MOOW	Moose Ponds	70.17	357	eP	P	07 52 26.3	-0.6
	comp=Z,47nm,2.5s,mb5.0						
HLID	Hailey	70.23	354	eP	P	07 52 27.4	+0.2
	comp=Z,4.7nm,0.8s,mb4.5						
IMW	Indian Meadow	70.33	357	eP	P	07 52 27.7	0.0
	comp=Z,35nm,2.0s,mb4.9						
ECSD	EROS,Sioux Fal	70.76	8	eP	P	07 52 29.6	-0.7
	comp=Z,72nm,2.5s,mb5.2						
QLMT	Earthquake Lak	71.29	357	eP	P	07 52 34.1	+0.5
MCMT	McKenzie Canyo	71.37	356	eP	P	07 52 33.9	-0.2
CHMT	Chamberlain Mo	73.47	356	eP	P	07 52 46.5	0.0
AGMN	Agassiz Refuge	75.34	8	eP	P	07 52 57.2	-0.2
	comp=Z,32nm,1.6s,mb5.0						
ULM	Lac du Bonnet	77.26	7	P	P	07 53 07.1	-1.1
	comp=Z,6.2nm,0.9s,mb4.5,baz=144,slow=2.5,SNR=5.4						
ULM				LR	LR	08 20 25.9	
	comp=Z,65nm,21.4s,MS3.9,baz=328,slow=30						
EDM	Edmonton	79.76	356	eP	P	07 53 21.2	-0.8
FCC	Fort Churchill	85.83	7	eP	P	07 53 58.5	+5.1
FCC				pmax	pmax		
	comp=Z,67nm,1.8s,mb5.6						
FCC	Fort Churchill	85.83	7	eP	P	07 53 58.5	+5.1
	comp=Z,67nm,1.8s,mb5.6						
DLBC	Dease Lake	86.92	348	eP	P	07 53 59.1	+0.3
SCHQ	Schefferville	88.29	22	eP	P	07 53 58.5	-6.9
	comp=Z,2µm,1.8s						
YKA	Yellowknife Ar	89.08	357	LR	LR	08 32 55.9	
	comp=Z,24nm,18.1s,MS3.7,baz=125,slow=35						
CTA	Charters Tower	94.98	245	LR	LR	08 30 52.3	
	comp=Z,64nm,18.4s,MS4.1,baz=230,slow=31						
KTH	Kantishna Hill	96.32	342	eP	P	07 54 41.7	-0.7
	comp=Z,34nm,1.6s,mb5.5						
CN2	Changchun	134.52	306	ePKP	PKPdf	08 00 31.3	-1.3
CN2				PP	PP	08 03 07.5	+1.8
NJ2	Nanjing	139.74	289	ePKP	PKPdf	08 00 38.6	-4.0
HHC	Hu-ho-hao-te	145.11	304	ePKP	PKPdf	08 00 51.7	-0.2
HHC				PP	PP	08 04 14.4	+3.5
HHC				PKS		08 04 26.7	
HHC				SKS	SKSdf	08 07 58.8	-1.6
HHC				SKKS	SKKSac	08 11 03.9	+1.5
HHC				SS	SS	08 23 03.6	+2.8
HHC				PP	PP		
	comp=Z,90nm,4.9s						
HHC				LR	LR		
	comp=N,156nm,21.4s,MS5.2						
HHC				LR	LR		
	comp=E,406nm,22.4s,MS5.2						
HHC				LR	LR		
	comp=Z,120nm,18.8s,MS4.7						
IRK	Irkutsk	145.24	326	ePKP2	PKPab	08 00 49.5	-2.0
IRK				pmax	pmax		
	comp=Z,32nm,1.6s						
TLY	Talaya	145.88	325	ePKIKP	PKPdf	08 00 53.8	+1.0
TLY				pmax	pmax		
	comp=Z,19nm,1.8s						
ULN	Ulaanbaatar	145.92	317	ePKP2	PKPab	08 00 53.0	-1.2
SONM	Songino Array	146.33	318	PKPbc	PKPbc	08 00 54.4	-0.5
	comp=Z,3.2nm,0.9s,baz=93,slow=2.6,SNR=7.3						
ARU	Arti	148.57	15	PKP2	PKPab	08 01 00.1	-4.2
GYA	Guiyang	149.76	277	PKP	PKPdf	08 00 58.4	-1.6
GYA				PKP2	PKPab	08 01 12.0	+1.9
GYA				PKS		08 04 32.6	
GYA				PP	PP	08 04 42.8	+4.1
GYA				SKS	SKSdf	08 08 03.7	-3.9
GYA				SKKS	SKKSac	08 11 27.6	-1.6
GYA				SS	SS	08 23 53.8	-0.5
GYA				PP	PP		
	comp=Z,130nm,9.4s						
GYA				LR	LR		
	comp=N,280nm,22.2s,MS5.1						
GYA				LR	LR		
	comp=E,170nm,21.9s,MS5.1						
GYA				LR	LR		
	comp=Z,210nm,23.8s,MS4.9						
NVS	Novosibirsk	150.86	348	ePKIKP	PKPdf	08 00 58.6	-2.2
ZAA0	Zalesovo Array	151.36	345	ePKPdf	PKPdf	08 00 59.5	-2.1
ZAA0				ePKPbc	PKPbc	08 01 06.2	-1.5
ZAA0				ePKPab	PKPab	08 01 15.2	-0.6
LZH	Lanzhou	151.99	297	ePKP	PKPdf	08 01 00.3	-2.9
LZH				APKP		08 01 03.3	
LZH				XPKP		08 01 04.9	
LZH				PP	PP	08 04 51.0	-0.2
LZH				SKKS	SKKSac	08 11 35.1	-5.9
LZH				eSS	SS	08 24 15.0	-3.4
LZH				PP	PP		
	comp=Z,230nm,8.7s						
LZH				LR	LR		
	comp=N,164nm,18.9s						
LZH				LR	LR		
	comp=Z,260nm,20.5s,MS5.0						
CD2	Chengdu	152.59	286	ePKP	PKPdf	08 01 03.1	-1.1
CD2				APKP		08 01 09.2	
CD2				PKP2	PKPab	08 01 22.0	+0.2
CD2				PP	PP	08 04 56.2	+1.4
CD2				SKS	SKSdf	08 08 05.0	-6.0
CD2				SKKS	SKKSac	08 11 40.8	-3.7
CD2				SS	SS	08 24 21.9	-3.6
CD2				PP	PP		
	comp=Z,90nm,10.2s						
CD2				LR	LR		
	comp=N,180nm,18.4s						
CD2				LR	LR		
	comp=Z,160nm,16.8s,MS4.9						
KMI	Kunming	153.04	273	PKIKP	PKPdf	08 01 04.4	-0.7
KMI						08 01 08.8	
KMI						08 04 59.9	
KMI				SS	SS	08 24 30.5	-0.2
KMI				MLR	MLR		
	comp=Z,70nm,19.0s,MS4.5						
CMAR	Chiang Mai Arr	154.54	257	PKPbc	PKPbc	08 01 15.1	-0.7
	comp=Z,0.6nm,0.3s,baz=75,slow=1.0,SNR=4.6						
CMAR				PKPab	PKPab	08 01 31.2	+0.9
	comp=Z,0.8nm,0.4s,baz=133,slow=2.6,SNR=5.8						
MK31	Makanchi Array	158.58	342	ePKIKP	PKPdf	08 01 11.3	-0.4
WMQ	Urumqi	159.08	329	PKP	PKPdf	08 01 11.6	-0.8
WMQ				PP	PP	08 05 32.6	+3.0
WMQ				PP	PP		
	comp=Z,83nm,5.6s						
WMQ				LR	LR		
	comp=E,915nm,24.3s						
WMQ				LR	LR		
	comp=Z,161nm,22.6s,MS4.8						

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*INET **08** 07:50:01.8, 12.33N×88.09W, h30km, ML2.9*
*SSS **08** 07:50:02.1, 12.18N×88.02W, h16km, MD3.6*
CASC 08 07:50:01.7±1.4**, 12.15N×87.97W, h19**km±4km**, MD4.0, ML2.9, 5C-1D, Near coast of Nicaragua**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CNCH	Conchagua	1.13	6	eP	x	07 50 21.4	
CNCH				eS	x	07 50 38.1	
TEL3	Telica 3	1.17	69	eP	Pn	07 50 22.3	-0.9
MIRN	Miramar	1.26	76	⇓eP	Pn	07 50 23.3	-1.0
CNGN	Cerro Negro	1.29	74	eP	Pn	07 50 24.0	-0.7
CNGN				eS	Sn	07 50 42.5	+1.1
VSM	San Miguel	1.31	347	eP	x	07 50 25.4	
VSM				eS	x	07 50 42.7	
COPN	Copaltepe	1.34	88	⇑eP	Pn	07 50 24.7	-0.8
COPN				AML	AML	07 50 47.2	
	comp=Z,138nm,0.6s						
MOMN	Momotombo	1.42	79	eP	Pn	07 50 26.2	-0.3
CSAN		1.51	88	eP	Pn	07 50 27.8	+0.1
CSAN				eS	Sn	07 50 48.2	+1.3
APYN	Apoyeque	1.58	87	⇑eP	Pn	07 50 28.6	-0.1
APYN				eS	Sn	07 50 49.2	+0.5
XAVN	Gruta Xavier	1.60	90	eP	Pn	07 50 28.9	-0.2
XAVN				AML	AML	07 50 54.6	
	comp=Z,173nm,0.4s						
CAHU	Cacacuatique	1.63	352	eP	x	07 50 30.5	
CAHU				eS	x	07 50 51.8	
CRUN	El Crucero	1.64	96	eP	Pn	07 50 30.0	+0.5
CRUN				eS	Sn	07 50 51.3	+1.2
TISN	Laguna Tiscapa	1.66	90	eP	Pn	07 50 29.3	-0.5
MGAN	Managua	1.68	90	⇑eP	Pn	07 50 29.5	-0.6
SNVI	San Vicente	1.69	330	eP	x	07 50 30.7	
SNVI				eS	x	07 50 52.8	
TICN	Ticuantepe	1.70	94	⇑eP	Pn	07 50 29.8	-0.5
WILN	Americas 2	1.74	89	eP	Pn	07 50 30.7	-0.2
WILN				eS	Sn	07 50 53.0	+0.4
HUEN		1.76	84	⇑iP	Pn	07 50 31.5	+0.2
LFRS	El Faro	1.82	324	eP	x	07 50 31.9	
LFRS				eS	x	07 50 54.7	
APON	Apoyo	1.87	97	eP	Pn	07 50 33.1	+0.4
LBRS	Las Brisas	1.90	327	eP	x	07 50 32.3	
LBRS				eP	x	07 50 33.3	
TGUH	Tegucigalpa,Un	2.02	19	eP	Pn	07 50 34.9	+0.2
TGUH				eS	Sn	07 51 00.3	+0.9
BOQS	Boqueron	2.03	321	eP	x	07 50 36.0	
BOQS				eS	x	07 51 00.8	
SNJE	San Jose	2.34	317	eP	x	07 50 39.3	
SNJE				eS	x	07 51 09.3	

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*BJI **08** 07:50:32.0, 10.07N×146.30E, h37km, mB5.2, mb4.8*
*IDC **08** 07:50:34.1±0.7, 10.45N×145.61E, h0km, mb4.3/12, mb1 4.5/13, mb1mx4.4/20, mbtmp4.3/13, ML4.8/1, MS3.5/9, Ms1 3.5/9, ms1mx3.1/35, Error ellipse: s-maj=27.2km s-min=14.6km az=82.0*
*NEIC **08** 07:50:35.4±0.4, 10.45N×145.62E, h10km, mb4.6/9, Error ellipse: s-maj=16.2km s-min=8.5km az=85.0*
*ISCJB **08** 07:50:37.2±0.5, 10.51N±0.05×145.6E±0.1, h33km, mb4.5/27, MS3.5/8, Error ellipse: s-maj=17.3km s-min=7.5km az=174.2*
*MOS **08** 07:50:37.1±1.0, 10.52N×145.64E, h33km, mb4.9/7, Error ellipse: s-maj=23.2km s-min=10.1km az=111.7*
ISC 08 07:50:39.1±0.5**, 10.41N**±0.06×**145.6E**±0.1**, h35**km**, n49,** σ**0.94**/41**, mb4.5**/27**, MS3.5**/8**, 5C-3D, South of Mariana Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
GUMO	Guam	3.25	347	Pn	Pn	07 51 23.5	-4.0
	107nm,0.3s,baz=156,slow=3.8,SNR=26						
GUMO				Sn	Sn	07 51 60.0	-5.1
	125nm,0.3s,baz=56,slow=21,SNR=12						
GUMO				LR	LR	07 52 10.5	
	comp=Z,231nm,18.7s,baz=28,slow=30						
GUMO	Guam	3.25	347	P	Pn	07 51 23.6	-4.0
GUMO						07 52 00.0	
DAV	Davao City (W)	20.11	262	LR	LR	08 01 50.4	
	comp=Z,102nm,18.3s,MS3.2,baz=88,slow=34						
COEN	Coen	24.33	186	eP	P	07 55 54.1	+0.4
	1.3nm,0.5s,mb3.6						
KAKA	Kakadu	26.45	210	eP	P	07 56 11.6	-1.4
	9.5nm,0.8s,mb4.4						
MJAR	Matsushiro Arr	26.87	347	P	P	07 56 14.7	-1.9
	2.9nm,0.7s,mb3.9,baz=170,slow=9.0,SNR=7.3						
MJAR				LR	LR	08 05 39.1	
	comp=Z,98nm,18.6s,MS3.4,baz=180,slow=34						
MAT	Matsushiro	26.87	347	P	P	07 56 16.2	-0.4
KAPI	Kappang	29.99	240	LR	LR	08 06 59.4	
	comp=Z,83nm,21.2s,MS3.4,baz=50,slow=33						
CTA	Charters Tower	30.31	179	LR	LR	08 07 11.5	
	comp=Z,112nm,18.9s,MS3.5,baz=236,slow=33						
KSRS	Korea Array	31.30	332	P	P	07 56 54.5	-1.4
	4.4nm,0.8s,mb4.3,baz=147,slow=11,SNR=8.8						
WRA	Warramunga Arr	32.15	200	P	P	07 57 03.4	-0.1
	2.0nm,0.6s,mb4.1,baz=26,slow=9.5,SNR=27						
WRA				PcP	PcP	07 59 52.5	+0.4
	1.0nm,0.9s,baz=12,slow=3.0,SNR=5.7						
NJ2	Nanjing	32.81	315	eP	P	07 57 10.9	+1.7
NJ2				AMB	AMB		
	comp=Z,60nm,0.7s,mb5.6						
ASAJ	Asahikawa	33.69	356	LR	LR	08 08 59.9	
	comp=Z,62nm,20.1s,MS3.3,baz=20,slow=33						
WHN	Wuhan	35.31	309	⇑P	P	07 57 32.1	+1.1
ASAR	Alice Springs	35.76	199	P	P	07 57 35.4	+0.5
	comp=Z,2.6nm,0.8s,mb4.2,baz=23,slow=7.2,SNR=28						
ASAR				PcP	PcP	08 00 01.9	-0.4
	comp=Z,0.4nm,0.6s,baz=34,slow=2.3,SNR=4.1						
STKA	Stephens Creek	42.22	185	P	P	07 58 27.5	-1.3
	comp=Z,2.6nm,0.9s,mb3.9,baz=346,slow=8.8,SNR=6.1						
STKA				LR	LR	08 14 27.6	
	comp=Z,183nm,19.3s,MS4.0,baz=23,slow=34						
CD2	Chengdu	43.84	304	P	P	07 58 42.2	+0.1
CD2				AMB	AMB		
	comp=Z,30nm,0.8s,mb5.1						
CD2				AMB	AMB		
	comp=Z,80nm,4.8s						
HIA	Hailar	44.33	336	⇓eP	P	07 58 45.9	+0.2
HIA	Hailar	44.33	336	eP	P	07 58 45.6	-0.1
	comp=Z,8.3nm,0.4s,mb4.8						
LZH	Lanzhou	45.63	311	eP	P	07 58 56.2	0.0
LZH				AMB	AMB		
	comp=Z,18nm,1.4s,mb4.8						
LZH				AMB	AMB		
	comp=Z,93nm,5.0s						
LZH	Lanzhou	45.63	311	eP	P	07 58 56.2	0.0
	comp=Z,18nm,1.4s,mb4.8						
LZH				pP	pP	07 59 00.5	-6.1
LZH				sP	sP	07 59 02.8	-8.0
CMAR	Chiang Mai Arr	45.82	286	P	P	07 58 59.6	+1.6
	comp=Z,7.5nm,0.8s,mb4.7,baz=85,slow=6.1,SNR=30						
CMAR				LR	LR	08 16 54.4	
	comp=Z,24nm,20.0s,MS3.1,baz=215,slow=34						
ULN	Ulaanbaatar	49.42	326	⇓eP	P	07 59 26.1	+0.6
ULN	Ulaanbaatar	49.42	326	eP	P	07 59 25.8	+0.3
	comp=Z,5.5nm,0.8s,mb4.6						
SONM	Songino Array	49.76	326	P	P	07 59 28.5	+0.4
	comp=Z,3.0nm,0.8s,mb4.4,baz=137,slow=7.2,SNR=19						
YAK	Yakutsk	52.83	351	⇑ePKHKP	P	07 59 50.4	-0.4
YAK				pmax	pmax		
	comp=Z,26nm,0.5s,mb5.4						
YAK	Yakutsk	52.83	351	⇑eP	P	07 59 50.4	-0.4
YAK				pmax	pmax		
	comp=Z,26nm,0.5s,mb5.4						
ZAK	Zakamensk	52.90	327	eP	P	07 59 51.0	-0.5
ZAK				e		08 00 55.3	
ZAK				pmax	pmax		
	comp=Z,9.0nm,1.0s,mb4.7						
TLY	Talaya	53.44	329	⇓iP	P	07 59 56.0	+0.5
TLY	Talaya	53.44	329	eP	P	07 59 55.7	+0.2
	comp=Z,5.9nm,0.7s,mb4.6						
TIXI	Tiksi	62.06	354	⇑eP	P	08 00 54.7	-1.0
TIXI				pmax	pmax		
	comp=Z,18nm,1.4s,mb5.0						
MKAR	Makanchi Array	64.31	317	P	P	08 01 11.3	+0.3
	comp=Z,1.1nm,0.5s,mb4.2,baz=92,slow=8.5,SNR=17						
MKAR				PcP	PcP	08 01 45.9	+0.3
	comp=Z,1.8nm,0.7s,baz=100,slow=5.4,SNR=5.3						
MKAR	Makanchi Array	64.31	317	⇑eP	P	08 01 11.3	+0.2
KURK	Kurchatov	67.50	321	P	P	08 01 31.6	0.0
	comp=Z,4.1nm,0.9s,mb4.4,baz=358,slow=3.1,SNR=17						
PPT	Papeete	69.76	113	LR	LR	08 30 54.1	
	comp=Z,96nm,18.9s,MS4.1,baz=271,slow=35						
BRVK	Borovoye	72.95	322	eP	P	08 02 04.6	-0.3
BRVK				pmax	pmax		
	comp=Z,8.0nm,0.7s,mb4.8						
BRVK	Borovoye	72.95	322	eP	P	08 02 04.6	-0.3
	comp=Z,8.1nm,0.7s,mb4.8						
CMB	Columbia Colle	86.77	52	eP	P	08 03 20.0	0.0
CMB				pmax	pmax		
	comp=Z,3.0nm,1.3s,mb4.4						
CMB	Columbia Colle	86.77	52	eP	P	08 03 20.0	0.0
	comp=Z,3.5nm,1.3s,mb4.4						
NVAR	Mina Array Bea	88.30	51	P	P	08 03 28.6	+1.2
	comp=Z,2.2nm,0.8s,mb4.5,baz=260,slow=5.6,SNR=18						
TPNV	Topopah Spring	90.21	52	eP	P	08 03 36.7	+0.4
TPNV				pmax	pmax		
	comp=Z,2.0nm,0.7s,mb4.6						
TPNV	Topopah Spring	90.21	52	eP	P	08 03 36.7	+0.4
	comp=Z,1.8nm,0.7s,mb4.5						
ARCES	ARCESS Array B	90.33	342	P	P	08 03 35.9	-0.3
	comp=Z,1.2nm,0.7s,mb4.3,baz=72,slow=5.6,SNR=4.4						
OBN	Obninsk	92.17	327	eP	P	08 03 43.9	-1.1
OBN				ePS	PS	08 16 07.5	+8.0
OBN				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.8						
PDAR	Pinedale Array	93.65	46	P	P	08 03 54.3	+2.3
	comp=Z,0.3nm,0.8s,mb3.8,baz=246,slow=3.8,SNR=2.6						
TORD	Torodi Ar. Bea	137.24	302	PKP	PKPdf	08 10 01.0	+1.2
	comp=Z,1.0nm,1.0s,baz=25,slow=2.7,SNR=3.4						
DBIC	Dimbokro	146.08	299	PKPbc	PKPbc	08 10 16.7	+0.2
	comp=Z,9.4nm,1.0s,baz=34,slow=1.6,SNR=5.1						
LPAZ	La Paz	146.65	104	PKPbc	PKPbc	08 10 19.8	+1.7
	comp=Z,1.7nm,0.5s,baz=329,slow=3.5,SNR=22						
LPAZ	La Paz	146.65	104	ePKPbc	PKPbc	08 10 19.3	+1.2

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*ISCJB **08** 07:56:00.2±0.6, 26.12N±0.06×141.2E±0.3, h351km±10km, mb3.7/7, Error ellipse: s-maj=40.5km s-min=6.9km az=170.6*
*IDC **08** 07:56:01.0±0.7, 25.86N×140.87E, h326km±10km, mb3.6/6, mb1 3.8/6, mb1mx3.3/19, mbtmp3.6/6, Error ellipse: s-maj=27.1km s-min=14.7km az=78.0*
*JMA **08** 07:56:02.9±0.1, 26.24N×141.11E, h333km, M4.7*

ISC 08 07:56:01.1±0.6**, 2625N**±006×**1413E**±03**, h352**km±9km**, n21, σ1s44**/26**, mb3.7**/7**, Bonin Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JHHJ	**Haha-jima-NKT**	**0.85**	**63**	P	**Pn**	**07 56 47.2**	**+0.8**
JHHJ				S	**S**	**07 57 21.4**	**-1.4**
CBIJ	**Chichi jima**	**1.14**	**42**	P	**Pn**	**07 56 48.5**	**+1.0**
	134nm,0.3s,baz=223,slow=4.0,SNR=27						
CBIJ				S	**S**	**07 57 25.9**	**+1.1**
	61nm,0.3s,baz=287,slow=23,SNR=14						
CBIJ	**Chichi jima**	**1.14**	**42**	P	**Pn**	**07 56 48.3**	**+0.8**
CBIJ				*e*S	**S**	**07 57 23.6**	**-1.2**
JHJ2	**Mitsune**	**6.96**	**349**	*e*S	**S**	**07 59 06.2**	**+0.4**
BSO1	**Boso 1**	**8.38**	**358**	P	**Pn**	**07 58 02.5**	**+2.9**
BSO1				*e*S	**S**	**07 59 35.6**	**-0.8**
BSO3	**Boso 3**	**8.55**	**355**	*e*S	**S**	**07 59 38.6**	**-1.6**
BSO4	**Boso 4**	**8.75**	**355**	*e*S	**S**	**07 59 45.0**	**+0.4**
JOD2	**Odawara 2**	**9.19**	**348**	P	**Pn**	**07 58 12.0**	**+2.8**
JRY	**Ryogami san**	**9.96**	**349**	*e*S	**S**	**08 00 07.2**	**-3.7**
JYT	**Yasato**	**9.99**	**355**	*e*S	**S**	**08 00 10.7**	**-1.1**
JAG	**Ashikaga**	**10.27**	**351**	P	**Pn**	**07 58 23.5**	**+1.4**
JAG				*e*S	**S**	**08 00 12.1**	**-5.7**
JHO	**Hitachi**	**10.35**	**357**	P	**Pn**	**07 58 25.4**	**+2.4**
JHO				*e*S	**S**	**08 00 17.9**	**-1.7**
CMAR	**Chiang Mai Arr**	**39.82**	**268**	P	**P**	**08 03 00.6**	**-1.1**
	1.6nm,0.3s,mb3.7,baz=58,slow=8.6,SNR=3.5						
CTA	**Charters Tower**	**46.31**	**174**	*e*P	**P**	**08 03 53.3**	**+0.3**
	2.5nm,0.8s,mb3.4						
WRA	**Warramunga Arr**	**46.41**	**189**	P	**P**	**08 03 52.3**	**-1.5**
	5.6nm,0.4s,mb4.1,baz=10,slow=8.4,SNR=132						
WRA				PcP	PcP	08 05 23.3	+1.2
	0.7nm,0.7s,baz=1.3,slow=4.0,SNR=5.1						
ASAR	**Alice Springs**	**50.14**	**189**	P	**P**	**08 04 20.8**	**-1.1**
	0.8nm,0.3s,mb3.5,baz=9.4,slow=7.2,SNR=25						
ASAR				PcP	PcP	08 05 37.5	+1.9
	1.1nm,0.7s,baz=21,slow=4.2,SNR=7.8						
KURK	**Kurchatov**	**53.04**	**315**	P	**P**	**08 04 45.0**	**+2.1**
	0.6nm,0.4s,mb3.3,baz=92,slow=8.3,SNR=5.4						
STKA	**Stephens Creek**	**57.80**	**180**	*e*P	**P**	**08 05 16.6**	**0.0**
	1.5nm,0.4s,mb3.7						
STKA	**Stephens Creek**	**57.80**	**180**	P	**P**	**08 05 15.7**	**-0.9**
	2.8nm,0.6s,mb3.8,baz=337,slow=6.8,SNR=8.9						
ARCES	**ARCESS Array B**	**74.09**	**341**	P	**P**	**08 07 02.4**	**+3.5**
	4.7nm,1.1s,mb4.1,baz=79,slow=9.5,SNR=4.0						
LPAZ	**La Paz**	**150.87**	**76**	PKPbc	PKPbc	08 15 18.1	+5.0
	0.7nm,0.5s,baz=306,slow=4.9,SNR=6.4						

IDC 08 08:05:30.6±6.4**, 1197S**×**16759E, h0**km**, mb3.8**/4**, mb1 3.9**/4**, mb1mx3.7**/16**, mbtmp3.8**/4**, Error ellipse: s-maj=149.5km s-min=67.0km az=14.0, Santa Cruz Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**31.06**	**226**	P	P	08 11 50.3	-0.1
	1.9nm,0.4s,baz=36,slow=11,SNR=13						
WRA	**Warramunga Arr**	**32.88**	**252**	P	P	08 12 06.1	-0.5
	0.2nm,0.6s,baz=83,slow=8.4,SNR=3.5						
ASAR	**Alice Springs**	**34.02**	**245**	P	P	08 12 16.9	+0.5
	0.2nm,0.4s,baz=73,slow=9.3,SNR=6.1						
MAW	**Mawson**	**84.54**	**202**	P	P	08 18 05.3	+0.1
	1.0nm,0.6s,baz=136,slow=8.5,SNR=6.2						

IDC 08 08:12:46.1±8.1**, 318S**×**10425E, h0**km**, mb3.3**/3**, mb1 3.6**/3**, mb1mx3.4**/18**, mbtmp3.4**/3**, Error ellipse: s-maj=338.7km s-min=28.6km az=58.0, Southern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**22.12**	**347**	P	P	08 17 43.5	+0.1
	0.8nm,0.3s,baz=172,slow=7.3,SNR=5.4						
WRA	**Warramunga Arr**	**33.76**	**122**	P	P	08 19 30.4	+0.6
	0.3nm,0.8s,baz=300,slow=8.7,SNR=4.6						
ASAR	**Alice Springs**	**35.16**	**128**	P	P	08 19 41.4	-0.5
	0.3nm,0.7s,baz=299,slow=8.5,SNR=4.0						

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*IDC **08** 08:18:39.8±0.6, 4186S×1625W, h0km, mb4.5/16, mb1 4.6/16, mb1mx4.5/19, mbtmp4.5/16, MS4.5/16, Ms1 4.5/16, ms1mx4.4/20, Error ellipse: s-maj=18.6km s-min=14.5km az=172.0*

*MOS **08** 08:18:40.4±0.8, 42.11S×1636W, h11km, mb5.6/27, MS4.6/12, Error ellipse: s-maj=21.0km s-min=8.6km az=82.9*

*ISCJB **08** 08:18:40.7±0.3, 4199S±006×1629W±009, h10km, mb5.2/85, MS4.7/117, Error ellipse: s-maj=10.2km s-min=7.7km az=17.8*

*NEIC **08** 08:18:41.8±0.3, 4201S×1625W, h10km, mb5.4/56, MS4.7/96, Error ellipse: s-maj=12.8km s-min=9.2km az=143.0*

*BJI **08** 08:18:41.8, 4200S×1620W, h10km, mB5.4, Ms5.2, Msz4.8*

*GCMT **08** 08:18:41.8±0.2, 4200S×16.12W, h12km, MW5.1/90, Moment Tensor Solution. s35,c44; s90,c127; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-5.33±.12; $M_{\theta\theta}$1.60±.13; $M_{\phi\phi}$3.73±.11; $M_{r\theta}$-0.75±.52; $M_{\theta\phi}$-1.94±.10; $M_{\phi r}$-1.15±.40; Best double couple: $M_0$5.26500×10^{16} NP1:ϕ_s138.00000°,δ43.00000°,λ-107.00000°. NP2: ϕ_s341.00000°,δ50.00000°,λ-75.00000°. Principal axes: T 4.9150, Plg4.0000°, Azm60.0000°; N 0.7000, Plg11.0000°, Azm151.0000°; P -5.6150, Plg78.0000°, Azm313.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*SZGRF **08** 08:18:47.0, 4126S×1564W, h33km, mb4.8, Tristan da Cunha region*

ISC 08 08:18:42.5±0.3**, 4194S**±006×**1624W**±009**, h10**km**, (h14**km±3.3km**:pP-P), n308, σ1s02**/185**, mb5.2**/85**, MS4.7**/117**, 72C-3D, Southern Mid-Atlantic Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
VNA2	**Neumayer--Watz**	**29.40**	**174**	*e*P	**P**	**08 24 46.2**	**+0.7**
VNA2				*e*	pP	08 24 48.3	-0.2
VNA2				*e*	pP	08 24 50.8	+2.3
VNA3	**Neumayer Olymp**	**29.56**	**176**	*e*P	**P**	**08 24 46.7**	**-0.2**
VNA3				*e*	pP	08 24 49.4	-0.5
VNA3				*e*		08 24 52.0	
EFI	**East Falkland**	**29.86**	**237**	PFAKE		08 25 00.0	+10
EFI				LR	LR		
	comp=Z,2µm,21.0s,MS4.8						
SUR	**Sutherland**	**30.83**	**84**	LR	LR	08 34 35.8	
	comp=Z,1µm,18.8s,MS4.5,baz=76,slow=31						
SUR	**Sutherland**	**30.83**	**84**	PFAKE		08 25 10.0	+11
SUR				LR	LR		
	comp=Z,1µm,19.0s,MS4.6						
ASCN	**Ascension**	**33.91**	**3**	PFAKE		08 25 40.0	+14
ASCN				LR	LR		
	comp=Z,632nm,19.0s,MS4.4						
TRQA	**Tornquist**	**34.93**	**261**	*e*P	**P**	**08 25 34.4**	**0.0**
	comp=Z,91nm,2.1s,mb5.3						
TRQA				LR	LR		
	comp=Z,1µm,20.0s,MS4.7						
PMSA	**Palmer Station**	**35.28**	**213**	LR	LR	08 36 00.6	
	comp=Z,507nm,21.5s,MS4.2,baz=234,slow=29						
BOSA	**Boshof**	**36.05**	**82**	LR	LR	08 36 52.9	
	comp=Z,787nm,21.2s,MS4.5,baz=230,slow=30						
TSUM	**Tsumeb**	**36.54**	**62**	P	**P**	**08 25 47.0**	**-1.3**
	comp=Z,11nm,1.2s,mb4.6,baz=210,slow=11,SNR=3.9						
TSUM	**Tsumeb**	**36.54**	**62**	P	**P**	**08 25 47.0**	**-1.3**
TSUM				LR	LR		
	comp=Z,1µm,22.0s,MS4.6						
CPUP	**Villa Florida**	**37.02**	**282**	P	**P**	**08 25 52.0**	**-0.3**
	comp=Z,5.6nm,0.6s,mb4.5,baz=96,slow=7.4,SNR=31						
CPUP				LR	LR	08 39 32.4	
	comp=Z,841nm,18.8s,MS4.5,baz=122,slow=34						
CPUP	**Villa Florida**	**37.02**	**282**	*e*P	**P**	**08 25 52.1**	**-0.2**
CPUP				pmax	pmax		
	comp=Z,37nm,0.8s						
CPUP				MLR	MLR		
	comp=Z,166nm,19.0s						
CPUP	**Villa Florida**	**37.02**	**282**	*e*P	**P**	**08 25 52.1**	**-0.2**
	comp=Z,38nm,0.8s,mb5.3						
CPUP				LR	LR		
	comp=Z,166nm,19.0s,MS3.9						
BDFB	**Brasilia**	**37.86**	**304**	P	**P**	**08 25 58.8**	**-0.7**
	comp=Z,11nm,1.1s,mb4.5,baz=68,slow=1.9,SNR=2.3						
BDFB	**Brasilia**	**37.86**	**304**	P	**P**	**08 25 58.8**	**-0.7**
BDFB				LR	LR		
	comp=Z,416nm,19.0s,MS4.3						
LBTB	**Lobatse**	**38.34**	**77**	P	**P**	**08 26 01.0**	**-2.5**
	comp=Z,3.5nm,0.8s,mb4.1,baz=325,slow=22,SNR=1.9						
LBTB	**Lobatse**	**38.34**	**77**	P	**P**	**08 26 01.0**	**-2.5**
LBTB				LR	LR		
	comp=Z,1µm,22.0s,MS4.7						
SYO	**Syowa Base**	**39.46**	**152**⇓	*e*P	**P**	**08 26 10.0**	**-2.3**
PLCA	**Paso Flores**	**40.22**	**253**	P	**P**	**08 26 16.4**	**-2.6**
	comp=Z,2.3nm,1.0s,baz=129,slow=8.5,SNR=4.4						
PLCA				LR	LR	08 42 31.9	
	comp=Z,673nm,18.8s,MS4.5,baz=123,slow=36						
PLCA	**Paso Flores**	**40.22**	**253**	*e*P	**P**	**08 26 17.1**	**-1.9**
PLCA				pmax	pmax		
	comp=Z,31nm,2.0s						
PLCA				MLR	MLR		
	comp=Z,849nm,20.0s						
PLCA	**Paso Flores**	**40.22**	**253**	*e*P	**P**	**08 26 17.1**	**-1.9**
	comp=Z,31nm,2.0s,mb4.7						
PLCA				LR	LR		
	comp=Z,849nm,20.0s,MS4.6						
CFAA	**Coronel Fontan**	**42.34**	**267**	P	**P**	**08 26 34.6**	**-2.0**
	comp=Z,0.3nm,0.9s,baz=107,slow=9.4,SNR=7.4						
LCO	**Las Campanas**	**45.48**	**268**	PFAKE		08 27 10.0	+8.1
LCO				LR	LR		
	comp=Z,1µm,20.0s,MS4.8						
LSZ	**Lusaka**	**46.49**	**69**	*e*P	**P**	**08 27 07.4**	**-2.5**
LSZ				pmax	pmax		
	comp=Z,12nm,1.1s,mb4.7						
LSZ				MLR	MLR		
	comp=Z,977nm,20.0s,MS4.8						
LSZ	**Lusaka**	**46.49**	**69**	*e*P	**P**	**08 27 07.4**	**-2.4**
	comp=Z,12nm,1.1s,mb4.7						
LSZ				LR	LR		
	comp=Z,977nm,20.0s,MS4.8						
LVC	**Limon Verde**	**47.73**	**277**	PFAKE		08 27 30.0	+10
LVC				LR	LR		
	comp=Z,654nm,19.0s,MS4.6						
MAW	**Mawson**	**48.01**	**150**	P	**P**	**08 27 20.7**	**-0.4**
	comp=Z,9.3nm,0.9s,mb4.8,baz=280,slow=12,SNR=23						
MAW				LR	LR	08 43 36.1	
	comp=Z,178nm,21.3s,MS4.0,baz=253,slow=31						
MAW	**Mawson**	**48.01**	**150**	*e*P	**P**	**08 27 20.6**	**-0.5**
MAW				pmax	pmax		
	comp=Z,9.0nm,0.9s						
MAW				MLR	MLR		
	comp=Z,400nm,21.0s						
MAW	**Mawson**	**48.01**	**150**	*e*P	**P**	**08 27 20.6**	**-0.5**
	comp=Z,9.4nm,0.9s,mb4.8						
MAW				LR	LR		
	comp=Z,400nm,21.0s,MS4.4						
QSPA	**South Pole Qui**	**48.32**	**180**	P	**P**	**08 27 24.5**	**+1.1**
	comp=Z,8.6nm,0.9s,mb4.8,baz=209,slow=4.1,SNR=26						
LIC	**Lamto**	**49.02**	**15**	*e*P	**P**	**08 27 27.4**	**-2.0**
	comp=Z,76nm,1.0s,mb5.4						
LIC				*e*MLR	MLR		
	comp=Z,584nm,21.0s,MS4.2						
LIC	**Lamto**	**49.02**	**15**	*e*P	**P**	**08 27 27.2**	**-2.2**
LIC	**Lamto**	**49.02**	**15**	*e*PcP	pP	08 27 33.3	+0.7
	comp=Z,97nm,1.0s						
LIC	**Lamto**	**49.02**	**15**	*e*P	**P**	**08 27 27.4**	**-2.0**
	comp=Z,38nm,1.0s,mb5.4						
KIC	**Kosan Boka**	**49.20**	**15**	*e*PcP	pP	08 27 34.7	+0.7
	comp=Z,151nm,1.0s						
KIC	**Kosan Boka**	**49.20**	**15**	*e*P	**P**	**08 27 29.3**	**-1.6**
KIC				*e*PcP	pP	08 27 34.7	+0.7
TIC	**Toumodi**	**49.43**	**15**	*e*PcP	pP	08 27 36.4	+0.7
	comp=Z,157nm,1.1s						
TIC	**Toumodi**	**49.43**	**15**	*e*P	**P**	**08 27 29.8**	**-2.8**
TIC				*e*		08 27 36.4	
DBIC	**Dimbokro**	**49.48**	**15**	P	**P**	**08 27 30.5**	**-2.5**
	comp=Z,18nm,1.2s,mb5.0,baz=163,slow=16,SNR=5.7						
DBIC				LR	LR	08 43 19.0	
	comp=Z,361nm,20.2s,MS4.4,baz=169,slow=30						
DBIC	**Dimbokro**	**49.48**	**15**	*e*P	**P**	**08 27 32.1**	**-0.9**
DBIC				pmax	pmax		
	comp=Z,29nm,1.2s						
DBIC				MLR	MLR		
	comp=Z,461nm,21.0s						
DBIC	**Dimbokro**	**49.48**	**15**	*e*P	**P**	**08 27 32.1**	**-0.9**
	comp=Z,29nm,1.2s,mb5.2						
DBIC				LR	LR		
	comp=Z,461nm,21.0s,MS4.5						
LPAZ	**La Paz**	**51.11**	**284**	P	**P**	**08 27 44.1**	**-1.3**
	comp=Z,1.7nm,0.8s,mb4.0,baz=118,slow=7.9,SNR=10.0						
LPAZ				LR	LR	08 48 31.1	
	comp=Z,640nm,20.5s,MS4.6,baz=123,slow=35						
ARE	**Arequipa**	**53.45**	**281**	P	**P**	**08 28 04.0**	**+1.2**
TOA0	**Torodi Ar. Sit**	**57.25**	**21**	*e*P	**P**	**08 28 27.9**	**-2.2**
TORD	**Torodi Ar. Bea**	**57.25**	**21**	P	**P**	**08 28 28.2**	**-1.9**
	comp=Z,5.6nm,1.1s,mb4.5,baz=203,slow=4.7,SNR=13						
TORD				LR	LR	08 48 20.1	
	comp=Z,500nm,18.5s,MS4.7,baz=195,slow=31						
ABPO	**Ambohimpanom**	**57.93**	**87**	PFAKE		08 28 50.0	+15
ABPO				LR	LR		
	comp=Z,532nm,21.0s,MS4.6						
MIR	**Mirnyy**	**59.22**	**154**⇓	*i*P	**P**	**08 28 43.0**	**-0.3**
MIR				pmax	pmax		
	comp=Z,100nm,1.5s,mb5.6						
NNA	**Nana**	**60.28**	**281**	PFAKE		08 29 00.0	+8.7
NNA				LR	LR		
	comp=Z,536nm,19.0s,MS4.7						
SBA	**Scott Base**	**60.47**	**181**	*e*P	**P**	**08 28 53.6**	**+1.9**
SBA				pmax	pmax		
	comp=Z,33nm,1.1s,mb5.3						
SBA				MLR	MLR		
	comp=Z,245nm,19.0s,MS4.4						
SBA	**Scott Base**	**60.47**	**181**	*e*P	**P**	**08 28 53.5**	**+1.8**
	comp=Z,33nm,1.1s,mb5.3						
SBA				LR	LR		
	comp=Z,245nm,19.0s,MS4.4						
KMBO	**Kilima Mbogo**	**62.82**	**65**	LR	LR	08 54 24.9	
	comp=Z,658nm,18.3s,MS4.8,baz=199,slow=34						
KMBO	**Kilima Mbogo**	**62.82**	**65**	PFAKE		08 29 20.0	+12
KMBO				LR	LR		
	comp=Z,623nm,19.0s,MS4.8						
CASY	**Casey**	**64.64**	**159**	PFAKE		08 29 30.0	+10
CASY				LR	LR		
	comp=Z,300nm,19.0s,MS4.5						
TAM	**Tamanrasset**	**67.48**	**22**	*e*P	**P**	**08 29 38.4**	**-0.1**
GRGR	**Grenville**	**68.09**	**311**	PFAKE		08 29 50.0	+7.5
GRGR				LR	LR		
	comp=Z,120nm,19.0s,MS4.1						
OTAV	**Otavalo**	**69.81**	**290**	*e*P	**P**	**08 29 52.4**	**-0.9**
	comp=Z,65nm,2.0s,mb5.2						
OTAV				LR	LR		
	comp=Z,322nm,19.0s,MS4.6						
DRV	**Dumont d'Urvil**	**70.20**	**170**	P	**P**	**08 29 51.0**	**-3.9**
DRV				SP		08 39 51.0	
DRV				R		08 52 00.0	
ROSC	**El Rosal**	**70.31**	**296**	P	**P**	**08 29 55.6**	**-0.7**
	comp=Z,3.7nm,0.3s,mb4.8,baz=259,slow=23,SNR=7.4						
ROSC				LR	LR	08 59 22.5	
	comp=Z,602nm,19.2s,MS4.9,baz=200,slow=35						
SDV	**Santo Domingo**	**70.91**	**302**	PFAKE		08 30 10.0	+10
SDV				LR	LR		
	comp=Z,101nm,19.0s,MS4.1						
MSEY	**Mahe Island**	**73.31**	**81**	PFAKE		08 30 30.0	+16
MSEY				LR	LR		
	comp=Z,334nm,19.0s,MS4.6						
SJG	**San Juan**	**75.45**	**311**	PFAKE		08 30 40.0	+13
SJG				LR	LR		
	comp=Z,328nm,20.0s,MS4.6						
RTC	**Rabat Centre**	**76.05**	**8**	PFAKE		08 30 40.0	+10
RTC				LR	LR		
	comp=Z,306nm,19.0s,MS4.6						
BCIP	**Isla Barro Col**	**77.16**	**295**	PFAKE		08 30 50.0	+13
BCIP				LR	LR		
	comp=Z,158nm,20.0s,MS4.3						
SFS	**San Fernando**	**78.57**	**8**	PFAKE		08 31 00.0	+16
SFS				LR	LR		
	comp=Z,470nm,19.0s,MS4.8						
EMIJ	**Mijas**	**78.83**	**9**	P	**P**	**08 30 43.2**	**-2.0**
	comp=Z,78nm,1.6s,mb5.4						
PFVI	**Vila Bisbo**	**78.99**	**6**	*e*LR	LR	08 58 22.1	
	comp=Z,268nm,22.0s						
ESPR	**Espera**	**79.00**	**8**	P	**P**	**08 30 44.9**	**-1.3**
	comp=Z,106nm,1.8s,mb5.5						
PBDV	**Barranco-do-Ve**	**79.17**	**7**	*e*LR	LR	08 59 24.2	
	comp=Z,255nm,22.0s						
MORF	**Marmelete**	**79.17**	**6**	*e*P	**P**	**08 30 47.4**	**+0.3**
	comp=Z,54nm,1.8s,mb5.2						
MORF				*e*LR	LR	08 58 45.3	
	comp=Z,268nm,22.0s						
PVAQ	**Vaqueiros**	**79.35**	**7**	*e*P	**P**	**08 30 48.7**	**+0.6**
	comp=Z,59nm,1.7s,mb5.2						
PVAQ				*e*LR	LR	08 59 32.6	
	comp=Z,234nm,20.0s						
EBER	**Berja**	**79.41**	**11**	P	**P**	**08 30 48.6**	**+0.2**
	comp=Z,64nm,1.6s,mb5.3						
ELOJ	**Sierra Loja**	**79.48**	**10**	P	**P**	**08 30 49.6**	**+0.8**
ELOJ				pmax	pmax		
	comp=Z,2.0nm,0.4s,mb4.4						
ELOJ	**Sierra Loja**	**79.48**	**10**	P	**P**	**08 30 49.6**	**+0.8**
	comp=Z,2.1nm,0.4s,mb4.4						
EGRO	**El Granado**	**79.50**	**7**	P	**P**	**08 30 48.2**	**-0.6**
	comp=Z,48nm,1.1s,mb5.3						
ENIJ	**Nijar**	**79.58**	**11**	P	**P**	**08 30 50.4**	**+1.1**
ENIJ				pmax	pmax		
	comp=Z,3.0nm,0.4s,mb4.6						
ENIJ	**Nijar**	**79.58**	**11**	P	**P**	**08 30 50.4**	**+1.1**
	comp=Z,3.3nm,0.4s,mb4.6						
EMIN	**Mina Concepcio**	**79.81**	**8**	P	**P**	**08 30 49.4**	**-1.1**
	comp=Z,77nm,1.7s,mb5.3						
PBEJ	**Beja**	**79.95**	**7**	*e*P	**P**	**08 30 53.2**	**+1.9**
	comp=Z,33nm,1.5s,mb5.0						
PBAR	**Barrancos**	**80.18**	**7**	*e*P	**P**	**08 30 52.9**	**+0.4**
	comp=Z,48nm,1.7s,mb5.2						
PBAR				*e*LR	LR	08 59 57.0	
	comp=Z,165nm,22.0s						
ECAB	**El Cabril**	**80.25**	**9**	P	**P**	**08 30 52.6**	**-0.3**
	comp=Z,20nm,1.3s,mb4.9						
EQES	**Quesada**	**80.27**	**11**	P	**P**	**08 30 51.8**	**-1.2**
	comp=Z,2.1nm,0.4s,mb4.4						
EHUE	**Huescar**	**80.35**	**11**	P	**P**	**08 30 52.0**	**-1.5**
EADA	**Adamuz**	**80.44**	**9**	P	**P**	**08 30 53.5**	**-0.4**
	comp=Z,30nm,1.3s,mb5.1						
EVO	**Evora**	**80.44**	**7**⇑	*i*P	**P**	**08 30 54.4**	**+0.5**
	comp=Z,90nm,1.7s,mb5.1						
EVO				*e*MLR	MLR		
	comp=Z,420nm,22.2s,MS4.4						
EVO	**Evora**	**80.44**	**7**	*e*P	**P**	**08 30 54.6**	**+0.7**
	comp=Z,33nm,1.9s,mb4.9						
EBAD	**Badajoz**	**80.75**	**7**	P	**P**	**08 30 54.7**	**-0.9**
	comp=Z,59nm,1.4s,mb5.3						
PMAFR	**Mafra**	**80.77**	**5**	*e*LR	LR	08 57 52.9	
	comp=Z,116nm,22.0s						
KEST	**Kesra**	**80.77**	**21**	P	**P**	**08 30 55.5**	**-0.3**
	comp=Z,2.9nm,1.0s,mb4.2,baz=270,slow=10,SNR=3.3						
KEST				LR	LR	09 03 38.4	
	comp=Z,208nm,18.5s,MS4.5,baz=166,slow=33						
PESTR	**Estremoz**	**80.81**	**7**	*e*P	**P**	**08 30 56.0**	**+0.1**
	comp=Z,40nm,1.7s,mb5.1						
PESTR				*e*LR	LR	09 00 02.4	
	comp=Z,232nm,20.0s						
PMRV	**Marv??o**	**81.39**	**7**	*e*P	**P**	**08 30 58.9**	**-0.1**
	comp=Z,70nm,1.8s,mb5.3						
PMRV				*e*LR	LR	09 00 18.2	
	comp=Z,218nm,22.0s						
JTS	**JuntasAbangare**	**81.47**	**292**	PFAKE		08 31 10.0	+10
JTS				LR	LR		
	comp=Z,104nm,19.0s,MS4.2						
PCBR	**Castelo Branco**	**81.79**	**7**	*e*P	**P**	**08 31 00.9**	**-0.2**
	comp=Z,32nm,1.7s,mb5.0						
PAB	**San Pablo**	**81.82**	**9**	*e*P	**P**	**08 31 01.2**	**-0.1**
PAB				pmax	pmax		
	comp=Z,15nm,1.4s,mb4.7						
PAB				MLR	MLR		
	comp=Z,222nm,20.0s,MS4.5						
PAB	**San Pablo**	**81.82**	**9**	*e*P	**P**	**08 31 01.2**	**-0.1**
	comp=Z,15nm,1.4s,mb4.7						
PAB				LR	LR		
	comp=Z,222nm,20.0s,MS4.5						
ESDC	**Sonseca Array**	**82.00**	**10**	P	**P**	**08 31 02.3**	**+0.2**
	comp=Z,0.2nm,0.3s,baz=183,slow=5.3,SNR=8.7						
ESDC				LR	LR	09 04 07.2	
	comp=Z,96nm,18.6s,MS4.2,baz=215,slow=33						
ESDC	**Sonseca Array**	**82.00**	**10**	P	**P**	**08 31 00.7**	**-1.4**
	comp=Z,0.2nm,0.3s						
ESLA	**Sonseca Array**	**82.00**	**10**	*e*P	**P**	**08 31 02.4**	**+0.3**
	comp=Z,14nm,1.5s,mb4.7						
ESLA				LR	LR		
	comp=Z,1µm,19.0s,MS5.2						
ECHE	**Chera**	**82.33**	**12**	P	**P**	**08 31 02.8**	**-1.1**
ECHE				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.4						
ECHE	**Chera**	**82.33**	**12**	P	**P**	**08 31 02.8**	**-1.1**
	comp=Z,2.9nm,0.6s,mb4.4						
MTE	**Manteigas**	**82.34**	**7**	*e*P	**P**	**08 31 04.0**	**+0.1**
	comp=Z,39nm,1.4s,mb5.2						
MTE				*e*LR	LR	09 00 43.0	
	comp=Z,236nm,22.0s						
MTE	**Manteigas**	**82.34**	**7**	*e*P	**P**	**08 31 03.3**	**-0.6**
	comp=Z,28nm,1.4s,mb5.0						
MTE				LR	LR		
	comp=Z,336nm,21.0s,MS4.7						
PVIS	**Viseu**	**82.62**	**6**	*e*P	**P**	**08 31 05.9**	**+0.5**
	comp=Z,36nm,1.8s,mb5.1						
GUD	**Guadarrama**	**82.93**	**9**	P	**P**	**08 31 06.9**	**-0.1**
GUD				pmax	pmax		
	comp=Z,1.0nm,0.5s,mb4.1						
GUD	**Guadarrama**	**82.93**	**9**	P	**P**	**08 31 06.9**	**-0.1**
	comp=Z,0.9nm,0.5s,mb4.1						
MVO	**Moncorvo**	**83.14**	**7**	*e*P	**P**	**08 31 08.2**	**+0.1**
	comp=Z,44nm,1.8s,mb5.2						
MVO				*e*LR	LR	09 01 08.0	
	comp=Z,212nm,22.0s						
PCAB	**Cabril**	**83.60**	**6**	*e*P	**P**	**08 31 10.7**	**+0.3**
	comp=Z,54nm,1.8s,mb5.4						
ELOB	**Lobios**	**83.75**	**6**	P	**P**	**08 31 12.5**	**+1.3**
	comp=Z,29nm,1.3s,mb5.2						
PBRG	**Braganca**	**83.80**	**7**	*e*P	**P**	**08 31 12.5**	**+1.0**
	comp=Z,37nm,1.8s,mb5.2						
ECAL	**Calabor**	**83.94**	**7**	P	**P**	**08 31 10.9**	**-1.3**
	comp=Z,180nm,2.3s,mb5.8						
VSL	**Villasalto**	**84.33**	**20**	PFAKE		08 31 30.0	+16
VSL				LR	LR		
	comp=Z,317nm,20.0s,MS4.7						
ERUA	**La Rua**	**84.35**	**7**	P	**P**	**08 31 13.8**	**-0.5**
EPON	**Pontenova**	**85.28**	**7**	P	**P**	**08 31 18.3**	**-0.6**
	comp=Z,94nm,2.1s,mb5.5						
EARI	**Arriondas**	**85.44**	**8**	P	**P**	**08 31 19.4**	**-0.3**
	comp=Z,85nm,1.9s,mb5.5						
EIL	**Elat**	**85.47**	**43**	LR	LR	09 05 05.0	
	comp=Z,429nm,21.6s,MS4.8,baz=98,slow=33						
EBIE	**Bielsa**	**85.53**	**12**	P	**P**	**08 31 19.6**	**-0.6**
	comp=Z,45nm,1.6s,mb5.5						
ELAN	**Lanestosa**	**85.57**	**9**	P	**P**	**08 31 21.1**	**+0.8**
	comp=Z,31nm,1.4s,mb5.3						
IDI	**Anoyia**	**85.60**	**33**	P	**P**	**08 31 20.0**	**-0.7**
	comp=Z,1.7nm,0.2s,mb4.9,baz=183,slow=20,SNR=6.3						
ETSF	**Etsaut**	**85.63**	**11**⇑	*i*P	**P**	**08 31 21.7**	**+1.0**
	comp=Z,65nm,1.6s,mb5.3						
ETSF	**Etsaut**	**85.63**	**11**⇑	*i*P	**P**	**08 31 21.7**	**+1.0**
ETSF				pmax	pmax		
	comp=Z,32nm,1.6s,mb5.3						
ETSF	**Etsaut**	**85.63**	**11**⇑	*i*P	**P**	**08 31 21.7**	**+1.0**
	comp=Z,32nm,1.6s,mb5.3						
TGUH	**Tegucigalpa,Un**	**85.72**	**293**	PFAKE		08 31 30.0	+8.2
TGUH				LR	LR		
	comp=Z,367nm,20.0s,MS4.8						
SJPF	**Ste Jean**	**85.74**	**11**⇑	*i*P	**P**	**08 31 22.3**	**+1.1**
EPF	**Esparros**	**85.90**	**12**⇑	*i*P	**P**	**08 31 22.9**	**+0.9**
	comp=Z,96nm,1.7s,mb5.5						
EPF	**Esparros**	**85.90**	**12**⇑	*i*P	**P**	**08 31 22.9**	**+0.9**
EPF				pmax	pmax		
	comp=Z,48nm,1.7s,mb5.5						
EPF	**Esparros**	**85.90**	**12**⇑	*i*P	**P**	**08 31 22.9**	**+0.9**
	comp=Z,48nm,1.7s,mb5.5						
TIP	**Timpagrande**	**86.14**	**25**	PFAKE		08 31 30.0	+6.7
TIP				LR	LR		
	comp=Z,166nm,20.0s,MS4.4						
MTLF	**Montolieu**	**86.51**	**13**⇑	*i*P	**P**	**08 31 24.9**	**-0.1**
	comp=Z,57nm,1.6s,mb5.2						
MTLF	**Montolieu**	**86.51**	**13**⇑	*i*P	**P**	**08 31 24.9**	**-0.1**
MTLF				pmax	pmax		
	comp=Z,28nm,1.6s,mb5.2						
MTLF	**Montolieu**	**86.51**	**13**⇑	*i*P	**P**	**08 31 24.9**	**-0.1**
	comp=Z,28nm,1.6s,mb5.2						
CUC	**Castrocucco**	**86.59**	**24**	PFAKE		08 31 40.0	+15
CUC				LR	LR		
	comp=Z,210nm,19.0s,MS4.6						
SANT	**Santorini**	**86.77**	**33**	PFAKE		08 31 40.0	+14
SANT				LR	LR		
	comp=Z,150nm,19.0s,MS4.4						
PGF	**Pioggiola**	**87.13**	**18**	*e*P	**P**	**08 31 28.9**	**+0.8**
	comp=Z,51nm,1.4s,mb5.3						
PGF	**Pioggiola**	**87.13**	**18**	*e*P	**P**	**08 31 28.9**	**+0.8**
PGF				pmax	pmax		
	comp=Z,26nm,1.4s,mb5.3						
PGF	**Pioggiola**	**87.13**	**18**	*e*P	**P**	**08 31 28.9**	**+0.8**
	comp=Z,26nm,1.4s,mb5.3						
LASF	**Ste Croix**	**87.51**	**14**	*e*P	**P**	**08 31 30.5**	**+0.6**
	comp=Z,56nm,1.6s,mb5.2						
FRF	**La Foret Royal**	**87.57**	**16**	*e*P	**P**	**08 31 30.4**	**+0.2**
	comp=Z,66nm,1.7s,mb5.3						

FRF La Foret Royal 87.57 16 *e*P P 08 31 30.4 +0.2
FRF pmax pmax
comp=Z,33nm,1.7s,mb5.3
FRF La Foret Royal 87.57 16 *e*P P 08 31 30.4 +0.2
comp=Z,33nm,1.7s,mb5.3
SMRF Simiane la Rot 87.75 16 *e*P P 08 31 31.9 +0.9
LFF La Frestale 87.82 12⇑*i*P P 08 31 32.3 +1.0
comp=Z,77nm,1.3s,mb5.5
LFF La Frestale 87.82 12⇑*i*P P 08 31 32.3 +1.0
LFF pmax pmax
comp=Z,38nm,1.3s,mb5.5
LFF La Frestale 87.82 12⇑*i*P P 08 31 32.3 +1.0
comp=Z,38nm,1.3s,mb5.5
CAF Calviac 88.02 13⇑*i*P P 08 31 33.0 +0.7
comp=Z,78nm,1.7s,mb5.4
CAF Calviac 88.02 13⇑*i*P P 08 31 33.0 +0.7
CAF pmax pmax
comp=Z,39nm,1.7s,mb5.4
CAF Calviac 88.02 13⇑*i*P P 08 31 33.0 +0.7
comp=Z,39nm,1.7s,mb5.4
SBF Sospel 88.03 17 *e*P P 08 31 32.9 +0.6
RJF Les Rejaudoux 88.30 12⇑*i*P P 08 31 34.4 +0.8
comp=Z,171nm,1.8s,mb5.7
RJF *e*MLR MLR
comp=Z,198nm,19.5s,MS4.2
RJF Les Rejaudoux 88.30 12⇑*i*P P 08 31 34.4 +0.8
RJF pmax pmax
comp=Z,86nm,1.8s,mb5.7
RJF Les Rejaudoux 88.30 12⇑*i*P P 08 31 34.4 +0.8
comp=Z,86nm,1.8s,mb5.7
VIVF Saint-Julien-l 88.42 15⇑*i*P P 08 31 35.0 +0.8
comp=Z,100nm,1.7s,mb5.5
VIVF Saint-Julien-l 88.42 15⇑*i*P P 08 31 35.0 +0.8
VIVF pmax pmax
comp=Z,50nm,1.7s,mb5.5
VIVF Saint-Julien-l 88.42 15⇑*i*P P 08 31 35.0 +0.8
comp=Z,50nm,1.7s,mb5.5
ASF Jabal al Asfar 88.47 43 LR LR 09 08 46.2
comp=Z,264nm,19.1s,MS4.7,baz=88,slow=34
MBDF Montbardon 88.71 16⇑*i*P P 08 31 36.6 +1.0
comp=Z,70nm,1.7s,mb5.4
MBDF Montbardon 88.71 16⇑*i*P P 08 31 36.6 +1.0
MBDF pmax pmax
comp=Z,35nm,1.7s,mb5.4
MBDF Montbardon 88.71 16⇑*i*P P 08 31 36.6 +1.0
comp=Z,35nm,1.7s,mb5.4
ORIF Oris-en-Rattie 88.71 16⇑*i*P P 08 31 36.5 +0.9
comp=Z,79nm,1.5s,mb5.5
ORIF *e*MLR MLR
comp=Z,654nm,21.2s,MS4.7
ORIF Oris-en-Rattie 88.71 16⇑*i*P P 08 31 36.5 +0.9
ORIF pmax pmax
comp=Z,39nm,1.5s,mb5.5
ORIF Oris-en-Rattie 88.71 16⇑*i*P P 08 31 36.5 +0.9
comp=Z,39nm,1.5s,mb5.5
SSB Saint Sauveur 88.80 15 *e*P P 08 31 37.4 +1.4
VLC Villacollemand 88.98 19 PFAKE 08 31 50.0 +13
VLC LR LR
comp=Z,204nm,21.0s,MS4.5
CSS Prodhromos 89.00 39 PFAKE 08 31 50.0 +13
CSS LR LR
comp=Z,438nm,21.0s,MS4.9
BNI Bardonecchia 89.00 16 PFAKE 08 31 50.0 +13
BNI LR LR
comp=Z,353nm,20.0s,MS4.8
TIR Tirane 89.11 26 PFAKE 08 31 50.0 +12
TIR LR LR
comp=Z,161nm,19.0s,MS4.5
MFF Saint Martin d 89.31 11⇑*i*P P 08 31 39.3 +1.0
comp=Z,205nm,1.9s,mb5.8
MFF Saint Martin d 89.31 11⇑*i*P P 08 31 39.3 +1.0
MFF pmax pmax
comp=Z,103nm,1.9s,mb5.8
MFF Saint Martin d 89.31 11⇑*i*P P 08 31 39.3 +1.0
comp=Z,102nm,1.9s,mb5.8
TCF Toulx Ste Croi 89.37 13⇑*i*P P 08 31 39.8 +1.2
comp=Z,218nm,1.8s,mb5.9
TCF Toulx Ste Croi 89.37 13⇑*i*P P 08 31 39.8 +1.2
TCF pmax pmax
comp=Z,109nm,1.8s,mb5.9
TCF Toulx Ste Croi 89.37 13⇑*i*P P 08 31 39.8 +1.2
comp=Z,109nm,1.8s,mb5.9
LPG La Plagne 89.44 16⇑*i*P P 08 31 40.1 +1.1
comp=Z,73nm,1.6s,mb5.5
LPG La Plagne 89.44 16⇑*i*P P 08 31 40.1 +1.1
LPG pmax pmax
comp=Z,37nm,1.6s,mb5.5
LPG La Plagne 89.44 16⇑*i*P P 08 31 40.1 +1.1
comp=Z,36nm,1.6s,mb5.5
LPL La Plagne 89.46 16⇑*i*P P 08 31 40.1 +1.1
comp=Z,123nm,1.6s,mb5.7
LPL La Plagne 89.46 16⇑*i*P P 08 31 40.1 +1.1
LPL pmax pmax
comp=Z,61nm,1.6s,mb5.7
LPL La Plagne 89.46 16⇑*i*P P 08 31 40.1 +1.1
comp=Z,62nm,1.6s,mb5.7
BGF Bois d'Agland 89.74 13⇑*i*P P 08 31 41.4 +1.1
comp=Z,103nm,1.8s,mb5.5
BGF Bois d'Agland 89.74 13⇑*i*P P 08 31 41.4 +1.1
BGF pmax pmax
comp=Z,51nm,1.8s,mb5.5
BGF Bois d'Agland 89.74 13⇑*i*P P 08 31 41.4 +1.1
comp=Z,51nm,1.8s,mb5.5
SMF Signal de Mont 89.99 14⇑*i*P P 08 31 42.3 +0.8
comp=Z,176nm,1.8s,mb5.8
SMF Signal de Mont 89.99 14⇑*i*P P 08 31 42.3 +0.8
SMF pmax pmax
comp=Z,88nm,1.8s,mb5.8
SMF Signal de Mont 89.99 14⇑*i*P P 08 31 42.3 +0.8
comp=Z,88nm,1.8s,mb5.8
AVF Avril sur Loir 90.05 13⇑*i*P P 08 31 42.6 +0.8
comp=Z,119nm,1.6s,mb5.7
AVF Avril sur Loir 90.05 13⇑*i*P P 08 31 42.6 +0.8
AVF pmax pmax
comp=Z,59nm,1.6s,mb5.7
AVF Avril sur Loir 90.05 13⇑*i*P P 08 31 42.6 +0.8
comp=Z,59nm,1.6s,mb5.7
QUIF Quistinic 90.22 9⇑*i*P P 08 31 43.3 +0.8
comp=Z,119nm,1.6s,mb5.7
QUIF Quistinic 90.22 9⇑*i*P P 08 31 43.3 +0.8
QUIF pmax pmax
comp=Z,59nm,1.6s,mb5.7
QUIF Quistinic 90.22 9⇑*i*P P 08 31 43.3 +0.8
comp=Z,59nm,1.6s,mb5.7
SSF Saint Saulge 90.34 13⇑*i*P P 08 31 43.7 +0.6
comp=Z,107nm,1.8s,mb5.6
SSF Saint Saulge 90.34 13⇑*i*P P 08 31 43.7 +0.6
SSF pmax pmax
comp=Z,53nm,1.8s,mb5.6
SSF Saint Saulge 90.34 13⇑*i*P P 08 31 43.7 +0.6
comp=Z,53nm,1.8s,mb5.6
CABF La Chapelle 90.38 15⇑*i*P P 08 31 43.6 +0.3
HYF Humbligny 90.39 13 *e*P P 08 31 44.4 +1.0
LOR Lormes 90.60 14⇑*i*P P 08 31 44.9 +0.6
comp=Z,126nm,1.8s,mb5.6
LOR *e*MLR MLR
comp=Z,251nm,21.5s,MS4.3
LOR Lormes 90.60 14⇑*i*P P 08 31 44.9 +0.6
LOR pmax pmax
comp=Z,63nm,1.8s,mb5.6
LOR Lormes 90.60 14⇑*i*P P 08 31 44.9 +0.6
comp=Z,63nm,1.8s,mb5.6
ROSF Rostrenen 90.62 9⇑*i*P P 08 31 45.0 +0.6
comp=Z,58nm,1.4s,mb5.4
ROSF Rostrenen 90.62 9⇑*i*P P 08 31 45.0 +0.6
ROSF pmax pmax
comp=Z,29nm,1.4s,mb5.4
ROSF Rostrenen 90.62 9⇑*i*P P 08 31 45.0 +0.6
comp=Z,29nm,1.4s,mb5.4
SGMF Saint Gilles 90.62 9⇑*i*P P 08 31 44.6 +0.2
comp=Z,102nm,1.6s,mb5.6
SGMF Saint Gilles 90.62 9⇑*i*P P 08 31 44.6 +0.2
SGMF pmax pmax
comp=Z,51nm,1.6s,mb5.6
SGMF Saint Gilles 90.62 9⇑*i*P P 08 31 44.6 +0.2
comp=Z,51nm,1.6s,mb5.6
TEIG Tepich 90.73 297 PFAKE 08 32 00.0 +14
TEIG LR LR
comp=Z,233nm,20.0s,MS4.6
TUE Stuetta 90.93 17 PFAKE 08 32 00.0 +14
TUE LR LR
comp=Z,256nm,19.0s,MS4.7
GRR Gorron 90.97 10 *e*P P 08 31 46.6 +0.6
LDF La Druitiere 91.27 11⇑*i*P P 08 31 47.9 +0.5
TRI Trieste 91.28 21 PFAKE 08 32 00.0 +12
TRI LR LR
comp=Z,247nm,19.0s,MS4.7

DAVOX Davos/Dischmat 91.34 18 P P 08 31 46.5 -1.3
comp=Z,1.3nm,0.4s,mb4.6,baz=173,slow=14,SNR=3.5
DAVOS Davos 91.37 18 P P 08 31 46.5 -1.4
FLN La Foliniere 91.38 10⇑*i*P P 08 31 48.4 +0.5
comp=Z,144nm,1.9s,mb5.7
FLN *e*MLR MLR
comp=Z,251nm,19.5s,MS4.4
HINF Hinteralfeld 91.68 15⇑*i*P P 08 31 49.4 +0.1
FETA Feichten 91.76 18⇑*i*P P 08 31 47.8 -1.9
comp=Z,5.3nm,1.3s,mb4.7
HAU Haudompre 91.77 15 *e*P P 08 31 50.2 +0.5
HAU *e*MLR MLR
comp=Z,175nm,21.8s,MS4.2
MEZF Maizieres J'vi 92.00 14⇑*i*P P 08 31 51.7 +0.9
WTTA Wattenberg 92.20 19⇓*i*P P 08 31 52.4 +0.7
comp=Z,14nm,1.3s,mb5.1
CDF Champ du Feu 92.34 15⇑*i*P P 08 31 52.6 +0.2
comp=Z,100nm,1.9s,mb5.5
BFO Black Forest 92.47 16 PFAKE 08 32 00.0 +7.0
BFO LR LR
comp=Z,364nm,20.0s,MS4.8
ANTO Ankara 92.79 36 PFAKE 08 32 10.0 +15
ANTO LR LR
comp=Z,181nm,21.0s,MS4.5
BR131 Keskin Array S 93.04 36 *e*P P 08 31 57.3 +1.4
comp=Z,5.9nm,1.1s,mb4.9
WLF Walferdange 93.32 14 PFAKE 08 32 10.0 +13
WLF LR LR
comp=Z,405nm,19.0s,MS4.9
BAIF Baives 93.36 13 *e*P P 08 31 57.7 +0.7
GIVF Givet 93.50 13 *e*P P 08 31 58.4 +0.7
RKT Rikitea 94.03 234 *e*LR LR 09 02 26.0
comp=Z,329nm,30.0s
GERES GERESS Array B 94.18 19 LR LR 09 09 51.1
comp=Z,209nm,20.3s,MS4.6,baz=187,slow=33
GRA1 Grafenberg Arr 94.38 17 *e*P P 08 32 01.8 0.0
comp=Z,6.0nm,1.0s,mb5.0
GRF Grafenberg Arr 94.38 17 *e*P P 08 32 01.8 0.0
GRF pmax pmax
comp=Z,6.0nm,1.0s,mb5.0
GRF Grafenberg Arr 94.38 17 *e*P P 08 32 01.8 0.0
GRF pmax pmax
comp=Z,6.0nm,1.0s,mb5.0
GRF Grafenberg Arr 94.38 17 *e*P P 08 32 01.8 0.0
comp=Z,6.0nm,1.0s,mb5.0
MODS Modra-Piesok 94.68 22 *e*P P 08 32 02.9 -0.2
MODS *e* 09 38 23.6
MLR Muntele Rosu 94.84 28 P P **08 32 03.3 -0.7**
comp=Z,0.7nm,0.3s,mb4.6,baz=157,slow=1.6,SNR=4.7
NHSC New Hope 94.98 311 PFAKE 08 32 20.0 +15
NHSC LR LR
comp=Z,329nm,19.0s,MS4.8
GOGA Godfrey 97.08 309 PFAKE 08 32 30.0 +15
GOGA LR LR
comp=Z,337nm,22.0s,MS4.8
WES Weston 97.52 322 PFAKE 08 32 30.0 +14
WES LR LR
comp=Z,1μm,20.0s,MS5.4
GNI Garni 98.64 43 PFAKE 08 32 30.0 +8.6
GNI LR LR
comp=Z,247nm,20.0s,MS4.7
PALK Pallekele 99.98 89 PFAKE 08 32 40.0 +12
PALK LR LR
comp=Z,249nm,19.0s,MS4.7
KIV Kislovodsk 100.51 39 PFAKE 08 32 40.0 +10
KIV LR LR
comp=Z,180nm,20.0s,MS4.6
OXF Oxford 101.37 306 PFAKE 08 32 40.0 +6.1
OXF LR LR
comp=Z,155nm,22.0s,MS4.5
WVT Waverly 101.54 308 PFAKE 08 32 50.0 +15
WVT LR LR
comp=Z,171nm,19.0s,MS4.6
TBI Tubuai 101.95 223 *e*LR LR 09 06 00.0
comp=Z,419nm,29.5s
HKT Hockley 102.34 299 PFAKE 08 32 50.0 +12
HKT LR LR
comp=Z,169nm,20.0s,MS4.6
MBWA Marble Bar 105.17 138 PFAKE 08 37 20.0 +15
MBWA LR LR
comp=Z,486nm,21.0s,MS5.0
PPT Papeete 106.78 226 *e*LR LR 09 08 09.6
comp=Z,299nm,24.5s
KSU1 Kansas State U 108.73 306 PFAKE 08 37 20.0 +8.7
KSU1 LR LR
comp=Z,183nm,22.0s,MS4.6
AMTX Amarillo 109.29 300 PFAKE 08 37 20.0 +7.5
AMTX LR LR
comp=Z,195nm,19.0s,MS4.7
OGNE Ogallala 113.15 305 PFAKE 08 37 30.0 +10
OGNE LR LR
comp=Z,234nm,21.0s,MS4.8
MVCO Mesa Verde 115.11 298 PFAKE 08 37 40.0 +16
MVCO LR LR
comp=Z,87nm,19.0s,MS4.4
CTAO Charters Tower 116.19 162 PFAKE 08 37 40.0 +14
CTAO LR LR
comp=Z,331nm,20.0s,MS5.0
AML Almayashu 116.39 56 PFAKE 08 37 40.0 +14
AML LR LR
comp=Z,280nm,19.0s,MS4.9
EKS2 Erkin-Say 116.73 56 PFAKE 08 37 40.0 +14
EKS2 LR LR
comp=Z,213nm,22.0s,MS4.7
UCH Uchtor 116.95 56 PFAKE 08 37 40.0 +13
UCH LR LR
comp=Z,233nm,21.0s,MS4.8
GLA Glamis 117.06 291 PFAKE 08 37 40.0 +13
GLA LR LR
comp=Z,98nm,20.0s,MS4.4
TKM2 Tokmak 2 118.00 56 PFAKE 08 37 40.0 +11
TKM2 LR LR
comp=Z,241nm,21.0s,MS4.8
MVU Marysvale 118.28 298 PFAKE 08 37 40.0 +10
MVU LR LR
comp=Z,207nm,20.0s,MS4.8
KAPI Kappang 118.48 128 PFAKE 08 37 40.0 +9.2
KAPI LR LR
comp=Z,829nm,21.0s,MS5.3
MPU Maple Canyon 118.70 299 PFAKE 08 37 40.0 +10
MPU LR LR
comp=Z,834nm,19.0s,MS5.4
BW06 Boulder Array 118.83 303 PFAKE 08 37 40.0 +10
BW06 LR LR
comp=Z,149nm,19.0s,MS4.6
HWUT Hardware Ranch 119.50 301 PFAKE 08 37 40.0 +8.2
HWUT LR LR
comp=Z,189nm,19.0s,MS4.8
TPNV Topopah Spring 120.16 294 PFAKE 08 37 40.0 +6.8
TPNV LR LR
comp=Z,192nm,19.0s,MS4.8
BRVK Borovoye 120.24 44 PFAKE 08 37 40.0 +7.2
BRVK LR LR
comp=Z,415nm,19.0s,MS5.1
LKWY Lake 120.29 304 PFAKE 08 37 40.0 +6.8
LKWY LR LR
comp=Z,298nm,19.0s,MS5.0
YMR Madison River 120.69 304 PFAKE 08 37 50.0 +16
YMR LR LR
comp=Z,907nm,22.0s,MS5.4
DAC Darwin (Calif) 120.72 293 PFAKE 08 37 50.0 +16
DAC LR LR
comp=Z,147nm,21.0s,MS4.6
CHTO Chiang Mai 120.94 92 PFAKE 08 37 50.0 +15
CHTO LR LR
comp=Z,196nm,19.0s,MS4.8
TPH Tonopah 121.40 295 PFAKE 08 37 50.0 +14
TPH LR LR
comp=Z,183nm,21.0s,MS4.7
ELK Elko 121.44 298 PFAKE 08 37 50.0 +14
ELK LR LR
comp=Z,162nm,22.0s,MS4.6
LSA Lhasa 121.48 77 PFAKE 08 37 50.0 +14
LSA LR LR
comp=Z,264nm,19.0s,MS4.9
HLID Hailey 122.30 302 PFAKE 08 37 50.0 +13
HLID LR LR
comp=Z,116nm,20.0s,MS4.5
BMN Battle Mountai 122.59 297 PFAKE 08 37 50.0 +12
BMN LR LR
comp=Z,270nm,22.0s,MS4.9
MSO Missoula 123.55 305 PFAKE 08 37 50.0 +11
MSO LR LR
comp=Z,147nm,20.0s,MS4.6
KURK Kurchatov 123.66 50 PKP PKPdf 08 37 38.1 -1.3
comp=Z,0.8nm,0.9s,baz=243,slow=2.2,SNR=6.0

KURK Kurchatov 123.66 50 PKP PKPdf 08 37 38.1 -1.3
KURK LR LR
comp=Z,265nm,19.0s,MS4.9
MKAR Makanchi Array 124.05 55 PKP PKPdf 08 37 38.0 -2.4
comp=Z,0.3nm,0.3s,baz=247,slow=5.0,SNR=3.7
BMO Blue Mountains 124.74 302 *e*PKIKP PKPdf 08 37 40.7 -1.1
KKM Kota Kinabalu 124.79 117 PFAKE 08 37 50.0 +7.1
KKM LR LR
comp=Z,486nm,20.0s,MS5.2
WMQ Urumqi 126.12 60 PKP PKPdf 08 37 47.0 +2.5
WMQ PP PP 08 39 45.5 +6.2
WMQ PP PP
comp=Z,113nm,4.4s
WMQ LR LR
comp=N,157nm,26.1s,MS4.6
WMQ LR LR
comp=E,56nm,26.1s,MS4.6
WMQ LR LR
comp=Z,161nm,22.5s,MS4.6
PMG Port Moresby 126.68 159 PFAKE 08 38 00.0 +13
PMG LR LR
comp=Z,131nm,20.0s,MS4.6
KMI Kunming 127.51 88 PKIKP PKPdf 08 37 46.1 -1.6
KMI 08 37 54.1
KMI 08 39 53.4
KMI PPP 08 42 35.7
KMI SS SS 08 57 05.7 +6.1
KMI SSS 09 01 47.9
KMI MLR MLR
comp=Z,190nm,20.6s,MS4.8
KMI Kunming 127.51 88 PKP PKPdf 08 37 46.1 -1.6
KMI pPKP pPKPdf 08 37 54.1 +3.0
KMI sPKP 08 37 57.5
KMI PP PP 08 39 53.4 +4.8
KMI PPP 08 42 35.7
KMI SS SS 08 57 05.7 +6.1
KMI SSS 09 01 47.9
KMI LR LR
comp=Z,190nm,20.6s,MS4.8
NVS Novosibirsk 127.90 46 *e*PKIKP PKPdf 08 37 40.8 -6.7
NVS *e* 08 39 47.8
QIZ Qiongzhong 129.16 100 PFAKE 08 38 00.0 +9.0
QIZ LR LR
comp=Z,227nm,19.0s,MS4.9
GYA Guiyang 131.18 90 PDIF Pdif 08 34 48.0 +1.6
GYA PKP PKPdf 08 37 55.6 +0.9
GYA PP PP 08 40 17.5 +4.9
GYA PKS 08 41 30.8
GYA SKS SKSdf 08 45 02.8 -3.4
GYA SKKS SKKSac 08 47 09.2 +0.3
GYA SS SS 08 57 48.3 +3.4
GYA PP PP
comp=Z,120nm,7.9s
GYA LR LR
comp=N,290nm,21.2s,MS5.0
GYA LR LR
comp=E,180nm,22.9s,MS5.0
GYA LR LR
comp=Z,230nm,24.8s,MS4.8
CD2 Chengdu 131.38 83 *e*PKP PKPdf 08 37 54.9 0.0
CD2 PP PP 08 40 18.9 +5.0
CD2 PKS 08 41 29.9
CD2 SKS SKSdf 08 45 01.0 -5.3
CD2 SKKS SKKSac 08 47 05.8 -4.1
CD2 SS SS 08 57 47.9 +0.6
CD2 PP PP
comp=Z,120nm,8.8s
CD2 LR LR
comp=N,180nm,21.2s,MS5.0
CD2 LR LR
comp=E,210nm,18.4s,MS5.0
CD2 LR LR
comp=Z,150nm,16.8s,MS4.8
GTA Gaotai 132.45 71 *e*PKP PKPdf 08 37 58.0 +1.4
LZH Lanzhou 133.90 77 *e*PKP PKPdf 08 37 56.5 -3.0
LZH XPKP 08 38 01.6
LZH PP PP 08 40 31.5 +1.5
LZH SKKS SKKSac 08 47 18.5 -6.6
LZH PP PP
comp=Z,260nm,4.3s
LZH LR LR
comp=N,174nm,19.0s
LZH LR LR
comp=Z,250nm,20.3s,MS4.9
LZH Lanzhou 133.90 77 *e*PKIKP PKPdf 08 37 56.5 -3.0
LZH 08 38 00.1
LZH 08 38 01.6
LZH 08 40 31.5
LZH MLR MLR
comp=Z,250nm,20.3s,MS4.9
LZH Lanzhou 133.90 77 *e*PKP PKPdf 08 37 56.5 -3.0
LZH pPKP pPKPdf 08 38 00.1 -2.8
LZH sPKP 08 38 01.6
LZH PP PP 08 40 31.5 +1.5
LZH SKKS SKKSac 08 47 18.5 -6.6
LZH LR LR
comp=Z,250nm,20.3s,MS4.9
TLY Talaya 138.81 55 PFAKE 08 38 20.0 +12
TLY LR LR
comp=Z,240nm,22.0s,MS4.9
SONM Songino Array 139.74 61 PKP PKPdf 08 38 08.2 -1.7
comp=Z,0.9nm,0.9s,baz=206,slow=3.7,SNR=6.1
ULN Ulaanbaatar 140.18 62 PFAKE 08 38 20.0 +9.3
ULN LR LR
comp=Z,173nm,20.0s,MS4.8
HHC Hu-ho-hao-te 141.33 74 *e*PKP PKPdf 08 38 15.2 +2.2
HHC PP PP 08 41 22.6 +6.3
HHC PKS 08 41 49.3
HHC SKS SKSdf 08 45 25.2 +2.3
HHC SKKS SKKSac 08 48 12.9 +3.8
HHC PP PP
comp=Z,82nm,7.9s
HHC LR LR
comp=N,209nm,18.3s,MS5.0
HHC LR LR
comp=E,166nm,19.5s,MS5.0
HHC LR LR
comp=Z,169nm,21.8s,MS4.8
NJ2 Nanjing 143.17 91 *e*PKP PKPdf 08 38 12.8 -3.8
BJT Baijiatuan 144.38 77 PFAKE 08 38 30.0 +12
BJT LR LR
comp=Z,247nm,20.0s,MS5.0
COLA College 144.45 327 *e*PKIKP PKPdf 08 38 14.3 -3.5
COLD Coldfoot 144.58 331 *e*PKPdf PKPdf 08 38 14.9 -3.0
BOD Bodaibo 145.13 46 *e*PKP2 PKPab 08 38 16.0 -2.8
BOD pmax pmax
comp=Z,31nm,1.8s
MCK McKinley 145.23 325 *e*PKIKP PKPdf 08 38 17.1 -2.0
TIXI Tiksi 145.63 19 PFAKE 08 38 30.0 +10
TIXI LR LR
comp=Z,108nm,19.0s,MS4.7
PMR Palmer 145.85 321 PFAKE 08 38 30.0 +10
PMR LR LR
comp=Z,213nm,21.0s,MS4.9
TRF Thorofare Moun 145.89 325 *e*PKPdf PKPdf 08 38 19.8 -0.5
BPAW Bear Paw Mtn. 145.98 326 *e*PKPdf PKPdf 08 38 18.9 -1.5
KTH Kantishna Hill 146.13 325 *e*PKPdf PKPdf 08 38 20.4 -0.3
IMA2 Indian Mountai 146.32 330 *e*PKPdf PKPdf 08 38 20.6 -0.4
HIA Hailar 148.71 61 PFAKE 08 38 40.0 +15
HIA LR LR
comp=Z,219nm,20.0s,MS5.0
YAK Yakutsk 151.47 34 PFAKE 08 38 40.0 +11
YAK LR LR
comp=Z,243nm,22.0s,MS5.0
CN2 Changchun 152.03 73 *e*PKP PKPdf 08 38 34.0 +3.2
CN2 PP PP 08 42 25.1 +5.8
KSRS Korea Array 152.20 87 PKPab PKPab 08 38 46.9 -0.9
comp=Z,2.2nm,0.5s,baz=219,slow=3.9,SNR=4.8
MJAR Matsushiro Arr 159.53 97 PKPab PKPab 08 39 17.6 -1.7
comp=Z,1.6nm,0.7s,baz=255,slow=6.4,SNR=3.4

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*ISK **08** 08:32:12.3, 3849N×2559E, h9km, MD3.4*
*ISCJB **08** 08:32:13.5±0.7, 3856N±002×2565E±003, h6km±5km, Error ellipse: s-maj=4.3km s-min=3.3km az=146.8*
*DDA **08** 08:32:13.7, 3860N×2568E, h22km±3km, Md3.6*
*CSEM **08** 08:32:13.7±0.1, 3855N×2570E, h10km, ML4.1/2, Error ellipse: s-maj=1.5km s-min=1.2km az=39.0*
*NEIC **08** 08:32:14.8, 3861N×2572E, h43km±3km, MD3.5(ATH), MD3.6(ISK), After ATH.*
*ATH **08** 08:32:14.8, 3861N×2572E, h43km±3km, MD3.5/7*
*THE **08** 08:32:15.4, 3852N×2580E, h23km±2km, ML4.1/2, Error*

ellipse: s-maj=2.7km s-min=0.5km az=102.0

ISC 08 08:32:14.4±0.7**,3855N**±002×**2566E**±003**,h11**km±4km**,n73,** σ**0.82**/94**,1C,Aegean Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CHOS	**Chios island**	**0.35**	**118**	P	**Pg**	**08 32 21.2**	**-0.2**
CHOS				S	**Sg**	**08 32 26.1**	**0.0**
URLA	**Izmir**	**0.76**	**104**	*i* P	**Pg**	**08 32 28.7**	**-0.4**
URLA				*i* S	**Sg**	**08 32 40.4**	**+1.4**
PRK	**Paraskevi**	**0.84**	**35**	P	**Pg**	**08 32 30.0**	**-0.6**
PRK				S	**Sg**	**08 32 42.1**	**+0.5**
PRK	**Paraskevi**	**0.84**	**35**	P	**Pg**	**08 32 30.4**	**-0.2**
PRK				S	**Sg**	**08 32 42.1**	**+0.5**
PRK	**Paraskevi**	**0.84**	**35**	⇑P	**Pg**	**08 32 30.4**	**-0.2**
PRK				*e*S	**Sg**	**08 32 41.5**	**-0.1**
PRK	**Paraskevi**	**0.84**	**35**	⇑P	**Pg**	**08 32 30.4**	**-0.2**
PRK				*e*S	**Sg**	**08 32 41.5**	**-0.1**
BLCB	**Balcova**	**1.10**	**98**	PN	**Pn**	**08 32 34.7**	**-1.0**
BLCB				*e*SN	**Sn**	**08 32 50.8**	**-0.1**
BLCB	**Balcova**	**1.10**	**98**	Pn	**Pn**	**08 32 35.4**	**-0.3**
BLCB				*e*Sn	**Sn**	**08 32 50.8**	**-0.1**
BLCB	**Balcova**	**1.10**	**98**	Pn	**Pn**	**08 32 35.4**	**-0.3**
AYVA	**Ayvalik**	**1.10**	**47**	*i* P	**Pb**	**08 32 33.8**	**-1.7**
SMG	**Samos**	**1.25**	**132**	*e*P	**Pn**	**08 32 37.2**	**-0.6**
SMG				*e*S	**Sb**	**08 32 53.3**	**-0.9**
SMG	**Samos**	**1.25**	**132**	*e*P	**Pn**	**08 32 37.2**	**-0.6**
SMG				*e*S	**Sb**	**08 32 53.3**	**-0.9**
IZM	**Izmir**	**1.27**	**96**	*e*PN	**Pn**	**08 32 37.6**	**-0.4**
IZM				*e*SN	**Sn**	**08 32 55.6**	**+0.5**
IZM	**Izmir**	**1.27**	**96**	Pn	**Pn**	**08 32 37.7**	**-0.3**
IZM				Sg	**Sg**	**08 32 55.7**	**+0.5**
KDAG	**Bornova**	**1.27**	**96**	*i* P	**Pn**	**08 32 37.7**	**-0.4**
KDAG				*i* S	**Sb**	**08 32 55.2**	**+0.5**
BOZC	**Bozcaada**	**1.32**	**13**	*i* P	**Pn**	**08 32 37.6**	**-1.1**
BOZC				*i* S	**Sb**	**08 32 56.3**	**+0.1**
EZN	**Ezine**	**1.37**	**22**	*e*PN	**Pn**	**08 32 39.6**	**+0.1**
LIA	**Limnos Island**	**1.39**	**345**	P	**Pn**	**08 32 39.5**	**-0.2**
LIA				S	**Sn**	**08 32 58.5**	**+0.4**
LIA	**Limnos Island**	**1.39**	**345**	*e*P	**Pn**	**08 32 38.1**	**-1.6**
LIA				*e*S	**Sn**	**08 32 55.6**	**-2.5**
LIA	**Limnos Island**	**1.39**	**345**	*e*P	**Pn**	**08 32 38.1**	**-1.6**
LIA				*e*S	**Sn**	**08 32 55.6**	**-2.5**
LOS	**Limnos**	**1.45**	**342**	P	**Pn**	**08 32 40.7**	**+0.2**
APE	**Apeiranthos**	**1.48**	**184**	P	**Pn**	**08 32 39.3**	**-1.7**
APE	**Apeiranthos**	**1.48**	**184**	P	**Pn**	**08 32 39.7**	**-1.3**
APE				*e*S	**Sn**	**08 33 01.2**	**+0.9**
APE	**Apeiranthos**	**1.48**	**184**	⇑P	**Pn**	**08 32 39.7**	**-1.3**
APE				*e*S	**Sn**	**08 33 01.2**	**+0.9**
GCAM	**G?zelcaml?**	**1.51**	**124**	*i* P	**Pn**	**08 32 43.1**	**+1.8**
GCAM				*i* S	**Sn**	**08 33 01.0**	**+0.1**
AOS	**Alonnisos**	**1.52**	**295**	P	**Pn**	**08 32 42.0**	**+0.6**
GADA	**Gvkgeada**	**1.65**	**6**	*e*PN	**Pn**	**08 32 42.8**	**-0.5**
GADA	**Gvkgeada**	**1.65**	**6**	Pn	**Pn**	**08 32 43.2**	**0.0**
GADA	**Gvkgeada**	**1.65**	**6**	Pn	**Pn**	**08 32 43.2**	**0.0**
KVR	**Kavouri**	**1.65**	**245**	*e*P	**Pn**	**08 32 43.7**	**+0.4**
KVR	**Kavouri**	**1.65**	**245**	*e*P	**Pn**	**08 32 43.7**	**+0.4**
AKS	**Akhisar**	**1.72**	**78**	*e*PN	**Pn**	**08 32 44.8**	**+0.6**
AKS	**Akhisar**	**1.72**	**78**	Pn	**Pn**	**08 32 44.2**	**0.0**
AKS	**Akhisar**	**1.72**	**78**	Pn	**Pn**	**08 32 44.2**	**0.0**
NAIG	**Nisos Aigina**	**1.88**	**246**	*e*P	**Pn**	**08 32 47.5**	**+1.0**
NAIG	**Nisos Aigina**	**1.88**	**246**	*e*P	**Pn**	**08 32 47.5**	**+1.0**
BALY	**Balya**	**1.93**	**52**	*i* P	**Pn**	**08 32 46.9**	**-0.2**
AYDN	**Tasoluk**	**1.97**	**116**	*i* P	**Pn**	**08 32 47.3**	**-0.3**
BODT	**Bodrum**	**1.98**	**138**	*e*PN	**Pn**	**08 32 46.9**	**-0.9**
BODT	**Bodrum**	**1.98**	**138**	Pn	**Pn**	**08 32 45.5**	**-2.3**
BALB	**Balikesir**	**2.04**	**57**	*e*PN	**Pn**	**08 32 48.2**	**-0.5**
BALB	**Balikesir**	**2.04**	**57**	Pn	**Pn**	**08 32 48.8**	**+0.1**
BALB	**Balikesir**	**2.04**	**57**	Pn	**Pn**	**08 32 48.8**	**+0.1**
BDRM	**Kayabasi**	**2.05**	**136**	*i* P	**Pn**	**08 32 49.4**	**+0.6**
BDRM				*i* S	**Sn**	**08 33 14.0**	**-0.3**
MLSB	**Milas**	**2.09**	**126**	*e*PN	**Pn**	**08 32 48.6**	**-0.7**
MLSB	**Milas**	**2.09**	**126**	Pn	**Pn**	**08 32 49.2**	**-0.2**
MLSB	**Milas**	**2.09**	**126**	Pn	**Pn**	**08 32 49.2**	**-0.1**
THR5	**Thira Island,**	**2.15**	**187**	P	**Pn**	**08 32 48.8**	**-1.3**
DID	**Didima**	**2.18**	**242**	P	**Pn**	**08 32 51.0**	**+0.5**
OUR	**Ouranopolis**	**2.20**	**324**	P	**Pn**	**08 32 51.0**	**+0.2**
ENEZ	**Enez**	**2.21**	**10**	*e*PN	**Pn**	**08 32 50.7**	**-0.3**
MANT	**Manisa**	**2.28**	**91**	*i* P	**Pn**	**08 32 51.7**	**-0.2**
KULA	**Kula-Manisa**	**2.36**	**90**	*e*PN	**Pn**	**08 32 53.9**	**+0.9**
ALN	**Alexandroupoli**	**2.36**	**7**	P	**Pn**	**08 32 52.5**	**-0.5**
RKY	**Sarkoy-Tekirda**	**2.43**	**28**	*e*PN	**Pn**	**08 32 54.4**	**+0.3**
RKY	**Sarkoy-Tekirda**	**2.43**	**28**	Pn	**Pn**	**08 32 54.3**	**+0.3**
SART	**Tekirdag**	**2.44**	**28**	*i* P	**Pn**	**08 32 54.0**	**0.0**
SART	**Tekirdag**	**2.44**	**28**	*i* P	**Pn**	**08 32 54.0**	**-0.1**
DEMI	**Demirci**	**2.44**	**77**	*i* P	**Pn**	**08 32 52.9**	**-1.2**
YER	**Yerkesik**	**2.52**	**123**	*e*PN	**Pn**	**08 32 53.8**	**-1.3**
YER	**Yerkesik**	**2.52**	**123**	Pn	**Pn**	**08 32 55.7**	**+0.6**
YER	**Yerkesik**	**2.52**	**123**	Pn	**Pn**	**08 32 55.7**	**+0.5**
MRMT	**Marmara Adasi**	**2.54**	**36**	*e*PN	**Pn**	**08 32 56.6**	**+1.2**
DST	**Dursunbey**	**2.54**	**65**	*e*PN	**Pn**	**08 32 55.7**	**+0.2**
MFT	**Murefte**	**2.56**	**29**	*e*PN	**Pn**	**08 32 56.8**	**+1.0**
RDO	**Rodhopi**	**2.59**	**358**	P	**Pn**	**08 32 57.5**	**+1.3**
VLI	**Veliai**	**2.83**	**231**	*e*P	**Pn**	**08 33 00.0**	**+0.5**
VLI	**Veliai**	**2.83**	**231**	*e*P	**Pn**	**08 33 00.0**	**+0.5**
GDZ	**Gediz**	**3.04**	**79**	*i* P	**Pg**	**08 33 11.6**	**-0.9**
GEMT	**Gemlik**	**3.32**	**54**	*e*PN	**Pn**	**08 33 07.1**	**+0.9**
GEMT	**Gemlik**	**3.32**	**54**	Pn	**Pn**	**08 33 06.8**	**+0.6**
GEMT	**Gemlik**	**3.32**	**54**	Pn	**Pn**	**08 33 06.8**	**+0.6**
YLV	**Yalova**	**3.51**	**54**	*e*PN	**Pn**	**08 33 10.6**	**+1.8**

IDC 08 09:04:27.3±1.1**,1421N**×**5380E,h0**km**,mb3.8**/10**, mb1 3.9**/10**,mb1mx3.8**/23**,mbtmp3.8**/10**,MS3.6**/3**, Ms1 3.6**/3**,ms1mx3.2**/34**,Error ellipse: s-maj=27.7km s-min=24.0km az=37.0,Owen Fracture Zone region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KMBO	**Kilima Mbogo**	**22.38**	**228**	LR	LR	09 18 21.0	
	comp=Z,214nm,20.1s,baz=340,slow=37						
MMAI	**Mount Meron Ar**	**25.11**	**321**	LR	LR	09 19 30.8	
	comp=Z,77nm,19.6s,baz=245,slow=36						
GNI	**Garni**	**27.04**	**345**	LR	LR	09 22 56.0	
	comp=Z,144nm,19.5s,baz=328,slow=41						
AKTO	**Aktyubinsk**	**36.29**	**5**	P	P	09 11 31.9	-0.5
	1.0nm,0.5s,baz=194,slow=6.8,SNR=4.7						
MKAR	**Makanchi Array**	**40.29**	**30**	P	P	09 12 07.6	+1.5
	0.5nm,0.3s,baz=216,slow=6.0,SNR=5.2						
BVAR	**Borovoye Array**	**40.91**	**15**	P	P	09 12 12.2	+1.0
	1.4nm,0.5s,baz=201,slow=7.9,SNR=7.7						
AKASG	**Malin Array Be**	**41.49**	**336**	P	P	09 12 15.8	-0.2
	0.3nm,0.4s,baz=145,slow=8.1,SNR=4.0						
CMAR	**Chiang Mai Arr**	**43.45**	**78**	P	P	09 12 31.6	-0.8
	0.7nm,0.3s,baz=224,slow=7.6,SNR=3.6						
ZALV	**Zalesovo Beam**	**46.53**	**25**	P	P	09 12 56.1	-0.3
	0.5nm,0.3s,baz=241,slow=8.2,SNR=4.9						
TORD	**Torodi Ar. Bea**	**50.55**	**275**	P	P	09 13 27.6	-0.4
	0.6nm,0.9s,baz=60,slow=6.3,SNR=3.2						
SONM	**Songino Array**	**54.75**	**41**	P	P	09 13 57.0	-1.6
	0.8nm,0.8s,baz=240,slow=7.5,SNR=5.5						
WRA	**Warramunga Arr**	**86.15**	**112**	P	P	09 17 11.6	+0.7
	0.5nm,0.5s,baz=296,slow=3.9,SNR=12						
ASAR	**Alice Springs**	**86.82**	**115**	P	P	09 17 14.4	+0.3
	0.6nm,0.5s,baz=290,slow=4.8,SNR=12						

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*IDC **08** 09:23:11.1±0.7, 10.11S×117.11E, h0km, mb4.6/13, mb1 4.6/15, mb1mx4.5/20, mbtmp4.5/15, ML4.2/2, MS3.8/8, Ms1 3.8/8, ms1mx3.5/29, Error ellipse: s-maj=23.5km s-min=14.1km az=61.0*
*MOS **08** 09:23:14.1±1.3, 10.04S×117.27E, h36km, mb5.0/10, Error ellipse: s-maj=22.5km s-min=10.2km az=107.5*
*DJA **08** 09:23:14, 10.62S×117.06E, h30km, Mw5.2/5*
*ISCJB **08** 09:23:15.4±0.7, 10.34S±0.05×117.12E±0.04, h55km±6km, mb4.8/38, MS3.8/4, Error ellipse: s-maj=9.5km s-min=5.5km az=21.0*
*BJI **08** 09:23:20.7, 10.20S×117.30E, h84km, mB5.3, mb4.8, Ms5.0, Msz4.5*
*NEIC **08** 09:23:20.8±1.4, 10.17S×117.29E, h85km±13km, mb4.6/10, Error ellipse: s-maj=13.3km s-min=6.9km az=74.0*
ISC 08 09:23:16.5±0.6**,1041S**±005×**11711E**±004**,h50**km±5km**, n115,**σ**1.07**/109**,mb4.8**/38**,MS3.8**/4**,7C-7D,South of Sumbawa**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MTNI	**Mataram**	**1.99**	**332**	P	**Pn**	**09 23 47.0**	**-0.8**
	0.0nm,0.0s						
MTNI	**Mataram**	**1.99**	**332**	P	**Pn**	**09 23 47.4**	**-0.4**
IGBI	**Denpasar**	**2.50**	**309**	P	**Pn**	**09 23 52.6**	**-2.1**
	0.0nm,0.0s						
IGBI	**Denpasar**	**2.50**	**309**	P	**Pn**	**09 23 53.0**	**-1.7**
KHKI	**Kahang-Kahang**	**2.51**	**324**	P	**Pn**	**09 23 54.3**	**-0.7**
	0.0nm,0.0s						
KHKI	**Kahang-Kahang**	**2.51**	**324**	P	**Pn**	**09 23 54.6**	**-0.4**
DNP	**Denpasar**	**2.54**	**312**	P	**Pn**	**09 23 55.1**	**-0.3**
NBBI	**Negara**	**3.18**	**309**	P	**Pn**	**09 24 05.8**	**+1.7**
KMMI	**Kalianget**	**4.56**	**317**	P	**Pn**	**09 24 26.9**	**+3.9**
KRKI	**Karangkates**	**5.11**	**296**	P	**Pn**	**09 24 29.1**	**-1.5**
SJI	**Sawahan**	**5.91**	**296**	P	**Pn**	**09 24 42.4**	**+0.9**
KAPI	**Kappang**	**5.97**	**26**	Pn	**Pn**	**09 24 43.0**	**+0.6**
	6.1nm,0.3s,baz=216,slow=11,SNR=15						
KAPI				Sn	**Sn**	**09 25 49.0**	**-0.5**
	7.2nm,0.3s,baz=109,slow=22,SNR=5.9						
KAPI				LR	LR	09 27 23.0	
	comp=Z,1μm,18.9s,baz=218,slow=44						
KAPI	**Kappang**	**5.97**	**26**	P	**Pn**	**09 24 44.1**	**+1.7**
	86nm,0.9s,934nm						
BATI	**Baumata**	**6.46**	**89**	Pn	**Pn**	**09 24 46.9**	**-2.2**
	12nm,0.3s,baz=160,slow=1.2,SNR=8.8						
BATI				Sn	**Sn**	**09 26 02.6**	**+1.1**
	26nm,0.3s,baz=336,slow=12,SNR=7.4						
BATI	**Baumata**	**6.46**	**89**	P	**Pn**	**09 24 48.4**	**-0.7**
	35nm,0.6s,994nm0.4nm						
UGM	**Wanagama**	**6.96**	**290**	P	**Pn**	**09 24 56.2**	**+0.2**
BJII	**Banjamegara**	**7.92**	**292**	P	**Pn**	**09 25 09.2**	**0.0**
	0.0nm,0.0s						
BJII	**Banjamegara**	**7.92**	**292**	P	**Pn**	**09 25 09.1**	**-0.1**
KDI	**Kendari**	**8.43**	**41**	P	**Pn**	**09 25 20.0**	**+3.9**
	0.0nm,0.0s						
KDI	**Kendari**	**8.43**	**41**	P	**Pn**	**09 25 18.6**	**+2.5**
	46nm,1.1s,2μm						
MBWA	**Marble Bar**	**10.98**	**167**	P	**Pn**	**09 25 46.6**	**-4.4**
	76nm,0.8s,1μm						
FITZ	**Fitzroy Crossi**	**11.26**	**134**	*e*P	**Pn**	**09 25 52.9**	**-2.0**
	14nm,0.6s						
FITZ				*e*S	**Sn**	**09 27 48.8**	**-10**
FITZ	**Fitzroy Crossi**	**11.26**	**134**	Pn	**Pn**	**09 25 53.0**	**-1.8**
	1.3nm,0.3s,baz=315,slow=9.4,SNR=27						
FITZ				Sn	**Sn**	**09 27 49.1**	**-10**
	3.4nm,0.3s,baz=201,slow=19,SNR=6.9						
FITZ				LR	LR	09 30 13.9	
	comp=Z,301nm,19.7s,baz=314,slow=37						
FITZ	**Fitzroy Crossi**	**11.26**	**134**	*e*Pn	**Pn**	**09 25 52.8**	**-2.1**
FITZ				*e*S	**Sn**	**09 27 48.8**	**-10**
KSM	**Kuching**	**13.61**	**330**	⇓P	**Pn**	**09 26 31.3**	**+4.4**
SBUM	**Sibu**	**13.67**	**339**	⇑P	**Pn**	**09 26 36.9**	**+9.1**
KAKA	**Kakadu**	**15.20**	**100**	*e*P	**Pn**	**09 26 46.4**	**-1.6**
	12nm,0.8s						
KAKA	**Kakadu**	**15.20**	**100**	*e*Pn	**Pn**	**09 26 48.0**	**0.0**
	189nm,0.8s						
MYLDM	**Lahad Datu**	**15.55**	**5**	⇑P	**Pn**	**09 26 59.4**	**+6.8**
SDKM	**Sandakan**	**15.95**	**0**	⇓P	**Pn**	**09 27 03.2**	**+5.6**
KKM	**Kota Kinabalu**	**16.37**	**357**	⇑P	**Pn**	**09 27 08.2**	**+5.1**
MYKOM	**Kota Tinggi**	**17.92**	**312**	⇓P	**Pn**	**09 27 23.6**	**+1.3**
WRA	**Warramunga Arr**	**19.12**	**122**	P	**Pn**	**09 27 36.7**	**-0.1**
	0.5nm,0.3s,baz=296,slow=13,SNR=31						
WRA				S	**S**	**09 30 56.3**	**-14**
	0.2nm,0.3s,baz=303,slow=20,SNR=3.3						
WRA				LR	LR	09 35 54.1	
	comp=Z,241nm,18.1s,baz=300,slow=40						
WB2	**Warramunga Arr**	**19.14**	**122**	*e*P	**Pn**	**09 27 37.0**	**+0.1**
DAV	**Davao City (W)**	**19.31**	**26**	LR	LR	09 35 25.7	
	comp=Z,231nm,19.6s,baz=186,slow=39						
PPI	**Padang Panjang**	**19.33**	**300**	P	**Pn**	**09 27 36.1**	**-3.3**
	0.0nm,0.0s						
FRIM	**Kepong**	**20.53**	**311**	⇑P	**P**	**09 27 52.4**	**+1.5**
ASAR	**Alice Springs**	**20.75**	**132**	P	**P**	**09 27 55.4**	**+2.2**
	12nm,0.7s,baz=304,slow=10,SNR=120						
KTGM	**Kuala Trenggan**	**20.93**	**318**	⇓P	**P**	**09 27 56.2**	**+1.0**
KLBR	**Kellerberrin**	**21.09**	**178**	*e*P	**P**	**09 28 00.9**	**+4.2**
	25nm,0.6s,mb4.7						
KLBR				*e*S	**S**	**09 31 35.3**	**-13**
MUN	**Mundaring**	**21.48**	**182**	*e*P	**P**	**09 28 05.6**	**+4.6**
MUN				*e*S	**S**	**09 31 46.6**	**-10**
IPM	**Ipoh**	**21.80**	**312**	⇓P	**P**	**09 28 05.4**	**+0.8**
NWAO	**Narrogin (SRO)**	**22.41**	**180**	P	**P**	**09 28 15.8**	**+4.9**
	28nm,0.6s,mb4.9,baz=4.2,slow=13,SNR=27						
NWAO				LR	LR	09 37 02.4	
	comp=Z,176nm,20.5s,MS3.5,baz=161,slow=37						
FORT	**Forrest**	**22.68**	**155**	*e*P	**P**	**09 28 15.0**	**+1.2**
	20nm,0.5s,mb4.8						
FORT				*e*S	**S**	**09 32 16.7**	**-2.1**
STKA	**Stephens Creek**	**31.13**	**137**	*e*P	**P**	**09 29 33.7**	**+3.2**
	2.4nm,0.8s,mb4.1						
STKA	**Stephens Creek**	**31.13**	**137**	P	**P**	**09 29 33.6**	**+3.1**
	2.2nm,0.7s,mb4.1,baz=333,slow=10.0,SNR=6.6						
STKA				LR	LR	09 42 42.8	
	comp=Z,214nm,19.2s,MS3.8,baz=287,slow=37						
CMAR	**Chiang Mai Arr**	**33.82**	**328**	P	**P**	**09 29 53.5**	**-0.7**
	1.0nm,0.3s,mb4.2,baz=153,slow=7.7,SNR=8.8						
CMAR				LR	LR	09 45 54.8	
	comp=Z,135nm,18.2s,MS3.7,baz=155,slow=41						
CMAR	**Chiang Mai Arr**	**33.82**	**328**	*i* P	**P**	**09 29 55.0**	**+0.8**
CMAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
JOW	**Kunigami**	**38.58**	**16**	P	**P**	**09 30 33.3**	**-1.4**
	comp=Z,11nm,0.8s,mb4.7,baz=158,slow=16,SNR=4.6						
WHN	**Wuhan**	**40.80**	**356**	P	**P**	**09 30 55.3**	**+2.2**
NJ2	**Nanjing**	**42.25**	**2**	*e*P	**P**	**09 31 04.5**	**-0.5**
NJ2				AMB	AMB		
	comp=Z,20nm,0.6s,mb4.9						
TAPN	**Taplejung**	**47.13**	**323**	*e*P	**P**	**09 31 44.2**	**+0.2**
RAMN	**Ramite**	**47.50**	**322**	*e*P	**P**	**09 31 46.8**	**0.0**
	comp=Z,18nm,0.6s,mb5.2						
JIRN	**Jiri**	**48.26**	**322**	*e*P	**P**	**09 31 52.7**	**-0.1**
	comp=Z,41nm,0.4s,mb5.8						
GUN	**Gumba**	**48.63**	**322**	*e*P	**P**	**09 31 55.6**	**0.0**
	comp=Z,37nm,0.7s,mb5.5						
PKI	**Pulchoki**	**48.67**	**322**	*e*P	**P**	**09 31 55.2**	**-0.7**
	comp=Z,7.4nm,0.5s,mb5.0						
KSRS	**Korea Array**	**48.68**	**11**	P	**P**	**09 31 56.4**	**+0.6**
	comp=Z,8.4nm,0.8s,mb4.8,baz=189,slow=7.4,SNR=21						
PKIN	**Phulchoki**	**48.68**	**322**	*e*P	**P**	**09 31 55.2**	**-0.8**
	comp=Z,9.5nm,0.5s,mb5.1						
DMN	**Daman**	**48.88**	**321**	*e*P	**P**	**09 31 57.0**	**-0.5**
KKN	**Kakani**	**48.91**	**322**	*e*P	**P**	**09 31 56.7**	**-1.0**
	comp=Z,18nm,0.7s,mb5.2						
GKN	**Gorkha**	**49.46**	**321**	*e*P	**P**	**09 32 01.3**	**-0.6**
	comp=Z,15nm,0.3s,mb5.5						
KOLN	**Koldanda**	**49.94**	**320**	*e*P	**P**	**09 32 04.7**	**-0.8**
	comp=Z,15nm,0.6s,mb5.2						
DANN	**Dangsing**	**50.24**	**321**	*e*P	**P**	**09 32 07.1**	**-0.8**
	comp=Z,28nm,0.6s,mb5.5						
MJAR	**Matsushiro Arr**	**50.75**	**22**	P	**P**	**09 32 10.2**	**-1.3**
	comp=Z,4.4nm,0.9s,mb4.4,baz=205,slow=7.1,SNR=9.0						
ULN	**Ulaanbaatar**	**58.70**	**352**	⇑*e*P	**P**	**09 33 08.3**	**-0.6**
ULN	**Ulaanbaatar**	**58.70**	**352**	*e*P	**P**	**09 33 08.0**	**-0.9**
	comp=Z,1.7nm,0.6s,mb4.2						
SONM	**Songino Array**	**58.76**	**352**	P	**P**	**09 33 09.2**	**-0.1**
	comp=Z,6.5nm,0.7s,mb4.7,baz=169,slow=8.9,SNR=43						
ZAK	**Zakamensk**	**61.73**	**350**	*e*P	**P**	**09 33 26.1**	**-3.4**
ZAK				*e*		09 34 09.4	
ZAK				*e*		09 37 10.0	
ZAK				pmax	pmax		
	comp=Z,2.0nm,1.1s,mb4.2						
KBL	**Kabul**	**63.81**	**317**	*e*P	**P**	**09 33 43.3**	**-0.4**
KBL				pmax	pmax		
	comp=Z,7.0nm,0.6s,mb4.9						
KBL	**Kabul**	**63.81**	**317**	*e*P	**P**	**09 33 43.3**	**-0.4**
	comp=Z,7.4nm,0.6s,mb4.9						
MK31	**Makanchi Array**	**64.88**	**334**	*i* P	**P**	**09 33 50.1**	**-0.4**
MK31				pmax	pmax		
	comp=Z,2.0nm,0.4s,mb4.5						
MK31	**Makanchi Array**	**64.88**	**334**	*e*P	**P**	**09 33 50.2**	**-0.3**
MKAR	**Makanchi Array**	**64.88**	**334**	P	**P**	**09 33 50.2**	**-0.3**
	comp=Z,3.0nm,0.4s,mb4.7,baz=151,slow=7.6,SNR=44						
MKAR	**Makanchi Array**	**64.88**	**334**	P	**P**	**09 33 50.2**	**-0.3**
TKM2	**Tokmak 2**	**65.21**	**328**	*e*P	**P**	**09 33 53.1**	**+0.4**
TKM2				pmax	pmax		
	comp=Z,3.0nm,0.5s,mb4.6						
TKM2	**Tokmak 2**	**65.21**	**328**	P	**P**	**09 33 53.2**	**+0.5**
	SNR=7.9						
TKM2	**Tokmak 2**	**65.21**	**328**	*e*P	**P**	**09 33 53.0**	**+0.4**
	comp=Z,2.7nm,0.5s,mb4.5						
UCH	**Uchtor**	**65.31**	**326**	P	**P**	**09 33 54.4**	**+1.0**
	SNR=9.0						
UCH	**Uchtor**	**65.31**	**326**	*e*P	**P**	**09 33 54.4**	**+1.0**
	comp=Z,4.1nm,0.7s,mb4.6						
KBK	**Karagaybulak**	**65.37**	**327**	P	**P**	**09 33 54.9**	**+1.1**
	SNR=8.9						
AAK	**Ala-Archa**	**65.60**	**327**	P	**P**	**09 33 55.9**	**+0.7**
	SNR=10						
AML	**Almayashu**	**65.69**	**326**	P	**P**	**09 33 57.0**	**+1.1**
	SNR=16						
AML	**Almayashu**	**65.69**	**326**	*e*P	**P**	**09 33 55.1**	**-0.8**
	comp=Z,13nm,0.8s,mb5.0						
EKS2	**Erkin-Say**	**66.01**	**326**	P	**P**	**09 33 59.0**	**+1.1**
	SNR=17						
EKS2	**Erkin-Say**	**66.01**	**326**	*e*P	**P**	**09 33 58.0**	**+0.1**
	comp=Z,14nm,0.9s,mb5.0						
USP	**Ospenovka**	**66.03**	**327**	P	**P**	**09 33 58.1**	**+0.1**
	SNR=8.8						
MAW	**Mawson**	**67.28**	**200**	LR	LR	09 57 40.4	
	comp=Z,111nm,21.0s,MS4.1,baz=242,slow=31						
BOD	**Bodaibo**	**68.03**	**358**	*e*P	**P**	**09 34 10.0**	**-0.4**
BOD				pmax	pmax		
	comp=Z,6.0nm,1.1s,mb4.5						
KURK	**Kurchatov**	**69.45**	**335**	P	**P**	**09 34 19.1**	**-0.2**
	comp=Z,4.1nm,0.9s,mb4.4,baz=142,slow=6.0,SNR=22						
KURK	**Kurchatov**	**69.45**	**335***c*	*i*P	**P**	**09 34 19.0**	**-0.4**
KURK				pmax	pmax		
	comp=Z,13nm,1.2s,mb4.7						
ZAA0	**Zalesovo Array**	**69.71**	**340**	*e*P	**P**	**09 34 20.0**	**-0.9**
ZALV	**Zalesovo Beam**	**69.71**	**340**	P	**P**	**09 34 20.0**	**-0.9**
	comp=Z,4.7nm,0.5s,mb4.7,baz=147,slow=4.3,SNR=19						
ZALV	**Zalesovo Beam**	**69.71**	**340**	P	**P**	**09 34 20.0**	**-0.9**
PETK	**Petropavlovsk-**	**72.11**	**24**	P	**P**	**09 34 35.4**	**-0.1**
	comp=Z,4.3nm,0.7s,mb4.5,baz=212,slow=4.6,SNR=4.5						
YAK	**Yakutsk**	**72.88**	**6**⇓	*e*P	**P**	**09 34 40.0**	**+0.1**
YAK				pmax	pmax		
	comp=Z,29nm,1.2s,mb5.1						
AB31	**Akbulak array**	**77.65**	**326**	*i* P	**P**	**09 35 07.8**	**+0.2**
AB31				pmax	pmax		
	comp=Z,7.0nm,0.5s,mb4.8						
SEY	**Seymchan**	**78.01**	**16**	*i* P	**P**	**09 35 10.9**	**+1.6**
ARU	**Arti**	**82.19**	**331***c*	*i*P	**P**	**09 35 31.7**	**-0.2**
ARU				*e*S	S	09 45 43.2	+0.1
ARU				SS	SS	09 51 00.5	-3.6
ARU				pmax	pmax		
	comp=Z,12nm,2.5s,mb4.4						
TIXI	**Tiksi**	**82.25**	**4**⇓	*e*P	**P**	**09 35 28.1**	**-3.9**
TIXI				pmax	pmax		
	comp=Z,21nm,1.3s,mb4.9						
BOSA	**Boshof**	**86.70**	**242**	P	**P**	**09 35 57.2**	**+1.7**
	comp=Z,1.7nm,0.7s,mb4.4,baz=114,slow=12,SNR=3.1						
BOSA	**Boshof**	**86.70**	**242**	P	**P**	**09 35 57.2**	**+1.7**
OBN	**Obninsk**	**93.10**	**325**	*e*P	**P**	**09 36 29.1**	**+4.3**
OBN				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.9						
TORD	**Torodi Ar. Bea**	**116.86**	**280**	PKP	PKPdf	09 41 58.1	+1.6
	comp=Z,0.4nm,0.5s,baz=72,slow=2.6,SNR=4.4						
JCW	**Jim Creek**	**118.17**	**41**	*e*PKPdf	PKPdf	09 41 56.0	-2.2
RPW	**Rockport**	**118.36**	**40**	PKPdf	PKPdf	09 41 55.3	-3.2
NVAR	**Mina Array Bea**	**123.35**	**51**	PKP	PKPdf	09 42 11.7	+3.3
	comp=Z,0.7nm,0.7s,baz=298,slow=1.9,SNR=6.8						
TXAR	**Lajitas Array**	**137.56**	**58**	PKhKP		09 42 26.4	
	comp=Z,0.2nm,0.6s,baz=184,slow=5.0,SNR=3.2						
TXAR				PKP	PKPdf	09 42 38.7	+3.1
	comp=Z,0.6nm,0.8s,baz=224,slow=1.7,SNR=6.3						
JCT	**Junction City**	**140.32**	**54**	*e*PKIKP	PKPdf	09 42 40.0	-0.6
WVT	**Waverly**	**145.85**	**37**	*e*PKIKP	PKPdf	09 42 52.3	+2.1
OXF	**Oxford**	**145.91**	**41**	*e*PKP2	PKPab	09 42 53.0	+1.5
SSPA	**Standing Stone**	**147.10**	**21**	*e*PKPab	PKPab	09 42 56.1	+0.3
TZTN	**Tazewell**	**147.97**	**32**	*e*PKPbc	PKPbc	09 42 55.5	-1.3
LRAL	**Lakeview Retre**	**148.40**	**41**	*e*PKPab	PKPab	09 42 60.0	-1.3
TKL	**Tuckaleechee C**	**148.51**	**34**	*e*PKP2	PKPab	09 43 00.4	-1.2
ELN	**Prospectdale**	**148.82**	**28**	*e*PKPdf	PKPdf	09 42 51.6	-3.5

IDC 08 09:30:59.5±5.4**,2198S**×**6838W,h0**km**,mb3.5**/1**, mb1 3.5**/2**,mb1mx3.4**/15**,mbtmp3.4**/2**,ML3.1**/1**,Error ellipse: s-maj=165.8km s-min=56.8km az=71.0, Chile-Bolivia border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**5.67**	**2**	Pn	Pn	09 32 25.7	+0.6
	0.3nm,0.3s,baz=189,slow=8.5,SNR=9.2						
TORD	**Torodi Ar. Bea**	**77.06**	**70**	P	P	09 42 55.1	+0.1
	0.5nm,0.8s,baz=252,slow=6.1,SNR=4.1						
MKAR	**Makanchi Array**	**145.73**	**37**	PKPbc	PKPbc	09 50 39.6	-0.7
	0.2nm,0.3s,baz=327,slow=2.0,SNR=4.2						

IDC 08 09:36:14.4±2.2**,400S**×**10087E,h0**km**,mb3.8**/6**,mb1 3.9**/6**, mb1mx3.8**/19**,mbtmp3.8**/6**,MS3.8**/1**,Ms1 3.8**/1**, ms1mx2.7**/36**,Error ellipse: s-maj=92.4km s-min=19.3km az=57.0,Southern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**22.39**	**355**	P	P	09 41 14.6	0.0
	1.5nm,0.5s,baz=185,slow=9.2,SNR=8.5						
WRA	**Warramunga Arr**	**36.25**	**119**	P	P	09 43 19.2	-0.5
	0.1nm,0.3s,baz=302,slow=9.4,SNR=12						
ASAR	**Alice Springs**	**37.39**	**125**	P	P	09 43 29.4	+0.1
	0.2nm,0.4s,baz=299,slow=8.0,SNR=3.8						
STKA	**Stephens Creek**	**47.19**	**131**	LR	LR	10 05 40.9	
	comp=Z,116nm,19.9s,baz=26,slow=37						
SONM	**Songino Array**	**51.84**	**5**	P	P	09 45 25.1	+0.8
	2.2nm,0.7s,baz=188,slow=7.8,SNR=13						
MKAR	**Makanchi Array**	**53.17**	**344**	P	P	09 45 34.2	0.0
	1.9nm,0.7s,baz=146,slow=8.5,SNR=18						
ZALV	**Zalesovo Beam**	**59.28**	**349**	P	P	09 46 16.6	-1.1
	1.0nm,0.3s,baz=160,slow=4.7,SNR=8.1						
BDFB	**Brasilia**	**143.55**	**237**	PKP	PKPdf	09 55 52.9	+0.6
	7.6nm,0.7s,baz=335,slow=2.7,SNR=3.0						
TXAR	**Lajitas Array**	**145.70**	**40**	PKPbc	PKPbc	09 55 56.0	0.0
	1.6nm,0.9s,baz=303,slow=1.8,SNR=12						

KRSC 08 09:44:00.9±0.1**,5204N**×**15682E,h198**km±28km**,ML3.8, Kamchatka Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MIPR	**Malaya Ipel'ka**	**0.24**	**351**	*e*P	Pn	09 44 27.7	+0.8
MIPR				*i* S	Sn	09 44 46.5	-0.8
RUS	**Russkaya**	**1.11**	**69**	*e*P	Pn	09 44 32.5	+1.3
RUS				*i* S	Sn	09 44 56.3	+1.7
PET	**Petropavlovsk**	**1.49**	**48**	*e*P	Pn	09 44 34.6	+0.4
PET				*i* S	Sn	09 45 00.2	0.0
AVH	**Avacha**	**1.69**	**43**	*e*P	Pn	09 44 39.1	+3.0
GNL	**Ganaly**	**1.79**	**22**	*e*P	Pn	09 44 38.8	+1.8
NLC	**Nalytchevo**	**1.91**	**53**	*e*P	Pn	09 44 40.0	+1.8
NLC				*i* S	Sn	09 45 07.5	+0.1
SPN	**Mys Shipunski**	**2.22**	**60**	*e*P	Pn	09 44 43.6	+2.1
SPN				*i* S	Sn	09 45 13.6	+0.4
TUMR	**Tumrok**	**3.80**	**30**	P	Pn	09 45 03.9	+3.9
MKZ	**Mys Kozlova**	**3.88**	**48**	*e*P	Pn	09 45 03.1	+2.2
MKZ				*i* S	Sn	09 45 47.2	-0.9
KMNR	**Kamenistaya**	**4.24**	**27**	P	Pn	09 45 08.9	+3.5
SRDR	**Sredinnyy**	**4.61**	**21**	P	Pn	09 45 14.2	+4.1
KBTR	**Krutoberegovo**	**5.46**	**38**	*e*P	Pn	09 45 22.8	+1.8
KBTR				*i* S	Sn	09 46 23.7	-0.7

CASC 08 09:44:16.3±1.6**,1200N**×**8820W,h11**km±6km**,MD4.0, ML2.7,6C-4D,Off coast of central America**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CNCH	**Conchagua**	**1.31**	**16**	*e*P	x	09 44 39.8	
CNCH				*e*S	x	09 44 58.5	
VSM	**San Miguel**	**1.42**	**357**	*e*P	x	09 44 42.0	
VSM				*e*S	x	09 45 02.2	
BLLM	**Bellamira**	**1.43**	**359**	*e*P	x	09 44 41.5	
BLLM				*e*S	x	09 45 02.4	
TEL3	**Telica 3**	**1.44**	**67**⇓	*e*P	Pn	09 44 41.0	-1.3
MIRN	**Miramar**	**1.52**	**73**⇑	*e*P	Pn	09 44 42.0	-1.4
CNGN	**Cerro Negro**	**1.55**	**71**⇑	*e*P	Pn	09 44 42.5	-1.4
CNGN				AML	AML	09 45 06.9	
	comp=Z,100nm,0.6s						
COPN	**Copaltepe**	**1.58**	**83**⇓	*e*P	Pn	09 44 43.3	-1.1
COPN				*e*S	Sn	09 45 05.1	+0.2
MOMN	**Momotombo**	**1.67**	**76**⇑	*e*P	Pn	09 44 44.9	-0.7
MOMN				*e*S	Sn	09 45 08.3	+1.3
SNVI	**San Vicente**	**1.72**	**339**	*e*P	x	09 44 46.1	
SNVI				*e*S	x	09 45 09.3	
CSAN		**1.75**	**84**⇑	*e*P	Pn	09 44 45.7	-0.9
CSAN				*e*S	Sn	09 45 09.5	+0.6
CAHU	**Cacacuatique**	**1.76**	**360**	*e*P	x	09 44 46.7	
CAHU				*e*S	x	09 45 10.6	
LFRS	**El Faro**	**1.82**	**333**	*e*P	x	09 44 47.0	
LFRS				*e*S	x	09 45 11.8	
APYN	**Apoyeque**	**1.82**	**83**⇑	*e*P	Pn	09 44 46.7	-0.9
XAVN	**Gruta Xavier**	**1.84**	**85**	*e*P	Pn	09 44 47.0	-0.9
CRUN	**El Crucero**	**1.86**	**90**	*e*P	Pn	09 44 48.1	-0.1
TISN	**Laguna Tiscapa**	**1.89**	**86**	*e*P	Pn	09 44 47.7	-0.9
LBRS	**Las Brisas**	**1.91**	**335**	*e*P	x	09 44 49.2	

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
TICN	**Ticuantepe**	**1.93**	**89**	⇑eP	Pn	09 44 48.4	-0.7
HUEN		**2.01**	**80**	⇓eP	Pn	09 44 49.4	-0.9
BOQS	**Boqueron**	**2.02**	**329**	eP	x	09 44 50.1	
BOQS				eS	x	09 45 16.7	
APON	**Apoyo**	**2.09**	**92**	eP	Pn	09 44 52.5	+1.2
TGUH	**Tegucigalpa,Un**	**2.23**	**24**	⇓eP	Pn	09 44 53.0	-0.3
TGUH				eS	Sn	09 45 20.8	-0.1
SBLS	**San Blas**	**2.29**	**323**	eP	x	09 44 54.2	
SBLS				eS	x	09 45 22.9	
SNJE	**San Jose**	**2.31**	**324**	eP	x	09 44 54.4	
SNJE				eS	x	09 45 23.7	
RTR	**El Retiro**	**2.35**	**323**	eP	x	09 44 55.0	
RTR				eS	x	09 45 24.6	
RBDL	**Robledal**	**2.55**	**326**	eP	x	09 44 57.7	
RBDL				eS	x	09 45 29.5	
CGA2	**Cerro Gallo 2**	**4.16**	**118**	eP	Pn	09 45 21.4	+1.5
PRS1	**Puriscal**	**4.31**	**117**	eP	Pn	09 45 24.2	+2.3
BUS	**Buena Vista**	**5.00**	**119**	eP	Pn	09 45 33.0	+1.6

MAN 08 09:46:03, 1175N×12422E, h27^{km}, mb4.2, ML3.0, MS2.8, 1C-2D, Leyte

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CNP	**Catarman**	**0.87**	**30**	eP	Pn	09 46 19.3	-0.2
CNP				eS	Sb	09 46 32.6	+1.8
PLP	**Palo**	**0.95**	**128**	⇑eP	Pn	09 46 20.7	+0.1
PLP				iS	Sb	09 46 35.9	+2.8
BESP	**Borongan**	**1.21**	**97**	eP	Pn	09 46 24.4	+0.3
LLP	**Lapu-Lapu**	**1.45**	**190**	⇓iP	Pn	09 46 28.6	+1.1
LLP				eS	Sn	09 46 48.5	+3.0
RCP	**Roxas**	**1.45**	**263**	⇓eP	Sb	09 46 48.2	+0.7
RCP				eS	Sn	09 46 48.0	+2.3
MSLP	**Maasin**	**1.73**	**159**	eP	Pn	09 46 33.0	+1.7
MSLP				eS	Sn	09 46 54.9	+2.4
PVCP	**Virac**	**1.83**	**358**	eP	Pn	09 46 34.2	+1.4
PVCP				eS	Sn	09 46 58.9	+3.8
GUIM	**Jordan**	**1.95**	**235**	eP	Pn	09 46 36.1	+1.7
GUIM				eS	Sn	09 46 58.7	+0.7
TBP	**Tagbilaran**	**2.08**	**190**	eP	Pn	09 46 37.7	+1.6
OTRP	**Odiongan**	**2.23**	**286**	eP	Pn	09 46 40.1	+1.9

*JMA **08** 09:48:50.9±0.4, 2303N×12162E, h0^{km}, M3.7*
*ISCJB **08** 09:48:51.1±0.3, 2295N±002×12139E±002, h40^{km}±6^{km}, Error ellipse: s-maj=3.7km s-min=2.9km az=149.5*
*TAP **08** 09:48:51.3, 2299N×12130E, h41^{km}, ML4.0, C*
ISC 08 09:48:51.6±0.3, **2294N**±002×**12136E**±002, **h38**^{km}±6^{km}, **n62**, σ**0^{s}95**/97, **5C-8D, Taiwan region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CHKT	**Chengkung**	**0.15**	**3**	eP	**Pn**	**09 48 58.7**	**+0.4**
	baz=38						
CHKT				eS	**Sn**	**09 49 04.3**	**+1.4**
	baz=38						
TTN	**Taitung**	**0.27**	**226**	P	**Pn**	**09 48 59.8**	**+0.4**
	baz=217						
TTN				eS	**Sn**	**09 49 06.2**	**+1.4**
	baz=217						
TWG	**Pinlang**	**0.29**	**245**	⇓iP	**Pn**	**09 48 59.1**	**-0.4**
	baz=225						
TWG				iS	**Sn**	**09 49 04.6**	**-0.5**
	baz=225						
ELDTW	**Lidau**	**0.40**	**308**	iP	**Pn**	**09 49 00.3**	**-0.6**
	baz=309						
ELDTW				iS	**Sn**	**09 49 06.4**	**-1.0**
	baz=309						
TWF1	**Yuli**	**0.41**	**352**	⇓iP	**Pn**	**09 49 00.2**	**-0.9**
	baz=3.0						
TWF1				eS	**Sn**	**09 49 06.0**	**-1.7**
	baz=3.0						
ECL	**Taimali**	**0.51**	**227**	⇓iP	**Pn**	**09 49 01.4**	**-1.0**
	baz=212						
ECL				eS	**Sn**	**09 49 08.6**	**-1.3**
	baz=212						
EHY	**Hungye**	**0.56**	**357**	⇓iP	**Pn**	**09 49 01.9**	**-1.3**
	baz=12						
EHY				S	**Sn**	**09 49 09.2**	**-2.0**
	baz=12						
STYT	**Tauyuan**	**0.59**	**292**	⇑iP	**Pn**	**09 49 03.3**	**-0.3**
	baz=290						
STYT				S	**Sn**	**09 49 11.7**	**-0.4**
	baz=290						
YUS	**Yu-Shan**	**0.66**	**326**	⇑iP	**Pn**	**09 49 04.7**	**+0.2**
	baz=328						
YUS				iS	**Sn**	**09 49 13.2**	**-0.4**
	baz=328						
SSD	**Sandimen**	**0.70**	**254**	⇓iP	**Pn**	**09 49 04.8**	**-0.1**
	baz=248						
SSD				eS	**Sn**	**09 49 13.7**	**-0.9**
	baz=248						
TAW	**Tawu**	**0.72**	**216**	iP	**Pn**	**09 49 04.3**	**-1.0**
	baz=231						
TAW				S	**Sn**	**09 49 07.5**	**-7.7**
	baz=231						
SGST	**Jiashian**	**0.73**	**281**	⇑iP	**Pn**	**09 49 05.7**	**+0.3**
	baz=278						
SGST				S	**Sn**	**09 49 15.9**	**+0.6**
	baz=278						
EAST	**Anshuo**	**0.73**	**220**	⇓iP	**Pn**	**09 49 04.6**	**-0.8**
	baz=265						
EAST				iS	**Sn**	**09 49 07.3**	**-8.0**
	baz=265						
ALS	**Alishan**	**0.76**	**318**	⇑iP	**Pn**	**09 49 06.1**	**+0.3**
	baz=320						
ALS				S	**Sn**	**09 49 16.4**	**+0.3**
	baz=320						
TEGC	**Jichi Village**	**0.78**	**12**	eP	**Pn**	**09 49 05.3**	**-0.8**
	baz=24						
TWK	**Hsinying**	**0.86**	**292**	iP	**Pn**	**09 49 07.2**	**-0.1**
	baz=291						
TWK				S	**Sn**	**09 49 20.0**	**+1.4**
	baz=291						
ESL	**Shilin**	**0.87**	**5**	⇓iP	**Pn**	**09 49 05.7**	**-1.7**
	baz=19						
ESL				eS	**Sn**	**09 49 15.6**	**-3.2**
	baz=19						
TWM1	**Shoushan**	**0.87**	**262**	eP	**Pn**	**09 49 08.8**	**+1.4**
	baz=249						
TWM1				eS	**Sn**	**09 49 21.7**	**+2.9**
	baz=249						
SCZT	**Fangliau**	**0.89**	**230**	eP	**Pn**	**09 49 07.7**	**+0.1**
	baz=224						
SCZT				eS	**Sn**	**09 49 20.7**	**+1.5**
	baz=224						
SCZT	**Fangliau**	**0.89**	**230**	⇓iP	**Pn**	**09 49 07.8**	**+0.2**
	baz=267						
CHN5	**Tsauling**	**0.90**	**316**	iP	**Pn**	**09 49 08.0**	**+0.2**
	baz=328						
CHN5				S	**Sn**	**09 49 20.3**	**+0.7**
	baz=328						
LAY	**Lan-yu**	**0.92**	**169**	eP	**Pn**	**09 49 07.9**	**-0.1**
	baz=161						
CHN2	**Minshiung**	**1.00**	**306**	eP	**Pn**	**09 49 08.8**	**-0.3**
	baz=307						
CHN2				eS	**Sn**	**09 49 23.3**	**+1.2**
	baz=307						
SMLT	**Sun Moon Lake**	**1.02**	**336**	P	**Pn**	**09 49 09.9**	**+0.5**
	baz=340						
SMLT				eS	**Sn**	**09 49 23.3**	**+0.6**
	baz=340						
KAU	**Kaohsiung**	**1.04**	**249**	eP	**Pn**	**09 49 10.8**	**+1.1**
	baz=245						
WGK	**Gukeng**	**1.04**	**315**	eP	**Pn**	**09 49 09.6**	**-0.1**
	baz=317						
WGK				eS	**Sn**	**09 49 24.1**	**+1.1**
	baz=317						
HWA	**Hwalien**	**1.05**	**12**	eP	**Pn**	**09 49 09.4**	**-0.5**
	baz=18						
TYC	**Yuchr**	**1.06**	**334**	P	**Pn**	**09 49 10.3**	**+0.3**
	baz=338						
TYC				iS	**Sn**	**09 49 24.5**	**+1.0**
	baz=338						
HEN	**Hengchun**	**1.09**	**212**	eP	**Pn**	**09 49 12.3**	**+1.8**
	baz=199						
HEN	**Hengchun**	**1.09**	**212**	eP	**Pn**	**09 49 09.2**	**-1.2**
	baz=205						
SCLT	**Jiali**	**1.09**	**282**	eP	**Pn**	**09 49 10.9**	**+0.4**
	baz=281						
WNT	**Mingjian**	**1.12**	**327**	eP	**Pn**	**09 49 11.2**	**+0.4**
	baz=330						
WNT				eS	**Sn**	**09 49 25.7**	**+0.8**
	baz=330						
TWK1	**Hengchun**	**1.12**	**207**	eP	**Pn**	**09 49 10.7**	**-0.1**
	baz=195						
TWK1	**Hengchun**	**1.12**	**207**	P	**Pn**	**09 49 10.8**	**0.0**
	baz=205						
TSEB	**Hengchuen, Pin**	**1.12**	**202**	eP	**Pn**	**09 49 12.0**	**+1.2**
	baz=190						
TSEB	**Hengchuen, Pin**	**1.12**	**202**	eP	**Pn**	**09 49 11.2**	**+0.4**
	baz=194						
CHN8	**Yiju**	**1.13**	**291**	eP	**Pn**	**09 49 09.8**	**-1.1**
	baz=290						
CHN8				eS	**Sn**	**09 49 24.9**	**-0.3**
	baz=290						
TWD	**Chiawan**	**1.15**	**11**	eP	**Pn**	**09 49 09.7**	**-1.5**
	baz=17						
WSF	**Szhu**	**1.25**	**304**	eP	**Pn**	**09 49 12.0**	**-0.6**
	baz=304						
TWT	**Tachien**	**1.31**	**353**	eP	**Pn**	**09 49 14.6**	**+1.2**
	baz=5.0						
WTCT	**Ta-ch'eng**	**1.35**	**313**	eP	**Pn**	**09 49 13.2**	**-0.8**
	baz=315						
WTCT				eS	**Sn**	**09 49 29.7**	**-0.9**
	baz=315						
TCU	**Taichung**	**1.35**	**333**	eP	**Pn**	**09 49 14.0**	**0.0**
	baz=336						
NNS	**Nan Shan**	**1.49**	**1**	eP	**Pn**	**09 49 15.7**	**-0.2**
	baz=18						
ENA	**Nanau**	**1.52**	**13**	eP	**Pn**	**09 49 15.2**	**-1.1**
	baz=10.0						
NSY	**Sanyi**	**1.56**	**340**	eP	**Pn**	**09 49 18.0**	**+1.1**
	baz=345						
NSY				eS	**Sn**	**09 49 38.6**	**+2.6**
	baz=345						
WDGT	**Dungji**	**1.59**	**282**	eP	**Pn**	**09 49 16.2**	**-1.1**
	baz=280						
WDGT				eS	**Sn**	**09 49 34.3**	**-2.4**
	baz=280						
NSTT	**Nanjuang**	**1.71**	**349**	eP	**Pn**	**09 49 19.6**	**+0.6**
	baz=342						
NSTT				eS	**Sn**	**09 49 41.6**	**+2.0**
	baz=342						
TWC	**Suao**	**1.72**	**15**	eP	**Pn**	**09 49 18.2**	**-0.8**
	baz=13						
PNG	**Penghu**	**1.77**	**291**	⇑iP	**Pn**	**09 49 18.6**	**-1.1**
	baz=290						
TWE	**Neicheng**	**1.79**	**9**	eP	**Pn**	**09 49 19.2**	**-0.8**
	baz=24						
TWA	**Mucha**	**2.04**	**6**	eP	**Pn**	**09 49 23.3**	**-0.1**
	baz=22						
TWB1	**Santiao Chiao**	**2.13**	**16**	eP	**Pn**	**09 49 24.8**	**0.0**
	baz=15						
YOJ	**Yonaguni jima**	**2.14**	**45**	P	**Pn**	**09 49 25.5**	**+0.7**
YOJ				S	**Sn**	**09 49 50.4**	**+0.2**
YOJ	**Yonaguni jima**	**2.14**	**45**	eP	**Pn**	**09 49 24.5**	**-0.4**
	baz=53						
NWF	**Wu-fen Shan**	**2.15**	**10**	eP	**Pn**	**09 49 24.8**	**-0.2**
	baz=17						
HATJ	**Hateruma jima**	**2.51**	**63**	P	**Pn**	**09 49 30.3**	**+0.4**
HATJ				S	**Sn**	**09 49 59.1**	**-0.1**
IRIF	**Iriomote-Funau**	**2.58**	**57**	P	**Pn**	**09 49 31.5**	**+0.6**
IRIF				S	**Sn**	**09 50 01.3**	**+0.3**
JKRS	**Kuro-shima**	**2.75**	**62**	P	**Pn**	**09 49 34.6**	**+1.3**
JKRS				S	**Sn**	**09 50 05.9**	**+0.6**
JIJ	**Ishigaki jima**	**2.92**	**60**	P	**Pn**	**09 49 35.6**	**+0.1**
JIJ				S	**Sn**	**09 50 08.6**	**-0.8**
KNM	**Kinmen**	**3.06**	**299**	eP	**Pn**	**09 49 36.9**	**-0.5**
	baz=297						
JTJ	**Tarama**	**3.50**	**60**	P	**Pn**	**09 49 44.8**	**+1.3**
JTJ				S	**Sn**	**09 50 23.7**	**0.0**
JMJ	**Miyako jima 2**	**4.06**	**62**	eS	**Sn**	**09 50 37.9**	**+0.5**

*NIED **08** 09:58:00, 4160N×14370E, h32^{km}, Mw4.2 Best double couple: $M_0$2.62000×10^{15} NP1:ϕ_s15.00000°, δ70.00000°, λ68.00000°. NP2:ϕ_s245.00000°, δ29.00000°, λ136.00000°.*
*MOS **08** 09:58:23.7±0.9, 4153N×144.11E, h33^{km}, mb4.6/3, Error ellipse: s-maj=18.1km s-min=11.7km az=108.5*
*ISCJB **08** 09:58:26.1±0.9, 4150N±005×14375E±008, h37^{km}±7^{km}, mb3.9/13, MS3.7/2, Error ellipse: s-maj=11.4km s-min=6.3km az=27.1*
*NEIC **08** 09:58:27.6, 4158N×14371E, h42^{km}, mb4.5/2, MW4.2(NIED), After JMA.*
*JMA **08** 09:58:27.5±0.2, 4158N×14371E, h42^{km}±3^{km}, M4.1*
*IDC **08** 09:58:28.7±3.3, 4150N×14361E, h40^{km}±28^{km}, mb3.7/10, mb1 3.8/12, mb1mx3.7/21, mbtmp3.6/12, ML3.4/2, MS3.4/5, Ms1 3.4/5, ms1mx3.1/33, Error ellipse: s-maj=25.7km s-min=17.2km az=85.0*
ISC 08 09:58:26.9±1.4, **4157N**±004×**14376E**±008, **h27**^{km}±9^{km}, **n33**, σ**0^{s}68**/40, **mb3.9**/13, **MS3.7**/2, **4C, Hokkaido region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
ERM	**Erimo**	**0.64**	**315**	ePn	**Pn**	**09 58 39.2**	**-0.9**
ERM				eSn	**Sn**	**09 58 48.6**	**-0.8**
JEM	**Erimo**	**0.64**	**315**	P	**Pb**	**09 58 39.1**	**-0.4**
JEM				eS	**Sb**	**09 58 48.2**	**+0.2**
JNBK	**Urakawa-nobuka**	**1.04**	**314**	⇑P	**Pn**	**09 58 46.1**	**+0.5**
JCH	**Churui**	**1.09**	**344**	⇑P	**Pn**	**09 58 46.2**	**-0.1**
JOB	**Onbets**	**1.33**	**2**	P	**Pn**	**09 58 50.0**	**+0.3**
JOB				eS	**Sn**	**09 59 08.1**	**+1.5**
JAK	**Akkeshi**	**1.59**	**26**	⇑P	**Pn**	**09 58 53.0**	**-0.2**
JAK				eS	**Sn**	**09 59 11.0**	**-1.8**
JBT2	**Biratori 2**	**1.59**	**320**	P	**Pn**	**09 58 53.9**	**+0.6**
JAR	**Ashorobuto**	**1.73**	**0**	⇑P	**Pn**	**09 58 54.9**	**-0.2**
JAR				eS	**Sn**	**09 59 16.3**	**0.0**
ASAJ	**Asahikawa**	**2.69**	**342**	P	**Pn**	**09 59 09.1**	**+0.8**
	5.3nm,0.3s,baz=216,slow=13,SNR=13						
ASAJ				S	**Sn**	**09 59 45.1**	**+5.2**
	9.9nm,0.3s,baz=91,slow=32,SNR=3.6						
ASAJ				LR	LR	10 00 39.3	
	comp=Z,677nm,19.2s,baz=350,slow=48						
ASAJ	**Asahikawa**	**2.69**	**342**	P	**Pn**	**09 59 09.1**	**+0.8**
ASAJ				S	**Sn**	**09 59 45.2**	**+5.3**
ASAJ				pmax	pmax		
	comp=Z,5.0nm,0.3s						
ASAJ				smax			
	comp=N,10.0nm,0.3s						
KUR	**Kuril'sk**	**4.73**	**38**	P	**Pn**	**09 59 31.0**	**-5.4**
KUR				eS	**Sn**	**10 00 25.5**	**-4.7**
KUR				pmax	pmax		
	comp=N,110nm,0.8s						
KUR				pmax	pmax		
	comp=E,110nm,0.8s						
KUR				pmax	pmax		
	comp=Z,160nm,0.8s						
KUR				smax			
	comp=N,190nm,0.8s						
KUR				smax			
	comp=E,110nm,0.8s						
MJAR	**Matsushiro Arr**	**6.62**	**223**	P	**Pn**	**10 00 02.3**	**-0.1**
	comp=E,0.5nm,0.3s,baz=31,slow=13,SNR=8.6						
MAT	**Matsushiro**	**6.62**	**223**	P	**Pn**	**10 00 02.6**	**+0.2**
MAT				eS	**Sn**	**10 01 17.3**	**+0.3**
PETK	**Petropavlovsk-**	**14.88**	**34**	LR	LR	10 07 21.9	
	comp=E,50nm,18.9s,baz=235,slow=36						
JOW	**Kunigami**	**19.45**	**226**	LR	LR	10 08 56.8	
	comp=E,72nm,20.6s,baz=274,slow=32						
SONM	**Songino Array**	**27.09**	**296**	P	**P**	**10 04 07.0**	**-0.2**
	comp=E,2.7nm,0.8s,mb3.9,baz=85,slow=8.0,SNR=15						
SONM				LR	LR	10 15 52.3	
	comp=E,203nm,19.1s,MS3.7,baz=87,slow=39						
ZAK	**Zakamensk**	**29.17**	**301**	eP	**P**	**10 04 25.4**	**-0.2**
ZAK				pmax	pmax		
	comp=Z,3.0nm,1.2s,mb3.9						
ZALV	**Zalesovo Beam**	**40.36**	**309**	P	**P**	**10 06 01.8**	**-0.1**
	comp=Z,2.1nm,0.7s,mb4.0,baz=96,slow=9.1,SNR=9.1						
ZALV				LR	LR	10 24 22.3	
	comp=Z,82nm,18.3s,MS3.6,baz=54,slow=38						
MK31	**Makanchi Array**	**43.41**	**299**	eP	**P**	**10 06 26.8**	**-0.1**
MKAR	**Makanchi Array**	**43.41**	**299**	P	**P**	**10 06 26.8**	**-0.1**
	comp=Z,1.3nm,0.5s,mb4.0,baz=80,slow=9.7,SNR=12						
KURK	**Kurchatov**	**44.70**	**305**	eP	**P**	**10 06 36.6**	**-0.7**
KURK				pmax	pmax		
	comp=Z,10.0nm,1.0s,mb4.6						
KURK	**Kurchatov**	**44.70**	**305**	eP	**P**	**10 06 36.6**	**-0.7**
	comp=Z,10nm,1.0s,mb4.6						
TKM2	**Tokmak 2**	**49.19**	**296**	eP	**P**	**10 07 13.3**	**+0.8**
TKM2				pmax	pmax		
	comp=Z,3.0nm,0.7s,mb4.4						
TKM2	**Tokmak 2**	**49.19**	**296**	eP	**P**	**10 07 13.2**	**+0.8**
	comp=Z,2.6nm,0.7s,mb4.4						
ARCES	**ARCESS Array B**	**60.41**	**339**	P	**P**	**10 08 34.0**	**+0.8**
	comp=Z,1.9nm,0.9s,mb4.1,baz=31,slow=9.7,SNR=3.4						
WRA	**Warramunga Arr**	**61.82**	**190**	P	**P**	**10 08 42.8**	**-0.6**
	comp=Z,0.6nm,0.9s,mb3.7,baz=7.5,slow=6.7,SNR=7.6						
ASAR	**Alice Springs**	**65.54**	**190**	P	**P**	**10 09 07.2**	**-0.7**
	comp=Z,0.3nm,0.7s,mb3.5,baz=9.4,slow=7.7,SNR=3.4						
NOA	**NORSAR Array B**	**70.70**	**338**	P	**P**	**10 09 39.7**	**-0.2**
	comp=Z,1.5nm,0.9s,mb3.9,baz=319,slow=25,SNR=3.0						
AKASG	**Malin Array Be**	**71.82**	**322**	P	**P**	**10 09 46.3**	**-0.5**
	comp=Z,0.4nm,0.4s,mb3.7,baz=46,slow=6.3,SNR=4.9						
PDAR	**Pinedale Array**	**73.23**	**47**	P	**P**	**10 09 56.9**	**+1.5**
	comp=Z,0.3nm,0.6s,mb3.4,baz=297,slow=4.0,SNR=3.3						
PV10	**Paradox Valley**	**76.45**	**51**	P	**P**	**10 10 13.5**	**-0.5**
TXAR	**Lajitas Array**	**85.95**	**54**	P	**P**	**10 11 05.6**	**+0.9**
	comp=Z,0.2nm,0.6s,mb3.5,baz=293,slow=3.6,SNR=4.0						
TXAR	**Lajitas Array**	**85.95**	**54**	P	**P**	**10 11 05.6**	**+0.9**

*CSEM **08** 10:01:06.0±0.3, 3731N×2797E, h10^{km}, MD2.7, Error ellipse: s-maj=8.9km s-min=6.4km az=171.0*
*ISCJB **08** 10:01:07.3±0.6, 3732N±004×2797E±004, h10^{km}, Error ellipse: s-maj=5.2km s-min=4.9km az=15.8*
*DDA **08** 10:01:07.3, 3735N×2801E, h7^{km}±4^{km}, Md2.7*
ISC 08 10:01:07.4±0.6, **3733N**±004×**2801E**±005, **h8**^{km}±8^{km}, **n10**, σ**1^{s}06**/16, **Turkey**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MLSB	**Milas**	**0.19**	**259**	ePG	**Pg**	**10 01 10.5**	**-0.8**
YER	**Yerkesik**	**0.29**	**132**	ePG	**Pg**	**10 01 12.0**	**-1.1**
YER				eSG	**Sg**	**10 01 19.0**	**+1.9**
AYDN	**Tasoluk**	**0.34**	**342**	iP	**Pg**	**10 01 13.3**	**-0.9**
AYDN				iS	**Sg**	**10 01 18.7**	**-0.1**
BDRM	**Kayabasi**	**0.53**	**240**	iP	**Pg**	**10 01 17.0**	**-0.5**
BDRM				iS	**Sg**	**10 01 26.4**	**+2.0**
BODT	**Bodrum**	**0.62**	**245**	ePG	**Pg**	**10 01 18.0**	**-1.3**
GCAM	**G?zelcaml?**	**0.72**	**301**	iP	**Pg**	**10 01 21.3**	**0.0**
GCAM				iS	**Sg**	**10 01 31.5**	**+0.9**
DNZL	**Cakiroluk**	**0.90**	**66**	iP	**Pg**	**10 01 24.1**	**-0.5**
DNZL				iS	**Sg**	**10 01 41.0**	**+4.7**
MANT	**Manisa**	**1.23**	**20**	iP	**Pn**	**10 01 31.3**	**+0.4**
MANT				iS	**Sb**	**10 01 48.3**	**+1.3**
MARD	**Mardin**	**10.17**	**86**	iP	**Pn**	**10 03 41.9**	**+8.3**
BEST	**Besiri**	**10.54**	**83**	iP	**Pn**	**10 03 37.5**	**-1.1**

JMA 08 10:02:53.7±0.2, **3248N**×**13700E**, **h45**^{km}, **M4.1**, **3C-5D, Southeast of Shikoku**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
TK01	**Tokai 1**	**1.37**	**21**	P	Pn	10 03 17.2	+0.8
TK01				S	Sn	10 03 34.4	+1.0
JWZ	**Kozaga**	**1.50**	**314**	⇑P	Pn	10 03 18.8	+0.6
JWZ				S	Sn	10 03 37.0	+0.4
TK02	**Tokai 2**	**1.59**	**23**	⇓P	Pn	10 03 20.4	+1.0
TK02				S	Sn	10 03 37.7	-1.1
JKN2	**Miekihoku**	**1.86**	**341**	⇓P	Pn	10 03 24.3	+1.3
JKN2				S	Sn	10 03 46.0	+0.7
TK03	**Tokai 3**	**1.86**	**25**	P	Pn	10 03 23.4	+0.3
TK03				S	Sn	10 03 47.2	+1.7
JIE	**Ise**	**1.92**	**353**	⇓P	Pn	10 03 25.4	+1.5
JIE				S	Sn	10 03 48.3	+1.4
JWY	**Kouya**	**2.10**	**326**	⇓P	Pn	10 03 28.1	+1.8
JWY				S	Sn	10 03 52.4	+1.2
JHJ2	**Mitsune**	**2.45**	**74**	P	Pn	10 03 31.4	+0.2
JHJ2				S	Sn	10 03 59.3	-0.7
JAI	**Aioi**	**2.51**	**302**	⇑P	Pn	10 03 32.8	+0.9
JAI				S	Sn	10 04 01.5	+0.2
JMN	**Monobe**	**2.90**	**296**	P	Pn	10 03 38.3	+1.0
JMN				S	Sn	10 04 10.9	-0.1
JWT	**Wachi**	**3.10**	**335**	⇓P	Pn	10 03 42.1	+2.1
JWT				S	Sn	10 04 18.0	+2.2
JGM	**Miyama**	**3.22**	**356**	P	Pn	10 03 43.8	+2.1
JGM				S	Sn	10 04 21.6	+2.8
JYN	**Shimob**	**3.27**	**23**	P	Pn	10 03 44.7	+2.3
JYN				S	Sn	10 04 21.5	+1.4
JTO	**Tosashimizu**	**3.56**	**277**	⇑P	Pn	10 03 46.4	0.0
JTO				S	Sn	10 04 25.1	-2.1
MAT	**Matsushiro**	**4.17**	**13**	P	Pn	10 03 57.4	+2.6
MAT				S	Sn	10 04 44.5	+2.2

*CSEM **08** 10:03:45.7±0.3, 3679N×2746E, h5^{km}, MD3.1, Error ellipse: s-maj=8.9km s-min=5.1km az=73.0*
*ISCJB **08** 10:03:47.0±0.5, 3680N±003×2744E±005, h10^{km}, Error ellipse: s-maj=5.6km s-min=3.3km az=158.0*
*ATH **08** 10:03:47.0, 3685N×2761E, h45^{km}, MD3.3/3*
*DDA **08** 10:03:47.6, 3693N×2742E, h25^{km}, Md3.1*
*NEIC **08** 10:03:47.0, 3685N×2761E, h45^{km}, MD3.3(ATH), After ATH.*
ISC 08 10:03:46.9±0.6, **3680N**±003×**2748E**±005, **h0**^{km}±6^{km}, **n21**, σ**1^{s}12**/36, **Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
BDRM	**Kayabasi**	**0.27**	**354**	iP	**Pg**	**10 03 52.3**	**+0.3**
BDRM				iS	**Sg**	**10 03 56.6**	**+1.2**
BDRM	**Kayabasi**	**0.27**	**354**	P	**Pg**	**10 03 52.3**	**+0.3**
BDRM				S	**Sg**	**10 03 56.6**	**+1.2**
BODT	**Bodrum**	**0.29**	**333**	PG	**Pg**	**10 03 53.2**	**+0.7**
BODT				SG	**Sg**	**10 03 58.1**	**+1.7**
MLSB	**Milas**	**0.55**	**26**	ePG	**Pg**	**10 03 56.4**	**-1.0**
YER	**Yerkesik**	**0.73**	**62**	ePG	**Pg**	**10 03 59.0**	**-1.8**
ARG	**Arkhangelos**	**0.78**	**138**	eP	**Pg**	**10 04 02.5**	**+0.7**
ARG				eS	**Sg**	**10 04 13.6**	**+1.6**
ARG	**Arkhangelos**	**0.78**	**138**	eP	**Pg**	**10 04 02.5**	**+0.7**
ARG				eS	**Sg**	**10 04 13.6**	**+1.6**
TURN	**Turunc**	**0.91**	**85**	iP	Px	10 03 57.8	
TURN				iS	Sx	10 04 06.5	
AYDN	**Tasoluk**	**0.92**	**20**	iP	**Pg**	**10 04 03.5**	**-0.9**
AYDN				iS	**Sg**	**10 04 15.0**	**-1.4**
GCAM	**G?zelcaml?**	**0.92**	**348**	iP	**Pg**	**10 04 04.1**	**-0.4**
GCAM				iS	**Sg**	**10 04 18.1**	**+1.6**
SMG	**Samos**	**1.04**	**331**	eP	**Pg**	**10 04 06.5**	**-0.4**
SMG				eS	**Sg**	**10 04 20.5**	**+0.1**
SMG	**Samos**	**1.04**	**331**	eP	**Pg**	**10 04 06.5**	**-0.4**
SMG				eS	**Sg**	**10 04 20.5**	**+0.1**
KARP	**Karpathos**	**1.27**	**192**	eP	**Pg**	**10 04 10.4**	**-0.9**
KARP				eS	**Sg**	**10 04 27.9**	**+0.1**
KARP	**Karpathos**	**1.27**	**192**	eP	**Pg**	**10 04 10.4**	**-0.9**
KARP				eS	**Sg**	**10 04 27.9**	**+0.1**
DNZL	**Cakiroluk**	**1.54**	**54**	iP	**Pn**	**10 04 15.4**	**-0.1**
DNZL				iS	**Sn**	**10 04 36.8**	**+0.7**
KDAG	**Bornova**	**1.61**	**354**	iP	**Pn**	**10 04 15.2**	**-1.3**
KDAG				iS	**Sn**	**10 04 39.0**	**+1.0**
URLA	**Izmir**	**1.71**	**336**	iP	**Pb**	**10 04 16.5**	**-2.6**
URLA				iS	**Sb**	**10 04 45.0**	**+3.9**
GOLH	**Golhisar**	**1.72**	**75**	iP	**Pb**	**10 04 19.5**	**+0.2**
GOLH				iS	**Sb**	**10 04 42.5**	**+0.9**
AKAS	**Kas**	**1.80**	**108**	iP	**Pb**	**10 04 21.2**	**+0.5**
AKAS				iS	**Sb**	**10 04 49.5**	**+5.7**
MANT	**Manisa**	**1.89**	**27**	iP	**Pn**	**10 04 18.6**	**-1.7**
MANT	**Manisa**	**1.89**	**27**	iP	**Pn**	**10 04 18.6**	**-1.8**

*ISCJB **08** 10:11:02.4±0.7, 3680N±004×2756E±005, h13^{km}±5^{km}, Error ellipse: s-maj=7.1km s-min=4.8km az=138.5*
*CSEM **08** 10:11:02.6±0.3, 3684N×2747E, h8^{km}, MD3.2, Error ellipse: s-maj=9.0km s-min=5.7km az=64.0*
*ATH **08** 10:11:03.0, 3678N×2749E, h33^{km}±27^{km}, MD3.2/3*
*NEIC **08** 10:11:03.0, 3678N×2749E, h33^{km}, MD3.2(ATH), After ATH.*
*DDA **08** 10:11:03.5, 3687N×2756E, h7^{km}±5^{km}, Md3.2*
ISC 08 10:11:02.8±0.7, **3680N**±004×**2754E**±005, **h16**^{km}±5^{km}, **n15**, σ**0^{s}72**/26, **2D, Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
BDRM	**Kayabasi**	**0.27**	**344**	iP	**Pg**	**10 11 08.5**	**-0.3**
BDRM				iS	**Sg**	**10 11 12.6**	**-0.2**
BODT	**Bodrum**	**0.32**	**325**	PG	**Pg**	**10 11 09.5**	**0.0**
BODT				SG	**Sg**	**10 11 14.1**	**+0.1**
MLSB	**Milas**	**0.53**	**21**	ePG	**Pg**	**10 11 12.7**	**-0.6**
YER	**Yerkesik**	**0.68**	**61**	ePG	**Pg**	**10 11 16.3**	**+0.1**
ARG	**Arkhangelos**	**0.75**	**141**	ePn	**Pn**	**10 11 18.5**	**-0.3**
ARG				eSn	**Sn**	**10 11 29.3**	**-0.5**
ARG	**Arkhangelos**	**0.75**	**141**	ePN	**Pn**	**10 11 18.5**	**-0.3**
ARG				eSN	**Sn**	**10 11 29.3**	**-0.5**
AYDN	**Tasoluk**	**0.90**	**18**	iP	**Pb**	**10 11 19.7**	**-0.3**
AYDN				iS	**Sb**	**10 11 30.6**	**-1.1**
SMG	**Samos**	**1.06**	**328**	ePn	**Pn**	**10 11 23.1**	**+0.1**
SMG				eSn	**Sn**	**10 11 37.3**	**-0.2**
SMG	**Samos**	**1.06**	**328**	ePN	**Pn**	**10 11 23.1**	**+0.1**
SMG				eSN	**Sn**	**10 11 37.3**	**-0.2**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KARP	Karpathos	1.29	194	⇓Pn	Pn	10 11 26.8	+0.7
KARP				eSn	Sn	10 11 42.7	-0.3
KARP	Karpathos	1.29	194	⇓PN	Pn	10 11 26.8	+0.7
KARP				eSN	Sn	10 11 42.7	-0.3
GOLH	Golhisar	1.68	74	i P	Pg	10 11 35.3	+0.3
GOLH				i S	Sg	10 11 58.1	+1.3
URLA	Izmir	1.73	335	i P	Pn	10 11 34.5	+2.3
AKAS	Kas	1.76	108	i P	Pg	10 11 35.7	-0.9
AKAS				i S	Sg	10 12 03.9	+4.4
MANT	Manisa	1.87	25	i P	Pn	10 11 34.6	+0.5

*ISCJB **08** 10:12:28.6±1.9, 202S±03×1780W±02, h496km±18km, mb3.8/11, Error ellipse: s-maj=52.6km s-min=15.7km az=147.1*

*IDC **08** 10:12:29.2±2.3, 2031S×17786W, h501km±23km, mb3.4/11, mb1 3.5/12, mb1mx3.4/18, mbtmp3.4/12, Error ellipse: s-maj=43.4km s-min=13.1km az=147.0*

ISC 08 10:12:29.1±1.8**, 202S**±03×**1779W**±02**, h490**km±18km**, n13,** σ**0**s**90**/13**, mb3.8**/11**, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	Afiamalu	8.58	44	P	P	10 14 33.8	+2.3
	0.6nm,0.3s,baz=28,slow=20,SNR=2.3						
AFI				S	S	10 16 10.4	-1.5
	2.1nm,0.3s,baz=164,slow=20,SNR=4.3						
STKA	Stephens Creek	37.98	244	P	P	10 19 03.8	-0.5
	0.9nm,0.3s,mb3.7,baz=116,slow=12,SNR=3.0						
ASAR	Alice Springs	44.65	256	P	P	10 19 57.1	-0.3
	2.7nm,0.6s,mb3.9,baz=95,slow=7.5,SNR=46						
ASAR				PcP	PcP	10 21 28.4	-1.5
	0.6nm,0.5s,baz=100,slow=4.0,SNR=7.0						
WRA	Warramunga Arr	44.70	262	P	P	10 19 57.3	-0.7
	0.9nm,0.3s,mb3.7,baz=96,slow=7.6,SNR=76						
MJAR	Matsushiro Arr	70.00	324	P	P	10 22 50.4	-0.3
	1.3nm,0.5s,mb3.8,baz=157,slow=6.2,SNR=5.4						
PETK	Petropavlovsk-	75.99	345	P	P	10 23 24.9	+0.1
	1.6nm,0.8s,mb3.6,baz=219,slow=6.9,SNR=4.3						
YBH	Yreka Blue Hor	80.01	39	P	P	10 23 46.8	0.0
	1.0nm,0.7s,mb3.5,baz=125,slow=20,SNR=4.6						
KDAK	Kodiak Island	80.50	13	P	P	10 23 48.7	-0.3
	19nm,1.1s,mb4.5,baz=350,slow=5.9,SNR=3.2						
TXAR	Lajitas Array	86.84	57	P	P	10 24 21.5	+0.3
	0.4nm,0.6s,mb3.3,baz=216,slow=8.3,SNR=4.8						
PDAR	Pinedale Array	88.69	43	P	P	10 24 28.9	-0.7
	0.4nm,0.6s,mb3.4,baz=186,slow=3.0,SNR=4.2						
CMAR	Chiang Mai Arr	90.07	290	P	P	10 24 37.0	+0.4
	1.3nm,0.7s,mb3.8,baz=123,slow=2.9,SNR=6.9						
SONM	Songino Array	95.56	319	P	P	10 25 02.7	+1.7
	0.7nm,0.3s,mb4.3,baz=116,slow=8.5,SNR=6.1						
GERES	GERESS Array B	149.92	345	PKPbc	PKPbc	10 31 20.4	-3.0
	0.3nm,0.5s,baz=249,slow=3.7,SNR=4.4						

*IDC **08** 10:22:05.2±2.5, 5449N×8643E, h0km, mb1 3.5/3, mb1mx3.3/25, mbtmp3.5/3, ML3.4/3, Error ellipse: s-maj=20.4km s-min=3.5km az=61.0*

*NNC **08** 10:22:08.8±3.8, 5399N×8637E, h0km, mb3.6, mpv3.1, Error ellipse: s-maj=31.8km s-min=27.0km az=131.0*

ISC 08 10:22:09.3±2.2**, 545N**±01×**866E**±02**, h35**km**, n7,** σ**1**s**20**/12**, 4C-4D, Southwestern Siberia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZALV	Zalesovo Beam	1.14	244	Pg	Pn	10 22 24.4	-4.3
	8.6nm,0.3s,baz=58,slow=17,SNR=55						
ZALV				Lg		10 22 42.2	
	6.7nm,0.3s,baz=58,slow=28,SNR=25						
KURK	Kurchatov	6.11	236	⇓Pn	Pn	10 23 36.0	-1.0
	1.3nm,0.4s						
KURK				⇓Sn	Sn	10 24 44.0	-1.6
	3.4nm,0.9s						
KURK				⇑Lg		10 25 13.1	
	5.3nm,0.6s						
KURK	Kurchatov	6.11	236	Pn	Pn	10 23 37.4	+0.4
	0.7nm,0.3s,baz=51,slow=14,SNR=85						
KURK				Sn	Sn	10 24 47.8	+2.2
	0.1nm,0.3s,baz=47,slow=20,SNR=3.8						
KURK				Lg		10 25 22.1	
	0.0nm,0.3s,baz=46,slow=34,SNR=4.5						
KURBB	Kurchatov Arra	6.22	235	⇑Pn	Pn	10 23 37.5	-0.9
	0.6nm,0.3s,baz=54,slow=15						
KURBB				⇓Sn	Sn	10 24 46.3	-1.9
	1.2nm,0.6s,baz=275,slow=22						
KURBB				⇑Lg		10 25 15.0	
	3.0nm,0.9s,baz=55,slow=20						
MKAR	Makanchi Array	8.13	201	Pn	Pn	10 24 04.4	-0.3
	0.4nm,0.3s,baz=22,slow=12,SNR=5.2						
MKAR				Sn	Sn	10 25 36.9	+1.7
	0.2nm,0.3s,baz=22,slow=27,SNR=7.1						
MKAR				Lg		10 26 21.8	
	0.2nm,0.3s,baz=30,slow=29,SNR=4.6						
VOSK	Vostochnaya	9.43	266	⇑Pn	Pn	10 24 23.1	+0.7
	0.7nm,0.3s						
VOSK				⇓Sn	Sn	10 26 08.2	+1.2
	3.1nm,0.7s						
BVAR	Borovoye Array	9.69	268	Pn	Pn	10 24 25.9	-0.1
	0.2nm,0.3s,baz=73,slow=15,SNR=4.1						

*NNC **08** 10:35:30.7±8.2, 3726N×7107E, h216km±107km, mb2.4, mpv3.7, Error ellipse: s-maj=97.3km s-min=47.4km az=32.0*

ISC 08 10:35:22.6±2.7**, 366N**±01×**712E**±04**, h200**km**, n12,** σ**0**s**32**/17**, 4C-1D, Afghanistan-Tajikistan border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THN	Thein Dam	5.53	137	eP	Pn	10 36 43.7	-0.2
THN				eS	Sn	10 37 39.1	-8.9
AML	Almayashu	5.88	18	P	Pn	10 36 47.9	-0.3
	SNR=56						
UCH	Uchtor	6.21	23	P	Pn	10 36 52.3	-0.1
	SNR=6.7						
EKS2	Erkin-Say	6.40	17	P	Pn	10 36 55.0	0.0
	SNR=6.8						
KK31	Karatay Array	6.56	355	⇑P	Pn	10 36 56.9	-0.1
	1.8nm,0.2s,baz=179,slow=13,SNR=49						
KK31				⇑S	Sn	10 38 04.9	-7.0
	6.9nm,0.5s,baz=176,slow=22						
AAK	Ala-Archa	6.57	22	P	Pn	10 36 57.0	-0.1
	SNR=6.0						
TKM2	Tokmak 2	7.19	27	⇑P	Pn	10 37 05.4	+0.2
	3.6nm,0.6s						
TKM2	Tokmak 2	7.19	27	P	Pn	10 37 05.5	+0.3
	SNR=5.2						
SMLA	Simla	7.33	136	i P	Pn	10 37 07.1	0.0
SMLA				i S	Sn	10 38 20.6	-9.5
SMLA				i S	Sn	10 38 20.7	-9.4
SMLA				ex	x	10 38 24.1	
	comp=E,486nm,0.3s						
SMLA				ex	x	10 38 25.4	
	comp=N,304nm,0.3s						
KUDL	Kundal	9.49	151	eS	Sn	10 39 12.6	-9.0
KUDL				AML	AML	10 39 17.5	
	comp=N,8.4nm,0.5s						
SONA	Sohna	9.64	148	eS	Sn	10 39 14.9	-10
SONA				AML	AML	10 39 24.8	
	comp=N,15nm,0.6s						
SONA				AML	AML	10 39 26.8	
	comp=E,19nm,0.4s						
AB31	Akbulak array	15.13	331	⇑P	Pn	10 38 47.0	+0.8
	comp=E,0.1nm,0.2s,baz=168,slow=9.9,SNR=15						
AB31				⇓S	S	10 41 24.8	-9.0
	comp=E,1.8nm,0.5s						

*IDC **08** 10:39:07.7±1.8, 1435N×9157W, h37km±14km, mb4.1/15, mb1 4.3/17, mb1mx4.1/28, mbtmp4.1/17, ML3.6/2, MS3.5/16, Ms1 3.5/16, ms1mx3.4/34, Error ellipse: s-maj=27.2km s-min=10.3km az=56.0*

*ISCJB **08** 10:39:10.3±0.3, 1426N±004×9188W±003, h74km±3km, mb4.4/35, Error ellipse: s-maj=6.9km s-min=2.8km az=35.8*

*MEX **08** 10:39:10.7±0.8, 1403N×9199W, h28km±13km, MD4.8*

*NEIC **08** 10:39:11.6±0.7, 1433N×9171W, h70km±7km, mb4.6/27, MD4.8(MEX), Error ellipse: s-maj=9.3km s-min=5.6km az=218.0*

*CASC **08** 10:39:12.5±1.9, 14.17N×9179W, h53km±20km, MD4.4, ML3.7, mb4.6(NEIC)*

ISC 08 10:39:12.2±0.3**, 1432N**±004×**9183W**±003**, h72**km±3km**, n165,** σ**1**s**24**/152**, mb4.4**/35**, 13C-4D, Guatemala**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAT	Jato	0.18	89	⇑iP	Pn	10 39 21.6	-1.3
THIG		0.73	324	i P	Pn	10 39 24.7	-2.9
THIG				i S	Sn	10 39 36.4	-2.5
FG6		0.95	75	⇑iP	Pn	10 39 30.2	+0.1
FUG	Fuego 3	0.96	82	⇑iP	Pn	10 39 29.7	-0.6
PCG	Pacaya	1.18	86	⇑eP	Pn	10 39 33.2	+0.1
PCG				eS	Sn	10 39 49.7	+0.9
GCG	Guatemala City	1.28	78	eP	Pn	10 39 34.6	+0.3
GCG				eS	Sn	10 39 53.4	+2.4
NBG	Las Nubes	1.46	79	⇑iP	Pn	10 39 38.2	+1.5
CCIG	Comitan	1.98	351	i P	Pn	10 39 44.9	+1.2
CCIG				i S	Sn	10 40 10.4	+2.8
RBDL	Robledal	2.08	95	⇑eP	x	10 39 44.5	
RTR	El Retiro	2.16	101	⇑eP	x	10 39 45.7	
SBLS	San Blas	2.19	102	eP	x	10 39 46.0	
SNJE	San Jose	2.20	101	eP	x	10 39 46.2	
MTO2	Montecristo 2	2.39	88	⇑eP	x	10 39 48.5	
BOQS	Boqueron	2.54	103	⇑eP	x	10 39 50.8	
SNET	Serv Nac Est T	2.59	104	⇓eP	x	10 39 51.2	
SNET				eS	x	10 40 21.7	
TGIG		2.75	333	eP	Pn	10 39 54.1	+0.1
TGIG				i S	Sn	10 40 28.0	+1.8
LBRS	Las Brisas	2.76	102	⇓eP	x	10 39 53.8	
LFRS	El Faro	2.77	104	eP	x	10 39 53.7	
SNVI	San Vicente	2.98	103	⇑eP	x	10 39 56.9	
CAHU	Cacacuatique	3.55	98	eP	x	10 40 04.4	
VSM	San Miguel	3.56	104	⇓eP	x	10 40 05.4	
BLLM	Bellamira	3.59	104	eP	x	10 40 05.3	
CNCH	Conchagua	4.01	104	eP	x	10 40 10.9	
CNCH				eS	x	10 40 58.2	
HUIG	Huatulco	4.38	290	i S	Sn	10 41 01.8	-4.3
TGUH	Tegucigalpa,Un	4.42	93	⇑eP	Pn	10 40 15.9	-1.0
TGUH	Tegucigalpa,Un	4.42	93	ePn	Pn	10 40 16.1	-0.8
TUIG	Tuzandepetl	4.46	326	i P	Pn	10 40 17.2	-0.2
TUIG				i S	Sn	10 41 07.5	-0.5
TUIG	Tuzandepetl	4.46	326	i P	Pn	10 40 16.2	-1.2
TUIG				i S	Sn	10 41 12.7	+4.6
SCIG	Sabancuy	4.67	7	⇑iP	Pn	10 40 19.9	-0.3
SCIG				i S	Sn	10 41 16.1	+3.0
TEL3	Telica 3	5.15	109	eP	Pn	10 40 26.7	-0.1
TEL3				AML	AML	10 41 43.3	
	comp=Z,390nm,0.7s						
CNGN	Cerro Negro	5.30	109	eP	Pn	10 40 28.6	-0.3
CNGN				AML	AML	10 41 50.9	
	comp=Z,251nm,0.7s						
MIRN	Miramar	5.32	110	eP	Pn	10 40 28.9	-0.1
VHO	Vista Hermosa	5.46	301	i P	Pn	10 40 29.6	-1.5
VHO				i S	Sn	10 41 31.1	-1.6
VHO	Vista Hermosa	5.46	301	i P	Pn	10 40 30.6	-0.5
VHO				i S	Sn	10 41 32.0	-0.6
MOMN	Momotombo	5.48	110	eP	Pn	10 40 32.3	+0.9
MOMN				AML	AML	10 41 51.8	
	comp=Z,18nm,0.5s						
COPN	Copaltepe	5.52	112	eP	Pn	10 40 31.9	0.0
COPN				AML	AML	10 41 47.8	
	comp=Z,510nm,0.6s						
CSAN		5.67	111	eP	Pn	10 40 33.7	-0.3
APYN	Apoyeque	5.72	111	eP	Pn	10 40 34.7	+0.1
XAVN	Gruta Xavier	5.77	111	eP	Pn	10 40 35.3	0.0
TISN	Laguna Tiscapa	5.83	111	eP	Pn	10 40 35.4	-0.7
TISN				eS	Sn	10 41 38.3	-3.2
HUEN		5.84	109	eP	Pn	10 40 35.8	-0.6
CRUN	El Crucero	5.86	113	⇑eP	Pn	10 40 37.5	+1.0
WILN	Americas 2	5.89	111	eP	Pn	10 40 37.7	+0.7
TICN	Ticuantepe	5.90	112	eP	Pn	10 40 37.4	+0.3
APON	Apoyo	6.10	112	eP	Pn	10 40 40.9	+1.1
APON				AML	AML	10 42 01.3	
	comp=Z,60nm,0.5s						
PNIG	Pinotepa	6.42	290	eP	Pn	10 40 41.8	-2.4
PNIG				i S	Sn	10 41 52.7	-3.4
PNIG	Pinotepa	6.42	290	eP	Pn	10 40 41.8	-2.4
PNIG				i S	Sn	10 41 54.7	-1.4
CONN	Concepcion	6.63	114	eP	Pn	10 40 47.9	+0.8
CONN				eS	Sn	10 42 00.2	-1.1
CONN				AML	AML	10 42 27.2	
	comp=Z,31nm,0.7s						
TPIG	Tehuac#an	6.70	308	eP	Pn	10 40 46.7	-1.3
TPIG				i S	Sn	10 42 02.7	-0.2
TEIG	Tepich	6.79	29	Pn	Pn	10 40 48.5	-0.7
	comp=Z,42nm,0.3s,baz=219,slow=3.5,SNR=68						
TEIG				Sn	Sn	10 41 58.9	-6.1
	baz=62,slow=23,SNR=1.4						
TEIG	Tepich	6.79	29	ePn	Pn	10 40 48.8	-0.3
VCR	Vista de Mar	7.35	124	eP	Pn	10 40 59.1	+2.2
JTS	JuntasAbangare	7.82	120	Pn	Pn	10 41 01.9	-1.4
	comp=Z,1.4nm,0.3s,baz=173,slow=18,SNR=15						
JTS				Sn	Sn	10 42 22.1	-8.2
	baz=322,slow=14,SNR=1.1						
JTS				LR	LR	10 43 13.6	
	comp=Z,61nm,19.6s,baz=114,slow=32						
JTS	JuntasAbangare	7.82	120	ePn	Pn	10 41 04.3	+1.0
JTS				eSn	Sn	10 42 34.3	+3.9
JCR	Jicaral	7.92	123	eP	Pn	10 41 05.3	+0.6
PRS1	Puriscal	8.52	120	eP	Pn	10 41 14.5	+1.6
CAIG	El Cayaco	8.57	290	eP	Pn	10 41 12.1	-1.5
CAIG				i S	Sn	10 42 49.8	+1.0
BUS	Buena Vista	9.20	120	eP	Pn	10 41 23.3	+1.1
BAR1		9.74	120	eP	Pn	10 41 30.4	+0.8
ZIIG	Zihuatanejo	9.83	291	i P	Pn	10 41 29.0	-1.8
ZIIG				i S	Sn	10 43 19.7	+0.2
ZIIG	Zihuatanejo	9.83	291	i P	Pn	10 41 26.0	-4.8
ACR	Cerro Adams	10.18	123	eP	Pn	10 41 37.8	+2.2
ACR				eS	Sn	10 43 27.5	-0.6
NATX	Nacogdoches	17.56	352	eP	Pn	10 43 10.7	-1.4
	comp=Z,26nm,0.7s						
JCT	Junction City	17.68	337	eP	Pn	10 43 14.4	+0.6
JCT				eSn	Sn	10 46 32.1	+1.8
TXAR	Lajitas Array	18.53	326	P	Pn	10 43 24.2	+0.2
	comp=Z,0.2nm,0.3s,baz=156,slow=12,SNR=61						
TXAR				ScP	ScP	10 51 24.8	+5.2
	comp=Z,0.1nm,0.3s,baz=145,slow=5.5,SNR=10						
TXAR				LR	LR	10 52 10.1	
	comp=Z,52nm,18.9s,baz=5.0,slow=42						
LRAL	Lakeview Retre	19.15	12	eP	Pn	10 43 29.5	-1.8
ROSC	El Rosal	19.63	117	P	Pn	10 43 30.8	-6.4
	comp=Z,0.9nm,0.3s,baz=91,slow=24,SNR=1.9						
ROSC	El Rosal	19.63	117	eP	Pn	10 43 34.7	-2.5
LPIG	La Paz	19.96	302	LR	LR	10 52 02.6	
	comp=Z,78nm,18.5s,baz=113,slow=38						
MIAR	Mount Ida	20.20	356	eP	P	10 43 41.1	-0.1
	comp=Z,20nm,0.9s						
OXF	Oxford	20.23	6	eP	P	10 43 39.3	-2.1
UALR	University of	20.38	359	eP	P	10 43 43.0	-0.1
	comp=Z,20nm,0.6s						
GOGA	Godfrey	20.47	20	eP	P	10 43 42.9	-1.2
	comp=Z,22nm,0.9s						
GDL2	Guadalupe Moun	21.17	329	eP	P	10 43 52.6	+1.0
SDV	Santo Domingo	21.44	102	P	P	10 43 51.5	-3.2
	comp=Z,4.2nm,0.3s,mb4.2,baz=201,slow=21,SNR=2.9						
SDV				LR	LR	10 52 57.2	
	comp=Z,85nm,19.2s,baz=76,slow=39						
SDV	Santo Domingo	21.44	102	eP	P	10 43 54.1	-0.6
	comp=Z,16nm,0.7s,mb4.5						
SWET	Sewanee	21.48	13	eP	P	10 43 53.1	-1.9
WVT	Waverly	22.02	9	eP	P	10 43 59.0	-1.7
	comp=Z,14nm,0.9s,mb4.3						
JSC	Jenkinsville	22.06	24	eP	P	10 43 58.1	-3.0
AMTX	Amarillo	22.33	338	eP	P	10 44 02.9	-1.0
	comp=Z,19nm,0.6s,mb4.6						
TKL	Tuckaleechee C	22.45	17	P	P	10 44 04.2	-1.0
	comp=Z,3.7nm,0.6s,mb3.9,baz=188,slow=11,SNR=7.6						
TKL				LR	LR	10 53 46.5	
	comp=Z,306nm,19.5s,baz=242,slow=39						
TKL	Tuckaleechee C	22.45	17	eP	P	10 44 03.1	-2.1
TZTN	Tazewell	23.34	17	eP	P	10 44 12.9	-1.3
	comp=Z,19nm,0.8s,mb4.5						
SIUC	Southern Illin	23.42	5	eP	P	10 44 13.4	-1.6
	comp=Z,32nm,0.9s,mb4.7						
SIUC				epP		10 44 30.4	
CCM	Cathedral Cave	23.65	1	eP	P	10 44 14.5	-2.5
	comp=Z,46nm,1.7s,mb4.5						
USIN	University of	23.84	8	eP	P	10 44 16.8	-2.0
	comp=Z,44nm,1.0s,mb4.8						
BNM	Barren Site	23.86	328	eP	P	10 44 20.1	+1.1
LPM	Los Pinos Moun	23.99	329	eP	P	10 44 21.1	+0.9
LENM	Lemitar	24.05	328	eP	P	10 44 22.3	+1.5
WCI	Wyandotte Cave	24.32	11	eP	P	10 44 21.4	-1.7
	comp=Z,29nm,0.8s,mb4.7						
LAZ	Ladron	24.32	328	eP	P	10 44 24.4	+1.2
ANMO	Albuquerque	24.42	330	P	P	10 44 24.6	+0.6
	comp=Z,5.7nm,0.7s,mb4.0,baz=146,slow=11,SNR=31						
ANMO				ScP	ScP	10 51 37.5	+3.4
	comp=Z,0.4nm,0.5s,baz=187,slow=7.1,SNR=4.8						
ANMO	Albuquerque	24.42	330	eP	P	10 44 25.0	+1.0
	comp=Z,5.1nm,0.6s,mb4.0						
TUC	Tucson	24.91	319	eP	P	10 44 29.3	+0.8
ATAH	Atahualpa	25.02	147	P	P	10 44 30.5	+0.8
	comp=Z,11nm,0.7s,mb4.4,baz=5.1,slow=5.0,SNR=8.2						
WUAZ	Wupatki	27.46	324	eP	P	10 44 53.1	+1.6
	comp=Z,4.9nm,0.8s,mb4.1						
PV01	Paradox Valley	27.98	331	eP	P	10 44 58.1	+1.9
PV10	Paradox Valley	28.40	331	eP	P	10 45 00.2	+0.3
PHWY	Pilot Hill	29.39	339	ePcP	PcP	10 48 09.2	-4.0
PFO	Pinyon Flat Ob	29.46	315	P	P	10 45 08.8	-0.6
	comp=Z,2.7nm,0.8s,mb3.9,baz=138,slow=4.9,SNR=5.6						
PFO	Pinyon Flat Ob	29.46	315	P	P	10 45 08.8	-0.6
MSU	Marysvale	30.08	327	eP	P	10 45 16.4	+1.7
TMUT	Trail Mountain	30.17	329	eP	P	10 45 16.1	+0.5
ARUT	Antelope Range	30.24	325	eP	P	10 45 17.5	+1.3
SHPR	Sheep Range	30.38	321	eP	P	10 45 18.6	+1.2
DAU	Daniels Canyon	31.06	331	eP	P	10 45 23.9	+0.5
JLU	Jordanelle	31.30	331	eP	P	10 45 26.4	+0.9
TPNV	Topopah Spring	31.34	320	eP	P	10 45 28.0	+2.1
	comp=Z,36nm,2.0s,mb4.8						
HWUT	Hardware Ranch	32.14	332	eP	P	10 45 33.0	+0.2
PDAR	Pinedale Array	32.21	335	P	P	10 45 32.6	-0.8
	comp=Z,0.6nm,0.5s,mb3.5,baz=130,slow=9.2,SNR=6.2						
PDAR				PcP	PcP	10 48 19.8	-0.8
	comp=Z,0.7nm,0.5s,baz=143,slow=5.3,SNR=6.9						
PDAR				ScP	ScP	10 52 01.4	+3.3
	comp=Z,0.3nm,0.8s,baz=123,slow=5.5,SNR=3.9						
SADO	Sadowa	32.21	17	P	P	10 45 30.5	-3.0
	baz=247,slow=8.3						
REDW	Red Top Meadow	33.23	334	eP	P	10 45 42.6	+0.3
	comp=Z,11nm,1.1s,mb4.6						
SNOW	Snow King Moun	33.27	334	eP	P	10 45 43.1	+0.3
	comp=Z,9.5nm,0.5s,mb4.9						
ELK	Elko	33.32	327	P	P	10 45 44.1	+0.9
	comp=Z,3.3nm,0.7s,mb4.3,baz=128,slow=7.3,SNR=20						
ELK				PcP	PcP	10 48 24.0	+0.2
	comp=Z,1.2nm,0.6s,baz=91,slow=5.9,SNR=5.4						
ELK				ScP	ScP	10 52 05.7	+3.7
	comp=Z,1.6nm,0.8s,baz=191,slow=5.5,SNR=5.3						
ELK				LR	LR	11 01 55.5	
	comp=Z,72nm,18.3s,baz=1.3,slow=41						
ELK	Elko	33.32	327	P	P	10 45 44.1	+0.9
ELK				PcP	PcP	10 48 24.0	+0.2
ELK				ScP	ScP	10 52 05.7	+3.7
ELK				LR	LR	11 01 55.5	
LOHW	Long Hollow	33.34	335	eP	P	10 45 43.5	+0.3
	comp=Z,31nm,2.2s,mb4.7						
TPAW	Teton Pass	33.38	334	eP	P	10 45 44.0	+0.4
	comp=Z,3.7nm,0.8s,mb4.3						
TPAW				ePcP	PcP	10 48 24.4	+0.5
MOOW	Moose Ponds	33.51	335	eP	P	10 45 44.9	+0.1
MOOW				ePcP	PcP	10 48 24.3	+0.1
NVAR	Mina Array Bea	33.53	321	P	P	10 45 47.1	+2.0
	comp=Z,9.2nm,0.8s,mb4.7,baz=134,slow=8.4,SNR=61						
NVAR				PcP	PcP	10 48 24.8	+0.4
	comp=Z,1.7nm,0.7s,baz=140,slow=3.6,SNR=5.2						
NVAR				ScP	ScP	10 52 06.9	+4.1
	comp=Z,0.9nm,0.8s,baz=138,slow=4.7,SNR=4.3						
IMW	Indian Meadow	33.71	335	eP	P	10 45 46.2	-0.3
	comp=Z,24nm,2.1s,mb4.7						
IMW				ePcP	PcP	10 48 25.4	+0.6
WAKR	Walker	34.28	320	eP	P	10 45 53.8	+2.2
HLID	Hailey	34.98	331	eP	P	10 45 58.5	+0.9
	comp=Z,4.6nm,0.9s,mb4.3						
MCMT	McKenzie Canyo	35.27	334	P	P	10 46 01.0	+1.1
ULM	Lac du Bonnet	35.99	356	LR	LR	11 02 02.8	
	comp=Z,95nm,18.9s,baz=261,slow=38						
MOD	Modoc	36.91	324	eP	P	10 46 14.3	+0.3
MSO	Missoula	37.32	335	eP	P	10 46 17.5	+0.1
	comp=Z,12nm,1.7s,mb4.5						
BMO	Blue Mountains	37.33	330	eP	P	10 46 17.4	-0.2
LASM	Arnica Sink	37.47	322	P	P	10 46 19.8	+1.0
YBH	Yreka Blue Hor	38.22	322	LR	LR	11 04 06.2	
	comp=Z,101nm,19.6s,baz=144,slow=39						
KHMM	Horse Mountain	38.35	320	eP	P	10 46 27.9	+1.7
LPAZ	La Paz	38.37	142	P	P	10 46 25.9	-0.7
	comp=Z,2.3nm,0.7s,mb4.1,baz=316,slow=9.6,SNR=13						
LPAZ	La Paz	38.37	142	P	P	10 46 25.9	-0.7
OD2	Odessa Site #2	39.85	331	P	P	10 46 38.7	0.0
EBG	Ellensburg	40.40	329	P	P	10 46 44.0	+0.8
LON	Longmire	40.91	328	eP	P	10 46 47.9	+0.5
	comp=Z,4.6nm,0.7s,mb4.4						
EDM	Edmonton	42.39	341	eP	P	10 46 57.8	-1.7
LVC	Limon Verde	43.02	148	P	P	10 47 04.0	-0.9
	comp=Z,2.6nm,0.8s,mb4.0,baz=304,slow=6.9,SNR=3.1						
YKA	Yellowknife Ar	50.76	347	P	P	10 48 02.7	-1.9
	comp=Z,2.3nm,0.6s,mb4.4,baz=150,slow=7.2,SNR=5.3						
YKA				LR	LR	11 09 28.0	
	comp=Z,22nm,20.9s,baz=110,slow=36						
YKA	Yellowknife Ar	50.76	347	P	P	10 48 02.7	-1.9
YKA				LR	LR	11 09 28.0	
DLBC	Dease Lake	52.44	336	eP	P	10 48 18.8	+1.5
CPUP	Villa Florida	52.51	140	P	P	10 48 15.4	-2.8
	comp=Z,3.4nm,0.8s,mb4.4,baz=313,slow=9.2,SNR=7.2						
CPUP				LR	LR	11 08 42.2	
	comp=Z,44nm,21.8s,baz=106,slow=34						
CPUP	Villa Florida	52.51	140	eP	P	10 48 15.3	-3.0
	comp=Z,24nm,1.4s,mb5.0						
BDFB	Brasilia	52.55	123	ePcP	PcP	10 49 31.8	+3.6
PLCA	Paso Flores	58.22	161	P	P	10 48 57.9	-1.1
	comp=Z,4.6nm,1.1s,mb4.4,baz=2.0,slow=5.9,SNR=5.0						
PLCA				LR	LR	11 07 42.9	
	comp=Z,92nm,19.8s,baz=1.4,slow=30						
KDAK	Kodiak Island	62.54	328	P	P	10 49 27.1	-1.2
	comp=Z,4.7nm,0.6s,mb4.6,baz=216,slow=13,SNR=6.7						
TRF	Thorofare Moun	63.43	335	eP	P	10 49 33.6	-0.5
	comp=Z,5.1nm,0.6s,mb4.6						
BPAW	Bear Paw Mtn.	63.96	335	eP	P	10 49 36.7	-0.9
	comp=Z,8.4nm,0.9s,mb4.6						
COLD	Coldfoot	64.90	339	eP	P	10 49 43.3	-0.3
	comp=Z,1.5nm,0.7s,mb3.9						
NOA	NORSAR Array B	83.79	28	LR	LR	11 30 26.7	
	comp=Z,29nm,18.6s,baz=285,slow=37						
DBIC	Dimbokro	85.45	84	LR	LR	11 23 39.1	
	comp=Z,52nm,21.7s,baz=321,slow=31						
ARCES	ARCESS Array B	85.79	18	LR	LR	11 29 23.7	
	comp=Z,91nm,18.4s,baz=276,slow=35						
GERES	GERESS Array B	89.25	40	LR	LR	11 36 46.7	
	comp=Z,30nm,18.4s,baz=292,slow=39						
TORD	Torodi Ar. Bea	90.14	76	P	P	10 52 02.1	-3.1
	comp=Z,0.3nm,0.5s,mb3.7,baz=288,slow=5.3,SNR=5.5						
TORD				LR	LR	11 25 58.5	
	comp=Z,54nm,20.2s,baz=110,slow=31						
KURK	Kurchatov	114.71	7	PKiKP	PKiKP	10 57 43.4	-1.0
	comp=Z,0.6nm,0.5s,baz=350,slow=2.1,SNR=4.0						
MKAR	Makanchi Array	118.95	5	PKP	PKPdf	10 57 50.9	-1.8
	comp=Z,1.0nm,0.7s,baz=3.8,slow=1.8,SNR=6.5						
BOSA	Boshof	120.33	115	PKP	PKPdf	10 57 55.7	-0.1
	comp=Z,6.0nm,0.8s,baz=254,slow=2.4,SNR=5.3						
UCH	Uchtor	122.35	12	ePKPdf	PKPdf	10 57 59.8	+0.4
MAW	Mawson	124.25	169	PKP	PKPdf	10 58 00.6	-1.6
	comp=Z,1.7nm,0.6s,baz=203,slow=4.5,SNR=9.2						
STKA	Stephens Creek	128.36	241	PKP	PKPdf	10 58 10.0	-1.1
	comp=Z,2.0nm,0.9s,baz=17,slow=7.4,SNR=4.3						
WRA	Warramunga Arr	135.63	256	PKhKP		10 58 16.6	
	comp=Z,0.3nm,0.8s,baz=79,slow=0.7,SNR=5.0						
WRA				PKP	PKPdf	10 58 22.8	-2.3
	comp=Z,0.6nm,0.8s,baz=62,slow=1.1,SNR=6.6						
ASAR	Alice Springs	135.93	251	PKhKP		10 58 13.6	
	comp=Z,0.6nm,1.1s,baz=124,slow=4.1,SNR=4.6						
ASAR				PKP	PKPdf	10 58 23.6	-2.0
	comp=Z,0.8nm,0.8s,baz=112,slow=2.5,SNR=6.8						
NANT	Nan	144.86	339	P	PKPdf	10 58 37.0	-4.9
CHG	Chiang Mai	145.41	342	⇓P	PKPbc	10 58 41.1	-1.8
	comp=Z,10.0nm,0.7s						
CHTO	Chiang Mai	145.41	342	ePKPbc	PKPbc	10 58 41.5	-1.4
CMAR	Chiang Mai Arr	145.75	342	PKPbc	PKPbc	10 58 43.3	-0.6
	comp=Z,18nm,0.8s,baz=337,slow=3.7,SNR=92						

*NNC **08** 10:58:42.7±2.4, 4007N×72.19E, h0km, mb4.2, mpv4.0, Error ellipse: s-maj=24.0km s-min=14.2km az=3.0*

*IDC **08** 10:58:44.9±0.7, 4033N×7237E, h0km, mb4.2/10, mb1 4.3/15, mb1mx4.1/26, mbtmp4.1/15, ML4.0/5, MS3.4/4, Ms1 3.4/4, ms1mx2.9/37, Error ellipse: s-maj=14.7km s-min=12.6km az=142.0*

*ISCJB **08** 10:58:46.9±1.5, 4021N±002×7227E±006, h29km±12km, mb4.2/18, MS3.4/3, Error ellipse: s-maj=7.3km s-min=3.8km az=174.0*

*MOS **08** 10:58:48.8±1.7, 4043N×7229E, h33km, mb4.5/9, Error ellipse: s-maj=11.8km s-min=7.3km az=77.4*

*BJI **08** 10:58:51.0, 4063N×7259E, h34km, mB4.7, mb4.2, ML4.0, Ms3.7*
*NEIC **08** 10:58:52.1±3.0, 4068N×7232E, h39km±21km, mb4.0/3, Error ellipse: s-maj=33.8km s-min=9.9km az=187.0*
ISC 08 10:58:46.5±1.5**, 4023N**±002×**7226E**±005**, h13**km±10km**, n88, σ1^{s}16**/95**, mb4.2**/18**, MS3.4**/3**, 12C-5D, Kyrgyzstan**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
AML	**Almayashu**	**2.19**	**29**	P	**Pn**	**10 59 22.7**	**+0.2**
	SNR=2521						
UCH	**Uchtor**	**2.62**	**40**	P	**Pn**	**10 59 29.3**	**+0.8**
	SNR=345						
UCH	**Uchtor**	**2.62**	**40**	*e*Pn	**Pn**	**10 59 27.3**	**-1.2**
UCH				*e*Sn	**Sn**	**10 59 60.0**	**-0.2**
EKS2	**Erkin-Say**	**2.68**	**25**	P	**Pn**	**10 59 29.8**	**+0.5**
	SNR=110						
EKS2	**Erkin-Say**	**2.68**	**25**	*e*Pn	**Pn**	**10 59 29.5**	**+0.2**
EKS2				*e*Sn	**Sn**	**10 59 59.8**	**-1.9**
KZA	**Kyzart**	**2.92**	**50**	P	**Pn**	**10 59 33.9**	**+1.4**
	SNR=128						
AAK	**Ala-Archa**	**2.93**	**34**	P	**Pn**	**10 59 33.5**	**+0.8**
	SNR=159						
FRU	**Bishkek**	**3.15**	**33**	*e*PN	**Pn**	**10 59 36.0**	**+0.3**
FRU				*i*		10 59 42.0	
FRU				*i* S	**Sn**	**11 00 14.0**	**+0.9**
FRU				pmax	pmax		
	comp=Z,320nm,1.2s						
FRU				smax			
	comp=E,2μm,1.2s						
KK31	**Karatay Array**	**3.15**	**336**	⇑Pn	**Pn**	**10 59 36.8**	**+0.9**
	comp=E,7.9nm,0.3s,baz=162,slow=16,SNR=1151						
KK31				⇑Lg		11 00 26.4	
	comp=E,293nm,0.3s,baz=168,slow=30						
KK31	**Karatay Array**	**3.15**	**336**	*i* PN	**Pn**	**10 59 36.7**	**+0.9**
KK31						10 59 42.6	
KK31						11 00 19.5	
KK31				pmax	pmax		
	comp=Z,8.0nm,0.7s						
KK31				pmax	pmax		
	comp=Z,198nm,0.3s						
KK31				pmax	pmax		
	comp=N,325nm,0.2s						
KBK	**Karagaybulak**	**3.15**	**39**	P	**Pn**	**10 59 37.3**	**+1.4**
	SNR=84						
CHMS	**Chumysh**	**3.34**	**33**	P	**Pn**	**10 59 39.0**	**+0.7**
	SNR=34						
USP	**Ospenovka**	**3.46**	**28**	P	**Pn**	**10 59 40.2**	**+0.1**
	SNR=22						
TKM2	**Tokmak 2**	**3.67**	**42**	⇑Pn	**Pn**	**10 59 43.8**	**+0.9**
	comp=N,23nm,0.3s						
TKM2				⇑Lg		11 00 44.0	
	comp=N,612nm,0.8s						
TKM2	**Tokmak 2**	**3.67**	**42**	PN	**Pn**	**10 59 43.8**	**+0.8**
TKM2						11 00 34.1	
TKM2				pmax	pmax		
	comp=Z,169nm,0.3s						
TKM2				pmax	pmax		
	comp=N,206nm,0.3s						
TKM2	**Tokmak 2**	**3.67**	**42**	P	**Pn**	**10 59 43.9**	**+0.9**
	SNR=29						
TKM2	**Tokmak 2**	**3.67**	**42**	*e*Pn	**Pn**	**10 59 42.1**	**-0.9**
TKM2				*e*Sn	**Sn**	**11 00 23.8**	**-2.3**
SDNR	**Sundarnagar**	**9.51**	**155**	*e*P	**Pn**	**11 01 09.5**	**+6.3**
SDNR				*e*S	**Sn**	**11 02 49.0**	**-0.9**
MK31	**Makanchi Array**	**9.80**	**45**	Pn	**Pn**	**11 01 06.1**	**-0.9**
	comp=N,5.2nm,0.6s,baz=231,slow=14,SNR=24						
MK31				⇑Lg		11 03 59.5	
	comp=N,10nm,0.5s,baz=218,slow=28						
MK31	**Makanchi Array**	**9.80**	**45**	*i* P	**Pn**	**11 01 06.1**	**-0.9**
MK31				pmax	pmax		
	comp=Z,5.0nm,0.6s						
MK31				pmax	pmax		
	comp=N,17nm,0.8s						
MK31	**Makanchi Array**	**9.80**	**45**	*e*Pn	**Pn**	**11 01 05.8**	**-1.2**
MKAR	**Makanchi Array**	**9.80**	**45**	Pn	**Pn**	**11 01 06.2**	**-0.8**
	comp=N,0.3nm,0.3s,baz=230,slow=13,SNR=25						
MKAR				Lg		11 03 45.0	
	comp=N,1.3nm,0.3s,baz=256,slow=22,SNR=3.6						
SMLA	**Simla**	**9.92**	**155**	*i* P	**Pn**	**11 01 14.7**	**+6.0**
SMLA				*i* S	**Sn**	**11 02 59.1**	**-0.8**
SMLA				*i* S	**Sn**	**11 02 59.4**	**-0.5**
KURBB	**Kurchatov Arra**	**11.28**	**21**	⇑Pn	**Pn**	**11 01 24.1**	**-3.2**
	comp=N,1.1nm,0.6s						
KURBB				⇓Lg		11 04 46.0	
	comp=N,17nm,0.7s						
JOSI	**Joshimath**	**11.34**	**146**	*e*P	**Pn**	**11 01 32.2**	**+4.0**
JOSI				*e*S	**Sn**	**11 03 31.7**	**-3.0**
KURK	**Kurchatov**	**11.39**	**21**	⇑Pn	**Pn**	**11 01 25.4**	**-3.3**
	comp=N,7.5nm,1.0s						
KURK				⇑Lg		11 04 50.8	
	comp=N,60nm,0.9s						
KURK	**Kurchatov**	**11.39**	**21**	Pn	**Pn**	**11 01 24.0**	**-4.8**
	comp=N,0.5nm,0.3s,baz=217,slow=12,SNR=16						
KURK				Lg		11 04 37.9	
	comp=N,0.8nm,0.3s,baz=204,slow=29,SNR=8.0						
KHET	**Khetri**	**12.48**	**165**	*e*S	**Sn**	**11 04 01.5**	**-1.1**
KHET				AML	AML	11 04 07.2	
	comp=E,21nm,0.4s						
KHET				AML	AML	11 04 07.5	
	comp=N,19nm,0.5s						
VOSK	**Vostochnaya**	**12.53**	**356**	⇓Pn	**Pn**	**11 01 41.6**	**-2.7**
	comp=N,2.4nm,0.5s						
VOSK				⇑Lg		11 05 25.0	
	comp=N,58nm,0.9s						
KUDL	**Kundal**	**12.55**	**163**	*e*x	x	11 01 46.5	
KUDL				*e*S	**Sn**	**11 04 04.0**	**-0.4**
KUDL				AML	AML	11 04 09.8	
	comp=N,16nm,0.5s						
AB31	**Akbulak array**	**12.56**	**320**	Pn	**Pn**	**11 01 42.9**	**-1.8**
	comp=N,3.0nm,0.4s,baz=127,slow=13,SNR=94						
AB31	**Akbulak array**	**12.56**	**320**	*e*P	**Pn**	**11 01 42.9**	**-1.8**
AB31				pmax	pmax		
	comp=Z,3.0nm,0.2s						
SONA	**Sohna**	**12.60**	**160**	*e*P	**Pn**	**11 01 51.0**	**+5.5**
SONA				*e*S	**Sn**	**11 04 01.5**	**-4.0**
SONA				AML	AML	11 04 18.9	
	comp=N,20nm,0.4s						
SONA				AML	AML	11 04 18.9	
	comp=E,29nm,0.4s						
BVA0	**Borovoye Array**	**12.86**	**355**	Pn	**Pn**	**11 01 48.8**	**0.0**
	comp=E,0.9nm,0.6s,baz=168,slow=15,SNR=3.9						
BVA0				⇓Lg		11 05 37.6	
	comp=E,3.3nm,0.8s,baz=234,slow=22,SNR=3.3						
BVAR	**Borovoye Array**	**12.86**	**355**	Pn	**Pn**	**11 01 45.9**	**-3.0**
	comp=E,0.6nm,0.3s,baz=161,slow=14,SNR=3.7						
BVAR				Sn	**Sn**	**11 04 12.0**	**+0.2**
	comp=E,0.8nm,0.3s,baz=181,slow=24,SNR=2.8						
BVAR				Lg		11 05 30.3	
	comp=E,1.6nm,0.3s,baz=155,slow=28,SNR=5.7						
BVAR				LR	LR	11 06 56.1	
	comp=E,133nm,21.1s,baz=41,slow=38						
BVAR	**Borovoye Array**	**12.86**	**355**	P	**Pn**	**11 01 45.9**	**-3.0**
BVAR						11 04 12.0	
AKTK	**Aktyubinsk**	**14.27**	**320**	Pn	**Pn**	**11 02 06.4**	**-1.8**
AKTO	**Aktyubinsk**	**14.27**	**320**	⇑Pn	**Pn**	**11 02 06.8**	**-1.3**
	comp=E,1.2nm,0.6s						
AKTO	**Aktyubinsk**	**14.27**	**320**	Pn	**Pn**	**11 02 06.4**	**-1.8**
	comp=E,1.7nm,0.3s,baz=128,slow=12,SNR=10						
AKTO	**Aktyubinsk**	**14.27**	**320**	P	**Pn**	**11 02 06.8**	**-1.3**
AKTO				pmax	pmax		
	comp=Z,1.0nm,0.3s						
DANN	**Dangsing**	**15.18**	**138**	*e*P	**Pn**	**11 02 20.8**	**+0.3**
	comp=Z,34nm,0.3s						
KOLN	**Koldanda**	**15.57**	**140**	*e*P	**Pn**	**11 02 25.4**	**-0.3**
	comp=Z,21nm,0.3s						
GKN	**Gorkha**	**15.91**	**136**	*e*P	**Pn**	**11 02 29.7**	**-0.4**
	comp=Z,56nm,0.4s						
ZALV	**Zalesovo Beam**	**16.13**	**28**	Pn	**Pn**	**11 02 30.2**	**-2.5**
	comp=Z,0.8nm,0.3s,baz=221,slow=12,SNR=17						
ZALV				Sn	**Sn**	**11 05 33.5**	**+2.1**
	comp=Z,0.4nm,0.3s,baz=234,slow=19,SNR=2.6						
ZALV				Lg		11 07 08.7	
	baz=221,slow=26,SNR=2.9						
ZALV				LR	LR	11 08 53.3	
	comp=Z,77nm,19.3s,baz=235,slow=38						
ZALV	**Zalesovo Beam**	**16.13**	**28**	P	**Pn**	**11 02 30.3**	**-2.5**
ZALV						11 05 33.5	
NVS	**Novosibirsk**	**16.36**	**23**	*e*P	**Pn**	**11 02 35.2**	**-0.4**
NVS				*e*		11 05 39.1	
KKN	**Kakani**	**16.43**	**135**	*e*P	**Pn**	**11 02 36.9**	**+0.2**
DMN	**Daman**	**16.48**	**136**	*e*P	**Pn**	**11 02 37.9**	**+0.6**
	comp=Z,20nm,0.5s						
PKIN	**Phulchoki**	**16.66**	**135**	*e*P	**Pn**	**11 02 39.7**	**+0.1**
	comp=Z,20nm,0.4s						
GUN	**Gumba**	**16.66**	**133**	*e*P	**Pn**	**11 02 39.8**	**+0.1**
	comp=Z,37nm,0.4s						
PKI	**Pulchoki**	**16.67**	**135**	*e*P	**Pn**	**11 02 40.2**	**+0.4**
JIRN	**Jiri**	**17.03**	**133**	*e*P	**Pn**	**11 02 44.3**	**0.0**
	comp=Z,24nm,0.3s						
RAMN	**Ramite**	**17.81**	**134**	*e*P	**Pn**	**11 02 54.2**	**+0.2**
	comp=Z,37nm,0.5s						
TAPN	**Taplejung**	**18.13**	**130**	*e*P	**Pn**	**11 02 59.2**	**+1.2**
ODAN	**Odare**	**18.32**	**132**	*e*P	**Pn**	**11 03 00.8**	**+0.5**
	comp=Z,42nm,0.7s						
ARU	**Arti**	**18.53**	**336***d*	*i*P	**Pn**	**11 03 05.7**	**+3.0**
ARU				pmax	pmax		
	comp=Z,11nm,1.0s						
ARU	**Arti**	**18.53**	**336**	*e*P	**Pn**	**11 03 00.6**	**-2.1**
	comp=Z,6.9nm,0.8s						
GNI	**Garni**	**21.00**	**279**	*i* P	**P**	**11 03 38.3**	**+8.8**
GNI				pmax	pmax		
	comp=Z,14nm,1.3s						
GTA	**Gaotai**	**21.15**	**83**	*e*P	**P**	**11 03 32.6**	**+1.4**
GTA				AMB	AMB		
	comp=Z,8.0nm,1.0s,mb4.0						
KIV	**Kislovodsk**	**22.20**	**289**	*e*P	**P**	**11 03 46.0**	**+3.6**
KIV				*e*S	**S**	**11 07 49.8**	**+3.2**
KIV				pmax	pmax		
	comp=Z,9.0nm,0.7s,mb4.3						
KIV				MLR	MLR		
	comp=Z,36nm,14.0s,MS3.0						
MOY	**Mondy**	**22.86**	**50**	*e*P	**P**	**11 03 51.0**	**+1.6**
MOY				pmax	pmax		
	comp=Z,34nm,1.6s,mb4.5						
ZAK	**Zakamensk**	**23.90**	**55**	*e*P	**P**	**11 03 59.6**	**-0.2**
ZAK				pmax	pmax		
	comp=Z,11nm,1.1s,mb4.2						
TLY	**Talaya**	**24.45**	**52***c*	*i*P	**P**	**11 04 05.5**	**+0.7**
TLY				pmax	pmax		
	comp=Z,7.0nm,0.6s,mb4.3						
SONM	**Songino Array**	**25.53**	**61**	P	**P**	**11 04 15.0**	**+0.3**
	comp=Z,2.4nm,0.6s,mb3.9,baz=271,slow=10,SNR=20						
ULN	**Ulaanbaatar**	**25.98**	**61***c*	*i*P	**P**	**11 04 18.7**	**0.0**
ULN	**Ulaanbaatar**	**25.98**	**61**	*e*P	**P**	**11 04 18.5**	**-0.2**
	comp=Z,7.4nm,0.9s,mb4.2						
BR131	**Keskin Array S**	**29.44**	**282**	*e*P	**P**	**11 04 51.6**	**+1.7**
	comp=Z,1.3nm,0.4s,mb4.0						
ARCES	**ARCESS Array B**	**38.12**	**335**	P	**P**	**11 06 04.7**	**-0.1**
	comp=Z,1.2nm,0.6s,mb3.8,baz=115,slow=8.6,SNR=12						
NJ2	**Nanjing**	**38.14**	**87**	*e*P	**P**	**11 06 07.9**	**+2.5**
YAK	**Yakutsk**	**40.39**	**38**	*e*P	**P**	**11 06 22.3**	**-1.5**
YAK				pmax	pmax		
	comp=Z,25nm,0.9s,mb4.9						
YAK				pmax	pmax		
	comp=N,2.0nm,1.0s						
YAK				pmax	pmax		
	comp=E,5.0nm,1.0s						
GERES	**GERESS Array B**	**41.69**	**302**	P	**P**	**11 06 36.3**	**+1.6**
	comp=E,0.9nm,0.5s,mb3.7,baz=66,slow=8.4,SNR=6.4						
GERES				LR	LR	11 27 05.5	
	comp=E,74nm,19.8s,MS3.6,baz=199,slow=41						
NOA	**NORSAR Array B**	**42.06**	**321**	P	**P**	**11 06 37.6**	**0.0**
	comp=E,1.4nm,0.7s,mb3.7,baz=91,slow=8.2,SNR=3.3						
MJAR	**Matsushiro Arr**	**50.75**	**72**	P	**P**	**11 07 45.8**	**-0.4**
	comp=E,4.7nm,0.8s,mb4.5,baz=290,slow=9.9,SNR=11						
BORG	**Borgarnes**	**55.90**	**329**	LR	LR	11 34 52.4	
	comp=E,62nm,18.4s,MS3.7,baz=47,slow=39						
TORD	**Torodi Ar. Bea**	**66.82**	**268**	P	**P**	**11 09 39.4**	**+1.2**
	comp=E,3.1nm,0.4s,mb4.7,baz=53,slow=5.4,SNR=68						
COLA	**College**	**70.62**	**17***d*	*i*P	**P**	**11 10 01.1**	**0.0**
DBIC	**Dimbokro**	**75.89**	**267**	P	**P**	**11 10 33.1**	**0.0**
	comp=E,2.4nm,0.7s,mb4.2,baz=334,slow=5.2,SNR=4.7						
DBIC	**Dimbokro**	**75.89**	**267**	P	**P**	**11 10 33.1**	**+0.1**
DBIC				pmax	pmax		
	comp=Z,2.0nm,0.7s						
YKA	**Yellowknife Ar**	**77.47**	**3**	P	**P**	**11 10 41.0**	**-0.2**
	comp=Z,1.8nm,0.5s,mb4.3,baz=353,slow=5.5,SNR=6.3						
YKA	**Yellowknife Ar**	**77.47**	**3**	P	**P**	**11 10 41.0**	**-0.2**
YKA				pmax	pmax		
	comp=Z,2.0nm,0.5s						
WRA	**Warramunga Arr**	**83.16**	**123**	P	**P**	**11 11 12.8**	**+0.4**
	comp=Z,1.0nm,0.5s,mb4.1,baz=327,slow=4.8,SNR=35						
WRA	**Warramunga Arr**	**83.16**	**123**	*i* P	**P**	**11 11 11.6**	**-0.7**
WRA				pmax	pmax		
	comp=Z,1.0nm,0.5s						
ASAR	**Alice Springs**	**85.61**	**126**	P	**P**	**11 11 25.2**	**+0.6**
	comp=Z,1.5nm,0.7s,mb4.3,baz=315,slow=4.9,SNR=26						
ASAR	**Alice Springs**	**85.61**	**126**	P	**P**	**11 11 25.3**	**+0.6**
ASAR				pmax	pmax		
	comp=Z,2.0nm,0.7s						
LPAZ	**La Paz**	**138.22**	**293**	PKP	PKPdf	11 18 12.9	+1.2
	comp=Z,1.0nm,0.6s,baz=356,slow=8.9,SNR=4.8						
LPAZ	**La Paz**	**138.22**	**293**	PKIKP	PKPdf	11 18 12.9	+1.2
LPAZ				pmax	pmax		
	comp=Z,1.0nm,0.6s						
PLCA	**Paso Flores**	**151.84**	**257**	PKPbc	PKPbc	11 18 41.5	+0.8
	comp=Z,1.3nm,0.5s,baz=94,slow=2.1,SNR=8.6						
PLCA	**Paso Flores**	**151.84**	**257**	PKIKP	PKPbc	11 18 41.5	+0.8
PLCA				pmax	pmax		
	comp=Z,1.0nm,0.5s						

*CSEM **08** 11:16:03.7, 3005N×3616E, h4km, ML2.6, After SNSN*
*SGS **08** 11:16:03.7, 3005N×3616E, h3km*
*ISCJB **08** 11:16:04.3±0.8, 2981N±004×3619E±006, h0km, Error ellipse: s-maj=7.5km s-min=6.0km az=178.9*
*GII **08** 11:16:04.8±1.3, 2981N×3614E, h0km, ML1.9/3, EXPLOSION*
ISC 08 11:16:04.2±0.9**, 2981N**±004×**3624E**±006**, h0**km**, n16, σ0^{s}85**/20**, Western Arabian Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
AQBJ	**Aqaba**	**1.04**	**266**	Pg	**Pg**	**11 16 24.0**	**-0.1**
HQLS		**1.15**	**244**	P	**Pg**	**11 16 25.5**	**-0.7**
HQLS		**1.15**	**244**	P	**Pg**	**11 16 25.5**	**-0.7**
HQLS				S	**Sg**	**11 16 41.9**	**+0.9**
MBRI	**Mt Berech**	**1.15**	**270**	Pg	**Pg**	**11 16 26.3**	**-0.1**
MBRI				Sg	**Sg**	**11 16 43.2**	**+1.9**
ZFRI	**Zfri**	**1.18**	**309**	Pg	**Pg**	**11 16 26.4**	**-0.5**
PRNI	**Paran**	**1.20**	**297**	Pg	**Pg**	**11 16 26.4**	**-0.9**
JLOS		**1.25**	**212**	P	**Pg**	**11 16 28.5**	**+0.2**
KRMI	**Paran Flat**	**1.35**	**284**	Pg	**Pg**	**11 16 29.2**	**-1.0**
KRMI				Sg	**Sg**	**11 16 46.8**	**-0.9**
RMNI	**Mount Ramon**	**1.50**	**302**	Pn	**Pn**	**11 16 31.7**	**-0.7**
TBKS	**Tabuk**	**1.60**	**171**	P	**Pn**	**11 16 34.5**	**+0.7**
MZDA	**Masada**	**1.68**	**333**	Pn	**Pn**	**11 16 34.8**	**-0.1**
BDAS	**Al Bad'**	**1.70**	**216**	P	**Pn**	**11 16 35.0**	**-0.1**
RTMI	**Retamim**	**1.83**	**313**	Pn	**Pn**	**11 16 37.2**	**+0.4**
YTIR	**Yattir**	**1.83**	**328**	Pn	**Pn**	**11 16 36.8**	**-0.1**
DSI	**Dead Sea**	**1.91**	**337**	Pn	**Pn**	**11 16 38.4**	**+0.4**
DSI				Sn	**Sn**	**11 17 05.4**	**+2.7**
RSHS		**1.96**	**220**	P	**Pn**	**11 16 38.1**	**-0.6**

IDC 08 11:36:01.6±9.8**, 995S**×**6860W, h53**km±89km**, mb4.0**/1**, mb1 4.0**/2**, mb1mx3.4**/17**, mbtmp3.9**/2**, ML3.7**/1**, MS3.6**/1**, Ms1 3.6**/1**, ms1mx2.7**/33**, Error ellipse: s-maj=115.5km s-min=61.9km az=97.0, Western Brazil**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**6.32**	**176**	P	Pn	11 37 32.9	+0.6
	1.0nm,0.3s,baz=188,slow=7.4,SNR=24						
LPAZ				S	Sn	11 38 44.8	+1.7
	baz=214,slow=16,SNR=2.9						
PLCA	**Paso Flores**	**30.71**	**183**	LR	LR	11 56 10.7	
	comp=Z,96nm,18.3s,baz=182,slow=39						
TORD	**Torodi Ar. Bea**	**73.45**	**73**	P	P	11 47 29.1	+0.1
	1.3nm,0.5s,baz=255,slow=5.6,SNR=17						
MKAR	**Makanchi Array**	**135.73**	**29**	PKP	PKPdf	11 55 16.0	-0.3
	0.3nm,0.3s,baz=315,slow=2.5,SNR=6.5						

IDC 08 11:44:56.4±5.8**, 2402S**×**17877W, h0**km**, mb3.8**/3**, mb1 3.9**/3**, mb1mx3.7**/15**, mbtmp3.8**/3**, Error ellipse: s-maj=193.3km s-min=91.3km az=151.0, South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**35.72**	**248**	P	P	11 51 56.0	-0.9
	0.8nm,0.4s,baz=114,slow=12,SNR=3.3						
ASAR	**Alice Springs**	**43.12**	**260**	P	P	11 52 59.0	+0.2
	0.5nm,0.4s,baz=95,slow=7.5,SNR=26						
WRA	**Warramunga Arr**	**43.52**	**266**	P	P	11 53 02.1	+0.2
	0.3nm,0.4s,baz=100,slow=8.3,SNR=13						
HFS	**Hagfors**	**142.88**	**350**	PKP	PKPdf	12 04 30.9	-0.5
	3.1nm,0.5s,baz=25,slow=3.8,SNR=12						

DJA 08 11:59:00, 265S×**12896E, h90**km**, MLv3.8**/4**, Ceram Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
AAI	**Ambon**	**1.28**	**217**	P	Pn	11 59 23.2	+0.1
AAI	**Ambon**	**1.28**	**217**	P	Pn	11 59 22.3	-0.8
AAI	**Ambon**	**1.28**	**217**	S	Sn	11 59 44.4	+4.0
LBMI	**Labuha**	**2.47**	**324**	P	Pn	11 59 38.1	-0.4
LBMI	**Labuha**	**2.47**	**324**	S	Sn	12 00 10.8	+2.8
SWI	**Sorong**	**2.90**	**52**	P	Pn	11 59 44.5	+0.2

*IDC **08** 12:33:28.4±4.6, 239N×12706E, h90km±43km, mb3.6/8, mb1 3.8/9, mb1mx3.7/17, mbtmp3.7/9, Error ellipse: s-maj=40.8km s-min=13.6km az=69.0*
*ISCJB **08** 12:33:30.8±5.2, 24N±01×1269E±02, h135km±53km, mb3.9/7, Error ellipse: s-maj=43.3km s-min=14.7km az=155.3*
*NEIC **08** 12:33:30.5±3.4, 235N×12703E, h114km±35km, Error ellipse: s-maj=27.5km s-min=9.3km az=67.0*
ISC 08 12:33:30.5±4.8**, 24N**±01×**1270E**±02**, h113**km±49km**, n12, σ0^{s}40**/12**, mb4.0**/7**, Northern Molucca Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KAPI	**Kappang**	**10.31**	**225**	P	**Pn**	**12 35 55.6**	**+0.2**
	0.4nm,0.3s,baz=284,slow=8.3,SNR=3.6						
KAPI	**Kappang**	**10.31**	**225**	P	**Pn**	**12 35 55.6**	**+0.2**
FITZ	**Fitzroy Crossi**	**20.37**	**184**	P	**P**	**12 37 57.8**	**-0.4**
	1.0nm,0.7s,baz=5.7,slow=10,SNR=4.5						
WRA	**Warramunga Arr**	**23.29**	**162**	P	**P**	**12 38 28.1**	**-0.2**
	3.9nm,0.4s,mb4.1,baz=336,slow=11,SNR=92						
WRA				PcP	PcP	12 42 13.3	+0.7
	0.3nm,0.4s,baz=331,slow=2.3,SNR=4.9						
WB2	**Warramunga Arr**	**23.29**	**162**	*e*P	**P**	**12 38 27.9**	**-0.4**
ASAR	**Alice Springs**	**26.71**	**166**	P	**P**	**12 38 59.5**	**+0.3**
	0.7nm,0.3s,mb3.7,baz=343,slow=7.8,SNR=30						
ASAR				PcP	PcP	12 42 21.4	+1.2
	0.4nm,0.5s,baz=356,slow=2.5,SNR=6.0						
CMAR	**Chiang Mai Arr**	**31.84**	**302**	P	**P**	**12 39 44.2**	**-0.6**
	0.4nm,0.4s,mb3.5,baz=123,slow=5.1,SNR=4.3						
MJAR	**Matsushiro Arr**	**35.56**	**16**	P	**P**	**12 40 16.5**	**-0.4**
	1.1nm,0.8s,mb3.9,baz=191,slow=13,SNR=4.0						
STKA	**Stephens Creek**	**36.74**	**159**	P	**P**	**12 40 27.5**	**+0.6**
	9.0nm,0.7s,mb4.8,baz=335,slow=8.0,SNR=23						
STKA				PcP	PcP	12 42 48.1	+0.9
	1.4nm,0.5s,baz=354,slow=3.0,SNR=3.5						
STKA	**Stephens Creek**	**36.74**	**159**	P	**P**	**12 40 27.5**	**+0.6**
STKA				PcP	PcP	12 42 48.1	+1.0
SONM	**Songino Array**	**48.69**	**342**	P	**P**	**12 42 03.8**	**+0.6**
	0.3nm,0.5s,mb3.5,baz=169,slow=8.1,SNR=3.0						
MKAR	**Makanchi Array**	**58.85**	**326**	P	**P**	**12 43 17.5**	**+0.3**
	1.2nm,0.4s,mb4.3,baz=118,slow=7.7,SNR=21						

*MOS **08** 12:38:09.8±0.6, 5148N×15850E, h35km, mb4.2/1, Error ellipse: s-maj=52.2km s-min=11.4km az=76.6*
*ISCJB **08** 12:38:10.4±0.9, 5154N±006×1585E±01, h36km±34km, Error ellipse: s-maj=13.0km s-min=6.2km az=38.5*
*KRSC **08** 12:38:11.2±0.5, 5166N×15852E, h45km±44km, ML4.0*
ISC 08 12:38:11.0±1.4**, 5157N**±005×**15841E**±009**, h30**km±11km**, n15, σ0^{s}98**/26**, Near east coast of Kamchatka Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
RUS	**Russkaya**	**0.87**	**4**	*i* P	**Pn**	**12 38 27.0**	**-0.2**
RUS				*i* S	**Sb**	**12 38 37.7**	**-1.1**
GRL	**Gorelyy**	**1.01**	**348**	*e*P	**Pn**	**12 38 29.1**	**0.0**
GRL				*i* S	**Sn**	**12 38 42.4**	**+0.1**
MIPR	**Malaya Ipel'ka**	**1.25**	**305**	*e*P	**Pn**	**12 38 32.5**	**+0.1**
MIPR				*i* S	**Sn**	**12 38 48.6**	**+0.5**
PET	**Petropavlovsk**	**1.47**	**6**	*e*P	**Pn**	**12 38 35.2**	**-0.2**
PET				*i* S	**Sn**	**12 38 52.7**	**-0.9**
SKR	**Severo-Kuril's**	**1.69**	**239**	*e*PN	**Pn**	**12 38 38.0**	**-0.5**
SKR				*i* S	**Sn**	**12 38 58.0**	**-1.2**
SKR				pmax	pmax		
	comp=Z,40nm,0.4s						
SKR				pmax	pmax		
	comp=N,40nm,0.3s						
SKR				pmax	pmax		
	comp=E,40nm,0.3s						
SKR				smax			
	comp=N,250nm,0.5s						
SKR				smax			
	comp=E,270nm,0.5s						
SKR				smax			
	comp=Z,50nm,0.5s						
NLC	**Nalytchevo**	**1.71**	**19**	*e*P	**Pn**	**12 38 37.5**	**-1.2**
NLC				*i* S	**Sn**	**12 38 57.2**	**-2.3**
AVH	**Avacha**	**1.71**	**7**	*e*P	**Pn**	**12 38 39.5**	**+0.7**
AVH				*i* S	**Sn**	**12 39 00.6**	**+1.0**
SPN	**Mys Shipunski**	**1.82**	**32**	*e*P	**Pn**	**12 38 40.5**	**+0.2**
SPN				*i* S	**Sn**	**12 39 02.3**	**-0.1**
GNL	**Ganaly**	**2.15**	**353**	*e*P	**Pn**	**12 38 45.1**	**+0.3**
GNL				*i* S	**Sn**	**12 39 10.6**	**+0.2**
KII	**Karymskiy**	**2.55**	**14**	*e*P	**Pn**	**12 38 51.3**	**+1.0**
KII				*i* S	**Sn**	**12 39 20.5**	**+0.2**
MKZ	**Mys Kozlova**	**3.60**	**32**	*e*P	**Pn**	**12 39 05.0**	**+0.3**
MKZ				*i* S	**Sn**	**12 39 43.4**	**-2.8**
TUMR	**Tumrok**	**3.87**	**15**	*e*P	**Pn**	**12 39 08.6**	**+0.3**
KMNR	**Kamenistaya**	**4.34**	**14**	*e*P	**Pn**	**12 39 16.7**	**+1.9**
SRDR	**Sredinnyy**	**4.82**	**9**	P	**Pn**	**12 39 24.8**	**+3.3**
KBTR	**Krutoberegovo**	**5.33**	**28**	*e*P	**Pn**	**12 39 29.5**	**+1.1**

*NEIC **08** 12:43:13.4, 1426N×9309W, h25km, MD3.9(MEX), After MEX.*
MEX 08 12:43:14.0±1.1**, 1430N**×**9308W, h20**km±123km**, MD3.9, Near coast of Chiapas**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
THIG		**0.99**	**52**	*i* P	Pb	12 43 29.3	-3.2
THIG				*i* S	Sb	12 43 41.0	-4.1
CCIG	**Comitan**	**2.17**	**25**	*e*P	Pn	12 43 47.2	-1.7
CCIG				*i* S	Sn	12 44 12.6	-2.7
CCIG	**Comitan**	**2.17**	**25**	*e*P	Pn	12 43 47.2	-1.7
CCIG				*i* S	Sn	12 44 13.5	-1.8
SCX	**San Cristobal**	**2.46**	**10**	*i* P	Pn	12 43 53.2	+0.2
TGIG		**2.46**	**359**	*i* P	Pn	12 43 50.0	-3.1
TGIG				*i* S	Sn	12 44 18.2	-4.4
TUIG	**Tuzandepetl**	**3.93**	**341**	*e*P	Pn	12 44 11.6	-1.7
TUIG				*i* S	Sn	12 44 55.1	-3.7
TUIG	**Tuzandepetl**	**3.93**	**341**	*i* P	Pn	12 44 09.7	-3.5
TUIG				*i* S	Sn	12 44 55.1	-3.7
TEIG	**Tepich**	**7.47**	**37**	*e*Pn	Pn	12 44 59.1	-2.7
TEIG				*e*Sn	Sn	12 46 19.1	-6.8

OTT 08 12:45:02.0±0.4**, 6792N**×**9192W, h18**km**, MN2.8**/3**, 110km southwest from Kugaaruk, Nu Boothia Ungava Seismic Zone., Northwest Territories**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KUGN	**Kugaaruk Camp,**	**0.72**	**76**	PG	Pg	12 45 15.8	-0.3
KUGN				SG	Sg	12 45 25.1	-0.5
KUGN				Trac		12 45 28.8	
	comp=Z,57nm,0.1s						
BULN	**Bullion Camp,**	**1.60**	**198**	PG	Pg	12 45 31.6	-1.2
BULN				SG	Sg	12 45 52.1	-1.5
BULN				Trac		12 45 53.4	
	comp=Z,24nm,0.1s						
WAGN	**Wager Bay**	**2.27**	**153**	PG	Pg	12 45 42.9	-2.6
WAGN				SG	Sg	12 46 12.0	-3.0
WAGN				Trac		12 46 13.2	
	comp=Z,14nm,0.1s						
QILN	**Qililugaq Expl**	**2.50**	**118**	PN	Pn	12 45 42.3	+0.6
QILN				PG	Pg	12 45 46.8	-3.1
QILN				SN	Sn	12 46 11.9	+0.3
QILN				SG	Sg	12 46 18.0	-4.3
QILN				Trac		12 46 22.2	
	comp=Z,12nm,0.2s						
NUNN	**Nunuq Camp, NU**	**2.74**	**173**	PN	Pn	12 45 47.8	+2.8
NUNN				PG	Pg	12 45 50.8	-3.7
NUNN				SG	Sg	12 46 25.3	-4.6
NUNN				Trac		12 46 26.6	
	comp=Z,12nm,0.2s						
SRLN	**Sarcpa Lake, N**	**3.27**	**75**	PN	Pn	12 45 51.5	-0.6
SRLN				PG	Pg	12 45 58.5	-5.9
SRLN				SN	Sn	12 46 28.5	-1.9
SRLN				SG	Sg	12 46 43.3	-3.4

SRLN				Trac		12 46 50.2	
	comp=Z,5.5nm,0.2s						
LAIN	Lailor River,	3.31	65	PN	Pn	12 45 52.2	-0.5
LAIN				PG	Pg	12 45 59.2	-6.1
LAIN				SN	Sn	12 46 30.1	-1.4
LAIN				SG	Sg	12 46 44.0	-4.1
LAIN				Trac		12 46 47.6	
	comp=Z,5.9nm,0.2s						
ILON	Igloolik, Nuna	3.97	64	PG	Pg	12 46 12.7	-5.2
ILON				SN	Sn	12 46 44.1	-3.6
ILON				SG	Sg	12 47 03.8	-5.4
ILON				Trac		12 47 07.5	
	comp=Z,7.1nm,0.3s						
GIFN	Gifford Fjord,	4.25	56	PN	Pn	12 46 04.6	-1.0
GIFN				PG	Pg	12 46 15.8	-7.4
GIFN				SN	Sn	12 46 51.5	-3.2
GIFN				SG	Sg	12 47 10.2	-8.0
SEDN	First Sedna Si	4.70	176	PN	Pn	12 46 15.2	+3.3
SEDN				SN	Sn	12 47 04.5	-1.4
SEDN				SN	Sn	12 47 05.8	0.0
SEDN				SG	Sg	12 47 25.2	-7.5
SEDN				SG	Sg	12 47 25.6	-7.1
SEDN				Trac		12 47 27.5	
	comp=Z,28nm,0.8s						
JOSN	Second Sedna S	4.78	178	SN	Sn	12 47 05.8	-2.0
JOSN				SG	Sg	12 47 28.6	-6.7
YRTN	Rankin Inlet	5.13	181	SN	Sn	12 47 13.5	-3.0
YRTN				SG	Sg	12 47 37.8	-8.8
PINU	Pond Inlet	6.71	38	PN	Pn	12 46 39.3	0.0
PINU				SN	Sn	12 47 45.9	-9.2
PINU				Trac		12 47 51.2	
	comp=Z,0.2nm,0.0s						
ARVN	Arviat, NU	6.92	189	SN	Sn	12 47 57.6	-2.8
ARVN				LG		12 48 36.4	

IDC 08 12:59:27.0±8.0**, 236S**×**10258E, h0**km**, mb3.5**/3**, mb1 3.7**/3**, mb1mx3.4**/18**, mbtmp3.5**/3**, Error ellipse: s-maj=289.4km s-min=29.4km az=62.0, Southern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	35.60	122	P	P	13 06 27.7	+1.0
	0.2nm,0.4s,baz=302,slow=8.8,SNR=12						
ASAR	Alice Springs	36.98	128	P	P	13 06 37.4	-1.0
	0.4nm,0.5s,baz=299,slow=7.8,SNR=16						
SONM	Songino Array	50.10	3	P	P	13 08 24.0	+0.2
	0.9nm,0.6s,baz=186,slow=8.1,SNR=6.2						

*IDC **08** 13:03:02.0±0.9, 3725N×2483W, h0km, mb3.8/7, mb1 3.9/8, mb1mx3.7/26, mbtmp3.7/8, ML4.6/1, MS3.2/5, Ms1 3.2/5, ms1mx2.9/37, Error ellipse: s-maj=30.8km s-min=22.6km az=145.0*

*PDA **08** 13:03:03.7±1.0, 3746N×2457W, h5km, MD3.1, ML3.6, Error ellipse: s-maj=7.1km s-min=3.1km az=76.0*

*CSEM **08** 13:03:03.7±1.0, 3746N×2457W, h5km, ML3.6, Error ellipse: s-maj=7.1km s-min=3.1km az=76.0, After PDA*

*ISCJB **08** 13:03:04.5±0.9, 3742N±006×2488W±008, h34km±10km, mb3.7/7, MS3.4/3, Error ellipse: s-maj=14.1km s-min=6.2km az=136.9*

ISC 08 13:03:05.6±0.8**, 3741N**±006×**2491W**±007**, h32**km±5km**, n24,** σ**0§85**/30**, mb3.7**/7**, MS3.4**/3**, Azores Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSMN	Pico do Norte,	0.42	197	eP	Pb	13 03 14.1	-0.8
PSMN				eS	Sb	13 03 21.5	+0.2
CMLA	Cha da Macela	0.60	306	eP	Pb	13 03 17.1	-0.7
CMLA				eS	Sb	13 03 26.8	+0.8
CMLA				A		13 03 29.5	
	2μm,0.4s						
CMLA	Cha da Macela	0.60	306	eP	Pb	13 03 17.1	-0.7
CMLA				eS	Sb	13 03 26.8	+0.8
PDA	Ponta Delgada	0.69	300	eP	Pn	13 03 17.8	-1.3
PDA				eS	Sb	13 03 29.3	+0.9
PSET	Sete Cidades	0.77	303	eS	Sb	13 03 31.2	+0.6
PSET				A		13 03 38.5	
	435nm,0.4s						
PSCM	Serra do Cume	2.17	307	eP	Pn	13 03 38.7	-0.7
PSCM				eS	Sn	13 04 04.2	-1.0
PSCM				A		13 04 11.7	
	104nm,0.3s						
PSCM	Serra do Cume	2.17	307	eP	Pn	13 03 38.7	-0.7
PSCM				eS	Sn	13 04 04.2	-1.0
PMAN	Manadas	2.79	297	eS	Sn	13 04 19.9	-0.7
PMAN				A		13 04 21.6	
	57nm,0.2s						
ROSA	Rosais	2.94	297	eP	Pn	13 03 49.8	-0.2
ROSA				eS	Sn	13 04 24.1	0.0
PICO	Pico	2.98	292	eP	Pn	13 03 50.2	-0.5
PICO				eS	Sn	13 04 25.3	0.0
HOR	Horta	3.14	292	eP	Pn	13 03 52.8	0.0
CALA	Caldeira	3.21	293	eP	Pn	13 03 53.3	-0.5
CALA				eS	Sn	13 04 31.6	+0.6
PCED	Cedros	3.23	293	eP	Pn	13 03 53.9	-0.2
ESDC	Sonseca Array	16.54	76	Pn	Pn	13 06 53.7	-1.4
	0.5nm,0.3s,baz=277,slow=10,SNR=3.2						
ESDC				LR	LR	13 11 29.6	
	comp=Z,42nm,19.4s,baz=245,slow=31						
MDT	Midelt	17.22	99	LR	LR	13 12 27.8	
	comp=Z,45nm,18.5s,baz=28,slow=33						
NOA	NORSAR Array B	32.70	32	LR	LR	13 21 09.2	
	comp=Z,23nm,19.4s,MS2.9,baz=0.0,slow=33						
TORD	Torodi Ar. Bea	33.87	128	P	P	13 09 45.8	+0.4
	0.3nm,0.9s,mb3.2,baz=320,slow=9.2,SNR=2.0						
AKTO	Aktyubinsk	58.15	48	P	P	13 12 56.1	+0.1
	1.0nm,0.7s,mb4.0,baz=321,slow=6.5,SNR=3.4						
BVAR	Borovoye Array	64.05	42	LR	LR	13 41 45.0	
	comp=Z,44nm,18.3s,MS3.7,baz=214,slow=36						
TXAR	Lajitas Array	64.51	288	P	P	13 13 41.5	+2.1
	0.7nm,0.8s,mb3.8,baz=72,slow=5.8,SNR=7.5						
KURK	Kurchatov	69.61	41	P	P	13 14 14.6	+3.3
	0.7nm,0.3s,mb4.0,baz=302,slow=6.6,SNR=6.1						
KURK				LR	LR	13 43 43.6	
	comp=Z,28nm,19.5s,MS3.5,baz=230,slow=35						
CPUP	Villa Florida	70.34	211	P	P	13 14 16.6	+0.5
	0.4nm,0.4s,mb3.7,baz=38,slow=12,SNR=3.6						
ZALV	Zalesovo Beam	70.79	36	P	P	13 14 22.6	+4.0
	0.4nm,0.4s,mb3.7,baz=305,slow=5.1,SNR=2.9						
MKAR	Makanchi Array	73.88	43	P	P	13 14 37.8	+0.6
	0.2nm,0.4s,mb3.4,baz=305,slow=5.3,SNR=3.3						

*ISCJB **08** 13:09:29.9±1.9, 3304S±005×1787W±0.1, h1km±12km, mb4.6/15, MS4.2/20, Error ellipse: s-maj=16.1km s-min=7.9km az=13.5*

*GCMT **08** 13:09:36.1±0.4, 3290S×17829W, h20km±1km, MW4.9/49, Moment Tensor Solution. s30,c36; s49,c68; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}2.17±.20; $M_{\theta\theta}$0.17±.14; $M_{\phi\phi}$-2.34±.13; $M_{r\theta}$0.60±.33; $M_{\theta\phi}$-1.21±.11; $M_{\phi r}$1.10±.23; Best double couple: $M_0$2.79800×10^{16} NP1:ϕ_s197.00000°,δ32.00000°,λ82.00000°. NP2: ϕ_s26.00000°,δ58.00000°,λ95.00000°. Principal axes: T 2.4750, Plg76.0000°, Azm311.0000°; N 0.6490, Plg4.0000°, Azm204.0000°; P -3.1220, Plg13.0000°, Azm112.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*NEIC **08** 13:09:36.1±2.0, 3279S×17841W, h38km±17km, mb4.8/9 Error ellipse: s-maj=14.1km s-min=13.3km az=170.0*

*IDC **08** 13:09:37.8±2.4, 3278S×17855W, h50km±20km, mb4.3/11, mb1 4.5/12, mb1mx4.3/19, mbtmp4.3/12, ML4.9/1, MS4.2/20, Ms1 4.2/20, ms1mx4.0/33, Error ellipse: s-maj=19.7km s-min=14.1km az=14.0*

ISC 08 13:09:33.7±2.3**, 3306S**±006×**1787W**±01**, h14**km±14km**, n78,** σ**1§35**/51**, mb4.6**/15**, MS4.2**/20**, 2C, South of Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	Raoul Island	3.85	10	P	Pn	13 10 29.4	-3.2
	98nm,0.3s,baz=255,slow=20,SNR=3.1						
RAO	Raoul Island	3.85	10	P	Pn	13 10 27.3	-5.3
MXZ	Matakaoa Point	5.12	208	P	Pn	13 10 51.4	+1.4
PUZ	Puketiti	5.59	206	P	Pn	13 10 55.8	-0.6
PUZ				S	Sn	13 12 02.3	+1.8
KUZ	Kuaotunu	5.89	230	P	Pn	13 11 05.1	+4.5
MWZ	Matawai	6.10	209	P	Pn	13 11 03.3	-0.1
URZ	Urewera	6.22	212	P	Pn	13 11 07.1	+2.0
	11nm,0.3s,baz=56,slow=2.5,SNR=56						
URZ				S	Sn	13 12 19.7	+3.8
	16nm,0.3s,baz=146,slow=20,SNR=7.8						
URZ	Urewera	6.22	212	P	Pn	13 11 06.2	+1.2
KNZ	Kokohu	6.64	205	P	Pn	13 11 09.4	-1.5
OUZ	Omahuta	6.76	249	P	Pn	13 11 19.2	+6.7
BKZ	Black Stump Fm	7.24	211	P	Pn	13 11 18.2	-0.9
MRZ	Mangatainoka R	8.87	210	P	Pn	13 11 39.7	-1.7
MRZ				S	Sn	13 13 18.2	-3.0
SNZO	South Karori	9.78	211	P	Pn	13 11 53.0	-0.9
SNZO				eS	Sn	13 13 30.1	-13
KHZ	Kahutara	11.18	211	P	Pn	13 12 10.0	-3.1
RPZ	Rata Peaks	13.33	214	P	Pn	13 12 38.5	-4.0
	0.9nm,0.3s,baz=36,slow=5.4,SNR=8.0						
RPZ				S	Sn	13 15 01.7	-8.7
	2.8nm,0.3s,baz=23,slow=16,SNR=7.2						
DZM	Mont Dzumac	17.12	306	eP	Pn	13 13 37.4	+4.7
DZM	Mont Dzumac	17.12	306	P	Pn	13 13 34.8	+2.1
RAR	Rarotonga	20.51	60	LR	LR	13 19 37.8	
	comp=Z,328nm,21.8s,MS3.6,baz=249,slow=30						
TBI	Tubuai	27.43	77	eLQ		13 20 29.0	
	429nm,26.0s						
TBI				eLR	LR	13 21 45.3	
	566nm,29.8s,baz=236						
PPT	Papeete	30.36	67	eS	Sx	13 20 20.9	
	79nm,25.8s						
PPT				eLQ		13 21 36.3	
	413nm,23.5s						
PPT				eLR	LR	13 23 16.9	
	551nm,27.5s,baz=231						
PPT	Papeete	30.36	67	LR	LR	13 24 25.0	
	comp=Z,301nm,19.1s,MS4.0,baz=262,slow=29						
HNR	Honiara	30.69	315	LR	LR	13 26 33.4	
	comp=Z,121nm,18.8s,MS3.6,baz=150,slow=33						
STKA	Stephens Creek	33.40	261	eP	P	13 16 13.7	+1.8
	4.2nm,1.0s,mb4.3						
STKA	Stephens Creek	33.40	261	P	P	13 16 13.4	+1.6
	3.7nm,0.9s,mb4.3,baz=84,slow=9.0,SNR=4.9						
STKA				LR	LR	13 29 23.5	
	comp=Z,1μm,18.2s,MS4.6,baz=282,slow=35						
CTA	Charters Tower	33.76	284	eP	P	13 16 17.0	+1.9
	8.8nm,0.8s,mb4.7						
CTA	Charters Tower	33.76	284	P	P	13 16 15.8	+0.7
	8.0nm,0.5s,mb4.9,baz=109,slow=11,SNR=13						
CTA				LR	LR	13 28 48.3	
	comp=Z,323nm,18.2s,MS4.1,baz=88,slow=34						
CTAO	Charters Tower	33.76	284	eP	P	13 16 16.8	+1.7
	17nm,0.9s,mb5.0						
COEN	Coen	39.53	290	eP	P	13 17 05.6	+1.2
	5.5nm,0.8s,mb4.3						
RKT	Rikitea	39.57	87	eLR	LR	13 27 11.1	
	491nm,28.8s,baz=248						
ASAR	Alice Springs	42.46	270	P	P	13 17 28.9	+0.4
	9.5nm,0.6s,mb4.6,baz=109,slow=7.4,SNR=161						
ASAR				S	S	13 23 48.9	-1.2
	0.8nm,0.8s,baz=118,slow=15,SNR=5.2						
WB2	Warramunga Arr	43.68	275	eP	P	13 17 38.3	-0.1
WRA	Warramunga Arr	43.69	275	P	P	13 17 38.5	0.0
	15nm,0.5s,mb5.0,baz=114,slow=7.8,SNR=548						
WRA				S	S	13 24 06.0	-2.1
	1.4nm,1.1s,baz=117,slow=14,SNR=4.3						
WRA				LR	LR	13 34 35.2	
	comp=Z,277nm,20.9s,MS4.1,baz=120,slow=34						
SBA	Scott Base	45.35	184	eP	P	13 17 54.0	+3.1
	19nm,1.3s,mb4.8						
KAKA	Kakadu	48.88	283	eP	P	13 18 18.0	-1.3
	10nm,0.8s,mb4.9						
FITZ	Fitzroy Crossi	51.83	272	eP	P	13 18 41.1	-0.5
	12nm,0.8s,mb4.9						
FITZ	Fitzroy Crossi	51.83	272	P	P	13 18 41.4	-0.2
	6.7nm,0.8s,mb4.6,baz=146,slow=10,SNR=16						
FITZ				LR	LR	13 40 23.2	
	comp=Z,390nm,19.0s,MS4.5,baz=112,slow=36						
FITZ	Fitzroy Crossi	51.83	272	eP	P	13 18 41.2	-0.4
	30nm,0.8s,mb5.3						
CASY	Casey	52.53	209	⇑iP	P	13 18 46.6	+0.5
NWAO	Narrogin (SRO)	52.96	251	LR	LR	13 40 30.9	
	comp=Z,242nm,19.1s,MS4.3,baz=100,slow=35						
QSPA	South Pole Qui	57.06	180	P	P	13 19 20.8	+2.1
	10.0nm,0.9s,mb4.8,baz=47,slow=1.7,SNR=19						
QSPA				LR	LR	13 41 46.7	
	comp=Z,278nm,18.6s,MS4.4,baz=72,slow=34						
QSPA	South Pole Qui	57.06	180	P	P	13 19 20.8	+2.1
QSPA				LR	LR	13 41 46.7	
BATI	Baumata	57.46	279	P	P	13 19 22.6	+0.1
	15nm,0.8s,mb5.1,baz=259,slow=1.2,SNR=5.3						
BATI				LR	LR	13 44 18.5	
	comp=Z,359nm,18.2s,MS4.5,baz=162,slow=36						
GUMO	Guam	57.99	317	LR	LR	13 41 58.1	
	comp=Z,123nm,18.8s,MS4.0,baz=268,slow=34						
MAW	Mawson	69.62	201	⇑iP	P	13 20 42.6	+0.5
	6.2nm,1.4s,mb4.3						
MAW	Mawson	69.62	201	P	P	13 20 42.5	+0.3
	4.6nm,0.9s,mb4.4,baz=94,slow=6.7,SNR=5.6						
MAW				LR	LR	13 50 25.1	
	comp=Z,218nm,20.1s,MS4.4,baz=90,slow=35						
MAW	Mawson	69.62	201	eP	P	13 20 42.7	+0.6
	30nm,1.4s,mb5.0						
USHA	Ushuaia	74.06	146	LR	LR	13 47 15.3	
	comp=Z,188nm,18.4s,MS4.4,baz=253,slow=30						
SNAA	Sanae	75.52	179	e	P	13 21 26.3	+9.1
SNAA				e		13 21 27.5	
SNAA				e		13 21 37.1	
SNAA				e		13 21 40.2	
SNAA	Sanae	75.52	179	eP	P	13 21 16.8	-0.4
	19nm,1.1s,mb4.9						
MJAR	Matsushiro Arr	80.10	326	LR	LR	13 55 37.9	
	comp=Z,118nm,18.1s,MS4.3,baz=115,slow=34						
PLCA	Paso Flores	81.12	133	P	P	13 21 48.3	-0.4
	1.5nm,1.0s,mb3.9,baz=243,slow=9.0,SNR=2.5						
PLCA				LR	LR	13 51 24.7	
	comp=Z,112nm,18.0s,MS4.3,baz=276,slow=31						
KSRS	Korea Array	86.00	320	LR	LR	14 00 37.7	
	comp=Z,70nm,18.2s,MS4.1,baz=110,slow=36						
LPIG	La Paz	86.42	58	LR	LR	13 56 10.6	
	comp=Z,189nm,18.4s,MS4.5,baz=50,slow=32						
PETK	Petropavlovsk-	88.24	346	P	P	13 22 22.3	-1.7
	3.2nm,0.8s,mb4.6,baz=127,slow=7.3,SNR=8.8						
YBH	Yreka Blue Hor	90.47	38	LR	LR	13 53 53.1	
	comp=Z,119nm,18.7s,MS4.3,baz=238,slow=29						
NVAR	Mina Array Bea	90.58	43	P	P	13 22 35.2	-0.1
	0.4nm,0.6s,mb3.9,baz=220,slow=8.3,SNR=2.5						
NVAR	Mina Array Bea	90.58	43	P	P	13 22 35.2	-0.1
NNA	Nana	93.24	106	LR	LR	13 58 46.6	
	comp=Z,114nm,18.1s,MS4.4,baz=317,slow=32						
CMAR	Chiang Mai Arr	93.73	289	PP	PP	13 26 34.1	-1.8
	1.6nm,1.1s,baz=133,slow=7.7,SNR=8.5						
TXAR	Lajitas Array	94.30	58	LR	LR	14 00 12.7	
	comp=Z,67nm,18.2s,MS4.1,baz=240,slow=32						
MKAR	Makanchi Array	119.02	309	PKP	PKPdf	13 28 19.3	-2.3
	0.3nm,0.4s,baz=151,slow=3.3,SNR=2.9						
ZALV	Zalesovo Beam	119.61	318	PKP	PKPdf	13 28 20.2	-2.3
	0.7nm,0.6s,baz=180,slow=2.3,SNR=3.1						
KURK	Kurchatov	122.44	313	PKP	PKPdf	13 28 26.2	-1.9
	0.6nm,0.4s,baz=112,slow=1.5,SNR=7.0						
BVAR	Borovoye Array	127.87	314	PKP	PKPdf	13 28 37.6	-0.8
	0.8nm,0.3s,baz=107,slow=1.5,SNR=6.4						
ARCES	ARCESS Array B	141.05	347	PKP	PKPdf	13 29 02.4	-0.2
	5.1nm,0.9s,baz=5.7,slow=3.6,SNR=6.9						
JOF	Joensuu	144.65	337	ep	PKPdf	13 29 06.0	-3.1
	1.0nm,0.4s						
KAF	Kangasniemi	146.83	339	ep	PKPdf	13 29 12.0	-0.8
	3.4nm,0.4s						
ASF	Jabal al Asfar	150.10	278	PKPbc	PKPbc	13 29 23.6	-0.6
	6.4nm,0.9s,baz=44,slow=1.4,SNR=6.1						
NB2	NORSAR Subarra	151.28	350	PKP	PKPbc	13 29 24.0	-2.0
	comp=Z,2.8nm,0.8s,baz=19,slow=2.6						
NOA	NORSAR Array B	151.28	350	PKPbc	PKPbc	13 29 23.8	-2.2
	comp=Z,4.1nm,0.7s,baz=13,slow=4.1,SNR=12						
NOA	NORSAR Array B	151.28	350	PKPbc	PKPbc	13 29 23.8	-2.2
MMAI	Mount Meron Ar	151.50	279	PKPbc	PKPbc	13 29 26.4	-1.0
	comp=Z,9.3nm,0.6s,baz=55,slow=4.4,SNR=8.9						
AKASG	Malin Array Be	152.99	319	PKPbc	PKPbc	13 29 28.3	-1.9
	comp=Z,1.3nm,0.4s,baz=49,slow=3.1,SNR=14						
AKASG	Malin Array Be	152.99	319	PKPbc	PKPbc	13 29 28.3	-1.9
DBIC	Dimbokro	153.12	166	PKPbc	PKPbc	13 29 30.1	-1.5
	comp=Z,4.9nm,1.0s,baz=293,slow=7.7,SNR=2.6						
CLL	Collm	159.86	338	ePKPab	PKPab	13 30 08.0	-3.0
	comp=Z,7.0nm,1.2s						
CLL				epPKPab	pPKPab	13 30 19.0	+3.4
TORD	Torodi Ar. Bea	160.18	181	PKPab	PKPab	13 30 13.3	+0.1
	comp=Z,1.0nm,0.8s,baz=178,slow=5.2,SNR=2.8						
GERES	GERESS Array B	161.71	333	PKPab	PKPab	13 30 15.7	-3.4
	comp=Z,0.6nm,0.5s,baz=46,slow=3.9,SNR=5.9						

*IDC **08** 13:14:09.5±6.2, 3620N×7026E, h174km±59km, mb3.7/12, mb1 3.8/16, mb1mx3.6/27, mbtmp3.7/16, Error ellipse: s-maj=28.2km s-min=12.6km az=23.0*

*MOS **08** 13:14:11.3±1.0, 3633N×7034E, h205km, mb3.9/3, Error ellipse: s-maj=15.7km s-min=7.5km az=81.2*

*BJI **08** 13:14:13.9, 3671N×7033E, h207km, mB5.0, mb4.4*

*ISCJB **08** 13:14:13.9±0.3, 3648N±003×7043E±005, h225km±4km, mb3.8/15, Error ellipse: s-maj=7.2km s-min=3.9km az=163.3*

*NEIC **08** 13:14:14.4±0.7, 3642N×7044E, h218km±7km, mb4.3/8, Error ellipse: s-maj=10.4km s-min=8.0km az=101.0*

*NNC **08** 13:14:20.1±1.8, 3699N×7047E, h222km±13km, mb3.1, mpv4.2, Error ellipse: s-maj=15.4km s-min=10.8km az=20.0*

ISC 08 13:14:14.6±0.4**, 3647N**±003×**7035E**±006**, h219**km±4km**, n88,** σ**1§06**/99**, mb3.8**/15**, 13C-3D, Hindu Kush region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBL	Kabul	2.20	209	⇑iPN	Pn	13 14 57.7	+1.1
KBL				eS	S	13 15 29.6	+0.1
CEP	Cherat	2.94	154	⇑P	Pn	13 15 05.9	+1.3
CEP				S	S	13 15 43.0	-0.8
CHCP	Chirah Chowk	3.69	139	⇑P	Pn	13 15 14.6	+1.2
THW	Thamme Wali	3.85	162	P	Pn	13 15 15.9	+0.6
SARP	Sargodha	4.93	156	⇑P	Pn	13 15 29.8	+1.1
KSH	Kashi	5.38	54	⇑iP	Pn	13 15 34.2	0.0
KSH				S	S	13 16 32.8	-4.5
KSH				Smax			
	comp=N,1μm,0.9s						
KSH				Smax			
	comp=E,802nm,0.4s						
THN	Thein Dam	5.99	131	eP	Pn	13 15 40.6	-1.5
THN				ex	x	13 16 48.5	
DLH	Dalhousie	6.07	129	ex	x	13 17 11.0	
AML	Almayashu	6.21	24	P	Pn	13 15 44.6	-0.2
	SNR=120						
AML	Almayashu	6.21	24	eP	Pn	13 15 44.6	-0.2
	comp=E,41nm,0.4s						
PONG	Pong	6.47	133	ex	x	13 16 45.5	
UCH	Uchtor	6.59	28	P	Pn	13 15 49.5	-0.1
	SNR=47						
UCH	Uchtor	6.59	28	eP	Pn	13 15 49.2	-0.4
	comp=E,18nm,0.6s						
KK31	Karatay Array	6.62	1	⇑P	Pn	13 15 49.3	-0.6
	comp=E,4.9nm,0.3s,baz=177,slow=12,SNR=114						
KK31				⇓S	S	13 17 00.1	-5.9
	comp=E,37nm,0.5s,baz=182,slow=19						
KK31	Karatay Array	6.62	1	i PN	Pn	13 15 49.2	-0.8
KK31				pmax	pmax		
	comp=Z,10.0nm,0.2s						
EKS2	Erkin-Say	6.72	22	P	Pn	13 15 51.1	-0.2
	SNR=7.5						
EKS2	Erkin-Say	6.72	22	eP	Pn	13 15 50.8	-0.4
	comp=Z,8.3nm,0.6s						
EKS2				eS	S	13 17 03.6	-4.8
KZA	Kyzart	6.76	33	P	Pn	13 15 51.5	-0.3
	SNR=18						
AAK	Ala-Archa	6.93	26	P	Pn	13 15 54.6	+0.7
	SNR=9.1						
KBK	Karagaybulak	7.12	28	P	Pn	13 15 56.5	+0.1
	SNR=13						
BHK	Bhakra	7.13	133	eS	S	13 17 10.8	-7.3
SDNR	Sundarnagar	7.40	130	eP	Pn	13 15 59.0	-1.2
SDNR				ex	x	13 17 14.0	
USP	Ospenovka	7.50	24	P	Pn	13 16 01.3	+0.1
	SNR=12						
TKM2	Tokmak 2	7.60	31	⇑P	Pn	13 16 02.2	-0.4
	comp=Z,18nm,0.8s						
TKM2				⇑S	S	13 17 23.6	-5.3
	comp=Z,39nm,0.8s						
TKM2	Tokmak 2	7.60	31	PN	Pn	13 16 02.1	-0.5
TKM2				pmax	pmax		
	comp=Z,12nm,0.3s						
TKM2	Tokmak 2	7.60	31	P	Pn	13 16 02.3	-0.3
	SNR=22						
TKM2	Tokmak 2	7.60	31	eP	Pn	13 16 02.1	-0.4
	comp=Z,14nm,0.3s						
SMLA	Simla	7.78	131	i P	Pn	13 16 04.5	-0.6
SMLA				i S	S	13 17 26.1	-7.3
SMLA				ex	x	13 17 31.6	
	comp=N,2μm,0.2s						
SMLA				ex	x	13 17 32.0	
	comp=E,1μm,0.3s						
DDI	Dehra Dun	8.89	131	ex	x	13 16 15.8	
KHET	Khetri	9.56	150	eP	Pn	13 16 25.9	-2.0
KHET				eS	S	13 18 08.5	-6.9
NDI	New Delhi	9.69	141	eP	Pn	13 16 23.0	-6.6
NDI				eS	S	13 18 00.0	-18
KUDL	Kundal	9.79	146	eP	Pn	13 16 29.8	-1.1
KUDL				eS	S	13 18 10.5	-10
KUDL				AML	AML	13 18 16.3	
	comp=N,16nm,0.6s						
SONA	Sohna	9.98	143	eP	Pn	13 16 32.3	-1.0
SONA				eS	S	13 18 13.7	-12
SONA				AML	AML	13 18 20.0	
	comp=N,18nm,0.4s						
SONA				AML	AML	13 18 21.3	
	comp=E,49nm,0.5s						
MK31	Makanchi Array	13.62	37	⇓P	Pn	13 17 18.5	-0.4
	comp=E,7.4nm,0.5s,baz=215,slow=12,SNR=60						
MK31	Makanchi Array	13.62	37	P	Pn	13 17 17.8	-1.1
MK31				pmax	pmax		
	comp=Z,5.0nm,0.5s						
MKAR	Makanchi Array	13.62	37	P	Pn	13 17 18.1	-0.9
	comp=Z,0.7nm,0.3s,baz=224,slow=15,SNR=24						
DANN	Dangsing	13.92	122	eP	Pn	13 17 21.8	-1.0
KOLN	Koldanda	14.18	124	eP	Pn	13 17 25.5	-0.5
GKN	Gorkha	14.74	121	eP	Pn	13 17 32.5	-0.3
	comp=Z,32nm,0.3s						
AB31	Akbulak array	14.86	333	P	Pn	13 17 33.0	-1.0
	comp=Z,13nm,0.7s,baz=146,slow=12,SNR=119						
AB31				⇑S	S	13 20 15.7	-2.8
	comp=Z,1.4nm,0.5s						
AB31	Akbulak array	14.86	333	i P	Pn	13 17 33.0	-1.0
AB31				pmax	pmax		
	comp=Z,13nm,0.7s						
WMQ	Urumqi	15.14	56	eP	Pn	13 17 37.5	-0.1
DMN	Daman	15.31	121	eP	Pn	13 17 39.6	-0.1
	comp=Z,34nm,0.5s						
KKN	Kakani	15.31	120	eP	Pn	13 17 39.6	-0.2
	comp=Z,61nm,0.5s						
KURBB	Kurchatov Arra	15.32	20	⇑P	Pn	13 17 38.0	-1.6
	comp=Z,0.5nm,0.6s						
KURK	Kurchatov	15.43	20	P	Pn	13 17 38.5	-2.4
	comp=Z,0.2nm,0.3s,baz=208,slow=10,SNR=8.6						
KURK	Kurchatov	15.43	20	eP	Pn	13 17 43.0	+2.1
KURK				pmax	pmax		
	comp=Z,11nm,1.8s						
KURK	Kurchatov	15.43	20	eP	Pn	13 17 43.0	+2.1
	comp=Z,11nm,1.8s						
PKIN	Phulchoki	15.53	121	eP	Pn	13 17 43.0	+0.6
PKI	Pulchoki	15.54	121	eP	Pn	13 17 42.3	-0.2
	comp=Z,45nm,0.5s						
GUN	Gumba	15.66	119	eP	Pn	13 17 43.9	-0.1
	comp=Z,34nm,0.4s						
JIRN	Jiri	16.03	119	eP	P	13 17 48.9	+1.3
	comp=Z,85nm,0.4s						
VOSK	Vostochnaya	16.25	1	⇓P	P	13 17 50.1	+0.3
	comp=Z,7.3nm,0.7s						
AKTK	Aktyubinsk	16.55	331	P	P	13 17 54.3	+1.3
AKTO	Aktyubinsk	16.55	331	⇑P	P	13 17 53.8	+0.8
	comp=Z,1.9nm,0.5s						
AKTO				⇑S	S	13 20 52.5	-2.0
	comp=Z,0.8nm,1.4s						
AKTO	Aktyubinsk	16.55	331	P	P	13 17 54.3	+1.3
	comp=Z,2.6nm,0.3s,baz=142,slow=10,SNR=52						
BVA0	Borovoye Array	16.55	0	⇑P	P	13 17 53.3	+0.3
	comp=Z,0.8nm,0.5s						
BVA0				S	S	13 20 50.3	-4.3
	comp=Z,0.5nm,0.8s,baz=278,slow=40,SNR=4.4						
BVA0	Borovoye Array	16.55	0	P	P	13 17 54.3	+1.3
BVA0				pmax	pmax		
	comp=Z,1.0nm,0.5s						
BVAR	Borovoye Array	16.55	0	P	P	13 17 53.9	+0.9
	comp=Z,2.2nm,0.3s,baz=168,slow=9.7,SNR=24						
BRVK	Borovoye	16.58	360	eP	P	13 17 54.3	+0.9
BRVK				pmax	pmax		
	comp=Z,9.0nm,0.4s						
BRVK	Borovoye	16.58	360	eP	P	13 17 54.3	+0.9
	comp=Z,8.8nm,0.4s						
RAMN	Ramite	16.75	120	eP	P	13 17 57.0	+1.5
	comp=Z,22nm,0.2s						
TAPN	Taplejung	17.30	117	eP	P	13 18 03.6	+2.1
	comp=Z,17nm,0.3s						

ODAN	Odare	17.36	119	eP	P	13 18 04.2	+2.0
	comp=Z,26nm,0.5s						
LSA	Lhasa	18.68	105	eP	P	13 18 20.2	+3.8
ZAA0	Zalesovo Array	20.16	25	eP	P	13 18 31.7	-0.3
ZALV	Zalesovo Beam	20.16	25	P	P	13 18 32.1	+0.1
	comp=Z,6.4nm,0.3s,baz=222,slow=11,SNR=24						
NVS	Novosibirsk	20.40	22	eP	P	13 18 34.3	-0.2
NVS				e		13 22 08.8	
ARU	Arti	21.49	342	P	P	13 18 47.8	+1.8
ARU	Arti	21.49	342	eP	P	13 18 46.6	+0.6
	comp=Z,12nm,0.8s,mb4.5						
GTA	Gaotai	23.38	74	eP	P	13 19 06.0	+2.5
GTA				AMB	AMB		
	comp=Z,7.0nm,1.1s,mb4.1						
ZAK	Zakamensk	27.40	49	eP	P	13 19 38.8	-0.8
ZAK				pmax	pmax		
	comp=Z,2.0nm,0.9s,mb3.8						
TLY	Talaya	28.04	47	eP	P	13 19 44.9	-0.3
SONM	Songino Array	28.78	55	P	P	13 19 53.5	+1.7
	comp=Z,2.6nm,0.6s,mb4.0,baz=264,slow=9.3,SNR=18						
ULN	Ulaanbaatar	29.22	56	eP	P	13 19 57.1	+1.4
ULN				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb3.9						
ULN	Ulaanbaatar	29.22	56	eP	P	13 19 57.1	+1.4
	comp=Z,1.8nm,0.6s,mb3.9						
CMAR	Chiang Mai Arr	30.91	118	P	P	13 20 10.8	-0.1
	comp=Z,1.2nm,0.7s,mb3.6,baz=295,slow=8.7,SNR=10						
ARCES	ARCESS Array B	40.97	338	P	P	13 21 36.8	+1.4
	comp=Z,2.4nm,0.6s,mb3.8,baz=110,slow=9.2,SNR=14						
NOA	NORSAR Array B	44.09	323	P	P	13 22 01.5	+0.9
	comp=Z,0.7nm,0.4s,mb3.3,baz=97,slow=7.8,SNR=3.4						
KSRS	Korea Array	45.38	71	P	P	13 22 11.8	+0.6
	comp=Z,0.9nm,0.4s,mb3.4,baz=140,slow=5.6,SNR=5.7						
KSRS	Korea Array	45.38	71	P	P	13 22 11.8	+0.6
KSRS				pmax	pmax		
	comp=Z,1.0nm,0.4s,mb3.5						
KAPI	Kappang	61.89	121	P	P	13 24 10.2	-0.9
	comp=Z,3.9nm,0.4s,mb4.3,baz=120,slow=19,SNR=4.6						
TORD	Torodi Ar. Bea	65.19	268	P	P	13 24 31.4	-1.2
	comp=Z,0.9nm,0.5s,mb3.7,baz=48,slow=5.1,SNR=21						
DBIC	Dimbokro	74.17	267	P	P	13 25 27.7	+0.2
	comp=Z,3.5nm,1.0s,mb3.9,baz=270,slow=15,SNR=4.0						
FITZ	Fitzroy Crossi	75.30	126	P	P	13 25 33.0	-0.7
	comp=Z,0.6nm,0.7s,mb3.4,baz=308,slow=18,SNR=3.8						
WRA	Warramunga Arr	82.42	121	P	P	13 26 11.2	-1.2
	comp=Z,1.3nm,0.5s,mb3.8,baz=323,slow=5.0,SNR=33						
WB2	Warramunga Arr	82.43	121	eP	P	13 26 10.9	-1.5
ASAR	Alice Springs	84.67	124	P	P	13 26 22.6	-1.1
	comp=Z,1.1nm,0.5s,mb3.8,baz=312,slow=4.8,SNR=34						

IDC ***08*** *13:22:06.0±0.6, 3752N×2473W, h0km, mb4.2/19, mb1 4.3/20, mb1mx4.2/32, mbtmp4.2/20, ML3.7/1, MS3.6/19, Ms1 3.6/19, ms1mx3.5/35, Error ellipse: s-maj=21.0km s-min=13.6km az=149.0*

ISCJB ***08*** *13:22:06.0±0.2, 3749N±004×2465W±002, h10km, mb4.5/60, MS3.7/27, Error ellipse: s-maj=5.5km s-min=2.2km az=177.6*

CSEM ***08*** *13:22:06.2±0.1, 3764N×2469W, h12km, mb4.7/39, Ms3.3, Error ellipse: s-maj=4.2km s-min=1.4km az=176.0*

BJI ***08*** *13:22:06.5, 3758N×2557W, h26km, mB5.6, mb5.2, Ms5.0, Msz4.6*

NEIC ***08*** *13:22:07.4±0.2, 3741N×2462W, h10km, mb4.7/51, Error ellipse: s-maj=6.0km s-min=3.3km az=177.0*

NEIC Felt at Ponta Delgada.

MOS ***08*** *13:22:08.9±1.1, 3756N×2463W, h29km, mb4.8/34, Error ellipse: s-maj=13.2km s-min=4.7km az=140.8*

PDA ***08*** *13:22:09.2±1.2, 3743N×2465W, h5km, MD3.9, ML4.3, Error ellipse: s-maj=8.4km s-min=3.6km az=75.0*

SZGRF ***08*** *13:22:14.3, 3773N×2419W, h33km, mb4.3, MS3.4, Azores Islands region*

ISC 08 13:22:07.6±0.2, **3745N**±003×**2464W**±002, **h10km, (h17km**±2.3km**:pP-P), n420,** σ0s**96**/431, **mb4.5**/61, **MS3.7**/27, **69C-49D, Azores Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSMN	Pico do Norte,	0.56	217	eP	Pg	13 22 18.4	-0.2
PSMN				eS	Sg	13 22 25.2	-0.7
CMLA	Cha da Macela	0.77	294	eP	Pg	13 22 21.6	-0.9
CMLA				eS	Sg	13 22 31.1	-1.4
CMLA				A		13 22 34.2	
	14μm,0.4s						
CMLA	Cha da Macela	0.77	294	⇓ePg	Pg	13 22 21.1	-1.4
CMLA	Cha da Macela	0.77	294	eP	Pg	13 22 21.6	-0.9
CMLA				eS	Sg	13 22 31.1	-1.4
PDA	Ponta Delgada	0.87	290	eP	Pg	13 22 23.3	-1.0
PDA				eS	Sg	13 22 33.7	-1.9
PSET	Sete Cidades	0.94	294	eP	Pg	13 22 24.1	-1.5
PSET				eS	Sg	13 22 35.7	-2.1
PSET				A		13 22 40.4	
	3μm,0.4s						
PSET	Sete Cidades	0.94	294	eP	Pg	13 22 24.1	-1.5
PSET				eS	Sg	13 22 35.7	-2.1
PSCM	Serra do Cume	2.32	303	eP	Pn	13 22 43.0	-2.8
PSCM				eS	Sn	13 23 08.9	-5.5
PSCM				A		13 23 14.2	
	616nm,0.3s						
PSCM	Serra do Cume	2.32	303	eP	Pn	13 22 43.0	-2.8
PSCM				eS	Sn	13 23 08.9	-5.5
PMAN	Manadas	2.97	294	eP	Pn	13 22 52.6	-2.2
PMAN				eS	Sn	13 23 24.4	-6.0
PMAN				A		13 23 26.8	
	409nm,0.3s						
ROSA	Rosais	3.11	295	eP	Pn	13 22 54.7	-2.0
ROSA				eS	Sn	13 23 28.3	-5.7
PICO	Pico	3.17	290	eP	Pn	13 22 56.0	-1.5
PICO				eS	Sn	13 23 30.3	-5.1
HOR	Horta	3.33	290	eP	Pn	13 22 58.0	-1.8
HOR				eS	Sn	13 23 33.5	-5.9
CALA	Caldeira	3.40	291	eP	Pn	13 22 58.7	-2.0
CALA				eS	Sn	13 23 35.5	-5.6
PMAR	Madeira	7.89	124	eP	Pn	13 24 00.6	-1.8
PMAR				eS	Sn	13 25 19.3	-13
PMAR				A		13 25 30.4	
	115nm,0.2s						
PMPS	Porto Santo	8.08	120	eP	Pn	13 24 01.9	-3.1
PMPS				eS	Sn	13 25 24.2	-12
PMPS				A		13 25 33.3	
	26nm,0.3s						
EGOM	La Gomera	11.17	144	P	Pn	13 24 45.1	-2.2
	43nm,0.9s						
EGOM				S	Sn	13 26 36.7	-16
EBAJ	Bajamar	11.28	140	P	Pn	13 24 47.0	-2.0
	116nm,1.4s						
CCAN	Las Canadas	11.41	141	P	Pn	13 24 48.4	-2.2
	15nm,0.9s						
CFTV	Fuerteventura	12.63	132	P	Pn	13 25 05.4	-1.9
	12nm,0.9s						
MORF	Marmelete	12.72	86	eS	Sn	13 27 14.6	-16
MOE	Montemor	12.90	80	eS	Sn	13 27 17.8	-17
EVOP	Sao Brissos	13.07	80	ePn	Pn	13 25 07.6	-5.8
EVO	Evora	13.16	80	ePn	Pn	13 25 07.6	-6.9
EVO				eSn	Sn	13 27 21.5	-19
	3.9nm,0.3s						
EVO				eMLR	MLR		
	comp=Z,168nm,18.0s						
PBEJ	Beja	13.29	82	eP	Pn	13 25 15.5	-0.8
PBEJ				eS	Sn	13 27 27.2	-17
PBDV	Barranco-do-Ve	13.30	86	eS	Sn	13 27 30.9	-13
PVIS	Viseu	13.41	71	eS	Sn	13 27 30.7	-16
PVAQ	Vaqueiros	13.45	85	eS	Sn	13 27 29.7	-18
PCAB	Cabril	13.50	66	eS	Sn	13 27 31.4	-18
ELOB	Lobios	13.51	66	P	Pn	13 25 13.7	-5.6
	comp=Z,17nm,0.9s						
ELOB				S	Sn	13 27 33.4	-16
EGRO	El Granado	13.63	84	P	Pn	13 25 19.9	-1.0
	comp=Z,17nm,1.9s						
EGRO	El Granado	13.63	84	P	Pn	13 25 19.9	-1.0
	comp=Z,17nm,1.9s						
PBAR	Barrancos	13.94	82	eP	Pn	13 25 20.9	-4.2
PBAR				eS	Sn	13 27 43.0	-17
MVO	Moncorvo	14.13	69	eP	Pn	13 25 19.0	-8.7
MVO				eS	Sn	13 27 45.3	-19
PBRG	Braganca	14.46	67	eP	Pn	13 25 26.1	-6.1
PBRG				eS	Sn	13 27 53.4	-19
ECAL	Calabor	14.49	66	P	Pn	13 25 26.1	-6.6
	comp=Z,5.1nm,0.9s						
ECAL				S	Sn	13 27 56.2	-17
EPON	Pontenova	14.55	61	P	Pn	13 25 27.9	-5.6
	comp=Z,7.7nm,1.2s						
EPON				S	Sn	13 27 57.0	-18
GUD	Guadarrama	16.23	72	P	Pn	13 25 59.9	+4.3
GUD				pmax	pmax		
	comp=Z,8.0nm,1.0s						
GUD	Guadarrama	16.23	72	P	Pn	13 25 59.9	+4.3
	comp=Z,7.5nm,1.0s						
ESDC	Sonseca Array	16.32	76	Pn	Pn	13 25 50.8	-6.1
	comp=Z,0.7nm,0.3s,baz=268,slow=12,SNR=5.2						
ESDC				LR	LR	13 31 10.4	
	comp=Z,159nm,18.6s,baz=285,slow=33						
ESLA	Sonseca Array	16.32	76	eP	Pn	13 26 00.3	+3.5
MDT	Midelt	17.01	100	P	Pn	13 26 05.3	-0.4
	comp=Z,0.3nm,0.3s,baz=290,slow=15,SNR=7.3						
MDT				LR	LR	13 31 30.7	
	comp=Z,111nm,21.7s,baz=145,slow=33						
EQES	Quesada	17.09	82	P	Pn	13 26 07.1	+0.6
	comp=Z,16nm,1.3s						
EQES	Quesada	17.09	82	P	Pn	13 26 07.1	+0.6
	comp=Z,16nm,1.3s						
ELAN	Lanestosa	17.15	64	P	Pn	13 26 10.0	+2.8
	comp=Z,75nm,1.6s						
EVIA	Vianos	17.48	79	P	Pn	13 26 09.9	-1.5
EVIA				pmax	pmax		
	comp=Z,3.0nm,0.8s						
EVIA	Vianos	17.48	79	P	Pn	13 26 09.9	-1.5
	comp=Z,3.1nm,0.8s						
EVIA	Vianos	17.48	79	P	Pn	13 26 09.8	-1.5
	comp=Z,3.1nm,0.8s						
ETOB	Tobarra	18.22	79	P	Pn	13 26 21.2	+0.6
	comp=Z,27nm,1.4s						
ETOB	Tobarra	18.22	79	P	Pn	13 26 21.2	+0.6
	comp=Z,27nm,1.4s						
SJPF	Ste Jean	18.71	65	eP	Pn	13 26 24.6	-1.9
	comp=Z,35nm,1.3s						
SJPF	Ste Jean	18.71	65	eP	Pn	13 26 24.6	-1.9
SJPF				pmax	pmax		
	comp=Z,18nm,1.3s						
SJPF	Ste Jean	18.71	65	eP	Pn	13 26 24.6	-1.9
	comp=Z,18nm,1.3s						
ROSF	Rostrenen	19.00	48	eP	Pn	13 26 27.4	-2.5
ETSF	Etsaut	19.16	66	eP	Pn	13 26 31.1	-0.8
	comp=Z,31nm,1.3s						
ETSF	Etsaut	19.16	66	eP	Pn	13 26 31.1	-0.8
ETSF				pmax	pmax		
	comp=Z,16nm,1.3s						
ETSF	Etsaut	19.16	66	eP	Pn	13 26 31.1	-0.8
	comp=Z,16nm,1.3s						
EBIE	Bielsa	19.64	67	P	Pn	13 26 37.3	-0.4
	comp=Z,6.4nm,0.9s						
EBIE	Bielsa	19.64	67	P	Pn	13 26 37.3	-0.4
	comp=Z,6.4nm,0.9s						
ERTA	Horta de San J	19.65	72	P	Pn	13 26 35.9	-1.9
ERTA	Horta de San J	19.65	72	P	Pn	13 26 35.9	-1.9
EPF	Esparros	19.83	66	eP	Pn	13 26 38.7	-1.3
	comp=Z,60nm,1.4s						
EPF	Esparros	19.83	66	eP	Pn	13 26 38.7	-1.3
EPF				pmax	pmax		
	comp=Z,30nm,1.4s						
EPF	Esparros	19.83	66	eP	Pn	13 26 38.7	-1.3
	comp=Z,30nm,1.4s						
EPOB	Poblet	20.22	71	P	P	13 26 43.6	+0.9
	comp=Z,14nm,0.8s						
EPOB	Poblet	20.22	71	P	P	13 26 43.6	+0.9
	comp=Z,14nm,0.8s						
MFF	Saint Martin d	20.30	55	eP	P	13 26 43.4	0.0
	comp=Z,107nm,1.2s						
MFF	Saint Martin d	20.30	55	eP	P	13 26 43.4	0.0
MFF				pmax	pmax		
	comp=Z,54nm,1.2s						
MFF	Saint Martin d	20.30	55	eP	P	13 26 43.4	0.0
	comp=Z,54nm,1.2s						
LFF	La Frestale	20.45	61	eP	P	13 26 45.0	-0.2
	comp=Z,103nm,1.1s						
LFF	La Frestale	20.45	61	eP	P	13 26 45.0	-0.2
LFF				pmax	pmax		
	comp=Z,51nm,1.1s						
LFF	La Frestale	20.45	61	eP	P	13 26 45.0	-0.2
	comp=Z,52nm,1.1s						
GRR	Gorron	20.48	50	eP	P	13 26 45.6	+0.2
	comp=Z,166nm,1.2s						
GRR	Gorron	20.48	50	eP	P	13 26 45.6	+0.2
GRR				pmax	pmax		
	comp=Z,83nm,1.2s						
GRR	Gorron	20.48	50	eP	P	13 26 45.6	+0.2
	comp=Z,83nm,1.2s						
EMIR	Miracle	20.59	69	P	P	13 26 47.5	+0.8
EMIR	Miracle	20.59	69	P	P	13 26 47.5	+0.9
FLN	La Foliniere	20.86	50	eP	P	13 26 49.5	0.0
	comp=Z,111nm,1.3s						
FLN				eMLR	MLR		
	comp=Z,242nm,20.8s,MS3.3						
FLN	La Foliniere	20.86	50	eP	P	13 26 49.5	0.0
FLN				pmax	pmax		
	comp=Z,56nm,1.3s						
FLN				MLR	MLR		
	comp=Z,240nm,20.8s,MS3.5						
FLN	La Foliniere	20.86	50	eP	P	13 26 49.5	0.0
	comp=Z,56nm,1.3s						
FLN				LR	LR		
	comp=Z,240nm,20.8s,MS3.5						
VALF	Valcebollere	20.99	68	eP	P	13 26 51.5	+0.5
LDF	La Druitiere	21.01	50	eP	P	13 26 51.0	-0.1
	comp=Z,80nm,1.2s,mb4.6						
LDF	La Druitiere	21.01	50	eP	P	13 26 51.0	-0.1
LDF				pmax	pmax		
	comp=Z,40nm,1.2s,mb4.6						
LDF	La Druitiere	21.01	50	eP	P	13 26 51.0	-0.1
	comp=Z,40nm,1.2s,mb4.6						
RJF	Les Rejaudoux	21.07	60	eP	P	13 26 50.9	-0.9
	comp=Z,55nm,1.3s,mb4.4						
RJF				eMLR	MLR		
	comp=Z,311nm,18.8s,MS3.4						
RJF	Les Rejaudoux	21.07	60	eP	P	13 26 50.9	-0.9
RJF				pmax	pmax		
	comp=Z,27nm,1.3s,mb4.4						
RJF				MLR	MLR		
	comp=Z,310nm,18.8s,MS3.7						
RJF	Les Rejaudoux	21.07	60	eP	P	13 26 50.9	-0.9
	comp=Z,28nm,1.3s,mb4.4						
RJF				LR	LR		
	comp=Z,310nm,18.8s,MS3.7						
MTLF	Montolieu	21.23	66	eP	P	13 26 53.4	-0.2
CAF	Calviac	21.37	61	eP	P	13 26 54.4	-0.7
	comp=Z,87nm,1.1s,mb4.7						
CAF	Calviac	21.37	61	eP	P	13 26 54.4	-0.7
CAF				pmax	pmax		
	comp=Z,43nm,1.1s,mb4.7						
CAF	Calviac	21.37	61	eP	P	13 26 54.4	-0.7
	comp=Z,44nm,1.1s,mb4.7						
FILF	Fillols	21.41	68	eP	P	13 26 54.0	-1.5
ETOS	Mallorca	21.55	75	P	P	13 26 57.8	+0.8
	comp=Z,38nm,1.3s,mb4.7						
ETOS	Mallorca	21.55	75	P	P	13 26 57.8	+0.8
	comp=Z,38nm,1.3s,mb4.7						
TCF	Toulx Ste Croi	21.77	58	eP	P	13 26 58.9	-0.5
	comp=Z,75nm,1.3s,mb4.7						
TCF	Toulx Ste Croi	21.77	58	eP	P	13 26 58.9	-0.5
TCF				pmax	pmax		
	comp=Z,38nm,1.3s,mb4.7						
TCF	Toulx Ste Croi	21.77	58	eP	P	13 26 58.9	-0.5
	comp=Z,38nm,1.3s,mb4.7						
PYM	Petit Puy Mans	22.19	59	eP	P	13 27 03.8	0.0
LBL	Lubilhac	22.25	61	eP	P	13 27 04.3	-0.2
AGO	Saint Agoulin	22.34	59	eP	P	13 27 05.5	+0.1
LASF	Ste Croix	22.50	64	eP	P	13 27 07.1	-0.1
	comp=Z,138nm,1.4s,mb4.9						
LASF	Ste Croix	22.50	64	eP	P	13 27 07.1	-0.1
	comp=Z,69nm,1.4s,mb4.9						
PLDF	La Plantade	22.66	59	eP	P	13 27 08.6	-0.2
AVF	Avril sur Loir	22.66	57	eP	P	13 27 08.8	0.0
	comp=Z,8.8nm,0.8s,mb3.9						
AVF	Avril sur Loir	22.66	57	eP	P	13 27 08.8	0.0
AVF				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb3.9						
AVF	Avril sur Loir	22.66	57	eP	P	13 27 08.8	0.0
	comp=Z,4.4nm,0.8s,mb3.9						
SSF	Saint Saulge	22.83	56	eP	P	13 27 10.5	-0.1
	comp=Z,86nm,1.5s,mb4.7						
SSF	Saint Saulge	22.83	56	eP	P	13 27 10.5	-0.1
SSF				pmax	pmax		
	comp=Z,43nm,1.5s,mb4.7						
SSF	Saint Saulge	22.83	56	eP	P	13 27 10.5	-0.1
	comp=Z,43nm,1.5s,mb4.7						
SMF	Signal de Mont	22.95	57	eP	P	13 27 12.0	+0.1
	comp=Z,113nm,1.6s,mb4.8						
SMF	Signal de Mont	22.95	57	eP	P	13 27 12.0	+0.1
SMF				pmax	pmax		
	comp=Z,57nm,1.6s,mb4.8						
SMF	Signal de Mont	22.95	57	eP	P	13 27 12.0	+0.1
	comp=Z,56nm,1.6s,mb4.8						
EKA	Eskdalemuir Ar	23.06	32	P	P	13 27 13.2	+0.2
	comp=Z,8.4nm,0.9s,mb4.2,baz=242,slow=9.0,SNR=9.9						
LOR	Lormes	23.12	56	eP	P	13 27 13.3	-0.3
	comp=Z,28nm,1.1s,mb4.3						
LOR				eMLR	MLR		
	comp=Z,218nm,23.0s,MS3.2						
LOR	Lormes	23.12	56	eP	P	13 27 13.3	-0.3
LOR				pmax	pmax		
	comp=Z,14nm,1.1s,mb4.3						
LOR				MLR	MLR		
	comp=Z,220nm,23.0s,MS3.5						
LOR	Lormes	23.12	56	eP	P	13 27 13.3	-0.3
	comp=Z,14nm,1.1s,mb4.3						
LOR				LR	LR		
	comp=Z,220nm,23.0s,MS3.5						
MENF	Mencas	23.15	47	eP	P	13 27 12.3	-1.7
VIVF	Saint-Julien-l	23.19	62	eP	P	13 27 14.3	-0.1
	comp=Z,33nm,1.0s,mb4.4						
VIVF	Saint-Julien-l	23.19	62	eP	P	13 27 14.3	-0.1
VIVF				pmax	pmax		
	comp=Z,17nm,1.0s,mb4.4						
VIVF	Saint-Julien-l	23.19	62	eP	P	13 27 14.3	-0.1
	comp=Z,16nm,1.0s,mb4.4						
PRAF	Pradon	23.42	65	eP	P	13 27 21.5	+4.7
SMRF	Simiane la Rot	23.73	65	eP	P	13 27 20.0	+0.2
	comp=Z,64nm,1.4s,mb4.6						
SMRF	Simiane la Rot	23.73	65	eP	P	13 27 20.0	+0.2
	comp=Z,32nm,1.4s,mb4.6						
BERF	Bertagne	23.75	66	eP	P	13 27 20.3	+0.2
PUYF	Puyloubier	23.78	66	eP	P	13 27 21.5	+1.2
BBTS	Babate	23.82	160	LR	LR	13 36 32.7	
	comp=Z,38nm,19.9s,MS2.9,baz=355,slow=36						
STOF	St-Etienne Org	23.97	65	eP	P	13 27 20.1	-1.9
TAVF	Tavernes	24.04	66	eP	P	13 27 22.0	-0.7
ORIF	Oris-en-Rattie	24.05	62	eP	P	13 27 23.9	+1.1
	comp=Z,49nm,1.2s,mb4.5						
ORIF				eMLR	MLR		
	comp=Z,222nm,21.5s,MS3.3						
ORIF	Oris-en-Rattie	24.05	62	eP	P	13 27 23.9	+1.1
ORIF				pmax	pmax		
	comp=Z,24nm,1.2s,mb4.5						
ORIF	Oris-en-Rattie	24.05	62	eP	P	13 27 23.9	+1.1
	comp=Z,24nm,1.2s,mb4.5						
BAIF	Baives	24.18	49	eP	P	13 27 22.6	-1.3
	comp=Z,19nm,0.9s,mb4.2						
BAIF	Baives	24.18	49	eP	P	13 27 22.6	-1.3
BAIF				pmax	pmax		
	comp=Z,9.0nm,0.9s,mb4.2						
BAIF	Baives	24.18	49	eP	P	13 27 22.6	-1.3
	comp=Z,9.4nm,0.9s,mb4.2						
LMR	La Mourre	24.35	66	eP	P	13 27 25.6	0.0
	comp=Z,32nm,1.2s,mb4.3						
LMR	La Mourre	24.35	66	eP	P	13 27 25.6	0.0
LMR				pmax	pmax		
	comp=Z,16nm,1.2s,mb4.3						
LMR	La Mourre	24.35	66	eP	P	13 27 25.6	0.0
	comp=Z,16nm,1.2s,mb4.3						
DOU	Dourbes	24.43	50	P	P	13 27 26.5	+0.3
DOU	Dourbes	24.43	50	P	P	13 27 26.4	+0.2
FRF	La Foret Royal	24.46	66	eP	P	13 27 26.6	0.0
	comp=Z,31nm,1.0s,mb4.4						
FRF	La Foret Royal	24.46	66	eP	P	13 27 26.6	0.0
FRF				pmax	pmax		
	comp=Z,15nm,1.0s,mb4.4						
FRF	La Foret Royal	24.46	66	eP	P	13 27 26.6	0.0
	comp=Z,15nm,1.0s,mb4.4						
GIVF	Givet	24.57	50	eP	P	13 27 26.2	-1.2
	comp=Z,43nm,1.0s,mb4.6						
GIVF	Givet	24.57	50	eP	P	13 27 26.2	-1.2
GIVF				pmax	pmax		
	comp=Z,22nm,1.0s,mb4.6						
GIVF	Givet	24.57	50	eP	P	13 27 26.2	-1.2
	comp=Z,22nm,1.0s,mb4.6						
BNI	Bardonecchia	24.63	62	eP	P	13 27 27.9	-0.1
BNI	Bardonecchia	24.63	62	eP	P	13 27 27.9	-0.2
MBDF	Montbardon	24.66	63	eP	P	13 27 28.5	+0.2
	comp=Z,28nm,1.2s,mb4.4						
MBDF	Montbardon	24.66	63	eP	P	13 27 28.5	+0.2
MBDF				pmax	pmax		
	comp=Z,14nm,1.2s,mb4.4						
MBDF	Montbardon	24.66	63	eP	P	13 27 28.5	+0.2
	comp=Z,14nm,1.2s,mb4.4						
LPL	La Plagne	24.72	61	eP	P	13 27 30.5	+1.6
LPG	La Plagne	24.73	61	eP	P	13 27 30.8	+1.8
	comp=Z,45nm,1.3s,mb4.5						
LPG	La Plagne	24.73	61	eP	P	13 27 30.8	+1.8
LPG				pmax	pmax		
	comp=Z,22nm,1.3s,mb4.5						
LPG	La Plagne	24.73	61	eP	P	13 27 30.8	+1.8
	comp=Z,22nm,1.3s,mb4.5						
MVIF	Mont Vial	24.85	65	eP	P	13 27 29.3	-0.8
TOUF	Mont Tournerai	24.93	65	eP	P	13 27 31.5	+0.7
LUCF	Luceram	24.99	65	eP	P	13 27 32.5	+1.1
SBF	Sospel	25.05	65	eP	P	13 27 33.0	+1.0
	comp=Z,56nm,1.1s,mb4.7						
SBF	Sospel	25.05	65	eP	P	13 27 33.0	+1.0
SBF				pmax	pmax		
	comp=Z,28nm,1.1s,mb4.7						
SBF	Sospel	25.05	65	eP	P	13 27 33.0	+1.0
	comp=Z,28nm,1.1s,mb4.7						
LOMF	Lomont	25.10	57	eP	P	13 27 34.9	+2.6
WLF	Walferdange	25.25	51	P	P	13 27 33.4	-0.2
	comp=Z,17nm,1.3s,mb4.4						
WLF	Walferdange	25.25	51	eP	P	13 27 33.0	-0.6
WLF				pmax	pmax		
	comp=Z,19nm,0.8s,mb4.7						
WLF	Walferdange	25.25	51	eP	P	13 27 33.0	-0.6
	comp=Z,19nm,0.8s,mb4.7						
WLF	Walferdange	25.25	51	eP	P	13 27 33.0	-0.6
	comp=Z,19nm,0.8s,mb4.7						
MOF	Molkenrain	25.41	56	eP	P	13 27 36.5	+1.4
ECH	Echery	25.50	55	eP	P	13 27 34.5	-1.5
BBS	Basel-Blauen	25.58	57	eP	P	13 27 35.3	-1.4
RUP	Ruppelstein	25.82	52	eP	P	13 27 38.2	-0.6
FELD	Feldberg im Sc	25.99	56	eP	P	13 27 41.3	+0.9
PGF	Pioggiola	26.16	68	eP	P	13 27 41.0	-1.0
	comp=Z,76nm,1.5s,mb4.7						
PGF	Pioggiola	26.16	68	eP	P	13 27 41.0	-1.0
PGF				pmax	pmax		
	comp=Z,38nm,1.5s,mb4.7						
PGF	Pioggiola	26.16	68	eP	P	13 27 41.0	-1.0
	comp=Z,38nm,1.5s,mb4.7						
BFO	Black Forest	26.29	55	eP	P	13 27 42.4	-0.7
BFO				pmax	pmax		
	comp=Z,24nm,1.4s,mb4.5						
BFO	Black Forest	26.29	55	eP	P	13 27 42.4	-0.7
	comp=Z,24nm,1.4s,mb4.5						
BFO	Black Forest	26.29	55	eP	P	13 27 42.4	-0.8
	comp=Z,24nm,1.4s,mb4.5						
DAVOS	Davos	27.01	59	P	P	13 27 52.3	+2.7
DAVOX	Davos/Dischmat	27.06	59	P	P	13 27 52.3	+2.2
	comp=Z,1.4nm,0.4s,mb3.9,baz=345,slow=23,SNR=4.5						
DAVOX				LR	LR	13 38 23.0	
	comp=Z,144nm,18.2s,MS3.6,baz=74,slow=36						
KEST	Kesra	27.26	83	LR	LR	13 37 51.8	
	comp=Z,26nm,20.1s,MS2.8,baz=342,slow=35						
GRA1	Grafenberg Arr	28.44	53	eP	P	13 28 01.8	-0.6
	comp=Z,5.0nm,1.0s,mb4.1						
GRA1				LR	LR		
	comp=Z,100nm,20.9s,MS3.4						
GRF	Grafenberg Arr	28.44	53	eP	P	13 28 01.8	-0.6
GRF				pmax	pmax		
	comp=Z,5.0nm,1.0s,mb4.1						
GRF				MLR	MLR		
	comp=Z,100nm,20.9s,MS3.4						
GRF	Grafenberg Arr	28.44	53	eP	P	13 28 01.8	-0.6
GRF				pmax	pmax		
	comp=Z,5.0nm,1.0s,mb4.1						
GRF				MLR	MLR		
	comp=Z,100nm,20.9s,MS3.4						
GRF	Grafenberg Arr	28.44	53	eP	P	13 28 01.8	-0.6
	comp=Z,5.0nm,1.0s,mb4.1						
GRF				eL		13 37 03.5	
	comp=Z,115nm,20.9s						
TAM	Tamanrasset	29.75	111	P	P	13 28 16.3	+2.1
TAM	Tamanrasset	29.75	111	P	P	13 28 16.3	+2.1
CLL	Collm	29.89	50	eS	S	13 33 26.0	+14
GERES	GERESS Array B	29.89	55	P	P	13 28 14.8	-0.5
	comp=Z,0.3nm,0.3s,mb3.5,baz=267,slow=8.8,SNR=5.2						
GERES				LR	LR	13 39 49.8	
	comp=Z,73nm,19.3s,MS3.3,baz=54,slow=36						
NOA	NORSAR Array B	32.55	32	P	P	13 28 38.6	+0.1
	comp=Z,2.6nm,0.9s,mb4.2,baz=242,slow=9.0,SNR=4.3						

NOA LR LR 13 39 36.6
comp=Z,154nm,18.5s,MS3.7,baz=225,slow=32
TOA0 Torodi Ar. Sit 33.73 129 P **P 13 28 53.1 +3.8**
TORD Torodi Ar. Bea 33.73 129 P **P 13 28 50.0 +0.7**
comp=Z,2.6nm,1.2s,mb4.0,baz=312,slow=8.1,SNR=7.7
TORD LR LR 13 42 28.0
comp=Z,136nm,18.1s,MS3.7,baz=320,slow=36
JMIC Jan Mayen 34.65 9 LR LR 13 38 39.1
comp=Z,373nm,21.8s,MS4.1,baz=59,slow=29
DBIC Dimbokro 35.54 145 LR LR 13 42 36.4
comp=Z,69nm,18.7s,MS3.4,baz=100,slow=34
UZH Uzhgorod 35.55 56 *eP* **P 13 29 07.8 +3.1**
KWP Kalwaria 35.84 55 *eP* **P 13 29 07.2 0.0**
KWP pmax pmax
comp=Z,9.0nm,0.8s,mb4.8
KWP Kalwaria 35.84 55 *eP* **P 13 29 07.2 0.0**
comp=Z,9.4nm,0.8s,mb4.8
KWP Kalwaria 35.84 55 *eP* **P 13 29 07.2 0.0**
comp=Z,9.4nm,0.8s,mb4.8
IDI Anoyia 39.57 78 P **P 13 29 39.8 +0.9**
comp=Z,1.9nm,0.3s,mb4.3,baz=349,slow=8.0,SNR=4.5
ARCES ARCESS Array B 41.74 24 P **P 13 29 56.0 -0.4**
comp=Z,2.0nm,0.7s,mb3.9,baz=259,slow=14,SNR=2.6
ARCES LR LR 13 47 45.1
comp=Z,29nm,19.2s,MS3.2,baz=15,slow=37
SPITS Spitsbergen Ar 44.25 11 LR LR 13 44 35.8
comp=Z,108nm,18.0s,MS3.8,baz=275,slow=30
OBN Obninsk 44.29 46 P **P 13 30 21.0 +3.8**
OBN *eS* **S 13 36 55.3 +4.4**
OBN *eSS* SS 13 40 14.9 +6.1
OBN pmax pmax
comp=Z,3.0nm,0.7s,mb4.1
SDV Santo Domingo 50.26 248 P **P 13 31 04.8 +0.5**
comp=Z,12nm,0.8s,mb5.0
SDV Santo Domingo 50.26 248 P **P 13 31 04.8 +0.6**
comp=Z,12nm,0.8s,mb5.0
GNI Garni 52.86 64 LR LR 13 50 33.6
comp=Z,27nm,21.7s,MS3.3,baz=123,slow=32
MIAR Mount Ida 54.70 289 *eP* **P 13 31 37.0 0.0**
MIAR pmax pmax
comp=Z,15nm,1.2s,mb4.9
MIAR Mount Ida 54.70 289 *eP* **P 13 31 37.0 0.0**
comp=Z,15nm,1.2s,mb4.9
MIAR Mount Ida 54.70 289 *eP* **P 13 31 37.0 0.0**
comp=Z,15nm,1.2s,mb4.9
ROSC El Rosal 55.67 247 LR LR 13 52 03.8
comp=Z,98nm,20.6s,MS3.9,baz=18,slow=32
ARU Arti 56.23 42 *c i P* **P 13 31 48.8 +1.1**
ARU *e* 13 33 49.8
ARU *eS* **S 13 39 37.3 +0.2**
ARU *eSS* SS 13 43 20.7 -2.4
ARU pmax pmax
comp=Z,12nm,1.7s,mb4.7
ARU Arti 56.23 42 *i P* **P 13 31 48.8 +1.1**
comp=Z,12nm,1.7s,mb4.7
DGMT Dagmar 56.77 309 ⇑P **P 13 31 51.2 -0.5**
baz=56
AKTK Aktyubinsk 57.95 48 P **P 13 31 59.4 -0.6**
AKTK Aktyubinsk 57.95 48 P **P 13 31 59.4 -0.6**
AKTO Aktyubinsk 57.95 48 P **P 13 31 59.4 -0.6**
comp=Z,3.1nm,0.9s,mb4.4,baz=289,slow=8.2,SNR=5.8
JTS JuntasAbangare 60.31 260 LR LR 13 52 17.2
comp=Z,101nm,22.0s,MS3.9,baz=248,slow=30
EDM Edmonton 60.36 316 *eP* **P 13 32 15.5 -1.1**
EDM Edmonton 60.36 316 *eP* **P 13 32 15.5 -1.0**
EGMT Eagleton 60.38 310 ⇑P **P 13 32 16.1 -0.7**
baz=60
E18A Harlowton 61.08 308 ⇑P **P 13 32 21.0 -0.6**
baz=61
JCT Junction City 61.22 288 *eP* **P 13 32 22.1 -0.7**
JCT pmax pmax
comp=Z,27nm,1.3s,mb5.2
JCT Junction City 61.22 288 *eP* **P 13 32 22.1 -0.7**
comp=Z,27nm,1.3s,mb5.2
JCT Junction City 61.22 288 *eP* **P 13 32 22.1 -0.7**
comp=Z,27nm,1.3s,mb5.2
F18A Big Timber 61.24 307 ⇑P **P 13 32 21.8 -0.9**
baz=61
RLMT Red Lodge 61.29 307 ⇓P **P 13 32 22.4 -0.7**
baz=61
E17A Martinsdale 61.72 308 ⇓P **P 13 32 25.2 -0.7**
baz=61
A15A Johnson Ranch, 61.77 312 ⇓P **P 13 32 26.1 -0.1**
baz=61,SNR=6.7
OTAV Otavalo 61.81 246 *eP* **P 13 32 28.3 +1.3**
D16A Dana Ranch, Ca 61.90 309 ⇓P **P 13 32 26.2 -0.9**
baz=62
B15A Bradely Ranch, 61.96 311 ⇑P **P 13 32 26.8 -0.7**
baz=62,SNR=5.1
A14A Double T Ranch 62.19 312 ⇓P **P 13 32 28.4 -0.6**
baz=62
C15A Salmond Ranch, 62.22 310 ⇑P **P 13 32 28.9 -0.3**
baz=62
D15A Lincoln 62.49 310 ⇑P **P 13 32 30.8 -0.3**
baz=62
BW06 Boulder Array 62.51 304 *eP* **P 13 32 30.2 -1.1**
comp=Z,4.2nm,1.1s,mb4.5
BW06 Boulder Array 62.51 304 *eP* **P 13 32 30.2 -1.1**
comp=Z,4.2nm,1.1s,mb4.5
PDAR Pinedale Array 62.51 304 P **P 13 32 30.8 -0.6**
comp=Z,2.7nm,1.0s,mb4.3,baz=71,slow=6.4,SNR=14
H16A Russell Place, 62.74 307 ⇑P **P 13 32 32.4 -0.4**
baz=62
LOHW Long Hollow 62.82 305 *eP* **P 13 32 34.2 +0.9**
comp=Z,11nm,1.3s,mb4.8
LOHW Long Hollow 62.82 305 *eP* **P 13 32 34.2 +0.8**
comp=Z,11nm,1.3s,mb4.8
MOOW Moose Ponds 62.85 306 *eP* **P 13 32 33.7 +0.2**
MOOW Moose Ponds 62.85 306 *eP* **P 13 32 33.7 +0.2**
IMW Indian Meadow 62.90 306 *eP* **P 13 32 33.8 -0.1**
comp=Z,6.1nm,1.1s,mb4.6
IMW Indian Meadow 62.90 306 *eP* **P 13 32 33.8 -0.1**
comp=Z,6.1nm,1.1s,mb4.6
CHMT Chamberlain Mo 63.00 310 *eP* **P 13 32 34.7 +0.2**
CHMT Chamberlain Mo 63.00 310 *eP* **P 13 32 34.7 +0.2**
B13A Whitefish 63.07 312 ⇓P **P 13 32 34.2 -0.7**
baz=63
D14A Greenough 63.08 310 ⇓P **P 13 32 34.3 -0.7**
baz=63
REDW Red Top Meadow 63.09 305 *eP* **P 13 32 35.6 +0.5**
REDW Red Top Meadow 63.09 305 *eP* **P 13 32 35.6 +0.4**
TPAW Teton Pass 63.10 305 *eP* **P 13 32 35.8 +0.6**
TPAW Teton Pass 63.10 305 *eP* **P 13 32 35.8 +0.6**
SIV San Ignacio 63.25 220 P **P 13 32 36.6 +0.2**
comp=Z,1.5nm,0.8s,mb4.2,baz=56,slow=9.1,SNR=8.0
G15A Dillon 63.32 308 ⇓P **P 13 32 36.2 -0.4**
baz=63
RRI2 Red Ridge 63.40 305 *eP* **P 13 32 37.9 +0.7**
C13A Hot Springs 63.45 311 ⇑P **P 13 32 36.7 -0.8**
baz=63
J16A Bone 63.62 305 ⇓P **P 13 32 38.4 -0.3**
baz=63
D13A Huson 63.65 310 ⇑P **P 13 32 38.4 -0.4**
baz=63,SNR=5.0
BVAR Borovoye Array 63.87 42 P **P 13 32 39.4 -0.7**
comp=Z,1.2nm,0.9s,mb3.9,baz=274,slow=4.0,SNR=3.4
A11A Hall Mountain, 63.92 313 ⇓P **P 13 32 40.5 0.0**
baz=64,SNR=7.7
ANMO Albuquerque 64.00 295⇑ *eP* **P 13 32 43.2 +1.9**
ANMO Albuquerque 64.00 295 *eP* **P 13 32 43.1 +1.8**
ANMO Albuquerque 64.00 295 *eP* **P 13 32 43.1 +1.8**
J15A Blackfoot 64.10 306 ⇓P **P 13 32 41.6 -0.2**
baz=64
F13A Darby 64.18 309 ⇑P **P 13 32 42.6 +0.3**
baz=64
MVCO Mesa Verde 64.37 298 ⇓P **P 13 32 43.6 -0.1**
baz=64
G13A Cobalt 64.44 308 ⇑P **P 13 32 44.2 +0.2**
baz=64
I14A Mackay 64.50 307 ⇑P **P 13 32 44.4 0.0**
baz=64
BNM Barren Site 64.51 295 P **P 13 32 45.7 +1.0**
BNM Barren Site 64.51 295 P **P 13 32 45.7 +1.0**
S19A Harvey Farm, M 64.56 299 ⇑P **P 13 32 45.8 +0.9**
baz=64,SNR=5.3
Q18A Rafter H Ranch 64.60 301 ⇑P **P 13 32 45.5 +0.4**
baz=64
E12A Beaver Dam Sad 64.64 310 ⇑P **P 13 32 45.4 +0.1**
baz=64
NEW Newport 64.69 312 *eP* **P 13 32 45.7 +0.1**
NEW pmax pmax
comp=Z,13nm,1.4s
NEW Newport 64.69 312 *eP* **P 13 32 45.7 +0.1**
comp=Z,13nm,1.4s,mb4.8
NEW Newport 64.69 312 *eP* **P 13 32 45.7 0.0**
comp=Z,13nm,1.4s,mb4.8
TXAR Lajitas Array 64.70 289 P **P 13 32 46.2 +0.3**
comp=Z,3.3nm,0.8s,mb4.4,baz=75,slow=7.6,SNR=32
TXAR Lajitas Array 64.70 289 P **P 13 32 46.2 +0.2**
H13A Challis 64.71 308 ⇑P **P 13 32 46.3 +0.6**
baz=64
L15A Malad City 64.72 305 ⇓P **P 13 32 45.8 -0.1**
baz=64
LAZ Ladron 64.76 295 *eP* **P 13 32 47.8 +1.5**
LAZ Ladron 64.76 295 *eP* **P 13 32 47.8 +1.5**
LAZ *e* 13 32 55.6
R18A Canyonlands Na 64.78 300 ⇑P **P 13 32 45.9 -0.5**
baz=64
D11A Klaveano Farm, 64.81 311 ⇓P **P 13 32 45.9 -0.4**
baz=64
J14A Carey 64.83 306 ⇑P **P 13 32 46.4 -0.2**
baz=64
SRU San Rafael 64.86 301 ⇑P **P 13 32 46.9 0.0**
baz=64
T19A Beclabito 64.92 298 ⇓P **P 13 32 48.4 +1.1**
baz=65,SNR=7.4
I13A Wildhorse Cree 64.93 307 ⇓P **P 13 32 47.4 +0.2**
baz=65
K14A Jones Ranch, D 64.98 305 ⇓P **P 13 32 47.3 -0.3**
baz=65
E11A Bogner Ranch, 65.06 310 ⇓P **P 13 32 47.7 -0.3**
baz=65,SNR=5.6
S18A Hurst Farm, BI 65.18 299 ⇑P **P 13 32 48.9 -0.1**
baz=65
A09A Danville 65.20 314 ⇑P **P 13 32 48.1 -0.8**
baz=65
B09A Rice 65.22 313 ⇓P **P 13 32 47.6 -1.4**
baz=65
HLID Hailey 65.29 307 ⇑P **P 13 32 49.4 -0.2**
baz=65
HLID Hailey 65.29 307 *eP* **P 13 32 50.3 +0.7**
HLID Hailey 65.29 307 *eP* **P 13 32 50.3 +0.7**
R17A Hanksville Air 65.32 300 ⇑P **P 13 32 50.4 +0.5**
baz=65
T18A Mexican Hat 65.37 299 ⇑P **P 13 32 49.9 -0.3**
baz=65
G11A Walters Elk Ra 65.56 309 ⇑P **P 13 32 50.9 -0.4**
baz=65
M14A Sheep Mountain 65.59 304 ⇑P **P 13 32 51.6 0.0**
baz=65
S17A Black Ridge (B 65.77 300 ⇓P **P 13 32 52.6 -0.2**
baz=66
N14A Grayback Hills 65.81 304 ⇑P **P 13 32 53.0 0.0**
baz=65
J12A Stokes Ranch, 65.88 307 ⇑P **P 13 32 53.8 +0.4**
baz=66,SNR=7.0
DUG Dugway 65.88 303 *eP* **P 13 32 51.8 -1.6**
DUG pmax pmax
comp=Z,10.0nm,1.3s,mb4.7
DUG Dugway 65.88 303 ⇑P **P 13 32 52.6 -0.9**
baz=66
DUG Dugway 65.88 303 *eP* **P 13 32 51.8 -1.6**
comp=Z,9.9nm,1.3s,mb4.7
R16A Tedale 65.92 301 ⇑P **P 13 32 54.3 +0.5**
baz=66
T17A Navajo Res., N 66.08 299 ⇑P **P 13 32 56.0 +1.2**
baz=66
V18A Ganado 66.11 297 ⇑P **P 13 32 56.4 +1.4**
baz=66
E09A Wood Farm, Sta 66.15 311 ⇑P **P 13 32 55.2 +0.1**
baz=66
A07A Ashnola River, 66.20 314 ⇓P **P 13 32 55.5 +0.2**
baz=66
M13A Montello 66.20 305 ⇓P **P 13 32 55.7 +0.2**
baz=66
S16A Weppner Ranch, 66.27 300 ⇑P **P 13 32 56.6 +0.6**
baz=66
MSU Marysvale 66.28 301 *eP* **P 13 32 57.2 +1.2**
MSU Marysvale 66.28 301 *eP* **P 13 32 57.2 +1.1**
X19A St. Johns 66.29 296 ⇓P **P 13 32 56.9 +0.7**
baz=66
B07A Winthrop 66.34 314 ⇑P **P 13 32 56.2 -0.1**
baz=66
P14A Drum Mountains 66.35 303 ⇓P **P 13 32 56.6 +0.1**
baz=66
L12A House Creek Ra 66.37 306 ⇓P **P 13 32 56.9 +0.4**
baz=66
Y19A Nutrioso 66.50 296 ⇓P **P 13 32 58.8 +1.3**
baz=66
DAWY Dawson 66.59 334 *eP* **P 13 32 58.0 +0.4**
DAWY Dawson 66.59 334 *eP* **P 13 32 58.0 +0.4**
M12A Wells 66.66 305 ⇑P **P 13 32 59.5 +1.1**
baz=66
X18A Snowflake 66.71 296 ⇑P **P 13 32 59.0 +0.1**
baz=66
U16A Tuba City 66.73 298 ⇓P **P 13 32 60.0 +1.0**
baz=66
H09A Durkee 66.78 309 ⇓P **P 13 32 58.8 -0.4**
baz=66
Q14A Sevier Lake (B 66.79 302 ⇑P **P 13 32 59.7 +0.4**
baz=66
ATAH Atahualpa 66.81 241 LR LR 13 58 33.3
comp=Z,119nm,20.4s,MS4.1,baz=89,slow=33
L11A Cat Creek Ranc 66.83 306 ⇑P **P 13 33 00.0 +0.5**
baz=66
F08A Pendleton 66.89 311 ⇑P **P 13 32 59.4 -0.4**
baz=66
N12A Clover Valley, 67.03 305 ⇑P **P 13 33 01.3 +0.5**
baz=67
P13A Bates Ranch, G 67.05 303 ⇑P **P 13 33 01.6 +0.6**
baz=67,SNR=5.7
O12A Currie 67.13 304 ⇓P **P 13 33 01.3 -0.1**
baz=67
119A Ashpeak Ranch, 67.14 294 ⇑P **P 13 33 02.3 +0.7**
baz=67
ELK Elko 67.21 305 *eP* **P 13 33 03.4 +1.4**
ELK Elko 67.21 305 *eP* **P 13 33 03.4 +1.4**
WUAZ Wupatki 67.22 298 ⇑P **P 13 33 03.0 +0.8**
baz=67
WUAZ Wupatki 67.22 298 *eP* **P 13 33 04.4 +2.3**
comp=Z,11nm,1.3s,mb4.7
WUAZ Wupatki 67.22 298 *eP* **P 13 33 04.4 +2.3**
comp=Z,11nm,1.3s,mb4.7
WUAZ *epP* pP 13 33 11.6 +6.3
M11A Holland Ranch, 67.22 305 ⇑P **P 13 32 02.7 +0.6**
baz=67
LPAZ La Paz 67.31 226 P **P 13 33 03.2 +0.4**
comp=Z,1.5nm,0.9s,mb4.0,baz=4.1,slow=13,SNR=4.8
LPAZ La Paz 67.31 226 *eP* **P 13 32 02.9 +0.1**
LPAZ pmax pmax
comp=Z,5.0nm,1.4s
LPAZ La Paz 67.31 226 *eP* **P 13 33 02.9 +0.1**
comp=Z,5.2nm,1.4s,mb4.4
LPAZ La Paz 67.31 226 *eP* **P 13 33 02.9 +0.1**
comp=Z,5.2nm,1.4s,mb4.4
L10A Juniper Basin 67.34 306 ⇑P **P 13 33 02.8 +0.1**
baz=67
U15A North Rim 67.40 299 ⇑P **P 13 33 03.3 +0.1**
baz=67
219A White Tail Can 67.50 294 ⇑P **P 13 33 04.7 +0.8**
baz=67
ARUT Antelope Range 67.50 301 *eP* **P 13 33 04.8 +0.9**
J09A Fry Pan Ranch, 67.51 308 ⇑P **P 13 33 04.8 +1.0**
baz=67,SNR=6.6
W16A Flagstaff 67.55 298 ⇑P **P 13 33 05.4 +1.2**
baz=67
V15A Kaibab Nationa 67.63 299 ⇓P **P 13 33 05.9 +1.2**
baz=67
118A Homack Ranch, 67.69 295 ⇓P **P 13 33 06.4 +1.3**
baz=67
Y17A Roosevelt 67.77 296 ⇑P **P 13 33 06.8 +1.1**
baz=68
COLD Coldfoot 67.82 340 P **P 13 33 05.7 +0.4**
COLD Coldfoot 67.82 340 P **P 13 33 05.7 +0.3**
K09A Rome 67.82 307 ⇑P **P 13 33 06.7 +0.9**
baz=68,SNR=8.2
X16A Lo Mia Camp, P 67.83 297 ⇑P **P 13 33 06.6 +0.6**
baz=68
319A Douglas 67.84 293 ⇑P **P 13 33 06.9 +0.8**
baz=68
J08A Circle Bar Ran 67.95 308 ⇓P **P 13 33 07.7 +1.1**
baz=68,SNR=12
R12A Pony Springs, 68.02 302 ⇓P **P 13 33 07.5 +0.4**
baz=68
U14A Mt Trumbull 68.02 300 ⇓P **P 13 33 07.2 +0.1**
baz=68
218A Dragoon 68.08 294 ⇑P **P 13 33 08.6 +0.9**
baz=68
L09A Wilkinson Ranc 68.13 307 ⇓P **P 13 33 08.5 +0.7**
baz=68
Y16A Circle Bar Ran 68.13 296 ⇑P **P 13 33 08.5 +0.6**
baz=68
318A Bisbee 68.32 294 ⇓P **P 13 33 09.6 +0.5**
baz=68
X15A Humboldt 68.36 297 ⇑P **P 13 33 10.2 +0.9**
baz=68
H06A Lindquist Farm 68.38 310 ⇑P **P 13 33 09.2 -0.1**
baz=68
S12A Delamar Landin 68.55 301 ⇑P **P 13 33 11.8 +1.3**
baz=68
W14A Seligman 68.58 298 ⇓P **P 13 33 12.0 +1.4**
baz=68
R11A Troy Canyon, C 68.67 302 ⇑P **P 13 33 10.8 -0.3**
baz=68
Y15A Casa Rosa Ranc 68.70 297 ⇓P **P 13 33 13.0 +1.5**
baz=68
V13A Grand Canyon W 68.87 299 ⇓P **P 13 33 12.7 +0.2**
baz=69
M08A Happy Creek Ra 68.88 306 ⇓P **P 13 33 11.2 -1.2**
baz=68
J06A Christmas Vall 69.05 309 ⇓P **P 13 33 13.7 +0.2**
baz=69
Y14A Wickenburg 69.19 297 ⇑P **P 13 33 14.7 +0.3**
baz=69
NVS Novosibirsk 69.35 36 *eP* **P 13 33 14.8 -0.3**
M07A Soldier Meadow 69.42 307 ⇑P **P 13 33 15.9 +0.1**
baz=69
X13A Yucca 69.42 298 ⇓P **P 13 33 17.5 +1.6**
baz=69
KURK Kurchatov 69.43 41 P **P 13 33 15.9 +0.2**
comp=Z,2.0nm,0.9s,mb4.0,baz=306,slow=6.6,SNR=8.1
KURK Kurchatov 69.43 41 *i P* **P 13 33 16.2 +0.5**
KURK pmax pmax
comp=Z,6.0nm,1.6s,mb4.3
S10A Tonopah Range, 69.57 302 ⇓P **P 13 33 16.8 +0.1**
baz=69
J05A Fort Rock 69.70 309 ⇑P **P 13 33 18.0 +0.5**
baz=69
R09A Tonopah 69.72 303 ⇓P **P 13 33 17.5 -0.2**
baz=69,SNR=5.2
K05A Summer Lake 69.79 309 ⇓P **P 13 33 18.0 0.0**
baz=69
Y13A Salome 69.83 298 ⇓P **P 13 33 19.4 +0.9**
baz=70
S09A Goldfield 70.10 303 ⇓P **P 13 33 20.0 -0.1**
baz=70
L05A Lakeview 70.12 308 ⇓P **P 13 33 20.6 +0.5**
baz=70
N06A Buffalo Meadow 70.19 306 ⇑P **P 13 33 20.4 -0.1**
baz=70
ZAA0 Zalesovo Array 70.63 36 *eP* **P 13 33 23.8 +0.8**
ZAA0 Zalesovo Array 70.63 36 *eP* **P 13 33 23.8 +0.9**
ZALV Zalesovo Beam 70.63 36 P **P 13 33 23.1 +0.2**
comp=Z,2.4nm,0.7s,mb4.2,baz=308,slow=7.3,SNR=7.1
ZALV LR LR 14 03 22.1
comp=Z,28nm,19.3s,MS3.5,baz=324,slow=35
MPMC Manual Prospec 71.17 301 ⇑P **P 13 33 27.3 +0.7**
baz=71
BELC Belle Mtn. 71.26 299 ⇑P **P 13 33 28.2 +1.0**
baz=71
AML Almayashu 71.40 51 *eP* **P 13 33 29.1 +1.2**
comp=Z,219nm,1.2s
YBH Yreka Blue Hor 71.46 309 P **P 13 33 27.0 -1.3**
comp=Z,1.5nm,0.8s,mb4.0,baz=201,slow=3.5,SNR=3.6
UCH Uchtor 71.85 51 *eP* **P 13 33 32.0 +1.4**
UCH Uchtor 71.85 51 *eP* **P 13 33 32.0 +1.4**
TKM2 Tokmak 2 72.12 49 P **P 13 33 31.1 -1.1**
TKM2 Tokmak 2 72.12 49 P **P 13 33 31.1 -1.1**
MK31 Makanchi Array 73.69 43 *eP* **P 13 33 42.2 +0.7**
MKAR Makanchi Array 73.69 43 P **P 13 33 41.5 +0.1**
comp=Z,1.4nm,0.8s,mb4.0,baz=303,slow=6.7,SNR=8.3
MKAR LR LR 14 04 39.5
comp=Z,83nm,20.8s,MS4.0,baz=353,slow=35
WMQ Urumqi 78.53 43 *eP* **P 13 34 11.3 +2.3**
WMQ AP pP 13 34 16.3 +4.0
WMQ XP sP 13 34 18.5 +5.0
WMQ LR LR
comp=N,78nm,23.8s,MS4.2
WMQ LR LR
comp=E,94nm,24.5s,MS4.2
WMQ LR LR
comp=Z,93nm,22.5s,MS4.1
BOD Bodaibo 78.94 21 *eP* **P 13 34 09.7 -1.3**
BOD pmax pmax
comp=Z,6.0nm,1.9s,mb4.2
BOD Bodaibo 78.94 21 *eP* **P 13 34 09.7 -1.3**
comp=Z,6.0nm,1.9s,mb4.2
ZAK Zakamensk 81.25 31 *eP* **P 13 34 22.4 -1.3**
ZAK pmax pmax
comp=Z,2.0nm,1.5s,mb3.8
ZAK Zakamensk 81.25 31 *eP* **P 13 34 22.4 -1.3**
comp=Z,2.0nm,1.5s,mb3.8
SONM Songino Array 84.52 31 P **P 13 34 40.9 +0.2**
comp=Z,1.2nm,0.9s,mb4.0,baz=316,slow=6.0,SNR=6.0
ULN Ulaanbaatar 84.77 30 *eP* **P 13 34 42.3 +0.4**
ULN Ulaanbaatar 84.77 30 *eP* **P 13 34 42.7 +0.8**
comp=Z,10nm,1.4s,mb4.8
PLCA Paso Flores 88.44 213 P **P 13 35 00.2 +0.5**
comp=Z,2.4nm,1.0s,mb4.4,baz=9.0,slow=6.9,SNR=2.8
PLCA LR LR 14 12 37.3
comp=Z,85nm,18.6s,MS4.2,baz=13,slow=34
PLCA Paso Flores 88.44 213 P **P 13 35 00.2 +0.5**
PLCA LR LR 14 12 37.3
HHC Hu-ho-hao-te 92.36 32 *eP* **P 13 35 17.5 -0.8**
HHC AP pP 13 35 22.3 +0.6
HHC PP PP 13 39 00.0 +1.9
HHC SKS 13 45 48.3
HHC S S 13 46 16.2 -5.6
HHC AMB AMB
comp=Z,13nm,1.0s,mb5.2
HHC AMB AMB
comp=Z,116nm,5.1s
HHC LR LR
comp=N,207nm,21.0s,MS4.8
HHC LR LR
comp=E,259nm,18.8s,MS4.8
HHC LR LR
comp=Z,203nm,18.0s,MS4.6
LZH Lanzhou 92.64 39 *eP* **P 13 35 18.9 -0.8**
LZH AMB AMB
comp=Z,13nm,1.0s,mb5.3
LZH AMB AMB
comp=Z,52nm,4.2s
LZH Lanzhou 92.64 39 *eP* **P 13 35 18.9 -0.8**
comp=Z,13nm,1.0s,mb5.3
LZH pP pP 13 35 22.4 -0.6
LZH Lanzhou 92.64 39 *eP* **P 13 35 18.9 -0.8**
comp=Z,13nm,1.0s,mb5.3
LZH pP pP 13 35 22.4 -0.6
LZH sP sP 13 35 24.2 0.0
MDJ Mudanjiang 95.05 18 P **P 13 35 29.1 -1.5**
MDJ AMB AMB
comp=Z,322nm,3.6s
CD2 Chengdu 96.62 43 *eP* **P 13 35 37.9 -0.1**
CD2 AP pP 13 35 42.7 +1.3
CD2 PP PP 13 39 34.2 +2.5
CD2 SKS 13 46 12.7
CD2 S S 13 46 51.3 -8.1
CD2 SS SS 13 53 31.2 -0.9
CD2 AMB AMB
comp=Z,10.0nm,0.9s,mb5.2
CD2 AMB AMB
comp=Z,30nm,8.4s
CD2 LR LR
comp=N,160nm,14.6s,MS4.8
CD2 LR LR
comp=E,200nm,16.2s,MS4.8
CD2 LR LR
comp=Z,150nm,16.8s,MS4.5
KMI Kunming 100.50 47 P Pdif 13 35 55.3 +0.1
KMI AP 13 36 02.2
KMI XP 13 36 06.3
KMI PP PP 13 40 05.3 +3.8
KMI S Sdif 13 47 28.6 -3.3
KMI SS SS 13 54 26.9 0.0
KMI AMB AMB
comp=Z,7.0nm,1.0s
KMI AMB AMB
comp=Z,166nm,4.0s
KMI LR LR
comp=Z,60nm,19.1s,MS4.1
KMI Kunming 100.50 47 P Pdif 13 35 55.3 +0.1
KMI 13 40 05.3
KMI PPP 13 42 11.5
KMI S Sdif 13 47 28.6 -3.3
KMI SS SS 13 54 26.9 0.0
KMI SSS 13 58 15.4
KMI pmax pmax
comp=Z,7.0nm,1.0s
KMI MLR MLR

Code	Station Name	Δ°	AZ°	Op	ISC	h m s	Res ISC
	comp=Z,60nm,19.1s,MS4.1						
KMI	Kunming	100.50	47	P	Pdif	13 35 55.3	+0.1
	comp=Z,7.0nm,1.0s						
KMI				pP		13 36 02.2	
KMI				sP		13 36 06.3	
KMI				PP	PP	13 40 05.3	+3.8
KMI				PPP		13 42 11.5	
KMI				S	Sdif	13 47 28.6	-3.3
KMI				SS	SS	13 54 26.9	0.0
KMI				SSS		13 58 15.4	
KMI				LR	LR		
	comp=Z,60nm,19.1s,MS4.1						
GYA	Guiyang	101.69	43	P	Pdif	13 36 02.1	+1.6
GYA				PP	PP	13 40 13.4	+3.1
GYA				S	Sdif	13 47 38.6	-3.2
GYA				SS	SS	13 54 42.3	-0.8
GYA				AMB	AMB		
	comp=Z,10.0nm,1.0s						
GYA				AMB	AMB		
	comp=Z,90nm,5.8s						
GYA				LR	LR		
	comp=N,390nm,24.2s,MS4.9						
GYA				LR	LR		
	comp=E,280nm,25.9s,MS4.9						
GYA				LR	LR		
	comp=Z,330nm,24.8s,MS4.8						
NJ2	Nanjing	102.91	31	eP	Pdif	13 36 08.0	+2.1
QSPA	South Pole Qui	127.34	180	PKP	PKPdf	13 41 11.3	+0.3
	comp=Z,3.6nm,1.1s,baz=242,slow=3.0,SNR=6.1						

*IDC **08** 13:24:36.5±1.0, 33.14N×84.56E, h0km, mb3.6/6, mb1 3.7/8, mb1mx3.5/23, mbtmp3.5/8, ML3.4/2, MS4.0/1, Ms1 4.0/1, ms1mx2.7/33, Error ellipse: s-maj=34.1km s-min=20.1km az=43.0*
*ISCJB **08** 13:24:40.3±1.8, 33.3N±0.1×84.6E±0.1, h34km±19km, mb3.5/6, Error ellipse: s-maj=22.1km s-min=12.7km az=38.0*
*NEIC **08** 13:24:42.3±1.4, 33.29N×84.64E, h39km±16km, Error ellipse: s-maj=20.4km s-min=11.5km az=221.0*
ISC 08 13:24:43.1±1.3, 33.3N±0.1×84.6E±0.1, h39km±14km, n15, σ1.13/14, mb3.5/6, Xizang

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LSA	Lhasa	6.65	121	P	Pn	13 26 18.9	+0.6
UCH	Uchtor	11.93	321	eP	Pn	13 27 32.6	+2.0
KBL	Kabul	12.99	280	eP	Pn	13 27 44.5	-0.6
	6.3nm,0.8s						
MK31	Makanchi Array	13.55	353	P	Pn	13 27 52.0	-0.7
MKAR	Makanchi Array	13.55	353	Pn	Pn	13 27 50.5	-2.2
	0.1nm,0.3s,baz=174,slow=13,SNR=5.6						
MKAR	Makanchi Array	13.55	353	Pn	Pn	13 27 50.5	-2.2
CMAR	Chiang Mai Arr	19.60	136	P	Pn	13 29 04.7	-5.0
	0.1nm,0.3s,baz=312,slow=12,SNR=6.6						
SONM	Songino Array	21.88	42	P	P	13 29 33.0	+0.6
	0.9nm,0.9s,mb3.2,baz=240,slow=11,SNR=2.2						
AKTK	Aktyubinsk	25.95	319	P	P	13 30 12.6	+1.0
AKTO	Aktyubinsk	25.95	319	P	P	13 30 12.6	+1.0
	0.7nm,0.5s,mb3.4,baz=112,slow=12,SNR=2.5						
ASAJ	Asahikawa	45.64	59	LR	LR	13 52 02.5	
	comp=Z,154nm,19.7s,baz=234,slow=36						
NOA	NORSAR Array B	53.54	325	P	P	13 33 58.7	-0.8
	0.9nm,0.7s,mb3.8,baz=87,slow=7.6,SNR=2.7						
GERES	GERESS Array B	53.74	309	P	P	13 34 02.0	+0.8
	0.2nm,0.3s,mb3.6,baz=79,slow=6.3,SNR=2.7						
WRA	Warramunga Arr	71.11	131	P	P	13 35 57.0	-0.6
	0.2nm,0.4s,mb3.4,baz=325,slow=6.2,SNR=7.7						
TORD	Torodi Ar. Bea	77.05	277	P	P	13 36 31.0	-1.5
	0.6nm,0.8s,mb3.5,baz=37,slow=4.5,SNR=3.4						

IDC 08 13:28:05.3±2.7, 23.65N×143.40E, h0km, mb3.6/6, mb1 3.7/6, mb1mx3.6/19, mbtmp3.6/6, Error ellipse: s-maj=88.2km s-min=21.8km az=74.0, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SONM	Songino Array	37.99	319	P	P	13 35 24.0	-0.8
	0.3nm,0.4s,baz=115,slow=6.5,SNR=4.0						
CMAR	Chiang Mai Arr	41.69	272	P	P	13 35 55.5	-0.5
	0.6nm,0.5s,baz=66,slow=7.8,SNR=4.1						
WRA	Warramunga Arr	44.22	192	P	P	13 36 16.0	-0.3
	0.3nm,0.4s,baz=17,slow=9.0,SNR=11						
ASAR	Alice Springs	47.93	192	P	P	13 36 45.9	+0.4
	0.2nm,0.8s,baz=14,slow=6.5,SNR=3.5						
MKAR	Makanchi Array	53.55	312	P	P	13 37 27.7	-0.1
	0.4nm,0.4s,baz=93,slow=8.0,SNR=3.0						
BVAR	Borovoye Array	61.34	319	P	P	13 38 23.7	+1.0
	0.5nm,0.4s,baz=98,slow=6.5,SNR=2.7						

*ISCJB **08** 13:30:10.9±0.6, 29.72S±0.03×71.30W±0.08, h62km±5km, Error ellipse: s-maj=12.4km s-min=5.3km az=11.3*
*GUC **08** 13:30:11.4±0.8, 29.71S×71.17W, h54km±3km, ML4.0*
*NEIC **08** 13:30:12.0±0.6, 29.73S×71.31W, h56km±7km, Error ellipse: s-maj=14.6km s-min=5.1km az=100.0*
NEIC Felt [II] at Coquimbo and La Serena.
*IDC **08** 13:30:12.1±3.2, 29.72S×71.31W, h61km±26km, mb3.3/1, mb1 3.7/7, mb1mx3.6/20, mbtmp3.5/7, ML4.0/6, Error ellipse: s-maj=39.1km s-min=17.5km az=66.0*
ISC 08 13:30:12.1±0.6, 29.71S±0.03×71.31W±0.08, h53km±6km, n32, σ0.69/45, 6C-2D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LSCH	La Serena	0.20	164	⇓iP	Pn	13 30 20.7	-0.1
LSCH				iS	Sn	13 30 27.1	+0.2
TLL	Tololo Astrono	0.63	136	⇑iP	Pn	13 30 25.0	-0.1
TLL				iS	Sn	13 30 34.2	-0.3
TLL				AML	AML	13 30 36.4	
	comp=E,3μm,0.5s						
TLL	Tololo Astrono	0.63	136	⇑iP	Pn	13 30 25.0	-0.1
TLL				iS	Sn	13 30 34.2	-0.3
LCO	Las Campanas	0.88	37	eP	Pn	13 30 27.8	-0.4
LCO				iS	Sn	13 30 39.6	-0.5
LCO	Las Campanas	0.88	37	⇑iPg	Pn	13 30 28.1	-0.2
LCO				eS	Sn	13 30 39.2	-0.9
OVCH	Ovalle	0.90	174	⇑iP	Pn	13 30 27.9	-0.6
OVCH				iS	Sn	13 30 39.7	-0.9
OVCH				AML	AML	13 30 47.0	
	comp=N,8μm,0.4s						
OVCH	Ovalle	0.90	174	⇑iP	Pn	13 30 27.9	-0.6
OVCH				S	Sn	13 30 39.7	-0.9
CHNG	Los Chungos	2.17	184	⇑iP	Pn	13 30 45.5	-0.2
CHNG				eS	Sn	13 31 11.7	+0.3
PACH	Papudo	2.82	182	eP	Pn	13 30 54.3	-0.3
JACH	Jahuel	3.02	168	eP	Pn	13 30 57.5	+0.1
CFAA	Coronel Fontan	3.25	126	P	Pn	13 31 01.6	+1.1
	comp=N,6.9nm,0.3s,baz=300,slow=8.4,SNR=63						
CFAA				S	Sn	13 31 38.4	+0.5
	comp=N,3.6nm,0.3s,baz=99,slow=19,SNR=8.3						
CFAA	Coronel Fontan	3.25	126	P	Pn	13 31 01.6	+1.1
CFAA				S	Sn	13 31 38.4	+0.4
ROCH	El Roble	3.26	176	eP	Pn	13 31 00.9	+0.2
PEL	Peldehue	3.46	171	⇓iP	Pn	13 31 03.8	+0.3
PEL				AML	AML	13 31 59.8	
	comp=N,1μm,0.3s						
FCH	Farellones	3.71	167	eP	Pn	13 31 07.8	+1.0
FCH				iS	Sn	13 31 49.7	+0.5
CLCH	Cerro Calan	3.73	170	eP	Pn	13 31 07.4	+0.2
TACH	Talagante	3.94	175	eP	Pn	13 31 10.2	+0.2
PCH	Pirque	3.95	170	eP	Pn	13 31 10.3	+0.1
CACH	El Canelo	4.43	172	eP	Pn	13 31 17.1	+0.3
CICH	Cipreses	4.65	171	eP	Pn	13 31 19.8	0.0
LVC	Limon Verde	7.39	17	P	Pn	13 31 55.8	-1.6
	comp=N,0.9nm,0.3s,baz=203,slow=11,SNR=10						
LVC				S	Sn	13 33 26.3	+6.4
	comp=N,3.6nm,0.3s,baz=77,slow=17,SNR=5.7						
LVC	Limon Verde	7.39	17	ePn	Pn	13 31 57.1	-0.3
	comp=N,11nm,0.4s						
LVC				S	Sn	13 33 26.3	+6.4
PLCA	Paso Flores	11.01	177	P	Pn	13 32 46.7	-0.1
	comp=N,0.1nm,0.3s,baz=345,slow=11,SNR=2.3						
PLCA	Paso Flores	11.01	177	P	Pn	13 32 46.7	-0.1
TRQA	Tornquist	11.37	140	eP	Pn	13 32 50.1	-1.6
CPUP	Villa Florida	12.80	78	P	Pn	13 33 11.3	0.0
	comp=N,1.6nm,0.3s,baz=228,slow=11,SNR=9.0						
CPUP	Villa Florida	12.80	78	P	Pn	13 33 11.3	0.0
LPAZ	La Paz	13.68	13	P	Pn	13 33 24.9	+1.6
	comp=N,0.2nm,0.3s,baz=171,slow=14,SNR=6.1						
SIV	San Ignacio	16.58	37	P	Pn	13 34 02.5	+1.4
	comp=N,0.2nm,0.3s,baz=198,slow=12,SNR=5.3						
SNAA	Sanae	55.33	159	ePKiKP	P	13 39 39.2	-0.8
SNAA				e		13 39 41.2	
SNAA	Sanae	55.33	159	eP	P	13 39 39.0	-0.9
TORD	Torodi Ar. Bea	82.17	70	P	P	13 42 26.7	-1.0
	comp=N,0.3nm,0.5s,baz=250,slow=6.0,SNR=3.7						

*ISCJB **08** 13:30:48.1±2.1, 17.13S±0.10×174.3W±0.1, h81km±22km, mb4.2/9, Error ellipse: s-maj=19.1km s-min=16.3km az=17.1*
*IDC **08** 13:30:49.8±3.0, 17.24S×174.24W, h80km±30km, mb4.0/8, mb1 4.2/10, mb1mx4.0/21, mbtmp4.1/10, Error ellipse: s-maj=25.6km s-min=19.3km az=125.0*
*NEIC **08** 13:30:49.6±1.3, 17.26S×174.25W, h80km±15km, Error ellipse: s-maj=13.0km s-min=11.4km az=114.0*
ISC 08 13:30:49.4±1.9, 17.2S±0.1×174.2W±0.1, h78km±20km, n19, σ0.60/22, mb4.2/9, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
AFI	Afiamalu	4.07	36	P	Pn	13 31 50.1	+0.8
	35nm,0.3s,baz=218,slow=1.9,SNR=55						
AFI				S	Sn	13 32 32.1	-3.6
	80nm,0.3s,baz=228,slow=24,SNR=20						
AFI	Afiamalu	4.07	36	P	Pn	13 31 50.1	+0.8
AFI				S	Sn	13 32 32.1	-3.6
RAR	Rarotonga	14.22	108	P	Pn	13 34 07.1	0.0
	2.2nm,0.3s,baz=264,slow=9.2,SNR=4.2						
URZ	Urewera	22.28	198	P	P	13 35 39.7	-0.5
	8.7nm,0.4s,mb4.5,baz=356,slow=2.3,SNR=14						
URZ				S	S	13 39 35.4	-5.0
	8.4nm,1.0s,baz=252,slow=20,SNR=3.4						
RPZ	Rata Peaks	29.19	202	P	P	13 36 47.9	+4.5
	6.0nm,0.5s,mb4.5,baz=325,slow=1.5,SNR=5.7						
STKA	Stephens Creek	42.44	241	eP	P	13 38 37.2	+0.4
	2.4nm,0.5s,mb4.2						
STKA	Stephens Creek	42.44	241	P	P	13 38 37.3	+0.5
	2.7nm,0.4s,mb4.3,baz=98,slow=11,SNR=16						
STKA	Stephens Creek	42.44	241	eP	P	13 38 36.9	+0.2
WB2	Warramunga Arr	48.65	258	eP	P	13 39 25.7	-0.2
WRA	Warramunga Arr	48.66	258	P	P	13 39 25.9	-0.2
	2.0nm,0.5s,mb4.3,baz=96,slow=7.0,SNR=78						
ASAR	Alice Springs	48.80	253	P	P	13 39 27.2	+0.2
	12nm,0.6s,mb5.0,baz=89,slow=8.4,SNR=319						
QSPA	South Pole Qui	72.82	180	P	P	13 42 10.0	+0.8
	2.6nm,0.7s,mb4.2,baz=64,slow=0.3,SNR=16						
PETK	Petropavlovsk-	74.12	343	P	P	13 42 16.8	-0.3
	1.5nm,0.8s,mb3.8,baz=110,slow=7.8,SNR=4.6						
PETK	Petropavlovsk-	74.12	343	P	P	13 42 16.8	-0.3
PDAR	Pinedale Array	84.16	42	P	P	13 43 12.7	+0.7
	1.5nm,1.2s,mb3.7,baz=203,slow=3.3,SNR=4.6						
MAW	Mawson	85.81	199	P	P	13 43 19.6	-0.4
	1.6nm,0.8s,mb4.0,baz=98,slow=8.3,SNR=4.1						
VNA3	Neumayer Olymp	91.11	175	e	P	13 43 44.7	-0.4
SNAA	Sanae	91.13	177	e	P	13 43 44.6	-0.6
VNA2	Neumayer--Watz	91.60	176	e	P	13 43 47.6	+0.3
	baz=198,slow=3.5						

MAN 08 13:39:01, 13.99N×122.35E, h1km, mb4.1, ML2.9, MS2.6, 1D, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
GQP	Guinayangan	0.13	134	⇓eP	Pg	13 39 03.8	+0.3
GQP				eS	Sg	13 39 06.8	+1.7
POLP	Polilio Island	0.83	331	eP	Pg	13 39 17.7	+0.7
POLP				eS	Sg	13 39 33.3	+5.5
BALP	Baler	1.89	337	eP	Pn	13 39 36.5	+2.1
BALP				eS	Sn	13 40 03.5	+4.5

*PRU **08** 13:44:21.9, 49.47N×6.74E, h0km*
*ISCJB **08** 13:44:22.3±0.2, 49.35N±0.01×6.79E±0.02, h0km, Error ellipse: s-maj=1.7km s-min=1.5km az=164.7*
*STR **08** 13:44:23.8±0.2, 49.36N×6.82E, h1km, Ml3.1, Error ellipse: s-maj=0.0km s-min=0.0km az=0.0*
*NEIC **08** 13:44:23.8, 49.36N×6.82E, h1km, ML2.7(SZGRF), ML3.1(STR), ML3.6(LDG), After STR.*
*LEDBW **08** 13:44:24.3±0.2, 49.380N±0.009×6.84E±0.02, h1km, ML2.8, Error ellipse: s-maj=6.0km s-min=4.0km az=110.0*
*CSEM **08** 13:44:24.2±0.1, 49.38N×6.85E, h1km, ML3.6/21, Error ellipse: s-maj=1.1km s-min=1.0km az=138.0*
*LDG **08** 13:44:24.3±0.1, 49.38N×6.84E, h1km, Md3.5/2, Ml3.6/22, Error ellipse: s-maj=1.4km s-min=1.3km az=93.0, Suspected Mining induced.*
*BGR **08** 13:44:24.1±0.3, 49.38N×6.84E, h1km, ML2.8/6, Error ellipse: s-maj=3.3km s-min=3.3km az=123.0*
*BNS **08** 13:44:25.6±1.1, 49.42N×6.93E, h1km, ML2.4*
ISC 08 13:44:23.3±0.2, 49.37N±0.01×6.81E±0.02, h0km, n148, σ1.22/270, 7C-14D, Germany

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
RUP	Ruppelstein	0.37	26	⇓P*	Pg	13 44 31.2	+0.9
RUP	Ruppelstein	0.37	26	Pg	Pg	13 44 31.1	+0.8
RUP				Sg	Sg	13 44 36.7	+1.6
WLF	Walferdange	0.52	305	ePg	Pg	13 44 34.9	+1.7
	SNR=16						
WLF				eSg	Sg	13 44 40.5	+0.6
	SNR=6.6						
WLF	Walferdange	0.52	305	P	Pg	13 44 34.1	+0.9
WLF	Walferdange	0.52	305	eP	Pg	13 44 34.2	+1.0
ABH	Alteburg	0.70	43	⇓P*	Pg	13 44 36.9	+0.2
ABH	Alteburg	0.70	43	⇓Pg	Pg	13 44 36.9	+0.2
ABH	Alteburg	0.70	43	Pg	Pg	13 44 37.0	+0.3
ABH				Sg	Sg	13 44 46.5	+0.7
LANF	Langenberg	0.76	121	Pg	Pg	13 44 38.1	+0.2
LANF				Sg	Sg	13 44 49.4	+1.6
LANF	Langenberg	0.76	121	⇓Pg	Pg	13 44 38.3	+0.4
KTD	Kalmit	0.83	93	P*	Pb	13 44 40.2	-0.4
KTD	Kalmit	0.83	93	Pg	Pg	13 44 39.4	+0.1
KTD				Sg	Sg	13 44 52.0	+1.9
BGG	Burgeitz	0.90	22	ePg	Pg	13 44 41.7	+1.1
HILG	Hillesheim	0.92	355	ePg	Pg	13 44 42.2	+1.2
CDF	Champ du Feu	1.01	162	ePn	Pn	13 44 43.6	-1.1
	SNR=1.0						
CDF				eSg	Sg	13 44 56.1	+0.4
	SNR=1.0						
CDF				eSn	Sn	13 44 57.9	-1.7
	181nm,0.2s						
CDF	Champ du Feu	1.01	162	ePn	Pn	13 44 43.6	-1.1
	SNR=1.0						
CDF				eSg	Sg	13 44 56.1	+0.4
	SNR=1.0						
CDF				eSn	Sn	13 44 57.9	-1.7
	90nm,0.2s						
CDF	Champ du Feu	1.01	162	ePg	Pg	13 44 42.7	+0.1
CDF				ePn	Pn	13 44 43.6	-1.1
CDF				eSg	Sg	13 44 56.1	+0.4
CDF				eSn	Sn	13 44 57.9	-1.7
STR	Strasbourg	1.01	141	Pg	Pg	13 44 42.9	+0.3
ECH	Echery	1.18	169	Pg	Pg	13 44 46.0	+0.1
ECH				Sg	Sg	13 45 02.2	+1.0
ECH	Echery	1.18	169	⇓P	Pg	13 44 46.1	+0.1
ECH				Pg	Pg	13 44 47.0	+1.1
ECH				Sg	Sg	13 45 02.8	+1.5
ECH	Echery	1.18	169	P	Pg	13 44 47.0	+1.1
ECH				Sx	Sx	13 45 02.8	
ECH	Echery	1.18	169	eP	Pg	13 44 45.8	-0.1
KOE	Koeppel	1.21	29	ePg	Pg	13 44 45.9	-0.6
STB	Steinbach	1.22	1	ePg	Pg	13 44 47.8	+1.1
STB				eSg	Sg	13 45 03.3	+0.7
	67nm,0.7s						
SWS	Schriesheim-Wi	1.24	84	⇓P	Pg	13 44 46.5	-0.6
SWS				Pg	Pg	13 44 47.6	+0.5
SWS				S	Sg	13 45 03.0	-0.1
SWS	Schriesheim-Wi	1.24	84	P	Pg	13 44 47.6	+0.5
SWS				Sn	Sg	13 45 03.0	-0.1
SWS	Schriesheim-Wi	1.24	84	Pg	Pg	13 44 47.6	+0.5
SWS				S	Sg	13 45 03.0	-0.1
THEF	They Montfort	1.27	206	Pg	Pg	13 44 47.9	+0.3
THEF				Sg	Sg	13 45 05.2	+1.1
THEF	They Montfort	1.27	206	⇓P	Pg	13 44 47.9	+0.2
THEF				Pg	Pg	13 44 48.7	+1.1
THEF				Sg	Sg	13 45 05.5	+1.5
THEF	They Montfort	1.27	206	P	Pg	13 44 48.7	+1.1
THEF				Sx	Sx	13 45 05.5	
KLL	Kalltalsperre	1.31	346	ePg	Pg	13 44 48.8	+0.3
TOD	Tromm	1.32	79	P	Pg	13 44 47.6	-1.0
TOD				Pg	Pg	13 44 48.6	0.0
TOD				Sg	Sg	13 45 06.8	+1.1
TOD	Tromm	1.32	79	P	Pg	13 44 48.6	0.0
TOD				Sx	Sx	13 45 06.8	
TOD	Tromm	1.32	79	Pg	Pg	13 44 47.5	-1.1
TOD				Sg	Sg	13 45 06.3	+0.6
LIBD	Limburg	1.33	156	ePg	Pg	13 44 49.8	+1.0
	SNR=13						
LIBD	Limburg	1.33	156	Pg	Pg	13 44 49.6	+0.8
LIBD				Sg	Sg	13 45 06.8	+0.7
MEM	Membach	1.34	338	P	Pg	13 44 48.9	-0.1
DREG	Dreilaegerbach	1.34	344	ePg	Pg	13 44 49.4	+0.4
TNS	Taunus Mts	1.36	51	ePn	Pn	13 44 48.2	-1.3
	SNR=3.4						
TNS				eSg	Sg	13 45 07.6	+0.6
	SNR=4.5						
TNS	Taunus Mts	1.36	51	ePn	Pn	13 44 48.1	-1.4
TNS				eSg	Sg	13 45 09.8	+2.8
HAU	Haudompre	1.40	193	ePg	Pg	13 44 50.2	0.0
	SNR=1.0						
HAU				eSg	Sg	13 45 09.3	+1.0
	267nm,0.3s,SNR=1.0						
HAU	Haudompre	1.40	193	ePg	Pg	13 44 50.2	0.0
	SNR=1.0						
HAU				eSg	Sg	13 45 09.3	+1.0
	134nm,0.3s,SNR=1.0						
HAU	Haudompre	1.40	193	ePn	Pn	13 44 49.3	-0.8
HAU				ePg	Pg	13 44 50.2	0.0
HAU				eSg	Sg	13 45 09.3	+1.0
BCLA	Clavier	1.43	318	P	Pn	13 44 51.4	+0.9
BCLA	Clavier	1.43	318	P	Pn	13 44 51.3	+0.8
BFO	Black Forest	1.45	136	ePn	Pn	13 44 49.2	-1.5
	SNR=5.0						
BFO				eSg	Sg	13 45 09.4	-0.4
	SNR=6.3						
BFO	Black Forest	1.45	136	ePn	Pn	13 44 49.3	-1.4
BFO				Sg	Sg	13 45 09.4	-0.4
	SNR=6.3						
BFO	Black Forest	1.45	136	ePn	Pn	13 44 49.3	-1.4
BFO				eSg	Sg	13 45 11.2	+1.4
MEZF	Maizieres J'vi	1.45	234	ePg	Pg	13 44 51.6	+0.5
	baz=54,SNR=1.0						
MEZF				eSg	Sg	13 45 11.5	+1.6
	144nm,0.4s,SNR=1.0						
MEZF	Maizieres J'vi	1.45	234	ePg	Pg	13 44 51.6	+0.5
	SNR=1.0						
MEZF				eSg	Sg	13 45 11.5	+1.6
	72nm,0.4s,SNR=1.0						
GIVF	Givet	1.48	300	ePg	Pg	13 44 51.5	-0.2
	SNR=1.0						
GIVF				eSg	Sg	13 45 12.2	+1.4
	160nm,0.4s,SNR=1.0						
GIVF	Givet	1.48	300	ePg	Pg	13 44 51.5	-0.2
	SNR=1.0						
GIVF				eSg	Sg	13 45 12.2	+1.4
	80nm,0.4s,SNR=1.0						
GIVF	Givet	1.48	300	ePn	Pn	13 44 49.8	-1.4
GIVF				ePg	Pg	13 44 51.5	-0.2
GIVF				eSg	Sg	13 45 12.2	+1.4
LBG	Lerchenberg	1.49	118	Pg	Pg	13 44 52.0	+0.2
LBG				S	Sg	13 45 08.6	-2.5
HGN	Heimansgroeve	1.50	338	ePg	Pg	13 44 51.3	-0.8
	52nm,0.8s						
HGN				eSg	Sg	13 45 12.9	+1.3
HGN	Heimansgroeve	1.50	338	ePg	Pg	13 44 51.3	-0.8
	52nm,0.8s						
HGN				eSg	Sg	13 45 12.9	+1.4
HGN	Heimansgroeve	1.50	338	eRg		13 45 33.6	
MOF	Molkenrain	1.54	172	Pg	Pg	13 44 52.9	+0.1
MOF				Sg	Sg	13 45 12.9	+0.2
MOF	Molkenrain	1.54	172	⇓Pn	Pn	13 44 53.1	+1.2
MOF				S	Sn	13 45 14.3	+1.7
HINF	Hinteralfeld	1.56	179	ePg	Pg	13 44 53.1	0.0
HINF				eSg	Sg	13 45 13.5	+0.2
	282nm,0.3s,SNR=1.0						
HINF	Hinteralfeld	1.56	179	ePg	Pg	13 44 53.1	0.0
HINF				eSg	Sg	13 45 13.5	+0.2
	141nm,0.3s,SNR=1.0						
HINF	Hinteralfeld	1.56	179	ePn	Pn	13 44 51.6	-0.6
HINF				ePg	Pg	13 44 53.1	0.0
HINF				eSg	Sg	13 45 13.5	+0.2
KIZ	Kirchzarten	1.60	152	Pg	Pg	13 44 53.7	-0.2
KIZ				S	Sn	13 45 10.8	-3.3
KIZ				Sg	Sg	13 45 15.4	+0.8
BEBN	Eben Emael	1.60	333	P	Pn	13 44 55.4	+2.5
BEBN	Eben Emael	1.60	333	P	Pn	13 44 55.3	+2.5
DOU	Dourbes	1.61	298	P	Pn	13 44 53.0	+0.1
HOBG	Hohbusch	1.65	12	ePg	Pg	13 44 54.0	-0.9
FELD	Feldberg im Sc	1.69	152	Pg	Pg	13 44 56.0	+0.3
FELD				Sg	Sg	13 45 18.5	+0.8
FELD	Feldberg im Sc	1.69	152	Pg	Pg	13 44 55.2	-0.6
FELD				Sg	Sg	13 45 17.7	0.0
TUBL	Tuebingen-Lenn	1.72	119	P	Pn	13 44 53.5	-1.0
TUBL				Pg	Pg	13 44 57.7	+1.4
TUBL				Sg	Sg	13 45 18.8	+0.1
TUBL	Tuebingen-Lenn	1.72	119	Px	Px	13 44 53.5	
TUBL	Tuebingen-Lenn	1.72	119	P	Pg	13 44 57.7	+1.4
TUBL				S	Sg	13 45 18.8	+0.1
BAIF	Baives	1.82	293	ePn	Pn	13 44 55.3	-0.6
	SNR=1.0						
BAIF				eSg	Sg	13 45 22.8	+1.0
	107nm,0.5s,SNR=1.0						
BAIF	Baives	1.82	293	ePn	Pn	13 44 55.3	-0.6
	SNR=1.0						
BAIF				eSg	Sg	13 45 22.8	+1.0
	54nm,0.5s,SNR=1.0						
SPAK	Spaichingen-Ko	1.82	133	Pg	Pg	13 44 58.5	+0.2
SPAK				Sg	Sg	13 45 23.3	+1.4
SPAK	Spaichingen-Ko	1.82	133	Pg	Pg	13 44 58.3	0.0
SPAK				Sg	Sg	13 45 23.3	+1.4
SIND	Sindeldorf	1.83	90	⇓P	Pn	13 44 54.7	-1.3
BUCH	Bad Urach	1.92	118	⇓P	Pn	13 44 57.6	+0.5
BBS	Basel-Blauen	1.97	166	Pg	Pg	13 45 01.7	+0.8
BBS	Basel-Blauen	1.97	166	Pg	Pg	13 45 01.7	+0.7
BBS				Sg	Sg	13 45 27.3	+0.9
BBS	Basel-Blauen	1.97	166	Pg	Pg	13 44 59.3	-1.7
BBS				Sg	Sg	13 45 27.3	+0.9
SNF	Seneffe	1.99	306	P	Pn	13 44 59.7	+1.6
GUT	Gutenstein	2.01	130	P	Pn	13 44 58.8	+0.4
GUT				Pg	Pg	13 45 01.8	+0.1
GUT				Sg	Sg	13 45 27.8	0.0
GUT	Gutenstein	2.01	130	P	Pg	13 45 01.8	+0.1
GUT				Sx	Sx	13 45 27.8	
LOMF	Lomont	2.02	180	Pg	Pg	13 45 01.9	-0.2
LOMF				Sg	Sg	13 45 28.7	+0.4
LOMF	Lomont	2.02	180	P	Pn	13 45 02.1	+3.5
LOMF				S	Sn	13 45 29.1	+4.5
LOMF	Lomont	2.02	180	Pg	Pg	13 45 02.2	+0.1
LOMF				Sg	Sg	13 45 28.7	+0.4
SISB	Singen-Schiene	2.21	139	P*	Pb	13 45 06.1	+2.0
SISB				S*	Sb	13 45 34.8	+2.7
SISB	Singen-Schiene	2.21	139	Px	Px	13 45 06.1	
SISB				S	Sb	13 45 34.8	+2.7
HDH	Heidenheim-Cha	2.37	108	Pg	Pg	13 45 08.1	-0.7
HDH				Sg	Sg	13 45 39.5	0.0
UBBA	Unterbreizbach	2.51	54	eSg	Sg	13 45 43.7	-0.4
	SNR=1.9						
UBR	Ueberruh	2.77	126	P*	Pb	13 45 18.4	+4.7
UBR	Ueberruh	2.77	126	P	Pn	13 45 09.4	+0.5
UBR	Ueberruh	2.77	126	Px	Px	13 45 18.4	
CABF	La Chapelle	2.81	190	ePg	Pg	13 45 17.9	+0.8
	SNR=1.0						
CABF				eSg	Sg	13 45 54.0	+0.6
	104nm,0.6s,SNR=1.0						
CABF	La Chapelle	2.81	190	ePg	Pg	13 45 17.9	+0.8
	SNR=1.0						
CABF				eSg	Sg	13 45 54.0	+0.6
	52nm,0.6s,SNR=1.0						
CABF	La Chapelle	2.81	190	ePn	Pn	13 45 07.3	-2.1
CABF				ePg	Pg	13 45 17.9	+0.8
CABF				eSg	Sg	13 45 54.0	+0.6
LOR	Lormes	2.88	224	ePn	Pn	13 45 09.5	-0.9
	baz=46,SNR=1.0						
LOR				eSn	Sn	13 45 43.4	-2.4
	baz=39,SNR=1.0						
LOR				eSg	Sg	13 45 55.6	-0.3
	50nm,0.3s,SNR=1.0						
LOR	Lormes	2.88	224	ePn	Pn	13 45 09.5	-0.9
	SNR=1.0						
LOR				eSn	Sn	13 45 43.4	-2.4
	SNR=1.0						
LOR				eSg	Sg	13 45 55.6	-0.3
	25nm,0.3s,SNR=1.0						

SSF	**Saint Saulge**	**3.20**	**225**	*e*Pn	**Pn**	**13 45 13.8**	**-1.0**
	SNR=1.0						
SSF				*e*Sg	**Sg**	**13 46 05.5**	**-0.5**
	62nm,0.4s,SNR=1.0						
SSF	**Saint Saulge**	**3.20**	**225**	*e*Pn	**Pn**	**13 45 13.8**	**-1.0**
	SNR=1.0						
SSF				*e*Sg	**Sg**	**13 46 05.5**	**-0.5**
	31nm,0.4s,SNR=1.0						
MOX	**Moxa**	**3.35**	**66**	*e*Pg	**Pg**	**13 45 25.6**	**-1.9**
	SNR=1.8						
MOX	**Moxa**	**3.35**	**66**	Pn	**Pn**	**13 45 14.1**	**-2.8**
TUE	**Stuetta**	**3.37**	**149**	*e*P	**Pn**	**13 45 18.4**	**+1.3**
TUE	**Stuetta**	**3.37**	**149**	*e*P	**Pn**	**13 45 18.4**	**+1.3**
SMF	**Signal de Mont**	**3.38**	**217**	*e*Pg	**Pg**	**13 45 27.4**	**-0.6**
	SNR=1.0						
SMF				*e*Sn	**Sn**	**13 45 55.8**	**-2.2**
	49nm,0.4s,SNR=1.0						
SMF	**Signal de Mont**	**3.38**	**217**	*e*Pg	**Pg**	**13 45 27.4**	**-0.6**
	SNR=1.0						
SMF				*e*Sn	**Sn**	**13 45 55.8**	**-2.2**
	24nm,0.4s,SNR=1.0						
SMF	**Signal de Mont**	**3.38**	**217**	*e*Pn	**Pn**	**13 45 15.8**	**-1.5**
SMF				*e*Pg	**Pg**	**13 45 27.4**	**-0.6**
SMF				*e*Sn	**Sn**	**13 45 55.8**	**-2.2**
AVF	**Avril sur Loir**	**3.47**	**223**	*e*Pn	**Pn**	**13 45 17.4**	**-1.1**
	SNR=1.0						
AVF				*e*Sn	**Sn**	**13 45 55.0**	**-5.3**
	SNR=1.0						
AVF				*e*Sg	**Sg**	**13 46 15.1**	**+0.3**
	33nm,0.5s,SNR=1.0						
AVF	**Avril sur Loir**	**3.47**	**223**	*e*Pn	**Pn**	**13 45 17.4**	**-1.1**
	SNR=1.0						
AVF				*e*Sn	**Sn**	**13 45 55.0**	**-5.3**
	SNR=1.0						
AVF				*e*Sg	**Sg**	**13 46 15.1**	**+0.3**
	16nm,0.5s,SNR=1.0						
FETA	**Feichten**	**3.52**	**130**	⇑*i*Pn	**Pn**	**13 45 20.9**	**+1.7**
	2.9nm,0.2s						
FETA				⇓*i*Sg	**Sg**	**13 46 19.0**	**+2.5**
	10nm,0.7s						
SQTA	**Sankt Quirin**	**3.64**	**125**	⇑*i*Pn	**Pn**	**13 45 22.5**	**+1.6**
WERD	**Werda**	**3.71**	**71**	*e*Sg	**Sg**	**13 46 21.5**	**-1.0**
	SNR=3.2						
NKC	**Novy Kostel**	**3.75**	**75**	*e*PG	**Pg**	**13 45 29.6**	**-5.6**
NKC				*e*SG	**Sg**	**13 46 22.6**	**-1.2**
TANN	**Tannenbergstha**	**3.80**	**72**	*e*Pg	**Pg**	**13 45 34.3**	**-1.8**
	SNR=2.3						
TANN				*e*Sg	**Sg**	**13 46 23.3**	**-2.0**
	SNR=2.9						
WTTA	**Wattenberg**	**3.85**	**121**	⇑*e*Pn	**Pn**	**13 45 26.2**	**+2.5**
	1.8nm,0.2s						
WTTA				⇑*e*Sg	**Sg**	**13 46 30.1**	**+3.2**
	8.4nm,0.6s						
BGF	**Bois d'Agland**	**3.88**	**225**	*e*Pn	**Pn**	**13 45 23.9**	**-0.2**
	SNR=1.0						
BGF				*e*Sn	**Sn**	**13 46 07.0**	**-3.3**
	SNR=1.0						
BGF				*e*Sg	**Sg**	**13 46 27.1**	**-0.7**
	141nm,0.4s,SNR=1.0						
BGF	**Bois d'Agland**	**3.88**	**225**	*e*Pn	**Pn**	**13 45 23.9**	**-0.2**
	SNR=1.0						
BGF				*e*Sn	**Sn**	**13 46 07.0**	**-3.3**
	SNR=1.0						
BGF				*e*Sg	**Sg**	**13 46 27.1**	**-0.7**
	70nm,0.4s,SNR=1.0						
LPG	**La Plagne**	**3.88**	**181**	*e*Sn	**Sn**	**13 46 04.0**	**-6.3**
	SNR=1.0						
LPG				*e*Sg	**Sg**	**13 46 27.1**	**-0.7**
	14nm,0.5s,SNR=1.0						
TCF	**Toulx Ste Croi**	**4.37**	**227**	*e*Pn	**Pn**	**13 45 30.4**	**-0.5**
	SNR=1.0						
TCF				*e*Sn	**Sn**	**13 46 18.1**	**-4.4**
	15nm,0.4s,SNR=1.0						
TCF	**Toulx Ste Croi**	**4.37**	**227**	*e*Pn	**Pn**	**13 45 30.4**	**-0.5**
	SNR=1.0						
TCF				*e*Sn	**Sn**	**13 46 18.1**	**-4.4**
	7.7nm,0.4s,SNR=1.0						
CLL	**Collm**	**4.41**	**62**	*e*Sg	**Sg**	**13 46 42.0**	**-3.0**
	comp=Z,17nm,1.1s						
KHC	**Kasperske Hory**	**4.44**	**91**	*e*PN	**Pn**	**13 45 31.9**	**+0.1**
KHC				*e*PG	**Pg**	**13 45 50.0**	**+1.6**
KHC				*e*SN	**Sn**	**13 46 21.7**	**-2.5**
KHC				*e*SG	**Sg**	**13 46 44.9**	**-1.0**
ORIF	**Oris-en-Rattie**	**4.50**	**188**	*e*Sn	**Sn**	**13 46 23.1**	**-2.6**
	SNR=1.0						
ORIF				*e*Sg	**Sg**	**13 46 48.2**	**+0.3**
	comp=Z,26nm,0.6s,SNR=1.0						
ORIF	**Oris-en-Rattie**	**4.50**	**188**	*e*Sn	**Sn**	**13 46 23.1**	**-2.6**
	SNR=1.0						
ORIF				*e*Sg	**Sg**	**13 46 48.2**	**+0.3**
	comp=Z,13nm,0.6s,SNR=1.0						
GEC2	**GERESS Array S**	**4.56**	**94**	*e*Pn	**Pn**	**13 45 33.7**	**+0.3**
	SNR=15						
GEC2	**GERESS Array S**	**4.56**	**94**	*e*Pn	**Pn**	**13 45 33.9**	**+0.4**
LDF	**La Druitiere**	**4.63**	**263**	*e*Pg	**Pg**	**13 45 49.0**	**-3.0**
	SNR=1.0						
LDF				*e*Sg	**Sg**	**13 46 48.7**	**-3.3**
	comp=Z,16nm,0.4s,SNR=1.0						
LDF	**La Druitiere**	**4.63**	**263**	*e*Pg	**Pg**	**13 45 49.0**	**-3.0**
	SNR=1.0						
LDF				*e*Sg	**Sg**	**13 46 48.7**	**-3.3**
	comp=Z,8.1nm,0.4s,SNR=1.0						
LDF	**La Druitiere**	**4.63**	**263**	*e*Pn	**Pn**	**13 45 34.9**	**+0.5**
LDF				*e*Pg	**Pg**	**13 45 49.0**	**-3.0**
LDF				*e*Sg	**Sg**	**13 46 48.7**	**-3.3**
VIVF	**Saint-Julien-l**	**4.75**	**199**	*e*Sn	**Sn**	**13 46 28.6**	**-3.2**
	SNR=1.0						
VIVF				*e*Sg	**Sg**	**13 46 52.6**	**-3.2**
	comp=Z,38nm,0.8s						
VIVF	**Saint-Julien-l**	**4.75**	**199**	*e*Sn	**Sn**	**13 46 28.6**	**-3.2**
	SNR=1.0						
VIVF				*e*Sg	**Sg**	**13 46 52.6**	**-3.2**
	comp=Z,19nm,0.8s						
BRG	**Berggiesshubel**	**4.83**	**69**	PG	**Pg**	**13 45 52.6**	**-3.2**
BRG				SG	**Sg**	**13 46 56.2**	**-2.1**
	comp=Z,11nm,1.0s						
FLN	**La Foliniere**	**4.83**	**265**	*e*Pn	**Pn**	**13 45 37.4**	**+0.2**
	baz=86,SNR=1.0						
FLN	**La Foliniere**	**4.83**	**265**	*e*Pg	**Pg**	**13 45 55.0**	**-0.8**
	baz=89,SNR=1.0						
FLN				*e*Sn	**Sn**	**13 46 27.1**	**-6.7**
	SNR=1.0						
FLN				*e*Sg	**Sg**	**13 46 57.7**	**-0.7**
	comp=Z,20nm,0.4s,SNR=1.0						
FLN	**La Foliniere**	**4.83**	**265**	*e*Pg	**Pg**	**13 45 55.0**	**-0.8**
	SNR=1.0						
FLN				*e*Sn	**Sn**	**13 46 27.1**	**-6.7**
	SNR=1.0						
FLN				*e*Sg	**Sg**	**13 46 57.7**	**-0.7**
	comp=Z,10nm,0.4s,SNR=1.0						
FLN	**La Foliniere**	**4.83**	**265**	*e*Pn	**Pn**	**13 45 37.4**	**+0.2**
FLN				*e*Pg	**Pg**	**13 45 55.0**	**-0.8**
FLN				*e*Sn	**Sn**	**13 46 27.1**	**-6.7**
FLN				*e*Sg	**Sg**	**13 46 57.7**	**-0.7**
PRU	**Pruhonice**	**5.06**	**80**	*e*SG	**Sg**	**13 47 05.3**	**-0.4**
GRR	**Gorron**	**5.15**	**262**	*e*Pn	**Pn**	**13 45 42.4**	**+0.8**
	SNR=1.0						
GRR				*e*Sn	**Sn**	**13 46 36.1**	**-5.7**
	comp=Z,18nm,0.3s,SNR=1.0						
GRR	**Gorron**	**5.15**	**262**	*e*Pn	**Pn**	**13 45 42.4**	**+0.8**
	SNR=1.0						
GRR				*e*Sn	**Sn**	**13 46 36.1**	**-5.7**
	comp=Z,8.8nm,0.3s,SNR=1.0						
MOA	**Molln**	**5.18**	**104**	⇓*i*Pn	**Pn**	**13 45 42.9**	**+1.0**
MOA				⇑*i*Sn	**Sn**	**13 46 42.0**	**-0.3**
	comp=Z,1.9nm,0.3s						
MOA	**Molln**	**5.18**	**104**	Pn	**Pn**	**13 45 42.6**	**+0.7**
MOA				Sn	**Sn**	**13 46 42.0**	**-0.3**
	comp=Z,1.9nm,0.3s						
CAF	**Calviac**	**5.50**	**218**	*e*Pn	**Pn**	**13 45 44.9**	**-1.5**
	SNR=1.0						
LASF	**Ste Croix**	**5.67**	**202**	*e*Sg	**Sg**	**13 47 23.3**	**-2.2**
	comp=Z,18nm,0.6s,SNR=1.0						
LASF	**Ste Croix**	**5.67**	**202**	*e*Sg	**Sg**	**13 47 23.3**	**-2.2**
	comp=Z,9.1nm,0.6s,SNR=1.0						
CONA	**Conrad Observa**	**6.17**	**100**	⇑*i*Pn	**Pn**	**13 45 56.5**	**+0.9**
CONA				⇓*i*Sn	**Sn**	**13 47 04.3**	**-2.5**
	comp=Z,2.8nm,0.5s						
ARSA	**Arzberg**	**6.19**	**107**	⇓*e*Pn	**Pn**	**13 45 57.5**	**+1.6**
	comp=Z,1.3nm,0.3s						
ARSA				⇑*i*Sn	**Sn**	**13 47 06.5**	**-0.8**
	comp=Z,0.9nm,0.1s						
DPC	**Dobruska-Polom**	**6.23**	**77**	*e*SG	**Sg**	**13 47 41.3**	**-2.0**

*ISCJB **08** 13:49:28.2±0.7, 685N±007×7298W±007, h170km±7km, mb3.1/2, Error ellipse: s-maj=14.3km s-min=7.6km az=43.0*
*IDC **08** 13:49:28.4±0.7, 680N×7305W, h158km±10km, mb2.9/2, mb1 3.5/4, mb1mx3.2/20, mbtmp3.2/4, Error ellipse: s-maj=33.2km s-min=7.7km az=131.0*
*FUNV **08** 13:49:28.0, 668N×7320W, h155km, MW3.6*
*NEIC **08** 13:49:29.1±0.8, 678N×7304W, h168km±10km, Error ellipse: s-maj=29.9km s-min=14.0km az=127.0*
ISC 08 13:49:29.1±0.7**, 683N**±007×**7298W**±007**, h165**km±7km**, n22, σ0.85**/31**, mb3.1**/2**, 3C-2D, Northern Colombia**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CAPV	**Capacho**	**1.22**	**33**	⇓*i*P	**Pn**	**13 49 58.0**	**+0.9**
CAPV				*e*S	**Sn**	**13 50 18.1**	**-0.6**
ROSC	**El Rosal**	**2.38**	**214**	P	**Pn**	**13 50 09.7**	**+0.1**
	76nm,0.3s,baz=288,slow=9.5,SNR=116						
ROSC				S	**Sn**	**13 50 39.0**	**-1.9**
	153nm,0.3s,baz=110,slow=17,SNR=12						
ROSC	**El Rosal**	**2.38**	**214**	*e*Pn	**Pn**	**13 50 09.2**	**-0.3**
ROSC				*e*Sn	**Sn**	**13 50 36.4**	**-4.5**
SOCV	**Socops**	**2.55**	**55**	⇓*i*P	**Pn**	**13 50 12.7**	**+1.2**
SOCV				*e*S	**Sn**	**13 50 44.5**	**+0.1**
VIGV	**El Vigia**	**2.55**	**39**	*e*P	**Pn**	**13 50 11.8**	**+0.3**
VIGV				*e*S	**Sn**	**13 50 44.7**	**+0.2**
SDV	**Santo Domingo**	**3.09**	**49**	P	**Pn**	**13 50 20.1**	**+1.9**
	9.9nm,0.3s,baz=249,slow=4.2,SNR=7.3						
SDV				S	**Sn**	**13 50 57.1**	**+0.8**
	44nm,0.3s,baz=73,slow=21,SNR=38						
SDV	**Santo Domingo**	**3.09**	**49**	*e*Pn	**Pn**	**13 50 19.7**	**+1.5**
SDV				S	**Sn**	**13 50 57.1**	**+0.8**
ELOV	**Elorza**	**3.47**	**87**	*e*P	**Pn**	**13 50 23.8**	**+0.9**
QARV	**Quebrada Arrib**	**4.14**	**36**	⇑*i*P	**Pn**	**13 50 32.1**	**+0.6**
QARV				*e*S	**Sn**	**13 51 19.6**	**-0.6**
CURV	**Curarigua**	**4.34**	**43**	⇑*i*P	**Pn**	**13 50 34.8**	**+0.6**
CURV				*e*S	**Sn**	**13 51 24.8**	**-0.3**
DABV	**Dabajuro**	**4.67**	**29**	*e*P	**Pn**	**13 50 38.7**	**+0.2**
DABV				*e*S	**Sn**	**13 51 31.3**	**-1.5**
TEPV	**Terepaima**	**4.87**	**50**	*e*P	**Pn**	**13 50 41.7**	**+0.7**
SIQV	**Siquisique**	**4.92**	**39**	*e*P	**Pn**	**13 50 41.7**	**0.0**
BAUV	**El Baul**	**5.32**	**66**	*e*P	**Pn**	**13 50 46.3**	**-0.6**
BAUV				*e*S	**Sn**	**13 51 45.8**	**-2.1**
IMOV	**Isla Los Monje**	**5.86**	**20**	*e*P	**Pn**	**13 50 53.0**	**-1.1**
CAOV	**Caicara del Or**	**6.62**	**85**	⇑*e*P	**Pn**	**13 51 03.4**	**-0.8**
CUPV	**Cœpira**	**7.80**	**65**	*e*P	**Pn**	**13 51 19.8**	**0.0**
TXAR	**Lajitas Array**	**36.56**	**312**	P	**P**	**13 56 19.2**	**0.0**
	0.4nm,0.6s,mb3.2,baz=122,slow=7.8,SNR=4.2						
TXAR	**Lajitas Array**	**36.56**	**312**	P	**P**	**13 56 19.2**	**0.0**
PDAR	**Pinedale Array**	**48.15**	**324**	P	**P**	**13 57 52.4**	**-0.1**
	0.2nm,0.5s,mb3.0,baz=116,slow=10,SNR=3.2						
ASAR	**Alice Springs**	**149.23**	**234**	PKPbc	PKPbc	14 08 58.5	-0.5
	0.4nm,0.5s,baz=115,slow=3.8,SNR=14						
WRA	**Warramunga Arr**	**150.47**	**241**	PKPbc	PKPbc	14 09 01.6	-0.5
	0.5nm,0.4s,baz=108,slow=2.6,SNR=26						

*CSEM **08** 14:06:00.9±0.1, 4072N×2741E, h8km, MD3.4, Error ellipse: s-maj=1.4km s-min=1.1km az=7.0*
*ISK **08** 14:06:00.9, 4073N×2741E, h8km, MD3.4*
*ISCJB **08** 14:06:01.1±0.3, 4074N±002×2741E±002, h8km±3km, Error ellipse: s-maj=3.9km s-min=3.0km az=7.2*
*DDA **08** 14:06:01.4, 4071N×2743E, h7km±1km, Md3.2, Ml3.4*
*NEIC **08** 14:06:01.0, 4073N×2742E, h8km, MD3.7(ATH), ML3.3(ISK), After ISK.*
*ATH **08** 14:06:01.3, 4075N×2754E, h38km±9km, MD3.7/5*
*SOF **08** 14:06:02.4, 4091N×2719E, h2km, MD3.3*
*THE **08** 14:06:04.2, 4064N×2723E, h7km±2km, ML4.2/1, Error ellipse: s-maj=2.6km s-min=1.0km az=287.0*
ISC 08 14:06:01.4±0.3**, 4074N**±002×**2741E**±002**, h7**km±3km**, n58, σ0.82**/80**, 2D, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SART	**Tekirdag**	**0.18**	**255**	*i* P	**Pg**	**14 06 05.7**	**+0.6**
SART				*i* S	**Sg**	**14 06 08.7**	**+1.2**
RKY	**Sarkoy-Tekirda**	**0.18**	**255**	PG	**Pg**	**14 06 05.6**	**+0.5**
RKY				*e*SG	**Sg**	**14 06 08.2**	**+0.7**
MRMT	**Marmara Adasi**	**0.20**	**132**	PG	**Pg**	**14 06 05.0**	**-0.4**
MRMT				*e*SG	**Sg**	**14 06 08.6**	**+0.6**
TKR	**Tekirdag**	**0.27**	**21**	*e*PG	**Pg**	**14 06 07.6**	**+0.8**
EDC	**Edincik**	**0.52**	**138**	*e*PG	**Pg**	**14 06 11.4**	**-0.1**
BNT	**Bandirma**	**0.55**	**134**	*e*PG	**Pg**	**14 06 11.5**	**-0.4**
SLVT	**Silivri**	**0.79**	**51**	*e*PG	**Pg**	**14 06 16.9**	**+0.4**
KCT	**Karacabey**	**0.86**	**123**	*e*PG	**Pg**	**14 06 17.5**	**-0.5**
CTT	**Catalca**	**0.88**	**62**	*e*PG	**Pg**	**14 06 18.3**	**0.0**
ENEZ	**Enez**	**0.95**	**270**	*e*PG	**Pg**	**14 06 19.6**	**-0.1**
CTKS	**Kestanelik-??a**	**0.97**	**59**	*e*PG	**Pg**	**14 06 19.8**	**-0.3**
CTYL	**Yal??k??y-??at**	**1.00**	**42**	*e*PG	**Pg**	**14 06 20.5**	**-0.1**
BALY	**Balya**	**1.01**	**171**	*i* P	**Pg**	**14 06 20.3**	**-0.5**
BALY				*i* S	**Sg**	**14 06 34.4**	**+0.6**
ALN	**Alexandroupoli**	**1.04**	**279**	P	**Pg**	**14 06 21.3**	**-0.2**
ALN				S	**Sg**	**14 06 35.6**	**+0.6**
BGKT	**Bogazkoy**	**1.13**	**66**	*e*PN	**Pn**	**14 06 22.2**	**-1.3**
BALB	**Balikesir**	**1.15**	**161**	*e*PN	**Pn**	**14 06 23.5**	**-0.4**
EDRB	**Edirne**	**1.22**	**336**	*e*PN	**Pn**	**14 06 24.9**	**+0.1**
EZN	**Ezine**	**1.23**	**223**	*e*PN	**Pn**	**14 06 23.9**	**-1.1**
GADA	**Gvkgeada**	**1.27**	**245**	*e*PN	**Pn**	**14 06 25.0**	**-0.6**
ISK	**Istanbul-Kandi**	**1.30**	**75**	*e*PN	**Pn**	**14 06 25.0**	**-0.9**
KLYT	**Kilyos**	**1.34**	**67**	*e*PN	**Pn**	**14 06 26.0**	**-0.6**
GEMT	**Gemlik**	**1.39**	**102**	*e*PN	**Pn**	**14 06 27.0**	**-0.2**
DST	**Dursunbey**	**1.47**	**140**	*e*PN	**Pn**	**14 06 28.5**	**+0.2**
RDO	**Rodhopi**	**1.47**	**287**	⇓Pb	**Pb**	**14 06 28.7**	**-0.4**
RDO				*e*Sn	**Sn**	**14 06 48.0**	**+0.2**
RDO	**Rodhopi**	**1.47**	**287**	⇓PB	**Pb**	**14 06 28.7**	**-0.4**
RDO				*e*SN	**Sn**	**14 06 48.0**	**+0.2**
YLV	**Yalova**	**1.51**	**96**	*e*PN	**Pn**	**14 06 29.5**	**+0.7**
HRT	**Hereke**	**1.72**	**86**	*e*PN	**Pn**	**14 06 31.1**	**-0.6**
PRK	**Paraskevi**	**1.72**	**211**	P	**Pn**	**14 06 31.3**	**-0.5**
PRK				S	**Sn**	**14 06 52.8**	**-1.2**
PRK	**Paraskevi**	**1.72**	**211**	Pn	**Pn**	**14 06 31.7**	**-0.1**
PRK				S	**Sn**	**14 06 52.8**	**-1.2**
PRK				*e*Sn	**Sn**	**14 06 53.7**	**-0.3**
PRK	**Paraskevi**	**1.72**	**211**	⇑PN	**Pn**	**14 06 31.7**	**-0.1**
PRK				*e*SN	**Sn**	**14 06 53.7**	**-0.3**
SILT	**Sile**	**1.75**	**75**	*e*PN	**Pn**	**14 06 32.5**	**+0.4**
ADVT	**Abdulvahap**	**1.80**	**99**	*e*PN	**Pn**	**14 06 33.8**	**+0.9**
JMB	**Yambol**	**1.84**	**341**	P	**Pn**	**14 06 36.6**	**+3.3**
JMB				S	**Sn**	**14 07 00.2**	**+3.4**
AKS	**Akhisar**	**1.88**	**170**	*e*PN	**Pn**	**14 06 34.8**	**+0.9**
LIA	**Limnos Island**	**1.89**	**245**	P	**Pn**	**14 06 33.6**	**-0.5**
LIA				S	**Sn**	**14 06 56.4**	**-1.8**
LIA	**Limnos Island**	**1.89**	**245**	*i* Pn	**Pn**	**14 06 34.0**	**-0.1**
LIA				S	**Sn**	**14 06 56.4**	**-1.8**
LIA				*e*Sn	**Sn**	**14 06 58.6**	**+0.4**
LIA	**Limnos Island**	**1.89**	**245**	⇑*i*PN	**Pn**	**14 06 34.0**	**-0.1**
LIA				*e*SN	**Sn**	**14 06 58.6**	**+0.4**
DIM	**Dimitrovgrad**	**1.93**	**314**	P	**Pn**	**14 06 34.6**	**+0.1**
DIM				Pg	**Pg**	**14 06 37.5**	**-0.8**
CAVI	**Cavuskoy**	**1.93**	**105**	*e*PN	**Pn**	**14 06 35.5**	**+0.8**
LOS	**Limnos**	**1.95**	**246**	P	**Pn**	**14 06 34.1**	**-0.8**
RZN	**Rozhen**	**2.24**	**296**	P	**Pn**	**14 06 39.4**	**+0.5**
RZN				Pg	**Pg**	**14 06 42.9**	**-1.5**
IZM	**Izmir**	**2.34**	**183**	*e*PN	**Pn**	**14 06 41.2**	**+1.0**
BLCB	**Balcova**	**2.36**	**187**	*e*PN	**Pn**	**14 06 41.8**	**+1.2**
GULT	**Gulveren**	**2.39**	**96**	*e*PN	**Pn**	**14 06 41.7**	**+0.8**
KULA	**Kula-Manisa**	**2.42**	**156**	*e*PN	**Pn**	**14 06 41.0**	**-0.4**
PRD	**Provadia**	**2.46**	**360**	P	**Pn**	**14 06 41.9**	**0.0**
PRD				Pg	**Pg**	**14 06 47.2**	**-1.4**
CHOS	**Chios island**	**2.57**	**204**	P	**Pn**	**14 06 43.0**	**-0.4**
CHOS				S	**Sn**	**14 07 13.8**	**-1.0**
OUR	**Ouranopolis**	**2.64**	**262**	P	**Pn**	**14 06 43.5**	**-0.9**
ALT	**Altintas**	**2.67**	**128**	*e*PN	**Pn**	**14 06 45.0**	**+0.2**
NVR	**Nevrokopi**	**2.75**	**284**	*e*Pn	**Pn**	**14 06 46.1**	**+0.2**
NVR	**Nevrokopi**	**2.75**	**284**	*e*PN	**Pn**	**14 06 46.1**	**+0.2**
MMB	**Musomiste**	**2.90**	**288**	P	**Pn**	**14 06 48.7**	**+0.7**
MMB				Pg	**Pg**	**14 06 54.7**	**-2.4**
PLG	**Polygyros**	**3.04**	**264**	P	**Pn**	**14 06 50.3**	**+0.5**
SMG	**Samos**	**3.06**	**188**	*e*Pn	**Pn**	**14 06 49.7**	**-0.4**
SMG	**Samos**	**3.06**	**188**	*e*PN	**Pn**	**14 06 49.7**	**-0.4**
KNT	**Kendrikon**	**3.44**	**279**	P	**Pn**	**14 06 56.2**	**+0.8**
VTS	**Vitosha**	**3.65**	**302**	P	**Pn**	**14 06 59.9**	**+1.6**
VTS				Pg	**Pg**	**14 07 10.1**	**-1.2**
BARS	**Barje**	**4.67**	**298**	*e*Pn	**Pn**	**14 07 13.5**	**+1.3**

*ISCJB **08** 14:13:18.5±0.7, 4237N±005×678W±007, h10km±8km, Error ellipse: s-maj=9.1km s-min=8.6km az=43.8*
*CSEM **08** 14:13:20.5±0.4, 4237N×678W, h0km, ML3.7/2, Error ellipse: s-maj=4.1km s-min=2.6km az=46.0, After MDD*
ISC 08 14:13:19.5±0.7**, 4237N**±005×**679W**±007**, h5**km±9km**, n13, σ0.57**/14**, Spain**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ERUA	**La Rua**	**0.26**	**275**	Pg	**Pg**	**14 13 24.4**	**-0.2**
	SNR=7.9						
ERUA				Lg		14 13 29.8	
	SNR=7.9						
ECAL	**Calabor**	**0.43**	**175**	Pg	**Pg**	**14 13 28.3**	**+0.5**
	21nm,0.3s,SNR=91						
ECAL				Lg		14 13 34.5	
	77nm,0.2s,SNR=5.0						
EPON	**Pontenova**	**0.99**	**345**	Pg	**Pg**	**14 13 38.2**	**-0.3**
	SNR=7.9						
EPON				Lg		14 13 53.0	
	SNR=7.9						
ELOB	**Lobios**	**1.07**	**242**	Pg	**Pg**	**14 13 40.6**	**+0.6**
	5.8nm,0.2s,SNR=49						
ELOB				Lg		14 13 55.4	
	21nm,0.2s,SNR=5.0						
STS	**Santiago**	**1.40**	**292**	Pg	**Pg**	**14 13 46.5**	**+0.2**
	SNR=7.9						
STS				Lg		14 14 04.8	
	SNR=7.9						
EARI	**Arriondas**	**1.49**	**51**	Pg	**Pg**	**14 13 47.9**	**-0.2**
	2.4nm,0.3s,SNR=23						
EARI				Lg		14 14 08.8	
	4.6nm,0.5s,SNR=6.1						
EMAZ	**Mazaricos**	**1.71**	**290**	Pg	**Pg**	**14 13 51.7**	**-0.6**
	SNR=7.9						
EMAZ				Lg		14 14 13.3	
	3.5nm,0.3s,SNR=4.7						
ELAN	**Lanestosa**	**2.62**	**70**	Pg	**Pn**	**14 14 03.0**	**+0.6**
	SNR=7.9						
ELAN				Lg		14 14 43.0	
	SNR=7.9						
GUD	**Guadarrama**	**2.63**	**130**	Pg	**Pg**	**14 14 09.1**	**-0.8**
	3.8nm,0.3s,SNR=6.7						
GUD				Lg		14 14 43.1	
	4.7nm,0.3s,SNR=5.8						
ESDC	**Sonseca Array**	**3.44**	**141**	Lg		14 15 11.3	
	0.5nm,0.3s,baz=318,SNR=5.3						
EBAD	**Badajoz**	**3.62**	**183**	Pn	**Pn**	**14 14 17.0**	**+0.9**
	SNR=7.9						
EBAD				Sn	**Sn**	**14 14 58.0**	**-1.1**
	SNR=7.9						
EBAD				Lg		14 15 14.6	
	SNR=7.9						
ECAB	**El Cabril**	**4.42**	**166**	Pn	**Pn**	**14 14 27.6**	**+0.5**
	2.1nm,0.5s,SNR=6.2						
ECAB				Sn	**Sn**	**14 15 18.5**	**-0.4**
	SNR=7.9						
ECAB				Lg		14 15 39.2	
	4.1nm,0.6s,SNR=5.0						
EADA	**Adamuz**	**4.53**	**157**	Pn	**Pn**	**14 14 28.9**	**+0.3**
	SNR=7.9						

*ISCJB **08** 14:25:34.9±2.2, 245S±02×1799E±04, h508km±32km, mb4.0/7, Error ellipse: s-maj=58.0km s-min=33.0km az=155.8*
*NEIC **08** 14:25:36.0±1.8, 2448S×17997E, h515km±24km, mb4.5/3, Error ellipse: s-maj=44.0km s-min=25.5km az=63.0*
*IDC **08** 14:25:40.7±2.9, 2474S×17945E, h527km±25km, mb3.4/6, mb1 3.5/7, mb1mx3.3/17, mbtmp3.4/7, Error ellipse: s-maj=42.0km s-min=25.9km az=46.0*
ISC 08 14:25:36.0±2.2**, 245S**±02×**1799E**±04**, h511**km±31km**, n16, σ0.69**/17**, mb4.0**/7**, South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**5.13**	**158**	P	**P**	**14 27 04.8**	**+0.1**
	105nm,0.3s,baz=83,slow=19,SNR=5.8						
RAO	**Raoul Island**	**5.13**	**158**	*e*P	**P**	**14 27 04.8**	**+0.1**
URZ	**Urewera**	**13.95**	**189**	P	**P**	**14 28 34.4**	**-0.4**
	0.9nm,0.3s,baz=13,slow=23,SNR=6.1						
RPZ	**Rata Peaks**	**20.53**	**199**	P	**P**	**14 29 38.6**	**+0.1**
	6.6nm,0.7s,baz=42,slow=4.8,SNR=4.5						
CTA	**Charters Tower**	**31.42**	**271**	*e*P	**P**	**14 31 15.9**	**+0.9**
	7.3nm,0.4s,mb4.6						
CTA	**Charters Tower**	**31.42**	**271**	P	**P**	**14 31 16.1**	**+1.1**
	11nm,0.5s,mb4.6,baz=97,slow=11,SNR=20						
CTAO	**Charters Tower**	**31.42**	**271**	*e*P	**P**	**14 31 15.9**	**+0.9**
	6.5nm,0.4s,mb4.5						
STKA	**Stephens Creek**	**34.45**	**249**	P	**P**	**14 31 41.5**	**+0.8**
	1.3nm,0.5s,mb3.7,baz=104,slow=11,SNR=5.4						
STKA	**Stephens Creek**	**34.45**	**249**	*e*P	**P**	**14 31 41.2**	**+0.6**
ASAR	**Alice Springs**	**41.88**	**261**	P	**P**	**14 32 41.5**	**+0.2**
	2.6nm,0.8s,mb3.8,baz=94,slow=7.1,SNR=22						
WB2	**Warramunga Arr**	**42.30**	**267**	*e*P	**P**	**14 32 44.1**	**-0.5**
WRA	**Warramunga Arr**	**42.31**	**267**	P	**P**	**14 32 44.2**	**-0.5**
	4.1nm,0.5s,mb4.2,baz=102,slow=8.3,SNR=56						
WRA				ScP	ScP	14 37 30.8	+2.2
	1.2nm,1.0s,baz=108,slow=3.3,SNR=5.1						
WRA				S	**S**	**14 38 23.7**	**-4.7**
	0.3nm,0.9s,baz=108,slow=14,SNR=3.0						
KAKA	**Kakadu**	**46.30**	**276**	*e*P	**P**	**14 33 14.0**	**-1.6**
	3.2nm,0.4s,mb4.2						
FITZ	**Fitzroy Crossi**	**50.72**	**266**	*e*P	**P**	**14 33 49.2**	**+0.6**
	5.0nm,0.6s,mb4.0						
FITZ	**Fitzroy Crossi**	**50.72**	**266**	*e*P	**P**	**14 33 49.0**	**+0.4**
CMAR	**Chiang Mai Arr**	**89.67**	**290**	P	**P**	**14 37 40.0**	**+0.4**
	0.4nm,0.3s,mb3.7,baz=130,slow=3.8,SNR=5.7						

*NIED **08** 14:35:00, 4160N×14000E, h165km, Mw4.3 Best double couple: M0 3.48000×10^15 NP1:φs195.00000°, δ90.00000°, λ95.00000°. NP2:φs287.00000°, δ5.00000°, λ2.00000°.*
*ISCJB **08** 14:35:19.9±0.2, 4163N±003×14001E±004, h164km±2km, mb4.5/70, Error ellipse: s-maj=5.0km s-min=4.0km az=29.1*
*IDC **08** 14:35:20.4±0.9, 4164N×13995E, h155km±8km, mb4.0/15, mb1 4.1/20, mb1mx4.0/25, mbtmp4.0/20, Error ellipse: s-maj=12.3km s-min=8.8km az=121.0*
*BJI **08** 14:35:20.1, 4160N×13997E, h176km, mB5.0, mb4.6*
*MOS **08** 14:35:20.1±0.9, 4172N×13988E, h163km, mb4.6/23, Error ellipse: s-maj=9.6km s-min=7.1km az=114.9*
*JMA **08** 14:35:21.5±0.1, 4160N×14002E, h157km±1km, M4.1*
*NEIC **08** 14:35:21.6±0.3, 4163N×13991E, mb4.4/24, Error ellipse: s-maj=6.7km s-min=5.2km az=157.0*
ISC 08 14:35:21.0±0.2**, 4162N**±003×**14001E**±004**, h160**km±2km**, h167**km±2.0km**:pP-P, n147, σ0.94**/172**, mb4.5**/70**, 8C-14D, Hokkaido region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JSR	**Shiriuchi**	**0.32**	**106**	⇓P	**Pn**	**14 35 42.9**	**+0.2**
JSR				*e*S	**Sn**	**14 35 59.4**	**+0.1**
JYM2	**Yakumo 2**	**0.57**	**29**	⇑P	**Pn**	**14 35 44.2**	**+0.5**
JYM2				*e*S	**Sn**	**14 36 01.3**	**+0.1**
JOSM	**Okushiri--Mats**	**0.61**	**320**	⇑P	**Pn**	**14 35 44.1**	**+0.1**
JOSM				*e*S	**Sn**	**14 36 01.1**	**-0.5**
JSI2	**Shiura 2**	**0.64**	**151**	⇓P	**Pn**	**14 35 44.3**	**+0.1**
JSI2				*e*S	**Sn**	**14 36 01.9**	**+0.1**
JKB	**Kayabe**	**0.81**	**70**	⇓P	**Pn**	**14 35 45.5**	**+0.3**
JKB				*e*S	**Sn**	**14 36 03.7**	**-0.1**
JOT	**Ohata**	**0.82**	**106**	⇓P	**Pn**	**14 35 45.2**	**-0.1**
JSH	**Shimam**	**1.02**	**2**	⇑P	**Pn**	**14 35 47.4**	**+0.6**
JSH				*e*S	**Sn**	**14 36 06.9**	**+0.2**
JIW	**Iwasaki**	**1.02**	**180**	P	**Pn**	**14 35 47.3**	**+0.4**
JIW				*e*S	**Sn**	**14 36 06.3**	**-0.4**
JTM	**Tenmabayashi**	**1.16**	**136**	⇓P	**Pn**	**14 35 47.9**	**-0.1**
JTM				*e*S	**Sn**	**14 36 08.3**	**-0.3**
JEW	**Eniwo**	**1.62**	**41**	⇓P	**Pn**	**14 35 53.7**	**+1.2**
JEW				*e*S	**Sn**	**14 36 17.7**	**+0.9**
JANG	**Nango**	**1.69**	**137**	⇓P	**Pn**	**14 35 52.6**	**-0.7**
JSK	**Shakotan**	**1.77**	**11**	P	**Pn**	**14 35 54.9**	**+0.8**
JSK				*e*S	**Sn**	**14 36 20.4**	**+0.8**
JNBK	**Urakawa-nobuka**	**2.15**	**71**	⇓P	**Pn**	**14 35 58.5**	**+0.1**
JNBK				*e*S	**Sn**	**14 36 27.0**	**-0.3**
JOM	**Ohasama**	**2.36**	**155**	⇓P	**Pn**	**14 36 00.0**	**-0.9**
JOM				*e*S	**Sn**	**14 36 29.7**	**-1.9**
ERM	**Erimo**	**2.39**	**79**	⇑*i*Pn	**Pn**	**14 36 01.4**	**+0.2**
ERM				*e*Sn	**Sn**	**14 36 30.0**	**-2.2**
ASAJ	**Asahikawa**	**3.14**	**36**	P	**Pn**	**14 36 11.2**	**+0.8**
	28nm,0.3s,baz=226,slow=10,SNR=275						
ASAJ				S	**Sn**	**14 36 47.7**	**-1.1**
	25nm,0.3s,baz=75,slow=31,SNR=19						
ASAJ	**Asahikawa**	**3.14**	**36**	P	**Pn**	**14 36 11.3**	**+0.9**
ASAJ				S	**Sn**	**14 36 47.7**	**-1.1**
ASAJ				pmax	pmax		

comp=Z,28nm,0.3s
ASAJ smax
comp=N,25nm,0.3s
MAJO Matsushiro 5.26 196 *e*P **Pn 14 36 38.4 +0.4**
MAT Matsushiro 5.26 196 P **Pn 14 36 38.5 +0.5**
MAT S **Sn 14 37 40.7 +2.6**
MJAR Matsushiro Arr 5.26 196 P **Pn 14 36 38.9 +0.9**
comp=N,1.8nm,0.3s,baz=5.8,slow=13,SNR=37
YSS Yuzh-Sakhalins 5.69 19‖ *e*P **Pn 14 36 42.2 -1.3**
YSS *e*S **Sn 14 37 46.0 -2.2**
YSS pmax pmax
comp=Z,60nm,0.4s
YSS Yuzh-Sakhalins 5.69 19 *e*Pn **Pn 14 36 44.2 +0.7**
MDJ Mudanjiang 8.19 295 P **Pn 14 37 17.5 +0.8**
MDJ S **Sn 14 38 50.4 +2.5**
MDJ AMB AMB
comp=Z,38nm,0.9s
MDJ AMB AMB
comp=Z,239nm,3.7s
MDJ LR LR
comp=N,36nm,18.8s
MDJ LR LR
comp=E,46nm,22.4s
MDJ LR LR
comp=Z,45nm,26.1s
MDJ Mudanjiang 8.19 295 *e*Pn **Pn 14 37 17.6 +0.9**
JHJ Hachijo jima 2 8.49 181 P **Pn 14 37 18.9 -1.9**
comp=Z,20nm,0.3s,baz=36,slow=22,SNR=7.4
JHJ S **Sn 14 38 47.1 -8.2**
comp=Z,17nm,0.3s,baz=288,slow=19,SNR=5.2
KSRS Korea Array 10.22 250 P **Pn 14 37 44.2 +0.6**
comp=Z,0.2nm,0.3s,baz=64,slow=12,SNR=15
CN2 Changchun 10.93 286 *e*P **Pn 14 37 53.4 +0.4**
HIA Hailar 16.11 305 *e*P **Pn 14 38 57.5 -0.9**
PETK Petropavlovsk- 16.55 40 P **Pn 14 39 01.5 -2.1**
comp=Z,0.1nm,0.3s,baz=223,slow=14,SNR=4.0
PET Petropavlovsk 16.97 41 *i*P **Pn 14 39 04.3 -4.4**
BJI Beijing 18.09 273 P **P 14 39 18.6 -1.9**
BJI AMB AMB
comp=Z,14nm,1.0s
BJI Beijing 18.09 273 P **P 14 39 18.6 -1.9**
comp=Z,14nm,1.0s
BJT Baijiatuau 18.11 273 *e*P **P 14 39 17.8 -2.8**
NJ2 Nanjing 19.40 247 *e*P **P 14 39 35.7 +1.0**
NJ2 AMB AMB
comp=Z,110nm,0.8s
YAK Yakutsk 21.36 347‖ *e*P **P 14 39 52.4 -3.0**
YAK pmax pmax
comp=Z,10.0nm,0.7s,mb4.2
YAK Yakutsk 21.36 347 *e*P **P 14 39 52.1 -3.2**
HHC Hu-ho-hao-te 21.37 277 *e*P **P 14 39 54.9 -0.8**
HHC PP 14 40 27.6
HHC XP sP 14 40 45.2 +1.4
HHC S **S 14 43 37.2 -6.2**
HHC PCP PcP 14 43 55.4 +2.6
HHC SS 14 44 24.6
HHC SCP ScP 14 47 15.1 +0.5
HHC AMB AMB
comp=Z,20nm,1.1s,mb4.4
HHC AMB AMB
comp=Z,202nm,5.0s
HHC LR LR
comp=N,269nm,10.5s
HHC LR LR
comp=E,320nm,10.5s
HHC LR LR
comp=Z,120nm,10.2s
SEY Seymchan 22.57 15 *i*P **P 14 40 02.5 -5.0**
BOD Bodaibo 23.13 323 *e*P **P 14 40 10.1 -2.6**
BOD pmax pmax
comp=Z,10.0nm,0.7s,mb4.3
ULN Ulaanbaatar 24.10 296‖ *e*P **P 14 40 20.6 -1.0**
ULN Ulaanbaatar 24.10 296 *e*P **P 14 40 20.1 -1.6**
comp=Z,8.7nm,0.8s,mb4.3
SONM Songino Array 24.54 296 P **P 14 40 24.3 -1.3**
comp=Z,3.6nm,0.5s,mb4.2,baz=98,slow=9.1,SNR=24
XAN Xi'an 25.59 263 P **P 14 40 34.9 -0.4**
XAN AMB AMB
comp=Z,28nm,16.9s
TLY Talaya 26.66 305 *e*P **P 14 40 44.8 +0.1**
TLY pmax pmax
comp=Z,5.0nm,0.9s,mb4.1
ZAK Zakamensk 26.74 302 *e*P **P 14 40 44.2 -1.2**
ZAK pmax pmax
comp=Z,4.0nm,1.4s,mb3.9
LZH Lanzhou 28.56 271 *e*P **P 14 41 05.5 +3.8**
LZH AMB AMB
comp=Z,13nm,1.0s,mb4.6
LZH AMB AMB
comp=Z,59nm,4.0s
LZH Lanzhou 28.56 271 *e*P **P 14 41 05.5 +3.8**
comp=Z,13nm,1.0s,mb4.6
LZH pP pP 14 41 32.2 -2.9
LZH sP sP 14 41 48.9 -4.6
GTA Gaotai 30.45 279 *e*P **P 14 41 18.2 -0.2**
GTA AP pP 14 41 52.0 +0.1
GTA XP sP 14 42 10.4 +0.1
GTA AMB AMB
comp=Z,5.0nm,1.4s,mb4.0
CD2 Chengdu 30.91 262 *e*P **P 14 41 23.4 +0.8**
CD2 AP pP 14 41 57.1 +1.0
CD2 XP sP 14 42 15.7 +1.2
CD2 PP PP 14 42 31.1 -4.4
CD2 S **S 14 46 13.6 -1.4**
CD2 XS sS 14 47 13.2 -0.8
CD2 SS SS 14 48 09.7 -24
CD2 AMB AMB
comp=Z,10.0nm,0.6s,mb4.7
CD2 AMB AMB
comp=Z,30nm,5.2s
GYA Guiyang 31.27 252 P **P 14 41 26.6 +0.9**
GYA AP pP 14 42 02.4 +3.1
GYA XP sP 14 42 20.8 +3.2
GYA PCP PcP 14 44 18.2 +2.1
GYA S **S 14 46 20.6 +0.1**
GYA SCP ScP 14 47 44.3 +0.3
GYA PCS PcS 14 48 01.7 +1.0
GYA SCS ScS 14 51 40.9 -1.0
GYA AMB AMB
comp=Z,10.0nm,0.8s,mb4.6
KRAR Krasnoyarsk 33.49 312‖ *e*P **P 14 41 45.1 +0.3**
KRAR pmax pmax
comp=Z,83nm,1.2s,mb5.3
KMI Kunming 34.89 254 P **P 14 41 58.6 +1.5**
KMI AP pP 14 42 33.1 +2.0
KMI XP sP 14 42 50.6 +1.3
KMI PP PP 14 43 21.5 +2.0
KMI S **S 14 47 15.6 -0.9**
KMI XS sS 14 48 15.3 -0.8
KMI SS SS 14 49 41.3 -10
KMI AMB AMB
comp=Z,8.0nm,0.8s,mb4.4
KMI LR LR
comp=Z,26nm,16.6s
KMI Kunming 34.89 254 P **P 14 41 58.6 +1.5**
comp=Z,8.0nm,0.8s,mb4.4
KMI pP pP 14 42 33.1 +2.0
KMI sP sP 14 42 50.6 +1.3
KMI PP PP 14 43 21.5 +2.0
KMI S **S 14 47 15.6 -0.9**
KMI sS sS 14 48 15.3 -0.8
KMI SS SS 14 49 41.3 -10
KMI LR LR
comp=Z,30nm,16.6s
WMQ Urumqi 37.97 291 *e*P **P 14 42 24.0 +1.0**
WMQ AP pP 14 42 59.0 +1.6
WMQ XP sP 14 43 18.0 +2.4
WMQ AMB AMB
comp=Z,7.0nm,0.6s,mb4.5
WMQ AMB AMB
comp=Z,58nm,5.0s
WMQ LR LR
comp=N,26nm,17.0s
WMQ LR LR
comp=E,33nm,16.0s
WMQ LR LR
comp=Z,22nm,15.0s
ZAA0 Zalesovo Array 38.12 308 *e*P **P 14 42 23.8 -0.4**
ZALV Zalesovo Beam 38.12 308 P **P 14 42 23.9 -0.3**
comp=Z,7.8nm,0.4s,mb4.7,baz=88,slow=7.7,SNR=45
ZALV PcP PcP 14 44 35.5 -0.1
comp=Z,3.1nm,0.4s,baz=91,slow=3.0,SNR=9.1
ZALV ScP ScP 14 48 07.0 -1.1
comp=Z,1.3nm,0.6s,baz=79,slow=3.3,SNR=5.8

NVS Novosibirsk 38.98 310 *e*P **P 14 42 29.9 -1.4**
NVS pmax pmax
comp=Z,8.0nm,0.7s,mb4.5
NVS pmax pmax
comp=E,9.0nm,0.6s
MK31 Makanchi Array 40.89 297 *e*P **P 14 42 46.7 -0.5**
MK31 pmax pmax
comp=Z,14nm,0.4s,mb4.9
MKAR Makanchi Array 40.89 297 P **P 14 42 47.0 -0.2**
comp=Z,19nm,0.5s,mb5.0,baz=84,slow=9.7,SNR=219
MKAR ScP ScP 14 48 17.2 -1.8
comp=Z,0.5nm,0.4s,baz=70,slow=4.6,SNR=5.2
MKAR Makanchi Array 40.89 297 P **P 14 42 47.0 -0.2**
MKAR ScP ScP 14 48 17.2 -1.8
LSA Lhasa 40.94 269 *e*P **P 14 42 48.8 +1.0**
LSA Lhasa 40.94 269 *e*P **P 14 42 49.0 +1.2**
LSA pmax pmax
comp=Z,4.0nm,0.5s,mb4.3
LSA Lhasa 40.94 269 *e*P **P 14 42 49.0 +1.2**
comp=Z,3.9nm,0.5s,mb4.3
CHTO Chiang Mai 41.62 250 *e*P **P 14 42 53.3 -0.1**
CHTO pmax pmax
comp=Z,11nm,0.6s,mb4.7
CHTO Chiang Mai 41.62 250 *e*P **P 14 42 53.3 -0.1**
comp=Z,11nm,0.6s,mb4.7
CM31 Chiang Mai Arr 41.85 249 *e*P **P 14 42 55.4 0.0**
comp=Z,3.6nm,0.5s,mb4.3
CMAR Chiang Mai Arr 41.85 249 P **P 14 42 55.5 +0.2**
comp=Z,4.3nm,0.6s,mb4.3,baz=44,slow=7.5,SNR=34
CMAR ScP ScP 14 48 22.9 -0.4
comp=Z,0.4nm,0.5s,baz=357,slow=2.7,SNR=5.6
KURK Kurchatov 42.35 304*d* *i*P **P 14 42 58.6 -0.4**
KURK pmax pmax
comp=Z,40nm,1.2s,mb4.9
KURK Kurchatov 42.35 304 *e*P **P 14 42 58.5 -0.5**
comp=Z,19nm,0.5s,mb5.0
PPLA Purkeypile 44.12 38 *e*P **P 14 43 13.8 +0.8**
KDAK Kodiak Island 44.52 45 P **P 14 43 16.4 +0.2**
comp=Z,3.1nm,0.4s,mb4.3,baz=294,slow=10.0,SNR=14
KDAK Kodiak Island 44.52 45 P **P 14 43 16.4 +0.2**
TAPN Taejung 44.74 269 *e*P **P 14 43 18.7 +0.3**
comp=Z,19nm,0.3s,mb5.2
ODAN Odare 45.25 268 *e*P **P 14 43 22.8 +0.4**
comp=Z,45nm,0.8s,mb5.2
MCK McKinley 45.51 36 *e*P **P 14 43 24.9 +1.0**
MCK pmax pmax
comp=Z,3.0nm,0.7s,mb4.0
MCK McKinley 45.51 36 *e*P **P 14 43 24.9 +0.9**
comp=Z,3.2nm,0.7s,mb4.1
JIRN Jiri 45.72 270 *e*P **P 14 43 26.5 +0.4**
comp=Z,33nm,0.3s,mb5.4
RAMN Ramite 45.79 269 *e*P **P 14 43 26.6 -0.1**
comp=Z,56nm,0.5s,mb5.5
GUN Gumba 45.82 270 *e*P **P 14 43 26.9 0.0**
comp=Z,168nm,0.4s
COLA College 45.85 34‖ *e*P **P 14 43 27.9 +1.3**
KKN Kakani 46.33 271 *e*P **P 14 43 31.1 +0.2**
PKI Pulchoki 46.35 270 *e*P **P 14 43 30.8 -0.3**
comp=Z,22nm,0.4s,mb5.1
PKIN Phulchoki 46.36 270 *e*P **P 14 43 30.8 -0.3**
comp=Z,19nm,0.4s,mb5.1
DMN Daman 46.56 271 *e*P **P 14 43 32.7 0.0**
comp=Z,22nm,0.5s,mb5.1
TKM2 Tokmak 2 46.62 294 *e*P **P 14 43 33.6 +0.7**
TKM2 pmax pmax
comp=Z,60nm,0.7s,mb5.3
TKM2 Tokmak 2 46.62 294 P **P 14 43 33.8 +0.9**
SNR=24
TKM2 Tokmak 2 46.62 294 *e*P **P 14 43 33.6 +0.7**
comp=Z,60nm,0.7s,mb5.3
GKN Gorkha 46.70 271 *e*P **P 14 43 33.4 -0.4**
comp=Z,43nm,0.4s,mb5.5
BVA0 Borovoye Array 46.76 309 *i*P **P 14 43 33.7 -0.2**
BVA0 pmax pmax
comp=Z,2.0nm,0.6s,mb3.9
BRVK Borovoye 46.81 309 *e*P **P 14 43 34.4 +0.1**
BRVK pmax pmax
comp=Z,13nm,0.6s,mb4.7
BRVK Borovoye 46.81 309 *e*P **P 14 43 34.4 +0.1**
comp=Z,13nm,0.6s,mb4.7
KBK Karagaybulak 47.16 294 P **P 14 43 37.9 +0.7**
SNR=56
CHMS Chumysh 47.17 295 P **P 14 43 37.2 +0.1**
SNR=5.0
DANN Dangsing 47.17 272 *e*P **P 14 43 37.9 +0.4**
comp=Z,307nm,0.5s
USP Ospenovka 47.24 295 P **P 14 43 37.9 +0.1**
SNR=16
AAK Ala-Archa 47.48 294 P **P 14 43 40.1 +0.6**
SNR=8.7
KOLN Koldanda 47.60 272 *e*P **P 14 43 41.0 +0.2**
comp=Z,61nm,0.5s,mb5.5
UCH Uchtor 47.62 294 P **P 14 43 41.6 +0.9**
SNR=6.3
UCH Uchtor 47.62 294 *e*P **P 14 43 41.3 +0.6**
comp=Z,3.2nm,0.7s,mb4.1
EKS2 Erkin-Say 47.96 295 P **P 14 43 43.6 +0.3**
SNR=9.9
EKS2 Erkin-Say 47.96 295 *e*P **P 14 43 43.4 +0.1**
comp=Z,17nm,0.6s,mb4.8
AML Almayashu 48.22 294 P **P 14 43 46.3 +1.0**
SNR=22
AML Almayashu 48.22 294 *e*P **P 14 43 46.2 +0.9**
comp=Z,10nm,0.4s,mb4.8
KK31 Karatay Array 49.99 296 *i*P **P 14 43 58.3 -0.5**
KK31 pmax pmax
comp=Z,14nm,0.6s,mb4.8
SMLA Simla 50.66 279 *i*P **P 14 44 03.7 -0.3**
SVE Sverdlovsk 51.04 316‖ *e*P **P 14 44 06.9 +0.5**
SVE pmax pmax
comp=Z,13nm,0.7s,mb4.7
ARU Arti 52.26 316*d* *i*P **P 14 44 15.1 -0.3**
ARU *e**PP pP 14 44 54.2 +2.5
ARU *e* 14 46 12.0
ARU *e*PPP 14 47 23.9
ARU *e*S S **14 51 28.4 +0.7**
ARU *e*SS SS 14 54 57.9 -8.8
ARU pmax pmax
comp=Z,14nm,1.0s,mb4.5
ARU Arti 52.26 316 *e*P **P 14 44 14.9 -0.5**
comp=Z,9.9nm,0.8s,mb4.5
AB31 Akbulak array 54.22 307 *i*P **P 14 44 29.5 -0.4**
AB31 pmax pmax
comp=Z,4.0nm,0.4s,mb4.5
KBL Kabul 54.88 287 *e*P **P 14 44 33.3 -1.5**
KBL pmax pmax
comp=Z,12nm,0.9s,mb4.6
KBL Kabul 54.88 287 *e*P **P 14 44 33.3 -1.6**
comp=Z,12nm,0.9s,mb4.6
KEV Kevo 58.78 338 *e*p **P 14 45 01.1 -0.6**
comp=Z,0.6nm,0.3s,mb3.9
KEV Kevo 58.78 338 *e*P **P 14 45 01.1 -0.6**
KEV pmax pmax
comp=Z,1.0nm,0.3s,mb4.1
ARCES ARCESS Array B 59.33 338 P **P 14 45 04.5 -1.0**
comp=Z,1.3nm,0.5s,mb4.0,baz=52,slow=7.9,SNR=14
JOF Joensuu 61.42 330 *e*p **P 14 45 19.0 -0.8**
comp=Z,1.9nm,0.4s,mb4.3
JOF Joensuu 61.42 330 *e*P **P 14 45 19.0 -0.8**
JOF pmax pmax
comp=Z,2.0nm,0.4s,mb4.3
WB2 Warramunga Arr 61.47 186 *e*P **P 14 45 19.2 -1.3**
WRA Warramunga Arr 61.47 186 P **P 14 45 19.6 -1.0**
comp=Z,4.4nm,0.6s,mb4.5,baz=4.6,slow=6.8,SNR=96
WRA pP pP 14 45 59.2 +1.1
comp=Z,1.3nm,0.6s,baz=1.5,slow=6.8,SNR=6.4
KAF Kangasniemi 63.75 331 *e*p **P 14 45 34.3 -0.9**
comp=Z,1.8nm,0.4s,mb4.2,baz=49,slow=6.2
KAF Kangasniemi 63.75 331 *e*P **P 14 45 34.3 -0.9**
KAF pmax pmax
comp=Z,2.0nm,0.4s,mb4.3
OBN Obninsk 63.80 321‖ *e*P **P 14 45 35.6 -0.1**
OBN *e* 14 47 56.6
OBN *e*SS SS 14 58 04.9 -2.9
OBN pmax pmax
comp=Z,14nm,0.8s,mb4.8
ASAR Alice Springs 65.20 186 P **P 14 45 44.9 -0.2**
comp=Z,2.4nm,0.7s,mb4.1,baz=8.0,slow=5.4,SNR=37
ASAR pP pP 14 46 24.9 +1.9
comp=Z,1.1nm,0.8s,baz=15,slow=6.4,SNR=6.5
KIV Kislovodsk 67.13 309 *e*P **P 14 45 58.5 +1.3**
KIV pmax pmax
comp=Z,21nm,1.0s,mb4.9
GNI Garni 68.15 305 *i*P **P 14 46 04.8 +1.1**
NB2 NORSAR Subarra 69.55 336 P **P 14 46 11.5 -0.5**
comp=Z,6.3nm,0.8s,mb4.4,baz=40,slow=6.2

NOA NORSAR Array B 69.55 336 P **P 14 46 11.8 -0.2**
comp=Z,3.4nm,0.7s,mb4.2,baz=40,slow=6.1,SNR=13
BMO Blue Mountains 69.64 48 *e*P **P 14 46 13.9 +1.1**
BMO pmax pmax
comp=Z,2.0nm,0.4s,mb4.2
BMO Blue Mountains 69.64 48 *e*P **P 14 46 13.9 +1.1**
comp=Z,1.7nm,0.4s,mb4.1
AKASG Malin Array Be 70.03 321 P **P 14 46 14.7 -0.4**
comp=Z,1.7nm,0.3s,mb4.2,baz=45,slow=5.9,SNR=14
AKASG Malin Array Be 70.03 321 *i*P **P 14 46 14.6 -0.5**
AKASG pmax pmax
comp=Z,2.0nm,0.3s
DLMT Dillon 71.87 45 *e*P **P 14 46 27.2 +0.9**
comp=Z,2.0nm,0.4s,mb4.2
HLID Hailey 72.06 47 *e*P **P 14 46 28.8 +1.4**
MIB Mutribah 72.73 295 *e*P **P 14 46 30.0 -1.6**
baz=295
MIB AMb AMB 14 46 39.1
comp=Z,20nm,0.8s,mb4.9,baz=295
NVAR Mina Array Bea 73.13 53 P **P 14 46 35.5 +1.7**
comp=Z,3.0nm,0.7s,mb4.1,baz=297,slow=5.5,SNR=20
RDF Al-Radifah 73.13 294 *e*P **P 14 46 32.8 -1.2**
baz=294
RDF AMb AMB 14 46 41.3
comp=Z,37nm,1.5s,mb4.9,baz=294
NAY Al-Naaiem 73.14 294 *e*P **P 14 46 32.4 -1.7**
baz=294
NAY AMb AMB 14 46 41.2
comp=Z,10.0nm,1.6s,mb4.3,baz=294
STKA Stephens Creek 73.15 179 P **P 14 46 34.3 +0.6**
comp=Z,1.5nm,0.7s,mb3.9,baz=20,slow=8.7,SNR=4.5
RST Umm Al-Ruwaisa 73.15 295 *e*P **P 14 46 32.5 -1.6**
baz=295
RST AMb AMB 14 46 33.6
comp=Z,18nm,1.1s,mb4.7,baz=295
RRI2 Red Ridge 73.89 46 *e*P **P 14 46 39.5 +1.3**
comp=Z,4.1nm,0.9s,mb4.2
MOOW Moose Ponds 73.93 45 *e*P **P 14 46 40.0 +1.6**
comp=Z,2.5nm,1.0s,mb3.9
BW06 Boulder Array 75.23 46 *e*P **P 14 46 46.4 +0.4**
comp=Z,1.9nm,0.6s,mb3.9
PDAR Pinedale Array 75.23 46 P **P 14 46 46.7 +0.7**
comp=Z,2.6nm,0.8s,mb3.9,baz=291,slow=1.3,SNR=15
TPNV Topopah Spring 75.33 54 *e*P **P 14 46 47.7 +1.1**
TPNV pmax pmax
comp=Z,10.0nm,0.8s,mb4.5
TPNV Topopah Spring 75.33 54 *e*P **P 14 46 47.7 +1.1**
comp=Z,9.6nm,0.8s,mb4.5
SHPR Sheep Range 76.28 53 *e*P **P 14 46 53.5 +1.5**
GERES GERESS Array B 78.26 327 P **P 14 47 02.9 +0.1**
comp=Z,0.8nm,0.4s,mb3.7,baz=41,slow=6.3,SNR=9.1
TXAR Lajitas Array 88.16 52 P **P 14 47 54.1 +0.3**
comp=Z,0.8nm,0.6s,mb3.8,baz=281,slow=2.9,SNR=9.3

MAN 08 14:58:37,925N×12560E,h4km,mb4.5,ML3.4,MS3.3,1C, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BUTP	**Butuan**	**0.28**	**175**	*e*P	**Pg**	14 58 43.8	+1.3
BUTP				*e*S	Sg	14 58 48.0	+1.9
SCPH	**Surigao**	**0.54**	**349**‖	*e*P	Pg	14 58 48.8	+1.4
MSLP	**Maasin**	**1.14**	**320**	*e*P	Pg	14 58 58.8	-0.1
MSLP				*e*S	Sg	14 59 13.6	-0.1
BUKP	**Musuan**	**1.46**	**201**	*e*P	Pn	14 59 04.2	0.0
BUKP				*e*S	Sb	14 59 25.1	+1.4

*IDC **08** 14:58:35.9±1.1,5630S×2723W,h0km,mb4.1/5,mb1 4.2/5, mb1mx4.0/16,mbtmp4.0/5,Error ellipse: s-maj=40.5km s-min=25.4km az=70.0*
*ISCJB **08** 14:58:49.6±5.0,564S±02×275W±05,h130km±50km, mb3.9/5,Error ellipse: s-maj=46.8km s-min=22.0km az=149.1*
*NEIC **08** 14:58:50.7±4.1,5636S×2756W,h126km±36km,mb4.4/2, Error ellipse: s-maj=31.6km s-min=13.8km az=58.0*

ISC 08 14:58:52.0±5.0,564S±02×275W±05,h137km±50km,n13, σ0§74/10,mb3.9/5,South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VNA2	**Neumayer--Watz**	**16.97**	**157**	*e*P	**Pn**	**15 02 40.7**	**0.0**
	baz=320,slow=12						
VNA2				*e*		15 02 43.3	
SNAA	**Sanae**	**18.53**	**155**	*e*P	**P**	**15 02 57.4**	**0.0**
SNAA				*e*		15 02 59.8	
SNAA	**Sanae**	**18.53**	**155**	*e*P	**P**	**15 02 57.4**	**0.0**
	6.6nm,0.6s						
QSPA	**South Pole Qui**	**33.88**	**180**	P	**P**	**15 05 21.3**	**+0.4**
	0.7nm,0.5s,mb3.6,baz=239,slow=1.3,SNR=10						
QSPA	**South Pole Qui**	**33.88**	**180**	P	**P**	**15 05 21.3**	**+0.3**
CPUP	**Villa Florida**	**36.89**	**312**	P	**P**	**15 05 45.9**	**-1.2**
	0.4nm,0.3s,mb3.5,baz=141,slow=6.5,SNR=4.5						
CPUP	**Villa Florida**	**36.89**	**312**	*e*P		**15 05 45.9**	**-1.3**
	4.8nm,0.5s,mb4.4						
LPAZ	**La Paz**	**50.42**	**306**	P	**P**	**15 07 36.6**	**+1.3**
	2.2nm,0.5s,mb4.4,baz=132,slow=4.9,SNR=28						
TORD	**Torodi Ar. Bea**	**73.42**	**30**	P	**P**	**15 10 09.2**	**+0.3**
	1.2nm,0.6s,mb3.8,baz=197,slow=6.3,SNR=11						
ASAR	**Alice Springs**	**98.74**	**163**	P	**P**	**15 12 15.2**	**-0.6**
	0.3nm,0.9s,mb3.7,baz=200,slow=3.4,SNR=5.5						
MCK	**McKinley**	**150.83**	**309**	*e*PKPbc	PKPbc	15 18 26.5	-0.1
BPAW	**Bear Paw Mtn.**	**151.79**	**309**	*e*PKPbc	PKPbc	15 18 28.8	0.0
BPAW				*e*PKPab	PKPab	15 18 38.6	+0.1
COLD	**Coldfoot**	**151.93**	**316**	*e*PKPbc	PKPbc	15 18 29.5	+0.5

*ISCJB **08** 15:09:32.2±0.3,4935N±002×679E±003,h0km,Error ellipse: s-maj=2.6km s-min=2.5km az=7.8*
*BGR **08** 15:09:33.2±0.5,4935N×685E,h1km,ML1.6/3,Error ellipse: s-maj=8.9km s-min=5.6km az=35.0*
*CSEM **08** 15:09:33.6±0.1,4938N×682E,h1km,ML2.6/8,Error ellipse: s-maj=1.8km s-min=1.6km az=105.0*
*NEIC **08** 15:09:33.9,4938N×684E,h1km,ML2.3(STR), ML2.6(LDG),After LDG.*
*LDG **08** 15:09:33.9±0.1,4938N×684E,h1km,Md2.7/1,Ml2.6/8, Error ellipse: s-maj=2.0km s-min=1.6km az=106.0, Suspected Mining induced.*

ISC 08 15:09:33.3±0.3,4937N±002×681E±003,h0km,n30, σ0§96/57,Germany

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RUP	**Ruppelstein**	**0.37**	**26**	Pg	**Pg**	**15 09 40.7**	**+0.3**
WLF	**Walferdange**	**0.52**	**305**	*e*Pg	**Pg**	**15 09 44.3**	**+1.0**
	SNR=1.7						
WLF				*e*Sg	**Sg**	**15 09 49.9**	**-0.2**
WLF	**Walferdange**	**0.52**	**305**	*e*Pg	**Pg**	**15 09 44.2**	**+0.9**
ABH	**Alteburg**	**0.70**	**42**	Pg	**Pg**	**15 09 47.1**	**+0.3**
ABH				Sg	**Sg**	**15 09 56.3**	**+0.4**
LANF	**Langenberg**	**0.76**	**120**	Pg	**Pg**	**15 09 47.5**	**-0.3**
LANF				Sg	**Sg**	**15 09 59.0**	**+1.4**
KTD	**Kalmit**	**0.83**	**93**	Pg	**Pg**	**15 09 49.5**	**+0.3**
KTD				Sg	**Sg**	**15 10 01.7**	**+1.7**
CDF	**Champ du Feu**	**1.00**	**162**	*e*Pn	**Pn**	**15 09 53.2**	**-1.3**
CDF				*e*Sn	**Sn**	**15 10 07.4**	**-1.9**
	13nm,0.2s						
CDF	**Champ du Feu**	**1.00**	**162**	*e*Pn	**Pn**	**15 09 53.2**	**-1.3**
CDF				*e*Sn	**Sn**	**15 10 07.4**	**-1.9**
	6.4nm,0.2s						
CDF	**Champ du Feu**	**1.00**	**162**	*e*Pg	**Pg**	**15 09 52.1**	**-0.3**
CDF				*e*Pn	**Pn**	**15 09 53.2**	**-1.3**
CDF				*e*Sn	**Sn**	**15 10 07.4**	**-1.9**
ECH	**Echery**	**1.17**	**169**	Pg	**Pg**	**15 09 56.2**	**+0.5**
ECH				Sg	**Sg**	**15 10 12.2**	**+1.3**
THEF	**They Montfort**	**1.26**	**206**	Pg	**Pg**	**15 09 57.1**	**-0.3**
THEF				Sg	**Sg**	**15 10 14.8**	**+1.0**
TOD	**Tromm**	**1.32**	**79**	Pg	**Pg**	**15 09 58.2**	**-0.4**
TOD				Sg	**Sg**	**15 10 15.9**	**+0.2**
TNS	**Taunus Mts**	**1.36**	**50**	*e*Pg	**Pg**	**15 10 00.1**	**+0.7**
	SNR=1.7						
TNS				*e*Sg	**Sg**	**15 10 15.4**	**-1.7**
HAU	**Haudompre**	**1.39**	**193**	*e*Pg	**Pg**	**15 09 59.9**	**-0.1**
HAU				*e*Sg	**Sg**	**15 10 18.7**	**+0.7**
	16nm,0.2s						
HAU	**Haudompre**	**1.39**	**193**	*e*Pg	**Pg**	**15 09 59.9**	**-0.1**
HAU				*e*Sg	**Sg**	**15 10 18.7**	**+0.7**
	8.1nm,0.2s						
BFO	**Black Forest**	**1.44**	**135**	*e*Pg	**Pg**	**15 10 00.9**	**0.0**
	SNR=2.7						
BFO				*e*Sg	**Sg**	**15 10 16.9**	**-2.6**
MEZF	**Maizieres J'vi**	**1.45**	**234**	*e*Sg	**Sg**	**15 10 21.3**	**+1.6**

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
	9.3nm,0.3s						
MEZF	**Maizieres J'vi**	**1.45**	**234**	eSg	**Sg**	**15 10 21.3**	**+1.6**
	4.7nm,0.3s						
GIVF	**Givet**	**1.49**	**301**	ePg	**Pg**	**15 10 01.1**	**-0.6**
GIVF				eSg	**Sg**	**15 10 21.7**	**+0.7**
	11nm,0.3s						
GIVF	**Givet**	**1.49**	**301**	ePg	**Pg**	**15 10 01.1**	**-0.6**
GIVF				eSg	**Sg**	**15 10 21.7**	**+0.7**
	5.6nm,0.3s						
MOF	**Molkenrain**	**1.53**	**172**	Pg	**Pg**	**15 10 02.6**	**+0.1**
MOF				Sg	**Sg**	**15 10 22.9**	**+0.6**
HINF	**Hinteralfeld**	**1.55**	**179**	ePg	**Pg**	**15 10 02.6**	**-0.3**
HINF				eSg	**Sg**	**15 10 22.9**	**-0.1**
	17nm,0.2s						
HINF	**Hinteralfeld**	**1.55**	**179**	ePg	**Pg**	**15 10 02.6**	**-0.3**
HINF				eSg	**Sg**	**15 10 22.9**	**-0.1**
	8.4nm,0.2s						
FELD	**Feldberg im Sc**	**1.69**	**152**	Pg	**Pg**	**15 10 05.0**	**-0.6**
FELD				Sg	**Sg**	**15 10 28.0**	**+0.6**
BAIF	**Baives**	**1.83**	**293**	ePn	**Pn**	**15 10 04.8**	**-1.1**
BAIF				eSg	**Sg**	**15 10 32.9**	**+1.0**
	6.8nm,0.4s						
BAIF	**Baives**	**1.83**	**293**	ePn	**Pn**	**15 10 04.8**	**-1.1**
BAIF				eSg	**Sg**	**15 10 32.9**	**+1.0**
	3.4nm,0.4s						
CABF	**La Chapelle**	**2.80**	**190**	eSg	**Sg**	**15 11 03.4**	**+0.3**
	2.2nm,0.3s						
CABF	**La Chapelle**	**2.80**	**190**	eSg	**Sg**	**15 11 03.4**	**+0.3**
	1.1nm,0.3s						
LOR	**Lormes**	**2.88**	**224**	ePn	**Pn**	**15 10 19.0**	**-1.3**
LOR				eSn	**Sn**	**15 10 53.1**	**-2.5**
LOR				eSg	**Sg**	**15 11 05.0**	**-0.7**
	2.6nm,0.2s						
LOR	**Lormes**	**2.88**	**224**	ePn	**Pn**	**15 10 19.0**	**-1.3**
LOR				eSn	**Sn**	**15 10 53.1**	**-2.5**
LOR				eSg	**Sg**	**15 11 05.0**	**-0.7**
	1.3nm,0.2s						

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*DJA **08** 15:10:53, 604S×12812E, h399km, MLv4.2/6*
*ISCJB **08** 15:10:54.2±0.4, 605S±003×12809E±005, h384km±4km, mb4.2/20, Error ellipse: s-maj=8.6km s-min=5.1km az=174.3*
*IDC **08** 15:10:55.5±1.8, 615S×12804E, h379km±21km, mb3.6/7, mb1 3.6/12, mb1mx3.5/17, mbtmp3.5/12, Error ellipse: s-maj=25.0km s-min=9.8km az=72.0*
*NEIC **08** 15:10:55.4±1.0, 606S×12806E, h376km±13km, mb4.0/5, Error ellipse: s-maj=15.7km s-min=7.7km az=57.0*
ISC 08 15:10:55.3±0.4**, 613S**±003×**12806E**±006**, h379**km±4km**,**
n52, $\sigma 0^{s}80$/59**, mb4.2**/20**, 1D, Banda Sea**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
AAI	**Ambon**	**2.43**	**3**	P	**Pn**	**15 11 51.8**	**-0.5**
	0.0nm,0.0s						
AAI	**Ambon**	**2.43**	**3**	P	**Pn**	**15 11 51.6**	**-0.7**
AAI	**Ambon**	**2.43**	**3**	S	**S**	**15 12 39.0**	**+0.8**
AAI	**Ambon**	**2.43**	**3**	P	**Pn**	**15 11 52.0**	**-0.3**
AAI	**Ambon**	**2.43**	**3**	S	**S**	**15 12 39.0**	**+0.8**
TLE	**Tual**	**4.68**	**84**	P	**Pn**	**15 12 12.9**	**-0.1**
LBMI	**Labuha**	**5.48**	**354**	P	**Pn**	**15 12 20.7**	**-0.8**
	0.0nm,0.0s						
LBMI	**Labuha**	**5.48**	**354**	P	**Pn**	**15 12 20.6**	**-0.9**
	32nm,0.6s,0.1nm						
LBMI	**Labuha**	**5.48**	**354**	S	**S**	**15 13 26.3**	**-5.1**
	32nm,0.6s,0.1nm						
KDI	**Kendari**	**5.83**	**291**	P	**Pn**	**15 12 25.6**	**+0.3**
	0.0nm,0.0s						
BATI	**Baumata**	**5.94**	**227**	P	**Pn**	**15 12 27.7**	**+1.2**
	0.0nm,0.0s						
BATI	**Baumata**	**5.94**	**227**	P	**Pn**	**15 12 27.4**	**+0.9**
	15nm,0.3s,baz=31,slow=3.1,SNR=31						
BATI				S	**S**	**15 13 39.0**	**-1.6**
	24nm,0.3s,baz=301,slow=17,SNR=24						
BATI	**Baumata**	**5.94**	**227**	P	**Pn**	**15 12 27.3**	**+0.8**
	42nm,0.6s,1μm0.4nm						
BATI	**Baumata**	**5.94**	**227**	S	**S**	**15 13 38.8**	**-1.8**
	42nm,0.6s,1μm0.4nm						
SWI	**Sorong**	**6.13**	**32**	P	**Pn**	**15 12 27.1**	**-1.5**
	0.0nm,0.0s						
SWI	**Sorong**	**6.13**	**32**	P	**Pn**	**15 12 26.9**	**-1.7**
	44nm,0.6s,3μm0.6nm						
SWI	**Sorong**	**6.13**	**32**	S	**S**	**15 13 38.8**	**-5.7**
	44nm,0.6s,3μm0.6nm						
KAKA	**Kakadu**	**7.84**	**147** ⇓	iP	**Pn**	**15 12 48.7**	**+0.6**
	9.7nm,0.2s						
KAKA				eS	**S**	**15 14 12.1**	**-8.1**
KAKA	**Kakadu**	**7.84**	**147**	P	**Pn**	**15 12 49.1**	**+1.0**
KAKA	**Kakadu**	**7.84**	**147**	ePn	**Pn**	**15 12 48.4**	**+0.3**
KAKA				eS	**S**	**15 14 12.1**	**-8.1**
KAPI	**Kappang**	**8.34**	**277**	P	**Pn**	**15 12 54.6**	**+0.7**
	2.9nm,0.3s,baz=129,slow=8.0,SNR=9.5						
KAPI	**Kappang**	**8.34**	**277**	eP	**Pn**	**15 12 54.1**	**+0.2**
FITZ	**Fitzroy Crossi**	**12.13**	**191**	eP	**P**	**15 13 38.5**	**+1.2**
	1.9nm,0.3s						
FITZ	**Fitzroy Crossi**	**12.13**	**191**	P	**P**	**15 13 38.5**	**+1.3**
	0.4nm,0.3s,baz=23,slow=12,SNR=13						
FITZ				S	**S**	**15 15 50.4**	**-0.8**
	0.2nm,0.3s,baz=117,slow=17,SNR=5.2						
WRA	**Warramunga Arr**	**15.03**	**157**	P	**P**	**15 14 10.1**	**+1.1**
	1.3nm,0.3s,baz=332,slow=12,SNR=59						
WRA				S	**S**	**15 16 48.5**	**-1.0**
	0.4nm,0.3s,baz=335,slow=21,SNR=5.8						
WB2	**Warramunga Arr**	**15.03**	**157**	eP	**P**	**15 14 10.1**	**+1.1**
WB2				eS	**S**	**15 16 48.3**	**-1.3**
KKM	**Kota Kinabalu**	**16.91**	**315**	eP	**P**	**15 14 29.3**	**0.0**
MBWA	**Marble Bar**	**16.98**	**208**	eP	**P**	**15 14 30.3**	**+0.3**
	6.9nm,0.6s						
ASAR	**Alice Springs**	**18.32**	**163**	P	**P**	**15 14 45.5**	**+1.2**
	0.8nm,0.3s,baz=343,slow=12,SNR=94						
ASAR				S	**S**	**15 17 53.8**	**0.0**
	0.2nm,0.3s,baz=345,slow=22,SNR=10						
CMAR	**Chiang Mai Arr**	**37.70**	**311**	P	**P**	**15 17 36.5**	**+0.2**
	0.6nm,0.4s,mb3.2,baz=139,slow=6.8,SNR=5.6						
CMAR				PcP	PcP	15 19 46.0	+1.4
	0.4nm,0.5s,baz=184,slow=4.5,SNR=4.5						
KSRS	**Korea Array**	**43.35**	**360**	P	**P**	**15 18 22.2**	**+0.4**
	3.4nm,0.6s,mb3.7,baz=179,slow=9.6,SNR=17						
MJAR	**Matsushiro Arr**	**43.50**	**12**	P	**P**	**15 18 21.3**	**-1.7**
	2.4nm,0.7s,mb3.4,baz=184,slow=8.3,SNR=5.8						
LSA	**Lhasa**	**50.24**	**317**	eP	**P**	**15 19 15.6**	**+0.9**
	2.7nm,0.5s,mb3.7						
ODAN	**Odare**	**51.23**	**312**	eP	**P**	**15 19 22.0**	**-0.1**
	11nm,0.5s,mb4.4						
TAPN	**Taplejung**	**51.27**	**312**	eP	**P**	**15 19 21.9**	**-0.4**
	15nm,0.3s,mb4.7						
RAMN	**Ramite**	**51.87**	**311**	eP	**P**	**15 19 27.0**	**+0.3**
	22nm,0.6s,mb4.7						
JIRN	**Jiri**	**52.56**	**312**	eP	**P**	**15 19 31.7**	**-0.1**
	7.6nm,0.4s,mb4.3						
GUN	**Gumba**	**52.93**	**312**	eP	**P**	**15 19 34.5**	**+0.1**
	15nm,0.4s,mb4.7						
PKI	**Pulchoki**	**53.10**	**311**	eP	**P**	**15 19 35.3**	**-0.3**
	8.9nm,0.5s,mb4.3						
KKN	**Kakani**	**53.31**	**311**	eP	**P**	**15 19 37.0**	**-0.1**
	6.1nm,0.4s,mb4.3						
GKN	**Gorkha**	**53.91**	**311**	eP	**P**	**15 19 41.2**	**-0.2**
	12nm,0.3s,mb4.7						
KOLN	**Koldanda**	**54.56**	**310**	eP	**P**	**15 19 46.0**	**-0.1**
	8.7nm,0.5s,mb4.4						
DANN	**Dangsing**	**54.75**	**311**	eP	**P**	**15 19 46.4**	**-1.0**
	5.2nm,0.4s,mb4.2						
ULN	**Ulaanbaatar**	**56.86**	**343**	eP	**P**	**15 20 02.5**	**+0.7**
	2.2nm,0.5s,mb3.7						
SONM	**Songino Array**	**57.02**	**343**	P	**P**	**15 20 04.0**	**+1.1**
	2.8nm,0.6s,mb3.8,baz=167,slow=7.1,SNR=22						
PETK	**Petropavlovsk-**	**64.12**	**19**	P	**P**	**15 20 51.2**	**+1.0**
	4.1nm,0.7s,mb4.2,baz=180,slow=5.5,SNR=3.6						
MK31	**Makanchi Array**	**66.45**	**328**	eP	**P**	**15 21 05.5**	**+0.3**
MKAR	**Makanchi Array**	**66.45**	**328**	P	**P**	**15 21 05.5**	**+0.3**
	5.0nm,0.4s,mb4.6,baz=119,slow=8.3,SNR=75						
MKAR				PcP	PcP	15 21 31.7	+0.2
	0.8nm,0.6s,baz=106,slow=4.9,SNR=4.1						
ZAA0	**Zalesovo Array**	**69.96**	**334**	eP	**P**	**15 21 25.4**	**-1.2**
ZALV	**Zalesovo Beam**	**69.96**	**334**	P	**P**	**15 21 26.0**	**-0.6**
	4.0nm,0.6s,mb4.4,baz=127,slow=4.7,SNR=19						
ZALV	**Zalesovo Beam**	**69.96**	**334**	P	**P**	**15 21 26.0**	**-0.6**
KURK	**Kurchatov**	**70.78**	**329**	eP	**P**	**15 21 31.7**	**+0.2**
	11nm,1.1s,mb4.5						

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*CSEM **08** 16:22:49.3±0.7, 3928N×3001W, h5km, ML2.3, Error ellipse: s-maj=13.5km s-min=5.5km az=40.0, After PDA*
PDA 08 16:22:49.3±0.7**, 3928N**×**3001W, h5**km**, MD3.5, ML2.3, Error ellipse: s-maj=13.5km s-min=5.5km az=40.0, Azores Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CALA	**Caldeira**	**1.23**	**124**	eP	Pg	16 23 08.3	-4.7
CALA				eS	Sg	16 23 23.0	-6.0
HOR	**Horta**	**1.31**	**124**	eS	Sg	16 23 24.1	-7.4
PICO	**Pico**	**1.46**	**121**	eP	Pn	16 23 11.9	-4.4
PICO				eS	Sn	16 23 28.3	-7.5
ROSA	**Rosais**	**1.49**	**111**	eP	Pn	16 23 11.5	-5.2
ROSA				eS	Sn	16 23 28.7	-7.8
PMAN	**Manadas**	**1.63**	**113**	eP	Pn	16 23 13.9	-4.7
PMAN				eS	Sn	16 23 32.3	-7.7
PMAN				A		16 23 34.3	
	19nm,0.3s						
PMAN	**Manadas**	**1.63**	**113**	eP	Pn	16 23 13.9	-4.7
PMAN				eS	Sn	16 23 32.3	-7.7

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*GUC **08** 16:30:18.8±0.7, 3267S×7169W, h35km±2km, ML4.9*
*BJI **08** 16:30:18.6, 3347S×7198W, h35km, mB4.8, Ms5.2, Msz4.8*
*ISCJB **08** 16:30:19.0±0.5, 3266S±003×7173W±006, h43km±4km, mb4.8/26, MS3.9/7, Error ellipse: s-maj=8.5km s-min=3.8km az=165.3*
*MOS **08** 16:30:19.2±1.2, 3268S×7146W, h40km, mb5.1/11, Error ellipse: s-maj=17.9km s-min=9.3km az=92.0*
*NEIC **08** 16:30:19.8±0.2, 3267S×7164W, h35km, mb4.8/14, ML4.9(GUC), Error ellipse: s-maj=6.1km s-min=3.5km az=74.0*
NEIC Felt [IV] at La Ligua, Petorca, Valparaiso and Vina del Mar; [III] at Casablanca, Estacion Colina, Lampa, Quillota, Santiago and Tiltil; [II] at Los Andes and San Felipe.
*IDC **08** 16:30:21.6±2.5, 3264S×7153W, h51km±21km, mb4.6/14, mb1 4.6/19, mb1mx4.6/21, mbtmp4.6/19, ML4.9/5, MS3.8/10, Ms1 3.8/10, ms1mx3.7/22, Error ellipse: s-maj=19.4km s-min=12.4km az=87.0*
ISC 08 16:30:20.1±0.5**, 3266S**±002×**7167W**±006**, h36**km±5km**,**
n151, $\sigma 1^{s}00$/113**, mb4.8**/26**, MS3.9**/7**, 10C-7D, Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PACH	**Papudo**	**0.23**	**59** ⇓	iP	**Pn**	**16 30 26.3**	**-1.0**
IHA	**Instituto Hidr**	**0.37**	**176** ⇑	iP	**Pn**	**16 30 27.0**	**-2.0**
ROCH	**El Roble**	**0.64**	**120** ⇑	iP	**Pn**	**16 30 31.7**	**-1.0**
CHNG	**Los Chungos**	**0.79**	**11** ⇑	iP	**Pn**	**16 30 34.1**	**-0.6**
CHNG				i S	**Sn**	**16 30 45.0**	**-0.2**
CHNG				AML	AML	16 30 47.8	
	comp=N,31μm,0.4s						
LCCH	**Las Cruces**	**0.82**	**174**	i P	**Pn**	**16 30 33.6**	**-1.6**
JACH	**Jahuel**	**0.91**	**92**	i P	**Pn**	**16 30 35.8**	**-0.7**
PEL	**Peldehue**	**0.96**	**121**	eP	**Pn**	**16 30 36.6**	**-0.6**
PEL				i S	**Sn**	**16 30 49.5**	**-0.2**
PEL				AML	AML	16 30 52.2	
	comp=E,125μm,0.3s						
SAN	**Santiago**	**1.16**	**133** ⇑	iP	**Pn**	**16 30 39.7**	**-0.2**
SAN				i S	**Sn**	**16 30 54.9**	**+0.4**
TACH	**Talagante**	**1.17**	**148** ⇑	iP	**Pn**	**16 30 39.5**	**-0.5**
CLCH	**Cerro Calan**	**1.21**	**128** ⇓	iP	**Pn**	**16 30 40.5**	**0.0**
CLCH				i S	**Sn**	**16 30 56.2**	**+0.6**
CLCH				AML	AML	16 30 57.5	
	comp=N,67μm,0.3s						
LNV	**Longovilo**	**1.31**	**170**	eP	**Pn**	**16 30 40.8**	**-1.2**
FCH	**Farellones**	**1.34**	**120** ⇓	iP	**Pn**	**16 30 43.9**	**+1.5**
FCH				i S	**Sn**	**16 31 01.8**	**+2.9**
FCH				AML	AML	16 31 04.4	
	comp=E,19μm,0.3s						
PCH	**Pirque**	**1.37**	**135** ⇑	iP	**Pn**	**16 30 42.8**	**0.0**
YECH	**El Yeso**	**1.67**	**127**	eP	**Pn**	**16 30 47.6**	**+0.7**
YECH				i S	**Sn**	**16 31 10.0**	**+2.9**
YECH				AML	AML	16 31 14.7	
	comp=N,17μm,0.5s						
LMEL	**Las Melosas**	**1.71**	**134** ⇓	iP	**Pn**	**16 30 48.1**	**+0.6**
LMEL				i S	**Sn**	**16 31 10.1**	**+2.0**
CICH	**Cipreses**	**1.96**	**148** ⇓	iP	**Pn**	**16 30 51.9**	**+1.0**
SFDO	**San Fernando**	**2.03**	**164** ⇑	eP	**Pn**	**16 30 51.8**	**0.0**
TLL	**Tololo Astrono**	**2.59**	**17** ⇑	eP	**Pn**	**16 31 00.4**	**+0.8**
TLL				i S	**Sn**	**16 31 31.9**	**+2.2**
TLL				AML	AML	16 31 42.4	
	comp=E,14μm,0.4s						
TLL	**Tololo Astrono**	**2.59**	**17** ⇑	eP	**Pn**	**16 31 00.4**	**+0.8**
TLL				i S	**Sn**	**16 31 31.9**	**+2.2**
LSCH	**La Serena**	**2.76**	**8**	eP	**Pn**	**16 31 01.8**	**-0.1**
CFAA	**Coronel Fontan**	**3.10**	**71**	P	**Pn**	**16 31 08.1**	**+1.6**
	comp=E,28nm,0.3s,baz=239,slow=11,SNR=727						
CFAA				S	**Sn**	**16 31 50.8**	**+8.5**
	comp=E,81nm,0.3s,baz=331,slow=24,SNR=12						
CFAA				LR	LR	16 32 37.5	
	comp=E,335nm,20.1s,baz=233,slow=46						
LCO	**Las Campanas**	**3.73**	**13** ⇑	eP	**Pn**	**16 31 15.5**	**+0.3**
LCO				i S	**Sn**	**16 31 58.5**	**+0.7**
LCO	**Las Campanas**	**3.73**	**13**	ePn	**Pn**	**16 31 15.5**	**+0.3**
LCO				eSn	**Sn**	**16 31 57.8**	**0.0**
PLCA	**Paso Flores**	**8.11**	**174**	P	**Pn**	**16 32 15.2**	**-0.1**
	comp=E,5.9nm,0.3s,baz=333,slow=10,SNR=161						
PLCA				S	**Sn**	**16 33 59.1**	**+13**
	baz=153,slow=13,SNR=1.3						
PLCA				LR	LR	16 35 19.6	
	comp=E,602nm,18.3s,baz=358,slow=37						
PLCA	**Paso Flores**	**8.11**	**174**	eP	**Pn**	**16 32 15.0**	**-0.3**
PLCA				pmax	pmax		
	comp=Z,18nm,0.4s						
PLCA	**Paso Flores**	**8.11**	**174**	ePn	**Pn**	**16 32 15.0**	**-0.4**
	comp=Z,18nm,0.4s						
TRQA	**Tornquist**	**9.57**	**127**	ePn	**Pn**	**16 32 35.8**	**+0.4**
LVC	**Limon Verde**	**10.30**	**14**	P	**Pn**	**16 32 41.7**	**-3.7**
	comp=Z,1.1nm,0.3s,baz=192,slow=6.1,SNR=16						
LVC				S	**Sn**	**16 34 49.2**	**+10**
	comp=Z,6.5nm,0.3s,baz=206,slow=17,SNR=3.4						
LVC				LR	LR	16 37 06.0	
	comp=Z,829nm,19.1s,baz=336,slow=39						
LVC	**Limon Verde**	**10.30**	**14**	ePn	**Pn**	**16 32 41.4**	**-4.0**
CPUP	**Villa Florida**	**13.99**	**67**	P	**Pn**	**16 33 34.6**	**-1.2**
	comp=Z,5.6nm,0.3s,baz=218,slow=11,SNR=41						
CPUP				S	**Sn**	**16 36 08.2**	**-1.6**
	comp=Z,0.4nm,0.3s,baz=214,slow=7.7,SNR=3.3						
CPUP				LR	LR	16 39 40.3	
	comp=Z,491nm,18.4s,baz=231,slow=40						
CPUP	**Villa Florida**	**13.99**	**67**	eP	**Pn**	**16 33 33.1**	**-2.7**
CPUP				pmax	pmax		
	comp=Z,84nm,0.5s						
CPUP	**Villa Florida**	**13.99**	**67**	eP	**Pn**	**16 33 33.1**	**-2.7**
	comp=Z,84nm,0.5s						
ARE	**Arequipa**	**16.12**	**1**	eP	**Pn**	**16 34 09.0**	**+4.9**
LPAZ	**La Paz**	**16.61**	**12**	P	**Pn**	**16 34 11.0**	**+0.7**
	comp=Z,1.4nm,0.3s,baz=190,slow=8.2,SNR=44						
LPAZ	**La Paz**	**16.61**	**12**	eP	**Pn**	**16 34 10.9**	**+0.6**
LPAZ				pmax	pmax		
	comp=Z,15nm,0.9s						
LPAZ	**La Paz**	**16.61**	**12**	eP	**Pn**	**16 34 10.9**	**+0.6**
	comp=Z,15nm,0.9s						
SIV	**San Ignacio**	**19.18**	**33**	P	**Pn**	**16 34 39.2**	**-2.6**
	comp=Z,0.8nm,0.3s,baz=212,slow=11,SNR=51						
NNA	**Nana**	**21.11**	**346**	LR	LR	16 41 18.1	
	comp=Z,236nm,19.8s,MS3.6,baz=154,slow=31						
EFI	**East Falkland**	**21.45**	**156**	eP	**P**	**16 35 03.9**	**-1.2**
EFI				pmax	pmax		
	comp=Z,25nm,0.5s,mb4.8						
EFI	**East Falkland**	**21.45**	**156**	eP	**P**	**16 35 03.9**	**-1.2**
	comp=Z,25nm,0.5s,mb4.8						
USHA	**Ushuaia**	**22.29**	**175**	P	**P**	**16 35 14.5**	**+0.5**
	comp=Z,21nm,0.8s,mb4.6,baz=355,slow=3.8,SNR=5.0						
USHA				LR	LR	16 45 02.0	
	comp=Z,240nm,18.7s,MS3.6,baz=157,slow=40						
SPB	**Sao Paulo**	**23.17**	**73**	eP	**P**	**16 35 23.3**	**-0.3**
ATAH	**Atahualpa**	**26.28**	**345**	LR	LR	16 44 53.8	
	comp=Z,149nm,20.7s,MS3.5,baz=344,slow=33						
BDFB	**Brasilia**	**27.34**	**57**	P	**P**	**16 36 00.0**	**-1.8**
	comp=Z,10nm,0.7s,mb4.5,baz=215,slow=12,SNR=11						
BDFB				LR	LR	16 48 26.3	
	comp=Z,342nm,20.7s,MS3.9,baz=60,slow=40						
BDFB	**Brasilia**	**27.34**	**57**	eP	**P**	**16 36 00.1**	**-1.7**
BDFB				pmax	pmax		
	comp=Z,14nm,0.8s						
BDFB	**Brasilia**	**27.34**	**57**	eP	**P**	**16 36 00.1**	**-1.7**
	comp=Z,14nm,0.8s,mb4.6						
ROSC	**El Rosal**	**37.39**	**356**	P	**P**	**16 37 30.0**	**+0.3**
	comp=Z,14nm,0.7s,mb4.9,baz=100,slow=23,SNR=2.1						
ROSC				LR	LR	16 53 12.1	
	comp=Z,105nm,19.9s,MS3.6,baz=14,slow=37						
ROSC	**El Rosal**	**37.39**	**356**	eP	**P**	**16 37 30.5**	**+0.8**
SDV	**Santo Domingo**	**41.32**	**2**	P	**P**	**16 38 02.4**	**0.0**
	comp=Z,11nm,0.7s,mb4.6,baz=224,slow=3.6,SNR=7.4						
SDV	**Santo Domingo**	**41.32**	**2**	eP	**P**	**16 38 02.3**	**-0.1**
	comp=Z,11nm,0.8s,mb4.5						
VNA3	**Neumayer Olymp**	**50.49**	**158**	eP	**P**	**16 39 14.2**	**+0.1**
VNA3				e		16 39 15.8	
VNA3				e		16 39 19.9	
VNA3				e		16 39 29.0	
VNA3				e		16 40 31.9	
VNA1	**Neumayer--Stat**	**50.79**	**157**	eP	**P**	**16 39 16.9**	**+0.5**
VNA1				e		16 39 18.4	
VNA1				e		16 39 22.4	
VNA1				e		16 39 31.3	
VNA1				e		16 40 33.0	
VNA2	**Neumayer--Watz**	**51.13**	**158**	eP	**P**	**16 39 19.2**	**+0.3**
	baz=292,slow=9.4						
VNA2				e		16 39 20.4	
VNA2				e		16 39 25.6	
VNA2				e		16 39 33.6	
VNA2				e		16 40 33.9	
SNAA	**Sanae**	**52.71**	**158**	eP	**P**	**16 39 30.4**	**-0.3**
SNAA				e		16 39 31.7	
SNAA				e		16 39 36.2	
SNAA				e		16 40 39.7	
SNAA	**Sanae**	**52.71**	**158**	eP	**P**	**16 39 30.5**	**-0.2**
TEIG	**Tepich**	**54.93**	**341**	eP	**P**	**16 39 47.3**	**-0.1**
	comp=Z,26nm,0.6s,mb5.4						
RKT	**Rikitea**	**56.04**	**263**	eLR	LR	16 56 22.9	
	comp=Z,126nm,26.2s						
RKT				eLR	LR	16 56 22.9	
	comp=Z,126nm,26.2s						
RKT	**Rikitea**	**56.04**	**263**	eT		17 40 36.2	
QSPA	**South Pole Qui**	**57.58**	**180**	P	**P**	**16 40 06.3**	**+0.7**
	comp=Z,28nm,0.8s,mb5.3,baz=149,slow=2.2,SNR=109						
SYO	**Syowa Base**	**67.00**	**159** ⇓	eP	**P**	**16 41 06.6**	**-2.3**
TBI	**Tubuai**	**67.94**	**256**	eLR	LR	17 01 56.3	
	comp=Z,268nm,26.8s						
TBI				eLR	LR	17 01 56.3	
	comp=Z,268nm,26.8s						
TBI	**Tubuai**	**67.94**	**256**	eT		17 55 17.6	
	comp=Z,8.5nm,0.2s						
TXAR	**Lajitas Array**	**68.72**	**330**	P	**P**	**16 41 20.9**	**+0.8**
	comp=Z,1.3nm,0.5s,mb4.1,baz=154,slow=8.6,SNR=10						
CPCT	**Cooper Cave**	**68.81**	**349**	eP	**P**	**16 41 20.3**	**-0.3**
SWET	**Sewanee**	**68.83**	**348**	eP	**P**	**16 41 20.2**	**-0.4**
TKL	**Tuckaleechee C**	**68.90**	**349**	eP	**P**	**16 41 20.4**	**-0.7**
WVT	**Waverly**	**70.08**	**346**	eP	**P**	**16 41 28.0**	**-0.4**
PPT	**Papeete**	**70.75**	**261**	eLR	LR	17 03 06.7	
	comp=Z,97nm,25.0s						
PPT				eLR	LR	17 03 06.7	
	comp=Z,97nm,25.0s						
FVM	**French Village**	**72.42**	**345**	eP	**P**	**16 41 42.5**	**0.0**
CCM	**Cathedral Cave**	**72.67**	**344**	eP	**P**	**16 41 43.6**	**-0.4**
CCM				pmax	pmax		
	comp=Z,19nm,0.9s,mb5.0						
CCM	**Cathedral Cave**	**72.67**	**344**	eP	**P**	**16 41 43.6**	**-0.4**
	comp=Z,19nm,0.9s,mb5.0						
ACSO	**Alum Creek Sta**	**73.27**	**351**	eP	**P**	**16 41 46.9**	**-0.6**
LIC	**Lamto**	**74.06**	**72**	eP	**P**	**16 41 51.6**	**-1.2**
	comp=Z,69nm,1.4s,mb5.4						
LPM	**Los Pinos Moun**	**74.28**	**330**	eP	**P**	**16 41 55.0**	**+1.4**
TIC	**Toumodi**	**74.31**	**71**	eP	**P**	**16 41 53.4**	**-0.9**
	comp=Z,17nm,0.4s,mb5.3						
KIC	**Kosan Boka**	**74.37**	**72**	eP	**P**	**16 41 54.0**	**-0.6**
	comp=Z,81nm,0.9s,mb5.7						
MAW	**Mawson**	**74.38**	**164**	P	**P**	**16 41 53.9**	**+0.1**
	comp=Z,10nm,0.5s,mb5.0,baz=219,slow=7.1,SNR=40						
MAW				LR	LR	17 18 08.4	
	comp=Z,133nm,18.9s,MS4.2,baz=59,slow=39						
MAW	**Mawson**	**74.38**	**164**	eP	**P**	**16 41 53.6**	**-0.2**
MAW				pmax	pmax		
	comp=Z,23nm,0.9s						
MAW	**Mawson**	**74.38**	**164**	eP	**P**	**16 41 53.6**	**-0.2**
	comp=Z,23nm,0.9s,mb5.1						
DBIC	**Dimbokro**	**74.46**	**71**	P	**P**	**16 41 54.5**	**-0.6**
	comp=Z,16nm,0.8s,mb5.0,baz=221,slow=6.2,SNR=17						
ANMO	**Albuquerque**	**74.76**	**331** ⇓	eP	**P**	**16 41 57.8**	**+1.5**
SUR	**Sutherland**	**75.21**	**119**	P	**P**	**16 41 59.7**	**+0.5**
	comp=Z,8.0nm,0.7s,mb4.8,baz=227,slow=6.3,SNR=10.0						
SDCO	**Great Sand Dun**	**76.81**	**333**	eP	**P**	**16 42 08.9**	**+0.9**
	comp=Z,3.4nm,0.7s,mb4.4						
JFWS	**Jewell Farm**	**77.11**	**346**	eP	**P**	**16 42 08.2**	**-1.3**
TSUM	**Tsumeb**	**79.29**	**106**	eP	**P**	**16 42 22.3**	**0.0**
	comp=Z,15nm,0.8s,mb5.0						
ECSD	**EROS,Sioux Fal**	**79.37**	**342**	eP	**P**	**16 42 21.7**	**-0.3**
SRU	**San Rafael**	**80.00**	**330**	eP	**P**	**16 42 26.5**	**+1.0**
MSU	**Marysvale**	**80.20**	**329**	eP	**P**	**16 42 28.3**	**+1.6**
BOSA	**Boshof**	**80.42**	**118**	P	**P**	**16 42 28.1**	**-0.2**
	comp=Z,19nm,0.8s,mb5.0,baz=233,slow=5.6,SNR=16						
BOSA	**Boshof**	**80.42**	**118**	eP	**P**	**16 42 27.7**	**-0.6**
BOSA				pmax	pmax		
	comp=Z,19nm,0.9s,mb5.0						
BOSA	**Boshof**	**80.42**	**118**	eP	**P**	**16 42 27.7**	**-0.7**
	comp=Z,19nm,0.9s,mb5.0						
TPNV	**Topopah Spring**	**80.79**	**325**	eP	**P**	**16 42 31.3**	**+1.4**
TPNV				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.4						
TPNV	**Topopah Spring**	**80.79**	**325**	eP	**P**	**16 42 31.2**	**+1.4**
	comp=Z,3.7nm,0.8s,mb4.4						
ISA	**Isabella**	**80.88**	**323**	eP	**P**	**16 42 31.8**	**+1.4**
HWUT	**Hardware Ranch**	**82.52**	**331**	eP	**P**	**16 42 39.0**	**+0.1**
	comp=Z,3.3nm,0.7s,mb4.5						
LBTB	**Lobatse**	**82.59**	**115**	eP	**P**	**16 42 39.6**	**-0.2**
LBTB				pmax	pmax		
	comp=Z,25nm,0.8s,mb5.3						
LBTB	**Lobatse**	**82.59**	**115**	eP	**P**	**16 42 39.6**	**-0.2**
	comp=Z,25nm,0.8s,mb5.3						
PDAR	**Pinedale Array**	**82.70**	**333**	P	**P**	**16 42 39.9**	**+0.1**
	comp=Z,0.8nm,0.6s,mb3.9,baz=145,slow=6.1,SNR=6.6						
NVAR	**Mina Array Bea**	**82.96**	**325**	P	**P**	**16 42 42.6**	**+1.4**
	comp=Z,3.5nm,0.7s,mb4.5,baz=158,slow=6.1,SNR=22						
TOA0	**Torodi Ar. Sit**	**83.46**	**70**	eP	**P**	**16 42 43.5**	**-0.9**
TORD	**Torodi Ar. Bea**	**83.46**	**70**	P	**P**	**16 42 43.8**	**-0.6**
	comp=Z,14nm,0.8s,mb5.1,baz=260,slow=4.6,SNR=66						
ULM	**Lac du Bonnet**	**85.28**	**345**	P	**P**	**16 42 52.1**	**-0.6**
	comp=Z,7.0nm,0.8s,mb4.8,baz=174,slow=5.4,SNR=6.9						
LSZ	**Lusaka**	**89.93**	**108**	eP	**P**	**16 43 17.1**	**+1.0**
LSZ				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.6						
LSZ	**Lusaka**	**89.93**	**108**	eP	**P**	**16 43 17.1**	**+1.0**
	comp=Z,2.3nm,0.6s,mb4.7						
OD2	**Odessa Site #2**	**90.19**	**330**	eP	**P**	**16 43 16.4**	**0.0**
ASAR	**Alice Springs**	**118.90**	**207**	PKP	PKPdf	16 49 03.0	-2.2
	comp=Z,0.4nm,0.6s,baz=142,slow=1.5,SNR=9.1						
AKASG	**Malin Array Be**	**121.06**	**47**	PKP	PKPdf	16 49 05.8	-2.6
	comp=Z,1.7nm,0.6s,baz=264,slow=2.6,SNR=12						
AKASG	**Malin Array Be**	**121.06**	**47**	i PKIKP	PKPdf	16 49 06.9	-1.5
AKASG				pmax	pmax		
	comp=Z,2.0nm,0.6s						
AKASG	**Malin Array Be**	**121.06**	**47**	PKP	PKPdf	16 49 05.8	-2.6
WRA	**Warramunga Arr**	**122.08**	**209**	PKP	PKPdf	16 49 10.0	-1.5
	comp=Z,1.1nm,0.6s,baz=160,slow=1.6,SNR=20						
WRA				PKKPbc	PKKPbc	16 59 05.6	-2.0
	comp=Z,0.3nm,0.5s,baz=338,slow=4.3,SNR=6.7						
OBN	**Obninsk**	**126.25**	**43**	PKIKP	PKPdf	16 49 18.5	+0.3
OBN				ePS	PS	17 01 15.7	-0.9
OBN				pmax	pmax		
	comp=Z,2.0nm,0.6s						
OBN				MLR	MLR		
	comp=Z,300nm,22.0s,MS4.9						
RST	**Umm Al-Ruwaisa**	**128.02**	**76**	eP	PKPdf	16 49 20.9	-1.5
RST				AMb	AMB	16 49 23.0	
	comp=Z,21nm,0.8s						
KIV	**Kislovodsk**	**128.51**	**57**	ePKIKP	PKPdf	16 49 22.6	-0.3
KIV				pmax	pmax		
	comp=Z,7.0nm,0.8s						
ARU	**Arti**	**138.52**	**40**	i PKIKP	PKPdf	16 49 41.5	+0.2
ARU						16 52 30.8	
ARU				SS	SS	17 10 35.6	-7.8
KAD	**Karad**	**145.66**	**108**	eP	PKPdf	16 49 54.8	-0.4
BRVK	**Borovoye**	**146.01**	**42**	ePKP2	PKPab	16 49 54.7	-1.5
POO	**Poona**	**146.04**	**106**	ex	x	16 49 56.0	
KBL	**Kabul**	**147.36**	**76**	ePKIKP	PKPdf	16 49 57.4	-0.2
YAK	**Yakutsk**	**147.56**	**341**	ePKP2	PKPdf	16 49 59.1	+2.1
YAK				pmax	pmax		
	comp=Z,31nm,0.9s						
YAK				pmax	pmax		
	comp=N,2.0nm,0.8s						
YAK	**Yakutsk**	**147.56**	**341**	ePKPdf	PKPdf	16 49 59.2	+2.1
HYB	**Hyderabad**	**149.18**	**112**	i P	PKPbc	16 50 05.5	+0.2
HYB	**Hyderabad**	**149.18**	**112**	eP	PKPbc	16 50 05.5	+0.2
EKS2	**Erkin-Say**	**151.06**	**60**	P	PKPbc	16 50 09.7	+0.6
	SNR=19						
EKS2	**Erkin-Say**	**151.06**	**60**	ePKPdf	PKPdf	16 50 03.5	+0.2
EKS2				ePKPbc	PKPbc	16 50 09.4	+0.3
AML	**Almayashu**	**151.07**	**61**	P	PKPbc	16 50 09.8	+0.7

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
	SNR=15						
AML	Almayashu	151.07	61	ePKPdf	PKPdf	16 50 04.3	+1.0
AML				ePKPbc	PKPbc	16 50 09.4	+0.3
USP	Ospenovka	151.48	58	P	PKPbc	16 50 10.3	+0.2
	SNR=18						
AAK	Ala-Archa	151.58	60	P	PKPbc	16 50 11.0	+0.7
	SNR=31						
NVS	Novosibirsk	151.64	31	ePKIKP	PKPbc	16 50 09.1	-0.9
NVS				pmax	pmax		
	comp=Z,26nm,0.8s						
UCH	Uchtor	151.66	61	P	PKPbc	16 50 11.6	+1.1
	SNR=27						
UCH	Uchtor	151.66	61	ePKPdf	PKPdf	16 50 05.3	+1.1
UCH				ePKPbc	PKPbc	16 50 11.3	+0.8
KURK	Kurchatov	151.68	42	ePKIKP	PKPbc	16 50 09.9	-0.4
CHMS	Chumysh	151.71	59	P	PKPbc	16 50 10.9	+0.3
	SNR=8.9						
KBK	Karagaybulak	151.91	60	P	PKPbc	16 50 11.7	+0.7
	SNR=8.6						
TKM2	Tokmak 2	152.33	59	P	PKPbc	16 50 12.2	+0.2
	SNR=15						
TKM2	Tokmak 2	152.33	59	ePKPdf	PKPdf	16 50 04.9	-0.3
TKM2				ePKPbc	PKPbc	16 50 12.1	0.0
ZALV	Zalesovo Beam	152.93	31	PKP	PKPdf	16 50 05.1	-0.6
	comp=Z,1.4nm,0.7s,baz=300,slow=2.9,SNR=8.6						
ZALV				PKPbc	PKPbc	16 50 12.5	-0.4
	comp=Z,25nm,0.6s,baz=301,slow=3.1,SNR=68						
ZALV				PKPab	PKPab	16 50 20.7	-3.5
	comp=Z,9.2nm,0.7s,baz=288,slow=3.5,SNR=9.6						
ZALV	Zalesovo Beam	152.93	31	PKP	PKPdf	16 50 05.1	-0.6
ZALV				PKPbc	PKPbc	16 50 12.5	-0.4
ZALV				PKPab	PKPab	16 50 20.7	-3.5
MKAR	Makanchi Array	155.64	47	PKP	PKPdf	16 50 09.2	-0.5
	comp=Z,1.0nm,0.7s,baz=310,slow=2.8,SNR=7.0						
MKAR				PKPbc	PKPdf	16 50 18.4	+8.7
	comp=Z,1.6nm,0.7s,baz=301,slow=2.7,SNR=10.0						
MKAR				PKPab	PKPab	16 50 35.8	-0.3
	comp=Z,6.7nm,0.6s,baz=294,slow=4.1,SNR=24						
MKAR	Makanchi Array	155.64	47	PKIKP	PKPdf	16 50 09.2	-0.5
MKAR						16 50 18.4	
MKAR	Makanchi Array	155.64	47	PKP	PKPdf	16 50 09.2	-0.5
MKAR				PKPbc	PKPdf	16 50 18.4	+8.7
MKAR				PKPab	PKPab	16 50 35.8	-0.3
WMQ	Urumqi	160.38	49	PKP	PKPdf	16 50 16.5	+0.9
CMAR	Chiang Mai Arr	163.53	147	PKP	PKPdf	16 50 18.9	-0.7
	comp=Z,0.5nm,0.8s,baz=291,slow=2.4,SNR=5.5						
CMAR				PKPab	PKPab	16 51 06.7	-4.3
	comp=Z,0.3nm,0.4s,baz=234,slow=4.9,SNR=4.1						
SONM	Songino Array	164.77	5	PKP	PKPdf	16 50 19.7	-0.1
	comp=Z,0.2nm,0.4s,baz=90,slow=2.9,SNR=3.3						
SONM				PKPab	PKPab	16 51 16.4	+0.8
	comp=Z,1.0nm,0.7s,baz=357,slow=3.4,SNR=6.6						
GTA	Gaotai	170.36	43	ePKP	PKPdf	16 50 25.2	+1.1
GTA				PKP2	PKPab	16 51 41.7	+1.0
KMI	Kunming	171.04	145	PKP	PKPdf	16 50 23.9	-1.0
NJ2	Nanjing	171.07	269	ePKP	PKPdf	16 50 24.5	-0.2
HHC	Hu-ho-hao-te	171.42	343	ePKP	PKPdf	16 50 24.6	0.0
HHC				PKS		16 53 55.8	
HHC				PP	PP	16 55 38.8	+3.4
HHC				SKS	SKSdf	16 57 22.8	-2.3
HHC				SKKS	SKKSac	17 02 21.3	+1.5
HHC				PP	PP		
	comp=Z,49nm,5.0s						
HHC				LR	LR		
	comp=N,197nm,22.0s						
HHC				LR	LR		
	comp=E,203nm,21.6s						
HHC				LR	LR		
	comp=Z,148nm,20.4s						
GYA	Guiyang	173.66	166	ePKP	PKPdf	16 50 26.0	0.0
GYA				PKS		16 53 56.8	
GYA				PP	PP	16 55 49.7	+3.3
GYA				PP	PP		
	comp=Z,110nm,8.9s						
LZH	Lanzhou	174.96	46	ePKP	PKPdf	16 50 27.1	+0.9
CD2	Chengdu	175.74	113	ePKP	PKPdf	16 50 26.0	-0.5
CD2				PP	PP	16 55 59.7	+1.7
CD2				SKS	SKSdf	16 57 23.8	-3.1
CD2				SKKS	SKKSac	17 02 40.6	-0.8
CD2				SS	SS	17 17 19.1	-3.8
CD2				PP	PP		
	comp=Z,120nm,10.8s						

IDC 08 16:32:26.5±6.1, 1021S×16134E, h100km±37km, mb3.4/3, mb1 3.6/3, mb1mx3.3/16, mbtmp3.4/3, Error ellipse: s-maj=62.6km s-min=32.0km az=106.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	Honiara	1.57	299	P	Pn	16 32 53.0	-0.6
	14nm,0.3s,baz=151,slow=6.6,SNR=9.2						
HNR				S	Sn	16 33 14.4	+0.2
	24nm,0.3s,baz=204,slow=10,SNR=6.7						
WRA	Warramunga Arr	27.77	246	P	P	16 38 06.4	+0.3
	0.6nm,0.7s,baz=76,slow=8.9,SNR=12						
ASAR	Alice Springs	29.39	239	P	P	16 38 20.1	-0.3
	0.3nm,0.5s,baz=61,slow=9.9,SNR=12						
SONM	Songino Array	75.47	325	P	P	16 44 00.0	+0.4
	1.0nm,0.7s,baz=141,slow=6.4,SNR=6.9						

*IDC **08** 17:03:56.0±1.7, 3755N×7432E, h0km, mb3.8/3, mb1 3.8/7, mb1mx3.6/25, mbtmp3.7/7, ML3.4/4, Error ellipse: s-maj=28.3km s-min=23.3km az=164.0*
*NNC **08** 17:04:00.2±2.6, 3756N×7436E, h0km, mb4.0, mpv4.0, Error ellipse: s-maj=22.1km s-min=16.0km az=145.0*
*ISCJB **08** 17:04:02.3±0.7, 3751N±004×7450E±009, h71km±10km, mb3.6/4, Error ellipse: s-maj=12.3km s-min=6.7km az=8.3*
*NEIC **08** 17:04:03.2±1.4, 3752N×7451E, h65km±12km, mb3.7/1, Error ellipse: s-maj=20.5km s-min=10.9km az=131.0*
ISC 08 17:04:04.3±0.7, 3752N±005×745E±01, h74km±10km, n31, σ1s10/36, mb3.6/4, 3C-3D, Tajikistan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHCP	Chirah Chowk	3.97	194	P	Pn	17 05 03.8	+1.1
CEP	Cherat	4.23	210	P	Pn	17 05 06.9	+0.7
CEP				S	Sn	17 06 10.0	+16
KZA	Kyzart	4.60	7	P	Pn	17 05 10.7	-0.5
	SNR=23						
AML	Almayashu	4.64	353	P	Pn	17 05 11.9	0.0
	SNR=16						
AML	Almayashu	4.64	353	eP	Pn	17 05 11.7	-0.1
UCH	Uchtor	4.70	1	P	Pn	17 05 12.6	-0.1
	SNR=29						
UCH	Uchtor	4.70	1	eP	Pn	17 05 12.4	-0.2
KBK	Karagaybulak	5.15	4	P	Pn	17 05 19.0	+0.2
	SNR=15						
EKS2	Erkin-Say	5.16	354	P	Pn	17 05 21.1	+2.1
	SNR=8.5						
EKS2	Erkin-Say	5.16	354	eP	Pn	17 05 18.3	-0.6
	7.1nm,0.6s						
THW	Thamme Wali	5.21	206	P	Pn	17 05 18.9	-0.7
KBL	Kabul	5.29	237	eP	Pn	17 05 20.3	-0.4
	9.2nm,0.6s						
TKM2	Tokmak 2	5.47	9	⇓P	Pn	17 05 23.1	0.0
	17nm,0.4s						
TKM2				⇓S	Sn	17 06 27.4	+2.8
	19nm,0.6s						
TKM2	Tokmak 2	5.47	9	P	Pn	17 05 23.4	+0.3
	SNR=36						
TKM2	Tokmak 2	5.47	9	eP	Pn	17 05 23.0	-0.1
	34nm,0.4s						
CHMS	Chumysh	5.48	2	P	Pn	17 05 23.3	0.0
	SNR=5.3						
KK31	Karatay Array	6.34	333	⇑P	Pn	17 05 34.4	-0.5
	3.1nm,0.4s,baz=142,slow=13						
KK31				⇑S	Sn	17 06 47.7	+1.8
	15nm,0.5s,baz=149,slow=21						
MKAR	Makanchi Array	10.94	30	Pn	Pn	17 06 35.0	-2.7
	0.1nm,0.3s,baz=216,slow=12,SNR=4.8						
KURK	Kurchatov	13.53	11	Pn	Pn	17 07 07.0	-5.7
	0.0nm,0.3s,baz=197,slow=12,SNR=7.9						
KURK	Kurchatov	13.53	11	eP	Pn	17 07 08.6	-4.1
	2.6nm,0.9s						
AB31	Akbulak array	15.74	323	⇑P	Pn	17 07 40.1	-1.3
	2.4nm,0.8s,baz=132,slow=13,SNR=20						
BVAR	Borovoye Array	15.76	351	Pn	Pn	17 07 41.4	-0.2
	0.4nm,0.3s,baz=162,slow=11,SNR=10						
AKTK	Aktyubinsk	17.46	323	P	Pn	17 08 01.4	-1.2
AKTK				S	S	17 11 13.4	-6.9
AKTO	Aktyubinsk	17.46	323	⇓P	Pn	17 08 03.9	+1.3
	1.0nm,1.1s						
AKTO	Aktyubinsk	17.46	323	P	Pn	17 08 01.4	-1.2
	0.2nm,0.3s,baz=120,slow=12,SNR=7.4						
AKTO				S	S	17 11 13.4	-6.9
	0.1nm,0.3s,baz=163,slow=12,SNR=5.0						
ZALV	Zalesovo Beam	17.92	20	P	Pn	17 08 05.4	-2.9
	0.3nm,0.3s,baz=206,slow=12,SNR=16						
ARU	Arti	21.70	336	P	P	17 08 49.0	0.0
	2.8nm,0.8s,mb3.6						
SONM	Songino Array	25.48	56	P	P	17 09 26.4	+1.1
	1.0nm,0.8s,mb3.3,baz=262,slow=9.9,SNR=3.7						
ARCES	ARCESS Array B	41.29	336	P	P	17 11 42.6	+0.7
	4.0nm,1.0s,mb4.2,baz=110,slow=11,SNR=5.4						
TORD	Torodi Ar. Bea	68.49	270	P	P	17 14 59.4	+0.5
	0.2nm,0.4s,mb3.3,baz=48,slow=5.8,SNR=3.8						
TORD	Torodi Ar. Bea	68.49	270	P	P	17 14 59.4	+0.5

*NIED **08** 17:10:00, 4340N×14670E, h47km, Mw5.7 Best double couple: Mo4.41000×10^{17} NP1:φs213.00000°, δ47.00000°, λ81.00000°. NP2:φs46.00000°, δ44.00000°, λ99.00000°.*
*IDC **08** 17:10:29.1±0.3, 4353N×14684E, h0km, mb5.5/25, mb1 5.6/30, mb1mx5.6/31, mbtmp5.5/30, ML5.0/5, MS5.1/36, Ms1 5.1/36, ms1mx5.0/40, Error ellipse: s-maj=12.8km s-min=10.7km az=114.0*
*DJA **08** 17:10:33, 4364N×147.17E, h31km, Mw5.9/40*
*SKHL **08** 17:10:34.3±1.1, 4370N×14700E, h51km±16km, mb5.6/7, mbh6.2/1, mbv6.3/2, ms5.4/3, msh5.9/2*
*MOS **08** 17:10:34.0±0.8, 4362N×14676E, h39km, mb5.8/149, MS5.4/48, Error ellipse: s-maj=5.8km s-min=3.4km az=107.2*
MOS Felt (IV) at Malokuril'skoye, (III) at Yuzhno-Kuril'sk.
*NEIC **08** 17:10:35.4±0.1, 4355N×14675E, h41km, mb5.6/296, ME5.3, MS5.4/16, MW5.8, Error ellipse: s-maj=3.2km s-min=2.2km az=166.0, Moment Tensor Solution. s49 Moment tensor: Scale 10^{17}Nm; Mrr5.60; Mθθ1.51; Mφφ-7.11; Mrθ-0.23; Mθφ-2.70; Mφr-0.52; Best double couple: Mo7.00000×10^{17} NP1:φs197.00000°, δ47.00000°, λ92.00000°. NP2:φs15.00000°, δ43.00000°, λ88.00000°. Principal axes: T 5.6300, Plg87.0000°, Azm135.0000°; N 2.2800, Plg1.0000°, Azm16.0000°; P -7.9100, Plg2.0000°, Azm286.0000°; Depth from synthetics of broadband displacement seismograms. Energy computed from CMT mechanism.*
NEIC Recorded [4 JMA] in the Bekkai area, [3 JMA] in eastern Hokkaido and [2 JMA] in much of southern Hokkaido. Also recorded [2 JMA] in Aomori and [1 JMA] in Iwate and Miyagi Prefectures, Honshu.
*ISCJB **08** 17:10:35.2±0.1, 4349N±002×14677E±001, h53km, mb5.6/460, MS5.3/91 Error ellipse: s-maj=2.6km s-min=1.4km az=164.9*
*JMA **08** 17:10:35.4±0.2, 4335N×14673E, h40km±2km, M5.8*
JMA Felt IV J1.
*BJI **08** 17:10:36.2, 4357N×14671E, h62km, mB5.6, mb5.8, Ms5.4, Msz5.2*
*GCMT **08** 17:10:37.9±0.1, 4346N×14694E, h44km, MW5.7/100, Moment Tensor Solution. s100,c200; s99,c259; Duration: 1s7 Moment tensor: Scale 10^{17}Nm; Mrr3.76±.04; Mθθ-1.01±.03; Mφφ-2.75±.04; Mrθ-0.05±.03; Mθφ-2.00±.03; Mφr-0.28±.03; Best double couple: Mo3.92100×10^{17} NP1:φs35.00000°, δ43.00000°, λ93.00000°. NP2:φs211.00000°, δ47.00000°, λ87.00000°. Principal axes: T 3.7720, Plg87.0000°, Azm79.0000°; N 0.2970, Plg2.0000°, Azm213.0000°; P -4.0700, Plg2.0000°, Azm303.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*
*SZGRF **08** 17:10:39.0, 4373N×14655E, h64km, mb5.7, Kuril Islands, Russia*
*BGS **08** 17:10:42.0, 44.16N×14608E, h63km, mb5.7*
ISC 08 17:10:37.2±0.1, 4352N±002×14671E±001, h55km, h55km±1.6km:pP-P, n1698, σ0s85/1681, mb5.6/460, MS5.3/91, 416C-235D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEM2	Nemuro 2	0.72	258	P	Pn	17 10 49.1	-2.2
NEM2				eS	Sn	17 10 59.3	-2.4
JRA	Rausu	1.23	291	⇓P	Pn	17 10 57.6	-0.4
JNK	Nakash	1.45	273	⇓P	Pn	17 11 00.0	-1.0
JNK				eS	Sn	17 11 19.2	+0.3
JAK	Akkeshi	1.56	251	⇓P	Pn	17 11 00.6	-1.9
JAK				eS	Sn	17 11 19.8	-1.8
KUR	Kuril'sk	1.91	25	⇑iPN	Pn	17 11 02.5	-4.7
KUR				S	Sn	17 11 24.5	-5.6
KUR				pmax	pmax		
	comp=N,27µm,4.0s						
KUR				pmax	pmax		
	comp=E,12µm,4.0s						
KUR				pmax	pmax		
	comp=Z,25µm,4.0s						
KUR				pmax	pmax		
	comp=N,2µm,0.5s						
KUR				pmax	pmax		
	comp=E,2µm,0.5s						
KUR				pmax	pmax		
	comp=Z,3µm,0.5s						
KUR				smax			
	comp=N,105µm,5.0s						
KUR				smax			
	comp=E,105nm,5.0s						
KUR	Kuril'sk	1.91	25	⇑iP	Pn	17 11 02.5	-4.7
KUR				⇓iP		17 11 02.5	
KUR				AMB	AMB	17 11 05.0	
	comp=E,25µm,4.0s						
KUR				AMB	AMB	17 11 05.0	
	comp=E,28µm,4.0s						
KUR				AMB	AMB	17 11 05.0	
	comp=E,12µm,4.0s						
KUR				AMB	AMB	17 11 07.6	
	comp=E,2µm,0.5s						
KUR				AMB	AMB	17 11 07.6	
	comp=E,2µm,0.5s						
KUR				AMB	AMB	17 11 07.6	
	comp=E,3µm,0.5s						
KUR				eS	Sn	17 11 24.5	-5.6
KUR				A		17 11 53.0	
	comp=E,105µm,5.0s						
KUR				A		17 12 10.0	
	comp=E,60µm,2.0s						
KUR				A		17 12 10.0	
	comp=E,25µm,2.0s						
JTKR	Abashiri--Toko	2.08	284	⇓P	Pn	17 11 10.0	+0.4
JAR	Ashorobuto	2.15	265	⇓P	Pn	17 11 10.1	-0.5
JAR				eS	Sn	17 11 36.3	+0.2
JOB	Onbets	2.19	255	⇓P	Pn	17 11 09.9	-1.2
JMP	Maruseppu	2.48	283	P	Pn	17 11 16.1	+1.1
JCH	Churui	2.61	251	⇓P	Pn	17 11 15.1	-1.8
ERM	Erimo	3.02	241	Pn	Pn	17 11 24.3	+1.9
	comp=E,76µm,0.6s,SNR=61						
ERM	Erimo	3.02	241	ePn	Pn	17 11 22.8	+0.5
ERM				eSn	Sn	17 11 59.2	+2.0
ASAJ	Asahikawa	3.04	283	Pn	Pn	17 11 24.1	+1.5
	comp=E,274nm,0.3s,baz=110,slow=12,SNR=737						
ASAJ				Sn	Sn	17 11 56.5	-1.3
	comp=E,639nm,0.3s,baz=94,slow=33,SNR=4.9						
ASAJ				LR	LR	17 12 45.5	
	comp=E,80µm,20.1s,baz=89,slow=44						
ASAJ	Asahikawa	3.04	283	PN	Pn	17 11 24.2	+1.5
ASAJ						17 11 56.5	
ASAJ				pmax	pmax		
	comp=Z,274nm,0.3s						
ASAJ				smax			
	comp=N,639nm,0.3s						
ASAJ				MLR	MLR		
	comp=Z,80µm,20.1s						
ASAJ	Asahikawa	3.04	283	P	Pn	17 11 24.0	+1.3
YSS	Yuzh-Sakhalins	4.43	322κ	iPN	Pn	17 11 42.0	+0.3
YSS				eS	Sn	17 12 32.0	+0.1
YSS				pmax	pmax		
	comp=N,710nm,1.0s						
YSS				pmax	pmax		
	comp=Z,1µm,1.0s						
YSS				MLR	MLR		
	comp=Z,51µm,10.0s						
YSS				MLR	MLR		
	comp=N,43µm,20.0s						
YSS				MLR	MLR		
	comp=E,36µm,18.0s						
YSS	Yuzh-Sakhalins	4.43	322	⇓iP	Pn	17 11 42.0	+0.3
YSS				⇓iP		17 11 42.0	
YSS				AMB	AMB	17 11 43.0	
	comp=E,710nm,1.0s						
YSS				AMB	AMB	17 11 43.0	
	comp=E,1µm,1.0s						
YSS				eS	Sn	17 12 32.0	+0.1
YSS				AMS	AMS	17 13 26.0	
	comp=E,65µm,18.0s						
YSS				AMS	AMS	17 13 26.0	
	comp=E,50µm,20.0s						
YSS				AMS	AMS	17 13 26.0	
	comp=E,44µm,20.0s						
YSS				AMS	AMS	17 13 26.0	
	comp=E,36µm,18.0s						
YSS				AMS	AMS	17 13 26.0	
	comp=E,43µm,20.0s						
YSS				AMS	AMS	17 13 26.0	
	comp=E,51µm,20.0s						
YSS	Yuzh-Sakhalins	4.43	322	ePn	Pn	17 11 43.1	+1.4
JTM	Tenmabayashi	5.00	239	P	Pn	17 11 47.7	-1.9
JKZ	Kuzumaki	5.35	231	P	Pn	17 11 51.5	-2.9
JAH	Hinai	5.62	236	P	Pn	17 11 55.8	-2.3
OFUJ	Ofunato	5.83	222	P	Pn	17 11 57.4	-3.6
JMK	Ichinoseki	6.16	224	P	Pn	17 12 01.9	-3.5
UGL	Uglegorsk	6.42	332	ePN	Pn	17 12 10.8	+1.8
UGL				S	Sn	17 13 28.5	+7.6
UGL				pmax	pmax		
	comp=Z,310nm,0.9s						
UGL				MLR	MLR		
	comp=N,27µm,19.0s						
UGL				MLR	MLR		
	comp=E,18µm,19.0s						
UGL				MLR	MLR		
	comp=Z,38µm,19.0s						
UGL	Uglegorsk	6.42	332	eP	Pn	17 12 10.8	+1.8
UGL				AMB	AMB	17 12 14.5	
	comp=Z,310nm,0.9s						
UGL				eS	Sn	17 13 28.5	+7.6
UGL				A		17 13 42.0	
	comp=Z,460nm,0.6s						
UGL				A		17 13 42.0	
	comp=Z,720nm,1.0s						
UGL				AMS	AMS	17 14 40.0	
	comp=Z,38µm,19.0s						
UGL				AMS	AMS	17 14 40.0	
	comp=Z,27µm,19.0s						
UGL				AMS	AMS	17 14 40.0	
	comp=Z,18µm,19.0s						
JIO	Ouri	6.48	221	P	Pn	17 12 05.6	-4.3
TEY	Ternei	7.41	285	eP	Pn	17 12 25.0	+2.4
TEY				AMB	AMB	17 12 27.1	
	comp=Z,510nm,1.5s						
TEY				AMB	AMB	17 12 27.3	
	comp=Z,130nm,1.0s						
TEY				AMB	AMB	17 12 29.5	
	comp=Z,250nm,1.0s						
JAW	Awa shima	7.57	231	P	Pn	17 12 22.1	-2.7
JNS	Sasagawa	7.99	227	P	Pn	17 12 29.2	-1.4
JSD	Sado	8.43	232	P	Pn	17 12 34.5	-2.0
JIZZ	Izumozaki	8.53	228	P	Pn	17 12 37.1	-0.9
JIZZ				S	Sn	17 14 08.9	-3.8
JHK	Hiroka	8.58	226	P	Pn	17 12 37.2	-1.4
JJN	Nakama	9.14	228	P	Pn	17 12 45.8	-0.5
JSZ	Suzu	9.35	233	P	Pn	17 12 47.4	-1.7
HABR	Khabarovsk	9.50	305	⇑iPN	Pn	17 12 56.9	+5.7
HABR				e		17 14 47.6	
HABR				MLR	MLR		
	comp=Z,10µm,11.7s						
MAJO	Matsushiro	9.54	226	ePN	Pn	17 12 48.8	-2.9
MAT	Matsushiro	9.54	226	P	Pn	17 12 48.8	-2.9
MAT				S	Sn	17 14 34.0	-3.3
MJAR	Matsushiro Arr	9.54	226	Pn	Pn	17 12 49.0	-2.7
	comp=Z,17nm,0.3s,baz=29,slow=14,SNR=154						
MJAR				Sn	Sn	17 14 32.0	-5.4
	comp=Z,9.6nm,0.3s,baz=82,slow=9.1,SNR=5.5						
JRY	Ryogami san	9.60	221	P	Pn	17 12 46.5	-6.1
SKR	Severo-Kuril's	9.61	39	ePN	Pn	17 12 49.5	-3.2
SKR				eS	Sn	17 14 32.0	-7.1
SKR				pmax	pmax		
	comp=N,220nm,1.0s						
SKR				pmax	pmax		
	comp=E,160nm,1.0s						
SKR				pmax	pmax		
	comp=Z,260nm,1.0s						
SKR				smax			
	comp=N,150nm,0.5s						
SKR				smax			
	comp=E,80nm,0.5s						
SKR				smax			
	comp=N,4µm,10.0s						
SKR				smax			
	comp=E,10µm,8.0s						
SKR				MLR	MLR		
	comp=N,14µm,16.0s						
SKR				MLR	MLR		
	comp=E,10µm,16.0s						
SKR				MLR	MLR		
	comp=Z,20µm,16.0s						
SKR	Severo-Kuril's	9.61	39	eP	Pn	17 12 49.5	-3.2
SKR				AMB	AMB	17 12 51.0	
	comp=Z,220nm,1.0s						
SKR				AMB	AMB	17 12 51.0	
	comp=Z,160nm,1.0s						
SKR				AMB	AMB	17 12 51.0	
	comp=Z,260nm,1.0s						
SKR				AMB	AMB	17 12 58.0	
	comp=Z,3µm,3.0s						
SKR				AMB	AMB	17 12 58.0	
	comp=Z,3µm,3.0s						
SKR				AMB	AMB	17 12 58.0	
	comp=Z,2µm,3.0s						
SKR				eS	Sn	17 14 32.0	-7.1
SKR				A		17 14 42.3	
	comp=Z,310nm,1.0s						
SKR				A		17 14 42.3	
	comp=Z,80nm,0.5s						
SKR				A		17 14 42.3	
	comp=Z,150nm,0.5s						
SKR				A		17 15 04.0	
	comp=Z,10µm,8.0s						
SKR				A		17 15 04.0	
	comp=Z,5µm,8.0s						
SKR				A		17 15 04.0	
	comp=Z,4µm,10.0s						
SKR				A		17 15 04.0	
	comp=Z,10µm,8.0s						
SKR				A		17 15 04.0	
	comp=Z,5µm,8.0s						
SKR				A		17 15 04.0	
	comp=Z,4µm,10.0s						
SKR				AMS	AMS	17 16 39.0	
	comp=Z,21µm,16.0s						
SKR				AMS	AMS	17 16 39.0	
	comp=Z,15µm,16.0s						
SKR				AMS	AMS	17 16 39.0	
	comp=Z,10µm,16.0s						
SKR				AMS	AMS	17 16 39.0	
	comp=Z,20µm,16.0s						
SKR				AMS	AMS	17 16 39.0	
	comp=Z,14µm,16.0s						
SKR				AMS	AMS	17 16 39.0	
	comp=Z,10µm,16.0s						
JNG	Nsakai	9.70	226	P	Pn	17 12 52.5	-1.4
JTT	Ttatey	9.96	229	P	Pn	17 12 56.6	-0.9
JNT	Takato	10.09	224	P	Pn	17 12 57.4	-1.8
JGN	Niukaw	10.25	228	P	Pn	17 12 59.0	-2.5
NKL	Nikolayevsk	10.44	340	eP	Pn	17 13 02.8	-1.1
NKL				AMB	AMB	17 13 05.8	
	comp=Z,550nm,2.3s						
NKL				AMB	AMB	17 13 05.8	
	comp=Z,1µm,2.5s						
NKL				eL		17 16 02.0	
NKL				AMS	AMS	17 17 14.0	
	comp=Z,13µm,20.0s						
NKL				AMS	AMS	17 17 14.0	
	comp=Z,8µm,20.0s						
NKL				AMS	AMS	17 17 14.0	
	comp=Z,20µm,20.0s						
JNY	Yasuok	10.63	223	P	Pn	17 13 04.1	-2.6
JKG	Kaga	10.76	231	P	Pn	17 13 07.7	-0.7
VLA	Vladivostok	10.81	273	ePN	Pn	17 13 10.3	+1.3
VLA				eS	Sn	17 15 21.5	+13
VLA				pmax	pmax		
	comp=Z,774nm,1.1s						

VLA MLR MLR
comp=Z,15μm,18.9s
VLA Vladivostok 10.81 273⇑*i*P **Pn 17 13 10.1 +1.1**
JGM Miyama 10.96 228 P **Pn 17 13 10.2 -1.0**
JHJ Hachijo jima 2 11.71 210 Pn **Pn 17 13 18.7 -2.8**
comp=Z,65nm,0.3s,baz=53,slow=21,SNR=13
JHJ Sn **Sn 17 15 19.6 -11**
comp=Z,302nm,0.3s,baz=324,slow=21,SNR=14
JHJ LR LR 17 18 54.4
comp=Z,4μm,18.1s,baz=102,slow=43
KLR Kul'dur 11.80 304 *e*PN **Pn 17 13 22.0 -0.5**
KLR *e* 17 15 36.5
KLR pmax pmax
comp=N,4μm,9.0s
KLR pmax pmax
comp=E,10μm,9.0s
KLR pmax pmax
comp=Z,9μm,9.0s
KLR MLR MLR
comp=Z,16μm,14.0s
TSUJ Tsu 2 11.87 226 P **Pn 17 13 22.2 -1.4**
PEA0B Petropavlovsk- 12.05 33 *e*Pn **Pn 17 13 17.9 -8.0**
PETK Petropavlovsk- 12.05 33 Pn **Pn 17 13 23.1 -2.9**
comp=Z,6.0nm,0.3s,baz=176,slow=8.9,SNR=88
PETK LR LR 17 18 56.8
comp=Z,10μm,18.4s,baz=213,slow=42
JKN2 Miekihoku 12.31 225 P **Pn 17 13 26.7 -3.0**
MDJ Mudanjiang 12.37 281 P **Pn 17 13 30.5 +0.2**
MDJ S **Sn 17 15 48.4 +2.0**
MDJ AMB AMB
comp=Z,354nm,1.0s
MDJ AMB AMB
comp=Z,1μm,8.0s
MDJ LR LR
comp=E,12μm,14.5s
MDJ LR LR
comp=Z,18μm,15.6s
MDJ Mudanjiang 12.37 281 *e*P **Pn 17 13 32.2 +1.9**
comp=Z,469nm,1.0s
PET Petropavlovsk 12.38 36 *e*PN **Pn 17 13 27.9 -2.6**
PET pmax pmax
comp=Z,1μm,4.5s
PET pmax pmax
comp=Z,118nm,0.9s
PET MLR MLR
comp=Z,10μm,18.0s
PET MLR MLR
comp=Z,8μm,15.0s
PET Petropavlovsk 12.38 36 *e*Pn **Pn 17 13 28.0 -2.5**
CN2 Changchun 15.39 278⇑*i*P **Pn 17 14 10.3 -0.4**
CN2 *e*AP pP 17 14 20.7 -5.6
CN2 PP 17 14 24.2
CN2 *e*S **S 17 16 59.3 -14**
CN2 AMB AMB
comp=Z,200nm,6.0s
CN2 LR LR
comp=N,5μm,15.0s
CN2 LR LR
comp=E,12μm,15.0s
CN2 LR LR
comp=Z,15μm,18.0s
KSRS Korea Array 15.51 253 Pn **Pn 17 14 10.7 -1.6**
comp=Z,1.6nm,0.3s,baz=60,slow=13,SNR=58
KSRS Sn **Sn 17 16 55.5 -7.5**
baz=214,slow=36,SNR=2.3
KSRS PcP PcP 17 19 13.9 +2.2
baz=34,slow=0.4,SNR=7.6
KSRS LR LR 17 20 33.6
comp=Z,9μm,18.5s,baz=64,slow=39
KSRS Korea Array 15.51 253 P **Pn 17 14 10.7 -1.5**
KSRS 17 16 55.5
KSRS pmax pmax
comp=Z,2.0nm,0.3s
KSRS MLR MLR
comp=Z,9μm,18.5s
KS15 Wonju Array Si 15.54 253 *e*Pn **Pn 17 14 11.2 -1.5**
ZEA Zeya 16.38 315 *e*P **Pn 17 14 21.8 -1.3**
ZEA AMB AMB 17 14 24.3
comp=Z,200nm,1.4s
ZEA AMB AMB 17 14 24.3
comp=Z,150nm,1.4s
ZEA AMB AMB 17 14 24.3
comp=Z,230nm,1.4s
ZEA AMB AMB 17 14 30.0
comp=Z,3μm,6.0s
ZEA AMB AMB 17 14 30.0
comp=Z,2μm,5.0s
ZEA AMB AMB 17 14 30.0
comp=Z,2μm,5.0s
ZEA *e*S **S 17 17 24.0 -9.5**
ZEA A 17 17 27.0
comp=Z,1μm,7.0s
ZEA A 17 17 27.0
comp=Z,2μm,7.0s
INCN Inchon 16.40 255 *e*Pn **Pn 17 14 22.8 -0.7**
CBIJ Chichi jima 16.79 194 Pn **Pn 17 14 26.9 -1.6**
comp=Z,29nm,0.3s,baz=269,slow=21,SNR=13
CBIJ Sn **Sn 17 17 17.4 -17**
comp=Z,54nm,0.3s,baz=325,slow=23,SNR=7.3
CBIJ LR LR 17 20 32.0
comp=Z,3μm,20.8s,baz=358,slow=36
CBIJ Chichi jima 16.79 194 P **Pn 17 14 28.5 +0.1**
SNY Shenyang 17.09 272⇑P **Pn 17 14 32.0 0.0**
SNY S **S 17 17 36.8 -11**
SNY SS 17 17 57.2
SNY AMB AMB
comp=Z,150nm,1.2s
SNY AMB AMB
comp=Z,1μm,3.5s
SNY LR LR
comp=E,7μm,17.8s
SNY LR LR
comp=Z,8μm,19.2s
CLNS Chul'man 19.20 322 *e*P **Pn 17 15 01.9 +4.4**
CLNS *e*S **S 17 18 32.8 +2.3**
CLNS pmax pmax
comp=Z,171nm,0.9s
CLNS pmax pmax
comp=E,93nm,1.0s
CLNS pmax pmax
comp=N,152nm,1.4s
CLNS smax
comp=E,39nm,1.1s
CLNS smax
comp=N,68nm,1.2s
CLNS MLR MLR
comp=N,7μm,20.0s
CLNS MLR MLR
comp=Z,10μm,18.0s
CLNS MLR MLR
comp=E,5μm,15.0s
DL2 Dalian 19.39 265 P **Pn 17 14 57.7 -2.3**
DL2 S **S 17 18 34.7 0.0**
DL2 XS sS 17 18 45.4 -9.1
DL2 AMB AMB
comp=Z,240nm,1.0s
DL2 AMB AMB
comp=Z,1μm,4.5s
DL2 LR LR
comp=N,1μm,21.4s
DL2 LR LR
comp=E,2μm,17.8s
DL2 LR LR
comp=Z,2μm,21.8s
HIA Hailar 19.41 297 *e*P **Pn 17 14 57.7 -2.5**
HIA pmax pmax
comp=Z,181nm,1.0s
HIA Hailar 19.41 297 *e*P **Pn 17 14 57.7 -2.4**
comp=Z,181nm,1.0s
SEY Seymchan 19.73 8⇓*e*P **Pn 17 14 59.5 -4.3**
SEY Seymchan 19.73 8⇓*e*P **Pn 17 14 59.6 -4.2**
SMY Shemya 20.37 54 *e*P **P 17 15 09.8 +0.9**
SMY pmax pmax
comp=Z,1μm,1.1s
SMY MLR MLR
comp=Z,6μm,23.0s,MS4.9
SMY Shemya 20.37 54 *e*P **P 17 15 09.8 +0.9**
comp=Z,1μm,1.1s
SMY LR LR
comp=Z,6μm,23.0s,MS4.9
YAK Yakutsk 21.09 337 *e*P **P 17 15 22.3 +5.7**
YAK *e* 17 15 35.5
YAK *e*S **S 17 19 19.7 +12**
YAK *e*SS 17 19 33.9
YAK pmax pmax
comp=Z,138nm,0.9s,mb5.3
YAK pmax pmax
comp=E,41nm,1.1s
YAK pmax pmax
comp=N,89nm,1.2s
YAK pmax pmax
comp=Z,3μm,2.5s,mb6.2
YAK pmax pmax
comp=E,3μm,2.8s
YAK pmax pmax
comp=N,4μm,2.6s
YAK MLR MLR
comp=Z,5μm,19.0s,MS4.9
YAK MLR MLR
comp=N,2μm,19.0s,MS4.8
YAK MLR MLR
comp=E,3μm,15.0s,MS4.8
YAK Yakutsk 21.09 337 *e*P **P 17 15 11.2 -5.4**
JOW Kunigami 22.37 228 P **P 17 15 31.1 +0.5**
comp=E,552nm,1.0s,mb5.9,baz=37,slow=11,SNR=45
BJI Beijing 22.97 272 P **P 17 15 35.3 -1.5**
BJI S **S 17 19 38.5 -4.3**
BJI AMB AMB
comp=Z,177nm,0.9s,mb5.5
BJI AMB AMB
comp=Z,988nm,5.6s
BJI LR LR
comp=N,2μm,19.6s,MS5.0
BJI LR LR
comp=E,6μm,19.9s,MS5.0
BJI LR LR
comp=Z,8μm,28.3s
BJI Beijing 22.97 272 P **P 17 15 35.3 -1.5**
comp=Z,177nm,0.9s,mb5.5
BJI sP sP 17 15 50.7 -5.5
BJI S **S 17 19 38.5 -4.3**
BJI LR LR
comp=Z,8μm,28.3s,MS5.0
BJT Baijiatuan 22.98 272 *e*P **P 17 15 35.0 -1.9**
BJT pmax pmax
comp=Z,264nm,0.7s
BJT Baijiatuan 22.98 272 *e*P **P 17 15 35.0 -2.0**
comp=Z,264nm,0.7s,mb5.8
CIT Chita 23.68 303 *e*P **P 17 15 42.5 -1.0**
CIT *e* 17 16 29.3
SSE Sheshan 23.68 247 P **P 17 15 45.8 +2.1**
SSE AP 17 15 59.7
SSE XP sP 17 16 06.9 +3.1
SSE S **S 17 19 52.7 -1.8**
SSE XS sS 17 20 16.9 -0.8
SSE AMB AMB
comp=Z,173nm,0.8s,mb5.5
SSE AMB AMB
comp=Z,2μm,4.7s
SSE LR LR
comp=N,1μm,17.2s,MS4.9
SSE LR LR
comp=E,3μm,17.2s,MS4.9
SSE LR LR
comp=Z,4μm,16.2s,MS4.9
SSE Sheshan 23.68 247 P **P 17 15 45.8 +2.1**
comp=Z,173nm,0.8s,mb5.5
SSE pP 17 15 59.7
SSE sP sP 17 16 06.9 +3.1
SSE S **S 17 19 52.7 -1.8**
SSE sS sS 17 20 16.9 -0.8
SSE LR LR
comp=Z,4μm,16.2s,MS4.9
TIA Tai'an 23.77 262 *e*P **P 17 15 43.7 -0.7**
TIA AMB AMB
comp=Z,220nm,0.8s,mb5.6
NJ2 Nanjing 24.70 252 *e*P **P 17 15 55.0 +2.1**
NJ2 AP 17 16 09.1
NJ2 XP sP 17 16 15.8 +2.6
NJ2 PP 17 16 33.4
NJ2 S **S 17 20 16.0 +5.2**
NJ2 XS sS 17 20 33.0 -1.1
NJ2 AMB AMB
comp=Z,200nm,0.8s,mb5.7
NJ2 AMB AMB
comp=Z,1μm,4.2s
NJ2 LR LR
comp=N,2μm,16.3s,MS5.2
NJ2 LR LR
comp=E,6μm,15.1s,MS5.2
NJ2 LR LR
comp=Z,18μm,17.1s,MS5.6
BOD Bodaibo 24.88 317 *e*P **P 17 15 53.2 -1.1**
BOD pmax pmax
comp=Z,23nm,1.0s,mb4.7
BOD pmax pmax
comp=Z,129nm,1.0s,mb5.4
ADK Adak 25.79 58 *e*P **P 17 16 02.7 0.0**
ADK pmax pmax
comp=Z,85nm,0.9s,mb5.3
ADK Adak 25.79 58 *e*P **P 17 16 02.7 0.0**
comp=Z,85nm,0.9s,mb5.3
HHC Hu-ho-hao-te 26.06 276⇑P **P 17 16 06.3 +1.1**
HHC AP pP 17 16 20.6 +1.6
HHC XP sP 17 16 28.2 +2.6
HHC PP 17 16 50.6
HHC PCP PcP 17 19 32.8 +1.1
HHC S **S 17 20 33.0 +0.6**
HHC XS sS 17 20 56.9 +1.1
HHC SS 17 21 43.8
HHC SCP ScP 17 23 05.5 -1.0
HHC PCS PcS 17 23 12.1 -0.4
HHC AMB AMB
comp=Z,119nm,1.2s,mb5.3
HHC AMB AMB
comp=Z,2μm,4.7s
HHC LR LR
comp=N,3μm,15.3s,MS5.2
HHC LR LR
comp=E,5μm,16.7s,MS5.2
HHC LR LR
comp=Z,5μm,16.3s,MS5.2
TIY Taiyuan 26.53 269 *e*P **P 17 16 14.6 +5.1**
TIY AP pP 17 16 25.5 +2.2
TIY S **S 17 20 43.7 +3.9**
TIY AMB AMB
comp=Z,3μm,5.0s
TIY LR LR
comp=E,5μm,22.4s
TIY LR LR
comp=Z,2μm,17.4s,MS4.8
BTO Baotou 27.25 277 *e*P **P 17 16 17.2 +1.2**
BTO AMB AMB
comp=Z,46nm,0.8s,mb5.1
TATO Taipei 27.70 236⇑P **P 17 16 23.9 +3.8**
SNR=6.5
TATO Taipei 27.70 236 *e*P **P 17 16 29.0 +8.9**
comp=Z,1μm,1.2s,mb6.4
ULN Ulaanbaatar 27.82 293⇓P **P 17 16 24.2 +3.2**
SNR=118
ULN Ulaanbaatar 27.82 293 *e*P **P 17 16 21.3 +0.3**
ULN pmax pmax
comp=Z,306nm,0.9s,mb5.9
ULN Ulaanbaatar 27.82 293 *e*P **P 17 16 21.3 +0.3**
comp=Z,306nm,0.9s,mb5.9
YHNB Yeheng 27.99 236 *e*P **P 17 16 23.2 +0.5**
comp=Z,183nm,1.0s,mb5.7
NACB Ninganchiao 28.23 235 P **P 17 16 22.1 -2.8**
comp=Z,74nm,1.0s,mb5.3
SONM Songino Array 28.27 293 P **P 17 16 25.8 +0.8**
comp=Z,245nm,0.9s,mb5.8,baz=86,slow=7.4,SNR=213
SONM LR LR 17 28 48.0
comp=Z,17μm,19.3s,MS5.7,baz=87,slow=39
SONM P3KP 17 49 48.1
comp=Z,0.5nm,0.8s,baz=197,slow=4.6,SNR=3.7
SONM Songino Array 28.27 293 P **P 17 16 25.8 +0.8**
SONM LR LR 17 28 48.0
WHN Wuhan 28.70 254⇑P **P 17 16 30.2 +1.2**
WHN AP pP 17 16 43.7 +0.8
WHN S **S 17 21 15.8 +1.7**
WHN AMB AMB
comp=Z,463nm,1.2s,mb6.1
WHN LR LR
comp=N,8μm,13.7s,MS5.7
WHN LR LR
comp=E,12μm,14.3s,MS5.7
WHN LR LR
comp=Z,15μm,19.2s,MS5.6
IRK Irkutsk 29.40 302 *e*P **P 17 16 36.6 +1.7**
IRK pmax pmax
comp=Z,75nm,1.6s,mb5.2
QZH Quanzhou 29.51 240⇑*i*P **P 17 16 38.4 +2.2**
QZH S **S 17 21 27.0 +0.1**
QZH AMB AMB
comp=Z,350nm,1.0s,mb6.0
QZH LR LR
comp=Z,6μm,15.3s,MS5.3
TIXI Tiksi 29.52 349 *e*P **P 17 16 35.6 -0.2**
TIXI *e*S **S 17 21 16.5 -10**
TIXI pmax pmax
comp=Z,11nm,1.1s,mb4.5
TIXI MLR MLR
comp=Z,4μm,16.0s,MS5.2
TIXI Tiksi 29.52 349 *e*P **P 17 16 35.9 +0.1**
TLY Talaya 29.79 301 *e*P **P 17 16 40.7 +2.3**
TLY *e*S **S 17 21 27.6 -3.2**
TLY *e*SS SS 17 23 21.8 -17
TLY pmax pmax
comp=Z,71nm,2.0s,mb5.0
TLY MLR MLR
comp=Z,7μm,15.0s,MS5.4
TLY Talaya 29.79 301⇓*e*P **P 17 16 40.9 +2.5**
GUMO Guam 29.86 184 LR LR 17 27 07.2
comp=Z,3μm,19.2s,MS4.9,baz=26,slow=33
ZAK Zakamensk 30.08 299 *e*P **P 17 16 41.5 +0.5**
ZAK *e* 17 17 41.8
ZAK pmax pmax
comp=Z,50nm,1.0s,mb5.2
XAN Xi'an 30.72 265 P **P 17 16 47.2 +0.4**
XAN AP pP 17 16 59.9 -0.8
XAN XP sP 17 17 07.9 +0.7
XAN PP PP 17 17 49.0 -7.8
XAN S **S 17 21 46.5 +0.8**
XAN XS sS 17 22 11.2 +2.0
XAN SS SS 17 23 33.5 -25
XAN AMB AMB
comp=Z,57nm,0.9s,mb5.4
XAN AMB AMB
comp=Z,243nm,4.7s
XAN LR LR
comp=N,827nm,16.3s,MS4.9
XAN LR LR
comp=E,2μm,16.3s,MS4.9
XAN LR LR
comp=Z,2μm,19.3s,MS4.8
MOY Mondy 31.44 301 *e*P **P 17 16 55.5 +2.5**
MOY *e* 17 18 15.2
MOY pmax pmax
comp=Z,33nm,1.7s,mb4.9
TNA Tin City 33.22 33 *e*P **P 17 17 08.9 +0.5**
LZH Lanzhou 33.46 272 *e*P **P 17 17 12.7 +1.9**
LZH AP pP 17 17 26.3 +1.5
LZH XP sP 17 17 34.7 +3.4
LZH PP PP 17 18 26.1 -1.1
LZH PCP PcP 17 19 53.3 +2.5
LZH S **S 17 22 27.3 -1.1**
LZH XS sS 17 22 53.3 +1.3
LZH SS SS 17 24 33.0 -21
LZH AMB AMB
comp=Z,290nm,1.2s,mb6.1
LZH AMB AMB
comp=Z,610nm,4.0s
LZH LR LR
comp=E,3μm,13.5s
LZH LR LR
comp=Z,5μm,16.8s,MS5.3
LZH Lanzhou 33.46 272 *e*P **P 17 17 12.7 +1.9**
LZH *PP pP 17 17 26.3 +1.5
LZH 17 19 53.3
LZH S **S 17 22 27.3 -1.1**
LZH SS SS 17 24 33.0 -21
LZH pmax pmax
comp=Z,290nm,1.2s,mb6.1
LZH MLR MLR
comp=Z,4μm,16.8s,MS5.3
LZH Lanzhou 33.46 272 *e*P **P 17 17 12.7 +1.9**
comp=Z,290nm,1.2s,mb6.1
LZH pP pP 17 17 26.3 +1.5
LZH sP sP 17 17 34.7 +3.4
LZH PcP PcP 17 19 53.3 +2.5
LZH S **S 17 22 27.3 -1.1**
LZH sS sS 17 22 53.3 +1.3
LZH SS SS 17 24 33.0 -21
LZH LR LR
comp=Z,4μm,16.8s,MS5.3
GZH Guangzhou 34.21 244 P **P 17 17 14.8 -2.6**
GZH S **S 17 22 34.5 -5.6**
GZH LR LR
comp=N,5μm,17.9s,MS5.4
GZH LR LR
comp=E,4μm,16.3s,MS5.4
GZH LR LR
comp=Z,6μm,17.6s,MS5.4
BALP Baler 34.99 225 *e*P **P 17 17 23.6 -0.6**
GTA Gaotai 35.02 280 P **P 17 17 25.0 +0.8**
GTA AP pP 17 17 40.1 +1.8
GTA XP sP 17 17 47.6 +2.8
GTA PCP PcP 17 19 56.8 +1.6
GTA S **S 17 22 53.2 +0.9**
GTA XS sS 17 23 18.4 +2.3
GTA SCP ScP 17 23 36.7 +0.8
GTA SS SS 17 25 09.5 -16
GTA SCS ScS 17 27 37.2 -2.5
GTA AMB AMB
comp=Z,31nm,2.0s,mb4.9
GTA AMB AMB
comp=Z,395nm,5.4s
GTA LR LR
comp=N,2μm,17.4s,MS5.3
GTA LR LR
comp=E,4μm,18.9s,MS5.3
GTA LR LR
comp=Z,5μm,18.0s,MS5.3
BOLP Bolinao 35.35 228 *e*P **P 17 17 22.4 -4.9**
PVCP Virac 35.56 220 *e*P **P 17 17 30.1 +1.0**
KRAR Krasnoyarsk 36.02 310 *i* P **P 17 17 33.3 +0.7**
KRAR pmax pmax
comp=Z,49nm,1.2s,mb5.3
KRAR MLR MLR
comp=Z,6μm,14.0s,MS5.5
CD2 Chengdu 36.06 264⇓*i*P **P 17 17 33.0 -0.3**
CD2 AP pP 17 17 47.8 +0.4
CD2 XP sP 17 17 55.2 +1.3
CD2 PP PP 17 18 56.0 0.0
CD2 PCP PcP 17 19 58.5 +0.1
CD2 S **S 17 23 06.5 -2.0**
CD2 XS sS 17 23 32.3 0.0
CD2 PCS PcS 17 23 44.9 -1.2
CD2 SS SS 17 25 31.7 -16
CD2 SCS ScS 17 27 42.4 -3.3
CD2 AMB AMB
comp=Z,500nm,0.7s,mb6.5
CD2 AMB AMB
comp=Z,840nm,4.5s
CD2 LR LR
comp=N,3μm,10.2s
CD2 LR LR
comp=E,3μm,15.6s
CD2 LR LR
comp=Z,2μm,19.8s
CNP Catarman 36.28 218 *e*P **P 17 17 34.6 -0.6**
AUQP San Andres 36.50 222 *e*P **P 17 17 39.6 +2.5**
GYA Guiyang 36.55 256⇑*i*P **P 17 17 37.4 -0.1**
GYA AP pP 17 17 52.2 +0.6
GYA XP sP 17 17 59.3 +1.2
GYA PCP PcP 17 20 01.8 +1.8
GYA S **S 17 23 12.1 -4.0**
GYA XS sS 17 23 37.3 -2.6
GYA SCS ScS 17 27 46.2 -2.3
GYA AMB AMB
comp=Z,100nm,0.8s,mb5.7
GYA AMB AMB
comp=Z,660nm,6.6s
GYA LR LR
comp=N,3μm,16.1s,MS5.3
GYA LR LR
comp=E,3μm,14.3s,MS5.3
GYA LR LR
comp=Z,3μm,15.8s,MS5.2
PLP Palo 37.33 217⇓*e*P **P 17 17 44.8 +0.6**
LUBP Lubang 37.37 226 *e*P **P 17 17 43.8 -0.7**
OCLP Ormoc 37.59 217 *e*P **P 17 17 47.4 +1.0**
OTRP Odiongan 37.64 222 *e*P **P 17 17 48.2 +1.4**
SVW2 Sparrevohn 37.95 42 *e*P **P 17 17 49.6 +0.6**
SJMP San Jose 38.00 223 *e*P **P 17 17 50.9 +1.0**
MSLP Maasin 38.30 216 *e*P **P 17 17 52.0 -0.3**

SCPH Surigao 38.35 215⇓ *e*P P **17 17 53.1 +0.4**
BUSP Coron 38.86 224 *e*P P **17 17 57.4 +0.4**
GUIM Jordan 38.88 220 *e*P P **17 17 57.4 +0.2**
BUTP Butuan 39.03 214 *e*P P **17 17 58.9 +0.5**
IMA2 Indian Mountai 39.05 34 *e*P P **17 17 57.8 -0.3**
QIZ Qiongzhong 39.38 243 P P **17 18 01.3 -0.1**
QIZ AP pP 17 18 13.6 -2.0
QIZ XP sP 17 18 19.4 -2.6
QIZ PP PP 17 19 31.4 -1.1
QIZ S **S** **17 23 58.9 0.0**
QIZ XS sS 17 24 22.0 -0.9
QIZ AMB AMB
comp=Z,38nm,1.2s,mb5.0
QIZ AMB AMB
comp=Z,436nm,10.3s
QIZ LR LR
comp=E,3µm,21.0s
QIZ LR LR
comp=Z,3µm,22.2s,MS5.1
QIZ Qiongzhong 39.38 243 *e*P P **17 18 03.2 +1.8**
comp=Z,50nm,1.1s,mb5.2
CUYO Cuyo Island 39.44 222 *e*P P **17 18 02.5 +0.6**
CHUM Lake Minchumin 39.51 37 *e*P P **17 18 02.8 +0.8**
comp=Z,174nm,0.9s,mb5.8
PPLA Purkeypile 39.56 39 *e*P P **17 18 03.4 +1.0**
comp=Z,476nm,1.6s,mb6.0
KDAK Kodiak Island 39.64 47 P P **17 18 02.0 -1.1**
comp=Z,1µm,0.7s,mb6.7,SNR=20
KDAK Kodiak Island 39.64 47 *e*P P **17 18 01.0 -2.1**
ENPP El Nido 39.93 224 *e*P P **17 18 07.4 +1.5**
BPAW Bear Paw Mtn. 40.10 37 *e*P P **17 18 07.0 +0.1**
comp=Z,92nm,1.0s,mb5.5
KTH Kantishna Hill 40.13 38 *e*P P **17 18 07.5 +0.4**
comp=Z,223nm,1.0s,mb5.8
KMI Kunming 40.15 257 P P **17 18 09.0 +1.2**
KMI PP PP 17 19 43.3 +2.4
KMI S **S** **17 24 08.6 -1.8**
KMI AMB AMB
comp=Z,106nm,0.9s,mb5.6
KMI AMB AMB
comp=Z,341nm,3.1s
KMI LR LR
comp=N,2µm,17.0s,MS5.3
KMI LR LR
comp=E,3µm,14.8s,MS5.3
KMI LR LR
comp=Z,3µm,17.0s,MS5.2
KMI Kunming 40.15 257 P P **17 18 09.0 +1.2**
KMI *SP sP 17 18 21.6 -6.8
KMI 17 19 43.3
KMI PPP 17 20 07.5
KMI S **S** **17 24 08.6 -1.8**
KMI *SS sS 17 24 22.9 -12
KMI pmax pmax
comp=Z,106nm,0.9s,mb5.6
KMI MLR MLR
comp=Z,3µm,17.0s,MS5.2
KMI Kunming 40.15 257 P P **17 18 09.0 +1.2**
comp=Z,106nm,0.9s,mb5.6
KMI pP pP 17 18 17.5 -4.5
KMI sP sP 17 18 21.6 -6.8
KMI PP PP 17 19 43.3 +2.4
KMI PPP 17 20 07.5
KMI S **S** **17 24 08.6 -1.8**
KMI sS sS 17 24 22.9 -12
KMI SS SS 17 26 54.1 -16
KMI SSS 17 27 29.9
KMI LR LR
comp=Z,3µm,17.0s,MS5.2
BUKP Musuan 40.24 214 *e*P P **17 18 08.7 +0.2**
TRF Thorofare Moun 40.42 38 *e*P P **17 18 09.3 -0.2**
comp=Z,92nm,1.1s,mb5.4
COLD Coldfoot 40.52 32 *e*P P **17 18 09.7 -0.6**
comp=Z,107nm,0.8s,mb5.5
SLKM Skilak Lake 40.60 43 *e*P P **17 18 09.6 -1.4**
MATI Mati 40.61 212 *e*P P **17 18 10.9 -0.7**
DAV Davao City (W) 40.77 213 LR LR 17 33 05.6
comp=Z,2µm,21.0s,MS5.0,baz=48,slow=33
RC01 Rabbit Creek A 40.79 42 *e*P P **17 18 11.8 -0.8**
comp=Z,112nm,0.9s,mb5.5
RC01 *e*PcP PcP 17 20 13.9 +1.3
ZALV Zalesovo Beam 40.88 307 P P **17 18 13.2 -0.2**
comp=Z,14nm,0.5s,mb4.8,baz=100,slow=7.8,SNR=27
ZALV PcP PcP 17 20 13.3 +0.2
comp=Z,51nm,0.7s,baz=82,slow=3.4,SNR=10.0
ZALV S **S** **17 24 14.4 -6.3**
comp=Z,1.4nm,0.6s,baz=238,slow=33,SNR=3.8
ZALV LR LR 17 38 01.4
comp=Z,982nm,18.1s,MS4.7,baz=82,slow=40
ZALV Zalesovo Beam 40.88 307 P P **17 18 13.2 -0.2**
ZALV 17 20 13.3
ZALV S **S** **17 24 14.4 -6.3**
ZALV Zalesovo Beam 40.88 307 P P **17 18 13.2 -0.2**
ZALV PcP PcP 17 20 13.3 +0.2
ZALV S **S** **17 24 14.4 -6.3**
ZALV LR LR 17 38 01.4
MCK McKinley 41.02 38 *e*P P **17 18 13.7 -0.7**
MCK *e* 17 20 13.3
MCK pmax pmax
comp=Z,101nm,1.0s,mb5.4
MCK McKinley 41.02 38 *e*P P **17 18 13.7 -0.7**
comp=Z,100nm,1.0s,mb5.4
MCK *e*PcP PcP 17 20 13.3 0.0
SEW Seward 41.02 43 *e*P P **17 18 12.7 -1.8**
comp=Z,79nm,0.9s,mb5.3
PMR Palmer 41.04 41 *e*P P **17 18 15.0 +0.3**
PMR pmax pmax
comp=Z,86nm,1.4s,mb5.2
PMR MLR MLR
comp=Z,3µm,20.0s,MS5.2
PMR Palmer 41.04 41 *e*P P **17 18 15.0 +0.3**
comp=Z,86nm,1.4s,mb5.2
PMR LR LR
comp=Z,3µm,20.0s,MS5.2
COLA College 41.45 36*c i*P P **17 18 17.9 0.0**
COLA College 41.45 36 *e*P P **17 18 18.0 0.0**
comp=Z,189nm,0.8s,mb5.8
NVS Novosibirsk 41.62 309 *e*P P **17 18 18.0 -1.4**
NVS *e* 17 20 15.4
NVS pmax pmax
comp=E,68nm,1.6s
NVS pmax pmax
comp=Z,78nm,1.6s,mb5.1
WMQ Urumqi 41.88 292⇑ *i*P P **17 18 24.2 +2.4**
WMQ AP pP 17 18 38.1 +2.0
WMQ XP sP 17 18 44.3 +1.8
WMQ PP PP 17 20 05.2 +5.9
WMQ PCP PcP 17 20 19.2 +2.7
WMQ SCP ScP 17 24 03.7 +1.7
WMQ PCS PcS 17 24 09.2 +1.2
WMQ S **S** **17 24 39.2 +3.5**
WMQ XS sS 17 25 02.2 +2.3
WMQ SCS ScS 17 28 19.4 +0.3
WMQ AMB AMB
comp=Z,348nm,1.0s,mb5.9
WMQ AMB AMB
comp=Z,182nm,8.5s
WMQ LR LR
comp=N,3µm,21.8s,MS5.6
WMQ LR LR
comp=E,7µm,19.3s,MS5.6
WMQ LR LR
comp=Z,9µm,18.3s,MS5.7
EYAK Cordova Ski Ar 42.79 42 *e*P P **17 18 28.1 -0.8**
comp=Z,82nm,1.1s,mb5.4
BATP Bataraza 42.80 225 *e*P P **17 18 31.1 +1.6**
MK31 Makanchi Array 44.41 298 *i*P P **17 18 41.8 -0.3**
MK31 pmax pmax
comp=Z,259nm,0.9s,mb6.0
MK31 Makanchi Array 44.41 298 *e*P P **17 18 41.6 -0.5**
MKAR Makanchi Array 44.41 298 P P **17 18 41.9 -0.3**
comp=Z,96nm,0.7s,mb5.7,baz=79,slow=8.5,SNR=324
MKAR LR LR 17 38 30.5
comp=Z,4µm,20.8s,MS5.3,baz=72,slow=38
KDM Kudat 44.90 224 ⇓P P **17 18 45.8 -0.5**
DAWY Dawson 45.18 37 *e*P P **17 18 47.7 -0.3**
UBT Ubonrachathani 45.28 245 ⇑P P **17 18 51.5 +2.2**
comp=Z,278nm,0.5s,mb6.3
KURK Kurchatov 45.40 304 P P **17 18 48.8 -1.1**
comp=Z,78nm,0.7s,mb5.7,baz=72,slow=8.6,SNR=161
KURK PcP PcP 17 20 29.8 +1.5
comp=Z,44nm,0.8s,baz=69,slow=3.8,SNR=4.9
KURK LR LR 17 39 20.0
comp=Z,3µm,19.1s,MS5.3,baz=80,slow=38
KURK Kurchatov 45.40 304*d i*P P **17 18 49.3 -0.6**
KURK pmax pmax
comp=Z,49nm,0.6s,mb5.5
KURK MLR MLR
comp=Z,5µm,21.0s,MS5.4
KURK Kurchatov 45.40 304 *e*P P **17 18 48.3 -1.6**
comp=Z,57nm,0.6s,mb5.6
MYLDM Lahad Datu 45.57 221 ⇑P P **17 18 53.8 +2.2**
CHRT Chiangrai 45.62 254 P P **17 18 54.0 +2.0**
comp=Z,540nm,0.8s,mb6.5
NANT Nan 45.70 252 ⇑P P **17 18 51.0 -1.7**
comp=Z,1µm,1.0s,mb6.7
SDKM Sandakan 45.81 223 ⇓P P **17 18 54.5 +1.0**
LSA Lhasa 45.88 272 P P **17 18 56.1 +2.1**
LSA AP pP 17 19 11.6 +3.1
LSA XP sP 17 19 19.7 +4.9
LSA PP PP 17 20 39.8 -2.4
LSA AMB AMB
comp=Z,130nm,0.8s,mb5.9
LSA AMB AMB
comp=Z,320nm,9.0s
LSA LR LR
comp=N,650nm,23.0s,MS5.1
LSA LR LR
comp=E,2µm,18.0s,MS5.1
LSA LR LR
comp=Z,2µm,20.0s,MS5.1
LSA Lhasa 45.88 272 *e*P P **17 18 56.3 +2.3**
LSA pmax pmax
comp=Z,118nm,0.9s,mb5.8
LSA Lhasa 45.88 272 *e*P P **17 18 56.3 +2.3**
comp=Z,118nm,0.9s,mb5.8
KKTK Khon Kaen 45.95 248 P P **17 18 56.0 +1.3**
comp=Z,2µm,0.6s,mb7.1
KKM Kota Kinabalu 45.96 225 ⇓P P **17 18 56.5 +1.8**
KKM Kota Kinabalu 45.96 225 *e*P P **17 18 56.1 +1.4**
comp=Z,38nm,0.9s,mb5.3
MNI Manado 46.20 211 P P **17 18 58.0 +1.4**
TSM Tawau 46.64 221 ⇓P P **17 19 01.7 +1.6**
IMP Imphal 46.68 264 *e*P P **17 19 02.0 +1.7**
IMP *ex* x 17 26 08.0
CHG Chiang Mai 46.91 254 ⇑P P **17 19 03.4 +1.2**
comp=Z,99nm,0.9s,mb5.7
CHTO Chiang Mai 46.91 254 ⇑P P **17 19 05.0 +2.8**
SNR=23
CHTO Chiang Mai 46.91 254 *e*P P **17 19 02.9 +0.7**
CHTO pmax pmax
comp=Z,139nm,1.2s,mb5.8
CHTO Chiang Mai 46.91 254 *e*P P **17 19 02.9 +0.7**
comp=Z,138nm,1.2s,mb5.8
CMAR Chiang Mai Arr 47.15 253 P P **17 19 05.1 +1.0**
comp=Z,19nm,0.7s,mb5.1,baz=42,slow=7.3,SNR=160
CMAR PcP PcP 17 20 37.4 +2.4
comp=Z,16nm,0.9s,baz=18,slow=4.3,SNR=5.0
CMAR LR LR 17 41 19.1
comp=Z,2µm,18.4s,MS5.1,baz=51,slow=39
CMAR Chiang Mai Arr 47.15 253 *i*P P **17 19 05.0 +0.9**
CMAR pmax pmax
comp=Z,19nm,0.7s
SHL Shillong 47.70 267⇑ *i*P P **17 19 10.0 +1.7**
comp=Z,4.0nm,0.7s,mb4.6
SHL *ex* x 17 26 09.0
BDT Bhumibol Dam 47.94 252 ⇑P P **17 19 12.0 +1.9**
comp=Z,16nm,1.0s,mb5.0
TARA Tarawa 48.04 144 P P **17 19 13.5 +2.6**
SKAG Skagway 48.13 42 *e*P P **17 19 13.3 +2.1**
comp=Z,45nm,0.9s,mb5.5
SKAG LR LR
comp=Z,4µm,19.0s,MS5.4
VOSK Vostochnaya 49.18 309 P P **17 19 18.7 -0.6**
VOSK pmax pmax
comp=Z,74nm,1.2s,mb5.6
BVA0 Borovoye Array 49.40 309 *i*P P **17 19 20.8 -0.2**
BVA0 pmax pmax
comp=Z,16nm,1.4s,mb4.9
BVAR Borovoye Array 49.40 309 P P **17 19 21.0 0.0**
comp=Z,10nm,0.5s,mb5.2,baz=81,slow=11,SNR=54
BVAR PcP PcP 17 20 43.6 +1.1
comp=Z,33nm,0.8s,baz=66,slow=3.7,SNR=7.0
BVAR LR LR 17 42 03.1
comp=Z,6µm,18.4s,MS5.7,baz=74,slow=38
BVAR Borovoye Array 49.40 309 P P **17 19 21.0 0.0**
BVAR 17 20 43.6
BRVK Borovoye 49.45 309 P P **17 19 22.0 +0.7**
comp=Z,255nm,0.9s,mb6.2,SNR=14
BRVK Borovoye 49.45 309 P P **17 19 22.2 +0.9**
SNR=30
BRVK Borovoye 49.45 309 *e*P P **17 19 21.2 -0.1**
BRVK pmax pmax
comp=Z,252nm,1.5s,mb6.0
BRVK Borovoye 49.45 309 *e*P P **17 19 21.2 -0.1**
comp=Z,161nm,1.5s,mb5.8
TAPN Taejung 49.70 271 *e*P P **17 19 24.4 +0.8**
comp=Z,273nm,0.8s,mb6.3
AAI Ambon 49.86 204 P P **17 19 25.0 +0.1**
BTM Bintulu 49.99 226 ⇓P P **17 19 27.4 +1.5**
ODAN Odare 50.21 271 *e*P P **17 19 28.7 +1.2**
comp=Z,310nm,1.1s,mb6.3
TKM2 Tokmak 2 50.32 295 *e*P P **17 19 28.6 +0.5**
TKM2 pmax pmax
comp=Z,374nm,1.2s,mb6.3
TKM2 Tokmak 2 50.32 295 P P **17 19 28.5 +0.5**
SNR=240
TKM2 Tokmak 2 50.32 295 *e*P P **17 19 28.6 +0.5**
comp=Z,374nm,1.2s,mb6.3
PCI Palu 50.35 216 P P **17 19 28.4 -0.2**
CRAG Craig 50.60 47 *e*P P **17 19 29.1 -0.9**
JIRN Jiri 50.62 273 *e*P P **17 19 32.0 +1.4**
comp=Z,397nm,0.7s,mb6.4
WRAK Wrangell Islan 50.65 45 *e*P P **17 19 31.6 +1.2**
comp=Z,47nm,0.9s,mb5.4
GUN Gumba 50.71 273 *e*P P **17 19 32.2 +1.0**
comp=Z,820nm,0.7s,mb6.8
NNT Nongplab 50.71 247 ⇑P P **17 19 34.0 +2.6**
comp=Z,616nm,1.0s,mb6.5
RAMN Ramite 50.73 272 *e*P P **17 19 31.8 +0.4**
comp=Z,748nm,0.7s,mb6.7
CHMS Chumysh 50.84 296 P P **17 19 33.4 +1.4**
SNR=20
KBK Karagaybulak 50.86 295 P P **17 19 32.8 +0.6**
SNR=178
USP Ospenovka 50.88 296 P P **17 19 32.6 +0.3**
SNR=108
SHBG Sahibganj 50.97 269 *ex* x 17 19 20.0
FRU Bishkek 51.00 296 *e*P P **17 19 34.0 +0.8**
FRU *i* pP 17 19 48.0 +0.1
FRU MLR MLR
comp=Z,4µm,16.0s,MS5.5
DLBC Dease Lake 51.07 42 *e*P P **17 19 34.6 +1.1**
SBUM Sibu 51.08 227 ⇑P P **17 19 34.9 +0.8**
AAK Ala-Archa 51.17 296 P P **17 19 34.8 +0.3**
SNR=54
KKN Kakani 51.21 273 *e*P P **17 19 36.8 +1.8**
comp=Z,472nm,0.9s,mb6.4
PKI Pulchoki 51.24 273 *e*P P **17 19 36.3 +1.1**
PKIN Phulchoki 51.25 273 *e*P P **17 19 36.8 +1.5**
comp=Z,505nm,1.2s,mb6.3
UCH Uchtor 51.34 295 P P **17 19 37.1 +1.3**
SNR=28
UCH Uchtor 51.34 295 *e*P P **17 19 37.0 +1.2**
comp=Z,59nm,1.0s,mb5.5
DMN Daman 51.44 273 *e*P P **17 19 37.7 +1.0**
comp=Z,468nm,0.8s,mb6.5
GKN Gorkha 51.56 274 *e*P P **17 19 37.9 +0.3**
comp=Z,219nm,0.6s,mb6.3
EKS2 Erkin-Say 51.63 296 P P **17 19 38.4 +0.5**
SNR=53
EKS2 Erkin-Say 51.63 296 *e*P P **17 19 38.2 +0.3**
comp=Z,90nm,0.8s,mb5.8
KSH Kashi 51.65 291 *e*P P **17 19 35.9 -2.2**
KSH *e*AP pP 17 19 51.7 -1.1
KSH *e*XP sP 17 19 58.7 -0.4
KSH *e*PP PP 17 21 34.2 -1.6
KSH *e*SCP ScP 17 24 40.3 -2.6
KSH *e*PCS PcS 17 24 47.1 -1.9
KSH *e*S **S** **17 26 48.3 -6.9**
KSH *e*SCS ScS 17 29 17.8 -5.4
KSH AMB AMB
comp=Z,3µm,3.8s
KSH LR LR
comp=N,7µm,11.8s
KSH LR LR
comp=E,3µm,6.0s
KSH LR LR
comp=Z,16µm,22.7s
AML Almayashu 51.93 295 P P **17 19 41.2 +1.0**
SNR=114
AML Almayashu 51.93 295 *e*P P **17 19 41.0 +0.9**
comp=Z,95nm,0.9s,mb5.7
DANN Dangsing 52.00 275 *e*P P **17 19 42.8 +2.0**
comp=Z,1µm,0.7s,mb6.9
CAL Calcutta 52.11 266 *ex* x 17 27 06.8
KOLN Koldanda 52.44 274 *e*P P **17 19 45.0 +0.8**
comp=Z,271nm,0.8s,mb6.2
PMG Port Moresby 52.67 179 *e*P P **17 19 44.4 -1.4**
PMG pmax pmax
comp=Z,43nm,1.0s
PMG Port Moresby 52.67 179 *e*P P **17 19 44.4 -1.4**
comp=Z,44nm,1.0s,mb5.3
KSM Kuching 52.92 228 ⇑P P **17 19 49.2 +1.4**
KSM Kuching 52.92 228 *e*P P **17 19 48.4 +0.6**
comp=Z,183nm,1.0s,mb6.0
SVE Sverdlovsk 53.09 317 *e*P P **17 19 48.0 -0.5**
SVE *e*S **S** **17 27 11.7 -2.7**
SVE *e* 17 29 27.5
SVE pmax pmax
comp=Z,88nm,1.2s,mb5.6
SVE MLR MLR
comp=Z,7µm,16.0s,MS5.8
ALE Alert 53.37 5 P P **17 19 48.0 -2.3**
comp=Z,191nm,1.1s,mb5.9,SNR=6.9
KK31 Karatay Array 53.54 298 P P **17 19 51.7 -0.3**
KK31 pmax pmax
comp=Z,101nm,0.7s,mb5.9
KK31 Karatay Array 53.54 298 *i*P P **17 19 51.7 -0.3**
PTH Pithoragarh 53.88 278 *ex* x 17 19 37.9
PTH *ex* x 17 27 22.9
KTGM Kuala Trenggan 53.98 238 ⇑P P **17 19 58.4 +2.8**
HNR Honiara 54.05 164 LR LR 17 40 09.3
comp=Z,3µm,20.7s,MS5.4,baz=321,slow=33
HNR Honiara 54.05 164 *e*P P **17 19 53.0 -3.0**
HNR pmax pmax
comp=Z,145nm,1.0s,mb5.9
HNR Honiara 54.05 164 *e*P P **17 19 53.0 -3.0**
comp=Z,145nm,1.0s,mb5.9
KAPI Kappang 54.10 214 P P **17 19 55.3 -1.0**
comp=Z,328nm,0.7s,mb6.4,SNR=10.0
KAPI Kappang 54.10 214 ⇑P P **17 19 57.1 +0.7**
SNR=8.5
KAPI Kappang 54.10 214 LR LR 17 41 20.4
comp=Z,401nm,22.0s,MS4.4,baz=21,slow=34
KAPI Kappang 54.10 214 *e*P P **17 19 55.3 -1.0**
comp=Z,84nm,0.8s,mb5.7
ARU Arti 54.30 317 P P **17 19 57.1 -0.2**
comp=Z,268nm,0.7s,mb6.3,SNR=14
ARU Arti 54.30 317*c i*P P **17 19 56.6 -0.7**
ARU *e**PP pP 17 20 09.8 -2.3
ARU *e* 17 20 55.3
ARU *e* 17 22 02.4
ARU *e*PPP 17 23 07.8
ARU *e*S **S** **17 27 32.5 +1.8**
ARU *e* 17 29 39.3
ARU SS SS 17 31 15.3 +2.6
ARU *e*SSS 17 33 11.6
ARU pmax pmax
comp=Z,27nm,0.7s,mb5.3
ARU MLR MLR
comp=Z,7µm,18.0s,MS5.8
ARU Arti 54.30 317 *e*P P **17 19 55.8 -1.5**
comp=Z,52nm,0.9s,mb5.5
KBS Kingsbay 54.96 350 *e*P P **17 20 02.7 +0.8**
KBS *e*S **S** **17 27 37.9 -1.3**
KBS AMS AMS 17 48 42.6
comp=Z,2µm,18.9s,MS5.2
DDI Dehra Dun 54.99 281 *ex* x 17 27 39.0
SDNR Sundarnagar 55.11 282 *e*P P **17 20 05.0 +1.4**
SDNR *ex* x 17 27 41.6
SMLA Simla 55.18 282 *i*P P **17 20 03.9 -0.2**
SMLA *ex* x 17 20 05.9
comp=Z,1µm,0.5s
SMLA *i* x x 17 27 40.2
THN Thein Dam 55.49 284 *e*P P **17 20 05.0 -1.3**
BHK Bhakra 55.55 283 *ex* x 17 20 22.6
KULM Kulim 55.56 240 ⇑P P **17 20 09.1 +2.0**
IPM Ipoh 55.95 239 ⇓P P **17 20 11.6 +1.9**
YKA Yellowknife Ar 56.17 34 P P **17 20 10.2 -0.5**
comp=Z,57nm,0.8s,mb5.7,baz=300,slow=6.8,SNR=32
YKA LR LR 17 48 12.2
comp=Z,662nm,19.8s,MS4.7,baz=140,slow=40
YKA Yellowknife Ar 56.17 34 *i*P P **17 20 10.1 -0.7**
YKA pmax pmax
comp=Z,57nm,0.8s
YKA Yellowknife Ar 56.17 34 P P **17 20 10.2 -0.5**
YKA LR LR 17 48 12.2
MYKOM Kota Tinggi 56.34 235 ⇑P P **17 20 14.7 +2.2**
KGM Kluang 56.47 235 ⇓P P **17 20 16.3 +2.8**
NDI New Delhi 56.53 279 *e*P P **17 20 14.0 +0.2**
NDI *ex* x 17 28 00.0
FRIM Kepong 56.54 238 ⇑P P **17 20 16.2 +2.2**
AB31 Akbulak array 56.96 309 *e*P P **17 20 16.2 -0.3**
AB31 pmax pmax
comp=Z,33nm,0.4s,mb5.7
AB31 Akbulak array 56.96 309 *i*P P **17 20 16.2 -0.3**
COEN Coen 57.28 184 *e*P P **17 20 18.4 -0.7**
comp=Z,150nm,1.0s,mb6.0
BATI Baumata 57.44 207 P P **17 20 19.8 -0.4**
comp=Z,29nm,0.5s,mb5.5,baz=15,slow=0.8,SNR=15
BATI LR LR 17 45 48.5
comp=Z,676nm,18.9s,MS4.8,baz=195,slow=37
BATI PKP2bc 17 50 25.2
comp=Z,9.2nm,0.9s,baz=285,slow=3.9,SNR=3.7
AKTK Aktyubinsk 57.45 311 P P **17 20 19.4 -0.6**
AKTK PcP PcP 17 21 13.8 +0.7
AKTK LR LR 17 47 02.9
AKTO Aktyubinsk 57.45 311 P P **17 20 19.4 -0.6**
comp=Z,16nm,0.6s,mb5.2,baz=71,slow=8.7,SNR=27
AKTO PcP PcP 17 21 13.8 +0.7
comp=Z,37nm,0.7s,baz=21,slow=6.6,SNR=5.2
AKTO LR LR 17 47 02.8
comp=Z,4µm,19.6s,MS5.5,baz=240,slow=38
AKTO Aktyubinsk 57.45 311 P P **17 20 20.1 +0.1**
AKTO pmax pmax
comp=Z,13nm,1.1s,mb4.9
KAKA Kakadu 57.45 197⇑ *i*P P **17 20 18.7 -1.6**
comp=Z,121nm,0.8s,mb6.0
JBP Jabalpur 57.80 272 *e*P P **17 20 23.8 +1.0**
JBP *e*S **S** **17 28 17.5 -0.5**
APA Apatity 58.46 336⇑ *i*P P **17 20 26.3 -0.5**
APA *e*S **S** **17 28 25.0 -0.5**
APA pmax pmax
comp=Z,29nm,1.0s,mb5.3
APA MLR MLR
comp=Z,3µm,20.0s,MS5.4
VIS Vishakhapatnam 58.78 265 *e*P P **17 20 30.8 +1.1**
VIS AMb AMB 17 20 31.8
comp=Z,91nm,0.7s,mb5.9
KEV Kevo 58.82 339 *e*p P **17 20 28.4 -0.9**
comp=Z,26nm,0.7s,mb5.4
KEV Kevo 58.82 339 *e*P P **17 20 28.4 -0.9**
KEV pmax pmax
comp=Z,26nm,0.7s,mb5.4
KBL Kabul 58.97 290 *e*P P **17 20 29.9 -0.9**
KBL pmax pmax
comp=Z,168nm,1.0s,mb6.0
KBL Kabul 58.97 290 *e*P P **17 20 29.9 -1.0**
comp=Z,168nm,1.0s,mb6.0
B04A Port Angeles 59.30 51 ⇓P P **17 20 32.7 -0.2**
baz=59,SNR=5.2
ARCES ARCESS Array B 59.35 340 P P **17 20 31.6 -1.4**
comp=Z,20nm,0.8s,mb5.2,baz=43,slow=6.8,SNR=35
ARCES PcP PcP 17 21 21.1 +0.7
comp=Z,22nm,0.8s,baz=28,slow=5.5,SNR=7.9
ARCES LR LR 17 51 55.8
comp=Z,3µm,18.1s,MS5.4,baz=38,slow=42
ARCES ARCESS Array B 59.35 340 P P **17 20 31.6 -1.4**
ARCES 17 21 21.1
A04A Legoe Bay, Lum 59.39 50 ⇓P P **17 20 33.2 -0.3**
baz=59,SNR=6.3
NLWA Neilton Lookou 59.44 52 ⇓P P **17 20 34.0 +0.1**
baz=59,SNR=7.0
NLWA Neilton Lookou 59.44 52 *e*P P **17 20 34.0 +0.1**
comp=Z,56nm,0.9s,mb5.6
A05A Maple Falls 59.59 50 ⇓P P **17 20 34.4 -0.5**
baz=59,SNR=9.6
DAG Danmarks Havn 59.63 356⇑ *e*P P **17 20 33.6 -1.2**
DAG pmax pmax
comp=Z,16nm,0.7s,mb5.2
DAG Danmarks Havn 59.63 356⇑ *i*P P **17 20 33.6 -1.2**
comp=Z,16nm,0.7s,mb5.2
DAG Danmarks Havn 59.63 356⇑ *e*P P **17 20 33.6 -1.2**
comp=Z,16nm,0.7s,mb5.2
D03A Wishkah Elem. 59.65 52 ⇑P P **17 20 35.7 +0.4**

baz=60
AJM Ajmer 59.66 279 *e*P **P 17 20 36.2 +0.4**
AJM AMb AMB 17 20 38.4
comp=Z,122nm,1.1s,mb5.8
NGP Nagpur 59.72 271⇑ *i*P **P 17 20 34.2 -2.0**
NGP *ex* x 17 20 35.4
comp=Z,154nm,0.9s
NGP *ex* x 17 28 38.0
C04A Brinnon 59.78 51⇑P **P 17 20 36.2 -0.1**
baz=60
MBW Mount Baker 59.81 50 P **P 17 20 36.2 -0.2**
A06A Chilliwack 59.87 49⇑P **P 17 20 36.3 -0.5**
baz=60
CMW Cultus Mountai 59.88 50 P **P 17 20 37.1 +0.2**
B05A Bryant 59.98 50⇓P **P 17 20 37.2 -0.4**
baz=60,SNR=7.0
E03A Lebam 60.08 53⇑P **P 17 20 38.1 -0.1**
baz=60,SNR=5.5
JCW Jim Creek 60.11 50 *e*P **P 17 20 37.9 -0.6**
B06A Marblemount 60.18 50⇓P **P 17 20 38.5 -0.4**
baz=60,SNR=7.4
RPW Rockport 60.20 50 *e*P **P 17 20 38.6 -0.5**
comp=Z,27nm,1.1s,mb5.2
D04A Dobbs Creek Ra 60.20 52⇓P **P 17 20 39.9 +0.8**
baz=60
BMW Boistfort Moun 60.31 53 *e*P **P 17 20 39.7 -0.2**
F03A Seaside 60.41 53⇓P **P 17 20 41.4 +0.8**
baz=60
KLMR Klimovskoe 60.46 327 *i* P **P 17 20 38.9 -1.8**
KLMR pmax pmax
comp=Z,32nm,0.8s,mb5.4
A07A Ashnola River, 60.50 49⇓P **P 17 20 40.7 -0.4**
baz=60,SNR=25
C05A Tolt Reservoir 60.52 51⇑P **P 17 20 40.7 -0.6**
baz=60,SNR=5.8
E04A Onalaska 60.54 52⇓P **P 17 20 42.0 +0.6**
baz=60
D05A Enumclaw 60.63 51⇑P **P 17 20 42.8 +0.7**
baz=60
C06A Tall Timber Ra 60.84 50⇓P **P 17 20 43.8 +0.4**
baz=61
TRO Tromso 60.88 342⇑ *i*P **P 17 20 40.7 -2.7**
TRO *e*S **S 17 28 57.2 +0.7**
TRO AMS AMS 17 50 42.2
comp=Z,3μm,21.2s,MS5.3
TRO Tromso 60.88 342 *e*P **P 17 20 40.7 -2.7**
TRO LR LR
comp=Z,3μm,21.2s,MS5.3
G03A Yamhill 60.92 54⇑P **P 17 20 44.2 +0.2**
baz=61
B07A Winthrop 60.97 49⇑P **P 17 20 44.4 0.0**
baz=61,SNR=25
F04A Amboy 61.08 53⇑P **P 17 20 45.0 -0.1**
baz=61,SNR=16
E05A Randle 61.11 52⇑P **P 17 20 44.9 -0.4**
baz=61,SNR=12
A08A Turner Farm, O 61.16 49⇓P **P 17 20 45.1 -0.5**
baz=61,SNR=38
H03A Soap Creek Ran 61.26 54⇓P **P 17 20 47.5 +1.1**
baz=61
D06A Cle Elum 61.27 51⇑P **P 17 20 46.3 -0.2**
baz=61,SNR=5.7
I02A Mapleton 61.32 55⇑P **P 17 20 47.7 +1.0**
baz=61
ETW Entiat 61.33 50 *e*P **P 17 20 46.5 -0.3**
comp=Z,73nm,1.0s,mb5.8
TBM Table Mountain 61.43 51 P **P 17 20 47.4 0.0**
C07A Waterville 61.44 50⇓P **P 17 20 46.9 -0.6**
baz=61,SNR=17
G04A Mulino 61.45 54⇓P **P 17 20 48.4 +0.8**
baz=61
B08A Colville Reser 61.46 49⇑P **P 17 20 47.2 -0.5**
baz=61,SNR=26
AKL Akola 61.48 272 *e*P **P 17 20 48.9 +0.8**
AKL AMb AMB 17 20 50.4
comp=Z,137nm,0.7s,mb6.2
A09A Danville 61.52 48⇓P **P 17 20 47.8 -0.3**
baz=61,SNR=62
E06A Yakima 61.56 52⇑P **P 17 20 48.4 +0.1**
baz=61,SNR=16
K01A Sixes 61.60 57⇑P **P 17 20 49.2 +0.5**
baz=61
F05A White Salmon 61.66 52⇓P **P 17 20 49.2 +0.2**
baz=62,SNR=12
I03A Eugene 61.67 55⇑P **P 17 20 49.5 +0.3**
baz=62
D07A Quincy 61.77 51⇑P **P 17 20 49.2 -0.5**
baz=62,SNR=6.3
EDM Edmonton 61.79 42 *e*P **P 17 20 49.6 -0.2**
J02A Umpqua 61.83 56⇑P **P 17 20 50.5 +0.3**
baz=62,SNR=9.1
EPH Ephrata 61.89 50 P **P 17 20 50.1 -0.4**
H04A Detroit Lake 61.91 54⇓P **P 17 20 50.6 -0.2**
baz=62,SNR=13
C08A Higginbotham F 61.95 50⇓P **P 17 20 50.4 -0.5**
baz=62,SNR=25
VFP Flag Point 61.98 53 P **P 17 20 51.6 +0.4**
A10A Northport 62.08 48⇑P **P 17 20 51.5 -0.3**
baz=62,SNR=48
B09A Rice 62.08 49⇑P **P 17 20 51.4 -0.4**
baz=62,SNR=19
F06A Goldendale 62.12 52⇓P **P 17 20 52.4 +0.3**
baz=62,SNR=11
JOF Joensuu 62.15 332 *ep* **P 17 20 51.1 -0.9**
comp=Z,26nm,0.7s,mb5.5
JOF Joensuu 62.15 332 *e*P **P 17 20 51.1 -0.9**
JOF pmax pmax
comp=Z,26nm,0.7s,mb5.5
E07A Sunnyside 62.19 51⇓P **P 17 20 52.4 -0.2**
baz=62,SNR=21
K02A Glendale 62.22 56⇓P **P 17 20 53.2 +0.4**
baz=62
I04A Tendick Farm, 62.28 55⇓P **P 17 20 53.3 +0.1**
baz=62,SNR=14
OD2 Odessa Site #2 62.36 50 *e*P **P 17 20 53.0 -0.7**
comp=Z,71nm,1.0s,mb5.8
C09A Chrisman Ranch 62.37 49⇑P **P 17 20 53.8 +0.1**
baz=62,SNR=14
D08A Wollman Farm, 62.43 50⇑P **P 17 20 53.9 -0.3**
baz=62,SNR=15
RSW Rattlesnake Hi 62.44 51 *e*P **P 17 20 54.4 +0.2**
comp=Z,67nm,1.0s,mb5.7
HYB Hyderabad 62.45 268 *e*P **P 17 20 55.0 +0.3**
HYB *e* pP 17 21 07.0 -2.8
HYB *e*S **S 17 29 16.0 -1.8**
HYB pmax pmax
comp=Z,170nm,1.0s,mb6.1
HYB Hyderabad 62.45 268 *i* P **P 17 20 55.0 +0.3**
comp=Z,170nm,1.0s,mb6.1
HYB *e*pP pP 17 21 07.0 -2.8
HYB *e*S **S 17 29 16.0 -1.8**
HYB Hyderabad 62.45 268 *e*P **P 17 20 55.0 +0.3**
comp=Z,170nm,1.0s,mb6.1
HYB *e* pP 17 21 07.0 -2.8
HYB *e*S **S 17 29 16.0 -1.8**
WRD Warden 62.45 51 P **P 17 20 53.8 -0.5**
HAWA Hanford 62.47 51 *e*P **P 17 20 54.5 0.0**
comp=Z,49nm,1.1s,mb5.5
H05A Madras 62.50 54⇓P **P 17 20 54.7 +0.1**
baz=62,SNR=8.4
L02A Cave Junction 62.50 57⇓P **P 17 20 55.3 +0.6**
baz=62,SNR=5.7
G06A Carlson Farm, 62.50 53⇑P **P 17 20 54.7 0.0**
baz=62,SNR=14
F07A Phinny Hill Vi 62.53 52⇓P **P 17 20 55.2 +0.4**
baz=62,SNR=9.8
HUMO Hull Mountain 62.64 56⇑P **P 17 20 56.1 +0.5**
baz=62,SNR=5.8
HUMO Hull Mountain 62.64 56 *e*P **P 17 20 55.9 +0.2**
comp=Z,28nm,1.2s,mb5.3
B10A Chitwood Farm, 62.65 48⇓P **P 17 20 55.4 -0.2**
baz=62
E08A Dider Farm, El 62.68 51⇑P **P 17 20 55.6 -0.2**
baz=62,SNR=8.3
NEW Newport 62.73 48 *e*P **P 17 20 55.9 -0.2**
NEW pmax pmax
comp=Z,78nm,1.0s
NEW Newport 62.73 48 *e*P **P 17 20 55.9 -0.3**
comp=Z,78nm,1.0s,mb5.8
A11A Hall Mountain, 62.73 47⇓P **P 17 20 56.2 0.0**
baz=63,SNR=37
I05A Bend 62.75 54⇑P **P 17 20 56.6 +0.2**
baz=63
D09A Jones Farm, Ri 62.77 50⇓P **P 17 20 56.1 -0.3**
baz=63,SNR=19
J04A Umpqua Nationa 62.78 55⇑P **P 17 20 57.4 +0.8**
baz=63,SNR=11
C10A Spilker Farm, 62.88 49⇓P **P 17 20 56.8 -0.4**
baz=63
H06A Lindquist Farm 62.97 53⇑P **P 17 20 57.8 0.0**
baz=63,SNR=13
JCC Jacoby Creek 63.01 58⇓P **P 17 20 59.3 +1.1**
baz=63
B11A Sandpoint 63.04 48⇑P **P 17 20 58.1 0.0**
baz=63,SNR=31
G07A Ruggs Ranch, H 63.04 52⇓P **P 17 20 58.0 -0.3**
baz=63,SNR=11
A12A Yaak River Ran 63.13 47⇑P **P 17 20 58.5 -0.2**
baz=63,SNR=8.5
E09A Wood Farm, Sta 63.18 50⇓P **P 17 20 58.9 -0.3**
baz=63,SNR=42
F08A Pendleton 63.24 51⇓P **P 17 20 59.7 +0.1**
baz=63,SNR=15
BUOR Burton Butte 63.26 56 P **P 17 21 00.5 +0.7**
LATR Latur 63.26 270 *e*P **P 17 21 00.0 -0.1**
J05A Fort Rock 63.28 55⇓P **P 17 21 00.1 +0.2**
baz=63,SNR=26
LOF Lofoten 63.28 342 *e*P **P 17 21 00.5 +1.0**
LOF AMb AMB 17 21 03.6
comp=Z,190nm,1.5s,mb6.0
LOF Lofoten 63.28 342 *e*P **P 17 21 00.5 +1.0**
comp=Z,190nm,1.5s,mb6.0
CTA Charters Tower 63.29 180 *e*P **P 17 20 58.8 -1.2**
comp=Z,32nm,0.8s,mb5.5
CTA Charters Tower 63.29 180 LR LR 17 45 08.1
comp=Z,1μm,21.8s,MS5.0,baz=358,slow=33
CTA Charters Tower 63.29 180 *e*P **P 17 20 58.8 -1.2**
CTA pmax pmax
comp=Z,32nm,0.8s
CTAO Charters Tower 63.29 180 *e*P **P 17 20 58.5 -1.5**
CTAO pmax pmax
comp=Z,127nm,1.3s,mb5.9
CTAO Charters Tower 63.29 180 *e*P **P 17 20 58.5 -1.5**
comp=Z,127nm,1.3s,mb5.9
YBH Yreka Blue Hor 63.29 57 *e*P **P 17 21 00.5 +0.5**
YBH pmax pmax
comp=Z,29nm,1.0s
YBH Yreka Blue Hor 63.29 57⇓P **P 17 21 00.5 +0.5**
baz=63,SNR=17
YBH Yreka Blue Hor 63.29 57 *e*P **P 17 21 00.5 +0.5**
comp=Z,29nm,1.0s,mb5.4
M02C Callahan 63.40 57⇑P **P 17 21 01.4 +0.7**
baz=63,SNR=15
G08A Pilot Rock 63.44 52⇓P **P 17 21 00.8 -0.1**
baz=63,SNR=13
N02C Big Bar 63.45 58⇑P **P 17 21 01.3 +0.3**
baz=63,SNR=11
LNOR Lincton Mounta 63.48 51 *e*P **P 17 21 01.4 +0.2**
comp=Z,21nm,1.1s,mb5.2
H07A Lands Inn, Kim 63.50 53⇓P **P 17 21 01.3 0.0**
baz=63,SNR=9.5
I06A Prineville 63.50 54⇓P **P 17 21 01.4 +0.1**
baz=63
L04A Klamath Falls 63.53 56⇑P **P 17 21 01.8 +0.3**
baz=63,SNR=9.1
O01C Eel River Cons 63.53 59⇓P **P 17 21 02.5 +0.9**
baz=63
E10A Myers Farm, Un 63.78 50⇑P **P 17 21 02.8 -0.3**
baz=64,SNR=26
F09A S2 Ranch, Elgi 63.79 51⇓P **P 17 21 03.0 -0.2**
baz=64,SNR=11
M04C Macdoel 63.79 56⇓P **P 17 21 04.0 +0.7**
baz=64,SNR=25
K05A Summer Lake 63.81 55⇑P **P 17 21 04.1 +0.7**
baz=64,SNR=24
I07A Izee 63.83 53⇓P **P 17 21 03.7 +0.2**
baz=64,SNR=14
D11A Klaveano Farm, 63.87 49⇑P **P 17 21 03.3 -0.5**
baz=64,SNR=35
M03C McCloud 63.92 57⇓P **P 17 21 04.8 +0.7**
baz=64
KIPM Iron Peak 63.94 59 *e*P **P 17 21 04.6 +0.3**
comp=Z,40nm,0.9s,mb5.5
J06A Christmas Vall 63.94 54⇓P **P 17 21 04.6 +0.3**
baz=64,SNR=19
KCPM Cahto Peak 63.95 59 *e*P **P 17 21 04.8 +0.5**
comp=Z,21nm,0.9s,mb5.2
C12B Naegeli Ranch, 63.95 48⇑P **P 17 21 04.0 -0.2**
baz=64,SNR=17
F10A Beach Ranch, E 64.02 50⇑P **P 17 21 04.6 -0.1**
baz=64,SNR=16
H08A Prairie City 64.06 52⇑P **P 17 21 05.1 +0.1**
baz=64,SNR=14
WDC Whiskeytown Da 64.07 58 *e*P **P 17 21 05.0 -0.1**
WDC pmax pmax
comp=Z,35nm,1.0s,mb5.3
WDC Whiskeytown Da 64.07 58⇑P **P 17 21 05.4 +0.3**
baz=64,SNR=18
WDC Whiskeytown Da 64.07 58 *e*P **P 17 21 05.0 -0.2**
comp=Z,35nm,1.0s,mb5.3
MDRS Chennai 64.07 263 *e*P **P 17 21 06.5 +1.0**
MDRS AMb AMB 17 21 08.7
comp=Z,123nm,1.5s,mb5.7
B13A Whitefish 64.09 47⇓P **P 17 21 05.1 -0.1**
baz=64,SNR=56
G09A Cove 64.12 51⇓P **P 17 21 05.4 0.0**
baz=64,SNR=15
K06A Valley Falls 64.15 55⇑P **P 17 21 06.0 +0.4**
baz=64,SNR=41
O02C Red Bluff 64.15 58⇓P **P 17 21 06.5 +0.8**
baz=64,SNR=38
SUMG Summit 64.15 2 *e*P **P 17 21 04.6 -0.6**
comp=Z,62nm,0.9s,mb5.6
WB2 Warramunga Arr 64.16 193 *e*P **P 17 21 04.4 -1.4**
WRA Warramunga Arr 64.16 193 P **P 17 21 04.2 -1.6**
comp=Z,152nm,1.1s,mb5.9,baz=9.3,slow=6.8,SNR=230
WRA S **S 17 29 39.3 +0.6**
comp=Z,2.3nm,1.2s,baz=13,slow=13,SNR=6.3
WRA LR LR 17 47 25.8
comp=Z,506nm,21.7s,MS4.7,baz=20,slow=34
WRA PKPPKP 17 49 56.2
comp=Z,2.1nm,0.9s,baz=192,slow=2.6,SNR=8.4
WRA Warramunga Arr 64.16 193 P **P 17 21 04.2 -1.6**
WRA S **S 17 29 39.3 +0.6**
L05A Lakeview 64.24 56⇓P **P 17 21 06.8 +0.5**
baz=64,SNR=26
VAN Vannovskaya 64.27 299 *e*P **P 17 21 04.7 -1.8**
VAN *e*S **S 17 29 41.8 +1.8**
ABKT Ailbek 64.27 299 P **P 17 21 06.3 -0.2**
comp=Z,820nm,0.8s,mb6.8,SNR=37
A14A Double T Ranch 64.28 46⇑P **P 17 21 06.2 -0.2**
baz=64,SNR=38
FITZ Fitzroy Crossi 64.29 202⇑ *i*P **P 17 21 06.1 -0.6**
comp=Z,123nm,0.9s,mb5.9
FITZ Fitzroy Crossi 64.29 202 P **P 17 21 06.1 -0.5**
comp=Z,66nm,0.9s,mb5.7,baz=20,slow=7.2,SNR=97
FITZ LR LR 17 50 04.1
comp=Z,209nm,19.1s,MS4.3,baz=44,slow=37
E11A Bogner Ranch, 64.36 50⇓P **P 17 21 06.5 -0.4**
baz=64,SNR=35
J07A Hines 64.36 54⇓P **P 17 21 07.5 +0.5**
baz=64,SNR=45
KAF Kangasniemi 64.38 333 *ep* **P 17 21 05.3 -1.5**
comp=Z,29nm,0.8s,mb5.4,baz=42,slow=6.2
KAF Kangasniemi 64.38 333 *e*P **P 17 21 05.3 -1.5**
KAF pmax pmax
comp=Z,29nm,0.8s,mb5.4
MOS Moscow 64.45 324 *e*P **P 17 21 09.4 +2.1**
MOS *e* pP 17 21 19.7 -2.8
MOS *e* 17 21 46.7
MOS *e*S **S 17 29 44.3 +2.6**
MOS pmax pmax
comp=Z,79nm,1.4s,mb5.5
MOS MLR MLR
comp=Z,3μm,18.0s,MS5.5
MOS MLR MLR
comp=N,2μm,18.0s
C13A Hot Springs 64.45 48⇓P **P 17 21 07.4 -0.1**
baz=64,SNR=29
M05C Lookout 64.46 56⇑P **P 17 21 08.0 +0.4**
baz=64,SNR=13
I08A Drewsey 64.48 53⇑P **P 17 21 07.9 +0.2**
baz=64,SNR=21
G10A Bishop Farm, J 64.48 51⇓P **P 17 21 07.6 -0.1**
baz=64,SNR=22
GASB Alder Springs 64.50 59⇓P **P 17 21 08.8 +0.8**
baz=64,SNR=24
H09A Durkee 64.55 52⇑P **P 17 21 08.3 +0.1**
baz=64,SNR=8.1
A15A Johnson Ranch, 64.64 46⇑P **P 17 21 08.2 -0.5**
baz=64,SNR=39
BMO Blue Mountains 64.64 52 *e*P **P 17 21 08.6 -0.2**
BMO pmax pmax
comp=Z,32nm,1.1s,mb5.3
BMO Blue Mountains 64.64 52⇓ *e*P **P 17 21 08.6 -0.2**
comp=Z,32nm,1.1s,mb5.3
MOD Modoc 64.65 56⇓P **P 17 21 09.4 +0.5**
baz=64,SNR=18
MOD Modoc 64.65 56 *e*P **P 17 21 08.9 0.0**
comp=Z,43nm,1.0s,mb5.4
MOR8 Moi Rana 64.65 341 *e*P **P 17 21 06.5 -2.0**
MOR8 AMb AMB 17 21 09.1
comp=Z,235nm,0.7s,mb6.3
MOR8 Moi Rana 64.65 341 *e*P **P 17 21 06.6 -1.9**
comp=Z,235nm,0.7s,mb6.3
F11A Grangeville 64.67 50⇓P **P 17 21 08.5 -0.5**
baz=64,SNR=54
HOPS Hopland 64.67 60⇑P **P 17 21 09.5 +0.4**
baz=64
HOPS Hopland 64.67 60 *e*P **P 17 21 09.0 -0.1**
comp=Z,17nm,0.9s,mb5.1
E12A Beaver Dam Sad 64.67 49⇑P **P 17 21 08.9 -0.1**
baz=64,SNR=118
B14A Marquette Ranc 64.73 47⇑P **P 17 21 09.5 +0.2**
baz=65,SNR=52
K07A Rock Creek Ran 64.81 54⇓P **P 17 21 09.8 -0.1**
baz=65,SNR=28
STOK Stokkvaagen 64.86 341 *e*P **P 17 21 09.1 -0.7**
J08A Circle Bar Ran 64.86 53⇓P **P 17 21 10.3 0.0**
baz=65,SNR=31
D13A Huson 64.87 48⇓P **P 17 21 10.0 -0.3**
baz=65,SNR=57
G11A Walters Elk Ra 64.90 51⇓P **P 17 21 10.2 -0.3**
baz=65,SNR=86
I09A Lost Marbles R 64.92 53⇑P **P 17 21 10.8 +0.2**
baz=65,SNR=18
FINES FINESS Array B 64.94 333 P **P 17 21 08.0 -2.4**
M06C Likely Place G 64.96 56⇑P **P 17 21 11.4 +0.5**
baz=65
O04C Chester 65.11 57⇑P **P 17 21 12.2 +0.2**
baz=65,SNR=16
H10A Noah's Angus R 65.12 51⇑P **P 17 21 11.5 -0.4**
baz=65,SNR=27
MNRC McLaughlin Nat 65.14 59⇓P **P 17 21 13.0 +0.9**
baz=65
B15A Bradely Ranch, 65.14 46⇑P **P 17 21 11.4 -0.6**
baz=65,SNR=46
L07A Adell 65.15 55⇑P **P 17 21 12.4 +0.2**
baz=65,SNR=41
ELFS Eagle Lake Fie 65.16 57⇓P **P 17 21 12.5 +0.3**
baz=65,SNR=28
POO Poona 65.16 272 *e*P **P 17 21 13.0 +0.5**
POO AMb AMB 17 21 13.9
comp=Z,129nm,1.1s,mb5.9
BHJ Bhuj 65.21 279 *e*P **P 17 21 14.3 +1.5**
BHJ AMb AMB 17 21 16.1
comp=Z,102nm,0.7s,mb6.0
K08A Mann Creek Ran 65.23 54⇓P **P 17 21 12.9 +0.2**
baz=65,SNR=37
NSHM Saint Helena R 65.25 60 *e*P **P 17 21 13.3 +0.5**
A16A West Butte Ran 65.25 45⇓P **P 17 21 11.9 -0.8**
baz=65,SNR=28
J09A Fry Pan Ranch, 65.29 53⇑P **P 17 21 13.0 0.0**
baz=65,SNR=18
MCCM Marconi Confer 65.30 60⇓P **P 17 21 13.3 +0.1**
baz=65
MSO Missoula 65.31 48 *e*P **P 17 21 12.7 -0.5**
comp=Z,64nm,1.1s,mb5.6
OBN Obninsk 65.31 324⇓ *e*P **P 17 21 13.4 +0.4**
OBN *e**PP pP 17 21 25.3 -2.9
OBN *e**SP sP 17 21 29.7 -4.7
OBN *e* 17 21 46.4
OBN *e* 17 23 35.5
OBN *e*S S 17 29 52.4 +0.1
OBN *e*SS SS 17 34 03.8 -1.3
OBN pmax pmax
comp=Z,37nm,0.6s,mb5.6
OBN MLR MLR
comp=Z,3μm,17.0s,MS5.6
OBN Obninsk 65.31 324 *e*P **P 17 21 13.3 +0.4**
comp=Z,56nm,0.8s,mb5.6
ORV Oroville 65.32 58⇑P **P 17 21 12.5 -0.8**
baz=65,SNR=11
WVOR Wild Horse Val 65.32 54 *e*P **P 17 21 12.9 -0.4**
WVOR pmax pmax
comp=Z,45nm,1.0s,mb5.5
WVOR Wild Horse Val 65.32 54 *e*P **P 17 21 12.9 -0.4**
comp=Z,45nm,1.0s,mb5.5
I10A Payette 65.39 52⇓P **P 17 21 13.8 +0.1**
baz=65,SNR=8.2
D14A Greenough 65.39 48⇓P **P 17 21 13.0 -0.7**
baz=65,SNR=42
E13A Victor 65.42 49⇑P **P 17 21 13.1 -0.7**
baz=65,SNR=12
O05C Quincy 65.43 58⇓P **P 17 21 13.7 -0.3**
baz=65,SNR=5.5
CVS Carmenet Viney 65.44 60⇑P **P 17 21 14.4 +0.3**
baz=65,SNR=5.3
C15A Salmond Ranch, 65.45 47⇓P **P 17 21 14.1 +0.1**
baz=65,SNR=101
XMIS Christmas Isla 65.45 225⇑ *i*P **P 17 21 14.5 +0.2**
OHCM Honcut 65.46 58 *e*P **P 17 21 13.5 -0.7**
H11A Donnelly 65.46 51⇓P **P 17 21 13.3 -0.8**
baz=65,SNR=9.6
B16A M & M Farms, S 65.52 46⇓P **P 17 21 13.8 -0.6**
baz=65,SNR=70
VRHR Novokhopersk 65.60 318 *ce*P **P 17 21 15.4 +0.5**
VRHR *e*S S 17 29 50.5 -5.4
VRHR pmax pmax
comp=Z,40nm,0.7s,mb5.6
VRHR pmax pmax
comp=N,10.0nm,0.8s
VRHR pmax pmax
comp=E,10.0nm,0.8s
VRHR smax
comp=N,410nm,5.4s
VRHR smax
comp=Z,290nm,4.3s
VRHR smax
comp=E,400nm,4.5s
VRHR MLR MLR
comp=Z,3μm,18.0s,MS5.5
VRHR MLR MLR
comp=N,3μm,16.0s,MS5.6
VRHR MLR MLR
comp=E,3μm,21.0s,MS5.6
N06A Buffalo Meadow 65.62 56⇑P **P 17 21 15.1 -0.1**
baz=65,SNR=15
M07A Soldier Meadow 65.63 55⇓P **P 17 21 15.6 +0.3**
baz=66,SNR=73
CHMT Chamberlain Mo 65.63 48 *e*P **P 17 21 14.6 -0.6**
comp=E,20nm,0.9s,mb5.2
L08A Fields 65.64 54⇑P **P 17 21 15.2 -0.1**
baz=66,SNR=36
K09A Rome 65.70 54⇑P **P 17 21 16.0 +0.3**
baz=66,SNR=16
KAD Karad 65.70 271 *e*P **P 17 21 16.0 0.0**
KAD AMb AMB 17 21 17.3
comp=Z,171nm,0.7s,mb6.2
F13A Darby 65.74 49⇓P **P 17 21 14.9 -1.0**
baz=66,SNR=30
E14A Clinton 65.81 48⇑P **P 17 21 15.5 -0.8**
baz=66,SNR=23
BEKR Beckwourth 65.83 57⇓P **P 17 21 16.5 -0.1**
baz=66,SNR=59
C16A Fuhringer Ranc 65.89 46⇑P **P 17 21 16.6 -0.2**
baz=66,SNR=102
D15A Lincoln 65.95 47⇑P **P 17 21 16.5 -0.7**
baz=66,SNR=20
O06A Flanigan 65.98 57⇓P **P 17 21 17.4 -0.1**
baz=66,SNR=22
I11A Placerville 65.98 52⇑P **P 17 21 16.7 -0.7**
baz=66,SNR=9.3
P05C Yuba Gap, Truc 66.02 58⇑P **P 17 21 17.6 -0.3**
baz=66,SNR=8.8
M08A Happy Creek Ra 66.07 55⇑P **P 17 21 18.4 +0.3**
baz=66,SNR=17
FFC Flin Flon 66.08 36 P **P 17 21 17.4 -0.5**
comp=Z,576nm,1.2s,mb6.5,SNR=22
FFC Flin Flon 66.08 36 *e*P **P 17 21 17.3 -0.6**
FFC pmax pmax
comp=Z,100nm,1.0s,mb5.8
FFC Flin Flon 66.08 36 *e*P **P 17 21 17.3 -0.6**
comp=Z,100nm,1.0s,mb5.8
N07B Gerlach 66.12 56⇓P **P 17 21 18.3 -0.1**
baz=66,SNR=12
K10A MacKenzie Ranc 66.15 53⇑P **P 17 21 18.7 +0.2**
baz=66,SNR=26
H12A Diamond D Ranc 66.21 51⇓P **P 17 21 18.2 -0.7**
baz=66,SNR=55
KRF Krasnovodsk 66.22 303⇑ *i*P **P 17 21 19.3 +0.2**

G13A	**Cobalt**	**66.22**	**50**	⇓P	**P**	**17 21 17.8**	**-1.2**
	baz=66,SNR=66						
F14A	**Wisdom**	**66.25**	**49**	⇓P	**P**	**17 21 18.8**	**-0.4**
	baz=66,SNR=11						
E15A	**Deer Lodge**	**66.27**	**48**	⇑P	**P**	**17 21 18.7**	**-0.6**
	baz=66,SNR=41						
LAVA	**Lava Cap Winer**	**66.27**	**59**	⇓P	**P**	**17 21 19.1**	**-0.3**
	baz=66,SNR=14						
VOR	**Voronezh**	**66.35**	**320**	P	**P**	**17 21 19.0**	**-0.7**
VOR				pmax	pmax		
	comp=Z,140nm,1.6s,mb5.7						
MFID	**Camas Ranch**	**66.36**	**52**	⇑P	**P**	**17 21 19.9**	**-0.1**
	baz=66,SNR=9.5						
D16A	**Dana Ranch, Ca**	**66.47**	**47**	⇑P	**P**	**17 21 20.1**	**-0.5**
	baz=66,SNR=32						
C17A	**Wharram Farm,**	**66.51**	**46**	⇑P	**P**	**17 21 19.7**	**-1.0**
	baz=66,SNR=27						
I12A	**Atlanta**	**66.52**	**51**	⇑P	**P**	**17 21 20.7**	**-0.2**
	baz=66,SNR=70						
PAHR	**Pah Rah Range**	**66.53**	**57**	*e*P	**P**	**17 21 20.1**	**-0.9**
	comp=Z,60nm,1.1s,mb5.5						
H13A	**Challis**	**66.54**	**50**	⇑P	**P**	**17 21 21.2**	**+0.1**
	baz=66,SNR=99						
WCN	**Washoe City**	**66.55**	**58**	⇑P	**P**	**17 21 21.1**	**0.0**
	baz=66,SNR=14						
O07A	**Toulon**	**66.56**	**56**	⇓P	**P**	**17 21 21.0**	**-0.2**
	baz=66,SNR=30						
G14A	**Jackson**	**66.56**	**49**	⇑P	**P**	**17 21 20.6**	**-0.6**
	baz=66						
N08A	**GE Springer Mi**	**66.62**	**55**	⇓P	**P**	**17 21 21.6**	**0.0**
	baz=66,SNR=28						
K11A	**Parker Ranch,**	**66.64**	**53**	⇓P	**P**	**17 21 21.7**	**0.0**
	baz=66,SNR=8.0						
M09A	**Marrel Ranch,**	**66.64**	**55**	⇑P	**P**	**17 21 21.5**	**-0.3**
	baz=66,SNR=8.0						
VSR	**Storozhevoye**	**66.70**	**319**	*ce*P	**P**	**17 21 21.3**	**-0.7**
VSR				*e*S	S	17 30 07.0	-2.3
VSR				pmax	pmax		
	comp=Z,6.0nm,0.5s,mb4.9						
VSR				pmax	pmax		
	comp=N,10.0nm,1.3s						
VSR				pmax	pmax		
	comp=E,6.0nm,0.7s						
VSR				smax			
	comp=N,340nm,6.9s						
VSR				smax			
	comp=Z,110nm,4.7s						
VSR				smax			
	comp=E,110nm,2.9s						
VSR				MLR	MLR		
	comp=N,2µm,18.0s						
VSR				MLR	MLR		
	comp=Z,1µm,18.0s,MS5.2						
VSR				MLR	MLR		
	comp=E,2µm,26.0s						
F15A	**Butte**	**66.71**	**48**	⇑P	**P**	**17 21 22.0**	**-0.2**
	baz=66,SNR=89						
E16A	**East Helena**	**66.72**	**47**	⇑P	**P**	**17 21 22.2**	**+0.1**
	baz=66,SNR=33						
EGMT	**Eagleton**	**66.78**	**45**	⇑P	**P**	**17 21 21.9**	**-0.6**
	baz=67,SNR=12						
EGMT	**Eagleton**	**66.78**	**45**	*e*P	**P**	**17 21 22.1**	**-0.5**
	comp=E,128nm,0.9s,mb6.0						
L10A	**Juniper Basin**	**66.81**	**54**	⇓P	**P**	**17 21 22.7**	**-0.1**
	baz=67,SNR=19						
J12A	**Stokes Ranch,**	**66.88**	**52**	⇑P	**P**	**17 21 23.3**	**+0.1**
	baz=67,SNR=30						
CMB	**Columbia Colle**	**66.93**	**59**	*e*P	**P**	**17 21 23.3**	**-0.3**
CMB				pmax	pmax		
	comp=Z,49nm,1.1s,mb5.5						
CMB	**Columbia Colle**	**66.93**	**59**	⇓P	**P**	**17 21 23.5**	**-0.1**
	baz=67,SNR=18						
CMB	**Columbia Colle**	**66.93**	**59**	*e*P	**P**	**17 21 23.2**	**-0.4**
	comp=Z,49nm,1.1s,mb5.5						
DLMT	**Dillon**	**66.96**	**49**	*e*P	**P**	**17 21 23.3**	**-0.4**
	comp=Z,68nm,1.0s,mb5.6						
DLMT				*e*pP	pP	17 21 40.5	+1.6
PACP	**Pacheco Peak**	**66.99**	**60**	⇑P	**P**	**17 21 23.9**	**-0.2**
	baz=67,SNR=12						
H14A	**Leadore**	**67.00**	**50**	⇑P	**P**	**17 21 23.5**	**-0.5**
	baz=67,SNR=8.9						
I13A	**Wildhorse Cree**	**67.02**	**51**	⇓P	**P**	**17 21 24.5**	**+0.3**
	baz=67,SNR=27						
HLID	**Hailey**	**67.07**	**51**	⇓P	**P**	**17 21 24.0**	**-0.5**
	baz=67,SNR=39						
HLID	**Hailey**	**67.07**	**51**	*e*P	**P**	**17 21 24.6**	**+0.2**
	comp=Z,34nm,1.0s,mb5.3						
M10A	**I.L. Ranch, Tu**	**67.11**	**54**	⇑P	**P**	**17 21 25.0**	**+0.2**
	baz=67,SNR=34						
GOA	**Goa**	**67.14**	**270**	*e*x	x	17 19 58.0	
G15A	**Dillon**	**67.14**	**49**	⇓P	**P**	**17 21 24.4**	**-0.5**
	baz=67,SNR=62						
MCMT	**McKenzie Canyo**	**67.16**	**49**	*e*P	**P**	**17 21 25.5**	**+0.5**
	comp=Z,72nm,1.1s,mb5.6						
L11A	**Cat Creek Ranc**	**67.17**	**53**	⇓P	**P**	**17 21 25.6**	**+0.5**
	baz=67,SNR=47						
E17A	**Martinsdale**	**67.20**	**47**	⇓P	**P**	**17 21 25.4**	**+0.2**
	baz=67,SNR=48						
R06C	**Coleville**	**67.21**	**58**	⇑P	**P**	**17 21 25.7**	**+0.3**
	baz=67,SNR=30						
J13A	**Cove Ranch, Pi**	**67.31**	**51**	⇓P	**P**	**17 21 26.0**	**0.0**
	baz=67,SNR=18						
P08A	**Dixie Valley**	**67.33**	**56**	⇓P	**P**	**17 21 26.7**	**+0.6**
	baz=67						
K12A	**Draper Farm, C**	**67.37**	**52**	⇓P	**P**	**17 21 26.3**	**-0.1**
	baz=67,SNR=8.2						
BMN	**Battle Mountai**	**67.39**	**55**	*e*P	**P**	**17 21 26.3**	**-0.2**
BMN				*e**PP	pP	17 21 40.1	-1.6
BMN				pmax	pmax		
	comp=Z,44nm,1.0s,mb5.4						
BMN	**Battle Mountai**	**67.39**	**55**	*e*P	**P**	**17 21 26.3**	**-0.2**
	comp=Z,44nm,1.0s,mb5.5						
BMN				*e*pP	pP	17 21 40.1	-1.6
I14A	**Mackay**	**67.39**	**50**	⇓P	**P**	**17 21 26.4**	**-0.1**
	baz=67,SNR=63						
S05C	**Merced**	**67.39**	**60**	⇓P	**P**	**17 21 26.8**	**+0.2**
	baz=67,SNR=5.6						
H15A	**Lima**	**67.40**	**49**	⇓P	**P**	**17 21 26.0**	**-0.5**
	baz=67,SNR=17						
G16A	**Moss Hill, Enn**	**67.48**	**49**	⇓P	**P**	**17 21 27.0**	**0.0**
	baz=67,SNR=24						
O09A	**Fish Creek Ran**	**67.57**	**56**	⇑P	**P**	**17 21 27.8**	**+0.1**
	baz=67,SNR=32						
M11A	**Holland Ranch,**	**67.61**	**54**	⇑P	**P**	**17 21 28.2**	**+0.3**
	baz=67,SNR=24						
L12A	**House Creek Ra**	**67.62**	**53**	⇑P	**P**	**17 21 27.9**	**0.0**
	baz=67,SNR=14						
V03C	**Hunter Liggett**	**67.63**	**61**	⇓P	**P**	**17 21 29.2**	**+1.0**
	baz=68						
E18A	**Harlowton**	**67.64**	**47**	⇑P	**P**	**17 21 27.9**	**-0.1**
	baz=68,SNR=18						
MAK	**Makhachkala**	**67.64**	**308**	*d i*P	**P**	**17 21 28.1**	**+0.1**
MAK				*i*		17 22 01.4	
MAK				*e*S	S	17 30 23.9	+3.1
MAK				*i*		17 31 20.7	
MAK				*e*SSS		17 37 48.4	
MAK				pmax	pmax		
	comp=Z,338nm,1.4s,mb6.2						
MAK				MLR	MLR		
	comp=Z,4µm,21.0s,MS5.6						
PALK	**Pallekele**	**67.68**	**258**	*e*P	**P**	**17 21 28.3**	**-0.4**
	comp=Z,111nm,1.1s,mb5.8						
U04C	**Hernandez Rese**	**67.71**	**61**	⇓P	**P**	**17 21 29.2**	**+0.6**
	baz=68,SNR=7.6						
NOUC	**Port Laguerre**	**67.73**	**160**	*e*P	**P**	**17 21 31.1**	**+2.4**
J14A	**Carey**	**67.73**	**51**	⇑P	**P**	**17 21 29.5**	**+0.9**
	baz=68,SNR=76						
DZM	**Mont Dzumac**	**67.74**	**160**	*e*P	**P**	**17 21 29.2**	**+0.5**
DZM	**Mont Dzumac**	**67.74**	**160**	*e*P	**P**	**17 21 29.5**	**+0.8**
	comp=Z,129nm,1.3s,mb5.8						
K13A	**Stover Farm, H**	**67.83**	**52**	⇓P	**P**	**17 21 30.0**	**+0.7**
	baz=68						
ASAR	**Alice Springs**	**67.88**	**193**	P	**P**	**17 21 28.9**	**-0.6**
	comp=Z,99nm,0.8s,mb5.9,baz=9.0,slow=5.4,SNR=305						
ASAR				S	S	17 30 32.6	+8.8
	comp=Z,0.5nm,1.0s,baz=93,slow=25,SNR=4.2						
ASAR				PKP2bc		17 49 51.8	
	comp=Z,5.0nm,0.9s,baz=179,slow=2.9,SNR=20						
ASAR	**Alice Springs**	**67.88**	**193**	P	**P**	**17 21 29.0**	**-0.6**
ASAR				S	S	17 30 32.6	+8.8
ASAR	**Alice Springs**	**67.88**	**193**	P	**P**	**17 21 28.9**	**-0.6**
ASAR				S	S	17 30 32.6	+8.8
ASAR				⇑*e*		17 49 51.8	
I15A	**Monteview**	**67.88**	**50**	⇓P	**P**	**17 21 30.1**	**+0.5**
	baz=68						
Q08A	**Gabbs**	**67.93**	**57**	⇓P	**P**	**17 21 29.8**	**-0.2**
	baz=68,SNR=23						
QLMT	**Earthquake Lak**	**67.93**	**49**	*e*P	**P**	**17 21 30.3**	**+0.4**
	comp=Z,33nm,1.1s,mb5.3						
NVAR	**Mina Array Bea**	**67.97**	**58**	P	**P**	**17 21 29.4**	**-0.8**
	comp=Z,36nm,0.9s,mb5.4,baz=291,slow=6.4,SNR=61						
KOD	**Kodaikanal**	**67.98**	**263**	*e*P	**P**	**17 21 30.8**	**+0.2**
KOD				AMb	AMB	17 21 33.1	
	comp=Z,216nm,1.2s,mb6.1						
T06C	**Millerton Lake**	**67.99**	**60**	⇓P	**P**	**17 21 30.3**	**0.0**
	baz=68,SNR=12						
N11A	**Elko Archery C**	**68.03**	**54**	⇓P	**P**	**17 21 31.3**	**+0.8**
	baz=68						
KCC	**Kaiser Creek**	**68.03**	**59**	⇓P	**P**	**17 21 30.8**	**+0.2**
	baz=68,SNR=20						
H16A	**Russell Place,**	**68.11**	**49**	⇓P	**P**	**17 21 31.2**	**+0.2**
	baz=68,SNR=30						
PKD	**Parkfield**	**68.12**	**61**	⇓P	**P**	**17 21 30.2**	**-1.0**
	baz=68,SNR=5.2						
M12A	**Wells**	**68.13**	**53**	⇓P	**P**	**17 21 31.5**	**+0.3**
	baz=68,SNR=32						
R08A	**Mina**	**68.15**	**58**	⇑P	**P**	**17 21 31.6**	**+0.3**
	baz=68						
F18A	**Big Timber**	**68.17**	**47**	⇓P	**P**	**17 21 30.9**	**-0.4**
	baz=68,SNR=30						
GCMT	**Greycliff**	**68.27**	**47**	*e*P	**P**	**17 21 32.4**	**+0.4**
	comp=Z,56nm,1.2s,mb5.5						
GCMT				*e*pP	pP	17 21 47.2	0.0
L13A	**Double Diamond**	**68.27**	**52**	⇑P	**P**	**17 21 32.2**	**+0.2**
	baz=68,SNR=9.4						
YMR	**Madison River**	**68.29**	**49**	*e*P	**P**	**17 21 32.6**	**+0.5**
	comp=Z,62nm,1.0s,mb5.6						
J15A	**Blackfoot**	**68.29**	**50**	⇓P	**P**	**17 21 32.6**	**+0.5**
	baz=68,SNR=55						
P10A	**Eureka**	**68.35**	**56**	⇓P	**P**	**17 21 33.0**	**+0.4**
	baz=68,SNR=15						
ELK	**Elko**	**68.37**	**54**	*e*P	**P**	**17 21 33.1**	**+0.4**
ELK				pmax	pmax		
	comp=Z,16nm,1.0s						
ELK	**Elko**	**68.37**	**54**	*e*P	**P**	**17 21 33.1**	**+0.4**
	comp=Z,16nm,1.0s,mb5.0						
Q09A	**Carvers**	**68.41**	**57**	⇑P	**P**	**17 21 33.7**	**+0.8**
	baz=68						
N12A	**Clover Valley,**	**68.42**	**54**	⇓P	**P**	**17 21 33.2**	**+0.2**
	baz=68,SNR=17						
YNR	**Norris Junctio**	**68.42**	**48**	*e*P	**P**	**17 21 33.8**	**+0.9**
	comp=Z,31nm,0.9s,mb5.3						
K14A	**Jones Ranch, D**	**68.42**	**51**	⇓P	**P**	**17 21 33.3**	**+0.4**
	baz=68,SNR=12						
MTUM	**Tungsten Hills**	**68.49**	**59**	*e*P	**P**	**17 21 33.7**	**+0.2**
O11A	**Cowboy Ranch,**	**68.51**	**55**	⇑P	**P**	**17 21 33.6**	**+0.1**
	baz=68,SNR=9.9						
I16A	**Newdale**	**68.52**	**50**	⇑P	**P**	**17 21 33.9**	**+0.4**
	baz=68,SNR=20						
V05C	**Boulder Hill,**	**68.58**	**61**	⇓P	**P**	**17 21 34.9**	**+0.9**
	baz=68						
AFI	**Afiamalu**	**68.59**	**136**	LR	LR	17 47 26.5	
	comp=Z,1µm,19.6s,MS5.1,baz=246,slow=32						
M13A	**Montello**	**68.61**	**53**	⇑P	**P**	**17 21 34.5**	**+0.4**
	baz=68,SNR=7.4						
HELL	**Mitchell Peak**	**68.62**	**59**	⇑P	**P**	**17 21 33.7**	**-0.6**
	baz=68,SNR=49						
LKWY	**Lake**	**68.67**	**48**	*e*P	**P**	**17 21 35.7**	**+1.2**
LKWY				pmax	pmax		
	comp=Z,28nm,0.9s,mb5.2						
LKWY	**Lake**	**68.67**	**48**	*e*P	**P**	**17 21 35.6**	**+1.2**
	comp=Z,35nm,0.9s,mb5.3						
H17A	**Grant Village**	**68.68**	**49**	⇓P	**P**	**17 21 36.5**	**+1.9**
	baz=68						
K15A	**Arbon**	**68.70**	**51**	⇓P	**P**	**17 21 35.5**	**+0.8**
	baz=68,SNR=22						
L14A	**Malta**	**68.71**	**52**	⇑P	**P**	**17 21 34.8**	**0.0**
	baz=68,SNR=27						
IMW	**Indian Meadow**	**68.80**	**49**	*e*P	**P**	**17 21 36.0**	**+0.6**
	comp=Z,59nm,1.0s,mb5.5						
P11A	**Circle Ranch,**	**68.81**	**55**	⇑P	**P**	**17 21 36.0**	**+0.5**
	baz=69						
J16A	**Bone**	**68.83**	**50**	⇑P	**P**	**17 21 36.1**	**+0.6**
	baz=69,SNR=34						
R09A	**Tonopah**	**68.85**	**57**	⇑P	**P**	**17 21 35.7**	**0.0**
	baz=69,SNR=35						
TPH	**Tonopah**	**68.86**	**57**	*e*P	**P**	**17 21 35.9**	**+0.1**
TPH				pmax	pmax		
	comp=Z,65nm,1.1s,mb5.5						
TPH	**Tonopah**	**68.86**	**57**	*e*P	**P**	**17 21 35.9**	**+0.1**
	comp=Z,65nm,1.1s,mb5.5						
SMMC	**Simmler**	**68.86**	**61**	⇓P	**P**	**17 21 37.5**	**+1.7**
	baz=69						
DCID1	**Drake Creek**	**68.86**	**50**	*e*P	**P**	**17 21 36.4**	**+0.7**
	comp=Z,123nm,1.0s,mb5.8						
TIN	**Tinemaha**	**68.88**	**59**	⇓P	**P**	**17 21 37.0**	**+1.0**
	baz=69						
Q10A	**Clear Creek Ra**	**68.89**	**56**	⇑P	**P**	**17 21 35.6**	**-0.3**
	baz=69,SNR=26						
N13A	**Wendover, West**	**68.90**	**53**	⇓P	**P**	**17 21 36.3**	**+0.3**
	baz=69,SNR=7.9						
RLMT	**Red Lodge**	**68.92**	**47**	⇑P	**P**	**17 21 36.9**	**+0.9**
	baz=69						
RLMT	**Red Lodge**	**68.92**	**47**	*e*P	**P**	**17 21 36.4**	**+0.4**
	comp=Z,62nm,1.3s,mb5.4						
RRI2	**Red Ridge**	**68.95**	**50**	*e*P	**P**	**17 21 36.8**	**+0.5**
	comp=Z,95nm,0.9s,mb5.7						
O12A	**Currie**	**68.96**	**54**	⇓P	**P**	**17 21 36.5**	**+0.2**
	baz=69,SNR=33						
MBWA	**Marble Bar**	**68.97**	**207**	P	**P**	**17 21 36.7**	**+0.3**
	SNR=9.7						
MBWA	**Marble Bar**	**68.97**	**207**	*e*P	**P**	**17 21 35.4**	**-1.0**
	comp=Z,154nm,1.3s,mb5.8						
M14A	**Sheep Mountain**	**68.99**	**52**	⇓P	**P**	**17 21 36.6**	**+0.1**
	baz=69,SNR=25						
I17A	**Pilgram Creek**	**68.99**	**49**	⇑P	**P**	**17 21 38.0**	**+1.5**
	baz=69,SNR=48						
MOOW	**Moose Ponds**	**69.01**	**49**	*e*P	**P**	**17 21 37.1**	**+0.5**
	comp=Z,58nm,1.0s,mb5.5						
SFJD	**Kangerlussuaq**	**69.03**	**7**	⇑*i*P	**P**	**17 21 35.2**	**-1.1**
SFJD				*i* S	S	17 30 38.4	+1.8
SFJD				pmax	pmax		
	comp=Z,74nm,1.0s,mb5.6						
SFJD				MLR	MLR		
	comp=Z,2µm,22.0s,MS5.2						
SFJD	**Kangerlussuaq**	**69.03**	**7**	⇑*i*P	**P**	**17 21 35.2**	**-1.1**
	comp=Z,74nm,1.0s,mb5.6						
SFJD				*i* S	S	17 30 38.4	+1.8
SFJD				*i*		17 31 38.3	
SFJD							
	comp=Z,1µm,22.0s						
TPAW	**Teton Pass**	**69.06**	**50**	*e*P	**P**	**17 21 37.5**	**+0.6**
	comp=Z,88nm,1.0s,mb5.7						
S09A	**Goldfield**	**69.08**	**58**	⇓P	**P**	**17 21 37.2**	**+0.1**
	baz=69,SNR=19						
VES	**Vestal, Richgr**	**69.11**	**60**	⇓P	**P**	**17 21 36.7**	**-0.6**
	baz=69,SNR=5.8						
K16A	**Soda Springs**	**69.13**	**50**	⇓P	**P**	**17 21 38.4**	**+1.0**
	baz=69,SNR=24						
HVU	**Hansel Valley**	**69.14**	**52**	*e*P	**P**	**17 21 37.7**	**+0.3**
HVU				pmax	pmax		
	comp=Z,40nm,1.0s,mb5.3						
HVU	**Hansel Valley**	**69.14**	**52**	*e*P	**P**	**17 21 37.7**	**+0.3**
	comp=Z,40nm,1.0s,mb5.3						
LOHW	**Long Hollow**	**69.17**	**49**	*e*P	**P**	**17 21 38.0**	**+0.4**
	comp=Z,90nm,1.4s,mb5.5						
SNOW	**Snow King Moun**	**69.19**	**49**	*e*P	**P**	**17 21 38.8**	**+1.1**
	comp=Z,60nm,1.0s,mb5.5						
REDW	**Red Top Meadow**	**69.20**	**50**	*e*P	**P**	**17 21 38.5**	**+0.8**
	comp=Z,146nm,1.3s,mb5.8						
L15A	**Malad City**	**69.22**	**52**	⇑P	**P**	**17 21 38.1**	**+0.1**
	baz=69,SNR=15						
PKM	**Peak Mountain**	**69.24**	**61**	⇑P	**P**	**17 21 38.7**	**+0.6**
	baz=69,SNR=12						
DGMT	**Dagmar**	**69.28**	**42**	⇓P	**P**	**17 21 37.8**	**-0.4**
	baz=69,SNR=46						
DGMT	**Dagmar**	**69.28**	**42**	*e*P	**P**	**17 21 38.0**	**-0.2**
	comp=Z,168nm,0.8s,mb6.0						
R10A	**Warm Springs**	**69.29**	**57**	⇑P	**P**	**17 21 39.1**	**+0.7**
	baz=69						
Q11A	**Duckwater**	**69.32**	**56**	⇑P	**P**	**17 21 38.6**	**0.0**
	baz=69,SNR=17						
S10A	**Tonopah Range,**	**69.34**	**57**	⇑P	**P**	**17 21 38.9**	**+0.1**
	baz=69,SNR=37						
MNK	**Minsk**	**69.37**	**327**	*e*P	**P**	**17 21 37.0**	**-1.6**
MNK				*e*S	S	17 30 40.0	-1.0
MNK				pmax	pmax		
	comp=Z,380nm,0.8s,mb6.4						
MNK				MLR	MLR		
	comp=Z,11µm,20.0s,MS6.1						
MNK				MLR	MLR		
	comp=E,6µm,18.0s						
P12A	**McGill**	**69.37**	**55**	⇑P	**P**	**17 21 38.9**	**0.0**
	baz=69,SNR=20						
DOMB	**Dombas**	**69.40**	**340**	*e*P	**P**	**17 21 38.3**	**-0.4**
DOMB				AMb	AMB	17 21 41.1	
	comp=Z,123nm,0.9s,mb5.8						
DOMB	**Dombas**	**69.40**	**340**	*e*P	**P**	**17 21 38.3**	**-0.4**
	comp=Z,123nm,0.9s,mb5.8						
GRAC	**Grapevine Rang**	**69.45**	**58**	⇑P	**P**	**17 21 39.5**	**+0.1**
	baz=69,SNR=50						
AHID	**Auburn Hatcher**	**69.45**	**50**	*e*P	**P**	**17 21 39.2**	**-0.1**
	comp=Z,35nm,0.9s,mb5.3						
LAO	**LASA Array**	**69.47**	**45**	*e*P	**P**	**17 21 39.7**	**+0.3**
	comp=Z,123nm,0.9s,mb5.8						
LAO				*e*pP	pP	17 21 52.6	-2.2
O13A	**Hicks Ranch, I**	**69.50**	**54**	⇑P	**P**	**17 21 40.2**	**+0.5**
	baz=69						
N14A	**Grayback Hills**	**69.50**	**53**	⇑P	**P**	**17 21 39.7**	**+0.1**
	baz=69						
TRD	**Trivandrum**	**69.52**	**262**	*e*P	**P**	**17 21 41.0**	**+0.8**
M15A	**Larsen Ranch,**	**69.53**	**52**	⇑P	**P**	**17 21 39.8**	**0.0**
	baz=69,SNR=54						
BGU	**Big Grassy Mou**	**69.54**	**53**	*e*P	**P**	**17 21 39.6**	**-0.4**
	comp=Z,22nm,1.2s,mb5.0						
ISA	**Isabella**	**69.61**	**60**	*e*P	**P**	**17 21 39.4**	**-1.0**
ISA				pmax	pmax		
	comp=Z,28nm,1.1s,mb5.1						
ISA	**Isabella**	**69.61**	**60**	⇓P	**P**	**17 21 39.5**	**-0.9**
	baz=69,SNR=15						
ISA	**Isabella**	**69.61**	**60**	*e*P	**P**	**17 21 39.4**	**-1.0**
	comp=Z,28nm,1.1s,mb5.1						
SPUT	**South Promonto**	**69.63**	**52**	*e*P	**P**	**17 21 40.3**	**-0.1**
	comp=Z,30nm,1.0s,mb5.2						
KIV	**Kislovodsk**	**69.68**	**312**	P	**P**	**17 21 41.1**	**+0.4**
	comp=Z,2µm,0.7s,mb7.1,SNR=39						
KIV	**Kislovodsk**	**69.68**	**312**	⇓P	**P**	**17 21 40.7**	**0.0**
	SNR=41						
KIV	**Kislovodsk**	**69.68**	**312**	*e*P	**P**	**17 21 41.0**	**+0.3**
KIV				*e*		17 22 04.0	
KIV				*e*S	S	17 30 45.2	+0.2
KIV				*e*SS	SS	17 35 13.8	+0.7
KIV				pmax	pmax		
	comp=Z,200nm,4.8s						
KIV				pmax	pmax		
	comp=Z,216nm,1.0s,mb6.0						
KIV				MLR	MLR		
	comp=Z,7µm,18.0s,MS6.0						
KIV	**Kislovodsk**	**69.68**	**312**	⇓*i*P	**P**	**17 21 41.3**	**+0.6**
KIV	**Kislovodsk**	**69.68**	**312**	*e*P	**P**	**17 21 41.5**	**+0.7**
	comp=Z,192nm,0.8s,mb6.1						
R11A	**Troy Canyon, C**	**69.68**	**56**	⇑P	**P**	**17 21 41.2**	**+0.3**
	baz=70,SNR=54						
Q12A	**Willow Creek R**	**69.69**	**55**	⇑P	**P**	**17 21 41.2**	**+0.3**
	baz=70,SNR=17						
NB2	**NORSAR Subarra**	**69.70**	**339**	P	**P**	**17 21 40.1**	**-0.5**
	comp=Z,83nm,0.8s,mb5.7,baz=33,slow=6.2						
NB2	**NORSAR Subarra**	**69.70**	**339**	P	**P**	**17 21 40.0**	**-0.6**
NOA	**NORSAR Array B**	**69.70**	**339**	P	**P**	**17 21 39.9**	**-0.7**
	comp=Z,63nm,0.7s,mb5.6,baz=34,slow=6.1,SNR=146						
NOA				LR	LR	17 56 45.8	
	comp=Z,3µm,18.9s,MS5.5,baz=355,slow=40						
ARVC	**Arvin**	**69.72**	**61**	⇑P	**P**	**17 21 41.6**	**+0.4**
	baz=70						
L16A	**Fish Haven**	**69.75**	**51**	⇓P	**P**	**17 21 41.3**	**+0.1**
	baz=70,SNR=16						
HFA0	**Hagfors New Ar**	**69.78**	**337**	P	**P**	**17 21 39.0**	**-2.0**
DGRG	**David-gareji**	**69.82**	**308**	P	**P**	**17 21 44.3**	**+2.6**
DGRG				S	S	17 30 46.8	0.0
N15A	**Stansbury Isla**	**69.86**	**52**	⇑P	**P**	**17 21 42.3**	**+0.4**
	baz=70,SNR=12						
P13A	**Bates Ranch, G**	**69.91**	**54**	⇑P	**P**	**17 21 42.6**	**+0.4**
	baz=70,SNR=19						
HWUT	**Hardware Ranch**	**69.94**	**51**	*e*P	**P**	**17 21 42.6**	**+0.3**
	comp=Z,61nm,1.1s,mb5.4						
NAO01	**NORSAR Array S**	**69.96**	**339**	*e*P	**P**	**17 21 41.2**	**-0.9**
	comp=Z,46nm,0.8s,mb5.5						
MPMC	**Manual Prospec**	**69.97**	**59**	⇓P	**P**	**17 21 42.5**	**-0.2**
	baz=70,SNR=38						
MTA	**Mtatsminda**	**69.99**	**309**	P	**P**	**17 21 43.6**	**+0.9**
MTA				S	S	17 30 51.0	+2.3
TBLG	**Delisi**	**70.00**	**309**	P	**P**	**17 21 45.4**	**+2.6**
M16A	**Huntsville**	**70.09**	**52**	⇓P	**P**	**17 21 43.7**	**+0.3**
	baz=70						
FURC	**Furnace Creek,**	**70.10**	**58**	⇑P	**P**	**17 21 43.8**	**+0.3**
	baz=70,SNR=16						
OSI	**Osito Adit**	**70.11**	**61**	⇑P	**P**	**17 21 43.3**	**-0.2**
	baz=70						
OSI	**Osito Adit**	**70.11**	**61**	*e*P	**P**	**17 21 42.2**	**-1.3**
	comp=Z,46nm,0.8s,mb5.5						
DUG	**Dugway**	**70.14**	**53**	*e*P	**P**	**17 21 43.7**	**+0.1**
DUG				pmax	pmax		
	comp=Z,52nm,1.0s,mb5.4						
DUG	**Dugway**	**70.14**	**53**	⇑P	**P**	**17 21 44.0**	**+0.4**
	baz=70						
DUG	**Dugway**	**70.14**	**53**	*e*P	**P**	**17 21 43.7**	**+0.1**
	comp=Z,52nm,1.0s,mb5.4						
ONI	**Oni**	**70.17**	**310**	P	**P**	**17 21 46.5**	**+2.8**
ONI				S	S	17 30 53.8	+3.0
TPNV	**Topopah Spring**	**70.17**	**58**	*e*P	**P**	**17 21 43.5**	**-0.4**
TPNV				*e**PP	pP	17 21 57.0	-2.2
TPNV				pmax	pmax		
	comp=Z,79nm,1.1s,mb5.6						
TPNV	**Topopah Spring**	**70.17**	**58**	⇑P	**P**	**17 21 43.6**	**-0.3**
	baz=70						
TPNV	**Topopah Spring**	**70.17**	**58**	*e*P	**P**	**17 21 43.5**	**-0.4**
	comp=Z,80nm,1.1s,mb5.6						
TPNV				*e*pP	pP	17 21 57.0	-2.2
GOR	**Gori**	**70.19**	**309**	P	**P**	**17 21 42.6**	**-1.3**
BLG	**Laguna Peak**	**70.22**	**62**	⇑P	**P**	**17 21 44.8**	**+0.6**
	baz=70						
LRMC	**Laurel Mountai**	**70.22**	**60**	⇓P	**P**	**17 21 43.8**	**-0.4**
	baz=70,SNR=12						
Q13A	**Wheeler Ranch,**	**70.23**	**55**	⇑P	**P**	**17 21 44.4**	**+0.2**
	baz=70,SNR=16						
NOQ	**North Oquirrh**	**70.25**	**52**	*e*P	**P**	**17 21 44.7**	**+0.4**
	comp=Z,201nm,1.4s,mb5.9						
O15A	**The Old Anders**	**70.28**	**53**	⇓P	**P**	**17 21 44.5**	**0.0**
	baz=70,SNR=13						
R12A	**Pony Springs,**	**70.28**	**56**	⇑P	**P**	**17 21 44.7**	**+0.1**
	baz=70,SNR=15						
BW06	**Boulder Array**	**70.31**	**49**	⇑P	**P**	**17 21 44.4**	**-0.1**
	baz=70						
PDAR	**Pinedale Array**	**70.31**	**49**	P	**P**	**17 21 44.1**	**-0.4**
	comp=Z,37nm,1.0s,mb5.3,baz=265,slow=1.5,SNR=82						
PDAR				LR	LR	17 48 58.1	
	comp=Z,713nm,21.9s,MS4.9,baz=332,slow=33						
PDAR				PKP2bc		17 49 37.0	
	comp=Z,0.7nm,1.0s,baz=108,slow=4.8,SNR=4.3						
PDAR	**Pinedale Array**	**70.31**	**49**	P	**P**	**17 21 44.1**	**-0.4**
PDAR				LR	LR	17 48 58.1	
PDAR				⇑*e*		17 49 37.0	
P14A	**Drum Mountains**	**70.38**	**54**	⇑P	**P**	**17 21 45.6**	**+0.4**
	baz=70,SNR=39						
EDW2	**Edwards Air Fo**	**70.41**	**60**	⇑P	**P**	**17 21 45.5**	**+0.2**
	baz=70,SNR=29						
U10A	**Ash Meadows, A**	**70.46**	**58**	⇑P	**P**	**17 21 45.8**	**+0.2**
	baz=70,SNR=22						
SNCC	**San Nicolas Is**	**70.47**	**63**	⇑P	**P**	**17 21 46.7**	**+0.9**
	baz=70						
N16A	**Rees Ranch, Co**	**70.48**	**52**	⇑P	**P**	**17 21 45.8**	**+0.1**
	baz=70,SNR=11						
S12A	**Delamar Landin**	**70.60**	**56**	⇓P	**P**	**17 21 47.0**	**+0.5**
	baz=70,SNR=18						
T11A	**Corn Creek, Al**	**70.61**	**57**	⇓P	**P**	**17 21 46.5**	**-0.1**
	baz=70,SNR=32						
Q14A	**Sevier Lake (B**	**70.65**	**54**	⇑P	**P**	**17 21 47.4**	**+0.7**
	baz=70,SNR=59						
JLU	**Jordanelle**	**70.66**	**52**	*e*P	**P**	**17 21 46.7**	**-0.1**
	comp=Z,30nm,1.1s,mb5.1						
NLU	**North Lily Min**	**70.73**	**53**	*e*P	**P**	**17 21 47.5**	**+0.3**
	comp=Z,31nm,0.9s,mb5.2						
R13A	**O'Grain Ranch,**	**70.76**	**55**	⇓P	**P**	**17 21 47.5**	**0.0**
	baz=71,SNR=12						
MWC	**Mount Wilson**	**70.78**	**61**	*e*P	**P**	**17 21 49.0**	**+1.3**
MWC				pmax	pmax		
	comp=Z,56nm,1.2s,mb5.4						
MWC	**Mount Wilson**	**70.78**	**61**	*e*P	**P**	**17 21 49.0**	**+1.3**
	comp=Z,56nm,1.2s,mb5.4						
N17A	**Moffit Pass**	**70.79**	**52**	⇓P	**P**	**17 21 47.9**	**+0.3**
	baz=71,SNR=50						
GSC	**Goldstone**	**70.88**	**59**	*e*P	**P**	**17 21 48.0**	**-0.2**
GSC				pmax	pmax		
	comp=Z,34nm,1.1s,mb5.2						
GSC	**Goldstone**	**70.88**	**59**	⇑P	**P**	**17 21 48.3**	**+0.1**
	baz=71,SNR=17						
GSC	**Goldstone**	**70.88**	**59**	*e*P	**P**	**17 21 48.0**	**-0.2**
	comp=Z,34nm,1.1s,mb5.2						
O16A	**Springville**	**70.89**	**53**	⇓P	**P**	**17 21 48.4**	**+0.2**
	baz=71,SNR=16						
DAU	**Daniels Canyon**	**70.90**	**52**	*e*P	**P**	**17 21 48.7**	**+0.5**
	comp=Z,49nm,1.1s,mb5.3						

MPU Maple Canyon 70.94 53 *e*P P 17 21 48.1 -0.4
comp=Z,56nm,1.0s,mb5.4
BFSC Mount Baldy St 71.03 61 ⇓P P 17 21 48.9 -0.2
baz=71,SNR=18
GNI Garni 71.03 308 ⇑P P 17 21 50.1 +1.0
SNR=26
GNI Garni 71.03 308 P P 17 21 49.9 +0.8
comp=Z,18nm,0.6s,mb5.1,baz=352,slow=1.4,SNR=20
GNI Garni 71.03 308*c i*P P 17 21 50.6 +1.5
GNI pmax pmax
comp=Z,81nm,1.0s
GNI MLR MLR
comp=Z,3μm,28.0s
GNI Garni 71.03 308 *e*P P 17 21 52.0 +3.0
comp=Z,271nm,1.4s,mb6.0
U11A Corn Creek 71.04 58 ⇓P P 17 21 49.7 +0.5
baz=71
CIS Catalina Islan 71.09 62 ⇓P P 17 21 49.4 -0.1
baz=71
Q15A Fillmore 71.17 54 ⇓P P 17 21 50.2 +0.2
baz=71,SNR=9.1
S13A Holt Ranch, En 71.22 56 ⇑P P 17 21 50.4 +0.2
baz=71,SNR=12
SCI San Clemente I 71.27 62 ⇓P P 17 21 50.4 -0.2
baz=71
KONO Kongsberg 71.31 339 *e*P P 17 21 52.7 +2.3
KONO AMS AMS 17 57 08.0
comp=Z,3μm,22.0s,MS5.5
KONO Kongsberg 71.31 339 *i*P P 17 21 50.4 0.0
ARUT Antelope Range 71.34 55 *e*P P 17 21 51.0 0.0
comp=Z,32nm,1.1s,mb5.2
O17A Robinson Place 71.34 52 ⇓P P 17 21 51.1 +0.2
baz=71,SNR=18
TUQ Turquoise Moun 71.35 59 ⇑P P 17 21 51.1 0.0
baz=71,SNR=11
V11A Goodsprings 71.39 58 ⇑P P 17 21 51.5 +0.2
baz=71
N18A Larsen Ranch, 71.43 51 ⇓P P 17 21 50.9 -0.6
baz=71,SNR=14
BBRC Big Bear Sol-O 71.48 60 ⇓P P 17 21 52.2 +0.3
baz=71
HEC Hector,Ludlow 71.48 59 ⇑P P 17 21 51.5 -0.4
baz=71,SNR=31
S14A Cedar City 71.52 55 ⇓P P 17 21 52.1 0.0
baz=71
SOC Sochi 71.53 313*c i*P P 17 21 52.0 0.0
SOC *e**PP pP 17 22 03.8 -3.6
SOC *e* pP 17 22 08.9 +1.5
SOC *e**SP sP 17 22 14.1 +0.6
SOC *i* S S 17 31 06.5 0.0
SOC *e* 17 31 41.1
SOC pmax pmax
comp=Z,65nm,0.7s,mb5.7
SOC MLR MLR
comp=Z,6μm,21.0s,MS5.8
SOC Sochi 71.53 313 *i*P P 17 21 52.1 +0.1
SUW Suwalki 71.54 329 *e*P P 17 21 51.3 -0.5
SUW LMZ 17 53 38.6
comp=Z,4μm,25.2s
SUW Suwalki 71.54 329 *e*P P 17 21 51.2 -0.6
SUW pmax pmax
comp=Z,145nm,1.0s,mb5.9
SUW Suwalki 71.54 329 *e*P P 17 21 51.2 -0.6
comp=Z,145nm,1.0s,mb5.9
CCUT Cedar City 71.54 56 *e*P P 17 21 52.1 0.0
comp=Z,37nm,1.1s,mb5.2
U12A Valley of Fire 71.55 57 ⇑P P 17 21 52.6 +0.4
baz=71,SNR=7.0
T13A Saint George 71.56 56 ⇓P P 17 21 52.8 +0.5
baz=71,SNR=8.6
AKASG Malin Array Be 71.58 324 P P 17 21 51.4 -0.8
comp=Z,43nm,0.8s,mb5.5,baz=38,slow=6.0,SNR=107
AKASG PKP2bc 17 49 35.9
comp=Z,0.1nm,0.2s,baz=243,slow=2.6,SNR=4.6
AKASG LR LR 17 56 14.2
comp=Z,4μm,19.0s,MS5.7,baz=55,slow=38
AKASG Malin Array Be 71.58 324 P P 17 21 51.4 -0.8
AKASG ⇑*e* 17 49 35.9
AKASG LR LR 17 56 14.2
KIEV Kiev 71.59 324 *e*P P 17 21 51.4 -0.8
KIEV pmax pmax
comp=Z,147nm,1.3s,mb5.8
KIEV Kiev 71.59 324 *e*P P 17 21 51.4 -0.8
comp=Z,148nm,1.3s,mb5.8
MSU Marysvale 71.61 54 *e*P P 17 21 52.5 0.0
comp=Z,83nm,1.5s,mb5.5
TMUT Trail Mountain 71.66 53 *e*P P 17 21 53.0 +0.2
comp=Z,29nm,1.0s,mb5.2
BORG Borgarnes 71.67 355 P P 17 21 54.0 +1.5
comp=Z,860nm,0.8s,mb6.7,SNR=10
BORG Borgarnes 71.67 355 *e*P P 17 21 53.1 +0.7
comp=Z,143nm,0.9s,mb5.9
O18A Roosevelt 71.71 52 ⇑P P 17 21 53.6 +0.4
baz=72,SNR=17
MURC Murrieta 71.73 61 ⇓P P 17 21 53.7 +0.3
baz=72
BER Bergen 71.75 341 *e*S S 17 31 09.3 +0.8
BER AMS AMS 17 57 03.5
comp=Z,1μm,20.4s,MS5.2
N19A John Jarvie Ra 71.76 51 ⇓P P 17 21 53.1 -0.3
baz=72,SNR=7.3
P17A Butcher Ranch, 71.82 53 ⇑P P 17 21 54.2 +0.4
baz=72,SNR=7.8
V12A Nelson 71.82 58 ⇓P P 17 21 54.1 +0.2
baz=72,SNR=13
ULM Lac du Bonnet 71.88 37 P P 17 21 52.3 -1.7
comp=Z,40nm,0.9s,mb5.3,baz=316,slow=7.5,SNR=22
ULM LR LR 17 55 32.2
comp=Z,1μm,20.1s,MS5.2,baz=132,slow=38
ULM Lac du Bonnet 71.88 37 *e*P P 17 21 52.4 -1.6
comp=Z,50nm,1.0s,mb5.4
ANN Anapa 71.89 315 *e*P P 17 21 53.2 -0.9
ANN *i* *PP pP 17 22 11.2 +1.7
ANN *i* S S 17 31 10.3 -0.3
ANN pmax pmax
comp=Z,60nm,0.6s,mb5.7
U13A Pakoon Wash 71.92 57 ⇑P P 17 21 54.7 +0.2
baz=72,SNR=61
Q16A Castle Valley 71.94 53 ⇑P P 17 21 54.7 +0.2
baz=72,SNR=14
GMRC Granite Mounta 71.94 59 ⇓P P 17 21 54.4 -0.2
baz=72,SNR=22
ARTV Artvin 71.94 310 *i*P P 17 21 55.5 +1.0
DBOC Borcka 71.98 310 *i*P P 17 21 55.4 +0.6
P18A Preston Nutter 72.00 52 ⇓P P 17 21 55.0 +0.1
baz=72,SNR=19
DAGI Agillar 72.02 310 *i*P P 17 21 55.5 +0.5
T14A Hurricane 72.03 56 ⇓P P 17 21 55.6 +0.5
baz=72,SNR=5.9
S15A Panguitch 72.05 55 ⇑P P 17 21 55.8 +0.5
baz=72
LDFC Landfair 72.08 59 *e*P P 17 21 55.3 -0.2
comp=Z,25nm,0.4s,mb5.5
W12A Cal Nev Ari 72.09 58 ⇑P P 17 21 55.3 -0.2
baz=72,SNR=5.1
R16A Teasdale 72.17 54 ⇑P P 17 21 56.9 +0.9
baz=72,SNR=45
SRU San Rafael 72.18 53 *e*P P 17 21 55.9 -0.1
SRU pmax pmax
comp=Z,50nm,1.0s,mb5.4
SRU San Rafael 72.18 53 ⇑P P 17 21 56.2 +0.2
baz=72,SNR=43
SRU San Rafael 72.18 53 *e*P P 17 21 55.9 -0.1
comp=Z,74nm,1.0s,mb5.6
DBAD Bademkaya 72.18 310 *i*P P 17 21 56.4 +0.5
O19A Miners Draw (B 72.19 51 ⇓P P 17 21 55.3 -0.7
baz=72,SNR=18
PFO Pinyon Flat Ob 72.20 60 P P 17 21 56.1 -0.1
comp=Z,147nm,1.1s,mb5.8,SNR=5.6
PFO Pinyon Flat Ob 72.20 60 *e*P P 17 21 56.1 -0.1
PFO pmax pmax
comp=Z,51nm,1.3s,mb5.3
PFO Pinyon Flat Ob 72.20 60 ⇑P P 17 21 55.6 -0.6
baz=72,SNR=12
PFO Pinyon Flat Ob 72.20 60 *e*P P 17 21 56.1 -0.1
comp=Z,51nm,1.3s,mb5.3
BELC Belle Mtn. 72.23 60 ⇓P P 17 21 55.6 -0.8
baz=72,SNR=14
DDEM Demirkent 72.24 310 *i*P P 17 21 57.3 +1.0
109C Camp Elliot, M 72.25 61 ⇓P P 17 21 56.3 -0.2
baz=72
V13A Grand Canyon W 72.27 57 ⇓P P 17 21 56.9 +0.3
baz=72,SNR=22
BLS5 Blasjo 72.32 340 ⇑*i*P P 17 21 57.6 +1.2
BLS5 AMb AMB 17 22 00.7
comp=Z,50nm,0.8s,mb5.5
BLS5 Blasjo 72.32 340 *e*P P 17 21 57.8 +1.4
comp=Z,50nm,0.8s,mb5.5
RWWY Rawlins 72.32 49 *e*P P 17 21 56.4 -0.4
comp=Z,77nm,1.0s,mb5.6
U14A Mt Trumbull 72.39 56 ⇑P P 17 21 58.0 +0.7
baz=72,SNR=32
Q18A Rafter H Ranch 72.42 53 ⇑P P 17 21 56.9 -0.5
baz=72,SNR=11
T15A Red Dirt Ranch 72.47 56 ⇓P P 17 21 57.8 0.0
baz=72,SNR=16
S16A Weppner Ranch, 72.48 55 ⇑P P 17 21 58.4 +0.6
baz=72,SNR=36
R17A Hanksville Air 72.53 53 ⇓P P 17 21 57.9 -0.2
baz=72,SNR=31
IRM Iron Mountain 72.66 59 ⇑P P 17 21 58.7 -0.2
baz=72,SNR=30
BAR Barrett 72.66 61 *e*P P 17 21 58.4 -0.6
comp=Z,51nm,1.2s,mb5.3
MONP Monument Peak 72.69 61 ⇓P P 17 21 59.0 -0.2
baz=72,SNR=13
BC3 Big Chuckw Mtn 72.80 60 ⇓P P 17 21 59.1 -0.6
baz=73,SNR=15
W13A Hualapai Mount 72.83 58 ⇓P P 17 22 00.0 +0.1
baz=73,SNR=17
U15A North Rim 72.92 56 ⇑P P 17 22 00.8 +0.4
baz=73,SNR=54
BANOM Banah 72.92 290 P P 17 22 02.4 +1.8
SNR=11
V14A Boquillas Ranc 72.95 57 ⇓P P 17 22 01.4 +0.8
baz=73,SNR=60
S17A Black Ridge (B 73.00 54 ⇑P P 17 22 00.5 -0.4
baz=73,SNR=47
Q19A Hogan Spring (73.02 52 ⇓P P 17 21 60.0 -1.0
baz=73,SNR=46
T16A Glen Canyon Da 73.02 55 ⇑P P 17 22 00.5 -0.5
baz=73
R18A Canyonlands Na 73.03 53 ⇑P P 17 22 00.4 -0.6
baz=73,SNR=29
DVTC Desert V Tower 73.04 61 ⇑P P 17 22 01.1 -0.1
baz=73,SNR=10
SWSC Sam W. Stewart 73.05 61 ⇓P P 17 22 00.7 -0.5
baz=73,SNR=5.6
SNART Snartemo 73.08 339 *e*P P 17 22 01.0 0.0
SNART AMb AMB 17 22 03.6
comp=Z,131nm,0.9s,mb5.9
X13A Yucca 73.20 58 ⇓P P 17 22 02.4 +0.3
baz=73
PDMCI Parker Dam,Lak 73.20 59 ⇓P P 17 22 01.9 -0.2
baz=73,SNR=8.0
BIDO Bidbid 73.21 287 P P 17 22 04.0 +1.7
SNR=22
WBK Wadi Bani Khal 73.21 285 P P 17 22 03.9 +1.5
SNR=14
W14A Seligman 73.25 57 ⇓P P 17 22 02.8 +0.5
baz=73,SNR=46
Y12C Blythe 73.32 59 ⇓P P 17 22 02.5 -0.3
baz=73,SNR=9.2
AGMN Agassiz Refuge 73.33 38 *e*P P 17 22 01.1 -1.5
comp=Z,65nm,1.0s,mb5.5
HAKT HAKKARI 73.36 306 *i*P P 17 22 03.8 +0.8
WAL1 Walls 73.38 344⇑*e*P P 17 22 01.8 -0.9
V15A Kaibab Nationa 73.40 56 ⇓P P 17 22 03.6 +0.4
baz=73,SNR=20
LRW Lerwick 73.40 344⇑*e*P P 17 22 02.4 -0.5
LRW AMb AMB 17 22 10.1
comp=Z,113nm,1.6s,mb5.5
T17A Navajo Res., N 73.43 55 ⇑P P 17 22 03.2 -0.2
baz=73
S18A Hurst Farm, Bl 73.44 54 ⇓P P 17 22 03.1 -0.4
baz=73,SNR=53
SIM Simferopol' 73.46 317*ce*P P 17 22 04.0 +0.5
SIM *e**PP pP 17 22 21.0 +2.1
SIM *e*S S 17 31 29.0 +0.4
SIM pmax pmax
comp=Z,53nm,0.8s,mb5.5
KOPT Kop Dagi 73.53 310 *i*P P 17 22 05.6 +1.6
PV10 Paradox Valley 73.54 53 *e*P P 17 22 04.5 +0.4
comp=Z,2μm,0.9s,mb7.0
PHWY Pilot Hill 73.55 48 *e*P P 17 22 03.8 -0.3
baz=73,SNR=1.4
SMDO Samad 73.57 286 P P 17 22 06.7 +2.3
SNR=16
GLA Glamis 73.59 60 *e*P P 17 22 04.3 -0.1
GLA pmax pmax
comp=Z,71nm,1.2s,mb5.5
GLA Glamis 73.59 60 ⇓P P 17 22 04.6 +0.2
baz=73,SNR=9.1
GLA Glamis 73.59 60 *e*P P 17 22 04.3 -0.1
comp=Z,71nm,1.2s,mb5.5
ARMA Armidale 73.71 176 *e*P P 17 22 04.9 0.0
Y13A Salome 73.71 59 ⇓P P 17 22 04.9 -0.2
baz=74,SNR=10
HOQ Hoqain 73.74 287 P P 17 22 07.1 +1.7
SNR=28
HATD Hatta, Dubai 73.75 289 P P 17 22 05.9 +0.4
SNR=40
W15A Williams 73.77 57 ⇑P P 17 22 05.9 +0.4
baz=74,SNR=16
U17A Shonto 73.78 55 ⇓P P 17 22 05.5 0.0
baz=74,SNR=23
U16A Tuba City 73.81 55 ⇑P P 17 22 06.2 +0.5
baz=74,SNR=42
X14A Yava 73.86 58 ⇑P P 17 22 06.4 +0.4
baz=74,SNR=38
COP Copenhagen 73.87 335⇓*i*P P 17 22 06.7 +1.1
COP *i* S S 17 31 29.5 -3.2
COP pmax pmax
comp=Z,64nm,0.8s,mb5.6
COP MLR MLR
comp=Z,1μm,19.0s,MS5.2
COP Copenhagen 73.87 335⇓*i*P P 17 22 06.7 +1.1
comp=Z,64nm,0.8s,mb5.6
COP *i* S S 17 31 29.5 -3.2
COP *i* 17 31 40.9
COP
comp=Z,1μm,19.0s
T18A Mexican Hat 73.89 54 ⇑P P 17 22 05.5 -0.6
baz=74,SNR=51
S19A Harvey Farm, M 73.91 53 ⇓P P 17 22 06.0 -0.2
baz=74,SNR=66
PV01 Paradox Valley 73.97 53 *e*P P 17 22 06.5 -0.1
comp=Z,3μm,1.0s
JMDO Jabal Madar 73.98 286 P P 17 22 07.5 +0.6
SNR=23
WUAZ Wupatki 74.08 56 ⇓P P 17 22 07.9 +0.6
baz=74
WUAZ Wupatki 74.08 56 *e*P P 17 22 07.3 0.0
comp=Z,49nm,1.1s,mb5.3
Y14A Wickenburg 74.14 58 ⇑P P 17 22 07.2 -0.4
baz=74,SNR=24
MUD Monsted U'grnd 74.17 337⇑*i*P P 17 22 07.3 -0.1
MUD *e* pP 17 22 20.6 -2.3
MUD *i* S S 17 31 38.3 +2.1
MUD pmax pmax
comp=Z,72nm,0.8s,mb5.7
MUD MLR MLR
comp=Z,3μm,20.0s,MS5.6
MUD Monsted U'grnd 74.17 337⇑*i*P P 17 22 07.3 -0.1
comp=Z,72nm,0.8s,mb5.7
MUD *e* pP 17 22 20.6 -2.3
MUD *i* S S 17 31 38.3 +2.1
MUD *i* 17 31 44.5
MUD
comp=Z,3μm,20.0s
MUD Monsted U'grnd 74.17 337⇑*i*P P 17 22 07.3 -0.1
comp=Z,72nm,0.8s,mb5.7
MUD *e* pP 17 22 20.6 -2.3
MUD *i* S S 17 31 38.3 +2.1
MUD *i* 17 31 44.5
X15A Humboldt 74.25 57 ⇓P P 17 22 08.5 +0.3
baz=74,SNR=33
W16A Flagstaff 74.27 57 ⇑P P 17 22 09.0 +0.7
baz=74,SNR=12
GKP Gorka Klasztor 74.29 331 *e*P P 17 22 08.0 -0.1
GKP LMZ 17 56 18.3
comp=Z,4μm,25.0s
BSY Bisya 74.36 287 P P 17 22 09.5 +0.4
SNR=49
LVV L'vov 74.44 326 *e*P P 17 22 08.3 -0.8
LVV *e* pP 17 22 26.9 +2.4
LVV *e*S S 17 31 35.9 -3.4
LVV MLR MLR
comp=N,1μm,20.0s,MS5.3
LVV MLR MLR
comp=E,1μm,20.0s,MS5.3
LVV MLR MLR
comp=Z,1μm,20.0s,MS5.1
113A Mohawk Valley, 74.44 60 ⇓P P 17 22 09.1 -0.3
baz=74,SNR=12
MSL Mosul 74.49 306 *ex* x 17 22 12.0
MSL *ex* x 17 31 41.0
KIS Kishinev 74.50 321 *e*P P 17 22 08.0 -1.5
KIS *i* pP 17 22 21.0 -3.9
KIS *i* *PP pP 17 22 26.0 +1.1
KIS *e*S S 17 31 37.0 -3.1
KIS *e**SS sS 17 32 12.0 +5.9
KIS *e*PS 17 32 34.0
KIS MLR MLR
comp=N,2μm,17.0s,MS5.6
KIS MLR MLR
comp=E,2μm,20.0s,MS5.6
KIS MLR MLR
comp=Z,4μm,20.0s,MS5.8
KIS MLR MLR
comp=Z,5μm,20.0s
KIS Kishinev 74.50 321 *i* PcP PcP 17 22 21.0 -2.8
KIS *i* pP pP 17 22 26.0 +1.1
KIS *e*S S 17 32 02.0 +22
KIS *e*sS sS 17 32 12.0 +5.9
ISCO Idaho Springs 74.50 50 *e*P P 17 22 10.0 +0.4
ISCO pmax pmax
comp=Z,54nm,1.2s,mb5.3
ISCO Idaho Springs 74.50 50 *e*P P 17 22 10.0 +0.3
comp=Z,54nm,1.2s,mb5.3
RGN Rugen 74.55 334 *e*P P 17 22 10.4 +0.8
comp=Z,198nm,1.1s,mb6.0
Y15A Casa Rosa Ranc 74.55 58 ⇑P P 17 22 09.9 0.0
baz=74,SNR=23
T19A Beclabito 74.59 54 ⇓P P 17 22 09.9 -0.4
baz=74,SNR=19
MVCO Mesa Verde 74.64 53 ⇓P P 17 22 10.7 +0.2
baz=74
MVCO Mesa Verde 74.64 53 *e*P P 17 22 10.5 0.0
comp=Z,46nm,1.1s,mb5.3
W17A Winslow 74.78 56 ⇑P P 17 22 11.8 +0.5
baz=75
X16A Lo Mia Camp, P 74.78 57 ⇑P P 17 22 11.6 +0.2
baz=75,SNR=35
V18A Ganado 74.82 55 ⇑P P 17 22 11.9 +0.4
baz=75,SNR=34
Y16A Circle Bar Ran 75.12 57 ⇑P P 17 22 13.5 +0.2
baz=75,SNR=21
KWP Kalwaria 75.12 326 *e*P P 17 22 13.6 +0.6
KWP LMZ 17 57 29.5
comp=Z,4μm,22.1s
KWP Kalwaria 75.12 326 *e*P P 17 22 13.1 +0.1
KWP pmax pmax
comp=Z,305nm,1.0s,mb6.2
KWP Kalwaria 75.12 326⇓*i*P P 17 22 14.0 +1.0
KWP Kalwaria 75.12 326 *e*P P 17 22 13.1 0.0
comp=Z,305nm,1.0s,mb6.2
STKA Stephens Creek 75.17 184 *e*P P 17 22 12.9 -0.4
comp=Z,53nm,0.8s,mb5.5
STKA *e* pP 17 22 27.3 -1.5
STKA Stephens Creek 75.17 184 P P 17 22 11.8 -1.5
comp=Z,67nm,0.8s,mb5.6,baz=345,slow=7.3,SNR=67
STKA LR LR 17 52 15.1
comp=Z,1μm,21.9s,MS5.1,baz=2.5,slow=33
DIYA Diyarbakir 75.19 308 *i*P P 17 22 14.7 +1.1
X17A Forest Lakes 75.22 57 ⇓P P 17 22 14.9 +1.0
baz=75,SNR=16
W18A Petrified Fore 75.34 55 ⇓P P 17 22 15.3 +0.7
baz=75
V19A Window Rock 75.34 55 ⇑P P 17 22 15.1 +0.5
baz=75,SNR=7.8
115A Sonoran Desert 75.45 59 ⇓P P 17 22 15.5 +0.2
baz=75,SNR=5.9
EYMN Ely 75.51 36 *e*P P 17 22 14.2 -1.1
comp=Z,96nm,1.0s,mb5.7
Z16A Peralta Trail, 75.52 58 ⇑P P 17 22 15.3 -0.3
baz=75,SNR=5.5
MLA1 Latheron 75.53 344⇑*e*P P 17 22 14.7 -0.5
W19A Sanders 75.55 55 ⇑P P 17 22 16.1 +0.3
baz=75,SNR=20
214A Organ Pipe Nat 75.59 60 ⇑P P 17 22 16.1 +0.1
baz=75,SNR=8.0
X18A Snowflake 75.61 56 ⇓P P 17 22 16.4 +0.3
baz=75,SNR=6.1
BUR08 Bucovina Ar. S 75.62 323 *e*P P 17 22 15.9 0.0
Y17A Roosevelt 75.63 57 ⇑P P 17 22 16.6 +0.3
baz=76,SNR=20
BURAR Bucovina Array 75.63 323⇑*i*P P 17 22 16.2 +0.2
BURAR Bucovina Array 75.63 323 P P 17 22 16.2 +0.2
OGNE Ogallala 75.64 47 *e*P P 17 22 15.9 -0.2
comp=Z,217nm,1.0s,mb6.0
OJC Ojcow 75.81 328 *e*P P 17 22 16.2 -0.8
OJC *ep*P pP 17 22 31.1 -1.3
OJC *es*P sP 17 22 37.4 -1.2
OJC *e*S S 17 31 54.8 +0.3
OJC L 17 57 38.7
comp=Z,3.2nm,21.6s
OJC Ojcow 75.81 328 *e*P P 17 22 16.2 -0.8
OJC *e**PP pP 17 22 31.1 -1.3
OJC *e*S S 17 31 54.8 +0.3
OJC MLR MLR
comp=Z,3μm,21.6s,MS5.6
RSC Scourie 75.84 345 *e*P P 17 22 16.7 -0.2
KOLS Kolonicke sedl 75.85 326 *e*P P 17 22 17.4 +0.2
KOLS *e* 17 22 26.6
KOLS *e*S S 17 31 53.8 -1.2
KOLS Kolonicke sedl 75.85 326 *e*P P 17 22 17.4 +0.2
KOLS *ep*P pP 17 22 26.6 -6.1
KOLS *es*P sP 17 22 39.4 +0.6
KOLS *e*S S 17 31 53.8 -1.2
BHD Baghdad 75.85 302 *ex* x 17 22 22.0
BHD *ex* x 17 22 33.5
BHD *ex* x 17 32 00.0
BHD *ex* x 17 32 19.0
116A Eloy 75.87 59 ⇑P P 17 22 17.9 +0.2
baz=76
STHS Stebnicka Huta 75.88 327 *e*P P 17 22 18.1 +0.7
FORT Forrest 75.88 196 *e*P P 17 22 17.7 +0.3
comp=Z,109nm,0.7s,mb5.9
SDCO Great Sand Dun 75.99 51 *e*P P 17 22 18.1 -0.1
comp=Z,22nm,1.1s,mb5.0
BSEG Bad Segeberg 76.00 335 *e*P P 17 22 18.1 +0.1
BSEG pmax pmax
comp=Z,108nm,0.9s,mb5.8
BSEG Bad Segeberg 76.00 335 *e*P P 17 22 18.1 +0.1
comp=Z,108nm,0.9s,mb5.8
MVH1 Achvaich 76.05 344⇑*e*P P 17 22 17.5 -0.7
Y18A Canyon Day Jun 76.07 57 ⇑P P 17 22 19.5 +0.8
baz=76
REB Eisghbrachaidh 76.08 345 *e*P P 17 22 17.7 -0.6
X19A St. Johns 76.08 56 ⇓P P 17 22 19.4 +0.7
baz=76,SNR=34
UZH Uzhgorod 76.08 326 *e*P P 17 22 18.0 -0.5
UZH *e* pP 17 22 35.0 +1.0
UZH *e* 17 25 19.0
UZH *i* S S 17 31 55.0 -2.5
UZH *i* 17 32 23.0
UZH *ePS* 17 32 47.0
UZH MLR MLR
comp=N,2μm,19.0s,MS5.6
UZH MLR MLR
comp=E,2μm,19.0s,MS5.6
UZH MLR MLR
comp=Z,2μm,19.0s,MS5.4
RUE Ruedersdorf 76.13 333 *e*P P 17 22 18.7 0.0
comp=Z,92nm,0.9s,mb5.7
RUE *ep*P pP 17 22 36.3 +2.1
RUE Ruedersdorf 76.13 333 *e*P P 17 22 18.6 -0.1
comp=Z,100nm,1.0s,mb5.7
Z17A San Carlos Hig 76.13 57 ⇓P P 17 22 19.8 +0.7
baz=76
AKCD Akcadag 76.17 310 *i*P P 17 22 20.2 +1.0
MCD Coleburn Disti 76.18 344⇑*e*P P 17 22 17.8 -1.1
CRVS Cervenica-Dubn 76.20 326 *e*P P 17 22 19.1 -0.1
CRVS pmax pmax
comp=Z,37nm,1.3s,mb5.2
CRVS Cervenica-Dubn 76.20 326 *e*P P 17 22 19.1 -0.1
comp=Z,37nm,1.3s,mb5.2
CRVS *e*S S 17 31 56.6 -2.3
CTKT Corum 76.22 313 *i*P P 17 22 20.7 +1.3
NIE Niedzica 76.25 327 *e*P P 17 22 20.2 +0.7
NIE *ep*P pP 17 22 27.1 -7.9
UMR Umm Al-Rimmam 76.25 298 *e*P P 17 22 19.1 -0.8
baz=298
UMR AMb AMB 17 22 33.2
comp=Z,278nm,0.7s,mb6.3,baz=298
BALT Daday 76.29 315 *i*P P 17 22 21.4 +1.6
VRI Vrincioaia 76.30 321⇓*i*P P 17 22 20.2 +0.4
VRI Vrincioaia 76.30 321 P P 17 22 20.3 +0.5

MIB Mutribah 76.33 298 *e*P **P 17 22 20.1 -0.2**
baz=298
MIB AMb AMB 17 22 22.6
comp=Z,248nm,0.8s,mb6.2,baz=298
PLOR Plostina 76.35 321⇓*i*P **P 17 22 20.9 +0.8**
ECSD EROS,Sioux Fal 76.36 42 *e*P **P 17 22 18.8 -1.4**
comp=Z,105nm,1.0s,mb5.7
216A Three Points, 76.40 59⇓P **P 17 22 20.9 +0.3**
baz=76,SNR=8.4
RRR Rubha Reidh 76.42 345 *e*P **P 17 22 20.1 -0.2**
Y19A Nutrioso 76.42 56⇓P **P 17 22 21.8 +1.1**
baz=76
117A Oracle 76.46 58⇓P **P 17 22 21.0 +0.1**
baz=76,SNR=5.6
RRH Rhenigidale 76.52 346⇑*e*P **P 17 22 20.1 -0.7**
KBD Kabd 76.52 297 *e*P **P 17 22 21.0 -0.4**
baz=297
KBD AMb AMB 17 22 40.1
comp=Z,164nm,1.5s,mb5.7,baz=297
RAC Raciborz 76.53 329 *e*P **P 17 22 21.8 +0.8**
RAC *e*S S 17 32 02.0 -0.5
RAC MLR MLR
comp=Z,4µm,22.0s,MS5.7
MDO Dochfour 76.53 344⇑*e*P **P 17 22 20.3 -0.6**
Z18A Geronimo 76.54 57⇑P **P 17 22 21.9 +0.5**
baz=76
TIRR Tirgusor 76.59 320 *e*P **P 17 22 21.3 -0.2**
TIRR pmax pmax
comp=Z,64nm,1.2s,mb5.4
TIRR Tirgusor 76.59 320 *e*P **P 17 22 21.3 -0.2**
comp=Z,64nm,1.2s,mb5.4
KSP Ksiaz 76.61 330⇑*e*P **P 17 22 21.6 +0.1**
KSP *e*S S 17 32 01.5 -1.8
KSP MLR MLR
comp=Z,7µm,25.6s,MS5.9
KSP Ksiaz 76.61 330⇑*e*P **P 17 22 21.6 +0.1**
KSP *e*S S 17 32 01.5 -1.8
KSP *e*SS SS 17 37 26.0 +28
KSP LR LR
comp=Z,7µm,25.6s,MS5.9
TUC Tucson 76.61 58 *e*P **P 17 22 21.6 -0.2**
comp=Z,29nm,1.3s,mb5.0
HARR Harsova 76.64 320⇓*i*P **P 17 22 22.2 +0.4**
HARR Harsova 76.64 320 P **P 17 22 22.2 +0.4**
KAC Achnashellach 76.66 345⇑*e*P **P 17 22 21.5 -0.2**
OKC Ostrava-Krasne 76.75 329 *e*P **P 17 22 22.3 0.0**
OKC *ep*P pP 17 22 37.9 +0.1
OKC *e*S S 17 32 02.7 -2.1
OKC AMS AMS 17 57 40.0
comp=Z,3µm,21.1s
OKC Ostrava-Krasne 76.75 329 *e*P **P 17 22 22.3 0.0**
OKC *ep*P pP 17 22 37.9 +0.1
OKC *e*S S 17 32 02.7 -2.1
RST Umm Al-Ruwaisa 76.75 298 *e*P **P 17 22 21.7 -1.0**
baz=298
RST AMb AMB 17 22 24.7
comp=Z,273nm,0.9s,mb6.2,baz=298
RDF Al-Radifah 76.78 297 *e*P **P 17 22 22.5 -0.4**
baz=297
RDF AMb AMB 17 22 39.4
comp=Z,361nm,1.5s,mb6.1,baz=297
Z19A T-Link Ranch, 76.87 57⇑P **P 17 22 23.8 +0.5**
baz=77,SNR=9.7
KPL Plockton 76.88 345⇑*e*P **P 17 22 22.7 -0.1**
KPL AMb AMB 17 22 25.1
comp=Z,109nm,0.9s,mb5.8
118A Homack Ranch, 76.89 57⇑P **P 17 22 23.7 +0.3**
baz=77,SNR=31
MLR Muntele Rosu 76.94 322⇑*i*P **P 17 22 23.5 0.0**
MLR Muntele Rosu 76.94 322 P **P 17 22 24.0 +0.6**
KSB Sheil Bridge 76.96 345⇑*e*P **P 17 22 22.9 -0.4**
217A Green Valley 76.96 59⇑P **P 17 22 24.3 +0.5**
baz=77,SNR=12
UPC Upice 76.99 330 *e*P **P 17 22 24.2 +0.6**
UPC *e*PCP PcP 17 22 35.0 +0.6
DPC Dobruska-Polom 77.01 330 *e*P **P 17 22 24.2 +0.5**
DPC *e*PCP PcP 17 22 35.4 +0.9
DPC *e*S S 17 32 06.0 -1.6
DPC AMS AMS 17 58 50.0
comp=Z,3µm,18.9s
MORC Moravsky Berou 77.03 329⇓*i*P **P 17 22 24.3 +0.5**
MORC Moravsky Berou 77.03 329 *e*P **P 17 22 23.9 0.0**
comp=Z,59nm,0.9s,mb5.5
GZT Gaziantep 77.03 309 *i* P **P 17 22 26.9 +2.7**
CDAG Cicekdag 77.16 313 *i* P **P 17 22 24.5 -0.3**
119A Ashpeak Ranch, 77.21 57⇑P **P 17 22 25.3 +0.1**
baz=77,SNR=13
218A Dragoon 77.30 58⇓P **P 17 22 26.2 +0.5**
baz=77,SNR=16
KAR1 Arisaig 77.31 345 *e*P **P 17 22 25.3 0.0**
DRGR 77.35 324⇑*i*P **P 17 22 26.6 +0.9**
DRGR 77.35 324 P **P 17 22 26.2 +0.5**
CLL Collm 77.37 332⇑*i*P **P 17 22 25.2 -0.6**
CLL *e*S S 17 32 11.0 -0.6
CLL pmax pmax
comp=Z,49nm,0.9s,mb5.4
CLL MLR MLR
comp=Z,2µm,20.2s,MS5.5
CLL Collm 77.37 332 *e*P **P 17 22 25.2 -0.6**
comp=Z,140nm,0.8s,mb5.9
CLL Collm 77.37 332⇑*i*P **P 17 22 25.2 -0.6**
comp=Z,49nm,0.9s,mb5.4
CLL *i* Pmax 17 22 27.0
comp=Z,141nm,0.8s
CLL *ex* x 17 22 34.0
CLL *i* (pP) pP 17 22 39.9 -1.4
CLL *i* (sP) sP 17 22 44.8 -2.7
CLL *e*PP PP 17 25 27.0 +7.1
CLL *e*S S 17 32 11.0 -0.6
CLL *e*(SS) 17 37 58.0
CLL *e*SSS 17 40 48.0
CLL *e*(SSSS) 17 42 30.0
CLL Lm 18 01 00.0
comp=N,2µm,20.5s
CLL Lm 18 01 00.0
comp=E,900nm,19.0s
CLL Lm 18 01 00.0
comp=Z,2µm,20.2s
CLL Collm 77.37 332⇑*i*P **P 17 22 25.2 -0.6**
comp=Z,49nm,0.9s,mb5.4
CLL *i* 17 22 27.0
CLL *e*S S 17 32 11.0 -0.6
CLL LR LR
comp=Z,2µm,20.2s,MS5.5
LAZ Ladron 77.38 54 *e*P **P 17 22 26.5 +0.4**
comp=Z,24nm,1.3s,mb5.0
ANMO Albuquerque 77.39 54 *e*P **P 17 22 26.2 0.0**
ANMO pmax pmax
comp=Z,31nm,1.1s
ANMO Albuquerque 77.39 54 *e*P **P 17 22 26.2 0.0**
comp=Z,31nm,1.1s,mb5.2
BRG Berggiesshubel 77.42 332 *e*P **P 17 22 25.7 -0.3**
BRG *i* pP 17 22 42.9 +1.3
BRG S S 17 32 08.0 -4.1
BRG pmax pmax
comp=Z,11nm,1.1s,mb4.7
BRG MLR MLR
comp=E,982nm,19.1s,MS5.5
BRG MLR MLR
comp=N,2µm,18.6s,MS5.5
BRG MLR MLR
comp=Z,2µm,18.6s,MS5.5
BRG Berggiesshubel 77.42 332 *e*P **P 17 22 25.7 -0.3**
comp=Z,19nm,1.1s,mb5.0
BRG *e* 17 22 27.4
comp=Z,31nm,0.8s
BRG *i* pP 17 22 42.9 +1.3
comp=Z,48nm,1.1s
BRG S S 17 32 08.0 -4.1
BRG SS SS 17 37 54.0 +44
BRG *e*PKPPKP 17 49 42.4
comp=Z,2.2nm,0.7s
BRG
comp=N,3µm,18.6s
BRG
comp=E,2µm,19.1s
BRG
comp=Z,3µm,18.6s
BRG Berggiesshubel 77.42 332 *e*P **P 17 22 25.7 -0.3**
comp=Z,11nm,1.1s,mb4.7
BRG *e* 17 22 27.4
BRG *i* pP 17 22 42.9 +1.3
BRG S S 17 32 08.0 -4.1
BRG SS SS 17 37 54.0 +44
BRG *e*P'P' 17 49 42.4
BRG LR LR
comp=Z,2µm,18.6s,MS5.5
BR131 Keskin Array S 77.47 313 *e*P **P 17 22 27.0 +0.5**
comp=Z,12nm,0.6s,mb5.0
EBH Black Hill 77.48 344⇑*e*P **P 17 22 25.9 -0.4**
PVCC Panska Ves 77.49 331 *e*P **P 17 22 26.6 +0.2**
PVCC *ep*P pP 17 22 42.1 +0.2
PVCC *e*S S 17 32 11.9 -0.9
PVCC AMS AMS 18 01 30.0
comp=Z,3µm,17.4s
AVNT Avonos 77.51 312 *i* P **P 17 22 24.8 -1.9**
ANDN Andirin 77.55 310 *i* P **P 17 22 27.7 +0.7**
VYHS Vyhne 77.57 327 *e*P **P 17 22 27.2 +0.3**
VYHS *e*S S 17 32 14.3 +0.5
VYHS Vyhne 77.57 327 *e*P **P 17 22 27.2 +0.3**
VYHS *e*S S 17 32 14.3 +0.5
VYHS LR LR
comp=Z,1µm,22.0s,MS5.2
FBE Freiberg 77.58 332 *e*P **P 17 22 26.8 -0.1**
comp=Z,85nm,0.8s,mb5.7
ESY Stoneypath 77.59 343⇑*e*P **P 17 22 26.6 -0.4**
PSZ Piszkesteto 77.62 327 *e*P **P 17 22 27.6 +0.4**
PSZ pmax pmax
comp=Z,87nm,1.0s,mb5.6
PSZ Piszkesteto 77.62 327⇓*i*P **P 17 22 27.8 +0.6**
PSZ Piszkesteto 77.62 327 *e*P **P 17 22 27.6 +0.4**
comp=Z,87nm,1.0s,mb5.6
LENM Lemitar 77.64 55 *e*P **P 17 22 27.6 +0.1**
comp=Z,38nm,1.6s,mb5.1
KOLL Kolacno 77.67 328 *e*P **P 17 22 27.7 +0.2**
318A Bisbee 77.70 58⇑P **P 17 22 28.1 +0.2**
baz=78,SNR=25
EAB Aberfoyle 77.70 344⇑*e*P **P 17 22 27.3 -0.2**
EDI Edinburgh 77.71 343 *e*P **P 17 22 27.6 +0.1**
EDI AMb AMB 17 22 29.7
comp=Z,68nm,1.0s,mb5.5
JAVC Velka Javorina 77.73 328 P **P 17 22 29.1 +1.3**
LPM Los Pinos Moun 77.74 54 *e*P **P 17 22 28.6 +0.5**
comp=Z,15nm,1.0s,mb4.9
219A White Tail Can 77.76 58⇑P **P 17 22 28.7 +0.4**
baz=78,SNR=34
VRAC Vranov 77.76 329⇓*i*P **P 17 22 28.6 +0.6**
CLZ Clausthal 77.78 334 *e*P **P 17 22 28.3 +0.3**
CLZ *e**PP pP 17 22 45.7 +2.1
CLZ pmax pmax
comp=Z,98nm,0.9s,mb5.7
CLZ Clausthal 77.78 334 *e*P **P 17 22 28.3 +0.3**
comp=Z,98nm,0.9s,mb5.7
CLZ *ep*P pP 17 22 45.7 +2.1
ANTO Ankara 77.81 314⇓P **P 17 22 27.9 -0.6**
SNR=13
ANTO Ankara 77.81 314⇓*i*P **P 17 22 28.2 -0.2**
ANTO Ankara 77.81 314 *e*P **P 17 22 30.4 +2.0**
comp=Z,100nm,1.1s,mb5.7
EBL Broad Law 77.82 343⇑*e*P **P 17 22 27.7 -0.5**
EAU Auchinoon 77.84 343⇑*e*P **P 17 22 28.0 -0.3**
BNM Barren Site 77.86 54 *e*P **P 17 22 29.0 +0.2**
comp=Z,26nm,1.1s,mb5.1
XSO Sourhope Farm 77.91 343⇑*i*P **P 17 22 28.6 -0.1**
PRU Pruhonice 77.95 331 *e*P **P 17 22 29.1 +0.1**
PRU *e*S S 17 32 15.2 -2.6
PRU AMS AMS 18 01 50.0
comp=Z,3µm,17.9s
COWI Conover 77.96 36 *e*P **P 17 22 28.0 -1.1**
comp=Z,62nm,1.0s,mb5.5
KRUC Moravsky 78.04 329 P **P 17 22 29.9 +0.4**
PGBU Glenifferbraes 78.08 344⇑*e*P **P 17 22 29.7 0.0**
PGBU AMb AMB 17 22 32.1
comp=Z,252nm,1.1s,mb6.1
PCA1 Carrot 78.14 344 *e*P **P 17 22 30.1 +0.1**
319A Douglas 78.18 58⇓P **P 17 22 31.0 +0.4**
baz=78,SNR=30
TREC Trest 78.18 330 *e*P **P 17 22 30.4 +0.1**
TREC *ep*P pP 17 22 42.7 -3.2
TREC *e*S S 17 32 18.6 -1.8
TREC AMS AMS 17 58 20.0
comp=Z,4µm,22.8s
IBBN Ibbenburen 78.19 336 *e*P **P 17 22 30.0 -0.3**
comp=Z,119nm,0.8s,mb5.9
MODS Modra-Piesok 78.27 328 *e*P **P 17 22 31.4 +0.6**
MODS pmax pmax
comp=Z,21nm,0.9s,mb5.1
MODS Modra-Piesok 78.27 328 *e*P **P 17 22 31.4 +0.6**
comp=Z,21nm,0.9s,mb5.1
MODS *e*S S 17 32 23.2 +1.8
ESK Eskdalemuir 78.28 343 P **P 17 22 30.2 -0.5**
comp=Z,506nm,0.7s,mb6.6,SNR=22
ESK Eskdalemuir 78.28 343⇑*e*P **P 17 22 30.1 -0.6**
ESK AMb AMB 17 22 33.0
comp=Z,86nm,0.9s,mb5.7
ESK Eskdalemuir 78.28 343 *e*P **P 17 22 30.4 -0.3**
ESK pmax pmax
comp=Z,62nm,0.8s,mb5.6
ESK Eskdalemuir 78.28 343 *e*P **P 17 22 30.4 -0.3**
comp=Z,62nm,0.8s,mb5.6
TANN Tannenbergstha 78.31 332 *e*P **P 17 22 30.8 -0.2**
WERD Werda 78.34 332 *e*P **P 17 22 30.9 -0.2**
comp=Z,30nm,0.9s,mb5.2
COBT Iskenderun 78.36 310 *i* P **P 17 22 32.9 +1.4**
ECK Cauldkaine Hil 78.39 343⇑*e*P **P 17 22 30.9 -0.5**
CBKS Cedar Bluff 78.39 47 *e*P **P 17 22 30.4 -1.3**
CBKS pmax pmax
comp=Z,55nm,1.0s,mb5.4
CBKS Cedar Bluff 78.39 47 *e*P **P 17 22 30.4 -1.3**
comp=Z,55nm,1.0s,mb5.4
GUNZ Gunzen 78.40 332 *e*P **P 17 22 31.3 -0.2**
comp=Z,38nm,0.8s,mb5.4
GUNZ *ep*P pP 17 22 48.8 +1.8
MOX Moxa 78.40 333 *e*P **P 17 22 31.3 -0.2**
comp=Z,58nm,1.1s,mb5.4
MOX
comp=Z,2µm,21.0s
MOX Moxa 78.40 333 *e*P **P 17 22 31.3 -0.2**
MOX pmax pmax
comp=Z,58nm,1.1s,mb5.4
MOX MLR MLR
comp=Z,2µm,21.0s,MS5.3
MOX Moxa 78.40 333 *e*P **P 17 22 31.2 -0.3**
comp=Z,42nm,1.0s,mb5.3
MOX *ep*P pP 17 22 48.8 +1.7
WERN Wernitzgruen 78.45 332 *e*P **P 17 22 31.7 -0.1**
comp=Z,40nm,0.7s,mb5.5
NKC Novy Kostel 78.47 332 *e*P **P 17 22 31.7 -0.2**
NKC *e*PCP PcP 17 22 41.5 +0.6
NKC *e*S S 17 32 20.7 -2.7
NKC AMS AMS 18 01 20.0
comp=Z,2µm,18.8s
NKC Novy Kostel 78.47 332 *e*P **P 17 22 31.7 -0.2**
NKC *ep*P pP 17 22 41.5 -5.9
NKC *e*S S 17 32 20.7 -2.7
ZST Bratislava 78.49 328 *e*P **P 17 22 32.8 +0.8**
ZST *ep*P pP 17 22 45.4 -2.2
ZST *e*S S 17 32 25.1 +1.4
ZST Bratislava 78.49 328 *e*P **P 17 22 32.8 +0.8**
comp=Z,27nm,0.9s,mb5.2
ZST *e* pP 17 22 45.4 -2.2
ZST *e*S S 17 32 25.1 +1.4
ZST LR LR
comp=Z,1µm,18.4s,MS5.3
XAL Allendale 78.49 342⇑*i*P **P 17 22 31.0 -0.9**
CAN Canberra 78.49 178 *e*P **P 17 22 33.2 +1.3**
comp=Z,112nm,1.4s,mb5.6
CNB Canberra Magne 78.49 178⇓*i*P **P 17 22 34.4 +2.5**
WTSB Winterswijk 78.77 336 *e*P **P 17 22 32.9 -0.6**
comp=Z,94nm,0.8s,mb5.8
UBBA Unterbreizbach 78.78 334 *e*P **P 17 22 33.4 -0.2**
comp=Z,22nm,1.0s,mb5.0
MANZ Manzenberg 78.80 332 *e*P **P 17 22 33.5 -0.2**
comp=Z,22nm,0.7s,mb5.2
GCD Castle Douglas 78.86 343⇑*e*P **P 17 22 33.5 -0.4**
ROTZ Rotzenmuhle 78.95 332 *e*P **P 17 22 34.8 +0.3**
comp=Z,38nm,1.0s,mb5.3
JMB Yambol 78.97 319 P **P 17 22 36.4 +1.6**
KHC Kasperske Hory 79.01 331 *e*P **P 17 22 34.9 0.0**
KHC *ep*P pP 17 22 46.1 -4.3
KHC *e*S S 17 32 26.1 -3.1
KHC AMS AMS 17 58 30.0
comp=Z,4µm,23.5s
GAL1 Galloway 79.02 344⇑*e*P **P 17 22 34.6 -0.2**
GAL1 AMb AMB 17 22 36.9
comp=Z,87nm,1.0s,mb5.6
BORA Eskisehir 79.02 315 *i* P **P 17 22 35.0 -0.1**
BUG Bochum--Univer 79.09 336 *e*P **P 17 22 34.9 -0.4**
comp=Z,77nm,0.9s,mb5.6
CONA Conrad Observa 79.18 329⇑*i*P **P 17 22 36.5 +0.7**
comp=Z,54nm,1.0s,mb5.4,SNR=23
HPK Haverah Park 79.19 342 *e*P **P 17 22 35.9 +0.2**
HPK AMb AMB 17 22 38.4
comp=Z,244nm,0.9s,mb6.1
GEC2 GERESS Array S 79.21 331 *e*P **P 17 22 35.7 -0.2**
GEC2 *e**PP pP 17 22 53.3 +1.8
GEC2 pmax pmax
comp=Z,26nm,0.9s,mb5.2
GEC2 GERESS Array S 79.21 331 *e*P **P 17 22 35.7 -0.2**
comp=Z,26nm,0.9s,mb5.2
GEC2 *ep*P pP 17 22 53.3 +1.8
GERES GERESS Array B 79.21 331 P **P 17 22 36.1 +0.2**
comp=Z,17nm,0.8s,mb5.1,baz=35,slow=4.8,SNR=95
GERES PKKPbc PKKPbc 17 41 26.6 +1.6
comp=Z,1.1nm,0.7s,baz=222,slow=1.8,SNR=8.4
GERES PKP2ab 17 49 19.5
comp=Z,0.2nm,0.3s,baz=134,slow=5.8,SNR=3.7
GERES LR LR 18 03 25.2
comp=Z,3µm,19.5s,MS5.6,baz=33,slow=40
WET Wettzell 79.25 331 *e*P **P 17 22 36.4 +0.3**
WET *e**PP pP 17 22 54.1 +2.4
WET pmax pmax
comp=Z,61nm,0.9s,mb5.5
WET Wettzell 79.25 331 *e*P **P 17 22 36.4 +0.3**
comp=Z,61nm,0.9s,mb5.5
WET *ep*P pP 17 22 54.1 +2.4
KLBR Kellerberrin 79.31 205 *e*P **P 17 22 36.6 +0.1**
comp=Z,49nm,0.8s,mb5.5
GRA1 Grafenberg Arr 79.35 332 *e*P **P 17 22 36.9 +0.2**
comp=Z,115nm,0.9s,mb5.8
GRA1 *ep*P pP 17 22 54.4 +2.1
GRA1 *e*S S 17 32 31.7 -1.1
GRF Grafenberg Arr 79.35 332 *e*P **P 17 22 36.9 +0.2**
GRF *e**PP pP 17 22 54.4 +2.1
GRF *e*S S 17 32 31.7 -1.1
GRF pmax pmax
comp=Z,115nm,0.9s,mb5.8
GRF Grafenberg Arr 79.35 332 *e*P **P 17 22 36.9 +0.2**
GRF *e**PP pP 17 22 54.4 +2.1
GRF *e*S S 17 32 31.7 -1.1
GRF pmax pmax
comp=Z,115nm,0.9s,mb5.8
GRF Grafenberg Arr 79.35 332 *e*P **P 17 22 36.9 +0.2**
comp=Z,115nm,0.9s,mb5.8
GRF *ep*P pP 17 22 54.4 +2.1
GRF *e*S S 17 32 31.7 -1.1
GRFO Grafenberg 79.35 332 P **P 17 22 37.1 +0.4**
SCIA State Center 79.37 41 *e*P **P 17 22 36.2 -0.7**
comp=Z,175nm,0.9s,mb6.0
PKSM Moragy 79.50 326⇓P **P 17 22 37.3 -0.3**
PKSM Moragy 79.50 326⇑*i*P **P 17 22 36.5 -1.1**
PKSM Moragy 79.50 326 P **P 17 22 37.9 +0.3**
LHO Holmfirth 79.62 342⇑*e*P **P 17 22 38.0 -0.1**
TNS Taunus Mts 79.80 334 *e*P **P 17 22 39.0 -0.1**
TNS pmax pmax
comp=Z,41nm,0.9s,mb5.4
TNS Taunus Mts 79.80 334 *e*P **P 17 22 39.0 -0.1**
comp=Z,41nm,0.9s,mb5.4
KBI1 Birley Grange 79.82 341⇑*i*P **P 17 22 39.3 +0.1**
KSU1 Kansas State U 79.82 45 *e*P **P 17 22 38.0 -1.5**
comp=Z,79nm,1.1s,mb5.6
MOA Molln 79.84 330⇑*i*P **P 17 22 39.6 +0.3**
comp=Z,24nm,0.9s,mb5.1,SNR=34
MOA Molln 79.84 330 P **P 17 22 39.9 +0.5**
GMM Mts of Mourne 79.86 344⇑*e*P **P 17 22 39.0 -0.4**
ARSA Arzberg 79.87 329⇑*i*P **P 17 22 39.8 +0.2**
comp=Z,18nm,0.8s,mb5.1,SNR=13
ARSA Arzberg 79.87 329 P **P 17 22 40.3 +0.7**
RHK3 Tenkes 79.92 326⇑*e*P **P 17 22 40.6 +0.7**
RBK Rabkut 79.94 284 P **P 17 22 40.7 +0.3**
SNR=9.4
WHFO Wadi Hawf 79.96 285 P **P 17 22 41.3 +0.7**
SNR=11
JFWS Jewell Farm 79.98 39 *e*P **P 17 22 38.6 -1.6**
JFWS pmax pmax
comp=Z,30nm,1.0s,mb5.2
JFWS Jewell Farm 79.98 39 *e*P **P 17 22 38.6 -1.6**
comp=Z,30nm,1.0s,mb5.2
BOLS Boljevac 80.02 323 P **P 17 22 39.5 -0.9**
HGN Heimansgroeve 80.09 336 *e*P **P 17 22 40.1 -0.6**
comp=Z,51nm,0.9s,mb5.4
HGN Heimansgroeve 80.09 336 *e*S S 17 32 41.8 +1.2
GDZ Gediz 80.11 315 *i* P **P 17 22 41.0 0.0**
KWE Weaver Farm 80.11 341⇑*i*P **P 17 22 40.8 +0.1**
BEBN Eben Emael 80.14 336 P **P 17 22 40.7 -0.3**
comp=Z,32nm,0.9s,mb5.2
MUN Mundaring 80.15 206 *e*P **P 17 22 42.2 +1.2**
SIND Sindeldorf 80.18 333 P **P 17 22 41.3 +0.1**
MEM Membach 80.21 336 P **P 17 22 40.6 -0.7**
comp=Z,34nm,1.0s,mb5.2
TOD Tromm 80.22 334 *e*P **P 17 22 40.8 -0.6**
CWF Charnwood Fore 80.24 341 *e*P **P 17 22 40.9 -0.5**
CWF AMb AMB 17 22 44.4
comp=Z,94nm,1.8s,mb5.4
KOGS Kog 80.25 328 P **P 17 22 43.3 +1.6**
DMUB Kingscourt 80.36 345 *e*P **P 17 22 42.2 +0.1**
ABH Alteburg 80.38 335 *e*P **P 17 22 42.0 -0.2**
ALN Alexandroupoli 80.43 319 P **P 17 22 44.3 +1.6**
VTS Vitosha 80.44 321 P **P 17 22 43.1 +0.4**
VTS Vitosha 80.44 321⇑*i*P **P 17 22 43.0 +0.3**
VTS Vitosha 80.44 321 P **P 17 22 43.7 +1.0**
RZN Rozhen 80.45 320 P **P 17 22 43.5 +0.7**
RJOB Jochberg 80.47 330 *e*P **P 17 22 43.1 +0.3**
comp=Z,45nm,0.9s,mb5.4
RDO Rodhopi 80.48 319 *e*P **P 17 22 44.5 +1.5**
RDO Rodhopi 80.48 319 *e*P **P 17 22 44.5 +1.5**
GRUS Gruza 80.51 324 P **P 17 22 43.0 -0.1**
UCC Uccle 80.52 337 P **P 17 22 42.5 -0.5**
comp=Z,64nm,2.1s,mb5.2
DEMI Demirci 80.53 316 *i* P **P 17 22 43.4 +0.1**
SOKA Soboth 80.53 329⇑*i*P **P 17 22 43.3 +0.1**
comp=Z,66nm,0.9s,mb5.6
GROS Grobnik 80.53 328 *e*P **P 17 22 42.8 -0.4**
PERS Pernice 80.53 329 *i* P **P 17 22 43.1 -0.1**
SBD1 Bryn Du 80.53 342⇑*i*P **P 17 22 43.3 +0.2**
BALY Balya 80.55 317 *i* P **P 17 22 43.6 +0.2**
BCLA Clavier 80.58 336 P **P 17 22 42.9 -0.5**
comp=Z,22nm,1.0s,mb5.0
FUR Furstenfeldbru 80.64 332 *e*P **P 17 22 43.7 0.0**
FUR *e**PP pP 17 23 01.3 +2.0
FUR pmax pmax
comp=Z,89nm,0.8s,mb5.8
FUR Furstenfeldbru 80.64 332 *e*P **P 17 22 43.7 0.0**
comp=Z,89nm,0.8s,mb5.8
FUR *ep*P pP 17 23 01.3 +2.0
HDH Heidenheim-Cha 80.64 332 P **P 17 22 45.2 +1.5**
DIVS Divibare 80.65 324 P **P 17 22 44.1 +0.3**
ABTO Aybut 80.67 285 P **P 17 22 45.7 +1.3**
SNR=11
RUP Ruppelstein 80.69 335 *e*P **P 17 22 42.9 -1.0**
KTD Kalmit 80.70 334 *e*P **P 17 22 44.1 +0.1**
NWAO Narrogin (SRO) 80.71 205 *e*P **P 17 22 43.8 -0.2**
NWAO pmax pmax
comp=Z,252nm,1.4s
NWAO Narrogin (SRO) 80.71 205 *e*P **P 17 22 43.8 -0.3**
comp=Z,252nm,1.4s,mb6.0
TOO Toolangi 80.72 181 *e*P **P 17 22 44.6 +0.7**
SNF Seneffe 80.80 337 P **P 17 22 44.6 +0.1**
HLM1 Long Mynd 80.81 342⇑*e*P **P 17 22 44.5 0.0**
STU Stuttgart 80.82 333 *e*P **P 17 22 45.0 +0.4**
STU pmax pmax
comp=Z,74nm,0.8s,mb5.7
STU Stuttgart 80.82 333 *e*P **P 17 22 44.4 -0.2**
comp=Z,76nm,0.8s,mb5.7
STU *ep*P pP 17 23 02.1 +1.8
STU Stuttgart 80.82 333 *e*P **P 17 22 45.0 +0.3**
comp=Z,74nm,0.8s,mb5.7
KBA Koelnbreinsper 80.82 330⇑*i*P **P 17 22 45.1 +0.4**
comp=Z,77nm,0.8s,mb5.7,SNR=33
KBA Koelnbreinsper 80.82 330 P **P 17 22 45.3 +0.6**
OBKA Obir 80.86 329⇑*i*P **P 17 22 44.8 -0.1**
comp=Z,26nm,0.8s,mb5.2
DLF Lyons Farm 80.86 344⇑*i*P **P 17 22 44.9 +0.1**
DSB Dublin 80.88 344 *e*P **P 17 22 44.4 -0.4**
comp=Z,47nm,0.8s,mb5.5
GLMI Grayling 80.88 34 *e*P **P 17 22 44.8 -0.2**
comp=Z,274nm,0.9s,mb6.2
BARS Barje 80.89 322 P **P 17 22 45.2 +0.1**
RAR Rarotonga 80.98 131 LR LR 17 50 15.6
comp=Z,1µm,20.8s,MS5.2,baz=253,slow=30
MMB Musomiste 80.99 320 P **P 17 22 46.1 +0.4**
WLF Walferdange 81.00 335 P **P 17 22 45.5 -0.1**
WLF Walferdange 81.00 335 *e*P **P 17 22 46.9 +1.3**
WLF pmax pmax

comp=Z,142nm,1.6s,mb5.7
WLF Walferdange 81.00 335 *e*P **P** 17 22 46.1 +0.5
comp=Z,28nm,0.9s,mb5.2
WLF *e*pP pP 17 23 03.9 +2.7
WLF Walferdange 81.00 335 *e*P **P** 17 22 46.9 +1.3
comp=Z,142nm,1.6s,mb5.7
GIVF Givet 81.01 336⇑*i*P **P** 17 22 45.0 -0.6
comp=Z,48nm,0.9s,mb5.1
GIVF Givet 81.01 336⇑*i*P **P** 17 22 45.0 -0.6
GIVF pmax pmax
comp=Z,24nm,0.9s,mb5.1
GIVF Givet 81.01 336⇑*i*P **P** 17 22 45.0 -0.6
comp=Z,24nm,0.9s,mb5.1
SISC Sisak 81.02 327 *i* P **P** 17 22 44.9 -0.9
LBG Lerchenberg 81.04 333 P **P** 17 22 46.0 +0.2
BUCH Bad Urach 81.04 333 P **P** 17 22 46.4 +0.6
DOU Dourbes 81.08 336 P **P** 17 22 45.3 -0.7
comp=Z,12nm,1.3s,mb4.7
CRES Cresnjev 81.08 328 P **P** 17 22 47.0 +0.9
LANF Langenberg 81.08 334 *e*P **P** 17 22 45.4 -0.7
BBLS Lazići 81.09 324 P **P** 17 22 47.1 +0.9
MYKA Terra Mystica 81.09 329⇑*i*P **P** 17 22 45.8 -0.4
comp=Z,18nm,0.8s,mb5.1
AKHS Akhisar 81.11 316 *i* P **P** 17 22 46.4 0.0
TFO1 Folkestone 81.12 339 *e*P **P** 17 22 45.7 -0.4
TFO1 AMb AMB 17 22 48.5
comp=Z,222nm,0.9s,mb6.1
CSS Prodhromos 81.12 310 *e*P **P** 17 22 47.4 +0.8
comp=Z,50nm,0.9s,mb5.4
BAIF Baives 81.22 337⇑*i*P **P** 17 22 46.3 -0.5
comp=Z,42nm,0.9s,mb5.1
BAIF Baives 81.22 337⇑*i*P **P** 17 22 46.3 -0.5
BAIF pmax pmax
comp=Z,21nm,0.9s,mb5.1
BAIF Baives 81.22 337⇑*i*P **P** 17 22 46.3 -0.5
comp=Z,21nm,0.9s,mb5.1
WATA Walderalm 81.24 331⇑*i*P **P** 17 22 47.3 +0.4
comp=Z,33nm,0.5s,mb5.5,SNR=14
WATA Walderalm 81.24 331 P **P** 17 22 47.5 +0.6
LJU Ljubljana 81.25 329 *i* P **P** 17 22 47.8 +0.8
WTTA Wattenberg 81.28 331 *i* P **P** 17 22 47.5 +0.3
comp=Z,85nm,1.0s,mb5.6,SNR=25
WTTA Wattenberg 81.28 331 P **P** 17 22 47.7 +0.6
HTR Trewern Hill 81.31 342⇑*i*P **P** 17 22 47.2 +0.1
MCH1 Michaelchurch 81.32 342⇑*e*P **P** 17 22 46.6 -0.6
MCH1 AMb AMB 17 22 49.3
comp=Z,96nm,0.8s,mb5.8
MENF Mencas 81.35 338 *e*P **P** 17 22 46.0 -1.4
RETA Reutte 81.40 332⇑*i*P **P** 17 22 47.8 +0.1
comp=Z,42nm,0.9s,mb5.4,SNR=16
MOTA Moosalm 81.40 331⇑*i*P **P** 17 22 47.9 +0.1
comp=Z,71nm,0.8s,mb5.7,SNR=49
MOTA Moosalm 81.40 331 P **P** 17 22 48.1 +0.3
ABTA Abfaltersbach 81.41 330⇑*i*P **P** 17 22 48.0 +0.2
comp=Z,12nm,0.9s,mb4.8
BOJS Bojanci 81.43 328 *i* P **P** 17 22 47.7 -0.2
GUT Gutenstein 81.45 333 P **P** 17 22 48.3 +0.3
UBR Ueberruh 81.45 332 P **P** 17 22 49.5 +1.5
GOLH Golhisar 81.46 314 *i* P **P** 17 22 48.4 +0.1
BFO Black Forest 81.48 333 P **P** 17 22 48.8 +0.6
comp=Z,295nm,0.8s,mb6.3,SNR=13
BFO Black Forest 81.48 333 *e*P **P** 17 22 47.8 -0.4
BFO pmax pmax
comp=Z,47nm,0.9s,mb5.4
BFO Black Forest 81.48 333 *e*P **P** 17 22 47.8 -0.4
comp=Z,47nm,0.9s,mb5.4
SWN1 Swindon 81.49 341⇑*e*P **P** 17 22 48.3 +0.1
SWN1 AMb AMB 17 22 50.9
comp=Z,286nm,1.2s,mb6.1
VOY Vojsko 81.50 329 *e*P **P** 17 22 47.7 -0.6
VOY *e* 17 22 54.4
VOY *e* pP 17 23 03.6 -0.4
PLE Pljevlja 81.53 324⇑*i*P **P** 17 22 49.5 +1.0
SPAK Spaichingen-Ko 81.53 333 *e*P **P** 17 22 48.1 -0.3
WOL Wolverton 81.53 340 *e*P **P** 17 22 48.3 -0.1
WOL AMb AMB 17 22 50.2
comp=Z,158nm,0.7s,mb6.1
GMNA Gemona 81.54 329 P **P** 17 22 48.9 +0.4
CEY Cerknica 81.55 328 P **P** 17 22 49.4 +0.8
JAVS Javornik 81.56 329 *i* P **P** 17 22 48.0 -0.6
PRK Paraskevi 81.60 317 P **P** 17 22 48.7 -0.3
HGH Gray Hill 81.61 341⇑*i*P **P** 17 22 48.6 -0.2
STIP Stip 81.61 321 P **P** 17 22 49.3 +0.3
IVA Berane 81.68 323⇑*i*P **P** 17 22 50.3 +1.0
KNT Kendrikon 81.71 321 P **P** 17 22 50.0 +0.5
SKO Skopje 81.73 322 P **P** 17 22 50.6 +1.0
VAY Valandovo 81.73 321 P **P** 17 22 49.2 -0.4
CDF Champ du Feu 81.75 334⇑*i*P **P** 17 22 49.3 -0.3
comp=Z,108nm,0.9s,mb5.5
CDF Champ du Feu 81.75 334⇑*i*P **P** 17 22 49.3 -0.3
CDF pmax pmax
comp=Z,54nm,0.9s,mb5.5
CDF Champ du Feu 81.75 334⇑*i*P **P** 17 22 49.3 -0.3
comp=Z,54nm,0.9s,mb5.5
FETA Feichten 81.81 331⇑*i*P **P** 17 22 50.2 +0.3
comp=Z,35nm,0.9s,mb5.3,SNR=34
SISB Singen-Schiene 81.84 333 P **P** 17 22 50.5 +0.5
UPM Unac-Piva 81.84 324⇑*i*P **P** 17 22 50.0 -0.1
PVY Plav 81.87 323⇑*i*P **P** 17 22 49.8 -0.5
DAVA Damuels 81.87 332⇑*i*P **P** 17 22 50.5 +0.3
comp=Z,46nm,0.9s,mb5.4,SNR=23
DAVA Damuels 81.87 332 P **P** 17 22 50.5 +0.2
LIBD Limburg 81.88 334 *e*P **P** 17 22 48.8 -1.5
KIZ Kirchzarten 81.95 333 P **P** 17 22 50.5 -0.1
ECH Echery 81.96 334 *e*P **P** 17 22 50.1 -0.6
ECH Echery 81.96 334 *e*P **P** 17 22 50.2 -0.5
comp=Z,43nm,0.8s,mb5.4
FELD Feldberg im Sc 81.99 333 *e*P **P** 17 22 50.1 -0.7
AYDN Tasoluk 82.01 315 *i* P **P** 17 22 52.0 +0.8
BCI Bajram Curri 82.02 323 *e*PN **P** 17 22 52.0 +0.9
HORT Hortiatis 82.06 320 P **P** 17 22 51.7 +0.3
PLG Polygyros 82.08 320 P **P** 17 22 51.2 -0.2
PLG Polygyros 82.08 320 *e*P **P** 17 22 44.5 -6.9
PLG Polygyros 82.08 320 *e*P **P** 17 22 44.5 -6.9
GRG Griva 82.10 321 P **P** 17 22 52.6 +1.0
NKY Niksic 82.12 324⇑*i*P **P** 17 22 51.2 -0.4
AKAS Kas 82.19 316 *i* P **P** 17 22 51.4 -0.8
BRY Bratogost 82.24 324⇑*i*P **P** 17 22 51.7 -0.6
HDIL Hopedale 82.27 40 *e*P **P** 17 22 51.7 -0.8
comp=Z,138nm,1.0s,mb5.8
MOF Molkenrain 82.29 334 *e*P **P** 17 22 51.6 -0.8
TTG Podgorica 82.32 324⇑*i*P **P** 17 22 52.6 -0.1
THEF They Montfort 82.32 335 *e*P **P** 17 22 52.0 -0.6
PUK Puka 82.36 323 *e*PN **P** 17 22 52.8 -0.1
NVLJ Novalja 82.36 327 *i* P **P** 17 22 53.1 +0.3
MEZF Maizieres J'vi 82.36 335 *e*P **P** 17 22 52.7 -0.1
comp=Z,150nm,0.9s,mb5.6
MEZF Maizieres J'vi 82.36 335 *e*P **P** 17 22 52.7 -0.1
comp=Z,150nm,0.9s,mb5.9
CHOS Chios Island 82.37 317 P **P** 17 22 52.5 -0.5
PHP Peshkopia 82.40 322 *e*PN **P** 17 22 53.3 +0.2
BRMO Bormio 82.40 331 P **P** 17 22 53.1 +0.1
HAU Haudompre 82.41 334⇑*i*P **P** 17 22 52.4 -0.6
comp=Z,61nm,0.9s,mb5.2
HAU *e*MLR MLR
comp=Z,4µm,21.0s,MS5.4
HAU Haudompre 82.41 334⇑*i*P **P** 17 22 52.4 -0.6
HAU pmax pmax
comp=Z,31nm,0.9s,mb5.2
HAU MLR MLR
comp=Z,4µm,21.0s,MS5.7
HAU Haudompre 82.41 334⇑*i*P **P** 17 22 52.4 -0.6
comp=Z,31nm,0.9s,mb5.2
HAU LR LR
comp=Z,4µm,21.0s,MS5.7
HINF Hinteralfeld 82.41 334⇑*i*P **P** 17 22 52.2 -0.9
comp=Z,36nm,0.8s,mb5.1
HINF Hinteralfeld 82.41 334⇑*i*P **P** 17 22 52.2 -0.9
HINF pmax pmax
comp=Z,18nm,0.8s,mb5.0
HINF Hinteralfeld 82.41 334⇑*i*P **P** 17 22 52.2 -0.9
comp=Z,18nm,0.8s,mb5.0
BBS Basel-Blauen 82.51 333 *e*P **P** 17 22 52.8 -0.8
BUM Brajici-Budva 82.58 324⇑*i*P **P** 17 22 54.2 +0.2
HTL Hartland 82.59 342 *e*P **P** 17 22 53.6 -0.4
HTL AMb AMB 17 22 56.6
comp=Z,138nm,1.2s,mb5.8
STON Ston 82.62 325 *i* P **P** 17 22 54.4 +0.1
HCY Herceg Novi 82.63 324⇑*i*P **P** 17 22 53.7 -0.6
BDRM Kayabasi 82.69 315 *i* P **P** 17 22 54.5 -0.2
BDRM *i* P 17 22 58.2
ULC Ulcinj 82.70 323⇑*i*P **P** 17 22 55.2 +0.5
OHR Ohrid 82.70 322 P **P** 17 22 54.2 -0.5
FNA Florina 82.71 321 P **P** 17 22 56.2 +1.5

LIT Litokhoron 82.74 320 P **P** 17 22 55.1 +0.2
TUE Stuetta 82.76 332 *e*P **P** 17 22 55.0 +0.1
comp=Z,37nm,0.8s,mb5.5
AOS Alonnisos 82.82 319 P **P** 17 22 56.9 +1.6
LOMF Lomont 82.83 334 *e*P **P** 17 22 54.1 -1.1
MAGA Magasa 82.92 331 P **P** 17 22 56.0 +0.3
TIR Tirane 82.93 323 *e*P **P** 17 22 55.3 -0.6
TIR pmax pmax
comp=Z,84nm,0.8s,mb5.8
TIR Tirane 82.93 323 *e*PN **P** 17 22 55.6 -0.3
TIR Tirane 82.93 323 *e*P **P** 17 22 55.3 -0.5
comp=Z,84nm,0.8s,mb5.8
ARG Arkhangelos 82.98 314 *e*P **P** 17 22 57.0 +0.7
ARG Arkhangelos 82.98 314 *e*P **P** 17 22 57.0 +0.7
XOR Xorichti 82.99 319 P **P** 17 22 55.7 -0.5
DYA Yadsworthy 82.99 342⇑*e*P **P** 17 22 55.7 -0.4
DYA AMb AMB 17 22 58.3
comp=Z,183nm,1.2s,mb6.0
TXAR Lajitas Array 83.05 56 P **P** 17 22 56.4 -0.3
comp=Z,45nm,0.9s,mb5.5,baz=296,slow=3.7,SNR=103
TXAR PKKPbc PKKPbc 17 41 20.1 +4.0
comp=Z,1.6nm,0.9s,baz=131,slow=3.8,SNR=6.9
TXAR PKP2bc 17 49 11.7
comp=Z,0.3nm,0.7s,baz=266,slow=3.3,SNR=3.8
TXAR LR LR 17 57 44.8
comp=Z,907nm,21.1s,MS5.1,baz=5.0,slow=34
TXAR Lajitas Array 83.05 56 P **P** 17 22 56.4 -0.3
TXAR PKKPbc PKKPbc 17 41 20.1 +4.0
TXAR ⇑*e* 17 49 11.7
TXAR LR LR 17 57 44.8
KBN Korca 83.10 322 *e*PN **P** 17 22 56.5 -0.3
CSA1 St Austell 83.29 342 *e*P **P** 17 22 57.3 -0.3
CCM Cathedral Cave 83.31 42 *e*P **P** 17 22 57.0 -0.9
CCM pmax pmax
comp=Z,72nm,0.8s,mb5.8
CCM Cathedral Cave 83.31 42 *e*P **P** 17 22 57.0 -0.9
comp=Z,72nm,0.8s,mb5.8
SLM Saint Louis 83.35 41 *e*P **P** 17 22 57.5 -0.6
SLM pmax pmax
comp=Z,73nm,1.0s,mb5.7
SLM Saint Louis 83.35 41 *e*P **P** 17 22 57.5 -0.6
comp=Z,73nm,1.0s,mb5.7
VAI Varese 83.49 332 P **P** 17 22 58.1 -0.6
CCA1 Carnmenellis 83.52 342 *e*P **P** 17 22 58.6 -0.1
MEV Metsovon 83.57 321 P **P** 17 23 02.0 +2.8
LKR Lokris 83.65 319 P **P** 17 22 58.4 -1.2
APE Apeiranthos 83.65 316 P **P** 17 22 59.5 -0.2
APE Apeiranthos 83.65 316⇑*i*P **P** 17 22 58.1 -1.6
APE Apeiranthos 83.65 316 P **P** 17 22 59.9 +0.2
AGG Agios Georgios 83.67 320 P **P** 17 22 59.0 -0.7
FLN La Foliniere 83.69 339⇑*i*P **P** 17 22 59.2 -0.5
comp=Z,97nm,0.9s,mb5.6
FLN *e*MLR MLR
comp=Z,2µm,23.0s,MS5.2
FLN La Foliniere 83.69 339⇑*i*P **P** 17 22 59.2 -0.5
FLN pmax pmax
comp=Z,48nm,0.9s,mb5.6
FLN MLR MLR
comp=Z,2µm,23.0s,MS5.5
FLN La Foliniere 83.69 339⇑*i*P **P** 17 22 59.2 -0.5
comp=Z,48nm,0.9s,mb5.6
FLN LR LR
comp=Z,2µm,23.0s,MS5.5
CABF La Chapelle 83.72 334⇑*i*P **P** 17 22 59.5 -0.3
comp=Z,42nm,0.8s,mb5.3
CABF La Chapelle 83.72 334⇑*i*P **P** 17 22 59.5 -0.3
CABF pmax pmax
comp=Z,21nm,0.8s,mb5.3
CABF La Chapelle 83.72 334⇑*i*P **P** 17 22 59.5 -0.3
comp=Z,21nm,0.8s,mb5.3
JSA Saint Aubin 83.73 340 *e*P **P** 17 22 59.3 -0.6
JSA AMb AMB 17 23 02.3
comp=Z,214nm,1.0s,mb6.2
LDF La Druitiere 83.75 339⇑*i*P **P** 17 22 59.4 -0.6
comp=Z,89nm,0.8s,mb5.6
LDF La Druitiere 83.75 339⇑*i*P **P** 17 22 59.4 -0.6
LDF pmax pmax
comp=Z,44nm,0.8s,mb5.6
LDF La Druitiere 83.75 339⇑*i*P **P** 17 22 59.4 -0.6
comp=Z,44nm,0.8s,mb5.6
FVM French Village 83.77 42 *e*P **P** 17 22 59.5 -0.8
FVM pmax pmax
comp=Z,30nm,1.0s,mb5.4
FVM French Village 83.77 42 *e*P **P** 17 22 59.5 -0.7
comp=Z,39nm,1.0s,mb5.5
LOR Lormes 83.83 336⇑*i*P **P** 17 22 59.9 -0.5
comp=Z,102nm,0.8s,mb5.7
LOR *e*MLR MLR
comp=Z,3µm,20.2s,MS5.4
LOR Lormes 83.83 336⇑*i*P **P** 17 22 59.9 -0.5
LOR pmax pmax
comp=Z,51nm,0.8s,mb5.7
LOR MLR MLR
comp=Z,3µm,20.3s,MS5.7
LOR Lormes 83.83 336⇑*i*P **P** 17 22 59.9 -0.5
comp=Z,51nm,0.8s,mb5.7
LOR LR LR
comp=Z,3µm,20.3s,MS5.7
RSM Repubblica di 83.83 329 P **P** 17 23 01.0 +0.6
FSSB Fossombrone 83.91 328 P **P** 17 23 00.8 0.0
ORO Oropa 83.97 332 P **P** 17 22 59.8 -1.3
EVR Evrytania 84.00 320 *e*P **P** 17 23 02.0 +0.6
EVR Evrytania 84.00 320 *e*P **P** 17 23 02.0 +0.6
KARP Karpathos 84.00 314 *e*P **P** 17 23 02.0 +0.5
KARP Karpathos 84.00 314 *e*P **P** 17 23 02.0 +0.5
SRN Sarande 84.06 322 *e*PN **P** 17 23 01.3 -0.4
SFI Santa Sofia 84.08 329 P **P** 17 23 02.4 +0.7
NAIG Nisos Aigina 84.12 318 *e*P **P** 17 23 02.0 0.0
NAIG Nisos Aigina 84.12 318 *e*P **P** 17 23 02.0 0.0
FNVD Fontana Vidola 84.12 330 P **P** 17 23 02.7 +0.8
SSF Saint Saulge 84.12 336⇑*i*P **P** 17 23 01.4 -0.5
comp=Z,74nm,0.8s,mb5.6
SSF Saint Saulge 84.12 336⇑*i*P **P** 17 23 01.4 -0.5
SSF pmax pmax
comp=Z,37nm,0.8s,mb5.6
SSF Saint Saulge 84.12 336⇑*i*P **P** 17 23 01.4 -0.5
comp=Z,37nm,0.8s,mb5.6
PIEI Pieia 84.13 328 P **P** 17 23 02.1 +0.1
SEI Scarperia 84.13 329 P **P** 17 23 03.4 +1.4
GRR Gorron 84.14 339⇑*i*P **P** 17 23 01.8 -0.1
comp=Z,82nm,0.7s,mb5.7
GRR Gorron 84.14 339⇑*i*P **P** 17 23 01.8 -0.1
GRR pmax pmax
comp=Z,41nm,0.6s,mb5.7
GRR Gorron 84.14 339⇑*i*P **P** 17 23 01.8 -0.1
comp=Z,41nm,0.6s,mb5.7
VMG Vicchio 84.14 329 P **P** 17 23 03.3 +1.3
GSCL Gusciola 84.16 330 P **P** 17 23 02.9 +0.8
ERBM Eremo 84.16 330 P **P** 17 23 03.0 +0.9
PPT Papeete 84.17 121 *e*P **P** 17 23 02.2 -0.2
comp=Z,456nm,26.5s
PPT Papeete 84.17 121 *e*PP PP 17 26 14.1 -3.6
comp=Z,149nm,26.2s
PPT *e*S S 17 33 20.1 -3.1
comp=Z,3µm,31.5s
PPT *e*SS SS 17 38 52.7 -1.2
comp=Z,604nm,27.8s
PPT Papeete 84.17 121 *e*LR LR 17 49 14.8
comp=Z,6µm,24.0s,baz=318
PPT Papeete 84.17 121 LR LR 18 00 24.5
comp=Z,1µm,18.4s,MS5.4,baz=343,slow=36
PPT Papeete 84.17 121 *e*P **P** 17 23 02.2 -0.2
PPT *e*PP PP 17 26 14.1 -3.6
PPT *e*S S 17 33 20.1 -3.1
PPT *e*SS SS 17 38 52.7 -1.2
IGT Igoumenitsa 84.19 321 P **P** 17 23 03.7 +1.3
HYF Humbligny 84.19 336⇑*i*P **P** 17 23 02.1 -0.1
BOB Bobbio (Coli) 84.21 331 P **P** 17 23 02.5 +0.1
SNTG Esanatoglia 84.21 328 P **P** 17 23 02.8 +0.4
SANT Santorini 84.23 316 P **P** 17 23 00.3 -2.3
SANT Santorini 84.23 316 *e*P **P** 17 22 59.9 -2.7
comp=Z,79nm,1.0s,mb5.8
THR1 Thera Island 84.23 316 P **P** 17 23 00.6 -2.0
THR3 Thira Island, 84.23 316 P **P** 17 23 02.8 +0.2
THR5 Thira Island, 84.25 316 P **P** 17 23 00.7 -2.0
BADI Badiali 84.26 329 P **P** 17 23 03.3 +0.6
THR6 Thira Island, 84.28 316 P **P** 17 23 01.8 -1.1
CDCA Citt' di Caste 84.31 329 P **P** 17 23 03.7 +0.8
RSL Roselend 84.36 333 *e*P **P** 17 23 02.5 -0.6
MURB Monte Urbino 84.37 328 P **P** 17 23 03.8 +0.6
SMF Signal de Mont 84.39 335⇑*i*P **P** 17 23 02.9 -0.4
comp=Z,180nm,0.8s,mb5.9
SMF Signal de Mont 84.39 335⇑*i*P **P** 17 23 02.9 -0.4
SMF pmax pmax

comp=Z,90nm,0.8s,mb6.0
SMF Signal de Mont 84.39 335⇑*i*P **P** 17 23 02.9 -0.4
comp=Z,90nm,0.8s,mb6.0
VLC Villacollemand 84.40 330 *e*P **P** 17 23 04.3 +0.9
comp=Z,45nm,1.0s,mb5.6
BDI Bagni Di Lucca 84.40 330 P **P** 17 23 04.4 +1.0
AVF Avril sur Loir 84.41 336⇑*i*P **P** 17 23 03.1 -0.2
comp=Z,130nm,0.8s,mb5.8
AVF Avril sur Loir 84.41 336⇑*i*P **P** 17 23 03.1 -0.2
AVF pmax pmax
comp=Z,65nm,0.8s,mb5.8
AVF Avril sur Loir 84.41 336⇑*i*P **P** 17 23 03.1 -0.2
comp=Z,65nm,0.8s,mb5.8
OG05 Jujurieux 84.43 334 *e*P **P** 17 23 03.3 -0.2
DID Didima 84.44 318 P **P** 17 23 01.7 -2.0
LPL La Plagne 84.48 333⇑*i*P **P** 17 23 04.0 +0.3
comp=Z,71nm,0.8s,mb5.5
LPL La Plagne 84.48 333⇑*i*P **P** 17 23 04.0 +0.3
LPL pmax pmax
comp=Z,36nm,0.8s,mb5.5
LPL La Plagne 84.48 333⇑*i*P **P** 17 23 04.0 +0.3
comp=Z,36nm,0.8s,mb5.5
ASS Assisi 84.49 328 P **P** 17 23 04.1 +0.3
LPG La Plagne 84.49 333⇑*i*P **P** 17 23 04.1 +0.3
comp=Z,80nm,0.8s,mb5.6
LPG La Plagne 84.49 333⇑*i*P **P** 17 23 04.1 +0.3
LPG pmax pmax
comp=Z,40nm,0.8s,mb5.6
LPG La Plagne 84.49 333⇑*i*P **P** 17 23 04.1 +0.3
comp=Z,40nm,0.8s,mb5.6
TERO Teramo 84.49 327 P **P** 17 23 04.6 +0.8
JCT Junction City 84.49 53 *e*P **P** 17 23 03.6 -0.5
JCT *e*PP pP 17 23 16.4 -3.4
JCT pmax pmax
comp=Z,95nm,1.1s,mb5.8
JCT Junction City 84.49 53 *e*P **P** 17 23 03.6 -0.5
comp=Z,95nm,1.1s,mb5.8
JCT *e*pP pP 17 23 16.4 -3.4
NRCA Norcia 84.50 328 P **P** 17 23 04.3 +0.4
SIUC Southern Illin 84.56 41 *e*P **P** 17 23 02.8 -1.6
comp=Z,176nm,0.9s,mb6.2
SIUC *e*pP pP 17 23 16.9 -3.2
CSNT Castellina Chi 84.66 329 P **P** 17 23 05.9 +1.3
SGMF Saint Gilles 84.69 340⇑*i*P **P** 17 23 04.8 +0.1
comp=Z,226nm,0.8s,mb6.0
SGMF Saint Gilles 84.69 340⇑*i*P **P** 17 23 04.8 +0.1
SGMF pmax pmax
comp=Z,113nm,0.8s,mb6.0
SGMF Saint Gilles 84.69 340⇑*i*P **P** 17 23 04.8 +0.1
comp=Z,113nm,0.8s,mb6.0
PII Pisa 84.72 330 P **P** 17 23 03.7 -1.3
BGF Bois d'Agland 84.77 336 *e*P **P** 17 23 05.4 +0.2
comp=Z,49nm,0.7s,mb5.4
BGF Bois d'Agland 84.77 336 *e*P **P** 17 23 05.4 +0.2
BGF pmax pmax
comp=Z,24nm,0.7s,mb5.4
BGF Bois d'Agland 84.77 336 *e*P **P** 17 23 05.4 +0.2
comp=Z,24nm,0.7s,mb5.4
ROSF Rostrenen 84.80 340⇑*i*P **P** 17 23 05.4 +0.2
comp=Z,306nm,0.8s,mb6.2
ROSF Rostrenen 84.80 340⇑*i*P **P** 17 23 05.4 +0.2
ROSF pmax pmax
comp=Z,153nm,0.8s,mb6.2
ROSF Rostrenen 84.80 340⇑*i*P **P** 17 23 05.4 +0.2
comp=Z,153nm,0.8s,mb6.2
AQU L'Aquila 84.80 327 P **P** 17 23 06.1 +0.7
LONY Lake Ozonia 84.84 28 *e*P **P** 17 23 04.1 -1.5
comp=Z,28nm,0.9s,mb5.4
MIAR Mount Ida 84.86 46 *e*P **P** 17 23 05.1 -0.7
MIAR pmax pmax
comp=Z,68nm,0.9s,mb5.8
MIAR Mount Ida 84.86 46 *e*P **P** 17 23 05.1 -0.7
comp=Z,68nm,0.9s,mb5.8
BNI Bardonecchia 84.91 333 *e*P **P** 17 23 05.9 0.0
BNI pmax pmax
comp=Z,34nm,0.9s,mb5.5
BNI Bardonecchia 84.91 333 *e*P **P** 17 23 05.9 0.0
comp=Z,34nm,0.9s,mb5.5
FG5 Orsara di Pugl 84.95 325 P **P** 17 23 07.8 +1.6
GDM Grand'Maison 84.96 333 *e*P **P** 17 23 06.5 +0.4
VLX Vlachokerasia 84.96 319 P **P** 17 23 06.5 +0.2
FIAM Fiamignano 84.98 327 P **P** 17 23 07.2 +0.9
FRNY Flat Rock 84.99 28 *e*P **P** 17 23 04.6 -1.7
comp=Z,17nm,0.9s,mb5.2
ERPA Erie 85.00 33 *e*P **P** 17 23 05.8 -0.6
comp=Z,145nm,1.3s,mb6.0
ERPA *e*pP pP 17 23 17.8 -4.3
GRN Grenoble 85.05 333 *e*P **P** 17 23 07.1 +0.5
GRFL Gerfalco 85.05 329 P **P** 17 23 07.3 +0.7
PLDF La Plantade 85.07 335 *e*P **P** 17 23 07.2 +0.5
PTQR Pietraquaria 85.08 327 P **P** 17 23 07.0 +0.2
USIN University of 85.10 40 *e*P **P** 17 23 06.6 -0.4
comp=Z,35nm,0.9s,mb5.5
VVLD Villa Vallelon 85.12 327 P **P** 17 23 06.5 -0.5
FIN Finale Ligure 85.13 331 P **P** 17 23 05.7 -1.3
PARMO Parma 85.14 42 P **P** 17 23 07.6 +0.4
AGO Saint Agoulin 85.14 335 *e*P **P** 17 23 06.9 -0.1
QUIF Quistinic 85.16 340⇑*i*P **P** 17 23 07.0 -0.1
comp=Z,150nm,0.8s,mb5.9
QUIF Quistinic 85.16 340⇑*i*P **P** 17 23 07.0 -0.1
QUIF pmax pmax
comp=Z,75nm,0.8s,mb5.9
QUIF Quistinic 85.16 340⇑*i*P **P** 17 23 07.0 -0.1
comp=Z,75nm,0.8s,mb5.9
MBDF Montbardon 85.16 333⇑*i*P **P** 17 23 06.7 -0.5
comp=Z,52nm,0.9s,mb5.4
MBDF Montbardon 85.16 333⇑*i*P **P** 17 23 06.7 -0.5
MBDF pmax pmax
comp=Z,26nm,0.9s,mb5.4
MBDF Montbardon 85.16 333⇑*i*P **P** 17 23 06.7 -0.5
comp=Z,26nm,0.9s,mb5.4
SDI San Donato 85.18 327 P **P** 17 23 07.0 -0.3
TCF Toulx Ste Croi 85.20 336⇑*i*P **P** 17 23 07.4 +0.1
comp=Z,83nm,0.8s,mb5.6
TCF Toulx Ste Croi 85.20 336⇑*i*P **P** 17 23 07.4 +0.1
TCF pmax pmax
comp=Z,41nm,0.8s,mb5.6
TCF Toulx Ste Croi 85.20 336⇑*i*P **P** 17 23 07.4 +0.1
comp=Z,41nm,0.8s,mb5.6
VLI Veliai 85.21 318 *e*P **P** 17 23 06.0 -1.6
VLI Veliai 85.21 318 *e*P **P** 17 23 06.0 -1.6
PTRP Pietrapertosa 85.25 325 P **P** 17 23 08.4 +0.7
ORIF Oris-en-Rattie 85.29 333⇑*i*P **P** 17 23 07.8 0.0
comp=Z,68nm,0.9s,mb5.5
ORIF *e*MLR MLR
comp=Z,4µm,22.2s,MS5.4
ORIF Oris-en-Rattie 85.29 333⇑*i*P **P** 17 23 07.8 0.0
ORIF pmax pmax
comp=Z,34nm,0.9s,mb5.5
ORIF Oris-en-Rattie 85.29 333⇑*i*P **P** 17 23 07.8 0.0
comp=Z,34nm,0.9s,mb5.5
CERT Cerreto 85.31 327 P **P** 17 23 07.1 -0.8
UALR University of 85.32 45 *e*P **P** 17 23 06.9 -1.2
comp=Z,48nm,1.5s,mb5.4
ALLY Alegheny Colle 85.33 33 *e*P **P** 17 23 07.6 -0.4
comp=Z,108nm,0.9s,mb6.0
ACSO Alum Creek Sta 85.35 36 *e*P **P** 17 23 07.5 -0.7
comp=Z,83nm,0.9s,mb5.9
SURF Saint Ours 85.37 332 *e*P **P** 17 23 08.0 -0.2
SSB Saint Sauveur 85.40 334 *e*P **P** 17 23 07.8 -0.5
SSB Saint Sauveur 85.40 334 *e*P **P** 17 23 07.2 -1.2
comp=Z,37nm,1.3s,mb5.3
CSSN Cassano Irpino 85.40 325 P **P** 17 23 09.1 +0.7
PYM Petit Puy Mans 85.45 335 *e*P **P** 17 23 08.1 -0.5
RFI Roccamonfina 85.46 326 P **P** 17 23 09.4 +0.7
ORI Oriolo Calabro 85.47 324 P **P** 17 23 09.8 +1.0
IMI Imperia 85.50 331 P **P** 17 23 07.7 -1.2
WCI Wyandotte Cave 85.53 39 *e*P **P** 17 23 08.0 -1.1
WCI pmax pmax
comp=Z,71nm,1.1s,mb5.8
WCI Wyandotte Cave 85.53 39 *e*P **P** 17 23 08.0 -1.1
comp=Z,71nm,1.1s,mb5.8
SGO Sicignano 85.53 325 P **P** 17 23 09.9 +0.8
SAOF Saorge 85.55 332 *e*P **P** 17 23 08.2 -0.9
GNAR Gosnell 85.56 43 *e*P **P** 17 23 10.8 +1.4
HBAR Harrisburg 85.57 44 *e*P **P** 17 23 09.3 0.0
AUTN L'Aution 85.59 332 *e*P **P** 17 23 08.9 -0.4
MFF Saint Martin d 85.59 338⇑*i*P **P** 17 23 09.4 +0.2
comp=Z,150nm,0.9s,mb5.9
MFF Saint Martin d 85.59 338⇑*i*P **P** 17 23 09.4 +0.2
MFF pmax pmax
comp=Z,75nm,0.9s,mb5.9
MFF Saint Martin d 85.59 338⇑*i*P **P** 17 23 09.4 +0.2
comp=Z,75nm,0.9s,mb5.9
VERF Verneugheol 85.61 336 *e*P **P** 17 23 09.1 -0.3

MUKL Al Mukalla 85.62 286 *e*P **P** **17 23 10.7 +0.8**
VAM Vamos 85.62 316 *e*P **P** **17 23 10.0 +0.4**
VAM Vamos 85.62 316 *e*P **P** **17 23 10.0 +0.4**
TOUF Mont Tournerai 85.63 332 *e*P **P** **17 23 09.2 -0.3**
PYL PYLOS 85.65 319 P **P** **17 23 08.7 -1.0**
GLAT Glass 85.68 42 *e*P **P** **17 23 10.0 +0.1**
SBF Sospel 85.70 332⇑ *i*P **P** **17 23 09.0 -0.9**
comp=Z,72nm,0.7s,mb5.7
SBF Sospel 85.70 332⇑ *i*P **P** **17 23 09.0 -0.9**
SBF pmax pmax
comp=Z,36nm,0.7s,mb5.7
SBF Sospel 85.70 332⇑ *i*P **P** **17 23 09.0 -0.9**
comp=Z,36nm,0.7s,mb5.7
LUCF Luceram 85.70 332 *e*P **P** **17 23 09.0 -0.9**
VIVF Saint-Julien-l 85.74 334⇑ *i*P **P** **17 23 10.2 +0.2**
comp=Z,72nm,0.9s,mb5.6
VIVF Saint-Julien-l 85.74 334⇑ *i*P **P** **17 23 10.2 +0.2**
VIVF pmax pmax
comp=Z,36nm,0.9s,mb5.6
VIVF Saint-Julien-l 85.74 334⇑ *i*P **P** **17 23 10.2 +0.2**
comp=Z,36nm,0.9s,mb5.6
MVIF Mont Vial 85.77 332 *e*P **P** **17 23 09.0 -1.2**
OCF Saint Nazaire 85.78 333 *e*P **P** **17 23 10.5 +0.3**
OG26 St.-Nazaire-De 85.78 333 *e*P **P** **17 23 10.5 +0.3**
REVF Revere 85.83 332 *e*P **P** **17 23 08.8 -1.7**
LBL Lubilhac 85.84 335 *e*P **P** **17 23 10.7 +0.2**
MDV Middlebury 85.86 28 *e*P **P** **17 23 09.8 -0.9**
comp=Z,2µm,0.5s
FRNF Fournols 85.91 336 *e*P **P** **17 23 11.0 +0.1**
URZ Urewera 85.94 156 LR LR 17 57 17.8
comp=Z,769nm,21.5s,MS5.1,baz=343,slow=33
PKME Peaks-Kenny Pk 85.98 25 *e*P **P** **17 23 10.8 -0.4**
comp=Z,44nm,1.0s,mb5.6
CALN Calern 85.98 332 *e*P **P** **17 23 09.8 -1.5**
TIP Timpagrande 86.07 323 *e*P **P** **17 23 11.6 -0.1**
comp=Z,72nm,1.1s,mb5.8
LBNH Lisbon 86.07 27 *e*P **P** **17 23 11.9 +0.2**
LBNH pmax pmax
comp=Z,33nm,1.0s,mb5.5
LBNH Lisbon 86.07 27 *e*P **P** **17 23 11.9 +0.3**
comp=Z,33nm,1.0s,mb5.5
STOF St-Etienne Org 86.10 333 *e*P **P** **17 23 11.4 -0.4**
SMRF Simiane la Rot 86.23 333⇑ *i*P **P** **17 23 12.6 +0.1**
comp=Z,67nm,1.2s,mb5.4
SMRF Simiane la Rot 86.23 333⇑ *i*P **P** **17 23 12.6 +0.1**
comp=Z,67nm,1.2s,mb5.8
FRF La Foret Royal 86.24 332⇑ *i*P **P** **17 23 11.6 -0.9**
comp=Z,122nm,1.4s,mb5.7
FRF La Foret Royal 86.24 332⇑ *i*P **P** **17 23 11.6 -0.9**
FRF pmax pmax
comp=Z,61nm,1.4s,mb5.6
FRF La Foret Royal 86.24 332⇑ *i*P **P** **17 23 11.6 -0.9**
comp=Z,61nm,1.4s,mb5.6
VILF Villemus 86.29 333 *e*P **P** **17 23 13.5 +0.7**
PGF Pioggiola 86.30 330⇑ *i*P **P** **17 23 12.1 -0.7**
comp=Z,59nm,0.9s,mb5.5
PGF Pioggiola 86.30 330⇑ *i*P **P** **17 23 12.1 -0.7**
PGF pmax pmax
comp=Z,29nm,0.9s,mb5.5
PGF Pioggiola 86.30 330⇑ *i*P **P** **17 23 12.1 -0.7**
comp=Z,29nm,0.9s,mb5.5
RJF Les Rejaudoux 86.30 336⇑ *i*P **P** **17 23 12.9 +0.1**
comp=Z,125nm,0.9s,mb5.8
RJF *e*MLR MLR
comp=Z,4µm,22.5s,MS5.4
RJF Les Rejaudoux 86.30 336⇑ *i*P **P** **17 23 12.9 +0.1**
RJF pmax pmax
comp=Z,62nm,0.9s,mb5.8
RJF MLR MLR
comp=Z,4µm,22.5s,MS5.7
RJF Les Rejaudoux 86.30 336⇑ *i*P **P** **17 23 12.9 +0.1**
comp=Z,62nm,0.9s,mb5.8
RJF LR LR
comp=Z,4µm,22.5s,MS5.7
TAVF Tavernes 86.39 333 *e*P **P** **17 23 12.5 -0.7**
NATX Nacogdoches 86.42 49 *e*P **P** **17 23 13.4 -0.2**
comp=Z,142nm,1.1s,mb6.1
HNH Hanover 86.43 27 *e*P **P** **17 23 13.1 -0.4**
comp=Z,34nm,0.8s,mb5.6
CORF Corte 86.46 330 *e*P **P** **17 23 13.1 -0.5**
CAF Calviac 86.48 336⇑ *i*P **P** **17 23 14.2 +0.5**
comp=Z,172nm,0.9s,mb6.0
CAF Calviac 86.48 336⇑ *i*P **P** **17 23 14.2 +0.5**
CAF pmax pmax
comp=Z,86nm,0.9s,mb6.0
CAF Calviac 86.48 336⇑ *i*P **P** **17 23 14.2 +0.5**
comp=Z,86nm,0.9s,mb6.0
LMR La Mourre 86.48 332⇑ *i*P **P** **17 23 13.2 -0.5**
comp=Z,153nm,0.9s,mb5.9
LMR La Mourre 86.48 332⇑ *i*P **P** **17 23 13.2 -0.5**
LMR pmax pmax
comp=Z,76nm,0.9s,mb5.9
LMR La Mourre 86.48 332⇑ *i*P **P** **17 23 13.2 -0.5**
comp=Z,76nm,0.9s,mb5.9
WVT Waverly 86.50 41 *e*P **P** **17 23 13.4 -0.5**
WVT pmax pmax
comp=Z,46nm,0.9s,mb5.7
WVT Waverly 86.50 41 *e*P **P** **17 23 13.4 -0.6**
comp=Z,46nm,0.9s,mb5.7
GRI Girifalco 86.51 323 P **P** **17 23 13.4 -0.5**
PRAF Pradon 86.51 333 *e*P **P** **17 23 14.7 +0.8**
PUYF Puyloubier 86.58 333 *e*P **P** **17 23 14.7 +0.5**
TREF Trevaresse 86.60 333 *e*P **P** **17 23 14.7 +0.4**
LASF Ste Croix 86.69 334⇑ *i*P **P** **17 23 15.1 +0.4**
comp=Z,100nm,1.0s,mb5.7
FFD Franklin Falls 86.84 27 *e*P **P** **17 23 14.1 -1.4**
comp=Z,24nm,0.7s,mb5.5
LFF La Frestale 86.86 337⇑ *i*P **P** **17 23 16.0 +0.5**
comp=Z,101nm,0.8s,mb5.8
LFF La Frestale 86.86 337⇑ *i*P **P** **17 23 16.0 +0.5**
LFF pmax pmax
comp=Z,51nm,0.8s,mb5.8
LFF La Frestale 86.86 337⇑ *i*P **P** **17 23 16.0 +0.5**
comp=Z,50nm,0.8s,mb5.8
OSPF L'Ospedale 87.00 330 *e*P **P** **17 23 15.5 -0.8**
OXF Oxford 87.02 43 *e*P **P** **17 23 15.8 -0.7**
OXF pmax pmax
comp=Z,162nm,1.0s,mb6.2
OXF Oxford 87.02 43 *e*P **P** **17 23 15.8 -0.7**
comp=Z,162nm,1.0s,mb6.2
SSPA Standing Stone 87.08 32 *e*P **P** **17 23 16.3 -0.4**
comp=Z,61nm,1.1s,mb5.8
MCWV Mont Chateau 87.14 34 *e*P **P** **17 23 16.9 -0.1**
comp=Z,73nm,0.9s,mb5.9
MCWV *e*pP pP 17 23 28.9 -3.9
HKT Hockley 87.15 50 *e*P **P** **17 23 18.3 +1.1**
HKT pmax pmax
comp=Z,39nm,1.5s,mb5.4
HKT Hockley 87.15 50 *e*P **P** **17 23 18.3 +1.1**
comp=Z,40nm,1.5s,mb5.4
MTLF Montolieu 87.87 335⇑ *i*P **P** **17 23 20.8 +0.4**
comp=Z,48nm,0.9s,mb5.4
MTLF Montolieu 87.87 335⇑ *i*P **P** **17 23 20.8 +0.4**
MTLF pmax pmax
comp=Z,24nm,0.9s,mb5.4
MTLF Montolieu 87.87 335⇑ *i*P **P** **17 23 20.8 +0.4**
comp=Z,24nm,0.9s,mb5.4
WES Weston 87.92 27 *e*P **P** **17 23 20.2 -0.5**
WES pmax pmax
comp=Z,756nm,1.8s,mb6.6
WES Weston 87.92 27 *e*P **P** **17 23 20.2 -0.5**
comp=Z,756nm,1.8s,mb6.6
LRDF Laroque-de-Fa 88.14 335 *e*P **P** **17 23 22.1 +0.4**
SWET Sewanee 88.14 41 *e*P **P** **17 23 20.6 -1.3**
TZTN Tazewell 88.16 38 *e*P **P** **17 23 21.3 -0.6**
comp=Z,52nm,0.9s,mb5.8
VBMS Vicksburg 88.27 45 *e*P **P** **17 23 24.1 +1.6**
comp=Z,32nm,0.4s,mb5.9
SJAF Saint Jean de 88.44 334 *e*P **P** **17 23 22.9 -0.2**
FILF Fillols 88.47 334 *e*P **P** **17 23 21.4 -1.9**
SDMD Soldier's Deli 88.55 32 *e*P **P** **17 23 24.1 +0.4**
comp=Z,24nm,0.8s,mb5.6
SDMD *e*pP pP 17 23 37.3 -2.2
MLS Moulis 88.56 335 *e*P **P** **17 23 23.7 0.0**
TBI Tubuai 88.60 124 *e*P **P** **17 23 28.0 +4.0**
comp=Z,314nm,28.2s
TBI Tubuai 88.60 124 *e*PP PP 17 26 51.4 -2.0
comp=Z,138nm,28.2s
TBI *e*S S 17 34 03.0 -3.0
comp=Z,763nm,31.0s
TBI *e*SS SS 17 39 56.6 -2.0
comp=Z,451nm,28.2s
TBI Tubuai 88.60 124 *e*LR LR 17 51 18.6
comp=Z,4µm,23.5s,baz=313
TBI Tubuai 88.60 124 *e*P **P** **17 23 28.0 +4.0**
TBI *e*PP PP 17 26 51.4 -2.0
TBI *e*S S 17 34 03.0 -3.0
TBI *e*SS SS 17 39 56.6 -2.0
CPCT Cooper Cave 88.61 40 *e*P **P** **17 23 23.5 -0.6**
CPCT *e*pP pP 17 23 36.1 -3.9
LBOS 88.68 288 *e*P **P** **17 23 25.8 +1.1**
LBOS AMb AMB 17 23 26.7
comp=Z,234nm,1.8s,mb6.2
EPF Esparros 88.72 336⇑ *i*P **P** **17 23 23.9 -0.6**
comp=Z,41nm,0.8s,mb5.5
EPF Esparros 88.72 336⇑ *i*P **P** **17 23 23.9 -0.6**
EPF pmax pmax
comp=Z,21nm,0.8s,mb5.5
EPF Esparros 88.72 336⇑ *i*P **P** **17 23 23.9 -0.6**
comp=Z,20nm,0.8s,mb5.5
DHBB Dhamar BB 88.78 289 *e*P **P** **17 23 26.3 +1.1**
DHBB AMb AMB 17 23 27.3
comp=Z,38nm,0.8s,mb5.8
LABF Labassere 88.78 336 *e*P **P** **17 23 24.4 -0.4**
VALF Valcebollere 88.78 335 *e*P **P** **17 23 25.1 +0.3**
TKL Tuckaleechee C 88.78 39 *e*P **P** **17 23 24.4 -0.5**
ELN Prospectdale 88.81 36 *e*P **P** **17 23 24.2 -0.8**
REYF Montagne du Re 88.90 337 *e*P **P** **17 23 26.1 +0.8**
RESF Ens 88.92 336 *e*P **P** **17 23 26.3 +0.9**
VIEF Viey 88.95 336 *e*P **P** **17 23 26.0 +0.5**
BLA Blacksburg 88.97 36 *e*P **P** **17 23 24.8 -0.9**
BLA pmax pmax
comp=Z,59nm,0.9s,mb5.9
BLA Blacksburg 88.97 36 *e*P **P** **17 23 24.8 -0.9**
comp=Z,59nm,0.9s,mb5.9
EALK Alkurruntz 89.08 337 P **P** **17 23 25.8 -0.3**
comp=Z,113nm,1.9s,mb5.9
EBIE Bielsa 89.09 336 P **P** **17 23 26.0 -0.2**
comp=Z,181nm,2.1s,mb6.0
SJPF Ste Jean 89.10 337⇑ *i*P **P** **17 23 26.2 0.0**
comp=Z,23nm,0.9s,mb5.2
SJPF Ste Jean 89.10 337⇑ *i*P **P** **17 23 26.2 0.0**
SJPF pmax pmax
comp=Z,11nm,0.9s,mb5.2
SJPF Ste Jean 89.10 337⇑ *i*P **P** **17 23 26.2 0.0**
comp=Z,11nm,0.9s,mb5.2
LARF Larrau 89.10 337 *e*P **P** **17 23 26.4 +0.2**
ETSF Etsaut 89.10 337⇑ *i*P **P** **17 23 26.5 +0.2**
comp=Z,51nm,0.7s,mb5.7
ETSF Etsaut 89.10 337⇑ *i*P **P** **17 23 26.5 +0.2**
ETSF pmax pmax
comp=Z,25nm,0.7s,mb5.7
ETSF Etsaut 89.10 337⇑ *i*P **P** **17 23 26.5 +0.2**
comp=Z,25nm,0.7s,mb5.7
ELIZ Elizondo 89.14 337 P **P** **17 23 25.7 -0.7**
ELIZ pmax pmax
comp=Z,25nm,1.0s,mb5.5
ELIZ Elizondo 89.14 337 P **P** **17 23 25.7 -0.7**
comp=Z,25nm,1.0s,mb5.5
LRAL Lakeview Retre 89.40 43 *e*P **P** **17 23 27.1 -0.7**
comp=Z,11nm,0.8s,mb5.2
RPZ Rata Peaks 89.54 163 LR LR 17 59 56.9
comp=Z,3µm,20.6s,MS5.6,baz=339,slow=33
ELAN Lanestosa 89.59 339 P **P** **17 23 26.9 -1.7**
comp=Z,128nm,2.3s,mb5.8
ECRI Cripan 89.92 338 P **P** **17 23 29.5 -0.6**
ECRI pmax pmax
comp=Z,9.0nm,0.6s,mb5.3
ECRI Cripan 89.92 338 P **P** **17 23 29.5 -0.6**
comp=Z,8.9nm,0.6s,mb5.3
EARI Arriondas 89.98 340 P **P** **17 23 27.7 -2.7**
comp=Z,142nm,2.4s,mb5.9
EPOB Poblet 90.03 335 P **P** **17 23 28.3 -2.3**
comp=Z,90nm,1.6s,mb5.8
ESAC San Caprasio 90.16 336 P **P** **17 23 30.8 -0.4**
comp=Z,131nm,0.7s,mb6.4
EPON Pontenova 90.43 341 P **P** **17 23 30.5 -1.9**
comp=Z,118nm,2.6s,mb5.8
ERTA Hoya de San J 90.62 335 P **P** **17 23 33.7 +0.3**
comp=Z,80nm,1.5s,mb5.8
ETOS Mallorca 90.91 333 P **P** **17 23 33.8 -1.0**
comp=Z,86nm,1.6s,mb5.8
JSC Jenkinsville 91.07 38 *e*P **P** **17 23 35.4 -0.2**
EMAZ Mazaricos 91.20 342 P **P** **17 23 34.4 -1.6**
comp=Z,167nm,2.4s,mb5.9
ERUA La Rua 91.31 341 P **P** **17 23 36.5 -0.1**
ERUA pmax pmax
comp=Z,10.0nm,1.0s,mb5.1
ERUA La Rua 91.31 341 P **P** **17 23 36.5 0.0**
comp=Z,10nm,1.0s,mb5.1
EMOS Mosqueruela 91.41 336 P **P** **17 23 37.0 -0.1**
comp=Z,56nm,1.0s,mb5.8
ECAL Calabor 91.64 341 P **P** **17 23 37.3 -0.8**
comp=Z,20nm,1.2s,mb5.3
PBRG Braganca 91.77 340 *e*P **P** **17 23 39.1 +0.4**
comp=Z,21nm,1.3s,mb5.3
ELOB Lobios 92.03 341 P **P** **17 23 37.3 -2.5**
comp=Z,73nm,2.2s,mb5.6
EIBI Ibiza 92.06 334 P **P** **17 23 39.5 -0.6**
comp=Z,49nm,1.1s,mb5.8
CMAH Djebel Manchou 92.07 328 P **P** **17 23 49.0 +8.8**
KEST Kesra 92.09 327 P **P** **17 23 39.5 -0.8**
comp=Z,6.7nm,0.8s,mb5.0,baz=320,slow=3.0,SNR=18
KEST LR LR 18 09 50.3
comp=Z,1µm,19.1s,MS5.3,baz=158,slow=39
PCAB Cabril 92.17 341 *e*P **P** **17 23 40.5 0.0**
comp=Z,32nm,1.9s,mb5.3
GUD Guadarrama 92.20 338 P **P** **17 23 40.5 -0.2**
GUD pmax pmax
comp=Z,11nm,1.0s,mb5.1
GUD Guadarrama 92.20 338 P **P** **17 23 40.5 -0.2**
comp=Z,11nm,1.0s,mb5.2
ECHE Chera 92.27 336 P **P** **17 23 41.0 0.0**
ECHE pmax pmax
comp=Z,17nm,1.1s,mb5.3
ECHE Chera 92.27 336 P **P** **17 23 41.0 0.0**
comp=Z,16nm,1.1s,mb5.3
MVO Moncorvo 92.45 340 *e*P **P** **17 23 40.8 -1.0**
comp=Z,25nm,1.3s,mb5.4
MVO *e*SKS 17 34 13.6
MVO *e*LR LR 17 58 33.9
comp=Z,1µm,20.0s
PVRL Vila Real 92.51 341 *e*P **P** **17 23 42.6 +0.5**
comp=Z,38nm,1.1s,mb5.7
DFRA Djebel Bou Aff 92.72 329 P **P** **17 23 44.0 +0.8**
EBEN Beniarda 92.85 335 P **P** **17 23 43.6 -0.2**
comp=Z,84nm,1.7s,mb5.9
ESBB Sonseca Array 93.05 338 P **P** **17 23 42.9 -1.8**
comp=Z,112nm,2.1s,mb5.9
ESDC Sonseca Array 93.05 338 P **P** **17 23 43.9 -0.7**
comp=Z,11nm,0.7s,mb5.4,baz=18,slow=3.8,SNR=40
ESDC LR LR 18 12 15.1
comp=Z,2µm,19.5s,MS5.5,baz=30,slow=40
ESDC Sonseca Array 93.05 338 P **P** **17 23 44.0 -0.7**
comp=Z,11nm,1.3s,mb5.1
ESLA Sonseca Array 93.05 338 *e*P **P** **17 23 44.0 -0.7**
comp=Z,5.2nm,0.9s,mb5.0
PVIS Viso 93.08 341 *e*P **P** **17 23 44.9 +0.1**
comp=Z,32nm,1.7s,mb5.5
PAB San Pablo 93.28 338 *e*P **P** **17 23 44.5 -1.2**
PAB pmax pmax
comp=Z,16nm,0.9s,mb5.5
PAB San Pablo 93.28 338 *e*P **P** **17 23 44.5 -1.2**
comp=Z,16nm,0.9s,mb5.5
MTE Manteigas 93.30 341 *e*P **P** **17 23 45.8 0.0**
comp=Z,24nm,0.9s,mb5.6
MTE *e*SKS 17 34 19.5
MTE *e*LR LR 17 58 56.9
comp=Z,2µm,20.0s
ETOB Tobarra 93.31 336 P **P** **17 23 46.0 +0.2**
comp=Z,116nm,2.1s,mb5.9
CKHR Kef el Ahmar 93.32 329 P **P** **17 23 46.0 0.0**
EVIA Vianos 93.60 336 P **P** **17 23 47.0 -0.2**
EVIA pmax pmax
comp=Z,28nm,1.0s,mb5.7
EVIA Vianos 93.60 336 P **P** **17 23 47.0 -0.2**
comp=Z,28nm,1.0s,mb5.7
PCBR Castelo Branco 93.81 340 *e*P **P** **17 23 47.5 -0.6**
comp=Z,17nm,1.9s,mb5.2
PMRV Marv??o 94.18 340 *e*P **P** **17 23 51.0 +1.2**
comp=Z,23nm,1.8s,mb5.3
PMRV *e*SKS 17 34 23.9
PMRV *e*LR LR 17 59 46.4
comp=Z,1µm,18.0s
EHUE Huescar 94.39 336 P **P** **17 23 49.3 -1.5**
EHUE pmax pmax
comp=Z,42nm,1.8s,mb5.6
EHUE Huescar 94.39 336 P **P** **17 23 49.3 -1.5**
comp=Z,42nm,1.8s,mb5.6
EBAN Banos Encina 94.41 337 P **P** **17 23 50.6 -0.3**
EBAN pmax pmax
comp=Z,30nm,1.1s,mb5.6
EBAN Banos Encina 94.41 337 P **P** **17 23 50.6 -0.3**
comp=Z,30nm,1.1s,mb5.6
EQES Quesada 94.54 336 P **P** **17 23 50.4 -1.1**
comp=Z,70nm,1.8s,mb5.8
EADA Adamuz 94.63 338 P **P** **17 23 50.9 -1.1**
comp=Z,89nm,2.5s,mb5.8
EBAD Badajoz 94.72 340 P **P** **17 23 51.4 -0.9**
comp=Z,13nm,1.2s,mb5.2
PESTR Estremoz 94.76 340 *e*SKS 17 34 31.0
PESTR *e*LR LR 17 59 47.0
comp=Z,1µm,18.0s
ECAB El Cabril 94.94 338 P **P** **17 23 52.7 -0.7**
comp=Z,20nm,1.1s,mb5.5
ENIJ Nijar 95.05 335 P **P** **17 23 53.4 -0.5**
ENIJ pmax pmax
comp=Z,13nm,1.0s,mb5.3
ENIJ Nijar 95.05 335 P **P** **17 23 53.4 -0.5**
comp=Z,13nm,1.0s,mb5.3
PMAFR Mafra 95.08 341 *e*SKS 17 34 20.8
PMAFR *e*LR LR 17 59 52.0
comp=Z,718nm,22.0s
ELUQ Luque 95.11 337 P **P** **17 23 54.2 +0.1**
ELUQ pmax pmax
comp=Z,43nm,1.2s,mb5.8
ELUQ Luque 95.11 337 P **P** **17 23 54.2 +0.1**
comp=Z,43nm,1.2s,mb5.8
EVO Evora 95.18 340 *e*P **P** **17 23 54.1 -0.3**
comp=Z,10.0nm,0.7s,mb5.0
EVO *e*MLR MLR
comp=Z,3µm,19.8s,MS5.4
EVO Evora 95.18 340 *e*P **P** **17 23 53.7 -0.7**
comp=Z,20nm,1.7s,mb5.3
PBAR Barrancos 95.28 340 *e*P **P** **17 23 54.2 -0.7**
comp=Z,22nm,1.2s,mb5.5
PBAR *e*SKS 17 34 30.2
PBAR *e*LR LR 18 00 45.7
comp=Z,2µm,20.0s
EBER Berja 95.33 336 P **P** **17 23 52.8 -2.3**
comp=Z,24nm,1.4s,mb5.4
ELOJ Sierra Loja 95.46 337 P **P** **17 23 54.9 -0.9**
ELOJ pmax pmax
comp=Z,25nm,1.5s,mb5.4
ELOJ Sierra Loja 95.46 337 P **P** **17 23 54.9 -0.8**
comp=Z,25nm,1.5s,mb5.4
ERON Agron 95.48 337 P **P** **17 23 55.7 -0.2**
comp=Z,6.5nm,0.8s,mb5.1
EMIN Mina Concepcio 95.56 339 P **P** **17 23 55.4 -0.9**
comp=Z,144nm,3.1s
EGUA Guajares 95.58 336 P **P** **17 23 55.6 -0.7**
EGUA pmax pmax
comp=Z,41nm,0.8s,mb5.9
EGUA Guajares 95.58 336 P **P** **17 23 55.6 -0.7**
comp=Z,41nm,0.8s,mb5.9
EGRO El Granado 95.99 340 P **P** **17 23 55.5 -2.7**
comp=Z,58nm,2.4s,mb5.6
PVAQ Vaqueiros 96.18 340 *e*SKS 17 34 33.5
PVAQ *e*LR LR 18 00 34.4
comp=Z,2µm,22.0s
EMIJ Mijas 96.18 337 P **P** **17 23 58.0 -1.1**
comp=Z,15nm,1.1s,mb5.3
ESPR Espera 96.19 338 P **P** **17 23 58.7 -0.4**
comp=Z,36nm,1.1s,mb5.7
PTEO Sao Teotonio 96.29 341 *e*P **P** **17 23 59.8 +0.3**
comp=Z,61nm,1.9s,mb5.7
PBDV Barranco-do-Ve 96.38 340 *e*SKS 17 34 34.4
PBDV *e*LR LR 18 00 40.1
comp=Z,2µm,20.0s
EJIF Jimena Fronter 96.48 338 P **P** **17 23 59.7 -0.7**
EJIF pmax pmax
comp=Z,14nm,0.7s,mb5.5
EJIF Jimena Fronter 96.48 338 P **P** **17 23 59.7 -0.7**
comp=Z,14nm,0.7s,mb5.5
MORF Marmelete 96.50 340 *e*SKS 17 34 34.6
MORF *e*LR LR 17 59 44.6
comp=Z,964nm,18.0s
PFVI Vila Bisbo 96.71 341 *e*SKS 17 34 36.5
PFVI *e*LR LR 18 01 05.6
comp=Z,1µm,20.0s
RKT Rikitea 97.60 115 *e*PS PS 17 36 54.2 -1.8
comp=Z,673nm,27.0s
RKT Rikitea 97.60 115 *e*LR LR 17 55 17.5
comp=Z,2µm,30.2s,baz=316
KMBO Kilima Mbogo 104.81 283 Pdiff Pdif 17 24 38.9 +1.3
comp=Z,2.4nm,1.0s,baz=203,slow=23,SNR=3.4
KMBO PP PP 17 28 50.9 -7.3
comp=Z,1.3nm,0.6s,baz=17,slow=20,SNR=3.4
DRV Dumont d'Urvil 109.97 183 Pdif Pdif 17 24 59.0 -1.6
DRV Dumont d'Urvil 109.97 183 PP PP 17 29 35.0 -0.4
DRV SKS SKSac 17 34 43.0 -50
DRV SP SS 17 44 58.0 +1.8
DRV L 17 55 00.0
DRV R 18 03 00.0
TOA0 Torodi Ar. Sit 115.18 322 *e*P PKiKP 17 29 11.2 -1.3
TORD Torodi Ar. Bea 115.18 322 PKP PKiKP 17 29 11.0 -1.6
comp=Z,1.4nm,0.6s,baz=31,slow=1.8,SNR=13
TORD PP PP 17 30 07.7 -4.6
comp=Z,2.9nm,0.8s,baz=17,slow=5.8,SNR=5.0
TORD PKKPbc PKKPbc 17 39 45.8 -0.2
comp=Z,3.9nm,1.2s,baz=210,slow=3.1,SNR=5.9
SDV Santo Domingo 117.79 43 PKP PKPdf 17 29 17.7 +0.1
comp=Z,12nm,0.5s,baz=341,slow=22,SNR=12
SDV Santo Domingo 117.79 43 *e*PKPdf PKPdf 17 29 17.7 +0.1
ROSC El Rosal 119.28 49 PKP PKPdf 17 29 21.3 +0.8
comp=Z,8.0nm,0.4s,baz=94,slow=17,SNR=4.7
OTAV Otavalo 120.67 56 *e*PKPdf PKPdf 17 29 23.2 0.0
LSZ Lusaka 120.99 278 *e*PKIKP PKPdf 17 29 23.6 0.0
SBA Scott Base 121.72 175 *e*PKIKP PKPdf 17 29 23.6 +0.4
DBIC Dimbokro 123.80 325 PKP PKPdf 17 29 28.3 -0.9
comp=Z,14nm,0.8s,baz=20,slow=0.4,SNR=11
DBIC PKKPab PKKPab 17 39 17.2 -0.8
comp=Z,6.5nm,1.1s,baz=124,slow=7.7,SNR=3.2
TIC Toumodi 123.89 325 *e*PKIKP PKPdf 17 29 29.2 -0.2
comp=Z,118nm,1.3s
KIC Kosan Boka 124.03 325 *e*PKIKP PKPdf 17 29 29.4 -0.2
comp=Z,70nm,1.0s
LIC Lamto 124.27 325 *e*PKIKP PKPdf 17 29 29.8 -0.3
comp=Z,17nm,0.7s
LIC *e*MLR MLR
comp=Z,2µm,21.0s,MS5.5
LIC Lamto 124.27 325 *e*PKIKP PKPdf 17 29 29.9 -0.2
comp=Z,40nm,1.0s
LIC Lamto 124.27 325 *e*PKPdf PKPdf 17 29 29.8 -0.3
LIC LR LR
comp=Z,1µm,21.0s,MS5.5
ATAH Atahualpa 126.36 61 PKP PKPdf 17 29 34.8 +0.8
comp=Z,45nm,0.9s,baz=63,slow=2.8,SNR=20
MAW Mawson 127.14 209 *e*P PKPdf 17 29 33.7 -0.1
comp=Z,15nm,0.9s
MAW Mawson 127.14 209 PKP PKPdf 17 29 34.3 +0.5
comp=Z,17nm,0.9s,baz=3.7,slow=2.5,SNR=34
MAW PKKP 17 39 50.6
comp=Z,1.3nm,0.9s,baz=234,slow=11,SNR=3.6
NNA Nana 131.11 63 PKP PKPdf 17 29 43.2 +0.2
comp=Z,41nm,0.8s,baz=325,slow=5.0,SNR=16
NNA Nana 131.11 63 *e*PKPdf PKPdf 17 29 42.3 -0.7
BOSA Boshof 131.35 268 PKP PKPdf 17 29 43.1 +0.1
comp=Z,7.4nm,0.9s,baz=142,slow=2.9,SNR=6.6
BOSA PP PP 17 32 01.8 -0.5
comp=Z,20nm,1.1s,baz=59,slow=8.3,SNR=7.6
SYO Syowa Base 135.82 210⇑ *e*PKPdf PKPdf 17 29 50.4 +0.2
ARE Arequipa 137.88 62 *e*PKIKP PKPdf 17 29 58.0 +2.4
LPAZ La Paz 139.88 58 PKhKP 17 29 52.0
comp=Z,5.2nm,0.8s,baz=8.6,slow=8.1,SNR=22
LPAZ PKP PKPdf 17 30 01.1 +1.9
comp=Z,16nm,0.8s,baz=26,slow=4.8,SNR=27
LPAZ La Paz 139.88 58 *i* PKHKP 17 29 52.0
LPAZ 17 30 01.1
LPAZ pmax pmax
comp=Z,16nm,0.8s
LPAZ La Paz 139.88 58 *e*PKPpre 17 29 50.7
LPAZ PKP PKPdf 17 30 01.1 +1.9
ANCH Antofagasta 143.69 69⇑ *i*P PKPdf 17 30 15.4 +9.5
SIV San Ignacio 143.79 49 PKhKP 17 30 02.7
comp=Z,24nm,1.0s,baz=317,slow=2.8,SNR=41
LVC Limon Verde 143.97 66 PKP PKPdf 17 30 05.6 -0.9
comp=Z,40nm,0.9s,baz=283,slow=4.2,SNR=15
LVC Limon Verde 143.97 66 *e*PKPdf PKPdf 17 30 05.0 -1.5
NVL N'lazarevskaya 144.83 204 PKIKP PKPdf 17 30 06.0 -0.4
NVL pmax pmax
comp=Z,228nm,1.2s
MAIT Maitri 144.85 204 *e*PKPdif PKPdf 17 30 05.5 -1.0
LCO Las Campanas 146.84 77 *e*PKPbc PKPbc 17 30 13.4 +0.4
TLL Tololo Astrono 147.44 78 *i* P PKPdf 17 30 13.3 +1.2
SNAA Sanae 148.13 198 *e*PKPdf PKPdf 17 30 11.0 -1.0
SNAA *e* 17 30 14.8
SNAA *e* 17 30 16.5

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SNAA				e		17 30 20.1	
SNAA				e		17 30 37.6	
SNAA				e		17 30 42.2	
SNAA				e		17 33 46.3	
SNAA				e		17 33 58.7	
SNAA	**Sanae**	**148.13**	**198**	ePKPdf	PKPdf	17 30 11.9	-0.1
CLCH	**Cerro Calan**	**149.36**	**83**	i P	PKPbc	17 30 17.8	-1.8
FCH	**Farellones**	**149.50**	**83**	⇓iP	PKPdf	17 30 16.9	+1.5
BDFB	**Brasilia**	**149.51**	**29**	PKPbc	PKPbc	17 30 20.3	-0.1
	comp=Z,38nm,0.7s,baz=292,slow=2.9,SNR=42						
BDFB	**Brasilia**	**149.51**	**29**	PKP2	PKPbc	17 30 20.3	-0.1
BDFB				pmax	pmax		
	comp=Z,38nm,0.7s						
VNA2	**Neumayer--Watz**	**149.67**	**197**	ePKPdf	PKPdf	17 30 16.0	+1.5
VNA2				e		17 30 19.4	
VNA2				e		17 30 21.1	
VNA2				e		17 30 26.6	
VNA2				e		17 30 33.5	
VNA2				e		17 30 42.4	
VNA2				e		17 33 54.8	
VNA2				e		17 34 00.9	
LMEL	**Las Melosas**	**149.82**	**84**	⇑iP	PKPdf	17 30 12.8	-3.1
VNA3	**Neumayer Olymp**	**149.87**	**195**	ePKPdf	PKPdf	17 30 16.1	+1.3
VNA3				e		17 30 19.3	
VNA3				e		17 30 21.1	
VNA3				e		17 30 27.1	
VNA3				e		17 30 33.2	
VNA3				e		17 30 42.3	
VNA3				e		17 33 55.2	
VNA3				e		17 34 00.3	
VNA1	**Neumayer--Stat**	**150.07**	**196**	ePKPdf	PKPdf	17 30 16.2	+1.1
VNA1				e		17 30 20.5	
VNA1				e		17 30 21.9	
VNA1				e		17 30 28.2	
VNA1				e		17 30 34.5	
VNA1				e		17 30 43.2	
VNA1				e		17 33 58.3	
CFAA	**Coronel Fontan**	**150.07**	**78**	PKP	PKPdf	17 30 17.5	+1.2
	comp=Z,11nm,1.0s,baz=270,slow=1.8,SNR=14						
CFAA				PKPbc	PKPbc	17 30 22.2	+0.8
	comp=Z,19nm,0.8s,baz=279,slow=2.2,SNR=110						
PLCA	**Paso Flores**	**152.37**	**97**	PKP	PKPdf	17 30 20.9	+1.3
	comp=Z,9.5nm,0.9s,baz=268,slow=2.4,SNR=17						
PLCA				PKPbc	PKPbc	17 30 27.6	+1.2
	comp=Z,13nm,0.8s,baz=290,slow=2.4,SNR=19						
PLCA	**Paso Flores**	**152.37**	**97**	PKIKP	PKPdf	17 30 20.9	+1.3
PLCA						17 30 27.6	
PLCA				pmax	pmax		
	comp=Z,10.0nm,0.9s						
PLCA	**Paso Flores**	**152.37**	**97**	ePKPdf	PKPdf	17 30 19.4	-0.1
CPUP	**Villa Florida**	**154.02**	**57**	PKP	PKPdf	17 30 22.3	-0.1
	comp=Z,9.1nm,1.0s,baz=339,slow=2.9,SNR=11						
CPUP				PKPbc	PKPbc	17 30 29.8	-0.7
	comp=Z,15nm,0.7s,baz=312,slow=2.6,SNR=19						
CPUP	**Villa Florida**	**154.02**	**57**	PKIKP	PKPdf	17 30 22.3	-0.1
CPUP						17 30 29.8	
CPUP				pmax	pmax		
	comp=Z,9.0nm,1.0s						
CPUP	**Villa Florida**	**154.02**	**57**	ePKPdf	PKPdf	17 30 22.6	+0.2

*TAP **08** 17:19:27.9, 21.92N×121.22E, h51km, ML3.7, C*
*ISCJB **08** 17:19:28.8±0.8, 21.94N±0.05×121.32E±0.03, h45km±6km, Error ellipse: s-maj=8.4km s-min=4.6km az=172.4*
*JMA **08** 17:19:29.7±0.3, 21.90N×121.47E, h91km, M3.6*
ISC 08 17:19:29.7±0.8**, 21.95N**±0.05×**121.28E**±0.03**, h40**km±9km**, n44, σ1^{s}10**/63**, 5C, Taiwan region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
LAY	**Lan-yu**	**0.27**	**71**	⇑iP	**Pn**	**17 19 37.4**	**-0.3**
	baz=62						
LAY				eS	**Sn**	**17 19 44.3**	**+1.1**
	baz=62						
TSEB	**Hengchuen, Pin**	**0.35**	**262**	P	**Pn**	**17 19 38.1**	**-0.5**
	baz=272						
TSEB				S	**Sn**	**17 19 45.6**	**+0.8**
	baz=272						
TWK1	**Hengchun**	**0.44**	**269**	⇑iP	**Pn**	**17 19 38.5**	**-1.2**
	baz=274						
TWK1				S	**Sn**	**17 19 46.1**	**-0.4**
	baz=274						
HEN	**Hengchun**	**0.50**	**276**	⇑iP	**Pn**	**17 19 39.7**	**-0.8**
	baz=281						
HEN				eS	**Sn**	**17 19 48.4**	**+0.3**
	baz=281						
TAW	**Tawu**	**0.54**	**319**	P	**Pn**	**17 19 39.8**	**-1.1**
	baz=333						
TAW				S	**Sn**	**17 19 48.5**	**-0.4**
	baz=333						
EAST	**Anshuo**	**0.58**	**317**	⇑iP	**Pn**	**17 19 40.6**	**-1.0**
	baz=331						
EAST				eS	**Sn**	**17 19 49.8**	**-0.3**
	baz=331						
ECL	**Taimali**	**0.71**	**335**	P	**Pn**	**17 19 41.8**	**-1.5**
	baz=340						
ECL				S	**Sn**	**17 19 52.1**	**-1.0**
	baz=340						
SCZT	**Fangliau**	**0.74**	**305**	i P	**Pn**	**17 19 43.0**	**-0.7**
	baz=310						
SCZT				eS	**Sn**	**17 19 55.0**	**+1.2**
	baz=310						
TTN	**Taitung**	**0.81**	**352**	eP	**Pn**	**17 19 44.2**	**-0.5**
	baz=355						
TTN				eS	**Sn**	**17 19 58.1**	**+2.6**
	baz=355						
TWG	**Pinlang**	**0.89**	**348**	⇑iP	**Pn**	**17 19 44.2**	**-1.5**
	baz=347						
TWG				eS	**Sn**	**17 19 55.0**	**-2.3**
	baz=347						
TWP	**Hsiaoliuchiu**	**0.93**	**295**	eP	**Pn**	**17 19 48.6**	**+2.3**
	baz=299						
TWP				eS	**Sn**	**17 20 01.5**	**+2.9**
	baz=299						
SSD	**Sandimen**	**0.99**	**323**	P	**Pn**	**17 19 46.7**	**-0.5**
	baz=333						
KAU	**Kaohsiung**	**1.09**	**305**	eP	**Pn**	**17 19 47.7**	**-0.8**
	baz=298						
CHKT	**Chengkung**	**1.15**	**4**	P	**Pn**	**17 19 48.1**	**-1.2**
	baz=357						
CHKT				eS	**Sn**	**17 20 04.2**	**+0.4**
	baz=357						
TWM1	**Shoushan**	**1.17**	**318**	eP	**Pn**	**17 19 49.8**	**+0.2**
	baz=322						
ELDTW	**Lidau**	**1.25**	**349**	P	**Pn**	**17 19 49.7**	**-1.1**
	baz=357						
SGST	**Jiashian**	**1.29**	**330**	eP	**Pn**	**17 19 51.6**	**+0.3**
	baz=334						
STYT	**Tauyuan**	**1.30**	**338**	eP	**Pn**	**17 19 52.0**	**+0.6**
	baz=331						
TWF1	**Yuli**	**1.40**	**1**	P	**Pn**	**17 19 51.2**	**-1.5**
	baz=357						
TWK	**Hsinying**	**1.50**	**331**	eP	**Pn**	**17 19 55.9**	**+1.8**
	baz=334						
EHY	**Hungye**	**1.55**	**2**	P	**Pn**	**17 19 53.5**	**-1.3**
	baz=359						
YUS	**Yu-Shan**	**1.56**	**349**	P	**Pn**	**17 19 55.2**	**+0.3**
	baz=348						
ALS	**Alishan**	**1.61**	**344**	eP	**Pn**	**17 19 56.7**	**+1.0**
	baz=350						
CHN5	**Tsauling**	**1.73**	**342**	eP	**Pn**	**17 19 57.9**	**+0.6**
	baz=332						
WGK	**Gukeng**	**1.85**	**339**	eP	**Pn**	**17 20 01.5**	**+2.6**
	baz=342						
ESL	**Shilin**	**1.86**	**4**	eP	**Pn**	**17 19 58.4**	**-0.6**
	baz=6.0						
ESL				eS	**Sn**	**17 20 20.3**	**-1.1**
	baz=6.0						
WSF	**Szhu**	**1.94**	**330**	eP	**Pn**	**17 19 59.1**	**-1.1**
	baz=333						
SMLT	**Sun Moon Lake**	**1.95**	**350**	eP	**Pn**	**17 20 00.8**	**+0.4**
	baz=352						
TYC	**Yuchr**	**1.98**	**349**	P	**Pn**	**17 20 01.0**	**+0.2**
	baz=351						
WNT	**Mingjian**	**1.99**	**344**	eP	**Pn**	**17 20 03.3**	**+2.4**
	baz=347						
TWD	**Chiawan**	**2.14**	**8**	eP	**Pn**	**17 20 02.6**	**-0.4**
	baz=2.0						
WHF	**Hehuan Shan**	**2.18**	**360**	eP	**Pn**	**17 20 03.7**	**+0.1**
	baz=2.0						
PNG	**Penghu**	**2.26**	**316**	eP	**Pn**	**17 20 02.7**	**-1.9**
	baz=318						
NNS	**Nan Shan**	**2.48**	**2**	eP	**Pn**	**17 20 09.4**	**+1.8**
	baz=13						
ENA	**Nanau**	**2.50**	**10**	eP	**Pn**	**17 20 09.1**	**+1.1**
	baz=3.0						
NSTT	**Nanjuang**	**2.68**	**355**	eP	**Pn**	**17 20 11.6**	**+1.2**
	baz=356						
TWC	**Suao**	**2.70**	**11**	eP	**Pn**	**17 20 12.6**	**+1.9**
	baz=4.0						
TWE	**Neicheng**	**2.78**	**7**	eP	**Pn**	**17 20 12.9**	**+1.1**
	baz=9.0						
YOJ	**Yonaguni jima**	**2.97**	**32**	P	**Pn**	**17 20 14.9**	**+0.6**
YOJ				eS	**Sn**	**17 20 50.3**	**+1.7**
HATJ	**Hateruma jima**	**3.13**	**48**	P	**Pn**	**17 20 16.8**	**+0.2**
HATJ				S	**Sn**	**17 20 52.1**	**-0.7**
IRIF	**Iriomote-Funau**	**3.28**	**43**	P	**Pn**	**17 20 18.7**	**+0.1**
IRIF				S	**Sn**	**17 20 56.0**	**-0.3**
JKRS	**Kuro-shima**	**3.39**	**47**	P	**Pn**	**17 20 20.2**	**0.0**
JKRS				eS	**Sn**	**17 20 58.7**	**-0.5**
JIJ	**Ishigaki jima**	**3.57**	**47**	P	**Pn**	**17 20 22.7**	**+0.1**
JIJ				eS	**Sn**	**17 21 02.2**	**-1.3**
JTJ	**Tarama**	**4.13**	**49**	P	**Pn**	**17 20 30.4**	**+0.1**
JTJ				S	**Sn**	**17 21 17.2**	**-0.2**

*ISCJB **08** 17:25:27.3±4.7, 2.0N±0.4×122.2E±0.7, h526km±71km, mb3.2/4, Error ellipse: s-maj=129.7km s-min=22.0km az=152.1*
*IDC **08** 17:25:27.2±4.2, 2.08N×122.41E, h502km±60km, mb2.5/5, mb1 2.8/7, mb1mx2.6/20, mbtmp2.7/7, Error ellipse: s-maj=89.5km s-min=16.9km az=63.0*
ISC 08 17:25:28.6±3.9**, 2.0N**±0.4×**122.1E**±0.7**, h521**km±59km**, n7, σ0^{s}74**/7**, mb3.2**/4**, Minahassa Peninsula, Sulawesi**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KAPI	**Kappang**	**7.32**	**199**	P	**P**	**17 27 18.7**	**0.0**
	1.7nm,0.3s,baz=66,slow=10.0,SNR=5.6						
BATI	**Baumata**	**12.17**	**173**	P	**P**	**17 28 08.9**	**0.0**
	1.2nm,0.3s,baz=193,slow=11,SNR=3.9						
FITZ	**Fitzroy Crossi**	**20.22**	**170**	P	**P**	**17 29 28.8**	**+0.6**
	0.3nm,0.4s,baz=3.0,slow=14,SNR=4.2						
WRA	**Warramunga Arr**	**24.83**	**152**	P	**P**	**17 30 08.7**	**-0.8**
	0.3nm,0.4s,mb3.3,baz=336,slow=9.5,SNR=12						
ASAR	**Alice Springs**	**27.92**	**156**	P	**P**	**17 30 36.9**	**+0.3**
	0.2nm,0.3s,mb3.2,baz=347,slow=14,SNR=6.8						
SONM	**Songino Array**	**47.69**	**346**	P	**P**	**17 33 18.2**	**+0.6**
	0.7nm,0.7s,mb3.3,baz=150,slow=6.7,SNR=4.6						
MKAR	**Makanchi Array**	**56.51**	**328**	P	**P**	**17 34 20.4**	**-0.7**
	0.5nm,0.5s,mb3.0,baz=131,slow=7.3,SNR=4.1						

*JMA **08** 17:33:03.6±0.1, 36.43N×141.02E, h45km±1km, M3.5*
ISC 08 17:33:03.2±1.7**, 36.43N**±0.07×**141.07E**±0.10**, h28**km±6km**, n10, σ0^{s}60**/18**, 5D, Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
JHO	**Hitachi**	**0.44**	**294**	⇓P	**Pb**	**17 33 13.3**	**+0.7**
JHO				S	**Sb**	**17 33 19.7**	**+0.6**
ONAJ	**Iwakimizuishiy**	**0.70**	**342**	P	**Pb**	**17 33 16.7**	**-0.3**
ONAJ				S	**Sb**	**17 33 25.9**	**-0.4**
JYT	**Yasato**	**0.74**	**254**	⇓P	**Pb**	**17 33 17.1**	**-0.4**
JYT				S	**Sb**	**17 33 26.4**	**-0.8**
JFK	**Kawauchi**	**0.95**	**350**	⇓P	**Pn**	**17 33 19.9**	**-0.8**
JFT	**Otama**	**1.23**	**332**	⇓P	**Pn**	**17 33 25.3**	**+0.7**
JFT				eS	**Sn**	**17 33 40.6**	**+0.3**
JAG	**Ashikaga**	**1.31**	**270**	P	**Pn**	**17 33 25.3**	**-0.3**
JAG				eS	**Sn**	**17 33 41.0**	**-1.1**
JMM	**Marumori**	**1.45**	**351**	P	**Pn**	**17 33 27.5**	**-0.1**
JMM				eS	**Sn**	**17 33 45.1**	**-0.5**
JFY	**Yanaizu**	**1.47**	**312**	⇓P	**Pn**	**17 33 28.2**	**+0.4**
JKT	**Katashina**	**1.51**	**283**	P	**Pn**	**17 33 28.9**	**+0.6**
JKT				eS	**Sn**	**17 33 46.9**	**-0.1**
MAT	**Matsushiro**	**2.31**	**274**	P	**Pn**	**17 33 40.4**	**+1.0**
MAT				S	**Sn**	**17 34 07.5**	**+0.6**

*IDC **08** 17:43:57.6±4.3, 23.85N×95.71E, h0km, mb3.3/3, mb1 3.5/3, mb1mx3.2/21, mbtmp3.3/3, Error ellipse: s-maj=424.9km s-min=27.0km az=59.0*
ISC 08 17:44:03.4±1.2**, 24.1N**±0.3×**96.1E**±0.3**, h35**km**, n4, σ0^{s}39**/5**, mb3.3**/3**, Myanmar**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
IMP	**Imphal**	**2.09**	**290**	eP	**Pn**	**17 44 36.0**	**0.0**
IMP				eS	**Sn**	**17 44 51.0**	**-10**
MKAR	**Makanchi Array**	**25.22**	**337**	P	**P**	**17 49 25.8**	**0.0**
	0.4nm,0.5s,mb3.2,baz=146,slow=11,SNR=8.0						
WRA	**Warramunga Arr**	**57.47**	**136**	P	**P**	**17 53 49.5**	**+0.4**
	0.2nm,0.5s,mb3.4,baz=324,slow=7.3,SNR=5.8						
ASAR	**Alice Springs**	**59.99**	**140**	P	**P**	**17 54 06.2**	**-0.4**
	0.3nm,0.9s,mb3.3,baz=320,slow=7.0,SNR=6.3						

*TAP **08** 17:47:26.6, 21.59N×121.85E, h39km, ML3.2, D*
*JMA **08** 17:47:29.5±0.4, 21.67N×122.00E, h113km*
ISC 08 17:47:29.7±1.3**, 21.70N**±0.07×**121.81E**±0.04**, h30**km±6km**, n26, σ1^{s}02**/36**, Taiwan region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
LAY	**Lan-yu**	**0.41**	**325**	P	**Pb**	**17 47 37.6**	**-1.2**
	baz=322						
LAY				S	**Sb**	**17 47 45.5**	**+0.5**
	baz=322						
TSEB	**Hengchuen, Pin**	**0.86**	**283**	eP	**Pn**	**17 47 45.2**	**-0.5**
	baz=289						
TSEB				eS	**Sn**	**17 47 58.5**	**+1.2**
	baz=289						
TWK1	**Hengchun**	**0.96**	**285**	eP	**Pn**	**17 47 46.2**	**-0.9**
	baz=302						
HEN	**Hengchun**	**1.04**	**287**	eP	**Pn**	**17 47 48.3**	**+0.1**
	baz=304						
TAW	**Tawu**	**1.07**	**308**	eP	**Pn**	**17 47 48.0**	**-0.5**
	baz=311						
TAW				eS	**Sn**	**17 48 01.0**	**-1.4**
	baz=311						
EAST	**Anshuo**	**1.12**	**308**	P	**Pn**	**17 47 47.6**	**-1.6**
	baz=324						
EAST				eS	**Sn**	**17 48 02.8**	**-0.9**
	baz=324						
ECL	**Taimali**	**1.19**	**319**	eP	**Pn**	**17 47 50.7**	**+0.4**
	baz=321						
TTN	**Taitung**	**1.21**	**330**	eP	**Pn**	**17 47 50.2**	**-0.4**
	baz=338						
SCZT	**Fangliau**	**1.29**	**302**	eP	**Pn**	**17 47 51.9**	**+0.2**
	baz=314						
TWG	**Pinlang**	**1.30**	**329**	eP	**Pn**	**17 47 51.9**	**0.0**
	baz=317						
CHKT	**Chengkung**	**1.45**	**344**	eP	**Pn**	**17 47 52.2**	**-1.7**
	baz=350						
CHKT				eS	**Sn**	**17 48 11.1**	**-0.8**
	baz=350						
SSD	**Sandimen**	**1.50**	**314**	eP	**Pn**	**17 47 54.9**	**+0.3**
	baz=322						
TWM1	**Shoushan**	**1.70**	**311**	eP	**Pn**	**17 48 00.4**	**+3.1**
	baz=313						
TWF1	**Yuli**	**1.71**	**344**	eP	**Pn**	**17 47 56.5**	**-1.0**
	baz=349						
EHY	**Hungye**	**1.85**	**346**	eP	**Pn**	**17 47 59.0**	**-0.4**
	baz=353						
YUS	**Yu-Shan**	**1.95**	**336**	eP	**Pn**	**17 48 01.9**	**+1.2**
	baz=344						
ALS	**Alishan**	**2.02**	**333**	eP	**Pn**	**17 48 03.5**	**+1.8**
	baz=333						
CHN5	**Tsauling**	**2.15**	**331**	eP	**Pn**	**17 48 06.2**	**+2.6**
	baz=332						
SMLT	**Sun Moon Lake**	**2.33**	**339**	eP	**Pn**	**17 48 07.4**	**+1.5**
	baz=346						
TYC	**Yuchr**	**2.36**	**338**	eP	**Pn**	**17 48 08.5**	**+2.1**
	baz=347						
YOJ	**Yonaguni jima**	**2.96**	**22**	eS	**Sn**	**17 48 50.7**	**+1.5**
HATJ	**Hateruma jima**	**2.98**	**38**	P	**Pn**	**17 48 14.8**	**-0.2**
HATJ				S	**Sn**	**17 48 49.9**	**+0.2**
IRIF	**Iriomote-Funau**	**3.17**	**34**	P	**Pn**	**17 48 17.4**	**-0.1**
IRIF				S	**Sn**	**17 48 54.1**	**-0.1**
JKRS	**Kuro-shima**	**3.24**	**38**	P	**Pn**	**17 48 18.8**	**+0.3**
JKRS				S	**Sn**	**17 48 56.2**	**+0.1**
JIJ	**Ishigaki jima**	**3.42**	**39**	P	**Pn**	**17 48 20.8**	**-0.1**
JIJ				S	**Sn**	**17 48 59.1**	**-1.3**
JTJ	**Tarama**	**3.96**	**42**	P	**Pn**	**17 48 27.9**	**-0.5**
JTJ				S	**Sn**	**17 49 13.4**	**-0.4**

*NEIC **08** 18:04:18.3, 31.30S×71.83W, h28km, ML3.6(GUC), After GUC.*
GUC 08 18:04:18.3±0.4**, 31.30S**×**71.83W, h28**km±1km**, MD3.9, ML3.6, 2C-5D, Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CHNG	**Los Chungos**	**0.64**	**155**	⇓iP	Pb	18 04 30.4	-0.6
CHNG				i S	Sb	18 04 39.5	-0.2
OVCH	**Ovalle**	**0.87**	**38**	⇓iP	Pn	18 04 34.3	-0.4
OVCH				i S	Sb	18 04 46.2	+0.1
OVCH				AML	AML	18 04 47.4	
	comp=N,2μm,0.5s						
OVCH	**Ovalle**	**0.87**	**38**	⇓iP	Pn	18 04 34.3	-0.4
OVCH				i S	Sb	18 04 46.2	+0.1
PTCH	**Petorca**	**1.23**	**142**	eP	Pn	18 04 39.8	+0.2
PTCH				i S	Sn	18 04 55.8	+0.7
PTCH				AML	AML	18 04 58.9	
	comp=E,1μm,0.2s						
PTCH	**Petorca**	**1.23**	**142**	eP	Pn	18 04 39.8	+0.2
PTCH				i S	Sn	18 04 55.8	+0.7
TLL	**Tololo Astrono**	**1.43**	**38**	⇑iP	Pn	18 04 43.5	+1.1
TLL				i S	Sn	18 05 02.6	+2.4
TLL				AML	AML	18 05 05.5	
	comp=N,1μm,0.7s						
TLL	**Tololo Astrono**	**1.43**	**38**	⇑iP	Pn	18 04 43.5	+1.1
TLL				i S	Sn	18 05 02.6	+2.4
LSCH	**La Serena**	**1.48**	**20**	eP	Pn	18 04 43.4	+0.4
LSCH				i S	Sn	18 05 02.6	+1.3
JACH	**Jahuel**	**1.73**	**143**	⇓iP	Pn	18 04 48.0	+1.5
JACH				i S	Sn	18 05 10.6	+3.0
PEL	**Peldehue**	**2.08**	**153**	eP	Pn	18 04 52.5	+1.2
PEL				i S	Sn	18 05 18.9	+2.7
PEL				AML	AML	18 05 25.6	
	comp=E,816nm,0.3s						
CLCH	**Cerro Calan**	**2.36**	**153**	eP	Pn	18 04 56.5	+1.4
CLCH				i S	Sn	18 05 25.6	+2.6
CLCH				AML	AML	18 05 39.2	
	comp=E,376nm,0.7s						
FCH	**Farellones**	**2.40**	**148**	⇓iP	Pn	18 04 57.7	+2.0
FCH				i S	Sn	18 05 27.8	+3.6
FCH				AML	AML	18 05 33.6	
	comp=E,247nm,0.3s						
TACH	**Talagante**	**2.46**	**163**	eP	Pn	18 04 58.1	+1.5
TACH				i S	Sn	18 05 27.9	+2.2
LCO	**Las Campanas**	**2.48**	**23**	i P	Pn	18 04 58.7	+1.9
LCO				i S	Sn	18 05 29.4	+3.3
PCH	**Pirque**	**2.57**	**155**	eP	Pn	18 04 59.7	+1.7
PCH				i S	Sn	18 05 30.5	+2.2
VACH	**Vallenar**	**2.87**	**19**	i S	Sn	18 05 37.9	+2.2
VACH				AML	AML	18 05 53.4	
	comp=E,734nm,0.3s						
LMEL	**Las Melosas**	**2.89**	**152**	eP	Pn	18 05 04.2	+1.9
LMEL				i S	Sn	18 05 38.8	+2.7
LMEL				AML	AML	18 05 48.9	
	comp=E,230nm,0.2s						
LMEL	**Las Melosas**	**2.89**	**152**	eP	Pn	18 05 04.2	+1.9
LMEL				i S	Sn	18 05 38.8	+2.7
CICH	**Cipreses**	**3.23**	**159**	i P	Pn	18 05 09.1	+1.9
CICH				i S	Sn	18 05 47.4	+2.6
SFDO	**San Fernando**	**3.38**	**169**	eP	Pn	18 05 10.6	+1.5

IDC 08 18:10:29.6±3.7**, 2.29S**×**102.01E, h0**km**, mb3.5**/4**, mb1 3.6**/4**, mb1mx3.4**/18**, mbtmp3.5**/4**, Error ellipse: s-maj=158.1km s-min=23.0km az=57.0, Southern Sumatera**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**36.12**	**121**	P	P	18 17 33.6	-0.1
	0.2nm,0.4s,baz=307,slow=8.6,SNR=8.2						
ASAR	**Alice Springs**	**37.47**	**127**	P	P	18 17 45.0	-0.2
	0.3nm,0.4s,baz=300,slow=7.9,SNR=23						
SONM	**Songino Array**	**50.06**	**4**	P	P	18 19 28.1	+2.0
	0.7nm,0.7s,baz=196,slow=8.7,SNR=4.7						
MKAR	**Makanchi Array**	**51.87**	**343**	P	P	18 19 38.5	-1.2
	0.4nm,0.7s,baz=170,slow=9.1,SNR=3.5						

*ISCJB **08** 18:10:33.8±4.1, 13.53N±0.09×92.95E±0.07, h2km±24km, mb4.3/25, Error ellipse: s-maj=16.9km s-min=10.0km az=29.4*
*IDC **08** 18:10:41.7±4.9, 13.64N×93.05E, h44km±45km, mb4.0/12, mb1 4.1/13, mb1mx3.9/21, mbtmp3.9/13, ML3.9/1, Error ellipse: s-maj=30.0km s-min=14.0km az=58.0*
*NEIC **08** 18:10:44.0±1.8, 13.68N×93.14E, h64km±16km, mb4.4/5, Error ellipse: s-maj=16.2km s-min=11.5km az=218.0*
*BJI **08** 18:10:45.1, 13.79N×93.72E, h37km*
ISC 08 18:10:39.7±2.8**, 13.64N**±0.08×**93.01E**±0.06**, h27**km±18km**, n51, σ0^{s}85**/54**, mb4.3**/25**, 4C, Andaman Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**7.45**	**49**	P	**Pn**	**18 12 29.4**	**+2.7**
	0.5nm,0.3s,baz=236,slow=15,SNR=22						
CMAR				S	**Sn**	**18 13 48.8**	**-1.6**
	0.8nm,0.3s,baz=239,slow=27,SNR=8.1						
CHTO	**Chiang Mai**	**7.68**	**47**	eP	**Pn**	**18 12 30.1**	**+0.2**
	4.5nm,0.6s						
BWNR	**Bhubaneshwar**	**9.55**	**315**	eP	**Pn**	**18 12 48.0**	**-7.5**
BWNR				eS	**Sn**	**18 14 31.0**	**-11**
VIS	**Vishakhapatnam**	**10.17**	**295**	i P	**Pn**	**18 13 02.7**	**-1.2**
VIS				i S	**Sn**	**18 14 43.7**	**-13**
VIS				ex	x	18 14 50.3	
	comp=N,92nm,0.4s						
VIS				ex	x	18 14 50.3	
	comp=E,78nm,0.5s						
ODAN	**Odare**	**14.17**	**339**	eP	**Pn**	**18 13 58.1**	**-0.5**
	comp=E,13nm,0.4s						
HYB	**Hyderabad**	**14.43**	**287**	i P	**Pn**	**18 14 07.5**	**+5.3**
HYB				e		18 16 40.0	
HYB	**Hyderabad**	**14.43**	**287**	eP	**Pn**	**18 14 07.5**	**+5.3**
TAPN	**Taplejung**	**14.51**	**341**	eP	**Pn**	**18 14 02.7**	**-0.7**
	comp=E,18nm,0.5s						
RAMN	**Ramite**	**14.54**	**337**	eP	**Pn**	**18 14 03.0**	**-0.7**
	comp=E,22nm,0.5s						
JIRN	**Jiri**	**15.34**	**337**	eP	**Pn**	**18 14 14.7**	**+0.4**
	comp=E,19nm,0.6s						
PKI	**Pulchoki**	**15.57**	**334**	eP	**Pn**	**18 14 17.3**	**-0.1**
PKIN	**Phulchoki**	**15.58**	**334**	eP	**Pn**	**18 14 17.8**	**+0.2**
	comp=E,32nm,0.7s						
GUN	**Gumba**	**15.68**	**336**	eP	**Pn**	**18 14 18.4**	**-0.4**
	comp=E,12nm,0.5s						
DMN	**Daman**	**15.74**	**333**	eP	**Pn**	**18 14 20.4**	**+0.8**
	comp=E,28nm,0.6s						
KKN	**Kakani**	**15.82**	**334**	eP	**Pn**	**18 14 21.3**	**+0.7**
	comp=E,7.7nm,0.4s						
LSA	**Lhasa**	**16.08**	**354**	eP	**Pn**	**18 14 28.7**	**+4.8**
GKN	**Gorkha**	**16.28**	**333**	eP	**Pn**	**18 14 25.9**	**-0.7**
	comp=E,16nm,0.4s						
KOLN	**Koldanda**	**16.57**	**329**	eP	**Pn**	**18 14 30.3**	**0.0**
	comp=E,21nm,0.6s						
KOLN				eS	Sn	18 17 21.7	-12
DANN	**Dangsing**	**16.98**	**331**	eP	**Pn**	**18 14 36.5**	**+1.1**
	comp=E,20nm,0.6s						
XAN	**Xi'an**	**24.92**	**33**	P	**P**	**18 16 00.6**	**0.0**
XAN				AP		18 16 06.6	
MKAR	**Makanchi Array**	**34.26**	**347**	P	**P**	**18 17 24.0**	**+0.7**
	comp=E,2.7nm,0.8s,mb4.2,baz=162,slow=8.8,SNR=21						
SONM	**Songino Array**	**35.87**	**15**	P	**P**	**18 17 39.0**	**+1.8**
	comp=E,1.0nm,0.7s,mb3.8,baz=199,slow=7.3,SNR=7.7						
SONM				PcP	PcP	18 20 04.4	+0.3
	comp=E,0.2nm,0.4s,baz=214,slow=1.8,SNR=3.5						
KURK	**Kurchatov**	**38.79**	**345**	eP	**P**	**18 18 00.5**	**-1.4**
	comp=E,1.6nm,0.8s,mb3.8						
ZALV	**Zalesovo Beam**	**40.73**	**353**	P	**P**	**18 18 18.4**	**+0.4**
	comp=E,3.2nm,0.7s,mb4.1,baz=179,slow=9.0,SNR=17						
BRVK	**Borovoye**	**43.28**	**340**	eP	**P**	**18 18 38.0**	**-0.9**
WRA	**Warramunga Arr**	**52.60**	**129**	P	**P**	**18 19 50.4**	**-1.1**
	comp=E,1.4nm,0.6s,mb4.1,baz=299,slow=9.9,SNR=32						
WRA				PcP	PcP	18 21 01.0	-0.4
	comp=E,1.0nm,0.6s,baz=319,slow=3.1,SNR=11						
WB2	**Warramunga Arr**	**52.61**	**129**	eP	**P**	**18 19 50.6**	**-0.9**
ASAR	**Alice Springs**	**54.53**	**133**	P	**P**	**18 20 04.9**	**-0.7**
	comp=E,1.1nm,0.5s,mb4.2,baz=311,slow=6.8,SNR=34						
ASAR				PcP	PcP	18 21 08.5	-0.3
	comp=E,0.3nm,0.6s,baz=306,slow=4.2,SNR=2.6						
BR131	**Keskin Array S**	**57.92**	**308**	eP	**P**	**18 20 29.1**	**-0.5**
	comp=E,2.2nm,0.7s,mb4.3						
STKA	**Stephens Creek**	**64.91**	**135**	P	**P**	**18 21 17.3**	**+0.4**
	comp=E,0.7nm,0.6s,mb3.9,baz=240,slow=22,SNR=3.6						
ARCES	**ARCESS Array B**	**69.50**	**340**	P	**P**	**18 21 44.0**	**-1.4**
	comp=E,2.9nm,0.6s,mb4.4,baz=89,slow=6.4,SNR=18						
GEC2	**GERESS Array S**	**72.84**	**317**	eP	**P**	**18 22 05.8**	**-0.2**
	comp=Z,3.0nm,0.7s,mb4.3						
GERES	**GERESS Array B**	**72.84**	**317**	P	**P**	**18 22 06.1**	**0.0**
	comp=Z,2.4nm,0.6s,mb4.3,baz=86,slow=5.9,SNR=23						

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
TANN	**Tannenbergstha**	**73.61**	**319**	*e*P	**P**	**18 22 10.7**	**+0.2**
	comp=Z,4.0nm,1.1s,mb4.3						
WERN	**Wernitzgruen**	**73.67**	**319**	*e*P	**P**	**18 22 11.0**	**+0.1**
	comp=Z,3.0nm,0.7s,mb4.3						
GUNZ	**Gunzen**	**73.69**	**319**	*e*P	**P**	**18 22 11.2**	**+0.2**
	comp=Z,30nm,2.2s,mb4.8						
WERD	**Werda**	**73.71**	**319**	*e*P	**P**	**18 22 11.0**	**-0.1**
	comp=Z,22nm,2.2s,mb4.7						
ROTZ	**Rotzenmuhle**	**73.79**	**318**	*e*P	**P**	**18 22 12.1**	**+0.5**
	comp=Z,4.0nm,1.0s,mb4.3						
MANZ	**Manzenberg**	**73.85**	**318**	*e*P	**P**	**18 22 12.3**	**+0.3**
	comp=Z,8.0nm,1.5s,mb4.4						
NB2	**NORSAR Subarra**	**74.20**	**330**	P	**P**	**18 22 13.0**	**-0.8**
	comp=Z,1.4nm,0.6s,mb4.1,baz=89,slow=5.9						
NOA	**NORSAR Array B**	**74.20**	**330**	P	**P**	**18 22 13.2**	**-0.7**
	comp=Z,1.6nm,0.6s,mb4.1,baz=90,slow=5.8,SNR=6.0						
GRA1	**Grafenberg Arr**	**74.43**	**318**	*e*P	**P**	**18 22 17.2**	**+1.8**
	comp=Z,6.0nm,0.8s,mb4.6						
GRF	**Grafenberg Arr**	**74.43**	**318**	*e*P	**P**	**18 22 17.2**	**+1.8**
	comp=Z,6.0nm,0.8s,mb4.6						
BOSA	**Boshof**	**77.76**	**236**	P	**P**	**18 22 34.8**	**+0.1**
	comp=Z,6.0nm,1.0s,mb4.5,baz=120,slow=6.2,SNR=8.2						
LPG	**La Plagne**	**77.81**	**314**	⇑*i*P	**P**	**18 22 34.9**	**+0.2**
	comp=Z,11nm,0.7s,mb4.6						
LPL	**La Plagne**	**77.82**	**314**	⇑*i*P	**P**	**18 22 35.0**	**+0.2**
	comp=Z,12nm,0.7s,mb4.6						
SMF	**Signal de Mont**	**79.66**	**316**	⇑*i*P	**P**	**18 22 44.2**	**-0.6**
	comp=Z,6.6nm,0.7s,mb4.4						
TCF	**Toulx Ste Croi**	**80.83**	**315**	⇑*i*P	**P**	**18 22 51.1**	**-0.1**
	comp=Z,5.1nm,0.9s,mb4.1						
MAW	**Mawson**	**83.93**	**191**	P	**P**	**18 23 07.7**	**+1.0**
	comp=Z,1.0nm,0.5s,mb4.2,baz=350,slow=7.3,SNR=7.2						
TORD	**Torodi Ar. Bea**	**88.21**	**283**	P	**P**	**18 23 28.9**	**-0.1**
	comp=Z,1.1nm,0.7s,mb4.2,baz=74,slow=4.7,SNR=6.1						
CHUM	**Lake Minchumin**	**88.26**	**24**	*e*P	**P**	**18 23 30.0**	**+1.7**

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*NEIC **08** 18:11:33.0, 3976N×2777E, h2^{km}, MD3.3(ISK), After ISK.*
*ISK **08** 18:11:33.9, 3976N×2777E, h6^{km}, MD3.3*
*CSEM **08** 18:11:33.8±0.0, 3977N×2779E, h5^{km}, MD3.1, Error ellipse: s-maj=1.1km s-min=1.0km az=64.0*
*ISCJB **08** 18:11:34.1±0.4, 3976N±002×2778E±002, h2^{km}±3^{km}, Error ellipse: s-maj=3.0km s-min=2.8km az=177.2*
*THE **08** 18:11:34.5, 3968N×2797E, h12^{km}±10^{km}, ML4.1/3, Error ellipse: s-maj=14.0km s-min=2.0km az=97.0*
*DDA **08** 18:11:35.2, 3976N×2778E, h5^{km}, Md3.1*
*ATH **08** 18:11:46.2, 3880N×2562E, h10^{km}, MD3.6/3*
ISC 08 18:11:34.7±0.3**, 3976N**±002×**2779E**±002**, h5**^{km}±3^{km}**, n70,** σ**0.93**/88**, 7D, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BALY	**Balya**	**0.13**	**263**	*i* P	**Pg**	**18 11 37.1**	**-0.2**
BALY				*i* S	**Sg**	**18 11 39.3**	**+0.2**
BALB	**Balikesir**	**0.14**	**148**	PG	**Pg**	**18 11 37.2**	**-0.3**
BALB				*e*SG	**Sg**	**18 11 39.4**	**+0.1**
EDC	**Edincik**	**0.59**	**6**	*e*PG	**Pg**	**18 11 45.9**	**-0.2**
EDC				*e*SG	**Sg**	**18 11 54.7**	**+0.9**
BNT	**Bandirma**	**0.61**	**10**	*e*PG	**Pg**	**18 11 45.9**	**-0.5**
BNT				*e*SG	**Sg**	**18 11 54.5**	**+0.2**
DST	**Dursunbey**	**0.67**	**103**	*e*PG	**Pg**	**18 11 47.1**	**-0.5**
KCT	**Karacabey**	**0.67**	**41**	*e*PG	**Pg**	**18 11 47.4**	**-0.3**
MRMT	**Marmara Adasi**	**0.86**	**350**	*e*PG	**Pg**	**18 11 51.2**	**0.0**
AKS	**Akhisar**	**0.88**	**179**	*e*PG	**Pg**	**18 11 51.7**	**+0.2**
AKHS	**Akhisar**	**0.88**	**179**	*i* P	**Pg**	**18 11 51.4**	**-0.2**
AKHS				*i* S	**Sg**	**18 12 04.2**	**+1.3**
AKHS	**Akhisar**	**0.88**	**179**	*i* P	**Pg**	**18 11 51.4**	**-0.2**
AKHS				*i* S	**Sg**	**18 12 04.2**	**+1.3**
AYVA	**Ayvalik**	**0.96**	**242**	*i* P	**Pg**	**18 11 53.7**	**+0.5**
AYVA				*i* S	**Sg**	**18 12 08.1**	**+2.6**
LPK	**Lapseki**	**1.00**	**308**	*e*PG	**Pg**	**18 11 53.2**	**-0.7**
DEMI	**Demirci**	**1.01**	**134**	*i* P	**Pg**	**18 11 53.9**	**-0.2**
DEMI				*i* S	**Sg**	**18 12 08.1**	**+0.8**
RKY	**Sarkoy-Tekirda**	**1.04**	**334**	*e*PG	**Pg**	**18 11 53.9**	**-0.8**
SART	**Tekirdag**	**1.04**	**334**	*e*P	**Pg**	**18 11 54.8**	**+0.1**
SART				*i* S	**Sg**	**18 12 10.3**	**+2.1**
MFT	**Murefte**	**1.10**	**340**	*e*PN	**Pn**	**18 11 55.8**	**-1.0**
ULDT	**Uludag**	**1.11**	**69**	*i* P	**Pg**	**18 11 55.4**	**-0.5**
ULDT				*i* S	**Sg**	**18 12 12.8**	**+2.6**
EZN	**Ezine**	**1.13**	**274**	*e*PN	**Pn**	**18 11 55.5**	**-1.7**
TKR	**Tekirdag**	**1.25**	**351**	*e*PN	**Pn**	**18 11 58.2**	**-0.7**
GEMT	**Gemlik**	**1.27**	**57**	*e*PN	**Pn**	**18 11 58.6**	**-0.5**
PRK	**Paraskevi**	**1.28**	**247**	P	**Pn**	**18 11 58.8**	**-0.4**
PRK				S	**Sg**	**18 12 16.4**	**+0.6**
PRK	**Paraskevi**	**1.28**	**247**	*e*P	**Pn**	**18 11 59.1**	**-0.1**
PRK				*e*S	**Sg**	**18 12 15.4**	**-0.4**
PRK	**Paraskevi**	**1.28**	**247**	*e*PB	**Pn**	**18 11 59.1**	**-0.1**
BOZC	**Bozcaada**	**1.34**	**274**	*i* P	**Pn**	**18 11 59.3**	**-0.7**
BOZC				*i* S	**Sb**	**18 12 17.6**	**-0.2**
KULA	**Kula-Manisa**	**1.42**	**151**	*e*PN	**Pn**	**18 12 01.2**	**+0.1**
IZM	**Izmir**	**1.42**	**197**	*e*PN	**Pn**	**18 11 59.8**	**-1.4**
YLV	**Yalova**	**1.46**	**56**	*e*PN	**Pn**	**18 12 01.3**	**-0.4**
GDZ	**Gediz**	**1.47**	**116**	*i* P	**Pn**	**18 12 02.2**	**+0.3**
GDZ				*i* S	**Sn**	**18 12 24.0**	**+2.5**
CTT	**Catalca**	**1.47**	**19**	*e*PN	**Pn**	**18 12 01.2**	**-0.7**
BLCB	**Balcova**	**1.49**	**203**	*e*PN	**Pn**	**18 12 01.4**	**-0.7**
SLVT	**Silivri**	**1.51**	**12**	*e*PN	**Pn**	**18 12 02.2**	**-0.1**
GADA	**Gvkgeada**	**1.51**	**287**	*e*PN	**Pn**	**18 12 02.4**	**-0.1**
CTKS	**Kestanelik-??a**	**1.58**	**20**	*e*PN	**Pn**	**18 12 02.4**	**-1.0**
ENEZ	**Enez**	**1.59**	**309**	*e*PN	**Pn**	**18 12 03.4**	**-0.1**
BGKT	**Bogazkoy**	**1.61**	**28**	*e*PN	**Pn**	**18 12 03.3**	**-0.5**
ISK	**Istanbul-Kandi**	**1.63**	**36**	*e*PN	**Pn**	**18 12 04.4**	**+0.3**
CAVI	**Cavuskoy**	**1.64**	**74**	*e*PN	**Pn**	**18 12 04.7**	**+0.4**
ADVT	**Abdulvahap**	**1.64**	**65**	*e*PN	**Pn**	**18 12 04.1**	**-0.1**
ALN	**Alexandroupoli**	**1.75**	**311**	P	**Pn**	**18 12 05.3**	**-0.5**
ALN				S	**Sn**	**18 12 30.1**	**+1.7**
CTYL	**Yal??k??y-??at**	**1.76**	**12**	*e*PN	**Pn**	**18 12 05.1**	**-0.8**
KLYT	**Kilyos**	**1.77**	**32**	*e*PN	**Pn**	**18 12 06.5**	**+0.4**
HRT	**Hereke**	**1.79**	**53**	*e*PN	**Pn**	**18 12 06.9**	**+0.6**
CHOS	**Chios island**	**1.92**	**225**	P	**Pn**	**18 12 06.8**	**-1.3**
ALT	**Altintas**	**1.93**	**111**	*e*PN	**Pn**	**18 12 08.1**	**-0.1**
KHL	**Karahalli**	**1.97**	**136**	*e*PN	**Pn**	**18 12 08.9**	**+0.1**
SILT	**Sile**	**1.99**	**45**	*e*PN	**Pn**	**18 12 09.5**	**+0.5**
GPA	**Golpazari**	**2.01**	**74**	*e*PN	**Pn**	**18 12 09.3**	**0.0**
LIA	**Limnos Island**	**2.01**	**275**	P	**Pn**	**18 12 09.1**	**-0.2**
LIA				S	**Sn**	**18 12 36.8**	**+2.0**
LIA	**Limnos Island**	**2.01**	**275**	*e*P	**Pn**	**18 12 07.8**	**-1.5**
LIA				*e*S	**Sn**	**18 12 29.4**	**-5.4**
LIA	**Limnos Island**	**2.01**	**275**	*e*PB	**Pn**	**18 12 07.8**	**-1.5**
SMG	**Samos**	**2.18**	**200**	*e*P	**Pb**	**18 12 13.4**	**-1.2**
SMG				*e*S	**Sn**	**18 12 38.1**	**-0.8**
SMG	**Samos**	**2.18**	**200**	*e*PB	**Pb**	**18 12 13.4**	**-1.2**
GULT	**Gulveren**	**2.20**	**71**	*e*PN	**Pn**	**18 12 12.6**	**+0.7**
EDRB	**Edirne**	**2.23**	**340**	*e*PN	**Pn**	**18 12 12.0**	**-0.4**
MLSB	**Milas**	**2.46**	**180**	*e*PN	**Pn**	**18 12 16.2**	**+0.8**
SHUT	**Suhut-Afyon**	**2.46**	**118**	*e*PN	**Pn**	**18 12 15.8**	**+0.2**
YER	**Yerkesik**	**2.65**	**171**	*e*PN	**Pn**	**18 12 18.7**	**+0.6**
BODT	**Bodrum**	**2.72**	**188**	*e*PN	**Pn**	**18 12 20.0**	**+1.0**
MDU	**Mudurnu**	**2.72**	**74**	*e*PN	**Pn**	**18 12 19.4**	**+0.3**
APE	**Apeiranthos**	**3.22**	**214**	⇓*i*P	**Pn**	**18 12 33.6**	**+7.7**
KIZT	**Kizilcal**	**3.29**	**104**	*e*PN	**Pn**	**18 12 27.5**	**+0.6**
ANTO	**Ankara**	**3.86**	**87**	⇓*i*P	**Sg**	**18 13 36.1**	**-2.5**
ANTO	**Ankara**	**3.86**	**87**	*e*Pg	**Pg**	**18 12 46.6**	**-2.0**
ANTO	**Ankara**	**3.86**	**87**	*e*Pg	**Pg**	**18 12 46.6**	**-2.1**
KNT	**Kendrikon**	**3.98**	**292**	P	**Pn**	**18 12 36.7**	**+0.3**
TIRR	**Tirgusor**	**4.72**	**5**	⇓*i*P	**Pn**	**18 12 46.0**	**-0.5**
TIRR	**Tirgusor**	**4.72**	**5**	⇓P	**Pn**	**18 12 46.0**	**-0.5**
MLR	**Muntele Rosu**	**5.89**	**347**	⇓*i*P	**Pn**	**18 13 05.0**	**+2.4**
MLR	**Muntele Rosu**	**5.89**	**347**	⇓P	**Pn**	**18 13 05.0**	**+2.4**
PLOR	**Plostina**	**6.15**	**353**	⇓*i*P	**Pn**	**18 13 08.8**	**+2.7**

IDC 08 18:23:28.2±1.2**, 1332N**×**9265E, h0**^{km}**, mb3.6**/4**, mb1 3.8**/5**, mb1mx3.5**/21**, mbtmp3.5**/5**, ML3.3**/1**, Error ellipse: s-maj=38.0km s-min=22.3km az=56.0, Andaman Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**7.92**	**49**	Pn	Pn	18 25 24.1	-0.6
	0.1nm,0.3s,baz=238,slow=15,SNR=4.3						
CMAR				Sn	Sn	18 26 57.9	+2.8
	0.2nm,0.3s,baz=237,slow=32,SNR=4.5						
MKAR	**Makanchi Array**	**34.49**	**347**	P	P	18 30 17.7	-0.2
	0.4nm,0.7s,baz=183,slow=7.9,SNR=4.0						
WRA	**Warramunga Arr**	**52.68**	**128**	P	P	18 32 43.9	-0.9
	0.6nm,0.6s,baz=304,slow=10.0,SNR=14						
WRA				PcP	PcP	18 33 55.0	+0.2
	0.2nm,0.4s,baz=313,slow=3.0,SNR=7.6						
ASAR	**Alice Springs**	**54.57**	**132**	P	P	18 32 59.0	+0.4
	0.6nm,0.6s,baz=311,slow=7.0,SNR=17						
GERES	**GERESS Array B**	**72.84**	**317**	P	P	18 34 59.4	+0.6
	0.3nm,0.5s,baz=83,slow=8.0,SNR=4.6						

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*SZGRF **08** 18:37:17.6, 2056S×17641W, h330^{km}, Fiji Islands region*
*ISCJB **08** 18:37:45.3±0.9, 2056S±003×17741W±003, h256^{km}±9^{km}, mb5.5/111, Error ellipse: s-maj=5.5km s-min=3.2km az=148.9*
*MOS **08** 18:37:49.1±0.9, 2045S×17744W, h294^{km}, mb5.7/22, Error ellipse: s-maj=8.3km s-min=6.3km az=51.2*
*DJA **08** 18:37:49, 2053S×17723W, h285^{km}, Mw5.5/30*
*BJI **08** 18:37:52.3, 1998S×17721W, h315^{km}, mB5.3, mb5.2*
*GCMT **08** 18:37:53.7±0.2, 2060S×177.10W, h338^{km}, MW5.6/97, Moment Tensor Solution. s97,c170; s66,c70; Duration: 1.6 Moment tensor: Scale 10^{17}Nm; M_{rr}-2.16±.04; $M_{\theta\theta}$-0.02±.07; $M_{\phi\phi}$2.18±.07; $M_{r\theta}$-3.04±.06; $M_{\theta\phi}$-0.13±.06; $M_{\phi r}$-0.05±.07; Best double couple: $M_0$3.27600×10^{17} NP1:ϕ_s6.00000°, δ36.00000°, λ-36.00000°. NP2: ϕ_s126.00000°, δ70.00000°, λ-120.00000°. Principal axes: T 2.2380, Plg19.0000°, Azm239.0000°; N 2.0790, Plg28.0000°, Azm138.0000°; P -4.3140, Plg55.0000°, Azm358.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to mantle waves, cutoff=125s.*
*NEIC **08** 18:37:53.7±0.1, 2071S×17740W, mb5.6/65, MW5.7 Error ellipse: s-maj=4.9km s-min=2.6km az=122.0, Moment Tensor Solution. s8 Moment tensor: Scale 10^{17}Nm; M_{rr}-2.90; $M_{\theta\theta}$2.71; $M_{\phi\phi}$0.19; $M_{r\theta}$-3.92; $M_{\theta\phi}$-1.40; $M_{\phi r}$1.35; Best double couple: $M_0$5.20000×10^{17} NP1:ϕ_s300.00000°, δ19.00000°, λ-81.00000°. NP2:ϕ_s110.00000°, δ72.00000°, λ-93.00000°. Principal axes: T 5.4000, Plg26.0000°, Azm202.0000°; N -0.4200, Plg2.0000°, Azm110.0000°; P -4.9800, Plg63.0000°, Azm14.0000°;*
*IDC **08** 18:37:54.8±0.5, 2058S×17745W, h341^{km}±4^{km}, mb5.0/30, mb1 5.0/30, mb1mx5.0/30, mbtmp5.0/30 Error ellipse: s-maj=9.2km s-min=6.5km az=164.0*
ISC 08 18:37:49.9±0.9**, 2065S**±003×**17738W**±003**, h289**^{km}±9^{km}**, h336**^{km}±2.4^{km}**: pP-P, n1264,** σ**0.76**/806**, mb5.5**/110**, 268C-275D, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**8.57**	**40**	P	**Pn**	**18 39 45.6**	**-4.9**
	97nm,0.3s,baz=230,slow=2.0,SNR=31						
AFI				S	**S**	**18 41 16.1**	**-12**
	142nm,0.3s,baz=228,slow=22,SNR=7.7						
FUNA	**Funafuti**	**12.49**	**344**	*e*P	**Pn**	**18 40 40.3**	**+1.5**
DZM	**Mont Dzumac**	**15.14**	**262**	*e*P	**Pn**	**18 41 14.2**	**+3.9**
RAR	**Rarotonga**	**16.46**	**95**	P	**P**	**18 41 23.6**	**0.0**
	6.8nm,0.3s,baz=249,slow=7.0,SNR=14						
WCZ	**Waipu Caves**	**16.88**	**204**	P	**P**	**18 41 30.9**	**+2.9**
KUZ	**Kuaotunu**	**17.14**	**199**	P	**P**	**18 41 32.5**	**+1.8**
MXZ	**Matakaoa Point**	**17.27**	**192**	P	**P**	**18 41 32.6**	**+0.4**
WTAZ	**Waiatarua**	**17.68**	**202**	P	**P**	**18 41 38.7**	**+2.1**
PUZ	**Puketiti**	**17.77**	**191**	P	**P**	**18 41 36.5**	**-1.1**
PUZ				S	**S**	**18 44 38.5**	**-8.2**
TOZ	**Tahuroa Road**	**18.11**	**198**	P	**P**	**18 41 43.0**	**+1.7**
MWZ	**Matawai**	**18.17**	**193**	P	**P**	**18 41 40.9**	**-1.0**
KARZ	**Kaharoa**	**18.18**	**196**	P	**P**	**18 41 44.2**	**+2.3**
URZ	**Urewera**	**18.19**	**194**	P	**P**	**18 41 40.1**	**-2.0**
	46nm,0.3s,baz=355,slow=4.1,SNR=71						
URZ				S	**S**	**18 44 51.9**	**-3.0**
	13nm,0.3s,baz=311,slow=20,SNR=6.5						
URZ	**Urewera**	**18.19**	**194**	P	**P**	**18 41 40.1**	**-2.0**
KNZ	**Kokohu**	**18.80**	**192**	P	**P**	**18 41 48.5**	**-0.1**
HIZ	**Hauiti**	**19.03**	**199**	P	**P**	**18 41 53.5**	**+2.4**
RATZ	**Rangitukua**	**19.10**	**197**	P	**P**	**18 41 51.2**	**-0.6**
BKZ	**Black Stump Fm**	**19.20**	**195**	P	**P**	**18 41 50.3**	**-2.5**
WTVZ	**West Tongariro**	**19.38**	**197**	P	**P**	**18 41 53.7**	**-1.1**
NGZ	**Ngauruhoe**	**19.43**	**197**	P	**P**	**18 41 54.9**	**-0.4**
TUVZ	**Tukino**	**19.50**	**196**	P	**P**	**18 41 54.9**	**-1.2**
WNVZ	**Wahianoa**	**19.58**	**196**	P	**P**	**18 41 55.4**	**-1.4**
MOVZ	**Moawhango**	**19.61**	**196**	P	**P**	**18 41 55.1**	**-2.1**
VRZ	**Vera Road**	**19.62**	**198**	P	**P**	**18 41 57.3**	**0.0**
RAEZ	**Rainy Point**	**19.88**	**199**	P	**P**	**18 42 02.6**	**+2.5**
NEZ	**North Egmont**	**19.96**	**200**	P	**P**	**18 42 03.4**	**+2.5**
WAZ	**Wanganui**	**20.14**	**197**	P	**P**	**18 42 02.7**	**-0.1**
TSZ	**Takapari Road**	**20.17**	**195**	P	**P**	**18 42 00.9**	**-2.2**
KIW	**Kapiti Island**	**21.20**	**196**	P	**P**	**18 42 11.2**	**-2.0**
MTW	**Mount Morrison**	**21.33**	**195**	P	**P**	**18 42 12.7**	**-1.7**
PAWZ	**Paruwai Farm**	**21.55**	**195**	P	**P**	**18 42 14.6**	**-1.9**
SNZO	**South Karori**	**21.67**	**196**	P	**P**	**18 42 16.5**	**-1.1**
TCW	**Tory Channel**	**21.69**	**197**	*e*P	**P**	**18 42 15.6**	**-2.2**
BHW	**Baring Head**	**21.72**	**196**	P	**P**	**18 42 16.5**	**-1.5**
QRZ	**Quartz Range**	**21.88**	**201**	P	**P**	**18 42 19.9**	**+0.4**
NNZ	**Nelson**	**21.96**	**199**	P	**P**	**18 42 19.8**	**-0.4**
BSWZ	**Blackbirch Sta**	**22.27**	**197**	P	**P**	**18 42 23.1**	**0.0**
THZ	**Tophouse**	**22.60**	**199**	P	**P**	**18 42 26.3**	**+0.2**
DSZ	**Denniston Nort**	**22.94**	**201**	P	**P**	**18 42 28.5**	**-0.7**
KHZ	**Kahutara**	**23.02**	**197**	P	**P**	**18 42 29.5**	**-0.3**
LTZ	**Lake Taylor**	**23.73**	**199**	P	**P**	**18 42 34.7**	**-1.6**
WVZ	**Waitaha Valley**	**24.49**	**201**	P	**P**	**18 42 42.0**	**-1.1**
HNR	**Honiara**	**24.53**	**294**	P	**P**	**18 42 43.7**	**-0.2**
	221nm,0.9s,mb5.6,baz=206,slow=8.8,SNR=9.5						
RPZ	**Rata Peaks**	**24.95**	**200**	P	**P**	**18 42 48.2**	**+0.9**
	70nm,0.6s,mb5.3,baz=36,slow=1.0,SNR=32						
FOZ	**Fox Glacier**	**25.28**	**202**	P	**P**	**18 42 50.4**	**+0.1**
LBZ	**Lake Benmore**	**25.83**	**201**	P	**P**	**18 42 53.3**	**-1.9**
TBI	**Tubuai**	**26.01**	**101**	*e*P	**P**	**18 42 57.9**	**+0.8**
	202nm,0.9s,mb5.6						
JCZ	**Jackson Bay**	**26.06**	**203**	P	**P**	**18 42 56.7**	**-0.5**
ODZ	**Otahua Downs**	**26.27**	**199**	P	**P**	**18 42 59.0**	**-0.1**
PAE	**Paea**	**26.42**	**88**	*e*P	**P**	**18 42 59.4**	**-1.3**
	540nm,0.9s,mb6.0						
PAE				*e*pP		18 43 58.5	
	952nm,1.3s						
PAE	**Paea**	**26.42**	**88**	*e*P	**P**	**18 42 59.4**	**-1.3**
PAE				*e**PP		18 43 58.5	
PAE				pmax	pmax		
	comp=Z,540nm,0.9s,mb6.0						
PPT	**Papeete**	**26.44**	**88**	*e*P	**P**	**18 42 59.7**	**-1.2**
	comp=Z,124nm,1.1s,mb5.2						
PPT				*e*pP		18 43 58.8	
	comp=Z,179nm,1.5s						
PPT	**Papeete**	**26.44**	**88**	P	**P**	**18 43 00.9**	**0.0**
	comp=Z,58nm,0.7s,mb5.1,baz=237,slow=0.4,SNR=4.9						
TIAR	**Tiarei**	**26.66**	**88**	*e*P	**P**	**18 43 01.8**	**-1.1**
	comp=Z,1μm,1.0s,mb6.2						
MLZ	**Mavora Lakes**	**27.37**	**203**	P	**P**	**18 43 09.8**	**+1.0**
MEH	**Mehetia**	**27.79**	**89**	*e*P	**P**	**18 43 11.8**	**-1.2**
	comp=Z,5μm,1.1s						
PMOR	**Pomariorio Ree**	**28.60**	**84**	*e*P	**P**	**18 43 18.6**	**-1.5**
	comp=Z,163nm,1.1s,mb5.4						
VAH	**Vaihoa**	**28.79**	**84**	*e*P	**P**	**18 43 19.8**	**-2.0**
	comp=Z,89nm,1.1s,mb5.1						
ARMA	**Armidale**	**29.53**	**244**	*e*P	**P**	**18 43 30.3**	**+2.2**
ARMA				*e*S	**S**	**18 48 04.9**	**+3.7**
ARMA				*e*SCP	ScP	18 49 38.1	-1.5
CNB	**Canberra Magne**	**32.63**	**236**	⇑*i*P	**P**	**18 43 56.8**	**+1.7**
CNB				*e*pP	pP	18 45 02.6	+11
CNB				*e*S	**S**	**18 48 51.1**	**+1.9**
CNB				*e*SCP	ScP	18 49 47.6	-2.3
CAN	**Canberra**	**32.91**	**236**	*e*P	**P**	**18 43 58.8**	**+1.2**
CTA	**Charters Tower**	**34.05**	**264**	⇑*i*P	**P**	**18 44 09.3**	**+1.7**
	comp=Z,102nm,0.6s,mb5.5						
CTA				*e*S	**S**	**18 49 09.9**	**-1.6**
CTA				*e*SCP	ScP	18 49 51.9	-3.2
CTA	**Charters Tower**	**34.05**	**264**	P	**P**	**18 44 08.3**	**+0.8**
	comp=Z,132nm,0.5s,mb5.7,baz=96,slow=10,SNR=323						
CTA				S	**S**	**18 49 06.2**	**-5.3**
	comp=Z,5.5nm,0.9s,baz=138,slow=19,SNR=1.9						
CTA	**Charters Tower**	**34.05**	**264**	⇑*i*P	**P**	**18 44 09.3**	**+1.7**
CTA				*e*S	**S**	**18 49 09.9**	**-1.6**
CTA				pmax	pmax		
	comp=Z,102nm,0.6s						
CTAO	**Charters Tower**	**34.05**	**264**	*e*P	**P**	**18 44 09.1**	**+1.5**
CTAO				pmax	pmax		
	comp=Z,198nm,0.9s,mb5.6						
CTAO	**Charters Tower**	**34.05**	**264**	*e*P	**P**	**18 44 09.1**	**+1.6**
	comp=Z,198nm,0.9s,mb5.6						
PMG	**Port Moresby**	**35.94**	**283**	*c i*P	**P**	**18 44 24.6**	**+0.9**
PMG	**Port Moresby**	**35.94**	**283**	*e*P	**P**	**18 44 24.8**	**+1.1**
TOO	**Toolangi**	**36.28**	**234**	*e*P	**P**	**18 44 26.9**	**+0.6**
TOO				*e*pP	pP	18 45 33.4	+10
TOO				*e*S	**S**	**18 49 40.0**	**-5.0**
TOO				*e*SCP	ScP	18 50 00.4	-2.5
TOO				*e*		18 51 42.6	
TOO	**Toolangi**	**36.28**	**234**	*e*P	**P**	**18 44 26.9**	**+0.6**
TOO				*e*S	**S**	**18 49 40.0**	**-5.0**
MOO	**Moorlands**	**36.82**	**226**	*e*P	**P**	**18 44 32.9**	**+2.2**
MOO				*e*		18 48 41.4	
TAU	**Tasmania Unive**	**36.93**	**225**	*e*P	**P**	**18 44 33.3**	**+1.7**
STKA	**Stephens Creek**	**38.25**	**244**	⇑*i*P	**P**	**18 44 43.8**	**+1.0**
	comp=Z,52nm,0.9s,mb5.0						
STKA				*e*pP	pP	18 45 52.3	+12
STKA				*e*SCP	ScP	18 50 08.2	-2.3
STKA				*e*S	**S**	**18 50 10.2**	**-4.5**
STKA				*e*SCS	ScS	18 54 17.7	-3.5
STKA	**Stephens Creek**	**38.25**	**244**	P	**P**	**18 44 43.9**	**+1.1**
	comp=Z,53nm,0.7s,mb5.0,baz=91,slow=10,SNR=128						
STKA				pP	pP	18 45 49.3	+8.7
	comp=Z,42nm,1.0s,baz=87,slow=10,SNR=3.4						
STKA				S	**S**	**18 50 07.5**	**-7.2**
	comp=Z,17nm,1.0s,baz=128,slow=4.8,SNR=6.2						
ADE	**Adelaide**	**41.05**	**240**	P	**P**	**18 45 06.6**	**+0.9**
KHU	**Kahuku**	**45.01**	**30**	*e*P	**P**	**18 45 36.2**	**-1.2**
ASAR	**Alice Springs**	**45.05**	**257**	P	**P**	**18 45 38.2**	**+0.5**
	comp=Z,328nm,0.7s,mb5.7,baz=97,slow=8.2,SNR=3950						
ASAR				pP	pP	18 46 47.2	+10
	comp=Z,72nm,1.0s,baz=88,slow=8.4,SNR=2.8						
ASAR				S	**S**	**18 51 50.2**	**-4.2**
	comp=Z,15nm,0.7s,baz=96,slow=16,SNR=22						
WB2	**Warramunga Arr**	**45.14**	**262**	*e*P	**P**	**18 45 38.6**	**0.0**
WRA	**Warramunga Arr**	**45.16**	**262**	P	**P**	**18 45 38.1**	**-0.6**
	comp=Z,96nm,0.7s,mb5.1,baz=98,slow=5.0,SNR=581						
WRA				pP	pP	18 46 47.8	+9.4
	comp=Z,19nm,1.0s,baz=99,slow=7.9,SNR=1.6						
WRA				S	**S**	**18 51 51.7**	**-4.3**
	comp=Z,9.8nm,0.8s,baz=92,slow=13,SNR=13						
KKH	**Kailua Kona**	**45.19**	**29**	*e*P	**P**	**18 45 38.6**	**-0.1**
POHA	**Pohakuloa**	**45.49**	**29**	*e*P	**P**	**18 45 40.5**	**-0.6**
	comp=Z,335nm,1.0s,mb5.5						
HON	**Honolulu**	**45.81**	**26**	*e*P	**P**	**18 45 43.3**	**-0.3**
KIP	**Kipapa**	**45.89**	**25**	*d i*P	**P**	**18 45 43.4**	**-0.8**
KIP	**Kipapa**	**45.89**	**25**	*e*P	**P**	**18 45 43.8**	**-0.4**
	comp=Z,487nm,1.2s,mb5.7						
HKL	**Haleakala**	**46.00**	**28**	*e*P	**P**	**18 45 45.4**	**+0.3**
KAKA	**Kakadu**	**48.56**	**271**	*e*P	**P**	**18 46 04.5**	**-0.4**
	comp=Z,76nm,0.4s,mb5.4						
KAKA				*e*S	**S**	**18 52 36.4**	**-7.7**
FORT	**Forrest**	**49.77**	**247**	*e*P	**P**	**18 46 13.3**	**-0.5**
	comp=Z,63nm,0.5s,mb5.2						
FORT				*e*pP	pP	18 47 23.4	+8.6
FORT				*e*SCP	ScP	18 50 54.5	-3.1
FORT				*e*S	**S**	**18 52 55.9**	**-4.7**
GUMO	**Guam**	**50.34**	**309**	P	**P**	**18 46 18.1**	**-0.1**
FITZ	**Fitzroy Crossi**	**53.58**	**262**	*e*P	**P**	**18 46 42.5**	**+0.5**
	comp=Z,83nm,1.2s,mb4.9						
FITZ				*e*S	**S**	**18 53 47.4**	**-5.3**
FITZ				*e*		18 55 54.0	
FITZ	**Fitzroy Crossi**	**53.58**	**262**	S	**S**	**18 53 48.0**	**-4.7**
	comp=Z,11nm,1.1s,baz=274,slow=22,SNR=11						
BATI	**Baumata**	**57.51**	**271**	S	**S**	**18 54 42.8**	**-1.8**
	comp=Z,8.9nm,0.9s,baz=247,slow=22,SNR=15						
SBA	**Scott Base**	**57.77**	**184**	*e*P	**P**	**18 47 13.5**	**+2.9**
MBWA	**Marble Bar**	**58.39**	**257**	*e*P	**P**	**18 47 15.4**	**-0.4**
KLBR	**Kellerberrin**	**58.52**	**245**	*e*P	**P**	**18 47 16.2**	**-0.4**
	comp=Z,52nm,1.2s,mb4.8						
KLBR				*e*pP	pP	18 48 26.5	+6.7
NWAO	**Narrogin (SRO)**	**58.82**	**243**	P	**P**	**18 47 18.1**	**-0.5**
	comp=Z,18nm,0.9s,mb4.5,baz=101,slow=7.7,SNR=12						
MUN	**Mundaring**	**59.79**	**244**	*e*P	**P**	**18 47 25.2**	**0.0**
CBIJ	**Chichi jima**	**61.53**	**319**	P	**P**	**18 47 35.7**	**-1.2**
	comp=Z,76nm,0.5s,mb5.6						
RPN	**Rapa Nui**	**61.90**	**110**	P	**P**	**18 47 40.1**	**+0.7**
	comp=Z,367μm,1.0s,baz=17,slow=1.4,SNR=4.5						
DAV	**Davao City (W)**	**62.43**	**290**	P	**P**	**18 47 43.2**	**+0.1**
	comp=Z,292nm,0.7s,mb6.0,baz=258,slow=2.5,SNR=12						
DAV	**Davao City (W)**	**62.43**	**290**	⇓*i*P	**P**	**18 47 38.6**	**-4.6**
KAPI	**Kappang**	**62.87**	**275**	P	**P**	**18 47 45.6**	**-0.5**
	comp=Z,18nm,0.8s,mb4.8,baz=184,slow=4.0,SNR=10.0						
KAPI	**Kappang**	**62.87**	**275**	*e*P	**P**	**18 47 44.6**	**-1.5**
BUKP	**Musuan**	**63.26**	**291**	*e*P	**P**	**18 47 49.1**	**+0.5**
BUTP	**Butuan**	**63.28**	**292**	*e*P	**P**	**18 47 48.9**	**+0.2**
SCPH	**Surigao**	**63.78**	**293**	⇑*e*P	**P**	**18 47 51.7**	**-0.2**
CASY	**Casey**	**64.08**	**205**	*e*P	**P**	**18 47 49.3**	**-3.7**
MSLP	**Maasin**	**64.49**	**293**	*e*P	**P**	**18 47 56.6**	**+0.1**
PAGZ	**Pagadian**	**64.72**	**290**	*e*P	**P**	**18 47 58.7**	**+0.7**
OCLP	**Ormoc**	**65.14**	**293**	*e*P	**P**	**18 48 00.8**	**+0.1**
CNP	**Catarman**	**65.81**	**295**	*e*P	**P**	**18 48 05.0**	**+0.1**
GUIM	**Jordan**	**66.69**	**292**	*e*P	**P**	**18 48 08.9**	**-1.6**
PVCP	**Virac**	**66.77**	**296**	*e*P	**P**	**18 48 11.3**	**+0.3**
JHJ	**Hachijo jima 2**	**67.31**	**322**	P	**P**	**18 48 13.1**	**-0.9**
	comp=Z,160nm,0.4s,mb6.1						
AUQP	**San Andres**	**67.89**	**295**	*e*P	**P**	**18 48 19.4**	**+1.4**
MYLDM	**Lahad Datu**	**67.93**	**285**	⇓P	**P**	**18 48 20.1**	**+1.8**
OTRP	**Odiongan**	**67.99**	**293**	*e*P	**P**	**18 48 17.8**	**-0.9**
TSM	**Tawau**	**68.14**	**284**	⇑P	**P**	**18 48 21.1**	**+1.5**
CUYO	**Cuyo Island**	**68.16**	**291**	*e*P	**P**	**18 48 19.4**	**-0.3**
GQP	**Guinayangan**	**68.37**	**295**	⇓*e*P	**P**	**18 48 20.8**	**-0.1**
SJMP	**San Jose**	**68.82**	**293**	*e*P	**P**	**18 48 23.8**	**+0.1**
SDKM	**Sandakan**	**69.30**	**285**	⇑P	**P**	**18 48 28.1**	**+1.3**
BUSP	**Coron**	**69.40**	**292**	*e*P	**P**	**18 48 27.2**	**-0.1**
QSPA	**South Pole Qui**	**69.42**	**180**	P	**P**	**18 48 28.0**	**+1.6**
	comp=Z,74nm,1.0s,mb5.3,baz=33,slow=2.9,SNR=98						
QSPA				pP	pP	18 49 42.5	+11
	comp=Z,39nm,1.0s,baz=20,slow=6.9,SNR=3.7						
ENPP	**El Nido**	**69.71**	**291**	*e*P	**P**	**18 48 29.3**	**+0.1**
PALP	**Palanan**	**69.94**	**298**	*e*P	**P**	**18 48 30.6**	**0.0**
BATP	**Bataraza**	**70.08**	**288**	*e*P	**P**	**18 48 31.9**	**+0.4**
KDM	**Kudat**	**70.16**	**286**	⇑P	**P**	**18 48 33.1**	**+1.1**
LUBP	**Lubang**	**70.16**	**294**	*e*P	**P**	**18 48 31.3**	**-0.6**
KKM	**Kota Kinabalu**	**70.36**	**285**	⇑P	**P**	**18 48 34.4**	**+1.2**
KKM	**Kota Kinabalu**	**70.36**	**285**	*e*P	**P**	**18 48 33.1**	**0.0**
CAUP	**Cauayan**	**70.38**	**298**	*e*P	**P**	**18 48 33.7**	**+0.5**
MJAR	**Matsushiro Arr**	**70.67**	**323**	P	**P**	**18 48 33.5**	**-1.0**
	comp=Z,29nm,0.6s,mb5.1,baz=154,slow=6.0,SNR=119						
MAJO	**Matsushiro**	**70.67**	**323**	*e*P	**P**	**18 48 33.8**	**-0.8**
MAT	**Matsushiro**	**70.67**	**323**	P	**P**	**18 48 33.8**	**-0.8**
MAT				S	S	18 57 18.0	-6.7
JOW	**Kunigami**	**70.70**	**310**	P	**P**	**18 48 34.6**	**-0.4**
	comp=Z,51nm,0.9s,mb5.2,baz=135,slow=4.4,SNR=7.5						
MIR	**Mirnyy**	**71.11**	**205**	⇓*i*P	**P**	**18 48 38.0**	**+1.3**
MIR				pmax	pmax		
	comp=Z,100nm,1.5s,mb5.2						
BTM	**Bintulu**	**72.09**	**281**	⇑P	**P**	**18 48 44.7**	**+1.1**
ADK	**Adak**	**72.22**	**0**	*e*P	**P**	**18 48 41.2**	**-2.2**
ADK				pmax	pmax		
	comp=Z,246nm,1.3s,mb5.7						
ADK	**Adak**	**72.22**	**0**	*e*P	**P**	**18 48 41.2**	**-2.1**
	comp=Z,246nm,1.3s,mb5.7						
SBUM	**Sibu**	**72.60**	**279**	⇑P	**P**	**18 48 47.6**	**+1.0**
KSM	**Kuching**	**74.01**	**278**	⇓P	**P**	**18 48 56.1**	**+1.4**
KSM	**Kuching**	**74.01**	**278**	*e*P	**P**	**18 48 55.0**	**+0.2**
UNV	**Unalaska Valle**	**74.77**	**7**	*e*P	**P**	**18 48 55.0**	**-3.1**
AKUT	**Akutan**	**75.14**	**7**	*e*P	**P**	**18 48 57.4**	**-2.8**
PET	**Petropavlovsk**	**76.25**	**345**	*e*P	**P**	**18 49 04.3**	**-2.2**
PET				*e*S	S	18 58 41.5	+15
PET				pmax	pmax		
	comp=Z,55nm,0.7s,mb5.3						
PET				pmax	pmax		
	comp=Z,600nm,14.3s						
PET				MLR	MLR		
	comp=Z,200nm,19.0s						
PET	**Petropavlovsk**	**76.25**	**345**	*i* P	**P**	**18 49 04.7**	**-1.8**
YSS	**Yuzh-Sakhalins**	**76.28**	**333**	⇓*i*P	**P**	**18 49 05.0**	**-1.9**
YSS				pmax	pmax		
	comp=Z,420nm,1.0s,mb6.0						
YSS	**Yuzh-Sakhalins**	**76.28**	**333**	*e*P	**P**	**18 49 06.9**	**0.0**
PEA0B	**Petropavlovsk-**	**76.56**	**345**	*e*P	**P**	**18 49 06.2**	**-2.1**
PETK	**Petropavlovsk-**	**76.56**	**345**	P	**P**	**18 49 06.8**	**-1.4**
	comp=Z,100nm,0.9s,mb5.5,baz=121,slow=7.7,SNR=67						
SNCC	**San Nicolas Is**	**76.92**	**47**	⇓P	**P**	**18 49 11.0**	**+0.2**
	baz=77						
SNCC	**San Nicolas Is**	**76.92**	**47**	*e*P	**P**	**18 49 11.0**	**+0.2**
	comp=Z,39nm,0.9s,mb5.1						
QZH	**Quanzhou**	**76.98**	**303**	⇓*i*P	**P**	**18 49 11.4**	**+0.2**
QZH				AMB	AMB		
	comp=Z,340nm,1.4s,mb5.9						
SDPT	**Sand Point**	**77.05**	**10**	*e*P	**P**	**18 49 08.6**	**-2.3**
	comp=Z,136nm,0.7s,mb5.8						
BSC	**Santa Cruz Isl**	**77.28**	**46**	⇓P	**P**	**18 49 13.0**	**+0.2**
	baz=77						
FARB	**Farallon Islan**	**77.33**	**41**	⇓P	**P**	**18 49 12.9**	**0.0**
	baz=77						
KSRS	**Korea Array**	**77.38**	**318**	P	**P**	**18 49 13.3**	**+0.2**
	comp=Z,7.9nm,0.7s,mb4.6,baz=142,slow=6.3,SNR=26						
KSRS	**Korea Array**	**77.38**	**318**	P	**P**	**18 49 13.4**	**+0.2**
KSRS				pmax	pmax		
	comp=Z,8.0nm,0.7s,mb4.6						
V03C	**Hunter Liggett**	**77.42**	**44**	⇓P	**P**	**18 49 14.1**	**+0.6**
	baz=78,SNR=21						
SCI	**San Clemente I**	**77.44**	**47**	⇓P	**P**	**18 49 13.7**	**+0.1**
	baz=78						

SBC Santa Barbara 77.48 46 ⇑P P 18 49 14.1 +0.3
baz=78
SAC San Andreas 77.63 42 eP P 18 49 14.5 0.0
JRSC Jasper Ridge 77.63 42 ⇑P P 18 49 14.5 -0.1
baz=78
PKM Peak Mountain 77.68 45 ⇑P P 18 49 15.3 +0.4
baz=78,SNR=45
MCCM Marconi Confer 77.69 41 ⇓P P 18 49 14.7 -0.2
baz=78
MCCM Marconi Confer 77.69 41 eP P 18 49 14.6 -0.3
BLG Laguna Peak 77.73 46 ⇓P P 18 49 14.9 -0.3
baz=78
SAO San Andreas Ge 77.74 43 eP P 18 49 15.4 +0.2
CIS Catalina Islan 77.78 47 ⇓P P 18 49 15.2 -0.2
baz=78
SMMC Simmler 77.81 45 ⇓P P 18 49 16.1 +0.5
baz=78
PKD Parkfield 77.83 44 ⇑P P 18 49 15.8 +0.2
baz=78
PTRM Twissleman Ran 77.87 44 eP P 18 49 16.4 +0.5
U04C Hernandez Rese 77.92 44 ⇑P P 18 49 16.9 +0.7
baz=78,SNR=60
PACP Pacheco Peak 77.99 43 ⇓P P 18 49 17.1 +0.6
baz=78,SNR=62
FMP Fort Macarthur 78.03 47 ⇑P P 18 49 16.8 0.0
baz=78
WENL Wente Vineyard 78.06 42 ⇓P P 18 49 17.2 +0.3
baz=78
CVS Carmenet Viney 78.07 41 ⇓P P 18 49 16.8 -0.1
baz=78
NSHM Saint Helena R 78.09 41 eP P 18 49 16.7 -0.4
HOPS Hopland 78.10 40 ⇑P P 18 49 17.4 +0.3
baz=78
HOPS Hopland 78.10 40 eP P 18 49 17.2 +0.1
V05C Boulder Hill, 78.20 44 ⇑P P 18 49 18.4 +0.6
baz=78,SNR=6.9
BDM Black Diamond 78.20 42 ⇓P P 18 49 17.9 +0.2
baz=78
INCN Inchon 78.21 318 eP P 18 49 17.5 -0.2
KCPM Cahto Peak 78.23 39 eP P 18 49 17.8 0.0
OSI Osito Adit 78.25 46 ⇓P P 18 49 18.1 +0.1
baz=78
CHGN Chignik 78.30 11 eP P 18 49 14.6 -3.2
DECC Green Verdugo 78.31 47 ⇑P P 18 49 18.1 -0.3
baz=78
U05C Westside ANR, 78.33 44 ⇓P P 18 49 18.7 +0.2
baz=78
KIPM Iron Peak 78.37 39 eP P 18 49 18.8 +0.3
O01C Eel River Cons 78.38 39 ⇓P P 18 49 19.0 +0.4
baz=78,SNR=30
109C Camp Elliot, M 78.39 48 ⇑P P 18 49 18.5 -0.3
baz=78
MNRC McLaughlin Nat 78.41 41 ⇓P P 18 49 19.3 +0.5
baz=78,SNR=14
ARVC Arvin 78.48 46 ⇓P P 18 49 19.3 0.0
baz=79
MWC Mount Wilson 78.48 47 eP P 18 49 19.4 +0.1
Q03C Winters 78.52 41 ⇓P P 18 49 20.3 +0.9
baz=79,SNR=5.7
BAR Barrett 78.58 49 eP P 18 49 19.6 -0.3
comp=Z,342nm,2.0s,mb5.7
JCC Jacoby Creek 78.69 38 ⇑P P 18 49 20.6 +0.3
baz=79
MURC Murrieta 78.72 48 ⇓P P 18 49 20.6 0.0
baz=79
VES Vestal, Richgr 78.72 45 ⇑P P 18 49 20.3 -0.2
baz=79
GASB Alder Springs 78.73 40 ⇑P P 18 49 21.5 +1.0
baz=79,SNR=103
VLA Vladivostok 78.73 325 eP P 18 49 17.5 -2.9
VLA pmax pmax
comp=Z,106nm,1.2s,mb5.5
VLA Vladivostok 78.73 325 i P P 18 49 19.1 -1.3
BFSC Mount Baldy St 78.76 47 ⇑P P 18 49 20.7 -0.2
baz=79
S05C Merced 78.80 43 ⇑P P 18 49 20.7 -0.2
baz=79
MONP Monument Peak 78.87 49 ⇓P P 18 49 21.8 +0.3
baz=79,SNR=99
RCTC Rector, Farmer 78.89 44 ⇓P P 18 49 21.0 -0.5
baz=79
EDW2 Edwards Air Fo 78.90 46 ⇑P P 18 49 21.7 +0.1
baz=79
KHMM Horse Mountain 78.90 38 eP P 18 49 22.1 +0.7
R04C Big Horse Ranc 78.96 42 ⇑P P 18 49 21.2 -0.6
baz=79
DVTC Desert V Tower 78.97 49 ⇑P P 18 49 22.2 +0.2
baz=79,SNR=21
LPIG La Paz 78.98 59 P P 18 49 22.0 -0.3
comp=Z,82nm,1.0s,mb5.4,baz=336,slow=0.8,SNR=6.3
T06C Millerton Lake 79.00 44 ⇓P P 18 49 21.9 -0.1
baz=79
O02C Red Bluff 79.02 40 ⇓P P 18 49 22.9 +0.8
baz=79
ISA Isabella 79.02 45 eP P 18 49 22.3 +0.1
ISA pmax pmax
comp=Z,161nm,0.9s,mb5.8
ISA Isabella 79.02 45 ⇑P P 18 49 22.4 +0.2
baz=79
ISA Isabella 79.02 45 eP P 18 49 22.3 +0.1
comp=Z,161nm,0.9s,mb5.8
Q04C Lincoln 79.04 41 ⇓P P 18 49 22.0 -0.2
baz=79
N02C Big Bar 79.12 39 ⇓P P 18 49 22.8 +0.2
baz=79
CMB Columbia Colle 79.17 42 eP P 18 49 22.8 -0.2
CMB pmax pmax
comp=Z,163nm,0.9s,mb5.8
CMB Columbia Colle 79.17 42 ⇓P P 18 49 22.8 -0.1
baz=79
CMB Columbia Colle 79.17 42 eP P 18 49 22.8 -0.2
comp=Z,163nm,0.9s,mb5.8
KRMB Red Mountain 79.22 38 eP P 18 49 23.4 +0.3
PFO Pinyon Flat Ob 79.24 48 P P 18 49 23.1 -0.4
comp=Z,64nm,0.9s,mb5.3,baz=264,slow=4.1,SNR=64
PFO Pinyon Flat Ob 79.24 48 eP P 18 49 23.1 -0.3
PFO pmax pmax
comp=Z,117nm,1.1s,mb5.5
PFO Pinyon Flat Ob 79.24 48 ⇓P P 18 49 23.6 +0.1
baz=79
PFO Pinyon Flat Ob 79.24 48 eP P 18 49 23.1 -0.3
comp=Z,117nm,1.1s,mb5.5
HELL Mitchell Peak 79.25 44 ⇓P P 18 49 23.1 -0.3
baz=79
BBRC Big Bear Sol-O 79.28 47 ⇑P P 18 49 23.8 +0.2
baz=79
OHCM Honcut 79.28 41 eP P 18 49 23.1 -0.4
M01C Crescent City 79.30 38 ⇓P P 18 49 24.1 +0.6
baz=79
SWSC Sam W. Stewart 79.33 49 ⇑P P 18 49 23.9 0.0
baz=79
LAVA Lava Cap Winer 79.39 42 ⇑P P 18 49 24.0 -0.1
baz=80
ORV Oroville 79.41 41 ⇑P P 18 49 24.0 -0.2
baz=80
WDC Whiskeytown Da 79.42 39 ⇓P P 18 49 24.3 +0.1
baz=80
WDC Whiskeytown Da 79.42 39 eP P 18 49 24.2 0.0
KCC Kaiser Creek 79.44 43 ⇓P P 18 49 24.4 0.0
baz=80
LRMC Laurel Mountai 79.44 46 ⇓P P 18 49 24.7 +0.2
baz=80
KBO Bosley Butte 79.48 37 eP P 18 49 25.5 +1.0
RRX Edison Barstow 79.57 47 ⇑P P 18 49 25.1 0.0
baz=80
CWC Cottonwood Cre 79.73 45 ⇓P P 18 49 26.1 +0.1
baz=80
M02C Callahan 79.74 39 ⇓P P 18 49 26.5 +0.6
baz=80,SNR=91
BELC Belle Mtn. 79.77 48 ⇑P P 18 49 26.7 +0.4
baz=80
L02A Cave Junction 79.80 38 ⇑P P 18 49 26.5 +0.3
baz=80
P05C Yuba Gap, Truc 79.80 41 ⇑P P 18 49 26.5 +0.2
baz=80
KEBM Edson Butte 79.84 37 eP P 18 49 26.6 +0.2
MPMC Manual Prospec 79.91 45 ⇓P P 18 49 27.2 +0.3
baz=80
MLAC Mammoth Lakes 79.92 43 ⇑P P 18 49 27.6 +0.6
baz=80
GSC Goldstone 79.94 46 eP P 18 49 27.2 +0.1
GSC pmax pmax
comp=Z,105nm,1.1s,mb5.5
GSC Goldstone 79.94 46 ⇑P P 18 49 27.1 0.0
baz=80
GSC Goldstone 79.94 46 eP P 18 49 27.2 +0.1
comp=Z,105nm,1.1s,mb5.5

MTUM Tungsten Hills 79.94 44 eP P 18 49 27.4 +0.3
BC3 Big Chuckw Mtn 79.96 48 ⇑P P 18 49 27.7 +0.4
baz=80,SNR=65
112A Yuma 79.98 50 ⇑P P 18 49 27.8 +0.4
baz=80
TIN Tinemaha 79.99 44 ⇓P P 18 49 27.6 +0.2
baz=80,SNR=13
HEC Hector,Ludlow 80.00 47 ⇑P P 18 49 27.5 0.0
baz=80
O05C Quincy 80.01 41 ⇑P P 18 49 27.6 +0.2
baz=80
YBH Yreka Blue Hor 80.04 38 P P 18 49 27.4 -0.2
comp=Z,146nm,1.0s,mb5.7,baz=184,slow=1.8,SNR=252
YBH Yreka Blue Hor 80.04 38 eP P 18 49 27.9 +0.4
YBH pmax pmax
comp=Z,185nm,1.1s
YBH Yreka Blue Hor 80.04 38 ⇑P P 18 49 28.0 +0.5
baz=80
YBH Yreka Blue Hor 80.04 38 eP P 18 49 27.9 +0.4
comp=Z,185nm,1.1s,mb5.7
WAKR Walker 80.06 42 eP P 18 49 28.0 +0.3
R06C Coleville 80.06 42 ⇑P P 18 49 28.1 +0.4
baz=80,SNR=48
GLA Glamis 80.08 49 ⇓P P 18 49 28.6 +0.7
baz=80,SNR=34
GLA Glamis 80.08 49 eP P 18 49 28.6 +0.6
M03C McCloud 80.10 39 ⇓P P 18 49 28.0 +0.1
baz=80
O04C Chester 80.13 40 ⇓P P 18 49 28.2 +0.2
baz=80
MYKOM Kota Tinggi 80.13 276 ⇓P P 18 49 29.2 +0.5
OHAK Old Harbor 80.16 13 eP P 18 49 25.9 -1.8
comp=Z,91nm,0.6s,mb5.7
K02A Glendale 80.25 37 ⇓P P 18 49 28.8 +0.2
baz=80
BEKR Beckwourth 80.30 41 ⇓P P 18 49 29.1 +0.1
baz=80
WCN Washoe City 80.33 42 ⇑P P 18 49 29.6 +0.5
baz=80
NJ2 Nanjing 80.42 309 eP P 18 49 29.2 -0.6
NJ2 PP PP 18 52 39.5 +1.9
NJ2 AMB AMB
comp=Z,40nm,1.0s,mb5.1
GMRC Granite Mounta 80.43 47 ⇑P P 18 49 30.1 +0.3
baz=80
IRM Iron Mountain 80.45 48 ⇓P P 18 49 30.4 +0.5
baz=80,SNR=121
HUMO Hull Mountain 80.45 38 ⇓P P 18 49 30.4 +0.7
baz=80
HUMO Hull Mountain 80.45 38 eP P 18 49 30.1 +0.4
comp=Z,169nm,1.1s,mb5.7
P06A Stead Airport, 80.47 41 ⇑P P 18 49 30.2 +0.4
baz=80,SNR=10
GRAC Grapevine Rang 80.52 45 ⇑P P 18 49 30.7 +0.6
baz=81
ELFS Eagle Lake Fie 80.53 40 ⇓P P 18 49 30.5 +0.3
baz=81
FURC Furnace Creek, 80.56 45 ⇓P P 18 49 30.4 0.0
baz=81
M04C Macdoel 80.58 39 ⇓P P 18 49 30.6 +0.2
baz=81
J02A Umpqua 80.59 37 ⇓P P 18 49 30.7 +0.3
baz=81
TUQ Turquoise Moun 80.61 47 ⇑P P 18 49 30.9 +0.2
baz=81
SHOC Shoshone 80.63 46 ⇓P P 18 49 30.8 +0.1
baz=81
BUOR Burton Butte 80.65 38 P P 18 49 31.1 +0.3
Y12C Blythe 80.67 49 ⇓P P 18 49 31.3 +0.3
baz=81
113A Mohawk Valley, 80.68 50 ⇓P P 18 49 31.3 +0.2
baz=81
KGM Kluang 80.70 276 ⇑P P 18 49 32.6 +0.8
Q07A Schurz 80.71 42 ⇑P P 18 49 31.3 +0.2
baz=81
M05C Lookout 80.73 39 ⇓P P 18 49 31.4 +0.3
baz=81
NVAR Mina Array Bea 80.73 43 P P 18 49 31.4 +0.1
comp=Z,61nm,0.7s,mb5.4,baz=224,slow=8.4,SNR=276
L04A Klamath Falls 80.79 38 ⇑P P 18 49 31.8 +0.3
baz=81
O06A Flanigan 80.80 41 ⇑P P 18 49 31.9 +0.3
baz=81
PAHR Pah Rah Range 80.80 42 eP P 18 49 31.8 +0.2
comp=Z,125nm,1.0s,mb5.6
R08A Mina 80.81 43 ⇓P P 18 49 32.0 +0.3
baz=81
KDAK Kodiak Island 80.82 13 P P 18 49 29.9 -1.3
comp=Z,101nm,1.1s,mb5.5,baz=205,slow=4.1,SNR=19
KDAK Kodiak Island 80.82 13 eP P 18 49 29.7 -1.5
comp=Z,146nm,1.1s,mb5.6
HABR Khabarovsk 80.86 330 eP P 18 49 29.0 -2.7
HABR e 18 54 30.1
HABR eS S 18 59 06.2 -9.0
HABR e 18 59 23.4
HABR e 19 00 48.9
HABR e 19 07 58.6
I02A Mapleton 80.86 36 ⇑P P 18 49 32.1 +0.3
baz=81
U10A Ash Meadows, A 80.88 46 ⇑P P 18 49 32.5 +0.4
baz=81
214A Organ Pipe Nat 80.95 51 ⇑P P 18 49 33.0 +0.4
baz=81,SNR=50
MDJ Mudanjiang 80.97 325 P P 18 49 32.7 +0.3
MDJ AMB AMB
comp=Z,115nm,0.9s,mb5.6
MDJ AMB AMB
comp=Z,790nm,5.1s
LDFC Landfair 80.97 47 eP P 18 49 33.3 +0.7
P07A Fallon 81.01 42 ⇓P P 18 49 32.9 +0.2
baz=81,SNR=5.6
S09A Goldfield 81.02 44 ⇓P P 18 49 32.8 0.0
baz=81
M06C Likely Place G 81.03 40 ⇑P P 18 49 33.1 +0.3
baz=81
I03A Eugene 81.14 36 ⇓P P 18 49 33.4 +0.1
baz=81
N06A Buffalo Meadow 81.14 40 ⇓P P 18 49 33.5 +0.1
baz=81
NEE2 Needles Airpor 81.14 48 ⇓P P 18 49 33.8 +0.3
baz=81
K04A Chilquin 81.16 38 ⇓P P 18 49 33.7 +0.3
baz=81
V11A Goodsprings 81.17 47 ⇑P P 18 49 33.9 +0.3
baz=81
Y13A Salome 81.19 49 ⇓P P 18 49 34.4 +0.6
baz=81,SNR=27
H02A Toledo 81.20 35 ⇓P P 18 49 33.7 +0.2
baz=81
Q08A Gabbs 81.22 43 ⇑P P 18 49 33.8 0.0
baz=81
TPH Tonopah 81.22 44 eP P 18 49 34.0 +0.1
PDMCI Parker Dam,Lak 81.23 48 ⇑P P 18 49 34.5 +0.5
baz=81
TPNV Topopah Spring 81.23 45 ⇑P P 18 49 34.4 +0.5
baz=81
TPNV Topopah Spring 81.23 45 eP P 18 49 33.9 0.0
W12A Cal Nev Ari 81.26 47 ⇓P P 18 49 34.6 +0.5
baz=81,SNR=19
L05A Lakeview 81.33 39 ⇑P P 18 49 34.8 +0.5
baz=81,SNR=89
J04A Umpqua Nationa 81.33 37 ⇑P P 18 49 34.9 +0.6
baz=81
O07A Toulon 81.38 41 ⇓P P 18 49 34.9 +0.3
baz=82
R09A Tonopah 81.42 44 ⇑P P 18 49 35.1 +0.3
baz=82
QIZ Qiongzhong 81.44 294 P P 18 49 35.0 -0.4
QIZ S S 18 59 17.2 -5.2
QIZ SS SS 19 04 42.4 -4.1
QIZ AMB AMB
comp=Z,23nm,1.4s,mb4.7
QIZ AMB AMB
comp=Z,642nm,5.0s
QIZ Qiongzhong 81.44 294 eP P 18 49 35.5 0.0
comp=Z,67nm,1.6s,mb5.1
V12A Nelson 81.50 47 ⇑P P 18 49 35.8 +0.4
baz=82
I04A Tendick Farm, 81.51 37 ⇓P P 18 49 35.0 -0.2
baz=82
U11A Corn Creek 81.52 46 ⇓P P 18 49 35.7 +0.3
baz=82,SNR=9.0
COR Corvallis 81.52 36 eP P 18 49 35.6 +0.4
COR pmax pmax
comp=Z,185nm,1.2s,mb5.7
COR Corvallis 81.52 36 eP P 18 49 35.6 +0.3
comp=Z,186nm,1.2s,mb5.7

S10A Tonopah Range, 81.55 44 ⇑P P 18 49 35.8 +0.2
baz=82
MOD Modoc 81.56 39 ⇑P P 18 49 35.8 +0.3
baz=82
MOD Modoc 81.56 39 eP P 18 49 35.5 0.0
Z14A Wintersburg 81.58 50 ⇑P P 18 49 36.5 +0.7
baz=82,SNR=50
H03A Soap Creek Ran 81.59 36 ⇑P P 18 49 35.8 +0.2
baz=82
X13A Yucca 81.60 48 ⇓P P 18 49 36.3 +0.4
baz=82,SNR=93
P08A Dixie Valley 81.61 42 ⇑P P 18 49 36.3 +0.5
baz=82
MAW Mawson 81.62 200 eP P 18 49 35.6 +0.1
comp=Z,6.6nm,0.9s,mb4.4
MAW epP pP 18 50 49.9 +6.6
MAW eS S 18 59 18.7 -4.0
MAW Mawson 81.62 200 P P 18 49 35.7 +0.2
comp=Z,8.1nm,0.8s,mb4.5,baz=121,slow=7.0,SNR=17
MAW pP pP 18 50 50.4 +7.2
comp=Z,20nm,1.1s,baz=117,slow=8.1,SNR=3.9
MAW Mawson 81.62 200 eP P 18 49 35.6 +0.1
MAW eS S 18 59 18.7 -4.0
MAW pmax pmax
comp=Z,7.0nm,0.9s
HEBO Mount Hebo 81.68 35 eP P 18 49 36.4 +0.3
comp=Z,1μm,1.9s,mb6.2
Q09A Carvers 81.68 43 ⇓P P 18 49 36.5 +0.3
baz=82
N07B Gerlach 81.69 41 ⇓P P 18 49 36.4 +0.2
baz=82
K05A Summer Lake 81.72 38 ⇑P P 18 49 36.8 +0.5
baz=82,SNR=148
SHPR Sheep Range 81.72 46 eP P 18 49 36.6 +0.1
115A Sonoran Desert 81.76 51 ⇓P P 18 49 37.2 +0.4
baz=82,SNR=33
W13A Hualapai Mount 81.83 48 ⇓P P 18 49 37.5 +0.4
baz=82,SNR=96
Y14A Wickenburg 81.84 49 ⇓P P 18 49 37.4 +0.3
baz=82,SNR=38
J05A Fort Rock 81.86 38 ⇓P P 18 49 37.7 +0.7
baz=82
O08A Rochester Mine 81.91 42 ⇓P P 18 49 37.5 +0.2
baz=82,SNR=5.5
M07A Soldier Meadow 81.93 40 ⇑P P 18 49 37.8 +0.4
baz=82
R10A Warm Springs 81.94 44 ⇑P P 18 49 38.2 +0.6
baz=82,SNR=26
216A Three Points, 81.97 52 ⇑P P 18 49 38.6 +0.7
baz=82,SNR=51
G03A Yamhill 82.00 35 ⇑P P 18 49 37.8 0.0
baz=82
WIFE Three Sisters- 82.01 37 P P 18 49 38.1 +0.3
116A Eloy 82.07 51 ⇓P P 18 49 39.0 +0.6
baz=82,SNR=42
KTGM Kuala Trenggan 82.08 279 ⇑P P 18 49 40.0 +1.1
T11A Corn Creek, Al 82.08 45 ⇑P P 18 49 38.9 +0.6
baz=82
U12A Valley of Fire 82.10 46 ⇓P P 18 49 38.8 +0.4
baz=82,SNR=35
Z15A Gila River Ind 82.11 50 ⇑P P 18 49 38.8 +0.3
baz=82,SNR=9.6
P09A Austin 82.12 43 ⇓P P 18 49 38.5 0.0
baz=82
K06A Valley Falls 82.13 39 ⇑P P 18 49 38.9 +0.5
baz=82
T12A Moapa 82.14 46 ⇑P P 18 49 38.9 +0.3
baz=82
V13A Grand Canyon W 82.16 47 ⇑P P 18 49 39.1 +0.3
baz=82
Q10A Clear Creek Ra 82.18 44 ⇓P P 18 49 39.0 +0.2
baz=82
X14A Yava 82.20 49 ⇑P P 18 49 39.7 +0.7
baz=82,SNR=134
H04A Detroit Lake 82.20 36 ⇓P P 18 49 38.5 -0.2
baz=82
L07A Adell 82.20 40 ⇑P P 18 49 39.4 +0.5
baz=82,SNR=129
N08A GE Springer Mi 82.21 41 ⇑P P 18 49 39.2 +0.3
baz=82
F03A Seaside 82.25 35 ⇑P P 18 49 39.1 +0.1
baz=82
217A Green Valley 82.32 52 ⇑P P 18 49 40.5 +0.7
baz=82,SNR=123
Y15A Casa Rosa Ranc 82.32 50 ⇑P P 18 49 40.3 +0.6
baz=82,SNR=166
G04A Mulino 82.37 36 ⇓P P 18 49 39.6 0.0
baz=82
I05A Bend 82.39 37 ⇓P P 18 49 40.1 +0.4
baz=82
O09A Fish Creek Ran 82.44 42 ⇑P P 18 49 40.2 +0.1
baz=82
M08A Happy Creek Ra 82.44 41 ⇓P P 18 49 40.5 +0.4
baz=82
R11A Troy Canyon, C 82.44 44 ⇑P P 18 49 40.1 -0.1
baz=82
W14A Seligman 82.45 48 ⇑P P 18 49 41.2 +0.9
baz=82,SNR=163
J06A Christmas Vall 82.47 38 ⇓P P 18 49 40.2 0.0
baz=82
U13A Pakoon Wash 82.48 47 ⇑P P 18 49 40.9 +0.5
baz=83,SNR=121
S12A Delamar Landin 82.53 45 ⇓P P 18 49 41.4 +0.7
baz=83,SNR=126
BMN Battle Mountai 82.57 42 eP P 18 49 40.9 +0.1
P10A Eureka 82.59 43 ⇑P P 18 49 40.9 0.0
baz=83
E03A Lebam 82.65 34 ⇑P P 18 49 41.1 +0.1
baz=83
V14A Boquillas Ranc 82.65 48 ⇓P P 18 49 42.0 +0.7
baz=83,SNR=137
K07A Rock Creek Ran 82.66 39 ⇓P P 18 49 41.4 +0.3
baz=83
Z16A Peralta Trail, 82.66 50 ⇓P P 18 49 42.1 +0.7
baz=83,SNR=24
X15A Humboldt 82.67 49 ⇓P P 18 49 42.2 +0.8
baz=83,SNR=143
Q11A Duckwater 82.67 44 ⇓P P 18 49 41.5 +0.1
baz=83
H05A Madras 82.71 37 ⇓P P 18 49 41.5 +0.1
baz=83
FRIM Kepong 82.72 276 ⇑P P 18 49 43.2 +1.0
318A Bisbee 82.77 53 ⇓P P 18 49 42.8 +0.7
baz=83,SNR=104
117A Oracle 82.78 51 ⇓P P 18 49 42.9 +0.9
baz=83,SNR=94
BMW Boistfort Moun 82.78 34 eP P 18 49 41.6 -0.1
T13A Saint George 82.84 46 ⇑P P 18 49 42.5 +0.3
baz=83,SNR=34
I06A Prineville 82.85 38 ⇑P P 18 49 42.6 +0.4
baz=83,SNR=250
F04A Amboy 82.86 35 ⇓P P 18 49 42.0 -0.1
baz=83
WVOR Wild Horse Val 82.87 40 P P 18 49 42.4 +0.1
Y16A Circle Bar Ran 82.90 50 ⇓P P 18 49 43.3 +0.7
baz=83,SNR=168
L08A Fields 82.90 40 ⇑P P 18 49 42.8 +0.3
baz=83
D03A Wishkah Elem. 82.91 34 ⇑P P 18 49 42.8 +0.5
baz=83,SNR=11
O10A Cortez Mining, 82.94 42 ⇓P P 18 49 42.9 +0.2
baz=83
KLR Kul'dur 82.95 329 eP P 18 49 37.2 -5.3
KLR pmax pmax
comp=E,370nm,2.8s
KLR pmax pmax
comp=Z,820nm,2.8s,mb6.1
218A Dragoon 82.99 52 ⇑P P 18 49 44.0 +0.8
baz=83,SNR=130
WHN Wuhan 83.00 306 ⇑P P 18 49 43.8 +0.6
WHN AMB AMB
comp=Z,192nm,1.4s,mb5.7
M09A Marrel Ranch, 83.00 41 ⇓P P 18 49 43.4 +0.5
baz=83
W15A Williams 83.00 48 ⇑P P 18 49 43.9 +0.8
baz=83,SNR=12
P11A Circle Ranch, 83.00 43 ⇓P P 18 49 43.3 +0.3
baz=83
U14A Mt Trumbull 83.02 47 ⇑P P 18 49 43.9 +0.7
baz=83,SNR=114
J07A Hines 83.03 39 ⇑P P 18 49 43.4 +0.3
baz=83
NLWA Neilton Lookou 83.04 33 ⇓P P 18 49 43.3 +0.4
baz=83
NLWA Neilton Lookou 83.04 33 eP P 18 49 43.0 0.0
C03A Quillayute Air 83.05 33 ⇓P P 18 49 43.6 +0.6
baz=83,SNR=9.6
R12A Pony Springs, 83.08 45 ⇑P P 18 49 43.8 +0.3

baz=83
OOW Octopus West 83.10 33 P P 18 49 43.9 +0.6
E04A Onalaska 83.12 35 ⇑P P 18 49 44.1 +0.7
baz=83
K08A Mann Creek Ran 83.13 39 ⇓P P 18 49 44.0 +0.4
baz=83
S13A Holt Ranch, En 83.17 46 ⇑P P 18 49 44.3 +0.3
baz=83,SNR=62
X16A Lo Mia Camp, P 83.20 49 ⇓P P 18 49 44.9 +0.8
baz=83,SNR=171
L09A Wilkinson Ranc 83.21 40 ⇑P P 18 49 44.3 +0.3
baz=83
Y17A Roosevelt 83.26 50 ⇓P P 18 49 45.0 +0.5
baz=83,SNR=66
H06A Lindquist Farm 83.27 37 ⇓P P 18 49 44.4 +0.2
baz=83
319A Douglas 83.27 53 ⇑P P 18 49 45.4 +0.9
baz=83,SNR=113
Q12A Willow Creek R 83.32 44 ⇓P P 18 49 44.8 +0.2
baz=83
Z17A San Carlos Hig 83.33 51 ⇓P P 18 49 45.6 +0.8
baz=83,SNR=20
SVW2 Sparrevohn 83.33 10 eP P 18 49 41.1 -3.1
I07A Izee 83.34 38 ⇓P P 18 49 45.0 +0.4
baz=83
F05A White Salmon 83.35 36 ⇓P P 18 49 44.6 0.0
baz=83
118A Homack Ranch, 83.37 52 ⇑P P 18 49 45.9 +0.8
baz=84,SNR=99
O11A Cowboy Ranch, 83.39 43 ⇑P P 18 49 45.3 +0.3
baz=84
V15A Kaibab Nationa 83.40 48 ⇑P P 18 49 45.9 +0.8
baz=84,SNR=99
G06A Carlson Farm, 83.41 36 ⇑P P 18 49 44.9 0.0
baz=84
D04A Dobbs Creek Ra 83.41 34 ⇓P P 18 49 45.4 +0.5
baz=84
R13A O'Grain Ranch, 83.42 45 ⇑P P 18 49 45.8 +0.7
baz=84
T14A Hurricane 83.42 47 ⇑P P 18 49 45.6 +0.4
baz=84,SNR=53
W16A Flagstaff 83.48 49 ⇓P P 18 49 46.2 +0.7
baz=84,SNR=54
CCUT Cedar City 83.49 46 eP P 18 49 46.0 +0.5
P12A McGill 83.50 44 ⇓P P 18 49 45.9 +0.3
baz=84
J08A Circle Bar Ran 83.51 39 ⇑P P 18 49 45.7 +0.2
baz=84
Z18A Geronimo 83.54 51 ⇓P P 18 49 46.6 +0.7
baz=84,SNR=7.4
ARUT Antelope Range 83.56 46 eP P 18 49 45.9 0.0
K09A Rome 83.57 40 ⇓P P 18 49 46.0 +0.2
baz=84
219A White Tail Can 83.59 53 ⇓P P 18 49 47.0 +0.8
baz=84
X17A Forest Lakes 83.61 50 ⇓P P 18 49 47.1 +0.9
baz=84,SNR=34
E05A Randle 83.61 35 ⇓P P 18 49 45.7 -0.2
baz=84
H07A Lands Inn, Kim 83.61 37 ⇑P P 18 49 46.1 +0.1
baz=84
M10A I.L. Ranch, Tu 83.62 41 ⇑P P 18 49 46.6 +0.5
baz=84
SEW Seward 83.62 14 eP P 18 49 43.3 -2.3
U15A North Rim 83.63 47 ⇓P P 18 49 47.1 +0.8
baz=84,SNR=185
F06A Goldendale 83.65 36 ⇓P P 18 49 46.2 +0.1
baz=84
B04A Port Angeles 83.66 33 ⇓P P 18 49 46.4 +0.3
baz=84
GNW Green Mountain 83.69 34 P P 18 49 46.1 -0.2
C04A Brinnon 83.71 34 ⇓P P 18 49 46.6 +0.2
baz=84
N11A Elko Archery C 83.72 42 ⇓P P 18 49 46.8 +0.2
baz=84
IPM Ipoh 83.72 277 ⇑P P 18 49 48.0 +0.7
S14A Cedar City 83.73 46 ⇓P P 18 49 47.2 +0.4
baz=84,SNR=12
I08A Drewsey 83.78 38 ⇓P P 18 49 47.0 +0.2
baz=84
Q13A Wheeler Ranch, 83.80 45 ⇓P P 18 49 47.2 +0.1
baz=84
WUAZ Wupatki 83.80 49 ⇓P P 18 49 47.9 +0.8
baz=84
WUAZ Wupatki 83.80 49 eP P 18 49 47.7 +0.5
SLKM Skilak Lake 83.81 13 eP P 18 49 44.6 -2.0
T15A Red Dirt Ranch 83.88 47 ⇑P P 18 49 47.9 +0.4
baz=84,SNR=86
D05A Enumclaw 83.89 34 ⇑P P 18 49 47.8 +0.5
baz=84
Y18A Canyon Day Jun 83.89 51 ⇑P P 18 49 48.6 +0.9
baz=84,SNR=56
119A Ashpeak Ranch, 83.93 52 ⇓P P 18 49 48.7 +0.8
baz=84,SNR=76
J09A Fry Pan Ranch, 83.93 39 ⇓P P 18 49 47.8 +0.2
baz=84
G07A Ruggs Ranch, H 83.96 37 ⇑P P 18 49 47.7 -0.1
baz=84
L10A Juniper Basin 83.97 41 ⇓P P 18 49 48.0 +0.2
baz=84
ELK Elko 83.99 42 eP P 18 49 47.8 -0.2
E06A Yakima 84.02 35 ⇑P P 18 49 48.1 +0.1
baz=84
M11A Holland Ranch, 84.03 42 ⇑P P 18 49 48.5 +0.3
baz=84,SNR=85
O12A Currie 84.05 43 ⇑P P 18 49 48.4 +0.1
baz=84
W17A Winslow 84.05 49 ⇑P P 18 49 49.0 +0.6
baz=84,SNR=19
PGC Sidney 84.07 33 eP P 18 49 47.9 -0.2
P13A Bates Ranch, G 84.08 44 ⇓P P 18 49 48.6 +0.1
baz=84
H08A Prairie City 84.08 38 ⇓P P 18 49 48.3 -0.1
baz=84
R14A James Farms, M 84.11 45 ⇑P P 18 49 48.7 +0.1
baz=84
K10A MacKenzie Ranc 84.13 40 ⇓P P 18 49 48.9 +0.2
baz=84
N12A Clover Valley, 84.18 42 ⇑P P 18 49 49.0 +0.1
baz=84
Z19A T-Link Ranch, 84.21 51 ⇓P P 18 49 50.3 +1.0
baz=84
S15A Panguitch 84.23 46 ⇓P P 18 49 50.5 +1.2
baz=84,SNR=23
GAMB Gambell 84.26 3 eP P 18 49 47.9 -0.8
U16A Tuba City 84.29 48 ⇑P P 18 49 50.3 +0.7
baz=84,SNR=55
I09A Lost Marbles R 84.30 39 ⇓P P 18 49 49.3 -0.1
baz=84
Q14A Sevier Lake (B 84.31 45 ⇑P P 18 49 50.0 +0.4
baz=84
X18A Snowflake 84.32 50 ⇓P P 18 49 50.5 +0.7
baz=84,SNR=39
C05A Tolt Reservoir 84.36 34 ⇑P P 18 49 49.5 -0.2
baz=84
KULM Kulim 84.36 278 ⇑P P 18 49 51.7 +1.2
G08A Pilot Rock 84.38 37 ⇑P P 18 49 50.0 +0.2
baz=84
RC01 Rabbit Creek A 84.44 13 eP P 18 49 48.0 -1.8
comp=Z,219nm,1.4s,mb5.8
T16A Glen Canyon Da 84.46 47 ⇓P P 18 49 50.9 +0.5
baz=84,SNR=48
O13A Hicks Ranch, I 84.46 44 ⇑P P 18 49 50.4 +0.1
baz=84
L11A Cat Creek Ranc 84.46 41 ⇑P P 18 49 50.6 +0.3
baz=84
A04A Legoe Bay, Lum 84.49 33 ⇑P P 18 49 50.5 +0.2
baz=84
D06A Cle Elum 84.50 35 ⇑P P 18 49 50.5 +0.2
baz=85
B05A Bryant 84.51 33 ⇓P P 18 49 50.4 0.0
baz=85
Y19A Nutrioso 84.54 51 ⇓P P 18 49 52.1 +1.2
baz=85
JCW Jim Creek 84.55 34 eP P 18 49 50.1 -0.5
J10A Berg Farm, Mel 84.56 40 ⇓P P 18 49 50.6 -0.2
baz=85
M12A Wells 84.57 42 ⇑P P 18 49 50.9 0.0
baz=85
K11A Parker Ranch, 84.63 40 ⇓P P 18 49 51.4 +0.3
baz=85
E07A Sunnyside 84.64 36 ⇑P P 18 49 51.3 +0.2
baz=85
RSW Rattlesnake Hi 84.69 36 eP P 18 49 51.3 0.0
N13A Wendover, West 84.71 43 ⇓P P 18 49 51.7 +0.1
baz=85
HAWA Hanford 84.72 36 eP P 18 49 51.5 0.0
X19A St. Johns 84.74 50 ⇓P P 18 49 52.4 +0.5
baz=85,SNR=56
ZAIG Zacatecas 84.75 63 i P P 18 49 52.6 +0.4
H09A Durkee 84.75 38 ⇓P P 18 49 51.8 +0.1
baz=85
W18A Petrified Fore 84.76 50 ⇓P P 18 49 52.2 +0.2
baz=85,SNR=14
P14A Drum Mountains 84.77 44 ⇓P P 18 49 51.9 +0.1
baz=85
S16A Weppner Ranch, 84.77 47 ⇑P P 18 49 52.0 +0.1
baz=85
F08A Pendleton 84.78 37 ⇓P P 18 49 51.6 -0.2
baz=85
MSU Marysvale 84.79 46 eP P 18 49 52.7 +0.7
MSU e 18 53 12.1
U17A Shonto 84.85 48 ⇑P P 18 49 52.8 +0.5
baz=85,SNR=34
EYAK Cordova Ski Ar 84.87 15 eP P 18 49 49.8 -2.1
comp=Z,42nm,0.7s,mb5.4
L12A House Creek Ra 84.91 41 ⇑P P 18 49 52.7 +0.2
baz=85
Q15A Fillmore 84.91 45 ⇓P P 18 49 52.6 0.0
baz=85
V18A Ganado 84.92 49 ⇓P P 18 49 53.1 +0.4
baz=85,SNR=14
I10A Payette 84.92 39 ⇑P P 18 49 52.9 +0.4
baz=85
C06A Tall Timber Ra 84.93 34 ⇑P P 18 49 52.0 -0.4
baz=85
RPW Rockport 84.93 34 eP P 18 49 51.6 -0.9
T17A Navajo Res., N 84.95 48 ⇑P P 18 49 53.5 +0.6
baz=85,SNR=28
D07A Quincy 84.97 35 ⇓P P 18 49 52.6 -0.1
baz=85
A05A Maple Falls 84.98 33 ⇑P P 18 49 52.2 -0.5
baz=85
B06A Marblemount 84.99 34 ⇑P P 18 49 52.2 -0.6
baz=85
W19A Sanders 85.01 50 ⇑P P 18 49 53.4 +0.3
baz=85,SNR=13
M13A Montello 85.01 42 ⇓P P 18 49 53.2 +0.1
baz=85
PMR Palmer 85.03 13 eP P 18 49 50.1 -2.5
PMR pmax pmax
comp=Z,98nm,0.8s,mb5.7
PMR Palmer 85.03 13 eP P 18 49 50.1 -2.5
comp=Z,98nm,0.8s,mb5.7
ETW Entiat 85.03 35 eP P 18 49 52.6 -0.4
E08A Dider Farm, El 85.04 36 ⇑P P 18 49 53.0 -0.1
baz=85
G09A Cove 85.04 38 ⇑P P 18 49 53.1 0.0
baz=85
BMO Blue Mountains 85.07 38 eP P 18 49 52.7 -0.5
SNG Songkhla 85.08 280 P P 18 49 55.0 +1.0
comp=Z,280nm,1.0s,mb6.0
LNOR Lincton Mounta 85.11 37 eP P 18 49 52.5 -0.9
MFID Camas Ranch 85.12 40 ⇓P P 18 49 53.6 0.0
baz=85
R16A Teasdale 85.14 46 ⇑P P 18 49 54.2 +0.4
baz=85
F09A S2 Ranch, Elgi 85.22 37 ⇓P P 18 49 53.8 -0.1
baz=85
C07A Waterville 85.22 35 ⇓P P 18 49 53.4 -0.5
baz=85
H10A Noah's Angus R 85.24 39 ⇑P P 18 49 53.8 -0.3
baz=85
K12A Draper Farm, C 85.25 41 ⇑P P 18 49 54.1 -0.1
baz=85
S17A Black Ridge (B 85.27 47 ⇑P P 18 49 54.1 -0.4
baz=85
P15A Leamington 85.27 45 ⇑P P 18 49 54.1 -0.3
baz=85
I11A Placerville 85.32 40 ⇓P P 18 49 54.4 -0.1
baz=85
A06A Chilliwack 85.36 33 ⇑P P 18 49 54.2 -0.3
baz=85
N14A Grayback Hills 85.36 43 ⇓P P 18 49 54.2 -0.5
baz=85
G10A Bishop Farm, J 85.43 38 ⇓P P 18 49 54.5 -0.5
baz=86
D08A Wollman Farm, 85.46 36 ⇓P P 18 49 55.2 +0.1
baz=86
J12A Stokes Ranch, 85.47 40 ⇑P P 18 49 55.4 +0.1
baz=86
BGU Big Grassy Mou 85.50 43 eP P 18 49 54.7 -0.8
O15A The Old Anders 85.52 44 ⇓P P 18 49 55.6 0.0
baz=86
L13A Double Diamond 85.54 42 ⇓P P 18 49 55.8 +0.1
baz=86
V19A Window Rock 85.55 49 ⇓P P 18 49 56.2 +0.3
baz=86
E09A Wood Farm, Sta 85.56 37 ⇑P P 18 49 55.4 -0.2
baz=86
PLIG Platanillo 85.59 69 i P P 18 49 56.3 -0.2
M14A Sheep Mountain 85.61 43 ⇓P P 18 49 55.9 -0.1
baz=86
PPLA Purkeypile 85.61 11 eP P 18 49 52.6 -2.8
comp=Z,22nm,0.9s,mb5.0
NLU North Lily Min 85.61 44 eP P 18 49 55.3 -0.7
T18A Mexican Hat 85.66 48 ⇓P P 18 49 56.6 +0.2
baz=86,SNR=115
B07A Winthrop 85.67 34 ⇑P P 18 49 55.9 -0.2
baz=86
Q16A Castle Valley 85.67 46 ⇑P P 18 49 56.8 +0.4
baz=86,SNR=24
P16A Fountain Green 85.70 45 ⇓P P 18 49 57.1 +0.6
baz=86
R17A Hanksville Air 85.73 46 ⇑P P 18 49 56.7 0.0
baz=86
H11A Donnelly 85.74 39 ⇑P P 18 49 56.6 0.0
baz=86
I12A Atlanta 85.75 40 ⇓P P 18 49 56.9 +0.2
baz=86
K13A Stover Farm, H 85.76 41 ⇓P P 18 49 56.9 +0.2
baz=86
F10A Beach Ranch, E 85.76 37 ⇑P P 18 49 56.2 -0.5
baz=86
OD2 Odessa Site #2 85.77 36 eP P 18 49 56.1 -0.5
D09A Jones Farm, Ri 85.80 36 ⇓P P 18 49 56.5 -0.2
baz=86
N15A Stansbury Isla 85.81 43 ⇓P P 18 49 56.6 -0.4
baz=86
C08A Higginbotham F 85.83 35 ⇑P P 18 49 56.6 -0.3
baz=86
PNL Peninsula 85.83 18 eP P 18 49 55.4 -1.3
comp=Z,198nm,1.0s,mb5.9
TMUT Trail Mountain 85.84 45 eP P 18 49 57.8 +0.6
S18A Hurst Farm, Bl 85.85 47 ⇓P P 18 49 57.3 0.0
baz=86
A07A Ashnola River, 85.89 34 ⇑P P 18 49 57.0 -0.2
baz=86
MPU Maple Canyon 85.93 45 eP P 18 49 57.4 -0.2
NOQ North Oquirrh 85.94 44 eP P 18 49 57.1 -0.6
L14A Malta 85.96 42 ⇑P P 18 49 57.6 0.0
baz=86
G11A Walters Elk Ra 85.98 38 ⇑P P 18 49 57.4 -0.3
baz=86
B08A Colville Reser 86.02 35 ⇓P P 18 49 57.2 -0.6
baz=86
PNIG Pinotepa 86.03 71 i P P 18 49 58.1 -0.5
HLID Hailey 86.06 40 P P 18 49 58.5 +0.4
baz=86
HLID Hailey 86.06 40 eP P 18 49 58.2 0.0
comp=Z,54nm,0.9s,mb5.4
SPUT South Promonto 86.07 43 eP P 18 49 58.1 -0.2
T19A Beclabito 86.10 48 ⇓P P 18 49 58.3 -0.2
baz=86,SNR=16
J13A Cove Ranch, Pi 86.11 41 ⇑P P 18 49 58.7 +0.3
baz=86
HVU Hansel Valley 86.11 43 eP P 18 49 58.2 -0.3
O16A Springville 86.11 44 ⇑P P 18 49 58.6 +0.1
baz=86
E10A Myers Farm, Un 86.13 37 ⇑P P 18 49 57.9 -0.5
baz=86
M15A Larsen Ranch, 86.16 43 ⇑P P 18 49 58.4 -0.2
baz=86
SRU San Rafael 86.21 46 ⇑P P 18 49 58.9 0.0
baz=86
SRU San Rafael 86.21 46 eP P 18 49 58.8 -0.2
P17A Butcher Ranch, 86.24 45 ⇓P P 18 49 59.3 +0.2
baz=86
C09A Chrisman Ranch 86.25 35 ⇑P P 18 49 58.7 -0.3
baz=86
R18A Canyonlands Na 86.27 47 ⇑P P 18 49 59.1 -0.2
baz=86
K14A Jones Ranch, D 86.27 42 ⇓P P 18 49 59.2 0.0
baz=86
LAZ Ladron 86.29 51 eP P 18 49 59.7 +0.2
Y22D IRIS PASSCAL I 86.30 52 ⇑P P 18 50 00.3 +0.7
baz=86
LENM Lemitar 86.30 52 eP P 18 49 59.7 +0.2
F11A Grangeville 86.33 38 ⇓P P 18 49 57.9 -1.4
baz=86
H12A Diamond D Ranc 86.34 39 ⇓P P 18 49 59.4 0.0
baz=86
JLU Jordanelle 86.35 44 eP P 18 49 59.6 -0.1
DAU Daniels Canyon 86.38 44 eP P 18 49 59.8 0.0
BJT Baijiatuau 86.39 315 eP P 18 49 59.5 -0.4
BJT pmax pmax
comp=Z,17nm,0.5s
BJT Baijiatuau 86.39 315 eP P 18 49 59.5 -0.4
comp=Z,18nm,0.5s,mb5.1
BJI Beijing 86.40 315 P P 18 49 59.6 -0.3
BJI AMB AMB
comp=Z,61nm,0.9s,mb5.4
BJI AMB AMB
comp=Z,528nm,5.8s
BJI Beijing 86.40 315 P P 18 49 59.6 -0.3
comp=Z,61nm,0.9s,mb5.4
BJI sP sP 18 51 57.7 +19
BJI S S 19 00 20.2 +9.5
BJI sS sS 19 02 34.0 +22
A08A Turner Farm, O 86.41 34 ⇑P P 18 49 59.5 -0.3
baz=86
I13A Wildhorse Cree 86.43 40 ⇑P P 18 50 00.1 +0.2
baz=86
KTH Kantishna Hill 86.44 12 eP P 18 49 56.4 -3.1
comp=Z,78nm,1.1s,mb5.5
Q18A Rafter H Ranch 86.46 46 ⇑P P 18 49 59.9 -0.3
baz=86
TRF Thorofare Moun 86.47 12 eP P 18 49 57.4 -2.3
comp=Z,106nm,0.9s,mb5.7
S19A Harvey Farm, M 86.47 48 ⇓P P 18 50 00.4 +0.1
baz=86
J14A Carey 86.48 41 ⇑P P 18 50 00.5 +0.4
baz=86,SNR=86
L15A Malad City 86.48 43 ⇑P P 18 49 59.7 -0.5
baz=86
KKTK Khon Kaen 86.48 289 P P 18 50 02.0 +1.2
comp=Z,802nm,0.8s,mb6.6
CHUM Lake Minchumin 86.49 11 eP P 18 49 57.2 -2.6
comp=Z,88nm,1.0s,mb5.5
N16A Rees Ranch, Co 86.51 44 ⇓P P 18 50 00.5 +0.1
baz=87
BNM Barren Site 86.55 52 eP P 18 50 00.9 +0.1
E11A Bogner Ranch, 86.56 37 ⇑P P 18 49 59.3 -1.2
baz=87
M16A Huntsville 86.60 43 ⇓P P 18 50 00.5 -0.4
baz=87
O17A Robinson Place 86.61 45 ⇓P P 18 50 01.1 +0.2
baz=87,SNR=143
LPM Los Pinos Moun 86.62 52 eP P 18 50 01.2 +0.1
PPM Popocatepetl 86.62 68 i P P 18 50 01.2 -0.2
TXAR Lajitas Array 86.65 57 P P 18 50 01.6 +0.2
comp=Z,80nm,0.9s,mb5.6,baz=217,slow=6.5,SNR=385
TXAR PKKPbc PKKPbc 19 07 55.2 -0.6
comp=Z,1.0nm,0.9s,baz=125,slow=3.5,SNR=4.5
TXAR Lajitas Array 86.65 57 P P 18 50 01.6 +0.2
TXAR PKKPbc PKKPbc 19 07 55.2 -0.6
SEY Seymchan 86.65 347 ⇓eP P 18 49 59.0 -1.5
P18A Preston Nutter 86.65 45 ⇑P P 18 50 01.2 +0.1
baz=87
B09A Rice 86.69 35 ⇓P P 18 50 00.6 -0.4
baz=87
H13A Challis 86.70 40 ⇑P P 18 50 01.4 +0.1
baz=87
K15A Arbon 86.75 42 ⇑P P 18 50 01.4 -0.1
baz=87
F12A Elk City 86.77 38 ⇓P P 18 50 01.3 -0.2
baz=87
A09A Danville 86.79 34 ⇓P P 18 50 01.3 -0.2
baz=87
C10A Spilker Farm, 86.79 36 ⇓P P 18 50 01.2 -0.3
baz=87
HWUT Hardware Ranch 86.80 43 eP P 18 50 00.9 -0.9
I14A Mackay 86.84 41 ⇓P P 18 50 02.2 +0.3
baz=87
PV10 Paradox Valley 86.85 47 eP P 18 50 01.6 -0.4
D11A Klaveano Farm, 86.89 37 ⇑P P 18 50 01.4 -0.7
baz=87
SKAG Skagway 86.92 20 eP P 18 50 00.7 -1.2
comp=Z,238nm,1.4s,mb5.8
N17A Moffit Pass 86.93 44 ⇑P P 18 50 02.4 0.0
baz=87
BPAW Bear Paw Mtn. 86.93 11 eP P 18 49 58.1 -3.7
comp=Z,119nm,1.8s,mb5.4
E12A Beaver Dam Sad 86.96 38 ⇓P P 18 50 01.6 -0.8
baz=87
Q19A Hogan Spring (86.98 46 ⇓P P 18 50 02.7 0.0
baz=87
MCK McKinley 86.99 12 eP P 18 49 59.3 -2.8
G13A Cobalt 87.00 39 ⇑P P 18 50 02.6 0.0
baz=87
ANMO Albuquerque 87.04 51 d i P P 18 50 03.1 0.0
ANMO Albuquerque 87.04 51 eP P 18 50 03.0 -0.1
PV01 Paradox Valley 87.05 47 eP P 18 50 02.4 -0.7
L16A Fish Haven 87.09 43 ⇑P P 18 50 02.8 -0.4
baz=87
B10A Whitwood Farm, 87.12 35 ⇓P P 18 50 02.7 -0.4
baz=87
O18A Roosevelt 87.13 45 ⇓P P 18 50 03.4 0.0
baz=87
NEW Newport 87.15 36 eP P 18 50 02.3 -1.0
J15A Blackfoot 87.19 41 ⇓P P 18 50 03.9 +0.4
baz=87,SNR=58
GYA Guiyang 87.22 299 ⇓i P P 18 50 04.4 +0.2
GYA PP PP 18 53 35.2 +2.2
GYA SKS 18 59 55.3
GYA S S 19 00 11.3 -7.9
GYA SS SS 19 06 06.0 -5.1
GYA AMB AMB
comp=Z,70nm,1.0s,mb5.5
GYA AMB AMB
comp=Z,430nm,4.5s
GYA LR LR
comp=N,3μm,20.1s
GYA LR LR
comp=E,4μm,22.3s
GYA LR LR
comp=Z,4μm,20.8s
H14A Leadore 87.26 40 ⇑P P 18 50 04.2 +0.3
baz=87
F13A Darby 87.33 39 ⇓P P 18 50 03.8 -0.4
baz=87
A10A Northport 87.33 35 ⇓P P 18 50 04.0 -0.1
baz=87
GDL2 Guadalupe Moun 87.36 54 eP P 18 50 04.9 +0.2
K16A Soda Springs 87.42 42 ⇑P P 18 50 04.8 +0.2
baz=88
MENT Mentasta 87.43 15 eP P 18 50 02.2 -2.0
I15A Monteview 87.47 41 ⇓P P 18 50 05.4 +0.5
baz=88
G14A Jackson 87.55 39 ⇓P P 18 50 05.4 +0.2
baz=88
HUIG Huatulco 87.58 72 i P P 18 50 05.6 -0.5
J16A Bone 87.63 42 ⇑P P 18 50 06.0 +0.3
baz=88
B11A Sandpoint 87.66 36 ⇑P P 18 50 05.5 -0.2
baz=88
AHID Auburn Hatcher 87.69 42 eP P 18 50 06.1 +0.1
comp=Z,113nm,1.4s,mb5.5
MCMT McKenzie Canyo 87.69 40 eP P 18 50 05.9 0.0
H15A Lima 87.70 40 ⇓P P 18 50 06.3 +0.4
baz=88
N18A Larsen Ranch, 87.70 45 ⇑P P 18 50 05.7 -0.4
baz=88
O19A Miners Draw (B 87.73 45 ⇑P P 18 50 05.7 -0.6
baz=88
C12B Naegeli Ranch, 87.74 37 ⇑P P 18 50 05.7 -0.3
baz=88
E13A Victor 87.77 38 ⇑P P 18 50 05.2 -1.0
baz=88
SNAA Sanae 87.85 178 eP P 18 50 05.3 -1.0
SNAA e 18 50 06.7
SNAA e 18 50 11.3
SNAA e 18 51 21.3
SNAA e 18 51 26.6
SNAA e 19 07 48.8
SNAA Sanae 87.85 178 ⇓eP P 18 50 05.8 -0.5
SNAA Sanae 87.85 178 eP P 18 50 05.4 -0.9
RRI2 Red Ridge 87.85 42 eP P 18 50 06.4 -0.3
comp=Z,91nm,0.9s,mb5.6
NNT Nongplab 87.86 284 ⇑P P 18 50 09.2 +1.8
comp=Z,354nm,1.0s,mb6.2

F14A **Wisdom** 87.91 39 ⇑P P 18 50 06.7 -0.2
baz=88
DLBC **Dease Lake** 87.96 23 eP P 18 50 05.8 -1.1
VNA3 **Neumayer Olymp** 87.96 176 eP P 18 50 06.2 -0.6
VNA3 e 18 50 07.4
VNA3 e 18 50 10.6
VNA3 e 18 51 22.3
VNA3 e 18 51 26.5
VNA3 e 19 07 48.8
A11A **Hall Mountain,** 87.96 35 ⇓P P 18 50 07.3 +0.2
baz=88
D13A **Huson** 87.97 37 ⇑P P 18 50 06.0 -1.2
baz=88
N19A **John Jarvie Ra** 87.99 45 ⇑P P 18 50 06.9 -0.6
baz=88
I16A **Newdale** 88.02 41 ⇑P P 18 50 08.0 +0.5
baz=88
DCID1 **Drake Creek** 88.06 42 eP P 18 50 08.3 +0.6
G15A **Dillon** 88.08 40 ⇑P P 18 50 08.0 +0.2
baz=88
B12A **Libby** 88.11 36 ⇓P P 18 50 07.7 0.0
baz=88
DLMT **Dillon** 88.12 40 eP P 18 50 08.0 +0.1
MSO **Missoula** 88.12 38 eP P 18 50 06.9 -1.0
comp=Z,129nm,1.5s,mb5.5
MSO ePP PP 18 53 36.6 -3.1
REDW **Red Top Meadow** 88.15 42 eP P 18 50 07.9 -0.2
comp=Z,136nm,1.2s,mb5.7
TPAW **Teton Pass** 88.16 42 eP P 18 50 08.0 -0.1
comp=Z,66nm,1.0s,mb5.4
E14A **Clinton** 88.16 38 ⇑P P 18 50 07.8 -0.3
baz=88
BSMT **Bassoo Peak** 88.21 37 eP P 18 50 07.2 -1.1
COLA **College** 88.22 12d iP P 18 50 05.7 -2.2
C13A **Hot Springs** 88.23 37 ⇑P P 18 50 07.2 -1.2
baz=88
SNOW **Snow King Moun** 88.26 42 eP P 18 50 08.8 +0.2
comp=Z,103nm,0.9s,mb5.7
IMA2 **Indian Mountai** 88.29 9 eP P 18 50 06.0 -2.2
A12A **Yaak River Ran** 88.34 36 ⇓P P 18 50 08.8 -0.1
baz=88
IMW **Indian Meadow** 88.37 42 eP P 18 50 09.4 +0.3
comp=Z,146nm,1.1s,mb5.7
VNA2 **Neumayer--Watz** 88.41 177 eP P 18 50 08.7 -0.3
baz=203,slow=3.5
VNA2 e 18 50 09.8
VNA2 e 18 50 14.5
VNA2 e 18 51 24.8
VNA2 e 18 51 29.4
VNA2 e 19 07 47.6
MOOW **Moose Ponds** 88.42 42 eP P 18 50 09.1 -0.3
comp=Z,154nm,1.8s,mb5.5
LOHW **Long Hollow** 88.43 42 eP P 18 50 09.2 -0.2
comp=Z,185nm,1.6s,mb5.7
F15A **Butte** 88.44 39 ⇑P P 18 50 09.3 -0.1
baz=88
LRM **Limekiln Ridge** 88.45 39 eP P 18 50 09.1 -0.3
LRM ePP PP 18 53 40.1 -2.3
D14A **Greenough** 88.51 38 ⇑P P 18 50 08.9 -0.8
baz=89
G16A **Moss Hill, Enn** 88.53 40 ⇓P P 18 50 09.9 +0.1
baz=89
QLMT **Earthquake Lak** 88.55 41 eP P 18 50 10.6 +0.6
QLMT ePP PP 18 53 41.8 -1.3
CHMT **Chamberlain Mo** 88.57 38 eP P 18 50 09.3 -0.6
H16A **Russell Place,** 88.59 41 ⇓P P 18 50 11.0 +0.8
baz=89
MAIT **Maitri** 88.60 183 eP P 18 50 08.9 -1.0
I17A **Pilgram Creek** 88.61 42 ⇑P P 18 50 10.9 +0.6
baz=89
VNA1 **Neumayer--Stat** 88.63 176 eP P 18 50 09.5 -0.5
VNA1 e 18 50 10.9
VNA1 e 18 50 14.8
VNA1 e 18 51 26.4
VNA1 e 18 51 30.4
VNA1 e 19 07 48.3
E15A **Deer Lodge** 88.66 39 ⇑P P 18 50 10.2 -0.3
baz=89
BW06 **Boulder Array** 88.67 43 ⇓P P 18 50 10.2 -0.4
baz=89
BW06 **Boulder Array** 88.67 43 eP P 18 50 09.7 -0.8
comp=Z,59nm,0.9s,mb5.4
PDAR **Pinedale Array** 88.67 43 P P 18 50 09.8 -0.8
comp=Z,36nm,0.8s,mb5.2,baz=210,slow=3.0,SNR=244
PDAR PP PP 18 53 39.0 -5.1
comp=Z,2.6nm,1.0s,baz=217,slow=7.1,SNR=4.0
PDAR PKKP PKKPbc 19 07 49.0 -2.6
comp=Z,0.4nm,0.5s,baz=84,slow=6.6,SNR=3.6
B13A **Whitefish** 88.67 36 ⇓P P 18 50 09.6 -0.8
baz=89
XAN **Xi'an** 88.68 307 P P 18 50 10.8 0.0
XAN AP pP 18 51 30.5 +11
XAN PP PP 18 53 44.4 0.0
XAN S S 19 00 27.5 -5.1
XAN SS SS 19 06 28.5 -3.5
XAN AMB AMB
comp=Z,140nm,1.0s,mb5.8
XAN AMB AMB
comp=Z,286nm,4.1s
YMR **Madison River** 88.75 41 eP P 18 50 11.5 +0.6
comp=Z,407nm,1.3s,mb6.1
PLCA **Paso Flores** 88.75 133 P P 18 50 11.6 +0.4
comp=Z,11nm,1.1s,mb4.6,baz=247,slow=4.4,SNR=13
PLCA pP pP 18 51 29.7 +10
comp=Z,8.0nm,1.0s,baz=235,slow=7.3,SNR=5.5
PLCA PKKPbc PKKPbc 19 07 48.8 -1.4
comp=Z,0.8nm,0.6s,baz=41,slow=14,SNR=3.1
PLCA **Paso Flores** 88.75 133 P P 18 50 11.6 +0.4
PLCA pP pP 18 51 29.7 +10
PLCA PKKPbc PKKPbc 19 07 48.8 -1.4
H17A **Grant Village** 88.85 41 ⇓P P 18 50 12.6 +1.3
baz=89
YNR **Norris Junctio** 88.95 41 eP P 18 50 12.0 +0.2
SDCO **Great Sand Dun** 89.01 49 eP P 18 50 11.8 -0.5
LKWY **Lake** 89.04 41 eP P 18 50 13.8 +1.5
LKWY pmax pmax
comp=Z,121nm,1.0s,mb5.7
LKWY **Lake** 89.04 41 eP P 18 50 13.8 +1.5
comp=Z,121nm,1.0s,mb5.7
D15A **Lincoln** 89.06 38 ⇓P P 18 50 12.1 -0.1
baz=89
HIA **Hailar** 89.15 324 eP P 18 50 11.9 -0.7
HIA pmax pmax
comp=Z,22nm,1.0s
HIA **Hailar** 89.15 324 eP P 18 50 11.9 -0.7
comp=Z,22nm,1.0s,mb5.0
E16A **East Helena** 89.29 39 ⇓P P 18 50 13.2 -0.1
baz=89
B14A **Marquette Ranc** 89.33 37 ⇓P P 18 50 13.1 -0.5
baz=89
C15A **Salmond Ranch,** 89.40 38 ⇓P P 18 50 13.4 -0.4
baz=90
DAWY **Dawson** 89.44 16 eP P 18 50 12.6 -1.0
A14A **Double T Ranch** 89.58 36 ⇓P P 18 50 14.3 -0.4
baz=90
D16A **Dana Ranch, Ca** 89.62 39 ⇑P P 18 50 14.8 -0.1
baz=90
RWWY **Rawlins** 89.67 45 eP P 18 50 14.9 -0.3
B15A **Bradely Ranch,** 89.71 37 ⇑P P 18 50 14.0 -1.3
baz=90
E17A **Martinsdale** 89.73 39 ⇓P P 18 50 15.3 -0.1
baz=90
HHC **Hu-ho-hao-te** 89.87 314 ⇓P P 18 50 16.4 +0.2
HHC PP PP 18 53 57.0 +3.3
HHC SKS 19 00 11.8
HHC S S 19 00 36.3 -6.9
HHC SS SS 19 06 46.3 -2.6
HHC AMB AMB
comp=Z,56nm,1.1s,mb5.3
HHC AMB AMB
comp=Z,290nm,5.9s
HHC LR LR
comp=N,318nm,19.1s
HHC LR LR
comp=E,433nm,18.9s
HHC LR LR
comp=Z,265nm,18.8s
C16A **Fuhringer Ranc** 89.91 38 ⇓P P 18 50 15.5 -0.7
baz=90
COLD **Coldfoot** 89.91 10 eP P 18 50 14.6 -1.2
comp=Z,58nm,1.0s,mb5.4
TUIG **Tuzandepetl** 89.92 71 iP P 18 50 17.1 +0.2
KMI **Kunming** 89.93 297 P P 18 50 17.6 +0.7
KMI AP pP 18 51 36.4 +10
KMI PP PP 18 53 59.4 +4.9
KMI S S 19 00 41.8 -2.7
KMI AMB AMB
comp=Z,98nm,1.1s,mb5.5
KMI AMB AMB
comp=Z,473nm,5.2s
KMI LR LR
comp=N,320nm,20.2s
KMI LR LR
comp=E,227nm,20.1s
KMI LR LR
comp=Z,257nm,20.1s
KMI **Kunming** 89.93 297 P P 18 50 17.6 +0.7
comp=Z,98nm,1.1s,mb5.5
KMI pP pP 18 51 36.4 +10
KMI sP sP 18 52 12.0 +16
KMI PP PP 18 53 59.4 +4.9
KMI PPP 18 56 03.5
KMI S S 19 00 41.8 -2.7
KMI sS sS 19 03 02.4 +16
KMI SS SS 19 06 55.9 +5.5
KMI SSS 19 10 33.8
KMI LR LR
comp=Z,260nm,20.1s
A15A **Johnson Ranch,** 89.97 37 ⇑P P 18 50 15.9 -0.6
baz=90
RLMT **Red Lodge** 90.02 41 ⇓P P 18 50 17.1 +0.3
baz=90
RLMT **Red Lodge** 90.02 41 eP P 18 50 17.0 +0.2
comp=Z,138nm,1.0s,mb5.7
GCMT **Greycliff** 90.11 40 eP P 18 50 17.0 -0.2
F18A **Big Timber** 90.14 40 ⇓P P 18 50 17.4 +0.1
baz=90
BDT **Bhumibol Dam** 90.22 288 ⇑P P 18 50 20.0 +1.7
comp=Z,71nm,1.2s,mb5.4
B16A **M & M Farms, S** 90.25 37 ⇑P P 18 50 16.7 -1.0
baz=90
E18A **Harlowton** 90.35 40 ⇓P P 18 50 18.7 +0.4
baz=90
C17A **Wharram Farm,** 90.39 38 ⇓P P 18 50 18.2 -0.2
baz=90
CHRT **Chiangrai** 90.49 291 ⇓P P 18 50 20.0 +0.4
comp=Z,658nm,0.9s,mb6.5
AMTX **Amarillo** 90.54 53 eP P 18 50 18.7 -0.8
comp=Z,76nm,0.9s,mb5.5
A16A **West Butte Ran** 90.59 37 ⇓P P 18 50 19.0 -0.3
baz=91
PHWY **Pilot Hill** 90.66 46 eP P 18 50 19.4 -0.5
PHWY ePP PP 18 53 57.8 -2.1
CMAR **Chiang Mai Arr** 90.71 289 P P 18 50 20.8 +0.1
comp=Z,64nm,0.9s,mb5.4,baz=118,slow=2.9,SNR=339
CMAR pP pP 18 51 40.0 +10
comp=Z,5.3nm,1.0s,baz=135,slow=2.1,SNR=2.4
CMAR PKKP PKKPbc 19 07 44.6 -0.5
comp=Z,3.0nm,0.8s,baz=287,slow=4.6,SNR=19
CHG **Chiang Mai** 90.84 290 ⇓P P 18 50 22.0 +0.8
comp=Z,99nm,0.9s,mb5.6
EGMT **Eagleton** 91.17 38 ⇓P P 18 50 21.7 -0.3
baz=91
CCIG **Comitan** 91.32 73 iP P 18 50 23.2 -0.3
CD2 **Chengdu** 91.36 302 P P 18 50 23.6 +0.3
CD2 PP PP 18 54 08.3 +2.7
CD2 SKS 19 00 20.5
CD2 S S 19 00 48.8 -8.3
CD2 SS SS 19 07 06.3 -4.3
CD2 AMB AMB
comp=Z,30nm,0.8s,mb5.2
EDM **Edmonton** 91.92 33 eP P 18 50 24.3 -1.1
YAK **Yakutsk** 92.46 338 eP P 18 50 24.8 -2.9
YAK pmax pmax
comp=E,10.0nm,1.0s
YAK pmax pmax
comp=Z,55nm,1.4s,mb5.3
YAK pmax pmax
comp=N,9.0nm,1.1s
YAK **Yakutsk** 92.46 338 iP P 18 50 25.2 -2.5
LAO **LASA Array** 92.64 41 eP P 18 50 29.5 +0.6
HKT **Hockley** 93.13 59 eP P 18 50 30.4 -1.2
HKT pmax pmax
comp=Z,80nm,1.5s,mb5.4
HKT **Hockley** 93.13 59 eP P 18 50 30.4 -1.1
comp=Z,80nm,1.5s,mb5.4
LZH **Lanzhou** 93.32 307 ⇑P P 18 50 32.6 +0.3
LZH PP PP 18 54 24.0 +3.2
LZH SKS 19 00 32.2
LZH eS S 19 01 05.2 -9.0
LZH SS SS 19 07 35.0 -3.5
LZH AMB AMB
comp=Z,77nm,1.1s,mb5.5
LZH AMB AMB
comp=Z,340nm,4.0s
LZH **Lanzhou** 93.32 307 ⇑P P 18 50 32.6 +0.3
LZH 18 54 24.0
LZH 19 00 32.2
LZH eS S 19 01 05.2 -9.0
LZH SS SS 19 07 35.0 -3.5
LZH pmax pmax
comp=Z,77nm,1.1s,mb5.5
LZH **Lanzhou** 93.32 307 ⇑P P 18 50 32.6 +0.3
comp=Z,77nm,1.1s,mb5.5
LZH pP pP 18 51 54.6 +13
LZH sP sP 18 52 29.1 +18
LZH PP PP 18 54 24.0 +3.2
LZH SKS 19 00 32.2
LZH eS S 19 01 05.2 -9.0
LZH sS sS 19 03 32.1 +15
LZH SS SS 19 07 35.0 -3.5
CFAA **Coronel Fontan** 94.55 126 P P 18 50 37.5 -0.6
comp=Z,1.4nm,0.8s,baz=243,slow=4.0,SNR=16
CFAA pP pP 18 51 56.4 +9.1
comp=Z,0.8nm,0.8s,baz=253,slow=3.7,SNR=4.3
CFAA **Coronel Fontan** 94.55 126 P P 18 50 37.5 -0.6
CFAA pP pP 18 51 56.4 +9.1
DGMT **Dagmar** 94.66 40 ⇑P P 18 50 37.9 -0.2
baz=95
DGMT **Dagmar** 94.66 40 eP P 18 50 37.9 -0.2
JTS **JuntasAbangare** 95.81 81 P P 18 50 43.9 -0.2
comp=Z,19nm,1.0s,mb5.2,baz=119,slow=22,SNR=2.6
ULN **Ulaanbaatar** 95.85 319 iP P 18 50 42.4 -1.1
ULN **Ulaanbaatar** 95.85 319 iP P 18 50 42.5 -1.0
KSU1 **Kansas State U** 95.93 51 eP P 18 50 43.8 -0.3
SONM **Songino Array** 96.24 319 P P 18 50 44.1 -1.2
comp=Z,2.5nm,0.5s,mb4.6,baz=134,slow=4.1,SNR=25
SONM pP pP 18 54 36.0 -7.2
comp=Z,1.2nm,0.9s,baz=111,slow=8.4,SNR=3.5
SONM PKKP PKKPbc 19 07 29.8 -2.4
comp=Z,1.0nm,0.7s,baz=248,slow=4.2,SNR=9.3
SONM **Songino Array** 96.24 319 P P 18 50 44.1 -1.2
SONM 18 54 36.0
YKA **Yellowknife Ar** 96.40 25 P P 18 50 44.0 -1.6
comp=Z,16nm,0.9s,mb5.2,baz=239,slow=4.4,SNR=15
YKA **Yellowknife Ar** 96.40 25 P P 18 50 44.0 -1.6
YKW3 **Yellowknife Ar** 96.43 24 eP P 18 50 44.5 -1.3
BOD **Bodaibo** 96.51 330 eP P 18 50 43.8 -2.4
BOD pmax pmax
comp=Z,8.0nm,1.2s,mb4.8
MIAR **Mount Ida** 96.57 56 eP P 18 50 46.8 -0.3
IMP **Imphal** 97.27 294 ex x 18 50 50.0
GTA **Gaotai** 97.51 309 P P 18 50 51.3 +0.1
GTA AMB AMB
comp=Z,12nm,1.4s,mb5.0
ECSD **EROS,Sioux Fal** 97.61 46 eP P 18 50 50.3 -1.3
comp=Z,60nm,1.4s,mb5.7
FFC **Flin Flon** 98.54 35 eP P 18 50 55.7 +0.2
TIKI **Tiksi** 99.03 345 iP Pdif 18 50 55.0 -2.9
ZAK **Zakamensk** 99.11 320 eP Pdif 18 50 55.3 -3.0
ZAK pmax pmax
comp=Z,4.0nm,1.0s,mb4.7
SCIA **State Center** 99.33 49 ePdif Pdif 18 50 59.7 +0.4
comp=Z,29nm,0.9s
TLY **Talaya** 99.37 322 ⇑eP Pdif 18 50 58.2 -1.2
TLY ePdif Pdif 18 51 02.9 +3.5
CCM **Cathedral Cave** 99.52 53 eP Pdif 18 50 59.1 -1.0
AGMN **Agassiz Refuge** 99.71 42 ePdif Pdif 18 50 58.6 -2.3
ULM **Lac du Bonnet** 100.36 40 P Pdif 18 51 01.8 -2.1
comp=Z,5.9nm,0.8s,baz=149,slow=3.3,SNR=4.4
ULM PP PP 18 55 08.9 -5.4
comp=Z,4.3nm,0.8s,baz=230,slow=7.5,SNR=3.4
ULM **Lac du Bonnet** 100.36 40 P Pdif 18 51 01.8 -2.1
ULM PP PP 18 55 08.9 -5.4
LPAZ **La Paz** 101.47 112 P Pdif 18 51 10.9 +2.1
comp=Z,2.6nm,0.7s,baz=290,slow=2.6,SNR=16
LPAZ **La Paz** 101.47 112 eP Pdif 18 51 12.5 +3.7
LPAZ pmax pmax
comp=Z,3.0nm,0.8s
LPAZ **La Paz** 101.47 112 ePdif Pdif 18 51 12.5 +3.7
comp=Z,3.3nm,0.8s
HDIL **Hopedale** 101.72 51 ePdif Pdif 18 51 17.6 +7.7
JFWS **Jewell Farm** 101.73 49 eP Pdif 18 51 10.0 +0.1
TAPN **Taplejung** 103.38 294 eP PKiKP 18 55 33.3 -1.9
comp=Z,61nm,1.3s
ODAN **Odare** 103.52 294 eP PKiKP 18 55 34.1 -1.4
comp=Z,36nm,1.0s
RAMN **Ramite** 104.22 294 eP PKiKP 18 55 33.8 -3.0
comp=Z,9.6nm,0.6s
JIRN **Jiri** 104.77 294 eP PKiKP 18 55 34.7 -3.0
comp=Z,10nm,0.5s
GUN **Gumba** 105.10 294 eP PKiKP 18 55 35.4 -2.9
PKI **Pulchoki** 105.41 294 eP PKiKP 18 55 36.9 -2.0
comp=Z,4.3nm,0.3s
PKIN **Phulchoki** 105.42 294 eP PKiKP 18 55 36.8 -2.1
comp=Z,8.3nm,0.6s
KKN **Kakani** 105.58 294 eP PKiKP 18 55 37.1 -2.1
comp=Z,7.6nm,0.6s
DMN **Daman** 105.68 294 eP PKiKP 18 55 37.5 -1.9
comp=Z,8.6nm,0.6s
GKN **Gorkha** 106.18 294 eP PKiKP 18 55 37.3 -3.0
comp=Z,3.0nm,0.3s
KOLN **Koldanda** 107.01 294 eP PKiKP 18 55 38.4 -3.5
comp=Z,9.0nm,0.7s
DANN **Dangsing** 107.02 294 eP PKiKP 18 55 39.6 -2.3
comp=Z,17nm,0.5s
ZALV **Zalesovo Beam** 110.97 321 PKiKP PKiKP 18 55 45.7 -2.8
comp=Z,7.0nm,0.6s,baz=139,slow=1.0,SNR=33
ZALV PP PP 18 56 27.1 -4.8
comp=Z,2.8nm,0.8s,baz=104,slow=4.7,SNR=4.7
ZALV **Zalesovo Beam** 110.97 321 PKPdf PKiKP 18 55 45.7 -2.8
ZALV PP PP 18 56 27.1 -4.8
MK31 **Makanchi Array** 111.72 313 ePKiKP PKiKP 18 55 47.4 -2.7
MKAR **Makanchi Array** 111.72 313 Pdiff Pdif 18 51 53.9 -0.5
comp=Z,1.5nm,0.7s,baz=92,slow=5.3,SNR=12
MKAR PKiKP PKiKP 18 55 47.5 -2.6
comp=Z,6.3nm,0.6s,baz=222,slow=1.2,SNR=62
MKAR PP PP 18 56 33.0 -4.6
comp=Z,1.2nm,0.7s,baz=100,slow=6.3,SNR=3.8
MKAR PKKPbc PKKPbc 19 06 43.6 -2.0
comp=Z,1.4nm,0.6s,baz=266,slow=4.7,SNR=11
MKAR **Makanchi Array** 111.72 313 P Pdif 18 51 53.9 -0.4
MKAR 18 55 47.6
MKAR 18 56 33.0
MKAR **Makanchi Array** 111.72 313 Pdif Pdif 18 51 53.9 -0.5
MKAR PKPdf PKiKP 18 55 47.5 -2.6
MKAR PP PP 18 56 33.0 -4.6
MKAR PKKPbc PKKPbc 19 06 43.6 -2.0
NVS **Novosibirsk** 111.98 322 ePKiKP PKiKP 18 55 46.3 -4.1
KURK **Kurchatov** 114.49 317 dPKiKP PKiKP 18 55 52.5 -2.8
KURK **Kurchatov** 114.49 317 iPKP PKiKP 18 55 52.6 -2.7
TKM2 **Tokmak 2** 116.05 309 P PKPdf 18 55 56.5 -2.1
SNR=13
TKM2 **Tokmak 2** 116.05 309 ePKPdf PKPdf 18 55 56.1 -2.5
KBK **Karagaybulak** 116.51 308 P PKPdf 18 55 57.7 -1.8
SNR=5.7
CHMS **Chumysh** 116.68 309 P PKPdf 18 55 57.5 -2.3
SNR=7.8
UCH **Uchtor** 116.80 308 P PKPdf 18 55 59.0 -1.0
SNR=10
UCH **Uchtor** 116.80 308 ePKPdf PKPdf 18 55 58.6 -1.4
USP **Ospenovka** 116.88 309 P PKPdf 18 55 58.0 -2.1
SNR=12
PKME **Peaks-Kenny Pk** 116.97 49 ePKPdf PKPdf 18 55 58.2 -2.1
EKS2 **Erkin-Say** 117.37 308 P PKPdf 18 55 59.3 -1.9
SNR=6.9
EKS2 **Erkin-Say** 117.37 308 ePKPdf PKPdf 18 55 59.0 -2.1
AML **Almayashu** 117.40 308 P PKPdf 18 55 60.0 -1.2
SNR=14
AML **Almayashu** 117.40 308 ePKPdf PKPdf 18 55 59.2 -2.0
BRVK **Borovoye** 119.62 320 iPKP PKPdf 18 56 02.0 -3.1
KBL **Kabul** 120.47 299 ePKiKP PKPdf 18 56 05.6 -1.8
OPO **Ambohidratompo** 121.46 231 PKP PKPdf 18 56 08.2 -1.6
comp=Z,3.1nm,0.8s,baz=227,slow=1.0,SNR=7.7
SPB4 **Spitsbergen Ar** 122.04 357 ePKPdf PKPdf 18 56 07.0 -2.2
DAG **Danmarks Havn** 122.83 6 ⇑iPKiKP PKPdf 18 56 07.8 -2.9
DAG pmax pmax
comp=Z,6.0nm,0.5s
DAG **Danmarks Havn** 122.83 6 ⇑iP PKPdf 18 56 07.8 -2.9
comp=Z,6.3nm,0.5s
SFJD **Kangerlussuaq** 122.86 22 iPKiKP PKPdf 18 56 08.2 -2.7
SFJD pmax pmax
comp=Z,15nm,0.9s
SFJD **Kangerlussuaq** 122.86 22 iP PKPdf 18 56 08.2 -2.7
comp=Z,15nm,0.9s
SUMG **Summit** 123.16 14 ePKPdf PKPdf 18 56 09.3 -2.1
SVE **Sverdlovsk** 124.44 326 ePKiKP PKPdf 18 56 12.6 -1.6
SVE pmax pmax
comp=Z,37nm,1.1s
SUR **Sutherland** 124.48 199 PKP PKPdf 18 56 14.0 -1.3
comp=Z,22nm,0.8s,baz=181,slow=0.9,SNR=8.5
ARU **Arti** 125.65 326 iPKiKP PKPdf 18 56 14.2 -2.4
ARU 18 58 08.3
ARU **Arti** 125.65 326 iPKP PKPdf 18 56 14.5 -2.1
BOSA **Boshof** 126.37 205 PKP PKPdf 18 56 18.3 -0.7
comp=Z,9.5nm,0.9s,baz=136,slow=5.9,SNR=8.6
KEV **Kevo** 128.72 349 ep PKPdf 18 56 19.8 -2.3
comp=Z,1.2nm,0.3s
KEV **Kevo** 128.72 349 ePKiKP PKPdf 18 56 19.8 -2.3
KEV pmax pmax
comp=Z,1.0nm,0.3s
ARCES **ARCESS Array B** 129.17 350 PKhKP 18 56 05.7
comp=Z,2.6nm,0.9s,baz=326,slow=3.5,SNR=4.6
ARCES PKP PKPdf 18 56 20.7 -2.2
comp=Z,20nm,0.8s,baz=45,slow=0.5,SNR=28
ARCES SKPbc 18 59 11.7
comp=Z,9.6nm,0.9s,baz=62,slow=3.4,SNR=6.3
ARCES PKP2bc 19 08 56.9
comp=Z,3.2nm,0.9s,baz=251,slow=3.7,SNR=3.6
ARCES **ARCESS Array B** 129.17 350 iPKHKP 18 56 05.7
ARCES 18 56 20.7
ARCES pmax pmax
comp=Z,20nm,0.8s
ARCES pmax pmax
comp=N,10.0nm,0.9s
ARCES pmax pmax
comp=Z,3.0nm,0.9s
ARCES **ARCESS Array B** 129.17 350 PKP PKPdf 18 56 20.7 -2.2
ARCES SKPbc 18 59 11.7
ARCES ⇑e 19 08 56.9
ARE0 **ARCESS Array S** 129.17 350 ePKPdf PKPdf 18 56 21.0 -1.9
APA **Apatity** 129.23 345 ⇑iPKiKP PKPdf 18 56 22.0 -1.1
APA pmax pmax
comp=Z,13nm,1.0s
KLMR **Klimovskoe** 132.24 337 iPKHKP 18 56 18.9
KLMR pmax pmax
comp=Z,31nm,1.6s
JOF **Joensuu** 133.44 342 ep PKPdf 18 56 27.8 -3.4
comp=Z,19nm,0.6s
JOF **Joensuu** 133.44 342 ePKiKP PKPdf 18 56 27.8 -3.4
JOF pmax pmax
comp=Z,19nm,0.6s
KAF **Kangasniemi** 135.45 344 ep PKPdf 18 56 28.9 -6.1
comp=Z,9.3nm,0.5s
KAF **Kangasniemi** 135.45 344 ePKiKP PKPdf 18 56 28.9 -6.1
KAF pmax pmax
comp=Z,9.0nm,0.5s
OBN **Obninsk** 137.16 332 iPKiKP PKPdf 18 56 36.2 -2.2
OBN e 18 59 26.7
OBN pmax pmax
comp=Z,14nm,0.8s
OBN **Obninsk** 137.16 332 iPKP PKPdf 18 56 36.3 -2.1
VSR **Storozhevoye** 138.22 326 ePKiKP PKPdf 18 56 38.4 -2.0
VSR pmax pmax
comp=Z,4.0nm,1.0s
VSR pmax pmax
comp=N,2.0nm,0.7s
VSR pmax pmax
comp=E,1.0nm,0.4s
NB2 **NORSAR Subarra** 139.19 354 PKP 18 56 30.6
comp=Z,8.8nm,1.1s,baz=17,slow=2.6
NOA **NORSAR Array B** 139.19 354 PKhKP 18 56 30.6
comp=Z,7.9nm,0.9s,baz=10.0,slow=2.3,SNR=18
NOA PKP PKPdf 18 56 40.6 -1.3
comp=Z,1.5nm,0.5s,baz=8.0,slow=3.2,SNR=13
NOA SKPbc SKPbc 18 59 44.1 -5.3
comp=Z,2.5nm,0.7s,baz=14,slow=4.4,SNR=4.9
NOA **NORSAR Array B** 139.19 354 iPKHKP 18 56 30.6
NOA 18 56 40.6
NOA 18 59 44.1
NOA pmax pmax
comp=Z,2.0nm,0.5s
NOA pmax pmax
comp=N,3.0nm,0.7s
NOA **NORSAR Array B** 139.19 354 PKP PKPdf 18 56 40.6 -1.3
NOA SKPbc SKPbc 18 59 44.1 -5.3

KIV	Kislovodsk	139.47	314	ePKIKP	PKPdf	18 56 40.9	-2.1
KIV				e		18 59 46.6	
KIV				pmax	pmax		
	comp=Z,15nm,1.1s						
KMBO	Kilima Mbogo	139.78	242	PKP	PKPdf	18 56 40.8	-3.7
	comp=Z,4.0nm,0.6s,baz=81,slow=1.5,SNR=9.3						
KMBO				pPKP	pPKPdf	18 58 08.8	+11
	comp=Z,6.4nm,1.1s,baz=59,slow=14,SNR=4.4						
KMBO				SKPbc	SKPbc	18 59 47.6	-5.0
	comp=Z,11nm,1.0s,baz=21,slow=2.0,SNR=10						
KMBO	Kilima Mbogo	139.78	242	PKP	PKPdf	18 56 40.8	-3.7
KMBO				pPKP	pPKPdf	18 58 08.8	+11
KMBO				SKPbc	SKPbc	18 59 47.6	-5.0
HAKT	HAKKARI	140.69	304	iP	PKPdf	18 56 37.9	-7.5
SOC	Sochi	141.59	315c	iPKIKP	PKPdf	18 56 47.6	+0.8
SOC				i		18 59 51.6	
SOC				e		19 03 27.8	
SOC				pmax	pmax		
	comp=Z,13nm,0.6s						
ERZM	Erzurum	141.80	309	iP	PKPdf	18 56 41.1	-6.2
MVH1	Achvaich	142.44	6	eP	PKPdf	18 56 41.8	-6.0
ANN	Anapa	142.52	318	ePKHKP		18 56 42.5	
ANN				pmax	pmax		
	comp=Z,44nm,1.2s						
KAC	Achnashellach	142.74	7	eP	PKPdf	18 56 41.1	-7.3
MCD	Coleburn Disti	142.86	5	eP	PKPdf	18 56 42.0	-6.6
MDO	Dochfour	142.89	6	eP	PKPdf	18 56 42.2	-6.4
MARD	Mardin	143.00	305	iP	PKPdf	18 56 43.3	-6.2
SUW	Suwalki	143.18	340	ePKP	PKPdf	18 56 44.8	-4.5
SUW	Suwalki	143.18	340	ePKPdf	PKPdf	18 56 44.9	-4.4
KAR1	Arisaig	143.24	8	eP	PKPdf	18 56 42.6	-6.7
AKASG	Malin Array Be	143.42	331	PKP	PKPdf	18 56 45.2	-4.6
	comp=Z,58nm,0.6s,baz=42,slow=4.3,SNR=263						
AKASG				PP	PP	18 59 55.0	-9.2
	comp=Z,5.3nm,0.8s,baz=38,slow=4.3,SNR=4.5						
AKASG	Malin Array Be	143.42	331	PKP	PKPdf	18 56 45.2	-4.6
AKASG				PP	PP	18 59 55.0	-9.2
GRSN	GIRESUNGRSN	143.65	312	iP	PKPdf	18 56 45.5	-5.0
MUD	Monsted U'grnd	143.91	354	⇓iPKIKP	PKPdf	18 56 47.0	-3.5
MUD				pmax	pmax		
	comp=Z,160nm,1.0s						
MUD	Monsted U'grnd	143.91	354	⇓iP	PKPdf	18 56 47.0	-3.5
	comp=Z,162nm,1.0s						
ELZG	Elazig	144.00	308	iP	PKPdf	18 56 49.2	-2.0
COP	Copenhagen	144.24	350	⇓iPKIKP	PKPdf	18 56 47.9	-3.2
COP				pmax	pmax		
	comp=Z,120nm,1.0s						
COP	Copenhagen	144.24	350	⇓iP	PKPdf	18 56 47.9	-3.2
	comp=Z,124nm,1.0s						
SIM	Simferopol'	144.47	320d	ePKIKP	PKPdf	18 56 50.7	-1.1
SIM				pmax	pmax		
	comp=Z,234nm,1.0s						
PGBU	Glenifferbraes	144.48	7	eP	PKPdf	18 56 47.9	-3.6
EDI	Edinburgh	144.51	6	eP	PKPdf	18 56 45.9	-5.6
ATAB	Bozova	144.85	306	iP	PKPdf	18 56 51.0	-1.8
AKCD	Akcadag	144.86	308	iP	PKPdf	18 56 50.2	-2.5
ESK	Eskdalemuir	145.10	6	eP	PKPdf	18 56 48.5	-4.0
ESK	Eskdalemuir	145.10	6	ePKPdf	PKPdf	18 56 50.1	-2.5
RGN	Rugen	145.19	349	ePKPbc	PKPbc	18 56 51.6	-1.4
WAR	Warsaw	145.37	340	ePKP	PKPbc	18 56 52.7	-1.0
GAL1	Galloway	145.38	7	eP	PKPdf	18 56 50.5	-2.6
GZT	Gaziantep	145.44	306	iP	PKPdf	18 56 52.4	-1.3
GKP	Gorka Klasztor	145.54	344	ePKP	PKPbc	18 56 52.6	-1.5
PINB	Pinarbasi	145.84	309	iP	PKPbc	18 56 54.2	-1.4
GIM	North Isle of	145.98	7	eP	PKPdf	18 56 50.9	-3.2
DMUB	Kingscourt	146.01	10	⇓iP	PKPdf	18 56 53.6	-0.6
KIS	Kishinev	146.17	327j	iPKIKP	PKPdf	18 56 54.0	-0.7
KIS				i		19 54 29.0	
KIS				pmax	pmax		
	comp=Z,350nm,1.4s						
KIS	Kishinev	146.17	327	iUNK		18 56 54.0	
KIS	Kishinev	146.17	327	PM	PKPbc	18 56 55.0	-1.2
	comp=Z,300nm,1.4s						
CTKT	Corum	146.18	313	iP	PKPbc	18 56 54.4	-2.0
BSEG	Bad Segeberg	146.25	352	ePKPbc	PKPbc	18 56 54.9	-1.3
ANDN	Andirin	146.27	307	iP	PKPdf	18 56 53.4	-1.7
HLG	Helgoland	146.28	354	ePKPbc	PKPbc	18 56 55.2	-1.1
LVV	L'vov	146.28	335	PKIKP	PKPdf	18 56 52.3	-2.5
HPK	Haverah Park	146.59	5	eP	PKPdf	18 56 54.0	-1.2
DLF	Lyons Farm	146.65	10	⇓iP	PKPdf	18 56 55.4	+0.1
IAS	Iasi	146.67	328	⇑iP	PKPdf	18 56 56.0	+0.5
IAS	Iasi	146.67	328	P	PKPdf	18 56 56.2	+0.7
BALT	Daday	146.69	316	iP	PKPdf	18 56 55.1	-0.6
COBT	Iskenderun	146.70	306	iP	PKPbc	18 56 56.1	-1.9
ILGA	Ilgaz	146.70	315	iP	PKPdf	18 56 52.7	-3.1
DSB	Dublin	146.73	10	ePKPbc	PKPbc	18 56 55.8	-1.8
CDAG	Cicekdag	146.90	312	iP	PKPbc	18 56 55.4	-3.1
AVNT	Avonos	146.91	310	iP	PKPdf	18 56 52.9	-3.2
KWP	Kalwaria	146.95	336	ePKPdf	PKPbc	18 56 57.0	-1.3
YAYL	Yayladag	146.97	305	iP	PKPdf	18 56 53.4	-2.9
LHO	Holmfirth	146.98	5	eP	PKPdf	18 56 54.7	-1.1
RUE	Ruedersdorf	147.06	347	ePKPdf	PKPdf	18 56 54.7	-1.3
RUE				ePKPbc	PKPbc	18 56 57.2	-1.3
RUE	Ruedersdorf	147.06	347	ePKPbc	PKPbc	18 56 57.1	-1.4
YURE	YUREGIR	147.07	306	iP	PKPbc	18 56 57.1	-1.9
ELDT	Eldivan	147.16	314	iP	PKPbc	18 56 57.9	-1.3
FKH	Fakeheh	147.27	302	eP	PKPbc	18 56 58.9	-0.8
KBI1	Birley Grange	147.29	5	eP	PKPdf	18 56 54.3	-2.0
BR131	Keskin Array S	147.36	313	ePKPdf	PKPdf	18 56 54.8	-2.1
BR131				ePKPbc	PKPbc	18 56 58.2	-1.5
STNC	Stoke	147.40	5	eP	PKPdf	18 56 56.5	-0.1
BUR08	Bucovina Ar. S	147.46	331	ePKPdf	PKPdf	18 56 55.6	-1.1
BUR08				ePKPbc	PKPbc	18 56 58.8	-0.9
BURAR	Bucovina Array	147.47	331	⇓iP	PKPdf	18 56 58.8	+2.0
BURAR	Bucovina Array	147.47	331	⇓P	PKPdf	18 56 58.8	+1.9
SBD1	Bryn Du	147.48	7	eP	PKPdf	18 56 55.4	-1.2
OJC	Ojcow	147.50	339	ePKPdf	PKPdf	18 56 55.0	-1.8
OJC				ePKPbc	PKPbc	18 56 58.3	-1.5
OJC				ePKPab	PKPab	18 57 01.0	-1.6
OJC	Ojcow	147.50	339	ePKP2	PKPab	18 57 01.0	-1.6
KWE	Weaver Farm	147.50	5	eP	PKPdf	18 56 53.8	-2.9
HWQ	Hawqa	147.62	302	eP	PKPbc	18 56 59.3	-1.4
STHS	Stebnicka Huta	147.68	337	ePKP	PKPdf	18 56 59.3	+2.2
STHS				e		18 57 03.4	
KOLS	Kolonicke sedl	147.69	335	ePKP	PKPdf	18 56 55.8	-1.3
KOLS				e		18 56 59.0	
ANTO	Ankara	147.88	313	P	PKPdf	18 57 00.4	+2.6
HLM1	Long Mynd	147.90	6	eP	PKPdf	18 56 55.5	-1.9
UZH	Uzhgorod	147.92	335	ePKIKP	PKPdf	18 56 56.0	-1.5
UZH				i		18 56 59.7	
RCY	Rachaya	147.93	300	eP	PKPbc	18 57 00.4	-1.1
BHL	Bhannes	147.96	301	eP	PKPbc	18 57 00.3	-1.2
KSP	Ksiaz	148.00	344	iPKPdf	PKPdf	18 57 00.1	+2.6
KSP	Ksiaz	148.00	344	ePKP2	PKPab	18 57 03.5	-1.1
KSP	Ksiaz	148.00	344	ePKPdf	PKPdf	18 56 55.9	-1.7
KSP				iPKPdf	PKPdf	18 57 00.1	+2.5
KSP				ePKPab	PKPab	18 57 03.5	-1.1
KSP				epPKP	pPKPdf	18 58 21.3	+11
VRI	Vrincioaia	148.00	327	⇑iP	PKPdf	18 56 59.5	+1.8
VRI	Vrincioaia	148.00	327	P	PKPdf	18 56 59.8	+2.0
NIE	Niedzica	148.01	338	ePKPdf	PKPdf	18 56 57.2	-0.4
NIE				ePKPbc	PKPbc	18 57 00.3	-0.8
CRVS	Cervenica-Dubn	148.02	336	ePKP	PKPdf	18 56 56.5	-1.2
CRVS				e		18 57 00.0	
PLOR	Plostina	148.05	327	⇑iP	PKPdf	18 56 59.6	+1.8
AEU	East Anglia Un	148.07	2	eP	PKPdf	18 56 57.8	+0.1
RAC	Raciborz	148.13	341	ePKP2	PKPab	18 57 04.5	-0.7
RAC	Raciborz	148.13	341	ePKPdf	PKPdf	18 56 56.7	-1.1
RAC				ePKPbc	PKPbc	18 57 00.5	-0.9
RAC				ePKPab	PKPab	18 57 04.5	-0.7
IBBN	Ibbenburen	148.15	354	ePKPdf	PKPdf	18 56 56.8	-1.0
IBBN				ePKPbc	PKPbc	18 56 59.9	-1.5
IBBN				ePKPab	PKPab	18 57 03.6	-1.5
HARR	Harsova	148.16	325	⇓iP	PKPbc	18 57 00.4	-1.3
HARR	Harsova	148.16	325	P	PKPbc	18 57 00.8	-0.9
MEST	Erdemli	148.27	307	iP	PKPbc	18 57 00.6	-1.7
CLZ	Clausthal	148.28	351	ePKP2	PKPbc	18 57 00.8	-0.9
CLZ	Clausthal	148.28	351	ePKPdf	PKPdf	18 56 56.4	-1.6
CLZ				ePKPbc	PKPbc	18 57 00.8	-0.9
CLZ	Clausthal	148.28	351	ePKPdf	PKPdf	18 56 56.4	-1.6
CLZ				ePKPbc	PKPbc	18 57 00.8	-0.9
HTR	Trewern Hill	148.29	7	eP	PKPdf	18 56 53.4	-4.6
CLL	Collm	148.33	348	⇓ePKHKP	PKPdf	18 56 56.0	-2.1
CLL				i		18 57 04.2	
CLL				pmax	pmax		
	comp=Z,22nm,1.2s						
CLL				pmax	pmax		
	comp=Z,203nm,0.7s						
CLL				pmax	pmax		
	comp=Z,119nm,1.1s						
CLL	Collm	148.33	348	ePKPdf	PKPdf	18 56 56.2	-1.9
CLL				ePKPbc	PKPbc	18 57 00.5	-1.4
CLL				ePKPab	PKPab	18 57 04.2	-1.7
CLL	Collm	148.33	348	⇓ePKPdf	PKPdf	18 56 56.0	-2.1
	comp=Z,22nm,1.2s						
CLL				⇓iPKPbc	PKPbc	18 57 00.6	-1.3
	comp=Z,203nm,0.7s						
CLL				⇑iPKPab	PKPab	18 57 04.2	-1.7
	comp=Z,119nm,1.1s						
CLL				ex	x	18 57 15.0	
CLL				epPKPbc	pPKPbc	18 58 22.0	+8.0
CLL				epPKPab	pPKPab	18 58 25.0	+8.8
CLL				ex	x	18 58 32.0	
CLL				esPKPdf		18 58 50.0	
CLL				ex	x	18 59 06.0	
CLL				ePP	PP	19 00 25.0	-7.7
CLL	Collm	148.33	348	⇓ePKP	PKPdf	18 56 56.0	-2.1
CLL				⇓iPKP	PKPbc	18 57 00.6	-1.3
OKC	Ostrava-Krasne	148.36	341	⇑iPKP	PKPdf	18 57 00.6	+2.4
OKC				ePKPAB	PKPab	18 57 05.0	-1.1
OKC				ex	x	18 58 16.8	
UPC	Upice	148.38	344	ePKIKP	PKPdf	18 56 56.6	-1.6
UPC				e		18 57 04.9	
UPC	Upice	148.38	344	ePKPDF	PKPdf	18 56 56.6	-1.6
UPC				⇑iPKP	PKPbc	18 57 00.9	-1.1
UPC				ePKPAB	PKPab	18 57 04.9	-1.2
UPC				epPKP	pPKPdf	18 58 25.8	+15
MCH1	Michaelchurch	148.40	7	eP	PKPdf	18 56 55.9	-2.3
DPC	Dobruska-Polom	148.44	343	ePKIKP	PKPdf	18 56 56.4	-1.9
DPC				i		18 57 01.4	
DPC	Dobruska-Polom	148.44	343	ePKPDF	PKPdf	18 56 56.4	-1.9
DPC				⇑iPKP	PKPbc	18 57 01.4	-0.8
DPC				epPKP	pPKPdf	18 58 25.8	+15
BRG	Berggiesshubel	148.54	346	iPKIKP	PKPdf	18 56 57.3	-1.2
BRG				pmax	pmax		
	comp=Z,16nm,1.2s						
BRG				pmax	pmax		
	comp=Z,67nm,0.7s						
BRG				pmax	pmax		
	comp=Z,15nm,1.2s						
BRG				pmax	pmax		
	comp=Z,11nm,1.7s						
BRG	Berggiesshubel	148.54	346	ePKPdf	PKPdf	18 56 57.0	-1.5
BRG				ePKPbc	PKPbc	18 57 01.3	-1.1
BRG	Berggiesshubel	148.54	346	iP	PKPdf	18 56 57.3	-1.2
	comp=Z,26nm,1.1s						
BRG				i		18 57 01.2	
	comp=Z,113nm,0.7s						
BRG				i		18 58 27.7	
	comp=Z,25nm,1.2s						
BRG				e		19 00 51.5	
	comp=Z,18nm,1.7s						
WTSB	Winterswijk	148.57	355	ePKP	PKPbc	18 57 00.9	-1.6
	comp=Z,243nm,0.8s						
MORC	Moravsky Berou	148.60	341	ePKPdf	PKPdf	18 56 57.2	-1.4
MORC				ePKPbc	PKPbc	18 57 01.0	-1.6
MORC				P		18 57 01.7	
ISR	Istrita	148.61	327	⇓iP	PKPbc	18 57 01.8	-1.0
ISR	Istrita	148.61	327	⇓P	PKPbc	18 57 01.8	-1.0
FBE	Freiberg	148.62	347	ePKPdf	PKPdf	18 56 57.0	-1.6
FBE				ePKPbc	PKPbc	18 57 01.7	-1.0
FBE				ePKPab	PKPab	18 57 05.8	-1.3
MLR	Muntele Rosu	148.66	328	⇓iP	PKPbc	18 57 01.1	-1.8
MLR	Muntele Rosu	148.66	328	P	PKPbc	18 57 01.6	-1.4
HENT	Hendek	148.67	316	iP	PKPbc	18 57 00.8	-2.3
PSN	Preselentsi	148.67	323	P	PKPbc	18 57 01.9	-1.1
PVCC	Panska Ves	148.72	345	ePKPDF	PKPdf	18 56 57.6	-1.2
PVCC				⇑iPKP	PKPbc	18 57 01.9	-1.0
HGH	Gray Hill	148.78	7	eP	PKPdf	18 56 56.3	-2.5
PHNC	Paralimni	148.90	304	P	PKPbc	18 57 02.3	-1.6
SWN1	Swindon	149.00	5	eP	PKPbc	18 56 56.4	-7.2
BUG	Bochum--Univer	149.05	354	ePKPdf	PKPdf	18 56 57.8	-1.5
BUG				ePKPbc	PKPbc	18 57 02.3	-1.4
HTL	Hartland	149.20	9	eP	PKPdf	18 56 57.4	-2.1
DRGR		149.21	333	⇑iP	PKPbc	18 57 02.6	-1.6
DRGR		149.21	333	P	PKPbc	18 57 03.0	-1.3
HEX	Exmoor	149.22	8	eP	PKPdf	18 56 57.7	-1.9
PRU	Pruhonice	149.23	345	ePKIKP	PKPdf	18 56 57.7	-1.9
PRU				e		18 57 07.7	
PRU	Pruhonice	149.23	345	ePKPDF	PKPdf	18 56 57.7	-1.9
PRU				⇑iPKP	PKPbc	18 57 02.9	-1.3
PRU				ePKPAB	PKPab	18 57 07.7	-1.9
PRU				epPKP	pPKPdf	18 58 23.4	+11
MOX	Moxa	149.23	349	ePKP	PKPdf	18 56 57.8	-1.8
MOX				e		18 57 02.7	
	comp=Z,193nm,1.4s						
MOX				e		18 58 23.9	
MOX	Moxa	149.23	349	ePKIKP	PKPdf	18 56 57.8	-1.8
MOX				pmax	pmax		
	comp=Z,193nm,1.4s						
MOX	Moxa	149.23	349	ePKPdf	PKPdf	18 56 57.9	-1.7
MOX				ePKPbc	PKPbc	18 57 02.9	-1.3
WOL	Wolverton	149.25	5	eP	PKPdf	18 56 57.1	-2.5
TANN	Tannenbergstha	149.29	348	ePKPdf	PKPdf	18 56 58.2	-1.5
TANN				ePKPbc	PKPbc	18 57 03.2	-1.1
TANN				ePKPab	PKPab	18 57 08.3	-1.6
TANN				epPKPbc	pPKPbc	18 58 24.3	+7.7
WERD	Werda	149.29	348	ePKPdf	PKPdf	18 56 58.1	-1.6
WERD				ePKPbc	PKPbc	18 57 03.1	-1.2
VRAC	Vranov	149.30	342	⇓iP	PKPbc	18 57 02.8	-1.6
VRAC	Vranov	149.30	342	P	PKPdf	18 57 03.3	+3.6
VYHS	Vyhne	149.31	339	ePKP	PKPdf	18 56 58.2	-1.6
VYHS				e		18 57 02.9	
VYHS				e		18 57 07.9	
UBBA	Unterbreizbach	149.33	351	ePKPdf	PKPdf	18 56 58.0	-1.7
UBBA				ePKPbc	PKPbc	18 57 03.1	-1.3
ESKT	Eskisehir	149.36	314	iP	PKPdf	18 57 01.8	+1.7
GUNZ	Gunzen	149.36	348	ePKPdf	PKPdf	18 56 58.4	-1.4
GUNZ				ePKPbc	PKPbc	18 57 03.5	-1.0
GUNZ				ePKPab	PKPab	18 57 08.6	-1.6
KOLL	Kolacno	149.38	339	ePKP	PKPbc	18 57 03.6	-1.0
PRD	Provadia	149.42	323	P	PKPbc	18 57 03.7	-1.2
PSZ	Piszkesteto	149.42	337	⇓ePKP	PKPbc	18 57 03.2	-1.5
PSZ	Piszkesteto	149.42	337	⇓iP	PKPbc	18 57 03.2	-1.5
PSZ	Piszkesteto	149.42	337	P	PKPbc	18 57 03.3	-1.4
WERN	Wernitzgruen	149.43	348	ePKPdf	PKPdf	18 56 58.3	-1.6
WERN				ePKPbc	PKPbc	18 57 03.8	-0.9
WERN				ePKPab	PKPab	18 57 09.1	-1.3
BORA	Eskisehir	149.45	315	iP	PKPdf	18 57 02.1	+1.8
CSS	Prodhromos	149.46	304	⇓P	PKPbc	18 57 03.6	-1.7
	comp=Z,0.7nm,0.5s						
CSS	Prodhromos	149.46	304	P	PKPbc	18 57 03.8	-1.5
CSS	Prodhromos	149.46	304	⇓eP	PKPbc	18 57 03.6	-1.7
NKC	Novy Kostel	149.46	348	ePKHKP	PKPdf	18 56 58.6	-1.4
NKC				e		18 57 09.2	
NKC	Novy Kostel	149.46	348	ePKPDF	PKPdf	18 56 58.6	-1.4
NKC				⇑iPKP	PKPbc	18 57 03.6	-1.1
NKC				ePKPAB	PKPab	18 57 09.2	-1.4
NKC				epPKP	pPKPdf	18 58 24.4	+11
MAMC	Mammari	149.48	305	P	PKPbc	18 57 03.8	-1.5
TFO1	Folkestone	149.57	2	P	PKPdf	18 57 01.1	+1.0
TFO1	Folkestone	149.57	2	eP	PKPdf	18 57 00.6	+0.5
TFO1				eP		18 57 01.1	
TREC	Trest	149.62	343	ePKPDF	PKPdf	18 56 58.7	-1.5
TREC				ePKPAB	PKPab	18 57 10.0	-1.3
CSA1	St Austell	149.76	10	eP	PKPdf	18 56 58.6	-1.8
MANZ	Manzenberg	149.77	348	ePKPdf	PKPdf	18 56 59.0	-1.4
MANZ				ePKPbc	PKPbc	18 57 04.4	-1.1
BEBN	Eben Emael	149.81	356	PKPbc	PKPbc	18 57 04.0	-1.6
DYA	Yadsworthy	149.82	8	eP	PKPdf	18 56 56.4	-4.2
HGN	Heimansgroeve	149.83	356	ePKP	PKPbc	18 57 04.0	-1.6
	comp=Z,111nm,1.0s						
CCA1	Carnmenellis	149.87	10	eP	PKPdf	18 56 58.0	-2.6
UCC	Uccle	149.88	358	PKPbc	PKPbc	18 57 04.3	-1.5
MODS	Modra-Piesok	149.92	340	ePKP	PKPbc	18 57 05.2	-0.7
ROTZ	Rotzenmuhle	149.96	348	ePKPdf	PKPdf	18 56 59.1	-1.6
ROTZ				ePKPbc	PKPbc	18 57 04.9	-1.0
ALFC	Alevga	149.96	305	⇓P	PKPbc	18 57 04.4	-2.0
	comp=Z,1.8nm,0.6s						
ALFC	Alevga	149.96	305	⇓iP	PKPbc	18 57 04.4	-2.0
CMA1	Manaccan	149.99	10	eP	PKPdf	18 56 59.1	-1.7
BUD	Budapest	150.10	337	⇓ePKP	PKPbc	18 57 04.9	-1.5
TNS	Taunus Mts	150.13	352	ePKPdf	PKPdf	18 56 59.6	-1.4
TNS				ePKPbc	PKPbc	18 57 05.1	-1.2
TNS				ePKPab	PKPab	18 57 12.0	-1.3
TNS	Taunus Mts	150.13	352	ePKPdf	PKPdf	18 56 59.6	-1.4
TNS				ePKPbc	PKPbc	18 57 05.1	-1.2
TNS				ePKPab	PKPab	18 57 12.0	-1.3
ZST	Bratislava	150.14	340	ePKP	PKPbc	18 57 05.0	-1.4
ZST				e		18 57 12.6	
ULDT	Uludag	150.17	317	iP	PKPbc	18 57 05.0	-1.7
SNF	Seneffe	150.17	358	PKPbc	PKPbc	18 57 05.0	-1.4
SNF				PKPab	PKPab	18 57 11.5	-2.0
SZH	Strazhica	150.19	324	P	PKPbc	18 57 05.1	-1.6
BCLA	Clavier	150.21	357	PKPbc	PKPbc	18 57 04.8	-1.7
GRA1	Grafenberg Arr	150.22	349	ePKPdf	PKPdf	18 56 59.5	-1.7
GRA1				ePKPbc	PKPbc	18 57 05.3	-1.3
GRF	Grafenberg Arr	150.22	349	ePKPdf	PKPdf	18 56 59.5	-1.7
GRF				ePKPbc	PKPbc	18 57 05.3	-1.3
PPCY	Paphos	150.25	305	P	PKPbc	18 57 04.7	-2.4
KHC	Kasperske Hory	150.26	345	ePKPDF	PKPdf	18 56 59.4	-1.8
KHC				⇑iPKP	PKPbc	18 57 05.5	-1.2
KHC				ePKPAB	PKPab	18 57 12.9	-1.0
JMB	Yambol	150.35	323	P	PKPbc	18 57 06.0	-1.1
WET	Wettzell	150.40	346	ePKPdf	PKPdf	18 56 59.6	-1.9
WET				ePKPbc	PKPbc	18 57 06.0	-1.0
WET				ePKPab	PKPab	18 57 13.2	-1.3
TKTP	Tekketepe	150.44	312	iP	PKPbc	18 57 05.0	-2.5
GEC2	GERESS Array S	150.49	345	ePKPdf	PKPdf	18 56 59.9	-1.7
GEC2				ePKPbc	PKPbc	18 57 06.0	-1.3
GEC2				ePKPab	PKPab	18 57 13.5	-1.4
GEC2				epPKPbc	pPKPbc	18 58 27.7	+8.1
GEC2	GERESS Array S	150.49	345	ePKPdf	PKPdf	18 56 59.9	-1.7
GEC2				ePKPbc	PKPbc	18 57 06.0	-1.3
GEC2				ePKPab	PKPab	18 57 13.5	-1.4
GEC2				epPKPbc	pPKPbc	18 58 27.7	+8.1
GERES	GERESS Array B	150.49	345	PKP	PKPdf	18 56 59.6	-2.0
	comp=Z,4.2nm,1.0s,baz=90,slow=1.3,SNR=27						
GERES				PKPbc	PKPbc	18 57 05.9	-1.4
	comp=Z,57nm,0.8s,baz=42,slow=2.2,SNR=202						
GERES				PKPab	PKPab	18 57 13.3	-1.6
	comp=Z,9.5nm,0.7s,baz=20,slow=3.1,SNR=12						
GDZ	Gediz	150.50	314	iP	PKPbc	18 57 05.3	-2.3
ABH	Alteburg	150.56	354	PKP	PKPdf	18 56 59.8	-1.9
DOU	Dourbes	150.57	357	PKPbc	PKPbc	18 57 06.1	-1.3
TOD	Tromm	150.69	352	PKIKP	PKPdf	18 57 00.3	-1.6
CONA	Conrad Observa	150.75	342	⇑iPKPdf	PKPdf	18 57 00.8	-1.3
	comp=Z,13nm,1.7s						
CONA				⇓iPKiKP	PKiKP	18 57 06.7	-1.7
	comp=Z,103nm,1.1s,SNR=22						
CONA				⇓iPKPab	PKPab	18 57 15.5	-0.5
	comp=Z,47nm,0.7s						
SOP	Sopron	150.76	341	⇓ePKP	PKPbc	18 57 06.5	-1.4
RUP	Ruppelstein	150.79	354	PKIKP	PKPdf	18 57 00.5	-1.5
DURS	Dursunbey	150.89	316	iP	PKPab	18 57 14.4	-2.5
WLF	Walferdange	150.91	355	PKP	PKPdf	18 57 01.6	-0.7
WLF				PKPbc	PKPbc	18 57 07.3	-0.8
WLF				PKPab	PKPab	18 57 14.7	-1.9
WLF	Walferdange	150.91	355	ePKPdf	PKPdf	18 57 01.0	-1.2
WLF				ePKPbc	PKPbc	18 57 07.5	-0.7
WLF				ePKPab	PKPab	18 57 15.3	-1.3
WLF	Walferdange	150.91	355	ePKPbc	PKPbc	18 57 06.8	-1.3
DEMI	Demirci	151.03	315	iP	PKPbc	18 57 05.8	-3.1
KTD	Kalmit	151.06	353	PKIKP	PKPdf	18 57 01.7	-0.8
JSA	Saint Aubin	151.26	7	eP	PKPdf	18 57 01.2	-1.6
MOA	Molln	151.27	344	⇑iPKPdf	PKPdf	18 57 01.0	-1.8
	comp=Z,5.2nm,0.8s						
MOA				⇓iPKPbc	PKPbc	18 57 07.5	-1.6
	comp=Z,39nm,1.1s,SNR=9.3						
MOA				⇓iPKPab	PKPab	18 57 17.9	-0.2
	comp=Z,62nm,1.4s						
PKSM	Moragy	151.32	336	⇑iP	PKPdf	18 57 07.2	+4.2
LANF	Langenberg	151.42	353	PKP	PKPdf	18 57 01.5	-1.5
STU	Stuttgart	151.44	351	ePKPdf	PKPdf	18 57 01.7	-1.4
STU				ePKPbc	PKPbc	18 57 08.1	-1.4
STU				ePKPab	PKPab	18 57 17.3	-1.6
STU	Stuttgart	151.44	351	ePKPdf	PKPdf	18 57 01.7	-1.4
STU				ePKPbc	PKPbc	18 57 07.8	-1.6
ARSA	Arzberg	151.46	341	⇑ePKPdf	PKPdf	18 57 01.3	-1.9
	comp=Z,3.6nm,0.7s						
ARSA				⇑iPKiKP	PKiKP	18 57 08.0	-1.9
	comp=Z,20nm,1.0s						
ARSA				⇓iPKPab	PKPab	18 57 17.8	-1.2
	comp=Z,24nm,0.9s						
DNZL	Cakiroluk	151.49	312	iP	PKPbc	18 57 07.5	-2.4
KDZ	Kurdzhali	151.54	322	P	PKPbc	18 57 08.1	-1.8
ALN	Alexandroupoli	151.65	321	P	PKPbc	18 57 07.8	-2.4
FUR	Furstenfeldbru	151.67	348	ePKPdf	PKPdf	18 57 02.0	-1.4
FUR				ePKPbc	PKPbc	18 57 08.5	-1.5
FUR				ePKPab	PKPab	18 57 18.4	-1.4
RJOB	Jochberg	151.74	345	ePKPbc	PKPbc	18 57 08.4	-1.8
AKAS	Kas	151.77	309	iP	PKPbc	18 57 08.0	-2.6
STR	Strasbourg	151.82	353	PKP	PKPdf	18 57 01.7	-1.9
FLN	La Foliniere	151.84	4	ePKIKP	PKPdf	18 57 01.7	-2.0
	comp=Z,77nm,1.1s						
RZN	Rozhen	151.91	323	P	PKPbc	18 57 08.9	-1.8
ROSF	Rostrenen	151.97	8	ePKIKP	PKPdf	18 57 02.4	-1.5
BFO	Black Forest	152.00	352	ePKPdf	PKPdf	18 57 02.3	-1.6
BFO				ePKPbc	PKPbc	18 57 09.2	-1.5
BFO				ePKPab	PKPab	18 57 19.3	-1.9
LDF	La Druitiere	152.03	4	ePKIKP	PKPdf	18 57 01.8	-2.1
	comp=Z,50nm,1.1s						
CDF	Champ du Feu	152.04	353	ePKIKP	PKPdf	18 57 01.9	-2.1
VTS	Vitosha	152.10	326	⇓iP	PKPbc	18 57 09.5	-1.6
SOKA	Soboth	152.12	342	⇓iPKPdf	PKPdf	18 57 01.6	-2.5
	comp=Z,7.8nm,1.0s						
SOKA				⇑iPKPbc	PKPbc	18 57 08.7	-2.3
	comp=Z,36nm,0.9s						
SOKA				⇑iPKPab	PKPab	18 57 20.6	-1.2
	comp=Z,50nm,0.9s						
MEZF	Maizieres J'vi	152.14	357	ePKIKP	PKPdf	18 57 02.5	-1.6
SGMF	Saint Gilles	152.14	7	ePKIKP	PKPdf	18 57 01.7	-2.4
SPAK	Spaichingen-Ko	152.16	351	PKP	PKPdf	18 57 01.9	-2.3
GRR	Gorron	152.18	5	ePKIKP	PKPdf	18 57 02.2	-2.0
TURN	Turunc	152.19	311	iP	PKPbc	18 57 09.5	-2.1
KBA	Koelnbreinsper	152.22	344	⇑iPKPdf	PKPdf	18 57 02.3	-2.0
	comp=Z,6.3nm,0.6s						
KBA				⇑iPKPbc	PKPbc	18 57 09.4	-1.9
	comp=Z,41nm,1.1s						
KBA				⇑iPKPab	PKPab	18 57 21.0	-1.2
	comp=Z,42nm,0.7s						
ECH	Echery	152.25	353	PKIKP	PKPdf	18 57 02.9	-1.4
ECH				e		18 57 08.4	
LIBD	Limburg	152.27	353	PKIKP	PKPdf	18 57 01.7	-2.6
THEF	They Montfort	152.35	355	PKP	PKPdf	18 57 02.9	-1.5
QUIF	Quistinic	152.39	8	ePKIKP	PKPdf	18 57 02.4	-2.1
WATA	Walderalm	152.40	347	⇓iPKPdf	PKPdf	18 57 03.1	-1.5
	comp=Z,6.6nm,0.7s						
WATA				⇑iPKiKP	PKiKP	18 57 10.1	-1.7
	comp=Z,15nm,0.6s						
OBKA	Obir	152.42	342	⇑iPKPdf	PKPdf	18 57 02.6	-2.0
	comp=Z,6.7nm,0.9s						
OBKA				⇑iPKPbc	PKPbc	18 57 09.2	-2.5
	comp=Z,16nm,0.8s						
OBKA				⇑iPKPab	PKPab	18 57 21.6	-1.4
	comp=Z,24nm,0.9s						
RETA	Reutte	152.42	348	⇑iPKPdf	PKPdf	18 57 02.9	-1.7
	comp=Z,6.1nm,1.1s						
RETA				⇓iPKPbc	PKPbc	18 57 09.9	-1.8
	comp=Z,39nm,1.3s						
RETA				⇑iPKPab	PKPab	18 57 21.7	-1.3
	comp=Z,31nm,0.9s						
WTTA	Wattenberg	152.45	347	⇓iPKPdf	PKPdf	18 57 02.7	-1.9
	comp=Z,16nm,0.9s						
WTTA				⇑iPKPbc	PKPbc	18 57 09.9	-1.9
	comp=Z,60nm,0.8s						
WTTA				⇑iPKPab	PKPab	18 57 22.2	-0.9
	comp=Z,43nm,0.9s						
FELD	Feldberg im Sc	152.49	352	PKP	PKPdf	18 57 01.7	-3.0
MOTA	Moosalm	152.49	347	⇑iPKPdf	PKPdf	18 57 03.0	-1.7
	comp=Z,9.9nm,0.8s						
MOTA				⇑iPKiKP	PKiKP	18 57 10.4	-1.6
	comp=Z,52nm,1.1s						
MOTA				⇓iPKPab	PKPab	18 57 22.3	-1.0
	comp=Z,31nm,0.7s						
DIVS	Divibare	152.51	332	P	PKPbc	18 57 10.5	-1.5
MMB	Musomiste	152.52	324	P	PKPbc	18 57 09.8	-2.3
HAU	Haudompre	152.54	355	ePKIKP	PKPdf	18 57 03.0	-1.7
MYKA	Terra Mystica	152.56	343	⇑iPKPdf	PKPdf	18 57 02.6	-2.2
	comp=Z,14nm,0.9s						
MYKA				⇓iPKPbc	PKPbc	18 57 09.8	-2.3
	comp=Z,29nm,0.8s						
MYKA				⇑iPKPab	PKPab	18 57 22.1	-1.5
	comp=Z,200nm,1.6s						
SQTA	Sankt Quirin	152.59	347	⇑iPKPdf	PKPdf	18 57 03.3	-1.5
	comp=Z,9.6nm,0.8s						
SQTA				⇑iPKiKP	PKiKP	18 57 10.8	-1.5
	comp=Z,29nm,0.8s						
MOF	Molkenrain	152.61	353	PKP	PKPdf	18 57 01.7	-3.1
HINF	Hinteralfeld	152.68	354	ePKIKP	PKPdf	18 57 03.0	-1.9
KKB	Krupnik	152.68	325	P	PKPbc	18 57 10.4	-2.0
ABTA	Abfaltersbach	152.74	345	⇓iPKPdf	PKPdf	18 57 02.7	-2.4
	comp=Z,20nm,0.8s,SNR=16						
ABTA				⇓iPKPbc	PKPbc	18 57 10.3	-2.1
	comp=Z,51nm,0.7s						
ABTA				⇑iPKPab	PKPab	18 57 22.7	-1.7

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
	comp=Z,26nm,0.9s						
DAVA	**Damuels**	**152.78**	**349**	⇓*i*PKPdf	PKPdf	18 57 03.3	-1.8
	comp=Z,9.6nm,1.1s						
DAVA				⇑*i*PKiKP	PKiKP	18 57 11.4	-1.3
	comp=Z,74nm,1.2s,SNR=9.2						
DAVA				⇓*i*PKPab	PKPab	18 57 22.9	-1.6
	comp=Z,16nm,0.6s						
LJU	**Ljubljana**	**152.85**	**342**	*i* PKIKP	PKPdf	18 57 02.8	-2.4
LJU				*i*		18 57 22.7	
LJU	**Ljubljana**	**152.85**	**342**	*i* PKPdf	PKPdf	18 57 02.8	-2.4
LJU				*i* PKPbc	PKPbc	18 57 10.9	-1.7
LJU				*i* PKPab	PKPab	18 57 22.7	-2.1
LJU				*i*		18 58 33.7	
FETA	**Feichten**	**152.87**	**348**	⇑*i*PKPdf	PKPdf	18 57 03.9	-1.4
	comp=Z,20nm,0.8s,SNR=16						
FETA				⇓*i*PKiKP	PKiKP	18 57 11.4	-1.4
	comp=Z,40nm,1.1s						
FETA				⇑*i*PKPab	PKPab	18 57 23.8	-1.2
	comp=Z,42nm,0.9s						
BDRM	**Kayabasi**	**152.91**	**312**	*i* P	PKPdf	18 57 03.3	-2.3
BBS	**Basel-Blauen**	**152.95**	**353**	PKIKP	PKPdf	18 57 03.1	-2.2
VOY	**Vojsko**	**153.04**	**343**	*e*PKPdf	PKPdf	18 57 03.4	-2.1
VOY				*e*PKPbc	PKPbc	18 57 10.7	-2.4
VOY				*e*PKPab	PKPab	18 57 23.3	-2.4
BOJS	**Bojanci**	**153.11**	**340**	*i* PKPdf	PKPdf	18 57 04.0	-1.7
BOJS				*i* PKPbc	PKPbc	18 57 11.8	-1.5
BOJS				*e*PKPab	PKPab	18 57 24.0	-2.0
BOJS				*i*		18 58 37.3	
JAVS	**Javornik**	**153.12**	**342**	*i* PKPdf	PKPdf	18 57 04.3	-1.3
JAVS				*i* PKPbc	PKPbc	18 57 11.2	-2.0
JAVS				*i* PKPab	PKPab	18 57 24.0	-2.0
JAVS				*i*		18 58 37.4	
CHOS	**Chios island**	**153.13**	**316**	P	PKPbc	18 57 11.8	-1.8
LOMF	**Lomont**	**153.14**	**354**	PKP	PKPdf	18 57 03.8	-1.8
LOR	**Lormes**	**153.42**	**358**	*e*PKIKP	PKPdf	18 57 04.3	-1.7
	comp=Z,27nm,1.1s						
HYF	**Humbligny**	**153.44**	**360**	*e*PKIKP	PKPdf	18 57 04.6	-1.5
SSF	**Saint Saulge**	**153.64**	**359**	*e*PKIKP	PKPdf	18 57 04.5	-1.8
	comp=Z,52nm,1.3s						
TUE	**Stuetta**	**153.66**	**349**	*e*PKPdf	PKPdf	18 57 04.9	-1.5
TUE				*e*PKPbc	PKPbc	18 57 12.6	-1.8
GRG	**Griva**	**153.68**	**325**	P	PKPbc	18 57 12.0	-2.7
AVF	**Avril sur Loir**	**153.91**	**359**	*e*PKIKP	PKPdf	18 57 04.5	-2.2
	comp=Z,24nm,1.3s						
CABF	**La Chapelle**	**153.94**	**355**	*e*PKIKP	PKPdf	18 57 05.5	-1.3
	comp=Z,48nm,1.2s						
MFF	**Saint Martin d**	**154.01**	**4**	*e*PKIKP	PKPdf	18 57 04.8	-2.1
SMF	**Signal de Mont**	**154.05**	**358**	*e*PKIKP	PKPdf	18 57 04.9	-2.0
	comp=Z,49nm,1.4s						
BGF	**Bois d'Agland**	**154.15**	**360**	*e*PKIKP	PKPdf	18 57 05.3	-1.8
	comp=Z,35nm,1.0s						
APE	**Apeiranthos**	**154.21**	**314**	P	PKPbc	18 57 12.9	-3.0
LIT	**Litokhoron**	**154.22**	**323**	P	PKPab	18 57 30.6	-0.4
FNA	**Florina**	**154.35**	**326**	P	PKPbc	18 57 14.0	-2.1
TCF	**Toulx Ste Croi**	**154.42**	**1**	*e*PKIKP	PKPdf	18 57 05.5	-2.0
	comp=Z,50nm,1.1s						
OG05	**Jujurieux**	**154.56**	**355**	PKP	PKPdf	18 57 06.0	-1.7
SANT	**Santorini**	**154.63**	**313**	P	PKPbc	18 57 13.9	-2.9
THR1	**Thera Island**	**154.63**	**313**	P	PKPbc	18 57 13.9	-2.9
THR3	**Thira Island,**	**154.65**	**313**	P	PKPbc	18 57 14.3	-2.6
AGO	**Saint Agoulin**	**154.66**	**359**	PKP	PKPdf	18 57 05.3	-2.5
THR5	**Thira Island,**	**154.68**	**313**	P	PKPbc	18 57 14.3	-2.6
TIR	**Tirane**	**154.71**	**329**	*e*PKP2	PKPab	18 57 31.2	-1.8
PLDF	**La Plantade**	**154.73**	**358**	PKP	PKPdf	18 57 06.0	-1.9
ZKR	**Zakros**	**154.73**	**310**	P	PKPbc	18 57 15.3	-1.8
PYM	**Petit Puy Mans**	**154.96**	**359**	PKP	PKPdf	18 57 06.5	-1.7
LPL	**La Plagne**	**154.96**	**353**	*e*PKIKP	PKPdf	18 57 07.0	-1.2
	comp=Z,24nm,1.2s						
LPG	**La Plagne**	**154.98**	**353**	*e*PKIKP	PKPdf	18 57 07.1	-1.2
	comp=Z,22nm,1.2s						
AGG	**Agios Georgios**	**155.04**	**321**	P	PKPdf	18 57 14.9	+6.3
LAST	**Lasithi**	**155.24**	**311**	P	PKPdf	18 57 16.8	+7.9
SSB	**Saint Sauveur**	**155.38**	**357**	*e*PKIKP	PKPdf	18 57 06.8	-2.0
RJF	**Les Rejaudoux**	**155.39**	**2**	*e*PKIKP	PKPdf	18 57 07.0	-1.8
	comp=Z,47nm,1.1s						
BNI	**Bardonecchia**	**155.43**	**353**	*e*PKIKP	PKPdf	18 57 08.0	-0.9
DID	**Didima**	**155.45**	**318**	P	PKPdf	18 57 15.5	+6.3
LBL	**Lubilhac**	**155.47**	**359**	PKP	PKPdf	18 57 07.4	-1.5
ORIF	**Oris-en-Rattie**	**155.64**	**354**	*e*PKIKP	PKPdf	18 57 07.5	-1.7
	comp=Z,20nm,1.1s						
LFF	**La Frestale**	**155.72**	**3**	*e*PKIKP	PKPdf	18 57 07.4	-1.9
EMAZ	**Mazaricos**	**155.72**	**21**	PKP	PKPdf	18 57 07.1	-2.2
EMAZ				PKPab	PKPab	18 57 34.0	-3.3
MBDF	**Montbardon**	**155.74**	**353**	*e*PKIKP	PKPdf	18 57 07.6	-1.7
	comp=Z,40nm,1.2s						
CAF	**Calviac**	**155.78**	**1**	*e*PKIKP	PKPdf	18 57 07.8	-1.5
	comp=Z,31nm,1.1s						
VIVF	**Saint-Julien-l**	**155.79**	**356**	*e*PKIKP	PKPdf	18 57 07.9	-1.5
	comp=Z,27nm,1.3s						
STS	**Santiago**	**155.92**	**20**	PKIKP	PKPdf	18 57 06.9	-2.7
STS						18 57 34.8	
EPON	**Pontenova**	**155.95**	**18**	PKP	PKPdf	18 57 07.5	-2.2
EPON				PKPab	PKPab	18 57 34.8	-3.4
SAOF	**Saorge**	**156.36**	**351**	PKP	PKPdf	18 57 08.5	-1.6
AUTN	**L'Aution**	**156.37**	**351**	PKP	PKPdf	18 57 08.2	-2.0
TOUF	**Mont Tournerai**	**156.38**	**352**	PKP	PKPdf	18 57 07.9	-2.3
EARI	**Arriondas**	**156.48**	**14**	PKP	PKPdf	18 57 07.8	-2.5
EARI				PKPab	PKPab	18 57 36.7	-3.8
LUCF	**Luceram**	**156.49**	**351**	PKP	PKPdf	18 57 08.4	-1.9
SBF	**Sospel**	**156.50**	**351**	*e*PKIKP	PKPdf	18 57 08.0	-2.3
	comp=Z,34nm,1.0s						
MVIF	**Mont Vial**	**156.51**	**352**	PKP	PKPdf	18 57 08.4	-1.9
EZAM	**Zamans**	**156.53**	**21**	PKIKP	PKPdf	18 57 13.2	+2.8
SMRF	**Simiane la Rot**	**156.60**	**355**	*e*PKIKP	PKPdf	18 57 09.2	-1.3
	comp=Z,15nm,0.9s						
LASF	**Ste Croix**	**156.61**	**358**	*e*PKIKP	PKPdf	18 57 09.0	-1.5
	comp=Z,50nm,1.3s						
CALN	**Calern**	**156.68**	**352**	PKP	PKPdf	18 57 08.2	-2.4
ERUA	**La Rua**	**156.81**	**19**	PKP	PKPdf	18 57 08.4	-2.3
ERUA				PKPab	PKPab	18 57 39.6	-2.3
FRF	**La Foret Royal**	**156.90**	**353**	*e*PKIKP	PKPdf	18 57 08.7	-2.1
	comp=Z,24nm,0.9s						
ELAN	**Lanestosa**	**156.91**	**11**	PKP	PKPdf	18 57 08.2	-2.7
ELAN				PKPab	PKPab	18 57 39.2	-3.2
ELOB	**Lobios**	**157.00**	**21**	PKP	PKPdf	18 57 05.2	-5.9
ELOB				PKPab	PKPab	18 57 39.1	-3.7
LMR	**La Mourre**	**157.14**	**353**	*e*PKIKP	PKPdf	18 57 09.1	-2.1
EALK	**Alkurruntz**	**157.23**	**8**	PKP	PKPdf	18 57 05.9	-5.3
EALK				PKPab	PKPab	18 57 40.3	-3.4
ECAL	**Calabor**	**157.34**	**18**	PKP	PKPdf	18 57 09.0	-2.4
ECAL				PKPab	PKPab	18 57 41.8	-2.4
SJPF	**Ste Jean**	**157.37**	**7**	*e*PKIKP	PKPdf	18 57 12.2	+0.8
	comp=Z,7.4nm,0.9s						
MTLF	**Montolieu**	**157.37**	**1**	*e*PKIKP	PKPdf	18 57 09.7	-1.7
	comp=Z,23nm,1.1s						
PBRG	**Braganca**	**157.47**	**18**	*e*PKPdf	PKPdf	18 57 10.3	-1.3
PBRG	**Braganca**	**157.47**	**18**	*e*PKPab	PKPab	18 57 43.6	-1.2
PGF	**Pioggiola**	**157.51**	**348**	*e*PKIKP	PKPdf	18 57 10.6	-1.0
	comp=Z,20nm,0.9s						
EPF	**Esparros**	**157.60**	**4**	*e*PKIKP	PKPdf	18 57 10.3	-1.4
	comp=Z,20nm,1.0s						
ETSF	**Etsaut**	**157.65**	**6**	*e*PKIKP	PKPdf	18 57 11.4	-0.4
	comp=Z,14nm,0.8s						
EBIE	**Bielsa**	**157.93**	**5**	PKP	PKPdf	18 57 10.1	-2.1
EBIE				PKPab	PKPab	18 57 44.3	-2.4
MVO	**Moncorvo**	**157.96**	**20**	*e*PKPdf	PKPdf	18 57 11.3	-0.9
MVO	**Moncorvo**	**157.96**	**20**	*e*PKPab	PKPab	18 57 45.3	-1.7
PVIS	**Viseu**	**158.08**	**22**	*e*PKPab	PKPab	18 57 46.1	-1.4
MTE	**Manteigas**	**158.48**	**22**	*e*PKPdf	PKPdf	18 57 11.8	-1.1
MTE	**Manteigas**	**158.48**	**22**	*e*PKPab	PKPab	18 57 47.7	-1.5
MTE	**Manteigas**	**158.48**	**22**	*e*PKPdf	PKPdf	18 57 11.3	-1.6
PTOM	**Tomar**	**158.85**	**24**	*e*PKPab	PKPab	18 57 49.6	-1.3
PCBR	**Castelo Branco**	**159.00**	**22**	*e*PKPdf	PKPdf	18 57 12.6	-0.9
PCBR	**Castelo Branco**	**159.00**	**22**	*e*PKPab	PKPab	18 57 49.9	-1.6
GUD	**Guadarrama**	**159.25**	**15**	PKIKP	PKPdf	18 57 12.9	-0.9
GUD						18 57 50.2	
PMRV	**Marv??o**	**159.40**	**22**	*e*PKPdf	PKPdf	18 57 11.4	-2.6
PMRV	**Marv??o**	**159.40**	**22**	*e*PKPab	PKPab	18 57 51.4	-1.8
ERTA	**Horta de San J**	**159.66**	**5**	PKP	PKPdf	18 57 11.7	-2.5
ERTA				PKPab	PKPab	18 57 48.6	-5.7
PESTR	**Estremoz**	**159.82**	**24**	*e*PKPdf	PKPdf	18 57 13.0	-1.5
PESTR	**Estremoz**	**159.82**	**24**	*e*PKPab	PKPab	18 57 53.2	-1.9
EVO	**Evora**	**159.95**	**25**	*e*PKIKP	PKPdf	18 57 12.3	-2.4
	comp=Z,76nm,1.3s						
EVO	**Evora**	**159.95**	**25**	*e*PKPdf	PKPdf	18 57 13.3	-1.4
EVO	**Evora**	**159.95**	**25**	*e*PKPab	PKPab	18 57 54.0	-1.7
EBAD	**Badajoz**	**160.13**	**23**	PKP	PKPdf	18 57 11.8	-3.1
EBAD				PKPab	PKPab	18 57 53.2	-3.2
EMOS	**Mosqueruela**	**160.17**	**7**	PKP	PKPdf	18 57 12.4	-2.4
EMOS				PKPab	PKPab	18 57 53.0	-3.5
ESDC	**Sonseca Array**	**160.21**	**15**	PKP	PKPdf	18 57 13.5	-1.4
	comp=Z,4.0nm,1.0s,baz=354,slow=3.2,SNR=15						
ESDC				PKPab	PKPab	18 57 55.4	-1.4
	comp=Z,2.1nm,0.6s,baz=351,slow=4.4,SNR=11						
ESDC				PP	PP	19 01 35.0	-3.9
	comp=Z,3.9nm,1.0s,baz=329,slow=4.9,SNR=8.3						
ESDC	**Sonseca Array**	**160.21**	**15**	PKP	PKPdf	18 57 12.9	-2.0
ESDC				PKPab	PKPab	18 57 53.1	-3.7
PTEO	**Sao Teotonio**	**160.49**	**28**	*e*PKPab	PKPab	18 57 56.5	-1.6
PBAR	**Barrancos**	**160.63**	**23**	*e*PKPdf	PKPdf	18 57 14.1	-1.3
PBAR	**Barrancos**	**160.63**	**23**	*e*PKPab	PKPab	18 57 57.0	-1.7
MORF	**Marmelete**	**160.72**	**28**	*e*PKPdf	PKPdf	18 57 14.2	-1.3
MORF	**Marmelete**	**160.72**	**28**	*e*PKPab	PKPab	18 57 57.7	-1.4
ETOS	**Mallorca**	**160.94**	**360**	PKP	PKPdf	18 57 13.3	-2.4
ETOS				PKPab	PKPab	18 57 56.8	-3.2
CCAN	**Las Canadas**	**160.96**	**63**	PKP	PKPdf	18 57 15.1	-1.0
EGRO	**El Granado**	**161.02**	**25**	PKP	PKPdf	18 57 12.3	-3.5
EGRO				PKPab	PKPab	18 57 57.1	-3.3
PVAQ	**Vaqueiros**	**161.04**	**26**	*e*PKPab	PKPab	18 57 59.1	-1.4
PBDV	**Barranco-do-Ve**	**161.08**	**27**	*e*PKPdf	PKPdf	18 57 15.5	-0.4
PBDV	**Barranco-do-Ve**	**161.08**	**27**	*e*PKPab	PKPab	18 57 59.8	-0.9
EMIN	**Mina Concepcio**	**161.13**	**23**	PKP	PKPdf	18 57 13.7	-2.3
EMIN				PKPab	PKPab	18 57 58.2	-2.7
ECAB	**El Cabril**	**161.29**	**20**	PKP	PKPdf	18 57 13.6	-2.6
ECAB				PKPab	PKPab	18 57 58.0	-3.6
EADA	**Adamuz**	**161.46**	**18**	PKP	PKPdf	18 57 13.1	-3.2
EADA				PKPab	PKPab	18 57 59.2	-3.1
EVIA	**Vianos**	**161.53**	**13**	PKIKP	PKPdf	18 57 14.0	-2.3
EVIA						18 58 00.5	
EIBI	**Ibiza**	**161.65**	**3**	PKP	PKPdf	18 57 14.1	-2.4
EIBI				PKPab	PKPab	18 58 00.3	-2.7
EBAN	**Banos Encina**	**161.68**	**16**	PKIKP	PKPdf	18 57 14.6	-1.9
EBAN						18 58 01.3	
ETOB	**Tobarra**	**161.70**	**10**	PKP	PKPdf	18 57 14.1	-2.4
ETOB				PKPab	PKPab	18 58 00.8	-2.5
EBEN	**Beniarda**	**161.84**	**7**	PKP	PKPdf	18 57 13.3	-3.3
EBEN				PKPab	PKPab	18 58 01.6	-2.3
EOSO	**Osorio**	**161.88**	**62**	PKP	PKPdf	18 57 15.5	-1.6
EQES	**Quesada**	**162.20**	**15**	PKP	PKPdf	18 57 14.2	-2.9
ESPR	**Espera**	**162.22**	**23**	PKP	PKPdf	18 57 15.5	-1.6
ESPR				PKPab	PKPab	18 58 03.6	-2.1
EHUE	**Huescar**	**162.30**	**14**	PKIKP	PKPdf	18 57 15.0	-2.2
EHUE						18 58 03.4	
ELOJ	**Sierra Loja**	**162.53**	**18**	PKIKP	PKPdf	18 57 15.1	-2.3
ELOJ						18 58 06.0	
ECOG	**Cogollos-Vega**	**162.57**	**17**	PKIKP	PKPdf	18 57 14.9	-2.5
EJIF	**Jimena Fronter**	**162.74**	**22**	PKIKP	PKPdf	18 57 16.5	-1.1
EJIF						18 58 06.2	
EMIJ	**Mijas**	**162.87**	**21**	PKP	PKPdf	18 57 15.0	-2.7
EMIJ				PKPab	PKPab	18 58 06.0	-2.5
EGUA	**Guajares**	**162.99**	**17**	PKIKP	PKPdf	18 57 15.0	-2.9
EGUA						18 58 06.1	
EBER	**Berja**	**163.11**	**15**	PKP	PKPdf	18 57 15.3	-2.7
EBER				PKPab	PKPab	18 58 07.0	-2.5
ENIJ	**Nijar**	**163.20**	**13**	PKIKP	PKPdf	18 57 16.0	-2.1
KEST	**Kesra**	**163.85**	**340**	PKP	PKPdf	18 57 16.1	-2.7
	comp=Z,2.2nm,1.1s,baz=79,slow=16,SNR=3.6						
KEST				PKPab	PKPab	18 58 11.6	-1.3
	comp=Z,7.6nm,1.0s,baz=292,slow=1.4,SNR=12						
LIC	**Lamto**	**163.86**	**152**	*e*PKIKP	PKPdf	18 57 17.1	-2.3
	comp=Z,126nm,1.1s						
LIC	**Lamto**	**163.86**	**152**	*e*PKIKP	PKPdf	18 57 16.7	-2.7
	comp=Z,154nm,1.1s						
LIC	**Lamto**	**163.86**	**152**	*e*P	PKPab	18 58 13.1	-0.3
	comp=Z,64nm,1.1s						
EALB	**Alboran**	**163.97**	**17**	PKP	PKPdf	18 57 15.3	-3.5
KIC	**Kosan Boka**	**164.11**	**152**	*e*PKIKP	PKPdf	18 57 17.0	-2.6
	comp=Z,221nm,1.0s						
KIC	**Kosan Boka**	**164.11**	**152**	*e*P	PKPab	18 58 14.4	-0.1
	comp=Z,172nm,1.1s						
TIC	**Toumodi**	**164.24**	**151**	*e*PKIKP	PKPdf	18 57 17.3	-2.4
	comp=Z,244nm,1.1s						
TIC	**Toumodi**	**164.24**	**151**	*e*P	PKPab	18 58 14.6	-0.5
	comp=Z,124nm,1.0s						
DBIC	**Dimbokro**	**164.33**	**151**	PKP	PKPdf	18 57 17.8	-2.0
	comp=Z,35nm,1.0s,baz=188,slow=1.7,SNR=17						
DBIC				PKPab	PKPab	18 58 15.7	+0.2
	comp=Z,13nm,1.0s,baz=150,slow=7.2,SNR=4.1						
DBIC	**Dimbokro**	**164.33**	**151**	*e*PKPdf	PKPdf	18 57 17.8	-2.0
TORD	**Torodi Ar. Bea**	**172.49**	**173**	PKP	PKPdf	18 57 22.5	-2.6
	comp=Z,24nm,1.0s,baz=328,slow=0.9,SNR=73						
TORD				PKPab	PKPab	18 58 49.6	-1.8
	comp=Z,7.3nm,0.9s,baz=182,slow=2.1,SNR=8.0						
TORD				pPKPab	pPKPab	19 00 08.2	+7.3
	comp=Z,13nm,1.1s,baz=189,slow=4.2,SNR=6.3						
TORD				PP	PP	19 02 42.2	+0.5
	comp=Z,2.9nm,1.1s,baz=180,slow=4.5,SNR=4.5						
TAM	**Tamanrasset**	**176.56**	**309**	*e*PKIKP	PKPdf	18 57 25.5	-0.6

*NEIC **08** 18:43:19.8, 1793N×9894W, h55km, MD3.9(MEX), After MEX.*

MEX 08 18:43:20.1±0.7**, 1794N**×**9893W, h53**km±15km**, MD3.9, 1C, Guerrero**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLIG	**Platanillo**	**0.71**	**309**	*i* P	Pn	18 43 33.0	-1.0
PLIG				*i* S	Sn	18 43 42.9	-1.4
YAIG	**Yautepec**	**0.92**	**352**	*i* P	Pn	18 43 35.2	-1.7
YAIG				*i* S	Sn	18 43 46.8	-2.4
UTMO	**Huajuapan**	**1.07**	**96**	*i* P	Pn	18 43 37.8	-1.1
UTMO				*i* S	Sn	18 43 51.1	-1.7
PPM	**Popocatepetl**	**1.15**	**14**	*i* P	Pn	18 43 38.6	-1.4
PPM				*i* P		18 43 39.2	
PPM				*i* S	Sn	18 43 53.0	-1.7
PPM				*i* S	Sn	18 43 54.0	-0.7
PPM	**Popocatepetl**	**1.15**	**14**	*i* P	Pn	18 43 38.6	-1.4
PPM				*i* S	Sn	18 43 53.0	-1.7
MZVM		**1.27**	**347**	*i* P	Pn	18 43 40.9	-0.7
MZVM				*i* S	Sn	18 43 55.8	-1.9
ACX	**Acapulco**	**1.43**	**222**	*i* P	Pn	18 43 41.3	-2.4
ACX				*i* S	Sn	18 43 58.0	-3.4
TPIG	**Tehuac#an**	**1.56**	**72**	*i* P	Pn	18 43 43.9	-1.6
TPIG				*i* S	Sn	18 44 03.4	-1.2
IIO	**Organos**	**1.65**	**7**	*i* P	Pn	18 43 46.3	-0.4
PTVM	**Pico Tres Padr**	**1.65**	**354**	*i* P	Pn	18 43 44.9	-1.8
PTVM				*i* S	Sn	18 44 05.3	-1.5
PNIG	**Pinotepa**	**1.72**	**154**	⇑*i*P	Pn	18 43 46.8	-0.9
PNIG				*i* S	Sn	18 44 06.3	-2.2

*ISCJB **08** 18:52:22.7±0.4, 2805N±005×1397E±0.1, h496km±6km, mb3.8/24, Error ellipse: s-maj=15.0km s-min=6.7km az=170.0*

*NEIC **08** 18:52:22.5±1.3, 2804N×13970E, h478km±15km, mb4.0/1, Error ellipse: s-maj=15.6km s-min=10.0km az=78.0*

*IDC **08** 18:52:23.1±0.6, 2805N×13971E, h485km±8km, mb3.1/13, mb1 3.2/15, mb1mx3.2/22, mbtmp3.1/15, Error ellipse: s-maj=16.9km s-min=10.4km az=75.0*

*JMA **08** 18:52:23.3±0.2, 28.13N×14033E, h515km, M4.4*

ISC 08 18:52:23.5±0.4**, 2810N**±005×**1397E**±01**, h488**km±6km**, n40,** σ**1**s**04**/45**, mb3.8**/24**, Bonin Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**2.41**	**114**	P	**P**	**18 53 30.9**	**+1.1**
	31nm,0.3s,baz=286,slow=22,SNR=6.0						
CBIJ				S	**S**	**18 54 22.3**	**-1.3**
	96nm,0.3s,baz=306,slow=23,SNR=10						
CBIJ	**Chichi jima**	**2.41**	**114**	P	**P**	**18 53 29.7**	**-0.1**
CBIJ				S	**S**	**18 54 22.1**	**-1.5**
JHHJ	**Haha-jima-NKT**	**2.64**	**123**	P	**P**	**18 53 31.4**	**+0.2**
JHHJ				S	**S**	**18 54 26.7**	**+0.6**
JHJ2	**Mitsune**	**5.00**	**1**	P	**P**	**18 53 51.4**	**+1.8**
BSO3	**Boso 3**	**6.72**	**6**	P	**P**	**18 54 08.1**	**+1.8**
BSO3				S	**S**	**18 55 29.2**	**-1.3**
JIE	**Ise**	**6.78**	**338**	P	**P**	**18 54 11.1**	**+4.2**
JKN2	**Miekihoku**	**6.79**	**335**	P	**P**	**18 54 10.8**	**+3.8**
BSO4	**Boso 4**	**6.89**	**4**	P	**P**	**18 54 09.4**	**+1.4**
BSO4				S	**S**	**18 55 33.7**	**0.0**
JHU	**Hanno**	**7.74**	**357**	*e*S	**S**	**18 55 48.7**	**-1.0**
JYT	**Yasato**	**8.12**	**3**	S	**S**	**18 55 56.0**	**-0.9**
JAG	**Ashikaga**	**8.30**	**359**	S	**S**	**18 55 56.3**	**-4.2**
MJAR	**Matsushiro Arr**	**8.51**	**352**	P	**P**	**18 54 23.6**	**-1.2**
	0.5nm,0.3s,baz=182,slow=4.4,SNR=6.0						
MJAR				S	**S**	**18 56 09.4**	**+4.9**
	0.3nm,0.3s,baz=174,slow=23,SNR=3.7						
JHO	**Hitachi**	**8.52**	**5**	S	**S**	**18 56 04.0**	**-0.6**
KSRS	**Korea Array**	**13.60**	**316**	P	**P**	**18 55 23.9**	**+4.9**
	0.3nm,0.3s,baz=145,slow=8.8,SNR=7.3						
SONM	**Songino Array**	**32.47**	**316**	P	**P**	**18 58 13.4**	**+0.9**
	0.8nm,0.6s,mb3.4,baz=124,slow=8.3,SNR=4.4						
CMAR	**Chiang Mai Arr**	**38.51**	**265**	P	**P**	**18 59 03.4**	**+0.1**
	0.7nm,0.7s,mb3.2,baz=85,slow=4.3,SNR=5.0						
ODAN	**Odare**	**46.13**	**281**	*e*P	**P**	**19 00 01.8**	**-1.5**
	8.8nm,0.6s,mb4.4						
RAMN	**Ramite**	**46.80**	**282**	*e*P	**P**	**19 00 04.8**	**-3.6**
	5.1nm,0.5s,mb4.2						
JIRN	**Jiri**	**46.98**	**283**	*e*P	**P**	**19 00 11.0**	**+1.3**
	10.0nm,0.5s,mb4.5						
GUN	**Gumba**	**47.19**	**283**	*e*P	**P**	**19 00 13.0**	**+1.7**
	16nm,0.6s,mb4.6						
ZALV	**Zalesovo Beam**	**47.29**	**319**	P	**P**	**19 00 11.6**	**0.0**
	1.1nm,0.6s,mb3.5,baz=98,slow=10,SNR=3.3						
KKN	**Kakani**	**47.73**	**283**	*e*P	**P**	**19 00 16.0**	**+0.6**
	8.9nm,0.8s,mb4.1						
FITZ	**Fitzroy Crossi**	**47.90**	**198**	P	**P**	**19 00 16.3**	**-0.4**
	0.7nm,0.8s,mb3.1,baz=329,slow=21,SNR=6.5						
DMN	**Daman**	**47.92**	**283**	*e*P	**P**	**19 00 15.6**	**-1.3**
	4.1nm,0.4s,mb4.1						
WRA	**Warramunga Arr**	**48.04**	**187**	P	**P**	**19 00 17.3**	**-0.4**
	1.3nm,0.3s,mb3.7,baz=1.1,slow=7.7,SNR=98						
MKAR	**Makanchi Array**	**48.14**	**309**	P	**P**	**19 00 18.1**	**-0.1**
	0.7nm,0.5s,mb3.3,baz=86,slow=10,SNR=9.6						
GKN	**Gorkha**	**48.23**	**284**	*e*P	**P**	**19 00 18.8**	**-0.4**
	21nm,1.3s,mb4.3						
DANN	**Dangsing**	**48.90**	**284**	*e*P	**P**	**19 00 24.0**	**-0.2**
	7.3nm,0.4s,mb4.3						
KOLN	**Koldanda**	**49.18**	**284**	*e*P	**P**	**19 00 22.1**	**-4.1**
	4.3nm,0.6s,mb4.0						
ASAR	**Alice Springs**	**51.77**	**187**	P	**P**	**19 00 44.9**	**-0.2**
	0.6nm,0.5s,mb3.2,baz=2.5,slow=5.5,SNR=26						
KDAK	**Kodiak Island**	**54.89**	**37**	P	**P**	**19 01 08.2**	**+1.2**
	15nm,1.1s,mb4.2,baz=19,slow=6.5,SNR=5.5						
BRVK	**Borovoye**	**55.88**	**317**	*e*P	**P**	**19 01 14.6**	**+0.7**
	6.2nm,0.7s,mb4.0						
STKA	**Stephens Creek**	**59.67**	**178**	P	**P**	**19 01 39.1**	**-0.9**
	1.6nm,0.8s,mb3.5,baz=331,slow=12,SNR=4.3						
AFI	**Afiamalu**	**62.85**	**125**	P	**P**	**19 02 00.0**	**-1.1**
	32nm,0.2s,baz=73,slow=5.1,SNR=7.4						
ARCES	**ARCESS Array B**	**71.87**	**340**	P	**P**	**19 02 56.6**	**+0.8**
	2.5nm,0.8s,mb3.8,baz=65,slow=8.7,SNR=4.2						
AKASG	**Malin Array Be**	**80.50**	**323**	P	**P**	**19 03 42.7**	**-1.2**
	0.6nm,0.3s,mb3.5,baz=52,slow=5.1,SNR=4.9						
NVAR	**Mina Array Bea**	**81.61**	**51**	P	**P**	**19 03 51.5**	**+1.5**
	0.4nm,0.5s,mb3.2,baz=304,slow=5.6,SNR=3.5						
HFS	**Hagfors**	**81.63**	**336**	P	**P**	**19 03 49.1**	**-0.4**
	0.9nm,0.4s,mb3.7,baz=104,slow=6.3,SNR=7.5						
NOA	**NORSAR Array B**	**81.86**	**337**	P	**P**	**19 03 50.3**	**-0.4**
	1.0nm,0.6s,mb3.5,baz=77,slow=4.2,SNR=3.6						
TORD	**Torodi Ar. Bea**	**122.26**	**310**	PKP	PKPdf	19 10 22.6	-0.6
	0.4nm,0.8s,baz=166,slow=2.1,SNR=6.4						

*IDC **08** 18:56:24.3±3.8, 23.19S×17078E, h0km, mb3.8/4, mb1 4.0/4, mb1mx3.8/14, mbtmp3.8/4, Error ellipse: s-maj=125.2km s-min=45.8km az=143.0*

ISC 08 18:56:28.3±2.0**, 234S**±04×**1710E**±02**, h35**km**, n7,** σ**1**s**00**/8**, mb3.7**/4**, Southeast of Loyalty Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**4.37**	**287**	*e*P	**Pn**	**18 57 31.0**	**-1.2**
DZM				*e*S	**Sn**	**18 58 21.7**	**0.0**
NOUC	**Port Laguerre**	**4.48**	**286**	*e*P	**Pn**	**18 57 32.8**	**-0.9**
NOUC				*e*S	**Sn**	**18 58 25.7**	**+1.1**
STKA	**Stephens Creek**	**27.27**	**246**	P	**P**	**19 02 10.2**	**+0.8**
	1.5nm,0.5s,mb3.7,baz=99,slow=14,SNR=4.5						
ASAR	**Alice Springs**	**33.90**	**262**	P	**P**	**19 03 07.8**	**-0.3**
	1.2nm,0.8s,mb3.9,baz=93,slow=8.4,SNR=10						
WRA	**Warramunga Arr**	**34.14**	**269**	P	**P**	**19 03 09.1**	**-1.1**
	0.2nm,0.4s,mb3.4,baz=98,slow=8.6,SNR=5.6						
CMAR	**Chiang Mai Arr**	**81.66**	**294**	P	**P**	**19 08 45.0**	**+1.7**
	1.1nm,0.8s,mb3.9,baz=134,slow=4.2,SNR=7.4						
GERES	**GERESS Array B**	**148.90**	**330**	PKPbc	PKPbc	19 16 11.9	-0.3
	0.6nm,0.8s,baz=28,slow=2.3,SNR=5.7						

MAN 08 19:00:34, 1406N×12263E, h2km, mb4.3, ML3.2, MS3.0, 1D, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GQP	**Guinayangan**	**0.23**	**230**	⇓*e*P	Pg	19 00 38.7	+0.2
GQP				*e*S	Sg	19 00 41.9	+0.4
AUQP	**San Andres**	**0.73**	**177**	*e*P	Pg	19 00 48.5	+0.5
AUQP				*e*S	Sg	19 01 01.3	+3.8
POLP	**Polilio Island**	**0.95**	**315**	*e*P	Pg	19 00 53.8	+1.6
POLP				*e*S	Sg	19 01 08.1	+3.6
PVCP	**Virac**	**1.55**	**107**	*e*P	Pn	19 01 03.0	+0.4
PVCP				*e*S	Sn	19 01 24.0	+0.7
OTRP	**Odiongan**	**1.78**	**199**	*e*P	Pn	19 01 05.9	0.0
SJMP	**San Jose**	**2.16**	**223**	*e*P	Pn	19 01 13.6	+2.5
SJMP				*e*S	Sn	19 01 42.7	+4.2

*IDC **08** 19:03:43.2±1.0, 376N×12683E, h0km, mb4.1/8, mb1 4.2/8, mb1mx4.0/18, mbtmp4.1/8, Error ellipse: s-maj=64.1km s-min=15.5km az=67.0*

*NEIC **08** 19:03:44.7±0.7, 376N×12685E, h10km, mb4.3/2, Error ellipse: s-maj=39.3km s-min=9.3km az=68.0*

*ISCJB **08** 19:03:51.0±1.3, 352N±009×1265E±02, h74km±16km, mb4.0/7, Error ellipse: s-maj=37.3km s-min=11.3km az=163.5*

ISC 08 19:03:52.4±1.2**, 353N**±009×**1266E**±02**, h70**km±15km**, n13,** σ**0**s**91**/14**, mb4.0**/7**, 1C, Talaud Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GSPH	**General Santos**	**3.01**	**328**	⇑*e*P	**Pn**	**19 04 37.4**	**-0.3**
MATI	**Mati**	**3.41**	**355**	*e*P	**Pn**	**19 04 42.4**	**-0.8**
MATI				*e*S	**Sn**	**19 05 23.7**	**+1.3**
BUKP	**Musuan**	**4.57**	**341**	*e*P	**Pn**	**19 04 58.9**	**-0.2**
KAKA	**Kakadu**	**17.16**	**160**	*e*P	**Pn**	**19 07 45.2**	**-2.5**
	8.9nm,0.4s						
FITZ	**Fitzroy Crossi**	**21.52**	**182**	P	**P**	**19 08 37.1**	**+1.4**
	1.4nm,0.5s,mb3.6,baz=39,slow=6.0,SNR=9.3						
WRA	**Warramunga Arr**	**24.55**	**162**	P	**P**	**19 09 05.9**	**+0.2**
	5.7nm,0.5s,mb4.2,baz=343,slow=10.0,SNR=51						
ASAR	**Alice Springs**	**27.96**	**166**	P	**P**	**19 09 36.8**	**+0.4**
	0.6nm,0.3s,mb3.6,baz=341,slow=7.5,SNR=21						
ASAR				PcP	PcP	19 12 51.0	+0.7
	0.2nm,0.4s,baz=350,slow=2.4,SNR=4.5						
CMAR	**Chiang Mai Arr**	**30.83**	**301**	P	**P**	**19 10 02.2**	**+0.2**
	0.4nm,0.7s,baz=96,slow=9.2,SNR=3.6						
STKA	**Stephens Creek**	**38.00**	**159**	*e*P	**P**	**19 11 04.8**	**+1.1**
	1.8nm,0.3s,mb4.4						
STKA	**Stephens Creek**	**38.00**	**159**	P	**P**	**19 11 04.5**	**+0.8**
	2.0nm,0.3s,mb4.4,baz=319,slow=8.6,SNR=22						
SONM	**Songino Array**	**47.43**	**342**	P	**P**	**19 12 19.5**	**-0.3**
	0.4nm,0.3s,mb3.6,baz=161,slow=8.0,SNR=5.9						
MKAR	**Makanchi Array**	**57.62**	**325**	P	**P**	**19 13 34.9**	**-0.3**
	1.5nm,0.4s,mb4.4,baz=126,slow=6.1,SNR=24						
ARCES	**ARCESS Array B**	**90.58**	**340**	P	**P**	**19 16 45.6**	**-0.8**
	3.0nm,1.0s,mb4.4,baz=70,slow=7.0,SNR=4.0						

*SZGRF **08** 19:06:35.9, 2027S×17646W, h33km, Fiji Islands region*

*ISCJB **08** 19:07:06.3±1.8, 2050S±009×1774W±0.1, h288km±18km, mb4.2/15, Error ellipse: s-maj=18.4km s-min=10.9km az=36.0*

*NEIC **08** 19:07:07.9±1.5, 2059S×17730W, h300km±15km, mb4.4/5, Error ellipse: s-maj=21.4km s-min=10.8km az=145.0*

*IDC **08** 19:07:08.3±2.6, 2067S×17721W, h302km±24km, mb4.0/12, mb1 4.1/14, mb1mx3.9/21, mbtmp3.9/14, Error ellipse: s-maj=16.1km s-min=10.5km az=123.0*

ISC 08 19:07:07.5±1.6**, 2064S**±008×**1773W**±01**, h290**km±17km**, n75,** σ**0**s**95**/27**, mb4.2**/15**, 1D, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**8.51**	**39**	P	**Pn**	**19 09 07.1**	**-0.3**
	5.8nm,0.3s,baz=33,slow=6.9,SNR=4.3						
AFI				S	**S**	**19 10 35.1**	**-9.5**
	8.5nm,0.3s,baz=351,slow=22,SNR=5.1						
DZM	**Mont Dzumac**	**15.23**	**262**	*e*P	**Pn**	**19 10 32.8**	**+3.7**
DZM	**Mont Dzumac**	**15.23**	**262**	*e*P	**Pn**	**19 10 32.1**	**+3.1**
URZ	**Urewera**	**18.22**	**194**	P	**P**	**19 10 59.7**	**-0.2**
	2.1nm,0.3s,baz=356,slow=1.8,SNR=9.0						
URZ				S	**S**	**19 14 12.5**	**-0.4**
	3.1nm,0.3s,baz=78,slow=23,SNR=14						
CTA	**Charters Tower**	**34.15**	**264**	*e*P	**P**	**19 13 26.8**	**+0.9**
	4.7nm,0.4s,mb4.4						
CTA	**Charters Tower**	**34.15**	**264**	P	**P**	**19 13 27.0**	**+1.1**
	5.8nm,0.4s,mb4.5,baz=94,slow=10,SNR=20						
ASAR	**Alice Springs**	**45.15**	**257**	P	**P**	**19 14 56.0**	**0.0**
	9.6nm,0.7s,mb4.1,baz=96,slow=8.2,SNR=125						
ASAR				S	**S**	**19 21 05.0**	**-8.1**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
	0.4nm,0.6s,baz=94,slow=15,SNR=4.2						
WB2	Warramunga Arr	45.24	262	eP	P	19 14 55.9	-0.9
WRA	Warramunga Arr	45.25	262	P	P	19 14 56.3	-0.5
	2.6nm,0.4s,mb3.8,baz=98,slow=6.6,SNR=78						
KAKA	Kakadu	48.65	271	eP	P	19 15 22.1	-1.0
	7.9nm,0.4s,mb4.4						
FITZ	Fitzroy Crossi	53.68	262	eP	P	19 16 00.3	+0.1
	2.0nm,0.3s,mb3.9						
FITZ	Fitzroy Crossi	53.68	262	P	P	19 16 00.3	+0.1
	1.2nm,0.3s,mb3.7,baz=87,slow=8.2,SNR=17						
BATI	Baumata	57.61	271	P	P	19 16 29.4	+1.4
	18nm,0.6s,mb4.7,baz=146,slow=2.8,SNR=17						
MJAR	Matsushiro Arr	70.72	323	P	P	19 17 51.4	-1.0
	2.1nm,0.4s,mb4.1,baz=159,slow=5.8,SNR=12						
ASAJ	Asahikawa	74.17	331	P	P	19 18 13.2	+0.8
	20nm,0.8s,mb4.8,baz=156,slow=8.0,SNR=8.6						
PETK	Petropavlovsk-	76.58	345	P	P	19 18 24.1	-1.8
	1.6nm,0.5s,mb4.0,baz=119,slow=6.7,SNR=5.1						
NVAR	Mina Array Bea	80.66	43	P	P	19 18 49.1	+0.8
	2.0nm,0.6s,mb4.0,baz=221,slow=8.8,SNR=9.0						
WVOR	Wild Horse Val	82.80	40	eP	P	19 18 59.8	+0.4
	7.6nm,1.0s,mb4.5						
RSW	Rattlesnake Hi	84.63	36	eP	P	19 19 09.1	+0.6
TRF	Thorofare Moun	86.44	12	eP	P	19 19 15.0	-2.0
	7.9nm,1.1s,mb4.5						
TXAR	Lajitas Array	86.56	57	P	P	19 19 19.3	+0.9
	2.4nm,0.8s,mb4.1,baz=219,slow=6.5,SNR=13						
TXAR	Lajitas Array	86.56	57	P	P	19 19 19.3	+0.9
PDAR	Pinedale Array	88.60	43	P	P	19 19 27.6	-0.1
	1.2nm,0.8s,mb3.8,baz=222,slow=2.0,SNR=5.4						
CMAR	Chiang Mai Arr	90.80	289	P	P	19 19 39.4	+0.9
	3.2nm,0.9s,mb4.1,baz=110,slow=2.8,SNR=20						
MKAR	Makanchi Array	111.79	313	PKiKP	PKiKP	19 25 05.0	-2.7
	0.5nm,0.6s,baz=86,slow=0.3,SNR=6.3						
BDFB	Brasilia	118.50	122	PKP	PKPdf	19 25 21.8	+0.2
	3.1nm,0.4s,baz=104,slow=3.7,SNR=4.9						
ARCES	ARCESS Array B	129.18	350	PKP	PKPdf	19 25 38.8	-1.6
	6.7nm,1.0s,baz=47,slow=0.6,SNR=9.9						
AKASG	Malin Array Be	143.46	332	PKP	PKPdf	19 26 02.5	-4.8
	3.2nm,0.5s,baz=43,slow=4.3,SNR=18						
AKASG	Malin Array Be	143.46	332	PKP	PKPdf	19 26 02.5	-4.8
BSEG	Bad Segeberg	146.26	352	ePKPbc	PKPbc	19 26 12.0	-1.6
BR131	Keskin Array S	147.43	313	ePKPbc	PKPbc	19 26 16.0	-1.4
BUR08	Bucovina Ar. S	147.50	331	ePKPbc	PKPbc	19 26 16.4	-0.9
STHS	Stebnicka Huta	147.71	337	ePKP	PKPab	19 26 20.4	-0.5
KOLS	Kolonicke sedl	147.72	336	ePKP	PKPab	19 26 20.4	-0.6
CRVS	Cervenica-Dubn	148.06	336	ePKP	PKPab	19 26 21.8	-0.5
CLZ	Clausthal	148.29	351	ePKPbc	PKPbc	19 26 17.9	-1.3
CLZ	Clausthal	148.29	351	ePKPbc	PKPbc	19 26 17.9	-1.3
CLL	Collm	148.35	348	ePKPbc	PKPbc	19 26 18.0	-1.4
CLL	Collm	148.35	348	⇓iPKPbc	PKPbc	19 26 18.0	-1.4
	comp=Z,12nm,0.9s						
DPC	Dobruska-Polom	148.46	343	ePKPbc	PKPbc	19 26 18.8	-0.9
BRG	Berggiesshubel	148.56	346	ePKPbc	PKPbc	19 26 18.7	-1.2
BRG	Berggiesshubel	148.56	346	i PKP	PKPbc	19 26 18.7	-1.2
	comp=Z,6.3nm,0.6s						
FBE	Freiberg	148.64	347	ePKPbc	PKPbc	19 26 19.0	-1.1
MOX	Moxa	149.25	349	ePKPbc	PKPbc	19 26 20.4	-1.2
PRU	Pruhonice	149.25	345	ePKPbc	PKPbc	19 26 20.1	-1.6
WERD	Werda	149.30	348	ePKPbc	PKPbc	19 26 20.6	-1.2
TANN	Tannenbergstha	149.31	348	ePKPbc	PKPbc	19 26 20.4	-1.4
GUNZ	Gunzen	149.38	348	ePKPbc	PKPbc	19 26 20.8	-1.2
KOLL	Kolacno	149.41	339	ePKP	PKPbc	19 26 21.1	-1.0
WERN	Wernitzgruen	149.44	348	ePKPbc	PKPbc	19 26 21.1	-1.0
MANZ	Manzenberg	149.78	348	ePKPbc	PKPbc	19 26 21.7	-1.3
ROTZ	Rotzenmuhle	149.97	348	ePKPbc	PKPbc	19 26 22.1	-1.3
TNS	Taunus Mts	150.13	353	ePKPbc	PKPbc	19 26 22.5	-1.3
TNS	Taunus Mts	150.13	353	ePKPbc	PKPbc	19 26 22.5	-1.3
GRA1	Grafenberg Arr	150.23	349	ePKPbc	PKPbc	19 26 22.8	-1.2
GRF	Grafenberg Arr	150.23	349	ePKPbc	PKPbc	19 26 22.8	-1.2
KHC	Kasperske Hory	150.28	346	ePKPbc	PKPbc	19 26 23.1	-1.1
GEC2	GERESS Array S	150.51	345	ePKPbc	PKPbc	19 26 23.1	-1.6
GEC2	GERESS Array S	150.51	345	ePKPbc	PKPbc	19 26 23.1	-1.6
GERES	GERESS Array B	150.51	345	PKPbc	PKPbc	19 26 23.5	-1.2
	comp=Z,2.8nm,0.8s,baz=29,slow=3.0,SNR=25						
GIVF	Givet	150.55	357	ePKP1	PKPbc	19 26 23.3	-1.5
	comp=Z,22nm,0.8s						
BAIF	Baives	150.62	358	ePKP1	PKPbc	19 26 23.5	-1.4
	comp=Z,9.5nm,0.7s						
WLF	Walferdange	150.91	355	ePKPbc	PKPbc	19 26 25.0	-0.6
FLN	La Foliniere	151.82	4	ePKP1	PKPbc	19 26 25.9	-1.8
	comp=Z,13nm,0.7s						
ROSF	Rostrenen	151.95	9	ePKP1	PKPbc	19 26 25.9	-2.1
BFO	Black Forest	152.01	352	ePKPbc	PKPbc	19 26 26.9	-1.3
LDF	La Druitiere	152.02	4	ePKP1	PKPbc	19 26 26.2	-2.0
	comp=Z,7.2nm,0.6s						
CDF	Champ du Feu	152.05	354	ePKP1	PKPbc	19 26 26.6	-1.7
	comp=Z,4.8nm,0.6s						
SGMF	Saint Gilles	152.12	8	ePKP1	PKPbc	19 26 26.4	-2.0
	comp=Z,9.1nm,0.7s						
GRR	Gorron	152.17	5	ePKP1	PKPbc	19 26 26.7	-1.8
	comp=Z,10nm,0.6s						
QUIF	Quistinic	152.38	9	ePKP1	PKPbc	19 26 26.9	-2.1
HAU	Haudompre	152.54	355	ePKP1	PKPbc	19 26 27.5	-1.9
LOR	Lormes	153.42	358	ePKP1	PKPbc	19 26 29.7	-1.6
MFF	Saint Martin d	154.00	5	ePKP1	PKPbc	19 26 30.7	-1.9
	comp=Z,1.1nm,0.4s						
TORD	Torodi Ar. Bea	172.49	172	PKP	PKPdf	19 26 40.3	-2.2
	comp=Z,1.6nm,1.1s,baz=126,slow=2.0,SNR=4.2						

MAN 08 19:28:48, 1395N×12262E, h10km, mb4.5, ML3.4, MS3.3, 1C-1D, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
GQP	Guinayangan	0.18	255	⇓iP	Pg	19 28 51.2	-0.6
GQP				eS	Sg	19 28 54.4	+0.1
AUQP	San Andres	0.62	175	eP	Pg	19 29 01.3	+1.2
AUQP				eS	Sg	19 29 13.1	+4.8
POLP	Polilio Island	1.02	320	eP	Pg	19 29 06.0	-1.6
POLP				eS	Sg	19 29 20.9	+0.1
PVCP	Virac	1.53	103	eP	Pn	19 29 15.4	0.0
PVCP				eS	Sn	19 29 36.6	+1.2
OTRP	Odiongan	1.68	200	eP	Pn	19 29 17.6	+0.1
BALP	Baler	2.05	331	eP	Pn	19 29 23.5	+0.9
SJMP	San Jose	2.08	225	eP	Pn	19 29 24.6	+1.6
PCPH	Palayan	2.18	318	⇑eP	Pn	19 29 25.1	+0.7
PCPH				eS	Sn	19 29 54.6	+3.2
NBP	Mount Natib	2.28	290	eP	Pn	19 29 26.2	+0.6
LUBP	Lubang	2.32	265	eP	Pn	19 29 27.9	+1.7
CNP	Catarman	2.45	125	eP	Pn	19 29 30.8	+2.7
BUSP	Coron	3.05	231	eP	Pn	19 29 37.7	+1.4
CAUP	Cauayan	3.08	346	eP	Pn	19 29 38.5	+1.8
CAUP				eS	Sn	19 30 16.6	+3.1
GUIM	Jordan	3.30	181	eP	Pn	19 29 42.2	+2.4
CUYO	Cuyo Island	3.46	207	eP	Pn	19 29 42.0	0.0
ABRA	Dolores	4.11	334	eP	Pn	19 29 54.2	+3.3
ABRA				eS	Sn	19 30 41.8	+2.7

ISCJB 08 19:42:07.4±0.4, 1391N±003×12263E±004, h10km, mb3.8/5, Error ellipse: s-maj=6.0km s-min=3.6km az=163.0
IDC 08 19:42:07.1±1.2, 1372N×12267E, h0km, mb3.7/7, mb1 3.8/7, mb1mx3.6/20, mbtmp3.7/7, MS2.8/1, Ms1 2.8/1, ms1mx2.5/35, Error ellipse: s-maj=52.3km s-min=17.1km az=64.0
MAN 08 19:42:08, 1391N×12262E, h15km, mb5.0, ML3.9, MS4.0
MAN INTENSITY II - GUINAYANGAN QUEZON.
ISC 08 19:42:08.2±0.4, 1390N±003×12263E±004, h10km, n28, σ1s04/35, mb3.8/5, 2C-2D, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
GQP	Guinayangan	0.18	271	⇓eP	Pg	19 42 10.4	-1.6
GQP				eS	Sg	19 42 13.8	-0.8
AUQP	San Andres	0.58	175	eP	Pg	19 42 20.4	+1.0
POLP	Polilio Island	1.06	321	eP	Pg	19 42 25.4	-3.2
POLP				eS	Sg	19 42 39.9	-2.5
PVCP	Virac	1.51	101	eP	Pn	19 42 34.4	-1.0
OTRP	Odiongan	1.64	201	eP	Pn	19 42 36.5	-0.6
SJMP	San Jose	2.05	226	eP	Pn	19 42 43.8	+1.0
SJMP				eS	Sn	19 43 12.2	+3.8
BALP	Baler	2.09	331	eP	Pn	19 42 42.9	-0.5
BALP				eS	Sn	19 43 10.1	+0.6
PCPH	Palayan	2.22	318	⇑eP	Pn	19 42 44.8	-0.3
PCPH				eS	Sn	19 43 14.4	+1.8
KALP	Kalibo	2.23	187	⇑eP	Pn	19 42 44.8	-0.4
NBP	Mount Natib	2.30	292	eP	Pn	19 42 46.4	+0.1
LUBP	Lubang	2.32	266	eP	Pn	19 42 46.1	-0.4
RCP	Roxas	2.33	177	⇓eP	Pn	19 42 46.7	+0.1
CNP	Catarman	2.42	125	eP	Pn	19 42 48.0	+0.2
BUSP	Coron	3.03	232	eP	Pn	19 42 56.6	+0.4
BUSP				eS	Sn	19 43 32.9	+0.4
CAUP	Cauayan	3.12	346	eP	Pn	19 42 57.2	-0.3
CAUP				eS	Sn	19 43 35.6	+0.7
PALP	Palanan	3.15	356	eP	Pn	19 42 57.6	-0.3
GUIM	Jordan	3.25	181	eP	Pn	19 43 00.1	+0.7
CUYO	Cuyo Island	3.42	208	eP	Pn	19 43 01.4	-0.1
BOLP	Bolinao	3.60	314	eP	Pn	19 43 04.6	+0.5
ABRA	Dolores	4.16	334	eP	Pn	19 43 13.1	+1.3
ABRA				eS	Sn	19 44 00.1	-0.3
CMAR	Chiang Mai Arr	23.18	284	P	P	19 47 16.5	+1.1
	1.8nm,0.7s,mb3.6,baz=95,slow=8.0,SNR=17						
KSRS	Korea Array	23.93	10	LR	LR	19 57 43.5	
	comp=Z,25nm,21.7s,baz=245,slow=39						
BATI	Baumata	23.97	177	P	P	19 47 23.1	+0.1
	13nm,0.7s,mb4.5,baz=347,slow=2.8,SNR=7.1						
WRA	Warramunga Arr	35.55	161	P	P	19 49 03.5	-2.2
	0.3nm,0.5s,mb3.5,baz=331,slow=11,SNR=5.7						
SONM	Songino Array	36.43	342	P	P	19 49 14.9	+1.9
	0.5nm,0.5s,mb3.7,baz=164,slow=9.5,SNR=5.3						
ASAR	Alice Springs	38.93	163	P	P	19 49 33.1	-1.3
	0.5nm,0.8s,baz=335,slow=7.1,SNR=5.9						
MKAR	Makanchi Array	47.00	323	P	P	19 50 43.1	+3.5
	0.3nm,0.8s,baz=107,slow=5.0,SNR=2.8						
KURK	Kurchatov	51.08	325	P	P	19 51 10.8	0.0
	0.9nm,0.7s,mb3.8,baz=121,slow=7.8,SNR=8.0						

NIED 08 20:05:00, 4330N×14670E, h50km, Mw4.0 Best double couple: Mo1.14000×10^15 NP1:φs156.00000°, δ74.00000°, λ25.00000°. NP2:φs59.00000°, δ66.00000°, λ162.00000°.
IDC 08 20:05:28.1±0.8, 4346N×14682E, h0km, mb3.7/9, mb1 4.0/11, mb1mx3.8/22, mbtmp3.7/11, ML3.2/2, Error ellipse: s-maj=22.7km s-min=19.2km az=142.0
MOS 08 20:05:28.8±2.0, 4341N×147.18E, h20km, mb4.1/4, Error ellipse: s-maj=17.7km s-min=14.7km az=133.9
ISCJB 08 20:05:33.8±1.2, 4334N±007×14676E±010, h54km±9km, mb3.7/10, Error ellipse: s-maj=12.5km s-min=11.7km az=135.7
JMA 08 20:05:34.8±0.2, 4335N×14669E, h42km±2km, M4.1
JMA Felt I J1.
NEIC 08 20:05:34.3±1.3, 4350N×14688E, h43km±12km, MG4.1(JMA), Error ellipse: s-maj=17.9km s-min=10.8km az=137.0
ISC 08 20:05:34.7±1.1, 4338N±007×14678E±009, h44km±10km, n32, σ1s04/40, mb3.7/10, 1D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
NEM2	Nemuro 2	0.76	269	P	Pn	20 05 48.2	-0.7
NEM2				eS	Sn	20 05 57.8	-1.5
JRA	Rausu	1.33	295	P	Pn	20 05 56.5	-0.2
JRA				eS	Sn	20 06 12.2	-1.0
JNK	Nakash	1.52	278	P	Pn	20 05 58.8	-0.5
JNK				eS	Sn	20 06 17.1	-0.7
JAK	Akkeshi	1.57	257	P	Pn	20 05 59.8	-0.3
JAK				eS	Sn	20 06 17.7	-1.5
JTKR	Abashiri--Toko	2.17	287	P	Pn	20 06 09.2	+1.0
JTKR				eS	Sn	20 06 35.4	+1.6
JAR	Ashorobuto	2.20	269	P	Pn	20 06 09.0	+0.3
JAR				eS	Sn	20 06 34.8	+0.2
JOB	Onbets	2.21	259	P	Pn	20 06 09.0	+0.2
JOB				eS	Sn	20 06 34.5	-0.4
JMP	Maruseppu	2.56	285	P	Pn	20 06 14.8	+1.2
JCH	Churui	2.62	254	P	Pn	20 06 14.9	+0.4
ERM	Erimo	3.00	244	⇓ePN	Pn	20 06 22.9	+3.2
ERM	Erimo	3.00	244	eP	Pn	20 06 23.0	+3.4
ASAJ	Asahikawa	3.12	285	Pn	Pn	20 06 23.1	+1.9
	5.1nm,0.3s,baz=116,slow=8.5,SNR=24						
ASAJ				Sn	Sn	20 07 03.5	+6.2
	7.9nm,0.3s,baz=346,slow=28,SNR=5.8						
ASAJ	Asahikawa	3.12	285	PN	Pn	20 06 23.2	+1.9
ASAJ						20 07 03.6	
ASAJ				pmax	pmax		
	comp=Z,5.0nm,0.3s						
ASAJ				smax			
	comp=N,8.0nm,0.3s						
YSS	Yuzh-Sakhalins	4.57	323	i PN	Pn	20 06 43.0	+1.8
MJAR	Matsushiro Arr	9.48	227	Pn	Pn	20 07 48.5	-0.1
	comp=N,0.2nm,0.3s,baz=31,slow=16,SNR=2.9						
PETK	Petropavlovsk-	12.14	33	Pn	Pn	20 08 21.8	-2.9
	comp=N,0.1nm,0.3s,baz=241,slow=15,SNR=3.5						
ULN	Ulaanbaatar	27.93	293	i P	P	20 11 23.9	+3.4
SONM	Songino Array	28.37	293	P	P	20 11 24.7	+0.3
	comp=N,1.8nm,0.8s,mb3.7,baz=91,slow=9.7,SNR=13						
SONM	Songino Array	28.37	293	eP	P	20 11 25.6	+1.2
SONM				pmax	pmax		
	comp=Z,2.0nm,0.8s						
MK31	Makanchi Array	44.52	298	eP	P	20 13 41.4	-0.3
MKAR	Makanchi Array	44.52	298	P	P	20 13 41.0	-0.7
	comp=Z,1.0nm,0.8s,mb3.7,baz=81,slow=9.2,SNR=8.9						
MKAR	Makanchi Array	44.52	298	eP	P	20 13 41.7	0.0
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
MKAR	Makanchi Array	44.52	298	P	P	20 13 41.0	-0.7
KURK	Kurchatov	45.52	304	P	P	20 13 49.0	-0.6
	comp=Z,0.6nm,0.4s,mb3.9,baz=78,slow=8.6,SNR=5.9						
WRA	Warramunga Arr	64.04	193	P	P	20 16 03.3	-0.5
	comp=Z,0.4nm,0.7s,mb3.6,baz=11,slow=6.7,SNR=3.9						
OBN	Obninsk	65.45	324	eP	P	20 16 11.9	-0.8
OBN				e		20 16 43.6	
OBN				eSS	SS	20 29 09.6	+2.8
OBN				pmax	pmax		
	comp=Z,3.0nm,1.0s,mb4.3						
ASAR	Alice Springs	67.76	193	P	P	20 16 28.5	+0.8
	comp=Z,0.3nm,0.7s,mb3.4,baz=18,slow=5.2,SNR=5.2						
ASAR	Alice Springs	67.76	193	eP	P	20 16 30.0	+2.4
NVAR	Mina Array Bea	68.00	58	P	P	20 16 29.8	+0.6
	comp=Z,0.5nm,0.6s,mb3.7,baz=290,slow=9.1,SNR=3.2						
NOA	NORSAR Array B	69.85	339	P	P	20 16 39.5	-0.8
	comp=Z,0.9nm,0.8s,mb3.8,baz=44,slow=24,SNR=2.9						
PDAR	Pinedale Array	70.35	49	P	P	20 16 43.1	-0.5
	comp=Z,0.2nm,0.5s,mb3.3,baz=343,slow=0.9,SNR=2.5						
TXAR	Lajitas Array	83.08	56	P	P	20 17 55.4	-0.3
	comp=Z,0.2nm,0.5s,mb3.4,baz=254,slow=4.7,SNR=4.4						

IDC 08 20:29:23.8±36.0, 5748S×15614E, h0km, mb3.8/3, mb1 4.0/3, mb1mx3.8/12, mbtmp3.8/3, MS3.7/2, Ms1 3.8/2, ms1mx3.2/25, Error ellipse: s-maj=646.8km s-min=290.4km az=131.0, Macquarie Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
STKA	Stephens Creek	27.49	332	P	P	20 35 10.2	-1.3
	1.3nm,0.8s,baz=156,slow=12,SNR=2.0						
NWAO	Narrogin (SRO)	36.02	296	LR	LR	20 47 11.5	
	comp=Z,175nm,18.4s,baz=154,slow=30						
ASAR	Alice Springs	37.40	325	P	P	20 36 39.3	+1.1
	1.1nm,0.9s,baz=156,slow=9.7,SNR=4.0						
WRA	Warramunga Arr	40.78	328	P	P	20 37 06.6	+0.1
	1.8nm,1.1s,baz=165,slow=7.1,SNR=11						
CMAR	Chiang Mai Arr	89.26	307	LR	LR	21 18 50.1	
	comp=Z,25nm,21.1s,baz=301,slow=33						

IDC 08 20:37:18.4±2.1, 523S×15135E, h0km, mb3.6/4, mb1 3.9/4, mb1mx3.6/15, mbtmp3.6/4, Error ellipse: s-maj=63.9km s-min=21.9km az=123.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KAKA	Kakadu	20.09	247	eP	Px	20 41 56.5	
	9.8nm,0.8s						
WRA	Warramunga Arr	22.09	227	P	P	20 42 16.2	+0.8
	1.5nm,0.7s,baz=52,slow=9.7,SNR=14						
WRA				S	S	20 46 21.8	+1.8
	1.6nm,1.2s,baz=47,slow=20,SNR=5.5						
ASAR	Alice Springs	24.87	221	P	P	20 42 42.0	-0.9
	1.0nm,0.6s,baz=55,slow=9.4,SNR=13						
FITZ	Fitzroy Crossi	28.19	241	P	P	20 43 12.1	-0.9
	1.1nm,0.6s,baz=75,slow=16,SNR=2.2						
CMAR	Chiang Mai Arr	56.76	296	P	P	20 47 04.4	-0.3
	0.4nm,0.7s,baz=103,slow=5.5,SNR=4.8						
TORD	Torodi Ar. Bea	149.06	287	PKP	PKPdf	20 57 04.2	-1.4
	0.7nm,0.8s,baz=100,slow=1.7,SNR=4.6						
TORD				PKPbc	PKPbc	20 57 10.7	+1.0
	1.6nm,0.8s,baz=78,slow=3.5,SNR=7.1						

IDC 08 20:38:50.0±3.3, 429S×9903E, h0km, mb3.6/5, mb1 3.7/5, mb1mx3.5/19, mbtmp3.6/5, MS3.6/2, Ms1 3.6/2, ms1mx2.9/30, Error ellipse: s-maj=130.4km s-min=25.5km az=60.0, Southwest of Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	22.60	360	P	P	20 43 53.0	+0.6
	0.7nm,0.6s,baz=191,slow=10,SNR=8.3						
FITZ	Fitzroy Crossi	29.43	120	LR	LR	20 56 53.3	
	comp=Z,54nm,18.7s,baz=77,slow=37						
ASAR	Alice Springs	38.76	123	P	P	20 46 16.9	+0.5
	0.2nm,0.4s,baz=293,slow=7.9,SNR=4.2						
SONM	Songino Array	52.31	6	P	P	20 48 03.0	-0.3
	0.9nm,0.7s,baz=181,slow=8.3,SNR=8.1						
MKAR	Makanchi Array	52.98	346	P	P	20 48 09.4	+1.0
	0.6nm,0.8s,baz=139,slow=9.7,SNR=4.8						
ZALV	Zalesovo Beam	59.24	350	P	P	20 48 52.6	-0.4
	0.6nm,0.4s,baz=151,slow=3.4,SNR=5.4						
QSPA	South Pole Qui	85.69	180	LR	LR	21 23 07.4	
	comp=Z,55nm,20.2s,baz=117,slow=31						
TXAR	Lajitas Array	147.09	38	PKPbc	PKPbc	20 58 34.0	-1.7
	0.5nm,0.6s,baz=222,slow=1.7,SNR=4.9						

ISCJB 08 20:54:37.2±2.4, 57S±0.1×1463E±0.1, h62km±22km, mb4.0/10, Error ellipse: s-maj=21.5km s-min=17.8km az=154.5
NEIC 08 20:54:39.5±2.2, 570S×14623E, h68km±19km, mb4.4/2, Error ellipse: s-maj=20.8km s-min=15.9km az=47.0
IDC 08 20:54:43.3±6.3, 578S×14627E, h103km±57km, mb3.8/10, mb1 3.8/12, mb1mx3.8/18, mbtmp3.7/12, MS3.2/6, Ms1 3.2/6, ms1mx3.0/25, Error ellipse: s-maj=31.9km s-min=17.4km az=66.0
ISC 08 20:54:39.6±2.2, 58S±01×1463E±01, h68km±20km, n23, σ0s93/20, mb3.9/10, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PMG	Port Moresby	3.73	166	eP	Pn	20 55 33.8	-1.0
COEN	Coen	8.70	200	eP	Pn	20 56 43.4	+0.6
	6.4nm,0.6s						
HNR	Honiara	14.04	106	LR	LR	21 01 52.6	
	comp=Z,46nm,19.1s,baz=263,slow=31						
CTA	Charters Tower	14.25	180	eP	Pn	20 58 00.6	+2.5
	3.2nm,0.6s						
CTA	Charters Tower	14.25	180	P	Pn	20 58 00.5	+2.4
	1.0nm,0.3s,baz=0.5,slow=15,SNR=8.1						
CTA				LR	LR	21 02 26.4	
	comp=Z,62nm,21.9s,baz=49,slow=33						
CTAO	Charters Tower	14.25	180	eP	Pn	20 58 00.2	+2.2
KAKA	Kakadu	15.30	242	eP	Pn	20 58 11.2	-0.5
	10nm,0.4s						
WB2	Warramunga Arr	18.26	218	eP	Pn	20 58 47.1	-1.3
WRA	Warramunga Arr	18.26	218	P	Pn	20 58 47.4	-1.1
	0.4nm,0.3s,baz=40,slow=12,SNR=21						
WRA				PcP	PcP	21 03 17.9	+0.1
	baz=22,slow=2.0,SNR=5.2						
WRA				LR	LR	21 06 47.5	
	comp=Z,73nm,18.9s,baz=20,slow=40						
ASAR	Alice Springs	21.42	213	P	P	20 59 22.9	+0.7
	2.3nm,0.6s,mb3.7,baz=45,slow=7.9,SNR=29						
BATI	Baumata	22.82	257	P	P	20 59 38.4	+1.3
	22nm,0.7s,mb4.6,baz=268,slow=1.3,SNR=11						
FITZ	Fitzroy Crossi	23.59	237	eP	P	20 59 44.3	-0.2
	13nm,0.8s,mb4.3						
FITZ	Fitzroy Crossi	23.59	237	P	P	20 59 44.1	-0.4
	9.0nm,0.9s,mb4.1,baz=79,slow=9.9,SNR=14						
FITZ				LR	LR	21 09 41.5	
	comp=Z,64nm,18.4s,baz=230,slow=38						
STKA	Stephens Creek	26.36	189	P	P	21 00 10.3	+0.9
	2.6nm,0.9s,mb3.7,baz=326,slow=10,SNR=5.7						
STKA	Stephens Creek	26.36	189	P	P	21 00 10.3	+0.9
RPZ	Rata Peaks	43.64	154	P	P	21 02 37.3	-0.2
	8.4nm,0.7s,mb4.6,baz=260,slow=14,SNR=9.0						
KSRS	Korea Array	46.27	340	P	P	21 02 58.5	+0.1
	2.6nm,1.0s,mb3.9,baz=153,slow=11,SNR=4.7						
CMAR	Chiang Mai Arr	52.50	298	P	P	21 03 46.8	+0.6
	1.3nm,0.7s,mb4.0,baz=122,slow=5.8,SNR=9.9						
PETK	Petropavlovsk-	59.43	8	LR	LR	21 27 08.3	
	comp=Z,24nm,19.7s,baz=36,slow=33						
SONM	Songino Array	63.84	331	P	P	21 05 05.1	+0.2
	0.8nm,0.8s,mb3.6,baz=165,slow=6.2,SNR=5.8						
MKAR	Makanchi Array	76.85	321	P	P	21 06 23.7	-0.6
	0.1nm,0.4s,mb2.9,baz=96,slow=7.1,SNR=4.7						
MKAR				LR	LR	21 41 36.6	
	comp=Z,34nm,19.1s,baz=63,slow=37						
MAW	Mawson	82.19	203	P	P	21 06 51.8	-1.1
	2.0nm,0.9s,mb4.0,baz=60,slow=5.6,SNR=4.0						
TORD	Torodi Ar. Bea	144.33	284	PKP	PKPdf	21 14 06.4	-2.7
	1.0nm,0.7s,baz=81,slow=2.3,SNR=11						

CSEM 08 20:56:33.8±0.2, 38.10N×2330E, h2km, ML2.7/1, Error ellipse: s-maj=5.8km s-min=4.5km az=34.0
ISCJB 08 20:56:34.2±0.4, 38.11N±003×2338E±004, h10km, Error ellipse: s-maj=4.5km s-min=3.7km az=164.9
THE 08 20:56:34.6, 3809N×2333E, h0km±2km, ML2.7/1, Error ellipse: s-maj=3.0km s-min=0.6km az=83.0
ATH 08 20:56:34.7, 38.19N×2345E, h21km±1km, MD3.2/6, ML2.4
ISC 08 20:56:34.7±0.5, 3813N±003×2336E±004, h6km±6km, n21, σ1s05/33, 4D, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ATH	Athens Observa	0.32	118	⇓Pb	Pg	20 56 41.2	+0.3
ATH	Athens Observa	0.32	118	⇓PB	Pg	20 56 41.2	+0.3
ATH				eSB	Sg	20 56 46.3	+1.1
LTK	Loutraki	0.32	252	P	Pg	20 56 40.0	-0.9
LTK				S	Sg	20 56 44.7	-0.5
PTL	Penteli	0.41	101	ePb	Pg	20 56 42.0	-0.6
PTL	Penteli	0.41	101	ePB	Pg	20 56 42.0	-0.6
KVR	Kavouri	0.44	132	ePb	Pg	20 56 42.8	-0.4
KVR	Kavouri	0.44	132	ePB	Pg	20 56 42.8	-0.4
LKR	Lokris	0.59	332	P	Pg	20 56 45.9	-0.2
LKR				S	Sg	20 56 56.0	+2.1
LKR	Lokris	0.59	332	ePn	Pg	20 56 46.2	+0.1
LKR				eSn	Sg	20 56 54.8	+0.9
LKR	Lokris	0.59	332	ePN	Pg	20 56 46.2	+0.1
LKR				eSN	Sg	20 56 54.8	+0.9
DID	Didima	0.62	189	P	Pg	20 56 45.3	-1.4
DID				S	Sg	20 56 54.7	-0.1
VLX	Vlachokerasia	1.08	226	P	Pg	20 56 54.5	-0.9
VLX				S	Sg	20 57 09.5	+0.1
AOS	Alonnisos	1.12	21	P	Pg	20 56 56.3	+0.1
NEO	Neokhori	1.19	355	⇓Pn	Pn	20 56 56.4	-1.4
NEO				eSn	Sn	20 57 11.8	-2.5
NEO	Neokhori	1.19	355	⇓PN	Pn	20 56 56.4	-1.4
NEO				eSN	Sn	20 57 11.8	-2.5
AGG	Agios Georgios	1.20	318	P	Pg	20 56 57.9	+0.1
AGG				S	Sg	20 57 15.7	+2.3
XOR	Xorichti	1.25	354	P	Pg	20 56 58.5	-0.1
VLI	Veliai	1.44	194	i Pn	Pn	20 57 02.5	+1.2
VLI				eSn	Sn	20 57 23.3	+2.7
VLI	Veliai	1.44	194	⇑iPN	Pn	20 57 02.5	+1.2
VLI				eSN	Sn	20 57 23.3	+2.7
PYL	PYLOS	1.78	227	P	Pn	20 57 06.0	+0.1
APE	Apeiranthos	2.02	121	P	Pn	20 57 09.3	0.0

IDC 08 21:25:21.7±0.8, 4284N×4825E, h0km, mb4.0/11, mb1 4.0/16, mb1mx3.9/26, mbtmp4.0/16, ML3.2/5, MS3.2/10, Ms1 3.2/10, ms1mx3.0/39, Error ellipse: s-maj=21.0km s-min=8.5km az=141.0
CSEM 08 21:25:23.9±0.0, 4296N×4825E, h30km, mb4.0/10, Error ellipse: s-maj=1.7km s-min=1.3km az=136.0
ISCJB 08 21:25:24.8±0.4, 4292N±003×4841E±003, h40km±5km, mb4.0/24, MS3.2/5, Error ellipse: s-maj=4.8km s-min=3.8km az=164.0
MOS 08 21:25:24.8±1.6, 4297N×4842E, h35km, mb4.5/6, Error ellipse: s-maj=6.3km s-min=5.5km az=38.9
NEIC 08 21:25:26.1±2.2, 4294N×4825E, h32km±17km, mb4.0/17, Error ellipse: s-maj=8.3km s-min=4.4km az=177.0
NNC 08 21:25:30.0±2.1, 4281N×4959E, h0km, mb4.0, Error ellipse: s-maj=26.8km s-min=17.3km az=103.0
ISC 08 21:25:25.3±0.7, 4290N±002×4842E±003, h28km±6km, n170, σ1s36/191, mb4.0/24, MS3.2/5, 12C-16D, Caspian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MNSR	Manas	0.55	249	⇓iP	Pb	21 25 35.0	-1.5
MNSR				eS	Sb	21 25 43.2	-0.9
MNSR				pmax	pmax		

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
	comp=Z,412nm,0.3s						
MNSR	**Manas**	**0.55**	**249**	*i* P	**Pb**	**21 25 35.0**	**-1.5**
	comp=Z,412nm,0.3s						
MNSR				*e*S	**Sb**	**21 25 43.2**	**-0.9**
MAK	**Makhachkala**	**0.68**	**275**	⇑*i*P	**Pb**	**21 25 39.4**	**+0.8**
MAK				*i*		21 25 50.5	
MAK				pmax	pmax		
	comp=N,527nm,0.8s						
MAK				pmax	pmax		
	comp=E,689nm,0.7s						
MAK				pmax	pmax		
	comp=Z,4μm,0.7s						
MAK				smax			
	comp=Z,2μm,0.4s						
MAK				smax			
	comp=E,6μm,0.7s						
MAK	**Makhachkala**	**0.68**	**275**	*i* P	**Pb**	**21 25 39.4**	**+0.8**
	comp=E,4μm,0.7s						
URKR	**Urkarakh**	**0.94**	**219**	*i* P	**Pn**	**21 25 36.0**	**-6.7**
GNBR	**Gunib**	**1.19**	**245**	*i* P	**Pn**	**21 25 44.0**	**-2.1**
GNBR				*i* S	**Sn**	**21 26 01.5**	**+0.1**
GNBR				pmax	pmax		
	comp=Z,551nm,0.6s						
GNBR	**Gunib**	**1.19**	**245**	*i* P	**Pn**	**21 25 44.0**	**-2.1**
	comp=Z,551nm,0.6s						
SIZA	**Siyzn**	**1.86**	**169**	P	**Pn**	**21 25 53.4**	**-1.9**
	SNR=94						
SIZA				S	**Sn**	**21 26 16.2**	**-1.6**
SEKA	**Sheki**	**1.92**	**209**	P	**Pn**	**21 25 54.9**	**-1.3**
	SNR=354						
SEKA				S	**Sn**	**21 26 19.2**	**-0.2**
PQL	**Pirkuli**	**2.11**	**176**	P	**Pn**	**21 25 58.4**	**-0.4**
	SNR=290						
PQL				S	**Sn**	**21 26 25.6**	**+1.5**
DGRG	**David-gareji**	**2.69**	**238**	P	**Pn**	**21 26 08.4**	**+1.6**
DGRG				S	**Sn**	**21 26 41.8**	**+3.4**
GANJ	**Ganja**	**2.75**	**216**	P	**Pn**	**21 26 06.7**	**-0.8**
	SNR=140						
GANJ				S	**Sn**	**21 26 38.5**	**-1.3**
BRDA	**Brd**	**2.79**	**200**	P	**Pn**	**21 26 07.8**	**-0.4**
	SNR=19						
MTA	**Mtatsminda**	**2.95**	**247**	P	**Pn**	**21 26 11.0**	**+0.7**
MTA				S	**Sn**	**21 26 45.9**	**+1.1**
ALIB	**Ii-Bayraml**	**2.97**	**171**	P	**Pn**	**21 26 11.0**	**+0.4**
	SNR=5.9						
TBLG	**Delisi**	**2.97**	**248**	P	**Pn**	**21 26 12.1**	**+1.5**
TBLG				S	**Sn**	**21 26 48.2**	**+2.8**
GOR	**Gori**	**3.32**	**255**	P	**Pn**	**21 26 16.8**	**+1.3**
GOR				S	**Sn**	**21 26 58.1**	**+4.2**
GLBA	**Clilabad**	**3.65**	**180**	P	**Pn**	**21 26 18.3**	**-1.7**
	SNR=51						
ONI	**Oni**	**3.68**	**267**	P	**Pn**	**21 26 24.6**	**+4.3**
KUBR	**Kubataba**	**3.77**	**286**	*d iP*	**Pn**	**21 26 24.5**	**+3.0**
GNI	**Garni**	**3.90**	**226**	Pn	**Pn**	**21 26 24.2**	**+0.8**
	comp=Z,1.7nm,0.3s,baz=26,slow=4.2,SNR=23						
GNI				Sn	**Sn**	**21 27 04.3**	**-3.9**
	comp=Z,5.4nm,0.3s,baz=258,slow=22,SNR=3.2						
GNI				LR	LR	21 28 13.0	
	comp=Z,231nm,18.1s,baz=94,slow=46						
GNI	**Garni**	**3.90**	**226**	Pn	**Pn**	**21 26 24.2**	**+0.9**
GNI				Sn	**Sn**	**21 27 04.3**	**-3.9**
PYA	**Pyatigorsk**	**4.07**	**288**	*c i*P	**Pn**	**21 26 28.0**	**+2.3**
KIV	**Kislovodsk**	**4.31**	**286**	*e*P	**Pn**	**21 26 29.2**	**+0.2**
KIV						21 27 17.3	
KIV	**Kislovodsk**	**4.31**	**286**	*e*Pn	**Pn**	**21 26 29.2**	**+0.2**
KIV				Sn	**Sn**	**21 27 17.2**	**-1.1**
KIV	**Kislovodsk**	**4.31**	**286**	*e*Pn	**Pn**	**21 26 29.2**	**+0.2**
KIV				Sn	**Sn**	**21 27 17.2**	**-1.1**
DIGO	**Kars**	**4.52**	**238**	*i* P	**Pn**	**21 26 34.1**	**+2.1**
ARTV	**Artvin**	**5.13**	**253**	*i* P	**Pn**	**21 26 41.3**	**+1.0**
DAGI	**Agillar**	**5.18**	**252**	*i* P	**Pn**	**21 26 42.9**	**+1.9**
DBOC	**Borcka**	**5.26**	**255**	*i* P	**Pn**	**21 26 36.3**	**-5.8**
DBAD	**Bademkaya**	**5.36**	**252**	*i* P	**Pn**	**21 26 45.5**	**+2.1**
SOC	**Sochi**	**6.40**	**279**	*c i*P	**Pn**	**21 27 01.5**	**+3.8**
SOC				*e*		21 28 16.4	
SOC				pmax	pmax		
	comp=Z,19nm,0.6s						
SOC				MLR	MLR		
	comp=Z,31nm,7.0s						
AKTK	**Aktyubinsk**	**10.01**	**38**	Pn	**Pn**	**21 27 48.8**	**+1.7**
AKTK	**Aktyubinsk**	**10.01**	**38**	Pn	**Pn**	**21 27 48.9**	**+1.7**
AKTK				Sn	**Sn**	**21 29 35.9**	**-2.5**
AKTK				LR	LR	21 32 53.2	
AKTO	**Aktyubinsk**	**10.01**	**38**	⇓P	**Pn**	**21 27 48.4**	**+1.3**
	comp=Z,1.2nm,0.6s						
AKTO				⇓S	**Sn**	**21 29 36.5**	**-1.9**
	comp=Z,1.7nm,0.6s						
AKTO	**Aktyubinsk**	**10.01**	**38**	Pn	**Pn**	**21 27 48.9**	**+1.7**
	comp=Z,1.6nm,0.3s,baz=209,slow=12,SNR=42						
AKTO				Sn	**Sn**	**21 29 35.9**	**-2.5**
	comp=Z,0.5nm,0.3s,baz=341,slow=14,SNR=3.6						
AKTO				LR	LR	21 32 53.2	
	comp=Z,96nm,19.9s,baz=253,slow=44						
AKTO	**Aktyubinsk**	**10.01**	**38**	P	**Pn**	**21 27 48.9**	**+1.8**
AKTO						21 29 35.9	
AB31	**Akbulak array**	**10.21**	**48**	⇑P	**Pn**	**21 27 50.8**	**+0.8**
	comp=Z,2.6nm,0.4s,baz=232,slow=13,SNR=55						
AB31				⇓S	**Sn**	**21 29 42.5**	**-1.0**
	comp=Z,20nm,0.9s,baz=231,slow=27,SNR=7.2						
AB31	**Akbulak array**	**10.21**	**48**	P	**Pn**	**21 27 50.8**	**+0.8**
AB31				S	**Sn**	**21 29 42.4**	**-1.1**
AB31				pmax	pmax		
	comp=Z,4.0nm,0.3s						
AB31				smax			
	comp=N,3.0nm,0.2s						
VSR	**Storozhevoye**	**10.44**	**326**	*e*P	**Pn**	**21 27 53.2**	**+0.2**
VSR				pmax	pmax		
	comp=N,4.0nm,0.8s						
VSR				pmax	pmax		
	comp=Z,3.0nm,0.8s						
VSR				pmax	pmax		
	comp=E,3.0nm,0.7s						
ASF	**Jabal al Asfar**	**14.07**	**224**	LR	LR	21 34 57.5	
	comp=E,93nm,18.3s,baz=271,slow=41						
MMAI	**Mount Meron Ar**	**14.23**	**230**	Pn	**Pn**	**21 28 44.1**	**-0.8**
	comp=E,0.2nm,0.3s,baz=48,slow=14,SNR=2.4						
OBN	**Obninsk**	**14.46**	**332**	⇓*e*P	**Pn**	**21 28 48.1**	**+0.2**
OBN				pmax	pmax		
	comp=Z,10.0nm,1.0s						
OBN				MLR	MLR		
	comp=Z,100nm,13.0s						
OBN	**Obninsk**	**14.46**	**332**	*e*P	**Pn**	**21 28 48.1**	**+0.2**
	comp=Z,100nm,13.0s						
OBN	**Obninsk**	**14.46**	**332**	Pn	**Pn**	**21 28 46.7**	**-1.3**
ARU	**Arti**	**15.03**	**22**	*d i*P	**Pn**	**21 28 53.5**	**-2.0**
ARU				*e*S	**Sn**	**21 31 40.6**	**-0.3**
ARU				pmax	pmax		
	comp=Z,13nm,1.0s						
ARU	**Arti**	**15.03**	**22**	*e*Pn	**Pn**	**21 28 53.8**	**-1.7**
	comp=Z,11nm,0.6s						
ARU				*e*S	**Sn**	**21 31 40.6**	**-0.3**
ARU	**Arti**	**15.03**	**22**	*e*Pn	**Pn**	**21 28 53.8**	**-1.7**
	comp=Z,11nm,0.6s						
ARU				*e*Sn	**Sn**	**21 31 32.4**	**-8.5**
AKASG	**Malin Array Be**	**15.26**	**307**	Pn	**Pn**	**21 28 57.2**	**-1.4**
	comp=Z,1.1nm,0.3s,baz=119,slow=10,SNR=6.9						
AKASG	**Malin Array Be**	**15.26**	**307**	*i* P	**Pn**	**21 29 00.8**	**+2.2**
AKASG				pmax	pmax		
	comp=Z,4.0nm,0.6s						
KIEV	**Kiev**	**15.27**	**307**	*e*P	**Pn**	**21 28 58.0**	**-0.7**
KIEV				pmax	pmax		
	comp=Z,8.0nm,0.7s						
KIEV	**Kiev**	**15.27**	**307**	*e*P	**Pn**	**21 28 58.0**	**-0.7**
	comp=Z,8.0nm,0.7s						
KIEV	**Kiev**	**15.27**	**307**	*e*Pn	**Pn**	**21 28 58.0**	**-0.7**
	comp=Z,7.8nm,0.7s						
SVE	**Sverdlovsk**	**15.97**	**25**	*e*P	**Pn**	**21 29 05.1**	**-2.8**
SVE				*e*S	**Sn**	**21 31 56.1**	**-7.8**
SVE				pmax	pmax		
	comp=Z,25nm,0.8s						
KK31	**Karatay Array**	**16.16**	**82**	⇑P	**Pn**	**21 29 08.5**	**-1.9**
	comp=Z,4.2nm,0.8s,baz=296,slow=14,SNR=25						
KK31				S	**Sn**	**21 31 59.0**	**-10**
	comp=Z,2.4nm,0.6s,baz=286,slow=23,SNR=8.4						
KK31	**Karatay Array**	**16.16**	**82**	P	**Pn**	**21 29 08.2**	**-2.2**
KK31				pmax	pmax		
	comp=Z,1.0nm,0.2s						
MLR	**Muntele Rosu**	**16.32**	**287**	Pn	**Pn**	**21 29 15.2**	**+2.9**
	comp=Z,0.1nm,0.3s,baz=212,slow=19,SNR=5.1						
MLR	**Muntele Rosu**	**16.32**	**287**	⇓*i*P	**Pn**	**21 29 14.5**	**+2.1**
MLR	**Muntele Rosu**	**16.32**	**287**	⇓P	**Pn**	**21 29 14.5**	**+2.1**
BURAR	**Bucovina Array**	**16.98**	**294**	⇓*i*P	**Pn**	**21 29 19.1**	**-1.6**
BURAR	**Bucovina Array**	**16.98**	**294**	⇓P	**Pn**	**21 29 19.1**	**-1.7**
BUR08	**Bucovina Ar. S**	**17.00**	**294**	*e*Pn	**Pn**	**21 29 18.9**	**-2.0**
BUR08	**Bucovina Ar. S**	**17.00**	**294**	*e*Pn	**Pn**	**21 29 18.9**	**-2.0**
EIL	**Elat**	**17.07**	**224**	LR	LR	21 36 44.3	
	comp=Z,73nm,19.8s,baz=242,slow=40						
BRVK	**Borovoye**	**17.75**	**48**	*e*P	**Pn**	**21 29 31.0**	**+0.8**
BRVK				pmax	pmax		
	comp=Z,12nm,0.5s						
BRVK	**Borovoye**	**17.75**	**48**	*e*P	**Pn**	**21 29 31.0**	**+0.8**
	comp=Z,12nm,0.5s						
BRVK	**Borovoye**	**17.75**	**48**	*e*Pn	**Pn**	**21 29 31.0**	**+0.8**
	comp=Z,12nm,0.5s						
BVA0	**Borovoye Array**	**17.79**	**48**	⇑P	**Pn**	**21 29 33.3**	**+2.6**
	comp=Z,1.7nm,0.8s,baz=233,slow=12,SNR=7.6						
BVAR	**Borovoye Array**	**17.79**	**48**	Pn	**Pn**	**21 29 30.0**	**-0.7**
	comp=Z,0.5nm,0.3s,baz=252,slow=9.2,SNR=7.5						
BVAR				Sn	**Sn**	**21 32 41.4**	**-6.6**
	comp=Z,0.4nm,0.3s,baz=240,slow=26,SNR=4.2						
BVAR				LR	LR	21 37 34.7	
	comp=Z,74nm,19.6s,baz=340,slow=41						
BVAR	**Borovoye Array**	**17.79**	**48**	P	**Pn**	**21 29 30.0**	**-0.7**
BVAR						21 32 41.4	
VOSK	**Vostochnaya**	**17.99**	**49**	⇑P	**Pn**	**21 29 33.6**	**+0.5**
	comp=Z,8.9nm,0.8s						
VOSK	**Vostochnaya**	**17.99**	**49**	P	**Pn**	**21 29 31.0**	**-2.1**
VOSK				pmax	pmax		
	comp=Z,9.0nm,0.8s						
KBL	**Kabul**	**18.09**	**111**	P	**Pn**	**21 29 38.7**	**+4.1**
KBL	**Kabul**	**18.09**	**111**	Pn	**Pn**	**21 29 38.7**	**+4.1**
EKS2	**Erkin-Say**	**18.60**	**82**	*e*P	**Pn**	**21 29 42.3**	**+1.6**
	comp=Z,2.3nm,0.6s						
EKS2	**Erkin-Say**	**18.60**	**82**	*e*P	**Pn**	**21 29 42.3**	**+1.6**
	comp=Z,2.4nm,0.6s						
DRGR		**18.61**	**291**	⇓*i*P	**Pn**	**21 29 42.4**	**+1.6**
AML	**Almayashu**	**18.63**	**84**	*e*P	**Pn**	**21 29 44.5**	**+3.4**
	comp=Z,5.3nm,0.9s						
AML	**Almayashu**	**18.63**	**84**	*e*P	**Pn**	**21 29 44.5**	**+3.4**
	comp=Z,5.3nm,0.9s						
KLMR	**Klimovskoe**	**18.77**	**346**	*c i*P	**Pn**	**21 29 40.6**	**-2.0**
KLMR				*e*S	**Sn**	**21 33 12.1**	**+0.6**
KLMR				pmax	pmax		
	comp=Z,18nm,1.1s						
KLMR	**Klimovskoe**	**18.77**	**346**	*i* P	**Pn**	**21 29 40.6**	**-2.0**
	comp=Z,18nm,1.1s						
SANT	**Santorini**	**18.82**	**257**	P	**Pn**	**21 29 40.1**	**-3.3**
	comp=Z,9.9nm,1.0s						
SANT	**Santorini**	**18.82**	**257**	P	**Pn**	**21 29 40.1**	**-3.3**
	comp=Z,9.9nm,1.0s						
KWP	**Kalwaria**	**18.95**	**300**	*e*P	**Pn**	**21 29 43.5**	**-1.4**
KWP				pmax	pmax		
	comp=Z,8.0nm,0.9s						
KWP	**Kalwaria**	**18.95**	**300**	*e*P	**Pn**	**21 29 43.5**	**-1.4**
	comp=Z,8.2nm,0.9s						
KWP	**Kalwaria**	**18.95**	**300**	*e*P	**Pn**	**21 29 43.5**	**-1.5**
	comp=Z,8.2nm,0.9s						
KOLS	**Kolonicke sedl**	**19.12**	**297**	*e*P	**Pn**	**21 29 43.1**	**-3.8**
UCH	**Uchtor**	**19.21**	**83**	*e*P	**Pn**	**21 29 48.9**	**+0.8**
	comp=Z,1.5nm,0.6s						
UCH	**Uchtor**	**19.21**	**83**	*e*P	**Pn**	**21 29 48.9**	**+0.8**
	comp=Z,1.5nm,0.6s						
TIM	**Timisoara**	**19.63**	**288**	⇓*i*P	pP	21 30 06.7	+7.7
TIM	**Timisoara**	**19.63**	**288**	⇓P	pP	21 30 06.7	+7.7
CRVS	**Cervenica-Dubn**	**19.64**	**297**	*e*P	**Pn**	**21 29 48.0**	**-5.2**
CRVS				*e*		22 33 44.2	
IDI	**Anoyia**	**19.74**	**255**	P	**Pn**	**21 29 51.0**	**-3.5**
	comp=Z,0.3nm,0.3s,baz=107,slow=5.6,SNR=6.9						
STHS	**Stebnicka Huta**	**19.86**	**299**	*e*P	**Pn**	**21 29 52.3**	**-3.4**
STHS	**Stebnicka Huta**	**19.86**	**299**	*e*P	**Pn**	**21 29 52.4**	**-3.3**
TKM2	**Tokmak 2**	**19.88**	**81**	*e*P	**Pn**	**21 29 55.4**	**-0.6**
TKM2				pmax	pmax		
	comp=Z,4.0nm,0.8s						
TKM2	**Tokmak 2**	**19.88**	**81**	*e*P	**Pn**	**21 29 55.4**	**-0.6**
	comp=Z,4.1nm,0.8s						
TKM2	**Tokmak 2**	**19.88**	**81**	*e*P	**Pn**	**21 29 55.4**	**-0.6**
	comp=Z,4.1nm,0.8s						
PSZ	**Piszkesteto**	**20.59**	**294**	*e*P	**P**	**21 30 02.3**	**+0.4**
PSZ				pmax	pmax		
	comp=Z,3.0nm,1.0s						
PSZ	**Piszkesteto**	**20.59**	**294**	*e*P	**P**	**21 30 02.3**	**+0.4**
	comp=Z,3.5nm,1.0s						
PSZ	**Piszkesteto**	**20.59**	**294**	*e*P	**P**	**21 30 02.3**	**+0.4**
	comp=Z,3.5nm,1.0s						
DIVS	**Divibare**	**20.62**	**283**	*e*P	**P**	**21 30 01.9**	**-0.4**
OJC	**Ojcow**	**20.91**	**300**	*e*P	**P**	**21 30 08.0**	**+2.6**
PKSM	**Moragy**	**21.42**	**289**	⇑*i*P	**P**	**21 30 10.0**	**-0.9**
PKSM	**Moragy**	**21.42**	**289**	⇑P	**P**	**21 30 10.0**	**-0.9**
KURBB	**Kurchatov Arra**	**21.91**	**59**	⇓P	**P**	**21 30 17.2**	**+1.0**
	comp=Z,0.8nm,0.7s,mb3.3						
KURK	**Kurchatov**	**21.98**	**59**	⇑P	**P**	**21 30 18.2**	**+1.4**
	comp=Z,9.2nm,1.1s,mb4.1						
KURK	**Kurchatov**	**21.98**	**59**	P	**P**	**21 30 16.9**	**0.0**
	comp=Z,3.6nm,0.6s,mb4.0,baz=263,slow=11,SNR=14						
KURK				LR	LR	21 40 11.7	
	comp=Z,59nm,20.7s,MS3.0,baz=250,slow=40						
KURK	**Kurchatov**	**21.98**	**59**	P	**P**	**21 30 18.2**	**+1.3**
KURK				pmax	pmax		
	comp=Z,9.0nm,1.1s,mb4.1						
KURK	**Kurchatov**	**21.98**	**59**	P	**P**	**21 30 18.2**	**+1.3**
	comp=Z,9.2nm,1.1s,mb4.1						
MORC	**Moravsky Berou**	**22.29**	**299**	*e*P	**P**	**21 30 19.0**	**-1.2**
MORC				pmax	pmax		
	comp=Z,2.0nm,0.7s,mb3.7						
MORC	**Moravsky Berou**	**22.29**	**299**	*e*P	**P**	**21 30 19.0**	**-1.2**
	comp=Z,1.7nm,0.7s,mb3.6						
MORC	**Moravsky Berou**	**22.29**	**299**	*e*P	**P**	**21 30 19.0**	**-1.2**
	comp=Z,1.7nm,0.7s,mb3.6						
MODS	**Modra-Piesok**	**22.36**	**295**	*e*P	**P**	**21 30 21.6**	**+0.6**
JOF	**Joensuu**	**22.41**	**339**	*e*p	**P**	**21 30 21.5**	**+0.2**
	comp=Z,3.9nm,0.5s,mb4.1						
JOF	**Joensuu**	**22.41**	**339**	*e*P	**P**	**21 30 21.5**	**+0.2**
JOF				pmax	pmax		
	comp=Z,4.0nm,0.5s,mb4.1						
FINES	**FINESS Array B**	**22.87**	**332**	*e*P	**P**	**21 30 26.1**	**-0.1**
KAF	**Kangasniemi**	**23.26**	**333**	*e*p	**P**	**21 30 31.3**	**+0.9**
	comp=Z,1.5nm,0.5s,mb3.7						
KAF	**Kangasniemi**	**23.26**	**333**	*e*P	**P**	**21 30 31.3**	**+0.9**
KAF				pmax	pmax		
	comp=Z,2.0nm,0.5s,mb3.8						
MK31	**Makanchi Array**	**24.21**	**69**	⇑P	**P**	**21 30 40.7**	**+1.2**
	comp=Z,2.3nm,0.6s,mb3.8,baz=276,slow=7.1,SNR=35						
MK31	**Makanchi Array**	**24.21**	**69**	*i* P	**P**	**21 30 41.0**	**+1.6**
MK31				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb3.9						
MK31	**Makanchi Array**	**24.21**	**69**	*e*P	**P**	**21 30 41.0**	**+1.5**
MKAR	**Makanchi Array**	**24.21**	**69**	P	**P**	**21 30 41.0**	**+1.5**
	comp=Z,2.7nm,0.6s,mb3.8,baz=279,slow=7.2,SNR=32						
GERES	**GERESS Array B**	**24.75**	**296**	P	**P**	**21 30 43.8**	**-0.5**
	comp=Z,0.6nm,0.6s,mb3.3,baz=98,slow=9.6,SNR=6.2						
KHC	**Kasperske Hory**	**24.83**	**297**	*e*P	**P**	**21 30 46.1**	**+1.1**
CLL	**Collm**	**25.33**	**302**	*e*P	**P**	**21 30 50.0**	**+0.5**
CLL				*e*pP	pP	21 30 57.0	-0.6
NVS	**Novosibirsk**	**25.54**	**50**	*e*P	**P**	**21 30 51.9**	**+0.4**
APA	**Apatity**	**26.01**	**347**	⇓*i*P	pP	21 31 09.0	+5.4
APA				pmax	pmax		
	comp=Z,10.0nm,0.8s,mb4.4						
ZALV	**Zalesovo Beam**	**26.27**	**52**	P	**P**	**21 30 58.7**	**+0.7**
	comp=Z,1.6nm,0.6s,mb3.8,baz=264,slow=9.5,SNR=9.0						
ZALV				LR	LR	21 42 58.1	
	comp=Z,28nm,18.6s,MS2.8,baz=107,slow=40						
ZALV	**Zalesovo Beam**	**26.27**	**52**	P	**P**	**21 30 58.7**	**+0.7**
ZALV				LR	LR	21 42 58.1	
HFS	**Hagfors**	**27.20**	**321**	P	**P**	**21 31 05.8**	**-0.5**
	comp=Z,3.7nm,0.8s,mb4.0,baz=125,slow=9.3,SNR=11						
HFS				LR	LR	21 43 33.2	
	comp=Z,38nm,21.8s,MS2.9,baz=26,slow=40						
NB2	**NORSAR Subarra**	**28.68**	**322**	P	**P**	**21 31 19.3**	**-0.2**
	comp=Z,2.4nm,0.8s,mb4.0,baz=116,slow=8.6						
NOA	**NORSAR Array B**	**28.68**	**322**	P	**P**	**21 31 18.8**	**-0.7**
	comp=Z,3.2nm,0.8s,mb4.1,baz=115,slow=8.3,SNR=7.7						
NAO01	**NORSAR Array S**	**28.75**	**322**	P	**P**	**21 31 20.4**	**+0.2**
NAO01	**NORSAR Array S**	**28.75**	**322**	P	**P**	**21 31 20.4**	**+0.2**
ARCES	**ARCESS Array B**	**29.20**	**344**	P	**P**	**21 31 25.3**	**+1.3**
	comp=Z,2.2nm,0.7s,mb4.0,baz=149,slow=9.6,SNR=17						
LPL	**La Plagne**	**29.76**	**290**	*e*P	**P**	**21 31 27.6**	**-1.7**
MBDF	**Montbardon**	**29.88**	**288**	*e*P	**P**	**21 31 29.1**	**-1.3**
	comp=Z,16nm,1.2s,mb4.3						
MBDF	**Montbardon**	**29.88**	**288**	*e*P	**P**	**21 31 29.1**	**-1.3**
MBDF				pmax	pmax		
	comp=Z,8.0nm,1.2s,mb4.3						
MBDF	**Montbardon**	**29.88**	**288**	*e*P	**P**	**21 31 29.1**	**-1.3**
	comp=Z,7.8nm,1.2s,mb4.3						
ORIF	**Oris-en-Rattie**	**30.46**	**289**	*e*P	**P**	**21 31 31.5**	**-4.0**
KEST	**Kesra**	**30.86**	**270**	P	**P**	**21 31 38.5**	**-0.6**
	comp=Z,0.9nm,0.6s,mb3.8,baz=257,slow=3.7,SNR=6.8						
LDF	**La Druitiere**	**33.88**	**297**	*e*P	**P**	**21 32 04.7**	**-0.7**
FLN	**La Foliniere**	**34.09**	**297**	*e*P	**P**	**21 32 05.9**	**-1.4**
	comp=Z,8.9nm,0.8s,mb4.5						
FLN	**La Foliniere**	**34.09**	**297**	*e*P	**P**	**21 32 05.9**	**-1.4**
FLN				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.4						
FLN	**La Foliniere**	**34.09**	**297**	*e*P	**P**	**21 32 05.9**	**-1.4**
	comp=Z,4.4nm,0.8s,mb4.4						
GRR	**Gorron**	**34.40**	**297**	*e*P	**P**	**21 32 09.0**	**-0.9**
	comp=Z,7.6nm,0.9s,mb4.3						
GRR	**Gorron**	**34.40**	**297**	*e*P	**P**	**21 32 09.0**	**-0.9**
GRR				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb4.3						
GRR	**Gorron**	**34.40**	**297**	*e*P	**P**	**21 32 09.0**	**-0.9**
	comp=Z,3.8nm,0.9s,mb4.3						
SGMF	**Saint Gilles**	**35.54**	**297**	*e*P	**P**	**21 32 19.0**	**-0.7**
	comp=Z,5.9nm,0.7s,mb4.3						
SGMF	**Saint Gilles**	**35.54**	**297**	*e*P	**P**	**21 32 19.0**	**-0.7**
SGMF				pmax	pmax		
	comp=Z,3.0nm,0.7s,mb4.3						
SGMF	**Saint Gilles**	**35.54**	**297**	*e*P	**P**	**21 32 19.0**	**-0.7**
	comp=Z,3.0nm,0.7s,mb4.3						
ROSF	**Rostrenen**	**35.99**	**297**	*e*P	**P**	**21 32 22.7**	**-0.9**
SPITS	**Spitsbergen Ar**	**37.62**	**350**	P	**P**	**21 32 38.9**	**+1.8**
	comp=Z,12nm,0.9s,mb4.6,baz=5.7,slow=7.8,SNR=4.5						
SONM	**Songino Array**	**40.20**	**62**	P	**P**	**21 33 00.0**	**+0.9**
	comp=Z,0.3nm,0.6s,mb3.2,baz=283,slow=8.7,SNR=3.4						
SONM				LR	LR	21 50 51.8	
	comp=Z,45nm,20.6s,MS3.3,baz=68,slow=38						
SONM	**Songino Array**	**40.20**	**62**	P	**P**	**21 33 00.0**	**+0.9**
SONM				LR	LR	21 50 51.8	
ULN	**Ulaanbaatar**	**40.62**	**62**	*e*P	**P**	**21 33 04.0**	**+1.4**
ULN	**Ulaanbaatar**	**40.62**	**62**	*e*P	**P**	**21 33 04.4**	**+1.8**
	comp=Z,1.1nm,0.5s,mb3.7						
SFS	**San Fernando**	**41.90**	**280**	P	**P**	**21 33 12.8**	**-0.5**
TOA0	**Torodi Ar. Sit**	**49.91**	**248**	*e*P	**P**	**21 34 16.4**	**-0.2**
TOA0	**Torodi Ar. Sit**	**49.91**	**248**	*e*P	**P**	**21 34 16.4**	**-0.2**
TORD	**Torodi Ar. Bea**	**49.91**	**248**	P	**P**	**21 34 15.7**	**-1.0**
	comp=Z,0.5nm,0.6s,mb3.8,baz=38,slow=7.0,SNR=8.0						
DBIC	**Dimbokro**	**59.02**	**248**	P	**P**	**21 35 25.3**	**+2.4**
	comp=Z,8.0nm,1.0s,mb4.7,baz=64,slow=9.2,SNR=5.7						
DBIC	**Dimbokro**	**59.02**	**248**	P	**P**	**21 35 25.3**	**+2.5**
DBIC				pmax	pmax		
	comp=Z,8.0nm,1.0s						
DBIC	**Dimbokro**	**59.02**	**248**	*e*P	**P**	**21 35 21.8**	**-1.0**
DBIC	**Dimbokro**	**59.02**	**248**	*e*P	**P**	**21 35 21.8**	**-1.1**
LBTB	**Lobatse**	**70.78**	**202**	P	**P**	**21 36 38.2**	**-0.8**
LBTB	**Lobatse**	**70.78**	**202**	P	**P**	**21 36 38.2**	**-0.8**
BOSA	**Boshof**	**74.28**	**201**	P	**P**	**21 37 05.2**	**+5.4**
	comp=Z,5.5nm,0.8s,mb4.5,baz=359,slow=10,SNR=6.1						
PDAR	**Pinedale Array**	**92.45**	**344**	LR	LR	22 27 20.8	
	comp=Z,42nm,18.1s,MS3.9,baz=258,slow=40						

JMA 08 21:32:57.1±0.3**, 4333N×14670E, h45**^{km}±3^{km}**, M3.5, Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEM2	**Nemuro 2**	**0.70**	**273**	P	Pn	21 33 10.6	0.0
NEM2				*e*S	Sn	21 33 20.6	+0.2
JRA	**Rausu**	**1.30**	**298**	P	Pn	21 33 19.0	+0.3
JNK	**Nakash**	**1.47**	**281**	P	Pn	21 33 21.2	+0.2
JNK				*e*S	Sn	21 33 39.1	+0.1
JAK	**Akkeshi**	**1.50**	**258**	P	Pn	21 33 22.1	+0.5
JAK				*e*S	Sn	21 33 40.5	+0.6
JTKR	**Abashiri--Toko**	**2.12**	**288**	P	Pn	21 33 31.5	+1.4
JAR	**Ashorobuto**	**2.14**	**270**	P	Pn	21 33 31.4	+1.1

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*ISCJB **08** 21:40:18.0±0.7, 3908N±004×2644E±007, h4^{km}±11^{km}, Error ellipse: s-maj=10.2km s-min=5.6km az=22.1*

*CSEM **08** 21:40:17.0±0.3, 3905N×2646E, h10^{km}, MD2.9, Error ellipse: s-maj=12.9km s-min=8.5km az=104.0*

*DDA **08** 21:40:18.1, 3907N×2651E, h7^{km}±1^{km}, Md2.9*

ISC 08 21:40:18.3±0.7**, 3909N**±004×**2644E**±008**, h9**^{km}±14^{km}**, n6,** σ**0^{s}18**/10**, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PRK	**Paraskevi**	**0.20**	**321**	P	**Pg**	**21 40 22.4**	**0.0**
AYVA	**Ayvalik**	**0.29**	**42**	*i* P	**Pg**	**21 40 24.0**	**-0.1**
AYVA				*i* S	**Sg**	**21 40 28.1**	**+0.1**
URLA	**Izmir**	**0.74**	**170**	*i* P	**Pg**	**21 40 32.1**	**-0.4**
URLA				*i* S	**Sg**	**21 40 42.3**	**+0.2**
CHOS	**Chios island**	**0.76**	**203**	P	**Pg**	**21 40 32.9**	**-0.1**
CHOS				S	**Sg**	**21 40 43.1**	**+0.2**
BALY	**Balya**	**1.12**	**54**	*i* P	**Pg**	**21 40 39.8**	**-0.1**
BALY				*i* S	**Sg**	**21 40 54.6**	**+0.2**
LIA	**Limnos Island**	**1.26**	**310**	P	**Pn**	**21 40 42.1**	**0.0**

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*ISCJB **08** 21:40:27.7±0.9, 679S±007×12740E±009, h425^{km}±10^{km}, mb3.6/6, Error ellipse: s-maj=15.6km s-min=7.9km az=144.7*

*NEIC **08** 21:40:28.9±0.7, 681S×12734E, h422^{km}±10^{km}, mb3.9/6, Error ellipse: s-maj=10.8km s-min=6.3km az=64.0*

*IDC **08** 21:40:29.1±3.0, 680S×12726E, h422^{km}±34^{km}, mb3.2/4, mb1 3.3/8, mb1mx3.1/16, mbtmp3.2/8, Error ellipse: s-maj=51.5km s-min=10.8km az=59.0*

ISC 08 21:40:28.8±0.8**, 681S**±007×**12734E**±008**, h419**^{km}±10^{km}**, n29,** σ**0^{s}81**/32**, mb3.6**/6**, 1D, Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	**Baumata**	**4.96**	**227**	P	**P**	**21 41 53.1**	**+1.8**
	4.9nm,0.3s,baz=45,slow=1.6,SNR=6.0						
BATI				S	**S**	**21 42 57.3**	**-1.1**
	4.7nm,0.3s,baz=180,slow=6.1,SNR=4.9						
KAKA	**Kakadu**	**7.72**	**140**	*e*P	**P**	**21 42 19.3**	**-1.5**
	8.4nm,0.5s						
FITZ	**Fitzroy Crossi**	**11.34**	**188**	*e*P	**P**	**21 43 02.6**	**+1.8**
	3.9nm,1.3s						
FITZ	**Fitzroy Crossi**	**11.34**	**188**	P	**P**	**21 43 02.2**	**+1.4**
	0.2nm,0.3s,baz=57,slow=14,SNR=7.0						
DAV	**Davao City (W)**	**13.90**	**353**	*e*P	**P**	**21 43 29.2**	**+0.3**
	0.1nm,0.7s						
WRA	**Warramunga Arr**	**14.71**	**153**	P	**P**	**21 43 37.2**	**-0.3**
	1.4nm,0.3s,baz=334,slow=11,SNR=169						
WRA				S	**S**	**21 46 11.7**	**-2.0**
	0.1nm,0.3s,baz=334,slow=21,SNR=6.0						
WB2	**Warramunga Arr**	**14.72**	**153**	*e*P	**P**	**21 43 37.3**	**-0.3**
MBWA	**Marble Bar**	**16.05**	**207**	*e*P	**P**	**21 43 51.4**	**-0.5**
	0.5nm,0.3s						
ASAR	**Alice Springs**	**17.91**	**160**	P	**P**	**21 44 12.2**	**+0.6**
	1.6nm,0.3s,baz=349,slow=13,SNR=88						
ASAR				S	**S**	**21 47 17.3**	**+1.6**
	0.1nm,0.3s,baz=342,slow=25,SNR=4.5						
KSM	**Kuching**	**18.89**	**295**	P	**P**	**21 44 22.2**	**+0.2**
CTAO	**Charters Tower**	**22.60**	**128**	*e*P	**P**	**21 44 56.4**	**+0.7**
	7.3nm,1.3s,mb4.0						
STKA	**Stephens Creek**	**28.27**	**154**	⇓*i*P	**P**	**21 45 46.7**	**+0.7**
	2.0nm,0.3s,mb3.9						
STKA	**Stephens Creek**	**28.27**	**154**	P	**P**	**21 45 46.9**	**+0.9**
	2.5nm,0.3s,mb4.0,baz=328,slow=10,SNR=25						
HNR	**Honiara**	**32.38**	**97**	P	**P**	**21 46 22.8**	**+0.8**
CMAR	**Chiang Mai Arr**	**37.62**	**312**	P	**P**	**21 47 06.0**	**-0.1**
	0.3nm,0.5s,mb2.9,baz=146,slow=7.2,SNR=3.9						
CHTO	**Chiang Mai**	**37.84**	**313**	P	**P**	**21 47 07.9**	**0.0**
TAU	**Tasmania Unive**	**40.04**	**157**	*e*P	**P**	**21 47 24.6**	**-0.9**
MAJO	**Matsushiro**	**44.32**	**13**	P	**P**	**21 47 59.4**	**-0.2**
MK31	**Makanchi Array**	**66.64**	**328**	*e*P	**P**	**21 50 36.0**	**-0.1**
MKAR	**Makanchi Array**	**66.64**	**328**	P	**P**	**21 50 36.2**	**+0.1**
	0.6nm,0.4s,mb3.6,baz=118,slow=8.0,SNR=18						
TKM2	**Tokmak 2**	**68.18**	**322**	*e*P	**P**	**21 50 45.7**	**0.0**
UCH	**Uchtor**	**68.48**	**320**	*e*P	**P**	**21 50 47.9**	**+0.3**
ZALV	**Zalesovo Beam**	**70.27**	**335**	P	**P**	**21 50 57.2**	**-0.9**
	1.0nm,0.6s,mb3.5,baz=134,slow=6.0,SNR=4.7						
KURK	**Kurchatov**	**71.00**	**330**	*e*P	**P**	**21 51 02.5**	**-0.1**
	1.2nm,0.5s,mb3.7						
MAW	**Mawson**	**74.16**	**201**	P	**P**	**21 51 20.7**	**0.0**
BRVK	**Borovoye**	**76.58**	**329**	P	**P**	**21 51 34.5**	**+0.1**
GNI	**Garni**	**88.72**	**311**	P	**P**	**21 52 36.0**	**-0.3**
KIV	**Kislovodsk**	**90.84**	**314**	P	**P**	**21 52 45.6**	**-0.5**
LBTB	**Lobatse**	**97.69**	**244**	P	**P**	**21 53 17.6**	**-0.2**

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*ISCJB **08** 21:52:35.7±0.5, 28.12S±0.03×67.35W±0.04, h115^{km}±4^{km}, mb4.8/56, Error ellipse: s-maj=5.6km s-min=4.6km az=158.1*

*MOS **08** 21:52:35.7±1.1, 28.01S×67.39W, h114^{km}, mb5.0/18, Error ellipse: s-maj=11.6km s-min=7.8km az=95.3*

*BJI **08** 21:52:37.4, 28.10S×67.40W, h121^{km}, mB4.8*

*NEIC **08** 21:52:37.5±0.4, 28.12S×67.36W, h121^{km}±3^{km}, mb4.8/60, Error ellipse: s-maj=4.9km s-min=3.8km az=67.0*

*IDC **08** 21:52:38.8±0.4, 28.15S×67.37W, h136^{km}±3^{km}, mb4.3/11, mb1 4.4/14, mb1mx4.3/18, mbtmp4.2/14, MS3.4/2,*

Ms1 3.4/2, ms1mx2.9/24, Error ellipse: s-maj=14.0km s-min=8.3km az=90.0

*GUC **08** 21:52:39.2±1.1, 28.18S×67.54W, h121km, ML5.2*

*DJA **08** 21:53:40, 30.41S×66.20W, h650km, mb4.6/4*

ISC 08 21:52:37.1±0.4**, 28.13S**±003×**67.35W**±004**, h115**km±3km**, h138**km±4.4km**:pP-P, n533, σ0.64**/489**, mb4.8**/56**, 146C-153D, La Rioja Province**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VACH	Vallenar	3.04	261	⇑iP	Pn	21 53 24.3	+0.6
VACH				iS	Sn	21 53 58.4	-1.2
VACH				AML	AML	21 54 00.7	
	comp=N,9µm,0.2s						
VACH	Vallenar	3.04	261	⇑iP	Pn	21 53 24.3	+0.6
VACH				iS	Sn	21 53 58.4	-1.2
LCO	Las Campanas	3.07	253	ePn	Pn	21 53 24.9	+0.7
LCO				eSn	Sn	21 53 59.8	-0.8
CDCH	Caldera	3.26	288	eP	Px	21 55 35.8	
CDCH				iS	Sx	21 56 11.6	
CFAA	Coronel Fontan	3.54	192	P	Pn	21 53 32.0	+1.6
	comp=N,4.9nm,0.3s,baz=358,slow=11,SNR=271						
CFAA				S	Sn	21 54 12.4	+0.7
	comp=N,25nm,0.3s,baz=14,slow=13,SNR=30						
TLL	Tololo Astrono	3.64	235	⇑iP	Pn	21 53 32.6	+0.9
TLL				eS	Sn	21 54 14.1	+0.2
TLL				AML	AML	21 54 16.2	
	comp=E,2µm,1.3s						
TLL	Tololo Astrono	3.64	235	⇑iP	Pn	21 53 32.6	+0.9
TLL				iS	Sn	21 54 14.1	+0.1
LSCH	La Serena	3.84	242	eP	Pn	21 53 33.9	-0.6
LSCH				iS	Sn	21 54 16.2	-2.6
LSCH	La Serena	3.84	242	⇑iP	Pn	21 53 33.9	-0.6
LSCH				iS	Sn	21 54 16.7	-2.1
OVCH	Ovalle	4.17	233	iP	Pn	21 53 38.0	-0.8
OVCH				iS	Sn	21 54 23.7	-2.9
OVCH	Ovalle	4.17	233	⇓iP	Pn	21 53 38.1	-0.7
CPN1	Cerro Paranal	4.44	321	eP	Pn	21 53 43.5	+1.0
CHNG	Los Chungos	5.19	223	eP	Pn	21 53 51.0	-1.6
CHNG				iS	Sn	21 54 47.1	-4.1
ANCH	Antofagasta	5.22	327	eP	Pn	21 53 53.3	+0.3
ANCH	Antofagasta	5.22	327	⇑iP	Pn	21 53 53.5	+0.5
LVC	Limon Verde	5.67	345	P	Pn	21 54 01.3	+2.2
	comp=E,9.1nm,0.3s,baz=184,slow=7.7,SNR=47						
LVC				S	Sn	21 55 03.3	+0.2
	comp=E,8.0nm,0.3s,baz=154,slow=9.2,SNR=5.9						
LVC	Limon Verde	5.67	345	ePb	Pn	21 54 00.9	+1.7
PEL	Peldehue	5.76	209	eP	Pn	21 54 00.1	-0.2
PCH	Pirque	6.11	206	eP	Pn	21 54 05.7	+0.8
CPUP	Villa Florida	9.10	81	P	Pn	21 54 45.5	-0.1
	comp=E,6.0nm,0.3s,baz=237,slow=11,SNR=50						
CPUP				LR	LR	21 58 58.6	
	comp=E,130nm,20.4s,baz=162,slow=42						
CPUP	Villa Florida	9.10	81	eP	Pn	21 54 45.2	-0.3
CPUP				pmax	pmax		
	comp=Z,204nm,0.5s						
CPUP	Villa Florida	9.10	81	ePn	Pn	21 54 45.2	-0.3
	comp=Z,204nm,0.5s						
TRQA	Tornquist	10.87	157	ePn	Pn	21 55 09.3	0.0
LPAZ	La Paz	11.81	356	P	Pn	21 55 23.8	+1.8
	comp=Z,0.3nm,0.3s,baz=162,slow=8.9,SNR=14						
LPAZ	La Paz	11.81	356	eP	Pn	21 55 23.4	+1.4
LPAZ				pmax	pmax		
	comp=Z,13nm,0.7s						
LPAZ	La Paz	11.81	356	ePn	Pn	21 55 23.4	+1.5
	comp=Z,13nm,0.7s						
LPAZ				ePcP	PcP	22 00 56.6	-3.7
PLCA	Paso Flores	12.84	191	P	Pn	21 55 36.0	+0.7
	comp=Z,0.1nm,0.3s,baz=13,slow=11,SNR=5.3						
PLCA	Paso Flores	12.84	191	eP	Pn	21 55 36.3	+1.0
PLCA				pmax	pmax		
	comp=Z,8.0nm,0.9s						
PLCA	Paso Flores	12.84	191	ePn	Pn	21 55 36.3	+1.0
	comp=Z,8.3nm,0.9s						
SIV	San Ignacio	13.41	27	P	Pn	21 55 41.2	-1.7
	comp=Z,0.5nm,0.3s,baz=214,slow=11,SNR=14						
NNA	Nana	18.36	329	eP	P	21 56 42.6	-0.3
	comp=Z,11nm,0.7s						
SPB	Sao Paulo	18.48	80	eP	P	21 56 44.2	-0.1
BDFB	Brasilia	21.79	59	P	P	21 57 19.2	-0.7
	comp=Z,5.6nm,0.7s,mb4.0,baz=220,slow=15,SNR=5.5						
EFI	East Falkland	24.53	166	eP	P	21 57 45.3	-0.5
EFI				pmax	pmax		
	comp=Z,76nm,0.9s,mb5.1						
EFI	East Falkland	24.53	166	eP	P	21 57 45.3	-0.4
	comp=Z,76nm,0.9s,mb5.1						
USHA	Ushuaia	26.69	181	P	P	21 58 06.4	+1.2
	comp=Z,15nm,1.0s,mb4.5,baz=6.3,slow=9.2,SNR=2.5						
OTAV	Otavalo	30.15	337	eP	P	21 58 39.0	+2.6
ROSC	El Rosal	33.48	347	eP	P	21 59 05.3	-0.2
PAYG	Puerto Ayora	35.04	317	P	P	21 59 18.6	-0.4
SDV	Santo Domingo	36.94	355	eP	P	21 59 33.7	-1.4
JTS	JuntasAbangare	41.82	333	eP	P	22 00 16.9	+1.1
JTS				pmax	pmax		
	comp=Z,3.0nm,0.5s						
JTS	JuntasAbangare	41.82	333	eP	P	22 00 16.9	+1.1
	comp=Z,2.6nm,0.5s,mb4.2						
FDF	Fort de France	43.03	9	eP	P	22 00 23.8	-1.7
TGUH	Tegucigalpa,Un	46.17	333	eP	P	22 00 50.6	+0.2
	comp=Z,41nm,1.0s,mb5.1						
TEIG	Tepich	52.16	335	eP	P	22 01 35.0	-1.0
	comp=Z,36nm,0.6s,mb5.6						
VNA3	Neumayer Olymp	53.38	160	eP	P	22 01 44.3	0.0
VNA3				e		22 01 47.9	
VNA3				e		22 01 55.6	
VNA3				e		22 02 17.1	
VNA1	Neumayer--Stat	53.60	159	eP	P	22 01 46.4	+0.4
VNA1				e		22 01 49.9	
VNA1				e		22 01 57.3	
VNA2	Neumayer--Watz	53.96	159	eP	P	22 01 48.9	+0.3
VNA2				e		22 01 52.5	
VNA2				e		22 01 59.8	
VNA2				e		22 02 21.0	
SNAA	Sanae	55.58	160	eP	P	22 01 59.8	-0.5
SNAA				e		22 02 03.6	
SNAA				e		22 02 11.0	
SNAA				e		22 02 32.8	
SNAA	Sanae	55.58	160	eP	P	22 02 00.0	-0.3
BBSR	BB Station	60.22	3	eP	P	22 02 32.3	-0.8
	comp=Z,8.4nm,0.7s,mb4.9						
NHSC	New Hope	62.11	348	eP	P	22 02 46.1	+0.3
COW	Cow Castle Cre	62.48	347	eP	P	22 02 48.2	0.0
JSC	Jenkinsville	63.46	347	eP	P	22 02 54.1	-0.6
LRAL	Lakeview Retre	63.63	342	eP	P	22 02 54.4	-1.4
VBMS	Vicksburg	63.94	338	eP	P	22 02 56.3	-1.6
CPCT	Cooper Cave	65.28	345	eP	P	22 03 05.8	-0.8
TKL	Tuckaleechee C	65.31	345	eP	P	22 03 05.1	-1.7
SWET	Sewanee	65.41	343	eP	P	22 03 06.4	-1.0
OXF	Oxford	65.71	340	eP	P	22 03 07.7	-1.7
OXF				pmax	pmax		
	comp=Z,41nm,1.1s,mb5.2						
OXF	Oxford	65.71	340	eP	P	22 03 07.7	-1.7
	comp=Z,41nm,1.1s,mb5.2						
ELN	Prospectdale	66.22	348	eP	P	22 03 11.6	-1.0
WVT	Waverly	66.77	342	eP	P	22 03 14.5	-1.6
WVT				pmax	pmax		
	comp=Z,73nm,0.6s,mb5.7						
WVT	Waverly	66.77	342	eP	P	22 03 14.5	-1.6
	comp=Z,73nm,0.6s,mb5.7						
TXAR	Lajitas Array	66.87	326	P	P	22 03 16.7	-0.2
	comp=Z,2.5nm,0.7s,mb4.2,baz=147,slow=8.0,SNR=17						
TXAR	Lajitas Array	66.87	326	P	P	22 03 16.7	-0.2
UALR	University of	66.88	338	eP	P	22 03 15.5	-1.3
	comp=Z,17nm,0.8s,mb4.9						
MIAR	Mount Ida	67.09	337	eP	P	22 03 17.2	-1.0
WCI	Wyandotte Cave	68.36	344	eP	P	22 03 24.3	-1.7
MCWV	Mont Chateau	68.44	350	eP	P	22 03 26.3	-0.2
	comp=Z,18nm,0.8s,mb5.0						
SIUC	Southern Illin	68.64	342	eP	P	22 03 26.7	-1.0
	comp=Z,28nm,0.7s,mb5.2						
SSPA	Standing Stone	69.11	351	eP	P	22 03 30.4	-0.3
FVM	French Village	69.23	341	eP	P	22 03 30.3	-1.2
BLO	Bloomington	69.31	344	eP	P	22 03 29.6	-2.3
BLO				pmax	pmax		
	comp=Z,27nm,0.7s,mb5.2						
BLO	Bloomington	69.31	344	eP	P	22 03 29.6	-2.3
	comp=Z,27nm,0.7s,mb5.2						
DBIC	Dimbokro	69.45	70	P	P	22 03 32.9	-0.5
	comp=Z,7.2nm,0.6s,mb4.7,baz=195,slow=10.0,SNR=12						
DBIC				LR	LR	22 33 01.5	
	comp=Z,36nm,18.6s,baz=310,slow=35						
CCM	Cathedral Cave	69.54	340	eP	P	22 03 32.3	-1.1
CCM				pmax	pmax		
	comp=Z,57nm,0.6s,mb5.6						
CCM	Cathedral Cave	69.54	340	eP	P	22 03 32.2	-1.1
	comp=Z,57nm,0.6s,mb5.6						
ACSO	Alum Creek Sta	69.55	347	eP	P	22 03 32.5	-0.9
GDL2	Guadalupe Moun	69.57	327	eP	P	22 03 34.0	+0.3
SBA	Scott Base	69.59	191	eP	P	22 03 33.4	+0.1
SBA						22 03 55.0	
SBA				pmax	pmax		
	comp=Z,9.0nm,1.5s,mb4.4						
SBA	Scott Base	69.59	191	eP	P	22 03 33.4	+0.1
	comp=Z,9.3nm,1.5s,mb4.4						
SBA				PcP	PcP	22 03 55.0	-0.6
ERPA	Erie	70.87	350	eP	P	22 03 41.1	-0.3
KSU1	Kansas State U	72.25	336	eP	P	22 03 48.5	-1.2
	comp=Z,5.8nm,0.4s,mb4.8						
BNM	Barren Site	72.25	327	eP	P	22 03 50.2	+0.3
LPM	Los Pinos Moun	72.38	327	eP	P	22 03 49.5	-1.1
LAZ	Ladron	72.70	326	eP	P	22 03 53.3	+0.8
ANMO	Albuquerque	72.82	327	iP	P	22 03 53.8	+0.6
ANMO	Albuquerque	72.82	327	eP	P	22 03 53.7	+0.5
CBKS	Cedar Bluff	73.15	334	eP	P	22 03 55.0	-0.1
Y19A	Nutrioso	73.41	325	⇑P	P	22 03 57.6	+0.9
	baz=74,SNR=6.7						
JFWS	Jewell Farm	73.77	343	eP	P	22 03 57.6	-1.0
X19A	St. Johns	73.80	325	⇑P	P	22 03 59.7	+0.7
	baz=74						
Y17A	Roosevelt	74.03	323	⇑P	P	22 04 01.0	+0.6
	baz=74						
SUR	Sutherland	74.10	118	eP	P	22 04 02.0	+1.0
W19A	Sanders	74.38	325	⇓P	P	22 04 02.9	+0.5
	baz=75						
W18A	Petrified Fore	74.56	325	⇓P	P	22 04 03.8	+0.4
	baz=75						
SDCO	Great Sand Dun	74.66	329	eP	P	22 04 04.4	+0.6
V19A	Window Rock	74.69	326	⇓P	P	22 04 04.6	+0.5
	baz=75,SNR=9.8						
X16A	Lo Mia Camp, P	74.90	323	⇓P	P	22 04 05.9	+0.5
	baz=75,SNR=7.3						
113A	Mohawk Valley,	74.91	321	⇑P	P	22 04 05.8	+0.3
	baz=75						
Y15A	Casa Rosa Ranc	75.02	323	⇑P	P	22 04 06.3	+0.3
	baz=75						
W17A	Winslow	75.03	324	⇑P	P	22 04 06.3	+0.2
	baz=75						
V18A	Ganado	75.13	325	⇓P	P	22 04 07.1	+0.5
	baz=75						
Y14A	Wickenburg	75.37	322	⇓P	P	22 04 08.6	+0.5
	baz=76						
X15A	Humboldt	75.37	323	⇑P	P	22 04 08.7	+0.6
	baz=76,SNR=6.5						
W16A	Flagstaff	75.47	324	⇓P	P	22 04 09.5	+0.9
	baz=76,SNR=12						
T19A	Beclabito	75.56	327	⇑P	P	22 04 09.5	+0.4
	baz=76,SNR=7.2						
MVCO	Mesa Verde	75.61	327	⇓P	P	22 04 09.7	+0.3
	baz=76,SNR=5.9						
X14A	Yava	75.71	323	⇓P	P	22 04 10.6	+0.6
	baz=76,SNR=5.8						
WUAZ	Wupatki	75.71	324	⇑P	P	22 04 10.7	+0.7
	baz=76,SNR=11						
WUAZ	Wupatki	75.71	324	eP	P	22 04 10.2	+0.2
	comp=Z,21nm,1.1s,mb4.8						
Y13A	Salome	75.73	321	⇓P	P	22 04 10.5	+0.4
	baz=76						
W15A	Williams	75.92	323	⇓P	P	22 04 11.7	+0.6
	baz=76						
Y12C	Blythe	76.06	321	⇑P	P	22 04 12.7	+0.7
	baz=76						
U16A	Tuba City	76.07	325	⇓P	P	22 04 12.9	+0.9
	baz=76						
DVTC	Desert V Tower	76.16	319	⇓P	P	22 04 13.2	+0.7
	baz=76						
U17A	Shonto	76.19	325	⇓P	P	22 04 13.2	+0.5
	baz=76,SNR=12						
T18A	Mexican Hat	76.22	326	⇑P	P	22 04 12.9	+0.1
	baz=76,SNR=18						
X13A	Yucca	76.31	322	⇓P	P	22 04 13.7	+0.3
	baz=77,SNR=13						
S19A	Harvey Farm, M	76.34	327	⇓P	P	22 04 13.9	+0.4
	baz=77,SNR=16						
V15A	Kaibab Nationa	76.36	324	⇑P	P	22 04 14.5	+0.8
	baz=77,SNR=12						
W14A	Seligman	76.38	323	⇓P	P	22 04 14.4	+0.7
	baz=77,SNR=7.4						
PV01	Paradox Valley	76.38	328	eP	P	22 04 14.2	+0.5
ECSD	EROS,Sioux Fal	76.39	339	eP	P	22 04 12.7	-0.9
ISCO	Idaho Springs	76.40	331	eP	P	22 04 13.9	+0.1
ISCO				pmax	pmax		
	comp=Z,27nm,1.3s,mb4.8						
ISCO	Idaho Springs	76.40	331	eP	P	22 04 13.9	+0.2
	comp=Z,27nm,1.3s,mb4.8						
BAR	Barrett	76.50	319	eP	P	22 04 14.4	-0.1
MONP	Monument Peak	76.51	319	⇓P	P	22 04 15.0	+0.4
	baz=77						
BC3	Big Chuckw Mtn	76.51	320	⇑P	P	22 04 14.7	+0.2
	baz=77,SNR=11						
T17A	Navajo Res., N	76.57	326	⇓P	P	22 04 15.6	+0.8
	baz=77						
V14A	Boquillas Ranc	76.71	323	⇑P	P	22 04 16.6	+1.0
	baz=77,SNR=19						
S18A	Hurst Farm, Bl	76.72	326	⇓P	P	22 04 16.3	+0.7
	baz=77,SNR=36						
IRM	Iron Mountain	76.72	321	⇓P	P	22 04 15.8	+0.1
	baz=77,SNR=10						
W13A	Hualapai Mount	76.72	322	⇑P	P	22 04 16.5	+0.8
	baz=77,SNR=11						
PV10	Paradox Valley	76.80	328	eP	P	22 04 15.8	-0.2
TSUM	Tsumeb	76.88	105	eP	P	22 04 16.9	-0.2
	comp=Z,8.4nm,0.6s,mb4.7						
U15A	North Rim	76.89	324	⇑P	P	22 04 17.5	+0.9
	baz=77,SNR=19						
T16A	Glen Canyon Da	76.91	325	⇓P	P	22 04 17.6	+0.9
	baz=77						
PFO	Pinyon Flat Ob	77.05	320	⇓P	P	22 04 18.3	+0.7
	baz=77						
S17A	Black Ridge (B	77.07	326	⇑P	P	22 04 17.8	+0.3
	baz=77						
BELC	Belle Mtn.	77.08	320	⇑P	P	22 04 18.0	+0.3
	baz=77						
R18A	Canyonlands Na	77.22	327	⇑P	P	22 04 18.4	+0.1
	baz=78,SNR=6.3						
V13A	Grand Canyon W	77.34	323	⇓P	P	22 04 19.7	+0.5
	baz=78,SNR=13						
U14A	Mt Trumbull	77.34	324	⇓P	P	22 04 19.9	+0.8
	baz=78,SNR=10						
Q19A	Hogan Spring (	77.36	328	⇓P	P	22 04 19.5	+0.3
	baz=78,SNR=5.7						
LDFC	Landfair	77.37	322	eP	P	22 04 20.3	+1.0
T15A	Red Dirt Ranch	77.39	325	⇑P	P	22 04 20.3	+1.0
	baz=78						
GMRC	Granite Mounta	77.46	321	⇑P	P	22 04 20.3	+0.5
	baz=78,SNR=12						
MURC	Murrieta	77.47	319	⇓P	P	22 04 20.1	+0.1
	baz=78						
S16A	Weppner Ranch,	77.53	325	⇑P	P	22 04 20.9	+0.7
	baz=78						
PHWY	Pilot Hill	77.57	332	eP	P	22 04 20.6	+0.3
MAW	Mawson	77.60	163	⇓iP	P	22 04 19.6	-0.6
	comp=Z,7.4nm,1.0s,mb4.4						
MAW				e		22 04 54.3	
MAW	Mawson	77.60	163	P	P	22 04 19.8	-0.4
	comp=Z,8.1nm,0.9s,mb4.5,baz=232,slow=6.2,SNR=18						
MAW				pP	pP	22 04 53.8	+4.6
	comp=Z,6.9nm,1.0s,baz=253,slow=5.0,SNR=6.2						
MAW	Mawson	77.60	163	⇓iP	P	22 04 19.6	-0.6
MAW				pmax	pmax		
	comp=Z,7.0nm,1.0s						
R17A	Hanksville Air	77.64	326	⇑P	P	22 04 20.8	+0.1
	baz=78,SNR=19						
V12A	Nelson	77.71	322	⇑P	P	22 04 21.3	+0.1
	baz=78,SNR=10						
U13A	Pakoon Wash	77.75	323	⇑P	P	22 04 22.0	+0.5
	baz=78,SNR=6.8						
T14A	Hurricane	77.78	324	⇑P	P	22 04 22.3	+0.7
	baz=78						
SCI	San Clemente I	77.82	318	⇑P	P	22 04 22.6	+0.7
	baz=78						
HEC	Hector,Ludlow	77.87	321	⇓P	P	22 04 22.7	+0.6
	baz=78						
Q18A	Rafter H Ranch	77.89	327	⇑P	P	22 04 22.3	+0.1
	baz=78,SNR=11						
R16A	Teasdale	77.91	326	⇑P	P	22 04 22.4	+0.2
	baz=78,SNR=5.3						
CIS	Catalina Islan	78.03	318	⇓P	P	22 04 23.4	+0.4
	baz=78						
U12A	Valley of Fire	78.07	323	⇓P	P	22 04 23.5	+0.3
	baz=78,SNR=5.2						
TUQ	Turquoise Moun	78.09	321	⇓P	P	22 04 23.7	+0.5
	baz=78,SNR=5.6						
SRU	San Rafael	78.09	327	⇑P	P	22 04 23.3	+0.1
	baz=78,SNR=20						
SRU	San Rafael	78.09	327	eP	P	22 04 23.4	+0.2
T13A	Saint George	78.18	324	⇓P	P	22 04 24.4	+0.7
	baz=78						
BFSC	Mount Baldy St	78.19	319	⇓P	P	22 04 24.5	+0.5
	baz=78						
Q16A	Castle Valley	78.25	327	⇑P	P	22 04 24.4	+0.3
	baz=78,SNR=11						
P18A	Preston Nutter	78.36	328	⇓P	P	22 04 25.3	+0.6
	baz=79,SNR=14						
TOA0	Torodi Ar. Sit	78.36	68	eP	P	22 04 24.9	-0.4
TORD	Torodi Ar. Bea	78.36	68	P	P	22 04 25.1	-0.2
	comp=Z,49nm,0.8s,mb5.3,baz=265,slow=5.7,SNR=492						
TORD				pP	pP	22 04 57.7	+3.3
	comp=Z,6.1nm,0.8s,baz=261,slow=5.3,SNR=2.7						
TORD	Torodi Ar. Bea	78.36	68	P	P	22 04 25.1	-0.2
TORD				pP	pP	22 04 57.7	+3.3
O19A	Miners Draw (B	78.37	329	⇓P	P	22 04 25.1	+0.3
	baz=79						
MSU	Marysvale	78.43	326	eP	P	22 04 25.8	+0.7
SHPR	Sheep Range	78.46	322	eP	P	22 04 25.8	+0.5
P17A	Butcher Ranch,	78.48	327	⇓P	P	22 04 25.5	+0.1
	baz=79,SNR=8.6						
GSC	Goldstone	78.48	321	⇓P	P	22 04 25.7	+0.3
	baz=79,SNR=5.7						
GSC	Goldstone	78.48	321	eP	P	22 04 25.9	+0.5
ARUT	Antelope Range	78.52	324	eP	P	22 04 26.4	+0.8
TMUT	Trail Mountain	78.56	327	eP	P	22 04 26.7	+0.9
S13A	Holt Ranch, En	78.58	324	⇓P	P	22 04 26.8	+0.9
	baz=79,SNR=8.0						
RWWY	Rawlins	78.64	331	eP	P	22 04 26.6	+0.4
	comp=Z,33nm,1.1s,mb5.1						
O18A	Roosevelt	78.75	328	⇑P	P	22 04 27.0	+0.2
	baz=79,SNR=5.5						
EDW2	Edwards Air Fo	78.84	320	⇑P	P	22 04 27.2	-0.3
	baz=79						
N19A	John Jarvie Ra	78.87	329	⇑P	P	22 04 27.6	+0.1
	baz=79,SNR=13						
Q15A	Fillmore	78.91	326	⇑P	P	22 04 28.3	+0.6
	baz=79						
BLG	Laguna Peak	78.92	318	⇑P	P	22 04 28.1	+0.2
	baz=79						
P16A	Fountain Green	79.03	327	⇓P	P	22 04 29.6	+1.3
	baz=79						
U10A	Ash Meadows, A	79.03	322	⇓P	P	22 04 29.2	+0.7
	baz=79						
T11A	Corn Creek, Al	79.04	323	⇑P	P	22 04 29.1	+0.6
	baz=79,SNR=19						
O17A	Robinson Place	79.04	328	⇑P	P	22 04 29.0	+0.6
	baz=79,SNR=33						
R13A	O'Grain Ranch,	79.09	324	⇑P	P	22 04 29.3	+0.6
	baz=79,SNR=5.7						
LRMC	Laurel Mountai	79.10	320	⇑P	P	22 04 29.0	+0.2
	baz=79						
S12A	Delamar Landin	79.11	323	⇑P	P	22 04 29.9	+1.0
	baz=79						
BOSA	Boshof	79.16	117	P	P	22 04 29.4	-0.1
	comp=Z,10nm,0.5s,mb4.9,baz=242,slow=3.9,SNR=29						
BOSA	Boshof	79.16	117	P	P	22 04 29.4	-0.1
N18A	Larsen Ranch,	79.16	329	⇓P	P	22 04 29.3	+0.2
	baz=80						
MPU	Maple Canyon	79.33	327	eP	P	22 04 30.8	+0.8
Q14A	Sevier Lake (B	79.35	325	⇓P	P	22 04 30.7	+0.6
	baz=80,SNR=20						
FURC	Furnace Creek,	79.36	321	⇓P	P	22 04 30.4	+0.2
	baz=80,SNR=6.1						
TPNV	Topopah Spring	79.38	322	eP	P	22 04 30.1	-0.2
TPNV				pmax	pmax		
	comp=Z,16nm,1.1s,mb4.8						
TPNV	Topopah Spring	79.38	322	⇑P	P	22 04 31.0	+0.6
	baz=80,SNR=14						
TPNV	Topopah Spring	79.38	322	eP	P	22 04 30.1	-0.2
	comp=Z,16nm,1.1s,mb4.8						
MPMC	Manual Prospec	79.41	321	⇓P	P	22 04 30.5	0.0
	baz=80,SNR=6.7						
DAU	Daniels Canyon	79.46	327	eP	P	22 04 31.6	+0.9
R12A	Pony Springs,	79.53	324	⇓P	P	22 04 32.0	+0.9
	baz=80,SNR=9.3						
N17A	Moffit Pass	79.67	328	⇑P	P	22 04 32.2	+0.4
	baz=80,SNR=16						
ISA	Isabella	79.68	320	⇓P	P	22 04 32.1	+0.1
	baz=80						
Q13A	Wheeler Ranch,	79.70	325	⇑P	P	22 04 32.2	+0.2
	baz=80,SNR=12						
P14A	Drum Mountains	79.70	326	⇑P	P	22 04 32.7	+0.7
	baz=80,SNR=23						
N16A	Rees Ranch, Co	79.91	328	⇑P	P	22 04 33.3	+0.2
	baz=80,SNR=5.8						
PKM	Peak Mountain	79.91	319	⇓P	P	22 04 33.7	+0.4
	baz=80,SNR=7.3						
O15A	The Old Anders	79.94	327	⇑P	P	22 04 33.5	+0.2
	baz=80						
DUG	Dugway	80.04	326	eP	P	22 04 33.9	+0.1
DUG				e		22 04 40.6	
DUG				pmax	pmax		
	comp=Z,6.0nm,0.8s,mb4.5						
DUG	Dugway	80.04	326	⇑P	P	22 04 33.9	+0.1
	baz=80,SNR=8.1						
DUG	Dugway	80.04	326	eP	P	22 04 33.9	0.0
	comp=Z,6.3nm,0.8s,mb4.5						
DUG				ePcP	PcP	22 04 40.6	-0.2
R11A	Troy Canyon, C	80.05	323	⇑P	P	22 04 34.5	+0.6
	baz=80,SNR=13						
P13A	Bates Ranch, G	80.08	325	⇓P	P	22 04 34.3	+0.3
	baz=80,SNR=11						
VES	Vestal, Richgr	80.16	320	⇓P	P	22 04 34.5	-0.1
	baz=80						
Q12A	Willow Creek R	80.18	324	⇑P	P	22 04 34.9	+0.3
	baz=80,SNR=5.5						
S10A	Tonopah Range,	80.28	323	⇑P	P	22 04 35.5	+0.3
	baz=81,SNR=9.6						
M16A	Huntsville	80.34	328	⇓P	P	22 04 35.2	-0.2
	baz=81,SNR=9.1						
R10A	Warm Springs	80.39	323	⇑P	P	22 04 36.5	+0.7
	baz=81						
N15A	Stansbury Isla	80.43	327	⇑P	P	22 04 36.3	+0.4
	baz=81						
Q11A	Duckwater	80.46	324	⇓P	P	22 04 36.4	+0.2
	baz=81,SNR=8.2						
S09A	Goldfield	80.47	322	⇑P	P	22 04 36.3	+0.1
	baz=81,SNR=5.5						
HWUT	Hardware Ranch	80.54	328	eP	P	22 04 36.3	-0.2
	comp=Z,26nm,0.8s,mb5.1						
BW06	Boulder Array	80.54	330	⇓P	P	22 04 36.9	+0.5
	baz=81						
PDAR	Pinedale Array	80.54	330	P	P	22 04 36.0	-0.4
	comp=Z,8.7nm,0.8s,mb4.6,baz=112,slow=6.8,SNR=26						
TIN	Tinemaha	80.54	321	⇑P	P	22 04 37.0	+0.4
	baz=81						
P12A	McGill	80.54	325	⇑P	P	22 04 37.1	+0.5
	baz=81						
O13A	Hicks Ranch, I	80.57	326	⇓P	P	22 04 36.6	0.0
	baz=81						
HELL	Mitchell Peak	80.72	320	⇑P	P	22 04 37.1	-0.5
	baz=81,SNR=8.0						
SPUT	South Promonto	80.72	327	eP	P	22 04 37.5	0.0
TPH	Tonopah	80.73	322	eP	P	22 04 37.7	+0.1
TPH				pmax	pmax		
	comp=Z,10.0nm,1.1s,mb4.6						
TPH	Tonopah	80.73	322	eP	P	22 04 37.7	+0.2
	comp=Z,10nm,1.1s,mb4.6						
N14A	Grayback Hills	80.73	327	⇑P	P	22 04 37.3	-0.2
	baz=81,SNR=7.5						
R09A	Tonopah	80.76	323	⇓P	P	22 04 37.8	0.0
	baz=81,SNR=8.4						
L16A	Fish Haven	80.79	328	⇓P	P	22 04 37.7	-0.1
	baz=81,SNR=16						
Q10A	Clear Creek Ra	80.83	323	⇓P	P	22 04 38.4	+0.3
	baz=81,SNR=7.7						
M15A	Larsen Ranch,	80.84	327	⇓P	P	22 04 37.7	-0.4
	baz=81,SNR=25						
MTUM	Tungsten Hills	80.94	321	eP	P	22 04 38.4	-0.3
LBTB	Lobatse	81.02	113	eP	P	22 04 39.6	0.0
LBTB				pmax	pmax		
	comp=Z,10.0nm,0.5s,mb4.9						
LBTB	Lobatse	81.02	113	eP	P	22 04 39.6	0.0
	comp=Z,9.8nm,0.5s,mb4.9						
O12A	Currie	81.06	325	⇓P	P	22 04 39.2	-0.1
	baz=81,SNR=8.8						
PKD	Parkfield	81.07	319	⇑P	P	22 04 39.5	+0.1
	baz=81						
AHID	Auburn Hatcher	81.23	329	eP	P	22 04 39.6	-0.5
	comp=Z,42nm,1.2s,mb5.1						
N13A	Wendover, West	81.23	326	⇓P	P	22 04 40.4	+0.2
	baz=82						

L15A **Malad City** 81.23 328 ⇑P P 22 04 39.6 -0.5
baz=82,SNR=8.1
HVU **Hansel Valley** 81.24 327 eP P 22 04 39.8 -0.4
HVU pmax pmax
comp=Z,14nm,0.8s,mb4.8
HVU **Hansel Valley** 81.24 327 eP P 22 04 39.8 -0.4
comp=Z,14nm,0.8s,mb4.8
Q09A **Carvers** 81.26 323 ⇓P P 22 04 40.7 +0.4
baz=82
M14A **Sheep Mountain** 81.30 327 ⇓P P 22 04 40.1 -0.4
baz=82,SNR=11
KCC **Kaiser Creek** 81.34 321 ⇓P P 22 04 40.1 -0.7
baz=82,SNR=6.5
O11A **Cowboy Ranch,** 81.42 325 ⇓P P 22 04 41.3 +0.2
baz=82,SNR=5.7
P10A **Eureka** 81.45 324 ⇑P P 22 04 41.6 +0.2
baz=82,SNR=8.2
U04C **Hernandez Rese** 81.50 319 ⇓P P 22 04 42.2 +0.5
baz=82
K16A **Soda Springs** 81.50 329 ⇑P P 22 04 41.9 +0.3
baz=82,SNR=12
V03C **Hunter Liggett** 81.53 319 ⇑P P 22 04 42.0 +0.2
baz=82
NVAR **Mina Array Bea** 81.57 322 P P 22 04 42.0 0.0
comp=Z,4.1nm,0.8s,mb4.3,baz=160,slow=6.8,SNR=18
REDW **Red Top Meadow** 81.59 330 eP P 22 04 41.6 -0.4
comp=Z,15nm,1.0s,mb4.8
M13A **Montello** 81.59 326 ⇓P P 22 04 41.7 -0.4
baz=82,SNR=7.0
N12A **Clover Valley,** 81.64 325 ⇓P P 22 04 42.2 -0.1
baz=82
L14A **Malta** 81.66 327 ⇓P P 22 04 42.1 -0.3
baz=82
ELK **Elko** 81.66 325 eP P 22 04 42.0 -0.4
ELK pmax pmax
comp=Z,10.0nm,0.9s
ELK **Elko** 81.66 325 eP P 22 04 42.0 -0.4
comp=Z,9.6nm,0.9s,mb4.6
LOHW **Long Hollow** 81.67 330 eP P 22 04 42.3 -0.1
comp=Z,9.0nm,0.6s,mb4.8
Q08A **Gabbs** 81.68 322 ⇑P P 22 04 42.7 +0.1
baz=82
TPAW **Teton Pass** 81.73 330 eP P 22 04 42.7 0.0
P09A **Austin** 81.76 323 ⇓P P 22 04 43.0 0.0
baz=82
RRI2 **Red Ridge** 81.79 329 eP P 22 04 43.0 0.0
comp=Z,13nm,0.9s,mb4.8
K15A **Arbon** 81.83 328 ⇑P P 22 04 42.9 -0.3
baz=82,SNR=7.7
J16A **Bone** 81.86 329 ⇑P P 22 04 43.1 -0.3
baz=82,SNR=5.6
I17A **Pilgram Creek** 81.91 330 ⇓P P 22 04 44.4 +0.8
baz=82
S05C **Merced** 81.93 320 ⇑P P 22 04 44.4 +0.5
baz=82
O10A **Cortez Mining,** 81.97 324 ⇓P P 22 04 44.7 +0.6
baz=82
M12A **Wells** 82.00 326 ⇓P P 22 04 43.9 -0.3
baz=82,SNR=9.9
K14A **Jones Ranch, D** 82.02 328 ⇑P P 22 04 43.8 -0.5
baz=82,SNR=5.9
ULM **Lac du Bonnet** 82.04 342 P P 22 04 42.6 -1.5
comp=Z,7.3nm,0.6s,mb4.7,baz=169,slow=6.2,SNR=9.1
L13A **Double Diamond** 82.04 327 ⇓P P 22 04 44.4 +0.1
baz=82,SNR=14
IMW **Indian Meadow** 82.05 330 eP P 22 04 44.5 +0.1
comp=Z,18nm,0.8s,mb5.0
PACP **Pacheco Peak** 82.24 319 ⇑P P 22 04 45.5 0.0
baz=82
R06C **Coleville** 82.26 321 ⇑P P 22 04 46.3 +0.6
baz=82,SNR=6.7
I16A **Newdale** 82.28 329 ⇑P P 22 04 45.7 +0.1
baz=83,SNR=5.5
H17A **Grant Village** 82.28 330 ⇑P P 22 04 46.1 +0.6
baz=83
RLMT **Red Lodge** 82.30 331 ⇑P P 22 04 45.7 0.0
baz=83,SNR=5.2
RLMT **Red Lodge** 82.30 331 eP P 22 04 45.4 -0.2
comp=Z,13nm,1.0s,mb4.7
J15A **Blackfoot** 82.33 329 ⇑P P 22 04 45.8 -0.1
baz=83,SNR=15
CMB **Columbia Colle** 82.44 320 eP P 22 04 46.1 -0.5
CMB pmax pmax
comp=Z,6.0nm,1.0s,mb4.4
CMB **Columbia Colle** 82.44 320 ⇓P P 22 04 46.8 +0.3
baz=83
CMB **Columbia Colle** 82.44 320 eP P 22 04 46.1 -0.5
comp=Z,6.1nm,1.0s,mb4.4
M11A **Holland Ranch,** 82.45 325 ⇑P P 22 04 46.8 +0.3
baz=83,SNR=5.2
K13A **Stover Farm, H** 82.53 327 ⇓P P 22 04 47.4 +0.5
baz=83
L12A **House Creek Ra** 82.60 326 ⇓P P 22 04 47.5 +0.2
baz=83,SNR=5.4
YMR **Madison River** 82.67 330 eP P 22 04 48.0 +0.4
comp=Z,23nm,0.8s,mb5.0
J14A **Carey** 82.78 328 ⇓P P 22 04 48.4 +0.2
baz=83,SNR=5.9
H16A **Russell Place,** 82.82 330 ⇑P P 22 04 48.5 +0.1
baz=83,SNR=6.5
M10A **I.L. Ranch, Tu** 82.90 325 ⇑P P 22 04 49.4 +0.5
baz=83
K12A **Draper Farm, C** 82.92 327 ⇓P P 22 04 49.5 +0.6
baz=83
L11A **Cat Creek Ranc** 82.98 326 ⇓P P 22 04 49.1 -0.2
baz=83,SNR=12
QLMT **Earthquake Lak** 83.00 330 eP P 22 04 50.2 +0.9
DGMT **Dagmar** 83.09 336 ⇓P P 22 04 50.0 +0.3
baz=83
DGMT **Dagmar** 83.09 336 eP P 22 04 49.1 -0.6
comp=Z,52nm,1.1s,mb5.3
F18A **Big Timber** 83.11 332 ⇓P P 22 04 49.4 -0.4
baz=83,SNR=7.8
O07A **Toulon** 83.12 323 ⇑P P 22 04 50.0 -0.1
baz=83
LAVA **Lava Cap Winer** 83.14 321 ⇑P P 22 04 50.2 0.0
baz=83
J13A **Cove Ranch, Pi** 83.14 328 ⇓P P 22 04 50.3 +0.2
baz=83,SNR=10
N08A **GE Springer Mi** 83.17 324 ⇑P P 22 04 50.3 0.0
baz=84,SNR=5.7
I14A **Mackay** 83.21 328 ⇑P P 22 04 50.6 +0.2
baz=84,SNR=13
L10A **Juniper Basin** 83.27 325 ⇓P P 22 04 50.6 -0.2
baz=84,SNR=13
M09A **Marrel Ranch,** 83.29 324 ⇑P P 22 04 51.1 +0.2
baz=84
H15A **Lima** 83.37 329 ⇓P P 22 04 52.0 +0.8
baz=84
HLID **Hailey** 83.38 328 ⇓P P 22 04 51.4 +0.1
baz=84,SNR=7.3
HLID **Hailey** 83.38 328 eP P 22 04 51.7 +0.4
comp=Z,18nm,0.9s,mb4.9
P05C **Yuba Gap, Truc** 83.45 321 ⇓P P 22 04 51.7 -0.1
baz=84
J12A **Stokes Ranch,** 83.47 327 ⇑P P 22 04 51.7 -0.1
baz=84,SNR=12
G16A **Moss Hill, Enn** 83.48 330 ⇑P P 22 04 51.8 0.0
baz=84
I13A **Wildhorse Cree** 83.51 328 ⇓P P 22 04 52.3 +0.4
baz=84,SNR=22
K11A **Parker Ranch,** 83.57 326 ⇑P P 22 04 52.2 -0.1
baz=84
N07B **Gerlach** 83.61 323 ⇑P P 22 04 52.1 -0.4
baz=84,SNR=16
MCMT **McKenzie Canyo** 83.63 329 eP P 22 04 52.9 +0.4
H14A **Leadore** 83.70 329 ⇑P P 22 04 53.3 +0.4
baz=84,SNR=6.3
BEKR **Beckwourth** 83.71 322 ⇑P P 22 04 52.9 -0.2
baz=84,SNR=6.0
E18A **Harlowton** 83.73 332 ⇑P P 22 04 53.2 +0.2
baz=84
G15A **Dillon** 83.73 330 ⇑P P 22 04 53.0 -0.1
baz=84,SNR=5.1
M08A **Happy Creek Ra** 83.78 324 ⇓P P 22 04 53.4 0.0
baz=84
CVS **Carmenet Viney** 83.83 320 ⇓P P 22 04 53.7 -0.1
baz=84
I12A **Atlanta** 83.90 327 ⇑P P 22 04 53.9 -0.1
baz=84,SNR=12
MFID **Camas Ranch** 83.95 327 ⇑P P 22 04 54.1 -0.1
baz=84
K10A **MacKenzie Ranc** 83.99 326 ⇑P P 22 04 54.2 -0.2
baz=84
E17A **Martinsdale** 84.04 331 ⇑P P 22 04 54.7 +0.2
baz=84
N06A **Buffalo Meadow** 84.05 323 ⇓P P 22 04 54.6 -0.2
baz=84,SNR=6.8

H13A **Challis** 84.07 328 ⇑P P 22 04 54.8 +0.1
baz=84,SNR=20
O05C **Quincy** 84.08 322 ⇑P P 22 04 54.9 -0.1
baz=84
ORV **Oroville** 84.12 321 ⇑P P 22 04 54.8 -0.4
baz=84,SNR=8.1
F15A **Butte** 84.26 330 ⇑P P 22 04 56.0 +0.3
baz=85,SNR=14
L08A **Fields** 84.30 325 ⇑P P 22 04 55.5 -0.5
baz=85,SNR=6.9
H12A **Diamond D Ranc** 84.34 328 ⇓P P 22 04 56.0 -0.1
baz=85,SNR=6.0
K09A **Rome** 84.36 325 ⇓P P 22 04 55.8 -0.5
baz=85,SNR=5.9
O04C **Chester** 84.43 322 ⇓P P 22 04 56.6 -0.1
baz=85
E16A **East Helena** 84.44 331 ⇓P P 22 04 56.6 0.0
baz=85
G13A **Cobalt** 84.46 329 ⇓P P 22 04 56.7 0.0
baz=85,SNR=14
F14A **Wisdom** 84.62 330 ⇓P P 22 04 57.9 +0.3
baz=85,SNR=9.8
HOPS **Hopland** 84.62 320 ⇓P P 22 04 58.0 +0.3
baz=85
WVOR **Wild Horse Val** 84.63 325 eP P 22 04 56.1 -1.6
WVOR pmax pmax
comp=Z,4.0nm,0.5s,mb4.6
WVOR **Wild Horse Val** 84.63 325 eP P 22 04 56.1 -1.6
comp=Z,4.0nm,0.5s,mb4.6
L07A **Adell** 84.69 324 ⇑P P 22 04 58.4 +0.4
baz=85
M06C **Likely Place G** 84.72 323 ⇓P P 22 04 58.4 +0.3
baz=85
K08A **Mann Creek Ran** 84.77 325 ⇓P P 22 04 58.4 +0.1
baz=85
E15A **Deer Lodge** 84.78 330 ⇓P P 22 04 58.7 +0.4
baz=85
D16A **Dana Ranch, Ca** 84.78 331 ⇓P P 22 04 58.2 -0.1
baz=85,SNR=10.0
J09A **Fry Pan Ranch,** 84.85 326 ⇑P P 22 04 59.3 +0.6
baz=85
GASB **Alder Springs** 84.87 320 ⇑P P 22 04 59.4 +0.4
baz=85
I10A **Payette** 84.92 327 ⇓P P 22 04 59.3 +0.3
baz=85
H11A **Donnelly** 85.00 327 ⇓P P 22 04 59.5 0.0
baz=85
F13A **Darby** 85.04 329 ⇓P P 22 04 59.3 -0.3
baz=85,SNR=13
MOD **Modoc** 85.12 323 ⇑P P 22 05 00.0 -0.1
baz=85
K07A **Rock Creek Ran** 85.13 324 ⇓P P 22 05 00.2 +0.1
baz=85,SNR=20
E14A **Clinton** 85.14 330 ⇓P P 22 05 00.1 0.0
baz=85
D15A **Lincoln** 85.20 331 ⇑P P 22 05 00.3 -0.1
baz=86,SNR=7.4
J08A **Circle Bar Ran** 85.22 325 ⇓P P 22 05 00.5 -0.1
baz=86,SNR=20
H10A **Noah's Angus R** 85.27 327 ⇑P P 22 05 00.3 -0.5
baz=86,SNR=11
O02C **Red Bluff** 85.27 321 ⇑P P 22 05 00.4 -0.5
baz=86
I09A **Lost Marbles R** 85.30 326 ⇓P P 22 05 00.6 -0.4
baz=86,SNR=8.7
WDC **Whiskeytown Da** 85.41 321 ⇓P P 22 05 00.1 -1.5
baz=86
F12A **Elk City** 85.44 329 ⇑P P 22 05 01.2 -0.4
baz=86,SNR=7.5
C16A **Fuhringer Ranc** 85.47 332 ⇑P P 22 05 01.1 -0.6
baz=86
E13A **Victor** 85.47 330 ⇓P P 22 05 01.8 +0.1
baz=86,SNR=7.8
L05A **Lakeview** 85.50 323 ⇑P P 22 05 02.0 -0.1
baz=86,SNR=9.1
G11A **Walters Elk Ra** 85.64 328 ⇑P P 22 05 02.3 -0.3
baz=86,SNR=15
J07A **Hines** 85.65 325 ⇑P P 22 05 02.5 -0.3
baz=86,SNR=5.4
MSO **Missoula** 85.66 330 eP P 22 05 02.7 0.0
comp=Z,2.3nm,0.8s,mb4.2
D14A **Greenough** 85.66 330 ⇑P P 22 05 02.4 -0.3
baz=86
K06A **Valley Falls** 85.72 324 ⇓P P 22 05 02.9 -0.2
baz=86,SNR=9.5
BMO **Blue Mountains** 85.73 327 eP P 22 05 02.4 -0.7
BMO pmax pmax
comp=Z,2.0nm,0.6s,mb4.2
BMO **Blue Mountains** 85.73 327 eP P 22 05 02.4 -0.7
comp=Z,2.3nm,0.6s,mb4.3
C15A **Salmond Ranch,** 85.81 331 ⇓P P 22 05 03.1 -0.2
baz=86,SNR=17
M04C **Macdoel** 85.85 322 ⇓P P 22 05 03.3 -0.5
baz=86
CASY **Casey** 85.88 179 eP P 22 05 03.0 -0.6
B16A **M & M Farms, S** 85.93 332 ⇓P P 22 05 04.0 0.0
baz=86
F11A **Grangeville** 85.95 328 ⇓P P 22 05 03.1 -1.0
baz=86,SNR=5.7
G10A **Bishop Farm, J** 85.96 327 ⇑P P 22 05 04.1 -0.1
baz=86,SNR=6.1
J06A **Christmas Vall** 85.99 324 ⇓P P 22 05 04.1 -0.4
baz=86,SNR=11
N02C **Big Bar** 86.00 321 ⇓P P 22 05 04.2 -0.3
baz=86,SNR=5.1
K05A **Summer Lake** 86.01 324 ⇑P P 22 05 04.8 +0.3
baz=86,SNR=14
E12A **Beaver Dam Sad** 86.08 329 ⇑P P 22 05 04.0 -0.7
baz=86,SNR=11
D13A **Huson** 86.09 330 ⇑P P 22 05 04.4 -0.4
baz=86,SNR=7.6
EGRO **El Granado** 86.11 44 P P 22 05 05.5 +0.4
M02C **Callahan** 86.14 322 ⇑P P 22 05 04.6 -0.5
baz=86
H08A **Prairie City** 86.15 326 ⇓P P 22 05 04.9 -0.3
baz=86
L04A **Klamath Falls** 86.15 323 ⇓P P 22 05 04.6 -0.6
baz=86
B15A **Bradely Ranch,** 86.21 332 ⇓P P 22 05 04.3 -1.0
baz=86,SNR=7.0
I07A **Izee** 86.25 325 ⇓P P 22 05 05.5 -0.2
baz=86,SNR=7.6
G09A **Cove** 86.27 327 ⇓P P 22 05 05.3 -0.5
baz=87,SNR=11
YBH **Yreka Blue Hor** 86.29 322 ⇓P P 22 04 54.5 -1.4
baz=87
A16A **West Butte Ran** 86.31 333 ⇑P P 22 05 05.2 -0.6
baz=87,SNR=20
E11A **Bogner Ranch,** 86.33 328 ⇓P P 22 05 05.0 -0.9
baz=87
EVO **Evora** 86.43 43⇑ iP P 22 05 05.9 -0.8
comp=Z,22nm,0.9s,mb4.8
I06A **Prineville** 86.51 325 ⇓P P 22 05 07.0 +0.1
baz=87
F10A **Beach Ranch, E** 86.52 328 ⇓P P 22 05 07.3 +0.4
baz=87,SNR=7.0
B14A **Marquette Ranc** 86.55 331 ⇓P P 22 05 05.7 -1.3
baz=87
J05A **Fort Rock** 86.58 324 ⇓P P 22 05 07.1 -0.2
baz=87,SNR=6.5
C13A **Hot Springs** 86.58 330 ⇓P P 22 05 06.9 -0.3
baz=87,SNR=7.2
TAM **Tamanrasset** 86.60 62 eP P 22 05 08.0 +0.1
F09A **S2 Ranch, Elgi** 86.65 327 ⇑P P 22 05 07.1 -0.5
baz=87,SNR=5.1
H07A **Lands Inn, Kim** 86.65 326 ⇑P P 22 05 06.9 -0.7
baz=87
ESPR **Espera** 86.69 45 P P 22 05 09.9 +1.9
EMIN **Mina Concepcio** 86.75 44 P P 22 05 08.7 +0.4
A15A **Johnson Ranch,** 86.80 332 ⇑P P 22 05 07.1 -1.1
baz=87
E10A **Myers Farm, Un** 86.84 328 ⇑P P 22 05 07.7 -0.7
baz=87
G08A **Pilot Rock** 86.85 326 ⇓P P 22 05 08.0 -0.5
baz=87
C12B **Naegeli Ranch,** 87.01 330 ⇓P P 22 05 09.0 -0.2
baz=87
J04A **Umpqua Nationa** 87.01 323 ⇑P P 22 05 09.2 -0.1
baz=87
HUMO **Hull Mountain** 87.02 322 ⇓P P 22 05 08.6 -0.9
baz=87
L02A **Cave Junction** 87.07 322 ⇑P P 22 05 08.9 -0.8
baz=87
B13A **Whitefish** 87.07 331 ⇓P P 22 05 09.2 -0.3
baz=87
A14A **Double T Ranch** 87.08 332 ⇓P P 22 05 08.8 -0.8
baz=87,SNR=5.9
F08A **Pendleton** 87.13 327 ⇓P P 22 05 10.1 +0.2
baz=87
H06A **Lindquist Farm** 87.14 325 ⇓P P 22 05 10.2 +0.3
baz=87
EBAD **Badajoz** 87.17 43 P P 22 05 10.7 +0.4
G07A **Ruggs Ranch, H** 87.18 326 ⇑P P 22 05 10.3 +0.2
baz=88
I05A **Bend** 87.21 324 ⇑P P 22 05 10.6 +0.3
baz=88
K02A **Glendale** 87.42 322 ⇓P P 22 05 11.5 +0.2
baz=88
I04A **Tendick Farm,** 87.55 324 ⇑P P 22 05 11.3 -0.7
baz=88
B12A **Libby** 87.63 330 ⇓P P 22 05 12.2 0.0
baz=88
G06A **Carlson Farm,** 87.64 325 ⇓P P 22 05 12.6 +0.3
baz=88
LSZ **Lusaka** 87.68 106 eP P 22 05 14.8 +1.5
D09A **Jones Farm, Ri** 87.82 328 ⇑P P 22 05 12.5 -0.7
baz=88
J02A **Umpqua** 87.87 323 ⇑P P 22 05 13.7 +0.2
baz=88
H04A **Detroit Lake** 88.04 324 ⇓P P 22 05 13.8 -0.5
baz=88
D08A **Wollman Farm,** 88.11 328 ⇓P P 22 05 14.5 0.0
baz=88
I03A **Eugene** 88.13 323 ⇓P P 22 05 14.8 +0.1
baz=88
EADA **Adamuz** 88.29 45 P P 22 05 17.1 +1.5
A11A **Hall Mountain,** 88.33 330 ⇑P P 22 05 14.7 -0.9
baz=89,SNR=7.5
C09A **Chrisman Ranch** 88.34 328 ⇓P P 22 05 15.6 0.0
baz=89
F05A **White Salmon** 88.51 326 ⇑P P 22 05 16.8 +0.4
baz=89
H03A **Soap Creek Ran** 88.61 324 ⇓P P 22 05 17.3 +0.3
baz=89
E06A **Yakima** 88.73 326 ⇓P P 22 05 17.4 -0.1
baz=89
B09A **Rice** 88.74 329 ⇓P P 22 05 17.2 -0.3
baz=89
EBAN **Banos Encina** 88.78 45 P P 22 05 18.2 +0.3
A10A **Northport** 88.88 330 ⇓P P 22 05 18.1 0.0
baz=89
EQES **Quesada** 89.01 46 P P 22 05 19.3 +0.3
G03A **Yamhill** 89.04 324 ⇑P P 22 05 19.2 +0.2
baz=89
ENIJ **Nijar** 89.06 47 P P 22 05 19.8 +0.5
C07A **Waterville** 89.10 327 ⇑P P 22 05 18.6 -0.6
baz=89
B08A **Colville Reser** 89.24 328 ⇑P P 22 05 19.1 -0.7
baz=90
EHUE **Huescar** 89.32 46 P P 22 05 20.4 -0.1
A09A **Danville** 89.34 329 ⇓P P 22 05 20.0 -0.3
baz=90
ESDC **Sonseca Array** 89.59 44 P P 22 05 20.5 -1.2
comp=Z,0.3nm,0.6s,mb3.6,baz=230,slow=4.3,SNR=5.7
ESDC pP pP 22 05 57.3 +5.8
comp=Z,0.2nm,0.3s,baz=45,slow=38,SNR=2.8
ESDC **Sonseca Array** 89.59 44 P P 22 05 21.7 0.0
A08A **Turner Farm, O** 89.64 329 ⇓P P 22 05 21.3 -0.4
baz=90
B07A **Winthrop** 89.68 328 ⇑P P 22 05 20.6 -1.3
baz=90
EVIA **Vianos** 89.87 45 P P 22 05 22.5 -0.5
A07A **Ashnola River,** 90.22 328 ⇑P P 22 05 23.6 -0.8
baz=90
EDM **Edmonton** 90.34 334 eP P 22 05 23.3 -1.5
ETOB **Tobarra** 90.47 46 P P 22 05 26.1 +0.2
B05A **Bryant** 90.48 327 ⇑P P 22 05 24.3 -1.3
baz=91
C04A **Brinnon** 90.53 326 ⇓P P 22 05 25.4 -0.5
baz=91
A05A **Maple Falls** 90.98 327 ⇓P P 22 05 27.1 -0.8
baz=91
ELAN **Lanestosa** 92.08 41 P P 22 05 32.0 -1.1
SJPF **Ste Jean** 93.31 42 eP P 22 05 38.8 0.0
comp=Z,9.2nm,0.8s,mb4.8
SJPF **Ste Jean** 93.31 42 eP P 22 05 38.8 0.0
SJPF pmax pmax
comp=Z,5.0nm,0.8s,mb4.9
SJPF **Ste Jean** 93.31 42 eP P 22 05 38.8 0.0
comp=Z,4.6nm,0.8s,mb4.9
ETSF **Etsaut** 93.58 43 eP P 22 05 40.2 +0.1
comp=Z,12nm,1.1s,mb4.8
ETSF **Etsaut** 93.58 43 eP P 22 05 40.2 +0.1
ETSF pmax pmax
comp=Z,6.0nm,1.1s,mb4.8
ETSF **Etsaut** 93.58 43 eP P 22 05 40.2 +0.1
comp=Z,5.9nm,1.1s,mb4.8
MFF **Saint Martin d** 95.96 40 eP P 22 05 50.0 -0.9
comp=Z,7.7nm,0.9s,mb4.8
MFF **Saint Martin d** 95.96 40 eP P 22 05 50.0 -0.9
MFF pmax pmax
comp=Z,4.0nm,0.9s,mb4.8
MFF **Saint Martin d** 95.96 40 eP P 22 05 50.0 -0.9
comp=Z,3.8nm,0.9s,mb4.8
FLN **La Foliniere** 97.01 38 eP P 22 05 54.4 -1.2
SMF **Signal de Mont** 98.27 41 eP P 22 06 00.5 -0.8
comp=Z,5.9nm,0.7s,mb4.9
SMF **Signal de Mont** 98.27 41 eP P 22 06 00.5 -0.8
SMF pmax pmax
comp=Z,3.0nm,0.7s,mb4.9
SMF **Signal de Mont** 98.27 41 eP P 22 06 00.5 -0.8
comp=Z,3.0nm,0.7s,mb4.9
ORIF **Oris-en-Rattie** 98.57 43 eP P 22 06 02.9 +0.2
comp=Z,7.5nm,0.8s,mb5.0
ORIF **Oris-en-Rattie** 98.57 43 eP P 22 06 02.9 +0.2
ORIF pmax pmax
comp=Z,4.0nm,0.8s,mb5.0
ORIF **Oris-en-Rattie** 98.57 43 eP P 22 06 02.9 +0.2
comp=Z,3.8nm,0.8s,mb5.0
CABF **La Chapelle** 99.57 42 eP Pdif 22 06 07.0 -0.3
comp=Z,16nm,1.1s
CABF **La Chapelle** 99.57 42 eP Pdif 22 06 07.0 -0.3
CABF pmax pmax
comp=Z,8.0nm,1.1s,mb5.3
CABF **La Chapelle** 99.57 42 eP Pdif 22 06 07.0 -0.3
comp=Z,7.6nm,1.1s
PMR **Palmer** 110.58 330 PKIKP PKiKP 22 10 54.6 -0.8
AKASG **Malin Array Be** 115.23 44 PKP PKPdf 22 11 02.9 -1.7
comp=Z,1.8nm,0.6s,baz=256,slow=3.0,SNR=9.4
AKASG **Malin Array Be** 115.23 44 PKP PKPdf 22 11 02.9 -1.7
BR131 **Keskin Array S** 115.37 57 ePKPdf PKPdf 22 11 04.3 -0.9
OBN **Obninsk** 120.39 40⇑ iPKIKP PKPdf 22 11 13.4 -1.0
OBN e 22 17 59.2
OBN pmax pmax
comp=Z,12nm,1.2s
VSR **Storozhevoye** 121.50 45 ePKIKP PKPdf 22 11 14.9 -1.8
VSR pmax pmax
comp=Z,3.0nm,1.1s
VSR pmax pmax
comp=N,4.0nm,0.7s
VSR pmax pmax
comp=E,2.0nm,0.5s
CTAO **Charters Tower** 122.09 218 ePKIKP PKPdf 22 11 17.6 -1.3
KIV **Kislovodsk** 122.89 54 i PKIKP PKPdf 22 11 19.3 -0.3
KIV pmax pmax
comp=Z,11nm,1.2s
ASAR **Alice Springs** 124.57 204 PKP PKPdf 22 11 21.8 -1.8
comp=Z,5.4nm,0.5s,baz=134,slow=1.8,SNR=72
ASAR pPKP pPKPdf 22 11 58.5 +3.9
comp=Z,1.6nm,0.8s,baz=151,slow=2.3,SNR=4.3
WB2 **Warramunga Arr** 127.80 206 ePKPdf PKPdf 22 11 28.5 -1.3
WRA **Warramunga Arr** 127.81 206 PKP PKPdf 22 11 28.2 -1.6
comp=Z,7.5nm,0.6s,baz=170,slow=1.7,SNR=69
WRA pPKP pPKPdf 22 12 05.2 +4.4
comp=Z,2.6nm,0.8s,baz=161,slow=1.5,SNR=4.6
FITZ **Fitzroy Crossi** 132.35 197 PKP PKPdf 22 11 36.7 -1.8
comp=Z,2.2nm,0.6s,baz=159,slow=20,SNR=8.4
FITZ **Fitzroy Crossi** 132.35 197 PKP PKPdf 22 11 36.7 -1.8
FITZ ePKPdf PKPdf 22 11 37.2 -1.3
ARU **Arti** 132.67 38 i PKIKP PKPdf 22 11 38.7 +0.9
ARU 22 14 00.7
ARU SS SS 22 31 28.0 -7.1
ARU **Arti** 132.67 38 ePKPdf PKPdf 22 11 37.9 +0.1
AB31 **Akbulak array** 134.83 47 i PKIKP PKPdf 22 11 41.5 -0.6
AB31 pmax pmax
comp=Z,2.0nm,0.5s
PETK **Petropavlovsk-** 138.63 320 PKP PKPdf 22 11 50.0 +1.0
comp=Z,5.2nm,1.0s,baz=111,slow=8.1,SNR=3.9
BRVK **Borovoye** 140.16 39 ePKIKP PKPdf 22 11 50.5 -1.3
KK31 **Karatay Array** 143.04 55 i PKHKP 22 11 52.6
KK31 pmax pmax
comp=Z,1.0nm,0.4s
YAK **Yakutsk** 144.27 346 ePKIKP PKPdf 22 11 55.5 -3.3
YAK pmax pmax

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
	comp=Z,80nm,1.1s						
YAK				pmax	pmax		
	comp=N,13nm,1.5s						
YAK				pmax	pmax		
	comp=E,6.0nm,1.5s						
YAK	**Yakutsk**	**144.27**	**346**	*e*PKPdf	PKPdf	22 11 55.7	-3.1
EKS2	**Erkin-Say**	**145.48**	**55**	P	PKPdf	22 12 02.5	+0.9
	SNR=6.9						
EKS2	**Erkin-Say**	**145.48**	**55**	*e*PKP	PKPdf	22 12 02.0	+0.5
AML	**Almayashu**	**145.52**	**56**	P	PKPdf	22 12 02.6	+1.0
	SNR=35						
AML	**Almayashu**	**145.52**	**56**	*e*PKP	PKPdf	22 12 02.1	+0.4
KURK	**Kurchatov**	**145.83**	**39***c*	*i*PKP2	PKPab	22 12 02.2	-1.0
KURK	**Kurchatov**	**145.83**	**39**	*e*PKPdf	PKPdf	22 12 01.6	-0.3
NVS	**Novosibirsk**	**145.86**	**30**	*e*PKP2	PKPab	22 12 01.2	-2.0
NVS				pmax	pmax		
	comp=Z,41nm,0.6s						
NVS				pmax	pmax		
	comp=E,7.0nm,0.6s						
KAPI	**Kappang**	**146.34**	**193**	PKPbc	PKPbc	22 12 03.1	-2.2
	comp=E,30nm,0.9s,baz=217,slow=4.9,SNR=15						
KAPI				pPKPbc	pPKPbc	22 12 40.6	+4.7
	comp=E,21nm,1.0s,baz=221,slow=6.5,SNR=3.4						
HYB	**Hyderabad**	**146.91**	**101**	*i*PKP	PKPdf	22 12 06.5	+1.8
HYB	**Hyderabad**	**146.91**	**101**	*e*PKP	PKPdf	22 12 06.5	+1.8
ZAA0	**Zalesovo Array**	**147.14**	**31**	*e*PKPdf	PKPdf	22 12 03.9	-0.1
ZAA0				*e*PKPbc	PKPbc	22 12 06.2	-0.2
ZALV	**Zalesovo Beam**	**147.14**	**31**	PKPbc	PKPbc	22 12 03.9	-2.5
	comp=E,64nm,0.7s,baz=299,slow=3.1,SNR=81						
ZALV				pPKPbc	pPKPbc	22 12 40.6	+3.5
	comp=E,23nm,0.8s,baz=306,slow=2.5,SNR=6.4						
KRAR	**Krasnoyarsk**	**148.74**	**21**	*i*PKP2	PKPab	22 12 09.0	-5.6
MK31	**Makanchi Array**	**149.81**	**44**	*e*PKP2	PKPab	22 12 12.9	-6.4
MKAR	**Makanchi Array**	**149.81**	**44**	PKPbc	PKPbc	22 12 13.2	-0.3
	comp=E,37nm,0.8s,baz=312,slow=2.4,SNR=211						
MKAR				pPKPbc	pPKPbc	22 12 49.3	+4.9
	comp=E,10nm,0.7s,baz=310,slow=2.8,SNR=5.3						
MKAR	**Makanchi Array**	**149.81**	**44**	PKPbc	PKPbc	22 12 13.2	-0.3
MKAR				pPKPbc	pPKPbc	22 12 49.3	+4.9
BOD	**Bodaibo**	**150.31**	**359**	*e*PKIKP	PKPdf	22 12 06.3	-2.7
BOD				pmax	pmax		
	comp=Z,13nm,0.9s						
ASAJ	**Asahikawa**	**151.23**	**312**	PKPbc	PKPbc	22 12 15.2	-1.7
	comp=Z,30nm,1.0s,baz=77,slow=4.0,SNR=5.4						
WMQ	**Urumqi**	**154.59**	**45**	PKP	PKPdf	22 12 15.2	-0.6
WMQ				PKP2	PKPab	22 12 41.2	+1.8
WMQ				APKP		22 12 47.7	
WMQ				XPKP		22 13 01.2	
WMQ				PP	PP	22 16 17.2	+1.9
WMQ				PP	PP		
	comp=Z,100nm,4.3s						
WMQ				LR	LR		
	comp=N,12nm,16.1s						
WMQ				LR	LR		
	comp=Z,16nm,16.0s						
ZAK	**Zakamensk**	**156.66**	**15**	*e*PKIKP	PKPdf	22 12 16.8	-1.5
ZAK				pmax	pmax		
	comp=Z,3.0nm,1.1s						
MJAR	**Matsushiro Arr**	**156.88**	**298**	PKPab	PKPab	22 12 48.4	-1.2
	comp=Z,3.8nm,0.8s,baz=107,slow=3.0,SNR=9.0						
SONM	**Songino Array**	**159.74**	**12**	PKP	PKPdf	22 12 22.0	-0.1
	comp=Z,3.4nm,1.0s,baz=244,slow=0.4,SNR=14						
SONM				PKPab	PKPab	22 12 59.6	-1.8
	comp=Z,3.8nm,0.7s,baz=325,slow=4.2,SNR=15						
LSA	**Lhasa**	**161.11**	**80**	*e*PKIKP	PKPdf	22 12 24.9	+0.7
CMAR	**Chiang Mai Arr**	**164.16**	**125**	PKP	PKPdf	22 12 26.7	-0.8
	comp=Z,2.1nm,0.9s,baz=260,slow=2.4,SNR=13						
CMAR				PKPab	PKPab	22 13 18.8	-2.9
	comp=Z,0.3nm,0.3s,baz=232,slow=3.0,SNR=3.5						
KSRS	**Korea Array**	**164.16**	**310**	PKPab	PKPab	22 13 21.3	0.0
	comp=Z,0.7nm,0.3s,baz=63,slow=6.0,SNR=5.5						
GTA	**Gaotai**	**164.51**	**40**	*e*PKP	PKPdf	22 12 27.2	0.0
GTA				APKP		22 12 54.4	
GTA				PKP2	PKPab	22 13 23.1	+0.4
HHC	**Hu-ho-hao-te**	**167.28**	**4**	*e*PKP	PKPdf	22 12 31.0	+1.6
HHC				APKP		22 12 58.1	
HHC				PKS		22 16 02.9	
HHC				PP	PP	22 17 27.1	+4.8
HHC				SKKS	SKKSac	22 24 01.7	+2.2
HHC				SS	SS	22 37 53.3	-4.7
HHC				PP	PP		
	comp=Z,50nm,5.6s						
HHC				LR	LR		
	comp=N,242nm,22.2s						
HHC				LR	LR		
	comp=E,171nm,21.4s						
HHC				LR	LR		
	comp=Z,110nm,23.3s						
KMI	**Kunming**	**170.64**	**106**	PKP	PKPdf	22 12 32.3	+0.3
CD2	**Chengdu**	**171.77**	**68**	*e*PKP	PKPdf	22 12 29.5	-2.9
CD2				APKP		22 13 04.4	
CD2				XPKP		22 13 16.5	
CD2				PKP2	PKPab	22 13 54.5	-0.7
CD2				PP	PP	22 17 45.5	-1.2
CD2				PP	PP		
	comp=Z,120nm,10.2s						
CD2				LR	LR		
	comp=N,180nm,18.2s						
CD2				LR	LR		
	comp=Z,210nm,16.4s						
GYA	**Guiyang**	**174.42**	**106**	PKP	PKPdf	22 12 32.6	-1.0
GYA				APKP		22 13 06.8	
GYA				XPKP		22 13 19.4	
GYA				PKS		22 16 03.7	
GYA				PP	PP	22 18 01.3	+1.5
GYA				PP	PP		
	comp=Z,90nm,8.9s						
SONM	**Songino Array**	**56.34**	**352**	P	**P**	**22 11 23.5**	**+0.1**
	2.0nm,0.7s,mb4.1,baz=169,slow=8.8,SNR=14						
KBL	**Kabul**	**61.24**	**317**	*e*P	**P**	**22 11 57.5**	**0.0**
	1.2nm,0.5s,mb4.0						
MKAR	**Makanchi Array**	**62.26**	**335**	P	**P**	**22 12 03.6**	**-0.4**
	0.7nm,0.8s,mb3.5,baz=155,slow=7.1,SNR=5.2						
TKM2	**Tokmak 2**	**62.58**	**328**	P	**P**	**22 12 04.3**	**-1.9**
	SNR=23						
TKM2	**Tokmak 2**	**62.58**	**328**	*e*P	**P**	**22 12 03.8**	**-2.4**
	22nm,1.0s,mb5.0						
TKM2				*e*PcP	PcP	22 12 41.2	-2.4
UCH	**Uchtor**	**62.68**	**327**	P	**P**	**22 12 04.1**	**-2.9**
	SNR=32						
UCH	**Uchtor**	**62.68**	**327**	*e*P	**P**	**22 12 03.7**	**-3.3**
	26nm,0.7s,mb5.2						
KBK	**Karagaybulak**	**62.74**	**327**	P	**P**	**22 12 04.1**	**-3.2**
	SNR=34						
AAK	**Ala-Archa**	**62.97**	**327**	P	**P**	**22 12 03.5**	**-5.4**
	SNR=44						
CHMS	**Chumysh**	**63.08**	**327**	P	**P**	**22 12 03.4**	**-6.1**
	SNR=9.1						
USP	**Ospenovka**	**63.40**	**327**	P	**P**	**22 12 02.8**	**-8.8**
	SNR=11						
MAW	**Mawson**	**68.97**	**199**	P	**P**	**22 12 44.9**	**-1.8**
KMBO	**Kilima Mbogo**	**78.44**	**271**	P	**P**	**22 13 43.9**	**+0.9**
LSZ	**Lusaka**	**85.55**	**255**	*e*P	**P**	**22 14 21.1**	**+1.2**
SNAA	**Sanae**	**90.94**	**196**	*e*P	**P**	**22 14 46.0**	**+1.6**
	0.9nm,0.6s,mb4.0						
BDFB	**Brasilia**	**151.41**	**214**	PKPbc	PKPbc	22 21 35.9	+1.0
	6.6nm,0.7s,baz=167,slow=2.4,SNR=6.4						

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*ISCJB **08** 22:02:00.3±0.4, 8.14S±005×11569E±007, h185km±3km, mb4.1/10, Error ellipse: s-maj=12.0km s-min=8.0km az=162.8*
*IDC **08** 22:02:02.7±2.8, 8.11S×11580E, h191km±21km, mb3.4/5, mb1 3.4/7, mb1mx3.3/18, mbtmp3.3/7, Error ellipse: s-maj=45.4km s-min=14.2km az=61.0*
*NEIC **08** 22:02:02.8±1.3, 8.14S×11580E, h194km±14km, mb4.2/6, Error ellipse: s-maj=14.4km s-min=7.5km az=66.0*
*DJA **08** 22:02:04, 843S×11574E, h161km, MLv4.0/5*
ISC 08 22:02:01.3±0.4**, 814S**±006×**11574E**±007**, h180**km±4km**, n40,** σ**1ˢ04**/43**, mb4.1**/10**, Bali region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KHKI	**Kahang-Kahang**	**0.26**	**210**	P	**Pn**	**22 02 26.0**	**+0.7**
KHKI	**Kahang-Kahang**	**0.26**	**210**	S	**Sn**	**22 02 43.2**	**-0.7**
DNP	**Denpasar**	**0.75**	**224**	P	**Pn**	**22 02 28.3**	**+0.9**
DNP	**Denpasar**	**0.75**	**224**	S	**Sn**	**22 02 47.4**	**0.0**
IGBI	**Denpasar**	**0.90**	**221**	P	**Pn**	**22 02 28.3**	**0.0**
IGBI	**Denpasar**	**0.90**	**221**	S	**Sn**	**22 02 47.7**	**+14**
NBBI	**Negara**	**1.13**	**258**	P	**Pn**	**22 02 29.0**	**-1.0**
KRKI	**Karangkates**	**3.25**	**269**	P	**Pn**	**22 02 55.2**	**+2.1**
KAPI	**Kappang**	**5.05**	**52**	P	**Pn**	**22 03 18.3**	**+2.3**
	1.6nm,0.3s,baz=196,slow=17,SNR=4.8						
KAPI	**Kappang**	**5.05**	**52**	P	**Pn**	**22 03 18.2**	**+2.3**
MBWA	**Marble Bar**	**13.51**	**164**	*e*Pn	**Pn**	**22 05 05.3**	**-0.6**
MBWA				*e*Sn	**Sn**	**22 07 22.3**	**-14**
FITZ	**Fitzroy Crossi**	**13.81**	**137**	P	**Pn**	**22 05 10.4**	**+0.6**
	0.2nm,0.3s,baz=332,slow=13,SNR=5.0						
FITZ	**Fitzroy Crossi**	**13.81**	**137**	*e*Pn	**Pn**	**22 05 10.6**	**+0.8**
FITZ				*e*Sn	**Sn**	**22 07 33.4**	**-10**
KKM	**Kota Kinabalu**	**14.10**	**2**	Pn	**Pn**	**22 05 14.0**	**+0.7**
KKM				*e*S	**Sn**	**22 07 45.5**	**-4.9**
WRA	**Warramunga Arr**	**21.49**	**125**	P	**P**	**22 06 35.5**	**-0.6**
	0.9nm,0.4s,mb3.5,baz=298,slow=12,SNR=22						
WRA				S	**S**	**22 10 33.6**	**+11**
	0.4nm,0.8s,baz=305,slow=16,SNR=3.3						
WRA				ScP	ScP	22 13 50.2	-1.7
	1.1nm,1.0s,baz=316,slow=2.3,SNR=4.7						
WB2	**Warramunga Arr**	**21.50**	**125**	*e*P	**P**	**22 06 36.4**	**+0.1**
ASAR	**Alice Springs**	**23.27**	**134**	P	**P**	**22 06 53.0**	**+0.1**
	2.3nm,0.4s,mb3.9,baz=308,slow=8.9,SNR=49						
ASAR				ScP	ScP	22 13 55.6	-0.8
	0.9nm,0.8s,baz=342,slow=2.1,SNR=4.8						
NWAO	**Narrogin (SRO)**	**24.71**	**177**	*e*P	**P**	**22 07 06.5**	**+0.6**
PMG	**Port Moresby**	**31.07**	**95**	P	**P**	**22 08 01.7**	**-1.1**
CM31	**Chiang Mai Arr**	**31.19**	**328**	*e*P	**P**	**22 08 04.0**	**+0.2**
	1.2nm,0.4s,mb4.0						
STKA	**Stephens Creek**	**33.70**	**138**	P	**P**	**22 08 26.2**	**+0.7**
	4.2nm,1.0s,mb4.1,baz=13,slow=5.9,SNR=5.2						
STKA	**Stephens Creek**	**33.70**	**138**	*e*P	**P**	**22 08 26.1**	**+0.6**
	9.5nm,1.4s,mb4.3						
PALK	**Pallekele**	**38.14**	**293**	P	**P**	**22 09 04.5**	**+1.1**
MAJO	**Matsushiro**	**49.20**	**24**	P	**P**	**22 10 30.6**	**-0.7**

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*CSEM **08** 22:05:24.3±0.4, 3860N×2943W, h5km, ML3.1, Error ellipse: s-maj=4.7km s-min=3.5km az=157.0, After PDA*
PDA 08 22:05:24.3±0.4**, 3860N**×**2943W, h5**km**, MD3.5, ML3.1, Error ellipse: s-maj=4.7km s-min=3.5km az=157.0, Azores Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CALA	**Caldeira**	**0.57**	**92**	*e*P	Pg	22 05 34.0	-1.3
CALA				*e*S	Sg	22 05 41.5	-1.2
HOR	**Horta**	**0.63**	**96**	*e*P	Pg	22 05 35.0	-1.5
HOR				*e*S	Sg	22 05 42.9	-1.8
PICO	**Pico**	**0.80**	**97**	*e*P	Pg	22 05 37.4	-2.2
PICO				*e*S	Sg	22 05 47.6	-2.3
ROSA	**Rosais**	**0.94**	**82**	*e*P	Pg	22 05 39.2	-3.1
ROSA				*e*S	Sg	22 05 50.5	-4.0
PMAN	**Manadas**	**1.05**	**88**	*e*S	Sg	22 05 53.2	-4.9
PMAN				A		22 05 54.9	
	244nm,0.3s						
PGRA	**Graciosa**	**1.21**	**69**	*e*S	Sg	22 05 57.0	-6.2
PGRA				A		22 05 57.5	
	44nm,0.3s						
CMLA	**Cha da Macela**	**3.19**	**104**	*e*S	Sn	22 06 44.9	-8.6
CMLA				A		22 06 51.7	
	24nm,0.3s						
PSMN	**Pico do Norte,**	**3.81**	**113**	*e*P	Pn	22 06 18.4	-5.2
PSMN				*e*S	Sn	22 06 59.8	-8.9

IDC 08 22:33:02.4±4.7**, 1966S**×**16864E, h0**km**, mb3.8**/2**, mb1 4.1**/2**, mb1mx3.7**/14**, mbtmp3.8**/2**, MS3.4**/3**, Ms1 3.3**/3**, ms1mx3.0**/18**, Error ellipse: s-maj=218.2km s-min=69.4km az=157.0, Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**3.16**	**220**	*e*P	Pn	22 33 50.1	-3.3
DZM				*e*S	Sn	22 34 32.7	+0.9
STKA	**Stephens Creek**	**27.14**	**238**	LR	LR	22 47 47.2	
	comp=Z,92nm,19.4s,baz=25,slow=33						
WRA	**Warramunga Arr**	**32.24**	**264**	P	P	22 39 33.1	+0.4
	1.0nm,0.7s,baz=95,slow=8.0,SNR=10						
WRA				LR	LR	22 52 41.9	
	comp=Z,77nm,19.8s,baz=105,slow=37						
ASAR	**Alice Springs**	**32.48**	**257**	P	P	22 39 34.5	-0.3
	1.4nm,0.8s,baz=81,slow=9.0,SNR=11						
KSRS	**Korea Array**	**68.53**	**326**	LR	LR	23 12 24.6	
	comp=Z,14nm,19.0s,baz=230,slow=34						
GERES	**GERESS Array B**	**144.59**	**331**	PKP	PKPdf	22 52 40.5	-0.4
	0.5nm,0.7s,baz=64,slow=2.3,SNR=5.0						

IDC 08 22:48:21.4±50.0**, 1668S**×**17869W, h0**km**, mb4.0**/3**, mb1 4.2**/3**, mb1mx3.9**/16**, mbtmp4.0**/3**, Error ellipse: s-maj=911.3km s-min=158.9km az=77.0, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**39.00**	**240**	P	P	22 55 50.4	+0.7
	1.7nm,0.8s,baz=91,slow=11,SNR=3.7						
WRA	**Warramunga Arr**	**44.60**	**258**	P	P	22 56 35.2	-0.6
	0.3nm,0.5s,baz=95,slow=7.9,SNR=12						
ASAR	**Alice Springs**	**44.88**	**253**	P	P	22 56 37.9	-0.1
	4.3nm,0.6s,baz=88,slow=8.1,SNR=53						

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*CSEM **08** 23:05:05.3, 3608N×2358E, h26km, MD3.9/3, After ATH*
ATH 08 23:05:05.3, 3608N×**2358E, h26**km±2km**, MD3.9**/3**, Southern Greece**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
VLI	**Veliai**	**0.82**	**321**	*e*Pn	Pn	23 05 21.5	+0.3
VLI				*e*Sn	Sn	23 05 32.5	0.0
VLI	**Veliai**	**0.82**	**321**	*e*PN	Pn	23 05 21.5	+0.3
VLI				*e*SN	Sn	23 05 32.5	0.0
VAM	**Vamos**	**0.84**	**143**	*e*Pn	Pn	23 05 22.3	+0.9
VAM				*e*Sn	Sn	23 05 33.8	+0.9
VAM	**Vamos**	**0.84**	**143**	*e*PN	Pn	23 05 22.3	+0.9
VAM				*e*SN	Sn	23 05 33.8	+0.9
KAP	**Karpathos**	**2.97**	**99**	*e*Pn	Pn	23 05 53.3	+2.6
KAP	**Karpathos**	**2.97**	**99**	*e*PN	Pn	23 05 53.3	+2.6

IDC 08 23:07:27.1±4.0**, 507S**×**14855E, h0**km**, mb3.6**/2**, mb1 4.0**/2**, mb1mx3.5**/14**, mbtmp3.7**/2**, Error ellipse: s-maj=148.0km s-min=46.4km az=110.0, New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**17.63**	**243**	*e*P	Pn	23 11 34.0	-0.3
	4.2nm,0.6s						
WRA	**Warramunga Arr**	**20.25**	**222**	P	P	23 12 03.7	-0.4
	1.7nm,0.3s,baz=47,slow=12,SNR=35						
ASAR	**Alice Springs**	**23.26**	**216**	P	P	23 12 36.8	+0.3
	1.0nm,0.5s,baz=47,slow=9.1,SNR=12						
FITZ	**Fitzroy Crossi**	**25.87**	**238**	*e*P	P	23 12 58.2	-2.5
	2.6nm,0.4s						
TORD	**Torodi Ar. Bea**	**146.34**	**286**	PKPbc	PKPbc	23 27 10.1	-0.8
	0.3nm,0.6s,baz=56,slow=4.4,SNR=3.0						

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*ISCJB **08** 23:18:46.0±0.3, 4462N±002×671E±003, h11km±3km, Error ellipse: s-maj=4.1km s-min=2.4km az=149.8*
*ROM **08** 23:18:46.5±0.3, 4464N×672E, h10km, Md2.2/6, Ml1.6/5, Error ellipse: s-maj=4.0km s-min=1.7km az=63.0*
*LDG **08** 23:18:47.2±0.1, 4464N×677E, h2km, Md2.5/2, Ml2.4/10, Error ellipse: s-maj=1.4km s-min=0.8km az=62.0*
*STR **08** 23:18:47.9±0.1, 4459N×678E, h10km, Ml2.2, Error ellipse: s-maj=0.0km s-min=0.0km az=0.0*
ISC 08 23:18:46.7±0.3**, 4463N**±002×**672E**±003**, h12**km±3km**, n29,** σ**0ˢ55**/50**, France**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MBDF	**Montbardon**	**0.10**	**19**	*e*Pg	**Pg**	**23 18 49.4**	**-0.1**
MBDF				*e*Sg	**Sg**	**23 18 51.2**	**-0.4**
	139nm,0.3s						
DOI	**San Damiano**	**0.40**	**109**	Pg	**Pg**	**23 18 54.9**	**+0.4**
DOI				Sg	**Sg**	**23 19 01.1**	**+1.3**
	118nm,0.3s						
BNI	**Bardonecchia**	**0.42**	**356**	Pg	**Pg**	**23 18 55.3**	**+0.2**
BNI				Sg	**Sg**	**23 19 01.2**	**+0.5**
	21nm,1.1s						
STV	**Sant Anna di V**	**0.58**	**132**	Pg	**Pg**	**23 18 57.8**	**-0.2**
STV				Sg	**Sg**	**23 19 06.1**	**+0.5**
RSP	**Reno Superiore**	**0.64**	**36**	Pg	**Pg**	**23 18 59.8**	**+0.6**
	12nm,0.2s						
ORIF	**Oris-en-Rattie**	**0.67**	**296**	*e*Pg	**Pg**	**23 18 59.1**	**-0.6**
ORIF				*e*Sg	**Sg**	**23 19 07.2**	**-1.2**
	32nm,0.3s						
TOUF	**Mont Tournerai**	**0.72**	**148**	Pg	**Pg**	**23 19 00.6**	**-0.1**
TOUF				Sg	**Sg**	**23 19 09.5**	**-0.7**
MVIF	**Mont Vial**	**0.80**	**157**	Pg	**Pg**	**23 19 02.1**	**0.0**
MVIF				Sg	**Sg**	**23 19 12.7**	**+0.2**
AUTN	**L'Aution**	**0.81**	**141**	Pg	**Pg**	**23 19 02.3**	**-0.1**
AUTN				Sg	**Sg**	**23 19 12.9**	**-0.1**
LUCF	**Luceram**	**0.86**	**149**	Pg	**Pg**	**23 19 03.3**	**-0.1**
LUCF				Sg	**Sg**	**23 19 14.4**	**-0.2**
LPG	**La Plagne**	**0.87**	**1**	*e*Pg	**Pg**	**23 19 03.4**	**-0.1**
LPG				*e*Sg	**Sg**	**23 19 15.1**	**+0.3**
	6.5nm,0.2s						
SAOF	**Saorge**	**0.88**	**137**	Pg	**Pg**	**23 19 03.6**	**-0.1**
SAOF				Sg	**Sg**	**23 19 15.2**	**+0.1**
LPL	**La Plagne**	**0.89**	**0**	*e*Pg	**Pg**	**23 19 03.7**	**-0.1**
LPL				*e*Sg	**Sg**	**23 19 15.4**	**0.0**
	7.5nm,0.3s						
SBF	**Sospel**	**0.92**	**146**	*e*Pg	**Pg**	**23 19 04.3**	**-0.2**
SBF				*e*Sg	**Sg**	**23 19 16.3**	**-0.2**
	22nm,0.3s						
SMRF	**Simiane la Rot**	**1.05**	**232**	*e*Pg	**Pg**	**23 19 07.5**	**+0.5**
SMRF				*e*Sg	**Sg**	**23 19 21.8**	**+1.1**
	9.9nm,0.2s						
FRF	**La Foret Royal**	**1.07**	**183**	*e*Pg	**Pg**	**23 19 06.8**	**-0.5**
FRF	**La Foret Royal**	**1.07**	**183**	*e*Pn	**Pn**	**23 19 08.1**	**+0.5**
FRF				*e*Sg	**Sg**	**23 19 21.5**	**+0.2**
	11nm,0.2s						
IMI	**Imperia**	**1.11**	**130**	Pg	**Pg**	**23 19 07.7**	**-0.3**
	36nm,0.5s						
LMR	**La Mourre**	**1.31**	**187**	*e*Pn	**Pn**	**23 19 11.2**	**+0.4**
LMR	**La Mourre**	**1.31**	**187**	*e*Pg	**Pg**	**23 19 11.7**	**-0.1**
LMR				*e*Sg	**Sg**	**23 19 28.6**	**-0.2**
	15nm,0.2s						
VIVF	**Saint-Julien-l**	**1.48**	**279**	*e*Pn	**Pn**	**23 19 13.8**	**+0.6**
VIVF	**Saint-Julien-l**	**1.48**	**279**	*e*Pg	**Pg**	**23 19 15.6**	**+0.5**
VIVF				*e*Sn	**Sn**	**23 19 32.7**	**+0.3**
VIVF				*e*Sg	**Sg**	**23 19 35.0**	**+0.7**
	7.1nm,0.4s						
LASF	**Ste Croix**	**2.13**	**256**	*e*Pn	**Pn**	**23 19 22.1**	**0.0**
LASF				*e*Sn	**Sn**	**23 19 47.9**	**-0.6**
	2.3nm,0.2s						
PGF	**Pioggiola**	**2.66**	**141**	*e*Pn	**Pn**	**23 19 29.2**	**-0.2**
PGF				*e*Sn	**Sn**	**23 19 59.9**	**-1.6**
	2.0nm,0.2s						
SMF	**Signal de Mont**	**2.85**	**316**	*e*Pn	**Pn**	**23 19 32.2**	**+0.1**
SMF	**Signal de Mont**	**2.85**	**316**	*e*Pg	**Pg**	**23 19 40.2**	**-1.2**
SMF				*e*Sg	**Sg**	**23 20 17.2**	**-1.2**
	1.6nm,0.2s						
AVF	**Avril sur Loir**	**3.20**	**314**	*e*Pn	**Pn**	**23 19 37.2**	**+0.4**
CAF	**Calviac**	**3.33**	**277**	*e*Pn	**Pn**	**23 19 39.5**	**+0.9**
MTLF	**Montolieu**	**3.50**	**250**	*e*Pn	**Pn**	**23 19 40.9**	**0.0**

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*IDC **08** 23:29:58.9±1.9, 284S×10078E, h0km, mb4.2/10, mb1 4.3/10, mb1mx4.0/22, mbtmp4.2/10, MS3.2/1, Ms1 3.2/1, ms1mx2.5/39, Error ellipse: s-maj=97.6km s-min=14.6km az=54.0*
*DJA **08** 23:30:06, 274S×10090E, h20km, MLv4.2/4*
*ISCJB **08** 23:30:07.2±0.8, 277S±006×10095E±007, h71km±7km, mb4.6/23, Error ellipse: s-maj=13.8km s-min=6.1km az=146.6*
*NEIC **08** 23:30:07.7±1.6, 276S×10097E, h61km±16km, mb4.5/4, Error ellipse: s-maj=12.1km s-min=8.4km az=47.0*
NEIC Felt [III] at Muaraaman and Mukomuko, Sumatra.
ISC 08 23:30:08.3±0.8**, 277S**±005×**10095E**±007**, h62**km±7km**, n48,** σ**0ˢ99**/46**, mb4.6**/23**, Southern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KSI	**Kapahiang**	**1.86**	**118**	P	**Pn**	**23 30 37.7**	**-0.2**
KSI	**Kapahiang**	**1.86**	**118**	S	**Sn**	**23 31 02.5**	**+2.0**
PDSI	**Padang**	**1.90**	**345**	P	**Pn**	**23 30 37.1**	**-1.4**
PDSI	**Padang**	**1.90**	**345**	S	**Sn**	**23 31 00.6**	**-0.8**
PPI	**Padang Panjang**	**2.36**	**346**	P	**Pn**	**23 30 44.4**	**-0.3**
PPI	**Padang Panjang**	**2.36**	**346**	S	**Sn**	**23 31 13.8**	**+1.3**
MYKOM	**Kota Tinggi**	**5.37**	**33**	P	**Pn**	**23 31 25.8**	**-0.2**
COCO	**West Island**	**10.21**	**203**	*e*Pn	**Pn**	**23 32 31.9**	**-0.3**
KKM	**Kota Kinabalu**	**17.58**	**60**	Pn	**Pn**	**23 34 09.2**	**0.0**
PALK	**Pallekele**	**22.53**	**296**	P	**P**	**23 35 01.4**	**-1.9**
MBWA	**Marble Bar**	**25.86**	**136**	*e*P	**P**	**23 35 36.1**	**+1.7**
	12nm,0.9s,mb4.4						
FITZ	**Fitzroy Crossi**	**28.60**	**124**	P	**P**	**23 35 58.2**	**-0.8**
	0.6nm,0.5s,mb3.6,baz=324,slow=17,SNR=4.4						
FITZ				LR	LR	23 46 43.5	
	comp=Z,41nm,18.8s,baz=284,slow=35						
FITZ	**Fitzroy Crossi**	**28.60**	**124**	*e*P	**P**	**23 35 58.3**	**-0.6**
	15nm,1.8s,mb4.4						
FITZ				LR	LR	23 46 43.5	
ODAN	**Odare**	**32.23**	**337**	*e*P	**P**	**23 36 31.3**	**+0.4**
	20nm,0.5s,mb5.2						
TAPN	**Taplejung**	**32.55**	**338**	*e*P	**P**	**23 36 34.6**	**+1.0**
	16nm,0.4s,mb5.3						
RAMN	**Ramite**	**32.63**	**336**	*e*P	**P**	**23 36 35.1**	**+0.7**
	14nm,0.7s,mb5.0						
JIRN	**Jiri**	**33.42**	**336**	*e*P	**P**	**23 36 42.2**	**+0.9**
	15nm,0.4s,mb5.3						
PKI	**Pulchoki**	**33.67**	**335**	*e*P	**P**	**23 36 43.6**	**+0.1**
PKIN	**Phulchoki**	**33.68**	**335**	*e*P	**P**	**23 36 43.5**	**-0.1**
	3.4nm,0.6s,mb4.5						
GUN	**Gumba**	**33.77**	**336**	*e*P	**P**	**23 36 45.1**	**+0.8**
	42nm,0.5s						
DMN	**Daman**	**33.84**	**334**	*e*P	**P**	**23 36 45.7**	**+0.8**
	2.1nm,0.2s,mb4.7						
KKN	**Kakani**	**33.92**	**335**	*e*P	**P**	**23 36 45.9**	**+0.3**
	21nm,0.7s,mb5.2						
GKN	**Gorkha**	**34.38**	**334**	*e*P	**P**	**23 36 50.2**	**+0.6**
	6.1nm,0.4s,mb4.9						
KOLN	**Koldanda**	**34.65**	**332**	*e*P	**P**	**23 36 52.3**	**+0.4**
	9.2nm,0.6s,mb4.9						
DANN	**Dangsing**	**35.07**	**333**	*e*P	**P**	**23 36 56.6**	**+1.0**
	12nm,0.4s,mb5.2						
WRA	**Warramunga Arr**	**36.79**	**120**	P	**P**	**23 37 09.4**	**-1.1**
	0.7nm,0.3s,mb4.0,baz=284,slow=12,SNR=18						
WB2	**Warramunga Arr**	**36.80**	**120**	*e*P	**P**	**23 37 09.8**	**-0.7**
WB2				*e*PcP	PcP	23 39 33.2	+1.6
ASAR	**Alice Springs**	**38.04**	**126**	P	**P**	**23 37 20.4**	**-0.5**
	2.2nm,0.6s,mb4.1,baz=301,slow=8.4,SNR=27						
BJT	**Baijiatuau**	**44.81**	**17**	P	**P**	**23 38 15.3**	**-0.8**
STKA	**Stephens Creek**	**47.94**	**132**	P	**P**	**23 38 39.4**	**-1.4**
	1.6nm,0.4s,mb4.4,baz=293,slow=6.2,SNR=2.8						
STKA	**Stephens Creek**	**47.94**	**132**	P	**P**	**23 38 39.4**	**-1.4**
SONM	**Songino Array**	**50.61**	**5**	P	**P**	**23 39 00.3**	**-0.6**
	2.1nm,0.6s,mb4.2,baz=188,slow=9.5,SNR=19						
SONM				PcP	PcP	23 40 17.2	-0.5
	0.7nm,0.4s,baz=192,slow=4.1,SNR=6.3						
UCH	**Uchtor**	**50.78**	**335**	*e*P	**P**	**23 39 04.0**	**+1.6**
TKM2	**Tokmak 2**	**50.91**	**336**	*e*P	**P**	**23 39 03.8**	**+0.6**
	2.3nm,0.4s,mb4.5						
EKS2	**Erkin-Say**	**51.45**	**334**	*e*P	**P**	**23 39 08.4**	**+1.0**
	2.6nm,0.4s,mb4.5						
MK31	**Makanchi Array**	**52.02**	**344**	*e*P	**P**	**23 39 10.5**	**-1.0**
MKAR	**Makanchi Array**	**52.02**	**344**	P	**P**	**23 39 10.6**	**-0.9**
	4.0nm,0.6s,mb4.5,baz=151,slow=8.1,SNR=48						
KURK	**Kurchatov**	**56.60**	**343**	P	**P**	**23 39 43.6**	**-1.1**
	1.8nm,0.6s,mb4.3,baz=160,slow=6.8,SNR=3.7						
ZAA0	**Zalesovo Array**	**58.09**	**349**	*e*P	**P**	**23 39 53.5**	**-1.7**
ZALV	**Zalesovo Beam**	**58.09**	**349**	P	**P**	**23 39 53.9**	**-1.2**
	5.2nm,0.5s,mb4.8,baz=169,slow=5.1,SNR=39						
BVAR	**Borovoye Array**	**61.23**	**339**	P	**P**	**23 40 15.3**	**-1.4**
	0.4nm,0.3s,mb4.0,baz=137,slow=7.6,SNR=4.1						
BRVK	**Borovoye**	**61.29**	**339**	*e*P	**P**	**23 40 18.7**	**+1.6**
YAK	**Yakutsk**	**68.24**	**14**	P	**P**	**23 41 03.0**	**+0.8**
BOSA	**Boshof**	**76.12**	**241**	*e*P	**P**	**23 41 51.4**	**+1.4**
OBN	**Obninsk**	**77.94**	**328**	*e*P	**P**	**23 41 59.2**	**-0.4**
ARCES	**ARCESS Array B**	**87.51**	**340**	P	**P**	**23 42 48.6**	**-0.3**
	4.6nm,0.9s,mb4.7,baz=91,slow=6.3,SNR=9.8						
PV10	**Paradox Valley**	**135.20**	**34**	*e*PKPdf	PKPdf	23 49 24.1	+2.7
TXAR	**Lajitas Array**	**144.71**	**39**	PKP	PKPdf	23 49 38.0	-0.9
	1.9nm,0.5s,baz=236,slow=1.0,SNR=26						

IDC 08 23:38:56.5±3.6**, 564S**×**15223E, h0**km**, mb3.6**/3**, mb1 3.9**/3**, mb1mx3.5**/16**, mbtmp3.7**/3**, MS3.3**/1**, Ms1 3.2**/1**, ms1mx2.6**/24**, Error ellipse: s-maj=132.6km s-min=49.9km az=124.0, New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.47**	**229**	P	P	23 43 57.7	+0.2
	1.2nm,0.6s,baz=54,slow=10.0,SNR=7.2						
ASAR	**Alice Springs**	**25.15**	**223**	P	P	23 44 23.7	+0.1
	0.7nm,0.7s,baz=57,slow=8.6,SNR=7.4						
STKA	**Stephens Creek**	**27.94**	**200**	LR	LR	23 55 56.5	
	comp=Z,67nm,20.6s,baz=24,slow=36						

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	28.77	242	P	P	23 44 55.9	-0.3
	0.9nm,0.6s,baz=58,slow=14,SNR=3.4						
TORD	Torodi Ar. Bea	150.01	287	PKPbc	PKPbc	23 58 50.0	-0.2
	0.8nm,0.8s,baz=62,slow=3.3,SNR=4.8						

*IDC **08** 23:45:32.4±1.9, 32.42S×73.19W, h0^{km}, mb4.1/4, mb1 4.2/9, mb1mx4.0/18, mbtmp4.1/9, ML4.3/4, MS3.3/1, Ms1 3.3/1, ms1mx2.5/21, Error ellipse: s-maj=55.7km s-min=20.4km az=115.0*

*ISCJB **08** 23:45:36.1±0.7, 32.40S±0.02×72.86W±0.05, h33^{km}±8^{km}, mb4.0/4, Error ellipse: s-maj=7.0km s-min=3.7km az=170.2*

*GUC **08** 23:45:37.6±0.9, 32.45S×72.69W, h34^{km}±3^{km}, MD4.2, ML4.3*

*NEIC **08** 23:45:37.6, 32.45S×72.69W, h34^{km}, ML4.3(GUC), After GUC.*

ISC 08 23:45:37.2±1.3**, 32.40S**±0.02×**72.80W**±0.05**, h28**^{km}±12^{km}**, n52,** σ0^{s}**79**/87**, mb4.0**/4**, 12C-10D, Off coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
IHA	Instituto Hidr	1.16	123⇑	iP	Pn	23 45 56.6	-0.9
IHA				iS	Sn	23 46 10.8	-1.6
PACH	Papudo	1.16	97⇓	iP	Pn	23 45 56.8	-0.7
PACH				iS	Sn	23 46 11.5	-0.9
CHNG	Los Chungos	1.22	65⇓	iP	Pn	23 45 57.7	-0.5
CHNG				iS	Sn	23 46 13.4	-0.4
PTCH	Petorca	1.59	86⇑	iP	Pn	23 46 03.4	0.0
PTCH				iS	Sn	23 46 23.1	+0.2
PTCH				AML	AML	23 46 23.8	
	comp=E,8µm,0.2s						
PTCH	Petorca	1.59	86⇑	iP	Pn	23 46 03.4	0.0
PTCH				iS	Sn	23 46 23.1	+0.2
ROCH	El Roble	1.61	111	eP	Pn	23 46 03.8	+0.1
JACH	Jahuel	1.89	99⇑	iP	Pn	23 46 07.5	0.0
PEL	Peldehue	1.93	113⇑	iP	Pn	23 46 08.5	+0.5
PEL				iS	Sn	23 46 31.3	-0.1
PEL				AML	AML	23 46 33.5	
	comp=N,15µm,0.3s						
LNV	Longovilo	1.94	144⇑	iP	Pn	23 46 06.9	-1.4
RCDM	Rinconada Maip	2.00	124⇓	iP	Pn	23 46 08.8	-0.2
RCDM				iS	Sn	23 46 32.5	-0.5
RCDM				AML	AML	23 46 34.7	
	comp=N,2µm,0.3s						
RCDM	Rinconada Maip	2.00	124⇓	iP	Pn	23 46 08.8	-0.2
RCDM				iS	Sn	23 46 32.5	-0.5
TACH	Talagante	2.00	129⇓	iP	Pn	23 46 08.7	-0.4
TACH				iS	Sn	23 46 32.1	-1.1
SAN	Santiago	2.08	121	eP	Pn	23 46 10.7	+0.5
SAN				eS	Sn	23 46 35.2	0.0
SAN				AML	AML	23 46 37.2	
	comp=N,3µm,0.4s						
SAN	Santiago	2.08	121	eP	Pn	23 46 10.7	+0.5
SAN				eS	Sn	23 46 35.2	0.0
CLCH	Cerro Calan	2.15	118⇑	iP	Pn	23 46 11.8	+0.8
CLCH				iS	Sn	23 46 36.4	-0.4
CLCH				AML	AML	23 46 39.9	
	comp=N,3µm,0.5s						
ANTU	Antumapu	2.16	123	eP	Pn	23 46 11.7	+0.4
ANTU				iS	Sn	23 46 37.1	0.0
ANTU				AML	AML	23 46 38.8	
	comp=N,5µm,0.5s						
ANTU	Antumapu	2.16	123	eP	Pn	23 46 11.7	+0.4
ANTU				iS	Sn	23 46 37.1	0.0
FSR	Penalolen	2.19	120	eP	Pn	23 46 12.5	+0.8
FSR				iS	Sn	23 46 38.3	+0.4
FSR				AML	AML	23 46 42.5	
	comp=N,828nm,0.4s						
FSR	Penalolen	2.19	120	eP	Pn	23 46 12.5	+0.8
FSR				iS	Sn	23 46 38.3	+0.4
OVCH	Ovalle	2.25	38⇑	iP	Pn	23 46 12.1	-0.3
OVCH				iS	Sn	23 46 39.6	+0.4
PCH	Pirque	2.27	123	eP	Pn	23 46 13.4	+0.6
PCH				iS	Sn	23 46 39.6	-0.3
FCH	Farellones	2.31	114⇓	iP	Pn	23 46 14.0	+0.8
FCH				iS	Sn	23 46 41.2	+0.5
FCH				AML	AML	23 46 43.6	
	comp=N,2µm,0.4s						
CACH	El Canelo	2.52	134⇑	iP	Pn	23 46 16.7	+0.6
CACH				iS	Sn	23 46 47.1	+1.2
YECH	El Yeso	2.61	120	eP	Pn	23 46 18.3	+0.9
YECH				iS	Sn	23 46 48.9	+0.8
YECH				AML	AML	23 46 52.3	
	comp=N,2µm,0.3s						
LMEL	Las Melosas	2.61	124	eP	Pn	23 46 18.2	+0.7
LMEL				iS	Sn	23 46 48.4	+0.1
LMEL				AML	AML	23 46 51.1	
	comp=N,3µm,0.3s						
LMEL	Las Melosas	2.61	124	eP	Pn	23 46 18.2	+0.7
LMEL				iS	Sn	23 46 48.4	+0.1
SFDO	San Fernando	2.67	146	eP	Pn	23 46 17.4	-0.8
CICH	Cipreses	2.76	135⇓	iP	Pn	23 46 19.8	+0.3
CICH				iS	Sn	23 46 51.8	-0.2
TLL	Tololo Astrono	2.80	38⇓	iP	Pn	23 46 20.2	+0.1
TLL				iS	Sn	23 46 53.5	+0.6
TLL				AML	AML	23 46 56.9	
	comp=N,473nm,0.4s						
TLL	Tololo Astrono	2.80	38⇓	iP	Pn	23 46 20.2	+0.1
TLL				iS	Sn	23 46 53.5	+0.6
LSCH	La Serena	2.82	29⇑	iP	Pn	23 46 19.9	-0.4
LSCH				iS	Sn	23 46 53.0	-0.3
NICH	Los Niches	2.91	154⇓	iP	Pn	23 46 21.3	-0.2
LCO	Las Campanas	3.83	29⇑	iP	Pn	23 46 33.6	-0.6
LCO				iS	Sn	23 47 17.7	-0.6
LCO	Las Campanas	3.83	29	ePn	Pn	23 46 33.7	-0.5
LCO				iS	Sn	23 47 17.7	-0.6
LCO				eSn	Sn	23 47 19.2	+0.9
CFAA	Coronel Fontan	3.96	80	Pn	Pn	23 46 38.5	+2.6
	comp=N,2.5nm,0.3s,baz=248,slow=12,SNR=264						
CFAA				Sn	Sn	23 47 25.4	+4.0
	comp=N,4.6nm,0.3s,baz=153,slow=23,SNR=25						
VACH	Vallenar	4.20	25	eP	Pn	23 46 38.7	-0.6
VACH				iS	Sn	23 47 26.6	-0.7
CCHI	Chillan	4.24	172⇑	iP	Pn	23 46 39.5	-0.2
CCHI				iS	Sn	23 47 24.7	-3.6
PLCA	Paso Flores	8.51	168	Pn	Pn	23 47 37.8	-0.7
	comp=N,2.6nm,0.3s,baz=331,slow=12,SNR=62						
PLCA				Sn	Sn	23 49 09.2	-4.4
	comp=N,0.5nm,0.3s,baz=236,slow=6.9,SNR=3.9						
LVC	Limon Verde	10.34	20	Pn	Pn	23 48 01.2	-2.4
	comp=N,1.1nm,0.3s,baz=156,slow=5.2,SNR=14						
LVC				Sn	Sn	23 49 53.6	-4.9
	comp=N,0.4nm,0.3s,baz=195,slow=14,SNR=3.2						
LVC	Limon Verde	10.34	20	Pn	Pn	23 48 01.2	-2.4
LVC				Sn	Sn	23 49 53.6	-5.0
TRQA	Tornquist	10.49	126	ePn	Pn	23 48 05.5	-0.1
CPUP	Villa Florida	14.78	70	Pn	Pn	23 49 08.6	+4.4
	comp=N,0.2nm,0.3s,baz=255,slow=5.3,SNR=2.6						
CPUP	Villa Florida	14.78	70	Pn	Pn	23 49 03.2	-1.0
LPAZ	La Paz	16.59	16	Pn	Pn	23 49 29.6	+1.8
	comp=N,0.3nm,0.3s,baz=186,slow=8.6,SNR=40						
SIV	San Ignacio	19.50	36	P	Pn	23 50 03.7	+0.3
	comp=N,0.9nm,0.3s,baz=215,slow=11,SNR=46						
ATAH	Atahualpa	25.80	347	LR	LR	00 00 33.4	
	comp=N,64nm,20.1s,baz=177,slow=35						
BDFB	Brasilia	28.01	59	P	P	23 51 29.1	+3.2
	comp=N,4.0nm,0.8s,mb4.1,baz=214,slow=14,SNR=4.3						
PMSA	Palmer Station	32.85	173	P	P	23 52 08.7	+0.6
SDV	Santo Domingo	41.10	3	eP	P	23 53 18.4	-0.2
QSPA	South Pole Qui	57.83	180	P	P	23 55 25.7	+0.2
	comp=N,1.6nm,1.1s,mb4.0,baz=236,slow=3.4,SNR=4.6						
MAW	Mawson	74.89	164	P	P	23 57 15.2	+0.4
	comp=N,1.4nm,0.9s,mb3.9,baz=227,slow=4.8,SNR=3.5						
TORD	Torodi Ar. Bea	84.27	71	P	P	23 58 06.7	+0.1
	comp=N,0.6nm,0.6s,mb3.9,baz=280,slow=6.4,SNR=12						

JMA 08 23:47:13.7±0.4**, 43.38N**×**146.70E, h41**^{km}±3^{km}**, M3.5, Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
NEM2	Nemuro 2	0.70	269	P	Pn	23 47 27.1	0.0
NEM2				eS	Sn	23 47 37.1	+0.4
JRA	Rausu	1.27	297	P	Pn	23 47 35.6	+0.6
JNK	Nakash	1.46	279	P	Pn	23 47 37.9	+0.4
JNK				eS	Sn	23 47 55.6	+0.3
JAK	Akkeshi	1.52	256	P	Pn	23 47 38.7	+0.4
JTKR	Abashiri--Toko	2.11	287	P	Pn	23 47 48.0	+1.6
JTKR				eS	Sn	23 48 14.4	+3.0
JAR	Ashorobuto	2.14	269	P	Pn	23 47 48.2	+1.3
JAR				eS	Sn	23 48 14.6	+2.4
JOB	Onbets	2.15	258	P	Pn	23 47 48.3	+1.3
JOB				eS	Sn	23 48 14.6	+2.2

*IDC **09** 00:13:57.2±5.9, 5.43N×124.98E, h77^{km}±61^{km}, mb3.6/7, mb1 3.6/7, mb1mx3.5/20, mbtmp3.6/7, Error ellipse: s-maj=86.9km s-min=14.3km az=71.0*

*NEIC **09** 00:13:58.6±2.6, 5.50N×125.08E, h92^{km}±28^{km}, mb4.3/5, Error ellipse: s-maj=68.1km s-min=8.0km az=73.0*

*ISCJB **09** 00:14:00.1±0.8, 5.75N±0.07×125.8E±0.2, h132^{km}±6^{km}, mb3.8/9, Error ellipse: s-maj=26.5km s-min=10.9km az=167.9*

ISC 09 00:14:01.3±0.8**, 5.73N**±0.07×**125.8E**±0.2**, h123**^{km}±6^{km}**, n19,** σ0^{s}**92**/20**, mb3.8**/9**, 1D, Mindanao**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
GSPH	General Santos	0.89	293⇓	eP	Pn	00 14 21.6	-0.9
GSPH				eS	Sn	00 14 39.7	+1.1
DAV	Davao City (W)	1.34	352	P	Pn	00 14 26.0	-1.2
	47nm,0.3s,baz=104,slow=17,SNR=2.5						
DAV				S	Sn	00 14 47.1	+0.2
	97nm,0.3s,baz=61,slow=22,SNR=7.7						
YHNB	Yeheng	19.30	348	eP	P	00 18 10.0	-6.7
	339nm,2.3s						
KAKA	Kakadu	19.48	160	eP	P	00 18 20.3	+1.5
	4.6nm,0.6s						
TATO	Taipei	19.57	348	P	P	00 18 20.6	+0.9
FITZ	Fitzroy Crossi	23.68	180	eP	P	00 19 01.5	-0.3
	2.2nm,0.6s,mb3.7						
FITZ	Fitzroy Crossi	23.68	180	eP	P	00 18 59.6	-2.2
	2.0nm,0.5s,mb3.7						
WRA	Warramunga Arr	26.87	162	P	P	00 19 31.6	+1.0
	0.4nm,0.3s,mb3.4,baz=343,slow=9.7,SNR=5.8						
ASAR	Alice Springs	30.28	165	P	P	00 19 59.5	-1.4
	0.5nm,0.6s,mb3.3,baz=341,slow=7.0,SNR=6.7						
BJT	Baijiatuau	35.21	347	P	P	00 20 44.3	+0.6
STKA	Stephens Creek	40.33	159	P	P	00 21 27.0	+0.2
	2.0nm,0.8s,mb4.0,baz=17,slow=7.2,SNR=3.7						
MKAR	Makanchi Array	55.38	325	P	P	00 23 21.3	-1.3
	1.2nm,0.4s,mb4.3,baz=118,slow=7.5,SNR=19						
MKAR	Makanchi Array	55.38	325	P	P	00 23 21.3	-1.3
ZALV	Zalesovo Beam	58.38	333	P	P	00 23 43.5	-0.1
	0.3nm,0.3s,mb3.8,baz=120,slow=7.3,SNR=3.2						
KURK	Kurchatov	59.55	327	P	P	00 23 52.1	+0.3
	1.1nm,0.4s,mb4.2,baz=122,slow=6.7,SNR=5.3						
KURK	Kurchatov	59.55	327	eP	P	00 23 51.7	-0.1
	2.7nm,0.4s,mb4.6						
BVAR	Borovoye Array	65.13	327	P	P	00 24 28.8	-0.1
	0.5nm,0.5s,mb3.6,baz=142,slow=7.1,SNR=4.5						
BRVK	Borovoye	65.20	327	eP	P	00 24 29.7	+0.4
	1.6nm,0.5s,mb4.1						
TORD	Torodi Ar. Bea	121.38	289	PKP	PKPdf	00 32 41.6	+0.6
	0.7nm,0.6s,baz=65,slow=1.6,SNR=16						

*TEH **09** 00:14:54.5, 32.10N×49.42E, h28^{km}, ML3.5*

*IDC **09** 00:15:04.9±2.2, 32.44N×49.35E, h0^{km}, mb3.7/7, mb1 3.8/7, mb1mx3.6/24, mbtmp3.7/7, Error ellipse: s-maj=47.8km s-min=24.1km az=159.0*

*ISCJB **09** 00:15:05.2±0.3, 32.04N±0.03×49.40E±0.03, h10^{km}, mb3.7/6, Error ellipse: s-maj=4.7km s-min=3.5km az=140.8*

*CSEM **09** 00:15:06.9±0.1, 32.06N×49.42E, h30^{km}, ML3.3, Error ellipse: s-maj=2.1km s-min=1.9km az=142.0*

*SGS **09** 00:15:07.5, 31.97N×49.27E, h10^{km}*

*THR **09** 00:15:08.4±1.0, 32.28N×49.21E, h15^{km}±8^{km}, ML3.2*

*NEIC **09** 00:15:09.4, 32.10N×49.42E, h28^{km}, ML3.2(THR), MN3.5(TEH), After TEH.*

ISC 09 00:15:06.3±0.3**, 32.06N**±0.03×**49.40E**±0.03**, h10**^{km}**, n66,** σ1^{s}**26**/85**, mb3.7**/6**, 1D, Western Iran**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SHGR	Shooshtar-Gavs	0.51	275	ePg	Pg	00 15 16.3	+0.1
SHGR	Shooshtar-Gavs	0.51	275	ePg	Pg	00 15 16.0	-0.2
IPIR	Pirpir	1.41	63	Pn	Pn	00 15 32.7	+0.8
IPIR				eSn	Sn	00 15 50.4	-0.1
IPIR	Pirpir	1.41	63	ePn	Pn	00 15 32.8	+0.9
IPIR				eSn	Sn	00 15 50.4	-0.1
IPIR				e		00 15 54.5	
IKLH	Kolahrood	2.22	55	Pn	Pn	00 15 44.0	+0.8
IKLH				eSn	Sn	00 16 09.5	-1.2
IKLH	Kolahrood	2.22	55	ePn	Pn	00 15 44.1	+0.9
IKLH				e		00 15 52.5	
IKLH				eSn	Sn	00 16 09.5	-1.2
IGAR	Gharneh	2.26	81	ePn	Pn	00 15 45.3	+1.6
IGAR				e		00 16 17.7	
ASAO	Ashtian	2.54	12	ePn	Pn	00 15 48.7	+1.3
ASAO	Ashtian	2.54	12	ePn	Pn	00 15 48.0	+0.6
ASAO				eSg	Sg	00 16 25.0	-2.7
IZEF	Zefreh	2.61	71⇓	ePn	Pn	00 15 49.8	+1.3
IZEF				Sn	Sn	00 16 19.3	-0.9
IZEF	Zefreh	2.61	71	ePn	Pn	00 15 49.8	+1.3
IZEF				eSn	Sn	00 16 19.3	-0.9
IZEF				e		00 16 33.6	
IKOM	Komasi	2.64	324	ePn	Pn	00 15 49.6	+0.7
IKOM				eSn	Sn	00 16 20.2	-0.7
IKOM	Komasi	2.64	324	ePn	Pn	00 15 49.6	+0.7
IKOM				eSn	Sn	00 16 20.2	-0.7
IKOM				e		00 16 36.5	
IKOM	Komasi	2.64	324	Pn	Pn	00 15 49.6	+0.7
IKOM				Sn	Sn	00 16 20.1	-0.8
GHVR	GHOM	2.89	33	ePn	Pn	00 15 54.2	+1.9
GHVR				eSg	Sg	00 16 35.2	-3.8
GHVR				AML	AML	00 16 43.8	
	comp=N,128nm,0.6s						
GHVR	GHOM	2.89	33	ePn	Pn	00 15 54.2	+1.9
	SNR=52						
GHVR				eSg	Sg	00 16 35.2	-3.8
	SNR=90						
UMR	Umm Al-Rimmam	2.89	211	eP	Pn	00 15 52.8	+0.4
	baz=210						
UMR				AML	AML	00 16 31.5	
	comp=Z,131nm,0.5s,baz=210						
KBD	Kabd	3.23	208	eP	Pn	00 15 57.3	+0.3
KBD	Kabd	3.23	208	eP	Pn	00 15 57.4	+0.3
	baz=207						
KBD				AML	AML	00 16 38.8	
	comp=Z,97nm,0.6s,baz=207						
IVIS	Veis	3.26	320	ePn	Pn	00 15 58.6	+1.2
IVIS	Veis	3.26	320	ePn	Pn	00 15 58.8	+1.4
IGHG	Ghaleghazi	3.28	314	ePn	Pn	00 15 58.4	+0.7
IGHG				e		00 17 21.0	
RST	Umm Al-Ruwaisa	3.29	220	eP	Pn	00 15 58.5	+0.8
	baz=219						
RST				AML	AML	00 16 38.0	
	comp=Z,75nm,0.5s,baz=219						
ISFB	Sefidab	3.30	45	ePn	Pn	00 15 58.3	+0.3
ISFB	Sefidab	3.30	45	ePn	Pn	00 15 58.2	+0.2
ISFB				e		00 16 47.9	
ISFB	Sefidab	3.30	45	Pn	Pn	00 15 58.1	+0.1
IRAZ	Razeghan	3.36	7	ePn	Pn	00 15 59.7	+0.9
IRAZ				eSn	Sn	00 16 35.4	-3.4
IRAZ	Razeghan	3.36	7	ePn	Pn	00 15 59.5	+0.7
IRAZ				eSn	Sn	00 16 35.3	-3.5
IRAZ				e		00 17 04.2	
IRAZ	Razeghan	3.36	7	Pn	Pn	00 15 59.4	+0.6
IRAZ				Sn	Sn	00 16 35.2	-3.6
NAY	Al-Naaiem	3.36	214	eP	Pn	00 16 00.1	+1.3
	baz=214						
NAY				AML	AML	00 16 39.0	
	comp=Z,14nm,0.5s,baz=214						
SNGE	Sanandaj	3.48	331	ePn	Pn	00 16 00.5	+0.2
SNGE	Sanandaj	3.48	331	ePn	Pn	00 16 00.0	-0.4
RDF	Al-Radifah	3.51	208	eP	Pn	00 16 02.1	+1.3
	baz=208						
RDF				AML	AML	00 16 44.9	
	comp=Z,76nm,0.3s,baz=208						
IVRN	Varamin	3.51	33	ePn	Pn	00 16 01.5	+0.6
IVRN	Varamin	3.51	33	ePn	Pn	00 16 00.8	-0.1
IVRN				e		00 16 18.2	
IVRN	Varamin	3.51	33	Pn	Pn	00 16 00.7	-0.2
ISAD	Sadrabad	3.64	91	ePn	Pn	00 16 03.6	+0.9
ISAD				eSn	Sn	00 16 44.0	-1.7
ISAD	Sadrabad	3.64	91	ePn	Pn	00 16 03.9	+1.2
ISAD				eSn	Sn	00 16 44.0	-1.7
ISAD				e		00 17 09.2	
ISAD	Sadrabad	3.64	91	Pn	Pn	00 16 03.8	+1.1
ISAD				Sn	Sn	00 16 43.9	-1.8
IPAR	Pars	3.83	124	Pn	Pn	00 16 05.5	+0.2
IPAR	Pars	3.83	124	ePn	Pn	00 16 05.6	+0.3
IPAR				e		00 17 05.7	
THKV	Tehran--Karaj	4.04	17	ePn	Pn	00 16 09.6	+1.5
THKV				AML	AML	00 17 31.1	
	comp=N,25nm,0.7s						
KFJS		4.06	199	P	Pn	00 16 08.4	-0.1
KFJS		4.06	199	P	Pn	00 16 08.4	-0.1
KFJS				S	Sn	00 16 56.1	0.0
DAMV	Damavand	4.15	30	ePn	Pn	00 16 13.3	+3.6
DAMV				AML	AML	00 17 22.5	
	comp=N,33nm,0.5s						
ICHK	Chekchek	4.25	86	ePn	Pn	00 16 11.6	+0.6
ICHK				e		00 17 25.6	
ICHK	Chekchek	4.25	86	Pn	Pn	00 16 11.5	+0.5
IMEH	Mehriz	4.49	97	ePn	Pn	00 16 14.7	+0.4
IMEH				e		00 17 44.8	
IFIR	Firoozkooh	4.53	37	ePn	Pn	00 16 15.6	+0.7
IFIR				e		00 16 34.2	
IFIR	Firoozkooh	4.53	37	Pn	Pn	00 16 15.5	+0.6
IGLO	Ghaloghah	5.75	38	ePn	Pn	00 16 32.7	+1.1
IGLO				e		00 16 53.6	
BOQSS		6.17	180	P	Pn	00 16 36.5	-0.9
ASYS		6.32	225	P	Pn	00 16 37.7	-1.8
KRBR	Kerman	6.65	106	ePn	Pn	00 16 51.1	+7.1
BTHS		8.09	171	S	Sn	00 18 29.3	-6.0
BTHS		8.09	171	P	Pn	00 17 01.8	-1.9
HRDDS		9.10	180	S	Sn	00 18 52.5	-7.6
HRDDS		9.10	180	P	Pn	00 17 14.9	-2.8
IDI	Anoyia	20.64	286	P	P	00 19 45.0	-1.0
	comp=N,1.2nm,0.6s,baz=79,slow=15,SNR=4.0						
AKASG	Malin Array Be	23.87	327	P	P	00 20 16.0	-3.8
	comp=N,0.8nm,0.5s,mb3.4,baz=137,slow=9.6,SNR=3.4						
BVAR	Borovoye Array	25.86	30	P	P	00 20 35.5	-2.3
	comp=N,0.8nm,0.5s,mb3.5,baz=227,slow=8.4,SNR=7.0						
MKAR	Makanchi Array	29.11	50	P	P	00 21 05.3	-1.7
	comp=N,0.3nm,0.5s,mb3.3,baz=243,slow=8.0,SNR=4.7						
HFS	Hagfors	36.64	331	P	P	00 22 10.2	-2.4
	comp=N,2.3nm,0.6s,mb4.2,baz=107,slow=12,SNR=4.9						
HFS	Hagfors	36.64	331	P	P	00 22 10.2	-2.4
NOA	NORSAR Array B	38.16	331	P	P	00 22 22.6	-2.8
	comp=N,1.5nm,0.9s,mb3.7,baz=122,slow=8.4,SNR=3.5						
TORD	Torodi Ar. Bea	47.47	258	P	P	00 23 41.9	+0.4
	comp=N,1.3nm,0.9s,mb3.9,baz=45,slow=8.5,SNR=6.8						

*ISCJB **09** 00:18:00.2±0.8, 32.08N±0.06×49.3E±0.1, h10^{km}, Error ellipse: s-maj=16.8km s-min=7.6km az=21.4*

*THR **09** 00:18:01.8±0.4, 32.26N×49.23E, h18^{km}±2^{km}, ML3.1*

*CSEM **09** 00:18:01.1±0.1, 32.14N×49.27E, h25^{km}, ML3.8/2, Error ellipse: s-maj=2.9km s-min=1.1km az=115.0*

ISC 09 00:18:00.3±0.7**, 32.14N**±0.06×**49.4E**±0.1**, h10**^{km}**, n13,** σ1^{s}**18**/16**, Western Iran**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SHGR	Shooshtar-Gavs	0.51	267	ePg	Pg	00 18 09.9	-0.4
SHGR				AML	AML	00 18 23.4	
	comp=N,1µm,0.2s						
ASAO	Ashtian	2.46	12	ePn	Pn	00 18 42.3	+1.9
ASAO				eSg	Sg	00 19 16.7	-2.6
ASAO				AML	AML	00 19 29.6	
	comp=E,89nm,0.6s						
ASAO	Ashtian	2.46	12	ePn	Pn	00 18 42.3	+1.9
	SNR=52						
ASAO				eSg	Sg	00 19 16.7	-2.5
	comp=E,89nm,0.6s,SNR=91						
GHVR	GHOM	2.82	34	ePn	Pn	00 18 47.6	+2.2
GHVR				eSg	Sg	00 19 29.1	-1.8
GHVR				AML	AML	00 19 37.0	
	comp=N,103nm,0.6s						
GHVR	GHOM	2.82	34	ePn	Pn	00 18 47.6	+2.2
	SNR=52						
GHVR				eSg	Sg	00 19 29.0	-1.9
	comp=N,103nm,0.6s,SNR=91						
MIB	Mutribah	2.93	218	eP	Pn	00 18 46.9	0.0
	baz=219						
MIB				AML	AML	00 19 36.8	
	comp=Z,76nm,0.5s,baz=219						
UMR	Umm Al-Rimmam	2.96	210	eP	Pn	00 18 46.8	-0.5
	baz=211						
UMR				AML	AML	00 19 25.4	
	comp=Z,77nm,0.3s,baz=211						
KBD	Kabd	3.30	207	eP	Pn	00 18 51.6	-0.4
	baz=208						
KBD				AML	AML	00 19 32.5	
	comp=Z,75nm,0.2s,baz=208						
RST	Umm Al-Ruwaisa	3.35	219	eP	Pn	00 18 52.3	-0.3
	baz=220						
RST				AML	AML	00 19 40.6	
	comp=Z,37nm,0.4s,baz=220						
SNGE	Sanandaj	3.41	330	ePn	Pn	00 18 54.1	+0.7
NAY	Al-Naaiem	3.43	213	eP	Pn	00 18 53.5	-0.3
	baz=214						
NAY				AML	AML	00 19 35.0	
	comp=Z,19nm,0.4s,baz=214						
RDF	Al-Radifah	3.58	207	eP	Pn	00 18 55.8	0.0
THKV	Tehran--Karaj	3.96	18	AML	AML	00 20 24.7	
	comp=N,24nm,0.6s						

*ISCJB **09** 00:31:39.5±1.0, 35.12N±0.02×27.09E±0.02, h9^{km}±7^{km}, mb3.8/7, Error ellipse: s-maj=3.6km s-min=3.1km az=174.0*

*CSEM **09** 00:31:39.7±0.1, 35.13N×27.08E, h10^{km}, ML4.3, Error ellipse: s-maj=1.6km s-min=1.3km az=59.0*

*IDC **09** 00:31:40.2±1.0, 35.09N×27.08E, h0^{km}, mb3.9/5, mb1 3.8/8, mb1mx3.7/22, mbtmp3.7/8, ML3.6/3, Error ellipse: s-maj=28.8km s-min=11.8km az=179.0*

*THE **09** 00:31:41.4, 35.13N×26.98E, h2^{km}±5^{km}, Error ellipse: s-maj=10.9km s-min=1.4km az=144.0*

*NEIC **09** 00:31:42.1, 35.35N×26.98E, h24^{km}, ML4.3(ATH), After ATH.*

*ATH **09** 00:31:42.1, 35.35N×26.98E, h24^{km}±1^{km}, MD3.9/11, ML4.2*

*HLW **09** 00:31:43.2, 35.19N×27.00E, h33^{km}, Mb3.3*

ISC 09 00:31:40.6±0.7**, 35.17N**±0.02×**27.04E**±0.02**, h2**^{km}±5^{km}**, n158,** σ1^{s}**06**/180**, mb3.8**/7**, 7C-5D, Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KARP	Karpathos	0.39	15	iPb	Pg	00 31 48.3	+0.2
KARP				eSb	Sg	00 31 53.1	-0.1
KARP	Karpathos	0.39	15⇑	iPB	Pg	00 31 48.3	+0.2
KARP				eSB	Sg	00 31 53.1	-0.1
ZKR	Zakros	0.67	266	P	Pg	00 31 53.4	-0.1
ZKR				S	Sg	00 32 03.8	+1.6
NPS	Neapolis	1.17	275	ePn	Pn	00 32 02.9	-1.0
NPS				eSn	Sn	00 32 18.4	-2.0
NPS	Neapolis	1.17	275	ePN	Pn	00 32 02.9	-1.0
NPS				eSN	Sn	00 32 18.4	-2.0
LAST	Lasithi	1.28	270	P	Pg	00 32 04.2	-0.9
LAST				S	Sg	00 32 21.2	-0.4
LAST	Lasithi	1.28	270	P	Pg	00 32 04.5	-0.6
LAST				S	Sg	00 32 21.2	-0.4
ARG	Arkhangelos	1.37	40	ePn	Pn	00 32 06.4	-0.3
ARG				eSn	Sn	00 32 23.5	-1.9
ARG	Arkhangelos	1.37	40	ePN	Pn	00 32 06.4	-0.3
ARG				eSN	Sn	00 32 23.5	-1.9
NISR	Nisiros	1.44	3	ePn	Pn	00 32 06.2	-1.5
NISR	Nisiros	1.44	3	ePN	Pn	00 32 06.2	-1.5
THR1	Thera Island	1.75	314	P	Pn	00 32 11.2	-0.8
SANT	Santorini	1.76	314	P	Pn	00 32 11.0	-1.0
SANT				S	Sn	00 32 33.6	-1.3
SANT	Santorini	1.76	314	ePn	Pn	00 32 11.2	-0.8
SANT				S	Sn	00 32 33.6	-1.3
SANT				eSn	Sn	00 32 37.0	+2.1
SANT	Santorini	1.76	314	ePn	Pn	00 32 11.2	-0.7
SANT				eSn	Sn	00 32 37.0	+2.1
IDI	Anoyia	1.76	274	Pg	Pg	00 32 13.4	-1.0
	70nm,0.3s,baz=88,slow=18,SNR=246						
IDI				Lg		00 32 38.9	
	54nm,0.3s,baz=8.1,slow=20,SNR=5.6						
THR6	Thira Island,	1.78	312	P	Pn	00 32 11.6	-0.7
SIVA	Sivas	1.83	266	P	Pn	00 32 14.8	+1.8
SIVA				S	Sn	00 32 36.1	-0.6
THR4	Thira Island,	1.85	315	P	Pn	00 32 12.8	-0.5
THR5	Thira Island,	1.85	313	P	Pn	00 32 12.6	-0.7
BODT	Bodrum	1.90	7	ePN	Pn	00 32 12.5	-1.5
BODT	Bodrum	1.90	7	P	Pn	00 32 12.5	-1.5
BODT	Bodrum	1.90	7	P	Pn	00 32 12.5	-1.5
BDRM	Kayabasi	1.92	10	eP	Pn	00 32 14.6	+0.3

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
TURN	**Turunc**	**2.12**	**36**	⇓iP	**Pn**	**00 32 13.7**	**-3.3**
MLSB	**Milas**	**2.20**	**16**	ePN	**Pn**	**00 32 17.6**	**-0.6**
MLSB	**Milas**	**2.20**	**16**	P	**Pn**	**00 32 17.6**	**-0.5**
MLSB	**Milas**	**2.20**	**16**	P	**Pn**	**00 32 17.6**	**-0.6**
YER	**Yerkesik**	**2.21**	**27**	ePN	**Pn**	**00 32 17.9**	**-0.3**
YER	**Yerkesik**	**2.21**	**27**	P	**Pn**	**00 32 17.9**	**-0.3**
YER	**Yerkesik**	**2.21**	**27**	P	**Pn**	**00 32 17.9**	**-0.3**
APE	**Apeiranthos**	**2.25**	**328**	P	**Pn**	**00 32 17.9**	**-0.9**
APE				eSn	**Sn**	**00 32 44.0**	**-3.2**
APE	**Apeiranthos**	**2.25**	**328**	⇑iPb	**Pb**	**00 32 17.6**	**-4.4**
APE				eSn	**Sn**	**00 32 44.0**	**-3.2**
APE	**Apeiranthos**	**2.25**	**328**	⇑iPB	**Pb**	**00 32 17.6**	**-4.4**
APE				eSN	**Sn**	**00 32 44.0**	**-3.2**
VAM	**Vamos**	**2.33**	**277**	ePb	**Pb**	**00 32 21.5**	**-1.8**
VAM	**Vamos**	**2.33**	**277**	ePB	**Pb**	**00 32 21.5**	**-1.8**
AKAS	**Kas**	**2.34**	**62**	⇑iP	**Pn**	**00 32 20.3**	**+0.2**
GCAM	**G?zelcaml?**	**2.53**	**4**	eP	**Pn**	**00 32 23.9**	**+1.3**
SMG	**Samos**	**2.54**	**356**	ePn	**Pn**	**00 32 21.0**	**-1.8**
SMG	**Samos**	**2.54**	**356**	ePN	**Pn**	**00 32 21.0**	**-1.8**
AYDN	**Tasoluk**	**2.58**	**15**	⇑iP	**Pn**	**00 32 24.6**	**+1.3**
GOLH	**Golhisar**	**2.90**	**44**	⇑iP	**Pn**	**00 32 29.2**	**+1.4**
DNZL	**Cakiroluk**	**2.99**	**32**	⇑iP	**Pn**	**00 32 30.6**	**+1.6**
DENT	**Denizli**	**3.04**	**31**	ePN	**Pn**	**00 32 30.1**	**+0.4**
DENT	**Denizli**	**3.04**	**31**	P	**Pn**	**00 32 30.0**	**+0.4**
DENT	**Denizli**	**3.04**	**31**	P	**Pn**	**00 32 30.1**	**+0.4**
URLA	**Izmir**	**3.20**	**354**	eP	**Pn**	**00 32 32.7**	**+0.8**
BLCB	**Balcova**	**3.21**	**0**	ePN	**Pn**	**00 32 30.6**	**-1.3**
BLCB	**Balcova**	**3.21**	**0**	P	**Pn**	**00 32 30.6**	**-1.4**
BLCB	**Balcova**	**3.21**	**0**	P	**Pn**	**00 32 30.6**	**-1.3**
IZM	**Izmir**	**3.23**	**3**	ePN	**Pn**	**00 32 31.2**	**-1.0**
IZM	**Izmir**	**3.23**	**3**	P	**Pn**	**00 32 32.0**	**-0.2**
IZM	**Izmir**	**3.23**	**3**	P	**Pn**	**00 32 32.0**	**-0.2**
KDAG	**Bornova**	**3.23**	**3**	eP	**Pn**	**00 32 33.2**	**+0.9**
CHOS	**Chios island**	**3.31**	**347**	P	**Pn**	**00 32 33.3**	**0.0**
ANTB	**Antalya**	**3.40**	**58**	ePN	**Pn**	**00 32 34.2**	**-0.5**
KYTH	**Kithira**	**3.44**	**290**	ePn	**Pn**	**00 32 35.5**	**+0.4**
KYTH	**Kithira**	**3.44**	**290**	ePN	**Pn**	**00 32 35.5**	**+0.4**
MANT	**Manisa**	**3.53**	**20**	eP	**Pn**	**00 32 37.2**	**+0.8**
KULA	**Kula-Manisa**	**3.58**	**21**	ePN	**Pn**	**00 32 37.5**	**+0.3**
VLI	**Veliai**	**3.67**	**296**	⇓iPb	**Pb**	**00 32 41.4**	**-4.7**
VLI	**Veliai**	**3.67**	**296**	⇓iPB	**Pb**	**00 32 41.4**	**-4.7**
BCK	**Bucak**	**3.67**	**50**	ePN	**Pn**	**00 32 38.3**	**0.0**
BCK	**Bucak**	**3.67**	**50**	P	**Pn**	**00 32 38.4**	**+0.1**
BCK	**Bucak**	**3.67**	**50**	P	**Pn**	**00 32 38.4**	**+0.2**
KHL	**Karahalli**	**3.73**	**32**	ePN	**Pn**	**00 32 39.5**	**+0.5**
KHL	**Karahalli**	**3.73**	**32**	P	**Pn**	**00 32 39.7**	**+0.6**
KHL	**Karahalli**	**3.73**	**32**	P	**Pn**	**00 32 39.6**	**+0.6**
AKS	**Akhisar**	**3.75**	**9**	ePN	**Pn**	**00 32 39.2**	**-0.3**
AKS	**Akhisar**	**3.75**	**9**	P	**Pn**	**00 32 39.2**	**-0.3**
AKS	**Akhisar**	**3.75**	**9**	P	**Pn**	**00 32 39.2**	**-0.3**
DID	**Didima**	**3.85**	**308**	P	**Pn**	**00 32 41.5**	**+0.7**
ATH	**Athens Observa**	**3.87**	**317**	ePn	**Pn**	**00 32 41.0**	**0.0**
ATH	**Athens Observa**	**3.87**	**317**	ePN	**Pn**	**00 32 41.0**	**0.0**
TKTP	**Tekketepe**	**3.90**	**42**	eP	**Pn**	**00 32 46.1**	**+4.7**
SLUM		**3.97**	**203**	⇓P	**Pn**	**00 32 42.4**	**-0.1**
HMAT	**Matruh**	**4.07**	**179**	P	**Pn**	**00 32 43.4**	**-0.4**
HMAT				S	**Sn**	**00 33 27.5**	**-4.4**
HMAT	**Matruh**	**4.07**	**179**	P	**Pn**	**00 32 43.3**	**-0.4**
HMAT				S	**Sn**	**00 33 27.5**	**-4.4**
DEMI	**Demirci**	**4.09**	**19**	⇓iP	**Pn**	**00 32 44.6**	**+0.5**
VLX	**Vlachokerasia**	**4.36**	**302**	P	**Pn**	**00 32 49.0**	**+1.3**
SHUT	**Suhut-Afyon**	**4.40**	**39**	ePN	**Pn**	**00 32 49.1**	**+0.8**
BALB	**Balikesir**	**4.51**	**8**	ePN	**Pn**	**00 32 49.8**	**-0.1**
BALB	**Balikesir**	**4.51**	**8**	P	**Pn**	**00 32 49.8**	**-0.1**
BALB	**Balikesir**	**4.51**	**8**	P	**Pn**	**00 32 49.8**	**-0.1**
ALT	**Altintas**	**4.59**	**31**	ePN	**Pn**	**00 32 51.6**	**+0.6**
ALT	**Altintas**	**4.59**	**31**	P	**Pn**	**00 32 51.6**	**+0.7**
ALT	**Altintas**	**4.59**	**31**	P	**Pn**	**00 32 51.6**	**+0.6**
DST	**Dursunbey**	**4.61**	**16**	ePN	**Pn**	**00 32 51.7**	**+0.5**
DST	**Dursunbey**	**4.61**	**16**	P	**Pn**	**00 32 51.7**	**+0.5**
DST	**Dursunbey**	**4.61**	**16**	P	**Pn**	**00 32 51.7**	**+0.5**
EZN	**Ezine**	**4.68**	**353**	ePN	**Pn**	**00 32 50.5**	**-1.7**
EZN	**Ezine**	**4.68**	**353**	P	**Pn**	**00 32 50.5**	**-1.7**
EZN	**Ezine**	**4.68**	**353**	P	**Pn**	**00 32 50.5**	**-1.7**
LKR	**Lokris**	**4.75**	**318**	ePn	**Pn**	**00 32 52.4**	**-0.7**
LKR	**Lokris**	**4.75**	**318**	ePN	**Pn**	**00 32 52.4**	**-0.7**
HDMB	**Hadim**	**4.76**	**66**	ePN	**Pn**	**00 32 53.0**	**-0.4**
HDMB	**Hadim**	**4.76**	**66**	P	**Pn**	**00 32 53.0**	**-0.3**
HDMB	**Hadim**	**4.76**	**66**	P	**Pn**	**00 32 53.0**	**-0.4**
LEF	**Lefka**	**4.80**	**89**	ePN	**Pn**	**00 32 49.4**	**-4.4**
LEF	**Lefka**	**4.80**	**89**	P	**Pn**	**00 32 49.4**	**-4.4**
LEF	**Lefka**	**4.80**	**89**	P	**Pn**	**00 32 49.4**	**-4.4**
KONT	**Konya--Tatoy**	**5.10**	**56**	ePN	**Pn**	**00 32 57.7**	**-0.3**
KONT	**Konya--Tatoy**	**5.10**	**56**	P	**Pn**	**00 32 57.7**	**-0.3**
KONT	**Konya--Tatoy**	**5.10**	**56**	P	**Pn**	**00 32 57.7**	**-0.3**
CSS	**Prodhromos**	**5.17**	**90**	ePN	**Pn**	**00 32 55.5**	**-3.4**
CSS	**Prodhromos**	**5.17**	**90**	P	**Pn**	**00 32 55.5**	**-3.4**
CSS	**Prodhromos**	**5.17**	**90**	P	**Pn**	**00 32 55.5**	**-3.4**
LADK	**Ladik-KONYA**	**5.24**	**53**	ePN	**Pn**	**00 33 00.5**	**+0.5**
LFK	**Lefkose**	**5.32**	**87**	ePN	**Pn**	**00 32 57.5**	**-3.5**
LFK	**Lefkose**	**5.32**	**87**	P	**Pn**	**00 32 57.5**	**-3.5**
KIZT	**Kizilcal**	**5.36**	**45**	ePN	**Pn**	**00 33 02.1**	**+0.6**
KIZT	**Kizilcal**	**5.36**	**45**	P	**Pn**	**00 33 02.1**	**+0.6**
KIZT	**Kizilcal**	**5.36**	**45**	P	**Pn**	**00 33 02.1**	**+0.6**
AGG	**Agios Georgios**	**5.38**	**317**	P	**Pn**	**00 33 03.4**	**+1.6**
IKL	**Isikli**	**5.51**	**77**	ePN	**Pn**	**00 33 01.6**	**-2.1**
IKL	**Isikli**	**5.51**	**77**	P	**Pn**	**00 33 01.6**	**-2.1**
IKL	**Isikli**	**5.51**	**77**	P	**Pn**	**00 33 01.6**	**-2.1**
MERS	**Mersin**	**6.30**	**72**	ePN	**Pn**	**00 33 12.8**	**-1.6**
GULE	**Gulek**	**6.60**	**69**	eP	Px	00 33 00.9	
KAMT	**Kaman**	**6.78**	**50**	ePN	**Pn**	**00 33 21.2**	**+0.3**
KAMT	**Kaman**	**6.78**	**50**	P	**Pn**	**00 33 21.2**	**+0.3**
KAMT	**Kaman**	**6.78**	**50**	P	**Pn**	**00 33 21.2**	**+0.3**
KARA	**Karaisali**	**6.81**	**70**	ePN	**Pn**	**00 33 20.5**	**-0.9**
GLL	**Jalalah**	**6.83**	**143**	P	**Pn**	**00 33 21.8**	**0.0**
AMAG	**Maghara**	**6.88**	**129**	P	**Pn**	**00 33 22.8**	**+0.4**
AMAG				S	**Sn**	**00 34 35.9**	**-5.3**
BR131	**Keskin Array S**	**6.95**	**47**	ePn	**Pn**	**00 33 24.0**	**+0.7**
BR131	**Keskin Array S**	**6.95**	**47**	ePn	**Pn**	**00 33 24.0**	**+0.7**
	0.9nm,0.4s						
BR131				eSn	**Sn**	**00 34 44.4**	**+1.5**
RSH		**7.01**	**125**	P	**Pn**	**00 33 24.8**	**+0.6**
AWBH		**7.01**	**166**	P	**Pn**	**00 33 24.3**	**0.0**
SUZ		**7.22**	**136**	P	**Pn**	**00 33 27.6**	**+0.4**
SUZ		**7.22**	**136**	P	**Pn**	**00 33 27.5**	**+0.4**
MMAI	**Mount Meron Ar**	**7.27**	**105**	Pn	**Pn**	**00 33 26.7**	**-1.0**
	1.3nm,0.3s,baz=311,slow=13,SNR=6.3						
HRSH	**Kfar Ka'horesh**	**7.28**	**107**	P	**Pn**	**00 33 24.8**	**-3.1**
HFRF	**Wahat Farafira**	**8.07**	**172**	P	**Pn**	**00 33 38.8**	**0.0**
EIL	**Elat**	**8.65**	**127**	Pn	**Pn**	**00 33 47.2**	**+0.5**
	0.5nm,0.3s,baz=302,slow=17,SNR=7.0						
EIL				Sn	**Sn**	**00 35 17.2**	**-7.6**
	0.7nm,0.3s,baz=285,slow=12,SNR=3.5						
EIL	**Elat**	**8.65**	**127**	Pn	**Pn**	**00 33 47.2**	**+0.5**
EIL				Sn	**Sn**	**00 35 17.2**	**-7.6**
ASUT		**8.66**	**152**	P	**Pn**	**00 33 46.9**	**0.0**
HDK1	**Dakhla**	**9.81**	**167**	⇑P	**Pn**	**00 34 03.9**	**+1.3**
HDK2	**Wahat Dakhilah**	**10.94**	**171**	⇑P	**Pn**	**00 34 18.8**	**+0.7**
PGF	**Pioggiola**	**15.85**	**303**	eP	**Pn**	**00 35 27.5**	**+2.9**
	52nm,1.4s						
GERES	**GERESS Array B**	**16.84**	**328**	Pn	**Pn**	**00 35 38.5**	**+1.2**
	0.1nm,0.3s,baz=138,slow=12,SNR=5.0						
SBF	**Sospel**	**17.41**	**306**	eP	**Pn**	**00 35 44.5**	**0.0**
	18nm,0.9s						
SBF	**Sospel**	**17.41**	**306**	eP	**Pn**	**00 35 44.5**	**0.0**
	17nm,0.9s						
MBDF	**Montbardon**	**18.19**	**308**	eP	**Pn**	**00 35 56.4**	**+2.2**
	5.4nm,0.8s						
MBDF	**Montbardon**	**18.19**	**308**	eP	**Pn**	**00 35 56.4**	**+2.2**
	5.0nm,0.8s						
LPG	**La Plagne**	**18.54**	**310**	eP	**Pn**	**00 35 59.8**	**+1.4**
LPL	**La Plagne**	**18.56**	**310**	eP	**Pn**	**00 35 59.6**	**+0.9**
LOR	**Lormes**	**21.12**	**312**	eP	**P**	**00 36 27.7**	**+1.2**
	5.4nm,0.7s,mb3.7						
SSF	**Saint Saulge**	**21.25**	**311**	eP	**P**	**00 36 29.3**	**+1.5**
	9.1nm,0.8s,mb3.8						
FLN	**La Foliniere**	**24.40**	**312**	eP	**P**	**00 36 59.4**	**-0.7**
ESDC	**Sonseca Array**	**24.96**	**290**	P	**P**	**00 37 04.8**	**-0.5**
	0.9nm,0.6s,mb3.5,baz=79,slow=10,SNR=4.6						
ROSF	**Rostrenen**	**25.97**	**310**	eP	**P**	**00 37 15.2**	**+0.9**
TORD	**Torodi Ar. Bea**	**31.69**	**233**	P	**P**	**00 38 04.8**	**-0.9**
	1.1nm,0.5s,mb3.9,baz=31,slow=9.1,SNR=22						
MK31	**Makanchi Array**	**42.49**	**57**	eP	**P**	**00 39 36.2**	**-0.8**
MK31	**Makanchi Array**	**42.49**	**57**	eP	**P**	**00 39 36.2**	**-0.8**
MKAR	**Makanchi Array**	**42.49**	**57**	P	**P**	**00 39 36.6**	**-0.4**
	1.7nm,0.5s,mb4.0,baz=275,slow=7.3,SNR=14						
ZALV	**Zalesovo Beam**	**43.89**	**46**	P	**P**	**00 39 47.3**	**-0.9**
	0.9nm,0.5s,mb3.8,baz=279,slow=8.8,SNR=3.6						
SONM	**Songino Array**	**58.29**	**51**	P	**P**	**00 41 38.6**	**+2.0**
	0.9nm,0.6s,mb4.0,baz=285,slow=8.4,SNR=8.1						

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*ISCJB **09** 00:33:43.7±7.1, 142N±02×147.1E±0.1, h20km±50km, mb3.9/5, Error ellipse: s-maj=33.0km s-min=19.8km az=150.4*
*IDC **09** 00:33:44.7±1.3, 1425N×14677E, h0km, mb3.8/5, mb1 4.0/5, mb1mx3.8/19, mbtmp3.8/5, Error ellipse: s-maj=30.8km s-min=26.2km az=118.0*
ISC 09 00:33:43.6±7.3**, 142N**±02×**1470E**±02**, h4**km±48km**, n8, σ0s56**/7**, mb3.9**/5**, Mariana Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**2.14**	**254**	Pn	**Pn**	**00 34 20.0**	**-0.1**
	56nm,0.3s,baz=112,slow=7.1,SNR=8.2						
GUMO				Sn	**Sn**	**00 34 47.0**	**-0.1**
	46nm,0.3s,baz=202,slow=22,SNR=4.3						
WRA	**Warramunga Arr**	**36.13**	**200**	P	**P**	**00 40 47.0**	**0.0**
	1.2nm,0.8s,mb3.9,baz=22,slow=9.1,SNR=6.4						
CMAR	**Chiang Mai Arr**	**46.19**	**282**	P	**P**	**00 42 10.6**	**+0.5**
	0.6nm,0.3s,mb4.0,baz=77,slow=5.6,SNR=4.3						
SONM	**Songino Array**	**47.45**	**323**	P	**P**	**00 42 19.6**	**+0.2**
	0.5nm,0.5s,mb3.7,baz=133,slow=5.2,SNR=4.2						
ZALV	**Zalesovo Beam**	**62.34**	**324**	P	**P**	**00 44 06.3**	**-0.8**
	0.8nm,0.6s,mb4.0,baz=92,slow=10,SNR=3.8						
MKAR	**Makanchi Array**	**62.49**	**316**	P	**P**	**00 44 08.7**	**+0.3**
	0.5nm,0.5s,mb3.9,baz=82,slow=9.1,SNR=4.7						
DBIC	**Dimbokro**	**145.21**	**305**	PKPbc	PKPbc	00 53 23.9	+0.6
	6.5nm,0.9s,baz=56,slow=3.6,SNR=3.3						
LPAZ	**La Paz**	**146.08**	**98**	PKPbc	PKPbc	00 53 29.9	+4.0
	0.7nm,0.9s,baz=350,slow=6.1,SNR=5.1						

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*CSEM **09** 00:53:08.6±0.3, 4256N×4836E, h2km, mb3.8, Error ellipse: s-maj=6.9km s-min=2.8km az=45.0*
*ISCJB **09** 00:53:09.3±1.1, 4255N±005×4829E±007, h10km, Error ellipse: s-maj=8.9km s-min=4.4km az=43.9*
*MOS **09** 00:53:11.4±1.4, 4234N×48.13E, h12km, mb3.8/1, Error ellipse: s-maj=20.8km s-min=14.3km az=116.6*
ISC 09 00:53:10.0±1.1**, 4254N**±005×**4830E**±007**, h10**km**, n16, σ1s06**/28**, 1C-1D, Caspian Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DRN	**Derbent**	**0.51**	**177**	⇓iPG	**Pg**	**00 53 19.2**	**-0.7**
DRN				i S	**Sg**	**00 53 26.8**	**+0.2**
DRN				pmax	pmax		
	comp=Z,87nm,0.2s						
DRN	**Derbent**	**0.51**	**177**	i Pg	**Pg**	**00 53 19.2**	**-0.7**
	comp=Z,87nm,0.2s						
DRN				i Sg	**Sg**	**00 53 26.8**	**+0.2**
URKR	**Urkarakh**	**0.62**	**233**	i Pg	**Pg**	**00 53 21.5**	**-0.5**
URKR				i Sg	**Sg**	**00 53 30.5**	**+0.4**
MAK	**Makhachkala**	**0.72**	**306**	⇑iPG	**Pg**	**00 53 28.7**	**+4.8**
MAK				i		00 53 41.7	
MAK				pmax	pmax		
	comp=Z,96nm,0.2s						
MAK				smax			
	comp=N,657nm,0.4s						
MAK				smax			
	comp=E,830nm,0.5s						
KSMR	**Kasumkent**	**0.94**	**188**	ePG	**Pg**	**00 53 27.0**	**-1.2**
KSMR				eS	**Sg**	**00 53 39.0**	**-1.5**
KSMR				pmax	pmax		
	comp=Z,268nm,0.2s						
KSMR	**Kasumkent**	**0.94**	**188**	ePg	**Pg**	**00 53 27.0**	**-1.2**
	comp=Z,268nm,0.2s						
KSMR				eSg	**Sg**	**00 53 39.0**	**-1.5**
KMKR	**Kumukh**	**0.98**	**246**	i PG	**Pg**	**00 53 27.0**	**-1.8**
KMKR				i S	**Sg**	**00 53 42.0**	**+0.4**
KMKR				pmax	pmax		
	comp=Z,35nm,0.2s						
KMKR	**Kumukh**	**0.98**	**246**	i Pg	**Pg**	**00 53 27.0**	**-1.8**
	comp=Z,35nm,0.2s						
KMKR				i Sg	**Sg**	**00 53 42.0**	**+0.4**
UNCR	**Uncukul**	**1.12**	**279**	PG	**Pg**	**00 53 31.0**	**-0.6**
UNCR				eS	**Sg**	**00 53 47.0**	**+0.8**
UNCR				pmax	pmax		
	comp=Z,27nm,0.2s						
UNCR	**Uncukul**	**1.12**	**279**	Pg	**Pg**	**00 53 31.0**	**-0.6**
	comp=Z,27nm,0.2s						
UNCR				eSg	**Sg**	**00 53 47.0**	**+0.8**
DBC	**Dubki**	**1.18**	**294**	i PG	**Pg**	**00 53 31.5**	**-1.2**
DBC				i S	**Sb**	**00 53 48.5**	**+0.6**
SIZA	**Siyzn**	**1.53**	**163**	P	**Pn**	**00 53 37.3**	**-0.1**
	SNR=20						
SEKA	**Sheki**	**1.56**	**212**	P	**Pn**	**00 53 40.5**	**+2.7**
	SNR=54						
SEKA				S	**Sn**	**00 54 02.0**	**+3.9**
PQL	**Pirkuli**	**1.76**	**173**	P	**Pn**	**00 53 41.4**	**+0.8**
	SNR=40						
PQL				S	**Sn**	**00 54 04.8**	**+1.8**
GANJ	**Ganja**	**2.40**	**219**	P	**Pn**	**00 53 49.9**	**+0.5**
	SNR=4.9						
GLBA	**Clilabad**	**3.30**	**179**	P	**Pn**	**00 54 01.7**	**+0.1**
	SNR=20						

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*ISCJB **09** 01:01:25.9±0.4, 3509N±003×2728E±003, h10km, Error ellipse: s-maj=4.6km s-min=4.0km az=176.9*
*CSEM **09** 01:01:27.5±0.0, 35.13N×2726E, h40km, MD3.6, Error ellipse: s-maj=2.0km s-min=1.0km az=55.0*
*HLW **09** 01:01:29.9, 3508N×2726E, h33km, Mb2.9*
*NEIC **09** 01:01:31.4, 3546N×2703E, h32km, MD3.6(ATH), After ATH.*
*THE **09** 01:01:31.0, 3540N×2696E, h0km±3km, Error ellipse: s-maj=8.9km s-min=0.9km az=115.0*
*ATH **09** 01:01:31.4, 3546N×2703E, h32km, MD3.6/5*
ISC 09 01:01:28.2±0.9**, 3514N**±003×**2721E**±004**, h18**km±6km**, n45, σ0s97**/55**, 3C-9D, Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KARP	**Karpathos**	**0.41**	**354**	i Pb	**Pg**	**01 01 37.5**	**+0.9**
KARP				eSb	**Sg**	**01 01 41.8**	**-0.5**
KARP	**Karpathos**	**0.41**	**354**	⇑iPB	**Pg**	**01 01 37.5**	**+0.9**
KARP				eSB	**Sg**	**01 01 41.8**	**-0.5**
ZKR	**Zakros**	**0.82**	**268**	P	**Pb**	**01 01 43.9**	**0.0**
ZKR				S	**Sb**	**01 01 55.4**	**+0.8**
ARG	**Arkhangelos**	**1.30**	**34**	⇓iPn	**Pn**	**01 01 53.7**	**+2.1**
ARG				eSn	**Sn**	**01 02 09.1**	**+0.5**
ARG	**Arkhangelos**	**1.30**	**34**	⇓iPN	**Pn**	**01 01 53.7**	**+2.1**
ARG				eSN	**Sn**	**01 02 09.1**	**+0.5**
NPS	**Neapolis**	**1.32**	**276**	ePb	**Pn**	**01 01 52.4**	**+0.7**
NPS				eSn	**Sn**	**01 02 08.7**	**-0.2**
NPS	**Neapolis**	**1.32**	**276**	ePB	**Pn**	**01 01 52.4**	**+0.7**
NPS				eSN	**Sn**	**01 02 08.7**	**-0.2**
LAST	**Lasithi**	**1.42**	**271**	P	**Pn**	**01 01 54.1**	**+0.9**
LAST				S	**Sn**	**01 02 11.6**	**+0.2**
THR1	**Thera Island**	**1.88**	**311**	P	**Pn**	**01 01 58.4**	**-1.1**
SANT	**Santorini**	**1.88**	**311**	ePn	**Pn**	**01 01 57.3**	**-2.2**
SANT	**Santorini**	**1.88**	**311**	P	**Pn**	**01 01 58.8**	**-0.7**
SANT	**Santorini**	**1.88**	**311**	ePn	**Pn**	**01 01 57.3**	**-2.3**
THR6	**Thira Island,**	**1.91**	**310**	P	**Pn**	**01 01 58.8**	**-1.1**
BODT	**Bodrum**	**1.92**	**2**	ePN	**Pn**	**01 01 59.4**	**-0.7**
BDRM	**Kayabasi**	**1.93**	**5**	⇓iP	**Pn**	**01 01 59.5**	**-0.7**
SIVA	**Sivas**	**1.98**	**267**	P	**Pn**	**01 02 02.4**	**+1.6**
THR5	**Thira Island,**	**1.98**	**311**	P	**Pn**	**01 01 59.8**	**-1.1**
TURN	**Turunc**	**2.06**	**33**	eP	**Pn**	**01 01 59.4**	**-2.6**
YER	**Yerkesik**	**2.17**	**23**	ePN	**Pn**	**01 02 03.5**	**+0.1**
MLSB	**Milas**	**2.20**	**12**	ePN	**Pn**	**01 02 04.5**	**+0.7**
AKAS	**Kas**	**2.23**	**60**	⇓iP	**Pn**	**01 02 05.7**	**+1.3**
APE	**Apeiranthos**	**2.36**	**325**	⇓iPn	**Pn**	**01 02 05.0**	**-1.1**
APE				eSn	**Sn**	**01 02 30.0**	**-4.6**
APE	**Apeiranthos**	**2.36**	**325**	⇓iPN	**Pn**	**01 02 05.0**	**-1.1**
APE				eSN	**Sn**	**01 02 30.0**	**-4.6**
VAM	**Vamos**	**2.48**	**277**	ePn	**Pn**	**01 02 09.8**	**+2.1**
VAM	**Vamos**	**2.48**	**277**	ePN	**Pn**	**01 02 09.8**	**+2.1**
GCAM	**G?zelcaml?**	**2.56**	**0**	eP	**Pn**	**01 02 09.7**	**+0.9**
AYDN	**Tasoluk**	**2.57**	**12**	⇑iP	**Pn**	**01 02 09.4**	**+0.5**
AYDN	**Tasoluk**	**2.57**	**12**	i P	**Pn**	**01 02 09.4**	**+0.4**
GOLH	**Golhisar**	**2.83**	**42**	⇓iP	**Pn**	**01 02 14.1**	**+1.6**
DNZL	**Cakiroluk**	**2.94**	**30**	eP	**Pn**	**01 02 14.3**	**+0.2**
CHOS	**Chios island**	**3.37**	**344**	P	**Pn**	**01 02 19.5**	**-0.5**
MANT	**Manisa**	**3.51**	**17**	⇑iP	**Pn**	**01 02 21.0**	**-0.9**
KULA	**Kula-Manisa**	**3.56**	**19**	ePN	**Pn**	**01 02 15.9**	**-6.7**
DID	**Didima**	**3.99**	**307**	P	**Pn**	**01 02 27.9**	**-0.5**
SLUM		**4.01**	**205**	⇑P	**Pn**	**01 02 28.3**	**-0.5**
HMAT	**Matruh**	**4.04**	**181**	P	**Pn**	**01 02 28.6**	**-0.6**
HSAF	**As Saff**	**6.62**	**145**	P	**Pn**	**01 03 04.2**	**-0.4**
GLL	**Jalalah**	**6.72**	**144**	⇓P	**Pn**	**01 03 05.8**	**-0.3**
AMAG	**Maghara**	**6.75**	**130**	P	**Pn**	**01 03 06.0**	**-0.4**
AMAG	**Maghara**	**6.75**	**130**	P	**Pn**	**01 03 05.9**	**-0.5**
RSH		**6.87**	**126**	P	**Pn**	**01 03 07.9**	**-0.2**
SUZ		**7.10**	**137**	P	**Pn**	**01 03 11.2**	**-0.1**
SUZ		**7.10**	**137**	P	**Pn**	**01 03 11.1**	**-0.2**
HRSH	**Kfar Ka'horesh**	**7.13**	**108**	⇓P	**Pn**	**01 03 07.9**	**-3.8**
HFRF	**Wahat Farafira**	**8.02**	**173**	P	**Pn**	**01 03 24.1**	**+0.2**

DJA 09 01:05:32, 837S×10878E, h39km, MLv4.0/10, Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CLJI	**Cilicap**	**0.69**	**20**	P	Pn	01 05 46.2	+0.9
CLJI	**Cilicap**	**0.69**	**20**	S	Sn	01 05 57.5	+2.7
BJII	**Banjamegara**	**1.38**	**42**	P	Pn	01 05 55.1	+0.3
UGM	**Wanagama**	**1.79**	**75**	P	Pn	01 05 59.2	-1.1
LEM	**Lembang**	**1.92**	**323**	P	Pn	01 06 02.2	0.0
JCJI	**Jatiwangi**	**1.94**	**345**	P	Pn	01 06 02.4	0.0
SMRI	**Semarang**	**2.10**	**52**	P	Pn	01 06 05.5	+0.7
SKJI	**Sukabumi**	**2.59**	**301**	P	Pn	01 06 11.2	-0.2
CBJI	**Citeko**	**2.72**	**315**	P	Pn	01 06 15.6	+2.3
SJI	**Sawahan**	**3.02**	**78**	P	Pn	01 06 18.2	+0.8

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*NEIC **09** 01:07:38.3, 3267S×7167W, h30km, ML2.5(GUC), After GUC.*
GUC 09 01:07:38.3±0.7**, 3267S×7167W, h30**km±3km**, MD3.6, ML2.5, 1C-6D, Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PACH	**Papudo**	**0.24**	**56**	⇓iP	Pb	01 07 45.6	+0.6
PACH				i S	Sb	01 07 50.0	+0.5
IHA	**Instituto Hidr**	**0.35**	**175**	⇓iP	Pb	01 07 46.5	+0.1
IHA				i S	Sb	01 07 52.1	0.0
CHNG	**Los Chungos**	**0.80**	**11**	eP	Pn	01 07 53.1	-0.5
CHNG				i S	Sb	01 08 03.9	-0.3
PEL	**Peldehue**	**0.95**	**120**	⇓eP	Pn	01 07 55.9	+0.3
PEL				eS	Sn	01 08 08.7	+0.5
PEL				AML	AML	01 08 10.5	
	comp=E,474nm,0.3s						
RCDM	**Rinconada Maip**	**1.09**	**138**	eP	Pn	01 07 57.7	+0.2
RCDM				eS	Sn	01 08 12.2	+0.5
RCDM				AML	AML	01 08 15.9	
	comp=E,158nm,0.1s						
RCDM	**Rinconada Maip**	**1.09**	**138**	eP	Pn	01 07 57.7	+0.2
RCDM				eS	Sn	01 08 12.2	+0.5
TACH	**Talagante**	**1.16**	**148**	eP	Pn	01 07 58.9	+0.5
CLCH	**Cerro Calan**	**1.20**	**127**	eP	Pn	01 07 59.6	+0.6
CLCH				i S	Sn	01 08 15.1	+0.9
CLCH				AML	AML	01 08 16.7	
	comp=N,144nm,0.2s						
LNV	**Longovilo**	**1.30**	**170**	⇓iP	Pn	01 08 00.4	+0.1
FCH	**Farellones**	**1.33**	**120**	⇓iP	Pn	01 08 02.0	+1.1
FCH				i S	Sn	01 08 19.4	+1.8
PCH	**Pirque**	**1.36**	**134**	i P	Pn	01 08 02.0	+0.8
PCH				i S	Sn	01 08 19.9	+1.8
CACH	**El Canelo**	**1.70**	**148**	⇑iP	Pn	01 08 08.2	+2.3
LMEL	**Las Melosas**	**1.70**	**134**	eP	Pn	01 08 07.3	+1.4
LMEL				i S	Sn	01 08 29.7	+3.1
LMEL				AML	AML	01 08 34.2	
	comp=N,98nm,0.2s						
LMEL	**Las Melosas**	**1.70**	**134**	eP	Pn	01 08 07.3	+1.4
LMEL				i S	Sn	01 08 29.7	+3.1
CICH	**Cipreses**	**1.95**	**148**	⇓eP	Pn	01 08 10.8	+1.6
SFDO	**San Fernando**	**2.01**	**164**	eP	Pn	01 08 11.4	+1.2

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*ISCJB **09** 01:16:27.3±0.8, 3696N±004×2933E±004, h3km±7km, Error ellipse: s-maj=7.0km s-min=5.7km az=179.6*
*ISK **09** 01:16:27.9, 3702N×2932E, h8km, MD3.2*
*DDA **09** 01:16:27.4, 3701N×2933E, h13km, Md3.2*
*CSEM **09** 01:16:27.2±0.1, 3703N×2932E, h2km, MD3.2, Error ellipse: s-maj=3.6km s-min=2.2km az=2.0*
ISC 09 01:16:28.0±0.8**, 3697N**±004×**2934E**±004**, h5**km±6km**, n17, σ0s84**/23**, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GOLH	**Golhisar**	**0.33**	**34**	i P	**Pg**	**01 16 33.3**	**-1.0**
GOLH				i S	**Sg**	**01 16 39.1**	**+0.5**
DNZL	**Cakiroluk**	**0.76**	**342**	i P	**Pg**	**01 16 40.8**	**-1.8**
DNZL				i S	**Sg**	**01 16 54.6**	**+2.1**
AKAS	**Kas**	**0.76**	**163**	i P	**Pg**	**01 16 42.5**	**-0.1**
AKAS				i S	**Sg**	**01 16 58.0**	**+5.5**
DENT	**Denizli**	**0.82**	**343**	ePG	**Pg**	**01 16 43.3**	**-0.6**
DENT				eSG	**Sg**	**01 16 54.2**	**-0.3**
YER	**Yerkesik**	**0.86**	**282**	ePG	**Pg**	**01 16 44.5**	**0.0**
YER				eSG	**Sg**	**01 16 56.3**	**+0.7**
ANTB	**Antalya**	**1.06**	**93**	ePG	**Pg**	**01 16 49.0**	**+0.7**
BCK	**Bucak**	**1.11**	**63**	ePN	**Pn**	**01 16 49.0**	**-1.2**
MLSB	**Milas**	**1.29**	**285**	ePN	**Pn**	**01 16 52.5**	**-0.2**
TKTP	**Tekketepe**	**1.33**	**36**	eP	**Pn**	**01 16 54.2**	**+1.0**
TKTP				i S	**Sb**	**01 17 16.4**	**+5.7**
KHL	**Karahalli**	**1.36**	**6**	ePN	**Pn**	**01 16 52.6**	**-1.1**
BODT	**Bodrum**	**1.62**	**274**	ePN	**Pn**	**01 16 57.7**	**+0.4**
KULA	**Kula-Manisa**	**1.64**	**341**	ePN	**Pn**	**01 16 57.2**	**-0.2**
SHUT	**Suhut-Afyon**	**1.85**	**31**	ePN	**Pn**	**01 17 00.1**	**-0.3**
ALT	**Altintas**	**2.17**	**16**	ePN	**Pn**	**01 17 05.3**	**+0.4**
BLCB	**Balcova**	**2.31**	**309**	ePN	**Pn**	**01 17 06.2**	**-0.4**
KONT	**Konya--Tatoy**	**2.60**	**67**	ePN	**Pn**	**01 17 11.6**	**+1.0**
LADK	**Ladik-KONYA**	**2.70**	**62**	ePN	**Pn**	**01 17 12.7**	**+0.6**

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*IDC **09** 01:28:21.6±2.8, 8.10S×10733E, h0km, mb3.7/5, mb1 3.9/5, mb1mx3.7/19, mbtmp3.8/5, MS3.5/1, Ms1 3.4/1, ms1mx2.5/30, Error ellipse: s-maj=130.8km s-min=21.6km az=52.0*
*NEIC **09** 01:28:28.1±0.6, 782S×10775E, h35km, mb4.3/1, Error ellipse: s-maj=15.8km s-min=13.0km az=105.0*
*ISCJB **09** 01:28:30.6±0.7, 801S±008×10787E±006, h79km±8km, mb4.1/6, Error ellipse: s-maj=14.4km s-min=9.2km az=20.1*
*DJA **09** 01:28:31, 808S×10787E, h38km, MLv4.4/12*
ISC 09 01:28:31.6±0.7**, 800S**±008×**10787E**±006**, h68**km±9km**, n24, σ1s33**/21**, mb4.1**/6**, 1D, Jawa**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CLJI	**Cilicap**	**1.17**	**76**	P	**Pn**	**01 28 51.8**	**-0.3**
LEM	**Lembang**	**1.19**	**348**	P	**Pn**	**01 28 53.9**	**+1.5**
JCJI	**Jatiwangi**	**1.55**	**15**	P	**Pn**	**01 28 55.1**	**-2.1**
SKJI	**Sukabumi**	**1.63**	**307**	P	**Pn**	**01 28 59.9**	**+1.7**
DBJI	**Dramaga**	**1.81**	**322**	P	**Pn**	**01 29 02.4**	**+1.7**
CBJI	**Citeko**	**1.86**	**327**	P	**Pn**	**01 28 59.5**	**-1.9**
BJII	**Banjamegara**	**1.94**	**70**	P	**Pn**	**01 29 02.1**	**-0.3**
SBJI	**Serang**	**2.54**	**317**	P	**Pn**	**01 29 11.9**	**+1.4**
UGM	**Wanagama**	**2.63**	**88**	P	**Pn**	**01 29 11.5**	**-0.2**
SMRI	**Semarang**	**2.72**	**70**	P	**Pn**	**01 29 13.9**	**+0.9**
XMIS	**Christmas Isla**	**3.30**	**221**	⇓iP	**Pn**	**01 29 18.8**	**-2.0**
XMIS				eS	**Sn**	**01 29 52.0**	**-6.8**
KKM	**Kota Kinabalu**	**16.25**	**31**	ePn	**Pn**	**01 32 13.0**	**-2.7**
FITZ	**Fitzroy Crossi**	**20.00**	**122**	P	**P**	**01 32 59.7**	**+1.0**
	1.2nm,0.8s,baz=309,slow=13,SNR=5.5						
WRA	**Warramunga Arr**	**28.25**	**118**	P	**P**	**01 34 21.9**	**+3.5**
	0.5nm,0.7s,mb3.1,baz=294,slow=12,SNR=2.2						
PMG	**Port Moresby**	**38.85**	**95**	eP	**P**	**01 35 51.1**	**+0.6**
	2.7nm,0.4s,mb4.4						
STKA	**Stephens Creek**	**39.34**	**132**	P	**P**	**01 35 54.6**	**+0.3**
	3.1nm,0.7s,mb4.3,baz=320,slow=11,SNR=4.2						
STKA				LR	LR	01 51 09.0	
	comp=Z,63nm,19.0s,baz=26,slow=34						
GUMO	**Guam**	**42.54**	**60**	eP	**P**	**01 36 21.0**	**+0.1**
	33nm,0.9s,mb5.1						
SONM	**Songino Array**	**55.60**	**359**	P	**P**	**01 38 00.0**	**-0.1**
	0.2nm,0.4s,mb3.5,baz=181,slow=8.5,SNR=3.7						
SONM				PcP	PcP	01 38 59.1	0.0
	0.5nm,0.4s,baz=173,slow=3.2,SNR=4.6						
MKAR	**Makanchi Array**	**59.11**	**340**	P	**P**	**01 38 23.4**	**-1.4**
	1.0nm,0.5s,mb4.1,baz=141,slow=7.5,SNR=7.9						
MKAR	**Makanchi Array**	**59.11**	**340**	P	**P**	**01 38 23.4**	**-1.4**
TXAR	**Lajitas Array**	**143.56**	**50**	PKP	PKPdf	01 47 58.0	-1.2
	0.2nm,0.5s,baz=309,slow=1.9,SNR=6.0						
TXAR	**Lajitas Array**	**143.56**	**50**	PKP	PKPdf	01 47 58.0	-1.2
JCT	**Junction City**	**145.79**	**45**	ePKPdf	PKPdf	01 48 04.2	+1.1
WVT	**Waverly**	**148.54**	**25**	ePKPbc	PKPbc	01 48 11.3	+0.1
WVT				ePKPab	PKPab	01 48 14.4	-0.2

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*ISCJB **09** 01:28:53.4±2.1, 44S±02×1499E±02, h478km±23km, mb4.2/6, Error ellipse: s-maj=35.7km s-min=26.0km*

az=15.8
*IDC **09** 01:28:53.7±14.0,437S×14957E,h427km±144km,mb3.9/3, mb1 4.0/4,mb1mx3.3/16,mbtmp3.8/4,Error ellipse: s-maj=110.2km s-min=62.5km az=11.0*
*NEIC **09** 01:28:54.6±1.7,442S×14993E,h474km±18km,mb4.3/7, Error ellipse: s-maj=28.3km s-min=20.6km az=111.0*
ISC 09 01:28:54.4±2.0**,44S**±02×**1500E**±02**,h480**km±22km**,n15, σ0.42**/13**,mb4.2**/6**,1C-1D,New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.70**	**209**	eP	**P**	**01 30 26.6**	**-0.4**
	22nm,0.6s						
COEN	**Coen**	**11.62**	**215**	eP	**P**	**01 31 29.3**	**+0.3**
	16nm,1.0s						
CTA	**Charters Tower**	**16.00**	**193**	eP	**P**	**01 32 15.8**	**+0.4**
	6.0nm,0.8s						
CTA	**Charters Tower**	**16.00**	**193**	P	**P**	**01 32 15.7**	**+0.3**
	0.5nm,0.3s,baz=360,slow=14,SNR=10.0						
KAKA	**Kakadu**	**19.21**	**243**	⇓iP	**P**	**01 32 46.2**	**-0.7**
	34nm,0.4s						
WB2	**Warramunga Arr**	**21.69**	**223**	eP	**P**	**01 33 09.6**	**+0.2**
WRA	**Warramunga Arr**	**21.70**	**223**	P	**P**	**01 33 09.9**	**+0.3**
	23nm,0.5s,mb5.0,baz=46,slow=9.5,SNR=69						
ASAR	**Alice Springs**	**24.65**	**218**	P	**P**	**01 33 36.0**	**+0.2**
	3.0nm,0.4s,mb4.1,baz=50,slow=8.1,SNR=47						
DAV	**Davao City (W)**	**26.91**	**295**	eP	**P**	**01 33 56.8**	**+0.7**
	2.6nm,0.6s,mb3.8						
FITZ	**Fitzroy Crossi**	**27.44**	**238**	⇑iP	**P**	**01 34 00.3**	**-0.3**
	7.9nm,0.5s,mb4.4						
FITZ	**Fitzroy Crossi**	**27.44**	**238**	P	**P**	**01 34 00.4**	**-0.3**
	4.7nm,0.4s,mb4.2,baz=65,slow=13,SNR=24						
MBWA	**Marble Bar**	**33.77**	**238**	eP	**P**	**01 34 55.0**	**-0.4**
	17nm,1.2s,mb4.4						
COLD	**Coldfoot**	**82.83**	**20**	eP	**P**	**01 40 26.9**	**-0.2**
	5.8nm,1.3s,mb4.0						
TORD	**Torodi Ar. Bea**	**147.53**	**288**	PKPbc	PKPbc	01 47 47.9	+3.0
	0.5nm,0.6s,baz=102,slow=2.8,SNR=7.9						
TORD	**Torodi Ar. Bea**	**147.53**	**288**	PKPbc	PKPbc	01 47 47.9	+3.0

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*ISK **09** 01:39:26.9,3793N×2942E,h5km,MD3.1*
*DDA **09** 01:39:27.9,3788N×2937E,h9km±6km,Md3.1*
*CSEM **09** 01:39:27.2±0.1,3791N×2940E,h2km,MD3.1,Error ellipse: s-maj=1.5km s-min=1.3km az=24.0*
*ISCJB **09** 01:39:28.4±0.3,3789N±002×2942E±003,h10km,Error ellipse: s-maj=3.5km s-min=3.2km az=23.7*
ISC 09 01:39:28.2±0.5**,3790N**±002×**2943E**±003**,h2**km±5km**,n26, σ0.92**/39**,5C-1D,Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
DENT	**Denizli**	**0.35**	**245**	ePG	**Pg**	**01 39 34.7**	**-0.2**
DENT				eSG	**Sg**	**01 39 40.8**	**+1.4**
DNZL	**Cakiroluk**	**0.37**	**236**	⇑iP	**Pg**	**01 39 35.0**	**-0.4**
DNZL				iS	**Sg**	**01 39 40.3**	**+0.1**
KHL	**Karahalli**	**0.43**	**9**	ePG	**Pg**	**01 39 35.7**	**-0.8**
KHL				eSG	**Sg**	**01 39 42.1**	**+0.1**
GOLH	**Golhisar**	**0.67**	**171**	⇑iP	**Pg**	**01 39 39.9**	**-1.2**
GOLH				iS	**Sg**	**01 39 50.4**	**+0.7**
TKTP	**Tekketepe**	**0.71**	**78**	⇑iP	**Pg**	**01 39 42.1**	**+0.2**
TKTP				iS	**Sg**	**01 39 55.0**	**+3.9**
TKTP	**Tekketepe**	**0.71**	**78**	iP	**Pg**	**01 39 42.1**	**+0.2**
TKTP				iS	**Sg**	**01 39 55.0**	**+3.8**
KULA	**Kula-Manisa**	**0.86**	**315**	ePG	**Pg**	**01 39 44.8**	**0.0**
KULA				eSG	**Sg**	**01 39 56.5**	**+0.5**
MANT	**Manisa**	**0.91**	**311**	⇑iP	**Pg**	**01 39 45.3**	**-0.4**
MANT				iS	**Sg**	**01 39 58.3**	**+0.9**
BCK	**Bucak**	**1.02**	**115**	ePG	**Pg**	**01 39 48.0**	**+0.3**
SHUT	**Suhut-Afyon**	**1.09**	**53**	ePN	**Pn**	**01 39 48.1**	**-2.5**
GDZ	**Gediz**	**1.19**	**2**	⇓iP	**Pg**	**01 39 50.6**	**-0.4**
GDZ				iS	**Sg**	**01 40 07.9**	**+1.5**
YER	**Yerkesik**	**1.19**	**230**	ePN	**Pn**	**01 39 50.1**	**-1.9**
AYDN	**Tasoluk**	**1.25**	**259**	iP	**Pg**	**01 39 51.5**	**-0.8**
AYDN				iS	**Sg**	**01 40 08.5**	**-0.1**
ALT	**Altintas**	**1.27**	**24**	ePN	**Pn**	**01 39 51.7**	**-1.3**
DEMI	**Demirci**	**1.27**	**334**	⇑iP	**Pg**	**01 39 52.1**	**-0.5**
DEMI				iS	**Sg**	**01 40 08.8**	**-0.3**
ANTB	**Antalya**	**1.39**	**135**	ePN	**Pn**	**01 39 54.8**	**+0.1**
AKAS	**Kas**	**1.67**	**175**	eP	**Pn**	**01 39 59.0**	**+0.5**
AKAS				eS	**Sn**	**01 40 25.2**	**+4.8**
BDRM	**Kayabasi**	**1.79**	**243**	eP	**Pn**	**01 39 58.6**	**-1.5**
BDRM				eS	**Sn**	**01 40 26.3**	**+2.9**
DST	**Dursunbey**	**1.82**	**340**	ePN	**Pn**	**01 40 00.2**	**-0.3**
BODT	**Bodrum**	**1.89**	**244**	ePN	**Pn**	**01 40 01.9**	**+0.4**
BLCB	**Balcova**	**1.95**	**285**	ePN	**Pn**	**01 40 02.0**	**-0.3**
KONT	**Konya--Tatoy**	**2.31**	**88**	ePN	**Pn**	**01 40 08.4**	**+1.0**
GEMT	**Gemlik**	**2.54**	**356**	ePN	**Pn**	**01 40 10.7**	**+0.3**
HDMB	**Hadim**	**2.60**	**110**	ePN	**Pn**	**01 40 12.4**	**+1.1**
YLV	**Yalova**	**2.66**	**359**	ePN	**Pn**	**01 40 12.6**	**+0.4**
GULT	**Gulveren**	**2.66**	**18**	ePN	**Pn**	**01 40 12.8**	**+0.6**

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*IDC **09** 01:51:05.9±2.0,203S×9954E,h0km,mb4.0/8,mb1 4.1/8, mb1mx3.9/19,mbtmp4.0/8,Error ellipse: s-maj=75.5km s-min=17.2km az=61.0*
*ISCJB **09** 01:51:10.8±5.1,20S±02×995E±03,h56km±35km,mb4.2/8, Error ellipse: s-maj=67.6km s-min=15.7km az=147.2*
*NEIC **09** 01:51:11.0±1.2,202S×9956E,h35km,mb4.2/1,Error ellipse: s-maj=53.6km s-min=9.1km az=59.0*
*DJA **09** 01:51:11,185S×9935E,h20km,MLv4.0/4*
ISC 09 01:51:11.8±5.6**,20S**±02×**995E**±04**,h45**km±41km**,n15, σ0.59**/14**,mb4.2**/8**,Southern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PDSI	**Padang**	**1.48**	**41**	P	**Pn**	**01 51 35.2**	**-0.7**
PPI	**Padang Panjang**	**1.81**	**30**	P	**Pn**	**01 51 40.1**	**-0.4**
RGRI	**Rengat**	**3.29**	**59**	P	**Pn**	**01 52 02.4**	**+1.5**
CMAR	**Chiang Mai Arr**	**20.37**	**358**	P	**P**	**01 55 44.3**	**-0.5**
	1.9nm,0.7s,baz=196,slow=9.8,SNR=6.1						
WRA	**Warramunga Arr**	**38.41**	**120**	P	**P**	**01 58 28.6**	**-0.6**
	0.9nm,0.4s,mb3.8,baz=304,slow=9.1,SNR=7.3						
ASAR	**Alice Springs**	**39.64**	**126**	P	**P**	**01 58 39.4**	**-0.1**
	0.9nm,0.5s,mb3.8,baz=303,slow=7.9,SNR=12						
KSRS	**Korea Array**	**47.31**	**31**	P	**P**	**01 59 40.4**	**-0.7**
	1.5nm,0.7s,mb4.1,baz=234,slow=8.6,SNR=3.8						
STKA	**Stephens Creek**	**49.50**	**131**	P	**P**	**01 59 58.3**	**+0.2**
	1.1nm,0.5s,mb4.1,baz=301,slow=12,SNR=2.6						
SONM	**Songino Array**	**50.03**	**6**	P	**P**	**02 00 02.5**	**+0.8**
	2.9nm,0.7s,mb4.4,baz=186,slow=9.1,SNR=24						
MK31	**Makanchi Array**	**50.93**	**345**	eP	**P**	**02 00 08.9**	**+0.4**
MKAR	**Makanchi Array**	**50.93**	**345**	P	**P**	**02 00 09.0**	**+0.4**
	2.0nm,0.6s,mb4.2,baz=152,slow=8.2,SNR=15						
KURK	**Kurchatov**	**55.50**	**344**	eP	**P**	**02 00 42.0**	**-0.1**
	2.4nm,0.9s,mb4.2						
ZAA0	**Zalesovo Array**	**57.11**	**350**	eP	**P**	**02 00 53.5**	**0.0**
ZALV	**Zalesovo Beam**	**57.11**	**350**	P	**P**	**02 00 53.5**	**0.0**
	4.6nm,0.7s,mb4.6,baz=180,slow=5.4,SNR=18						
TXAR	**Lajitas Array**	**145.03**	**37**	PKPbc	PKPbc	02 10 45.1	+0.8
	1.7nm,0.7s,baz=241,slow=1.2,SNR=19						

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*MOS **09** 01:52:20.4±1.3,1348S×7628W,h33km,mb5.1/6,Error ellipse: s-maj=19.8km s-min=10.7km az=134.0*
*ISCJB **09** 01:52:21.9±0.3,1359S±005×7624W±006,h50km, mb4.8/30,MS4.1/25,Error ellipse: s-maj=11.0km s-min=4.0km az=142.3*
*IDC **09** 01:52:23.5±0.5,1356S×7620W,h48km±4km,mb4.1/12, mb1 4.3/16,mb1mx4.2/21,mbtmp4.2/16,MS4.0/24, Ms1 4.0/24,ms1mx3.9/35,Error ellipse: s-maj=22.8km s-min=10.2km az=60.0*
*NEIC **09** 01:52:23.7±0.2,1357S×76.12W,mb5.0/16,Error ellipse: s-maj=9.2km s-min=4.3km az=52.0*
NEIC Felt [IV] at Chincha and Pisco; [III] at San Vicente de Canete. Also felt at Chaclacayo, Chincha Alta and Lima.
*BJI **09** 01:52:24.1,1458S×7534W,h69km,mB5.2,Ms5.2,Msz4.9*
ISC 09 01:52:24.3±0.3**,1356S**±005×**7616W**±007**,h52**km**, h52**km±.6km**:pP-P,n139,σ0.80**/109**,mb4.8**/30**,MS4.1**/25**, 5C-2D,Near coast of Peru**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
NNA	**Nana**	**1.70**	**337**	Pn	**Pn**	**01 52 49.1**	**-2.5**
	24µm,0.4s						
NNA	**Nana**	**1.70**	**337**	P	**Pn**	**01 52 49.0**	**-2.5**
	82nm,0.3s,baz=166,slow=12,SNR=142						
NNA				S	**Sn**	**01 53 08.0**	**-4.2**
	672nm,0.3s,baz=135,slow=17,SNR=14						
NNA				LR	LR	01 53 35.5	
	comp=Z,2µm,19.6s,baz=129,slow=43						
NNA	**Nana**	**1.70**	**337**	ePn	**Pn**	**01 52 49.3**	**-2.3**
ARE	**Arequipa**	**5.36**	**123**	eP	**Pn**	**01 53 44.0**	**+2.3**
ARE				eS	**Sn**	**01 54 45.0**	**+2.9**
ATAH	**Atahualpa**	**6.88**	**341**	P	**Pn**	**01 54 03.5**	**+0.8**
	5.8nm,0.3s,baz=175,slow=4.8,SNR=24						
ATAH				S	**Sn**	**01 55 28.2**	**+8.7**
	20nm,0.3s,baz=11,slow=16,SNR=6.4						
ATAH				LR	LR	01 56 36.8	
	comp=Z,744nm,18.4s,baz=297,slow=38						
LPAZ	**La Paz**	**8.22**	**110**	P	**Pn**	**01 54 24.5**	**+3.5**
	15nm,0.3s,baz=292,slow=10,SNR=171						
LPAZ				S	**Sn**	**01 56 01.2**	**+8.6**
	baz=196,slow=24,SNR=6.8						
LPAZ	**La Paz**	**8.22**	**110**	eP	**Pn**	**01 54 24.4**	**+3.4**
LPAZ				pmax	pmax		
	comp=Z,60nm,0.5s						
LPAZ	**La Paz**	**8.22**	**110**	ePn	**Pn**	**01 54 24.4**	**+3.4**
	comp=Z,60nm,0.5s						
LVC	**Limon Verde**	**11.34**	**144**	P	**Pn**	**01 55 04.3**	**+0.7**
	comp=Z,3.4nm,0.3s,baz=312,slow=10,SNR=34						
LVC				S	**Sn**	**01 57 09.3**	**+0.4**
	comp=Z,3.2nm,0.3s,baz=69,slow=21,SNR=4.8						
LVC				LR	LR	01 59 11.8	
	comp=Z,454nm,20.2s,baz=324,slow=36						
LVC	**Limon Verde**	**11.34**	**144**	ePn	**Pn**	**01 55 03.3**	**-0.3**
OTAV	**Otavalo**	**13.89**	**350**	ePn	**Pn**	**01 55 40.2**	**+1.6**
SIV	**San Ignacio**	**14.79**	**101**	P	**Pn**	**01 55 49.3**	**-1.2**
	comp=Z,2.8nm,0.3s,baz=284,slow=10,SNR=56						
ROSC	**El Rosal**	**18.39**	**6**	P	**Pn**	**01 56 36.4**	**+0.8**
	comp=Z,1.3nm,0.3s,baz=95,slow=20,SNR=5.0						
ROSC	**El Rosal**	**18.39**	**6**	eP	**Pn**	**01 56 35.4**	**-0.3**
CFAA	**Coronel Fontan**	**19.38**	**159**	P	**Pn**	**01 56 46.7**	**-0.7**
	comp=Z,0.1nm,0.3s,baz=334,slow=10,SNR=27						
CFAA				LR	LR	02 03 17.6	
	comp=Z,39nm,21.0s,baz=344,slow=34						
CFAA	**Coronel Fontan**	**19.38**	**159**	P	**Pn**	**01 56 46.7**	**-0.7**
CFAA				LR	LR	02 03 17.6	
FCH	**Farellones**	**20.39**	**166**	⇑eP	**P**	**01 56 57.4**	**+0.5**
LMEL	**Las Melosas**	**20.91**	**166**	⇑eP	**P**	**01 56 54.6**	**-7.8**
CPUP	**Villa Florida**	**21.75**	**129**	P	**P**	**01 57 11.1**	**-0.5**
	comp=Z,4.7nm,0.9s,mb3.9,baz=296,slow=12,SNR=8.6						
CPUP				LR	LR	02 07 38.4	
	comp=Z,374nm,20.6s,MS3.8,baz=296,slow=42						
SDV	**Santo Domingo**	**22.96**	**14**	P	**P**	**01 57 24.9**	**+0.4**
	comp=Z,5.5nm,0.4s,mb4.3,baz=193,slow=22,SNR=6.7						
SDV				LR	LR	02 08 01.0	
	comp=Z,213nm,18.2s,MS3.6,baz=37,slow=41						
SDV	**Santo Domingo**	**22.96**	**14**	eP	**P**	**01 57 24.7**	**+0.2**
	comp=Z,22nm,0.5s,mb4.8						
JTS	**JuntasAbangare**	**25.25**	**339**	LR	LR	02 06 48.6	
	comp=Z,352nm,21.7s,MS3.8,baz=326,slow=34						
PLCA	**Paso Flores**	**27.51**	**171**	P	**P**	**01 58 05.4**	**-0.5**
	comp=Z,2.8nm,0.6s,mb4.1,baz=333,slow=8.2,SNR=9.5						
PLCA				pP	pP	01 58 17.6	-1.5
	comp=Z,8.3nm,0.9s,baz=339,slow=9.5,SNR=8.2						
PLCA				LR	LR	02 06 20.9	
	comp=Z,235nm,21.3s,MS3.7,baz=346,slow=30						
PLCA	**Paso Flores**	**27.51**	**171**	P	**P**	**01 58 05.4**	**-0.5**
PLCA				*PP	pP	01 58 17.6	-1.5
TEIG	**Tepich**	**35.63**	**340**	P	**P**	**01 59 17.6**	**+0.3**
	comp=Z,12nm,0.5s,mb5.1,baz=160,slow=4.7,SNR=19						
TEIG				LR	LR	02 12 39.1	
	comp=Z,215nm,21.9s,MS3.9,baz=130,slow=34						
TEIG	**Tepich**	**35.63**	**340**	P	**P**	**01 59 17.6**	**+0.3**
TEIG				LR	LR	02 12 39.0	
TKL	**Tuckaleechee C**	**49.48**	**352**	LR	LR	02 21 42.1	
	comp=Z,153nm,20.2s,MS4.0,baz=134,slow=36						
LPIG	**La Paz**	**50.14**	**318**	LR	LR	02 17 11.7	
	comp=Z,116nm,20.1s,MS3.9,baz=159,slow=30						
TXAR	**Lajitas Array**	**50.24**	**328**	P	**P**	**02 01 15.8**	**+0.4**
	comp=Z,0.6nm,0.4s,mb4.0,baz=152,slow=8.9,SNR=20						
TXAR				pP	pP	02 01 27.9	-1.5
	comp=Z,2.6nm,0.8s,baz=146,slow=6.8,SNR=9.4						
TXAR				LR	LR	02 19 45.7	
	comp=Z,99nm,20.4s,MS3.8,baz=0.0,slow=33						
TXAR	**Lajitas Array**	**50.24**	**328**	P	**P**	**02 01 15.8**	**+0.4**
TXAR				*PP	pP	02 01 27.9	-1.4
MIAR	**Mount Ida**	**50.62**	**341**	eP	**P**	**02 01 17.8**	**-0.4**
MIAR				pmax	pmax		
	comp=Z,25nm,1.6s,mb4.9						
MIAR	**Mount Ida**	**50.62**	**341**	eP	**P**	**02 01 17.8**	**-0.4**
	comp=Z,25nm,1.6s,mb4.9						
UTMT	**University of**	**51.06**	**347**	eP	**P**	**02 01 21.8**	**+0.4**
BNM	**Barren Site**	**55.60**	**329**	eP	**P**	**02 01 55.0**	**+0.2**
BNM				epP	pP	02 02 08.8	-0.2
LAZ	**Ladron**	**56.05**	**329**	eP	**P**	**02 01 58.0**	**-0.1**
LAZ				epP	pP	02 02 12.1	-0.1
ANMO	**Albuquerque**	**56.16**	**330**	LR	LR	02 27 21.4	
	comp=Z,80nm,18.6s,MS3.8,baz=338,slow=37						
ANMO	**Albuquerque**	**56.16**	**330**	eP	**P**	**02 01 59.0**	**+0.2**
ANMO				e*PP	pP	02 02 12.6	-0.4
RKT	**Rikitea**	**56.32**	**251**	eLR	LR	02 18 26.4	
	comp=Z,343nm,29.8s						
TUC	**Tucson**	**56.38**	**325**	eP	**P**	**02 02 00.6**	**+0.2**
TUC				e*PP	pP	02 02 14.1	-0.5
TUC				pmax	pmax		
	comp=Z,4.0nm,1.2s,mb4.3						
TUC	**Tucson**	**56.38**	**325**	eP	**P**	**02 02 00.6**	**+0.2**
	comp=Z,4.1nm,1.2s,mb4.3						
TUC				epP	pP	02 02 14.1	-0.4
ACCN	**Adirondack Com**	**56.71**	**2**	eP	**P**	**02 02 03.0**	**+0.4**
MDV	**Middlebury**	**57.34**	**3**	eP	**P**	**02 02 07.6**	**+0.6**
SDCO	**Great Sand Dun**	**57.99**	**333**	eP	**P**	**02 02 11.5**	**-0.2**
	comp=Z,9.3nm,1.1s,mb4.7						
SDCO				epP	pP	02 02 25.3	-0.6
FRNY	**Flat Rock**	**58.16**	**2**	eP	**P**	**02 02 12.8**	**+0.1**
	comp=Z,19nm,1.0s,mb5.1						
PV01	**Paradox Valley**	**59.72**	**331**	eP	**P**	**02 02 24.0**	**+0.3**
PV01				epP	pP	02 02 37.7	-0.3
ISCO	**Idaho Springs**	**59.74**	**334**	eP	**P**	**02 02 24.3**	**+0.5**
ISCO				e*PP	pP	02 02 37.9	-0.2
ISCO				pmax	pmax		
	comp=Z,56nm,2.8s,mb5.1						
ISCO	**Idaho Springs**	**59.74**	**334**	eP	**P**	**02 02 24.3**	**+0.4**
	comp=Z,56nm,2.8s,mb5.1						
ISCO				epP	pP	02 02 37.9	-0.2
MSU	**Marysvale**	**61.80**	**328**	eP	**P**	**02 02 38.0**	**+0.2**
MSU				e*PP	pP	02 02 52.3	+0.2
SHPR	**Sheep Range**	**61.91**	**325**	eP	**P**	**02 02 38.5**	**-0.1**
SHPR				epP	pP	02 02 52.7	-0.2
TPNV	**Topopah Spring**	**62.83**	**325**	eP	**P**	**02 02 44.5**	**-0.3**
TPNV				e*PP	pP	02 02 58.6	-0.5
JLU	**Jordanelle**	**63.04**	**330**	eP	**P**	**02 02 47.0**	**+0.9**
JLU				epP	pP	02 03 01.0	+0.6
ISA	**Isabella**	**63.23**	**322**	eP	**P**	**02 02 47.5**	**0.0**
ISA				e*PP	pP	02 03 01.9	+0.1
ISA				pmax	pmax		
	comp=Z,32nm,2.0s,mb5.1						
ISA	**Isabella**	**63.23**	**322**	eP	**P**	**02 02 47.5**	**+0.1**
	comp=Z,32nm,2.0s,mb5.1						
ISA				epP	pP	02 03 01.9	+0.1
DUG	**Dugway**	**63.39**	**329**	eP	**P**	**02 02 48.7**	**+0.3**
DUG				e*PP	pP	02 03 02.5	-0.3
DUG				pmax	pmax		
	comp=Z,11nm,1.1s,mb4.9						
DUG	**Dugway**	**63.39**	**329**	eP	**P**	**02 02 48.7**	**+0.2**
	comp=Z,11nm,1.1s,mb4.9						
DUG				epP	pP	02 03 02.5	-0.3
HWUT	**Hardware Ranch**	**63.88**	**331**	eP	**P**	**02 02 51.6**	**0.0**
HWUT				epP	pP	02 03 05.5	-0.5
PDAR	**Pinedale Array**	**63.88**	**333**	P	**P**	**02 02 51.0**	**-0.6**
	comp=Z,1.1nm,0.5s,mb4.2,baz=119,slow=10,SNR=16						
PDAR				pP	pP	02 03 05.1	-0.9
	comp=Z,2.2nm,1.1s,baz=122,slow=11,SNR=3.8						
PDAR				LR	LR	02 30 50.5	
	comp=Z,85nm,20.6s,MS3.9,baz=342,slow=36						
SPUT	**South Promonto**	**64.07**	**330**	eP	**P**	**02 02 52.9**	**+0.1**
SPUT				epP	pP	02 03 07.3	+0.1
TPH	**Tonopah**	**64.17**	**325**	eP	**P**	**02 02 53.5**	**-0.1**
TPH				e*PP	pP	02 03 08.3	+0.3
TPH				pmax	pmax		
	comp=Z,32nm,1.5s,mb5.1						
TPH	**Tonopah**	**64.17**	**325**	eP	**P**	**02 02 53.5**	**-0.1**
	comp=Z,32nm,1.5s,mb5.1						
TPH				epP	pP	02 03 08.3	+0.3
MTUM	**Tungsten Hills**	**64.44**	**323**	eP	**P**	**02 02 55.5**	**+0.2**
MTUM				epP	pP	02 03 09.3	-0.5
REDW	**Red Top Meadow**	**64.93**	**333**	eP	**P**	**02 02 58.7**	**+0.3**
REDW				epP	pP	02 03 12.6	-0.2
NVAR	**Mina Array Bea**	**65.03**	**324**	P	**P**	**02 02 58.9**	**-0.4**
	comp=Z,0.7nm,0.6s,mb3.9,baz=139,slow=7.0,SNR=7.2						
NVAR				pP	pP	02 03 12.8	-0.9
	comp=Z,2.7nm,0.8s,baz=142,slow=7.3,SNR=12						
NVAR	**Mina Array Bea**	**65.03**	**324**	P	**P**	**02 02 58.9**	**-0.4**
NVAR				pP	pP	02 03 12.8	-0.9
ELK	**Elko**	**65.03**	**328**	LR	LR	02 28 15.5	
	comp=Z,154nm,20.6s,MS4.2,baz=100,slow=33						
RRI2	**Red Ridge**	**65.12**	**332**	epP	pP	02 03 13.8	-0.4
MOOW	**Moose Ponds**	**65.19**	**333**	eP	**P**	**02 03 00.1**	**0.0**
	comp=Z,42nm,2.5s,mb5.0						
MOOW				epP	pP	02 03 14.4	-0.1
IMW	**Indian Meadow**	**65.39**	**333**	eP	**P**	**02 03 01.6**	**+0.2**
	comp=Z,33nm,1.8s,mb5.1						
RLMT	**Red Lodge**	**65.66**	**335**	eP	**P**	**02 03 03.1**	**0.0**
WAKR	**Walker**	**65.73**	**324**	eP	**P**	**02 03 04.2**	**+0.5**
WAKR				epP	pP	02 03 18.3	+0.2
ULM	**Lac du Bonnet**	**65.85**	**346**	P	**P**	**02 03 03.1**	**-1.1**
	comp=Z,6.4nm,0.7s,mb4.8,baz=184,slow=5.8,SNR=6.7						
ULM				pP	pP	02 03 17.0	-1.7
	comp=Z,7.4nm,0.8s,baz=157,slow=5.9,SNR=4.4						
ULM				LR	LR	02 32 34.4	
	comp=Z,102nm,18.4s,MS4.1,baz=201,slow=37						
ULM	**Lac du Bonnet**	**65.85**	**346**	P	**P**	**02 03 03.1**	**-1.1**
ULM				pP	pP	02 03 17.0	-1.7
ULM				LR	LR	02 32 34.4	
CMB	**Columbia Colle**	**65.96**	**323**	eP	**P**	**02 03 05.2**	**0.0**
CMB				e*PP	pP	02 03 19.5	-0.2
PAHR	**Pah Rah Range**	**66.52**	**325**	eP	**P**	**02 03 09.5**	**+0.8**
PAHR				epP	pP	02 03 22.4	-0.8
HLID	**Hailey**	**66.72**	**331**	eP	**P**	**02 03 10.5**	**+0.5**
	comp=Z,22nm,1.9s,mb4.9						
HLID				epP	pP	02 03 24.4	0.0
DLMT	**Dillon**	**67.27**	**333**	eP	**P**	**02 03 13.7**	**+0.2**
DLMT				epP	pP	02 03 28.0	+0.1
OHCM	**Honcut**	**67.47**	**323**	eP	**P**	**02 03 14.9**	**+0.1**
OHCM				epP	pP	02 03 28.7	-0.6
MOD	**Modoc**	**68.53**	**326**	eP	**P**	**02 03 21.4**	**0.0**
MOD				epP	pP	02 03 36.0	0.0
CHMT	**Chamberlain Mo**	**68.77**	**334**	eP	**P**	**02 03 23.9**	**+1.1**
CHMT				epP	pP	02 03 37.6	+0.3
MSO	**Missoula**	**69.00**	**333**	eP	**P**	**02 03 25.4**	**+1.1**
	comp=Z,23nm,1.7s,mb4.8						
MSO				epP	pP	02 03 39.4	+0.7
TBI	**Tubuai**	**69.59**	**250**	eLR	LR	02 24 34.1	
	comp=Z,327nm,28.8s,baz=85						
YBH	**Yreka Blue Hor**	**69.75**	**325**	LR	LR	02 32 02.4	
	comp=Z,110nm,18.9s,MS4.1,baz=173,slow=34						
VNA1	**Neumayer--Stat**	**70.03**	**161**	eP	**P**	**02 03 31.1**	**+0.8**
VNA1				e	pP	02 03 44.2	-0.6
VNA1				e	pP	02 03 49.3	+4.5
BSMT	**Bassoo Peak**	**70.15**	**333**	eP	**P**	**02 03 31.8**	**+0.5**
BSMT				epP	pP	02 03 45.7	-0.1
PPT	**Papeete**	**70.45**	**256**	eS	S	02 12 39.5	-3.9
	comp=Z,79nm,26.0s						
PPT	**Papeete**	**70.45**	**256**	eLR	LR	02 24 54.5	
	comp=Z,216nm,28.2s						
PPT	**Papeete**	**70.45**	**256**	LR	LR	02 25 34.9	
	comp=Z,157nm,18.2s,MS4.3,baz=94,slow=28						
NEW	**Newport**	**71.50**	**332**	eP	**P**	**02 03 39.1**	**-0.4**
NEW				e*PP	pP	02 03 53.3	-0.8
OD2	**Odessa Site #2**	**71.59**	**331**	eP	**P**	**02 03 40.1**	**+0.1**
OD2				epP	pP	02 03 54.0	-0.6
SNAA	**Sanae**	**71.98**	**161**	eP	**P**	**02 03 41.8**	**-0.3**
SNAA				e	pP	02 03 55.2	-1.5
SNAA				e	pP	02 03 59.8	+3.1
SNAA	**Sanae**	**71.98**	**161**	epP	**P**	**02 03 41.5**	**-0.6**
ETW	**Entiat**	**72.51**	**330**	eP	**P**	**02 03 46.4**	**+0.8**
ETW				epP	pP	02 04 00.9	+0.7
LIC	**Lamto**	**73.29**	**79**	⇑iP	**P**	**02 03 50.3**	**-0.6**
	comp=Z,47nm,1.0s,mb5.0						
LIC	**Lamto**	**73.29**	**79**	eP	**P**	**02 03 50.0**	**-0.9**
	comp=Z,60nm,1.0s,mb5.5						
LIC	**Lamto**	**73.29**	**79**	⇑iP	**P**	**02 03 50.3**	**-0.6**
	comp=Z,24nm,1.0s,mb5.1						
TIC	**Toumodi**	**73.41**	**79**	eP	**P**	**02 03 50.9**	**-0.8**
	comp=Z,103nm,1.2s,mb5.6						
DBIC	**Dimbokro**	**73.58**	**79**	P	**P**	**02 03 51.8**	**-0.8**
	comp=Z,7.3nm,0.5s,mb4.9,baz=254,slow=5.2,SNR=32						
DBIC				LR	LR	02 33 56.8	
	comp=Z,91nm,18.2s,MS4.1,baz=216,slow=34						
KIC	**Kosan Boka**	**73.60**	**79**	eP	**P**	**02 03 52.3**	**-0.5**
	comp=Z,142nm,0.9s,mb5.9						
JCW	**Jim Creek**	**73.69**	**330**	eP	**P**	**02 03 52.3**	**-0.2**
JCW				epP	pP	02 04 06.3	-0.9
GNW	**Green Mountain**	**73.71**	**329**	eP	**P**	**02 03 52.3**	**-0.4**
	comp=Z,60nm,2.2s,mb5.1						
GNW				epP	pP	02 04 07.2	-0.1
EDM	**Edmonton**	**73.76**	**338**	eP	**P**	**02 03 52.1**	**-0.7**
EDM				e*PP	pP	02 04 05.4	-2.0
YKA	**Yellowknife Ar**	**81.53**	**343**	P	**P**	**02 04 35.0**	**-0.9**
	comp=Z,0.6nm,0.3s,mb4.0,baz=147,slow=5.6,SNR=6.8						
YKA				pP	pP	02 04 48.8	-1.9
	comp=Z,4.6nm,0.8s,baz=136,slow=5.4,SNR=5.2						
YKA				LR	LR	02 45 53.8	
	comp=Z,34nm,18.7s,MS3.7,baz=125,slow=39						
YKA	**Yellowknife Ar**	**81.53**	**343**	P	**P**	**02 04 35.0**	**-0.9**
YKA				*PP	pP	02 04 48.8	-1.9
YKA	**Yellowknife Ar**	**81.53**	**343**	P	**P**	**02 04 35.0**	**-0.9**
YKA				pP	pP	02 04 48.8	-2.0
YKA				LR	LR	02 45 53.8	
TOA0	**Torodi Ar. Sit**	**81.57**	**74**	eP	**P**	**02 04 36.4**	**-0.7**
TORD	**Torodi Ar. Bea**	**81.57**	**74**	P	**P**	**02 04 36.9**	**-0.3**
	comp=Z,15nm,0.7s,mb5.0,baz=262,slow=5.2,SNR=125						
TORD				pP	pP	02 04 52.0	-0.1
	comp=Z,10nm,1.1s,baz=267,slow=3.9,SNR=6.5						
TORD				LR	LR	02 41 37.9	
	comp=Z,81nm,18.9s,MS4.1,baz=150,slow=36						
EVO	**Evora**	**81.99**	**47**	⇑iP	**P**	**02 04 35.3**	**-3.6**
	comp=Z,49nm,1.4s,mb5.0						
ESDC	**Sonseca Array**	**85.33**	**48**	P	**P**	**02 04 56.1**	**+0.1**
	comp=Z,0.5nm,0.5s,mb3.9,baz=260,slow=5.3,SNR=6.3						
ESDC				LR	LR	02 38 12.1	
	comp=Z,55nm,18.2s,MS4.0,baz=15,slow=32						
SYO	**Syowa Base**	**86.27**	**161**	⇓eP	**P**	**02 04 58.0**	**-2.1**
SYO	**Syowa Base**	**86.27**	**161**	⇓epP	pP	02 05 11.4	-3.7
TAM	**Tamanrasset**	**87.70**	**66**	eP	**P**	**02 05 08.9**	**+0.9**
MFF	**Saint Martin d**	**90.38**	**42**	eP	**P**	**02 05 18.4**	**-1.6**
GRR	**Gorron**	**90.53**	**40**	eP	**P**	**02 05 20.4**	**-0.2**
LDF	**La Druitiere**	**91.06**	**40**	eP	**P**	**02 05 22.5**	**-0.6**
	comp=Z,5.6nm,0.8s,mb4.6						
LDF	**La Druitiere**	**91.06**	**40**	eP	**P**	**02 05 22.5**	**-0.6**
LDF				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.7						
LDF	**La Druitiere**	**91.06**	**40**	eP	**P**	**02 05 22.5**	**-0.6**
	comp=Z,2.8nm,0.8s,mb4.6						
AVF	**Avril sur Loir**	**92.73**	**43**	eP	**P**	**02 05 28.5**	**-2.4**
BOSA	**Boshof**	**93.34**	**120**	LR	LR	02 45 27.0	
	comp=Z,121nm,19.1s,MS4.4,baz=83,slow=34						
MAW	**Mawson**	**93.80**	**165**	LR	LR	02 45 39.9	
	comp=Z,97nm,19.6s,MS4.3,baz=68,slow=34						
LBTB	**Lobatse**	**94.69**	**117**	LR	LR	02 43 11.8	
	comp=Z,173nm,19.4s,MS4.5,baz=300,slow=32						
LSZ	**Lusaka**	**99.88**	**108**	LR	LR	02 47 29.9	
	comp=Z,118nm,18.6s,MS4.4,baz=214,slow=33						
ASAR	**Alice Springs**	**132.74**	**219**	PKP	PKPdf	02 11 33.5	-0.8
	comp=Z,0.5nm,0.7s,baz=126,slow=1.5,SNR=4.7						
ASAR				pPKP	pPKPdf	02 11 48.8	-1.1
	comp=Z,0.5nm,0.6s,baz=126,slow=2.4,SNR=3.0						
WRA	**Warramunga Arr**	**135.18**	**223**	PKP	PKPdf	02 11 38.0	-0.9
	comp=Z,1.0nm,0.5s,baz=129,slow=2.0,SNR=7.5						
WRA				pPKP	pPKPdf	02 11 52.5	-2.0
	comp=Z,0.8nm,0.5s,baz=131,slow=1.8,SNR=2.6						
ZALV	**Zalesovo Beam**	**137.00**	**16**	PKP	PKPdf	02 11 39.9	-1.4
	comp=Z,1.3nm,0.5s,baz=300,slow=2.9,SNR=7.6						
ZALV				pPKP	pPKPdf	02 11 54.8	-2.1
	comp=Z,1.5nm,0.6s,baz=321,slow=2.1,SNR=4.2						
MKAR	**Makanchi Array**	**142.25**	**24**	PKhKP		02 11 48.1	
	comp=Z,0.3nm,0.3s,baz=314,slow=3.1,SNR=5.2						
MKAR				PKP	PKPdf	02 11 51.0	-0.1
	comp=Z,0.4nm,0.3s,baz=343,slow=2.9,SNR=5.2						
MKAR	**Makanchi Array**	**142.25**	**24**	PKP	PKPdf	02 11 48.1	-3.0
MKAR				PKP	PKPdf	02 11 51.0	-0.1
ULN	**Ulaanbaatar**	**145.69**	**356**	ePKPdf	PKPdf	02 11 57.7	+0.6
ULN				epPKPdf	pPKPdf	02 12 12.1	-0.6
SONM	**Songino Array**	**145.76**	**357**	PKPbc	PKPbc	02 11 57.5	-0.1
	comp=Z,3.2nm,0.4s,baz=339,slow=2.7,SNR=32						
SONM				pPKPbc	pPKPbc	02 12 11.4	-1.6
	comp=Z,5.3nm,0.7s,baz=334,slow=2.5,SNR=10						
WMQ	**Urumqi**	**146.81**	**22**	PKP	PKPdf	02 12 00.8	+1.7
WMQ				PKP2	PKPab	02 12 06.3	+4.1
WMQ				APKP		02 12 14.8	
WMQ				XPKP		02 12 20.8	
WMQ				PP	PP	02 15 30.8	+6.5
WMQ				PP	PP		
	comp=Z,115nm,4.8s						
WMQ				LR	LR		
	comp=N,54nm,23.1s,MS4.6						
WMQ				LR	LR		
	comp=E,107nm,28.0s,MS4.6						
WMQ				LR	LR		

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
	comp=Z,82nm,22.1s						
BJI	**Beijing**	**151.48**	**340**	PKP	PKPdf	02 12 06.0	-0.7
BJI				PP	PP		
	comp=Z,114nm,5.8s						
BJI				LR	LR		
	comp=N,529nm,14.3s,MS5.6						
BJI				LR	LR		
	comp=E,426nm,14.5s,MS5.6						
BJI				LR	LR		
	comp=Z,76nm,29.5s						
HHC	**Hu-ho-hao-te**	**151.99**	**347**	ePKP	PKPdf	02 12 09.0	+1.6
HHC				PKS		02 15 42.9	
HHC				PP	PP	02 15 59.5	+5.5
HHC				SKKS	SKKSac	02 22 44.5	+3.2
HHC				SS	SS	02 35 22.9	+6.2
HHC				PP	PP		
	comp=Z,68nm,6.0s						
HHC				LR	LR		
	comp=N,189nm,18.4s,MS5.0						
HHC				LR	LR		
	comp=E,166nm,22.0s,MS5.0						
HHC				LR	LR		
	comp=Z,165nm,19.5s,MS4.8						
NJ2	**Nanjing**	**157.02**	**326**	ePKP	PKPdf	02 12 16.2	+1.5
LZH	**Lanzhou**	**157.57**	**360**	ePKP	PKPdf	02 12 15.5	+0.2
LZH				APKP		02 12 29.1	
LZH	**Lanzhou**	**157.57**	**360**	ePKP	PKPdf	02 12 15.5	+0.2
LZH				pPKP	pPKPdf	02 12 29.1	-1.8
LZH				sPKP		02 12 31.5	
CD2	**Chengdu**	**162.73**	**0**	ePKP	PKPdf	02 12 19.7	-1.5
CD2				PKP2	PKPab	02 13 11.1	+1.4
CD2				PP	PP	02 16 55.6	+2.6
CD2				SKS	SKSdf	02 19 19.3	-2.6
CD2				SKKS	SKKSac	02 23 39.4	+1.2
CD2				SS	SS	02 37 14.5	+3.1
CD2				PP	PP		
	comp=Z,150nm,10.2s						
CD2				LR	LR		
	comp=N,180nm,21.2s						
CD2				LR	LR		
	comp=Z,160nm,18.6s						
GYA	**Guiyang**	**166.90**	**349**	PKP	PKPdf	02 12 24.3	-0.6
GYA				APKP		02 12 39.4	
GYA				PKP2	PKPab	02 13 29.4	+1.2
GYA				PKS		02 15 55.8	
GYA				PP	PP	02 17 18.0	+3.2
GYA				SKS	SKSdf	02 19 20.4	-4.5
GYA				PP	PP		
	comp=Z,220nm,7.5s						
GYA				LR	LR		
	comp=N,260nm,25.1s						
GYA				LR	LR		
	comp=E,160nm,24.3s						
GYA				LR	LR		
	comp=Z,240nm,25.8s						
KMI	**Kunming**	**168.45**	**5**	PKIKP	PKPdf	02 12 24.2	-1.8
KMI						02 12 39.9	
KMI						02 17 26.0	
KMI				SS	SS	02 38 10.6	+1.0
KMI	**Kunming**	**168.45**	**5**	PKP	PKPdf	02 12 24.2	-1.8
KMI				pPKP	pPKPdf	02 12 39.9	-1.8
KMI				sPKP		02 12 45.5	
KMI				PP	PP	02 17 26.0	+3.3
KMI				SS	SS	02 38 10.6	+1.0
CMAR	**Chiang Mai Arr**	**173.23**	**43**	PKP	PKPdf	02 12 28.7	-0.1
	comp=Z,0.7nm,0.3s,baz=310,slow=1.9,SNR=5.2						
CMAR				PKPab	PKPab	02 13 56.6	0.0
	comp=Z,0.4nm,0.3s,baz=325,slow=6.8,SNR=4.4						

*NEIC **09** 01:59:15.4, 32.16S×71.64W, h56km, MG3.6(GUC), After GUC.*

GUC 09 01:59:15.4±0.7**, 3216S×7164W, h56**km±4km**, MD3.8, ML3.6, 8C-5D, Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CHNG	**Los Chungos**	**0.30**	**24**	⇓iP	Pn	01 59 25.2	+0.1
CHNG				iS	Sn	01 59 32.4	+0.2
PACH	**Papudo**	**0.41**	**155**	⇓iP	Pn	01 59 26.8	+0.6
PACH				iS	Sn	01 59 34.9	+0.9
PTCH	**Petorca**	**0.61**	**100**	⇑iP	Pn	01 59 29.1	+0.8
PTCH				eS	Sn	01 59 38.9	+1.1
PTCH				AML	AML	01 59 40.2	
	comp=E,5µm,0.5s						
PTCH	**Petorca**	**0.61**	**100**	P	Pn	01 59 29.1	+0.8
PTCH				eS	Sn	01 59 38.9	+1.1
IHA	**Instituto Hidr**	**0.86**	**180**	eP	Pn	01 59 31.6	0.0
JACH	**Jahuel**	**1.03**	**121**	⇓iP	Pn	01 59 34.2	+0.6
PEL	**Peldehue**	**1.27**	**141**	⇑eP	Pn	01 59 37.3	+0.4
PEL				iS	Sn	01 59 54.0	+1.0
PEL				AML	AML	01 59 56.9	
	comp=E,3µm,0.2s						
RCDM	**Rinconada Maip**	**1.50**	**152**	eP	Pn	01 59 40.3	+0.3
RCDM				iS	Sn	01 59 59.7	+1.2
RCDM				AML	AML	02 00 05.6	
	comp=E,970nm,0.1s						
RCDM	**Rinconada Maip**	**1.50**	**152**	eP	Pn	01 59 40.3	+0.3
RCDM				iS	Sn	01 59 59.7	+1.2
CLCH	**Cerro Calan**	**1.54**	**143**	⇑iP	Pn	01 59 41.5	+0.9
CLCH				iS	Sn	02 00 00.8	+1.2
CLCH				AML	AML	02 00 02.9	
	comp=E,2µm,0.4s						
TACH	**Talagante**	**1.60**	**159**	eP	Pn	01 59 41.9	+0.5
FSR	**Penalolen**	**1.62**	**145**	eP	Pn	01 59 42.2	+0.6
FCH	**Farellones**	**1.63**	**136**	⇑eP	Pn	01 59 42.7	+0.9
FCH				iS	Sn	02 00 03.6	+1.9
FCH				AML	AML	02 00 08.3	
	comp=E,713nm,0.1s						
PCH	**Pirque**	**1.74**	**147**	⇑iP	Pn	01 59 43.7	+0.5
LNV	**Longovilo**	**1.80**	**174**	eP	Pn	01 59 43.5	-0.6
CHCH	**Chadas Angostu**	**1.95**	**155**	eP	Pn	01 59 46.6	+0.5
YECH	**El Yeso**	**1.99**	**139**	eP	Pn	01 59 48.1	+1.4
YECH				iS	Sn	02 00 12.6	+2.1
YECH				AML	AML	02 00 17.2	
	comp=N,457nm,0.6s						
LMEL	**Las Melosas**	**2.07**	**145**	⇑eP	Pn	01 59 49.0	+1.2
LMEL				eS	Sn	02 00 14.5	+2.1
LMEL				AML	AML	02 00 16.4	
	comp=N,1µm,0.2s						
LMEL	**Las Melosas**	**2.07**	**145**	⇑eP	Pn	01 59 49.0	+1.2
LMEL				S	Sn	02 00 14.5	+2.1
TLL	**Tololo Astrono**	**2.11**	**20**	⇑eP	Pn	01 59 48.4	+0.1
TLL				iS	Sn	02 00 12.9	-0.5
TLL				AML	AML	02 00 20.3	
	comp=N,540nm,0.4s						
TLL	**Tololo Astrono**	**2.11**	**20**	P	Pn	01 59 48.4	+0.1
TLL				S	Sn	02 00 12.9	-0.5
CACH	**El Canelo**	**2.14**	**156**	eP	Pn	01 59 49.1	+0.4
LSCH	**La Serena**	**2.27**	**9**	eP	Pn	01 59 53.6	+3.1
LSCH				iS	Sn	02 00 15.3	-2.0
CICH	**Cipreses**	**2.38**	**155**	⇓iP	Pn	01 59 52.8	+0.8
SFDO	**San Fernando**	**2.50**	**168**	⇓iP	Pn	01 59 54.3	+0.6
LCO	**Las Campanas**	**3.24**	**15**	ePn	Pn	02 00 03.2	-0.6

IGQ 09 02:04:55.0, 067N×7909W, h12km±3km**, Mb4.3, Ms4.1, 4D, Error ellipse: s-maj=7.6km s-min=2.2km az=91.1, Near coast of Ecuador**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
YANA	**Yana**	**0.94**	**147**	P	Pg	02 05 13.2	+0.1
PINO	**Pino**	**0.95**	**150**	⇓P	Pg	02 05 13.6	+0.2
TERV	**Terraza Guagua**	**0.97**	**150**	P	Pg	02 05 13.8	+0.1
GGP	**Refugio Guagua**	**0.97**	**150**	⇓P	Pg	02 05 13.8	+0.1
ANTI	**Antisana**	**1.45**	**140**	⇓P	Pn	02 05 21.7	+0.7
JAMA	**Jama**	**1.45**	**230**	P	Pn	02 05 20.9	-0.2
JAMA	**Jama**	**1.45**	**230**	S	Sn	02 05 40.4	+0.3
CAMI	**Rancho Maria**	**1.46**	**157**	⇓P	Pn	02 05 22.9	+1.7
VC1	**Cotopaxi 1**	**1.47**	**152**	P	Pn	02 05 22.7	+1.3
TAMB	**Tambo**	**1.53**	**152**	P	Pn	02 05 23.8	+1.6
PISA	**Pisayambo**	**1.85**	**158**	P	Pn	02 05 29.6	+2.9
PISA	**Pisayambo**	**1.85**	**158**	S	Sn	02 05 55.6	+5.5
JUI6	**Juive**	**2.17**	**164**	P	Pn	02 05 35.0	+4.0
RUN5	**Runtun**	**2.17**	**162**	P	Pn	02 05 33.7	+2.6
RUN5	**Runtun**	**2.17**	**162**	S	Sn	02 06 04.1	+6.2
BIL2	**Estacion Bilba**	**2.19**	**165**	P	Pn	02 05 34.6	+3.4
BIL2	**Estacion Bilba**	**2.19**	**165**	S	Sn	02 06 04.9	+6.5
IGUA	**Igualata**	**2.19**	**168**	P	Pn	02 05 34.8	+3.5
ULBA	**Ulba**	**2.21**	**162**	P	Pn	02 05 35.0	+3.5
ULBA	**Ulba**	**2.21**	**162**	S	Sn	02 06 03.4	+4.5
ARRY	**Arrayan**	**2.25**	**164**	P	Pn	02 05 36.0	+3.9
ARRY	**Arrayan**	**2.25**	**164**	S	Sn	02 06 03.4	+3.6

MAN 09 02:08:04, 1137N×12540E, h21km**, mb4.2, ML3.1, MS2.8, 2D, Samar**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
BESP	**Borongan**	**0.23**	**10**	eP	Pb	02 08 11.0	+1.2
BESP				eS	Sb	02 08 16.7	+3.0
PLP	**Palo**	**0.46**	**244**	⇓eP	Pb	02 08 15.0	+1.6
PLP				iS	Sb	02 08 24.1	+4.4
CNP	**Catarman**	**1.34**	**328**	eP	Pn	02 08 27.5	0.0
SCPH	**Surigao**	**1.58**	**177**	⇓eP	Pn	02 08 30.3	-0.5
SCPH				eS	Sn	02 08 46.4	-4.2
PVCP	**Virac**	**2.52**	**331**	eP	Pn	02 08 46.0	+2.2

*ISCJB **09** 02:18:55.1±1.4, 3653N±003×2289E±004, h12km±10km, Error ellipse: s-maj=6.5km s-min=3.3km az=143.4*
*NEIC **09** 02:18:55.5, 3659N×2291E, h30km, ML3.3(ATH), After ATH.*
*ATH **09** 02:18:55.5, 3659N×2291E, h30km, MD3.7/14, ML3.4*
*CSEM **09** 02:18:56.4±0.1, 3655N×2288E, h25km, ML3.3, Error ellipse: s-maj=2.8km s-min=1.4km az=49.0*
*THE **09** 02:18:56.0, 3658N×2294E, h4km±2km, ML4.1/3, Error ellipse: s-maj=2.2km s-min=0.6km az=274.0*
*HLW **09** 02:18:59.1, 3681N×24.10E, h33km, Mb3.7*

ISC 09 02:18:56.9±0.5**, 3657N**±003×**2290E**±004**, h21**km±4km**, n62, σ0^{s}92**/76**, 1C-1D, Southern Greece**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
VLI	**Veliai**	**0.15**	**10**	Pb	**Pb**	**02 19 02.5**	**+0.9**
VLI				eSb	**Sb**	**02 19 05.3**	**+0.6**
VLI	**Veliai**	**0.15**	**10**	⇑PB	**Pb**	**02 19 02.5**	**+0.9**
VLI				eSB	**Sb**	**02 19 05.3**	**+0.6**
KYTH	**Kithira**	**0.30**	**159**	ePb	**Pb**	**02 19 03.5**	**-0.2**
KYTH	**Kithira**	**0.30**	**159**	ePB	**Pb**	**02 19 03.5**	**-0.2**
VLX	**Vlachokerasia**	**0.91**	**333**	P	**Pb**	**02 19 13.0**	**-0.9**
VLX				S	**Sb**	**02 19 26.1**	**+0.5**
DID	**Didima**	**0.98**	**16**	P	**Pb**	**02 19 14.1**	**-1.0**
DID				S	**Sb**	**02 19 28.3**	**+0.7**
PYL	**PYLOS**	**0.99**	**290**	P	**Pb**	**02 19 14.4**	**-0.9**
PYL				S	**Sb**	**02 19 29.7**	**+1.8**
ITM	**Ithomi**	**0.99**	**308**	ePn	**Pn**	**02 19 14.5**	**-1.1**
ITM				eSn	**Sn**	**02 19 28.5**	**-0.5**
ITM	**Ithomi**	**0.99**	**308**	ePN	**Pn**	**02 19 14.5**	**-1.1**
ITM				eSN	**Sn**	**02 19 28.5**	**-0.5**
NAIG	**Nisos Aigina**	**1.28**	**21**	ePn	**Pn**	**02 19 19.0**	**-0.6**
NAIG	**Nisos Aigina**	**1.28**	**21**	ePN	**Pn**	**02 19 19.0**	**-0.6**
KVR	**Kavouri**	**1.44**	**29**	ePn	**Pn**	**02 19 21.5**	**-0.2**
KVR	**Kavouri**	**1.44**	**29**	ePN	**Pn**	**02 19 21.5**	**-0.2**
LTK	**Loutraki**	**1.46**	**2**	P	**Pn**	**02 19 22.3**	**+0.3**
LTK				S	**Sn**	**02 19 42.0**	**+1.5**
ATH	**Athens Observa**	**1.55**	**25**	ePb	**Pb**	**02 19 22.0**	**-2.9**
ATH	**Athens Observa**	**1.55**	**25**	ePB	**Pb**	**02 19 22.0**	**-2.9**
VAM	**Vamos**	**1.56**	**137**	ePn	**Pn**	**02 19 24.6**	**+1.2**
VAM				eSn	**Sn**	**02 19 43.8**	**+0.7**
VAM	**Vamos**	**1.56**	**137**	ePN	**Pn**	**02 19 24.6**	**+1.2**
VAM				eSN	**Sn**	**02 19 43.8**	**+0.7**
RLS	**Riolos of Patr**	**1.88**	**323**	ePb	**Pb**	**02 19 27.9**	**-2.6**
RLS				eSn	**Sn**	**02 19 50.1**	**-0.8**
RLS	**Riolos of Patr**	**1.88**	**323**	ePB	**Pb**	**02 19 27.9**	**-2.6**
RLS				eSN	**Sn**	**02 19 50.1**	**-0.8**
THR5	**Thira Island,**	**1.98**	**94**	P	**Pn**	**02 19 28.9**	**-0.2**
THR4	**Thira Island,**	**2.01**	**92**	P	**Pn**	**02 19 29.8**	**+0.2**
THR3	**Thira Island,**	**2.02**	**94**	P	**Pn**	**02 19 30.0**	**+0.3**
THR6	**Thira Island,**	**2.02**	**95**	P	**Pn**	**02 19 29.7**	**-0.1**
IDI	**Anoyia**	**2.06**	**128**	P	**Pn**	**02 19 29.9**	**-0.3**
SANT	**Santorini**	**2.07**	**95**	P	**Pn**	**02 19 30.2**	**-0.2**
SANT	**Santorini**	**2.07**	**95**	P	**Pn**	**02 19 30.6**	**+0.2**
THR1	**Thera Island**	**2.07**	**95**	P	**Pn**	**02 19 30.1**	**-0.3**
LKR	**Lokris**	**2.08**	**2**	P	**Pn**	**02 19 30.6**	**0.0**
LKR	**Lokris**	**2.08**	**2**	ePb	**Pb**	**02 19 30.7**	**-3.3**
LKR	**Lokris**	**2.08**	**2**	ePB	**Pb**	**02 19 30.7**	**-3.3**
APE	**Apeiranthos**	**2.17**	**76**	P	**Pn**	**02 19 31.2**	**-0.6**
APE	**Apeiranthos**	**2.17**	**76**	ePn	**Pn**	**02 19 31.4**	**-0.4**
APE	**Apeiranthos**	**2.17**	**76**	ePN	**Pn**	**02 19 31.4**	**-0.4**
SIVA	**Sivas**	**2.19**	**134**	P	**Pn**	**02 19 33.0**	**+0.9**
VLS	**Valsamata**	**2.45**	**312**	ePn	**Pn**	**02 19 35.4**	**-0.2**
VLS	**Valsamata**	**2.45**	**312**	ePN	**Pn**	**02 19 35.4**	**-0.2**
AGG	**Agios Georgios**	**2.50**	**350**	P	**Pn**	**02 19 37.2**	**+0.9**
EVR	**Evrytania**	**2.50**	**340**	ePn	**Pn**	**02 19 36.6**	**+0.2**
EVR	**Evrytania**	**2.50**	**340**	ePN	**Pn**	**02 19 36.6**	**+0.2**
LAST	**Lasithi**	**2.52**	**123**	P	**Pn**	**02 19 36.9**	**+0.3**
NPS	**Neapolis**	**2.56**	**120**	ePn	**Pn**	**02 19 36.8**	**-0.3**
NPS				eSn	**Sn**	**02 20 06.7**	**-0.9**
NPS	**Neapolis**	**2.56**	**120**	ePN	**Pn**	**02 19 36.8**	**-0.3**
NPS				eSN	**Sn**	**02 20 06.7**	**-0.9**
NEO	**Neokhori**	**2.75**	**5**	ePn	**Pn**	**02 19 39.6**	**-0.2**
NEO	**Neokhori**	**2.75**	**5**	ePN	**Pn**	**02 19 39.6**	**-0.2**
XOR	**Xorichti**	**2.81**	**5**	P	**Pn**	**02 19 41.5**	**+1.0**
ZKR	**Zakros**	**3.06**	**117**	P	**Pn**	**02 19 44.7**	**+0.7**
THL	**Klokotos Trika**	**3.08**	**347**	ePn	**Pn**	**02 19 43.5**	**-0.8**
THL	**Klokotos Trika**	**3.08**	**347**	P	**Pn**	**02 19 45.6**	**+1.4**
THL	**Klokotos Trika**	**3.08**	**347**	ePN	**Pn**	**02 19 43.5**	**-0.8**
CHOS	**Chios island**	**3.10**	**53**	P	**Pn**	**02 19 44.1**	**-0.5**
KARP	**Karpathos**	**3.60**	**105**	ePn	**Pn**	**02 19 52.0**	**+0.6**
KARP	**Karpathos**	**3.60**	**105**	ePN	**Pn**	**02 19 52.0**	**+0.6**
PRK	**Paraskevi**	**3.78**	**44**	P	**Pn**	**02 19 53.9**	**0.0**
ARG	**Arkhangelos**	**4.23**	**93**	ePn	**Pn**	**02 20 00.9**	**+0.8**
ARG	**Arkhangelos**	**4.23**	**93**	ePN	**Pn**	**02 20 00.9**	**+0.8**
SLUM		**5.41**	**159**	⇑P	**Pn**	**02 20 17.2**	**+0.9**
TIP	**Timpagrande**	**5.52**	**300**	P	**Pn**	**02 20 19.9**	**+2.1**
HMAT	**Matruh**	**6.48**	**146**	⇓P	**Pn**	**02 20 29.4**	**-1.6**
AMAG	**Maghara**	**10.42**	**122**	P	**Pn**	**02 21 18.3**	**-6.9**
HFRF	**Wahat Farafira**	**10.45**	**152**	P	**Pn**	**02 21 25.4**	**-0.1**
AKRG	**Al Kharijah**	**12.80**	**147**	P	**Pn**	**02 21 56.5**	**-1.2**

IDC 09 02:20:27.2±5.0**, 1241S×11505E, h0**km**, mb3.3**/2**, mb1 3.5**/3**, mb1mx3.4**/15**, mbtmp3.3**/3**, ML2.9**/1**, MS3.1**/1**, Ms1 3.1**/1**, ms1mx2.3**/14**, Error ellipse: s-maj=180.2km s-min=30.5km az=51.0, Northwest of Australia**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**19.97**	**115**	P	Pn	02 25 01.3	-1.5
	0.0nm,0.3s,baz=288,slow=11,SNR=3.4						
WRA				LR	LR	02 31 29.7	
	comp=Z,49nm,19.5s,baz=0.0,slow=33						
ASAR	**Alice Springs**	**21.10**	**125**	P	P	02 25 13.5	0.0
	0.6nm,0.9s,baz=301,slow=9.6,SNR=4.6						
SONM	**Songino Array**	**60.47**	**353**	P	P	02 30 38.8	+0.2
	0.5nm,0.4s,baz=168,slow=8.2,SNR=4.7						

*NIED **09** 02:30:00, 4330N×14670E, h44km, Mw4.2 Best double couple: M0 2.39000×10^15 NP1: φs 235.00000°, δ87.00000°, λ124.00000°. NP2: φs 330.00000°, δ34.00000°, λ5.00000°.*
*ISCJB **09** 02:30:46.2±0.8, 4346N±005×14679E±007, h45km±6km, mb4.3/26, MS3.8/3, Error ellipse: s-maj=10.1km s-min=6.1km az=44.4*
*MOS **09** 02:30:46.0±1.1, 4353N×14692E, h47km, mb4.7/10, Error ellipse: s-maj=14.6km s-min=9.0km az=119.3*
*JMA **09** 02:30:47.5±0.3, 4335N×14670E, h44km±3km, M4.1*
JMA Felt II J1.
*SKHL **09** 02:30:47.7±0.2, 4370N×14670E, h53km±15km, mb5.0/2*
*IDC **09** 02:30:47.3±0.6, 4346N×14663E, h38km±5km, mb3.9/13, mb1 4.1/15, mb1mx4.0/22, mbtmp3.9/15, ML3.6/2, MS3.3/4, Ms1 3.3/4, ms1mx2.7/34, Error ellipse: s-maj=17.9km s-min=15.2km az=115.0*
*NEIC **09** 02:30:47.0±0.5, 4351N×14670E, mb4.5/9, Error ellipse: s-maj=12.3km s-min=7.4km az=141.0*
NEIC Recorded [2 JMA] in eastern Hokkaido.

ISC 09 02:30:47.8±0.9**, 4339N**±004×**14671E**±008**, h46**km±6km**, h39**km±1.2km**: pP-P, n84, σ0^{s}96**/89**, mb4.3**/26**, MS3.8**/3**, 3C-1D, Kuril Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
NEM2	**Nemuro 2**	**0.71**	**268**	P	**Pn**	**02 31 01.0**	**-0.4**
NEM2				eS	**Sn**	**02 31 10.9**	**-0.4**
YUK	**Yuzh-Kuril'sk**	**0.89**	**316**	ePN	**Pn**	**02 31 03.4**	**-0.5**
YUK				iS	**Sn**	**02 31 14.8**	**-0.9**
YUK				pmax	pmax		
	comp=Z,4µm,0.5s						
YUK				pmax	pmax		
	comp=N,1µm,0.4s						
YUK				pmax	pmax		
	comp=E,380nm,0.4s						
YUK				smax			
	comp=N,60µm,0.3s						
YUK				smax			
	comp=E,115µm,0.8s						
YUK	**Yuzh-Kuril'sk**	**0.89**	**316**	eP	**Pn**	**02 31 03.1**	**-0.8**
YUK				AMB	AMB	02 31 03.9	
	comp=E,1µm,0.4s						
YUK				AMB	AMB	02 31 03.9	
	comp=E,380nm,0.4s						
YUK				AMB	AMB	02 31 03.9	
	comp=E,4µm,0.5s						
YUK				iS	**Sn**	**02 31 14.8**	**-0.9**
YUK				A		02 31 15.5	
	comp=E,115µm,0.8s						
YUK				A		02 31 15.5	
	comp=E,60µm,0.3s						
JRA	**Rausu**	**1.28**	**296**	P	**Pn**	**02 31 09.3**	**+0.2**
JNK	**Nakash**	**1.46**	**278**	P	**Pn**	**02 31 11.6**	**-0.1**
JNK				eS	**Sn**	**02 31 29.5**	**-0.1**
JAK	**Akkeshi**	**1.53**	**256**	P	**Pn**	**02 31 12.3**	**-0.2**
JAK				eS	**Sn**	**02 31 30.6**	**-0.6**
KUR	**Kuril'sk**	**2.02**	**24**	⇑iPN	**Pn**	**02 31 14.5**	**-4.8**
KUR				S	**Sn**	**02 31 38.5**	**-4.8**
KUR				pmax	pmax		
	comp=N,150nm,0.6s						
KUR				pmax	pmax		
	comp=E,150nm,0.6s						
KUR				pmax	pmax		
	comp=Z,300nm,0.6s						
KUR				smax			
	comp=N,2µm,0.4s						
KUR				smax			
	comp=E,1µm,0.4s						
KUR	**Kuril'sk**	**2.02**	**24**	eP	**Pn**	**02 31 14.5**	**-4.8**
KUR				AMB	AMB	02 31 18.2	
	comp=E,152nm,0.6s						
KUR				AMB	AMB	02 31 18.2	
	comp=E,304nm,0.6s						
KUR				eS	**Sn**	**02 31 38.5**	**-4.8**
KUR				A		02 31 44.6	
	comp=E,2µm,0.4s						
KUR				A		02 31 44.6	
	comp=E,1µm,0.4s						
JTKR	**Abashiri--Toko**	**2.12**	**287**	P	**Pn**	**02 31 22.0**	**+1.4**
JAR	**Ashorobuto**	**2.15**	**268**	P	**Pn**	**02 31 21.7**	**+0.6**
JOB	**Onbets**	**2.16**	**258**	P	**Pn**	**02 31 21.7**	**+0.5**
JMP	**Maruseppu**	**2.51**	**285**	P	**Pn**	**02 31 27.5**	**+1.5**
JCH	**Churui**	**2.58**	**254**	P	**Pn**	**02 31 27.7**	**+0.8**
JCH				eS	**Sn**	**02 31 56.6**	**-0.4**
ERM	**Erimo**	**2.96**	**244**	eP	**Pn**	**02 31 34.6**	**+2.4**
ERM	**Erimo**	**2.96**	**244**	ePn	**Pn**	**02 31 33.9**	**+1.7**
ASAJ	**Asahikawa**	**3.07**	**285**	Pn	**Pn**	**02 31 36.0**	**+2.3**
	comp=E,16nm,0.3s,baz=105,slow=11,SNR=19						
ASAJ				LR	LR	02 32 53.5	
	comp=E,345nm,21.6s,baz=282,slow=42						
YSS	**Yuzh-Sakhalins**	**4.53**	**323**	⇑ePN	**Pn**	**02 31 54.2**	**+0.5**
YSS				eS	**Sn**	**02 32 45.1**	**+0.1**
YSS				smax			
	comp=N,70nm,0.5s						
YSS				smax			
	comp=E,70nm,0.5s						
YSS	**Yuzh-Sakhalins**	**4.53**	**323**	⇑eP	**Pn**	**02 31 54.2**	**+0.5**
YSS				eS	**Sn**	**02 32 45.1**	**+0.1**
YSS				A		02 32 46.1	
	comp=E,70nm,0.5s						
MAT	**Matsushiro**	**9.45**	**226**	P	**Pn**	**02 33 00.0**	**-1.2**
MAT				S	**Sn**	**02 34 44.1**	**-2.0**
MJAR	**Matsushiro Arr**	**9.45**	**226**	Pn	**Pn**	**02 33 00.9**	**-0.3**
	comp=E,1.3nm,0.3s,baz=28,slow=14,SNR=6.1						
MJAR				LR	LR	02 37 28.4	
	comp=E,79nm,19.2s,baz=85,slow=42						
MJAR	**Matsushiro Arr**	**9.45**	**226**	ePN	**Pn**	**02 33 00.5**	**-0.7**
JHJ	**Hachijo jima 2**	**11.61**	**210**	LR	LR	02 38 43.9	
	comp=E,182nm,18.3s,baz=60,slow=41						
PETK	**Petropavlovsk-**	**12.16**	**33**	Pn	**Pn**	**02 33 36.5**	**-1.5**
	comp=E,0.1nm,0.3s,baz=201,slow=11,SNR=3.3						
HIA	**Hailar**	**19.47**	**297**	eP	**Pn**	**02 35 10.8**	**-1.2**
ULN	**Ulaanbaatar**	**27.87**	**293**	eP	**P**	**02 36 34.4**	**+1.5**
ULN				pmax	pmax		
	comp=Z,8.0nm,0.9s,mb4.3						
ULN	**Ulaanbaatar**	**27.87**	**293**	eP	**P**	**02 36 34.4**	**+1.5**
	comp=Z,7.5nm,0.9s,mb4.3						
SONM	**Songino Array**	**28.32**	**293**	P	**P**	**02 36 37.6**	**+0.7**
	comp=Z,6.2nm,0.8s,mb4.3,baz=82,slow=8.8,SNR=28						
SONM				LR	LR	02 49 04.4	
	comp=Z,104nm,18.7s,MS3.5,baz=146,slow=39						
SONM	**Songino Array**	**28.32**	**293**	eP	**P**	**02 36 40.5**	**+3.6**
SONM				pmax	pmax		
	comp=Z,6.0nm,0.8s						
IMA2	**Indian Mountai**	**39.15**	**34**	eP	**P**	**02 38 11.1**	**+0.6**
IMA2				epP	pP	02 38 21.2	-1.7
KDAK	**Kodiak Island**	**39.73**	**47**	pP	pP	02 38 25.4	-2.3
	comp=Z,13nm,0.7s,baz=268,slow=6.3,SNR=4.3						
COLD	**Coldfoot**	**40.63**	**32**	eP	**P**	**02 38 22.4**	**-0.3**
	comp=Z,6.3nm,1.4s,mb4.0						
ZALV	**Zalesovo Beam**	**40.96**	**307**	P	**P**	**02 38 25.4**	**-0.2**
	comp=Z,0.7nm,0.3s,mb3.7,baz=87,slow=6.8,SNR=4.3						
ZALV				pPcP		02 40 37.8	
	comp=Z,3.2nm,0.7s,baz=80,slow=2.7,SNR=10						
ZALV	**Zalesovo Beam**	**40.96**	**307**	P	**P**	**02 38 25.4**	**-0.2**
ZALV						02 40 37.8	
ZALV				pmax	pmax		
	comp=Z,1.0nm,0.3s,mb3.9						
ZALV				pmax	pmax		
	comp=Z,3.0nm,0.7s,mb4.0						
COLA	**College**	**41.55**	**36**	eP	**P**	**02 38 29.6**	**-0.7**
MK31	**Makanchi Array**	**44.47**	**298**	iP	**P**	**02 38 54.2**	**+0.1**
MK31				pmax	pmax		
	comp=Z,1.0nm,0.3s,mb4.0						
MK31	**Makanchi Array**	**44.47**	**298**	eP	**P**	**02 38 54.2**	**0.0**
MKAR	**Makanchi Array**	**44.47**	**298**	P	**P**	**02 38 54.3**	**+0.1**
	comp=Z,5.4nm,0.8s,mb4.3,baz=79,slow=8.8,SNR=17						
MKAR	**Makanchi Array**	**44.47**	**298**	iP	**P**	**02 38 54.2**	**+0.1**
MKAR				pmax	pmax		
	comp=Z,5.0nm,0.9s						
KURK	**Kurchatov**	**45.47**	**304**	P	**P**	**02 39 02.2**	**+0.2**
	comp=Z,1.3nm,0.4s,mb4.1,baz=68,slow=8.9,SNR=5.6						
TKM2	**Tokmak 2**	**50.37**	**296**	eP	**P**	**02 39 41.1**	**+1.0**
TKM2				pmax	pmax		
	comp=Z,7.0nm,0.4s,mb5.0						
TKM2	**Tokmak 2**	**50.37**	**296**	eP	**P**	**02 39 41.1**	**+1.1**
	comp=Z,6.6nm,0.4s,mb5.0						
UCH	**Uchtor**	**51.40**	**295**	eP	**P**	**02 39 45.9**	**-1.9**
	comp=Z,2.6nm,0.4s,mb4.5						
EKS2	**Erkin-Say**	**51.69**	**296**	eP	**P**	**02 39 50.6**	**+0.7**
	comp=Z,6.6nm,0.7s,mb4.7						
AML	**Almayashu**	**51.98**	**295**	eP	**P**	**02 39 53.4**	**+1.3**
	comp=Z,250nm,1.2s						
AB31	**Akbulak array**	**57.04**	**309**	eP	**P**	**02 40 28.5**	**-0.2**
AB31				pmax	pmax		
	comp=Z,3.0nm,0.4s,mb4.7						
ARCES	**ARCESS Array B**	**59.47**	**340**	P	**P**	**02 40 44.2**	**-1.2**
	comp=Z,3.4nm,0.7s,mb4.5,baz=42,slow=8.5,SNR=4.2						
ARCES	**ARCESS Array B**	**59.47**	**340**	P	**P**	**02 40 44.2**	**-1.2**
WRA	**Warramunga Arr**	**64.04**	**193**	P	**P**	**02 41 16.9**	**+0.3**
	comp=Z,1.8nm,0.7s,mb4.2,baz=11,slow=7.1,SNR=11						
WRA	**Warramunga Arr**	**64.04**	**193**	eP	**P**	**02 41 16.8**	**+0.2**
WRA				pmax	pmax		
	comp=Z,2.0nm,0.7s						
OBN	**Obninsk**	**65.42**	**324**	⇓eP	**P**	**02 41 29.3**	**+4.0**
OBN				eS	S	02 50 11.3	+5.3
OBN				pmax	pmax		
	comp=Z,9.0nm,1.3s,mb4.6						
OBN				MLR	MLR		
	comp=Z,100nm,16.0s,MS4.1						
ASAR	**Alice Springs**	**67.76**	**193**	P	**P**	**02 41 41.6**	**+1.2**
	comp=Z,2.2nm,0.7s,mb4.3,baz=9.9,slow=5.9,SNR=32						
ASAR				pP	pP	02 41 52.2	-1.4
	comp=Z,0.8nm,0.7s,baz=9.3,slow=5.5,SNR=5.1						
NVAR	**Mina Array Bea**	**68.04**	**58**	P	**P**	**02 41 43.5**	**+1.2**
	comp=Z,0.2nm,0.4s,mb3.5,baz=289,slow=6.3,SNR=2.9						
NVAR				pP	pP	02 41 54.5	-1.0
	comp=Z,2.2nm,0.6s,baz=292,slow=7.0,SNR=15						
KIV	**Kislovodsk**	**69.77**	**312**	eP	**P**	**02 41 54.4**	**+1.5**
KIV				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.5						
KIV				MLR	MLR		
	comp=Z,41nm,18.0s,MS3.7						
NB2	**NORSAR Subarra**	**69.82**	**339**	P	**P**	**02 41 52.5**	**-0.4**
	comp=Z,6.4nm,1.1s,mb4.5,baz=32,slow=6.5						
NOA	**NORSAR Array B**	**69.82**	**339**	P	**P**	**02 41 52.4**	**-0.6**
	comp=Z,1.3nm,0.6s,mb4.0,baz=32,slow=6.1,SNR=8.7						

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
NOA	**NORSAR Array B**	**69.82**	**339**	eP	**P**	**02 41 52.3**	**-0.6**
NOA				pmax	pmax		
	comp=Z,1.0nm,0.6s						
NOA	**NORSAR Array B**	**69.82**	**339**	P	**P**	**02 41 52.4**	**-0.5**
PDAR	**Pinedale Array**	**70.39**	**49**	P	**P**	**02 41 58.2**	**+1.5**
	comp=Z,0.3nm,0.5s,mb3.5,baz=319,slow=4.3,SNR=3.7						
PDAR				pP	pP	02 42 08.9	-1.0
	comp=Z,2.0nm,0.6s,baz=253,slow=1.5,SNR=14						
COCO	**West Island**	**71.60**	**232**	eP	**P**	**02 42 01.4**	**-2.9**
	comp=Z,21nm,0.5s,mb5.3						
AKASG	**Malin Array Be**	**71.68**	**324**	P	**P**	**02 42 03.7**	**-0.7**
	comp=Z,0.5nm,0.3s,mb3.9,baz=42,slow=6.2,SNR=3.9						
AKASG	**Malin Array Be**	**71.68**	**324**	eP	**P**	**02 42 09.2**	**+4.8**
AKASG				pmax	pmax		
	comp=Z,2.0nm,0.6s						
BUR08	**Bucovina Ar. S**	**75.72**	**323**	eP	**P**	**02 42 28.6**	**+0.5**
CLL	**Collm**	**77.49**	**332**	i P	**P**	**02 42 38.1**	**0.0**
CLL				epP	pP	02 42 50.0	-1.5
GERES	**GERESS Array B**	**79.32**	**331**	P	**P**	**02 42 48.5**	**+0.3**
	comp=Z,0.5nm,0.7s,mb3.6,baz=138,slow=42,SNR=3.6						
CDF	**Champ du Feu**	**81.87**	**334**	eP	**P**	**02 43 01.6**	**-0.3**
TXAR	**Lajitas Array**	**83.11**	**56**	P	**P**	**02 43 09.3**	**+0.6**
	comp=Z,0.5nm,0.7s,mb3.7,baz=302,slow=3.7,SNR=8.6						
TXAR				pP	pP	02 43 21.8	-0.5
	comp=Z,1.4nm,0.7s,baz=274,slow=3.1,SNR=11						
PMOR	**Pomariorio Ree**	**83.27**	**118**	eT		04 14 58.4	
	comp=Z,23nm,0.2s						
CABF	**La Chapelle**	**83.84**	**334**	eP	**P**	**02 43 11.5**	**-0.6**
LDF	**La Druitiere**	**83.87**	**339**	eP	**P**	**02 43 11.5**	**-0.7**
LOR	**Lormes**	**83.94**	**336**	eP	**P**	**02 43 12.2**	**-0.4**
	comp=Z,5.4nm,0.8s,mb4.4						
LOR	**Lormes**	**83.94**	**336**	eP	**P**	**02 43 12.2**	**-0.4**
LOR				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.5						
LOR	**Lormes**	**83.94**	**336**	eP	**P**	**02 43 12.2**	**-0.4**
	comp=Z,2.7nm,0.8s,mb4.4						
PPT	**Papeete**	**84.11**	**121**	eLR	LR	03 10 12.8	
	comp=Z,50nm,24.2s						
SSF	**Saint Saulge**	**84.23**	**336**	eP	**P**	**02 43 13.5**	**-0.6**
SMF	**Signal de Mont**	**84.51**	**335**	eP	**P**	**02 43 14.9**	**-0.6**
	comp=Z,6.0nm,0.7s,mb4.5						
SMF	**Signal de Mont**	**84.51**	**335**	eP	**P**	**02 43 14.9**	**-0.6**
SMF				pmax	pmax		
	comp=Z,3.0nm,0.7s,mb4.5						
SMF	**Signal de Mont**	**84.51**	**335**	eP	**P**	**02 43 14.9**	**-0.6**
	comp=Z,3.0nm,0.7s,mb4.5						
AVF	**Avril sur Loir**	**84.53**	**336**	eP	**P**	**02 43 14.9**	**-0.7**
LPL	**La Plagne**	**84.59**	**333**	eP	**P**	**02 43 14.9**	**-1.1**
LPG	**La Plagne**	**84.60**	**333**	eP	**P**	**02 43 15.6**	**-0.4**
	comp=Z,6.1nm,0.9s,mb4.4						
LPG	**La Plagne**	**84.60**	**333**	eP	**P**	**02 43 15.6**	**-0.4**
LPG				pmax	pmax		
	comp=Z,3.0nm,0.9s,mb4.4						
LPG	**La Plagne**	**84.60**	**333**	eP	**P**	**02 43 15.6**	**-0.4**
	comp=Z,3.0nm,0.9s,mb4.4						
TBI	**Tubuai**	**88.52**	**124**	eT		04 21 30.3	
	comp=Z,4.2nm,0.3s						
SNAA	**Sanae**	**148.02**	**198**	ePKPdf	PKPdf	02 50 22.8	-0.7
SNAA				e		02 50 27.4	

*SZGRF **09** 02:35:34.8, 8.77N×93.78E, h33^{km}, mb4.6, Nicobar Islands, India, region*
*IDC **09** 02:35:36.1±0.5, 9.65N×93.09E, h0^{km}, mb4.3/17, mb1 4.4/17, mb1mx4.3/23, mbtmp4.3/17, Error ellipse: s-maj=21.1km s-min=14.7km az=63.0*
*ISCJB **09** 02:35:38.5±0.4, 9.41N±0.06×92.92E±0.07, h33^{km}, mb4.4/59, Error ellipse: s-maj=10.1km s-min=8.0km az=156.2*
*NEIC **09** 02:35:40.3±0.3, 9.65N×93.05E, h30^{km}, mb4.5/25, Error ellipse: s-maj=9.4km s-min=7.0km az=65.0*
*BJI **09** 02:35:40.8, 9.60N×93.00E, h30^{km}, mb4.5*
ISC 09 02:35:41.4±1.3**, 9.41N**±0.07×**92.89E**±0.07**, h42**^{km}±9^{km}**, n134, σ0^{s}70**/129**, mb4.4**/59**, 11C-9D, Nicobar Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBA	**Port Blair**	**2.24**	**356**	eP	x	02 36 46.2	
PBA				eS	x	02 37 15.7	
CMAR	**Chiang Mai Arr**	**10.74**	**33**	Pn	**Pn**	**02 38 13.3**	**+0.5**
	4.3nm,0.3s,baz=223,slow=15,SNR=46						
CHTO	**Chiang Mai**	**11.04**	**31**	ePn	**Pn**	**02 38 11.5**	**-5.3**
	15nm,0.9s						
VIS	**Vishakhapatnam**	**12.43**	**313**	eP	**Pn**	**02 38 34.8**	**-1.0**
VIS				eS	**Sn**	**02 40 40.4**	**-13**
VIS				AML	AML	02 40 45.0	
	comp=E,66nm,0.3s						
VIS				AML	AML	02 40 46.8	
	comp=N,63nm,0.3s						
MDRS	**Chennai**	**12.92**	**288**	eP	**Pn**	**02 38 41.1**	**-1.4**
MDRS				eS	**Sn**	**02 40 51.7**	**-13**
TRD	**Trivandrum**	**15.76**	**268**	eP	**Pn**	**02 39 20.4**	**-0.1**
TRD				ex	x	02 40 42.5	
BOK	**Bokaro**	**15.79**	**336**	eP	**Pn**	**02 39 19.9**	**-0.9**
BOK				ex	x	02 42 00.5	
BOK				AML	AML	02 42 15.4	
	comp=N,14nm,0.5s						
BOK				AML	AML	02 42 19.5	
	comp=E,13nm,0.5s						
ODAN	**Odare**	**18.12**	**344**	eP	**Pn**	**02 39 49.2**	**-0.7**
RAMN	**Ramite**	**18.43**	**342**	eP	**Pn**	**02 39 54.8**	**+1.1**
	comp=E,54nm,0.4s						
TAPN	**Taplejung**	**18.50**	**345**	eP	**Pn**	**02 39 54.6**	**0.0**
	comp=E,20nm,0.3s						
JIRN	**Jiri**	**19.22**	**342**	eP	**Pn**	**02 40 04.0**	**+0.7**
	comp=E,27nm,0.4s						
PKI	**Pulchoki**	**19.39**	**340**	eP	**Pn**	**02 40 06.3**	**+1.0**
PKIN	**Phulchoki**	**19.40**	**340**	eP	**Pn**	**02 40 07.5**	**+2.1**
	comp=E,32nm,0.3s						
DMN	**Daman**	**19.53**	**339**	eP	**Pn**	**02 40 08.4**	**+1.4**
KKN	**Kakani**	**19.64**	**340**	eP	**Pn**	**02 40 09.4**	**+1.2**
GKN	**Gorkha**	**20.06**	**338**	eP	**P**	**02 40 15.2**	**+4.0**
	comp=E,37nm,0.3s						
LSA	**Lhasa**	**20.25**	**356**	eP	**P**	**02 40 12.4**	**-0.8**
	comp=E,16nm,0.4s						
KOLN	**Koldanda**	**20.25**	**336**	eP	**P**	**02 40 18.5**	**+5.2**
GTA	**Gaotai**	**30.51**	**11**	eP	**P**	**02 41 50.1**	**-0.4**
GTA				AMB	AMB		
	comp=Z,4.0nm,0.4s,mb4.6						
TKM2	**Tokmak 2**	**36.65**	**339**	eP	**P**	**02 42 43.7**	**-0.2**
EKS2	**Erkin-Say**	**37.12**	**336**	eP	**P**	**02 42 47.3**	**-0.6**
	comp=Z,6.0nm,0.8s,mb4.5						
MK31	**Makanchi Array**	**38.33**	**348**	eP	**P**	**02 42 57.9**	**-0.2**
MKAR	**Makanchi Array**	**38.33**	**348**	P	**P**	**02 42 57.5**	**-0.6**
	comp=Z,1.9nm,0.7s,mb4.0,baz=175,slow=8.3,SNR=9.9						
SONM	**Songino Array**	**39.96**	**14**	P	**P**	**02 43 11.4**	**-0.3**
	comp=Z,0.9nm,0.4s,mb3.8,baz=195,slow=8.6,SNR=6.9						
SONM				PcP	PcP	02 45 17.1	+0.7
	comp=Z,0.4nm,0.3s,baz=210,slow=3.4,SNR=3.5						
KURK	**Kurchatov**	**42.83**	**347**	P	**P**	**02 43 34.7**	**-0.4**
	comp=Z,1.1nm,0.4s,mb4.0,baz=167,slow=7.5,SNR=5.2						
ZALV	**Zalesovo Beam**	**44.89**	**353**	P	**P**	**02 43 51.0**	**-0.6**
	comp=Z,1.3nm,0.4s,mb4.1,baz=171,slow=6.9,SNR=6.6						
ZALV	**Zalesovo Beam**	**44.89**	**353**	P	**P**	**02 43 51.0**	**-0.6**
WRA	**Warramunga Arr**	**50.16**	**126**	P	**P**	**02 44 33.0**	**0.0**
	comp=Z,5.8nm,0.6s,mb4.8,baz=303,slow=9.0,SNR=28						
WB2	**Warramunga Arr**	**50.17**	**126**	eP	**P**	**02 44 32.8**	**-0.3**
ASAR	**Alice Springs**	**51.85**	**130**	P	**P**	**02 44 45.2**	**-0.5**
	comp=Z,2.4nm,0.5s,mb4.4,baz=308,slow=7.1,SNR=36						
ASAR				PcP	PcP	02 46 00.1	+1.9
	comp=Z,1.1nm,0.6s,baz=308,slow=3.9,SNR=7.1						
KIV	**Kislovodsk**	**55.35**	**318**	⇓iP	**P**	**02 45 11.9**	**+0.8**
BR131	**Keskin Array S**	**60.49**	**310**	eP	**P**	**02 45 46.9**	**-0.4**
	comp=Z,0.9nm,0.6s,mb4.0						
STKA	**Stephens Creek**	**62.06**	**134**	P	**P**	**02 45 58.4**	**+0.5**
	comp=Z,0.9nm,0.3s,mb4.3,baz=279,slow=10,SNR=3.7						
STKA	**Stephens Creek**	**62.06**	**134**	P	**P**	**02 45 58.4**	**+0.5**
TIRR	**Tirgusor**	**65.30**	**315**	⇑iP	**P**	**02 46 18.9**	**-0.2**
TIRR	**Tirgusor**	**65.30**	**315**	⇑P	**P**	**02 46 18.9**	**-0.2**
AKASG	**Malin Array Be**	**66.19**	**321**	P	**P**	**02 46 23.6**	**-1.2**
	comp=Z,1.7nm,0.5s,mb4.3,baz=89,slow=5.2,SNR=6.9						
VRI	**Vrincioaia**	**66.74**	**316**	⇑iP	**P**	**02 46 29.4**	**+1.0**
PLOR	**Plostina**	**66.79**	**316**	⇓iP	**P**	**02 46 29.6**	**+0.9**
MLR	**Muntele Rosu**	**67.21**	**315**	⇑iP	**P**	**02 46 32.3**	**+0.9**
BURAR	**Bucovina Array**	**68.08**	**318**	⇓iP	**P**	**02 46 37.2**	**+0.4**
LSZ	**Lusaka**	**68.62**	**250**	P	**P**	**02 46 42.9**	**+2.1**
	comp=Z,1.3nm,0.4s,mb4.2,baz=76,slow=6.8,SNR=5.8						
VTS	**Vitosha**	**68.74**	**312**	⇑iP	**P**	**02 46 40.9**	**-0.1**
VTS	**Vitosha**	**68.74**	**312**	⇑P	**P**	**02 46 40.9**	**-0.1**
DRGR		**69.64**	**316**	⇑iP	**P**	**02 46 46.8**	**+0.3**
KWP	**Kalwaria**	**70.06**	**319**	⇑iP	**P**	**02 46 49.2**	**+0.1**
CRVS	**Cervenica-Dubn**	**70.76**	**319**	eP	**P**	**02 46 53.7**	**+0.4**
STHS	**Stebnicka Huta**	**70.97**	**319**	eP	**P**	**02 46 52.5**	**-2.1**
PKSM	**Moragy**	**72.36**	**315**	⇑iP	**P**	**02 47 02.8**	**-0.3**
PKSM	**Moragy**	**72.36**	**315**	⇑P	**P**	**02 47 02.8**	**-0.3**
VYHS	**Vyhne**	**72.44**	**318**	eP	**P**	**02 47 02.7**	**-0.8**
ARCES	**ARCESS Array B**	**73.41**	**340**	P	**P**	**02 47 08.2**	**-0.6**
	comp=Z,1.2nm,0.5s,mb4.1,baz=101,slow=6.8,SNR=7.9						
MORC	**Moravsky Berou**	**73.41**	**319**	⇓iP	**P**	**02 47 09.4**	**+0.2**
MORC	**Moravsky Berou**	**73.41**	**319**	⇓P	**P**	**02 47 09.4**	**+0.3**
MODS	**Modra-Piesok**	**73.47**	**318**	eP	**P**	**02 47 09.1**	**-0.4**
ZST	**Bratislava**	**73.57**	**317**	eP	**P**	**02 47 09.9**	**-0.2**
LBTB	**Lobatse**	**73.90**	**241**	P	**P**	**02 47 16.6**	**+4.2**
	comp=Z,4.2nm,0.7s,mb4.5,baz=97,slow=6.5,SNR=8.7						
BOSA	**Boshof**	**75.36**	**237**	P	**P**	**02 47 24.4**	**+3.6**
	comp=Z,3.2nm,0.8s,mb4.3,baz=61,slow=7.1,SNR=5.5						
BRG	**Berggiesshubel**	**75.78**	**320**	eP	**P**	**02 47 23.2**	**+0.3**
	comp=Z,4.0nm,0.8s,mb4.4						
BRG	**Berggiesshubel**	**75.78**	**320**	eP	**P**	**02 47 23.5**	**+0.6**
	comp=Z,3.5nm,0.8s,mb4.3						
GEC2	**GERESS Array S**	**75.86**	**318**	eP	**P**	**02 47 23.7**	**+0.3**
	comp=Z,6.0nm,0.6s,mb4.7						
GERES	**GERESS Array B**	**75.86**	**318**	P	**P**	**02 47 23.8**	**+0.4**
	comp=Z,3.9nm,0.6s,mb4.5,baz=87,slow=5.6,SNR=40						
CLL	**Collm**	**76.39**	**321**	eP	**P**	**02 47 26.1**	**-0.3**
	comp=Z,3.0nm,0.9s,mb4.2						
WET	**Wettzell**	**76.41**	**318**	eP	**P**	**02 47 26.8**	**+0.3**
	comp=Z,6.0nm,0.9s,mb4.5						
RJOB	**Jochberg**	**76.44**	**317**	eP	**P**	**02 47 26.9**	**+0.2**
	comp=Z,4.0nm,0.8s,mb4.4						
ROTZ	**Rotzenmuhle**	**76.86**	**319**	eP	**P**	**02 47 29.8**	**+0.8**
	comp=Z,5.0nm,0.9s,mb4.4						
MANZ	**Manzenberg**	**76.93**	**319**	eP	**P**	**02 47 30.2**	**+0.8**
	comp=Z,3.0nm,0.7s,mb4.3						
WTTA	**Wattenberg**	**77.22**	**316**	⇓iP	**P**	**02 47 30.9**	**-0.3**
	comp=Z,5.6nm,0.5s,mb4.8						
GRA1	**Grafenberg Arr**	**77.50**	**319**	eP	**P**	**02 47 33.4**	**+0.8**
	comp=Z,4.0nm,1.0s,mb4.3						
GRF	**Grafenberg Arr**	**77.50**	**319**	eP	**P**	**02 47 33.4**	**+0.8**
	comp=Z,4.0nm,1.0s,mb4.3						
MOTA	**Moosalm**	**77.58**	**316**	⇓iP	**P**	**02 47 32.7**	**-0.5**
	comp=Z,4.8nm,1.0s,mb4.4						
NB2	**NORSAR Subarra**	**77.79**	**330**	P	**P**	**02 47 32.9**	**-1.1**
	comp=Z,0.8nm,0.6s,mb3.8,baz=92,slow=5.6						
NOA	**NORSAR Array B**	**77.79**	**330**	P	**P**	**02 47 33.0**	**-1.0**
	comp=Z,1.0nm,0.7s,mb3.9,baz=92,slow=5.9,SNR=4.6						
RETA	**Reutte**	**77.81**	**317**	⇓iP	**P**	**02 47 34.2**	**-0.2**
	comp=Z,4.5nm,0.5s,mb4.7						
FETA	**Feichten**	**77.84**	**316**	⇓iP	**P**	**02 47 34.7**	**+0.1**
	comp=Z,2.5nm,0.6s,mb4.3						
CLZ	**Clausthal**	**78.04**	**321**	eP	**P**	**02 47 35.9**	**+0.3**
	comp=Z,6.0nm,0.6s,mb4.7						
BSEG	**Bad Segeberg**	**78.08**	**323**	eP	**P**	**02 47 36.1**	**+0.3**
	comp=Z,12nm,1.2s,mb4.7						
DAVA	**Damuels**	**78.42**	**316**	⇑iP	**P**	**02 47 37.9**	**+0.1**
	comp=Z,6.6nm,0.5s,mb4.8						
STU	**Stuttgart**	**78.84**	**318**	eP	**P**	**02 47 40.4**	**+0.3**
	comp=Z,16nm,0.6s,mb5.1						
PGF	**Pioggiola**	**79.22**	**312**	eP	**P**	**02 47 42.0**	**-0.3**
KEST	**Kesra**	**79.35**	**305**	P	**P**	**02 47 44.2**	**+1.1**
	comp=Z,2.2nm,0.6s,mb4.3,baz=0.8,slow=0.3,SNR=18						
BFO	**Black Forest**	**79.43**	**317**	eP	**P**	**02 47 43.0**	**-0.3**
	comp=Z,4.0nm,0.9s,mb4.3						
CDF	**Champ du Feu**	**80.13**	**318**	eP	**P**	**02 47 46.5**	**-0.6**
	comp=Z,3.7nm,0.5s,mb4.3						
CDF	**Champ du Feu**	**80.13**	**318**	eP	**P**	**02 47 46.5**	**-0.6**
	comp=Z,1.9nm,0.5s,mb4.3						
SBF	**Sospel**	**80.28**	**313**	eP	**P**	**02 47 47.8**	**-0.2**
	comp=Z,18nm,0.8s,mb4.8						
SBF	**Sospel**	**80.28**	**313**	eP	**P**	**02 47 47.8**	**-0.2**
	comp=Z,9.1nm,0.8s,mb4.8						
HINF	**Hinteralfeld**	**80.44**	**317**	eP	**P**	**02 47 47.8**	**-1.0**
	comp=Z,2.5nm,0.5s,mb4.1						
LPG	**La Plagne**	**80.66**	**315**	eP	**P**	**02 47 50.4**	**+0.4**
	comp=Z,24nm,0.7s,mb4.9						
LPG	**La Plagne**	**80.66**	**315**	eP	**P**	**02 47 50.4**	**+0.4**
	comp=Z,12nm,0.7s,mb4.9						
LPL	**La Plagne**	**80.67**	**315**	eP	**P**	**02 47 50.4**	**+0.3**
	comp=Z,25nm,0.6s,mb5.0						
LPL	**La Plagne**	**80.67**	**315**	eP	**P**	**02 47 50.4**	**+0.3**
	comp=Z,12nm,0.6s,mb5.0						
MBDF	**Montbardon**	**80.70**	**314**	eP	**P**	**02 47 49.6**	**-0.7**
	comp=Z,5.2nm,0.5s,mb4.4						
MBDF	**Montbardon**	**80.70**	**314**	eP	**P**	**02 47 49.6**	**-0.7**
	comp=Z,2.6nm,0.5s,mb4.4						
HAU	**Haudompre**	**80.77**	**317**	eP	**P**	**02 47 50.0**	**-0.6**
	comp=Z,14nm,0.9s,mb4.6						
FRF	**La Foret Royal**	**80.87**	**313**	eP	**P**	**02 47 51.2**	**0.0**
	comp=Z,3.7nm,0.4s,mb4.3						
FRF	**La Foret Royal**	**80.87**	**313**	eP	**P**	**02 47 51.2**	**0.0**
	comp=Z,1.9nm,0.4s,mb4.4						
LMR	**La Mourre**	**80.99**	**312**	eP	**P**	**02 47 51.7**	**-0.1**
CABF	**La Chapelle**	**81.04**	**316**	eP	**P**	**02 47 52.1**	**+0.1**
	comp=Z,7.3nm,0.7s,mb4.4						
ORIF	**Oris-en-Rattie**	**81.32**	**314**	eP	**P**	**02 47 53.2**	**-0.3**
	comp=Z,6.5nm,0.7s,mb4.3						
ORIF	**Oris-en-Rattie**	**81.32**	**314**	eP	**P**	**02 47 53.2**	**-0.3**
	comp=Z,3.3nm,0.7s,mb4.4						
SMRF	**Simiane la Rot**	**81.61**	**313**	eP	**P**	**02 47 55.1**	**0.0**
BAIF	**Baives**	**82.02**	**319**	eP	**P**	**02 47 57.0**	**-0.1**
	comp=Z,2.8nm,0.5s,mb4.2						
BAIF	**Baives**	**82.02**	**319**	eP	**P**	**02 47 57.0**	**-0.1**
	comp=Z,1.4nm,0.5s,mb4.2						
VIVF	**Saint-Julien-l**	**82.18**	**314**	eP	**P**	**02 47 58.0**	**-0.1**
	comp=Z,7.2nm,0.8s,mb4.4						
VIVF	**Saint-Julien-l**	**82.18**	**314**	eP	**P**	**02 47 58.0**	**-0.1**
	comp=Z,3.6nm,0.8s,mb4.3						
LOR	**Lormes**	**82.51**	**317**	eP	**P**	**02 47 59.3**	**-0.4**
	comp=Z,4.6nm,0.5s,mb4.5						
SMF	**Signal de Mont**	**82.58**	**316**	eP	**P**	**02 47 59.6**	**-0.5**
	comp=Z,11nm,0.8s,mb4.7						
SSF	**Saint Saulge**	**82.77**	**316**	eP	**P**	**02 48 00.6**	**-0.5**
	comp=Z,7.7nm,0.9s,mb4.4						
AVF	**Avril sur Loir**	**82.90**	**316**	eP	**P**	**02 48 01.3**	**-0.5**
	comp=Z,2.9nm,0.6s,mb4.2						
BGF	**Bois d'Agland**	**83.28**	**316**	eP	**P**	**02 48 03.7**	**0.0**
	comp=Z,3.7nm,0.5s,mb4.3						
TCF	**Toulx Ste Croi**	**83.74**	**316**	eP	**P**	**02 48 06.0**	**-0.1**
CAF	**Calviac**	**84.01**	**314**	eP	**P**	**02 48 07.7**	**+0.1**
MTLF	**Montolieu**	**84.11**	**313**	eP	**P**	**02 48 07.9**	**-0.2**
	comp=Z,8.9nm,0.9s,mb4.6						
MTLF	**Montolieu**	**84.11**	**313**	eP	**P**	**02 48 07.9**	**-0.2**
	comp=Z,4.4nm,0.9s,mb4.6						
RJF	**Les Rejaudoux**	**84.35**	**315**	eP	**P**	**02 48 09.4**	**+0.1**
	comp=Z,4.1nm,0.6s,mb4.5						
RJF	**Les Rejaudoux**	**84.35**	**315**	eP	**P**	**02 48 09.4**	**+0.1**
	comp=Z,2.0nm,0.6s,mb4.4						
LDF	**La Druitiere**	**85.00**	**318**	eP	**P**	**02 48 12.0**	**-0.5**
	comp=Z,5.0nm,0.6s,mb4.5						
LDF	**La Druitiere**	**85.00**	**318**	eP	**P**	**02 48 12.0**	**-0.5**
	comp=Z,2.5nm,0.6s,mb4.5						
FLN	**La Foliniere**	**85.21**	**318**	eP	**P**	**02 48 13.0**	**-0.5**
	comp=Z,5.0nm,0.5s,mb4.6						
FLN	**La Foliniere**	**85.21**	**318**	eP	**P**	**02 48 13.0**	**-0.5**
	comp=Z,2.5nm,0.5s,mb4.6						
MFF	**Saint Martin d**	**85.31**	**316**	eP	**P**	**02 48 13.6**	**-0.5**
	comp=Z,4.1nm,0.5s,mb4.5						
MFF	**Saint Martin d**	**85.31**	**316**	eP	**P**	**02 48 13.6**	**-0.5**
	comp=Z,2.0nm,0.5s,mb4.5						
EPF	**Esparros**	**85.51**	**313**	eP	**P**	**02 48 15.3**	**+0.2**
ETSF	**Etsaut**	**86.18**	**313**	eP	**P**	**02 48 19.0**	**+0.5**
	comp=Z,3.2nm,0.6s,mb4.4						
ETSF	**Etsaut**	**86.18**	**313**	eP	**P**	**02 48 19.0**	**+0.5**
	comp=Z,1.6nm,0.6s,mb4.4						
SJPF	**Ste Jean**	**86.63**	**313**	eP	**P**	**02 48 20.8**	**+0.1**
TORD	**Torodi Ar. Bea**	**89.04**	**283**	P	**P**	**02 48 34.3**	**+1.6**
	comp=Z,1.5nm,0.6s,mb4.5,baz=90,slow=4.7,SNR=28						
ESDC	**Sonseca Array**	**89.28**	**310**	P	**P**	**02 48 34.0**	**+0.6**
	comp=Z,0.7nm,0.7s,mb4.1,baz=64,slow=4.0,SNR=5.5						
PDAR	**Pinedale Array**	**124.17**	**20**	PKP	PKPdf	02 54 37.2	+1.4
	comp=Z,0.3nm,0.7s,baz=46,slow=4.3,SNR=4.0						
TXAR	**Lajitas Array**	**138.31**	**22**	PKP	PKPdf	02 55 05.7	+2.8
	comp=Z,0.1nm,0.4s,baz=35,slow=0.7,SNR=4.3						
PLCA	**Paso Flores**	**145.52**	**202**	PKPbc	PKPbc	02 55 18.5	+3.1
	comp=Z,2.1nm,0.8s,baz=197,slow=10,SNR=3.5						
CPUP	**Villa Florida**	**147.16**	**235**	PKPbc	PKPbc	02 55 22.2	+1.4
	comp=Z,1.0nm,0.6s,baz=130,slow=2.2,SNR=5.1						
CPUP	**Villa Florida**	**147.16**	**235**	PKPbc	PKPbc	02 55 22.2	+1.4
LPAZ	**La Paz**	**160.28**	**248**	PKPab	PKPab	02 56 20.9	+2.9
	comp=Z,0.9nm,0.6s,baz=152,slow=0.6,SNR=4.0						

*CSEM **09** 02:53:57.7±1.2, 38.66N×29.53W, h5^{km}, ML3.5, Error ellipse: s-maj=16.8km s-min=8.5km az=5.0, After PDA*
PDA 09 02:53:57.7±1.2**, 38.66N×29.53W, h5**^{km}**, MD3.4, ML3.5, Error ellipse: s-maj=16.8km s-min=8.5km az=5.0, Azores Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCED	**Cedros**	**0.65**	**92**	i P	Pg	02 54 08.4	-1.8
PCED				i S	Sg	02 54 16.8	-1.8
PCED				A		02 54 19.6	
	2µm,0.5s						
PCED	**Cedros**	**0.65**	**92**	i S	Sg	02 54 16.8	-1.8
CALA	**Caldeira**	**0.65**	**96**	eP	Pg	02 54 08.5	-1.7
CALA				eS	Sg	02 54 16.1	-2.6
HOR	**Horta**	**0.72**	**100**	eP	Pg	02 54 09.3	-2.1
HOR				eS	Sg	02 54 18.5	-2.2
PICO	**Pico**	**0.88**	**100**	eP	Pg	02 54 12.1	-2.5
PICO				eS	Sg	02 54 22.6	-3.4
ROSA	**Rosais**	**1.01**	**86**	eP	Pg	02 54 13.9	-3.2
ROSA				eS	Sg	02 54 25.4	-4.8
PMAN	**Manadas**	**1.13**	**91**	eP	Pg	02 54 15.3	-4.0
PMAN				eS	Sg	02 54 28.6	-5.3
PMAN				A		02 54 29.4	
	450nm,0.3s						
PMAN	**Manadas**	**1.13**	**91**	eP	Pg	02 54 15.3	-4.0
PMAN				eS	Sg	02 54 28.6	-5.3
PDA	**Ponta Delgada**	**3.18**	**105**	eP	Pn	02 54 43.2	-5.1
PDA				eS	Sn	02 55 19.9	-6.7
CMLA	**Cha da Macela**	**3.28**	**105**	eP	Pn	02 54 45.5	-4.2
CMLA				eS	Sn	02 55 21.1	-7.9
CMLA				A		02 55 27.5	
	27nm,0.4s						
CMLA	**Cha da Macela**	**3.28**	**105**	eP	Pn	02 54 45.5	-4.2
CMLA				eS	Sn	02 55 21.1	-7.9
PSMN	**Pico do Norte,**	**3.90**	**114**	eP	Pn	02 54 53.0	-5.2
PSMN				eS	Sn	02 55 34.0	-10

*ISCJB **09** 02:56:39.7±2.6, 31.94N±0.06×49.4E±0.2, h15^{km}±27^{km}, Error ellipse: s-maj=22.5km s-min=6.9km az=17.4*
*CSEM **09** 02:56:41.9±0.1, 32.11N×49.24E, h25^{km}, ML3.2, Error ellipse: s-maj=6.1km s-min=2.7km az=111.0*
*SGS **09** 02:56:42.2, 32.05N×49.28E, h25^{km}*
*THR **09** 02:56:42.8±0.4, 32.26N×49.20E, h17^{km}±3^{km}, ML3.2*
ISC 09 02:56:41.9±2.4**, 32.02N**±0.07×**49.3E**±0.2**, h13**^{km}±18^{km}**, n18, σ0^{s}89**/22**, Western Iran**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHGR	**Shooshtar-Gavs**	**0.43**	**282**	ePg	**Pg**	**02 56 50.4**	**0.0**
ASAO	**Ashtian**	**2.60**	**13**	ePn	**Pn**	**02 57 23.4**	**-0.1**
ASAO				eSg	**Sg**	**02 57 57.8**	**-7.5**
ASAO				AML	AML	02 58 06.2	
	comp=N,102nm,0.6s						
ASAO	**Ashtian**	**2.60**	**13**	ePn	**Pn**	**02 57 23.4**	**-0.1**
	SNR=52						
ASAO				eSg	**Sg**	**02 57 57.8**	**-7.5**
	SNR=91						
MIB	**Mutribah**	**2.78**	**218**	eP	**Pn**	**02 57 27.0**	**+1.0**
	baz=219						
MIB				AML	AML	02 58 04.2	
	comp=Z,85nm,0.4s,baz=219						
UMR	**Umm Al-Rimmam**	**2.81**	**209**	eP	**Pn**	**02 57 27.3**	**+0.8**
	baz=211						
UMR				AML	AML	02 58 05.8	
	comp=Z,130nm,0.4s,baz=211						
GHVR	**GHOM**	**2.97**	**34**	ePn	**Pn**	**02 57 29.1**	**+0.4**
GHVR				AML	AML	02 58 13.0	
	comp=E,82nm,0.5s						
GHVR				AML	AML	02 58 13.9	
	comp=N,97nm,0.7s						
KBD	**Kabd**	**3.15**	**206**	eP	**Pn**	**02 57 31.9**	**+0.7**
	baz=208						
KBD				AML	AML	02 58 12.8	
	comp=Z,95nm,0.3s,baz=208						
NAY	**Al-Naaiem**	**3.28**	**213**	eP	**Pn**	**02 57 33.7**	**+0.8**
RDF	**Al-Radifah**	**3.43**	**207**	eP	**Pn**	**02 57 35.8**	**+0.8**
RDF	**Al-Radifah**	**3.43**	**207**	eP	**Pn**	**02 57 35.9**	**+0.8**
	baz=208						
RDF				AML	AML	02 58 19.5	
	comp=Z,115nm,0.6s,baz=208						
SNGE	**Sanandaj**	**3.47**	**333**	ePn	**Pn**	**02 57 34.9**	**-0.7**
DAMV	**Damavand**	**4.23**	**31**	ePn	**Pn**	**02 57 46.5**	**+0.5**
DAMV				AML	AML	02 58 56.5	
	comp=N,25nm,0.6s						
ASYS		**6.23**	**225**	P	**Pn**	**02 58 11.7**	**-1.8**
ASYS		**6.23**	**225**	P	**Pn**	**02 58 11.7**	**-1.8**
ASYS				S	**Sn**	**02 59 18.2**	**-6.3**
BTHS		**8.06**	**170**	S	**Sn**	**03 00 03.1**	**-6.5**
HRDDS		**9.06**	**179**	P	**Pn**	**02 58 50.6**	**-1.7**
LYLS		**10.11**	**191**	P	**Pn**	**02 59 06.0**	**-0.7**
LYLS		**10.11**	**191**	P	**Pn**	**02 59 06.0**	**-0.7**
LYLS				S	**Sn**	**03 00 52.7**	**-7.3**

*ISCJB **09** 03:17:26.3±0.4, 26.48S±0.03×27.58E±0.03, h2^{km}, mb3.9/3, Error ellipse: s-maj=4.1km s-min=3.9km az=12.3*
*PRE **09** 03:17:27.4±2.0, 26.44S×27.59E, h2^{km}, ML3.7*
*IDC **09** 03:17:29.6±1.3, 26.45S×27.51E, h0^{km}, mb3.9/3, mb1 4.2/8, mb1mx3.9/25, mbtmp4.1/8, ML4.0/4, Error ellipse: s-maj=19.5km s-min=13.6km az=102.0*
*NEIC **09** 03:17:29.9±0.9, 26.41S×27.59E, h5^{km}, Error ellipse: s-maj=20.0km s-min=10.3km az=107.0*
ISC 09 03:17:28.5±0.6**, 26.44S**±0.03×**27.59E**±0.03**, h6**^{km}±4^{km}**, n27, σ1^{s}15**/46**, mb3.9**/3**, South Africa**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PRYS	**Parys**	**0.52**	**203**	eP	**Pg**	**03 17 40.5**	**+1.8**
PRYS				eS	**Sg**	**03 17 46.8**	**+1.3**
PRYS				AML	AML	03 17 47.5	
	comp=Z,442nm,0.5s						
KSR	**Koster**	**0.85**	**313**	eP	**Pg**	**03 17 44.8**	**-0.1**
KSR				eS	**Sg**	**03 17 56.2**	**+0.2**
KSR				AML	AML	03 18 01.6	
	comp=Z,448nm,0.2s						
SLR	**Silverton**	**0.94**	**42**	eP	**Pg**	**03 17 45.5**	**-1.2**
SLR				eS	**Sg**	**03 17 58.1**	**-0.7**
SLR				AML	AML	03 18 05.0	
	comp=Z,341nm,0.4s						
SEK	**Senekal**	**1.88**	**179**	eP	**Pn**	**03 18 00.6**	**-0.5**
SEK				eS	**Sn**	**03 18 26.0**	**+0.9**
SEK				AML	AML	03 18 30.0	
	comp=Z,441nm,0.6s						
LBTB	**Lobatse**	**2.29**	**308**	Pn	**Pn**	**03 18 09.2**	**+2.5**
	comp=Z,49nm,0.3s,baz=142,slow=17,SNR=459						
LBTB				Pg	**Pg**	**03 18 10.9**	**-1.5**
	comp=Z,49nm,0.3s,baz=142,slow=16,SNR=464						
LBTB				Lg		03 18 40.0	
	comp=Z,126nm,0.3s,baz=40,slow=12,SNR=28						
LBTB	**Lobatse**	**2.29**	**308**	eP	**Pn**	**03 18 07.1**	**+0.3**
LBTB				eS	**Sn**	**03 18 35.7**	**+0.5**
LBTB				AML	AML	03 18 40.9	
	comp=Z,483nm,0.6s						
BOSA	**Boshof**	**2.99**	**223**	Pn	**Pn**	**03 18 17.9**	**+1.4**
	comp=Z,8.4nm,0.3s,baz=49,slow=13,SNR=197						
BOSA				Pg	**Pg**	**03 18 24.8**	**-1.2**
	comp=Z,9.7nm,0.3s,baz=49,slow=16,SNR=31						
BOSA				Sn	**Sn**	**03 18 53.0**	**+0.3**
	comp=Z,5.4nm,0.3s,baz=327,slow=20,SNR=3.4						
BOSA				Lg		03 19 00.8	
	comp=Z,13nm,0.3s,baz=316,slow=22,SNR=14						
BOSA	**Boshof**	**2.99**	**223**	Pn	**Pn**	**03 18 17.9**	**+1.4**
BOSA				Pg	**Pg**	**03 18 24.8**	**-1.2**
BOSA				Sn	**Sn**	**03 18 53.0**	**+0.3**
BOSA				Lg		03 19 00.8	
BOSA	**Boshof**	**2.99**	**223**	eP	**Pn**	**03 18 16.2**	**-0.2**
BOSA				eS	**Sn**	**03 18 52.3**	**-0.4**
BOSA				AML	AML	03 19 09.7	
	comp=Z,64nm,0.5s						
POGA	**Pongola**	**3.71**	**105**	eP	**Pn**	**03 18 27.4**	**+1.0**
POGA				eS	**Sn**	**03 19 11.2**	**+0.8**
POGA				AML	AML	03 19 29.6	
	comp=Z,149nm,0.6s						
KSD	**Kokstad**	**4.39**	**159**	eP	**Pn**	**03 18 34.5**	**-1.2**
KSD				eS	**Sn**	**03 19 25.9**	**-1.3**
KSD				AML	AML	03 19 48.9	
	comp=Z,187nm,0.7s						
MOPA	**Mopani**	**4.52**	**51**	eP	**Pn**	**03 18 37.2**	**-0.2**
MOPA				eS	**Sn**	**03 19 28.9**	**-1.4**
MOPA				AML	AML	03 19 59.9	
	comp=Z,319nm,0.7s						
PKA	**Prieska**	**5.34**	**232**	eP	**Pn**	**03 18 48.4**	**-0.4**
PKA				eS	**Sn**	**03 19 49.3**	**-1.4**
PKA				AML	AML	03 20 20.6	
	comp=Z,79nm,0.5s						
UPI	**Upington**	**5.95**	**250**	eP	**Pn**	**03 18 57.5**	**+0.5**
UPI				eS	**Sn**	**03 20 03.2**	**-2.3**
UPI				AML	AML	03 20 45.5	
	comp=Z,33nm,0.5s						
SOE	**Somerset East**	**6.49**	**195**	eP	**Pn**	**03 19 04.1**	**-0.5**
SOE				eS	**Sn**	**03 20 15.0**	**-3.9**

SUR Sutherland 8.36 223 Pn Pn 03 19 32.0 +1.8
comp=Z,2.5nm,0.3s,baz=54,slow=15,SNR=24
SUR Sn Sn 03 21 02.2 -2.7
comp=Z,2.4nm,0.3s,baz=220,slow=22,SNR=5.7
SUR Lg 03 21 50.3
comp=Z,3.8nm,0.3s,baz=123,slow=22,SNR=6.2
SUR Sutherland 8.36 223 *e*P **Pn 03 19 30.1 -0.1**
SUR *e*S **Sn 03 21 01.4 -3.5**
CVNA Calvinia 8.49 232 *e*P **Pn 03 19 31.9 -0.1**
CVNA *e*S **Sn 03 21 03.8 -4.4**
CVNA AML AML 03 22 05.6
comp=Z,54nm,0.6s
KOMG Komaggas 9.52 247 *e*P **Pn 03 19 45.9 -0.2**
KOMG *e*S **Sn 03 21 27.9 -5.7**
KOMG AML AML 03 22 39.5
comp=Z,19nm,0.6s
LSZ Lusaka 11.12 3 Pn **Pn 03 20 08.1 -0.1**
comp=Z,1.1nm,0.3s,baz=184,slow=13,SNR=19
LSZ Sn **Sn 03 22 07.4 -5.4**
comp=Z,0.5nm,0.3s,baz=258,slow=24,SNR=4.7
LSZ Lg 03 23 16.7
comp=Z,1.0nm,0.3s,baz=70,slow=19,SNR=3.5
TSUM Tsumeb 11.70 306 Pn **Pn 03 20 16.9 +0.9**
comp=Z,1.6nm,0.3s,baz=127,slow=11,SNR=18
TSUM Lg 03 23 29.9
comp=Z,0.8nm,0.3s,baz=205,slow=9.1,SNR=3.9
TORD Torodi Ar. Bea 46.71 324 P **P 03 25 59.5 +1.1**
comp=Z,1.4nm,0.6s,mb4.0,baz=137,slow=6.5,SNR=34
ESDC Sonseca Array 72.06 335 P **P 03 28 55.5 +2.3**
comp=Z,0.6nm,0.5s,mb3.8,baz=155,slow=6.0,SNR=6.2
GERES GERESS Array B 75.97 351 P **P 03 29 17.8 +1.9**
comp=Z,0.4nm,0.3s,mb3.8,baz=167,slow=5.5,SNR=5.6
MCMT McKenzie Canyo 143.42 310 *e*PKPdf PKPdf 03 37 05.8 +2.0
NVAR Mina Array Bea 149.00 301 PKPbc PKPbc 03 37 20.5 +3.0
comp=Z,0.5nm,0.6s,baz=80,slow=5.2,SNR=5.7
NVAR Mina Array Bea 149.00 301 PKPbc PKPbc 03 37 20.5 +3.0

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*ISCJB **09** 03:22:33.4±0.9, 6.65S±0.03×71.54E±0.03, h2km±5km, mb5.0/173, MS4.7/54, Error ellipse: s-maj=5.8km s-min=5.1km az=171.7*
*IDC **09** 03:22:34.5±0.4, 6.64S×71.54E, h0km, mb4.7/25, mb1 4.8/25, mb1mx4.7/27, mbtmp4.7/25, MS4.7/20, Ms1 4.7/20, ms1mx4.5/27, Error ellipse: s-maj=14.4km s-min=12.0km az=14.0*
*NEIC **09** 03:22:36.8±0.2, 6.59S×71.53E, h10km, mb5.1/93, Error ellipse: s-maj=8.1km s-min=5.9km az=212.0*
*BJI **09** 03:22:36.0, 6.68S×71.22E, h24km, mB5.5, mb5.0, Ms5.3, Msz4.9*
*GCMT **09** 03:22:36.8±0.2, 6.62S×71.63E, h12km, MW5.4/87, Moment Tensor Solution. s60,c92; s87,c163; Duration: 1.2s Moment tensor: Scale 10^{17}Nm; M_{rr}-0.58±.02; $M_{\theta\theta}$1.13±.02; $M_{\phi\phi}$-0.54±.02; $M_{r\theta}$0.90±.05; $M_{\theta\phi}$0.37±.02; $M_{\phi r}$-0.60±.06; Best double couple: $M_0$1.50100×10^{17} NP1:ϕ_s42.00000°,δ39.00000°,λ-157.00000°. NP2: ϕ_s293.00000°,δ76.00000°,λ-54.00000°. Principal axes: T 1.5200, Plg22.0000°, Azm356.0000°; N -0.0350, Plg35.0000°, Azm103.0000°; P -1.4830, Plg47.0000°, Azm241.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*MOS **09** 03:22:38.5±1.4, 6.54S×71.56E, h33km, mb5.3/71, MS4.4/17 Error ellipse: s-maj=8.4km s-min=4.2km az=118.2*
*DJA **09** 03:22:40, 6.99S×71.38E, h10km, Mw5.5/12*
*SZGRF **09** 03:22:40.0, 6.46S×71.75E, h33km, mb5.1, MS4.4, Chagos Archipelago region*
ISC 09 03:22:37.1±1.1, **6.66S**±0.04×**71.53E**±0.03, **h13**km±6km, **h14**km±1.0km**:pP-P, n667,** σ**1.21**/473, **mb5.0**/173, **MS4.7**/54, **94C-94D, Chagos Archipelago region**

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
DGAR Diego Garcia 1.18 129 ⇑P **Pn 03 22 57.0 -2.3**
SNR=67
DGAR Diego Garcia 1.18 129⇑*i*P **Pn 03 22 55.8 -3.6**
DGAR Diego Garcia 1.18 129 *e*Pn **Pn 03 22 56.0 -3.3**
TRD Trivandrum 16.01 20 *e*P **Pn 03 26 22.3 +0.2**
TRD AMb AMB 03 26 29.4
comp=Z,25nm,0.3s
PALK Pallekele 16.59 34 *e*Pn **Pn 03 26 29.0 -0.6**
comp=Z,191nm,1.5s
KOD Kodaikanal 17.79 19 *e*P **Pn 03 26 44.5 -0.1**
KOD AMb AMB 03 27 02.3
comp=Z,84nm,1.4s
MDRS Chennai 21.42 24 *e*P **P 03 27 26.1 +1.0**
MDRS *e*x x 03 34 24.0
GOA Goa 22.12 6 *e*P **P 03 27 31.2 -1.3**
GOA AMb AMB 03 27 39.7
comp=Z,133nm,1.1s,mb5.3
KAD Karad 23.95 6 *e*P **P 03 27 49.4 -1.8**
HYB Hyderabad 24.91 16 *e*P **P 03 27 57.5 -2.5**
HYB *e*S **S 03 32 24.0 +0.9**
HYB Hyderabad 24.91 16 *i* P **P 03 27 57.5 -2.5**
HYB *e*S **S 03 32 24.0 +0.9**
HYB LR LR 03 38 28.0
comp=Z,7.0nm,12.0s
HYB Hyderabad 24.91 16 *e*P **P 03 27 57.5 -2.5**
HYB *e*S **S 03 32 24.0 +0.9**
HYB *e* 03 38 28.0
POO Poona 25.13 5 *e*P **P 03 28 00.1 -2.0**
POO AMb AMB 03 28 05.2
comp=Z,17nm,0.5s,mb4.8
BOM Bombay 25.42 3 *e*P **P 03 27 56.5 -8.1**
BOM *e*x x 03 28 05.0
comp=Z,76nm,1.9s
BOM *e*S **S 03 32 26.9 -4.4**
ABPO Ambohimpanom 26.64 240 *e*P **P 03 28 16.4 +0.6**
comp=Z,88nm,1.8s,mb5.0
VIS Vishakhapatnam 26.88 26 *e*P **P 03 28 18.8 +1.0**
AKL Akola 27.72 11 *e*P **P 03 28 23.9 -1.4**
AKL AMb AMB 03 28 31.5
comp=Z,32nm,0.6s,mb5.2
NGP Nagpur 28.60 15 *e*x x 03 26 19.0
NGP AMb AMB 03 26 40.7
comp=Z,8.3nm,0.3s,mb5.0
NGP *e*S **S 03 33 19.6 -1.9**
BHJ Bhuj 29.78 357 *e*P **P 03 28 43.3 -0.4**
BHJ AMb AMB 03 28 46.4
comp=Z,34nm,1.0s,mb5.0
WHFO Wadi Hawf 30.06 325 P **P 03 28 47.5 +1.3**
SNR=6.2
JBP Jabalpur 30.77 15 *e*x x 03 28 56.7
JBP *e*S **S 03 33 55.0 -0.5**
WBK Wadi Bani Khal 31.58 337 P **P 03 29 01.2 +1.6**
SNR=6.5
SMDO Samad 32.34 336 P **P 03 29 07.8 +1.5**
SNR=11
BSY Bisya 32.41 335 P **P 03 29 08.5 +1.6**
SNR=7.3
BIDO Bidbid 32.73 337 P **P 03 29 11.8 +2.1**
SNR=10
AJM Ajmer 33.08 5 *e*x x 03 26 40.2
HOQ Hoqain 33.11 336 P **P 03 29 14.4 +1.4**
SNR=34
BOK Bokaro 33.35 24 *e*P **P 03 29 15.7 +0.5**
BOK AMb AMB 03 29 18.1
comp=Z,4.0nm,0.5s,mb4.7
CAL Calcutta 33.35 29 *e*x x 03 27 32.6
CAL *e*x x 03 35 01.1
KMBO Kilima Mbogo 34.62 278 P **P 03 29 27.2 +0.8**
SNR=7.8
KMBO Kilima Mbogo 34.62 278 P **P 03 29 27.1 +0.7**
comp=Z,9.6nm,0.9s,mb4.7,baz=64,slow=8.9,SNR=14
KMBO LR LR 03 40 52.4
comp=Z,1μm,20.7s,MS4.7,baz=14,slow=32
KMBO Kilima Mbogo 34.62 278⇑*e*P **P 03 29 28.2 +1.8**
KMBO Kilima Mbogo 34.62 278 *e*P **P 03 29 27.3 +0.9**
comp=Z,9.0nm,0.8s,mb4.8
HATD Hatta, Dubai 34.70 335 P **P 03 29 28.2 +1.3**
SNR=11
NDI New Delhi 35.56 9 *e*x x 03 29 29.0
KOLN Koldanda 36.16 18 *e*P **P 03 29 39.7 +0.4**
comp=Z,34nm,0.9s,mb5.3
RAMN Ramite 36.46 23 *e*P **P 03 29 43.3 +1.4**
DMN Daman 36.51 20 *e*P **P 03 29 43.1 +0.8**
PKI Pulchoki 36.58 21 *e*P **P 03 29 44.0 +1.1**
ODAN Odare 36.69 24 *e*P **P 03 29 44.9 +1.0**
GKN Gorkha 36.71 20 *e*P **P 03 29 44.6 +0.5**
comp=Z,41nm,0.7s,mb5.4
KKN Kakani 36.73 21 *e*P **P 03 29 44.7 +0.4**
DANN Dangsing 36.75 18 *e*P **P 03 29 44.8 +0.4**
comp=Z,116nm,1.0s,mb5.7
CMAR Chiang Mai Arr 36.80 47 P **P 03 29 45.4 +0.5**
comp=Z,9.6nm,0.8s,mb4.7,baz=240,slow=9.5,SNR=26
CMAR PcP PcP 03 32 07.0 -0.1
comp=Z,2.8nm,0.8s,baz=243,slow=4.3,SNR=4.1
CMAR LR LR 03 44 17.3
comp=Z,936nm,18.5s,MS4.6,baz=232,slow=35
CMAR Chiang Mai Arr 36.80 47 P **P 03 29 45.4 +0.5**
CMAR 03 32 07.0
JIRN Jiri 36.94 22 *e*P **P 03 29 46.8 +0.8**
CHG Chiang Mai 37.03 46 ⇓P **P 03 29 51.1 +4.2**
comp=Z,16nm,0.9s,mb4.9
CHTO Chiang Mai 37.03 46 ⇓P **P 03 29 47.4 +0.6**
SNR=6.9
CHTO Chiang Mai 37.03 46 *e*P **P 03 29 47.3 +0.4**
CHTO pmax pmax
comp=Z,10.0nm,0.8s,mb4.7
CHTO Chiang Mai 37.03 46 *e*P **P 03 29 47.2 +0.4**
comp=Z,10nm,0.8s,mb4.7
GUN Gumba 37.06 21 *e*P **P 03 29 47.3 +0.3**
comp=Z,99nm,1.2s,mb5.5
TAPN Taplejung 37.26 24 *e*P **P 03 29 49.0 +0.3**
SHL Shillong 37.65 31 *e*P **P 03 29 52.0 -0.1**
SHL *e*x x 03 36 04.0
SMLA Simla 37.96 8 *e*x x 03 28 05.6
NANT Nan 38.30 48 P **P 03 30 01.0 +3.3**
LSA Lhasa 40.77 27 P **P 03 30 19.8 +1.7**
LSA XP sP 03 30 34.0 +10
LSA SS SS 03 39 30.9 +1.0
LSA AMB AMB
comp=Z,30nm,1.0s,mb4.9
LSA AMB AMB
comp=Z,280nm,8.0s
LSA LR LR
comp=N,1μm,14.0s,MS5.2
LSA LR LR
comp=E,2μm,13.0s,MS5.2
LSA LR LR
comp=Z,3μm,16.0s,MS5.3
KBL Kabul 41.04 357 *e*P **P 03 30 21.2 +0.9**
KBL pmax pmax
comp=Z,57nm,1.2s,mb5.1
KBL Kabul 41.04 357 *e*P **P 03 30 21.2 +1.0**
comp=Z,57nm,1.2s,mb5.1
LSZ Lusaka 43.33 255 P **P 03 30 40.0 +0.7**
SNR=7.1
LSZ Lusaka 43.33 255 P **P 03 30 39.5 +0.2**
comp=Z,23nm,1.2s,mb4.8,baz=89,slow=8.7,SNR=14
LSZ Lusaka 43.33 255 *e*P **P 03 30 39.6 +0.3**
LSZ pmax pmax
comp=Z,64nm,1.5s,mb5.1
LSZ Lusaka 43.33 255 *e*P **P 03 30 39.6 +0.3**
comp=Z,64nm,1.5s,mb5.1
KMI Kunming 43.82 43 P **P 03 30 43.8 +0.7**
KMI AP pP 03 30 49.0 +1.9
KMI XP sP 03 30 51.8 +3.1
KMI PP PP 03 32 29.3 +4.0
KMI S **S 03 37 15.4 +1.6**
KMI SS SS 03 40 25.3 -4.9
KMI AMB AMB
comp=Z,9.0nm,1.1s,mb4.4
KMI AMB AMB
comp=Z,219nm,3.8s
KMI LR LR
comp=N,703nm,21.8s,MS4.8
KMI LR LR
comp=E,872nm,20.0s,MS4.8
KMI LR LR
comp=Z,732nm,19.1s,MS4.6
KMI Kunming 43.82 43 P **P 03 30 43.8 +0.7**
KMI *SP sP 03 30 51.8 +3.1
KMI 03 32 29.3
KMI PPP 03 33 07.0
KMI S **S 03 37 15.4 +1.6**
KMI SS SS 03 40 25.3 -4.9
KMI SSS 03 41 15.4
KMI pmax pmax
comp=Z,9.0nm,1.1s,mb4.4
KMI MLR MLR
comp=Z,730nm,19.1s,MS4.6
KMI Kunming 43.82 43 P **P 03 30 43.8 +0.7**
comp=Z,9.0nm,1.1s,mb4.4
KMI pP pP 03 30 49.0 +1.9
KMI sP sP 03 30 51.8 +3.1
KMI PP PP 03 32 29.3 +4.0
KMI PPP 03 33 07.0
KMI S **S 03 37 15.4 +1.6**
KMI sS sS 03 37 22.3 +1.8
KMI SS SS 03 40 25.3 -4.9
KMI SSS 03 41 15.4
KMI LR LR
comp=Z,730nm,19.1s,MS4.6
QIZ Qiongzhong 45.57 55 P **P 03 30 56.9 -0.2**
QIZ PP PP 03 32 43.9 -0.1
QIZ S **S 03 37 39.9 +0.5**
QIZ AMB AMB
comp=Z,17nm,1.2s,mb4.8
QIZ LR LR
comp=E,1μm,16.8s
QIZ LR LR
comp=Z,1μm,19.6s,MS4.8
BHD Baghdad 47.34 329 *e*x x 03 31 13.0
GYA Guiyang 47.37 45⇑*i*P **P 03 31 10.8 -0.4**
GYA PP PP 03 33 00.6 -2.0
GYA SCP ScP 03 36 37.6 +1.6
GYA S **S 03 38 02.9 -2.2**
GYA SS SS 03 41 28.1 -4.9
GYA AMB AMB
comp=Z,30nm,1.2s,mb5.1
GYA AMB AMB
comp=Z,130nm,6.8s
GYA LR LR
comp=N,670nm,13.2s,MS4.9
GYA LR LR
comp=E,700nm,14.1s,MS4.9
GYA LR LR
comp=Z,760nm,13.3s,MS4.8
LBTB Lobatse 47.53 242 *e*P **P 03 31 12.9 +0.4**
LBTB pmax pmax
comp=Z,38nm,1.1s,mb5.3
LBTB Lobatse 47.53 242 *e*P **P 03 31 12.8 +0.4**
comp=Z,38nm,1.1s,mb5.3
KAPI Kappang 47.98 91 P **P 03 31 14.0 -2.3**
comp=Z,2.9nm,0.3s,mb4.7,baz=195,slow=5.4,SNR=3.7
KAPI Kappang 47.98 91 P **P 03 31 13.9 -2.3**
CD2 Chengdu 48.44 38 P **P 03 31 20.4 +1.0**
CD2 AP pP 03 31 24.9 +1.4
CD2 XP sP 03 31 28.9 +3.8
CD2 PCP PcP 03 32 46.4 +0.7
CD2 PCS PcS 03 36 40.9 -0.8
CD2 S **S 03 38 20.7 +0.6**
CD2 SCS ScS 03 41 09.7 -2.7
CD2 SS SS 03 41 46.0 -4.2
CD2 AMB AMB
comp=Z,60nm,1.3s,mb5.5
CD2 AMB AMB
comp=Z,140nm,5.6s
CD2 LR LR
comp=N,880nm,18.0s,MS5.0
CD2 LR LR
comp=E,970nm,15.6s,MS5.0
CD2 LR LR
comp=Z,1μm,16.0s,MS4.9
AML Almayashu 48.59 2 *e*P **P 03 31 19.8 -0.5**
comp=Z,21nm,0.7s,mb5.3
UCH Uchtor 48.72 3 *e*P **P 03 31 22.0 +0.7**
comp=Z,7.3nm,0.9s,mb4.7
BOSA Boshof 48.81 238 P **P 03 31 21.3 -1.1**
comp=Z,8.4nm,0.7s,mb4.9,baz=91,slow=9.9,SNR=10.0
BOSA LR LR 03 50 55.2
comp=Z,818nm,18.0s,MS4.8,baz=75,slow=35
BOSA Boshof 48.81 238 *e*P **P 03 31 21.8 -0.6**
BOSA pmax pmax
comp=Z,53nm,1.6s,mb5.3
BOSA Boshof 48.81 238 *e*P **P 03 31 21.8 -0.5**
comp=Z,53nm,1.6s,mb5.3
EKS2 Erkin-Say 49.12 2 *e*P **P 03 31 24.6 +0.2**
comp=Z,12nm,0.9s,mb4.9
FRU Bishkek 49.33 3 *e*P **P 03 31 26.0 0.0**
FRU *e* 03 38 30.0
FRU *e* 03 41 13.0
FRU pmax pmax
comp=Z,60nm,2.0s,mb5.3
TKM2 Tokmak 2 49.48 4 *e*P **P 03 31 26.7 -0.4**
TKM2 pmax pmax
comp=Z,44nm,1.1s,mb5.4
TKM2 Tokmak 2 49.48 4 *e*P **P 03 31 26.7 -0.5**
comp=Z,44nm,1.1s,mb5.4
KK31 Karatay Array 49.53 359 P **P 03 31 29.1 +1.6**
AAA Alma-Ata 49.94 5 *e*P **P 03 31 31.9 +1.3**
AAA *e*S **S 03 38 45.7 +5.1**
AAA pmax pmax
comp=Z,500nm,4.2s
AAA smax
comp=E,1μm,13.9s
AAA MLR MLR
comp=Z,2μm,14.0s,MS5.4
MSL Mosul 50.45 330 *e*x x 03 31 27.0
BATI Baumata 51.65 98 P **P 03 31 45.2 +1.2**
comp=Z,17nm,0.5s,mb5.2,baz=265,slow=4.0,SNR=6.7
LZH Lanzhou 52.23 33 *e*P **P 03 31 49.9 +1.9**
LZH AP pP 03 31 53.1 +1.0
LZH PP PP 03 33 49.0 +2.3
LZH *e*S **S 03 39 12.0 -0.7**
LZH SS SS 03 42 51.0 +0.4
LZH AMB AMB
comp=Z,61nm,1.3s,mb5.4
LZH AMB AMB
comp=Z,240nm,4.0s
LZH LR LR
comp=E,1μm,13.1s
LZH LR LR
comp=Z,2μm,14.5s,MS5.2
LZH Lanzhou 52.23 33 *e*P **P 03 31 49.9 +1.9**
LZH *SP sP 03 31 55.0 +1.3
LZH 03 33 49.0
LZH *e*S **S 03 39 12.0 -0.7**
LZH *SS sS 03 39 17.0 -2.5
LZH SS SS 03 42 51.0 +0.4
LZH pmax pmax
comp=Z,61nm,1.3s,mb5.4
LZH MLR MLR
comp=Z,2μm,14.5s,MS5.2
LZH Lanzhou 52.23 33 *e*P **P 03 31 49.9 +1.9**
comp=Z,61nm,1.3s,mb5.4
LZH pP pP 03 31 53.1 +1.0
LZH sP sP 03 31 55.0 +1.3
LZH PP PP 03 33 49.0 +2.3
LZH *e*S **S 03 39 12.0 -0.7**
LZH sS sS 03 39 17.0 -2.5
LZH SS SS 03 42 51.0 +0.4
LZH LR LR
comp=Z,2μm,14.5s,MS5.2
WMQ Urumqi 52.33 15⇑*i*P **P 03 31 51.2 +2.6**
WMQ AP pP 03 31 55.7 +3.0
WMQ XP sP 03 31 58.2 +3.9
WMQ PCP PcP 03 33 03.7 +4.1
WMQ PP PP 03 33 50.8 +3.4
WMQ SCP ScP 03 36 57.7 +1.0
WMQ S **S 03 39 14.4 +0.7**
WMQ SCS ScS 03 41 37.7 -0.7
WMQ AMB AMB
comp=Z,17nm,1.5s,mb4.8
WMQ LR LR
comp=N,1μm,18.4s,MS5.1
WMQ LR LR
comp=E,1μm,17.1s,MS5.1
WMQ LR LR
comp=Z,932nm,19.5s,MS4.8
GNI Garni 52.72 334 P **P 03 31 53.2 +1.6**
SNR=16
GNI Garni 52.72 334 P **P 03 31 52.5 +0.9**
comp=Z,6.3nm,0.4s,mb4.9,baz=154,slow=3.9,SNR=8.6
GNI Garni 52.72 334*c i*P **P 03 31 52.2 +0.6**
GNI pmax pmax
comp=Z,34nm,1.3s
GNI Garni 52.72 334 *e*P **P 03 31 53.5 +1.9**
comp=Z,91nm,1.4s,mb5.5
GTA Gaotai 52.78 27 *e*P **P 03 31 52.1 +0.1**
GTA PP PP 03 33 55.2 +3.6
GTA S **S 03 39 21.2 +1.1**
GTA SS SS 03 42 59.2 +0.1
GTA AMB AMB
comp=Z,9.0nm,0.8s,mb4.8
GTA AMB AMB
comp=Z,261nm,3.8s
GTA LR LR
comp=N,1μm,17.4s,MS5.1
GTA LR LR
comp=E,885nm,14.7s,MS5.1
GTA LR LR
comp=Z,964nm,13.2s,MS5.0
XAN Xi'an 53.76 39 P **P 03 32 00.9 +1.6**
XAN AP pP 03 32 05.1 +1.6
XAN XP sP 03 32 07.8 +2.8
XAN PP PP 03 34 01.6 +1.1
XAN S **S 03 39 33.9 +0.3**
XAN SS SS 03 43 13.1 -1.7
XAN AMB AMB
comp=Z,9.0nm,1.2s,mb4.6
XAN AMB AMB
comp=Z,146nm,5.6s
XAN LR LR
comp=N,353nm,13.7s,MS4.9
XAN LR LR
comp=E,738nm,16.5s,MS4.9
XAN LR LR
comp=Z,780nm,14.8s,MS4.9
FITZ Fitzroy Crossi 53.88 107 *e*P **P 03 31 59.6 -1.0**
comp=Z,15nm,1.1s,mb4.8
FITZ Fitzroy Crossi 53.88 107 P **P 03 31 59.8 -0.7**
comp=Z,6.5nm,1.0s,mb4.5,baz=272,slow=10,SNR=8.7
MAK Makhachkala 54.00 338 *i* P **P 03 31 59.3 -1.6**
MAK *e* 03 33 01.1
MAK *i* S **S 03 39 36.0 -0.5**
MAK *e*SS SS 03 43 14.5 -3.7
MAK pmax pmax
comp=Z,217nm,1.4s,mb5.9
MK31 Makanchi Array 54.07 9 *i* P **P 03 31 59.8 -1.5**
MK31 pmax pmax
comp=Z,15nm,0.8s,mb5.0
MK31 Makanchi Array 54.07 9 *e*P **P 03 32 01.1 -0.3**
MKAR Makanchi Array 54.07 9 P **P 03 31 59.2 -2.1**
comp=Z,4.0nm,0.6s,mb4.5,baz=183,slow=7.0,SNR=31
MKAR LR LR 03 55 37.3
comp=Z,1μm,18.2s,MS5.0,baz=190,slow=37
AB31 Akbulak array 56.59 351 *i* P **P 03 32 18.0 -1.5**
AB31 pmax pmax
comp=Z,60nm,1.0s,mb5.6
KIV Kislovodsk 56.72 335 P **P 03 32 21.7 +1.2**
SNR=9.2
KIV Kislovodsk 56.72 335 *e*P **P 03 32 20.5 0.0**
KIV *e*S **S 03 40 13.9 +1.0**
KIV *e*SS SS 03 44 02.3 +1.2
KIV pmax pmax
comp=Z,27nm,1.2s,mb5.2
KIV Kislovodsk 56.72 335⇑*i*P **P 03 32 22.4 +1.9**
KIV Kislovodsk 56.72 335 *e*P **P 03 32 21.9 +1.4**
comp=Z,38nm,1.3s,mb5.3
KURK Kurchatov 57.47 5 P **P 03 32 23.1 -2.6**
comp=Z,89nm,0.9s,mb5.8,SNR=9.0
KURK Kurchatov 57.47 5 ⇑P **P 03 32 26.9 +1.2**
SNR=13
KURK Kurchatov 57.47 5 P **P 03 32 23.7 -2.0**
KURK pmax pmax
comp=Z,41nm,1.5s,mb5.2
KURK Kurchatov 57.47 5 *e*P **P 03 32 24.3 -1.4**
comp=Z,30nm,1.3s,mb5.2
SOC Sochi 57.70 333*c i*P **P 03 32 26.0 -1.5**
SOC *e* 03 33 25.5
SOC *e* 03 34 30.5
SOC *e*PPP 03 35 54.7
SOC *e*S **S 03 40 25.1 -0.8**
SOC *e**SS sS 03 40 31.0 -1.7
SOC *e*SS SS 03 44 13.2 -3.4
SOC pmax pmax
comp=Z,19nm,0.8s,mb5.2
SOC MLR MLR
comp=Z,404nm,17.0s,MS4.6
VOSK Vostochnaya 59.15 360 P **P 03 32 36.0 -1.4**
VOSK pmax pmax
comp=Z,90nm,2.0s,mb5.5
NJ2 Nanjing 59.27 47 *e*P **P 03 32 37.4 -1.3**
NJ2 AMB AMB
comp=Z,10.0nm,0.6s,mb5.0
BVA0 Borovoye Array 59.46 359 P **P 03 32 38.2 -1.3**
BVA0 pmax pmax
comp=Z,2.0nm,0.9s,mb4.2
BRVK Borovoye 59.49 359 ⇓P **P 03 32 40.8 +1.0**
SNR=6.5

BRVK **Borovoye** 59.49 359 *e*P P 03 32 38.2 -1.5
ANN **Anapa** 59.69 332 *e*P P 03 32 35.8 -5.5
ANN *e*S **S** 03 40 43.0 -8.6
ANN pmax pmax
comp=Z,22nm,1.2s,mb5.1
HHC **Hu-ho-hao-te** 59.87 34 *e*P P 03 32 44.7 +2.1
HHC AP pP 03 32 49.3 +2.5
HHC XP sP 03 32 51.9 +3.5
HHC PCP PcP 03 33 30.3 +1.3
HHC PP PP 03 34 59.5 +4.6
HHC SCP ScP 03 37 29.5 -0.5
HHC S **S** **03 40 55.2 +1.0**
HHC XS sS 03 41 03.6 +2.6
HHC SCS ScS 03 42 31.5 -1.5
HHC SS SS 03 44 52.3 +1.5
HHC AMB AMB
comp=Z,20nm,1.1s,mb5.1
HHC AMB AMB
comp=Z,389nm,6.2s
HHC LR LR
comp=N,805nm,15.3s,MS5.1
HHC LR LR
comp=E,726nm,15.0s,MS5.1
HHC LR LR
comp=Z,777nm,17.8s,MS4.9
KAKA **Kakadu** 60.23 101 *e*P P 03 32 43.9 -1.7
comp=Z,24nm,0.9s,mb5.2
SSE **Sheshan** 60.50 49 P P 03 32 47.8 +0.7
SSE S **S** **03 41 02.5 -0.1**
SSE AMB AMB
comp=Z,34nm,0.9s,mb5.4
SSE AMB AMB
comp=Z,1μm,4.8s
SSE LR LR
comp=N,425nm,18.6s,MS4.7
SSE LR LR
comp=E,169nm,18.7s,MS4.7
SSE LR LR
comp=Z,273nm,15.7s,MS4.5
SSE **Sheshan** 60.50 49 P P 03 32 47.8 +0.7
comp=Z,34nm,0.9s,mb5.4
SSE sP sP 03 32 52.3 -0.6
SSE S **S** **03 41 02.5 -0.1**
SSE sS sS 03 41 08.3 -1.2
SSE LR LR
comp=Z,270nm,15.7s,MS4.5
SANT **Santorini** 60.78 318 *e*P P 03 32 50.9 +2.0
MAW **Mawson** 61.14 184 P P 03 32 50.9 +0.1
comp=Z,8.2nm,0.6s,mb5.1,baz=13,slow=7.5,SNR=38
MAW LR LR 03 54 19.6
comp=Z,555nm,18.3s,MS4.8,baz=8.5,slow=31
SIM **Simferopol'** 61.37 331 P P 03 32 55.3 +2.5
SIM S **S** **03 41 23.8 +11**
SIM pmax pmax
comp=Z,15nm,0.9s,mb5.1
SIM MLR MLR
comp=Z,170nm,15.0s,MS4.3
ZAA0 **Zalesovo Array** 61.41 9 *e*P P 03 32 52.8 0.0
ZALV **Zalesovo Beam** 61.41 9 P P 03 32 51.2 -1.6
comp=Z,21nm,1.2s,mb5.2,baz=224,slow=5.7,SNR=9.8
ZALV LR LR 04 00 21.0
comp=Z,832nm,18.6s,MS4.9,baz=15,slow=37
ZALV **Zalesovo Beam** 61.41 9 P P 03 32 51.2 -1.6
ZALV LR LR 04 00 21.0
NVS **Novosibirsk** 62.05 8 *e*P P 03 32 54.7 -2.4
NVS *e*S **S** **03 41 15.2 -6.2**
NVS pmax pmax
comp=Z,64nm,2.6s,mb5.3
NVS pmax pmax
comp=N,47nm,2.7s
NVS smax
comp=N,71nm,3.2s
ASAR **Alice Springs** 62.08 113 P P 03 32 56.8 -1.2
comp=N,4.2nm,0.8s,mb4.6,baz=280,slow=6.4,SNR=37
WRA **Warramunga Arr** 62.22 109 P P 03 32 57.8 -1.2
comp=N,9.7nm,0.9s,mb4.9,baz=279,slow=7.1,SNR=38
WB2 **Warramunga Arr** 62.23 109 *e*P P 03 32 59.9 +0.8
SONM **Songino Array** 62.35 26 P P 03 32 60.0 +0.7
comp=N,21nm,1.1s,mb5.2,baz=216,slow=7.1,SNR=5.1
SONM LR LR 04 00 22.6
comp=N,2μm,18.5s,MS5.3,baz=211,slow=36
SONM **Songino Array** 62.35 26 P P 03 32 60.0 +0.7
SONM LR LR 04 00 22.6
ULN **Ulaanbaatar** 62.66 26⇓ *e*P P 03 33 01.6 +0.2
ULN **Ulaanbaatar** 62.66 26 *e*P P 03 33 01.7 +0.4
comp=N,65nm,2.3s,mb5.3
ZAK **Zakamensk** 63.11 22 *e*P P 03 33 03.3 -1.0
ZAK pmax pmax
comp=Z,5.0nm,1.5s,mb4.4
ARU **Arti** 63.77 352*c* *i*P P 03 33 07.5 -1.0
ARU *e* 03 35 25.9
ARU *e*PPP 03 36 59.1
ARU *e*S **S** **03 41 44.2 +1.3**
ARU pmax pmax
comp=Z,24nm,1.7s,mb5.0
ARU MLR MLR
comp=Z,958nm,17.0s,MS5.0
ARU **Arti** 63.77 352 *e*P P 03 33 07.8 -0.7
SVE **Sverdlovsk** 63.89 353 *e*P P 03 33 10.6 +1.3
SVE pmax pmax
comp=Z,35nm,1.0s,mb5.3
TIRR **Tirgusor** 63.97 327⇑ *i*P P 03 33 10.0 -0.1
TIRR **Tirgusor** 63.97 327 ⇑P P 03 33 10.0 -0.1
VSR **Storozhevoye** 64.01 338 *e*P P 03 33 10.5 +0.2
VSR pmax pmax
comp=Z,4.0nm,0.9s,mb4.5
VSR pmax pmax
comp=N,7.0nm,0.7s
VSR pmax pmax
comp=E,8.0nm,0.7s
JOW **Kunigami** 64.21 56 LR LR 04 04 47.4
comp=E,658nm,18.0s,MS4.9,baz=292,slow=39
TLY **Talaya** 64.30 22 *e*P P 03 33 16.3 +4.2
TLY *e*PPP 03 37 06.3
TLY *e*S **S** **03 41 44.3 -5.3**
TLY pmax pmax
comp=Z,10.0nm,0.9s,mb4.8
TLY MLR MLR
comp=Z,1μm,16.0s,MS5.1
HARR **Harsova** 64.38 327⇓ *i*P P 03 33 13.0 +0.2
HARR **Harsova** 64.38 327 ⇓P P 03 33 13.0 +0.1
KIS **Kishinev** 65.44 329⇓ *i*P P 03 33 19.0 -0.7
KIS *e* 03 33 30.0
KIS *e* 03 33 36.0
KIS *e*S S 03 42 01.0 -2.9
KIS *e*PS 03 42 18.0
KIS *e* 03 43 16.0
KIS **Kishinev** 65.44 329⇓ *i*P P 03 33 19.0 -0.7
KIS *e*S S 03 42 01.0 -2.9
SYO **Syowa Base** 65.72 192⇓ *e*P P 03 33 21.2 0.0
SYO **Syowa Base** 65.72 192⇓ *e*sP sP 03 33 28.0 +1.1
VTS **Vítosha** 65.79 323⇓ *i*P P 03 33 22.5 +0.5
VRI **Vrincioaia** 65.79 327⇓ *i*P P 03 33 23.1 +1.1
PLOR **Plostina** 65.82 327⇓ *i*P P 03 33 23.2 +1.0
MLR **Muntele Rosu** 65.97 327 *i*P P 03 33 24.3 +1.1
MLR **Muntele Rosu** 65.97 327 ⇑P P 03 33 24.3 +1.1
TIR **Tirane** 67.16 320 *e*P P 03 33 31.8 +0.9
TIR pmax pmax
comp=Z,75nm,1.1s,mb5.6
TIR **Tirane** 67.16 320 *e*P P 03 33 31.8 +0.9
comp=Z,75nm,1.1s,mb5.6
BURAR **Bucovina Array** 67.70 328⇓ *i*P P 03 33 34.4 +0.3
BUR08 **Bucovina Ar. S** 67.73 328 *e*P P 03 33 35.2 +0.9
AKASG **Malin Array Be** 67.77 332 P P 03 33 34.2 -0.3
comp=Z,5.2nm,0.6s,mb4.7,baz=132,slow=5.2,SNR=19
AKASG LR LR 04 03 50.0
comp=Z,320nm,22.0s,MS4.5,baz=105,slow=36
AKASG **Malin Array Be** 67.77 332 P P 03 33 34.2 -0.3
AKASG LR LR 04 03 50.0
KIEV **Kiev** 67.78 332 *e*P P 03 33 34.1 -0.4
KIEV pmax pmax
comp=Z,31nm,1.3s,mb5.2
KIEV **Kiev** 67.78 332 *e*P P 03 33 34.0 -0.5
comp=Z,31nm,1.3s,mb5.2
OBN **Obninsk** 68.07 339⇑ *i*P P 03 33 35.7 -0.6
OBN *e* 03 36 09.2
OBN *i*S S 03 42 34.3 -1.1
OBN *i*SS SS 03 46 50.6 -7.6
OBN pmax pmax
comp=Z,11nm,0.9s,mb4.9
OBN MLR MLR
comp=Z,900nm,29.0s,MS4.8
OBN **Obninsk** 68.07 339 *e*P P 03 33 37.1 +0.8
MOS **Moscow** 68.20 340 *e*P P 03 33 35.3 -1.8
MOS *e* 03 33 47.2
MOS *e* 03 33 59.0
MOS *e* 03 36 07.7
MOS *e*S S 03 42 41.4 +4.4
MOS pmax pmax
comp=Z,74nm,1.5s,mb5.5
MOS MLR MLR
comp=Z,600nm,19.0s,MS4.8
KSRS **Korea Array** 68.42 45 P P 03 33 37.5 -1.3
comp=Z,5.0nm,1.0s,mb4.5,baz=261,slow=7.9,SNR=6.7
KSRS LR LR 04 03 36.9
comp=Z,720nm,19.7s,MS4.9,baz=239,slow=36
BZS **Buzias** 68.47 325⇑ *i*P P 03 33 39.1 +0.1
BZS **Buzias** 68.47 325 ⇑P P 03 33 39.1 +0.1
DRGR 68.55 326⇑ *i*P P 03 33 40.5 +1.0
DRGR 68.55 326 ⇑P P 03 33 40.5 +1.0
STKA **Stephens Creek** 69.59 121 *e*P P 03 33 49.1 +2.7
comp=Z,4.8nm,1.0s,mb4.4
STKA **Stephens Creek** 69.59 121 P P 03 33 46.5 +0.2
comp=Z,7.4nm,0.9s,mb4.6,baz=300,slow=7.4,SNR=5.7
STKA LR LR 04 01 27.5
comp=Z,571nm,18.1s,MS4.9,baz=83,slow=34
LVV **L'vov** 69.70 329 *e*P P 03 33 49.1 +2.6
CN2 **Changchun** 69.87 39 *e*P P 03 33 49.4 +1.7
UZH **Uzhgorod** 69.87 328 *e*P P 03 33 47.3 -0.3
UZH *e* 03 34 05.0
UZH *e* 03 36 24.0
UZH *e*S S 03 42 53.7 -3.4
UZH *e*PS 03 43 32.0
KOLS **Kolonicke sedl** 70.06 328 *e*P P 03 33 52.0 +3.2
KOLS *e*PP PP 03 36 23.2 -0.8
KWP **Kalwaria** 70.26 329⇑ *i*P P 03 33 49.3 -0.7
KWP **Kalwaria** 70.26 329 *e*P P 03 33 49.9 -0.1
comp=Z,29nm,1.0s,mb5.2
CRVS **Cervenica-Dubn** 70.48 328 *e*P P 03 33 51.4 +0.1
CRVS *e*PP PP 03 36 26.5 -1.1
PKSM **Moragy** 70.53 324⇓ *i*P P 03 33 51.8 +0.1
COEN **Coen** 70.65 102 *e*P P 03 33 52.7 -0.4
comp=Z,3.3nm,1.1s,mb4.2
PSZ **Piszkesteto** 70.76 326 *e*P P 03 33 51.8 -1.3
PSZ **Piszkesteto** 70.76 326 *e*P P 03 33 54.3 +1.2
TAM **Tamanrasset** 70.83 297 *e*P P 03 33 54.2 +0.2
STHS **Stebnicka Huta** 70.89 328 *e*P P 03 33 54.3 +0.4
STHS pmax pmax
comp=Z,7.0nm,1.0s,mb4.5
STHS **Stebnicka Huta** 70.89 328 *e*P P 03 33 54.3 +0.4
comp=Z,6.5nm,1.0s,mb4.5
VYHS **Vyhne** 71.67 326 *e*P P 03 33 58.3 -0.3
KLMR **Klimovskoe** 71.83 344 *i*P P 03 33 52.3 -6.9
KLMR pmax pmax
comp=Z,49nm,1.4s,mb5.2
KEST **Kesra** 71.93 311 LR LR 04 02 01.4
comp=Z,110nm,21.9s,MS4.1,baz=346,slow=33
KOLL **Kolacno** 71.96 326 *e*P P 03 34 00.3 0.0
KOLL *e*pP pP 03 34 03.7 -0.8
KOGS **Kog** 72.06 323 *i*P P 03 34 00.7 -0.3
TORD **Torodi Ar. Bea** 72.09 286 P P 03 34 00.6 -1.2
comp=Z,1.8nm,0.9s,mb4.0,baz=115,slow=5.7,SNR=15
TORD LR LR 04 06 37.1
comp=Z,648nm,18.1s,MS4.9,baz=115,slow=37
GOLS **Golise** 72.21 323 *e*P P 03 34 02.0 +0.1
MODS **Modra-Piesok** 72.48 325 *e*P P 03 34 03.0 -0.4
MODS pmax pmax
comp=Z,7.0nm,0.9s,mb4.6
MODS **Modra-Piesok** 72.48 325 *e*P P 03 34 03.0 -0.4
comp=Z,7.2nm,0.9s,mb4.6
ZST **Bratislava** 72.48 325 *e*P P 03 34 02.6 -0.8
ZST pmax pmax
comp=Z,11nm,1.3s,mb4.6
ZST **Bratislava** 72.48 325 *e*P P 03 34 02.6 -0.8
comp=Z,11nm,1.3s,mb4.6
ZST *e*PP PP 03 36 42.6 -2.2
SUW **Suwalki** 72.74 332 *e*P P 03 34 04.4 -0.5
OKC **Ostrava-Krasne** 72.79 327 *e*P P 03 34 07.9 +2.6
OKC *e*S S 03 43 27.9 -2.9
OKC *e*SS SS 03 48 03.6 -7.4
PERS **Pernice** 72.83 323 *e*P P 03 34 05.3 -0.2
BOD **Bodaibo** 72.85 22 *e*P P 03 34 04.8 -0.6
MDJ **Mudanjiang** 72.86 39 P P 03 34 09.4 +3.6
MDJ AP pP 03 34 12.6 +2.6
MDJ PP PP 03 36 52.7 +4.5
MDJ S S 03 43 38.5 +6.7
MDJ AMB AMB
comp=Z,24nm,1.2s,mb5.0
MDJ AMB AMB
comp=Z,406nm,4.4s
MDJ LR LR
comp=N,330nm,19.7s,MS4.7
MDJ LR LR
comp=E,159nm,18.4s,MS4.7
MDJ LR LR
comp=Z,226nm,19.3s,MS4.5
LJU **Ljubljana** 72.89 322 *e*P P 03 34 05.6 -0.3
ARSA **Arzberg** 72.90 324⇓ *i*P P 03 34 06.7 +0.7
comp=Z,21nm,1.4s,mb4.9
SOKA **Soboth** 72.90 323⇓ *i*P P 03 34 06.4 +0.4
CONA **Conrad Observa** 73.05 325⇓ *i*P P 03 34 07.2 +0.4
comp=Z,20nm,1.1s,mb4.9
MORC **Moravsky Berou** 73.08 327⇓ *i*P P 03 34 07.0 0.0
MORC **Moravsky Berou** 73.08 327 *e*P P 03 34 07.0 0.0
comp=Z,26nm,1.5s,mb5.0
OBKA **Obir** 73.11 323⇓ *i*P P 03 34 08.6 +1.4
comp=Z,18nm,1.4s,mb4.8
TOO **Toolangi** 73.26 127 *e*P P 03 34 09.0 +0.6
VRAC **Vranov** 73.36 326⇓ *i*P P 03 34 09.1 +0.5
VSL **Villasalto** 73.38 314 *e*P P 03 34 10.3 +1.3
comp=Z,52nm,1.5s,mb5.2
CTA **Charters Tower** 73.42 109 *e*P P 03 34 08.6 -1.1
comp=Z,19nm,0.9s,mb5.0
CTA **Charters Tower** 73.42 109 *e*P P 03 34 08.6 -1.1
CTA pmax pmax
comp=Z,19nm,0.9s
CTAO **Charters Tower** 73.42 109 *e*P P 03 34 08.9 -0.8
CTAO pmax pmax
comp=Z,43nm,1.1s,mb5.3
CTAO **Charters Tower** 73.42 109 *e*P P 03 34 08.8 -0.8
comp=Z,43nm,1.1s,mb5.3
VLA **Vladivostok** 73.67 42⇓ *e*P P 03 34 09.1 -1.5
VLA pmax pmax
comp=Z,89nm,1.2s,mb5.6
MYKA **Terra Mystica** 73.71 323⇓ *i*pP pP 03 34 14.0 -1.0
comp=Z,33nm,1.4s
MOA **Molln** 73.94 324⇓ *e*P P 03 34 11.8 -0.3
comp=Z,17nm,1.1s,mb4.9,SNR=12
TREC **Trest** 73.97 326 *e*P P 03 34 12.3 +0.1
TREC *e*pP pP 03 34 15.1 -1.4
TREC AMS AMS 04 08 40.0
comp=Z,300nm,22.5s
DPC **Dobruska-Polom** 74.06 327 *e*P P 03 34 13.2 +0.5
DPC *e*S S 03 43 40.1 -5.0
DPC MLR MLR
comp=Z,300nm,23.9s,MS4.5
DPC **Dobruska-Polom** 74.06 327 *e*P P 03 34 13.2 +0.5
DPC *e*pP pP 03 34 16.1 -0.9
DPC *e*S S 03 43 40.1 -5.0
DPC *e*x x 03 48 17.1
DPC AMS AMS 04 04 20.0
comp=Z,300nm,23.9s
MAIT **Maitri** 74.09 197 *e*P P 03 34 12.9 +0.3
KBA **Koelnbreinsper** 74.11 323⇓ *i*P P 03 34 13.6 +0.5
comp=Z,12nm,0.7s,mb4.9
VSU **Vasula** 74.18 337 *i*P P 03 34 13.0 -0.3
UPC **Upice** 74.31 327 *e*P P 03 34 15.0 +0.8
UPC *e*pP pP 03 34 17.6 -0.8
ABTA **Abfaltersbach** 74.45 322⇓ *i*P P 03 34 13.9 -1.2
comp=Z,30nm,0.9s,mb5.2,SNR=12
RJOB **Jochberg** 74.75 323 *e*P P 03 34 16.8 0.0
comp=Z,10.0nm,0.8s,mb4.8
GERES **GERESS Array B** 74.75 325 P P 03 34 15.9 -0.9
comp=Z,1.7nm,0.9s,mb4.0,baz=120,slow=7.9,SNR=5.6
GERES LR LR 04 06 29.6
comp=Z,147nm,19.9s,MS4.3,baz=122,slow=35
PMG **Port Moresby** 74.81 98 *i*P P 03 34 17.9 0.0
PMG **Port Moresby** 74.81 98 *e*P P 03 34 18.3 +0.4
comp=Z,57nm,1.1s,mb5.4
PRU **Pruhonice** 74.85 326 *e*P P 03 34 17.4 +0.1
PRU *e*S S 03 43 49.3 -4.7
PRU MLR MLR
comp=Z,200nm,23.1s,MS4.3
PRU **Pruhonice** 74.85 326 *e*P P 03 34 17.4 +0.1
PRU *e*pP pP 03 34 19.8 -1.8
PRU *e*S S 03 43 49.3 -4.7
PRU *e*x x 03 48 20.7
PRU AMS AMS 04 06 20.0
comp=Z,200nm,23.1s
PGF **Pioggiola** 74.87 317 *e*P P 03 34 16.4 -1.2
comp=Z,36nm,1.2s,mb4.9
PGF **Pioggiola** 74.87 317 *e*P P 03 34 16.4 -1.2
PGF pmax pmax
comp=Z,18nm,1.2s,mb4.9
PGF **Pioggiola** 74.87 317 *e*P P 03 34 16.4 -1.2
comp=Z,18nm,1.2s,mb4.9
KHC **Kasperske Hory** 74.97 325 *e*P P 03 34 17.8 -0.2
KHC *e*pP pP 03 34 20.6 -1.7
KHC *e*S S 03 43 47.1 -8.2
KHC *e*SS SS 03 48 39.1 -5.1
KHC AMS AMS 04 05 20.0
comp=Z,200nm,24.2s
PVCC **Panska Ves** 75.11 326 *e*P P 03 34 17.7 -1.1
WTTA **Wattenberg** 75.22 322⇓ *i*P P 03 34 20.2 +0.6
comp=Z,54nm,1.1s,mb5.4,SNR=15
WET **Wettzell** 75.38 325 *e*P P 03 34 20.1 -0.3
WET pmax pmax
comp=Z,21nm,1.5s,mb4.8
WET **Wettzell** 75.38 325 *e*P P 03 34 20.1 -0.3
comp=Z,21nm,1.5s,mb4.8
SQTA **Sankt Quirin** 75.46 322 *i*P P 03 34 20.1 -0.8
DRV **Dumont d'Urvil** 75.47 157 P P 03 34 22.0 +1.3
DRV S S 03 44 32.0 +32
DRV SS SS 03 48 36.0 -15
DRV R 03 58 00.0
GUMO **Guam** 75.52 74 LR LR 04 06 05.1
comp=Z,195nm,18.6s,MS4.4,baz=258,slow=35
MOTA **Moosalm** 75.58 322⇓ *i*P P 03 34 21.9 +0.3
comp=Z,19nm,0.9s,mb5.0,SNR=17
MAT **Matsushiro** 75.61 50 P P 03 34 19.9 -2.1
MJAR **Matsushiro Arr** 75.61 50 P P 03 34 22.2 +0.1
comp=Z,16nm,1.0s,mb4.9,baz=257,slow=7.5,SNR=16
BRG **Berggiesshubel** 75.63 326 *e*P P 03 34 21.7 -0.1
BRG *i* pP 03 34 27.3 +1.3
BRG S S 03 44 01.0 -1.6
BRG SS SS 03 48 51.0 -3.1
BRG pmax pmax
comp=Z,8.0nm,1.4s,mb4.5
BRG pmax pmax
comp=Z,13nm,1.3s,mb4.7
BRG MLR MLR
comp=N,174nm,14.0s
BRG MLR MLR
comp=Z,115nm,16.4s,MS4.3
BRG **Berggiesshubel** 75.63 326 *e*P P 03 34 22.6 +0.8
comp=Z,21nm,1.2s,mb4.9
BRG **Berggiesshubel** 75.63 326 *e*P P 03 34 21.7 -0.1
comp=Z,14nm,1.4s,mb4.7
BRG *i* pP 03 34 27.3 +1.3
comp=Z,21nm,1.2s
BRG S S 03 44 01.0 -1.6
BRG SS SS 03 48 51.0 -3.1
BRG
comp=E,291nm,14.0s
BRG
comp=Z,192nm,16.4s
BRG **Berggiesshubel** 75.63 326 *e*P P 03 34 21.7 -0.1
comp=Z,8.3nm,1.4s,mb4.5
BRG *i* pP 03 34 27.3 +1.3
BRG S S 03 44 01.0 -1.6
BRG SS SS 03 48 51.0 -3.1
BRG LR LR
comp=Z,120nm,16.4s,MS4.3
FETA **Feichten** 75.67 322⇓ *i*P P 03 34 20.7 -1.4
comp=Z,32nm,1.0s,mb5.2,SNR=15
JHJ **Hachijo jima 2** 75.74 54 LR LR 04 05 56.2
comp=Z,289nm,18.4s,MS4.6,baz=352,slow=34
JOF **Joensuu** 75.83 342 *e*p P 03 34 20.6 -2.1
comp=Z,8.7nm,0.7s,mb4.8
JOF **Joensuu** 75.83 342 *e*P P 03 34 20.6 -2.1
JOF pmax pmax
comp=Z,9.0nm,0.7s,mb4.8
FUR **Furstenfeldbru** 75.85 323 *e*P P 03 34 23.5 +0.4
FUR pmax pmax
comp=Z,64nm,1.3s,mb5.4
FUR **Furstenfeldbru** 75.85 323 *e*P P 03 34 23.5 +0.4
comp=Z,64nm,1.3s,mb5.4
RETA **Reutte** 75.86 322⇓ *i*P P 03 34 23.0 -0.1
comp=Z,26nm,1.0s,mb5.1
ROTZ **Rotzenmuhle** 76.06 325 *e*P P 03 34 25.1 +0.8
comp=Z,13nm,1.4s,mb4.7
NKC **Novy Kostel** 76.14 325 *e*P P 03 34 25.6 +0.8
NKC *e*pP pP 03 34 28.4 -0.6
NKC *e*S S 03 44 05.3 -3.0
MANZ **Manzenberg** 76.22 325 *e*P P 03 34 25.8 +0.6
comp=Z,23nm,1.2s,mb5.0
TUE **Stuetta** 76.28 321 *e*P P 03 34 26.1 +0.5
comp=Z,14nm,0.9s,mb4.9
DAVA **Damuels** 76.30 322⇓ *i*P P 03 34 25.4 -0.3
comp=Z,25nm,0.8s,mb5.2,SNR=7.0
KLR **Kul'dur** 76.32 36 *e*P P 03 34 19.3 -6.5
KLR MLR MLR
comp=N,2μm,17.0s,MS5.5
KLR MLR MLR
comp=E,700nm,17.0s,MS5.5
CLL **Collm** 76.36 327⇓ *e*P P 03 34 25.0 -0.9
CLL *e*S S 03 44 08.0 -2.6
CLL pmax pmax
comp=Z,31nm,1.1s,mb5.2
CLL MLR MLR
comp=Z,200nm,17.2s,MS4.5
CLL **Collm** 76.36 327 *e*P P 03 34 27.0 +1.1
comp=Z,31nm,1.1s,mb5.2
CLL **Collm** 76.36 327 *e*P P 03 34 25.0 -0.9
CLL ⇓ *i*Pmax pP 03 34 27.0 -3.2
comp=Z,15nm,1.1s
CLL *i* (pP) pP 03 34 29.3 -0.9
comp=Z,31nm,1.1s
CLL *e*sPcP 03 34 43.0
CLL *e*PP PP 03 37 24.0 +6.3
CLL *e*S S 03 44 08.0 -2.6
CLL *e*PS 03 44 48.0
CLL *e*x x 03 45 50.0
CLL *e*SS SS 03 49 03.0 -2.2
CLL *e*x x 03 50 03.0
CLL *e*SSS 03 52 24.0
CLL *e*x x 03 53 12.0
CLL *e*SSSS 03 54 36.0
CLL **Collm** 76.36 327 *e*P P 03 34 25.0 -0.9
comp=Z,31nm,1.1s,mb5.2
CLL *i* pP 03 34 29.3 -0.9
CLL *e*S S 03 44 08.0 -2.6
CLL LR LR
comp=Z,200nm,17.2s,MS4.5
SAOF **Saorge** 76.41 318 *e*P P 03 34 26.7 +0.3
SBF **Sospel** 76.44 318 *e*P P 03 34 24.9 -1.7
comp=Z,82nm,1.2s,mb5.2
SBF **Sospel** 76.44 318 *e*P P 03 34 24.9 -1.7
SBF pmax pmax
comp=Z,41nm,1.2s,mb5.2
SBF **Sospel** 76.44 318 *e*P P 03 34 24.9 -1.7
comp=Z,41nm,1.2s,mb5.2
AUTN **L'Aution** 76.50 318 *e*P P 03 34 27.7 +0.8
LUCF **Luceram** 76.52 318 *e*P P 03 34 26.6 -0.4
GRA1 **Grafenberg Arr** 76.59 325 *e*P P 03 34 29.4 +2.1
GRA1 LR LR
comp=Z,200nm,20.7s,MS4.4
GRF **Grafenberg Arr** 76.59 325 *e*P P 03 34 29.4 +2.1
GRF *e*L 04 06 26.1
comp=Z,176nm,20.7s
TOUF **Mont Tournerai** 76.63 318 *e*P P 03 34 28.4 +0.7
MVIF **Mont Vial** 76.65 318 *e*P P 03 34 29.8 +2.0
CALN **Calern** 76.77 318 *e*P P 03 34 28.7 +0.3
MOX **Moxa** 76.81 326 *e*P P 03 34 29.5 +1.0
comp=Z,22nm,1.4s,mb4.9
MOX
comp=Z,100nm,18.0s
MOX **Moxa** 76.81 326 *e*P P 03 34 29.5 +1.0
MOX pmax pmax
comp=Z,22nm,1.4s,mb4.9
MOX MLR MLR
comp=Z,100nm,18.0s,MS4.2
FRF **La Foret Royal** 76.85 317 *e*P P 03 34 27.2 -1.7
comp=Z,71nm,1.4s,mb5.1
FRF **La Foret Royal** 76.85 317 *e*P P 03 34 27.2 -1.7
FRF pmax pmax
comp=Z,36nm,1.4s,mb5.1
FRF **La Foret Royal** 76.85 317 *e*P P 03 34 27.2 -1.7
comp=Z,36nm,1.4s,mb5.1
KAF **Kangasniemi** 76.86 340 *e*p P 03 34 28.0 -0.5
comp=Z,5.6nm,0.6s,mb4.7
KAF **Kangasniemi** 76.86 340 *e*P P 03 34 28.0 -0.5
KAF pmax pmax

comp=Z,6.0nm,0.6s,mb4.7
LMR La Mourre 76.86 317 *e*P **P** 03 34 27.2 -1.8
comp=Z,44nm,1.3s,mb4.9
LMR La Mourre 76.86 317 *e*P **P** 03 34 27.2 -1.8
LMR pmax pmax
comp=Z,22nm,1.3s,mb4.9
LMR La Mourre 76.86 317 *e*P **P** 03 34 27.2 -1.8
comp=Z,22nm,1.3s,mb4.9
MBDF Montbardon 77.22 319 *e*P **P** 03 34 30.2 -0.8
comp=Z,27nm,1.2s,mb4.8
MBDF Montbardon 77.22 319 *e*P **P** 03 34 30.2 -0.8
MBDF pmax pmax
comp=Z,14nm,1.2s,mb4.8
MBDF Montbardon 77.22 319 *e*P **P** 03 34 30.2 -0.8
comp=Z,14nm,1.2s,mb4.8
DBIC Dimbokro 77.35 278 P **P** 03 34 31.2 -1.2
comp=Z,10nm,0.9s,mb4.7,baz=46,slow=5.3,SNR=4.4
DBIC LR LR 04 08 15.9
comp=Z,234nm,18.3s,MS4.5,baz=80,slow=35
STU Stuttgart 77.36 323 *e*P **P** 03 34 32.3 +0.6
comp=Z,41nm,1.3s,mb5.2
BNI Bardonecchia 77.41 319 *e*P **P** 03 34 35.3 +3.3
LPG La Plagne 77.53 319 *e*P **P** 03 34 30.6 -2.1
comp=Z,35nm,1.2s,mb4.9
LPG La Plagne 77.53 319 *e*P **P** 03 34 30.6 -2.1
LPG pmax pmax
comp=Z,17nm,1.2s,mb4.8
LPG La Plagne 77.53 319 *e*P **P** 03 34 30.6 -2.1
comp=Z,17nm,1.2s,mb4.9
LPL La Plagne 77.56 319 *e*P **P** 03 34 30.6 -2.2
comp=Z,28nm,1.0s,mb4.8
LPL La Plagne 77.56 319 *e*P **P** 03 34 30.6 -2.2
LPL pmax pmax
comp=Z,14nm,1.0s,mb4.8
LPL La Plagne 77.56 319 *e*P **P** 03 34 30.6 -2.2
comp=Z,14nm,1.0s,mb4.8
BFO Black Forest 77.70 322 *e*P **P** 03 34 34.1 +0.6
BFO pmax pmax
comp=Z,15nm,1.2s,mb4.8
BFO Black Forest 77.70 322 *e*P **P** 03 34 34.1 +0.6
comp=Z,15nm,1.2s,mb4.8
FELD Feldberg im Sc 77.70 322 *e*P **P** 03 34 34.1 +0.5
EIDS Eidsvold 77.76 114 *e*P **P** 03 34 39.3 +4.8
UBBA Unterbreizbach 77.80 325 *e*P **P** 03 34 35.0 +0.9
comp=Z,25nm,1.4s,mb5.0
BBS Basel-Blauen 77.84 321 *e*P **P** 03 34 36.6 +2.2
ORIF Oris-en-Rattie 77.88 319 *e*P **P** 03 34 33.1 -1.6
comp=Z,17nm,0.9s,mb4.7
ORIF *e*MLR MLR
comp=Z,364nm,21.5s,MS4.4
ORIF Oris-en-Rattie 77.88 319 *e*P **P** 03 34 33.1 -1.6
ORIF pmax pmax
comp=Z,9.0nm,0.9s,mb4.7
ORIF Oris-en-Rattie 77.88 319 *e*P **P** 03 34 33.1 -1.6
comp=Z,8.6nm,0.9s,mb4.7
HABR Khabarovsk 77.95 38 *e*P **P** 03 34 31.2 -3.8
HABR *e* pP 03 34 36.6 -2.6
HABR *e* 03 34 42.1
HABR *e* 03 37 27.0
HABR *e*S S 03 44 24.0 -4.1
HABR *e* 03 52 50.2
TOD Tromm 77.96 324 *e*P **P** 03 34 36.8 +1.8
CLZ Clausthal 78.06 326 *e*P **P** 03 34 36.9 +1.4
CLZ pmax pmax
comp=Z,31nm,1.6s,mb5.0
CLZ Clausthal 78.06 326 *e*P **P** 03 34 36.9 +1.4
comp=Z,31nm,1.6s,mb5.0
ETOS Mallorca 78.20 313 P **P** 03 34 40.6 +4.1
comp=Z,17nm,0.9s,mb5.0
LOMF Lomont 78.22 321 *e*P **P** 03 34 34.8 -1.7
MOF Molkenrain 78.23 322 *e*P **P** 03 34 36.3 -0.2
ECH Echery 78.36 322 *e*P **P** 03 34 35.8 -1.4
ECH Echery 78.36 322 *e*P **P** 03 34 37.7 +0.5
CDF Champ du Feu 78.37 322 *e*P **P** 03 34 35.4 -1.9
comp=Z,38nm,1.2s,mb4.9
CDF Champ du Feu 78.37 322 *e*P **P** 03 34 35.4 -1.9
CDF pmax pmax
comp=Z,19nm,1.2s,mb4.9
CDF Champ du Feu 78.37 322 *e*P **P** 03 34 35.4 -1.9
comp=Z,19nm,1.2s,mb4.9
HINF Hinteralfeld 78.39 322 *e*P **P** 03 34 34.9 -2.5
comp=Z,11nm,0.9s,mb4.5
HINF Hinteralfeld 78.39 322 *e*P **P** 03 34 34.9 -2.5
HINF pmax pmax
comp=Z,6.0nm,0.9s,mb4.5
HINF Hinteralfeld 78.39 322 *e*P **P** 03 34 34.9 -2.5
comp=Z,5.6nm,0.9s,mb4.5
CABF La Chapelle 78.39 320 *e*P **P** 03 34 37.7 +0.2
TNS Taunus Mts 78.43 324 *e*P **P** 03 34 38.7 +1.1
TNS pmax pmax
comp=Z,24nm,1.2s,mb5.0
TNS Taunus Mts 78.43 324 *e*P **P** 03 34 38.7 +1.1
comp=Z,24nm,1.2s,mb5.0
VIVF Saint-Julien-l 78.66 318 *e*P **P** 03 34 37.3 -1.7
comp=Z,66nm,1.5s,mb5.0
VIVF Saint-Julien-l 78.66 318 *e*P **P** 03 34 37.3 -1.7
VIVF pmax pmax
comp=Z,33nm,1.5s,mb5.0
VIVF Saint-Julien-l 78.66 318 *e*P **P** 03 34 37.3 -1.7
comp=Z,33nm,1.5s,mb5.0
HAU Haudompre 78.78 322 *e*P **P** 03 34 37.3 -2.2
HAU *e*MLR MLR
comp=Z,191nm,20.5s,MS4.1
HAU Haudompre 78.78 322 *e*P **P** 03 34 37.3 -2.2
HAU LR LR
comp=Z,190nm,20.5s,MS4.4
SNAA Sanae 78.82 198 *e*P **P** 03 34 40.6 +1.2
SNAA *e* pP 03 34 45.7 +2.0
SNAA Sanae 78.82 198↑ *e*P **P** 03 34 39.7 +0.3
SNAA Sanae 78.82 198 *e*P **P** 03 34 40.7 +1.4
APA Apatity 78.84 346↑ *e*P **P** 03 34 43.8 +4.3
APA MLR MLR
comp=Z,900nm,15.0s,MS5.2
SSB Saint Sauveur 78.89 319 *e*P **P** 03 34 41.1 +0.8
LASF Ste Croix 78.92 317 *e*P **P** 03 34 39.4 -1.0
comp=Z,119nm,1.7s,mb5.2
RUP Ruppelstein 79.03 323 *e*P **P** 03 34 41.6 +0.7
WLF Walferdange 79.55 323 *e*P **P** 03 34 44.7 +1.0
comp=Z,25nm,1.2s,mb5.0
WLF Walferdange 79.55 323 *e*P **P** 03 34 45.9 +2.2
LBL Lubilhac 79.73 318 *e*P **P** 03 34 43.3 -1.5
PLDF La Plantade 79.75 319 *e*P **P** 03 34 43.6 -1.3
MTLF Montolieu 79.79 316 *e*P **P** 03 34 44.2 -1.0
comp=Z,57nm,1.3s,mb5.0
MTLF Montolieu 79.79 316 *e*P **P** 03 34 44.2 -1.0
MTLF pmax pmax
comp=Z,28nm,1.3s,mb5.0
MTLF Montolieu 79.79 316 *e*P **P** 03 34 44.2 -1.0
comp=Z,28nm,1.3s,mb5.0
SMF Signal de Mont 79.84 320 *e*P **P** 03 34 43.3 -2.1
comp=Z,43nm,1.3s,mb4.9
SMF Signal de Mont 79.84 320 *e*P **P** 03 34 43.3 -2.1
SMF pmax pmax
comp=Z,22nm,1.3s,mb4.9
SMF Signal de Mont 79.84 320 *e*P **P** 03 34 43.3 -2.1
comp=Z,22nm,1.3s,mb4.9
MEM Membach 80.01 324 P **P** 03 34 47.3 +1.1
LOR Lormes 80.06 320 *e*P **P** 03 34 44.7 -1.8
comp=Z,55nm,1.3s,mb5.0
LOR *e*MLR MLR
comp=Z,160nm,19.8s,MS4.1
LOR Lormes 80.06 320 *e*P **P** 03 34 44.7 -1.8
LOR pmax pmax
comp=Z,27nm,1.3s,mb5.0
LOR MLR MLR
comp=Z,160nm,19.8s,MS4.4
LOR Lormes 80.06 320 *e*P **P** 03 34 44.7 -1.8
comp=Z,27nm,1.3s,mb5.0
LOR LR LR
comp=Z,160nm,19.8s,MS4.4
PYM Petit Puy Mans 80.07 319 *e*P **P** 03 34 44.5 -2.2
AGO Saint Agoulin 80.09 319 *e*P **P** 03 34 44.5 -2.3
HGN Heimansgroeve 80.12 324 *e*P **P** 03 34 46.0 -0.7
comp=Z,17nm,1.3s,mb4.8
HGN Heimansgroeve 80.12 324 *e*PP PP 03 37 45.2 -4.0
HGN Heimansgroeve 80.12 324 *e*S S 03 44 53.3 +2.2
HGN Heimansgroeve 80.12 324 *e*SS SS 03 50 03.5 +1.7
VNA2 Neumayer--Watz 80.12 199 *e*P **P** 03 34 48.8 +2.3
baz=67,slow=3.5
VNA2 *e* pP 03 34 53.7 +2.9
SSF Saint Saulge 80.21 320 *e*P **P** 03 34 45.6 -1.8
comp=Z,36nm,1.0s,mb4.9
SSF Saint Saulge 80.21 320 *e*P **P** 03 34 45.6 -1.8
SSF pmax pmax
comp=Z,18nm,1.0s,mb5.0
SSF Saint Saulge 80.21 320 *e*P **P** 03 34 45.6 -1.8
comp=Z,18nm,1.0s,mb5.0
AVF Avril sur Loir 80.21 320 *e*P **P** 03 34 45.3 -2.1
comp=Z,35nm,1.4s,mb4.8
AVF Avril sur Loir 80.21 320 *e*P **P** 03 34 45.3 -2.1
AVF pmax pmax
comp=Z,17nm,1.4s,mb4.8
AVF Avril sur Loir 80.21 320 *e*P **P** 03 34 45.3 -2.1
comp=Z,17nm,1.4s,mb4.8
BCLA Clavier 80.35 324 P **P** 03 34 48.6 +0.5
comp=Z,8.8nm,1.5s,mb4.5
VNA1 Neumayer--Stat 80.37 199 *e*P **P** 03 34 49.8 +1.9
VNA1 *e* pP 03 34 55.1 +3.0
CAF Calviac 80.42 318 *e*P **P** 03 34 48.6 +0.1
comp=Z,34nm,1.3s,mb4.8
CAF Calviac 80.42 318 *e*P **P** 03 34 48.6 +0.1
CAF pmax pmax
comp=Z,17nm,1.3s,mb4.8
CAF Calviac 80.42 318 *e*P **P** 03 34 48.6 +0.1
comp=Z,17nm,1.3s,mb4.8
BGF Bois d'Agland 80.45 319 *e*P **P** 03 34 46.3 -2.4
comp=Z,82nm,1.2s,mb5.2
BGF Bois d'Agland 80.45 319 *e*P **P** 03 34 46.3 -2.4
BGF pmax pmax
comp=Z,41nm,1.2s,mb5.2
BGF Bois d'Agland 80.45 319 *e*P **P** 03 34 46.3 -2.4
comp=Z,41nm,1.2s,mb5.2
GIVF Givet 80.51 323 *e*P **P** 03 34 47.4 -1.5
DOU Dourbes 80.65 323 P **P** 03 34 51.2 +1.6
comp=Z,11nm,3.3s
TCF Toulx Ste Croi 80.78 319 *e*P **P** 03 34 49.1 -1.3
HYF Humbligny 80.83 320 *e*P **P** 03 34 49.6 -1.1
BAIF Baives 80.86 323 *e*P **P** 03 34 49.5 -1.3
comp=Z,71nm,1.4s,mb5.1
BAIF Baives 80.86 323 *e*P **P** 03 34 49.5 -1.3
BAIF pmax pmax
comp=Z,36nm,1.4s,mb5.1
BAIF Baives 80.86 323 *e*P **P** 03 34 49.5 -1.3
comp=Z,36nm,1.4s,mb5.1
VNA3 Neumayer Olymp 80.90 199 *e*P **P** 03 34 51.6 +0.9
VNA3 *e* pP 03 34 57.2 +2.2
RJF Les Rejaudoux 80.91 318 *e*P **P** 03 34 50.3 -0.9
comp=Z,77nm,1.3s,mb5.2
RJF *e*MLR MLR
comp=Z,242nm,21.0s,MS4.2
RJF Les Rejaudoux 80.91 318 *e*P **P** 03 34 50.3 -0.9
RJF pmax pmax
comp=Z,39nm,1.3s,mb5.2
RJF MLR MLR
comp=Z,240nm,21.0s,MS4.5
RJF Les Rejaudoux 80.91 318 *e*P **P** 03 34 50.3 -0.9
comp=Z,39nm,1.3s,mb5.2
RJF LR LR
comp=Z,240nm,21.0s,MS4.5
EPF Esparros 80.99 315 *e*P **P** 03 34 49.9 -1.8
EBIE Bielsa 81.03 315 P **P** 03 34 56.3 +4.4
comp=Z,8.2nm,0.8s,mb4.7
ETOB Tobarra 81.10 311 P **P** 03 34 54.9 +2.6
comp=Z,8.7nm,1.1s,mb4.6
ESAC San Caprasio 81.17 314 P **P** 03 34 56.6 +4.0
comp=Z,29nm,0.8s,mb5.2
ASAJ Asahikawa 81.24 44 LR LR 04 10 49.2
comp=Z,333nm,18.6s,MS4.7,baz=359,slow=36
LFF La Frestale 81.31 317 *e*P **P** 03 34 52.4 -0.9
comp=Z,63nm,1.1s,mb5.2
LFF La Frestale 81.31 317 *e*P **P** 03 34 52.4 -0.9
LFF pmax pmax
comp=Z,32nm,1.1s,mb5.2
LFF La Frestale 81.31 317 *e*P **P** 03 34 52.4 -0.9
comp=Z,32nm,1.1s,mb5.2
ETSF Etsaut 81.58 315 *e*P **P** 03 34 54.2 -0.6
comp=Z,47nm,1.2s,mb5.0
ETSF Etsaut 81.58 315 *e*P **P** 03 34 54.2 -0.6
ETSF pmax pmax
comp=Z,23nm,1.2s,mb5.0
ETSF Etsaut 81.58 315 *e*P **P** 03 34 54.2 -0.6
comp=Z,23nm,1.2s,mb5.0
EBER Berja 81.66 309 P **P** 03 34 58.1 +2.7
comp=Z,15nm,0.7s,mb5.0
EHUE Huescar 81.67 310 P **P** 03 34 58.4 +3.0
EVIA Vianos 81.81 310 P **P** 03 34 56.6 +0.5
EVIA pmax pmax
comp=Z,11nm,0.8s,mb4.8
EVIA Vianos 81.81 310 P **P** 03 34 56.6 +0.4
comp=Z,11nm,0.8s,mb4.8
NOA NORSAR Array B 82.02 335 P **P** 03 34 57.0 +0.3
comp=Z,4.2nm,1.1s,mb4.3,baz=112,slow=6.1,SNR=3.1
EQES Quesada 82.03 310 P **P** 03 34 57.9 +0.6
comp=Z,11nm,1.0s,mb4.7
KONO Kongsberg 82.06 333 *i* P **P** 03 34 58.4 +1.5
SJPF Ste Jean 82.11 315 *e*P **P** 03 34 57.0 -0.6
comp=Z,61nm,1.1s,mb5.2
SJPF Ste Jean 82.11 315 *e*P **P** 03 34 57.0 -0.6
SJPF pmax pmax
comp=Z,31nm,1.1s,mb5.2
SJPF Ste Jean 82.11 315 *e*P **P** 03 34 57.0 -0.6
comp=Z,31nm,1.1s,mb5.2
EGUA Guajares 82.17 308 P **P** 03 34 58.9 +0.8
ARCES ARCESS Array B 82.25 345 P **P** 03 34 56.5 -1.3
comp=Z,5.1nm,0.7s,mb4.6,baz=127,slow=3.6,SNR=9.6
ARCES LR LR 04 12 41.6
comp=Z,551nm,18.1s,MS5.0,baz=135,slow=37
ARCES ARCESS Array B 82.25 345 P **P** 03 34 56.5 -1.3
ARCES LR LR 04 12 41.6
ECOG Cogollos-Vega 82.28 309 P **P** 03 34 57.0 -1.6
ERON Agron 82.40 309 P **P** 03 35 00.1 +0.8
MFF Saint Martin d 82.42 319 *e*P **P** 03 34 57.7 -1.4
comp=Z,46nm,1.2s,mb5.0
MFF Saint Martin d 82.42 319 *e*P **P** 03 34 57.7 -1.4
MFF pmax pmax
comp=Z,23nm,1.2s,mb5.0
MFF Saint Martin d 82.42 319 *e*P **P** 03 34 57.7 -1.4
comp=Z,23nm,1.2s,mb5.0
EBAN Banos Encina 82.67 310 P **P** 03 34 59.8 -0.8
ELOJ Sierra Loja 82.70 309 P **P** 03 35 01.6 +0.8
LDF La Druitiere 83.02 321 *e*P **P** 03 35 00.6 -1.6
comp=Z,9.1nm,0.6s,mb4.7
LDF La Druitiere 83.02 321 *e*P **P** 03 35 00.6 -1.6
LDF pmax pmax
comp=Z,5.0nm,0.6s,mb4.7
LDF La Druitiere 83.02 321 *e*P **P** 03 35 00.6 -1.6
comp=Z,4.6nm,0.6s,mb4.7
EMIJ Mijas 83.05 308 P **P** 03 35 02.7 +0.1
comp=Z,17nm,1.0s,mb5.0
ESDC Sonseca Array 83.18 311 P **P** 03 35 02.5 -0.7
comp=Z,5.3nm,0.8s,mb4.6,baz=96,slow=4.6,SNR=19
ESDC Sonseca Array 83.18 311 P **P** 03 35 01.9 -1.3
comp=Z,4.2nm,0.7s,mb4.6
EADA Adamuz 83.27 310 P **P** 03 35 06.1 +2.3
comp=Z,16nm,1.1s,mb5.0
FLN La Foliniere 83.30 321 *e*P **P** 03 35 02.3 -1.4
comp=Z,27nm,1.1s,mb4.9
FLN *e*MLR MLR
comp=Z,243nm,21.2s,MS4.2
FLN La Foliniere 83.30 321 *e*P **P** 03 35 02.3 -1.4
FLN pmax pmax
comp=Z,14nm,1.1s,mb4.9
FLN MLR MLR
comp=Z,240nm,21.3s,MS4.5
FLN La Foliniere 83.30 321 *e*P **P** 03 35 02.3 -1.4
comp=Z,14nm,1.1s,mb4.9
FLN LR LR
comp=Z,240nm,21.3s,MS4.5
QSPA South Pole Qui 83.37 180 P **P** 03 35 03.9 +0.4
comp=Z,4.7nm,0.6s,mb4.7,baz=282,slow=2.7,SNR=16
GRR Gorron 83.43 320 *e*P **P** 03 35 02.8 -1.5
comp=Z,35nm,1.1s,mb5.0
GRR Gorron 83.43 320 *e*P **P** 03 35 02.8 -1.5
GRR pmax pmax
comp=Z,17nm,1.0s,mb5.0
GRR Gorron 83.43 320 *e*P **P** 03 35 02.8 -1.5
comp=Z,18nm,1.0s,mb5.0
PAB San Pablo 83.43 311 *e*P **P** 03 35 06.0 +1.4
PAB pmax pmax
comp=Z,22nm,1.0s,mb5.1
PAB San Pablo 83.43 311 *e*P **P** 03 35 06.0 +1.5
comp=Z,22nm,1.0s,mb5.1
GUD Guadarrama 83.56 312 P **P** 03 35 01.8 -3.4
EJIF Jimena Fronter 83.57 308 P **P** 03 35 05.3 0.0
ELAN Lanestosa 83.70 315 P **P** 03 35 09.9 +4.1
comp=Z,14nm,0.9s,mb5.1
ECAB El Cabril 83.90 309 P **P** 03 35 05.5 -1.5
comp=Z,52nm,1.2s,mb5.5
SGMF Saint Gilles 84.47 320 *e*P **P** 03 35 07.8 -1.8
comp=Z,46nm,1.1s,mb5.2
SGMF Saint Gilles 84.47 320 *e*P **P** 03 35 07.8 -1.8
SGMF pmax pmax
comp=Z,23nm,1.1s,mb5.2
SGMF Saint Gilles 84.47 320 *e*P **P** 03 35 07.8 -1.8
comp=Z,23nm,1.1s,mb5.2
SBA Scott Base 84.64 168 *e*P **P** 03 35 12.5 +2.5
SBA pmax pmax
comp=Z,84nm,2.5s,mb5.4
SBA Scott Base 84.64 168 *e*P **P** 03 35 12.5 +2.5
comp=Z,84nm,2.5s,mb5.4
QUIF Quistinic 84.77 319 *e*P **P** 03 35 09.3 -1.9
comp=Z,18nm,0.7s,mb5.0
QUIF Quistinic 84.77 319 *e*P **P** 03 35 09.3 -1.9
QUIF pmax pmax
comp=Z,9.0nm,0.7s,mb5.0
QUIF Quistinic 84.77 319 *e*P **P** 03 35 09.3 -1.9
comp=Z,8.9nm,0.7s,mb5.0
ROSF Rostrenen 84.95 320 *e*P **P** 03 35 10.3 -1.8
comp=Z,63nm,1.4s,mb5.2
ROSF Rostrenen 84.95 320 *e*P **P** 03 35 10.3 -1.8
ROSF pmax pmax
comp=Z,31nm,1.4s,mb5.2
ROSF Rostrenen 84.95 320 *e*P **P** 03 35 10.3 -1.8
comp=Z,31nm,1.4s,mb5.2
EARI Arriondas 84.97 314 P **P** 03 35 12.5 +0.2
comp=Z,7.5nm,0.9s,mb4.8
EBAD Badajoz 85.27 310 P **P** 03 35 14.9 +1.0
comp=Z,8.2nm,0.9s,mb4.9
PBRG Braganca 85.73 313 *e*P **P** 03 35 17.3 +1.2
comp=Z,18nm,1.3s,mb5.1
PBEJ Beja 85.77 309 *e*P **P** 03 35 17.8 +1.4
comp=Z,23nm,1.1s,mb5.3
PCBR Castelo Branco 85.85 311 *e*P **P** 03 35 18.1 +1.3
comp=Z,25nm,1.7s,mb5.2
EVO Evora 85.99 309 *e*P **P** 03 35 15.9 -1.6
comp=Z,30nm,1.2s,mb5.1
EVO *e*MLR MLR
comp=Z,266nm,21.5s,MS4.3
MTE Manteigas 86.02 311 *e*P **P** 03 35 19.1 +1.5
comp=Z,23nm,1.2s,mb5.3
TIXI Tiksi 86.53 15 *e*P **P** 03 35 18.4 -1.0
TIXI pmax pmax
comp=Z,14nm,1.1s,mb5.1
TIXI MLR MLR
comp=Z,1μm,17.0s,MS5.3
TIXI Tiksi 86.53 15 *e*P **P** 03 35 19.8 +0.4
comp=Z,11nm,0.9s,mb5.1
ELOB Lobios 86.71 313 P **P** 03 35 23.7 +2.7
comp=Z,11nm,0.7s,mb5.2
SEY Seymchan 91.73 27 *i* P **P** 03 35 43.3 -0.8
PETK Petropavlovsk- 92.97 37 LR LR 04 19 24.2
comp=Z,305nm,18.1s,MS4.8,baz=18,slow=37
TBI Tubuai 130.07 128 *e*LR LR 04 22 58.4
comp=Z,150nm,25.2s
PPT Papeete 132.80 121 *e*SS SS 04 01 56.4 -2.6
comp=Z,143nm,32.8s
PPT Papeete 132.80 121 *e*LR LR 04 24 13.2
comp=Z,377nm,32.5s
LPAZ La Paz 134.03 240 PKP PKPdf 03 41 53.4 -2.0
comp=Z,0.6nm,0.5s,baz=91,slow=13,SNR=4.8
RKT Rikitea 140.66 140 *e*LR LR 04 27 53.8
comp=Z,204nm,30.0s
DLMT Dillon 141.28 5 *e*PKPdf PKPdf 03 42 09.7 +1.8
I13A Wildhorse Cree 142.56 7 ⇓P PKPdf 03 42 09.1 -1.0
baz=142
HLID Hailey 142.87 7 *e*PKPdf PKPdf 03 42 12.2 +1.5
J12A Stokes Ranch, 143.09 8 ⇑P PKPdf 03 42 10.4 -0.7
baz=143
LOHW Long Hollow 143.15 3 *e*PKPdf PKPdf 03 42 13.1 +1.8
TPAW Teton Pass 143.25 3 *e*PKPdf PKPdf 03 42 13.0 +1.6
SNOW Snow King Moun 143.29 3 *e*PKPdf PKPdf 03 42 13.3 +1.8
REDW Red Top Meadow 143.38 3 *e*PKPdf PKPdf 03 42 13.6 +2.0
N02C Big Bar 143.49 19 ⇑P PKPdf 03 42 10.5 -1.4
baz=143
CPCT Cooper Cave 143.87 326 *e*PKPdf PKPdf 03 42 14.4 +1.6
BW06 Boulder Array 144.03 1 *e*PKPdf PKPdf 03 42 13.7 +0.9
PDAR Pinedale Array 144.03 1 PKP PKPdf 03 42 11.9 -0.9
comp=Z,5.0nm,1.0s,baz=79,slow=2.3,SNR=13
O02C Red Bluff 144.24 19 ⇑P PKPdf 03 42 13.1 -0.2
baz=144
M08A Happy Creek Ra 144.25 13 ⇓P PKPdf 03 42 12.7 -0.5
baz=144
L13A Double Diamond 144.38 7 ⇑P PKPdf 03 42 13.1 -0.4
baz=144
L14A Malta 144.52 6 ⇑P PKPdf 03 42 13.0 -0.6
baz=144
M10A I.L. Ranch, Tu 144.55 10 ⇓P PKPdf 03 42 13.5 -0.3
baz=144
N06A Buffalo Meadow 144.57 15 ⇓P PKPdf 03 42 13.5 -0.3
baz=144
O04C Chester 144.63 17 ⇑P PKPdf 03 42 13.4 -0.6
baz=144,SNR=6.6
L15A Malad City 144.63 5 ⇑P PKPdf 03 42 13.5 -0.4
baz=144
L16A Fish Haven 144.69 4 ⇑P PKPdf 03 42 13.7 -0.3
baz=144
GOGA Godfrey 144.70 322 *e*PKIKP PKPdf 03 42 15.4 +1.1
GASB Alder Springs 144.74 19 ⇓P PKPdf 03 42 13.8 -0.3
baz=144,SNR=6.3
N07B Gerlach 144.75 14 ⇓P PKPdf 03 42 13.4 -0.7
baz=144
M11A Holland Ranch, 144.76 10 ⇑P PKPdf 03 42 13.7 -0.4
baz=145
HVU Hansel Valley 144.82 6 *e*PKIKP PKPdf 03 42 15.3 +1.1
M12A Wells 144.91 8 ⇓P PKPdf 03 42 12.7 -1.7
baz=145
N08A GE Springer Mi 144.94 13 ⇓P PKPdf 03 42 13.4 -1.1
baz=145,SNR=7.2
M14A Sheep Mountain 145.03 6 ⇓P PKPab 03 42 13.2 -0.7
baz=145,SNR=11
CCM Cathedral Cave 145.05 336 *e*PKIKP PKPdf 03 42 14.8 +0.1
M13A Montello 145.07 7 ⇓P PKPbc 03 42 13.3 -0.7
baz=145,SNR=21
HWUT Hardware Ranch 145.09 4 *e*PKPdf PKPdf 03 42 15.3 +0.7
RWWY Rawlins 145.10 358 *e*PKPdf PKPdf 03 42 15.8 +1.1
WVT Waverly 145.10 330 *e*PKIKP PKPdf 03 42 15.7 +0.8
O06A Flanigan 145.12 15 ⇑P PKPbc 03 42 14.0 -0.2
baz=145,SNR=11
M15A Larsen Ranch, 145.16 5 ⇑P PKPbc 03 42 13.9 -0.4
baz=145,SNR=20
ORV Oroville 145.21 18 ⇓P PKPbc 03 42 13.6 -1.0
baz=145
HOPS Hopland 145.21 20 ⇓P PKPbc 03 42 13.4 -1.1
baz=145,SNR=6.1
HOPS Hopland 145.21 20 *e*PKPdf PKPdf 03 42 16.1 +1.1
BEKR Beckwourth 145.25 16 ⇑P PKPbc 03 42 13.6 -1.1
baz=145,SNR=14
SPUT South Promonto 145.31 5 *e*PKPab PKPab 03 42 16.1 +1.2
O07A Toulon 145.36 14 ⇑P PKPbc 03 42 14.3 -0.7
baz=145,SNR=12
M16A Huntsville 145.38 4 ⇑P PKPbc 03 42 13.8 -1.2
baz=145,SNR=10
PHWY Pilot Hill 145.40 356 *e*PKPab PKPab 03 42 16.3 +1.1
O08A Rochester Mine 145.41 13 ⇓P PKPbc 03 42 14.6 -0.6
baz=145
OHCM Honcut 145.41 18 *e*PKPab PKPab 03 42 14.2 -1.1
N12A Clover Valley, 145.45 9 ⇑P PKPbc 03 42 14.7 -0.6
baz=145,SNR=20
BMN Battle Mountai 145.47 12 *e*PKIKP PKPdf 03 42 16.9 +1.5
ELK Elko 145.52 9 *e*PKIKP PKPdf 03 42 15.4 -0.1
MNRC McLaughlin Nat 145.53 19 ⇑P PKPbc 03 42 15.0 -0.6
baz=145,SNR=21
N13A Wendover, West 145.56 8 ⇑P PKPdf 03 42 15.1 -0.5
baz=145,SNR=8.5
BGU Big Grassy Mou 145.64 6 *e*PKPdf PKPdf 03 42 15.6 -0.1
PAHR Pah Rah Range 145.66 15 *e*PKPdf PKPdf 03 42 17.2 +1.5
N14A Grayback Hills 145.69 6 ⇓P PKPdf 03 42 15.5 -0.3
baz=146,SNR=39
P05C Yuba Gap, Truc 145.71 17 ⇑P PKPdf 03 42 15.5 -0.3
baz=146,SNR=6.2
N15A Stansbury Isla 145.72 5 ⇓P PKPdf 03 42 15.2 -0.6
baz=146,SNR=14
O09A Fish Creek Ran 145.73 12 ⇑P PKPdf 03 42 14.7 -1.1
baz=146,SNR=11
O10A Cortez Mining, 145.75 11 ⇑P PKPdf 03 42 15.4 -0.5
baz=146
N17A Moffit Pass 145.80 3 ⇑P PKPdf 03 42 15.4 -0.5
baz=146,SNR=10
N18A Larsen Ranch, 145.81 2 ⇑P PKPdf 03 42 15.9 -0.1
baz=146,SNR=9.7
Q03C Winters 145.89 19 ⇑P PKPdf 03 42 16.6 +0.5
baz=146
Q04C Lincoln 145.90 18 ⇓P PKPdf 03 42 16.8 +0.6
baz=146
N19A John Jarvie Ra 145.91 1 ⇑P PKPdf 03 42 15.9 -0.2
baz=146,SNR=9.2
WCN Washoe City 145.94 16 ⇑P PKPdf 03 42 16.3 +0.1
baz=146,SNR=6.6
KSU1 Kansas State U 145.97 343 *e*PKPdf PKPdf 03 42 16.7 +0.4
ROSC El Rosal 145.99 269 PKPbc PKPbc 03 42 17.3 -0.5

comp=Z,5.3nm,0.6s,baz=85,slow=23,SNR=8.1
ROSC El Rosal 145.99 269 ePKPdf PKPdf 03 42 17.8 +0.8
NOQ North Oquirrh 145.99 5 ePKPdf PKPdf 03 42 17.5 +1.2
CVS Carmenet Viney 146.00 20 ⇑P PKPdf 03 42 17.1 +0.7
baz=146,SNR=7.7
O11A Cowboy Ranch, 146.05 10 ⇓P PKPdf 03 42 16.9 +0.5
baz=146
O12A Currie 146.06 9 ⇓P PKPdf 03 42 16.8 +0.4
baz=146,SNR=14
JLU Jordanelle 146.10 4 ePKPdf PKPab 03 42 18.5 +0.7
LAVA Lava Cap Winer 146.17 17 ⇓P PKPdf 03 42 17.0 +0.4
baz=146
DAU Daniels Canyon 146.30 4 ePKP2 PKPab 03 42 17.7 -0.9
DUG Dugway 146.38 6 ⇓P PKPdf 03 42 17.8 +0.9
baz=146,SNR=17
DUG Dugway 146.38 6 ePKPdf PKPdf 03 42 17.6 +0.7
NLU North Lily Min 146.69 5 ePKPdf PKPdf 03 42 18.1 +0.7
R06C Coleville 146.76 16 ⇓P PKPdf 03 42 19.3 +1.7
baz=147,SNR=14
WAKR Walker 146.78 16 ePKPdf PKPab 03 42 19.7 -0.8
Q08A Gabbs 146.82 14 ⇑P PKPdf 03 42 18.4 +0.7
baz=147
ISCO Idaho Springs 146.90 356 ePKP2 PKPab 03 42 21.0 0.0
CMB Columbia Colle 146.94 17 ⇓P PKPdf 03 42 19.5 +1.6
baz=147,SNR=7.0
CMB Columbia Colle 146.94 17 ePKPdf PKPbc 03 42 19.3 -0.6
P14A Drum Mountains 146.95 7 ⇑P PKPbc 03 42 19.6 -0.2
baz=147,SNR=18
P13A Bates Ranch, G 146.97 8 ⇑P PKPbc 03 42 19.3 -0.6
baz=147
CBKS Cedar Bluff 147.03 347 ePKP2 PKPab 03 42 21.3 -0.2
LRAL Lakeview Retre 147.03 326 ePKPdf PKPab 03 42 21.0 -0.7
P18A Preston Nutter 147.14 3 ⇑P PKPbc 03 42 20.1 -0.2
baz=147
NVAR Mina Array Bea 147.14 14 PKPbc PKPbc 03 42 20.3 -0.1
comp=Z,5.3nm,0.8s,baz=343,slow=2.7,SNR=23
OXF Oxford 147.17 330 ePKP2 PKPab 03 42 21.3 -0.9
P17A Butcher Ranch, 147.26 3 ⇑P PKPbc 03 42 20.1 -0.7
baz=147
TMUT Trail Mountain 147.41 4 ePKPdf PKPdf 03 42 19.0 +0.3
TMUT ePKPbc PKPbc 03 42 21.9 +0.8
TMUT ePKPab PKPab 03 42 25.3 +2.4
Q14A Sevier Lake (B 147.52 7 ⇓P PKPbc 03 42 21.0 -0.5
baz=147
PACP Pacheco Peak 147.60 19 ⇑P PKPbc 03 42 20.9 -0.9
baz=147
R09A Tonopah 147.61 13 ⇑P PKPbc 03 42 20.7 -1.0
baz=147
Q15A Fillmore 147.61 6 ⇑P PKPbc 03 42 21.1 -0.6
baz=147
SRU San Rafael 147.64 3 ⇑P PKPbc 03 42 21.2 -0.6
baz=147
SRU San Rafael 147.64 3 ePKPdf PKPbc 03 42 20.3 -1.5
Q18A Rafter H Ranch 147.66 2 ⇓P PKPbc 03 42 21.1 -0.7
baz=148
TPH Tonopah 147.73 13 ePKP2 PKPbc 03 42 25.2 +3.2
Q16A Castle Valley 147.79 4 ⇑P PKPbc 03 42 21.9 -0.3
baz=148
R11A Troy Canyon, C 147.80 11 ⇓P PKPbc 03 42 22.0 -0.2
baz=148
Q19A Hogan Spring (147.84 1 ⇓P PKPbc 03 42 21.9 -0.4
baz=148
KCC Kaiser Creek 147.91 16 ⇓P PKPbc 03 42 21.9 -0.7
baz=148,SNR=7.5
S10A Tonopah Range, 148.01 12 ⇓P PKPbc 03 42 22.6 -0.2
baz=148
S09A Goldfield 148.07 13 ⇓P PKPbc 03 42 22.7 -0.2
baz=148
MTUM Tungsten Hills 148.09 15 ePKPdf PKPdf 03 42 21.4 +1.5
T06C Millerton Lake 148.10 17 ⇑P PKPbc 03 42 22.9 -0.1
baz=148,SNR=18
MSU Marysvale 148.11 6 ePKP2 PKPab 03 42 25.2 -0.6
R13A O'Grain Ranch, 148.23 8 ⇑P PKPbc 03 42 23.5 +0.1
baz=148
UALR University of 148.31 334 ePKPab PKPab 03 42 28.0 +1.3
R17A Hanksville Air 148.32 3 ⇑P PKPbc 03 42 23.5 -0.1
baz=148
R18A Canyonlands Na 148.39 2 ⇓P PKPbc 03 42 24.5 +0.7
baz=148
R16A Teasdale 148.40 5 ⇓P PKPbc 03 42 24.4 +0.6
baz=148
PV10 Paradox Valley 148.42 1 ePKPdf PKPdf 03 42 22.1 +1.7
PV10 ePKPbc PKPbc 03 42 25.4 +1.5
PV10 ePKPab PKPab 03 42 28.5 +1.5
V03C Hunter Liggett 148.52 20 ⇓P PKPbc 03 42 25.0 +0.8
baz=148
HELL Mitchell Peak 148.60 16 ⇑P PKPbc 03 42 23.8 -0.5
baz=148,SNR=8.6
PV01 Paradox Valley 148.67 0 ePKPdf PKPdf 03 42 19.9 -0.9
PV01 ePKPbc PKPbc 03 42 24.1 -0.4
PV01 ePKPab PKPab 03 42 29.0 +1.1
ARUT Antelope Range 148.68 8 ePKPbc PKPbc 03 42 24.6 +0.1
ARUT ePKPab PKPab 03 42 29.5 +1.5
S14A Cedar City 148.75 7 ⇓P PKPbc 03 42 25.8 +1.1
baz=148
S13A Holt Ranch, En 148.83 8 ⇓P PKPbc 03 42 25.6 +0.6
baz=149
S15A Panguitch 148.92 6 ⇓P PKPbc 03 42 26.1 +0.9
baz=149
SDCO Great Sand Dun 148.94 355 ePKPbc PKPbc 03 42 25.6 +0.4
SDCO ePKPab PKPab 03 42 29.5 +0.4
T11A Corn Creek, Al 148.94 10 ⇓P PKPbc 03 42 26.1 +0.9
baz=149
S16A Weppner Ranch, 148.95 5 ⇑P PKPbc 03 42 26.4 +1.2
baz=149
TPNV Topopah Spring 149.02 12 ⇓P PKPbc 03 42 26.4 +0.9
baz=149
TPNV Topopah Spring 149.02 12 ePKPdf PKPdf 03 42 23.3 +1.9
MIAR Mount Ida 149.03 336 ePKP2 PKPbc 03 42 25.6 +0.1
S19A Harvey Farm, M 149.05 1 ⇓P PKPbc 03 42 26.2 +0.7
baz=149
S18A Hurst Farm, BI 149.08 2 ⇑P PKPbc 03 42 26.5 +0.9
baz=149
S17A Black Ridge (B 149.09 4 ⇓P PKPbc 03 42 26.8 +1.2
baz=149
FURC Furnace Creek, 149.35 13 ⇑P PKPbc 03 42 26.4 +0.1
baz=149
T13A Saint George 149.37 9 ⇑P PKPbc 03 42 27.1 +0.7
baz=149
OTAV Otavalo 149.38 259 ePKPbc PKPbc 03 42 27.9 +0.8
OTAV ePKPab PKPab 03 42 33.2 +1.5
T14A Hurricane 149.45 7 ⇓P PKPbc 03 42 27.6 +1.1
baz=149
U10A Ash Meadows, A 149.52 13 ⇑P PKPbc 03 42 26.6 -0.1
baz=149,SNR=5.8
T15A Red Dirt Ranch 149.57 6 ⇓P PKPdf 03 42 27.3 +5.0
baz=149
MVCO Mesa Verde 149.59 0 ePKPab PKPab 03 42 31.0 -0.7
MPMC Manual Prospec 149.59 15 ⇑P PKPbc 03 42 26.8 -0.1
baz=149,SNR=9.4
T18A Mexican Hat 149.63 2 ⇑P PKPbc 03 42 27.5 +0.5
baz=149
SHPR Sheep Range 149.67 11 ePKPab PKPab 03 42 31.9 -0.2
T16A Glen Canyon Da 149.69 5 ⇓P PKPbc 03 42 27.7 +0.6
baz=150
ISA Isabella 149.71 16 ePKP2 PKPab 03 42 30.4 -1.9
T17A Navajo Res., N 149.73 4 ⇓P PKPbc 03 42 28.3 +1.1
baz=150
SHOC Shoshone 150.03 13 ⇓P PKPbc 03 42 28.7 +0.8
baz=150
U14A Mt Trumbull 150.07 8 ⇑P PKPbc 03 42 28.9 +0.9
baz=150
U17A Shonto 150.13 4 ⇑P PKPbc 03 42 27.9 -0.3
baz=150
GSC Goldstone 150.48 14 ⇓P PKPbc 03 42 28.7 -0.4
baz=150,SNR=5.3
GSC Goldstone 150.48 14 ePKPdf PKPdf 03 42 25.2 +1.5
V12A Nelson 150.48 11 ⇓P PKPbc 03 42 28.9 -0.1
baz=150,SNR=15
V13A Grand Canyon W 150.51 9 ⇓P PKPbc 03 42 28.9 -0.3
baz=150,SNR=16
U16A Tuba City 150.55 4 ⇓P PKPbc 03 42 29.3 +0.1
baz=150
EDW2 Edwards Air Fo 150.57 16 ⇑P PKPbc 03 42 29.2 -0.1
baz=150,SNR=6.0
V15A Kaibab Nationa 150.78 6 ⇑P PKPbc 03 42 29.3 -0.5
baz=151
V14A Boquillas Ranc 150.85 8 ⇑P PKPbc 03 42 30.0 +0.1
baz=151,SNR=5.3
V18A Ganado 151.05 2 ⇑P PKPbc 03 42 30.3 -0.1
baz=151
WUAZ Wupatki 151.16 5 ⇑P PKPbc 03 42 30.7 +0.1
baz=151,SNR=5.4
WUAZ Wupatki 151.16 5 ePKPdf PKPdf 03 42 26.3 +1.5
MWC Mount Wilson 151.17 17 ePKPab PKPab 03 42 35.5 -2.8
AMTX Amarillo 151.22 348 ePKPdf PKPdf 03 42 26.9 +2.0

GMRC Granite Mounta 151.24 12 ⇑P PKPbc 03 42 30.5 -0.4
baz=151
W13A Hualapai Mount 151.26 9 ⇑P PKPbc 03 42 30.9 0.0
baz=151
W14A Seligman 151.27 8 ⇓P PKPbc 03 42 30.8 -0.2
baz=151,SNR=16
BFSC Mount Baldy St 151.27 16 ⇓P PKPbc 03 42 31.3 +0.3
W15A Williams 151.40 7 ⇑P PKPbc 03 42 31.7 +0.5
baz=151
BBRC Big Bear Sol-O 151.44 15 ⇓P PKPbc 03 42 31.8 +0.4
baz=151
NEE2 Needles Airpor 151.46 11 ⇑P PKPbc 03 42 31.3 -0.1
baz=151
W16A Flagstaff 151.56 5 ⇑P PKPbc 03 42 31.6 0.0
baz=151
FMP Fort Macarthur 151.58 17 ⇓P PKPbc 03 42 31.6 -0.1
baz=151
X13A Yucca 151.76 9 ⇓P PKPbc 03 42 31.7 -0.4
baz=152,SNR=11
ANMO Albuquerque 151.78 357 ePKIKP PKPdf 03 42 27.5 +1.7
ANMO e 03 42 33.4
IRM Iron Mountain 151.94 12 ⇑P PKPbc 03 42 32.7 +0.2
baz=152,SNR=8.1
MURC Murrieta 152.00 16 ⇑P PKPbc 03 42 32.8 +0.1
baz=152
PDMCI Parker Dam,Lak 152.00 10 ⇑P PKPbc 03 42 32.8 +0.1
baz=152
X14A Yava 152.02 8 ⇑P PKPbc 03 42 32.6 -0.1
baz=152
X15A Humboldt 152.09 7 ⇑P PKPbc 03 42 32.8 -0.1
baz=152
PFO Pinyon Flat Ob 152.18 14 ⇓P PKPbc 03 42 33.3 +0.2
baz=152
PFO Pinyon Flat Ob 152.18 14 ePKPdf PKPdf 03 42 28.4 +1.9
X18A Snowflake 152.23 3 ⇓P PKPbc 03 42 32.6 -0.5
baz=152
X16A Lo Mia Camp, P 152.24 5 ⇑P PKPbc 03 42 33.0 -0.2
baz=152,SNR=19
X19A St. Johns 152.35 1 ⇑P PKPbc 03 42 32.8 -0.6
baz=152,SNR=6.2
LAZ Ladron 152.36 358 ePKPbc PKPbc 03 42 32.4 -1.1
LAZ ePKPab PKPab 03 42 38.6 -4.7
BC3 Big Chuckw Mtn 152.37 13 ⇑P PKPbc 03 42 32.7 -0.8
baz=152
X17A Forest Lakes 152.37 4 ⇑P PKPbc 03 42 33.0 -0.5
baz=152
LPM Los Pinos Moun 152.43 357 ePKPdf PKPdf 03 42 27.3 +0.6
Y13A Salome 152.53 10 ⇑P PKPbc 03 42 32.8 -1.0
baz=152
Y14A Wickenburg 152.53 8 ⇑P PKPbc 03 42 33.2 -0.7
baz=152
BNM Barren Site 152.59 357 ePKPdf PKPdf 03 42 29.6 +2.6
LENM Lemitar 152.59 357 ePKPbc PKPbc 03 42 32.6 -1.3
Y15A Casa Rosa Ranc 152.60 7 ⇓P PKPbc 03 42 33.9 -0.1
baz=152
Y16A Circle Bar Ran 152.77 5 ⇓P PKPbc 03 42 33.8 -0.6
baz=153
Y19A Nutrioso 152.82 1 ⇑P PKPbc 03 42 34.1 -0.4
baz=153,SNR=8.0
MONP Monument Peak 152.87 15 ⇓P PKPbc 03 42 34.6 -0.1
baz=153
SWSC Sam W. Stewart 152.97 14 ⇓P PKPbc 03 42 34.7 -0.2
baz=153
Y18A Canyon Day Jun 152.97 3 ⇓P PKPbc 03 42 35.3 +0.5
baz=153,SNR=9.1
BAR Barrett 153.00 15 ePKPdf PKPdf 03 42 28.0 +0.4
Y17A Roosevelt 153.01 4 ⇑P PKPbc 03 42 35.0 +0.1
baz=153
117A Oracle 154.13 4 ⇓P PKPbc 03 42 37.5 +0.1
baz=154
JCT Junction City 154.94 342 ePKIKP PKPdf 03 42 31.6 +1.1
TXAR Lajitas Array 156.99 349 PKP PKPdf 03 42 34.7 +1.5
comp=Z,0.9nm,1.0s,baz=30,slow=3.3,SNR=4.2
TXAR PKPab PKPab 03 43 03.3 +0.2
comp=Z,1.5nm,0.7s,baz=25,slow=2.4,SNR=6.0

*NIED **09** 03:56:00,26±40N×142±50E,h35km,Mw4.1 Best double couple: M₀1.76000×10¹⁵ NP1:ϕ₈148.00000°,δ61.00000°, λ79.00000°. NP2:ϕ₈350.00000°,δ31.00000°,λ109.00000°.*
*ISCJB **09** 03:56:15.6±0.9,265N±0.1×1416E±02,h33km,mb3.9/7, Error ellipse: s-maj=29.6km s-min=11.5km az=40.3*
*IDC **09** 03:56:16.9±5.2,2651N×14168E,h33km±40km,mb3.7/6, mb1 4.0/6,mb1mx3.6/19,mbtmp3.7/6,Error ellipse: s-maj=34.8km s-min=21.5km az=113.0*
*NEIC **09** 03:56:17.5,2642N×142±50E,h31km,mb4.2/1,After JMA.*
ISC 09 03:56:16.2±6.7,265N±01×1417E±02,h26km±47km,n8, σ0$55/9,mb3.9/7,Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CBIJ	**Chichi jima**	**0.73**	**35**	Pn	**Pn**	**03 56 31.1**	**+0.2**
	257nm,0.3s,baz=110,slow=16,SNR=34						
CBIJ				Sn	**Sn**	**03 56 40.9**	**-0.4**
	818nm,0.3s,baz=337,slow=23,SNR=55						
WRA	**Warramunga Arr**	**46.71**	**190**	P	**P**	**04 04 42.6**	**-0.4**
	1.8nm,0.6s,mb4.2,baz=8.8,slow=8.4,SNR=11						
KURK	**Kurchatov**	**53.10**	**315**	P	**P**	**04 05 31.3**	**-0.1**
	0.4nm,0.4s,mb3.7,baz=92,slow=8.0,SNR=3.2						
ARCES	**ARCESS Array B**	**73.97**	**341**	P	**P**	**04 07 48.9**	**0.0**
	4.4nm,1.0s,mb4.3,baz=69,slow=11,SNR=4.4						
SUMG	**Summit**	**81.19**	**0**	eP	**P**	**04 08 30.3**	**+1.1**
	1.3nm,0.6s,mb4.0						
NVAR	**Mina Array Bea**	**81.22**	**52**	P	**P**	**04 08 29.9**	**-0.1**
	0.4nm,0.7s,mb3.5,baz=268,slow=5.6,SNR=4.2						
NOA	**NORAR Array B**	**84.01**	**338**	P	**P**	**04 08 43.1**	**-0.9**
	1.3nm,0.8s,mb4.1,baz=45,slow=5.5,SNR=4.3						
PDAR	**Pinedale Array**	**84.94**	**44**	P	**P**	**04 08 49.6**	**+0.6**
	0.2nm,0.3s,mb3.7,baz=170,slow=0.5,SNR=3.6						

NNC 09 03:57:39.1±5.1,3730N×6840E,h0km,mb3.6,mpv3.2, 2C-1D,Error ellipse: s-maj=43.2km s-min=38.1km az=128.0,Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KK31	**Karatay Array**	**6.01**	**15**	Pn	Pn	03 59 12.9	+3.6
	0.4nm,0.4s,baz=203,slow=15,SNR=9.3						
KK31				⇑Sn	Sn	04 00 25.7	+6.9
	4.1nm,0.5s,baz=197,slow=24						
TKM2	**Tokmak 2**	**7.86**	**42**	⇓Pn	Pn	03 59 32.0	-2.6
	4.0nm,1.2s						
TKM2				Sn	Sn	04 01 03.7	-0.7
	2.3nm,0.7s						
AB31	**Akbulak array**	**13.43**	**335**	Pn	Pn	04 00 49.7	-1.1
	0.4nm,0.4s,baz=157,slow=13,SNR=15						
AB31				⇑Sn	Sn	04 03 19.4	-1.3
	0.3nm,0.3s,baz=163,slow=23,SNR=3.3						

*LDG **09** 03:58:02.8±0.2,4821N×347W,h12km,Md3.1/2,Ml2.8/19, Error ellipse: s-maj=3.7km s-min=2.7km az=89.0*
*CSEM **09** 03:58:02.7±0.1,4824N×348W,h12km,ML3.0/14,Error ellipse: s-maj=2.4km s-min=1.6km az=70.0*
*NEIC **09** 03:58:02.8,4821N×347W,h12km,ML2.8(LDG),After LDG.*
*BGS **09** 03:58:05.1±1.0,4850N×368W,h10km,ML2.0*
ISC 09 03:58:02.2±0.7,4818N±002×336W±005,h10km,n60, σ1$09/141,France

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ROSF	**Rostrenen**	**0.17**	**20**	ePg	**Pg**	**03 58 06.5**	**+0.7**
	SNR=1.0						
ROSF				eSg	**Sg**	**03 58 09.4**	**+1.1**
	151nm,0.2s						
ROSF	**Rostrenen**	**0.17**	**20**	ePg	**Pg**	**03 58 06.5**	**+0.7**
	SNR=1.0						
ROSF				eSg	**Sg**	**03 58 09.4**	**+1.1**
	75nm,0.2s						
QUIF	**Quistinic**	**0.29**	**154**	ePg	**Pg**	**03 58 09.8**	**+1.7**
	SNR=1.0						
QUIF				eSg	**Sg**	**03 58 14.9**	**+2.9**
	118nm,0.2s,SNR=1.0						
QUIF	**Quistinic**	**0.29**	**154**	ePg	**Pg**	**03 58 09.8**	**+1.7**
	SNR=1.0						
QUIF				eSg	**Sg**	**03 58 14.9**	**+2.9**
	59nm,0.2s,SNR=1.0						
SGMF	**Saint Gilles**	**0.54**	**82**	ePn	**Pg**	**03 58 16.1**	**+3.4**
	SNR=1.0						
SGMF				eSg	**Sg**	**03 58 23.4**	**+3.6**
	44nm,0.2s,SNR=1.0						
SGMF				eSn	**Sg**	**03 58 25.5**	**+5.7**

	SNR=1.0						
SGMF	**Saint Gilles**	**0.54**	**82**	ePn	**Pg**	**03 58 16.1**	**+3.4**
	SNR=1.0						
SGMF				eSg	**Sg**	**03 58 23.4**	**+3.6**
	22nm,0.2s,SNR=1.0						
SGMF				eSn	**Sg**	**03 58 25.5**	**+5.7**
	SNR=1.0						
SGMF	**Saint Gilles**	**0.54**	**82**	ePg	**Pg**	**03 58 14.4**	**+1.7**
SGMF				ePn	**Pg**	**03 58 16.1**	**+3.4**
SGMF				eSg	**Sg**	**03 58 23.4**	**+3.6**
SGMF				eSn	**Sg**	**03 58 25.5**	**+5.7**
JSA	**Saint Aubin**	**1.28**	**38**	eP	**Pn**	**03 58 26.4**	**+0.3**
JSA				eS	**Sb**	**03 58 41.2**	**-1.6**
JSA				AML	AML	03 58 44.7	
	comp=N,38nm,0.2s						
JSA				AML	AML	03 58 48.0	
	comp=E,29nm,0.2s						
JSA	**Saint Aubin**	**1.28**	**38**	eP	**Pn**	**03 58 26.4**	**+0.3**
JSA				eS	**Sb**	**03 58 41.2**	**-1.6**
JVM	**Valle D.L. Mar**	**1.29**	**36**	eP	**Pn**	**03 58 26.4**	**+0.2**
JRS	**Jersey**	**1.32**	**39**	eP	**Pn**	**03 58 27.0**	**+0.4**
JRS				eS	**Sb**	**03 58 43.6**	**-0.3**
JRS				AML	AML	03 58 46.0	
	comp=E,24nm,0.2s						
JRS	**Jersey**	**1.32**	**39**	eP	**Pn**	**03 58 27.0**	**+0.4**
JRS				eS	**Sb**	**03 58 43.6**	**-0.3**
JQE	**Queens East**	**1.34**	**40**	eP	**Pn**	**03 58 27.6**	**+0.6**
JQE				eS	**Sb**	**03 58 44.9**	**+0.2**
JQE	**Queens East**	**1.34**	**40**	eP	**Pn**	**03 58 27.6**	**+0.6**
JQE				eS	**Sb**	**03 58 44.9**	**+0.2**
	comp=E,38nm,0.2s						
JLP	**Les Platons**	**1.35**	**38**	eP	**Pn**	**03 58 28.0**	**+0.9**
JLP				eS	**Sb**	**03 58 44.0**	**-0.8**
JLP	**Les Platons**	**1.35**	**38**	eP	**Pn**	**03 58 28.0**	**+0.9**
JLP				eS	**Sb**	**03 58 44.0**	**-0.9**
GRR	**Gorron**	**1.68**	**82**	ePn	**Pn**	**03 58 31.1**	**-0.5**
	SNR=1.0						
GRR	**Gorron**	**1.68**	**82**	eP	**Pn**	**03 58 32.7**	**+1.1**
GRR	**Gorron**	**1.68**	**82**	ePg	**Pg**	**03 58 35.0**	**+0.5**
GRR				eSn	**Sn**	**03 58 52.1**	**-1.1**
	SNR=1.0						
GRR				eSg	**Sg**	**03 58 58.2**	**+1.9**
	comp=E,32nm,0.3s						
GRR	**Gorron**	**1.68**	**82**	eP	**Pn**	**03 58 32.7**	**+1.1**
GRR	**Gorron**	**1.68**	**82**	ePg	**Pg**	**03 58 35.0**	**+0.5**
GRR				eSn	**Sn**	**03 58 52.1**	**-1.1**
	SNR=1.0						
GRR				eSg	**Sg**	**03 58 58.2**	**+1.9**
	comp=E,16nm,0.3s						
GRR	**Gorron**	**1.68**	**82**	eP	**Pn**	**03 58 32.7**	**+1.1**
GRR				ePg	**Pg**	**03 58 35.0**	**+0.5**
GRR				eSn	**Sn**	**03 58 52.1**	**-1.1**
GRR				eSg	**Sg**	**03 58 58.2**	**+1.9**
FLN	**La Foliniere**	**2.00**	**72**	ePn	**Pn**	**03 58 36.1**	**+0.1**
	baz=258,SNR=1.0						
FLN	**La Foliniere**	**2.00**	**72**	eP	**Pn**	**03 58 37.5**	**+1.5**
FLN	**La Foliniere**	**2.00**	**72**	ePg	**Pg**	**03 58 40.0**	**-0.5**
	baz=254						
FLN				eSn	**Sn**	**03 58 59.3**	**-1.8**
FLN				eSg	**Sg**	**03 59 07.7**	**+1.2**
	comp=E,12nm,0.2s,baz=258,SNR=1.0						
FLN	**La Foliniere**	**2.00**	**72**	eP	**Pn**	**03 58 37.5**	**+1.5**
FLN	**La Foliniere**	**2.00**	**72**	ePg	**Pg**	**03 58 40.0**	**-0.5**
FLN				eSn	**Sn**	**03 58 59.3**	**-1.8**
FLN				eSg	**Sg**	**03 59 07.7**	**+1.2**
	comp=E,6.2nm,0.2s,SNR=1.0						
FLN	**La Foliniere**	**2.00**	**72**	eP	**Pn**	**03 58 37.5**	**+1.5**
FLN				ePg	**Pg**	**03 58 40.0**	**-0.5**
FLN				eSn	**Sn**	**03 58 59.3**	**-1.8**
FLN				eSg	**Sg**	**03 59 07.7**	**+1.2**
LDF	**La Druitiere**	**2.20**	**78**	ePg	**Pg**	**03 58 45.1**	**+0.8**
LDF				eSg	**Sg**	**03 59 13.7**	**+0.9**
	comp=E,9.7nm,0.2s,SNR=1.0						
LDF	**La Druitiere**	**2.20**	**78**	ePg	**Pg**	**03 58 45.1**	**+0.8**
LDF				eSg	**Sg**	**03 59 13.7**	**+0.9**
	comp=E,4.8nm,0.2s,SNR=1.0						
LDF	**La Druitiere**	**2.20**	**78**	ePn	**Pn**	**03 58 38.6**	**-0.1**
LDF				ePg	**Pg**	**03 58 45.1**	**+0.8**
LDF				eSg	**Sg**	**03 59 13.7**	**+0.9**
DYA	**Yadsworthy**	**2.29**	**351**	P	**Pn**	**03 58 37.2**	**-2.7**
DYA				AML	AML	03 59 13.8	
	comp=E,13nm,0.3s						
DYA				AML	AML	03 59 14.8	
	comp=E,9.8nm,0.3s						
DYA	**Yadsworthy**	**2.29**	**351**	eP	**Pn**	**03 58 37.2**	**-2.7**
DYA				AML	AML	03 59 13.8	
	comp=E,13nm,0.3s						
DYA				AML	AML	03 59 14.8	
	comp=N,9.8nm,0.3s						
MFF	**Saint Martin d**	**2.69**	**125**	ePg	**Pg**	**03 58 53.8**	**0.0**
MFF				eSn	**Sn**	**03 59 16.7**	**-1.5**
MFF				eSg	**Sg**	**03 59 29.7**	**+1.0**
	comp=N,11nm,0.2s,SNR=1.0						
MFF	**Saint Martin d**	**2.69**	**125**	ePg	**Pg**	**03 58 53.8**	**0.0**
MFF				eSn	**Sn**	**03 59 16.7**	**-1.5**
MFF				eSg	**Sg**	**03 59 29.7**	**+1.0**
	comp=N,5.5nm,0.2s,SNR=1.0						
MFF	**Saint Martin d**	**2.69**	**125**	ePn	**Pn**	**03 58 45.5**	**0.0**
MFF				ePg	**Pg**	**03 58 53.8**	**0.0**
MFF				eSn	**Sn**	**03 59 16.7**	**-1.5**
MFF				eSg	**Sg**	**03 59 29.7**	**+1.0**
TCF	**Toulx Ste Croi**	**4.24**	**114**	ePn	**Pn**	**03 59 06.9**	**+0.1**
TCF				eSn	**Sn**	**03 59 53.3**	**-3.0**
	SNR=1.0						
TCF				eSg	**Sg**	**04 00 18.1**	**-0.2**
	comp=N,5.0nm,0.3s,SNR=1.0						
TCF	**Toulx Ste Croi**	**4.24**	**114**	ePn	**Pn**	**03 59 06.9**	**+0.1**
TCF				eSn	**Sn**	**03 59 53.3**	**-3.0**
	SNR=1.0						
TCF				eSg	**Sg**	**04 00 18.1**	**-0.2**
	comp=N,2.5nm,0.3s,SNR=1.0						
LFF	**La Frestale**	**4.30**	**137**	ePn	**Pn**	**03 59 07.9**	**+0.3**
LFF				eSn	**Sn**	**03 59 53.8**	**-4.0**
LFF				eSg	**Sg**	**04 00 20.8**	**+0.6**
	comp=N,6.8nm,0.4s						
LFF	**La Frestale**	**4.30**	**137**	ePn	**Pn**	**03 59 07.9**	**+0.3**
LFF				eSn	**Sn**	**03 59 53.8**	**-4.0**
LFF				eSg	**Sg**	**04 00 20.8**	**+0.6**
	comp=N,3.4nm,0.4s						
RJF	**Les Rejaudoux**	**4.42**	**129**	ePn	**Pn**	**03 59 08.9**	**-0.3**
RJF				eSn	**Sn**	**03 59 57.0**	**-3.6**
	comp=N,4.2nm,0.2s,SNR=1.0						
RJF				eSg	**Sg**	**04 00 24.2**	**+0.3**
	comp=N,10nm,0.3s						
RJF	**Les Rejaudoux**	**4.42**	**129**	ePn	**Pn**	**03 59 08.9**	**-0.3**
RJF				eSn	**Sn**	**03 59 57.0**	**-3.6**
	comp=N,2.1nm,0.2s,SNR=1.0						
RJF				eSg	**Sg**	**04 00 24.2**	**+0.3**
	comp=N,5.1nm,0.3s						
BGF	**Bois d'Agland**	**4.52**	**109**	ePn	**Pn**	**03 59 10.6**	**0.0**
BGF				eSn	**Sn**	**04 00 00.0**	**-3.1**
BGF				eSg	**Sg**	**04 00 28.1**	**+0.9**
	comp=N,9.2nm,0.4s						
BGF	**Bois d'Agland**	**4.52**	**109**	ePn	**Pn**	**03 59 10.6**	**0.0**
BGF				eSn	**Sn**	**04 00 00.0**	**-3.1**
BGF				eSg	**Sg**	**04 00 28.1**	**+0.9**
	comp=N,4.6nm,0.4s						
AVF	**Avril sur Loir**	**4.76**	**104**	ePg	**Pg**	**03 59 33.4**	**+0.1**
	SNR=1.0						
AVF				eSn	**Sn**	**04 00 05.4**	**-3.7**
AVF				eSg	**Sg**	**04 00 34.6**	**-0.3**
	comp=N,1.9nm,0.4s,SNR=1.0						
AVF	**Avril sur Loir**	**4.76**	**104**	ePg	**Pg**	**03 59 33.4**	**+0.1**
	SNR=1.0						
AVF				eSn	**Sn**	**04 00 05.4**	**-3.7**
AVF				eSg	**Sg**	**04 00 34.6**	**-0.3**
	comp=N,0.9nm,0.4s,SNR=1.0						
AVF	**Avril sur Loir**	**4.76**	**104**	ePn	**Pn**	**03 59 13.3**	**-0.6**
AVF				ePg	**Pg**	**03 59 33.4**	**+0.1**
AVF				eSn	**Sn**	**04 00 05.4**	**-3.7**
AVF				eSg	**Sg**	**04 00 34.6**	**-0.3**
SSF	**Saint Saulge**	**4.78**	**101**	ePn	**Pn**	**03 59 13.8**	**-0.3**
SSF				eSn	**Sn**	**04 00 06.1**	**-3.4**
SSF				eSg	**Sg**	**04 00 35.4**	**-0.1**
	comp=N,2.3nm,0.3s						
SSF	**Saint Saulge**	**4.78**	**101**	ePn	**Pn**	**03 59 13.8**	**-0.3**
SSF				eSn	**Sn**	**04 00 06.1**	**-3.4**
SSF				eSg	**Sg**	**04 00 35.4**	**-0.1**
	comp=N,1.1nm,0.3s						
LOR	**Lormes**	**4.96**	**98**	ePn	**Pn**	**03 59 16.0**	**-0.6**
	baz=276						
LOR				eSn	**Sn**	**04 00 10.1**	**-3.8**
LOR				eSg	**Sg**	**04 00 41.1**	**-0.1**
	comp=N,2.3nm,0.3s						

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
LOR	**Lormes**	**4.96**	**98**	*e*Pn	**Pn**	**03 59 16.0**	**-0.6**
LOR				*e*Sn	**Sn**	**04 00 10.1**	**-3.8**
LOR				*e*Sg	**Sg**	**04 00 41.1**	**-0.1**
	comp=N,1.1nm,0.3s						
CAF	**Calviac**	**4.96**	**129**	*e*Pn	**Pn**	**03 59 16.5**	**-0.1**
CAF				*e*Sn	**Sn**	**04 00 09.1**	**-4.9**
	SNR=1.0						
CAF				*e*Sg	**Sg**	**04 00 41.5**	**+0.2**
	comp=N,3.0nm,0.2s,SNR=1.0						
CAF	**Calviac**	**4.96**	**129**	*e*Pn	**Pn**	**03 59 16.5**	**-0.1**
CAF				*e*Sn	**Sn**	**04 00 09.1**	**-4.9**
	SNR=1.0						
CAF				*e*Sg	**Sg**	**04 00 41.5**	**+0.2**
	comp=N,1.5nm,0.2s,SNR=1.0						
SMF	**Signal de Mont**	**5.12**	**105**	*e*Sn	**Sn**	**04 00 14.7**	**-3.4**
	SNR=1.0						
SMF				*e*Sg	**Sg**	**04 00 46.4**	**-0.2**
	comp=N,0.9nm,0.2s						
SMF	**Signal de Mont**	**5.12**	**105**	*e*Sn	**Sn**	**04 00 14.7**	**-3.4**
	SNR=1.0						
SMF				*e*Sg	**Sg**	**04 00 46.4**	**-0.2**
	comp=N,0.4nm,0.2s						
SJPF	**Ste Jean**	**5.28**	**163**	*e*Sn	**Sn**	**04 00 14.8**	**-7.2**
	comp=N,2.4nm,0.5s,SNR=1.0						
BAIF	**Baives**	**5.31**	**66**	*e*Sn	**Sn**	**04 00 18.4**	**-4.3**
ETSF	**Etsaut**	**5.64**	**159**	*e*Sn	**Sn**	**04 00 22.7**	**-8.0**
	comp=N,2.4nm,0.6s,SNR=1.0						
EPF	**Esparros**	**5.77**	**152**	*e*Sn	**Sn**	**04 00 27.2**	**-6.7**
	comp=N,1.8nm,0.2s						
MTLF	**Montolieu**	**6.21**	**139**	*e*Sn	**Sn**	**04 00 38.0**	**-7.0**
	comp=N,2.0nm,0.5s,SNR=1.0						

KRSC 09 04:27:31.8±0.3**, 5247N×16101E, h22**km±22km**, ML3.5, Off east coast of Kamchatka Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SPN	**Mys Shipunski**	**0.87**	**317**	*e*P	Pb	04 27 49.1	+0.9
SPN				*i* S	Sb	04 28 00.9	+1.6
NLC	**Nalytchevo**	**1.23**	**305**	*e*P	Pn	04 27 54.4	+0.8
NLC				*i* S	Sn	04 28 11.1	+1.5
SDLR	**Sedlovina**	**1.52**	**303**	*e*P	Pn	04 27 59.7	+2.1
SDLR				*i* S	Sn	04 28 20.1	+3.4
RUS	**Russkaya**	**1.53**	**270**	*e*P	Pn	04 27 58.6	+0.9
RUS				*i* S	Sn	04 28 18.0	+1.1
PET	**Petropavlovsk**	**1.54**	**292**	*e*P	Pn	04 27 58.7	+0.9
PET				*i* S	Sn	04 28 18.8	+1.7
GNL	**Ganaly**	**2.22**	**305**	*e*P	Pn	04 28 10.4	+3.2
GNL				*i* S	Sn	04 28 38.3	+4.3
TUMR	**Tumrok**	**2.87**	**350**	P	Pn	04 28 19.8	+3.7
TUMR				*i* S	Sn	04 28 53.6	+3.8
KBTR	**Krutoberegovo**	**3.89**	**15**	P	Pn	04 28 31.7	+1.5
KBTR				*i* S	Sn	04 29 15.1	-0.1

*ISCJB **09** 04:55:17.8±2.4, 2360S±0.10×1792W±0.1, h434km±36km, mb3.7/5, Error ellipse: s-maj=22.1km s-min=14.3km az=22.0*

*IDC **09** 04:55:17.7±2.1, 2364S×17933W, h415km±20km, mb3.3/5, mb1 3.7/7, mb1mx3.5/18, mbtmp3.6/7, Error ellipse: s-maj=24.1km s-min=20.2km az=135.0*

ISC 09 04:55:20.1±1.5**, 2368S**±009×**1792W**±01**, h452**km±24km**, n10, σ0.96**/10**, mb3.8**/5**, South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**11.97**	**37**	P	**P**	**04 57 58.5**	**-0.3**
	17nm,0.3s,baz=240,slow=8.1,SNR=9.2						
AFI				S	**S**	**05 00 00.4**	**-9.3**
	5.5nm,0.3s,baz=66,slow=23,SNR=3.4						
DZM	**Mont Dzumac**	**13.35**	**274**	*e*P	**P**	**04 58 15.0**	**+1.4**
URZ	**Urewera**	**14.88**	**191**	P	**P**	**04 58 28.6**	**-1.1**
	5.1nm,0.3s,baz=22,slow=5.4,SNR=22						
URZ				S	**S**	**05 01 07.3**	**+0.9**
	1.7nm,0.3s,baz=307,slow=20,SNR=5.9						
RPZ	**Rata Peaks**	**21.54**	**200**	P	**P**	**04 59 34.7**	**-0.5**
	15nm,0.5s,mb4.8,baz=32,slow=4.0,SNR=11						
STKA	**Stephens Creek**	**35.50**	**248**	P	**P**	**05 01 37.9**	**+0.6**
	0.9nm,0.4s,mb3.6,baz=63,slow=9.4,SNR=3.9						
ASAR	**Alice Springs**	**42.81**	**260**	P	**P**	**05 02 36.1**	**-0.7**
	0.9nm,0.3s,mb3.6,baz=90,slow=7.2,SNR=15						
ASAR				ScP	ScP	05 07 29.7	+4.0
	1.7nm,1.0s,baz=125,slow=4.3,SNR=6.5						
WRA	**Warramunga Arr**	**43.17**	**266**	P	**P**	**05 02 38.4**	**-1.3**
	1.4nm,0.3s,mb3.8,baz=92,slow=8.4,SNR=55						
WRA				ScP	ScP	05 07 31.3	+4.0
	1.0nm,0.8s,baz=97,slow=3.9,SNR=6.4						
TXAR	**Lajitas Array**	**89.67**	**58**	P	**P**	**05 07 30.1**	**+1.1**
	0.2nm,0.6s,mb3.1,baz=206,slow=8.3,SNR=3.7						
AKASG	**Malin Array Be**	**145.19**	**328**	PKPbc	PKPbc	05 14 06.2	+0.5
	0.8nm,0.4s,baz=40,slow=5.1,SNR=4.7						
TORD	**Torodi Ar. Bea**	**169.49**	**185**	PKPab	PKPab	05 15 52.8	+1.4
	0.3nm,0.8s,baz=140,slow=4.8,SNR=2.3						

*SZGRF **09** 06:41:00.2, 3721N×3158W, h33km, mb4.8, MS3.9, Azores Islands region*

*BJI **09** 06:41:07.9, 3871N×3104W, h10km, mB5.3, mb5.2, Ms5.1, Msz4.6*

*ISCJB **09** 06:41:09.8±0.2, 3854N±005×3032W±003, h10km, mb4.7/128, MS4.1/40, Error ellipse: s-maj=7.3km s-min=3.2km az=0.0*

*IDC **09** 06:41:09.2±0.5, 3844N×3033W, h0km, mb4.4/24, mb1 4.6/24, mb1mx4.5/30, mbtmp4.4/24, MS4.2/24, Ms1 4.2/24, ms1mx4.0/38, Error ellipse: s-maj=15.9km s-min=11.7km az=153.0*

*PDA **09** 06:41:10.5±1.2, 3858N×3034W, h5km, MD4.0, ML4.2, Error ellipse: s-maj=11.3km s-min=7.1km az=179.0*

*CSEM **09** 06:41:10.5, 3886N×3038W, h10km, mb4.8/60, Ms3.9, Mw5.0, Error ellipse: s-maj=2.4km s-min=1.0km az=157.0*

*GCMT **09** 06:41:11.6±0.3, 3832N×3037W, h12km, MW5.0/83, Moment Tensor Solution. s30,c38; s83,c121; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-3.76±.10; $M_{\theta\theta}$1.53±.13; $M_{\phi\phi}$2.24±.10; $M_{r\theta}$-2.31±.42; $M_{\theta\phi}$2.08±.09; $M_{\phi r}$0.44±.32; Best double couple: $M_0$4.50500×10^{16} NP1:ϕ_s199.00000°, δ41.00000°, λ-126.00000°. NP2: ϕ_s64.00000°, δ58.00000°, λ-63.00000°. Principal axes: T 4.1850, Plg9.0000°, Azm135.0000°; N 0.6490, Plg23.0000°, Azm229.0000°; P -4.8240, Plg65.0000°, Azm24.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*NEIC **09** 06:41:11.6±0.2, 3855N×3036W, h10km, mb4.7/97 Error ellipse: s-maj=8.1km s-min=3.4km az=177.0*

*MOS **09** 06:41:12.3±0.9, 3859N×3035W, h28km, mb4.9/50, Error ellipse: s-maj=9.4km s-min=3.7km az=140.8*

ISC 09 06:41:11.8±0.2**, 3859N**±005×**3033W**±003**, h10**km**, (h21**km±2.2km**:pP-P), n482, σ1.04**/476**, mb4.7**/128**, MS4.1**/40**, 27C-11D, Azores Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CALA	**Caldeira**	**1.28**	**90**	*e*P	**Pn**	**06 41 29.9**	**-5.8**
CALA				*e*S	**Sb**	**06 41 45.0**	**-7.4**
PCED	**Cedros**	**1.28**	**88**	*i* P	**Pn**	**06 41 30.1**	**-5.6**
PCED				*i* S	**Sb**	**06 41 44.1**	**-8.3**
PCED				A		06 41 47.1	
	3µm,0.4s						
HOR	**Horta**	**1.34**	**92**	*i* P	**Pn**	**06 41 30.8**	**-5.7**
HOR				*e*S	**Sb**	**06 41 46.3**	**-7.8**
PICO	**Pico**	**1.50**	**93**	*e*P	**Pn**	**06 41 33.5**	**-5.2**
PICO				*e*S	**Sn**	**06 41 50.4**	**-7.9**
ROSA	**Rosais**	**1.64**	**85**	*i* P	**Pn**	**06 41 35.6**	**-5.1**
ROSA				*e*S	**Sn**	**06 41 54.1**	**-7.8**
PMAN	**Manadas**	**1.76**	**88**	*e*P	**Pn**	**06 41 36.9**	**-5.4**
PMAN				*e*S	**Sn**	**06 41 56.7**	**-8.0**
PMAN				A		06 41 59.1	
	950nm,0.4s						
PMAN	**Manadas**	**1.76**	**88**	*e*P	**Pn**	**06 41 36.9**	**-5.4**
PMAN				*e*S	**Sn**	**06 41 56.7**	**-8.0**
PGRA	**Graciosa**	**1.89**	**76**	*e*P	**Pn**	**06 41 39.1**	**-5.0**
PGRA				*e*S	**Sn**	**06 41 59.9**	**-8.0**
PGRA				A		06 42 05.9	
	307nm,0.2s						
PGRA	**Graciosa**	**1.89**	**76**	*e*P	**Pn**	**06 41 39.1**	**-5.0**
PGRA				*e*S	**Sn**	**06 41 59.9**	**-8.0**
PSCM	**Serra do Cume**	**2.52**	**87**	*e*P	**Pn**	**06 41 47.5**	**-5.3**
PSCM				*e*S	**Sn**	**06 42 15.3**	**-8.2**
PSCM				A		06 42 18.4	
	152nm,0.3s						
PSCM	**Serra do Cume**	**2.52**	**87**	*e*P	**Pn**	**06 41 47.5**	**-5.3**
PSCM				*e*S	**Sn**	**06 42 15.3**	**-8.2**
PSET	**Sete Cidades**	**3.71**	**101**	*e*P	**Pn**	**06 42 03.7**	**-5.5**
PSET				*e*S	**Sn**	**06 42 43.7**	**-9.3**
PSET				A		06 42 48.9	
	73nm,0.3s						
PSET	**Sete Cidades**	**3.71**	**101**	*e*P	**Pn**	**06 42 03.7**	**-5.5**
PSET				*e*S	**Sn**	**06 42 43.7**	**-9.3**
PDA	**Ponta Delgada**	**3.77**	**102**	*e*P	**Pn**	**06 42 04.7**	**-5.4**
PDA				*e*S	**Sn**	**06 42 45.8**	**-8.7**
CMLA	**Cha da Macela**	**3.88**	**101**	*e*P	**Pn**	**06 42 06.0**	**-5.5**
CMLA				*e*S	**Sn**	**06 42 48.7**	**-8.4**
CMLA				A		06 42 52.9	
	316nm,0.4s						
CMLA	**Cha da Macela**	**3.88**	**101**	Pn	**Pn**	**06 42 06.0**	**-5.5**
	6µm,0.4s,SNR=81						
CMLA	**Cha da Macela**	**3.88**	**101**	*e*P	**Pn**	**06 42 06.0**	**-5.5**
CMLA				*e*S	**Sn**	**06 42 48.7**	**-8.4**
CMLA	**Cha da Macela**	**3.88**	**101**	*e*Pn	**Pn**	**06 42 05.8**	**-5.7**
CMLA				*e*Sn	**Sn**	**06 42 51.7**	**-5.4**
PSMN	**Pico do Norte,**	**4.46**	**109**	*e*P	**Pn**	**06 42 13.1**	**-6.4**
PSMN				*e*S	**Sn**	**06 43 00.1**	**-11**
PMAR	**Madeira**	**12.38**	**114**	*e*P	**Pn**	**06 44 02.8**	**-5.3**
	89nm,0.3s						
PMPS	**Porto Santo**	**12.63**	**112**	*e*P	**Pn**	**06 44 05.2**	**-6.3**
	232nm,1.8s						
EGOM	**La Gomera**	**15.10**	**130**	P	**Pn**	**06 44 39.4**	**-5.8**
	80nm,0.4s						
EBAJ	**Bajamar**	**15.36**	**127**	P	**Pn**	**06 44 42.8**	**-5.8**
	7.3nm,0.2s						
CCAN	**Las Canadas**	**15.42**	**128**	P	**Pn**	**06 44 43.5**	**-6.0**
	5.3nm,0.2s						
EMAZ	**Mazaricos**	**16.74**	**68**	P	**Pn**	**06 45 09.5**	**+3.2**
	47nm,1.5s						
EMAZ	**Mazaricos**	**16.74**	**68**	P	**Pn**	**06 45 09.5**	**+3.2**
	47nm,1.5s						
CFTV	**Fuerteventura**	**16.91**	**122**	P	**Pn**	**06 45 04.1**	**-4.5**
	12nm,0.4s						
STS	**Santiago**	**17.04**	**69**	P	**Pn**	**06 45 13.8**	**+3.7**
STS				pmax	pmax		
	comp=Z,1.0nm,0.4s						
STS	**Santiago**	**17.04**	**69**	P	**Pn**	**06 45 13.8**	**+3.7**
	comp=Z,1.4nm,0.4s						
STS	**Santiago**	**17.04**	**69**	P	**Pn**	**06 45 13.8**	**+3.6**
	comp=Z,1.4nm,0.4s						
PTOM	**Tomar**	**17.04**	**80**	*e*P	**Pn**	**06 45 12.2**	**+2.0**
	comp=Z,67nm,1.8s						
PTEO	**Sao Teotonio**	**17.05**	**87**	*e*P	**Pn**	**06 45 10.7**	**+0.5**
	comp=Z,128nm,1.8s						
ELOB	**Lobios**	**17.31**	**72**	P	**Pn**	**06 45 16.5**	**+3.0**
	comp=Z,38nm,1.7s						
ELOB	**Lobios**	**17.31**	**72**	P	**Pn**	**06 45 16.5**	**+3.1**
	comp=Z,38nm,1.7s						
PCAB	**Cabril**	**17.33**	**73**	*e*P	**Pn**	**06 45 18.0**	**+4.3**
PVIS	**Viseu**	**17.40**	**76**	*e*P	**Pn**	**06 45 17.8**	**+3.2**
	comp=Z,52nm,1.7s						
EVO	**Evora**	**17.45**	**83**	*e*P	**Pn**	**06 45 11.1**	**-4.2**
	comp=Z,59nm,1.5s						
EVO				*e*MLR	MLR		
	comp=Z,1µm,19.8s						
PCBR	**Castelo Branco**	**17.75**	**79**	*e*P	**Pn**	**06 45 20.7**	**+1.7**
	comp=Z,32nm,1.6s						
PMRV	**Marv??o**	**17.84**	**80**	*e*P	**Pn**	**06 45 24.2**	**+4.1**
	comp=Z,34nm,1.4s						
EGRO	**El Granado**	**18.02**	**86**	P	**Pn**	**06 45 22.2**	**-0.1**
	comp=Z,27nm,1.2s						
EGRO	**El Granado**	**18.02**	**86**	P	**Pn**	**06 45 22.2**	**-0.1**
	comp=Z,27nm,1.2s						
MVO	**Moncorvo**	**18.06**	**74**	*e*P	**Pn**	**06 45 25.1**	**+2.3**
	comp=Z,73nm,1.7s						
EPON	**Pontenova**	**18.12**	**67**	P	**Pn**	**06 45 26.6**	**+3.1**
	comp=Z,30nm,1.2s						
EBAD	**Badajoz**	**18.20**	**82**	P	**Pn**	**06 45 27.2**	**+2.6**
	comp=Z,35nm,1.7s						
EBAD	**Badajoz**	**18.20**	**82**	P	**Pn**	**06 45 27.2**	**+2.6**
	comp=Z,35nm,1.7s						
PBAR	**Barrancos**	**18.26**	**84**	*e*P	**Pn**	**06 45 24.3**	**-1.0**
	comp=Z,23nm,2.1s						
PBRG	**Braganca**	**18.29**	**72**	*e*P	**Pn**	**06 45 28.6**	**+3.0**
	comp=Z,26nm,1.3s						
ECAL	**Calabor**	**18.30**	**72**	P	**Pn**	**06 45 32.6**	**+6.9**
	comp=Z,17nm,1.4s						
EMIN	**Mina Concepcio**	**18.61**	**85**	P	**Pn**	**06 45 29.9**	**+0.3**
	comp=Z,23nm,1.6s						
EMIN	**Mina Concepcio**	**18.61**	**85**	P	**Pn**	**06 45 29.9**	**+0.3**
	comp=Z,23nm,1.6s						
ESPR	**Espera**	**19.43**	**87**	P	**Pn**	**06 45 39.9**	**+0.5**
	comp=Z,25nm,1.0s						
ESPR	**Espera**	**19.43**	**87**	P	**Pn**	**06 45 39.9**	**+0.5**
	comp=Z,25nm,1.0s						
EARI	**Arriondas**	**19.52**	**68**	P	**Pn**	**06 45 40.7**	**+0.2**
	comp=Z,18nm,1.5s						
EARI	**Arriondas**	**19.52**	**68**	P	**Pn**	**06 45 40.6**	**+0.2**
	comp=Z,18nm,1.5s						
ECAB	**El Cabril**	**19.54**	**84**	P	**Pn**	**06 45 40.8**	**+0.1**
	comp=Z,21nm,1.5s						
ECAB	**El Cabril**	**19.54**	**84**	P	**Pn**	**06 45 40.9**	**+0.1**
	comp=Z,21nm,1.5s						
EJIF	**Jimena Fronter**	**19.82**	**88**	P	**Pn**	**06 45 45.2**	**+1.1**
EJIF				pmax	pmax		
	comp=Z,5.0nm,0.3s						
EJIF	**Jimena Fronter**	**19.82**	**88**	P	**Pn**	**06 45 45.2**	**+1.1**
	comp=Z,4.6nm,0.3s						
EJIF	**Jimena Fronter**	**19.82**	**88**	P	**Pn**	**06 45 45.2**	**+1.0**
	comp=Z,4.6nm,0.3s						
DKH	**Dar Kharkhour**	**20.16**	**91**	*i* P	**P**	**06 45 48.0**	**+1.8**
EADA	**Adamuz**	**20.18**	**83**	P	**P**	**06 45 49.6**	**+3.2**
	comp=Z,16nm,1.1s						
EADA	**Adamuz**	**20.18**	**83**	P	**P**	**06 45 49.6**	**+3.2**
	comp=Z,16nm,1.1s						
GUD	**Guadarrama**	**20.25**	**76**	P	**P**	**06 45 50.5**	**+3.3**
GUD				pmax	pmax		
	comp=Z,6.0nm,1.1s						
GUD	**Guadarrama**	**20.25**	**76**	P	**P**	**06 45 50.5**	**+3.3**
	comp=Z,6.4nm,1.1s						
GUD	**Guadarrama**	**20.25**	**76**	P	**P**	**06 45 50.5**	**+3.4**
	comp=Z,6.4nm,1.1s						
EMIJ	**Mijas**	**20.34**	**88**	P	**P**	**06 45 48.9**	**+0.7**
	comp=Z,55nm,1.1s						
TZC	**Tazercounte**	**20.45**	**101**	*i* P	**P**	**06 45 50.0**	**+0.6**
ESDC	**Sonseca Array**	**20.46**	**79**	P	**P**	**06 45 49.9**	**+0.4**
	comp=Z,3.3nm,0.7s,baz=278,slow=11,SNR=15						
ESDC				LR	LR	06 52 20.7	
	comp=Z,698nm,19.2s,MS4.0,baz=265,slow=33						
ESDC	**Sonseca Array**	**20.46**	**79**	P	**P**	**06 45 51.3**	**+1.8**
	comp=Z,12nm,1.4s						
ESDC	**Sonseca Array**	**20.46**	**79**	P	**P**	**06 45 51.3**	**+1.8**
	comp=Z,12nm,1.4s						
ESLA	**Sonseca Array**	**20.46**	**79**	*e*P	**P**	**06 45 51.7**	**+2.2**
	comp=Z,13nm,1.5s						
ESLA	**Sonseca Array**	**20.46**	**79**	*e*P	**P**	**06 45 51.7**	**+2.2**
	comp=Z,13nm,1.5s						
ELUQ	**Luque**	**20.53**	**85**	P	**P**	**06 45 51.9**	**+1.7**
ELUQ				pmax	pmax		
	comp=Z,5.0nm,0.4s						
ELUQ	**Luque**	**20.53**	**85**	P	**P**	**06 45 51.9**	**+1.7**
	comp=Z,5.0nm,0.4s						
ELUQ	**Luque**	**20.53**	**85**	P	**P**	**06 45 51.9**	**+1.6**
	comp=Z,4.5nm,0.4s						
EMAL	**Malaga-Limoner**	**20.57**	**87**	P	**P**	**06 45 54.7**	**+4.1**
KIB	**El Ksiba**	**20.62**	**100**	*i* P	**P**	**06 45 54.0**	**+2.7**
ELOJ	**Sierra Loja**	**20.70**	**86**	P	**P**	**06 45 53.9**	**+1.8**
ELOJ				pmax	pmax		
	comp=Z,18nm,1.1s						
ELOJ	**Sierra Loja**	**20.70**	**86**	P	**P**	**06 45 53.9**	**+1.8**
	comp=Z,18nm,1.1s						
ELOJ	**Sierra Loja**	**20.70**	**86**	P	**P**	**06 45 53.9**	**+1.9**
	comp=Z,18nm,1.1s						
EBAN	**Banos Encina**	**20.80**	**83**	P	**P**	**06 45 55.9**	**+2.8**
EBAN				pmax	pmax		
	comp=Z,7.0nm,0.4s						
EBAN	**Banos Encina**	**20.80**	**83**	P	**P**	**06 45 55.9**	**+2.8**
	comp=Z,6.5nm,0.4s						
EBAN	**Banos Encina**	**20.80**	**83**	P	**P**	**06 45 55.9**	**+2.8**
	comp=Z,6.5nm,0.4s						
ELAN	**Lanestosa**	**20.81**	**69**	P	**P**	**06 45 53.3**	**+0.1**
	comp=Z,26nm,1.2s						
ELAN	**Lanestosa**	**20.81**	**69**	P	**P**	**06 45 53.3**	**+0.1**
	comp=Z,26nm,1.2s						
MIF	**Mishlifen**	**20.93**	**97**	*i* P	**P**	**06 45 56.0**	**+1.4**
IFR	**Ifrane**	**20.97**	**96**	P	**P**	**06 45 58.3**	**+3.2**
EGUA	**Guajares**	**21.23**	**86**	P	**P**	**06 46 00.5**	**+2.7**
EGUA				pmax	pmax		
	comp=Z,94nm,1.2s,mb5.0						
EGUA	**Guajares**	**21.23**	**86**	P	**P**	**06 46 00.5**	**+2.7**
	comp=Z,94nm,1.2s,mb5.0						
EGUA	**Guajares**	**21.23**	**86**	P	**P**	**06 46 00.5**	**+2.7**
	comp=Z,94nm,1.2s,mb5.0						
EQES	**Quesada**	**21.41**	**84**	P	**P**	**06 46 02.2**	**+2.4**
	comp=Z,7.0nm,0.5s,mb4.2						
EQES	**Quesada**	**21.41**	**84**	P	**P**	**06 46 02.2**	**+2.4**
	comp=Z,7.0nm,0.5s,mb4.2						
TZK	**Tazeka**	**21.51**	**94**	*i* P	**P**	**06 46 03.0**	**+2.2**
MDT	**Midelt**	**21.63**	**98**	P	**P**	**06 46 01.7**	**-0.4**
	comp=Z,7.5nm,1.0s,mb4.1,baz=288,slow=9.9,SNR=7.0						
MDT				LR	LR	06 52 47.8	
	comp=Z,1µm,19.2s,MS4.2,baz=298,slow=32						
EVIA	**Vianos**	**21.72**	**81**	P	**P**	**06 46 05.6**	**+2.6**
EVIA				pmax	pmax		
	comp=Z,20nm,1.2s,mb4.4						
EVIA	**Vianos**	**21.72**	**81**	P	**P**	**06 46 05.6**	**+2.6**
	comp=Z,20nm,1.2s,mb4.4						
EVIA	**Vianos**	**21.72**	**81**	P	**P**	**06 46 05.5**	**+2.5**
	comp=Z,20nm,1.2s,mb4.4						
EBER	**Berja**	**21.74**	**86**	P	**P**	**06 46 06.8**	**+3.5**
	comp=Z,32nm,1.5s,mb4.5						
QUIF	**Quistinic**	**21.77**	**56**	*e*P	**P**	**06 46 03.3**	**-0.3**
	comp=Z,114nm,1.6s,mb4.8						
QUIF	**Quistinic**	**21.77**	**56**	*e*P	**P**	**06 46 03.3**	**-0.3**
QUIF				pmax	pmax		
	comp=Z,57nm,1.6s,mb4.8						
QUIF	**Quistinic**	**21.77**	**56**	*e*P	**P**	**06 46 03.3**	**-0.3**
	comp=Z,57nm,1.6s,mb4.8						
EHUE	**Huescar**	**21.79**	**83**	P	**P**	**06 46 06.2**	**+2.4**
EHUE				pmax	pmax		
	comp=Z,22nm,1.2s,mb4.5						
EHUE	**Huescar**	**21.79**	**83**	P	**P**	**06 46 06.2**	**+2.4**
	comp=Z,22nm,1.2s,mb4.5						
EHUE	**Huescar**	**21.79**	**83**	P	**P**	**06 46 06.2**	**+2.4**
	comp=Z,22nm,1.2s,mb4.5						
ROSF	**Rostrenen**	**21.82**	**55**	*e*P	**P**	**06 46 04.7**	**+0.6**
	comp=Z,64nm,1.3s,mb4.6						
ROSF	**Rostrenen**	**21.82**	**55**	*e*P	**P**	**06 46 04.7**	**+0.6**
ROSF				pmax	pmax		
	comp=Z,32nm,1.3s,mb4.6						
ROSF	**Rostrenen**	**21.82**	**55**	*e*P	**P**	**06 46 04.7**	**+0.6**
	comp=Z,32nm,1.3s,mb4.6						
ZFT	**Errachidia**	**22.15**	**99**	*i* P	**P**	**06 46 08.0**	**+0.3**
SGMF	**Saint Gilles**	**22.26**	**55**	*e*P	**P**	**06 46 09.5**	**+0.8**
	comp=Z,82nm,1.1s,mb4.8						
SGMF	**Saint Gilles**	**22.26**	**55**	*e*P	**P**	**06 46 09.5**	**+0.8**
SGMF				pmax	pmax		
	comp=Z,41nm,1.1s,mb4.8						
SGMF	**Saint Gilles**	**22.26**	**55**	*e*P	**P**	**06 46 09.5**	**+0.8**
	comp=Z,41nm,1.1s,mb4.8						
SJPF	**Ste Jean**	**22.42**	**69**	*e*P	**P**	**06 46 11.0**	**+0.5**
	comp=Z,37nm,1.2s,mb4.4						
SJPF	**Ste Jean**	**22.42**	**69**	*e*P	**P**	**06 46 11.0**	**+0.5**
SJPF				pmax	pmax		
	comp=Z,19nm,1.3s,mb4.4						
SJPF	**Ste Jean**	**22.42**	**69**	*e*P	**P**	**06 46 11.0**	**+0.5**
	comp=Z,19nm,1.2s,mb4.4						
ETOB	**Tobarra**	**22.45**	**81**	P	**P**	**06 46 14.2**	**+3.3**
	comp=Z,11nm,1.0s,mb4.2						
ETSF	**Etsaut**	**22.90**	**70**	*e*P	**P**	**06 46 16.4**	**+0.8**
	comp=Z,76nm,1.4s,mb4.6						
ETSF	**Etsaut**	**22.90**	**70**	*e*P	**P**	**06 46 16.4**	**+0.8**
ETSF				pmax	pmax		
	comp=Z,38nm,1.4s,mb4.6						
ETSF	**Etsaut**	**22.90**	**70**	*e*P	**P**	**06 46 16.4**	**+0.8**
	comp=Z,38nm,1.4s,mb4.6						
GRR	**Gorron**	**23.39**	**56**	*e*P	**P**	**06 46 19.2**	**-1.5**
EBIE	**Bielsa**	**23.42**	**70**	P	**P**	**06 46 27.6**	**+6.5**
	comp=Z,24nm,1.3s,mb4.5						
MFF	**Saint Martin d**	**23.51**	**60**	*e*P	**P**	**06 46 20.9**	**-1.1**
	comp=Z,36nm,1.1s,mb4.4						
MFF	**Saint Martin d**	**23.51**	**60**	*e*P	**P**	**06 46 20.9**	**-1.1**
MFF				pmax	pmax		
	comp=Z,18nm,1.1s,mb4.4						
MFF	**Saint Martin d**	**23.51**	**60**	*e*P	**P**	**06 46 20.9**	**-1.1**
	comp=Z,18nm,1.1s,mb4.4						
EPF	**Esparros**	**23.56**	**69**	*e*P	**P**	**06 46 22.6**	**0.0**
	comp=Z,79nm,1.5s,mb4.6						
EPF	**Esparros**	**23.56**	**69**	*e*P	**P**	**06 46 22.6**	**0.0**
EPF				pmax	pmax		
	comp=Z,40nm,1.5s,mb4.6						
EPF	**Esparros**	**23.56**	**69**	*e*P	**P**	**06 46 22.6**	**0.0**
	comp=Z,40nm,1.5s,mb4.6						
ERTA	**Horta de San J**	**23.63**	**75**	P	**P**	**06 46 28.0**	**+4.8**
	comp=Z,29nm,1.2s,mb4.6						
FLN	**La Foliniere**	**23.72**	**55**	*e*P	**P**	**06 46 23.3**	**-0.6**
FLN				*e*MLR	MLR		
	comp=Z,374nm,18.5s,MS3.6						
FLN	**La Foliniere**	**23.72**	**55**	*e*P	**P**	**06 46 23.3**	**-0.6**
FLN				LR	LR		
	comp=Z,370nm,18.5s,MS3.9						
LDF	**La Druitiere**	**23.91**	**56**	*e*P	**P**	**06 46 24.6**	**-1.1**
LFF	**La Frestale**	**23.93**	**65**	*e*P	**P**	**06 46 25.5**	**-0.4**
EPOB	**Poblet**	**24.16**	**73**	P	**P**	**06 46 33.0**	**+4.9**
	comp=Z,15nm,0.9s,mb4.4						
RJF	**Les Rejaudoux**	**24.51**	**64**	*e*P	**P**	**06 46 30.5**	**-0.7**
RJF				*e*MLR	MLR		
	comp=Z,464nm,21.2s,MS3.6						
RJF	**Les Rejaudoux**	**24.51**	**64**	*e*P	**P**	**06 46 30.5**	**-0.7**
RJF				LR	LR		
	comp=Z,460nm,21.3s,MS3.9						
EKA	**Eskdalemuir Ar**	**24.75**	**39**	P	**P**	**06 46 33.4**	**+0.1**
	comp=Z,3.6nm,0.8s,mb3.9,baz=243,slow=7.4,SNR=6.9						
EKA	**Eskdalemuir Ar**	**24.75**	**39**	P	**P**	**06 46 33.3**	**+0.1**
CAF	**Calviac**	**24.87**	**65**	*e*P	**P**	**06 46 33.3**	**-1.2**
	comp=Z,49nm,1.4s,mb4.5						
CAF	**Calviac**	**24.87**	**65**	*e*P	**P**	**06 46 33.3**	**-1.2**
CAF				pmax	pmax		
	comp=Z,25nm,1.4s,mb4.5						
CAF	**Calviac**	**24.87**	**65**	*e*P	**P**	**06 46 33.3**	**-1.2**
	comp=Z,24nm,1.4s,mb4.5						
MTLF	**Montolieu**	**24.94**	**69**	*e*P	**P**	**06 46 34.0**	**-1.1**
	comp=Z,17nm,1.1s,mb4.2						
MTLF	**Montolieu**	**24.94**	**69**	*e*P	**P**	**06 46 34.0**	**-1.1**
MTLF				pmax	pmax		
	comp=Z,9.0nm,1.1s,mb4.2						
MTLF	**Montolieu**	**24.94**	**69**	*e*P	**P**	**06 46 34.0**	**-1.1**
	comp=Z,8.6nm,1.1s,mb4.2						
TCF	**Toulx Ste Croi**	**25.08**	**62**	*e*P	**P**	**06 46 35.9**	**-0.5**
	comp=Z,91nm,1.0s,mb4.9						
TCF	**Toulx Ste Croi**	**25.08**	**62**	*e*P	**P**	**06 46 35.9**	**-0.5**
TCF				pmax	pmax		
	comp=Z,46nm,1.0s,mb5.0						
TCF	**Toulx Ste Croi**	**25.08**	**62**	*e*P	**P**	**06 46 35.9**	**-0.5**
	comp=Z,46nm,1.0s,mb4.9						
FRNF	**Fournols**	**25.25**	**64**	*e*P	**P**	**06 46 37.7**	**-0.2**
BGF	**Bois d'Agland**	**25.55**	**61**	*e*P	**P**	**06 46 39.8**	**-0.8**
	comp=Z,42nm,0.9s,mb4.7						
BGF	**Bois d'Agland**	**25.55**	**61**	*e*P	**P**	**06 46 39.8**	**-0.8**
BGF				pmax	pmax		
	comp=Z,21nm,0.9s,mb4.7						
BGF	**Bois d'Agland**	**25.55**	**61**	*e*P	**P**	**06 46 39.8**	**-0.8**
	comp=Z,21nm,0.9s,mb4.7						
PYM	**Petit Puy Mans**	**25.59**	**63**	*e*P	**P**	**06 46 40.2**	**-0.8**
AGO	**Saint Agoulin**	**25.70**	**62**	*e*P	**P**	**06 46 42.0**	**0.0**
MENF	**Mencas**	**25.83**	**52**	*e*P	**P**	**06 46 42.5**	**-0.6**
AVF	**Avril sur Loir**	**25.92**	**61**	*e*P	**P**	**06 46 43.0**	**-1.0**
	comp=Z,65nm,1.5s,mb4.6						
AVF	**Avril sur Loir**	**25.92**	**61**	*e*P	**P**	**06 46 43.0**	**-1.0**
AVF				pmax	pmax		
	comp=Z,33nm,1.5s,mb4.6						
AVF	**Avril sur Loir**	**25.92**	**61**	*e*P	**P**	**06 46 43.0**	**-1.0**
	comp=Z,33nm,1.5s,mb4.6						
PLDF	**La Plantade**	**26.03**	**63**	*e*P	**P**	**06 46 44.5**	**-0.5**
SSF	**Saint Saulge**	**26.06**	**60**	*e*P	**P**	**06 46 44.9**	**-0.3**
	comp=Z,134nm,1.6s,mb4.9						
SSF	**Saint Saulge**	**26.06**	**60**	*e*P	**P**	**06 46 44.9**	**-0.3**
SSF				pmax	pmax		
	comp=Z,67nm,1.6s,mb4.9						
SSF	**Saint Saulge**	**26.06**	**60**	*e*P	**P**	**06 46 44.9**	**-0.3**
	comp=Z,67nm,1.6s,mb4.9						
LASF	**Ste Croix**	**26.12**	**67**	*e*P	**P**	**06 46 44.8**	**-1.1**
	comp=Z,114nm,1.6s,mb4.8						
LASF	**Ste Croix**	**26.12**	**67**	*e*P	**P**	**06 46 44.8**	**-1.1**
	comp=Z,57nm,1.6s,mb4.8						
SMF	**Signal de Mont**	**26.24**	**61**	*e*P	**P**	**06 46 46.9**	**0.0**
	comp=Z,69nm,1.2s,mb4.8						
SMF	**Signal de Mont**	**26.24**	**61**	*e*P	**P**	**06 46 46.9**	**0.0**
SMF				pmax	pmax		
	comp=Z,35nm,1.2s,mb4.8						
SMF	**Signal de Mont**	**26.24**	**61**	*e*P	**P**	**06 46 46.9**	**0.0**
	comp=Z,35nm,1.2s,mb4.8						
LOR	**Lormes**	**26.32**	**60**	*e*P	**P**	**06 46 46.6**	**-1.0**
LOR				*e*MLR	MLR		
	comp=Z,298nm,22.8s,MS3.5						
LOR	**Lormes**	**26.32**	**60**	*e*P	**P**	**06 46 46.6**	**-1.0**
LOR				LR	LR		
	comp=Z,300nm,22.8s,MS3.8						
VIVF	**Saint-Julien-l**	**26.72**	**65**	*e*P	**P**	**06 46 51.1**	**-0.1**

comp=Z,100nm,1.5s,mb4.8
VIVF Saint-Julien-I 26.72 65 *e*P **P 06 46 51.1 -0.1**
VIVF pmax pmax
comp=Z,50nm,1.5s,mb4.8
VIVF Saint-Julien-I 26.72 65 *e*P **P 06 46 51.1 -0.1**
comp=Z,50nm,1.5s,mb4.8
BORG Borgarnes 26.73 9 LR LR 06 55 34.5
comp=Z,217nm,18.5s,MS3.7,baz=205,slow=32
BBTS Babate 26.77 149 LR LR 06 54 43.8
comp=Z,547nm,20.4s,MS4.1,baz=163,slow=31
BAIF Baives 27.00 54 *e*P **P 06 46 53.0 -0.7**
comp=Z,76nm,1.5s,mb4.7
BAIF Baives 27.00 54 *e*P **P 06 46 53.0 -0.7**
BAIF pmax pmax
comp=Z,38nm,1.5s,mb4.7
BAIF Baives 27.00 54 *e*P **P 06 46 53.0 -0.7**
comp=Z,38nm,1.5s,mb4.7
DOU Dourbes 27.25 54 P **P 06 46 55.6 -0.3**
comp=Z,11nm,2.3s,mb4.0
UCC Uccle 27.25 52 P **P 06 46 55.8 -0.1**
comp=Z,25nm,1.3s,mb4.6
MEZF Maizieres J'vi 27.27 57 *e*P **P 06 46 56.2 0.0**
SMRF Simiane la Rot 27.36 67 *e*P **P 06 46 57.1 +0.1**
GIVF Givet 27.39 54 *e*P **P 06 46 56.1 -1.1**
ORIF Oris-en-Rattie 27.58 65 *e*P **P 06 46 59.1 +0.2**
comp=Z,30nm,1.2s,mb4.5
ORIF *e*MLR MLR
comp=Z,257nm,19.5s,MS3.5
ORIF Oris-en-Rattie 27.58 65 *e*P **P 06 46 59.1 +0.2**
ORIF pmax pmax
comp=Z,15nm,1.2s,mb4.5
ORIF Oris-en-Rattie 27.58 65 *e*P **P 06 46 59.1 +0.2**
comp=Z,15nm,1.2s,mb4.5
BCLA Clavier 27.76 53 P **P 06 47 00.5 0.0**
comp=Z,13nm,2.0s,mb4.2
CABF La Chapelle 27.78 61 *e*P **P 06 47 00.5 -0.2**
comp=Z,120nm,1.7s,mb4.9
CABF La Chapelle 27.78 61 *e*P **P 06 47 00.5 -0.2**
CABF pmax pmax
comp=Z,60nm,1.7s,mb5.0
CABF La Chapelle 27.78 61 *e*P **P 06 47 00.5 -0.2**
comp=Z,60nm,1.7s,mb4.9
THEF They Montfort 27.86 58 *e*P **P 06 47 02.8 +1.4**
HAU Haudompre 28.07 58 *e*P **P 06 47 03.2 -0.1**
HAU *e*MLR MLR
comp=Z,254nm,18.8s,MS3.5
HAU Haudompre 28.07 58 *e*P **P 06 47 03.2 -0.1**
HAU LR LR
comp=Z,250nm,18.8s,MS3.8
WLF Walferdange 28.16 55 P **P 06 47 04.7 +0.6**
comp=Z,18nm,1.6s,mb4.4
WLF Walferdange 28.16 55 *e*P **P 06 47 04.6 +0.5**
comp=Z,29nm,1.3s,mb4.8
LPL La Plagne 28.19 64 *e*P **P 06 47 04.3 -0.1**
LPG La Plagne 28.20 64 *e*P **P 06 47 04.5 0.0**
comp=Z,43nm,1.3s,mb4.6
LPG La Plagne 28.20 64 *e*P **P 06 47 04.5 0.0**
LPG pmax pmax
comp=Z,21nm,1.3s,mb4.6
LPG La Plagne 28.20 64 *e*P **P 06 47 04.5 0.0**
comp=Z,21nm,1.3s,mb4.6
MEM Membach 28.24 53 P **P 06 47 04.8 +0.1**
comp=Z,8.4nm,1.8s,mb4.1
LOMF Lomont 28.34 60 *e*P **P 06 47 05.6 -0.1**
MOF Molkenrain 28.58 59 *e*P **P 06 47 07.8 -0.1**
CDF Champ du Feu 28.73 58 *e*P **P 06 47 08.7 -0.5**
comp=Z,34nm,1.1s,mb4.7
CDF Champ du Feu 28.73 58 *e*P **P 06 47 08.7 -0.5**
CDF pmax pmax
comp=Z,17nm,1.1s,mb4.7
CDF Champ du Feu 28.73 58 *e*P **P 06 47 08.7 -0.5**
comp=Z,17nm,1.1s,mb4.7
RUP Ruppelstein 28.75 55 *e*P **P 06 47 08.8 -0.5**
BBS Basel-Blauen 28.81 60 *e*P **P 06 47 10.0 +0.1**
BFO Black Forest 29.42 58 *e*P **P 06 47 14.7 -0.6**
BFO pmax pmax
comp=Z,24nm,1.5s,mb4.7
BFO Black Forest 29.42 58 *e*P **P 06 47 14.7 -0.6**
comp=Z,24nm,1.5s,mb4.7
SPAK Spaichingen-Ko 29.71 59 *e*P **P 06 47 17.9 0.0**
TNS Taunus Mts 29.71 54 *e*P **P 06 47 18.5 +0.6**
TNS pmax pmax
comp=Z,6.0nm,0.9s,mb4.3
TNS Taunus Mts 29.71 54 *e*P **P 06 47 18.5 +0.6**
comp=Z,6.0nm,0.9s,mb4.3
TUE Stuetta 30.02 62 *e*P **P 06 47 21.1 +0.4**
comp=Z,18nm,1.0s,mb4.8
TUE Stuetta 30.02 62 *e*P **P 06 47 21.1 +0.5**
comp=Z,18nm,1.0s,mb4.8
DAVA Damuels 30.41 60⇑ *i*P **P 06 47 23.7 -0.3**
comp=Z,17nm,1.1s,mb4.7
DAVA Damuels 30.41 60 P **P 06 47 25.1 +1.0**
SFJD Kangerlussuaq 30.67 345 LR LR 06 57 04.3
comp=Z,777nm,19.7s,MS4.4,baz=132,slow=31
UBBA Unterbreizbach 30.78 53 *e*P **P 06 47 27.7 +0.4**
comp=Z,20nm,1.8s,mb4.7
FETA Feichten 30.98 61⇑ *i*P **P 06 47 29.4 +0.3**
comp=Z,6.5nm,0.8s,mb4.5
CLZ Clausthal 31.15 51 *e*P **P 06 47 31.1 +0.5**
CLZ pmax pmax
comp=Z,6.0nm,0.7s,mb4.5
CLZ Clausthal 31.15 51 *e*P **P 06 47 31.1 +0.5**
comp=Z,6.0nm,0.7s,mb4.5
SQTA Sankt Quirin 31.31 60⇑ *i*P **P 06 47 32.8 +0.8**
GRA1 Grafenberg Arr 31.43 56 *e*P **P 06 47 33.2 +0.1**
comp=Z,14nm,0.7s,mb4.9
GRA1 LR LR
comp=Z,200nm,18.4s,MS3.8
GRF Grafenberg Arr 31.43 56 *e*P **P 06 47 33.2 +0.1**
GRF pmax pmax
comp=Z,14nm,0.7s,mb4.9
GRF MLR MLR
comp=Z,200nm,18.4s,MS3.8
GRF Grafenberg Arr 31.43 56 *e*P **P 06 47 33.2 +0.1**
GRF pmax pmax
comp=Z,14nm,0.7s,mb4.9
GRF MLR MLR
comp=Z,200nm,18.4s,MS3.8
GRF Grafenberg Arr 31.43 56 *e*P **P 06 47 33.2 +0.1**
comp=Z,14nm,0.7s,mb4.9
GRF *e*L 06 58 48.7
comp=Z,229nm,18.4s
BSEG Bad Segeberg 31.51 47 *e*P **P 06 47 34.4 +0.7**
comp=Z,40nm,1.3s,mb5.1
KEST Kesra 31.58 83 LR LR 06 58 10.3
comp=Z,101nm,21.0s,MS3.5,baz=147,slow=32
WTTA Wattenberg 31.60 60⇑ *i*P **P 06 47 33.9 -0.7**
comp=Z,12nm,0.8s,mb4.8
WTTA Wattenberg 31.60 60 P **P 06 47 35.8 +1.2**
MOX Moxa 31.77 54 *e*P **P 06 47 36.3 +0.2**
comp=Z,15nm,1.2s,mb4.7
MOX *e* 06 47 42.6
MOX
comp=Z,300nm,20.0s
MOX Moxa 31.77 54 *e*P **P 06 47 36.3 +0.2**
MOX *e* 06 47 42.6
MOX pmax pmax
comp=Z,15nm,1.2s,mb4.7
MOX MLR MLR
comp=Z,300nm,20.0s,MS4.0
MOX Moxa 31.77 54 *e*P **P 06 47 36.2 +0.1**
comp=Z,14nm,0.3s,mb5.3
MANZ Manzenberg 32.03 55 *e*P **P 06 47 37.9 -0.4**
comp=Z,5.0nm,0.8s,mb4.4
ROTZ Rotzenmuhle 32.08 56 *e*P **P 06 47 38.6 -0.1**
comp=Z,4.0nm,0.5s,mb4.5
NKC Novy Kostel 32.27 55 *e*P **P 06 47 40.6 +0.2**
NKC *e*pP pP 06 47 46.4 +2.9
TANN Tannenbergstha 32.29 54 *e*P **P 06 47 40.5 -0.1**
comp=Z,18nm,1.5s,mb4.7
RJOB Jochberg 32.39 59 *e*P **P 06 47 41.5 0.0**
comp=Z,12nm,1.0s,mb4.7
WET Wettzell 32.48 57 *e*P **P 06 47 42.0 -0.3**
WET pmax pmax
comp=Z,17nm,1.4s,mb4.7
WET Wettzell 32.48 57 *e*P **P 06 47 42.0 -0.3**
comp=Z,17nm,1.4s,mb4.7
CLL Collm 32.71 53 *i* P **P 06 47 44.0 -0.3**
CLL *i* 06 47 49.9
CLL pmax pmax
comp=Z,10.0nm,1.1s,mb4.7
CLL MLR MLR
comp=Z,200nm,23.1s,MS3.8
CLL Collm 32.71 53 *e*P **P 06 47 43.8 -0.5**
comp=Z,6.0nm,0.7s,mb4.6
CLL Collm 32.71 53 *i* P **P 06 47 44.0 -0.3**
comp=Z,10.0nm,1.1s,mb4.7
CLL *i* sP sP 06 47 49.9 +1.3
CLL Collm 32.71 53 *i* P **P 06 47 44.0 -0.3**
comp=Z,10.0nm,1.1s,mb4.7
CLL *i* 06 47 49.9
CLL LR LR
comp=Z,200nm,23.1s,MS3.8
KBA Koelnbreinsper 32.77 61⇑ *i*P **P 06 47 45.3 +0.4**
comp=Z,27nm,1.3s,mb5.0
KBA Koelnbreinsper 32.77 61 P **P 06 47 45.1 +0.3**
KONO Kongsberg 32.83 37⇑ *e*P **P 06 47 45.3 +0.1**
KHC Kasperske Hory 32.94 57 *e*P **P 06 47 46.1 -0.2**
KHC *e*pP pP 06 47 52.4 +3.0
KHC AMS AMS 07 02 30.0
comp=Z,300nm,18.4s
GEC2 GERESS Array S 33.01 57 *e*P **P 06 47 46.9 0.0**
GEC2 pmax pmax
comp=Z,15nm,1.7s,mb4.7
GEC2 GERESS Array S 33.01 57 *e*P **P 06 47 46.9 0.0**
comp=Z,15nm,1.7s,mb4.7
GERES GERESS Array B 33.01 57 P **P 06 47 46.6 -0.3**
comp=Z,1.8nm,0.8s,mb4.1,baz=251,slow=7.9,SNR=15
GERES LR LR 06 59 40.9
comp=Z,152nm,18.2s,MS3.7,baz=262,slow=34
BRG Berggiesshubel 33.27 54 *e*P **P 06 47 49.4 +0.3**
BRG pmax pmax
comp=Z,5.0nm,1.1s,mb4.4
BRG Berggiesshubel 33.27 54 *e*P **P 06 47 49.4 +0.3**
comp=Z,7.7nm,1.1s,mb4.5
MOA Molln 33.38 59⇑ *i*P **P 06 47 50.2 +0.1**
comp=Z,27nm,1.1s,mb5.1
MOA Molln 33.38 59 P **P 06 47 49.9 -0.3**
PRU Pruhonice 33.60 55 *e*P **P 06 47 52.4 +0.4**
PRU *e*pP pP 06 47 58.1 +3.0
PRU AMS AMS 07 00 10.0
comp=Z,200nm,13.2s
OBKA Obir 33.62 62⇑ *i*P **P 06 47 51.1 -1.1**
comp=Z,18nm,0.9s,mb5.0
OBKA Obir 33.62 62 P **P 06 47 52.1 -0.1**
SOKA Soboth 33.94 61⇑ *i*P **P 06 47 54.4 -0.6**
NB2 NORSAR Subarra 34.09 35 P **P 06 47 56.8 +0.6**
comp=Z,25nm,1.2s,mb5.0,baz=249,slow=9.3
NB2 NORSAR Subarra 34.09 35 P **P 06 47 56.0 -0.2**
NOA NORSAR Array B 34.09 35 P **P 06 47 56.9 +0.7**
comp=Z,8.8nm,1.0s,mb4.7,baz=247,slow=8.8,SNR=11
NOA LR LR 06 59 41.7
comp=Z,224nm,20.5s,MS3.9,baz=245,slow=32
NOA NORSAR Array B 34.09 35 P **P 06 47 56.9 +0.7**
NOA LR LR 06 59 41.7
TAM Tamanrasset 34.37 107 *e*P **P 06 47 59.7 +0.7**
JMIC Jan Mayen 34.38 12 LR LR 06 57 36.2
comp=Z,91nm,20.3s,MS3.5,baz=279,slow=29
CONA Conrad Observa 34.45 59⇑ *i*P **P 06 47 59.2 -0.3**
comp=Z,4.6nm,1.0s,mb4.4
UPC Upice 34.56 55 *e*P **P 06 48 00.6 +0.2**
UPC *e*pP pP 06 48 05.3 +1.8
DPC Dobruska-Polom 34.76 55 *e*P **P 06 48 01.9 -0.2**
DPC *e*pP pP 06 48 07.9 +2.8
DPC AMS AMS 07 04 00.0
comp=Z,200nm,14.6s
DPC Dobruska-Polom 34.76 55 *e*P **P 06 48 01.9 -0.2**
DPC *e*pP pP 06 48 07.9 +2.8
DPC LR LR
comp=Z,200nm,14.6s,MS4.0
KRUC Moravsky 34.79 57 P **P 06 48 04.1 +1.7**
ZST Bratislava 35.28 59 *e*P **P 06 48 04.1 -2.5**
ZST MLR MLR
comp=Z,100nm,17.6s,MS3.6
MODS Modra-Piesok 35.39 58 *e*P **P 06 48 06.1 -1.4**
CUC Castrocucco 35.44 73 P **P 06 48 08.0 -0.1**
MORC Moravsky Berou 35.53 56⇑ *i*P **P 06 48 09.1 +0.3**
MORC Moravsky Berou 35.53 56 *e*P **P 06 48 08.3 -0.5**
comp=Z,2.8nm,0.9s,mb4.2
VYHS Vyhne 36.42 58 *e*P **P 06 48 14.4 -2.0**
VYHS Vyhne 36.42 58 P **P 06 48 18.5 +2.1**
PKSM Moragy 36.47 62⇓ *i*P **P 06 48 16.4 -0.4**
PKSM Moragy 36.47 62⇓ P **P 06 48 16.4 -0.4**
BUD Budapest 36.61 60⇑ *e*P **P 06 48 16.0 -2.0**
OJC Ojcow 36.98 55 *e*P **P 06 48 21.5 +0.3**
OJC *e*pP pP 06 48 27.3 +3.0
OJC Ojcow 36.98 55 *e*pP pP 06 48 27.3 +3.0
PSZ Piszkesteto 37.16 59 *e*P **P 06 48 22.8 +0.1**
PSZ pmax pmax
comp=Z,14nm,1.1s,mb4.7
PSZ Piszkesteto 37.16 59⇑ *e*P **P 06 48 23.1 +0.4**
PSZ Piszkesteto 37.16 59⇑ *i*P **P 06 48 22.8 +0.1**
PSZ Piszkesteto 37.16 59 *e*P **P 06 48 22.8 +0.1**
comp=Z,14nm,1.1s,mb4.7
STHS Stebnicka Huta 37.95 56 *e*P **P 06 48 30.0 +0.6**
STHS *e* 06 48 36.9
STHS pmax pmax
comp=Z,4.0nm,1.0s,mb4.1
STHS Stebnicka Huta 37.95 56 *e*P **P 06 48 29.9 +0.5**
STHS *e*pP pP 06 48 36.9 +4.4
STHS Stebnicka Huta 37.95 56 *e*P **P 06 48 30.0 +0.6**
comp=Z,3.5nm,1.0s,mb4.0
STHS *e* 06 48 36.9
TOA0 Torodi Ar. Sit 38.04 123 *e*P **P 06 48 28.4 -2.1**
TORD Torodi Ar. Bea 38.04 123 P **P 06 48 27.8 -2.6**
comp=Z,5.0nm,0.7s,mb4.3,baz=324,slow=1.9,SNR=20
TORD LR LR 07 03 16.6
comp=Z,404nm,18.2s,MS4.3,baz=320,slow=35
CRVS Cervenica-Dubn 38.13 57 *e*P **P 06 48 31.2 +0.3**
BZS Buzias 38.60 62⇓ *i*P **P 06 48 34.9 0.0**
BZS Buzias 38.60 62⇓ P **P 06 48 34.9 0.0**
KOLS Kolonicke sedl 38.66 57 *e*P **P 06 48 35.2 -0.2**
KWP Kalwaria 38.89 56⇑ *i*P **P 06 48 38.2 +0.9**
KWP Kalwaria 38.89 56 *e*P **P 06 48 37.5 +0.2**
comp=Z,34nm,1.4s,mb4.9
SUW Suwalki 39.06 49 *e*P **P 06 48 38.0 -0.6**
SUW pmax pmax
comp=Z,55nm,1.0s,mb5.2
SUW Suwalki 39.06 49 *e*P **P 06 48 38.0 -0.6**
comp=Z,56nm,1.0s,mb5.2
DRGR 39.19 60⇑ *i*P **P 06 48 39.6 -0.2**
DRGR 39.19 60⇑ P **P 06 48 39.6 -0.2**
DBIC Dimbokro 39.25 138 P **P 06 48 38.6 -2.0**
comp=Z,5.8nm,0.9s,mb4.3,baz=288,slow=13,SNR=3.2
DBIC LR LR 07 03 14.4
comp=Z,799nm,20.1s,MS4.5,baz=301,slow=34
ACSO Alum Creek Sta 40.22 290 *e*P **P 06 48 49.2 +0.8**
comp=Z,21nm,0.9s,mb4.9
BUR08 Bucovina Ar. S 40.75 59 *e*P **P 06 48 54.0 +1.2**
BURAR Bucovina Array 40.77 59⇑ *i*P **P 06 48 51.3 -1.6**
BURAR Bucovina Array 40.77 59⇑ P **P 06 48 51.3 -1.6**
FINES FINESS Array B 41.14 37 P **P 06 48 55.0 -0.8**
KAF Kangasniemi 41.33 36 *e*p **P 06 48 57.0 -0.3**
comp=Z,4.5nm,0.8s,mb4.2
KAF Kangasniemi 41.33 36 *e*P **P 06 48 57.0 -0.3**
KAF pmax pmax
comp=Z,5.0nm,0.8s,mb4.2
MLR Muntele Rosu 41.62 62⇓ P **P 06 49 00.4 +0.5**
PLOR Plostina 42.03 61⇓ *i*P **P 06 49 03.9 +0.6**
VRI Vrincioaia 42.09 61⇑ *i*P **P 06 49 03.7 0.0**
TKL Tuckaleechee C 42.21 283 P **P 06 49 04.8 -0.1**
comp=Z,2.5nm,0.9s,mb3.9,baz=86,slow=14,SNR=2.7
ARCES ARCESS Array B 42.58 25 P **P 06 49 07.4 -0.1**
comp=Z,9.7nm,0.9s,mb4.5,baz=258,slow=6.1,SNR=13
ARCES LR LR 07 03 23.4
comp=Z,280nm,21.3s,MS4.1,baz=14,slow=31
KIEV Kiev 42.94 54 *e*P **P 06 49 09.7 -0.9**
KIEV pmax pmax
comp=Z,15nm,1.0s,mb4.7
KIEV Kiev 42.94 54 *e*P **P 06 49 09.7 -0.9**
comp=Z,15nm,1.0s,mb4.7
AKASG Malin Array Be 42.95 54 P **P 06 49 09.8 -0.9**
comp=Z,12nm,0.9s,mb4.6,baz=274,slow=8.2,SNR=18
AKASG Malin Array Be 42.95 54 P **P 06 49 09.8 -0.9**
HARR Harsova 43.16 62⇓ *i*P **P 06 49 11.4 -1.1**
HARR Harsova 43.16 62⇓ P **P 06 49 11.3 -1.2**
KIS Kishinev 43.28 59 *e*P **P 06 49 12.0 -1.5**
TIRR Tirgusor 43.55 63⇑ *i*P **P 06 49 13.5 -2.1**
TIRR Tirgusor 43.55 63⇑ P **P 06 49 13.5 -2.2**
JOF Joensuu 43.72 36 *e*p **P 06 49 16.1 -0.7**
comp=Z,4.2nm,0.8s,mb4.2
SWET Sewanee 44.02 284 *e*P **P 06 49 21.6 +2.1**
SWET Sewanee 44.02 284 *e*P **P 06 49 21.6 +2.1**
APA Apatity 45.03 29 *e*P **P 06 49 22.0 -5.2**
APA MLR MLR
comp=Z,1μm,24.0s,MS4.7
OBN Obninsk 46.76 47⇓ *e*P **P 06 49 39.2 -1.8**
OBN *e* 06 51 28.5
OBN pmax pmax
comp=Z,28nm,1.2s,mb5.1
ULM Lac du Bonnet 46.80 307 LR LR 07 09 04.4
comp=Z,370nm,18.2s,MS4.4,baz=44,slow=36
OXF Oxford 46.93 284 *e*P **P 06 49 42.1 -0.5**
OXF pmax pmax
comp=Z,35nm,1.1s,mb5.2
OXF Oxford 46.93 284 *e*P **P 06 49 42.1 -0.5**
comp=Z,35nm,1.1s,mb5.2
OXF Oxford 46.93 284 *e*P **P 06 49 42.1 -0.6**
comp=Z,35nm,1.1s,mb5.2
MOS Moscow 47.26 46 *e*P **P 06 49 43.4 -1.5**
KLMR Klimovskoe 47.63 38 *e*P **P 06 49 46.7 -1.0**
KLMR pmax pmax
comp=Z,11nm,0.8s,mb4.9
BR131 Keskin Array S 48.65 67 *e*P **P 06 49 56.1 +0.2**
comp=Z,4.3nm,0.8s,mb4.5
BR131 Keskin Array S 48.65 67 *e*P **P 06 49 56.1 +0.2**
comp=Z,4.3nm,0.8s,mb4.5
ECSD EROS,Sioux Fal 48.97 298 *e*P **P 06 49 59.6 +1.3**
comp=Z,23nm,1.4s,mb5.0
ECSD EROS,Sioux Fal 48.97 298 *e*P **P 06 49 59.6 +1.3**
comp=Z,23nm,1.4s,mb5.0
VSR Storozhevoye 49.03 51 *e*P **P 06 49 56.7 -2.0**
VSR pmax pmax
comp=N,5.0nm,0.6s
VSR pmax pmax
comp=Z,2.0nm,0.6s,mb4.3
VSR pmax pmax
comp=E,4.0nm,0.8s
ANN Anapa 49.66 60 *e*P **P 06 49 58.2 -5.3**
ANN *e**PP pP 06 50 07.7 +1.0
ANN *e* 06 51 21.6
ANN *e*S **S 06 57 01.1 -11**
ANN pmax pmax
comp=Z,47nm,1.4s,mb5.3
MIAR Mount Ida 50.07 286 *e*P **P 06 50 05.9 -0.9**
MIAR *e* 06 51 24.7
MIAR pmax pmax
comp=Z,16nm,1.3s,mb4.9
MIAR Mount Ida 50.07 286 *e*P **P 06 50 05.9 -0.9**
comp=Z,16nm,1.3s,mb4.9
MIAR Mount Ida 50.07 286 *e*PcP PcP 06 51 24.7 -1.8
MIAR Mount Ida 50.07 286 *e*P **P 06 50 05.9 -0.9**
comp=Z,16nm,1.3s,mb4.9
MIAR *e*PcP PcP 06 51 24.7 -1.8
ROSC El Rosal 52.12 241 LR LR 07 09 48.5
comp=Z,149nm,19.6s,MS4.0,baz=17,slow=33
KIV Kislovodsk 53.49 59 *e*P **P 06 50 31.2 -1.0**
KIV pmax pmax
comp=Z,6.0nm,1.1s,mb4.4
KIV MLR MLR
comp=Z,48nm,16.0s,MS3.6
YKA Yellowknife Ar 54.09 325 P **P 06 50 36.8 +0.5**
comp=Z,2.6nm,0.8s,mb4.2,baz=62,slow=8.1,SNR=4.1
YKA LR LR 07 11 06.5
comp=Z,133nm,19.1s,MS4.0,baz=100,slow=33
YKA Yellowknife Ar 54.09 325 P **P 06 50 36.8 +0.5**
LAO LASA Array 54.40 305 *e*P **P 06 50 40.0 +1.2**
LAO LASA Array 54.40 305 *e*P **P 06 50 40.0 +1.1**
AMTX Amarillo 55.97 290 *e*P **P 06 50 50.8 +0.5**
AMTX Amarillo 55.97 290 *e*P **P 06 50 50.8 +0.5**
GNI Garni 56.38 63 *e*P **P 06 50 52.9 -0.3**
GNI pmax pmax
comp=Z,5.0nm,0.8s
EDM Edmonton 56.38 314 *e*P **P 06 50 53.6 +0.6**
EDM Edmonton 56.38 314 *e*P **P 06 50 53.6 +0.7**
BDFB Brasilia 56.44 201 P **P 06 50 52.4 -1.3**
comp=Z,5.7nm,0.9s,mb4.6,baz=5.1,slow=8.8,SNR=3.3
JCT Junction City 56.58 284 *e*P **P 06 50 54.6 -0.2**
JCT Junction City 56.58 284 *e*P **P 06 50 54.6 -0.2**
BW06 Boulder Array 58.12 302 *e*P **P 06 51 05.4 0.0**
BW06 Boulder Array 58.12 302 *e*P **P 06 51 05.4 -0.1**
PDAR Pinedale Array 58.12 302 P **P 06 51 04.3 -1.1**
comp=Z,2.7nm,1.0s,mb4.2,baz=79,slow=7.9,SNR=11
PDAR LR LR 07 14 31.9
comp=Z,693nm,21.7s,MS4.7,baz=102,slow=34
PDAR Pinedale Array 58.12 302 P **P 06 51 04.3 -1.1**
OTAV Otavalo 58.28 241 *e*P **P 06 51 06.7 -0.2**
comp=Z,15nm,1.3s,mb4.9
OTAV Otavalo 58.28 241 *e*P **P 06 51 06.7 -0.3**
comp=Z,15nm,1.3s,mb4.9
ARU Arti 58.34 41 *d i*P **P 06 51 06.3 -0.4**
ARU *e*S **S 06 59 07.1 -1.8**
ARU *e*SS SS 07 02 53.4 -6.9
ARU pmax pmax
comp=Z,32nm,1.7s,mb5.1
ARU MLR MLR
comp=Z,191nm,17.0s,MS4.3
ARU Arti 58.34 41 *e*P **P 06 51 06.5 -0.2**
comp=Z,14nm,0.9s,mb5.0
ARU Arti 58.34 41 *e*P **P 06 51 06.5 -0.2**
comp=Z,14nm,0.9s,mb5.0
MOOW Moose Ponds 58.49 303 *e*P **P 06 51 08.6 +0.6**
MOOW Moose Ponds 58.49 303 *e*P **P 06 51 08.6 +0.5**
IMW Indian Meadow 58.55 303 *e*P **P 06 51 08.7 +0.2**
comp=Z,25nm,1.9s,mb4.9
IMW Indian Meadow 58.55 303 *e*P **P 06 51 08.7 +0.3**
comp=Z,25nm,1.9s,mb4.9
SNOW Snow King Moun 58.62 303 *e*P **P 06 51 10.3 +1.4**
comp=Z,21nm,1.5s,mb4.9
SNOW Snow King Moun 58.62 303 *e*P **P 06 51 10.3 +1.4**
comp=Z,21nm,1.5s,mb4.9
REDW Red Top Meadow 58.73 303 *e*P **P 06 51 10.4 +0.7**
REDW Red Top Meadow 58.73 303 *e*P **P 06 51 10.4 +0.7**
TPAW Teton Pass 58.74 303 *e*P **P 06 51 10.4 +0.7**
comp=Z,28nm,1.8s,mb5.0
TPAW Teton Pass 58.74 303 *e*P **P 06 51 10.4 +0.7**
comp=Z,28nm,1.8s,mb5.0
DLMT Dillon 59.01 305 *e*P **P 06 51 16.5 +4.9**
comp=Z,22nm,1.8s,mb4.9
DLMT Dillon 59.01 305 *e*P **P 06 51 16.5 +5.0**
comp=Z,22nm,1.8s,mb4.9
GDL2 Guadalupe Moun 59.19 288 *e*P **P 06 51 13.9 +0.8**
GDL2 Guadalupe Moun 59.19 288 *e*P **P 06 51 13.8 +0.8**
ANMO Albuquerque 59.43 292⇑ *e*P **P 06 51 16.8 +2.1**
HWUT Hardware Ranch 59.97 301 *e*P **P 06 51 18.4 +0.1**
comp=Z,5.6nm,0.8s,mb4.7
HWUT Hardware Ranch 59.97 301 *e*P **P 06 51 18.4 +0.1**
comp=Z,5.6nm,0.8s,mb4.7
TXAR Lajitas Array 60.07 285 P **P 06 51 18.4 -0.7**
comp=Z,4.2nm,1.0s,mb4.4,baz=77,slow=6.9,SNR=18
TXAR LR LR 07 17 50.5
comp=Z,301nm,18.3s,MS4.5,baz=5.0,slow=37
TXAR Lajitas Array 60.07 285 P **P 06 51 18.4 -0.7**
TXAR LR LR 07 17 50.5
JLU Jordanelle 60.34 300 *e*P **P 06 51 23.7 +2.8**
JLU Jordanelle 60.34 300 *e*P **P 06 51 23.7 +2.9**
AKTK Aktyubinsk 60.52 47 P **P 06 51 22.0 +0.1**
AKTK Aktyubinsk 60.52 47 P **P 06 51 22.0 0.0**
AKTK LR LR 07 17 31.1
AKTO Aktyubinsk 60.52 47 P **P 06 51 22.0 0.0**
comp=Z,7.3nm,0.9s,mb4.8,baz=292,slow=6.9,SNR=7.5
AKTO LR LR 07 17 31.1
comp=Z,166nm,18.1s,MS4.2,baz=63,slow=36
NEW Newport 60.56 310 *e*P **P 06 51 22.2 0.0**
NEW Newport 60.56 310 *e*P **P 06 51 22.2 0.0**
MSU Marysvale 61.81 298 *e*P **P 06 51 32.5 +1.7**
BMO Blue Mountains 62.22 307 *e*P **P 06 51 36.1 +2.6**
BMO pmax pmax
comp=Z,3.0nm,0.9s,mb4.4
BMO Blue Mountains 62.22 307 *e*P **P 06 51 36.1 +2.6**
comp=Z,3.3nm,0.9s,mb4.5
BMO Blue Mountains 62.22 307 *e*P **P 06 51 36.1 +2.6**
comp=Z,3.3nm,0.9s,mb4.5
LNOR Lincton Mounta 62.35 308 *e*P **P 06 51 34.5 +0.1**
LNOR Lincton Mounta 62.35 308 *e*P **P 06 51 34.5 +0.2**
DLBC Dease Lake 62.68 324 *e*P **P 06 51 37.0 +0.6**
DLBC Dease Lake 62.68 324 *e*P **P 06 51 37.0 +0.6**
ARUT Antelope Range 63.03 298 *e*P **P 06 51 39.3 +0.3**
ARUT Antelope Range 63.03 298 *e*P **P 06 51 39.3 +0.3**
LPAZ La Paz 65.07 220 P **P 06 51 52.2 -0.4**
comp=Z,7.9nm,0.9s,mb4.7,baz=16,slow=5.4,SNR=33
LPAZ LR LR 07 16 31.1
comp=Z,168nm,21.8s,MS4.2,baz=9.9,slow=33
LPAZ La Paz 65.07 220 P **P 06 51 52.2 -0.4**
LPAZ LR LR 07 16 31.1
TPH Tonopah 65.48 300 *e*P **P 06 51 56.8 +1.7**
TPH Tonopah 65.48 300 *e*P **P 06 51 56.8 +1.7**
BRVK Borovoye 65.91 41 *e*P **P 06 51 57.8 +0.2**
BRVK pmax pmax
comp=Z,25nm,1.4s,mb5.0
BRVK Borovoye 65.91 41 *e*P **P 06 51 57.8 +0.2**
comp=Z,25nm,1.4s,mb5.0
BRVK Borovoye 65.91 41 *e*P **P 06 51 57.8 +0.2**
comp=Z,25nm,1.4s,mb5.0
BVAR Borovoye Array 65.98 41 P **P 06 51 58.1 0.0**
comp=Z,4.9nm,1.0s,mb4.5,baz=295,slow=4.6,SNR=14

BVAR LR LR 07 20 07.4
comp=Z,194nm,18.1s,MS4.3,baz=42,slow=35
NVAR Mina Array Bea 66.03 301 P **P** **06 51 58.0 -0.7**
comp=Z,1.7nm,0.9s,mb4.1,baz=77,slow=4.7,SNR=10
IMA2 Indian Mountai 66.96 338 *eP* **P** **06 52 04.1 0.0**
IMA2 Indian Mountai 66.96 338 *eP* **P** **06 52 04.1 0.0**
MCK McKinley 67.08 335 *eP* **P** **06 52 04.9 0.0**
comp=Z,10μm,1.2s
MCK McKinley 67.08 335 *eP* **P** **06 52 05.0 0.0**
comp=Z,18μm,1.2s
BPAW Bear Paw Mtn. 67.50 336 *eP* **P** **06 52 06.9 -0.7**
comp=Z,7.6nm,1.0s,mb4.7
BPAW Bear Paw Mtn. 67.50 336 *eP* **P** **06 52 06.9 -0.6**
comp=Z,7.6nm,1.0s,mb4.7
OHCM Honcut 67.67 303 *eP* **P** **06 52 09.4 +0.3**
OHCM Honcut 67.67 303 *eP* **P** **06 52 09.4 +0.4**
TRF Thorofare Moun 67.72 335 *eP* **P** **06 52 08.2 -0.8**
comp=Z,27nm,1.4s,mb5.1
TRF Thorofare Moun 67.72 335 *eP* **P** **06 52 08.2 -0.7**
comp=Z,27nm,1.4s,mb5.1
KTH Kantishna Hill 67.86 335 *eP* **P** **06 52 09.6 -0.2**
comp=Z,19nm,1.1s,mb5.0
KTH Kantishna Hill 67.86 335 *eP* **P** **06 52 09.6 -0.3**
comp=Z,19nm,1.1s,mb5.0
PMR Palmer 68.59 333 *eP* **P** **06 52 14.3 -0.1**
PMR pmax pmax
comp=Z,49nm,1.8s,mb5.1
PMR Palmer 68.59 333 *eP* **P** **06 52 14.3 -0.1**
comp=Z,49nm,1.8s,mb5.1
PMR Palmer 68.59 333 *eP* **P** **06 52 14.3 -0.2**
comp=Z,49nm,1.8s,mb5.1
TIXI Tiksi 69.07 7⇑*eP* **P** **06 52 17.0 -0.3**
TIXI pmax pmax
comp=Z,10.0nm,1.3s,mb4.6
CPUP Villa Florida 69.36 206 P **P** **06 52 16.9 -2.6**
comp=Z,1.8nm,0.8s,mb4.1,baz=334,slow=7.2,SNR=4.8
CPUP LR LR 07 19 43.0
comp=Z,78nm,20.2s,MS4.0,baz=214,slow=33
NVS Novosibirsk 71.00 34 *eP* **P** **06 52 28.2 -1.2**
NVS pmax pmax
comp=Z,22nm,1.4s,mb4.9
NVS pmax pmax
comp=N,7.0nm,1.3s
KURK Kurchatov 71.47 39 P **P** **06 52 32.2 -0.1**
comp=N,20nm,0.9s,mb5.0,baz=311,slow=6.3,SNR=51
KURK Kurchatov 71.47 39⇑*eP* **P** **06 52 31.8 -0.5**
KURK Kurchatov 71.47 39 P **P** **06 52 32.2 -0.1**
ZAA0 Zalesovo Array 72.29 34 *eP* **P** **06 52 36.9 -0.3**
ZAA0 Zalesovo Array 72.29 34 *eP* **P** **06 52 36.9 -0.3**
ZALV Zalesovo Beam 72.29 34 P **P** **06 52 36.6 -0.6**
comp=N,2.8nm,0.7s,mb4.3,baz=303,slow=8.1,SNR=17
ZALV LR LR 07 24 19.8
comp=N,80nm,18.1s,MS4.0,baz=26,slow=36
KMBO Kilima Mbogo 73.34 105 LR LR 07 27 03.0
comp=N,125nm,19.9s,MS4.2,baz=348,slow=38
EKS2 Erkin-Say 73.83 48 *eP* **P** **06 52 47.4 +0.9**
comp=N,17nm,1.2s,mb4.8
EKS2 Erkin-Say 73.83 48 *eP* **P** **06 52 47.4 +0.9**
comp=N,17nm,1.2s,mb4.8
AML Almayashu 74.10 49 *eP* **P** **06 52 48.7 +0.6**
comp=N,19nm,1.2s,mb4.9
AML Almayashu 74.10 49 *eP* **P** **06 52 48.7 +0.6**
comp=N,19nm,1.2s,mb4.9
FRU Bishkek 74.21 48 *i* P **P** **06 52 48.0 -0.7**
FRU pmax pmax
comp=Z,20nm,2.0s,mb4.7
UCH Uchtor 74.52 48 *eP* **P** **06 52 51.6 +1.0**
comp=Z,12nm,1.1s,mb4.7
UCH Uchtor 74.52 48 *eP* **P** **06 52 51.6 +1.1**
comp=Z,12nm,1.1s,mb4.7
TKM2 Tokmak 2 74.72 47 *eP* **P** **06 52 51.9 +0.2**
TKM2 pmax pmax
comp=Z,9.0nm,1.1s,mb4.6
TKM2 Tokmak 2 74.72 47 *eP* **P** **06 52 51.9 +0.2**
comp=Z,8.9nm,1.1s,mb4.6
TKM2 Tokmak 2 74.72 47 *eP* **P** **06 52 51.9 +0.2**
comp=Z,8.9nm,1.1s,mb4.6
MK31 Makanchi Array 75.86 41 *eP* **P** **06 52 57.8 -0.4**
MK31 Makanchi Array 75.86 41 *eP* **P** **06 52 57.8 -0.4**
MKAR Makanchi Array 75.86 41 P **P** **06 52 57.8 -0.4**
comp=Z,11nm,0.9s,mb4.8,baz=316,slow=5.1,SNR=56
YAK Yakutsk 78.42 9 *eP* **P** **06 53 11.1 -1.2**
YAK pmax pmax
comp=E,7.0nm,1.6s
YAK pmax pmax
comp=Z,16nm,1.3s,mb4.8
YAK pmax pmax
comp=N,10.0nm,1.4s
SEY Seymchan 78.80 359⇑*eP* **P** **06 53 15.0 +0.7**
BOD Bodaibo 79.39 19 *eP* **P** **06 53 15.8 -1.9**
BOD pmax pmax
comp=Z,7.0nm,1.4s,mb4.4
WMQ Urumqi 80.67 40 ⇓P **P** **06 53 25.6 +0.7**
WMQ PP PP 06 56 32.1 +4.1
WMQ S S 07 03 32.1 -0.1
WMQ AMB AMB
comp=Z,7.0nm,0.9s,mb4.6
WMQ AMB AMB
comp=Z,68nm,4.3s
WMQ LR LR
comp=N,79nm,19.2s,MS4.6
WMQ LR LR
comp=E,244nm,22.2s,MS4.6
WMQ LR LR
comp=Z,101nm,19.2s,MS4.2
TLY Talaya 81.53 27 *eP* **P** **06 53 29.4 +0.1**
TLY pmax pmax
comp=Z,6.0nm,1.8s,mb4.2
BOSA Boshof 84.64 133 LR LR 07 27 13.5
comp=Z,352nm,19.6s,MS4.8,baz=29,slow=33
SONM Songino Array 85.72 28 P **P** **06 53 51.3 +0.4**
comp=Z,5.4nm,1.0s,mb4.7,baz=330,slow=5.6,SNR=24
ULN Ulaanbaatar 85.93 27⇑*eP* **P** **06 53 51.2 -0.7**
ULN Ulaanbaatar 85.93 27 *eP* **P** **06 53 51.9 0.0**
comp=Z,13nm,1.1s,mb5.1
ULN Ulaanbaatar 85.93 27 *eP* **P** **06 53 51.9 0.0**
comp=Z,13nm,1.1s,mb5.1
PLCA Paso Flores 87.08 209 P **P** **06 53 56.2 -1.2**
comp=Z,2.0nm,0.8s,mb4.4,baz=13,slow=5.3,SNR=4.8
HIA Hailar 88.60 19 *eP* **P** **06 54 07.9 +3.1**
HHC Hu-ho-hao-te 93.61 28 *eP* **P** **06 54 27.1 -1.2**
HHC PP PP 06 58 14.2 +2.1
HHC SKS 07 04 59.2
HHC S S 07 05 32.2 -4.8
HHC SS SS 07 11 53.0 +0.2
HHC AMB AMB
comp=Z,23nm,1.1s,mb5.5
HHC AMB AMB
comp=Z,164nm,4.7s
HHC LR LR
comp=N,204nm,17.8s,MS4.9
HHC LR LR
comp=E,328nm,18.5s,MS4.9
HHC LR LR
comp=Z,245nm,19.1s,MS4.7
LZH Lanzhou 94.47 36 *eP* **P** **06 54 32.0 -0.3**
LZH AMB AMB
comp=Z,15nm,1.0s,mb5.4
LZH AMB AMB
comp=Z,75nm,5.0s
LZH Lanzhou 94.47 36 *eP* **P** **06 54 32.0 -0.3**
comp=Z,15nm,1.0s,mb5.4
LZH pP pP 06 54 35.5 -0.2
LZH Lanzhou 94.47 36 *eP* **P** **06 54 32.0 -0.3**
comp=Z,15nm,1.0s,mb5.4
LZH pP pP 06 54 35.5 -0.2
LZH sP sP 06 54 37.5 +0.6
CN2 Changchun 95.11 17 *eP* **P** **06 54 34.8 -0.2**
BJI Beijing 95.95 25 P **P** **06 54 37.8 -1.2**
BJI AMB AMB
comp=Z,10.0nm,0.9s,mb5.2
BJI Beijing 95.95 25 P **P** **06 54 37.8 -1.2**
comp=Z,10.0nm,0.9s,mb5.2
XAN Xi'an 98.44 33 P **P** **06 54 45.1 -5.3**
XAN AMB AMB
comp=Z,2.0nm,0.5s,mb4.9
XAN AMB AMB
comp=Z,14nm,10.3s
CD2 Chengdu 98.69 39 *eP* **P** **06 54 50.9 -0.6**
CD2 PP PP 06 58 54.2 +2.6
CD2 SKS 07 05 27.2
CD2 S S 07 06 15.9 -5.3
CD2 SS SS 07 13 05.1 -0.1
CD2 AMB AMB
comp=Z,10.0nm,0.8s,mb5.4
CD2 AMB AMB
comp=Z,40nm,7.8s
CD2 LR LR
comp=N,180nm,16.8s,MS4.8
CD2 LR LR
comp=E,210nm,14.8s,MS4.8
CD2 LR LR
comp=Z,160nm,18.2s,MS4.5
KMI Kunming 102.87 43 P Pdif 06 55 09.3 -0.7
KMI pmax pmax
comp=Z,23nm,1.5s
KMI Kunming 102.87 43 P Pdif 06 55 09.3 -0.7
comp=Z,23nm,1.5s
KAKA Kakadu 150.02 35 *e*PKP PKPbc 07 01 01.6 -1.4
comp=Z,27nm,1.0s
KAKA Kakadu 150.02 35 *e*PKPbc PKPbc 07 01 01.4 -1.7
FITZ Fitzroy Crossi 150.76 52 *e*PKP PKPbc 07 01 03.6 -1.1
comp=Z,9.1nm,1.1s
FITZ Fitzroy Crossi 150.76 52 PKPbc PKPbc 07 01 04.0 -0.7
comp=Z,5.8nm,1.0s,baz=357,slow=3.2,SNR=6.4
FITZ PKPab PKPab 07 01 09.1 -2.6
comp=Z,6.8nm,1.2s,baz=225,slow=3.7,SNR=5.0
PMG Port Moresby 150.85 5 *e*PKPbc PKPbc 07 01 04.3 -0.8
PMG Port Moresby 150.85 5 *e*PKPbc PKPbc 07 01 04.3 -0.7
COEN Coen 154.80 15 *e*PKPbc PKPbc 07 01 15.4 +1.6
COEN Coen 154.80 15 *e*PKPab PKPab 07 01 29.6 +1.0
COEN Coen 154.80 15 *e*PKPbc PKPbc 07 01 15.4 +1.6
COEN *e*PKPab PKPab 07 01 29.6 +0.9
WRA Warramunga Arr 157.16 40 PKP PKPdf 07 01 06.5 -1.7
comp=Z,0.7nm,1.1s,baz=299,slow=0.9,SNR=3.7
WRA PKPab PKPab 07 01 37.5 -1.2
comp=Z,0.3nm,0.5s,baz=337,slow=3.9,SNR=6.1
WRA Warramunga Arr 157.16 40 PKPab PKPab 07 01 37.5 -1.2
ASAR Alice Springs 159.96 47 PKP PKPdf 07 01 09.9 -1.5
comp=Z,0.7nm,1.0s,baz=343,slow=1.9,SNR=5.2
ASAR PKPab PKPab 07 01 48.9 -2.0
comp=Z,0.7nm,0.8s,baz=315,slow=3.9,SNR=5.9
ASAR Alice Springs 159.96 47 PKPab PKPab 07 01 48.8 -2.0

IDC 09 06:58:56.1±3.9**,3030S**×**13811E,h0**km**,mb1 3.0**/3**,**
mb1mx3.0/14**,mbtmp2.8**/3**,ML2.9**/3**,Error ellipse:**
s-maj=88.4km s-min=22.1km az=46.0,South Australia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**3.38**	**119**	Pn	Pn	06 59 50.3	+0.3
	0.7nm,0.3s,baz=299,slow=14,SNR=3.8						
STKA				Sn	Sn	07 00 31.2	+0.4
	1.3nm,0.3s,baz=17,slow=22,SNR=4.6						
ASAR	**Alice Springs**	**7.60**	**329**	Pn	Pn	07 00 48.9	+0.9
	0.1nm,0.3s,baz=151,slow=12,SNR=5.6						
ASAR				Sn	Sn	07 02 17.4	+2.5
	0.1nm,0.3s,baz=152,slow=22,SNR=3.9						
WRA	**Warramunga Ar**	**10.86**	**341**	Pn	Pn	07 01 32.2	-0.7
	0.1nm,0.3s,baz=164,slow=12,SNR=6.0						
WRA				Sn	Sn	07 03 34.7	-0.5
	0.0nm,0.3s,baz=163,slow=25,SNR=2.9						

*ISCJB **09** 07:22:20.6±0.5, 5469S×006×10E±0.2, h10km, mb4.3/12, MS4.2/14, Error ellipse: s-maj=15.1km s-min=8.4km az=10.4*
*IDC **09** 07:22:21.2±0.8, 5464S×091E, h0km, mb4.3/10, mb1 4.3/10, mb1mx4.2/20, mbtmp4.3/10, MS4.2/14, Ms1 4.2/14, ms1mx4.1/22, Error ellipse: s-maj=22.5km s-min=17.8km az=134.0*
*GCMT **09** 07:22:22.6±0.2, 5474S×177E, h23km±1km, MW5.2/89, Moment Tensor Solution. s46,c59; s89,c136; Duration: 1†0 Moment tensor: Scale 10¹⁷Nm; Mrr-0.14±.02; Mθθ-0.79±.02; Mϕϕ-0.64±.02; Mrθ0.05±.03; Mrϕ-0.18±.01; Mθϕ0.17±.03; Best double couple: M₀0.77000×10¹⁷ NP1:ϕs141.00000°,δ77.00000°,λ-11.00000°. NP2: ϕs233.00000°,δ79.00000°,λ-167.00000°. Principal axes: T 0.8150, Plg1.0000°, Azm7.0000°; N -0.0900, Plg73.0000°, Azm272.0000°; P -0.7250, Plg17.0000°, Azm97.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **09** 07:22:22.6±0.5, 5468S×101E, h10km, mb4.8/6 Error ellipse: s-maj=15.9km s-min=11.3km az=109.0*

ISC 09 07:22:22.7±0.5**,5472S**×006×**11E**±0.2**,h10**km**,n35,**
σ1†02/26,mb4.3/12**,MS4.2**/14**,2D,Bouvet Island region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VNA1	**Neumayer--Stat**	**16.52**	**191**	*e*	**Pn**	**07 26 14.2**	**+0.1**
VNA1				*e*		07 26 16.7	
VNA1				*e*		07 29 07.5	
VNA2	**Neumayer--Watz**	**16.69**	**190**	*e*	**Pn**	**07 26 16.6**	**+0.3**
	baz=12,slow=14						
VNA2				*e*		07 26 18.9	
VNA2				*e*		07 29 08.8	
MAIT	**Maitri**	**16.79**	**168**	*e*P	**Pn**	**07 26 16.1**	**-1.5**
MAIT				*e*S	**Sn**	**07 29 06.6**	**-17**
SNAA	**Sanae**	**17.11**	**184**	*e*	**Pn**	**07 26 21.2**	**-0.3**
SNAA				*e*		07 26 23.6	
SNAA				*e*		07 29 17.7	
SNAA	**Sanae**	**17.11**	**184**	*e*Pn	**Pn**	**07 26 20.7**	**-0.8**
	35nm,0.5s						
VNA3	**Neumayer Olymp**	**17.24**	**192**	*e*	**Pn**	**07 26 23.3**	**+0.1**
VNA3				*e*		07 26 25.4	
VNA3				*e*		07 29 19.3	
SYO	**Syowa Base**	**22.58**	**144**⇓	*e*P	**P**	**07 27 20.0**	**-2.7**
SYO	**Syowa Base**	**22.58**	**144**⇓	*e*P	**P**	**07 27 25.0**	**+2.3**
SUR	**Sutherland**	**26.34**	**40**	P	**P**	**07 27 59.4**	**+0.9**
	22nm,1.0s,mb4.6,baz=217,slow=5.1,SNR=4.1						
SUR				LR	LR	07 35 16.3	
	comp=Z,334nm,19.6s,MS3.9,baz=27,slow=29						
SUR	**Sutherland**	**26.34**	**40**	*e*P	**P**	**07 27 57.2**	**-1.4**
	35nm,1.1s,mb4.8						
SUR				LR	LR	07 35 16.3	
MAW	**Mawson**	**30.98**	**139**	P	**P**	**07 28 41.2**	**+1.6**
	1.8nm,0.8s,mb4.0,baz=274,slow=8.6,SNR=3.7						
MAW				LR	LR	07 38 42.6	
	comp=Z,527nm,18.5s,MS4.2,baz=270,slow=32						
MAW	**Mawson**	**30.98**	**139**	*e*P	**P**	**07 28 41.1**	**+1.6**
MAW				LR	LR	07 38 42.6	
BOSA	**Boshof**	**31.41**	**44**	P	**P**	**07 28 43.8**	**0.0**
	16nm,1.0s,mb4.8,baz=204,slow=9.2,SNR=8.9						
PMSA	**Palmer Station**	**32.81**	**226**	LR	LR	07 38 36.6	
	comp=Z,907nm,20.8s,MS4.5,baz=27,slow=30						
QSPA	**South Pole Qui**	**35.53**	**180**	P	**P**	**07 29 18.8**	**-0.2**
	3.2nm,0.6s,mb4.4,baz=226,slow=3.9,SNR=24						
QSPA	**South Pole Qui**	**35.53**	**180**	P	**P**	**07 29 18.8**	**-0.2**
TSUM	**Tsumeb**	**37.62**	**26**	P	**P**	**07 29 37.5**	**0.0**
	16nm,1.1s,mb4.7,baz=185,slow=14,SNR=3.9						
TSUM	**Tsumeb**	**37.62**	**26**	*e*P	**P**	**07 29 38.0**	**+0.4**
	19nm,1.1s,mb4.7						
LSZ	**Lusaka**	**44.62**	**39**	P	**P**	**07 30 34.0**	**-1.1**
	5.2nm,1.0s,mb4.3,baz=190,slow=9.9,SNR=5.5						
LSZ	**Lusaka**	**44.62**	**39**	*e*P	**P**	**07 30 34.9**	**-0.2**
	30nm,1.6s,mb4.9						
SBA	**Scott Base**	**47.40**	**176**	*e*P	**P**	**07 30 56.8**	**+0.4**
	12nm,1.2s,mb4.7						
PLCA	**Paso Flores**	**48.06**	**256**	LR	LR	07 48 40.7	
	comp=Z,285nm,20.3s,MS4.2,baz=242,slow=33						
CPUP	**Villa Florida**	**50.80**	**279**	P	**P**	**07 31 21.5**	**-1.5**
	1.0nm,0.6s,mb3.9,baz=154,slow=5.0,SNR=4.3						
CPUP				LR	LR	07 48 49.2	
	comp=Z,99nm,19.9s,MS3.8,baz=134,slow=31						
CFAA	**Coronel Fontan**	**53.16**	**266**	P	**P**	**07 31 40.3**	**-0.3**
	0.6nm,0.9s,mb3.5,baz=145,slow=6.6,SNR=12						
CFAA				LR	LR	07 51 45.9	
	comp=Z,43nm,19.9s,MS3.5,baz=148,slow=33						
BDFB	**Brasilia**	**54.25**	**296**	LR	LR	07 51 05.5	
	comp=Z,429nm,19.6s,MS4.5,baz=195,slow=32						
LVC	**Limon Verde**	**60.34**	**272**	LR	LR	07 54 40.3	
	comp=Z,171nm,19.7s,MS4.2,baz=156,slow=32						
DBIC	**Dimbokro**	**61.36**	**353**	LR	LR	07 52 24.7	
	comp=Z,174nm,20.7s,MS4.2,baz=142,slow=29						
LPAZ	**La Paz**	**64.86**	**277**	P	**P**	**07 33 02.5**	**+0.6**
	4.4nm,1.3s,mb4.3,baz=113,slow=5.7,SNR=5.6						
LPAZ				LR	LR	07 58 38.8	
	comp=Z,148nm,18.7s,MS4.2,baz=278,slow=34						
TORD	**Torodi Ar. Bea**	**67.60**	**1**	P	**P**	**07 33 18.9**	**-0.4**
	0.7nm,1.0s,mb3.6,baz=188,slow=5.8,SNR=3.6						
TORD				LR	LR	07 57 42.7	
	comp=Z,277nm,19.4s,MS4.5,baz=170,slow=31						
NNA	**Nana**	**73.33**	**273**	LR	LR	08 00 37.9	
	comp=Z,122nm,21.1s,MS4.2,baz=142,slow=31						
OTAV	**Otavalo**	**84.14**	**279**	*e*P	**P**	**07 34 56.2**	**+2.3**
	7.5nm,1.4s,mb4.6						
ROSC	**El Rosal**	**85.57**	**285**	LR	LR	08 11 41.1	
	comp=Z,376nm,18.1s,MS4.8,baz=187,slow=35						
SDV	**Santo Domingo**	**86.85**	**290**	LR	LR	08 10 06.2	
	comp=Z,239nm,20.1s,MS4.6,baz=34,slow=33						
MJAR	**Matsushiro Arr**	**145.62**	**104**	PKPbc	PKPbc	07 42 02.5	+1.7
	4.2nm,0.9s,baz=211,slow=2.4,SNR=6.0						
MJAR	**Matsushiro Arr**	**145.62**	**104**	PKPbc	PKPbc	07 42 02.5	+1.7

*BJI **09** 07:25:14.7, 1926N×121.03E, h13km, mB5.5, mb5.1, ML4.7, Ms5.1, Msz5.0*
*MOS **09** 07:25:15.2±0.8, 19.17N×121.11E, h33km, mb5.4/64, MS4.9/45, Error ellipse: s-maj=9.0km s-min=4.3km az=120.2*
*IDC **09** 07:25:15.8±2.0, 19.10N×121.16E, h27km±13km, mb4.8/24, mb1 4.8/26, mb1mx4.8/28, mbtmp4.8/26, ML4.7/2, MS4.7/28, Ms1 4.7/28, ms1mx4.6/32, Error ellipse: s-maj=14.9km s-min=9.8km az=84.0*
*ISCJB **09** 07:25:17.0±0.1, 19.18N±001×120.96E±002, h41km, mb5.2/158, MS4.9/171, Error ellipse: s-maj=3.0km s-min=2.1km az=179.4*
*GCMT **09** 07:25:17.0±0.2, 1922N×120.90E, h18km, MW5.3/81, Moment Tensor Solution. s56,c74; s81,c131; Duration: 1†1 Moment tensor: Scale 10¹⁷Nm; Mrr-0.01±.01; Mθθ-0.07±.01; Mϕϕ0.07±.01; Mrθ0.25±.03; Mϕϕ0.12±.01; Mrϕ1.23±.08; Best double couple: M₀1.25900×10¹⁷ NP1:ϕs82.00000°,δ4.00000°,λ-19.00000°. NP2: ϕs191.00000°,δ89.00000°,λ-94.00000°. Principal axes: T 1.3120, Plg43.0000°, Azm285.0000°; N -0.1060, Plg4.0000°, Azm191.0000°; P -1.2060, Plg46.0000°, Azm97.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **09** 07:25:17.0±0.6, 1907N×121.12E, h39km±5km, mb5.2/75, MS4.9/135 Error ellipse: s-maj=4.3km s-min=3.7km az=75.0*
NEIC Felt [III PIVS] at Laoag, Pasuquin and San Nicolas; [II PIVS] at Sinait, Luzon.
*MAN **09** 07:25:17, 1896N×12092E, h6km, mb5.8, ML4.8, MS5.3*
MAN INTENSITY III - LAOAG, PASUQUIN, SAN NICOLAS, ILOCOS NORTE; INTENSITY II - SINAIT, ILOCOS SUR.
*SZGRF **09** 07:25:19.8, 1900N×12025E, h42km, mb5.0, MS4.8, Philippine Islands region*
*DJA **09** 07:25:22, 1927N×121.15E, h83km, Mw5.4/16*

ISC 09 07:25:18.5±0.1**,1917N**±001×**12102E**±002**,h43**km**,**
h43km±1.3km**:pP-P,n717,**σ0†95/613**,mb5.2**/157**,MS4.9**/171**,**
137C-97D,Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PIP	**Pasuquin**	**0.92**	**204**⇓	*i*P	**Pn**	**07 25 31.6**	**-3.4**
PIP				*e*S	**Sn**	**07 25 46.7**	**-0.3**
APYP	**Conner**	**1.31**	**171**	*e*P	**Pn**	**07 25 38.9**	**-1.5**
APYP				*e*S	**Sn**	**07 25 55.7**	**-1.0**
SIPP	**Brgy, Tapao**	**1.35**	**203**⇓	*e*P	**Pn**	**07 25 38.5**	**-2.4**
SIPP				*i* S	**Sn**	**07 26 01.5**	**+4.0**
ABRA	**Dolores**	**1.54**	**191**	*e*P	**Pn**	**07 25 41.7**	**-1.8**
ABRA				*e*S	**Sn**	**07 26 02.5**	**+0.3**
CVP	**Callao Caves**	**1.64**	**152**	*e*S	**Sn**	**07 26 04.0**	**-0.9**
CAUP	**Cauayan**	**2.34**	**161**	*e*P	**Pn**	**07 25 56.4**	**+1.9**
PALP	**Palanan**	**2.48**	**147**	*e*P	**Pn**	**07 25 56.7**	**+0.2**
PALP				*e*S	**Sn**	**07 26 27.9**	**+2.4**
BCPH	**Baguio City Da**	**2.80**	**189**⇑	*i*P	**Pn**	**07 26 07.0**	**+6.2**
BCPH				*e*S	**Sn**	**07 26 36.1**	**+2.8**
BOLP	**Bolinao**	**2.96**	**201**	*e*P	**Pn**	**07 26 02.5**	**-0.6**
BOLP				*e*S	**Sn**	**07 26 43.2**	**+5.8**
BALP	**Baler**	**3.45**	**171**	*e*P	**Pn**	**07 26 10.6**	**+0.9**
BALP				*e*S	**Sn**	**07 26 49.5**	**+0.2**
SCZP	**Santa Cruz**	**3.53**	**198**	*e*P	**Pn**	**07 26 10.2**	**-0.7**
PCPH	**Palayan**	**3.58**	**179**⇓	*e*P	**Pn**	**07 26 12.5**	**+0.9**
PCPH				*e*S	**Sn**	**07 26 57.8**	**+5.1**
POLP	**Polilio Island**	**4.50**	**169**	*e*P	**Pn**	**07 26 26.1**	**+1.9**
NACB	**Ninganchiao**	**5.01**	**6**	*e*Pn	**Pn**	**07 26 29.7**	**-1.5**
	1μm,0.6s						
NACB				*e*Sn	**Sn**	**07 27 25.2**	**-2.6**
GQP	**Guinayangan**	**5.41**	**165**⇓	*e*P	**Pn**	**07 26 37.5**	**+0.9**
GQP				*e*S	**Sn**	**07 27 38.0**	**+0.3**
LUBP	**Lubang**	**5.45**	**188**	*e*P	**Pn**	**07 26 38.0**	**+0.7**
LUBP				*e*S	**Sn**	**07 27 40.9**	**+2.1**
YHNB	**Yeheng**	**5.49**	**3**	*e*Pn	**Pn**	**07 26 37.0**	**-0.7**
	294nm,0.6s						
YHNB				*e*Sn	**Sn**	**07 27 38.7**	**-0.8**
TATO	**Taipei**	**5.80**	**4**	*e*Pn	**Pn**	**07 26 41.8**	**-0.2**
TATO				*e*Sn	**Sn**	**07 27 46.5**	**-0.7**
QZH	**Quanzhou**	**6.17**	**339**	P	**Pn**	**07 26 42.2**	**-4.9**
QZH				S	**Sn**	**07 27 48.8**	**-7.6**
QZH				Smax			
	comp=N,350nm,0.6s						
QZH				Smax			
	comp=E,810nm,0.6s						
QZH				LR	LR		
	comp=N,18μm,14.5s						
QZH				LR	LR		
	comp=E,8μm,11.9s						
QZH				LR	LR		
	comp=Z,21μm,17.7s						
PVCP	**Virac**	**6.30**	**151**	*e*P	**Pn**	**07 26 47.8**	**-1.1**
PVCP				*e*S	**Sn**	**07 27 55.1**	**-4.5**
SJMP	**San Jose**	**6.67**	**179**	*e*P	**Pn**	**07 26 55.7**	**+1.8**
HKC	**Hong Kong Obse**	**7.12**	**297**	*i*P	**Pn**	**07 26 59.0**	**-1.2**
ENPP	**El Nido**	**8.06**	**191**	*e*P	**Pn**	**07 27 11.8**	**-1.2**
GZH	**Guangzhou**	**8.15**	**300**	P	**Pn**	**07 27 10.7**	**-3.6**
GZH				LR	LR		
	comp=N,7μm,14.5s						
GZH				LR	LR		
	comp=E,12μm,15.1s						
JOW	**Kunigami**	**10.14**	**40**	Pn	**Pn**	**07 27 39.9**	**-1.6**
	comp=E,12nm,0.3s,baz=239,slow=11,SNR=23						
JOW				Sn	**Sn**	**07 29 29.4**	**-4.5**
	comp=E,1.9nm,0.3s,baz=120,slow=20,SNR=2.4						
JOW				LR	LR	07 31 45.1	
	comp=E,7μm,21.6s,baz=268,slow=38						
QIZ	**Qiongzhong**	**10.57**	**271**	*e*Pn	**Pn**	**07 27 43.4**	**-4.0**
	comp=E,67nm,0.6s						
QIZ				*e*Sn	**Sn**	**07 29 37.4**	**-7.1**
SSE	**Sheshan**	**11.88**	**1**	P	**Pn**	**07 28 06.0**	**+0.7**
SSE				XP		07 28 12.4	
SSE				S	**Sn**	**07 30 22.2**	**+5.8**
SSE				AMB	AMB		
	comp=Z,27nm,0.9s						
SSE				AMB	AMB		
	comp=Z,511nm,4.9s						
SSE				LR	LR		
	comp=Z,1μm,15.3s						
SSE	**Sheshan**	**11.88**	**1**	P	**Pn**	**07 28 06.0**	**+0.7**
	comp=Z,27nm,0.9s						
SSE				sP		07 28 12.4	
SSE				S	**Sn**	**07 30 22.2**	**+5.8**
DAV	**Davao City (W)**	**12.81**	**159**	LR	LR	07 34 02.1	
	comp=Z,10μm,19.4s,baz=9.6,slow=41						
NJ2	**Nanjing**	**12.98**	**352**	*e*P	**Pn**	**07 28 22.0**	**+1.7**
NJ2				AP		07 28 29.7	
NJ2				PP		07 28 32.7	
NJ2				XP		07 28 34.3	
NJ2				S	**Sn**	**07 30 49.0**	**+5.7**
NJ2				AMB	AMB		
	comp=Z,30nm,1.1s						
NJ2				AMB	AMB		
	comp=Z,440nm,4.2s						
NJ2				LR	LR		
	comp=N,1μm,14.9s						
NJ2				LR	LR		
	comp=E,3μm,13.5s						
NJ2				LR	LR		
	comp=Z,3μm,13.5s						
KKM	**Kota Kinabalu**	**13.86**	**200**	⇑P	**Pn**	**07 28 33.3**	**+1.0**
KKM	**Kota Kinabalu**	**13.86**	**200**	*e*Pn	**Pn**	**07 28 37.0**	**+4.6**
SDKM	**Sandakan**	**13.95**	**196**	⇓P	**Pn**	**07 28 39.6**	**+5.9**
MYLDM	**Lahad Datu**	**14.12**	**190**	⇓P	**Pn**	**07 28 39.2**	**+3.3**
GYA	**Guiyang**	**15.09**	**301**⇑	*i*P	**Pn**	**07 28 50.2**	**+1.5**
GYA				XP	sP	07 28 55.9	-13
GYA				PP		07 29 04.2	
GYA				S	**S**	**07 31 41.0**	**-9.4**
GYA				AMB	AMB		
	comp=Z,90nm,1.0s						
GYA				AMB	AMB		
	comp=Z,450nm,5.7s						
GYA				LR	LR		
	comp=N,3μm,14.1s						
GYA				LR	LR		
	comp=E,6μm,14.9s						
GYA				LR	LR		

comp=Z,6µm,14.4s
TSM Tawau 15.10 192 ⇓P Pn 07 28 54.2 +5.2
TIA Tai'an 17.32 349 eP Pn 07 29 18.4 +1.3
TIA AMB AMB
comp=Z,48nm,1.1s
BTM Bintulu 17.66 207 ⇓P Pn 07 29 21.0 -0.4
KMI Kunming 17.93 293 P Pn 07 29 25.0 +0.3
KMI AP pP 07 29 32.7 -2.6
KMI XP sP 07 29 36.4 -4.4
KMI PP 07 29 41.7
KMI S **S** **07 32 44.6 -3.9**
KMI AMB AMB
comp=Z,59nm,1.3s
KMI AMB AMB
comp=Z,757nm,4.3s
KMI LR LR
comp=N,4µm,17.3s
KMI LR LR
comp=E,9µm,15.4s
KMI LR LR
comp=Z,10µm,17.3s
KMI Kunming 17.93 293 P Pn 07 29 25.0 +0.3
comp=Z,59nm,1.3s
KMI pP pP 07 29 32.7 -2.6
KMI sP sP 07 29 36.4 -4.4
KMI PP 07 29 41.7
KMI PPP 07 29 48.2
KMI S **S** **07 32 44.6 -3.9**
KMI sS sS 07 33 01.1 -4.1
KMI SS 07 33 14.3
XAN Xi'an 18.32 326 P Pn 07 29 28.8 -0.5
XAN AP pP 07 29 32.0 -7.4
XAN XP sP 07 29 35.4 -10
XAN PP 07 29 44.0
XAN S **S** **07 32 55.6 -0.6**
XAN XS sS 07 32 59.0 -14
XAN AMB AMB
comp=Z,48nm,1.5s
XAN AMB AMB
comp=Z,1µm,6.0s
XAN LR LR
comp=N,2µm,14.7s
XAN LR LR
comp=E,2µm,14.8s
XAN LR LR
comp=Z,6µm,15.6s
SBUM Sibu 18.71 208 ⇓P Pn 07 29 32.7 -1.6
KS15 Wonju Array Si 19.17 17 eP Pn 07 29 37.9 -1.7
KSRS Korea Array 19.20 17 P Pn 07 29 37.6 -2.2
comp=Z,3.8nm,0.3s,baz=196,slow=11,SNR=37
KSRS PcP PcP 07 34 00.9 +0.1
comp=Z,0.3nm,0.3s,baz=137,slow=0.5,SNR=5.5
KSRS LR LR 07 37 33.2
comp=Z,2µm,19.7s,baz=196,slow=38
CD2 Chengdu 19.50 310 ⇑iP Pn 07 29 42.5 -1.0
CD2 AP pP 07 29 47.0 -5.5
CD2 XP sP 07 29 49.0 -9.0
CD2 PP 07 30 04.5
CD2 S **S** **07 33 21.0 +1.0**
CD2 XS sS 07 33 27.0 -10
CD2 SS 07 33 48.0
CD2 AMB AMB
comp=Z,370nm,1.0s
CD2 AMB AMB
comp=Z,3µm,4.5s
CD2 LR LR
comp=N,5µm,15.6s
CD2 LR LR
comp=E,5µm,14.4s
CD2 LR LR
comp=Z,9µm,15.0s
DL2 Dalian 19.68 1 P Pn 07 29 45.0 -0.6
DL2 S **S** **07 33 27.9 +4.4**
DL2 AMB AMB
comp=Z,320nm,4.2s
DL2 LR LR
comp=E,2µm,14.2s
DL2 LR LR
comp=Z,980nm,14.1s
TIY Taiyuan 19.94 340 ⇑iP Pn 07 29 49.2 +0.5
TIY S **S** **07 33 33.5 +4.7**
TIY LR LR
comp=N,4µm,14.1s
TIY LR LR
comp=E,2µm,13.0s
TIY LR LR
comp=Z,5µm,14.8s
CHRT Chiangrai 20.03 276 ⇑P P 07 29 49.0 +1.1
comp=Z,916nm,0.8s
NST Nakhon Sawan 20.23 263 P P 07 29 50.0 0.0
comp=Z,77nm,1.2s
KSM Kuching 20.48 212 ⇓P P 07 29 51.9 -0.9
KSM Kuching 20.48 212 eP P 07 29 51.8 -1.0
CHG Chiang Mai 20.88 273 ⇑P P 07 29 57.8 +0.7
comp=Z,159nm,1.0s
CHTO Chiang Mai 20.88 273 P P 07 29 57.9 +0.9
SNR=63
CHTO Chiang Mai 20.88 273 eP P 07 29 57.7 +0.6
CHTO pmax pmax
comp=Z,209nm,1.2s
CHTO MLR MLR
comp=Z,3µm,19.0s,MS4.7
CHTO Chiang Mai 20.88 273 eP P 07 29 57.7 +0.6
comp=Z,209nm,1.2s
CHTO LR LR
comp=Z,3µm,19.0s,MS4.7
CM31 Chiang Mai Arr 20.91 272 eP P 07 29 58.4 +1.0
comp=Z,33nm,0.8s
CM31 LR LR
comp=Z,2µm,19.0s,MS4.5
CMAR Chiang Mai Arr 20.91 272 P P 07 29 58.2 +0.8
comp=Z,52nm,1.0s,baz=80,slow=8.8,SNR=154
CMAR PcP PcP 07 34 05.5 +1.1
comp=Z,6.7nm,0.8s,baz=21,slow=0.5,SNR=14
CMAR ScP ScP 07 37 38.8 +1.0
comp=Z,0.7nm,0.3s,baz=54,slow=0.8,SNR=6.3
CMAR LR LR 07 38 30.2
comp=Z,2µm,18.6s,MS4.6,baz=90,slow=38
CMAR Chiang Mai Arr 20.91 272 P P 07 29 58.3 +0.9
CMAR 07 34 05.5
CBIJ Chichi jima 20.98 64 P P 07 29 56.5 -1.7
comp=Z,67nm,0.4s,baz=264,slow=9.3,SNR=6.9
CBIJ LR LR 07 36 17.3
comp=Z,2µm,21.1s,MS4.5,baz=240,slow=32
BDT Bhumibol Dam 21.00 268 ⇓P P 07 29 59.8 +1.4
comp=Z,91nm,1.0s,mb5.1
BJT Baijiatuan 21.20 350 eP P 07 30 00.3 0.0
BJT pmax pmax
comp=Z,211nm,0.8s
BJT MLR MLR
comp=Z,4µm,19.0s
BJT Baijiatuan 21.20 350 eP P 07 30 00.3 0.0
comp=Z,211nm,0.8s,mb5.5
BJT LR LR
comp=Z,4µm,19.0s,MS4.8
BJI Beijing 21.22 350 P P 07 30 00.4 -0.1
BJI S **S** **07 33 53.7 -0.2**
BJI AMB AMB
comp=Z,95nm,1.5s,mb4.9
BJI AMB AMB
comp=Z,737nm,3.8s
BJI LR LR
comp=N,3µm,17.1s,MS4.8
BJI LR LR
comp=E,2µm,16.2s,MS4.8
BJI LR LR
comp=Z,2µm,17.7s,MS4.6
BJI Beijing 21.22 350 P P 07 30 00.4 -0.1
comp=Z,95nm,1.5s,mb4.9
BJI S **S** **07 33 53.7 -0.2**
BJI LR LR
comp=Z,2µm,17.7s,MS4.6
NNT Nongplab 21.48 255 ⇑P P 07 30 04.9 +1.3
comp=Z,884nm,0.9s,mb6.1
JHJ Hachijo jima 2 21.79 47 P P 07 30 05.2 -1.6
comp=Z,108nm,0.7s,mb5.4,baz=28,slow=16,SNR=2.6
JHJ LR LR 07 37 05.1
comp=Z,2µm,21.1s,MS4.5,baz=253,slow=33
KTGM Kuala Trenggan 22.20 234 ⇑P P 07 30 11.3 0.0
LZH Lanzhou 22.65 322 ⇓P P 07 30 16.4 +0.6
LZH AP 07 30 19.6
LZH PP 07 30 45.9
LZH S **S** **07 34 20.2 -1.0**
LZH SS 07 35 04.5
LZH AMB AMB
comp=Z,270nm,1.2s,mb5.5
LZH AMB AMB
comp=Z,780nm,4.5s
LZH LR LR
comp=N,5µm,13.2s
LZH LR LR
comp=Z,6µm,15.8s,MS5.1
LZH Lanzhou 22.65 322 ⇓P P 07 30 16.4 +0.6
LZH *SP sP 07 30 21.1 -11
LZH 07 30 45.9
LZH S **S** **07 34 20.2 -1.0**
LZH SS 07 35 04.5
LZH pmax pmax
comp=Z,270nm,1.2s,mb5.5
LZH MLR MLR
comp=Z,6µm,15.8s,MS5.1
LZH Lanzhou 22.65 322 ⇓P P 07 30 16.4 +0.6
comp=Z,270nm,1.2s,mb5.5
LZH pP 07 30 19.6
LZH sP sP 07 30 21.1 -11
LZH PP 07 30 45.9
LZH S **S** **07 34 20.2 -1.0**
LZH sS sS 07 34 25.0 -14
LZH SS 07 35 04.5
LZH LR LR
comp=Z,6µm,15.8s,MS5.1
SNY Shenyang 22.69 5 ⇑P P 07 30 16.2 -0.1
SNY AP 07 30 24.1
SNY XP sP 07 30 29.1 -3.3
SNY S **S** **07 34 18.8 -3.0**
SNY AMB AMB
comp=Z,20nm,0.7s,mb4.7
SNY AMB AMB
comp=Z,361nm,4.7s
SNY LR LR
comp=N,1µm,20.8s
SNY LR LR
comp=E,2µm,14.1s
SNY LR LR
comp=Z,2µm,19.6s,MS4.5
MAJO Matsushiro 22.97 38 eP P 07 30 19.0 -0.2
MAJO pmax pmax
comp=Z,283nm,1.9s,mb5.4
MAJO MLR MLR
comp=Z,1µm,20.0s,MS4.4
MAJO Matsushiro 22.97 38 eP P 07 30 19.0 -0.3
comp=Z,283nm,1.9s,mb5.4
MAJO LR LR
comp=Z,1µm,20.0s,MS4.4
MAT Matsushiro 22.97 38 P P 07 30 16.9 -2.4
MAT S **S** **07 34 29.0 +2.5**
MJAR Matsushiro Arr 22.97 38 P P 07 30 17.2 -2.1
comp=Z,8.2nm,0.8s,mb4.2,baz=225,slow=8.4,SNR=14
MJAR LR LR 07 38 54.0
comp=Z,1µm,21.4s,MS4.3,baz=235,slow=36
MJAR Matsushiro Arr 22.97 38 P P 07 30 17.2 -2.1
MJAR LR LR 07 38 54.0
HHC Hu-ho-hao-te 23.08 341 ⇑iP P 07 30 20.7 +0.4
HHC AP 07 30 25.0
HHC XP sP 07 30 28.1 -8.4
HHC PP 07 30 53.2
HHC PCP PcP 07 34 09.2 +0.9
HHC S **S** **07 34 30.0 +1.9**
HHC XS sS 07 34 36.4 -11
HHC SCP ScP 07 37 45.1 +2.3
HHC AMB AMB
comp=Z,162nm,1.3s,mb5.3
HHC AMB AMB
comp=Z,996nm,5.5s
HHC LR LR
comp=N,4µm,14.9s,MS5.0
HHC LR LR
comp=E,3µm,17.1s,MS5.0
HHC LR LR
comp=Z,4µm,14.9s,MS5.0
SNG Songkhla 23.13 242 P P 07 30 21.0 -0.1
comp=Z,100nm,0.9s,mb5.2
BTO Baotou 23.36 339 eP P 07 30 22.0 -1.2
BTO AMB AMB
comp=Z,39nm,1.6s,mb4.6
GUMO Guam 23.53 100 LR LR 07 37 33.4
comp=Z,2µm,20.8s,MS4.7,baz=272,slow=32
GUMO Guam 23.53 100 PFAKE 07 30 30.0 +4.9
GUMO LR LR
comp=Z,3µm,20.0s,MS4.7
KAPI Kappang 24.06 183 P P 07 30 27.6 -2.3
comp=Z,15nm,0.7s,mb4.5,baz=348,slow=9.1,SNR=9.1
KAPI LR LR 07 41 17.2
comp=Z,805nm,19.1s,MS4.2,baz=179,slow=40
KAPI Kappang 24.06 183 eP P 07 30 27.7 -2.1
KAPI LR LR
comp=Z,735nm,19.0s,MS4.2
MYKOM Kota Tinggi 24.10 226 ⇑P P 07 30 29.7 -0.6
KULM Kulim 24.17 238 ⇑P P 07 30 30.7 -0.2
KGM Kluang 24.31 228 ⇑P P 07 30 31.6 -0.5
IPM Ipoh 24.37 236 ⇓P P 07 30 32.0 -0.7
FRIM Kepong 24.70 233 ⇓P P 07 30 35.1 -0.6
CN2 Changchun 24.84 8 eP P 07 30 36.8 +0.1
CN2 eS S **07 34 59.3 +2.8**
CN2 SS 07 35 56.5
CN2 AMB AMB
comp=Z,10.0nm,1.0s,mb4.3
CN2 AMB AMB
comp=Z,200nm,5.0s
CN2 LR LR
comp=N,2µm,15.0s,MS5.0
CN2 LR LR
comp=E,2µm,15.0s,MS5.0
CN2 LR LR
comp=Z,2µm,16.0s,MS4.8
VLA Vladivostok 25.58 19 P P 07 30 43.0 -0.4
VLA MLR MLR
comp=Z,1µm,15.4s,MS4.6
IMP Imphal 25.71 287 eP P 07 30 44.0 -0.8
MDJ Mudanjiang 26.37 14 P P 07 30 51.8 +1.3
MDJ AP pP 07 30 54.5 -7.6
MDJ S **S** **07 35 24.2 +3.5**
MDJ SCP ScP 07 37 56.0 +4.1
MDJ AMB AMB
comp=Z,21nm,0.9s,mb4.7
MDJ AMB AMB
comp=Z,284nm,4.8s
MDJ LR LR
comp=N,2µm,16.5s,MS4.8
MDJ LR LR
comp=E,1µm,13.9s,MS4.8
MDJ LR LR
comp=Z,2µm,18.5s,MS4.6
MDJ Mudanjiang 26.37 14 eP P 07 30 51.5 +0.9
comp=Z,47nm,1.1s,mb4.9
MDJ LR LR
comp=Z,2µm,21.0s,MS4.6
GTA Gaotai 27.24 322 ⇑P P 07 30 59.3 +0.8
GTA AP pP 07 31 03.6 -6.5
GTA XP sP 07 31 06.0 -9.3
GTA PCP PcP 07 34 18.5 +0.9
GTA S **S** **07 35 37.7 +3.0**
GTA XS sS 07 35 44.6 -10
GTA SS 07 36 53.4
GTA SCP ScP 07 37 56.5 +1.8
GTA SCS ScS 07 41 46.9 +0.9
GTA AMB AMB
comp=Z,41nm,1.1s,mb4.9
GTA AMB AMB
comp=Z,441nm,5.7s
GTA LR LR
comp=N,2µm,16.2s,MS4.9
GTA LR LR
comp=E,2µm,16.5s,MS4.9
GTA LR LR
comp=Z,3µm,16.2s,MS5.0
SHL Shillong 27.65 289 eP P 07 31 02.0 -0.3
SHL *ix x 07 36 58.0
LSA Lhasa 29.07 297 eP P 07 31 16.6 +1.7
LSA pmax pmax
comp=Z,33nm,1.0s,mb5.0
LSA MLR MLR
comp=Z,2µm,21.0s,MS4.7
LSA Lhasa 29.07 297 eP P 07 31 16.6 +1.7
comp=Z,33nm,1.0s,mb5.0
LSA LR LR
comp=Z,2µm,21.0s,MS4.7
ERM Erimo 29.53 35 PFAKE 07 31 30.0 +11
ERM LR LR
comp=Z,2µm,21.0s,MS4.8
HIA Hailar 30.05 358 *iP P 07 31 22.3 -1.0
HIA Hailar 30.05 358 *iP P 07 31 22.4 -0.9
HIA LR LR
comp=Z,1µm,19.0s,MS4.5
ASAJ Asahikawa 30.74 31 LR LR 07 43 04.1
comp=Z,1µm,20.6s,MS4.5,baz=230,slow=35
ULN Ulaanbaatar 30.80 341 P P 07 31 31.1 +1.1
SNR=17
ULN Ulaanbaatar 30.80 341 eP P 07 31 30.7 +0.7
ULN pmax pmax
comp=Z,55nm,1.3s,mb5.2
ULN MLR MLR
comp=Z,3µm,20.0s,MS4.9
ULN Ulaanbaatar 30.80 341 eP P 07 31 30.7 +0.8
comp=Z,55nm,1.3s,mb5.2
ULN LR LR
comp=Z,3µm,20.0s,MS4.9
SONM Songino Array 30.98 341 P P 07 31 31.8 +0.3
comp=Z,27nm,0.9s,mb5.1,baz=159,slow=9.5,SNR=109
SONM PcP PcP 07 34 27.3 +0.4
comp=Z,3.9nm,1.0s,baz=172,slow=2.9,SNR=4.0
SONM ScP ScP 07 38 07.2 +0.8
comp=Z,2.1nm,0.9s,baz=155,slow=3.5,SNR=5.2
SONM LR LR 07 45 04.1
comp=Z,2µm,18.2s,MS4.9,baz=152,slow=38
SONM Songino Array 30.98 341 P P 07 31 31.8 +0.3
SONM 07 34 27.3
KLR Kul'dur 31.21 14 eP P 07 31 28.8 -4.8
KLR MLR MLR
comp=N,4µm,16.0s
HABR Khabarovsk 31.37 18 eP P 07 31 32.4 -2.5
HABR e pP 07 31 41.7 -4.9
HABR e 07 32 34.7
HABR e 07 34 26.4
HABR eS **S** **07 36 37.2 -2.0**
HABR e 07 38 22.2
HABR e 07 42 03.7
TAPN Taplejung 31.59 291 eP P 07 31 38.3 +1.1
comp=N,80nm,0.9s,mb5.6
ODAN Odare 31.81 290 eP P 07 31 40.1 +0.9
comp=N,205nm,0.9s,mb5.9
RAMN Ramite 32.52 290 eP P 07 31 46.6 +1.2
comp=N,399nm,1.2s,mb6.2
YSS Yuzh-Sakhalins 32.94 28 ⇑iP P 07 31 48.9 +0.1
YSS e 07 32 07.0
YSS MLR MLR
comp=N,2µm,19.0s
YSS MLR MLR
comp=Z,1µm,19.0s,MS4.7
YSS Yuzh-Sakhalins 32.94 28 ⇑eP P 07 31 49.7 +0.9
BOK Bokaro 32.96 284 eP P 07 31 49.8 +0.5
BOK AMb AMB 07 31 52.1
comp=Z,136nm,1.1s,mb5.8
JIRN Jiri 32.97 291 eP P 07 31 50.5 +1.2
comp=Z,178nm,1.0s,mb6.0
GUN Gumba 33.28 292 eP P 07 31 52.9 +0.9
comp=Z,238nm,0.8s,mb6.2
PKI Pulchoki 33.65 291 eP P 07 31 55.4 +0.2
comp=Z,231nm,1.4s,mb5.9
PKIN Phulchoki 33.66 291 eP P 07 31 55.6 +0.3
KKN Kakani 33.79 291 eP P 07 31 56.8 +0.4
comp=Z,137nm,1.0s,mb5.8
DMN Daman 33.92 291 eP P 07 31 58.0 +0.4
comp=Z,203nm,1.2s,mb5.9
ZAK Zakamensk 34.20 340 ⇓iP P 07 31 59.1 -0.6
ZAK pmax pmax
comp=Z,25nm,1.2s,mb5.0
GKN Gorkha 34.38 292 eP P 07 32 01.6 0.0
comp=Z,200nm,1.1s,mb6.0
DANN Dangsing 35.19 292 eP P 07 32 08.9 +0.4
TLY Talaya 35.21 341 P P 07 32 09.7 +1.3
comp=Z,193nm,1.0s,mb6.0,SNR=8.1
TLY Talaya 35.21 341 P P 07 32 09.5 +1.1
SNR=15
TLY Talaya 35.21 341 c iP P 07 32 08.7 +0.3
TLY e 07 33 32.5
TLY ePPP 07 33 42.3
TLY eS **S** **07 37 46.2 +7.5**
TLY pmax pmax
comp=Z,47nm,1.2s,mb5.3
TLY MLR MLR
comp=Z,2µm,18.0s,MS4.8
TLY Talaya 35.21 341 eP P 07 32 09.3 +0.9
comp=Z,43nm,1.1s,mb5.3
TLY LR LR
comp=Z,2µm,20.0s,MS4.8
KOLN Koldanda 35.27 291 eP P 07 32 09.6 +0.4
comp=Z,112nm,0.9s,mb5.8
IRK Irkutsk 35.52 342 ⇓iP P 07 32 11.1 +0.1
IRK e pP 07 32 24.6 +1.8
IRK pmax pmax
comp=Z,98nm,1.4s,mb5.5
VIS Vishakhapatnam 35.74 274 eP P 07 32 13.5 +0.1
VIS AMb AMB 07 32 15.8
comp=Z,56nm,1.0s,mb5.4
WMQ Urumqi 37.17 319 P P 07 32 26.9 +1.7
FITZ Fitzroy Crossi 37.31 173 eP P 07 32 23.1 -3.6
comp=Z,8.2nm,0.6s,mb4.7
FITZ Fitzroy Crossi 37.31 173 P P 07 32 24.3 -2.3
comp=Z,2.6nm,0.5s,mb4.3,baz=5.0,slow=9.6,SNR=15
FITZ PcP PcP 07 34 45.6 +0.2
comp=Z,6.2nm,0.9s,baz=344,slow=2.1,SNR=3.8
FITZ LR LR 07 50 59.9
comp=Z,187nm,18.6s,MS3.9,baz=157,slow=42
PMG Port Moresby 38.34 136 PFAKE 07 32 50.0 +15
PMG LR LR
comp=Z,688nm,19.0s,MS4.5
JBP Jabalpur 38.38 283 eP P 07 32 36.3 +0.5
JBP ex x 07 38 41.5
PTH Pithoragarh 38.41 294 eP P 07 32 36.0 +0.1
BOD Bodaibo 38.94 354 eP P 07 32 40.2 +0.2
BOD pmax pmax
comp=Z,14nm,2.2s,mb4.3
COCO West Island 39.23 219 PFAKE 07 32 50.0 +7.1
COCO LR LR
comp=Z,466nm,21.0s,MS4.3
NGP Nagpur 39.37 280 eP P 07 32 41.0 -3.1
NGP AMb AMB 07 32 44.6
comp=Z,66nm,1.6s,mb5.1
COEN Coen 39.49 145 eP P 07 32 41.2 -3.9
comp=Z,2.6nm,0.6s,mb4.1
MBWA Marble Bar 40.10 182 eP P 07 32 47.6 -2.4
comp=Z,16nm,1.0s,mb4.7
MBWA LR LR
comp=Z,417nm,19.0s,MS4.3
HYB Hyderabad 40.29 275 iP P 07 32 51.5 -0.2
HYB Hyderabad 40.29 275 eP P 07 32 51.5 -0.2
PALK Pallekele 40.88 259 eP P 07 32 57.0 +0.3
comp=Z,25nm,0.9s,mb4.8
PALK LR LR
comp=Z,1µm,20.0s,MS4.8
WRA Warramunga Arr 41.00 161 P P 07 32 54.2 -3.3
comp=Z,4.8nm,0.5s,mb4.4,baz=342,slow=9.1,SNR=9.1
WRA PcP PcP 07 34 57.0 0.0
comp=Z,2.7nm,0.4s,baz=343,slow=3.1,SNR=7.0
WRA ScP ScP 07 38 43.7 +0.4
comp=Z,8.7nm,1.2s,baz=343,slow=4.1,SNR=11
WRA Warramunga Arr 41.00 161 P P 07 32 54.2 -3.3
WRA 07 34 57.0
SMLA Simla 41.20 296 iP P 07 32 59.4 +0.3
SMLA ex x 07 33 01.0
comp=Z,323nm,0.7s
SMLA *ix x 07 38 43.1
AKL Akola 41.30 280 eP P 07 32 59.9 -0.2
AKL AMb AMB 07 33 03.1
comp=Z,90nm,1.7s,mb5.1
MK31 Makanchi Array 41.95 320 iP P 07 33 05.7 +0.7
MKAR Makanchi Array 41.95 320 P P 07 33 06.0 +1.0
comp=Z,60nm,1.0s,mb5.2,baz=114,slow=9.3,SNR=290
MKAR ScP ScP 07 38 48.0 +1.3
comp=Z,2.3nm,1.1s,baz=103,slow=6.2,SNR=5.2
MKAR LR LR 07 51 17.5
comp=Z,962nm,21.4s,MS4.7,baz=125,slow=37
KRAR Krasnoyarsk 42.43 337 eP P 07 33 06.8 -2.0
KRAR pmax pmax
comp=Z,79nm,1.3s,mb5.2
THN Thein Dam 42.57 297 eP P 07 33 08.9 -1.4
KOD Kodaikanal 42.95 264 eP P 07 33 13.8 +0.2
KOD AMb AMB 07 33 15.1
comp=Z,71nm,1.4s,mb5.2
AJM Ajmer 43.18 289 eP P 07 33 15.2 -0.1
AJM AMb AMB 07 33 17.0
comp=Z,130nm,1.2s,mb5.5
YAK Yakutsk 43.25 6 eP P 07 33 13.7 -1.6
YAK e pP 07 33 26.9 -0.4
YAK pmax pmax

comp=Z,33nm,1.1s,mb5.0
YAK pmax pmax
comp=N,17nm,1.0s
YAK MLR MLR
comp=Z,1µm,19.0s,MS4.8
YAK MLR MLR
comp=N,599nm,17.0s,MS4.7
YAK MLR MLR
comp=E,633nm,18.0s,MS4.7
YAK Yakutsk 43.25 6⇑ *e*P **P 07 33 14.3 -1.0**
YAK LR LR
comp=Z,1µm,20.0s,MS4.8
KSH Kashi 43.66 308 P **P 07 33 21.7 +2.7**
KSH AP pP 07 33 25.9 -5.1
KSH XP sP 07 33 28.7 -7.4
KSH *e*PP PP 07 35 05.5 +4.4
KSH *e*PCP PcP 07 35 08.8 +3.1
KSH *e*SCP ScP 07 38 58.4 +4.5
KSH *e*PCS PcS 07 39 00.3 +1.8
KSH *e*S **S 07 39 51.2 +5.4**
KSH *e*XS sS 07 39 58.4 -7.5
KSH *e*SS SS 07 42 59.7 -2.5
KSH LR LR
comp=N,7µm,15.3s
KSH LR LR
comp=E,2µm,7.0s
KSH LR LR
comp=Z,9µm,17.9s,MS5.7
PETK Petropavlovsk- 44.16 31 P **P 07 33 22.1 -0.7**
comp=Z,14nm,0.8s,mb4.7,baz=212,slow=3.6,SNR=12
PETK LR LR 07 53 16.1
comp=Z,497nm,19.7s,MS4.4,baz=97,slow=38
ULHL Ulahol 44.21 311 P **P 07 33 25.2 +1.9**
SNR=13
ASAR Alice Springs 44.39 163 P **P 07 33 24.1 -0.9**
comp=Z,7.0nm,0.5s,mb4.6,baz=344,slow=6.8,SNR=21
ASAR ScP ScP 07 38 57.3 +0.4
comp=Z,5.9nm,1.1s,baz=343,slow=3.5,SNR=11
ZAA0 Zalesovo Array 44.43 330 *e*P **P 07 33 25.0 +0.1**
ZAA0 *e* pP 07 33 38.6 +1.6
ZALV Zalesovo Beam 44.43 330 P **P 07 33 25.0 +0.1**
comp=Z,33nm,0.8s,mb5.1,baz=117,slow=7.4,SNR=73
ZALV LR LR 07 53 02.4
comp=Z,2µm,18.9s,MS5.0,baz=124,slow=37
POO Poona 44.54 277 *e*P **P 07 33 25.9 -0.4**
POO AMb AMB 07 33 27.1
comp=Z,52nm,1.4s,mb5.2
PET Petropavlovsk 44.58 32 *e*P **P 07 33 26.0 -0.1**
PET pmax pmax
comp=Z,28nm,1.3s,mb4.9
PET Petropavlovsk 44.58 32 *e*P **P 07 33 26.1 0.0**
PET LR LR
comp=Z,897nm,20.0s,MS4.7
TKM2 Tokmak 2 44.86 312 *e*P **P 07 33 29.7 +1.1**
TKM2 pmax pmax
comp=Z,43nm,1.2s,mb5.2
TKM2 MLR MLR
comp=Z,2µm,19.0s,MS5.2
TKM2 Tokmak 2 44.86 312 P **P 07 33 30.2 +1.7**
SNR=25
TKM2 Tokmak 2 44.86 312 *e*P **P 07 33 29.7 +1.1**
comp=Z,43nm,1.2s,mb5.2
TKM2 LR LR
comp=Z,2µm,19.0s,MS5.2
KZA Kyzart 44.87 311 P **P 07 33 26.0 -2.6**
SNR=33
KBK Karagaybulak 45.24 312 P **P 07 33 33.6 +2.0**
SNR=15
UCH Uchtor 45.43 311 P **P 07 33 35.8 +2.7**
SNR=104
UCH Uchtor 45.43 311 *e*P **P 07 33 35.6 +2.6**
comp=Z,141nm,1.2s,mb5.7
UCH LR LR
comp=Z,3µm,22.0s,MS5.2
CHMS Chumysh 45.48 312 P **P 07 33 34.6 +1.2**
SNR=12
FRU Bishkek 45.53 312 *i* P **P 07 33 35.0 +1.2**
FRU *e* 07 35 26.0
FRU pmax pmax
comp=Z,90nm,2.0s,mb5.3
FRU MLR MLR
comp=Z,2µm,17.0s,MS5.0
AAK Ala-Archa 45.56 311 P **P 07 33 35.8 +1.8**
SNR=11
NVS Novosibirsk 45.71 330 *e*P **P 07 33 33.5 -1.5**
NVS pmax pmax
comp=N,47nm,1.6s
NVS pmax pmax
comp=Z,104nm,1.6s,mb5.5
NVS pmax pmax
comp=E,68nm,1.5s
USP Ospenovka 45.73 312 P **P 07 33 36.8 +1.3**
SNR=18
KURK Kurchatov 45.92 323 P **P 07 33 37.8 +1.0**
comp=E,526nm,1.1s,mb6.4,SNR=61
KURK Kurchatov 45.92 323 P **P 07 33 37.8 +1.0**
SNR=33
KURK Kurchatov 45.92 323⇑ *e*P **P 07 33 37.4 +0.6**
KURK LR LR
comp=Z,1µm,19.0s,MS4.8
AML Almayashu 45.99 311 P **P 07 33 39.9 +2.3**
SNR=97
AML Almayashu 45.99 311 *e*P **P 07 33 39.9 +2.3**
comp=Z,138nm,1.1s,mb5.8
AML LR LR
comp=Z,3µm,22.0s,MS5.2
EKS2 Erkin-Say 46.07 311 P **P 07 33 39.9 +1.8**
SNR=25
EKS2 Erkin-Say 46.07 311 *e*P **P 07 33 39.5 +1.3**
comp=Z,49nm,1.3s,mb5.3
EKS2 LR LR
comp=Z,3µm,20.0s,MS5.2
CTA Charters Tower 46.19 146 *e*P **P 07 33 37.4 -1.9**
comp=Z,8.5nm,1.5s,mb4.5
CTA Charters Tower 46.19 146 P **P 07 33 38.4 -0.9**
comp=Z,4.2nm,0.6s,mb4.5,baz=316,slow=8.7,SNR=3.9
CTA LR LR 07 51 57.8
comp=Z,1µm,21.4s,MS4.8,baz=347,slow=35
CTA Charters Tower 46.19 146 *e*P **P 07 33 37.4 -1.9**
CTA pmax pmax
comp=Z,9.0nm,1.5s
CTAO Charters Tower 46.19 146 *e*P **P 07 33 37.7 -1.6**
CTAO pmax pmax
comp=Z,17nm,1.2s,mb4.8
CTAO MLR MLR
comp=Z,1µm,22.0s,MS4.8
CTAO Charters Tower 46.19 146 *e*P **P 07 33 37.7 -1.6**
comp=Z,17nm,1.2s,mb4.8
CTAO LR LR
comp=Z,1µm,22.0s,MS4.8
HNR Honiara 47.75 123 LR LR 07 50 59.3
comp=Z,1µm,20.7s,MS4.8,baz=296,slow=32
HNR Honiara 47.75 123 PFAKE 07 34 00.0 +8.4
HNR LR LR
comp=Z,1µm,20.0s,MS4.8
KBL Kabul 48.33 299 *e*P **P 07 33 56.6 +0.7**
KBL pmax pmax
comp=Z,86nm,0.9s,mb5.8
KBL Kabul 48.33 299 *e*P **P 07 33 56.6 +0.8**
comp=Z,86nm,0.9s,mb5.8
KK31 Karatay Array 48.51 311 *i* P **P 07 33 57.8 +0.7**
KK31 pmax pmax
comp=Z,79nm,0.9s,mb5.7
SEY Seymchan 48.74 18⇑ *e*P **P 07 33 59.6 +1.0**
FORT Forrest 50.12 172 *e*P **P 07 34 06.7 -2.7**
comp=Z,17nm,0.5s,mb5.3
FORT Forrest 50.12 172 *e*P **P 07 34 06.9 -2.5**
comp=Z,4.9nm,0.8s,mb4.6
KLBR Kellerberrin 50.56 184 *e*P **P 07 34 10.8 -2.0**
comp=Z,68nm,1.7s,mb5.3
BVA0 Borovoye Array 51.52 323 P **P 07 34 20.1 +0.4**
BVA0 pmax pmax
comp=Z,41nm,2.3s,mb5.0
BVAR Borovoye Array 51.52 323 ScP ScP 07 39 27.3 +0.6
comp=Z,1.1nm,0.8s,baz=128,slow=4.0,SNR=3.8
BRVK Borovoye 51.59 323 P **P 07 34 21.2 +0.9**
comp=Z,390nm,1.0s,mb6.3,SNR=21
BRVK Borovoye 51.59 323 P **P 07 34 21.3 +1.1**
SNR=32
BRVK Borovoye 51.59 323⇑ *e*P **P 07 34 20.0 -0.3**
BRVK LR LR
comp=Z,2µm,19.0s,MS5.1
NWAO Narrogin (SRO) 51.92 184 P **P 07 34 22.6 -0.4**
comp=Z,15nm,0.7s,mb5.0,baz=19,slow=4.4,SNR=7.4
TIXI Tiksi 52.69 3 *e*P **P 07 34 26.8 -1.4**
TIXI *e*S **S 07 41 49.7 -2.8**
TIXI pmax pmax
comp=Z,44nm,1.2s,mb5.3
TIXI MLR MLR
comp=Z,1µm,19.0s,MS5.0
TIXI Tiksi 52.69 3 *e*P **P 07 34 27.4 -0.7**
comp=Z,26nm,0.8s,mb5.2
TIXI LR LR
comp=Z,1µm,19.0s,MS5.0
EIDS Eidsvold 53.05 145 *e*P **P 07 34 28.3 -3.2**
BBOO Buckleboo 53.65 164 *e*P **P 07 34 33.8 -1.8**
comp=Z,55nm,0.8s,mb5.5
STKA Stephens Creek 54.45 158 P **P 07 34 40.3 -1.3**
comp=Z,3.1nm,0.5s,mb4.5,baz=326,slow=7.7,SNR=11
STKA LR LR 07 59 24.2
comp=Z,532nm,20.8s,MS4.6,baz=129,slow=38
DGAR Diego Garcia 54.65 246 PFAKE 07 35 00.0 +17
DGAR LR LR
comp=Z,1µm,21.0s,MS4.9
AB31 Akbulak array 56.90 317⇑ *e*P **P 07 34 59.2 +0.2**
SVE Sverdlovsk 58.03 326⇓ *e*P **P 07 35 07.6 +0.8**
SVE *e* 07 37 15.0
SVE *e*PPP 07 38 39.5
SVE *e*S **S 07 43 07.0 +2.7**
SVE pmax pmax
comp=Z,164nm,0.9s,mb6.1
SVE MLR MLR
comp=Z,1µm,18.0s,MS5.0
AKTK Aktyubinsk 58.31 318 *i* P **P 07 35 09.2 +0.3**
AKTO Aktyubinsk 58.31 318 *i* P **P 07 35 09.2 +0.3**
BIDO Bidbid 58.34 286 P **P 07 35 09.7 +0.1**
SNR=11
JMDO Jabal Madar 58.54 285 ⇑P **P 07 35 11.1 +0.1**
SNR=7.7
ARU Arti 59.06 325 P **P 07 35 14.5 +0.5**
comp=Z,675nm,0.8s,SNR=6.2
ARU Arti 59.06 325 *c* iP **P 07 35 14.0 0.0**
ARU *e*S **S 07 43 18.9 +1.3**
ARU pmax pmax
comp=Z,105nm,1.0s,mb5.8
ARU MLR MLR
comp=Z,2µm,17.0s,MS5.3
HOQ Hoqain 59.07 286 P **P 07 35 14.4 -0.2**
SNR=14
BSY Bisya 59.31 286 P **P 07 35 16.2 0.0**
SNR=5.6
BANOM Banah 59.64 289 P **P 07 35 19.2 +0.7**
SNR=5.7
HATD Hatta, Dubai 59.95 288 ⇑P **P 07 35 21.5 +0.8**
SNR=9.1
DZM Mont Dzumac 60.43 131 *e*P **P 07 35 22.5 -1.4**
TOO Toolangi 60.96 158 *e*P **P 07 35 26.1 -1.1**
RBK Rabkut 63.08 280 ⇓P **P 07 35 41.7 -0.2**
SNR=17
WHFO Wadi Hawf 63.39 281 ⇓P **P 07 35 44.3 +0.3**
SNR=9.7
FUNA Funafuti 63.58 110 PFAKE 07 36 00.0 +15
FUNA LR LR
comp=Z,8µm,19.0s,MS5.9
ABTO Aybut 63.96 280 ⇓P **P 07 35 48.0 +0.3**
SNR=8.8
MAK Makhachkala 65.26 309 *d* iP **P 07 35 55.5 -0.3**
MAK *e* 07 38 20.3
MAK *e*PPP 07 39 56.6
MAK *e*S S 07 44 36.0 -0.2
MAK pmax pmax
comp=Z,127nm,1.1s,mb5.9
MAK MLR MLR
comp=Z,1µm,18.0s,MS5.2
TAU Tasmania Unive 66.35 159 PFAKE 07 36 10.0 +7.4
TAU LR LR
comp=Z,977nm,19.0s,MS5.0
RDF Al-Radifah 66.87 294 *e*P **P 07 36 05.3 -1.1**
baz=294
RDF AMb AMB 07 36 06.6
comp=Z,111nm,1.5s,mb5.7,baz=294
MIB Mutribah 66.91 295 *e*P **P 07 36 05.4 -1.2**
baz=295
MIB AMb AMB 07 36 06.2
comp=Z,54nm,0.8s,mb5.6,baz=295
NAY Al-Naaiem 67.08 294 *e*P **P 07 36 06.5 -1.2**
baz=294
NAY AMb AMB 07 36 07.3
comp=Z,39nm,0.7s,mb5.5,baz=294
RST Umm Al-Ruwaisa 67.25 295 *e*P **P 07 36 06.9 -1.9**
baz=295
RST AMb AMB 07 36 07.9
comp=Z,45nm,1.1s,mb5.4,baz=295
GNI Garni 67.58 306 P **P 07 36 12.2 +1.5**
SNR=8.1
GNI Garni 67.58 306⇑ *i*P **P 07 36 11.6 +0.9**
GNI LR LR
comp=Z,530nm,22.0s,MS4.7
KIV Kislovodsk 68.67 311 P **P 07 36 18.3 +0.8**
SNR=13
KIV Kislovodsk 68.67 311 *e*P **P 07 36 17.6 +0.2**
KIV *e* 07 38 49.0
KIV *e*PPP 07 40 28.3
KIV *e*S S 07 45 17.9 +0.6
KIV *e*SS SS 07 49 43.2 +1.1
KIV pmax pmax
comp=Z,69nm,1.0s,mb5.5
KIV pmax pmax
comp=Z,120nm,5.1s
KIV MLR MLR
comp=Z,931nm,18.0s,MS5.1
KIV Kislovodsk 68.67 311⇑ *i*P **P 07 36 18.1 +0.7**
KIV Kislovodsk 68.67 311⇑ P **P 07 36 18.1 +0.7**
KIV LR LR
comp=Z,759nm,21.0s,MS4.9
MSEY Mahe Island 68.67 257 PFAKE 07 36 30.0 +12
MSEY LR LR
comp=Z,477nm,20.0s,MS4.7
BHD Baghdad 68.83 299 *ex* x 07 36 21.0
BHD *ex* x 07 45 27.0
CHGN Chignik 69.07 36 *e*P **P 07 36 17.8 -1.9**
KLMR Klimovskoe 69.33 329 *e*P **P 07 36 19.6 -1.6**
KLMR pmax pmax
comp=Z,116nm,1.4s,mb5.6
SVW2 Sparrevohn 70.24 31 *e*P **P 07 36 27.3 +0.5**
VSR Storozhevoye 70.25 319 *e*P **P 07 36 26.3 -0.8**
VSR *e**PP pP 07 36 33.6 -6.2
MOS Moscow 70.69 323 *e*P **P 07 36 24.8 -4.9**
MOS *e* 07 39 05.2
MOS pmax pmax
comp=Z,68nm,1.2s,mb5.5
MOS MLR MLR
comp=Z,1µm,18.0s,MS5.2
IMA2 Indian Mountai 70.76 26 *e*P **P 07 36 29.8 -0.1**
SOC Sochi 70.85 310 *e*P **P 07 36 29.7 -1.2**
SOC *e**SP sP 07 36 43.1 -5.5
SOC *e* 07 36 48.7
SOC *e* 07 39 11.3
SOC *e*PPP 07 40 56.4
SOC *e*S S 07 45 39.9 -3.1
SOC *e*SS SS 07 50 23.3 +7.6
SOC pmax pmax
comp=Z,24nm,0.8s,mb5.2
SOC MLR MLR
comp=Z,783nm,16.0s,MS5.1
SOC Sochi 70.85 310 *i* P **P 07 36 30.7 -0.2**
LVZ Lovozero 71.05 336 PFAKE 07 36 40.0 +8.4
LVZ LR LR
comp=Z,651nm,22.0s,MS4.8
OBN Obninsk 71.36 323⇑ *e*P **P 07 36 32.9 -0.8**
OBN *e* 07 39 13.5
OBN *e*S S 07 45 53.6 +5.2
OBN *e*SS SS 07 50 24.0 +1.0
OBN pmax pmax
comp=Z,68nm,1.5s,mb5.4
OBN MLR MLR
comp=Z,1µm,18.0s,MS5.1
CHUM Lake Minchumin 71.52 28 *e*P **P 07 36 34.9 +0.4**
comp=Z,15nm,0.9s,mb4.9
APA Apatity 71.55 336⇓ *e*P **P 07 36 34.2 -0.5**
APA *i* 07 36 40.0
APA pmax pmax
comp=Z,39nm,1.0s,mb5.3
APA MLR MLR
comp=Z,1µm,21.0s,MS5.1
PPLA Purkeypile 71.68 29 *e*P **P 07 36 35.5 -0.1**
comp=Z,34nm,1.1s,mb5.2
OHAK Old Harbor 71.79 35 *e*P **P 07 36 35.4 -0.9**
COLD Coldfoot 72.03 24 *e*P **P 07 36 38.7 +1.2**
comp=Z,24nm,1.2s,mb5.0
BPAW Bear Paw Mtn. 72.08 27 *e*P **P 07 36 37.9 0.0**
comp=Z,59nm,1.4s,mb5.3
KDAK Kodiak Island 72.10 34 P **P 07 36 37.4 -0.7**
comp=Z,18nm,0.7s,mb5.1,baz=292,slow=3.0,SNR=16
KDAK Kodiak Island 72.10 34 P **P 07 36 37.4 -0.7**
KDAK LR LR
comp=Z,131nm,21.0s,MS4.2
KTH Kantishna Hill 72.17 28 *e*P **P 07 36 38.1 -0.4**
comp=Z,13nm,0.9s,mb4.9
ANN Anapa 72.28 312 *e*P **P 07 36 38.4 -1.1**
ANN *e**PP pP 07 36 48.7 -3.6
ANN *e* 07 36 57.0
ANN *e*S S 07 45 59.4 0.0
ANN pmax pmax
comp=Z,61nm,1.1s,mb5.4
TRF Thorofare Moun 72.47 28 *e*P **P 07 36 40.1 -0.2**
comp=Z,59nm,1.5s,mb5.3
JOF Joensuu 73.00 331 *e*p **P 07 36 41.3 -2.1**
comp=Z,16nm,0.7s,mb5.0
JOF Joensuu 73.00 331 *e*P **P 07 36 41.3 -2.1**
JOF pmax pmax
comp=Z,16nm,0.7s,mb5.1
MCK McKinley 73.03 28 *e*P **P 07 36 42.8 -0.7**
MCK pmax pmax
comp=Z,99nm,1.6s,mb5.5
MCK McKinley 73.03 28 *e*P **P 07 36 42.8 -0.7**
comp=Z,99nm,1.6s,mb5.5
PMR Palmer 73.28 30 *e*P **P 07 36 43.7 -1.3**
PMR pmax pmax
comp=Z,22nm,1.0s,mb5.0
PMR MLR MLR
comp=Z,322nm,21.0s,MS4.6
PMR Palmer 73.28 30 *e*P **P 07 36 43.7 -1.3**
comp=Z,22nm,1.0s,mb5.0
PMR LR LR
comp=Z,322nm,21.0s,MS4.6
COLA College 73.31 26 *e*P **P 07 36 44.9 -0.3**
COLA pmax pmax
comp=Z,21nm,1.1s,mb5.0
COLA MLR MLR
comp=Z,368nm,20.0s,MS4.7
COLA College 73.31 26 *e*P **P 07 36 44.9 -0.4**
comp=Z,21nm,1.1s,mb5.0
COLA LR LR
comp=Z,368nm,20.0s,MS4.7
KEV Kevo 73.57 339 *e*P **P 07 36 46.3 -0.3**
comp=Z,8.4nm,0.8s,mb4.7
KEV LR LR
comp=Z,393nm,20.0s,MS4.7
AFI Afiamalu 73.88 111 LR LR 08 03 54.5
comp=Z,339nm,18.6s,MS4.7,baz=38,slow=31
AFI Afiamalu 73.88 111 PFAKE 07 37 00.0 +11
AFI LR LR
comp=Z,1µm,19.0s,MS5.2
ARCES ARCESS Array B 74.12 339 P **P 07 36 49.5 -0.4**
comp=Z,13nm,0.9s,mb4.9,baz=72,slow=7.8,SNR=16
ARCES LR LR 08 13 19.0
comp=Z,974nm,18.4s,MS5.1,baz=16,slow=39
ARCES ARCESS Array B 74.12 339 P **P 07 36 49.5 -0.4**
ARCES LR LR 08 13 19.0
ARE0 ARCESS Array S 74.12 339 *e*P **P 07 36 50.0 +0.1**
ARE0 *e* 07 37 05.6
SIM Simferopol' 74.57 313 *c*eP **P 07 36 53.3 +0.3**
SIM S S 07 46 25.3 0.0
SIM pmax pmax
comp=Z,49nm,0.7s,mb5.5
KBS Kingsbay 74.90 349 PFAKE 07 37 10.0 +16
KBS LR LR
comp=Z,1µm,19.0s,MS5.2
EYAK Cordova Ski Ar 75.09 31 *e*P **P 07 36 55.2 -0.4**
comp=Z,28nm,0.9s,mb5.2
EYAK *e* pP 07 37 09.9 +1.4
KAF Kangasniemi 75.43 331 *e*p **P 07 36 55.9 -1.7**
comp=Z,11nm,0.8s,mb4.8
KAF Kangasniemi 75.43 331 *e*P **P 07 36 55.9 -1.7**
KAF pmax pmax
comp=Z,11nm,0.8s,mb4.8
BR131 Keskin Array S 76.05 307 *e*P **P 07 37 01.5 -0.1**
comp=Z,9.0nm,1.0s,mb4.7
BR131 LR LR
comp=Z,333nm,19.0s,MS4.7
AKASG Malin Array Be 76.52 319 P **P 07 37 02.9 -1.1**
comp=Z,19nm,0.8s,mb5.1,baz=63,slow=5.4,SNR=44
AKASG PP PP 07 39 55.2 -0.9
comp=Z,0.8nm,0.5s,baz=68,slow=7.9,SNR=4.1
AKASG LR LR 08 12 41.2
comp=Z,623nm,18.6s,MS5.0,baz=75,slow=37
AKASG Malin Array Be 76.52 319 P **P 07 37 02.9 -1.1**
AKASG 07 39 55.2
KIEV Kiev 76.53 319 *e*P **P 07 37 02.4 -1.7**
KIEV pmax pmax
comp=Z,24nm,0.9s,mb5.1
KIEV MLR MLR
comp=Z,710nm,19.0s,MS5.0
KIEV Kiev 76.53 319 *e*P **P 07 37 02.4 -1.7**
comp=Z,24nm,0.9s,mb5.1
KIEV LR LR
comp=Z,710nm,19.0s,MS5.0
ANTO Ankara 76.65 308 P **P 07 37 05.1 +0.1**
SNR=5.2
ANTO Ankara 76.65 308⇑ *i*P **P 07 37 04.7 -0.3**
ANTO Ankara 76.65 308⇑ P **P 07 37 04.7 -0.3**
ANTO LR LR
comp=Z,331nm,20.0s,MS4.7
DAWY Dawson 77.06 26 *e*P **P 07 37 06.0 -0.8**
CSS Prodhromos 77.44 303 *e*P **P 07 37 08.8 -0.7**
comp=Z,55nm,1.1s,mb5.4
CSS LR LR
comp=Z,574nm,20.0s,MS4.9
KIS Kishinev 77.70 316 *e*P **P 07 37 08.0 -2.7**
KIS *e* pP 07 37 23.0 -0.6
KIS *e* 07 47 12.0
KIS MLR MLR
comp=Z,500nm,17.0s,MS4.9
KIS MLR MLR
comp=Z,700nm,16.0s
SNZO South Karori 78.05 142 PFAKE 07 37 20.0 +7.4
SNZO LR LR
comp=Z,554nm,20.0s,MS4.9
TLCR 78.17 314⇑ *i*P **P 07 37 13.5 +0.1**
TLCR 78.17 314⇑ P **P 07 37 13.5 +0.1**
TIRR Tirgusor 78.64 313⇑ *i*P **P 07 37 15.6 -0.4**
TIRR Tirgusor 78.64 313⇑ P **P 07 37 15.6 -0.3**
HARR Harsova 78.91 313⇑ *i*P **P 07 37 17.3 -0.1**
HARR Harsova 78.91 313⇑ P **P 07 37 17.2 -0.2**
ODB Odobesti 79.20 315⇑ *i*P **P 07 37 20.8 +1.8**
ODB Odobesti 79.20 315⇑ P **P 07 37 20.8 +1.7**
SUW Suwalki 79.20 323 *e*P **P 07 37 18.2 -0.6**
SUW Suwalki 79.20 323 *e*P **P 07 37 18.1 -0.7**
SUW pmax pmax
comp=Z,64nm,0.5s,mb5.8
SUW Suwalki 79.20 323 *e*P **P 07 37 18.1 -0.7**
comp=Z,64nm,0.5s,mb5.8
VRI Vrincioaia 79.39 315⇓ *i*P **P 07 37 20.6 +0.5**
VRI Vrincioaia 79.39 315⇓ P **P 07 37 20.6 +0.6**
PLOR Plostina 79.45 315⇑ *i*P **P 07 37 21.1 +0.7**
BURAR Bucovina Array 79.88 317⇑ *i*P **P 07 37 22.6 -0.1**
BURAR Bucovina Array 79.88 317⇑ P **P 07 37 22.6 -0.1**
BUR08 Bucovina Ar. S 79.89 317 *e*P **P 07 37 22.3 -0.4**
LVV L'vov 79.97 319 *e*P **P 07 37 22.5 -0.6**
MLR Muntele Rosu 80.03 315⇑ *i*P **P 07 37 23.4 -0.1**
MLR Muntele Rosu 80.03 315⇑ P **P 07 37 23.4 -0.1**
SKAG Skagway 80.41 30 *e*P **P 07 37 25.7 +0.4**
comp=Z,34nm,0.9s,mb5.3
KWP Kalwaria 80.85 319 *e*P **P 07 37 27.8 0.0**
KWP Kalwaria 80.85 319⇓ *i*P **P 07 37 27.8 0.0**
KWP Kalwaria 80.85 319⇓ P **P 07 37 27.8 0.0**
KWP LR LR
comp=Z,1µm,22.0s,MS5.1
DAG Danmarks Havn 81.28 351⇑ *i*P **P 07 37 29.1 -0.6**
DAG pmax pmax
comp=Z,6.0nm,0.8s,mb4.6
DAG Danmarks Havn 81.28 351⇑ *i*P **P 07 37 29.1 -0.6**
comp=Z,6.0nm,0.8s,mb4.6
XMAS Kiritimati 81.34 91 PFAKE 07 37 40.0 +8.9
XMAS LR LR
comp=Z,622nm,22.0s,MS4.9
KOLS Kolonicke sedl 81.34 319 *e*P **P 07 37 33.2 +2.7**
UZH Uzhgorod 81.43 318⇓ *i*P **P 07 37 30.7 -0.2**
UZH *i* pP 07 37 43.0 -0.9
UZH *i* 07 37 46.3
ABPO Ambohimpanom 81.72 247 *e*P **P 07 37 32.6 -0.3**
comp=Z,23nm,1.0s,mb5.1
ABPO LR LR
comp=Z,686nm,19.0s,MS5.0
DRGR 81.76 317⇑ *i*P **P 07 37 32.8 +0.1**
DRGR 81.76 317⇑ P **P 07 37 32.8 0.0**

STHS **Stebnicka Huta 81.82 319** *e*P **P** **07 37 33.2 +0.2**
STHS pmax pmax
comp=Z,9.0nm,0.9s,mb4.7
STHS Stebnicka Huta 81.82 319 *e*P **P** **07 37 33.2 +0.2**
comp=Z,8.9nm,0.9s,mb4.7
CRVS Cervenica-Dubn 81.86 319 *e*P **P** **07 37 33.0 -0.2**
CRVS Cervenica-Dubn 81.86 319 *e*P **P** **07 37 33.1 -0.1**
NIE Niedzica 82.39 320 *e*P **P** **07 37 36.7 +0.7**
OJC Ojcow 82.42 321 *e*P **P** **07 37 35.9 -0.2**
OJC *e*sP sP 07 37 48.1 -5.9
OJC *e*S S 07 47 53.8 +4.7
OJC L 08 16 31.8
comp=Z,0.7nm,19.5s
NB2 NORSAR Subarra 82.58 332 P **P** **07 37 35.1 -1.6**
comp=Z,0.8nm,0.7s,mb3.9,baz=68,slow=5.9
NOA NORSAR Array B 82.58 332 P **P** **07 37 35.5 -1.2**
comp=Z,7.0nm,0.8s,mb4.7,baz=65,slow=5.2,SNR=19
VTS Vitosha 82.81 312⇑ *i*P **P** **07 37 38.5 +0.2**
VTS Vitosha 82.81 312 ⇑P **P** **07 37 38.5 +0.2**
BZS Buzias 82.87 316⇑ *i*P **P** **07 37 37.8 -0.8**
BZS Buzias 82.87 316 ⇑P **P** **07 37 37.8 -0.8**
PSZ Piszkesteto 83.18 318⇑ *e*P **P** **07 37 39.8 -0.3**
PSZ Piszkesteto 83.18 318 PFAKE 07 37 50.0 +10
PSZ LR LR
comp=Z,705nm,19.0s,MS5.1
SANT Santorini 83.18 306 PFAKE 07 37 50.0 +10
SANT LR LR
comp=Z,296nm,19.0s,MS4.7
DLBC Dease Lake 83.34 30 *e*P **P** **07 37 41.3 +0.6**
OKC Ostrava-Krasne 83.55 321 *e*P **P** **07 37 42.0 0.0**
OKC *ex* x 07 48 14.3
OKC AMS AMS 08 18 50.0
comp=Z,600nm,15.6s
OKC Ostrava-Krasne 83.55 321 *e*P **P** **07 37 42.0 0.0**
OKC *e*S S 07 48 14.3 +14
VYHS Vyhne 83.63 319 *e*P **P** **07 37 42.2 -0.2**
KOLL Kolacno 83.86 319 *e*P **P** **07 37 44.3 +0.7**
MORC Moravsky Berou 83.93 321⇑ *i*P **P** **07 37 43.8 -0.1**
KSP Ksiaz 84.26 322 *e*P **P** **07 37 45.7 +0.1**
KSP Ksiaz 84.26 322⇑ *i*P **P** **07 37 45.6 0.0**
KSP *e*pP pP 07 37 57.4 -1.2
KSP LR LR
comp=Z,2μm,18.1s,MS5.4
DPC Dobruska-Polom 84.44 321 *e*P **P** **07 37 46.7 +0.2**
DPC *e*pP pP 07 37 59.0 -0.5
DPC *e*SKS 07 48 06.3
DPC AMS AMS 08 18 50.0
comp=Z,700nm,15.4s
KMBO Kilima Mbogo 84.48 267 P **P** **07 37 48.9 +1.5**
SNR=9.9
KMBO Kilima Mbogo 84.48 267 P **P** **07 37 48.5 +1.2**
comp=Z,17nm,1.0s,mb5.1,baz=44,slow=7.5,SNR=18
KMBO LR LR 08 13 39.3
comp=Z,671nm,20.7s,MS5.0,baz=89,slow=34
KMBO Kilima Mbogo 84.48 267 *i* P **P** **07 37 48.5 +1.1**
KMBO pmax pmax
comp=Z,17nm,1.0s
UPC Upice 84.56 322 *e*P **P** **07 37 47.3 +0.2**
UPC *e*pP pP 07 38 00.0 -0.1
PKSM Moragy 84.60 317⇑ *i*P **P** **07 37 47.1 -0.3**
PKSM Moragy 84.60 317 ⇑P **P** **07 37 47.1 -0.3**
MODS Modra-Piesok 84.64 319 *e*P **P** **07 37 48.0 +0.5**
MODS pmax pmax
comp=Z,5.0nm,1.0s,mb4.6
MODS Modra-Piesok 84.64 319 *e*P **P** **07 37 48.0 +0.5**
comp=Z,4.5nm,1.0s,mb4.5
VRAC Vranov 84.69 320⇑ *i*P **P** **07 37 48.3 +0.5**
VRAC Vranov 84.69 320 ⇑P **P** **07 37 48.3 +0.5**
ZST Bratislava 84.81 319 *e*P **P** **07 37 48.1 -0.3**
comp=Z,8.9nm,0.8s,mb5.0
ZST LR LR
comp=Z,300nm,17.6s,MS4.7
TREC Trest 85.36 321 *e*P **P** **07 37 51.2 +0.1**
TREC AMS AMS 08 18 00.0
comp=Z,700nm,21.7s
PVCC Panska Ves 85.39 322 *e*P **P** **07 37 51.8 +0.5**
PVCC *e*pP pP 07 38 03.9 -0.4
PVCC AMS AMS 08 18 50.0
comp=Z,800nm,15.8s
CASY Casey 85.55 184 PFAKE 07 38 00.0 +8.5
CASY LR LR
comp=Z,284nm,19.0s,MS4.7
TIR Tirane 85.58 312 PFAKE 07 38 00.0 +7.6
TIR LR LR
comp=Z,501nm,22.0s,MS4.9
BRG Berggiesshubel 85.61 323 *i* P **P** **07 37 51.9 -0.4**
BRG *i* pP 07 38 04.2 -1.2
BRG 07 41 06.0
BRG S S 07 48 20.0 -1.1
BRG SP 07 49 19.0
BRG SS SS 07 54 00.0 +3.1
BRG pmax pmax
comp=Z,19nm,1.2s,mb5.2
BRG pmax pmax
comp=Z,15nm,1.1s,mb5.1
BRG pmax pmax
comp=Z,9.0nm,1.0s,mb5.0
BRG MLR MLR
comp=N,402nm,14.5s
BRG MLR MLR
comp=Z,212nm,15.3s,MS4.7
BRG Berggiesshubel 85.61 323 *e*P **P** **07 37 51.9 -0.4**
comp=Z,32nm,1.2s,mb5.4
BRG *e*pP pP 07 38 04.3 -1.1
BRG Berggiesshubel 85.61 323 *i* P **P** **07 37 51.9 -0.5**
comp=Z,32nm,1.2s,mb5.4
BRG *i* pP 07 38 04.2 -1.2
comp=Z,25nm,1.1s
BRG *i* 07 38 18.7
comp=Z,15nm,1.0s
BRG PP PP 07 41 06.0 -5.0
BRG S S 07 48 20.0 -1.1
BRG SP 07 49 19.0
BRG SS SS 07 54 00.0 +3.1
BRG
comp=N,671nm,14.5s
BRG
comp=E,354nm,16.6s
BRG
comp=Z,609nm,15.3s
BRG Berggiesshubel 85.61 323 *i* P **P** **07 37 51.9 -0.5**
comp=Z,19nm,1.2s,mb5.2
BRG *i* pP 07 38 04.2 -1.2
BRG *i* 07 38 18.7
BRG PP PP 07 41 06.0 -5.0
BRG S S 07 48 20.0 -1.1
BRG SP 07 49 19.0
BRG SS SS 07 54 00.0 +3.1
BRG LR LR
comp=Z,610nm,15.3s,MS5.1
PRU Pruhonice 85.63 322 *e*P **P** **07 37 52.5 0.0**
PRU *e*pP pP 07 38 04.9 -0.6
PRU *e*S S 07 48 20.0 -1.4
PRU AMS AMS 08 19 20.0
comp=Z,800nm,16.7s
CONA Conrad Observa 85.68 319⇑ *i*P **P** **07 37 52.7 0.0**
comp=Z,31nm,1.4s,mb5.4
CSNA Conrad Observa 85.68 319⇓ *i*P **P** **07 37 52.7 -0.1**
comp=Z,30nm,1.4s,mb5.3
CLL Collm 85.95 323⇑ *i*P **P** **07 37 53.3 -0.7**
CLL *e*S S 07 48 22.0 -2.5
CLL pmax pmax
comp=Z,21nm,1.1s,mb5.3
CLL MLR MLR
comp=Z,1μm,16.5s,MS5.3
CLL Collm 85.95 323 *e*P **P** **07 37 53.3 -0.7**
comp=Z,22nm,1.1s,mb5.3
CLL Collm 85.95 323⇑ *i*P **P** **07 37 53.3 -0.7**
comp=Z,21nm,1.1s,mb5.3
CLL *i* PcP PcP 07 37 56.8 +0.1
CLL *ex* x 07 38 00.0
CLL *e*pP pP 07 38 06.0 -1.1
CLL *e*PP PP 07 41 20.0 +6.2
CLL *e*PPP 07 43 18.0
CLL *e*S S 07 48 22.0 -2.5
CLL *e*PS 07 49 32.0
CLL *e*SS SS 07 54 07.0 +5.0
CLL *ex* x 07 56 54.0
CLL *ex* x 07 58 24.0
CLL *e*SSSS 08 00 37.0
CLL LmH 08 19 00.0
comp=N,600nm,19.3s
CLL LmH 08 19 00.0
comp=E,400nm,21.8s
CLL LmH 08 19 00.0
comp=Z,700nm,22.0s
CLL Collm 85.95 323⇑ *i*P **P** **07 37 53.3 -0.7**
comp=Z,21nm,1.1s,mb5.3
CLL *i* pP pP 07 37 56.8 -10
CLL *e*S S 07 48 22.0 -2.5
CLL LR LR
comp=Z,1μm,16.5s,MS5.3
KOGS Kog 86.03 318 *e*P **P** **07 37 54.0 -0.6**
KOGS *e* pP 07 38 06.0 -1.6
BSEG Bad Segeberg 86.24 326 *e*P **P** **07 37 55.3 -0.1**
BSEG pmax pmax
comp=Z,33nm,1.1s,mb5.5
BSEG Bad Segeberg 86.24 326 *e*P **P** **07 37 55.3 -0.1**
comp=Z,33nm,1.1s,mb5.5
KHC Kasperske Hory 86.56 321 *e*P **P** **07 37 56.7 -0.4**
KHC *e*pP pP 07 38 09.3 -0.8
KHC *e*SKS 07 48 20.7
KHC AMS AMS 08 20 30.0
comp=Z,700nm,16.9s
GOLS Golise 86.61 318 *e*P **P** **07 37 57.0 -0.4**
GEC2 GERESS Array S 86.61 321 *e*P **P** **07 37 56.8 -0.5**
GEC2 pmax pmax
comp=Z,17nm,1.1s,mb5.2
GEC2 GERESS Array S 86.61 321 *e*P **P** **07 37 56.8 -0.5**
comp=Z,17nm,1.1s,mb5.2
GERES GERESS Array B 86.61 321 P **P** **07 37 57.4 0.0**
comp=Z,8.1nm,0.9s,mb5.0,baz=59,slow=5.1,SNR=37
GERES LR LR 08 22 06.5
comp=Z,627nm,19.1s,MS5.0,baz=80,slow=39
TANN Tannenbergstha 86.65 323 *e*P **P** **07 37 56.6 -0.9**
comp=Z,9.0nm,1.4s,mb4.8
TANN *e*pP pP 07 38 09.4 -1.2
PERS Pernice 86.67 318 *e*P **P** **07 37 57.1 -0.6**
PERS *e* pP 07 38 09.0 -1.8
MOA Molln 86.69 320⇑ *i*P **P** **07 37 57.4 -0.3**
comp=Z,23nm,1.1s,mb5.3
SOKA Soboth 86.71 318⇑ *i*P **P** **07 37 57.4 -0.4**
comp=Z,15nm,0.9s,mb5.2
NKC Novy Kostel 86.74 322 AMS AMS 08 19 50.0
comp=Z,1μm,17.0s
DRV Dumont d'Urvil 86.75 173 S S 07 48 36.0 +4.8
DRV R 08 08 00.0
CRES Cresnjev 86.79 318 *i* P **P** **07 37 58.1 -0.2**
WET Wettzell 86.97 321 *e*P **P** **07 37 59.3 +0.2**
WET pmax pmax
comp=Z,14nm,1.4s,mb5.0
WET Wettzell 86.97 321 *e*P **P** **07 37 59.3 +0.2**
comp=Z,14nm,1.4s,mb5.0
MOX Moxa 87.03 323 *e*P **P** **07 37 59.1 -0.3**
MOX
comp=Z,600nm,18.0s
MOX Moxa 87.03 323 *e*P **P** **07 37 58.9 -0.5**
comp=Z,4.0nm,0.9s,mb4.7
MOX *e*pP pP 07 38 11.2 -1.2
MANZ Manzenberg 87.05 322 *e*P **P** **07 37 59.2 -0.2**
comp=Z,11nm,1.4s,mb4.9
ROTZ Rotzenmuhle 87.09 322 *e*P **P** **07 37 59.7 +0.1**
comp=Z,11nm,1.1s,mb5.0
CLZ Clausthal 87.18 324 *e*P **P** **07 37 59.6 -0.4**
CLZ *e**PP pP 07 38 12.0 -1.1
CLZ pmax pmax
comp=Z,15nm,1.2s,mb5.1
CLZ Clausthal 87.18 324 *e*P **P** **07 37 59.6 -0.4**
comp=Z,15nm,1.2s,mb5.1
CLZ *e*pP pP 07 38 12.0 -1.1
VISS Visnje 87.19 318 *e*P **P** **07 38 00.0 -0.2**
RAR Rarotonga 87.26 113 LR LR 08 10 28.2
comp=Z,277nm,19.2s,MS4.7,baz=25,slow=31
LJU Ljubljana 87.29 318 *e*P **P** **07 38 00.3 -0.4**
RJOB Jochberg 87.64 320 *e*P **P** **07 38 01.5 -0.8**
comp=Z,5.0nm,0.6s,mb4.9
YKA Yellowknife Ar 87.64 23 P **P** **07 38 01.7 -0.3**
comp=Z,15nm,0.7s,mb5.3,baz=308,slow=4.7,SNR=25
GRA1 Grafenberg Arr 87.69 322 *e*P **P** **07 38 02.1 -0.5**
comp=Z,11nm,0.7s,mb5.2
GRA1 *e*S S 07 48 36.7 -4.7
GRA1 LR LR
comp=Z,400nm,21.3s,MS4.8
GRF Grafenberg Arr 87.69 322 *e*P **P** **07 38 02.1 -0.5**
GRF *e*S S 07 48 36.7 -4.7
GRF pmax pmax
comp=Z,11nm,0.7s,mb5.2
GRF MLR MLR
comp=Z,400nm,21.3s,MS4.8
GRF Grafenberg Arr 87.69 322 *e*P **P** **07 38 02.1 -0.5**
comp=Z,11nm,0.7s,mb5.2
GRF *e*S S 07 48 36.7 -4.7
GRF *e*L 08 23 26.2
comp=Z,385nm,21.3s
UBBA Unterbreizbach 87.87 324 *e*P **P** **07 38 02.6 -0.8**
comp=Z,20nm,1.7s,mb5.1
TRI Trieste 87.92 318 PFAKE 07 38 10.0 +6.3
TRI LR LR
comp=Z,635nm,20.0s,MS5.0
WTTA Wattenberg 88.55 320⇑ *i*P **P** **07 38 05.9 -0.8**
comp=Z,14nm,0.8s,mb5.4
MOTA Moosalm 88.84 320⇓ *i*PcP PcP 07 38 07.5 -2.1
comp=Z,13nm,1.0s
CUC Castrocucco 88.94 312 PFAKE 07 38 20.0 +11
CUC LR LR
comp=Z,668nm,19.0s,MS5.1
TNS Taunus Mts 89.02 324 *e*P **P** **07 38 08.4 -0.4**
TNS pmax pmax
comp=Z,11nm,0.9s,mb5.2
TNS Taunus Mts 89.02 324 *e*P **P** **07 38 08.4 -0.4**
comp=Z,11nm,0.9s,mb5.2
FETA Feichten 89.21 320⇑ *i*PcP PcP 07 38 09.3 -1.9
comp=Z,15nm,1.0s
BFO Black Forest 90.02 322 *e*P **P** **07 38 12.5 -1.0**
comp=Z,18nm,1.8s,mb5.1
BFO LR LR
comp=Z,346nm,20.0s,MS4.8
MEM Membach 90.18 325 P **P** **07 38 13.9 -0.3**
comp=Z,5.2nm,1.1s,mb4.8
BEBN Eben Emael 90.26 325 P **P** **07 38 14.9 +0.3**
TUE Stuetta 90.31 320 *e*P **P** **07 38 14.8 -0.1**
comp=Z,11nm,0.9s,mb5.2
TUE LR LR
comp=Z,1μm,21.0s,MS5.3
CDF Champ du Feu 90.58 322 *e*P **P** **07 38 15.4 -0.8**
comp=Z,36nm,1.3s,mb5.2
CDF Champ du Feu 90.58 322 *e*P **P** **07 38 15.4 -0.8**
CDF pmax pmax
comp=Z,18nm,1.3s,mb5.2
CDF Champ du Feu 90.58 322 *e*P **P** **07 38 15.4 -0.8**
comp=Z,18nm,1.3s,mb5.2
WLF Walferdange 90.58 324 P **P** **07 38 16.6 +0.5**
comp=Z,18nm,1.4s,mb5.2
WLF Walferdange 90.58 324 *e*P **P** **07 38 16.5 +0.4**
comp=Z,27nm,1.0s,mb5.5
WLF *e*pP pP 07 38 28.7 -0.6
WLF Walferdange 90.58 324 PFAKE 07 38 30.0 +14
WLF LR LR
comp=Z,2μm,19.0s,MS5.5
VLC Villacollemand 90.75 318 PFAKE 07 38 30.0 +13
VLC LR LR
comp=Z,681nm,21.0s,MS5.1
UCC Uccle 90.97 325 P **P** **07 38 17.0 -0.9**
GIVF Givet 91.09 325 *e*P **P** **07 38 17.7 -0.8**
HINF Hinteralfeld 91.13 322 *e*P **P** **07 38 17.7 -1.0**
DOU Dourbes 91.22 325 P **P** **07 38 18.8 -0.3**
MEZF Maizieres J'vi 91.81 323 *e*P **P** **07 38 21.1 -0.7**
NLWA Neilton Lookou 91.90 38⇑P **P** **07 38 23.2 +0.9**
baz=92
ESK Eskdalemuir 92.07 332 PFAKE 07 38 30.0 +7.1
ESK LR LR
comp=Z,850nm,21.0s,MS5.2
C04A Brinnon 92.25 37⇑P **P** **07 38 24.4 +0.5**
baz=92
LPG La Plagne 92.36 320 *e*P **P** **07 38 24.3 -0.2**
comp=Z,61nm,1.1s,mb5.5
LPG La Plagne 92.36 320 *e*P **P** **07 38 24.3 -0.2**
LPG pmax pmax
comp=Z,30nm,1.1s,mb5.5
LPG La Plagne 92.36 320 *e*P **P** **07 38 24.3 -0.2**
comp=Z,30nm,1.1s,mb5.5
LPL La Plagne 92.37 320 *e*P **P** **07 38 24.3 -0.2**
comp=Z,42nm,1.0s,mb5.4
LPL La Plagne 92.37 320 *e*P **P** **07 38 24.3 -0.2**
LPL pmax pmax
comp=Z,21nm,1.0s,mb5.4
LPL La Plagne 92.37 320 *e*P **P** **07 38 24.3 -0.2**
comp=Z,21nm,1.0s,mb5.4
PGF Pioggiola 92.41 317 *e*P **P** **07 38 24.2 -0.6**
comp=Z,107nm,1.1s,mb5.8
PGF Pioggiola 92.41 317 *e*P **P** **07 38 24.2 -0.6**
PGF pmax pmax
comp=Z,54nm,1.1s,mb5.8
PGF Pioggiola 92.41 317 *e*P **P** **07 38 24.2 -0.6**
comp=Z,54nm,1.1s,mb5.8
JCW Jim Creek 92.59 37 *e*P **P** **07 38 26.1 +0.7**
BNI Bardonecchia 92.63 320 *e*P **P** **07 38 24.8 -0.9**
BNI pmax pmax
comp=Z,21nm,1.1s,mb5.5
BNI MLR MLR
comp=Z,652nm,22.0s,MS5.0
BNI Bardonecchia 92.63 320 *e*P **P** **07 38 24.8 -0.9**
comp=Z,21nm,1.1s,mb5.5
BNI LR LR
comp=Z,652nm,22.0s,MS5.0
MBDF Montbardon 92.74 319 *e*P **P** **07 38 25.1 -1.1**
comp=Z,29nm,1.2s,mb5.3
MBDF Montbardon 92.74 319 *e*P **P** **07 38 25.1 -1.1**
MBDF pmax pmax
comp=Z,14nm,1.2s,mb5.3
MBDF Montbardon 92.74 319 *e*P **P** **07 38 25.1 -1.1**
comp=Z,14nm,1.2s,mb5.3
SBF Sospel 92.76 318 *e*P **P** **07 38 25.3 -1.1**
comp=Z,71nm,1.0s,mb5.7
SBF Sospel 92.76 318 *e*P **P** **07 38 25.3 -1.1**
SBF pmax pmax
comp=Z,36nm,1.0s,mb5.8
SBF Sospel 92.76 318 *e*P **P** **07 38 25.3 -1.1**
comp=Z,36nm,1.0s,mb5.8
A07A Ashnola River, 92.98 35⇓P **P** **07 38 27.9 +0.7**
baz=93
D05A Enumclaw 93.09 37⇓P **P** **07 38 28.5 +0.7**
baz=93
LOR Lormes 93.15 323 *e*P **P** **07 38 26.8 -1.2**
comp=Z,18nm,1.2s,mb5.1
LOR *e*MLR MLR
comp=Z,1μm,18.8s,MS5.0
LOR Lormes 93.15 323 *e*P **P** **07 38 26.8 -1.2**
LOR pmax pmax
comp=Z,9.0nm,1.2s,mb5.1
LOR MLR MLR
comp=Z,1μm,18.8s,MS5.3
LOR Lormes 93.15 323 *e*P **P** **07 38 26.8 -1.2**
comp=Z,9.2nm,1.2s,mb5.1
LOR LR LR
comp=Z,1μm,18.8s,MS5.3
ORIF Oris-en-Rattie 93.19 320 *e*P **P** **07 38 26.7 -1.6**
comp=Z,35nm,1.2s,mb5.3
ORIF *e*MLR MLR
comp=Z,1μm,21.5s,MS5.0
ORIF Oris-en-Rattie 93.19 320 *e*P **P** **07 38 26.7 -1.6**
ORIF pmax pmax
comp=Z,17nm,1.3s,mb5.3
ORIF Oris-en-Rattie 93.19 320 *e*P **P** **07 38 26.7 -1.6**
comp=Z,18nm,1.3s,mb5.3
B07A Winthrop 93.45 36⇑P **P** **07 38 29.9 +0.5**
baz=93
SSF Saint Saulge 93.46 323 *e*P **P** **07 38 28.4 -1.1**
SMF Signal de Mont 93.49 322 *e*P **P** **07 38 28.6 -1.1**
comp=Z,19nm,1.0s,mb5.2
SMF Signal de Mont 93.49 322 *e*P **P** **07 38 28.6 -1.1**
SMF pmax pmax
comp=Z,10.0nm,1.0s,mb5.2
SMF Signal de Mont 93.49 322 *e*P **P** **07 38 28.6 -1.1**
comp=Z,9.5nm,1.0s,mb5.2
F04A Amboy 93.51 39⇓P **P** **07 38 30.3 +0.6**
baz=93
LMR La Mourre 93.61 318 *e*P **P** **07 38 28.5 -1.8**
comp=Z,52nm,1.3s,mb5.5
LMR La Mourre 93.61 318 *e*P **P** **07 38 28.5 -1.8**
LMR pmax pmax
comp=Z,26nm,1.3s,mb5.5
LMR La Mourre 93.61 318 *e*P **P** **07 38 28.5 -1.8**
comp=Z,26nm,1.3s,mb5.5
VSL Villasalto 93.61 314 PFAKE 07 38 40.0 +10
VSL LR LR
comp=Z,314nm,20.0s,MS4.8
A08A Turner Farm, O 93.64 35⇓P **P** **07 38 30.8 +0.6**
baz=94,SNR=5.7
H03A Soap Creek Ran 93.65 40⇓P **P** **07 38 31.2 +0.8**
baz=94
AVF Avril sur Loir 93.70 322 *e*P **P** **07 38 29.4 -1.2**
comp=Z,9.5nm,0.8s,mb5.0
AVF Avril sur Loir 93.70 322 *e*P **P** **07 38 29.4 -1.2**
AVF pmax pmax
comp=Z,5.0nm,0.8s,mb5.0
AVF Avril sur Loir 93.70 322 *e*P **P** **07 38 29.4 -1.2**
comp=Z,4.6nm,0.8s,mb5.0
ETW Entiat 93.81 37 *e*P **P** **07 38 31.1 0.0**
G04A Mulino 93.86 39⇑P **P** **07 38 32.1 +0.7**
baz=94
C07A Waterville 93.91 36⇑P **P** **07 38 31.8 +0.2**
baz=94
B08A Colville Reser 93.94 36⇑P **P** **07 38 32.0 +0.4**
baz=94,SNR=5.5
VIVF Saint-Julien-I 93.95 320 *e*P **P** **07 38 30.9 -0.9**
comp=Z,11nm,0.8s,mb5.0
VIVF Saint-Julien-I 93.95 320 *e*P **P** **07 38 30.9 -0.9**
VIVF pmax pmax
comp=Z,6.0nm,0.8s,mb5.1
VIVF Saint-Julien-I 93.95 320 *e*P **P** **07 38 30.9 -0.9**
comp=Z,5.5nm,0.8s,mb5.0
A09A Danville 93.99 35⇓P **P** **07 38 32.0 +0.1**
baz=94
E06A Yakima 94.03 38⇓P **P** **07 38 33.0 +0.9**
baz=94
EDM Edmonton 94.04 29 *e*P **P** **07 38 31.6 -0.4**
BGF Bois d'Agland 94.11 322 *e*P **P** **07 38 31.4 -1.1**
D07A Quincy 94.24 37⇑P **P** **07 38 33.4 +0.3**
baz=94
H04A Detroit Lake 94.32 40⇑P **P** **07 38 34.0 +0.5**
baz=94
C08A Higginbotham F 94.43 36⇓P **P** **07 38 34.5 +0.6**
baz=94
A10A Northport 94.54 34⇓P **P** **07 38 34.9 +0.5**
baz=94
B09A Rice 94.55 35⇓P **P** **07 38 35.4 +1.0**
baz=94
F06A Goldendale 94.57 38⇓P **P** **07 38 35.3 +0.7**
baz=94
LDF La Druitiere 94.62 325 *e*P **P** **07 38 33.2 -1.6**
TCF Toulx Ste Croi 94.63 322 *e*P **P** **07 38 34.1 -0.8**
comp=Z,17nm,1.0s,mb5.2
TCF Toulx Ste Croi 94.63 322 *e*P **P** **07 38 34.1 -0.8**
TCF pmax pmax
comp=Z,9.0nm,1.0s,mb5.2
TCF Toulx Ste Croi 94.63 322 *e*P **P** **07 38 34.1 -0.8**
comp=Z,8.5nm,1.0s,mb5.1
I04A Tendick Farm, 94.65 41⇓P **P** **07 38 35.5 +0.5**
baz=94
E07A Sunnyside 94.66 37⇑P **P** **07 38 36.0 +0.9**
baz=94
C09A Chrisman Ranch 94.84 36⇑P **P** **07 38 36.5 +0.7**
baz=95
LASF Ste Croix 94.86 320 *e*P **P** **07 38 33.8 -2.2**
comp=Z,68nm,1.5s,mb5.6
D08A Wollman Farm, 94.91 36⇓P **P** **07 38 36.8 +0.7**
baz=95
H05A Madras 94.91 39⇓P **P** **07 38 37.0 +0.7**
baz=95
HUMO Hull Mountain 94.94 42⇓P **P** **07 38 37.2 +0.8**
baz=95
G06A Carlson Farm, 94.94 39⇓P **P** **07 38 37.2 +0.9**
baz=95
PPT Papeete 95.08 107 *e*LR LR 08 09 14.4
comp=Z,662nm,24.5s
PPT Papeete 95.08 107 LR LR 08 21 18.6
comp=Z,342nm,18.1s,MS4.9,baz=274,slow=35
J04A Umpqua Nationa 95.13 41⇑P **P** **07 38 38.1 +0.8**
baz=95
E08A Dider Farm, El 95.16 37⇑P **P** **07 38 38.2 +0.9**
baz=95
A11A Hall Mountain, 95.19 34⇑P **P** **07 38 39.0 +1.6**
baz=95
NEW Newport 95.20 35 *e*P **P** **07 38 37.1 -0.3**
NEW pmax pmax
comp=Z,7.0nm,1.0s
NEW Newport 95.20 35 *e*P **P** **07 38 37.1 -0.3**
comp=Z,6.8nm,1.0s,mb5.0
H06A Lindquist Farm 95.40 39⇑P **P** **07 38 39.3 +0.9**
baz=95
KEST Kesra 95.41 311 LR LR 08 28 43.1
comp=Z,106nm,19.2s,MS4.3,baz=348,slow=40
CAF Calviac 95.47 321 *e*P **P** **07 38 37.3 -1.5**
comp=Z,14nm,1.2s,mb5.0
CAF Calviac 95.47 321 *e*P **P** **07 38 37.3 -1.5**
CAF pmax pmax

comp=Z,7.0nm,1.2s,mb5.0
CAF Calviac 95.47 321 *e*P P **07 38 37.3 -1.5**
comp=Z,7.1nm,1.2s,mb5.0
B11A Sandpoint 95.50 34 ⇑P P **07 38 40.1 +1.3**
baz=95
YBH Yreka Blue Hor 95.55 42 LR LR 08 17 44.2
comp=Z,245nm,20.0s,MS4.7,baz=339,slow=33
YBH Yreka Blue Hor 95.55 42 ⇓P P **07 38 39.7 +0.5**
baz=95
YBH Yreka Blue Hor 95.55 42 PFAKE 07 38 50.0 +11
YBH LR LR
comp=Z,322nm,19.0s,MS4.8
A12A Yaak River Ran 95.58 34 ⇑P P **07 38 39.9 +0.7**
baz=95
RJF Les Rejaudoux 95.58 322 *e*P P **07 38 38.9 -0.4**
RJF *e*MLR MLR
comp=Z,926nm,22.0s,MS4.9
RJF Les Rejaudoux 95.58 322 *e*P P **07 38 38.9 -0.4**
RJF LR LR
comp=Z,930nm,22.0s,MS5.2
M02C Callahan 95.64 43 ⇑P P **07 38 40.0 +0.4**
baz=96
N02C Big Bar 95.64 43 ⇓P P **07 38 39.8 +0.1**
baz=96
J05A Fort Rock 95.65 40 ⇑P P **07 38 40.1 +0.4**
baz=96
E09A Wood Farm, Sta 95.66 37 ⇑P P **07 38 40.4 +0.8**
baz=96
K04A Chilquin 95.70 41 ⇓P P **07 38 40.4 +0.5**
baz=96
F08A Pendleton 95.71 37 ⇓P P **07 38 40.3 +0.5**
baz=96
L04A Klamath Falls 95.84 42 ⇑P P **07 38 40.8 +0.3**
baz=96
B12A Libby 95.89 34 ⇑P P **07 38 41.2 +0.6**
baz=96
G08A Pilot Rock 95.89 38 ⇑P P **07 38 41.0 +0.4**
baz=96
I06A Prineville 95.91 40 ⇑P P **07 38 41.6 +0.9**
baz=96
H07A Lands Inn, Kim 95.94 39 ⇑P P **07 38 41.6 +0.7**
baz=96
M04C Macdoel 96.08 42 ⇓P P **07 38 41.7 +0.1**
baz=96
K05A Summer Lake 96.16 41 ⇑P P **07 38 42.5 +0.5**
baz=96
A13A Flathead Natio 96.22 33 ⇓P P **07 38 42.5 +0.4**
baz=96
E10A Myers Farm, Un 96.26 36 ⇑P P **07 38 42.9 +0.6**
baz=96
I07A Izee 96.26 39 ⇑P P **07 38 42.9 +0.6**
baz=96
WDC Whiskeytown Da 96.26 43 PFAKE 07 38 50.0 +7.5
WDC LR LR
comp=Z,225nm,20.0s,MS4.6
J06A Christmas Vall 96.33 40 ⇑P P **07 38 43.7 +1.0**
baz=96
MAW Mawson 96.33 199 P P **07 38 41.9 -0.1**
comp=Z,3.0nm,1.0s,mb4.7,baz=55,slow=12,SNR=4.3
MAW LR LR 08 20 33.1
comp=Z,199nm,18.5s,MS4.6,baz=62,slow=34
D11A Klaveano Farm, 96.35 35 ⇑P P **07 38 43.0 +0.3**
baz=96
C12B Naegeli Ranch, 96.42 35 ⇑P P **07 38 43.4 +0.4**
baz=96
ROSF Rostrenen 96.45 326 *e*P P **07 38 41.4 -1.7**
F10A Beach Ranch, E 96.49 37 ⇑P P **07 38 44.1 +0.7**
baz=96
H08A Prairie City 96.50 38 ⇑P P **07 38 44.0 +0.6**
baz=96
K06A Valley Falls 96.52 41 ⇓P P **07 38 43.8 +0.3**
baz=96
B13A Whitefish 96.54 34 ⇓P P **07 38 44.8 +1.3**
baz=96
L05A Lakeview 96.57 41 ⇓P P **07 38 44.3 +0.5**
baz=96
G09A Cove 96.58 37 ⇑P P **07 38 44.3 +0.5**
baz=96
GASB Alder Springs 96.63 44 ⇓P P **07 38 44.5 +0.3**
baz=96
QUIF Quistinic 96.65 326 *e*P P **07 38 41.3 -2.8**
A14A Double T Ranch 96.70 33 ⇑P P **07 38 45.3 +1.0**
baz=96
J07A Hines 96.77 40 ⇑P P **07 38 45.4 +0.7**
baz=97
E11A Bogner Ranch, 96.83 36 ⇓P P **07 38 45.4 +0.5**
baz=97
D12A Red Ives Fores 96.88 35 ⇓P P **07 38 45.4 +0.2**
baz=97
I08A Drewsey 96.91 39 ⇓P P **07 38 45.7 +0.4**
baz=97
C13A Hot Springs 96.92 34 ⇓P P **07 38 45.8 +0.5**
baz=97
G10A Bishop Farm, J 96.95 37 ⇓P P **07 38 45.4 -0.1**
baz=97
TBI Tubuai 96.97 112 *e*LR LR 08 10 11.6
comp=Z,475nm,29.2s
MOD Modoc 96.98 41 ⇓P P **07 38 46.0 +0.4**
baz=97
H09A Durkee 97.01 38 ⇓P P **07 38 45.8 +0.1**
baz=97
F11A Grangeville 97.14 36 ⇓P P **07 38 46.3 -0.1**
baz=97
E12A Beaver Dam Sad 97.15 36 ⇓P P **07 38 46.7 +0.3**
baz=97
B14A Marquette Ranc 97.17 33 ⇓P P **07 38 47.0 +0.6**
baz=97
K07A Rock Creek Ran 97.19 40 ⇑P P **07 38 46.8 +0.2**
baz=97,SNR=5.9
MNRC McLaughlin Nat 97.22 45 ⇑P P **07 38 46.9 0.0**
baz=97
M06C Likely Place G 97.25 42 ⇑P P **07 38 47.4 +0.5**
baz=97
J08A Circle Bar Ran 97.28 39 ⇓P P **07 38 47.4 +0.3**
baz=97
C14A Swan Lake 97.30 34 ⇑P P **07 38 47.2 +0.2**
baz=97
O04C Chester 97.34 43 ⇓P P **07 38 48.1 +0.7**
baz=97,SNR=7.4
I09A Lost Marbles R 97.36 38 ⇑P P **07 38 47.5 +0.2**
baz=97,SNR=5.3
G11A Walters Elk Ra 97.37 37 ⇓P P **07 38 47.7 +0.3**
baz=97
ORV Oroville 97.48 44 ⇓P P **07 38 47.6 -0.5**
baz=97
LSZ Lusaka 97.50 256 P P **07 38 47.8 -0.6**
comp=Z,6.8nm,0.8s,mb5.1,baz=54,slow=5.9,SNR=6.3
LSZ Lusaka 97.50 256 P P **07 38 47.9 -0.6**
LSZ LR LR
comp=Z,892nm,19.0s,MS5.3
L07A Adell 97.51 41 ⇓P P **07 38 48.9 +0.8**
baz=97
H10A Noah's Angus R 97.58 38 ⇓P P **07 38 48.1 -0.2**
baz=97
K08A Mann Creek Ran 97.63 40 ⇓P P **07 38 48.8 +0.2**
baz=98
A16A West Butte Ran 97.64 32 ⇓P P **07 38 48.8 +0.3**
baz=98
J09A Fry Pan Ranch, 97.72 39 ⇓P P **07 38 49.7 +0.7**
baz=98,SNR=7.4
F12A Elk City 97.73 36 ⇓P P **07 38 49.1 +0.2**
baz=98
D14A Greenough 97.86 34 ⇓P P **07 38 49.6 +0.1**
baz=98
C15A Salmond Ranch, 97.89 33 ⇑P P **07 38 50.4 +0.7**
baz=98
N06A Buffalo Meadow 97.91 42 ⇑P P **07 38 50.0 +0.1**
baz=98
M07A Soldier Meadow 97.97 41 ⇓P P **07 38 50.6 +0.4**
baz=98
L08A Fields 98.03 40 ⇑P P **07 38 51.0 +0.6**
baz=98,SNR=5.8
K09A Rome 98.11 40 ⇓P P **07 38 50.8 +0.1**
baz=98
O06A Flanigan 98.23 43 ⇑P P **07 38 51.5 +0.1**
baz=98,SNR=6.0
C16A Fuhringer Ranc 98.31 33 ⇑P P **07 38 52.1 +0.6**
baz=98
LAVA Lava Cap Winer 98.41 44 ⇑P P **07 38 52.1 -0.1**
baz=98
M08A Happy Creek Ra 98.43 41 ⇓P P **07 38 53.0 +0.8**
baz=98
N07B Gerlach 98.44 42 ⇓P P **07 38 52.8 +0.5**
baz=98
I11A Placerville 98.44 38 ⇓P P **07 38 52.6 +0.3**
baz=98
L09A Wilkinson Ranc 98.54 40 ⇑P P **07 38 53.1 +0.4**
baz=98
K10A MacKenzie Ranc 98.58 39 ⇓P P **07 38 53.3 +0.4**
baz=98
H12A Diamond D Ranc 98.69 37 ⇓P P **07 38 53.4 +0.1**
baz=98
E15A Deer Lodge 98.73 34 ⇓P P **07 38 54.4 +0.9**
baz=99
WCN Washoe City 98.76 43 ⇓P P **07 38 53.8 +0.1**
baz=99
O07A Toulon 98.84 42 ⇑P P **07 38 54.7 +0.6**
baz=99
N08A GE Springer Mi 98.96 41 ⇑P P **07 38 55.2 +0.6**
baz=99
SAO San Andreas Ge 99.00 46 PFAKE 07 39 10.0 +15
SAO LR LR
comp=Z,661nm,22.0s,MS5.1
H13A Challis 99.02 37 ⇑P P **07 38 55.1 +0.3**
baz=99
CMB Columbia Colle 99.03 45 ⇑P P **07 38 55.0 -0.1**
baz=99
CMB Columbia Colle 99.03 45 PFAKE 07 39 10.0 +15
CMB LR LR
comp=Z,582nm,22.0s,MS5.0
F15A Butte 99.18 35 ⇓P P **07 38 56.1 +0.6**
baz=99
O08A Rochester Mine 99.22 42 ⇑P P **07 38 56.2 +0.4**
baz=99
N09A Rock Creek Ran 99.30 41 ⇓P P **07 38 57.0 +0.9**
baz=99
J12A Stokes Ranch, 99.34 38 ⇑P P **07 38 56.8 +0.5**
baz=99
R06C Coleville 99.38 44 ⇓P P **07 38 57.0 +0.4**
baz=99
I13A Wildhorse Cree 99.50 37 ⇑P P **07 38 58.7 +1.7**
baz=99
M10A I.L. Ranch, Tu 99.51 40 ⇑P P **07 38 58.1 +1.0**
baz=99
HLID Hailey 99.54 37 ⇓P Pdif 07 38 57.8 +0.9
baz=99
HLID Hailey 99.54 37 *e*P Pdif 07 38 57.9 +0.9
comp=Z,2.2nm,0.9s
HLID LR LR
comp=Z,223nm,20.0s,MS4.7
L11A Cat Creek Ranc 99.60 39 ⇑P Pdif 07 38 57.8 +0.6
baz=99
G15A Dillon 99.62 35 ⇑P Pdif 07 38 58.1 +0.9
baz=99
BMN Battle Mountai 99.73 41 PFAKE 07 39 10.0 +12
BMN LR LR
comp=Z,303nm,21.0s,MS4.8
J13A Cove Ranch, Pi 99.78 37 ⇑P Pdif 07 38 59.5 +1.5
baz=100
K12A Draper Farm, C 99.82 38 ⇑P Pdif 07 38 59.2 +1.0
baz=100
I14A Mackay 99.86 37 ⇑P Pdif 07 38 59.4 +1.0
baz=100
O09A Fish Creek Ran 99.90 41 ⇑P Pdif 07 38 59.4 +0.9
baz=100
G16A Moss Hill, Enn 99.95 35 ⇑P Pdif 07 38 59.2 +0.5
baz=100
T06C Millerton Lake 100.04 45 ⇓P Pdif 07 38 59.6 +0.4
baz=100
NVAR Mina Array Bea 100.18 43 P Pdif 07 39 00.7 +0.9
comp=Z,1.3nm,0.8s,baz=275,slow=5.1,SNR=10
J14A Carey 100.20 37 ⇑P Pdif 07 39 01.7 +1.9
baz=100
SBA Scott Base 100.32 171 PFAKE 07 39 10.0 +10
SBA LR LR
comp=Z,311nm,20.0s,MS4.8
H16A Russell Place, 100.59 35 ⇑P Pdif 07 39 02.3 +0.8
baz=100
HELL Mitchell Peak 100.68 45 ⇓P Pdif 07 39 03.1 +1.1
baz=100
ELK Elko 100.76 40 PFAKE 07 39 10.0 +7.6
ELK LR LR
comp=Z,293nm,19.0s,MS4.8
YMR Madison River 100.76 35 PFAKE 07 39 10.0 +7.6
YMR LR LR
comp=Z,1μm,20.0s,MS5.4
I16A Newdale 100.99 36 ⇓P Pdif 07 39 04.1 +0.7
baz=101
TPH Tonopah 101.08 43 PFAKE 07 39 10.0 +6.2
TPH LR LR
comp=Z,401nm,22.0s,MS4.9
R09A Tonopah 101.09 43 ⇓P Pdif 07 39 04.7 +0.9
baz=101
LKWY Lake 101.14 35 PFAKE 07 39 20.0 +16
LKWY LR LR
comp=Z,592nm,19.0s,MS5.1
H17A Grant Village 101.15 35 ⇑P Pdif 07 39 04.0 -0.1
baz=101
M14A Sheep Mountain 101.43 39 ⇑P Pdif 07 39 06.6 +1.2
baz=101
S10A Tonopah Range, 101.58 43 ⇑P Pdif 07 39 06.7 +0.8
baz=101
ISA Isabella 101.62 46 PFAKE 07 39 20.0 +14
ISA LR LR
comp=Z,526nm,21.0s,MS5.0
DAC Darwin (Calif) 101.86 45 PFAKE 07 39 20.0 +13
DAC LR LR
comp=Z,629nm,22.0s,MS5.1
AHID Auburn Hatcher 101.93 36 PFAKE 07 39 20.0 +12
AHID LR LR
comp=Z,353nm,19.0s,MS4.9
N14A Grayback Hills 101.93 39 ⇑P Pdif 07 39 08.0 +0.5
baz=102
MPMC Manual Prospec 102.06 45 ⇑P Pdif 07 39 08.9 +0.8
baz=102
ESLA Sonseca Array 102.17 320 PFAKE 07 39 20.0 +11
ESLA LR LR
comp=Z,2μm,20.0s,MS5.6
SNCC San Nicolas Is 102.21 48 PFAKE 07 39 20.0 +11
SNCC LR LR
comp=Z,455nm,19.0s,MS5.0
LRMC Laurel Mountai 102.25 46 ⇓P Pdif 07 39 09.6 +0.6
baz=102
P13A Bates Ranch, G 102.29 40 ⇓P Pdif 07 39 10.5 +1.4
baz=102
TPNV Topopah Spring 102.36 44 PFAKE 07 39 20.0 +11
TPNV LR LR
comp=Z,633nm,22.0s,MS5.1
PAB San Pablo 102.48 320 PFAKE 07 39 20.0 +10
PAB LR LR
comp=Z,448nm,21.0s,MS5.0
LBTB Lobatse 102.61 248 PFAKE 07 39 20.0 +9.5
LBTB LR LR
comp=Z,1μm,20.0s,MS5.4
MWC Mount Wilson 102.70 47 PFAKE 07 39 20.0 +9.0
MWC LR LR
comp=Z,557nm,19.0s,MS5.1
BW06 Boulder Array 102.78 36 PFAKE 07 39 20.0 +8.7
BW06 LR LR
comp=Z,309nm,20.0s,MS4.8
PDAR Pinedale Array 102.78 36 PP PP 07 43 28.1 +3.1
comp=Z,0.3nm,0.4s,baz=308,slow=3.6,SNR=4.2
PDAR PKKPbc PKKPbc 07 55 09.2 -1.6
comp=Z,0.6nm,0.8s,baz=101,slow=3.0,SNR=4.8
GSC Goldstone 102.94 45 PFAKE 07 39 20.0 +8.0
GSC LR LR
comp=Z,414nm,21.0s,MS4.9
ULM Lac du Bonnet 103.60 23 PFAKE 07 39 30.0 +15
ULM LR LR
comp=Z,416nm,19.0s,MS5.0
BOSA Boshof 103.82 244 PFAKE 07 39 30.0 +14
BOSA LR LR
comp=Z,324nm,20.0s,MS4.9
MTE Manteigas 103.85 322 PFAKE 07 39 30.0 +14
MTE LR LR
comp=Z,843nm,20.0s,MS5.3
MVU Marysvale 103.98 40 PFAKE 07 39 30.0 +13
MVU LR LR
comp=Z,265nm,21.0s,MS4.8
PFO Pinyon Flat Ob 104.14 47 PFAKE 07 39 30.0 +13
PFO LR LR
comp=Z,496nm,19.0s,MS5.1
SFS San Fernando 105.54 318 PFAKE 07 43 50.0 +13
SFS LR LR
comp=Z,1μm,20.0s,MS5.4
GLA Glamis 105.58 46 PFAKE 07 43 50.0 +13
GLA LR LR
comp=Z,436nm,21.0s,MS5.0
MVCO Mesa Verde 107.06 39 PFAKE 07 43 50.0 +10
MVCO LR LR
comp=Z,238nm,20.0s,MS4.7
EYMN Ely 107.12 22 PFAKE 07 43 50.0 +10
EYMN LR LR
comp=Z,563nm,21.0s,MS5.1
RTC Rabat Centre 107.49 317 PFAKE 07 43 50.0 +9.0
RTC LR LR
comp=Z,312nm,19.0s,MS4.9
OGNE Ogallala 108.07 33 PFAKE 07 43 50.0 +8.2
OGNE LR LR
comp=Z,375nm,19.0s,MS5.0
TSUM Tsumeb 108.31 256 PFAKE 07 43 50.0 +7.2
TSUM LR LR
comp=Z,643nm,20.0s,MS5.2
SDCO Great Sand Dun 108.46 37 PFAKE 07 43 50.0 +7.3
SDCO LR LR
comp=Z,338nm,21.0s,MS4.9
TUC Tucson 108.75 45 PFAKE 07 43 50.0 +6.6
TUC LR LR
comp=Z,417nm,19.0s,MS5.0
COWI Conover 109.53 22 PFAKE 07 44 00.0 +16
COWI LR LR
comp=Z,462nm,22.0s,MS5.0
RKT Rikitea 109.76 108 *e*LR LR 08 16 08.9
comp=Z,430nm,30.5s
ANMO Albuquerque 109.80 40 PFAKE 07 44 00.0 +15
ANMO LR LR
comp=Z,417nm,22.0s,MS5.0
CBKS Cedar Bluff 110.83 33 PFAKE 07 44 00.0 +13
CBKS LR LR
comp=Z,359nm,21.0s,MS4.9
TORD Torodi Ar. Bea 112.16 294 PKiKP PKiKP 07 43 49.3 -0.9
comp=Z,1.8nm,0.8s,baz=19,slow=3.0,SNR=7.7
TORD PKKPbc PKKPbc 07 54 41.7 +0.9
comp=Z,0.3nm,0.5s,baz=258,slow=2.3,SNR=5.8
KSU1 Kansas State U 112.18 31 PFAKE 07 44 00.0 +10
KSU1 LR LR
comp=Z,456nm,19.0s,MS5.1
AMTX Amarillo 112.66 37 PFAKE 07 44 00.0 +9.3
AMTX LR LR
comp=Z,384nm,19.0s,MS5.0
HDIL Hopedale 114.23 25 PFAKE 07 44 00.0 +6.5
HDIL LR LR
comp=Z,406nm,21.0s,MS5.0
TXAR Lajitas Array 115.33 43 PKP PKPdf 07 43 56.0 +0.1
comp=Z,1.7nm,0.6s,baz=258,slow=0.9,SNR=20
CCM Cathedral Cave 115.51 28 PFAKE 07 44 10.0 +14
CCM LR LR
comp=Z,351nm,20.0s,MS5.0
ERPA Erie 116.01 17 PFAKE 07 44 10.0 +13
ERPA LR LR
comp=Z,298nm,19.0s,MS4.9
JCT Junction City 116.93 39 *e*PKIKP PKPdf 07 43 58.5 -0.5
JCT MLR MLR
comp=Z,335nm,21.0s,MS4.9
WCI Wyandotte Cave 117.41 24 PFAKE 07 44 10.0 +10
WCI LR LR
comp=Z,239nm,22.0s,MS4.8
WES Weston 117.71 10 PFAKE 07 44 10.0 +10
WES LR LR
comp=Z,834nm,20.0s,MS5.4
OXF Oxford 119.28 29 PFAKE 07 44 10.0 +6.6
OXF LR LR
comp=Z,228nm,22.0s,MS4.8
HKT Hockley 119.63 37 PFAKE 07 44 10.0 +5.8
HKT LR LR
comp=Z,380nm,19.0s,MS5.0
VNA2 Neumayer--Watz 120.08 197 *e*PKPdf PKPdf 07 44 03.8 0.0
baz=358,slow=3.1
VNA2 *e* 07 44 09.2
KVTX Kingsville 120.20 40 PFAKE 07 44 20.0 +15
KVTX LR LR
comp=Z,409nm,19.0s,MS5.1
CBN Corbin 120.38 17 PFAKE 07 44 20.0 +15
CBN LR LR
comp=Z,437nm,22.0s,MS5.0
DBIC Dimbokro 120.84 290 PFAKE 07 44 20.0 +13
DBIC LR LR
comp=Z,287nm,19.0s,MS4.9
LRAL Lakeview Retre 121.59 28 PFAKE 07 44 20.0 +12
LRAL LR LR
comp=Z,329nm,20.0s,MS5.0
GOGA Godfrey 122.73 24 PFAKE 07 44 20.0 +10
GOGA LR LR
comp=Z,372nm,19.0s,MS5.1
CNNC Cliffs of the 122.99 18 PFAKE 07 44 20.0 +9.4
CNNC LR LR
comp=Z,245nm,19.0s,MS4.9
NHSC New Hope 124.22 22 PFAKE 07 44 20.0 +7.0
NHSC LR LR
comp=Z,501nm,20.0s,MS5.2
TEIG Tepich 131.45 38 PFAKE 07 44 40.0 +13
TEIG LR LR
comp=Z,278nm,19.0s,MS5.0
TGUH Tegucigalpa,Un 136.80 42 PFAKE 07 44 50.0 +13
TGUH LR LR
comp=Z,299nm,20.0s,MS5.0
JTS JuntasAbangare 141.11 43 PFAKE 07 45 00.0 +15
JTS LR LR
comp=Z,131nm,21.0s,MS4.7
SJG San Juan 142.29 11 PFAKE 07 45 00.0 +13
SJG LR LR
comp=Z,203nm,20.0s,MS4.9
BCIP Isla Barro Col 145.14 38 *e*PKPdf PKPdf 07 44 49.8 -2.4
BCIP LR LR
comp=Z,252nm,20.0s,MS5.0
FDF Fort de France 146.25 4 *e*PKP2 PKPab 07 44 54.3 -1.5
GRGR Grenville 148.79 5 PFAKE 07 45 10.0 +12
GRGR LR LR
comp=Z,229nm,20.0s,MS5.0
SDV Santo Domingo 149.85 23 PKP PKPdf 07 44 59.7 -0.4
comp=Z,27nm,0.8s,baz=199,slow=21,SNR=7.8
SDV PKPbc PKPbc 07 45 04.4 -0.4
comp=Z,27nm,0.8s,baz=306,slow=3.5,SNR=16
SDV Santo Domingo 149.85 23 *e*PKPdf PKPdf 07 45 00.3 +0.3
SDV *e*PKPbc PKPbc 07 45 04.9 +0.1
SDV LR LR
comp=Z,88nm,20.0s,MS4.6
ROSC El Rosal 151.75 34 PKPbc PKPbc 07 45 10.3 +1.0
comp=Z,14nm,0.6s,baz=96,slow=11,SNR=18
ROSC PKPab PKPab 07 45 17.4 -0.7
comp=Z,18nm,0.7s,baz=0.0,slow=6.1,SNR=8.5
ROSC El Rosal 151.75 34 *e*PKPdf PKPdf 07 45 04.7 +1.7
ROSC *e*PKPbc PKPbc 07 45 09.9 +0.6
ROSC PKPbc PKPbc 07 45 10.3 +1.0
ROSC PKPab PKPab 07 45 17.4 -0.7
OTAV Otavalo 152.85 47 *e*PKPbc PKPbc 07 45 12.0 +0.2
OTAV LR LR
comp=Z,307nm,21.0s,MS5.1
PLCA Paso Flores 156.33 158 PKPbc PKPdf 07 45 18.9 +10
comp=Z,1.4nm,0.8s,baz=230,slow=11,SNR=3.9
PLCA PKPab PKPab 07 45 35.7 -1.1
comp=Z,5.7nm,0.9s,baz=192,slow=8.1,SNR=6.9
PLCA Paso Flores 156.33 158 PKPbc PKPdf 07 45 18.9 +10
PLCA PKPab PKPab 07 45 35.7 -1.1
TRQA Tornquist 161.00 173 PFAKE 07 45 20.0 +5.7
TRQA LR LR
comp=Z,331nm,19.0s
NNA Nana 161.38 70 PFAKE 07 45 30.0 +15
NNA LR LR
comp=Z,285nm,20.0s
CFAA Coronel Fontan 165.07 148 PKP PKPdf 07 45 18.4 0.0
comp=Z,0.1nm,0.5s,baz=214,slow=3.6,SNR=3.4
CFAA PKPab PKPab 07 46 12.9 -2.3
comp=Z,0.2nm,0.9s,baz=206,slow=5.5,SNR=3.5
LCO Las Campanas 165.50 135 PFAKE 07 45 30.0 +11
LCO LR LR
comp=Z,362nm,19.0s
BDFB Brasilia 168.96 287 PFAKE 07 45 30.0 +8.3
BDFB LR LR
comp=Z,537nm,21.0s
LVC Limon Verde 170.11 112 PKPab PKPab 07 46 34.7 -3.2
comp=Z,1.5nm,0.4s,baz=101,slow=5.2,SNR=4.0
LVC Limon Verde 170.11 112 PFAKE 07 45 30.0 +7.8
LVC LR LR
comp=Z,255nm,19.0s
LPAZ La Paz 170.82 73 PKP PKPdf 07 45 22.2 -0.6
comp=Z,0.9nm,0.9s,baz=251,slow=2.9,SNR=4.4
LPAZ La Paz 170.82 73 PKP PKPdf 07 45 22.2 -0.6
LPAZ LR LR
comp=Z,356nm,22.0s
CPUP Villa Florida 172.71 192 PKPab PKPab 07 46 46.4 -2.6
comp=Z,1.2nm,0.6s,baz=143,slow=5.1,SNR=4.8
SIV San Ignacio 176.27 33 PKP PKPdf 07 45 24.5 -0.3
comp=Z,3.1nm,0.9s,baz=294,slow=2.2
SIV PKPab PKPab 07 47 03.1 -2.0
comp=Z,1.5nm,0.9s,baz=318,slow=6.8,SNR=2.3

*ISCJB **09** 07:28:09.4±1.1, 10S±0.1×1363E±0.3, h33km, mb4.1/7,*
Error ellipse: s-maj=38.5km s-min=12.6km az=165.9

IDC 09 07:28:27.7±7.3, 133S×13630E, h200km±70km, mb3.7/7, mb1 3.9/8, mb1mx3.6/18, mbtmp3.8/8, Error ellipse: s-maj=56.8km s-min=18.0km az=59.0

ISC 09 07:28:15.0±6.2, 12S±03×1362E±04, h68km±55km, n10, σ0.86/9, mb4.1/7, 1D, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KAKA	Kakadu	12.06	198⇓	iP	Pn	07 31 03.6	-0.5
	21nm,0.9s						
WRA	Warramunga Arr	18.75	185	P	Pn	07 32 29.9	+0.1
	2.6nm,0.3s,baz=4.5,slow=12,SNR=102						
CTA	Charters Tower	21.23	153	P	P	07 32 56.5	+1.0
	6.7nm,0.7s,mb4.1,baz=327,slow=9.9,SNR=13						
ASAR	Alice Springs	22.48	185	P	P	07 33 09.7	+0.9
	25nm,0.6s,mb4.7,baz=12,slow=12,SNR=276						
STKA	Stephens Creek	30.98	171	P	P	07 34 24.2	-1.7
	1.1nm,0.5s,mb3.9,baz=352,slow=10,SNR=5.1						
CMAR	Chiang Mai Arr	41.48	300	P	P	07 35 56.8	+1.0
	0.9nm,0.3s,mb4.0,baz=112,slow=7.0,SNR=5.1						
MKAR	Makanchi Array	67.04	323	P	P	07 39 00.1	-0.8
	1.4nm,0.5s,mb4.0,baz=109,slow=6.9,SNR=13						
KURK	Kurchatov	71.01	325	P	P	07 39 25.2	-0.3
	1.7nm,0.9s,mb3.9,baz=112,slow=5.8,SNR=3.9						
BVAR	Borovoye Array	76.61	326	P	P	07 39 58.4	+0.2
	1.5nm,0.6s,mb3.9,baz=117,slow=7.4,SNR=4.0						
CPUP	Villa Florida	149.71	155	PKPbc	PKPbc	07 47 53.2	-4.7
	2.6nm,0.7s,baz=249,slow=0.6,SNR=6.4						

CSEM 09 08:02:44.7±0.1, 3982N×30.14E, h10km, MD2.8, Error ellipse: s-maj=1.8km s-min=1.6km az=37.0
ISCJB 09 08:02:45.5±0.5, 3985N±003×30.13E±004, h7km±6km, Error ellipse: s-maj=6.3km s-min=4.4km az=135.3
ISK 09 08:02:45.3, 3985N×30.13E, h12km, MD2.9
DDA 09 08:02:45.6, 3992N×30.17E, h5km±4km, Md2.8

ISC 09 08:02:46.0±0.4, 3985N±003×3014E±004, h11km±5km, n24, σ0.67/34, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BORA	Eskisehir	0.24	83	iP	Pg	08 02 50.6	-0.4
BORA				iS	Sg	08 02 53.3	-1.0
CAVI	Cavuskoy	0.42	327	ePG	Pg	08 02 54.1	-0.1
CAVI				eSG	Sg	08 03 00.2	+0.4
GPA	Golpazari	0.46	16	ePG	Pg	08 02 54.5	-0.4
ESKT	Eskisehir	0.64	121	iP	Pg	08 02 58.1	-0.3
ESKT				iS	Sg	08 03 08.0	+1.3
SEYT	Eskypehyr	0.64	121	iP	Pg	08 02 58.1	-0.3
SEYT				iS	Sg	08 03 08.0	+1.3
GULT	Gulveren	0.65	26	ePG	Pg	08 02 58.4	-0.1
GULT				eSG	Sg	08 03 08.5	+1.5
ADVT	Abdulvahap	0.66	332	ePG	Pg	08 02 58.4	-0.3
ALT	Altintas	0.80	182	ePG	Pg	08 03 01.8	+0.4
ULDT	Uludag	0.82	291	iP	Pg	08 03 01.6	-0.3
ULDT				iS	Sg	08 03 13.3	+0.6
GDZ	Gediz	0.92	214	iP	Pg	08 03 03.9	+0.2
GDZ				iS	Sg	08 03 19.9	+4.3
YLV	Yalova	0.93	321	ePG	Pg	08 03 03.7	-0.1
GEMT	Gemlik	0.93	309	ePG	Pg	08 03 03.3	-0.7
MDU	Mudurnu	1.02	53	ePG	Pg	08 03 05.3	-0.4
HRT	Hereke	1.03	340	ePG	Pg	08 03 06.0	+0.1
HENT	Hendek	1.13	31	iP	Pb	08 03 07.7	+0.2
HENT				iS	Sb	08 03 25.9	+3.7
DST	Dursunbey	1.19	259	ePN	Pn	08 03 07.5	-1.0
SILT	Sile	1.35	344	ePN	Pn	08 03 11.0	+0.2
DEMI	Demirci	1.37	234	iP	Pn	08 03 12.4	+1.4
DEMI				iS	Sb	08 03 33.4	+4.4
KCT	Karacabey	1.43	287	ePN	Pn	08 03 11.6	-0.3
ISK	Istanbul-Kandi	1.47	326	ePN	Pn	08 03 12.6	+0.2
KLYT	Kilyos	1.63	329	ePN	Pn	08 03 14.8	+0.2
KIZT	Kizilcal	1.66	125	ePN	Pn	08 03 14.6	-0.4
KULA	Kula-Manisa	1.76	221	ePN	Pn	08 03 15.7	-0.7
BALY	Balya	1.95	268	iP	Pn	08 03 18.7	-0.3
BALY				iS	Sn	08 03 49.7	+6.3

CASC 09 08:02:53.7±1.8, 1365N×9088W, h20km±6km, MD4.0, 2C-4D, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PCG	Pacaya	0.79	19⇓	eP	Pb	08 03 09.5	+0.8
PCG				eS	Sb	08 03 20.6	+1.6
FUG	Fuego 3	0.80	2	eP	Pb	08 03 09.2	+0.3
FG6		0.91	360⇓	eP	Pb	08 03 10.8	0.0
FG6				eS	Sb	08 03 22.2	-0.3
JAT	Jato	0.99	312⇑	eP	Pb	08 03 11.8	-0.5
JAT				eS	Sb	08 03 24.5	-0.5
NBG	Las Nubes	1.06	29	eP	Pb	08 03 13.9	+0.4
NBG				eS	Sb	08 03 29.5	+2.5
RTR	El Retiro	1.22	78	eP	x	08 03 15.6	
RTR				eS	x	08 03 32.8	
SBLS	San Blas	1.23	81	eP	x	08 03 15.6	
SBLS				eS	x	08 03 32.2	
RBDL	Robledal	1.24	68⇓	eP	x	08 03 16.1	
RBDL				eS	x	08 03 33.4	
SNJE	San Jose	1.25	80	eP	x	08 03 16.0	
SNJE				eS	x	08 03 32.8	
BOQS	Boqueron	1.55	87⇓	eP	x	08 03 20.1	
BOQS				eP	x	08 03 20.5	
BOQS				eS	x	08 03 40.9	
SNET	Serv Nac Est T	1.60	88	eP	x	08 03 20.7	
SNET				eS	x	08 03 41.1	
MTO2	Montecristo 2	1.65	63	eP	x	08 03 22.5	
LFRS	El Faro	1.76	91⇑	eP	x	08 03 23.4	
LFRS				eS	x	08 03 45.7	
LBRS	Las Brisas	1.78	87	eP	x	08 03 23.4	
SNVI	San Vicente	1.98	91	eP	x	08 03 27.5	
SNVI				eS	x	08 03 52.2	
VSM	San Miguel	2.54	95	eP	x	08 03 35.3	
VSM				eS	x	08 04 07.0	

NEIC 09 08:45:10.6, 3805S×17664E, h147km, MG3.7(WEL), After WEL., North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TAZ	Tarawera	0.21	210	P	Pn	08 45 31.0	+0.5
KARZ	Kaharoa	0.31	275	P	Pn	08 45 30.9	+0.1
URZ	Urewera	0.43	120	P	Pn	08 45 30.9	-0.3
TGRZ	Tauranga	0.44	317	P	Pn	08 45 31.2	-0.1
MWZ	Matawai	0.76	112	P	Pn	08 45 33.1	0.0
BKZ	Black Stump Fm	1.12	186	P	Pn	08 45 36.0	-0.1
KNZ	Kokohu	1.26	140	P	Pn	08 45 37.8	+0.3
PUZ	Puketiti	1.28	92	P	Pn	08 45 37.2	-0.4
HIZ	Hauiti	1.48	251	P	Pn	08 45 39.7	+0.1
KUZ	Kuaotunu	1.49	330	P	Pn	08 45 39.3	-0.5
MKAZ	Moumakai	1.50	308	P	Pn	08 45 39.9	0.0
WNVZ	Wahianoa	1.52	212	P	Pn	08 45 40.0	0.0
MOVZ	Moawhango	1.52	207	P	Pn	08 45 39.5	-0.6
TSZ	Takapari Road	2.08	195	P	Pn	08 45 45.4	-1.0
WAZ	Wanganui	2.14	217	P	Pn	08 45 46.6	-0.5
MRZ	Mangatainoka R	2.74	197	P	Pn	08 45 52.4	-2.0
KIW	Kapiti Island	3.11	205	P	Pn	08 45 56.7	-2.5
MTW	Mount Morrison	3.23	195	P	Pn	08 45 57.8	-2.9
CAW	Cannon Point	3.29	201	P	Pn	08 45 58.7	-2.7
PAWZ	Paruwai Farm	3.46	195	P	Pn	08 46 00.5	-3.1
MRW	Makara Radio	3.51	205	P	Pn	08 46 01.3	-3.0
MSWZ	Moikau Station	3.53	197	P	Pn	08 46 01.3	-3.2
WEL	Wellington	3.54	203	P	Pn	08 46 01.8	-2.9
SNZO	South Karori	3.58	204	P	Pn	08 46 01.9	-3.3
BHW	Baring Head	3.62	202	P	Pn	08 46 02.4	-3.3
TCW	Tory Channel	3.65	209	P	Pn	08 46 02.8	-3.3
NNZ	Nelson	4.04	217	P	Pn	08 46 08.3	-2.9
QRZ	Quartz Range	4.22	228	P	Pn	08 46 09.9	-3.7
BSWZ	Blackbirch Sta	4.23	209	P	Pn	08 46 10.2	-3.5
THZ	Tophouse	4.69	217	P	Pn	08 46 16.4	-3.4
KHZ	Kahutara	4.97	208	P	Pn	08 46 19.6	-3.8
DSZ	Denniston Nort	5.24	224	P	Pn	08 46 22.7	-4.3
LTZ	Lake Taylor	5.79	214	P	Pn	08 46 29.8	-4.5
MQZ	McQueen's Vall	6.41	207	P	Pn	08 46 36.9	-5.7
ODZ	Otahua Downs	8.31	211	P	Pn	08 47 03.0	-5.0

IDC 09 08:46:38.3±1.9, 209N×12427E, h0km, mb3.4/3, mb1 3.6/3, mb1mx3.5/17, mbtmp3.5/3, Error ellipse: s-maj=205.6km s-min=25.6km az=63.0, Celebes Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRA	Warramunga Arr	24.03	156	P	P	08 51 55.6	+0.4
	0.6nm,0.5s,baz=335,slow=10,SNR=14						
ASAR	Alice Springs	27.27	160	P	P	08 52 24.6	+0.1
	0.1nm,0.3s,baz=338,slow=7.0,SNR=4.2						
MKAR	Makanchi Array	57.53	327	P	P	08 56 29.3	-0.3
	0.3nm,0.3s,baz=122,slow=8.0,SNR=5.3						

NOU 09 08:57:25.6±1.9, 1003S×16787E, h30km
MOS 09 08:57:26.7±1.0, 1080S×162.13E, h33km, mb5.2/17, MS4.8/5, Error ellipse: s-maj=11.1km s-min=10.2km az=89.6
IDC 09 08:57:27.4±0.5, 1092S×162.17E, h30km±3km, mb4.5/18, mb1 4.6/19, mb1mx4.6/22, mbtmp4.5/19, ML5.3/1, MS4.7/21, Ms1 4.7/21, ms1mx4.6/26, Error ellipse: s-maj=15.4km s-min=12.0km az=104.0
BJI 09 08:57:28.9, 1073S×162.16E, h50km, mB5.4, mb4.9, Ms5.1, Msz4.9
ISCJB 09 08:57:29.1±1.0, 1099S±004×16223E±005, h61km±9km, mb5.0/58, Error ellipse: s-maj=8.7km s-min=6.9km az=154.9
NEIC 09 08:57:30.9±1.2, 1095S×16222E, h61km±11km, mb5.1/29, Error ellipse: s-maj=8.7km s-min=7.0km az=95.0
GCMT 09 08:57:30.9±0.1, 1095S×16225E, h31km, MW5.4/98, Moment Tensor Solution. s85,c143; s98,c179; Duration: 1.2 Moment tensor: Scale 10^17Nm; Mrr0.41±.02; Mθθ0.41±.02; Mφφ-0.81±.02; Mrθ0.48±.03; Mθφ0.91±.02; Mφr0.83±.04; Best double couple: Mo1.50200×10^17 NP1:φs113.00000°, δ50.00000°, λ17.00000°. NP2:φs12.00000°, δ77.00000°, λ138.00000°. Principal axes: T 1.5360, Plg38.0000°, Azm324.0000°; N -0.0680, Plg47.0000°, Azm178.0000°; P -1.4680, Plg18.0000°, Azm68.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.
DJA 09 08:57:37, 1083S×16234E, h118km, Mw5.5/6

ISC 09 08:57:30.6±0.9, 1095S±004×16227E±005, h57km±7km, h53km±9.7km:pP-P, n174, σ1.11/142, mb5.0/58, MS4.8/36, 3C-2D, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
HNR	Honiara	2.74	303	Pn	Pn	08 58 12.9	+0.8
	883nm,0.3s,baz=176,slow=1.8,SNR=282						
HNR				Sn	Sn	08 58 47.7	+3.7
	2µm,0.3s,baz=164,slow=10,SNR=7.9						
HNR	Honiara	2.74	303	ePn	Pn	08 58 12.0	-0.1
HNR				eSn	Sn	08 58 46.8	+2.8
NOUC	Port Laguerre	11.74	161	eP	Pn	09 00 13.4	-2.0
NOUC				eS	Sn	09 02 20.5	-4.4
DZM	Mont Dzumac	11.76	161	eP	Pn	09 00 14.0	-1.6
DZM				eS	Sn	09 02 18.5	-6.8
DZM	Mont Dzumac	11.76	161	ePn	Pn	09 00 14.0	-1.6
DZM				eSn	Sn	09 02 20.9	-4.4
LASL	Noumea	11.94	160	eP	Pn	09 00 16.7	-1.3
ONTRN	Noumea	11.98	161	eP	Pn	09 00 18.6	0.0
PMG	Port Moresby	14.95	275c	iP	Pn	09 01 00.5	+1.9
PMG	Port Moresby	14.95	275	ePn	Pn	09 01 01.5	+2.9
CTA	Charters Tower	17.89	238	eP	Pn	09 01 37.4	+1.9
	48nm,0.7s						
CTA				eS	S	09 04 46.9	-11
CTA	Charters Tower	17.89	238	P	Pn	09 01 34.5	-1.0
	6.1nm,0.3s,baz=65,slow=13,SNR=52						
CTA				S	S	09 04 59.8	+1.8
	0.8nm,0.3s,baz=355,slow=19,SNR=3.2						
CTA				LR	LR	09 05 43.5	
	comp=Z,886nm,21.9s,baz=56,slow=28						
CTA	Charters Tower	17.89	238	P	Pn	09 01 34.5	-1.0
CTA				S	S	09 04 59.8	+1.7
CTA				pmax	pmax		
	comp=Z,6.0nm,0.3s						
CTA				smax			
	comp=N,1.0nm,0.3s						
CTAO	Charters Tower	17.89	238	eP	Pn	09 01 36.6	+1.1
CTAO				pmax	pmax		
	comp=Z,66nm,0.6s						
CTAO	Charters Tower	17.89	238	eP	Pn	09 01 36.6	+1.1
	comp=Z,66nm,0.6s						
COEN	Coen	18.88	259	eP	Pn	09 01 49.3	+1.8
	comp=Z,168nm,1.4s						
ARMA	Armidale	21.75	205	eP	P	09 02 18.9	+1.6
ARMA				eS	S	09 06 32.2	+18
AFI	Afiamalu	25.51	99	LR	LR	09 11 15.1	
	comp=Z,3µm,19.6s,MS4.8,baz=277,slow=32						
CNB	Canberra Magne	26.94	204	eP	P	09 03 16.5	+10
STKA	Stephens Creek	28.25	219	eP	P	09 03 22.3	+4.0
	comp=Z,21nm,0.9s,mb4.8						
STKA	Stephens Creek	28.25	219	P	P	09 03 17.8	-0.6
	comp=Z,2.7nm,0.6s,mb4.1,baz=11,slow=6.0,SNR=6.4						
STKA				LR	LR	09 14 28.8	
	comp=Z,4µm,18.4s,MS5.0,baz=145,slow=36						
STKA	Stephens Creek	28.25	219	eP	P	09 03 17.9	-0.5
	comp=Z,203nm,1.9s,mb5.4						
WB2	Warramunga Arr	28.31	248	eP	P	09 03 18.4	-0.6
WRA	Warramunga Arr	28.32	248	P	P	09 03 18.4	-0.8
	comp=Z,7.4nm,0.5s,mb4.5,baz=79,slow=9.1,SNR=86						
WRA				LR	LR	09 13 44.2	
	comp=Z,4µm,21.9s,MS5.0,baz=75,slow=35						
KAKA	Kakadu	29.24	264	eP	P	09 03 25.4	-1.9
	comp=Z,76nm,0.5s,mb5.7						
ASAR	Alice Springs	29.81	241	P	P	09 03 31.1	-1.2
	comp=Z,4.4nm,0.6s,mb4.4,baz=64,slow=10,SNR=74						
ASAR				pP	pP	09 03 39.5	-7.1
	comp=Z,17nm,0.7s,baz=67,slow=9.9,SNR=30						
ASAR				ScP	ScP	09 10 13.9	+1.8
	comp=Z,1.0nm,0.8s,baz=68,slow=3.3,SNR=4.4						
ASAR	Alice Springs	29.81	241	P	P	09 03 31.1	-1.2
ASAR				*PP	pP	09 03 39.5	-7.1
ASAR	Alice Springs	29.81	241	P	P	09 03 31.1	-1.2
ASAR				pP	pP	09 03 39.5	-7.1
ASAR				ScP	ScP	09 10 13.9	+1.8
GUMO	Guam	29.87	324	P	P	09 03 32.8	-0.1
	comp=Z,32nm,0.5s,mb5.3,baz=152,slow=10,SNR=4.0						
URZ	Urewera	30.27	156	P	P	09 03 38.0	+1.9
	comp=Z,3.1nm,0.8s,mb4.1,baz=210,slow=8.1,SNR=2.3						
URZ				LR	LR	09 14 14.5	
	comp=Z,2µm,18.7s,MS4.7,baz=330,slow=33						
TOO	Toolangi	30.49	207	eP	P	09 03 39.6	+1.5
BBOO	Buckleboo	32.46	224	eP	P	09 03 55.4	-0.1
	comp=Z,44nm,0.8s,mb5.3						
RPZ	Rata Peaks	33.52	168	P	P	09 04 05.4	+0.8
	comp=Z,9.5nm,0.8s,mb4.8,baz=339,slow=2.5,SNR=3.4						
RPZ				pP	pP	09 04 12.9	-6.1
	comp=Z,71nm,0.8s,baz=276,slow=1.3,SNR=30						
FITZ	Fitzroy Crossi	36.11	254	eP	P	09 04 26.2	-1.1
	comp=Z,27nm,0.4s,mb5.5						
FITZ	Fitzroy Crossi	36.11	254	P	P	09 04 26.2	-1.1
	comp=Z,17nm,0.6s,mb5.2,baz=64,slow=10.0,SNR=47						
FITZ				LR	LR	09 19 13.8	
	comp=Z,3µm,19.3s,MS5.0,baz=77,slow=36						
FORT	Forrest	37.33	233	eP	P	09 04 38.4	+0.8
	comp=Z,101nm,0.6s,mb5.8						
RAR	Rarotonga	37.78	110	LR	LR	09 17 27.9	
	comp=Z,659nm,21.8s,MS4.4,baz=265,slow=32						
BATI	Baumata	37.94	267	P	P	09 04 43.4	+0.5
	comp=Z,110nm,0.5s,mb5.9,baz=170,slow=1.8,SNR=13						
DAV	Davao City (W)	40.67	295	LR	LR	09 22 41.4	
	comp=Z,791nm,18.1s,MS4.6,baz=241,slow=37						
MBWA	Marble Bar	42.00	251	eP	P	09 05 16.5	0.0
	comp=Z,31nm,0.8s,mb5.0						
KAPI	Kappang	42.48	275	LR	LR	09 22 52.3	
	comp=Z,432nm,20.1s,MS4.3,baz=102,slow=36						
KAPI	Kappang	42.48	275	eP	P	09 05 18.8	-1.8
	comp=Z,38nm,0.8s,mb5.1						
CBIJ	Chichi jima	42.55	333	P	P	09 05 19.4	-1.4
	comp=Z,104nm,0.7s,mb5.7,baz=321,slow=22,SNR=7.2						
KLBR	Kellerberrin	45.89	236	eP	P	09 05 47.0	-0.6
	comp=Z,34nm,1.1s,mb5.2						
NWAO	Narrogin (SRO)	46.70	235	LR	LR	09 25 51.8	
	comp=Z,2µm,18.2s,MS5.2,baz=70,slow=36						
NWAO	Narrogin (SRO)	46.70	235	eP	P	09 05 53.4	-0.5
NWAO				pmax	pmax		
	comp=Z,41nm,1.1s						
NWAO	Narrogin (SRO)	46.70	235	eP	P	09 05 53.4	-0.5
	comp=Z,41nm,1.1s,mb5.3						
PPT	Papeete	47.04	104	eS	S	09 12 42.0	-2.8
	comp=Z,356nm,28.0s						
PPT				eLQ		09 17 26.2	
	comp=Z,3µm,26.2s						
PPT				eLR	LR	09 19 26.7	
	comp=Z,1µm,22.5s,baz=281						
PPT	Papeete	47.04	104	LR	LR	09 22 21.9	
	comp=Z,837nm,18.1s,MS4.7,baz=273,slow=32						
MUN	Mundaring	47.26	236	eP	P	09 05 58.1	-0.2
TBI	Tubuai	47.54	112	eS	S	09 12 53.8	+2.0
	comp=Z,365nm,28.2s						
TBI				eLQ		09 17 41.2	
	comp=Z,3µm,31.2s						
TBI				eLR	LR	09 19 43.3	
	comp=Z,1µm,31.0s,baz=281						
KKM	Kota Kinabalu	48.85	288	eP	P	09 06 09.5	-1.3
MJAR	Matsushiro Arr	52.39	336	P	P	09 06 35.8	-1.3
	comp=Z,14nm,0.6s,mb5.0,baz=170,slow=8.9,SNR=41						
MAJO	Matsushiro	52.39	336	eP	P	09 06 37.2	+0.1
MAJO				pmax	pmax		
	comp=Z,32nm,0.6s,mb5.4						
MAJO	Matsushiro	52.39	336	eP	P	09 06 37.2	+0.1
	comp=Z,32nm,0.6s,mb5.4						
MAT	Matsushiro	52.39	336	P	P	09 06 35.9	-1.2
MAT				S	S	09 13 57.0	-1.9
YHNB	Yeheng	53.34	312	eP	P	09 06 46.0	+1.7
	comp=Z,26nm,0.5s,mb5.4						
YHNB				e	pP	09 07 00.2	+0.7
SSE	Sheshan	57.45	318	P	P	09 07 16.0	+2.2
SSE				PP	PP	09 09 23.4	+1.5
SSE				S	S	09 15 05.5	-1.4
SSE				AMB	AMB		
	comp=Z,23nm,0.8s,mb5.3						
SSE				AMB	AMB		
	comp=Z,311nm,5.9s						
SSE				LR	LR		
	comp=N,87nm,14.7s,MS4.6						
SSE				LR	LR		
	comp=E,372nm,14.7s,MS4.6						
SSE				LR	LR		
	comp=Z,448nm,13.7s,MS4.7						
SSE	Sheshan	57.45	318	P	P	09 07 16.0	+2.2
	comp=Z,23nm,0.8s,mb5.3						
SSE				sP	sP	09 07 45.5	+10
SSE				PP	PP	09 09 23.4	+1.5
SSE				S	S	09 15 05.5	-1.4
SSE				sS	sS	09 15 41.0	+8.2
SSE				SS	SS	09 18 58.8	+1.1
SSE				LR	LR		
	comp=Z,450nm,13.7s,MS4.7						
DRV	Dumont d'Urvil	57.64	190	P	P	09 07 14.0	-0.5
DRV				S	S	09 15 19.0	+11
DRV				R		09 25 00.0	
KSRS	Korea Array	57.93	328	P	P	09 07 16.4	-0.5
	comp=Z,5.7nm,0.7s,mb4.7,baz=141,slow=7.6,SNR=19						
KSRS				LR	LR	09 30 15.0	
	comp=Z,841nm,19.8s,MS4.9,baz=237,slow=34						
NJ2	Nanjing	59.60	317	eP	P	09 07 28.2	-0.5
NJ2				PP	PP	09 09 42.2	+1.2
NJ2				S	S	09 15 27.5	-7.3
NJ2				AMB	AMB		
	comp=Z,20nm,0.8s,mb5.2						
NJ2				AMB	AMB		
	comp=Z,700nm,4.0s						
NJ2				LR	LR		
	comp=N,550nm,24.1s,MS4.8						
NJ2				LR	LR		
	comp=E,520nm,20.4s,MS4.8						
NJ2				LR	LR		
	comp=Z,520nm,20.4s,MS4.7						
QIZ	Qiongzhong	59.64	300	P	P	09 07 28.7	-0.6
QIZ				PP	PP	09 09 40.3	-1.3
QIZ				S	S	09 15 32.5	-3.3
QIZ				SCS	ScS	09 17 13.4	-1.6
QIZ				AMB	AMB		
	comp=Z,265nm,4.0s						
QIZ				LR	LR		
	comp=E,566nm,25.2s						
QIZ				LR	LR		
	comp=Z,1µm,25.2s,MS4.9						
YSS	Yuzh-Sakhalins	60.23	345	eP	P	09 07 28.1	-4.6
YSS				pmax	pmax		
	comp=Z,24nm,1.3s,mb5.1						
RKT	Rikitea	60.82	110	eSS	SS	09 19 47.6	-3.2
	comp=Z,189nm,28.5s						
RKT				eLR	LR	09 25 51.7	
	comp=Z,2µm,27.5s						
MDJ	Mudanjiang	62.73	334	P	P	09 07 50.3	+0.7
MDJ				AP	pP	09 08 07.5	+2.3
MDJ				PP	PP	09 10 08.0	-0.4
MDJ				S	S	09 16 17.9	+3.8
MDJ				SCS	ScS	09 17 35.9	-1.2
MDJ				AMB	AMB		
	comp=Z,20nm,1.1s,mb5.2						
MDJ				AMB	AMB		
	comp=Z,316nm,5.7s						
MDJ				LR	LR		
	comp=N,356nm,19.9s,MS4.9						
MDJ				LR	LR		
	comp=E,724nm,19.9s,MS4.9						
MDJ				LR	LR		
	comp=Z,668nm,21.7s,MS4.8						
PETK	Petropavlovsk-	63.92	357	P	P	09 07 58.3	+1.0
	comp=Z,8.8nm,0.7s,mb4.9,baz=149,slow=7.6,SNR=7.6						
PETK				LR	LR	09 32 22.8	
	comp=Z,479nm,21.6s,MS4.6,baz=177,slow=33						
CN2	Changchun	63.96	331	eP	P	09 07 57.8	0.0
CN2				eS	S	09 16 26.3	-3.2
CN2				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb4.8						
CN2				AMB	AMB		
	comp=Z,200nm,5.0s						
CN2				LR	LR		
	comp=N,800nm,19.0s,MS5.1						
CN2				LR	LR		
	comp=E,900nm,19.0s,MS5.1						
CN2				LR	LR		
	comp=Z,1µm,20.0s,MS5.0						
GYA	Guiyang	65.56	306	P	P	09 08 08.9	+0.3
GYA				PP	PP	09 10 37.6	+4.0
GYA				SCP		09 12 35.3	
GYA				S	S	09 16 46.9	-3.0
GYA				SKS		09 17 53.7	
GYA				SS	SS	09 21 03.2	-1.7
GYA				AMB	AMB		
	comp=Z,30nm,1.0s,mb5.3						
GYA				AMB	AMB		
	comp=Z,160nm,5.4s						
GYA				LR	LR		
	comp=N,980nm,19.1s,MS5.1						
GYA				LR	LR		
	comp=E,740nm,18.9s,MS5.1						
GYA				LR	LR		
	comp=Z,810nm,18.4s,MS5.0						
KLR	Kul'dur	65.67	339	eP	P	09 08 04.3	-4.5
KLR				MLR	MLR		
	comp=N,1µm,17.0s						
BJI	Beijing	66.30	323	P	P	09 08 13.8	+0.7
BJI				PP	PP	09 10 40.1	+0.3
BJI				S	S	09 16 57.8	-0.6
BJI				AMB	AMB		
	comp=Z,9.0nm,0.5s,mb5.1						
BJI				AMB	AMB		
	comp=Z,315nm,3.6s						
BJI				LR	LR		
	comp=N,821nm,23.0s,MS5.0						
BJI				LR	LR		
	comp=E,599nm,24.0s,MS5.0						
BJI				LR	LR		
	comp=Z,677nm,32.8s						
BJI	Beijing	66.30	323	P	P	09 08 13.8	+0.7
	comp=Z,9.0nm,0.5s,mb5.1						
BJI				PP	PP	09 10 40.1	+0.3
BJI				S	S	09 16 57.8	-0.6
BJI				SS	SS	09 21 16.3	+0.4
BJI				LR	LR		
	comp=Z,680nm,32.8s,MS4.6						
SBA	Scott Base	66.93	179	eP	P	09 08 21.5	+5.0
SBA				pmax	pmax		
	comp=Z,72nm,1.3s,mb5.5						
SBA	Scott Base	66.93	179	eP	P	09 08 21.5	+5.0
	comp=Z,72nm,1.3s,mb5.5						
XAN	Xi'an	67.56	314	P	P	09 08 20.3	-0.9
XAN				AP	pP	09 08 39.5	+2.5
XAN				PP	PP	09 10 50.4	-0.6
XAN				S	S	09 17 06.6	-7.2
XAN				XS	sS	09 17 39.5	-0.9
XAN				SS	SS	09 21 28.0	-7.7
XAN				AMB	AMB		
	comp=Z,6.0nm,0.8s,mb4.7						
XAN				AMB	AMB		
	comp=Z,198nm,5.0s						
XAN				LR	LR		

comp=N,225nm,21.8s,MS4.8
XAN LR LR
comp=E,576nm,21.2s,MS4.8
XAN LR LR
comp=Z,1μm,21.8s,MS5.1
KMI Kunming 68.18 303 P **P** **09 08 25.0 -0.3**
KMI PCP PcP 09 08 48.3 -2.5
KMI PP PP 09 11 00.1 +3.7
KMI S S 09 17 22.5 +1.0
KMI AMB AMB
comp=Z,12nm,1.8s,mb4.6
KMI AMB AMB
comp=Z,113nm,5.6s
KMI LR LR
comp=N,424nm,19.4s,MS4.9
KMI LR LR
comp=E,571nm,20.2s,MS4.9
KMI LR LR
comp=Z,667nm,19.4s,MS4.9
KMI Kunming 68.18 303 P **P** **09 08 25.0 -0.3**
KMI 09 08 48.3
KMI 09 11 00.1
KMI S S 09 17 22.5 +1.0
KMI *SS sS 09 17 56.1 +8.1
KMI SS SS 09 21 49.1 +3.6
KMI pmax pmax
comp=Z,12nm,1.8s,mb4.6
KMI MLR MLR
comp=Z,670nm,19.4s,MS4.9
KMI Kunming 68.18 303 P **P** **09 08 25.0 -0.3**
comp=Z,12nm,1.8s,mb4.6
KMI PcP PcP 09 08 48.3 -2.5
KMI sP sP 09 08 53.8 +6.4
KMI PP PP 09 11 00.1 +3.7
KMI S S 09 17 22.5 +1.0
KMI sS sS 09 17 56.1 +8.1
KMI SS SS 09 21 49.1 +3.6
KMI SSS 09 24 53.5
KMI LR LR
comp=Z,670nm,19.4s,MS4.9
CMAR Chiang Mai Arr 68.95 295 P **P** **09 08 29.0 -1.2**
comp=Z,2.2nm,0.5s,mb4.3,baz=114,slow=4.4,SNR=13
CMAR LR LR 09 39 41.6
comp=Z,239nm,19.7s,MS4.4,baz=251,slow=37
CMAR Chiang Mai Arr 68.95 295 *i* P **P** **09 08 30.0 -0.2**
CMAR pmax pmax
comp=Z,2.0nm,0.5s
CHTO Chiang Mai 69.08 295 *e*P **P** **09 08 30.7 -0.3**
CHTO pmax pmax
comp=Z,9.0nm,1.0s,mb4.7
CHTO Chiang Mai 69.08 295 *e*P **P** **09 08 30.7 -0.3**
comp=Z,8.9nm,1.0s,mb4.7
HHC Hu-ho-hao-te 69.58 321 *e*P **P** **09 08 35.5 +1.8**
HHC PCP PcP 09 08 58.4 +2.0
HHC PP PP 09 11 11.7 +3.4
HHC SCP 09 12 53.8
HHC PCS 09 13 03.1
HHC S S 09 17 37.1 -0.4
HHC SCS ScS 09 18 28.4 -2.0
HHC SS SS 09 22 06.7 0.0
HHC AMB AMB
comp=Z,15nm,1.0s,mb4.9
HHC AMB AMB
comp=Z,202nm,7.6s
HHC LR LR
comp=N,603nm,18.2s,MS5.0
HHC LR LR
comp=E,489nm,18.0s,MS5.0
HHC LR LR
comp=Z,777nm,20.6s,MS4.9
CD2 Chengdu 69.85 309⇓ *i*P **P** **09 08 36.2 +0.6**
CD2 PP PP 09 11 13.2 +2.3
CD2 S S 09 17 38.2 -2.9
CD2 SS SS 09 22 09.6 -1.6
CD2 AMB AMB
comp=Z,10.0nm,1.0s,mb4.7
CD2 AMB AMB
comp=Z,40nm,6.2s
CD2 LR LR
comp=N,950nm,18.0s,MS5.3
CD2 LR LR
comp=E,1μm,15.6s,MS5.3
CD2 LR LR
comp=Z,780nm,21.6s
HIA Hailar 70.64 332 *e*P **P** **09 08 40.0 0.0**
HIA pmax pmax
comp=Z,25nm,0.7s
HIA Hailar 70.64 332 *e*P **P** **09 08 40.0 0.0**
comp=Z,25nm,0.7s,mb5.3
MIR Mirnyy 71.80 203⇑ *i*P **P** **09 08 47.0 +0.2**
MIR pmax pmax
comp=Z,100nm,1.5s,mb5.5
LZH Lanzhou 72.19 314 *e*P **P** **09 08 50.4 +0.8**
LZH PCP PcP 09 09 08.0 +0.4
LZH PP PP 09 11 33.5 +2.7
LZH *e*S S 09 18 05.0 -3.0
LZH SS SS 09 22 46.0 -0.9
LZH AMB AMB
comp=Z,28nm,1.5s,mb5.0
LZH AMB AMB
comp=Z,100nm,4.5s
LZH LR LR
comp=E,1μm,18.8s
LZH LR LR
comp=Z,2μm,19.9s,MS5.3
LZH Lanzhou 72.19 314 *e*P **P** **09 08 50.4 +0.8**
LZH pP 09 09 08.0 +2.5
LZH 09 11 33.5
LZH *e*S S 09 18 05.0 -3.0
LZH *SS sS 09 18 38.0 +3.2
LZH SS SS 09 22 46.0 -0.9
LZH pmax pmax
comp=Z,28nm,1.5s,mb5.0
LZH MLR MLR
comp=Z,2μm,19.9s,MS5.3
LZH Lanzhou 72.19 314 *e*P **P** **09 08 50.4 +0.8**
comp=Z,28nm,1.5s,mb5.0
LZH PcP PcP 09 09 08.0 +0.4
LZH pP pP 09 09 12.0 +6.5
LZH sP sP 09 09 18.8 +6.9
LZH PP PP 09 11 33.5 +2.7
LZH *e*S S 09 18 05.0 -3.0
LZH sS sS 09 18 38.0 +3.2
LZH SS SS 09 22 46.0 -0.9
LZH LR LR
comp=Z,2μm,19.9s,MS5.3
SEY Seymchan 74.06 355 *e*P **P** **09 08 59.3 -0.7**
ULN Ulaanbaatar 76.25 325*c* *i*P **P** **09 09 13.3 +0.3**
ULN Ulaanbaatar 76.25 325 *e*P **P** **09 09 13.0 +0.1**
comp=Z,22nm,1.0s,mb5.0
GTA Gaotai 76.56 315 *e*P **P** **09 09 15.0 +0.1**
GTA PP PP 09 12 10.0 +2.2
GTA S S 09 18 55.9 -0.8
GTA AMB AMB
comp=Z,8.0nm,1.4s,mb4.5
GTA AMB AMB
comp=Z,158nm,7.5s
GTA LR LR
comp=N,480nm,21.0s,MS4.9
GTA LR LR
comp=E,530nm,22.5s,MS4.9
GTA LR LR
comp=Z,651nm,21.0s,MS4.9
SONM Songino Array 76.60 325 P **P** **09 09 15.1 +0.2**
comp=Z,6.9nm,0.6s,mb4.8,baz=143,slow=5.4,SNR=28
SONM LR LR 09 42 10.4
comp=Z,532nm,19.6s,MS4.9,baz=104,slow=35
YAK Yakutsk 77.08 345 *e*P **P** **09 09 17.7 +0.4**
YAK pmax pmax
comp=Z,21nm,0.7s,mb5.2
KDAK Kodiak Island 77.78 23 P **P** **09 09 21.6 +0.2**
comp=Z,14nm,1.1s,mb4.8,baz=166,slow=19,SNR=3.4
BOD Bodaibo 79.02 336 *e*P **P** **09 09 27.3 -0.9**
BOD pmax pmax
comp=Z,10.0nm,1.7s,mb4.5
SVW2 Sparrevohn 79.12 19 *e*P **P** **09 09 29.6 +0.9**
ZAK Zakamensk 79.69 326 *e*P **P** **09 09 31.7 -0.3**
ZAK pmax pmax
comp=Z,11nm,1.2s,mb4.7
TLY Talaya 80.18 327 P **P** **09 09 34.3 -0.3**
comp=Z,88nm,0.7s,mb5.8,SNR=5.1
TLY Talaya 80.18 327 *e*P **P** **09 09 34.1 -0.5**
TLY *e*S S 09 19 48.2 +13
TLY pmax pmax
comp=Z,15nm,1.0s,mb4.9
TLY MLR MLR
comp=Z,322nm,19.0s,MS4.7
TLY Talaya 80.18 327 *e*P **P** **09 09 34.4 -0.2**
comp=Z,12nm,0.8s,mb4.9
MOY Mondy 81.59 326 *e*P pP 09 09 55.8 -2.5
PMR Palmer 81.68 21 *e*P **P** **09 09 49.1 +6.7**
PMR pmax pmax
comp=Z,19nm,1.4s,mb4.8
PMR Palmer 81.68 21 *e*P **P** **09 09 49.1 +6.7**
comp=Z,19nm,1.4s,mb4.8
KTH Kantishna Hill 82.41 19 *e*P **P** **09 09 45.6 -0.5**
comp=Z,9.9nm,0.9s,mb4.7
KTH *e* pP 09 10 05.7 +3.4
TRF Thorofare Moun 82.54 20 *e*P **P** **09 09 47.7 +0.9**
comp=Z,9.8nm,1.0s,mb4.8
MAW Mawson 83.51 202 *e*P **P** **09 09 52.1 +0.1**
comp=Z,8.7nm,1.0s,mb4.8
MAW Mawson 83.51 202 P **P** **09 09 52.2 +0.2**
comp=Z,1.6nm,0.6s,mb4.4,baz=92,slow=6.7,SNR=8.5
MAW pP pP 09 10 01.2 -7.0
comp=Z,19nm,1.1s,baz=103,slow=5.8,SNR=17
MAW LR LR 09 44 24.4
comp=Z,263nm,18.5s,MS4.6,baz=319,slow=34
MAW Mawson 83.51 202 P **P** **09 09 52.2 +0.2**
MAW *PP pP 09 10 01.2 -7.0
MAW pmax pmax
comp=Z,2.0nm,0.6s
MAW pmax pmax
comp=Z,19nm,1.1s
MAW Mawson 83.51 202 *e*P **P** **09 09 51.9 -0.1**
comp=Z,20nm,1.0s,mb5.2
COLA College 84.29 19 *e*P **P** **09 09 56.8 +1.0**
COLA College 84.29 19 *e*P **P** **09 09 54.5 -1.3**
comp=Z,20nm,0.8s,mb5.3
TIXI Tiksi 85.38 350 *e*P **P** **09 10 01.5 +0.4**
TIXI pmax pmax
comp=Z,7.0nm,1.3s,mb4.6
WMQ Urumqi 86.63 316⇓ P **P** **09 10 08.3 +0.4**
WMQ PP PP 09 13 32.3 +1.5
WMQ SKS 09 20 24.8
WMQ S S 09 20 36.3 -4.2
WMQ AMB AMB
comp=Z,7.0nm,0.9s,mb4.9
WMQ AMB AMB
comp=Z,98nm,4.6s
WMQ LR LR
comp=N,338nm,22.2s,MS4.9
WMQ LR LR
comp=E,441nm,24.0s,MS4.9
WMQ LR LR
comp=Z,560nm,25.9s,MS4.8
DAWY Dawson 86.73 22 *e*P **P** **09 10 09.7 +1.8**
MTUM Tungsten Hills 88.11 52 *e*P **P** **09 10 15.7 +0.5**
NVAR Mina Array Bea 88.59 51 P **P** **09 10 18.1 +0.6**
comp=Z,1.4nm,0.7s,mb4.4,baz=235,slow=7.2,SNR=11
NVAR pP pP 09 10 27.4 -6.4
comp=Z,4.0nm,0.8s,baz=232,slow=7.9,SNR=13
NVAR Mina Array Bea 88.59 51 P **P** **09 10 18.1 +0.6**
NVAR pP pP 09 10 27.4 -6.4
TPNV Topopah Spring 89.80 52 *e*P **P** **09 10 23.1 -0.1**
TPNV pmax pmax
comp=Z,12nm,1.3s,mb5.1
TPNV Topopah Spring 89.80 52 *e*P **P** **09 10 23.1 -0.1**
comp=Z,12nm,1.3s,mb5.1
MK31 Makanchi Array 91.13 317 *e*P **P** **09 10 27.8 -1.3**
MKAR Makanchi Array 91.13 317 P **P** **09 10 27.8 -1.3**
comp=Z,3.0nm,0.6s,mb4.8,baz=95,slow=6.2,SNR=32
MKAR LR LR 09 53 01.0
comp=Z,255nm,19.7s,MS4.7,baz=304,slow=37
MKAR Makanchi Array 91.13 317 *i* P **P** **09 10 28.0 -1.1**
MKAR pmax pmax
comp=Z,3.0nm,0.6s
ZALV Zalesovo Beam 91.50 325 P **P** **09 10 30.7 0.0**
comp=Z,0.9nm,0.3s,mb4.6,baz=104,slow=6.1,SNR=3.3
ZALV LR LR 09 50 42.7
comp=Z,425nm,21.3s,MS4.9,baz=274,slow=35
ZALV Zalesovo Beam 91.50 325 P **P** **09 10 30.7 0.0**
ZALV LR LR 09 50 42.7
NVS Novosibirsk 92.63 325 *e*P **P** **09 10 33.0 -2.9**
KURK Kurchatov 94.39 321 *e*P **P** **09 10 39.7 -4.4**
PDAR Pinedale Array 96.01 48 P **P** **09 10 53.0 +1.3**
comp=Z,0.4nm,0.8s,mb3.9,baz=276,slow=1.7,SNR=3.1
PDAR LR LR 09 51 06.6
comp=Z,326nm,18.5s,MS4.8,baz=257,slow=34
YKA Yellowknife Ar 96.47 28 LR LR 09 55 42.1
comp=Z,126nm,18.3s,MS4.4,baz=225,slow=36
SNAA Sanae 96.96 185 *e*P **P** **09 11 04.6 +9.1**
SNAA *e* 09 11 09.2
SNAA Sanae 96.96 185 *e*P **P** **09 10 58.6 +3.1**
VNA3 Neumayer Olymp 97.81 183 *e*P **P** **09 11 08.3 +9.0**
VNA3 *e* 09 11 13.3
VNA2 Neumayer--Watz 98.01 183 *e*P **P** **09 11 02.2 +2.0**
VNA2 *e* 09 11 09.6
VNA2 *e* pP 09 11 14.5 -2.1
VNA1 Neumayer--Stat 98.33 183 *e*P pP 09 11 11.7 -6.4
TXAR Lajitas Array 98.79 62 LR LR 09 46 15.1
comp=Z,490nm,21.7s,MS5.0,baz=5.0,slow=30
ARCES ARCESS Array B 115.36 345 PKP PKPdf 09 16 04.1 -1.2
comp=Z,1.4nm,0.7s,baz=17,slow=1.3,SNR=6.1
ARCES pPKP pPKPdf 09 16 15.1 -7.1
comp=Z,2.9nm,0.6s,baz=80,slow=1.7,SNR=3.1
ARCES ARCESS Array B 115.36 345 PKP PKPdf 09 16 04.1 -1.2
ARCES pPKP pPKPdf 09 16 15.1 -7.1
KIV Kislovodsk 118.73 314 *i* PKIKP PKPdf 09 16 09.1 -3.4
KIV *e* 09 17 26.4
KIV *e*PS PS 09 27 17.5 -1.6
KIV *e*SS SS 09 33 37.6 -8.0
KIV pmax pmax
comp=Z,4.0nm,0.8s
KIV MLR MLR
comp=Z,323nm,22.0s,MS4.9
BOSA Boshof 122.79 225 PKP PKPdf 09 16 21.0 +0.2
comp=Z,3.5nm,0.7s,baz=101,slow=3.9,SNR=6.9
LPAZ La Paz 123.27 118 PKP PKPdf 09 16 22.1 +0.1
comp=Z,0.3nm,0.3s,baz=27,slow=4.5,SNR=4.3
AKASG Malin Array Be 124.88 325 PKP PKPdf 09 16 22.6 -1.5
comp=Z,0.4nm,0.2s,baz=83,slow=1.0,SNR=4.4
AKASG pPKP pPKPdf 09 16 34.0 -7.1
comp=Z,2.0nm,0.5s,baz=55,slow=2.6,SNR=3.8
NB2 NORSAR Subarra125.67 343 PKPdf pPKPdf 09 16 35.7 -6.5
comp=Z,1.0nm,0.6s,baz=31,slow=1.7
NOA NORSAR Array B125.67 343 PKP PKPdf 09 16 25.1 -0.1
comp=Z,0.6nm,0.7s,baz=64,slow=5.3,SNR=2.4
NOA pPKP pPKPdf 09 16 34.8 -7.4
comp=Z,1.7nm,0.7s,baz=33,slow=1.8,SNR=5.5
OKC Ostrava-Krasne 131.23 330 AMS AMS 10 18 30.0
comp=Z,400nm,17.3s
DPC Dobruska-Polom 131.77 331 AMS AMS 10 14 30.0
comp=Z,400nm,20.7s
PVCC Panska Ves 132.46 332 AMS AMS 10 15 50.0
comp=Z,500nm,18.0s
CLL Collm 132.59 334 *e*PP PP 09 19 02.0 -0.6
CLL LmH 09 17 00.0
comp=N,300nm,20.3s
CLL LmH 09 17 00.0
comp=E,200nm,21.9s
CLL LmH 09 17 00.0
comp=Z,400nm,20.2s
CLL *e*PKSdf 09 20 15.0
CLL *e*PPP 09 21 42.0
CLL LmV 09 22 00.0
comp=Z,400nm,19.1s
CLL *ex* x 09 26 30.0
CLL *e*PS PS 09 29 30.0 +10
CLL *e*PPS 09 31 01.0
CLL *e*SS SS 09 36 46.0 +8.1
CLL *ex* x 09 39 12.0
CLL *ex* x 09 42 48.0
PRU Pruhonice 132.85 332 AMS AMS 10 16 40.0
comp=Z,400nm,21.5s
TREC Trest 132.89 331 AMS AMS 10 14 50.0
comp=Z,400nm,24.2s
NKC Novy Kostel 133.62 334 AMS AMS 10 22 30.0
comp=Z,400nm,16.7s
KHC Kasperske Hory 133.90 332 AMS AMS 10 20 10.0
comp=Z,500nm,20.9s
CABF La Chapelle 139.12 335 *e*PKIKP PKPdf 09 16 49.9 -1.1
comp=Z,21nm,0.8s
ETSF Etsaut 144.84 338 *e*PKIKP PKPdf 09 17 02.2 +0.9
comp=Z,51nm,0.9s
KEST Kesra 145.20 320 PKPbc PKPbc 09 17 01.8 -0.1
comp=Z,1.9nm,0.6s,baz=107,slow=5.8,SNR=5.6
KEST pPKPbc pPKPbc 09 17 12.4 -6.2
comp=Z,4.7nm,0.9s,baz=15,slow=5.3,SNR=6.3
ABA Alger-Bouzarea 148.17 327 P PKPab 09 17 13.4 0.0
AKET Djebel Ketaf 148.26 325 P PKPab 09 17 12.0 -1.8
ADJB Djebel Djouab 148.43 326 P PKPbc 09 17 11.8 +0.6
MVO Moncorvo 148.47 344 *e*PKP pPKPdf 09 17 26.9 +2.4
EMHD Djebel Mahouad 148.66 327 P PKPbc 09 17 12.0 +0.2
ESDC Sonseca Array 148.89 339 PKPbc PKPbc 09 17 12.0 -0.3
comp=Z,0.7nm,0.4s,baz=18,slow=4.0,SNR=3.7
PVIS Viseu 149.11 345 *e*PKP pPKPdf 09 17 25.3 -0.3
MTE Manteigas 149.32 345 *e*PKP pPKPdf 09 17 26.0 +0.1
EBNR Beni Rached 149.34 328 P pPKPdf 09 17 19.6 -6.5
EANR 'Ain N'Sour 149.82 329 P PKPbc 09 17 16.2 +1.5
PCBR Castelo Branco 149.82 344 *e*PKP pPKPdf 09 17 26.8 0.0
ETRT Tiaret 150.15 328 P PKPbc 09 17 15.8 +0.3
PMRV Marv??o 150.19 344 *e*PKP pPKPdf 09 17 26.5 -0.8
PBAR Barrancos 151.25 342 *e*PKP pPKPdf 09 17 28.3 -0.7
PBEJ Beja 151.63 343 *e*PKP pPKPdf 09 17 29.0 -0.6
PBDV Barranco-do-Ve 152.38 343 *e*PKP pPKPdf 09 17 29.2 -1.6
CMLA Cha da Macela 152.40 13 *e*LR LR 10 10 25.7
TORD Torodi Ar. Bea 160.87 279 PKP PKPdf 09 17 24.5 -0.8
comp=Z,0.6nm,0.8s,baz=13,slow=4.4,SNR=2.9
TORD PKPab PKPab 09 18 05.3 -2.7
comp=Z,1.5nm,0.8s,baz=78,slow=2.7,SNR=3.3
TORD Torodi Ar. Bea 160.87 279 PKP PKPdf 09 17 24.5 -0.8
TORD PKPab PKPab 09 18 05.3 -2.7

IDC 09 09:11:16.3±9.1, 1069S×11167E, h0km, mb3.7/3, mb1 3.9/3, mb1mx3.6/16, mbtmp3.7/3, Error ellipse: s-maj=153.0km s-min=116.1km az=154.0, South of Jawa

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**23.70**	**116**	P	P	09 16 29.8	-0.3
	0.3nm,0.3s,baz=288,slow=11,SNR=17						
ASAR	**Alice Springs**	**24.81**	**124**	P	P	09 16 41.8	+1.5
	0.5nm,0.4s,baz=303,slow=8.0,SNR=25						
STKA	**Stephens Creek**	**34.76**	**132**	P	P	09 18 07.2	-1.3
	2.4nm,0.7s,baz=288,slow=8.3,SNR=7.8						

*THR **09** 09:17:56.9±0.4, 32.07N×49.43E, h14km±7km, ML2.6*
*ISCJB **09** 09:17:57.2±2.0, 32.0N±0.1×49.42E±0.10, h8km±16km, Error ellipse: s-maj=21.1km s-min=8.2km az=143.6*
*CSEM **09** 09:17:57.2±0.1, 32.08N×49.40E, h16km, ML2.2, Error ellipse: s-maj=3.5km s-min=2.1km az=126.0*
*KISR **09** 09:17:57.6, 32.02N×49.44E, h34km, ML2.2*
ISC 09 09:17:57.5±2.3, 321N±01×494E±01, h8km±18km, n11, σ0.5 75/20, Western Iran

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SHGR	**Shoshtar-Gavs**	**0.52**	**272**	*e*Pg	**Pg**	**09 18 07.3**	**-0.3**
SHGR				*e*Sg	**Sg**	**09 18 15.3**	**+0.9**
SHGR				AML	AML	09 18 18.1	
	comp=E,469nm,0.2s						
SHGR	**Shoshtar-Gavs**	**0.52**	**272**	*e*Pg	**Pg**	**09 18 07.3**	**-0.3**
	SNR=90						
SHGR				*e*Sg	**Sg**	**09 18 15.3**	**+0.9**
	SNR=90						
ASAO	**Ashtian**	**2.50**	**12**	*e*Pn	**Pn**	**09 18 39.8**	**+1.2**
ASAO				*e*Sg	**Sg**	**09 19 16.1**	**-1.8**
ASAO				AML	AML	09 19 27.2	
	comp=E,24nm,0.6s						
ASAO	**Ashtian**	**2.50**	**12**	*e*Pn	**Pn**	**09 18 39.8**	**+1.3**
	SNR=52						
ASAO				*e*Sg	**Sg**	**09 19 16.1**	**-1.8**
	SNR=90						
MIB	**Mutribah**	**2.90**	**219**	*e*P	**Pn**	**09 18 44.1**	**+0.2**
	baz=220						
MIB				AML	AML	09 19 33.8	
	comp=Z,10.0nm,0.5s,baz=220						
NASN	**Na'in**	**2.95**	**75**	*e*Pn	**Pn**	**09 18 45.6**	**+0.9**
RST	**Umm Al-Ruwaisa**	**3.32**	**219**	*e*P	**Pn**	**09 18 49.7**	**-0.1**
RST				*e*S	**Sn**	**09 19 29.0**	**-0.4**
RST	**Umm Al-Ruwaisa**	**3.32**	**219**	*e*P	**Pn**	**09 18 49.7**	**0.0**
	baz=221						
RST				*e*S	**Sn**	**09 19 29.0**	**-0.4**
	baz=221						
RST				AML	AML	09 19 35.5	
	comp=Z,7.0nm,0.4s,baz=221						
NAY	**Al-Naaiem**	**3.40**	**214**	*e*P	**Pn**	**09 18 50.9**	**0.0**
NAY				*e*S	**Sn**	**09 19 31.0**	**-0.4**
NAY	**Al-Naaiem**	**3.40**	**214**	*e*P	**Pn**	**09 18 50.9**	**+0.1**
	baz=215						
NAY				*e*S	**Sn**	**09 19 31.0**	**-0.4**
	baz=215						
NAY				AML	AML	09 19 32.2	
	comp=Z,5.0nm,0.5s,baz=215						
RDF	**Al-Radifah**	**3.54**	**208**	*e*P	**Pn**	**09 18 52.8**	**-0.1**
RDF				*e*S	**Sn**	**09 19 34.4**	**-0.6**

*IDC **09** 09:42:19.7±1.1, 208S×9997E, h0km, mb4.5/13, mb1 4.6/14, mb1mx4.4/22, mbtmp4.5/14, ML4.4/1, Error ellipse: s-maj=40.6km s-min=13.7km az=59.0*
*ISCJB **09** 09:42:21.4±0.6, 230S±007×9966E±007, h33km, mb4.6/20, Error ellipse: s-maj=11.9km s-min=7.8km az=141.1*
*MOS **09** 09:42:23.3±1.0, 197S×10005E, h33km, mb5.0/6, Error ellipse: s-maj=18.6km s-min=9.6km az=98.1*
*NEIC **09** 09:42:25.5±2.9, 204S×10006E, h40km±25km, mb4.7/6, Error ellipse: s-maj=22.9km s-min=5.1km az=52.0*
*DJA **09** 09:42:32.0±1.7, 2S±7×100E±, h34km±14km, mb4.7/6, mB5.2/2, Mjma3.8/8, Mw(mB)5.0/2, Mwp3.7/2*
ISC 09 09:42:24.0±0.6, 226S±007×9974E±008, h35km, n59, σ1.5 09/55, mb4.6/20, 1D, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PDSI	**Padang**	**1.52**	**28**	P	**Pn**	**09 42 47.5**	**-1.3**
	0.0nm,0.0s						
PDSI	**Padang**	**1.52**	**28**	P	**Pn**	**09 42 47.1**	**-1.7**
PPI	**Padang Panjang**	**1.91**	**20**	P	**Pn**	**09 42 53.9**	**-0.2**
	0.0nm,0.0s						
PPI	**Padang Panjang**	**1.91**	**20**	P	**Pn**	**09 42 53.2**	**-0.9**
KSI	**Kapahiang**	**3.17**	**116**	P	**Pn**	**09 43 15.1**	**+3.7**
	0.0nm,0.0s						
KSI	**Kapahiang**	**3.17**	**116**	P	**Pn**	**09 43 15.6**	**+4.2**
RGRI	**Rengat**	**3.22**	**54**	P	**Pn**	**09 43 13.3**	**+1.2**
	0.0nm,0.0s						
RGRI	**Rengat**	**3.22**	**54**	P	**Pn**	**09 43 13.1**	**+1.0**
DSRI	**Dabo**	**5.15**	**70**	P	**Pn**	**09 43 39.2**	**+0.5**
	0.0nm,0.0s						
DSRI	**Dabo**	**5.15**	**70**	P	**Pn**	**09 43 40.9**	**+2.2**
MYKOM	**Kota Tinggi**	**5.75**	**46**	P	**Pn**	**09 43 48.0**	**+1.0**
TSI	**Tuntungan**	**5.84**	**348**	P	**Pn**	**09 43 58.3**	**+10**
	178nm,0.5s,0.8nm						
IPM	**Ipoh**	**6.82**	**11**	P	**Pn**	**09 44 04.1**	**+2.5**
	33nm,1.1s,0.1nm						
SJI	**Sawahan**	**13.16**	**115**	P	**Pn**	**09 45 31.6**	**+3.1**
	0.0nm,0.0s						
SJI	**Sawahan**	**13.16**	**115**	P	**Pn**	**09 45 35.5**	**+7.0**
KAPI	**Kappang**	**20.16**	**98**	P	**P**	**09 46 53.6**	**-1.9**
	1.2nm,0.3s,baz=270,slow=7.5,SNR=8.5						
KAPI	**Kappang**	**20.16**	**98**	P	**P**	**09 46 57.7**	**+2.1**
	32nm,1.2s						
CMAR	**Chiang Mai Arr**	**20.60**	**358**	P	**P**	**09 46 58.5**	**-1.7**
	4.9nm,0.6s,baz=187,slow=10.0,SNR=33						
CMAR	**Chiang Mai Arr**	**20.60**	**358**	*i* P	**P**	**09 46 59.2**	**-1.1**
CMAR				pmax	pmax		
	comp=Z,5.0nm,0.6s						
FITZ	**Fitzroy Crossi**	**29.89**	**124**	P	**P**	**09 48 28.3**	**-0.3**
	comp=Z,2.6nm,1.0s,mb3.9,baz=345,slow=19,SNR=6.2						
LSA	**Lhasa**	**32.82**	**346**	*e*P	**P**	**09 48 54.3**	**0.0**
WRA	**Warramunga Arr**	**38.09**	**120**	P	**P**	**09 49 39.1**	**-0.7**
	comp=Z,5.8nm,0.5s,mb4.6,baz=305,slow=8.8,SNR=95						
WRA				PcP	PcP	09 51 55.6	+1.0
	comp=Z,0.5nm,0.5s,baz=310,slow=2.3,SNR=5.1						
WRA	**Warramunga Arr**	**38.09**	**120**	*i* P	**P**	**09 49 39.5**	**-0.3**
WRA				pmax	pmax		
	comp=Z,6.0nm,0.5s						
WB2	**Warramunga Arr**	**38.10**	**120**	*e*P	**P**	**09 49 38.8**	**-1.1**
ASAR	**Alice Springs**	**39.31**	**126**	P	**P**	**09 49 50.3**	**+0.3**
	comp=Z,3.8nm,0.5s,mb4.4,baz=300,slow=7.6,SNR=57						
ASAR				PcP	PcP	09 51 59.6	+1.3
	comp=Z,1.2nm,0.8s,baz=291,slow=3.2,SNR=5.5						
KSRS	**Korea Array**	**47.38**	**31**	P	**P**	**09 50 54.0**	**-0.9**
	comp=Z,3.6nm,0.7s,mb4.4,baz=226,slow=8.3,SNR=11						
KSRS	**Korea Array**	**47.38**	**31**	P	**P**	**09 50 53.9**	**-0.9**
CTA	**Charters Tower**	**48.73**	**115**	P	**P**	**09 51 05.1**	**-0.5**
	comp=Z,3.3nm,0.7s,mb4.5,baz=284,slow=8.9,SNR=4.0						
CTAO	**Charters Tower**	**48.73**	**115**	*e*P	**P**	**09 51 05.2**	**-0.4**
	comp=Z,3.6nm,0.8s,mb4.5						
STKA	**Stephens Creek**	**49.17**	**131**	P	**P**	**09 51 10.1**	**+1.2**
	comp=Z,3.7nm,0.6s,mb4.6,baz=312,slow=8.6,SNR=13						

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
STKA	Stephens Creek	49.17	131	P	P	09 51 10.1	+1.2
UCH	Uchtor	49.82	336	eP	P	09 51 14.8	+1.3
	comp=Z,1.9nm,0.8s,mb4.2						
TKM2	Tokmak 2	49.97	337	eP	P	09 51 15.8	+1.2
	comp=Z,9.9nm,0.8s,mb4.9						
AML	Almayashu	50.09	335	eP	P	09 51 16.9	+1.3
	comp=Z,4.6nm,0.6s,mb4.7						
SONM	Songino Array	50.23	6	P	P	09 51 16.8	+0.3
	comp=Z,5.5nm,0.4s,mb4.9,baz=188,slow=9.4,SNR=42						
SONM				PcP	PcP	09 52 35.6	+0.3
	comp=Z,2.2nm,0.7s,baz=190,slow=2.2,SNR=3.9						
ULN	Ulaanbaatar	50.33	6	eP	P	09 51 18.1	+0.8
EKS2	Erkin-Say	50.49	335	eP	P	09 51 19.9	+1.3
	comp=Z,8.5nm,0.8s,mb4.8						
MK31	Makanchi Array	51.21	345	eP	P	09 51 24.3	+0.4
MKAR	Makanchi Array	51.21	345	P	P	09 51 24.4	+0.5
	comp=Z,14nm,0.6s,mb5.0,baz=148,slow=8.2,SNR=138						
MKAR	Makanchi Array	51.21	345	iP	P	09 51 24.5	+0.6
MKAR				pmax	pmax		
	comp=Z,14nm,0.6s						
MJAR	Matsushiro Arr	52.64	39	P	P	09 51 33.5	-1.3
	comp=Z,2.9nm,0.8s,mb4.2,baz=226,slow=8.3,SNR=6.0						
TLY	Talaya	53.84	3	eP	P	09 51 43.5	+0.2
TLY				pmax	pmax		
	comp=Z,7.0nm,0.8s,mb4.6						
HIA	Hailar	54.16	16	eP	P	09 51 43.8	-1.9
KURK	Kurchatov	55.78	344	⇓iP	P	09 51 57.6	+0.2
KURK				pmax	pmax		
	comp=Z,10.0nm,0.9s,mb4.8						
KURK	Kurchatov	55.78	344	eP	P	09 51 57.6	+0.2
	comp=Z,10nm,0.9s,mb4.8						
ZAA0	Zalesovo Array	57.37	350	eP	P	09 52 08.2	-0.4
ZALV	Zalesovo Beam	57.37	350	P	P	09 52 08.6	-0.1
	comp=Z,7.2nm,0.6s,mb4.9,baz=174,slow=5.5,SNR=40						
ZALV	Zalesovo Beam	57.37	350	P	P	09 52 08.5	-0.2
NVS	Novosibirsk	58.52	349	eP	P	09 52 14.9	-1.8
BOD	Bodaibo	60.98	9	eP	P	09 52 33.4	-0.1
BOD				pmax	pmax		
	comp=Z,7.0nm,1.0s,mb4.8						
ARU	Arti	67.34	337	eP	P	09 53 14.8	-0.5
ARU				ePPP		09 57 17.1	
ARU				eS	S	10 02 04.8	-3.4
YAK	Yakutsk	68.06	15	eP	P	09 53 18.1	-1.6
YAK				pmax	pmax		
	comp=Z,12nm,0.9s,mb4.9						
PETK	Petropavlovsk-	73.24	32	P	P	09 53 50.6	-0.9
	comp=Z,2.0nm,0.6s,mb4.2,baz=190,slow=2.7,SNR=5.8						
SEY	Seymchan	75.96	22	eP	P	09 54 06.6	-0.5
ARCES	ARCESS Array B	86.63	340	P	P	09 55 03.9	+0.4
	comp=Z,1.6nm,0.7s,mb4.4,baz=106,slow=4.3,SNR=6.8						
TXAR	Lajitas Array	145.07	37	PKP	PKPdf	10 01 58.8	+0.3
	comp=Z,5.9nm,0.8s,baz=274,slow=1.1,SNR=74						
MIAR	Mount Ida	145.56	20	ePKIKP	PKPdf	10 01 59.3	+0.1
TKL	Tuckaleechee C	146.61	5	PKPbc	PKPbc	10 02 01.8	-0.6
	comp=Z,3.5nm,0.6s,baz=116,slow=5.6,SNR=10.0						
TKL	Tuckaleechee C	146.61	5	PKPbc	PKPbc	10 02 01.8	-0.6

*IDC **09** 09:51:59.5±1.0, 1987N×10921W, h0^{km}, mb4.2/8, mb1 4.5/12, mb1mx4.3/22, mbtmp4.3/12, ML3.7/3, MS3.9/11, Ms1 3.9/11, ms1mx3.6/33, Error ellipse: s-maj=41.8km s-min=15.2km az=67.0*

*NEIC **09** 09:52:00.8±0.6, 1973N×10941W, h10^{km}, mb4.4/19, Error ellipse: s-maj=11.2km s-min=6.3km az=60.0*

*ISCJB **09** 09:52:06.6±2.6, 199N±0.1×1093W±0.1, h70^{km}±21^{km}, mb4.3/12, Error ellipse: s-maj=23.5km s-min=9.6km az=39.4*

ISC 09 09:52:07.9±2.1**, 199N**±01**×1093W**±01**, h64**^{km}±17^{km}**, n60,** $\sigma 0^{s}80$/53**, mb4.3**/12**, Revilla Gigedo Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LPIG	La Paz	4.26	347	Pn	Pn	09 53 05.5	-4.7
	16nm,0.3s,baz=172,slow=1.8,SNR=24						
LPIG				LR	LR	09 54 41.0	
	comp=Z,1μm,18.0s,baz=173,slow=37						
TXAR	Lajitas Array	10.67	28	Pn	Pn	09 54 36.9	-1.0
	0.2nm,0.3s,baz=202,slow=13,SNR=67						
TXAR	Lajitas Array	10.67	28	Pn	Pn	09 54 36.9	-1.0
TUC	Tucson	12.40	354	eP	Pn	09 55 00.9	-0.7
	33nm,1.2s						
JCT	Junction City	13.56	37	eP	Pn	09 55 18.8	+1.5
	3.4nm,0.3s						
GLA	Glamis	13.97	340	eP	Pn	09 55 21.6	-1.2
	34nm,1.1s						
LENM	Lemitar	14.33	8	eP	Pn	09 55 28.2	+0.8
BNM	Barren Site	14.36	9	eP	Pn	09 55 28.6	+0.8
LPM	Los Pinos Moun	14.52	9	eP	Pn	09 55 30.0	+0.1
LAZ	Ladron	14.54	7	eP	Pn	09 55 30.9	+0.7
PFO	Pinyon Flat Ob	15.05	336	Pn	Pn	09 55 35.0	-1.7
	baz=158,slow=10,SNR=5.3						
PFO				LR	LR	10 01 07.7	
	comp=Z,703nm,18.9s,baz=153,slow=36						
ANMO	Albuquerque	15.17	9	Pn	Pn	09 55 38.1	-0.2
	0.0nm,0.3s,baz=192,slow=9.6,SNR=9.9						
ANMO				LR	LR	10 01 03.3	
	comp=Z,358nm,19.9s,baz=164,slow=36						
WUAZ	Wupatki	15.64	354	eP	Pn	09 55 44.5	+0.2
	34nm,1.0s						
HKT	Hockley	15.75	48	eP	Pn	09 55 43.2	-2.5
	17nm,1.5s						
LDFC	Landfair	15.94	342	eP	Pn	09 55 49.3	+1.1
	61nm,1.2s						
MWC	Mount Wilson	16.23	333	eP	Pn	09 55 54.6	+2.9
	11nm,1.0s						
AMTX	Amarillo	16.35	23	eP	Pn	09 55 52.5	-0.8
	20nm,1.1s						
GSC	Goldstone	16.69	338	eP	Pn	09 55 57.5	0.0
	17nm,1.1s						
MVCO	Mesa Verde	17.23	2	eP	Pn	09 56 04.7	+0.4
	33nm,1.1s						
CCUT	Cedar City	17.91	349	eP	Pn	09 56 13.7	+1.1
TPNV	Topopah Spring	18.02	342	eP	Pn	09 56 14.4	+0.5
	30nm,1.1s						
SDCO	Great Sand Dun	18.06	10	eP	Pn	09 56 15.1	+0.8
	22nm,1.3s						
PV01	Paradox Valley	18.15	2	eP	Pn	09 56 15.7	+0.2
ARUT	Antelope Range	18.16	349	eP	Pn	09 56 15.5	0.0
PTRM	Twissleman Ran	18.38	331	eP	Pn	09 56 17.9	-0.4
PV10	Paradox Valley	18.39	1	eP	Pn	09 56 17.5	-0.8
MSU	Marysvale	18.69	353	eP	Pn	09 56 21.9	0.0
SRU	San Rafael	19.15	357	eP	Pn	09 56 26.1	-1.3
	8.3nm,1.0s						
MTUM	Tungsten Hills	19.16	337	eP	Pn	09 56 27.2	-0.4
TEIG	Tepich	19.74	86	LR	LR	10 04 28.8	
	comp=Z,300nm,19.1s,baz=328,slow=38						
NVAR	Mina Array Bea	20.02	339	P	P	09 56 36.3	+0.8
	14nm,1.0s,baz=168,slow=14,SNR=23						
DUG	Dugway	20.43	352	eP	P	09 56 40.4	+0.6
	29nm,1.1s						
CMB	Columbia Colle	20.46	334	eP	P	09 56 39.6	-0.6
	11nm,1.2s						
DAU	Daniels Canyon	20.49	356	eP	P	09 56 40.5	0.0
JLU	Jordanelle	20.69	355	eP	P	09 56 43.3	+0.6
ELK	Elko	21.36	348	P	P	09 56 50.5	+0.6
	5.3nm,1.0s,mb3.8,baz=185,slow=6.4,SNR=14						
ELK				LR	LR	10 06 26.0	
	comp=Z,225nm,19.2s,baz=286,slow=40						
PHWY	Pilot Hill	21.55	8	eP	P	09 56 52.3	+0.4
	28nm,1.3s,mb4.5						
HWUT	Hardware Ranch	21.70	355	eP	P	09 56 53.7	+0.2
	29nm,1.3s,mb4.5						
TGUH	Tegucigalpa,Un	21.84	102	eP	P	09 56 55.2	-0.1
	43nm,1.2s,mb4.8						
OHCM	Honcut	22.01	334	eP	P	09 56 57.1	+0.2
PDAR	Pinedale Array	22.77	359	P	P	09 57 04.5	-0.4
	2.4nm,0.9s,mb3.6,baz=173,slow=9.2,SNR=14						
PDAR				LR	LR	10 05 58.4	
	comp=Z,218nm,18.3s,baz=163,slow=37						
YBH	Yreka Blue Hor	24.54	335	LR	LR	10 06 35.0	
	comp=Z,295nm,18.6s,baz=154,slow=36						
JTS	JuntasAbangare	25.34	109	LR	LR	10 05 34.9	
	comp=Z,128nm,19.7s,baz=129,slow=32						
BMO	Blue Mountains	25.73	347	eP	P	09 57 31.4	-0.9
	38nm,2.4s,mb4.5						
GCMT	Greycliff	25.80	359	eP	P	09 57 33.0	+0.1
CHMT	Chamberlain Mo	27.11	354	eP	P	09 57 44.1	-0.6
OTAV	Otavalo	35.98	119	eP	P	09 59 04.1	+1.2
	22nm,1.2s						
SDV	Santo Domingo	38.92	101	eP	P	09 59 28.1	+0.3
	28nm,0.8s						
YKA	Yellowknife Ar	42.69	356	P	P	09 59 57.4	-0.8
	3.0nm,0.7s,mb4.1,baz=180,slow=8.5,SNR=5.9						
YKA				LR	LR	10 17 09.9	
	comp=Z,45nm,18.9s,baz=215,slow=35						
TRF	Thorofare Moun	51.55	338	eP	P	10 01 07.4	+0.3
	4.2nm,0.8s,mb4.4						
KTH	Kantishna Hill	51.84	338	eP	P	10 01 09.1	-0.1
LPAZ	La Paz	54.14	129	P	P	10 01 26.9	+0.1
	5.7nm,0.8s,mb4.6,baz=328,slow=6.7,SNR=32						
PPT	Papeete	54.34	229	LR	LR	10 18 19.0	
	comp=Z,125nm,19.8s,baz=82,slow=29						
CPUP	Villa Florida	68.23	130	P	P	10 03 01.5	-0.6
	4.0nm,0.7s,mb4.5,baz=290,slow=7.1,SNR=9.2						
CPUP	Villa Florida	68.23	130	eP	P	10 03 01.1	-0.9
BDFB	Brasilia	69.83	116	P	P	10 03 12.1	0.0
	3.4nm,0.6s,mb4.5,baz=255,slow=14,SNR=6.4						
PLCA	Paso Flores	70.28	150	LR	LR	10 27 23.4	
	comp=Z,199nm,20.0s,baz=206,slow=30						
ARCES	ARCESS Array B	85.18	15	P	P	10 04 36.4	-0.5
	2.2nm,0.8s,mb4.3,baz=330,slow=4.3,SNR=6.7						
WRA	Warramunga Arr	120.53	258	PKP	PKPdf	10 10 53.8	+0.8
	0.4nm,0.8s,baz=74,slow=2.1,SNR=3.0						
ASAR	Alice Springs	121.62	254	PKP	PKPdf	10 10 56.8	+1.8
	0.4nm,0.6s,baz=83,slow=2.7,SNR=2.5						

*DDA **09** 09:52:09.5, 3704N×2790E, h7^{km}±3^{km}, Md2.7*

*ISCJB **09** 09:52:10.5±0.9, 3708N±006×2790E±005, h10^{km}, Error ellipse: s-maj=9.1km s-min=4.3km az=32.0*

*CSEM **09** 09:52:10.5±0.2, 37.14N×2789E, h2^{km}, MD2.7, Error ellipse: s-maj=5.2km s-min=2.9km az=15.0*

*ISK **09** 09:52:11.0, 37.14N×2789E, h4^{km}, MD2.7*

ISC 09 09:52:10.8±0.9**, 3707N**±006×**2789E**±005**, h1**^{km}±12^{km}**, n9,** $\sigma 0^{s}78$/15**, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MLSB	Milas	0.24	338	ePG	Pg	09 52 14.9	-0.5
MLSB				eSG	Sg	09 52 18.3	-0.2
YER	Yerkesik	0.32	79	ePG	Pg	09 52 17.9	+0.9
YER				eSG	Sg	09 52 22.8	+1.6
BODT	Bodrum	0.46	269	ePG	Pg	09 52 20.7	+1.0
AYDN	Tasoluk	0.59	359	iP	Pg	09 52 22.0	-0.1
AYDN				iS	Sg	09 52 29.2	-0.5
TURN	Turunc	0.61	109	iP	Pg	09 52 21.1	-1.4
TURN				iS	Sg	09 52 29.4	-0.9
GCAM	G?zelcaml?	0.81	320	iP	Pg	09 52 26.2	-0.2
GCAM				iS	Sg	09 52 37.3	+0.3
GCAM	G?zelcaml?	0.81	320	iP	Pg	09 52 26.2	-0.2
GCAM				iS	Sg	09 52 37.3	+0.3
IZM	Izmir	1.41	340	ePN	Pn	09 52 37.5	-0.2
KULA	Kula-Manisa	1.56	23	ePN	Pn	09 52 40.1	+0.3

IDC 09 09:59:17.3±2.1**, 716S**×**12917E, h0**^{km}**, mb3.6**/1**, mb1 4.1**/4**, mb1mx3.7**/15**, mbtmp3.9**/4**, ML4.1**/3**, Error ellipse: s-maj=77.3km s-min=28.6km az=76.0, Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	11.41	197	Pn	Pn	10 02 01.8	+0.2
	0.5nm,0.3s,baz=41,slow=13,SNR=24						
FITZ				Sn	Sn	10 03 57.0	-13
	0.7nm,0.3s,baz=98,slow=21,SNR=6.3						
WRA	Warramunga Arr	13.66	159	Pn	Pn	10 02 33.0	+0.6
	1.6nm,0.3s,baz=338,slow=13,SNR=99						
WRA				Sn	Sn	10 04 52.6	-12
	0.5nm,0.3s,baz=332,slow=22,SNR=6.9						
ASAR	Alice Springs	17.03	165	P	Pn	10 03 16.4	-0.6
	0.4nm,0.3s,baz=334,slow=9.8,SNR=39						
MKAR	Makanchi Array	67.91	327	P	P	10 10 17.9	+0.1
	0.4nm,0.6s,baz=121,slow=6.9,SNR=4.8						

*DDA **09** 10:01:52.4, 3724N×28.17E, h7^{km}±1^{km}, Md2.9*

CSEM 09 10:01:51.8±0.5**, 3722N**×**2816E, h2**^{km}**, MD2.9, Error ellipse: s-maj=29.7km s-min=10.5km az=36.0, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
YER	Yerkesik	0.13	131	ePG	Pg	10 01 54.3	0.0
YER				eSG	Sg	10 01 57.2	+1.1
AYDN	Tasoluk	0.49	333	iP	Pg	10 02 02.1	+0.9
AYDN				iS	Sg	10 02 09.1	+1.4
BDRM	Kayabasi	0.59	255	iP	Pg	10 02 04.2	+1.1
AKAS	Kas	1.52	130	iP	Pn	10 02 21.4	+1.3
AKAS				iS	Sn	10 02 42.9	+2.5

IDC 09 10:01:52.2±5.2**, 419S**×**12910E, h166**^{km}±77^{km}**, mb3.3**/1**, mb1 3.7**/3**, mb1mx3.2**/15**, mbtmp3.5**/3**, Error ellipse: s-maj=128.8km s-min=53.5km az=81.0, Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRA	Warramunga Arr	16.47	162	P	Pn	10 05 33.8	-0.1
	1.3nm,0.3s,baz=344,slow=12,SNR=9.8						
WRA				S	S	10 08 36.3	-0.7
	0.2nm,0.3s,baz=339,slow=22,SNR=4.7						
ASAR	Alice Springs	19.91	167	P	P	10 06 11.7	+0.6
	1.2nm,0.3s,baz=347,slow=12,SNR=50						
ASAR				S	S	10 09 47.2	+1.0
	0.1nm,0.3s,baz=348,slow=21,SNR=5.6						
STKA	Stephens Creek	29.93	158	P	P	10 07 44.3	-0.5
	0.4nm,0.3s,baz=342,slow=8.3,SNR=3.4						

*ISCJB **09** 10:10:10.6±0.2, 47.11N±001×920E±002, h0^{km}, Error ellipse: s-maj=2.2km s-min=1.6km az=1.8*

*LDG **09** 10:10:10.6±0.1, 4700N×950E, h10^{km}, Ml2.8/14, Error ellipse: s-maj=2.5km s-min=1.3km az=98.0*

*VIE **09** 10:10:11.0±0.8, 47.15N×920E, h0^{km}, mb2.2/9, ML2.9/12, Error ellipse: s-maj=4.4km s-min=3.2km az=103.0 16 km ENE of Glarus*

*ZUR **09** 10:10:10.7, 47.15N×928E, h-2^{km}±3^{km}, ML2.2/9, Suspected Mining explosion.*

*PRU **09** 10:10:11.8, 4729N×9.16E, h3^{km}*

*NEIC **09** 10:10:11.1±0.4, 47.11N×928E, h10^{km}, ML2.2(ZUR), ML2.4(STR), ML2.7(SZGRF), ML2.8(LDG), Error ellipse: s-maj=4.4km s-min=3.7km az=94.0*

*CSEM **09** 10:10:12.2±0.1, 4709N×927E, h1^{km}, ML3.0/7, Error ellipse: s-maj=1.5km s-min=1.0km az=10.0, Suspected Mining explosion.*

*STR **09** 10:10:12.8±0.4, 47.13N×925E, h10^{km}, Ml2.4, Error ellipse: s-maj=0.0km s-min=0.0km az=0.0*

*BGR **09** 10:10:13.1±0.9, 47.12N×923E, h10^{km}, ML2.7, Error ellipse: s-maj=11.1km s-min=4.4km az=27.0*

*ROM **09** 10:10:14.7±1.0, 4702N×933E, h10^{km}, Md2.6/8, Ml2.1/6, Error ellipse: s-maj=13.1km s-min=6.3km az=173.0*

ISC 09 10:10:11.9±0.2**, 4710N**±001×**923E**±002**, h0**^{km}**, n96,** $\sigma 1^{s}15$/163**, 8C-13D, Germany**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PLONS	Plons/SG	0.12	116	⇓iPg	Pg	10 10 13.8	-0.3
	190nm,0.2s						
LIENZ	Kamor/St.Gall	0.27	43	⇓iPg	Pg	10 10 15.6	-1.4
	147nm,0.2s						
LLS	Linth-Limmern	0.29	210	ePg	Pg	10 10 18.1	+0.6
	43nm,0.2s						
WILA	Wila	0.38	325	⇓iPg	Pg	10 10 19.4	+0.2
	93nm,0.2s						
MUO	Muotathal	0.42	252	eSg	Pg	10 10 22.2	+2.2
	593nm,0.8s						
MUO	Muotathal	0.42	252	ePg	Sg	10 10 28.5	+3.0
	593nm,0.8s						
MUO	Muotathal	0.42	252	ePg	Pg	10 10 21.0	+1.0
MUO				eSg	Sg	10 10 28.5	+3.0
WEIN	Weingarten	0.46	339	eSg	Pg	10 10 21.0	+0.4
	313nm,0.4s						
DAVA	Damuels	0.48	67	ePg	Pg	10 10 19.9	-1.2
DAVA				eSg	Sg	10 10 28.2	+0.8
DAVA	Damuels	0.48	67	⇑ePg	Pg	10 10 19.9	-1.2
	20nm,0.1s,SNR=10						
DAVA				⇓iSg	Sg	10 10 27.1	-0.3
	80nm,0.2s						
DAVOX	Davos/Dischmat	0.55	125	ePg	Pg	10 10 24.7	+2.3
	6.0nm,0.2s						
DAVOX	Davos/Dischmat	0.55	125	Pg	Pg	10 10 22.2	-0.2
DAVOX				Sg	Sg	10 10 30.2	+0.7
DAVOX	Davos/Dischmat	0.55	125	ePg	Pg	10 10 22.2	-0.2
TUE	Stuetta	0.64	172	Pg	Pg	10 10 24.4	+0.4
TUE				Sg	Sg	10 10 33.4	+1.2
	23nm,0.4s						
TUE	Stuetta	0.64	172	eP	Pg	10 10 24.1	+0.1
TRULL	Truellikon	0.66	326	ePg	Pg	10 10 26.9	+2.4
	79nm,0.2s						
TRULL	Truellikon	0.66	326	ePg	Pg	10 10 24.7	+0.2
FUSIO	Fusio	0.75	211	⇓iP	Pg	10 10 27.6	+1.3
	9.2nm,0.2s						
FUSIO	Fusio	0.75	211	⇓iP	Pg	10 10 26.9	+0.6
SLE	Schleitheim	0.83	323	ePn	Pn	10 10 29.5	-1.3
	642nm,0.4s						
SLE	Schleitheim	0.83	323	ePn	Pg	10 10 27.6	-0.2
FETA	Feichten	1.03	94	⇓iPg	Pg	10 10 30.9	-0.7
	3.6nm,0.3s						
FETA				⇓iSg	Sg	10 10 44.7	-0.3
	22nm,0.4s						
SPAK	Spaichingen-Ko	1.04	344	Pg	Pg	10 10 32.4	+0.5
SPAK				Sg	Sg	10 10 46.4	+1.0
RETA	Reutte	1.11	69	⇑ePg	Pg	10 10 33.9	+0.7
	10.0nm,0.2s,SNR=5.6						
RETA				⇑iSg	Sg	10 10 48.1	+0.5
	44nm,0.4s						
RETA	Reutte	1.11	69	Pg	Pg	10 10 33.9	+0.7
	10.0nm,0.2s,SNR=5.6						
RETA				Sg	Sg	10 10 48.1	+0.4
	44nm,0.4s						
FELD	Feldberg im Sc	1.14	314	Pg	Pg	10 10 33.8	+0.2
FELD				Sg	Sg	10 10 49.6	+1.3
MUGIO	Muggio	1.19	186	Pn	Pn	10 10 36.1	+0.4
BBS	Basel-Blauen	1.22	288	Pg	Pg	10 10 36.1	+0.8
BBS				Sg	Sg	10 10 53.4	+2.2
VAI	Varese	1.27	195	Pg	Pg	10 10 36.8	+0.6
	42nm,0.5s						
MOTA	Moosalm	1.30	79	⇑iPg	Pg	10 10 36.5	-0.3
	14nm,0.2s,SNR=32						
MOTA				⇓iSg	Sg	10 10 54.7	+1.0
	22nm,0.2s						
SQTA	Sankt Quirin	1.36	84	⇓iPg	Pg	10 10 38.2	+0.3
SQTA				⇓iSg	Sg	10 10 55.8	+0.3
MMK	Mattmark	1.36	220	Pn	Pn	10 10 38.4	+0.3
MDI	Monti di Nese	1.37	166	Pg	Pg	10 10 39.8	+1.8
	38nm,0.4s						
BFO	Black Forest	1.37	334	ePg	Pg	10 10 37.7	-0.4
BFO				eSg	Sg	10 10 56.2	+0.3
BFO	Black Forest	1.37	334	ePg	Pg	10 10 37.7	-0.4
BFO				eSg	Sg	10 10 56.2	+0.3
MABI	Malga Bissina	1.37	139	Pg	Pg	10 10 38.1	0.0
	12nm,0.4s						
APPI	Appiano	1.51	114	Pg	Pg	10 10 41.9	+1.1
	48nm,0.4s						
MOF	Molkenrain	1.61	299	Pg	Pn	10 10 40.4	-1.0
WATA	Walderalm	1.62	81	⇑iPg	Pg	10 10 42.2	-0.7
	7.0nm,0.2s						
WATA				⇑iSg	Sg	10 11 05.7	+1.9
	18nm,0.4s						
MAGA	Magasa	1.64	143	Pg	Pg	10 10 44.1	+0.8
	71nm,0.4s						
WTTA	Wattenberg	1.65	83	ePg	Pg	10 10 43.0	-0.5
WTTA				eSg	Sg	10 11 06.8	+1.9
WTTA	Wattenberg	1.65	83	⇑ePg	Pg	10 10 42.8	-0.8
	5.3nm,0.2s						
WTTA				⇑eSg	Sg	10 11 07.1	+2.2
	35nm,0.5s						
WTTA	Wattenberg	1.65	83	Pg	Pg	10 10 43.0	-0.5
WTTA				Sg	Sg	10 11 06.3	+1.4
STU	Stuttgart	1.67	359	eSg	Sg	10 11 05.5	-0.1
FUR	Furstenfeldbru	1.75	52	eSg	Sg	10 11 08.4	+0.4
HINF	Hinteralfeld	1.76	295	ePg	Pg	10 10 47.5	+1.9
HINF				eSg	Sg	10 11 13.2	+4.7
	15nm,0.3s						
HINF	Hinteralfeld	1.76	295	ePg	Pg	10 10 47.5	+1.9
HINF				eSg	Sg	10 11 13.2	+4.7
	7.3nm,0.3s						
HINF	Hinteralfeld	1.76	295	ePn	Pn	10 10 42.7	-0.9
HINF				ePg	Pg	10 10 47.5	+1.9
HINF				eSg	Sg	10 11 13.2	+4.7
ECH	Echery	1.79	309	ePn	Pn	10 10 42.3	-1.7
ECH	Echery	1.79	309	Pg	Pg	10 10 46.3	+0.2
ECH	Echery	1.79	309	ePn	Pn	10 10 42.3	-1.6
ECH				Pg	Pg	10 10 46.3	+0.2
CDF	Champ du Feu	1.86	316	ePg	Pg	10 10 48.9	+1.4
CDF				eSn	Sn	10 11 08.5	-0.6
CDF				eSg	Sg	10 11 16.1	+4.6
	53nm,0.6s						
CDF	Champ du Feu	1.86	316	ePg	Pg	10 10 48.9	+1.4
CDF				eSn	Sn	10 11 08.5	-0.6
CDF				eSg	Sg	10 11 16.1	+4.6
	26nm,0.6s						
CDF	Champ du Feu	1.86	316	ePn	Pn	10 10 43.6	-1.3
CDF				ePg	Pg	10 10 48.9	+1.4
CDF				eSn	Sn	10 11 08.5	-0.6
CDF				eSg	Sg	10 11 16.1	+4.6
LANF	Langenberg	2.11	334	Pg	Pg	10 10 51.9	-0.4
HAU	Haudompre	2.15	296	ePg	Pg	10 10 54.2	+1.2
HAU				eSg	Sg	10 11 22.0	+1.1
	18nm,0.4s						
HAU	Haudompre	2.15	296	ePg	Pg	10 10 54.2	+1.2
HAU				eSg	Sg	10 11 22.0	+1.1
	9.1nm,0.4s						
HAU	Haudompre	2.15	296	ePn	Pn	10 10 48.1	-0.8
HAU				ePg	Pg	10 10 54.2	+1.2
HAU				eSg	Sg	10 11 22.0	+1.1
LSD	Lago del Serru	2.19	222	Pg	Pg	10 10 52.9	-0.9
	285nm,4.5s						
CABF	La Chapelle	2.21	258	ePg	Pg	10 10 54.3	+0.1
CABF				eSg	Sg	10 11 26.1	+3.3
	14nm,0.4s						
CABF	La Chapelle	2.21	258	ePg	Pg	10 10 54.3	+0.1
CABF				eSg	Sg	10 11 26.1	+3.3
	6.9nm,0.4s						
CABF	La Chapelle	2.21	258	ePn	Pn	10 10 48.1	-1.6
CABF				ePg	Pg	10 10 54.3	+0.1
CABF				eSg	Sg	10 11 26.1	+3.3
ABTA	Abfaltersbach	2.28	98	⇓ePg	Pg	10 10 54.5	-1.0
	3.3nm,0.3s						
ABTA				⇓eSg	Sg	10 11 27.1	+2.0
	14nm,0.4s						
LPL	La Plagne	2.34	228	ePg	Pg	10 10 57.0	+0.2
LPL				eSg	Sg	10 11 27.9	+0.7
	12nm,0.6s						
LPL	La Plagne	2.34	228	ePg	Pg	10 10 57.0	+0.2
LPL				eSg	Sg	10 11 27.9	+0.7
	5.9nm,0.6s						
LPL	La Plagne	2.34	228	eP	Pn	10 10 51.8	+0.2
LPL				ePg	Pg	10 10 57.0	+0.2
LPL				eSg	Sg	10 11 27.9	+0.7
LPG	La Plagne	2.35	228	ePg	Pg	10 10 56.3	-0.5
LPG				eSg	Sg	10 11 27.6	+0.3
	8.6nm,0.4s						
LPG	La Plagne	2.35	228	ePg	Pg	10 10 56.3	-0.5
LPG				eSg	Sg	10 11 27.6	+0.3
	4.3nm,0.4s						
BNI	Bardonecchia	2.71	222	ePg	Pg	10 11 02.9	-0.9
GRA1	Grafenberg Arr	2.91	26	Sg	Sg	10 11 44.8	-0.6
GRF	Grafenberg Arr	2.91	26	eSg	Sg	10 11 44.8	-0.6
MBDF	Montbardon	2.93	217	ePg	Pg	10 11 05.2	-2.8
MBDF				eSg	Sg	10 11 43.0	-2.9
	5.3nm,0.5s						
MBDF	Montbardon	2.93	217	ePg	Pg	10 11 05.2	-2.8
MBDF				eSg	Sg	10 11 43.0	-2.9
	2.7nm,0.5s						
MBDF	Montbardon	2.93	217	ePn	Pn	10 10 55.9	-3.7
MBDF				ePg	Pg	10 11 05.2	-2.8
MBDF				eSg	Sg	10 11 43.0	-2.9
TNS	Taunus Mts	3.17	351	eSg	Sg	10 11 53.7	+0.1
ORIF	Oris-en-Rattie	3.19	228	ePg	Pg	10 11 11.5	-1.5
ORIF				eSg	Sg	10 11 53.3	-1.1
	7.9nm,0.5s						
ORIF	Oris-en-Rattie	3.19	228	ePg	Pg	10 11 11.5	-1.5
ORIF				eSg	Sg	10 11 53.3	-1.1
	4.0nm,0.5s						
ORIF	Oris-en-Rattie	3.19	228	ePn	Pn	10 11 00.0	-3.3
ORIF				eP		10 11 03.4	
ORIF				ePg	Pg	10 11 11.5	-1.5
ORIF				eSg	Sg	10 11 53.3	-1.1
WLF	Walferdange	3.28	323	eSg	Sg	10 11 56.9	-0.3
GEC2	GERESS Array S	3.48	58	ePg	Pg	10 11 15.8	-2.7
GEC2	GERESS Array S	3.48	58	ePg	Pg	10 11 15.8	-2.7
KHC	Kasperske Hory	3.55	54	ePN	Pn	10 11 06.5	-1.7
KHC				ePG	Pg	10 11 14.7	-5.2
KHC				eSN	Sn	10 11 47.3	-3.6
KHC				eSG	Sg	10 12 02.0	-4.0
LOR	Lormes	3.66	275	ePn	Pn	10 11 08.2	-1.5
LOR				eSg	Sg	10 12 11.7	+2.2
	6.3nm,0.4s						
LOR	Lormes	3.66	275	ePn	Pn	10 11 08.2	-1.5
LOR				eSg	Sg	10 12 11.7	+2.2
	3.2nm,0.4s						

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SMF	**Signal de Mont**	**3.72**	**265**	*e*Pg	**Pg**	**10 11 22.6**	**-0.6**
SMF				*e*Sg	**Sg**	**10 12 12.3**	**+0.9**
	7.5nm,0.5s						
SMF	**Signal de Mont**	**3.72**	**265**	*e*Pg	**Pg**	**10 11 22.6**	**-0.6**
SMF				*e*Sg	**Sg**	**10 12 12.3**	**+0.9**
	3.8nm,0.5s						
SSB	**Saint Sauveur**	**3.73**	**242**	Pg	**Pg**	**10 11 23.0**	**-0.3**
SSB	**Saint Sauveur**	**3.73**	**242**	Pg	**Pg**	**10 11 23.0**	**-0.3**
VIVF	**Saint-Julien-l**	**3.89**	**236**	*e*Pg	**Pg**	**10 11 24.3**	**-2.0**
VIVF				*e*Sg	**Sg**	**10 12 15.8**	**-0.9**
	5.1nm,0.4s						
VIVF	**Saint-Julien-l**	**3.89**	**236**	*e*Pg	**Pg**	**10 11 24.3**	**-2.0**
VIVF				*e*Sg	**Sg**	**10 12 15.8**	**-0.9**
	2.5nm,0.4s						
AVF	**Avril sur Loir**	**4.04**	**268**	*e*Pn	**Pn**	**10 11 13.9**	**-0.9**
GIVF	**Givet**	**4.19**	**317**	*e*Pn	**Pn**	**10 11 15.4**	**-1.5**
BGF	**Bois d'Agland**	**4.41**	**265**	*e*Pn	**Pn**	**10 11 18.9**	**-1.1**
BGF				*e*Sn	**Sn**	**10 12 08.2**	**-3.9**
BGF				*e*Sg	**Sg**	**10 12 34.5**	**+0.9**
	7.5nm,0.4s						
BGF	**Bois d'Agland**	**4.41**	**265**	*e*Pn	**Pn**	**10 11 18.9**	**-1.1**
BGF				*e*Sn	**Sn**	**10 12 08.2**	**-3.9**
BGF				*e*Sg	**Sg**	**10 12 34.5**	**+0.9**
	3.8nm,0.4s						
PRU	**Pruhonice**	**4.56**	**49**	*e*SG	**Sg**	**10 12 34.3**	**-4.0**
DPC	**Dobruska-Polom**	**5.71**	**53**	*e*SG	**Sg**	**10 13 10.9**	**-4.3**

*ISCJB **09** 11:15:42.7±0.9,350S±0.1×1085W±02,h10km,mb4.0/10, MS3.7/5,Error ellipse: s-maj=28.9km s-min=18.1km az=148.4*
*IDC **09** 11:15:42.9±0.8,3491S×10844W,h0km,mb4.0/8, mb1 4.3/8,mb1mx4.1/18,mbtmp4.0/8,MS3.7/5,Ms1 3.7/5, ms1mx3.4/23,Error ellipse: s-maj=25.9km s-min=23.1km az=72.0*
*NEIC **09** 11:15:44.2±0.6,3497S×10847W,h10km,mb4.5/2,Error ellipse: s-maj=21.8km s-min=16.4km az=58.0*
ISC 09 11:15:45.0±0.9,**349S**±01×**1084W**±02,**h10**km,**n21**, σ**0^{s}74**/11,**mb4.0**/10,**MS3.7**/5,**Southern East Pacific Rise**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
RKT	**Rikitea**	**25.95**	**290**	*e*LR	LR	11 27 34.2	
	202nm,41.5s						
PLCA	**Paso Flores**	**30.29**	**112**	P	**P**	**11 21 55.5**	**-0.8**
	1.8nm,1.0s,mb3.8,baz=265,slow=5.8,SNR=3.6						
TBI	**Tubuai**	**37.43**	**277**	*e*LR	LR	11 33 01.8	
	267nm,29.5s						
PPT	**Papeete**	**40.44**	**285**	*e*P	**P**	**11 23 33.3**	**+10**
	34nm,25.5s						
PPT	**Papeete**	**40.44**	**285**	*e*LR	LR	11 34 34.2	
	166nm,24.5s						
LPAZ	**La Paz**	**40.46**	**73**	P	**P**	**11 23 25.4**	**+1.5**
	0.5nm,0.5s,mb3.5,baz=277,slow=8.5,SNR=4.7						
LPAZ				LR	LR	11 36 04.6	
	comp=Z,58nm,20.6s,MS3.4,baz=286,slow=30						
CPUP	**Villa Florida**	**44.38**	**93**	LR	LR	11 38 48.4	
	comp=Z,90nm,19.9s,MS3.7,baz=175,slow=31						
SIV	**San Ignacio**	**46.25**	**78**	P	**P**	**11 24 10.1**	**-0.5**
	2.1nm,1.0s,mb4.0,baz=244,slow=13,SNR=6.1						
RAR	**Rarotonga**	**46.86**	**273**	LR	LR	11 38 04.4	
	comp=Z,150nm,21.1s,MS3.9,baz=160,slow=29						
ROSC	**El Rosal**	**50.94**	**46**	LR	LR	11 41 51.7	
	comp=Z,40nm,18.7s,MS3.5,baz=174,slow=31						
QSPA	**South Pole Qui**	**55.27**	**180**	P	**P**	**11 25 18.2**	**+0.4**
	2.3nm,1.0s,mb4.2,baz=131,slow=4.1,SNR=5.0						
TXAR	**Lajitas Array**	**64.08**	**5**	P	**P**	**11 26 18.6**	**-0.4**
	0.6nm,0.9s,mb3.6,baz=179,slow=8.3,SNR=5.2						
JCT	**Junction City**	**65.56**	**8**	*e*P	**P**	**11 26 29.0**	**+0.3**
	5.0nm,0.9s,mb4.5						
PFO	**Pinyon Flat Ob**	**68.60**	**353**	P	**P**	**11 26 48.1**	**+0.3**
	1.9nm,0.9s,mb4.0,baz=255,slow=2.2,SNR=4.1						
NVAR	**Mina Array Bea**	**73.56**	**352**	P	**P**	**11 27 18.6**	**+0.8**
	3.5nm,0.9s,mb4.3,baz=184,slow=8.2,SNR=15						
PDAR	**Pinedale Array**	**77.33**	**359**	P	**P**	**11 27 38.3**	**-1.1**
	1.7nm,0.9s,mb4.0,baz=166,slow=5.1,SNR=11						
BMO	**Blue Mountains**	**79.82**	**354**	*e*P	**P**	**11 27 52.8**	**-0.3**
	5.3nm,1.5s,mb4.2						
DLBC	**Dease Lake**	**94.76**	**349**	LR	LR	12 03 22.2	
	comp=Z,64nm,18.4s,MS4.1,baz=103,slow=30						
AKASG	**Malin Array Be**	**145.69**	**49**	PKPbc	PKPbc	11 35 21.3	-2.1
	0.2nm,0.3s,baz=294,slow=2.5,SNR=6.1						
CMAR	**Chiang Mai Arr**	**150.70**	**243**	PKPbc	PKPbc	11 35 37.4	-0.4
	2.6nm,0.9s,baz=188,slow=1.7,SNR=14						
CMAR				PKPab	PKPab	11 35 44.7	0.0
	3.4nm,1.0s,baz=186,slow=1.8,SNR=11						
SONM	**Songino Array**	**151.13**	**307**	PKPbc	PKPbc	11 35 35.7	-2.2
	1.5nm,0.9s,baz=118,slow=1.7,SNR=6.5						

*IDC **09** 11:18:08.2±0.6,2600S×17658W,h0km,mb4.3/12, mb1 4.5/12,mb1mx4.4/16,mbtmp4.3/12,MS4.0/15, Ms1 4.0/15,ms1mx3.8/25,Error ellipse: s-maj=21.7km s-min=16.2km az=162.0*
*ISCJB **09** 11:18:12.0±0.5,26.1S±0.1×1766W±0.1,h33km,mb4.5/17, MS4.0/14,Error ellipse: s-maj=14.6km s-min=13.7km az=177.4*
*NEIC **09** 11:18:13.3±0.5,2599S×17654W,h35km,mb4.7/8,Error ellipse: s-maj=17.0km s-min=13.9km az=149.0*
ISC 09 11:18:09.9±4.4,**261S**±01×**1766W**±01,**h9**km±26km,**n48**, σ**0^{s}90**/33,**mb4.5**/17,**MS4.0**/14,**South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**3.40**	**200**	*e*P	**Pn**	**11 18 58.9**	**-4.1**
AFI	**Afiamalu**	**12.90**	**21**	Pn	**Pn**	**11 21 06.3**	**-7.1**
	2.1nm,0.3s,baz=202,slow=5.4,SNR=3.8						
AFI				Sn	Sn	11 23 14.8	-22
	1.0nm,0.3s,baz=140,slow=19,SNR=2.4						
AFI	**Afiamalu**	**12.90**	**21**	Pn	**Pn**	**11 21 06.3**	**-7.2**
AFI				Sn	Sn	11 23 14.8	-22
URZ	**Urewera**	**13.29**	**202**	Pn	**Pn**	**11 21 27.7**	**+9.1**
	2.3nm,0.3s,baz=86,slow=4.0,SNR=14						
URZ				Sn	**Sn**	**11 23 37.7**	**-8.8**
	1.3nm,0.3s,baz=231,slow=22,SNR=6.3						
URZ				LR	LR	11 26 08.9	
	comp=Z,448nm,19.4s,baz=232,slow=36						
DZM	**Mont Dzumac**	**16.02**	**281**	*e*P	**Pn**	**11 22 04.8**	**+9.3**
RPZ	**Rata Peaks**	**20.29**	**207**	P	**P**	**11 22 45.2**	**-0.6**
	3.4nm,0.5s,baz=1.2,slow=7.6,SNR=3.9						
TBI	**Tubuai**	**24.75**	**90**	*e*LR	LR	11 29 25.7	
	436nm,28.5s						
PPT	**Papeete**	**26.40**	**77**	*e*LR	LR	11 30 06.7	
	605nm,27.8s						
PPT	**Papeete**	**26.40**	**77**	LR	LR	11 32 20.4	
	comp=Z,185nm,18.1s,MS3.7,baz=270,slow=32						
HNR	**Honiara**	**27.74**	**302**	LR	LR	11 33 23.5	
	comp=Z,251nm,18.7s,MS3.8,baz=136,slow=33						
CTA	**Charters Tower**	**34.64**	**272**	*e*P	**P**	**11 25 01.4**	**+1.7**
	5.4nm,0.6s,mb4.7						
CTA	**Charters Tower**	**34.64**	**272**	P	**P**	**11 25 00.6**	**+0.9**
	6.4nm,0.5s,mb4.8,baz=87,slow=10,SNR=14						
CTAO	**Charters Tower**	**34.64**	**272**	*e*P	**P**	**11 25 00.8**	**+1.0**
	6.2nm,0.8s,mb4.6						
STKA	**Stephens Creek**	**36.90**	**251**	*e*P	**P**	**11 25 19.7**	**+0.7**
	1.6nm,0.5s,mb4.1						
STKA	**Stephens Creek**	**36.90**	**251**	P	**P**	**11 25 19.5**	**+0.5**
	1.7nm,0.5s,mb4.1,baz=82,slow=8.1,SNR=9.9						
STKA				LR	LR	11 39 23.6	
	comp=Z,375nm,18.4s,MS4.2,baz=291,slow=35						
RKT	**Rikitea**	**37.82**	**95**	*e*LR	LR	11 35 25.7	
	318nm,32.2s						
ASAR	**Alice Springs**	**44.79**	**262**	P	**P**	**11 26 24.1**	**-0.1**
	14nm,1.1s,mb4.7,baz=98,slow=7.5,SNR=67						
ASAR				PcP	PcP	11 28 06.0	-0.2
	0.7nm,0.7s,baz=116,slow=4.3,SNR=3.4						
WB2	**Warramunga Arr**	**45.38**	**267**	*e*P	**P**	**11 26 29.0**	**0.0**
WRA	**Warramunga Arr**	**45.40**	**267**	P	**P**	**11 26 28.2**	**-0.8**
	5.4nm,0.5s,mb4.6,baz=104,slow=7.9,SNR=72						
WRA				PcP	PcP	11 28 08.2	-0.2
	1.1nm,0.6s,baz=102,slow=3.4,SNR=4.9						
WRA				S	**S**	**11 33 10.6**	**+0.1**
	0.6nm,0.9s,baz=97,slow=15,SNR=4.5						
WRA				LR	LR	11 45 08.5	
	comp=Z,119nm,18.7s,MS3.9,baz=110,slow=36						
FORT	**Forrest**	**48.52**	**251**	*e*P	**P**	**11 26 52.5**	**-0.9**
	17nm,0.5s,mb5.3						
KAKA	**Kakadu**	**49.62**	**275**	*e*P	**P**	**11 27 01.4**	**-0.5**
	4.6nm,0.7s,mb4.6						
SBA	**Scott Base**	**52.44**	**184**	*e*P	**P**	**11 27 24.5**	**+2.1**
	11nm,1.1s,mb4.7						
FITZ	**Fitzroy Crossi**	**53.78**	**266**	*e*P	**P**	**11 27 33.8**	**+0.7**
	5.3nm,0.5s,mb4.7						
FITZ	**Fitzroy Crossi**	**53.78**	**266**	LR	LR	11 51 16.5	
	comp=Z,68nm,18.5s,MS3.7,baz=324,slow=37						
BATI	**Baumata**	**58.49**	**274**	LR	LR	11 51 13.8	
	comp=Z,187nm,20.2s,MS4.2,baz=26,slow=34						
QSPA	**South Pole Qui**	**64.03**	**180**	P	**P**	**11 28 43.9**	**+0.6**
	5.8nm,1.0s,mb4.5,baz=62,slow=2.0,SNR=18						
MJAR	**Matsushiro Arr**	**75.46**	**324**	LR	LR	11 57 33.4	
	comp=Z,62nm,19.0s,MS3.9,baz=310,slow=31						
MAW	**Mawson**	**76.80**	**200**	P	**P**	**11 30 02.5**	**+1.0**
	4.2nm,0.6s,mb4.5,baz=129,slow=8.2,SNR=21						
MAW				LR	LR	12 02 06.3	
	comp=Z,106nm,18.8s,MS4.2,baz=248,slow=34						
KSRS	**Korea Array**	**81.91**	**319**	P	**P**	**11 30 30.6**	**+0.9**
	1.0nm,0.7s,mb3.8,baz=89,slow=31,SNR=4.2						
KSRS				LR	LR	12 05 21.9	
	comp=Z,28nm,19.2s,MS3.6,baz=140,slow=35						
PETK	**Petropavlovsk-**	**81.96**	**345**	P	**P**	**11 30 29.8**	**+0.2**
	7.5nm,1.1s,mb4.5,baz=82,slow=11,SNR=3.6						
SNAA	**Sanae**	**82.44**	**178**	*e*	**P**	**11 30 31.1**	**-1.0**
SNAA				*e*		11 30 38.5	
SNAA	**Sanae**	**82.44**	**178**	*e*P	**P**	**11 30 31.0**	**-1.1**
	10nm,1.3s,mb4.6						
VNA3	**Neumayer Olymp**	**82.53**	**176**	*e*	**P**	**11 30 31.8**	**-0.8**
VNA3				*e*		11 30 40.4	
VNA2	**Neumayer--Watz**	**82.98**	**176**	*e*	**P**	**11 30 34.5**	**-0.4**
VNA2				*e*		11 30 43.1	
VNA1	**Neumayer--Stat**	**83.20**	**176**	*e*	**P**	**11 30 35.8**	**-0.3**
VNA1				*e*		11 30 44.7	
NVAR	**Mina Array Bea**	**84.19**	**42**	P	**P**	**11 30 41.5**	**0.0**
	0.8nm,0.8s,mb3.9,baz=231,slow=7.4,SNR=4.2						
PLCA	**Paso Flores**	**84.52**	**133**	LR	LR	11 59 37.2	
	comp=Z,141nm,20.9s,MS4.3,baz=205,slow=29						
KDAK	**Kodiak Island**	**85.91**	**13**	LR	LR	12 04 51.0	
	comp=Z,102nm,18.3s,MS4.3,baz=123,slow=33						
TXAR	**Lajitas Array**	**88.97**	**57**	P	**P**	**11 31 05.7**	**+0.6**
	0.4nm,0.9s,mb3.8,baz=239,slow=5.1,SNR=3.3						
TXAR				LR	LR	12 04 25.3	
	comp=Z,84nm,18.4s,MS4.2,baz=0.0,slow=31						
PDAR	**Pinedale Array**	**92.11**	**43**	P	**P**	**11 31 18.9**	**-0.6**
	0.7nm,0.9s,mb4.0,baz=294,slow=6.8,SNR=3.1						
PDAR				LR	LR	12 09 41.8	
	comp=Z,80nm,18.0s,MS4.2,baz=252,slow=34						
CMAR	**Chiang Mai Arr**	**93.19**	**289**	P	**P**	**11 31 22.3**	**-2.7**
	0.6nm,0.3s,mb4.4,baz=148,slow=3.4,SNR=3.4						
JTS	**JuntasAbangare**	**95.88**	**81**	LR	LR	12 05 30.1	
	comp=Z,74nm,21.3s,MS4.1,baz=238,slow=30						
ZALV	**Zalesovo Beam**	**115.60**	**320**	PKP	PKPdf	11 36 50.4	-1.6
	0.4nm,0.4s,baz=116,slow=3.4,SNR=2.9						
MKAR	**Makanchi Array**	**115.91**	**311**	PKP	PKPdf	11 36 50.6	-2.2
	0.7nm,0.7s,baz=70,slow=1.7,SNR=5.2						
NB2	**NORSAR Subarra**	**144.63**	**353**	PKP	PKPdf	11 37 43.1	-3.2
	comp=Z,5.4nm,1.0s,baz=8.1,slow=3.7						
NOA	**NORSAR Array B**	**144.63**	**353**	PKP	PKPdf	11 37 43.9	-2.4
	comp=Z,4.0nm,1.0s,baz=6.7,slow=2.3,SNR=4.5						
AKASG	**Malin Array Be**	**148.46**	**328**	PKPbc	PKPbc	11 37 55.3	-1.3
	comp=Z,1.7nm,0.6s,baz=42,slow=4.8,SNR=6.4						
TORD	**Torodi Ar. Bea**	**167.05**	**172**	PKPab	PKPab	11 39 19.9	-0.5
	comp=Z,4.1nm,0.9s,baz=186,slow=4.3,SNR=13						

NEIC 09 11:27:00.3,3773S×17634E,h191km,**MG4.1**(WEL),**After WEL.,North Island**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
TGRZ	**Tauranga**	**0.06**	**269**	P	Pn	11 27 25.4	+0.1
URZ	**Urewera**	**0.81**	**131**	P	Pn	11 27 27.6	-0.2
KUZ	**Kuaotunu**	**1.10**	**333**	P	Pn	11 27 29.6	-0.3
MWZ	**Matawai**	**1.12**	**123**	P	Pn	11 27 30.1	+0.2
BKZ	**Black Stump Fm**	**1.44**	**175**	P	Pn	11 27 32.5	-0.1
PUZ	**Puketiti**	**1.56**	**103**	P	Pn	11 27 33.6	0.0
MXZ	**Matakaoa Point**	**1.57**	**85**	P	Pn	11 27 34.1	+0.3
WPVZ	**Whakapapa**	**1.60**	**203**	P	Pn	11 27 33.6	-0.5
KNZ	**Kokohu**	**1.66**	**141**	P	Pn	11 27 35.0	+0.4
MOVZ	**Moawhango**	**1.74**	**195**	P	Pn	11 27 35.0	-0.4
VRZ	**Vera Road**	**1.87**	**221**	P	Pn	11 27 37.2	+0.5
WAZ	**Wanganui**	**2.28**	**207**	P	Pn	11 27 40.7	-0.4
TSZ	**Takapari Road**	**2.35**	**187**	P	Pn	11 27 41.1	-0.7
MRZ	**Mangatainoka R**	**2.99**	**191**	P	Pn	11 27 47.3	-1.9
KIW	**Kapiti Island**	**3.32**	**199**	P	Pn	11 27 50.8	-2.4
MTW	**Mount Morrison**	**3.49**	**190**	P	Pn	11 27 52.6	-2.7
CAW	**Cannon Point**	**3.52**	**196**	P	Pn	11 27 53.2	-2.4
PAWZ	**Paruwai Farm**	**3.71**	**191**	P	Pn	11 27 55.3	-2.8
WEL	**Wellington**	**3.75**	**198**	P	Pn	11 27 55.9	-2.7
MSWZ	**Moikau Station**	**3.78**	**193**	P	Pn	11 27 55.8	-3.1
SNZO	**South Karori**	**3.79**	**199**	P	Pn	11 27 55.9	-3.2
TCW	**Tory Channel**	**3.83**	**204**	P	Pn	11 27 57.1	-2.4
BHW	**Baring Head**	**3.85**	**197**	P	Pn	11 27 56.5	-3.2
NNZ	**Nelson**	**4.17**	**212**	P	Pn	11 28 00.8	-3.0
QRZ	**Quartz Range**	**4.28**	**223**	P	Pn	11 28 02.2	-3.0
BSWZ	**Blackbirch Sta**	**4.41**	**205**	P	Pn	11 28 04.7	-2.1
THZ	**Tophouse**	**4.82**	**212**	P	Pn	11 28 09.8	-2.3
KHZ	**Kahutara**	**5.15**	**204**	P	Pn	11 28 12.9	-3.4
DSZ	**Denniston Nort**	**5.32**	**220**	P	Pn	11 28 15.2	-3.3
LTZ	**Lake Taylor**	**5.93**	**210**	P	Pn	11 28 22.9	-3.5
MQZ	**McQueen's Vall**	**6.59**	**204**	P	Pn	11 28 30.3	-4.7
WVZ	**Waitaha Valley**	**6.84**	**217**	P	Pn	11 28 34.6	-3.6
LBZ	**Lake Benmore**	**8.11**	**213**	P	Pn	11 28 50.8	-4.1
ODZ	**Otahua Downs**	**8.47**	**209**	P	Pn	11 28 55.8	-3.7
JCZ	**Jackson Bay**	**8.55**	**220**	P	Pn	11 28 56.3	-4.3
TUZ	**Tuapeka**	**9.62**	**209**	P	Pn	11 29 11.0	-3.5

IDC 09 11:29:56.7±4.2,**209S×9963E,h0**km,**mb3.7**/5,**mb1 3.8**/5, **mb1mx3.6**/19,**mbtmp3.7**/5,**Error ellipse: s-maj=176.3km s-min=22.6km az=56.0,Southern Sumatera**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**38.27**	**120**	P	P	11 37 18.8	-0.3
	0.6nm,0.9s,baz=305,slow=8.6,SNR=5.3						
ASAR	**Alice Springs**	**39.50**	**126**	P	P	11 37 29.4	0.0
	0.3nm,0.6s,baz=304,slow=8.4,SNR=6.9						
SONM	**Songino Array**	**50.07**	**6**	P	P	11 38 53.3	0.0
	0.9nm,0.6s,baz=188,slow=9.1,SNR=6.8						
MKAR	**Makanchi Array**	**51.02**	**345**	P	P	11 39 00.8	+0.3
	0.7nm,0.5s,baz=149,slow=9.2,SNR=5.2						
ZALV	**Zalesovo Beam**	**57.19**	**350**	P	P	11 39 44.8	-0.6
	0.8nm,0.5s,baz=174,slow=5.8,SNR=4.5						
TXAR	**Lajitas Array**	**145.00**	**37**	PKPbc	PKPbc	11 49 36.0	0.0
	0.3nm,0.6s,baz=240,slow=0.8,SNR=5.3						

*ISCJB **09** 11:44:44.6±0.9,1689S±009×6938W±008,h195km±8km, mb3.8/3,Error ellipse: s-maj=16.1km s-min=12.6km az=155.4*
*IDC **09** 11:44:45.6±1.2,1675S×6944W,h187km±8km,mb3.6/3, mb1 3.5/6,mb1mx3.3/19,mbtmp3.5/6,Error ellipse: s-maj=25.6km s-min=18.8km az=137.0*
*NEIC **09** 11:44:45.4±0.8,1683S×6943W,h187km±9km,mb4.0/2, Error ellipse: s-maj=15.5km s-min=14.3km az=190.0*
ISC 09 11:44:45.8±0.9,**168S**±01×**6937W**±009,**h191**km±8km,**n12**, σ**1^{s}28**/16,**mb3.8**/3,**Peru-Bolivia border region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**1.30**	**66**	P	**Pn**	**11 45 18.7**	**+1.7**
	83nm,0.3s,baz=278,slow=5.9,SNR=2178						
LPAZ				S	**Sn**	**11 45 41.8**	**+0.8**
	13nm,0.3s,baz=122,slow=19,SNR=7.0						
LPAZ	**La Paz**	**1.30**	**66**	P	**Pn**	**11 45 18.7**	**+1.7**
LPAZ				S	**Sn**	**11 45 41.8**	**+0.8**
LVC	**Limon Verde**	**5.79**	**176**	P	**Pn**	**11 46 09.1**	**-1.0**
	1.1nm,0.3s,baz=332,slow=7.8,SNR=11						
LVC				S	**Sn**	**11 47 10.8**	**-5.9**
	4.1nm,0.3s,baz=203,slow=20,SNR=22						
LVC	**Limon Verde**	**5.79**	**176**	P	**Pn**	**11 46 09.1**	**-1.0**
LVC				S	**Sn**	**11 47 10.8**	**-6.0**
SIV	**San Ignacio**	**8.00**	**85**	P	**Pn**	**11 46 38.5**	**-0.6**
	1.5nm,0.3s,baz=276,slow=13,SNR=19						
SIV				S	**Sn**	**11 48 07.3**	**-1.9**
	0.1nm,0.3s,baz=244,slow=21,SNR=4.8						
NNA	**Nana**	**8.69**	**303**	P	**Pn**	**11 46 45.8**	**-2.3**
	2.2nm,0.3s,baz=181,slow=9.9,SNR=4.0						
NNA	**Nana**	**8.69**	**303**	*e*P	**Pn**	**11 46 46.7**	**-1.4**
	8.0nm,0.6s						
PLCA	**Paso Flores**	**23.86**	**182**	P	**P**	**11 49 43.7**	**+2.2**
	1.7nm,0.8s,mb3.7,baz=346,slow=13,SNR=4.1						
PLCA	**Paso Flores**	**23.86**	**182**	*e*P	**P**	**11 49 42.5**	**+1.0**
	2.5nm,0.9s,mb3.8						
DBIC	**Dimbokro**	**67.90**	**75**	P	**P**	**11 55 25.1**	**+0.8**
	5.9nm,1.0s,mb4.2,baz=233,slow=10,SNR=2.9						
TORD	**Torodi Ar. Bea**	**76.24**	**72**	P	**P**	**11 56 14.2**	**+0.4**
	0.5nm,0.4s,mb3.5,baz=247,slow=4.8,SNR=7.4						
WRA	**Warramunga Arr**	**136.68**	**213**	PKP	PKPdf	12 03 46.4	+0.3
	0.5nm,1.1s,baz=130,slow=1.6,SNR=5.5						

*CSEM **09** 11:58:07.1,4281N×4664E,h20km,mb3.7,After OBN*
*MOS **09** 11:58:07.5±0.7,4281N×4664E,h20km,mb3.7/1,Error ellipse: s-maj=21.5km s-min=14.4km az=25.1*
*ISCJB **09** 11:58:09.2±0.7,4281N±006×466E±02,h26km±19km, Error ellipse: s-maj=25.2km s-min=8.6km az=164.0*
ISC 09 11:58:08.9±0.6,**4278N**±005×**4647E**±005,**h13**km±8km,**n12**, σ**0^{s}90**/19,**Eastern Caucasus**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
BTLR	**Botlikh**	**0.22**	**237**	*i* PG	**Pg**	**11 58 08.3**	**-5.3**
UNCR	**Uncukul**	**0.25**	**106**	*i* PG	**Pg**	**11 58 12.8**	**-1.3**
UNCR				*i* S	**Sg**	**11 58 18.8**	**+1.2**
UNCR				pmax	pmax		
	comp=Z,34nm,0.2s						
UNCR	**Uncukul**	**0.25**	**106**	*i* Pg	**Pg**	**11 58 12.8**	**-1.3**
	comp=Z,34nm,0.2s						
UNCR				*i* Sg	**Sg**	**11 58 18.8**	**+1.2**
DBC	**Dubki**	**0.35**	**48**	*e*PG	**Pg**	**11 58 15.0**	**-1.0**
DBC				*e*S	**Sg**	**11 58 21.5**	**+0.7**
KMKR	**Kumukh**	**0.80**	**144**	*i* PG	**Pg**	**11 58 23.5**	**-0.8**
KMKR				*e*S	**Sg**	**11 58 35.5**	**+0.7**
KMKR				pmax	pmax		
	comp=Z,21nm,0.2s						
KMKR	**Kumukh**	**0.80**	**144**	*i* Pg	**Pg**	**11 58 23.5**	**-0.8**
	comp=Z,21nm,0.2s						
KMKR				*e*Sg	**Sg**	**11 58 35.5**	**+0.7**
SNJR	**Sundja**	**1.25**	**284**	*e*Pg	**Pg**	**11 58 32.3**	**-0.6**
SNJR				*e*Sg	**Sg**	**11 58 50.4**	**+1.2**
LACR	**Lac**	**1.60**	**272**	*i* Pn	**Pn**	**11 58 36.0**	**-0.8**
ARNR	**Ardon**	**1.66**	**285**	*e*Pn	**Pn**	**11 58 38.9**	**+1.3**
ARNR				*e*Sg	**Sg**	**11 59 01.7**	**-0.5**
KORR	**Kora**	**1.79**	**281**	*e*Pn	**Pn**	**11 58 40.1**	**+0.6**
ZEI	**Tsey**	**1.89**	**271**	*e*Pn	**Pn**	**11 58 40.5**	**-0.4**
LVV	**L'vov**	**16.99**	**302**	*e*P	**Pn**	**12 02 15.4**	**+9.4**

IDC 09 12:07:09.2±1.8,**720S×12760E,h0**km,**mb3.8**/2,**mb1 4.2**/4, **mb1mx3.7**/14,**mbtmp4.0**/4,**ML4.1**/2,**Error ellipse: s-maj=258.6km s-min=26.4km az=63.0,Banda Sea**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**14.25**	**153**	Pn	Pn	12 10 32.7	+0.3
	0.7nm,0.3s,baz=329,slow=14,SNR=44						
WRA				Sn	Sn	12 12 57.2	-14
	0.9nm,0.3s,baz=326,slow=23,SNR=6.2						
ASAR	**Alice Springs**	**17.45**	**160**	P	Pn	12 11 15.7	+1.6
	0.8nm,0.3s,baz=336,slow=11,SNR=69						
ASAR				S	Sn	12 14 19.2	-10
	0.3nm,0.3s,baz=347,slow=24,SNR=4.1						
STKA	**Stephens Creek**	**27.80**	**154**	P	P	12 12 59.3	-0.8
	1.7nm,0.9s,baz=335,slow=14,SNR=3.2						
MKAR	**Makanchi Array**	**67.11**	**328**	P	P	12 18 04.8	+0.2
	0.2nm,0.4s,baz=113,slow=7.4,SNR=5.9						

IDC 09 12:11:10.4±4.7,**2003S×17879W,h0**km,**mb4.0**/4, **mb1 4.2**/5,**mb1mx3.9**/17,**mbtmp4.0**/5,**Error ellipse: s-maj=96.5km s-min=51.1km az=73.0,Fiji Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**18.51**	**190**	P	Pn	12 15 27.8	-0.5
	0.4nm,0.3s,baz=295,slow=23,SNR=3.9						
ASAR	**Alice Springs**	**43.91**	**256**	P	P	12 19 18.8	-0.4
	0.9nm,0.4s,baz=92,slow=7.9,SNR=11						
WRA	**Warramunga Arr**	**43.93**	**262**	P	P	12 19 19.9	+0.6
	1.0nm,0.3s,baz=94,slow=8.3,SNR=86						
FITZ	**Fitzroy Crossi**	**52.36**	**262**	P	P	12 20 23.9	-0.7
	0.7nm,0.5s,baz=105,slow=12,SNR=3.3						
CMAR	**Chiang Mai Arr**	**89.26**	**290**	P	P	12 24 09.1	+0.2
	0.6nm,0.7s,baz=140,slow=4.0,SNR=4.7						

IDC 09 12:18:59.6±9.0,**140N×12471E,h0**km,**mb3.7**/3,**mb1 3.9**/4, **mb1mx3.6**/18,**mbtmp3.7**/4,**ML3.9**/1,**Error ellipse: s-maj=145.2km s-min=112.5km az=130.0,Minahassa Peninsula, Sulawesi**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**19.40**	**177**	P	Pn	12 23 28.1	-0.4
	0.3nm,0.3s,baz=359,slow=13,SNR=20						
WRA	**Warramunga Arr**	**23.22**	**156**	P	P	12 24 06.6	-1.9
	1.1nm,0.5s,baz=334,slow=10,SNR=24						
ASAR	**Alice Springs**	**26.47**	**161**	P	P	12 24 38.6	0.0
	0.6nm,0.4s,baz=340,slow=11,SNR=18						
STKA	**Stephens Creek**	**36.76**	**156**	P	P	12 26 10.5	+1.4
	3.3nm,1.2s,baz=346,slow=8.3,SNR=4.8						

JMA 09 12:46:51.4±0.3,**4400N×14790E,h0**km,**M3.5,Kuril Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
NEM2	**Nemuro 2**	**1.69**	**249**	P	Pn	12 47 22.4	+0.3
NEM2				*e*S	Sn	12 47 44.8	+0.4
JRA	**Rausu**	**2.01**	**269**	P	Pn	12 47 27.1	+0.6
JNK	**Nakash**	**2.34**	**261**	P	Pn	12 47 32.0	+0.9
JNK				*e*S	Sn	12 48 01.5	+1.0
JAK	**Akkeshi**	**2.54**	**248**	P	Pn	12 47 34.5	+0.7
JAK				*e*S	Sn	12 48 06.8	+1.4
JAR	**Ashorobuto**	**3.08**	**258**	P	Pn	12 47 42.8	+1.6
JAR				*e*S	Sn	12 48 20.9	+2.2
JOB	**Onbets**	**3.16**	**251**	P	Pn	12 47 44.0	+1.7
JOB				*e*S	Sn	12 48 22.3	+1.7
JCH	**Churui**	**3.59**	**249**	*e*S	Sn	12 48 32.6	+1.3
JNBK	**Urakawa-nobuka**	**4.14**	**247**	P	Pn	12 47 57.8	+2.0
JKB	**Kayabe**	**5.46**	**250**	P	Pn	12 48 15.7	+1.7
JKB				*e*S	Sn	12 49 18.1	+0.5

*ISCJB **09** 13:10:15.6±3.9,37S±02×1497E±0.1,h68km±35km, mb4.2/8,Error ellipse: s-maj=26.6km s-min=22.4km az=39.0*
*IDC **09** 13:10:17.0±9.9,370S×14958E,h54km±82km,mb4.1/8, mb1 4.3/9,mb1mx4.0/17,mbtmp4.1/9,ML3.7/1,MS3.8/17, Ms1 3.8/17,ms1mx3.7/25,Error ellipse: s-maj=57.8km s-min=29.7km az=85.0*
*NEIC **09** 13:10:18.2±2.9,380S×14969E,h76km±26km,mb3.9/2, Error ellipse: s-maj=21.3km s-min=17.5km az=51.0*
*DJA **09** 13:10:43,498S×14821E,h122km,mb4.6/6*
ISC 09 13:10:17.8±3.3,**38S**±01×**1497E**±02,**h72**km±30km,**n33**, σ**0^{s}93**/19,**mb4.2**/8,**Bismarck Sea**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**6.12**	**204**	*e*P	**Pn**	**13 11 45.9**	**+0.2**
	61nm,1.0s						
CTA	**Charters Tower**	**16.54**	**191**	*e*P	**Pn**	**13 14 09.7**	**+4.4**
	6.4nm,0.9s						
CTA	**Charters Tower**	**16.54**	**191**	P	**Pn**	**13 14 08.1**	**+2.7**
	0.2nm,0.3s,baz=26,slow=11,SNR=4.7						
CTA				LR	LR	13 19 42.6	
	comp=Z,246nm,20.8s,baz=18,slow=34						
CTAO	**Charters Tower**	**16.54**	**191**	*e*P	**Pn**	**13 14 07.3**	**+2.0**
	12nm,0.9s						
GUMO	**Guam**	**17.93**	**345**	LR	LR	13 19 55.0	
	comp=Z,142nm,18.9s,baz=141,slow=32						
KAKA	**Kakadu**	**19.24**	**242**	*e*P	**Pn**	**13 14 35.4**	**-2.8**
	44nm,0.9s						
KAKA	**Kakadu**	**19.24**	**242**	*e*P	**Pn**	**13 14 35.3**	**-2.8**
WB2	**Warramunga Arr**	**21.95**	**222**	*e*P	**P**	**13 15 05.1**	**-0.6**
WRA	**Warramunga Arr**	**21.96**	**222**	P	**P**	**13 15 05.5**	**-0.3**
	19nm,0.8s,mb4.5,baz=44,slow=10,SNR=47						
WRA				PcP	PcP	13 19 03.0	+0.7
	0.3nm,0.7s,baz=36,slow=4.1,SNR=3.9						
WRA				LR	LR	13 24 20.7	
	comp=Z,192nm,21.1s,baz=40,slow=38						
DZM	**Mont Dzumac**	**24.36**	**140**	*e*P	**P**	**13 15 28.3**	**-1.0**
ASAR	**Alice Springs**	**24.97**	**216**	P	**P**	**13 15 36.1**	**+1.3**
	17nm,1.0s,mb4.4,baz=53,slow=8.4,SNR=70						
DAV	**Davao City (W)**	**26.39**	**294**	LR	LR	13 25 58.2	
	comp=Z,174nm,18.4s,baz=275,slow=36						
BATI	**Baumata**	**26.61**	**255**	P	**P**	**13 15 50.5**	**+0.7**
	6.9nm,0.5s,mb4.5,baz=169,slow=6.2,SNR=4.3						
FITZ	**Fitzroy Crossi**	**27.52**	**237**	*e*P	**P**	**13 15 57.6**	**-0.3**
	41nm,0.8s,mb5.0						

FITZ	Fitzroy Crossi	27.52	237	P	P	13 15 57.1	-0.8
	25nm,0.8s,mb4.8,baz=63,slow=12,SNR=38						
FITZ				LR	LR	13 28 48.2	
	comp=Z,133nm,18.1s,baz=248,slow=40						
FITZ	Fitzroy Crossi	27.52	237	eP	P	13 15 57.1	-0.8
STKA	Stephens Creek	28.95	194	LR	LR	13 27 36.2	
	comp=Z,209nm,20.4s,baz=26,slow=36						
CBIJ	Chichi jima	31.56	347	LR	LR	13 28 42.0	
	comp=Z,40nm,18.7s,baz=311,slow=35						
KSRS	Korea Array	45.77	336	LR	LR	13 35 46.6	
	comp=Z,65nm,21.5s,baz=145,slow=34						
CMAR	Chiang Mai Arr	54.67	296	P	P	13 19 40.5	+0.6
	2.7nm,0.8s,mb4.3,baz=120,slow=5.9,SNR=19						
CMAR				LR	LR	13 42 38.5	
	comp=Z,52nm,18.1s,baz=326,slow=36						
CHTO	Chiang Mai	54.78	296	eP	P	13 19 40.6	-0.1
PETK	Petropavlovsk-	57.09	6	LR	LR	13 39 25.1	
	comp=Z,85nm,20.2s,baz=110,slow=31						
PPT	Papeete	60.96	108	eLR	LR	13 38 48.7	
	126nm,32.5s						
TBI	Tubuai	61.77	114	eLR	LR	13 39 40.1	
	122nm,31.0s						
SONM	Songino Array	63.86	329	P	P	13 20 42.9	+0.1
	0.5nm,0.8s,mb3.4,baz=123,slow=5.3,SNR=3.7						
SONM				LR	LR	13 45 46.9	
	comp=Z,62nm,18.8s,baz=233,slow=33						
MKAR	Makanchi Array	77.56	319	P	P	13 22 05.8	-0.3
	0.6nm,0.8s,mb3.4,baz=96,slow=4.3,SNR=3.7						
ZALV	Zalesovo Beam	78.63	327	P	P	13 22 12.1	+0.4
	0.5nm,0.3s,mb3.9,baz=131,slow=9.8,SNR=2.9						
ZALV				LR	LR	13 55 38.3	
	comp=Z,25nm,20.9s,baz=93,slow=35						
MAW	Mawson	85.31	203	LR	LR	13 57 29.3	
	comp=Z,104nm,18.1s,baz=245,slow=33						
BBB	Bella Bella	88.18	38	LR	LR	14 02 40.7	
	comp=Z,114nm,18.4s,baz=108,slow=36						
YBH	Yreka Blue Hor	90.69	48	LR	LR	13 54 28.6	
	comp=Z,170nm,21.1s,baz=331,slow=29						
PFO	Pinyon Flat Ob	95.27	57	LR	LR	14 01 53.4	
	comp=Z,78nm,20.3s,baz=144,slow=32						
ELK	Elko	96.29	50	LR	LR	14 06 56.3	
	comp=Z,75nm,18.0s,baz=330,slow=35						
TORD	Torodi Ar. Bea	147.07	288	PKPbc	PKPbc	13 29 54.4	+0.8
	2.4nm,0.8s,baz=81,slow=2.6,SNR=10						

*ISCJB **09** 13:12:01.9±0.2,3847N±002×11848W±002,h10km,Error ellipse: s-maj=2.4km s-min=1.9km az=11.7*
*NEIC **09** 13:12:01.0,3847N×11850W,h8km,ML3.1(NCEDC), ML3.5(REN),After REN.*
ISC 09 13:12:02.1±0.2**,3847N**±002×**11848W**±002**,h10**km**,n74,** σ**1^{s}05**/108**,28C-31D,California-Nevada border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
R08A	Mina	0.32	111	P	Pg	13 12 08.3	-0.1
	baz=0.3,SNR=625						
R08A				⇓S	Sg	13 12 12.3	-0.3
	baz=0.3						
Q07A	Schurz	0.54	332	⇓S	Sg	13 12 19.3	-0.4
	baz=0.5						
Q08A	Gabbs	0.58	47	P	Pg	13 12 12.8	-0.6
	baz=0.6,SNR=407						
Q08A				⇓S	Sg	13 12 21.3	+0.1
	baz=0.6						
R06C	Coleville	0.76	275	P	Pg	13 12 15.9	-1.0
	baz=0.7,SNR=240						
R06C				⇓S	Sg	13 12 26.2	-0.7
	baz=0.7						
MLAC	Mammoth Lakes	0.88	199	P	Pg	13 12 18.4	-0.7
	baz=0.9,SNR=78						
TPH	Tonopah	1.06	111	ePn	Pn	13 12 21.6	-1.5
TPH				eS	Sg	13 12 36.3	-0.1
TPH				eSg	Sg	13 12 39.9	+3.5
Q09A	Carvers	1.08	70	P	Pb	13 12 22.3	-0.7
	baz=1.1,SNR=74						
Q09A				⇓S	Sg	13 12 37.4	+0.4
	baz=1.1						
MTUM	Tungsten Hills	1.11	183	ePn	Pn	13 12 22.5	-1.3
P07A	Fallon	1.12	344	⇓P	Pb	13 12 22.6	-1.0
	baz=1.1,SNR=31						
P07A				⇓S	Sb	13 12 38.7	+0.4
	baz=1.1						
R09A	Tonopah	1.13	101	P	Pb	13 12 23.0	-0.7
	baz=1.1,SNR=1000						
R09A				⇑S	Sb	13 12 39.1	+0.7
	baz=1.1						
S09A	Goldfield	1.24	126	⇓P	Pn	13 12 25.0	-0.4
	baz=1.3,SNR=1000						
S09A				⇑S	Sb	13 12 42.1	+0.6
	baz=1.3						
P08A	Dixie Valley	1.27	14	⇑P	Pn	13 12 25.7	-0.2
	baz=1.3,SNR=62						
WCN	Washoe City	1.30	310	P	Pn	13 12 25.4	-0.9
	baz=1.3,SNR=423						
WCN				⇑S	Sb	13 12 43.4	0.0
	baz=1.3						
KCC	Kaiser Creek	1.32	210	P	Pn	13 12 25.9	-0.7
	baz=1.3,SNR=67						
TIN	Tinemaha	1.42	172	⇓P	Pn	13 12 28.4	+0.4
	baz=1.4,SNR=9.4						
PAHR	Pah Rah Range	1.43	331	⇑iPn	Pn	13 12 27.5	-0.6
PAHR				eSn	Sn	13 12 46.6	-0.3
P09A	Austin	1.51	43	⇓P	Pn	13 12 30.1	+0.9
	baz=1.5,SNR=44						
CMB	Columbia Colle	1.56	255	⇑P	Pn	13 12 29.8	-0.1
	baz=1.5,SNR=62						
CMB				⇑S	Sn	13 12 50.3	+0.1
	baz=1.5						
CMB	Columbia Colle	1.56	255	⇑iPn	Pn	13 12 29.7	-0.2
CMB				eSn	Sn	13 12 49.6	-0.6
S10A	Tonopah Range,	1.58	109	⇑P	Pn	13 12 30.0	-0.2
	baz=1.6,SNR=1000						
P06A	Stead Airport,	1.64	318	⇓Pb	Pb	13 12 31.6	-0.9
	baz=1.6,SNR=44						
Q10A	Clear Creek Ra	1.67	77	⇓P	Pn	13 12 31.5	+0.1
	baz=1.7,SNR=204						
GRAC	Grapevine Rang	1.71	149	⇓P	Pn	13 12 32.1	+0.2
	baz=1.7,SNR=73						
R10A	Warm Springs	1.72	95	⇓P	Pn	13 12 32.0	-0.2
	baz=1.7,SNR=674						
O07A	Toulon	1.72	350	⇑P	Pn	13 12 31.8	-0.4
	baz=1.7,SNR=219						
O07A				⇓Sb	Sb	13 12 56.8	+1.2
	baz=1.7						
T06C	Millerton Lake	1.75	214	⇓P	Pn	13 12 32.5	0.0
	baz=1.7,SNR=83						
LAVA	Lava Cap Winer	1.79	280	⇓Pb	Pb	13 12 34.1	-1.0
	baz=1.8,SNR=36						
HELL	Mitchell Peak	1.83	194	⇓P	Pn	13 12 34.0	+0.4
	baz=1.8,SNR=203						
S05C	Merced	1.84	233	⇓Pb	Pb	13 12 35.1	-0.7
	baz=1.8,SNR=40						
S05C				⇑Sb	Sb	13 12 59.6	+0.6
	baz=1.8						
O08A	Rochester Mine	1.84	8	⇑P	Pn	13 12 33.3	-0.5
	baz=1.8,SNR=194						
O08A				⇑Sb	Sb	13 13 00.5	+1.5
	baz=1.8						
P05C	Yuba Gap, Truc	1.86	297	⇑Pb	Pb	13 12 35.0	-1.2
	baz=1.8,SNR=20						
P05C				⇑Sb	Sb	13 13 00.4	+0.9
	baz=1.8						
R04C	Big Horse Ranc	1.94	265	⇓Sb	Sb	13 13 02.4	+0.6
	baz=1.9						
P10A	Eureka	1.95	53	⇑P	Pn	13 12 35.5	+0.2
	baz=2.0,SNR=13						
O09A	Fish Creek Ran	1.98	30	⇑P	Pn	13 12 35.4	-0.2
	baz=2.0,SNR=73						
O06A	Flanigan	1.99	329	Pb	Pb	13 12 37.6	-0.9
	baz=2.0,SNR=39						
O06A				⇓Sb	Sb	13 13 05.0	+1.6
	baz=2.0						
BEKR	Beckwourth	2.02	314	⇓P	Pn	13 12 36.0	-0.3
	baz=2.0,SNR=69						
BMN	Battle Mountai	2.19	26	ePn	Pn	13 12 37.9	-0.7
BMN				Sn	Sn	13 13 02.6	-3.2
Q11A	Duckwater	2.25	79	⇓P	Pn	13 12 39.3	-0.1
	baz=2.3,SNR=20						
R11A	Troy Canyon, C	2.28	92	⇑P	Pn	13 12 39.2	-0.5
	baz=2.3,SNR=24						
R11A				⇑Sb	Sb	13 13 13.9	+2.4
	baz=2.3						
Q04C	Lincoln	2.30	280	⇓P	Pn	13 12 39.8	-0.2
	baz=2.3,SNR=29						
Q04C				⇓Sb	Sb	13 13 13.7	+1.5
	baz=2.3						
TPNV	Topopah Spring	2.33	130	⇓P	Pn	13 12 40.4	-0.1
	baz=2.3,SNR=150						
TPNV	Topopah Spring	2.33	130	ePn	Pn	13 12 41.9	+1.4
TPNV				eS	Sn	13 13 15.9	+6.8
N08A	GE Springer Mi	2.33	6	⇑P	Pn	13 12 40.1	-0.4
	baz=2.3,SNR=28						
O10A	Cortez Mining,	2.38	39	⇓P	Pn	13 12 41.1	-0.1
	baz=2.4,SNR=13						
N06A	Buffalo Meadow	2.51	336	⇑Sb	Sb	13 13 20.3	+2.1
	baz=2.5						
MPMC	Manual Prospec	2.53	161	⇑Sb	Sb	13 13 21.5	+2.8
	baz=2.5						
ORV	Oroville	2.59	296	⇓P	Pn	13 12 44.0	-0.1
	baz=2.6,SNR=8.6						
PACP	Pacheco Peak	2.66	238	⇑Sb	Sb	13 13 24.6	+2.1
	baz=2.6						
O11A	Cowboy Ranch,	2.75	52	⇓P	Pn	13 12 46.3	0.0
	baz=2.8,SNR=8.8						
ISA	Isabella	2.80	180	ePn	Pn	13 12 49.2	+2.2
ISA				ePg	Pg	13 12 52.5	-3.3
T11A	Corn Creek, Al	2.85	114	⇓P	Pn	13 12 47.9	+0.2
	baz=2.9,SNR=13						
SAO	San Andreas Ge	2.90	235	ePn	Pn	13 12 51.2	+2.8
SAO				eSg	Sg	13 13 31.4	-4.0
M08A	Happy Creek Ra	2.98	1	⇑P	Pn	13 12 49.7	+0.3
	baz=3.0,SNR=11						
S12A	Delamar Landin	2.99	105	⇑P	Pn	13 12 49.7	+0.1
	baz=3.0,SNR=12						
NSHM	Saint Helena R	3.24	272	ePn	Pn	13 12 48.4	-4.6
ELK	Elko	3.38	47	ePn	Pn	13 12 54.7	-0.3
ELK				eSg	Sg	13 13 46.7	-4.1
O12A	Currie	3.41	57	⇓P	Pn	13 12 55.2	-0.1
	baz=3.4,SNR=8.3						
GSC	Goldstone	3.43	156	ePn	Pn	13 12 55.8	+0.2
GSC				ePg	Pg	13 13 05.5	-2.3
MCCM	Marconi Confer	3.48	266	ePg	Pg	13 13 02.3	-6.4
MCCM				eSn	Sn	13 13 37.5	+0.1
N12A	Clover Valley,	3.57	47	⇑P	Pn	13 12 57.6	+0.1
	baz=3.6,SNR=34						
MOD	Modoc	3.71	338	ePg	Pg	13 13 07.7	-5.4
MOD				eSg	Sg	13 13 57.7	-3.4
WDC	Whiskeytown Da	3.79	305	ePg	Pg	13 13 10.2	-4.5
WVOR	Wild Horse Val	3.97	358	Pn	Pn	13 13 04.3	+1.4
WVOR				ePg	Pg	13 13 18.1	0.0
WVOR				eSg	Sg	13 14 08.2	-1.3
M12A	Wells	4.02	42	⇑P	Pn	13 13 04.0	+0.2
	baz=4.0,SNR=13						
ARUT	Antelope Range	4.03	98	ePn	Pn	13 13 03.2	-0.7
ARUT				ePg	Pg	13 13 15.3	-4.1
CCUT	Cedar City	4.14	101	ePn	Pn	13 13 05.4	0.0
CCUT				eSg	Sg	13 14 11.8	-3.4
L11A	Cat Creek Ranc	4.25	29	⇑P	Pn	13 13 07.5	+0.7
	baz=4.2,SNR=19						
LDFC	Landfair	4.33	140	ePg	Pg	13 13 20.7	-4.3
DUG	Dugway	4.72	67	ePn	Pn	13 13 16.8	+3.4
BGU	Big Grassy Mou	4.87	58	ePn	Pn	13 13 16.1	+0.7
BGU				Sn	Sn	13 14 14.7	+2.9
BGU				eSg	Sg	13 14 35.5	-3.0
MSU	Marysvale	4.95	87	ePn	Pn	13 13 18.5	+2.1
PFO	Pinyon Flat Ob	5.12	161	ePg	Pg	13 13 36.5	-3.6
	6.9nm,1.0s						
SRU	San Rafael	6.25	82	P	Pn	13 13 39.5	+5.2
	2.6nm,0.6s						
WUAZ	Wupatki	6.40	115	ePg	Pg	13 14 00.3	-4.4
	5.8nm,0.6s						

*NEIC **09** 13:17:46.5±1.3,24.19S×67.13W,h194km±29km,Error ellipse: s-maj=71.3km s-min=13.0km az=83.0*
IDC 09 13:17:45.1±2.5**,2420S**×**6690W,h173**km±39km**,mb3.4**/1**, mb1 3.3**/3**,mb1mx3.1**/15**,mbtmp3.2**/3**,Error ellipse: s-maj=67.2km s-min=22.2km az=81.0,Salta Province**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LVC	Limon Verde	2.43	310	P	Pn	13 18 28.2	+1.5
	11nm,0.3s,baz=136,slow=6.3,SNR=22						
LVC				S	Sn	13 18 59.3	+0.6
	11nm,0.3s,baz=1.3,slow=21,SNR=12						
LVC	Limon Verde	2.43	310	P	Pn	13 18 28.2	+1.5
LVC				S	Sn	13 18 59.3	+0.6
CFAA	Coronel Fontan	7.47	189	P	Pn	13 19 31.4	0.0
	0.0nm,0.3s,baz=25,slow=16,SNR=2.6						
CFAA				S	Sn	13 20 49.6	-5.6
	0.1nm,0.3s,baz=222,slow=16,SNR=5.4						
LPAZ	La Paz	7.96	351	P	Pn	13 19 39.1	+1.2
	0.3nm,0.3s,baz=183,slow=8.0,SNR=7.3						
TRQA	Tornquist	14.43	164	eP	Pn	13 21 04.2	+2.8
TORD	Torodi Ar. Bea	76.56	69	P	P	13 29 16.3	-0.4
	0.9nm,0.9s,baz=242,slow=4.6,SNR=3.9						
MKAR	Makanchi Array	146.62	40	PKPbc	PKPbc	13 37 06.1	-0.1
	0.4nm,0.5s,baz=324,slow=3.3,SNR=6.0						

KRSC 09 13:58:06.3±0.6**,5597N**×**16401E,h11**km±10km**,ML3.5, Komandorsky Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KBTR	Krutoberegovo	0.71	290	eP	Pg	13 58 21.0	+1.0
KBTR				iS	Sg	13 58 32.1	+2.8
SRKR	Sorokina	1.73	295	eP	Pn	13 58 36.9	+0.7
SRKR				eS	Sn	13 58 59.4	+1.2
ZLN	Zelenaya	1.80	273	eP	Pn	13 58 37.8	+0.6
ZLN				eS	Sn	13 59 01.1	+1.0
KLY	Klyuchi	1.91	282	P	Pn	13 58 36.7	-2.0
KLY				iS	Sn	13 58 59.4	-3.3
MKZ	Mys Kozlova	1.93	224	eP	Pn	13 58 39.1	+0.2
MKZ				iS	Sn	13 59 02.6	-0.5
KRSR	Krestovskiy	1.95	279	P	Pn	13 58 41.0	+1.8
KRSR				iS	Sn	13 59 05.7	+2.1
KPT	Kopyto	2.13	271	P	Pn	13 58 41.7	0.0
TUMR	Tumrok	2.30	254	P	Pn	13 58 46.4	+2.4
TUMR				iS	Sn	13 59 14.9	+2.6
KOZ	Kozyrevsk	2.32	274	P	Pn	13 58 45.8	+1.4
KOZ				iS	Sn	13 59 15.3	+2.4
SRDR	Sredinnyy	2.43	280	P	Pn	13 58 47.2	+1.4
SRDR				iS	Sn	13 59 17.1	+1.6

*NEIC **09** 14:13:12.5,3306S×7321W,h47km,MD3.6(GUC),After GUC.*
GUC 09 14:13:12.5±0.7**,3306S**×**7321W,h47**km±999km**,MD3.6, ML3.6,3C-2D,Off coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LNV	Longovilo	1.75	121	⇑iP	Pn	14 13 40.5	+0.2
TACH	Talagante	1.99	108	iP	Pn	14 13 44.1	+0.4
TACH				iS	Sn	14 14 08.4	+1.0
RCDM	Rinconada Maip	2.06	103	iP	Pn	14 13 45.3	+0.7
RCDM				iS	Sn	14 14 09.9	+0.9
RCDM				AML	AML	14 14 12.3	
	comp=N,509nm,0.1s						
RCDM	Rinconada Maip	2.06	103	iP	Pn	14 13 45.3	+0.7
RCDM				iS	Sn	14 14 09.9	+0.9
PEL	Peldehue	2.12	93	eP	Pn	14 13 47.4	+2.0
PEL				iS	Sn	14 14 13.2	+2.6
PEL				AML	AML	14 14 16.4	
	comp=E,534nm,0.4s						
ANTU	Antumapu	2.22	104	iP	Pn	14 13 47.6	+0.8
ANTU				iS	Sn	14 14 14.1	+1.2
ANTU				AML	AML	14 14 16.9	
	comp=N,367nm,0.3s						
ANTU	Antumapu	2.22	104	iP	Pn	14 13 47.6	+0.8
ANTU				iS	Sn	14 14 14.1	+1.2
CLCH	Cerro Calan	2.27	99	⇑iP	Pn	14 13 48.3	+0.8
CLCH				eS	Sn	14 14 15.3	+1.2
CLCH				AML	AML	14 14 18.1	
	comp=N,592nm,0.4s						
CHCH	Chadas Angostu	2.31	113	iP	Pn	14 13 48.9	+0.9
CHCH				iS	Sn	14 14 16.2	+1.1
PCH	Pirque	2.33	105	iP	Pn	14 13 48.6	+0.4
PCH				iS	Sn	14 14 16.6	+1.0
SFDO	San Fernando	2.40	131	iP	Pn	14 13 49.6	+0.4
SFDO				iS	Sn	14 14 18.1	+0.8
CACH	El Canelo	2.42	116	iP	Pn	14 13 51.4	+1.8
CACH				iS	Sn	14 14 20.4	+2.4
FCH	Farellones	2.46	97	iP	Pn	14 13 51.8	+1.6
FCH				iS	Sn	14 14 21.2	+2.2
FCH				AML	AML	14 14 25.0	
	comp=N,320nm,0.3s						
LMEL	Las Melosas	2.63	108	⇓iP	Pn	14 13 54.2	+1.7
LMEL				iS	Sn	14 14 25.2	+2.0
LMEL				AML	AML	14 14 29.1	
	comp=N,409nm,0.2s						
LMEL	Las Melosas	2.63	108	⇓iP	Pn	14 13 54.2	+1.7
LMEL				iS	Sn	14 14 25.2	+2.0
CICH	Cipreses	2.64	119	iP	Pn	14 13 53.5	+0.9
CICH				iS	Sn	14 14 24.2	+0.8
TLL	Tololo Astrono	3.54	36	⇑iP	Pn	14 14 06.1	+1.1
TLL				iS	Sn	14 14 46.6	+0.9

*ISCJB **09** 14:15:17.7±0.8,2450N±003×12254E±002,h12km±7km, Error ellipse: s-maj=6.0km s-min=3.0km az=13.9*
*TAP **09** 14:15:17.0,2452N×12248E,h9km±1km,ML3.3,D*
*JMA **09** 14:15:17.1,2478N×12260E,h14km±2km,M2.6*
ISC 09 14:15:17.5±0.5**,2451N**±004×**12254E**±002**,h12**km±4km**, n27,**σ**0^{s}77**/42**,Taiwan region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
YOJ	Yonaguni jima	0.43	97	P	Pg	14 15 26.6	+0.5
YOJ				S	Sg	14 15 33.2	+1.3
TWC	Suao	0.64	279	P	Pg	14 15 28.9	-1.1
	baz=279						
TWC				S	Sg	14 15 39.2	+0.9
	baz=279						
TWB1	Santiao Chiao	0.70	315	eP	Pg	14 15 31.2	0.0
	baz=317						
TWB1				eS	Sg	14 15 41.0	+0.6
	baz=317						
ENA	Nanau	0.73	263	P	Pg	14 15 30.8	-0.9
	baz=262						
ILA	Ilan	0.76	289	eP	Pg	14 15 31.8	-0.5
	baz=290						
ILA				eS	Sg	14 15 42.7	+0.4
	baz=290						
TWE	Neicheng	0.82	285	iP	Pg	14 15 32.7	-0.7
	baz=285						
TWE				eS	Sg	14 15 44.3	+0.1
	baz=285						
NWF	Wu-fen Shan	0.89	309	P	Pg	14 15 34.9	+0.3
	baz=310						
NWF				S	Sg	14 15 46.5	+0.3
	baz=310						
TWD	Chiawan	0.96	244	eP	Pg	14 15 36.0	-0.1
	baz=241						
TWD				eS	Sg	14 15 48.3	-0.4
	baz=241						
TWA	Mucha	0.99	298	eP	Pg	14 15 35.6	-1.0
	baz=299						
TWA				eS	Sg	14 15 49.2	-0.2
	baz=299						
TAP1	Taipei	1.06	300	eP	Pb	14 15 37.2	-0.6
	baz=300						
NNS	Nan Shan	1.07	266	P	Pb	14 15 37.2	-0.7
	baz=265						
NNS				eS	Sg	14 15 51.3	-0.6
	baz=265						
IRIF	Iriomote-Funau	1.10	99	P	Pb	14 15 37.8	-0.7
IRIF				S	Sb	14 15 52.6	-0.2
TWY	Chenhua	1.14	312	eP	Pb	14 15 39.1	-0.2
	baz=313						
TWY				eS	Sb	14 15 54.0	-0.1
	baz=313						
PCYT	Pengchaiyu	1.19	339	eP	Pb	14 15 41.2	+1.2
	baz=341						
WHF	Hehuan Shan	1.22	253	P	Pn	14 15 39.9	-0.5
	baz=251						
ESL	Shilin	1.23	236	eP	Pn	14 15 39.7	-0.8
	baz=233						
HATJ	Hateruma jima	1.24	111	P	Pn	14 15 40.9	+0.2
HATJ				S	Sb	14 15 57.9	+1.0
JKRS	Kuro-shima	1.37	101	P	Pn	14 15 42.1	-0.3
JKRS				S	Sb	14 15 59.8	-0.7
NSTT	Nanjuang	1.41	275	eP	Pn	14 15 42.9	-0.1
	baz=274						
JIJ	Ishigaki jima	1.47	96	P	Pn	14 15 43.0	-0.8
JIJ				S	Sn	14 16 01.4	-1.6
TWF1	Yuli	1.62	225	eP	Pn	14 15 45.7	-0.3
	baz=223						
SMLT	Sun Moon Lake	1.62	248	eP	Pn	14 15 47.2	+1.2
	baz=246						
TYC	Yuchr	1.65	249	eP	Pn	14 15 47.8	+1.5
	baz=247						
YUS	Yu-Shan	1.77	235	eP	Pn	14 15 49.2	+1.1
	baz=233						
YUS				eS	Sn	14 16 10.2	-0.3
	baz=233						
ALS	Alishan	1.88	238	eP	Pn	14 15 50.9	+1.5
	baz=236						
ELDTW	Lidau	1.92	227	eP	Pn	14 15 50.2	+0.2
	baz=225						
CHN5	Tsauling	1.93	242	eP	Pn	14 15 51.3	+1.1
	baz=240						

*IDC **09** 14:48:57.6±1.1,1295N×8702W,h0km,mb3.8/5,mb1 4.2/6, mb1mx3.8/21,mbtmp3.8/6,ML3.5/1,MS3.3/2,Ms1 3.3/2, ms1mx2.7/34,Error ellipse: s-maj=56.5km s-min=21.0km az=58.0*
*CASC **09** 14:48:58.8±2.8,1193N×8824W,h61km±93km,MD4.2, mb4.2(NEIC)*
*ISCJB **09** 14:49:06.1±1.0,126N±02×87.1W±02,h112km±10km, mb4.0/8,Error ellipse: s-maj=43.2km s-min=9.2km az=145.7*
*NEIC **09** 14:49:07.1±1.4,1260N×8687W,h108km±13km,mb4.2/3, Error ellipse: s-maj=43.5km s-min=13.2km az=57.0*
ISC 09 14:49:05.5±1.6**,124N**±02×**874W**±03**,h95**km±15km**,n35,** σ**1^{s}23**/22**,mb4.0**/8**,7C-2D,Near coast of Nicaragua**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
COPN	Copaltepe	0.86	105	⇓eP	Pn	14 49 23.3	-0.8
COPN				eS	Sn	14 49 46.5	+8.6
CNCH	Conchagua	0.94	336	⇑eP	x	14 49 20.8	
CNCH				eS	x	14 49 40.6	
BLLM	Bellamira	1.29	323	⇑eP	x	14 49 22.6	
VSM	San Miguel	1.30	321	⇑eP	x	14 49 22.6	
VSM				eS	x	14 49 45.9	
CAHU	Cacacuatique	1.55	331	⇑eP	x	14 49 27.6	
CAHU				eS	x	14 49 52.7	
TGUH	Tegucigalpa,Un	1.64	6	⇑iP	Pn	14 49 33.8	+0.4
TGUH				eS	Sn	14 50 04.0	+10
TGUH	Tegucigalpa,Un	1.64	6	eP	Pn	14 49 33.8	+0.5
SNVI	San Vicente	1.81	311	eP	x	14 49 27.6	
SNVI				eS	x	14 49 49.7	
LFRS	El Faro	1.99	308	⇑eP	x	14 49 27.8	
LFRS				eS	x	14 49 52.0	
LBRS	Las Brisas	2.04	310	eP	x	14 49 30.5	
BOQS	Boqueron	2.22	306	eP	x	14 49 31.7	
SBLS	San Blas	2.56	304	⇑eP	x	14 49 35.2	
SNJE	San Jose	2.56	305	⇓eP	x	14 49 35.5	
SNJE				eS	x	14 50 06.5	
RTR	El Retiro	2.61	305	eP	x	14 49 36.1	
RTR				eS	x	14 50 05.6	
RBDL	Robledal	2.77	308	eP	x	14 49 39.2	
JTS	JuntasAbangare	3.22	131	Pn	Pn	14 49 52.2	-2.0
	4.4nm,0.3s,baz=324,slow=14,SNR=12						
JTS				Sn	Sn	14 50 32.5	+0.8
	12nm,0.3s,baz=301,slow=21,SNR=5.7						
CGA2	Cerro Gallo 2	3.77	129	eP	Pn	14 50 02.0	+0.6
PRS1	Puriscal	3.90	128	eP	Pn	14 50 04.2	+0.9
URSC	Urasca	4.41	125	eP	Pn	14 50 12.1	+1.9
BUS	Buena Vista	4.60	128	eP	Pn	14 50 13.1	+0.4
ACR	Cerro Adams	5.62	131	eP	Pn	14 50 25.7	-1.0
ROSC	El Rosal	14.97	119	ePn	Pn	14 52 29.6	-2.6
ATAH	Atahualpa	21.28	155	LR	LR	15 00 05.8	
	comp=Z,79nm,21.5s,baz=180,slow=31						
TXAR	Lajitas Array	22.61	321	P	P	14 53 57.7	-0.7
	3.5nm,0.7s,mb3.8,baz=137,slow=10,SNR=29						
MIAR	Mount Ida	22.73	347	eP	P	14 53 57.5	-2.1
	17nm,0.8s,mb4.4						
TKL	Tuckaleechee C	23.38	8	P	P	14 54 01.6	-4.1
	1.4nm,0.6s,mb3.5,baz=337,slow=9.3,SNR=1.7						
TKL				LR	LR	15 03 41.1	
	comp=Z,75nm,18.4s,baz=50,slow=39						
CCM	Cathedral Cave	25.76	353	eP	P	14 54 28.7	+1.4
	4.0nm,0.6s,mb4.0						
AMTX	Amarillo	25.84	332	eP	P	14 54 28.4	+0.3
	4.8nm,0.6s,mb4.1						
PDAR	Pinedale Array	35.81	332	P	P	14 55 56.9	+1.2
	0.6nm,0.8s,mb3.5,baz=120,slow=10,SNR=2.8						
PDAR				PcP	PcP	14 58 24.0	+2.7
	0.3nm,0.6s,baz=161,slow=6.6,SNR=2.9						

NVAR Mina Array Bea 37.74 319 P P 14 56 16.2 +4.1
0.2nm,0.3s,mb3.4,baz=128,slow=7.7,SNR=2.7
NVAR PcP PcP 14 58 31.9 +4.6
0.3nm,0.5s,baz=156,slow=4.9,SNR=2.7
ULM Lac du Bonnet 38.36 351 P **P 14 56 17.2 +0.1**
6.8nm,0.5s,mb4.8,baz=167,slow=8.6,SNR=10
ULM Lac du Bonnet 38.36 351 P **P 14 56 17.2 +0.1**
ASAR Alice Springs 139.26 248 PKhKP 15 08 16.9
0.2nm,1.0s,baz=104,slow=2.9,SNR=2.9
ASAR PKP PKPdf 15 08 29.2 +7.0
0.2nm,0.6s,baz=107,slow=2.1,SNR=3.8
WRA Warramunga Arr 139.27 254 PKhKP 15 08 22.5
0.3nm,0.8s,baz=99,slow=3.1,SNR=3.9
WRA PKP PKPdf 15 08 28.8 +6.5
0.3nm,0.6s,baz=93,slow=2.1,SNR=6.6
CMAR Chiang Mai Arr 148.69 348 PKP PKPbc 15 08 42.5 -0.1
0.5nm,0.5s,baz=290,slow=1.7,SNR=5.1
CMAR PKPbc PKPbc 15 08 44.9 +2.3
0.5nm,0.5s,baz=327,slow=3.2,SNR=5.6

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*BJI **09** 15:03:38.5, 4.67S×153.27E, h46^{km}, mB5.7, mb5.5, Ms5.7, Msz5.5*

*ISCJB **09** 15:03:40.0±0.1, 4.84S±0.02×152.84E±0.02, h45^{km}, mb5.6/130, MS5.6/256, Error ellipse: s-maj=2.9km s-min=2.7km az=32.2*

*MOS **09** 15:03:39.8±1.4, 4.79S×152.89E, h33^{km}, mb5.8/36, MS5.6/70, Error ellipse: s-maj=7.4km s-min=5.4km az=104.8*

*BGS **09** 15:03:40.3±1.9, 4.81S×152.89E, h33^{km}, MS5.4*

*IDC **09** 15:03:40.0±0.9, 4.91S×152.78E, h30^{km}±5^{km}, mb5.4/23, mb1 5.4/26, mb1mx5.4/26, mbtmp5.4/26, ML4.9/2, MS5.4/21, Ms1 5.4/21, ms1mx5.2/27, Error ellipse: s-maj=8.1km s-min=6.8km az=57.0*

*NEIC **09** 15:03:41.2±0.1, 4.81S×152.89E, h39^{km}, mb5.7/63, MS5.7/201, MW6.0, Error ellipse: s-maj=4.1km s-min=3.2km az=77.0, Moment Tensor Solution. s23 Moment tensor: Scale 10^{18}Nm; M_{rr}0.00; $M_{\theta\theta}$0.00; $M_{\phi\phi}$0.00; $M_{r\theta}$0.00; $M_{\theta\phi}$0.00; $M_{\phi r}$0.00; Best double couple: $M_0$1.10000×10^{18} NP1:ϕ_s310.00000°, δ47.00000°, λ-130.00000°. NP2:ϕ_s181.00000°, δ56.00000°, λ-56.00000°. Principal axes: T 0.9300, Plg5.0000°, Azm247.0000°; N 0.2700, Plg27.0000°, Azm339.0000°; P -1.2000, Plg61.0000°, Azm147.0000°; Depth from synthetics of broadband displacement seismograms.*

*GCMT **09** 15:03:41.2±0.1, 4.95S×152.91E, h46^{km}, MW6.0/112, Moment Tensor Solution. s110,c254; s112,c346; Duration: 2.3s Moment tensor: Scale 10^{18}Nm; M_{rr}-0.55±.01; $M_{\theta\theta}$-0.35±.01; $M_{\phi\phi}$0.89±.01; $M_{r\theta}$0.50±.01; $M_{\theta\phi}$-0.29±.01; $M_{\phi r}$0.42±.01; Best double couple: $M_0$1.05700×10^{18} NP1:ϕ_s314.00000°, δ47.00000°, λ-148.00000°. NP2:ϕ_s201.00000°, δ68.00000°, λ-48.00000°. Principal axes: T 1.0280, Plg12.0000°, Azm262.0000°; N 0.0580, Plg38.0000°, Azm2.0000°; P -1.0860, Plg49.0000°, Azm158.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*

*SZGRF **09** 15:03:44.6, 5.07S×151.11E, h48^{km}, mb5.6, New Britain, Papua New Guinea, region*

*DJA **09** 15:03:47, 4.97S×152.97E, h110^{km}, Mw6.0/34*

ISC 09 15:03:41.8±0.1**, 4.82S**±0.02×**152.87E**±0.02**, h47**^{km}**,** **h47**^{km}±1.2^{km}**:pP-P, n1122,** σ0.79/593**, mb5.6**/130**,** **MS5.6**/256**, 171C-130D, New Britain region**

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

PMG Port Moresby 7.28 231⇑*e*P **Pn 15 05 26.3 +0.7**
PMG pmax pmax
comp=Z,1µm,0.8s
PMG Port Moresby 7.28 231⇑*e*P **Pn 15 05 26.3 +0.6**
comp=Z,1µm,0.8s
HNR Honiara 8.38 124 Pn **Pn 15 05 40.1 -0.7**
comp=Z,18nm,0.3s,baz=182,slow=3.8,SNR=27
HNR Sn **Sn 15 07 14.3 +0.1**
baz=53,slow=23,SNR=1.4
HNR Honiara 8.38 124 *e*P **Pn 15 05 40.6 -0.2**
HNR pmax pmax
comp=Z,1µm,0.8s
HNR Honiara 8.38 124 *e*P **Pn 15 05 40.6 -0.2**
comp=Z,1µm,0.8s
COEN Coen 13.19 226 *e*P **Pn 15 06 47.3 +0.8**
comp=Z,133nm,1.0s
CTA Charters Tower 16.49 202 *e*P **Pn 15 07 31.9 +1.9**
comp=Z,51nm,0.9s
CTA *e* 15 09 28.5
CTA *e*S **S 15 10 32.9 -9.3**
CTA *e*SCP ScP 15 15 51.5 +0.8
CTA *e*SCS ScS 15 19 33.4 +3.3
CTA Charters Tower 16.49 202 Pn **Pn 15 07 29.8 -0.2**
comp=Z,2.2nm,0.3s,baz=28,slow=13,SNR=46
CTA Sn **Sn 15 10 35.6 +3.5**
comp=Z,0.6nm,0.3s,baz=94,slow=10,SNR=2.2
CTA ScP ScP 15 15 52.5 +1.8
comp=Z,0.2nm,0.3s,baz=215,slow=2.3,SNR=3.4
CTA Charters Tower 16.49 202 *e*P **Pn 15 07 31.9 +1.9**
CTA *e*S **S 15 10 32.9 -9.3**
CTA pmax pmax
comp=Z,51nm,0.9s
CTAO Charters Tower 16.49 202 *e*P **Pn 15 07 29.2 -0.8**
CTAO pmax pmax
comp=Z,417nm,1.4s
CTAO Charters Tower 16.49 202 *e*P **Pn 15 07 29.2 -0.8**
comp=Z,417nm,1.4s
GUMO Guam 19.94 337 P **Pn 15 08 11.9 -0.1**
comp=Z,9.9nm,0.3s,baz=166,slow=10,SNR=13
GUMO S **S 15 11 55.9 +4.0**
baz=206,slow=19,SNR=3.3
GUMO PcP PcP 15 12 25.1 -0.4
comp=Z,4.6nm,0.3s,baz=201,slow=16,SNR=3.8
GUMO LR LR 15 15 01.7
comp=Z,5µm,18.9s,baz=157,slow=34
GUMO Guam 19.94 337 *e*P **Pn 15 08 12.1 +0.1**
GUMO pmax pmax
comp=Z,3µm,1.3s
GUMO Guam 19.94 337 *e*P **Pn 15 08 12.1 +0.1**
comp=Z,3µm,1.3s
NOUC Port Laguerre 21.55 144 *e*P **P 15 08 26.5 -0.9**
DZM Mont Dzumac 21.61 144 *e*P **P 15 08 27.0 -1.0**
KAKA Kakadu 21.65 247 *e*P **P 15 08 26.3 -2.2**
comp=Z,749nm,0.6s,mb6.3
KAKA *e*S **S 15 12 22.2 -3.6**
BAYA Yate Dam 21.93 143 *e*P **P 15 08 32.1 +0.6**
WB2 Warramunga Arr 23.48 229 *e*P **P 15 08 47.2 -0.4**
WRA Warramunga Arr 23.49 229 P **P 15 08 46.7 -1.0**
comp=Z,224nm,0.5s,mb5.9,baz=54,slow=9.9,SNR=335
WRA PcP PcP 15 12 33.1 +0.6
comp=Z,22nm,0.7s,baz=50,slow=2.3,SNR=3.1
WRA S **S 15 12 56.5 -1.5**
comp=Z,140nm,1.3s,baz=53,slow=17,SNR=7.6
WRA ScP ScP 15 16 07.8 +0.7
comp=Z,20nm,1.1s,baz=56,slow=2.7,SNR=4.8
WRA PKiKP PKiKP 15 20 16.1 -0.5
comp=Z,2.2nm,0.6s,baz=321,slow=1.2,SNR=9.3
WRA P3KP 15 43 18.4
comp=Z,1.5nm,0.8s,baz=187,slow=2.4,SNR=6.4
WRA Warramunga Arr 23.49 229 P **P 15 08 46.7 -1.0**
WRA 15 12 33.1
WRA S **S 15 12 56.5 -1.5**
WRA Warramunga Arr 23.49 229 P **P 15 08 46.7 -1.0**
WRA PcP PcP 15 12 33.1 +0.6
WRA S **S 15 12 56.5 -1.5**
WRA ScP ScP 15 16 07.8 +0.7
ARMA Armidale 25.49 182 *e*P **P 15 09 06.8 +1.0**
ARMA *e* 15 09 30.3
ARMA *e*S **S 15 13 43.8 +14**
ARMA *e*SCP ScP 15 16 19.6 +7.2
ASAR Alice Springs 26.19 222 P **P 15 09 11.2 -1.0**
comp=Z,28nm,0.5s,mb5.1,baz=55,slow=9.0,SNR=350
ASAR PcP PcP 15 12 39.5 +1.1
comp=Z,20nm,0.8s,baz=45,slow=3.5,SNR=2.7
ASAR S **S 15 13 40.7 -0.5**
comp=Z,13nm,0.9s,baz=60,slow=10,SNR=4.6
ASAR ScP ScP 15 16 15.3 +0.7
comp=Z,8.1nm,0.9s,baz=57,slow=3.4,SNR=3.5
ASAR PKiKP PKiKP 15 20 17.1 -0.9
comp=Z,3.5nm,1.0s,baz=320,slow=0.4,SNR=5.1
ASAR P3KPbc 15 42 02.7
comp=Z,0.6nm,0.9s,baz=222,slow=1.3,SNR=4.0
ASAR P3KP 15 43 11.0
comp=Z,2.3nm,1.0s,baz=145,slow=2.4,SNR=4.2

ASAR Alice Springs 26.19 222 P **P 15 09 11.2 -1.0**
ASAR 15 12 39.5
ASAR S **S 15 13 40.7 -0.4**
ASAR Alice Springs 26.19 222 P **P 15 09 11.2 -1.0**
ASAR PcP PcP 15 12 39.5 +1.1
ASAR S **S 15 13 40.6 -0.5**
ASAR ScP ScP 15 16 15.3 +0.7
FUNA Funafuti 26.40 99 P **P 15 09 12.8 -1.5**
comp=Z,403nm,1.4s,mb5.8
FUNA LR LR
comp=Z,10µm,19.0s,MS5.4
STKA Stephens Creek 28.92 200 *e*P **P 15 09 36.0 -0.6**
comp=Z,39nm,0.6s,mb5.3
STKA *e*S **S 15 14 23.0 -1.1**
STKA *e*SCP ScP 15 16 28.0 +5.3
STKA *e*SCS ScS 15 20 38.4 +22
STKA Stephens Creek 28.92 200 P **P 15 09 35.7 -0.9**
comp=Z,46nm,0.7s,mb5.3,baz=4.2,slow=8.8,SNR=54
STKA S **S 15 14 23.0 -1.0**
comp=Z,15nm,0.9s,baz=72,slow=24,SNR=2.6
STKA ScP ScP 15 16 26.4 +3.7
comp=Z,19nm,0.9s,baz=106,slow=3.7,SNR=3.0
STKA PKiKP PKiKP 15 20 19.4 +0.1
comp=Z,1.5nm,0.6s,baz=146,slow=3.6,SNR=2.9
STKA LR LR 15 20 53.4
comp=Z,11µm,21.7s,MS5.4,baz=16,slow=36
BATI Baumata 29.44 258 P **P 15 09 41.0 -0.4**
comp=Z,208nm,0.7s,mb6.0,baz=173,slow=1.1,SNR=57
DAV Davao City (W) 29.69 293 P **P 15 09 44.5 +0.8**
comp=Z,83nm,0.4s,mb5.8,baz=43,slow=17,SNR=4.2
DAV S **S 15 14 37.9 +1.4**
comp=Z,161nm,0.4s,baz=68,slow=9.1,SNR=2.5
DAV LR LR 15 21 25.0
comp=Z,7µm,20.1s,MS5.3,baz=100,slow=36
DAV Davao City (W) 29.69 293⇑*e*P **P 15 09 40.8 -2.8**
DAV Davao City (W) 29.69 293 P **P 15 09 44.5 +0.8**
DAV S **S 15 14 37.9 +1.4**
DAV LR LR 15 21 25.0
FITZ Fitzroy Crossi 29.72 241 *e*P **P 15 09 42.4 -1.4**
comp=Z,642nm,0.9s,mb6.3
FITZ *e*S **S 15 14 33.3 -3.5**
FITZ Fitzroy Crossi 29.72 241 P **P 15 09 42.7 -1.1**
comp=Z,115nm,0.4s,mb6.0,baz=63,slow=8.9,SNR=266
FITZ S **S 15 14 35.0 -1.9**
comp=Z,23nm,1.1s,baz=316,slow=22,SNR=3.2
FITZ LR LR 15 23 33.0
comp=Z,7µm,19.0s,MS5.3,baz=71,slow=40
KDI Kendari 30.18 270 P PcS 15 16 37.0 +4.7
CNB Canberra Magne 30.52 186 *e*P **P 15 09 51.4 +0.7**
CNB *e*S **S 15 14 52.3 +3.2**
CNB *e*SCP ScP 15 16 28.8 +1.0
CAN Canberra 30.57 186 *e*P **P 15 09 50.9 -0.2**
ADE Adelaide 32.74 202 *e*P **P 15 10 10.2 0.0**
KAPI Kappang 33.00 268 P **P 15 10 10.8 -2.0**
comp=Z,645nm,0.7s,mb6.7,SNR=11
KAPI Kappang 33.00 268 ⇓P **P 15 10 11.8 -1.0**
SNR=37
KAPI Kappang 33.00 268 *e*P **P 15 10 10.3 -2.5**
comp=Z,227nm,1.2s,mb6.0
KAPI LR LR
comp=Z,2µm,19.0s,MS4.9
TOO Toolangi 33.29 191 *e*P **P 15 10 15.4 +0.4**
TOO *e*S **S 15 15 34.1 +1.9**
TOO *e*SCP ScP 15 16 38.5 +1.3
TOO Toolangi 33.29 191 *e*P **P 15 10 15.4 +0.4**
TOO *e*S **S 15 15 34.1 +1.9**
FORT Forrest 34.82 219 *e*P **P 15 10 27.2 -1.2**
comp=Z,145nm,0.6s,mb6.1
FORT *e*S **S 15 15 52.9 -3.2**
MYLDM Lahad Datu 35.74 286 ⇑P **P 15 10 38.0 +1.5**
AFI Afiamalu 35.98 107 P **P 15 10 38.5 0.0**
comp=Z,64nm,1.0s,mb5.5,baz=299,slow=19,SNR=4.0
AFI S **S 15 16 16.0 +1.7**
comp=Z,21nm,0.9s,baz=102,slow=22,SNR=1.8
AFI LR LR 15 23 24.8
comp=Z,6µm,20.3s,MS5.4,baz=281,slow=33
AFI Afiamalu 35.98 107 P **P 15 10 38.5 -0.1**
AFI S **S 15 16 16.0 +1.7**
AFI Afiamalu 35.98 107 P **P 15 10 38.5 0.0**
AFI S **S 15 16 16.0 +1.7**
AFI LR LR 15 23 24.8
MBWA Marble Bar 36.03 240 P **P 15 10 38.5 -0.3**
SNR=17
MBWA Marble Bar 36.03 240 *e*P **P 15 10 37.4 -1.5**
comp=Z,230nm,0.8s,mb6.2
MBWA LR LR
comp=Z,9µm,19.0s,MS5.6
TSM Tawau 36.12 284 ⇓P **P 15 10 40.2 +0.4**
WCZ Waipu Caves 36.75 150 P **P 15 10 46.0 +1.2**
RAO Raoul Island 36.81 135 *e*P **P 15 10 44.5 -0.9**
RAO pmax pmax
comp=Z,1µm,1.0s,mb6.8
RAO MLR MLR
comp=Z,12µm,22.0s,MS5.6
RAO Raoul Island 36.81 135 *e*P **P 15 10 44.5 -0.9**
comp=Z,1µm,1.0s,mb6.8
RAO LR LR
comp=Z,12µm,22.0s,MS5.6
SDKM Sandakan 37.11 286 ⇑P **P 15 10 48.6 +0.3**
KHKI Kahang-Kahang 37.18 263 P ScP 15 16 45.0 -6.7
DNP Denpasar 37.59 262 P PcS 15 17 03.1 +4.7
comp=Z,396nm,1.2s,comp=Z,1.3nm
MOO Moorlands 37.81 187 *e*P **P 15 10 54.9 +1.2**
MOO *e*SCP ScP 15 16 59.0 +5.5
BBKI Banjar Baru 37.95 271 P PcS 15 16 51.5 -8.4
KUZ Kuaotunu 38.07 150 P **P 15 10 56.9 +0.9**
KKM Kota Kinabalu 38.16 286 ⇑P **P 15 10 56.9 -0.1**
KKM Kota Kinabalu 38.16 286 *e*P **P 15 10 56.5 -0.6**
KKM LR LR
comp=Z,5µm,20.0s,MS5.3
TAU Tasmania Unive 38.25 187 P **P 15 10 58.7 +1.3**
comp=Z,736nm,1.1s,mb6.3,SNR=18
TAU Tasmania Unive 38.25 187 *e*P **P 15 10 58.3 +0.9**
TAU pmax pmax
comp=Z,205nm,1.2s,mb5.7
TAU MLR MLR
comp=Z,7µm,21.0s,MS5.4
TAU Tasmania Unive 38.25 187 *e*P **P 15 10 58.3 +0.8**
comp=Z,205nm,1.2s,mb5.7
TAU LR LR
comp=Z,7µm,21.0s,MS5.4
PLKI Palangkaraya 38.94 272 P PcS 15 17 04.3 +0.7
comp=Z,184nm,1.3s,comp=Z,0.5nm
HIZ Hauiti 39.05 152 P **P 15 11 06.0 +1.8**
JOW Kunigami 39.45 324 LR LR 15 24 48.4
comp=Z,4µm,20.2s,MS5.3,baz=113,slow=32
JHJ Hachijo jima 2 39.72 343 LR LR 15 25 37.2
comp=Z,3µm,18.9s,MS5.2,baz=4.9,slow=33
URZ Urewera 39.94 150 P **P 15 11 11.0 -0.6**
comp=Z,454nm,1.1s,mb6.1,baz=3.0,slow=3.2,SNR=76
URZ ScP ScP 15 17 03.7 +2.0
comp=Z,20nm,0.8s,baz=258,slow=6.3,SNR=6.9
URZ LR LR 15 25 01.9
comp=Z,4µm,20.6s,MS5.2,baz=341,slow=32
URZ Urewera 39.94 150 P **P 15 11 12.0 +0.4**
MXZ Matakaoa Point 40.02 148 P **P 15 11 12.5 +0.2**
MWZ Matawai 40.20 149 P **P 15 11 14.9 +1.1**
BKZ Black Stump Fm 40.34 151 P **P 15 11 14.8 -0.1**
PUZ Puketiti 40.38 149 P **P 15 11 14.3 -1.0**
BTM Bintulu 40.54 281 ⇓P **P 15 11 18.5 +1.5**
NNZ Nelson 40.63 156 P **P 15 11 17.6 +0.3**
TSZ Takapari Road 40.80 153 P **P 15 11 18.7 0.0**
KNZ Kokohu 40.80 150 P **P 15 11 18.6 -0.1**
TCW Tory Channel 41.00 155 P **P 15 11 20.5 +0.2**
MRZ Mangatainoka R 41.11 153 P **P 15 11 21.0 -0.2**
SBUM Sibu 41.25 279 ⇑P **P 15 11 23.3 +0.4**
WVZ Waitaha Valley 41.26 160 P **P 15 11 22.2 -0.2**
SNZO South Karori 41.26 155 *e*P **P 15 11 23.1 +0.7**
comp=Z,158nm,0.8s,mb5.7
SNZO LR LR
comp=Z,11µm,20.0s,MS5.7
FOZ Fox Glacier 41.35 161 P **P 15 11 23.8 +0.6**
MTW Mount Morrison 41.48 154 P **P 15 11 23.7 -0.6**
LTZ Lake Taylor 41.54 158 P **P 15 11 25.5 +0.7**
KHZ Kahutara 41.71 157 P **P 15 11 26.2 0.0**
MSZ Milford Sound 41.84 164 P **P 15 11 28.0 +0.9**
RPZ Rata Peaks 41.93 160 P **P 15 11 27.1 -0.8**
comp=Z,261nm,0.9s,mb5.9,baz=292,slow=1.4,SNR=97
RPZ S **S 15 17 42.5 -0.5**
comp=Z,11nm,1.0s,baz=340,slow=13,SNR=2.1
RPZ LR LR 15 27 39.2
comp=Z,6µm,18.4s,MS5.5,baz=333,slow=34
RPZ Rata Peaks 41.93 160 P **P 15 11 27.1 -0.8**
RPZ S **S 15 17 42.5 -0.5**
RPZ LR LR 15 27 39.2

NACB Ninganchiao 41.94 315 *e*P **P 15 11 28.2 0.0**
comp=Z,490nm,0.9s,mb6.1
LBZ Lake Benmore 42.25 162 P **P 15 11 30.0 -0.5**
KLBR Kellerberrin 42.35 227 *e*P **P 15 11 29.3 -2.2**
comp=Z,74nm,0.7s,mb5.4
KLBR *e*S **S 15 17 51.4 +1.8**
CRLZ Canterbury Las 42.36 159 P **P 15 11 31.3 -0.1**
YHNB Yeheng 42.40 315 *e*P **P 15 11 32.4 +0.4**
comp=Z,142nm,0.9s,mb5.6
YHNB LR LR
comp=Z,10µm,20.0s,MS5.7
TATO Taipei 42.52 316 PFAKE 15 11 40.0 +7.0
TATO LR LR
comp=Z,10µm,20.0s,MS5.7
MLZ Mavora Lakes 42.53 164 P **P 15 11 33.0 +0.3**
WHZ Wether Hill Ro 42.97 165 P **P 15 11 35.7 -0.6**
KSM Kuching 42.98 277 ⇓P **P 15 11 37.0 0.0**
KSM Kuching 42.98 277 *e*P **P 15 11 36.4 -0.6**
ODZ Otahua Downs 42.98 161 P **P 15 11 36.0 -0.4**
MJAR Matsushiro Arr 43.37 343 P **P 15 11 38.6 -1.1**
comp=Z,6.3nm,0.5s,mb4.6,baz=168,slow=9.1,SNR=19
MJAR PcP PcP 15 13 29.1 +1.4
comp=Z,8.6nm,0.7s,baz=165,slow=4.2,SNR=4.3
MJAR ScP ScP 15 17 18.8 +3.4
comp=Z,14nm,1.0s,baz=161,slow=4.4,SNR=9.3
MJAR LR LR 15 27 53.5
comp=Z,5µm,21.7s,MS5.4,baz=180,slow=34
MJAR Matsushiro Arr 43.37 343 P **P 15 11 38.6 -1.0**
MJAR 15 13 29.1
MAJO Matsushiro 43.37 343 P **P 15 11 38.3 -1.4**
MAJO pmax pmax
comp=Z,45nm,1.0s,mb5.2
MAJO MLR MLR
comp=Z,6µm,22.0s,MS5.5
MAJO Matsushiro 43.37 343 P **P 15 11 38.3 -1.3**
comp=Z,45nm,1.0s,mb5.2
MAJO LR LR
comp=Z,6µm,22.0s,MS5.5
MAT Matsushiro 43.37 343 P **P 15 11 38.9 -0.8**
MAT S **S 15 18 04.0 -0.3**
NWAO Narrogin (SRO) 43.43 225 *e*P **P 15 11 39.1 -1.2**
NWAO pmax pmax
comp=Z,61nm,1.1s
NWAO MLR MLR
comp=Z,7µm,20.0s
NWAO Narrogin (SRO) 43.43 225 *e*P **P 15 11 39.1 -1.2**
comp=Z,61nm,1.1s,mb5.2
NWAO LR LR
comp=Z,7µm,20.0s,MS5.5
TUZ Tuapeka 43.50 163 P **P 15 11 40.1 -0.5**
MIDW Midway 43.59 39 PFAKE 15 11 50.0 +8.4
MIDW LR LR
comp=Z,3µm,22.0s,MS5.2
MUN Mundaring 43.68 227 *e*P **P 15 11 40.7 -1.6**
MUN *e*SCP ScP 15 17 28.9 +12
MUN *e*S **S 15 18 05.7 -3.4**
MUN *e*SS SS 15 21 27.9 +2.1
MUN Mundaring 43.68 227 *e*P **P 15 11 40.7 -1.6**
MUN *e*S **S 15 18 05.7 -3.4**
CLJI Cilicap 43.68 264 P **S 15 18 13.9 +4.3**
comp=Z,954nm,1.2s
QZH Quanzhou 44.56 313⇓*i*P **P 15 11 50.6 +1.2**
QZH SCP ScP 15 17 21.8 +1.3
QZH S **S 15 18 18.5 -3.5**
QZH AMB AMB
comp=Z,160nm,0.7s,mb6.0
QZH AMB AMB
comp=Z,3µm,8.7s
QZH LR LR
comp=N,8µm,20.4s,MS5.9
QZH LR LR
comp=E,13µm,21.9s,MS5.9
QZH LR LR
comp=Z,19µm,30.8s
HKC Hong Kong Obse 46.47 307 P **P 15 12 03.0 -1.5**
SSE Sheshan 46.80 322 P **P 15 12 07.7 +0.7**
SSE AP pP 15 12 21.2 +1.4
SSE XP sP 15 12 27.2 +1.9
SSE S **S 15 18 54.7 +0.6**
SSE XS sS 15 19 18.7 +3.2
SSE AMB AMB
comp=Z,48nm,0.8s,mb5.5
SSE AMB AMB
comp=Z,541nm,3.5s
SSE LR LR
comp=N,3µm,18.3s,MS5.5
SSE LR LR
comp=E,4µm,18.3s,MS5.5
SSE LR LR
comp=Z,7µm,18.7s,MS5.6
SSE Sheshan 46.80 322 P **P 15 12 07.7 +0.7**
comp=Z,48nm,0.8s,mb5.5
SSE pP pP 15 12 21.2 +1.4
SSE sP sP 15 12 27.2 +1.9
SSE S **S 15 18 54.7 +0.6**
SSE sS sS 15 19 18.7 +3.2
SSE SS SS 15 22 23.2 +1.9
SSE LR LR
comp=Z,7µm,18.7s,MS5.6
XMIS Christmas Isla 47.10 260 *e*P **P 15 12 09.5 -0.2**
ERM Erimo 47.44 350 PFAKE 15 12 20.0 +8.2
ERM LR LR
comp=Z,5µm,22.0s,MS5.4
GZH Guangzhou 47.52 307 P **P 15 12 15.0 +2.2**
GZH S **S 15 19 08.2 +3.5**
GZH LR LR
comp=N,3µm,25.0s,MS5.5
GZH LR LR
comp=E,6µm,22.5s,MS5.5
GZH LR LR
comp=Z,10µm,24.3s,MS5.7
KSRS Korea Array 48.05 333 P **P 15 12 16.5 -0.1**
comp=Z,19nm,0.6s,mb5.3,baz=148,slow=7.6,SNR=63
KSRS PcP PcP 15 13 45.3 +1.4
comp=Z,8.8nm,1.0s,baz=148,slow=4.7,SNR=4.0
KSRS ScP ScP 15 17 36.6 +1.9
comp=Z,18nm,0.9s,baz=142,slow=4.9,SNR=13
KSRS S **S 15 19 11.0 -0.6**
comp=Z,0.9nm,0.8s,baz=146,slow=13,SNR=2.1
KSRS LR LR 15 31 39.2
comp=Z,3µm,19.5s,MS5.2,baz=147,slow=35
QIZ Qiongzhong 48.54 301 P **P 15 12 20.7 0.0**
QIZ AP pP 15 12 32.0 -1.6
QIZ S **S 15 19 19.4 +0.2**
QIZ XS sS 15 19 37.6 -3.1
QIZ SS SS 15 22 50.9 +1.0
QIZ AMB AMB
comp=Z,69nm,1.1s,mb5.6
QIZ AMB AMB
comp=Z,216nm,5.5s
QIZ LR LR
comp=E,5µm,22.4s
QIZ LR LR
comp=Z,8µm,24.0s,MS5.6
QIZ Qiongzhong 48.54 301 PFAKE 15 12 30.0 +9.3
QIZ LR LR
comp=Z,6µm,22.0s,MS5.5
INCN Inchon 48.66 332 ⇑P pP 15 12 33.9 -0.3
SNR=8.8
INCN Inchon 48.66 332 *e*P **P 15 12 21.6 +0.3**
comp=Z,889nm,1.4s,mb6.6
INCN *e* pP 15 12 35.5 +1.3
INCN LR LR
comp=Z,3µm,19.0s,MS5.2
RAR Rarotonga 48.71 114 P **P 15 12 21.0 -1.0**
comp=Z,29nm,0.9s,mb5.3,baz=221,slow=8.0,SNR=4.8
RAR S **S 15 19 23.0 +1.4**
comp=Z,27nm,0.9s,baz=202,slow=7.8,SNR=1.9
RAR Rarotonga 48.71 114 P **P 15 12 21.0 -1.0**
RAR S **S 15 19 23.0 +1.4**
RAR LR LR
comp=Z,2µm,19.0s,MS5.2
NJ2 Nanjing 48.90 321 *e*P **P 15 12 25.2 +1.9**
NJ2 PP PP 15 14 19.5 +2.4
NJ2 S **S 15 19 27.5 +3.6**
NJ2 AMB AMB
comp=Z,20nm,0.8s,mb5.2
NJ2 AMB AMB
comp=Z,380nm,3.7s
NJ2 LR LR
comp=N,2µm,28.0s,MS5.4
NJ2 LR LR
comp=E,6µm,30.5s,MS5.4
NJ2 LR LR
comp=Z,6µm,30.5s,MS5.4

MYKOM Kota Tinggi 49.42 276 ⇓P P 15 12 27.3 -0.3
MCQ Macquarie Isla 49.78 175 eP P 15 12 30.9 +1.3
KGM Kluang 49.97 277 ⇓P P 15 12 31.8 0.0
XMAS Kiritimati 50.10 83 eP P 15 12 32.9 +0.2
comp=Z,171nm,0.9s,mb6.1
XMAS LR LR
comp=Z,11µm,19.0s,MS5.9
KTGM Kuala Trenggan 50.69 281 ⇑P P 15 12 37.9 +0.8
WHN Wuhan 50.92 316 P P 15 12 38.5 -0.1
WHN S S 15 19 43.2 -8.9
WHN LR LR
comp=N,14µm,34.1s,MS5.9
WHN LR LR
comp=E,13µm,35.8s,MS5.9
WHN LR LR
comp=Z,13µm,22.2s
VLA Vladivostok 51.35 340 eP P 15 12 40.3 -1.3
VLA e*PP pP 15 12 53.9 -0.7
VLA i S S 15 19 57.4 -0.3
VLA e*SS sS 15 20 16.5 -2.8
VLA pmax pmax
comp=Z,66nm,1.5s,mb5.3
VLA MLR MLR
comp=Z,2µm,18.4s,MS5.1
VLA Vladivostok 51.35 340 eP P 15 12 42.8 +1.2
DL2 Dalian 52.22 329 P P 15 12 47.7 -0.5
DL2 S S 15 20 07.6 -2.2
DL2 AMB AMB
comp=Z,30nm,1.1s,mb5.1
DL2 AMB AMB
comp=Z,490nm,3.9s
DL2 LR LR
comp=N,1µm,23.1s,MS5.1
DL2 LR LR
comp=E,1µm,23.1s,MS5.1
DL2 LR LR
comp=Z,3µm,32.4s
YSS Yuzh-Sakhalins 52.32 351 eP P 15 12 47.8 -0.9
YSS e 15 12 53.2
YSS e pP 15 13 00.0 -1.7
YSS e 15 13 54.9
YSS eS S 15 20 05.0 -5.8
YSS e 15 22 36.0
YSS MLR MLR
comp=Z,1µm,19.0s,MS4.9
YSS Yuzh-Sakhalins 52.32 351 eP P 15 12 48.7 0.0
comp=Z,37nm,0.8s,mb5.4
YSS LR LR
comp=Z,2µm,22.0s,MS5.1
IPM Ipoh 52.61 279 ⇑P P 15 12 50.7 -0.8
TIA Tai'an 52.77 324 P P 15 12 52.3 0.0
TIA AMB AMB
comp=Z,58nm,0.9s,mb5.5
KULM Kulim 53.11 280 ⇓P P 15 12 54.4 -0.9
MDJ Mudanjiang 53.46 339 P P 15 12 57.2 0.0
MDJ AP pP 15 13 09.0 -1.2
MDJ XP sP 15 13 13.6 -2.1
MDJ PCP PcP 15 14 04.2 +0.4
MDJ SCP ScP 15 17 57.6 -0.3
MDJ PCS PcS 15 18 02.7 0.0
MDJ S S 15 20 27.6 +1.2
MDJ XS sS 15 20 47.2 -1.0
MDJ AMB AMB
comp=Z,32nm,0.7s,mb5.4
MDJ AMB AMB
comp=Z,174nm,4.5s
MDJ LR LR
comp=N,3µm,25.0s,MS5.3
MDJ LR LR
comp=E,2µm,27.9s,MS5.3
MDJ LR LR
comp=Z,5µm,25.5s,MS5.4
MDJ Mudanjiang 53.46 339 PFAKE 15 13 10.0 +13
MDJ LR LR
comp=Z,2µm,22.0s,MS5.1
KKTK Khon Kaen 53.77 294 P P 15 13 02.0 +2.0
comp=Z,1µm,0.7s
CN2 Changchun 54.34 336 eP P 15 13 02.9 -0.8
CN2 SS SS 15 24 19.4 -1.9
CN2 AMB AMB
comp=Z,30nm,1.0s,mb5.2
CN2 AMB AMB
comp=Z,200nm,5.0s
CN2 LR LR
comp=N,2µm,20.0s,MS5.3
CN2 LR LR
comp=E,1µm,20.0s,MS5.3
CN2 LR LR
comp=Z,2µm,22.0s,MS5.2
GYA Guiyang 54.46 307 ⇑iP P 15 13 05.6 +0.7
GYA AP pP 15 13 17.6 -0.4
GYA XP sP 15 13 23.0 -0.4
GYA PP PP 15 15 09.8 +2.2
GYA SCP ScP 15 18 04.0 +1.2
GYA XS sS 15 21 02.6 +0.2
GYA SS SS 15 24 24.9 +1.1
GYA AMB AMB
comp=Z,130nm,1.0s,mb5.8
GYA AMB AMB
comp=Z,1µm,9.0s
GYA LR LR
comp=N,2µm,18.2s,MS5.6
GYA LR LR
comp=E,4µm,18.5s,MS5.6
GYA LR LR
comp=Z,4µm,18.8s,MS5.5
KIP Kipapa 54.73 60 eP P 15 13 06.7 -0.2
KIP Kipapa 54.73 60 PFAKE 15 13 20.0 +13
KIP LR LR
comp=Z,6µm,22.0s,MS5.6
HABR Khabarovsk 55.31 346 eP P 15 13 10.2 -0.4
HABR e pP 15 13 22.2 -1.5
HABR e 15 13 28.1
HABR e 15 14 07.9
HABR e 15 15 12.0
HABR e 15 16 25.2
HABR eS S 15 20 51.3 +0.1
HABR e 15 21 14.4
HABR e 15 22 54.3
COCO West Island 55.82 259 PFAKE 15 13 30.0 +15
COCO LR LR
comp=Z,1µm,21.0s,MS5.0
BJT Baijiatuau 55.93 326 eP P 15 13 12.9 -2.3
BJT pmax pmax
comp=Z,111nm,1.6s
BJT MLR MLR
comp=Z,5µm,21.0s
BJT Baijiatuau 55.93 326 eP P 15 13 12.9 -2.3
comp=Z,111nm,1.6s,mb5.6
BJT LR LR
comp=Z,5µm,21.0s,MS5.5
BJI Beijing 55.95 326 P P 15 13 15.7 +0.4
BJI S S 15 20 58.3 -1.7
BJI AMB AMB
comp=Z,19nm,1.2s,mb5.0
BJI AMB AMB
comp=Z,1µm,5.7s
BJI LR LR
comp=N,3µm,23.6s,MS5.5
BJI LR LR
comp=E,3µm,25.3s,MS5.5
BJI LR LR
comp=Z,7µm,26.9s,MS5.6
NST Nakhon Sawan 56.03 292 P P 15 13 16.2 -0.2
comp=Z,198nm,0.7s,mb6.2
KHU Kahuku 56.04 63 eP P 15 13 16.6 +0.2
POHA Pohakuloa 56.28 63 eP P 15 13 18.7 +0.6
comp=Z,207nm,1.0s,mb6.1
POHA LR LR
comp=Z,6µm,21.0s,MS5.7
XAN Xi'an 56.68 316 P P 15 13 20.7 0.0
XAN AP pP 15 13 32.4 -1.4
XAN XP sP 15 13 37.9 -1.3
XAN PP PP 15 15 25.2 -2.1
XAN AMB AMB
comp=Z,54nm,0.6s,mb5.8
XAN AMB AMB
comp=Z,1µm,11.5s
XAN LR LR
comp=N,1µm,22.1s,MS5.4
XAN LR LR
comp=E,3µm,20.9s,MS5.4
XAN LR LR
comp=Z,8µm,20.9s,MS5.8
KLR Kul'dur 56.88 344 eP P 15 13 16.8 -5.0
KLR MLR MLR
comp=N,3µm,17.0s
KMI Kunming 57.06 304 P P 15 13 24.4 +0.9
KMI AP pP 15 13 37.5 +0.8
KMI XP sP 15 13 42.8 +0.8
KMI PP PP 15 15 34.5 +3.7
KMI S S 15 21 16.0 +0.8
KMI XS sS 15 21 36.8 -0.4
KMI SS SS 15 25 05.6 +0.9
KMI AMB AMB
comp=Z,42nm,1.4s,mb5.3
KMI AMB AMB
comp=Z,136nm,4.4s
KMI LR LR
comp=N,2µm,22.0s,MS5.5
KMI LR LR
comp=E,4µm,23.0s,MS5.5
KMI LR LR
comp=Z,6µm,27.2s,MS5.6
KMI Kunming 57.06 304 P P 15 13 24.4 +0.9
KMI *PP pP 15 13 37.5 +0.8
KMI 15 15 34.5
KMI PPP 15 16 54.0
KMI S S 15 21 16.0 +0.8
KMI *SS sS 15 21 36.8 -0.4
KMI SS SS 15 25 05.6 +0.9
KMI pmax pmax
comp=Z,42nm,1.4s,mb5.3
KMI MLR MLR
comp=Z,6µm,27.2s,MS5.6
KMI Kunming 57.06 304 P P 15 13 24.4 +0.9
comp=Z,42nm,1.4s,mb5.3
KMI pP pP 15 13 37.5 +0.8
KMI sP sP 15 13 42.8 +0.8
KMI PP PP 15 15 34.5 +3.7
KMI PPP 15 16 54.0
KMI S S 15 21 16.0 +0.8
KMI sS sS 15 21 36.8 -0.4
KMI SS SS 15 25 05.6 +0.9
KMI LR LR
comp=Z,6µm,27.2s,MS5.6
BDT Bhumibol Dam 57.53 294 P P 15 13 28.0 +1.0
comp=Z,33nm,1.0s,mb5.3
PPT Papeete 57.65 108 eP P 15 13 28.3 +0.4
comp=Z,89nm,1.2s,mb5.7
PPT Papeete 57.65 108 ePP PP 15 15 32.8 -3.3
comp=Z,536nm,28.5s
PPT eS S 15 21 18.2 -5.1
comp=Z,3µm,26.0s
PPT eSS SS 15 25 15.9 +1.7
comp=Z,2µm,29.5s
PPT eLQ 15 27 58.4
comp=Z,4µm,25.0s
PPT eLR LR 15 30 25.9
comp=Z,4µm,22.5s,baz=277
PPT Papeete 57.65 108 P P 15 13 28.5 +0.6
comp=Z,45nm,0.6s,mb5.7,baz=261,slow=4.9,SNR=5.9
PPT LR LR 15 34 12.3
comp=Z,2µm,20.4s,MS5.3,baz=269,slow=32
CHRT Chiangrai 57.65 297 ⇑P P 15 13 28.0 +0.2
comp=Z,379nm,0.9s,mb6.4
PAE Paea 57.66 108 eP P 15 13 28.0 +0.1
comp=Z,2µm,1.3s,mb6.9
PAE Paea 57.66 108 eP P 15 13 28.0 +0.1
PAE pmax pmax
comp=Z,2µm,1.3s,mb6.9
PET Petropavlovsk 57.83 4 eP P 15 13 29.6 +1.2
PET e*PP pP 15 13 42.2 +0.6
PET e 15 14 21.3
PET eS S 15 21 26.0 +1.7
PET ePS 15 21 42.9
PET e 15 23 08.9
PET eSS SS 15 25 19.0 +3.1
PET pmax pmax
comp=Z,75nm,0.9s,mb5.7
PET pmax pmax
comp=Z,300nm,16.9s
PET Petropavlovsk 57.83 4 eP P 15 13 29.0 +0.6
PET LR LR
comp=Z,3µm,22.0s,MS5.4
PEA0B Petropavlovsk- 57.85 3 eP P 15 13 29.2 +0.7
PEA0B e pP 15 13 42.8 +1.1
PETK Petropavlovsk- 57.85 3 P P 15 13 28.8 +0.2
comp=Z,32nm,0.5s,mb5.6,baz=160,slow=5.7,SNR=125
PETK ScP ScP 15 18 19.9 +2.9
comp=Z,6.4nm,0.8s,baz=180,slow=2.5,SNR=4.2
PETK LR LR 15 33 54.9
comp=Z,3µm,21.8s,MS5.4,baz=183,slow=31
PETK PKP2ab 15 43 34.4
comp=Z,2.1nm,0.5s,baz=80,slow=1.7,SNR=8.3
TIAR Tiarei 57.87 108 eP P 15 13 29.8 +0.4
comp=Z,4µm,1.0s
CMAR Chiang Mai Arr 57.95 295 P P 15 13 30.8 +0.8
comp=Z,108nm,0.7s,mb6.0,baz=115,slow=5.3,SNR=309
CMAR ScP ScP 15 18 20.7 +2.4
comp=Z,3.2nm,1.0s,baz=113,slow=1.5,SNR=3.7
CMAR S S 15 21 28.7 +1.5
comp=Z,4.1nm,1.2s,baz=113,slow=14,SNR=10
CMAR LR LR 15 35 45.6
comp=Z,2µm,21.6s,MS5.3,baz=11,slow=33
CMAR PKPPKP 15 43 00.4
comp=Z,1.6nm,0.9s,baz=256,slow=5.5,SNR=6.1
CMAR PKP2ab 15 43 40.1
comp=Z,6.6nm,1.0s,baz=293,slow=4.0,SNR=6.5
CMAR Chiang Mai Arr 57.95 295 P P 15 13 30.8 +0.9
CMAR S S 15 21 28.7 +1.6
TVO Taravao 57.98 108 eP P 15 13 30.7 +0.5
comp=Z,1µm,0.9s,mb6.9
TVO Taravao 57.98 108 eP P 15 13 30.7 +0.5
TVO pmax pmax
comp=Z,1µm,0.9s,mb6.9
CHG Chiang Mai 58.06 296 ⇓P P 15 13 30.9 +0.2
comp=Z,118nm,1.0s,mb5.9
CHTO Chiang Mai 58.06 296 ⇑P P 15 13 30.5 -0.2
SNR=77
CHTO Chiang Mai 58.06 296 eP P 15 13 31.0 +0.3
CHTO pmax pmax
comp=Z,141nm,1.1s,mb5.9
CHTO MLR MLR
comp=Z,3µm,21.0s,MS5.4
CHTO Chiang Mai 58.06 296 eP P 15 13 31.0 +0.3
comp=Z,142nm,1.1s,mb5.9
CHTO LR LR
comp=Z,3µm,21.0s,MS5.4
TBI Tubuai 58.48 114 ePP PP 15 15 42.2 -1.3
comp=Z,625nm,27.5s
TBI eS S 15 21 31.6 -2.5
comp=Z,2µm,27.8s
TBI eLR LR 15 30 51.4
comp=Z,15µm,33.0s,baz=277
CD2 Chengdu 58.80 311 ⇓iP P 15 13 35.9 +0.2
CD2 AP pP 15 13 47.7 -1.2
CD2 XP sP 15 13 55.2 +1.0
CD2 PCP PcP 15 14 24.2 -0.7
CD2 PP PP 15 15 47.6 +1.4
CD2 PCS PcS 15 18 24.7 -2.1
CD2 S S 15 21 36.5 -1.4
CD2 XS sS 15 21 58.9 -1.0
CD2 SCS ScS 15 23 18.2 -3.8
CD2 SS SS 15 25 30.8 -1.2
CD2 AMB AMB
comp=Z,170nm,0.6s,mb6.2
CD2 AMB AMB
comp=Z,1µm,10.2s
CD2 LR LR
comp=N,4µm,20.4s,MS5.8
CD2 LR LR
comp=E,6µm,22.8s,MS5.8
CD2 LR LR
comp=Z,8µm,23.4s,MS5.8
PMOR Pomariorio Ree 59.06 105 eP P 15 13 37.9 +0.1
comp=Z,968nm,1.1s,mb6.7
HHC Hu-ho-hao-te 59.10 324 ⇑P P 15 13 38.3 +0.8
HHC AP pP 15 13 50.7 0.0
HHC XP sP 15 13 56.4 +0.3
HHC PCP PcP 15 14 25.9 0.0
HHC PP PP 15 15 50.5 +1.9
HHC SCP ScP 15 18 22.9 0.0
HHC PCS PcS 15 18 27.3 -0.4
HHC S S 15 21 41.5 +0.1
HHC XS sS 15 22 03.2 -0.2
HHC SCS ScS 15 23 20.8 -3.0
HHC SS SS 15 25 39.3 +2.9
HHC AMB AMB
comp=Z,23nm,1.1s,mb5.1
HHC AMB AMB
comp=Z,859nm,6.9s
HHC LR LR
comp=N,2µm,19.6s,MS5.5
HHC LR LR
comp=E,3µm,19.1s,MS5.5
HHC LR LR
comp=Z,6µm,22.6s,MS5.6
MEH Mehetia 59.11 108 eP P 15 13 38.1 0.0
comp=Z,5µm,1.0s
VAH Vaihoa 59.34 105 eP P 15 13 39.5 -0.1
comp=Z,430nm,1.1s,mb6.4
BTO Baotou 59.86 323 eP P 15 13 43.0 +0.2
BTO AMB AMB
comp=Z,13nm,1.0s,mb4.9
SMY Shemya 60.08 15 PFAKE 15 14 00.0 +16
SMY LR LR
comp=Z,8µm,21.0s,MS5.8
HIA Hailar 61.08 336 eP P 15 13 50.4 -0.5
HIA pmax pmax
comp=Z,60nm,1.1s
HIA MLR MLR
comp=Z,3µm,19.0s
HIA Hailar 61.08 336 eP P 15 13 50.4 -0.5
comp=Z,60nm,1.1s,mb5.6
HIA LR LR
comp=Z,3µm,19.0s,MS5.4
LZH Lanzhou 61.29 316 eP P 15 13 53.8 +1.2
LZH AP pP 15 14 04.5 -1.4
LZH XP sP 15 14 09.4 -1.8
LZH eS S 15 22 11.0 +1.3
LZH XS sS 15 22 34.0 +2.2
LZH AMB AMB
comp=Z,120nm,1.2s,mb5.9
LZH AMB AMB
comp=Z,310nm,4.3s
LZH LR LR
comp=E,7µm,16.2s
LZH LR LR
comp=Z,8µm,17.0s,MS5.9
LZH Lanzhou 61.29 316 eP P 15 13 53.8 +1.2
LZH *PP pP 15 14 04.5 -1.4
LZH *SP sP 15 14 09.4 -1.8
LZH eS S 15 22 11.0 +1.3
LZH *SS sS 15 22 34.0 +2.2
LZH pmax pmax
comp=Z,120nm,1.2s,mb5.9
LZH MLR MLR
comp=Z,8µm,17.0s,MS5.9
LZH Lanzhou 61.29 316 eP P 15 13 53.8 +1.2
comp=Z,120nm,1.2s,mb5.9
LZH pP pP 15 14 04.5 -1.4
LZH sP sP 15 14 09.4 -1.8
LZH PP PP 15 15 58.0 -10
LZH ScP ScP 15 18 51.4 +19
LZH eS S 15 22 11.0 +1.3
LZH sS sS 15 22 34.0 +2.2
LZH SS SS 15 25 36.0 -35
LZH LR LR
comp=Z,8µm,17.0s,MS5.9
ADK Adak 62.15 21 PFAKE 15 14 10.0 +12
ADK LR LR
comp=Z,4µm,21.0s,MS5.5
DRV Dumont d'Urvil 62.39 186 P P 15 13 59.0 -0.4
DRV Dumont d'Urvil 62.39 186 PP PP 15 16 20.0 +2.9
DRV S S 15 22 26.0 +3.5
DRV L 15 29 00.0
DRV R 15 34 00.0
IMP Imphal 64.37 300 eP P 15 14 13.0 -0.3
CLNS Chul'man 65.54 344 eP P 15 14 21.3 +1.0
CLNS pmax pmax
comp=N,17nm,1.0s
CLNS pmax pmax
comp=Z,30nm,1.0s,mb5.3
CLNS pmax pmax
comp=E,9.0nm,1.0s
GTA Gaotai 65.72 317 ⇓P P 15 14 22.8 +1.0
GTA AP pP 15 14 35.8 +0.6
GTA XP sP 15 14 41.1 +0.6
GTA PCP PcP 15 14 55.5 +2.7
GTA PP PP 15 16 51.0 +4.0
GTA SCP 15 18 53.4
GTA S S 15 23 06.6 +1.9
GTA XS sS 15 23 29.2 +2.2
GTA SS SS 15 27 25.4 +5.5
GTA AMB AMB
comp=Z,55nm,1.1s,mb5.5
GTA AMB AMB
comp=Z,1µm,4.8s
GTA LR LR
comp=N,2µm,19.5s,MS5.5
GTA LR LR
comp=E,3µm,21.3s,MS5.5
GTA LR LR
comp=Z,4µm,20.7s,MS5.6
ULN Ulaanbaatar 66.05 328 eP P 15 14 24.6 +0.9
comp=Z,40nm,0.9s,mb5.5
ULN LR LR
comp=Z,4µm,22.0s,MS5.5
SONM Songino Array 66.38 328 P P 15 14 27.2 +1.3
comp=Z,10nm,0.5s,mb5.1,baz=143,slow=5.6,SNR=64
SONM LR LR 15 41 18.5
comp=Z,4µm,21.9s,MS5.6,baz=127,slow=34
SONM PKP2bc 15 43 00.7
comp=Z,13nm,1.0s,baz=283,slow=1.6,SNR=22
SONM Songino Array 66.38 328 P P 15 14 27.2 +1.3
SONM LR LR 15 41 18.5
SONM ⇑e 15 43 00.7
SHL Shillong 66.38 300 ⇑iP P 15 14 26.5 +0.2
SHL i x x 15 15 18.5
SHL i S S 15 23 13.0 -0.2
TAOE Nuku Hiva Isla 66.55 98 eS S 15 23 11.1 -4.7
comp=Z,5µm,32.2s
TAOE Nuku Hiva Isla 66.55 98 eLR LR 15 34 29.2
comp=Z,27µm,31.6s
SEY Seymchan 67.56 360 ⇑eP P 15 14 34.3 +1.3
UNV Unalaska Valle 67.60 25 eP P 15 14 32.3 -1.2
CASY Casey 68.02 197 eP P 15 14 36.0 0.0
LSA Lhasa 68.31 304 eP P 15 14 39.5 +1.0
LSA pmax pmax
comp=Z,28nm,0.7s,mb5.4
LSA MLR MLR
comp=Z,5µm,22.0s,MS5.7
LSA Lhasa 68.31 304 eP P 15 14 39.5 +1.1
comp=Z,28nm,0.7s,mb5.4
LSA LR LR
comp=Z,5µm,22.0s,MS5.7
CAL Calcutta 68.64 296 ex x 15 14 52.6
CAL eS S 15 23 40.1 -0.4
YAK Yakutsk 69.00 349 eP P 15 14 41.1 -1.0
YAK e*PP pP 15 14 54.8 -0.7
YAK e 15 15 09.5
YAK e 15 17 12.2
YAK ePPP 15 18 54.4
YAK eS S 15 23 41.0 -2.3
YAK e 15 24 30.2
YAK eSS SS 15 28 06.7 -3.2
YAK pmax pmax
comp=N,22nm,1.6s
YAK pmax pmax
comp=E,10.0nm,1.1s
YAK pmax pmax
comp=Z,49nm,1.4s,mb5.2
YAK pmax pmax
comp=Z,480nm,4.7s
YAK smax
comp=N,1294µm,5.4s
YAK smax
comp=E,330µm,2.7s
YAK MLR MLR
comp=Z,1µm,18.0s,MS5.2
YAK MLR MLR
comp=N,781nm,19.0s,MS5.0
YAK MLR MLR
comp=E,509nm,18.0s,MS5.0
YAK Yakutsk 69.00 349 eP P 15 14 41.1 -1.0
comp=E,97nm,1.0s,mb5.7
YAK LR LR
comp=Z,2µm,22.0s,MS5.4
ZAK Zakamensk 69.54 329 eP P 15 14 46.2 +0.5
ZAK pmax pmax
comp=Z,46nm,1.2s,mb5.3
BOD Bodaibo 69.83 339 eP P 15 14 47.0 -0.3
BOD e pP 15 15 00.0 -0.8
BOD pmax pmax

comp=Z,19nm,1.2s,mb4.9
BOD pmax pmax
comp=Z,39nm,1.8s,mb5.0
TLY Talaya 70.13 330 *e*P **P** **15 14 52.2 +3.0**
TLY *e* pP 15 15 02.0 -0.7
TLY *e* 15 17 34.2
TLY *e*S S 15 23 59.5 +2.6
TLY *e* 15 24 47.1
TLY pmax pmax
comp=Z,19nm,1.1s,mb4.9
TLY MLR MLR
comp=Z,1924µm,19.0s
TLY Talaya 70.13 330 *e*P **P** **15 14 49.9 +0.7**
comp=Z,8.4nm,0.6s,mb4.8
TLY LR LR
comp=Z,2µm,20.0s,MS5.4
IRK Irkutsk 70.16 331 *e*P pP 15 15 02.3 -0.6
IRK pmax pmax
comp=Z,59nm,1.7s,mb5.2
BWNR Bhubaneshwar 70.38 293 *e*P **P** **15 14 52.1 +0.6**
BWNR *ex* x 15 24 36.7
TAPN Taplejung 70.48 301 *e*P **P** **15 14 52.5 +0.6**
comp=Z,116nm,0.7s,mb5.9
ODAN Odare 70.61 300 *e*P **P** **15 14 53.1 +0.3**
comp=Z,165nm,0.7s,mb6.1
BOK Bokaro 71.13 297 *e*P **P** **15 14 57.1 +1.2**
BOK AMb AMB 15 15 02.1
comp=Z,87nm,1.1s,mb5.6
RAMN Ramite 71.32 300 *e*P **P** **15 14 57.4 +0.4**
comp=Z,26nm,0.5s,mb5.5
MOY Mondy 71.47 329 *e*P **P** **15 14 58.1 +0.7**
MOY pmax pmax
comp=Z,101nm,2.2s,mb5.4
RKT Rikitea 71.72 113 *e*PP PP 15 17 37.8 -1.4
comp=Z,442nm,28.8s
RKT *e*S S 15 24 13.5 -3.0
comp=Z,5µm,34.0s
RKT *e*SS SS 15 28 54.7 +1.6
comp=Z,2µm,33.5s
RKT *e*LR LR 15 36 58.3
comp=Z,13µm,27.0s,baz=285
JIRN Jiri 71.86 301 *e*P **P** **15 15 00.7 +0.4**
comp=Z,73nm,0.7s,mb5.8
VIS Vishakhapatnam 72.14 290 *i* P **P** **15 15 02.9 +0.8**
VIS *ex* x 15 15 05.1
comp=Z,185nm,1.2s
VIS *i* S S 15 24 20.2 -1.3
GUN Gumba 72.19 301 *e*P **P** **15 15 02.7 +0.4**
comp=Z,153nm,0.7s,mb6.0
PKI Pulchoki 72.50 301 *e*P **P** **15 15 04.3 +0.2**
PKIN Phulchoki 72.52 301 *e*P **P** **15 15 04.5 +0.3**
KKN Kakani 72.67 301 *e*P **P** **15 15 05.1 0.0**
comp=Z,78nm,0.6s,mb5.8
DMN Daman 72.77 301 *e*P **P** **15 15 06.0 +0.3**
comp=Z,136nm,0.6s,mb6.1
PALK Pallekele 73.01 279 *e*P **P** **15 15 07.4 0.0**
comp=Z,31nm,0.8s,mb5.3
PALK LR LR
comp=Z,1µm,22.0s,MS5.2
GKN Gorkha 73.28 301 *e*P **P** **15 15 08.4 -0.3**
comp=Z,107nm,0.7s,mb5.9
SBA Scott Base 73.36 177 *e*P **P** **15 15 09.2 +0.9**
SBA pmax pmax
comp=Z,124nm,1.1s,mb5.8
SBA MLR MLR
comp=Z,1µm,22.0s,MS5.2
SBA Scott Base 73.36 177 *e*P **P** **15 15 09.2 +1.0**
comp=Z,124nm,1.1s,mb5.8
SBA LR LR
comp=Z,1µm,22.0s,MS5.2
MIR Mirnyy 73.94 201ĸ *i*P **P** **15 15 12.0 +0.2**
MIR *e*PPP 15 19 50.0
MIR *i* S S 15 24 41.0 +0.8
MIR *i* 15 25 12.0
MIR pmax pmax
comp=Z,200nm,1.0s,mb6.0
MIR pmax pmax
comp=Z,2µm,6.0s
KOLN Koldanda 74.11 300 *e*P **P** **15 15 13.6 0.0**
DANN Dangsing 74.11 301 *e*P **P** **15 15 13.6 0.0**
MDRS Chennai 74.26 285 *e*P **P** **15 15 14.4 -0.4**
MDRS AMb AMB 15 15 17.3
comp=Z,120nm,1.6s,mb5.6
MDRS *ex* x 15 16 26.0
MDRS *ex* x 15 29 25.0
WMQ Urumqi 75.80 317 ⇑P **P** **15 15 23.8 +0.8**
WMQ AP pP 15 15 38.5 +1.9
WMQ XP sP 15 15 44.3 +2.4
WMQ PP PP 15 18 16.2 +2.6
WMQ S S 15 25 01.3 -0.4
WMQ XS sS 15 25 23.7 -0.8
WMQ SKS 15 25 25.8
WMQ SCS ScS 15 25 30.8 -2.7
WMQ AMB AMB
comp=Z,35nm,1.1s,mb5.2
WMQ AMB AMB
comp=Z,407nm,7.6s
WMQ LR LR
comp=N,1µm,21.0s
WMQ LR LR
comp=E,2µm,26.3s
WMQ LR LR
comp=Z,3µm,34.2s
KDAK Kodiak Island 76.16 27 P **P** **15 15 25.1 +0.4**
comp=Z,59nm,1.0s,mb5.5,baz=212,slow=2.6,SNR=23
KDAK Kodiak Island 76.16 27 *e*P **P** **15 15 24.9 +0.2**
comp=Z,81nm,1.0s,mb5.6
KDAK LR LR
comp=Z,887nm,22.0s,MS5.0
JBP Jabalpur 76.28 295 *e*P **P** **15 15 26.0 -0.2**
JBP *e*S S 15 25 06.5 -1.3
HYB Hyderabad 76.57 289 *e*P **P** **15 15 27.5 -0.4**
HYB *e*S S 15 25 08.0 -3.1
HYB Hyderabad 76.57 289 *i* P **P** **15 15 27.5 -0.4**
comp=Z,190nm,1.0s,mb6.0
HYB *e*PcP PcP 15 15 41.5 +2.2
HYB *e*S S 15 25 08.0 -3.1
HYB LR LR 15 42 54.0
comp=Z,4.4nm,28.0s
HYB Hyderabad 76.57 289 *e*P **P** **15 15 27.5 -0.4**
HYB *e*S S 15 25 08.0 -3.1
HYB *e* 15 42 54.0
NGP Nagpur 76.75 293⇑ *i*P **P** **15 15 26.1 -2.8**
NGP *ex* x 15 25 08.0
SVW2 Sparrevohn 76.81 23 *e*P **P** **15 15 28.7 +0.4**
TRD Trivandrum 76.84 280 *e*P **P** **15 15 30.4 +0.8**
PTH Pithoragarh 77.41 302 *e*P **P** **15 15 32.9 +0.4**
KRAR Krasnoyarsk 77.83 330 *e*P **P** **15 15 34.0 -0.2**
KRAR pmax pmax
comp=Z,6.0nm,1.0s,mb4.5
TIXI Tiksi 77.92 352 *e*P **P** **15 15 33.3 -1.1**
TIXI *e*'PP pP 15 15 47.3 -0.7
TIXI *e*S S 15 25 22.4 -1.4
TIXI *e* 15 25 40.6
TIXI pmax pmax
comp=Z,33nm,1.6s,mb5.0
TIXI MLR MLR
comp=Z,1µm,21.0s,MS5.2
TIXI Tiksi 77.92 352 *e*P **P** **15 15 35.0 +0.7**
comp=Z,129nm,1.8s,mb5.5
TIXI LR LR
comp=Z,2µm,22.0s,MS5.5
AKL Akola 78.54 292 *e*P **P** **15 15 39.0 +0.1**
LATR Latur 78.60 290 *e*P **P** **15 15 39.9 +0.7**
SLKM Skilak Lake 78.65 25 *e*P **P** **15 15 37.7 -0.9**
SEW Seward 78.77 26 *e*P **P** **15 15 38.1 -1.2**
RC01 Rabbit Creek A 79.16 25 *e*P **P** **15 15 40.7 -0.7**
comp=Z,110nm,1.1s,mb5.7
PPLA Purkeypile 79.16 22 *e*P **P** **15 15 40.3 -1.1**
comp=Z,167nm,1.8s,mb5.7
CHUM Lake Minchumin 79.67 22 *e*P **P** **15 15 44.0 -0.1**
comp=Z,126nm,0.9s,mb5.8
PMR Palmer 79.67 24 *e*P **P** **15 15 43.1 -1.0**
PMR pmax pmax
comp=Z,71nm,1.2s,mb5.5
PMR MLR MLR
comp=Z,2µm,21.0s,MS5.5
PMR Palmer 79.67 24 *e*P **P** **15 15 43.1 -1.0**
comp=Z,70nm,1.2s,mb5.5
PMR LR LR
comp=Z,2µm,21.0s,MS5.5
NDI New Delhi 79.80 300 *e*P **P** **15 15 43.5 -2.1**
NDI *ex* x 15 25 42.0
KTH Kantishna Hill 80.00 22 *e*P **P** **15 15 44.3 -1.6**
comp=Z,51nm,0.9s,mb5.5
TRF Thorofare Moun 80.19 22 *e*P **P** **15 15 45.4 -1.5**
comp=Z,34nm,0.9s,mb5.3
BPAW Bear Paw Mtn. 80.27 22 *e*P **P** **15 15 46.0 -1.4**
comp=Z,31nm,1.0s,mb5.2
SMLA Simla 80.32 303 *i* P **P** **15 15 48.4 0.0**
MK31 Makanchi Array 80.39 319 *e*P **P** **15 15 48.4 0.0**
MKAR Makanchi Array 80.39 319 P **P** **15 15 48.4 0.0**
comp=Z,37nm,1.0s,mb5.3,baz=100,slow=6.3,SNR=98
MKAR PKiKP PKiKP 15 21 17.0 +0.1
comp=Z,1.0nm,0.6s,baz=71,slow=3.0,SNR=3.0
MKAR S S 15 25 52.8 +1.8
comp=Z,1.1nm,1.0s,baz=227,slow=52,SNR=4.4
MKAR PKKPbc PKKPbc 15 34 31.4 -0.8
comp=Z,4.9nm,0.9s,baz=288,slow=1.4,SNR=16
MKAR PKPPKP 15 42 38.4
comp=Z,5.5nm,0.9s,baz=285,slow=2.6,SNR=16
MKAR LR LR 15 51 25.7
comp=Z,2µm,20.3s,MS5.5,baz=108,slow=36
IMA2 Indian Mountai 80.44 19 *e*P **P** **15 15 48.1 -0.1**
MCK McKinley 80.85 23 *e*P **P** **15 15 48.5 -2.0**
MCK pmax pmax
comp=Z,168nm,1.0s,mb5.9
MCK McKinley 80.85 23 *e*P **P** **15 15 48.5 -1.9**
comp=Z,168nm,1.0s,mb5.9
POO Poona 81.16 289 *e*P **P** **15 15 52.8 -0.3**
POO AMb AMB 15 15 55.5
comp=Z,84nm,0.9s,mb5.7
POO *i* PCP PcP 15 15 59.0 -0.3
POO *e*PP PP 15 18 56.0 -3.0
POO *i* SKS 15 26 05.5
ZAA0 Zalesovo Array 81.21 326 *e*P **P** **15 15 51.5 -1.1**
ZALV Zalesovo Beam 81.21 326 P **P** **15 15 51.7 -0.9**
comp=Z,38nm,0.6s,mb5.5,baz=112,slow=6.1,SNR=135
ZALV S S 15 25 58.3 -0.9
comp=Z,12nm,1.0s,baz=123,slow=5.5,SNR=15
ZALV PKKPbc PKKPbc 15 34 29.6 -1.1
comp=Z,3.8nm,0.8s,baz=310,slow=2.7,SNR=10.0
ZALV PKPPKP 15 42 29.6
comp=Z,2.7nm,0.7s,baz=270,slow=1.5,SNR=6.9
ZALV LR LR 15 50 12.8
comp=Z,2µm,21.0s,MS5.3,baz=111,slow=34
ZALV Zalesovo Beam 81.21 326 P **P** **15 15 51.7 -0.9**
ZALV S S 15 25 58.3 -0.9
AJM Ajmer 81.65 298 *e*P **P** **15 15 55.1 -0.5**
AJM AMb AMB 15 15 57.9
comp=Z,156nm,1.0s,mb5.9
THN Thein Dam 81.79 304 *e*P **P** **15 15 54.4 -1.8**
THN *e*S S 15 26 03.8 -2.3
COLA College 81.84 22 *e*P **P** **15 15 54.5 -1.2**
COLA College 81.84 22 *e*P **P** **15 15 53.9 -1.7**
comp=Z,82nm,0.9s,mb5.7
COLA LR LR
comp=Z,2µm,20.0s,MS5.4
COLD Coldfoot 82.25 19 *e*P **P** **15 15 58.2 +0.5**
comp=Z,75nm,1.3s,mb5.5
NVS Novosibirsk 82.38 327 *i* P **P** **15 15 56.6 -2.1**
NVS pmax pmax
comp=N,72nm,1.6s
NVS pmax pmax
comp=Z,148nm,1.6s,mb5.7
NVS pmax pmax
comp=E,114nm,1.4s
KSH Kashi 83.00 311 *e*P **P** **15 16 04.6 +2.3**
KSH *e*AP pP 15 16 17.9 +1.8
KSH *e*XP sP 15 16 23.2 +1.9
KSH *e*PP PP 15 19 17.7 +4.1
KSH *e*S S 15 26 19.1 +0.9
KSH *e*XS sS 15 26 41.3 0.0
KSH *e*SS SS 15 31 44.5 +1.7
KSH AMB AMB
comp=Z,24nm,1.4s,mb5.0
KSH LR LR
comp=N,2µm,6.0s
KSH LR LR
comp=E,7µm,17.1s
KSH LR LR
comp=Z,15µm,22.8s
AAA Alma-Ata 83.11 314 *i* P pP 15 16 15.2 -1.4
AAA *i* S S 15 26 18.7 -0.4
AAA pmax pmax
comp=Z,1µm,5.9s
AAA smax
comp=E,3µm,9.4s
PNL Peninsula 83.12 28 *e*P **P** **15 16 03.3 +0.9**
comp=E,132nm,1.0s,mb5.9
KURK Kurchatov 83.83 322 P **P** **15 16 05.9 -0.4**
comp=E,294nm,0.7s,mb6.5,SNR=50
KURK Kurchatov 83.83 322⇑P **P** **15 16 07.3 +1.0**
SNR=37
KURK Kurchatov 83.83 322 S S 15 26 19.9 -6.1
comp=E,3.5nm,0.2s,baz=201,slow=42,SNR=1.9
KURK PKKPbc PKKPbc 15 34 23.9 -0.6
comp=E,4.1nm,0.6s,baz=290,slow=2.8,SNR=9.1
KURK Kurchatov 83.83 322 *e*P **P** **15 16 05.7 -0.6**
KURK pmax pmax
comp=Z,109nm,1.3s,mb5.8
KURK MLR MLR
comp=Z,2µm,20.0s,MS5.4
KURK Kurchatov 83.83 322 *e*P **P** **15 16 05.7 -0.6**
comp=Z,108nm,1.3s,mb5.8
KURK LR LR
comp=Z,2µm,20.0s,MS5.4
TKM2 Tokmak 2 83.99 314 P **P** **15 16 07.9 +0.5**
SNR=98
KZA Kyzart 84.07 313 P **P** **15 16 10.0 +2.2**
SNR=52
KBK Karagaybulak 84.41 314 P **P** **15 16 10.1 +0.7**
SNR=42
CHMS Chumysh 84.62 314 P **P** **15 16 10.8 +0.3**
SNR=38
UCH Uchtor 84.64 313 P **P** **15 16 11.7 +1.1**
SNR=94
FRU Bishkek 84.68 314⇑ *i*P **P** **15 16 12.0 +1.2**
FRU *i* pP 15 16 27.0 +2.4
FRU *e*S S 15 26 30.0 -5.0
FRU *e* 15 27 52.0
FRU pmax pmax
comp=Z,240nm,2.0s,mb6.0
FRU MLR MLR
comp=Z,2µm,21.0s,MS5.3
DIB Dawson Inlet, 84.72 36 T 16 49 24.8
SNR=168
AAK Ala-Archa 84.73 313 P **P** **15 16 11.8 +0.7**
SNR=51
DAWY Dawson 84.77 24 *e*P **P** **15 16 10.9 +0.1**
USP Ospenovka 84.85 314 P **P** **15 16 12.1 +0.4**
SNR=44
QSPA South Pole Qui 85.14 180 PKKP PKKPbc 15 34 12.6 -9.4
comp=Z,1.4nm,0.6s,baz=201,slow=5.8,SNR=5.9
QSPA PKPPKP 15 42 25.6
comp=Z,2.6nm,1.0s,baz=238,slow=3.2,SNR=3.7
QSPA LR LR 15 54 24.6
comp=Z,2µm,18.9s,MS5.5,baz=2.8,slow=36
AML Almayashu 85.21 313 P **P** **15 16 15.0 +1.5**
SNR=142
EKS2 Erkin-Say 85.25 313 P **P** **15 16 14.4 +0.7**
SNR=58
MAW Mawson 85.58 203 *e*S S 15 26 32.9 -10
MAW Mawson 85.58 203 P **P** **15 16 14.5 -0.4**
comp=Z,40nm,0.6s,mb5.8,baz=100,slow=6.5,SNR=120
MAW S S 15 26 37.3 -5.7
comp=Z,1.7nm,1.0s,baz=272,slow=19,SNR=2.2
MAW PKKPbc PKKPbc 15 34 19.4 -1.2
comp=Z,3.8nm,0.7s,baz=316,slow=4.8,SNR=13
MAW LR LR 15 51 00.7
comp=Z,4µm,21.8s,MS5.7,baz=85,slow=33
MAW Mawson 85.58 203 *e*P **P** **15 16 14.1 -0.8**
MAW *e*S S 15 26 32.9 -10
MAW pmax pmax
comp=Z,40nm,0.7s
MAW MLR MLR
comp=Z,1µm,20.0s
MAW Mawson 85.58 203 *e*P **P** **15 16 14.1 -0.8**
comp=Z,40nm,0.7s,mb5.8
MAW *e*S S 15 26 32.9 -10
MAW LR LR
comp=Z,1µm,20.0s,MS5.2
WRAK Wrangell Islan 85.64 33 *e*P **P** **15 16 14.5 -0.8**
comp=Z,32nm,1.1s,mb5.5
WRAK LR LR
comp=Z,3µm,22.0s,MS5.7
BHJ Bhuj 85.67 294 *e*P **P** **15 16 16.5 +0.3**
BHJ AMb AMB 15 16 18.0
comp=Z,136nm,0.7s,mb6.3
DLBC Dease Lake 87.36 31 *e*P **P** **15 16 23.6 0.0**
KBL Kabul 87.63 305 *e*P **P** **15 16 24.5 -1.1**
KBL pmax pmax
comp=Z,20nm,0.6s,mb5.5
KBL Kabul 87.63 305 *e*P **P** **15 16 24.5 -1.1**
comp=Z,20nm,0.6s,mb5.5
KK31 Karatay Array 87.69 313 *i* P **P** **15 16 25.9 +0.2**
HOPS Hopland 88.38 51 PFAKE 15 16 40.0 +11
HOPS LR LR
comp=Z,5µm,20.0s,MS5.9
MCCM Marconi Confer 88.42 52 PFAKE 15 16 40.0 +11
MCCM LR LR
comp=Z,5µm,19.0s,MS5.9
I02A Mapleton 88.50 46⇑P **P** **15 16 30.7 +1.2**
baz=88
O02C Red Bluff 88.75 50⇑P **P** **15 16 31.7 +1.0**
baz=89
VOSK Vostochnaya 88.89 323 P **P** **15 16 29.1 -2.0**
VOSK pmax pmax
comp=Z,66nm,0.6s,mb6.1
HUMO Hull Mountain 88.94 47⇑P **P** **15 16 31.9 +0.3**
baz=89
HUMO Hull Mountain 88.94 47 *e*P **P** **15 16 31.6 0.0**
comp=Z,18nm,1.0s,mb5.4
HUMO LR LR
comp=Z,2µm,20.0s,MS5.6
NLWA Neilton Lookou 88.95 42⇑P **P** **15 16 32.5 +1.1**
baz=89
NLWA Neilton Lookou 88.95 42 PFAKE 15 16 40.0 +8.5
NLWA LR LR
comp=Z,2µm,19.0s,MS5.6
COR Corvallis 88.95 45 PFAKE 15 16 40.0 +8.4
COR LR LR
comp=Z,4µm,19.0s,MS5.8
H03A Soap Creek Ran 88.97 45⇑P **P** **15 16 32.6 +1.0**
baz=89
WDC Whiskeytown Da 88.99 49⇓P **P** **15 16 32.3 +0.5**
baz=89
WDC Whiskeytown Da 88.99 49 PFAKE 15 16 40.0 +8.1
WDC LR LR
comp=Z,5µm,22.0s,MS5.9
YBH Yreka Blue Hor 89.01 48 PFAKE 15 16 40.0 +8.1
YBH LR LR
comp=Z,4µm,22.0s,MS5.8
E03A Lebam 89.04 43⇑P **P** **15 16 33.1 +1.2**
baz=89
BVA0 Borovoye Array 89.30 323 *i* P **P** **15 16 31.9 -1.1**
BVA0 pmax pmax
comp=Z,24nm,0.9s,mb5.5
BRVK Borovoye 89.36 323 P **P** **15 16 32.4 -0.9**
comp=Z,482nm,0.6s,SNR=45
BRVK Borovoye 89.36 323 *e*P **P** **15 16 32.0 -1.3**
BRVK pmax pmax
comp=Z,202nm,1.1s,mb6.4
BRVK MLR MLR
comp=Z,3µm,22.0s,MS5.7
BRVK Borovoye 89.36 323 *e*P **P** **15 16 32.0 -1.3**
comp=Z,202nm,1.1s,mb6.4
BRVK LR LR
comp=Z,3µm,22.0s,MS5.7
SAO San Andreas Ge 89.39 53 PFAKE 15 16 50.0 +16
SAO LR LR
comp=Z,3µm,21.0s,MS5.7
PGC Sidney 89.40 41 *e*P **P** **15 16 33.7 +0.1**
V03C Hunter Liggett 89.48 54⇑P **P** **15 16 34.9 +0.7**
baz=90
I04A Tendick Farm, 89.49 46⇓P **P** **15 16 34.0 -0.1**
baz=90
PACP Pacheco Peak 89.55 53⇓P **P** **15 16 35.1 +0.6**
baz=90
C04A Brinnon 89.60 42⇑P **P** **15 16 35.1 +0.5**
baz=90
U04C Hernandez Rese 89.88 54⇓P **P** **15 16 35.6 -0.5**
baz=90,SNR=6.4
PKD Parkfield 90.03 54⇓P **P** **15 16 37.1 +0.3**
baz=90,SNR=7.5
PTRM Twissleman Ran 90.27 54 *e*P **P** **15 16 39.0 +1.0**
J05A Fort Rock 90.28 47⇑P **P** **15 16 38.2 +0.4**
baz=90,SNR=6.9
P05C Yuba Gap, Truc 90.32 51⇓P **P** **15 16 38.8 +0.6**
baz=90
CMB Columbia Colle 90.37 52⇑P **P** **15 16 38.7 +0.3**
baz=90
CMB Columbia Colle 90.37 52 PFAKE 15 16 50.0 +12
CMB LR LR
comp=Z,5µm,21.0s,MS5.9
F05A White Salmon 90.41 44⇑P **P** **15 16 38.6 +0.2**
baz=90
H05A Madras 90.43 45⇓P **P** **15 16 38.3 -0.2**
baz=90
K05A Summer Lake 90.47 47⇑P **P** **15 16 38.9 +0.2**
baz=90
PKM Peak Mountain 90.52 55⇑P **P** **15 16 39.9 +0.8**
baz=91
BEKR Beckwourth 90.57 50⇓P **P** **15 16 39.8 +0.5**
baz=91
BSC Santa Cruz Isl 90.58 56⇓P **P** **15 16 40.4 +1.0**
baz=91
SNCC San Nicolas Is 90.61 57 PFAKE 15 16 50.0 +10
SNCC LR LR
comp=Z,4µm,20.0s,MS5.9
T06C Millerton Lake 90.80 53⇓P **P** **15 16 40.6 +0.2**
baz=91
E06A Yakima 90.81 44⇓P **P** **15 16 40.2 0.0**
baz=91
MOD Modoc 90.82 48 PFAKE 15 16 50.0 +10
MOD LR LR
comp=Z,3µm,22.0s,MS5.7
F06A Goldendale 90.86 44⇓P **P** **15 16 41.2 +0.7**
baz=91
K06A Valley Falls 90.94 47⇑P **P** **15 16 40.7 -0.3**
baz=91
WCN Washoe City 90.98 51⇓P **P** **15 16 42.3 +1.1**
baz=91
O06A Flanigan 91.01 50⇑P **P** **15 16 41.9 +0.6**
baz=91
N06A Buffalo Meadow 91.06 49⇑P **P** **15 16 41.4 -0.1**
baz=91
J06A Christmas Vall 91.06 47⇑P **P** **15 16 40.6 -0.8**
baz=91,SNR=6.3
H06A Lindquist Farm 91.07 45⇑P **P** **15 16 40.8 -0.7**
baz=91,SNR=7.4
I06A Prineville 91.08 46⇑P **P** **15 16 40.9 -0.7**
baz=91,SNR=6.6
KCC Kaiser Creek 91.14 53⇑P **P** **15 16 41.6 -0.4**
baz=91,SNR=9.0
R06C Coleville 91.15 52⇓P **P** **15 16 41.3 -0.7**
baz=91
HELL Mitchell Peak 91.32 53⇑P **P** **15 16 42.3 -0.5**
baz=91,SNR=7.5
ETW Entiat 91.36 43 *e*P **P** **15 16 41.6 -1.1**
A07A Ashnola River, 91.46 41⇓P **P** **15 16 42.7 -0.5**
baz=92
L07A Adell 91.54 48⇓P **P** **15 16 43.5 -0.2**
baz=92
C07A Waterville 91.55 42⇑P **P** **15 16 43.6 0.0**
baz=92
CIS Catalina Islan 91.55 57⇑P **P** **15 16 43.5 -0.5**
baz=92
D07A Quincy 91.56 43⇓P **P** **15 16 43.5 -0.2**
baz=92
B07A Winthrop 91.58 42⇑P **P** **15 16 43.5 -0.2**
baz=92
E07A Sunnyside 91.58 44⇑P **P** **15 16 43.6 -0.2**
baz=92
G07A Ruggs Ranch, H 91.59 45⇑P **P** **15 16 43.3 -0.6**
baz=92
I07A Izee 91.61 46⇓P **P** **15 16 43.1 -0.8**
baz=92,SNR=6.4
H07A Lands Inn, Kim 91.61 46⇑P **P** **15 16 43.6 -0.4**
baz=92
M07A Soldier Meadow 91.61 49⇓P **P** **15 16 44.7 +0.7**
baz=92
K07A Rock Creek Ran 91.67 47⇑P **P** **15 16 43.9 -0.4**
baz=92,SNR=5.4
ISA Isabella 91.68 55 *e*P **P** **15 16 44.3 -0.2**
ISA pmax pmax
comp=Z,10.0nm,1.2s,mb5.0
ISA MLR MLR
comp=Z,3µm,20.0s,MS5.7
ISA Isabella 91.68 55⇓P **P** **15 16 44.6 +0.1**
baz=92
ISA Isabella 91.68 55 *e*P **P** **15 16 44.3 -0.2**
comp=Z,10nm,1.2s,mb5.0
ISA LR LR
comp=Z,3µm,20.0s,MS5.7
J07A Hines 91.68 47⇑P **P** **15 16 44.9 +0.6**
baz=92
O07A Toulon 91.73 50⇓P **P** **15 16 44.6 0.0**

baz=92
MTUM **Tungsten Hills** 91.75 53 P P 15 16 44.8 0.0
RSW **Rattlesnake Hi** 91.75 44 eP P 15 16 44.3 -0.3
HAWA **Hanford** 91.79 44 PFAKE 15 17 00.0 +15
HAWA LR LR
comp=Z,3µm,20.0s,MS5.8
MWC **Mount Wilson** 91.91 56 eP P 15 16 44.9 -0.7
MWC pmax pmax
comp=Z,48nm,1.2s,mb5.7
MWC MLR MLR
comp=Z,4µm,22.0s,MS5.8
MWC **Mount Wilson** 91.91 56 eP P 15 16 44.9 -0.7
comp=Z,48nm,1.2s,mb5.7
MWC LR LR
comp=Z,4µm,22.0s,MS5.8
EDW2 **Edwards Air Fo** 92.01 55 ⇓P P 15 16 45.8 -0.2
baz=92,SNR=7.7
NVAR **Mina Array Bea** 92.04 52 P P 15 16 46.7 +0.6
comp=Z,3.1nm,0.8s,mb4.7,baz=260,slow=6.4,SNR=18
NVAR **Mina Array Bea** 92.04 52 P P 15 16 46.7 +0.6
CWC **Cottonwood Cre** 92.06 54 ⇑P P 15 16 46.1 -0.2
baz=92,SNR=10
B08A **Colville Reser** 92.09 42 ⇑P P 15 16 45.7 -0.4
baz=92
G08A **Pilot Rock** 92.09 45 ⇑P P 15 16 46.5 +0.3
baz=92
WVOR **Wild Horse Val** 92.10 48 PFAKE 15 17 00.0 +14
WVOR LR LR
comp=Z,3µm,22.0s,MS5.7
E08A **Dider Farm, El** 92.12 44 ⇓P P 15 16 46.2 -0.1
baz=92
A08A **Turner Farm, O** 92.18 41 ⇑P P 15 16 46.9 +0.4
baz=92
M08A **Happy Creek Ra** 92.21 49 ⇑P P 15 16 47.0 +0.1
baz=92
BFSC **Mount Baldy St** 92.24 56 ⇓P P 15 16 47.2 +0.1
baz=92
H08A **Prairie City** 92.24 46 ⇓P P 15 16 46.7 -0.1
baz=92
F08A **Pendleton** 92.26 44 ⇓P P 15 16 46.6 -0.3
baz=92
D08A **Wollman Farm,** 92.26 43 ⇓P P 15 16 46.8 -0.2
baz=92
J08A **Circle Bar Ran** 92.29 47 ⇓P P 15 16 46.9 -0.3
baz=92
O08A **Rochester Mine** 92.29 50 ⇑P P 15 16 46.8 -0.5
baz=92
L08A **Fields** 92.30 48 ⇓P P 15 16 46.7 -0.5
baz=92,SNR=6.9
LRMC **Laurel Mountai** 92.30 55 ⇓P P 15 16 47.1 -0.3
baz=92,SNR=17
Q08A **Gabbs** 92.36 51 ⇓P P 15 16 47.4 -0.2
baz=92
OD2 **Odessa Site #2** 92.43 43 eP P 15 16 47.2 -0.5
DAC **Darwin (Calif)** 92.44 54 PFAKE 15 17 00.0 +12
DAC LR LR
comp=Z,4µm,22.0s,MS5.8
MPMC **Manual Prospec** 92.51 54 ⇓P P 15 16 47.6 -0.7
baz=92,SNR=15
GRAC **Grapevine Rang** 92.67 53 ⇑P P 15 16 48.8 -0.3
baz=93
D09A **Jones Farm, Ri** 92.68 43 ⇓P P 15 16 48.5 -0.3
baz=93
E09A **Wood Farm, Sta** 92.75 44 ⇓P P 15 16 48.5 -0.7
baz=93,SNR=12
C09A **Chrisman Ranch** 92.76 42 ⇓P P 15 16 49.5 +0.3
baz=93
K09A **Rome** 92.79 48 ⇑P P 15 16 49.5 0.0
baz=93
J09A **Fry Pan Ranch,** 92.81 47 ⇑P P 15 16 49.2 -0.4
baz=93,SNR=9.1
S09A **Goldfield** 92.83 53 ⇑P P 15 16 49.4 -0.4
baz=93,SNR=8.6
TPH **Tonopah** 92.86 52 PFAKE 15 17 00.0 +10
TPH LR LR
comp=Z,3µm,22.0s,MS5.7
F09A **S2 Ranch, Elgi** 92.86 45 ⇑P P 15 16 50.0 +0.3
baz=93
I09A **Lost Marbles R** 92.86 46 ⇓P P 15 16 49.5 -0.3
baz=93,SNR=5.9
B09A **Rice** 92.89 42 ⇓P P 15 16 49.7 0.0
baz=93
G09A **Cove** 92.92 45 ⇑P P 15 16 49.1 -1.0
baz=93,SNR=10
Q09A **Carvers** 92.94 51 ⇓P P 15 16 49.8 -0.5
baz=93
BAR **Barrett** 92.95 58 PFAKE 15 17 00.0 +10
BAR LR LR
comp=Z,3µm,22.0s,MS5.7
H09A **Durkee** 92.97 46 ⇑P P 15 16 50.7 +0.5
baz=93
R09A **Tonopah** 92.99 52 ⇑P P 15 16 50.2 -0.3
baz=93
GSC **Goldstone** 93.01 55 eP P 15 16 51.2 +0.5
GSC pmax pmax
comp=Z,2.0nm,0.6s,mb4.7
GSC MLR MLR
comp=Z,3µm,20.0s,MS5.8
GSC **Goldstone** 93.01 55 eP P 15 16 51.2 +0.5
comp=Z,2.4nm,0.6s,mb4.8
GSC LR LR
comp=Z,3µm,20.0s,MS5.8
BMN **Battle Mountai** 93.02 50 PFAKE 15 17 00.0 +9.4
BMN LR LR
comp=Z,3µm,21.0s,MS5.7
O09A **Fish Creek Ran** 93.02 50 ⇓P P 15 16 50.4 -0.2
baz=93
FURC **Furnace Creek,** 93.04 54 ⇑P P 15 16 50.6 -0.2
baz=93,SNR=7.0
MONP **Monument Peak** 93.17 57 ⇓P P 15 16 51.3 -0.2
baz=93,SNR=7.3
PFO **Pinyon Flat Ob** 93.19 57 eP P 15 16 52.1 +0.5
PFO pmax pmax
comp=Z,9.0nm,0.9s,mb5.2
PFO MLR MLR
comp=Z,3µm,22.0s,MS5.8
PFO **Pinyon Flat Ob** 93.19 57 ⇑P P 15 16 51.4 -0.2
baz=93
PFO **Pinyon Flat Ob** 93.19 57 eP P 15 16 52.1 +0.6
comp=Z,8.8nm,0.9s,mb5.2
PFO LR LR
comp=Z,3µm,22.0s,MS5.8
BMO **Blue Mountains** 93.23 45 eP P 15 16 50.2 -1.3
BMO pmax pmax
comp=Z,27nm,1.1s,mb5.6
BMO MLR MLR
comp=Z,4µm,21.0s,MS5.8
BMO **Blue Mountains** 93.23 45 eP P 15 16 50.2 -1.2
comp=Z,27nm,1.1s,mb5.6
BMO LR LR
comp=Z,4µm,21.0s,MS5.8
A10A **Northport** 93.31 41 ⇓P P 15 16 51.8 +0.1
baz=93
S10A **Tonopah Range,** 93.34 52 ⇓P P 15 16 52.1 -0.1
baz=93,SNR=10
F10A **Beach Ranch, E** 93.36 44 ⇑P P 15 16 51.0 -1.0
baz=93,SNR=9.0
HEC **Hector,Ludlow** 93.37 55 ⇓P P 15 16 51.8 -0.5
baz=93
G10A **Bishop Farm, J** 93.39 45 ⇓P P 15 16 51.8 -0.4
baz=93,SNR=12
K10A **MacKenzie Ranc** 93.42 48 ⇓P P 15 16 52.5 +0.1
baz=94
U10A **Ash Meadows, A** 93.47 54 ⇓P P 15 16 53.1 +0.3
baz=94
Q10A **Clear Creek Ra** 93.55 51 ⇓P P 15 16 53.2 +0.1
baz=94
NEW **Newport** 93.56 42 PFAKE 15 17 00.0 +7.1
NEW LR LR
comp=Z,3µm,22.0s,MS5.7
TPNV **Topopah Spring** 93.56 53 eP P 15 16 52.4 -0.8
TPNV pmax pmax
comp=Z,34nm,1.1s,mb5.7
TPNV MLR MLR
comp=Z,3µm,20.0s,MS5.8
TPNV **Topopah Spring** 93.56 53 ⇑P P 15 16 52.6 -0.6
baz=94
TPNV **Topopah Spring** 93.56 53 eP P 15 16 52.4 -0.8
comp=Z,34nm,1.1s,mb5.7
TPNV LR LR
comp=Z,3µm,22.0s,MS5.8
BELC **Belle Mtn.** 93.59 56 ⇑P P 15 16 52.9 -0.6
baz=94,SNR=8.3
H10A **Noah's Angus R** 93.61 46 ⇓P P 15 16 52.8 -0.4
baz=94,SNR=11
L10A **Juniper Basin** 93.68 48 ⇑P P 15 16 53.7 +0.1
baz=94
SYO **Syowa Base** 93.68 199⇑eP P 15 16 51.8 -1.2
SYO **Syowa Base** 93.68 199⇓iP P 15 16 52.4 -0.6
SWSC **Sam W. Stewart** 93.70 57 ⇑P P 15 16 54.1 +0.2
baz=94
TUQ **Turquoise Moun** 93.74 55 ⇓P P 15 16 53.5 -0.5
baz=94,SNR=12
GMRC **Granite Mounta** 93.92 56 ⇑P P 15 16 54.5 -0.4
baz=94,SNR=8.4
G11A **Walters Elk Ra** 94.00 45 ⇑P P 15 16 54.3 -0.6
baz=94,SNR=7.5
D11A **Klaveano Farm,** 94.03 43 ⇑P P 15 16 55.2 +0.1
baz=94
BC3 **Big Chuckw Mtn** 94.03 57 ⇑P P 15 16 54.8 -0.6
baz=94,SNR=9.7
K11A **Parker Ranch,** 94.04 48 ⇓P P 15 16 55.3 +0.1
baz=94
B11A **Sandpoint** 94.07 42 ⇓P P 15 16 56.0 +0.8
baz=94
E11A **Bogner Ranch,** 94.08 44 ⇓P P 15 16 54.5 -0.9
baz=94
A11A **Hall Mountain,** 94.10 41 ⇑P P 15 16 55.8 +0.5
baz=94,SNR=8.8
C11A **Tepee Creek (N** 94.12 42 ⇓P P 15 16 55.7 +0.3
baz=94
Q11A **Duckwater** 94.13 52 ⇑P P 15 16 55.9 +0.1
baz=94
I11A **Placerville** 94.15 46 ⇓P P 15 16 55.5 -0.2
baz=94
R11A **Troy Canyon, C** 94.16 52 ⇓P P 15 16 55.9 0.0
baz=94,SNR=9.4
O11A **Cowboy Ranch,** 94.19 50 ⇑P P 15 16 55.9 -0.1
baz=94
L11A **Cat Creek Ranc** 94.22 48 ⇓P P 15 16 56.5 +0.5
baz=94
IRM **Iron Mountain** 94.31 56 ⇓P P 15 16 56.6 -0.1
baz=94,SNR=14
LDFC **Landfair** 94.39 55 eP P 15 16 56.5 -0.5
comp=Z,85nm,1.1s,mb6.1
T11A **Corn Creek, Al** 94.40 53 ⇑P P 15 16 56.6 -0.4
baz=94,SNR=6.5
GLA **Glamis** 94.52 57 PFAKE 15 17 10.0 +12
GLA LR LR
comp=Z,3µm,22.0s,MS5.7
E12A **Beaver Dam Sad** 94.53 44 ⇑P P 15 16 57.1 -0.3
baz=95,SNR=6.3
ELK **Elko** 94.54 50 PFAKE 15 17 10.0 +12
ELK LR LR
comp=Z,3µm,21.0s,MS5.7
V12A **Nelson** 94.63 55 ⇓P P 15 16 58.7 +0.6
baz=95
N12A **Clover Valley,** 94.70 50 ⇑P P 15 16 58.6 +0.3
baz=95
D12A **Red Ives Fores** 94.70 43 ⇑P P 15 16 58.2 0.0
baz=95
S12A **Delamar Landin** 94.71 53 ⇑P P 15 16 58.7 +0.3
baz=95
F12A **Elk City** 94.72 45 ⇓P P 15 16 57.5 -0.8
baz=95
I12A **Atlanta** 94.74 47 ⇓P P 15 16 57.9 -0.5
baz=95
P12A **McGill** 94.74 51 ⇓P P 15 16 58.6 +0.1
baz=95
J12A **Stokes Ranch,** 94.74 47 ⇑P P 15 16 58.5 0.0
baz=95,SNR=9.7
Q12A **Willow Creek R** 94.78 51 ⇑P P 15 16 59.0 +0.2
baz=95
O12A **Currie** 94.90 50 ⇑P P 15 16 59.1 -0.1
baz=95
R12A **Pony Springs,** 94.93 52 ⇓P P 15 16 59.5 +0.1
baz=95
H12A **Diamond D Ranc** 94.96 46 ⇓P P 15 16 58.9 -0.5
baz=95
PDMCI **Parker Dam,Lak** 95.15 56 ⇓P P 15 17 00.1 -0.4
baz=95
SVE **Sverdlovsk** 95.22 327⇑eP P 15 16 59.5 -0.8
SVE eS SKSac 15 27 30.1 -2.1
SVE eSSS 15 38 17.2
SVE pmax pmax
comp=Z,30nm,0.6s,mb5.9
SVE MLR MLR
comp=Z,3µm,19.0s,MS5.8
HLID **Hailey** 95.25 47 P P 15 17 00.3 -0.5
comp=Z,1.9nm,0.8s,mb4.6
HLID LR LR
comp=Z,2µm,22.0s,MS5.6
B13A **Whitefish** 95.33 42 ⇓P P 15 17 00.5 -0.5
baz=95,SNR=6.9
V13A **Grand Canyon W** 95.34 55 ⇑P P 15 17 01.1 -0.3
baz=95
F13A **Darby** 95.37 45 ⇑P P 15 17 00.2 -1.1
baz=95,SNR=12
U13A **Pakoon Wash** 95.37 54 ⇓P P 15 17 00.5 -1.0
baz=95
M13A **Montello** 95.37 49 ⇑P P 15 17 01.1 -0.2
baz=95
W13A **Hualapai Mount** 95.39 55 ⇑P P 15 17 01.9 +0.3
baz=95
H13A **Challis** 95.39 46 ⇓P P 15 17 01.4 0.0
baz=95
YKA **Yellowknife Ar** 95.41 28 P P 15 17 01.1 +0.1
comp=Z,8.2nm,0.9s,mb5.2,baz=268,slow=5.1,SNR=10
YKA LR LR 15 55 53.8
comp=Z,991nm,21.4s,MS5.2,baz=150,slow=33
YKA **Yellowknife Ar** 95.41 28 P P 15 17 01.1 +0.1
YKA LR LR 15 55 53.8
Q13A **Wheeler Ranch,** 95.41 51 ⇓P P 15 17 01.9 +0.3
baz=95
X13A **Yucca** 95.42 56 ⇑P P 15 17 01.6 -0.1
baz=95,SNR=7.0
G13A **Cobalt** 95.42 45 ⇑P P 15 17 01.4 -0.1
baz=95
R13A **O'Grain Ranch,** 95.43 52 ⇓P P 15 17 01.1 -0.6
baz=96
WBK **Wadi Bani Khal** 95.43 292 ⇑P P 15 16 58.2 -3.9
SNR=10
P13A **Bates Ranch, G** 95.43 51 ⇑P P 15 17 01.8 +0.1
baz=96
I13A **Wildhorse Cree** 95.48 46 ⇑P P 15 17 01.4 -0.4
baz=96
S13A **Holt Ranch, En** 95.49 53 ⇓P P 15 17 02.3 +0.3
baz=96
AB31 **Akbulak array** 95.53 319⇑eP P 15 16 59.7 -2.2
MSO **Missoula** 95.66 44 PFAKE 15 17 10.0 +7.5
MSO LR LR
comp=Z,2µm,20.0s,MS5.5
ARUT **Antelope Range** 95.83 53 eP P 15 17 04.0 +0.4
CCUT **Cedar City** 95.89 53 eP P 15 17 04.6 +0.8
G14A **Jackson** 95.97 45 ⇓P P 15 17 04.1 +0.1
baz=96
M14A **Sheep Mountain** 95.99 49 ⇑P P 15 17 04.2 0.0
baz=96
Q14A **Sevier Lake (B** 95.99 51 ⇓P P 15 17 04.0 -0.3
baz=96
U14A **Mt Trumbull** 96.00 54 ⇑P P 15 17 05.0 +0.6
baz=96
A14A **Double T Ranch** 96.03 41 ⇑P P 15 17 03.9 -0.3
baz=96,SNR=6.1
V14A **Boquillas Ranc** 96.04 55 ⇓P P 15 17 05.3 +0.7
baz=96
W14A **Seligman** 96.05 55 ⇓P P 15 17 04.8 +0.2
baz=96
Y14A **Wickenburg** 96.08 57 ⇑P P 15 17 04.5 -0.2
baz=96
EDM **Edmonton** 96.09 37 eP P 15 17 04.4 +0.1
T14A **Hurricane** 96.10 53 ⇓P P 15 17 05.3 +0.5
baz=96
N14A **Grayback Hills** 96.10 50 ⇓P P 15 17 05.2 +0.5
baz=96
B14A **Marquette Ranc** 96.13 42 ⇓P P 15 17 04.1 -0.5
baz=96,SNR=6.2
P14A **Drum Mountains** 96.17 51 ⇑P P 15 17 04.5 -0.5
baz=96
214A **Organ Pipe Nat** 96.18 58 ⇑P P 15 17 05.6 +0.3
baz=96
X14A **Yava** 96.19 56 ⇓P P 15 17 05.8 +0.5
baz=96
BIDO **Bidbid** 96.25 293 ⇑P P 15 17 02.4 -3.3
SNR=6.5
ARU **Arti** 96.37 326 P P 15 17 03.0 -2.5
comp=Z,247nm,0.6s,mb6.8,SNR=17
ARU **Arti** 96.37 326*d* *i*P P 15 17 03.3 -2.2
ARU *e**PP pP 15 17 17.4 -2.1
ARU *e* 15 20 58.2
ARU eS SKSac 15 27 35.5 -2.8
ARU PS PS 15 29 48.2 +0.4
ARU SSS 15 38 45.7
ARU pmax pmax
comp=Z,54nm,1.2s,mb5.8
ARU MLR MLR
comp=Z,3µm,21.0s,MS5.8
ARU **Arti** 96.37 326 eP P 15 17 03.1 -2.5
comp=Z,26nm,0.6s,mb5.8
ARU LR LR
comp=Z,3µm,21.0s,MS5.7
DUG **Dugway** 96.37 50 PFAKE 15 17 20.0 +14
DUG LR LR
comp=Z,3µm,22.0s,MS5.7
A15A **Johnson Ranch,** 96.49 41 ⇑P P 15 17 05.8 -0.4
baz=96,SNR=6.8
H15A **Lima** 96.55 46 ⇑P P 15 17 06.8 +0.2
baz=97
E15A **Deer Lodge** 96.55 44 ⇓P P 15 17 06.2 -0.4
baz=97
C15A **Salmond Ranch,** 96.58 43 ⇓P P 15 17 06.4 -0.3
baz=97,SNR=7.9
K15A **Arbon** 96.61 48 ⇑P P 15 17 06.6 -0.4
baz=97
F15A **Butte** 96.66 45 ⇓P P 15 17 07.2 +0.1
baz=97
M15A **Larsen Ranch,** 96.67 49 ⇑P P 15 17 07.2 -0.1
baz=97
J15A **Blackfoot** 96.69 47 ⇓P P 15 17 07.6 +0.3
baz=97
U15A **North Rim** 96.72 54 ⇓P P 15 17 07.9 +0.3
baz=97
AKTK **Aktyubinsk** 96.78 320 *i* P P 15 17 04.6 -2.9
AKTO **Aktyubinsk** 96.78 320 P P 15 17 04.6 -2.9
AKTO pmax pmax
comp=Z,2.0nm,1.0s,mb4.5
V15A **Kaibab Nationa** 96.81 55 ⇓P P 15 17 08.4 +0.4
baz=97
MVU **Marysvale** 96.81 52 PFAKE 15 17 20.0 +12
MVU LR LR
comp=Z,4µm,22.0s,MS5.8
MSU **Marysvale** 96.84 52 eP P 15 17 09.3 +1.2
MSEY **Mahe Island** 96.95 265 PFAKE 15 17 20.0 +11
MSEY LR LR
comp=Z,993nm,20.0s,MS5.3
C16A **Fuhringer Ranc** 97.16 43 ⇑P P 15 17 08.5 -0.8
baz=97
MPU **Maple Canyon** 97.28 50 PFAKE 15 17 20.0 +10
MPU LR LR
comp=Z,3µm,21.0s,MS5.8
K16A **Soda Springs** 97.31 48 ⇓P P 15 17 10.7 +0.6
baz=97
HWUT **Hardware Ranch** 97.33 49 PFAKE 15 17 20.0 +10
HWUT LR LR
comp=Z,2µm,22.0s,MS5.6
216A **Three Points,** 97.33 58 ⇓P P 15 17 11.0 +0.5
baz=97
Y16A **Circle Bar Ran** 97.34 57 ⇓P P 15 17 11.3 +0.8
baz=97
R16A **Teasdale** 97.39 52 ⇑P P 15 17 11.5 +0.9
baz=97
WUAZ **Wupatki** 97.45 55 ⇑P P 15 17 12.2 +1.2
baz=98
WUAZ **Wupatki** 97.45 55 PFAKE 15 17 20.0 +9.0
WUAZ LR LR
comp=Z,3µm,22.0s,MS5.7
H16A **Russell Place,** 97.54 46 ⇓P P 15 17 11.2 +0.1
baz=98
U16A **Tuba City** 97.66 54 ⇑P P 15 17 12.5 +0.6
baz=98
AHID **Auburn Hatcher** 97.67 48 PFAKE 15 17 20.0 +8.2
AHID LR LR
comp=Z,3µm,22.0s,MS5.7
YMR **Madison River** 97.74 46 PFAKE 15 17 20.0 +8.0
YMR LR LR
comp=Z,4µm,21.0s,MS5.9
C17A **Wharram Farm,** 97.82 43 ⇓P P 15 17 12.7 +0.4
baz=98
Y17A **Roosevelt** 97.87 57 ⇑P P 15 17 14.2 +1.3
baz=98
217A **Green Valley** 97.87 59 ⇓P P 15 17 13.9 +1.0
baz=98
TUC **Tucson** 97.91 58 PFAKE 15 17 20.0 +6.9
TUC LR LR
comp=Z,2µm,19.0s,MS5.7
X17A **Forest Lakes** 97.91 56 ⇓P P 15 17 13.3 +0.3
baz=98
S17A **Black Ridge (B** 97.92 53 ⇓P P 15 17 13.9 +0.9
baz=98
O17A **Robinson Place** 97.96 50 ⇓P P 15 17 13.6 +0.5
baz=98
R17A **Hanksville Air** 97.99 52 ⇓P P 15 17 13.2 -0.1
baz=98
H17A **Grant Village** 98.03 46 ⇓P P 15 17 14.4 +1.1
baz=98
LKWY **Lake** 98.15 46 PFAKE 15 17 30.0 +16
LKWY LR LR
comp=Z,4µm,22.0s,MS5.9
E18A **Harlowton** 98.43 44 ⇓P P 15 17 15.1 0.0
baz=98
Q18A **Rafter H Ranch** 98.44 51 ⇑P P 15 17 14.8 -0.5
baz=98
EGMT **Eagleton** 98.49 42 ⇑P P 15 17 15.8 +0.5
baz=98
EGMT **Eagleton** 98.49 42 PFAKE 15 17 30.0 +15
EGMT LR LR
comp=Z,1µm,19.0s,MS5.4
S18A **Hurst Farm, Bl** 98.56 53 ⇑P P 15 17 16.6 +0.7
baz=99
318A **Bisbee** 98.57 59 ⇑P P 15 17 16.9 +0.8
baz=99
X18A **Snowflake** 98.62 56 ⇓P P 15 17 17.3 +1.1
baz=99
V18A **Ganado** 98.63 55 ⇓P P 15 17 17.1 +0.9
baz=99
R18A **Canyonlands Na** 98.64 52 ⇑P P 15 17 16.3 +0.1
baz=99
N18A **Larsen Ranch,** 98.76 49 ⇑P P 15 17 17.1 +0.4
baz=99
BW06 **Boulder Array** 98.80 48 ⇑P P 15 17 16.8 0.0
baz=99
BW06 **Boulder Array** 98.80 48 PFAKE 15 17 30.0 +13
BW06 LR LR
comp=Z,4µm,22.0s,MS5.8
PDAR **Pinedale Array** 98.80 48 P P 15 17 16.4 -0.4
comp=Z,4.8nm,1.1s,mb4.9,baz=270,slow=1.5,SNR=14
PDAR PP PP 15 21 24.9 +6.2
comp=Z,3.7nm,1.0s,baz=264,slow=5.8,SNR=7.5
PDAR PKiKP PKiKP 15 21 49.4 +1.5
comp=Z,1.7nm,0.9s,baz=135,slow=2.3,SNR=3.9
PDAR PKKPbc PKKPbc 15 33 47.0 +1.1
comp=Z,0.6nm,0.6s,baz=90,slow=5.4,SNR=2.7
PDAR LR LR 15 56 23.5
comp=Z,2µm,20.0s,MS5.5,baz=268,slow=32
PDAR **Pinedale Array** 98.80 48 P P 15 17 16.4 -0.4
PDAR PP PP 15 21 24.9 +6.2
RLMT **Red Lodge** 98.94 45 ⇓P P 15 17 17.5 +0.2
baz=99
RLMT **Red Lodge** 98.94 45 PFAKE 15 17 30.0 +13
RLMT LR LR
comp=Z,4µm,22.0s,MS5.8
219A **White Tail Can** 99.20 58 ⇑P P 15 17 18.4 -0.4
baz=99
S19A **Harvey Farm, M** 99.24 53 ⇓P P 15 17 19.1 +0.2
baz=99
MVCO **Mesa Verde** 99.76 53 PFAKE 15 17 30.0 +9.2
MVCO LR LR
comp=Z,3µm,21.0s,MS5.7
WHFO **Wadi Hawf** 100.11 287 ⇑P Pdif 15 17 18.7 -3.7
SNR=5.2
LAO **LASA Array** 100.97 44 PFAKE 15 17 40.0 +14
LAO LR LR
comp=Z,3µm,22.0s,MS5.8
ANMO **Albuquerque** 101.48 55 PFAKE 15 17 40.0 +12
ANMO LR LR
comp=Z,1µm,22.0s,MS5.5
ISCO **Idaho Springs** 101.91 50 PFAKE 15 17 40.0 +10
ISCO LR LR
comp=Z,2µm,20.0s,MS5.7
SNAA **Sanae** 102.02 188 *e*Pdiff Pdif 15 17 30.1 -0.8
SNAA *e* 15 17 32.0
SNAA *e* 15 17 40.7
SNAA *e* 15 17 47.2
SNAA *e* 15 21 43.1
SNAA *e* 15 21 51.7
SNAA *e* 15 33 35.5
SNAA **Sanae** 102.02 188 eP Pdif 15 17 30.0 -0.9
SNAA pmax pmax
comp=Z,7.0nm,0.9s
SNAA **Sanae** 102.02 188 *e*Pdif Pdif 15 17 30.0 -0.9
comp=Z,7.2nm,0.9s
SDCO **Great Sand Dun** 102.12 53 PFAKE 15 17 40.0 +8.7

SDCO LR LR
comp=Z,3µm,21.0s,MS5.8
DGMT Dagmar 102.16 42 PFAKE 15 17 40.0 +8.5
DGMT LR LR
comp=Z,2µm,21.0s,MS5.6
FFC Flin Flon 102.65 35 PFAKE 15 17 50.0 +16
FFC LR LR
comp=Z,2µm,20.0s,MS5.7
ABPO Ambohimpanom 103.14 249 PFAKE 15 17 50.0 +14
ABPO LR LR
comp=Z,2µm,21.0s,MS5.6
VNA3 Neumayer Olymp 103.22 186 *e*Pdiff Pdif 15 17 35.6 -0.6
VNA3 *e* 15 17 37.2
VNA3 *e* 15 17 39.7
VNA3 *e* 15 17 46.4
VNA3 *e* 15 17 53.1
VNA3 *e* 15 21 50.4
VNA3 *e* 15 21 58.0
VNA3 *e* 15 22 08.1
VNA3 *e* 15 33 32.0
VNA2 Neumayer--Watz 103.28 187 *e*Pdiff Pdif 15 17 36.1 -0.4
VNA2 *e* 15 17 37.5
VNA2 *e* 15 17 40.7
VNA2 *e* 15 17 46.9
VNA2 *e* 15 17 54.0
VNA2 *e* 15 21 51.2
VNA2 *e* 15 21 58.2
VNA2 *e* 15 22 08.8
VNA2 *e* 15 33 32.0
KBS Kingsbay 103.38 353 *e*PP PP 15 21 55.0 +2.8
KBS *e*SKS 15 28 14.6
KBS *e* 15 30 54.8
KBS AMS AMS 16 02 02.4
comp=Z,1µm,22.9s,MS5.3
KBS Kingsbay 103.38 353 PFAKE 15 17 50.0 +13
KBS LR LR
comp=Z,2µm,21.0s,MS5.6
TXAR Lajitas Array 104.07 61 PKiKP PKiKP 15 21 57.7 -0.1
comp=Z,1.4nm,0.8s,baz=294,slow=4.0,SNR=5.6
TXAR PKKPbc PKKPbc 15 33 30.1 0.0
comp=Z,0.2nm,0.3s,baz=331,slow=10,SNR=2.8
MAK Makhachkala 104.51 313 *ce*P Pdif 15 17 42.4 +0.5
MAK *i* 15 22 08.4
MAK *e*PPP 15 24 13.5
MAK *i* 15 28 12.1
MAK *e* 15 29 02.9
MAK MLR MLR
comp=Z,2µm,23.0s,MS5.7
OGNE Ogallala 104.54 49 PFAKE 15 17 50.0 +7.9
OGNE LR LR
comp=Z,2µm,21.0s,MS5.7
LVZ Lovozero 104.80 340 PFAKE 15 17 50.0 +6.7
LVZ LR LR
comp=Z,990nm,20.0s,MS5.3
APA Apatity 105.38 340⇑ *e*P Pdif 15 17 46.0 +0.2
APA *i* SS SS 15 37 05.0 +5.2
AMTX Amarillo 105.41 55 PFAKE 15 22 10.0 +10
AMTX LR LR
comp=Z,2µm,22.0s,MS5.7
PMSA Palmer Station 105.43 165 PFAKE 15 22 10.0 +11
PMSA LR LR
comp=Z,5µm,22.0s,MS6.0
KLMR Klimovskoe 105.43 332 *e*P Pdif 15 17 43.5 -2.5
KLMR *e* 15 22 05.3
KLMR pmax pmax
comp=Z,33nm,1.5s
KEV Kevo 106.34 343 *e*P Pdif 15 17 49.0 -1.1
comp=Z,0.9nm,0.4s
KEV LR LR
comp=Z,2µm,20.0s,MS5.6
CBKS Cedar Bluff 106.54 51 PFAKE 15 22 10.0 +7.9
CBKS LR LR
comp=Z,4µm,22.0s,MS6.0
ARCES ARCESS Array B 106.90 343 Pdiff Pdif 15 17 50.9 -1.7
comp=Z,2.7nm,0.7s,baz=29,slow=2.8,SNR=8.9
ARCES PKiKP PKiKP 15 22 02.0 +0.2
comp=Z,3.8nm,0.6s,baz=121,slow=1.2,SNR=12
GNI Garni 106.93 310 PFAKE 15 22 20.0 +17
GNI LR LR
comp=Z,549nm,20.0s,MS5.1
ULM Lac du Bonnet 107.21 39 PFAKE 15 22 10.0 +7.1
ULM LR LR
comp=Z,2µm,21.0s,MS5.7
JCT Junction City 107.35 60 PFAKE 15 22 20.0 +16
JCT LR LR
comp=Z,4µm,20.0s,MS6.0
AGMN Agassiz Refuge 107.66 41 PFAKE 15 22 20.0 +16
AGMN LR LR
comp=Z,2µm,20.0s,MS5.7
KIV Kislovodsk 107.82 315 *e*P Pdif 15 17 58.6 +1.9
KIV *e* 15 22 25.3
KIV *e* 15 28 33.1
KIV *e*PS PS 15 31 40.0 -10
KIV *e*SS SS 15 37 35.6 +1.1
KIV *e*SSS 15 41 38.5
KIV pmax pmax
comp=Z,6.0nm,0.8s
KIV MLR MLR
comp=Z,2µm,22.0s,MS5.5
KIV Kislovodsk 107.82 315 PFAKE 15 22 20.0 +16
KIV LR LR
comp=Z,2µm,22.0s,MS5.5
BHD Baghdad 108.08 303 *ex* x 15 22 32.0
ECSD EROS,Sioux Fal 108.09 46 *e*PKiKP PKiKP 15 22 04.2 -0.6
ECSD LR LR
comp=Z,2µm,21.0s,MS5.7
JOF Joensuu 108.23 336 *ep* Pdif 15 17 56.8 -1.7
comp=Z,1.2nm,0.4s
JOF Joensuu 108.23 336 *e*P Pdif 15 17 56.8 -1.7
JOF pmax pmax
comp=Z,1.0nm,0.4s
TRO Tromso 108.68 345 *e*SKS SKSac 15 28 36.5 +0.6
TRO AMS AMS 16 09 12.4
comp=Z,2µm,21.6s,MS5.6
MSL Mosul 108.73 307 *ex* x 15 22 45.0
OBN Obninsk 108.78 327⇑ *i*P Pdif 15 18 00.3 -0.6
OBN *i* 15 22 42.3
OBN *i* PS PS 15 31 53.5 -5.4
OBN *e*SS SS 15 38 01.0 +14
OBN pmax pmax
comp=Z,15nm,0.7s
OBN MLR MLR
comp=Z,3µm,22.0s,MS5.8
OBN Obninsk 108.78 327 PFAKE 15 22 20.0 +14
OBN LR LR
comp=Z,2µm,22.0s,MS5.7
KSU1 Kansas State U 108.91 50 PFAKE 15 22 20.0 +14
KSU1 LR LR
comp=Z,2µm,21.0s,MS5.8
KVTX Kingsville 109.26 63 PFAKE 15 22 20.0 +13
KVTX LR LR
comp=Z,3µm,20.0s,MS5.9
SOC Sochi 110.00 315 *e*P Pdif 15 18 11.3 +4.9
SOC *e* 15 22 51.6
SOC *e* 15 28 42.5
SOC *e*SP SP 15 32 03.1 -2.3
SOC *e*PS PS 15 32 12.9 +1.3
SOC MLR MLR
comp=Z,1µm,20.0s,MS5.5
EYMN Ely 110.58 40 PFAKE 15 22 20.0 +11
EYMN LR LR
comp=Z,2µm,20.0s,MS5.6
HKT Hockley 110.82 60 PFAKE 15 22 20.0 +10
HKT LR LR
comp=Z,5µm,20.0s,MS6.1
SCIA State Center 110.92 47 PFAKE 15 22 20.0 +10
SCIA LR LR
comp=Z,3µm,21.0s,MS5.8
NATX Nacogdoches 111.59 58 PFAKE 15 22 20.0 +8.2
NATX LR LR
comp=Z,3µm,21.0s,MS5.8
MIAR Mount Ida 112.07 55 PFAKE 15 22 20.0 +7.4
MIAR LR LR
comp=Z,2µm,19.0s,MS5.8
COWI Conover 112.66 42 PFAKE 15 22 30.0 +17
COWI LR LR
comp=Z,2µm,20.0s,MS5.7
JFWS Jewell Farm 112.80 45 *e*PKIKP PKiKP 15 22 12.9 -0.8
JFWS MLR MLR
comp=Z,2µm,21.0s,MS5.7
CCM Cathedral Cave 113.24 51 *e*PKIKP PKiKP 15 22 14.5 -0.2
CCM MLR MLR
comp=Z,4µm,21.0s,MS6.0
SIM Simferopol' 113.53 317 *i* PKIKP PKiKP 15 22 19.0 +3.9
SIM *e* 15 28 58.8
SIM PS PS 15 32 40.4 -3.6
SIM pmax pmax
comp=Z,8.0nm,0.7s
HDIL Hopedale 114.11 48 PFAKE 15 22 30.0 +14
HDIL LR LR
comp=Z,3µm,20.0s,MS5.9
NSS Namsos 114.18 343 AMS AMS 16 09 32.5
comp=Z,2µm,23.0s,MS5.7
AKASG Malin Array Be 114.55 324 PKP PKiKP 15 22 16.1 -0.8
comp=Z,13nm,0.7s,baz=60,slow=2.2,SNR=22
AKASG SKP 15 25 50.8
comp=Z,1.1nm,0.6s,baz=65,slow=2.1,SNR=5.1
AKASG PKKPbc PKKPbc 15 32 55.1 -2.1
comp=Z,8.0nm,0.6s,baz=263,slow=3.8,SNR=26
AKASG SKKP 15 37 03.5
comp=Z,1.0nm,0.5s,baz=290,slow=1.5,SNR=5.1
AKASG Malin Array Be 114.55 324 PKIKP PKiKP 15 22 16.1 -0.7
AKASG 15 25 50.8
AKASG 15 32 55.1
KIEV Kiev 114.56 324 *e*PKIKP PKiKP 15 22 17.0 +0.1
KIEV MLR MLR
comp=Z,2µm,22.0s,MS5.6
VBMS Vicksburg 115.00 57 PFAKE 15 22 30.0 +12
VBMS LR LR
comp=Z,3µm,20.0s,MS5.9
BR131 Keskin Array S 115.37 312 PFAKE 15 22 30.0 +11
BR131 LR LR
comp=Z,635nm,21.0s,MS5.2
KMBO Kilima Mbogo 115.42 266 PKP PKPdf 15 22 20.7 +1.1
comp=Z,2.9nm,0.8s,baz=180,slow=1.9,SNR=4.8
KMBO Kilima Mbogo 115.42 266 *e*PKPdf PKPdf 15 22 20.8 +1.2
KMBO LR LR
comp=Z,901nm,22.0s,MS5.3
OXF Oxford 115.45 54 PFAKE 15 22 30.0 +11
OXF LR LR
comp=Z,2µm,22.0s,MS5.7
ANTO Ankara 115.95 312 PKIKP PKPdf 15 22 22.1 +2.2
ANTO Ankara 115.95 312⇑ *i*P PKPdf 15 22 21.4 +1.5
ANTO Ankara 115.95 312 *e*PKPdf PKPdf 15 22 19.5 -0.4
ANTO LR LR
comp=Z,460nm,20.0s,MS5.1
GLMI Grayling 116.08 42 PFAKE 15 22 30.0 +10
GLMI LR LR
comp=Z,2µm,20.0s,MS5.8
SUW Suwalki 116.29 330 *e*PKP PKPdf 15 22 21.0 +0.9
SUW LMZ 16 04 32.0
comp=Z,2µm,32.8s
SUW Suwalki 116.29 330 *e*PKPdf PKPdf 15 22 22.0 +1.9
WVT Waverly 116.34 52 PFAKE 15 22 30.0 +9.3
WVT LR LR
comp=Z,3µm,22.0s,MS5.8
PAYG Puerto Ayora 116.67 93 PFAKE 15 22 30.0 +8.0
PAYG LR LR
comp=Z,1µm,20.0s,MS5.6
NB2 NORSAR Subarra 116.95 340 PKPdf PKPdf 15 22 20.3 -0.8
comp=Z,9.5nm,0.7s,baz=43,slow=1.9
NB2 NORSAR Subarra 116.95 340 PKPdf PKPdf 15 22 20.3 -0.8
baz=43,slow=1.9
NOA NORSAR Array B 116.95 340 PKP PKPdf 15 22 20.7 -0.4
comp=Z,8.0nm,0.7s,baz=46,slow=1.9,SNR=27
NOA SKP 15 25 56.1
comp=Z,1.1nm,0.6s,baz=50,slow=2.0,SNR=3.7
MOL Molde 116.97 343 AMS AMS 16 16 16.9
comp=Z,1µm,23.0s,MS5.5
WCI Wyandotte Cave 116.98 49 *e*PKIKP PKPdf 15 22 20.5 -1.4
WCI MLR MLR
comp=Z,2µm,19.0s,MS5.7
NAO01 NORSAR Array S 117.20 340 PFAKE 15 22 30.0 +8.4
NAO01 LR LR
comp=Z,3µm,21.0s,MS5.9
LRAL Lakeview Retre 117.74 55 *e*PKPdf PKPdf 15 22 23.7 +0.2
LRAL LR LR
comp=Z,2µm,21.0s,MS5.8
HARR Harsova 117.75 319⇓ *i*P PKPdf 15 22 23.6 +0.4
HARR Harsova 117.75 319⇓ P PKPdf 15 22 23.6 +0.4
EFI East Falkland 117.84 159 PFAKE 15 22 40.0 +17
EFI LR LR
comp=Z,1µm,22.0s,MS5.5
LVV L'vov 117.93 325 *e*PKIKP PKPdf 15 22 26.2 +2.8
LVV *e* 15 23 48.4
LVV *e* 15 29 13.9
LVV *e* 15 40 08.9
LVV MLR MLR
comp=Z,2µm,25.0s,MS5.6
LVV MLR MLR
comp=N,200nm,23.0s,MS5.5
LVV MLR MLR
comp=E,2µm,25.0s,MS5.5
VRI Vrincioaia 118.06 320⇑ *i*P PKPdf 15 22 23.7 0.0
VRI Vrincioaia 118.06 320⇑ P PKPdf 15 22 23.7 -0.1
BRAL Brewton 118.13 57 PFAKE 15 22 40.0 +16
BRAL LR LR
comp=Z,2µm,21.0s,MS5.8
BUR08 Bucovina Ar. S 118.25 323 *e*PKPdf PKPdf 15 22 24.7 +0.6
BURAR Bucovina Array 118.25 323⇓ *i*P PKPdf 15 22 26.1 +2.0
BURAR Bucovina Array 118.25 323⇓ P PKPdf 15 22 26.1 +2.1
KONO Kongsberg 118.52 340 *e*PP PP 15 23 41.3 +0.2
KONO *i* 15 33 15.8
KONO AMS AMS 16 17 33.3
comp=Z,2µm,19.8s,MS5.7
TEIG Tepich 118.70 70 PFAKE 15 22 40.0 +14
TEIG LR LR
comp=Z,2µm,21.0s,MS5.7
MLR Muntele Rosu 118.71 320⇑ *i*P PKPdf 15 22 25.2 +0.2
MLR Muntele Rosu 118.71 320 P PKPdf 15 22 26.0 +1.0
KWP Kalwaria 118.77 325 PFAKE 15 22 40.0 +15
KWP LR LR
comp=Z,2µm,22.0s,MS5.7
ACSO Alum Creek Sta 118.81 46 *e*PKPdf PKPdf 15 22 25.0 -0.4
ACSO LR LR
comp=Z,2µm,19.0s,MS5.7
VOIR 119.31 320⇑ *i*P PKPdf 15 22 25.9 -0.3
VOIR 119.31 320⇑ P PKPdf 15 22 25.9 -0.2
BER Bergen 119.34 342 *e*PP PP 15 23 46.6 -0.2
BER *e*SKS SKSac 15 29 18.3 +0.7
BER *e*SS SS 15 40 07.7 +2.7
BER AMS AMS 16 16 13.9
comp=Z,1µm,20.5s,MS5.5
KOLS Kolonicke sedl 119.36 325 *e*PKIKP PKPdf 15 22 26.2 0.0
KOLS *e* 15 29 20.6
KOLS Kolonicke sedl 119.36 325⇑ *e*SKSp SKSac 15 29 20.6 +2.4
KOLS Kolonicke sedl 119.36 325 *e*PKP PKPdf 15 22 26.2 0.0
KOLS *e*SKSac SKSac 15 29 20.6 +2.4
KOLS *e*SKKSac SKKSac 15 30 44.7 +0.7
KOLS *e* 15 32 39.3
UZH Uzhgorod 119.50 325⇓ *i*PKIKP PKPdf 15 22 26.3 -0.1
UZH *e* 15 22 41.0
UZH *e* 15 23 55.0
UZH *e* 15 29 20.0
UZH *e*PS PS 15 33 41.0 +3.0
UZH *e*SS SS 15 40 07.0 -1.0
UZH MLR MLR
comp=E,2µm,22.0s
UZH MLR MLR
comp=Z,800nm,22.0s,MS5.3
TZTN Tazewell 119.56 50 *e*PKPdf PKPdf 15 22 26.8 -0.1
TZTN LR LR
comp=Z,5µm,22.0s,MS6.1
TKL Tuckaleechee C 119.64 52 *e*PKIKP PKPdf 15 22 26.7 -0.4
BOSA Boshof 119.67 233 PKP PKPdf 15 22 27.5 +0.1
comp=Z,14nm,0.7s,baz=132,slow=1.4,SNR=13
BOSA Boshof 119.67 233 *e*PKPdf PKPdf 15 22 28.6 +1.2
BOSA LR LR
comp=Z,2µm,19.0s,MS5.7
STHS Stebnicka Huta 119.70 326 *e*PKP PKPdf 15 22 27.7 +0.9
PLCA Paso Flores 119.72 143 PKP PKPdf 15 22 27.1 0.0
comp=Z,23nm,0.6s,baz=239,slow=1.6,SNR=66
PLCA PKKPbc PKKPbc 15 32 38.0 -0.6
comp=Z,4.3nm,0.6s,baz=58,slow=3.3,SNR=21
PLCA Paso Flores 119.72 143 *e*PKPdf PKPdf 15 22 27.1 -0.1
PLCA LR LR
comp=Z,2µm,21.0s,MS5.7
CRVS Cervenica-Dubn 119.84 325 *e*PKP PKPdf 15 22 27.6 +0.5
CRVS *e*PKKPpB 15 32 37.5
OJC Ojcow 120.07 327 *e*P PKPdf 15 22 28.9 +1.4
OJC *e*PP PP 15 24 07.3 +15
OJC *e*SKSac SKSac 15 29 20.2 -0.4
OJC *e*SKKSac SKKSac 15 30 47.3 -1.3
OJC L 16 17 16.0
comp=Z,2.6nm,20.7s
OJC Ojcow 120.07 327 *e*PKIKP PKPdf 15 22 28.9 +1.4
OJC *e* 15 29 20.2
TGUH Tegucigalpa,Un 120.10 77 *e*PKPdf PKPdf 15 22 29.3 +0.8
TGUH LR LR
comp=Z,2µm,20.0s,MS5.8
DRGR 120.14 323⇑ *i*P PKPdf 15 22 26.8 -0.9
DRGR 120.14 323⇑ P PKPdf 15 22 26.8 -0.9
ERPA Erie 120.22 43 PFAKE 15 22 40.0 +12
ERPA LR LR
comp=Z,2µm,21.0s,MS5.8
NIE Niedzica 120.22 326 *e*PKPdf PKPdf 15 22 29.5 +1.7
GOGA Godfrey 120.51 54 *e*PKIKP PKPdf 15 22 28.1 -0.8
GOGA MLR MLR
comp=Z,2µm,21.0s,MS5.8
LBTB Lobatse 120.83 237 PFAKE 15 22 40.0 +10
LBTB LR LR
comp=Z,2µm,19.0s,MS5.7
OKC Ostrava-Krasne 121.17 327 *e*PKIKP PKPdf 15 22 32.4 +2.8
OKC *e* 15 29 27.5
OKC *e*PS PS 15 33 49.7 -3.1
OKC MLR MLR
comp=Z,2µm,19.3s,MS5.7
OKC Ostrava-Krasne 121.17 327 *e*PKPDF PKPdf 15 22 32.4 +2.8
OKC *ex* x 15 24 12.7
OKC *e*SKS SKSac 15 29 27.5 +3.1
OKC *e*PKKP PKKPbc 15 32 33.7 +0.3
OKC *e*PS PS 15 33 49.7 -3.1
OKC *ex* x 15 40 20.3
OKC AMS AMS 16 15 20.0
comp=Z,2µm,19.3s
OKC Ostrava-Krasne 121.17 327 *e*PKP PKPdf 15 22 32.4 +2.8
OKC *e*PP PP 15 24 12.7 +13
OKC *e*SKS SKSac 15 29 27.5 +3.1
OKC *e*PS PS 15 33 49.7 -3.1
OKC *e*SS SS 15 40 20.3 -9.0
PSZ Piszkesteto 121.24 325 PKIKP PKPdf 15 22 31.2 +1.4
PSZ Piszkesteto 121.24 325⇑ *e*PKP PKPdf 15 22 31.2 +1.4
PSZ Piszkesteto 121.24 325⇓ *i*P PKPdf 15 22 29.3 -0.5
PSZ Piszkesteto 121.24 325 *e*PKPdf PKPdf 15 22 30.6 +0.8
PSZ LR LR
comp=Z,1µm,22.0s,MS5.6
MCWV Mont Chateau 121.26 46 *e*PKPdf PKPdf 15 22 30.1 0.0
MCWV LR LR
comp=Z,2µm,21.0s,MS5.8
SUR Sutherland 121.36 227 PFAKE 15 22 40.0 +9.4
SUR LR LR
comp=Z,2µm,20.0s,MS5.8
BZS Buzias 121.37 322 *e*P PKPdf 15 22 29.5 -0.6
BZS Buzias 121.37 322⇑ *i*P PKPdf 15 22 28.0 -2.1
BZS Buzias 121.37 322 P PKPdf 15 22 30.6 +0.5
LRW Lerwick 121.38 345⇑ *e*P PKPdf 15 22 29.5 -0.2
LRW AMb AMB 15 22 42.5
comp=Z,137nm,1.8s
LRW AMS AMS 16 16 14.3
comp=Z,1µm,21.7s,MS5.5
KARP Karpathos 121.51 309 *e*P PKPdf 15 22 30.5 -0.2
KARP Karpathos 121.51 309 *e*P PKPdf 15 22 30.5 -0.2
MORC Moravsky Berou 121.53 328⇑ *i*P PKPdf 15 22 32.2 +1.9
MORC Moravsky Berou 121.53 328 *e*PKPdf PKPdf 15 22 30.8 +0.5
VYHS Vyhne 121.54 326 *e*PKP PKPdf 15 22 29.6 -0.8
VYHS *e* 15 22 46.7
VYHS Vyhne 121.54 326 *e*PKP PKPdf 15 22 29.6 -0.8
VYHS *e* 15 22 46.7
VYHS *e*SKKSac SKKSac 15 30 58.9 +0.7
VYHS *e* 15 32 30.7
KSP Ksiaz 121.56 329 *e*PKP PKPdf 15 22 33.0 +2.7
KSP Ksiaz 121.56 329 *e*PKIKP PKPdf 15 22 32.0 +1.7
KSP *e* 15 22 46.1
KSP *e*SP SP 15 33 49.0 -0.6
KSP MLR MLR
comp=Z,5µm,25.3s,MS6.1
KSP Ksiaz 121.56 329 *e*PKP PKPdf 15 22 32.0 +1.7
KSP *ep*PKP pPKPdf 15 22 46.1 +1.4
KSP *e*PP PP 15 24 15.0 +13
KSP *e*SKS SKSac 15 29 16.0 -10
KSP *e*SP SP 15 33 49.0 -0.6
KSP LR LR
comp=Z,5µm,25.3s,MS6.1
LSZ Lusaka 121.70 249 *e*PKIKP PKPdf 15 22 31.2 -0.4
LSZ MLR MLR
comp=Z,1µm,22.0s,MS5.5
BLA Blacksburg 121.72 49 *e*PKIKP PKPdf 15 22 30.7 -0.4
BLA MLR MLR
comp=Z,4µm,21.0s,MS6.0
VTS Vitosha 121.73 318 *e*P PKPdf 15 22 31.6 +0.7
VTS Vitosha 121.73 318⇑ *i*P PKPdf 15 22 31.7 +0.8
VTS Vitosha 121.73 318 P PKPdf 15 22 31.4 +0.5
ZAPS Zavoj 121.81 319 *e*P PKPdf 15 22 32.3 +1.3
DPC Dobruska-Polom 121.84 329 *e*PKIKP PKPdf 15 22 32.8 +1.9
DPC *e* 15 22 46.3
DPC *e* 15 29 28.5
DPC *e*PS PS 15 33 58.8 +0.1
DPC *e*SS SS 15 40 51.8 +14
DPC MLR MLR
comp=Z,2µm,28.0s,MS5.6
DPC Dobruska-Polom 121.84 329 *e*PKPDF PKPdf 15 22 32.8 +1.9
DPC *ep*PKP pPKPdf 15 22 46.3 +1.1
DPC *ex* x 15 24 19.9
DPC *e*SKS SKSac 15 29 28.5 +1.8
DPC *e*PKKP PKKPbc 15 32 31.0 +0.1
DPC *e*PS PS 15 33 58.8 +0.1
DPC *ex* x 15 40 51.8
DPC AMS AMS 16 13 00.0
comp=Z,2µm,28.0s
DPC Dobruska-Polom 121.84 329 *e*PKP PKPdf 15 22 32.8 +1.9
DPC *e* 15 22 46.3
DPC *e*PP PP 15 24 19.9 +16
DPC *e*SKS SKSac 15 29 28.5 +1.8
DPC *e*PS PS 15 33 58.8 +0.1
DPC *e*SS SS 15 40 51.8 +14
DPC LR LR
comp=Z,2µm,28.0s,MS5.6
UPC Upice 121.90 329 *e*PKPDF PKPdf 15 22 32.5 +1.5
UPC *ep*PKP pPKPdf 15 22 48.1 +2.7
UPC *e*PKKP PKKPbc 15 32 30.7 0.0
UPC Upice 121.90 329 *e*PKP PKPdf 15 22 32.5 +1.5
UPC *e* 15 22 48.1
BOLS Boljevac 122.00 320 *e*P PKPdf 15 22 31.1 -0.3
JSC Jenkinsville 122.02 52 *e*PKIKP PKPdf 15 22 32.3 +0.6
SSPA Standing Stone 122.26 44 *e*PKPdf PKPdf 15 22 31.0 -1.0
SSPA LR LR
comp=Z,2µm,20.0s,MS5.8
VRAC Vranov 122.31 328⇑ *i*P PKPdf 15 22 32.8 +1.0
VRAC Vranov 122.31 328 P PKPdf 15 22 33.7 +1.9
BSEG Bad Segeberg 122.35 335 *e*PKPdf PKPdf 15 22 33.1 +1.4
BSEG *ep*PKPdf pPKPdf 15 22 47.8 +1.7
MODS Modra-Piesok 122.47 326 *e*PKIKP PKPdf 15 22 34.0 +1.9
MODS *e* 15 22 48.8
MODS *e* 15 29 31.1
MODS Modra-Piesok 122.47 326 *e*PKP PKPdf 15 22 34.0 +1.9
MODS *e* 15 22 48.8
MODS Modra-Piesok 122.47 326⇑ *e*SKSp SKSac 15 29 31.1 +2.2
MODS Modra-Piesok 122.47 326 *e*PKP PKPdf 15 22 34.0 +1.9
MODS *e* 15 22 48.8
MODS *e*SKSac SKSac 15 29 31.1 +2.2
MODS *e*SKKSac SKKSac 15 31 04.9 +0.6
JTS JuntasAbangare 122.48 81 *e*PKIKP PKPdf 15 22 33.4 +0.3
JTS MLR MLR
comp=Z,2µm,21.0s
SANT Santorini 122.54 310 *e*PKPdf PKPdf 15 22 32.7 +0.1
SANT LR LR
comp=Z,629nm,22.0s,MS5.2
BARS Barje 122.55 319 *e*P PKPdf 15 22 32.6 +0.1
PVCC Panska Ves 122.62 330 *e*PKIKP PKPdf 15 22 34.3 +1.9
PVCC *e* 15 22 49.3
PVCC *e*PS PS 15 34 01.4 -4.2
PVCC *e*SS SS 15 40 49.2 +1.6
PVCC MLR MLR
comp=Z,2µm,21.7s,MS5.7
PVCC Panska Ves 122.62 330 *e*PKPDF PKPdf 15 22 34.3 +1.9
PVCC *ep*PKP pPKPdf 15 22 49.3 +2.6
PVCC *ex* x 15 24 24.9
PVCC *ex* x 15 29 14.1
PVCC *e*PKKP PKKPbc 15 32 28.5 +0.6
PVCC *e*SP SP 15 34 01.4 +2.4
PVCC *e*SS SS 15 40 49.2 +1.6
PVCC AMS AMS 16 14 10.0
comp=Z,2µm,21.7s
PVCC Panska Ves 122.62 330 *e*PKP PKPdf 15 22 34.3 +1.9
PVCC *e* 15 22 49.3
PVCC *e*PP PP 15 24 24.9 +15
PVCC *e*SKS SKSac 15 29 14.1 -15
PVCC *e*PS PS 15 34 01.4 -4.2
PVCC *e*SS SS 15 40 49.2 +1.6
PVCC LR LR

comp=Z,2µm,21.7s,MS5.7
LONY Lake Ozonia 122.65 39 *e*PKPdf PKPdf 15 22 32.0 -0.6
LONY LR LR
comp=Z,2µm,20.0s,MS5.7
ZST Bratislava 122.67 326 *e*PKIKP PKPdf 15 22 33.7 +1.2
ZST *e* 15 22 47.7
ZST *e* 15 29 30.5
ZST MLR MLR
comp=Z,600nm,21.5s,MS5.2
ZST Bratislava 122.67 326 *e*PKP PKPdf 15 22 33.7 +1.2
ZST *e* 15 22 47.7
ZST Bratislava 122.67 326⇑ *e*SKSp SKSac 15 29 30.5 +1.0
ZST *e* 15 33 52.2
ZST Bratislava 122.67 326 *e*PKP PKPdf 15 22 33.7 +1.2
ZST *e* 15 22 47.7
ZST *e*SKSac SKSac 15 29 30.5 +1.0
ZST *e* 15 33 52.2
ZST LR LR
comp=Z,600nm,21.5s,MS5.2
FGSL Fruska Gora 122.71 322 *e*P PKPdf 15 22 34.0 +1.3
BRG Berggiesshubel 122.72 330 *e*PKIKP PKPdf 15 22 33.3 +0.8
BRG *i* 15 22 49.4
BRG *i* 15 29 30.0
BRG pmax pmax
comp=Z,25nm,0.8s
BRG pmax pmax
comp=Z,19nm,1.0s
BRG pmax pmax
comp=Z,4.0nm,1.1s
BRG pmax pmax
comp=Z,10.0nm,1.2s
BRG pmax pmax
comp=Z,5.0nm,1.2s
BRG MLR MLR
comp=N,646nm,18.8s,MS5.5
BRG MLR MLR
comp=E,669nm,19.6s,MS5.5
BRG MLR MLR
comp=Z,1µm,18.7s,MS5.6
BRG Berggiesshubel 122.72 330 *e*PKPdf PKPdf 15 22 33.8 +1.3
BRG Berggiesshubel 122.72 330 *e*PDIF 15 19 16.5
comp=Z,2.5nm,0.5s
BRG Berggiesshubel 122.72 330 *e*PKP PKPdf 15 22 33.4 +0.8
comp=Z,41nm,0.8s
BRG *i* 15 22 49.4
comp=Z,31nm,1.0s
BRG PP PP 15 23 57.3 -13
comp=Z,6.7nm,1.1s
BRG *i* 15 29 30.0
BRG SDIF SKKSac 15 31 03.0 -2.7
BRG *e* 15 32 27.6
comp=Z,16nm,1.2s
BRG *e* 15 36 23.5
comp=Z,8.2nm,1.2s
BRG SS SS 15 40 30.0 -19
BRG
comp=N,1µm,18.8s
BRG
comp=E,1µm,19.6s
BRG
comp=Z,2µm,18.7s
BRG Berggiesshubel 122.72 330 *e*Pdif 15 19 16.5
BRG *e*PKP PKPdf 15 22 33.4 +0.8
BRG *i* 15 22 49.4
BRG PP PP 15 23 57.3 -13
BRG *i* 15 29 30.0
BRG Sdif SKKSac 15 31 03.0 -2.7
BRG *e* 15 32 27.6
BRG *e* 15 36 23.5
BRG SS SS 15 40 30.0 -19
BRG LR LR
comp=Z,1µm,18.7s,MS5.6
GRUS Gruza 122.77 320 *e*P PKPdf 15 22 32.8 -0.1
PKSM Moragy 122.87 324 *e*P PKPdf 15 22 33.2 +0.2
PKSM Moragy 122.87 324⇓ *i*P PKPdf 15 22 32.7 -0.3
PKSM Moragy 122.87 324 P PKPdf 15 22 33.8 +0.8
BINY Binghamton 122.89 42 PFAKE 15 22 50.0 +17
BINY LR LR
comp=Z,3µm,22.0s,MS5.8
TREC Trest 122.90 328 *e*PKIKP PKPdf 15 22 34.5 +1.6
TREC *e* 15 22 48.8
TREC *e* 15 24 15.8
TREC MLR MLR
comp=Z,2µm,21.3s,MS5.8
TREC Trest 122.90 328 *e*PKPDF PKPdf 15 22 34.5 +1.6
TREC *ep*PKP pPKPdf 15 22 48.8 +1.5
TREC *e*PP PP 15 24 15.8 +4.4
TREC *e*PKKP PKKPbc 15 32 26.8 0.0
TREC AMS AMS 16 20 30.0
comp=Z,2µm,21.3s
CLL Collm 122.90 331 *e*PKIKP PKPdf 15 22 34.0 +1.1
CLL *e* 15 22 48.0
CLL pmax pmax
comp=Z,48nm,0.9s
CLL pmax pmax
comp=Z,27nm,1.2s
CLL MLR MLR
comp=Z,2µm,21.3s,MS5.8
CLL Collm 122.90 331 *e*PKPdf PKPdf 15 22 33.8 +0.9
CLL *ep*PKPdf pPKPdf 15 22 48.5 +1.2
CLL Collm 122.90 331 *e*PKPdf PKPdf 15 22 34.0 +1.1
CLL LmV 15 18 00.0
comp=Z,2µm,21.3s
CLL *i* PKPdfmax 15 22 35.6
comp=Z,48nm,0.9s
CLL *ep*PKPdf pPKPdf 15 22 48.0 +0.8
CLL *e*PP PP 15 24 17.0 +5.7
CLL *e*(SKPdf) 15 25 54.0
CLL *e*PPP 15 27 00.0
CLL *e*SKSac SKSac 15 29 36.0 +5.8
CLL *e*SKKSac SKKSac 15 31 08.0 +1.1
CLL *i* PKKPbc PKKPbc 15 32 26.7 -0.2
CLL *e*(PKKPdf) 15 33 01.0
CLL *e*PS PS 15 34 03.0 -5.0
CLL *e*PPS 15 34 26.0
CLL *e*PPS 15 35 29.0
CLL *e*PKKSbc 15 36 15.0
CLL *e*SS SS 15 40 55.0 +4.0
CLL Collm 122.90 331 *e*PKP PKPdf 15 22 34.0 +1.1
CLL *ep*PKP pPKPdf 15 22 48.0 +0.8
CLL *e*SKS SKSac 15 29 19.0 -11
CLL *i* PKKP PKKPbc 15 32 26.7 -0.2
CLL *e*PKKS 15 36 15.0
CLL LR LR
comp=Z,2µm,21.3s,MS5.8
PRU Pruhonice 122.97 329 *e*PKPDF PKPdf 15 22 34.6 +1.5
PRU *ep*PKP pPKPdf 15 22 47.7 +0.3
PRU *e*PP PP 15 24 16.4 +4.5
PRU *e*SKS SKSdf 15 29 32.0 -9.2
PRU *e*PKKP PKKPbc 15 32 26.1 -0.4
PRU *e*PS PS 15 34 04.3 -4.4
PRU *e*PKPPKP 15 41 13.9
PRU AMS AMS 16 14 40.0
comp=Z,2µm,24.0s
PRU Pruhonice 122.97 329 *e*PKP PKPdf 15 22 34.6 +1.5
PRU *e* 15 22 47.7
PRU *e*PP PP 15 24 16.4 +4.5
PRU *e*SKS SKSdf 15 29 32.0 -9.2
PRU *e*PS PS 15 34 04.3 -4.4
PRU *e*SS SS 15 41 13.9 +22
PRU LR LR
comp=Z,2µm,24.0s,MS5.8
DIVS Divibare 123.12 321 *e*P PKPdf 15 22 34.4 +0.9
FRNY Flat Rock 123.16 38 *e*PKPdf PKPdf 15 22 32.7 -0.9
NHSC New Hope 123.24 53 PFAKE 15 22 50.0 +16
NHSC LR LR
comp=Z,3µm,21.0s,MS5.9
SDMD Soldier's Deli 123.50 45 *e*PKPdf PKPdf 15 22 34.3 -0.1
CONA Conrad Observa 123.50 327⇑ *i*PKiKP PKiKP 15 22 34.1 -0.2
comp=Z,23nm,0.8s
CSNA Conrad Observa 123.50 327⇑ *i*PKPdf PKPdf 15 22 34.0 -0.1
comp=Z,22nm,0.7s
MLA1 Latheron 123.53 345⇑ *e*P PKPdf 15 22 33.9 0.0
DWPF Disney 123.55 59 PFAKE 15 22 50.0 +15
DWPF LR LR
comp=Z,2µm,22.0s,MS5.6
CBN Corbin 123.60 47 PFAKE 15 22 50.0 +15
CBN LR LR
comp=Z,2µm,19.0s,MS5.8
BBLS Lazići 123.60 321 *e*P PKPdf 15 22 34.4 -0.1
TANN Tannenbergstha 123.74 331 *e*PKPdf PKPdf 15 22 35.7 +1.2
CLZ Clausthal 123.77 333 *e*PKPdf PKPdf 15 22 36.1 +1.6
CLZ *ep*PKPdf pPKPdf 15 22 50.7 +1.8
VAM Vamos 123.83 310 *e*P PKPdf 15 22 37.0 +1.8
MDV Middlebury 123.83 39 *e*PKPdf PKPdf 15 22 35.1 +0.2
NKC Novy Kostel 123.86 330 *e*PKIKP PKPdf 15 22 36.6 +1.8
NKC *e* 15 22 51.4
NKC *e* 15 29 31.9
NKC *e*PS PS 15 34 09.9 -6.7
NKC *e*SS SS 15 41 19.3 +16
NKC Novy Kostel 123.86 330 *e*PKPDF PKPdf 15 22 36.6 +1.8
NKC *ep*PKP pPKPdf 15 22 51.4 +2.3
NKC *ex* x 15 24 32.1
NKC *e*SKS SKSac 15 29 31.9 -1.4
NKC *e*PKKP PKKPbc 15 32 24.2 +1.2
NKC *e*SP SP 15 34 09.9 0.0
NKC *ex* x 15 41 19.3
NKC AMS AMS 16 07 30.0
comp=Z,2µm,32.6s
NKC Novy Kostel 123.86 330 *e*PKP PKPdf 15 22 36.6 +1.8
NKC *e* 15 22 51.4
NKC *e*PP PP 15 24 32.1 +14
NKC *e*SKS SKSac 15 29 31.9 -1.4
NKC *e*PS PS 15 34 09.9 -6.7
NKC *e*SS SS 15 41 19.3 +16
RSC Scourie 123.93 346⇑ *e*P PKPdf 15 22 34.8 +0.2
KHC Kasperske Hory 123.99 329 *e*PKPDF PKPdf 15 22 36.0 +1.0
KHC *ep*PKP pPKPdf 15 22 50.9 +1.5
KHC *ex* x 15 24 29.9
KHC *e*SKS SKSdf 15 29 36.2 -7.0
KHC *e*PKKP PKKPbc 15 32 22.1 -0.4
KHC *e*PS PS 15 34 19.0 +1.2
KHC *ex* x 15 41 27.7
KHC AMS AMS 16 16 40.0
comp=Z,2µm,23.3s
KHC Kasperske Hory 123.99 329 *e*PKP PKPdf 15 22 36.0 +1.0
KHC *e* 15 22 50.9
KHC *e*PP PP 15 24 29.9 +11
KHC *e*SKS SKSdf 15 29 36.2 -7.0
KHC *e*PS PS 15 34 19.0 +1.2
KHC *e*SS SS 15 41 27.7 +23
KHC LR LR
comp=Z,2µm,23.3s,MS5.8
MOX Moxa 124.00 331 *e*PKP PKPdf 15 22 36.3 +1.3
comp=Z,34nm,1.4s
MOX *e* 15 22 50.5
MOX
comp=Z,2µm,21.0s
MOX Moxa 124.00 331 *e*PKIKP PKPdf 15 22 36.3 +1.3
MOX *e* 15 22 50.5
MOX pmax pmax
comp=Z,34nm,1.4s
MOX MLR MLR
comp=Z,2µm,21.0s,MS5.7
MOX Moxa 124.00 331 *e*PKPdf PKPdf 15 22 36.1 +1.1
MOX *ep*PKPdf pPKPdf 15 22 50.5 +1.1
MVH1 Achvaich 124.07 345⇑ *e*P PKPdf 15 22 34.9 -0.1
GEC2 GERESS Array S 124.11 329 *e*PKPdf PKPdf 15 22 36.4 +1.1
GEC2 *ep*PKPdf pPKPdf 15 22 51.1 +1.5
GERES GERESS Array B 124.11 329 PKP PKPdf 15 22 35.2 0.0
comp=Z,29nm,0.6s,baz=76,slow=1.7,SNR=56
GERES SKP 15 26 10.2
comp=Z,2.1nm,0.7s,baz=66,slow=1.6,SNR=3.7
GERES PKKPbc PKKPbc 15 32 21.2 -0.8
comp=Z,5.3nm,0.8s,baz=224,slow=3.7,SNR=29
GERES PKKP PKKPdf 15 33 01.7 -0.2
comp=Z,1.1nm,0.6s,baz=225,slow=2.8,SNR=4.2
MCD Coleburn Disti 124.13 345⇑ *e*P PKPdf 15 22 34.7 -0.4
RTO Tolsta 124.15 347⇑ *e*P PKPdf 15 22 35.0 -0.1
REB Eisghbrachaidh 124.17 346⇑ *e*P PKPdf 15 22 35.0 0.0
MANZ Manzenberg 124.19 330 *e*PKPdf PKPdf 15 22 36.7 +1.3
MANZ *ep*PKPdf pPKPdf 15 22 51.3 +1.5
EVR Evrytania 124.25 315 *e*P PKPdf 15 22 38.0 +2.1
FCH Farellones 124.26 136⇑ *i*P PKPdf 15 22 37.0 +0.9
ROTZ Rotzenmuhle 124.28 330 *e*PKPdf PKPdf 15 22 36.8 +1.2
ROTZ *ep*PKPdf pPKPdf 15 22 51.5 +1.5
VLI Veliai 124.31 312 *e*P PKPdf 15 22 40.5 +4.5
WET Wettzell 124.34 329 *e*PKPdf PKPdf 15 22 37.0 +1.3
WET *ep*PKPdf pPKPdf 15 22 51.7 +1.6
MOA Molln 124.42 327⇑ *i*PKiKP PKiKP 15 22 36.6 +0.4
comp=Z,14nm,0.7s
LBNH Lisbon 124.49 38 *e*PKIKP PKPdf 15 22 36.2 +0.1
LBNH MLR MLR
comp=Z,2µm,20.0s,MS5.8
TIR Tirane 124.52 318 PFAKE 15 22 50.0 +14
TIR LR LR
comp=Z,2µm,22.0s,MS5.7
BRNJ Basking Ridge 124.52 43 *e*PKPdf PKPdf 15 22 37.0 +0.7
RRR Rubha Reidh 124.52 346⇑ *e*P PKPdf 15 22 35.7 -0.1
HNH Hanover 124.54 39 *e*PKPdf PKPdf 15 22 36.9 +0.7
MDO Dochfour 124.54 345⇑ *e*P PKPdf 15 22 35.5 -0.3
IBBN Ibbenburen 124.59 335 *e*PKPdf PKPdf 15 22 37.4 +1.3
IBBN *ep*PKPdf pPKPdf 15 22 52.4 +1.9
UBBA Unterbreizbach 124.64 332 *e*PKPdf PKPdf 15 22 37.3 +1.1
UBBA *ep*PKPdf pPKPdf 15 22 52.2 +1.6
PER Pernice 124.67 326 *e*PKPdf PKPdf 15 22 37.5 +1.1
PERS *ep*PKPdf pPKPdf 15 22 52.9 +2.1
RRH Rhenigidale 124.67 347⇑ *e*P PKPdf 15 22 37.1 +1.0
SOKA Soboth 124.69 326⇓ *i*PKPdf PKPdf 15 22 35.6 -0.8
comp=Z,20nm,0.8s
KAC Achnashellach 124.72 346⇑ *e*P PKPdf 15 22 37.2 +1.0
GRA1 Grafenberg Arr 124.82 331 *e*PKPdf PKPdf 15 22 37.7 +1.1
GRA1 *e*PP PP 15 24 44.7 +20
GRA1 *e*PKKPab 15 32 18.7
GRA1 *e*SP SP 15 34 19.2 +0.9
GRA1 *e*SKKPbc 15 36 02.0
GRA1 *e*SS SS 15 41 11.6 -3.7
GRA1 LR LR
comp=Z,2µm,21.2s,MS5.6
GRF Grafenberg Arr 124.82 331 *e*PKIKP PKPdf 15 22 37.7 +1.1
GRF *e*SP SP 15 34 19.2 +0.9
GRF *e*SS SS 15 41 11.6 -3.7
GRF MLR MLR
comp=Z,2µm,21.2s,MS5.6
GRF Grafenberg Arr 124.82 331 *e*PKPdf PKPdf 15 22 37.7 +1.1
GRF *e*PP PP 15 24 44.7 +20
GRF *e*PKKPab 15 32 18.7
GRF *e*SP SP 15 34 19.2 +0.9
GRF *e*SKKPbc 15 36 02.0
GRF *e*SS SS 15 41 11.6 -3.7
GRF *e*L 16 24 06.8
comp=Z,2µm,21.2s
PAL Palisades 124.82 42 *e*PKIKP PKPdf 15 22 37.2 +0.3
ZAVS Zavodnje 124.83 326 *i*PKKP 15 32 18.8
ITM Ithomi 124.88 313 *e*P PKPdf 15 22 39.0 +1.9
CPNY Central Park 124.88 42 *e*PKPdf PKPdf 15 22 37.9 +0.9
LEGS Legarje 124.95 325 *e*PKPdf PKPdf 15 22 37.0 +0.1
KPL Plockton 124.95 346 *e*P PKPdf 15 22 35.9 -0.7
KPL AMb AMB 15 22 38.1
comp=Z,69nm,2.5s
KPL AMS AMS 16 15 29.1
comp=Z,915nm,22.9s,MS5.4
FFD Franklin Falls 125.06 39 *e*PKPdf PKPdf 15 22 38.5 +1.2
BOJS Bojanci 125.24 325 *e*PKPdf PKPdf 15 22 39.4 +1.9
BOJS *ep*PKPdf pPKPdf 15 22 54.6 +2.7
BOJS *e*PP PP 15 24 42.9 +16
WTSB Winterswijk 125.25 335 *e*PKP PKPdf 15 22 39.1 +1.7
comp=Z,83nm,1.5s
WTSB Winterswijk 125.25 335 *ex* x 15 22 53.1
comp=Z,70nm,1.2s
RJOB Jochberg 125.27 328 *e*PKPdf PKPdf 15 22 38.1 +0.6
LJU Ljubljana 125.34 325 *e*PKIKP PKPdf 15 22 39.3 +1.6
LJU *e* 15 22 54.7
LJU Ljubljana 125.34 325 *e*PKPdf PKPdf 15 22 39.3 +1.6
LJU *ep*PKPdf pPKPdf 15 22 54.7 +2.6
LJU *e*PP PP 15 24 45.1 +17
LJU *e* 15 25 47.5
KAR1 Arisaig 125.37 346 *e*P PKPdf 15 22 37.4 0.0
KBA Koelnbreinsper 125.38 327⇑ *i*PKPdf PKPdf 15 22 37.0 -0.8
comp=Z,22nm,1.1s
ESY Stoneypath 125.41 343 *e*P PKPdf 15 22 36.9 -0.6
BUG Bochum--Univer 125.43 334 *e*PKPdf PKPdf 15 22 38.8 +1.1
BUG *ep*PKPdf pPKPdf 15 22 54.0 +1.9
MYKA Terra Mystica 125.49 326⇑ *i*PKiKP PKiKP 15 22 38.8 +0.4
comp=Z,11nm,0.6s
PKME Peaks-Kenny Pk 125.50 36 *e*PKPdf PKPdf 15 22 38.5 +0.4
PKME LR LR
comp=Z,2µm,20.0s,MS5.8
HRV Adam Dziewonsk 125.61 40 *e*PKIKP PKPdf 15 22 37.9 -0.5
HRV MLR MLR
comp=Z,3µm,21.0s,MS5.9
TLL Tololo Astrono 125.62 133⇓ *i*P PKPdf 15 22 39.4 +0.6
EAB Aberfoyle 125.65 345⇑ *e*P PKPdf 15 22 38.5 +0.6
EBL Broad Law 125.65 344⇑ *e*P PKPdf 15 22 38.2 +0.2
XSO Sourhope Farm 125.67 343⇑ *e*P PKPdf 15 22 38.8 +0.8
CADS Cadrg 125.68 326 *e*PKPdf PKPdf 15 22 39.2 +0.8
EAU Auchinoon 125.70 344⇑ *e*P PKPdf 15 22 39.0 +0.8
VOJS Vojsko 125.71 326 *e*PKPdf PKPdf 15 22 39.5 +1.1
VOJS *e*PP PP 15 24 44.4 +14
TNS Taunus Mts 125.77 333 *e*PKPdf PKPdf 15 22 39.8 +1.4
TNS *ep*PKPdf pPKPdf 15 22 53.8 +1.0
FUR Furstenfeldbru 125.79 329 *e*PKPdf PKPdf 15 22 39.5 +1.0
WES Weston 125.83 40 PFAKE 15 22 50.0 +11
WES LR LR
comp=Z,3µm,20.0s,MS5.9
TRI Trieste 125.97 325 PFAKE 15 22 50.0 +11
TRI LR LR
comp=Z,2µm,20.0s,MS5.9
ABTA Abfaltersbach 126.03 327⇓ *i*PKPdf PKPdf 15 22 37.9 -1.1
comp=Z,33nm,0.8s
TOD Tromm 126.03 332 PKIKP PKPdf 15 22 39.7 +0.8
ESK Eskdalemuir 126.09 343⇑ *e*P PKPdf 15 22 38.1 -0.8
ESK AMb AMB 15 22 42.6
comp=Z,48nm,1.5s
ESK AMS AMS 16 13 41.4
comp=Z,450nm,21.4s,MS5.1
ESK Eskdalemuir 126.09 343 *e*PKPdf PKPdf 15 22 38.2 -0.6
ESK LR LR
comp=Z,2µm,21.0s,MS5.7
WATA Walderalm 126.16 328⇓ *i*PKPdf PKPdf 15 22 39.1 -0.2
comp=Z,28nm,0.6s
WTTA Wattenberg 126.18 328⇓ *i*PKiKP PKiKP 15 22 40.3 +0.5
comp=Z,57nm,0.8s
XAL Allendale 126.20 342⇑ *e*P PKPdf 15 22 39.9 +0.8
LCO Las Campanas 126.31 131⇓ *i*P PKPdf 15 22 41.2 +1.1
LCO Las Campanas 126.31 131 *e*PKPdf PKPdf 15 22 41.0 +0.9
LCO LR LR
comp=Z,1µm,21.0s,MS5.6
MOTA Moosalm 126.40 328⇑ *i*PKiKP PKiKP 15 22 40.0 -0.1
comp=Z,44nm,0.6s
STU Stuttgart 126.42 331 *e*PKPdf PKPdf 15 22 40.9 +1.2
STU *ep*PKPdf pPKPdf 15 22 55.7 +1.6
STU Stuttgart 126.42 331 *e*PKPdf PKPdf 15 22 40.8 +1.1
ABH Alteburg 126.42 333 PKP PKPdf 15 22 40.4 +0.7
TRQA Tornquist 126.47 146 *e*PKPdf PKPdf 15 22 40.2 0.0
TRQA LR LR
comp=Z,1µm,19.0s,MS5.6
RETA Reutte 126.49 329⇑ *i*PKiKP PKiKP 15 22 40.2 -0.2
comp=Z,28nm,1.7s
HGN Heimansgroeve 126.50 334 *e*PKP PKPdf 15 22 40.3 +0.5
comp=Z,56nm,1.2s
HGN Heimansgroeve 126.50 334 *ex* x 15 22 55.4
comp=Z,36nm,1.7s
HGN Heimansgroeve 126.50 334 *e*PP PP 15 24 43.3 +8.0
KTD Kalmit 126.57 332 PKIKP PKPdf 15 22 41.5 +1.5
MEM Membach 126.58 334 PKP PKPdf 15 22 41.2 +1.3
MEM APKP 15 22 55.7
BEBN Eben Emael 126.58 335 PKP PKPdf 15 22 42.2 +2.2
CFAA Coronel Fontan 126.67 136 PKP PKPdf 15 22 40.9 +0.1
comp=Z,9.5nm,0.9s,baz=231,slow=2.3,SNR=12
RUP Ruppelstein 126.77 333 PKIKP PKPdf 15 22 40.9 +0.5
FETA Feichten 126.81 328⇓ *i*PKiKP PKiKP 15 22 41.2 +0.3
comp=Z,51nm,0.9s
GAL1 Galloway 126.91 344 *e*P PKPdf 15 22 40.0 -0.5
GAL1 AMb AMB 15 22 43.6
comp=Z,73nm,0.9s
LANF Langenberg 126.94 332 PKP PKPdf 15 22 41.8 +1.1
BCLA Clavier 127.03 335 PKP PKPdf 15 22 42.2 +1.4
BCLA APKP 15 22 55.5
SPAK Spaichingen-Ko 127.08 330 PKP PKPdf 15 22 41.6 +0.6
BFO Black Forest 127.14 331 *e*PKPdf PKPdf 15 22 41.8 +0.7
BFO *ep*PKPdf pPKPdf 15 22 56.3 +0.8
WLF Walferdange 127.21 333 PKP PKPdf 15 22 43.6 +2.4
WLF APKP 15 22 57.9
WLF Walferdange 127.21 333 *e*PKPdf PKPdf 15 22 43.1 +1.9
WLF *ep*PKPdf pPKPdf 15 22 57.7 +2.1
WLF Walferdange 127.21 333 *e*PKPdf PKPdf 15 22 42.5 +1.3
WLF LR LR
comp=Z,2µm,20.0s,MS5.8
SNF Seneffe 127.39 335 PKP PKPdf 15 22 43.2 +1.7
SNF APKP 15 22 56.3
GIVF Givet 127.47 335 *e*PKIKP PKPdf 15 22 42.7 +1.0
comp=Z,147nm,1.0s
ATAH Atahualpa 127.50 103 PKP PKPdf 15 22 45.0 +2.1
comp=Z,49nm,0.8s,baz=246,slow=1.3,SNR=25
ATAH SKP 15 26 15.2
comp=Z,16nm,0.8s,baz=118,slow=4.8,SNR=6.6
BCIP Isla Barro Col 127.54 82 PFAKE 15 22 50.0 +7.2
BCIP LR LR
comp=Z,2µm,22.0s,MS5.8
DOU Dourbes 127.57 335 PKP PKPdf 15 22 43.1 +1.3
DOU APKP 15 22 57.8
CDF Champ du Feu 127.59 332 *e*PKIKP PKPdf 15 22 42.7 +0.7
comp=Z,61nm,1.1s
FELD Feldberg im Sc 127.61 331 PKP PKPdf 15 22 42.0 0.0
LIBD Limburg 127.62 331 PKIKP PKPdf 15 22 44.6 +2.6
KWE Weaver Farm 127.65 341⇑ *e*P PKPdf 15 22 42.4 +0.5
BAIF Baives 127.76 335 *e*PKIKP PKPdf 15 22 43.4 +1.2
comp=Z,83nm,1.0s
ECH Echery 127.78 332 PKP PKPdf 15 22 41.8 -0.5
ECH Echery 127.78 332 *e*PKPdf PKPdf 15 22 41.7 -0.7
GMM Mts of Mourne 127.80 344 *e*P PKPdf 15 22 42.2 +0.1
NNA Nana 127.83 109 PKP PKPdf 15 22 45.0 +1.6
comp=Z,64nm,1.0s,baz=284,slow=4.6,SNR=14
NNA Nana 127.83 109 *e*PKPdf PKPdf 15 22 44.2 +0.8
NNA LR LR
comp=Z,773nm,20.0s,MS5.4
CUC Castrocucco 127.87 318 PFAKE 15 22 50.0 +7.2
CUC LR LR
comp=Z,2µm,21.0s,MS5.7
TUE Stuetta 127.89 329 *e*PKPdf PKPdf 15 22 43.5 +0.9
TUE LR LR
comp=Z,2µm,20.0s,MS5.8
MOF Molkenrain 128.05 331 PKP PKPdf 15 22 43.9 +1.0
BBS Basel-Blauen 128.14 331 PKIKP PKPdf 15 22 39.5 -3.5
SBD1 Bryn Du 128.19 342 *e*P PKPdf 15 22 42.8 -0.1
HINF Hinteralfeld 128.21 331 *e*PKIKP PKPdf 15 22 44.0 +0.8
comp=Z,118nm,1.1s
MENF Mencas 128.22 337 PKP PKPdf 15 22 42.2 -0.9
HAU Haudompre 128.32 332 *e*PKIKP PKPdf 15 22 44.1 +0.7
comp=Z,81nm,0.8s
HAU *e*MLR MLR
comp=Z,3µm,21.8s,MS5.6
HAU Haudompre 128.32 332 *e*PKPdf PKPdf 15 22 44.1 +0.7
HAU LR LR
comp=Z,3µm,21.8s,MS5.9
THEF They Montfort 128.33 332 PKP PKPdf 15 22 41.8 -1.6
HLM1 Long Mynd 128.41 341⇑ *e*P PKPdf 15 22 43.3 -0.1
OTAV Otavalo 128.54 94 *e*PKPdf PKPdf 15 22 46.3 +1.5
OTAV LR LR
comp=Z,2µm,22.0s,MS5.7
LOMF Lomont 128.55 331 PKP PKPdf 15 22 43.2 -0.6
MEZF Maizieres J'vi 128.55 333 *e*PKIKP PKPdf 15 22 45.2 +1.4
CEL Celeste 128.68 317 PFAKE 15 23 00.0 +16
CEL LR LR
comp=Z,25µm,22.0s,MS6.9
VLC Villacollemand 128.82 326 PFAKE 15 23 00.0 +16
VLC LR LR
comp=Z,3µm,22.0s,MS5.9
WOL Wolverton 128.87 339 *e*P PKPdf 15 22 43.3 -1.0
MCH1 Michaelchurch 128.89 341 *e*P PKPdf 15 22 44.4 0.0
MCH1 AMb AMB 15 22 47.7
comp=Z,120nm,1.5s
MCH1 AMS AMS 16 16 21.6
comp=Z,539nm,25.5s,MS5.1
HTR Trewern Hill 128.91 341⇑ *e*P PKPdf 15 22 43.4 -1.0
HGH Gray Hill 129.13 341⇑ *e*P PKPdf 15 22 45.1 +0.3
CABF La Chapelle 129.43 331 *e*PKIKP PKPdf 15 22 47.1 +1.6
comp=Z,167nm,1.1s
LPL La Plagne 129.88 329 *e*PKIKP PKPdf 15 22 47.9 +1.5
comp=Z,26nm,0.6s
LPG La Plagne 129.88 329 *e*PKIKP PKPdf 15 22 48.1 +1.7
comp=Z,38nm,0.7s
TSUM Tsumeb 129.94 240 PFAKE 15 23 00.0 +13
TSUM LR LR
comp=Z,2µm,19.0s,MS5.8
LOR Lormes 130.01 333 *e*PKIKP PKPdf 15 22 47.8 +1.2
comp=Z,110nm,1.1s
LOR *e*MLR MLR
comp=Z,2µm,22.2s,MS5.4
LOR Lormes 130.01 333 *e*PKPdf PKPdf 15 22 47.8 +1.2
LOR LR LR
comp=Z,2µm,22.3s,MS5.7
OG05 Jujurieux 130.14 331 PKP PKPdf 15 22 48.6 +1.7
BNI Bardonecchia 130.22 329 *e*PKIKP PKPdf 15 22 48.2 +1.1
BNI MLR MLR
comp=Z,2µm,20.0s,MS5.8
SSF Saint Saulge 130.32 333 *e*PKIKP PKPdf 15 22 48.4 +1.2

comp=Z,109nm,1.1s
MBDF Montbardon 130.40 329 *e*PKIKP PKPdf 15 22 48.5 +1.1
comp=Z,19nm,0.6s
GDM Grand'Maison 130.41 329 PKP PKPdf 15 22 49.1 +1.7
SMF Signal de Mont 130.48 332 *e*PKIKP PKPdf 15 22 48.6 +1.1
comp=Z,129nm,1.2s
SAOF Saorge 130.48 327 PKP PKPdf 15 22 48.9 +1.3
SURF Saint Ours 130.54 328 PKP PKPdf 15 22 50.0 +2.3
AUTN L'Aution 130.55 327 PKP PKPdf 15 22 49.4 +1.7
HYF Humbligny 130.56 334 *e*PKIKP PKPdf 15 22 49.3 +1.7
GRN Grenoble 130.57 330 PKP PKPdf 15 22 49.6 +1.9
AVF Avril sur Loir 130.59 333 *e*PKIKP PKPdf 15 22 48.5 +0.8
comp=Z,22nm,0.9s
PGF Pioggiola 130.62 325 *e*PKIKP PKPdf 15 22 49.0 +1.1
comp=Z,68nm,0.8s
SBF Sospel 130.63 327 *e*PKIKP PKPdf 15 22 48.6 +0.7
comp=Z,46nm,0.8s
TOUF Mont Tournerai 130.63 328 PKP PKPdf 15 22 49.2 +1.3
LUCF Luceram 130.66 327 PKP PKPdf 15 22 49.4 +1.5
LDF La Druitiere 130.68 337 *e*PKIKP PKPdf 15 22 48.9 +1.1
comp=Z,73nm,1.0s
FLN La Foliniere 130.68 337 *e*PKIKP PKPdf 15 22 48.8 +1.0
comp=Z,132nm,1.0s
FLN *e*MLR MLR
comp=Z,2µm,20.8s,MS5.4
FLN La Foliniere 130.68 337 *e*PKPdf PKPdf 15 22 48.8 +1.0
FLN LR LR
comp=Z,2µm,20.8s,MS5.7
ORIF Oris-en-Rattie 130.72 329 *e*PKIKP PKPdf 15 22 49.2 +1.2
comp=Z,50nm,0.6s
ORIF *e*MLR MLR
comp=Z,3µm,22.5s,MS5.7
REVF Revere 130.75 327 PKP PKPdf 15 22 48.9 +0.8
MVIF Mont Vial 130.76 327 PKP PKPdf 15 22 49.7 +1.6
LVC Limon Verde 130.90 125 PKP PKPdf 15 22 50.5 +1.4
comp=Z,44nm,0.9s,baz=248,slow=1.9,SNR=24
LVC SKPbc SKPbc 15 26 12.7 +3.1
comp=Z,16nm,1.0s,baz=220,slow=4.0,SNR=11
LVC Limon Verde 130.90 125 *e*PKPdf PKPdf 15 22 50.0 +1.0
LVC LR LR
comp=Z,1µm,19.0s,MS5.7
CALN Calern 131.00 328 PKP PKPdf 15 22 50.4 +1.8
BGF Bois d'Agland 131.00 333 *e*PKIKP PKPdf 15 22 49.7 +1.2
comp=Z,123nm,1.1s
PLDF La Plantade 131.08 332 PKP PKPdf 15 22 49.9 +1.2
GRR Gorron 131.13 337 *e*PKIKP PKPdf 15 22 49.9 +1.2
comp=Z,68nm,0.9s
SSB Saint Sauveur 131.14 331 PKIKP PKPdf 15 22 48.5 -0.3
AGO Saint Agoulin 131.25 332 PKP PKPdf 15 22 51.1 +2.1
FRF La Foret Royal 131.26 327 *e*PKIKP PKPdf 15 22 50.2 +1.1
comp=Z,41nm,0.8s
ARE Arequipa 131.31 117 *e*PKIKP PKPdf 15 22 51.0 +1.1
VIVF Saint-Julien-l 131.38 330 *e*PKIKP PKPdf 15 22 50.5 +1.2
comp=Z,37nm,1.0s
LMR La Mourre 131.48 327 *e*PKIKP PKPdf 15 22 50.8 +1.3
comp=Z,43nm,0.8s
TCF Toulx Ste Croi 131.49 333 *e*PKIKP PKPdf 15 22 50.8 +1.4
comp=Z,115nm,1.1s
PYM Petit Puy Mans 131.53 332 PKP PKPdf 15 22 52.0 +2.5
SMRF Simiane la Rot 131.54 329 *e*PKIKP PKPdf 15 22 51.2 +1.6
comp=Z,63nm,0.9s
VILF Villemus 131.55 328 PKP PKPdf 15 22 51.7 +2.1
PUYF Puyloubier 131.78 328 PKP PKPdf 15 22 51.9 +1.8
LBL Lubilhac 131.80 331 PKP PKPdf 15 22 52.3 +2.2
PRAF Pradon 131.87 329 PKP PKPdf 15 22 51.9 +1.7
TREF Trevaresse 131.88 328 PKP PKPdf 15 22 50.7 +0.4
SGMF Saint Gilles 131.89 338 *e*PKIKP PKPdf 15 22 51.1 +1.0
BERF Bertagne 131.94 328 PKP PKPdf 15 22 52.8 +2.4
GELF Grande-Etoile 132.03 328 PKP PKPdf 15 22 52.1 +1.6
ROSF Rostrenen 132.09 339 *e*PKIKP PKPdf 15 22 51.4 +0.9
VSL Villasalto 132.27 322 PFAKE 15 23 00.0 +8.9
VSL LR LR
comp=Z,1µm,22.0s,MS5.5
MFF Saint Martin d 132.28 335 *e*PKIKP PKPdf 15 22 52.1 +1.2
comp=Z,89nm,1.1s
LASF Ste Croix 132.34 330 *e*PKIKP PKPdf 15 22 52.6 +1.5
comp=Z,69nm,0.7s
QUIF Quistinic 132.40 338 *e*PKIKP PKPdf 15 22 52.0 +0.9
comp=Z,22nm,0.8s
RJF Les Rejaudoux 132.55 333 *e*PKIKP PKPdf 15 22 53.1 +1.6
RJF *e*MLR MLR
comp=Z,3µm,22.0s,MS5.6
RJF Les Rejaudoux 132.55 333 *e*PKPdf PKPdf 15 22 53.1 +1.6
RJF LR LR
comp=Z,3µm,22.0s,MS5.9
CAF Calviac 132.59 332 *e*PKIKP PKPdf 15 22 53.2 +1.6
ROSC El Rosal 132.97 88 PKP PKPdf 15 22 54.5 +1.3
comp=Z,35nm,0.6s,baz=188,slow=1.9,SNR=20
ROSC SKPab 15 26 22.0
comp=Z,33nm,1.0s,baz=118,slow=10,SNR=11
LFF La Frestale 133.19 333 *e*PKIKP PKPdf 15 22 54.4 +1.7
comp=Z,64nm,1.1s
MTLF Montolieu 133.69 330 *e*PKIKP PKPdf 15 22 54.4 +0.7
comp=Z,21nm,0.8s
LPAZ La Paz 134.35 118 PKhKP 15 22 46.3
comp=Z,4.3nm,1.0s,baz=61,slow=3.3,SNR=9.9
LPAZ PKP PKPdf 15 22 57.2 +1.6
comp=Z,26nm,0.7s,baz=254,slow=3.7,SNR=36
LPAZ SKPbc SKPbc 15 26 24.6 +2.9
comp=Z,17nm,0.9s,baz=196,slow=1.7,SNR=9.6
LPAZ SKPab 15 26 27.9
comp=Z,19nm,1.0s,baz=191,slow=1.5,SNR=11
LPAZ La Paz 134.35 118 PKP PKPdf 15 22 46.3 -9.4
LPAZ *e*PKPdf PKPdf 15 22 56.6 +0.9
LPAZ LR LR
comp=Z,827nm,20.0s,MS5.5
KEST Kesra 134.47 317 PKP PKPdf 15 22 56.4 +1.0
comp=Z,7.3nm,1.1s,baz=138,slow=3.2,SNR=5.4
KEST SKPbc SKPbc 15 26 24.4 +2.8
comp=Z,18nm,0.9s,baz=304,slow=0.8,SNR=5.9
KEST SKP 15 26 28.0
comp=Z,12nm,0.8s,baz=311,slow=4.4,SNR=6.1
EPF Esparros 134.83 332 *e*PKIKP PKPdf 15 22 56.7 +0.9
comp=Z,40nm,1.0s
VIEF Viey 135.10 332 PKP PKPdf 15 22 59.9 +3.6
EBIE Bielsa 135.19 331 PKP PKPdf 15 22 58.8 +2.3
ATE Arette 135.28 332 PKP PKPdf 15 22 58.5 +1.8
ETSF Etsaut 135.36 332 *e*PKIKP PKPdf 15 22 58.5 +1.7
comp=Z,49nm,0.7s
BBSR BB Station 135.46 47 PFAKE 15 23 10.0 +13
BBSR LR LR
comp=Z,2µm,22.0s,MS5.9
SJPF Ste Jean 135.50 333 *e*PKIKP PKPdf 15 22 58.3 +1.2
comp=Z,12nm,0.5s
EALK Alkurruntz 135.54 333 PKP PKPdf 15 22 58.6 +1.5
EPOB Poblet 135.73 329 PKP PKPdf 15 22 58.9 +1.3
CKFL Kef-Lekhel 135.81 320 P SKPbc 15 26 27.0 +1.2
CASM Ain Smara 136.04 320 P SKPbc 15 26 27.5 +1.0
CTEI Djebel Teioual 136.21 320 P SKPbc 15 26 28.0 +0.9
ESAC San Caprasio 136.22 331 PKP PKPdf 15 22 59.8 +1.3
DFRA Djebel Bou Aff 136.26 321 P SKPbc 15 26 29.0 +1.8
ELAN Lanestosa 136.38 335 PKP PKPdf 15 23 00.4 +1.7
ERTA Horta de San J 136.40 330 PKP PKPdf 15 23 00.4 +1.6
ECRI Cripan 136.47 333 PKIKP PKPdf 15 23 00.9 +2.0
SDV Santo Domingo 136.63 82 PKhKP 15 22 50.0
comp=Z,5.6nm,0.4s,baz=191,slow=23,SNR=1.6
SDV PKP PKPdf 15 22 59.9 -0.1
comp=Z,92nm,0.8s,baz=301,slow=2.0,SNR=11
SDV SKPbc SKPbc 15 26 31.9 +2.9
comp=Z,34nm,0.8s,baz=207,slow=2.4,SNR=9.7
SDV Santo Domingo 136.63 82 PKP PKPdf 15 22 50.0 -10
SDV *e*PKPdf PKPdf 15 23 01.1 +1.0
SDV LR LR
comp=Z,437nm,21.0s,MS5.2
SET Setif 136.77 321 P SKPbc 15 26 29.0 +0.3
EARI Arriondas 137.05 336 PKP PKPdf 15 23 01.1 +1.2
EMOS Mosqueruela 137.25 330 PKP PKPdf 15 23 01.5 +1.1
CPUP Villa Florida 137.40 138 PKhKP 15 22 50.2
comp=Z,5.9nm,0.6s,baz=227,slow=2.9,SNR=16
CPUP PKP PKPdf 15 23 01.0 -0.1
comp=Z,25nm,0.7s,baz=206,slow=2.1,SNR=18
CPUP SKPbc SKPbc 15 26 31.8 +0.8
comp=Z,3.1nm,0.8s,baz=43,slow=18,SNR=1.9
CPUP Villa Florida 137.40 138 *e*PKHKP 15 22 47.3
CPUP 15 23 01.0
CPUP MLR MLR
comp=Z,273nm,21.0s
CPUP Villa Florida 137.40 138 *e*PKPpre 15 22 47.3
CPUP PKP PKPdf 15 23 01.0 -0.1
CPUP SKPbc SKPbc 15 26 31.8 +0.8
CPUP LR LR
comp=Z,273nm,21.0s,MS5.0
ATAF Djebel Tarf 137.68 321 P SKPbc 15 26 34.3 +2.9
EPON Pontenova 137.77 338 PKP PKPdf 15 23 01.0 -0.3
AKET Djebel Ketaf 137.82 322 P SKPbc 15 26 34.7 +2.9

ABA Alger-Bouzarea 137.84 323 P SKPbc 15 26 36.5 +4.6
ADJB Djebel Djouab 138.02 322 P SKPbc 15 26 34.5 +2.1
ECHE Chera 138.08 329 PKIKP PKPdf 15 23 02.4 +0.4
EMHD Djebel Mahouad 138.29 322 P SKPbc 15 26 35.8 +2.6
EBEN Beniarda 138.35 328 PKP PKPdf 15 23 00.6 -1.9
ERUA La Rua 138.57 338 PKIKP PKPdf 15 23 04.2 +1.4
STS Santiago 138.66 339 PKIKP PKPdf 15 23 03.6 +0.7
EMAZ Mazarícos 138.75 340 PKP PKPdf 15 23 02.5 -0.6
GUD Guadarrama 138.79 333 PKIKP PKPdf 15 23 03.6 +0.4
ECAL Calabor 138.80 337 PKP PKPdf 15 23 02.3 -0.9
EBNR Beni Rached 139.08 324 P SKPbc 15 26 37.3 +1.9
ETOB Tobarra 139.09 329 PKP PKPdf 15 23 03.2 -0.7
ELOB Lobios 139.37 338 PKP PKPdf 15 23 03.3 -1.0
ESDC Sonseca Array 139.48 332 PKhKP 15 22 56.6
comp=Z,0.3nm,0.3s,baz=296,slow=37,SNR=3.1
ESDC PKP PKPdf 15 23 02.2 -2.3
comp=Z,0.8nm,0.4s,baz=36,slow=2.8,SNR=6.0
ESDC SKPbc SKPbc 15 26 38.7 +2.4
comp=Z,1.1nm,0.5s,baz=30,slow=4.3,SNR=4.6
ESDC SKPab 15 26 48.3
comp=Z,4.1nm,0.7s,baz=26,slow=4.5,SNR=6.8
ESDC PKKP 15 32 32.6
comp=Z,0.2nm,0.3s,baz=160,slow=2.8,SNR=4.5
ESLA Sonseca Array 139.48 332 PFAKE 15 23 20.0 +15
ESLA LR LR
comp=Z,5µm,20.0s,MS6.2
PCAB Cabril 139.49 338 *e*PKPdf PKPdf 15 23 07.0 +2.5
EANR 'Ain N'Sour 139.57 324 P SKPbc 15 26 38.4 +1.7
MVO Moncorvo 139.57 336 *e*PKPdf PKPdf 15 23 02.6 -2.1
MVO *e*P 15 26 40.4
MVO *e*LR LR 16 11 43.9
comp=Z,731nm,20.0s
EVIA Vianos 139.58 330 PKIKP PKPdf 15 23 03.8 -1.0
SJG San Juan 139.65 68 *e*PKIKP PKPdf 15 23 05.6 +0.2
SJG MLR MLR
comp=Z,2µm,21.0s
PVRL Vila Real 139.75 337 *e*PKPdf PKPdf 15 23 02.4 -2.6
PVRL *e*P 15 26 41.0
PAB San Pablo 139.76 332 PFAKE 15 23 20.0 +15
PAB LR LR
comp=Z,1µm,20.0s,MS5.6
ETRT Tiaret 139.83 323 P SKPbc 15 26 41.0 +3.5
EHUE Huescar 140.25 329 PKIKP PKPdf 15 23 01.7 -4.3
PVIS Viseu 140.30 337 *e*P SKPbc 15 26 43.4 +4.9
MTE Manteigas 140.43 336 *e*PKPdf PKPdf 15 23 07.3 +1.1
MTE *e*P 15 27 03.6
MTE *e*LR LR 16 16 35.0
comp=Z,764nm,24.0s
MTE Manteigas 140.43 336 *e*PKPpre 15 23 02.2
MTE LR LR
comp=Z,860nm,21.0s,MS5.5
EQES Quesada 140.51 329 PKP PKPdf 15 23 02.3 -4.1
SIV San Ignacio 140.56 122 PKhKP 15 22 58.0
comp=Z,10.0nm,0.6s,baz=230,slow=5.4,SNR=19
SIV PKP PKPdf 15 23 08.5 +1.4
comp=Z,39nm,0.9s,baz=228,slow=1.5,SNR=33
SIV SKPbc SKPbc 15 26 41.8 +1.9
comp=Z,16nm,1.0s,baz=220,slow=5.3,SNR=6.0
EBAN Banos Encina 140.58 331 PKIKP PKPdf 15 23 03.1 -3.5
ENIJ Nijar 140.69 328 PKIKP PKPdf 15 23 03.3 -3.5
PCBR Castelo Branco 140.88 336 *e*PKPdf PKPdf 15 23 06.4 -0.7
PCBR *e*P 15 26 43.5
EADA Adamuz 140.96 331 PKP PKPdf 15 23 04.3 -2.9
EBER Berja 141.10 328 PKP PKPdf 15 23 03.4 -4.1
ECOG Cogollos-Vega 141.16 329 PKIKP PKPdf 15 23 04.7 -3.0
PMRV Marv??o 141.19 335 *e*PKPdf PKPdf 15 23 05.8 -1.8
PMRV *e*P 15 26 42.2
PMRV *e*LR LR 16 12 40.5
comp=Z,1µm,22.0s
ECAB El Cabril 141.44 332 PKP PKPdf 15 23 03.5 -4.7
PTOM Tomar 141.44 337 *e*P SKPbc 15 26 50.4 +8.8
ERON Agron 141.48 329 PKP PKPdf 15 23 03.0 -5.2
EGUA Guajares 141.50 329 PKIKP PKPdf 15 23 04.4 -3.9
EBAD Badajoz 141.59 334 PKP PKPdf 15 23 04.6 -3.8
PESTR Estremoz 141.75 335 *e*LR LR 16 12 40.5
comp=Z,1µm,18.0s
PBAR Barrancos 142.09 334 *e*PKPdf PKPdf 15 23 11.3 +2.0
PBAR *e*LR LR 16 13 50.7
comp=Z,1µm,20.0s
EVO Evora 142.21 335 *e*PKIKP PKPdf 15 23 10.5 +1.0
comp=Z,135nm,1.5s
EVO *e*MLR MLR
comp=Z,2µm,22.2s,MS5.5
EVO Evora 142.21 335 *e*PKPdf PKPdf 15 23 08.6 -0.9
EVO *e*P 15 26 47.6
EMIN Mina Concepcio 142.26 333 PKP PKPdf 15 23 05.3 -4.3
PMAFR Mafra 142.36 337 *e*LR LR 16 14 17.9
comp=Z,1µm,22.0s
PCRV Puerto La Cruz 142.45 80 PKhKP 15 23 04.6
PCRV PKP PKPdf 15 23 11.7 +1.1
comp=Z,40nm,1.1s
PCRV SKPbc SKPbc 15 26 47.6 +2.8
PBEJ Beja 142.57 335 *e*PKPdf PKPdf 15 23 07.8 -2.4
PBEJ *e*P 15 26 45.8
ESPR Espera 142.61 331 PKP PKPdf 15 23 06.5 -3.7
EJIF Jimena Fronter 142.76 331 PKHKP 15 23 06.7
EGRO El Granado 142.81 334 PKP PKPdf 15 23 05.4 -5.2
PVAQ Vaqueiros 143.03 334 *e*PKPdf PKPdf 15 23 08.9 -2.1
PVAQ *e*LR LR 16 13 20.7
comp=Z,1µm,24.0s
SFS San Fernando 143.10 331 PFAKE 15 23 20.0 +8.9
SFS LR LR
comp=Z,2µm,20.0s,MS5.9
PBDV Barranco-do-Ve 143.25 334 *e*PKPdf PKPdf 15 23 10.6 -0.8
PBDV *e*LR LR 16 12 39.4
comp=Z,398nm,26.0s
PTEO Sao Teotonio 143.34 335 *e*P SKPbc 15 26 58.3 +12
MORF Marmelete 143.51 335 *e*PKPdf PKPdf 15 23 11.5 -0.3
MORF *e*P 15 26 51.0
PFVI Vila Bisbo 143.73 335 *e*PKPdf PKPdf 15 23 11.3 -0.9
PFVI *e*LR LR 16 12 55.9
comp=Z,1µm,22.0s
TAM Tamanrasset 143.75 303 *e*PKIKP PKPdf 15 23 11.1 -1.6
ANWB Willy Bob 143.77 67 PKPdf PKPdf 15 23 12.9 +0.1
MGG Marie-Galante 144.67 69 *e*P PKPdf 15 23 15.0 +0.6
FDF Fort de France 145.10 71 *e*P PKBpc 15 23 15.2 +0.5
FDF Fort de France 145.10 71 *e*PKP PKPdf 15 23 15.1 -0.1
GRW Mount Saint Ca 145.10 76 *e*P PKBpc 15 23 14.3 -0.5
GRGR Grenville 145.11 76 *e*PKP PKPdf 15 23 11.8 -3.4
GRGR LR LR
comp=Z,1µm,22.0s,MS5.5
TCE Chacachacare 145.22 78 *e*P PKBpc 15 23 15.4 +0.2
BIM Bigot 145.22 71 *e*P PKBpc 15 23 14.6 -0.6
RTC Rabat Centre 145.40 330 *e*PKP PKPdf 15 23 15.9 +0.6
RTC LR LR
comp=Z,821nm,22.0s,MS5.5
SPB Sao Paulo 145.51 146 *e*PKP PKPdf 15 23 15.7 0.0
TPP Pointe-a-Pierr 145.56 79 *e*P PKPdf 15 23 16.5 +0.5
TRN Trinidad (W) 145.56 78 *e*P PKPdf 15 23 16.9 +0.9
TBH Brigand Hill 145.91 78 *e*P PKPdf 15 23 17.6 +1.0
TPR Prospect 146.10 77 *e*P PKPdf 15 23 17.9 +0.9
BOT Bacolet 146.16 77 *e*P PKPdf 15 23 19.0 +1.9
VAO Valinhos 146.24 146 ⇓ *i*P PKPdf 15 23 17.7 +0.8
VAO *i* 15 23 19.9
VAO *i* 15 23 33.3
VAO *i* 15 23 44.9
BBGH Gun Hill 146.95 73 PFAKE 15 23 30.0 +12
BBGH LR LR
comp=Z,2µm,22.0s,MS5.9
CMLA Cha da Macela 147.17 358 *e*PKP PKPab 15 23 23.3 +1.3
CMLA Cha da Macela 147.17 358 *e*SS SS 15 45 51.2 +10
CMLA Cha da Macela 147.17 358 *e*LQ 16 04 56.4
CMLA *e*LR LR 16 12 59.5
CMLA Cha da Macela 147.17 358 PFAKE 15 23 30.0 +12
CMLA LR LR
comp=Z,2µm,20.0s,MS5.9
PDA Ponta Delgada 147.20 358 *e*PKP PKPab 15 23 22.2 +0.2
PSMN Pico do Norte, 147.91 357 *e*PKP PKPab 15 23 23.9 -1.0
TOA0 Torodi Ar. Sit 150.38 288 *e*PKPdf PKPdf 15 23 24.7 +0.8
TOA0 *e*PKPbc PKPbc 15 23 28.4 -0.8
TORD Torodi Ar. Bea 150.38 288 PKP PKPdf 15 23 22.8 -1.1
comp=Z,5.2nm,0.8s,baz=51,slow=1.6,SNR=21
TORD PKPbc PKPbc 15 23 28.2 -1.0
comp=Z,71nm,0.6s,baz=48,slow=1.4,SNR=135
TORD Torodi Ar. Bea 150.38 288 PKP PKPdf 15 23 22.8 -1.1
TORD PKPbc PKPbc 15 23 28.2 -1.0
BDFB Brasilia 151.00 135 PKP PKPdf 15 23 26.0 +1.2
comp=Z,31nm,0.5s,baz=10,slow=1.1,SNR=24
BDFB PKPbc PKPbc 15 23 31.4 +0.8
comp=Z,168nm,0.8s,baz=227,slow=1.5,SNR=90
BDFB Brasilia 151.00 135 PKP PKPdf 15 23 26.0 +1.2
BDFB PKPbc PKPbc 15 23 31.4 +0.8
BDFB LR LR
comp=Z,1µm,22.0s,MS5.7
CAM3 Guarapari 151.41 153 *e*P PKPdf 15 23 27.6 +2.2
CAM3 *e* 15 23 31.4
CAM3 *i* 15 23 33.6
CAM3 *i* 15 23 41.7
KIC Kosan Boka 157.67 275 *e*PKIKP PKPdf 15 23 35.2 +0.9
comp=Z,330nm,0.9s
DBIC Dimbokro 157.77 276 PKP PKPdf 15 23 35.4 +1.0
comp=Z,17nm,1.0s,baz=2.2,slow=1.0,SNR=5.5
DBIC PKPab PKPab 15 24 07.7 +0.6
comp=Z,31nm,0.7s,baz=79,slow=5.6,SNR=6.1
DBIC Dimbokro 157.77 276 *e*PKPdf PKPdf 15 23 34.4 0.0
DBIC LR LR
comp=Z,2µm,22.0s,MS5.9
TIC Toumodi 157.93 276 *e*PKIKP PKPdf 15 23 35.4 +0.8
comp=Z,310nm,1.1s
LIC Lamto 157.96 275 *e*PKIKP PKPdf 15 23 34.9 +0.3
comp=Z,46nm,1.0s
LIC *e*MLR MLR
comp=Z,2µm,22.8s,MS5.5
LIC Lamto 157.96 275 *e*PKIKP PKPdf 15 23 34.7 +0.1
comp=Z,146nm,0.9s
LIC Lamto 157.96 275 *e*PKPdf PKPdf 15 23 34.9 +0.3
LIC LR LR
comp=Z,750nm,22.8s,MS5.5

IDC ***09*** *15:22:53.5±1.3, 4.85S×15.299E, h0km, mb4.0/7, mb1 4.1/7, mb1mx4.0/16, mbtmp4.0/7, Error ellipse: s-maj=44.4km s-min=21.4km az=113.0*

ISCJB ***09*** *15:22:59.4±3.8, 4.8S±0.1×15.29E±0.02, h57km±34km, mb4.0/8, Error ellipse: s-maj=25.2km s-min=24.1km az=2.2*

NEIC ***09*** *15:23:02.7±2.6, 4.93S×15.285E, h71km±23km, mb4.4/2, Error ellipse: s-maj=18.7km s-min=17.4km az=217.0*

ISC 09 15:23:02.8±3.0, 4.9S±0.1×15.29E±0.1, h71km±28km, n14, σ0.9/90/12, mb3.9/8, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**7.20**	**232**	*e*Pn	**Pn**	**15 24 45.8**	**+0.4**
DZM	**Mont Dzumac**	**21.52**	**144**	*e*P	**P**	**15 27 46.2**	**0.0**
KAKA	**Kakadu**	**21.60**	**248**	*e*P	**P**	**15 27 45.1**	**-1.9**
	9.1nm,0.5s,mb4.4						
WB2	**Warramunga Arr**	**23.40**	**229**	*e*P	**P**	**15 28 05.4**	**-0.1**
WRA	**Warramunga Arr**	**23.41**	**229**	P	**P**	**15 28 06.7**	**+1.1**
	3.6nm,0.5s,mb4.0,baz=53,slow=9.8,SNR=79						
WRA				PcP	PcP	15 31 53.4	+3.1
	0.4nm,0.5s,baz=61,slow=2.4,SNR=4.7						
ASAR	**Alice Springs**	**26.10**	**223**	P	**P**	**15 28 30.1**	**0.0**
	0.5nm,0.3s,mb3.4,baz=55,slow=9.2,SNR=25						
FITZ	**Fitzroy Crossi**	**29.65**	**242**	*e*P	**P**	**15 29 01.2**	**-0.7**
	2.6nm,0.3s,mb4.3						
FITZ	**Fitzroy Crossi**	**29.65**	**242**	P	**P**	**15 29 01.2**	**-0.7**
	1.5nm,0.3s,mb4.1,baz=84,slow=13,SNR=15						
PETK	**Petropavlovsk-**	**57.97**	**3**	P	**P**	**15 32 46.6**	**-1.0**
	8.0nm,1.1s,mb4.7,baz=172,slow=5.2,SNR=5.5						
CMAR	**Chiang Mai Arr**	**57.99**	**295**	P	**P**	**15 32 50.0**	**+1.4**
	0.4nm,0.7s,mb3.6,baz=123,slow=5.6,SNR=6.8						
SONM	**Songino Array**	**66.47**	**328**	P	**P**	**15 33 45.5**	**+0.8**
	0.3nm,0.5s,mb3.4,baz=137,slow=6.9,SNR=2.6						
MKAR	**Makanchi Array**	**80.47**	**319**	P	**P**	**15 35 06.7**	**-0.2**
	1.2nm,1.0s,mb3.7,baz=81,slow=7.3,SNR=3.2						
TORD	**Torodi Ar. Bea**	**150.41**	**288**	PKPbc	PKPbc	15 42 47.0	-0.2
	4.1nm,0.8s,baz=94,slow=2.6,SNR=19						
BDFB	**Brasilia**	**150.93**	**135**	PKPbc	PKPbc	15 42 49.0	+0.6
	1.6nm,0.4s,baz=115,slow=22,SNR=3.0						

IDC 09 15:33:41.6±1.8, 4.75S×15.288E, h0km, mb3.7/3, mb1 4.0/3, mb1mx3.6/16, mbtmp3.7/3, Error ellipse: s-maj=81.2km s-min=36.8km az=141.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**23.54**	**228**	P	P	15 38 53.7	-0.2
	1.2nm,0.5s,baz=54,slow=10.0,SNR=19						
ASAR	**Alice Springs**	**26.24**	**222**	P	P	15 39 18.9	+0.3
	0.3nm,0.4s,baz=57,slow=9.2,SNR=11						
FITZ	**Fitzroy Crossi**	**29.75**	**241**	P	P	15 39 50.0	-0.1
	1.5nm,0.7s,baz=67,slow=13,SNR=4.6						
TORD	**Torodi Ar. Bea**	**150.36**	**288**	PKPbc	PKPbc	15 53 35.6	-0.5
	0.9nm,0.7s,baz=71,slow=2.1,SNR=6.8						
BDFB	**Brasilia**	**151.05**	**135**	PKPbc	PKPbc	15 53 37.9	+0.2
	1.2nm,0.7s,baz=182,slow=18,SNR=3.1						

IDC 09 15:38:22.2±3.5, 4.58S×15.287E, h0km, mb3.5/3, mb1 3.8/3, mb1mx3.5/16, mbtmp3.5/3, MS4.4/1, Ms1 4.4/1, ms1mx3.4/24, Error ellipse: s-maj=129.1km s-min=50.1km az=124.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**23.64**	**228**	P	P	15 43 35.9	+0.3
	1.1nm,0.5s,baz=53,slow=9.8,SNR=11						
ASAR	**Alice Springs**	**26.36**	**222**	P	P	15 44 00.2	0.0
	0.2nm,0.6s,baz=56,slow=8.9,SNR=5.5						
FITZ	**Fitzroy Crossi**	**29.82**	**241**	P	P	15 44 30.9	-0.4
	0.7nm,0.7s,baz=51,slow=15,SNR=3.1						
RPZ	**Rata Peaks**	**42.16**	**160**	LR	LR	15 59 51.6	
	comp=Z,417nm,18.8s,slow=31						
TORD	**Torodi Ar. Bea**	**150.30**	**289**	PKPbc	PKPbc	15 58 16.4	-0.2
	0.6nm,0.6s,baz=70,slow=2.2,SNR=3.6						

IDC 09 15:42:26.4±2.6, 2072S×17575W, h0km, mb3.7/5, mb1 4.0/5, mb1mx3.8/17, mbtmp3.7/5, Error ellipse: s-maj=170.3km s-min=26.9km az=152.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**39.60**	**245**	P	P	15 49 58.8	-0.9
	0.8nm,0.8s,baz=90,slow=9.1,SNR=4.6						
ASAR	**Alice Springs**	**46.52**	**257**	P	P	15 50 56.4	+0.5
	1.2nm,0.8s,baz=94,slow=8.0,SNR=14						
WRA	**Warramunga Arr**	**46.66**	**262**	P	P	15 50 56.2	-0.8
	0.2nm,0.3s,baz=98,slow=8.0,SNR=11						
FITZ	**Fitzroy Crossi**	**55.09**	**262**	P	P	15 52 01.3	+0.7
	1.6nm,0.8s,baz=101,slow=5.2,SNR=3.4						
NVAR	**Mina Array Bea**	**79.75**	**42**	P	P	15 54 36.7	+0.4
	0.2nm,0.3s,baz=219,slow=7.0,SNR=3.2						

NIED ***09*** *15:51:00, 4190N×14370E, h35km, Mw4.5 Best double couple: M0 6.54000×10^15 NP1:ϕs105.00000°, δ59.00000°, λ-123.00000°. NP2:ϕs337.00000°, δ44.00000°, λ-48.00000°.*

BJI ***09*** *15:51:23.8, 4196N×14380E, h44km, mB5.1, mb4.7, Ms4.2, Msz4.0*

MOS ***09*** *15:51:23.3±1.0, 4189N×14368E, h30km, mb5.0/38, Error ellipse: s-maj=8.9km s-min=5.3km az=113.3*

ISCJB ***09*** *15:51:24.8±0.5, 4186N±0.003×14375E±0.004, h44km±3km, mb4.7/103, MS4.2/4, Error ellipse: s-maj=6.5km s-min=3.8km az=137.9*

NEIC ***09*** *15:51:25.8±0.2, 4194N×14367E, h35km, mb4.7/43, MW4.5(NIED), Error ellipse: s-maj=5.6km s-min=4.1km az=149.0*

NEIC Recorded [2 JMA] in south-central Hokkaido and [1 JMA] in Aomori Prefecture, Honshu.

IDC ***09*** *15:51:27.0±2.3, 4189N×14360E, h46km±21km, mb4.2/23, mb1 4.4/25, mb1mx4.3/29, mbtmp4.2/25, ML3.8/2, MS3.5/1, Ms1 3.5/1, ms1mx3.1/35, Error ellipse: s-maj=15.1km s-min=12.7km az=82.0*

JMA ***09*** *15:51:26.2±0.1, 4194N×14374E, h45km±2km, M4.4*

JMA Felt II J1.

SZGRF ***09*** *15:51:27.4, 4199N×14367E, h33km, mb4.7, Hokkaido, Japan, region*

ISC 09 15:51:26.4±0.5, 4193N±0.003×14373E±0.004, h41km±3km, h42km±3.6km:pP-P, n252, σ0.883/265, mb4.7/103, MS4.2/4, 6C-15D, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ERM	**Erimo**	**0.44**	**282**	*e*Pn	**Pn**	**15 51 36.0**	**-0.3**
ERM				*e*Sn	**Sn**	**15 51 44.1**	**+0.7**
JEM	**Erimo**	**0.44**	**282**	⇓P	**Pn**	**15 51 36.1**	**-0.2**
JEM				*e*S	**Sn**	**15 51 43.6**	**+0.2**
JCH	**Churui**	**0.74**	**338**	⇓P	**Pn**	**15 51 40.3**	**-0.1**
JCH				*e*S	**Sn**	**15 51 50.2**	**-0.3**
JNBK	**Urakawa-nobuka**	**0.81**	**296**	⇓P	**Pn**	**15 51 41.8**	**+0.5**
JNBK				*e*S	**Sn**	**15 51 54.1**	**+1.9**

JOB Onbets 0.98 4 ⇓P Pn 15 51 44.1 +0.5
JOB eS Sn 15 51 58.1 +1.8
JAK Akkeshi 1.29 33 ⇑P Pn 15 51 47.8 0.0
JAK eS Sn 15 52 03.8 0.0
JBT2 Biratori 2 1.32 310 P Pn 15 51 48.0 -0.4
JAR Ashorobuto 1.37 1 ⇓P Pn 15 51 49.0 0.0
JAR eS Sn 15 52 06.3 +0.4
JFR Furan 1.50 326 P Pn 15 51 49.7 -1.0
ASAJ Asahikawa 2.34 340 P Pn 15 52 03.4 +1.0
11nm,0.3s,baz=202,slow=16,SNR=96
ASAJ S Sn 15 52 34.6 +4.8
57nm,0.3s,baz=217,slow=25,SNR=6.0
ASAJ LR LR 15 53 14.4
comp=Z,992nm,19.6s,baz=157,slow=46
ASAJ Asahikawa 2.34 340 P Pn 15 52 03.4 +1.1
ASAJ S Sn 15 52 34.6 +4.8
ASAJ pmax pmax
comp=Z,11nm,0.3s
ASAJ smax
comp=N,57nm,0.3s
YUK Yuzh-Kuril'sk 2.62 36 eP Pn 15 52 06.5 +0.3
YUK i S Sn 15 52 36.7 -0.1
YUK smax
comp=N,5µm,0.5s
YUK smax
comp=E,5µm,0.5s
YUK smax
comp=E,2µm,1.0s
KUR Kuril'sk 4.47 41 P Pn 15 52 28.5 -3.0
KUR S Sn 15 53 21.0 -1.1
KUR pmax pmax
comp=N,150nm,0.6s
KUR pmax pmax
comp=E,80nm,0.6s
KUR pmax pmax
comp=Z,340nm,0.6s
KUR smax
comp=N,850nm,0.9s
KUR smax
comp=E,360nm,0.9s
YSS Yuzh-Sakhalins 5.08 352 eP Pn 15 52 40.9 +1.1
YSS eS Sn 15 53 36.1 -1.0
YSS MLR MLR
comp=Z,1µm,16.0s
YSS Yuzh-Sakhalins 5.08 352 ePn Pn 15 52 42.4 +2.5
comp=Z,35nm,0.6s
MAJO Matsushiro 6.88 220 eP Pn 15 53 03.5 -1.1
MAJO pmax pmax
comp=Z,70nm,0.8s
MAJO Matsushiro 6.88 220 ePn Pn 15 53 03.5 -1.1
comp=Z,70nm,0.8s
MAT Matsushiro 6.88 220 P Pn 15 53 03.6 -1.0
MAT S Sn 15 54 22.5 +1.0
MJAR Matsushiro Arr 6.88 220 P Pn 15 53 03.8 -0.7
comp=Z,5.0nm,0.3s,baz=27,slow=14,SNR=107
VLA Vladivostok 8.83 282 eP Pn 15 53 32.6 +1.3
VLA pmax pmax
comp=Z,13nm,0.5s
JHJ Hachijo jima 2 9.33 201 P Pn 15 53 34.4 -3.9
comp=Z,46nm,0.3s,baz=81,slow=19,SNR=17
JHJ S Sn 15 55 09.7 -12
comp=Z,52nm,0.3s,baz=98,slow=23,SNR=11
KLR Kul'dur 11.12 315 eP Pn 15 54 02.0 -0.6
SKR Severo-Kuril's 12.23 40 eP Pn 15 54 01.2 -17
KSRS Korea Array 12.97 255 P Pn 15 54 32.0 +4.1
comp=Z,0.5nm,0.3s,baz=65,slow=14,SNR=12
KSRS S Sn 15 56 55.9 +5.2
comp=Z,0.6nm,0.3s,baz=66,slow=24,SNR=7.8
KSRS Korea Array 12.97 255 P Pn 15 54 32.0 +4.1
KSRS S Sn 15 56 55.9 +5.1
KSRS pmax pmax
comp=Z,1.0nm,0.3s
KSRS smax
comp=N,1.0nm,0.3s
CN2 Changchun 13.55 284 eP Pn 15 54 37.0 +1.2
PEA0B Petropavlovsk- 14.60 35 ePn Pn 15 54 48.4 -1.7
PETK Petropavlovsk- 14.60 35 P Pn 15 54 46.0 -4.1
comp=N,0.6nm,0.3s,baz=208,slow=8.2,SNR=17
HIA Hailar 18.27 302 eP Pn 15 55 34.1 -2.4
HIA pmax pmax
comp=Z,29nm,1.1s
HIA Hailar 18.27 302 eP Pn 15 55 34.1 -2.5
comp=Z,29nm,1.1s
BJI Beijing 20.86 274 P P 15 56 03.3 -1.3
BJI AMB AMB
comp=Z,27nm,0.8s
BJI AMB AMB
comp=Z,243nm,3.7s
BJI Beijing 20.86 274 P P 15 56 03.3 -1.3
comp=Z,27nm,0.8s
SEY Seymchan 21.65 11⇑eP P 15 56 09.8 -3.1
YAK Yakutsk 21.82 342 eP P 15 56 09.6 -5.1
YAK eS S 16 00 08.7 -4.6
YAK e*SS sS 16 00 44.0 +14
YAK pmax pmax
comp=Z,19nm,0.9s,mb4.5
YAK smax
comp=N,60µm,1.0s
YAK smax
comp=E,149µm,1.8s
YAK Yakutsk 21.82 342 eP P 15 56 10.3 -4.4
comp=E,16nm,0.5s,mb4.7
NJ2 Nanjing 22.11 252 eP P 15 56 16.8 -1.3
NJ2 AMB AMB
comp=Z,10.0nm,0.5s,mb4.5
HHC Hu-ho-hao-te 24.09 278 eP P 15 56 37.6 -0.2
HHC AP 15 56 49.4
HHC XP sP 15 56 57.5 +3.6
HHC PP 15 57 14.3
HHC PCP PcP 16 00 20.0 +1.8
HHC S S 16 00 48.8 -3.7
HHC XS sS 16 01 09.0 -2.1
HHC SCP ScP 16 03 52.6 -0.6
HHC AMB AMB
comp=Z,18nm,1.2s,mb4.4
HHC AMB AMB
comp=Z,482nm,7.6s
HHC LR LR
comp=N,233nm,14.3s,MS4.1
HHC LR LR
comp=E,418nm,14.3s,MS4.1
HHC LR LR
comp=Z,332nm,14.1s,MS4.0
BOD Bodaibo 24.61 320 eP P 15 56 39.9 -2.5
BOD pmax pmax
comp=Z,8.0nm,1.4s,mb4.1
ULN Ulaanbaatar 26.48 296 eP P 15 56 59.3 -0.1
ULN pmax pmax
comp=Z,10.0nm,0.7s,mb4.5
ULN Ulaanbaatar 26.48 296 eP P 15 56 59.2 -0.2
comp=Z,10nm,0.7s,mb4.5
SONM Songino Array 26.92 295 P P 15 57 03.4 0.0
comp=Z,8.3nm,0.7s,mb4.4,baz=85,slow=8.3,SNR=54
TLY Talaya 28.79 304 eP P 15 57 19.9 -0.2
TLY pmax pmax
comp=Z,7.0nm,0.8s,mb4.4
ZAK Zakamensk 28.96 301 eP P 15 57 21.7 +0.1
ZAK pmax pmax
comp=Z,5.0nm,1.2s,mb4.1
LZH Lanzhou 31.33 273 eP P 15 57 43.5 +0.8
LZH AP pP 15 57 54.1 +0.1
LZH AMB AMB
comp=Z,18nm,1.2s,mb4.8
LZH AMB AMB
comp=Z,88nm,4.5s
LZH Lanzhou 31.33 273 eP P 15 57 43.5 +0.8
comp=Z,18nm,1.2s,mb4.8
LZH pP pP 15 57 54.1 +0.1
LZH sP sP 15 57 59.1 +0.1
GTA Gaotai 33.14 281 eP P 15 57 59.1 +0.6
GTA AP pP 15 58 10.1 +0.3
GTA PCP PcP 16 00 42.2 +1.4
GTA S S 16 03 15.2 +0.2
GTA AMB AMB
comp=Z,9.0nm,0.8s,mb4.8
GTA AMB AMB
comp=Z,355nm,3.8s
GTA LR LR
comp=N,537nm,14.7s,MS4.6
GTA LR LR
comp=E,694nm,14.7s,MS4.6
GTA LR LR
comp=Z,704nm,10.8s,MS4.6
CD2 Chengdu 33.72 264 eP P 15 58 04.4 +0.7
CD2 AMB AMB
comp=Z,10.0nm,0.7s,mb4.8
CD2 AMB AMB
comp=Z,30nm,5.2s
GYA Guiyang 34.03 255 P P 15 58 07.2 +0.8
GYA AP pP 15 58 18.4 +0.7
GYA PP PP 15 59 22.4 -1.4
GYA AMB AMB
comp=Z,10.0nm,0.8s,mb4.8
GYA AMB AMB
comp=Z,70nm,5.3s
KRAR Krasnoyarsk 35.38 311 eP P 15 58 14.5 -3.2
KRAR pmax pmax
comp=Z,27nm,1.3s,mb5.0
KMI Kunming 37.66 257 P P 15 58 38.8 +1.3
KMI AP pP 15 58 48.5 -0.4
KMI PP PP 16 00 07.2 +3.3
KMI S S 16 04 25.5 +0.9
KMI AMB AMB
comp=Z,5.0nm,1.5s,mb4.0
KMI AMB AMB
comp=Z,95nm,4.3s
KMI LR LR
comp=N,384nm,24.7s,MS4.3
KMI LR LR
comp=E,414nm,20.7s,MS4.3
KMI Kunming 37.66 257 P P 15 58 38.8 +1.3
KMI *PP pP 15 58 48.5 -0.4
KMI *SP sP 15 58 53.7 -0.1
KMI 16 00 07.2
KMI S S 16 04 25.5 +0.9
KMI *SS sS 16 04 43.2 -0.4
KMI SS SS 16 06 59.3 -12
KMI pmax pmax
comp=Z,5.0nm,1.5s,mb4.0
KMI Kunming 37.66 257 P P 15 58 38.8 +1.3
comp=Z,5.0nm,1.5s,mb4.0
KMI pP pP 15 58 48.5 -0.4
KMI sP sP 15 58 53.7 -0.1
KMI PP PP 16 00 07.2 +3.3
KMI S S 16 04 25.5 +0.9
KMI sS sS 16 04 43.2 -0.4
KMI SS SS 16 06 59.3 -12
ZAA0 Zalesovo Array 40.12 308 eP P 15 58 57.1 -0.6
ZALV Zalesovo Beam 40.12 308 P P 15 58 57.4 -0.3
comp=Z,17nm,0.7s,mb4.9,baz=89,slow=7.4,SNR=71
ZALV PcP PcP 16 01 01.2 -0.3
comp=Z,4.0nm,0.6s,baz=80,slow=2.5,SNR=7.2
ZALV Zalesovo Beam 40.12 308 P P 15 58 57.4 -0.3
ZALV PcP PcP 16 01 01.2 -0.3
WMQ Urumqi 40.44 292 ⇑P P 15 59 00.8 +0.2
WMQ AP pP 15 59 14.3 +2.2
WMQ XP sP 15 59 19.8 +2.8
WMQ PP PP 16 00 38.3 +4.3
WMQ PCP PcP 16 01 04.1 +1.4
WMQ AMB AMB
comp=Z,19nm,0.6s,mb5.0
WMQ AMB AMB
comp=Z,171nm,5.0s
WMQ LR LR
comp=N,108nm,19.2s,MS4.0
WMQ LR LR
comp=E,183nm,21.5s,MS4.0
WMQ LR LR
comp=Z,202nm,23.6s,MS3.9
NVS Novosibirsk 40.92 310 i P P 15 59 03.0 -1.4
IMA2 Indian Mountai 41.59 33 eP P 15 59 08.6 -1.1
OHAK Old Harbor 42.01 46 eP P 15 59 13.0 -0.2
BPAW Bear Paw Mtn. 42.69 36 eP P 15 59 19.6 +0.9
comp=Z,2.8nm,0.7s,mb4.1
KTH Kantishna Hill 42.73 37 eP P 15 59 20.3 +1.3
comp=Z,11nm,0.9s,mb4.6
TRF Thorofare Moun 43.02 37 eP P 15 59 21.8 +0.4
comp=Z,7.0nm,0.8s,mb4.4
MK31 Makanchi Array 43.22 298 eP P 15 59 22.8 -0.4
MKAR Makanchi Array 43.22 298 P P 15 59 22.7 -0.5
comp=Z,5.0nm,0.6s,mb4.4,baz=82,slow=9.7,SNR=35
MKAR PcP PcP 16 01 11.8 0.0
comp=Z,2.1nm,0.7s,baz=53,slow=1.6,SNR=5.6
SEW Seward 43.67 42 eP P 15 59 26.5 -0.1
LSA Lhasa 43.73 271 eP P 15 59 28.8 +1.3
LSA pmax pmax
comp=Z,3.0nm,0.5s,mb4.3
LSA Lhasa 43.73 271 eP P 15 59 28.8 +1.3
comp=Z,3.3nm,0.5s,mb4.3
COLA College 44.02 35 eP P 15 59 29.6 +0.2
CHTO Chiang Mai 44.35 253 P P 15 59 33.3 +0.7
CHTO pmax pmax
comp=Z,2.0nm,0.8s,mb3.9
CHTO Chiang Mai 44.35 253 P P 15 59 33.3 +0.7
comp=Z,1.9nm,0.8s,mb3.9
KURK Kurchatov 44.48 305 P P 15 59 33.3 0.0
comp=Z,9.8nm,0.6s,mb4.8,baz=74,slow=9.0,SNR=42
KURK PcP PcP 16 01 16.2 +0.1
comp=Z,2.0nm,0.6s,baz=82,slow=3.4,SNR=3.6
KURK Kurchatov 44.48 305 P P 15 59 33.3 0.0
KURK 16 01 16.2
KURK pmax pmax
comp=Z,10.0nm,0.6s,mb4.7
KURK pmax pmax
comp=Z,2.0nm,0.6s,mb4.0
KURK Kurchatov 44.48 305 eP P 15 59 32.3 -1.0
comp=Z,9.2nm,0.5s,mb4.8
CMAR Chiang Mai Arr 44.59 252 P P 15 59 34.0 -0.4
comp=Z,0.6nm,0.7s,mb3.5,baz=39,slow=8.1,SNR=6.1
CMAR PcP PcP 16 01 17.6 +0.7
comp=Z,1.1nm,0.8s,baz=26,slow=2.1,SNR=7.9
TAPN Taplejung 47.53 271 eP P 15 59 58.0 +0.4
comp=Z,24nm,0.6s,mb5.4
ODAN Odare 48.04 270 eP P 16 00 01.7 +0.2
comp=Z,19nm,0.6s,mb5.3
JIRN Jiri 48.50 272 eP P 16 00 05.4 +0.3
comp=Z,8.8nm,0.4s,mb5.1
RAMN Ramite 48.58 271 eP P 16 00 05.8 +0.1
comp=Z,58nm,0.7s,mb5.7
GUN Gumba 48.60 273 eP P 16 00 06.2 +0.4
comp=Z,76nm,0.7s,mb5.9
BVAR Borovoye Array 48.72 310 P P 16 00 06.5 +0.1
comp=Z,5.0nm,0.3s,mb5.0,baz=80,slow=9.3,SNR=45
BVAR PcP PcP 16 01 30.9 -0.1
comp=Z,1.6nm,0.6s,baz=64,slow=3.4,SNR=3.0
BRVK Borovoye 48.77 310 eP P 16 00 06.7 -0.1
BRVK pmax pmax
comp=Z,20nm,1.1s,mb5.1
BRVK Borovoye 48.77 310 eP P 16 00 06.7 -0.1
comp=Z,20nm,1.1s,mb5.1
KKN Kakani 49.11 273 eP P 16 00 09.9 +0.2
comp=Z,49nm,0.8s,mb5.6
PKI Pulchoki 49.13 273 eP P 16 00 10.3 +0.4
DMN Daman 49.34 273 eP P 16 00 11.7 +0.2
comp=Z,31nm,0.8s,mb5.4
GKN Gorkha 49.47 273 eP P 16 00 12.5 0.0
DANN Dangsing 49.94 274 eP P 16 00 16.6 +0.5
comp=Z,111nm,0.8s,mb6.0
KOLN Koldanda 50.37 274 eP P 16 00 19.5 +0.2
SVE Sverdlovsk 52.74 317⇑eP P 16 00 36.8 +0.1
SVE pmax pmax
comp=Z,29nm,0.7s,mb5.3
ARU Arti 53.96 317 d iP P 16 00 45.0 -0.6
ARU e 16 02 43.2
ARU eS S 16 08 18.2 +0.2
ARU SS SS 16 11 59.5 +0.6
ARU pmax pmax
comp=Z,27nm,1.0s,mb5.1
ARU Arti 53.96 317 eP P 16 00 45.0 -0.6
comp=Z,21nm,0.9s,mb5.1
AKTK Aktyubinsk 56.81 310 P P 16 01 05.8 -0.4
AKTO Aktyubinsk 56.81 310 P P 16 01 05.8 -0.4
comp=Z,4.4nm,0.8s,mb4.6,baz=55,slow=11,SNR=10.0
YKA Yellowknife Ar 58.70 32 P P 16 01 19.5 +0.2
comp=Z,1.4nm,0.6s,mb4.2,baz=305,slow=9.0,SNR=4.2
KEV Kevo 59.52 339 ep P 16 01 23.9 -0.9
comp=Z,0.8nm,0.3s,mb4.2
KEV Kevo 59.52 339 eP P 16 01 23.9 -0.9
KEV pmax pmax
comp=Z,1.0nm,0.3s,mb4.3
ARCES ARCESS Array B 60.07 339 P P 16 01 27.5 -1.1
comp=Z,1.4nm,0.5s,mb4.2,baz=44,slow=7.4,SNR=7.9
FITZ Fitzroy Crossi 62.02 200 P P 16 01 42.1 -0.3
comp=Z,1.8nm,0.8s,mb4.3,baz=51,slow=16,SNR=3.1
WB2 Warramunga Arr 62.16 190 eP P 16 01 42.0 -1.3
WRA Warramunga Arr 62.16 190 P P 16 01 42.0 -1.3
comp=Z,2.5nm,0.7s,mb4.5,baz=7.2,slow=6.8,SNR=43
JOF Joensuu 62.51 332 ep P 16 01 43.8 -1.4
comp=Z,3.0nm,0.4s,mb4.8
JOF Joensuu 62.51 332 eP P 16 01 43.8 -1.4
JOF pmax pmax
comp=Z,3.0nm,0.4s,mb4.8
KAF Kangasniemi 64.79 333 ep P 16 01 58.2 -2.1
comp=Z,1.2nm,0.4s,mb4.3,baz=46,slow=6.2
KAF Kangasniemi 64.79 333 eP P 16 01 58.2 -2.1
KAF pmax pmax
comp=Z,1.0nm,0.4s,mb4.2
OBN Obninsk 65.27 323⇓eP P 16 02 03.0 -0.5
OBN e 16 04 30.0
OBN eS S 16 10 41.2 -2.5
OBN pmax pmax
comp=Z,26nm,1.2s,mb5.1
FINES FINESS Array B 65.33 332 eP P 16 02 02.1 -1.7
ASAR Alice Springs 65.89 190 P P 16 02 07.2 -0.5
comp=Z,1.6nm,0.7s,mb4.2,baz=5.3,slow=6.0,SNR=29
VSR Storozhevoye 66.45 318 eP P 16 02 10.4 -0.7
VSR pmax pmax
comp=Z,3.0nm,0.5s,mb4.6
VSR pmax pmax
comp=N,6.0nm,0.6s
VSR pmax pmax
comp=E,3.0nm,0.5s
KIV Kislovodsk 69.07 311 eP P 16 02 28.2 +0.4
KIV pmax pmax
comp=Z,32nm,1.1s,mb5.2
KIV Kislovodsk 69.07 311 eP P 16 02 28.5 +0.7
comp=Z,14nm,0.7s,mb5.0
DLMT Dillon 69.65 47 eP P 16 02 32.2 +0.8
comp=Z,2.5nm,0.8s,mb4.2
GNI Garni 70.24 306 eP P 16 02 36.5 +1.5
GNI pmax pmax
comp=Z,11nm,1.3s
NB2 NORSAR Subarra 70.36 338 P P 16 02 34.8 -0.6
comp=Z,15nm,1.2s,mb4.8,baz=35,slow=6.5
NOA NORSAR Array B 70.36 338 P P 16 02 35.2 -0.2
comp=Z,4.2nm,0.7s,mb4.5,baz=36,slow=6.1,SNR=14
NVAR Mina Array Bea 70.68 56 P P 16 02 39.5 +1.8
comp=Z,5.6nm,0.9s,mb4.5,baz=293,slow=6.1,SNR=21
PTRM Twissleman Ran 71.21 59 eP P 16 02 42.4 +1.4
AKASG Malin Array Be 71.53 322 P P 16 02 41.9 -0.7
comp=Z,3.4nm,0.4s,mb4.6,baz=43,slow=6.3,SNR=19
TPNV Topopah Spring 72.88 56 eP P 16 02 52.2 +1.2
TPNV pmax pmax
comp=Z,10.0nm,0.8s,mb4.8
TPNV Topopah Spring 72.88 56 eP P 16 02 52.2 +1.3
comp=Z,9.6nm,0.8s,mb4.8
PDAR Pinedale Array 73.00 48 P P 16 02 52.4 +0.8
comp=Z,2.5nm,0.6s,mb4.3,baz=257,slow=0.9,SNR=18
STKA Stephens Creek 73.46 182 P P 16 02 54.7 +0.5
comp=Z,3.1nm,0.9s,mb4.2,baz=354,slow=11,SNR=3.9
STKA Stephens Creek 73.46 182 P P 16 02 54.7 +0.5
UMR Umm Al-Rimmam 75.02 296 eP P 16 03 02.5 -1.1
baz=296
UMR AMb AMB 16 03 03.3
comp=Z,22nm,0.5s,mb5.3,baz=296
MIB Mutribah 75.11 297 eP P 16 03 03.1 -1.1
baz=297
MIB AMb AMB 16 03 03.8
comp=Z,21nm,0.6s,mb5.2,baz=297
NAY Al-Naaiem 75.53 296 eP P 16 03 05.4 -1.1
baz=296
NAY AMb AMB 16 03 06.2
comp=Z,13nm,0.6s,mb5.0,baz=296
RDF Al-Radifah 75.53 296 eP P 16 03 05.7 -0.8
baz=296
RDF AMb AMB 16 03 06.5
comp=Z,36nm,0.7s,mb5.4,baz=296
RST Umm Al-Ruwaisa 75.53 297 eP P 16 03 05.0 -1.6
baz=297
RST AMb AMB 16 03 05.9
comp=Z,21nm,0.7s,mb5.2,baz=297
BUR08 Bucovina Ar. S 75.56 322 eP P 16 03 06.8 +0.4
BURAR Bucovina Array 75.57 322⇑iP P 16 03 06.6 +0.1
BURAR Bucovina Array 75.57 322 ⇑P P 16 03 06.6 +0.1
KOLS Kolonicke sedl 75.90 325 eP P 16 03 09.0 +0.7
OJC Ojcow 75.96 327 eP P 16 03 08.8 +0.2
STHS Stebnicka Huta 75.98 325 eP P 16 03 09.8 +1.1
STHS pmax pmax
comp=Z,4.0nm,0.9s,mb4.3
STHS Stebnicka Huta 75.98 325 eP P 16 03 09.8 +1.1
comp=Z,3.6nm,0.9s,mb4.3
PV10 Paradox Valley 76.24 51 P P 16 03 12.2 +1.8
MLR Muntele Rosu 76.80 320 P P 16 03 13.3 -0.1
comp=Z,1.0nm,0.4s,mb4.1
OKC Ostrava-Krasne 76.93 327 eP P 16 03 14.6 +0.5
BR131 Keskin Array S 76.94 312 eP P 16 03 14.3 0.0
comp=Z,1.4nm,0.6s,mb4.1
MORC Moravsky Berou 77.22 328⇓iP P 16 03 16.4 +0.6
MORC Moravsky Berou 77.22 328 ⇓P P 16 03 16.4 +0.6
UPC Upice 77.25 329 eP P 16 03 16.3 +0.4
DPC Dobruska-Polom 77.25 329 eP P 16 03 16.9 +1.0
VOIR 77.26 321⇓iP P 16 03 17.1 +1.0
VOIR 77.26 321 ⇓P P 16 03 17.1 +1.0
VYHS Vyhne 77.70 326 eP P 16 03 19.1 +0.6
CLL Collm 77.73 331⇓iP P 16 03 18.1 -0.5
CLL pmax pmax
comp=Z,13nm,1.0s,mb4.8
CLL Collm 77.73 331 eP P 16 03 18.3 -0.3
comp=Z,14nm,1.1s,mb4.8
CLL Collm 77.73 331⇓iP P 16 03 18.1 -0.5
comp=Z,13nm,1.0s,mb4.8
CLL ePcP PcP 16 03 29.0 +0.5
CLL esP sP 16 03 35.0 -0.7
BRG Berggiesshubel 77.74 330 eP P 16 03 18.5 -0.1
comp=Z,8.0nm,1.5s,mb4.4
PVCC Panska Ves 77.78 330 eP P 16 03 19.2 +0.3
FBE Freiberg 77.92 330 eP P 16 03 19.7 +0.1
comp=Z,8.0nm,0.7s,mb4.8
PRU Pruhonice 78.23 329 eP P 16 03 21.7 +0.3
NEUB Neuenburg 78.25 331 eP P 16 03 21.4 -0.1
comp=Z,10.0nm,0.7s,mb4.8
TREC Trest 78.42 328 eP P 16 03 22.9 +0.5
TANN Tannenbergstha 78.66 331 eP P 16 03 23.2 -0.5
comp=Z,4.0nm,1.1s,mb4.3
WERD Werda 78.69 331 eP P 16 03 24.0 +0.1
comp=Z,12nm,1.5s,mb4.6
BZS Buzias 78.71 323⇓iP P 16 03 23.7 -0.4
GUNZ Gunzen 78.75 331 eP P 16 03 24.2 0.0
comp=Z,5.0nm,0.7s,mb4.5
MOX Moxa 78.77 331 eP P 16 03 24.4 0.0
comp=Z,17nm,1.6s,mb4.7
MOX Moxa 78.77 331 eP P 16 03 24.4 0.0
MOX pmax pmax
comp=Z,17nm,1.6s,mb4.7
MOX Moxa 78.77 331 eP P 16 03 24.0 -0.4
comp=Z,8.0nm,1.1s,mb4.6
WERN Wernitzgruen 78.79 331 eP P 16 03 24.8 +0.3
comp=Z,4.0nm,0.6s,mb4.5
MANZ Manzenberg 79.14 331 eP P 16 03 26.4 0.0
comp=Z,5.0nm,1.1s,mb4.4
ROTZ Rotzenmuhle 79.28 330 eP P 16 03 27.7 +0.5
comp=Z,5.0nm,1.0s,mb4.4
KHC Kasperske Hory 79.29 329 eP P 16 03 27.3 +0.1
GEC2 GERESS Array S 79.48 329 eP P 16 03 27.8 -0.4
GEC2 pmax pmax
comp=Z,3.0nm,0.6s,mb4.4
GEC2 GERESS Array S 79.48 329 eP P 16 03 27.8 -0.4
comp=Z,3.0nm,0.6s,mb4.4
GERES GERESS Array B 79.48 329 P P 16 03 28.4 +0.1
comp=Z,1.8nm,0.5s,mb4.2,baz=46,slow=5.7,SNR=16
WET Wettzell 79.55 330 eP P 16 03 28.8 +0.2
WET pmax pmax
comp=Z,5.0nm,0.9s,mb4.4
WET Wettzell 79.55 330 eP P 16 03 28.8 +0.2
comp=Z,5.0nm,0.9s,mb4.4
GRA1 Grafenberg Arr 79.71 331 eP P 16 03 30.1 +0.6
comp=Z,23nm,1.4s,mb4.9
GRF Grafenberg Arr 79.71 331 eP P 16 03 30.1 +0.6
GRF pmax pmax
comp=Z,23nm,1.4s,mb4.9
GRF Grafenberg Arr 79.71 331 eP P 16 03 30.1 +0.6
GRF pmax pmax
comp=Z,23nm,1.4s,mb4.9
GRF Grafenberg Arr 79.71 331 eP P 16 03 30.1 +0.6
comp=Z,23nm,1.4s,mb4.9
ANMO Albuquerque 80.10 52 eP P 16 03 33.9 +2.0
ASF Jabal al Asfar 80.25 305 P P 16 03 33.1 +0.4
comp=Z,2.5nm,0.7s,mb4.2,baz=267,slow=5.2,SNR=5.9
VTS Vitosha 80.27 320⇓iP P 16 03 33.4 +0.7
BNM Barren Site 80.56 52 eP P 16 03 36.0 +1.6
MMAI Mount Meron Ar 80.57 306 P P 16 03 35.3 +0.9
comp=Z,8.5nm,0.8s,mb4.7,baz=25,slow=6.4,SNR=8.0
CDF Champ du Feu 82.18 332 eP P 16 03 42.1 -0.6
comp=Z,7.5nm,0.7s,mb4.5
CDF Champ du Feu 82.18 332 eP P 16 03 42.1 -0.6
CDF pmax pmax

	comp=Z,4.0nm,0.7s,mb4.5						
CDF	**Champ du Feu**	**82.18**	**332**	eP	**P**	**16 03 42.1**	**-0.6**
	comp=Z,3.8nm,0.7s,mb4.4						
HAU	**Haudompre**	**82.85**	**333**	eP	**P**	**16 03 45.6**	**-0.6**
MEZF	**Maizieres J'vi**	**82.86**	**334**	eP	**P**	**16 03 46.0**	**-0.2**
CABF	**La Chapelle**	**84.14**	**332**	eP	**P**	**16 03 53.0**	**+0.2**
LOR	**Lormes**	**84.33**	**334**	eP	**P**	**16 03 53.2**	**-0.6**
	comp=Z,8.7nm,0.6s,mb4.8						
LOR	**Lormes**	**84.33**	**334**	eP	**P**	**16 03 53.2**	**-0.6**
LOR				pmax	pmax		
	comp=Z,4.0nm,0.6s,mb4.7						
LOR	**Lormes**	**84.33**	**334**	eP	**P**	**16 03 53.2**	**-0.6**
	comp=Z,4.3nm,0.6s,mb4.8						
FLN	**La Foliniere**	**84.34**	**337**	eP	**P**	**16 03 53.1**	**-0.7**
LDF	**La Druitiere**	**84.39**	**337**	eP	**P**	**16 03 53.9**	**-0.2**
	comp=Z,12nm,0.7s,mb4.8						
LDF	**La Druitiere**	**84.39**	**337**	eP	**P**	**16 03 53.9**	**-0.2**
LDF				pmax	pmax		
	comp=Z,6.0nm,0.7s,mb4.8						
LDF	**La Druitiere**	**84.39**	**337**	eP	**P**	**16 03 53.9**	**-0.2**
	comp=Z,6.2nm,0.7s,mb4.8						
SSF	**Saint Saulge**	**84.62**	**334**	eP	**P**	**16 03 54.8**	**-0.5**
	comp=Z,6.8nm,0.6s,mb4.7						
SSF	**Saint Saulge**	**84.62**	**334**	eP	**P**	**16 03 54.8**	**-0.5**
SSF				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.6						
SSF	**Saint Saulge**	**84.62**	**334**	eP	**P**	**16 03 54.8**	**-0.5**
	comp=Z,3.4nm,0.6s,mb4.7						
GRR	**Gorron**	**84.79**	**337**	eP	**P**	**16 03 56.2**	**+0.1**
	comp=Z,14nm,0.7s,mb4.9						
GRR	**Gorron**	**84.79**	**337**	eP	**P**	**16 03 56.2**	**+0.1**
GRR				pmax	pmax		
	comp=Z,7.0nm,0.7s,mb4.9						
GRR	**Gorron**	**84.79**	**337**	eP	**P**	**16 03 56.2**	**+0.1**
	comp=Z,7.3nm,0.7s,mb4.9						
LPL	**La Plagne**	**84.86**	**331**	eP	**P**	**16 03 56.6**	**+0.1**
	comp=Z,12nm,0.8s,mb4.8						
LPG	**La Plagne**	**84.87**	**331**	eP	**P**	**16 03 56.8**	**+0.3**
	comp=Z,14nm,0.8s,mb4.9						
SMF	**Signal de Mont**	**84.88**	**334**	eP	**P**	**16 03 56.2**	**-0.4**
	comp=Z,7.8nm,0.6s,mb4.7						
SMF	**Signal de Mont**	**84.88**	**334**	eP	**P**	**16 03 56.2**	**-0.4**
SMF				pmax	pmax		
	comp=Z,4.0nm,0.6s,mb4.7						
SMF	**Signal de Mont**	**84.88**	**334**	eP	**P**	**16 03 56.2**	**-0.4**
	comp=Z,3.9nm,0.6s,mb4.7						
AVF	**Avril sur Loir**	**84.91**	**334**	eP	**P**	**16 03 56.4**	**-0.3**
	comp=Z,16nm,0.6s,mb5.0						
AVF	**Avril sur Loir**	**84.91**	**334**	eP	**P**	**16 03 56.4**	**-0.3**
AVF				pmax	pmax		
	comp=Z,8.0nm,0.6s,mb5.0						
AVF	**Avril sur Loir**	**84.91**	**334**	eP	**P**	**16 03 56.4**	**-0.3**
	comp=Z,7.8nm,0.6s,mb5.0						
IDI	**Anoyia**	**84.93**	**314**	P	**P**	**16 03 56.0**	**-1.1**
	comp=Z,5.5nm,0.4s,mb5.0,baz=43,slow=10,SNR=12						
SGMF	**Saint Gilles**	**85.39**	**338**	eP	**P**	**16 03 59.0**	**-0.1**
	comp=Z,8.7nm,0.7s,mb4.7						
SGMF	**Saint Gilles**	**85.39**	**338**	eP	**P**	**16 03 59.0**	**-0.1**
SGMF				pmax	pmax		
	comp=Z,4.0nm,0.7s,mb4.7						
SGMF	**Saint Gilles**	**85.39**	**338**	eP	**P**	**16 03 59.0**	**-0.1**
	comp=Z,4.3nm,0.7s,mb4.7						
ROSF	**Rostrenen**	**85.52**	**339**	eP	**P**	**16 03 59.7**	**0.0**
MBDF	**Montbardon**	**85.52**	**331**	eP	**P**	**16 03 59.3**	**-0.5**
	comp=Z,7.0nm,0.6s,mb4.8						
MBDF	**Montbardon**	**85.52**	**331**	eP	**P**	**16 03 59.3**	**-0.5**
MBDF				pmax	pmax		
	comp=Z,4.0nm,0.6s,mb4.8						
MBDF	**Montbardon**	**85.52**	**331**	eP	**P**	**16 03 59.3**	**-0.5**
	comp=Z,3.5nm,0.6s,mb4.8						
ORIF	**Oris-en-Rattie**	**85.68**	**331**	eP	**P**	**16 04 00.6**	**0.0**
	comp=Z,11nm,0.7s,mb4.9						
TCF	**Toulx Ste Croi**	**85.73**	**334**	eP	**P**	**16 04 00.6**	**-0.2**
	comp=Z,5.3nm,0.6s,mb4.7						
TXAR	**Lajitas Array**	**85.75**	**54**	P	**P**	**16 04 02.4**	**+1.1**
	comp=Z,5.6nm,0.7s,mb4.9,baz=294,slow=3.5,SNR=45						
QUIF	**Quistinic**	**85.87**	**338**	eP	**P**	**16 04 01.1**	**-0.4**
	comp=Z,25nm,1.0s,mb5.1						
QUIF	**Quistinic**	**85.87**	**338**	eP	**P**	**16 04 01.1**	**-0.4**
QUIF				pmax	pmax		
	comp=Z,13nm,1.0s,mb5.1						
QUIF	**Quistinic**	**85.87**	**338**	eP	**P**	**16 04 01.1**	**-0.4**
	comp=Z,12nm,1.0s,mb5.1						
SBF	**Sospel**	**86.02**	**330**	eP	**P**	**16 04 02.0**	**-0.3**
	comp=Z,39nm,0.9s,mb5.3						
SBF	**Sospel**	**86.02**	**330**	eP	**P**	**16 04 02.0**	**-0.3**
SBF				pmax	pmax		
	comp=Z,19nm,0.9s,mb5.3						
SBF	**Sospel**	**86.02**	**330**	eP	**P**	**16 04 02.0**	**-0.3**
	comp=Z,19nm,0.9s,mb5.3						
VIVF	**Saint-Julien-l**	**86.16**	**332**	eP	**P**	**16 04 03.0**	**0.0**
	comp=Z,19nm,0.9s,mb5.0						
MFF	**Saint Martin d**	**86.19**	**336**	eP	**P**	**16 04 03.1**	**0.0**
LMR	**La Mourre**	**86.82**	**330**	eP	**P**	**16 04 05.5**	**-0.7**
RJF	**Les Rejaudoux**	**86.83**	**334**	eP	**P**	**16 04 06.2**	**0.0**
	comp=Z,7.6nm,0.7s,mb4.8						
RJF	**Les Rejaudoux**	**86.83**	**334**	eP	**P**	**16 04 06.2**	**0.0**
RJF				pmax	pmax		
	comp=Z,4.0nm,0.7s,mb4.8						
RJF	**Les Rejaudoux**	**86.83**	**334**	eP	**P**	**16 04 06.2**	**0.0**
	comp=Z,3.8nm,0.7s,mb4.7						
CAF	**Calviac**	**86.98**	**334**	eP	**P**	**16 04 07.7**	**+0.7**
	comp=Z,19nm,0.8s,mb5.1						
CAF	**Calviac**	**86.98**	**334**	eP	**P**	**16 04 07.7**	**+0.7**
CAF				pmax	pmax		
	comp=Z,10.0nm,0.8s,mb5.1						
CAF	**Calviac**	**86.98**	**334**	eP	**P**	**16 04 07.7**	**+0.7**
	comp=Z,9.6nm,0.8s,mb5.1						
LASF	**Ste Croix**	**87.12**	**332**	eP	**P**	**16 04 07.9**	**+0.2**
	comp=Z,15nm,0.9s,mb4.9						
LFF	**La Frestale**	**87.40**	**335**	eP	**P**	**16 04 09.5**	**+0.5**
	comp=Z,15nm,0.6s,mb5.1						
LFF	**La Frestale**	**87.40**	**335**	eP	**P**	**16 04 09.5**	**+0.5**
LFF				pmax	pmax		
	comp=Z,7.0nm,0.6s,mb5.1						
LFF	**La Frestale**	**87.40**	**335**	eP	**P**	**16 04 09.5**	**+0.5**
	comp=Z,7.4nm,0.6s,mb5.1						
MTLF	**Montolieu**	**88.33**	**333**	eP	**P**	**16 04 13.8**	**+0.3**
	comp=Z,5.2nm,0.8s,mb4.5						
MTLF	**Montolieu**	**88.33**	**333**	eP	**P**	**16 04 13.8**	**+0.3**
MTLF				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.6						
MTLF	**Montolieu**	**88.33**	**333**	eP	**P**	**16 04 13.8**	**+0.3**
	comp=Z,2.6nm,0.8s,mb4.5						
ETSF	**Etsaut**	**89.64**	**335**	eP	**P**	**16 04 20.3**	**+0.6**
	comp=Z,12nm,0.8s,mb5.0						
ETSF	**Etsaut**	**89.64**	**335**	eP	**P**	**16 04 20.3**	**+0.6**
ETSF				pmax	pmax		
	comp=Z,6.0nm,0.8s,mb5.0						
ETSF	**Etsaut**	**89.64**	**335**	eP	**P**	**16 04 20.3**	**+0.6**
	comp=Z,5.9nm,0.8s,mb5.0						
TORD	**Torodi Ar. Bea**	**115.00**	**319**	PKiKP	PKiKP	16 10 02.1	-1.1
	comp=Z,0.8nm,1.1s,baz=2.5,slow=2.7,SNR=2.3						
SNAA	**Sanae**	**145.95**	**198**	ePKPdf	PKPdf	16 10 59.4	+0.1
SNAA				e		16 11 01.1	
SNAA				e		16 11 12.7	
SNAA				e		16 11 17.2	
VNA2	**Neumayer--Watz**	**147.51**	**197**	ePKPdf	PKPdf	16 11 04.6	+2.7
	baz=134,slow=2.2						
VNA2				e		16 11 06.4	
VNA2				e		16 11 17.7	
VNA2				e		16 11 22.1	
VNA3	**Neumayer Olymp**	**147.75**	**196**	ePKPdf	PKPdf	16 11 04.8	+2.5
VNA3				e		16 11 06.6	
VNA3				e		16 11 17.9	
VNA3				e		16 11 22.4	
VNA1	**Neumayer--Stat**	**147.91**	**197**	ePKPdf	PKPdf	16 11 05.6	+3.0
VNA1				e		16 11 07.1	
VNA1				e		16 11 18.4	
BDFB	**Brasilia**	**151.92**	**25**	PKPbc	PKPbc	16 11 17.6	+0.5
	comp=Z,2.8nm,0.9s,baz=156,slow=19,SNR=4.1						
PLCA	**Paso Flores**	**154.32**	**99**	PKPbc	PKPbc	16 11 22.4	+0.8
	comp=Z,1.7nm,0.8s,baz=344,slow=5.3,SNR=4.0						
PLCA	**Paso Flores**	**154.32**	**99**	PKPbc	PKPbc	16 11 22.4	+0.8
CPUP	**Villa Florida**	**156.73**	**55**	PKPab	PKPab	16 11 46.9	+0.4
	comp=Z,1.3nm,0.6s,baz=223,slow=20,SNR=4.3						
CPUP	**Villa Florida**	**156.73**	**55**	PKPab	PKPab	16 11 46.9	+0.4

*ISK **09** 15:57:59.8, 37.17N×2790E, h3km, MD2.9*
*CSEM **09** 15:57:59.4±0.1, 37.16N×2790E, h2km, MD2.9, Error ellipse: s-maj=2.1km s-min=1.4km az=4.0*
*ISCJB **09** 15:58:00.8±0.7, 37.17N±004×2790E±004, h5km±8km, Error ellipse: s-maj=7.3km s-min=5.3km az=174.3*
*DDA **09** 15:58:02.4, 3733N×2760E, h7km±7km, Md2.8*

ISC 09 15:58:01.1±0.7**,3717N**±004×**2790E**±004**,h7km**±7km**,n9,** σ**0.s61**/14**,Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MLSB	**Milas**	**0.16**	**322**	ePG	**Pg**	**15 58 03.7**	**-0.7**
MLSB				eSG	**Sg**	**15 58 06.8**	**+0.3**
YER	**Yerkesik**	**0.31**	**96**	ePG	**Pg**	**15 58 06.5**	**-0.6**
YER				eSG	**Sg**	**15 58 11.8**	**+0.6**
BDRM	**Kayabasi**	**0.38**	**254**	iP	**Pg**	**15 58 07.6**	**-0.8**
BDRM				iS	**Sg**	**15 58 14.0**	**+0.6**
BODT	**Bodrum**	**0.48**	**257**	ePG	**Pg**	**15 58 09.6**	**-0.8**
BODT				eSG	**Sg**	**15 58 17.6**	**+0.8**
AYDN	**Tasoluk**	**0.49**	**358**	iP	**Pg**	**15 58 10.4**	**-0.2**
AYDN				iS	**Sg**	**15 58 17.6**	**+0.6**
IZM	**Izmir**	**1.33**	**338**	ePN	**Pn**	**15 58 26.4**	**+0.3**
BLCB	**Balcova**	**1.39**	**331**	ePN	**Pn**	**15 58 26.9**	**-0.1**
KULA	**Kula-Manisa**	**1.47**	**24**	ePN	**Pn**	**15 58 27.4**	**-0.7**
ELL	**Elmali**	**1.66**	**104**	ePN	**Pn**	**15 58 31.4**	**+0.7**

*LDG **09** 16:00:39.0±0.1, 4280N×7771E, h10km, Mb5.0/38, Ms3.7/1, Error ellipse: s-maj=6.3km s-min=4.2km az=35.0*
*IDC **09** 16:00:39.2±0.4, 4290N×7787E, h0km, mb4.6/27, mb1 4.8/32, mb1mx4.7/37, mbtmp4.7/32, ML4.6/5, MS3.8/3, Ms1 3.8/3, ms1mx3.2/35, Error ellipse: s-maj=8.8km s-min=8.6km az=132.0*
*ISCJB **09** 16:00:40.8±0.1, 4286N±002×7783E±002, h19km, mb4.9/151, MS4.2/8, Error ellipse: s-maj=3.0km s-min=2.2km az=28.7*
*MOS **09** 16:00:40.5±1.3, 4307N×7780E, h12km, mb5.1/59, MS4.2/5, Error ellipse: s-maj=6.5km s-min=3.7km az=133.4*
MOS Felt (III-IV) at Almaty.
*NNC **09** 16:00:41.2±0.8, 4298N×7773E, h12km±4km, mb4.7, mpv4.8, Error ellipse: s-maj=8.6km s-min=4.9km az=178.0*
*KNET **09** 16:00:42.7±0.7, 4296N×7755E, h3km±5km, ml5.3, Error ellipse: s-maj=6.7km s-min=3.0km az=171.0*
*NEIC **09** 16:00:42.6±0.2, 4293N×7787E, mb5.0/86, Error ellipse: s-maj=4.9km s-min=3.6km az=172.0*
*BJI **09** 16:00:43.4, 4301N×7794E, h28km, mB5.1, mb4.7, ML4.9, Ms4.5, Msz4.3*
*SZGRF **09** 16:00:46.5, 4345N×7792E, h21km, mb4.8, Lake Issyk-Kul, Kyrgyzstan, region*

ISC 09 16:00:42.8±0.1**,4289N**±002×**7788E**±002**,h20km**±.6km**:pP-P,n456,**σ**1.s02**/481**,mb4.9**/151**,MS4.2**/8**, 93C-34D,Lake Issyk-Kul region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KNDC	**Almaty**	**0.75**	**296**	P	**Pb**	**16 00 54.0**	**-3.0**
	8µm,0.5s						
KNDC				⇓S	**Sb**	**16 01 03.0**	**-3.8**
	79µm,0.8s						
AAA	**Alma-Ata**	**0.78**	**300**	iPG	**Pb**	**16 00 54.0**	**-3.7**
AAA				eS	**Sb**	**16 01 03.9**	**-3.9**
AAA				pmax	pmax		
	comp=Z,42µm,0.4s						
AAA				smax			
	comp=E,70µm,0.8s						
ULHL	**Ulahol**	**1.37**	**243**	P	**Pn**	**16 01 05.4**	**-1.2**
	comp=E,5µm,0.4s,SNR=7042						
ULHL				⇓S	**Sn**	**16 01 23.3**	**-0.9**
	comp=E,28µm,0.2s						
TKM2	**Tokmak 2**	**1.68**	**272**	⇑P	**Pn**	**16 01 10.3**	**-0.6**
	comp=E,2µm,0.3s,SNR=2001						
TKM2				⇑S	**Sn**	**16 01 31.8**	**+0.1**
	comp=E,18µm,0.3s						
TKM2	**Tokmak 2**	**1.68**	**272**	⇓iP	**Pn**	**16 01 10.7**	**-0.2**
TKM2				eS	**Sn**	**16 01 31.5**	**-0.2**
KBK	**Karagaybulak**	**2.17**	**265**	⇑P	**Pn**	**16 01 19.2**	**+1.5**
	comp=E,5µm,0.3s,SNR=1685						
KBK				⇑S	**Sn**	**16 01 47.6**	**+3.7**
	comp=E,16µm,0.2s						
CHMS	**Chumysh**	**2.30**	**274**	P	**Pn**	**16 01 20.9**	**+1.4**
	comp=E,3µm,0.4s,SNR=1047						
CHMS				⇓S	**Sn**	**16 01 49.8**	**+2.7**
	comp=E,11µm,0.3s						
FRU	**Bishkek**	**2.40**	**270**	⇑iPN	**Pn**	**16 01 23.2**	**+2.4**
FRU				iS	**Sn**	**16 01 53.8**	**+4.2**
FRU				smax			
	comp=N,53µm,1.8s						
AAK	**Ala-Archa**	**2.50**	**265**	P	**Pn**	**16 01 24.1**	**+1.8**
	comp=N,3µm,0.3s,SNR=4564						
USP	**Ospenovka**	**2.50**	**280**	⇑P	**Pn**	**16 01 23.0**	**+0.7**
	comp=N,3µm,0.3s,SNR=552						
USP				⇑S	**Sn**	**16 01 55.0**	**+2.8**
	comp=N,43µm,0.6s						
UCH	**Uchtor**	**2.57**	**256**	P	**Pn**	**16 01 25.8**	**+2.6**
	comp=N,8µm,0.7s,SNR=7012						
UCH	**Uchtor**	**2.57**	**256**	⇑iP	**Pn**	**16 01 25.7**	**+2.5**
UCH				eSg	**Sn**	**16 02 00.2**	**+6.3**
EKS2	**Erkin-Say**	**3.03**	**267**	P	**Pn**	**16 01 31.2**	**+1.7**
	comp=N,2µm,0.5s,SNR=386						
EKS2	**Erkin-Say**	**3.03**	**267**	⇑eP	**Pn**	**16 01 31.1**	**+1.7**
EKS2				eS	**Sn**	**16 02 11.2**	**+6.1**
AML	**Almayashu**	**3.19**	**258**	P	**Pn**	**16 01 34.2**	**+2.6**
	comp=N,1µm,0.4s,SNR=496						
AML	**Almayashu**	**3.19**	**258**	⇑eP	**Pn**	**16 01 33.8**	**+2.1**
AML				eS	**Sn**	**16 02 17.7**	**+8.7**
KSH	**Kashi**	**3.66**	**204**	⇓iPG	**Pb**	**16 01 53.0**	**+6.2**
KSH				Smax			
	comp=N,7µm,0.5s						
KSH				Smax			
	comp=E,13µm,0.7s						
MK31	**Makanchi Array**	**5.01**	**37**	Pn	**Pn**	**16 01 59.0**	**+2.3**
	comp=E,20nm,0.3s,baz=217,slow=16,SNR=977						
MK31				⇑Lg		16 03 16.6	
	comp=E,589nm,0.7s,baz=220,slow=26,SNR=13						
MK31	**Makanchi Array**	**5.01**	**37**	ePN	**Pn**	**16 01 58.9**	**+2.2**
MK31				pmax	pmax		
	comp=Z,49nm,0.3s						
MK31				pmax	pmax		
	comp=N,193nm,0.3s						
MK31	**Makanchi Array**	**5.01**	**37**	ePn	**Pn**	**16 01 58.4**	**+1.7**
MKAR	**Makanchi Array**	**5.01**	**37**	Pn	**Pn**	**16 01 58.2**	**+1.6**
	comp=N,20nm,0.3s,baz=218,slow=16,SNR=341						
MKAR				Sn	**Sn**	**16 02 56.0**	**+2.0**
	comp=N,50nm,0.3s,baz=215,slow=15,SNR=4.1						
MKAR				Lg		16 03 14.7	
	comp=N,161nm,0.3s,baz=217,slow=26,SNR=18						
MKAR				LR	LR	16 03 48.7	
	comp=N,428nm,19.2s,baz=335,slow=38						
MKAR	**Makanchi Array**	**5.01**	**37**	PN	**Pn**	**16 01 58.2**	**+1.5**
MKAR						16 02 56.0	
MKAR	**Makanchi Array**	**5.01**	**37**	Pn	**Pn**	**16 01 58.2**	**+1.5**
MKAR				Sn	**Sn**	**16 02 56.0**	**+2.0**
MKAR				Lg		16 03 14.7	
MKAR				LR	LR	16 03 48.7	
KK31	**Karatay Array**	**5.41**	**275**	⇓Pn	**Pn**	**16 02 02.6**	**+0.4**
	comp=N,36nm,0.6s,baz=83,slow=7.5,SNR=366						
KK31				⇑Lg		16 03 29.0	
	comp=N,894nm,0.5s,baz=90,slow=27,SNR=19						
KK31	**Karatay Array**	**5.41**	**275**	PN	**Pn**	**16 02 03.0**	**+0.8**
KK31				pmax	pmax		
	comp=Z,189nm,0.4s						
KK31				pmax	pmax		
	comp=N,2µm,0.5s						
WMQ	**Urumqi**	**7.22**	**79**	P	**Pn**	**16 02 30.2**	**+3.2**
WMQ				S	**Sn**	**16 03 53.2**	**+4.9**
WMQ				SG	Sn	16 04 30.7	+42
WMQ				Smax			
	comp=N,617nm,1.2s						
WMQ				Smax			
	comp=E,676nm,1.2s						
WMQ				LR	LR		
	comp=N,617nm,20.0s						
WMQ				LR	LR		
	comp=E,878nm,18.5s						
WMQ				LR	LR		
	comp=Z,608nm,21.6s						
KURBB	**Kurchatov Arra**	**7.75**	**3**	⇓Pn	**Pn**	**16 02 33.7**	**-0.6**
	comp=Z,11nm,0.5s						
KURBB				⇑Lg		16 04 43.2	
	comp=Z,462nm,0.7s						
KURK	**Kurchatov**	**7.85**	**3**	⇓Pn	**Pn**	**16 02 34.4**	**-1.2**
	comp=Z,113nm,1.0s						
KURK				⇓Lg		16 04 47.2	
	comp=Z,2µm,1.0s						
KURK	**Kurchatov**	**7.85**	**3**	P	**Pn**	**16 02 35.9**	**+0.3**
	SNR=39						
KURK	**Kurchatov**	**7.85**	**3**	Pn	**Pn**	**16 02 33.0**	**-2.6**
	comp=Z,2.9nm,0.3s,baz=196,slow=12,SNR=71						
KURK				Sn	**Sn**	**16 03 52.2**	**-12**
	comp=Z,4.5nm,0.3s,baz=188,slow=22,SNR=3.6						
KURK				Lg		16 04 41.5	
	comp=Z,15nm,0.3s,baz=136,slow=7.9,SNR=6.3						
KURK				LR	LR	16 05 51.6	
	comp=Z,949nm,20.9s,baz=210,slow=40						
KURK	**Kurchatov**	**7.85**	**3**	ePn	**Pn**	**16 02 34.3**	**-1.3**
CHCP	**Chirah Chowk**	**9.90**	**203**	P	**Pn**	**16 03 05.7**	**+1.9**
CEP	**Cherat**	**10.19**	**209**	⇑P	**Pn**	**16 03 08.8**	**+1.0**
CEP				S	**Sn**	**16 05 20.0**	**+19**
THN	**Thein Dam**	**10.58**	**190**	eP	**Pn**	**16 03 12.9**	**-0.2**
THN				ex	x	16 05 30.0	
KBL	**Kabul**	**10.81**	**223**	eP	**Pn**	**16 03 17.1**	**+0.7**
KBL				pmax	pmax		
	comp=Z,33nm,0.6s						
KBL	**Kabul**	**10.81**	**223**	ePn	**Pn**	**16 03 17.1**	**+0.7**
	comp=Z,33nm,0.6s						
VOSK	**Vostochnaya**	**10.87**	**337**	⇑Pn	**Pn**	**16 03 14.2**	**-2.9**
	comp=Z,30nm,1.1s						
VOSK				⇑Lg		16 06 21.2	
	comp=Z,265nm,0.8s						
VOSK	**Vostochnaya**	**10.87**	**337**	P	**Pn**	**16 03 14.1**	**-3.0**
VOSK				pmax	pmax		
	comp=Z,32nm,0.5s						
VOSK				pmax	pmax		
	comp=N,265nm,0.9s						
PONG	**Pong**	**11.02**	**189**	ex	x	16 03 27.0	
THW	**Thamme Wali**	**11.18**	**208**	P	**Pn**	**16 03 22.0**	**+0.7**
BVA0	**Borovoye Array**	**11.31**	**336**	⇓Pn	**Pn**	**16 03 20.4**	**-2.7**
	comp=N,1.6nm,0.5s,baz=153,slow=15,SNR=172						
BVA0				⇑Sn	**Sn**	**16 05 27.4**	**-1.2**
	comp=N,7.2nm,0.6s,baz=146,slow=19,SNR=3.5						
BVA0	**Borovoye Array**	**11.31**	**336**	iP	**Pn**	**16 03 20.3**	**-2.7**
BVA0				pmax	pmax		
	comp=Z,6.0nm,0.4s						
BVA0				pmax	pmax		
	comp=N,146nm,1.1s						
BVAR	**Borovoye Array**	**11.31**	**336**	Pn	**Pn**	**16 03 20.1**	**-2.9**
	comp=N,9.1nm,0.3s,baz=148,slow=14,SNR=118						
BVAR				Sn	**Sn**	**16 05 22.7**	**-6.0**
	comp=N,5.2nm,0.3s,baz=135,slow=21,SNR=4.1						
BVAR				Lg		16 06 33.3	
	comp=N,12nm,0.3s,baz=150,slow=22,SNR=6.0						
BVAR	**Borovoye Array**	**11.31**	**336**	P	**Pn**	**16 03 20.1**	**-2.9**
BVAR						16 05 22.7	
BRVK	**Borovoye**	**11.37**	**336**	⇑P	**Pn**	**16 03 22.5**	**-1.3**
	SNR=36						
BRVK	**Borovoye**	**11.37**	**336**	eP	**Pn**	**16 03 21.2**	**-2.6**
BRVK				pmax	pmax		
	comp=Z,126nm,0.8s						
BRVK	**Borovoye**	**11.37**	**336**	ePn	**Pn**	**16 03 21.2**	**-2.6**
	comp=Z,126nm,0.8s						
SDNR	**Sundarnagar**	**11.39**	**184**	eP	**Pn**	**16 03 23.6**	**-0.6**
SDNR				ex	x	16 05 40.6	
BHK	**Bhakra**	**11.51**	**186**	ex	x	16 03 28.0	
SMLA	**Simla**	**11.75**	**183**	iP	**Pn**	**16 03 29.9**	**+0.7**
SMLA				ex	x	16 05 48.0	
	comp=E,191nm,0.3s						
SMLA				ix	x	16 05 53.3	
SMLA				ex	x	16 05 59.8	
	comp=N,195nm,0.5s						
ZAA0	**Zalesovo Array**	**11.98**	**20**	ePn	**Pn**	**16 03 30.4**	**-1.8**
ZALV	**Zalesovo Beam**	**11.98**	**20**	Pn	**Pn**	**16 03 30.9**	**-1.2**
	comp=N,4.2nm,0.3s,baz=212,slow=13,SNR=105						
ZALV				Sn	**Sn**	**16 05 43.5**	**-1.6**
	comp=N,3.9nm,0.3s,baz=205,slow=20,SNR=6.8						
ZALV				Lg		16 07 00.8	
	comp=N,4.7nm,0.3s,baz=197,slow=25,SNR=6.7						
ZALV				LR	LR	16 08 26.1	
	comp=N,773nm,18.6s,baz=307,slow=39						
ZALV	**Zalesovo Beam**	**11.98**	**20**	P	**Pn**	**16 03 31.0**	**-1.2**
ZALV						16 05 43.5	
JOSI	**Joshimath**	**12.38**	**173**	eP	**Pn**	**16 03 37.9**	**+0.1**
JOSI				eS	**Sn**	**16 05 47.8**	**-7.3**
NVS	**Novosibirsk**	**12.46**	**14**	iP	**Pn**	**16 03 36.8**	**-2.0**
NVS				eS	**Sn**	**16 05 51.9**	**-5.0**
AB31	**Akbulak array**	**13.97**	**303**	Pn	**Pn**	**16 03 55.6**	**-3.7**
	comp=N,13nm,0.6s,baz=108,slow=14,SNR=116						
AB31				⇑Sn	**Sn**	**16 06 34.7**	**+1.0**
	comp=N,33nm,0.8s						
AB31	**Akbulak array**	**13.97**	**303**	eP	**Pn**	**16 03 55.6**	**-3.8**
AB31				pmax	pmax		
	comp=Z,18nm,0.7s						
NDI	**New Delhi**	**14.19**	**182**	eP	**Pn**	**16 04 02.0**	**-0.4**
NDI				ex	x	16 06 31.0	
SONA	**Sohna**	**14.62**	**183**	eP	**Pn**	**16 04 07.7**	**-0.7**
SONA				ex	x	16 06 47.5	
KUDL	**Kundal**	**14.76**	**185**	eP	**Pn**	**16 04 07.8**	**-2.4**
KUDL				eS	**Sn**	**16 06 54.8**	**+1.7**
KHET	**Khetri**	**14.88**	**187**	eP	**Pn**	**16 04 09.3**	**-2.5**
KHET				ex	x	16 06 37.0	
DANN	**Dangsing**	**15.27**	**160**	eP	**Pn**	**16 04 14.8**	**-2.2**
AKTK	**Aktyubinsk**	**15.56**	**306**	Pn	**Pn**	**16 04 16.9**	**-3.8**
AKTK				Sn	**Sn**	**16 07 17.1**	**+4.8**
AKTK				Lg		16 08 55.7	
AKTO	**Aktyubinsk**	**15.56**	**306**	⇑Pn	**Pn**	**16 04 14.9**	**-5.8**
	comp=Z,5.1nm,0.7s						
AKTO				⇑Sn	**Sn**	**16 07 09.8**	**-2.5**
	comp=Z,6.6nm,0.7s						
AKTO	**Aktyubinsk**	**15.56**	**306**	Pn	**Pn**	**16 04 16.9**	**-3.8**
	comp=Z,1.1nm,0.3s,baz=102,slow=13,SNR=11						
AKTO				Sn	**Sn**	**16 07 17.1**	**+4.8**
	baz=114,slow=14,SNR=2.8						
AKTO				Lg		16 08 55.7	
	comp=Z,0.4nm,0.3s,baz=352,slow=15,SNR=5.8						
AKTO	**Aktyubinsk**	**15.56**	**306**	P	**Pn**	**16 04 16.9**	**-3.8**
AKTO						16 07 17.1	
KOLN	**Koldanda**	**15.78**	**161**	eP	**Pn**	**16 04 20.3**	**-3.4**
	comp=Z,39nm,0.6s						
GKN	**Gorkha**	**15.83**	**158**	eP	**Pn**	**16 04 22.6**	**-1.8**
	comp=Z,50nm,0.5s						
ABKT	**Ailbek**	**15.84**	**258**	Pn	**Pn**	**16 04 23.3**	**-1.1**
	comp=Z,236nm,0.8s,SNR=5.3						
KKN	**Kakani**	**16.22**	**156**	eP	**Pn**	**16 04 27.5**	**-1.8**
	comp=Z,56nm,0.8s						
GUN	**Gumba**	**16.29**	**154**	eP	**Pn**	**16 04 31.0**	**+0.7**
	comp=Z,128nm,0.7s						
KRAR	**Krasnoyarsk**	**16.31**	**31**	eP	**Pn**	**16 04 30.5**	**+0.2**
KRAR				pmax	pmax		
	comp=Z,32nm,1.3s						
DMN	**Daman**	**16.34**	**157**	eP	**Pn**	**16 04 29.6**	**-1.3**
PKIN	**Phulchoki**	**16.45**	**156**	eP	**Pn**	**16 04 30.7**	**-1.6**
	comp=Z,48nm,0.7s						
PKI	**Pulchoki**	**16.46**	**156**	eP	**Pn**	**16 04 30.8**	**-1.7**
	comp=Z,45nm,0.6s						
AJM	**Ajmer**	**16.58**	**190**	ix	x	16 04 30.0	
JIRN	**Jiri**	**16.62**	**153**	eP	**Pn**	**16 04 34.4**	**-0.1**
GTA	**Gaotai**	**16.88**	**94**	eP	**Pn**	**16 04 38.1**	**+0.5**
GTA				AP	pP	16 04 43.9	-1.4
GTA				XP	sP	16 04 46.5	-1.4
GTA				S	**Sn**	**16 07 46.6**	**+2.1**
GTA				XS	sS	16 07 55.3	-8.4
GTA				SS		16 08 07.3	
GTA				AMB	AMB		
	comp=Z,4.0nm,0.9s						
GTA				AMB	AMB		
	comp=Z,287nm,5.4s						
GTA				LR	LR		
	comp=N,532nm,14.1s						
GTA				LR	LR		
	comp=E,694nm,14.1s						
GTA				LR	LR		
	comp=Z,704nm,10.8s						
LSA	**Lhasa**	**16.93**	**137**	eP	**Pn**	**16 04 42.9**	**+4.5**
LSA				pmax	pmax		
	comp=Z,205nm,1.5s						
LSA	**Lhasa**	**16.93**	**137**	eP	**Pn**	**16 04 42.9**	**+4.5**
	comp=Z,205nm,1.5s						
RAMN	**Ramite**	**17.42**	**153**	eP	**Pn**	**16 04 42.7**	**-1.8**
	comp=Z,126nm,0.8s						
TAPN	**Taplejung**	**17.44**	**150**	eP	**Pn**	**16 04 45.1**	**+0.3**
	comp=Z,117nm,1.0s						
SVE	**Sverdlovsk**	**17.76**	**328**	eP	**Pn**	**16 04 45.7**	**-2.8**
SVE				pmax	pmax		
	comp=Z,60nm,1.0s						
SVE				MLR	MLR		
	comp=Z,3µm,9.0s						
ODAN	**Odare**	**17.77**	**151**	eP	**Pn**	**16 04 46.7**	**-2.1**
ARU	**Arti**	**18.35**	**324**c	iP	**Pn**	**16 04 53.7**	**-2.0**
ARU				eS	**Sn**	**16 08 09.0**	**-11**
ARU				pmax	pmax		
	comp=Z,54nm,1.0s						
ARU				MLR	MLR		
	comp=Z,1µm,16.0s						
ARU	**Arti**	**18.35**	**324**	eP	**Pn**	**16 04 52.1**	**-3.6**

comp=Z,36nm,0.8s
ZAK Zakamensk 18.92 58 *e*P **Pn** **16 05 05.8 +3.1**
ZAK pmax pmax
comp=Z,10.0nm,1.2s
TLY Talaya 19.48 54 *e*P **Pn** **16 05 17.1 +7.7**
TLY pmax pmax
comp=Z,14nm,1.3s
TLY MLR MLR
comp=Z,629nm,16.0s
JBP Jabalpur 19.75 174 *e*P **Pn** **16 05 11.6 -1.2**
JBP *ex* x 16 08 38.6
SONM Songino Array 20.58 66 P **P** **16 05 21.4 +1.3**
comp=Z,7.3nm,0.6s,baz=267,slow=11,SNR=25
SHL Shillong 20.75 142 *e*P **P** **16 05 23.0 +0.9**
SHL *ex* x 16 09 41.0
ULN Ulaanbaatar 21.02 66 ⇓P **P** **16 05 29.0 +4.1**
SNR=11
ULN Ulaanbaatar 21.02 66 *d i*P **P** **16 05 28.7 +3.8**
ULN Ulaanbaatar 21.02 66 *e*P **P** **16 05 26.4 +1.5**
comp=Z,26nm,1.0s,mb4.5
LZH Lanzhou 21.11 100 *e*P **P** **16 05 28.0 +2.0**
LZH AP 16 05 35.0
LZH XP sP 16 05 38.2 +3.8
LZH PP 16 05 51.5
LZH *e*S **S** **16 09 17.8 -2.1**
LZH XS sS 16 09 27.0 -2.1
LZH SS 16 09 51.7
LZH AMB AMB
comp=Z,30nm,1.0s,mb4.6
LZH AMB AMB
comp=Z,160nm,4.0s
LZH LR LR
comp=E,852nm,15.5s
LZH LR LR
comp=Z,1μm,17.3s,MS4.4
LZH Lanzhou 21.11 100 *e*P **P** **16 05 28.0 +2.0**
LZH *PP 16 05 35.0
LZH 16 05 51.5
LZH *e*S **S** **16 09 17.8 -2.1**
LZH *SS sS 16 09 27.0 -2.1
LZH SS 16 09 51.7
LZH pmax pmax
comp=Z,30nm,1.0s,mb4.6
LZH MLR MLR
comp=Z,1μm,17.3s,MS4.4
LZH Lanzhou 21.11 100 *e*P **P** **16 05 28.0 +2.0**
comp=Z,30nm,1.0s,mb4.6
LZH pP 16 05 35.0
LZH sP sP 16 05 38.2 +3.8
LZH PP 16 05 51.5
LZH *e*S **S** **16 09 17.8 -2.1**
LZH sS sS 16 09 27.0 -2.1
LZH SS 16 09 51.7
LZH LR LR
comp=Z,1μm,17.3s,MS4.4
IMP Imphal 22.38 139 *ex* x 16 05 48.0
CD2 Chengdu 23.80 112 P **P** **16 05 55.6 +1.4**
CD2 AP 16 06 02.8
CD2 XP sP 16 06 05.9 +3.1
CD2 PP 16 06 30.2
CD2 S **S** **16 10 08.3 -0.3**
CD2 XS sS 16 10 19.8 +1.1
CD2 SS 16 10 59.6
CD2 AMB AMB
comp=Z,20nm,0.5s,mb4.8
CD2 LR LR
comp=N,500nm,13.2s
CD2 LR LR
comp=Z,560nm,13.2s,MS4.2
BTO Baotou 24.02 84 *e*P **P** **16 05 56.2 +0.2**
DGRG David-gareji 24.06 278 P **P** **16 05 57.0 +0.6**
MTA Mtatsminda 24.42 279 P **P** **16 05 59.2 -0.5**
TBLG Delisi 24.45 279 P **P** **16 06 00.7 +0.7**
POO Poona 24.52 189 *e*P **P** **16 05 59.5 -1.3**
POO *i* x x 16 13 17.0
GNI Garni 24.87 275 ⇑P **P** **16 06 04.0 +0.1**
SNR=12
GNI Garni 24.87 275 P **P** **16 06 05.1 +1.2**
comp=Z,31nm,0.9s,mb4.8,baz=15,slow=3.9,SNR=18
GNI Garni 24.87 275 ⇑*e*P **P** **16 06 05.0 +1.1**
GNI pmax pmax
comp=Z,54nm,1.0s
GNI Garni 24.87 275 *e*P **P** **16 06 05.2 +1.3**
comp=Z,56nm,1.0s,mb5.0
HHC Hu-ho-hao-te 25.07 83 *e*P **P** **16 06 06.7 +1.0**
HHC AP pP 16 06 14.1 +2.3
HHC XP sP 16 06 17.6 +3.2
HHC PP 16 06 45.5
HHC PCP PcP 16 09 40.8 +1.0
HHC S **S** **16 10 28.4 -0.6**
HHC XS sS 16 10 39.9 +0.8
HHC SS 16 11 29.7
HHC SCP ScP 16 13 16.9 -0.7
HHC AMB AMB
comp=Z,13nm,1.1s,mb4.4
HHC AMB AMB
comp=Z,315nm,5.4s
HHC LR LR
comp=N,607nm,12.0s,MS4.4
HHC LR LR
comp=E,503nm,12.9s,MS4.4
HHC LR LR
comp=Z,674nm,13.7s,MS4.3
ONI Oni 25.19 281 P **P** **16 06 07.6 +0.9**
HYB Hyderabad 25.39 178 *i*P **P** **16 06 08.5 -0.2**
HYB Hyderabad 25.39 178 *e*P **P** **16 06 08.5 -0.2**
KIV Kislovodsk 25.47 285 ⇓P **P** **16 06 08.9 -0.4**
SNR=7.5
KIV Kislovodsk 25.47 285 *e*P **P** **16 06 10.6 +1.3**
KIV *e*S **S** **16 10 30.1 -5.1**
KIV pmax pmax
comp=Z,19nm,1.0s,mb4.6
KAD Karad 25.69 188 *e*P **P** **16 06 10.6 -0.8**
XAN Xi'an 25.75 100 P **P** **16 06 13.8 +1.9**
XAN AP pP 16 06 20.0 +2.0
XAN XP sP 16 06 22.7 +2.2
XAN S **S** **16 10 43.4 +3.7**
XAN XS sS 16 10 53.8 +3.9
XAN SCP ScP 16 13 21.0 +1.4
XAN AMB AMB
comp=Z,5.0nm,1.3s,mb3.9
XAN AMB AMB
comp=Z,261nm,15.0s
XAN LR LR
comp=N,233nm,12.8s,MS4.2
XAN LR LR
comp=E,385nm,14.8s,MS4.2
XAN LR LR
comp=Z,531nm,13.6s,MS4.2
BSY Bisya 26.43 227 P **P** **16 06 19.7 +1.6**
SNR=7.5
KMI Kunming 27.02 123 P **P** **16 06 28.7 +5.2**
KMI AP pP 16 06 35.4 +5.8
KMI XP sP 16 06 38.7 +6.5
KMI PP 16 07 13.3
KMI S **S** **16 11 03.8 +3.8**
KMI XS sS 16 11 16.1 +5.9
KMI SS 16 12 18.7
KMI AMB AMB
comp=Z,9.0nm,1.4s,mb4.1
KMI AMB AMB
comp=Z,62nm,5.7s
KMI LR LR
comp=N,367nm,19.3s,MS4.2
KMI LR LR
comp=E,510nm,16.3s,MS4.2
KMI LR LR
comp=Z,450nm,17.6s,MS4.1
KMI Kunming 27.02 123 P **P** **16 06 28.7 +5.2**
KMI *PP pP 16 06 35.4 +5.8
KMI 16 07 13.3
KMI S **S** **16 11 03.8 +3.8**
KMI SS 16 12 18.7
KMI SSS 16 12 37.0
KMI pmax pmax
comp=Z,9.0nm,1.4s,mb4.1
KMI MLR MLR
comp=Z,450nm,17.6s,MS4.1
KMI Kunming 27.02 123 P **P** **16 06 28.7 +5.2**
comp=Z,9.0nm,1.4s,mb4.1
KMI pP pP 16 06 35.4 +5.8
KMI sP sP 16 06 38.7 +6.5
KMI PP 16 07 13.3
KMI S **S** **16 11 03.8 +3.8**
KMI SS 16 11 16.1 +5.9
KMI SS 16 12 18.7
KMI SSS 16 12 37.0
KMI LR LR
comp=Z,450nm,17.6s,MS4.1
BOD Bodaibo 27.06 44 *e*P **P** **16 06 24.4 +0.9**
BOD pmax pmax
comp=Z,17nm,1.0s,mb4.5
VSR Storozhevoye 27.39 301 *e*P **P** **16 06 26.2 -0.3**
VSR pmax pmax
comp=Z,6.0nm,0.8s,mb4.2
VSR pmax pmax
comp=N,3.0nm,0.7s
VSR pmax pmax
comp=E,8.0nm,0.6s
MSL Mosul 27.41 268 *ex* x 16 07 21.0
UMR Umm Al-Rimmam 27.57 251 *e*P **P** **16 06 27.7 -0.6**
baz=251
UMR AMb AMB 16 06 29.5
comp=Z,58nm,1.4s,mb5.0,baz=251
MIB Mutribah 27.68 252 *e*P **P** **16 06 29.1 -0.2**
baz=251
MIB AMb AMB 16 06 31.1
comp=Z,39nm,1.1s,mb5.0,baz=251
BHD Baghdad 27.91 261 *ex* x 16 06 34.0
RDF Al-Radifah 28.07 250 *e*P **P** **16 06 32.8 0.0**
baz=250
RDF AMb AMB 16 06 33.9
comp=Z,58nm,1.3s,mb5.0,baz=250
NAY Al-Naaiem 28.08 251 *e*P **P** **16 06 32.8 -0.2**
baz=251
NAY AMb AMB 16 06 33.9
comp=Z,46nm,1.2s,mb5.0,baz=251
RST Umm Al-Ruwaisa 28.10 252 *e*P **P** **16 06 32.6 -0.5**
baz=251
RST AMb AMB 16 06 33.2
comp=Z,62nm,0.7s,mb5.3,baz=251
GYA Guiyang 28.60 116 ⇓*i*P **P** **16 06 39.5 +1.9**
GYA AP pP 16 06 46.5 +2.7
GYA XP sP 16 06 49.3 +3.0
GYA PP PP 16 07 31.5 -11
GYA PCP PcP 16 09 50.2 +1.8
GYA S **S** **16 11 24.6 -0.3**
GYA XS sS 16 11 36.5 +1.4
GYA AMB AMB
comp=Z,10.0nm,0.8s,mb4.6
GYA AMB AMB
comp=Z,140nm,5.1s
GYA LR LR
comp=N,390nm,12.8s,MS4.4
GYA LR LR
comp=E,480nm,13.4s,MS4.4
GYA LR LR
comp=Z,510nm,13.1s,MS4.3
MOS Moscow 28.78 311 *e*P **P** **16 06 42.8 +3.9**
KLMR Klimovskoe 29.14 321 *e*P **P** **16 06 46.9 +4.9**
KLMR pmax pmax
comp=Z,35nm,1.3s,mb4.9
OBN Obninsk 29.29 309 ⇑*e*P **P** **16 06 42.1 -1.2**
OBN pmax pmax
comp=Z,10.0nm,1.2s,mb4.4
OBN MLR MLR
comp=Z,800nm,19.0s,MS4.4
CMAR Chiang Mai Arr 30.19 137 P **P** **16 06 51.8 +0.1**
comp=Z,1.8nm,0.7s,mb3.9,baz=316,slow=9.2,SNR=22
CMAR PcP PcP 16 09 51.9 -0.6
comp=Z,2.5nm,0.8s,baz=318,slow=5.3,SNR=5.6
WHN Wuhan 31.48 101 *e*P **P** **16 07 04.5 +1.5**
WHFO Wadi Hawf 32.21 227 ⇑P **P** **16 07 10.8 +1.3**
SNR=8.0
BR131 Keskin Array S 33.10 280 *e*P **P** **16 07 16.9 -0.2**
comp=Z,7.4nm,0.8s,mb4.7
JOF Joensuu 33.47 323 *ep* **P** **16 07 20.2 +0.1**
comp=Z,4.7nm,0.6s,mb4.6
JOF Joensuu 33.47 323 *e*P **P** **16 07 20.2 +0.1**
JOF pmax pmax
comp=Z,5.0nm,0.6s,mb4.6
AKASG Malin Array Be 33.69 301 P **P** **16 07 21.9 -0.2**
comp=Z,7.5nm,0.7s,mb4.7,baz=72,slow=8.5,SNR=14
AKASG PcP PcP 16 10 00.9 -0.6
comp=Z,1.2nm,0.5s,baz=70,slow=3.1,SNR=4.5
KIEV Kiev 33.70 301 *e*P **P** **16 07 21.1 -1.1**
KIEV pmax pmax
comp=Z,17nm,0.9s,mb5.0
KIEV Kiev 33.70 301 *e*P **P** **16 07 21.1 -1.1**
comp=Z,17nm,0.9s,mb5.0
ASF Jabal al Asfar 33.91 265 P **P** **16 07 24.1 -0.2**
comp=Z,9.5nm,1.0s,mb4.7,baz=313,slow=2.7,SNR=15
NJ2 Nanjing 33.97 95 *e*P **P** **16 07 26.2 +1.4**
NJ2 AMB AMB
comp=Z,30nm,0.5s,mb5.5
CN2 Changchun 34.23 72 *e*P **P** **16 07 29.6 +2.7**
MMAI Mount Meron Ar 34.60 268 P **P** **16 07 30.4 +0.3**
comp=Z,8.7nm,0.9s,mb4.7,baz=55,slow=18,SNR=8.3
MMAI PcP PcP 16 10 04.7 +0.2
comp=Z,6.4nm,0.8s,baz=70,slow=4.8,SNR=7.0
FINES FINESS Array B 35.60 320 *e*P **P** **16 07 41.0 +2.5**
YAK Yakutsk 35.68 39 *e*P **P** **16 07 39.8 +0.6**
YAK *eS* **S** **16 13 14.9 +0.5**
YAK *e* 16 17 52.4
YAK pmax pmax
comp=Z,21nm,0.8s,mb5.1
YAK pmax pmax
comp=E,15nm,1.8s
YAK pmax pmax
comp=N,2.0nm,1.2s
YAK smax
comp=N,256μm,4.7s
YAK smax
comp=E,72μm,2.3s
YAK Yakutsk 35.68 39 *e*P **P** **16 07 39.8 +0.7**
comp=E,18nm,0.6s,mb5.2
PLOR Plostina 36.23 293 ⇓*i*P **P** **16 07 45.4 +1.3**
EIL Elat 36.65 263 P **P** **16 07 48.4 +0.6**
comp=E,18nm,1.0s,mb4.8,baz=27,slow=4.6,SNR=13
EIL PcP PcP 16 10 09.8 -0.7
comp=E,7.1nm,0.7s,baz=360,slow=3.7,SNR=6.0
EIL Elat 36.65 263 P **P** **16 07 48.4 +0.6**
EIL PcP PcP 16 10 09.8 -0.7
BURAR Bucovina Array 36.78 296 ⇓*i*P **P** **16 07 49.3 +0.5**
BURAR Bucovina Array 36.78 296 ⇑P **P** **16 07 49.3 +0.5**
BUR08 Bucovina Ar. S 36.79 296 *e*P **P** **16 07 48.5 -0.3**
MLR Muntele Rosu 36.80 292 P **P** **16 07 50.0 +1.1**
comp=E,11nm,0.7s,mb4.8,baz=101,slow=5.2
MLR Muntele Rosu 36.80 292 ⇓*i*P **P** **16 07 49.4 +0.5**
MLR Muntele Rosu 36.80 292 ⇓P **P** **16 07 49.4 +0.5**
MDJ Mudanjiang 36.88 69 P **P** **16 07 50.5 +0.8**
MDJ AP pP 16 07 55.9 0.0
MDJ XP sP 16 07 59.1 +0.7
MDJ PP PP 16 09 14.8 +1.1
MDJ SCS ScS 16 18 02.5 -1.0
MDJ AMB AMB
comp=Z,6.0nm,0.8s,mb4.5
MDJ AMB AMB
comp=Z,240nm,4.3s
MDJ LR LR
comp=N,106nm,15.0s,MS4.0
MDJ LR LR
comp=E,152nm,17.8s,MS4.0
MDJ LR LR
comp=Z,246nm,20.8s,MS4.0
SUW Suwalki 37.05 307 *e*P **P** **16 07 50.9 -0.1**
SUW Suwalki 37.05 307 *e*P **P** **16 07 50.6 -0.4**
SUW pmax pmax
comp=Z,58nm,1.0s,mb5.4
SUW Suwalki 37.05 307 *e*P **P** **16 07 50.5 -0.4**
comp=Z,58nm,1.0s,mb5.4
LVV L'vov 37.11 300 *e*P **P** **16 07 51.6 +0.1**
KLR Kul'dur 37.24 61 *e*P **P** **16 07 48.6 -4.0**
VOIR 37.42 293 ⇓*i*P **P** **16 07 54.8 +0.6**
VOIR 37.42 293 ⇓P **P** **16 07 54.8 +0.5**
ARCES ARCESS Array B 37.57 333 P **P** **16 07 54.8 -0.4**
comp=Z,5.8nm,0.6s,mb4.5,baz=102,slow=9.1,SNR=28
TIXI Tiksi 37.84 24 *e*P **P** **16 07 57.6 +0.1**
TIXI pmax pmax
comp=Z,39nm,1.1s,mb5.0
TIXI Tiksi 37.84 24 *e*P **P** **16 07 57.7 +0.3**
comp=Z,32nm,0.9s,mb5.0
KWP Kalwaria 37.99 300 *e*P **P** **16 07 60.0 +1.0**
KWP Kalwaria 37.99 300 ⇓*i*P **P** **16 07 59.9 +0.9**
KWP Kalwaria 37.99 300 ⇓P **P** **16 07 59.9 +0.9**
KSRS Korea Array 38.16 81 P **P** **16 08 01.6 +1.0**
comp=Z,4.1nm,0.7s,mb4.3,baz=284,slow=8.4,SNR=12
KSRS Korea Array 38.16 81 P **P** **16 08 01.7 +1.1**
KSRS pmax pmax
comp=Z,4.0nm,0.7s,mb4.3
KMI sS sS 16 11 16.1 +5.9
KMI SS 16 12 18.7
KMI SSS 16 12 37.0
KMI LR LR
comp=Z,450nm,17.6s,MS4.1
KOLS Kolonicke sedl 38.41 299 *e*P **P** **16 08 02.0 -0.6**
KOLS *ep*P pP 16 08 12.5 +3.7
KOLS *e*PP PP 16 09 31.2 +0.8
CRVS Cervenica-Dubn 38.94 299 *e*P **P** **16 08 03.8 -3.2**
CRVS *ep*P pP 16 08 16.6 +3.3
CRVS *e*PP PP 16 09 35.7 -0.5
STHS Stebnicka Huta 38.97 300 *e*P **P** **16 08 06.8 -0.4**
STHS *e* pP 16 08 12.9 -0.6
STHS pmax pmax
comp=Z,6.0nm,0.7s,mb4.4
STHS Stebnicka Huta 38.97 300 *e*P **P** **16 08 06.8 -0.4**
comp=Z,5.8nm,0.7s,mb4.4
STHS *e* pP 16 08 12.9 -0.6
GZR Gura Zlata 38.97 293 ⇑*i*P **P** **16 08 08.5 +1.2**
GZR Gura Zlata 38.97 293 ⇑P **P** **16 08 08.5 +1.2**
VTS Vitosha 39.55 289 ⇓*i*P **P** **16 08 13.3 +1.2**
VTS Vitosha 39.55 289 ⇓P **P** **16 08 13.3 +1.1**
NIE Niedzica 39.56 300 *e*P **P** **16 08 11.8 -0.3**
BZS Buzias 39.69 294 ⇓*i*P **P** **16 08 14.0 +0.7**
BZS Buzias 39.69 294 ⇓P **P** **16 08 14.0 +0.7**
OJC Ojcow 39.71 301 *e*P **P** **16 08 13.5 +0.1**
APE Apeiranthos 40.00 280 ⇓*i*P **P** **16 08 16.1 +0.2**
APE Apeiranthos 40.00 280 ⇓P **P** **16 08 16.1 +0.1**
PSZ Piszkesteto 40.20 298 ⇓*e*P **P** **16 08 18.6 +1.2**
PSZ Piszkesteto 40.20 298 ⇑*i*P **P** **16 08 18.3 +0.9**
PSZ Piszkesteto 40.20 298 *e*P **P** **16 08 18.0 +0.6**
comp=Z,16nm,1.3s,mb4.6
VYHS Vyhne 40.73 299 *e*P **P** **16 08 22.1 +0.3**
KOLL Kolacno 40.98 299 *e*P **P** **16 08 25.2 +1.2**
KOLL *ep*P pP 16 08 31.2 +0.9
MORC Moravsky Berou 41.23 301 ⇓*i*P **P** **16 08 26.7 +0.8**
MORC Moravsky Berou 41.23 301 *e*P **P** **16 08 25.4 -0.6**
comp=Z,11nm,0.9s,mb4.5
IDI Anoyia 41.24 278 P **P** **16 08 25.3 -1.0**
comp=Z,14nm,1.0s,mb4.6,baz=54,slow=8.1,SNR=5.6
PKSM Moragy 41.50 296 ⇓*i*P **P** **16 08 28.3 +0.1**
MODS Modra-Piesok 41.76 299 *e*P **P** **16 08 30.9 +0.6**
MODS *ep*P pP 16 08 36.2 -0.4
DPC Dobruska-Polom 41.85 302 *e*P **P** **16 08 31.8 +0.8**
DPC *e**PP pP 16 08 37.6 +0.3
DPC Dobruska-Polom 41.85 302 *e*P **P** **16 08 31.8 +0.8**
DPC *ep*P pP 16 08 37.6 +0.3
DPC *e*PP PP 16 10 18.8 +11
ZST Bratislava 41.92 299 *e*P **P** **16 08 33.7 +2.0**
UPC Upice 42.00 303 *e*P **P** **16 08 33.2 +1.0**
UPC *ep*P pP 16 08 38.6 0.0
UPC *e*PP PP 16 10 19.7 +10
TREC Trest 42.65 301 *e*P **P** **16 08 38.5 +1.0**
TREC *ep*P pP 16 08 44.0 +0.2
TREC *e*PP PP 16 10 26.1 +10
NB2 NORSAR Subarra 42.77 319 P **P** **16 08 38.1 -0.3**
comp=Z,5.0nm,0.5s,mb4.5,baz=84,slow=8.6
NOA NORSAR Array B 42.77 319 P **P** **16 08 37.7 -0.7**
comp=Z,8nm,0.5s,mb4.3,baz=84,slow=8.1,SNR=23
NOA NORSAR Array B 42.77 319 P **P** **16 08 37.7 -0.7**
CONA Conrad Observa 42.80 299 ⇑*i*P **P** **16 08 39.6 +0.8**
comp=Z,17nm,1.0s,mb4.7,SNR=7.9
PVCC Panska Ves 42.88 303 *e*P **P** **16 08 40.4 +1.0**
PVCC *ep*P pP 16 08 45.7 -0.1
PVCC *e*PP PP 16 10 29.7 +11
NAO01 NORSAR Array S 42.95 319 *e*P **P** **16 08 39.2 -0.6**
comp=Z,5.0nm,0.5s,mb4.5
PRU Pruhonice 43.05 302 *e*P **P** **16 08 41.6 +0.8**
PRU *ep*P pP 16 08 47.1 0.0
PRU *e*PP PP 16 10 36.3 +16
BRG Berggiesshubel 43.18 304 *e*P **P** **16 08 41.8 0.0**
BRG *e* pP 16 08 47.9 -0.2
BRG *e* 16 10 37.4
BRG pmax pmax
comp=Z,4.0nm,0.9s,mb4.2
BRG pmax pmax
comp=Z,12nm,1.9s,mb4.3
BRG pmax pmax
comp=Z,2.0nm,0.8s,mb3.9
BRG Berggiesshubel 43.18 304 *e*P **P** **16 08 42.1 +0.3**
comp=Z,48nm,2.0s,mb4.9
BRG *ep*P pP 16 08 48.0 -0.1
BRG Berggiesshubel 43.18 304 *e*P **P** **16 08 41.8 0.0**
comp=Z,7.2nm,0.9s,mb4.4
BRG *e* pP 16 08 47.9 -0.2
comp=Z,20nm,1.9s
BRG *e* 16 10 37.4
comp=Z,3.7nm,0.8s
ARSA Arzberg 43.22 298 ⇓*e*P **P** **16 08 42.6 +0.4**
comp=Z,9.8nm,0.4s,mb4.9,SNR=7.8
CLL Collm 43.64 305 ⇑*i*P **P** **16 08 45.4 -0.1**
CLL *i* *PP pP 16 08 51.2 -0.6
CLL pmax pmax
comp=Z,22nm,1.1s,mb4.8
CLL Collm 43.64 305 *e*P **P** **16 08 45.4 -0.1**
comp=Z,15nm,1.0s,mb4.7
CLL *ep*P pP 16 08 51.4 -0.4
CLL Collm 43.64 305 ⇑*i*P **P** **16 08 45.4 -0.1**
comp=Z,22nm,1.1s,mb4.8
CLL *i* pP pP 16 08 51.2 -0.6
CLL *i* sP sP 16 08 53.5 -0.8
CLL Collm 43.64 305 ⇑*i*P **P** **16 08 45.4 -0.1**
comp=Z,22nm,1.1s,mb4.8
CLL *i* pP pP 16 08 51.2 -0.6
SOKA Soboth 43.72 298 ⇓*i*P **P** **16 08 46.4 +0.2**
comp=Z,14nm,1.0s,mb4.6
KHC Kasperske Hory 43.89 301 *e*P **P** **16 08 48.2 +0.6**
KHC *e**PP pP 16 08 53.8 -0.1
KHC Kasperske Hory 43.89 301 *e*P **P** **16 08 48.2 +0.6**
KHC *ep*P pP 16 08 53.8 -0.1
KHC *e*PP PP 16 10 42.9 +13
GEC2 GERESS Array S 43.90 301 *e*P **P** **16 08 48.3 +0.6**
GEC2 pmax pmax
comp=Z,6.0nm,0.9s,mb4.3
GEC2 GERESS Array S 43.90 301 *e*P **P** **16 08 48.3 +0.6**
comp=Z,6.0nm,0.9s,mb4.3
GERES GERESS Array B 43.90 301 P **P** **16 08 47.6 0.0**
comp=Z,3.4nm,0.7s,mb4.2,baz=68,slow=7.4,SNR=26
GERES PcP PcP 16 10 31.9 -1.6
comp=Z,1.3nm,0.7s,baz=57,slow=4.9,SNR=5.4
BOJS Bojanci 43.97 296 *e*P **P** **16 08 48.4 +0.2**
VNDS Vrh nad Dolski 44.13 297 *e*P **P** **16 08 49.6 +0.1**
VISS Visnje 44.14 296 *e*P **P** **16 08 49.8 +0.2**
TANN Tannenbergstha 44.21 303 *e*P **P** **16 08 50.5 +0.4**
comp=Z,11nm,1.0s,mb4.5
TANN *ep*P pP 16 08 56.0 -0.5
MOZS Mozjanca 44.23 297 *e*P **P** **16 08 50.2 -0.2**
NKC Novy Kostel 44.27 303 *e*P **P** **16 08 51.8 +1.2**
NKC *ep*P pP 16 08 57.4 +0.4
WET Wettzell 44.33 302 *e*P **P** **16 08 51.6 +0.5**
WET *e**PP pP 16 08 57.3 -0.1
WET pmax pmax
comp=Z,13nm,1.1s,mb4.6
WET Wettzell 44.33 302 *e*P **P** **16 08 51.6 +0.5**
comp=Z,13nm,1.1s,mb4.6
WET *ep*P pP 16 08 57.3 -0.1
BSEG Bad Segeberg 44.54 309 *e*P **P** **16 08 53.1 +0.4**
BSEG pmax pmax
comp=Z,20nm,1.2s,mb4.8
BSEG Bad Segeberg 44.54 309 *e*P **P** **16 08 53.1 +0.4**
comp=Z,20nm,1.2s,mb4.8
MANZ Manzenberg 44.55 303 *e*P **P** **16 08 53.4 +0.5**
comp=Z,8.0nm,1.2s,mb4.4
MANZ *ep*P pP 16 08 58.7 -0.5
ROTZ Rotzenmuhle 44.56 303 *e*P **P** **16 08 53.6 +0.7**
comp=Z,10.0nm,1.2s,mb4.5
ROTZ *ep*P pP 16 08 59.3 0.0
MOX Moxa 44.66 304 *e*P **P** **16 08 54.3 +0.6**
comp=Z,15nm,1.1s,mb4.7
MOX Moxa 44.66 304 *e*P **P** **16 08 54.3 +0.6**
MOX pmax pmax
comp=Z,15nm,1.1s,mb4.7
MOX Moxa 44.66 304 *e*P **P** **16 08 54.0 +0.3**
comp=Z,11nm,1.0s,mb4.6
RJOB Jochberg 44.82 300 *e*P **P** **16 08 55.5 +0.5**
comp=Z,4.0nm,0.7s,mb4.4
CLZ Clausthal 45.07 306 *e*P **P** **16 08 57.3 +0.4**
CLZ pmax pmax
comp=Z,11nm,1.0s,mb4.6
CLZ Clausthal 45.07 306 *e*P **P** **16 08 57.3 +0.4**
comp=Z,11nm,1.0s,mb4.6
GRA1 Grafenberg Arr 45.19 303 *e*P **P** **16 08 58.9 +1.0**
comp=Z,28nm,0.9s,mb5.1
GRA1 *ep*P pP 16 09 03.9 -0.4
GRF Grafenberg Arr 45.19 303 *e*P **P** **16 08 58.9 +1.0**
GRF *e**PP pP 16 09 03.9 -0.4
GRF pmax pmax
comp=Z,28nm,0.9s,mb5.1
GRF Grafenberg Arr 45.19 303 *e*P **P** **16 08 58.9 +1.0**

GRF e*PP pP 16 09 03.9 -0.4
GRF pmax pmax
comp=Z,28nm,0.9s,mb5.1
GRF Grafenberg Arr 45.19 303 *e*P **P 16 08 58.9 +1.0**
comp=Z,28nm,0.9s,mb5.1
GRF epP pP 16 09 03.9 -0.4
FUR Furstenfeldbru 45.64 301 *e*P **P 16 09 02.6 +1.0**
FUR pmax pmax
comp=Z,26nm,0.6s,mb5.3
FUR Furstenfeldbru 45.64 301 *e*P **P 16 09 02.6 +1.0**
comp=Z,26nm,0.6s,mb5.3
CUC Castrocucco 45.68 288 *e*P **P 16 09 01.3 -0.7**
comp=Z,28nm,0.8s,mb5.2
WTTA Wattenberg 45.72 299⇑*i*P **P 16 09 02.2 +0.1**
comp=Z,15nm,0.7s,mb5.0
WATA Walderalm 45.73 300⇓*i*P **P 16 09 02.5 +0.3**
comp=Z,6.2nm,0.5s,mb4.8
MAT Matsushiro 45.97 77 P **P 16 09 03.9 -0.4**
MJAR Matsushiro Arr 45.97 77 P **P 16 09 03.3 -1.1**
comp=Z,4.9nm,1.0s,mb4.4,baz=286,slow=8.1,SNR=7.4
MOTA Moosalm 46.03 300⇑*i*P **P 16 09 04.3 -0.4**
comp=Z,20nm,0.8s,mb5.1,SNR=10
SEY Seymchan 46.15 38 *e*P **P 16 09 05.6 +0.3**
RETA Reutte 46.20 300⇓*i*P **P 16 09 06.4 +0.4**
comp=Z,21nm,0.6s,mb5.2
FETA Feichten 46.38 299⇑*i*P **P 16 09 07.3 -0.2**
comp=Z,15nm,1.1s,mb4.8,SNR=6.6
IBBN Ibbenburen 46.48 307 *e*P **P 16 09 08.2 +0.1**
comp=Z,15nm,1.1s,mb4.6
TNS Taunus Mts 46.72 304 *e*P **P 16 09 10.3 +0.3**
TNS e*PP pP 16 09 15.8 -0.6
TNS pmax pmax
comp=Z,7.0nm,0.9s,mb4.6
TNS Taunus Mts 46.72 304 *e*P **P 16 09 10.3 +0.3**
comp=Z,7.0nm,0.9s,mb4.6
TNS epP pP 16 09 15.8 -0.6
STU Stuttgart 46.74 302 *e*P **P 16 09 10.6 +0.4**
comp=Z,18nm,1.0s,mb5.0
DAVA Damuels 46.83 300⇑*i*P **P 16 09 11.3 +0.4**
comp=Z,25nm,0.7s,mb5.2
BUG Bochum--Univer 47.03 306 *e*P **P 16 09 12.7 +0.3**
comp=Z,31nm,1.5s,mb5.0
SPAK Spaichingen-Ko 47.23 301 *e*P **P 16 09 14.1 +0.1**
BFO Black Forest 47.44 302 *e*P **P 16 09 15.8 +0.2**
BFO e*PP pP 16 09 21.3 -0.7
BFO pmax pmax
comp=Z,16nm,1.1s,mb4.9
BFO Black Forest 47.44 302 *e*P **P 16 09 15.8 +0.2**
comp=Z,16nm,1.1s,mb4.9
BFO epP pP 16 09 21.3 -0.7
TUE Stuetta 47.47 299 *e*P **P 16 09 14.9 -1.0**
comp=Z,5.8nm,0.6s,mb4.7
RUP Ruppelstein 47.74 304 *e*P **P 16 09 18.3 +0.3**
FELD Feldberg im Sc 47.80 301 *e*P **P 16 09 17.9 -0.6**
MEM Membach 48.06 306 P **P 16 09 21.6 +1.1**
CDF Champ du Feu 48.06 302⇑*i*P **P 16 09 20.4 -0.1**
comp=Z,21nm,1.0s,mb4.8
CDF Champ du Feu 48.06 302⇑*i*P **P 16 09 20.4 -0.1**
CDF pmax pmax
comp=Z,11nm,1.0s,mb4.8
CDF Champ du Feu 48.06 302⇑*i*P **P 16 09 20.4 -0.1**
comp=Z,11nm,1.0s,mb4.8
ECH Echery 48.21 302 *e*P **P 16 09 21.2 -0.4**
ECH Echery 48.21 302 *e*P **P 16 09 21.3 -0.3**
WLF Walferdange 48.30 304 P **P 16 09 23.7 +1.4**
comp=Z,15nm,1.3s,mb4.9
WLF Walferdange 48.30 304 *e*P **P 16 09 22.9 +0.6**
comp=Z,22nm,1.1s,mb5.1
WLF epP pP 16 09 28.7 0.0
HINF Hinteralfeld 48.55 302⇑*i*P **P 16 09 24.2 0.0**
comp=Z,45nm,1.0s,mb5.2
HINF Hinteralfeld 48.55 302⇑*i*P **P 16 09 24.2 0.0**
HINF pmax pmax
comp=Z,23nm,1.0s,mb5.2
HINF Hinteralfeld 48.55 302⇑*i*P **P 16 09 24.2 0.0**
comp=Z,23nm,1.0s,mb5.2
BCLA Clavier 48.55 305 P **P 16 09 24.6 +0.4**
comp=Z,10nm,1.6s,mb4.6
HAU Haudompre 48.79 302⇑*i*P **P 16 09 25.9 -0.2**
comp=Z,17nm,0.8s,mb4.8
HAU Haudompre 48.79 302⇑*i*P **P 16 09 25.9 -0.2**
HAU pmax pmax
comp=Z,9.0nm,0.8s,mb4.8
HAU Haudompre 48.79 302⇑*i*P **P 16 09 25.9 -0.2**
comp=Z,8.5nm,0.8s,mb4.8
GIVF Givet 48.95 305 *e*P **P 16 09 27.7 +0.4**
comp=Z,27nm,0.8s,mb5.0
GIVF Givet 48.95 305 *e*P **P 16 09 27.7 +0.4**
GIVF pmax pmax
comp=Z,13nm,0.8s,mb5.0
GIVF Givet 48.95 305 *e*P **P 16 09 27.7 +0.4**
comp=Z,13nm,0.8s,mb5.0
DOU Dourbes 49.09 305 P **P 16 09 28.7 +0.4**
comp=Z,9.6nm,1.8s,mb4.5
PGF Pioggiola 49.27 295⇑*i*P **P 16 09 29.7 -0.1**
comp=Z,28nm,0.9s,mb5.0
PGF Pioggiola 49.27 295⇑*i*P **P 16 09 29.7 -0.1**
PGF pmax pmax
comp=Z,14nm,0.9s,mb5.0
PGF Pioggiola 49.27 295⇑*i*P **P 16 09 29.7 -0.1**
comp=Z,14nm,0.9s,mb5.0
BAIF Baives 49.33 305⇑*i*P **P 16 09 30.7 +0.5**
comp=Z,18nm,0.9s,mb4.8
BAIF Baives 49.33 305⇑*i*P **P 16 09 30.7 +0.5**
BAIF pmax pmax
comp=Z,9.0nm,0.9s,mb4.8
BAIF Baives 49.33 305⇑*i*P **P 16 09 30.7 +0.5**
comp=Z,8.9nm,0.9s,mb4.8
MEZF Maizieres J'vi 49.41 303⇑*i*P **P 16 09 31.2 +0.4**
comp=Z,100nm,1.3s,mb5.4
MEZF Maizieres J'vi 49.41 303 *e*P **P 16 09 31.2 +0.4**
comp=Z,100nm,1.3s,mb5.7
CABF La Chapelle 49.49 301 *e*P **P 16 09 31.2 -0.3**
comp=Z,31nm,1.0s,mb5.0
CABF La Chapelle 49.49 301 *e*P **P 16 09 31.2 -0.3**
CABF pmax pmax
comp=Z,16nm,1.0s,mb5.0
CABF La Chapelle 49.49 301 *e*P **P 16 09 31.2 -0.3**
comp=Z,16nm,1.0s,mb5.0
LPG La Plagne 49.52 299 *e*P **P 16 09 32.1 +0.4**
comp=Z,34nm,0.8s,mb5.1
LPG La Plagne 49.52 299 *e*P **P 16 09 32.1 +0.4**
LPG pmax pmax
comp=Z,17nm,0.8s,mb5.1
LPG La Plagne 49.52 299 *e*P **P 16 09 32.1 +0.4**
comp=Z,17nm,0.8s,mb5.1
LPL La Plagne 49.52 299 *e*P **P 16 09 32.2 +0.5**
comp=Z,31nm,0.6s,mb5.2
LPL La Plagne 49.52 299 *e*P **P 16 09 32.2 +0.5**
LPL pmax pmax
comp=Z,15nm,0.6s,mb5.2
LPL La Plagne 49.52 299 *e*P **P 16 09 32.2 +0.5**
comp=Z,15nm,0.6s,mb5.2
BNI Bardonecchia 49.74 298 *e*P **P 16 09 33.0 -0.4**
BNI pmax pmax
comp=Z,30nm,0.9s,mb5.3
BNI Bardonecchia 49.74 298 *e*P **P 16 09 33.0 -0.5**
comp=Z,30nm,0.9s,mb5.3
SBF Sospel 49.75 297⇑*i*P **P 16 09 33.4 -0.1**
MBDF Montbardon 49.82 298 *e*P **P 16 09 33.4 -0.6**
comp=Z,29nm,0.6s,mb5.2
MBDF Montbardon 49.82 298 *e*P **P 16 09 33.4 -0.6**
MBDF pmax pmax
comp=Z,14nm,0.6s,mb5.2
MBDF Montbardon 49.82 298 *e*P **P 16 09 33.4 -0.6**
comp=Z,14nm,0.6s,mb5.2
ORIF Oris-en-Rattie 50.32 299⇑*i*P **P 16 09 37.3 -0.5**
comp=Z,16nm,0.6s,mb4.9
ORIF Oris-en-Rattie 50.32 299⇑*i*P **P 16 09 37.3 -0.5**
ORIF pmax pmax
comp=Z,8.0nm,0.6s,mb4.9
ORIF Oris-en-Rattie 50.32 299⇑*i*P **P 16 09 37.3 -0.5**
comp=Z,7.8nm,0.6s,mb4.9
FRF La Foret Royal 50.39 297⇑*i*P **P 16 09 37.9 -0.5**
LMR La Mourre 50.58 296 *e*P **P 16 09 39.3 -0.5**
comp=Z,67nm,1.4s,mb5.1
LMR La Mourre 50.58 296 *e*P **P 16 09 39.3 -0.5**
LMR pmax pmax
comp=Z,34nm,1.4s,mb5.1
LMR La Mourre 50.58 296 *e*P **P 16 09 39.3 -0.5**
comp=Z,34nm,1.4s,mb5.1
LOR Lormes 50.63 302 *e*P **P 16 09 40.2 +0.1**
comp=Z,6.8nm,0.7s,mb4.4
LOR Lormes 50.63 302 *e*P **P 16 09 40.2 +0.1**
LOR pmax pmax
comp=Z,3.0nm,0.7s,mb4.3
LOR Lormes 50.63 302 *e*P **P 16 09 40.2 +0.1**
comp=Z,3.4nm,0.7s,mb4.4
OCF Saint Nazaire 50.83 298 *e*P **P 16 09 42.1 +0.4**
OG26 St.-Nazaire-De 50.83 298 *e*P **P 16 09 42.1 +0.4**
SMF Signal de Mont 50.90 301⇑*i*P **P 16 09 41.6 -0.5**
comp=Z,19nm,0.7s,mb4.8
SMF Signal de Mont 50.90 301⇑*i*P **P 16 09 41.6 -0.5**
SMF pmax pmax
comp=Z,10.0nm,0.7s,mb4.8
SMF Signal de Mont 50.90 301⇑*i*P **P 16 09 41.6 -0.5**
comp=Z,9.6nm,0.7s,mb4.8
SMRF Simiane la Rot 50.91 298 *e*P **P 16 09 42.2 -0.1**
comp=Z,50nm,1.2s,mb5.0
SMRF Simiane la Rot 50.91 298 *e*P **P 16 09 42.2 -0.1**
comp=Z,50nm,1.2s,mb5.3
SSF Saint Saulge 50.93 302 *e*P **P 16 09 41.6 -0.8**
comp=Z,13nm,0.8s,mb4.6
SSF Saint Saulge 50.93 302 *e*P **P 16 09 41.6 -0.8**
SSF pmax pmax
comp=Z,6.0nm,0.8s,mb4.6
SSF Saint Saulge 50.93 302 *e*P **P 16 09 41.6 -0.8**
comp=Z,6.3nm,0.8s,mb4.6
SSB Saint Sauveur 51.02 300 *e*P **P 16 09 42.4 -0.7**
VIVF Saint-Julien-l 51.12 299⇑*i*P **P 16 09 43.6 -0.2**
comp=Z,36nm,0.7s,mb5.1
VIVF Saint-Julien-l 51.12 299⇑*i*P **P 16 09 43.6 -0.2**
VIVF pmax pmax
comp=Z,18nm,0.7s,mb5.1
VIVF Saint-Julien-l 51.12 299⇑*i*P **P 16 09 43.6 -0.2**
comp=Z,18nm,0.7s,mb5.1
AVF Avril sur Loir 51.14 302⇑*i*P **P 16 09 43.6 -0.4**
comp=Z,63nm,0.9s,mb5.2
AVF Avril sur Loir 51.14 302⇑*i*P **P 16 09 43.6 -0.4**
AVF pmax pmax
comp=Z,31nm,0.9s,mb5.2
AVF Avril sur Loir 51.14 302⇑*i*P **P 16 09 43.6 -0.4**
comp=Z,31nm,0.9s,mb5.2
AGO Saint Agoulin 51.59 301 *e*P **P 16 09 47.0 -0.3**
LASF Ste Croix 51.98 298⇑*i*P **P 16 09 50.4 +0.1**
comp=Z,62nm,1.2s,mb5.1
TCF Toulx Ste Croi 52.07 302⇑*i*P **P 16 09 50.8 -0.1**
comp=Z,43nm,1.2s,mb5.0
TCF Toulx Ste Croi 52.07 302⇑*i*P **P 16 09 50.8 -0.1**
TCF pmax pmax
comp=Z,22nm,1.2s,mb5.0
TCF Toulx Ste Croi 52.07 302⇑*i*P **P 16 09 50.8 -0.1**
comp=Z,22nm,1.2s,mb5.0
LDF La Druitiere 52.52 305⇑*i*P **P 16 09 53.6 -0.6**
comp=Z,26nm,0.9s,mb4.8
LDF La Druitiere 52.52 305⇑*i*P **P 16 09 53.6 -0.6**
LDF pmax pmax
comp=Z,13nm,0.9s,mb4.9
LDF La Druitiere 52.52 305⇑*i*P **P 16 09 53.6 -0.6**
comp=Z,13nm,0.9s,mb4.9
FLN La Foliniere 52.66 305 *e*P **P 16 09 55.6 +0.4**
CAF Calviac 52.76 300⇑*i*P **P 16 09 56.2 +0.2**
comp=Z,23nm,1.0s,mb4.8
CAF Calviac 52.76 300⇑*i*P **P 16 09 56.2 +0.2**
CAF pmax pmax
comp=Z,12nm,1.0s,mb4.8
CAF Calviac 52.76 300⇑*i*P **P 16 09 56.2 +0.2**
comp=Z,12nm,1.0s,mb4.8
RJF Les Rejaudoux 52.94 301⇑*i*P **P 16 09 57.7 +0.4**
comp=Z,45nm,0.9s,mb5.1
RJF Les Rejaudoux 52.94 301⇑*i*P **P 16 09 57.7 +0.4**
RJF pmax pmax
comp=Z,22nm,0.9s,mb5.1
RJF Les Rejaudoux 52.94 301⇑*i*P **P 16 09 57.7 +0.4**
comp=Z,22nm,0.9s,mb5.1
GRR Gorron 53.05 305 *e*P **P 16 09 57.4 -0.7**
comp=Z,22nm,0.8s,mb4.8
GRR Gorron 53.05 305 *e*P **P 16 09 57.4 -0.7**
GRR pmax pmax
comp=Z,11nm,0.8s,mb4.8
GRR Gorron 53.05 305 *e*P **P 16 09 57.4 -0.7**
comp=Z,11nm,0.8s,mb4.8
MTLF Montolieu 53.38 298⇑*i*P **P 16 10 00.5 -0.1**
comp=Z,46nm,1.2s,mb5.0
MTLF Montolieu 53.38 298⇑*i*P **P 16 10 00.5 -0.1**
MTLF pmax pmax
comp=Z,23nm,1.2s,mb5.0
MTLF Montolieu 53.38 298⇑*i*P **P 16 10 00.5 -0.1**
comp=Z,23nm,1.2s,mb5.0
MFF Saint Martin d 53.40 303 *e*P **P 16 10 00.0 -0.7**
comp=Z,48nm,1.2s,mb5.0
MFF Saint Martin d 53.40 303 *e*P **P 16 10 00.0 -0.7**
MFF pmax pmax
comp=Z,24nm,1.2s,mb5.0
MFF Saint Martin d 53.40 303 *e*P **P 16 10 00.0 -0.7**
comp=Z,24nm,1.2s,mb5.0
LFF La Frestale 53.59 301⇑*i*P **P 16 10 02.4 +0.2**
comp=Z,49nm,0.8s,mb5.2
LFF La Frestale 53.59 301⇑*i*P **P 16 10 02.4 +0.2**
LFF pmax pmax
comp=Z,24nm,0.8s,mb5.2
LFF La Frestale 53.59 301⇑*i*P **P 16 10 02.4 +0.2**
comp=Z,24nm,0.8s,mb5.2
SGMF Saint Gilles 54.12 306 *e*P **P 16 10 06.7 +0.7**
comp=Z,40nm,0.9s,mb5.0
SGMF Saint Gilles 54.12 306 *e*P **P 16 10 06.7 +0.7**
SGMF pmax pmax
comp=Z,20nm,0.9s,mb5.0
SGMF Saint Gilles 54.12 306 *e*P **P 16 10 06.7 +0.7**
comp=Z,20nm,0.9s,mb5.0
ROSF Rostrenen 54.52 306 *e*P **P 16 10 09.4 +0.6**
EPF Esparros 54.74 299⇑*i*P **P 16 10 09.6 -0.9**
comp=Z,28nm,1.0s,mb5.0
EPF Esparros 54.74 299⇑*i*P **P 16 10 09.6 -0.9**
EPF pmax pmax
comp=Z,14nm,1.0s,mb5.0
EPF Esparros 54.74 299⇑*i*P **P 16 10 09.6 -0.9**
comp=Z,14nm,1.0s,mb5.0
EBIE Bielsa 55.03 298 P **P 16 10 12.9 +0.3**
comp=Z,8.4nm,0.5s,mb5.0
ETSF Etsaut 55.38 299⇑*i*P **P 16 10 15.4 +0.2**
comp=Z,22nm,0.7s,mb5.0
ETSF Etsaut 55.38 299⇑*i*P **P 16 10 15.4 +0.2**
ETSF pmax pmax
comp=Z,11nm,0.7s,mb5.0
ETSF Etsaut 55.38 299⇑*i*P **P 16 10 15.4 +0.2**
comp=Z,11nm,0.7s,mb5.0
SJPF Ste Jean 55.70 299 *e*P **P 16 10 16.9 -0.6**
comp=Z,23nm,0.9s,mb4.9
SJPF Ste Jean 55.70 299 *e*P **P 16 10 16.9 -0.6**
SJPF pmax pmax
comp=Z,11nm,0.9s,mb4.9
SJPF Ste Jean 55.70 299 *e*P **P 16 10 16.9 -0.6**
comp=Z,11nm,0.9s,mb4.9
ESAC San Caprasio 55.90 298 P **P 16 10 18.9 -0.1**
comp=Z,21nm,0.5s,mb5.4
EMOS Mosqueruela 56.58 296 P **P 16 10 23.5 -0.3**
comp=Z,7.5nm,0.5s,mb5.0
ELAN Lanestosa 57.05 301 P **P 16 10 26.5 -0.6**
comp=Z,34nm,1.0s,mb5.3
EBEN Beniarda 57.26 294 P **P 16 10 28.7 0.0**
comp=Z,23nm,0.9s,mb5.2
ECHE Chera 57.30 296 P **P 16 10 27.9 -1.0**
ECHE pmax pmax
comp=Z,3.0nm,0.5s,mb4.6
ECHE Chera 57.30 296 P **P 16 10 27.9 -1.0**
comp=Z,2.6nm,0.5s,mb4.5
EARI Arriondas 58.13 301 P **P 16 10 33.6 -1.1**
comp=Z,17nm,1.0s,mb5.0
EVIA Vianos 58.81 296 P **P 16 10 39.1 -0.4**
EVIA pmax pmax
comp=Z,13nm,0.6s,mb5.1
EVIA Vianos 58.81 296 P **P 16 10 39.1 -0.4**
comp=Z,13nm,0.6s,mb5.1
GUD Guadarrama 58.84 298 P **P 16 10 38.4 -1.3**
GUD pmax pmax
comp=Z,3.0nm,0.5s,mb4.6
GUD Guadarrama 58.84 298 P **P 16 10 38.4 -1.3**
comp=Z,2.9nm,0.5s,mb4.6
ESDC Sonseca Array 59.22 297 P **P 16 10 41.7 -0.7**
comp=Z,5.4nm,0.7s,mb4.7,baz=56,slow=7.3,SNR=12
ESDC Sonseca Array 59.22 297 P **P 16 10 41.4 -0.9**
comp=Z,4.5nm,0.6s,mb4.7
ESLA Sonseca Array 59.22 297 *e*P **P 16 10 41.3 -1.1**
comp=Z,2.9nm,1.0s,mb4.3
ESLA *e* pP 16 10 46.7 -2.2
EHUE Huescar 59.31 295 P **P 16 10 41.6 -1.4**
EPON Pontenova 59.33 302 P **P 16 10 41.5 -1.6**
comp=Z,15nm,0.7s,mb5.1
EQES Quesada 59.64 295 P **P 16 10 44.6 -0.7**
comp=Z,20nm,0.8s,mb5.2
ECAL Calabor 59.80 301 P **P 16 10 46.0 -0.4**
comp=Z,18nm,0.9s,mb5.1
EBAN Banos Encina 59.92 296 P **P 16 10 46.7 -0.5**
EBAN pmax pmax
comp=Z,16nm,0.9s,mb5.0
EBAN Banos Encina 59.92 296 P **P 16 10 46.7 -0.5**
comp=Z,16nm,0.9s,mb5.1
MVO Moncorvo 60.40 300 *e*P **P 16 10 50.6 +0.1**
comp=Z,19nm,2.6s,mb4.7
MVO epP pP 16 10 56.1 -0.9
EADA Adamuz 60.44 296 P **P 16 10 48.8 -1.9**
comp=Z,11nm,0.8s,mb5.0
EGUA Guajares 60.50 294 P **P 16 10 49.5 -1.7**
EGUA pmax pmax
comp=Z,33nm,0.8s,mb5.4
EGUA Guajares 60.50 294 P **P 16 10 49.5 -1.7**
comp=Z,33nm,0.8s,mb5.4
ELOB Lobios 60.68 301 P **P 16 10 51.8 -0.5**
comp=Z,8.8nm,0.6s,mb5.1
PCAB Cabril 60.74 301 *e*P **P 16 10 53.1 +0.3**
comp=Z,31nm,0.8s,mb5.5
PCAB epP pP 16 10 58.8 -0.5
MTE Manteigas 61.15 300 *e*P **P 16 10 55.8 +0.3**
comp=Z,19nm,1.5s,mb5.0
MTE epP pP 16 11 01.3 -0.8
PMRV Marv??o 61.58 299 *e*P **P 16 10 58.4 -0.1**
comp=Z,22nm,1.4s,mb5.1
PMRV epP pP 16 11 04.1 -0.9
EBAD Badajoz 61.71 298 P **P 16 10 58.5 -0.8**
comp=Z,9.3nm,0.8s,mb5.0
ESPR Espera 62.00 295 P **P 16 11 01.4 0.0**
comp=Z,4.2nm,0.3s,mb5.0
EMIN Mina Concepcio 62.04 297 P **P 16 11 01.7 +0.1**
comp=Z,11nm,0.7s,mb5.1
PBAR Barrancos 62.05 297 *e*P **P 16 11 01.6 -0.1**
comp=Z,24nm,1.1s,mb5.2
PBAR epP pP 16 11 07.1 -1.1
TAM Tamanrasset 62.17 276 *e*P **P 16 11 01.8 -0.9**
EVO Evora 62.48 298 *e*P **P 16 11 04.5 -0.1**
EGRO El Granado 62.70 297 P **P 16 11 05.8 -0.2**
comp=Z,18nm,0.7s,mb5.3
PVAQ Vaqueiros 62.93 297 *e*P **P 16 11 07.3 -0.3**
comp=Z,37nm,1.8s,mb5.2
PBDV Barranco-do-Ve 63.16 297 *e*P **P 16 11 09.9 +0.8**
comp=Z,54nm,1.5s,mb5.5
BATI Baumata 67.35 130 P **P 16 11 35.5 -0.9**
comp=Z,11nm,0.7s,mb5.0,baz=324,slow=3.7,SNR=4.0
OPO Ambohidratompo 67.36 212 P **P 16 11 36.4 0.0**
comp=Z,10.0nm,1.0s,mb4.8,baz=18,slow=5.9,SNR=7.4
TOA0 Torodi Ar. Sit 71.08 271 *e*P **P 16 11 58.2 -1.5**
TORD Torodi Ar. Bea 71.08 271 P **P 16 11 58.5 -1.2**
comp=Z,11nm,0.6s,mb5.0,baz=46,slow=5.3,SNR=121
TORD Torodi Ar. Bea 71.08 271 P **P 16 11 58.5 -1.2**
OHAK Old Harbor 71.44 27 *e*P **P 16 12 01.9 +0.7**
YKA Yellowknife Ar 74.49 6 P **P 16 12 18.2 -1.0**
comp=Z,4.6nm,0.7s,mb4.5,baz=349,slow=5.9,SNR=8.0
YKA Yellowknife Ar 74.49 6 P **P 16 12 18.2 -1.0**
FITZ Fitzroy Crossi 74.90 133 *e*P **P 16 12 19.4 -2.7**
comp=Z,6.1nm,0.8s,mb4.6
FITZ Fitzroy Crossi 74.90 133 P **P 16 12 21.4 -0.7**
comp=Z,3.5nm,0.8s,mb4.4,baz=258,slow=4.7,SNR=4.6
DBIC Dimbokro 80.18 270 P **P 16 12 50.6 -1.2**
comp=Z,8.1nm,0.8s,mb4.7,baz=3.0,slow=9.5,SNR=9.9
KIC Kosan Boka 80.30 270 *e*P **P 16 12 51.4 -1.1**
comp=Z,57nm,0.8s,mb5.5
TIC Toumodi 80.32 270 *e*P **P 16 12 51.5 -1.1**
comp=Z,30nm,0.4s,mb5.6
LIC Lamto 80.60 270 *e*P **P 16 12 53.0 -1.1**
comp=Z,11nm,0.6s,mb4.6
LIC Lamto 80.60 270 *e*P **P 16 12 52.8 -1.3**
comp=Z,90nm,1.6s,mb5.1
LIC Lamto 80.60 270 *e*P **P 16 12 53.0 -1.1**
comp=Z,5.6nm,0.6s,mb4.7
WRA Warramunga Arr 81.25 127 P **P 16 12 57.3 0.0**
comp=Z,9.9nm,0.7s,mb4.8,baz=328,slow=5.2,SNR=35
WB2 Warramunga Arr 81.26 127 *e*P **P 16 12 57.0 -0.3**
COEN Coen 82.20 117 *e*P **P 16 13 02.0 -0.4**
EDM Edmonton 83.78 7 *e*P **P 16 13 09.6 -0.5**
ASAR Alice Springs 83.92 130 P **P 16 13 10.3 -0.8**
comp=Z,2.4nm,0.6s,mb4.5,baz=326,slow=5.0,SNR=18
BOSA Boshof 86.03 224 P **P 16 13 21.4 -0.3**
comp=Z,7.4nm,1.0s,mb4.9,baz=24,slow=6.8,SNR=4.5
ULM Lac du Bonnet 87.08 356 P **P 16 13 26.9 +0.3**
comp=Z,7.4nm,0.9s,mb4.9,baz=319,slow=9.3,SNR=2.5
ULM Lac du Bonnet 87.08 356 P **P 16 13 26.9 +0.3**
CTA Charters Tower 88.68 119 *e*P **P 16 13 34.7 +0.1**
comp=Z,4.3nm,0.6s,mb5.0
CTA Charters Tower 88.68 119 P **P 16 13 34.2 -0.3**
comp=Z,5.5nm,0.7s,mb5.0,baz=322,slow=5.4,SNR=7.6
CTA Charters Tower 88.68 119 *e*P **P 16 13 34.7 +0.1**
CTA pmax pmax
comp=Z,4.0nm,0.6s
DGMT Dagmar 89.01 1 P **P 16 13 36.0 +0.2**
PDAR Pinedale Array 94.47 5 P **P 16 14 01.1 -0.1**
comp=Z,0.7nm,0.8s,mb4.2,baz=40,slow=2.5,SNR=5.3
HWUT Hardware Ranch 95.46 7 *e*P **P 16 14 06.2 +0.3**
comp=Z,7.5nm,0.9s,mb5.1
SNAA Sanae 127.28 203 *e*PKPdf PKPdf 16 19 44.1 -0.2
SNAA *e* 16 19 51.9
VNA2 Neumayer--Watz 128.35 205 *e*PKPdf PKPdf 16 19 46.7 +0.3
baz=15,slow=1.6
VNA2 *e* 16 19 53.6
VNA1 Neumayer--Stat 128.52 205 *e*PKPdf PKPdf 16 19 46.5 -0.2
VNA1 *e* 16 19 53.5
VNA3 Neumayer Olymp 129.16 205 *e*PKPdf PKPdf 16 19 48.0 +0.1
VNA3 *e* 16 19 55.0
SIV San Ignacio 135.95 295 PKP PKPdf 16 20 01.9 -0.5
comp=Z,2.8nm,0.8s,baz=69,slow=2.9,SNR=12
CPUP Villa Florida 140.11 280 PKPkP 16 20 00.2
comp=Z,0.3nm,0.3s,baz=28,slow=9.0,SNR=3.6
CPUP PKP PKPdf 16 20 08.9 -0.9
comp=Z,2.7nm,0.6s,baz=7.2,slow=1.2,SNR=7.7
CPUP Villa Florida 140.11 280 PKP 16 20 00.2
CPUP PKP PKPdf 16 20 08.9 -0.9
LVC Limon Verde 145.84 296 PKPbc PKPbc 16 20 21.2 +0.6
comp=Z,29nm,0.8s,baz=41,slow=3.3,SNR=21
LVC Limon Verde 145.84 296 *e*PKP PKPdf 16 20 21.5 +1.5
TRQA Tornquist 149.29 265 *e*PKPbc PKPbc 16 20 28.9 -0.7

*IDC **09** 16:01:11.7±1.4,561N×126.11E,h0km,mb3.7/4,mb1 3.9/4, mb1mx3.6/18,mbtmp3.7/4,Error ellipse: s-maj=117.1km s-min=17.4km az=72.0*
*MAN **09** 16:01:17,6.11N×12601E,h131km,mb4.7,ML3.6,MS3.5*
*ISCJB **09** 16:01:18.8±0.7,6.16N±008×1260E±0.1,h132km±11km, mb3.6/4,Error ellipse: s-maj=21.9km s-min=12.9km az=4.1*
ISC 09 16:01:19.7±0.7,616N±008×1260E±01,h120km±11km,n11,
σ0587/17,mb3.6/4,4C,Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
MATI	**Mati**	**0.81**	**16**	*e*P		**Pn**	**16 01 39.3**	**-0.7**
DAV	**Davao City (W)**	**1.01**	**334**	Pn		**Pn**	**16 01 41.2**	**-0.6**
	42nm,0.3s,baz=252,slow=6.4,SNR=8.7							
DAV				Sn		**Sn**	**16 02 00.5**	**+1.8**
	56nm,0.3s,baz=45,slow=20,SNR=4.6							
DMPH	**Davao City--Mi**	**1.05**	**331**	⇑*i*P		**Pn**	**16 01 42.0**	**-0.3**
DMPH				*i* S		**Sn**	**16 02 02.5**	**+3.1**
GSPH	**General Santos**	**1.07**	**266**	⇑*e*P		**Pn**	**16 01 42.1**	**-0.4**
GSPH				*e*S		**Sn**	**16 01 59.4**	**-0.3**
KCP	**Kidapawan**	**1.26**	**312**	⇑*e*P		**Pn**	**16 01 44.2**	**-0.2**
KCP				*i* S		**Sn**	**16 02 03.3**	**+0.1**
BUKP	**Musuan**	**1.96**	**331**	*e*P		**Pn**	**16 01 52.2**	**-0.5**
BUKP				*e*S		**Sn**	**16 02 18.1**	**+0.2**
CGP	**Cagayan de Oro**	**2.64**	**330**	⇑*i*P		**Pn**	**16 01 59.6**	**-1.6**
CGP				*i* S		**Sn**	**16 02 33.4**	**+0.1**
FITZ	**Fitzroy Crossi**	**24.11**	**181**	P		**P**	**16 06 25.5**	**+1.2**
	1.7nm,0.9s,mb3.4,baz=349,slow=10,SNR=4.3							
WRA	**Warramunga Arr**	**27.20**	**163**	P		**P**	**16 06 52.6**	**+0.4**
	0.4nm,0.4s,mb3.3,baz=340,slow=9.9,SNR=7.7							
ASAR	**Alice Springs**	**30.62**	**166**	P		**P**	**16 07 22.5**	**0.0**
	0.8nm,0.4s,mb3.8,baz=342,slow=7.0,SNR=35							
STKA	**Stephens Creek**	**40.63**	**159**	P		**P**	**16 08 47.8**	**-0.2**
	1.2nm,0.8s,mb3.8,baz=331,slow=10,SNR=4.0							

*IDC **09** 16:03:10.7±2.0,042S×12344E,h51km±18km,mb4.0/11, mb1 4.1/13,mb1mx4.0/19,mbtmp4.0/13,ML3.9/2,MS3.7/3, Ms1 3.7/3,ms1mx3.2/27,Error ellipse: s-maj=24.2km s-min=12.0km az=79.0*
*ISCJB **09** 16:03:12.6±0.6,054S±004×12333E±004,h86km±7km, mb4.5/26,Error ellipse: s-maj=7.0km s-min=6.2km az=35.4*
*DJA **09** 16:03:13.6±1.5,1S±4×123E±,h37km±17km,mB5.6/8,*

Mjma4.4/9,MLv5.1/9,Mw(mB)5.3/8,Mwp4.4/12
*NEIC **09** 16:03:14.2±1.2,055S×12328E,h88km±13km,mb4.5/4, Error ellipse: s-maj=14.3km s-min=8.7km az=65.0*
ISC 09 16:03:13.9±0.5,**056S**±004×**12333E**±004,**h82**km±6km,**n77, σ1s22**/78,**mb4.6**/27,**2C-3D,Minahassa Peninsula, Sulawesi**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MNI	Manado	2.49	37	P	Pn	16 03 53.0	+0.5
	0.0nm,0.0s						
KDI	Kendari	3.45	192	P	Pn	16 04 03.2	-2.3
	0.0nm,0.0s						
PCI	Palu	3.52	264	P	Pn	16 04 05.2	-1.1
	0.0nm,0.0s						
PCI	Palu	3.52	264	P	Pn	16 04 04.3	-2.0
LBMI	Labuha	4.17	91	P	Pn	16 04 14.0	-1.2
	0.0nm,0.0s						
LBMI	Labuha	4.17	91	P	Pn	16 04 13.1	-2.1
TNTI	Ternate	4.24	72	P	Pn	16 04 16.7	+0.5
KAPI	Kappang	5.69	219	P	Pn	16 04 33.4	-2.6
	15nm,0.3s,baz=36,slow=9.3,SNR=86						
KAPI				S	Sn	16 05 33.8	-6.2
	1.9nm,0.3s,baz=34,slow=21,SNR=3.7						
KAPI				LR	LR	16 07 24.8	
	comp=Z,950nm,19.2s,baz=62,slow=43						
KAPI	Kappang	5.69	219	P	Pn	16 04 33.0	-3.0
	147nm,1.1s,1μm0.5nm						
AAI	Ambon	5.77	123	P	Pn	16 04 37.2	+0.2
	347nm,1.2s						
AAI	Ambon	5.77	123	P	Pn	16 04 37.1	+0.1
	237nm,1.2s,2μm0.7nm						
SMKI	Samarinda	6.13	271	P	Pn	16 04 41.4	-0.5
	221nm,1.1s						
SMKI	Samarinda	6.13	271	P	Pn	16 04 41.3	-0.6
	187nm,1.1s,2μm0.6nm						
MYLDM	Lahad Datu	7.47	320	P	Pn	16 05 01.4	+1.1
DAV	Davao City (W)	7.90	16	P	Pn	16 05 07.2	+1.0
	43nm,0.3s,baz=112,slow=6.5,SNR=10						
DAV				S	Sn	16 06 39.4	+5.4
	53nm,0.3s,baz=21,slow=20,SNR=2.3						
DAV	Davao City (W)	7.90	16	P	Pn	16 05 07.2	+1.0
DAV				S	Sn	16 06 39.4	+5.4
BBKI	Banjar Baru	8.96	251	P	Pn	16 05 19.8	-0.9
	164nm,0.8s						
BBKI	Banjar Baru	8.96	251	P	Pn	16 05 19.3	-1.4
	139nm,1.4s,3μm						
BATI	Baumata	9.59	178	P	Pn	16 05 32.0	+2.8
	0.8nm,0.3s,baz=218,slow=14,SNR=3.1						
BATI				LR	LR	16 09 12.4	
	comp=Z,548nm,20.8s,baz=68,slow=37						
KKM	Kota Kinabalu	9.67	313	P	Pn	16 05 38.2	+7.9
KKM	Kota Kinabalu	9.67	313	ePn	Pn	16 05 31.4	+1.1
SBUM	Sibu	11.51	285	⇓P	Pn	16 06 00.3	+5.0
SBUM	Sibu	11.51	285	P	Pn	16 05 52.2	-3.1
CUYO	Cuyo Island	11.56	349	eP	Pn	16 05 57.7	+1.6
STKI	Sintang	11.87	273	P	Pn	16 06 06.9	+6.6
	24nm,1.4s						
STKI	Sintang	11.87	273	P	Pn	16 05 59.6	-0.7
KSM	Kuching	13.18	279	⇓P	Pn	16 06 18.2	+0.3
KSM	Kuching	13.18	279	P	Pn	16 06 22.4	+4.5
	22nm,1.4s						
KSM	Kuching	13.18	279	ePn	Pn	16 06 17.1	-0.8
BJII	Banjamegara	15.16	243	P	Pn	16 06 46.4	+2.8
	74nm,1.9s						
BJII	Banjamegara	15.16	243	P	Pn	16 06 44.6	+0.9
CBJI	Citeko	17.45	250	P	Pn	16 07 16.9	+4.8
	210nm,1.1s						
CBJI	Citeko	17.45	250	P	Pn	16 07 13.7	+1.6
CAUP	Cauayan	17.45	355	eP	Pn	16 07 13.8	+1.6
FITZ	Fitzroy Crossi	17.58	173	P	Pn	16 07 14.9	+1.2
	0.1nm,0.3s,baz=197,slow=19,SNR=3.3						
FITZ				LR	LR	16 14 53.4	
	comp=Z,153nm,18.5s,baz=12,slow=40						
DBJI	Dramaga	17.59	250	P	Pn	16 07 17.1	+3.3
	45nm,1.1s						
DBJI	Dramaga	17.59	250	P	Pn	16 07 14.6	+0.8
APYP	Conner	18.42	354	eP	Pn	16 07 23.3	-0.5
MYKOM	Kota Tinggi	19.62	277	⇓P	Pn	16 07 37.1	-1.1
MYKOM	Kota Tinggi	19.62	277	P	Pn	16 07 36.3	-1.9
KGM	Kluang	20.18	277	⇑P	P	16 07 43.1	+1.1
RGRI	Rengat	21.00	270	P	P	16 07 47.2	-3.8
	113nm,0.2s,mb5.8						
KTGM	Kuala Trenggan	21.00	286	⇑P	P	16 07 52.6	+1.6
WRA	Warramunga Arr	22.07	151	P	P	16 08 02.7	+0.3
	6.0nm,0.6s,mb4.1,baz=330,slow=10,SNR=39						
WRA				ScP	ScP	16 15 31.3	+3.7
	2.1nm,1.0s,baz=329,slow=3.9,SNR=4.7						
WB2	Warramunga Arr	22.08	151	eP	P	16 08 02.6	+0.2
IPM	Ipoh	22.84	283	P	P	16 08 16.7	+6.1
	17nm,1.2s,mb4.2						
PPI	Padang Panjang	22.94	270	P	P	16 08 19.3	+7.8
	32nm,0.9s,mb4.7						
COEN	Coen	23.72	125	P	P	16 08 18.8	+0.1
	5.7nm,1.0s,mb3.9						
COEN	Coen	23.72	125	eP	P	16 08 18.3	-0.4
	6.9nm,1.0s,mb3.9						
ASAR	Alice Springs	25.16	157	P	P	16 08 32.6	+0.9
	1.9nm,0.4s,mb3.9,baz=335,slow=7.9,SNR=45						
ASAR				PcP	PcP	16 12 04.3	+0.5
	1.9nm,0.6s,baz=347,slow=2.3,SNR=11						
PMG	Port Moresby	25.29	111	eP	P	16 08 34.2	+1.2
	13nm,0.8s,mb4.4						
JOW	Kunigami	27.64	10	P	P	16 08 51.6	-2.4
	8.7nm,0.5s,mb4.5,baz=306,slow=21,SNR=5.4						
CMAR	Chiang Mai Arr	30.53	309	P	P	16 09 20.6	+0.8
	2.7nm,0.7s,mb4.1,baz=134,slow=6.8,SNR=13						
CMAR				PcP	PcP	16 12 17.6	+0.6
	1.4nm,0.8s,baz=175,slow=1.9,SNR=6.2						
CHTO	Chiang Mai	30.73	310	eP	P	16 09 22.1	+0.6
	8.4nm,1.0s,mb4.4						
CBIJ	Chichi jima	32.94	32	P	P	16 09 39.8	-1.0
	58nm,0.5s,mb5.7,baz=276,slow=22,SNR=6.2						
STKA	Stephens Creek	35.61	153	P	P	16 10 04.2	+0.4
	2.3nm,0.8s,mb4.2,baz=8.8,slow=11,SNR=3.4						
STKA				PcP	PcP	16 12 31.7	+0.7
	3.0nm,0.9s,baz=270,slow=4.0,SNR=3.0						
KSRS	Korea Array	38.06	6	P	P	16 10 23.6	-0.9
	1.3nm,0.8s,mb3.8,baz=209,slow=37,SNR=2.9						
MJAR	Matsushiro Arr	39.41	19	P	P	16 10 33.2	-2.7
	5.6nm,0.8s,mb4.4,baz=194,slow=8.9,SNR=11						
ODAN	Odare	44.04	311	eP	P	16 11 14.3	+0.5
	18nm,0.9s,mb4.8						
TAPN	Taplejung	44.06	312	eP	P	16 11 13.3	-0.7
	20nm,0.9s,mb4.8						
RAMN	Ramite	44.69	311	eP	P	16 11 20.1	+1.1
	29nm,0.9s,mb5.0						
JIRN	Jiri	45.37	311	eP	P	16 11 24.7	+0.3
	16nm,0.7s,mb4.9						
GUN	Gumba	45.73	311	eP	P	16 11 27.5	+0.3
	25nm,0.8s,mb5.0						
KKN	Kakani	46.12	311	eP	P	16 11 30.2	-0.1
DMN	Daman	46.16	310	eP	P	16 11 31.4	+0.8
GKN	Gorkha	46.72	311	eP	P	16 11 35.0	0.0
	23nm,0.9s,mb4.9						
KOLN	Koldanda	47.40	310	eP	P	16 11 40.3	+0.1
	20nm,0.9s,mb4.9						
DANN	Dangsing	47.56	310	eP	P	16 11 41.8	+0.3
	22nm,0.7s,mb5.1						
SONM	Songino Array	50.41	345	P	P	16 12 01.6	-1.3
	4.5nm,0.8s,mb4.5,baz=153,slow=9.8,SNR=5.2						
SONM				ScP	ScP	16 17 11.1	+2.1
	0.3nm,0.6s,baz=155,slow=5.6,SNR=2.6						
MKAR	Makanchi Array	59.26	328	P	P	16 13 05.5	-1.4
	0.8nm,0.5s,mb4.0,baz=116,slow=10,SNR=2.4						
MKAR	Makanchi Array	59.26	328	P	P	16 13 05.5	-1.4
PETK	Petropavlovsk-	60.66	23	P	P	16 13 15.3	-1.0
	1.3nm,0.7s,mb4.1,baz=344,slow=8.4,SNR=5.3						
KBL	Kabul	61.55	310	eP	P	16 13 21.3	-1.5
YAK	Yakutsk	62.61	3	eP	P	16 13 27.4	-1.9
	12nm,0.6s,mb5.0						
ZALV	Zalesovo Beam	62.95	336	P	P	16 13 33.0	+1.3
	1.6nm,0.7s,mb4.0,baz=128,slow=9.3,SNR=2.3						
TORD	Torodi Ar. Bea	120.88	285	PKP	PKPdf	16 21 57.0	-0.8
	1.0nm,0.7s,baz=117,slow=2.3,SNR=5.3						
CPUP	Villa Florida	153.26	179	PKPbc	PKPbc	16 23 03.8	+0.6
	0.3nm,0.3s,baz=55,slow=2.2,SNR=3.4						

MAN 09 16:06:04,1271N×12251E,h33km,mb4.6,ML3.5,MS3.4, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SJMP	San Jose	1.38	260	eP	Pn	16 06 27.7	+0.7
PVCP	Virac	1.83	61	eP	Pn	16 06 34.0	+0.8
LUBP	Lubang	2.43	295	eP	Pn	16 06 42.3	+0.9
SCZP	Santa Cruz	3.96	321	eP	Pn	16 07 03.9	+1.5

IDC 09 16:16:37.1±1.2,**603N**×**7371W,h133**km±8km,**mb3.2**/1,**mb1 3.1**/2,**mb1mx2.9**/20,**mbtmp3.1**/2,**Error ellipse: s-maj=45.7km s-min=11.4km az=130.0,Northern Colombia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ROSC	El Rosal	1.31	208	P	Pn	16 17 05.4	+2.0
	5.1nm,0.3s,baz=83,slow=17,SNR=4.0						
ROSC				S	Sn	16 17 24.0	+0.6
	14nm,0.3s,baz=111,slow=18,SNR=7.9						
SDV	Santo Domingo	4.17	47	P	Pn	16 17 39.1	-0.1
	1.1nm,0.3s,baz=207,slow=20,SNR=4.0						
SDV				S	Sn	16 18 28.1	+0.6
	1.7nm,0.3s,baz=229,slow=20,SNR=2.9						
SIV	San Ignacio	25.20	150	P	P	16 21 50.6	+0.1
	0.4nm,0.4s,baz=309,slow=18,SNR=2.2						
ASAR	Alice Springs	148.17	234	PKPbc	PKPbc	16 36 08.3	+0.1
	0.4nm,1.0s,baz=116,slow=4.2,SNR=3.5						
WRA	Warramunga Arr	149.44	240	PKPbc	PKPbc	16 36 10.2	-1.2
	0.4nm,0.6s,baz=107,slow=2.8,SNR=8.7						

*NEIC **09** 16:23:40.0,1591N×9673W,h6km,MD4.3(MEX),After MEX.*
MEX 09 16:23:40.1±0.6,**1590N**×**9674W,h8**km±7km,**MD4.3,Near coast of Oaxaca**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HUIG	Huatulco	0.62	102	eP	Pg	16 23 51.2	-0.9
HUIG				i S	Sg	16 23 59.7	-0.4
VHO	Vista Hermosa	1.17	0	eP	Pg	16 23 58.9	-3.7
VHO				i S	Sg	16 24 13.7	-4.0
OXX	Oaxaca	1.18	1	i P	Pg	16 23 59.7	-3.0
OXX				i S	Sg	16 24 14.4	-3.6
PNIG	Pinotepa	1.42	290	eP	Pn	16 24 02.6	-3.7
PNIG				eS	Sb	16 24 20.6	-4.6
UTMO	Huajuapan	2.17	332	i S	Sn	16 24 40.4	-3.5
ACX	Acapulco	3.20	288	i P	Pn	16 24 27.8	-3.0
ACX				i S	Sn	16 25 03.6	-5.5
TGIG		3.58	75	eP	Pn	16 24 34.0	-2.0
TGIG				i S	Sn	16 25 15.3	-3.2
PLIG	Platanillo	3.62	314	i P	Pn	16 24 35.3	-1.3
PLIG				i S	Sn	16 25 17.1	-2.5
PPM	Popocatepetl	3.63	330	eP	Pn	16 24 33.0	-3.7
PPM				eP		16 24 35.0	
PPM				i S	Sn	16 25 15.0	-4.7
PPM				i S	Sn	16 25 18.1	-1.7
PPM	Popocatepetl	3.63	330	i P	Pn	16 24 39.3	+2.6
PPM				i S	Sn	16 25 18.1	-1.7
LVIG	Laguna Verde	3.81	5	eP	Pn	16 24 41.0	+1.8
LVIG				i S	Sn	16 25 18.9	-5.5
LVIG	Laguna Verde	3.81	5	i P	Pn	16 24 46.4	+7.2
LVIG				i S	Sn	16 25 18.9	-5.5
TEIG	Tepich	9.12	61	ePn	Pn	16 25 48.5	-3.7

IDC 09 17:06:38.4±6.1,**1905S**×**17615W,h327**km±73km,**mb3.5**/6,**mb1 3.6**/6,**mb1mx3.3**/19,**mbtmp3.5**/6,**Error ellipse: s-maj=170.5km s-min=23.9km az=68.0,Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	Urewera	20.02	196	P	P	17 10 47.8	0.0
	5.6nm,0.8s,baz=100,slow=9.6,SNR=3.6						
URZ				S	S	17 14 14.0	+1.2
	4.7nm,0.8s,baz=271,slow=18,SNR=3.8						
CTA	Charters Tower	35.39	262	P	P	17 13 05.5	+1.2
	1.9nm,0.2s,baz=104,slow=12,SNR=3.0						
STKA	Stephens Creek	39.99	243	P	P	17 13 41.3	-1.0
	1.4nm,0.5s,baz=81,slow=12,SNR=5.8						
WRA	Warramunga Arr	46.55	260	P	P	17 14 33.8	-0.7
	0.9nm,0.3s,baz=97,slow=7.6,SNR=46						
ASAR	Alice Springs	46.56	255	P	P	17 14 34.4	-0.2
	4.9nm,0.8s,baz=91,slow=7.5,SNR=85						
FITZ	Fitzroy Crossi	54.96	261	P	P	17 15 37.2	+0.4
	1.4nm,0.8s,baz=113,slow=13,SNR=4.8						

IDC 09 17:49:25.5±3.3,**401S**×**15225E,h0**km,**mb3.8**/4,**mb1 4.0**/4,**mb1mx3.7**/16,**mbtmp3.8**/4,**MS3.9**/1,**Ms1 3.9**/1,**ms1mx2.7**/28,**Error ellipse: s-maj=83.3km s-min=36.1km az=104.0,New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	23.57	226	P	P	17 54 37.9	-0.3
	3.7nm,0.6s,baz=54,slow=9.8,SNR=44						
ASAR	Alice Springs	26.37	221	P	P	17 55 02.4	-1.3
	0.5nm,0.6s,baz=56,slow=8.7,SNR=10						
FITZ	Fitzroy Crossi	29.57	240	P	P	17 55 34.2	+1.8
	0.5nm,0.3s,baz=51,slow=11,SNR=9.4						
RPZ	Rata Peaks	42.89	160	LR	LR	18 12 15.5	
	comp=Z,127nm,18.8s,baz=35,slow=32						
CMAR	Chiang Mai Arr	57.05	295	P	P	17 59 12.2	-1.7
	0.5nm,0.8s,baz=88,slow=6.3,SNR=6.1						
TORD	Torodi Ar. Bea	149.54	289	PKPbc	PKPbc	18 09 19.1	+1.1
	0.9nm,0.7s,baz=66,slow=3.3,SNR=6.4						

*ISCJB **09** 17:53:04.5±0.7,3624N±003×7111E±006,h83km±12km, mb3.6/3,Error ellipse: s-maj=8.5km s-min=5.1km az=155.7*
*NEIC **09** 17:53:08.1±1.0,3632N×7088E,h85km±12km,mb3.8/1, Error ellipse: s-maj=19.6km s-min=10.3km az=121.0*
*IDC **09** 17:53:10.5±12.0,3624N×7077E,h116km±111km,mb3.4/3, mb1 3.4/7,mb1mx3.1/24,mbtmp3.3/7,ML3.6/4,Error ellipse: s-maj=85.1km s-min=32.7km az=36.0*
*NNC **09** 17:53:14.1±3.8,3684N×7001E,h85km±55km,mb3.5, mpv3.7,Error ellipse: s-maj=27.5km s-min=20.6km az=15.0*
ISC 09 17:53:05.9±0.6,**3616N**±004×**7106E**±006,**h88**km±11km,**n33,σ1s48**/44,**mb3.6**/3,**4C-2D,Afghanistan-Tajikistan border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBL	Kabul	2.31	226	ePn	Pn	17 53 45.2	+3.1
KBL				eSn	Sn	17 54 09.4	-0.4
THN	Thein Dam	5.36	133	eP	Pn	17 54 26.7	+3.4
THN				eS	Sn	17 55 26.6	+3.0
AML	Almayashu	6.30	18	ePn	Pn	17 54 37.0	+0.9
	16nm,0.5s						
AML				eSn	Sn	17 55 42.9	-3.6
UCH	Uchtor	6.62	23	ePn	Pn	17 54 41.2	+0.8
	2.8nm,0.4s						
UCH				eSn	Sn	17 55 51.6	-2.8
EKS2	Erkin-Say	6.82	17	ePn	Pn	17 54 44.3	+1.2
	2.5nm,0.4s						
EKS2				eSn	Sn	17 55 53.9	-5.3
KK31	Karatay Array	6.94	357	⇑P	Pn	17 54 44.1	-0.7
	2.2nm,0.3s,baz=194,slow=16,SNR=34						
KK31				⇑S	Sn	17 55 54.8	-7.4
	7.7nm,0.6s,baz=188,slow=19,SNR=6.4						
SMLA	Simla	7.15	133	i P	Pn	17 54 50.5	+2.8
SMLA				i S	Sn	17 56 09.3	+1.9
SMLA				i S	Sn	17 56 09.8	+2.4
SMLA				ex	x	17 56 12.7	
	comp=N,169nm,0.3s						
SMLA				ex	x	17 56 13.7	
	comp=E,211nm,0.3s						
TKM2	Tokmak 2	7.60	26	ePn	Pn	17 54 54.0	+0.2
	comp=E,5.7nm,0.5s						
TKM2				e		17 55 01.3	
JOSI	Joshimath	9.04	126	eS	Sn	17 56 52.8	-0.7
JOSI				AML	AML	17 57 53.2	
	comp=N,12nm,0.4s						
JOSI				AML	AML	17 57 53.2	
	comp=Z,9.3nm,0.4s						
KUDL	Kundal	9.22	149	eS	Sn	17 56 57.0	-1.0
SONA	Sohna	9.39	145	eS	Sn	17 56 59.7	-2.5
DANN	Dangsing	13.26	122	eP	Pn	17 56 09.5	-1.1
KOLN	Koldanda	13.53	125	eP	Pn	17 56 12.6	-1.4
MK31	Makanchi Array	13.54	35	⇓P	Pn	17 56 20.5	+6.6
	comp=Z,8.0nm,1.7s,baz=219,slow=16,SNR=10						
MK31				⇓S	Sn	17 58 52.2	+10
	comp=Z,1.7nm,1.1s						
MK31	Makanchi Array	13.54	35	ePn	Pn	17 56 17.3	+3.4
MKAR	Makanchi Array	13.54	35	P	Pn	17 56 19.7	+5.8
	comp=Z,0.2nm,0.3s,baz=209,slow=9.3,SNR=9.3						
GKN	Gorkha	14.08	121	eP	Pn	17 56 20.5	-0.8
DMN	Daman	14.65	122	eP	Pn	17 56 28.2	-0.4
KKN	Kakani	14.66	121	eP	Pn	17 56 27.9	-0.8
PKIN	Phulchoki	14.87	121	eP	Pn	17 56 30.7	-0.8
	comp=Z,3.6nm,0.5s						
PKI	Pulchoki	14.89	121	eP	Pn	17 56 31.5	-0.1
GUN	Gumba	15.01	119	eP	Pn	17 56 33.3	+0.1
	comp=Z,6.8nm,0.4s						
JIRN	Jiri	15.38	119	eP	Pn	17 56 37.6	-0.3
	comp=Z,11nm,0.3s						
AB31	Akbulak array	15.40	332	P	Pn	17 56 34.5	-3.5
	comp=Z,0.7nm,0.3s,baz=154,slow=12,SNR=38						
AB31				S	Sn	17 59 13.1	-15
	comp=Z,0.9nm,0.5s,baz=156,slow=24,SNR=5.9						
KURK	Kurchatov	15.53	18	P	Pn	17 56 42.7	+3.0
	comp=Z,0.1nm,0.3s,baz=206,slow=10,SNR=4.4						
BVAR	Borovoye Array	16.86	359	P	Pn	17 56 59.7	+3.5
	comp=Z,0.2nm,0.3s,baz=165,slow=9.5,SNR=5.9						
AKTK	Aktyubinsk	17.10	331	P	Pn	17 56 58.1	-0.9
AKTO	Aktyubinsk	17.10	331	⇑P	Pn	17 56 56.2	-2.8
	comp=Z,0.7nm,0.7s						
AKTO				⇑S	S	17 59 51.7	-21
	comp=Z,4.2nm,3.4s						
AKTO	Aktyubinsk	17.10	331	P	Pn	17 56 58.1	-0.9
	comp=Z,0.5nm,0.3s,baz=140,slow=12,SNR=6.2						
ZALV	Zalesovo Beam	20.20	24	P	P	17 57 35.0	+1.7
	comp=Z,4.2nm,0.4s,baz=225,slow=11,SNR=20						
ARU	Arti	21.97	341	P	P	17 57 53.0	+0.8
	comp=Z,4.3nm,1.1s,mb3.7						
ARCES	ARCESS Array B	41.47	338	P	P	18 00 44.5	+0.9
	comp=Z,3.0nm,1.0s,mb4.1,baz=113,slow=9.3,SNR=5.4						
WRA	Warramunga Arr	81.77	122	P	P	18 05 18.0	+2.9
	comp=Z,0.2nm,0.7s,mb3.1,baz=332,slow=5.2,SNR=2.4						

IDC 09 17:56:06.5±3.3,**498S**×**15312E,h0**km,**mb3.6**/4,**mb1 3.8**/4,**mb1mx3.6**/16,**mbtmp3.6**/4,**MS3.6**/2,**Ms1 3.6**/2,**ms1mx2.9**/28,**Error ellipse: s-maj=83.1km s-min=36.5km az=105.0,New Ireland region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	23.56	229	P	P	18 01 18.9	-0.2
	1.1nm,0.5s,baz=54,slow=9.9,SNR=22						
ASAR	Alice Springs	26.23	223	P	P	18 01 44.2	+0.8
	0.2nm,0.3s,baz=56,slow=9.4,SNR=13						
BATI	Baumata	29.64	258	LR	LR	18 13 29.2	
	comp=Z,175nm,19.0s,baz=3.3,slow=35						
FITZ	Fitzroy Crossi	29.85	242	P	P	18 02 14.8	-1.0
	1.8nm,0.9s,baz=62,slow=14,SNR=8.4						
RAR	Rarotonga	48.42	114	LR	LR	18 19 23.7	
	comp=Z,42nm,21.3s,baz=109,slow=29						
CMAR	Chiang Mai Arr	58.24	295	P	P	18 06 03.8	+0.6
	0.2nm,0.3s,baz=117,slow=5.5,SNR=3.2						
TORD	Torodi Ar. Bea	150.66	288	PKPbc	PKPbc	18 16 00.8	-0.9
	0.1nm,0.3s,baz=78,slow=2.1,SNR=4.5						

MAN 09 17:58:05,604N×12626E,h128km,mb4.6,ML3.5,MS3.4, 2C,Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MATI	Mati	0.91	360	eP	Pn	17 58 28.2	+1.3
MATI				eS	Sn	17 58 45.5	+2.0
GSPH	General Santos	1.30	272	⇑eP	Pn	17 58 30.6	-0.2
GSPH				eS	Sn	17 58 49.7	-0.7
KCP	Kidapawan	1.51	310	⇑i P	Pn	17 58 34.5	+1.4
KCP				i S	Sn	17 58 56.5	+2.0
BUKP	Musuan	2.18	327	eP	Pn	17 58 42.5	+1.4

*IDC **09** 18:30:42.1±1.3,888N×9384E,h0km,mb3.7/7,mb1 4.0/7, mb1mx3.7/19,mbtmp3.7/7,Error ellipse: s-maj=64.5km s-min=29.0km az=54.0*
*NEIC **09** 18:30:47.0±1.0,866N×9356E,h35km,mb4.0/1,Error ellipse: s-maj=25.0km s-min=19.8km az=86.0*
*ISCJB **09** 18:30:50.5±6.7,89N±03×939E±03,h78km±57km,mb3.8/9, Error ellipse: s-maj=59.8km s-min=20.6km az=43.8*
ISC 09 18:30:52.3±4.9,**89N**±03×**938E**±03,**h78**km±41km,**n19, σ0s87**/19,**mb3.8**/9,**Nicobar Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	10.73	27	Pn	Pn	18 33 24.1	+0.9
	0.2nm,0.3s,baz=213,slow=15,SNR=9.4						
ODAN	Odare	18.88	342	eP	Pn	18 35 05.6	-2.3
RAMN	Ramite	19.22	340	eP	Pn	18 35 11.0	-0.9
	12nm,0.6s						
TAPN	Taplejung	19.25	343	eP	Pn	18 35 07.4	-4.8
GUN	Gumba	20.35	339	eP	P	18 35 21.6	-0.8
	11nm,0.5s						
DMN	Daman	20.36	337	eP	P	18 35 23.9	+1.4
KKN	Kakani	20.45	338	eP	P	18 35 23.2	-0.3
LSA	Lhasa	20.85	353	eP	P	18 35 28.4	+0.6
	2.9nm,0.4s						
GKN	Gorkha	20.89	337	eP	P	18 35 28.8	+0.5
	17nm,0.5s						
KOLN	Koldanda	21.11	334	eP	P	18 35 31.1	+0.5
	9.3nm,0.6s,mb4.3						
DANN	Dangsing	21.55	335	eP	P	18 35 35.4	+0.1
	15nm,0.6s,mb4.5						
MKAR	Makanchi Array	39.03	347	P	P	18 38 09.9	-1.3
	0.3nm,0.6s,mb3.3,baz=174,slow=8.6,SNR=3.9						
ZALV	Zalesovo Beam	45.51	353	P	P	18 39 03.9	+0.1
	0.4nm,0.3s,mb3.6,baz=173,slow=7.8,SNR=4.5						
WRA	Warramunga Arr	49.11	126	P	P	18 39 31.5	-0.8
	0.3nm,0.4s,mb3.5,baz=300,slow=9.9,SNR=5.0						
ARCES	ARCESS Array B	74.21	340	P	P	18 42 20.7	+0.4
	3.3nm,0.9s,mb4.0,baz=113,slow=6.9,SNR=3.0						
GERES	GERESS Array B	76.86	318	P	P	18 42 36.4	+0.5
	0.6nm,0.7s,mb3.4,baz=91,slow=6.7,SNR=5.2						
NB2	NORSAR Subarra	78.69	331	P	P	18 42 45.9	+0.1
	comp=Z,0.8nm,0.6s,mb3.7,baz=98,slow=5.1						
NOA	NORSAR Array B	78.69	331	P	P	18 42 46.0	+0.2
	comp=Z,1.0nm,0.6s,mb3.8,baz=94,slow=5.2,SNR=4.9						
TORD	Torodi Ar. Bea	90.06	283	P	P	18 43 44.9	+0.7
	comp=Z,0.4nm,1.1s,mb3.5,baz=65,slow=37,SNR=3.2						

IDC 09 18:38:53.5±1.4,**2117S**×**6848W,h110**km±14km,**mb3.6**/1,**mb1 3.5**/4,**mb1mx3.3**/16,**mbtmp3.5**/4,**Error ellipse: s-maj=49.2km s-min=15.9km az=107.0,Chile-Bolivia border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	Limon Verde	1.49	196	P	Pn	18 39 19.9	-0.3
	13nm,0.3s,baz=12,slow=12,SNR=213						
LVC				S	Sn	18 39 41.1	+0.5
	165nm,0.3s,baz=291,slow=22,SNR=54						
LPAZ	La Paz	4.86	4	P	Pn	18 40 05.5	+1.0
	0.9nm,0.3s,baz=190,slow=3.7,SNR=21						
LPAZ				S	Sn	18 40 50.0	-10
	0.5nm,0.3s,baz=183,slow=8.4,SNR=6.2						
SIV	San Ignacio	8.71	55	P	Pn	18 40 56.6	-0.1
	4.1nm,0.3s,baz=248,slow=11,SNR=71						
PLCA	Paso Flores	19.59	185	P	P	18 43 13.2	+0.4
	0.1nm,0.3s,baz=356,slow=11,SNR=4.4						
TORD	Torodi Ar. Bea	76.86	70	P	P	18 50 33.9	-0.1
	0.6nm,0.5s,baz=253,slow=5.5,SNR=17						
MKAR	Makanchi Array	145.13	36	PKPbc	PKPbc	18 58 17.3	-0.4
	0.4nm,0.6s,baz=301,slow=3.0,SNR=3.7						

*ISK **09** 18:51:01.7,3821N×3865E,h5km,MD3.2*
*DDA **09** 18:51:02.5,3821N×3861E,h12km±1km,Md3.1*
*CSEM **09** 18:51:02.0±0.1,3820N×3867E,h2km,MD3.2,Error ellipse: s-maj=3.3km s-min=1.7km az=154.0*
*ISCJB **09** 18:51:03.5±0.4,3824N±004×3861E±003,h10km,Error ellipse: s-maj=5.4km s-min=3.1km az=171.7*
ISC 09 18:51:03.4±0.5,**3820N**±003×**3863E**±003,**h0**km±7km,**n17, σ0s58**/25,**Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MYA	Malataya	0.21	309	PG	Pg	18 51 07.0	-0.4
MYA				eSG	Sg	18 51 10.1	0.0
ELZG	Elazig	0.41	43	i P	Pg	18 51 11.3	0.0
ELZG				i S	Sg	18 51 17.3	+0.7
SVRC	Sivrice-ELAZID	0.56	71	ePG	Pg	18 51 13.4	-0.8
SVRC				eSG	Sg	18 51 22.1	+0.7
AKCD	Akcadag	0.57	280	i P	Pg	18 51 13.6	-0.7

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
AKCD				iS	Sg	18 51 21.4	-0.2
URFA	Urfa	0.77	169	ePG	Pg	18 51 17.4	-0.7
PTK	Pertek	0.92	40	ePG	Pg	18 51 20.2	-0.8
DARE	Darende-Malaty	0.99	320	ePG	Pg	18 51 22.3	-0.2
GZT	Gaziantep	1.19	226	eP	Pg	18 51 26.4	+0.2
GZT				eS	Sg	18 51 42.5	+0.9
DIYA	Diyarbakir	1.21	103	eP	Pg	18 51 26.8	+0.3
DIYA				eS	Sg	18 51 45.8	+3.6
GAZ	Gaziantep	1.52	228	ePN	Pn	18 51 31.8	0.0
KMRS	Kahramanmaras	1.53	244	ePN	Pn	18 51 31.5	-0.5
SARI	SarD1z-Kayseri	1.59	288	ePN	Pg	18 51 35.1	+1.2
ANDN	Andirin	1.91	252	eP	Pn	18 51 36.9	-0.3
ANDN				eS	Sg	18 52 04.7	-0.1
MARD	Mardin	1.92	117	iP	Pn	18 51 37.1	-0.1
MARD				iS	Sg	18 52 04.6	-0.4
SVSK	Karacayir	2.14	324	ePN	Pn	18 51 40.4	+0.1
BNN	Bunyan	2.28	288	ePN	Pn	18 51 42.6	+0.3
KOZT	Kozan	2.33	253	ePN	Pn	18 51 43.4	+0.5

*NEIC **09** 19:05:28.7, 3197N×664W, h0^{km}, MN2.8(MDD), After MDD.*
*INMG **09** 19:05:28.9±2.0, 3192N×653W, h16^{km}±18^{km}, MD3.8, ML3.1, Error ellipse: s-maj=11.8km s-min=6.9km az=124.0*
*MDD **09** 19:05:29.5±1.0, 3188N×658W, h14^{km}±4^{km}, mb4.2/15, Error ellipse: s-maj=7.7km s-min=6.8km az=145.0*
*ISCJB **09** 19:05:30.0±0.4, 3225N±002×672W±003, h10^{km}, Error ellipse: s-maj=3.9km s-min=2.8km az=32.9*
*CSEM **09** 19:05:29.2±0.1, 3185N×642W, h10^{km}, ML3.9/14, Error ellipse: s-maj=2.5km s-min=1.8km az=119.0*
*CNRM **09** 19:05:30.4, 3186N×645W, h2^{km}, MD4.1*
ISC 09 19:05:30.8±0.4, **3216N**±002×**667W**±003, **h10**^{km}, **n78**, σ1^s**29**/147, **Morocco**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
TZC	Tazercounte	0.15	93	iP	Pg	19 05 35.0	+0.8
TZC				iS	Sg	19 05 40.0	+3.4
KIB	El Ksiba	0.68	52	eP	Pg	19 05 44.0	0.0
KIB				iS	Sg	19 05 56.0	+3.2
TIO	Tiouine	1.33	202	P	Pn	19 05 50.5	-4.9
TIO				S	Sb	19 06 05.5	-7.3
OUK	Oukaimeden	1.39	227	iP	Pn	19 05 55.0	-1.3
OUK				iS	Sb	19 06 12.0	-2.7
CZD	Col de Zad	1.63	57	iP	Pn	19 05 58.0	-1.5
CZD				iS	Sn	19 06 20.0	-0.6
MIF	Mishlifen	1.74	44	iP	Pn	19 06 02.0	+0.9
MIF				iS	Sn	19 06 25.0	+1.6
RTC	Rabat Centre	1.83	355	P	Pn	19 06 07.0	+4.7
RTC				S	Sn	19 06 32.0	+6.4
RTC	Rabat Centre	1.83	355	ePn	Pn	19 06 06.3	+4.0
RTC	Rabat Centre	1.83	355	iP	Pn	19 06 07.0	+4.7
RTC				iS	Sn	19 06 32.0	+6.4
RTC				eSn	Sn	19 06 34.5	+8.9
RTC	Rabat Centre	1.83	355	ePn	Pn	19 06 06.3	+4.0
RTC				eSn	Sn	19 06 34.5	+8.8
CIA	Chichaoua	1.87	252	iP	Pn	19 06 04.0	+1.1
CIA				iS	Sn	19 06 28.0	+1.4
ZFT	Errachidia	1.97	93	iP	Pn	19 06 00.0	-4.3
ZFT				iS	Sn	19 06 24.0	-5.1
JHA	Jbel Lahdid	2.40	261	iP	Pn	19 06 10.0	-0.2
JHA				iS	Sn	19 06 41.0	+1.3
RSA	Sarsar	2.80	14	P	Pn	19 06 18.0	+2.3
RSA				S	Sn	19 06 52.0	+2.5
RSA	Sarsar	2.80	14	eP	Pn	19 06 18.0	+2.3
TZK	Tazeka	2.84	47	eP	Pn	19 06 17.0	+0.8
TZK				iS	Sn	19 06 51.0	+0.5
AFS	Agadir Fac de	2.98	235	eP	Pn	19 06 18.0	-0.1
AFS				iS	Sn	19 06 52.0	-1.8
YBT	Youssef Ben Ta	3.45	229	P	Pn	19 06 22.0	-2.6
YBT				S	Sn	19 06 59.0	-6.5
EJIF	Jimena Fronter	4.40	13	P	Pn	19 06 38.6	+1.0
	1.2nm,0.2s,SNR=7.9						
EJIF				S	Sn	19 07 29.3	+0.4
	1.2nm,0.3s,SNR=7.9						
EMIJ	Mijas	4.67	19	P	Pn	19 06 40.1	-1.2
	1.0nm,0.1s,SNR=4.9						
EMIJ				S	Sn	19 07 34.2	-1.3
	1.1nm,0.2s,SNR=7.9						
ESPR	Espera	4.75	8	P	Pn	19 06 43.6	+1.1
	1.6nm,0.2s,SNR=7.9						
ESPR				S	Sn	19 07 38.7	+1.2
	3.8nm,0.2s,SNR=7.9						
ESPR	Espera	4.75	8	P	Pn	19 06 44.5	+2.1
ESPR	Espera	4.75	8	P	Pn	19 06 44.5	+2.0
ESPR				S	Sn	19 07 38.7	+1.2
PBDV	Barranco-do-Ve	5.18	349	ePn	Pn	19 06 49.2	+0.9
PBDV				eSn	Sn	19 07 48.3	+0.2
PBDV				A		19 07 55.4	
	16nm,0.5s						
PBDV	Barranco-do-Ve	5.18	349	ePn	Pn	19 06 49.2	+0.9
PBDV				eSn	Sn	19 07 48.3	+0.2
	16nm,0.5s						
PFVI	Vila Bisbo	5.27	341	ePn	Pn	19 06 50.5	+0.9
PFVI				eSn	Sn	19 07 50.6	+0.2
PFVI				A		19 07 58.7	
	20nm,0.5s						
PFVI	Vila Bisbo	5.27	341	ePn	Pn	19 06 50.5	+0.9
PFVI				eSn	Sn	19 07 50.6	+0.2
	20nm,0.5s						
PVAQ	Vaqueiros	5.30	351	ePn	Pn	19 06 50.5	+0.4
PVAQ				eSn	Sn	19 07 51.0	-0.2
PVAQ				A		19 07 51.8	
	20nm,0.5s						
PVAQ	Vaqueiros	5.30	351	ePn	Pn	19 06 50.5	+0.4
PVAQ				eSn	Sn	19 07 51.0	-0.2
	20nm,0.5s						
EGUA	Guajares	5.32	28	P	Pn	19 06 49.3	-1.0
	2.6nm,0.2s,SNR=7.9						
EGUA				S	Sn	19 07 49.9	-1.8
	4.4nm,0.3s,SNR=7.9						
EGUA	Guajares	5.32	28	P	Pn	19 06 49.3	-1.0
EGUA				S	Sn	19 07 50.9	-0.8
MORF	Marmelete	5.39	343	ePn	Pn	19 06 52.1	+0.9
MORF				eSn	Sn	19 07 54.1	+0.8
MORF				A		19 08 02.8	
	16nm,0.1s						
MORF	Marmelete	5.39	343	ePn	Pn	19 06 52.1	+0.9
MORF				eSn	Sn	19 07 54.1	+0.8
	16nm,0.1s						
ELOJ	Sierra Loja	5.39	22	P	Pn	19 06 53.0	+1.7
	SNR=7.9						
EGRO	El Granado	5.41	353	P	Pn	19 06 52.4	+0.9
	8.3nm,0.2s,SNR=44						
EGRO				S	Sn	19 07 53.5	-0.2
	21nm,0.3s,SNR=4.7						
EMIN	Mina Concepcio	5.60	360	P	Pn	19 06 54.1	0.0
	3.2nm,0.2s,SNR=33						
EMIN				S	Sn	19 07 56.7	-1.7
	2.3nm,0.2s						
PTEO	Sao Teotonio	5.63	343	ePn	Pn	19 06 55.9	+1.3
PTEO				eSn	Sn	19 08 00.6	+1.3
PTEO				A		19 08 21.4	
	11nm,0.6s						
PTEO	Sao Teotonio	5.63	343	ePn	Pn	19 06 55.9	+1.3
PTEO				eSn	Sn	19 08 00.6	+1.3
	11nm,0.6s						
EBER	Berja	5.67	32	P	Pn	19 06 53.9	-1.1
	1.9nm,0.3s,SNR=7.0						
EBER				S	Sn	19 07 58.6	-1.6
	SNR=7.9						
EQUE	Quentar	5.70	27	P	Pn	19 06 56.1	+0.6
	1.1nm,0.2s,SNR=7.9						
EQUE				S	Sn	19 08 00.1	-0.7
	1.2nm,0.3s,SNR=7.9						
PBEJ	Beja	5.94	351	ePn	Pn	19 06 59.5	+0.7
PBEJ				eSn	Sn	19 08 06.0	-0.8
PBEJ				A		19 08 11.6	
	8.8nm,0.4s						
PBEJ	Beja	5.94	351	ePn	Pn	19 06 59.5	+0.7
PBEJ				eSn	Sn	19 08 06.0	-0.8
	8.8nm,0.4s						
ECAB	El Cabril	5.99	10	P	Pn	19 06 59.7	+0.2
	4.1nm,0.1s,SNR=11						
ECAB				S	Sn	19 08 07.0	-1.2
	3.9nm,0.2s,SNR=5.0						
PBAR	Barrancos	6.01	357	ePn	Pn	19 07 00.1	+0.3
PBAR				eSn	Sn	19 08 06.8	-1.8
PBAR				A		19 08 17.4	
	11nm,0.5s						
PBAR	Barrancos	6.01	357	ePn	Pn	19 07 00.1	+0.3
PBAR				eSn	Sn	19 08 06.8	-1.8
	11nm,0.5s						
EADA	Adamuz	6.24	15	P	Pn	19 07 01.7	-1.2
	0.6nm,0.2s,SNR=7.9						
EADA				S	Sn	19 08 11.5	-2.7
	2.9nm,0.2s,SNR=7.9						
EQES	Quesada	6.36	27	P	Pn	19 07 05.0	+0.4
	1.2nm,0.3s,SNR=7.9						
EQES	Quesada	6.36	27	P	Pn	19 07 06.1	+1.5
EQES	Quesada	6.36	27	P	Pn	19 07 06.1	+1.6
EQES				S	Sn	19 08 14.0	-3.3
EBAN	Banos Encina	6.44	21	P	Pn	19 07 04.4	-1.3
	1.3nm,0.2s,SNR=7.9						
EBAN				S	Sn	19 08 15.8	-3.4
	SNR=7.9						
EVO	Evora	6.45	351	ePn	Pn	19 07 06.6	+0.7
EVO				eSn	Sn	19 08 19.2	-0.3
EVO				A		19 08 23.7	
	6.9nm,0.3s						
EVO	Evora	6.45	351	ePn	Pn	19 07 06.6	+0.7
EVO				eSn	Sn	19 08 19.2	-0.3
	6.9nm,0.3s						
MOE	Montemor	6.50	348	ePn	Pn	19 07 07.7	+1.2
MOE				eSn	Sn	19 08 19.9	-0.7
EHUE	Huescar	6.56	30	P	Pn	19 07 06.9	-0.4
	SNR=7.9						
EHUE	Huescar	6.56	30	P	Pn	19 07 08.6	+1.3
EHUE	Huescar	6.56	30	P	Pn	19 07 08.6	+1.3
EBAD	Badajoz	6.59	358	P	Pn	19 07 08.0	+0.3
	5.0nm,0.3s,SNR=21						
EBAD				S	Sn	19 08 20.6	-2.3
	2.4nm,0.2s						
EFAM	Famara	6.63	245	P	Pn	19 07 05.0	-3.4
	2.4nm,0.1s,SNR=7.9						
EFAM				S	Sn	19 08 18.1	-6.0
	3.7nm,0.2s,SNR=7.9						
PESTR	Estremoz	6.74	354	ePn	Pn	19 07 10.2	+0.5
PESTR				eSn	Sn	19 08 26.7	+0.2
PESTR				A		19 08 42.7	
	6.6nm,0.4s						
PESTR	Estremoz	6.74	354	ePn	Pn	19 07 10.2	+0.5
PESTR				eSn	Sn	19 08 26.7	+0.2
	6.6nm,0.4s						
PMAFR	Mafra	7.11	343	ePn	Pn	19 07 16.9	+2.1
PMAFR				eSn	Sn	19 08 36.3	+0.6
PMAFR				A		19 08 53.7	
	39nm,0.6s						
PMAFR	Mafra	7.11	343	ePn	Pn	19 07 16.9	+2.1
PMAFR				eSn	Sn	19 08 36.3	+0.6
	39nm,0.6s						
PMRV	Marv??o	7.28	356	ePn	Pn	19 07 17.6	+0.4
PMRV				eSn	Sn	19 08 38.0	-1.8
PMRV				A		19 08 46.0	
	5.6nm,0.6s						
PMRV	Marv??o	7.28	356	ePn	Pn	19 07 17.6	+0.4
PMRV				eSn	Sn	19 08 38.0	-1.8
	5.6nm,0.6s						
PCBR	Castelo Branco	7.70	355	ePn	Pn	19 07 23.2	+0.3
PCBR				eSn	Sn	19 08 48.0	-2.1
PCBR				A		19 08 50.0	
	4.2nm,0.4s						
PCBR	Castelo Branco	7.70	355	ePn	Pn	19 07 23.2	+0.3
PCBR				eSn	Sn	19 08 48.0	-2.1
	4.2nm,0.4s						
ETOB	Tobarra	7.71	31	P	Pn	19 07 22.7	-0.3
	2.5nm,0.4s,SNR=7.9						
ETOB	Tobarra	7.71	31	P	Pn	19 07 22.7	-0.3
ETOB				S	Sn	19 08 47.5	-2.8
ESDC	Sonseca Array	7.82	16	P	Pn	19 07 23.3	-1.3
	0.6nm,0.3s,baz=197,slow=13,SNR=7.1						
ESDC				S	Sn	19 08 49.4	-3.7
	0.8nm,0.3s,baz=198,slow=23,SNR=3.9						
MTE	Manteigas	8.26	355	ePn	Pn	19 07 31.1	+0.5
MTE				eSn	Sn	19 09 00.7	-3.2
MTE				A		19 09 42.2	
	7.3nm,0.6s						
MTE	Manteigas	8.26	355	ePn	Pn	19 07 31.1	+0.5
MTE				eSn	Sn	19 09 00.7	-3.2
	7.3nm,0.6s						
MVO	Moncorvo	8.99	358	ePn	Pn	19 07 41.6	+0.9
MVO				eSn	Sn	19 09 18.5	-3.5
MVO				A		19 09 20.8	
	6.2nm,0.6s						
MVO	Moncorvo	8.99	358	ePn	Pn	19 07 41.6	+0.9
MVO				eSn	Sn	19 09 18.5	-3.5
	6.2nm,0.6s						
ELOB	Lobios	9.76	354	P	Pn	19 07 51.9	+0.8
	1.0nm,0.2s,SNR=7.9						
ELOB				S	Sn	19 09 36.6	-4.1
	0.9nm,0.2s,SNR=7.9						
ELOB	Lobios	9.76	354	P	Pn	19 07 50.2	-1.0
ELOB				S	Sn	19 09 36.1	-4.6
ECAL	Calabor	9.77	360	P	Pn	19 07 52.1	+0.8
	1.6nm,0.2s,SNR=5.3						
ECAL				S	Sn	19 09 36.3	-4.7
	0.9nm,0.2s,SNR=7.9						
EARI	Arriondas	11.19	6	P	Pn	19 08 12.0	+1.3
	0.1nm,0.1s,SNR=7.9						
EARI				S	Sn	19 10 11.2	-4.6
	0.1nm,0.2s,SNR=7.9						
EARI	Arriondas	11.19	6	P	Pn	19 08 12.6	+1.9
EARI				S	Sn	19 10 11.2	-4.6

*JMA **09** 19:43:37.4±0.3, 2443N×12174E, h54^{km}, M2.7*
*ISCJB **09** 19:43:38.6±0.4, 2407N±002×12181E±003, h50^{km}±6^{km}, Error ellipse: s-maj=5.0km s-min=2.8km az=138.1*
*TAP **09** 19:43:38.6, 2410N×12175E, h47^{km}±1^{km}, ML3.0, D*
ISC 09 19:43:39.1±0.4, **2408N**±002×**12180E**±003, **h47**^{km}±7^{km}, **n32**, σ**0^{s}56**/61, **1C, Taiwan**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
TWD	Chiawan	0.19	271	iP	Pn	19 43 47.0	0.0
	baz=264						
TWD				S	Sn	19 43 53.5	+0.8
	baz=264						
ENA	Nanau	0.35	351	iP	Pn	19 43 48.2	-0.3
	baz=358						
ENA				eS	Sn	19 43 56.1	+0.8
	baz=358						
ESL	Shilin	0.42	232	iP	Pn	19 43 48.4	-0.9
	baz=226						
ESL				S	Sn	19 43 55.8	-0.7
	baz=226						
WHF	Hehuan Shan	0.49	278	⇑iP	Pn	19 43 49.7	-0.4
	baz=276						
WHF				S	Sn	19 43 57.5	-0.5
	baz=276						
NNS	Nan Shan	0.53	313	iP	Pn	19 43 49.7	-0.9
	baz=314						
NNS				S	Sn	19 43 58.5	-0.3
	baz=314						
TWC	Suao	0.53	5	P	Pn	19 43 50.5	-0.2
	baz=9.0						
TWC				S	Sn	19 43 59.5	+0.7
	baz=9.0						
TWE	Neicheng	0.65	349	eP	Pn	19 43 51.4	-0.8
	baz=352						
TWE				eS	Sn	19 44 01.6	+0.1
	baz=352						
ILA	Ilan	0.69	356	eS	Sn	19 44 03.2	+0.8
	baz=359						
EHY	Hungye	0.72	218	eP	Pn	19 43 52.8	-0.1
	baz=213						
EHY				eS	Sn	19 44 01.7	-1.3
	baz=213						
SMLT	Sun Moon Lake	0.84	257	P	Pn	19 43 54.6	0.0
	baz=254						
SMLT				S	Sn	19 44 06.0	0.0
	baz=254						
TWF1	Yuli	0.85	213	eP	Pn	19 43 54.6	-0.2
	baz=209						
TWF1				eS	Sn	19 44 05.2	-1.1
	baz=209						
NSTT	Nanjuang	0.91	307	P	Pn	19 43 54.9	-0.7
	baz=307						
NSTT				S	Sn	19 44 07.0	-0.7
	baz=307						
TWA	Mucha	0.92	348	eP	Pn	19 43 55.8	+0.1
	baz=349						
TWA				eS	Sn	19 44 07.7	-0.2
	baz=349						
YUS	Yu-Shan	0.97	233	eP	Pn	19 43 56.4	0.0
	baz=230						
YUS				eS	Sn	19 44 09.6	+0.5
	baz=230						
NWF	Wu-fen Shan	0.99	359	eP	Pn	19 43 56.0	-0.6
	baz=1.0						
NWF				eS	Sn	19 44 09.9	+0.4
	baz=1.0						
WNT	Mingjian	1.04	259	P	Pn	19 43 57.4	+0.1
	baz=257						
WNT				eS	Sn	19 44 11.1	+0.4
	baz=257						
CHKT	Chengkung	1.05	202	eP	Pn	19 43 57.3	-0.2
	baz=199						
CHKT				eS	Sn	19 44 10.8	-0.1
	baz=199						
ALS	Alishan	1.07	239	P	Pn	19 43 58.1	+0.4
	baz=236						
ALS				eS	Sn	19 44 12.7	+1.2
	baz=236						
CHN5	Tsauling	1.13	245	iP	Pn	19 43 58.5	0.0
	baz=243						
CHN5				eS	Sn	19 44 13.5	+0.6
	baz=243						
ELDTW	Lidau	1.14	219	eP	Pn	19 43 58.3	-0.3
	baz=216						
ELDTW				eS	Sn	19 44 12.3	-0.8
	baz=216						
WGK	Gukeng	1.20	251	eP	Pn	19 43 59.4	0.0
	baz=249						
WGK				eS	Sn	19 44 15.5	+0.9
	baz=249						
STYT	Tauyuan	1.32	227	eP	Pn	19 44 01.2	+0.1
	baz=224						
STYT				eS	Sn	19 44 18.0	+0.5
	baz=224						
TWG	Pinlang	1.42	208	eP	Pn	19 44 02.4	-0.1
	baz=206						
TWK	Hsinying	1.45	236	eP	Pn	19 44 02.7	-0.2
	baz=234						
TWK				eS	Sn	19 44 21.0	+0.4
	baz=234						
CHN1	Nanshi	1.47	233	eP	Pn	19 44 03.3	+0.2
	baz=231						
CHN1				eS	Sn	19 44 21.6	+0.5
	baz=231						
SSD	Sandimen	1.70	219	eP	Pn	19 44 06.8	+0.4
	baz=217						
SSD				eS	Sn	19 44 27.8	+0.8
	baz=217						
IRIF	Iriomote-Funau	1.78	81	P	Pn	19 44 07.0	-0.4
IRIF				eS	Sn	19 44 29.0	+0.1
HATJ	Hateruma jima	1.83	90	P	Pn	19 44 08.4	+0.3
HATJ				eS	Sn	19 44 31.3	+1.2
EAST	Anshuo	1.90	208	eP	Pn	19 44 09.3	+0.3
	baz=206						
JKRS	Kuro-shima	2.02	85	P	Pn	19 44 10.8	0.0
JKRS				eS	Sn	19 44 35.8	+0.9
JIJ	Ishigaki jima	2.16	82	P	Pn	19 44 12.0	-0.6
JIJ				eS	Sn	19 44 37.4	-0.7
JTJ	Tarama	2.71	77	P	Pn	19 44 19.8	-0.3
JTJ				eS	Sn	19 44 51.5	-0.1

IDC 09 19:45:00.1±2.6, **363S**×**12852E**, **h0**^{km}, **mb3.6**/3, **mb1 3.9**/4, **mb1mx3.6**/15, **mbtmp3.7**/4, **ML3.7**/1, **Error ellipse: s-maj=109.7km s-min=21.3km az=59.0, Seram**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	17.18	161	P	Pn	19 49 00.8	-0.9
	0.3nm,0.3s,baz=340,slow=13,SNR=17						
WRA				S	Sn	19 52 14.8	+1.2
	0.0nm,0.3s,baz=331,slow=21,SNR=3.1						
ASAR	Alice Springs	20.59	166	P	P	19 49 42.5	+1.7
	1.7nm,0.4s,baz=345,slow=10,SNR=66						
STKA	Stephens Creek	30.67	158	P	P	19 51 15.8	-0.7
	2.0nm,1.1s,baz=324,slow=13,SNR=3.3						
CMAR	Chiang Mai Arr	36.48	308	P	P	19 52 07.1	-0.1
	3.6nm,1.4s,baz=138,slow=7.9,SNR=4.5						

*CSEM **09** 19:54:03.1, 4295N×4547E, h11^{km}, mb3.7, After OBN*
MOS 09 19:54:03.9±0.4, **4295N**×**4547E**, **h11**^{km}, **mb3.7**/1, **Error ellipse: s-maj=19.5km s-min=7.8km az=25.0, Eastern Caucasus**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SNJR	Sundja	0.49	284	iPg	Pg	19 54 14.4	+0.8
SNJR				iSg	Sg	19 54 22.7	+2.6
VLKR	Vladikavkaz	0.59	280	ePg	Pg	19 54 16.4	+1.1
VLKR				eSg	Sg	19 54 25.6	+2.6
BTKR	Batakoyurt	0.80	302	ePg	Pg	19 54 20.3	+1.0
BTKR				eSg	Sg	19 54 31.9	+2.2
LACR	Lac	0.87	262	iPg	Pg	19 54 20.8	+0.2
LACR				eSg	Sg	19 54 32.7	+0.7
ARNR	Ardon	0.90	286	iPg	Pg	19 54 21.5	+0.2
ARNR				eSg	Sg	19 54 34.3	+1.3
TRKR	Terskaya	0.94	326	ePg	Pg	19 54 21.6	-0.4
TRKR				eSg	Sg	19 54 35.0	+0.7
KMSR	Komsomolskaya	0.96	296	iPg	Pg	19 54 22.7	+0.4
KMSR				eSg	Sg	19 54 36.3	+1.5
DBC	Dubki	1.00	86	ePG	Pg	19 54 23.0	-0.2
DBC				iS	Sg	19 54 37.0	+0.7
UNCR	Uncukul	1.00	103	iPG	Pg	19 54 23.0	-0.2
UNCR				iS	Sg	19 54 39.0	+2.7
UNCR				pmax	pmax		
	comp=Z,54nm,0.2s						
UNCR	Uncukul	1.00	103	iPg	Pg	19 54 23.0	-0.2
	comp=Z,54nm,0.2s						
UNCR				iSg	Sg	19 54 39.0	+2.7
KORR	Kora	1.03	278	iPg	Pg	19 54 23.6	-0.2
KORR				eSg	Sg	19 54 37.9	+0.6
ZEI	Tsey	1.17	262	iPg	Pg	19 54 25.4	-0.9
ZEI				iSg	Sg	19 54 40.5	-1.0
PRTR	Priterechnaya	1.18	313	iPg	Pg	19 54 26.5	0.0
PRTR				iSg	Sg	19 54 43.3	+1.4
LSNR	Lesken	1.25	286	iPg	Pg	19 54 27.0	-0.9
LSNR				eSg	Sg	19 54 44.3	+0.1
KMKR	Kumukh	1.46	124	PG	Pg	19 54 31.0	-0.9
KMKR				iS	Sn	19 54 53.0	+3.8
KMKR				pmax	pmax		
	comp=Z,21nm,0.2s						
KMKR	Kumukh	1.46	124	Pg	Pg	19 54 31.0	-0.9
	comp=Z,21nm,0.2s						
KMKR				iSg	Sg	19 54 53.0	+2.2

TAP 09 20:09:43.1, 2131N×12116E, h59^{km}±1^{km}, **ML3.6, D, Taiwan region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
TSEB	Hengchuen, Pin	0.63	338	iP	Pn	20 09 57.1	+0.6
	baz=334						
TSEB				iS	Sn	20 10 07.9	+1.5
	baz=334						
TWK1	Hengchun	0.71	332	iP	Pn	20 09 58.0	+0.5
	baz=332						
TWK1				S	Sn	20 10 09.1	+1.2
	baz=332						
HEN	Hengchun	0.79	331	P	Pn	20 09 59.5	+1.0
	baz=330						
HEN				eS	Sn	20 10 11.0	+1.2
	baz=330						
LAY	Lan-yu	0.81	27	P	Pn	20 10 00.1	+1.3
	baz=26						
LAY				S	Sn	20 10 11.3	+1.1
	baz=26						
TAW	Tawu	1.07	347	eP	Pn	20 10 02.3	+0.2
	baz=346						
TAW				eS	Sn	20 10 16.8	+0.7
	baz=346						
EAST	Anshuo	1.10	345	P	Pn	20 10 02.8	+0.2
	baz=344						
EAST				eS	Sn	20 10 17.8	+0.9
	baz=344						
SCZT	Fangliau	1.17	335	P	Pn	20 10 05.2	+1.8
	baz=334						
SCZT				eS	Sn	20 10 20.6	+2.1
	baz=334						
ECL	Taimali	1.29	352	eP	Pn	20 10 05.5	+0.5
	baz=351						
ECL				eS	Sn	20 10 21.0	-0.4
	baz=351						
TTN	Taitung	1.44	360	eS	Sn	20 10 27.0	+2.1
	baz=359						
TWG	Pinlang	1.50	357	eP	Pn	20 10 08.8	+1.0
	baz=356						

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
TWG				eS	Sn	20 10 27.4	+0.9
	baz=356						
SSD	Sandimen	1.51	341	eP	Pn	20 10 10.3	+2.4
	baz=341						
TWM1	Shoushan	1.65	336	eP	Pn	20 10 11.2	+1.4
	baz=335						
CHKT	Chengkung	1.79	6	P	Pn	20 10 12.8	+1.0
	baz=6.0						
CHKT				S	Sn	20 10 34.5	+1.1
	baz=6.0						
ELDTW	Lidau	1.87	356	eP	Pn	20 10 14.6	+1.7
	baz=355						
ELDTW				eS	Sn	20 10 36.5	+1.1
	baz=355						
STYT	Tauyuan	1.88	349	eP	Pn	20 10 15.5	+2.5
	baz=348						
CHN1	Nanshi	1.95	343	eP	Pn	20 10 15.8	+1.9
	baz=342						
TWF1	Yuli	2.04	4	eP	Pn	20 10 15.8	+0.8
	baz=3.0						
TWF1				eS	Sn	20 10 39.5	+0.2
	baz=3.0						
YUS	Yu-Shan	2.18	355	eP	Pn	20 10 19.0	+2.0
	baz=354						
YUS				eS	Sn	20 10 44.1	+1.3
	baz=354						
ALS	Alishan	2.21	352	eP	Pn	20 10 20.8	+3.3
	baz=351						
CHN5	Tsauling	2.32	349	eP	Pn	20 10 22.1	+3.1
	baz=348						
ESL	Shilin	2.50	6	eP	Pn	20 10 24.2	+2.7
	baz=5.0						
ESL				eS	Sn	20 10 50.7	-0.1
	baz=5.0						
WHF	Hehuan Shan	2.82	2	eP	Pn	20 10 27.9	+2.1
	baz=1.0						
WHF				eS	Sn	20 10 59.1	+0.5
	baz=1.0						

IDC 09 20:18:15.5±1.5, 183N×12503E, h0km, mb3.5/5, mb1 3.7/5, mb1mx3.5/17, mbtmp3.5/5, Error ellipse: s-maj=213.5km s-min=19.2km az=64.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRA	Warramunga Arr	23.48	158	P	P	20 23 27.0	-0.2
	0.6nm,0.4s,baz=335,slow=11,SNR=3.4						
ASAR	Alice Springs	26.77	162	P	P	20 23 58.2	+1.0
	0.2nm,0.6s,baz=343,slow=7.9,SNR=3.6						
STKA	Stephens Creek	37.02	156	P	P	20 25 26.5	-0.6
	1.2nm,0.5s,baz=327,slow=11,SNR=7.6						
MKAR	Makanchi Array	58.17	327	P	P	20 28 12.3	+1.0
	0.2nm,0.4s,baz=119,slow=8.0,SNR=4.9						
KURK	Kurchatov	62.45	329	P	P	20 28 39.5	-0.9
	0.2nm,0.4s,baz=129,slow=6.4,SNR=3.3						

NEIC 09 20:21:16.2, 4126S×17261E, h196km, MG3.7(WEL), After WEL., South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
QRZ	Quartz Range	0.44	352	P	Pn	20 21 42.4	-0.2
QRZ				S	Sn	20 22 01.7	-1.3
THZ	Tophouse	0.55	156	P	Pn	20 21 43.3	+0.3
THZ				S	Sn	20 22 02.7	-1.2
NNZ	Nelson	0.58	86	P	Pn	20 21 43.0	-0.1
NNZ				S	Sn	20 22 03.3	-0.6
DSZ	Denniston Nort	0.78	231	P	Pn	20 21 43.6	-0.5
BSWZ	Blackbirch Sta	1.05	116	P	Pn	20 21 46.0	+0.2
TCW	Tory Channel	1.26	88	P	Pn	20 21 47.5	+0.1
LTZ	Lake Taylor	1.54	189	P	Pn	20 21 49.8	0.0
LTZ				S	Sn	20 22 14.5	-1.6
MRW	Makara Radio	1.58	90	P	Pn	20 21 49.9	-0.3
SNZO	South Karori	1.58	93	P	Pn	20 21 49.9	-0.3
BHW	Baring Head	1.71	96	P	Pn	20 21 51.1	-0.3
KIW	Kapiti Island	1.78	78	P	Pn	20 21 51.9	-0.3
CAW	Cannon Point	1.86	86	P	Pn	20 21 52.6	-0.3
MSWZ	Moikau Station	1.99	95	P	Pn	20 21 54.0	-0.3
PAWZ	Paruwai Farm	2.12	94	P	Pn	20 21 55.4	-0.3
MTW	Mount Morrison	2.18	88	P	Pn	20 21 55.9	-0.4
WVZ	Waitaha Valley	2.29	217	P	Pn	20 21 56.2	-1.2
MRZ	Mangatainoka R	2.33	76	P	Pn	20 21 57.2	-0.7
MQZ	McQueen's Vall	2.45	179	P	Pn	20 21 57.9	-1.2
FOZ	Fox Glacier	3.16	222	P	Pn	20 22 04.5	-2.9
ODZ	Otahua Downs	4.05	200	P	Pn	20 22 17.4	-0.9

*BJI **09** 20:40:01.9, 1052N×14589E, h8km, mB5.0, mb4.7, Ms4.7, Msz4.2*

*ISCJB **09** 20:40:02.7±0.3, 1035N±004×14582E±006, h17km, mb4.8/59, MS3.4/12, Error ellipse: s-maj=9.1km s-min=5.6km az=172.4*

*IDC **09** 20:40:02.2±0.6, 1038N×14581E, h0km, mb4.6/17, mb1 4.7/18, mb1mx4.6/25, mbtmp4.6/18, ML4.6/1, MS3.4/10, Ms1 3.4/10, ms1mx3.1/28, Error ellipse: s-maj=22.8km s-min=11.4km az=81.0*

*NEIC **09** 20:40:03.2±0.3, 1039N×14583E, h10km, mb4.7/29, Error ellipse: s-maj=10.3km s-min=5.8km az=86.0*

*MOS **09** 20:40:05.2±1.3, 1042N×14579E, h33km, mb5.0/21, Error ellipse: s-maj=14.6km s-min=7.5km az=111.9*

ISC 09 20:40:02.5±2.4, 1037N±004×14585E±006, h4km±15km, h18km±4.5km:pP-P, n130, σ0.96/122, mb4.8/59, MS3.4/12, 6C, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
GUMO	Guam	3.34	343	Pn	Pn	20 40 53.6	-1.9
	64nm,0.3s,baz=168,slow=6.6,SNR=19						
GUMO				Sn	Sn	20 41 30.4	-5.2
	200nm,0.3s,baz=15,slow=20,SNR=12						
GUMO	Guam	3.34	343	ePn	Pn	20 40 53.1	-2.4
GUMO				eSn	Sn	20 41 28.1	-7.6
PMG	Port Moresby	19.69	176	eP	Pn	20 44 27.3	-7.0
PMG				pmax	pmax		
	comp=Z,13nm,0.7s						
PMG	Port Moresby	19.69	176	eP	Pn	20 44 27.3	-7.0
	comp=Z,13nm,0.7s						
DAV	Davao City (W)	20.30	262	LR	LR	20 50 27.6	
	comp=Z,217nm,20.8s,MS3.5,baz=324,slow=31						
HNR	Honiara	24.16	144	LR	LR	20 54 08.9	
	comp=Z,59nm,18.1s,MS3.1,baz=219,slow=35						
COEN	Coen	24.32	186	eP	P	20 45 20.9	-0.5
	comp=Z,5.7nm,1.2s,mb3.9						
KAKA	Kakadu	26.52	210	eP	P	20 45 38.9	-2.5
	comp=Z,9.8nm,0.8s,mb4.4						
KAKA	Kakadu	26.52	210	eP	P	20 45 38.9	-2.5
	comp=Z,18nm,0.8s,mb4.7						
MJAR	Matsushiro Arr	26.96	346	P	P	20 45 44.0	-1.1
	comp=Z,7.4nm,0.8s,mb4.2,baz=168,slow=10.0,SNR=13						
MJAR				LR	LR	20 55 01.8	
	comp=Z,73nm,21.1s,MS3.2,baz=275,slow=33						
MAJO	Matsushiro	26.96	346	eP	P	20 45 43.3	-1.9
MAJO				pmax	pmax		
	comp=Z,23nm,1.2s,mb4.6						
MAJO	Matsushiro	26.96	346	eP	P	20 45 43.3	-1.9
	comp=Z,23nm,1.2s,mb4.6						
MAT	Matsushiro	26.96	346	P	P	20 45 43.9	-1.3
YHNB	Yeheng	27.26	305	P	P	20 45 45.3	-2.8
	comp=Z,44nm,1.1s,mb4.9						
BATI	Baumata	30.08	228	P	P	20 46 13.7	+0.4
	comp=Z,24nm,0.8s,mb5.0,baz=332,slow=3.4,SNR=7.0						
KAPI	Kappang	30.15	241	LR	LR	20 56 16.8	
	comp=Z,90nm,19.9s,MS3.4,baz=349,slow=32						
CTA	Charters Tower	30.27	179	eP	P	20 46 15.2	+0.4
	comp=Z,5.6nm,0.7s,mb4.4						
CTA	Charters Tower	30.27	179	P	P	20 46 15.4	+0.6
	comp=Z,6.9nm,0.7s,mb4.5,baz=357,slow=9.0,SNR=10						
CTA				LR	LR	20 56 13.0	
	comp=Z,36nm,20.5s,MS3.0,baz=52,slow=32						
CTA	Charters Tower	30.27	179	eP	P	20 46 15.2	+0.4
CTA				pmax	pmax		
	comp=Z,6.0nm,0.7s						
CTAO	Charters Tower	30.27	179	eP	P	20 46 14.9	+0.1
CTAO				pmax	pmax		
	comp=Z,8.0nm,0.7s,mb4.6						
CTAO	Charters Tower	30.27	179	eP	P	20 46 14.9	+0.1
	comp=Z,7.9nm,0.7s,mb4.5						
KSRS	Korea Array	31.43	332	P	P	20 46 25.0	+0.1
	comp=Z,10nm,0.8s,mb4.7,baz=140,slow=9.6,SNR=24						
WB2	Warramunga Arr	32.18	201	eP	P	20 46 31.1	-0.6
WRA	Warramunga Arr	32.18	201	P	P	20 46 31.1	-0.6
	comp=Z,2.7nm,0.8s,mb4.2,baz=357,slow=9.0,SNR=31						
WRA				PcP	PcP	20 49 21.2	+0.5
	comp=Z,2.1nm,0.8s,baz=9.4,slow=3.0,SNR=11						
WRA				LR	LR	21 00 00.1	
	comp=Z,59nm,19.2s,MS3.3,baz=170,slow=37						
WRA	Warramunga Arr	32.18	201	P	P	20 46 31.1	-0.6
WRA						20 49 21.2	
WRA	Warramunga Arr	32.18	201	P	P	20 46 31.1	-0.6
WRA				PcP	PcP	20 49 21.2	+0.5
WRA				LR	LR	21 00 00.1	
NJ2	Nanjing	32.98	315	eP	P	20 46 39.2	+0.6
NJ2				AMB	AMB		
	comp=Z,20nm,0.5s,mb5.3						
FITZ	Fitzroy Crossi	34.62	215	eP	P	20 46 53.9	+0.9
	comp=Z,4.0nm,0.6s,mb4.5						
FITZ	Fitzroy Crossi	34.62	215	P	P	20 46 52.8	-0.2
	comp=Z,2.8nm,0.8s,mb4.2,baz=50,slow=7.1,SNR=8.2						
WHN	Wuhan	35.49	309	P	P	20 47 00.8	+0.3
ASAR	Alice Springs	35.79	199	P	P	20 47 03.0	+0.1
	comp=Z,2.0nm,0.6s,mb4.2,baz=28,slow=9.9,SNR=30						
ASAR				PcP	PcP	20 49 31.4	+0.5
	comp=Z,1.4nm,0.9s,baz=42,slow=2.4,SNR=5.3						
QIZ	Qiongzhong	35.81	288	P	P	20 47 02.1	-1.3
QIZ				eS	S	20 52 40.0	-1.7
KSM	Kuching	36.40	258	eP	P	20 47 06.5	-2.0
MDJ	Mudanjiang	36.89	341	P	P	20 47 12.2	0.0
MDJ				XP	sP	20 47 16.6	+2.7
MDJ				AMB	AMB		
	comp=Z,8.0nm,0.9s,mb4.5						
MDJ				AMB	AMB		
	comp=Z,127nm,5.2s						
MDJ	Mudanjiang	36.89	341	P	P	20 47 11.7	-0.5
	comp=Z,9.2nm,0.9s,mb4.6						
MBWA	Marble Bar	40.50	219	eP	P	20 47 42.6	-0.2
	comp=Z,29nm,1.1s,mb4.8						
XAN	Xi'an	41.17	311	P	P	20 47 48.1	-0.1
XAN				AP	pP	20 47 56.1	+6.7
XAN				AMB	AMB		
	comp=Z,6.0nm,0.9s,mb4.2						
XAN				AMB	AMB		
	comp=Z,87nm,5.8s						
STKA	Stephens Creek	42.20	185	eP	P	20 47 55.5	-1.1
	comp=Z,1.8nm,0.6s,mb3.9						
STKA	Stephens Creek	42.20	185	P	P	20 47 55.6	-1.0
	comp=Z,3.4nm,0.8s,mb4.0,baz=354,slow=9.6,SNR=7.4						
STKA				LR	LR	21 04 41.1	
	comp=Z,86nm,18.3s,MS3.7,baz=25,slow=35						
STKA	Stephens Creek	42.20	185	eP	P	20 47 55.0	-1.6
	comp=Z,2.9nm,0.7s,mb4.0						
HHC	Hu-ho-hao-te	42.84	321	eP	P	20 48 02.7	+0.9
HHC				AP	pP	20 48 07.2	+4.2
HHC				XP	sP	20 48 10.4	+6.9
HHC				PP	PP	20 49 46.4	+5.3
HHC				PCP	PcP	20 49 53.0	+0.1
HHC				SCP	ScP	20 53 43.3	-1.7
HHC				S	S	20 54 27.5	+0.6
HHC				XS	sS	20 54 34.9	+6.1
HHC				SS	SS	20 57 34.5	-3.4
HHC				SCS	ScS	20 57 59.9	-4.1
HHC				AMB	AMB		
	comp=Z,15nm,1.1s,mb4.6						
HHC				AMB	AMB		
	comp=Z,163nm,5.5s						
HHC				LR	LR		
	comp=N,266nm,14.4s,MS4.5						
HHC				LR	LR		
	comp=E,321nm,14.7s,MS4.5						
HHC				LR	LR		
	comp=Z,157nm,14.5s,MS4.0						
KMI	Kunming	43.40	296	P	P	20 48 08.2	+1.7
KMI				pmax	pmax		
	comp=Z,12nm,1.1s,mb4.5						
KMI				MLR	MLR		
	comp=Z,40nm,21.0s,MS3.3						
KMI	Kunming	43.40	296	P	P	20 48 08.2	+1.7
	comp=Z,12nm,1.1s,mb4.5						
KMI				LR	LR		
	comp=Z,40nm,21.0s,MS3.3						
PETK	Petropavlovsk-	43.68	10	LR	LR	21 03 36.4	
	comp=Z,39nm,19.3s,MS3.3,baz=325,slow=32						
CD2	Chengdu	44.03	304	P	P	20 48 11.9	+0.3
CD2				AMB	AMB		
	comp=Z,20nm,0.8s,mb4.9						
FORT	Forrest	44.34	202	eP	P	20 48 13.9	0.0
	comp=Z,28nm,0.7s,mb5.1						
HIA	Hailar	44.45	336	eP	P	20 48 15.0	+0.4
HIA				pmax	pmax		
	comp=Z,11nm,0.8s						
HIA	Hailar	44.45	336	eP	P	20 48 15.0	+0.4
	comp=Z,12nm,0.8s,mb4.7						
CNB	Canberra Magne	45.56	176	eP	P	20 48 24.0	+0.5
LZH	Lanzhou	45.81	311	eP	P	20 48 27.0	+1.4
LZH				AP	pP	20 48 30.0	+3.2
LZH				XP	sP	20 48 31.5	+4.2
LZH				AMB	AMB		
	comp=Z,27nm,1.3s,mb5.0						
LZH				AMB	AMB		
	comp=Z,110nm,4.3s						
LZH	Lanzhou	45.81	311	eP	P	20 48 27.0	+1.4
	comp=Z,27nm,1.3s,mb5.0						
LZH				pP	pP	20 48 30.0	+3.2
LZH				sP	sP	20 48 31.5	+4.2
CM31	Chiang Mai Arr	46.03	286	eP	P	20 48 28.5	+0.9
	comp=Z,15nm,0.8s,mb5.0						
CMAR	Chiang Mai Arr	46.03	286	P	P	20 48 28.8	+1.2
	comp=Z,11nm,0.8s,mb4.9,baz=85,slow=6.0,SNR=117						
CMAR				LR	LR	21 05 57.3	
	comp=Z,28nm,19.3s,MS3.2,baz=242,slow=34						
CMAR	Chiang Mai Arr	46.03	286⇑	eP	P	20 48 28.7	+1.1
CHTO	Chiang Mai	46.05	286	eP	P	20 48 28.6	+0.8
TOO	Toolangi	47.69	180	eP	P	20 48 41.1	+0.9
KLBR	Kellerberrin	49.65	212	eP	P	20 48 53.6	-1.9
	comp=Z,32nm,1.1s,mb5.3						
SONM	Songino Array	49.91	326	P	P	20 48 58.3	+1.1
	comp=Z,6.7nm,0.9s,mb4.7,baz=142,slow=8.1,SNR=28						
SONM				PcP	PcP	20 50 17.9	+0.3
	comp=Z,2.2nm,0.7s,baz=164,slow=3.3,SNR=4.6						
GTA	Gaotai	50.04	313	eP	P	20 48 59.2	+0.8
GTA				AP	pP	20 49 09.9	+10
GTA				PCP	PcP	20 50 19.8	+1.5
GTA				AMB	AMB		
	comp=Z,10.0nm,0.9s,mb4.8						
MUN	Mundaring	50.77	213	eP	P	20 49 03.5	-0.4
YAK	Yakutsk	52.90	351	eP	P	20 49 16.9	-2.5
YAK				pmax	pmax		
	comp=Z,15nm,1.0s,mb4.9						
YAK	Yakutsk	52.90	351	eP	P	20 49 17.0	-2.4
ZAK	Zakamensk	53.04	327	eP	P	20 49 20.8	+0.2
ZAK				pmax	pmax		
	comp=Z,10.0nm,1.0s,mb4.7						
BOD	Bodaibo	53.25	339	eP	P	20 49 21.9	-0.1
BOD				pmax	pmax		
	comp=Z,6.0nm,1.1s,mb4.4						
TLY	Talaya	53.58	329	eP	P	20 49 25.2	+0.6
TLY				pmax	pmax		
	comp=Z,9.0nm,1.0s,mb4.7						
TLY	Talaya	53.58	329	eP	P	20 49 24.6	0.0
	comp=Z,4.8nm,0.8s,mb4.5						
LSA	Lhasa	54.35	299	eP	P	20 49 32.2	+1.6
LSA	Lhasa	54.35	299	eP	P	20 49 32.2	+1.6
TAPN	Taplejung	57.06	296	eP	P	20 49 50.7	+0.5
	comp=Z,29nm,0.8s,mb5.3						
ODAN	Odare	57.31	295	eP	P	20 49 52.2	+0.3
	comp=Z,17nm,0.6s,mb5.3						
RAMN	Ramite	58.02	295	eP	P	20 49 57.4	+0.5
JIRN	Jiri	58.44	296	eP	P	20 50 00.6	+0.8
	comp=Z,35nm,0.7s,mb5.5						
RPZ	Rata Peaks	58.51	159	P	P	20 50 00.9	+0.9
	comp=Z,4.6nm,0.5s,mb4.7,baz=259,slow=5.2,SNR=3.5						
GUN	Gumba	58.73	296	eP	P	20 50 02.6	+0.7
	comp=Z,92nm,0.8s						
PKI	Pulchoki	59.12	296	eP	P	20 50 04.9	+0.3
	comp=Z,37nm,0.9s,mb5.4						
KKN	Kakani	59.25	296	eP	P	20 50 05.7	+0.2
	comp=Z,38nm,0.8s,mb5.5						
DMN	Daman	59.39	296	eP	P	20 50 06.9	+0.4
	comp=Z,42nm,0.8s,mb5.5						
GKN	Gorkha	59.84	296	eP	P	20 50 09.7	+0.2
WMQ	Urumqi	60.05	315	⇑P	P	20 50 11.8	+1.1
WMQ				AP	pP	20 50 16.3	+4.3
WMQ				XP	sP	20 50 18.8	+6.4
WMQ				PCP	PcP	20 50 57.3	+0.6
WMQ				PP	PP	20 52 26.1	+3.0
WMQ				S	S	20 58 22.3	-2.1
WMQ				AMB	AMB		
	comp=Z,27nm,0.4s,mb5.6						
WMQ				AMB	AMB		
	comp=Z,204nm,5.1s						
WMQ				LR	LR		
	comp=N,339nm,16.0s						
DANN	Dangsing	60.63	297	eP	P	20 50 15.4	+0.4
	comp=N,72nm,0.6s						
KOLN	Koldanda	60.73	296	eP	P	20 50 15.8	+0.1
	comp=N,36nm,0.8s,mb5.6						
TIXI	Tiksi	62.11	354⇑	eP	P	20 50 24.5	+0.3
TIXI				pmax	pmax		
	comp=Z,6.0nm,1.1s,mb4.6						
MK31	Makanchi Array	64.47	317	eP	P	20 50 40.9	+0.6
MKAR	Makanchi Array	64.47	317	P	P	20 50 40.8	+0.4
	comp=Z,5.3nm,0.8s,mb4.6,baz=96,slow=8.0,SNR=37						
MKAR	Makanchi Array	64.47	317⇑	eP	P	20 50 40.7	+0.4
ZAA0	Zalesovo Array	64.79	325	eP	P	20 50 41.9	-0.4
ZALV	Zalesovo Beam	64.79	325	P	P	20 50 42.0	-0.2
	comp=Z,2.9nm,0.6s,mb4.5,baz=110,slow=6.3,SNR=18						
NVS	Novosibirsk	65.94	326	iP	P	20 50 47.9	-1.8
KURK	Kurchatov	67.66	321	P	P	20 51 00.9	+0.2
	comp=Z,10nm,0.8s,mb4.9,baz=106,slow=6.0,SNR=14						
KURK	Kurchatov	67.66	321⇑	eP	P	20 51 00.6	-0.1
KURK				pmax	pmax		
	comp=Z,25nm,1.2s,mb5.1						
KURK	Kurchatov	67.66	321	eP	P	20 51 00.1	-0.6
	comp=Z,20nm,1.0s,mb5.1						
TKM2	Tokmak 2	68.56	312	eP	P	20 51 06.1	-0.4
TKM2				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb4.1						
TKM2	Tokmak 2	68.56	312	eP	P	20 51 06.1	-0.4
	comp=Z,2.1nm,0.8s,mb4.1						
RC01	Rabbit Creek A	68.73	28	P	P	20 51 05.2	-2.0
UCH	Uchtor	69.29	311	eP	P	20 51 12.2	+1.1
	comp=Z,7.6nm,1.0s,mb4.6						
AML	Almayashu	69.89	311	eP	P	20 51 14.7	-0.2
	comp=Z,4.7nm,0.9s,mb4.4						
COLA	College	70.69	24	eP	P	20 51 19.8	+0.5
BVAR	Borovoye Array	73.04	322	P	P	20 51 33.8	+0.2
	comp=Z,13nm,0.8s,mb4.9,baz=103,slow=6.7,SNR=64						
BRVK	Borovoye	73.10	322	eP	P	20 51 33.4	-0.6
KBL	Kabul	73.36	303	eP	P	20 51 35.7	-0.2
KBL				pmax	pmax		
	comp=Z,10.0nm,0.8s,mb4.8						
KBL	Kabul	73.36	303	eP	P	20 51 35.6	-0.3
	comp=Z,9.5nm,0.8s,mb4.8						
DLBC	Dease Lake	78.17	32	P	P	20 52 02.5	-0.4
SVE	Sverdlovsk	78.78	326	eP	P	20 52 06.4	+0.1
SVE				eS	S	21 02 05.3	+0.6
SVE				eSSS		21 10 21.6	
SVE				pmax	pmax		
	comp=Z,7.0nm,0.9s,mb4.6						
ARU	Arti	79.94	326c	iP	P	20 52 12.5	-0.2
ARU				e		20 55 13.6	
ARU				ePPP		20 57 01.3	
ARU				eS	S	21 02 17.1	0.0
ARU				eSS	SS	21 07 24.3	-1.9
ARU				pmax	pmax		
	comp=Z,6.0nm,0.8s,mb4.6						
ARU	Arti	79.94	326	eP	P	20 52 12.1	-0.6
	comp=Z,5.2nm,0.9s,mb4.5						
YKA	Yellowknife Ar	85.26	27	P	P	20 52 40.4	+0.2
	comp=Z,1.9nm,0.7s,mb4.3,baz=284,slow=5.4,SNR=5.5						
YKA				LR	LR	21 27 43.2	
	comp=Z,48nm,20.1s,MS3.9,baz=135,slow=34						
YKA	Yellowknife Ar	85.26	27	P	P	20 52 40.4	+0.2
YKA				LR	LR	21 27 43.2	
CMB	Columbia Colle	86.63	52	eP	P	20 52 41.0	-6.6
CMB				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.7						
CMB	Columbia Colle	86.63	52	eP	P	20 52 41.0	-6.7
	comp=Z,3.0nm,0.6s,mb4.7						
NEW	Newport	86.98	42	eP	P	20 52 49.0	-0.1
NEW				pmax	pmax		
	comp=Z,7.0nm,0.9s						
NEW	Newport	86.98	42	eP	P	20 52 49.0	-0.1
	comp=Z,6.8nm,0.9s,mb4.9						
BMO	Blue Mountains	87.58	45	eP	P	20 52 51.7	-0.3
BMO				pmax	pmax		
	comp=Z,7.0nm,1.1s,mb4.8						
BMO	Blue Mountains	87.58	45	eP	P	20 52 51.7	-0.4
	comp=Z,6.9nm,1.1s,mb4.8						
NVAR	Mina Array Bea	88.17	51	P	P	20 52 56.5	+1.5
	comp=Z,3.6nm,0.6s,mb4.8,baz=273,slow=5.3,SNR=12						
NVAR	Mina Array Bea	88.17	51	P	P	20 52 56.5	+1.5
HLID	Hailey	89.89	46	eP	P	20 53 04.4	+1.4
ELK	Elko	89.97	49	eP	P	20 53 04.3	+0.8
ELK				pmax	pmax		
	comp=Z,3.0nm,0.8s						
ELK	Elko	89.97	49	eP	P	20 53 04.2	+0.8
	comp=Z,2.6nm,0.8s,mb4.6						
TPNV	Topopah Spring	90.08	53	eP	P	20 53 04.5	+0.5
TPNV				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.7						
TPNV	Topopah Spring	90.08	53	eP	P	20 53 04.5	+0.5
	comp=Z,3.3nm,0.8s,mb4.7						
KIV	Kislovodsk	92.18	315	eP	P	20 53 10.5	-3.2
KIV				pmax	pmax		
	comp=Z,5.0nm,0.9s,mb4.8						
TORD	Torodi Ar. Bea	137.43	303	PKhKP		20 59 15.7	
	comp=Z,0.2nm,0.7s,baz=53,slow=2.3,SNR=3.8						
TORD				PKP	PKPdf	20 59 28.8	+0.2
	comp=Z,1.3nm,0.9s,baz=37,slow=0.8,SNR=5.9						
LVC	Limon Verde	144.62	115	ePKPdf	PKPdf	20 59 41.6	+0.3
LVC				e		20 59 49.5	
DBIC	Dimbokro	146.27	299	PKPbc	PKPbc	20 59 45.1	-0.4
	comp=Z,15nm,0.9s,baz=345,slow=2.0,SNR=10						
KIC	Kosan Boka	146.32	298	ePKIKP	PKPdf	20 59 45.8	+1.3
	comp=Z,78nm,1.0s						
TIC	Toumodi	146.43	299	ePKIKP	PKPdf	20 59 46.0	+1.3
	comp=Z,8.2nm,0.2s						
LPAZ	La Paz	146.45	104	PKPbc	PKPbc	20 59 45.8	-0.1
	comp=Z,3.1nm,0.6s,baz=286,slow=2.1,SNR=15						
LPAZ	La Paz	146.45	104	ePKPdf	PKPdf	20 59 45.2	+0.7
LIC	Lamto	146.64	298	ePKIKP	PKPdf	20 59 45.9	+0.9
	comp=Z,34nm,0.6s						
CPUP	Villa Florida	152.95	129	PKPab	PKPab	21 00 14.4	+1.4
	comp=Z,1.0nm,0.5s,baz=209,slow=6.3,SNR=4.3						

IDC 09 20:49:25.6±2.6, 1839S×17724W, h0km, mb3.5/4, mb1 3.9/4, mb1mx3.7/16, mbtmp3.5/4, Error ellipse: s-maj=246.2km s-min=27.4km az=157.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRA	Warramunga Arr	45.64	260	P	P	20 57 48.2	0.0
	0.2nm,0.3s,baz=98,slow=6.9,SNR=7.3						
ASAR	Alice Springs	45.73	255	P	P	20 57 48.9	-0.1
	0.4nm,0.6s,baz=89,slow=8.6,SNR=7.2						
TXAR	Lajitas Array	85.32	57	P	P	21 02 06.1	+1.3
	0.2nm,0.7s,baz=231,slow=5.7,SNR=2.8						
PDAR	Pinedale Array	86.94	43	P	P	21 02 11.3	-1.2
	0.8nm,1.0s,baz=274,slow=4.4,SNR=3.7						

*ISCJB **09** 21:36:09.5±0.7, 474N±0.1×275W±0.1, h10km, mb3.9/10, MS3.5/7, Error ellipse: s-maj=21.0km s-min=10.0km az=5.2*

*IDC **09** 21:36:09.8±1.0, 4748N×2732W, h0km, mb3.8/6, mb1 4.0/6, mb1mx3.7/25, mbtmp3.8/6, MS3.5/7, Ms1 3.5/7, ms1mx3.1/51, Error ellipse: s-maj=38.0km s-min=24.1km az=13.0*

*CSEM **09** 21:36:11.3, 4746N×2749W, h10km, mb4.3/4, After NEIC*

*NEIC **09** 21:36:11.3±0.5, 4746N×2749W, h10km, mb4.2/7, Error ellipse: s-maj=16.5km s-min=7.6km az=184.0*

ISC 09 21:36:11.4±0.7, 474N±01×275W±01, h10km, n42, σ0.84/34, mb3.9/10, MS3.5/7, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
EKA	Eskdalemuir Ar	17.05	53	Pn	Pn	21 40 14.8	+5.2
	0.1nm,0.3s,baz=249,slow=12,SNR=3.5						
ESDC	Sonseca Array	18.65	106	P	Pn	21 40 31.5	+2.0
	0.6nm,0.3s,baz=296,slow=13,SNR=11						
SFS	San Fernando	19.15	117	eP	Pn	21 40 34.5	-1.1
	39nm,0.4s						
SFS	San Fernando	19.15	117	eP	Pn	21 40 34.5	-1.2
	39nm,0.4s						
ETSF	Etsaut	19.45	93	eP	Pn	21 40 37.7	-1.4
	38nm,1.5s						
ETSF	Etsaut	19.45	93	eP	Pn	21 40 37.7	-1.4
	19nm,1.5s						
BGF	Bois d'Agland	20.63	81	eP	P	21 40 50.9	+0.1

AVF	Avril sur Loir	20.92	80	eP	P	21 40 53.9	0.0
	23nm,1.0s						
AVF	Avril sur Loir	20.92	80	eP	P	21 40 53.9	0.0
	12nm,1.0s						
SSF	Saint Saulge	20.96	79	eP	P	21 40 54.5	+0.2
	17nm,0.9s						
SSF	Saint Saulge	20.96	79	eP	P	21 40 54.5	+0.2
	8.6nm,0.9s						
BAIF	Baives	20.97	71	eP	P	21 40 54.9	+0.5
LOR	Lormes	21.15	79	eP	P	21 40 56.5	+0.1
	17nm,1.0s,mb4.0						
LOR	Lormes	21.15	79	eP	P	21 40 56.5	+0.1
	8.6nm,1.0s,mb4.0						
SMF	Signal de Mont	21.28	80	eP	P	21 40 57.7	-0.1
MEZF	Maizieres J'vi	21.71	75	eP	P	21 41 02.4	0.0
BNI	Bardonecchia	23.62	83	P	P	21 41 22.8	+0.2
BNI	Bardonecchia	23.62	83	P	P	21 41 22.8	+0.3
NOA	NORSAR Array B	25.95	44	LR	LR	21 49 54.2	
	comp=Z,21nm,20.4s,MS2.7,baz=305,slow=32						
CLL	Collm	26.40	66	P	P	21 41 55.0	+7.3
RUE	Ruedersdorf	26.74	64	eP	P	21 41 51.8	+1.0
	12nm,1.1s,mb4.3						
RUE	Ruedersdorf	26.74	64	eP	P	21 41 51.8	+1.0
	12nm,1.1s,mb4.3						
BRG	Berggiesshubel	27.05	67	e(P)	P	21 41 54.0	+0.3
	2.0nm,0.8s,mb3.7						
GERES	GERESS Array B	27.27	72	P	P	21 41 55.4	-0.3
	0.2nm,0.5s,mb2.9,baz=286,slow=15,SNR=3.6						
GERES				LR	LR	21 51 42.2	
	comp=Z,95nm,18.4s,MS3.4,baz=296,slow=34						
VSL	Villasalto	27.68	93	P	P	21 42 00.7	+1.3
VSL	Villasalto	27.68	93	P	P	21 42 00.7	+1.4
VRAC	Vranov	29.02	70	LR	LR	21 52 14.6	
	comp=Z,73nm,18.1s,MS3.3,baz=307,slow=33						
SUW	Suwalki	32.15	59	eP	P	21 42 37.8	-1.0
	22nm,1.3s,mb4.8						
SUW	Suwalki	32.15	59	eP	P	21 42 37.8	-0.9
	22nm,1.3s,mb4.8						
AKASG	Malin Array Be	36.52	63	P	P	21 43 14.8	-1.9
	0.4nm,0.4s,mb3.6,baz=276,slow=9.2,SNR=3.1						
BLA	Blacksburg	39.78	275	P	P	21 43 43.6	-0.7
BLA	Blacksburg	39.78	275	P	P	21 43 43.6	-0.7
TORD	Torodi Ar. Bea	41.94	135	P	P	21 44 02.1	-0.2
	5.4nm,0.8s,mb4.2,baz=325,slow=7.8,SNR=31						
TORD				LR	LR	21 59 51.5	
	comp=Z,76nm,20.0s,MS3.6,baz=350,slow=34						
AKTO	Aktyubinsk	53.24	53	LR	LR	22 07 14.2	
	comp=Z,48nm,19.3s,MS3.6,baz=40,slow=35						
PDAR	Pinedale Array	55.59	298	P	P	21 45 47.1	+0.2
	0.5nm,0.6s,mb3.7,baz=58,slow=12,SNR=2.8						
TXAR	Lajitas Array	60.07	282	P	P	21 46 19.3	+0.8
	0.4nm,0.7s,mb3.5,baz=79,slow=6.6,SNR=3.7						
ELK	Elko	60.20	299	LR	LR	22 10 26.3	
	comp=Z,150nm,19.0s,MS4.2,baz=195,slow=34						
SONM	Songino Array	76.98	30	P	P	21 48 04.0	+0.1
	0.2nm,0.3s,mb3.6,baz=324,slow=7.3,SNR=4.5						
CMAR	Chiang Mai Arr	98.72	51	LR	LR	22 34 57.1	
	comp=Z,24nm,19.0s,MS3.7,baz=192,slow=36						
WRA	Warramunga Arr	148.86	35	PKPbc	PKPbc	21 55 58.5	-0.7
	0.7nm,0.8s,baz=331,slow=2.8,SNR=4.7						
ASAR	Alice Springs	152.02	39	PKPbc	PKPbc	21 56 06.7	0.0
	0.2nm,0.7s,baz=355,slow=2.8,SNR=2.7						
ASAR				PKPab	PKPab	21 56 14.7	-1.4
	0.8nm,0.8s,baz=337,slow=3.8,SNR=4.9						
ASAR	Alice Springs	152.02	39	PKPab	PKPab	21 56 14.6	-1.5

*ISCJB **09** 21:39:05.4±2.4, 27.8N±0.2×52.6E±0.1, h10km, Error ellipse: s-maj=34.4km s-min=11.7km az=166.9*
*THR **09** 21:39:11.9±0.4, 28.25N×52.87E, h14km±3km, ML3.1*
*CSEM **09** 21:39:11.9, 28.25N×52.87E, h14km, ML3.1, After THR*
ISC 09 21:39:06.6±2.5**, 27.7N**±0.2×**52.6E**±0.1**, h10**km**, n8, σ0.63**/10**, Southern Iran**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
GHIR	Ghir-Karzin	0.72	31	ePg	Pg	21 39 15.2	-5.3
GHIR				AML	AML	21 39 21.2	
	comp=N,4μm,0.3s						
KRBR	Kerman	4.34	57	ePn	Pn	21 40 12.8	+0.1
KRBR				eSg	Sn	21 41 10.5	+7.2
KRBR				AML	AML	21 41 29.4	
	comp=N,40nm,0.6s						
KRBR	Kerman	4.34	57	ePn	Pn	21 40 12.8	+0.1
	SNR=52						
KRBR				eSg	Sn	21 41 10.5	+7.2
	comp=N,40nm,0.6s,SNR=90						
NAY	Al-Naaiem	4.94	290	eP	Pn	21 40 21.4	+0.5
	baz=279						
NAY				AML	AML	21 41 35.9	
	comp=Z,12nm,0.6s,baz=279						
MIB	Mutribah	5.05	296	eP	Pn	21 40 21.7	-0.7
	baz=286						
MIB				AML	AML	21 41 25.2	
	comp=Z,36nm,0.5s,baz=286						
NASN	Na'in	5.11	2	ePn	Pn	21 40 22.5	-0.8
RST	Umm Al-Ruwaisa	5.22	292	eP	Pn	21 40 24.7	-0.1
	baz=281						
RST				AML	AML	21 41 29.4	
	comp=Z,23nm,0.5s,baz=281						
ASAO	Ashtian	7.19	343	ePn	Pn	21 40 52.7	+1.0

*ISCJB **09** 21:41:41.8±1.3, 7.3S±0.4×120.5E±0.5, h428km±13km, mb3.1/3, Error ellipse: s-maj=99.6km s-min=14.4km az=147.0*
*IDC **09** 21:41:43.0±1.5, 7.24S×120.46E, h429km±15km, mb2.9/4, mb1 2.9/8, mb1mx2.8/18, mbtmp2.8/8, Error ellipse: s-maj=109.7km s-min=13.2km az=58.0*
ISC 09 21:41:43.2±1.0**, 7.1S**±0.4×**120.9E**±0.5**, h424**km±11km**, n8, σ0.90**/9**, mb3.1**/3**, Flores Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KAPI	Kappang	2.31	332	P	P	21 42 43.8	+0.5
	6.7nm,0.3s,baz=190,slow=4.8,SNR=38						
BATI	Baumata	4.19	138	P	P	21 42 59.8	+1.3
	4.1nm,0.3s,baz=325,slow=5.4,SNR=4.2						
BATI				S	S	21 43 57.8	-1.8
	3.8nm,0.3s,baz=70,slow=14,SNR=3.5						
FITZ	Fitzroy Crossi	11.93	157	P	P	21 44 21.0	-0.6
	0.0nm,0.3s,baz=360,slow=17,SNR=2.4						
WRA	Warramunga Arr	18.31	136	P	P	21 45 30.9	+0.8
	0.1nm,0.3s,baz=310,slow=11,SNR=10						
ASAR	Alice Springs	20.73	144	P	P	21 45 53.4	+0.5
	1.1nm,0.4s,baz=320,slow=8.8,SNR=21						
STKA	Stephens Creek	31.37	145	P	P	21 47 27.5	+0.2
	1.0nm,0.8s,mb3.2,baz=307,slow=13,SNR=3.3						
MKAR	Makanchi Array	63.61	331	P	P	21 51 30.7	-0.2
	0.2nm,0.9s,mb2.7,baz=143,slow=7.7,SNR=5.5						
ZALV	Zalesovo Beam	67.92	338	P	P	21 51 56.8	-1.1
	0.4nm,0.3s,mb3.5,baz=141,slow=5.2,SNR=2.5						

*IDC **09** 21:43:10.2±6.1, 2.37S×138.96E, h32km±41km, mb3.2/3, mb1 3.6/4, mb1mx3.4/14, mbtmp3.4/4, ML4.2/2, MS2.6/1, Ms1 2.6/1, ms1mx2.4/14, Error ellipse: s-maj=72.6km s-min=21.1km az=92.0*
*ISCJB **09** 21:43:13.7±3.2, 2.8S±0.2×138.8E±0.3, h33km, mb3.4/2, Error ellipse: s-maj=44.9km s-min=22.7km az=164.2*
ISC 09 21:43:08.0±5.8**, 2.3S**±0.1×**139.1E**±0.3**, h22**km±39km**, n6, σ0.65**/8**, mb3.4**/2**, Near north coast of Irian Jaya**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BATI	Baumata	17.24	242	P	Pn	21 47 07.8	+0.2
	4.7nm,0.3s,baz=98,slow=1.0,SNR=6.3						
WRA	Warramunga Arr	18.12	195	P	Pn	21 47 17.8	-0.6
	0.4nm,0.3s,baz=17,slow=13,SNR=22						
WRA				S	Sn	21 50 29.9	-10
	0.1nm,0.3s,baz=11,slow=22,SNR=5.6						
KAPI	Kappang	19.52	262	LR	LR	21 54 39.5	
	comp=Z,20nm,19.7s,baz=288,slow=36						
FITZ	Fitzroy Crossi	20.52	219	P	P	21 47 44.7	-0.2
	1.0nm,0.7s,baz=40,slow=16,SNR=2.1						
FITZ				S	S	21 51 18.8	-15
	1.7nm,0.5s,baz=214,slow=16,SNR=6.4						
ASAR	Alice Springs	21.81	193	P	P	21 47 59.5	+0.8
	0.7nm,0.4s,mb3.4,baz=16,slow=12,SNR=15						
ASAR				S	S	21 51 58.8	-0.1
	1.3nm,0.8s,baz=12,slow=22,SNR=7.5						
MKAR	Makanchi Array	69.75	322	P	P	21 54 16.3	-0.1
	0.3nm,0.6s,mb3.4,baz=108,slow=8.2,SNR=2.9						

TRN 09 21:50:50.4, 17.49N×61.22W, h3km, MD3.5, M3.6(FDF)**, 2C, Leeward Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BPA	Boggy Peak	0.75	234	eP	Pg	21 51 09.9	+5.1
BPA				eS	Sg	21 51 21.3	+6.7
DEG	La Desirade	1.18	173	⇑iP	Pg	21 51 14.8	+1.8
DEG				⇑eS	Sg	21 51 35.7	+7.3
LZG	Guadaloupe-1	1.44	202	eP	Pn	21 51 19.9	+2.5

*IDC **09** 21:52:01.9±0.8, 56.31N×153.06W, h0km, mb4.0/18, mb1 4.2/18, mb1mx4.1/25, mbtmp4.0/18, Error ellipse: s-maj=22.8km s-min=14.3km az=31.0*
*ISCJB **09** 21:52:02.3±1.5, 56.38N±0.04×152.91W±0.10, h14km±10km, mb4.0/18, Error ellipse: s-maj=9.2km s-min=5.9km az=8.4*
*NEIC **09** 21:52:05.4, 56.29N×152.91W, h19km, mb4.8/1, ML3.9(AEIC), After AEIC.*
ISC 09 21:52:04.7±1.6**, 56.39N**±0.03×**152.94W**±0.10**, h16**km±10km**, n43, σ0.90**/55**, mb4.0**/18**, Kodiak Island region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
OHAK	Old Harbor	0.86	347	P	Pb	21 52 21.8	+0.5
OHAK				S	Sb	21 52 32.7	+0.2
KDAK	Kodiak Island	1.42	8	Pn	Pn	21 52 29.4	-0.3
	199nm,0.3s,baz=196,slow=6.3,SNR=3396						
KDAK				Sn	Sn	21 52 48.1	+0.1
	264nm,0.3s,baz=322,slow=18,SNR=28						
KDAK	Kodiak Island	1.42	8	P	Pn	21 52 29.3	-0.4
KDAK				S	Sn	21 52 48.4	+0.4
CHGN	Chignik	3.05	271	eP	Pn	21 52 50.0	-2.1
SEW	Seward	4.16	25	P	Pn	21 53 07.2	-0.2
SLKM	Skilak Lake	4.37	18	ePn	Pn	21 53 09.7	-0.6
SLKM				eSn	Sn	21 54 02.3	+1.5
SVW2	Sparrevohn	4.92	345	P	Pn	21 53 18.8	+0.9
SVW2				eSn	Sn	21 54 14.2	-0.1
RC01	Rabbit Creek A	5.00	18	ePn	Pn	21 53 18.1	-0.9
	51nm,0.5s						
RC01				Sn	Sn	21 54 15.0	-1.4
FIB	Fire Island	5.01	16	ePn	Pn	21 53 19.8	+0.8
FIB				eSn	Sn	21 54 17.3	+0.9
PMR	Palmer	5.58	19	eP	Pn	21 53 27.1	+0.2
PMR				Sn	Sn	21 54 30.3	-0.3
EYAK	Cordova Ski Ar	5.63	39	P	Pn	21 53 26.0	-1.5
PPLA	Purkeypile	6.54	3	ePn	Pn	21 53 40.5	+0.5
	24nm,0.6s						
PPLA				eSn	Sn	21 55 00.1	+5.8
TRF	Thorofare Moun	7.21	10	P	Pn	21 53 49.8	+0.6
KTH	Kantishna Hill	7.26	7	P	Pn	21 53 50.4	+0.5
CHUM	Lake Minchumin	7.53	2	ePn	Pn	21 53 53.8	+0.2
	39nm,1.0s						
CHUM				eSn	Sn	21 55 16.5	-2.0
MCK	McKinley	7.64	14	ePn	Pn	21 53 55.1	+0.1
	33nm,0.9s						
MCK				eSn	Sn	21 55 19.3	-1.8
BPAW	Bear Paw Mtn.	7.80	6	P	Pn	21 53 56.5	-0.9
PNL	Peninsula	7.90	60	P	Pn	21 53 57.7	-1.0
ILB	Eielson Array	8.92	17	P	Pn	21 54 11.3	-1.3
IMA2	Indian Mountai	9.72	358	ePn	Pn	21 54 25.4	+1.8
IMA2				eSn	Sn	21 56 14.0	+1.6
YKA	Yellowknife Ar	20.18	57	P	P	21 56 40.0	+2.0
	2.8nm,0.8s,baz=266,slow=11,SNR=4.9						
YKA	Yellowknife Ar	20.18	57	P	P	21 56 40.0	+2.0
YBH	Yreka Blue Hor	24.38	114	P	P	21 57 22.4	+0.6
	2.4nm,0.8s,mb3.7,baz=348,slow=9.3,SNR=2.9						
NVAR	Mina Array Bea	29.09	113	P	P	21 58 04.5	+0.3
	1.0nm,0.7s,mb3.7,baz=303,slow=9.6,SNR=5.4						
PDAR	Pinedale Array	30.69	98	P	P	21 58 17.9	-0.4
	0.4nm,0.6s,mb3.5,baz=328,slow=4.4,SNR=4.8						
TXAR	Lajitas Array	43.79	107	P	P	22 00 09.4	+0.1
	0.5nm,0.7s,mb3.3,baz=335,slow=5.5,SNR=4.4						
KSRS	Korea Array	54.08	285	P	P	22 01 28.8	+0.6
	1.3nm,0.7s,mb4.0,baz=51,slow=8.0,SNR=3.6						
ARCES	ARCESS Array B	54.38	1	P	P	22 01 30.0	+0.1
	4.0nm,0.8s,mb4.4,baz=12,slow=7.4,SNR=8.9						
ARCES	ARCESS Array B	54.38	1	P	P	22 01 30.0	+0.1
SONM	Songino Array	56.99	308	P	P	22 01 49.7	+0.7
	3.0nm,0.7s,mb4.5,baz=50,slow=5.7,SNR=15						
ZALV	Zalesovo Beam	60.34	325	P	P	22 02 12.4	+0.3
	4.7nm,0.7s,mb4.7,baz=33,slow=7.2,SNR=23						
NB2	NORSAR Subarra	62.25	9	P	P	22 02 25.1	+0.1
	comp=Z,0.8nm,0.7s,mb4.0,baz=351,slow=6.9						
NOA	NORSAR Array B	62.25	9	P	P	22 02 25.4	+0.4
	comp=Z,1.2nm,0.8s,mb4.1,baz=351,slow=6.6,SNR=5.6						
KURK	Kurchatov	65.06	327	P	P	22 02 44.2	+0.6
	comp=Z,1.4nm,0.6s,mb4.2,baz=30,slow=6.7,SNR=9.6						
BRVK	Borovoye	65.30	333	eP	P	22 02 44.5	-0.6
	comp=Z,7.7nm,1.0s,mb4.7						
BVAR	Borovoye Array	65.30	333	P	P	22 02 45.2	0.0
	comp=Z,3.1nm,0.7s,mb4.5,baz=29,slow=6.4,SNR=17						
MKAR	Makanchi Array	67.30	322	P	P	22 02 58.0	-0.2
	comp=Z,1.2nm,0.6s,mb4.1,baz=28,slow=6.1,SNR=17						
AKTK	Aktyubinsk	70.50	340	P	P	22 03 17.8	-0.2
AKTO	Aktyubinsk	70.50	340	P	P	22 03 17.8	-0.2
	comp=Z,1.7nm,0.6s,mb4.2,baz=6.3,slow=5.1,SNR=7.2						
AKASG	Malin Array Be	73.27	359	P	P	22 03 34.0	-0.5
	comp=Z,0.9nm,0.4s,mb4.0,baz=3.8,slow=5.9,SNR=4.5						
GERES	GERESS Array B	74.55	9	P	P	22 03 42.5	+0.4
	comp=Z,0.3nm,0.6s,mb3.4,baz=352,slow=5.4,SNR=4.8						
ESDC	Sonseca Array	80.76	24	P	P	22 04 17.8	+0.9
	comp=Z,0.6nm,0.7s,mb3.7,baz=343,slow=4.5,SNR=3.7						
CMAR	Chiang Mai Arr	84.41	295	P	P	22 04 34.9	-1.4
	comp=Z,0.7nm,0.7s,mb3.9,baz=11,slow=5.8,SNR=5.9						

*IDC **09** 22:22:53.0±1.2, 33.49S×178.41W, h0km, mb4.2/5, mb1 4.3/7, mb1mx4.0/20, mbtmp4.2/7, ML3.9/2, Error ellipse: s-maj=31.0km s-min=25.9km az=60.0*
*ISCJB **09** 22:22:58.7±6.0, 33.7S±0.2×178.8W±0.4, h41km±41km, mb4.2/4, Error ellipse: s-maj=62.1km s-min=23.1km az=150.6*
*NEIC **09** 22:22:59.0±0.9, 33.61S×178.61W, h35km, mb4.4/2, Error ellipse: s-maj=20.4km s-min=13.0km az=86.0*
ISC 09 22:23:01.1±5.3**, 33.7S**±0.2×**178.8W**±0.4**, h43**km±34km**, n17, σ0.67**/15**, mb4.2**/4**, South of Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
URZ	Urewera	5.65	215	Pn	Pn	22 24 23.5	+1.1
	6.9nm,0.3s,baz=282,slow=5.4,SNR=27						
URZ				Sn	Sn	22 25 32.6	+6.6
	4.9nm,0.3s,baz=176,slow=23,SNR=9.7						
RPZ	Rata Peaks	12.76	215	Pn	Pn	22 25 58.7	-1.2
	0.3nm,0.3s,baz=350,slow=6.1,SNR=3.4						
RPZ				Sn	Sn	22 28 13.4	-7.1
	0.4nm,0.3s,baz=27,slow=16,SNR=4.2						
HNR	Honiara	31.04	316	P	P	22 29 14.7	-0.3
STKA	Stephens Creek	33.20	262	eP	P	22 29 33.3	-0.5
CTA	Charters Tower	33.79	285	P	P	22 29 40.8	+1.7
	2.4nm,0.4s,mb4.5,baz=118,slow=10,SNR=7.3						
CTAO	Charters Tower	33.79	285	eP	P	22 29 39.1	0.0
	2.4nm,0.4s,mb4.5						
ASAR	Alice Springs	42.35	271	P	P	22 30 51.8	+0.6
	2.8nm,0.7s,mb4.0,baz=110,slow=7.3,SNR=35						
ASAR				PcP	PcP	22 32 42.4	-1.8
	0.4nm,0.5s,baz=127,slow=3.8,SNR=4.4						
WB2	Warramunga Arr	43.63	276	eP	P	22 31 01.4	-0.1
WRA	Warramunga Arr	43.64	276	P	P	22 31 01.4	-0.2
	2.8nm,0.5s,mb4.2,baz=117,slow=7.6,SNR=28						
WRA				PcP	PcP	22 32 47.6	-0.9
	0.4nm,0.7s,baz=120,slow=2.6,SNR=2.6						
FITZ	Fitzroy Crossi	51.74	273	P	P	22 32 04.7	+0.2
	1.4nm,0.7s,mb4.0,baz=132,slow=12,SNR=3.5						
FITZ	Fitzroy Crossi	51.74	273	eP	P	22 32 03.8	-0.7
	2.0nm,0.6s,mb4.2						
QSPA	South Pole Qui	56.45	180	P	P	22 32 37.8	-0.1
	0.3nm,0.3s,baz=27,slow=6.7,SNR=2.4						
MAW	Mawson	69.01	201	P	P	22 34 02.0	+0.3
KURK	Kurchatov	122.77	312	PKP	PKPdf	22 41 49.2	-2.6
	0.2nm,0.5s,baz=130,slow=1.3,SNR=2.5						
BVAR	Borovoye Array	128.22	314	PKP	PKPdf	22 42 01.3	-0.9
	0.2nm,0.3s,baz=101,slow=2.9,SNR=2.6						
EIL	Elat	151.06	271	PKPbc	PKPbc	22 42 49.6	-0.1
	3.5nm,0.8s,baz=34,slow=3.6,SNR=4.3						
TORD	Torodi Ar. Bea	159.56	181	PKPab	PKPab	22 43 33.3	-0.5
	0.3nm,0.5s,baz=173,slow=4.8,SNR=4.0						

*ISCJB **09** 22:26:06.9±4.0, 33.58S±0.07×178.4W±0.1, h2km±25km, mb4.4/7, MS3.4/5, Error ellipse: s-maj=17.5km s-min=10.8km az=20.3*
*IDC **09** 22:26:09.2±2.5, 33.57S×178.45W, h0km, mb4.3/4, mb1 4.4/6, mb1mx4.1/19, mbtmp4.3/6, ML4.1/2, MS3.5/5, Ms1 3.5/5, ms1mx3.2/27, Error ellipse: s-maj=48.2km s-min=33.0km az=76.0*
*NEIC **09** 22:26:13.2±0.5, 33.52S×178.33W, h35km, mb4.6/4, Error ellipse: s-maj=11.5km s-min=9.0km az=89.0*
ISC 09 22:26:09.6±4.4**, 33.56S**±0.07×**178.4W**±0.1**, h7**km±28km**, n24, σ0.79**/22**, mb4.4**/7**, MS3.4**/5**, South of Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
URZ	Urewera	5.94	217	Pn	Pn	22 27 39.6	+1.7
	8.1nm,0.3s,baz=269,slow=5.1,SNR=15						
URZ				Sn	Sn	22 28 46.5	+0.3
	11nm,0.3s,baz=150,slow=20,SNR=9.9						
SNZO	South Karori	9.48	213	ePn	Pn	22 28 26.3	-0.2
RPZ	Rata Peaks	13.06	216	Pn	Pn	22 29 13.3	-2.1
	0.7nm,0.3s,baz=22,slow=17,SNR=2.6						
RPZ				Sn	Sn	22 31 28.7	-12
	0.5nm,0.3s,baz=38,slow=17,SNR=3.4						
AFI	Afiamalu	20.47	19	ePn	P	22 30 48.8	+0.9
	91nm,1.4s						
PPT	Papeete	30.35	66	LR	LR	22 41 38.7	
	comp=Z,87nm,19.0s,MS3.4,baz=73,slow=31						
HNR	Honiara	31.21	315	LR	LR	22 42 35.5	
	comp=Z,45nm,18.7s,MS3.2,baz=124,slow=32						
HNR	Honiara	31.21	315	eP	P	22 32 28.5	-1.2
	25nm,0.4s,mb5.4						
STKA	Stephens Creek	33.56	262	LR	LR	22 44 38.1	
	comp=Z,148nm,18.6s,MS3.7,baz=25,slow=33						
STKA	Stephens Creek	33.56	262	eP	P	22 32 50.2	0.0
CTA	Charters Tower	34.11	284	P	P	22 32 56.3	+1.3
	2.2nm,0.5s,mb4.4,baz=118,slow=9.4,SNR=8.1						
CTA				LR	LR	22 44 26.8	
	comp=Z,65nm,19.2s,MS3.4,baz=232,slow=32						
CTAO	Charters Tower	34.11	284	eP	P	22 32 56.1	+1.1
	1.9nm,0.5s,mb4.3						
ASAR	Alice Springs	42.70	271	P	P	22 34 07.5	+0.2
	3.0nm,0.6s,mb4.2,baz=110,slow=7.5,SNR=29						
WB2	Warramunga Arr	43.97	276	eP	P	22 34 17.3	-0.2
WB2				ePP	PP	22 36 01.8	+1.9
WRA	Warramunga Arr	43.98	276	P	P	22 34 17.4	-0.2
	2.9nm,0.5s,mb4.2,baz=116,slow=7.7,SNR=26						
SBA	Scott Base	44.87	184	eP	P	22 34 24.1	+0.1
FITZ	Fitzroy Crossi	52.09	273	P	P	22 35 20.2	-0.3
	1.9nm,0.8s,mb4.1,baz=121,slow=10,SNR=3.1						
FITZ				LR	LR	22 57 30.3	
	comp=Z,47nm,19.7s,MS3.5,baz=307,slow=36						
FITZ	Fitzroy Crossi	52.09	273	eP	P	22 35 20.4	-0.1
FITZ				LR	LR	22 57 30.3	
MAW	Mawson	69.24	201	eP	P	22 37 16.9	+0.2
	0.4nm,0.6s,mb3.5						
PMSA	Palmer Station	69.53	155	eP	P	22 37 17.9	-0.6
	25nm,0.7s,mb5.3						
KKM	Kota Kinabalu	73.25	289	P	P	22 37 41.5	-0.2
SNAA	Sanae	75.01	179	eP	P	22 37 51.9	+0.7
KSM	Kuching	75.31	282	P	P	22 37 53.5	-0.4
TRQA	Tornquist	87.45	135	P	P	22 38 57.4	-0.5
TORD	Torodi Ar. Bea	159.68	180	PKPab	PKPab	22 46 48.5	+0.5
	0.5nm,0.8s,baz=179,slow=3.0,SNR=4.1						

IDC 09 22:27:05.6±10.0**, 3.57S×101.89E, h0**km**, mb3.8**/5**, mb1 3.8**/5**, mb1mx3.6**/20**, mbtmp3.8**/5**, Error ellipse: s-maj=375.3km s-min=117.0km az=102.0, Southern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	22.08	353	P	P	22 32 02.3	0.0
	0.4nm,0.4s,baz=182,slow=8.8,SNR=5.1						
MKAR	Makanchi Array	53.05	343	P	P	22 36 24.6	+0.1
	0.7nm,0.4s,baz=160,slow=9.3,SNR=4.8						
KURK	Kurchatov	57.64	343	P	P	22 36 56.8	-0.7
	0.5nm,0.3s,baz=181,slow=6.5,SNR=4.2						
ZALV	Zalesovo Beam	59.06	348	P	P	22 37 07.8	+0.5
	0.6nm,0.3s,baz=174,slow=5.8,SNR=4.6						
BVAR	Borovoye Array	62.30	339	P	P	22 37 29.3	-0.2
	0.7nm,0.6s,baz=143,slow=8.9,SNR=7.9						

*ISCJB **09** 22:28:42.5±0.4, 2.18S±0.06×100.11E±0.06, h26km, mb4.2/12, Error ellipse: s-maj=9.7km s-min=7.6km az=40.1*
*IDC **09** 22:28:44.9±1.6, 2.21S×99.98E, h24km±4km, mb3.7/9, mb1 3.8/10, mb1mx3.7/21, mbtmp3.7/10, ML4.0/1, Error ellipse: s-maj=62.0km s-min=16.5km az=52.0*
*NEIC **09** 22:28:45.7±0.3, 2.22S×100.03E, h35km, mb4.5/5, Error ellipse: s-maj=9.2km s-min=5.8km az=61.0*
ISC 09 22:28:44.9±0.4**, 2.21S**±0.06×**100.09E**±0.06**, h28**km**, h28**km±1.1km**:pP-P, n34, σ0.73**/31**, mb4.2**/12**, Southern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
COCO	West Island	10.42	198	ePn	Pn	22 31 11.9	-0.7
KSM	Kuching	10.85	70	ePn	Pn	22 31 18.5	0.0
KSM				eSn	Sn	22 33 18.5	-0.6
KAPI	Kappang	19.82	99	P	Pn	22 33 14.6	-0.6
	0.4nm,0.3s,baz=321,slow=6.9,SNR=2.6						
CMAR	Chiang Mai Arr	20.57	357	P	P	22 33 20.6	-1.1
	0.7nm,0.5s,baz=183,slow=10,SNR=6.0						
CHTO	Chiang Mai	20.93	357	eP	P	22 33 25.8	+0.3
LSA	Lhasa	32.86	346	eP	P	22 35 16.0	-0.5
	1.7nm,0.5s,mb4.2						
NACB	Ninganchiao	33.54	37	P	P	22 35 23.2	+0.8
YHNB	Yeheng	33.78	36	eP	P	22 35 24.4	-0.1
NWAO	Narrogin (SRO)	34.53	154	eP	P	22 35 31.1	+0.2
	4.2nm,0.8s,mb4.4						
WRA	Warramunga Arr	37.81	120	P	P	22 36 00.8	+1.6
	0.5nm,0.4s,mb3.6,baz=301,slow=9.2,SNR=3.2						
ASAR	Alice Springs	39.05	126	P	P	22 36 10.6	+0.9
	2.9nm,0.7s,mb4.1,baz=304,slow=7.9,SNR=6.0						
PMG	Port Moresby	47.33	101	P	P	22 37 16.1	-0.6
CTAO	Charters Tower	48.43	115	P	P	22 37 23.9	-1.2
STKA	Stephens Creek	48.94	132	pP	pP	22 37 37.4	0.0
	2.6nm,0.5s,baz=308,slow=12,SNR=3.1						
STKA	Stephens Creek	48.94	132	P	P	22 37 29.1	+0.2
STKA				e	pP	22 37 38.8	+1.4
UCH	Uchtor	49.93	335	eP	P	22 37 36.3	+0.1
TKM2	Tokmak 2	50.06	337	eP	P	22 37 38.0	+0.8
	6.7nm,1.0s,mb4.6						
TKM2				e	pP	22 37 46.6	+0.9
SONM	Songino Array	50.15	6	P	P	22 37 38.5	+0.7
	1.0nm,0.4s,mb4.2,baz=188,slow=9.4,SNR=4.0						
EKS2	Erkin-Say	50.59	335	eP	P	22 37 40.9	-0.4
EKS2				e		22 37 51.0	
MK31	Makanchi Array	51.26	344	eP	P	22 37 46.3	+0.1
MK31				e	pP	22 37 53.5	-1.2
MKAR	Makanchi Array	51.26	344	P	P	22 37 46.9	+0.7
	1.2nm,0.5s,mb4.1,baz=162,slow=8.6,SNR=12						
MKAR				pP	pP	22 37 54.6	-0.1
	2.8nm,0.6s,baz=146,slow=7.8,SNR=13						
KURK	Kurchatov	55.84	344	P	P	22 38 19.6	-0.1
	0.7nm,0.6s,mb3.9,baz=163,slow=6.9,SNR=4.2						
KURK				pP	pP	22 38 27.4	-0.8
	2.0nm,0.8s,baz=165,slow=7.0,SNR=7.5						
KURK	Kurchatov	55.84	344	eP	P	22 38 20.1	+0.4
KURK				e	pP	22 38 27.4	-0.8
ZALV	Zalesovo Beam	57.39	349	P	P	22 38 30.6	0.0
	1.9nm,0.7s,mb4.2,baz=180,slow=5.1,SNR=8.5						
ZALV				pP	pP	22 38 38.4	-0.9
	2.9nm,0.6s,baz=182,slow=6.1,SNR=8.6						
BVAR	Borovoye Array	60.41	340	P	P	22 38 51.5	-0.2
	0.5nm,0.4s,mb3.9,baz=150,slow=8.8,SNR=5.3						
BVAR				pP	pP	22 38 59.5	-0.9
	1.0nm,0.5s,baz=152,slow=10,SNR=7.7						
BRVK	Borovoye	60.48	340	eP	P	22 38 51.7	-0.4
GNI	Garni	65.74	316	eP	P	22 39 27.3	0.0
ARU	Arti	67.44	336	eP	P	22 39 36.3	-1.5
	1.6nm,0.4s,mb4.4						
KIV	Kislovodsk	68.76	319	P	P	22 39 46.1	-0.3
PETK	Petropavlovsk-	73.02	32	P	P	22 40 13.9	+1.8
	1.7nm,0.6s,mb4.2,baz=224,slow=7.5,SNR=2.9						
SBA	Scott Base	83.03	169	P	P	22 41 07.2	0.0
PMR	Palmer	101.73	27	ePdif	Pdif	22 42 35.0	-0.1
	6.8nm,1.0s						
TXAR	Lajitas Array	144.82	38	PKP	PKPdf	22 48 20.2	+0.2
	0.3nm,0.5s,baz=222,slow=1.2,SNR=4.0						
TXAR				pPKP	pPKPdf	22 48 28.0	-1.3
	1.4nm,0.9s,baz=310,slow=1.9,SNR=6.9						
TXAR	Lajitas Array	144.82	38	PKP	PKPdf	22 48 20.2	+0.2
TXAR				pPKP	pPKPdf	22 48 28.0	-1.3

*NNC **09** 22:30:03.0±3.2, 5155N×9326E, h0km, mb3.6, mpv3.3, Error ellipse: s-maj=50.5km s-min=21.0km az=8.0*

IDC 09 22:30:04.6±2.5**, 5147N×9326E, h0km, mb1 2.8**/2**, mb1mx2.8**/24**, mbtmp2.8**/2**, ML2.6**/2**, 4C, Error ellipse: s-maj=31.7km s-min=20.3km az=20.0, Southwestern Siberia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZALV	**Zalesovo Beam**	**5.70**	**299**	Pn	Pn	22 31 29.7	-0.7
	0.1nm,0.3s,baz=107,slow=15,SNR=2.0						
ZALV				Pg	Pg	22 31 49.4	-4.3
	0.6nm,0.3s,baz=119,slow=16,SNR=6.5						
ZALV				Lg		22 33 04.3	
	1.9nm,0.3s,baz=119,slow=27,SNR=8.4						
MK31	**Makanchi Array**	**8.57**	**241**	⇑Pn	Pn	22 32 11.5	+1.6
	0.3nm,0.2s,baz=51,slow=17,SNR=9.4						
MK31				⇑Lg		22 34 33.2	
	4.3nm,0.7s,baz=56,slow=28,SNR=4.3						
MKAR	**Makanchi Array**	**8.57**	**241**	Pn	Pn	22 32 10.8	+1.0
	0.2nm,0.3s,baz=58,slow=11,SNR=8.0						
MKAR				Lg		22 34 36.8	
	0.2nm,0.3s,baz=52,slow=28,SNR=3.7						
KURK	**Kurchatov**	**9.24**	**271**	⇑Lg		22 34 57.7	
	5.6nm,0.7s						
KURK	**Kurchatov**	**9.24**	**271**	Lg		22 34 58.3	
	0.1nm,0.3s,baz=78,slow=37,SNR=5.2						
SONM	**Songino Array**	**9.27**	**108**	Pg	Pn	22 32 52.0	+33
	0.1nm,0.3s,baz=297,slow=16,SNR=2.6						
SONM				Lg		22 34 59.1	
	0.5nm,0.3s,baz=292,slow=30,SNR=12						
KURBB	**Kurchatov Arra**	**9.32**	**271**	⇑Lg		22 34 58.2	
	2.0nm,1.2s						

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*IDC **09** 22:46:03.9±2.9, 754S×7578W, h0km, mb4.0/3, mb1 3.9/5, mb1mx3.7/19, mbtmp3.9/5, ML3.7/2, Error ellipse: s-maj=72.2km s-min=35.6km az=102.0*
*ISCJB **09** 22:46:09.5±1.7, 754S±007×755W±01, h53km±22km, mb4.1/4, Error ellipse: s-maj=23.9km s-min=11.7km az=177.0*
*NEIC **09** 22:46:11.4±1.3, 750S×7542W, h49km±18km, mb4.0/2, Error ellipse: s-maj=24.4km s-min=11.7km az=75.0*

ISC 09 22:46:11.6±1.3**, 755S**±007×**755W**±01**, h53**km±18km**, n11, σ1s11**/12**, mb4.1**/4**, Northern Peru**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NNA	**Nana**	**4.61**	**197**	*e*Pn	**Pn**	**22 47 20.5**	**+1.7**
NNA				*e*Sn	**Sn**	**22 48 10.1**	**-0.9**
OTAV	**Otavalo**	**8.27**	**339**	Pn	**Pn**	**22 48 09.0**	**0.0**
LPAZ	**La Paz**	**11.29**	**141**	Pn	**Pn**	**22 48 49.7**	**-0.6**
	0.1nm,0.3s,baz=323,slow=15,SNR=4.5						
LPAZ	**La Paz**	**11.29**	**141**	Pn	**Pn**	**22 48 49.7**	**-0.6**
LVC	**Limon Verde**	**16.27**	**158**	Pn	**Pn**	**22 49 57.0**	**+0.3**
	2.1nm,0.6s						
SIV	**San Ignacio**	**16.42**	**122**	Pn	**Pn**	**22 49 59.1**	**+0.5**
	0.4nm,0.3s,baz=299,slow=11,SNR=12						
CPUP	**Villa Florida**	**25.45**	**139**	*e*P	**P**	**22 51 33.6**	**-1.0**
	25nm,1.7s,mb4.5						
FDF	**Fort de France**	**26.32**	**33**	P	**P**	**22 51 40.3**	**-2.2**
PLCA	**Paso Flores**	**33.34**	**173**	P	**P**	**22 52 44.0**	**-0.5**
	1.1nm,0.7s,mb3.9,baz=317,slow=7.4,SNR=2.6						
DBIC	**Dimbokro**	**71.86**	**80**	P	**P**	**22 57 30.5**	**+0.9**
	3.4nm,0.8s,mb4.3,baz=264,slow=6.7,SNR=4.6						
TORD	**Torodi Ar. Bea**	**79.36**	**75**	P	**P**	**22 58 14.2**	**+1.7**
	0.7nm,0.8s,mb3.6,baz=268,slow=5.0,SNR=12						

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*ISCJB **09** 22:50:30.1±0.2, 4728N±002×1073E±002, h7km±3km, Error ellipse: s-maj=2.7km s-min=2.0km az=4.2*
*ZUR **09** 22:50:31.4, 4724N×1079E, h-4km±5km, ML2.2/4*
*VIE **09** 22:50:31.4±0.1, 4724N×1081E, h12km±1km, mb1.6/10, ML2.6/14, Error ellipse: s-maj=0.9km s-min=0.6km az=171.0 6 km ESE of Imst felt 3 EMS98 at Imst / TYROL*
*CSEM **09** 22:50:31.5±0.0, 4724N×1082E, h12km, ML2.6/14, Error ellipse: s-maj=0.9km s-min=0.7km az=6.0*
*ROM **09** 22:50:32.4±0.7, 4726N×1074E, h10km, Md2.6/6, Ml2.0/6, Error ellipse: s-maj=8.9km s-min=3.8km az=170.0*
*PRU **09** 22:50:32.2, 4728N×1084E, h0km*
*BGR **09** 22:50:33.1±0.4, 4725N×1078E, h10km, ML2.4, Error ellipse: s-maj=6.7km s-min=4.4km az=7.0*
*LDG **09** 22:50:33.2±0.1, 4725N×1078E, h10km, Ml2.4/10, Error ellipse: s-maj=2.6km s-min=1.6km az=72.0*
*STR **09** 22:50:35.1±0.4, 4722N×1050E, h5km, Ml2.4, Error ellipse: s-maj=0.0km s-min=0.0km az=0.0*

ISC 09 22:50:31.5±0.2**, 4727N**±001×**1078E**±002**, h10**km±3km**, n72, σ0s85**/116**, 10C-16D, Austria**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RETA	**Reutte**	**0.22**	**358**	*e*Pg	**Pg**	**22 50 36.6**	**+0.6**
	42nm,0.1s,SNR=836						
RETA				⇓*i*Sg	**Sg**	**22 50 40.5**	**+1.4**
	156nm,0.1s						
MOTA	**Moosalm**	**0.23**	**72**	⇓*e*Pg	**Pg**	**22 50 36.6**	**+0.3**
	18nm,0.1s,SNR=501						
MOTA				⇓*i*Sg	**Sg**	**22 50 39.7**	**0.0**
	99nm,0.1s						
FETA	**Feichten**	**0.25**	**187**	⇓*e*Pg	**Pg**	**22 50 36.8**	**+0.1**
	12nm,0.0s,SNR=45						
FETA				⇓*i*Sg	**Sg**	**22 50 40.2**	**+0.1**
	28nm,0.1s						
SQTA	**Sankt Quirin**	**0.30**	**100**	⇓*i*Pg	**Pg**	**22 50 37.9**	**+0.4**
WATA	**Walderalm**	**0.55**	**83**	⇑*e*Pg	**Pg**	**22 50 41.7**	**-0.5**
	3.8nm,0.1s,SNR=16						
WATA				⇑*i*Sg	**Sg**	**22 50 49.2**	**-0.3**
	24nm,0.1s						
WTTA	**Wattenberg**	**0.59**	**90**	*e*Pg	**Pg**	**22 50 42.8**	**-0.1**
WTTA				*e*Sg	**Sg**	**22 50 52.5**	**+1.9**
WTTA	**Wattenberg**	**0.59**	**90**	⇑*e*Pg	**Pg**	**22 50 42.8**	**-0.1**
	6.1nm,0.1s,SNR=22						
WTTA				⇑*i*Sg	**Sg**	**22 50 50.5**	**-0.1**
	30nm,0.2s						
DAVA	**Damuels**	**0.61**	**272**	*e*Pg	**Pg**	**22 50 44.0**	**+0.6**
DAVA				*e*Sg	**Sg**	**22 50 53.3**	**+2.0**
DAVA	**Damuels**	**0.61**	**272**	⇑*e*Pg	**Pg**	**22 50 44.0**	**+0.6**
	8.4nm,0.2s,SNR=24						
DAVA				⇑*i*Sg	**Sg**	**22 50 52.6**	**+1.3**
	64nm,0.3s						
SCE	**Schlegeis**	**0.68**	**110**	⇓*i*Pg	**Pg**	**22 50 44.2**	**-0.5**
SCE				⇓*i*Sg	**Sg**	**22 50 53.7**	**+0.2**
FUORN	**Ofenpass-Fuorn**	**0.74**	**208**	⇑*i*P	**Pg**	**22 50 45.6**	**-0.2**
	76nm,0.3s						
DAVOX	**Davos/Dischmat**	**0.79**	**232**	⇓*i*P	**Pg**	**22 50 46.4**	**-0.3**
	89nm,0.2s						
DAVOX	**Davos/Dischmat**	**0.79**	**232**	Pg	**Pg**	**22 50 46.5**	**-0.2**
DAVOX				Sg	**Sg**	**22 50 57.8**	**+0.9**
BRMO	**Bormio**	**0.84**	**199**	Pg	**Pg**	**22 50 49.4**	**+1.7**
BRMO				Sg	**Sg**	**22 50 58.3**	**-0.4**
	21nm,0.9s						
APPI	**Appiano**	**0.85**	**158**	Pg	**Pg**	**22 50 47.8**	**-0.1**
	24nm,0.4s						
LIENZ	**Kamor/St.Gall**	**0.87**	**272**	*e*Pn	**Pn**	**22 50 48.9**	**-0.9**
	537nm,0.2s						
FUR	**Furstenfeldbru**	**0.96**	**21**	*e*Pg	**Pg**	**22 50 51.1**	**+1.2**
FUR				*e*Sg	**Sg**	**22 51 04.8**	**+2.4**
PLONS	**Plons/SG**	**0.98**	**257**	⇓*i*Pn	**Pn**	**22 50 51.1**	**-0.1**
	170nm,0.4s						
SEST	**Monte Rota**	**1.12**	**117**	Pg	**Pg**	**22 50 52.8**	**-0.2**
SEST				Sg	**Sg**	**22 51 08.1**	**+0.6**
	42nm,0.7s						
ABTA	**Abfaltersbach**	**1.30**	**113**	⇓*i*Pg	**Pg**	**22 50 55.7**	**-0.7**
	1.4nm,0.1s						
ABTA				⇑*i*Sg	**Sg**	**22 51 13.3**	**0.0**
	10nm,0.2s						
CTI	**Castel Tesino**	**1.36**	**153**	Pg	**Pg**	**22 50 57.6**	**-0.1**
CTI				Sg	**Sg**	**22 51 16.2**	**+0.8**
	32nm,0.3s						
RJOB	**Jochberg**	**1.45**	**70**	⇑*i*Pn	**Pn**	**22 50 59.7**	**+2.0**
NORI	**Noerdlinger Ri**	**1.45**	**356**	⇓*i*Pn	**Pn**	**22 50 57.5**	**-0.3**
NORI				⇓*i*Pg	**Pg**	**22 50 59.7**	**+0.3**
NORI				⇓*i*Sg	**Sg**	**22 51 19.3**	**+1.0**
MAGA	**Magasa**	**1.50**	**184**	Pg	**Pg**	**22 51 01.2**	**+0.9**
	42nm,0.4s						
FVI	**Forni Avoltri**	**1.53**	**115**	Pg	**Pg**	**22 51 00.3**	**-0.6**
	16nm,0.5s						
SPAK	**Spaichingen-Ko**	**1.58**	**302**	Pg	**Pg**	**22 51 02.3**	**+0.5**
SPAK				Sg	**Sg**	**22 51 23.0**	**+0.7**
KBA	**Koelnbreinsper**	**1.76**	**95**	*e*Pn	**Pn**	**22 51 04.5**	**+2.5**
KBA				*e*Sg	**Sg**	**22 51 29.2**	**+1.0**
KBA	**Koelnbreinsper**	**1.76**	**95**	⇓*e*Pg	**Pg**	**22 51 04.6**	**-0.7**
	5.7nm,0.2s,SNR=18						
KBA				⇑*i*Sn	**Sn**	**22 51 24.6**	**+0.1**
KBA				⇓*i*Sg	**Sg**	**22 51 28.4**	**+0.2**
	7.1nm,0.2s						
BFO	**Black Forest**	**1.96**	**304**	*e*Sg	**Sg**	**22 51 35.4**	**+0.9**
PTCC	**Patocco-Chiusa**	**1.97**	**115**	Pg	**Pg**	**22 51 08.5**	**-0.8**
	5.0nm,0.3s						
FELD	**Feldberg im Sc**	**1.97**	**289**	Pg	**Pg**	**22 51 09.5**	**+0.2**
FELD				Sg	**Sg**	**22 51 34.3**	**-0.6**
BBS	**Basel-Blauen**	**2.23**	**276**	Pg	**Pg**	**22 51 13.9**	**-0.3**
MOA	**Molln**	**2.43**	**75**	*e*Pg	**Pg**	**22 51 16.8**	**-1.4**
MOA				*e*Sg	**Sg**	**22 51 49.4**	**-0.3**
GRA1	**Grafenberg Arr**	**2.44**	**7**	Pg	**Pg**	**22 51 18.5**	**+0.2**
GRA1				Sg	**Sg**	**22 51 50.0**	**+0.1**
GRF	**Grafenberg Arr**	**2.44**	**7**	*e*Pg	**Pg**	**22 51 18.5**	**+0.3**
GRF				*e*Sg	**Sg**	**22 51 50.0**	**+0.1**
MOF	**Molkenrain**	**2.53**	**285**	Pg	**Pg**	**22 51 19.7**	**-0.4**
CDF	**Champ du Feu**	**2.62**	**297**	*e*Pn	**Pn**	**22 51 14.5**	**+0.7**
CDF	**Champ du Feu**	**2.62**	**297**	*e*Pg	**Pg**	**22 51 21.6**	**-0.1**
CDF				*e*Sg	**Sg**	**22 51 55.7**	**+0.1**
	4.4nm,0.3s						
CDF	**Champ du Feu**	**2.62**	**297**	*e*Pg	**Pg**	**22 51 21.6**	**-0.1**
CDF				*e*Sg	**Sg**	**22 51 55.7**	**+0.1**
	2.2nm,0.3s						
KHC	**Kasperske Hory**	**2.64**	**44**	*e*PG	**Pg**	**22 51 19.7**	**-2.4**
KHC				*e*SN	**Sn**	**22 51 47.0**	**+0.9**
KHC				*e*SG	**Sg**	**22 51 54.7**	**-1.6**
	4.0nm,0.4s						
HINF	**Hinteralfeld**	**2.71**	**283**	*e*Pn	**Pn**	**22 51 15.0**	**-0.1**
HINF	**Hinteralfeld**	**2.71**	**283**	*e*Pg	**Pg**	**22 51 23.4**	**-0.1**
HINF				*e*Sn	**Sn**	**22 51 47.2**	**-0.7**
HINF				*e*Sg	**Sg**	**22 51 58.4**	**-0.2**
	2.9nm,0.2s						
HINF	**Hinteralfeld**	**2.71**	**283**	*e*Pg	**Pg**	**22 51 23.4**	**-0.1**
HINF				*e*Sn	**Sn**	**22 51 47.2**	**-0.7**
HINF				*e*Sg	**Sg**	**22 51 58.4**	**-0.2**
	1.5nm,0.2s						
HAU	**Haudompre**	**3.08**	**285**	*e*Pn	**Pn**	**22 51 20.1**	**-0.1**
HAU	**Haudompre**	**3.08**	**285**	*e*Pg	**Pg**	**22 51 30.4**	**-0.2**
HAU				*e*Sg	**Sg**	**22 52 10.0**	**-0.5**
	6.3nm,0.3s						
HAU	**Haudompre**	**3.08**	**285**	*e*Pg	**Pg**	**22 51 30.4**	**-0.2**
HAU				*e*Sg	**Sg**	**22 52 10.0**	**-0.5**
	3.2nm,0.3s						
NKC	**Novy Kostel**	**3.16**	**20**	*e*SN	**Sn**	**22 51 59.6**	**+0.6**
NKC				*e*SG	**Sg**	**22 52 12.7**	**-0.4**
	5.2nm,0.3s						
CABF	**La Chapelle**	**3.28**	**260**	*e*Pn	**Pn**	**22 51 22.6**	**-0.2**
CABF	**La Chapelle**	**3.28**	**260**	*e*Pg	**Pg**	**22 51 34.0**	**-0.3**
CABF				*e*Sg	**Sg**	**22 52 16.7**	**-0.1**
	1.3nm,0.3s						
CABF	**La Chapelle**	**3.28**	**260**	*e*Pg	**Pg**	**22 51 34.0**	**-0.3**
CABF				*e*Sg	**Sg**	**22 52 16.7**	**-0.1**
	0.6nm,0.3s						
LPG	**La Plagne**	**3.30**	**239**	*e*Pn	**Pn**	**22 51 23.3**	**+0.1**
LPG	**La Plagne**	**3.30**	**239**	*e*P	**Pn**	**22 51 26.6**	**+3.4**
LPG	**La Plagne**	**3.30**	**239**	*e*Pg	**Pg**	**22 51 34.6**	**-0.2**
LPG				*e*Sg	**Sg**	**22 52 17.0**	**-0.5**
	1.9nm,0.5s						
LPG	**La Plagne**	**3.30**	**239**	*e*P	**Pn**	**22 51 26.6**	**+3.4**
LPG	**La Plagne**	**3.30**	**239**	*e*Pg	**Pg**	**22 51 34.6**	**-0.2**
LPG				*e*Sg	**Sg**	**22 52 17.0**	**-0.5**
	0.9nm,0.5s						
LPL	**La Plagne**	**3.30**	**239**	*e*Pg	**Pg**	**22 51 34.6**	**-0.2**
LPL				*e*Sg	**Sg**	**22 52 17.0**	**-0.5**
	1.6nm,0.5s						
LPL	**La Plagne**	**3.30**	**239**	*e*Pg	**Pg**	**22 51 34.6**	**-0.2**
LPL				*e*Sg	**Sg**	**22 52 17.0**	**-0.5**
	0.8nm,0.5s						
PRU	**Pruhonice**	**3.69**	**41**	*e*SG	**Sg**	**22 52 28.6**	**-1.4**
MBDF	**Montbardon**	**3.78**	**229**	*e*Pn	**Pn**	**22 51 29.5**	**-0.2**
MBDF	**Montbardon**	**3.78**	**229**	*e*P	**Pn**	**22 51 33.0**	**+3.3**
MBDF	**Montbardon**	**3.78**	**229**	*e*P	**Pn**	**22 51 33.0**	**+3.3**
MEZF	**Maizieres J'vi**	**4.04**	**290**	*e*Sg	**Sg**	**22 52 41.0**	**-0.3**
	2.5nm,0.3s						
MEZF	**Maizieres J'vi**	**4.04**	**290**	*e*Sg	**Sg**	**22 52 41.0**	**-0.3**
	1.2nm,0.3s						
ORIF	**Oris-en-Rattie**	**4.14**	**237**	*e*Pn	**Pn**	**22 51 34.2**	**-0.5**
BRG	**Berggiesshubel**	**4.16**	**29**	SG	**Sg**	**22 52 42.9**	**-2.2**
	2.8nm,0.5s						
LOR	**Lormes**	**4.71**	**272**	*e*Pg	**Pg**	**22 52 00.3**	**-1.4**
LOR				*e*Sg	**Sg**	**22 53 00.4**	**-2.2**
	1.1nm,0.2s						
LOR	**Lormes**	**4.71**	**272**	*e*Pg	**Pg**	**22 52 00.3**	**-1.4**
LOR				*e*Sg	**Sg**	**22 53 00.4**	**-2.2**
	0.6nm,0.2s						
DPC	**Dobruska-Polom**	**4.79**	**48**	*e*SG	**Sg**	**22 53 04.4**	**-0.7**
VIVF	**Saint-Julien-l**	**4.89**	**243**	*e*Pn	**Pn**	**22 51 45.3**	**+0.4**
PGF	**Pioggiola**	**4.89**	**196**	*e*Pn	**Pn**	**22 51 44.3**	**-0.7**
AVF	**Avril sur Loir**	**5.10**	**267**	*e*Pn	**Pn**	**22 51 47.8**	**0.0**
BGF	**Bois d'Agland**	**5.48**	**265**	*e*Pn	**Pn**	**22 51 53.4**	**+0.3**

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*ISCJB **09** 22:53:27.3±1.2, 3931N±003×2008E±007, h3km±7km, Error ellipse: s-maj=9.8km s-min=5.1km az=172.2*
*THE **09** 22:53:28.7, 3931N×2018E, h0km±4km, ML2.7/3, Error ellipse: s-maj=6.1km s-min=0.6km az=272.0*
*NEIC **09** 22:53:29.3, 3927N×2026E, h20km, MD3.2(ATH), After ATH.*
*CSEM **09** 22:53:29.4±0.2, 3923N×2025E, h2km, ML2.7/3, Error ellipse: s-maj=4.3km s-min=2.8km az=63.0*
*ATH **09** 22:53:29.3, 3927N×2026E, h20km±5km, MD3.2/6*

ISC 09 22:53:29.6±0.7**, 3928N**±003×**2025E**±007**, h7**km±6km**, n19, σ1s06**/30**, Greece-Albania border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IGT	**Igoumenitsa**	**0.26**	**15**	P	**Pg**	**22 53 33.8**	**-0.9**
IGT				S	**Sg**	**22 53 37.6**	**-0.6**
KEK	**Kerkira**	**0.55**	**321**	*e*Pn	**Pg**	**22 53 40.2**	**-0.1**
KEK				*e*Sn	**Sg**	**22 53 49.5**	**+2.0**
KEK	**Kerkira**	**0.55**	**321**	*e*PN	**Pg**	**22 53 40.2**	**-0.1**
KEK				*e*SN	**Sg**	**22 53 49.5**	**+2.0**
JAN	**Janina**	**0.60**	**51**	*e*Pn	**Pg**	**22 53 41.0**	**-0.2**
JAN	**Janina**	**0.60**	**51**	*e*PN	**Pg**	**22 53 41.0**	**-0.2**
LKD	**Levkas**	**0.66**	**151**	P	**Pg**	**22 53 41.7**	**-0.6**
LKD				S	**Sg**	**22 53 52.3**	**+1.5**
VLS	**Valsamata**	**1.14**	**166**	P	**Pb**	**22 53 50.5**	**-1.1**
VLS				S	**Sb**	**22 54 08.3**	**+1.8**
VLS	**Valsamata**	**1.14**	**166**	*e*Pn	**Pn**	**22 53 50.4**	**-1.5**
VLS				*e*Sn	**Sn**	**22 54 07.1**	**-0.6**
VLS				S	**Sb**	**22 54 08.3**	**+1.8**
VLS	**Valsamata**	**1.14**	**166**	*e*Pn	**Pn**	**22 53 50.4**	**-1.5**
VLS				*e*Sn	**Sn**	**22 54 07.1**	**-0.6**
VLS	**Valsamata**	**1.14**	**166**	*e*PN	**Pn**	**22 53 50.4**	**-1.5**
VLS				*e*SN	**Sn**	**22 54 07.1**	**-0.6**
KFL	**Anninata**	**1.25**	**160**	P	**Pn**	**22 53 53.3**	**-0.1**
EVR	**Evrytania**	**1.27**	**106**	*e*Pn	**Pn**	**22 53 52.6**	**-1.2**
EVR	**Evrytania**	**1.27**	**106**	*e*PN	**Pn**	**22 53 52.6**	**-1.2**
THL	**Klokotos Trika**	**1.40**	**78**	P	**Pn**	**22 53 55.1**	**-0.4**
THL				S	**Sn**	**22 54 16.1**	**+1.9**
THL	**Klokotos Trika**	**1.40**	**78**	*e*Pn	**Pn**	**22 53 56.1**	**+0.6**
THL				S	**Sn**	**22 54 16.1**	**+1.9**
THL	**Klokotos Trika**	**1.40**	**78**	*e*PN	**Pn**	**22 53 56.1**	**+0.6**
RLS	**Riolos of Patr**	**1.55**	**142**	*e*Pn	**Pn**	**22 53 57.5**	**-0.1**
RLS	**Riolos of Patr**	**1.55**	**142**	*e*PN	**Pn**	**22 53 57.5**	**-0.1**
AGG	**Agios Georgios**	**1.64**	**98**	P	**Pn**	**22 53 59.2**	**+0.3**

IDC 09 23:25:43.5±20.0**, 1897N×14566E, h188**km±157km**, mb3.4**/8**, mb1 3.6**/9**, mb1mx3.4**/19**, mbtmp3.4**/9**, ML4.3**/1**, Error ellipse: s-maj=129.2km s-min=27.7km az=177.0, Mariana Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MJAR	**Matsushiro Arr**	**18.69**	**341**	P	P	23 29 46.5	-1.1
	1.0nm,0.3s,baz=163,slow=8.5,SNR=6.1						
KSRS	**Korea Array**	**24.08**	**324**	P	P	23 30 42.0	+0.3
	2.6nm,0.6s,baz=148,slow=8.5,SNR=9.2						
PETK	**Petropavlovsk-**	**35.33**	**13**	P	P	23 32 21.4	+0.8
	1.1nm,0.5s,baz=200,slow=8.4,SNR=3.2						
ZALV	**Zalesovo Beam**	**57.78**	**322**	P	P	23 35 14.0	-0.8
	0.4nm,0.4s,baz=122,slow=10,SNR=2.7						
MKAR	**Makanchi Array**	**58.25**	**314**	P	P	23 35 19.3	+1.1
	0.3nm,0.5s,baz=82,slow=6.6,SNR=6.2						
YKA	**Yellowknife Ar**	**77.76**	**28**	P	P	23 37 18.7	-0.7
	0.5nm,0.5s,baz=285,slow=5.8,SNR=3.3						
KEV	**Kevo**	**81.66**	**342**	*e*p	P	23 37 39.6	-0.7
	0.6nm,0.4s						
ARCES	**ARCESS Array B**	**82.22**	**342**	P	P	23 37 43.1	-0.1
	3.2nm,0.7s,baz=69,slow=6.6,SNR=7.7						
NVAR	**Mina Array Bea**	**83.00**	**52**	P	P	23 37 49.0	+1.2
	0.9nm,0.5s,baz=259,slow=6.8,SNR=3.6						
JOF	**Joensuu**	**83.76**	**335**	*e*p	P	23 37 49.8	-1.4
	1.4nm,0.3s						
PDAR	**Pinedale Array**	**87.66**	**45**	P	P	23 38 10.9	+0.1
	0.2nm,0.4s,baz=9.5,slow=2.7,SNR=3.0						

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*ISCJB **09** 23:37:10.3±1.8, 5.1S±0.1×15101E±008, h155km±19km, mb4.1/9, Error ellipse: s-maj=19.1km s-min=12.5km az=155.9*
*IDC **09** 23:37:11.6±2.9, 5.13S×15103E, h152km±23km, mb3.7/7, mb1 3.9/7, mb1mx3.7/15, mbtmp3.7/7, Error ellipse: s-maj=41.0km s-min=14.6km az=121.0*
*NEIC **09** 23:37:11.8±1.3, 5.12S×15105E, h158km±13km, mb4.9/7, Error ellipse: s-maj=11.6km s-min=8.7km az=156.0*

ISC 09 23:37:11.1±1.4**, 510S**±009×**15103E**±008**, h149**km±14km**, n26, σ0s78**/26**, mb4.1**/9**, New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.75**	**222**	*e*Pn	**Pn**	**23 38 35.8**	**+1.3**
	142nm,0.5s						
PMG				*e*Sn	**Sn**	**23 39 38.9**	**-0.8**
HNR	**Honiara**	**9.84**	**116**	Pn	**Pn**	**23 39 29.1**	**+0.1**
CTAO	**Charters Tower**	**15.61**	**197**	*e*Pn	**Pn**	**23 40 42.9**	**-0.2**
	14nm,1.3s						
KAKA	**Kakadu**	**19.85**	**246**	*e*P	**P**	**23 41 30.8**	**+0.1**
	18nm,0.5s						
WB2	**Warramunga Arr**	**21.94**	**226**	*e*P	**P**	**23 41 52.4**	**-0.5**
WB2				*e*		23 42 18.9	
WRA	**Warramunga Arr**	**21.94**	**226**	P	**P**	**23 41 52.6**	**-0.4**
	3.1nm,0.7s,mb3.9,baz=50,slow=10,SNR=25						
WRA				S	**S**	**23 45 45.5**	**+0.3**
	0.4nm,0.7s,baz=46,slow=17,SNR=4.3						
WRA				ScP	ScP	23 49 10.0	+0.3
	1.3nm,0.8s,baz=48,slow=2.9,SNR=11						
ASAR	**Alice Springs**	**24.76**	**220**	P	**P**	**23 42 19.9**	**+0.8**
	5.4nm,0.7s,mb4.2,baz=58,slow=8.7,SNR=47						
FITZ	**Fitzroy Crossi**	**27.98**	**240**	P	**P**	**23 42 48.4**	**+0.4**
	2.7nm,0.9s,mb4.0,baz=46,slow=13,SNR=9.0						
FITZ	**Fitzroy Crossi**	**27.98**	**240**	*e*P	**P**	**23 42 48.0**	**0.0**
	5.8nm,0.8s,mb4.4						
KKM	**Kota Kinabalu**	**36.48**	**287**	P	**P**	**23 44 02.0**	**-0.2**
TAU	**Tasmania Unive**	**37.80**	**184**	*e*P	**P**	**23 44 12.5**	**-0.3**
	23nm,1.1s,mb4.7						
YHNB	**Yeheng**	**41.33**	**317**	*e*P	**P**	**23 44 42.1**	**-0.3**
	222nm,1.9s						
COCO	**West Island**	**53.96**	**259**	*e*P	**P**	**23 46 20.4**	**+0.4**
	22nm,0.7s,mb5.0						
BJT	**Baijiatuau**	**55.17**	**328**	P	**P**	**23 46 27.2**	**-1.1**
SONM	**Songino Array**	**65.65**	**329**	P	**P**	**23 47 41.2**	**+1.9**
	1.1nm,0.6s,mb3.9,baz=144,slow=5.6,SNR=4.5						
LSA	**Lhasa**	**66.96**	**305**	P	**P**	**23 47 52.0**	**+4.0**
MK31	**Makanchi Array**	**79.40**	**319**	*e*P	**P**	**23 48 60.0**	**-0.7**
MKAR	**Makanchi Array**	**79.40**	**319**	P	**P**	**23 49 01.4**	**+0.8**
	0.3nm,0.5s,mb3.2,baz=105,slow=8.3,SNR=6.9						
ZALV	**Zalesovo Beam**	**80.43**	**327**	P	**P**	**23 49 04.5**	**-1.5**
	0.8nm,0.3s,mb3.8,baz=120,slow=6.1,SNR=5.7						
PMR	**Palmer**	**80.69**	**25**	*e*P	**P**	**23 49 07.6**	**+0.4**
MCK	**McKinley**	**81.82**	**23**	P	**P**	**23 49 11.9**	**-1.3**
TKM2	**Tokmak 2**	**82.87**	**314**	*e*P	**P**	**23 49 19.6**	**+0.4**
KURK	**Kurchatov**	**82.92**	**322**	*e*P	**P**	**23 49 19.5**	**+0.3**
NVAR	**Mina Array Bea**	**93.66**	**52**	P	**P**	**23 50 11.3**	**+0.4**
	0.5nm,0.5s,mb3.9,baz=316,slow=2.5,SNR=3.4						
LPAZ	**La Paz**	**135.82**	**120**	PKP	PKPdf	23 56 15.4	+0.3
	0.4nm,0.5s,baz=284,slow=4.2,SNR=3.7						
TORD	**Torodi Ar. Bea**	**148.72**	**287**	PKPbc	PKPbc	23 56 41.3	-0.6
	1.7nm,0.6s,baz=80,slow=2.3,SNR=26						

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*ISCJB **09** 23:41:53.7±1.1, 2387N±003×12266E±002, h10km±8km, Error ellipse: s-maj=4.8km s-min=3.0km az=165.7*
*TAP **09** 23:41:53.3, 2390N×12269E, h14km, ML3.1, D*
*JMA **09** 23:41:54.1±0.9, 2401N×12255E, h27km, M2.5*

ISC 09 23:41:53.8±1.0**, 2390N**±003×**12266E**±002**, h11**km±7km**, n26, σ0s55**/51**, Taiwan region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YOJ	**Yonaguni jima**	**0.64**	**30**	P	**Pg**	**23 42 06.1**	**-0.2**
TWD	**Chiawan**	**0.99**	**281**	P	**Pb**	**23 42 13.0**	**0.0**
	baz=280						
TWD				S	**Sb**	**23 42 27.1**	**+1.1**
	baz=280						
ENA	**Nanau**	**0.99**	**302**	*i* P	**Pb**	**23 42 12.9**	**-0.1**
	baz=301						
ENA				*i* S	**Sb**	**23 42 27.2**	**+1.2**
	baz=301						
TWC	**Suao**	**1.02**	**314**	*i* P	**Pb**	**23 42 12.8**	**-0.7**
	baz=312						
TWC				*e*S	**Sb**	**23 42 25.7**	**-1.3**
	baz=312						
HATJ	**Hateruma jima**	**1.06**	**81**	P	**Pb**	**23 42 14.3**	**+0.2**
HATJ				*e*S	**Sb**	**23 42 29.0**	**+1.0**
IRIF	**Iriomote-Funau**	**1.07**	**66**	P	**Pb**	**23 42 14.8**	**+0.5**
IRIF				*e*S	**Sb**	**23 42 29.2**	**+0.9**
ESL	**Shilin**	**1.13**	**266**	P	**Pb**	**23 42 14.9**	**-0.4**
	baz=265						
ESL				S	**Sb**	**23 42 31.1**	**+1.1**
	baz=265						
TWE	**Neicheng**	**1.22**	**312**	P	**Pn**	**23 42 16.9**	**+0.1**
	baz=311						
TWE				S	**Sb**	**23 42 33.2**	**+0.6**
	baz=311						
TWB1	**Santiao Chiao**	**1.26**	**331**	*e*P	**Pn**	**23 42 16.9**	**-0.4**
	baz=330						
TWB1				*e*S	**Sb**	**23 42 34.3**	**+0.4**
	baz=330						
JKRS	**Kuro-shima**	**1.28**	**74**	P	**Pn**	**23 42 17.8**	**+0.2**
JKRS				*e*S	**Sb**	**23 42 34.5**	**+0.2**
EHY	**Hungye**	**1.29**	**253**	*e*P	**Pn**	**23 42 17.4**	**-0.3**
	baz=252						
EHY				*e*S	**Sb**	**23 42 34.2**	**-0.4**
	baz=252						
NNS	**Nan Shan**	**1.29**	**295**	*e*P	**Pn**	**23 42 17.5**	**-0.3**
	baz=294						
NNS				*e*S	**Sb**	**23 42 34.5**	**-0.2**
	baz=294						
WHF	**Hehuan Shan**	**1.30**	**281**	*e*P	**Pn**	**23 42 17.6**	**-0.2**
	baz=280						
WHF				*e*S	**Sb**	**23 42 34.2**	**-0.7**
	baz=280						
TWF1	**Yuli**	**1.36**	**247**	*e*P	**Pn**	**23 42 18.8**	**0.0**
	baz=246						
TWF1				*e*S	**Sn**	**23 42 36.7**	**-0.1**
	baz=246						
NWF	**Wu-fen Shan**	**1.41**	**326**	*e*P	**Pn**	**23 42 18.7**	**-0.8**
	baz=324						
NWF				*e*S	**Sn**	**23 42 38.0**	**-0.1**
	baz=324						
JIJ	**Ishigaki jima**	**1.43**	**71**	P	**Pn**	**23 42 19.1**	**-0.6**
JIJ				*e*S	**Sn**	**23 42 36.9**	**-1.6**
CHKT	**Chengkung**	**1.43**	**236**	*e*P	**Pn**	**23 42 19.2**	**-0.5**
	baz=236						
CHKT				*e*S	**Sn**	**23 42 38.5**	**0.0**
	baz=236						
SMLT	**Sun Moon Lake**	**1.61**	**270**	*e*P	**Pn**	**23 42 22.1**	**0.0**
	baz=269						
SMLT				*e*S	**Sn**	**23 42 43.1**	**+0.2**
	baz=269						
YUS	**Yu-Shan**	**1.62**	**256**	*e*P	**Pn**	**23 42 22.2**	**-0.1**
	baz=255						
YUS				*e*S	**Sn**	**23 42 43.3**	**+0.2**
	baz=255						
ALS	**Alishan**	**1.75**	**258**	*e*P	**Pn**	**23 42 24.0**	**0.0**
	baz=257						
ALS				*e*S	**Sn**	**23 42 46.5**	**+0.3**
	baz=257						
TWG	**Pinlang**	**1.81**	**234**	*e*P	**Pn**	**23 42 24.9**	**0.0**
	baz=234						
TWG				*e*S	**Sn**	**23 42 46.9**	**-1.0**
	baz=234						
CHN5	**Tsauling**	**1.84**	**261**	*e*P	**Pn**	**23 42 25.5**	**+0.2**
	baz=260						
CHN5				*e*S	**Sn**	**23 42 48.7**	**+0.1**
	baz=260						
STYT	**Tauyuan**	**1.90**	**248**	*e*P	**Pn**	**23 42 26.3**	**+0.3**
	baz=247						
STYT				*e*S	**Sn**	**23 42 50.2**	**+0.3**
	baz=247						
SGST	**Jiashian**	**2.07**	**247**	*e*P	**Pn**	**23 42 28.6**	**+0.1**
	baz=247						

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SGST				eS	Sn	23 42 54.6	+0.3
	baz=247						
CHN1	Nanshi	2.08	250	eP	Pn	23 42 28.8	+0.1
	baz=250						
CHN1				eS	Sn	23 42 54.8	+0.2
	baz=250						
EAST	Anshuo	2.25	228	eP	Pn	23 42 31.3	+0.3
	baz=228						
EAST				eS	Sn	23 42 58.5	-0.2
	baz=228						

IDC 09 23:53:01.2±6.0**,2329S**×**17692W,h0**^{km}**,mb3.9**/3**, mb1 4.1**/3**,mb1mx3.8**/16**,mbtmp3.9**/3**,Error ellipse: s-maj=248.4km s-min=57.4km az=151.0,South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CTA	Charters Tower	34.31	268	P	P	23 59 51.1	+1.5
	0.9nm,0.3s,baz=97,slow=11,SNR=4.0						
ASAR	Alice Springs	44.92	259	P	P	00 01 17.1	-0.9
	0.9nm,0.8s,baz=100,slow=6.7,SNR=6.6						
WRA	Warramunga Arr	45.27	265	P	P	00 01 20.4	-0.4
	1.1nm,0.6s,baz=101,slow=8.5,SNR=25						
AKASG	Malin Array Be	145.93	330	PKPbc	PKPbc	00 12 41.7	-0.7
	0.2nm,0.2s,baz=39,slow=4.3,SNR=5.0						

*ISCJB **09** 23:58:38.9±1.9,3390S±004×11774E±006,h12^{km}±12^{km}, mb4.4/10,MS4.4/7,Error ellipse: s-maj=9.3km s-min=5.9km az=148.3*
*IDC **09** 23:58:39.4±0.7,3390S×11764E,h0^{km},mb4.5/12, mb1 4.6/12,mb1mx4.5/16,mbtmp4.5/12,MS4.3/6, Ms1 4.3/6,ms1mx3.8/30,Error ellipse: s-maj=21.7km s-min=10.4km az=74.0*
*AUST **09** 23:58:40.7,3395S×11751E,h0^{km},ML4.8*
*NEIC **09** 23:58:40.0,3395S×11751E,h0^{km},mb4.5/2, ML4.8(AUST),After AUST.*
*DJA **09** 23:58:42,3390S×11768E,h10^{km},mb4.9/9*
ISC 09 23:58:39.2±1.0**,3390S**±003×**11753E**±006**,h1**^{km}±6^{km}**,n42, σ0^{s}97**/50**,mb4.4**/10**,MS4.4**/7**,1C-2D,Western Australia**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
RKGY	Rocky Gully	0.84	213	⇑iP	Pg	23 58 54.8	-0.5
RKGY				eS	Sg	23 59 05.2	-0.9
	36μm,0.6s						
RKGY				eRG		23 59 12.4	
NWAO	Narrogin (SRO)	1.00	346	eP	Pg	23 58 59.1	+0.6
NWAO				eS	Sg	23 59 12.5	+1.0
	49μm,0.4s						
NWAO				eRG		23 59 20.4	
NWAO	Narrogin (SRO)	1.00	346	Pg	Pg	23 58 59.1	+0.6
	1μm,0.3s,baz=158,slow=14,SNR=3026						
NWAO				Lg		23 59 12.7	
	3μm,0.3s,baz=74,slow=23,SNR=125						
MUN	Mundaring	2.22	330	eP	Pn	23 59 17.7	+0.6
MUN				eS	Sn	23 59 45.7	+0.5
KLBR	Kellerberrin	2.31	5	eP	Pn	23 59 19.2	+0.7
KLBR				eS	Sn	23 59 47.7	+0.1
	2μm,0.4s						
KLBR				eRG		00 00 08.8	
BLDU	Ballidu	3.35	348	eP	Pn	23 59 32.7	-0.1
BLDU				eS	Sn	00 00 11.5	-1.7
MORW	Morawa	4.99	345	eP	Pn	23 59 55.1	-0.1
MORW				eS	Sn	00 00 51.3	-2.2
MEEK	Meekatharra	7.30	8	⇓iP	Pn	00 00 26.5	-0.6
MEEK				eS	Sn	00 01 43.8	-6.8
FORT	Forrest	9.44	74	eP	Pn	00 00 54.9	-1.5
FORT				eS	Sn	00 02 35.3	-7.9
GIRL	Giralia	11.59	345	eP	Pn	00 01 24.9	-0.9
BBOO	Buckleboo	15.53	91	eP	Pn	00 02 19.0	-0.4
BBOO				eS	Sn	00 05 04.4	-7.7
FITZ	Fitzroy Crossi	17.33	27	eP	Pn	00 02 37.3	-5.2
FITZ				eS	Sn	00 05 39.3	-17
FITZ	Fitzroy Crossi	17.33	27	eP	Pn	00 02 36.8	-5.7
	20nm,0.4s						
FITZ	Fitzroy Crossi	17.33	27	Pn	Pn	00 02 37.5	-5.0
	2.1nm,0.3s,baz=206,slow=13,SNR=57						
FITZ				Sn	Sn	00 05 38.6	-17
	2.0nm,0.3s,baz=129,slow=23,SNR=3.7						
FITZ				Lg		00 07 38.3	
	1.0nm,0.3s,baz=313,slow=16,SNR=3.7						
FITZ				LR	LR	00 10 26.3	
	comp=Z,100nm,19.5s,baz=211,slow=41						
ASAR	Alice Springs	17.59	59	P	Pn	00 02 40.5	-5.2
	4.3nm,0.3s,baz=224,slow=11,SNR=132						
ASAR				S	Sn	00 05 44.7	-17
	1.6nm,0.3s,baz=240,slow=22,SNR=33						
ASAR				Lg		00 07 44.7	
	baz=242,slow=26,SNR=4.9						
STKA	Stephens Creek	20.31	91	eP	P	00 03 16.6	0.0
	17nm,1.0s						
STKA	Stephens Creek	20.31	91	P	P	00 03 16.8	+0.2
	29nm,1.1s,baz=258,slow=10,SNR=13						
STKA				S	S	00 06 47.1	-18
	2.7nm,0.7s,baz=285,slow=11,SNR=3.0						
STKA				Lg		00 09 08.5	
	19nm,1.0s,baz=348,slow=20,SNR=3.1						
STKA				LR	LR	00 11 15.4	
	comp=Z,2μm,20.6s,MS4.3,baz=234,slow=37						
WRA	Warramunga Arr	20.41	51	P	P	00 03 15.9	-1.8
	12nm,0.4s,baz=226,slow=12,SNR=78						
WRA				S	S	00 06 51.1	-16
	14nm,0.8s,baz=230,slow=25,SNR=9.6						
WRA				Lg		00 09 07.6	
	29nm,1.1s,baz=227,slow=27,SNR=3.2						
WRA				LR	LR	00 11 25.8	
	comp=Z,568nm,20.4s,MS3.9,baz=220,slow=38						
CMSA	Cobar Meteorol	23.79	92	eP	P	00 03 54.0	+0.5
QLP	Quilpie	24.16	80	eP	P	00 03 57.1	+0.1
BATI	Baumata	24.25	15	P	P	00 03 58.1	+0.3
	13nm,0.5s,mb4.7,baz=162,slow=3.2,SNR=3.4						
BATI				LR	LR	00 14 51.8	
	comp=Z,222nm,19.5s,MS3.7,baz=294,slow=40						
CTA	Charters Tower	28.95	69	eP	P	00 04 40.2	0.0
	11nm,1.3s,mb4.5						
CTA	Charters Tower	28.95	69	P	P	00 04 40.5	+0.3
	16nm,1.1s,mb4.8,baz=239,slow=9.5,SNR=7.9						
CTA				Lg		00 13 50.5	
	11nm,0.9s,baz=313,slow=19,SNR=3.3						
CTA				LR	LR	00 16 47.3	
	comp=Z,1μm,18.6s,MS4.5,baz=233,slow=38						
ARMA	Armidale	29.00	93	eP	P	00 04 42.9	+2.3
RPZ	Rata Peaks	42.20	120	LR	LR	00 19 22.8	
	comp=Z,284nm,20.2s,MS4.2,baz=192,slow=30						
MAW	Mawson	45.80	206	eP	P	00 07 02.8	+0.7
	3.4nm,0.6s,mb4.5						
MAW	Mawson	45.80	206	P	P	00 07 02.9	+0.7
	3.8nm,0.6s,mb4.6,baz=87,slow=8.5,SNR=20						
URZ	Urewera	47.63	113	LR	LR	00 23 57.6	
	comp=Z,362nm,18.1s,MS4.4,baz=221,slow=32						
SYO	Syowa Base	54.51	206	⇓eP	P	00 08 07.9	-0.3
CMAR	Chiang Mai Arr	55.00	338	P	P	00 08 14.8	+2.5
	3.9nm,0.6s,mb4.6,baz=186,slow=5.6,SNR=35						
QSPA	South Pole Qui	56.21	180	P	P	00 08 20.6	+0.3
	8.5nm,0.8s,mb4.8,baz=326,slow=3.6,SNR=33						
KSRS	Korea Array	71.65	9	P	P	00 10 01.2	-1.1
	1.3nm,0.5s,mb4.3,baz=184,slow=8.6,SNR=5.0						
SONM	Songino Array	81.98	352	P	P	00 11 01.6	+1.2
	0.9nm,0.7s,mb4.0,baz=166,slow=7.3,SNR=6.2						
MKAR	Makanchi Array	86.37	337	P	P	00 11 23.3	+0.5
	0.7nm,0.9s,mb3.8,baz=157,slow=7.9,SNR=3.9						
MKAR	Makanchi Array	86.37	337	P	P	00 11 23.3	+0.5
KURK	Kurchatov	90.98	336	P	P	00 11 45.2	+0.7
	5.6nm,1.0s,mb4.8,baz=157,slow=3.8,SNR=16						
KURK	Kurchatov	90.98	336	P	P	00 11 45.2	+0.7
ZALV	Zalesovo Beam	91.96	341	P	P	00 11 48.6	-0.4
	0.3nm,0.3s,mb4.1,baz=158,slow=1.6,SNR=4.3						
ZALV				LR	LR	00 56 10.3	
	comp=Z,3μm,18.8s,MS5.7,baz=8.0,slow=38						
TORD	Torodi Ar. Bea	118.59	267	PKP	PKPdf	00 17 28.9	-0.6
	0.8nm,0.8s,baz=134,slow=1.6,SNR=8.7						
ARCES	ARCESS Array B	122.01	336	PKP	PKPdf	00 17 34.2	-0.2
	4.0nm,0.8s,baz=90,slow=2.4,SNR=4.6						
ARCES	ARCESS Array B	122.01	336	PKP	PKPdf	00 17 34.2	-0.2
ULM	Lac du Bonnet	150.63	46	PKPbc	PKPbc	00 18 32.2	-0.3
	2.3nm,0.4s,baz=333,slow=2.0,SNR=5.9						

IDC 10 00:04:49.8±1.4**,3336S**×**17962E,h0**^{km}**,mb4.4**/5**, mb1 4.6**/6**,mb1mx4.3**/18**,mbtmp4.3**/6**,ML3.9**/1**,Error ellipse: s-maj=34.6km s-min=29.8km az=23.0,South of Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
URZ	Urewera	5.30	202	Pn	Pn	00 06 09.7	-0.5
	4.0nm,0.3s,baz=303,slow=15,SNR=28						
URZ				Sn	Sn	00 07 17.6	+5.7
	5.9nm,0.3s,baz=153,slow=22,SNR=8.2						
ASAR	Alice Springs	41.04	271	P	P	00 12 35.7	+0.7
	3.6nm,0.7s,baz=118,slow=7.4,SNR=5.3						
WRA	Warramunga Arr	42.31	277	P	P	00 12 45.6	+0.1
	1.5nm,0.4s,baz=116,slow=7.8,SNR=9.3						
FITZ	Fitzroy Crossi	50.42	274	P	P	00 13 48.2	-1.1
	4.3nm,0.9s,baz=134,slow=7.6,SNR=2.6						
QSPA	South Pole Qui	56.76	180	P	P	00 14 35.4	+0.4
	1.6nm,0.7s,baz=292,slow=2.0,SNR=7.1						
TXAR	Lajitas Array	95.67	59	P	P	00 18 17.6	+0.1
	3.2nm,0.8s,baz=212,slow=5.7,SNR=27						

*IDC **10** 00:15:13.5±0.8,4376N×12775W,h0^{km},mb4.2/15, mb1 4.4/21,mb1mx4.3/31,mbtmp4.3/21,ML3.8/6,MS4.0/11, Ms1 4.0/11,ms1mx4.0/43,Error ellipse: s-maj=25.3km s-min=9.6km az=38.0*
*ISCJB **10** 00:15:14.8±0.7,4372N±002×12772W±003,h14^{km}±4^{km}, mb4.7/51,MS4.3/11,Error ellipse: s-maj=3.2km s-min=2.9km az=136.8*
*MOS **10** 00:15:14.1±0.9,4383N×12774W,h10^{km},mb4.9/25,Error ellipse: s-maj=6.8km s-min=5.3km az=133.3*
*BJI **10** 00:15:15.7,4380N×12790W,h10^{km},mB5.3,mb5.0,Ms5.2, Msz4.9*
*GCMT **10** 00:15:15.7±0.4,4343N×12803W,h18^{km}±1^{km},MW5.0/63, Moment Tensor Solution. s13,c17; s63,c91; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-0.29±.18; $M_{\theta\theta}$-2.93±.15; $M_{\phi\phi}$3.22±.17; $M_{r\theta}$-2.29±.50; $M_{\theta\phi}$-1.02±.14; $M_{\phi r}$0.22±.34; Best double couple: $M_0$3.91500×10^{16} NP1:ϕ_s31.00000°,δ61.00000°,λ-14.00000°. NP2: ϕ_s128.00000°,δ78.00000°,λ-151.00000°. Principal axes: T 3.4980, Plg11.0000°, Azm257.0000°; N 0.8350, Plg59.0000°, Azm149.0000°; P -4.3330, Plg29.0000°, Azm353.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **10** 00:15:15.7±0.3,4377N×12787W,h10^{km},mb4.8/34, MS4.7/1 Error ellipse: s-maj=5.6km s-min=3.6km az=45.0*
ISC 10 00:15:18.1±0.8**,4370N**±002×**12776W**±003**,h28**^{km}±5^{km}**, h19**^{km}±2.9^{km}**:pP-P,n351,σ1^{s}12**/376**,mb4.7**/51**,MS4.3**/11**, 64C-65D,Off coast of Oregon**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
K01A	Sixes	2.57	109	⇓P	Pn	00 15 53.9	-3.9
	baz=3.2						
K01A				⇑S	Sn	00 16 24.7	-3.3
	baz=3.2						
KEBM	Edson Butte	2.64	107	ePn	Pn	00 15 55.5	-3.2
KEBM				eSn	Sn	00 16 24.8	-5.0
I02A	Mapleton	2.86	83	⇓P	Pn	00 15 59.6	-2.3
	baz=3.7						
H02A	Toledo	2.88	69	⇑P	Pn	00 16 00.2	-1.8
	baz=3.8						
H02A				⇓S	Sn	00 16 35.9	+0.1
	baz=3.8						
RNO	Roman Nose	2.92	84	P	Pn	00 16 00.5	-2.2
J02A	Umpqua	3.06	95	⇑P	Pn	00 16 01.8	-2.9
	baz=3.8						
J02A				⇓S	Sn	00 16 39.5	-0.9
	baz=3.8						
HEBO	Mount Hebo	3.25	61	ePn	Pn	00 16 06.3	-0.8
HEBO				eSn	Sn	00 16 46.3	+1.5
I03A	Eugene	3.26	84	⇑P	Pn	00 16 05.5	-1.8
	baz=4.1						
I03A				⇓S	Sn	00 16 44.7	-0.5
	baz=4.1						
K02A	Glendale	3.26	105	⇑P	Pn	00 16 04.3	-3.1
	baz=3.9						
K02A				⇓S	Sn	00 16 43.5	-1.7
	baz=3.9						
COR	Corvallis	3.33	73	ePn	Pn	00 16 07.0	-1.3
COR				eSn	Sn	00 16 46.9	0.0
DBO	Dodson Butte	3.34	98	P	Pn	00 16 06.6	-1.9
H03A	Soap Creek Ran	3.36	72	⇑P	Pn	00 16 07.2	-1.5
	baz=4.2						
H03A				⇓S	Sn	00 16 48.3	+0.7
	baz=4.2						
HSO	Harness Mounta	3.40	91	P	Pn	00 16 07.4	-1.8
L02A	Cave Junction	3.42	115	⇑P	Pn	00 16 07.3	-2.3
	baz=4.0						
G03A	Yamhill	3.59	62	⇓P	Pn	00 16 11.0	-0.9
	baz=4.5						
HUMO	Hull Mountain	3.68	106	⇑P	Pn	00 16 10.4	-2.7
	baz=4.4						
HUMO				⇑S	Sn	00 16 54.0	-1.6
	baz=4.4						
HUMO	Hull Mountain	3.68	106	ePn	Pn	00 16 10.7	-2.4
HUMO				eSn	Sn	00 16 54.6	-1.0
F03A	Seaside	3.73	52	⇓P	Pn	00 16 13.4	-0.4
	baz=4.6						
BBOR	Butler Butte	3.80	101	P	Pn	00 16 12.9	-1.8
BROR	Big Rock Looko	3.88	80	P	Pn	00 16 14.9	-0.9
I04A	Tendick Farm,	3.88	87	⇓P	Pn	00 16 14.7	-1.1
	baz=4.7						
NLO	Nicolai Mounta	3.89	51	P	Pn	00 16 15.6	-0.4
HBO	Huckleberry Mo	3.94	86	P	Pn	00 16 15.8	-0.9
SSOR	Sweet Springs	3.98	71	P	Pn	00 16 17.0	-0.2
G04A	Mulino	4.07	66	⇑P	Pn	00 16 18.2	-0.3
	baz=5.0						
KHMM	Horse Mountain	4.11	132	ePn	Pn	00 16 19.8	+0.8
E03A	Lebam	4.12	45	⇓P	Pn	00 16 18.2	-0.9
	baz=5.0						
E03A				⇑S	Sn	00 17 07.6	+1.3
	baz=5.0						
FRIS	Frissel Point	4.12	81	P	Pn	00 16 18.5	-0.7
H04A	Detroit Lake	4.13	74	⇓P	Pn	00 16 18.4	-0.9
	baz=5.0						
J04A	Umpqua Nationa	4.14	94	⇑P	Pn	00 16 18.7	-0.8
	baz=4.9						
GT2	Goat Mountain	4.20	68	P	Pn	00 16 20.2	+0.1
YBH	Yreka Blue Hor	4.21	116	Pn	Pn	00 16 19.2	-1.2
	2.7nm,0.3s,baz=288,slow=12,SNR=42						
YBH				Sn	Sn	00 17 08.5	-0.2
	3.3nm,0.3s,baz=329,slow=18,SNR=6.5						
YBH	Yreka Blue Hor	4.21	116	⇓P	Pn	00 16 19.0	-1.4
	baz=4.8						
YBH				⇑S	Sn	00 17 06.4	-2.3
	baz=4.8						
YBH	Yreka Blue Hor	4.21	116	ePn	Pn	00 16 19.4	-1.0
BMW	Boistfort Moun	4.24	48	P	Pn	00 16 20.1	-0.8
M02C	Callahan	4.30	121	⇓P	Pn	00 16 19.3	-2.3
	baz=4.8						
WIFE	Three Sisters-	4.31	83	P	Pn	00 16 21.3	-0.5
RVW	Rose Valley	4.33	54	P	Pn	00 16 21.8	-0.2
F04A	Amboy	4.41	58	⇑P	Pn	00 16 23.1	0.0
	baz=5.3						
BKCOR	Black Crater	4.42	80	P	Pn	00 16 22.8	-0.5
D03A	Wishkah Elem.	4.42	38	⇑P	Pn	00 16 23.0	-0.3
	baz=5.3,SNR=26						
D03A				⇓S	Sn	00 17 14.9	+1.1
	baz=5.3						
VLMM	Larch Mountain	4.48	64	P	Pn	00 16 24.4	+0.3
LVP	Lakeview Peak	4.48	56	P	Pn	00 16 24.2	+0.1
TDH	Tom, Dick, Har	4.56	68	P	Pn	00 16 25.4	+0.2
L04A	Klamath Falls	4.57	107	⇓S	Sn	00 17 17.1	-0.5
	baz=5.2						
MTMW	Mount Mitchell	4.58	58	P	Pn	00 16 25.8	+0.3
E04A	Onalaska	4.59	49	⇑P	Pn	00 16 25.5	-0.2
	baz=5.5						
NLWA	Neilton Lookou	4.59	35	⇓P	Pn	00 16 25.3	-0.3
	baz=5.4,SNR=28						
NLWA				⇑S	Sn	00 17 18.4	+0.4
	baz=5.4						
NLWA	Neilton Lookou	4.59	35	ePn	Pn	00 16 25.7	0.0
HSR	South Ridge	4.67	56	P	Pn	00 16 27.4	+0.7
VLL	Laurance Lake	4.69	66	P	Pn	00 16 27.5	+0.5
I05A	Bend	4.71	82	⇑P	Pn	00 16 26.3	-1.0
	baz=5.5						
TDL	Tradedollar La	4.74	54	P	Pn	00 16 27.8	+0.1
J05A	Fort Rock	4.77	93	⇑P	Pn	00 16 27.1	-0.9
	baz=5.5						
H05A	Madras	4.80	76	⇓P	Pn	00 16 27.5	-0.9
	baz=5.7						
C03A	Quillayute Air	4.80	27	⇓S	Sn	00 17 24.1	+0.9
	baz=5.6						
G05A	Wamic	4.87	69	⇑P	Pn	00 16 29.2	-0.2
	baz=5.7						
D04A	Dobbs Creek Ra	4.88	44	⇑P	Pn	00 16 29.8	+0.2
	baz=5.7						
D04A				⇓S	Sn	00 17 27.1	+2.0
	baz=5.7						
WDC	Whiskeytown Da	4.98	127	eP	Pn	00 16 31.8	+0.8
F05A	White Salmon	4.99	62	⇓P	Pn	00 16 31.5	+0.4
	baz=5.9						
K05A	Summer Lake	5.12	99	⇓P	Pn	00 16 31.8	-1.0
	baz=5.8						
E05A	Randle	5.12	54	⇓P	Pn	00 16 32.9	0.0
	baz=6.0						
GNW	Green Mountain	5.19	40	ePn	Pn	00 16 33.5	-0.3
GNW				eSn	Sn	00 17 32.5	-0.3
LON	Longmire	5.20	52	ePn	Pn	00 16 34.2	+0.3
LON				eSn	Sn	00 17 33.3	+0.5
C04A	Brinnon	5.23	38	⇓P	Pn	00 16 34.3	-0.2
	baz=6.1						
C04A				⇑S	Sn	00 17 35.6	+1.8
	baz=6.1						
B04A	Port Angeles	5.28	33	⇓P	Pn	00 16 34.9	-0.1
	baz=6.1,SNR=21						
G06A	Carlson Farm,	5.33	71	⇓P	Pn	00 16 35.0	-0.7
	baz=6.2						
L05A	Lakeview	5.35	106	⇑P	Pn	00 16 34.7	-1.4
	baz=6.0						
D05A	Enumclaw	5.36	47	⇑P	Pn	00 16 36.7	+0.6
	baz=6.2,SNR=60						
F06A	Goldendale	5.39	65	⇓P	Pn	00 16 36.6	0.0
	baz=6.3						
H06A	Lindquist Farm	5.44	76	⇑P	Pn	00 16 36.7	-0.6
	baz=6.3						
I06A	Prineville	5.47	85	⇓P	Pn	00 16 36.9	-0.8
	baz=6.3						
J06A	Christmas Vall	5.56	92	⇓P	Pn	00 16 37.4	-1.5
	baz=6.3						
K06A	Valley Falls	5.56	97	⇑P	Pn	00 16 37.7	-1.2
	baz=6.3						
E06A	Yakima	5.58	57	⇑P	Pn	00 16 39.8	+0.6
	baz=6.5						
MOD	Modoc	5.78	106	ePn	Pn	00 16 40.8	-1.1
PGC	Sidney	5.79	30	ePn	Pn	00 16 41.6	-0.4
PGC				eSn	Sn	00 17 47.3	-0.1
C05A	Tolt Reservoir	5.83	45	⇓P	Pn	00 16 42.9	+0.2
	baz=6.7,SNR=61						
HOPS	Hopland	5.88	142	ePn	Pn	00 16 42.6	-0.8
H07A	Lands Inn, Kim	5.97	79	⇓P	Pn	00 16 44.0	-0.5
	baz=6.8						
I07A	Izee	5.98	83	⇓P	Pn	00 16 44.1	-0.6
	baz=6.8						
D06A	Cle Elum	5.99	52	⇑P	Pn	00 16 45.1	+0.3
	baz=6.9						
F07A	Phinny Hill Vi	5.99	66	⇓P	Pn	00 16 44.7	-0.2
	baz=6.9						
G07A	Ruggs Ranch, H	6.00	72	⇓P	Pn	00 16 44.5	-0.5
	baz=6.9						
JCW	Jim Creek	6.06	40	ePn	Pn	00 16 46.1	+0.3
JCW				eSn	Sn	00 17 54.5	+0.3
A04A	Legoe Bay, Lum	6.12	33	⇑P	Pn	00 16 47.2	+0.6
	baz=6.9						
J07A	Hines	6.15	90	⇑P	Pn	00 16 46.6	-0.5
	baz=6.9						
E07A	Sunnyside	6.28	60	⇓P	Pn	00 16 48.9	+0.1
	baz=7.2						
K07A	Rock Creek Ran	6.31	96	⇓P	Pn	00 16 47.9	-1.2
	baz=7.0						
RSW	Rattlesnake Hi	6.38	62	eP	Pn	00 16 50.6	+0.4
C06A	Tall Timber Ra	6.39	46	⇑P	Pn	00 16 50.8	+0.4
	baz=7.2,SNR=21						
L07A	Adell	6.42	102	⇓P	Pn	00 16 49.4	-1.2
	baz=7.1						
OHCM	Honcut	6.42	131	ePn	Pn	00 16 52.7	+2.0
HAWA	Hanford	6.42	62	ePn	Pn	00 16 50.9	+0.1
	65nm,0.7s						
RPW	Rockport	6.44	40	ePn	Pn	00 16 51.6	+0.6
RPW				eSn	Sn	00 18 05.1	+1.6
G08A	Pilot Rock	6.50	73	⇑P	Pn	00 16 51.2	-0.6
	baz=7.4						
B06A	Marblemount	6.50	40	⇓P	Pn	00 16 51.8	-0.1
	baz=7.3,SNR=19						
ETW	Entiat	6.51	51	ePn	Pn	00 16 53.1	+1.1
ETW				eSn	Sn	00 18 06.7	+1.5
H08A	Prairie City	6.60	80	⇓P	Pn	00 16 52.4	-0.7
	baz=7.4						
CVS	Carmenet Viney	6.69	141	⇓P	Pn	00 16 52.9	-1.5
	baz=6.9						
C07A	Waterville	6.71	51	⇓P	Pn	00 16 54.8	+0.2
	baz=7.6						
F08A	Pendleton	6.73	69	⇓P	Pn	00 16 54.1	-0.9
	baz=7.6						
J08A	Circle Bar Ran	6.76	90	⇑P	Pn	00 16 54.1	-1.3
	baz=7.5						
E08A	Dider Farm, El	6.76	63	⇑P	Pn	00 16 55.3	-0.1
	baz=7.6						
WVOR	Wild Horse Val	6.80	98	eP	Pn	00 16 54.1	-1.9
WVOR				pmax	pmax		
	comp=Z,49nm,1.1s						
WVOR	Wild Horse Val	6.80	98	ePn	Pn	00 16 54.1	-1.9
	comp=Z,49nm,1.1s						
K08A	Mann Creek Ran	6.85	95	⇓P	Pn	00 16 55.6	-1.0
	baz=7.6						
D08A	Wollman Farm,	7.07	59	⇓P	Pn	00 16 59.5	-0.2
	baz=7.9						
LNOR	Lincton Mounta	7.08	69	eP	Pn	00 16 59.0	-0.9
B07A	Winthrop	7.13	45	⇑P	Pn	00 17 00.5	0.0
	baz=8.0,SNR=33						
M08A	Happy Creek Ra	7.28	105	⇑P	Pn	00 17 01.2	-1.4
	baz=7.9						
J09A	Fry Pan Ranch,	7.29	89	⇑P	Pn	00 17 01.9	-0.7
	baz=8.1						
F09A	S2 Ranch, Elgi	7.30	71	⇑P	Pn	00 17 02.4	-0.5
	baz=8.2						
G09A	Cove	7.31	74	⇑P	Pn	00 17 02.5	-0.5
	baz=8.2						
H09A	Durkee	7.33	79	⇓P	Pn	00 17 02.4	-0.8
	baz=8.2						
C08A	Higginbotham F	7.34	53	⇓P	Pn	00 17 03.4	0.0
	baz=8.2						
OD2	Odessa Site #2	7.35	57	ePn	Pn	00 17 03.6	+0.2
A07A	Ashnola River,	7.39	41	⇑P	Pn	00 17 04.0	-0.1
	baz=8.2,SNR=17						
K09A	Rome	7.40	94	⇑P	Pn	00 17 02.5	-1.7
	baz=8.1						
PAHR	Pah Rah Range	7.43	120	ePn	Pn	00 17 08.2	+3.5
D09A	Jones Farm, Ri	7.46	60	⇓P	Pn	00 17 04.6	-0.4
	baz=8.3						
B08A	Colville Reser	7.49	49	⇑P	Pn	00 17 05.0	-0.4
	baz=8.3						
BMO	Blue Mountains	7.59	78	eP	Pn	00 17 06.1	-0.8
BMO				pmax	pmax		
	comp=Z,15nm,0.6s						
BMO	Blue Mountains	7.59	78	ePn	Pn	00 17 06.1	-0.7
	comp=Z,15nm,0.6s						
G10A	Bishop Farm, J	7.78	74	⇓P	Pn	00 17 08.8	-0.5
	baz=8.6						
C09A	Chrisman Ranch	7.80	55	⇑P	Pn	00 17 09.5	-0.2
	baz=8.7						
F10A	Beach Ranch, E	7.83	69	⇑P	Pn	00 17 09.4	-0.6
	baz=8.7						
A08A	Turner Farm, O	7.88	45	⇑P	Pn	00 17 10.0	-0.7
	baz=8.7,SNR=7.5						
CMB	Columbia Colle	7.95	133	eP	Pn	00 17 13.2	+1.4
H10A	Noah's Angus R	7.97	80	⇓P	Pn	00 17 11.1	-0.9
	baz=8.8						
K10A	MacKenzie Ranc	8.01	93	⇑P	Pn	00 17 11.5	-1.0
	baz=8.8						
WAKR	Walker	8.15	127	ePn	Pn	00 17 16.7	+2.2
B09A	Rice	8.18	51	⇓P	Pn	00 17 14.7	-0.2
	baz=9.0						
G11A	Walters Elk Ra	8.39	74	⇑P	Pn	00 17 17.1	-0.6
	baz=9.2						
C10A	Spilker Farm,	8.39	57	⇓P	Pn	00 17 17.5	-0.2
	baz=9.3						
BBB	Bella Bella	8.49	359	Pn	Pn	00 17 20.9	+1.7
	comp=Z,4.5nm,0.3s,baz=200,slow=11,SNR=19						
BBB				Sn	Sn	00 18 53.5	-0.5
	comp=Z,0.5nm,0.3s,baz=156,slow=20,SNR=3.0						
BBB				LR	LR	00 20 11.8	
	comp=Z,784nm,18.4s,baz=181,slow=35						
BBB	Bella Bella	8.49	359	Pn	Pn	00 17 20.9	+1.7
BBB				Sn	Sn	00 18 53.5	-0.5
BBB				LR	LR	00 20 11.8	
H11A	Donnelly	8.50	79	⇑P	Pn	00 17 18.8	-0.6
	baz=9.3						
E11A	Bogner Ranch,	8.60	68	⇑P	Pn	00 17 20.1	-0.6
	baz=9.5						
K11A	Parker Ranch,	8.62	92	⇓P	Pn	00 17 19.8	-1.1

baz=9.4
B10A **Chitwood Farm,** 8.66 54 ⇑P Pn 00 17 21.2 -0.2
baz=9.5
MFID **Camas Ranch** 8.67 88 ⇑P Pn 00 17 20.8 -0.8
baz=9.5
NEW **Newport** 8.70 55 eP Pn 00 17 21.8 -0.2
D11A **Klaveano Farm,** 8.71 63 ⇑P Pn 00 17 21.9 -0.3
baz=9.6
A10A **Northport** 8.81 50 ⇓P Pn 00 17 23.7 +0.1
baz=9.7
NVAR **Mina Array Bea** 8.87 123 Pn Pn 00 17 25.6 +1.2
comp=Z,0.5nm,0.3s,baz=294,slow=14,SNR=39
E12A **Beaver Dam Sad** 9.05 68 ⇑P Pn 00 17 26.3 -0.4
baz=9.9
I12A **Atlanta** 9.14 85 ⇓P Pn 00 17 27.2 -1.0
baz=9.9
B11A **Sandpoint** 9.23 55 ⇓P Pn 00 17 29.1 -0.2
baz=10
H12A **Diamond D Ranc** 9.32 80 ⇓P Pn 00 17 30.2 -0.4
baz=10
D12A **Red Ives Fores** 9.36 65 ⇓P Pn 00 17 30.9 -0.1
baz=10
MTUM **Tungsten Hills** 9.44 129 ePn Pn 00 17 35.3 +3.1
A11A **Hall Mountain,** 9.47 52 ⇓P Pn 00 17 32.8 +0.2
baz=10,SNR=9.2
HLID **Hailey** 9.68 86 ePn Pn 00 17 37.5 +2.0
ELK **Elko** 9.75 103 Pn Pn 00 17 38.3 +1.9
comp=Z,0.5nm,0.3s,baz=286,slow=12,SNR=29
ELK LR LR 00 21 43.3
comp=Z,930nm,18.3s,baz=285,slow=40
TPH **Tonopah** 9.76 122 eP Pn 00 17 40.5 +4.0
F13A **Darby** 9.79 73 ⇓P Pn 00 17 36.3 -0.5
baz=11
I13A **Wildhorse Cree** 9.87 84 ⇑P Pn 00 17 37.5 -0.6
baz=11
A12A **Yaak River Ran** 9.88 54 ⇑P Pn 00 17 38.2 +0.1
baz=11
D13A **Huson** 9.96 65 ⇓P Pn 00 17 38.6 -0.5
baz=11
BSMT **Bassoo Peak** 9.97 61 ePn Pn 00 17 40.5 +1.1
E13A **Victor** 9.99 69 ⇑P Pn 00 17 39.2 -0.4
baz=11
C13A **Hot Springs** 10.05 62 ⇑P Pn 00 17 40.6 +0.1
baz=11
MSO **Missoula** 10.23 67 ePn Pn 00 17 43.1 +0.1
B13A **Whitefish** 10.36 59 ⇓P Pn 00 17 44.8 +0.1
baz=11
F14A **Wisdom** 10.46 73 ⇑P Pn 00 17 46.0 -0.1
baz=11
E14A **Clinton** 10.46 70 ⇓P Pn 00 17 45.8 -0.3
baz=11
D14A **Greenough** 10.58 66 ⇑P Pn 00 17 47.4 -0.4
baz=11
C14A **Swan Lake** 10.61 63 ⇓P Pn 00 17 48.1 -0.1
baz=12
CHMT **Chamberlain Mo** 10.71 68 ePn Pn 00 17 49.5 -0.1
ISA **Isabella** 10.75 135 eP Pn 00 17 51.8 +1.7
MCMT **McKenzie Canyo** 10.76 79 ePn Pn 00 17 50.8 +0.5
DLMT **Dillon** 10.96 76 ePn Pn 00 17 53.3 +0.4
TPNV **Topopah Spring** 11.07 124 eP Pn 00 17 58.0 +3.5
LRM **Limekiln Ridge** 11.10 74 ePn Pn 00 17 55.9 +1.0
HVU **Hansel Valley** 11.19 95 eP Pn 00 17 57.8 +1.7
BGU **Big Grassy Mou** 11.26 99 ePn Pn 00 17 57.6 +0.6
SPUT **South Promonto** 11.56 97 ePn Pn 00 18 02.3 +1.2
HRY **Holter Researc** 11.64 69 ePn Pn 00 18 06.5 +4.3
DUG **Dugway** 11.67 102 eP Pn 00 18 03.3 +0.6
QLMT **Earthquake Lak** 11.77 79 ePn Pn 00 18 05.7 +1.7
GSC **Goldstone** 11.90 131 eP Pn 00 18 08.4 +2.5
RRI2 **Red Ridge** 11.95 86 ePn Pn 00 18 09.2 +2.7
DCID1 **Drake Creek** 12.02 85 ePn Pn 00 18 16.6 +9.2
SHPR **Sheep Range** 12.02 122 ePn Pn 00 18 10.1 +2.5
MWC **Mount Wilson** 12.10 138 eP Pn 00 18 11.0 +2.4
YMR **Madison River** 12.10 80 ePn Pn 00 18 09.8 +1.2
comp=Z,85nm,1.3s
HWUT **Hardware Ranch** 12.11 94 ePn Pn 00 18 10.2 +1.5
IMW **Indian Meadow** 12.16 83 ePn Pn 00 18 12.0 +2.6
AHID **Auburn Hatcher** 12.19 89 ePn Pn 00 18 11.9 +2.0
TPAW **Teton Pass** 12.20 85 ePn Pn 00 18 12.5 +2.6
CRAG **Craig** 12.28 346 ePn Pn 00 18 14.4 +3.4
REDW **Red Top Meadow** 12.28 86 ePn Pn 00 18 13.6 +2.6
NLU **North Lily Min** 12.29 102 ePn Pn 00 18 11.9 +0.8
YNR **Norris Junctio** 12.31 79 ePn Pn 00 18 12.8 +1.4
MOOW **Moose Ponds** 12.32 84 ePn Pn 00 18 13.8 +2.3
SNOW **Snow King Moun** 12.34 85 ePn Pn 00 18 14.8 +3.0
LOHW **Long Hollow** 12.43 84 ePn Pn 00 18 15.5 +2.4
JLU **Jordanelle** 12.50 99 ePn Pn 00 18 15.1 +1.1
LKWY **Lake** 12.51 80 eP Pn 00 18 17.4 +3.3
MSU **Marysvale** 12.84 108 eP Pn 00 18 20.6 +1.9
LDFC **Landfair** 13.02 127 ePn Pn 00 18 23.6 +2.4
GCMT **Greycliff** 13.04 74 ePn Pn 00 18 22.1 +0.8
RLMT **Red Lodge** 13.30 77 ePn Pn 00 18 28.0 +3.0
BW06 **Boulder Array** 13.31 88 ePn Pn 00 18 26.7 +1.6
PDAR **Pinedale Array** 13.31 88 Pn Pn 00 18 26.6 +1.5
comp=Z,0.1nm,0.3s,baz=275,slow=10,SNR=48
PDAR LR LR 00 23 51.4
comp=Z,2µm,19.0s,baz=308,slow=39
PFO **Pinyon Flat Ob** 13.39 135 Pn Pn 00 18 28.2 +2.0
comp=Z,0.2nm,0.3s,baz=323,slow=9.8,SNR=6.0
PFO LR LR 00 23 19.4
comp=Z,772nm,19.1s,baz=310,slow=36
PFO **Pinyon Flat Ob** 13.39 135 Pn Pn 00 18 28.2 +2.0
PFO LR LR 00 23 19.4
EDM **Edmonton** 13.47 40 eP Pn 00 18 29.6 +2.3
SRU **San Rafael** 13.72 104 eP Pn 00 18 32.0 +1.2
GLA **Glamis** 14.68 132 eP Pn 00 18 45.4 +1.6
DLBC **Dease Lake** 14.82 355 Pn Pn 00 18 48.6 +3.0
baz=178,slow=12
DLBC **Dease Lake** 14.82 355 ePn Pn 00 18 48.8 +3.2
WUAZ **Wupatki** 15.03 117 ePn Pn 00 18 51.7 +3.3
PV10 **Paradox Valley** 15.09 104 eP Pn 00 18 51.1 +1.9
RWWY **Rawlins** 15.25 90 ePn Pn 00 18 50.8 -0.5
LAO **LASA Array** 15.47 71 ePn Pn 00 18 55.6 +1.4
comp=Z,71nm,0.8s
PV01 **Paradox Valley** 15.53 104 eP Pn 00 18 55.3 +0.3
SKAG **Skagway** 16.45 346 ePn Pn 00 19 05.2 -1.5
comp=Z,70nm,0.9s
PHWY **Pilot Hill** 16.62 91 ePn Pn 00 19 07.7 -1.2
ISCO **Idaho Springs** 16.97 96 eP Pn 00 19 12.7 -0.7
ISCO pmax pmax
comp=Z,72nm,1.4s
ISCO **Idaho Springs** 16.97 96 ePn Pn 00 19 12.7 -0.8
comp=Z,72nm,1.4s
DGMT **Dagmar** 17.01 65 ePn Pn 00 19 14.9 +1.1
TUC **Tucson** 17.52 125 eP Pn 00 19 22.0 +1.7
TUC pmax pmax
comp=Z,36nm,1.7s
TUC **Tucson** 17.52 125 ePn Pn 00 19 21.9 +1.6
comp=Z,36nm,1.7s
SDCO **Great Sand Dun** 17.87 102 ePn Pn 00 19 25.3 +0.7
LAZ **Ladron** 18.48 113 eP Pn 00 19 34.5 +2.5
ANMO **Albuquerque** 18.61 111 P Pn 00 19 34.6 +0.9
comp=Z,0.1nm,0.3s,baz=316,slow=12,SNR=19
ANMO LR LR 00 27 01.8
comp=Z,754nm,19.2s,baz=139,slow=38
ANMO **Albuquerque** 18.61 111⇑ eP Pn 00 19 34.7 +1.0
LENM **Lemitar** 18.73 114 ePn Pn 00 19 37.2 +2.2
LPM **Los Pinos Moun** 18.87 113 ePn Pn 00 19 38.5 +1.8
BNM **Barren Site** 18.96 113 eP Pn 00 19 39.2 +1.3
OGNE **Ogallala** 19.20 89 eP Pn 00 19 39.2 -1.5
comp=Z,91nm,1.2s
FFC **Flin Flon** 20.01 48 eP P 00 19 49.2 +0.8
FFC pmax pmax
comp=Z,80nm,0.9s
FFC **Flin Flon** 20.01 48 eP P 00 19 49.2 +0.8
comp=Z,80nm,0.9s
YKA **Yellowknife Ar** 20.34 18 P P 00 19 51.8 -0.1
comp=Z,12nm,0.8s,baz=207,slow=11,SNR=14
YKA LR LR 00 27 44.2
comp=Z,244nm,19.4s,MS3.6,baz=130,slow=37
YKA **Yellowknife Ar** 20.34 18 P P 00 19 51.8 -0.1
YKA LR LR 00 27 44.2
KDAK **Kodiak Island** 20.94 321 P P 00 19 57.6 -0.7
comp=Z,14nm,0.9s,baz=141,slow=8.0,SNR=6.4
KDAK LR LR 00 25 44.4
comp=Z,402nm,21.4s,MS3.8,baz=130,slow=30
SEW **Seward** 21.02 329 eP P 00 19 53.3 -6.0
DAWY **Dawson** 21.46 346 eP P 00 20 04.7 +0.8
CBKS **Cedar Bluff** 21.58 93 eP P 00 20 05.9 +0.5
CBKS pmax pmax
comp=Z,34nm,1.0s,mb4.7
CBKS **Cedar Bluff** 21.58 93 eP P 00 20 05.8 +0.4
comp=Z,34nm,1.0s,mb4.7
SLKM **Skilak Lake** 21.58 329 eP P 00 20 06.1 +0.9
RC01 **Rabbit Creek A** 21.79 331 eP P 00 20 06.1 -1.4
comp=Z,32nm,1.5s,mb4.5

AMTX **Amarillo** 21.95 105 eP P 00 20 10.4 +0.9
comp=Z,44nm,1.0s,mb4.8
ECSD **EROS,Sioux Fal** 22.45 79 eP P 00 20 14.9 +0.1
comp=Z,42nm,1.2s,mb4.7
AGMN **Agassiz Refuge** 22.54 67 eP P 00 20 17.0 +1.4
comp=Z,86nm,1.2s,mb5.1
ULM **Lac du Bonnet** 22.60 62 P P 00 20 16.0 -0.2
comp=Z,12nm,0.8s,mb4.4,baz=268,slow=12,SNR=4.4
ULM LR LR 00 29 18.9
comp=Z,783nm,19.3s,MS4.2,baz=262,slow=38
ULM **Lac du Bonnet** 22.60 62 P P 00 20 16.0 -0.2
ULM LR LR 00 29 18.9
MCK **McKinley** 23.44 336 eP P 00 20 24.3 -0.7
MCK pmax pmax
comp=Z,33nm,1.6s,mb4.5
MCK **McKinley** 23.44 336 eP P 00 20 24.3 -0.7
comp=Z,33nm,1.6s,mb4.5
KSU1 **Kansas State U** 23.74 90 eP P 00 20 29.0 +1.1
comp=Z,100nm,1.1s,mb5.2
PPLA **Purkeypile** 23.87 332 eP P 00 20 28.4 -0.5
comp=Z,43nm,1.3s,mb4.7
TXAR **Lajitas Array** 23.98 119 P P 00 20 30.8 +0.6
comp=Z,11nm,1.0s,mb4.2,baz=300,slow=7.1,SNR=30
TXAR PcP PcP 00 24 13.4 +1.6
comp=Z,0.1nm,0.4s,baz=357,slow=1.8,SNR=2.7
TXAR LR LR 00 30 32.7
comp=Z,283nm,21.5s,MS3.7,baz=0.0,slow=38
TXAR **Lajitas Array** 23.98 119 P P 00 20 30.8 +0.6
TXAR 00 24 13.5
SVW2 **Sparrevohn** 24.02 326 eP P 00 20 30.9 +0.6
COLA **College** 24.02 339 eP P 00 20 29.8 -0.5
LPIG **La Paz** 24.24 138 LR LR 00 28 29.8
comp=Z,269nm,19.0s,MS3.8,baz=305,slow=33
BPAW **Bear Paw Mtn.** 24.32 335 eP P 00 20 32.4 -0.6
comp=Z,8.4nm,0.9s,mb4.2
JCT **Junction City** 25.78 111 eP P 00 20 46.6 +0.1
JCT pmax pmax
comp=Z,71nm,1.4s,mb5.0
JCT **Junction City** 25.78 111 eP P 00 20 46.6 +0.1
comp=Z,71nm,1.4s,mb5.0
CCM **Cathedral Cave** 28.02 89 eP P 00 21 06.1 -0.6
CCM pmax pmax
comp=Z,51nm,1.5s,mb4.9
CCM **Cathedral Cave** 28.02 89 eP P 00 21 06.0 -0.7
comp=Z,51nm,1.5s,mb4.9
FVM **French Village** 28.65 89 eP P 00 21 12.1 -0.1
FVM pmax pmax
comp=Z,24nm,1.1s,mb4.8
FVM **French Village** 28.65 89 eP P 00 21 12.1 -0.1
comp=Z,24nm,1.1s,mb4.8
OXF **Oxford** 30.91 94 eP P 00 21 33.0 +0.7
OXF pmax pmax
comp=Z,61nm,1.0s,mb5.4
OXF **Oxford** 30.91 94 eP P 00 21 33.0 +0.6
comp=Z,61nm,1.0s,mb5.4
SWET **Sewanee** 33.10 90 eP P 00 21 50.4 -1.1
LRAL **Lakeview Retre** 33.39 95 eP P 00 21 53.7 -0.4
comp=Z,14nm,1.1s,mb4.8
SADO **Sadowa** 34.44 71 P P 00 22 03.3 +0.2
baz=308,slow=13
TKL **Tuckaleechee C** 34.46 88 P P 00 22 02.4 -1.0
comp=Z,3.0nm,0.8s,mb4.3,baz=301,slow=6.7,SNR=4.7
TKL LR LR 00 37 38.7
comp=Z,163nm,18.6s,MS3.8,baz=332,slow=39
TKL **Tuckaleechee C** 34.46 88 P P 00 22 02.4 -1.0
TKL LR LR 00 37 38.7
GOGA **Godfrey** 35.76 91 eP P 00 22 14.7 +0.2
GOGA pmax pmax
comp=Z,15nm,0.8s,mb5.0
GOGA **Godfrey** 35.76 91 eP P 00 22 14.7 +0.2
comp=Z,15nm,0.8s,mb5.0
ELN **Prospectdale** 35.96 84 eP P 00 22 16.7 +0.5
JSC **Jenkinsville** 36.93 89 eP P 00 22 24.6 0.0
NHSC **New Hope** 38.29 90 eP P 00 22 34.9 -1.2
PETK **Petropavlovsk-** 48.25 309 P P 00 23 56.0 -0.3
comp=Z,3.7nm,0.8s,mb4.4,baz=81,slow=9.3,SNR=3.8
TIXI **Tiksi** 53.14 337⇑ eP P 00 24 30.4 -2.4
TIXI pmax pmax
comp=Z,4.0nm,1.2s,mb4.2
YAK **Yakutsk** 57.81 327 eP P 00 25 07.1 +0.7
YAK pmax pmax
comp=Z,9.0nm,0.8s,mb4.8
YSS **Yuzh-Sakhalins** 59.60 307 eP P 00 25 20.4 +1.2
YSS pmax pmax
comp=Z,13nm,1.0s,mb4.9
OTAV **Otavalo** 61.60 120 eP P 00 25 34.5 +1.3
comp=Z,20nm,1.3s,mb5.1
APA **Apatity** 68.14 8⇓ eP P 00 26 09.2 -5.8
APA pmax pmax
comp=Z,62nm,1.6s,mb5.4
APA MLR MLR
comp=Z,700nm,18.0s,MS4.9
HIA **Hailar** 70.22 320 eP P 00 26 28.3 +0.1
NB2 **NORSAR Subarra** 70.42 20 P P 00 26 29.5 +0.3
comp=Z,1.7nm,0.8s,mb4.0,baz=332,slow=5.9
NOA **NORSAR Array B** 70.42 20 P P 00 26 28.8 -0.5
comp=Z,3.2nm,0.8s,mb4.3,baz=331,slow=5.8,SNR=10
NOA **NORSAR Array B** 70.42 20 P P 00 26 28.8 -0.5
CN2 **Changchun** 71.15 313 eP P 00 26 34.9 +0.9
TLY **Talaya** 75.11 330 eP P 00 27 03.9 +6.7
TLY pmax pmax
comp=Z,8.0nm,1.0s,mb4.6
KLMR **Klimovskoe** 75.29 6 P P 00 26 56.8 -1.3
KLMR pmax pmax
comp=Z,29nm,1.8s,mb4.9
SONM **Songino Array** 77.14 326 P P 00 27 08.4 -0.4
comp=Z,1.6nm,0.9s,mb4.0,baz=57,slow=5.3,SNR=4.8
BAIF **Baives** 77.66 29 eP P 00 27 11.6 -0.1
NVS **Novosibirsk** 78.35 342 eP P 00 27 12.9 -2.6
ZALV **Zalesovo Beam** 78.81 341 P P 00 27 17.0 -1.0
comp=Z,0.8nm,0.5s,mb3.9,baz=1.6,slow=4.2,SNR=4.6
ZALV **Zalesovo Beam** 78.81 341 P P 00 27 17.0 -1.0
CLL **Collm** 79.44 24 *i* P P 00 27 21.8 +0.3
CLL e*PP pP 00 27 26.0 -4.3
CLL pmax pmax
comp=Z,6.0nm,0.9s,mb4.5
CLL **Collm** 79.44 24 eP P 00 27 21.9 +0.4
comp=Z,6.0nm,0.9s,mb4.5
CLL **Collm** 79.44 24 *i* P P 00 27 21.8 +0.3
comp=Z,6.0nm,0.9s,mb4.5
CLL ePP pP 00 27 26.0 -4.3
CLL eSP sP 00 27 28.0 -5.5
CLL **Collm** 79.44 24 *i* P P 00 27 21.8 +0.3
comp=Z,6.0nm,0.9s,mb4.5
CLL ePP pP 00 27 26.0 -4.3
SVE **Sverdlovsk** 79.59 355 eP P 00 27 21.6 -0.6
SVE pmax pmax
comp=Z,10.0nm,1.0s,mb4.7
LOR **Lormes** 79.86 31 eP P 00 27 23.1 -0.8
SSF **Saint Saulge** 79.90 31 eP P 00 27 23.0 -1.1
comp=Z,19nm,1.3s,mb4.6
SSF **Saint Saulge** 79.90 31 eP P 00 27 23.0 -1.1
SSF pmax pmax
comp=Z,9.0nm,1.3s,mb4.5
SSF **Saint Saulge** 79.90 31 eP P 00 27 23.0 -1.1
comp=Z,9.4nm,1.3s,mb4.6
ARU **Arti** 80.10 356 *c* P P 00 27 22.8 -2.2
ARU 00 30 23.2
ARU eS S 00 37 26.6 -0.7
ARU pmax pmax
comp=Z,8.0nm,1.2s,mb4.5
BRG **Berggiesshubel** 80.10 23 eP P 00 27 25.2 +0.1
BRG *i* 00 27 27.7
BRG pmax pmax
comp=Z,2.0nm,0.7s,mb4.2
BRG **Berggiesshubel** 80.10 23 eP P 00 27 25.4 +0.3
comp=Z,5.0nm,0.9s,mb4.4
BRG **Berggiesshubel** 80.10 23 eP P 00 27 25.2 +0.1
comp=Z,4.0nm,0.7s,mb4.4
BRG *i* 00 27 27.6
comp=Z,10nm,1.3s
CDF **Champ du Feu** 80.13 29 eP P 00 27 24.3 -1.0
comp=Z,10nm,1.0s,mb4.4
CDF **Champ du Feu** 80.13 29 eP P 00 27 24.3 -1.0
CDF pmax pmax
comp=Z,5.0nm,1.0s,mb4.4
CDF **Champ du Feu** 80.13 29 eP P 00 27 24.3 -1.0
comp=Z,5.1nm,1.0s,mb4.4
GRA1 **Grafenberg Arr** 80.32 26 eP P 00 27 25.4 -0.9
comp=Z,4.0nm,0.9s,mb4.3
GRF **Grafenberg Arr** 80.32 26 eP P 00 27 25.4 -0.9
GRF pmax pmax
comp=Z,4.0nm,0.9s,mb4.3
GRF **Grafenberg Arr** 80.32 26 eP P 00 27 25.4 -0.9
GRF pmax pmax
comp=Z,4.0nm,0.9s,mb4.3

GRF **Grafenberg Arr** 80.32 26 eP P 00 27 25.4 -0.9
comp=Z,4.0nm,0.9s,mb4.3
HHC **Hu-ho-hao-te** 80.34 319 ⇑P P 00 27 26.5 -0.1
HHC AP pP 00 27 34.4 -1.0
HHC XP sP 00 27 39.3 +0.7
HHC PP PP 00 30 30.5 +1.6
HHC S S 00 37 29.3 -1.1
HHC SKS 00 37 37.3
HHC XS sS 00 37 40.9 -4.0
HHC SS SS 00 42 41.1 +0.3
HHC AMB AMB
comp=Z,27nm,1.2s,mb5.0
HHC AMB AMB
comp=Z,2µm,7.6s
HHC LR LR
comp=Z,859nm,17.2s,MS5.2
HINF **Hinteralfeld** 80.49 29 eP P 00 27 26.3 -0.9
comp=Z,21nm,1.3s,mb4.6
HINF **Hinteralfeld** 80.49 29 eP P 00 27 26.3 -0.9
HINF pmax pmax
comp=Z,10.0nm,1.3s,mb4.6
HINF **Hinteralfeld** 80.49 29 eP P 00 27 26.3 -0.9
comp=Z,10nm,1.3s,mb4.6
PVCC **Panska Ves** 80.59 23 eP P 00 27 30.3 +2.6
OBN **Obninsk** 80.66 9⇑ eP P 00 27 26.4 -1.6
OBN *e* pP 00 27 33.8 -3.0
OBN pmax pmax
comp=Z,7.0nm,0.8s,mb4.6
LPAZ **La Paz** 80.78 123 P P 00 27 28.5 -0.6
comp=Z,2.3nm,0.8s,mb4.2,baz=320,slow=5.9,SNR=12
LPAZ **La Paz** 80.78 123 P P 00 27 28.5 -0.6
PRU **Pruhonice** 81.06 24 eP P 00 27 30.8 +0.5
DPC **Dobruska-Polom** 81.24 22 eP P 00 27 31.2 0.0
DPC epP pP 00 27 37.4 -2.6
KHC **Kasperske Hory** 81.54 25 eP P 00 27 33.3 +0.5
KHC epP pP 00 27 36.3 -5.3
GEC2 **GERESS Array S** 81.83 25 eP P 00 27 34.1 -0.3
GEC2 pmax pmax
comp=Z,30nm,2.3s,mb4.8
GEC2 **GERESS Array S** 81.83 25 eP P 00 27 34.1 -0.3
comp=Z,30nm,2.3s,mb4.8
GERES **GERESS Array B** 81.83 25 P P 00 27 34.7 +0.3
comp=Z,1.1nm,0.6s,mb4.0,baz=344,slow=4.4,SNR=12
BRVK **Borovoye** 82.38 349 eP P 00 27 37.0 -0.1
BRVK pmax pmax
comp=Z,6.0nm,0.8s,mb4.6
BRVK **Borovoye** 82.38 349 eP P 00 27 37.0 -0.1
comp=Z,6.1nm,0.8s,mb4.6
BVAR **Borovoye Array** 82.40 349 P P 00 27 36.6 -0.6
comp=Z,2.0nm,0.6s,mb4.2,baz=15,slow=4.4,SNR=13
ESDC **Sonseca Array** 82.74 40 P P 00 27 39.9 +0.6
comp=Z,0.1nm,0.3s,baz=359,slow=5.1,SNR=2.9
LIKS **Likavka** 83.17 21 eP P 00 27 39.3 -2.1
KURK **Kurchatov** 83.20 343 P P 00 27 41.0 -0.5
comp=Z,2.2nm,0.7s,mb4.3,baz=17,slow=4.8,SNR=6.6
KURK **Kurchatov** 83.20 343 eP P 00 27 39.8 -1.7
KURK pmax pmax
comp=Z,3.0nm,1.3s,mb4.2
MODS **Modra-Piesok** 83.30 23 eP P 00 27 41.9 -0.1
STHS **Stebnicka Huta** 83.38 20 eP P 00 27 43.4 +1.0
STHS pmax pmax
comp=Z,4.0nm,1.0s,mb4.4
STHS **Stebnicka Huta** 83.38 20 eP P 00 27 43.4 +1.0
comp=Z,4.0nm,1.0s,mb4.4
KOLL **Kolacno** 83.42 22 eP P 00 27 43.0 +0.4
VYHS **Vyhne** 83.61 22 eP P 00 27 43.9 +0.3
AKASG **Malin Array Be** 83.87 14 P P 00 27 42.7 -2.2
comp=Z,1.7nm,0.6s,mb4.4,baz=344,slow=4.6,SNR=8.2
XAN **Xi'an** 86.97 316 P P 00 28 00.6 -0.1
XAN AMB AMB
comp=Z,8.0nm,1.1s,mb4.9
WMQ **Urumqi** 87.28 335 ⇓P P 00 28 03.4 +1.4
WMQ LR LR
comp=N,837nm,29.6s
WMQ LR LR
comp=E,482nm,21.3s
WMQ LR LR
comp=Z,792nm,29.6s,MS5.0
LZH **Lanzhou** 87.77 321 eP P 00 28 06.0 +1.5
LZH AP pP 00 28 10.8 -2.6
LZH XP sP 00 28 13.2 -3.4
LZH ePP PP 00 31 33.3 +3.7
LZH SKS 00 38 30.5
LZH eS S 00 38 44.7 -0.4
LZH eSS SS 00 44 32.9 +2.2
LZH AMB AMB
comp=Z,15nm,1.5s,mb5.0
LZH AMB AMB
comp=Z,81nm,8.9s
LZH LR LR
comp=E,203nm,17.6s
LZH LR LR
comp=Z,327nm,19.8s,MS4.7
LZH **Lanzhou** 87.77 321 eP P 00 28 06.0 +1.5
LZH *PP pP 00 28 10.8 -2.6
LZH *SP sP 00 28 13.2 -3.4
LZH *e* 00 31 33.3
LZH 00 38 30.5
LZH eS S 00 38 44.7 -0.4
LZH eSS SS 00 44 32.9 +2.2
LZH pmax pmax
comp=Z,15nm,1.5s,mb5.0
LZH MLR MLR
comp=Z,330nm,19.8s,MS4.8
LZH **Lanzhou** 87.77 321 eP P 00 28 06.0 +1.5
comp=Z,15nm,1.5s,mb5.0
LZH pP pP 00 28 10.8 -2.6
LZH sP sP 00 28 13.2 -3.4
LZH ePP PP 00 31 33.3 +3.7
LZH SKS 00 38 30.5
LZH eS S 00 38 44.7 -0.4
LZH eSS SS 00 44 32.9 +2.2
LZH LR LR
comp=Z,330nm,19.8s,MS4.8
CD2 **Chengdu** 92.06 318 eP P 00 28 24.9 +0.2
CD2 AMB AMB
comp=Z,20nm,0.9s,mb5.5
GYA **Guiyang** 94.20 313 eP P 00 28 34.9 +0.3
GYA PP PP 00 32 23.7 +3.0
GYA SKS 00 39 09.5
GYA S S 00 39 42.6 -1.4
GYA SS SS 00 46 02.7 -1.1
GYA AMB AMB
comp=Z,10.0nm,1.0s,mb5.2
GYA AMB AMB
comp=Z,90nm,6.2s
GYA LR LR
comp=N,490nm,19.8s,MS5.1
GYA LR LR
comp=E,480nm,20.4s,MS5.1
GYA LR LR
comp=Z,310nm,21.1s,MS4.7
KMI **Kunming** 97.33 315 P P 00 28 51.6 +2.8
KMI AMB AMB
comp=Z,15nm,1.0s,mb5.4
KMI LR LR
comp=Z,3µm,16.5s
KMI **Kunming** 97.33 315 P P 00 28 51.6 +2.8
comp=Z,15nm,1.0s,mb5.4
KMI LR LR
comp=Z,3µm,16.5s

IDC ***10*** *00:17:47.7±2.0, 3338S×17853W, h0km, mb4.6/3, mb1 4.8/4, mb1mx4.3/17, mbtmp4.6/4, ML4.4/1, Error ellipse: s-maj=41.0km s-min=35.8km az=101.0*
ISCJB ***10*** *00:17:55.2±0.6, 3352S±0.007×179.3W±0.02, h33km, mb4.6/6, Error ellipse: s-maj=18.8km s-min=8.1km az=18.1*
NEIC ***10*** *00:17:56.0±2.8, 3351S×17924W, h24km±21km, mb4.6/4, Error ellipse: s-maj=17.1km s-min=8.8km az=107.0*
ISC 10 00:17:57.3±0.6, 3352S±0.007×1793W±0.02, h35km, n21, σ0.98/21, mb4.6/6, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	4.41	16	Pn	**Pn**	00 19 00.9	-0.8
MXZ	**Matakaoa Point**	4.49	205	P	**Pn**	00 19 04.0	+1.1
MXZ				S	**Sn**	00 20 02.6	+8.7
PUZ	**Puketiti**	4.97	203	P	**Pn**	00 19 09.2	-0.2
MWZ	**Matawai**	5.46	207	P	**Pn**	00 19 15.2	-1.0
URZ	**Urewera**	5.57	211	Pn	**Pn**	00 19 17.3	-0.4
	9.3nm,0.3s,baz=135,slow=10.0,SNR=40						
URZ				Sn	**Sn**	00 20 27.9	+7.5

4.1nm,0.3s,baz=349,slow=24,SNR=9.3
URZ Urewera 5.57 211 P Pn 00 19 18.7 +1.0
SNZO South Karori 9.13 210 Pn Pn 00 20 05.2 -1.4
RPZ Rata Peaks 12.68 214 Sn Sn 00 23 09.7 -5.1
0.7nm,0.3s,baz=330,slow=20,SNR=3.3
AFI Afiamalu 20.68 21 eP P 00 22 34.0 -0.3
CTA Charters Tower 33.39 285 P P 00 24 33.9 +1.3
3.7nm,0.5s,mb4.6,baz=115,slow=10,SNR=11
CTAO Charters Tower 33.39 285 eP P 00 24 33.9 +1.3
3.6nm,0.4s,mb4.7
ASAR Alice Springs 41.97 271 P P 00 25 45.4 +0.3
6.6nm,0.6s,mb4.4,baz=110,slow=7.4,SNR=86
WB2 Warramunga Arr 43.23 276 eP P 00 25 55.2 -0.2
WRA Warramunga Arr 43.24 276 P P 00 25 55.1 -0.3
4.4nm,0.5s,mb4.5,baz=116,slow=7.8,SNR=104
SBA Scott Base 44.86 184 P P 00 26 09.2 +1.6
CASY Casey 51.89 209 eP P 00 27 01.3 -0.6
3.4nm,0.6s,mb4.5
PMSA Palmer Station 69.88 156 eP P 00 29 05.6 +1.4
41nm,1.0s,mb5.3
SNAA Sanae 75.08 179 eP P 00 29 33.3 -1.8
3.4nm,1.0s,mb4.2
NIKO Nikolski 86.61 6 eP P 00 30 37.0 +0.6
NOA NORSAR Array B 151.63 349 PKPbc PKPbc 00 37 42.5 -4.6
0.4nm,0.5s,baz=14,slow=4.1,SNR=2.4
TORD Torodi Ar. Bea 159.70 183 PKPab PKPab 00 38 28.4 -3.1
0.6nm,0.7s,baz=165,slow=2.8,SNR=2.8

IDC ***10*** *00:19:12.4±0.4, 1.78S×99.53E, h0km, mb5.1/30, mb1 5.2/30, mb1mx5.2/30, mbtmp5.1/30, MS5.6/22, Ms1 5.6/22, ms1mx5.4/35, Error ellipse: s-maj=14.6km s-min=7.8km az=58.0*

BJI ***10*** *00:19:15.2, 2.10S×99.45E, h48km, mB6.0, mb5.3, Ms6.2, Msz6.1*

ISCJB ***10*** *00:19:15.8±0.1, 1.75S±0.02×99.41E±0.02, h30km, mb5.6/175, MS5.9/198, Error ellipse: s-maj=3.2km s-min=2.3km az=34.6*

MOS ***10*** *00:19:16.4±1.0, 1.62S×99.52E, h33km, mb5.9/74, MS5.8/61, Error ellipse: s-maj=7.7km s-min=4.0km az=116.6*

NEIC ***10*** *00:19:16.8±0.1, 1.74S×99.48E, mb5.6/74, ME5.7, MS5.9/147, MW5.9, Error ellipse: s-maj=4.6km s-min=3.3km az=47.0, Moment Tensor Solution. s66 Moment tensor: Scale 10^{17}Nm; M_{rr}5.21; $M_{\theta\theta}$-4.32; $M_{\phi\phi}$-0.89; $M_{r\theta}$5.92; $M_{\theta\phi}$1.27; $M_{\phi r}$-2.96; Best double couple: $M_0$8.30000×10^{17} NP1:ϕ_s115.00000°, δ72.00000°, λ94.00000°. NP2:ϕ_s283.00000°, δ19.00000°, λ79.00000°. Principal axes: T 8.5400, Plg63.0000°, Azm30.0000°; N -0.5300, Plg3.0000°, Azm293.0000°; P -8.0100, Plg26.0000°, Azm201.0000°; Depth from synthetics of broadband displacement seismograms. Energy computed from CMT mechanism.*

NEIC Felt [IV] Padangpanjang, [III] at Mukomuko and [II] at Padang, Sumatra.

GCMT ***10*** *00:19:16.8±0.1, 2.14S×99.24E, h34km, MW5.9/109, Moment Tensor Solution. s109,c230; s105,c292; Duration: 2.2 Moment tensor: Scale 10^{18}Nm; M_{rr}0.55±.01; $M_{\theta\theta}$-0.42±.01; $M_{\phi\phi}$-0.13±.01; $M_{r\theta}$0.60±.01; $M_{\theta\phi}$0.37±.01; $M_{\phi r}$-0.41±.01; Best double couple: $M_0$0.94800×10^{18} NP1:ϕ_s305.00000°, δ20.00000°, λ91.00000°. NP2:ϕ_s124.00000°, δ70.00000°, λ90.00000°. Principal axes: T 0.8870, Plg65.0000°, Azm34.0000°; N 0.1220, Plg0.0000°, Azm124.0000°; P -1.0090, Plg25.0000°, Azm215.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*

DJA ***10*** *00:19:17.2±1.0, 2S±3×99E±, h38km±10km, mB6.3/34, Mjma5.9/11, MLv6.3/13, Mw(mB)6.0/34, Mwp5.8/34*

SZGRF ***10*** *00:19:17.8, 2.61S×98.90E, h44km, mb5.7, MS5.7, Southwest of Sumatera, Indonesia*

ISC 10 00:19:17.8±0.1**, 1.79S**±0.02×**99.38E**±0.02**, h32**km**, h32**km±.9km**: pP-P, n799, σ1.15**/723**, mb5.6**/175**, MS5.9**/198**, 93C-38D, Southern Sumatera**

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
PDSI Padang 1.39 51 P Pn 00 19 40.6 -0.3
0.0nm,0.0s
PDSI Padang 1.39 51 P Pn 00 19 41.4 +0.5
PPI Padang Panjang 1.67 38 P Pn 00 19 45.0 +0.2
0.0nm,0.0s
PPI Padang Panjang 1.67 38 P Pn 00 19 45.8 +1.0
RGRI Rengat 3.28 64 P Pn 00 20 08.3 +1.3
0.0nm,0.0s
RGRI Rengat 3.28 64 P Pn 00 20 08.8 +1.8
GSI Gunungsitoli 3.56 330 P Pn 00 20 09.9 -0.9
KSI Kapahiang 3.71 120 P Pn 00 20 12.6 -0.3
0.0nm,0.0s
KSI Kapahiang 3.71 120 P Pn 00 20 12.8 -0.1
JMBI JAMBI 4.26 88 P Pn 00 20 22.6 +2.1
0.0nm,0.0s
JMBI JAMBI 4.26 88 P Pn 00 20 22.3 +1.8
TSI Tuntungan 5.31 351 P Pb 00 20 46.2 -3.8
3μm,1.2s
TSI Tuntungan 5.31 351 P Pn 00 20 37.2 +2.2
2μm,1.0s,32nm
KGM Kluang 5.46 46 ⇑P Pn 00 20 39.2 +2.3
MYKOM Kota Tinggi 5.71 52 ⇑P Pn 00 20 42.7 +2.2
MYKOM Kota Tinggi 5.71 52 P Pn 00 20 41.8 +1.4
KLI Kotabumi 6.26 119 P Pn 00 20 48.0 0.0
2μm,1.1s,16nm
IPM Ipoh 6.44 15 ⇓P Pn 00 20 53.0 +2.5
IPM Ipoh 6.44 15 P Pn 00 20 52.2 +1.8
720nm,1.5s,11nm
PPBI Pangkal Pinang 6.76 93 P Pn 00 20 55.4 +0.5
228nm,1.1s,8μm3.9nm
KULM Kulim 7.14 10 ⇑P Pn 00 21 02.1 +2.0
SBJI Serang 7.99 123 P Pn 00 21 13.5 +1.7
869nm,1.4s
SBJI Serang 7.99 123 P Pn 00 21 11.5 -0.3
729nm,1.3s
KTGM Kuala Trenggan 8.00 28 ⇑P Pn 00 21 14.0 +2.1
BSI Banda Aceh 8.30 331 P Pn 00 21 14.8 -1.3
497nm,1.2s,7μm2.8nm
TPI Tanjungpandan 8.32 97 P Pn 00 21 18.2 +1.9
251nm,1.1s
TPI Tanjungpandan 8.32 97 P Pn 00 21 17.5 +1.2
DBJI Dramaga 8.74 123 P Pn 00 21 21.8 -0.3
1μm,1.3s
DBJI Dramaga 8.74 123 P Pn 00 21 20.8 -1.3
673nm,1.1s
CBJI Citeko 8.76 122 P Pn 00 21 24.2 +1.9
4μm,1.1s,11nm
SKJI Sukabumi 8.84 126 P Pn 00 21 23.1 -0.3
959nm,0.8s
SKJI Sukabumi 8.84 126 P Pn 00 21 22.1 -1.3
805nm,0.8s
SNG Songkhla 8.99 8 P Pn 00 21 24.0 -1.5
2μm,1.0s
LEM Lembang 9.62 122 P Pn 00 21 35.3 +1.2
957nm,1.3s
JCJI Jatiwangi 10.02 118 P Pn 00 21 42.9 +3.3
682nm,0.9s
JCJI Jatiwangi 10.02 118 P Pn 00 21 41.8 +2.2
573nm,1.3s
COCO West Island 10.64 194 P Pn 00 21 45.3 -2.8
128nm,2.2s,4μm
COCO West Island 10.64 194 ePn Pn 00 21 43.6 -4.5
COCO Sn Sn 00 23 50.8 +4.7
XMIS Christmas Isla 10.65 144 eP Pn 00 21 41.2 -7.0
XMIS eS Sn 00 23 28.1 -18
XMIS Christmas Isla 10.65 144 P Pn 00 21 45.4 -2.8
0.0nm,1.1s
KSM Kuching 11.40 74 ⇑P Pn 00 22 02.3 +3.8
KSM Kuching 11.40 74 P Pn 00 21 59.6 +1.1
105nm,1.7s,5μm
KSM Kuching 11.40 74⇑ePn Pn 00 22 00.5 +2.0
BJII Banjamegara 11.68 118 P Pn 00 22 02.0 -0.3
286nm,0.9s
BJII Banjamegara 11.68 118 P Pn 00 22 01.3 -1.0
STKI Sintang 12.24 81 P Pn 00 22 13.1 +3.1
317nm,1.6s
STKI Sintang 12.24 81 P Pn 00 22 12.1 +2.1
268nm,1.4s
PBKI Pangkalan Bun 12.32 94 P Pn 00 22 15.9 +4.8
699nm,1.1s
PBKI Pangkalan Bun 12.32 94 P Pn 00 22 15.1 +4.0
589nm,1.1s,8μm
SBUM Sibu 13.51 72 ⇓P Pn 00 22 30.9 +3.6
SBUM Sibu 13.51 72 P Pn 00 22 29.6 +2.2
SJI Sawahan 13.68 116 P Pn 00 22 27.9 -1.8
306nm,0.8s
PLKI Palangkaraya 14.56 92 P Pn 00 22 47.5 +5.7
950nm,0.9s
BTM Bintulu 14.57 70 ⇑P Pn 00 22 44.4 +2.6
KMMI Kalianget 15.45 110 P Pn 00 22 53.7 +0.2
539nm,1.9s
BBKI Banjar Baru 15.54 96 P Pn 00 22 55.7 +1.1
532nm,2.0s
NST Nakhon Sawan 17.36 2 P Pn 00 23 15.0 -2.8
50nm,0.9s
KHKI Kahang-Kahang 17.43 113 P Pn 00 23 20.1 +1.4
288nm,1.0s
SMKI Samarinda 17.88 86 P Pn 00 23 26.1 +1.9
476nm,1.4s
MTNI Mataram 18.05 113 P Pn 00 23 24.9 -1.4
167nm,0.9s,5μm
KKM Kota Kinabalu 18.52 65 ⇑P Pn 00 23 33.1 +1.0
KKM Kota Kinabalu 18.52 65 P Pn 00 23 32.8 +0.7
326nm,1.2s
KKM Kota Kinabalu 18.52 65⇑iPn Pn 00 23 31.4 -0.7
KKM eSn Sn 00 26 53.6 -4.8
BDT Bhumibol Dam 18.91 359 P Pn 00 23 36.5 -0.3
36nm,0.9s
SDKM Sandakan 19.26 67 ⇑P Pn 00 23 41.3 +0.3
TSM Tawau 19.44 72 ⇓P Pn 00 23 42.8 -0.4
KDM Kudat 19.45 63 ⇓P Pn 00 23 43.5 +0.2
CM31 Chiang Mai Arr 20.12 359 eP P 00 23 48.4 -0.7
CM31 eS S 00 27 38.1 +4.5
CM31 LR LR
comp=Z,50μm,20.0s,MS5.9
CMAR Chiang Mai Arr 20.12 359 P P 00 23 46.5 -2.6
comp=Z,27nm,0.6s,baz=187,slow=9.7,SNR=44
CMAR LR LR 00 32 50.7
comp=Z,55μm,18.6s,MS5.9,baz=188,slow=41
CMAR Chiang Mai Arr 20.12 359⇑eP P 00 23 45.9 -3.3
MYLDM Lahad Datu 20.32 70 ⇓P P 00 23 53.4 +2.0
MYLDM Lahad Datu 20.32 70 P P 00 23 53.1 +1.7
PCI Palu 20.47 88 P P 00 23 52.9 -0.2
comp=Z,783nm,1.9s
CHG Chiang Mai 20.48 359 ⇓P P 00 23 51.7 -1.3
comp=Z,14nm,0.7s
CHTO Chiang Mai 20.48 359 ⇓P P 00 23 51.1 -1.9
SNR=79
CHTO Chiang Mai 20.48 359 P P 00 23 52.5 -0.5
comp=Z,116nm,1.2s,comp=Z,4μm
CHTO Chiang Mai 20.48 359⇑iP P 00 23 51.2 -1.8
CHTO eS S 00 27 42.8 +2.2
CHTO LR LR
comp=Z,49μm,20.0s,MS5.9
KAPI Kappang 20.59 99 P P 00 23 51.3 -3.0
comp=Z,1μm,1.3s,SNR=34
KAPI Kappang 20.59 99 ⇓P P 00 23 52.1 -2.2
SNR=71
KAPI Kappang 20.59 99 P P 00 23 51.4 -2.9
comp=Z,177nm,1.1s,baz=284,slow=10,SNR=38
KAPI Kappang 20.59 99 P P 00 23 51.0 -3.3
comp=Z,222nm,1.1s,comp=Z,5μm
KAPI Kappang 20.59 99⇑iP P 00 23 51.0 -3.3
KAPI eS S 00 27 37.0 -6.0
KAPI LR LR
comp=Z,25μm,20.0s,MS5.6
PALK Pallekele 20.70 296 ⇓P P 00 24 05.2 +10
SNR=14
PALK Pallekele 20.70 296⇓eP P 00 23 55.5 0.0
PALK eS S 00 27 48.4 +3.2
PALK LR LR
comp=Z,22μm,20.0s,MS5.5
CHRT Chiangrai 21.53 1 ⇑P P 00 24 04.0 -0.3
comp=Z,1μm,0.6s,mb6.5
PPR Puerto Princes 22.43 59⇓eP P 00 24 17.0 +2.9
QIZ Qiongzhong 23.10 26 P P 00 24 21.1 0.0
QIZ AP 00 24 27.0
QIZ S S 00 28 32.3 +2.1
QIZ XS sS 00 28 42.1 -3.3
QIZ AMB AMB
comp=Z,121nm,1.2s,mb5.2
QIZ AMB AMB
comp=Z,3μm,9.2s
QIZ LR LR
comp=N,23μm,15.7s,MS5.8
QIZ LR LR
comp=E,14μm,14.3s,MS5.8
QIZ LR LR
comp=Z,37μm,19.3s,MS5.8
QIZ Qiongzhong 23.10 26⇑iP P 00 24 19.6 -1.5
comp=Z,275nm,1.3s,mb5.5
QIZ eS S 00 28 37.1 +6.9
KDI Kendari 23.31 96 P P 00 24 22.8 -0.6
comp=Z,299nm,1.4s,comp=Z,6μm,mb5.5
BBSI Bau Bau 23.43 100 P P 00 24 23.9 -0.8
comp=Z,410nm,1.1s,comp=Z,7μm,mb5.8
MDRS Chennai 24.05 308 eP P 00 24 32.5 +2.3
MDRS eS S 00 28 48.0 +2.3
TRD Trivandrum 24.58 295 ex x 00 24 48.4
TRD eS S 00 28 58.7 +4.3
VIS Vishakhapatnam 25.02 321 i P P 00 24 40.2 +1.2
VIS ex x 00 25 14.6
comp=Z,368nm,1.8s
VIS i x x 00 28 58.6
BATI Baumata 25.54 110 P P 00 24 40.9 -2.9
comp=Z,88nm,0.8s,mb5.4,baz=320,slow=7.8,SNR=9.4
BATI S S 00 29 04.5 -5.2
comp=Z,63nm,0.9s,baz=18,slow=20,SNR=4.1
BATI Baumata 25.54 110 P P 00 24 41.8 -2.1
comp=Z,86nm,1.0s,comp=Z,1μm,mb5.2
MNI Manado 25.66 83 P P 00 24 46.7 +1.7
comp=Z,1μm,1.1s,mb6.3
BWNR Bhubaneshwar 25.66 329 eP P 00 24 43.6 -1.3
BWNR eS S 00 29 12.6 +1.1
CAL Calcutta 26.47 337 ex P 00 24 48.0 -4.2
CAL ex S 00 29 33.7 +10
IMP Imphal 26.93 349 eP P 00 24 57.0 +0.7
IMP ex x 00 29 41.0
KMI Kunming 26.95 7 P P 00 24 56.6 +0.2
KMI AP pP 00 25 05.8 +0.1
KMI XP sP 00 25 10.1 +0.4
KMI PP 00 25 42.9
KMI AMB AMB
comp=Z,49nm,1.1s,mb5.0
KMI AMB AMB
comp=Z,2μm,6.6s
KMI LR LR
comp=N,14μm,16.8s,MS5.9
KMI LR LR
comp=E,28μm,17.6s,MS5.9
KMI LR LR
comp=Z,24μm,21.8s,MS5.7
KMI Kunming 26.95 7 P P 00 24 56.6 +0.2
KMI *PP pP 00 25 05.8 +0.1
KMI *SP sP 00 25 10.1 +0.4
KMI 00 25 42.9
KMI PPP 00 25 55.1
KMI S S 00 29 29.0 -2.6
KMI *SS sS 00 29 47.3 +0.3
KMI SS 00 30 45.1
KMI pmax pmax
comp=Z,49nm,1.1s,mb5.0
KMI MLR MLR
comp=Z,24μm,21.8s,MS5.7
KMI Kunming 26.95 7 P P 00 24 56.6 +0.2
comp=Z,49nm,1.1s,mb5.0
KMI pP pP 00 25 05.8 +0.1
KMI sP sP 00 25 10.1 +0.4
KMI PP 00 25 42.9
KMI PPP 00 25 55.1
KMI S S 00 29 29.0 -2.6
KMI sS sS 00 29 47.3 +0.3
KMI SS 00 30 45.1
KMI LR LR
comp=Z,24μm,21.8s,MS5.7
DGAR Diego Garcia 27.40 257 eP P 00 25 03.4 +2.7
DGAR eS S 00 29 41.4 +2.2
DGAR MLR MLR
comp=Z,19μm,20.0s,MS5.7
DAV Davao City (W) 27.59 71 P P 00 25 02.9 +0.5
comp=Z,131nm,0.3s,mb6.0,baz=259,slow=18,SNR=5.8
DAV LR LR 00 37 16.5
comp=Z,14μm,21.2s,MS5.5,baz=112,slow=40
DAV Davao City (W) 27.59 71⇑eP P 00 25 00.3 -2.1
MBWA Marble Bar 27.65 136 P P 00 25 09.0 +6.2
MBWA Marble Bar 27.65 136 eP P 00 25 02.1 -0.7
comp=Z,41nm,0.9s,mb5.1
MBWA ePcP PcP 00 28 18.0 -1.8
MBWA S S 00 29 42.6 -0.2
MBWA LR LR
comp=Z,21μm,21.0s,MS5.7
HYB Hyderabad 28.03 314 i P P 00 25 07.5 +1.3
HYB eS S 00 29 50.0 +1.1
HYB LR LR 00 38 46.0
comp=Z,18nm,18.0s
LBMI Labuha 28.14 88 P P 00 25 06.6 -0.7
comp=Z,532nm,1.1s,comp=Z,8μm,mb6.1
SHL Shillong 28.14 346⇑iP P 00 25 06.5 -0.7
comp=Z,20nm,1.4s,mb4.5
SHL i x x 00 28 16.0
SHL i x x 00 29 48.0
GZH Guangzhou 28.22 28 P P 00 25 13.2 +5.3
GZH LR LR
comp=N,48μm,17.0s,MS6.2
GZH LR LR
comp=E,7μm,15.1s,MS6.2
GZH LR LR
comp=Z,58μm,17.3s,MS6.2
BOK Bokaro 28.61 333 eP P 00 25 12.8 +1.4
BOK AMb AMB 00 25 18.8
comp=Z,397nm,1.6s,mb5.9
GYA Guiyang 28.95 14⇑iP P 00 25 13.3 -1.0
GYA PP PP 00 26 07.4 -13
GYA AMB AMB
comp=Z,130nm,1.0s,mb5.6
GYA AMB AMB
comp=Z,1μm,8.8s
GYA LR LR
comp=N,22μm,21.6s,MS6.0
GYA LR LR
comp=E,34μm,18.9s,MS6.0
GYA LR LR
comp=Z,26μm,21.0s,MS5.8
NGP Nagpur 30.25 320 eP P 00 25 24.2 -1.7
NGP eS S 00 30 23.2 -0.6
FITZ Fitzroy Crossi 30.45 124 eP P 00 25 25.5 -2.2
comp=Z,106nm,0.9s,mb5.6
FITZ eS S 00 30 22.5 -4.4
FITZ Fitzroy Crossi 30.45 124 P P 00 25 26.0 -1.7
comp=Z,18nm,0.9s,mb4.8,baz=280,slow=6.7,SNR=17
FITZ S S 00 30 23.8 -3.1
comp=Z,12nm,1.1s,baz=255,slow=16,SNR=4.2
FITZ LR LR 00 39 06.5
comp=Z,8μm,20.5s,MS5.3,baz=308,slow=39
GOA Goa 30.55 305⇓ex P 00 25 24.4 -4.3
GOA i S S 00 30 32.8 +4.2
ODAN Odare 30.74 339 eP P 00 25 31.2 +1.0
TAPN Taplejung 31.07 340 eP P 00 25 34.7 +1.6
comp=Z,488nm,1.0s,mb6.3
RAMN Ramite 31.11 338 eP P 00 25 34.9 +1.4
comp=Z,504nm,1.3s,mb6.2
JBP Jabalpur 31.18 324 eP P 00 25 34.3 +0.2
JBP eS S 00 30 41.5 +3.3
KAD Karad 31.26 308 eP P 00 25 36.1 +1.2
AKL Akola 31.30 317 eP P 00 25 37.4 +2.2
JIRN Jiri 31.91 337 eP P 00 25 41.8 +1.3
comp=Z,326nm,0.9s,mb6.2
PKI Pulchoki 32.14 336 eP P 00 25 43.3 +0.8
PKIN Phulchoki 32.15 336 eP P 00 25 43.3 +0.7
POO Poona 32.22 310 eP P 00 25 44.6 +1.2
POO AMb AMB 00 25 50.0
comp=Z,130nm,1.1s,mb5.7
POO i PP PP 00 26 49.5 -7.1
POO i PCP PcP 00 28 33.5 +1.9
POO i S S 00 30 56.5 +1.8
POO i PCS PcS 00 32 17.5 +0.8
POO ex x 00 32 46.5
GUN Gumba 32.25 337 eP P 00 25 44.8 +1.3
LSA Lhasa 32.28 347 P P 00 25 45.3 +1.6
LSA S S 00 30 55.2 -0.1
LSA AMB AMB
comp=Z,320nm,1.0s,mb6.1
LSA AMB AMB
comp=Z,2μm,13.0s
LSA LR LR
comp=N,10μm,22.0s,MS5.7
LSA LR LR
comp=E,15μm,27.0s,MS5.7
LSA LR LR
comp=Z,15μm,27.0s,MS5.5
LSA Lhasa 32.28 347⇑eP P 00 25 45.0 +1.3
LSA e*SP sP 00 25 55.9 -1.1
LSA e 00 28 32.5
LSA eS S 00 31 00.9 +5.6
LSA pmax pmax
comp=Z,125nm,0.9s,mb5.7
LSA MLR MLR
comp=Z,9μm,22.0s,MS5.4
LSA Lhasa 32.28 347⇑eP P 00 25 45.0 +1.3
comp=Z,125nm,0.9s,mb5.7
LSA epP pP 00 25 51.8 -1.3
LSA esP sP 00 25 55.9 -1.1
LSA ePcP PcP 00 28 32.5 +0.9
LSA eS S 00 31 00.9 +5.6
LSA LR LR
comp=Z,9μm,22.0s,MS5.4
DMN Daman 32.29 336 eP P 00 25 44.6 +0.8
KKN Kakani 32.38 336 eP P 00 25 45.4 +0.8
comp=Z,197nm,1.0s,mb5.9
KKN Kakani 32.38 336 eP P 00 25 45.4 +0.8
KKN pmax pmax
comp=Z,197nm,1.0s,mb5.9
QZH Quanzhou 32.45 34⇓iP P 00 25 42.8 -2.5
QZH S S 00 30 52.3 -5.8
QZH AMB AMB
comp=Z,160nm,1.1s,mb5.8
QZH AMB AMB
comp=Z,3μm,8.1s
QZH LR LR
comp=N,38μm,15.2s,MS6.3
QZH LR LR
comp=E,22μm,13.6s,MS6.3
QZH LR LR
comp=Z,63μm,18.1s,MS6.3
CD2 Chengdu 32.78 7 P P 00 25 46.6 -1.5
CD2 AP pP 00 25 55.9 -1.5
CD2 XP sP 00 26 01.2 -0.1
CD2 PP PP 00 26 56.3 -6.3
CD2 AMB AMB
comp=Z,40nm,1.3s,mb5.2
CD2 AMB AMB
comp=Z,2μm,8.4s
CD2 LR LR
comp=N,29μm,18.0s,MS6.2
CD2 LR LR
comp=E,29μm,19.2s,MS6.2
CD2 LR LR
comp=Z,32μm,19.8s,MS6.0
GKN Gorkha 32.83 335 eP P 00 25 49.3 +0.7
KOLN Koldanda 33.07 334 eP P 00 25 51.8 +1.1
comp=Z,162nm,0.9s,mb6.0
BOM Bombay 33.23 309 ex x 00 26 22.6
BOM ex x 00 30 57.9
DANN Dangsing 33.51 335 eP P 00 25 55.2 +0.7
NACB Ninganchiao 33.64 39 eP P 00 25 55.1 -0.6
comp=Z,629nm,1.3s,mb6.4
NACB ePP PP 00 27 13.8 +1.6
NACB S S 00 31 11.3 -5.3
YHNB Yeheng 33.87 38 eP P 00 25 58.7 +1.0
comp=Z,396nm,1.7s,mb6.1
YHNB ePP PP 00 27 21.8 +7.1
YHNB eS S 00 31 19.9 -0.2
YHNB LR LR
comp=Z,20μm,20.0s,MS5.8
MUN Mundaring 33.97 154 eP P 00 26 00.5 +2.1
TATO Taipei 34.16 37 eP P 00 25 58.9 -1.3
TATO ePP PP 00 27 20.9 +2.9
TATO eS S 00 31 33.4 +8.7
TATO LR LR
comp=Z,14μm,20.0s,MS5.7
KLBR Kellerberrin 34.35 152 eP P 00 26 01.8 0.0
comp=Z,47nm,0.9s,mb5.4
KAKA Kakadu 34.49 110 eP P 00 25 57.9 -5.3
comp=Z,24nm,0.7s,mb5.2
KAKA Kakadu 34.49 110 eP P 00 25 59.5 -3.8
WHN Wuhan 35.17 23 ⇓P P 00 26 08.3 -0.6
WHN PP PP 00 27 28.2 -0.9
WHN S S 00 31 43.2 +3.1
WHN LR LR
comp=N,48μm,15.8s,MS6.4
WHN LR LR
comp=E,20μm,16.6s,MS6.4
WHN LR LR

comp=Z,59µm,19.9s,MS6.3
NWAO Narrogin (SRO) 35.23 153 P **P** **00 26 09.8 +0.5**
comp=Z,14nm,0.0s,mb4.9,baz=315,slow=12,SNR=7.8
NWAO LR LR 00 39 17.8
comp=Z,19µm,21.7s,MS5.8,baz=328,slow=34
NWAO Narrogin (SRO) 35.23 153 *e*P **P** **00 26 10.0 +0.7**
NWAO *e*pP pP 00 26 17.5 -1.2
NWAO *es*P sP 00 26 20.6 -2.0
NWAO *e*PP PP 00 27 43.0 +13
NWAO *e*PcP PcP 00 28 36.8 -3.1
NWAO *e*S **S** **00 31 48.8 +7.9**
NWAO LR LR
comp=Z,15µm,22.0s,MS5.7
PTH Pithoragarh 36.15 331 *e*P **P** **00 26 17.1 -0.2**
PTH *ex* x 00 32 05.7
XAN Xi'an 36.75 13 P **P** **00 26 20.6 -1.7**
XAN PP PP 00 27 44.0 -2.5
XAN AMB AMB
comp=Z,51nm,0.9s,mb5.3
XAN AMB AMB
comp=Z,1µm,15.0s
XAN LR LR
comp=N,16µm,15.7s,MS6.1
XAN LR LR
comp=E,17µm,14.9s,MS6.1
XAN LR LR
comp=Z,59µm,16.2s,MS6.5
AJM Ajmer 36.88 321 *e*P **P** **00 26 24.1 +0.6**
AJM AMb AMB 00 26 29.7
comp=Z,158nm,1.3s,mb5.7
NDI New Delhi 37.01 327 *e*P **P** **00 26 23.0 -1.6**
NDI *e*S **S** **00 32 08.0 -0.2**
LZH Lanzhou 37.91 6 ⇑P **P** **00 26 31.8 -0.3**
LZH AP pP 00 26 41.7 +0.1
LZH XP sP 00 26 45.6 +0.1
LZH AMB AMB
comp=Z,256nm,1.3s,mb5.8
LZH AMB AMB
comp=Z,2µm,7.8s
LZH LR LR
comp=N,15µm,13.3s
LZH LR LR
comp=Z,30µm,15.5s,MS6.2
LZH Lanzhou 37.91 6 ⇑P **P** **00 26 31.8 -0.3**
LZH *PP pP 00 26 41.7 +0.1
LZH *SP sP 00 26 45.6 +0.1
LZH 00 28 02.3
LZH 00 28 49.1
LZH S **S** **00 32 21.4 -0.3**
LZH *SS sS 00 32 37.5 +0.2
LZH SS SS 00 34 59.3 -10
LZH 00 36 39.0
LZH pmax pmax
comp=Z,256nm,1.3s,mb5.8
LZH MLR MLR
comp=Z,30µm,15.5s,MS6.2
LZH Lanzhou 37.91 6 ⇑P **P** **00 26 31.8 -0.3**
comp=Z,256nm,1.3s,mb5.8
LZH pP pP 00 26 41.7 +0.1
LZH sP sP 00 26 45.6 +0.1
LZH PP PP 00 28 02.3 +3.1
LZH PcP PcP 00 28 49.1 +1.3
LZH S **S** **00 32 21.4 -0.3**
LZH sS sS 00 32 37.5 +0.2
LZH SS SS 00 34 59.3 -10
LZH ScS ScS 00 36 39.0 -3.3
LZH LR LR
comp=Z,30µm,15.5s,MS6.2
BHJ Bhuj 38.17 312 *e*P **P** **00 26 34.5 -0.1**
BHJ AMb AMB 00 26 42.1
comp=Z,149nm,1.5s,mb5.5
NJ2 Nanjing 38.39 27 *e*P **P** **00 26 37.0 +0.8**
NJ2 AP pP 00 26 43.8 -1.9
NJ2 PP PP 00 28 11.5 +7.0
NJ2 S **S** **00 32 31.0 +2.0**
NJ2 SS SS 00 35 08.5 -10
NJ2 AMB AMB
comp=Z,20nm,0.9s,mb4.8
NJ2 AMB AMB
comp=Z,630nm,10.8s
NJ2 LR LR
comp=N,9µm,19.3s,MS5.9
NJ2 LR LR
comp=E,15µm,15.7s,MS5.9
NJ2 LR LR
comp=Z,15µm,15.7s,MS5.9
WRA Warramunga Arr 38.64 120 P **P** **00 26 36.6 -1.9**
comp=Z,118nm,0.9s,mb5.6,baz=297,slow=9.6,SNR=155
WRA S **S** **00 32 28.2 -5.0**
comp=Z,16nm,1.1s,baz=295,slow=16,SNR=13
WRA LR LR 00 44 26.5
comp=Z,5µm,21.5s,MS5.3,baz=305,slow=39
WRA Warramunga Arr 38.64 120 P **P** **00 26 36.6 -1.9**
WRA S **S** **00 32 28.2 -5.0**
WB2 Warramunga Arr 38.65 120⇑*e*P **P** **00 26 36.8 -1.8**
WB2 *e*pP pP 00 26 45.4 -2.7
WB2 *es*P sP 00 26 49.0 -3.0
WB2 *e*S **S** **00 32 28.0 -5.3**
SSE Sheshan 38.73 31 P **P** **00 26 41.6 +2.5**
SSE XP sP 00 26 54.3 +1.9
SSE PP PP 00 28 12.3 +4.1
SSE S **S** **00 32 38.1 +3.9**
SSE XS sS 00 32 53.7 +3.9
SSE AMB AMB
comp=Z,54nm,1.2s,mb5.2
SSE AMB AMB
comp=Z,1µm,5.0s
SSE LR LR
comp=N,22µm,17.0s,MS6.1
SSE LR LR
comp=E,4µm,17.3s,MS6.1
SSE LR LR
comp=Z,27µm,18.2s,MS6.1
SSE Sheshan 38.73 31 P **P** **00 26 41.6 +2.5**
comp=Z,54nm,1.2s,mb5.2
SSE sP sP 00 26 54.3 +1.9
SSE PP PP 00 28 12.3 +4.1
SSE S **S** **00 32 38.1 +3.9**
SSE sS sS 00 32 53.7 +3.9
SSE LR LR
comp=Z,27µm,18.2s,MS6.1
SMLA Simla 38.96 329 *i* P **P** **00 26 40.6 -0.4**
SMLA *ex* x 00 26 43.5
comp=Z,149nm,0.7s
SMLA *i* x x 00 32 35.1
SNR Sundarnagar 39.36 329 *e*P **P** **00 26 44.0 -0.3**
SDNR *ex* x 00 28 25.0
BHK Bhakra 39.58 328 *ex* x 00 27 08.8
FORT Forrest 39.60 140 *e*P **P** **00 26 46.9 +0.4**
comp=Z,96nm,0.6s,mb5.7
FORT Forrest 39.60 140 *e*P **P** **00 26 46.6 +0.1**
comp=Z,21nm,0.8s,mb4.9
JOW Kunigami 39.82 42 LR LR 00 42 05.5
comp=Z,8µm,21.7s,MS5.5,baz=268,slow=35
ASAR Alice Springs 39.88 126 P **P** **00 26 47.7 -1.2**
comp=Z,44nm,0.7s,mb5.3,baz=299,slow=7.6,SNR=106
ASAR S **S** **00 32 50.0 -1.7**
comp=Z,12nm,0.8s,baz=299,slow=15,SNR=14
THN Thein Dam 40.74 329 *e*P **P** **00 26 55.8 0.0**
GTA Gaotai 41.00 1⇑*i*P **P** **00 26 58.3 +0.5**
GTA AP pP 00 27 07.0 -0.3
GTA XP sP 00 27 12.2 +1.0
GTA PP PP 00 28 38.2 +5.4
GTA S **S** **00 33 07.4 -0.6**
GTA AMB AMB
comp=Z,57nm,0.9s,mb5.2
GTA AMB AMB
comp=Z,3µm,5.7s
GTA LR LR
comp=N,17µm,15.0s,MS6.1
GTA LR LR
comp=E,12µm,15.3s,MS6.1
GTA LR LR
comp=Z,22µm,15.6s,MS6.1
TIA Tai'an 41.26 22 *e*P **P** **00 26 58.0 -2.1**
TIA AMB AMB
comp=Z,833nm,10.0s
TIA LR LR
comp=N,2µm,16.0s,MS5.1
TIA LR LR
comp=E,1µm,16.0s,MS5.1
BTO Baotou 43.29 12 *e*P **P** **00 27 16.8 +0.3**
BTO AMB AMB
comp=Z,23nm,2.0s,mb4.6
HHC Hu-ho-hao-te 43.86 13 ⇑P **P** **00 27 22.3 +1.2**
HHC AMB AMB
comp=Z,30nm,1.1s,mb4.9
HHC AMB AMB
comp=Z,2µm,7.6s
HHC LR LR
comp=N,41µm,14.5s,MS6.5
HHC LR LR
comp=E,19µm,14.7s,MS6.5
HHC LR LR
comp=Z,37µm,15.8s,MS6.4
MSEY Mahe Island 43.92 265 *e*P **P** **00 27 23.4 +1.4**
MSEY *e*S **S** **00 33 56.9 +5.1**
MSEY LR LR
comp=Z,9µm,21.0s,MS5.7
BJT Baijiatuau 44.35 19 *e*P **P** **00 27 23.1 -2.0**
BJT *e*S **S** **00 33 50.7 -6.6**
BJT pmax pmax
comp=Z,81nm,0.9s
BJT MLR MLR
comp=Z,16µm,20.0s
BJT Baijiatuau 44.35 19 *e*P **P** **00 27 23.1 -2.0**
comp=Z,81nm,0.9s,mb5.5
BJT *e*PP PP 00 29 19.7 +11
BJT *e*ScP ScP 00 33 00.1 +1.5
BJT *e*S **S** **00 33 50.6 -6.7**
BJT LR LR
comp=Z,16µm,20.0s,MS5.9
BJI Beijing 44.38 18 P **P** **00 27 24.2 -1.0**
BJI S **S** **00 33 58.4 +0.7**
BJI AMB AMB
comp=Z,48nm,1.0s,mb5.2
BJI AMB AMB
comp=Z,2µm,6.7s
BJI LR LR
comp=N,16µm,20.4s
BJI LR LR
comp=E,8µm,26.4s
BJI LR LR
comp=Z,12µm,24.6s,MS5.7
BJI Beijing 44.38 18 P **P** **00 27 24.2 -1.0**
comp=Z,48nm,1.0s,mb5.2
BJI S **S** **00 33 58.4 +0.7**
BJI SS SS 00 37 21.7 +4.4
BJI LR LR
comp=Z,12µm,24.6s,MS5.7
DL2 Dalian 45.38 25 *i* P **P** **00 27 32.4 -0.8**
DL2 PP PP 00 29 21.7 +1.8
DL2 S **S** **00 34 13.8 +1.6**
DL2 XS sS 00 34 29.4 +1.3
DL2 AMB AMB
comp=Z,20nm,1.3s,mb4.8
DL2 AMB AMB
comp=Z,1µm,5.1s
DL2 LR LR
comp=N,10µm,19.2s,MS5.9
DL2 LR LR
comp=E,8µm,16.3s,MS5.9
DL2 LR LR
comp=Z,13µm,17.1s,MS6.0
KBL Kabul 46.00 325⇑*i*P **P** **00 27 36.9 -1.4**
KBL *PP pP 00 27 45.9 -2.0
KBL *e*SP sP 00 27 49.4 -2.3
KBL *e* 00 29 14.6
KBL pmax pmax
comp=Z,38nm,1.1s,mb5.2
KBL Kabul 46.00 325⇑*i*P **P** **00 27 36.9 -1.4**
comp=Z,38nm,1.1s,mb5.2
KBL pP pP 00 27 45.9 -2.0
KBL *es*P sP 00 27 49.4 -2.3
KBL *e*PcP PcP 00 29 14.6 0.0
KBL *e*S **S** **00 34 07.6 -14**
WBK Wadi Bani Khal 46.26 304⇑P **P** **00 27 45.1 +4.6**
SNR=7.6
INCN Inchon 46.52 30 *e*P **P** **00 27 41.8 -0.5**
INCN *e*PP PP 00 29 31.8 -0.2
INCN *e*S **S** **00 34 46.3 +18**
INCN LR LR
comp=Z,10µm,20.0s,MS5.8
WMQ Urumqi 46.60 348⇑*i*P **P** **00 27 43.9 +1.1**
WMQ AP pP 00 27 53.9 +1.5
WMQ XP sP 00 27 57.9 +1.7
WMQ AMB AMB
comp=Z,147nm,1.0s,mb5.9
WMQ AMB AMB
comp=Z,2µm,11.0s
WMQ LR LR
comp=N,8µm,24.4s,MS5.7
WMQ LR LR
comp=E,7µm,25.6s,MS5.7
WMQ LR LR
comp=Z,7µm,24.5s,MS5.5
RER Riviere de l'E 46.66 242 *e*P **P** **00 27 44.8 +1.1**
RER *e*S **S** **00 34 34.0 +2.8**
KS15 Wonju Array Si 47.13 31 *e*P **P** **00 27 46.7 -0.4**
KSRS Korea Array 47.16 31 P **P** **00 27 46.1 -1.1**
comp=Z,29nm,0.8s,mb5.2,baz=224,slow=8.4,SNR=36
KSRS LR LR 00 48 02.2
comp=Z,9µm,19.4s,MS5.7,baz=217,slow=37
KSRS Korea Array 47.16 31 P **P** **00 27 46.2 -1.1**
KSRS pmax pmax
comp=Z,29nm,0.9s,mb5.2
KSRS MLR MLR
comp=Z,9µm,19.4s,MS5.7
SMDO Samad 47.22 304⇑P **P** **00 27 52.8 +4.8**
SNR=9.4
BIDO Bidbid 47.35 305⇓P **P** **00 27 53.8 +4.7**
SNR=7.0
GUMO Guam 47.62 70 LR LR 00 48 13.2
comp=Z,2µm,21.9s,MS5.1,baz=244,slow=37
GUMO Guam 47.62 70 *e*P **P** **00 27 48.7 -2.5**
GUMO *e* 00 29 20.1
GUMO *e*S **S** **00 34 31.8 -13**
GUMO MLR MLR
comp=Z,3µm,21.0s,MS5.2
BSY Bisya 47.79 303⇓P **P** **00 27 57.4 +5.0**
SNR=17
HOQ Hoqain 48.05 304⇓P **P** **00 27 59.5 +5.0**
SNR=10
PMG Port Moresby 48.10 101⇑*i*P **P** **00 27 53.3 -1.7**
PMG *e* 00 29 22.0
PMG *e*S **S** **00 34 59.6 +7.6**
RBK Rabkut 48.46 295⇑P **P** **00 28 03.5 +5.8**
SNR=20
SNY Shenyang 48.64 24⇓P **P** **00 27 58.5 -0.2**
SNY PP PP 00 29 54.0 +2.1
SNY AMB AMB
comp=Z,62nm,2.5s,mb5.2
SNY AMB AMB
comp=Z,2µm,12.0s
SNY LR LR
comp=N,9µm,14.3s,MS6.3
SNY LR LR
comp=E,24µm,16.7s,MS6.3
SNY LR LR
comp=Z,25µm,16.7s,MS6.3
WHFO Wadi Hawf 48.98 296⇑P **P** **00 28 07.6 +5.9**
SNR=13
AAA Alma-Ata 49.18 338 *e*P **P** **00 28 03.2 +0.4**
AAA *e*S **S** **00 35 08.8 +2.6**
AAA pmax pmax
comp=Z,3µm,7.3s
AAA smax
comp=E,7µm,8.9s
AAA MLR MLR
comp=Z,5µm,18.0s,MS5.5
ABTO Aybut 49.23 295⇓P **P** **00 28 09.3 +5.7**
SNR=14
UCH Uchtor 49.24 336 P **P** **00 28 04.4 +1.1**
SNR=35
UCH Uchtor 49.24 336⇑*i*P **P** **00 28 04.1 +0.8**
comp=Z,58nm,0.9s,mb5.6
UCH *e*PP PP 00 29 58.0 +0.5
UCH *e*ScP ScP 00 33 22.9 +3.8
UCH *e*S **S** **00 35 03.3 -3.9**
UCH LR LR
comp=Z,12µm,22.0s,MS5.9
CTA Charters Tower 49.25 115⇑*i*P **P** **00 28 02.0 -1.7**
comp=Z,50nm,0.9s,mb5.5
CTA *e*S **S** **00 35 01.1 -6.9**
CTA Charters Tower 49.25 115 P **P** **00 28 02.0 -1.7**
comp=Z,72nm,1.0s,mb5.6,baz=290,slow=9.1,SNR=43
CTA Charters Tower 49.25 115⇑*i*P **P** **00 28 02.0 -1.7**
CTA *e*S **S** **00 35 01.1 -6.9**
CTA pmax pmax
comp=Z,50nm,0.9s
CTAO Charters Tower 49.25 115⇑*i*P **P** **00 28 02.3 -1.4**
CTAO *e*PP pP 00 28 11.3 -2.1
CTAO *e*SP sP 00 28 14.8 -2.5
CTAO *e*S **S** **00 34 59.3 -8.7**
CTAO pmax pmax
comp=Z,91nm,1.0s,mb5.8
CTAO MLR MLR
comp=Z,14µm,21.0s,MS5.9
CTAO Charters Tower 49.25 115⇑*i*P **P** **00 28 02.3 -1.5**
comp=Z,91nm,1.0s,mb5.8
CTAO *e*pP pP 00 28 11.3 -2.1
CTAO *e*sP sP 00 28 14.8 -2.5
CTAO *e*S **S** **00 34 59.3 -8.7**
CTAO LR LR
comp=Z,14µm,21.0s,MS5.9
ADE Adelaide 49.26 137 *e*P **P** **00 28 05.6 +2.0**
TKM2 Tokmak 2 49.39 337⇑*i*P **P** **00 28 05.2 +0.8**
TKM2 *e* 00 29 25.6
TKM2 *e*S **S** **00 35 08.7 -0.5**
TKM2 pmax pmax
comp=Z,137nm,1.1s,mb5.9
TKM2 MLR MLR
comp=Z,8µm,21.0s,MS5.7
TKM2 Tokmak 2 49.39 337 P **P** **00 28 05.2 +0.8**
SNR=62
TKM2 Tokmak 2 49.39 337⇑*i*P **P** **00 28 05.2 +0.8**
comp=Z,137nm,1.1s,mb5.9
TKM2 *e*PcP PcP 00 29 25.6 -1.0
TKM2 *e*PP PP 00 30 09.2 +10
TKM2 *e*ScP ScP 00 33 20.7 +1.0
TKM2 *e*S **S** **00 35 08.7 -0.5**
TKM2 LR LR
comp=Z,8µm,21.0s,MS5.7
KBK Karagaybulak 49.43 336 P **P** **00 28 05.8 +1.2**
SNR=63
AML Almayashu 49.51 335 P **P** **00 28 06.3 +1.0**
SNR=39
AML Almayashu 49.51 335⇑*i*P **P** **00 28 06.0 +0.7**
comp=Z,70nm,0.8s,mb5.7
AML *e*pP pP 00 28 12.3 -2.7
AML *es*P sP 00 28 18.6 -0.2
AML *e*PP PP 00 30 07.1 +7.2
AML *e*ScP ScP 00 33 25.2 +5.0
AML *e*S **S** **00 35 08.1 -2.8**
AML LR LR
comp=Z,8µm,22.0s,MS5.7
HATD Hatta, Dubai 49.56 305⇑P **P** **00 28 10.5 +4.4**
SNR=14
AAK Ala-Archa 49.59 336 P **P** **00 28 07.4 +1.5**
SNR=26
FRU Bishkek 49.71 336⇑*i*P **P** **00 28 07.0 +0.2**
FRU *i* pP 00 28 15.0 -1.5
FRU *e*S **S** **00 35 14.0 +0.3**
FRU *i* S **S** **00 35 20.0 +6.3**
FRU *i* 00 35 34.0
FRU pmax pmax
comp=Z,540nm,2.2s,mb6.2
FRU MLR MLR
comp=Z,11µm,20.0s,MS5.9
STKA Stephens Creek 49.76 132⇑*i*P **P** **00 28 07.0 -0.4**
comp=Z,62nm,0.8s,mb5.7
STKA Stephens Creek 49.76 132 P **P** **00 28 07.1 -0.3**
comp=Z,63nm,0.8s,mb5.7,baz=304,slow=7.4,SNR=66
STKA S **S** **00 35 14.6 -0.1**
comp=Z,4.5nm,1.0s,baz=330,slow=20,SNR=2.8
STKA LR LR 00 49 53.5
comp=Z,4µm,21.7s,MS5.4,baz=300,slow=37
CHMS Chumysh 49.79 336 P **P** **00 28 07.7 +0.3**
SNR=23
SONA0 Songino Array 49.80 6 *e*P **P** **00 28 10.3 +2.9**
SONA0 *e*S **S** **00 35 29.0 +14**
SONM Songino Array 49.80 6 P **P** **00 28 07.7 +0.3**
comp=Z,95nm,0.8s,mb5.9,baz=188,slow=8.5,SNR=181
EKS2 Erkin-Say 49.91 335 P **P** **00 28 09.4 +1.0**
SNR=59
EKS2 Erkin-Say 49.91 335⇑*i*P **P** **00 28 09.3 +1.0**
comp=Z,76nm,0.7s,mb5.8
EKS2 *e*pP pP 00 28 15.7 -2.4
EKS2 *e*PcP PcP 00 29 24.9 -3.5
EKS2 *e*PP PP 00 30 03.5 0.0
EKS2 *e*ScP ScP 00 33 21.9 -0.1
EKS2 *e*S **S** **00 35 15.4 -1.1**
EKS2 LR LR
comp=Z,12µm,21.0s,MS5.9
USP Ospenovka 50.12 336 P **P** **00 28 10.3 +0.3**
SNR=51
CBIJ Chichi jima 50.23 52 LR LR 00 47 26.3
comp=Z,6µm,21.0s,MS5.6,baz=222,slow=34
MK31 Makanchi Array 50.66 345⇑*i*P **P** **00 28 14.1 +0.1**
MK31 *e*SP sP 00 28 25.4 -2.1
MK31 *e* 00 29 29.6
MK31 *e*S **S** **00 35 34.5 +7.7**
MK31 Makanchi Array 50.66 345⇑*i*P **P** **00 28 14.1 +0.2**
MK31 *ep*P pP 00 28 21.6 -2.1
MK31 *es*P sP 00 28 25.4 -2.1
MK31 *e*PcP PcP 00 29 29.6 -1.5
MK31 *e*PP PP 00 30 18.1 +7.9
MK31 *e*S **S** **00 35 34.5 +7.8**
MKAR Makanchi Array 50.66 345 P **P** **00 28 14.2 +0.2**
comp=Z,76nm,0.8s,mb5.7,baz=156,slow=7.6,SNR=144
MKAR S **S** **00 35 33.5 +6.7**
comp=Z,1.9nm,1.0s,baz=145,slow=16,SNR=3.1
MKAR Makanchi Array 50.66 345⇑*e*P **P** **00 28 14.1 +0.1**
CN2 Changchun 51.04 24 ⇑P **P** **00 28 15.4 -1.5**
CN2 AMB AMB
comp=Z,50nm,1.0s,mb5.4
CN2 AMB AMB
comp=Z,2µm,4.0s
CN2 LR LR
comp=N,30µm,18.0s,MS6.4
CN2 LR LR
comp=E,9µm,18.0s,MS6.4
CN2 LR LR
comp=Z,21µm,18.0s,MS6.2
JHJ Hachijo jima 2 51.55 44 LR LR 00 50 27.2
comp=Z,3µm,19.2s,MS5.3,baz=59,slow=36
KK31 Karatay Array 51.68 333 P **P** **00 28 20.8 -0.9**
KK31 pmax pmax
comp=Z,140nm,1.3s,mb5.7
ZAK Zakamensk 52.07 3⇓*i*P **P** **00 28 24.0 -0.5**
ZAK pmax pmax
comp=Z,61nm,1.4s,mb5.3
MAJO Matsushiro 52.50 40⇑*e*P **P** **00 28 26.1 -1.9**
MAJO *e**PP pP 00 28 35.3 -2.4
MAJO *e**SP sP 00 28 39.3 -2.2
MAJO *e* 00 29 41.2
MAJO *e* 00 30 24.2
MAJO *e*S **S** **00 35 55.1 +2.5**
MAJO pmax pmax
comp=Z,123nm,1.5s,mb5.6
MAJO MLR MLR
comp=Z,6µm,19.0s,MS5.7
MAJO Matsushiro 52.50 40⇑*e*P **P** **00 28 26.1 -1.9**
comp=Z,123nm,1.5s,mb5.6
MAJO *ep*P pP 00 28 35.3 -2.4
MAJO *es*P sP 00 28 39.3 -2.2
MAJO *e*PcP PcP 00 29 41.2 +3.0
MAJO *e*PP PP 00 30 24.2 -3.0
MAJO *e*ScP ScP 00 33 39.6 +6.3
MAJO *e*S **S** **00 35 55.0 +2.5**
MAJO LR LR
comp=Z,6µm,19.0s,MS5.7
MAT Matsushiro 52.50 40 P **P** **00 28 25.9 -2.1**
MAT S **S** **00 35 52.0 -0.6**
MJAR Matsushiro Arr 52.50 40 P **P** **00 28 26.4 -1.6**
comp=Z,51nm,1.1s,mb5.4,baz=223,slow=7.6,SNR=50
MOY Mondy 53.27 1 *e*P **P** **00 28 34.0 +0.7**
MOY pmax pmax
comp=Z,322nm,2.4s,mb5.8
TLY Talaya 53.39 3*c i*P **P** **00 28 34.9 +0.7**
TLY *e* 00 30 40.0
TLY *e*S **S** **00 36 23.7 +20**
TLY pmax pmax
comp=Z,184nm,1.6s,mb5.8
TLY MLR MLR
comp=Z,12µm,15.0s,MS6.1
TLY Talaya 53.39 3⇑*i*P **P** **00 28 34.6 +0.4**
TLY *ep*P pP 00 28 41.6 -2.3
TLY *es*P sP 00 28 44.9 -2.9
TLY *e*PcP PcP 00 29 36.0 -5.2
TLY *e*PP PP 00 30 34.5 -0.3
TLY *e*ScP ScP 00 33 31.3 -5.5
TLY *e*S **S** **00 36 16.2 +12**
TLY LR LR
comp=Z,10µm,19.0s,MS5.9

VLA Vladivostok 53.41 29 iP P 00 28 35.9 +1.4
VLA eS S 00 36 12.7 +8.0
VLA pmax pmax
comp=Z,264nm,2.1s,mb5.8
VLA MLR MLR
comp=Z,8μm,16.3s,MS5.8
VLA Vladivostok 53.41 29 eP P 00 28 33.8 -0.7
MDJ Mudanjiang 53.47 27 P P 00 28 34.8 -0.1
MDJ PCP PcP 00 29 41.9 +0.2
MDJ PP PP 00 30 35.6 -0.2
MDJ PCS PcS 00 33 40.4 -0.1
MDJ S S 00 36 08.6 +3.1
MDJ AMB AMB
comp=Z,26nm,1.1s,mb5.1
MDJ AMB AMB
comp=Z,2μm,8.2s
MDJ LR LR
comp=N,19μm,17.9s,MS6.3
MDJ LR LR
comp=E,11μm,17.3s,MS6.3
MDJ LR LR
comp=Z,22μm,17.3s,MS6.3
MDJ Mudanjiang 53.47 27⇑eP P 00 28 34.7 -0.3
comp=Z,56nm,1.2s,mb5.4
MDJ ePP PP 00 30 31.0 -4.7
MDJ eS S 00 36 18.9 +13
MDJ LR LR
comp=Z,23μm,20.0s,MS6.2
PAF Port-aux-Franc 53.54 203 eP P 00 28 38.6 +3.2
PAF e 00 30 39.0
PAF eS S 00 36 03.7 -2.6
OPO Ambohidratompo 53.77 248 P P 00 28 37.7 +0.1
comp=Z,8.6nm,0.8s,mb4.8,baz=49,slow=4.2,SNR=14
HIA Hailar 53.81 16 eP P 00 28 36.4 -0.9
HIA Hailar 53.81 16⇑eP P 00 28 36.5 -0.9
comp=Z,19nm,0.8s,mb5.1
HIA epP pP 00 28 43.8 -3.3
HIA ePcP PcP 00 29 43.2 +0.3
HIA ePP PP 00 30 39.4 +0.7
HIA eScP ScP 00 33 41.3 +2.6
HIA eS S 00 36 14.4 +4.5
HIA LR LR
comp=Z,13μm,19.0s,MS6.0
ABPO Ambohimpanom 53.83 248 eP P 00 28 38.7 +0.7
comp=Z,68nm,1.4s,mb5.4
ABPO epP pP 00 28 46.7 -1.0
ABPO esP sP 00 28 49.2 -2.4
ABPO eScP ScP 00 33 51.0 +12
ABPO eS S 00 36 15.1 +4.0
ABPO LR LR
comp=Z,15μm,19.0s,MS6.1
IRK Irkutsk 53.99 4 eP P 00 28 38.3 -0.3
IRK e 00 29 39.9
IRK pmax pmax
comp=Z,267nm,1.9s,mb5.8
ABKT Ailbek 54.89 320 P P 00 28 44.2 -1.2
comp=Z,260nm,0.9s,mb6.3,SNR=9.1
CIT Chita 54.94 11 eP P 00 28 45.5 +0.1
KURK Kurchatov 55.23 344 ⇓P P 00 28 48.2 +0.6
SNR=39
KURK Kurchatov 55.23 344 P P 00 28 46.9 -0.7
comp=Z,35nm,0.8s,mb5.5,baz=164,slow=7.1,SNR=47
KURK S S 00 36 34.0 +5.0
comp=Z,1.3nm,0.3s,baz=145,slow=11,SNR=6.3
KURK PKP2ab 00 59 31.2
comp=Z,2.6nm,0.2s,baz=325,slow=1.3,SNR=5.4
KURK Kurchatov 55.23 344⇑eP P 00 28 47.5 -0.1
KURK pmax pmax
comp=Z,26nm,1.0s,mb5.2
KURK MLR MLR
comp=Z,12μm,23.0s,MS5.9
KURK Kurchatov 55.23 344 P P 00 28 46.9 -0.7
KURK S S 00 36 34.0 +5.0
KURK P'P'ab 00 59 31.2
KURK LR LR
comp=Z,7μm,19.0s,MS5.7
TOO Toolangi 55.29 136 eP P 00 28 50.0 +1.6
CAN Canberra 56.81 132 eP P 00 28 59.6 +0.3
CAN 00 29 57.1
CAN e 00 31 05.6
CAN Canberra 56.81 132 eP P 00 28 59.5 +0.3
CAN PcP PcP 00 29 57.1 +2.3
CAN ePP PP 00 31 05.6 -0.3
CAN ScP ScP 00 33 53.8 +1.5
ZAA0 Zalesovo Array 56.85 350 eP P 00 28 59.2 +0.1
ZAA0 ePcP PcP 00 29 54.5 +0.1
ZAA0 eScP ScP 00 33 52.4 +0.5
ZAA0 eS S 00 36 48.0 -2.4
ZALV Zalesovo Beam 56.85 350 P P 00 28 58.9 -0.3
comp=Z,145nm,0.8s,mb6.1,baz=174,slow=5.7,SNR=264
ZALV S S 00 36 52.9 +2.6
comp=Z,3.4nm,0.9s,baz=159,slow=8.6,SNR=5.4
ZALV Zalesovo Beam 56.85 350 P P 00 28 58.9 -0.3
ZALV S S 00 36 52.9 +2.6
ARMA Armidale 57.03 125 eP P 00 29 01.7 +0.8
CNB Canberra Magne 57.08 132 eP P 00 29 01.8 +0.6
KRAR Krasnoyarsk 57.85 356 eP P 00 29 05.3 -0.9
KRAR pmax pmax
comp=Z,426nm,1.7s,mb6.2
KRAR MLR MLR
comp=Z,8μm,16.0s,MS5.9
NVS Novosibirsk 57.99 349 iP P 00 29 05.7 -1.4
NVS pmax pmax
comp=N,344nm,1.8s
NVS pmax pmax
comp=Z,267nm,1.8s,mb6.0
NVS pmax pmax
comp=E,76nm,1.0s
KLR Kul'dur 57.99 24⇓iP P 00 29 02.7 -4.6
KLR eS S 00 37 11.5 +5.9
KLR e 00 38 48.5
KLR e 00 41 00.0
KLR pmax pmax
comp=E,120nm,1.6s
KLR pmax pmax
comp=Z,480nm,1.6s,mb6.3
KLR pmax pmax
comp=Z,2μm,6.0s
KLR smax
comp=N,4μm,9.5s
KLR smax
comp=E,1μm,9.5s
KLR MLR MLR
comp=E,8μm,15.0s
KLR MLR MLR
comp=Z,14μm,15.0s,MS6.2
RDF Al-Radifah 58.22 306 eP P 00 29 08.6 -0.8
baz=306
RDF AMb AMB 00 29 13.9
comp=Z,182nm,1.4s,mb5.9,baz=306
UMR Umm Al-Rimmam 58.33 307 eP P 00 29 09.0 -1.1
baz=306
NAY Al-Naaiem 58.59 306 eP P 00 29 10.7 -1.3
baz=306
NAY AMb AMB 00 29 25.2
comp=Z,74nm,1.2s,mb5.6,baz=306
MIB Mutribah 58.73 307 eP P 00 29 12.2 -0.6
baz=307
MIB AMb AMB 00 29 27.5
comp=Z,195nm,1.0s,mb6.1,baz=307
HABR Khabarovsk 58.85 27 eP P 00 29 09.2 -4.1
HABR e pP 00 29 19.4 -3.8
HABR e 00 29 23.7
HABR e 00 29 59.3
HABR eS S 00 37 11.7 -5.1
HABR e 00 37 29.0
HABR e 00 38 55.5
HABR e 00 41 05.2
ERM Erimo 58.86 37 eP P 00 29 13.5 0.0
ERM pmax pmax
comp=Z,34nm,1.0s,mb5.3
ERM MLR MLR
comp=Z,6μm,19.0s,MS5.7
ERM Erimo 58.86 37 eP P 00 29 13.5 0.0
comp=Z,34nm,1.0s,mb5.3
ERM LR LR
comp=Z,6μm,19.0s,MS5.7
RST Umm Al-Ruwaisa 58.89 306 eP P 00 29 12.5 -1.5
baz=306
RST AMb AMB 00 29 18.2
comp=Z,112nm,2.0s,mb5.5,baz=306
TAU Tasmania Unive 59.14 141 P P 00 29 15.4 0.0
TAU e pP 00 29 25.9 +0.6
TAU MLR MLR
comp=Z,8μm,20.0s,MS5.8
VOSK Vostochnaya 59.32 340 P P 00 29 14.7 -1.8
VOSK pmax pmax
comp=Z,72nm,1.0s,mb5.7
BVA0 Borovoye Array 59.77 340 iP P 00 29 17.7 -1.9
BVA0 pmax pmax
comp=Z,31nm,1.5s,mb5.1
BVAR Borovoye Array 59.77 340 P P 00 29 18.6 -1.0
comp=Z,20nm,0.7s,mb5.2,baz=143,slow=8.2,SNR=48
BVAR S S 00 37 32.3 +3.8
comp=Z,0.4nm,0.5s,baz=131,slow=20,SNR=3.2
ASAJ Asahikawa 59.79 35 P P 00 29 19.5 -0.4
comp=Z,26nm,0.7s,mb5.4,baz=251,slow=12,SNR=8.4
ASAJ Asahikawa 59.79 35 P P 00 29 19.5 -0.4
ASAJ pmax pmax
comp=Z,26nm,0.7s
BRVK Borovoye 59.84 340 ⇓P P 00 29 20.6 +0.6
SNR=29
BRVK Borovoye 59.84 340 eP P 00 29 19.1 -1.0
BRVK ePP PP 00 31 42.6 +10
BRVK eS S 00 37 26.7 -2.6
BRVK LR LR
comp=Z,11μm,20.0s,MS6.0
BOD Bodaibo 60.57 9 eP P 00 29 24.7 -0.2
BOD pmax pmax
comp=Z,147nm,1.4s,mb5.9
HNR Honiara 60.68 100 P P 00 29 25.7 -0.8
comp=Z,126nm,0.7s,mb6.1,baz=214,slow=7.5,SNR=6.0
HNR Honiara 60.68 100 P P 00 29 25.7 -0.9
HNR pmax pmax
comp=Z,126nm,0.7s,mb6.2
HNR Honiara 60.68 100 P P 00 29 25.8 -0.8
HNR LR LR
comp=Z,3μm,22.0s,MS5.3
AB31 Akbulak array 61.16 332 iP P 00 29 27.8 -1.3
AB31 pmax pmax
comp=Z,155nm,1.3s,mb6.0
YSS Yuzh-Sakhalins 61.63 32⇑iP P 00 29 31.0 -1.4
YSS e 00 31 50.0
YSS eS S 00 37 49.0 -3.5
YSS ePPS 00 38 15.0
YSS pmax pmax
comp=N,110nm,1.2s
YSS pmax pmax
comp=Z,270nm,1.2s,mb6.2
YSS pmax pmax
comp=Z,2μm,6.0s
YSS MLR MLR
comp=N,3μm,18.0s,MS6.1
YSS MLR MLR
comp=Z,7μm,18.0s,MS5.9
YSS MLR MLR
comp=E,11μm,17.0s,MS6.1
YSS Yuzh-Sakhalins 61.63 32⇑eP P 00 29 32.0 -0.4
YSS ePP PP 00 31 47.0 -1.3
YSS LR LR
comp=Z,3μm,19.0s,MS5.4
YUK Yuzh-Kuril'sk 61.64 36 P P 00 29 35.0 +2.5
YUK eSP 00 29 46.0
YUK e 00 30 13.0
YUK pmax pmax
comp=Z,4μm,8.0s
YUK MLR MLR
comp=N,6μm,17.0s,MS6.0
YUK MLR MLR
comp=E,6μm,17.0s,MS6.0
YUK MLR MLR
comp=Z,6μm,17.0s,MS5.8
CLNS Chul'man 61.97 16 eP P 00 29 34.0 -0.4
CLNS e 00 30 16.5
CLNS e 00 31 50.8
CLNS eS S 00 37 55.9 -0.5
CLNS e 00 39 26.6
CLNS pmax pmax
comp=Z,45nm,0.8s,mb5.7
CLNS pmax pmax
comp=E,19nm,1.0s
CLNS pmax pmax
comp=N,17nm,0.9s
CLNS smax
comp=N,571μm,12.1s
CLNS smax
comp=E,227μm,14.3s
CLNS MLR MLR
comp=E,4μm,17.0s,MS5.9
CLNS MLR MLR
comp=Z,7μm,17.0s,MS5.9
CLNS MLR MLR
comp=N,6μm,14.0s,MS5.9
CLNS Chul'man 61.97 16 eP P 00 29 34.1 -0.3
KMBO Kilima Mbogo 62.11 270 P P 00 29 38.1 +1.8
comp=N,2.7nm,0.9s,mb4.4,baz=53,slow=9.9,SNR=7.1
KMBO LR LR 00 53 18.6
comp=N,10μm,19.6s,MS6.0,baz=86,slow=33
KMBO Kilima Mbogo 62.11 270 eP P 00 29 37.7 +1.5
KMBO e 00 30 13.8
KMBO pmax pmax
comp=Z,71nm,1.2s
KMBO MLR MLR
comp=Z,9μm,20.0s
KMBO Kilima Mbogo 62.11 270 eP P 00 29 37.6 +1.4
comp=Z,71nm,1.2s,mb5.7
KMBO ePcP PcP 00 30 13.8 -2.6
KMBO ePP PP 00 31 48.0 -5.2
KMBO LR LR
comp=Z,9μm,20.0s,MS5.9
BHD Baghdad 62.39 309 ex x 00 29 40.0
BHD ex x 00 38 07.0
BHD ex x 00 38 25.0
AKTO Aktyubinsk 62.87 332 LR LR 01 00 28.7
comp=Z,6μm,18.6s,MS5.8,baz=123,slow=39
AKTO Aktyubinsk 62.87 332 P P 00 29 39.6 -1.0
AKTO pmax pmax
comp=Z,17nm,1.5s,mb5.0
MAK Makhachkala 64.41 320d iP P 00 29 51.6 +0.7
MAK e 00 30 23.2
MAK i 00 32 18.7
MAK ePPP 00 33 47.8
MAK iS S 00 38 24.1 -3.3
MAK e 00 39 44.4
MAK pmax pmax
comp=Z,183nm,1.1s,mb6.0
MAK MLR MLR
comp=Z,3μm,18.0s,MS5.5
MSL Mosul 64.56 312 ex x 00 29 54.0
MSL ex x 00 38 30.0
MIR Mirnyy 64.79 183⇓iP P 00 29 55.0 +2.0
MIR i pP 00 30 04.0 +1.1
MIR iS S 00 38 36.0 +4.7
MIR iPS 00 39 00.0
MIR eSS SS 00 42 40.0 -3.0
MIR pmax pmax
comp=Z,100nm,2.0s,mb5.5
MIR MLR MLR
comp=Z,6μm,18.0s,MS5.8
CASY Casey 64.85 175 eP P 00 29 52.5 -0.8
CASY eS S 00 38 32.5 +0.5
CASY Casey 64.85 175 eP P 00 29 53.3 0.0
comp=Z,717nm,2.5s,mb6.3
CASY epP pP 00 30 00.8 -2.5
CASY LR LR
comp=Z,8μm,21.0s,MS5.9
GNI Garni 64.94 316 ⇓P P 00 29 57.5 +3.0
SNR=18
GNI Garni 64.94 316⇑eP P 00 29 54.8 +0.3
GNI pmax pmax
comp=Z,96nm,1.9s
GNI Garni 64.94 316⇑eP P 00 29 54.5 0.0
comp=Z,79nm,1.2s,mb5.6
GNI eS S 00 38 32.2 -1.9
GNI LR LR
comp=Z,2μm,19.0s,MS5.4
DGRG David-gareji 65.09 318 P P 00 29 56.3 +0.9
MTA Mtatsminda 65.59 318 P P 00 29 58.2 -0.4
TBLG Delisi 65.64 318 P P 00 30 00.0 +1.0
SVE Sverdlovsk 66.25 338⇓eP P 00 30 02.1 -0.4
SVE e 00 30 37.3
SVE e 00 32 37.3
SVE eS S 00 38 48.4 -1.1
SVE pmax pmax
comp=Z,177nm,1.4s,mb5.9
SVE MLR MLR
comp=Z,8μm,20.0s,MS5.9
ARU Arti 66.77 337c iP P 00 30 04.7 -1.1
ARU e 00 30 31.2
ARU e 00 32 33.2
ARU ePPP 00 34 11.7
ARU eS S 00 38 54.9 -0.8
ARU e 00 39 56.4
ARU eSS SS 00 43 07.5 -6.6
ARU pmax pmax
comp=Z,138nm,1.7s,mb5.7
ARU MLR MLR
comp=Z,7μm,19.0s,MS5.9
ARU Arti 66.77 337 eP P 00 30 04.9 -0.9
ARU ePP PP 00 32 34.5 +1.2
ARU eS S 00 39 03.9 +8.1
ARU LR LR
comp=Z,7μm,20.0s,MS5.9
ONI Oni 66.88 318 P P 00 30 09.4 +2.6
YAK Yakutsk 67.69 15c eP P 00 30 10.3 -1.3
YAK e*PP pP 00 30 20.8 -0.8
YAK e 00 30 34.5
YAK eS S 00 39 06.0 -0.7
YAK pmax pmax
comp=E,54nm,1.2s
YAK pmax pmax
comp=Z,126nm,0.9s,mb6.0
YAK pmax pmax
comp=N,54nm,1.0s
YAK smax
comp=E,630μm,6.1s
YAK smax
comp=N,1354μm,5.7s
YAK MLR MLR
comp=Z,19μm,20.0s,MS6.3
YAK MLR MLR
comp=N,15μm,23.0s,MS6.2
YAK MLR MLR
comp=E,9μm,24.0s,MS6.2
YAK Yakutsk 67.69 15 eP P 00 30 10.8 -0.9
YAK epP pP 00 30 19.2 -2.5
YAK ePP PP 00 32 39.1 -2.1
YAK LR LR
comp=Z,16μm,19.0s,MS6.2
KIV Kislovodsk 67.98 319 ⇑P P 00 30 16.3 +2.5
SNR=27
KIV Kislovodsk 67.98 319 eP P 00 30 13.1 -0.7
KIV e 00 30 38.9
KIV e 00 32 44.3
KIV eS S 00 39 09.9 -0.9
KIV eSS SS 00 43 34.6 +1.2
KIV pmax pmax
comp=Z,54nm,1.1s,mb5.5
KIV pmax pmax
comp=Z,404nm,5.0s
KIV Kislovodsk 67.98 319⇑iP P 00 30 13.5 -0.3
KIV Kislovodsk 67.98 319 eP P 00 30 13.2 -0.6
KIV LR LR
comp=Z,5μm,20.0s,MS5.7
DZM Mont Dzumac 68.11 113 eP P 00 30 13.9 -1.2
DZM Mont Dzumac 68.11 113 eP P 00 30 14.6 -0.5
DZM ePcP PcP 00 30 37.4 -3.6
BHL Bhannes 69.46 307 eP P 00 30 24.7 +1.4
SOC Sochi 69.78 318c iP P 00 30 23.2 -1.8
SOC e*PP pP 00 30 31.9 -3.2
SOC e*SP sP 00 30 36.5 -2.3
SOC e 00 30 45.3
SOC e 00 32 57.4
SOC iS S 00 39 29.9 -2.3
SOC e 00 40 20.1
SOC pmax pmax
comp=Z,74nm,1.4s,mb5.4
SOC pmax pmax
comp=Z,530μm,5.7s
SOC Sochi 69.78 318 iP P 00 30 26.6 +1.6
MAW Mawson 70.34 194 eP P 00 30 28.1 +0.1
comp=Z,16nm,1.1s,mb4.9
MAW eS S 00 39 28.0 -10
MAW Mawson 70.34 194 P P 00 30 28.6 +0.6
comp=Z,4.0nm,0.8s,mb4.4,baz=10,slow=7.3,SNR=8.4
MAW LR LR 00 56 47.4
comp=Z,8μm,19.1s,MS6.0,baz=35,slow=32
MAW Mawson 70.34 194 eP P 00 30 28.1 +0.1
MAW pmax pmax
comp=Z,16nm,1.1s
DRV Dumont d'Urvil 70.70 164 P pP 00 30 42.0 +1.8
DRV Dumont d'Urvil 70.70 164 PP PP 00 33 14.0 +7.0
DRV S S 00 39 46.0 +4.0
DRV SS SS 00 44 23.0 +8.7
DRV L 00 48 00.0
DRV R 00 52 00.0
SKR Severo-Kuril's 71.04 34 eP P 00 30 33.0 +0.4
SKR e 00 30 48.0
SKR eS S 00 40 05.0 +18
SKR e 00 40 32.0
SKR eSS SS 00 44 15.0 -5.4
SKR pmax pmax
comp=N,180nm,1.0s
SKR pmax pmax
comp=Z,220nm,1.0s,mb6.0
SKR smax
comp=N,4μm,10.0s
SKR smax
comp=E,5μm,10.0s
SKR MLR MLR
comp=N,6μm,18.0s,MS6.0
SKR MLR MLR
comp=E,6μm,18.0s,MS6.0
SKR MLR MLR
comp=Z,5μm,18.0s,MS5.8
LSZ Lusaka 71.39 255 ⇑P P 00 30 43.4 +8.1
SNR=10
LSZ Lusaka 71.39 255 eP P 00 30 36.0 +0.6
LSZ e*SP sP 00 30 47.5 -1.7
LSZ e 00 33 14.4
LSZ pmax pmax
comp=Z,146nm,1.7s,mb5.6
LSZ MLR MLR
comp=Z,5μm,20.0s,MS5.8
LSZ Lusaka 71.39 255 eP P 00 30 36.0 +0.6
comp=Z,146nm,1.7s,mb5.6
LSZ epP pP 00 30 44.4 -1.1
LSZ esP sP 00 30 47.5 -1.7
LSZ ePP PP 00 33 14.4 +0.3
LSZ LR LR
comp=Z,5μm,20.0s,MS5.8
CSS Prodhromos 71.60 308⇓eP P 00 30 37.6 +1.3
comp=Z,75nm,1.3s,mb5.5
CSS epP pP 00 30 44.9 -1.5
CSS esP sP 00 30 48.8 -1.3
CSS LR LR
comp=Z,7μm,20.0s,MS5.9
ANN Anapa 71.76 319 eP P 00 30 36.9 -0.2
ANN e 00 30 58.1
ANN eS S 00 39 53.9 -1.3
ANN e 00 40 38.7
ANN eSS SS 00 44 35.1 +3.4
ANN pmax pmax
comp=Z,310nm,7.5s
VRHR Novokhopersk 71.80 326 eP P 00 30 35.7 -1.5
VRHR e*SP sP 00 30 49.7 -1.3
VRHR eS S 00 39 50.1 -5.3
VRHR pmax pmax
comp=N,20nm,0.7s
VRHR pmax pmax
comp=Z,30nm,0.7s,mb5.3
VRHR pmax pmax
comp=E,30nm,0.8s
VRHR smax
comp=N,2μm,7.7s
VRHR smax
comp=Z,120nm,4.4s
VRHR smax
comp=E,800nm,5.0s
VRHR MLR MLR
comp=Z,4μm,20.0s,MS5.7
VRHR MLR MLR
comp=N,4μm,22.0s,MS5.7
VRHR MLR MLR
comp=E,3μm,22.0s,MS5.7
BR131 Keskin Array S 72.72 313 eP P 00 30 41.3 -1.6
BR131 epP pP 00 30 50.9 -2.1
BR131 LR LR
comp=Z,2μm,20.0s,MS5.4
PETK Petropavlovsk- 73.04 32 P P 00 30 43.4 -1.0
comp=Z,22nm,0.7s,mb5.2,baz=183,slow=1.5,SNR=19
PETK LR LR 01 07 40.5
comp=Z,4μm,18.1s,MS5.8,baz=255,slow=40
PETK Petropavlovsk- 73.04 32 P P 00 30 43.4 -1.0
PETK LR LR 01 07 40.5

VSR Storozhevoye 73.25 325c iP P 00 30 43.8 -2.0
VSR e*PP pP 00 30 53.8 -2.1
VSR e*SP sP 00 30 58.7 -0.9
VSR eS S 00 40 06.0 -5.9
VSR eSP 00 40 38.0
VSR e 00 40 45.0
VSR pmax pmax
comp=N,6.0nm,1.0s
VSR pmax pmax
comp=Z,10.0nm,1.0s,mb4.7
VSR pmax pmax
comp=E,20nm,0.9s
VSR smax
comp=N,490nm,5.9s
VSR smax
comp=Z,30nm,3.9s
VSR smax
comp=E,130nm,6.3s
VSR MLR MLR
comp=N,1μm,18.0s,MS5.5
VSR MLR MLR
comp=Z,1μm,18.0s,MS5.3
VSR MLR MLR
comp=E,2μm,19.0s,MS5.5
ANTO Ankara 73.39 313 ⇓P P 00 30 50.1 +3.3
SNR=8.4
ANTO Ankara 73.39 313 eP P 00 30 45.3 -1.5
ANTO e*PP pP 00 30 54.9 -2.0
ANTO e*SP sP 00 30 57.8 -2.9
ANTO pmax pmax
comp=Z,46nm,1.3s,mb5.2
ANTO MLR MLR
comp=Z,3μm,19.0s,MS5.5
ANTO Ankara 73.39 313 eP P 00 30 45.3 -1.6
comp=Z,46nm,1.3s,mb5.2
ANTO epP pP 00 30 54.9 -2.1
ANTO esP sP 00 30 57.8 -2.9
ANTO LR LR
comp=Z,3μm,19.0s,MS5.5
PET Petropavlovsk 73.51 33⇑eP P 00 30 48.1 +0.8
PET eS S 00 40 13.9 -0.9
PET ePS 00 40 49.8
PET eSS SS 00 45 00.4 +2.4
PET pmax pmax
comp=Z,139nm,0.8s,mb5.9
PET pmax pmax
comp=Z,2μm,6.4s
PET pmax pmax
comp=Z,1μm,7.9s
PET pmax pmax
comp=Z,1μm,17.2s
PET smax
comp=E,3μm,13.7s
PET smax
comp=N,2μm,12.6s
PET MLR MLR
comp=Z,6μm,19.0s,MS5.9
PET MLR MLR
comp=Z,6μm,14.0s
PET Petropavlovsk 73.51 33⇑eP P 00 30 47.1 -0.2
PET LR LR
comp=Z,6μm,21.0s,MS5.8
SIM Simferopol' 74.03 318deP P 00 30 52.3 +1.8
SIM e 00 31 04.0
SIM eS S 00 40 17.1 -3.8
SIM eSS SS 00 45 00.0 -6.2
SIM pmax pmax
comp=Z,19nm,0.9s,mb5.0
LBTB Lobatse 74.56 245 eP P 00 30 55.9 +1.9
LBTB eS S 00 40 38.4 +11
LBTB pmax pmax
comp=Z,160nm,1.7s,mb5.7
LBTB MLR MLR
comp=Z,11μm,19.0s,MS6.2
LBTB Lobatse 74.56 245 eP P 00 30 55.9 +1.9
comp=Z,160nm,1.7s,mb5.7
LBTB eS S 00 40 38.4 +11
LBTB LR LR
comp=Z,11μm,19.0s,MS6.2
RPZ Rata Peaks 75.57 135 P P 00 30 59.6 +0.1
comp=Z,13nm,0.7s,mb5.0,baz=335,slow=3.6,SNR=6.7
SEY Seymchan 75.66 22⇑eP P 00 30 59.6 +0.1
TIXI Tiksi 75.75 9 eP P 00 30 59.3 -0.6
TIXI eS S 00 40 36.4 -2.7
TIXI pmax pmax
comp=Z,164nm,2.2s,mb5.6
TIXI MLR MLR
comp=E,2μm,17.0s,MS6.0
TIXI MLR MLR
comp=N,8μm,21.0s,MS6.0
TIXI MLR MLR
comp=Z,10μm,18.0s,MS6.2
TIXI Tiksi 75.75 9⇑eP P 00 30 58.9 -1.0
TIXI LR LR
comp=Z,16μm,21.0s,MS6.3
MOS Moscow 76.00 329 eP P 00 30 55.2 -6.4
MOS e 00 31 08.3
MOS eS S 00 40 35.2 -7.2
MOS e 00 41 02.0
MOS pmax pmax
comp=Z,338nm,1.8s,mb6.0
MOS pmax pmax
comp=Z,700μm,1.9s
MOS MLR MLR
comp=Z,7μm,20.0s,MS6.0
ARG Arkhangelos 76.02 308 eP P 00 31 01.3 -0.9
ARG Arkhangelos 76.02 308 eP P 00 31 01.3 -0.9
OBN Obninsk 76.29 328⇑eP P 00 31 02.6 -0.7
OBN i 00 31 15.3
OBN ePPP 00 35 42.3
OBN i S S 00 40 43.7 -1.9
OBN i 00 41 00.8
OBN i PS 00 41 41.4
OBN i SS SS 00 45 37.8 -2.3
OBN pmax pmax
comp=Z,290nm,1.8s,mb5.9
OBN MLR MLR
comp=Z,4μm,22.0s,MS5.7
KARP Karpathos 76.64 307 eP P 00 31 05.6 -0.1
KARP Karpathos 76.64 307 eP P 00 31 05.6 -0.1
SMG Samos 77.35 309 eP P 00 31 13.2 +3.5
SMG Samos 77.35 309 eP P 00 31 13.2 +3.5
KLMR Klimovskoe 77.37 334 eP P 00 31 07.5 -1.7
KLMR pmax pmax
comp=Z,135nm,1.6s,mb5.6
TIRR Tirgusor 77.77 316 eP P 00 31 11.1 -0.8
TIRR e*PP pP 00 31 20.4 -1.6
TIRR e*SP sP 00 31 23.7 -2.1
TIRR e 00 34 10.4
TIRR pmax pmax
comp=Z,20nm,0.8s,mb5.1
TIRR Tirgusor 77.77 316⇓iP P 00 31 12.2 +0.3
TIRR Tirgusor 77.77 316 eP P 00 31 11.1 -0.8
comp=Z,20nm,0.8s,mb5.1
TIRR epP pP 00 31 20.4 -1.6
TIRR esP sP 00 31 23.7 -2.1
TIRR ePP PP 00 34 10.4 +2.7
SNZO South Karori 77.81 132 PFAKE 00 31 20.0 +7.8
SNZO LR LR
comp=Z,14μm,21.0s,MS6.3
NPS Neapolis 77.83 307 eP P 00 31 12.4 0.0
NPS Neapolis 77.83 307 eP P 00 31 12.4 0.0
SYO Syowa Base 77.87 199⇓eP P 00 31 10.6 -1.3
SYO Syowa Base 77.87 199⇓iP pP 00 31 22.4 +0.3
LAST Lasithi 77.92 306 P P 00 31 14.7 +1.8
CHOS Chios island 78.10 310 P P 00 31 13.3 -0.5
PRK Paraskevi 78.11 311 eP P 00 31 15.9 +2.0
PRK Paraskevi 78.11 311 eP P 00 31 15.9 +2.0
SANT Santorini 78.16 308 P P 00 31 14.7 +0.5
SANT LR LR
comp=Z,2μm,21.0s,MS5.5
HARR Harsova 78.16 316⇑iP P 00 31 13.5 -0.5
HARR Harsova 78.16 316 P P 00 31 13.7 -0.3
KIS Kishinev 78.16 319 eP P 00 31 14.0 0.0
KIS e 00 31 26.0
KIS eS S 00 41 06.0 -0.4
KIS e 00 41 50.0
KIS Kishinev 78.16 319 ePcP PcP 00 31 26.0 +2.6
KIS Kishinev 78.16 319 ePP PP 00 33 52.0 -19
KIS eS S 00 41 06.0 -0.4
KIS LRM 01 11 52.0
comp=Z,2μm,16.0s
AKASG Malin Array Be 78.94 322 P P 00 31 16.9 -1.2
comp=Z,6.2nm,0.7s,mb4.7,baz=90,slow=4.6,SNR=19
AKASG LR LR 01 10 19.4
comp=Z,4μm,21.4s,MS5.7,baz=110,slow=39
AKBB Malin Array Si 78.94 322 eP P 00 31 16.7 -1.5
AKBB e*PP pP 00 31 26.7 -1.6
AKBB e 00 34 16.4
KIEV Kiev 78.94 322 eP P 00 31 16.7 -1.5
KIEV e*PP pP 00 31 26.9 -1.5
KIEV e*SP sP 00 31 29.9 -2.2
KIEV e 00 34 11.3
KIEV pmax pmax
comp=Z,138nm,1.9s,mb5.6
KIEV MLR MLR
comp=Z,4μm,21.0s,MS5.7
KIEV Kiev 78.94 322 eP P 00 31 16.7 -1.5
comp=Z,138nm,1.9s,mb5.6
KIEV epP pP 00 31 26.9 -1.4
KIEV esP sP 00 31 29.9 -2.3
KIEV ePP PP 00 34 11.3 -6.0
KIEV LR LR
comp=Z,4μm,21.0s,MS5.7
VAM Vamos 78.99 306 eP P 00 31 19.6 +0.8
VAM Vamos 78.99 306 eP P 00 31 19.6 +0.8
IAS Iasi 79.04 319 P P 00 31 20.3 +1.5
SZH Strazhica 79.23 315 P P 00 31 20.9 +1.0
VRI Vrincioaia 79.27 317⇑iP P 00 31 20.1 0.0
VRI Vrincioaia 79.27 317 P P 00 31 20.2 +0.1
PLOR Plostina 79.32 317 P P 00 31 20.9 +0.5
PLOR Plostina 79.32 317⇑iP P 00 31 20.7 +0.3
SUR Sutherland 79.39 238 eP P 00 31 18.4 -2.7
comp=Z,2μm,2.7s,mb6.5
SUR eS S 00 41 15.0 -5.1
SUR LR LR
comp=Z,12μm,21.0s,MS6.2
FUNA Funafuti 79.67 98 PFAKE 00 31 30.0 +7.0
FUNA LR LR
comp=Z,6μm,19.0s,MS5.9
ZIMR 79.72 315 P P 00 31 22.8 +0.2
MLR Muntele Rosu 79.72 317⇑iP P 00 31 22.4 -0.2
MLR Muntele Rosu 79.72 317 P P 00 31 23.0 +0.5
RZN Rozhen 79.78 313 P P 00 31 24.8 +1.9
ATH Athens Observa 79.83 309 eP P 00 31 24.3 +1.0
ATH Athens Observa 79.83 309 eP P 00 31 24.3 +1.0
PLD Plovdiv 79.87 313 P P 00 31 22.8 -0.6
PLD Plovdiv 79.87 313 P P 00 31 23.3 -0.1
DID Didima 80.12 308 P P 00 31 23.7 -1.2
VLI Veliai 80.22 308 eP P 00 31 29.4 +3.9
VLI Veliai 80.22 308 eP P 00 31 29.4 +3.9
VOIR 80.32 317⇑iP P 00 31 24.8 -1.0
VOIR 80.32 317 P P 00 31 28.6 +2.8
NVR Nevrokopi 80.34 312 eP P 00 31 23.8 -2.2
NVR Nevrokopi 80.34 312 eP P 00 31 23.8 -2.2
PGB Panagyurishte 80.35 314 P P 00 31 26.8 +0.8
PLG Polygyros 80.47 311 eP P 00 31 28.1 +1.4
PLG Polygyros 80.47 311 eP P 00 31 28.1 +1.4
MMB Musomiste 80.48 313 P P 00 31 27.8 +1.0
LKR Lokris 80.50 310 eP P 00 31 28.3 +1.4
LKR Lokris 80.50 310 eP P 00 31 28.3 +1.4
BURAR Bucovina Array 80.69 319⇑iP P 00 31 28.3 +0.6
BURAR Bucovina Array 80.69 319 P P 00 31 28.4 +0.6
BUR08 Bucovina Ar. S 80.71 319⇑iP P 00 31 28.2 +0.3
MNK Minsk 80.83 326 eP P 00 31 27.0 -1.3
MNK eS S 00 41 28.0 -6.3
MNK ePS 00 41 46.0
MNK pmax pmax
comp=Z,220nm,1.0s,mb6.0
MNK MLR MLR
comp=N,8μm,20.0s
MNK MLR MLR
comp=Z,5μm,20.0s,MS5.8
KKB Krupnik 81.01 313 i P P 00 31 30.0 +0.4
KNT Kendrikon 81.02 312 P P 00 31 28.0 -1.6
VTS Vitosha 81.05 313 P P 00 31 28.7 -1.1
VTS Vitosha 81.05 313⇑iP P 00 31 28.9 -0.9
VTS Vitosha 81.05 313 P P 00 31 29.3 -0.5
AGG Agios Georgios 81.08 310 P P 00 31 29.6 -0.4
LIT Litokhoron 81.14 311 P P 00 31 28.9 -1.4
PUL Pulkovo 81.14 331 eP P 00 31 30.2 +0.3
VAY Valandovo 81.29 312 i P P 00 31 30.3 -0.8
GRG Griva 81.35 312 P P 00 31 29.9 -1.5
THL Klokotos Trika 81.41 310 P P 00 31 31.5 -0.3
THL Klokotos Trika 81.41 310 eP P 00 31 31.4 -0.4
THL Klokotos Trika 81.41 310 eP P 00 31 31.4 -0.4
EVR Evrytania 81.46 310 eP P 00 31 30.9 -1.2
EVR Evrytania 81.46 310 eP P 00 31 30.9 -1.2
RLS Riolos of Patr 81.59 309 eP P 00 31 25.5 -7.3
RLS Riolos of Patr 81.59 309 eP P 00 31 25.5 -7.3
STIP Stip 81.64 312 i P P 00 31 28.5 -4.4
TSUM Tsumeb 81.67 251 eP P 00 31 31.9 -1.7
comp=Z,12nm,1.1s,mb4.8
TSUM PcP PcP 00 31 40.9 +1.6
TSUM PP PP 00 34 50.8 +10
TSUM eS S 00 41 44.0 -0.4
TSUM LR LR
comp=Z,8μm,20.0s,MS6.1
KZN Kozani 81.72 311 eP P 00 31 29.2 -4.2
KZN Kozani 81.72 311 eP P 00 31 29.2 -4.2
JOF Joensuu 81.76 335 ep P 00 31 32.8 -0.3
comp=Z,15nm,0.9s,mb4.9
GZR Gura Zlata 81.88 316 P P 00 31 34.4 +0.3
LVV L'vov 81.94 321⇓iP P 00 31 36.3 +2.0
LVV e 00 31 50.3
LVV e 00 34 47.5
LVV eS S 00 41 48.9 +2.9
LVV e 00 42 40.5
LVV e 00 47 09.7
BIA Bitola 82.17 312 P P 00 31 35.5 -0.2
BIA Bitola 82.17 312 i P P 00 31 34.6 -1.1
DRGR 82.19 318⇑iP P 00 31 36.2 +0.5
DRGR 82.19 318 P P 00 31 36.5 +0.8
SMY Shemya 82.21 36 PFAKE 00 31 50.0 +14
SMY LR LR
comp=Z,3μm,20.0s,MS5.6
SKO Skopje 82.23 313 i P P 00 31 36.7 +0.7
KRUS Krusevo 82.28 312 i P P 00 31 35.2 -1.1
VLS Valsamata 82.29 309 P P 00 31 35.7 -0.7
VLS Valsamata 82.29 309 eP P 00 31 36.1 -0.3
VLS Valsamata 82.29 309 eP P 00 31 36.1 -0.3
LKD Levkas 82.32 309 P P 00 31 36.0 -0.6
LVZ Lovozero 82.37 340 PFAKE 00 31 50.0 +14
LVZ LR LR
comp=Z,8μm,21.0s,MS6.1
OHR Ohrid 82.57 312 i P P 00 31 37.5 -0.3
APA Apatity 82.67 339⇓iP P 00 31 38.0 +0.2
APA i pP 00 31 49.5 +1.5
APA i S S 00 41 52.0 -0.8
APA ePS 00 42 39.0
APA pmax pmax
comp=Z,1μm,5.0s
APA pmax pmax
comp=Z,280nm,2.0s,mb6.0
APA MLR MLR
comp=Z,8μm,21.0s,MS6.0
IGT Igoumenitsa 82.69 310 P P 00 31 37.5 -1.0
BZS Buzias 82.72 316⇑iP P 00 31 37.9 -0.6
BZS Buzias 82.72 316 P P 00 31 38.2 -0.3
KWP Kalwaria 82.74 320 eP P 00 31 38.3 -0.2
KWP eS S 00 41 55.9 +1.6
KWP Kalwaria 82.74 320 eP P 00 31 37.8 -0.7
KWP eS S 00 41 58.0 +3.7
KWP pmax pmax
comp=Z,154nm,1.5s,mb5.8
KWP MLR MLR
comp=Z,4μm,20.0s,MS5.8
KWP Kalwaria 82.74 320 eP P 00 31 37.8 -0.7
comp=Z,154nm,1.5s,mb5.8
KWP ePcP PcP 00 31 41.8 -1.5
KWP ePP PP 00 35 00.2 +11
KWP eS S 00 41 58.0 +3.7
KWP LR LR
comp=Z,4μm,20.0s,MS5.8
RAO Raoul Island 82.76 119 e PP 00 34 46.2 -3.2
RAO eS S 00 41 57.8 +2.5
RAO MLR MLR
comp=Z,6μm,21.0s,MS5.9
UZH Uzhgorod 82.82 319 eP P 00 31 40.7 +1.8
UZH i pP 00 31 50.0 +0.8
UZH e 00 34 47.5
UZH i S S 00 41 57.0 +1.9
UZH ePS 00 42 56.0
UZH eSS SS 00 47 15.0 -3.2
KOLS Kolonicke sedl 82.89 320 eP P 00 31 39.7 +0.4
KOLS eS S 00 41 56.9 +1.1
KEK Kerkira 83.12 310 eP P 00 31 37.1 -3.6
KEK Kerkira 83.12 310 eP P 00 31 37.1 -3.6
TIR Tirane 83.31 312 PFAKE 00 31 50.0 +8.4
TIR LR LR
comp=Z,3μm,20.0s,MS5.7
SUW Suwalki 83.35 325 eP P 00 31 40.7 -0.8
SUW eS S 00 41 59.8 -0.5
SUW Suwalki 83.35 325 eP P 00 31 40.3 -1.3
SUW e pP 00 31 51.2 -0.6
SUW pmax pmax
comp=Z,163nm,1.0s,mb6.0
SUW Suwalki 83.35 325 eP P 00 31 40.3 -1.3
comp=Z,163nm,1.0s,mb6.0
SUW ePcP PcP 00 31 45.0 -1.0
SUW e pP 00 31 51.2 -0.6
CRVS Cervenica-Dubn 83.41 319 eP P 00 31 42.0 0.0
CRVS e 00 32 09.1
CRVS eS S 00 42 02.1 +1.1
SBA Scott Base 83.59 169 eP P 00 31 43.6 +1.2
SBA e*SP sP 00 31 54.8 -1.5
SBA e 00 35 01.1
SBA pmax pmax
comp=Z,185nm,1.9s,mb5.9
SBA MLR MLR
comp=Z,3μm,19.0s,MS5.6
SBA Scott Base 83.59 169 eP P 00 31 43.6 +1.2
comp=Z,185nm,1.9s,mb5.9
SBA epP pP 00 31 50.4 -2.2
SBA esP sP 00 31 54.8 -1.6
SBA ePP PP 00 35 01.1 +6.1
SBA eS S 00 42 12.7 +11
SBA LR LR
comp=Z,3μm,19.0s,MS5.6
STHS Stebnicka Huta 83.64 320 eP P 00 31 43.4 +0.2
STHS pmax pmax
comp=Z,22nm,0.9s,mb5.3
STHS Stebnicka Huta 83.64 320 eP P 00 31 43.4 +0.2
comp=Z,22nm,0.9s,mb5.3
KAF Kangasniemi 83.71 333 ep P 00 31 43.0 -0.2
comp=Z,27nm,0.7s,mb5.5,baz=100,slow=4.7
KAF Kangasniemi 83.71 333 eP P 00 31 43.0 -0.2
KAF pmax pmax
comp=Z,27nm,0.7s,mb5.5
NIE Niedzica 84.24 320 eP P 00 31 46.1 -0.1
NIE epP pP 00 31 57.0 +0.5
PSZ Piszkesteto 84.27 318 P P 00 31 47.0 +0.6
PSZ Piszkesteto 84.27 318⇑eP P 00 31 46.0 -0.4
PSZ Piszkesteto 84.27 318⇓iP P 00 31 46.6 +0.2
PSZ Piszkesteto 84.27 318 eP P 00 31 44.8 -1.6
PSZ ePP PP 00 35 12.1 +11
PSZ eS S 00 41 57.6 -12
PSZ LR LR
comp=Z,3μm,20.0s,MS5.6
OJC Ojcow 84.70 321 eP P 00 31 48.3 -0.2
OJC ePcP PcP 00 31 51.7 -0.2
OJC epP pP 00 31 57.3 -1.5
OJC esP sP 00 32 00.8 -1.7
OJC eS S 00 42 16.0 +2.1
OJC L 01 19 28.7
comp=Z,2.7nm,20.8s
OJC Ojcow 84.70 321 eP P 00 31 48.3 -0.2
OJC e*PP pP 00 31 57.3 -1.5
OJC e*SP sP 00 32 00.8 -1.7
OJC e 00 42 09.8
OJC eS S 00 42 16.0 +2.1
OJC Ojcow 84.70 321 eP P 00 31 48.3 -0.2
OJC ePcP PcP 00 31 51.7 -0.2
OJC epP pP 00 31 57.3 -1.5
OJC esP sP 00 32 00.8 -1.7
OJC eSKSac SKSac 00 42 09.8 -0.5
OJC eS S 00 42 16.0 +2.1
OJC LR LR
comp=Z,3μm,20.8s,MS5.6
BUD Budapest 84.79 318⇑ePcP PcP 00 31 51.4 -1.0
PKSM Moragy 84.87 317⇑iP P 00 31 49.8 +0.3
PKSM Moragy 84.87 317 P P 00 31 49.0 -0.5
MIDW Midway 84.89 62 PFAKE 00 32 00.0 +10
MIDW LR LR
comp=Z,3μm,20.0s,MS5.7
VYHS Vyhne 85.06 319 eP P 00 31 49.9 -0.5
VYHS eS S 00 42 18.5 +0.9
STON Ston 85.10 313 P P 00 31 49.5 -1.2
KOLL Kolacno 85.36 319 eP P 00 31 51.6 -0.3
KOLL epP pP 00 32 03.1 +1.0
KEV Kevo 85.62 341 ep P 00 31 52.8 +0.1
comp=Z,16nm,0.8s,mb5.3
KEV Kevo 85.62 341 eP P 00 31 51.8 -1.0
KEV ePP PP 00 35 22.2 +10
KEV eS S 00 42 19.9 -2.4
KEV LR LR
comp=Z,5μm,20.0s,MS5.9
OKC Ostrava-Krasne 85.69 320 eP P 00 31 52.9 -0.6
OKC epP pP 00 32 04.2 +0.4
OKC eS S 00 42 23.6 -0.2
OKC AMS AMS 01 20 40.0
comp=Z,2μm,19.2s
OKC Ostrava-Krasne 85.69 320 eP P 00 31 52.9 -0.6
OKC e pP 00 32 04.2 +0.4
OKC eSKS 00 42 23.6
CEL Celeste 85.97 308 PFAKE 00 32 10.0 +15
CEL LR LR
comp=Z,32μm,19.0s,MS6.7
ARCES ARCESS Array B 86.06 340 P P 00 31 55.0 +0.1
comp=Z,16nm,0.8s,mb5.3,baz=103,slow=5.2,SNR=16
ARCES LR LR 01 14 20.7
comp=Z,7μm,19.9s,MS6.0,baz=110,slow=38
ARCES ARCESS Array B 86.06 340 P P 00 31 55.0 0.0
ARCES LR LR 01 14 20.8
ARE0 ARCESS Array S 86.06 340 eP P 00 31 55.1 +0.1
ARE0 epP pP 00 32 03.2 -1.9
ARE0 ePP PP 00 35 20.5 +5.2
ARE0 eS S 00 42 04.5 -22
MODS Modra-Piesok 86.07 319 eP P 00 31 54.4 -1.0
MODS e 00 32 08.6
MODS eS S 00 42 28.4 +0.8
MODS pmax pmax
comp=Z,35nm,1.5s,mb5.4
MODS Modra-Piesok 86.07 319 eP P 00 31 54.4 -1.0
comp=Z,35nm,1.5s,mb5.4
MODS e 00 32 08.6
MODS eS S 00 42 28.4 +0.8
MORC Moravsky Berou 86.08 320⇑iP P 00 31 55.2 -0.2
MORC Moravsky Berou 86.08 320 P P 00 31 55.8 +0.4
ZST Bratislava 86.17 318 eP P 00 31 54.9 -1.0
ZST eS S 00 42 39.4 +11
ZST Bratislava 86.17 318 eP P 00 31 54.9 -1.0
comp=Z,53nm,1.4s,mb5.6
ZST eS S 00 42 39.4 +11
ZST LR LR
comp=Z,700nm,19.3s,MS5.1
CUC Castrocucco 86.20 310 eP P 00 31 55.9 -0.3
comp=Z,17nm,1.1s,mb5.2
CUC e pP 00 32 07.6 +1.1
CUC eS S 00 42 27.1 -2.1
CUC LR LR
comp=Z,3μm,20.0s,MS5.7
VRAC Vranov 86.63 319 P P 00 32 00.1 +1.9
DPC Dobruska-Polom 86.92 320 eP P 00 31 59.7 +0.1
DPC epP pP 00 32 12.7 +2.9
DPC ex x 00 42 36.2
DPC AMS AMS 01 20 10.0
comp=Z,3μm,18.9s
KSP Ksiaz 87.00 321 eP P 00 32 00.4 +0.5
KSP eS S 00 42 36.8 +0.3
KSP Ksiaz 87.00 321 eP P 00 31 59.7 -0.2
KSP e*PP pP 00 32 11.8 +1.6
KSP eS S 00 42 36.0 -0.5
KSP Ksiaz 87.00 321 eP P 00 31 59.7 -0.2
KSP ePcP PcP 00 32 01.9 -0.2
KSP epP pP 00 32 11.8 +1.6
KSP eS S 00 42 36.0 -0.5
KSP LR LR
comp=Z,6μm,21.7s,MS6.0
ARSA Arzberg 87.12 317⇑iP P 00 32 00.5 -0.1
comp=Z,389nm,3.1s
BOJS Bojanci 87.14 316 i P P 00 32 01.0 +0.3
UPC Upice 87.14 321 eP P 00 32 01.0 +0.4
UPC epP pP 00 32 13.7 +2.8
PERS Pernice 87.34 317 i P P 00 32 01.7 +0.1
TREC Trest 87.35 319 eP P 00 32 01.7 +0.1
TREC epP pP 00 32 14.4 +2.5
TREC eS S 00 42 41.0 +1.1

TREC AMS AMS 01 16 10.0
comp=Z,3µm,25.8s
SOKA Soboth 87.40 317 ⇑ *i*P **P 00 32 01.9 -0.1**
VISS Visnje 87.45 316 *i* P **P 00 32 02.0 -0.2**
NVL N'lazarevskaya 87.51 199 *e*P pP 00 32 13.8 +1.5
NVL *e*S S 00 42 28.4 -12
NVL pmax pmax
comp=Z,155nm,2.4s,mb5.8
MAIT Maitri 87.55 199 *e*P **P 00 32 03.5 +1.3**
ADK Adak 87.64 38 PFAKE 00 32 10.0 +7.0
ADK LR LR
comp=Z,4µm,22.0s,MS5.8
LJU Ljubljana 87.69 316 *e*P **P 00 32 05.0 +1.6**
PRU Pruhonice 88.03 320 *e*P **P 00 32 03.1 -1.8**
PRU *e*pP pP 00 32 15.5 +0.3
PRU *e*S S 00 42 47.3 +0.9
PRU AMS AMS 01 18 00.0
comp=Z,4µm,19.5s
PVCC Panska Ves 88.06 321 *e*P **P 00 32 04.9 -0.1**
PVCC *e*S S 00 42 44.8 -1.8
PVCC AMS AMS 01 16 40.0
comp=Z,2µm,20.0s
VOY Vojsko 88.13 316 *e*P **P 00 32 04.5 -1.0**
VOY *e* 00 32 18.3
VOY *e* 00 32 45.4
QSPA South Pole Qui 88.17 180 P **P 00 32 05.6 +0.6**
comp=Z,1.7nm,0.5s,mb4.5,baz=135,slow=0.9,SNR=12
QSPA LR LR 01 07 42.8
comp=Z,8µm,19.8s,MS6.1,baz=328,slow=33
TRI Trieste 88.20 316 PFAKE 00 32 20.0 +14
TRI LR LR
comp=Z,1µm,19.0s,MS5.3
TRO Tromso 88.33 340 *e*P **P 00 32 05.8 -0.1**
TRO *e*SKS 00 42 31.0
TRO AMS AMS 01 15 50.0
comp=Z,6µm,19.8s,MS6.0
AFI Afiamalu 88.45 104 PFAKE 00 32 20.0 +12
AFI LR LR
comp=Z,2µm,22.0s,MS5.4
GEC2 GERESS Array S 88.48 319 *e*P **P 00 32 06.2 -0.8**
GEC2 *e*S S 00 42 52.8 +2.1
GEC2 pmax pmax
comp=Z,148nm,1.8s,mb5.9
GEC2 GERESS Array S 88.48 319 *e*P **P 00 32 06.2 -0.8**
comp=Z,148nm,1.8s,mb5.9
GEC2 *e*S S 00 42 52.8 +2.1
GEC2 GERESS Array S 88.48 319 *e*P **P 00 32 10.1 +3.0**
GEC2 *e*PP PP 00 36 02.3 +27
GEC2 *e*S S 00 43 15.4 +25
GERES GERESS Array B 88.48 319 P **P 00 32 07.0 0.0**
comp=Z,3.3nm,0.7s,mb4.7,baz=86,slow=4.3,SNR=28
GERES LR LR 01 18 34.9
comp=Z,2µm,20.4s,MS5.5,baz=194,slow=40
BRG Berggiesshubel 88.48 321 *e*P **P 00 32 07.1 +0.1**
BRG S S 00 42 53.0 +2.3
BRG pmax pmax
comp=Z,59nm,1.7s,mb5.5
BRG MLR MLR
comp=N,1µm,21.3s,MS5.4
BRG MLR MLR
comp=E,911nm,21.1s,MS5.4
BRG MLR MLR
comp=Z,2µm,20.8s,MS5.5
BRG Berggiesshubel 88.48 321 *e*P **P 00 32 07.2 +0.2**
comp=Z,98nm,1.7s,mb5.8
BRG *e*S S 00 42 51.0 +0.3
BRG Berggiesshubel 88.48 321 *e*P **P 00 32 07.1 0.0**
comp=Z,98nm,1.7s,mb5.8
BRG S S 00 42 53.0 +2.3
BRG PS 00 44 07.0
BRG
comp=N,2µm,21.3s
BRG
comp=E,2µm,21.1s
BRG
comp=Z,3µm,20.8s
KHC Kasperske Hory 88.58 319 *e*P **P 00 32 06.6 -0.9**
KHC *e*pP pP 00 32 18.2 +0.4
KHC *e*S S 00 42 51.2 -0.5
KHC AMS AMS 01 20 50.0
comp=Z,3µm,18.1s
RUE Ruedersdorf 88.72 322 *e*P **P 00 32 08.1 0.0**
comp=Z,139nm,1.3s,mb6.1
RUE Ruedersdorf 88.72 322 *e*P **P 00 32 06.9 -1.1**
comp=Z,152nm,1.4s,mb6.1
RUE *e*PP PP 00 35 35.7 -1.4
FBE Freiberg 88.86 321 *e*P **P 00 32 09.0 +0.2**
comp=Z,100nm,1.5s,mb5.9
RJOB Jochberg 89.00 318 *e*P **P 00 32 08.8 -0.7**
comp=Z,116nm,2.2s,mb5.8
RJOB *e*S S 00 42 54.9 -0.8
WET Wettzell 89.04 319 *e*P **P 00 32 09.7 0.0**
WET *e*S S 00 42 56.3 +0.3
WET pmax pmax
comp=Z,100nm,1.8s,mb5.8
WET Wettzell 89.04 319 *e*P **P 00 32 09.7 0.0**
comp=Z,100nm,1.8s,mb5.8
WET *e*S S 00 42 56.3 +0.3
CLL Collm 89.11 321 *i* P **P 00 32 09.6 -0.3**
CLL *i* *SP sP 00 32 22.7 -1.3
CLL *e*S S 00 42 59.0 +2.5
CLL pmax pmax
comp=Z,57nm,1.5s,mb5.7
CLL Collm 89.11 321 *e*P **P 00 32 09.6 -0.3**
comp=Z,57nm,1.5s,mb5.7
CLL *e*S S 00 42 56.6 +0.1
CLL Collm 89.11 321 *i* P **P 00 32 09.6 -0.3**
comp=Z,57nm,1.5s,mb5.7
CLL LmV 00 27 00.0
comp=Z,2µm,20.0s
CLL *i* sP sP 00 32 22.7 -1.3
CLL *e*PP PP 00 35 32.0 -8.2
CLL *e*S S 00 42 59.0 +2.5
CLL *e*PS PS 00 44 13.0 +8.0
CLL *e*SS SS 00 48 36.0 -14
CLL *e*SSS 00 52 48.0
CLL *e*SSSS 00 56 00.0
CLL Collm 89.11 321 *i* P **P 00 32 09.6 -0.3**
comp=Z,57nm,1.5s,mb5.7
CLL *i* sP sP 00 32 22.7 -1.3
CLL *e*S S 00 42 59.0 +2.5
RGN Rugen 89.15 324 *e*P **P 00 32 10.5 +0.5**
comp=Z,103nm,1.2s,mb6.0
NKC Novy Kostel 89.39 320 *e*P **P 00 32 11.7 +0.4**
NKC *e*pP pP 00 32 22.1 +0.5
NKC *e*S S 00 43 01.3 +2.1
NKC AMS AMS 01 17 50.0
comp=Z,3µm,18.9s
NKC Novy Kostel 89.39 320 *e*P **P 00 32 11.7 +0.4**
NKC *e* pP 00 32 22.1 +0.5
NKC *e*SKS 00 43 01.3
TANN Tannenbergstha 89.39 320 *e*P **P 00 32 11.4 +0.1**
comp=Z,89nm,2.1s,mb5.7
TANN *e*S S 00 42 59.9 +0.7
WERN Wernitzgruen 89.44 320 *e*P **P 00 32 11.8 +0.3**
comp=Z,168nm,2.6s,mb5.9
GUNZ Gunzen 89.47 320 *e*P **P 00 32 11.8 +0.1**
comp=Z,63nm,1.6s,mb5.7
WERD Werda 89.49 320 *e*P **P 00 32 11.8 0.0**
comp=Z,52nm,1.6s,mb5.6
ROTZ Rotzenmuhle 89.52 320 *e*P **P 00 32 12.4 +0.5**
comp=Z,86nm,1.8s,mb5.8
ROTZ *e*S S 00 43 02.4 +2.0
MANZ Manzenberg 89.59 320 *e*P **P 00 32 12.8 +0.6**
comp=Z,112nm,1.6s,mb6.0
MANZ *e*S S 00 43 01.9 +0.8
MOX Moxa 89.94 320 *e*P **P 00 32 14.6 +0.7**
comp=Z,113nm,2.0s,mb5.8
MOX *e* 00 32 27.6
MOX
comp=Z,2µm,22.0s
MOX Moxa 89.94 320 *e*P **P 00 32 14.6 +0.7**
MOX *e* 00 32 27.6
MOX pmax pmax
comp=Z,113nm,2.0s,mb5.8
MOX MLR MLR
comp=Z,2µm,22.0s,MS5.5
MOX Moxa 89.94 320 *e*P **P 00 32 14.0 +0.1**
comp=Z,159nm,2.3s,mb5.9
MOX *e*S S 00 43 04.1 -0.3
FUR Furstenfeldbru 90.05 318 *e*P **P 00 32 13.9 -0.5**
FUR *e*S S 00 43 05.0 -0.4
FUR pmax pmax
comp=Z,56nm,1.6s,mb5.6
FUR Furstenfeldbru 90.05 318 *e*P **P 00 32 13.9 -0.5**
comp=Z,56nm,1.6s,mb5.6
FUR *e*S S 00 43 05.0 -0.4
MOTA Moosalm 90.13 317 ⇓ *i*P **P 00 32 14.1 -0.7**
comp=Z,36nm,1.3s,mb5.5,SNR=10.0
GRA1 Grafenberg Arr 90.15 320 *e*P **P 00 32 15.2 +0.3**
comp=Z,126nm,1.8s,mb6.0
GRA1 *e*pP pP 00 32 28.1 +2.9
GRA1 *e*PP PP 00 35 55.0 +6.4
GRA1 *e*S S 00 43 06.9 +0.6
GRA1 *e*SS SS 00 49 12.9 +7.2
GRA1 LR LR
comp=Z,3µm,20.3s,MS5.7
GRF Grafenberg Arr 90.15 320 *e*P **P 00 32 15.2 +0.3**
GRF *e**PP pP 00 32 28.1 +2.9
GRF *e* 00 35 55.0
GRF *e*S S 00 43 06.9 +0.6
GRF *e*SS SS 00 49 12.9 +7.2
GRF pmax pmax
comp=Z,126nm,1.8s,mb6.0
GRF MLR MLR
comp=Z,3µm,20.3s,MS5.7
GRF Grafenberg Arr 90.15 320 *e*P **P 00 32 15.2 +0.3**
comp=Z,126nm,1.8s,mb6.0
GRF *e*pP pP 00 32 28.1 +2.9
GRF *e*PP PP 00 35 55.0 +6.4
GRF *e*S S 00 43 06.9 +0.6
GRF *e*SS SS 00 49 12.9 +7.2
GRF *e*L 01 20 34.6
comp=Z,3µm,20.3s
SPB4 Spitsbergen Ar 90.30 348 *e*P **P 00 32 15.1 +0.1**
SPB4 *e*pP pP 00 32 22.1 -3.2
SPB4 *e*sP sP 00 32 26.0 -3.0
SPB4 *e*PP PP 00 36 03.8 +15
SPB4 *e*S S 00 43 16.9 +10
RETA Reutte 90.37 317 ⇑ *i*P **P 00 32 15.4 -0.5**
comp=Z,168nm,2.1s,mb6.0,SNR=15
FETA Feichten 90.37 317 ⇓ *i*P **P 00 32 15.9 -0.1**
comp=Z,323nm,3.5s,SNR=7.5
NSS Namsos 90.48 334 *i* S 00 43 07.4 -1.4
NSS AMS AMS 01 20 36.8
comp=Z,4µm,19.2s,MS5.8
VLC Villacollemand 90.51 314 PFAKE 00 32 30.0 +13
VLC LR LR
comp=Z,3µm,20.0s,MS5.7
NB2 NORSAR Subarra 90.66 331 P **P 00 32 16.2 -0.8**
comp=Z,68nm,2.0s,mb5.6,baz=95,slow=4.6
NOA NORSAR Array B 90.66 331 P **P 00 32 16.2 -0.7**
comp=Z,1.5nm,0.7s,mb4.4,baz=93,slow=4.7,SNR=6.6
NOA LR LR 01 21 13.9
comp=Z,2µm,18.3s,MS5.6,baz=65,slow=41
CLZ Clausthal 90.78 322 *e*P **P 00 32 17.9 +0.2**
CLZ *e*S S 00 43 11.3 -0.6
CLZ pmax pmax
comp=Z,88nm,1.7s,mb5.8
CLZ Clausthal 90.78 322 *e*P **P 00 32 17.9 +0.2**
comp=Z,88nm,1.7s,mb5.8
CLZ *e*S S 00 43 11.3 -0.6
NAO01 NORSAR Array S 90.81 331 *e*P **P 00 32 14.2 -3.4**
NAO01 *e*PP PP 00 35 49.9 -3.6
NAO01 *e*S S 00 43 19.6 +7.7
NAO01 LR LR
comp=Z,4µm,19.0s,MS5.9
BSEG Bad Segeberg 90.88 324 *e*P **P 00 32 18.4 +0.3**
BSEG *e*S S 00 43 15.2 +2.4
BSEG pmax pmax
comp=Z,90nm,1.9s,mb5.8
BSEG Bad Segeberg 90.88 324 *e*P **P 00 32 18.4 +0.3**
comp=Z,90nm,1.9s,mb5.8
BSEG *e*S S 00 43 15.2 +2.4
DAVA Damuels 90.96 317 ⇑ *i*PcP PcP 00 32 18.8 -0.9
comp=Z,261nm,2.5s,SNR=9.4
UBBA Unterbreizbach 90.98 321 *e*P **P 00 32 18.6 -0.1**
comp=Z,10.0nm,1.4s,mb5.0
UBBA *e*S S 00 43 13.9 +0.1
KEST Kesra 91.06 306 P **P 00 32 20.0 +0.6**
comp=Z,6.9nm,0.9s,mb5.0,baz=315,slow=4.5,SNR=11
KEST LR LR 01 14 15.5
comp=Z,1µm,19.7s,MS5.4,baz=163,slow=36
VSL Villasalto 91.12 309 PFAKE 00 32 30.0 +10
VSL LR LR
comp=Z,1µm,21.0s,MS5.3
KBS Kingsbay 91.25 349 *e*P **P 00 32 21.2 +1.8**
KBS *e*PP PP 00 35 55.2 -1.4
KBS AMS AMS 01 22 20.2
comp=Z,5µm,18.1s,MS6.0
KBS Kingsbay 91.25 349 PFAKE 00 32 30.0 +11
KBS LR LR
comp=Z,5µm,19.0s,MS6.0
TUE Stuetta 91.30 316 *e*P **P 00 32 20.2 -0.1**
comp=Z,31nm,1.3s,mb5.5
TUE *e*PP PP 00 36 04.1 +6.3
TUE *e*S S 00 43 08.1 -8.9
TUE LR LR
comp=Z,3µm,20.0s,MS5.7
KONO Kongsberg 91.42 329 *e*P **P 00 32 20.8 +0.3**
KONO *e*SKS 00 42 47.1
KONO AMS AMS 01 18 21.5
comp=Z,3µm,21.0s,MS5.8
STU Stuttgart 91.45 319 *e*P **P 00 32 19.6 -1.3**
STU pmax pmax
comp=Z,61nm,1.6s,mb5.7
STU Stuttgart 91.45 319 *e*P **P 00 32 20.7 -0.2**
STU *e*S S 00 43 18.1 -0.1
STU Stuttgart 91.45 319 *e*P **P 00 32 19.6 -1.4**
comp=Z,61nm,1.6s,mb5.7
SPAK Spaichingen-Ko 91.71 318 *e*P **P 00 32 21.8 -0.4**
TOD Tromm 91.72 319 *e*P **P 00 32 21.8 -0.4**
TNS Taunus Mts 91.96 320 *e*P **P 00 32 23.4 +0.2**
TNS *e*S S 00 43 23.5 +0.7
TNS pmax pmax
comp=Z,24nm,1.1s,mb5.4
TNS Taunus Mts 91.96 320 *e*P **P 00 32 23.4 +0.2**
comp=Z,24nm,1.1s,mb5.4
TNS *e*S S 00 43 23.5 +0.7
BFO Black Forest 92.02 318 *e*P **P 00 32 22.8 -0.8**
BFO *e* 00 36 03.6
BFO MLR MLR
comp=Z,2µm,20.0s,MS5.5
BFO Black Forest 92.02 318 *e*P **P 00 32 23.0 -0.6**
comp=Z,879nm,5.3s
BFO *e*S S 00 43 23.9 +0.5
BFO Black Forest 92.02 318 *e*P **P 00 32 22.8 -0.8**
BFO *e*PP PP 00 36 03.6 +0.1
BFO *e*S S 00 43 54.2 +31
BFO LR LR
comp=Z,2µm,20.0s,MS5.5
SNAA Sanae 92.15 198 *e*Pdiff **P 00 32 26.8 +3.1**
SNAA *e* 00 32 32.7
SNAA *e* pP 00 32 35.5 +1.5
SNAA Sanae 92.15 198 ⇑ *e*P **P 00 32 25.8 +2.1**
SNAA Sanae 92.15 198 *e*P **P 00 32 26.5 +2.7**
comp=Z,108nm,2.0s,mb5.8
SNAA *e*PP PP 00 36 05.1 +1.4
FELD Feldberg im Sc 92.24 318 *e*P **P 00 32 26.6 +2.0**
LANF Langenberg 92.37 319 *e*P **P 00 32 27.6 +2.4**
LANF Langenberg 92.37 319 *e*P **P 00 32 26.1 +0.9**
IBBN Ibbenburen 92.40 322 *e*P **P 00 32 25.4 +0.2**
IBBN *e*S S 00 43 26.7 +0.1
MOL Molde 92.42 332 *e*SKS 00 42 53.9
MOL *e* 00 43 33.7
MOL AMS AMS 01 22 34.7
comp=Z,3µm,19.6s,MS5.7
LIBD Limburg 92.51 318 *e*P **P 00 32 24.6 -1.2**
BBS Basel-Blauen 92.57 317 *e*P **P 00 32 25.3 -0.8**
BUG Bochum--Univer 92.70 321 *e*P **P 00 32 26.7 0.0**
comp=Z,34nm,1.6s,mb5.5
BUG *e*S S 00 43 29.0 -0.4
CDF Champ du Feu 92.72 318 *e*P **P 00 32 26.4 -0.4**
comp=Z,29nm,1.2s,mb5.3
CDF Champ du Feu 92.72 318 *e*P **P 00 32 26.4 -0.4**
CDF pmax pmax
comp=Z,14nm,1.2s,mb5.3
CDF Champ du Feu 92.72 318 *e*P **P 00 32 26.4 -0.4**
comp=Z,14nm,1.2s,mb5.3
ECH Echery 92.80 318 *e*P **P 00 32 29.0 +1.8**
ECH Echery 92.80 318 *e*P **P 00 32 26.9 -0.3**
ECH *e*PP PP 00 36 25.3 +16
ECH *e*S S 00 43 34.8 +4.4
MOF Molkenrain 92.82 318 *e*P **P 00 32 29.1 +1.8**
MOF Molkenrain 92.82 318 *e*P **P 00 32 27.3 0.0**
RUP Ruppelstein 92.86 319 *e*P **P 00 32 24.1 -3.3**
HINF Hinteralfeld 93.01 318 *e*P **P 00 32 27.5 -0.7**
LOMF Lomont 93.03 317 *e*P **P 00 32 29.2 +0.9**
LPG La Plagne 93.11 315 *e*P **P 00 32 28.6 -0.1**
comp=Z,85nm,1.4s,mb5.7
LPG La Plagne 93.11 315 *e*P **P 00 32 28.6 -0.1**
LPG pmax pmax
comp=Z,43nm,1.4s,mb5.7
LPG La Plagne 93.11 315 *e*P **P 00 32 28.6 -0.1**
comp=Z,43nm,1.4s,mb5.7
LPL La Plagne 93.12 315 *e*P **P 00 32 28.7 0.0**
comp=Z,43nm,1.0s,mb5.5
LPL La Plagne 93.12 315 *e*P **P 00 32 28.7 0.0**
LPL pmax pmax
comp=Z,22nm,1.0s,mb5.5
LPL La Plagne 93.12 315 *e*P **P 00 32 28.7 0.0**
comp=Z,22nm,1.0s,mb5.5
BNI Bardonecchia 93.17 315 PFAKE 00 32 40.0 +11
BNI LR LR
comp=Z,3µm,19.0s,MS5.7
HAU Haudompre 93.35 318 *e*P **P 00 32 29.3 -0.4**
comp=Z,81nm,1.4s,mb5.7
HAU Haudompre 93.35 318 *e*P **P 00 32 29.3 -0.4**
HAU pmax pmax
comp=Z,41nm,1.4s,mb5.7
HAU Haudompre 93.35 318 *e*P **P 00 32 29.3 -0.4**
comp=Z,41nm,1.4s,mb5.7
WLF Walferdange 93.44 319 *e*P **P 00 32 30.3 +0.2**
comp=Z,21nm,1.5s,mb5.3
WLF *e*S S 00 43 34.6 -1.4
WLF Walferdange 93.44 319 PFAKE 00 32 40.0 +10
WLF LR LR
comp=Z,2µm,19.0s,MS5.5
BER Bergen 93.55 330 *e*P **P 00 32 28.6 -1.7**
BER *e*SKS 00 43 00.9
BER AMS AMS 01 23 19.4
comp=Z,3µm,18.2s,MS5.8
CABF La Chapelle 93.55 316 *e*P **P 00 32 30.7 0.0**
comp=Z,83nm,1.4s,mb5.7
CABF La Chapelle 93.55 316 *e*P **P 00 32 30.7 0.0**
CABF pmax pmax
comp=Z,41nm,1.4s,mb5.7
CABF La Chapelle 93.55 316 *e*P **P 00 32 30.7 0.0**
comp=Z,41nm,1.4s,mb5.7
THEF They Montfort 93.59 318 *e*P **P 00 32 31.3 +0.5**
ORIF Oris-en-Rattie 93.73 315 *e*P **P 00 32 31.4 -0.2**
comp=Z,94nm,1.6s,mb5.7
ORIF Oris-en-Rattie 93.73 315 *e*P **P 00 32 31.4 -0.2**
ORIF pmax pmax
comp=Z,47nm,1.6s,mb5.7
ORIF Oris-en-Rattie 93.73 315 *e*P **P 00 32 31.4 -0.2**
comp=Z,47nm,1.6s,mb5.7
LOR Lormes 95.06 317 *e*P **P 00 32 36.9 -0.7**
SMF Signal de Mont 95.10 316 *e*P **P 00 32 37.0 -0.8**
SSF Saint Saulge 95.31 317 *e*P **P 00 32 38.3 -0.4**
comp=Z,57nm,1.6s,mb5.4
SSF Saint Saulge 95.31 317 *e*P **P 00 32 38.3 -0.4**
SSF pmax pmax
comp=Z,29nm,1.6s,mb5.5
SSF Saint Saulge 95.31 317 *e*P **P 00 32 38.3 -0.4**
comp=Z,29nm,1.6s,mb5.5
AVF Avril sur Loir 95.43 317 *e*P **P 00 32 38.5 -0.8**
comp=Z,31nm,1.3s,mb5.3
AVF Avril sur Loir 95.43 317 *e*P **P 00 32 38.5 -0.8**
AVF pmax pmax
comp=Z,15nm,1.3s,mb5.3
AVF Avril sur Loir 95.43 317 *e*P **P 00 32 38.5 -0.8**
comp=Z,15nm,1.3s,mb5.3
BGF Bois d'Agland 95.79 316 *e*P **P 00 32 40.7 -0.2**
comp=Z,40nm,1.1s,mb5.5
BGF Bois d'Agland 95.79 316 *e*P **P 00 32 40.7 -0.2**
BGF pmax pmax
comp=Z,20nm,1.1s,mb5.5
BGF Bois d'Agland 95.79 316 *e*P **P 00 32 40.7 -0.2**
comp=Z,20nm,1.1s,mb5.5
TOA0 Torodi Ar. Sit 97.89 283 *e*P **P 00 32 51.9 +0.8**
TOA0 *e*PP PP 00 36 55.2 +5.2
TOA0 *e*S SKSac 00 43 35.2 +8.1
TORD Torodi Ar. Bea 97.89 283 P **P 00 32 50.7 -0.4**
comp=Z,0.5nm,0.8s,baz=99,slow=5.9,SNR=4.2
TORD LR LR 01 15 00.2
comp=Z,3µm,20.0s,baz=105,slow=34
DAG Danmarks Havn 97.95 348 *i* P **P 00 32 49.0 -1.1**
DAG Danmarks Havn 97.95 348 *e*P **P 00 32 49.0 -1.1**
IMA2 Indian Mountai 98.45 23 *e*P **P 00 32 52.3 -0.2**
ESK Eskdalemuir 98.62 326 PFAKE 00 33 00.0 +6.5
ESK LR LR
comp=Z,4µm,20.0s,MS5.9
SVW2 Sparrevohn 98.81 28 P **P 00 32 54.0 -0.3**
RAR Rarotonga 99.46 112 PFAKE 00 33 10.0 +12
RAR LR LR
comp=Z,3µm,20.0s,MS5.7
BPAW Bear Paw Mtn. 100.10 25 *e*Pdif Pdif 00 32 59.5 -0.6
comp=Z,17nm,1.0s
KDAK Kodiak Island 101.07 31 PFAKE 00 33 20.0 +16
KDAK LR LR
comp=Z,1µm,20.0s,MS5.4
MCK McKinley 101.07 25 *e*P Pdif 00 33 03.2 -1.3
MCK pmax pmax
comp=Z,17nm,1.2s
MCK McKinley 101.07 25 *e*Pdif Pdif 00 33 03.2 -1.2
comp=Z,17nm,1.2s
COLA College 101.14 24 *e*PP PP 00 36 59.2 -14
COLA LR LR
comp=Z,4µm,19.0s,MS6.0
ESLA Sonseca Array 101.40 310 *e*PP PP 00 37 22.7 +6.6
ESLA LR LR
comp=Z,10µm,20.0s,MS6.3
PMR Palmer 101.67 27 PFAKE 00 33 20.0 +13
PMR LR LR
comp=Z,3µm,19.0s,MS5.8
PAB San Pablo 101.71 310 PFAKE 00 33 20.0 +13
PAB LR LR
comp=Z,2µm,20.0s,MS5.6
XMAS Kiritimati 103.23 88 PFAKE 00 33 30.0 +16
XMAS LR LR
comp=Z,1µm,20.0s,MS5.5
SFS San Fernando 103.58 307 PFAKE 00 33 30.0 +14
SFS LR LR
comp=Z,3µm,19.0s,MS5.9
MTE Manteigas 104.02 311 PFAKE 00 33 30.0 +12
MTE LR LR
comp=Z,2µm,19.0s,MS5.7
DBIC Dimbokro 104.34 276 *e*P PKiKP 00 37 38.6 +2.0
DBIC LR LR
comp=Z,4µm,20.0s,MS6.0
RTC Rabat Centre 104.44 305 PFAKE 00 33 30.0 +11
RTC LR LR
comp=Z,1µm,20.0s,MS5.5
POHA Pohakuloa 104.80 70 PFAKE 00 33 30.0 +9.0
POHA LR LR
comp=Z,3µm,20.0s,MS5.8
TRIS Tristan da Cun 106.08 231 PFAKE 00 37 50.0 +11
TRIS LR LR
comp=Z,4µm,21.0s,MS5.9
TBI Tubuai 108.63 115 *e*PP PP 00 38 06.8 -3.3
comp=Z,307nm,25.8s
TBI Tubuai 108.63 115 *e*PS PS 00 47 34.4 -1.5
comp=Z,732nm,25.2s
TBI *e*SS SS 00 53 21.2 -4.1
comp=Z,2µm,26.8s
TBI Tubuai 108.63 115 *e*LR LR 01 09 36.0
comp=Z,5µm,28.5s
PPT Papeete 109.46 109 *e*PP PP 00 38 05.4 -11
comp=Z,484nm,27.5s
PPT Papeete 109.46 109 *e*LR LR 01 09 59.5
comp=Z,5µm,23.8s
PPT Papeete 109.46 109 *e*Pdif Pdif 00 33 43.2 +1.5
PPT *e*PP PP 00 38 05.4 -11
SIT Sitka 109.97 28 PFAKE 00 38 00.0 +14
SIT LR LR
comp=Z,4µm,20.0s,MS6.0
SFJD Kangerlussuaq 111.64 348 PFAKE 00 38 00.0 +11
SFJD LR LR
comp=Z,8µm,20.0s,MS6.3
WRAK Wrangell Islan 111.70 28 PFAKE 00 38 00.0 +11
WRAK LR LR
comp=Z,4µm,19.0s,MS6.1
PMSA Palmer Station 112.49 188 PFAKE 00 38 00.0 +10
PMSA LR LR
comp=Z,4µm,19.0s,MS6.0
ASCN Ascension 113.22 261 PFAKE 00 38 00.0 +6.8
ASCN LR LR
comp=Z,4µm,19.0s,MS6.0
YKA Yellowknife Ar 114.35 17 PKP PKiKP 00 37 52.1 -1.8
comp=Z,1.2nm,0.8s,baz=344,slow=2.1,SNR=4.3
YKA Yellowknife Ar 114.35 17 PKiKP PKiKP 00 37 52.1 -1.9
YKA pmax pmax
comp=Z,1.0nm,0.8s
CMLA Cha da Macela 118.17 312 *e*PP PP 00 39 13.1 -4.2

CMLA	Cha da Macela	118.17	312	ePS	PS	00 49 06.6	+2.6
CMLA				eSS	SS	00 55 31.6	+1.0
CMLA	Cha da Macela	118.17	312	eLQ		01 08 47.6	
CMLA				eLR	LR	01 15 31.7	
CMLA	Cha da Macela	118.17	312	PFAKE		00 38 10.0	+7.9
CMLA				LR	LR		
	comp=Z,2µm,19.0s,MS5.8						
NLWA	Neilton Lookou	121.16	33	PFAKE		00 38 20.0	+12
NLWA				LR	LR		
	comp=Z,5µm,22.0s,MS6.1						
RKT	Rikitea	121.61	119	eSP	SP	00 49 27.0	-4.2
	comp=Z,350nm,31.8s						
RKT				eSS	SS	00 56 11.6	-4.2
	comp=Z,2µm,27.2s						
RKT	Rikitea	121.61	119	eLR	LR	01 15 33.0	
	comp=Z,5µm,24.8s						
EDM	Edmonton	122.03	23	ePKIKP	PKPdf	00 38 08.4	-0.6
COR	Corvallis	123.14	35	PFAKE		00 38 20.0	+8.6
COR				LR	LR		
	comp=Z,3µm,19.0s,MS5.9						
EFI	East Falkland	123.40	197	PFAKE		00 38 20.0	+8.3
EFI				LR	LR		
	comp=Z,4µm,21.0s,MS6.1						
NEW	Newport	124.05	29	PFAKE		00 38 20.0	+6.9
NEW				LR	LR		
	comp=Z,3µm,21.0s,MS5.9						
RSW	Rattlesnake Hi	124.07	32	ePKPdf	PKPdf	00 38 13.1	-0.1
HAWA	Hanford	124.10	32	PFAKE		00 38 20.0	+6.8
HAWA				LR	LR		
	comp=Z,4µm,20.0s,MS6.0						
FFC	Flin Flon	124.42	15	ePKIKP	PKPdf	00 38 12.9	-0.7
FFC				e		00 39 57.9	
FFC				MLR	MLR		
	comp=Z,4µm,19.0s,MS6.1						
HUMO	Hull Mountain	124.50	37	PFAKE		00 38 30.0	+16
HUMO				LR	LR		
	comp=Z,3µm,20.0s,MS5.9						
YBH	Yreka Blue Hor	125.15	38	PKP	PKPdf	00 38 16.8	+1.5
	comp=Z,2.2nm,0.7s,baz=315,slow=1.4,SNR=3.0						
YBH	Yreka Blue Hor	125.15	38	PKP	PKPdf	00 38 16.8	+1.5
YBH				LR	LR		
	comp=Z,2µm,22.0s,MS5.8						
WDC	Whiskeytown Da	125.91	39	PFAKE		00 38 30.0	+13
WDC				LR	LR		
	comp=Z,3µm,21.0s,MS5.9						
BMO	Blue Mountains	126.29	32	PFAKE		00 38 30.0	+13
BMO				LR	LR		
	comp=Z,4µm,20.0s,MS6.0						
HOPS	Hopland	126.45	41	PFAKE		00 38 30.0	+12
HOPS				LR	LR		
	comp=Z,3µm,21.0s,MS5.9						
MOD	Modoc	126.50	36	PFAKE		00 38 30.0	+12
MOD				LR	LR		
	comp=Z,2µm,20.0s,MS5.9						
MSO	Missoula	126.58	28	PFAKE		00 38 30.0	+12
MSO				LR	LR		
	comp=Z,3µm,20.0s,MS6.0						
CHMT	Chamberlain Mo	126.84	28	ePKPdf	PKPdf	00 38 16.9	-1.5
MCCM	Marconi Confer	127.04	42	PFAKE		00 38 30.0	+11
MCCM				LR	LR		
	comp=Z,3µm,22.0s,MS5.8						
WVOR	Wild Horse Val	127.14	35	ePKIKP	PKPdf	00 38 19.1	-0.1
WVOR				e		00 40 19.0	
WVOR				MLR	MLR		
	comp=Z,2µm,20.0s,MS5.8						
EGMT	Eagleton	127.52	24	PFAKE		00 38 30.0	+10
EGMT				LR	LR		
	comp=Z,5µm,19.0s,MS6.2						
DLMT	Dillon	128.30	28	ePKPdf	PKPdf	00 38 21.4	+0.1
MCMT	McKenzie Canyo	128.57	29	eP	PKPdf	00 38 19.9	-1.9
HLID	Hailey	128.69	31	PFAKE		00 38 30.0	+7.9
HLID				LR	LR		
	comp=Z,5µm,21.0s,MS6.2						
CMB	Columbia Colle	128.73	40	PFAKE		00 38 30.0	+7.7
CMB				LR	LR		
	comp=Z,3µm,22.0s,MS5.9						
SAO	San Andreas Ge	128.74	42	PFAKE		00 38 30.0	+7.6
SAO				LR	LR		
	comp=Z,2µm,22.0s,MS5.8						
BMN	Battle Mountai	129.24	36	PFAKE		00 38 30.0	+6.8
BMN				LR	LR		
	comp=Z,2µm,19.0s,MS5.8						
QLMT	Earthquake Lak	129.24	28	ePKPdf	PKPdf	00 38 24.2	+1.1
DGMT	Dagmar	129.26	20	PFAKE		00 38 30.0	+7.0
DGMT				LR	LR		
	comp=Z,7µm,19.0s,MS6.3						
YMR	Madison River	129.58	28	PFAKE		00 38 40.0	+16
YMR				LR	LR		
	comp=Z,4µm,19.0s,MS6.1						
NVAR	Mina Array Bea	129.83	39	PKP	PKPdf	00 38 25.4	+1.0
	comp=Z,2.7nm,0.8s,baz=252,slow=2.2,SNR=14						
LKWY	Lake	129.93	28	PFAKE		00 38 40.0	+16
LKWY				LR	LR		
	comp=Z,6µm,21.0s,MS6.3						
ULM	Lac du Bonnet	130.00	13	PKP	PKPdf	00 38 24.0	-0.3
	comp=Z,6.0nm,0.7s,baz=14,slow=4.2,SNR=5.1						
ULM	Lac du Bonnet	130.00	13	PKP	PKPdf	00 38 24.0	-0.4
ULM				LR	LR		
	comp=Z,6µm,20.0s,MS6.3						
RLMT	Red Lodge	130.01	26	ePKPdf	PKPdf	00 38 24.1	-0.5
RLMT				ePP	PP	00 40 34.6	-1.3
RLMT				LR	LR		
	comp=Z,5µm,19.0s,MS6.2						
LAO	LASA Array	130.01	23	PFAKE		00 38 40.0	+15
LAO				LR	LR		
	comp=Z,3µm,19.0s,MS6.0						
ELK	Elko	130.18	34	PKP	PKPdf	00 38 25.1	+0.1
	comp=Z,1.8nm,0.6s,baz=278,slow=5.9,SNR=9.0						
ELK	Elko	130.18	34	PKP	PKPdf	00 38 25.1	+0.1
ELK				LR	LR		
	comp=Z,4µm,21.0s,MS6.0						
MTUM	Tungsten Hills	130.30	40	ePKPdf	PKPdf	00 38 25.9	+0.5
AHID	Auburn Hatcher	130.94	30	PFAKE		00 38 40.0	+14
AHID				LR	LR		
	comp=Z,4µm,19.0s,MS6.2						
HWUT	Hardware Ranch	131.56	31	ePKPdf	PKPdf	00 38 27.4	-0.2
BW06	Boulder Array	131.69	28	PFAKE		00 38 40.0	+12
BW06				LR	LR		
	comp=Z,3µm,19.0s,MS6.0						
PDAR	Pinedale Array	131.69	28	PKP	PKPdf	00 38 27.2	-0.6
	comp=Z,1.1nm,0.7s,baz=156,slow=1.2,SNR=7.7						
PDAR				SKP		00 42 03.1	
	comp=Z,1.1nm,0.6s,baz=354,slow=0.9,SNR=2.7						
DUG	Dugway	131.90	33	ePKIKP	PKPdf	00 38 28.5	+0.2
MVU	Marysvale	133.41	34	PFAKE		00 38 40.0	+8.8
MVU				LR	LR		
	comp=Z,2µm,20.0s,MS5.9						
MSU	Marysvale	133.42	34	ePKIKP	PKPdf	00 38 31.5	+0.3
MSU				e		00 40 57.1	
RWWY	Rawlins	133.63	28	ePKPdf	PKPdf	00 38 30.9	-0.6
BAR	Barrett	134.28	44	PFAKE		00 38 40.0	+7.0
BAR				LR	LR		
	comp=Z,2µm,20.0s,MS5.8						
PV10	Paradox Valley	135.24	32	ePKPdf	PKPdf	00 38 35.4	+0.7
PV01	Paradox Valley	135.67	32	ePKPdf	PKPdf	00 38 35.9	+0.5
PV01				ePP	PP	00 41 12.5	0.0
ECSD	EROS,Sioux Fal	135.88	17	ePKP	PKPdf	00 38 31.5	-4.1
ECSD				ePP	PP	00 41 11.0	-2.2
ECSD				LR	LR		
	comp=Z,4µm,20.0s,MS6.1						
MVCO	Mesa Verde	136.39	33	ePKPdf	PKPdf	00 38 36.1	-0.7
PLCA	Paso Flores	136.70	191	PKP	PKPdf	00 38 36.5	-0.8
	comp=Z,1.9nm,0.8s,baz=159,slow=8.4,SNR=3.1						
PLCA	Paso Flores	136.70	191	PKP	PKPdf	00 38 36.5	-0.8
PLCA				LR	LR		
	comp=Z,4µm,19.0s,MS6.1						
SADO	Sadowa	137.18	358	PKP	PKPdf	00 38 37.4	-0.6
	baz=44,slow=5.7						
SADO	Sadowa	137.18	358	PKP	PKPdf	00 38 37.4	-0.6
LPA	La Plata	137.75	208	ceP	Pdif	00 35 42.0	-5.5
LPA				ePKS		00 42 13.0	
TUC	Tucson	138.44	40	ePKIKP	PKPdf	00 38 40.4	-0.3
ANMO	Albuquerque	139.17	33	PKhKP		00 38 35.0	
	comp=Z,4.1nm,0.9s,baz=312,slow=1.9,SNR=10						
ANMO				PKP	PKPdf	00 38 42.6	+0.6
	comp=Z,2.0nm,0.6s,baz=270,slow=1.0,SNR=8.5						
ANMO	Albuquerque	139.17	33	PKP		00 38 35.0	
ANMO				PKP	PKPdf	00 38 42.6	+0.6
ANMO				LR	LR		
	comp=Z,4µm,20.0s,MS6.1						
LAZ	Ladron	139.19	34	ePKPdf	PKPdf	00 38 41.7	-0.4
LPM	Los Pinos Moun	139.55	34	ePKPdf	PKPdf	00 38 42.2	-0.5
BINY	Binghamton	139.55	355	PFAKE		00 38 50.0	+7.5
BINY				LR	LR		
	comp=Z,4µm,20.0s,MS6.2						
BNM	Barren Site	139.67	34	ePKP	PKPdf	00 38 36.8	-6.2
KSU1	Kansas State U	140.09	20	ePKPdf	PKPdf	00 38 42.9	-0.6
KSU1				LR	LR		
	comp=Z,5µm,22.0s,MS6.2						
HDIL	Hopedale	140.62	10	PFAKE		00 39 00.0	+16
HDIL				LR	LR		
	comp=Z,6µm,20.0s,MS6.3						
AMTX	Amarillo	141.67	28	PFAKE		00 39 00.0	+13
AMTX				LR	LR		
	comp=Z,3µm,19.0s,MS6.1						
OLIL	Olney	142.60	10	PKPdf	PKPdf	00 38 47.1	-1.0
WCI	Wyandotte Cave	143.36	7	ePKIKP	PKPdf	00 38 45.3	-4.1
BDFB	Brasilia	143.41	241	PKP	PKPdf	00 38 49.4	-0.7
	comp=Z,1.7nm,0.8s,baz=96,slow=27,SNR=2.8						
BDFB	Brasilia	143.41	241	PKP	PKPdf	00 38 49.4	-0.7
BDFB				LR	LR		
	comp=Z,3µm,21.0s,MS6.0						
CPUP	Villa Florida	144.12	217	PKP	PKPdf	00 38 50.4	-0.7
	comp=Z,15nm,0.9s,baz=142,slow=4.2,SNR=16						
ELN	Prospectdale	144.73	0	ePKPdf	PKPdf	00 38 49.3	-2.5
BLA	Blacksburg	144.75	360	ePKIKP	PKPdf	00 38 49.0	-2.9
TXAR	Lajitas Array	144.91	36	PKP	PKPdf	00 38 51.5	-0.8
	comp=Z,47nm,0.7s,baz=278,slow=1.3,SNR=179						
HALT	Halls	145.10	12	ePKP	PKPdf	00 38 51.2	-1.3
WVT	Waverly	145.18	10	ePKIKP	PKPdf	00 38 51.4	-1.3
MIAR	Mount Ida	145.24	19	ePKIKP	PKPdf	00 38 52.1	-0.7
TZTN	Tazewell	145.31	4	ePKP	PKPdf	00 38 51.7	-1.2
UALR	University of	145.41	17	ePKP	PKPdf	00 38 52.1	-0.9
BBSR	BB Station	146.08	335	ePKPdf	PKPdf	00 38 54.0	-0.3
BBSR				LR	LR		
	comp=Z,3µm,20.0s,MS6.0						
JCT	Junction City	146.16	31	ePKP2	PKPdf	00 38 54.5	0.0
TKL	Tuckaleechee C	146.17	5	PKPbc	PKPbc	00 38 53.6	-1.8
	comp=Z,28nm,0.7s,baz=133,slow=3.3,SNR=37						
CPCT	Cooper Cave	146.31	6	ePKPdf	PKPdf	00 38 54.7	+0.1
SWET	Sewanee	146.38	8	ePKPdf	PKPdf	00 38 54.3	-0.4
OXF	Oxford	146.43	13	ePKP2	PKPdf	00 38 55.2	+0.4
CNNC	Cliffs of the	146.62	356	ePKPdf	PKPdf	00 38 56.1	+0.9
NATX	Nacogdoches	147.38	23	ePKP	PKPdf	00 38 57.5	+1.0
JSC	Jenkinsville	147.67	1	ePKIKP	PKPdf	00 38 56.1	-0.8
LCO	Las Campanas	147.94	197	ePKPbc	PKPbc	00 39 01.3	+0.8
VBMS	Vicksburg	148.33	16	ePKPdf	PKPdf	00 38 58.0	-0.1
LRAL	Lakeview Retre	148.34	10	ePKPbc	PKPbc	00 39 00.3	-1.2
GOGA	Godfrey	148.43	5	ePKP2	PKPbc	00 39 00.6	-1.1
GOGA				MLR	MLR		
	comp=Z,6µm,19.0s,MS6.4						
HKT	Hockley	148.48	26	ePKP2	PKPbc	00 39 01.7	-0.2
COW	Cow Castle Cre	148.57	0	ePKPbc	PKPbc	00 39 01.9	-0.2
NHSC	New Hope	148.84	359	ePKPbc	PKPbc	00 39 02.6	-0.2
KVTX	Kingsville	149.51	31	PKPdf	PKPdf	00 38 59.2	-1.0
BRAL	Brewton	150.30	11	ePKPbc	PKPbc	00 39 05.1	-1.3
LVC	Limon Verde	153.19	205	ePKPbc	PKPbc	00 39 14.0	+0.7
BBGH	Gun Hill	156.29	299	PFAKE		00 39 20.0	+10
BBGH				LR	LR		
	comp=Z,3µm,20.0s,MS6.2						
MTP	Monte Pirata	158.06	319	ePKPdf	PKPdf	00 39 12.2	-0.3
LPAZ	La Paz	158.21	214	PKP	PKPdf	00 39 13.3	+0.6
	comp=Z,2.3nm,0.9s,baz=52,slow=3.6,SNR=9.2						
TGUH	Tegucigalpa,Un	166.15	28	PKPdf	PKPdf	00 39 20.6	-0.1
OTAV	Otavalo	177.34	235	ePKPdf	PKPdf	00 39 25.7	-0.5
OTAV				PKPab	PKPab	00 41 12.0	+0.9

*ISCJB **10** 00:37:44.1±1.6, 5622N±006×1527W±0.1, h23km±10km, mb4.0/11, Error ellipse: s-maj=13.6km s-min=7.8km az=32.7*

*NEIC **10** 00:37:46.3, 5623N×15287W, h10km, ML3.1(PMR), ML3.4(AEIC), After AEIC.*

*IDC **10** 00:37:52.0±4.6, 5656N×15288W, h52km±30km, mb3.7/12, mb1 3.8/12, mb1mx3.7/24, mbtmp3.7/12, Error ellipse: s-maj=37.9km s-min=24.7km az=154.0*

ISC 10 00:37:45.7±2.0**, 5628N**±005×**1529W**±01**, h15**km±13km**, n28, σ1s13**/38**, mb4.0**/11**, Kodiak Island region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OHAK	Old Harbor	0.97	348	P	Pb	00 38 04.0	-0.1
OHAK				S	Sb	00 38 18.5	+1.9
KDAK	Kodiak Island	1.52	7	P	Pn	00 38 11.8	-0.4
	116nm,0.3s,baz=195,slow=7.9,SNR=2555						
KDAK				S	Sn	00 38 28.8	-2.9
	31nm,0.3s,baz=190,slow=17,SNR=14						
KDAK	Kodiak Island	1.52	7	P	Pn	00 38 11.7	-0.5
KDAK				S	Sn	00 38 30.4	-1.4
SEW	Seward	4.26	24	P	Pn	00 38 49.7	-0.1
SEW				S	Sn	00 39 39.7	+0.6
SDPT	Sand Point	4.36	261	P	Pn	00 38 51.0	-0.2
SDPT				S	Sn	00 39 40.3	-1.3
SLKM	Skilak Lake	4.48	17	ePn	Pn	00 38 51.7	-1.1
SLKM				eSn	Sn	00 39 41.8	-2.7
SVW2	Sparrevohn	5.03	345	P	Pn	00 39 00.9	+0.5
SVW2				eSn	Sn	00 39 56.6	-1.5
RC01	Rabbit Creek A	5.11	18	ePn	Pn	00 39 00.2	-1.2
	31nm,0.9s						
RC01				eSn	Sn	00 40 02.4	+2.4
PPLA	Purkeypile	6.65	3	ePn	Pn	00 39 23.8	+1.1
PPLA				Sn	Sn	00 40 40.9	+2.9
TRF	Thorofare Moun	7.32	9	P	Pn	00 39 31.4	-0.4
PNL	Peninsula	7.95	59	P	Pn	00 39 40.0	-0.5
PNL				eSn	Sn	00 41 05.1	-4.9
ILB	Eielson Array	9.02	17	P	Pn	00 39 53.7	-1.4
YKA	Yellowknife Ar	20.24	56	P	P	00 42 21.7	+1.9
	1.2nm,0.5s,baz=270,slow=12,SNR=5.1						
YKA	Yellowknife Ar	20.24	56	P	P	00 42 21.7	+1.9
PETK	Petropavlovsk-	28.22	285	P	P	00 43 40.1	+2.7
	1.7nm,0.8s,mb3.8,baz=77,slow=15,SNR=2.3						
ARCES	ARCESS Array B	54.49	1	P	P	00 47 11.6	-0.3
	5.7nm,1.0s,mb4.5,baz=3.8,slow=7.3,SNR=7.7						
ARCES	ARCESS Array B	54.49	1	P	P	00 47 11.6	-0.3
SONM	Songino Array	57.06	308	P	P	00 47 31.4	+0.8
	1.9nm,0.6s,mb4.3,baz=49,slow=5.2,SNR=7.7						
ZALV	Zalesovo Beam	60.43	325	P	P	00 47 54.4	+0.5
	2.3nm,0.6s,mb4.4,baz=33,slow=7.0,SNR=11						
NOA	NORSAR Array B	62.36	9	P	P	00 48 06.7	-0.1
	0.6nm,0.8s,mb3.8,baz=351,slow=6.7,SNR=3.5						
KURK	Kurchatov	65.15	327	P	P	00 48 25.8	+0.4
	0.6nm,0.3s,mb4.1,baz=26,slow=6.5,SNR=3.5						
BVAR	Borovoye Array	65.40	333	P	P	00 48 27.3	+0.3
	2.0nm,0.7s,mb4.3,baz=31,slow=8.8,SNR=9.6						
MKAR	Makanchi Array	67.39	322	P	P	00 48 39.9	+0.1
	0.7nm,0.5s,mb4.0,baz=38,slow=6.3,SNR=8.0						
MKAR	Makanchi Array	67.39	322	P	P	00 48 39.9	+0.1
AKTK	Aktyubinsk	70.60	340	P	P	00 48 59.5	-0.1
AKTO	Aktyubinsk	70.60	340	P	P	00 48 59.5	-0.1
	1.6nm,0.6s,mb4.2,baz=29,slow=7.4,SNR=5.9						
AKASG	Malin Array Be	73.38	359	P	P	00 49 16.1	-0.2
	0.5nm,0.4s,mb3.8,baz=336,slow=6.5,SNR=3.3						
GERES	GERESS Array B	74.66	9	P	P	00 49 23.7	-0.1
	0.2nm,0.5s,mb3.3,baz=348,slow=4.4,SNR=4.1						

*ISCJB **10** 00:44:44.3±1.3, 5635N±004×15281W±0.10, h8km±8km, mb3.9/17, Error ellipse: s-maj=9.2km s-min=6.4km az=20.3*

*IDC **10** 00:44:45.1±0.8, 5639N×15298W, h0km, mb4.0/18, mb1 4.1/18, mb1mx4.1/23, mbtmp4.0/18, Error ellipse: s-maj=19.7km s-min=15.4km az=24.0*

*NEIC **10** 00:44:46.9, 5621N×15287W, h10km, ML3.6(AEIC), After AEIC.*

ISC 10 00:44:47.3±1.4**, 5635N**±004×**15289W**±009**, h14**km±8km**, n41, σ0s91**/49**, mb3.9**/17**, Kodiak Island region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OHAK	Old Harbor	0.91	346	P	Pb	00 45 04.8	+0.1
OHAK				S	Sb	00 45 19.5	+2.9
KDAK	Kodiak Island	1.45	6	Pn	Pn	00 45 12.7	-0.3
	baz=200,slow=9.8						
KDAK				Sn	Sn	00 45 30.3	-1.5
	59nm,0.3s,baz=180,slow=20,SNR=17						
KDAK	Kodiak Island	1.45	6	P	Pn	00 45 12.6	-0.5
KDAK				S	Sn	00 45 31.4	-0.3
SEW	Seward	4.18	24	P	Pn	00 45 50.0	-0.5
SEW				S	Sn	00 46 39.4	+0.3
SLKM	Skilak Lake	4.40	17	ePn	Pn	00 45 52.4	-1.2
SLKM				ePg	Pg	00 46 11.8	+0.4
SLKM				eSn	Sn	00 46 41.6	-3.0
SVW2	Sparrevohn	4.97	345	P	Pn	00 46 01.8	+0.5
RC01	Rabbit Creek A	5.03	18	P	Pn	00 46 01.5	-0.7
RC01				eSn	Sn	00 47 01.2	+1.1
RAGM	Ragged Mountai	5.92	43	P	Pn	00 46 13.5	-0.9
SML	Sawmill	5.96	21	P	Pn	00 46 15.6	+0.7
PPLA	Purkeypile	6.58	3	ePn	Pn	00 46 23.6	+0.2
	28nm,1.1s						
PPLA				eSn	Sn	00 47 40.5	+2.3
TRF	Thorofare Moun	7.25	9	P	Pn	00 46 32.6	0.0
KTH	Kantishna Hill	7.30	7	P	Pn	00 46 33.5	+0.2
CHUM	Lake Minchumin	7.57	2	ePn	Pn	00 46 38.1	+1.2
	13nm,0.8s						
MCK	McKinley	7.67	13	ePn	Pn	00 46 38.1	-0.2
	14nm,0.9s						
MCK				eSn	Sn	00 48 03.8	-1.1
BPAW	Bear Paw Mtn.	7.84	6	P	Pn	00 46 39.8	-0.8
PNL	Peninsula	7.90	60	P	Pn	00 46 40.4	-1.1
PNL				eSn	Sn	00 48 11.9	+1.3
ILB	Eielson Array	8.95	17	P	Pn	00 46 54.6	-1.3
IMA2	Indian Mountai	9.76	358	ePn	Pn	00 47 08.6	+1.6
DIB	Dawson Inlet,	12.19	96	T		01 00 02.4	
	SNR=4.6						
YKA	Yellowknife Ar	20.18	57	P	P	00 49 21.1	+0.2
	2.7nm,0.8s,baz=267,slow=11,SNR=7.4						
PETK	Petropavlovsk-	28.22	284	P	P	00 50 40.3	+1.1
	2.1nm,0.8s,mb3.8,baz=66,slow=12,SNR=3.0						
NVAR	Mina Array Bea	29.05	113	P	P	00 50 47.5	+0.7
	0.3nm,0.6s,mb3.2,baz=293,slow=14,SNR=2.3						
PDAR	Pinedale Array	30.66	98	P	P	00 51 01.5	+0.6
	0.4nm,0.7s,mb3.4,baz=318,slow=7.3,SNR=2.3						
TXAR	Lajitas Array	43.75	107	P	P	00 52 53.3	+1.3
	0.2nm,0.5s,mb3.1,baz=294,slow=2.9,SNR=2.2						
SPITS	Spitsbergen Ar	45.57	3	P	P	00 53 06.0	0.0
	2.3nm,0.5s,mb4.4,baz=22,slow=11,SNR=4.7						
SPITS	Spitsbergen Ar	45.57	3	P	P	00 53 06.0	0.0
MJAR	Matsushiro Arr	49.17	277	P	P	00 53 34.3	-0.2
	0.9nm,0.5s,mb4.1,baz=63,slow=5.8,SNR=3.1						
KSRS	Korea Array	54.12	285	P	P	00 54 11.6	+0.1
	0.7nm,0.3s,mb4.0,baz=54,slow=5.8,SNR=2.7						
ARCES	ARCESS Array B	54.42	1	P	P	00 54 12.4	-0.7
	3.3nm,0.8s,mb4.3,baz=10,slow=6.9,SNR=8.6						
SONM	Songino Array	57.04	308	P	P	00 54 32.4	+0.1
	2.0nm,0.5s,mb4.4,baz=35,slow=5.6,SNR=7.8						
ZALV	Zalesovo Beam	60.38	325	P	P	00 54 54.8	-0.6
	3.0nm,0.6s,mb4.5,baz=34,slow=7.3,SNR=17						
NB2	NORSAR Subarra	62.29	9	P	P	00 55 08.0	-0.2
	comp=Z,0.7nm,0.6s,mb4.0,baz=349,slow=6.9						
NOA	NORSAR Array B	62.29	9	P	P	00 55 07.8	-0.4
	comp=Z,1.6nm,0.8s,mb4.2,baz=350,slow=6.8,SNR=5.4						
NOA	NORSAR Array B	62.29	9	P	P	00 55 07.8	-0.4
KURK	Kurchatov	65.11	327	P	P	00 55 26.4	-0.6
	comp=Z,1.7nm,0.9s,mb4.1,baz=34,slow=6.4,SNR=3.8						
MKAR	Makanchi Array	67.35	322	P	P	00 55 40.6	-0.8
	comp=Z,1.0nm,0.5s,mb4.1,baz=42,slow=6.7,SNR=10						
AKASG	Malin Array Be	73.31	359	P	P	00 56 17.1	-0.6
	comp=Z,0.9nm,0.4s,mb4.0,baz=3.6,slow=5.9,SNR=4.1						
GERES	GERESS Array B	74.58	9	P	P	00 56 25.1	-0.1
	comp=Z,0.3nm,0.6s,mb3.4,baz=351,slow=4.5,SNR=4.8						
ESDC	Sonseca Array	80.78	24	P	P	00 57 00.4	+0.4
	comp=Z,0.9nm,0.8s,mb3.8,baz=342,slow=5.1,SNR=4.3						
CMAR	Chiang Mai Arr	84.46	295	P	P	00 57 19.2	-0.3
	comp=Z,0.6nm,0.4s,mb4.1,baz=19,slow=5.7,SNR=3.7						
QSPA	South Pole Qui	146.13	180	PKPbc	PKPbc	01 04 24.9	-0.1
	comp=Z,1.2nm,0.7s,baz=72,slow=1.0,SNR=4.6						

*BJI **10** 00:57:41.6, 5600N×15250W, h4km, mB5.0, mb4.8, Ms4.5, Msz4.3*

*NEIC **10** 00:57:41.7, 5595N×15250W, h4km, mb4.8/11, MS4.6/2, ML3.9(PMR), ML4.3(AEIC), After AEIC.*

*ISCJB **10** 00:57:45.5±1.6, 5646N±004×15295W±008, h10km±9km, mb4.4/36, MS4.6/2, Error ellipse: s-maj=8.4km s-min=5.6km az=37.1*

*IDC **10** 00:57:51.5±2.4, 5640N×15294W, h45km±20km, mb4.0/22, mb1 4.2/22, mb1mx4.2/25, mbtmp4.1/22, Error ellipse: s-maj=18.8km s-min=10.5km az=33.0*

ISC 10 00:57:47.1±1.4**, 5640N**±004×**15295W**±008**, h11**km±8km**, h12**km±.3km**:pP-P, n101, σ1s05**/112**, mb4.4**/36**, MS4.6**/2**, 8C-9D, Kodiak Island region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OHAK	Old Harbor	0.85	348	P	Pg	00 58 05.0	+1.5
OHAK				S	Sg	00 58 24.6	+10
KDAK	Kodiak Island	1.40	8	P	Pn	00 58 12.8	+0.2
	355nm,0.3s,baz=194,slow=8.1,SNR=7309						
KDAK				S	Sn	00 58 32.4	+1.3
	221nm,0.3s,baz=180,slow=19,SNR=4.0						
KDAK	Kodiak Island	1.40	8	P	Pn	00 58 12.4	-0.1
AUL	Augustine Lava	3.00	355	P	Pn	00 58 35.0	+0.4
SEW	Seward	4.15	25	P	Pn	00 58 48.9	-1.4
SLKM	Skilak Lake	4.37	18	ePn	Pn	00 58 53.1	-0.2
SLKM				eSn	Sn	00 59 43.4	-0.7
SDPT	Sand Point	4.37	259	eP	Pn	00 59 02.5	+9.2
SDPT				eSn	Sn	00 59 43.2	-0.8
SVW2	Sparrevohn	4.91	345	P	Pn	00 59 02.0	+1.3
RC01	Rabbit Creek A	5.00	18	P	Pn	00 59 00.5	-1.4
FIB	Fire Island	5.00	16	ePn	Pn	00 59 02.6	+0.7
FIB				eSn	Sn	01 00 04.2	+4.6
PMR	Palmer	5.57	19	ePn	Pn	00 59 09.6	-0.2
	82nm,0.8s						
PMR				eSn	Sn	01 00 14.1	+0.3
EYAK	Cordova Ski Ar	5.62	39	ePn	Pn	00 59 06.7	-3.8
EYAK				eSn	Sn	01 00 13.0	-2.0
RAGM	Ragged Mountai	5.91	44	P	Pn	00 59 10.9	-3.6
PPLA	Purkeypile	6.53	3	P	Pn	00 59 23.0	0.0
TRF	Thorofare Moun	7.20	10	P	Pn	00 59 31.8	-0.4
KTH	Kantishna Hill	7.25	7	P	Pn	00 59 32.0	-0.8
CHUM	Lake Minchumin	7.52	2	ePn	Pn	00 59 36.8	+0.4
	14µm,0.6s						
CHUM				eSn	Sn	01 01 07.8	+6.3
MCK	McKinley	7.63	14	P	Pn	00 59 36.4	-1.6
MCK				eSn	Sn	01 01 06.5	+2.2
BPAW	Bear Paw Mtn.	7.79	6	P	Pn	00 59 37.9	-2.3
PNL	Peninsula	7.91	60	ePn	Pn	00 59 37.5	-4.3
	63nm,0.5s						
PNL				eSn	Sn	01 01 06.7	-4.4
COLA	College	8.86	14	ePn	Pn	00 59 54.8	-0.1
	24nm,0.8s						
COLA				eSn	Sn	01 01 30.5	-4.1
ILB	Eielson Array	8.91	17	P	Pn	00 59 53.2	-2.4
IMA2	Indian Mountai	9.71	358	ePn	Pn	01 00 07.5	+1.0
SKAG	Skagway	9.86	65	ePn	Pn	01 00 01.0	-7.5
SKAG				eSn	Sn	01 01 49.2	-10
DAWY	Dawson	10.21	36	ePn	Pn	01 00 13.3	0.0
DAWY				eSn	Sn	01 02 07.4	-0.1
DIB	Dawson Inlet,	12.23	97	T		01 13 01.9	
	SNR=17						
YKA	Yellowknife Ar	20.18	57	P	P	01 02 21.3	0.0
	7.9nm,0.8s,baz=267,slow=11,SNR=14						
YBH	Yreka Blue Hor	24.39	114	P	P	01 03 06.4	+1.3
	2.5nm,0.5s,mb3.9,baz=52,slow=12,SNR=4.5						
PETK	Petropavlovsk-	28.18	284	P	P	01 03 40.5	+1.4
	2.4nm,0.6s,mb4.0,baz=79,slow=11,SNR=6.5						
ELK	Elko	29.00	107	P	P	01 03 46.6	0.0
	1.0nm,0.5s,mb3.8,baz=301,slow=11,SNR=6.0						
NVAR	Mina Array Bea	29.11	113	P	P	01 03 48.0	+0.4
	1.7nm,0.7s,mb3.9,baz=306,slow=9.0,SNR=10.0						
PDAR	Pinedale Array	30.70	98	P	P	01 04 02.2	+0.6
	1.1nm,0.5s,mb3.9,baz=315,slow=4.4,SNR=11						
ULM	Lac du Bonnet	33.77	76	P	P	01 04 28.0	-0.5
	4.0nm,0.8s,mb4.4,baz=291,slow=8.6,SNR=2.6						
TXAR	Lajitas Array	43.80	107	P	P	01 05 52.2	-0.5
	0.8nm,0.8s,mb3.5,baz=316,slow=3.8,SNR=7.1						
TXAR				PcP	PcP	01 07 39.7	+0.6
	0.6nm,0.7s,baz=69,slow=4.9,SNR=3.8						
TXAR	Lajitas Array	43.80	107	P	P	01 05 52.2	-0.5
TXAR				PcP	PcP	01 07 39.7	+0.6
DAG	Danmarks Havn	44.00	14	⇓iP	P	01 05 54.0	+0.3
	8.0nm,0.6s,mb4.6						
MJAR	Matsushiro Arr	49.13	277	P	P	01 06 33.7	-0.7
	1.4nm,0.6s,mb4.2,baz=38,slow=5.9,SNR=4.6						
KSRS	Korea Array	54.07	285	P	P	01 07 11.9	+0.5
	2.2nm,0.6s,mb4.2,baz=40,slow=6.7,SNR=7.0						
ARCES	ARCESS Array B	54.37	1	P	P	01 07 12.8	-0.3
	3.7nm,0.6s,mb4.5,baz=12,slow=7.2,SNR=21						
SONM	Songino Array	56.98	308	P	P	01 07 32.8	+0.6
	6.0nm,0.7s,mb4.8,baz=46,slow=6.3,SNR=25						
BJI	Beijing	58.26	295	P	P	01 07 35.5	-5.8
	8.0nm,0.6s,mb4.9						
ZALV	Zalesovo Beam	60.32	325	P	P	01 07 55.5	+0.2
	8.9nm,0.7s,mb4.9,baz=34,slow=7.1,SNR=36						
NB2	NORSAR Subarra	62.24	9	P	P	01 08 08.3	+0.1
	comp=Z,7.8nm,1.1s,mb4.8,baz=350,slow=6.9						
NOA	NORSAR Array B	62.24	9	P	P	01 08 08.2	0.0
	comp=Z,3.3nm,0.8s,mb4.5,baz=349,slow=6.7,SNR=12						
ARU	Arti	64.67	341	eP	P	01 08 22.0	-2.4
	comp=Z,4.1nm,0.6s,mb4.6						
KURK	Kurchatov	65.05	327	P	P	01 08 27.4	+0.5

comp=Z,3.3nm,0.6s,mb4.5,baz=28,slow=6.8,SNR=17
BRVK Borovoye 65.28 333 *e*P **P 01 08 27.8 -0.6**
comp=Z,8.9nm,0.8s,mb4.8
BVAR Borovoye Array 65.28 333 P **P 01 08 28.2 -0.2**
comp=Z,6.4nm,0.6s,mb4.8,baz=31,slow=5.7,SNR=36
GTA Gaotai 66.55 306 *e*P **P 01 08 36.6 -0.2**
GTA AP pP 01 08 49.1 +8.8
GTA AMB AMB
comp=Z,3.0nm,0.8s,mb4.4
XAN Xi'an 66.56 296 P **P 01 08 35.7 -1.2**
XAN AP pP 01 08 39.3 -1.2
XAN AMB AMB
comp=Z,3.0nm,1.2s,mb4.2
XAN AMB AMB
comp=Z,705nm,19.2s
MK31 Makanchi Array 67.29 322 *e*P **P 01 08 41.0 -0.3**
MKAR Makanchi Array 67.29 322 P **P 01 08 41.0 -0.4**
comp=Z,2.7nm,0.5s,mb4.5,baz=37,slow=6.5,SNR=33
LZH Lanzhou 67.39 301 *e*P **P 01 08 39.0 -3.1**
LZH *e*PP PP 01 11 10.5 +0.3
LZH AMB AMB
comp=Z,16nm,1.5s,mb4.8
LZH AMB AMB
comp=Z,95nm,6.2s
LZH LR LR
comp=E,157nm,16.2s
LZH LR LR
comp=Z,193nm,18.7s,MS4.3
LZH Lanzhou 67.39 301 *e*P **P 01 08 39.0 -3.1**
comp=Z,16nm,1.5s,mb4.8
LZH pP pP 01 08 42.3 -3.4
LZH sP sP 01 08 43.8 -3.2
LZH *e*PP PP 01 11 10.5 +0.3
LZH LR LR
comp=Z,190nm,18.7s,MS4.3
AKTK Aktyubinsk 70.48 340 P **P 01 09 00.4 -0.7**
AKTO Aktyubinsk 70.48 340 P **P 01 09 00.4 -0.7**
comp=Z,4.4nm,0.6s,mb4.6,baz=34,slow=4.9,SNR=15
BAIF Baives 72.23 15 *e*P **P 01 09 12.5 +0.8**
DPC Dobruska-Polom 73.25 7 *e*P **P 01 09 18.4 +0.6**
AKASG Malin Array Be 73.25 359 P **P 01 09 16.7 -1.1**
comp=Z,3.3nm,0.6s,mb4.5,baz=4.1,slow=6.5,SNR=9.7
AKASG Malin Array Be 73.25 359 P **P 01 09 16.7 -1.1**
GYA Guiyang 73.83 293 P **P 01 09 20.8 -0.8**
GYA AMB AMB
comp=Z,10.0nm,1.0s,mb4.7
KHC Kasperske Hory 74.24 9 *e*P **P 01 09 25.1 +1.5**
KWP Kalwaria 74.28 3⇑*i*P **P 01 09 24.6 +0.8**
KWP Kalwaria 74.28 3 ⇑P **P 01 09 24.6 +0.8**
STHS Stebnicka Huta 74.44 4 *e*P **P 01 09 25.9 +1.1**
GERES GERESS Array B 74.54 9 P **P 01 09 25.3 -0.1**
comp=Z,1.0nm,0.6s,mb4.0,baz=347,slow=4.2,SNR=12
LOR Lormes 74.90 16 *e*P **P 01 09 28.1 +0.7**
KOLS Kolonicke sedl 74.96 3 *e*P **P 01 09 29.9 +2.1**
CRVS Cervenica-Dubn 74.97 4 *e*P **P 01 09 26.9 -0.9**
SSF Saint Saulge 75.04 16 *e*P **P 01 09 28.9 +0.6**
comp=Z,3.2nm,0.5s,mb4.2
SSF Saint Saulge 75.04 16 *e*P **P 01 09 28.9 +0.6**
comp=Z,1.6nm,0.5s,mb4.2
VYHS Vyhne 75.25 6 *e*P **P 01 09 29.7 +0.2**
AVF Avril sur Loir 75.28 17 *e*P **P 01 09 30.0 +0.3**
BGF Bois d'Agland 75.43 17 *e*P **P 01 09 31.7 +1.2**
TCF Toulx Ste Croi 75.59 18 *e*P **P 01 09 31.9 +0.5**
BURAR Bucovina Array 76.35 1⇓*i*P **P 01 09 36.0 +0.3**
BURAR Bucovina Array 76.35 1 ⇓P **P 01 09 36.0 +0.2**
LFF La Frestale 76.64 19 *e*P **P 01 09 37.9 +0.5**
comp=Z,12nm,0.9s,mb4.5
LFF La Frestale 76.64 19 *e*P **P 01 09 37.9 +0.5**
comp=Z,6.2nm,0.9s,mb4.5
KMI Kunming 76.92 296 P **P 01 09 34.7 -4.6**
comp=Z,8.0nm,0.6s,mb4.8
KMI pP pP 01 09 38.2 -4.7
KMI sP sP 01 09 40.0 -4.3
KMI LR LR
comp=Z,530nm,19.9s,MS4.9
ORIF Oris-en-Rattie 77.50 15 *e*P **P 01 09 43.0 +0.7**
comp=Z,10nm,1.0s,mb4.4
ORIF Oris-en-Rattie 77.50 15 *e*P **P 01 09 43.0 +0.7**
comp=Z,5.2nm,1.0s,mb4.4
BZS Buzias 78.25 4⇓*i*P **P 01 09 46.9 +0.4**
BZS Buzias 78.25 4 ⇓P **P 01 09 46.9 +0.5**
ETSF Etsaut 78.37 20 *e*P **P 01 09 48.9 +1.8**
comp=Z,17nm,1.1s,mb4.6
ETSF Etsaut 78.37 20 *e*P **P 01 09 48.9 +1.8**
comp=Z,8.4nm,1.1s,mb4.6
MLR Muntele Rosu 78.48 1⇓*i*P **P 01 09 49.9 +2.2**
MLR Muntele Rosu 78.48 1 ⇓P **P 01 09 49.9 +2.2**
GZR Gura Zlata 78.52 3⇑*i*P **P 01 09 47.8 -0.1**
GZR Gura Zlata 78.52 3 ⇑P **P 01 09 47.8 -0.1**
VOIR 78.52 1⇑*i*P **P 01 09 49.6 +1.6**
VOIR 78.52 1 ⇑P **P 01 09 49.6 +1.6**
KIV Kislovodsk 79.15 349⇑*i*P **P 01 09 50.8 -0.6**
KIV Kislovodsk 79.15 349 ⇑P **P 01 09 50.8 -0.6**
ESDC Sonseca Array 80.75 24 P **P 01 10 00.5 +0.3**
comp=Z,1.0nm,0.5s,mb4.0,baz=338,slow=5.2,SNR=11
VTS Vitosha 81.33 3⇓*i*P **P 01 09 53.3 -10**
VTS Vitosha 81.33 3 ⇓P **P 01 09 53.4 -10**
BR131 Keskin Array S 84.08 355 *e*P **P 01 10 15.5 -2.1**
comp=Z,1.4nm,0.6s,mb4.3
CMAR Chiang Mai Arr 84.40 295 P **P 01 10 17.2 -2.3**
comp=Z,1.5nm,0.3s,mb4.6,baz=17,slow=5.1,SNR=7.7
KEST Kesra 87.00 14 P **P 01 10 30.8 -1.4**
comp=Z,0.9nm,1.0s,mb4.0,baz=53,slow=5.1,SNR=3.6
QSPA South Pole Qui 146.19 180 PKPbc PKPbc 01 17 23.6 -1.8
comp=Z,1.3nm,0.7s,baz=108,slow=0.9,SNR=3.9

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*ISCJB **10** 01:16:45.2±2.1, 5637N±005×1528W±0.1, h8km±13km, mb3.9/14, Error ellipse: s-maj=12.3km s-min=8.0km az=175.5*
*IDC **10** 01:16:45.5±0.9, 5635N×15299W, h0km, mb4.0/15, mb1 4.2/15, mb1mx4.2/22, mbtmp4.0/15, Error ellipse: s-maj=23.1km s-min=15.6km az=33.0*
*NEIC **10** 01:16:48.0, 5623N×15289W, h12km, ML3.9(AEIC), After AEIC.*
ISC 10 01:16:48.7±2.3**, 5637N**±005×**1528W**±01**, h19**km±14km**, n39, σ0.89**/42**, mb3.9**/14**, Kodiak Island region**

Code Station Name Δ° AZ° Phase ID (Op ISC) Time (h m s) Res ISC
OHAK Old Harbor 0.90 343 P **Pb 01 17 05.7 -0.1**
OHAK S **Sb 01 17 19.9 +2.5**
KDAK Kodiak Island 1.43 5 Pn **Pn 01 17 13.4 -0.2**
128nm,0.3s,baz=198,slow=7.0,SNR=289
KDAK Sn **Sn 01 17 31.4 -0.5**
216nm,0.3s,baz=188,slow=9.8,SNR=46
KDAK Kodiak Island 1.43 5 P **Pn 01 17 13.4 -0.1**
KDAK S **Sn 01 17 32.5 +0.7**
SEW Seward 4.15 24 P **Pn 01 17 49.9 -1.0**
SLKM Skilak Lake 4.37 17 *e*Pn **Pn 01 17 53.2 -0.8**
SVW2 Sparrevohn 4.96 344 P **Pn 01 18 02.5 +0.3**
RC01 Rabbit Creek A 5.00 17 P **Pn 01 18 02.4 -0.2**
RC01 S **Sn 01 18 59.8 0.0**
PMR Palmer 5.58 18 *e*Pn **Pn 01 18 09.5 -1.0**
24nm,0.7s
EYAK Cordova Ski Ar 5.59 38 P **Pn 01 18 10.3 -0.5**
PPLA Purkeypile 6.56 2 *e*Pn **Pn 01 18 24.8 +0.8**
43nm,0.9s
TRF Thorofare Moun 7.22 9 P **Pn 01 18 33.2 +0.1**
KTH Kantishna Hill 7.27 7 P **Pn 01 18 34.1 +0.3**
CHUM Lake Minchumin 7.55 2 *e*Pn **Pn 01 18 39.0 +1.5**
37nm,1.0s
PAX Paxson 7.59 26 P **Pn 01 18 38.5 +0.3**
MCK McKinley 7.64 13 P **Pn 01 18 38.9 +0.1**
BPAW Bear Paw Mtn. 7.81 6 *e*Pn **Pn 01 18 40.5 -0.7**
12nm,0.7s
PNL Peninsula 7.85 60 *e*Pn **Pn 01 18 40.4 -1.3**
22nm,0.4s
ILB Eielson Array 8.92 17 P **Pn 01 18 55.4 -0.9**
IMA2 Indian Mountai 9.75 358 *e*Pn **Pn 01 19 08.6 +0.8**
DIB Dawson Inlet, 12.14 97 T 01 32 05.9
SNR=5.0
YKA Yellowknife Ar 20.12 57 P **P 01 21 22.4 +1.2**
4.1nm,0.9s,baz=270,slow=11,SNR=8.8
YBH Yreka Blue Hor 24.30 114 P **P 01 22 05.5 +0.8**
2.5nm,1.0s,mb3.6,baz=287,slow=11,SNR=3.6
NVAR Mina Array Bea 29.01 113 P **P 01 22 48.7 +1.5**
1.0nm,0.7s,mb3.7,baz=289,slow=9.2,SNR=5.8
NVAR Mina Array Bea 29.01 113 P **P 01 22 48.7 +1.5**
PDAR Pinedale Array 30.61 98 P **P 01 23 02.3 +1.0**
0.4nm,0.6s,mb3.4,baz=323,slow=7.3,SNR=3.2
TXAR Lajitas Array 43.70 107 P **P 01 24 52.5 +0.2**
0.2nm,0.6s,mb3.0,baz=337,slow=5.8,SNR=3.9
KSRS Korea Array 54.16 285 P **P 01 26 12.0 -0.5**
1.2nm,0.6s,mb4.0,baz=42,slow=7.9,SNR=3.6
ARCES ARCESS Array B 54.40 1 P **P 01 26 11.8 -2.0**
2.2nm,0.6s,mb4.3,baz=352,slow=7.7,SNR=8.0
ARCES ARCESS Array B 54.40 1 P **P 01 26 11.8 -2.0**
SONM Songino Array 57.07 308 P **P 01 26 33.5 +0.3**
3.3nm,0.7s,mb4.5,baz=55,slow=5.4,SNR=11
ZALV Zalesovo Beam 60.40 325 P **P 01 26 56.4 +0.2**
4.7nm,0.7s,mb4.7,baz=34,slow=7.1,SNR=20
ZALV Zalesovo Beam 60.40 325 P **P 01 26 56.4 +0.2**
NB2 NORSAR Subarra 62.26 9 P **P 01 27 08.9 +0.2**
comp=Z,1.2nm,0.7s,mb4.1,baz=349,slow=6.9
NOA NORSAR Array B 62.26 9 P **P 01 27 09.2 +0.5**
comp=Z,1.8nm,0.8s,mb4.3,baz=352,slow=6.6,SNR=7.3
MKAR Makanchi Array 67.37 322 P **P 01 27 41.6 -0.6**
comp=Z,1.3nm,0.6s,mb4.2,baz=40,slow=7.6,SNR=7.1
AKASG Malin Array Be 73.29 359 P **P 01 28 16.9 -1.5**
comp=Z,1.7nm,0.6s,mb4.2,baz=4.1,slow=5.7,SNR=6.3
GERES GERESS Array B 74.56 9 P **P 01 28 25.3 -0.5**
comp=Z,0.5nm,0.6s,mb3.6,baz=8.6,slow=4.5,SNR=7.0
ESDC Sonseca Array 80.75 24 P **P 01 29 01.5 +1.1**
comp=Z,0.4nm,0.7s,mb3.5,baz=336,slow=4.6,SNR=5.5
CMAR Chiang Mai Arr 84.49 295 P **P 01 29 19.4 -0.9**
comp=Z,1.5nm,0.6s,mb4.3,baz=20,slow=5.0,SNR=7.6

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*IDC **10** 01:28:42.0±1.3, 5626N×15292W, h0km, mb3.9/9, mb1 4.0/9, mb1mx3.9/21, mbtmp3.9/9, Error ellipse: s-maj=32.3km s-min=24.9km az=48.0*
*ISCJB **10** 01:28:43.2±1.9, 5632N±007×1529W±0.1, h22km±12km, mb3.8/9, Error ellipse: s-maj=15.3km s-min=7.3km az=136.0*
*NEIC **10** 01:28:45.5, 5627N×15294W, h10km, ML3.0(PMR), ML3.4(AEIC), After AEIC.*
ISC 10 01:28:44.3±2.2**, 5629N**±006×**1529W**±01**, h16**km±14km**, n22, σ0.77**/28**, mb3.8**/9**, Kodiak Island region**

Code Station Name Δ° AZ° Phase ID (Op ISC) Time (h m s) Res ISC
OHAK Old Harbor 0.96 346 P **Pb 01 29 02.6 +0.1**
OHAK S **Sb 01 29 17.0 +2.1**
KDAK Kodiak Island 1.50 6 Pn **Pn 01 29 10.5 0.0**
150nm,0.3s,baz=195,slow=7.9,SNR=3002
KDAK Sn **Sn 01 29 28.8 -0.9**
53nm,0.3s,baz=282,slow=20,SNR=4.6
KDAK Kodiak Island 1.50 6 P **Pn 01 29 10.3 -0.1**
KDAK S **Sn 01 29 29.0 -0.7**
SEW Seward 4.23 24 P **Pn 01 29 47.9 0.0**
SEW S **Sn 01 30 36.0 -0.8**
SDPT Sand Point 4.39 261 P **Pn 01 29 49.1 -1.1**
SDPT S **Sn 01 30 39.8 -1.1**
SLKM Skilak Lake 4.45 17 P **Pn 01 29 50.5 -0.4**
SLKM S **Sn 01 30 42.0 -0.4**
SVW2 Sparrevohn 5.02 345 *e*Pn **Pn 01 29 59.1 +0.3**
RC01 Rabbit Creek A 5.08 17 *e*Pn **Pn 01 29 59.6 0.0**
27nm,0.8s
RAGM Ragged Mountai 5.96 43 P **Pn 01 30 10.8 -0.8**
TRF Thorofare Moun 7.30 9 P **Pn 01 30 30.3 +0.2**
KTH Kantishna Hill 7.35 7 P **Pn 01 30 30.8 +0.1**
ILB Eielson Array 9.00 17 P **Pn 01 30 51.7 -1.6**
TXAR Lajitas Array 43.73 107 P **P 01 36 49.2 +0.7**
0.1nm,0.6s,mb2.8,baz=129,slow=22,SNR=2.9
ARCES ARCESS Array B 54.47 1 P **P 01 38 10.7 +0.5**
2.1nm,0.6s,mb4.3,baz=13,slow=6.4,SNR=7.1
SONM Songino Array 57.08 308 P **P 01 38 30.2 +1.0**
2.2nm,0.7s,mb4.3,baz=57,slow=5.5,SNR=7.4
ZALV Zalesovo Beam 60.43 325 P **P 01 38 53.0 +0.6**
2.4nm,0.7s,mb4.4,baz=34,slow=7.4,SNR=10
NB2 NORSAR Subarra 62.34 9 P **P 01 39 05.7 +0.5**
comp=Z,0.7nm,0.7s,mb3.9,baz=349,slow=6.9
NOA NORSAR Array B 62.34 9 P **P 01 39 06.1 +0.9**
comp=Z,1.1nm,0.8s,mb4.1,baz=350,slow=6.7,SNR=4.9
MKAR Makanchi Array 67.40 322 P **P 01 39 38.6 +0.2**
comp=Z,0.6nm,0.5s,mb3.9,baz=48,slow=7.7,SNR=5.1
AKASG Malin Array Be 73.36 359 P **P 01 40 14.4 -0.3**
comp=Z,0.3nm,0.3s,mb3.7,baz=3.1,slow=5.8,SNR=4.1
GERES GERESS Array B 74.64 9 P **P 01 40 22.4 +0.2**
comp=Z,0.3nm,0.6s,mb3.4,baz=351,slow=5.8,SNR=4.4
ESDC Sonseca Array 80.83 24 P **P 01 40 57.8 +0.9**
comp=Z,0.3nm,0.6s,mb3.4,baz=317,slow=5.5,SNR=5.2

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*IDC **10** 01:50:56.4±0.5, 1540S×17304W, h0km, mb4.7/13, mb1 5.0/13, mb1mx4.8/20, mbtmp4.7/13, MS4.4/14, Ms1 4.4/14, ms1mx4.2/26, Error ellipse: s-maj=22.6km s-min=11.7km az=121.0*
*GCMT **10** 01:50:57.8±0.2, 15.16S×17286W, h12km, MW5.4/85, Moment Tensor Solution. s39,c42; s85,c118; Duration: 1s3 Moment tensor: Scale 10^17Nm; Mrr-0.08±.02; Mθθ0.32±.02; Mφφ-0.24±.02; Mrθ-1.46±.04; Mθφ-0.04±.01; Mφr0.87±.04; Best double couple: M0 1.72000×10^17 NP1:φs229.00000°, δ8.00000°, λ-162.00000°. NP2: φs121.00000°, δ88.00000°, λ-82.00000°. Principal axes: T 1.7850, Plg42.0000°, Azm204.0000°; N -0.1310, Plg8.0000°, Azm301.0000°; P -1.6540, Plg47.0000°, Azm39.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **10** 01:50:57.8±0.1, 1538S×17317W, h10km, mb5.2/52 Error ellipse: s-maj=9.0km s-min=3.5km az=143.0*
*BJI **10** 01:50:58.1, 1538S×17357W, h10km, mB5.4, mb5.0, Ms5.3, Msz5.0*
*ISCJB **10** 01:50:59.8±0.2, 1537S±006×17320W±005, h33km, mb5.0/71, MS4.7/21, Error ellipse: s-maj=10.3km s-min=4.3km az=145.8*
*SZGRF **10** 01:51:00.3, 15.16S×17291W, h14km, Samoa Islands region*
*MOS **10** 01:51:01.2±1.5, 1521S×17323W, h33km, mb5.4/21, MS5.0/4, Error ellipse: s-maj=14.4km s-min=7.3km az=49.6*
ISC 10 01:51:01.8±0.2**, 1538S**±006×**17320W**±005**, h35**km**, (h17**km±8.2km**:pP-P), n620, σ0.55**/488**, mb5.0**/71**, MS4.7**/21**, 159C-183D, Tonga Islands**

Code Station Name Δ° AZ° Phase ID (Op ISC) Time (h m s) Res ISC
AFI Afiamalu 2.01 44 Pn **Pn 01 51 29.0 -4.2**
2μm,0.3s,baz=151,slow=0.6,SNR=145
AFI Sn **Sn 01 51 48.0 -9.1**
5μm,0.3s,baz=55,slow=23,SNR=18
AFI LR LR 01 51 59.7
comp=Z,6μm,21.6s,baz=238,slow=33
AFI Afiamalu 2.01 44 *e*Pn **Pn 01 51 28.9 -4.3**
AFI *e*Sn **Sn 01 51 47.5 -10**
RAR Rarotonga 14.01 116 Pn **Pn 01 54 11.7 -6.1**
2.4nm,0.3s,baz=168,slow=8.0,SNR=3.1
RAR LR LR 01 57 37.8
comp=Z,354nm,20.9s,baz=128,slow=29
RAR T 02 08 32.9
42nm,0.3s,baz=126,slow=7.7,SNR=6.2
RAR Rarotonga 14.01 116 *e*Pn **Pn 01 54 13.9 -3.9**
DZM Mont Dzumac 20.38 248 *e*P **P 01 55 36.5 +0.8**
PPT Papeete 22.76 99 *e*LQ 02 00 10.0
2μm,32.5s
PPT *e*LR LR 02 01 10.3
1μm,28.2s
PPT Papeete 22.76 99 LR LR 02 02 05.7
comp=Z,648nm,20.9s,MS4.0,baz=72,slow=30
TBI Tubuai 23.74 113 *e*LQ 02 00 42.7
929nm,31.0s
TBI *e*LR LR 02 01 41.3
686nm,28.8s
URZ Urewera 24.34 199 P **P 01 56 17.4 +1.0**
46nm,0.3s,mb5.3,baz=296,slow=2.2,SNR=37
URZ S **S 02 00 37.7 +4.2**
9.2nm,0.8s,baz=86,slow=19,SNR=4.8
URZ LR LR 02 04 39.1
comp=Z,1μm,21.9s,MS4.4,baz=35,slow=34
HNR Honiara 26.86 280 LR LR 02 06 05.9
comp=Z,275nm,18.0s,MS3.9,baz=326,slow=34
SNZO South Karori 27.88 200 *e*P **P 01 56 45.5 -2.8**
42nm,0.6s,mb5.2
RPZ Rata Peaks 31.27 202 P **P 01 57 18.7 +0.4**
8.1nm,0.6s,mb4.7,baz=26,slow=19,SNR=5.8
RPZ LR LR 02 07 49.1
comp=Z,798nm,21.5s,MS4.3,baz=301,slow=32
TAOE Nuku Hiva Isla 32.93 83 *e*P **P 01 57 31.9 -1.4**
CTAO Charters Tower 38.83 257 *e*P **P 01 58 22.2 -1.6**
CTAO pmax pmax
comp=Z,2.0nm,0.5s,mb4.1
CTAO Charters Tower 38.83 257 *e*P **P 01 58 22.2 -1.5**
comp=Z,2.0nm,0.5s,mb4.1
CNB Canberra Magne 38.91 232 *e*P **P 01 58 23.8 -0.5**
PMG Port Moresby 39.12 274 *e*P **P 01 58 26.1 -0.2**
PMG pmax pmax
comp=Z,5.0nm,0.6s
PMG Port Moresby 39.12 274 *e*P **P 01 58 26.1 -0.1**
comp=Z,4.7nm,0.6s,mb4.4
KIP Kipapa 39.49 23 *e*P **P 01 58 28.1 -1.0**
COEN Coen 42.17 266 *e*P **P 01 58 52.1 +0.7**
TOO Toolangi 42.63 231 *e*P **P 01 58 54.2 -0.7**
STKA Stephens Creek 44.21 240 *e*P **P 01 59 07.1 -0.6**
comp=Z,4.5nm,0.4s,mb4.5
STKA Stephens Creek 44.21 240 P **P 01 59 07.7 -0.1**
comp=Z,6.5nm,0.6s,mb4.6,baz=90,slow=9.9,SNR=25
STKA LR LR 02 15 17.5
comp=Z,545nm,21.8s,MS4.4,baz=40,slow=33
WB2 Warramunga Arr 50.02 257 *e*P **P 01 59 52.4 -0.8**
WRA Warramunga Arr 50.03 257 P **P 01 59 52.4 -0.9**
comp=Z,4.9nm,0.5s,mb4.8,baz=91,slow=6.8,SNR=94
WRA LR LR 02 19 55.5
comp=Z,320nm,20.5s,MS4.3,baz=70,slow=35
ASAR Alice Springs 50.30 252 P **P 01 59 54.9 -0.4**
comp=Z,18nm,0.5s,mb5.3,baz=87,slow=8.0,SNR=148
KAKA Kakadu 52.69 266 *e*P **P 02 00 13.1 -0.2**
comp=Z,13nm,0.6s,mb5.0
FORT Forrest 55.59 243 *e*P **P 02 00 33.3 -1.0**
comp=Z,2.8nm,0.5s,mb4.5
BATI Baumata 61.61 267 LR LR 02 24 03.9
comp=Z,240nm,18.2s,MS4.4,baz=113,slow=32
SBA Scott Base 63.29 185 *e*P **P 02 01 29.0 +2.4**
SBA pmax pmax
comp=Z,22nm,0.9s,mb5.3
SBA Scott Base 63.29 185 *e*P **P 02 01 29.0 +2.4**
comp=Z,22nm,0.9s,mb5.3
MBWA Marble Bar 63.55 254 *e*P **P 02 01 30.1 +0.9**
comp=Z,4.3nm,0.6s,mb4.7
KLBR Kellerberrin 64.42 242 *e*P **P 02 01 34.4 -0.4**
comp=Z,9.2nm,0.6s,mb5.0
NWAO Narrogin (SRO) 64.80 241 LR LR 02 27 46.4
comp=Z,440nm,19.1s,MS4.7,baz=35,slow=34
NWAO Narrogin (SRO) 64.80 241 *e*P **P 02 01 37.5 +0.2**
NWAO pmax pmax
comp=Z,4.0nm,0.6s
NWAO Narrogin (SRO) 64.80 241 *e*P **P 02 01 37.5 +0.3**
comp=Z,4.3nm,0.6s,mb4.7
MUN Mundaring 65.71 242 *e*P **P 02 01 43.4 +0.2**
MJAR Matsushiro Arr 69.04 320 P **P 02 02 05.5 +1.4**
comp=Z,0.9nm,0.4s,mb4.0,baz=148,slow=5.4,SNR=3.2
MJAR LR LR 02 26 09.8
comp=Z,204nm,21.1s,MS4.3,baz=25,slow=31
CASY Casey 70.51 205 *e*P **P 02 02 12.2 -0.4**
PACP Pacheco Peak 71.44 42 ⇑P **P 02 02 19.1 +0.4**
baz=72
MNRC McLaughlin Nat 71.85 40 ⇑P **P 02 02 21.9 +0.8**
baz=72
VES Vestal, Richgr 72.20 44 ⇓P **P 02 02 23.7 +0.3**
baz=72
MURC Murrieta 72.24 47 ⇓P **P 02 02 23.8 +0.2**
baz=72
BFSC Mount Baldy St 72.27 46 ⇑P **P 02 02 23.7 0.0**
baz=72
EDW2 Edwards Air Fo 72.39 45 ⇑P **P 02 02 24.2 -0.3**
baz=73
MONP Monument Peak 72.41 48 ⇑P **P 02 02 24.5 -0.2**
baz=73,SNR=5.7
T06C Millerton Lake 72.45 42 ⇓P **P 02 02 24.8 0.0**
baz=73
CHGN Chignik 72.47 9 *e*P **P 02 02 23.3 -1.2**
ISA Isabella 72.50 44 ⇓P **P 02 02 26.1 +1.0**
baz=73
ISA Isabella 72.50 44 *e*P **P 02 02 25.3 +0.2**
DVTC Desert V Tower 72.52 48 ⇓P **P 02 02 25.0 -0.3**
baz=73
CMB Columbia Colle 72.62 41 *e*P **P 02 02 25.7 -0.1**
CMB pmax pmax
comp=Z,71nm,2.2s,mb5.2
CMB Columbia Colle 72.62 41 ⇑P **P 02 02 25.8 0.0**
baz=73
CMB Columbia Colle 72.62 41 *e*P **P 02 02 25.7 -0.1**
comp=Z,71nm,2.2s,mb5.2
PETK Petropavlovsk- 72.67 342 P **P 02 02 26.2 +0.5**
comp=Z,8.7nm,0.7s,mb4.8,baz=129,slow=9.1,SNR=8.5
PETK LR LR 02 32 04.6
comp=Z,154nm,18.8s,MS4.3,baz=113,slow=34
HELL Mitchell Peak 72.72 43 ⇓P **P 02 02 26.1 -0.2**
baz=73
PFO Pinyon Flat Ob 72.77 47 ⇓P **P 02 02 27.3 +0.5**
baz=73
PFO Pinyon Flat Ob 72.77 47 *e*P **P 02 02 28.5 +1.7**
LAVA Lava Cap Winer 72.83 40 ⇑P **P 02 02 26.8 -0.2**
baz=73
ORV Oroville 72.84 39 ⇑P **P 02 02 27.1 +0.1**
baz=73
WDC Whiskeytown Da 72.84 38 ⇓P **P 02 02 27.5 +0.5**
baz=73
SWSC Sam W. Stewart 72.88 48 ⇑P **P 02 02 27.0 -0.5**
baz=73
KCC Kaiser Creek 72.89 42 ⇓P **P 02 02 27.6 +0.1**
baz=73
M02C Callahan 73.17 37 ⇓P **P 02 02 29.4 +0.5**
baz=73
P05C Yuba Gap, Truc 73.24 40 ⇑P **P 02 02 30.0 +0.5**
baz=73
BELC Belle Mtn. 73.30 47 ⇓P **P 02 02 30.0 +0.1**
baz=74
MPMC Manual Prospec 73.39 44 ⇓P **P 02 02 31.0 +0.6**
baz=74
MTUM Tungsten Hills 73.40 43 *e*P **P 02 02 30.7 +0.2**
GSC Goldstone 73.44 45 *e*P **P 02 02 30.6 -0.1**
GSC pmax pmax
comp=Z,32nm,1.8s,mb5.0
GSC Goldstone 73.44 45 ⇓P **P 02 02 30.8 +0.1**
baz=74
GSC Goldstone 73.44 45 *e*P **P 02 02 30.6 -0.1**
comp=Z,32nm,1.8s,mb5.0
YBH Yreka Blue Hor 73.47 37 ⇑P **P 02 02 32.0 +1.3**
baz=74
BC3 Big Chuckw Mtn 73.50 47 ⇓P **P 02 02 30.9 -0.2**
baz=74
WAKR Walker 73.50 41 *e*P **P 02 02 31.3 +0.3**
R06C Coleville 73.50 41 ⇑P **P 02 02 31.0 0.0**
baz=74
HEC Hector,Ludlow 73.51 46 ⇓P **P 02 02 30.9 -0.2**
baz=74
O04C Chester 73.56 39 ⇑P **P 02 02 31.7 +0.4**
baz=74
BEKR Beckwourth 73.73 40 ⇓P **P 02 02 32.6 +0.3**
baz=74
WCN Washoe City 73.77 40 ⇓P **P 02 02 32.7 +0.2**
baz=74
GMRC Granite Mounta 73.95 46 ⇓P **P 02 02 33.7 0.0**
baz=74,SNR=7.2
IRM Iron Mountain 73.98 47 ⇑P **P 02 02 33.2 -0.7**
baz=74
GRAC Grapevine Rang 73.99 44 ⇑P **P 02 02 34.4 +0.5**
baz=74
M04C Macdoel 74.01 37 ⇑P **P 02 02 34.6 +0.7**
baz=74
FURC Furnace Creek, 74.04 44 ⇑P **P 02 02 34.5 +0.3**
baz=74
TUQ Turquoise Moun 74.11 46 ⇓P **P 02 02 34.7 +0.1**
baz=74
NVAR Mina Array Bea 74.18 42 P **P 02 02 34.8 -0.2**
comp=Z,4.2nm,0.8s,mb4.5,baz=226,slow=9.4,SNR=26
OHAK Old Harbor 74.20 11 *e*P **P 02 02 33.8 -0.9**
Y12C Blythe 74.21 48 ⇑P **P 02 02 35.1 -0.2**
baz=74,SNR=6.2
L04A Klamath Falls 74.22 37 ⇑P **P 02 02 35.6 +0.5**
baz=74
PAHR Pah Rah Range 74.24 40 *e*P **P 02 02 36.5 +1.2**
113A Mohawk Valley, 74.26 49 ⇑P **P 02 02 35.2 -0.3**
baz=74,SNR=12
U10A Ash Meadows, A 74.37 45 ⇓P **P 02 02 36.3 +0.2**
baz=74
M06C Likely Place G 74.46 39 ⇑P **P 02 02 37.1 +0.6**
baz=75
LDFC Landfair 74.49 46 *e*P **P 02 02 36.7 -0.2**
comp=Z,24nm,1.1s,mb5.0
S09A Goldfield 74.49 43 ⇑P **P 02 02 36.5 -0.2**
baz=75,SNR=6.2
214A Organ Pipe Nat 74.55 50 ⇑P **P 02 02 37.1 -0.2**
baz=75,SNR=6.2
N06A Buffalo Meadow 74.58 39 ⇓P **P 02 02 37.8 +0.6**
baz=75
Q08A Gabbs 74.67 42 ⇓P **P 02 02 38.2 +0.4**
baz=75
V11A Goodsprings 74.67 45 ⇓P **P 02 02 38.2 +0.3**
baz=75
TPH Tonopah 74.69 43 *e*P **P 02 02 37.6 -0.3**

TPH pmax pmax
comp=Z,86nm,1.9s,mb5.4
TPH Tonopah 74.69 43 *eP* **P 02 02 37.5 -0.4**
comp=Z,86nm,1.9s,mb5.4
TPNV Topopah Spring 74.71 44 *eP* **P 02 02 38.3 +0.2**
TPNV pmax pmax
comp=Z,59nm,1.9s,mb5.2
TPNV Topopah Spring 74.71 44 ⇑P **P 02 02 38.3 +0.2**
baz=75,SNR=9.0
TPNV Topopah Spring 74.71 44 *eP* **P 02 02 38.2 +0.2**
comp=Z,59nm,1.9s,mb5.2
Y13A Salome 74.74 48 ⇓P **P 02 02 38.4 0.0**
baz=75,SNR=6.1
L05A Lakeview 74.76 38 ⇑P **P 02 02 38.3 +0.1**
baz=75
PDMCI Parker Dam,Lak 74.77 47 ⇓P **P 02 02 38.5 +0.1**
baz=75
O07A Toulon 74.82 40 ⇓P **P 02 02 38.6 -0.1**
baz=75,SNR=7.8
KDAK Kodiak Island 74.86 11 P **P 02 02 38.0 -0.5**
comp=Z,307nm,0.7s,mb6.3,SNR=14
KDAK Kodiak Island 74.86 11 *eP* **P 02 02 37.7 -0.8**
comp=Z,33nm,0.7s,mb5.4
R09A Tonopah 74.88 43 ⇑P **P 02 02 39.0 0.0**
baz=75
I04A Tendick Farm, 74.94 36 ⇓P **P 02 02 39.6 +0.4**
baz=75
MOD Modoc 74.99 38 ⇓P **P 02 02 39.8 +0.2**
baz=75
MOD Modoc 74.99 38 *eP* **P 02 02 39.8 +0.3**
V12A Nelson 75.01 46 ⇑P **P 02 02 40.2 +0.3**
baz=75,SNR=6.4
S10A Tonopah Range, 75.01 43 ⇑P **P 02 02 39.8 0.0**
baz=75,SNR=5.5
N07B Gerlach 75.12 40 ⇑P **P 02 02 41.1 +0.7**
baz=75
X13A Yucca 75.14 47 ⇓P **P 02 02 40.2 -0.4**
baz=75,SNR=11
K05A Summer Lake 75.14 37 ⇓P **P 02 02 41.3 +0.8**
baz=75
Z14A Wintersburg 75.15 49 ⇑P **P 02 02 40.4 -0.3**
baz=75
SHPR Sheep Range 75.21 45 *eP* **P 02 02 41.4 +0.5**
J05A Fort Rock 75.29 36 ⇓P **P 02 02 41.5 +0.2**
baz=76,SNR=7.0
O08A Rochester Mine 75.34 40 ⇑P **P 02 02 41.6 -0.1**
baz=76
W13A Hualapai Mount 75.36 47 ⇑P **P 02 02 41.4 -0.4**
baz=76,SNR=7.3
M07A Soldier Meadow 75.36 39 ⇑P **P 02 02 42.2 +0.4**
baz=76
Y14A Wickenburg 75.39 48 ⇑P **P 02 02 41.9 -0.2**
baz=76,SNR=9.8
R10A Warm Springs 75.41 43 ⇓P **P 02 02 42.0 -0.1**
baz=76,SNR=11
G03A Yamhill 75.43 34 ⇑P **P 02 02 42.1 0.0**
baz=76
K06A Valley Falls 75.56 37 ⇑P **P 02 02 42.7 -0.2**
baz=76,SNR=9.1
T11A Corn Creek, Al 75.56 44 ⇑P **P 02 02 43.2 +0.2**
baz=76,SNR=22
216A Three Points, 75.58 51 ⇑P **P 02 02 43.5 +0.2**
baz=76,SNR=9.3
SSOR Sweet Springs 75.58 35 P **P 02 02 43.7 +0.8**
U12A Valley of Fire 75.59 45 ⇓P **P 02 02 43.0 -0.2**
baz=76
H04A Detroit Lake 75.63 35 ⇓P **P 02 02 43.3 +0.1**
baz=76
L07A Adell 75.63 38 ⇑P **P 02 02 43.6 +0.3**
baz=76,SNR=8.7
Q10A Clear Creek Ra 75.64 42 ⇑P **P 02 02 43.3 -0.1**
baz=76
N08A GE Springer Mi 75.64 40 ⇑P **P 02 02 42.9 -0.4**
baz=76,SNR=6.4
V13A Grand Canyon W 75.68 46 ⇑P **P 02 02 43.3 -0.4**
baz=76,SNR=7.5
X14A Yava 75.74 48 ⇓P **P 02 02 44.1 0.0**
baz=76,SNR=15
G04A Mulino 75.80 34 ⇑P **P 02 02 44.5 +0.4**
baz=76
I05A Bend 75.81 36 ⇑P **P 02 02 44.5 +0.2**
baz=76
M08A Happy Creek Ra 75.88 39 ⇓P **P 02 02 45.2 +0.6**
baz=76
O09A Fish Creek Ran 75.88 41 ⇓P **P 02 02 45.0 +0.3**
baz=76
Y15A Casa Rosa Ranc 75.89 48 ⇓P **P 02 02 44.8 -0.1**
baz=76,SNR=22
J06A Christmas Vall 75.89 37 ⇑P **P 02 02 44.7 0.0**
baz=76,SNR=5.5
R11A Troy Canyon, C 75.91 43 ⇑P **P 02 02 44.7 -0.3**
baz=76,SNR=7.5
217A Green Valley 75.95 51 ⇑P **P 02 02 45.0 -0.4**
baz=76,SNR=11
W14A Seligman 75.98 47 ⇑P **P 02 02 45.4 -0.1**
baz=76,SNR=14
U13A Pakoon Wash 75.98 46 ⇑P **P 02 02 45.5 +0.1**
baz=76,SNR=15
S12A Delamar Landin 76.01 44 ⇓P **P 02 02 46.4 +0.8**
baz=76,SNR=12
BMN Battle Mountai 76.01 41 *eP* **P 02 02 46.9 +1.4**
N09A Rock Creek Ran 76.06 40 ⇑P **P 02 02 45.7 -0.1**
baz=76
K07A Rock Creek Ran 76.09 38 ⇓P **P 02 02 45.7 -0.2**
baz=76,SNR=7.8
H05A Madras 76.14 35 ⇓P **P 02 02 46.6 +0.5**
baz=76
Q11A Duckwater 76.14 43 ⇓P **P 02 02 46.1 -0.1**
baz=76,SNR=7.8
V14A Boquillas Ranc 76.18 47 ⇓P **P 02 02 46.5 -0.1**
baz=76,SNR=11
X15A Humboldt 76.22 48 ⇑P **P 02 02 46.5 -0.3**
baz=76,SNR=13
TUC Tucson 76.23 51 *eP* **P 02 02 46.8 -0.1**
TUC pmax pmax
comp=Z,11nm,0.9s,mb4.8
TUC Tucson 76.23 51 *eP* **P 02 02 46.8 -0.1**
comp=Z,11nm,0.9s,mb4.8
KSRS Korea Array 76.28 315 P **P 02 02 49.3 +2.2**
comp=Z,2.5nm,0.9s,mb4.2,baz=121,slow=6.1,SNR=6.1
I06A Prineville 76.28 36 ⇑P **P 02 02 47.0 +0.1**
baz=76,SNR=9.5
WVOR Wild Horse Val 76.30 38 *eP* **P 02 02 47.0 -0.1**
WVOR pmax pmax
comp=Z,27nm,1.1s,mb5.1
WVOR Wild Horse Val 76.30 38 *eP* **P 02 02 47.0 -0.1**
comp=Z,27nm,1.1s,mb5.1
L08A Fields 76.33 39 ⇑P **P 02 02 47.4 +0.2**
baz=76,SNR=14
T13A Saint George 76.33 45 ⇑P **P 02 02 47.6 +0.2**
baz=76,SNR=9.7
117A Oracle 76.39 50 ⇑P **P 02 02 48.0 +0.2**
baz=76,SNR=14
VIPM Ingram Point 76.39 36 P **P 02 02 47.8 +0.3**
318A Bisbee 76.42 52 ⇓P **P 02 02 47.7 -0.3**
baz=76,SNR=7.2
J07A Hines 76.45 37 ⇑P **P 02 02 48.4 +0.5**
baz=77
G05A Wamic 76.46 35 ⇓P **P 02 02 48.0 +0.1**
baz=77
Y16A Circle Bar Ran 76.47 49 ⇓P **P 02 02 48.0 -0.2**
baz=77,SNR=7.7
U14A Mt Trumbull 76.53 46 ⇑P **P 02 02 49.1 +0.6**
baz=77,SNR=24
R12A Pony Springs, 76.55 44 ⇑P **P 02 02 48.6 0.0**
baz=77,SNR=7.1
K08A Mann Creek Ran 76.56 38 ⇑P **P 02 02 48.7 +0.2**
baz=77,SNR=9.6
218A Dragoon 76.62 51 ⇓P **P 02 02 49.0 -0.1**
baz=77,SNR=5.5
L09A Wilkinson Ranc 76.64 39 ⇑P **P 02 02 48.8 -0.2**
baz=77
S13A Holt Ranch, En 76.66 45 ⇓P **P 02 02 49.4 +0.2**
baz=77,SNR=8.9
TDL Tradedollar La 76.67 34 P **P 02 02 49.8 +0.7**
H06A Lindquist Farm 76.69 36 ⇓P **P 02 02 49.0 -0.3**
baz=77,SNR=8.1
X16A Lo Mia Camp, P 76.76 48 ⇓P **P 02 02 50.3 +0.4**
baz=77,SNR=24
I07A Izee 76.77 37 ⇓P **P 02 02 49.9 +0.2**
baz=77,SNR=11
F05A White Salmon 76.78 34 ⇓P **P 02 02 50.0 +0.3**
baz=77
Q12A Willow Creek R 76.78 43 ⇓P **P 02 02 50.0 +0.1**
baz=77
G06A Carlson Farm, 76.83 35 ⇑P **P 02 02 50.1 +0.1**
baz=77
O11A Cowboy Ranch, 76.84 42 ⇑P **P 02 02 50.8 +0.6**
baz=77,SNR=9.6
Y17A Roosevelt 76.84 49 ⇑P **P 02 02 50.0 -0.4**
baz=77
R13A O'Grain Ranch, 76.90 44 ⇑P **P 02 02 50.9 +0.3**
baz=77,SNR=8.5
T14A Hurricane 76.92 45 ⇓P **P 02 02 50.2 -0.5**
baz=77
V15A Kaibab Nationa 76.93 47 ⇑P **P 02 02 50.8 +0.1**
baz=77,SNR=16
319A Douglas 76.93 52 ⇑P **P 02 02 51.1 +0.2**
baz=77,SNR=7.0
J08A Circle Bar Ran 76.94 38 ⇑P **P 02 02 50.6 0.0**
baz=77,SNR=9.6
P12A McGill 76.97 43 ⇓P **P 02 02 51.6 +0.7**
baz=77,SNR=5.6
118A Homack Ranch, 76.99 51 ⇓P **P 02 02 51.3 +0.1**
baz=77,SNR=13
K09A Rome 77.00 39 ⇑P **P 02 02 51.1 +0.1**
baz=77,SNR=13
W16A Flagstaff 77.02 48 ⇑P **P 02 02 51.0 -0.3**
baz=77
H07A Lands Inn, Kim 77.04 36 ⇑P **P 02 02 51.3 +0.1**
baz=77,SNR=10
E05A Randle 77.05 34 ⇑P **P 02 02 50.9 -0.2**
baz=77,SNR=5.8
ARUT Antelope Range 77.05 45 *eP* **P 02 02 51.2 -0.2**
M10A I.L. Ranch, Tu 77.05 40 ⇑P **P 02 02 51.5 +0.2**
baz=77,SNR=7.2
HDW Hoodsport 77.07 32 P **P 02 02 51.9 +0.6**
F06A Goldendale 77.08 35 ⇑P **P 02 02 51.3 -0.1**
baz=77
B04A Port Angeles 77.11 32 ⇑P **P 02 02 51.9 +0.4**
baz=77
U15A North Rim 77.15 46 ⇑P **P 02 02 52.3 +0.3**
baz=77,SNR=15
C04A Brinnon 77.15 32 ⇑P **P 02 02 52.3 +0.5**
baz=77
X17A Forest Lakes 77.18 49 ⇑P **P 02 02 52.9 +0.6**
baz=77,SNR=12
I08A Drewsey 77.21 37 ⇓P **P 02 02 52.4 +0.2**
baz=77
S14A Cedar City 77.22 45 ⇓P **P 02 02 52.5 +0.1**
baz=77,SNR=5.7
219A White Tail Can 77.23 52 ⇓P **P 02 02 52.3 -0.3**
baz=77,SNR=9.6
Q13A Wheeler Ranch, 77.27 43 ⇓P **P 02 02 52.6 0.0**
baz=77,SNR=11
D05A Enumclaw 77.32 33 ⇓P **P 02 02 52.7 0.0**
baz=78
WUAZ Wupatki 77.34 47 ⇓P **P 02 02 53.3 +0.2**
baz=78,SNR=9.1
WUAZ Wupatki 77.34 47 *eP* **P 02 02 53.4 +0.3**
J09A Fry Pan Ranch, 77.36 38 ⇑P **P 02 02 53.0 -0.1**
baz=78,SNR=9.6
T15A Red Dirt Ranch 77.38 46 ⇓P **P 02 02 53.5 +0.2**
baz=78,SNR=16
G07A Ruggs Ranch, H 77.39 36 ⇓P **P 02 02 52.9 -0.3**
baz=78
L10A Juniper Basin 77.41 40 ⇑P **P 02 02 53.2 -0.1**
baz=78,SNR=10.0
ELK Elko 77.44 41 *eP* **P 02 02 53.8 +0.3**
E06A Yakima 77.45 34 ⇑P **P 02 02 53.5 0.0**
baz=78
M11A Holland Ranch, 77.47 40 ⇓P **P 02 02 54.0 +0.3**
baz=78
Y18A Canyon Day Jun 77.48 50 ⇓P **P 02 02 54.3 +0.4**
baz=78,SNR=5.1
O12A Currie 77.50 42 ⇓P **P 02 02 54.0 +0.1**
baz=78,SNR=9.1
SVW2 Sparrevohn 77.51 9 *eP* **P 02 02 52.7 -0.7**
H08A Prairie City 77.51 37 ⇓P **P 02 02 53.9 +0.1**
baz=78
MIR Mirnyy 77.52 204 ⇓*iP* **P 02 02 54.5 +0.9**
MIR pmax pmax
comp=Z,100nm,1.5s,mb5.5
P13A Bates Ranch, G 77.54 43 ⇑P **P 02 02 54.1 0.0**
baz=78,SNR=6.5
119A Ashpeak Ranch, 77.55 51 ⇓P **P 02 02 54.4 +0.1**
baz=78,SNR=8.2
W17A Winslow 77.60 48 ⇓P **P 02 02 55.2 +0.6**
baz=78
N12A Clover Valley, 77.63 41 ⇓P **P 02 02 54.8 +0.3**
baz=78,SNR=9.3
SEW Seward 77.63 12 *eP* **P 02 02 53.5 -0.6**
S15A Panguitch 77.73 45 ⇑P **P 02 02 55.8 +0.6**
baz=78,SNR=7.4
I09A Lost Marbles R 77.73 37 ⇓P **P 02 02 55.4 +0.3**
baz=78
Q14A Sevier Lake (B 77.78 44 ⇓P **P 02 02 55.4 -0.1**
baz=78,SNR=12
C05A Tolt Reservoir 77.80 33 ⇓P **P 02 02 55.3 -0.1**
baz=78,SNR=10
G08A Pilot Rock 77.80 36 ⇓P **P 02 02 55.7 +0.2**
baz=78,SNR=16
Z19A T-Link Ranch, 77.82 50 ⇓P **P 02 02 55.6 -0.3**
baz=78
U16A Tuba City 77.82 47 ⇓P **P 02 02 56.1 +0.3**
baz=78,SNR=12
SLKM Skilak Lake 77.85 11 *eP* **P 02 02 55.1 -0.3**
X18A Snowflake 77.89 49 ⇓P **P 02 02 56.2 0.0**
baz=78,SNR=6.6
L11A Cat Creek Ranc 77.90 40 ⇑P **P 02 02 56.1 0.0**
baz=78,SNR=13
O13A Hicks Ranch, I 77.92 42 ⇑P **P 02 02 56.6 +0.4**
baz=78
D06A Cle Elum 77.93 34 ⇑P **P 02 02 56.3 +0.1**
baz=78
B05A Bryant 77.96 32 ⇓P **P 02 02 56.3 0.0**
baz=78,SNR=6.5
T16A Glen Canyon Da 77.97 46 ⇓P **P 02 02 56.5 -0.1**
baz=78
J10A Berg Farm, Mel 77.99 38 ⇓P **P 02 02 56.6 +0.1**
baz=78
M12A Wells 78.01 41 ⇓P **P 02 02 56.8 +0.1**
baz=78,SNR=13
K11A Parker Ranch, 78.06 39 ⇓P **P 02 02 56.8 -0.2**
baz=78,SNR=7.1
E07A Sunnyside 78.07 34 ⇓P **P 02 02 57.2 +0.2**
baz=78,SNR=6.7
RSW Rattlesnake Hi 78.12 35 *eP* **P 02 02 57.2 0.0**
Y19A Nutrioso 78.13 50 ⇓P **P 02 02 58.3 +0.7**
baz=78,SNR=25
HAWA Hanford 78.15 35 *eP* **P 02 02 57.1 -0.2**
MDW Midway 78.16 34 P **P 02 02 57.6 +0.2**
H09A Durkee 78.18 37 ⇑P **P 02 02 56.6 -0.9**
baz=78
F08A Pendleton 78.21 36 ⇑P **P 02 02 56.9 -0.8**
baz=78,SNR=6.6
P14A Drum Mountains 78.23 43 ⇑P **P 02 02 58.2 +0.2**
baz=78,SNR=11
S16A Weppner Ranch, 78.28 45 ⇓P **P 02 02 58.5 +0.2**
baz=78,SNR=14
MSU Marysvale 78.28 45 *eP* **P 02 02 59.0 +0.7**
GBL Gable Mountain 78.31 35 P **P 02 02 58.4 +0.1**
X19A St. Johns 78.33 49 ⇓P **P 02 02 59.0 +0.4**
baz=78,SNR=15
I10A Payette 78.35 38 ⇓P **P 02 02 58.9 +0.4**
baz=78,SNR=5.1
L12A House Creek Ra 78.35 40 ⇓P **P 02 02 58.8 +0.3**
baz=78
C06A Tall Timber Ra 78.36 33 ⇑P **P 02 02 58.3 -0.2**
baz=79
RPW Rockport 78.37 32 *eP* **P 02 02 58.0 -0.6**
U17A Shonto 78.37 47 ⇓P **P 02 02 59.1 +0.3**
baz=78,SNR=6.9
Q15A Fillmore 78.39 44 ⇑P **P 02 02 59.1 +0.2**
baz=78
D07A Quincy 78.40 34 ⇑P **P 02 02 58.7 0.0**
baz=79
B06A Marblemount 78.43 32 ⇑P **P 02 02 58.6 -0.2**
baz=79
M13A Mcmillo 78.46 41 ⇑P **P 02 02 59.1 -0.1**
baz=79,SNR=9.5
ETW Entiat 78.46 33 *eP* **P 02 02 58.0 -1.0**
V18A Ganado 78.47 48 ⇑P **P 02 02 59.5 +0.1**
baz=79,SNR=10
G09A Cove 78.47 36 ⇓P **P 02 02 59.1 0.0**
baz=79,SNR=13
T17A Navajo Res., N 78.47 46 ⇓P **P 02 02 59.9 +0.5**
baz=79,SNR=20
RC01 Rabbit Creek A 78.48 11 *eP* **P 02 02 58.3 -0.5**
comp=Z,42nm,1.5s,mb5.1
BMO Blue Mountains 78.49 37 *eP* **P 02 02 59.0 -0.3**
BMO pmax pmax
comp=Z,15nm,0.8s,mb5.0
BMO Blue Mountains 78.49 37 *eP* **P 02 02 59.0 -0.3**
comp=Z,15nm,0.8s,mb5.0
MFID Camas Ranch 78.55 39 ⇑P **P 02 02 59.6 -0.1**
baz=79,SNR=8.8
R16A Teasdale 78.63 45 ⇓P **P 02 03 01.2 +0.9**
baz=79,SNR=31
F09A S2 Ranch, Elgi 78.65 36 ⇓P **P 02 03 00.1 0.0**
baz=79,SNR=5.2
C07A Waterville 78.66 33 ⇓P **P 02 02 59.1 -1.0**
baz=79
H10A Noah's Angus R 78.67 37 ⇑P **P 02 02 59.8 -0.4**
baz=79,SNR=35
K12A Draper Farm, C 78.68 40 ⇑P **P 02 03 00.2 -0.2**
baz=79
EPH Ephrata 78.70 34 P **P 02 03 00.2 -0.2**
DUG Dugway 78.72 43 ⇓P **P 02 03 00.4 -0.3**
baz=79,SNR=12
DUG Dugway 78.72 43 *eP* **P 02 03 00.8 +0.1**
WTV Waterville 78.72 33 P **P 02 03 00.2 -0.3**
P15A Leamington 78.75 44 ⇓P **P 02 03 00.5 -0.3**
baz=79,SNR=6.6
I11A Placerville 78.75 38 ⇓P **P 02 03 00.7 -0.1**
baz=79
S17A Black Ridge (B 78.78 46 ⇓P **P 02 03 01.0 -0.1**
baz=79,SNR=21
A06A Chilliwack 78.80 32 ⇓P **P 02 03 00.4 -0.5**
baz=79
N14A Grayback Hills 78.81 42 ⇑P **P 02 03 00.6 -0.5**
baz=79,SNR=7.0
G10A Bishop Farm, J 78.86 37 ⇑P **P 02 03 00.8 -0.4**
baz=79,SNR=14
D08A Wollman Farm, 78.89 34 ⇑P **P 02 03 01.0 -0.4**
baz=79,SNR=10
J12A Stokes Ranch, 78.90 39 ⇑P **P 02 03 01.4 -0.2**
baz=79,SNR=10.0
L13A Double Diamond 78.98 41 ⇓P **P 02 03 02.0 -0.1**
baz=79
E09A Wood Farm, Sta 78.99 35 ⇓P **P 02 03 01.3 -0.7**
baz=79,SNR=7.2
M14A Yueep Mountain 79.05 41 ⇓P **P 02 03 02.6 +0.1**
baz=79,SNR=29
PMR Palmer 79.06 11 *eP* **P 02 03 01.5 -0.5**
PMR pmax pmax
comp=Z,65nm,1.7s,mb5.3
PMR Palmer 79.06 11 *eP* **P 02 03 01.5 -0.6**
comp=Z,66nm,1.7s,mb5.3
V19A Window Rock 79.10 48 ⇑P **P 02 03 02.4 -0.5**
baz=79
B07A Winthrop 79.10 33 ⇑P **P 02 03 02.2 -0.4**
baz=79,SNR=8.3
MDJ Mudanjiang 79.12 322 P **P 02 03 03.2 +0.4**
MDJ AMB AMB
comp=Z,4.0nm,0.9s,mb4.3
MDJ AMB AMB
comp=Z,219nm,6.5s
Q16A Castle Valley 79.16 45 ⇓P **P 02 03 03.2 +0.1**
baz=79,SNR=5.1
H11A Donnelly 79.16 38 ⇓P **P 02 03 02.4 -0.6**
baz=79,SNR=13
I12A Atlanta 79.18 39 ⇓P **P 02 03 03.1 0.0**
baz=79,SNR=20
T18A Mexican Hat 79.19 47 ⇓P **P 02 03 03.8 +0.5**
baz=79,SNR=66
F10A Beach Ranch, E 79.19 36 ⇑P **P 02 03 02.5 -0.5**
baz=79,SNR=21
K13A Stover Farm, H 79.20 40 ⇓P **P 02 03 03.2 0.0**
baz=79,SNR=5.1
OD2 Odessa Site #2 79.20 34 P **P 02 03 03.0 -0.1**
D09A Jones Farm, Ri 79.22 35 ⇑P **P 02 03 03.3 +0.1**
baz=79,SNR=16
R17A Hanksville Air 79.23 45 ⇓P **P 02 03 03.5 +0.1**
baz=79,SNR=22
C08A Higginbotham F 79.26 34 ⇑P **P 02 03 03.0 -0.4**
baz=80,SNR=12
N15A Stansbury Isla 79.27 42 ⇑P **P 02 03 03.4 -0.3**
baz=79,SNR=8.8
TMUT Trail Mountain 79.32 44 *eP* **P 02 03 05.2 +1.2**
A07A Ashnola River, 79.33 32 ⇑P **P 02 03 03.4 -0.4**
baz=80,SNR=9.3
L14A Malta 79.40 41 ⇑P **P 02 03 04.5 +0.1**
baz=80,SNR=7.1
G11A Walters Elk Ra 79.41 37 ⇓P **P 02 03 04.1 -0.2**
baz=80
B08A Colville Reser 79.45 33 ⇑P **P 02 03 03.6 -0.9**
baz=80,SNR=9.1
HLID Hailey 79.49 39 ⇑P **P 02 03 05.1 +0.3**
baz=80,SNR=25
HLID Hailey 79.49 39 *eP* **P 02 03 05.0 +0.2**
comp=Z,19nm,0.9s,mb5.0
SPUT South Promonto 79.53 42 *eP* **P 02 03 04.8 -0.3**
J13A Cove Ranch, Pi 79.55 39 ⇓P **P 02 03 05.6 +0.5**
baz=80,SNR=17
E10A Myers Farm, Un 79.55 36 ⇑P **P 02 03 05.1 +0.1**
baz=80
HVU Hansel Valley 79.56 41 *eP* **P 02 03 05.5 +0.3**
HVU pmax pmax
comp=Z,13nm,0.9s,mb4.9
HVU Hansel Valley 79.56 41 *eP* **P 02 03 05.5 +0.3**
comp=Z,13nm,0.9s,mb4.9
O16A Springville 79.58 43 ⇓P **P 02 03 06.2 +0.8**
baz=80
M15A Larsen Ranch, 79.61 42 ⇑P **P 02 03 05.3 -0.1**
baz=80,SNR=12
T19A Beclabito 79.64 47 ⇓P **P 02 03 06.2 +0.4**
baz=80,SNR=14
PNL Peninsula 79.64 17 *eP* **P 02 03 05.2 -0.1**
comp=Z,28nm,0.8s,mb5.2
C09A Chrisman Ranch 79.68 34 ⇓P **P 02 03 05.3 -0.4**
baz=80,SNR=5.1
SRU San Rafael 79.69 45 ⇓P **P 02 03 06.2 +0.2**
baz=80,SNR=16
SRU San Rafael 79.69 45 *eP* **P 02 03 06.3 +0.3**
K14A Jones Ranch, D 79.71 41 ⇓P **P 02 03 05.8 -0.2**
baz=80,SNR=9.8
P17A Butcher Ranch, 79.73 44 ⇑P **P 02 03 06.2 +0.1**
baz=80,SNR=6.8
F11A Grangeville 79.75 37 ⇓P **P 02 03 04.7 -1.4**
baz=80,SNR=12
H12A Diamond D Ranc 79.76 38 ⇑P **P 02 03 05.8 -0.5**
baz=80,SNR=9.6
R18A Canyonlands Na 79.77 46 ⇓P **P 02 03 06.4 -0.1**
baz=80,SNR=18
JLU Jordanelle 79.82 43 *eP* **P 02 03 07.0 +0.3**
A08A Turner Farm, O 79.85 33 ⇑P **P 02 03 06.3 -0.3**
baz=80,SNR=12
I13A Wildhorse Cree 79.86 39 ⇑P **P 02 03 06.8 0.0**
baz=80,SNR=11
LAZ Ladron 79.90 50 *eP* **P 02 03 07.7 +0.5**
J14A Carey 79.91 40 ⇓P **P 02 03 07.5 +0.4**
baz=80,SNR=13
L15A Malad City 79.93 41 ⇓P **P 02 03 06.8 -0.4**
baz=80,SNR=6.8
Q18A Rafter H Ranch 79.95 45 ⇓P **P 02 03 07.5 +0.1**
baz=80,SNR=13
E11A Bogner Ranch, 79.99 36 ⇓P **P 02 03 05.9 -1.5**
baz=80,SNR=6.6
S19A Harvey Farm, M 79.99 46 ⇑P **P 02 03 07.4 -0.2**
baz=80,SNR=16
M16A Huntsville 80.06 42 ⇓P **P 02 03 07.4 -0.5**
baz=80,SNR=7.3
O17A Robinson Place 80.08 44 ⇓P **P 02 03 08.5 +0.4**
baz=80,SNR=16
B09A Rice 80.12 34 ⇓P **P 02 03 07.2 -0.9**
baz=80,SNR=9.5
H13A Challis 80.13 38 ⇓P **P 02 03 07.9 -0.3**
baz=80,SNR=16
BNM Barren Site 80.17 51 *eP* **P 02 03 08.8 +0.1**
MVCO Mesa Verde 80.19 47 ⇓P **P 02 03 08.9 +0.1**
baz=80
MVCO Mesa Verde 80.19 47 *eP* **P 02 03 09.1 +0.3**
comp=Z,95nm,2.3s,mb5.3
K15A Arbon 80.19 41 ⇓P **P 02 03 08.5 -0.1**
baz=80,SNR=5.7
F12A Elk City 80.20 37 ⇓P **P 02 03 08.1 -0.4**
baz=80,SNR=39
A09A Danville 80.22 33 ⇑P **P 02 03 08.4 -0.3**
baz=80,SNR=14
LPM Los Pinos Moun 80.23 50 *eP* **P 02 03 08.8 -0.2**
HWUT Hardware Ranch 80.25 42 *eP* **P 02 03 08.9 0.0**
I14A Mackay 80.27 39 ⇓P **P 02 03 08.8 -0.2**
baz=80,SNR=6.9
NJ2 Nanjing 80.30 307 *eP* **P 02 03 10.7 +1.2**
NJ2 AMB AMB
comp=Z,10.0nm,0.6s,mb4.9
D11A Klaveano Farm, 80.31 36 ⇑P **P 02 03 08.2 -0.9**
baz=80,SNR=7.6
PV10 Paradox Valley 80.36 46 *eP* **P 02 03 09.7 +0.1**
E12A Beaver Dam Sad 80.39 36 ⇓P **P 02 03 09.1 -0.4**
baz=81
N17A Moffit Pass 80.39 43 ⇑P **P 02 03 09.9 +0.2**
baz=81

G13A	Cobalt	80.43	38	⇓P	P	02 03 09.9	0.0
	baz=81,SNR=16						
TXAR	Lajitas Array	80.44	56	P	P	02 03 10.2	-0.1
	comp=Z,7.1nm,0.9s,mb4.6,baz=214,slow=10.0,SNR=38						
TXAR				LR	LR	02 29 01.3	
	comp=Z,568nm,20.9s,MS4.9,baz=185,slow=28						
Q19A	Hogan Spring (	80.48	45	⇓P	P	02 03 10.5	+0.3
	baz=81,SNR=23						
L16A	Fish Haven	80.54	42	⇑P	P	02 03 10.5	0.0
	baz=81,SNR=14						
KTH	Kantishna Hill	80.56	10	eP	P	02 03 08.8	-1.3
	comp=Z,70nm,1.6s,mb5.3						
TRF	Thorofare Moun	80.57	10	eP	P	02 03 09.4	-0.7
	comp=Z,136nm,1.7s,mb5.6						
PV01	Paradox Valley	80.57	46	eP	P	02 03 10.2	-0.5
NEW	Newport	80.58	34	eP	P	02 03 10.0	-0.6
J15A	Blackfoot	80.62	40	⇓P	P	02 03 11.4	+0.5
	baz=81,SNR=18						
ANMO	Albuquerque	80.64	50	eP	P	02 03 11.3	+0.1
CHUM	Lake Minchumin	80.64	9	eP	P	02 03 09.4	-1.1
	comp=Z,29nm,1.1s,mb5.1						
SKAG	Skagway	80.66	19	eP	P	02 03 11.5	+0.7
H14A	Leadore	80.69	39	⇑P	P	02 03 11.5	+0.3
	baz=81,SNR=13						
F13A	Darby	80.75	37	⇓P	P	02 03 11.1	-0.5
	baz=81,SNR=14						
A10A	Northport	80.77	33	⇑P	P	02 03 11.0	-0.5
	baz=81,SNR=8.3						
C11A	Tepee Creek (N	80.81	35	⇑P	P	02 03 11.3	-0.6
	baz=81,SNR=18						
K16A	Soda Springs	80.86	41	⇑P	P	02 03 12.3	+0.1
	baz=81,SNR=8.9						
D12A	Red Ives Fores	80.87	36	⇓P	P	02 03 11.6	-0.6
	baz=81						
I15A	Monteview	80.90	40	⇓P	P	02 03 12.5	+0.1
	baz=81						
G14A	Jackson	80.97	38	⇓P	P	02 03 12.6	-0.1
	baz=81,SNR=8.7						
GDL2	Guadalupe Moun	81.06	53	eP	P	02 03 14.0	+0.5
MCK	McKinley	81.06	11	eP	P	02 03 12.3	-0.5
MCK				pmax	pmax		
	comp=Z,36nm,0.9s,mb5.3						
MCK	McKinley	81.06	11	eP	P	02 03 12.3	-0.5
	comp=Z,36nm,0.9s,mb5.3						
J16A	Bone	81.07	41	⇓P	P	02 03 13.4	+0.1
	baz=81,SNR=12						
B11A	Sandpoint	81.09	34	⇓P	P	02 03 13.0	-0.3
	baz=81,SNR=7.0						
MCMT	McKenzie Canyo	81.12	39	eP	P	02 03 14.1	+0.6
H15A	Lima	81.13	39	⇑P	P	02 03 13.5	-0.1
	baz=81,SNR=9.6						
CN2	Changchun	81.19	320	eP	P	02 03 15.4	+1.5
E13A	Victor	81.19	37	⇑P	P	02 03 13.4	-0.5
	baz=81,SNR=20						
RRI2	Red Ridge	81.29	41	eP	P	02 03 14.5	+0.1
	comp=Z,24nm,1.0s,mb5.1						
F14A	Wisdom	81.33	38	⇓P	P	02 03 14.7	0.0
	baz=82,SNR=11						
A11A	Hall Mountain,	81.40	34	⇑P	P	02 03 14.7	-0.2
	baz=82,SNR=6.3						
D13A	Huson	81.40	36	⇓P	P	02 03 14.1	-0.8
	baz=82,SNR=28						
I16A	Newdale	81.46	40	⇓P	P	02 03 15.4	+0.1
	baz=82,SNR=5.0						
N19A	John Jarvie Ra	81.46	44	⇑P	P	02 03 15.0	-0.4
	baz=82,SNR=8.8						
G15A	Dillon	81.51	39	⇓P	P	02 03 16.0	+0.4
	baz=82,SNR=28						
MSO	Missoula	81.55	37	eP	P	02 03 15.3	-0.5
	comp=Z,22nm,1.2s,mb5.0						
DLMT	Dillon	81.55	38	eP	P	02 03 15.7	-0.1
	comp=Z,19nm,0.8s,mb5.1						
E14A	Clinton	81.58	37	⇑P	P	02 03 15.9	-0.1
	baz=82,SNR=40						
REDW	Red Top Meadow	81.59	41	eP	P	02 03 16.1	0.0
	comp=Z,42nm,1.3s,mb5.2						
TPAW	Teton Pass	81.59	41	eP	P	02 03 16.3	+0.2
	comp=Z,20nm,0.8s,mb5.1						
DLBC	Dease Lake	81.61	21	eP	P	02 03 16.1	+0.3
BSMT	Bassoo Peak	81.63	35	eP	P	02 03 15.7	-0.5
C13A	Hot Springs	81.66	36	⇓P	P	02 03 15.4	-0.9
	baz=82,SNR=7.3						
SNOW	Snow King Moun	81.70	41	eP	P	02 03 17.3	+0.6
	comp=Z,20nm,0.9s,mb5.0						
A12A	Yaak River Ran	81.77	34	⇓P	P	02 03 16.3	-0.6
	baz=82						
IMW	Indian Meadow	81.81	40	eP	P	02 03 17.5	+0.3
	comp=Z,51nm,1.6s,mb5.2						
MOOW	Moose Ponds	81.86	40	eP	P	02 03 17.7	+0.2
	comp=Z,30nm,1.5s,mb5.0						
F15A	Butte	81.87	38	⇓P	P	02 03 17.5	0.0
	baz=82,SNR=14						
LOHW	Long Hollow	81.88	41	eP	P	02 03 17.5	-0.1
	comp=Z,43nm,1.5s,mb5.2						
LRM	Limekiln Ridge	81.88	38	eP	P	02 03 16.3	-1.2
D14A	Greenough	81.94	37	⇑P	P	02 03 17.1	-0.7
	baz=82,SNR=13						
G16A	Moss Hill, Enn	81.96	39	⇓P	P	02 03 18.2	+0.2
	baz=82,SNR=11						
QLMT	Earthquake Lak	81.98	39	eP	P	02 03 19.2	+1.1
CHMT	Chamberlain Mo	81.99	37	eP	P	02 03 17.9	-0.2
H16A	Russell Place,	82.03	39	⇑P	P	02 03 19.3	+1.0
	baz=82,SNR=33						
I17A	Pilgram Creek	82.05	40	⇓P	P	02 03 19.5	+1.1
	baz=82,SNR=5.3						
E15A	Deer Lodge	82.09	37	⇑P	P	02 03 18.2	-0.4
	baz=82,SNR=9.7						
B13A	Whitefish	82.10	35	⇑P	P	02 03 17.7	-0.9
	baz=82,SNR=7.3						
BW06	Boulder Array	82.12	42	⇑P	P	02 03 18.7	-0.2
	baz=82,SNR=11						
BW06	Boulder Array	82.12	42	eP	P	02 03 18.7	-0.2
	comp=Z,38nm,1.5s,mb5.1						
PDAR	Pinedale Array	82.12	42	P	P	02 03 18.4	-0.5
	comp=Z,4.3nm,0.9s,mb4.4,baz=215,slow=3.3,SNR=22						
PDAR				LR	LR	02 32 26.6	
	comp=Z,762nm,18.7s,MS5.1,baz=207,slow=30						
C14A	Swan Lake	82.17	36	⇑P	P	02 03 18.3	-0.7
	baz=82						
YMR	Madison River	82.18	40	eP	P	02 03 20.0	+0.8
	comp=Z,60nm,1.3s,mb5.4						
LCCM	Lewis and Clar	82.23	38	P	P	02 03 19.5	+0.1
H17A	Grant Village	82.28	40	⇓P	P	02 03 20.9	+1.2
	baz=82						
COLA	College	82.30	11	eP	P	02 03 18.4	-0.9
COLA				pmax	pmax		
	comp=Z,27nm,0.8s,mb5.2						
COLA	College	82.30	11	eP	P	02 03 18.4	-0.9
	comp=Z,27nm,0.8s,mb5.2						
YNR	Norris Junctio	82.38	40	eP	P	02 03 19.5	-0.7
A13A	Flathead Natio	82.44	35	⇑P	P	02 03 20.4	0.0
	baz=83						
LKWY	Lake	82.48	40	eP	P	02 03 22.3	+1.6
LKWY				pmax	pmax		
	comp=Z,27nm,1.1s,mb5.1						
LKWY	Lake	82.48	40	eP	P	02 03 22.3	+1.6
	comp=Z,27nm,1.1s,mb5.1						
D15A	Lincoln	82.48	37	⇓P	P	02 03 20.7	0.0
	baz=83,SNR=23						
IMA2	Indian Mountai	82.51	8	eP	P	02 03 20.9	+0.5
SEY	Seymchan	82.55	345	eP	P	02 03 19.2	-1.4
SDCO	Great Sand Dun	82.56	48	eP	P	02 03 21.7	+0.4
	comp=Z,12nm,0.9s,mb4.9						
E16A	East Helena	82.71	38	⇓P	P	02 03 21.9	0.0
	baz=83,SNR=24						
HRY	Holter Researc	82.71	38	eP	P	02 03 21.7	-0.2
B14A	Marquette Ranc	82.76	36	⇑P	P	02 03 21.2	-0.8
	baz=83,SNR=18						
C15A	Salmond Ranch,	82.82	36	⇑P	P	02 03 21.9	-0.5
	baz=83,SNR=20						
A14A	Double T Ranch	83.01	35	⇓P	P	02 03 23.1	-0.2
	baz=83,SNR=18						
D16A	Dana Ranch, Ca	83.05	37	⇑P	P	02 03 23.8	+0.2
	baz=83,SNR=20						
B15A	Bradely Ranch,	83.14	36	⇑P	P	02 03 23.2	-0.9
	baz=83,SNR=20						
RWWY	Rawlins	83.14	44	eP	P	02 03 23.9	-0.3
E17A	Martinsdale	83.16	38	⇓P	P	02 03 24.2	0.0
	baz=83,SNR=12						
C16A	Fuhringer Ranc	83.33	37	⇓P	P	02 03 24.7	-0.4
	baz=84						
DAWY	Dawson	83.35	14	eP	P	02 03 24.8	0.0
ISCO	Idaho Springs	83.38	46	eP	P	02 03 25.7	+0.2
ISCO				pmax	pmax		
	comp=Z,13nm,0.9s,mb5.0						
ISCO	Idaho Springs	83.38	46	eP	P	02 03 25.7	+0.2
	comp=Z,13nm,0.9s,mb5.0						
A15A	Johnson Ranch,	83.39	35	⇑P	P	02 03 24.9	-0.5
	baz=84,SNR=29						
RLMT	Red Lodge	83.46	40	⇓P	P	02 03 26.2	+0.4
	baz=84,SNR=17						
RLMT	Red Lodge	83.46	40	eP	P	02 03 26.1	+0.3
	comp=Z,24nm,0.9s,mb5.2						
GCMT	Greycliff	83.54	39	eP	P	02 03 26.7	+0.5
F18A	Big Timber	83.57	39	⇑P	P	02 03 27.0	+0.7
	baz=84,SNR=22						
B16A	M & M Farms, S	83.67	36	⇓P	P	02 03 26.2	-0.6
	baz=84,SNR=17						
E18A	Harlowton	83.78	38	⇓P	P	02 03 27.8	+0.5
	baz=84,SNR=10						
C17A	Wharram Farm,	83.81	37	⇓P	P	02 03 27.4	-0.1
	baz=84,SNR=28						
JCT	Junction City	83.98	56	eP	P	02 03 27.8	-1.0
JCT				pmax	pmax		
	comp=Z,8.0nm,0.9s,mb4.8						
JCT	Junction City	83.98	56	eP	P	02 03 27.8	-1.0
	comp=Z,8.4nm,0.9s,mb4.9						
A16A	West Butte Ran	84.02	36	⇑P	P	02 03 27.9	-0.6
	baz=84,SNR=6.7						
AMTX	Amarillo	84.19	52	eP	P	02 03 29.5	-0.2
	comp=Z,46nm,0.9s,mb5.6						
EGMT	Eagleton	84.60	37	⇓P	P	02 03 31.5	0.0
	baz=85,SNR=5.5						
EGMT	Eagleton	84.60	37	eP	P	02 03 31.6	+0.1
EDM	Edmonton	85.37	31	eP	P	02 03 34.8	-0.4
BJI	Beijing	85.59	313	P	P	02 03 37.3	+0.6
BJI				AMB	AMB		
	comp=Z,14nm,0.5s,mb5.5						
BJI	Beijing	85.59	313	P	P	02 03 37.3	+0.6
	comp=Z,14nm,0.5s,mb5.5						
LAO	LASA Array	86.07	39	eP	P	02 03 39.5	+0.6
HKT	Hockley	87.01	58	eP	P	02 03 44.1	+0.2
HKT				pmax	pmax		
	comp=Z,21nm,1.5s,mb5.2						
HKT	Hockley	87.01	58	eP	P	02 03 44.1	+0.2
	comp=Z,21nm,1.5s,mb5.2						
MAW	Mawson	87.88	199	⇑iP	P	02 03 48.2	+0.8
	comp=Z,8.0nm,0.6s,mb5.1						
MAW	Mawson	87.88	199	P	P	02 03 48.6	+1.2
	comp=Z,7.8nm,0.6s,mb5.1,baz=128,slow=6.3,SNR=55						
MAW	Mawson	87.88	199	⇑iP	P	02 03 48.2	+0.8
MAW				pmax	pmax		
	comp=Z,8.0nm,0.6s						
DGMT	Dagmar	88.09	38	⇑P	P	02 03 48.6	0.0
	baz=88						
DGMT	Dagmar	88.09	38	eP	P	02 03 48.8	+0.2
	comp=Z,26nm,0.8s,mb5.5						
GYA	Guiyang	88.20	298	P	P	02 03 49.8	+0.1
GYA				AP	pP	02 03 54.6	-6.2
GYA				PP	PP	02 07 20.4	+3.1
GYA				SKS		02 14 15.9	
GYA				S	S	02 14 32.8	+0.7
GYA				AMB	AMB		
	comp=Z,20nm,1.0s,mb5.3						
GYA				AMB	AMB		
	comp=Z,140nm,5.2s						
GYA				LR	LR		
	comp=N,670nm,22.6s,MS5.1						
GYA				LR	LR		
	comp=E,520nm,23.9s,MS5.1						
GYA				LR	LR		
	comp=Z,700nm,22.0s,MS5.0						
XAN	Xi'an	88.77	306	P	P	02 03 53.2	+1.0
XAN				AP	pP	02 03 55.9	-7.5
XAN				XP	sP	02 03 57.2	-10
XAN				AMB	AMB		
	comp=Z,5.0nm,1.5s,mb4.6						
HHC	Hu-ho-hao-te	89.15	313	eP	P	02 03 55.1	+1.3
HHC				AP	pP	02 03 59.9	-5.1
HHC				XP	sP	02 04 02.7	-6.3
HHC				PP	PP	02 07 28.7	+4.1
HHC				SKS		02 14 23.0	
HHC				S	S	02 14 42.4	+2.0
HHC				XS	sS	02 14 50.5	-8.4
HHC				SS	SS	02 20 38.5	+3.4
HHC				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb5.1						
HHC				AMB	AMB		
	comp=Z,242nm,5.3s						
HHC				LR	LR		
	comp=N,204nm,16.1s,MS4.8						
HHC				LR	LR		
	comp=E,262nm,17.2s,MS4.8						
HHC				LR	LR		
	comp=Z,249nm,17.4s,MS4.7						
TGUH	Tegucigalpa,Un	89.84	75	eP	P	02 03 56.2	-1.4
YKA	Yellowknife Ar	90.00	23	P	P	02 03 56.9	-0.4
	comp=Z,3.8nm,0.7s,mb4.8,baz=240,slow=4.3,SNR=9.1						
ECSD	EROS,Sioux Fal	91.11	45	eP	P	02 04 01.5	-1.4
KMI	Kunming	91.19	296	P	P	02 04 03.7	0.0
KMI				AP	pP	02 04 14.4	-0.5
KMI				AMB	AMB		
	comp=Z,9.0nm,1.3s,mb4.9						
KMI	Kunming	91.19	296	P	P	02 04 03.7	0.0
KMI				*PP	pP	02 04 14.4	-0.5
KMI				*SP	sP	02 04 18.4	-0.5
KMI				pmax	pmax		
	comp=Z,9.0nm,1.3s,mb4.9						
KMI	Kunming	91.19	296	P	P	02 04 03.7	0.0
	comp=Z,9.0nm,1.3s,mb4.9						
KMI				pP	pP	02 04 14.4	-0.5
KMI				sP	sP	02 04 18.4	-0.5
CD2	Chengdu	91.96	301	eP	P	02 04 07.5	+0.3
CD2				AP	pP	02 04 18.1	-0.2
CD2				PP	PP	02 07 49.1	+1.9
CD2				SKS		02 14 35.9	
CD2				S	S	02 15 03.4	-3.3
CD2				XS	sS	02 15 21.0	-4.2
CD2				SS	SS	02 21 14.9	-1.3
CD2				AMB	AMB		
	comp=Z,20nm,0.8s,mb5.5						
CD2				AMB	AMB		
	comp=Z,80nm,6.2s						
SYO	Syowa Base	92.66	191	⇓eP	P	02 04 08.0	-1.7
CMAR	Chiang Mai Arr	92.79	288	i P	P	02 04 09.6	-1.6
CMAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
LZH	Lanzhou	93.36	306	⇓P	P	02 04 16.5	+3.0
LZH				AP	pP	02 04 21.3	-3.4
LZH				XP	sP	02 04 23.6	-5.1
LZH				PP	PP	02 08 04.2	+6.1
LZH				SKS		02 14 49.0	
LZH				eS	S	02 15 21.3	+2.4
LZH				XS	sS	02 15 29.5	-8.0
LZH				AMB	AMB		
	comp=Z,27nm,1.3s,mb5.5						
LZH				AMB	AMB		
	comp=Z,132nm,8.8s						
LZH				LR	LR		
	comp=E,367nm,17.5s						
LZH				LR	LR		
	comp=Z,506nm,20.0s,MS5.0						
LZH	Lanzhou	93.36	306	⇓P	P	02 04 16.5	+3.0
LZH				*SP	sP	02 04 23.6	-5.1
LZH						02 08 04.2	
LZH						02 14 49.0	
LZH				eS	S	02 15 21.3	+2.4
LZH				eSS	SS	02 21 41.7	+5.6
LZH				pmax	pmax		
	comp=Z,27nm,1.3s,mb5.5						
LZH				MLR	MLR		
	comp=Z,510nm,20.0s,MS5.0						
LZH	Lanzhou	93.36	306	⇓P	P	02 04 16.5	+3.0
	comp=Z,27nm,1.3s,mb5.5						
LZH				pP	pP	02 04 21.3	-3.4
LZH				sP	sP	02 04 23.6	-5.1
LZH				PP	PP	02 08 04.2	+6.1
LZH				SKS		02 14 49.0	
LZH				eS	S	02 15 21.3	+2.4
LZH				sS	sS	02 15 29.5	-8.0
LZH				eSS	SS	02 21 41.7	+5.6
LZH				LR	LR		
	comp=Z,510nm,20.0s,MS5.0						
ULM	Lac du Bonnet	93.80	39	LR	LR	02 39 16.5	
	comp=Z,758nm,18.6s,MS5.2,baz=239,slow=31						
MKAR	Makanchi Array	110.95	315	PKiKP	PKiKP	02 09 30.8	-0.5
	comp=Z,0.3nm,0.6s,baz=90,slow=1.4,SNR=2.6						
KURK	Kurchatov	113.25	319	PKiKP	PKiKP	02 09 35.4	-0.2
	comp=Z,0.6nm,0.7s,baz=93,slow=1.7,SNR=5.0						
KURK	Kurchatov	113.25	319	PKPdf	PKiKP	02 09 35.4	-0.2
EKS2	Erkin-Say	117.14	310	ePKPdf	PKPdf	02 09 41.4	-2.0
BRVK	Borovoye	118.04	322	ePKIKP	PKPdf	02 09 45.5	+0.8
ARCES	ARCESS Array B	124.61	352	PKP	PKPdf	02 09 55.5	-1.4
	comp=Z,6.4nm,1.0s,baz=345,slow=4.3,SNR=4.1						
APA	Apatity	125.05	348	⇑ePKIKP	PKPdf	02 09 50.5	-7.3
APA				pmax	pmax		
	comp=Z,43nm,1.4s						
AKASG	Malin Array Be	140.39	338	PKP	PKPdf	02 10 26.8	-0.3
	comp=Z,0.4nm,0.4s,baz=356,slow=1.0,SNR=4.5						
AKASG	Malin Array Be	140.39	338	i PKIKP	PKPdf	02 10 28.6	+1.5
LVV	L'vov	142.90	341	i PKIKP	PKPdf	02 10 40.7	+9.1
LSZ	Lusaka	142.93	216	ePKIKP	PKPdf	02 10 30.0	-2.7
KWP	Kalwaria	143.46	343	⇓iP	PKPdf	02 10 29.5	-3.1
KWP	Kalwaria	143.46	343	⇓P	PKPdf	02 10 28.9	-3.7
CLL	Collm	143.81	353	ePKPdf	PKPdf	02 10 31.0	-2.2
CLL				ex	x	02 10 59.0	
STHS	Stebnicka Huta	144.06	344	ePKP	PKPdf	02 10 32.2	-1.5
UPC	Upice	144.18	350	ePKP	PKPdf	02 10 32.1	-1.8
DPC	Dobruska-Polom	144.27	350	ePKP	PKPdf	02 10 33.8	-0.2
NIE	Niedzica	144.30	345	ePKP	PKPdf	02 10 31.3	-2.8
PVCC	Panska Ves	144.38	351	ePKP	PKPdf	02 10 33.2	-1.0
BUR08	Bucovina Ar. S	144.40	338	ePKPdf	PKPdf	02 10 33.8	-0.6
OKC	Ostrava-Krasne	144.41	347	ePKP	PKPdf	02 10 33.7	-0.6
OKC				ex	x	02 10 56.0	
BURAR	Bucovina Array	144.42	338	⇑iP	PKPdf	02 10 33.9	-0.5
BURAR	Bucovina Array	144.42	338	⇑P	PKPdf	02 10 33.9	-0.5
CRVS	Cervenica-Dubn	144.47	343	ePKP	PKPdf	02 10 33.9	-0.5
UZH	Uzhgorod	144.48	342	⇓iPKIKP	PKPdf	02 10 33.3	-1.1
MORC	Moravsky Berou	144.59	348	⇓iP	PKPdf	02 10 34.9	+0.3
MORC	Moravsky Berou	144.59	348	ePKPdf	PKPdf	02 10 33.7	-0.9
UCC	Uccle	144.62	3	PKP	PKPdf	02 10 34.1	-0.5
MEM	Membach	144.85	1	PKP	PKPdf	02 10 34.6	-0.5
PRU	Pruhonice	144.91	351	ePKP	PKPdf	02 10 35.3	+0.1
PRU				ex	x	02 10 52.8	
TLCR		144.96	332	⇓PKIKP	PKPdf	02 10 35.6	+0.2
TLCR		144.96	332	⇓iP	PKPdf	02 10 35.4	0.0
TLCR		144.96	332	⇓P	PKPdf	02 10 35.4	0.0
BCLA	Clavier	145.03	2	PKP	PKPdf	02 10 34.5	-0.9
MANZ	Manzenberg	145.21	354	ePKPbc	PKPbc	02 10 35.7	+0.4
TNS	Taunus Mts	145.22	358	ePKPbc	PKPbc	02 10 35.6	+0.3
VRAC	Vranov	145.23	349	⇓iP	PKPbc	02 10 35.7	+0.3
VRAC	Vranov	145.23	349	P	PKPbc	02 10 36.4	+1.0
ODB	Odobesti	145.25	335	⇓iP	PKPbc	02 10 37.6	+2.0
ODB	Odobesti	145.25	335	⇓P	PKPbc	02 10 37.6	+2.1
VRI	Vrincioaia	145.31	335	⇓iP	PKPbc	02 10 36.2	+0.4
VRI	Vrincioaia	145.31	335	⇓P	PKPbc	02 10 36.2	+0.4
GIVF	Givet	145.33	2	ePKP1	PKPbc	02 10 35.1	-0.6
BAIF	Baives	145.35	3	ePKP1	PKPbc	02 10 35.5	-0.3
PLOR	Plostina	145.35	335	⇓iP	PKPbc	02 10 36.5	+0.6
ROTZ	Rotzenmuhle	145.42	354	ePKPbc	PKPbc	02 10 36.5	+0.5
TREC	Trest	145.44	350	ePKP	PKPdf	02 10 36.1	0.0
VYHS	Vyhne	145.52	346	ePKP	PKPdf	02 10 36.5	+0.2
KOLL	Kolacno	145.54	346	ePKP	PKPdf	02 10 36.8	+0.5
KOLL				e		02 10 47.7	
GRA1	Grafenberg Arr	145.59	355	ePKPbc	PKPbc	02 10 37.0	+0.5
GRF	Grafenberg Arr	145.59	355	ePKPbc	PKPbc	02 10 37.0	+0.5
KMBO	Kilima Mbogo	145.72	244	PKPbc	PKPbc	02 10 39.8	+1.7
	comp=Z,3.4nm,0.9s,baz=71,slow=3.3,SNR=10.0						
KMBO	Kilima Mbogo	145.72	244	ePKPbc	PKPbc	02 10 39.1	+1.0
HARR	Harsova	145.74	333	⇓iP	PKPbc	02 10 38.3	+1.1
HARR	Harsova	145.74	333	⇓P	PKPbc	02 10 38.3	+1.2
PSZ	Piszkesteto	145.79	344	PKP2	PKPab	02 10 38.6	+1.0
PSZ	Piszkesteto	145.79	344	ePKPbc	PKPbc	02 10 37.1	-0.1
WLF	Walferdange	145.80	1	ePKPbc	PKPbc	02 10 37.9	+0.7
WLF	Walferdange	145.80	1	ePKPbc	PKPbc	02 10 38.7	+1.5
KHC	Kasperske Hory	145.88	352	ePKP	PKPdf	02 10 38.4	+1.6
KHC				ex	x	02 10 49.0	
KHC				ex	x	02 10 56.5	
MLR	Muntele Rosu	145.93	336	⇓iP	PKPbc	02 10 39.3	+1.6
MLR	Muntele Rosu	145.93	336	P	PKPbc	02 10 39.8	+2.1
WET	Wettzell	145.96	353	ePKPbc	PKPbc	02 10 38.2	+0.5
MODS	Modra-Piesok	145.98	347	ePKP	PKPbc	02 10 39.1	+1.3
MODS				e		02 10 49.2	
DRGR		145.98	340	⇓iP	PKPdf	02 10 38.6	+1.5
DRGR		145.98	340	P	PKPdf	02 10 39.1	+2.0
ROSF	Rostrenen	146.10	12	ePKP1	PKPbc	02 10 37.6	-0.6
GEC2	GERESS Array S	146.15	352	ePKPbc	PKPbc	02 10 38.6	+0.3
GERES	GERESS Array B	146.15	352	PKPbc	PKPbc	02 10 38.2	0.0
	comp=Z,2.8nm,0.7s,baz=21,slow=1.9,SNR=24						
FLN	La Foliniere	146.18	9	ePKP1	PKPbc	02 10 38.1	-0.3
	comp=Z,35nm,0.9s						
FLN				eMLR	MLR		
	comp=Z,425nm,23.0s,MS4.9						
FLN	La Foliniere	146.18	9	ePKP	PKPdf	02 10 38.1	+0.7
FLN				LR	LR		
	comp=Z,420nm,23.0s,MS5.2						
BR131	Keskin Array S	146.26	321	ePKPbc	PKPbc	02 10 40.0	+1.1
SGMF	Saint Gilles	146.32	11	ePKP1	PKPbc	02 10 38.3	-0.5
	comp=Z,87nm,1.4s						
VOIR		146.32	337	⇓iP	PKPbc	02 10 40.1	+1.2
VOIR		146.32	337	P	PKPbc	02 10 40.2	+1.3
LDF	La Druitiere	146.39	8	ePKP1	PKPbc	02 10 38.5	-0.5
GRR	Gorron	146.48	9	ePKP1	PKPbc	02 10 38.7	-0.6
QUIF	Quistinic	146.52	12	ePKP1	PKPbc	02 10 39.5	+0.1
	comp=Z,45nm,1.1s						
STU	Stuttgart	146.64	357	ePKPbc	PKPbc	02 10 40.7	+1.0
ANTO	Ankara	146.68	322	⇑iP	PKPbc	02 10 42.1	+2.0
ANTO	Ankara	146.68	322	⇑P	PKPbc	02 10 42.1	+2.0
CONA	Conrad Observa	146.69	349	⇑iPKPdf	PKPdf	02 10 37.8	-0.5
	comp=Z,9.7nm,0.9s						
CSNA	Conrad Observa	146.69	349	⇑iPKPdf	PKPdf	02 10 37.9	-0.4
	comp=Z,9.3nm,0.9s						
MOA	Molln	147.04	351	⇑iPKPab	PKPab	02 10 42.0	-0.4
	comp=Z,12nm,1.4s						
CDF	Champ du Feu	147.06	359	ePKP1	PKPbc	02 10 40.7	-0.2
	comp=Z,32nm,1.2s						
FUR	Furstenfeldbru	147.10	354	ePKPbc	PKPbc	02 10 42.0	+0.9
BFO	Black Forest	147.12	358	ePKPbc	PKPbc	02 10 41.1	0.0
GZR	Gura Zlata	147.19	339	⇑PKIKP	PKPdf	02 10 40.1	+0.9
RJOB	Jochberg	147.35	352	ePKPbc	PKPbc	02 10 42.9	+1.1
BZS	Buzias	147.38	341	⇑iP	PKPbc	02 10 42.5	+0.6
BZS	Buzias	147.38	341	P	PKPbc	02 10 42.3	+0.4
HAU	Haudompre	147.46	1	ePKP1	PKPbc	02 10 41.9	-0.2
	comp=Z,32nm,1.1s						
HAU				eMLR	MLR		
	comp=Z,343nm,19.0s,MS4.9						
HAU	Haudompre	147.46	1	ePKP	PKPbc	02 10 41.9	-0.2
HAU				LR	LR		
	comp=Z,340nm,19.0s,MS5.2						
HINF	Hinteralfeld	147.66	360	ePKP1	PKPbc	02 10 42.2	-0.4
PKSM	Moragy	147.70	345	PKP2	PKPab	02 10 43.4	-1.7
ASF	Jabal al Asfar	147.93	307	PKPbc	PKPbc	02 10 45.5	+1.7
	comp=Z,2.5nm,0.7s,baz=282,slow=2.9,SNR=4.9						
PERS	Pernice	148.07	349	ePKPdf	PKPbc	02 10 43.6	-0.2
PERS				i		02 10 58.5	
PERS				i		02 11 04.7	
LOR	Lormes	148.11	4	ePKP1	PKPbc	02 10 43.5	-0.3
LOR				eMLR	MLR		
	comp=Z,381nm,22.2s,MS4.8						
LOR	Lormes	148.11	4	ePKP	PKPbc	02 10 43.5	-0.3
LOR				LR	LR		
	comp=Z,380nm,22.3s,MS5.1						
FETA	Feichten	148.28	355	⇑iPKiKP	PKiKP	02 10 45.5	-0.4
	comp=Z,9.9nm,1.5s						
SSF	Saint Saulge	148.29	4	ePKP1	PKPbc	02 10 44.0	-0.3
	comp=Z,15nm,0.9s						
MFF	Saint Martin d	148.33	9	ePKP1	PKPbc	02 10 43.6	-0.9
	comp=Z,38nm,1.3s						
AVF	Avril sur Loir	148.55	5	ePKP1	PKPbc	02 10 44.7	-0.3
MMAI	Mount Meron Ar	148.70	309	PKPbc	PKPbc	02 10 47.6	+1.8
	comp=Z,7.4nm,0.7s,baz=52,slow=5.5,SNR=14						
SMF	Signal de Mont	148.73	4	ePKP1	PKPbc	02 10 45.1	-0.4
CABF	La Chapelle	148.85	1	ePKP1	PKPbc	02 10 46.0	+0.2
VISS	Visnje	148.92	349	ePKPdf	PKPbc	02 10 46.0	0.0
VISS				i		02 11 11.2	
TUE	Stuetta	148.93	357	ePKPbc	PKPbc	02 10 46.8	+0.8
BOJS	Bojanci	149.13	348	i PKPdf	PKPbc	02 10 47.4	+0.9
BOJS				e		02 11 01.7	
CSS	Prodhromos	149.22	314	ePKPbc	PKPbc	02 10 45.3	-1.8
LPL	La Plagne	149.96	0	ePKP1	PKPbc	02 10 49.5	+0.9
LPG	La Plagne	149.97	0	ePKP1	PKPbc	02 10 49.6	+1.0
	comp=Z,21nm,1.1s						
BNI	Bardonecchia	150.42	0	ePKIKP	PKPbc	02 10 51.5	+1.8
ORIF	Oris-en-Rattie	150.54	1	ePKP1	PKPbc	02 10 50.4	+0.4
	comp=Z,30nm,1.3s						
ORIF				eMLR	MLR		
	comp=Z,244nm,20.0s,MS4.7						
MBDF	Montbardon	150.75	0	ePKP1	PKPbc	02 10 50.8	+0.3
	comp=Z,10nm,0.9s						
PBRG	Braganca	151.19	21	ePKP	PKPbc	02 10 51.9	+0.3
PVRL	Vila Real	151.29	23	ePKP	PKPbc	02 10 52.2	+0.3
SJPF	Ste Jean	151.52	12	ePKP1	PKPbc	02 10 52.4	+0.1
SBF	Sospel	151.60	359	ePKP1	PKPbc	02 10 52.4	-0.1
	comp=Z,43nm,1.2s						

MVO	**Moncorvo**	**151.65**	**22**	*e*PKP	PKPbc	02 10 52.9	+0.2
PVIS	**Viseu**	**151.70**	**24**	*e*PKP	PKPbc	02 10 53.3	+0.5
ETSF	**Etsaut**	**151.86**	**12**	*e*PKP1	PKPbc	02 10 53.7	+0.6
	comp=Z,11nm,0.7s						
EPF	**Esparros**	**151.89**	**10**	*e*PKP1	PKPbc	02 10 53.8	+0.6
PTOM	**Tomar**	**152.42**	**26**	*e*PKP	PKPbc	02 10 54.9	+0.4
PCBR	**Castelo Branco**	**152.62**	**24**	*e*PKP	PKPbc	02 10 54.9	0.0
EVO	**Evora**	**153.50**	**27**	*e*PKP2	PKPab	02 11 09.1	-0.1
	comp=Z,15nm,0.9s						
EVO				*e*MLR	MLR		
	comp=Z,370nm,21.2s,MS4.9						
ESDC	**Sonseca Array**	**154.03**	**19**	PKP	PKPdf	02 10 50.6	+0.7
	comp=Z,0.9nm,0.7s,baz=277,slow=37,SNR=3.0						
ESDC				PKPbc	PKPbc	02 10 57.8	-0.2
	comp=Z,1.0nm,0.7s,baz=320,slow=2.2,SNR=5.2						
TORD	**Torodi Ar. Bea**	**174.58**	**113**	PKP	PKPdf	02 11 09.7	+0.9
	comp=Z,1.3nm,1.3s,baz=339,slow=0.8,SNR=3.2						
TORD				PKPab	PKPab	02 12 40.8	-1.5
	comp=Z,1.2nm,0.9s,baz=277,slow=5.5,SNR=3.6						

CASC 10 02:02:55.3±2.0**, 1353N**×**9147W, h31**km±39km**, MD4.1, 1C, Near coast of Guatemala**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JAT	**Jato**	**0.81**	**348**	*e*P	Pn	02 03 10.4	-0.1
FUG	**Fuego 3**	**1.10**	**33**	*e*P	Pn	02 03 14.8	+0.3
FG6		**1.18**	**29**	*e*P	Pn	02 03 16.0	+0.4
PCG	**Pacaya**	**1.20**	**44**	*e*P	Pn	02 03 16.8	+0.8
NBG	**Las Nubes**	**1.52**	**46**	*e*P	Pn	02 03 21.2	+0.9
NBG				*e*S	Sn	02 03 40.7	+1.8
RTR	**El Retiro**	**1.81**	**78**	*e*P	x	02 03 24.2	
RTR				*e*S	x	02 03 48.3	
RBDL	**Robledal**	**1.83**	**71**	*e*P	x	02 03 24.8	
RBDL				*e*S	x	02 03 49.2	
SNJE	**San Jose**	**1.84**	**79**	⇑*e*P	x	02 03 24.4	
SNJE				*e*S	x	02 03 48.5	
BOQS	**Boqueron**	**2.14**	**84**	*e*P	x	02 03 28.5	
BOQS				*e*S	x	02 03 54.5	
SNET	**Serv Nac Est T**	**2.18**	**86**	*e*P	x	02 03 29.7	
SNET				*e*S	x	02 03 56.3	
MTO2	**Montecristo 2**	**2.22**	**67**	*e*P	x	02 03 30.5	
LFRS	**El Faro**	**2.34**	**87**	*e*P	x	02 03 32.1	
LFRS				*e*S	x	02 04 01.3	
VSM	**San Miguel**	**3.11**	**91**	*e*P	x	02 03 44.0	

*IDC **10** 02:09:07.4±8.3, 3594N×7089E, h52km±75km, mb3.4/5, mb1 3.6/8, mb1mx3.4/23, mbtmp3.5/8, ML3.7/3, Error ellipse: s-maj=47.8km s-min=26.7km az=23.0*
*ISCJB **10** 02:09:12.6±0.6, 3630N±004×71.15E±007, h117km±9km, mb3.5/4, Error ellipse: s-maj=9.4km s-min=6.2km az=11.6*
*NEIC **10** 02:09:13.1±0.9, 3623N×7102E, h100km±10km, mb4.0/2, Error ellipse: s-maj=19.0km s-min=9.3km az=125.0*
*NNC **10** 02:09:19.1±5.0, 3681N×7061E, h132km±78km, mb3.2, mpv3.9, Error ellipse: s-maj=41.5km s-min=27.5km az=29.0*
ISC 10 02:09:12.9±0.8**, 3623N**±004×**7110E**±008**, h101**km±10km**, n31,** σ**1§10**/41**, mb3.5**/4**, 4C-4D, Afghanistan-Tajikistan border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KBL	**Kabul**	**2.38**	**225**	*e*Pn	**Pn**	**02 09 50.8**	**+0.4**
KBL				*e*Sn	**Sn**	**02 10 24.8**	**+5.6**
AML	**Almayashu**	**6.23**	**18**	P	**Pn**	**02 10 43.1**	**+0.9**
	SNR=62						
AML	**Almayashu**	**6.23**	**18**	*e*Pn	**Pn**	**02 10 42.7**	**+0.5**
	21nm,0.4s						
AML				*e*Sn	**Sn**	**02 11 49.3**	**-2.6**
UCH	**Uchtor**	**6.55**	**23**	P	**Pn**	**02 10 47.7**	**+1.2**
	SNR=6.9						
UCH	**Uchtor**	**6.55**	**23**	*e*Pn	**Pn**	**02 10 47.2**	**+0.7**
	2.7nm,0.4s						
UCH				*e*Sn	**Sn**	**02 11 58.6**	**-1.1**
EKS2	**Erkin-Say**	**6.75**	**17**	P	**Pn**	**02 10 50.5**	**+1.3**
	SNR=8.9						
EKS2	**Erkin-Say**	**6.75**	**17**	*e*Pn	**Pn**	**02 10 49.5**	**+0.2**
	2.8nm,0.4s						
KK31	**Karatay Array**	**6.88**	**356**	⇓P	**Pn**	**02 10 50.0**	**-1.0**
	2.0nm,0.2s,baz=181,slow=11,SNR=124						
KK31				⇑S	**Sn**	**02 12 01.3**	**-6.4**
	1.0nm,0.3s,baz=181,slow=19,SNR=8.5						
AAK	**Ala-Archa**	**6.91**	**21**	P	**Pn**	**02 10 52.5**	**+1.1**
	SNR=8.1						
CHMS	**Chumysh**	**7.32**	**22**	P	**Pn**	**02 10 58.2**	**+1.2**
	SNR=5.3						
TKM2	**Tokmak 2**	**7.53**	**26**	⇑P	**Pn**	**02 11 00.8**	**+1.0**
	6.5nm,0.5s						
TKM2				⇑S	**Sn**	**02 12 23.0**	**-0.5**
	1.9nm,0.5s						
TKM2	**Tokmak 2**	**7.53**	**26**	P	**Pn**	**02 11 07.5**	**+7.6**
	SNR=5.6						
TKM2	**Tokmak 2**	**7.53**	**26**	*e*Pn	**Pn**	**02 11 00.3**	**+0.5**
	9.3nm,0.5s						
DANN	**Dangsing**	**13.28**	**123**	*e*P	**Pn**	**02 12 16.8**	**-0.5**
DANN				*e*S	**Sn**	**02 14 34.4**	**-9.0**
MKAR	**Makanchi Array**	**13.46**	**35**	P	**Pn**	**02 12 21.3**	**+1.7**
	0.3nm,0.3s,baz=211,slow=33,SNR=3.0						
KOLN	**Koldanda**	**13.54**	**125**	*e*P	**Pn**	**02 12 19.7**	**-1.1**
	3.6nm,0.3s						
KOLN				*e*S	**Sn**	**02 14 41.9**	**-8.0**
GKN	**Gorkha**	**14.10**	**122**	*e*P	**Pn**	**02 12 26.7**	**-1.3**
GKN				*e*S	**Sn**	**02 14 54.8**	**-8.4**
AB31	**Akbulak array**	**15.36**	**331**	⇑P	**Pn**	**02 12 40.3**	**-3.5**
	1.4nm,0.3s,baz=157,slow=12,SNR=80						
AB31				⇓S	**Sn**	**02 15 18.7**	**-15**
	0.9nm,0.6s,baz=152,slow=23,SNR=4.1						
JIRN	**Jiri**	**15.39**	**119**	*e*P	**Pn**	**02 12 44.6**	**+0.2**
	9.0nm,0.4s						
KURK	**Kurchatov**	**15.46**	**18**	P	**Pn**	**02 12 45.7**	**+0.6**
	0.1nm,0.3s,baz=210,slow=11,SNR=7.7						
KURK	**Kurchatov**	**15.46**	**18**	P	**Pn**	**02 12 45.7**	**+0.6**
RAMN	**Ramite**	**16.11**	**121**	*e*P	**Pn**	**02 12 53.9**	**+0.5**
	4.1nm,0.4s						
AKTK	**Aktyubinsk**	**17.05**	**330**	P	**Pn**	**02 13 04.2**	**-0.6**
AKTO	**Aktyubinsk**	**17.05**	**330**	⇓P	**Pn**	**02 13 02.7**	**-2.1**
	0.7nm,0.8s						
AKTO				⇓S	**S**	**02 16 02.8**	**-12**
	0.6nm,1.8s						
AKTO	**Aktyubinsk**	**17.05**	**330**	P	**Pn**	**02 13 04.2**	**-0.6**
	0.4nm,0.3s,baz=146,slow=14,SNR=14						
ZALV	**Zalesovo Beam**	**20.13**	**24**	P	**P**	**02 13 38.6**	**+0.1**
	2.2nm,0.4s,baz=229,slow=10,SNR=12						
ARCES	**ARCESS Array B**	**41.42**	**338**	P	**P**	**02 16 51.0**	**+2.1**
	1.3nm,0.6s,mb4.0,baz=106,slow=8.2,SNR=7.6						
NOA	**NORSAR Array B**	**44.64**	**323**	P	**P**	**02 17 15.4**	**+0.5**
	1.0nm,0.9s,mb3.5,baz=94,slow=6.5,SNR=2.5						
TORD	**Torodi Ar. Bea**	**65.79**	**269**	P	**P**	**02 19 46.0**	**-1.5**
	0.3nm,0.5s,mb3.4,baz=44,slow=6.2,SNR=9.5						
TORD	**Torodi Ar. Bea**	**65.79**	**269**	P	**P**	**02 19 46.0**	**-1.5**
WRA	**Warramunga Arr**	**81.78**	**122**	P	**P**	**02 21 21.1**	**+0.5**
	0.4nm,0.9s,mb3.2,baz=327,slow=5.0,SNR=8.2						

*IDC **10** 02:47:14.1±14.0, 2109S×17022E, h0km, mb4.0/5, mb1 4.1/5, mb1mx3.9/16, mbtmp4.0/5, Error ellipse: s-maj=234.1km s-min=108.2km az=68.0*
NEIC 10 02:47:30.8±4.1**, 2100S**×**16869E, h35**km**, mb3.9**/1**, Error ellipse: s-maj=71.4km s-min=39.9km az=113.0, Loyalty Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**2.35**	**243**	*e*P	Pn	02 48 06.7	-0.2
DZM	**Mont Dzumac**	**2.35**	**243**	*e*Pn	Pn	02 48 07.1	+0.3
NOUC	**Port Laguerre**	**2.48**	**243**	*e*P	Pn	02 48 08.4	-0.3
CTA	**Charters Tower**	**21.03**	**268**	P	P	02 52 15.3	+3.6
	3.6nm,0.6s,baz=103,slow=12,SNR=5.5						
CTA	**Charters Tower**	**21.03**	**268**	P	P	02 52 15.3	+3.6
CTAO	**Charters Tower**	**21.03**	**268**	*e*P	P	02 52 11.5	-0.1
	3.8nm,0.7s						
STKA	**Stephens Creek**	**26.50**	**240**	P	P	02 53 04.8	-0.2
	1.5nm,0.7s,baz=104,slow=12,SNR=2.9						
STKA	**Stephens Creek**	**26.50**	**240**	P	P	02 53 04.8	-0.2
WRA	**Warramunga Arr**	**32.17**	**266**	P	P	02 53 55.1	-0.3
	0.7nm,0.8s,baz=102,slow=8.4,SNR=3.2						
ASAR	**Alice Springs**	**32.24**	**259**	P	P	02 53 56.2	+0.1
	1.9nm,0.8s,baz=80,slow=9.0,SNR=16						
FITZ	**Fitzroy Crossi**	**40.59**	**266**	P	P	02 55 08.0	+0.6
	3.2nm,0.9s,baz=107,slow=14,SNR=4.6						

*ISCJB **10** 02:51:43.4±1.2, 192N±0.1×6589W±004, h107km±20km, Error ellipse: s-maj=23.5km s-min=6.5km az=178.4*
*NEIC **10** 02:51:44.5, 19.10N×6587W, h112km, MD4.4(RSPR), After RSPR.*
NEIC Felt at San Juan.
*RSPR **10** 02:51:44.5, 19.10N×6587W, h112km±5km, MD4.4/16, MD4.4/16*
ISC 10 02:51:43.9±1.2**, 193N**±01×**6590W**±004**, h89**km±29km**, n23,** σ**0§77**/41**, 18C-5D, Puerto Rico region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CBYP	**Canovanas**	**1.01**	**178**	⇓*e*P	**Pn**	**02 52 02.0**	**-1.8**
HUMP	**Col San Antoni**	**1.14**	**178**	⇓*e*P	**Pn**	**02 52 04.1**	**-1.2**
HUMP	**Col San Antoni**	**1.14**	**178**	⇓*e*P	**Pn**	**02 52 04.9**	**-0.3**
HUMP				*e*S	**Sn**	**02 52 20.7**	**-0.5**
HUMP	**Col San Antoni**	**1.14**	**178**	⇓*e*P	**Pn**	**02 52 04.1**	**-1.2**
HUMP				*e*S	**Sn**	**02 52 20.7**	**-0.5**
SJG	**San Juan**	**1.19**	**192**	⇑*e*P	**Pn**	**02 52 05.4**	**-0.5**
SJG				*e*S	**Sn**	**02 52 22.2**	**-0.2**
SJG	**San Juan**	**1.19**	**192**	⇑*e*P	**Pn**	**02 52 05.4**	**-0.5**
SJG	**San Juan**	**1.19**	**192**	⇑*e*P	**Pn**	**02 52 05.8**	**-0.1**
SJG				*e*S	**Sn**	**02 52 21.7**	**-0.7**
SJG				*e*S	**Sn**	**02 52 22.2**	**-0.2**
SJG	**San Juan**	**1.19**	**192**	⇑*e*P	**Pn**	**02 52 05.8**	**-0.1**
SJG				*e*S	**Sn**	**02 52 21.7**	**-0.7**
MTP	**Monte Pirata**	**1.23**	**164**	⇑*e*P	**Pn**	**02 52 05.2**	**-1.1**
AOPR	**Arecibo Observ**	**1.24**	**221**	⇓*e*P	**Pn**	**02 52 05.3**	**-1.1**
AOPR				*e*S	**Sn**	**02 52 23.2**	**-0.1**
CPD	**Cerro la Pandu**	**1.24**	**181**	⇑*e*P	**Pn**	**02 52 05.8**	**-0.7**
CPD				*e*S	**Sn**	**02 52 22.8**	**-0.7**
STVI	**Saint Thomas**	**1.29**	**136**	⇑*e*P	**Pn**	**02 52 07.1**	**+0.1**
STVI				*e*S	**Sn**	**02 52 25.3**	**+0.8**
CELP	**Cerrillos**	**1.37**	**208**	⇑*e*P	**Pn**	**02 52 08.1**	**+0.1**
OBIP	**Obispado Ponce**	**1.41**	**209**	⇑*e*P	**Pn**	**02 52 08.2**	**-0.3**
OBIP				*e*S	**Sn**	**02 52 26.8**	**-0.3**
AGPR	**Aguadilla, PR**	**1.41**	**235**	⇑*e*P	**Pn**	**02 52 09.2**	**+0.6**
AGPR				*e*S	**Sn**	**02 52 28.9**	**+1.8**
AGPR	**Aguadilla, PR**	**1.41**	**235**	⇑*e*P	**Pn**	**02 52 09.2**	**+0.6**
AGPR				*e*S	**Sn**	**02 52 28.9**	**+1.8**
TBVI	**Tortola**	**1.49**	**125**	⇑*e*P	**Pn**	**02 52 09.2**	**-0.4**
TBVI				*e*S	**Sn**	**02 52 29.2**	**+0.3**
ICM	**Isla Caja Muer**	**1.51**	**203**	⇑*e*P	**Pn**	**02 52 10.0**	**+0.2**
ICM				*e*S	**Sn**	**02 52 29.4**	**+0.1**
LSP	**Las Mesas**	**1.58**	**226**	⇑*e*P	**Pn**	**02 52 10.5**	**-0.2**
LSP				*e*S	**Sn**	**02 52 31.8**	**+0.9**
LSP	**Las Mesas**	**1.58**	**226**	⇑*e*P	**Pn**	**02 52 10.5**	**-0.2**
LSP				*e*S	**Sn**	**02 52 31.8**	**+0.9**
ABV	**Anegada**	**1.58**	**110**	⇑*e*P	**Pn**	**02 52 11.3**	**+0.7**
CRPR	**Cabo Rojo, PR**	**1.72**	**222**	⇑*e*P	**Pn**	**02 52 12.6**	**+0.1**
CRPR				*e*S	**Sn**	**02 52 34.6**	**+0.6**
CDVI	**St. Croix**	**1.87**	**145**	⇑*e*P	**Pn**	**02 52 15.4**	**+1.0**
CDVI				*e*S	**Sn**	**02 52 38.9**	**+1.4**

IDC 10 02:52:31.3±3.3**, 451S**×**15302E, h0**km**, mb3.9**/3**, mb1 4.1**/3**, mb1mx3.8**/16**, mbtmp3.9**/3**, Error ellipse: s-maj=122.5km s-min=46.4km az=124.0, New Ireland region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.80**	**228**	P	P	02 57 45.6	-0.5
	2.6nm,0.5s,baz=53,slow=9.9,SNR=37						
ASAR	**Alice Springs**	**26.51**	**222**	P	P	02 58 11.2	+0.5
	0.5nm,0.4s,baz=57,slow=8.7,SNR=10						
FITZ	**Fitzroy Crossi**	**29.99**	**241**	P	P	02 58 42.0	+0.1
	1.1nm,0.4s,baz=53,slow=15,SNR=13						
TORD	**Torodi Ar. Bea**	**150.43**	**289**	PKPbc	PKPbc	03 12 25.5	-0.5
	0.2nm,0.4s,baz=86,slow=2.2,SNR=5.7						

IDC 10 03:28:37.1±3.2**, 466S**×**15293E, h0**km**, mb3.7**/3**, mb1 4.0**/3**, mb1mx3.6**/16**, mbtmp3.8**/3**, Error ellipse: s-maj=127.7km s-min=44.6km az=125.0, New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.64**	**228**	P	P	03 33 50.6	+0.2
	2.1nm,0.5s,baz=53,slow=9.9,SNR=27						
ASAR	**Alice Springs**	**26.34**	**222**	P	P	03 34 14.9	-0.1
	0.2nm,0.4s,baz=56,slow=9.0,SNR=3.9						
FITZ	**Fitzroy Crossi**	**29.84**	**241**	P	P	03 34 46.2	-0.2
	1.2nm,0.7s,baz=70,slow=12,SNR=13						
TORD	**Torodi Ar. Bea**	**150.39**	**288**	PKPbc	PKPbc	03 48 31.4	-0.3
	0.5nm,0.5s,baz=92,slow=2.2,SNR=9.9						

*NNC **10** 03:34:20.3±4.4, 3882N×7324E, h203km±60km, mb2.6, mpv3.6, Error ellipse: s-maj=50.0km s-min=21.8km az=7.0*
ISC 10 03:34:18.3±2.8**, 386N**±02×**732E**±02**, h154**km±45km**, n8,** σ**0§35**/10**, 1C-3D, Tajikistan-Xinjiang border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
AML	**Almayashu**	**3.58**	**6**	P	**Pn**	**03 35 12.9**	**-0.3**
	SNR=162						
UCH	**Uchtor**	**3.79**	**15**	P	**Pn**	**03 35 15.7**	**-0.1**
	SNR=22						
EKS2	**Erkin-Say**	**4.12**	**6**	P	**Pn**	**03 35 20.3**	**+0.3**
	SNR=28						
AAK	**Ala-Archa**	**4.18**	**13**	P	**Pn**	**03 35 21.7**	**+0.8**
	SNR=7.5						
ULHL	**Ulahol**	**4.34**	**31**	P	**Pn**	**03 35 22.3**	**-0.6**
	SNR=8.4						
TKM2	**Tokmak 2**	**4.71**	**22**	⇓P	**Pn**	**03 35 27.7**	**-0.1**
	0.8nm,0.4s						
TKM2				⇓S	**Sn**	**03 36 22.2**	**+0.1**
	3.4nm,0.6s						
KK31	**Karatay Array**	**4.98**	**336**	⇓P	**Pn**	**03 35 31.5**	**+0.1**
	18nm,0.3s,baz=155,slow=15,SNR=209						
KK31				S	**Sn**	**03 36 28.4**	**-0.2**
	6.1nm,0.1s,baz=158,slow=24,SNR=8.9						
AB31	**Akbulak array**	**14.33**	**323**	P	**Pn**	**03 37 33.9**	**0.0**
	1.1nm,0.4s,baz=129,slow=13,SNR=51						
AB31				⇑S	Sx	03 40 06.2	
	0.5nm,0.3s						

*THR **10** 03:53:33.7±0.6, 2722N×56.14E, h8km±7km, ML3.4*
*CSEM **10** 03:53:33.1±0.2, 2744N×5595E, h2km, Ms3.6, Error ellipse: s-maj=7.3km s-min=3.0km az=13.0*
*ISCJB **10** 03:53:34.1±0.5, 2729N±004×5599E±005, h10km, Error ellipse: s-maj=7.1km s-min=5.5km az=21.4*
ISC 10 03:53:35.3±0.5**, 2726N**±004×**5611E**±007**, h10**km**, n16,** σ**0§93**/18**, Southern Iran**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BNDS	**Bandar-Abbas**	**0.15**	**22**	*e*Pg	**Pg**	**03 53 37.6**	**-1.1**
BNDS				*e*Sg	**Sg**	**03 53 40.6**	**-0.4**
BANOM	**Banah**	**1.34**	**173**	Pn	**Pn**	**03 53 58.8**	**-1.3**
	SNR=60						
BANOM				Sn	**Sn**	**03 54 18.3**	**+0.3**
NAZ	**Nazwa, Dubai**	**2.30**	**190**	Pn	**Pn**	**03 54 14.0**	**+0.7**
	SNR=8.6						
HATD	**Hatta, Dubai**	**2.42**	**180**	Pn	**Pn**	**03 54 14.8**	**-0.2**
	SNR=18						
FAQ	**Al Faqa, Dubai**	**2.55**	**191**	Pn	**Pn**	**03 54 16.9**	**+0.2**
	SNR=6.1						
ASUD	**Al Ashush, Dub**	**2.71**	**195**	P	**Pn**	**03 54 20.0**	**+1.0**
	SNR=22						
KRBR	**Kerman**	**2.77**	**12**	*e*Pn	**Pn**	**03 54 21.3**	**+1.5**
KRBR				AML	AML	03 55 03.5	
	comp=N,168nm,0.6s						
KRBR				AML	AML	03 55 09.0	
	comp=E,165nm,0.5s						
GHIR	**Ghir-Karzin**	**2.95**	**291**	*e*Pn	**Pn**	**03 54 23.7**	**+1.4**
GHIR				AML	AML	03 55 28.3	
	comp=N,72nm,0.5s						
GHIR				AML	AML	03 55 35.1	
	comp=E,68nm,0.6s						
BTHS		**5.73**	**237**	P	**Pn**	**03 55 00.5**	**+0.1**
NASN	**Na'in**	**6.22**	**333**	*e*Pn	**Pn**	**03 55 08.6**	**+1.5**
NASN				AML	AML	03 56 21.6	
	comp=E,12nm,0.7s						
NASN				AML	AML	03 56 22.7	
	comp=N,17nm,0.6s						
HRDDS		**7.41**	**236**	P	**Pn**	**03 55 23.4**	**-0.1**
UMR	**Umm Al-Rimmam**	**7.74**	**289**	*e*P	**Pn**	**03 55 27.2**	**-0.8**
	baz=289						
UMR				AML	AML	03 56 55.4	
	comp=Z,9.0nm,0.3s,baz=289						
NAY	**Al-Naaiem**	**8.07**	**286**	*e*P	**Pn**	**03 55 31.5**	**-1.0**
	baz=286						
NAY				AML	AML	03 57 06.0	
	comp=Z,4.0nm,0.6s,baz=286						
MIB	**Mutribah**	**8.12**	**290**	*e*P	**Pn**	**03 55 32.1**	**-1.2**
	baz=290						
MIB				AML	AML	03 57 03.7	
	comp=Z,7.0nm,0.5s,baz=290						
SHAO	**Shalim**	**9.20**	**183**	P	**Pn**	**03 55 47.7**	**-0.5**
	SNR=6.3						
SHAO	**Shalim**	**9.20**	**183**	Pn	**Pn**	**03 55 47.5**	**-0.7**
	SNR=6.3						

*ISCJB **10** 04:11:49.4±1.2, 1344N±003×14545E±002, h15km±8km, mb5.1/140, MS4.8/44, Error ellipse: s-maj=5.7km s-min=3.4km az=177.5*
*IDC **10** 04:11:50.1±2.3, 1338N×14563E, h11km±13km, mb4.7/27, mb1 4.8/27, mb1mx4.7/31, mbtmp4.7/27, MS4.8/24, Ms1 4.8/24, ms1mx4.6/32, Error ellipse: s-maj=13.1km s-min=10.7km az=80.0*
*DJA **10** 04:11:50, 1363N×14600E, h30km, Mw5.5/18*
*MOS **10** 04:11:53.6±1.1, 1382N×14546E, h33km, mb5.3/41, MS4.8/10, Error ellipse: s-maj=9.4km s-min=6.2km az=117.1*
*BJI **10** 04:11:53.4, 1354N×14568E, h50km, mB5.3, mb4.9, Ms5.0, Msz4.9*
*GCMT **10** 04:11:55.4±0.1, 1321N×14581E, h20km, MW5.3/77, Moment Tensor Solution. s70,c121; s77,c153; Duration: 1§1 Moment tensor: Scale 10^{17}Nm; M_{rr}0.71±.03; $M_{\theta\theta}$-0.19±.02; $M_{\phi\phi}$-0.51±.02; $M_{r\theta}$0.01±.04; $M_{\theta\phi}$-0.67±.01; $M_{\phi r}$0.77±.04; Best double couple: $M_0$1.19800×10^{17} NP1:ϕ_s247.00000°, δ35.00000°, λ140.00000°. NP2:ϕ_s12.00000°, δ68.00000°, λ62.00000°. Principal axes: T 1.1500, Plg57.0000°, Azm244.0000°; N 0.0950, Plg26.0000°, Azm23.0000°; P -1.2450, Plg18.0000°, Azm123.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **10** 04:11:55.4±1.2, 1339N×14548E, h49km±11km, mb5.2/72 Error ellipse: s-maj=6.6km s-min=5.1km az=110.0*
NEIC Felt at Barrigada.
ISC 10 04:11:54.7±0.8**, 1342N**±003×**14551E**±002**, h42**km±6km**, h39**km±2.6km**: pP-P, n571,** σ**0§87**/562**, mb5.1**/140**, MS4.8**/44**, 132C-133D, Mariana Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
GUMO	**Guam**	**0.64**	**286**	Pn	**Pn**	**04 12 07.9**	**+0.5**
	987nm,0.3s,baz=140,slow=7.1,SNR=297						
GUMO				Sn	**Sn**	**04 12 20.2**	**+3.7**
	1µm,0.3s,baz=120,slow=15,SNR=16						
GUMO	**Guam**	**0.64**	**286**	*e*Pg	**Pn**	**04 12 08.8**	**+1.4**
CBIJ	**Chichi jima**	**13.96**	**348**	LR	LR	04 19 40.1	
	comp=Z,3µm,21.0s,baz=162,slow=34						
BESP	**Borongan**	**19.68**	**267**	*e*P	**Pn**	**04 16 31.6**	**+10**
BUTP	**Butuan**	**20.00**	**259**	*e*P	**Pn**	**04 16 30.8**	**+4.9**
CNP	**Catarman**	**20.33**	**270**	*e*P	**P**	**04 16 30.2**	**+2.7**
MSLP	**Maasin**	**20.47**	**263**	*e*P	**P**	**04 16 31.1**	**+2.1**
OCLP	**Ormoc**	**20.56**	**266**	*e*P	**P**	**04 16 34.0**	**+4.0**
DAV	**Davao City (W)**	**20.59**	**254**	P	**P**	**04 16 32.3**	**+2.0**
	163nm,0.4s,baz=330,slow=1.0,SNR=5.7						
DAV				LR	LR	04 23 16.5	
	comp=Z,3µm,19.5s,MS4.6,baz=182,slow=33						
PVCP	**Virac**	**20.76**	**273**	*e*P	**P**	**04 16 30.7**	**-1.5**
BUKP	**Musuan**	**20.82**	**257**	*e*P	**P**	**04 16 32.4**	**-0.5**
JOW	**Kunigami**	**20.94**	**312**	P	**P**	**04 16 35.8**	**+1.7**
	56nm,0.9s,baz=133,slow=9.5,SNR=8.3						
JOW				LR	LR	04 23 28.1	
	comp=Z,4µm,19.9s,MS4.8,baz=339,slow=33						
GUIM	**Jordan**	**22.58**	**265**	*e*P	**P**	**04 16 53.3**	**+1.5**
PMG	**Port Moresby**	**22.73**	**176**	*e*P	**P**	**04 16 50.8**	**-2.5**
PMG				pmax	pmax		
	comp=Z,56nm,1.0s						
PMG	**Port Moresby**	**22.73**	**176**	*e*P	**P**	**04 16 50.8**	**-2.5**
	comp=Z,56nm,1.0s,mb5.0						
POLP	**Polilio Island**	**22.90**	**276**	*e*P	**P**	**04 16 54.1**	**-0.9**
OTRP	**Odiongan**	**22.92**	**270**	*e*P	**P**	**04 16 54.3**	**-1.0**
CAUP	**Cauayan**	**23.12**	**282**	*e*P	**P**	**04 17 02.4**	**+5.0**
BALP	**Baler**	**23.27**	**279**	*e*P	**P**	**04 17 07.8**	**+8.8**
MJAR	**Matsushiro Arr**	**23.94**	**345**	P	**P**	**04 17 03.2**	**-1.7**
	comp=Z,10nm,0.8s,mb4.3,baz=172,slow=9.6,SNR=27						
MAJO	**Matsushiro**	**23.94**	**345**	*e*P	**P**	**04 17 03.8**	**-1.2**
MAJO				pmax	pmax		
	comp=Z,37nm,0.9s,mb4.8						
MAJO	**Matsushiro**	**23.94**	**345**	*e*P	**P**	**04 17 03.8**	**-1.1**
	comp=Z,37nm,0.9s,mb4.8						
MAT	**Matsushiro**	**23.94**	**345**	P	**P**	**04 17 02.9**	**-2.1**
MAT				S	**S**	**04 21 15.0**	**-3.7**
ABRA	**Dolores**	**24.25**	**283**	*e*P	**P**	**04 17 02.6**	**-5.4**
LUBP	**Lubang**	**24.55**	**274**	*e*P	**P**	**04 17 12.6**	**+1.8**
BUSP	**Coron**	**24.73**	**270**	*e*P	**P**	**04 17 10.2**	**-2.2**
SCZP	**Santa Cruz**	**24.88**	**279**	*e*P	**P**	**04 17 16.8**	**+3.1**
BOLP	**Bolinao**	**24.90**	**280**	*e*P	**P**	**04 17 10.9**	**-3.0**
NACB	**Ninganchiao**	**25.00**	**299**	*e*P	**P**	**04 17 12.6**	**-2.1**
	comp=Z,179nm,1.0s,mb5.5						
ENPP	**El Nido**	**25.57**	**268**	*e*P	**P**	**04 17 19.4**	**-0.7**
COEN	**Coen**	**27.30**	**185**	*e*P	**P**	**04 17 34.3**	**-1.2**
	comp=Z,15nm,0.3s,mb5.0						
BATP	**Bataraza**	**27.56**	**263**	*e*P	**P**	**04 17 32.8**	**-5.2**
QZH	**Quanzhou**	**27.83**	**298**	*i* P	**P**	**04 17 37.5**	**-2.8**
QZH				LR	LR		
	comp=N,6µm,22.8s,MS5.2						
QZH				LR	LR		
	comp=E,4µm,19.3s,MS5.2						
QZH				LR	LR		
	comp=Z,4µm,17.1s,MS5.1						
MYLDM	**Lahad Datu**	**27.86**	**255**	⇑P	**P**	**04 17 43.1**	**+2.4**
ERM	**Erimo**	**28.57**	**356**	*i* P	**P**	**04 17 43.9**	**-2.7**
KSRS	**Korea Array**	**28.62**	**330**	P	**P**	**04 17 48.0**	**+0.9**
	comp=Z,9.5nm,0.9s,mb4.5,baz=142,slow=11,SNR=19						
KSRS				PcP	PcP	04 20 57.0	-0.4
	comp=Z,4.7nm,1.1s,baz=170,slow=1.6,SNR=5.7						
KSRS				ScP	ScP	04 24 40.5	+4.9
	comp=Z,1.3nm,0.8s,baz=128,slow=3.3,SNR=5.5						
KSRS				LR	LR	04 28 10.4	
	comp=Z,1µm,18.8s,MS4.6,baz=130,slow=34						
KAKA	**Kakadu**	**29.01**	**207**	*e*P	**P**	**04 17 48.4**	**-2.4**
	comp=Z,19nm,0.9s,mb4.8						
KKM	**Kota Kinabalu**	**29.76**	**259**	*e*P	**P**	**04 17 59.1**	**+1.5**
NJ2	**Nanjing**	**30.66**	**312**	*e*P	**P**	**04 18 06.8**	**+1.5**
NJ2				AP	pP	04 18 16.7	+0.1
NJ2				XP	sP	04 18 23.2	+1.6
NJ2				PP	PP	04 19 09.0	-6.0
NJ2				S	**S**	**04 23 02.5**	**-2.5**
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.5s,mb4.9						
NJ2				AMB	AMB		
	comp=Z,460nm,6.7s						
NJ2				LR	LR		
	comp=N,830nm,26.4s,MS4.4						
NJ2				LR	LR		
	comp=E,970nm,27.8s,MS4.4						
NJ2				LR	LR		
	comp=Z,930nm,26.2s,MS4.3						
KAPI	**Kappang**	**31.45**	**236**	P	**P**	**04 18 12.2**	**-0.3**
	SNR=9.3						
KAPI	**Kappang**	**31.45**	**236**	P	**P**	**04 18 11.6**	**-0.9**
	comp=Z,19nm,1.0s,mb4.9,baz=49,slow=4.0,SNR=17						
KAPI	**Kappang**	**31.45**	**236**	*e*P	**P**	**04 18 11.7**	**-0.8**
	comp=Z,50nm,1.3s,mb5.2						
VLA	**Vladivostok**	**31.84**	**341**	*e*P	**P**	**04 18 15.4**	**-0.2**
VLA				*e*S	**S**	**04 23 22.7**	**-0.6**
VLA				pmax	pmax		
	comp=Z,136nm,1.3s,mb5.6						
BATI	**Baumata**	**31.95**	**224**	P	**P**	**04 18 16.9**	**+0.1**
	comp=Z,26nm,0.6s,mb5.2,baz=270,slow=10,SNR=4.4						
DL2	**Dalian**	**33.02**	**325**	*e*P	**P**	**04 18 26.4**	**+0.4**
DL2				S	**S**	**04 23 44.1**	**+2.3**
DL2				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb4.7						
DL2				AMB	AMB		
	comp=Z,160nm,6.1s						
DL2				LR	LR		
	comp=N,500nm,17.6s,MS4.5						
DL2				LR	LR		
	comp=E,670nm,20.8s,MS4.5						
DL2				LR	LR		
	comp=Z,820nm,19.8s,MS4.4						
CTA	**Charters Tower**	**33.30**	**179**	P	**P**	**04 18 27.8**	**-0.8**
	comp=Z,0.9nm,0.2s,mb4.3,baz=5.1,slow=8.2,SNR=4.5						
CTA				LR	LR	04 31 55.2	
	comp=Z,1µm,18.3s,MS4.6,baz=97,slow=36						

CTAO **Charters Tower 33.30 179** *e*P **P** **04 18 27.9 -0.7**
CTAO pmax pmax
comp=Z,58nm,2.1s,mb5.1
CTAO **Charters Tower 33.30 179** *e*P **P** **04 18 27.9 -0.7**
comp=Z,58nm,2.1s,mb5.1
WHN **Wuhan 33.39 306** ⇑P **P** **04 18 29.3 0.0**
WHN XP sP 04 18 45.1 -0.6
WHN PP PP 04 19 44.4 -0.9
WHN AMB AMB
comp=Z,41nm,1.1s,mb5.3
WHN AMB AMB
comp=Z,503nm,12.8s
WHN LR LR
comp=N,5μm,19.4s,MS5.3
WHN LR LR
comp=E,3μm,16.7s,MS5.3
WHN LR LR
comp=Z,5μm,19.6s,MS5.2
YSS **Yuzh-Sakhalins 33.51 357** *e*P **P** **04 18 29.0 -1.1**
YSS MLR MLR
comp=Z,1μm,18.0s,MS4.6
YSS MLR MLR
comp=N,900nm,16.0s,MS4.8
YSS MLR MLR
comp=E,1μm,16.0s,MS4.8
MDJ **Mudanjiang 33.93 339** P **P** **04 18 33.6 -0.2**
MDJ AP pP 04 18 42.7 -2.5
MDJ PP PP 04 19 50.6 -0.6
MDJ S **S** **04 23 58.1 +2.4**
MDJ XS sS 04 24 14.1 -0.7
MDJ SCP ScP 04 24 52.8 -0.4
MDJ PCS PcS 04 24 57.5 +0.1
MDJ AMB AMB
comp=Z,42nm,1.2s,mb5.2
MDJ AMB AMB
comp=Z,208nm,5.0s
MDJ LR LR
comp=N,2μm,20.2s,MS4.8
MDJ LR LR
comp=E,638nm,23.7s,MS4.8
MDJ LR LR
comp=Z,2μm,21.1s,MS4.9
MDJ **Mudanjiang 33.93 339** *e*P **P** **04 18 33.7 -0.1**
comp=Z,51nm,1.1s,mb5.4
SNY **Shenyang 34.12 330** ⇑P **P** **04 18 38.6 +3.0**
SNY AMB AMB
comp=Z,8.0nm,1.2s,mb4.5
QIZ **Qiongzhong 34.65 284** P **P** **04 18 40.0 -0.4**
QIZ AP pP 04 18 51.0 -0.8
QIZ PP PP 04 19 57.2 -2.3
QIZ S **S** **04 24 06.3 -1.2**
QIZ XS sS 04 24 26.0 -0.5
QIZ LR LR
comp=N,959nm,17.9s,MS4.8
QIZ LR LR
comp=E,1μm,20.2s,MS4.8
QIZ LR LR
comp=Z,2μm,20.2s,MS4.9
SBUM **Sibu 34.67 255** ⇑P **P** **04 18 41.8 +1.2**
CN2 **Changchun 34.83 334** *e*P **P** **04 18 42.2 +0.6**
CN2 PP PP 04 20 01.2 +0.1
CN2 *e*S **S** **04 24 04.2 -5.4**
CN2 AMB AMB
comp=Z,10.0nm,0.8s,mb4.8
CN2 AMB AMB
comp=Z,220nm,5.0s
CN2 LR LR
comp=N,1μm,18.0s,MS4.9
CN2 LR LR
comp=E,1μm,18.0s,MS4.9
CN2 LR LR
comp=Z,1μm,18.0s,MS4.7
WB2 **Warramunga Arr 34.92 199** *e*P **P** **04 18 41.0 -1.6**
WB2 *e*pP pP 04 18 53.0 -1.0
WRA **Warramunga Arr 34.92 199** P **P** **04 18 41.1 -1.5**
comp=Z,9.3nm,0.9s,mb4.7,baz=20,slow=9.5,SNR=41
WRA LR LR 04 31 37.1
comp=Z,860nm,20.9s,MS4.5,baz=30,slow=34
HABR **Khabarovsk 36.01 348** *e*P **P** **04 18 49.0 -2.7**
HABR *e* pP 04 18 58.0 -5.2
HABR *e* 04 20 09.0
HABR *e* 04 20 23.9
HABR *e*S **S** **04 24 25.4 -2.2**
HABR *e* 04 27 08.8
HABR *e* 04 29 03.2
KSM **Kuching 36.80 254** ⇓P **P** **04 18 59.2 +0.3**
KSM **Kuching 36.80 254** *e*P **P** **04 18 58.8 -0.1**
FITZ **Fitzroy Crossi 36.95 213** *e*P **P** **04 18 59.5 -0.5**
comp=Z,43nm,1.1s,mb5.2
FITZ **Fitzroy Crossi 36.95 213** P **P** **04 18 59.6 -0.4**
comp=Z,26nm,1.0s,mb5.0,baz=34,slow=11,SNR=19
FITZ LR LR 04 33 55.7
comp=Z,439nm,19.3s,MS4.3,baz=28,slow=36
BJT **Baijiatuau 36.96 321** *e*P **P** **04 19 00.2 +0.3**
BJI **Beijing 36.97 321** P **P** **04 18 59.6 -0.4**
BJI PP PP 04 20 25.0 +0.3
BJI S **S** **04 24 43.7 +1.3**
BJI AMB AMB
comp=Z,22nm,1.2s,mb4.9
BJI AMB AMB
comp=Z,323nm,4.2s
BJI LR LR
comp=N,1μm,18.4s,MS4.8
BJI LR LR
comp=E,724nm,19.9s,MS4.8
BJI LR LR
comp=Z,877nm,19.9s,MS4.5
BJI **Beijing 36.97 321** P **P** **04 18 59.6 -0.4**
comp=Z,22nm,1.2s,mb4.9
BJI PP PP 04 20 25.0 +0.3
BJI S **S** **04 24 43.7 +1.3**
BJI SS SS 04 27 19.5 -5.9
BJI PS 04 27 20.9
BJI LR LR
comp=Z,880nm,19.9s,MS4.5
KLR **Kul'dur 37.47 345** *e*P **P** **04 18 58.0 -6.1**
KLR MLR MLR
comp=N,4μm,16.0s
ASAR **Alice Springs 38.56 197** P **P** **04 19 12.1 -1.5**
comp=N,4.4nm,0.9s,mb4.2,baz=27,slow=6.4,SNR=22
GYA **Guiyang 38.59 296** P **P** **04 19 15.7 +1.8**
GYA AP pP 04 19 27.8 +2.3
GYA XP sP 04 19 32.7 +2.3
GYA PP PP 04 20 47.9 +5.1
GYA PCP PcP 04 21 27.2 +1.3
GYA S **S** **04 25 08.3 +0.8**
GYA SCP ScP 04 25 09.6 -1.2
GYA PCS PcS 04 25 15.8 +0.5
GYA SS SS 04 27 49.6 -9.0
GYA AMB AMB
comp=Z,20nm,1.0s,mb4.8
GYA AMB AMB
comp=Z,130nm,4.8s
GYA LR LR
comp=N,870nm,16.6s,MS4.8
GYA LR LR
comp=E,720nm,17.9s,MS4.8
GYA LR LR
comp=Z,900nm,17.0s,MS4.7
XAN **Xi'an 38.99 308** P **P** **04 19 17.2 +0.1**
XAN AMB AMB
comp=Z,14nm,1.4s,mb4.5
XAN AMB AMB
comp=Z,308nm,9.1s
XAN LR LR
comp=N,503nm,17.2s,MS4.8
XAN LR LR
comp=E,1μm,17.7s,MS4.8
XAN LR LR
comp=Z,2μm,17.7s,MS5.0
HHC **Hu-ho-hao-te 40.31 319** *e*P **P** **04 19 28.8 +0.8**
HHC AP pP 04 19 39.6 0.0
HHC XP sP 04 19 42.8 -1.7
HHC PP PP 04 21 06.7 +5.4
HHC PCP PcP 04 21 33.1 +2.1
HHC SCP ScP 04 25 16.8 -0.3
HHC PCS PcS 04 25 22.0 +0.6
HHC S **S** **04 25 34.4 +1.6**
HHC SS SS 04 28 27.0 -5.5
HHC SCS ScS 04 29 30.0 -0.9
HHC AMB AMB
comp=Z,38nm,1.1s,mb5.0
HHC AMB AMB
comp=Z,215nm,5.5s
HHC LR LR
comp=N,1μm,14.3s,MS5.1
HHC LR LR
comp=E,1μm,15.1s,MS5.1
HHC LR LR
comp=Z,1μm,15.4s,MS4.9
PETK **Petropavlovsk- 40.77 11** P **P** **04 19 32.5 +0.9**
comp=Z,8.8nm,0.8s,mb4.4,baz=191,slow=6.9,SNR=5.8
PETK LR LR 04 35 53.2
comp=Z,543nm,19.3s,MS4.4,baz=192,slow=35
DZM **Mont Dzumac 40.81 150** *e*P **P** **04 19 33.2 +0.9**
DZM *e* 04 19 49.4
PET **Petropavlovsk 40.88 12** *e*P **P** **04 19 31.0 -1.5**
PET pmax pmax
comp=Z,139nm,1.4s,mb5.4
PET **Petropavlovsk 40.88 12** *e*P **P** **04 19 31.0 -1.4**
comp=Z,139nm,1.4s,mb5.4
BTO **Baotou 41.17 318** *e*P **P** **04 19 35.0 -0.1**
HIA **Hailar 41.56 335** *e*P **P** **04 19 38.9 +0.7**
HIA pmax pmax
comp=Z,37nm,1.0s
HIA **Hailar 41.56 335** *e*P **P** **04 19 38.9 +0.7**
comp=Z,37nm,1.0s,mb5.0
KMI **Kunming 41.85 293** P **P** **04 19 42.2 +1.3**
KMI AP pP 04 19 52.5 -0.1
KMI XP sP 04 19 56.5 -1.0
KMI PP PP 04 21 24.3 +6.0
KMI S **S** **04 25 54.6 -1.6**
KMI SS SS 04 28 56.3 -7.3
KMI AMB AMB
comp=Z,13nm,1.1s,mb4.5
KMI AMB AMB
comp=Z,175nm,7.3s
KMI LR LR
comp=N,384nm,21.9s,MS4.7
KMI LR LR
comp=E,1μm,19.8s,MS4.7
KMI LR LR
comp=Z,1μm,20.7s,MS4.8
KMI **Kunming 41.85 293** P **P** **04 19 42.2 +1.3**
KMI *PP pP 04 19 52.5 -0.1
KMI *SP sP 04 19 56.5 -1.0
KMI 04 21 24.3
KMI PPP 04 21 49.6
KMI S **S** **04 25 54.6 -1.6**
KMI *SS sS 04 26 11.2 -4.3
KMI SS SS 04 28 56.3 -7.3
KMI SSS 04 29 34.0
KMI pmax pmax
comp=Z,13nm,1.1s,mb4.5
KMI MLR MLR
comp=Z,1μm,20.7s,MS4.8
KMI **Kunming 41.85 293** P **P** **04 19 42.2 +1.3**
comp=Z,13nm,1.1s,mb4.5
KMI pP pP 04 19 52.5 -0.1
KMI sP sP 04 19 56.5 -1.0
KMI PP PP 04 21 24.3 +6.0
KMI PPP 04 21 49.6
KMI PcS PcS 04 25 31.6 +3.5
KMI S **S** **04 25 54.6 -1.6**
KMI sS sS 04 26 11.2 -4.3
KMI SS SS 04 28 56.3 -7.3
KMI SSS 04 29 34.0
KMI LR LR
comp=Z,1μm,20.7s,MS4.8
CD2 **Chengdu 42.11 301** ⇑P **P** **04 19 43.2 +0.2**
CD2 AP pP 04 19 55.7 +1.1
CD2 XP sP 04 20 00.5 +0.9
CD2 PP PP 04 21 26.8 +5.8
CD2 PCS PcS 04 25 26.3 -2.7
CD2 S **S** **04 26 01.8 +1.9**
CD2 XS sS 04 26 24.4 +5.1
CD2 SCS ScS 04 29 38.4 -3.8
CD2 AMB AMB
comp=Z,30nm,1.4s,mb4.7
CD2 AMB AMB
comp=Z,410nm,9.8s
CD2 LR LR
comp=N,1μm,23.5s
CD2 LR LR
comp=E,1μm,18.1s
CD2 LR LR
comp=Z,2μm,22.0s,MS4.8
KTGM **Kuala Trenggan 42.52 263** ⇓P **P** **04 19 47.8 +1.2**
MBWA **Marble Bar 42.68 217** *e*P **P** **04 19 47.1 -0.6**
comp=Z,50nm,1.0s,mb5.2
MYKOM **Kota Tinggi 42.79 258** ⇑P **P** **04 19 49.9 +1.2**
KGM **Kluang 43.23 258** ⇓P **P** **04 19 53.3 +1.0**
LZH **Lanzhou 43.61 309** ⇑P **P** **04 19 55.6 +0.5**
LZH AP pP 04 20 05.5 -1.2
LZH PP PP 04 21 39.2 +2.2
LZH S **S** **04 26 22.3 +0.5**
LZH SS SS 04 29 30.4 -7.5
LZH AMB AMB
comp=Z,98nm,1.4s,mb5.3
LZH AMB AMB
comp=Z,349nm,6.6s
LZH LR LR
comp=N,1μm,17.2s
LZH LR LR
comp=Z,2μm,18.0s,MS5.0
LZH **Lanzhou 43.61 309** ⇑P **P** **04 19 55.6 +0.5**
LZH *PP pP 04 20 05.5 -1.2
LZH *SP sP 04 20 09.3 -2.4
LZH 04 21 39.2
LZH S **S** **04 26 22.3 +0.5**
LZH *SS sS 04 26 38.5 -2.7
LZH SS SS 04 29 30.4 -7.5
LZH pmax pmax
comp=Z,98nm,1.4s,mb5.3
LZH MLR MLR
comp=Z,2μm,18.0s,MS5.0
LZH **Lanzhou 43.61 309** ⇑P **P** **04 19 55.6 +0.5**
comp=Z,98nm,1.4s,mb5.3
LZH pP pP 04 20 05.5 -1.2
LZH sP sP 04 20 09.3 -2.4
LZH PP PP 04 21 39.2 +2.2
LZH S **S** **04 26 22.3 +0.5**
LZH sS sS 04 26 38.5 -2.7
LZH SS SS 04 29 30.4 -7.5
LZH LR LR
comp=Z,2μm,18.0s,MS5.0
ARMA **Armidale 43.98 172** *e*P **P** **04 19 57.4 -0.5**
FRIM **Kepong 44.51 261** ⇑P **P** **04 20 03.0 +0.4**
IPM **Ipoh 44.76 263** ⇑P **P** **04 20 05.6 +1.0**
KULM **Kulim 44.93 264** ⇑P **P** **04 20 07.5 +1.6**
CHTO **Chiang Mai 44.96 283** *e*P **P** **04 20 07.0 +0.9**
CHTO *e* 04 21 48.2
CHTO pmax pmax
comp=Z,6.0nm,1.0s,mb4.4
CHTO **Chiang Mai 44.96 283** *e*P **P** **04 20 07.0 +0.9**
comp=Z,6.1nm,1.0s,mb4.4
CHTO *e*PcP PcP 04 21 48.2 +1.2
CMAR **Chiang Mai Arr 44.96 283** P **P** **04 20 07.5 +1.5**
comp=Z,14nm,0.9s,mb4.8,baz=83,slow=5.9,SNR=49
CMAR PcP PcP 04 21 48.6 +1.6
comp=Z,11nm,0.8s,baz=113,slow=2.2,SNR=14
CMAR LR LR 04 37 16.6
comp=Z,755nm,20.3s,MS4.6,baz=85,slow=34
CMAR **Chiang Mai Arr 44.96 283** P **P** **04 20 07.6 +1.5**
CMAR 04 21 48.6
STKA **Stephens Creek 45.19 185** *e*P **P** **04 20 08.1 +0.5**
comp=Z,7.4nm,1.1s,mb4.4
STKA **Stephens Creek 45.19 185** P **P** **04 20 07.7 +0.1**
comp=Z,8.0nm,1.0s,mb4.5,baz=5.4,slow=9.1,SNR=4.0
STKA LR LR 04 40 46.6
comp=Z,1μm,18.0s,MS4.9,baz=3.7,slow=38
XMIS **Christmas Isla 46.13 241** *e*P **P** **04 20 13.8 -1.6**
SONM **Songino Array 47.23 325** P **P** **04 20 23.5 0.0**
comp=Z,6.0nm,0.9s,mb4.5,baz=134,slow=8.5,SNR=19
SONM PcP PcP 04 21 55.5 +1.2
comp=Z,8.7nm,1.1s,baz=149,slow=3.1,SNR=4.1
SONM ScP ScP 04 25 50.1 +5.0
comp=Z,1.2nm,0.8s,baz=90,slow=3.0,SNR=3.5
SONM LR LR 04 40 07.1
comp=Z,2μm,19.2s,MS5.0,baz=125,slow=36
SONM **Songino Array 47.23 325** P **P** **04 20 23.5 0.0**
SONM 04 21 55.5
GTA **Gaotai 47.75 312** ⇑P **P** **04 20 28.5 +0.8**
GTA PCP PcP 04 21 58.4 +2.0
GTA PP PP 04 22 20.1 +0.4
GTA S **S** **04 27 23.4 +2.1**
GTA SS SS 04 30 45.2 -4.9
GTA AMB AMB
comp=Z,22nm,1.3s,mb5.0
GTA AMB AMB
comp=Z,240nm,6.9s
GTA LR LR
comp=N,759nm,19.8s,MS4.8
GTA LR LR
comp=E,780nm,23.4s,MS4.8
GTA LR LR
comp=Z,1μm,22.8s,MS4.8
SEY **Seymchan 49.69 4** *e*P **P** **04 20 39.9 -2.3**
YAK **Yakutsk 49.86 350** *e*P **P** **04 20 41.5 -2.0**
YAK *e*PP pP 04 20 49.3 -6.0
YAK *e* 04 22 01.1
YAK *e*S **S** **04 27 45.5 -4.7**
YAK *e* 04 30 25.5
YAK *e*SS SS 04 31 13.6 -10
YAK pmax pmax
comp=Z,31nm,0.9s,mb5.3
YAK pmax pmax
comp=N,15nm,1.0s
YAK pmax pmax
comp=E,6.0nm,1.2s
YAK smax
comp=E,103μm,2.6s
YAK smax
comp=N,105μm,2.0s
YAK MLR MLR
comp=Z,910nm,20.0s,MS4.8
YAK MLR MLR
comp=E,483nm,20.0s,MS4.8
YAK MLR MLR
comp=N,787nm,22.0s,MS4.8
AFI **Afiamalu 50.27 121** LR LR 04 38 14.4
comp=N,871nm,18.7s,MS4.8,baz=282,slow=32
BOD **Bodaibo 50.30 339** *e*P **P** **04 20 45.7 -1.2**
BOD pmax pmax
comp=Z,26nm,1.3s,mb5.1
ZAK **Zakamensk 50.33 326** *e*P **P** **04 20 47.2 0.0**
ZAK pmax pmax
comp=Z,10.0nm,1.1s,mb4.8
TLY **Talaya 50.83 328** *e*P **P** **04 20 49.2 -1.8**
TLY *e*S **S** **04 28 07.1 +3.0**
TLY *e* 04 30 42.0
TLY pmax pmax
comp=Z,17nm,1.0s,mb4.9
TLY **Talaya 50.83 328** *e*P **P** **04 20 47.6 -3.4**
comp=Z,12nm,0.9s,mb4.8
SHL **Shillong 51.67 292** *e*P **P** **04 20 57.0 -0.8**
SHL *e*PCP PcP 04 22 12.0 +1.0
SHL *ex* x 04 26 08.5
SHL *ex* x 04 30 40.0
KLBR **Kellerberrin 52.07 210** *e*P **P** **04 20 59.7 -0.8**
comp=Z,33nm,1.0s,mb5.2
LSA **Lhasa 52.63 297** *e*P **P** **04 21 07.0 +2.2**
LSA **Lhasa 52.63 297** *e*P **P** **04 21 05.7 +0.9**
LSA pmax pmax
comp=Z,7.0nm,0.5s,mb4.8
LSA **Lhasa 52.63 297** *e*P **P** **04 21 05.7 +0.9**
comp=Z,7.2nm,0.5s,mb4.9
NWAO **Narrogin (SRO) 53.41 210** P **P** **04 21 08.8 -1.6**
comp=Z,18nm,1.1s,mb4.9,baz=111,slow=5.6,SNR=3.2
NWAO **Narrogin (SRO) 53.41 210** P **P** **04 21 08.8 -1.6**
TAPN **Taplejung 55.48 294** *e*P **P** **04 21 25.4 -0.3**
comp=Z,41nm,1.3s,mb5.3
ODAN **Odare 55.75 293** *e*P **P** **04 21 27.6 0.0**
comp=Z,75nm,1.6s,mb5.5
RAMN **Ramite 56.46 294** *e*P **P** **04 21 32.8 +0.1**
comp=Z,43nm,1.3s,mb5.3
JIRN **Jiri 56.84 294** *e*P **P** **04 21 35.3 -0.1**
comp=Z,80nm,1.5s,mb5.5
GUN **Gumba 57.13 295** *e*P **P** **04 21 37.5 +0.1**
comp=Z,177nm,1.8s,mb5.8
PKI **Pulchoki 57.54 294** *e*P **P** **04 21 40.9 +0.6**
KKN **Kakani 57.66 294** *e*P **P** **04 21 41.5 +0.4**
WMQ **Urumqi 57.70 314** ⇑*i*P **P** **04 21 42.4 +1.2**
WMQ AP pP 04 21 55.0 +1.8
WMQ XP sP 04 22 00.4 +2.3
WMQ PCP PcP 04 22 34.4 +0.6
WMQ PP PP 04 23 52.4 +3.0
WMQ SCP ScP 04 26 28.9 -1.8
WMQ S **S** **04 29 36.7 -0.3**
WMQ XS sS 04 29 57.9 +0.9
WMQ SCS ScS 04 31 24.4 -3.0
WMQ AMB AMB
comp=Z,48nm,1.4s,mb5.3
WMQ LR LR
comp=N,348nm,18.7s,MS4.9
WMQ LR LR
comp=E,816nm,21.4s,MS4.9
WMQ LR LR
comp=Z,985nm,21.5s,MS4.9
DMN **Daman 57.80 294** *e*P **P** **04 21 42.6 +0.4**
comp=Z,36nm,1.2s,mb5.3
GKN **Gorkha 58.23 295** *e*P **P** **04 21 44.9 -0.3**
comp=Z,121nm,1.7s,mb5.7
KRAR **Krasnoyarsk 58.51 328** *e*P **P** **04 21 44.4 -2.2**
KRAR pmax pmax
comp=Z,9.0nm,1.3s,mb4.6
SDPT **Sand Point 58.95 33** *e*P **P** **04 21 48.4 -1.3**
comp=Z,81nm,0.9s,mb5.8
DANN **Dangsing 59.01 295** *e*P **P** **04 21 50.2 -0.4**
comp=Z,60nm,1.1s,mb5.5
TIXI **Tiksi 59.07 354** *e*P **P** **04 21 47.9 -2.3**
TIXI pmax pmax
comp=Z,6.0nm,1.0s,mb4.6
KOLN **Koldanda 59.14 294** *e*P **P** **04 21 51.3 -0.2**
comp=Z,9.7nm,0.7s,mb4.9
URZ **Urewera 59.32 151** P **P** **04 21 52.7 +0.3**
comp=Z,16nm,1.0s,mb5.0,baz=358,slow=13,SNR=3.1
MK31 **Makanchi Array 62.04 316** *e*P **P** **04 22 11.5 +0.6**
MKAR **Makanchi Array 62.04 316** P **P** **04 22 11.7 +0.8**
comp=Z,11nm,0.8s,mb5.0,baz=95,slow=8.6,SNR=42
MKAR LR LR 04 50 43.6
comp=Z,802nm,18.4s,MS4.9,baz=231,slow=38
ZAA0 **Zalesovo Array 62.12 324** *e*P **P** **04 22 10.7 -0.7**
ZALV **Zalesovo Beam 62.12 324** P **P** **04 22 11.0 -0.3**
comp=Z,4.7nm,0.9s,mb4.6,baz=93,slow=6.4,SNR=10.0
ZALV LR LR 04 50 02.3
comp=Z,718nm,18.5s,MS4.9,baz=100,slow=37
JOSI **Joshimath 62.70 298** *e*P **P** **04 22 16.6 +1.0**
JOSI *ex* x 04 22 17.2
JOSI AMb AMB 04 22 18.6
comp=Z,145nm,1.4s,mb5.9
JOSI *i* x x 04 22 55.8
NVS **Novosibirsk 63.26 325** *i* P **P** **04 22 17.7 -1.2**
NVS *e*S **S** **04 30 47.9 +0.2**
NVS pmax pmax
comp=N,8.0nm,1.1s
NVS pmax pmax
comp=E,26nm,1.1s
NVS pmax pmax
comp=Z,26nm,1.1s,mb5.3
NVS smax
comp=N,33nm,1.9s
NVS smax
comp=E,13nm,1.6s
SVW2 **Sparrevohn 63.54 28** *e*P **P** **04 22 19.8 -0.8**
RAR **Rarotonga 63.80 122** LR LR 04 42 10.6
comp=E,379nm,22.0s,MS4.5,baz=286,slow=29
KDAK **Kodiak Island 63.89 32** P **P** **04 22 23.7 +0.7**
comp=E,8.8nm,0.8s,mb4.9,baz=319,slow=8.8,SNR=4.3
KDAK LR LR 04 48 32.3
comp=E,906nm,20.4s,MS4.9,baz=258,slow=34
PALK **Pallekele 63.90 272** *e*P **P** **04 22 22.6 -1.3**
AGRA **Agra 64.17 294** *e*P **P** **04 22 23.6 -1.9**
AGRA AMb AMB 04 22 29.4
comp=Z,60nm,0.5s,mb5.8
HYB **Hyderabad 64.39 283** *i* P **P** **04 22 27.5 +0.5**
HYB **Hyderabad 64.39 283** *e*P **P** **04 22 27.5 +0.5**
NDI **New Delhi 64.76 296** *e*P **P** **04 22 27.0 -2.3**
AYAN **Aya Nagar 64.85 295** *e*P **P** **04 22 28.9 -1.0**
AYAN AMb AMB 04 22 33.8
comp=Z,7.0nm,0.5s,mb4.9
AYAN *i* x x 04 23 03.3
SONA **Sohna 64.90 295** *e*P **P** **04 22 29.4 -0.8**
SONA AMb AMB 04 22 34.5
comp=Z,11nm,0.6s,mb5.1
SONA *i* x x 04 23 02.1
KURK **Kurchatov 65.11 320** P **P** **04 22 30.2 -0.9**
comp=Z,217nm,1.3s,mb6.0,SNR=24
KURK **Kurchatov 65.11 320** ⇑P **P** **04 22 31.6 +0.5**
SNR=23
KURK **Kurchatov 65.11 320** P **P** **04 22 30.9 -0.2**
comp=Z,17nm,0.8s,mb5.1,baz=100,slow=6.4,SNR=15
KURK **Kurchatov 65.11 320** *e*P **P** **04 22 30.8 -0.3**
KURK pmax pmax
comp=Z,68nm,1.2s,mb5.5

KURK Kurchatov 65.11 320 *e*P P 04 22 30.8 -0.3
comp=Z,68nm,1.2s,mb5.5
KUDL Kundal 65.42 295 *e*P P 04 22 33.0 -0.6
KUDL AMb AMB 04 22 34.4
comp=Z,16nm,1.0s,mb5.0
KUDL *i* x x 04 23 05.5
PPLA Purkeypile 65.66 26 *e*P P 04 22 33.6 -0.9
comp=Z,28nm,0.9s,mb5.3
SLKM Skilak Lake 65.83 29 *e*P P 04 22 34.6 -1.0
CHUM Lake Minchumin 65.94 25 *e*P P 04 22 35.3 -0.9
comp=Z,71nm,1.4s,mb5.5
KHET Khetri 66.03 295 *e*P P 04 22 37.6 +0.1
KHET AMb AMB 04 22 41.7
comp=Z,12nm,1.2s,mb4.8
KHET *i* x x 04 23 08.5
SEW Seward 66.10 30 *e*P P 04 22 36.6 -0.6
IMA2 Indian Mountai 66.16 23 *e*P P 04 22 37.7 +0.1
RC01 Rabbit Creek A 66.22 29 *e*P P 04 22 36.5 -1.6
comp=Z,47nm,1.0s,mb5.5
TKM2 Tokmak 2 66.30 311 *e*P P 04 22 39.8 +0.9
TKM2 pmax pmax
comp=Z,7.0nm,0.9s,mb4.7
TKM2 Tokmak 2 66.30 311 *e*P P 04 22 39.8 +0.9
comp=Z,7.1nm,0.9s,mb4.7
KTH Kantishna Hill 66.42 26 *e*P P 04 22 38.4 -0.9
comp=Z,67nm,1.3s,mb5.5
BPAW Bear Paw Mtn. 66.56 25 *e*P P 04 22 39.3 -0.9
comp=Z,57nm,1.4s,mb5.4
PMR Palmer 66.64 28 *e*P P 04 22 39.7 -1.1
PMR pmax pmax
comp=Z,24nm,1.1s,mb5.1
PMR MLR MLR
comp=Z,700nm,18.0s,MS4.9
PMR Palmer 66.64 28 *e*P P 04 22 39.7 -1.1
comp=Z,24nm,1.1s,mb5.1
PMR LR LR
comp=Z,700nm,18.0s,MS4.9
TRF Thorofare Moun 66.66 26 *e*P P 04 22 39.8 -1.0
comp=Z,36nm,1.1s,mb5.3
FRU Bishkek 67.01 311 *e*P P 04 22 44.0 +0.5
UCH Uchtor 67.06 310 *e*P P 04 22 45.3 +1.5
comp=Z,33nm,1.4s,mb5.2
MCK McKinley 67.32 26 *e*P P 04 22 44.0 -1.0
MCK pmax pmax
comp=Z,66nm,1.6s,mb5.4
MCK McKinley 67.32 26 *e*P P 04 22 44.0 -1.0
comp=Z,66nm,1.6s,mb5.4
EKS2 Erkin-Say 67.62 311 *e*P P 04 22 46.4 -1.0
comp=Z,20nm,1.4s,mb5.0
AML Almayashu 67.67 310 *e*P P 04 22 49.2 +1.5
comp=Z,11nm,1.0s,mb4.8
COLD Coldfoot 67.87 22 *e*P P 04 22 48.7 +0.3
comp=Z,19nm,0.9s,mb5.1
COLA College 68.09 25 *e*P P 04 22 48.8 -1.0
COLA pmax pmax
comp=Z,13nm,0.9s,mb5.0
COLA College 68.09 25 *e*P P 04 22 48.8 -1.0
comp=Z,13nm,0.9s,mb5.0
KAD Karad 68.54 283 *e*P P 04 22 52.8 -0.8
KAD *e*P 04 22 53.6
KAD AMb AMB 04 22 54.9
comp=Z,16nm,0.9s,mb5.0
POO Poona 68.69 285 ⇓ *i*P P 04 22 53.0 -1.5
comp=Z,20nm,1.0s,mb5.0
KK31 Karatay Array 70.03 311 *i* P P 04 23 02.1 -0.2
KK31 pmax pmax
comp=Z,29nm,1.1s,mb5.1
VOSK Vostochnaya 70.07 321 P P 04 23 01.1 -1.3
VOSK pmax pmax
comp=Z,38nm,1.9s,mb5.0
BVA0 Borovoye Array 70.45 322 *i* P P 04 23 04.1 -0.6
BVA0 pmax pmax
comp=Z,2.0nm,0.8s,mb4.1
BVAR Borovoye Array 70.45 322 P P 04 23 04.3 -0.3
comp=Z,4.0nm,0.4s,mb4.7,baz=98,slow=7.6,SNR=16
JASL Jaisalmer 70.46 294 *e*P P 04 23 05.8 +0.6
JASL AMb AMB 04 23 08.0
comp=Z,285nm,0.5s
JASL *i* x x 04 23 27.3
BRVK Borovoye 70.51 322 ⇑ P P 04 23 05.7 +0.6
SNR=8.0
BRVK Borovoye 70.51 322 *e*P P 04 23 04.7 -0.4
BRVK pmax pmax
comp=Z,26nm,1.1s,mb5.1
BRVK Borovoye 70.51 322 *e*P P 04 23 04.7 -0.4
comp=Z,26nm,1.1s,mb5.1
PPT Papeete 71.08 114 *e*S S 04 32 27.2 +4.3
comp=Z,1μm,26.0s
PPT Papeete 71.08 114 *e*LR LR 04 44 44.1
comp=Z,1μm,21.8s,baz=296
PPT Papeete 71.08 114 LR LR 04 48 21.7
comp=Z,900nm,19.6s,MS5.0,baz=272,slow=31
KBL Kabul 71.45 302 *e*P P 04 23 11.9 +0.8
KBL *e* 04 23 30.8
KBL pmax pmax
comp=Z,26nm,1.3s,mb5.0
KBL Kabul 71.45 302 *e*P P 04 23 11.9 +0.7
comp=Z,26nm,1.3s,mb5.0
KBL *e*PcP PcP 04 23 30.8 +0.2
DAWY Dawson 71.51 27 *e*P P 04 23 10.1 -0.8
SKAG Skagway 73.04 32 *e*P P 04 23 19.4 -0.7
TBI Tubuai 73.34 120 *e*S S 04 32 50.0 +1.2
comp=Z,387nm,27.2s
TBI Tubuai 73.34 120 *e*LR LR 04 45 24.1
comp=Z,918nm,32.2s,baz=307
WRAK Wrangell Islan 74.60 35 *e*P P 04 23 30.4 +1.0
comp=Z,40nm,1.3s,mb5.2
DLBC Dease Lake 75.79 33 *e*P P 04 23 36.5 +0.4
SVE Sverdlovsk 76.09 326 *e*P P 04 23 37.4 -0.5
SVE *e* pP 04 23 52.3 +2.0
SVE pmax pmax
comp=Z,23nm,1.1s,mb5.0
SVE MLR MLR
comp=Z,2μm,20.0s,MS5.3
AB31 Akbulak array 77.09 318 *i* P P 04 23 42.8 -0.9
AB31 pmax pmax
comp=Z,10.0nm,1.1s,mb4.7
ARU Arti 77.26 325 *c i*P P 04 23 43.7 -0.8
ARU *e* 04 26 37.1
ARU *e*S S 04 33 32.8 +1.7
ARU *e*SS SS 04 38 29.3 0.0
ARU pmax pmax
comp=Z,23nm,1.7s,mb4.8
ARU MLR MLR
comp=Z,694nm,18.0s,MS5.0
ARU Arti 77.26 325 *e*P P 04 23 43.0 -1.5
ABKT Ailbek 79.85 307 P P 04 24 00.0 +0.8
comp=Z,178nm,1.2s,mb5.9,SNR=8.4
DRV Dumont d'Urvil 79.96 182 S S 04 34 11.0 +12
DRV SS SS 04 39 09.0 -1.1
DRV L 04 45 00.0
DRV R 04 50 00.0
GNW Green Mountain 81.35 43 *e*P P 04 24 06.7 -0.3
comp=Z,44nm,1.4s,mb5.2
K02A Glendale 81.75 48 ⇑ P P 04 24 09.9 +0.7
baz=82
JCW Jim Creek 81.82 42 *e*P P 04 24 11.2 +1.7
G04A Mulino 82.02 46 ⇓ P P 04 24 10.8 +0.3
baz=82
E05A Randle 82.25 44 ⇑ P P 04 24 12.8 +1.0
baz=82
I04A Tendick Farm, 82.33 47 ⇓ P P 04 24 12.4 +0.1
baz=82
BIDO Bidbid 82.40 292 ⇑ P P 04 24 13.7 +0.7
SNR=10
M02C Callahan 82.48 49 ⇓ P P 04 24 13.3 +0.3
baz=82
YBH Yreka Blue Hor 82.52 49 ⇑ P P 04 24 13.8 +0.5
baz=82
YBH Yreka Blue Hor 82.52 49 *e*P P 04 24 14.8 +1.6
SMDO Samad 82.56 292 ⇓ P P 04 24 14.1 +0.3
SNR=6.9
F05A White Salmon 82.59 45 ⇑ P P 04 24 14.3 +0.8
baz=82
A07A Ashnola River, 82.66 41 ⇑ P P 04 24 13.9 0.0
baz=83
YKA Yellowknife Ar 82.73 27 P P 04 24 13.2 -0.6
comp=Z,1.7nm,0.5s,mb4.3,baz=286,slow=5.0,SNR=4.8
YKA LR LR 04 59 44.6
comp=Z,254nm,19.2s,MS4.6,baz=170,slow=35
YKA Yellowknife Ar 82.73 27 *i* P P 04 24 13.1 -0.8
YKA pmax pmax
comp=Z,2.0nm,0.5s
YKA Yellowknife Ar 82.73 27 P P 04 24 13.2 -0.7
YKA LR LR 04 59 44.6
D06A Cle Elum 82.74 43 ⇓ P P 04 24 14.4 +0.2
baz=83
E06A Yakima 82.78 44 ⇓ P P 04 24 15.0 +0.5
baz=83
WDC Whiskeytown Da 82.87 50 ⇑ P P 04 24 15.6 +0.5
baz=83
B07A Winthrop 82.95 42 ⇑ P P 04 24 15.8 +0.4
baz=83
ETW Entiat 83.00 43 *e*P P 04 24 16.4 +0.8
M03C McCloud 83.04 49 ⇑ P P 04 24 16.6 +0.6
baz=83
HOQ Hoqain 83.12 293 ⇓ P P 04 24 17.0 +0.3
SNR=23
M04C Macdoel 83.15 49 ⇓ P P 04 24 16.9 +0.4
baz=83
C07A Waterville 83.16 43 ⇓ P P 04 24 16.6 +0.1
baz=83
J05A Fort Rock 83.27 47 ⇓ P P 04 24 17.9 +0.7
baz=83
D07A Quincy 83.32 43 ⇑ P P 04 24 17.9 +0.6
baz=83
BSY Bisya 83.39 292 ⇑ P P 04 24 18.8 +0.7
SNR=9.5
A08A Turner Farm, O 83.40 41 ⇑ P P 04 24 18.4 +0.8
baz=83
B08A Colville Reser 83.49 42 ⇑ P P 04 24 18.3 +0.1
baz=83,SNR=7.5
E07A Sunnyside 83.54 44 ⇑ P P 04 24 19.4 +1.0
baz=84
CASY Casey 83.58 193 *e*P P 04 24 18.1 0.0
comp=Z,20nm,1.3s,mb5.1
H06A Lindquist Farm 83.60 46 ⇓ P P 04 24 19.4 +0.6
baz=84
K05A Summer Lake 83.64 48 ⇓ P P 04 24 19.4 +0.3
baz=84
RSW Rattlesnake Hi 83.75 44 *e*P P 04 24 20.3 +0.8
HAWA Hanford 83.79 44 *e*P P 04 24 20.3 +0.6
C08A Higginbotham F 83.80 42 ⇓ P P 04 24 20.4 +0.6
baz=84
L05A Lakeview 83.83 48 ⇓ P P 04 24 20.6 +0.6
baz=84
A09A Danville 83.83 41 ⇑ P P 04 24 20.5 +0.6
baz=84
I06A Prineville 83.86 46 ⇓ P P 04 24 20.9 +0.7
baz=84
ORV Oroville 83.86 51 ⇓ P P 04 24 20.8 +0.6
baz=84
HATD Hatta, Dubai 83.92 294 ⇓ P P 04 24 21.3 +0.5
SNR=10.0
O04C Chester 84.01 50 ⇑ P P 04 24 20.4 -0.5
baz=84
D08A Wollman Farm, 84.05 43 ⇑ P P 04 24 21.1 +0.1
baz=84
K06A Valley Falls 84.08 48 ⇓ P P 04 24 21.5 +0.2
baz=84
OD2 Odessa Site #2 84.11 43 *e*P P 04 24 21.6 +0.3
H07A Lands Inn, Kim 84.17 46 ⇑ P P 04 24 22.3 +0.6
baz=84
B09A Rice 84.24 42 ⇓ P P 04 24 21.7 -0.3
baz=84
MOD Modoc 84.24 48 ⇑ P P 04 24 22.1 0.0
baz=84
MOD Modoc 84.24 48 *e*P P 04 24 22.7 +0.6
M06C Likely Place G 84.27 49 ⇑ P P 04 24 22.6 +0.3
baz=84
I07A Izee 84.33 46 ⇓ P P 04 24 22.7 +0.2
baz=84
G08A Pilot Rock 84.43 45 ⇓ P P 04 24 23.3 +0.3
baz=84
F08A Pendleton 84.44 44 ⇑ P P 04 24 23.4 +0.3
baz=84
D09A Jones Farm, Ri 84.46 43 ⇑ P P 04 24 22.9 -0.2
baz=84
A10A Northport 84.49 41 ⇓ P P 04 24 23.1 -0.1
baz=84
P05C Yuba Gap, Truc 84.59 51 ⇑ P P 04 24 23.4 -0.6
baz=84
LAVA Lava Cap Winer 84.61 52 ⇓ P P 04 24 23.5 -0.6
baz=84
J07A Hines 84.62 47 ⇑ P P 04 24 24.0 -0.1
baz=85
BEKR Beckwourth 84.65 50 ⇓ P P 04 24 24.2 -0.1
baz=85
E09A Wood Farm, Sta 84.70 44 ⇓ P P 04 24 23.8 -0.5
baz=85
K07A Rock Creek Ran 84.83 47 ⇓ P P 04 24 24.4 -0.7
baz=85
N06A Buffalo Meadow 84.84 49 ⇓ P P 04 24 24.6 -0.6
baz=85
L07A Adell 84.92 48 ⇑ P P 04 24 25.6 +0.1
baz=85
NEW Newport 84.94 42 *e*P P 04 24 26.9 +1.4
O06A Flanigan 84.98 50 ⇑ P P 04 24 25.5 -0.5
baz=85
I08A Drewsey 85.02 46 ⇑ P P 04 24 25.8 -0.2
baz=85
CMB Columbia Colle 85.04 52 ⇓ P P 04 24 26.3 0.0
baz=85
CMB Columbia Colle 85.04 52 *e*P P 04 24 27.4 +1.1
M07A Soldier Meadow 85.19 49 ⇑ P P 04 24 26.9 0.0
baz=85
J08A Circle Bar Ran 85.22 47 ⇓ P P 04 24 27.0 -0.1
baz=85
S05C Merced 85.24 53 ⇓ P P 04 24 27.2 -0.1
baz=85
G09A Cove 85.24 45 ⇑ P P 04 24 27.5 +0.4
baz=85
A11A Hall Mountain, 85.26 41 ⇑ P P 04 24 27.8 +0.7
baz=85
WVOR Wild Horse Val 85.33 48 *e*P P 04 24 28.5 +0.9
WVOR pmax pmax
comp=Z,45nm,1.7s,mb5.3
WVOR Wild Horse Val 85.33 48 *e*P P 04 24 28.5 +0.9
comp=Z,45nm,1.7s,mb5.3
K08A Mann Creek Ran 85.36 47 ⇑ P P 04 24 27.8 +0.1
baz=85
PKD Parkfield 85.39 54 ⇓ P P 04 24 27.8 -0.2
baz=85
E10A Myers Farm, Un 85.40 43 ⇓ P P 04 24 28.4 +0.6
baz=85
PAHR Pah Rah Range 85.42 50 *e*P P 04 24 30.4 +2.3
comp=Z,28nm,1.4s,mb5.2
F10A Beach Ranch, E 85.45 44 ⇑ P P 04 24 28.5 +0.4
baz=85
N07B Gerlach 85.47 49 ⇓ P P 04 24 28.4 0.0
baz=85
L08A Fields 85.59 48 ⇓ P P 04 24 29.3 +0.4
baz=86
C11A Tepee Creek (N 85.61 42 ⇑ P P 04 24 29.0 +0.1
baz=86
BMO Blue Mountains 85.67 45 *e*P P 04 24 28.7 -0.5
BMO pmax pmax
comp=Z,25nm,1.3s,mb5.3
BMO Blue Mountains 85.67 45 *e*P P 04 24 28.7 -0.6
comp=Z,25nm,1.3s,mb5.3
G10A Bishop Farm, J 85.69 45 ⇑ P P 04 24 29.6 +0.3
baz=86,SNR=14
O07A Toulon 85.69 50 ⇓ P P 04 24 29.8 +0.4
baz=86
A12A Yaak River Ran 85.72 41 ⇑ P P 04 24 30.1 +0.7
baz=86
J09A Fry Pan Ranch, 85.73 47 ⇓ P P 04 24 29.9 +0.3
baz=86
D11A Klaveano Farm, 85.77 43 ⇓ P P 04 24 29.6 -0.1
baz=86
T06C Millerton Lake 85.80 53 ⇑ P P 04 24 29.7 -0.4
baz=86
RKT Rikitea 85.82 115 *e*S S 04 35 00.9 +0.1
RKT *e*SS SS 04 40 42.8 +4.0
comp=Z,123nm,27.2s
RKT Rikitea 85.82 115 *e*LR LR 04 51 07.2
comp=Z,978nm,24.0s,baz=307
B12A Libby 85.88 41 ⇑ P P 04 24 30.6 +0.4
baz=86
K09A Rome 85.92 47 ⇓ P P 04 24 30.6 +0.2
baz=86
EDM Edmonton 85.92 36 *e*P P 04 24 29.8 -0.5
KCC Kaiser Creek 86.03 53 ⇑ P P 04 24 30.8 -0.4
baz=86
E11A Bogner Ranch, 86.03 43 ⇑ P P 04 24 30.9 -0.1
baz=86
N08A GE Springer Mi 86.09 49 ⇑ P P 04 24 31.3 -0.1
baz=86
H10A Noah's Angus R 86.12 45 ⇑ P P 04 24 31.3 -0.2
baz=86,SNR=7.7
L09A Wilkinson Ranc 86.13 48 ⇑ P P 04 24 31.3 -0.2
baz=86
F11A Grangeville 86.19 44 ⇑ P P 04 24 31.6 -0.2
baz=86
O08A Rochester Mine 86.20 50 ⇑ P P 04 24 31.6 -0.4
baz=86
PKM Peak Mountain 86.21 55 ⇓ P P 04 24 31.0 -1.1
baz=86
I10A Payette 86.22 46 ⇓ P P 04 24 32.2 +0.3
baz=86
G11A Walters Elk Ra 86.24 44 ⇑ P P 04 24 31.8 -0.2
baz=86,SNR=16
HELL Mitchell Peak 86.41 53 ⇑ P P 04 24 33.2 +0.1
baz=86
M09A Marrel Ranch, 86.43 48 ⇓ P P 04 24 33.2 +0.1
baz=86
E12A Beaver Dam Sad 86.44 43 ⇑ P P 04 24 32.5 -0.5
baz=86,SNR=23
A13A Flathead Natio 86.50 41 ⇑ P P 04 24 33.9 +0.7
baz=86
K10A MacKenzie Ranc 86.50 47 ⇑ P P 04 24 33.3 -0.1
baz=86
N09A Rock Creek Ran 86.52 49 ⇓ P P 04 24 33.5 0.0
baz=86
NVAR Mina Array Bea 86.54 51 P P 04 24 33.9 +0.2
comp=Z,3.4nm,0.7s,mb4.7,baz=266,slow=6.1,SNR=13
BSMT Bassoo Peak 86.56 42 *e*P P 04 24 34.0 +0.4
H11A Donnelly 86.60 45 ⇑ P P 04 24 34.0 +0.1
baz=86
B13A Whitefish 86.62 41 ⇑ P P 04 24 33.6 -0.2
baz=86
MAK Makhachkala 86.72 313 *e*P P 04 24 32.2 -2.3
MAK *e* 04 28 02.5
MAK *e*S S 04 34 59.0 -10
MAK pmax pmax
comp=Z,184nm,1.2s,mb6.2
C13A Hot Springs 86.75 42 ⇑ P P 04 24 34.3 -0.2
baz=87
F12A Elk City 86.83 44 ⇑ P P 04 24 35.6 +0.6
baz=87,SNR=7.0
I11A Placerville 86.85 46 ⇓ P P 04 24 35.3 +0.3
baz=87,SNR=15
KEV Kevo 86.88 342 *e*p P 04 24 32.4 -2.2
comp=Z,11nm,0.7s,mb5.2
KEV Kevo 86.88 342 *e*P P 04 24 32.4 -2.2
KEV pmax pmax
comp=Z,11nm,0.7s,mb5.2
O09A Fish Creek Ran 86.94 50 ⇓ P P 04 24 35.0 -0.6
baz=87
L10A Juniper Basin 86.97 48 ⇓ P P 04 24 35.1 -0.6
baz=87
D13A Huson 86.99 42 ⇓ P P 04 24 35.1 -0.6
baz=87
M10A I.L. Ranch, Tu 87.07 48 ⇑ P P 04 24 35.9 -0.3
baz=87
MFID Camas Ranch 87.07 46 ⇓ P P 04 24 35.8 -0.4
baz=87
ISA Isabella 87.09 54 ⇑ P P 04 24 36.2 -0.3
baz=87
ISA Isabella 87.09 54 *e*P P 04 24 38.2 +1.8
K11A Parker Ranch, 87.10 47 ⇓ P P 04 24 36.1 -0.2
baz=87
A14A Double T Ranch 87.12 40 ⇓ P P 04 24 36.4 +0.2
baz=87
RBK Rabkut 87.26 287 P P 04 24 38.2 +0.6
SNR=18
C14A Swan Lake 87.26 42 ⇓ P P 04 24 37.4 +0.4
baz=87
E13A Victor 87.35 43 ⇑ P P 04 24 37.6 +0.1
baz=87
B14A Marquette Ranc 87.39 41 ⇑ P P 04 24 37.7 +0.1
baz=87
ARCES ARCESS Array B 87.44 342 P P 04 24 36.9 -0.5
comp=Z,22nm,0.9s,mb5.4,baz=51,slow=7.9,SNR=16
ARCES LR LR 05 05 01.1
comp=Z,648nm,19.7s,MS5.0,baz=188,slow=36
H12A Diamond D Ranc 87.44 45 ⇑ P P 04 24 37.8 -0.1
baz=87
F13A Darby 87.44 44 ⇑ P P 04 24 37.7 -0.2
baz=87,SNR=8.5
I12A Atlanta 87.46 46 ⇓ P P 04 24 37.9 -0.1
baz=87
L11A Cat Creek Ranc 87.46 47 ⇓ P P 04 24 37.9 -0.1
baz=87
R09A Tonopah 87.53 51 ⇓ P P 04 24 38.3 -0.2
baz=88
S09A Goldfield 87.54 52 ⇓ P P 04 24 38.3 -0.3
baz=88
A15A Johnson Ranch, 87.55 40 ⇑ P P 04 24 38.2 -0.1
baz=88
WHFO Wadi Hawf 87.57 288 P P 04 24 39.0 0.0
SNR=12
D14A Greenough 87.62 42 ⇑ P P 04 24 38.7 0.0
baz=88
P10A Eureka 87.62 50 ⇓ P P 04 24 38.9 0.0
baz=88
J12A Stokes Ranch, 87.63 46 ⇓ P P 04 24 38.7 -0.1
baz=88
M11A Holland Ranch, 87.63 48 ⇓ P P 04 24 39.1 +0.2
baz=88
EDW2 Edwards Air Fo 87.67 55 ⇓ P P 04 24 39.3 +0.1
baz=88
G13A Cobalt 87.71 44 ⇑ P P 04 24 38.8 -0.4
baz=88,SNR=26
MPMC Manual Prospec 87.77 54 ⇑ P P 04 24 39.6 0.0
baz=88
E14A Clinton 87.82 43 ⇓ P P 04 24 38.9 -0.8
baz=88
CHMT Chamberlain Mo 87.83 42 *e*P P 04 24 38.7 -1.0
N11A Elko Archery C 87.84 49 ⇓ P P 04 24 39.9 0.0
baz=88
H13A Challis 87.85 45 ⇑ P P 04 24 39.6 -0.3
baz=88
B15A Bradely Ranch, 87.86 41 ⇑ P P 04 24 39.7 -0.1
baz=88
Q10A Clear Creek Ra 87.88 51 ⇓ P P 04 24 40.0 -0.2
baz=88
K12A Draper Farm, C 87.94 47 ⇓ P P 04 24 40.1 -0.3
baz=88
S10A Tonopah Range, 87.97 52 ⇓ P P 04 24 40.3 -0.3
baz=88
C15A Salmond Ranch, 87.99 41 ⇑ P P 04 24 40.2 -0.3
baz=88
L12A House Creek Ra 88.00 47 ⇓ P P 04 24 40.6 0.0
baz=88
HLID Hailey 88.02 46 ⇓ P P 04 24 40.4 -0.3
baz=88,SNR=15
HLID Hailey 88.02 46 *e*P P 04 24 40.9 +0.2
comp=Z,14nm,1.1s,mb5.1
F14A Wisdom 88.08 43 ⇓ P P 04 24 40.7 -0.3
baz=88
O11A Cowboy Ranch, 88.08 49 ⇑ P P 04 24 40.9 -0.2
baz=88
I13A Wildhorse Cree 88.13 45 ⇓ P P 04 24 40.9 -0.3
baz=88,SNR=5.5
ABTO Aybut 88.14 287 P P 04 24 42.0 +0.2
SNR=11
FURC Furnace Creek, 88.15 53 ⇓ P P 04 24 41.3 -0.2
baz=88
G14A Jackson 88.19 44 ⇑ P P 04 24 41.2 -0.3
baz=88
ELK Elko 88.22 49 *e*P P 04 24 41.6 -0.1
ELK pmax pmax
comp=Z,22nm,0.9s
ELK Elko 88.22 49 *e*P P 04 24 41.6 -0.2
comp=Z,22nm,0.9s,mb5.4
J13A Cove Ranch, Pi 88.24 46 ⇓ P P 04 24 41.7 0.0
baz=88
M12A Wells 88.27 48 ⇓ P P 04 24 41.9 0.0
baz=88
D15A Lincoln 88.27 42 ⇓ P P 04 24 41.8 0.0
baz=88
N12A Clover Valley, 88.34 48 ⇑ P P 04 24 42.4 +0.1
baz=88
E15A Deer Lodge 88.38 43 ⇑ P P 04 24 41.8 -0.5
baz=88,SNR=13
H14A Leadore 88.44 45 ⇑ P P 04 24 42.1 -0.5
baz=88,SNR=11
Q11A Duckwater 88.44 51 ⇓ P P 04 24 42.5 -0.3
baz=88
TPNV Topopah Spring 88.50 52 ⇓ P P 04 24 42.8 -0.3
baz=88
GSC Goldstone 88.50 54 *e*P P 04 24 44.9 +1.7
GSC pmax pmax
comp=Z,18nm,1.2s,mb5.3
GSC Goldstone 88.50 54 ⇑ P P 04 24 42.2 -0.9
baz=88
GSC Goldstone 88.50 54 *e*P P 04 24 44.9 +1.7
comp=Z,18nm,1.2s,mb5.3
K13A Stover Farm, H 88.52 47 ⇓ P P 04 24 42.8 -0.3
baz=88

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
C16A	**Fuhringer Ranc**	**88.54**	**41**	⇓P	**P**	**04 24 42.6**	**-0.4**
	baz=88						
U10A	**Ash Meadows, A**	**88.58**	**53**	⇓P	**P**	**04 24 42.8**	**-0.7**
	baz=88						
I14A	**Mackay**	**88.58**	**45**	⇓P	**P**	**04 24 43.1**	**-0.3**
	baz=88,SNR=8.3						
R11A	**Troy Canyon, C**	**88.63**	**51**	⇑P	**P**	**04 24 43.1**	**-0.6**
	baz=89,SNR=11						
F15A	**Butte**	**88.66**	**43**	⇓P	**P**	**04 24 43.4**	**-0.3**
	baz=89						
LRM	**Limekiln Ridge**	**88.69**	**43**	*e*P	**P**	**04 24 44.2**	**+0.4**
JOF	**Joensuu**	**88.71**	**335**	*e*p	**P**	**04 24 41.8**	**-1.7**
	comp=Z,6.5nm,0.7s,mb5.1						
J14A	**Carey**	**88.72**	**46**	⇓P	**P**	**04 24 43.6**	**-0.4**
	baz=89						
O12A	**Currie**	**88.72**	**49**	⇓P	**P**	**04 24 43.6**	**-0.4**
	baz=89						
MCMT	**McKenzie Canyo**	**88.73**	**44**	*e*P	**P**	**04 24 45.2**	**+1.2**
DLMT	**Dillon**	**88.73**	**44**	*e*P	**P**	**04 24 47.1**	**+3.1**
	comp=Z,15nm,1.1s,mb5.2						
P12A	**McGill**	**88.82**	**50**	⇓P	**P**	**04 24 44.3**	**-0.3**
	baz=89						
HRY	**Holter Researc**	**88.83**	**42**	*e*P	**P**	**04 24 43.1**	**-1.3**
M13A	**Montello**	**88.83**	**48**	⇑P	**P**	**04 24 44.3**	**-0.3**
	baz=89,SNR=7.8						
G15A	**Dillon**	**88.87**	**44**	⇑P	**P**	**04 24 44.5**	**-0.2**
	baz=89						
109C	**Camp Elliot, M**	**88.89**	**57**	⇓P	**P**	**04 24 44.8**	**-0.2**
	baz=89						
D16A	**Dana Ranch, Ca**	**88.91**	**42**	⇑P	**P**	**04 24 44.6**	**-0.2**
	baz=89						
H15A	**Lima**	**88.93**	**44**	⇓P	**P**	**04 24 44.7**	**-0.3**
	baz=89						
E16A	**East Helena**	**88.98**	**42**	⇓P	**P**	**04 24 44.9**	**-0.3**
	baz=89						
Q12A	**Willow Creek R**	**89.00**	**50**	⇑P	**P**	**04 24 45.1**	**-0.3**
	baz=89,SNR=6.7						
TUQ	**Turquoise Moun**	**89.16**	**54**	⇓P	**P**	**04 24 46.0**	**-0.2**
	baz=89						
K14A	**Jones Ranch, D**	**89.19**	**46**	⇓P	**P**	**04 24 46.0**	**-0.2**
	baz=89						
T11A	**Corn Creek, Al**	**89.21**	**52**	⇓P	**P**	**04 24 46.6**	**+0.2**
	baz=89						
PFO	**Pinyon Flat Ob**	**89.23**	**56**	*e*P	**P**	**04 24 47.8**	**+1.2**
PFO				pmax	pmax		
	comp=Z,16nm,1.2s,mb5.2						
PFO	**Pinyon Flat Ob**	**89.23**	**56**	⇑P	**P**	**04 24 46.8**	**+0.1**
	baz=89						
PFO	**Pinyon Flat Ob**	**89.23**	**56**	*e*P	**P**	**04 24 47.8**	**+1.1**
	comp=Z,16nm,1.2s,mb5.2						
L14A	**Malta**	**89.29**	**47**	⇓P	**P**	**04 24 46.7**	**-0.1**
	baz=89,SNR=8.6						
G16A	**Moss Hill, Enn**	**89.31**	**44**	⇑P	**P**	**04 24 46.8**	**+0.1**
	baz=89						
R12A	**Pony Springs,**	**89.37**	**51**	⇓P	**P**	**04 24 47.1**	**-0.1**
	baz=89						
M14A	**Sheep Mountain**	**89.38**	**47**	⇑P	**P**	**04 24 46.4**	**-0.7**
	baz=89						
S12A	**Delamar Landin**	**89.39**	**52**	⇑P	**P**	**04 24 46.6**	**-0.7**
	baz=89						
J15A	**Blackfoot**	**89.45**	**45**	⇓P	**P**	**04 24 47.6**	**+0.2**
	baz=89,SNR=11						
MONP	**Monument Peak**	**89.45**	**56**	⇑P	**P**	**04 24 47.4**	**-0.2**
	baz=89						
SHPR	**Sheep Range**	**89.46**	**53**	*e*P	**P**	**04 24 49.4**	**+1.7**
P13A	**Bates Ranch, G**	**89.49**	**50**	⇑P	**P**	**04 24 47.6**	**-0.1**
	baz=89						
BELC	**Belle Mtn.**	**89.49**	**55**	⇑P	**P**	**04 24 47.9**	**0.0**
	baz=89						
GNI	**Garni**	**89.50**	**311**	P	**P**	**04 24 46.9**	**-0.9**
	comp=Z,2.1nm,0.3s,mb5.0,baz=319,slow=14,SNR=5.4						
GNI	**Garni**	**89.50**	**311**	*e*P	**P**	**04 24 48.2**	**+0.5**
GNI				pmax	pmax		
	comp=Z,14nm,0.9s						
GNI	**Garni**	**89.50**	**311**	*e*P	**P**	**04 24 48.2**	**+0.4**
	comp=Z,14nm,0.9s,mb5.3						
GMRC	**Granite Mounta**	**89.55**	**54**	⇓P	**P**	**04 24 48.4**	**+0.3**
	baz=90						
VSR	**Storozhevoye**	**89.59**	**323**	*e*P	**P**	**04 24 46.0**	**-1.9**
VSR				*e**PP	pP	04 24 51.4	-9.2
VSR				pmax	pmax		
	comp=Z,9.0nm,1.1s,mb5.0						
VSR				pmax	pmax		
	comp=N,9.0nm,1.2s						
VSR				pmax	pmax		
	comp=E,9.0nm,0.8s						
K15A	**Arbon**	**89.60**	**46**	⇓P	**P**	**04 24 48.7**	**+0.5**
	baz=90						
Q13A	**Wheeler Ranch,**	**89.63**	**50**	⇑P	**P**	**04 24 49.0**	**+0.7**
	baz=90						
N14A	**Grayback Hills**	**89.69**	**48**	⇑P	**P**	**04 24 49.5**	**+0.9**
	baz=90						
QLMT	**Earthquake Lak**	**89.69**	**44**	*e*P	**P**	**04 24 49.2**	**+0.7**
HVU	**Hansel Valley**	**89.70**	**47**	*e*P	**P**	**04 24 50.2**	**+1.5**
DVTC	**Desert V Tower**	**89.77**	**57**	⇓P	**P**	**04 24 49.4**	**+0.3**
	baz=90						
KIV	**Kislovodsk**	**89.80**	**315**	*e*P	**P**	**04 24 48.2**	**-0.9**
KIV				*e*		04 35 15.0	
KIV				pmax	pmax		
	comp=Z,14nm,1.0s,mb5.2						
KIV	**Kislovodsk**	**89.80**	**315**	*e*P	**P**	**04 24 48.1**	**-1.0**
	comp=Z,16nm,1.0s,mb5.3						
R13A	**O'Grain Ranch,**	**89.89**	**51**	⇑P	**P**	**04 24 50.2**	**+0.5**
	baz=90						
LDFC	**Landfair**	**89.90**	**54**	*e*P	**P**	**04 24 49.6**	**-0.2**
	comp=Z,20nm,0.9s,mb5.5						
L15A	**Malad City**	**89.91**	**47**	⇓P	**P**	**04 24 50.0**	**+0.4**
	baz=90						
V12A	**Nelson**	**89.92**	**53**	⇑P	**P**	**04 24 50.3**	**+0.5**
	baz=90						
BC3	**Big Chuckw Mtn**	**90.02**	**55**	⇑P	**P**	**04 24 50.3**	**0.0**
	baz=90						
M15A	**Larsen Ranch,**	**90.03**	**47**	⇓P	**P**	**04 24 50.0**	**-0.2**
	baz=90						
J16A	**Bone**	**90.06**	**45**	⇑P	**P**	**04 24 50.1**	**-0.2**
	baz=90						
SPUT	**South Promonto**	**90.08**	**47**	*e*P	**P**	**04 24 58.2**	**+7.8**
IRM	**Iron Mountain**	**90.12**	**55**	⇑P	**P**	**04 24 51.2**	**+0.4**
	baz=90						
P14A	**Drum Mountains**	**90.15**	**49**	⇑P	**P**	**04 24 50.4**	**-0.3**
	baz=90						
S13A	**Holt Ranch, En**	**90.15**	**51**	⇑P	**P**	**04 24 51.0**	**+0.1**
	baz=90						
DUG	**Dugway**	**90.15**	**49**	*e*P	**P**	**04 24 50.1**	**-0.7**
DUG				pmax	pmax		
	comp=Z,10.0nm,1.0s,mb5.1						
DUG	**Dugway**	**90.15**	**49**	⇓P	**P**	**04 24 51.0**	**+0.1**
	baz=90						
DUG	**Dugway**	**90.15**	**49**	*e*P	**P**	**04 24 50.1**	**-0.7**
	comp=Z,10nm,1.0s,mb5.1						
N15A	**Stansbury Isla**	**90.16**	**48**	⇓P	**P**	**04 24 50.8**	**0.0**
	baz=90						
Q14A	**Sevier Lake (B**	**90.17**	**50**	⇓P	**P**	**04 24 51.1**	**+0.1**
	baz=90						
K16A	**Soda Springs**	**90.21**	**46**	⇓P	**P**	**04 24 51.4**	**+0.4**
	baz=90						
YNR	**Norris Junctio**	**90.23**	**44**	*e*P	**P**	**04 24 58.0**	**+6.9**
RRI2	**Red Ridge**	**90.23**	**45**	*e*P	**P**	**04 24 53.4**	**+2.3**
	comp=Z,21nm,1.3s,mb5.3						
T13A	**Saint George**	**90.28**	**52**	⇑P	**P**	**04 24 51.5**	**0.0**
	baz=90,SNR=6.3						
IMW	**Indian Meadow**	**90.32**	**45**	*e*P	**P**	**04 24 52.2**	**+0.7**
	comp=Z,16nm,1.4s,mb5.1						
MIB	**Mutribah**	**90.35**	**301**	*e*P	**P**	**04 24 50.9**	**-1.1**
	baz=301						
MIB				AMb	AMB	04 24 52.2	
	comp=Z,72nm,1.2s,mb5.9,baz=301						
O15A	**The Old Anders**	**90.38**	**48**	⇓P	**P**	**04 24 52.0**	**+0.1**
	baz=90						
ARUT	**Antelope Range**	**90.41**	**51**	*e*P	**P**	**04 24 52.1**	**+0.1**
U13A	**Pakoon Wash**	**90.41**	**52**	⇑P	**P**	**04 24 52.2**	**+0.1**
	baz=90,SNR=8.6						
TPAW	**Teton Pass**	**90.44**	**45**	*e*P	**P**	**04 24 58.8**	**+6.7**
	comp=Z,25nm,1.5s,mb5.3						
LKWY	**Lake**	**90.47**	**44**	*e*P	**P**	**04 24 59.0**	**+6.8**
LKWY				pmax	pmax		
	comp=Z,15nm,1.4s,mb5.1						
LKWY	**Lake**	**90.47**	**44**	*e*P	**P**	**04 24 59.0**	**+6.8**
	comp=Z,15nm,1.4s,mb5.1						
F18A	**Big Timber**	**90.47**	**42**	⇑P	**P**	**04 24 52.9**	**+0.8**
	baz=90						
MOOW	**Moose Ponds**	**90.50**	**45**	*e*P	**P**	**04 24 52.9**	**+0.6**
	comp=Z,7.8nm,1.2s,mb4.9						
REDW	**Red Top Meadow**	**90.55**	**45**	*e*P	**P**	**04 24 55.7**	**+3.1**
	comp=Z,27nm,1.4s,mb5.4						
V13A	**Grand Canyon W**	**90.56**	**53**	⇑P	**P**	**04 24 52.9**	**+0.1**
	baz=90,SNR=7.3						
AHID	**Auburn Hatcher**	**90.57**	**46**	*e*P	**P**	**04 24 53.6**	**+0.9**
	comp=Z,9.4nm,0.8s,mb5.2						
L16A	**Fish Haven**	**90.58**	**47**	⇓P	**P**	**04 24 52.8**	**0.0**
	baz=90						
NAY	**Al-Naaiem**	**90.58**	**300**	*e*P	**P**	**04 24 51.7**	**-1.4**
	baz=300						
NAY				AMb	AMB	04 24 53.8	
	comp=Z,54nm,1.1s,mb5.8,baz=300						
HWUT	**Hardware Ranch**	**90.62**	**47**	*e*P	**P**	**04 24 58.3**	**+5.4**
	comp=Z,16nm,1.2s,mb5.2						
S14A	**Cedar City**	**90.62**	**51**	⇑P	**P**	**04 24 53.8**	**+0.8**
	baz=90						
LOHW	**Long Hollow**	**90.64**	**45**	*e*P	**P**	**04 24 53.7**	**+0.7**
	comp=Z,3.3nm,0.9s,mb4.7						
GLA	**Glamis**	**90.69**	**56**	*e*P	**P**	**04 24 56.1**	**+2.6**
GLA				pmax	pmax		
	comp=Z,12nm,0.9s,mb5.2						
GLA	**Glamis**	**90.69**	**56**	⇑P	**P**	**04 24 53.7**	**+0.2**
	baz=91						
GLA	**Glamis**	**90.69**	**56**	*e*P	**P**	**04 24 56.1**	**+2.6**
	comp=Z,12nm,0.9s,mb5.2						
RST	**Umm Al-Ruwaisa**	**90.72**	**300**	*e*P	**P**	**04 24 52.2**	**-1.5**
	baz=300						
RST				AMb	AMB	04 24 53.7	
	comp=Z,51nm,1.1s,mb5.8,baz=300						
NLU	**North Lily Min**	**90.77**	**49**	*e*P	**P**	**04 25 02.3**	**+8.6**
W13A	**Hualapai Mount**	**90.86**	**54**	⇓P	**P**	**04 24 54.3**	**+0.1**
	baz=91						
PDMCI	**Parker Dam,Lak**	**90.89**	**55**	⇑P	**P**	**04 24 54.9**	**+0.6**
	baz=91						
T14A	**Hurricane**	**90.90**	**52**	⇓P	**P**	**04 24 54.9**	**+0.6**
	baz=91						
U14A	**Mt Trumbull**	**91.01**	**52**	⇓P	**P**	**04 24 54.5**	**-0.4**
	baz=91,SNR=8.6						
JLU	**Jordanelle**	**91.02**	**48**	*e*P	**P**	**04 24 54.3**	**-0.5**
JLU				*e*pP	pP	04 25 01.6	-5.9
RLMT	**Red Lodge**	**91.04**	**43**	⇑P	**P**	**04 24 55.7**	**+0.9**
	baz=91						
RLMT	**Red Lodge**	**91.04**	**43**	*e*P	**P**	**04 24 54.9**	**+0.1**
	comp=Z,17nm,1.2s,mb5.3						
X13A	**Yucca**	**91.05**	**54**	⇑P	**P**	**04 24 54.9**	**-0.1**
	baz=91,SNR=5.7						
MPU	**Maple Canyon**	**91.07**	**48**	*e*P	**P**	**04 25 02.8**	**+7.7**
O16A	**Springville**	**91.11**	**48**	⇓P	**P**	**04 24 55.2**	**0.0**
	baz=91						
MSU	**Marysvale**	**91.14**	**50**	*e*P	**P**	**04 24 55.7**	**+0.3**
V14A	**Boquillas Ranc**	**91.31**	**53**	⇓P	**P**	**04 24 56.0**	**-0.3**
	baz=91,SNR=8.5						
W14A	**Seligman**	**91.45**	**53**	⇑P	**P**	**04 24 57.2**	**+0.2**
	baz=91						
FFC	**Flin Flon**	**91.62**	**32**	*e*P	**P**	**04 24 55.8**	**-1.5**
FFC				pmax	pmax		
	comp=Z,13nm,1.2s,mb5.1						
FFC	**Flin Flon**	**91.62**	**32**	*e*P	**P**	**04 24 55.8**	**-1.5**
	comp=Z,13nm,1.2s,mb5.1						
113A	**Mohawk Valley,**	**91.63**	**56**	⇑P	**P**	**04 24 57.8**	**0.0**
	baz=92						
BW06	**Boulder Array**	**91.64**	**45**	*e*P	**P**	**04 24 58.2**	**+0.5**
	comp=Z,1.7nm,0.6s,mb4.5						
PDAR	**Pinedale Array**	**91.64**	**45**	P	**P**	**04 24 57.0**	**-0.7**
	comp=Z,0.9nm,0.7s,mb4.2,baz=8.1,slow=2.1,SNR=7.5						
PDAR				LR	LR	05 04 04.1	
	comp=Z,487nm,18.7s,MS5.0,baz=308,slow=34						
O17A	**Robinson Place**	**91.66**	**48**	⇑P	**P**	**04 24 58.3**	**+0.5**
	baz=92						
U15A	**North Rim**	**91.69**	**52**	⇓P	**P**	**04 24 58.1**	**+0.1**
	baz=92						
R16A	**Teasdale**	**91.73**	**50**	⇓P	**P**	**04 24 58.3**	**+0.1**
	baz=92						
Q16A	**Castle Valley**	**91.76**	**49**	⇓P	**P**	**04 24 58.0**	**-0.3**
	baz=92						
S16A	**Weppner Ranch,**	**91.82**	**51**	⇓P	**P**	**04 24 58.7**	**+0.1**
	baz=92						
X14A	**Yava**	**91.82**	**54**	⇓P	**P**	**04 24 58.7**	**0.0**
	baz=92						
Y14A	**Wickenburg**	**91.89**	**55**	⇓P	**P**	**04 24 58.6**	**-0.4**
	baz=92,SNR=6.3						
SBA	**Scott Base**	**91.90**	**176**	*e*P	**P**	**04 24 59.3**	**+1.3**
V15A	**Kaibab Nationa**	**91.97**	**53**	⇑P	**P**	**04 24 59.2**	**-0.2**
	baz=92						
Z14A	**Wintersburg**	**92.11**	**55**	⇓P	**P**	**04 24 59.9**	**-0.2**
	baz=92						
T16A	**Glen Canyon Da**	**92.12**	**51**	⇓P	**P**	**04 25 00.2**	**+0.2**
	baz=92						
SRU	**San Rafael**	**92.17**	**49**	*e*P	**P**	**04 25 01.7**	**+1.5**
R17A	**Hanksville Air**	**92.26**	**50**	⇓P	**P**	**04 25 00.7**	**+0.1**
	baz=92						
X15A	**Humboldt**	**92.33**	**54**	⇓P	**P**	**04 25 00.7**	**-0.3**
	baz=92						
Y15A	**Casa Rosa Ranc**	**92.42**	**54**	⇑P	**P**	**04 25 01.2**	**-0.3**
	baz=92						
S17A	**Black Ridge (B**	**92.44**	**51**	⇑P	**P**	**04 25 01.0**	**-0.5**
	baz=92						
N19A	**John Jarvie Ra**	**92.55**	**47**	⇑P	**P**	**04 25 01.4**	**-0.5**
	baz=92						
214A	**Organ Pipe Nat**	**92.64**	**56**	⇓P	**P**	**04 25 02.3**	**-0.2**
	baz=93						
T17A	**Navajo Res., N**	**92.65**	**51**	⇓P	**P**	**04 25 02.4**	**-0.1**
	baz=93						
U16A	**Tuba City**	**92.67**	**52**	⇑P	**P**	**04 25 02.4**	**-0.2**
	baz=93						
WUAZ	**Wupatki**	**92.69**	**53**	⇑P	**P**	**04 25 03.2**	**+0.6**
	baz=93						
WUAZ	**Wupatki**	**92.69**	**53**	*e*P	**P**	**04 25 02.9**	**+0.3**
	comp=Z,14nm,1.1s,mb5.3						
W16A	**Flagstaff**	**92.69**	**53**	⇓P	**P**	**04 25 03.1**	**+0.4**
	baz=93						
R18A	**Canyonlands Na**	**92.88**	**50**	⇑P	**P**	**04 25 03.5**	**+0.1**
	baz=93						
U17A	**Shonto**	**92.89**	**51**	⇑P	**P**	**04 25 04.4**	**+0.8**
	baz=93						
X16A	**Lo Mia Camp, P**	**92.98**	**54**	⇓P	**P**	**04 25 04.2**	**+0.2**
	baz=93						
S18A	**Hurst Farm, Bl**	**93.03**	**50**	⇑P	**P**	**04 25 04.3**	**+0.1**
	baz=93						
ANN	**Anapa**	**93.04**	**317**	*e*P	**P**	**04 25 05.6**	**+1.5**
ANN				*e*		04 35 37.5	
ANN				pmax	pmax		
	comp=Z,27nm,1.0s,mb5.6						
Y16A	**Circle Bar Ran**	**93.12**	**54**	⇑P	**P**	**04 25 04.6**	**-0.1**
	baz=93,SNR=6.3						
T18A	**Mexican Hat**	**93.31**	**51**	⇓P	**P**	**04 25 05.4**	**-0.1**
	baz=93						
S19A	**Harvey Farm, M**	**93.66**	**50**	⇓P	**P**	**04 25 07.1**	**0.0**
	baz=94						
Y17A	**Roosevelt**	**93.68**	**54**	⇓P	**P**	**04 25 08.0**	**+0.8**
	baz=94						
V18A	**Ganado**	**93.73**	**52**	⇑P	**P**	**04 25 08.1**	**+0.7**
	baz=94						
T19A	**Beclabito**	**94.05**	**51**	⇓P	**P**	**04 25 09.8**	**+0.9**
	baz=94						
117A	**Oracle**	**94.12**	**55**	⇓P	**P**	**04 25 10.0**	**+0.6**
	baz=94						
TUC	**Tucson**	**94.17**	**56**	*e*P	**P**	**04 25 11.5**	**+2.0**
TUC				pmax	pmax		
	comp=Z,14nm,1.6s,mb5.1						
TUC	**Tucson**	**94.17**	**56**	*e*P	**P**	**04 25 11.5**	**+2.0**
	comp=Z,14nm,1.6s,mb5.1						
Y18A	**Canyon Day Jun**	**94.29**	**54**	⇓P	**P**	**04 25 11.2**	**+1.1**
	baz=94						
217A	**Green Valley**	**94.31**	**56**	⇓P	**P**	**04 25 10.7**	**+0.5**
	baz=94						
X19A	**St. Johns**	**94.66**	**53**	⇓P	**P**	**04 25 12.5**	**+0.7**
	baz=95						
218A	**Dragoon**	**94.87**	**56**	⇓P	**P**	**04 25 13.5**	**+0.7**
	baz=95						
AKASG	**Malin Array Be**	**95.51**	**325**	LR	LR	05 10 21.6	
	comp=Z,2μm,20.3s,MS5.5,baz=55,slow=37						
AKASG	**Malin Array Be**	**95.51**	**325**	*i* P	**P**	**04 25 12.8**	**-2.5**
SDCO	**Great Sand Dun**	**96.34**	**49**	*e*P	**P**	**04 25 19.1**	**-0.3**
	comp=Z,4.6nm,1.5s,mb4.7						
ANMO	**Albuquerque**	**96.66**	**52**	*e*P	**P**	**04 25 21.9**	**+1.0**
ANMO				pmax	pmax		
	comp=Z,3.0nm,1.2s						
ANMO	**Albuquerque**	**96.66**	**52**	*e*P	**P**	**04 25 21.9**	**+1.1**
	comp=Z,3.2nm,1.2s,mb4.6						
ULM	**Lac du Bonnet**	**97.03**	**35**	LR	LR	05 09 50.1	
	comp=Z,825nm,18.0s,MS5.3,baz=307,slow=36						
NB2	**NORSAR Subarra**	**97.43**	**339**	P	**P**	**04 25 22.3**	**-1.4**
	comp=Z,8.8nm,1.1s,mb5.1,baz=44,slow=4.6						
NOA	**NORSAR Array B**	**97.43**	**339**	P	**P**	**04 25 22.2**	**-1.5**
	comp=Z,2.6nm,0.9s,mb4.6,baz=52,slow=4.3,SNR=5.5						
NOA				LR	LR	05 11 12.0	
	comp=Z,500nm,21.7s,MS5.0,baz=30,slow=36						
BR131	**Keskin Array S**	**97.63**	**314**	*e*P	**P**	**04 25 24.0**	**-1.1**
	comp=Z,6.2nm,1.0s,mb5.1						
BUR08	**Bucovina Ar. S**	**99.33**	**324**	*e*Pdif	**P**	**04 25 32.1**	**-0.5**
MAW	**Mawson**	**99.51**	**203**	LR	LR	05 08 44.5	
	comp=Z,306nm,20.3s,MS4.8,baz=67,slow=34						
TXAR	**Lajitas Array**	**100.94**	**56**	P	Pdif	04 25 39.9	+0.3
	comp=Z,0.1nm,0.6s,baz=327,slow=11,SNR=2.2						
CLL	**Collm**	**103.49**	**332**	*e*SS	SS	04 45 00.0	+12
CLL				Lm		04 15 00.0	
	comp=N,400nm,19.9s						
CLL				Lm		04 15 00.0	
	comp=E,600nm,18.1s						
CLL				Lm		04 15 00.0	
	comp=Z,900nm,21.1s						
CLL				*e*x	x	04 54 38.0	
SNAA	**Sanae**	**118.74**	**191**	*e*PKIKP	PKPdf	04 30 37.1	-0.6
LSZ	**Lusaka**	**119.43**	**260**	*e*PKIKP	PKPdf	04 30 41.6	+1.0
ESDC	**Sonseca Array**	**120.02**	**333**	PP	PP	04 32 00.8	-4.1
	comp=Z,1.7nm,0.9s,baz=27,slow=7.6,SNR=4.1						
CART	**Cartagena**	**120.31**	**329**	*e*PKPdf	PKPdf	04 30 42.1	+0.3
LBTB	**Lobatse**	**122.49**	**249**	*e*PKIKP	PKPdf	04 30 46.9	+0.6
TAM	**Tamanrasset**	**126.79**	**312**	*e*PKIKP	PKPdf	04 30 55.5	+0.9
TOA0	**Torodi Ar. Sit**	**135.47**	**305**	*e*PKPdf	PKPdf	04 31 12.2	+1.0
TORD	**Torodi Ar. Bea**	**135.47**	**305**	PKhKP		04 31 00.5	
	comp=Z,0.8nm,1.0s,baz=48,slow=4.4,SNR=3.8						
TORD				PKP	PKPdf	04 31 11.9	+0.7
	comp=Z,2.5nm,0.9s,baz=48,slow=0.7,SNR=9.5						
TORD				SKPbc	SKPbc	04 34 41.2	+1.9
	comp=Z,1.1nm,0.8s,baz=79,slow=2.4,SNR=3.2						
DBIC	**Dimbokro**	**144.44**	**302**	PKP	PKPdf	04 31 25.5	-2.1
	comp=Z,43nm,1.0s,baz=44,slow=3.0,SNR=26						
DBIC	**Dimbokro**	**144.44**	**302**	*e*PKPdf	PKPdf	04 31 25.7	-1.8
KIC	**Kosan Boka**	**144.52**	**302**	*e*PKP1	PKPdf	04 31 26.4	-1.3
	comp=Z,533nm,1.4s						
TIC	**Toumodi**	**144.59**	**302**	*e*PKP1	PKPdf	04 31 26.6	-1.2
	comp=Z,588nm,1.5s						
LIC	**Lamto**	**144.83**	**302**	*e*PKP1	PKPdf	04 31 27.4	-0.8
	comp=Z,396nm,1.5s						
TRQA	**Tornquist**	**145.38**	**140**	*e*PKPbc	PKPbc	04 31 29.0	+0.6
LVC	**Limon Verde**	**146.09**	**111**	*e*PKPbc	PKPbc	04 31 30.8	-0.2
LPAZ	**La Paz**	**147.38**	**99**	PKPbc	PKPbc	04 31 35.2	+0.3
	comp=Z,4.1nm,0.8s,baz=259,slow=5.8,SNR=12						
LPAZ	**La Paz**	**147.38**	**99**	*e*PKPdf	PKPdf	04 31 33.0	+0.5
LPAZ				*e*PKPbc	PKPbc	04 31 35.6	+0.7
CPUP	**Villa Florida**	**155.03**	**124**	PKPab	PKPab	04 32 09.1	+0.8
	comp=Z,3.6nm,1.0s,baz=231,slow=11,SNR=2.8						

IDC 10 04:23:34.8±3.3**,497S**×**15154E,h0**km**,mb3.8**/3**,mb1 4.1**/3**, mb1mx3.7**/16**,mbtmp3.9**/3**,Error ellipse: s-maj=112.3km s-min=46.0km az=120.0,New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.40**	**227**	P	P	04 28 35.9	+0.9
	1.9nm,0.5s,baz=52,slow=9.9,SNR=22						
ASAR	**Alice Springs**	**25.18**	**221**	P	P	04 29 02.5	+0.3
	0.8nm,0.4s,baz=57,slow=8.8,SNR=9.5						
FITZ	**Fitzroy Crossi**	**28.47**	**241**	P	P	04 29 30.8	-1.1
	1.3nm,0.6s,baz=56,slow=15,SNR=8.0						
TORD	**Torodi Ar. Bea**	**149.16**	**287**	PKPbc	PKPbc	04 43 26.0	-0.3
	0.4nm,0.6s,baz=66,slow=2.1,SNR=8.6						

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*CSEM **10** 04:39:50.5±0.7,3744N×2460W,h5km,ML3.2,Error ellipse: s-maj=5.6km s-min=2.2km az=77.0,After PDA*

PDA 10 04:39:50.5±0.7**,3744N**×**2460W,h5**km**,MD3.8,ML3.2, Error ellipse: s-maj=5.6km s-min=2.2km az=77.0, Azores Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSMN	**Pico do Norte,**	**0.57**	**221**	*e*P	Pg	04 40 00.3	-1.2
PSMN				*e*S	Sg	04 40 07.6	-1.3
CMLA	**Cha da Macela**	**0.81**	**294**	*e*P	Pg	04 40 03.4	-2.6
CMLA				*e*S	Sg	04 40 13.3	-3.1
CMLA				A		04 40 16.1	
	523nm,0.4s						
CMLA	**Cha da Macela**	**0.81**	**294**	*e*P	Pg	04 40 03.4	-2.6
CMLA				*e*S	Sg	04 40 13.3	-3.1
PDA	**Ponta Delgada**	**0.90**	**290**	*e*P	Pg	04 40 05.2	-2.6
PDA				*e*S	Sg	04 40 15.9	-3.6
ROSA	**Rosais**	**3.15**	**295**	*e*P	Pn	04 40 36.8	-3.9
ROSA				*e*S	Sn	04 41 10.6	-8.1
PICO	**Pico**	**3.21**	**291**	*e*P	Pn	04 40 38.6	-2.9
PICO				*e*S	Sn	04 41 13.3	-6.8
HOR	**Horta**	**3.37**	**290**	*e*P	Pn	04 40 40.2	-3.5
CALA	**Caldeira**	**3.44**	**291**	*e*P	Pn	04 40 41.2	-3.5
CALA				*e*S	Sn	04 41 17.7	-8.1

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*SZGRF **10** 05:18:03.0,2500S×17925E,h550km,South of Fiji Islands*
*DJA **10** 05:18:48,2548S×17976E,h382km,mb4.9/9*
*MOS **10** 05:18:56.8±0.8,2503S×17973E,h502km,mb5.0/26,Error ellipse: s-maj=11.8km s-min=9.9km az=47.2*
*BGS **10** 05:18:57.1±3.7,25.15S×17980E,h502km,mb4.9(NEIC)*
*ISCJB **10** 05:18:57.2±0.6,25.17S±004×17973E±004,h508km±6km, mb4.7/76,Error ellipse: s-maj=6.5km s-min=4.4km az=145.0*
*NEIC **10** 05:18:57.2±0.5,25.15S×17980E,h502km±6km,mb4.9/53, Error ellipse: s-maj=6.6km s-min=4.6km az=145.0*
*GCMT **10** 05:18:57.2±0.4,2540S×17980E,h514km±3km,MW5.2/50, Moment Tensor Solution. s50,c62; Duration: 1s0 Moment tensor: Scale 10^17Nm; Mrr0.60±.03; Mθθ-0.41±.06; Mφφ-0.19±.06; Mrθ-0.55±.06; Mθφ-0.16±.06; Mφr-0.43±.06; Best double couple: M0 0.88800×10^17 NP1:φs66.00000°,δ19.00000°,λ101.00000°. NP2: φs234.00000°,δ71.00000°,λ86.00000°. Principal axes: T 0.9450, Plg64.0000°, Azm138.0000°; N -0.1150, Plg4.0000°, Azm236.0000°; P -0.8300, Plg26.0000°, Azm327.0000°; nsta1 refers to body waves, cutoff=40s.*
*IDC **10** 05:18:57.3±0.9,25.12S×17974E,h502km±8km,mb4.3/22, mb1 4.3/24,mb1mx4.3/26,mbtmp4.2/24 Error ellipse: s-maj=9.4km s-min=7.7km az=168.0*
*BJI **10** 05:18:57.1,2520S×17980E,h502km,mB4.9,mb4.6*

ISC 10 05:18:58.0±0.5**,2522S**±004×**17977E**±004**,h508**km±6km**, h504**km±4.0km**:pP-P,n740,**σ0s**62**/544**,mb4.7**/76**, 223C-191D,South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**4.51**	**153**	*e*Pn	**P**	**05 20 22.5**	**+1.5**
RAO				Sn	**S**	**05 21 27.5**	**-1.4**
MXZ	**Matakaoa Point**	**12.37**	**185**	P	**P**	**05 21 41.4**	**+1.2**
DZM	**Mont Dzumac**	**12.61**	**282**	*e*P	**P**	**05 21 43.4**	**+0.4**
DZM	**Mont Dzumac**	**12.61**	**282**	*e*Pn	**P**	**05 21 44.5**	**+1.5**
NOUC	**Port Laguerre**	**12.73**	**281**	*e*P	**P**	**05 21 44.9**	**+0.7**
PUZ	**Puketiti**	**12.88**	**185**	P	**P**	**05 21 45.5**	**0.0**
URZ	**Urewera**	**13.19**	**189**	P	**P**	**05 21 46.7**	**-2.2**
	9.8nm,0.3s,baz=9.8,slow=4.8,SNR=42						
URZ				S	**S**	**05 24 06.0**	**-3.8**
	6.8nm,0.3s,baz=234,slow=20,SNR=4.6						
URZ	**Urewera**	**13.19**	**189**	P	**P**	**05 21 46.7**	**-2.2**
MWZ	**Matawai**	**13.21**	**188**	P	**P**	**05 21 51.6**	**+2.5**
AFI	**Afiamalu**	**13.78**	**37**	P	**P**	**05 21 49.2**	**-6.1**
	5.2nm,0.3s,baz=231,slow=6.5,SNR=10						
AFI				S	**S**	**05 24 06.2**	**-15**
	5.2nm,0.3s,baz=21,slow=16,SNR=7.4						
AFI	**Afiamalu**	**13.78**	**37**	*e*P	**P**	**05 21 49.6**	**-5.8**
AFI				*e*		05 24 09.3	
AFI				pmax	pmax		
	comp=Z,126nm,1.0s						
AFI	**Afiamalu**	**13.78**	**37**	*e*Pn	**P**	**05 21 49.6**	**-5.7**
	comp=Z,126nm,1.0s						
AFI				*e*Sn	**S**	**05 24 09.3**	**-12**
KNZ	**Kokohu**	**13.87**	**187**	P	**P**	**05 21 56.6**	**+0.6**
BKZ	**Black Stump Fm**	**14.18**	**190**	P	**P**	**05 21 56.7**	**-2.5**
MRZ	**Mangatainoka R**	**15.79**	**192**	P	**P**	**05 22 12.1**	**-3.9**
KIW	**Kapiti Island**	**16.12**	**193**	P	**P**	**05 22 18.7**	**-0.7**
SNZO	**South Karori**	**16.59**	**193**	*e*P	**P**	**05 22 24.7**	**+0.4**
	comp=Z,120nm,0.6s						
SNZO				*e*S	**S**	**05 25 12.5**	**-1.3**
TCW	**Tory Channel**	**16.59**	**195**	P	**P**	**05 22 21.7**	**-2.6**
NNZ	**Nelson**	**16.82**	**197**	P	**P**	**05 22 24.7**	**-1.9**
KHZ	**Kahutara**	**17.91**	**195**	*e*P	**P**	**05 22 36.6**	**-0.2**
RAR	**Rarotonga**	**19.22**	**82**	P	**P**	**05 22 47.3**	**-1.8**
	comp=Z,2.4nm,0.3s,baz=253,slow=11,SNR=4.0						
WVZ	**Waitaha Valley**	**19.29**	**200**	P	**P**	**05 22 49.4**	**-0.1**
RPZ	**Rata Peaks**	**19.78**	**199**	P	**P**	**05 22 54.1**	**+0.2**
	comp=Z,7.8nm,0.3s,baz=20,slow=2.6,SNR=13						
RPZ				S	**S**	**05 26 04.3**	**-1.4**
	comp=Z,2.7nm,0.3s,baz=92,slow=2.4,SNR=3.5						
ARMA	**Armidale**	**25.39**	**252**	*e*P	**P**	**05 23 46.9**	**+2.5**

EIDS Eidsvold 25.92 263 eP P 05 23 49.9 +0.7
comp=Z,24nm,0.8s,mb4.7
CNB Canberra Magne 28.03 242 eP P 05 24 09.5 +1.9
TBI Tubuai 28.08 93 eLR LR 05 30 32.2
comp=Z,116nm,25.2s
PPT Papeete 29.49 81 eLR LR 05 31 09.4
comp=Z,161nm,25.8s
CTA Charters Tower 31.30 273 eP P 05 24 36.9 +0.8
comp=Z,21nm,0.3s,mb5.0
CTA eS S 05 29 08.0 +1.1
CTA eSCP ScP 05 30 12.7 +2.9
CTA Charters Tower 31.30 273 P P 05 24 36.7 +0.6
comp=Z,25nm,0.3s,mb5.1,baz=96,slow=11,SNR=42
CTA S S 05 29 08.2 +1.3
comp=Z,1.9nm,0.6s,baz=216,slow=17,SNR=9.2
CTA ScP ScP 05 30 12.9 +3.1
comp=Z,16nm,1.0s,baz=127,slow=2.0,SNR=9.0
CTAO Charters Tower 31.30 273 eP P 05 24 37.4 +1.3
CTAO pmax pmax
comp=Z,19nm,0.4s,mb4.9
CTAO Charters Tower 31.30 273 eP P 05 24 37.4 +1.2
comp=Z,19nm,0.4s,mb4.9
TOO Toolangi 31.57 239 eP P 05 24 40.0 +1.8
STKA Stephens Creek 34.05 250 eP P 05 25 00.4 +1.0
comp=Z,7.2nm,0.4s,mb4.5
STKA ePCP PcP 05 27 23.0 +0.3
STKA eSCP ScP 05 30 21.0 +1.8
STKA eSCS ScS 05 34 24.2 +1.3
STKA Stephens Creek 34.05 250 P P 05 25 00.4 +1.0
comp=Z,9.3nm,0.5s,mb4.5,baz=94,slow=9.8,SNR=27
STKA PcP PcP 05 27 23.0 +0.4
comp=Z,6.1nm,0.7s,baz=82,slow=4.4,SNR=4.4
STKA ScP ScP 05 30 21.1 +1.9
comp=Z,7.5nm,0.9s,baz=306,slow=1.7,SNR=5.0
PMG Port Moresby 34.75 291 d iP P 05 25 04.8 -0.7
PMG Port Moresby 34.75 291 eP P 05 25 04.4 -1.0
comp=Z,54nm,1.4s,mb4.8
XMAS Kiritimati 34.96 42 eP P 05 25 06.5 -0.7
comp=Z,33nm,0.6s,mb4.9
COEN Coen 36.14 281 eP P 05 25 17.8 +0.8
comp=Z,21nm,1.4s,mb4.4
TAOE Nuku Hiva Isla 41.44 74 eP P 05 26 00.1 +0.1
ASAR Alice Springs 41.63 262 P P 05 26 01.6 +0.1
comp=Z,6.3nm,0.3s,mb4.5,baz=93,slow=7.3,SNR=124
ASAR PcP PcP 05 27 46.4 -0.3
comp=Z,4.8nm,0.8s,baz=106,slow=5.3,SNR=6.0
ASAR ScP ScP 05 30 50.1 +1.8
comp=Z,4.3nm,0.9s,baz=109,slow=4.1,SNR=7.9
ASAR S S 05 31 38.4 -2.5
comp=Z,5.4nm,0.7s,baz=97,slow=15,SNR=17
ASAR Alice Springs 41.63 262 P P 05 26 01.6 +0.2
ASAR 05 27 46.4
ASAR S S 05 31 38.4 -2.5
WB2 Warramunga Arr 42.12 268 eP P 05 26 04.8 -0.5
WRA Warramunga Arr 42.13 268 P P 05 26 04.9 -0.5
comp=Z,9.8nm,0.3s,mb4.7,baz=99,slow=6.8,SNR=430
WRA PcP PcP 05 27 47.1 -1.2
comp=Z,7.3nm,1.0s,baz=103,slow=4.2,SNR=8.0
WRA ScP ScP 05 30 52.0 +1.7
comp=Z,18nm,1.0s,baz=102,slow=4.1,SNR=22
WRA S S 05 31 45.7 -2.5
comp=Z,19nm,1.1s,baz=102,slow=14,SNR=22
WRA Warramunga Arr 42.13 268 P P 05 26 04.9 -0.5
WRA 05 27 47.1
WRA S S 05 31 45.7 -2.4
FORT Forrest 45.67 251 eP P 05 26 32.1 -0.7
comp=Z,41nm,0.6s,mb5.0
KAKA Kakadu 46.23 277 ⇓ iP P 05 26 35.1 -2.2
comp=Z,9.8nm,0.3s,mb4.7
KAKA eSCP ScP 05 31 08.8 +1.4
FITZ Fitzroy Crossi 50.53 267 eP P 05 27 09.6 +0.3
comp=Z,17nm,0.6s,mb4.5
FITZ e 05 27 30.4
FITZ eS S 05 33 46.0 +0.5
FITZ Fitzroy Crossi 50.53 267 S S 05 33 46.2 +0.7
comp=Z,1.7nm,0.9s,baz=231,slow=23,SNR=8.2
POHA Pohakuloa 50.75 31 P P 05 27 14.9 +4.1
comp=Z,126nm,1.7s,mb5.0
SBA Scott Base 53.05 183 eP P 05 27 29.6 +3.0
SBA e 05 28 28.4
SBA pmax pmax
comp=Z,61nm,0.9s,mb4.9
SBA Scott Base 53.05 183 eP P 05 27 29.6 +3.0
comp=Z,61nm,0.9s,mb4.9
SBA ePcP PcP 05 28 28.4 +1.5
KLBR Kellerberrin 54.30 248 eP P 05 27 35.7 -0.5
comp=Z,26nm,0.6s,mb4.7
MBWA Marble Bar 54.95 261 eP P 05 27 40.6 -0.4
comp=Z,14nm,1.1s,mb4.2
MUN Mundaring 55.52 247 eP P 05 27 44.6 -0.2
CASY Casey 58.84 206 eP P 05 28 07.1 +0.3
CASY eS S 05 35 32.6 -0.2
QSPA South Pole Qui 64.87 180 P P 05 28 47.9 +1.9
comp=Z,118nm,1.0s,mb5.5,baz=34,slow=3.5,SNR=261
QSPA South Pole Qui 64.87 180 P P 05 28 47.9 +1.9
MIR Mirnyy 65.86 206 ⇑ iP P 05 28 57.5 +5.1
MIR pmax pmax
comp=Z,200nm,1.0s,mb5.7
JOW Kunigami 71.72 313 P P 05 29 27.8 -0.7
comp=Z,29nm,0.8s,mb4.9,baz=183,slow=6.3,SNR=5.8
KSM Kuching 72.13 280 eP P 05 29 31.2 +0.1
MJAR Matsushiro Arr 72.87 326 P P 05 29 33.8 -1.1
comp=Z,8.2nm,0.9s,mb4.3,baz=160,slow=5.7,SNR=15
MAJO Matsushiro 72.87 326 eP P 05 29 34.6 -0.3
MAW Mawson 76.44 201 eP P 05 29 55.6 +1.0
comp=Z,34nm,0.7s,mb5.0
MAW Mawson 76.44 201 P P 05 29 55.7 +1.2
comp=Z,59nm,0.9s,mb5.1,baz=124,slow=7.0,SNR=95
MAW Mawson 76.44 201 eP P 05 29 55.6 +1.0
MAW pmax pmax
comp=Z,34nm,0.7s
ASAJ Asahikawa 76.94 333 P P 05 29 58.5 +0.9
comp=Z,5.4nm,0.3s,mb4.6,baz=324,slow=3.9,SNR=4.9
PMSA Palmer Station 77.78 157 P P 05 30 03.0 +1.1
comp=Z,40nm,0.7s,mb4.9,baz=269,slow=3.1,SNR=4.9
KSRS Korea Array 79.12 320 P P 05 30 09.7 +0.2
comp=Z,4.9nm,0.7s,mb4.2,baz=137,slow=5.9,SNR=15
YSS Yuzh-Sakhalins 79.24 335 ⇑ iP P 05 30 08.6 -1.2
YSS pmax pmax
comp=Z,30nm,0.9s,mb4.8
PETK Petropavlovsk- 80.33 347 P P 05 30 14.7 -0.7
comp=Z,17nm,0.7s,mb4.7,baz=124,slow=6.6,SNR=12
USHA Ushuaia 81.31 147 P P 05 30 21.0 +0.3
comp=Z,18nm,1.0s,mb4.5,baz=178,slow=7.1,SNR=3.4
SYO Syowa Base 81.69 193 ⇓ iP P 05 30 20.8 -1.6
SYO Syowa Base 81.69 193 ⇓ ePcP PcP 05 30 25.6 -1.0
SCI San Clemente I 82.44 48 ⇓P P 05 30 27.4 +0.6
baz=83
V03C Hunter Liggett 82.52 44 ⇑P P 05 30 27.8 +0.7
baz=83
PKM Peak Mountain 82.74 46 ⇑P P 05 30 28.8 +0.5
baz=83
SMMC Simmler 82.88 46 ⇑P P 05 30 29.5 +0.5
baz=83
PKD Parkfield 82.92 45 ⇑P P 05 30 29.1 0.0
baz=83
U04C Hernandez Rese 83.02 44 ⇓P P 05 30 30.1 +0.5
baz=83
FMP Fort Macarthur 83.05 48 ⇑P P 05 30 30.0 +0.2
baz=83
PACP Pacheco Peak 83.10 44 ⇓P P 05 30 30.5 +0.4
baz=83
CVS Carmenet Viney 83.22 42 ⇑P P 05 30 30.7 +0.1
baz=83
MDJ Mudanjiang 83.24 326 P P 05 30 30.4 -0.1
MDJ AMB AMB
comp=Z,12nm,1.1s,mb4.3
MDJ AMB AMB
comp=Z,86nm,4.8s
HOPS Hopland 83.27 41 ⇓P P 05 30 31.2 +0.4
baz=83
CHGN Chignik 83.29 12 eP P 05 30 29.1 -1.4
SNAA Sanae 83.36 179 eP P 05 30 30.4 -0.4
SNAA e 05 30 33.5
SNAA Sanae 83.36 179 eP P 05 30 30.6 -0.2
SNAA pmax pmax
comp=Z,43nm,1.2s
SNAA Sanae 83.36 179 eP P 05 30 30.6 -0.1
comp=Z,43nm,1.2s,mb4.8
109C Camp Elliot, M 83.37 49 ⇓P P 05 30 31.5 +0.1
baz=84
MWC Mount Wilson 83.50 48 eP P 05 30 31.6 -0.5
MWC pmax pmax
comp=Z,36nm,1.3s,mb4.7
MWC Mount Wilson 83.50 48 eP P 05 30 31.6 -0.5
comp=Z,36nm,1.3s,mb4.7

ARVC Arvin 83.53 46 ⇓P P 05 30 32.0 -0.2
baz=84
LPIG La Paz 83.56 60 P P 05 30 32.4 -0.2
comp=Z,16nm,0.7s,mb4.7,baz=153,slow=6.8,SNR=3.1
O01C Eel River Cons 83.57 40 ⇓P P 05 30 33.1 +0.8
baz=84
MNRC McLaughlin Nat 83.57 42 ⇓P P 05 30 32.7 +0.4
baz=84
VNA3 Neumayer Olymp 83.57 177 eP P 05 30 31.8 -0.1
VNA3 05 30 35.1
WHN Wuhan 83.64 308 P P 05 30 33.4 +0.5
Q03C Winters 83.67 42 ⇓P P 05 30 33.5 +0.7
baz=84
MURC Murrieta 83.72 48 ⇓P P 05 30 33.2 0.0
baz=84,SNR=6.6
BFSC Mount Baldy St 83.78 48 ⇑P P 05 30 33.4 -0.1
baz=84,SNR=7.8
VES Vestal, Richgr 83.79 46 ⇑P P 05 30 33.0 -0.5
baz=84
MONP Monument Peak 83.84 49 ⇑P P 05 30 34.3 +0.5
baz=84,SNR=7.6
JCC Jacoby Creek 83.89 39 ⇓P P 05 30 34.7 +0.9
baz=84
GASB Alder Springs 83.90 41 ⇓P P 05 30 34.9 +1.0
baz=84
S05C Merced 83.91 44 ⇓P P 05 30 34.4 +0.4
baz=84
DVTC Desert V Tower 83.93 50 ⇓P P 05 30 34.6 +0.4
baz=84,SNR=10
EDW2 Edwards Air Fo 83.94 47 ⇓P P 05 30 34.2 0.0
baz=84,SNR=17
RCTC Rector, Farmer 83.97 45 ⇓P P 05 30 34.1 -0.3
baz=84
VNA2 Neumayer--Watz 83.99 178 eP P 05 30 34.2 +0.3
baz=192,slow=3.6
VNA2 e 05 30 37.1
ISA Isabella 84.08 46 eP P 05 30 35.2 +0.3
ISA pmax pmax
comp=Z,31nm,0.9s,mb4.8
ISA Isabella 84.08 46 ⇓P P 05 30 35.0 +0.1
baz=84
ISA Isabella 84.08 46 eP P 05 30 35.2 +0.2
comp=Z,31nm,0.9s,mb4.8
T06C Millerton Lake 84.10 44 ⇓P P 05 30 34.6 -0.4
baz=84
Q04C Lincoln 84.19 42 ⇑P P 05 30 35.6 +0.2
baz=84
O02C Red Bluff 84.19 40 ⇓P P 05 30 36.2 +0.8
baz=84
PFO Pinyon Flat Ob 84.23 49 P P 05 30 35.8 +0.1
comp=Z,13nm,1.0s,mb4.4,baz=246,slow=4.1,SNR=14
PFO Pinyon Flat Ob 84.23 49 eP P 05 30 35.9 +0.2
PFO pmax pmax
comp=Z,30nm,1.3s,mb4.7
PFO Pinyon Flat Ob 84.23 49 ⇓P P 05 30 35.8 +0.1
baz=84,SNR=7.7
PFO Pinyon Flat Ob 84.23 49 eP P 05 30 35.9 +0.2
comp=Z,30nm,1.3s,mb4.7
VNA1 Neumayer--Stat 84.23 177 eP P 05 30 35.5 +0.4
VNA1 05 30 38.7
BBRC Big Bear Sol-O 84.29 48 ⇑P P 05 30 36.0 0.0
baz=84
SWSC Sam W. Stewart 84.30 50 ⇓P P 05 30 36.2 +0.2
baz=84,SNR=8.4
CMB Columbia Colle 84.30 43 eP P 05 30 35.7 -0.2
CMB pmax pmax
comp=Z,26nm,1.0s,mb4.7
CMB Columbia Colle 84.30 43 ⇑P P 05 30 35.6 -0.3
baz=84
CMB Columbia Colle 84.30 43 eP P 05 30 35.7 -0.3
comp=Z,26nm,1.0s,mb4.7
N02C Big Bar 84.31 40 ⇓P P 05 30 36.2 +0.3
baz=84
HELL Mitchell Peak 84.34 45 ⇓P P 05 30 35.6 -0.5
baz=84,SNR=9.3
OHCM Honcut 84.44 42 eP P 05 30 36.2 -0.4
LRMC Laurel Mountai 84.49 47 ⇓P P 05 30 36.9 0.0
baz=85,SNR=6.1
LAVA Lava Cap Winer 84.53 43 ⇑P P 05 30 37.0 0.0
baz=85
KCC Kaiser Creek 84.54 44 ⇓P P 05 30 37.1 0.0
baz=85,SNR=8.8
ORV Oroville 84.56 42 ⇑P P 05 30 37.1 -0.1
baz=85,SNR=12
RRX Edison Barstow 84.60 48 ⇓P P 05 30 37.2 -0.3
baz=85
WDC Whiskeytown Da 84.60 40 ⇓P P 05 30 37.4 +0.1
baz=85,SNR=5.9
WDC Whiskeytown Da 84.60 40 eP P 05 30 37.4 +0.1
BELC Belle Mtn. 84.76 49 ⇑P P 05 30 38.5 +0.2
baz=85,SNR=25
CN2 Changchun 84.82 324 eP P 05 30 38.7 +0.4
112A Yuma 84.92 51 ⇑P P 05 30 39.5 +0.4
baz=85
M02C Callahan 84.94 40 ⇑P P 05 30 39.6 +0.7
baz=85,SNR=5.9
BC3 Big Chuckw Mtn 84.94 49 ⇑P P 05 30 39.7 +0.5
baz=85,SNR=12
P05C Yuba Gap, Truc 84.95 42 ⇑P P 05 30 39.1 0.0
baz=85,SNR=9.0
MPMC Manual Prospec 84.96 46 ⇑P P 05 30 39.2 0.0
baz=85,SNR=15
GSC Goldstone 84.97 47 ⇑P P 05 30 39.2 -0.1
baz=85,SNR=19
GSC Goldstone 84.97 47 eP P 05 30 39.3 0.0
L02A Cave Junction 85.00 39 ⇓P P 05 30 39.5 +0.3
baz=85
HEC Hector,Ludlow 85.02 48 ⇑P P 05 30 39.5 0.0
baz=85,SNR=21
GLA Glamis 85.03 50 eP P 05 30 40.6 +1.0
GLA pmax pmax
comp=Z,35nm,1.1s,mb4.9
GLA Glamis 85.03 50 ⇑P P 05 30 40.2 +0.5
baz=85,SNR=12
GLA Glamis 85.03 50 eP P 05 30 40.5 +0.9
comp=Z,35nm,1.1s,mb4.9
MTUM Tungsten Hills 85.03 45 eP P 05 30 40.0 +0.5
O05C Quincy 85.17 42 ⇑P P 05 30 40.2 0.0
baz=85
WAKR Walker 85.18 43 eP P 05 30 40.8 +0.5
R06C Coleville 85.18 43 ⇑P P 05 30 40.6 +0.4
baz=85
OHAK Old Harbor 85.20 14 eP P 05 30 39.4 -0.5
YBH Yreka Blue Hor 85.24 39 ⇑P P 05 30 40.9 +0.5
baz=85
YBH Yreka Blue Hor 85.24 39 eP P 05 30 40.7 +0.2
M03C McCloud 85.28 40 ⇑P P 05 30 40.7 0.0
baz=86
O04C Chester 85.29 41 ⇓P P 05 30 40.7 0.0
baz=86
IRM Iron Mountain 85.43 49 ⇑P P 05 30 41.9 +0.3
baz=86,SNR=22
GMRC Granite Mounta 85.44 48 ⇑P P 05 30 41.6 0.0
baz=86,SNR=13
BEKR Beckwourth 85.45 42 ⇓P P 05 30 41.2 -0.3
baz=86,SNR=6.8
LHEM Herd Peak 85.45 40 P P 05 30 41.9 +0.4
K02A Glendale 85.46 38 ⇓P P 05 30 41.8 +0.3
baz=86
WCN Washoe City 85.47 43 ⇑P P 05 30 41.8 +0.2
baz=86
KLR Kul'dur 85.58 331 eP P 05 30 39.1 -2.8
GRAC Grapevine Rang 85.59 46 ⇑P P 05 30 42.3 +0.1
baz=86,SNR=5.8
P06A Stead Airport, 85.61 42 ⇑P P 05 30 42.5 +0.2
baz=86
113A Mohawk Valley, 85.61 51 ⇓P P 05 30 42.7 +0.2
baz=86,SNR=7.7
FURC Furnace Creek, 85.61 46 ⇓P P 05 30 42.1 -0.3
baz=86
Y12C Blythe 85.63 50 ⇑P P 05 30 42.9 +0.3
baz=86,SNR=6.0
TUQ Turquoise Moun 85.64 48 ⇓P P 05 30 42.6 +0.1
baz=86,SNR=9.5
HUMO Hull Mountain 85.66 39 ⇑P P 05 30 43.0 +0.6
baz=86,SNR=6.0
HUMO Hull Mountain 85.66 39 eP P 05 30 42.8 +0.4
comp=Z,43nm,1.4s,mb4.9
SHOC Shoshone 85.67 47 ⇓P P 05 30 42.6 0.0
baz=86,SNR=6.8
M04C Macdoel 85.77 40 ⇑P P 05 30 43.0 +0.1
baz=86
J02A Umpqua 85.80 38 ⇑P P 05 30 43.3 +0.2
baz=86
NVAR Mina Array Bea 85.84 44 P P 05 30 43.4 -0.1
comp=Z,9.7nm,0.7s,mb4.5,baz=222,slow=8.7,SNR=45
214A Organ Pipe Nat 85.84 52 ⇓P P 05 30 44.0 +0.4

baz=86,SNR=11
KDAK Kodiak Island 85.87 14 P P 05 30 41.9 -1.2
comp=Z,5.0nm,0.8s,mb4.2,baz=130,slow=3.8,SNR=4.7
R08A Mina 85.92 44 ⇑P P 05 30 43.6 -0.2
baz=86
U10A Ash Meadows, A 85.93 47 ⇑P P 05 30 44.0 +0.1
baz=86,SNR=7.0
PAHR Pah Rah Range 85.94 42 eP P 05 30 43.6 -0.3
comp=Z,12nm,0.8s,mb4.6
O06A Flanigan 85.95 42 ⇑P P 05 30 43.9 0.0
baz=86
LDFC Landfair 85.98 48 eP P 05 30 44.9 +0.7
comp=Z,40nm,0.7s,mb5.2
L04A Klamath Falls 85.99 39 ⇓P P 05 30 44.3 +0.2
baz=86
S09A Goldfield 86.11 45 ⇑P P 05 30 44.3 -0.4
baz=86,SNR=7.1
Y13A Salome 86.15 50 ⇑P P 05 30 45.4 +0.4
baz=86,SNR=12
V11A Goodsprings 86.20 47 ⇑P P 05 30 45.0 -0.2
baz=86,SNR=6.5
PDMCI Parker Dam,Lak 86.20 49 ⇓P P 05 30 45.3 +0.1
baz=86,SNR=6.4
M06C Likely Place G 86.20 41 ⇑P P 05 30 45.2 +0.1
baz=86
TPNV Topopah Spring 86.29 46 eP P 05 30 45.7 +0.1
TPNV pmax pmax
comp=Z,16nm,0.8s,mb4.7
TPNV Topopah Spring 86.29 46 ⇑P P 05 30 45.5 -0.1
baz=86,SNR=20
TPNV Topopah Spring 86.29 46 eP P 05 30 45.7 +0.1
comp=Z,16nm,0.8s,mb4.7
N06A Buffalo Meadow 86.31 41 ⇑P P 05 30 45.5 -0.1
baz=86,SNR=6.0
TPH Tonopah 86.32 45 eP P 05 30 45.5 -0.2
TPH pmax pmax
comp=Z,18nm,0.8s,mb4.8
TPH Tonopah 86.32 45 eP P 05 30 45.5 -0.2
comp=Z,18nm,0.8s,mb4.8
I03A Eugene 86.36 37 ⇓P P 05 30 45.9 +0.2
baz=86
R09A Tonopah 86.51 45 ⇑P P 05 30 46.3 -0.3
baz=87,SNR=11
Z14A Wintersburg 86.52 51 ⇓P P 05 30 47.3 +0.5
baz=87,SNR=8.7
L05A Lakeview 86.52 40 ⇑P P 05 30 47.1 +0.5
baz=87
V12A Nelson 86.52 48 ⇑P P 05 30 46.8 +0.1
baz=87,SNR=8.7
O07A Toulon 86.53 42 ⇑P P 05 30 46.3 -0.3
baz=87,SNR=13
J04A Umpqua Nationa 86.54 38 ⇑P P 05 30 46.9 +0.3
baz=87
U11A Corn Creek 86.56 47 ⇓P P 05 30 47.1 +0.2
baz=87
X13A Yucca 86.58 49 ⇑P P 05 30 47.0 0.0
baz=87,SNR=13
S10A Tonopah Range, 86.63 45 ⇑P P 05 30 47.3 +0.1
baz=87,SNR=30
115A Sonoran Desert 86.66 52 ⇓P P 05 30 47.8 +0.4
baz=87,SNR=6.2
I04A Tendick Farm, 86.73 38 ⇓P P 05 30 47.4 -0.1
baz=87
MOD Modoc 86.74 40 ⇓P P 05 30 47.8 +0.2
baz=87,SNR=6.6
MOD Modoc 86.74 40 eP P 05 30 47.5 -0.1
SHPR Sheep Range 86.75 47 eP P 05 30 48.0 +0.2
Y14A Wickenburg 86.79 50 ⇑P P 05 30 48.2 +0.2
baz=87
H03A Soap Creek Ran 86.81 37 ⇑P P 05 30 48.1 +0.3
baz=87
W13A Hualapai Mount 86.82 49 ⇓P P 05 30 48.5 +0.3
baz=87,SNR=6.6
216A Three Points, 86.84 52 ⇑P P 05 30 49.1 +0.8
baz=87,SNR=9.6
N07B Gerlach 86.84 42 ⇓P P 05 30 48.1 0.0
baz=87
K05A Summer Lake 86.91 39 ⇓P P 05 30 48.9 +0.5
baz=87,SNR=5.9
116A Eloy 86.96 52 ⇑P P 05 30 49.4 +0.6
baz=87,SNR=9.7
O08A Rochester Mine 87.05 43 ⇑P P 05 30 49.2 +0.1
baz=87,SNR=13
J05A Fort Rock 87.06 39 ⇓P P 05 30 49.4 +0.4
baz=87,SNR=11
M07A Soldier Meadow 87.09 41 ⇓P P 05 30 49.3 0.0
baz=87
U12A Valley of Fire 87.13 47 ⇑P P 05 30 50.0 +0.4
baz=87,SNR=12
T11A Corn Creek, Al 87.13 46 ⇑P P 05 30 50.0 +0.5
baz=87,SNR=31
X14A Yava 87.16 50 ⇓P P 05 30 50.3 +0.6
baz=87,SNR=11
T12A Moapa 87.17 47 ⇑P P 05 30 49.8 0.0
baz=87
V13A Grand Canyon W 87.17 48 ⇓P P 05 30 49.9 +0.1
baz=87,SNR=18
217A Green Valley 87.18 53 ⇓P P 05 30 50.8 +0.9
baz=87,SNR=24
GYA Guiyang 87.24 301 P P 05 30 50.4 +0.1
GYA AP pP 05 32 42.9 +0.3
GYA XP sP 05 33 32.0 -2.2
GYA PP PP 05 34 25.7 +1.8
GYA SKS 05 40 29.5
GYA S S 05 40 47.6 0.0
GYA AMB AMB
comp=Z,10.0nm,1.0s,mb4.5
GYA AMB AMB
comp=Z,70nm,4.9s
P09A Austin 87.24 44 ⇑P P 05 30 50.0 0.0
baz=87
Y15A Casa Rosa Ranc 87.27 50 ⇑P P 05 30 50.6 +0.3
baz=87,SNR=10
Q10A Clear Creek Ra 87.28 45 ⇑P P 05 30 50.0 -0.2
baz=87,SNR=7.4
K06A Valley Falls 87.33 40 ⇑P P 05 30 50.4 0.0
baz=88,SNR=14
N08A GE Springer Mi 87.35 42 ⇑P P 05 30 50.5 0.0
baz=88,SNR=9.9
L07A Adell 87.38 41 ⇑P P 05 30 51.0 +0.4
baz=88,SNR=12
H04A Detroit Lake 87.42 37 ⇑P P 05 30 50.6 -0.1
baz=88
W14A Seligman 87.43 49 ⇑P P 05 30 51.5 +0.5
baz=88,SNR=14
TUC Tucson 87.48 53 eP P 05 30 52.3 +1.0
TUC pmax pmax
comp=Z,23nm,1.0s,mb4.9
TUC Tucson 87.48 53 eP P 05 30 52.3 +0.9
comp=Z,24nm,1.0s,mb4.9
PLCA Paso Flores 87.50 134 P P 05 30 52.5 +1.2
comp=Z,11nm,1.0s,mb4.5,baz=220,slow=4.4,SNR=16
PLCA Paso Flores 87.50 134 P P 05 30 51.6 +0.2
PLCA pmax pmax
comp=Z,47nm,1.6s
PLCA Paso Flores 87.50 134 P P 05 30 51.6 +0.2
comp=Z,47nm,1.6s,mb5.0
U13A Pakoon Wash 87.50 48 ⇑P P 05 30 51.9 +0.5
baz=88,SNR=17
R11A Troy Canyon, C 87.53 45 ⇑P P 05 30 51.0 -0.3
baz=88
O09A Fish Creek Ran 87.57 43 ⇓P P 05 30 51.3 -0.2
baz=88,SNR=5.5
Z16A Peralta Trail, 87.57 51 ⇑P P 05 30 52.3 +0.6
baz=88,SNR=9.0
S12A Delamar Landin 87.58 46 ⇑P P 05 30 52.4 +0.8
baz=88,SNR=16
G04A Mulino 87.59 37 ⇑P P 05 30 51.7 +0.2
baz=88
I05A Bend 87.60 38 ⇓P P 05 30 52.0 +0.4
baz=88,SNR=5.3
318A Bisbee 87.60 54 ⇑P P 05 30 52.8 +0.9
baz=88,SNR=32
X15A Humboldt 87.62 50 ⇓P P 05 30 52.3 +0.4
baz=88,SNR=11
V14A Boquillas Ranc 87.65 49 ⇓P P 05 30 52.4 +0.4
baz=88,SNR=12
117A Oracle 87.66 52 ⇑P P 05 30 52.9 +0.8
baz=88,SNR=14
J06A Christmas Vall 87.66 39 ⇑P P 05 30 51.6 -0.2
baz=88,SNR=13
P10A Eureka 87.70 44 ⇑P P 05 30 52.0 -0.2
baz=88
BMN Battle Mountai 87.70 43 eP P 05 30 52.1 -0.1
N09A Rock Creek Ran 87.77 42 ⇓P P 05 30 52.5 +0.1
baz=88
Q11A Duckwater 87.77 45 ⇑P P 05 30 52.1 -0.4
baz=88,SNR=7.1

Y16A **Circle Bar Ran** 87.83 51 ⇓P P 05 30 53.5 +0.6
baz=88,SNR=22
BJI **Beijing** 87.84 317 P P 05 30 53.6 +0.8
BJI AMB AMB
comp=Z,12nm,0.9s,mb4.6
BJI **Beijing** 87.84 317 P P 05 30 53.6 +0.8
comp=Z,12nm,0.9s,mb4.6
218A **Dragoon** 87.84 53 ⇑P P 05 30 54.0 +1.0
baz=88,SNR=19
K07A **Rock Creek Ran** 87.84 40 ⇓P P 05 30 53.1 +0.3
baz=88,SNR=15
T13A **Saint George** 87.88 47 ⇓P P 05 30 53.2 +0.2
baz=88,SNR=12
E03A **Lebam** 87.89 35 ⇑P P 05 30 53.3 +0.5
baz=88
H05A **Madras** 87.93 38 ⇓P P 05 30 53.1 0.0
baz=88
U14A **Mt Trumbull** 88.03 48 ⇑P P 05 30 54.4 +0.6
baz=88,SNR=19
WVOR **Wild Horse Val** 88.04 41 *e*P P 05 30 53.6 -0.1
WVOR pmax pmax
comp=Z,48nm,1.4s,mb5.0
WVOR **Wild Horse Val** 88.04 41 *e*P P 05 30 53.6 -0.1
comp=Z,48nm,1.4s,mb5.0
I06A **Prineville** 88.06 39 ⇓P P 05 30 54.2 +0.5
baz=88,SNR=21
L08A **Fields** 88.07 41 ⇓P P 05 30 53.9 +0.1
baz=88,SNR=30
319A **Douglas** 88.09 54 ⇓P P 05 30 55.2 +1.0
baz=88,SNR=23
F04A **Amboy** 88.09 36 ⇑P P 05 30 53.7 -0.1
baz=88,SNR=6.8
X16A **Lo Mia Camp, P** 88.14 50 ⇓P P 05 30 55.0 +0.7
baz=88,SNR=23
R12A **Pony Springs,** 88.15 46 ⇑P P 05 30 54.5 +0.2
baz=88
M09A **Marrel Ranch,** 88.15 42 ⇓P P 05 30 54.4 +0.2
baz=88,SNR=12
Y17A **Roosevelt** 88.17 51 ⇑P P 05 30 54.6 +0.1
baz=88,SNR=13
VIPM **Ingram Point** 88.18 38 P P 05 30 54.5 +0.2
LVP **Lakeview Peak** 88.19 36 P P 05 30 54.3 0.0
EFI **East Falkland** 88.21 148 *c iP* P 05 30 54.8 +0.3
EFI **East Falkland** 88.21 148 *e*P P 05 30 55.6 +1.2
comp=Z,134nm,1.0s,mb5.6
S13A **Holt Ranch, En** 88.22 47 ⇑P P 05 30 54.8 +0.2
baz=88,SNR=13
J07A **Hines** 88.22 40 ⇑P P 05 30 54.9 +0.4
baz=88,SNR=16
118A **Homack Ranch,** 88.24 53 ⇓P P 05 30 55.7 +0.8
baz=88,SNR=17
G05A **Wamic** 88.25 37 ⇑P P 05 30 54.7 +0.1
baz=88
SVW2 **Sparrevohn** 88.31 12 *e*P P 05 30 52.7 -1.8
K08A **Mann Creek Ran** 88.31 40 ⇑P P 05 30 55.2 +0.3
baz=88,SNR=25
E04A **Onalaska** 88.36 36 ⇑P P 05 30 56.1 +1.1
baz=88
L09A **Wilkinson Ranc** 88.37 41 ⇓P P 05 30 55.5 +0.3
baz=88,SNR=10
V15A **Kaibab Nationa** 88.39 49 ⇓P P 05 30 56.1 +0.6
baz=88,SNR=13
Q12A **Willow Creek R** 88.41 45 ⇑P P 05 30 55.4 0.0
baz=89,SNR=6.7
219A **White Tail Can** 88.43 53 ⇓P P 05 30 56.4 +0.6
baz=89,SNR=14
Z18A **Geronimo** 88.43 52 ⇓P P 05 30 56.5 +0.7
baz=89
W16A **Flagstaff** 88.44 50 ⇓P P 05 30 56.4 +0.7
baz=89,SNR=7.4
T14A **Hurricane** 88.45 48 ⇓P P 05 30 56.0 +0.3
baz=89,SNR=12
H06A **Lindquist Farm** 88.48 38 ⇑P P 05 30 55.6 -0.1
baz=89,SNR=20
R13A **O'Grain Ranch,** 88.48 46 ⇑P P 05 30 56.4 +0.6
baz=89,SNR=7.3
O11A **Cowboy Ranch,** 88.50 44 ⇑P P 05 30 55.8 -0.1
baz=89,SNR=10
X17A **Forest Lakes** 88.54 51 ⇓P P 05 30 57.0 +0.8
baz=89,SNR=9.8
I07A **Izee** 88.54 39 ⇑P P 05 30 56.2 +0.2
baz=89,SNR=21
F05A **White Salmon** 88.58 37 ⇓P P 05 30 55.9 -0.2
baz=89
P12A **McGill** 88.60 45 ⇑P P 05 30 56.3 0.0
baz=89,SNR=6.8
ARUT **Antelope Range** 88.61 47 *e*P P 05 30 56.8 +0.3
G06A **Carlson Farm,** 88.62 38 ⇑P P 05 30 56.2 -0.1
baz=89,SNR=8.2
U15A **North Rim** 88.63 48 ⇑P P 05 30 57.2 +0.6
baz=89,SNR=23
J08A **Circle Bar Ran** 88.70 40 ⇓P P 05 30 56.7 0.0
baz=89,SNR=25
K09A **Rome** 88.74 41 ⇓P P 05 30 57.1 +0.2
baz=89,SNR=35
M10A **I.L. Ranch, Tu** 88.76 42 ⇑P P 05 30 57.5 +0.4
baz=89,SNR=25
WUAZ **Wupatki** 88.77 50 ⇓P P 05 30 57.5 +0.3
baz=89,SNR=7.9
WUAZ **Wupatki** 88.77 50 *e*P P 05 30 58.0 +0.7
comp=Z,16nm,1.0s,mb4.8
S14A **Cedar City** 88.78 47 ⇓P P 05 30 57.6 +0.3
baz=89,SNR=6.9
119A **Ashpeak Ranch,** 88.79 53 ⇓P P 05 30 58.1 +0.7
baz=89,SNR=8.7
Y18A **Canyon Day Jun** 88.79 52 ⇑P P 05 30 58.3 +0.9
baz=89,SNR=20
H07A **Lands Inn, Kim** 88.82 39 ⇓P P 05 30 57.6 +0.3
baz=89,SNR=24
E05A **Randle** 88.85 36 ⇑P P 05 30 56.9 -0.4
baz=89,SNR=10
N11A **Elko Archery C** 88.85 43 ⇓P P 05 30 57.4 -0.1
baz=89,SNR=6.8
SLKM **Skilak Lake** 88.86 14 *e*P P 05 30 56.1 -0.9
F06A **Goldendale** 88.87 37 ⇓P P 05 30 57.3 -0.2
baz=89,SNR=6.5
Q13A **Wheeler Ranch,** 88.88 46 ⇑P P 05 30 57.5 -0.2
baz=89,SNR=11
T15A **Red Dirt Ranch** 88.89 48 ⇑P P 05 30 57.9 +0.1
baz=89,SNR=17
GNW **Green Mountain** 88.93 35 *e*P P 05 30 57.9 +0.2
LON **Longmire** 88.94 36 *e*P P 05 30 57.7 -0.1
LON pmax pmax
comp=Z,12nm,0.8s,mb4.8
LON **Longmire** 88.94 36 *e*P P 05 30 57.7 -0.1
comp=Z,12nm,0.8s,mb4.8
C04A **Brinnon** 88.95 35 ⇓P P 05 30 58.1 +0.3
baz=89,SNR=6.1
I08A **Drewsey** 88.97 40 ⇓P P 05 30 58.0 0.0
baz=89,SNR=22
W17A **Winslow** 89.00 50 ⇓P P 05 30 58.6 +0.3
baz=89
Z19A **T-Link Ranch,** 89.09 52 ⇑P P 05 30 59.2 +0.4
baz=89
J09A **Fry Pan Ranch,** 89.11 40 ⇓P P 05 30 58.7 +0.1
baz=89,SNR=30
ELK **Elko** 89.12 44 *e*P P 05 30 58.7 0.0
D05A **Enumclaw** 89.12 35 ⇑P P 05 30 58.8 +0.2
baz=89,SNR=6.1
L10A **Juniper Basin** 89.13 42 ⇓P P 05 30 58.9 +0.1
baz=89,SNR=17
O12A **Currie** 89.16 44 ⇑P P 05 30 58.7 -0.3
baz=89,SNR=7.5
P13A **Bates Ranch, G** 89.16 45 ⇑P P 05 30 59.1 +0.1
baz=89,SNR=16
M11A **Holland Ranch,** 89.17 43 ⇑P P 05 30 59.3 +0.3
baz=89,SNR=15
R14A **James Farms, M** 89.17 47 ⇓P P 05 30 59.0 0.0
baz=89
X18A **Snowflake** 89.24 51 ⇑P P 05 30 59.9 +0.5
baz=89,SNR=13
E06A **Yakima** 89.25 36 ⇓P P 05 30 59.3 +0.1
baz=89
S15A **Panguitch** 89.26 47 ⇑P P 05 31 00.5 +1.0
baz=89,SNR=16
U16A **Tuba City** 89.27 49 ⇓P P 05 30 59.9 +0.3
baz=89,SNR=15
H08A **Prairie City** 89.28 39 ⇑P P 05 30 59.3 -0.1
baz=89
K10A **MacKenzie Ranc** 89.30 41 ⇑P P 05 30 59.6 +0.1
baz=90,SNR=24
N12A **Clover Valley,** 89.30 44 ⇓P P 05 30 59.7 +0.1
baz=90,SNR=10
Q14A **Sevier Lake (B** 89.38 46 ⇑P P 05 31 00.2 +0.2
baz=90,SNR=22
XAN **Xi'an** 89.39 308 P P 05 31 00.9 +0.7
XAN AP pP 05 32 50.3 -2.7
XAN XP sP 05 33 40.4 -4.1
XAN AMB AMB
comp=Z,7.0nm,0.9s,mb4.5
F07A **Phinny Hill Vi** 89.42 37 ⇑P P 05 30 59.8 -0.3
baz=90
Y19A **Nutrioso** 89.44 52 ⇓P P 05 31 01.3 +0.8
baz=90,SNR=20
T16A **Glen Canyon Da** 89.47 48 ⇑P P 05 31 00.6 +0.1
baz=90,SNR=12
RC01 **Rabbit Creek A** 89.49 14 *e*P P 05 30 58.8 -1.2
comp=Z,32nm,1.2s,mb5.0
I09A **Lost Marbles R** 89.49 40 ⇓P P 05 31 00.1 -0.3
baz=90,SNR=9.4
O13A **Hicks Ranch, I** 89.56 45 ⇑P P 05 31 00.9 +0.1
baz=90,SNR=6.6
G08A **Pilot Rock** 89.59 38 ⇓P P 05 31 00.7 -0.1
baz=90,SNR=14
C05A **Tolt Reservoir** 89.60 35 ⇓P P 05 31 00.5 -0.3
baz=90,SNR=8.5
L11A **Cat Creek Ranc** 89.61 42 ⇓P P 05 31 01.1 +0.1
baz=90,SNR=22
X19A **St. Johns** 89.66 51 ⇓P P 05 31 01.8 +0.4
baz=90
KMI **Kunming** 89.69 298 P P 05 31 02.4 +0.6
KMI pmax pmax
comp=Z,15nm,1.1s,mb4.7
KMI MLR MLR
comp=Z,50nm,20.0s
KMI **Kunming** 89.69 298 P P 05 31 02.4 +0.6
comp=Z,15nm,1.1s,mb4.7
KMI LR LR
comp=Z,50nm,20.0s
M12A **Wells** 89.70 43 ⇓P P 05 31 01.3 -0.2
baz=90,SNR=12
D06A **Cle Elum** 89.73 36 ⇓P P 05 31 01.4 -0.1
baz=90,SNR=5.3
A04A **Legoe Bay, Lum** 89.74 34 ⇓P P 05 31 01.5 0.0
baz=90
J10A **Berg Farm, Mel** 89.74 41 ⇑P P 05 31 01.4 -0.2
baz=90,SNR=7.9
B05A **Bryant** 89.76 35 ⇓P P 05 31 01.4 -0.1
baz=90
CMAR **Chiang Mai Arr** 89.79 290 P P 05 31 02.6 +0.3
comp=Z,6.8nm,0.8s,mb4.5,baz=140,slow=3.6,SNR=32
CMAR pP pP 05 32 54.4 -0.9
comp=Z,0.7nm,0.5s,baz=126,slow=4.6,SNR=1.7
CMAR PKKPbc PKKPbc 05 48 30.5 -1.1
comp=Z,1.1nm,0.3s,baz=289,slow=4.1,SNR=4.3
CMAR **Chiang Mai Arr** 89.79 290 P P 05 31 02.7 +0.3
CMAR *PP pP 05 32 54.4 -0.9
K11A **Parker Ranch,** 89.80 42 ⇓P P 05 31 01.9 +0.1
baz=90,SNR=17
S16A **Weppner Ranch,** 89.80 48 ⇑P P 05 31 01.8 -0.2
baz=90,SNR=6.6
N13A **Wendover, West** 89.83 44 ⇑P P 05 31 02.1 +0.1
baz=90,SNR=6.3
U17A **Shoto** 89.83 49 ⇓P P 05 31 02.6 +0.4
baz=90,SNR=5.4
MSU **Marysvale** 89.84 47 *e*P P 05 31 03.1 +0.9
P14A **Drum Mountains** 89.85 45 ⇑P P 05 31 02.1 -0.1
baz=90,SNR=5.8
V18A **Ganado** 89.87 50 ⇑P P 05 31 02.6 +0.2
baz=90,SNR=11
E07A **Sunnyside** 89.87 37 ⇑P P 05 31 02.0 -0.1
baz=90
HAWA **Hanford** 89.94 37 *e*P P 05 31 02.6 +0.2
comp=Z,17nm,1.0s,mb4.8
CHTO **Chiang Mai** 89.94 291 *e*P P 05 31 04.5 +1.4
CHTO pmax pmax
comp=Z,10.0nm,0.9s,mb4.7
CHTO **Chiang Mai** 89.94 291 *e*P P 05 31 04.5 +1.4
comp=Z,9.7nm,0.9s,mb4.6
H09A **Durkee** 89.95 39 ⇓P P 05 31 02.2 -0.3
baz=90,SNR=8.4
T17A **Navajo Res., N** 89.95 49 ⇓P P 05 31 03.0 +0.3
baz=90,SNR=12
Q15A **Fillmore** 89.97 46 ⇑P P 05 31 02.9 +0.1
baz=90,SNR=6.5
F08A **Pendleton** 90.00 38 ⇑P P 05 31 02.4 -0.3
baz=90
L12A **House Creek Ra** 90.05 42 ⇓P P 05 31 03.2 +0.1
baz=90,SNR=12
PMR **Palmer** 90.07 14 *e*P P 05 31 01.3 -1.3
PMR pmax pmax
comp=Z,12nm,1.0s,mb4.7
PMR **Palmer** 90.07 14 *e*P P 05 31 01.3 -1.4
comp=Z,12nm,1.0s,mb4.7
I10A **Payette** 90.10 40 ⇑P P 05 31 03.4 +0.1
baz=90
M13A **Montello** 90.13 43 ⇓P P 05 31 03.3 -0.1
baz=90,SNR=6.6
RPW **Rockport** 90.17 35 P P 05 31 03.1 -0.4
R16A **Teasdale** 90.18 47 ⇓P P 05 31 04.1 +0.4
baz=90,SNR=14
D07A **Quincy** 90.20 36 ⇓P P 05 31 04.0 +0.5
baz=90
G09A **Cove** 90.25 39 ⇓P P 05 31 03.5 -0.4
baz=90,SNR=5.5
ETW **Entiat** 90.26 36 *e*P P 05 31 03.5 -0.4
S17A **Black Ridge (B** 90.29 48 ⇓P P 05 31 03.8 -0.4
baz=90,SNR=13
MFID **Camas Ranch** 90.29 41 ⇑P P 05 31 04.0 -0.1
baz=90,SNR=6.7
DUG **Dugway** 90.34 45 *e*P P 05 31 04.0 -0.4
DUG pmax pmax
comp=Z,19nm,1.4s,mb4.7
DUG **Dugway** 90.34 45 ⇑P P 05 31 04.1 -0.3
baz=90,SNR=9.4
DUG **Dugway** 90.34 45 *e*P P 05 31 04.0 -0.4
comp=Z,19nm,1.4s,mb4.7
P15A **Leamington** 90.35 46 ⇑P P 05 31 04.6 +0.1
baz=90,SNR=10
K12A **Draper Farm, C** 90.40 42 ⇓P P 05 31 04.4 -0.2
baz=91,SNR=11
F09A **S2 Ranch, Elgi** 90.43 38 ⇑P P 05 31 04.4 -0.3
baz=91
H10A **Noah's Angus R** 90.43 40 ⇓P P 05 31 04.3 -0.4
baz=91,SNR=7.7
C07A **Waterville** 90.46 36 ⇑P P 05 31 03.9 -0.9
baz=91
N14A **Grayback Hills** 90.47 44 ⇑P P 05 31 04.7 -0.3
baz=91,SNR=6.3
I11A **Placerville** 90.50 41 ⇑P P 05 31 04.8 -0.3
baz=91,SNR=15
NLW **Nelson Butte** 90.55 35 P P 05 31 04.9 -0.3
O15A **The Old Anders** 90.61 45 ⇑P P 05 31 05.8 +0.1
baz=91,SNR=7.4
G10A **Bishop Farm, J** 90.63 39 ⇓P P 05 31 05.1 -0.6
baz=91,SNR=11
J12A **Stokes Ranch,** 90.63 42 ⇓P P 05 31 05.9 +0.2
baz=91,SNR=27
T18A **Mexican Hat** 90.65 49 ⇑P P 05 31 06.0 0.0
baz=91,SNR=20
L13A **Double Diamond** 90.68 43 ⇓P P 05 31 06.1 +0.1
baz=91,SNR=6.3
D08A **Wollman Farm,** 90.68 37 ⇑P P 05 31 05.7 -0.1
baz=91
NLU **North Lily Min** 90.69 46 *e*P P 05 31 06.3 +0.3
Q16A **Castle Valley** 90.72 47 ⇓P P 05 31 06.8 +0.6
baz=91,SNR=13
M14A **Sheep Mountain** 90.72 44 ⇓P P 05 31 06.0 -0.1
baz=91,SNR=22
R17A **Hanksville Air** 90.76 47 ⇓P P 05 31 06.1 -0.3
baz=91,SNR=12
E09A **Wood Farm, Sta** 90.78 38 ⇑P P 05 31 05.7 -0.6
baz=91
S18A **Hurst Farm, Bl** 90.86 48 ⇑P P 05 31 06.8 -0.1
baz=91
TMUT **Trail Mountain** 90.90 46 *e*P P 05 31 07.8 +0.8
B07A **Winthrop** 90.91 35 ⇓P P 05 31 06.2 -0.6
baz=91
K13A **Stover Farm, H** 90.91 42 ⇑P P 05 31 07.2 +0.2
baz=91,SNR=16
N15A **Stansbury Isla** 90.91 45 ⇓P P 05 31 06.9 -0.1
baz=91,SNR=13
H11A **Donnelly** 90.92 40 ⇓P P 05 31 06.5 -0.5
baz=91,SNR=12
F10A **Beach Ranch, E** 90.97 38 ⇑P P 05 31 06.2 -1.0
baz=91,SNR=10
MPU **Maple Canyon** 91.00 46 *e*P P 05 31 07.7 +0.2
comp=Z,18nm,0.8s,mb5.1
D09A **Jones Farm, Ri** 91.02 37 ⇑P P 05 31 06.7 -0.6
baz=91,SNR=6.0
C08A **Higginbotham F** 91.06 36 ⇓P P 05 31 07.0 -0.6
baz=91
T19A **Beclabito** 91.08 49 ⇑P P 05 31 07.7 -0.2
baz=91
L14A **Malta** 91.08 43 ⇑P P 05 31 07.6 -0.2
baz=91,SNR=8.5
A07A **Ashnola River,** 91.13 35 ⇑P P 05 31 07.5 -0.3
baz=91
G11A **Walters Elk Ra** 91.18 39 ⇓P P 05 31 07.4 -0.7
baz=91,SNR=15
SPUT **South Promonto** 91.18 44 *e*P P 05 31 08.4 +0.1
O16A **Springville** 91.19 46 ⇓P P 05 31 08.4 0.0
baz=91
HHC **Hu-ho-hao-te** 91.20 315 *e*P P 05 31 09.7 +1.3
HHC AP pP 05 33 04.1 +2.6
HHC XP sP 05 33 54.2 +1.4
HHC PP PP 05 34 58.3 +3.6
HHC SKS 05 40 51.5
HHC S S 05 41 21.7 -1.3
HHC XS sS 05 44 43.8 -1.6
HHC SS SS 05 47 45.5 +1.9
HHC AMB AMB
comp=Z,18nm,1.0s,mb5.0
HHC AMB AMB
comp=Z,144nm,6.4s
HLID **Hailey** 91.22 42 ⇓P P 05 31 08.4 0.0
baz=91,SNR=13
HLID **Hailey** 91.22 42 *e*P P 05 31 08.2 -0.2
comp=Z,16nm,1.4s,mb4.8
HVU **Hansel Valley** 91.23 44 *e*P P 05 31 08.3 -0.2
HVU pmax pmax
comp=Z,23nm,1.2s,mb5.0
HVU **Hansel Valley** 91.23 44 *e*P P 05 31 08.3 -0.2
comp=Z,23nm,1.2s,mb5.0
SRU **San Rafael** 91.25 47 *e*P P 05 31 08.6 -0.1
SRU pmax pmax
comp=Z,12nm,1.0s,mb4.8
SRU **San Rafael** 91.25 47 ⇓P P 05 31 08.7 +0.1
baz=91,SNR=25
SRU **San Rafael** 91.25 47 *e*P P 05 31 08.6 0.0
comp=Z,12nm,1.0s,mb4.8
B08A **Colville Reser** 91.25 36 ⇑P P 05 31 07.6 -0.8
baz=91
M15A **Larsen Ranch,** 91.27 44 ⇓P P 05 31 08.7 0.0
baz=91,SNR=22
J13A **Cove Ranch, Pi** 91.27 42 ⇓P P 05 31 08.7 +0.1
baz=91,SNR=13
R18A **Canyonlands Na** 91.29 48 ⇑P P 05 31 08.6 -0.3
baz=91,SNR=11
P17A **Butcher Ranch,** 91.30 46 ⇑P P 05 31 09.0 +0.1
baz=91,SNR=6.4
TXAR **Lajitas Array** 91.30 58 P P 05 31 09.3 +0.2
comp=Z,10nm,0.8s,mb4.8,baz=214,slow=6.5,SNR=118
TXAR PKKPbc PKKPbc 05 48 28.4 +0.1
comp=Z,0.3nm,0.6s,baz=78,slow=3.9,SNR=5.3
E10A **Myers Farm, Un** 91.34 38 ⇑P P 05 31 08.8 -0.1
baz=92
K14A **Jones Ranch, D** 91.41 43 ⇑P P 05 31 09.0 -0.2
baz=92,SNR=13
JLU **Jordanelle** 91.44 45 *e*P P 05 31 09.8 +0.3
S19A **Harvey Farm, M** 91.47 49 ⇓P P 05 31 09.4 -0.3
baz=92,SNR=5.2
C09A **Chrisman Ranch** 91.48 37 ⇑P P 05 31 08.9 -0.6
baz=92
TRF **Thorofare Moun** 91.48 13 *e*P P 05 31 07.3 -1.8
comp=Z,12nm,0.8s,mb4.9
Q18A **Rafter H Ranch** 91.50 47 ⇑P P 05 31 09.3 -0.5
baz=92,SNR=9.1
H12A **Diamond D Ranc** 91.51 41 ⇑P P 05 31 09.5 -0.2
baz=92,SNR=11
I13A **Wildhorse Cree** 91.59 41 ⇑P P 05 31 10.0 -0.2
baz=92
N16A **Rees Ranch, Co** 91.60 45 ⇑P P 05 31 10.4 +0.2
baz=92,SNR=6.4
L15A **Malad City** 91.60 44 ⇓P P 05 31 09.7 -0.4
baz=92,SNR=13
J14A **Carey** 91.63 42 ⇓P P 05 31 10.6 +0.4
baz=92,SNR=10
CD2 **Chengdu** 91.63 303 *e*P P 05 31 10.2 -0.4
CD2 AP pP 05 33 04.1 +0.4
CD2 XP sP 05 33 54.6 -0.4
CD2 PP PP 05 35 00.5 +2.2
CD2 SKS 05 40 53.6
CD2 S S 05 41 25.4 -1.8
CD2 XS sS 05 44 47.5 -2.3
CD2 SS SS 05 47 52.1 +2.1
CD2 AMB AMB
comp=Z,10.0nm,0.8s,mb4.8
CD2 AMB AMB
comp=Z,400nm,5.8s
MVCO **Mesa Verde** 91.63 49 ⇓P P 05 31 10.2 -0.2
baz=92
A08A **Turner Farm, O** 91.65 35 ⇓P P 05 31 09.8 -0.4
baz=92
O17A **Robinson Place** 91.68 46 ⇑P P 05 31 11.0 +0.4
baz=92,SNR=48
M16A **Huntsville** 91.70 45 ⇑P P 05 31 10.3 -0.4
baz=92,SNR=9.8
P18A **Preston Nutter** 91.71 47 ⇓P P 05 31 10.8 +0.1
baz=92,SNR=7.6
H13A **Challis** 91.88 41 ⇓P P 05 31 11.1 -0.3
baz=92,SNR=5.4
K15A **Arbon** 91.88 43 ⇓P P 05 31 11.2 -0.3
baz=92,SNR=8.9
HWUT **Hardware Ranch** 91.90 44 *e*P P 05 31 11.1 -0.5
comp=Z,4.6nm,0.6s,mb4.6
B09A **Rice** 91.92 36 ⇑P P 05 31 10.7 -0.8
baz=92
ANMO **Albuquerque** 91.93 52 *e*P P 05 31 11.9 0.0
ANMO pmax pmax
comp=Z,5.0nm,0.8s
ANMO **Albuquerque** 91.93 52 *e*P P 05 31 11.9 0.0
comp=Z,4.6nm,0.8s,mb4.5
F12A **Elk City** 91.97 39 ⇑P P 05 31 11.0 -0.8
baz=92,SNR=8.5
I14A **Mackay** 92.00 42 ⇓P P 05 31 12.0 0.0
baz=92,SNR=8.5
Q19A **Hogan Spring (** 92.01 48 ⇑P P 05 31 11.8 -0.3
baz=92
N17A **Moffit Pass** 92.02 45 ⇑P P 05 31 12.0 -0.1
baz=92,SNR=5.3
A09A **Danville** 92.02 35 ⇓P P 05 31 11.3 -0.7
baz=92
PV01 **Paradox Valley** 92.05 49 *e*P P 05 31 11.8 -0.6
D11A **Klaveano Farm,** 92.10 38 ⇓P P 05 31 11.1 -1.3
baz=92
E12A **Beaver Dam Sad** 92.16 39 ⇓P P 05 31 11.6 -1.1
baz=92
G13A **Cobalt** 92.19 40 ⇓P P 05 31 12.3 -0.6
baz=92
O18A **Roosevelt** 92.19 46 ⇓P P 05 31 13.1 +0.1
baz=92,SNR=6.2
L16A **Fish Haven** 92.20 44 ⇑P P 05 31 12.6 -0.3
baz=92,SNR=19
J15A **Blackfoot** 92.33 42 ⇑P P 05 31 13.8 +0.3
baz=92,SNR=12
H14A **Leadore** 92.43 41 ⇑P P 05 31 13.4 -0.6
baz=93
F13A **Darby** 92.52 40 ⇓P P 05 31 13.5 -0.8
baz=93
K16A **Soda Springs** 92.54 43 ⇓P P 05 31 14.4 -0.1
baz=93
C11A **Tepee Creek (N** 92.60 37 ⇓P P 05 31 14.2 -0.4
baz=93
D12A **Red Ives Fores** 92.65 38 ⇓P P 05 31 14.4 -0.5
baz=93
J16A **Bone** 92.77 43 ⇓P P 05 31 15.6 +0.1
baz=93
N18A **Larsen Ranch,** 92.78 46 ⇓P P 05 31 15.4 -0.2
baz=93
O19A **Miners Draw (B** 92.79 46 ⇓P P 05 31 15.1 -0.6
baz=93
AHID **Auburn Hatcher** 92.81 44 *e*P P 05 31 15.8 +0.1
comp=Z,9.3nm,1.1s,mb4.7
MCMT **McKenzie Canyo** 92.86 41 *e*P P 05 31 16.2 +0.3
B11A **Sandpoint** 92.89 37 ⇓P P 05 31 15.0 -1.0
baz=93
C12B **Naegeli Ranch,** 92.96 38 ⇓P P 05 31 15.5 -0.7
baz=93
E13A **Victor** 92.97 39 ⇑P P 05 31 15.0 -1.3
baz=93
RRI2 **Red Ridge** 92.98 43 *e*P P 05 31 16.8 +0.3
N19A **John Jarvie Ra** 93.06 46 ⇑P P 05 31 16.1 -0.9
baz=93
F14A **Wisdom** 93.09 40 ⇓P P 05 31 16.3 -0.7
baz=93
I16A **Newdale** 93.16 42 ⇓P P 05 31 17.3 0.0
baz=93
A11A **Hall Mountain,** 93.19 36 ⇑P P 05 31 17.1 -0.2
baz=93
COLA **College** 93.24 13 ⇑*iP* P 05 31 15.7 -1.5
COLA **College** 93.24 13 *e*P P 05 31 15.4 -1.7
comp=Z,4.0nm,0.8s,mb4.5

G15A Dillon 93.25 41 ⇑P P 05 31 17.5 -0.2
baz=93
B12A Libby 93.33 37 ⇑P P 05 31 17.4 -0.6
baz=94
E14A Clinton 93.35 40 ⇓P P 05 31 17.4 -0.7
baz=94
SNOW Snow King Moun 93.39 43 *e*P P 05 31 18.6 +0.2
comp=Z,7.8nm,0.9s,mb4.7
C13A Hot Springs 93.44 38 ⇓P P 05 31 17.9 -0.6
baz=94
IMW Indian Meadow 93.51 43 *e*P P 05 31 18.8 -0.1
MOOW Moose Ponds 93.55 43 *e*P P 05 31 18.4 -0.7
A12A Yaak River Ran 93.56 37 ⇓P P 05 31 18.6 -0.4
baz=94
LOHW Long Hollow 93.57 43 *e*P P 05 31 19.2 0.0
F15A Butte 93.62 40 ⇓P P 05 31 19.2 -0.1
baz=94
G16A Moss Hill, Enn 93.70 41 ⇑P P 05 31 19.5 -0.3
baz=94
D14A Greenough 93.71 39 ⇑P P 05 31 18.8 -1.0
baz=94
H16A Russell Place, 93.75 42 ⇓P P 05 31 20.3 +0.3
baz=94
BW06 Boulder Array 93.78 44 ⇓P P 05 31 19.4 -0.7
baz=94
BW06 Boulder Array 93.78 44 *e*P P 05 31 19.0 -1.2
comp=Z,14nm,1.6s,mb4.8
PDAR Pinedale Array 93.78 44 P P 05 31 19.5 -0.7
comp=Z,2.3nm,0.8s,mb4.3,baz=217,slow=2.9,SNR=17
PDAR PP PP 05 35 17.1 +2.4
comp=Z,0.7nm,1.0s,baz=264,slow=4.5,SNR=4.5
B13A Whitefish 93.89 38 ⇓P P 05 31 19.9 -0.6
baz=94
CFAA Coronel Fontan 93.92 128 P P 05 31 21.1 -0.1
comp=Z,0.8nm,0.9s,mb3.8,baz=238,slow=3.7,SNR=14
SDCO Great Sand Dun 93.97 50 *e*P P 05 31 20.9 -0.3
comp=Z,10nm,1.3s,mb4.7
LZH Lanzhou 94.02 308 P P 05 31 22.1 +0.7
LZH AP pP 05 33 16.3 +1.6
LZH XP sP 05 34 06.7 +0.7
LZH PP PP 05 35 19.6 +3.0
LZH SKS 05 41 07.5
LZH *e*S S 05 41 46.2 -1.6
LZH XS sS 05 45 09.4 -2.1
LZH AMB AMB
comp=Z,23nm,1.5s,mb5.0
LZH AMB AMB
comp=Z,95nm,8.0s
LZH Lanzhou 94.02 308 P P 05 31 22.1 +0.7
LZH *PP pP 05 33 16.3 +1.6
LZH *SP sP 05 34 06.7 +0.7
LZH 05 35 19.6
LZH 05 41 07.5
LZH *e*S S 05 41 46.2 -1.6
LZH pmax pmax
comp=Z,23nm,1.5s,mb5.0
LZH Lanzhou 94.02 308 P P 05 31 22.1 +0.7
comp=Z,23nm,1.5s,mb5.0
LZH pP pP 05 33 16.3 +1.6
LZH sP sP 05 34 06.7 +0.7
LZH PP PP 05 35 19.6 +3.0
LZH SKS 05 41 07.5
LZH *e*S S 05 41 46.2 -1.6
LZH sS sS 05 45 09.4 -2.1
A13A Flathead Natio 94.24 37 ⇓P P 05 31 21.7 -0.4
baz=94
D15A Lincoln 94.25 39 ⇓P P 05 31 21.8 -0.5
baz=94
DAWY Dawson 94.55 17 *e*P P 05 31 22.2 -1.0
B14A Marquette Ranc 94.55 38 ⇑P P 05 31 22.5 -1.0
baz=95
C15A Salmond Ranch, 94.60 39 ⇓P P 05 31 22.8 -1.0
baz=95
A14A Double T Ranch 94.80 37 ⇑P P 05 31 23.9 -0.8
baz=95
D16A Dana Ranch, Ca 94.81 40 ⇓P P 05 31 24.0 -0.8
baz=95
JCT Junction City 94.81 59 *e*P P 05 31 24.1 -1.1
JCT pmax pmax
comp=Z,13nm,1.3s,mb4.8
JCT Junction City 94.81 59 *e*P P 05 31 24.1 -1.1
comp=Z,13nm,1.3s,mb4.8
C16A Fuhringer Ranc 95.11 39 ⇑P P 05 31 25.2 -0.9
baz=95
A15A Johnson Ranch, 95.19 38 ⇑P P 05 31 25.5 -0.9
baz=95
F18A Big Timber 95.30 41 ⇑P P 05 31 26.6 -0.4
baz=95
C17A Wharram Farm, 95.58 40 ⇓P P 05 31 27.5 -0.8
baz=96
LPAZ La Paz 102.07 115 P Pdif 05 31 59.8 +2.4
comp=Z,0.7nm,0.8s,baz=51,slow=3.0,SNR=4.3
SIV San Ignacio 107.97 118 PKiKP PKiKP 05 36 26.5 -1.7
comp=Z,0.2nm,0.4s,baz=150,slow=4.8,SNR=3.8
ZALV Zalesovo Beam 112.83 320 PKiKP PKiKP 05 36 34.4 -1.9
comp=Z,1.6nm,0.4s,baz=144,slow=2.5,SNR=6.8
ZALV Zalesovo Beam 112.83 320 PKPdf PKiKP 05 36 34.4 -1.9
MK31 Makanchi Array 112.89 312 *e*PKIKP PKiKP 05 36 35.3 -1.3
MKAR Makanchi Array 112.89 312 PKiKP PKiKP 05 36 35.2 -1.4
comp=Z,1.3nm,0.5s,baz=63,slow=2.2,SNR=13
MKAR SKP 05 39 23.8
comp=Z,1.1nm,0.7s,baz=62,slow=3.4,SNR=5.5
MKAR PKKPbc PKKPbc 05 47 25.6 -0.6
comp=Z,2.8nm,0.7s,baz=290,slow=3.5,SNR=13
MKAR Makanchi Array 112.89 312 PKIKP PKiKP 05 36 35.2 -1.4
MKAR 05 39 23.8
MKAR Makanchi Array 112.89 312 PKPdf PKiKP 05 36 35.2 -1.4
MKAR SKP 05 39 23.8
MKAR PKKPbc PKKPbc 05 47 25.6 -0.6
KURK Kurchatov 116.00 316 PKP PKPdf 05 36 40.9 -1.6
comp=Z,6.4nm,0.8s,baz=100,slow=1.8,SNR=32
KURK SKP 05 39 29.5
comp=Z,3.1nm,1.0s,baz=116,slow=2.0,SNR=8.1
KURK PKKPbc PKKPbc 05 47 15.3 -0.4
comp=Z,2.2nm,0.9s,baz=275,slow=4.2,SNR=7.4
KURK Kurchatov 116.00 316 *e*PKPdf PKPdf 05 36 41.2 -1.3
OPO Ambohidratompo 116.57 231 PKP PKPdf 05 36 44.2 -0.4
comp=Z,2.0nm,0.7s,baz=117,slow=6.8,SNR=3.5
AML Almayashu 118.02 306 *e*PKPdf PKPdf 05 36 46.7 0.0
EKS2 Erkin-Say 118.05 307 *e*PKPdf PKPdf 05 36 46.0 -0.7
SUR Sutherland 119.31 200 PKP PKPdf 05 36 49.3 -0.3
comp=Z,13nm,0.8s,baz=160,slow=4.1,SNR=10
MTP Monte Pirata 119.38 83 *e*PKPdf PKPdf 05 36 48.1 -1.8
KBL Kabul 120.25 297 *e*PKIKP PKPdf 05 36 51.1 -0.1
KK31 Karatay Array 120.49 307 PKIKP PKPdf 05 36 50.1 -1.3
KK31 pmax pmax
comp=Z,5.0nm,0.6s
VOSK Vostochnaya 120.92 318 PKIKP PKPdf 05 36 50.2 -1.7
VOSK pmax pmax
comp=Z,17nm,0.8s
BOSA Boshof 121.13 206 PKP PKPdf 05 36 53.5 +0.2
comp=Z,5.6nm,0.8s,baz=118,slow=3.8,SNR=6.4
BVA0 Borovoye Array 121.28 318 *i* PKIKP PKPdf 05 36 51.2 -1.4
BVA0 pmax pmax
comp=Z,2.0nm,0.5s
BVAR Borovoye Array 121.28 318 PKP PKPdf 05 36 51.4 -1.2
comp=Z,7.8nm,0.5s,baz=104,slow=1.6,SNR=36
BVAR SKP 05 39 40.4
comp=Z,2.8nm,0.9s,baz=93,slow=3.0,SNR=5.3
BVAR PKKPbc PKKPbc 05 46 56.2 -0.7
comp=Z,0.7nm,0.6s,baz=289,slow=4.5,SNR=4.6
BVAR Borovoye Array 121.28 318 PKIKP PKPdf 05 36 51.4 -1.2
BVAR 05 39 40.4
BRVK Borovoye 121.35 318 *e*PKIKP PKPdf 05 36 51.6 -1.1
LBTB Lobatse 124.16 209 PKP PKPdf 05 36 59.0 -0.2
comp=Z,5.0nm,0.9s,baz=170,slow=1.6,SNR=4.7
SPITS Spitsbergen Ar 126.42 356 PKP PKPdf 05 37 00.9 -0.8
comp=Z,7.3nm,0.5s,baz=0.0,slow=2.7,SNR=14
ARU Arti 127.81 323 *i* PKIKP PKPdf 05 37 03.8 -1.2
ARU 05 39 12.1
ARU Arti 127.81 323 *e*PKPdf PKPdf 05 37 04.2 -0.8
AB31 Akbulak array 127.97 314 *i* PKIKP PKPdf 05 37 04.3 -1.2
AB31 pmax pmax
comp=Z,1.0nm,0.4s
AKTK Aktyubinsk 129.10 316 PKP PKPdf 05 37 06.9 -0.7
AKTK SKPbc 05 39 40.7
AKTO Aktyubinsk 129.10 316 PKP PKPdf 05 37 06.9 -0.7
comp=Z,4.8nm,0.6s,baz=83,slow=3.6,SNR=9.3
AKTO SKPbc 05 39 40.7
comp=Z,4.0nm,0.9s,baz=102,slow=2.2,SNR=5.0
AKTO Aktyubinsk 129.10 316 PKIKP PKPdf 05 37 06.5 -1.1
AKTO pmax pmax
comp=Z,1.0nm,0.7s
TSUM Tsumeb 132.56 203 PKP PKPdf 05 37 15.6 +0.4
comp=Z,4.4nm,0.7s,baz=152,slow=20,SNR=4.8
KEV Kevo 132.66 347 *e*p PKPdf 05 37 12.4 -1.4
comp=Z,1.7nm,0.4s
ARCES ARCESS Array B 133.13 348 PKhKP 05 37 05.0
comp=Z,4.5nm,0.8s,baz=8.5,slow=2.5,SNR=7.9
ARCES PKP PKPdf 05 37 13.3 -1.3
comp=Z,9.5nm,0.6s,baz=55,slow=1.0,SNR=32
ARCES SKPbc SKPbc 05 39 54.7 -0.3
comp=Z,21nm,0.9s,baz=18,slow=3.1,SNR=22
ARCES ARCESS Array B 133.13 348 PKP PKPdf 05 37 13.3 -1.3
ARCES SKPbc SKPbc 05 39 54.7 -0.3
KMBO Kilima Mbogo 135.26 240 PKP PKPdf 05 37 20.4 0.0
comp=Z,4.5nm,1.0s,baz=54,slow=4.9,SNR=6.8
JOF Joensuu 136.89 339 *e*p PKPdf 05 37 20.9 -1.0
comp=Z,10.0nm,0.6s
RDF Al-Radifah 137.52 286 *e*P PKPdf 05 37 23.0 -1.1
baz=48
RDF AMb AMB 05 37 26.8
comp=Z,46nm,0.7s,baz=48
NAY Al-Naaiem 137.82 286 *e*P PKPdf 05 37 23.1 -1.6
baz=48
NAY AMb AMB 05 37 26.7
comp=Z,20nm,1.2s,baz=48
RST Umm Al-Ruwaisa 138.06 287 *e*P PKPdf 05 37 22.8 -2.3
baz=48
RST AMb AMB 05 37 27.1
comp=Z,39nm,0.9s,baz=48
MOS Moscow 138.93 328 *e*PKIKP PKPdf 05 37 23.2 -2.6
MOS *i* 05 40 09.7
KAF Kangasniemi 139.03 341 *e*p PKPdf 05 37 17.7 -8.1
comp=Z,2.5nm,0.3s
SOC Sochi 142.72 310 *i* PKIKP PKPdf 05 37 29.7 -3.3
MARD Mardin 143.20 299 *i* P PKPdf 05 37 32.0 -2.0
NB2 NORSAR Subarra 143.35 351 PKP PKPdf 05 37 29.9 -3.6
comp=Z,12nm,0.7s,baz=16,slow=3.2
NB2 NORSAR Subarra 143.35 351 PKP PKPdf 05 37 29.9 -3.6
baz=16,slow=3.2
NOA NORSAR Array B 143.35 351 PKP PKPdf 05 37 30.6 -2.9
comp=Z,26nm,0.8s,baz=15,slow=4.9,SNR=71
NOA SKPbc SKPbc 05 40 24.4 +0.6
comp=Z,8.0nm,0.9s,baz=14,slow=4.2,SNR=9.8
NAO01 NORSAR Array S 143.58 351 *e*PKPdf PKPdf 05 37 31.6 -2.3
ANN Anapa 143.91 312 *i* PKIKP PKPdf 05 37 32.9 -2.1
ANN pmax pmax
comp=Z,73nm,0.7s
KONO Kongsberg 144.91 351 *e*P PKPdf 05 37 35.3 -1.0
AKCD Akcadag 145.28 301 *i* P PKPdf 05 37 39.0 +1.4
BLS5 Blasjo 145.50 354 *e*P PKPdf 05 37 38.3 +1.0
BLS5 AMb AMB 05 37 40.2
comp=Z,12nm,1.2s
AKASG Malin Array Be 145.95 326 PKPbc PKPbc 05 37 38.7 -1.5
comp=Z,14nm,0.5s,baz=44,slow=4.2,SNR=56
AKASG SKPbc SKPbc 05 40 30.7 +0.5
comp=Z,1.8nm,0.5s,baz=41,slow=2.0,SNR=8.1
KIEV Kiev 145.97 326 *e*PKIKP PKPdf 05 37 38.8 +0.4
SUW Suwalki 146.37 335 *e*PKP PKPdf 05 37 40.3 +1.3
RSC Scourie 146.71 5⇑*e*P PKPdf 05 37 40.6 +1.3
MLA1 Latheron 146.87 3⇑*e*P PKPdf 05 37 41.1 +1.5
RRH Rhenigidale 147.00 6⇑*e*P PKPdf 05 37 41.4 +1.5
RRR Rubha Reidh 147.15 5⇑*e*P PKPdf 05 37 41.4 +1.3
MVH1 Achvaich 147.20 4⇑*i*P PKPdf 05 37 42.0 +1.8
KAC Achnashellach 147.54 5⇑*e*P PKPdf 05 37 43.1 +2.3
MCD Coleburn Disti 147.59 3⇑*i*P PKPdf 05 37 42.7 +1.9
MDO Dochfour 147.67 4⇑*e*P PKPdf 05 37 43.1 +2.1
KPL Plockton 147.67 5⇑*e*P PKPdf 05 37 43.4 +2.4
ILGA Ilgaz 147.73 308 *i* P PKPbc 05 37 45.5 +0.3
KSB Sheil Bridge 147.82 5⇑*e*P PKPdf 05 37 43.3 +2.1
KAR1 Arisaig 148.07 6⇑*e*P PKPdf 05 37 43.8 +2.2
BR131 Keskin Array S 148.19 305 *e*PKPdf PKPdf 05 37 41.5 -0.9
BR131 *e*PKPdf PKPbc 05 37 46.1 -0.3
ANTO Ankara 148.77 306⇓*i*P PKPbc 05 37 47.7 -0.2
ANTO Ankara 148.77 306 *e*PKPbc PKPbc 05 37 47.8 -0.1
EBH Black Hill 148.91 4⇑*e*P PKPbc 05 37 46.3 -1.3
EAB Aberfoyle 148.92 4⇑*e*P PKPbc 05 37 46.3 -1.4
LVV L'vov 149.06 329 *e*PKHKP PKPbc 05 37 47.5 -0.8
PGBU Glenifferbraes 149.28 5 *e*P PKPbc 05 37 46.5 -2.0
ESY Stoneypath 149.28 3⇑*e*P PKPbc 05 37 47.3 -1.3
EAU Auchinoon 149.32 4⇑*e*P PKPbc 05 37 47.5 -1.1
EBL Broad Law 149.41 3 *e*P PKPbc 05 37 47.4 -1.5
CSS Prodhromos 149.50 297 *e*PKPbc PKPbc 05 37 49.2 -0.6
XSO Sourhope Farm 149.72 2⇑*e*P PKPbc 05 37 48.6 -1.1
KWP Kalwaria 149.81 330 *e*PKP PKPbc 05 37 49.7 -0.3
KWP Kalwaria 149.81 330⇓*i*P PKPbc 05 37 49.8 -0.2
KWP Kalwaria 149.81 330 *e*PKPbc PKPbc 05 37 49.7 -0.3
ESK Eskdalemuir 149.86 3⇑*e*P PKPbc 05 37 48.2 -1.8
ESK Eskdalemuir 149.86 3 *e*PKPbc PKPbc 05 37 48.9 -1.1
TIRR Tirgusor 149.89 317⇑*i*P PKPbc 05 37 50.0 -0.4
TIRR Tirgusor 149.89 317 ⇑P PKPbc 05 37 50.0 -0.4
BUR08 Bucovina Ar. S 149.92 325 *e*PKPbc PKPbc 05 37 50.7 +0.3
BURAR Bucovina Array 149.93 325⇓*i*P PKPbc 05 37 50.3 -0.1
BURAR Bucovina Array 149.93 325 ⇓P PKPbc 05 37 50.3 -0.1
ECK Cauldkaine Hil 150.00 3⇑*e*P PKPbc 05 37 48.9 -1.4
HARR Harsova 150.07 318⇓*i*P PKPbc 05 37 50.8 0.0
HARR Harsova 150.07 318 ⇓P PKPbc 05 37 50.8 -0.1
VRI Vrincioaia 150.14 320⇓*i*P PKPbc 05 37 49.9 -1.1
VRI Vrincioaia 150.14 320 ⇓P PKPbc 05 37 49.9 -1.0
GAL1 Galloway 150.20 5⇑*i*P PKPbc 05 37 49.0 -1.8
BSEG Bad Segeberg 150.26 347 *e*PKP PKPbc 05 37 50.3 -0.7
GCD Castle Douglas 150.26 4⇑*e*P PKPbc 05 37 49.0 -2.0
XAL Allendale 150.36 2⇑*e*P PKPbc 05 37 49.8 -1.3
KOLS Kolonicke sedl 150.50 329 *e*PKP PKPdf 05 37 46.0 +0.2
KOLS *e* 05 37 51.5
STHS Stebnicka Huta 150.62 331 *e*PKP PKPdf 05 37 45.7 -0.2
STHS *e* 05 37 51.9
OJC Ojcow 150.63 333 *e*PKP PKPbc 05 37 51.6 -0.3
GMM Mts of Mourne 150.71 7 *e*P PKPbc 05 37 51.0 -1.0
UZH Uzhgorod 150.71 329 *e*PKIKP PKPbc 05 37 51.3 -0.9
GIM North Isle of 150.79 5⇑*e*P PKPbc 05 37 50.8 -1.4
MLR Muntele Rosu 150.81 320⇓*i*P PKPbc 05 37 51.7 -0.8
MLR Muntele Rosu 150.81 320 ⇓P PKPbc 05 37 51.7 -0.8
CRVS Cervenica-Dubn 150.90 330 *e*PKP PKPbc 05 37 52.0 -0.6
DMUB Kingscourt 150.93 8⇑*i*P PKPbc 05 37 50.6 -1.9
NIE Niedzica 151.02 332 *e*PKP PKPbc 05 37 53.1 +0.2
HPK Haverah Park 151.28 2⇑*e*P PKPbc 05 37 52.1 -1.2
VOIR 151.35 321⇓*i*P PKPbc 05 37 52.6 -1.2
VOIR 151.35 321 ⇓P PKPbc 05 37 52.6 -1.2
DCN Croghan 151.42 9⇑*i*P PKPbc 05 37 51.6 -2.0
KSP Ksiaz 151.43 338 *i* PKPc PKPbc 05 37 53.6 -0.2
KSP Ksiaz 151.43 338⇑*i*PKPdf PKPbc 05 37 53.6 -0.1
KSP *e*pPKP pPKPdf 05 39 56.2 +8.4
DLF Lyons Farm 151.56 8 *e*P PKPbc 05 37 52.1 -1.9
OKC Ostrava-Krasne 151.58 335⇑*e*PKP PKPbc 05 37 53.4 -0.7
LHO Holmfirth 151.69 2⇑*e*P PKPbc 05 37 52.9 -1.4
DRGR 151.77 326⇓*i*P PKPbc 05 37 54.2 -0.4
DRGR 151.77 326 ⇓P PKPbc 05 37 54.2 -0.4
UPC Upice 151.81 338⇑*e*PKP PKPbc 05 37 53.8 -0.8
UPC *e*PKPAB PKPab 05 38 05.8 -0.2
DPC Dobruska-Polom 151.84 337 *e*PKPDF PKPdf 05 37 47.2 -0.5
DPC ⇑*e*PKP PKPbc 05 37 54.6 -0.1
DPC *e*PKPAB PKPab 05 38 06.1 0.0
MORC Moravsky Berou 151.87 335⇓*i*P PKPbc 05 37 54.3 -0.5
MORC Moravsky Berou 151.87 335 *e*PKPbc PKPbc 05 37 54.3 -0.5
CLL Collm 152.05 342⇑*i*PKIKP PKPbc 05 37 54.5 -0.6
CLL *i* 05 38 06.1
CLL Collm 152.05 342 *e*PKPbc PKPbc 05 37 54.5 -0.6
CLL *e*PKPab PKPab 05 38 06.1 -0.9
CLL Collm 152.05 342⇑*i*PKPbc PKPbc 05 37 54.5 -0.6
comp=Z,46nm,0.8s
CLL ⇓*i*PKPab PKPab 05 38 06.1 -0.9
comp=Z,12nm,0.9s
CLL *e*pPKPab pPKPab 05 39 57.0 -4.7
BRG Berggiesshubel 152.16 341 *e*PKIKP PKPdf 05 37 48.2 0.0
BRG *i* 05 38 06.9
BRG Berggiesshubel 152.16 341 *e*PKPdf PKPdf 05 37 47.9 -0.3
BRG *e*PKPbc PKPbc 05 37 54.9 -0.5
BRG *e*PKPab PKPab 05 38 06.7 -0.8
BRG Berggiesshubel 152.16 341 *e*PKP PKPdf 05 37 48.2 0.0
comp=Z,16nm,1.3s
BRG *i* 05 37 54.8
comp=Z,27nm,0.6s
BRG *i* 05 38 01.5
comp=Z,9.5nm,0.8s
BRG *i* 05 38 06.8
comp=Z,13nm,0.7s
BRG pPKP pPKPdf 05 39 57.1 +8.2
comp=Z,7.0nm,1.0s
AKAS Kas 152.21 300 *i* P PKPbc 05 37 55.3 -0.7
CLZ Clausthal 152.22 346 *e*PKPdf PKPdf 05 37 47.8 -0.4
CLZ *e*PKPbc PKPbc 05 37 55.1 -0.4
CLZ *e*pPKPdf pPKPdf 05 39 56.9 +7.9
KWE Weaver Farm 152.22 2⇑*e*P PKPbc 05 37 54.2 -1.2
SBD1 Bryn Du 152.26 4⇑*e*P PKPbc 05 37 54.2 -1.3
PVCC Panska Ves 152.27 339⇑*e*PKP PKPbc 05 37 55.4 -0.2
IBBN Ibbenburen 152.28 349 *e*PKPbc PKPbc 05 37 55.5 -0.1
IBBN *e*PKPab PKPab 05 38 07.1 -0.8
PSZ Piszkesteto 152.33 330⇑*i*P PKPbc 05 37 55.3 -0.5
PSZ Piszkesteto 152.33 330 ⇑P PKPbc 05 37 55.3 -0.6
VYHS Vyhne 152.36 332 *e*PKP PKPbc 05 37 55.0 -0.9
GZR Gura Zlata 152.64 323⇑*i*P PKPbc 05 37 55.7 -0.9
GZR Gura Zlata 152.64 323 ⇑P PKPbc 05 37 55.7 -1.0
PRU Pruhonice 152.75 339⇑*e*PKP PKPbc 05 37 55.8 -0.9
WTSB Winterswijk 152.76 350 *e*PKP PKPbc 05 37 55.7 -0.9
comp=Z,41nm,0.3s
TANN Tannenbergstha 153.00 342 *e*PKPdf PKPdf 05 37 49.4 0.0
TANN *e*PKPbc PKPbc 05 37 56.6 -0.6
MOX Moxa 153.02 343 *e*PKP PKPdf 05 37 48.8 -0.6
comp=Z,17nm,1.3s
MOX Moxa 153.02 343 *e*PKPbc PKPbc 05 37 56.3 -1.0
MODS Modra-Piesok 153.10 334 *e*PKP PKPbc 05 37 57.2 -0.3
BZS Buzias 153.12 325⇓*i*P PKPbc 05 37 57.0 -0.6
BZS Buzias 153.12 325 ⇓P PKPbc 05 37 57.0 -0.6
NKC Novy Kostel 153.17 342⇑*e*PKP PKPbc 05 37 56.8 -0.8
NKC *e*PKPAB PKPab 05 38 10.7 -1.1
MCH1 Michaelchurch 153.18 4⇑*e*P PKPdf 05 37 55.4 +5.8
UBBA Unterbreizbach 153.25 346 *e*PKPbc PKPbc 05 37 56.0 -1.7
MANZ Manzenberg 153.49 342 *e*PKPdf PKPdf 05 37 49.3 -0.8
MANZ *e*PKPbc PKPbc 05 37 57.7 -0.6
ROTZ Rotzenmuhle 153.66 342 *e*PKPbc PKPbc 05 37 57.6 -1.0
ROTZ *e*PKPab PKPab 05 38 13.5 -0.4
KHC Kasperske Hory 153.80 339 *e*PKPDF PKPdf 05 37 49.4 -1.2
KHC ⇑*e*PKP PKPbc 05 37 58.1 -0.9
KHC *e*PKPAB PKPab 05 38 10.6 -3.9
GRA1 Grafenberg Arr 154.00 343 *e*PKPbc PKPbc 05 37 58.6 -0.8
GRA1 *e*PKPab PKPab 05 38 14.8 -0.5
GRF Grafenberg Arr 154.00 343 *e*PKPbc PKPbc 05 37 58.6 -0.8
GRF *e*PKPab PKPab 05 38 14.8 -0.5
GEC2 GERESS Array S 154.01 339 *e*PKPdf PKPdf 05 37 49.9 -1.0
GEC2 *e*PKPbc PKPbc 05 37 58.3 -1.1
GEC2 *e*PKPab PKPab 05 38 14.5 -0.9
GERES GERESS Array B 154.01 339 PKP PKPdf 05 37 49.4 -1.5
comp=Z,0.8nm,0.6s,baz=54,slow=2.3,SNR=9.8
GERES PKPbc PKPbc 05 37 58.9 -0.5
comp=Z,2.7nm,0.7s,baz=48,slow=2.0,SNR=14
GERES PKPab PKPab 05 38 14.8 -0.7
comp=Z,2.2nm,0.7s,baz=46,slow=4.4,SNR=7.1
WET Wettzell 154.01 340 *e*PKPab PKPab 05 38 15.1 -0.3
HGN Heimansgroeve 154.06 351 *e*PKP PKPab 05 38 12.1 -3.4
TNS Taunus Mts 154.15 347 *e*PKPbc PKPbc 05 37 58.0 -1.7
TNS *e*PKPab PKPab 05 38 14.9 -1.1
PKSM Moragy 154.17 329⇓*i*P PKPbc 05 37 58.9 -1.0
PKSM Moragy 154.17 329 ⇓P PKPbc 05 37 58.9 -0.9
MEM Membach 154.20 351 PKPab PKPab 05 38 15.0 -1.2
BCLA Clavier 154.48 352 PKPab PKPab 05 38 16.1 -1.2
DOU Dourbes 154.89 353 PKPab PKPab 05 38 17.8 -1.3
BAIF Baives 154.97 353 *e*PKP2 PKPab 05 38 18.1 -1.4
WLF Walferdange 155.10 350 *e*PKPdf PKPdf 05 37 52.8 +0.4
WLF *e*PKPbc PKPdf 05 38 01.5 +9.1
RJOB Jochberg 155.28 339 *e*PKPab PKPab 05 38 20.9 0.0
FUR Furstenfeldbru 155.37 341 *e*PKPab PKPab 05 38 21.1 -0.2
CDF Champ du Feu 156.11 348 *e*PKP2 PKPab 05 38 23.0 -1.4
comp=Z,8.6nm,0.8s
MEZF Maizieres J'vi 156.39 351 *e*PKP2 PKPab 05 38 24.4 -1.3
FETA Feichten 156.56 341⇑*i*PKPdf PKPdf 05 37 54.1 -0.2
comp=Z,7.3nm,1.0s
LDF La Druitiere 156.67 360 *e*PKP2 PKPab 05 38 24.4 -2.5
comp=Z,12nm,0.6s
HAU Haudompre 156.67 349 *e*PKP2 PKPab 05 38 25.3 -1.6
comp=Z,19nm,0.7s
HINF Hinteralfeld 156.76 348 *e*PKP2 PKPab 05 38 25.5 -1.8
comp=Z,7.0nm,0.8s
LOR Lormes 157.76 353 *e*PKP2 PKPab 05 38 30.0 -1.6
SSF Saint Saulge 158.00 353 *e*PKP2 PKPab 05 38 31.2 -1.5
comp=Z,30nm,0.9s
CABF La Chapelle 158.06 348 *e*PKP2 PKPab 05 38 31.8 -1.2
comp=Z,31nm,1.1s
AVF Avril sur Loir 158.28 353 *e*PKP2 PKPab 05 38 32.2 -1.7
comp=Z,14nm,0.8s
SMF Signal de Mont 158.37 352 *e*PKP2 PKPab 05 38 32.8 -1.5
comp=Z,50nm,1.0s
BGF Bois d'Agland 158.57 354 *e*PKP2 PKPab 05 38 33.5 -1.6
comp=Z,13nm,0.8s
LPG La Plagne 159.00 346 *e*PKP2 PKPab 05 38 36.8 -0.3
comp=Z,13nm,0.8s
ORIF Oris-en-Rattie 159.73 347 *e*PKP2 PKPab 05 38 39.5 -0.8
comp=Z,22nm,0.9s
RJF Les Rejaudoux 159.91 356 *e*PKP2 PKPab 05 38 39.2 -1.9
VIVF Saint-Julien-l 160.01 350 *e*PKP2 PKPab 05 38 40.4 -1.1
comp=Z,12nm,0.8s
LFF La Frestale 160.31 358 *e*PKP2 PKPab 05 38 41.0 -1.8
SBF Sospel 160.38 343 *e*PKP2 PKPab 05 38 42.5 -0.7
LIC Lamto 160.56 166 *e*PKIKP PKPdf 05 37 59.3 -0.8
comp=Z,93nm,1.5s
LASF Ste Croix 160.90 351 *e*PKP2 PKPab 05 38 44.2 -1.2
comp=Z,16nm,1.0s
DBIC Dimbokro 161.03 166 PKP PKPdf 05 37 58.5 -2.1
comp=Z,7.6nm,0.9s,baz=177,slow=4.3,SNR=3.7
DBIC PKPab PKPab 05 38 47.2 +0.6
comp=Z,12nm,0.8s,baz=187,slow=2.5,SNR=7.3
LMR La Mourre 161.11 345 *e*PKP2 PKPab 05 38 45.0 -1.4
MVO Moncorvo 163.12 18 *e*PKP PKPdf 05 38 02.3 +0.5
PVIS Viseu 163.28 21 *e*PKP PKPdf 05 38 02.0 0.0
MTE Manteigas 163.67 20 *e*PKP PKPdf 05 38 02.4 0.0
PTOM Tomar 164.08 24 *e*PKP PKPdf 05 38 02.9 +0.1
PCBR Castelo Branco 164.20 21 *e*PKP PKPdf 05 38 03.2 +0.3
EVO Evora 165.18 25 *e*PKIKP PKPdf 05 38 03.6 -0.2
comp=Z,40nm,1.0s
EVO Evora 165.18 25 *e*PKP PKPdf 05 38 03.8 0.0
ESDC Sonseca Array 165.25 11 PKPab PKPab 05 39 03.5 -1.1
comp=Z,3.0nm,0.7s,baz=352,slow=4.3,SNR=9.9
PBEJ Beja 165.68 25 *e*PKP PKPdf 05 38 04.7 +0.5
PBAR Barrancos 165.85 22 *e*PKP PKPdf 05 38 04.4 +0.1
MORF Marmelete 165.97 29 *e*PKP PKPdf 05 38 05.3 +0.9
PBDV Barranco-do-Ve 166.33 27 *e*PKP PKPdf 05 38 05.8 +1.1
TOA0 Torodi Ar. Sit 167.85 189 *e*PKPdf PKPdf 05 38 05.5 -0.9
TOA0 *e*PKPab PKPab 05 39 16.8 +0.1
TORD Torodi Ar. Bea 167.85 189 PKP PKPdf 05 38 05.2 -1.3
comp=Z,9.5nm,1.1s,baz=9.5,slow=0.8,SNR=22
TORD PKPab PKPab 05 39 16.9 +0.2
comp=Z,18nm,0.9s,baz=178,slow=3.6,SNR=36
TORD PP PP 05 43 05.2 +0.1
comp=Z,4.1nm,1.1s,baz=164,slow=4.1,SNR=5.0

IDC ***10*** *05:29:13.1±8.4, 10.28N×125.99E, h145km±74km, mb3.5/8, mb1 3.7/8, mb1mx3.5/20, mbtmp3.5/8, Error ellipse: s-maj=66.6km s-min=14.3km az=64.0*
ISCJB ***10*** *05:29:15.3±0.5, 10.08N±0.04×125.4E±0.1, h180km±4km, mb3.9/10, Error ellipse: s-maj=18.4km s-min=6.8km az=170.8*
MAN ***10*** *05:29:16, 10.14N×125.45E, h162km, mb4.4, ML3.3, MS3.2*
ISC 10 05:29:16.5±0.5**, 10.09N**±0.04×**125.4E**±0.1**, h174**km±4km**, n23, σ0.57**/25**, mb3.9**/10**, 2D, Leyte**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SCPH	**Surigao**	**0.32**	**161**⇓	*e*P	**Pn**	**05 29 39.8**	**-0.2**
SCPH				*e*S	**Sn**	**05 29 57.5**	**-0.5**
MSLP	**Maasin**	**0.52**	**275**	*e*P	**Pn**	**05 29 41.1**	**+0.5**
BUTP	**Butuan**	**1.14**	**168**	*e*P	**Pn**	**05 29 44.9**	**+0.2**
PLP	**Palo**	**1.14**	**340**⇓	*e*P	**Pn**	**05 29 45.1**	**+0.3**
PLP				*e*S	**Sn**	**05 30 06.1**	**-0.4**
BESP	**Borongan**	**1.50**	**2**	*e*P	**Sn**	**05 30 04.9**	**-7.5**
TBP	**Tagbilaran**	**1.55**	**255**	*e*P	**Pn**	**05 29 48.2**	**-0.2**
TBP				*e*S	**Sn**	**05 30 12.3**	**-0.7**
BUKP	**Musuan**	**2.22**	**188**	*e*P	**Pn**	**05 29 56.1**	**+0.5**
BUKP				*e*S	**Sn**	**05 30 27.0**	**+1.1**
CNP	**Catarman**	**2.51**	**344**	*e*P	**Pn**	**05 29 59.0**	**0.0**
CNP				*e*S	**Sn**	**05 30 31.6**	**-0.4**
PVCP	**Virac**	**3.69**	**341**	*e*P	**Pn**	**05 30 13.7**	**+0.2**
CAUP	**Cauayan**	**7.64**	**333**	*e*P	**Pn**	**05 31 05.5**	**+0.4**
CMAR	**Chiang Mai Arr**	**26.91**	**291**	P	**P**	**05 34 46.5**	**+4.9**
	0.4nm,0.3s,mb3.5,baz=106,slow=6.7,SNR=5.4						
FITZ	**Fitzroy Crossi**	**28.01**	**179**	P	**P**	**05 34 50.6**	**-0.8**
	2.1nm,0.9s,mb3.9,baz=8.1,slow=14,SNR=3.4						
WRA	**Warramunga Arr**	**31.12**	**164**	P	**P**	**05 35 18.0**	**-0.8**
	0.2nm,0.4s,mb3.2,baz=344,slow=9.0,SNR=2.3						
WRA				PcP	PcP	05 38 09.8	-0.2
	0.5nm,0.4s,baz=342,slow=2.7,SNR=8.3						
ASAR	**Alice Springs**	**34.57**	**166**	P	**P**	**05 35 49.0**	**+0.2**
	0.6nm,0.3s,mb3.7,baz=342,slow=8.4,SNR=11						
ASAR				PcP	PcP	05 38 19.3	-0.2
	0.6nm,0.4s,baz=338,slow=2.8,SNR=7.5						
FORT	**Forrest**	**40.71**	**176**	*e*P	**P**	**05 36 40.4**	**+0.2**
	16nm,0.9s,mb4.7						
KLBR	**Kellerberrin**	**42.08**	**190**	*e*P	**P**	**05 36 50.2**	**-1.1**
	25nm,1.4s,mb4.7						
MKAR	**Makanchi Array**	**51.65**	**323**	P	**P**	**05 38 06.5**	**+1.1**

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
	0.7nm,0.5s,mb3.5,baz=128,slow=7.9,SNR=4.4						
ZALV	**Zalesovo Beam**	**54.37**	**332**	P	**P**	**05 38 24.8**	**-0.3**
	0.8nm,0.5s,mb3.7,baz=130,slow=6.2,SNR=2.8						
KURK	**Kurchatov**	**55.72**	**326**	P	**P**	**05 38 35.5**	**+0.6**
	1.2nm,0.4s,mb4.1,baz=126,slow=6.8,SNR=7.2						
ARCES	**ARCESS Array B**	**84.06**	**340**	P	**P**	**05 41 27.1**	**-0.2**
	1.0nm,0.4s,mb3.9,baz=87,slow=6.4,SNR=9.2						
TXAR	**Lajitas Array**	**118.60**	**49**	PKP	PKPdf	05 47 44.9	+0.6
	0.1nm,0.5s,baz=297,slow=0.8,SNR=2.8						
TORD	**Torodi Ar. Bea**	**119.52**	**291**	PKP	PKPdf	05 47 45.5	-1.0
	0.4nm,0.5s,baz=39,slow=1.9,SNR=7.5						
PLCA	**Paso Flores**	**146.38**	**158**	PKPbc	PKPbc	05 48 37.1	0.0
	1.3nm,0.5s,baz=166,slow=2.9,SNR=8.1						

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*ISCJB **10** 05:39:11.9±0.7, 4306N±004×7491E±004, h7^{km}±5^{km}, Error ellipse: s-maj=6.3km s-min=5.4km az=0.8*
*KNET **10** 05:39:11.6±0.4, 4303N×7490E, h11^{km}±3^{km}, ml1.9, Error ellipse: s-maj=2.7km s-min=2.1km az=50.0*
*NNC **10** 05:39:11.8±1.9, 4304N×7491E, h0^{km}, mb3.1, mpv2.7, Error ellipse: s-maj=34.6km s-min=9.7km az=15.0*
ISC 10 05:39:12.5±0.7**, 4305N**±004×**7489E**±005**, h5**^{km}±8^{km}**, n11,** σ**0^{s}68**/19**, 14C-4D, Central Kazakhstan**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CHMS	**Chumysh**	**0.11**	**243**	⇑P	**Pg**	**05 39 14.7**	**-0.1**
	117nm,0.1s,SNR=188						
CHMS				⇑S	**Sg**	**05 39 16.6**	**+0.2**
	186nm,0.2s						
USP	**Ospenovka**	**0.36**	**308**	⇑P	**Pg**	**05 39 19.5**	**+0.1**
	60nm,0.1s,SNR=128						
USP				⇑S	**Sg**	**05 39 24.9**	**+0.8**
	87nm,0.2s						
KBK	**Karagaybulak**	**0.40**	**174**	P	**Pg**	**05 39 20.2**	**+0.1**
	126nm,0.1s,SNR=55						
KBK				⇓S	**Sg**	**05 39 26.4**	**+1.1**
	497nm,0.4s						
AAK	**Ala-Archa**	**0.51**	**215**	P	**Pg**	**05 39 22.1**	**-0.1**
	24nm,0.2s,SNR=34						
AAK				⇓S	**Sg**	**05 39 29.4**	**+0.6**
	71nm,0.3s						
TKM2	**Tokmak 2**	**0.54**	**104**	⇑P	**Pg**	**05 39 22.1**	**-0.8**
	7.6nm,0.3s						
TKM2				⇑S	**Sg**	**05 39 29.4**	**-0.4**
	11nm,0.2s						
TKM2	**Tokmak 2**	**0.54**	**104**	⇑P	**Pg**	**05 39 22.1**	**-0.8**
	14nm,0.1s,SNR=31						
TKM2				⇓S	**Sg**	**05 39 29.4**	**-0.4**
	88nm,0.1s						
UCH	**Uchtor**	**0.87**	**199**	⇑P	**Pg**	**05 39 28.6**	**-0.5**
	4.5nm,0.2s,SNR=11						
UCH				⇑S	**Sg**	**05 39 40.4**	**+0.1**
	7.8nm,0.2s						
EKS2	**Erkin-Say**	**0.90**	**245**	P	**Pg**	**05 39 29.7**	**-0.1**
	12nm,0.1s,SNR=71						
AML	**Almayashu**	**1.27**	**224**	⇑P	**Pn**	**05 39 36.2**	**-0.7**
	4.9nm,0.2s,SNR=27						
AML				⇓S	**Sg**	**05 39 53.3**	**-0.1**
	18nm,0.2s						
KK31	**Karatay Array**	**3.21**	**272**	⇑Pg	**Pg**	**05 40 12.4**	**-1.6**
	0.3nm,0.2s,baz=90,slow=16						
KK31				⇑Lg		05 40 52.3	
	7.8nm,0.8s,baz=95,slow=29						
MK31	**Makanchi Array**	**6.45**	**52**	⇑Pn	**Pn**	**05 40 49.5**	**+1.4**
	1.0nm,0.6s,baz=235,slow=14,SNR=4.1						
MK31				⇑Lg		05 42 30.0	
	5.4nm,1.0s						

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*ISCJB **10** 06:00:19.8±2.4, 196N±0.1×953E±0.1, h68^{km}±22^{km}, mb3.7/8, Error ellipse: s-maj=29.1km s-min=13.8km az=135.6*
*NEIC **10** 06:00:22.1±2.9, 1959N×9537E, h72^{km}±28^{km}, Error ellipse: s-maj=46.3km s-min=10.9km az=59.0*
*IDC **10** 06:00:22.2±5.8, 1962N×9538E, h70^{km}±54^{km}, mb3.5/8, mb1 3.6/9, mb1mx3.5/23, mbtmp3.5/9, ML3.3/1, Error ellipse: s-maj=65.1km s-min=15.3km az=54.0*
ISC 10 06:00:20.3±2.4**, 195N**±01×**952E**±01**, h55**^{km}±23^{km}**, n16,** σ**0^{s}89**/21**, mb3.8**/8**, Myanmar**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CHG	**Chiang Mai**	**3.58**	**100**	P	**Pn**	**06 01 13.3**	**-0.1**
	16nm,0.5s						
CHTO	**Chiang Mai**	**3.58**	**100**	*e*Pn	**Pn**	**06 01 13.8**	**+0.4**
CHTO				*e*Sn	**Sn**	**06 01 53.2**	**-1.4**
CM31	**Chiang Mai Arr**	**3.67**	**106**	*e*Pn	**Pn**	**06 01 15.3**	**+0.7**
CM31				*e*Sn	**Sn**	**06 01 56.3**	**-0.4**
CMAR	**Chiang Mai Arr**	**3.67**	**106**	P	**Pn**	**06 01 14.8**	**+0.2**
	0.7nm,0.3s,baz=282,slow=15,SNR=7.3						
CMAR				S	**Sn**	**06 01 56.7**	**0.0**
	11nm,0.3s,baz=293,slow=26,SNR=7.7						
CMAR	**Chiang Mai Arr**	**3.67**	**106**	P	**Pn**	**06 01 14.8**	**+0.2**
CMAR				S	**Sn**	**06 01 56.7**	**0.0**
CHRT	**Chiangrai**	**4.32**	**84**	PG	**Pn**	**06 01 20.0**	**-3.5**
CHRT				SG	**Sn**	**06 02 14.5**	**+1.9**
MKAR	**Makanchi Array**	**29.23**	**342**	P	**P**	**06 06 16.6**	**-0.2**
	1.8nm,0.9s,mb3.8,baz=144,slow=9.0,SNR=8.4						
KURK	**Kurchatov**	**33.83**	**341**	P	**P**	**06 06 56.4**	**-0.8**
	1.6nm,0.6s,mb4.2,baz=151,slow=8.6,SNR=4.0						
ZALV	**Zalesovo Beam**	**35.32**	**349**	P	**P**	**06 07 09.1**	**-0.9**
	1.4nm,0.7s,mb4.0,baz=170,slow=9.0,SNR=6.5						
WRA	**Warramunga Arr**	**54.82**	**133**	P	**P**	**06 09 44.5**	**-0.6**
	0.3nm,0.8s,mb3.4,baz=326,slow=7.3,SNR=2.9						
WRA	**Warramunga Arr**	**54.82**	**133**	P	**P**	**06 09 44.5**	**-0.6**
ASAR	**Alice Springs**	**57.12**	**137**	P	**P**	**06 10 02.2**	**+0.8**
	0.1nm,0.5s,mb3.1,baz=323,slow=5.9,SNR=2.7						
AKASG	**Malin Array Be**	**60.00**	**318**	P	**P**	**06 10 21.4**	**+0.3**
	0.3nm,0.2s,mb3.9,baz=84,slow=6.0,SNR=3.9						
GERES	**GERESS Array B**	**70.07**	**316**	P	**P**	**06 11 28.1**	**+1.5**
	1.0nm,0.7s,mb3.9,baz=93,slow=5.4,SNR=3.8						
CASY	**Casey**	**86.28**	**174**	*e*P	**P**	**06 12 55.2**	**-0.4**
	12nm,0.4s						
CASY				*e*pP	pP	06 13 07.5	-3.9
TORD	**Torodi Ar. Bea**	**88.94**	**283**	P	**P**	**06 13 09.6**	**0.0**
	0.5nm,1.0s,mb3.8,baz=67,slow=3.7,SNR=2.6						

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*IDC **10** 06:07:29.2±1.2, 1040N×14554E, h0^{km}, mb3.7/6, mb1 3.9/7, mb1mx3.8/19, mbtmp3.7/7, ML4.1/1, Error ellipse: s-maj=43.2km s-min=20.4km az=79.0*
*ISCJB **10** 06:07:30.5±2.3, 1047N±009×1459E±05, h33^{km}, mb3.7/6, Error ellipse: s-maj=75.6km s-min=10.1km az=174.3*
*NEIC **10** 06:07:30.6±0.9, 1039N×14557E, h10^{km}, Error ellipse: s-maj=33.0km s-min=14.5km az=83.0*
ISC 10 06:07:32.8±2.3**, 1049N**±009×**1459E**±05**, h35**^{km}**, n11,** σ**0^{s}96**/10**, mb3.7**/6**, South of Mariana Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
GUMO	**Guam**	**3.23**	**343**	Pn	**Pn**	**06 08 19.5**	**-1.4**
	20nm,0.3s,baz=90,slow=2.7,SNR=4.8						
GUMO				Sn	**Sn**	**06 08 57.5**	**-0.7**
	61nm,0.3s,baz=12,slow=21,SNR=8.0						
GUMO	**Guam**	**3.23**	**343**	*e*Pn	**Pn**	**06 08 20.7**	**-0.2**
GUMO				*e*Sn	**Sn**	**06 08 57.2**	**-0.9**
KSRS	**Korea Array**	**31.32**	**332**	P	**P**	**06 13 50.0**	**+0.2**
	0.7nm,0.4s,mb3.8,baz=139,slow=12,SNR=4.1						
WRA	**Warramunga Arr**	**32.29**	**201**	P	**P**	**06 13 57.5**	**-1.0**
	0.2nm,0.5s,mb3.2,baz=20,slow=9.0,SNR=5.4						
ASAR	**Alice Springs**	**35.90**	**199**	P	**P**	**06 14 29.3**	**-0.4**
	0.3nm,0.4s,mb3.6,baz=35,slow=11,SNR=5.3						
CMAR	**Chiang Mai Arr**	**45.99**	**285**	P	**P**	**06 15 53.0**	**0.0**
	0.7nm,0.3s,mb4.0,baz=92,slow=8.1,SNR=6.5						
SONM	**Songino Array**	**49.81**	**326**	P	**P**	**06 16 23.9**	**+1.7**
	0.6nm,0.5s,mb3.9,baz=126,slow=7.4,SNR=3.6						
MKAR	**Makanchi Array**	**64.38**	**317**	P	**P**	**06 18 06.6**	**+1.3**
	0.7nm,0.7s,mb3.8,baz=94,slow=7.8,SNR=6.5						
LPAZ	**La Paz**	**146.48**	**104**	PKPbc	PKPbc	06 27 13.5	+2.3
	0.5nm,0.6s,baz=323,slow=6.2,SNR=4.7						
LPAZ	**La Paz**	**146.48**	**104**	PKPbc	PKPbc	06 27 13.5	+2.3
CPUP	**Villa Florida**	**153.02**	**129**	PKPbc	PKPbc	06 27 31.4	+4.2
	0.3nm,0.3s,baz=248,slow=5.4,SNR=3.3						

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*ISCJB **10** 06:23:11.1±1.3, 5638N±002×15299W±004, h3^{km}±8^{km}, mb4.6/66, MS4.5/15, Error ellipse: s-maj=5.2km s-min=2.8km az=135.9*
*BJI **10** 06:23:12.7, 5630N×15290W, h18^{km}, mB5.0, mb4.9, Ms4.9, Msz4.6*
*MOS **10** 06:23:13.2±0.8, 5643N×15300W, h16^{km}, mb5.0/25, MS4.6/4, Error ellipse: s-maj=12.5km s-min=6.1km az=92.8*
*NEIC **10** 06:23:15.7, 5628N×15287W, h18^{km}, mb4.9/24, MS4.5/1, ML4.4(PMR), ML4.4(AEIC), After AEIC.*
*IDC **10** 06:23:18.5±2.8, 5640N×15293W, h41^{km}±24^{km}, mb4.1/22, mb1 4.2/23, mb1mx4.2/27, mbtmp4.1/23, ML3.9/1, MS4.3/7, Ms1 4.3/7, ms1mx3.8/37, Error ellipse: s-maj=22.1km s-min=10.7km az=31.0*
ISC 10 06:23:14.7±1.1**, 5636N**±002×**15298W**±004**, h15**^{km}±6^{km}**, h17**^{km}±1.8^{km}**:pP-P, n425,** σ**0^{s}60**/426**, mb4.6**/66**, MS4.5**/15**, 144C-122D, Kodiak Island region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
OHAK	**Old Harbor**	**0.88**	**349**	P	**Pg**	**06 23 32.2**	**+0.5**
OHAK				S	**Sg**	**06 23 46.3**	**+3.1**
KDAK	**Kodiak Island**	**1.44**	**8**	P	**Pn**	**06 23 40.1**	**-0.1**
	470nm,0.3s,baz=187,slow=6.1						
KDAK	**Kodiak Island**	**1.44**	**8**	P	**Pn**	**06 23 39.9**	**-0.4**
KDAK				S	**Sn**	**06 23 58.9**	**+0.1**
AUL	**Augustine Lava**	**3.04**	**356**	P	**Pn**	**06 24 03.9**	**+1.7**
SEW	**Seward**	**4.19**	**25**	P	**Pn**	**06 24 16.2**	**-1.7**
SEW				S	**Sn**	**06 25 06.0**	**-0.6**
SDPT	**Sand Point**	**4.35**	**260**	P	**Pn**	**06 24 19.1**	**-1.0**
SLKM	**Skilak Lake**	**4.40**	**18**	P	**Pn**	**06 24 20.0**	**-0.9**
SLKM				S	**Sn**	**06 25 12.2**	**+0.4**
SVW2	**Sparrevohn**	**4.94**	**345**	P	**Pn**	**06 24 29.0**	**+0.8**
RC01	**Rabbit Creek A**	**5.03**	**18**	P	**Pn**	**06 24 28.6**	**-0.9**
FIB	**Fire Island**	**5.03**	**16**	*e*P	**Pn**	**06 24 30.1**	**+0.5**
FIB				pmax	pmax		
	comp=Z,265nm,0.4s						
FIB	**Fire Island**	**5.03**	**16**	*e*Pn	**Pn**	**06 24 30.1**	**+0.6**
	comp=Z,265nm,0.4s						
PMR	**Palmer**	**5.61**	**19**	*e*P	**Pn**	**06 24 36.1**	**-1.3**
EYAK	**Cordova Ski Ar**	**5.66**	**39**	P	**Pn**	**06 24 36.4**	**-1.7**
RAGM	**Ragged Mountai**	**5.94**	**44**	P	**Pn**	**06 24 41.3**	**-0.7**
SML	**Sawmill**	**5.96**	**22**	P	**Pn**	**06 24 42.9**	**+0.6**
PPLA	**Purkeypile**	**6.57**	**3**	P	**Pn**	**06 24 51.0**	**+0.4**
TRF	**Thorofare Moun**	**7.24**	**10**	P	**Pn**	**06 24 59.6**	**-0.2**
KTH	**Kantishna Hill**	**7.29**	**7**	P	**Pn**	**06 25 00.6**	**+0.1**
CHUM	**Lake Minchumin**	**7.55**	**2**	*e*Pn	**Pn**	**06 25 06.3**	**+2.2**
	comp=Z,257nm,1.2s						
MCK	**McKinley**	**7.66**	**14**	P	**Pn**	**06 25 05.9**	**+0.3**
BPAW	**Bear Paw Mtn.**	**7.83**	**6**	P	**Pn**	**06 25 06.9**	**-0.9**
PNL	**Peninsula**	**7.93**	**60**	P	**Pn**	**06 25 08.5**	**-0.9**
UNV	**Unalaska Valle**	**8.15**	**258**	*e*Pn	**Pn**	**06 25 10.2**	**-2.2**
UNV				*e*Sn	**Sn**	**06 26 42.8**	**-1.5**
COLA	**College**	**8.90**	**14**	P	**Pn**	**06 25 21.5**	**-1.0**
ILB	**Eielson Array**	**8.95**	**17**	P	**Pn**	**06 25 22.4**	**-0.8**
SIT	**Sitka**	**9.73**	**79**	*e*P	**Pn**	**06 25 30.4**	**-3.6**
IMA2	**Indian Mountai**	**9.74**	**358**	*e*Pn	**Pn**	**06 25 34.6**	**+0.4**
SKAG	**Skagway**	**9.88**	**64**	*e*Pn	**Pn**	**06 25 35.8**	**-0.3**
	comp=Z,68nm,1.0s						
DAWY	**Dawson**	**10.24**	**36**	*e*Pn	**Pn**	**06 25 41.4**	**+0.5**
COLD	**Coldfoot**	**10.98**	**6**	*e*Pn	**Pn**	**06 25 50.4**	**-0.7**
	comp=Z,23nm,1.0s						
DIB	**Dawson Inlet,**	**12.24**	**96**	T		06 38 37.3	
	SNR=8.3						
DLBC	**Dease Lake**	**12.53**	**71**	P	**Pn**	**06 26 14.2**	**+1.9**
	comp=Z,0.3nm,0.3s,baz=256,slow=8.3,SNR=5.2						
DLBC	**Dease Lake**	**12.53**	**71**	*e*Pn	**Pn**	**06 26 12.5**	**+0.2**
BBB	**Bella Bella**	**15.08**	**96**	LR	LR	06 31 41.3	
	comp=Z,591nm,18.7s,baz=293,slow=33						
YKA	**Yellowknife Ar**	**20.21**	**57**	P	**P**	**06 27 50.7**	**+2.1**
	comp=Z,6.4nm,0.8s,baz=272,slow=12,SNR=7.6						
YKA	**Yellowknife Ar**	**20.21**	**57**	P	**P**	**06 27 50.7**	**+2.1**
B05A	**Bryant**	**20.40**	**100**	⇑P	**P**	**06 27 51.5**	**+0.7**
	baz=20						
JCW	**Jim Creek**	**20.53**	**100**	Pn	**P**	**06 27 52.9**	**+0.7**
A07A	**Ashnola River,**	**20.91**	**97**	⇑P	**P**	**06 27 56.5**	**+0.2**
	baz=21						
B07A	**Winthrop**	**21.38**	**98**	⇑P	**P**	**06 28 01.8**	**+0.5**
	baz=21						
A08A	**Turner Farm, O**	**21.57**	**96**	⇓P	**P**	**06 28 03.8**	**+0.4**
	baz=21						
E05A	**Randle**	**21.60**	**104**	⇓P	**P**	**06 28 04.3**	**+0.5**
	baz=21						
F04A	**Amboy**	**21.65**	**106**	⇑P	**P**	**06 28 04.5**	**+0.3**
	baz=22						
D06A	**Cle Elum**	**21.71**	**101**	⇓P	**P**	**06 28 04.9**	**-0.1**
	baz=22						
ETW	**Entiat**	**21.75**	**100**	*e*P	**P**	**06 28 05.4**	**0.0**
C07A	**Waterville**	**21.85**	**99**	⇑P	**P**	**06 28 06.0**	**-0.4**
	baz=22,SNR=5.4						
B08A	**Colville Reser**	**21.87**	**97**	⇓P	**P**	**06 28 06.2**	**-0.4**
	baz=22,SNR=5.8						
A09A	**Danville**	**21.94**	**95**	⇑P	**P**	**06 28 07.5**	**+0.1**
	baz=22,SNR=5.7						
H03A	**Soap Creek Ran**	**22.01**	**109**	⇓P	**P**	**06 28 07.9**	**-0.3**
	baz=22						
D07A	**Quincy**	**22.19**	**100**	⇑P	**P**	**06 28 10.0**	**-0.1**
	baz=22						
C08A	**Higginbotham F**	**22.35**	**98**	⇓P	**P**	**06 28 11.3**	**-0.5**
	baz=22,SNR=7.5						
B09A	**Rice**	**22.49**	**96**	⇓P	**P**	**06 28 13.0**	**-0.3**
	baz=22,SNR=9.8						
A10A	**Northport**	**22.51**	**94**	⇑P	**P**	**06 28 13.2**	**-0.3**
	baz=22,SNR=6.1						
H04A	**Detroit Lake**	**22.59**	**108**	⇓P	**P**	**06 28 14.0**	**-0.4**
	baz=22						
F06A	**Goldendale**	**22.63**	**104**	⇑P	**P**	**06 28 14.4**	**-0.3**
	baz=22						
E07A	**Sunnyside**	**22.64**	**102**	⇑P	**P**	**06 28 14.3**	**-0.6**
	baz=22						
G05A	**Wamic**	**22.68**	**106**	⇓P	**P**	**06 28 15.0**	**-0.4**
	baz=22						
OD2	**Odessa Site #2**	**22.77**	**99**	*e*P	**P**	**06 28 15.9**	**-0.3**
C09A	**Chrisman Ranch**	**22.77**	**97**	⇓P	**P**	**06 28 15.8**	**-0.4**
	baz=23						
EDM	**Edmonton**	**22.84**	**81**	*e*P	**P**	**06 28 16.7**	**-0.2**
D08A	**Wollman Farm,**	**22.85**	**100**	⇓P	**P**	**06 28 16.5**	**-0.6**
	baz=23,SNR=7.7						
RSW	**Rattlesnake Hi**	**22.89**	**102**	*e*P	**P**	**06 28 17.1**	**-0.4**
F07A	**Phinny Hill Vi**	**23.01**	**103**	⇑P	**P**	**06 28 18.2**	**-0.6**
	baz=23						
I04A	**Tendick Farm,**	**23.08**	**110**	⇑P	**P**	**06 28 19.1**	**-0.4**
	baz=23,SNR=6.4						
E08A	**Dider Farm, El**	**23.11**	**101**	⇑P	**P**	**06 28 18.9**	**-0.9**
	baz=23						
H05A	**Madras**	**23.12**	**107**	⇑P	**P**	**06 28 19.0**	**-1.0**
	baz=23						
D09A	**Jones Farm, Ri**	**23.18**	**99**	⇑P	**P**	**06 28 19.9**	**-0.7**
	baz=23						
A11A	**Hall Mountain,**	**23.18**	**93**	⇓P	**P**	**06 28 20.1**	**-0.5**
	baz=23						
K02A	**Glendale**	**23.25**	**113**	⇓P	**P**	**06 28 20.8**	**-0.5**
	baz=23						
I05A	**Bend**	**23.43**	**108**	⇑P	**P**	**06 28 22.1**	**-1.1**
	baz=23						
B11A	**Sandpoint**	**23.47**	**94**	⇓P	**P**	**06 28 23.7**	**+0.1**
	baz=23,SNR=6.0						
H06A	**Lindquist Farm**	**23.54**	**106**	⇓P	**P**	**06 28 23.7**	**-0.7**
	baz=23						
F08A	**Pendleton**	**23.70**	**102**	⇓P	**P**	**06 28 24.9**	**-0.8**
	baz=24						
G08A	**Pilot Rock**	**23.92**	**103**	⇑P	**P**	**06 28 27.2**	**-0.6**
	baz=24						
LNOR	**Lincton Mounta**	**23.92**	**101**	*e*P	**P**	**06 28 27.8**	**0.0**
J05A	**Fort Rock**	**24.05**	**109**	⇑P	**P**	**06 28 29.5**	**+0.5**
	baz=24,SNR=6.8						
H07A	**Lands Inn, Kim**	**24.05**	**105**	⇓P	**P**	**06 28 29.0**	**0.0**
	baz=24,SNR=7.8						
I06A	**Prineville**	**24.14**	**107**	⇓P	**P**	**06 28 29.3**	**-0.5**
	baz=24						
E10A	**Myers Farm, Un**	**24.19**	**99**	⇑P	**P**	**06 28 29.8**	**-0.5**
	baz=24						
F09A	**S2 Ranch, Elgi**	**24.23**	**101**	⇓P	**P**	**06 28 30.3**	**-0.3**
	baz=24						
D11A	**Klaveano Farm,**	**24.28**	**97**	⇑P	**P**	**06 28 30.7**	**-0.3**
	baz=24,SNR=5.6						
A13A	**Flathead Natio**	**24.28**	**91**	⇑P	**P**	**06 28 30.7**	**-0.4**
	baz=24						
YBH	**Yreka Blue Hor**	**24.39**	**114**	P	**P**	**06 28 33.1**	**+0.9**
	comp=Z,5.8nm,0.7s,mb4.1,baz=296,slow=3.1,SNR=12						
YBH	**Yreka Blue Hor**	**24.39**	**114**	⇓P	**P**	**06 28 31.8**	**-0.4**
	baz=24						
I07A	**Izee**	**24.42**	**106**	⇓P	**P**	**06 28 32.6**	**+0.3**
	baz=24						
F10A	**Beach Ranch, E**	**24.44**	**100**	⇑P	**P**	**06 28 31.9**	**-0.6**
	baz=24						
B13A	**Whitefish**	**24.56**	**93**	⇑P	**P**	**06 28 33.0**	**-0.5**
	baz=24						
G09A	**Cove**	**24.57**	**102**	⇑P	**P**	**06 28 33.8**	**0.0**
	baz=24,SNR=5.2						
H08A	**Prairie City**	**24.58**	**104**	⇑P	**P**	**06 28 33.9**	**+0.1**
	baz=24						
K05A	**Summer Lake**	**24.62**	**110**	⇑P	**P**	**06 28 34.2**	**0.0**
	baz=24						
J06A	**Christmas Vall**	**24.64**	**108**	⇑P	**P**	**06 28 34.4**	**0.0**
	baz=24,SNR=5.3						
E11A	**Bogner Ranch,**	**24.76**	**98**	⇑P	**P**	**06 28 35.0**	**-0.5**
	baz=25						
A14A	**Double T Ranch**	**24.81**	**90**	⇑P	**P**	**06 28 35.4**	**-0.5**
	baz=25,SNR=7.6						
D12A	**Red Ives Fores**	**24.82**	**96**	⇑P	**P**	**06 28 35.8**	**-0.2**
	baz=25						
C13A	**Hot Springs**	**24.89**	**94**	⇑P	**P**	**06 28 36.3**	**-0.3**
	baz=25,SNR=5.5						
K06A	**Valley Falls**	**24.90**	**109**	⇓P	**P**	**06 28 36.6**	**-0.1**
	baz=25						
G10A	**Bishop Farm, J**	**24.92**	**101**	⇑P	**P**	**06 28 36.8**	**-0.1**
	baz=25,SNR=11						
J07A	**Hines**	**25.00**	**107**	⇓P	**P**	**06 28 38.0**	**+0.4**
	baz=25						
H09A	**Durkee**	**25.03**	**103**	⇓P	**P**	**06 28 38.2**	**+0.3**
	baz=25,SNR=6.2						
I08A	**Drewsey**	**25.04**	**105**	⇓P	**P**	**06 28 38.2**	**+0.2**
	baz=25,SNR=5.5						
E12A	**Beaver Dam Sad**	**25.08**	**97**	⇑P	**P**	**06 28 37.9**	**-0.5**
	baz=25						
F11A	**Grangeville**	**25.08**	**99**	⇓P	**P**	**06 28 37.8**	**-0.6**
	baz=25,SNR=6.2						
L05A	**Lakeview**	**25.13**	**111**	⇓P	**P**	**06 28 39.0**	**+0.1**
	baz=25,SNR=7.9						
A15A	**Johnson Ranch,**	**25.19**	**90**	⇑P	**P**	**06 28 38.6**	**-0.8**
	baz=25,SNR=8.1						
D13A	**Huson**	**25.29**	**95**	⇑P	**P**	**06 28 40.1**	**-0.2**
	baz=25						
C14A	**Swan Lake**	**25.30**	**93**	⇓P	**P**	**06 28 40.0**	**-0.3**
	baz=25						
G11A	**Walters Elk Ra**	**25.32**	**100**	⇑P	**P**	**06 28 40.4**	**-0.1**
	baz=25,SNR=14						
WDC	**Whiskeytown Da**	**25.34**	**116**	⇓P	**P**	**06 28 40.8**	**+0.1**
	baz=25						
I09A	**Lost Marbles R**	**25.44**	**104**	⇑P	**P**	**06 28 41.7**	**0.0**
	baz=25						
J08A	**Circle Bar Ran**	**25.46**	**106**	⇑P	**P**	**06 28 42.0**	**+0.1**
	baz=25,SNR=7.8						
K07A	**Rock Creek Ran**	**25.51**	**108**	⇑P	**P**	**06 28 42.5**	**+0.2**
	baz=25,SNR=11						
MOD	**Modoc**	**25.51**	**111**	⇑P	**P**	**06 28 42.5**	**+0.2**
	baz=25						
MOD	**Modoc**	**25.51**	**111**	*e*P	**P**	**06 28 42.7**	**+0.4**
	comp=Z,43nm,1.4s,mb4.8						
H10A	**Noah's Angus R**	**25.58**	**102**	⇑P	**P**	**06 28 43.0**	**+0.1**
	baz=25,SNR=8.7						
B15A	**Bradely Ranch,**	**25.65**	**91**	⇑P	**P**	**06 28 43.4**	**-0.2**
	baz=26						
F12A	**Elk City**	**25.66**	**98**	⇑P	**P**	**06 28 43.1**	**-0.5**
	baz=26						
D14A	**Greenough**	**25.83**	**94**	⇓P	**P**	**06 28 44.5**	**-0.6**
	baz=26						
E13A	**Victor**	**25.83**	**96**	⇑P	**P**	**06 28 44.8**	**-0.3**
	baz=26						
J09A	**Fry Pan Ranch,**	**25.85**	**105**	⇑P	**P**	**06 28 45.9**	**+0.5**
	baz=26,SNR=10						
I10A	**Payette**	**25.87**	**103**	⇓P	**P**	**06 28 45.6**	**0.0**
	baz=26						
K08A	**Mann Creek Ran**	**25.88**	**107**	⇑P	**P**	**06 28 46.3**	**+0.6**
	baz=26,SNR=5.8						
H11A	**Donnelly**	**25.90**	**101**	⇓P	**P**	**06 28 45.6**	**-0.2**
	baz=26,SNR=12						
M06C	**Likely Place G**	**25.92**	**112**	⇓P	**P**	**06 28 46.3**	**+0.2**
	baz=26						
C15A	**Salmond Ranch,**	**25.93**	**92**	⇓P	**P**	**06 28 46.3**	**+0.3**
	baz=26						
L07A	**Adell**	**25.93**	**109**	⇓P	**P**	**06 28 46.8**	**+0.7**
	baz=26						
WVOR	**Wild Horse Val**	**26.01**	**108**	*e*P	**P**	**06 28 47.2**	**+0.4**
WVOR				pmax	pmax		
	comp=Z,19nm,1.1s,mb4.5						
WVOR	**Wild Horse Val**	**26.01**	**108**	*e*P	**P**	**06 28 47.2**	**+0.4**
	comp=Z,19nm,1.1s,mb4.5						
F13A	**Darby**	**26.14**	**97**	⇓P	**P**	**06 28 47.9**	**-0.1**
	baz=26						
E14A	**Clinton**	**26.23**	**95**	⇑P	**P**	**06 28 49.0**	**+0.3**
	baz=26						
O04C	**Chester**	**26.27**	**114**	⇓P	**P**	**06 28 49.5**	**+0.4**
	baz=26						
K09A	**Rome**	**26.31**	**106**	⇑P	**P**	**06 28 49.9**	**+0.4**
	baz=26						
L08A	**Fields**	**26.34**	**108**	⇑P	**P**	**06 28 50.1**	**+0.4**
	baz=26,SNR=7.3						
C16A	**Fuhringer Ranc**	**26.39**	**91**	⇑P	**P**	**06 28 50.0**	**-0.2**
	baz=26						
D15A	**Lincoln**	**26.40**	**93**	⇑P	**P**	**06 28 50.2**	**-0.1**
	baz=26						
I11A	**Placerville**	**26.45**	**102**	⇓P	**P**	**06 28 50.5**	**-0.2**
	baz=26						
M07A	**Soldier Meadow**	**26.47**	**110**	⇑P	**P**	**06 28 51.1**	**+0.1**
	baz=26						
N06A	**Buffalo Meadow**	**26.59**	**112**	⇓P	**P**	**06 28 51.8**	**-0.3**
	baz=26						
G13A	**Cobalt**	**26.63**	**98**	⇑P	**P**	**06 28 52.7**	**+0.3**
	baz=26,SNR=6.1						
ORV	**Oroville**	**26.63**	**116**	⇑P	**P**	**06 28 52.1**	**-0.4**
	baz=26,SNR=5.5						
H12A	**Diamond D Ranc**	**26.64**	**100**	⇓P	**P**	**06 28 52.3**	**-0.1**
	baz=26						
F14A	**Wisdom**	**26.66**	**96**	⇑P	**P**	**06 28 53.1**	**+0.4**
	baz=26						
E15A	**Deer Lodge**	**26.69**	**95**	⇑P	**P**	**06 28 52.0**	**-1.0**
	baz=26						
K10A	**MacKenzie Ranc**	**26.71**	**105**	⇓P	**P**	**06 28 53.5**	**+0.4**
	baz=27,SNR=11						
L09A	**Wilkinson Ranc**	**26.82**	**107**	⇑P	**P**	**06 28 54.7**	**+0.6**
	baz=27						
MFID	**Camas Ranch**	**26.85**	**103**	⇑P	**P**	**06 28 54.6**	**+0.2**
	baz=27						
D16A	**Dana Ranch, Ca**	**26.94**	**93**	⇓P	**P**	**06 28 54.8**	**-0.4**
	baz=27						
H13A	**Challis**	**26.95**	**99**	⇓P	**P**	**06 28 55.2**	**-0.1**
	baz=27						
G14A	**Jackson**	**26.96**	**97**	⇓P	**P**	**06 28 55.4**	**0.0**
	baz=27						
BEKR	**Beckwourth**	**26.97**	**114**	⇓P	**P**	**06 28 55.8**	**+0.2**
	baz=27						
N07B	**Gerlach**	**27.01**	**111**	⇑P	**P**	**06 28 56.0**	**+0.1**
	baz=27						
E16A	**East Helena**	**27.16**	**94**	⇑P	**P**	**06 28 57.1**	**-0.1**
	baz=27						
K11A	**Parker Ranch,**	**27.17**	**104**	⇓P	**P**	**06 28 57.5**	**+0.2**
	baz=27						
P05C	**Yuba Gap, Truc**	**27.27**	**115**	⇑P	**P**	**06 28 58.1**	**-0.1**
	baz=27						
M09A	**Marrel Ranch,**	**27.35**	**108**	⇑P	**P**	**06 28 59.1**	**+0.2**
	baz=27						
J12A	**Stokes Ranch,**	**27.35**	**102**	⇑P	**P**	**06 28 59.0**	**+0.1**
	baz=27,SNR=9.2						
H14A	**Leadore**	**27.41**	**98**	⇑P	**P**	**06 28 59.4**	**0.0**
	baz=27,SNR=6.3						
L10A	**Juniper Basin**	**27.41**	**106**	⇑P	**P**	**06 28 59.4**	**0.0**
	baz=27						
I13A	**Wildhorse Cree**	**27.45**	**100**	⇓P	**P**	**06 28 59.5**	**-0.2**
	baz=27						
N08A	**GE Springer Mi**	**27.45**	**110**	⇓P	**P**	**06 29 00.0**	**+0.2**
	baz=27						
O07A	**Toulon**	**27.52**	**112**	⇑P	**P**	**06 29 00.6**	**+0.2**
	baz=27,SNR=5.4						
HLID	**Hailey**	**27.52**	**101**	⇓P	**P**	**06 29 00.5**	**+0.1**
	baz=27						
G15A	**Dillon**	**27.55**	**97**	⇑P	**P**	**06 29 00.7**	**0.0**
	baz=27						
MCMT	**McKenzie Canyo**	**27.56**	**98**	*e*P	**P**	**06 29 01.2**	**+0.5**
LAVA	**Lava Cap Winer**	**27.62**	**116**	⇓P	**P**	**06 29 01.4**	**0.0**
	baz=28						
WCN	**Washoe City**	**27.70**	**114**	⇓P	**P**	**06 29 02.5**	**+0.4**
	baz=28						
N09A	**Rock Creek Ran**	**27.72**	**109**	⇑P	**P**	**06 29 02.7**	**+0.5**
	baz=28						
L11A	**Cat Creek Ranc**	**27.73**	**105**	⇑P	**P**	**06 29 02.6**	**+0.2**
	baz=28,SNR=6.9						
J13A	**Cove Ranch, Pi**	**27.76**	**101**	⇓P	**P**	**06 29 02.8**	**+0.2**
	baz=28						
M10A	**I.L. Ranch, Tu**	**27.76**	**107**	⇑P	**P**	**06 29 03.3**	**+0.7**
	baz=28						
O08A	**Rochester Mine**	**27.80**	**110**	⇑P	**P**	**06 29 03.6**	**+0.7**
	baz=28						
I14A	**Mackay**	**27.81**	**100**	⇑P	**P**	**06 29 03.1**	**+0.1**
	baz=28						
H15A	**Lima**	**27.81**	**98**	⇓P	**P**	**06 29 03.1**	**+0.1**
	baz=28						
K12A	**Draper Farm, C**	**27.87**	**103**	⇑P	**P**	**06 29 03.7**	**+0.1**
	baz=28						

G16A Moss Hill, Enn 27.89 96 ⇑P P 06 29 03.4 -0.2
baz=28,SNR=5.7
E18A Harlowton 28.12 92 ⇑P P 06 29 05.7 -0.1
baz=28
L12A House Creek Ra 28.15 104 ⇑P P 06 29 06.0 0.0
baz=28
J14A Carey 28.17 101 ⇑P P 06 29 06.1 -0.1
baz=28
PETK Petropavlovsk- 28.17 284 P P 06 29 07.6 +1.4
comp=Z,3.1nm,0.7s,mb4.0,baz=77,slow=13,SNR=3.3
PETK LR LR 06 40 46.8
comp=Z,270nm,18.3s,MS3.9,baz=81,slow=37
PETK Petropavlovsk- 28.17 284 P P 06 29 07.5 +1.4
PETK LR LR 06 40 46.8
M11A Holland Ranch, 28.23 106 ⇑P P 06 29 06.9 +0.1
baz=28
O09A Fish Creek Ran 28.39 110 ⇑P P 06 29 08.1 -0.1
baz=28
H16A Russell Place, 28.52 96 ⇓P P 06 29 09.5 +0.1
baz=28,SNR=5.7
F18A Big Timber 28.63 93 ⇓P P 06 29 10.2 -0.1
baz=28
M12A Wells 28.71 105 ⇑P P 06 29 11.3 +0.2
baz=28
J15A Blackfoot 28.71 99 ⇑P P 06 29 11.6 +0.6
baz=28,SNR=7.8
K14A Jones Ranch, D 28.87 102 ⇓P P 06 29 12.2 -0.3
baz=29
S05C Merced 28.92 117 ⇑P P 06 29 12.6 -0.4
baz=29
I16A Newdale 28.92 98 ⇑P P 06 29 12.6 -0.2
baz=29
ELK Elko 29.01 106 P P 06 29 14.3 +0.7
comp=Z,2.8nm,0.8s,mb4.0,baz=320,slow=8.9,SNR=12
N12A Clover Valley, 29.04 106 ⇑P P 06 29 14.1 +0.1
baz=29
H17A Grant Village 29.09 96 ⇓P P 06 29 14.7 +0.3
baz=29
NVAR Mina Array Bea 29.11 113 P P 06 29 15.4 +0.8
comp=Z,3.2nm,0.6s,mb4.2,baz=302,slow=8.9,SNR=13
K15A Arbon 29.13 101 ⇓P P 06 29 15.5 +0.7
baz=29,SNR=6.5
M13A Montello 29.15 104 ⇑P P 06 29 15.3 +0.4
baz=29,SNR=6.8
L14A Malta 29.19 102 ⇑P P 06 29 15.4 +0.1
baz=29
O11A Cowboy Ranch, 29.23 108 ⇑P P 06 29 15.7 +0.1
baz=29
RLMT Red Lodge 29.36 94 ⇑P P 06 29 16.9 +0.1
baz=29
KCC Kaiser Creek 29.44 116 ⇓P P 06 29 17.7 +0.1
baz=29
L15A Malad City 29.67 102 ⇓P P 06 29 19.3 -0.3
baz=30
MTUM Tungsten Hills 29.80 115 *e*P P 06 29 22.2 +1.5
R09A Tonopah 29.88 112 ⇑P P 06 29 20.9 -0.5
baz=30
M15A Larsen Ranch, 30.01 102 ⇓P P 06 29 22.3 -0.3
baz=30
N14A Grayback Hills 30.03 104 ⇑P P 06 29 22.9 +0.1
baz=30,SNR=8.9
HELL Mitchell Peak 30.09 116 ⇓P P 06 29 23.0 -0.4
baz=30
P12A McGill 30.10 108 ⇑P P 06 29 22.9 -0.5
baz=30
O13A Hicks Ranch, I 30.12 106 ⇑P P 06 29 23.8 +0.2
baz=30
Q11A Duckwater 30.17 110 ⇓P P 06 29 24.2 +0.2
baz=30,SNR=8.8
L16A Fish Haven 30.18 101 ⇓P P 06 29 24.2 +0.1
baz=30,SNR=7.1
S09A Goldfield 30.19 113 ⇓P P 06 29 24.0 -0.3
baz=30
R10A Warm Springs 30.24 111 ⇑P P 06 29 24.5 -0.1
baz=30
S10A Tonopah Range, 30.37 112 ⇑P P 06 29 25.5 -0.3
baz=30
Q12A Willow Creek R 30.46 108 ⇓P P 06 29 27.1 +0.6
baz=30
M16A Huntsville 30.56 102 ⇑P P 06 29 26.7 -0.6
baz=30
R11A Troy Canyon, C 30.57 110 ⇑P P 06 29 27.5 0.0
baz=30,SNR=6.9
P13A Bates Ranch, G 30.59 107 ⇓P P 06 29 27.6 0.0
baz=30,SNR=6.5
DUG Dugway 30.70 105 ⇑P P 06 29 28.4 -0.3
baz=30
BW06 Boulder Array 30.71 98 ⇑P P 06 29 28.2 -0.5
baz=30
PDAR Pinedale Array 30.71 98 P P 06 29 28.4 -0.3
comp=Z,1.5nm,0.6s,mb4.0,baz=315,slow=4.9,SNR=17
VES Vestal, Richgr 30.72 118 ⇓P P 06 29 28.4 -0.5
baz=31
Q13A Wheeler Ranch, 30.95 108 ⇓P P 06 29 30.6 -0.3
baz=31
P14A Drum Mountains 30.99 106 ⇑P P 06 29 31.4 +0.1
baz=31,SNR=5.9
R12A Pony Springs, 31.10 109 ⇓P P 06 29 32.3 +0.1
baz=31
PKM Peak Mountain 31.12 120 ⇓P P 06 29 32.7 +0.3
baz=31
ISA Isabella 31.16 117 ⇑P P 06 29 32.8 0.0
baz=31
TPNV Topopah Spring 31.29 113 ⇓P P 06 29 34.3 +0.5
baz=31,SNR=7.9
Q14A Sevier Lake (B 31.32 107 ⇓P P 06 29 34.0 -0.2
baz=31
FURC Furnace Creek, 31.34 114 ⇓P P 06 29 34.9 +0.5
baz=31,SNR=6.0
MPMC Manual Prospec 31.34 115 ⇓P P 06 29 34.5 +0.1
baz=31
O16A Springville 31.40 103 ⇓P P 06 29 34.8 0.0
baz=31
S12A Delamar Landin 31.51 110 ⇑P P 06 29 36.3 +0.5
baz=31,SNR=8.7
R13A O'Grain Ranch, 31.55 109 ⇑P P 06 29 35.7 -0.4
baz=31
T11A Corn Creek, Al 31.59 111 ⇑P P 06 29 36.7 +0.1
baz=31,SNR=12
U10A Ash Meadows, A 31.65 113 ⇑P P 06 29 37.0 -0.1
baz=32
Q15A Fillmore 31.79 106 ⇓P P 06 29 38.4 +0.1
baz=32
N18A Larsen Ranch, 31.86 100 ⇓P P 06 29 38.3 -0.5
baz=32
S13A Holt Ranch, En 32.05 109 ⇑P P 06 29 40.8 +0.2
baz=32,SNR=6.2
SHOC Shoshone 32.08 114 ⇓P P 06 29 40.1 -0.7
baz=32
ARUT Antelope Range 32.12 108 *e*P P 06 29 41.5 +0.3
O18A Roosevelt 32.17 102 ⇓P P 06 29 42.2 +0.6
baz=32,SNR=6.6
N19A John Jarvie Ra 32.19 100 ⇓P P 06 29 41.6 -0.2
baz=32
MSU Marysvale 32.25 106 *e*P P 06 29 43.9 +1.6
S14A Cedar City 32.28 108 ⇓P P 06 29 42.3 -0.3
baz=32
GSC Goldstone 32.28 115 ⇑P P 06 29 42.3 -0.4
baz=32
T13A Saint George 32.45 110 ⇑P P 06 29 44.4 +0.3
baz=32,SNR=5.8
Q16A Castle Valley 32.50 105 ⇑P P 06 29 44.9 +0.4
baz=32
V11A Goodsprings 32.56 113 ⇓P P 06 29 45.3 +0.2
baz=32
U12A Valley of Fire 32.56 111 ⇓P P 06 29 45.2 +0.1
baz=32
O19A Miners Draw (B 32.63 101 ⇑P P 06 29 45.4 -0.2
baz=32
BFSC Mount Baldy St 32.70 118 ⇑P P 06 29 46.3 0.0
baz=32
SRU San Rafael 32.71 104 P P 06 29 47.0 +0.7
SRU pmax pmax
comp=Z,15nm,1.2s,mb4.8
SRU San Rafael 32.71 104 ⇓P P 06 29 46.5 +0.2
baz=32
SRU San Rafael 32.71 104 P P 06 29 47.0 +0.6
comp=Z,15nm,1.2s,mb4.8
R16A Teasdale 32.79 106 ⇑P P 06 29 48.2 +1.2
baz=33,SNR=5.7
U13A Pakoon Wash 32.88 111 ⇓P P 06 29 48.5 +0.7
baz=33,SNR=7.7
Q18A Rafter H Ranch 32.93 103 ⇑P P 06 29 48.2 -0.1
baz=33
V12A Nelson 32.95 113 ⇑P P 06 29 48.9 +0.5
baz=33,SNR=9.4
R17A Hanksville Air 33.11 105 ⇓P P 06 29 49.9 +0.1
baz=33,SNR=5.1

S16A Weppner Ranch, 33.14 106 ⇓P P 06 29 50.3 +0.2
baz=33
T15A Red Dirt Ranch 33.25 108 ⇓P P 06 29 51.4 +0.3
baz=33,SNR=6.7
GMRC Granite Mounta 33.27 115 ⇓P P 06 29 50.7 -0.6
baz=33
U14A Mt Trumbull 33.28 110 ⇓P P 06 29 51.9 +0.6
baz=33,SNR=7.5
V13A Grand Canyon W 33.30 111 ⇓P P 06 29 51.7 +0.2
baz=33,SNR=6.1
Q19A Hogan Spring (33.50 103 ⇓P P 06 29 53.1 -0.2
baz=33,SNR=7.6
R18A Canyonlands Na 33.57 104 ⇑P P 06 29 53.2 -0.7
baz=33
S17A Black Ridge (B 33.63 106 ⇓P P 06 29 54.6 +0.2
baz=34,SNR=5.5
BELC Belle Mtn. 33.72 116 ⇑P P 06 29 54.9 -0.3
baz=34
U15A North Rim 33.74 109 ⇓P P 06 29 55.3 -0.1
baz=34
ULM Lac du Bonnet 33.79 76 P P 06 29 55.3 -0.4
comp=Z,6.2nm,1.1s,mb4.5,baz=309,slow=6.5,SNR=3.4
ULM LR LR 06 43 55.7
comp=Z,1µm,18.4s,MS4.6,baz=271,slow=37
V14A Boquillas Ranc 33.92 111 ⇓P P 06 29 56.8 -0.2
baz=34
W13A Hualapai Mount 33.93 112 ⇑P P 06 29 56.8 -0.2
baz=34
IRM Iron Mountain 34.02 115 ⇓P P 06 29 57.9 +0.1
baz=34,SNR=11
S18A Hurst Farm, Bl 34.02 105 ⇓P P 06 29 57.4 -0.5
baz=34
T17A Navajo Res., N 34.10 107 ⇑P P 06 29 58.4 -0.1
baz=34
W14A Seligman 34.26 111 ⇑P P 06 29 59.8 -0.1
baz=34
BC3 Big Chuckw Mtn 34.27 116 ⇓P P 06 29 59.7 -0.3
baz=34
V15A Kaibab Nationa 34.27 109 ⇑P P 06 30 00.4 +0.4
baz=34,SNR=6.8
X13A Yucca 34.35 113 ⇓P P 06 30 00.5 -0.2
baz=34
PDMCI Parker Dam,Lak 34.42 113 ⇑P P 06 30 01.2 -0.1
baz=34
PV01 Paradox Valley 34.47 103 *e*P P 06 30 02.1 +0.4
U17A Shonto 34.48 107 ⇑P P 06 30 01.3 -0.5
baz=34
TIXI Tiksi 34.49 327 *e*P P 06 30 00.8 -0.7
TIXI pmax pmax
comp=Z,14nm,1.4s,mb4.7
TIXI Tiksi 34.49 327 *e*P P 06 30 01.8 +0.3
comp=Z,3.1nm,0.6s,mb4.4
T18A Mexican Hat 34.50 105 ⇓P P 06 30 01.2 -0.7
baz=34
U16A Tuba City 34.57 108 ⇑P P 06 30 02.4 -0.2
baz=34
Y12C Blythe 34.66 114 ⇓P P 06 30 03.6 +0.2
baz=34,SNR=5.8
W15A Williams 34.71 110 ⇑P P 06 30 04.6 +0.8
baz=34,SNR=6.4
AGMN Agassiz Refuge 34.89 79 *e*P P 06 30 05.2 -0.1
comp=Z,15nm,1.4s,mb4.7
WUAZ Wupatki 34.92 109 ⇓P P 06 30 06.0 +0.4
baz=35
X14A Yava 34.93 112 ⇑P P 06 30 06.3 +0.6
baz=35,SNR=8.0
GLA Glamis 35.06 115 ⇓P P 06 30 06.8 0.0
baz=35
T19A Beclabito 35.18 105 ⇑P P 06 30 07.7 -0.1
baz=35,SNR=6.0
X15A Humboldt 35.26 111 ⇓P P 06 30 08.7 +0.2
baz=35,SNR=5.9
Y14A Wickenburg 35.29 112 ⇓P P 06 30 08.6 -0.2
baz=35,SNR=5.9
V18A Ganado 35.53 107 ⇓P P 06 30 10.9 0.0
baz=35
Y15A Casa Rosa Ranc 35.62 112 ⇓P P 06 30 11.6 -0.1
baz=36
X16A Lo Mia Camp, P 35.73 110 ⇓P P 06 30 13.0 +0.4
baz=36,SNR=7.7
Z14A Wintersburg 35.77 113 ⇑P P 06 30 12.4 -0.5
baz=36
113A Mohawk Valley, 35.82 114 ⇓P P 06 30 12.8 -0.5
baz=36
Y16A Circle Bar Ran 36.12 111 ⇓P P 06 30 16.1 +0.2
baz=36
X18A Snowflake 36.42 108 ⇓P P 06 30 18.9 +0.4
baz=36
Y17A Roosevelt 36.60 110 ⇑P P 06 30 20.3 +0.3
baz=36
115A Sonoran Desert 36.66 113 ⇑P P 06 30 21.0 +0.5
baz=36
214A Organ Pipe Nat 36.96 114 ⇓P P 06 30 23.2 +0.1
baz=37
Y18A Canyon Day Jun 36.96 109 ⇓P P 06 30 23.7 +0.7
baz=37,SNR=5.1
116A Eloy 37.04 112 ⇑P P 06 30 23.8 +0.1
baz=37
Y19A Nutrioso 37.23 108 ⇑P P 06 30 25.8 +0.4
baz=37
117A Oracle 37.53 111 ⇓P P 06 30 27.9 -0.1
baz=37
YAK Yakutsk 37.80 311 *e*P P 06 30 28.7 -1.1
YAK *e*S **S 06 36 17.5 -2.2**
YAK pmax pmax
comp=Z,14nm,0.9s,mb4.7
YAK pmax pmax
comp=E,4.0nm,0.9s
YAK pmax pmax
comp=N,3.0nm,1.0s
YAK smax
comp=E,154µm,16.5s
YAK MLR MLR
comp=Z,967nm,21.0s,MS4.6
YAK MLR MLR
comp=E,643nm,19.0s,MS4.6
YAK MLR MLR
comp=N,571nm,18.0s,MS4.6
118A Homack Ranch, 37.88 110 ⇓P P 06 30 31.1 +0.2
baz=38
ANMO Albuquerque 37.97 104⇑*e*P P 06 30 31.7 +0.1
217A Green Valley 38.12 112 ⇑P P 06 30 33.1 +0.2
baz=38
119A Ashpeak Ranch, 38.13 110 ⇑P P 06 30 33.0 +0.1
baz=38
218A Dragoon 38.36 111 ⇑P P 06 30 35.4 +0.5
baz=38
BNM Barren Site 38.48 105 *e*P P 06 30 36.7 +0.8
219A White Tail Can 38.75 110 ⇓P P 06 30 38.5 +0.3
baz=39,SNR=5.7
318A Bisbee 38.81 112 ⇑P P 06 30 39.1 +0.3
baz=39,SNR=5.3
YSS Yuzh-Sakhalins 39.57 284 *e*P P 06 30 40.0 -4.9
ERM Erimo 42.55 278⇑*i*P P 06 31 09.6 +0.1
HABR Khabarovsk 42.71 291 *e*P P 06 31 08.5 -2.2
HABR *e* 06 31 18.9
HABR *e* 06 33 00.0
HABR *e* 06 40 41.9
HABR *e* 06 41 07.0
HDIL Hopedale 43.44 83 *e*P P 06 31 15.9 -0.8
comp=N,28nm,0.7s,mb5.1
TXAR Lajitas Array 43.80 107 P P 06 31 20.1 +0.3
comp=N,1.9nm,0.8s,mb3.9,baz=308,slow=5.8,SNR=22
TXAR PcP PcP 06 33 05.0 -1.0
comp=N,0.2nm,0.4s,baz=205,slow=0.8,SNR=4.8
TXAR LR LR 06 48 48.0
comp=N,328nm,19.9s,MS4.2,baz=0.0,slow=35
TXAR Lajitas Array 43.80 107 P P 06 31 20.1 +0.4
TXAR 06 33 05.1
KLR Kul'dur 43.93 294 *e*P P 06 31 15.8 -4.8
KLR pmax pmax
comp=E,35nm,1.8s
KLR pmax pmax
comp=Z,64nm,1.8s,mb5.0
DAG Danmarks Havn 44.03 14⇓*i*P P 06 31 20.9 -0.1
DAG pmax pmax
comp=Z,9.0nm,0.6s,mb4.7
DAG Danmarks Havn 44.03 14⇓*i*P P 06 31 20.9 -0.1
comp=Z,8.7nm,0.6s,mb4.7
JCT Junction City 44.99 102 *e*P P 06 31 28.8 -0.4
JCT pmax pmax
comp=Z,33nm,1.3s,mb5.0
JCT Junction City 44.99 102 *e*P P 06 31 28.8 -0.4
comp=Z,33nm,1.3s,mb5.0
BLO Bloomington 45.94 83 *e*P P 06 31 36.5 -0.1
BLO pmax pmax
comp=Z,12nm,0.6s,mb5.0

BLO Bloomington 45.94 83 *e*P P 06 31 36.5 -0.2
comp=Z,12nm,0.6s,mb5.0
BOD Bodaibo 46.67 313 *e*P P 06 31 41.1 -1.1
BOD pmax pmax
comp=Z,14nm,1.3s,mb4.7
OXF Oxford 47.69 89 *e*P P 06 31 49.1 -1.3
OXF pmax pmax
comp=Z,47nm,1.0s,mb5.5
OXF Oxford 47.69 89 *e*P P 06 31 49.1 -1.3
comp=Z,46nm,1.0s,mb5.5
SWET Sewanee 49.11 86 *e*P P 06 32 00.5 -0.8
MAJO Matsushiro 49.12 277 P P 06 32 02.0 +0.6
MAJO pmax pmax
comp=Z,40nm,1.8s,mb5.2
MAJO Matsushiro 49.12 277 P P 06 32 02.0 +0.6
comp=Z,40nm,1.8s,mb5.2
MJAR Matsushiro Arr 49.12 277 P P 06 32 01.8 +0.4
comp=Z,0.8nm,0.3s,mb4.2,baz=34,slow=8.6,SNR=5.4
MJAR Matsushiro Arr 49.12 277 P P 06 32 01.8 +0.4
CN2 Changchun 50.79 292 *e*P P 06 32 13.7 -0.3
KSRS Korea Array 54.06 285 P P 06 32 39.3 +0.9
comp=Z,1.5nm,0.5s,mb4.2,baz=40,slow=7.8,SNR=6.2
ARCES ARCESS Array B 54.40 1 P P 06 32 40.0 -0.3
comp=Z,3.3nm,0.5s,mb4.5,baz=12,slow=7.2,SNR=17
TLY Talaya 55.25 313 *e*P P 06 32 47.4 +0.7
TLY *e*S **S 06 40 48.9 +19**
TLY pmax pmax
comp=Z,23nm,1.6s,mb5.0
TLY MLR MLR
comp=Z,684nm,17.0s,MS4.8
TLY Talaya 55.25 313 *e*P P 06 32 47.6 +0.9
comp=Z,26nm,1.7s,mb5.0
KRAR Krasnoyarsk 55.97 322⇑*i*P P 06 32 52.1 +0.2
KRAR pmax pmax
comp=Z,49nm,0.5s,mb5.8
ZAK Zakamensk 56.38 312 *e*P P 06 32 54.6 -0.3
ZAK pmax pmax
comp=Z,4.0nm,1.5s,mb4.2
SONM Songino Array 56.99 308 P P 06 33 00.1 +0.9
comp=Z,5.0nm,0.6s,mb4.7,baz=53,slow=6.1,SNR=22
BJI Beijing 58.26 295 P P 06 33 07.7 -0.6
BJI AMB AMB
comp=Z,11nm,0.4s,mb5.2
BJI AMB AMB
comp=Z,198nm,3.6s
BJI LR LR
comp=N,488nm,20.2s,MS4.7
BJI LR LR
comp=E,426nm,20.6s,MS4.7
BJI LR LR
comp=Z,292nm,20.9s,MS4.4
HHC Hu-ho-hao-te 59.92 299 *e*P P 06 33 21.0 +1.2
HHC AP pP 06 33 25.4 +0.9
HHC XP sP 06 33 28.3 +2.0
HHC PCP PcP 06 34 07.4 +1.4
HHC PP PP 06 35 34.2 +2.6
HHC SCP ScP 06 38 05.7 -0.5
HHC PCS PcS 06 38 08.6 +0.4
HHC S **S 06 41 31.0 -0.1**
HHC SCS ScS 06 43 07.5 -1.9
HHC SS SS 06 45 27.9 +1.2
HHC AMB AMB
comp=Z,15nm,1.0s,mb5.0
HHC AMB AMB
comp=Z,110nm,5.4s
HHC LR LR
comp=N,410nm,14.5s,MS4.8
HHC LR LR
comp=E,269nm,16.9s,MS4.8
HHC LR LR
comp=Z,527nm,15.0s,MS4.8
ZALV Zalesovo Beam 60.34 325 P P 06 33 22.8 +0.3
comp=Z,7.0nm,0.7s,mb4.8,baz=33,slow=6.9,SNR=24
NB2 NORSAR Subarra 62.28 9 P P 06 33 35.4 0.0
comp=Z,7.9nm,0.8s,mb4.9,baz=352,slow=6.9
NOA NORSAR Array B 62.28 9 P P 06 33 35.8 +0.3
comp=Z,4.3nm,1.0s,mb4.5,baz=350,slow=6.7,SNR=6.1
ARU Arti 64.70 341*c i*P P 06 33 51.0 -0.5
ARU *e* 06 36 10.2
ARU *e*S **S 06 42 29.8 -1.0**
ARU pmax pmax
comp=Z,19nm,1.7s,mb4.8
ARU Arti 64.70 341 *e*P P 06 33 51.3 -0.3
comp=Z,5.0nm,0.8s,mb4.6
KURK Kurchatov 65.07 327 P P 06 33 54.7 +0.7
comp=Z,3.9nm,0.8s,mb4.5,baz=31,slow=6.6,SNR=11
KURK Kurchatov 65.07 327⇑*e*P P 06 33 53.4 -0.6
KURK pmax pmax
comp=Z,14nm,1.8s,mb4.7
KURK Kurchatov 65.07 327 *e*P P 06 33 54.2 +0.2
comp=Z,9.7nm,0.9s,mb4.8
BRVK Borovoye 65.30 333 *e*P P 06 33 55.7 +0.2
BRVK pmax pmax
comp=Z,15nm,0.8s,mb5.1
BRVK Borovoye 65.30 333 *e*P P 06 33 55.7 +0.2
comp=Z,15nm,0.8s,mb5.1
BVAR Borovoye Array 65.31 333 P P 06 33 55.5 0.0
comp=Z,5.3nm,0.7s,mb4.7,baz=36,slow=6.0,SNR=22
GTA Gaotai 66.56 306 *e*P P 06 34 03.7 -0.1
GTA AP pP 06 34 07.5 -1.0
GTA S S 06 42 56.1 +2.1
GTA XS sS 06 43 03.9 +2.1
GTA AMB AMB
comp=Z,6.0nm,1.7s,mb4.3
GTA AMB AMB
comp=Z,121nm,3.8s
GTA LR LR
comp=N,512nm,16.8s,MS5.0
GTA LR LR
comp=E,690nm,16.5s,MS5.0
GTA LR LR
comp=Z,337nm,16.2s,MS4.6
XAN Xi'an 66.56 296 P P 06 34 03.4 -0.5
XAN PP PP 06 36 29.5 -0.5
XAN S S 06 42 54.4 +0.3
XAN SS SS 06 47 12.2 +1.6
XAN AMB AMB
comp=Z,2.0nm,1.0s,mb4.1
XAN LR LR
comp=N,192nm,19.0s,MS4.5
XAN LR LR
comp=E,189nm,21.3s,MS4.5
XAN LR LR
comp=Z,950nm,19.1s,MS5.0
WHN Wuhan 66.56 290 *e*P P 06 34 04.0 0.0
MK31 Makanchi Array 67.30 322 *e*P P 06 34 08.6 +0.2
MKAR Makanchi Array 67.30 322 P P 06 34 08.3 -0.1
comp=Z,1.9nm,0.6s,mb4.3,baz=43,slow=7.3,SNR=17
MKAR LR LR 07 08 28.1
comp=Z,235nm,18.0s,MS4.5,baz=203,slow=40
MKAR Makanchi Array 67.30 322 P P 06 34 08.3 -0.1
MKAR LR LR 07 08 28.1
LZH Lanzhou 67.39 301 *e*P P 06 34 10.0 +0.9
LZH AP pP 06 34 14.8 +0.9
LZH XP sP 06 34 17.2 +1.5
LZH *e*PP PP 06 36 40.1 +2.9
LZH AMB AMB
comp=Z,22nm,1.4s,mb5.0
LZH AMB AMB
comp=Z,129nm,6.8s
LZH LR LR
comp=E,221nm,16.0s
LZH LR LR
comp=Z,276nm,19.2s,MS4.5
LZH Lanzhou 67.39 301 *e*P P 06 34 10.0 +0.9
LZH *PP pP 06 34 14.8 +0.9
LZH *SP sP 06 34 17.2 +1.5
LZH *e* 06 36 40.1
LZH pmax pmax
comp=Z,22nm,1.4s,mb5.0
LZH MLR MLR
comp=Z,280nm,19.2s,MS4.5
LZH Lanzhou 67.39 301 *e*P P 06 34 10.0 +0.9
comp=Z,22nm,1.4s,mb5.0
LZH pP pP 06 34 14.8 +0.9
LZH sP sP 06 34 17.2 +1.5
LZH *e*PP PP 06 36 40.1 +2.9
LZH LR LR
comp=Z,280nm,19.2s,MS4.5
WMQ Urumqi 67.92 317 P P 06 34 15.0 +2.7
WMQ AP pP 06 34 19.5 +2.4
WMQ XP sP 06 34 22.0 +3.2
WMQ PCP PcP 06 34 41.2 +2.5
WMQ PP PP 06 36 47.0 +5.4
WMQ AMB AMB

	comp=Z,5.0nm,1.2s,mb4.4						
OBN	Obninsk	68.61	354	⇓iP	P	06 34 16.7	+0.2
OBN				e		06 34 37.1	
OBN				pmax	pmax		
	comp=Z,7.0nm,0.6s,mb4.8						
AKTK	Aktyubinsk	70.51	340	P	P	06 34 28.1	-0.2
AKTO	Aktyubinsk	70.51	340	P	P	06 34 28.1	-0.2
	comp=Z,3.1nm,0.7s,mb4.3,baz=29,slow=5.1,SNR=7.7						
CD2	Chengdu	71.64	298	eP	P	06 34 36.6	+1.1
CD2				AP	pP	06 34 42.1	+1.8
CD2				XP	sP	06 34 44.6	+2.6
CD2				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.9						
CD2				AMB	AMB		
	comp=Z,30nm,5.2s						
CLL	Collm	72.07	9	epP	pP	06 34 45.0	+2.5
CLL				e(sP)	sP	06 34 49.0	+4.8
CLL				LmH		07 12 00.0	
	comp=N,200nm,19.0s						
CLL				LmH		07 12 00.0	
	comp=E,100nm,20.0s						
BRG	Berggiesshubel	72.58	9	eP	P	06 34 42.6	+1.8
BRG				pmax	pmax		
	comp=Z,4.0nm,1.1s,mb4.3						
BRG	Berggiesshubel	72.58	9	eP	P	06 34 42.0	+1.2
	comp=Z,38nm,2.0s,mb5.0						
BRG	Berggiesshubel	72.58	9	eP	P	06 34 42.6	+1.8
	comp=Z,6.0nm,1.1s,mb4.4						
WERD	Werda	72.86	10	eP	P	06 34 42.3	-0.1
	comp=Z,38nm,2.3s,mb4.9						
TANN	Tannenbergstha	72.91	10	eP	P	06 34 42.3	-0.4
	comp=Z,7.0nm,1.3s,mb4.4						
GUNZ	Gunzen	72.94	10	eP	P	06 34 44.4	+1.5
	comp=Z,20nm,1.9s,mb4.7						
TKM2	Tokmak 2	72.95	325	P	P	06 34 43.2	+0.1
TKM2				pmax	pmax		
	comp=Z,6.0nm,0.4s,mb4.9						
WERN	Wernitzgruen	73.02	10	eP	P	06 34 44.4	+1.0
	comp=Z,19nm,1.6s,mb4.8						
UPC	Upice	73.11	7	eP	P	06 34 44.4	+0.5
DPC	Dobruska-Polom	73.28	7	eP	P	06 34 45.3	+0.4
DPC				epP	pP	06 34 52.4	+2.7
AKASG	Malin Array Be	73.29	359	P	P	06 34 44.3	-0.6
	comp=Z,1.4nm,0.5s,mb4.1,baz=0.4,slow=6.0,SNR=7.2						
AKASG	Malin Array Be	73.29	359	i P	P	06 34 44.2	-0.8
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.5s						
KIEV	Kiev	73.29	359	eP	P	06 34 44.5	-0.5
KIEV				pmax	pmax		
	comp=Z,4.0nm,0.5s,mb4.6						
KIEV	Kiev	73.29	359	eP	P	06 34 44.5	-0.5
	comp=Z,3.7nm,0.5s,mb4.6						
GRA1	Grafenberg Arr	73.50	11	eP	P	06 34 47.4	+1.2
	comp=Z,6.0nm,0.8s,mb4.6						
GRF	Grafenberg Arr	73.50	11	eP	P	06 34 47.4	+1.2
GRF				pmax	pmax		
	comp=Z,6.0nm,0.8s,mb4.6						
GRF	Grafenberg Arr	73.50	11	eP	P	06 34 47.4	+1.2
GRF				pmax	pmax		
	comp=Z,6.0nm,0.8s,mb4.6						
GRF	Grafenberg Arr	73.50	11	eP	P	06 34 47.4	+1.2
	comp=Z,6.0nm,0.8s,mb4.6						
PPT	Papeete	73.70	177	eLR	LR	06 57 31.7	
	comp=Z,160nm,22.0s,baz=347						
KHC	Kasperske Hory	74.28	9	⇑iP	P	06 34 50.7	-0.1
KHC	Kasperske Hory	74.28	9	eP	P	06 34 52.3	+1.5
KHC				epP	pP	06 34 59.2	+3.6
GERES	GERESS Array B	74.57	9	P	P	06 34 52.6	+0.1
	comp=Z,0.6nm,0.5s,mb3.8,baz=359,slow=5.3,SNR=4.6						
LOR	Lormes	74.93	16	eP	P	06 34 54.1	-0.5
	comp=Z,18nm,1.0s,mb4.7						
LOR	Lormes	74.93	16	eP	P	06 34 54.1	-0.5
LOR				pmax	pmax		
	comp=Z,9.0nm,1.0s,mb4.7						
LOR	Lormes	74.93	16	eP	P	06 34 54.1	-0.5
	comp=Z,8.9nm,1.0s,mb4.7						
SSF	Saint Saulge	75.08	16	eP	P	06 34 55.0	-0.5
	comp=Z,18nm,1.0s,mb4.6						
SSF	Saint Saulge	75.08	16	eP	P	06 34 55.0	-0.5
SSF				pmax	pmax		
	comp=Z,9.0nm,1.0s,mb4.7						
SSF	Saint Saulge	75.08	16	eP	P	06 34 55.0	-0.5
	comp=Z,8.8nm,1.0s,mb4.6						
AVF	Avril sur Loir	75.32	17	eP	P	06 34 56.3	-0.6
TCF	Toulx Ste Croi	75.62	17	eP	P	06 34 59.1	+0.5
	comp=Z,51nm,1.5s,mb4.9						
TCF	Toulx Ste Croi	75.62	17	eP	P	06 34 59.1	+0.5
TCF				pmax	pmax		
	comp=Z,26nm,1.5s,mb4.9						
TCF	Toulx Ste Croi	75.62	17	eP	P	06 34 59.1	+0.5
	comp=Z,26nm,1.5s,mb4.9						
CONA	Conrad Observa	75.66	8	⇑iP	P	06 34 51.9	-6.9
	comp=Z,5.2nm,1.0s,mb4.4						
CSNA	Conrad Observa	75.66	8	⇑iP	P	06 34 52.0	-6.8
	comp=Z,4.8nm,0.8s,mb4.5						
FETA	Feichten	76.08	11	⇓eP	P	06 34 58.1	-3.2
	comp=Z,8.6nm,1.2s,mb4.5						
KBA	Koelnbreinsper	76.29	10	⇑iP	P	06 35 03.6	+1.2
	comp=Z,10nm,1.2s,mb4.6						
SOKA	Soboth	76.84	8	⇓iP	P	06 35 06.6	+1.1
KMI	Kunming	76.92	296	P	P	06 35 07.6	+1.3
KMI				AP	pP	06 35 11.3	+0.2
KMI				XP	sP	06 35 13.2	+0.3
KMI				S	S	06 44 53.6	-0.1
KMI				SS	SS	06 49 51.8	+2.3
KMI				AMB	AMB		
	comp=Z,8.0nm,0.8s,mb4.7						
KMI				AMB	AMB		
	comp=Z,90nm,4.1s						
KMI				LR	LR		
	comp=N,320nm,14.6s,MS4.9						
KMI				LR	LR		
	comp=E,290nm,17.1s,MS4.9						
KMI				LR	LR		
	comp=Z,213nm,14.6s,MS4.6						
KMI	Kunming	76.92	296	P	P	06 35 07.6	+1.3
KMI				*PP	pP	06 35 11.3	+0.2
KMI				*SP	sP	06 35 13.2	+0.3
KMI				S	S	06 44 53.6	-0.1
KMI				SS	SS	06 49 51.8	+2.3
KMI				SSS		06 53 08.0	
KMI				pmax	pmax		
	comp=Z,8.0nm,0.8s,mb4.7						
KMI				MLR	MLR		
	comp=Z,210nm,14.6s,MS4.6						
KMI	Kunming	76.92	296	P	P	06 35 07.6	+1.3
	comp=Z,8.0nm,0.8s,mb4.7						
KMI				pP	pP	06 35 11.3	+0.2
KMI				sP	sP	06 35 13.2	+0.3
KMI				S	S	06 44 53.6	-0.1
KMI				sS	sS	06 44 59.2	-2.4
KMI				SS	SS	06 49 51.8	+2.3
KMI				SSS		06 53 08.0	
KMI				LR	LR		
	comp=Z,210nm,14.6s,MS4.6						
LPG	La Plagne	77.09	14	eP	P	06 35 07.6	+0.7
QIZ	Qiongzhong	78.26	287	P	P	06 35 11.8	-2.1
QIZ				S	S	06 45 09.1	+0.8
QIZ				LR	LR		
	comp=E,253nm,20.0s						
QIZ				LR	LR		
	comp=Z,254nm,17.4s,MS4.6						
SDV	Santo Domingo	78.42	91	LR	LR	07 15 23.2	
	comp=Z,205nm,19.1s,MS4.5,baz=306,slow=40						
ANN	Anapa	78.83	352	eP	P	06 35 12.1	-4.5
ANN				pmax	pmax		
	comp=Z,49nm,1.2s,mb5.3						
KIV	Kislovodsk	79.18	349	eP	P	06 35 18.5	-0.1
KIV				eS	S	06 45 16.5	-1.0
KIV				pmax	pmax		
	comp=Z,6.0nm,0.8s,mb4.6						
TBI	Tubuai	79.45	177	eLR	LR	07 00 06.7	
	comp=Z,158nm,23.5s,baz=355						
ESDC	Sonseca Array	80.79	24	P	P	06 35 27.9	+0.6
	comp=Z,0.3nm,0.4s,mb3.6,baz=339,slow=4.9,SNR=4.3						
PMG	Port Moresby	81.91	240	⇑iP	P	06 35 32.7	-0.8
CMAR	Chiang Mai Arr	84.40	295	P	P	06 35 45.1	-1.3
	comp=Z,1.5nm,0.5s,mb4.3,baz=7.7,slow=5.2,SNR=5.3						
CMAR				LR	LR	07 19 27.6	
	comp=Z,133nm,18.3s,MS4.4,baz=184,slow=40						
CMAR	Chiang Mai Arr	84.40	295	i P	P	06 35 46.4	-0.1
CMAR				pmax	pmax		
	comp=Z,2.0nm,0.5s						
QSPA	South Pole Qui	146.15	180	PKPbc	PKPbc	06 42 51.4	-1.0
	comp=Z,6.3nm,0.8s,baz=50,slow=1.9,SNR=19						
BOSA	Boshof	152.24	3	PKPbc	PKPbc	06 43 08.8	-0.6
	comp=Z,2.6nm,0.8s,baz=0.0,slow=1.0,SNR=3.4						

*NIED **10** 06:23:00, 3340N×13800E, h11km, Mw3.5 Best double couple: $M_0$2.18000×10^{14} NP1:ϕ_s111.00000°, δ56.00000°, λ135.00000°. NP2:ϕ_s231.00000°, δ54.00000°, λ44.00000°.*
*ISCJB **10** 06:23:56.2±0.8, 3346N±005×13802E±004, h51km±10km, Error ellipse: s-maj=8.4km s-min=5.5km az=3.9*
*JMA **10** 06:23:56.3±0.1, 3345N×13803E, h48km±1km, M3.5*
ISC 10 06:23:56.9±0.8**, 3345N**±005×**13802E**±004**, h43**km±16km**, n16,** σ**0^{s}68**/29**, Southeast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TK01	Tokai 1	0.48	311	P	Pn	06 24 07.1	-0.3
TK01				eS	Sn	06 24 15.0	+0.1
TK02	Tokai 2	0.54	336	P	Pn	06 24 08.0	-0.2
TK02				eS	Sn	06 24 17.0	+0.7
TK03	Tokai 3	0.71	356	P	Pn	06 24 10.3	-0.2
TK03				eS	Sn	06 24 20.6	+0.2
TK04	Tokai 4	0.94	353	P	Pn	06 24 13.6	0.0
TK04				eS	Sn	06 24 26.3	+0.5
JKO	Kozu shima	1.18	51	eS	Sn	06 24 31.6	-0.2
JSG	Sagara	1.23	6	P	Pn	06 24 17.5	0.0
JKKG	Kakegawa	1.33	358	P	Pn	06 24 18.8	-0.2
JKKG				eS	Sn	06 24 34.6	-0.9
JAA	Atsumi	1.38	328	P	Pn	06 24 19.8	+0.1
JAA				eS	Sn	06 24 35.6	-1.2
JIE	Ise	1.44	311	P	Pn	06 24 21.0	+0.5
JIE				eS	Sn	06 24 37.5	-0.7
JIZS	Izushimoda	1.45	29	P	Pn	06 24 20.2	-0.4
JIZS				eS	Sn	06 24 36.8	-1.6
JHJ2	Mitsune	1.54	102	P	Pn	06 24 22.0	+0.2
JHJ2				eS	Sn	06 24 40.5	-0.1
SHZ3	Shizuoka 3	1.62	5	P	Pn	06 24 22.6	-0.3
SHZ3				eS	Sn	06 24 42.8	+0.3
JKN2	Miekihoku	1.65	299	P	Pn	06 24 24.3	+0.9
JKN2				eS	Sn	06 24 43.4	0.0
TSUJ	Tsu 2	1.83	314	P	Pn	06 24 26.6	+0.8
TSUJ				eS	Sn	06 24 47.3	-0.4
JWZ	Kozaga	1.93	273	eS	Sn	06 24 49.5	-0.7
MAT	Matsushiro	3.09	3	P	Pn	06 24 44.2	+1.1
MAT				eS	Sn	06 25 20.7	+2.0

*IDC **10** 06:25:17.1±2.0, 1694S×16889E, h0km, mb3.8/4, mb1 4.1/4, mb1mx3.9/15, mbtmp3.8/4, MS3.0/1, Ms1 3.0/1, ms1mx2.6/21, Error ellipse: s-maj=131.5km s-min=32.3km az=152.0*
*ISCJB **10** 06:25:19.4±1.6, 180S±02×1692E±03, h33km, mb3.9/4, Error ellipse: s-maj=44.2km s-min=14.1km az=30.8*
ISC 10 06:25:21.2±1.6**, 180S**±02×**1693E**±03**, h35**km**, n6,** σ**0^{s}87**/6**, mb3.9**/4**, Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
DZM	Mont Dzumac	4.87	213	eP	Pn	06 26 38.2	+6.3
DZM				eS	Sn	06 27 27.0	-0.1
AFI	Afiamalu	18.67	80	LR	LR	06 35 16.4	
	comp=Z,42nm,18.6s,baz=261,slow=32						
STKA	Stephens Creek	28.56	236	P	P	06 31 17.8	+4.0
	1.4nm,0.7s,mb3.8,baz=41,slow=9.3,SNR=2.1						
WRA	Warramunga Arr	33.05	261	P	P	06 31 53.0	-0.7
	0.5nm,0.7s,mb3.5,baz=91,slow=9.6,SNR=6.0						
ASAR	Alice Springs	33.48	254	P	P	06 31 57.8	+0.5
	1.6nm,0.7s,mb4.0,baz=80,slow=8.2,SNR=25						
NVAR	Mina Array Bea	87.94	49	P	P	06 38 07.5	-0.1
	1.1nm,0.6s,mb4.2,baz=218,slow=11,SNR=4.1						

*IDC **10** 06:33:52.0±5.0, 38.18N×7326E, h85km±43km, mb3.8/8, mb1 4.0/13, mb1mx3.8/26, mbtmp3.9/13, Error ellipse: s-maj=32.2km s-min=17.8km az=20.0*
*ISCJB **10** 06:33:52.9±0.5, 38.16N±003×7349E±007, h130km±8km, mb3.9/8, Error ellipse: s-maj=10.0km s-min=3.8km az=164.7*
*BJI **10** 06:33:53.5, 3830N×7337E, h137km, mb4.5*
*NEIC **10** 06:33:59.9±4.2, 3875N×7328E, h129km±21km, mb4.0/1, Error ellipse: s-maj=48.9km s-min=15.6km az=183.0*
*NNC **10** 06:34:00.5±6.6, 3870N×7301E, h132km±72km, mb3.3, mpv3.8, Error ellipse: s-maj=59.0km s-min=27.6km az=5.0*
ISC 10 06:33:52.8±0.5**, 3813N**±003×**7347E**±008**, h107**km±7km**, n62,** σ**1^{s}39**/88**, mb4.0**/8**, 6C-7D, Tajikistan-Xinjiang border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KSH	Kashi	2.40	54	⇓iP	Pn	06 34 36.2	+5.5
KSH				S	Sn	06 35 03.8	+4.0
KSH				Smax			
	comp=N,2μm,0.4s						
KSH				Smax			
	comp=E,2μm,0.4s						
AML	Almayashu	4.00	2	P	Pn	06 34 53.0	+1.0
	SNR=328						
AML	Almayashu	4.00	2	ePn	Pn	06 34 52.6	+0.6
AML				eSn	Sn	06 35 35.9	-2.0
UCH	Uchtor	4.17	11	P	Pn	06 34 56.2	+1.9
	SNR=226						
UCH	Uchtor	4.17	11	ePn	Pn	06 34 55.9	+1.6
UCH				eSn	Sn	06 35 39.3	-2.7
CHCP	Chirah Chowk	4.47	182	⇓P	Pn	06 35 04.6	+6.2
CEP	Cherat	4.48	197	⇓P	Pn	06 35 03.7	+5.2
EKS2	Erkin-Say	4.53	3	P	Pn	06 35 00.6	+1.4
	SNR=102						
EKS2	Erkin-Say	4.53	3	ePn	Pn	06 34 58.4	-0.8
EKS2				eSn	Sn	06 35 45.4	-5.3
AAK	Ala-Archa	4.56	10	P	Pn	06 35 01.9	+2.2
	SNR=34						
KBK	Karagaybulak	4.66	14	P	Pn	06 35 04.0	+3.1
	SNR=14						
TKM2	Tokmak 2	5.05	18	P	Pn	06 35 07.8	+1.6
	comp=E,9.2nm,0.6s						
TKM2				⇓S	Sn	06 36 03.1	-0.2
	comp=E,31nm,0.8s						
TKM2	Tokmak 2	5.05	18	P	Pn	06 35 08.4	+2.2
	SNR=12						
TKM2	Tokmak 2	5.05	18	ePn	Pn	06 35 07.1	+0.9
USP	Ospenovka	5.19	8	P	Pn	06 35 10.5	+2.4
	SNR=17						
KK31	Karatay Array	5.45	337	⇓P	Pn	06 35 11.1	-0.5
	comp=E,2.6nm,0.2s,baz=149,slow=12,SNR=385						
KK31				S	Sn	06 36 07.2	-5.8
	comp=E,75nm,0.5s,baz=155,slow=22,SNR=23						
THW	Thamme Wali	5.51	195	P	Pn	06 35 16.3	+3.9
JMU	Jammu	5.53	167	eS	Sn	06 36 15.0	0.0
THN	Thein Dam	5.97	161	eP	Pn	06 35 22.9	+4.1
THN				eS	Sn	06 36 30.4	+4.6
BHK	Bhakra	7.12	159	ex	x	06 36 57.6	
SDNR	Sundarnagar	7.21	155	eP	Pn	06 35 38.0	+2.4
SDNR				ex	x	06 36 41.0	
SMLA	Simla	7.62	155	i P	Pn	06 35 45.6	+4.5
SMLA				i S	Sn	06 37 04.2	-1.7
NDI	New Delhi	9.93	161	eP	Pn	06 36 14.0	+1.5
NDI				ex	x	06 37 57.0	
KHET	Khetri	10.22	168	eP	Pn	06 36 17.2	+0.8
KHET				eS	Sn	06 38 05.3	-3.7
KHET				AML	AML	06 38 10.8	
	comp=E,71nm,0.4s						
KHET				AML	AML	06 38 11.1	
	comp=N,46nm,0.3s						
PTH	Pithoragarh	10.23	145	eP	Pn	06 36 18.0	+1.4
PTH				eP		06 36 18.2	
PTH				eS	Sn	06 38 07.0	-2.3
PTH				eS	Sn	06 38 07.2	-2.1
SONA	Sohna	10.31	162	eP	Pn	06 36 19.8	+2.1
SONA				eS	Sn	06 38 06.8	-4.4
SONA				AML	AML	06 38 13.3	
	comp=N,49nm,0.2s						
SONA				AML	AML	06 38 13.4	
	comp=E,88nm,0.6s						
MK31	Makanchi Array	10.83	34	⇓P	Pn	06 36 27.0	+2.5
	comp=E,1.1nm,0.5s,baz=218,slow=12,SNR=7.5						
MKAR	Makanchi Array	10.83	34	P	Pn	06 36 24.9	+0.4
	comp=E,0.2nm,0.3s,baz=199,slow=13,SNR=4.8						
AJM	Ajmer	11.66	175	ex	Pn	06 36 34.0	-1.8
AJM				eS	Sn	06 38 39.0	-5.0
KURBB	Kurchatov Arra	13.00	14	⇑P	Pn	06 36 59.9	+6.7
	comp=E,1.8nm,0.7s						
DANN	Dangsing	13.00	136	eP	Pn	06 36 53.0	-0.5
	comp=E,88nm,0.4s						
DANN				eS	Sn	06 39 09.5	-7.1
KURK	Kurchatov	13.11	15	P	Pn	06 36 51.7	-2.9
	comp=E,0.1nm,0.3s,baz=204,slow=12,SNR=4.2						
KURK	Kurchatov	13.11	15	P	Pn	06 36 51.7	-2.9
KOLN	Koldanda	13.37	138	eP	Pn	06 36 58.0	-0.3
	comp=E,34nm,0.3s						
KOLN				eS	Sn	06 39 18.3	-7.2
GKN	Gorkha	13.76	134	eP	Pn	06 37 03.0	-0.3
	comp=E,147nm,0.4s						
GKN				eS	Sn	06 39 26.2	-8.7
KKN	Kakani	14.29	133	eP	Pn	06 37 09.6	-0.6
	comp=E,103nm,0.5s						
KKN				eS	Sn	06 39 38.1	-10
DMN	Daman	14.33	134	eP	Pn	06 37 09.9	-0.8
	comp=E,33nm,0.6s						
DMN				eS	Sn	06 39 39.8	-8.8
PKIN	Phulchoki	14.52	133	eP	Pn	06 37 13.0	-0.1
PKI	Pulchoki	14.53	133	eP	Pn	06 37 13.0	-0.2
	comp=E,69nm,0.6s						
PKI				eS	Sn	06 39 45.0	-8.5
GUN	Gumba	14.56	131	eP	Pn	06 37 12.7	-0.8
	comp=E,39nm,0.4s						
VOSK	Vostochnaya	14.70	354	⇑P	Pn	06 37 13.9	-1.2
	comp=E,4.5nm,0.7s						
AB31	Akbulak array	14.78	323	⇑P	Pn	06 37 13.2	-3.0
	comp=E,3.6nm,0.5s,baz=131,slow=12,SNR=87						
AB31				⇓S	Sn	06 39 44.2	-15
	comp=E,4.5nm,0.5s,baz=144,slow=19,SNR=15						
JIRN	Jiri	14.93	131	eP	Pn	06 37 18.1	-0.1
	comp=E,52nm,0.5s						
JIRN				eS	Sn	06 39 53.9	-9.1
BVA0	Borovoye Array	15.05	353	⇑P	Pn	06 37 20.3	+0.7
	comp=E,1.7nm,0.5s,baz=166,slow=12,SNR=29						
BVAR	Borovoye Array	15.05	353	P	Pn	06 37 18.4	-1.2
	comp=E,0.5nm,0.3s,baz=152,slow=9.8,SNR=5.5						
BVAR				S	S	06 39 55.7	-20
	comp=E,0.1nm,0.3s,baz=168,slow=23,SNR=4.9						
RAMN	Ramite	15.70	131	eP	Pn	06 37 27.5	-0.4
	comp=E,62nm,0.6s						
RAMN				eS	S	06 40 10.9	-18
TAPN	Taplejung	16.08	128	eP	Pn	06 37 32.1	-0.5
	comp=E,22nm,0.4s						
TAPN				eS	S	06 40 20.2	-17
ODAN	Odare	16.23	130	eP	Pn	06 37 34.5	-0.1
	comp=E,23nm,0.4s						
AKTK	Aktyubinsk	16.50	323	P	Pn	06 37 35.9	-1.8
AKTK				S	S	06 40 24.8	-21
AKTO	Aktyubinsk	16.50	323	⇑P	Pn	06 37 37.0	-0.6
	comp=E,1.0nm,0.7s						
AKTO				⇑S	S	06 40 27.1	-18
	comp=E,1.5nm,0.7s						
AKTO	Aktyubinsk	16.50	323	P	Pn	06 37 35.9	-1.8
	comp=E,1.9nm,0.3s,baz=117,slow=12,SNR=17						
AKTO				S	S	06 40 24.8	-21
	comp=E,0.9nm,0.3s,baz=167,slow=23,SNR=9.8						
ZALV	Zalesovo Beam	17.64	23	P	Pn	06 37 51.3	-0.1
	comp=E,8.5nm,0.3s,baz=215,slow=11,SNR=87						
ARU	Arti	20.83	336	eP	P	06 38 25.4	-0.1
	comp=E,4.7nm,0.6s						
SONM	Songino Array	25.80	57	P	P	06 39 17.5	+3.9
	comp=E,2.2nm,0.7s,mb3.7,baz=260,slow=10,SNR=5.2						
AKASG	Malin Array Be	33.51	307	P	P	06 40 21.9	+0.1
	comp=E,0.9nm,0.4s,mb4.0,baz=79,slow=8.1,SNR=5.7						
ARCES	ARCESS Array B	40.42	336	P	P	06 41 21.1	+1.1
	comp=E,4.5nm,0.5s,mb4.5,baz=109,slow=8.7,SNR=31						
NB2	NORSAR Subarra	44.29	322	P	P	06 41 51.5	+0.1
	comp=Z,1.7nm,0.7s,mb3.9,baz=93,slow=7.9						
NOA	NORSAR Array B	44.29	322	P	P	06 41 51.4	0.0
	comp=Z,1.5nm,0.7s,mb3.8,baz=93,slow=7.6,SNR=5.1						
TORD	Torodi Ar. Bea	67.71	269	P	P	06 44 39.8	+0.9
	comp=Z,2.1nm,0.5s,mb4.2,baz=48,slow=5.8,SNR=40						
YKA	Yellowknife Ar	79.51	4	P	P	06 45 47.6	+0.5
	comp=Z,2.6nm,0.6s,mb4.3,baz=356,slow=5.4,SNR=7.1						
WRA	Warramunga Arr	81.22	124	P	P	06 45 59.2	+2.3
	comp=Z,1.7nm,0.7s,mb4.0,baz=325,slow=4.9,SNR=29						
WRA				pP	pP	06 46 28.4	+4.0
	comp=Z,0.7nm,0.8s,baz=313,slow=5.4,SNR=4.8						
ASAR	Alice Springs	83.61	127	P	P	06 46 11.9	+2.7
	comp=Z,0.3nm,0.6s,mb3.3,baz=320,slow=4.7,SNR=6.6						

*IDC **10** 06:47:21.0±1.5, 1766S×16746E, h0km, mb4.4/7, mb1 4.5/7, mb1mx4.2/17, mbtmp4.4/7, MS3.5/3, Ms1 3.5/3, ms1mx3.2/24, Error ellipse: s-maj=32.7km s-min=29.0km az=101.0*
*ISCJB **10** 06:47:24.5±1.1, 1787S±005×1674E±01, h33km, mb4.4/9, MS3.4/3, Error ellipse: s-maj=20.6km s-min=6.9km az=174.4*
*NEIC **10** 06:47:25.0±0.8, 1772S×16760E, h35km, mb4.6/4, Error ellipse: s-maj=14.9km s-min=13.8km az=97.0*
ISC 10 06:47:26.0±4.6**, 1785S**±006×**1674E**±01**, h32**km±35km**, n20,** σ**0^{s}77**/22**, mb4.4**/9**, MS3.4**/3**, Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
DZM	Mont Dzumac	4.30	192	eP	Pn	06 48 28.7	-0.6
DZM				eS	Sn	06 49 17.5	-1.0
DZM	Mont Dzumac	4.30	192	ePn	Pn	06 48 28.9	-0.4
DZM				eSn	Sn	06 49 18.5	+0.1
NOUC	Port Laguerre	4.36	194	eP	Pn	06 48 30.2	0.0
NOUC				eS	Sn	06 49 19.5	-0.4
CTA	Charters Tower	20.15	260	P	P	06 51 58.0	+0.2
	5.7nm,1.1s,baz=77,slow=10.0,SNR=5.8						
CTA				LR	LR	06 58 35.3	
	comp=Z,133nm,20.3s,MS3.3,baz=54,slow=33						
CTAO	Charters Tower	20.15	260	eP	P	06 51 57.9	+0.2
PMG	Port Moresby	21.40	290	eP	P	06 52 11.1	-0.2
	8.6nm,1.0s,mb4.0						
URZ	Urewera	22.03	159	P	P	06 52 18.9	+1.1
	12nm,0.8s,mb4.4,baz=324,slow=9.3,SNR=5.4						
COEN	Coen	23.64	276	eP	P	06 52 34.8	0.0
	20nm,0.3s,mb5.0						
CAN	Canberra	23.90	220	eP	P	06 52 37.3	+0.4
STKA	Stephens Creek	27.20	234	eP	P	06 53 08.3	+1.4
	5.0nm,0.8s,mb4.1						
STKA	Stephens Creek	27.20	234	P	P	06 53 08.2	+1.2
	7.2nm,0.8s,mb4.2,baz=41,slow=8.2,SNR=9.4						
STKA				LR	LR	07 03 15.5	
	comp=Z,97nm,19.6s,MS3.4,baz=23,slow=35						
STKA	Stephens Creek	27.20	234	eP	P	06 53 08.1	+1.1
	16nm,1.3s,mb4.4						
WB2	Warramunga Arr	31.34	261	eP	P	06 53 43.5	-0.3
WRA	Warramunga Arr	31.35	261	P	P	06 53 43.2	-0.8
	1.8nm,0.8s,mb3.9,baz=91,slow=9.0,SNR=13						
WRA				LR	LR	07 05 31.1	
	comp=Z,79nm,18.2s,MS3.4,baz=80,slow=35						
ASAR	Alice Springs	31.83	254	P	P	06 53 47.9	-0.3
	6.4nm,0.8s,mb4.5,baz=80,slow=8.6,SNR=57						
FITZ	Fitzroy Crossi	39.69	263	eP	P	06 54 56.2	+0.6
	10nm,0.9s,mb4.6						
HKL	Haleakala	52.30	44	eP	P	06 56 30.1	-4.8
PETK	Petropavlovsk-	71.16	354	P	P	06 58 39.5	-1.7
	8.2nm,0.9s,mb4.7,baz=142,slow=7.4,SNR=4.9						
CMAR	Chiang Mai Arr	76.37	295	P	P	06 59 13.9	+1.3
	1.4nm,0.7s,mb4.0,baz=139,slow=4.7,SNR=5.7						
BFO	Black Forest	145.15	335	ePKPab	PKPab	07 06 59.1	-0.7

*SOF **10** 06:59:16.0, 4501N×2222E, h10km, MD3.2*
*CSEM **10** 06:59:18.0±0.1, 4504N×2290E, h5km, ML3.0, Error ellipse: s-maj=1.7km s-min=1.1km az=120.0*
*ISCJB **10** 06:59:18.5±0.3, 4500N±002×2287E±003, h10km, Error ellipse: s-maj=3.1km s-min=2.5km az=26.2*
*BUC **10** 06:59:19.9±1.8, 45.13N×2294E, h13km±8km, MD2.9/4, Error ellipse: s-maj=16.3km s-min=6.1km az=7.0*
*NEIC **10** 06:59:20.3, 45.13N×2296E, h6km, ML3.0(BUC), After BUC.*
*BEO **10** 06:59:22.3±0.8, 4493N×2284E, h16km±5km, ML2.8/6*
ISC 10 06:59:18.6±0.5**, 4505N**±002×**2291E**±003**, h0**km±4km**, n49,** σ**1^{s}10**/81**, 17C-5D, Romania**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
GZR	Gura Zlata	0.36	345	⇑iP	Pg	06 59 26.4	+0.9
GZR				i S	Sg	06 59 31.0	+0.8
GZR	Gura Zlata	0.36	345	⇑P	Pg	06 59 26.4	+0.9
GZR				S	Sg	06 59 30.9	+0.7
CRAR	CRAIOVA	0.96	138	eSg	Sg	06 59 51.9	+2.5
BZS	Buzias	1.08	302	⇑iP	Pg	06 59 40.0	+0.7
BZS				i S	Sg	06 59 54.2	+1.0
BZS	Buzias	1.08	302	⇑P	Pg	06 59 40.0	+0.7
BZS				S	Sg	06 59 54.2	+1.0
TIM	Timisoara	1.38	301	⇑iP	Pn	06 59 45.0	0.0

TIM				iS	Sg	07 00 04.4	+1.5
TIM	Timisoara	1.38	301	⇑P	Pn	06 59 46.5	+1.5
TIM				S	Sg	07 00 05.3	+2.4
TIM	Timisoara	1.38	301	⇑P	Pn	06 59 46.5	+1.5
TIM				S	Sg	07 00 05.3	+2.4
BOLS	Boljevac	1.40	210	ePg	Pg	06 59 44.5	-0.8
BOLS				eSg	Sg	07 00 02.4	-1.0
SVIS	Svilajnac	1.44	238	eSg	Sg	07 00 04.4	-0.4
MDB	Medias	1.50	43	⇑P	Pn	06 59 46.0	-0.8
MDB				S	Sb	07 00 06.1	-0.9
MDB	Medias	1.50	43	⇑P	Pn	06 59 46.0	-0.8
MDB				S	Sb	07 00 06.1	-0.9
VOIR		1.56	75	⇑iP	Pn	06 59 46.9	-0.6
VOIR				iS	Sn	07 00 08.6	+0.2
VOIR		1.56	75	⇓P	Pn	06 59 46.9	-0.6
VOIR				S	Sn	07 00 08.6	+0.2
VOIR		1.56	75	⇓P	Pn	06 59 46.9	-0.6
VOIR				S	Sn	07 00 08.6	+0.2
DRGR		1.75	355	⇑iP	Pn	06 59 49.3	-0.9
DRGR				iS	Sn	07 00 12.8	-0.3
DRGR		1.75	355	⇑P	Pn	06 59 49.3	-0.8
DRGR				S	Sn	07 00 12.8	-0.4
ZAPS	Zavoj	1.78	187	ePn	Pn	06 59 50.3	-0.2
ZAPS				eSg	Sg	07 00 15.6	-0.2
GRUS	Gruza	1.95	234	ePn	Pn	06 59 53.2	+0.3
GRUS				eSg	Sg	07 00 21.4	+0.1
MLR	Muntele Rosu	2.19	77	⇑iP	Pn	06 59 57.2	+1.1
MLR				iS	Sn	07 00 24.3	+0.5
MLR	Muntele Rosu	2.19	77	⇓P	Pn	06 59 57.2	+1.1
MLR				S	Sn	07 00 24.3	+0.5
MLR	Muntele Rosu	2.19	77	⇓P	Pn	06 59 57.2	+1.1
MLR				S	Sn	07 00 24.3	+0.5
FGSL	Fruska Gora	2.20	274	ePn	Pn	06 59 58.1	+1.8
FGSL				eSg	Sg	07 00 30.7	+1.5
DIVS	Divibare	2.29	247	ePn	Pn	06 59 58.3	+0.7
DIVS				eSn	Sn	07 00 24.3	-2.1
BARS	Barje	2.36	200	ePn	Pn	06 59 58.6	0.0
BARS				eSg	Sg	07 00 33.7	-0.8
VTS	Vitosha	2.46	175	iP	Pn	06 59 58.8	-1.1
VTS	Vitosha	2.46	175	ePn	Pn	07 00 01.4	+1.5
VTS				eSg	Sg	07 00 36.8	-0.8
VTS	Vitosha	2.46	175	P	Pg	07 00 05.9	+0.2
PVL	Pavlikeni	2.52	136	eP	Pn	06 59 59.0	-1.8
PGB	Panagyurishte	2.65	160	iP	Pn	07 00 03.9	+1.4
VRI	Vrincioaia	2.81	72	⇓iP	Pn	07 00 05.7	+1.0
VRI	Vrincioaia	2.81	72	⇑P	Pn	07 00 05.7	+1.0
VRI	Vrincioaia	2.81	72	⇑P	Pn	07 00 05.7	+1.0
BURAR	Bucovina Array	3.03	31	⇑iP	Pn	07 00 07.8	+0.1
BURAR				iS	Sn	07 00 44.6	+0.1
BURAR	Bucovina Array	3.03	31	⇑P	Pn	07 00 07.8	+0.2
BURAR				S	Sn	07 00 44.6	0.0
BUR08	Bucovina Ar. S	3.04	31	ePn	Pn	07 00 08.6	+0.7
BUR08	Bucovina Ar. S	3.04	31	ePn	Pn	07 00 08.7	+0.7
BUR08				Sn	Sn	07 00 41.9	-3.1
PKSM	Moragy	3.22	293	P	Pn	07 00 10.0	-0.3
MMB	Musomiste	3.50	170	eP	Pg	07 00 25.0	-0.7
PSZ	Piszkesteto	3.55	325	ePn	Pn	07 00 16.0	+1.1
PSZ	Piszkesteto	3.55	325	ePn	Pn	07 00 16.1	+1.2
PSZ				Sn	Sn	07 00 52.5	-4.9
KOLS	Kolonicke sedl	3.92	354	ePG	Pg	07 00 34.6	+1.0
KOLS				eSG	Sg	07 01 21.3	-3.0
TIRR	Tirgusor	3.96	97	Pn	Pn	07 00 22.0	+1.5
TIRR	Tirgusor	3.96	97	Pn	Pn	07 00 22.0	+1.5
CRVS	Cervenica-Dubn	3.98	346	ePN	Pn	07 00 19.7	-1.1
CRVS				eSG	Sg	07 01 24.8	-1.8
VYHS	Vyhne	4.44	322	ePN	Pn	07 00 26.8	-0.3
STHS	Stebnicka Huta	4.52	346	ePN	Pn	07 00 29.1	+0.9
STHS				ePG	Pg	07 00 43.5	-1.7
STHS				eSG	Sg	07 01 42.9	-0.8
KOLL	Kolacno	4.70	320	ePN	Pn	07 00 30.3	-0.3
MODS	Modra-Piesok	5.11	313	ePG	Pg	07 00 54.7	-1.8

IDC 10 07:00:28.2±3.2, 1600S×17339W, h0km, mb3.6/3, mb1 3.9/4, mb1mx3.7/18, mbtmp3.6/4, ML1.5/1, Error ellipse: s-maj=179.4km s-min=24.6km az=145.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	Afiamalu	2.59	37	Pn	Pn	07 01 10.8	-0.6
	5.7nm,0.3s,baz=192,slow=9.6,SNR=12						
AFI				Sn	Sn	07 01 38.7	-5.0
	28nm,0.3s,baz=242,slow=21,SNR=12						
WRA	Warramunga Arr	49.72	257	P	P	07 09 22.3	-0.3
	0.4nm,0.9s,baz=96,slow=6.7,SNR=6.7						
ASAR	Alice Springs	49.94	252	P	P	07 09 24.2	0.0
	0.9nm,0.7s,baz=88,slow=8.5,SNR=13						
PDAR	Pinedale Array	82.70	42	P	P	07 12 54.6	+0.8
	0.4nm,0.6s,baz=225,slow=3.7,SNR=4.5						

DDA 10 07:03:25.6, 3976N×3876E, h5km±4km, Md3.3, Ml3.6
ISK 10 07:03:26.8, 3979N×3896E, h6km, MD3.3
CSEM 10 07:03:26.6±0.1, 3978N×3895E, h5km, MD3.3, Error ellipse: s-maj=1.7km s-min=1.2km az=108.0
ISCJB 10 07:03:27.6±0.3, 3979N±002×3896E±004, h10km, Error ellipse: s-maj=4.3km s-min=3.0km az=27.5
ISC 10 07:03:27.5±0.6, 3980N±002×3889E±004, h1km±6km, n27, σ0s94/38, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMT	Gumushane	0.80	34	PG	Pg	07 03 42.6	-0.3
GUMT				eSG	Sg	07 03 53.5	+0.2
PTK	Pertek	0.98	157	ePG	Pg	07 03 45.5	-0.8
PTK				eSG	Sg	07 03 59.0	0.0
ESPY	Espiye-Giresun	1.13	354	ePN	Pn	07 03 48.9	-1.6
DARE	Darende-Malaty	1.19	225	ePN	Px	07 03 57.5	
GRSN	GIRESUNGRSN	1.23	337	iP	Pg	07 03 49.9	-1.1
GRSN				iS	Sg	07 04 07.2	+0.3
GRSN	GIRESUNGRSN	1.23	337	iP	Pg	07 03 49.9	-1.1
GRSN				iS	Sg	07 04 07.2	+0.3
KOPT	Kop Dagi	1.25	79	iP	Pg	07 03 52.1	+0.6
KOPT				iS	Sg	07 04 14.7	+6.9
ELZG	Elazig	1.30	177	iP	Pg	07 03 50.3	-2.1
ELZG				iS	Sg	07 04 09.5	+0.3
MACK	Trabzon	1.33	30	iP	Pn	07 03 52.1	-1.1
MACK				iS	Sg	07 04 10.0	-0.2
KTUT	Trabzon	1.36	29	ePN	Pn	07 03 52.7	-1.0
SVRC	Sivrice-ELAZID	1.45	167	ePN	Pn	07 03 54.0	-0.9
SVSK	Karacayir	1.47	275	ePN	Pn	07 03 55.2	+0.1
MYA	Malataya	1.51	194	ePN	Pn	07 03 55.3	-0.4
AKCD	Akcadag	1.68	207	iP	Pn	07 03 56.5	-1.5
AKCD				iS	Sn	07 04 22.2	+2.1
AKCD	Akcadag	1.68	207	iP	Pn	07 03 56.5	-1.5
AKCD				iS	Sn	07 04 22.2	+2.1
TOKT	Tokat	1.88	287	ePN	Pn	07 04 00.7	0.0
EZM	Erzurum	1.90	86	ePN	Pn	07 04 00.7	-0.4
ERZM	Erzurum	1.91	86	iP	Pg	07 04 04.1	0.0
ERZM				iS	Sg	07 04 36.6	+7.9
SARI	SarD1z-Kayseri	2.04	238	ePN	Pg	07 04 08.1	+1.5
URFA	Urfa	2.35	181	ePN	Pn	07 04 07.2	0.0
DDEM	Demirkent	2.44	62	iP	Pn	07 04 11.1	+2.6
DDEM				iS	Sg	07 04 46.7	+0.7
DBAD	Bademkaya	2.46	59	iP	Pn	07 04 09.1	+0.4
DBAD				iS	Sg	07 04 47.9	+1.2
KVT	Kavak	2.52	301	ePN	Pn	07 04 10.3	+0.7
BNN	Bunyan	2.54	249	ePN	Pn	07 04 10.4	+0.5
BCA	Borcka	2.65	51	ePN	Pn	07 04 11.3	-0.1
YOZ	Yozgat	2.76	268	ePN	Pn	07 04 13.7	+0.8
KMRS	Kahramanmaras	2.77	215	ePN	Pn	07 04 13.3	+0.4

MOS 10 07:36:45.8±1.2, 571N×12655E, h33km, mb5.0/10, Error ellipse: s-maj=19.8km s-min=8.1km az=108.8
BJI 10 07:36:46.5, 545N×12707E, h62km, mB4.8, mb4.7, Ms4.5, Msz4.1
NEIC 10 07:36:48.1±0.3, 579N×12671E, h35km, mb4.7/16, Error ellipse: s-maj=11.0km s-min=6.3km az=73.0
MAN 10 07:36:50, 562N×12668E, h92km, mb5.2, ML4.2, MS4.4
ISCJB 10 07:36:52.4±0.6, 566N±003×12654E±006, h93km±5km, mb4.5/39, Error ellipse: s-maj=10.9km s-min=5.4km az=167.5
IDC 10 07:36:54.4±1.2, 564N×12641E, h93km±10km, mb4.1/20, mb1 4.2/22, mb1mx4.2/26, mbtmp4.2/22, Error ellipse: s-maj=23.7km s-min=8.3km az=73.0
DJA 10 07:36:57, 549N×12672E, h64km, Mw5.1/4
ISC 10 07:36:53.3±0.6, 564N±003×12655E±007, h84km±5km, h36km±1.2km:pP-P, n91, σ1s05/100, mb4.5/39, 2C-7D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MATI	Mati	1.33	347	eP	Pn	07 37 14.7	-1.8
MATI				eS	Sn	07 37 35.2	+1.1
GSPH	General Santos	1.65	286	⇓eP	Pn	07 37 18.2	-2.5
GSPH				eS	Sn	07 37 38.3	-3.2
DAV	Davao City (W)	1.71	326	P	Pn	07 37 21.8	+0.2
	142nm,0.3s,baz=139,slow=3.0,SNR=20						
DAV				S	Sn	07 37 43.3	+0.4
	148nm,0.3s,baz=238,slow=21,SNR=5.7						
KCP	Kidapawan	1.99	313	⇓eP	Pn	07 37 24.4	-0.7
KCP				iS	Sn	07 37 50.2	+0.9
BUKP	Musuan	2.67	326	eP	Pn	07 37 34.2	0.0
BUKP				eS	Sn	07 38 05.6	-0.1
CGP	Cagayan de Oro	3.34	327	⇓eP	Pn	07 37 44.1	+0.7
CGP				iS	Sn	07 38 28.6	+6.5
BUTP	Butuan	3.43	344	eP	Pn	07 37 45.3	+0.7
BUTP				eS	Sn	07 38 30.3	+6.1
PAGZ	Pagadian	3.83	305	eP	Pn	07 37 50.4	+0.4
TBP	Tagbilaran	4.82	327	eP	Pn	07 38 03.5	0.0
KKM	Kota Kinabalu	10.29	273	ePn	Pn	07 39 17.3	-0.7
KAPI	Kappang	12.58	213	P	Pn	07 39 48.9	-0.2
	1.5nm,0.3s,baz=26,slow=9.1,SNR=22						
KAPI	Kappang	12.58	213	ePn	Pn	07 39 49.4	+0.3
BATI	Baumata	16.01	190	P	Pn	07 40 33.7	+0.2
	7.5nm,0.3s,baz=351,slow=1.7,SNR=7.4						
KSM	Kuching	16.73	256	eP	Pn	07 40 43.7	+1.2
KAKA	Kakadu	19.15	162	eP	Pn	07 41 09.7	-2.1
	26nm,0.7s						
FITZ	Fitzroy Crossi	23.61	182	eP	P	07 41 57.3	+0.5
	7.9nm,0.6s,mb4.2						
FITZ	Fitzroy Crossi	23.61	182	P	P	07 41 57.5	+0.8
	2.7nm,0.5s,mb3.8,baz=41,slow=8.1,SNR=17						
COEN	Coen	25.52	140	eP	P	07 42 13.9	-0.3
	5.4nm,1.0s,mb3.9						
WRA	Warramunga Arr	26.55	163	P	P	07 42 23.0	-0.4
	8.3nm,0.5s,mb4.5,baz=342,slow=10,SNR=57						
WB2	Warramunga Arr	26.56	163	P	P	07 42 26.0	+2.5
NJ2	Nanjing	27.24	346	eP	P	07 42 28.2	-1.3
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.5						
WHN	Wuhan	27.30	337	⇓P	P	07 42 33.1	+3.0
MBWA	Marble Bar	27.46	194	eP	P	07 42 31.9	+0.3
	comp=Z,14nm,0.8s,mb4.5						
GYA	Guiyang	28.08	320	P	P	07 42 38.6	+1.5
GYA				AP	pP	07 42 48.9	-7.5
GYA				PP	PP	07 43 30.4	-12
GYA				PCP	PcP	07 45 52.4	+2.6
GYA				S	S	07 47 20.1	+4.0
GYA				SS	SS	07 48 44.5	-33
GYA				AMB	AMB		
	comp=Z,10.0nm,0.7s,mb4.5						
GYA				AMB	AMB		
	comp=Z,60nm,4.2s						
GYA				LR	LR		
	comp=N,470nm,15.6s						
GYA				LR	LR		
	comp=E,420nm,16.9s						
GYA				LR	LR		
	comp=Z,300nm,16.0s						
CMAR	Chiang Mai Arr	29.79	298	P	P	07 42 52.4	0.0
	comp=Z,0.8nm,0.4s,mb3.7,baz=123,slow=8.3,SNR=6.8						
KMI	Kunming	29.93	313	P	P	07 42 55.4	+1.9
KMI				PP	PP	07 43 55.9	-6.7
KMI				S	S	07 47 49.1	+3.9
KMI				SS	ScP	07 49 29.5	+0.1
KMI				AMB	AMB		
	comp=Z,8.0nm,1.0s,mb4.3						
KMI				AMB	AMB		
	comp=Z,75nm,6.3s						
KMI				LR	LR		
	comp=N,137nm,13.6s						
KMI				LR	LR		
	comp=E,134nm,13.6s						
KMI				LR	LR		
	comp=Z,102nm,17.1s						
KMI	Kunming	29.93	313	P	P	07 42 55.4	+1.9
KMI				*PP	pP	07 43 05.4	-7.5
KMI				*SP	sP	07 43 09.7	-13
KMI						07 43 55.9	
KMI				S	S	07 47 49.1	+3.9
KMI				*SS	sS	07 48 08.5	-10
KMI				SS	SS	07 49 29.5	-26
KMI				pmax	pmax		
	comp=Z,8.0nm,1.0s,mb4.3						
KMI				MLR	MLR		
	comp=Z,100nm,17.1s						
KMI	Kunming	29.93	313	P	P	07 42 55.4	+1.9
	comp=Z,8.0nm,1.0s,mb4.3						
KMI				pP	pP	07 43 05.4	-7.5
KMI				sP	sP	07 43 09.7	-13
KMI				PP	PP	07 43 55.9	-6.7
KMI				S	S	07 47 49.1	+3.9
KMI				sS	sS	07 48 08.5	-10
KMI				SS	SS	07 49 29.5	-26
KMI				LR	LR		
	comp=Z,100nm,17.1s						
ASAR	Alice Springs	30.00	166	P	P	07 42 54.0	-0.2
	comp=Z,1.1nm,0.4s,mb3.8,baz=345,slow=7.2,SNR=17						
ASAR				PcP	PcP	07 45 55.0	+0.4
	comp=Z,2.2nm,0.5s,baz=350,slow=2.3,SNR=13						
CTA	Charters Tower	32.08	143	eP	P	07 43 13.9	+1.4
	comp=Z,3.9nm,0.7s,mb4.2						
CTA	Charters Tower	32.08	143	P	P	07 43 13.9	+1.4
	comp=Z,3.4nm,0.7s,mb4.2,baz=335,slow=10,SNR=8.1						
CTA	Charters Tower	32.08	143	eP	P	07 43 13.9	+1.4
CTA				pmax	pmax		
	comp=Z,4.0nm,0.7s						
CTAO	Charters Tower	32.08	143	P	P	07 43 11.8	-0.7
CTAO				pmax	pmax		
	comp=Z,11nm,1.3s,mb4.4						
CTAO	Charters Tower	32.08	143	P	P	07 43 11.8	-0.7
	comp=Z,11nm,1.3s,mb4.4						
MJAR	Matsushiro Arr	32.56	18	P	P	07 43 17.3	+0.8
	comp=Z,1.4nm,0.7s,mb3.9,baz=194,slow=9.9,SNR=3.4						
XAN	Xi'an	32.64	332	P	P	07 43 18.5	+1.2
XAN				AMB	AMB		
	comp=Z,18nm,0.8s,mb5.0						
XAN				AMB	AMB		
	comp=Z,90nm,5.8s						
BJT	Baijiatuau	35.48	346	eP	P	07 43 39.7	-2.0
BJT				pmax	pmax		
	comp=Z,16nm,0.9s						
BJT	Baijiatuau	35.48	346	eP	P	07 43 39.7	-2.0
	comp=Z,16nm,0.9s,mb4.8						
BJI	Beijing	35.50	346	P	P	07 43 41.7	-0.2
BJI				S	S	07 49 15.6	+4.4
BJI				AMB	AMB		
	comp=Z,22nm,0.9s,mb5.0						
BJI				AMB	AMB		
	comp=Z,110nm,6.3s						
BJI				LR	LR		
	comp=N,171nm,26.1s						
BJI				LR	LR		
	comp=E,176nm,25.0s						
BJI				LR	LR		
	comp=Z,64nm,26.8s						
BJI	Beijing	35.50	346	P	P	07 43 41.7	-0.2
	comp=Z,22nm,0.9s,mb5.0						
BJI				S	S	07 49 15.6	+4.4
BJI				SS	SS	07 51 51.4	+2.4
BJI				LR	LR		
	comp=Z,60nm,26.8s						
FORT	Forrest	36.24	178	eP	P	07 43 48.4	0.0
	comp=Z,19nm,0.6s,mb5.2						
LZH	Lanzhou	36.78	329	eP	P	07 43 55.6	+2.7
LZH				AP	pP	07 44 05.3	-7.3
LZH				ePP	PP	07 45 21.2	+3.0
LZH				AMB	AMB		
	comp=Z,21nm,1.2s,mb4.9						
LZH				AMB	AMB		
	comp=Z,65nm,6.3s						
LZH				LR	LR		
	comp=N,412nm,13.1s						
LZH				LR	LR		
	comp=Z,603nm,17.2s						
LZH	Lanzhou	36.78	329	eP	P	07 43 55.6	+2.7
LZH				*PP	pP	07 44 05.3	-7.3
LZH				*SP	sP	07 44 09.5	-13
LZH				e		07 45 21.2	
LZH				pmax	pmax		
	comp=Z,21nm,1.2s,mb4.9						
LZH				MLR	MLR		
	comp=Z,600nm,17.2s						
LZH	Lanzhou	36.78	329	eP	P	07 43 55.6	+2.7
	comp=Z,21nm,1.2s,mb4.9						
LZH				pP	pP	07 44 05.3	-7.3
LZH				sP	sP	07 44 09.5	-13
LZH				ePP	PP	07 45 21.2	+3.0
LZH				LR	LR		
	comp=Z,600nm,17.2s						
HHC	Hu-ho-hao-te	37.54	341	eP	P	07 43 59.4	+0.2
HHC				AP	pP	07 44 09.8	-9.2
HHC				PP	PP	07 45 28.5	+2.0
HHC				PCP	PcP	07 46 17.3	+1.5
HHC				S	S	07 49 46.1	+3.8
HHC				SS	SS	07 52 20.6	-10
HHC				SCS	ScS	07 54 06.8	+2.6
HHC				AMB	AMB		
	comp=Z,22nm,1.2s,mb4.9						
HHC				AMB	AMB		
	comp=Z,134nm,6.3s						
HHC				LR	LR		
	comp=N,163nm,13.9s						
HHC				LR	LR		
	comp=E,241nm,10.6s						
HHC				LR	LR		
	comp=Z,116nm,13.8s						
KLBR	Kellerberrin	37.97	192	eP	P	07 44 03.2	+0.3
	comp=Z,18nm,1.2s,mb4.8						
MUN	Mundaring	38.69	194	eP	P	07 44 09.2	+0.2
NWAO	Narrogin (SRO)	39.37	192	P	P	07 44 14.7	+0.1
	comp=Z,4.9nm,0.4s,mb4.7,baz=2.3,slow=8.6,SNR=9.9						
STKA	Stephens Creek	39.97	160	eP	P	07 44 19.9	+0.2
	comp=Z,7.6nm,0.7s,mb4.6						
STKA	Stephens Creek	39.97	160	P	P	07 44 20.1	+0.4
	comp=Z,6.9nm,0.5s,mb4.7,baz=342,slow=8.2,SNR=17						
GTA	Gaotai	41.38	328	eP	P	07 44 33.6	+2.4
GTA				AMB	AMB		
	comp=Z,4.0nm,0.8s,mb4.3						
ARMA	Armidale	43.16	148	eP	P	07 44 47.2	+1.4
SONM	Songino Array	45.44	341	P	P	07 45 05.1	+1.3
	comp=Z,2.2nm,0.8s,mb4.0,baz=148,slow=8.7,SNR=5.0						
DZM	Mont Dzumac	47.80	127	eP	P	07 45 23.1	+0.6
ZAK	Zakamensk	48.67	340	eP	P	07 45 29.7	+0.9
ZAK				pmax	pmax		
	comp=Z,2.0nm,1.0s,mb4.0						
TLY	Talaya	49.67	341	d iP	P	07 45 36.7	+0.3
TLY				pmax	pmax		
	comp=Z,8.0nm,1.0s,mb4.6						
TLY	Talaya	49.67	341	eP	P	07 45 35.7	-0.7
	comp=Z,5.4nm,0.8s,mb4.5						
WMQ	Urumqi	51.07	324	P	P	07 45 46.5	-0.6
WMQ				PCP	PcP	07 47 02.5	+0.6
WMQ				PP	PP	07 47 44.0	-0.5
WMQ				AMB	AMB		
	comp=Z,8.0nm,0.6s,mb4.9						
POO	Poona	52.91	289	ex	x	07 45 10.0	
PETK	Petropavlovsk-	53.74	23	P	P	07 46 07.4	+0.7
	comp=Z,3.4nm,0.7s,mb4.5,baz=157,slow=4.5,SNR=6.9						
MKAR	Makanchi Array	55.90	325	P	P	07 46 21.9	-0.5
	comp=Z,4.2nm,0.6s,mb4.7,baz=126,slow=8.1,SNR=24						
MKAR				PcP	PcP	07 47 20.3	+0.1
	comp=Z,2.6nm,0.7s,baz=118,slow=2.1,SNR=7.1						
MKAR	Makanchi Array	55.90	325	⇑eP	P	07 46 21.8	-0.6
MKAR	Makanchi Array	55.90	325	P	P	07 46 21.9	-0.5
MKAR				PcP	PcP	07 47 20.3	+0.1
UCH	Uchtor	58.66	317	eP	P	07 46 42.2	+0.3
	comp=Z,4.8nm,1.1s,mb4.4						
ZAA0	Zalesovo Array	58.81	333	eP	P	07 46 41.5	-1.3
ZALV	Zalesovo Beam	58.81	333	P	P	07 46 42.6	-0.2
	comp=Z,3.6nm,0.6s,mb4.6,baz=115,slow=7.0,SNR=12						
KURK	Kurchatov	60.04	327	P	P	07 46 50.6	-0.7
	comp=Z,12nm,0.7s,mb5.1,baz=124,slow=6.6,SNR=32						
KURK	Kurchatov	60.04	327	eP	P	07 46 50.6	-0.7
KURK				pmax	pmax		
	comp=Z,12nm,0.5s,mb5.2						
KURK	Kurchatov	60.04	327	eP	P	07 46 50.5	-0.8
	comp=Z,12nm,0.5s,mb5.2						
NVS	Novosibirsk	60.10	333	eP	P	07 46 49.6	-2.0
SMY	Shemya	60.92	31	eP	P	07 46 55.5	-1.7
BVAR	Borovoye Array	65.63	327	P	P	07 47 27.9	-0.5
	comp=Z,6.6nm,0.6s,mb4.6,baz=132,slow=8.2,SNR=27						
BRVK	Borovoye	65.70	327	eP	P	07 47 28.4	-0.4
TIXI	Tiksi	65.94	1	⇑iP	P	07 47 29.7	-0.4
AKTK	Aktyubinsk	72.06	321	P	P	07 48 07.5	-0.9
AKTO	Aktyubinsk	72.06	321	P	P	07 48 07.5	-0.9
	comp=Z,4.6nm,0.6s,mb4.5,baz=101,slow=8.2,SNR=16						
ARU	Arti	73.23	327	d iP	P	07 48 15.4	+0.2
ARU				ePPP		07 52 38.6	
ARU				eS	S	07 57 41.6	+4.9
ARU				pmax	pmax		
	comp=Z,19nm,1.7s,mb4.7						
MCK	McKinley	82.54	27	eP	P	07 49 05.9	-0.7
OBN	Obninsk	85.40	325	⇓iP	P	07 49 21.1	-0.3
OBN				pmax	pmax		
	comp=Z,34nm,1.6s,mb5.0						
OBN				MLR	MLR		
	comp=Z,100nm,15.0s						
MAW	Mawson	85.48	200	P	P	07 49 21.7	+0.3
	comp=Z,2.0nm,1.0s,mb4.0,baz=344,slow=7.5,SNR=3.4						
SPITS	Spitsbergen Ar	88.58	349	P	P	07 49 36.2	-0.1
	comp=Z,2.0nm,0.5s,mb4.4,baz=270,slow=9.7,SNR=3.1						
ARCES	ARCESS Array B	88.60	340	P	P	07 49 35.7	-0.9
	comp=Z,2.9nm,0.5s,mb4.5,baz=84,slow=6.2,SNR=13						
ARCES	ARCESS Array B	88.60	340	P	P	07 49 35.7	-0.9
AKASG	Malin Array Be	90.30	321	P	P	07 49 43.9	-1.0
	comp=Z,0.4nm,0.4s,mb4.0,baz=79,slow=4.3,SNR=3.5						
NB2	NORSAR Subarra	97.00	334	P	P	07 50 14.1	-1.4
	comp=Z,0.9nm,0.6s,mb4.4,baz=65,slow=4.4						
NOA	NORSAR Array B	97.00	334	P	P	07 50 14.0	-1.4
	comp=Z,1.3nm,0.7s,mb4.5,baz=67,slow=4.6,SNR=4.5						
NOA	NORSAR Array B	97.00	334	P	P	07 50 14.0	-1.4
TXAR	Lajitas Array	120.56	51	PKP	PKPdf	07 55 36.3	+0.4
	comp=Z,0.4nm,0.7s,baz=166,slow=1.0,SNR=6.2						
TORD	Torodi Ar. Bea	122.14	289	PKP	PKPdf	07 55 38.9	-0.5
	comp=Z,1.1nm,0.6s,baz=65,slow=1.7,SNR=11						
PLCA	Paso Flores	141.85	159	PKP	PKPdf	07 56 16.6	+1.0
	comp=Z,1.1nm,0.7s,baz=218,slow=4.6,SNR=4.2						
LPAZ	La Paz	162.14	127	PKPab	PKPab	07 57 34.3	+1.3
	comp=Z,0.5nm,0.6s,baz=276,slow=7.5,SNR=4.4						

IDC 10 07:43:40.4±2.9, 10.12S×150.35E, h0km, mb3.8/2, mb1 4.0/4, mb1mx3.8/14, mbtmp3.9/4, ML3.9/2, MS3.1/3, Ms1 3.1/3, ms1mx2.8/24, Error ellipse: s-maj=84.4km s-min=36.5km az=107.0
NEIC 10 07:43:45.7±8.9, 1036S×14992E, h6km±51km, mb4.1/2, Error ellipse: s-maj=48.8km s-min=13.7km az=60.0
ISC 10 07:43:46.3±5.1, 104S±02×1499E±02, h8km±46km, n12, σ0s52/14, mb3.9/2, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	2.86	289	ePn	Pn	07 44 32.4	+0.1
PMG				eSg	Sg	07 45 25.8	+7.5
COEN	Coen	7.48	241	ePn	Pn	07 45 35.0	-0.7
COEN				eSn	Sn	07 47 00.7	0.0
HNR	Honiara	9.95	86	LR	LR	07 48 56.5	
	comp=Z,74nm,19.2s,baz=83,slow=33						
CTA	Charters Tower	10.28	200	Pn	Pn	07 46 13.8	-0.4
	0.4nm,0.3s,baz=27,slow=15,SNR=3.7						
CTA				Sn	Sn	07 48 16.4	+6.6
	0.2nm,0.3s,baz=282,slow=20,SNR=2.4						
CTA				LR	LR	07 50 11.6	
	comp=Z,118nm,18.4s,baz=232,slow=37						
CTA	Charters Tower	10.28	200	Pn	Pn	07 46 13.8	-0.4
CTA				Sn	Sn	07 48 16.4	+6.6
CTA				LR	LR	07 50 11.6	
CTAO	Charters Tower	10.28	200	ePn	Pn	07 46 14.4	+0.2
WB2	Warramunga Arr	17.76	236	ePn	Pn	07 47 54.2	+0.2
WRA	Warramunga Arr	17.77	236	P	Pn	07 47 54.7	+0.6
	0.5nm,0.3s,baz=61,slow=11,SNR=12						
WRA				LR	LR	07 54 55.6	
	comp=Z,73nm,19.6s,baz=85,slow=37						
ASAR	Alice Springs	20.19	227	P	P	07 48 22.4	+0.9
	4.1nm,0.8s,baz=60,slow=11,SNR=29						
STKA	Stephens Creek	22.74	199	P	P	07 48 48.8	-0.1
	1.4nm,0.6s,mb3.6,baz=16,slow=13,SNR=3.8						
FITZ	Fitzroy Crossi	24.72	249	eP	P	07 49 07.5	-0.8
	5.3nm,0.8s,mb4.1						
TORD	Torodi Ar. Bea	148.76	278	PKPbc	PKPbc	08 03 31.3	-4.0
	0.4nm,0.7s,baz=61,slow=2.4,SNR=2.7						

IDC **10** *07:47:06.4±1.9, 6.62S×130.62E, h0km, mb3.9/2, mb1 3.9/5, mb1mx3.7/14, mbtmp3.7/5, ML3.7/3, Error ellipse: s-maj=89.9km s-min=26.3km az=80.0*
ISCJB **10** *07:47:10.1±2.6, 6.88S±0.08×130.3E±0.1, h38km±27km, mb3.9/2, Error ellipse: s-maj=24.4km s-min=13.9km az=175.5*
NEIC **10** *07:47:11.7±1.0, 6.75S×130.48E, h35km, Error ellipse: s-maj=35.2km s-min=11.6km az=73.0*
ISC 10 07:47:14.1±2.8**, 6.9S**±0.1×**130.4E**±0.1**, h62**km±32km**, n7, σ0.81**/11**, mb3.9**/2**, Banda Sea**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KAKA	Kakadu	6.08	161	ePn	Pn	07 48 41.2	-0.2
KAKA				eSn	Sn	07 49 50.1	+0.5
FITZ	Fitzroy Crossi	12.05	202	Pn	Pn	07 50 03.3	+0.3
	0.6nm,0.3s,baz=30,slow=14,SNR=26						
FITZ				Sn	Sn	07 52 15.8	-0.1
	0.9nm,0.3s,baz=167,slow=14,SNR=8.5						
WRA	Warramunga Arr	13.48	164	Pn	Pn	07 50 22.3	-0.3
	0.2nm,0.3s,baz=350,slow=13,SNR=8.5						
WRA				Sn	Sn	07 52 46.3	-4.6
	0.6nm,0.3s,baz=350,slow=23,SNR=11						
WB2	Warramunga Arr	13.49	164	ePn	Pn	07 50 22.0	-0.6
ASAR	Alice Springs	16.98	169	Pn	Pn	07 51 10.2	+2.7
	0.3nm,0.3s,baz=348,slow=9.6,SNR=13						
ASAR				Sn	Sn	07 54 15.0	-0.6
	0.2nm,0.3s,baz=340,slow=13,SNR=5.2						
MKAR	Makanchi Array	68.40	327	P	P	07 58 09.7	+0.4
	0.5nm,0.4s,mb3.9,baz=132,slow=5.7,SNR=4.5						
ZALV	Zalesovo Beam	71.70	334	P	P	07 58 28.6	-0.7
	0.6nm,0.4s,mb3.9,baz=123,slow=7.1,SNR=2.5						

IDC 10 07:54:06.1±14.0**, 18.38S**×**178.10W, h600**km±188km**, mb3.0**/6**, mb1 3.2**/6**, mb1mx3.1**/18**, mbtmp3.0**/6**, Error ellipse: s-maj=111.6km s-min=57.3km az=163.0, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CTA	Charters Tower	33.66	261	P	P	07 59 59.1	+0.1
	2.8nm,0.5s,baz=97,slow=11,SNR=5.6						
STKA	Stephens Creek	38.66	242	P	P	08 00 40.0	0.0
	0.8nm,0.3s,baz=81,slow=9.9,SNR=4.6						
WRA	Warramunga Arr	44.84	260	P	P	08 01 28.3	-0.2
	1.2nm,0.4s,baz=96,slow=8.2,SNR=58						
ASAR	Alice Springs	44.95	255	P	P	08 01 29.1	-0.1
	1.8nm,0.4s,baz=86,slow=8.0,SNR=26						
FITZ	Fitzroy Crossi	53.24	261	P	P	08 02 30.5	+0.2
	2.5nm,1.0s,baz=104,slow=7.6,SNR=4.4						
TXAR	Lajitas Array	86.00	57	P	P	08 05 44.5	+0.1
	0.2nm,0.7s,baz=202,slow=6.8,SNR=3.2						

KRSC 10 08:23:55.8±0.6**, 50.80N**×**156.83E, h15**km±15km**, ML3.8, Kuril Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
RUS	Russkaya	1.94	32	eP	Pn	08 24 28.1	-0.1
RUS				eS	Sn	08 24 52.1	-0.2
PET	Petropavlovsk	2.50	26	P	Pn	08 24 36.8	+1.0
PET				i S	Sn	08 25 06.2	+0.2
SDLR	Sedlovina	2.79	26	P	Pn	08 24 41.4	+1.6
SDLR				i S	Sn	08 25 13.8	+0.7
GNL	Ganaly	2.98	13	P	Pn	08 24 44.3	+1.9
SPN	Mys Shipunski	3.03	39	P	Pn	08 24 45.2	+2.0
SPN				i S	Sn	08 25 20.5	+1.3
MKZ	Mys Kozlova	4.80	36	P	Pn	08 25 07.5	+0.1

IDC 10 08:40:01.6±55.0**, 19.72S**×**178.38W, h0**km**, mb3.8**/3**, mb1 4.0**/3**, mb1mx3.8**/15**, mbtmp3.8**/3**, Error ellipse: s-maj=1000.0km s-min=162.6km az=82.0, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
STKA	Stephens Creek	37.81	243	P	P	08 47 19.8	0.0
	1.1nm,0.8s,baz=105,slow=12,SNR=2.6						
ASAR	Alice Springs	44.35	256	P	P	08 48 13.8	0.0
	1.3nm,0.5s,baz=96,slow=7.4,SNR=33						
WRA	Warramunga Arr	44.36	261	P	P	08 48 13.8	-0.1
	0.3nm,0.3s,baz=97,slow=7.6,SNR=27						

THE **10** *08:55:39.7, 39.31N×20.19E, h0km±2km, ML3.4/3, Error ellipse: s-maj=4.4km s-min=0.6km az=274.0*
ISCJB **10** *08:55:40.0±0.5, 39.31N±0.02×20.16E±0.05, h10km, Error ellipse: s-maj=6.0km s-min=3.4km az=175.8*
ATH **10** *08:55:40.8, 39.28N×20.32E, h16km±3km, MD3.6/9*
CSEM **10** *08:55:40.6±0.1, 39.29N×20.29E, h5km, ML3.4/3, Error ellipse: s-maj=2.7km s-min=2.2km az=72.0*
NEIC **10** *08:55:40.8, 39.28N×20.32E, h16km, MD3.6(ATH), ML3.4(THE), After ATH.*
ISC 10 08:55:40.6±0.6**, 39.27N**±0.02×**20.27E**±0.05**, h2**km±5km**, n37, σ1.05**/55**, Greece-Albania border region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
IGT	Igoumenitsa	0.27	11	P	Pg	08 55 45.0	-0.7
IGT				S	Sg	08 55 48.6	-0.5
KEK	Kerkira	0.57	321	ePn	Pg	08 55 51.6	+0.1
KEK				eSn	Sg	08 56 01.3	+2.4
KEK	Kerkira	0.57	321	ePN	Pg	08 55 51.6	+0.1
KEK				eSN	Sg	08 56 01.3	+2.4
JAN	Janina	0.59	49	ePn	Pg	08 55 51.2	-0.8
JAN	Janina	0.59	49	ePN	Pg	08 55 51.2	-0.8
LKD	Levkas	0.64	152	P	Pg	08 55 52.7	-0.1
LKD				S	Sg	08 56 03.2	+2.2
MEV	Metsovon	0.90	55	P	Pg	08 55 57.0	-0.9
VLS	Valsamata	1.12	167	P	Pg	08 56 01.4	-0.7
VLS				S	Sg	08 56 19.5	+2.9
VLS	Valsamata	1.12	167	ePb	Pb	08 56 01.5	-1.2
VLS				eSn	Sn	08 56 18.9	-0.4
VLS				S	Sg	08 56 19.5	+2.9
VLS	Valsamata	1.12	167	ePb	Pb	08 56 01.5	-1.2
VLS				eSn	Sn	08 56 18.9	-0.4
VLS	Valsamata	1.12	167	ePB	Pb	08 56 01.5	-1.2
VLS				eSN	Sn	08 56 18.9	-0.4
KFL	Anninata	1.23	160	P	Pg	08 56 03.8	-0.3
EVR	Evrytania	1.25	106	ePn	Pn	08 56 03.8	-1.3
EVR	Evrytania	1.25	106	ePN	Pn	08 56 03.8	-1.3
THL	Klokotos Trika	1.39	77	P	Pn	08 56 06.2	-0.7
THL				S	Sg	08 56 26.9	+1.8
THL	Klokotos Trika	1.39	77	ePn	Pn	08 56 06.4	-0.5
THL				S	Sg	08 56 26.9	+1.8
THL	Klokotos Trika	1.39	77	ePN	Pn	08 56 06.4	-0.5
RLS	Riolos of Patr	1.53	142	ePn	Pn	08 56 09.6	+0.6
RLS	Riolos of Patr	1.53	142	ePN	Pn	08 56 09.6	+0.6
KZN	Kozani	1.55	48	ePn	Pn	08 56 09.5	+0.2
KZN				eSn	Sn	08 56 30.4	+0.4
KZN	Kozani	1.55	48	ePN	Pn	08 56 09.5	+0.2
KZN				eSN	Sn	08 56 30.4	+0.4
AGG	Agios Georgios	1.62	98	P	Pn	08 56 09.8	-0.4
FNA	Florina	1.73	29	P	Px	08 56 05.4	
OHR	Ohrid	1.88	12	i Pn	Pn	08 56 14.7	+0.9
OHR				i Sn	Sn	08 56 39.4	+1.3
OHR	Ohrid	1.88	12	i Pn	Pn	08 56 14.6	+0.8
OHR				i Sn	Sn	08 56 39.4	+1.3
LIT	Litokhoron	1.91	64	P	Pn	08 56 13.9	-0.2
BIA	Bitola	1.93	25	i Pn	Pg	08 56 17.4	-0.1
BIA				i Sn	Sg	08 56 42.3	-0.1
BIA	Bitola	1.93	25	i Pn	Pg	08 56 17.3	-0.2
BIA				i Sn	Sg	08 56 42.2	-0.2
KRUS	Krusevo	2.23	19	i Pn	Pn	08 56 19.5	+1.0
KRUS				i Sn	Sg	08 56 48.9	-3.2
KRUS	Krusevo	2.23	19	i Pn	Pn	08 56 19.4	+0.9
KRUS				i Sn	Sg	08 56 48.8	-3.3
NEO	Neokhori	2.29	88	ePn	Pn	08 56 19.5	0.0
NEO	Neokhori	2.29	88	ePN	Pn	08 56 19.5	0.0
GRG	Griva	2.35	44	P	Pn	08 56 20.7	+0.5
ITM	Ithomi	2.46	147	ePb	Pb	08 56 22.3	-3.3
ITM	Ithomi	2.46	147	ePB	Pb	08 56 22.3	-3.3
DID	Didima	2.92	126	P	Pn	08 56 28.1	0.0
SG1	Sgolgore (BA)	3.17	301	ePn	Pn	08 56 30.4	-1.1

KRSC 10 08:59:59.1±0.6**, 52.99N**×**160.19E, h46**km±25km**, ML3.8, Off east coast of Kamchatka Peninsula**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SPN	Mys Shipunski	0.15	317	eP	Pn	09 00 06.6	0.0
SPN				i S	Sn	09 00 11.7	-0.3
NLC	Nalytchevo	0.54	290	eP	Pn	09 00 10.6	0.0
NLC				i S	Sn	09 00 19.1	+0.3
AVH	Avacha	0.92	288	eP	Pn	09 00 16.3	+0.7
AVH				i S	Sn	09 00 28.7	+1.1
PET	Petropavlovsk	0.93	273	eP	Pn	09 00 15.6	-0.1
PET				i S	Sn	09 00 28.2	+0.3
KII	Karymskiy	1.14	337	eP	Pn	09 00 18.8	+0.2
KII				i S	Sn	09 00 32.7	-0.3
RUS	Russkaya	1.16	242	eP	Pn	09 00 18.8	-0.1
RUS				i S	Sn	09 00 32.7	-0.9
GRL	Gorelyy	1.36	252	eP	Pn	09 00 22.6	+1.0
GRL				i S	Sn	09 00 39.8	+1.4
GNL	Ganaly	1.52	299	eP	Pn	09 00 25.0	+1.2
GNL				i S	Sn	09 00 43.7	+1.3
MKZ	Mys Kozlova	1.82	30	eP	Pn	09 00 26.9	-0.9
MKZ				i S	Sn	09 00 47.4	-2.2
TUMR	Tumrok	2.30	359	eP	Pn	09 00 36.0	+1.6
TUMR				i S	Sn	09 01 03.1	+1.7
KPT	Kopyto	2.98	0	P	Pn	09 00 45.9	+2.1
ZLN	Zelenaya	3.06	6	eP	Pn	09 00 47.3	+2.5
ZLN				eS	Sn	09 01 21.5	+1.5
KRSR	Krestovskiy	3.24	4	P	Pn	09 00 49.3	+1.9
KRSR				i S	Sn	09 01 25.5	+0.9
KLY	Klyuchi	3.34	4	eP	Pn	09 00 52.0	+3.3
KLY				i S	Sn	09 01 29.7	+2.6
SRDR	Sredinnyy	3.35	355	eP	Pn	09 00 50.9	+2.1
SRDR				i S	Sn	09 01 29.8	+2.6
KBTR	Krutoberegovo	3.57	24	eP	Pn	09 00 52.8	+1.0
KBTR				i S	Sn	09 01 32.2	-0.5

NIED **10** *09:08:00, 40.50N×139.90E, h170km, Mw4.4 Best double couple: M0 4.25000×10^15 NP1: φs 336.00000°, δ76.00000°, λ-57.00000°. NP2: φs 86.00000°, δ36.00000°, λ-156.00000°.*
BJI **10** *09:08:43.8, 40.55N×139.90E, h179km, mB4.8, mb4.8*
ISCJB **10** *09:08:44.1±0.2, 40.48N±0.02×139.84E±0.04, h168km±2km, mb4.6/70, Error ellipse: s-maj=5.1km s-min=3.5km az=24.8*
MOS **10** *09:08:44.3±0.9, 40.55N×139.75E, h166km, mb4.7/20, Error ellipse: s-maj=8.3km s-min=6.4km az=105.4*
JMA **10** *09:08:45.6±0.1, 40.46N×139.90E, h163km±1km, M4.5 Broadband fault plane solution: P waves. NP1: φs 81.00000°, δ40.00000°, λ178.00000°. NP2: φs 173.00000°, δ89.00000°, λ50.00000°. Principal axes: T Plg34.0000°, Azm50.0000°; N Plg40.0000°, Azm174.0000°; P Plg32.0000°, Azm295.0000°;*
NEIC **10** *09:08:45.6±0.5, 40.46N×139.78E, h166km±5km, mb4.7/24, MW4.4(NIED) Error ellipse: s-maj=6.5km s-min=4.8km az=146.0*
IDC **10** *09:08:45.4±1.1, 40.44N×139.72E, h165km±10km, mb4.0/19, mb1 4.1/23, mb1mx4.0/27, mbtmp3.9/23, Error ellipse: s-maj=10.5km s-min=9.2km az=104.0*
ISC 10 09:08:45.3±0.2**, 40.48N**±0.02×**139.81E**±0.04**, h162**km±2km**, h156**km±3.9km**:pP-P, n170, σ0.85**/192**, mb4.6**/70**, 13C-17D, Near west coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
JIW	Iwasaki	0.19	53	⇓P	Pn	09 09 07.5	+0.6
JIW				eS	Sn	09 09 24.0	+0.5
JOG2	Oga 2	0.57	181	⇓P	Pn	09 09 08.7	+0.4
JOG2				eS	Sn	09 09 26.6	+0.7
JAH	Hinai	0.69	115	⇓P	Pn	09 09 09.0	0.0
JAH				eS	Sn	09 09 26.8	-0.3
JTM	Tenmabayashi	1.00	72	⇓P	Pn	09 09 11.2	0.0
JTM				eS	Sn	09 09 31.1	+0.1
JSR	Shiriuchi	1.14	23	⇓P	Pn	09 09 12.9	+0.6
JSR				S	Sn	09 09 33.5	+0.3
JOT	Ohata	1.30	46	⇓P	Pn	09 09 14.1	+0.4
JOT				eS	Sn	09 09 35.9	+0.2
JANG	Nango	1.30	94	⇓P	Pn	09 09 13.3	-0.5
JANG				eS	Sn	09 09 35.5	-0.2
JOM	Ohasama	1.52	131	⇓P	Pn	09 09 15.0	-0.9
JOM				eS	Sn	09 09 38.7	-0.7
JYK	Kaneyama	1.62	165	⇓P	Pn	09 09 16.9	-0.1
JYK				eS	Sn	09 09 41.0	-0.3
JOSM	Okushiri--Mats	1.62	351	⇓P	Pn	09 09 17.6	+0.7
JOSM				eS	Sn	09 09 42.0	+0.6
JKB	Kayabe	1.68	33	⇓P	Pn	09 09 17.9	+0.3
JKB				eS	Sn	09 09 42.6	+0.1
JMK	Ichinoseki	1.87	144	⇓P	Pn	09 09 18.8	-0.9
JMK				eS	Sn	09 09 45.2	-1.0
JAW	Awa shima	2.07	192	⇑P	Pn	09 09 22.2	+0.3
JAW				eS	Sn	09 09 50.3	+0.2
ERM	Erimo	2.95	58	i Pn	Pn	09 09 32.1	-0.3
ERM				eSn	Sn	09 10 03.9	-5.1
MAJO	Matsushiro	4.13	198	i P	Pn	09 09 48.1	+0.6
MAT	Matsushiro	4.13	198	P	Pn	09 09 48.1	+0.6
MAT				eS	Sn	09 10 38.0	+2.0
MJAR	Matsushiro Arr	4.13	198	P	Pn	09 09 48.5	+1.0
	16nm,0.3s,baz=14,slow=14,SNR=110						
MJAR				S	Sn	09 10 34.3	-1.7
	baz=338,slow=42,SNR=1.8						
MJAR	Matsushiro Arr	4.13	198	P	Pn	09 09 48.5	+1.0
MJAR				S	Sn	09 10 34.3	-1.7
ASAJ	Asahikawa	4.18	29	P	Pn	09 09 47.8	-0.3
	37nm,0.3s,baz=228,slow=12,SNR=231						
ASAJ				S	Sn	09 10 34.5	-2.6
	9.8nm,0.3s,baz=191,slow=15,SNR=4.9						
ASAJ	Asahikawa	4.18	29	P	Pn	09 09 47.8	-0.3
ASAJ				S	Sn	09 10 34.5	-2.6
ASAJ				pmax	pmax		
	comp=Z,37nm,0.3s						
ASAJ				smax			
	comp=N,10.0nm,0.3s						
YUK	Yuzh-Kuril'sk	5.72	50	⇓iP	Pn	09 10 07.2	-1.1
YUK				i S	Sn	09 11 07.5	-5.9
YUK				pmax	pmax		
	comp=N,380nm,0.5s						
YUK				pmax	pmax		
	comp=E,380nm,0.5s						
YUK				pmax	pmax		
	comp=Z,580nm,0.5s						
YUK				smax			
	comp=N,5μm,1.0s						
YUK				smax			
	comp=E,5μm,2.0s						
YUK				smax			
	comp=N,2μm,0.5s						
YUK				smax			
	comp=E,1μm,0.5s						
VLA	Vladivostok	6.48	297	c iP	Pn	09 10 19.2	+0.9
YSS	Yuzh-Sakhalins	6.81	17	α iP	Pn	09 10 21.0	-1.7
YSS				eS	Sn	09 11 35.0	-4.3
YSS				pmax	pmax		
	comp=N,180nm,0.4s						
YSS				pmax	pmax		
	comp=Z,220nm,0.4s						
YSS				smax			
	comp=E,50nm,0.8s						
YSS	Yuzh-Sakhalins	6.81	17	i Pn	Pn	09 10 22.1	-0.6
JHJ	Hachijo jima 2	7.35	180	P	Pn	09 10 26.4	-3.5
	comp=E,56nm,0.3s,baz=257,slow=23,SNR=6.2						
JHJ				S	Sn	09 11 44.5	-7.8
	comp=E,54nm,0.3s,baz=249,slow=23,SNR=4.4						
KUR	Kuril'sk	7.59	49	P	Pn	09 10 27.5	-5.5
KUR				eS	Sn	09 11 52.0	-5.8
KUR				smax			
	comp=N,220nm,0.8s						
KUR				smax			
	comp=E,160nm,0.8s						
MDJ	Mudanjiang	8.60	302	P	Pn	09 10 47.8	+1.4
MDJ				AMB	AMB		
	comp=Z,58nm,1.1s						
MDJ				AMB	AMB		
	comp=Z,95nm,5.6s						
MDJ	Mudanjiang	8.60	302	ePn	Pn	09 10 48.0	+1.6
	comp=Z,75nm,1.1s						
HABR	Khabarovsk	8.68	339	eP	Pn	09 10 46.0	-1.5
HABR				eS	Sn	09 12 24.3	+0.2
KSRS	Korea Array	9.74	256	P	Pn	09 11 02.7	+1.1
	comp=Z,0.2nm,0.3s,baz=68,slow=13,SNR=8.9						
CN2	Changchun	11.17	292	eP	Pn	09 11 18.7	-1.6
CBIJ	Chichi jima	13.49	171	P	Pn	09 11 44.8	-5.5
	comp=Z,11nm,0.3s,baz=280,slow=19,SNR=5.8						
CBIJ				S	Sn	09 14 07.8	-12
	comp=Z,7.7nm,0.3s,baz=285,slow=20,SNR=3.2						
PETK	Petropavlovsk-	17.53	38	P	Pn	09 12 37.4	-2.1
	comp=Z,0.7nm,0.3s,baz=226,slow=6.3,SNR=13						
BJI	Beijing	18.04	276	P	P	09 12 43.0	-1.0
BJI				S	S	09 16 00.8	-1.5
BJI				AMB	AMB		
	comp=Z,40nm,0.8s						
BJI				AMB	AMB		
	comp=Z,185nm,5.2s						
BJI	Beijing	18.04	276	P	P	09 12 43.0	-1.0
	comp=Z,40nm,0.8s						
BJI				pP		09 13 08.6	
BJI				sP	sP	09 13 27.9	-4.1
BJI				S	S	09 16 00.8	-1.5
BJT	Baijiatuau	18.05	276	eP	P	09 12 42.8	-1.3
BJT				pmax	pmax		
	comp=Z,30nm,0.5s						
BJT	Baijiatuau	18.05	276	eP	P	09 12 42.8	-1.2
	comp=Z,30nm,0.5s						
TIA	Tai'an	18.29	264	eP	P	09 12 47.5	+0.8
NJ2	Nanjing	18.85	250	eP	P	09 12 53.2	+0.4
NJ2				XP	sP	09 13 40.7	-0.2
NJ2				S	S	09 16 15.0	-3.5
NJ2				AMB	AMB		
	comp=Z,30nm,0.7s						
NJ2				AMB	AMB		
	comp=Z,180nm,4.1s						
NJ2				LR	LR		
	comp=N,250nm,21.1s						
NJ2				LR	LR		
	comp=E,230nm,23.5s						
NJ2				LR	LR		
	comp=Z,280nm,20.6s						
HHC	Hu-ho-hao-te	21.40	280	eP	P	09 13 19.7	-0.4
HHC				PP		09 13 53.6	
HHC				XP	sP	09 14 09.6	+0.8
HHC				S	S	09 17 01.6	-6.1
HHC				PCP	PcP	09 17 20.1	+3.3
HHC				SS		09 17 49.7	
HHC				AMB	AMB		
	comp=Z,14nm,1.0s,mb4.2						
HHC				AMB	AMB		
	comp=Z,104nm,5.5s						
HHC				LR	LR		
	comp=N,216nm,11.2s						
HHC				LR	LR		
	comp=E,254nm,9.9s						
HHC				LR	LR		
	comp=Z,160nm,10.4s						
YAK	Yakutsk	22.44	347	⇑eP	P	09 13 30.7	+0.3
YAK				pmax	pmax		
	comp=Z,19nm,0.8s,mb4.6						
WHN	Wuhan	22.91	252	eP	P	09 13 33.9	-1.1
SEY	Seymchan	23.71	14	⇑eP	P	09 13 42.7	+0.8
BOD	Bodaibo	23.97	325	eP	P	09 13 43.3	-1.1
BOD				pmax	pmax		
	comp=Z,13nm,1.3s,mb4.3						
SONM	Songino Array	24.93	298	P	P	09 13 52.0	-1.3
	comp=Z,2.7nm,0.6s,mb4.0,baz=95,slow=9.2,SNR=6.2						
XAN	Xi'an	25.33	265	P	P	09 13 55.4	-1.6
XAN				AMB	AMB		
	comp=Z,7.0nm,0.9s,mb4.2						
XAN				AMB	AMB		
	comp=Z,51nm,6.5s						
TLY	Talaya	27.20	306	⇓iP	P	09 14 12.3	-1.2
TLY				pmax	pmax		
	comp=Z,8.0nm,0.9s,mb4.3						
ZAK	Zakamensk	27.23	304	eP	P	09 14 10.7	-3.2
ZAK				pmax	pmax		
	comp=Z,3.0nm,1.4s,mb3.7						
LZH	Lanzhou	28.45	273	eP	P	09 14 25.1	+0.3
LZH				AP	pP	09 14 58.0	-0.6
LZH				XP	sP	09 15 17.2	-0.1
LZH				PP	PP	09 15 23.3	-8.8
LZH				AMB	AMB		
	comp=Z,23nm,1.0s,mb4.9						
LZH				AMB	AMB		
	comp=Z,108nm,5.1s						
LZH	Lanzhou	28.45	273	eP	P	09 14 25.1	+0.3
LZH				*PP	pP	09 14 58.0	-0.6
LZH				*SP	sP	09 15 17.2	-0.1
LZH						09 15 23.3	
LZH				pmax	pmax		
	comp=Z,23nm,1.0s,mb4.9						
LZH	Lanzhou	28.45	273	eP	P	09 14 25.1	+0.3
	comp=Z,23nm,1.0s,mb4.9						
LZH				pP	pP	09 14 58.0	-0.6
LZH				sP	sP	09 15 17.2	-0.1
LZH				PP	PP	09 15 23.3	-8.8
GTA	Gaotai	30.50	281	P	P	09 14 42.1	-0.8
GTA				AP	pP	09 15 16.5	-0.4
GTA				XP	sP	09 15 35.8	+0.3
GTA				PCP	PcP	09 17 38.9	+1.0
GTA				SCP	ScP	09 21 05.2	+0.2
GTA				SCS	ScS	09 24 59.4	-2.1
GTA				AMB	AMB		
	comp=Z,7.0nm,0.4s,mb4.7						
CD2	Chengdu	30.62	263	⇓iP	P	09 14 43.7	-0.4
CD2				PP	PP	09 15 49.2	-7.1
CD2				S	S	09 19 34.1	-0.1
CD2				SS	PcS	09 21 23.9	+1.5
CD2				AMB	AMB		
	comp=Z,50nm,0.6s,mb5.4						
CD2				AMB	AMB		
	comp=Z,130nm,4.2s						
GYA	Guiyang	30.79	253	P	P	09 14 46.8	+1.2
GYA				AP	pP	09 15 18.9	-0.6
GYA				PP	PP	09 15 54.0	-4.3
GYA				PCP	PcP	09 17 41.2	+2.3
GYA				S	S	09 19 37.5	+0.6
GYA				PCS	PcS	09 21 24.3	+1.2
GYA				AMB	AMB		
	comp=Z,10.0nm,0.7s,mb4.7						
GYA				AMB	AMB		
	comp=Z,80nm,4.2s						
GYA				LR	LR		
	comp=N,420nm,16.6s						
GYA				LR	LR		
	comp=E,440nm,17.9s						
GYA				LR	LR		
	comp=Z,360nm,16.0s						
TIXI	Tiksi	31.73	353	⇑iP	P	09 14 53.2	-0.1
TIXI				pmax	pmax		
	comp=Z,5.0nm,1.0s,mb4.2						
KMI	Kunming	34.44	255	P	P	09 15 19.3	+2.0
KMI				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.6						
KMI				LR	LR		
	comp=Z,56nm,17.5s						
KMI	Kunming	34.44	255	P	P	09 15 19.3	+2.0
	comp=Z,10.0nm,0.8s,mb4.6						
KMI				pP	pP	09 15 30.9	-21
KMI				sP	sP	09 15 37.3	-33
KMI				LR	LR		
	comp=Z,60nm,17.5s						
WMQ	Urumqi	38.26	293	P	P	09 15 51.7	+2.2
WMQ				AP	pP	09 16 23.2	-1.2
WMQ				PP	PP	09 17 26.2	+5.9
WMQ				AMB	AMB		
	comp=Z,14nm,0.5s,mb4.8						
WMQ				LR	LR		
	comp=N,57nm,23.2s						
WMQ				LR	LR		
	comp=E,105nm,21.9s						
WMQ				LR	LR		
	comp=Z,117nm,24.8s						
ZAA0	Zalesovo Array	38.72	309	eP	P	09 15 52.8	-0.4
ZAA0				ePcP	PcP	09 18 01.0	-0.4
ZALV	Zalesovo Beam	38.72	309	P	P	09 15 53.1	0.0
	comp=Z,25nm,0.6s,mb5.0,baz=88,slow=8.2,SNR=88						
ZALV				PcP	PcP	09 18 01.1	-0.3
	comp=Z,3.5nm,0.4s,baz=106,slow=3.1,SNR=8.6						
ZALV				ScP	ScP	09 21 32.0	-2.2
	comp=Z,3.6nm,0.6s,baz=95,slow=3.3,SNR=15						
NVS	Novosibirsk	39.60	311	i P	P	09 15 59.5	-1.0
CHRT	Chiangrai	39.81	251	⇑P	P	09 16 03.0	+0.4
	comp=Z,210nm,0.8s						
LSA	Lhasa	40.79	270	eP	P	09 16 11.7	+1.1
LSA				pmax	pmax		
	comp=Z,9.0nm,0.6s,mb4.6						
LSA	Lhasa	40.79	270	eP	P	09 16 11.7	+1.1
	comp=Z,9.4nm,0.6s,mb4.6						
CHG	Chiang Mai	41.09	251	⇑P	P	09 16 13.6	+0.4
	comp=Z,16nm,0.9s,mb4.7						

CHTO	Chiang Mai	41.09	251	eP	P	09 16 13.4	+0.2
CHTO				e	pP	09 16 53.4	+4.9
CHTO				pmax	pmax		
	comp=Z,12nm,0.8s,mb4.6						
CHTO	Chiang Mai	41.09	251	eP	P	09 16 13.4	+0.3
	comp=Z,12nm,0.8s,mb4.6						
CHTO				e	pP	09 16 53.4	+4.9
MK31	Makanchi Array	41.30	299	eP	P	09 16 14.2	-0.4
MKAR	Makanchi Array	41.30	299	P	P	09 16 14.2	-0.4
	comp=Z,15nm,0.7s,mb4.7,baz=85,slow=9.9,SNR=158						
MKAR				PcP	PcP	09 18 09.2	-0.7
	comp=Z,0.5nm,0.4s,baz=83,slow=5.0,SNR=3.3						
MKAR				ScP	ScP	09 21 43.0	-1.4
	comp=Z,0.6nm,0.7s,baz=66,slow=4.1,SNR=5.8						
MKAR	Makanchi Array	41.30	299	P	P	09 16 14.2	-0.4
MKAR						09 18 09.2	
CMAR	Chiang Mai Arr	41.32	250	P	P	09 16 15.6	+0.5
	comp=Z,2.3nm,0.6s,mb4.0,baz=46,slow=6.9,SNR=9.3						
KURK	Kurchatov	42.88	305	P	P	09 16 27.3	+0.1
	comp=Z,42nm,0.6s,mb5.3,baz=83,slow=9.0,SNR=33						
KURK	Kurchatov	42.88	305	⇑eP	P	09 16 26.5	-0.8
KURK				i *PP	pP	09 16 58.4	-4.4
KURK				pmax	pmax		
	comp=Z,91nm,1.3s,mb5.2						
KURK	Kurchatov	42.88	305	eP	P	09 16 26.9	-0.4
	comp=Z,50nm,0.7s,mb5.2						
SVW2	Sparrevohn	43.60	40	eP	P	09 16 34.5	+1.6
IMA2	Indian Mountai	44.40	32	eP	P	09 16 39.6	+0.4
TAPN	Taplejung	44.58	270	eP	P	09 16 41.4	+0.2
	comp=Z,21nm,0.6s,mb5.0						
KDAK	Kodiak Island	45.43	44	P	P	09 16 47.7	+0.2
	comp=Z,10.0nm,0.7s,mb4.5,baz=256,slow=2.9,SNR=24						
KDAK	Kodiak Island	45.43	44	P	P	09 16 47.7	+0.2
JIRN	Jiri	45.58	271	eP	P	09 16 49.7	+0.6
	comp=Z,21nm,0.2s,mb5.3						
RAMN	Ramite	45.63	270	eP	P	09 16 49.5	0.0
	comp=Z,44nm,0.4s,mb5.5						
KTH	Kantishna Hill	45.64	36	eP	P	09 16 50.4	+1.4
	comp=Z,26nm,1.2s,mb4.7						
GUN	Gumba	45.69	271	eP	P	09 16 50.4	+0.5
	comp=Z,111nm,0.4s						
COLD	Coldfoot	45.79	31	eP	P	09 16 51.1	+1.0
	comp=Z,6.6nm,0.4s,mb4.6						
TRF	Thorofare Moun	45.94	36	eP	P	09 16 52.2	+0.8
	comp=Z,2.8nm,0.7s,mb4.0						
KKN	Kakani	46.21	272	eP	P	09 16 54.2	+0.2
	comp=Z,78nm,0.6s,mb5.5						
PKI	Pulchoki	46.22	271	eP	P	09 16 54.2	+0.1
	comp=Z,15nm,0.3s,mb5.2						
DMN	Daman	46.43	272	eP	P	09 16 55.7	0.0
	comp=Z,17nm,0.3s,mb5.1						
MCK	McKinley	46.51	36	eP	P	09 16 56.7	+0.9
MCK				pmax	pmax		
	comp=Z,6.0nm,0.7s,mb4.3						
MCK	McKinley	46.51	36	eP	P	09 16 56.7	+0.8
	comp=Z,6.1nm,0.7s,mb4.3						
GKN	Gorkha	46.59	272	eP	P	09 16 56.9	-0.1
	comp=Z,28nm,0.3s,mb5.4						
PMR	Palmer	46.66	38	eP	P	09 16 57.5	+0.5
PMR				pmax	pmax		
	comp=Z,14nm,1.1s,mb4.5						
PMR	Palmer	46.66	38	eP	P	09 16 57.5	+0.5
	comp=Z,14nm,1.1s,mb4.5						
SEW	Seward	46.71	41	eP	P	09 16 57.5	+0.1
COLA	College	46.88	34	eP	P	09 16 59.7	+1.1
COLA				e	pP	09 17 35.6	+0.9
COLA				pmax	pmax		
	comp=Z,11nm,1.0s,mb4.4						
COLA	College	46.88	34	eP	P	09 16 59.7	+1.1
	comp=Z,10nm,1.0s,mb4.4						
COLA				e	pP	09 17 35.6	+0.9
TKM2	Tokmak 2	46.96	295	eP	P	09 17 00.6	+1.0
TKM2				pmax	pmax		
	comp=Z,37nm,0.8s,mb5.1						
TKM2	Tokmak 2	46.96	295	P	P	09 17 00.6	+1.0
	SNR=45						
TKM2	Tokmak 2	46.96	295	eP	P	09 17 00.6	+0.9
	comp=Z,37nm,0.8s,mb5.1						
DANN	Dangsing	47.08	273	eP	P	09 17 01.5	+0.7
	comp=Z,167nm,0.6s						
VOSK	Vostochnaya	47.09	309	P	P	09 16 59.5	-1.0
VOSK				pmax	pmax		
	comp=Z,12nm,0.7s,mb4.6						
BVA0	Borovoye Array	47.37	310	i P	P	09 17 02.3	-0.3
BVA0				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb3.9						
BVAR	Borovoye Array	47.37	310	P	P	09 17 02.7	+0.1
	comp=Z,15nm,0.5s,mb4.9,baz=70,slow=7.8,SNR=70						
BVAR				PcP	PcP	09 18 29.8	-0.9
	comp=Z,1.4nm,0.5s,baz=64,slow=3.4,SNR=3.1						
BVAR				S	S	09 23 41.6	-2.3
	comp=Z,0.7nm,0.5s,baz=76,slow=14,SNR=4.6						
BRVK	Borovoye	47.42	310	eP	P	09 17 03.1	+0.1
BRVK				pmax	pmax		
	comp=Z,16nm,0.6s,mb4.8						
BRVK	Borovoye	47.42	310	eP	P	09 17 03.1	+0.1
	comp=Z,16nm,0.6s,mb4.8						
KBK	Karagaybulak	47.50	295	P	P	09 17 04.6	+0.8
	SNR=14						
KOLN	Koldanda	47.50	273	eP	P	09 17 04.3	+0.3
	comp=Z,35nm,0.5s,mb5.2						
USP	Ospenovka	47.60	296	P	P	09 17 04.8	+0.3
	SNR=7.0						
AAK	Ala-Archa	47.82	295	P	P	09 17 06.4	+0.1
	SNR=8.0						
UCH	Uchtor	47.95	295	P	P	09 17 08.7	+1.4
	SNR=8.6						
UCH	Uchtor	47.95	295	eP	P	09 17 08.3	+1.0
	comp=Z,6.2nm,0.9s,mb4.2						
EKS2	Erkin-Say	48.30	295	P	P	09 17 10.3	+0.4
	SNR=8.7						
EKS2	Erkin-Say	48.30	295	eP	P	09 17 09.9	-0.1
	comp=Z,12nm,0.8s,mb4.6						
AML	Almayashu	48.55	295	P	P	09 17 13.0	+1.1
	SNR=26						
AML	Almayashu	48.55	295	eP	P	09 17 12.8	+0.9
	comp=Z,22nm,1.0s,mb4.7						
KK31	Karatay Array	50.38	297	i P	P	09 17 25.3	-0.4
KK31				pmax	pmax		
	comp=Z,2.0nm,0.4s,mb4.1						
SVE	Sverdlovsk	51.76	317	⇓eP	P	09 17 36.7	+0.9
SVE				pmax	pmax		
	comp=Z,43nm,0.8s,mb5.1						
ARU	Arti	52.98	317	d iP	P	09 17 44.7	0.0
ARU				eS	S	09 25 04.3	+3.0
ARU				SS	SS	09 28 43.0	+1.0
ARU				pmax	pmax		
	comp=Z,32nm,1.0s,mb5.0						
ARU	Arti	52.98	317	eP	P	09 17 44.8	+0.1
	comp=Z,21nm,0.6s,mb5.0						
COEN	Coen	54.25	176	eP	P	09 17 54.2	-0.2
AB31	Akbulak array	54.80	308	i P	P	09 17 57.6	-0.5
AB31				pmax	pmax		
	comp=Z,6.0nm,0.5s,mb4.6						
KBL	Kabul	55.08	288	eP	P	09 18 00.3	0.0
KBL				pmax	pmax		
	comp=Z,17nm,0.9s,mb4.8						
KBL	Kabul	55.08	288	eP	P	09 18 00.3	-0.1
	comp=Z,17nm,0.9s,mb4.8						
AKTK	Aktyubinsk	55.48	310	P	P	09 18 02.7	-0.2
AKTO	Aktyubinsk	55.48	310	P	P	09 18 02.7	-0.2
	comp=Z,5.7nm,0.7s,mb4.4,baz=69,slow=12,SNR=14						
DLBC	Dease Lake	56.71	39	P	P	09 18 12.7	+1.2
	comp=Z,2.4nm,0.6s,mb4.2,baz=338,slow=6.8,SNR=8.6						
DLBC	Dease Lake	56.71	39	eP	P	09 18 13.3	+1.8
WRA	Warramunga Arr	60.33	186	P	P	09 18 35.7	-1.2
	comp=Z,4.9nm,0.5s,mb4.6,baz=2.7,slow=7.4,SNR=175						
ARCES	ARCESS Array B	60.34	338	P	P	09 18 36.1	-0.3
	comp=Z,4.0nm,0.8s,mb4.3,baz=52,slow=7.9,SNR=8.4						
YKA	Yellowknife Ar	61.47	31	P	P	09 18 44.5	+0.3
	comp=Z,1.2nm,0.5s,mb4.0,baz=301,slow=6.9,SNR=4.4						
YKA	Yellowknife Ar	61.47	31	P	P	09 18 44.5	+0.3
JOF	Joensuu	62.34	331	ep	P	09 18 49.4	-0.6
	comp=Z,3.0nm,0.3s,mb4.6						
ASAR	Alice Springs	64.05	186	P	P	09 19 01.1	-0.6
	comp=Z,0.9nm,0.3s,mb4.0,baz=1.4,slow=6.8,SNR=46						
ASAR				PcP	PcP	09 19 35.8	+0.4
	comp=Z,1.8nm,0.7s,baz=8.2,slow=4.2,SNR=8.6						
MBWA	Marble Bar	64.11	201	eP	P	09 19 01.1	-0.9
	comp=Z,6.6nm,0.6s,mb4.6						
OBN	Obninsk	64.60	322	⇑iP	P	09 19 04.4	-0.5
OBN				i *PP	pP	09 19 38.0	-5.2
OBN				pmax	pmax		
	comp=Z,45nm,2.6s,mb4.8						
KAF	Kangasniemi	64.68	332	ep	P	09 19 04.5	-0.8
	comp=Z,2.6nm,0.3s,mb4.5						
KAF	Kangasniemi	64.68	332	eP	P	09 19 04.5	-0.8
KAF				pmax	pmax		
	comp=Z,3.0nm,0.3s,mb4.6						
VSR	Storozhevoye	65.54	317	eP	P	09 19 11.0	0.0
VSR				pmax	pmax		
	comp=Z,5.0nm,1.0s,mb4.3						
VSR				pmax	pmax		
	comp=N,4.0nm,0.7s						
VSR				pmax	pmax		
	comp=E,2.0nm,0.3s						
KIV	Kislovodsk	67.73	309	eP	P	09 19 25.2	+0.1
KIV				pmax	pmax		
	comp=Z,44nm,1.0s,mb5.1						
KIV	Kislovodsk	67.73	309	eP	P	09 19 26.0	+0.9
	comp=Z,40nm,0.9s,mb5.1						
NB2	NORSAR Subarra	70.53	336	P	P	09 19 41.5	-0.5
	comp=Z,1.5nm,0.5s,mb4.0,baz=39,slow=6.2						
NOA	NORSAR Array B	70.53	336	P	P	09 19 41.6	-0.4
	comp=Z,2.5nm,0.7s,mb4.1,baz=39,slow=6.1,SNR=8.0						
AKASG	Malin Array Be	70.82	321	P	P	09 19 43.2	-0.7
	comp=Z,2.0nm,0.4s,mb4.2,baz=46,slow=6.1,SNR=12						
STKA	Stephens Creek	72.01	178	P	P	09 19 50.6	-0.5
	comp=Z,2.5nm,0.8s,mb4.0,baz=346,slow=8.3,SNR=5.3						
UMR	Umm Al-Rimmam	72.96	294	eP	P	09 19 56.5	-0.6
	baz=294						
UMR				AMb	AMB	09 19 57.8	
	comp=Z,46nm,1.1s,mb5.1,baz=294						
MIB	Mutribah	73.07	295	eP	P	09 19 57.1	-0.6
	baz=295						
MIB				AMb	AMB	09 19 57.8	
	comp=Z,26nm,0.8s,mb5.0,baz=295						
RDF	Al-Radifah	73.45	294	eP	P	09 19 59.5	-0.5
	baz=294						
RDF				AMb	AMB	09 20 00.3	
	comp=Z,67nm,1.2s,mb5.2,baz=294						
NAY	Al-Naaiem	73.47	294	eP	P	09 19 59.3	-0.7
	baz=294						
NAY				AMb	AMB	09 19 59.7	
	comp=Z,13nm,0.8s,mb4.7,baz=294						
RST	Umm Al-Ruwaisa	73.49	295	eP	P	09 19 59.1	-1.0
	baz=295						
RST				AMb	AMB	09 19 59.2	
	comp=Z,20nm,0.7s,mb5.0,baz=295						
NVAR	Mina Array Bea	73.93	53	P	P	09 20 03.5	+1.0
	comp=Z,1.7nm,0.7s,mb3.9,baz=284,slow=5.9,SNR=7.5						
BUR08	Bucovina Ar. S	74.84	320	eP	P	09 20 08.1	+0.5
PDAR	Pinedale Array	76.14	45	P	P	09 20 15.8	+0.7
	comp=Z,0.8nm,0.5s,mb3.6,baz=48,slow=0.5,SNR=10						
PDAR				pP	pP	09 20 54.8	+0.1
	comp=Z,0.6nm,0.8s,baz=250,slow=1.8,SNR=2.6						
DPC	Dobruska-Polom	76.89	327	eP	P	09 20 19.7	+0.5
KHC	Kasperske Hory	78.96	327	⇑iP	P	09 20 30.8	+0.1
KHC	Kasperske Hory	78.96	327	eP	P	09 20 30.2	-0.5
GERES	GERESS Array B	79.14	327	P	P	09 20 31.2	-0.4
	comp=Z,0.3nm,0.3s,baz=16,slow=6.3,SNR=3.7						
ANMO	Albuquerque	83.30	49	⇑iP	P	09 20 54.7	+0.8
TXAR	Lajitas Array	88.98	51	P	P	09 21 22.2	+0.5
	comp=Z,0.4nm,0.8s,baz=281,slow=3.3,SNR=5.4						
TXAR				pP	pP	09 22 03.1	+0.8
	comp=Z,0.5nm,0.9s,baz=276,slow=2.4,SNR=3.4						
TXAR	Lajitas Array	88.98	51	P	P	09 21 22.2	+0.4
TXAR				pP	pP	09 22 03.1	+0.8
TORD	Torodi Ar. Bea	114.02	315	PKP	PKiKP	09 27 04.2	-1.2
	comp=Z,0.2nm,0.6s,baz=20,slow=2.3,SNR=4.1						
TORD				PP	PP	09 28 00.1	-1.0
	comp=Z,1.1nm,0.9s,baz=16,slow=11,SNR=5.1						
DBIC	Dimbokro	122.92	317	PKP	PKPdf	09 27 20.9	-1.7
	comp=Z,4.4nm,0.9s,baz=83,slow=8.1,SNR=4.5						
DBIC	Dimbokro	122.92	317	PKP	PKPdf	09 27 20.9	-1.7
SNAA	Sanae	143.64	199	ePKPdf	PKPdf	09 27 56.8	-2.6
SNAA	Sanae	143.64	199	ePKPdf	PKPdf	09 27 56.8	-2.7
VNA2	Neumayer--Watz	145.24	198	ePKPdf	PKPdf	09 28 02.7	+0.5
VNA3	Neumayer Olymp	145.53	197	ePKPdf	PKPdf	09 28 03.1	+0.4
VNA1	Neumayer--Stat	145.64	198	ePKPdf	PKPdf	09 28 04.0	+1.1
LPAZ	La Paz	145.83	53	PKPbc	PKPbc	09 28 07.7	+1.9
	comp=Z,0.5nm,0.4s,baz=330,slow=5.9,SNR=5.1						
LPAZ	La Paz	145.83	53	ePKPdf	PKPdf	09 28 07.2	+2.3
LPAZ				PKPbc	PKPbc	09 28 07.7	+1.9
BDFB	Brasilia	154.33	18	PKPbc	PKPbc	09 28 26.4	-0.1
	comp=Z,0.5nm,0.4s,baz=118,slow=12,SNR=3.5						

NEIC 10 09:39:16.7,5438N×16163W,h13km,ML3.6(AEIC)**,After AEIC.,Alaska Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FALS	False Pass	1.15	295	P	Pb	09 39 37.2	-1.1
FALS				S	Sb	09 39 53.5	+0.4
SDPT	Sand Point	1.18	34	P	Pn	09 39 37.9	-0.9
SDPT				S	Sb	09 39 54.0	0.0
AKGG	Akutan Green G	2.57	268	P	Pn	09 39 57.6	-0.3
UNV	Unalaska Valle	2.92	261	ePn	Pn	09 40 01.8	-0.9
UNV				eSn	Sn	09 40 35.8	-1.9
OHAK	Old Harbor	5.50	55	P	Pn	09 40 36.0	-2.2

*ISCJB **10** 09:45:26.3±0.7,3937N±003×2020E±007,h18km±6km, Error ellipse: s-maj=8.9km s-min=5.2km az=171.4*
*ATH **10** 09:45:26.3,3928N×2029E,h22km±2km,MD3.4/6*
*THE **10** 09:45:26.5,3932N×2021E,h1km±2km,ML2.9/3,Error ellipse: s-maj=3.8km s-min=0.5km az=274.0*
*CSEM **10** 09:45:26.4±0.2,3925N×2029E,h2km,ML2.9/3,Error ellipse: s-maj=4.5km s-min=2.9km az=84.0*
*NEIC **10** 09:45:26.3,3928N×2029E,h22km,MD3.4(ATH),After ATH.*
ISC 10 09:45:27.1±0.6**,3931N**±003×**2026E**±006**,h11**km±6km**,n18,** σ**0^{s}91**/29**,Greece-Albania border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IGT	Igoumenitsa	0.23	13	P	Pg	09 45 31.3	-0.5
IGT				S	Sg	09 45 34.6	-0.4
KEK	Kerkira	0.54	318	ePn	Pg	09 45 37.6	0.0
KEK				eSn	Sg	09 45 46.3	+1.6
KEK	Kerkira	0.54	318	ePN	Pg	09 45 37.6	0.0
KEK				eSN	Sg	09 45 46.3	+1.6
JAN	Janina	0.57	53	ePn	Pg	09 45 37.3	-0.9
JAN				eSn	Sg	09 45 46.0	+0.3
JAN	Janina	0.57	53	ePN	Pg	09 45 37.3	-0.9
JAN				eSN	Sg	09 45 46.0	+0.3
LKD	Levkas	0.67	153	P	Pg	09 45 39.4	-0.7
LKD				S	Sg	09 45 49.8	+0.9
MEV	Metsovon	0.88	57	P	Pg	09 45 43.4	-0.7
VLS	Valsamata	1.16	167	P	Pb	09 45 48.5	-0.6
VLS				eSn	Sn	09 46 04.3	-0.8
VLS				S	Sg	09 46 05.4	+1.0
VLS	Valsamata	1.16	167	ePn	Pn	09 45 47.6	-1.6
VLS				eSn	Sn	09 46 04.3	-0.8
VLS	Valsamata	1.16	167	ePN	Pn	09 45 47.6	-1.6
VLS				eSN	Sn	09 46 04.3	-0.8
EVR	Evrytania	1.26	108	ePn	Pn	09 45 50.4	-0.3
EVR	Evrytania	1.26	108	ePN	Pn	09 45 50.4	-0.3
KFL	Anninata	1.27	161	P	Pn	09 45 50.9	+0.2
THL	Klokotos Trika	1.38	79	ePn	Pn	09 45 51.9	-0.4
THL	Klokotos Trika	1.38	79	ePN	Pn	09 45 51.9	-0.4
RLS	Riolos of Patr	1.56	143	ePn	Pn	09 45 54.8	0.0
RLS	Riolos of Patr	1.56	143	ePN	Pn	09 45 54.8	0.0
AGG	Agios Georgios	1.63	100	P	Pn	09 45 56.7	+1.0
AGG				S	Sn	09 46 19.4	+2.7

*ISCJB **10** 10:08:37.5±0.4,5894S±007×255W±0.1,h10km,mb4.5/20, MS4.1/13,Error ellipse: s-maj=12.3km s-min=7.1km az=142.1*
*NEIC **10** 10:08:43.8±1.7,5894S×2556W,h46km±14km,mb4.7/10, Error ellipse: s-maj=10.1km s-min=6.5km az=221.0*
*IDC **10** 10:08:47.1±4.8,5898S×2581W,h74km±42km,mb4.3/15, mb1 4.3/15,mb1mx4.3/19,mbtmp4.3/15,MS4.1/14, Ms1 4.0/14,ms1mx4.0/19,Error ellipse: s-maj=18.7km s-min=13.6km az=48.0*
ISC 10 10:08:39.3±0.4**,5895S**±006×**256W**±01**,h10**km**,n73,** σ**0^{s}76**/42**,mb4.5**/19**,MS4.1**/13**,South Sandwich Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNA1	Neumayer--Stat	13.78	155	eP	Pn	10 11 54.0	-0.4
VNA1				e		10 12 04.8	
VNA1				eS	Sn	10 14 16.0	-11
VNA3	Neumayer Olymp	13.96	158	eP	Pn	10 11 56.5	-0.4
VNA3				e		10 12 08.1	
VNA3				eS	Sn	10 14 21.3	-10
VNA2	Neumayer--Watz	14.18	155	eP	Pn	10 11 59.9	+0.1
	baz=315,slow=15						
VNA2				e		10 12 11.9	
VNA2				eS	Sn	10 14 27.3	-10
SNAA	Sanae	15.74	153	eP	Pn	10 12 20.4	-0.3
SNAA				e		10 12 31.7	
SNAA	Sanae	15.74	153	eP	Pn	10 12 20.5	-0.3
	39nm,0.6s						
SNAA				eS	Sn	10 14 58.3	-17
PMSA	Palmer Station	18.81	236	P	Pn	10 13 04.3	+5.2
	0.7nm,0.3s,baz=143,slow=5.9,SNR=4.3						
PMSA				LR	LR	10 19 17.1	
	comp=Z,412nm,18.6s,baz=191,slow=34						
MAIT	Maitri	19.36	143	eP	Pn	10 13 05.1	-0.6
MAIT				eS	Sn	10 16 30.3	-12
EFI	East Falkland	19.70	277	eP	Pn	10 13 09.7	-0.3
	99nm,1.1s						
USHA	Ushuaia	23.45	261	P	P	10 13 49.7	+1.1
	16nm,0.8s,mb4.5,baz=114,slow=12,SNR=8.4						
USHA				LR	LR	10 20 26.0	
	comp=Z,605nm,20.3s,MS4.0,baz=59,slow=30						
QSPA	South Pole Qui	31.29	180	P	P	10 15 00.2	+1.3
	15nm,0.6s,mb5.0,baz=209,slow=3.4,SNR=109						
QSPA				PcP	PcP	10 17 52.5	+0.1
	10nm,1.0s,baz=170,slow=0.6,SNR=3.7						
QSPA	South Pole Qui	31.29	180	P	P	10 15 00.2	+1.3
QSPA				PcP	PcP	10 17 52.5	+0.1
TRQA	Tornquist	31.31	296	eP	P	10 14 59.5	+0.1
	6.3nm,0.8s,mb4.5						
TRQA				e		10 15 14.6	
PLCA	Paso Flores	33.43	283	P	P	10 15 17.5	-0.4
	8.8nm,1.1s,mb4.6,baz=138,slow=7.0,SNR=9.1						
PLCA				LR	LR	10 29 26.1	
	comp=Z,191nm,18.1s,MS3.9,baz=148,slow=37						
MAW	Mawson	37.32	141	eP	P	10 15 50.6	-0.5
	7.0nm,0.9s,mb4.5						
MAW	Mawson	37.32	141	P	P	10 15 51.3	+0.2
	3.6nm,0.7s,mb4.3,baz=235,slow=6.8,SNR=14						
MAW				LR	LR	10 29 12.3	
	comp=Z,292nm,19.5s,MS4.1,baz=245,slow=33						
MAW	Mawson	37.32	141	eP	P	10 15 50.9	-0.2
	9.8nm,0.9s,mb4.6						
CPUP	Villa Florida	39.39	312	P	P	10 16 08.7	-0.2
	0.6nm,0.4s,mb3.7,baz=169,slow=13,SNR=3.5						
CPUP				LR	LR	10 32 23.9	
	comp=Z,104nm,18.0s,MS3.7,baz=139,slow=36						
CFAA	Coronel Fontan	39.53	295	P	P	10 16 09.3	-0.8
	0.7nm,0.5s,mb3.6,baz=152,slow=7.6,SNR=22						
SBA	Scott Base	43.24	184	eP	P	10 16 41.6	+1.6
	26nm,1.3s,mb4.8						
BOSA	Boshof	45.96	72	P	P	10 17 02.6	+0.3
	5.3nm,0.8s,mb4.5,baz=175,slow=11,SNR=5.6						
BOSA				LR	LR	10 31 48.8	
	comp=Z,207nm,19.9s,MS4.1,baz=56,slow=30						
BDFB	Brasilia	46.31	329	P	P	10 17 05.2	+0.1
	2.6nm,0.6s,mb4.4,baz=140,slow=16,SNR=3.8						
TSUM	Tsumeb	50.45	57	LR	LR	10 33 59.1	
	comp=Z,189nm,20.4s,MS4.1,baz=135,slow=30						
CASY	Casey	50.88	159	eP	P	10 17 39.9	+0.2
CASY	Casey	50.88	159	eP	P	10 17 39.7	0.0
	5.3nm,0.7s,mb4.6						
LPAZ	La Paz	52.76	305	P	P	10 17 53.8	-0.5
	2.2nm,0.8s,mb4.2,baz=175,slow=2.2,SNR=10						
LPAZ				LR	LR	10 39 06.3	
	comp=Z,62nm,20.7s,MS3.6,baz=99,slow=34						
LPAZ	La Paz	52.76	305	eP	P	10 17 53.5	-0.9
	2.0nm,0.7s,mb4.2						
LPAZ				LR	LR	10 39 06.3	
LSZ	Lusaka	58.70	66	eP	P	10 18 37.1	+0.2
	6.1nm,0.7s,mb4.7						
DBIC	Dimbokro	67.49	22	P	P	10 19 34.9	-0.4
	3.7nm,0.6s,mb4.6,baz=173,slow=10,SNR=5.0						
DBIC				LR	LR	10 44 26.9	
	comp=Z,99nm,18.0s,MS4.1,baz=194,slow=32						
ROSC	El Rosal	74.41	309	LR	LR	10 52 37.7	
	comp=Z,127nm,19.1s,MS4.2,baz=10,slow=35						
TOA0	Torodi Ar. Sit	75.20	28	eP	P	10 20 21.6	-0.2
TORD	Torodi Ar. Bea	75.20	28	P	P	10 20 21.9	+0.1
	12nm,0.6s,mb5.0,baz=194,slow=6.3,SNR=57						
TORD				LR	LR	10 46 04.6	
	comp=Z,99nm,20.0s,MS4.1,baz=340,slow=30						
TORD	Torodi Ar. Bea	75.20	28	P	P	10 20 21.9	+0.1
TORD				LR	LR	10 46 04.6	
KMBO	Kilima Mbogo	75.33	67	P	P	10 20 25.2	+2.5
	1.6nm,0.3s,mb4.4,baz=15,slow=18,SNR=5.2						
KMBO				LR	LR	10 50 13.4	
	comp=Z,196nm,18.9s,MS4.4,baz=315,slow=33						
RKT	Rikitea	79.89	242	eLR	LR	10 46 18.9	
	286nm,27.8s						
TBI	Tubuai	85.90	230	eLR	LR	10 48 59.1	
	86nm,25.0s						
FORT	Forrest	87.95	158	eP	P	10 21 29.1	-0.1
	2.5nm,0.6s,mb4.6						
STKA	Stephens Creek	88.89	169	eP	P	10 21 32.6	-1.0
	7.7nm,0.9s,mb5.0						
STKA	Stephens Creek	88.89	169	P	P	10 21 32.4	-1.1
	9.9nm,0.9s,mb5.2,baz=175,slow=6.4,SNR=9.8						
STKA				LR	LR	10 59 38.0	
	comp=Z,162nm,18.6s,MS4.5,baz=204,slow=34						
STKA	Stephens Creek	88.89	169	eP	P	10 21 32.2	-1.3
	8.4nm,0.7s,mb5.2						
PPT	Papeete	91.14	232	eLR	LR	10 51 31.3	
	107nm,23.0s						
TAOE	Nuku Hiva Isla	94.71	244	eP	P	10 22 01.5	+0.7
TAOE				e		10 22 33.6	
ASAR	Alice Springs	95.96	161	P	P	10 22 05.2	-1.2
	4.0nm,0.8s,mb4.9,baz=185,slow=4.1,SNR=42						
ASAR				PKKPbc	PKKPbc	10 38 52.3	+0.7
	0.8nm,0.7s,baz=14,slow=2.0,SNR=11						
WRA	Warramunga Arr	99.67	161	P	Pdif	10 22 20.9	-2.4
	1.0nm,0.9s,baz=189,slow=4.1,SNR=6.6						
WRA				PKKPbc	PKKPbc	10 38 41.6	+0.2
	0.8nm,0.8s,baz=359,slow=3.0,SNR=7.3						
WRA				LR	LR	11 02 38.2	
	comp=Z,137nm,21.3s,MS4.4,baz=175,slow=32						
PDAR	Pinedale Array	122.58	300	PKP	PKPdf	10 27 32.1	-1.9
	0.9nm,0.8s,baz=106,slow=4.8,SNR=6.1						
ULM	Lac du Bonnet	122.92	314	PKP	PKPdf	10 27 32.7	-1.7
	4.4nm,0.6s,baz=147,slow=4.1,SNR=5.3						
ULM	Lac du Bonnet	122.92	314	PKP	PKPdf	10 27 32.7	-1.7
NB2	NORSAR Subarra	123.03	20	PKPdf	PKPdf	10 27 33.0	-1.3
	comp=Z,5.4nm,1.0s,baz=202,slow=1.9						
NOA	NORSAR Array B	123.03	20	PKP	PKPdf	10 27 33.5	-0.8
	comp=Z,4.1nm,1.0s,baz=190,slow=1.5,SNR=4.9						
NOA	NORSAR Array B	123.03	20	PKP	PKPdf	10 27 33.5	-0.8
CMAR	Chiang Mai Arr	123.23	111	PKP	PKPdf	10 27 35.1	-0.9
	comp=Z,2.7nm,0.9s,baz=234,slow=3.8,SNR=10						
NVAR	Mina Array Bea	123.27	290	PKP	PKPdf	10 27 35.1	-0.4
	comp=Z,1.5nm,0.8s,baz=126,slow=3.3,SNR=7.5						
HLID	Hailey	125.42	297	ePKPdf	PKPdf	10 27 39.0	-0.4
CHMT	Chamberlain Mo	127.45	300	ePKPdf	PKPdf	10 27 43.1	-0.1
BMO	Blue Mountains	127.75	296	ePKPdf	PKPdf	10 27 42.4	-1.5
AKTK	Aktyubinsk	128.36	54	PKP	PKPdf	10 27 43.4	-1.4
AKTO	Aktyubinsk	128.36	54	PKP	PKPdf	10 27 43.4	-1.4
	comp=Z,5.7nm,1.0s,baz=211,slow=1.6,SNR=13						
ARCES	ARCESS Array B	133.32	22	PKP	PKPdf	10 27 52.6	-1.0
	comp=Z,5.7nm,0.8s,baz=188,slow=2.5,SNR=5.7						
BVAR	Borovoye Array	135.57	59	PKP	PKPdf	10 27 57.6	-0.8
	comp=Z,3.6nm,0.9s,baz=254,slow=1.1,SNR=8.9						
MKAR	Makanchi Array	136.95	73	PKP	PKPdf	10 28 00.3	-0.8
	comp=Z,1.6nm,0.9s,baz=241,slow=2.5,SNR=5.7						
KURK	Kurchatov	137.82	67	PKP	PKPdf	10 28 02.9	+0.3
	comp=Z,0.7nm,0.3s,baz=241,slow=2.2,SNR=4.3						
KURK	Kurchatov	137.82	67	PKP	PKPdf	10 28 02.9	+0.3
YKA	Yellowknife Ar	138.88	315	PKP	PKPdf	10 28 03.2	-0.9
	comp=Z,14nm,0.7s,baz=125,slow=2.2,SNR=15						
YKA	Yellowknife Ar	138.88	315	PKP	PKPdf	10 28 03.2	-0.9
SPITS	Spitsbergen Ar	139.23	12	PKhKP		10 27 58.8	
	comp=Z,36nm,1.1s,baz=24,slow=18,SNR=3.9						
ZALV	Zalesovo Beam	142.81	66	PKhKP		10 28 06.3	
	comp=Z,0.9nm,0.6s,baz=256,slow=1.2,SNR=3.5						
DAWY	Dawson	149.32	308	ePKPbc	PKPbc	10 28 24.9	-1.7
SONM	Songino Array	149.94	90	PKPbc	PKPbc	10 28 27.9	-0.8
	comp=Z,8.8nm,1.0s,baz=216,slow=2.2,SNR=16						
KSRS	Korea Array	152.50	130	PKPbc	PKPbc	10 28 34.0	-0.9
	comp=Z,2.0nm,0.7s,baz=227,slow=2.9,SNR=6.0						
KSRS				PKPab	PKPab	10 28 45.0	-0.3
	comp=Z,2.5nm,0.9s,baz=209,slow=4.2,SNR=6.0						
COLA	College	153.06	307	ePKPbc	PKPbc	10 28 33.7	-1.6
MCK	McKinley	153.21	304	ePKPbc	PKPbc	10 28 34.8	-0.8
BPAW	Bear Paw Mtn.	154.18	305	ePKPbc	PKPbc	10 28 36.6	-1.1
COLD	Coldfoot	154.47	312	ePKPbc	PKPbc	10 28 37.8	-0.4
MJAR	Matsushiro Arr	155.21	148	PKPab	PKPab	10 28 54.9	-2.0
	comp=Z,2.9nm,1.0s,baz=186,slow=4.5,SNR=4.8						

ISCJB **10** *10:14:10.0±0.2, 3796N±002×2016E±002, h10km, mb4.4/23, MS3.6/2, Error ellipse: s-maj=2.8km s-min=1.9km az=40.3*
IDC **10** *10:14:09.8±0.7, 3807N×2032E, h0km, mb4.1/13, mb1 4.2/23, mb1mx4.1/37, mbtmp4.1/23, ML4.3/9, MS3.6/5, Ms1 3.6/5, ms1mx3.1/43, Error ellipse: s-maj=15.3km s-min=12.0km az=1.0*
NEIC **10** *10:14:10.8, 3792N×2024E, h14km, ML4.4(PDG), ML4.5(ATH), ML4.6(THE), After ATH.*
ATH **10** *10:14:10.8, 3792N×2024E, h14km±1km, MD4.3/26, ML4.5*
PDG **10** *10:14:11.9±0.5, 3804N×2016E, h8km±2km, ML4.4/10, Error ellipse: s-maj=2.0km s-min=1.7km az=90.0*
CSEM **10** *10:14:11.7±0.1, 3798N×2013E, h15km, mb4.6/10, Mw4.4, Error ellipse: s-maj=1.7km s-min=1.3km az=18.0*
MOS **10** *10:14:12.9±1.1, 3795N×2020E, h33km, mb4.3/7, Error ellipse: s-maj=5.9km s-min=3.5km az=83.8*
THE **10** *10:14:12.0, 3798N×2026E, h0km±3km, ML4.6/1, Error ellipse: s-maj=3.2km s-min=1.1km az=175.0*
PRU **10** *10:14:13.4, 3809N×1924E, h0km*
HLW **10** *10:14:22.4, 3763N×2169E, h33km, Mb4.8*
ISC 10 10:14:11.9±0.2, **3796N**±002×**2022E**±002, **h10km, n289,** σ1§**18**/344, **mb4.4**/24, **MS3.6**/2, **22C-23D, Ionian Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VLS	**Valsamata**	**0.37**	**53**	P	**Pg**	**10 14 18.4**	**-0.7**
VLS				S	**Sg**	**10 14 23.3**	**-0.7**
VLS	**Valsamata**	**0.37**	**53**	*e*Pb	**Pg**	**10 14 18.6**	**-0.5**
VLS				*e*Sb	**Sg**	**10 14 23.7**	**-0.3**
VLS	**Valsamata**	**0.37**	**53**	*e*PB	**Pg**	**10 14 18.6**	**-0.5**
VLS				*e*SB	**Sg**	**10 14 23.7**	**-0.3**
KFL	**Anninata**	**0.47**	**71**	P	**Pg**	**10 14 20.8**	**-0.3**
RLS	**Riolos of Patr**	**0.99**	**84**	⇓*i*Pn	**Pn**	**10 14 29.9**	**-1.9**
RLS	**Riolos of Patr**	**0.99**	**84**	⇓*i*PN	**Pn**	**10 14 29.9**	**-1.9**
ITM	**Ithomi**	**1.56**	**119**	⇑*i*Pb	**Pn**	**10 14 40.2**	**+0.5**
ITM				*e*Sb	**Sn**	**10 15 00.6**	**+0.6**
ITM	**Ithomi**	**1.56**	**119**	⇑*i*PB	**Pn**	**10 14 40.2**	**+0.5**
ITM				*e*SB	**Sn**	**10 15 00.6**	**+0.6**
EVR	**Evrytania**	**1.57**	**52**	*e*Pb	**Pn**	**10 14 41.1**	**+1.2**
EVR				*e*Sb	**Sg**	**10 15 03.1**	**+0.6**
EVR	**Evrytania**	**1.57**	**52**	*e*PB	**Pn**	**10 14 41.1**	**+1.2**
EVR				*e*SB	**Sg**	**10 15 03.1**	**+0.6**
IGT	**Igoumenitsa**	**1.58**	**3**	P	**Pn**	**10 14 39.7**	**-0.2**
IGT				S	**Sn**	**10 15 02.2**	**+1.8**
PYL	**PYLOS**	**1.61**	**131**	P	**Pn**	**10 14 40.6**	**+0.3**
PYL				S	**Sn**	**10 15 00.8**	**-0.3**
JAN	**Janina**	**1.77**	**16**	*e*Pn	**Pn**	**10 14 43.6**	**+1.0**
JAN				*e*Sn	**Sn**	**10 15 06.9**	**+1.8**
JAN	**Janina**	**1.77**	**16**	*e*PN	**Pn**	**10 14 43.6**	**+1.0**
JAN				*e*SN	**Sn**	**10 15 06.9**	**+1.8**
KEK	**Kerkira**	**1.79**	**349**	*e*Pn	**Pn**	**10 14 42.9**	**+0.1**
KEK				*e*Sn	**Sg**	**10 15 08.6**	**-0.7**
KEK	**Kerkira**	**1.79**	**349**	*e*PN	**Pn**	**10 14 42.9**	**+0.1**
KEK				*e*SN	**Sg**	**10 15 08.6**	**-0.7**
VLX	**Vlachokerasia**	**1.81**	**108**	P	**Pn**	**10 14 44.2**	**+1.1**
VLX				S	**Sn**	**10 15 03.1**	**-3.0**
SRN	**Sarande**	**1.93**	**355**	*e*PN	**Pg**	**10 14 48.5**	**-0.4**
AGG	**Agios Georgios**	**1.97**	**57**	P	**Pn**	**10 14 47.0**	**+1.7**
MEV	**Metsovon**	**1.99**	**23**	P	**Pn**	**10 14 45.6**	**0.0**
THL	**Klokotos Trika**	**2.13**	**41**	P	**Pn**	**10 14 49.1**	**+1.5**
THL	**Klokotos Trika**	**2.13**	**41**	*e*Pn	**Pn**	**10 14 49.3**	**+1.7**
THL				*e*Sn	**Sn**	**10 15 15.4**	**+1.3**
THL	**Klokotos Trika**	**2.13**	**41**	*e*PN	**Pn**	**10 14 49.3**	**+1.7**
THL				*e*SN	**Sn**	**10 15 15.4**	**+1.3**
LTK	**Loutraki**	**2.17**	**87**	P	**Pn**	**10 14 48.7**	**+0.6**
LKR	**Lokris**	**2.29**	**72**	P	**Pn**	**10 14 50.4**	**+0.6**
LKR	**Lokris**	**2.29**	**72**	*e*Pn	**Pn**	**10 14 50.3**	**+0.5**
LKR	**Lokris**	**2.29**	**72**	*e*PN	**Pn**	**10 14 50.3**	**+0.5**
DID	**Didima**	**2.43**	**100**	P	**Pn**	**10 14 52.2**	**+0.5**
VLI	**Veliai**	**2.49**	**119**	*e*Pn	**Pn**	**10 14 54.0**	**+1.5**
VLI	**Veliai**	**2.49**	**119**	*e*PN	**Pn**	**10 14 54.0**	**+1.5**
NAIG	**Nisos Aigina**	**2.59**	**93**	*e*Pn	**Pn**	**10 14 54.5**	**+0.6**
NAIG	**Nisos Aigina**	**2.59**	**93**	*e*PN	**Pn**	**10 14 54.5**	**+0.6**
KZN	**Kozani**	**2.64**	**27**	*e*Pn	**Pn**	**10 14 55.8**	**+1.3**
KZN	**Kozani**	**2.64**	**27**	*e*PN	**Pn**	**10 14 55.8**	**+1.3**
KBN	**Korca**	**2.70**	**9**	*e*PN	**Pn**	**10 14 59.3**	**+3.9**
NEO	**Neokhori**	**2.71**	**59**	*e*Pn	**Pn**	**10 14 56.0**	**+0.5**
NEO	**Neokhori**	**2.71**	**59**	*e*PN	**Pn**	**10 14 56.0**	**+0.5**
ATH	**Athens Observa**	**2.76**	**89**	*e*Pn	**Pn**	**10 14 57.0**	**+0.8**
ATH	**Athens Observa**	**2.76**	**89**	*e*PN	**Pn**	**10 14 57.0**	**+0.8**
LIT	**Litokhoron**	**2.78**	**39**	P	**Pn**	**10 14 57.3**	**+0.9**
KVR	**Kavouri**	**2.81**	**92**	*e*Pn	**Pn**	**10 14 57.0**	**+0.1**
KVR	**Kavouri**	**2.81**	**92**	*e*PN	**Pn**	**10 14 57.0**	**+0.1**
PTL	**Penteli**	**2.88**	**87**	*e*Pn	**Pn**	**10 14 58.5**	**+0.7**
PTL	**Penteli**	**2.88**	**87**	*e*PN	**Pn**	**10 14 58.5**	**+0.7**
FNA	**Florina**	**2.96**	**17**	P	**Pn**	**10 15 00.0**	**+1.0**
BIA	**Bitola**	**3.18**	**15**	P	**Pn**	**10 15 02.9**	**+1.0**
BIA	**Bitola**	**3.18**	**15**	*i* Pn	**Pn**	**10 15 02.8**	**+0.9**
BIA	**Bitola**	**3.18**	**15**	*i* Pn	**Pn**	**10 15 02.7**	**+0.8**
OHR	**Ohrid**	**3.18**	**8**	P	**Pn**	**10 15 02.9**	**+0.9**
OHR	**Ohrid**	**3.18**	**8**	*i* Pn	**Pn**	**10 15 02.7**	**+0.7**
OHR				*i* Sn	**Sg**	**10 15 50.1**	**-4.1**
TIR	**Tirane**	**3.40**	**355**	*e*PN	**Pn**	**10 15 05.6**	**+0.6**
TIR	**Tirane**	**3.40**	**355**	P	**Pn**	**10 15 05.7**	**+0.7**
THE	**Thessaloniki**	**3.42**	**38**	P	**Pn**	**10 15 05.8**	**+0.6**
CEL	**Celeste**	**3.43**	**276**	P	**Pn**	**10 15 06.1**	**+0.8**
GRG	**Griva**	**3.44**	**29**	P	**Pn**	**10 15 06.2**	**+0.7**
HORT	**Hortiatis**	**3.46**	**39**	P	**Pn**	**10 15 06.1**	**+0.3**
PLG	**Polygyros**	**3.48**	**45**	P	**Pn**	**10 15 06.2**	**+0.1**
PLG	**Polygyros**	**3.48**	**45**	*e*Pn	**Pn**	**10 15 06.6**	**+0.5**
PLG	**Polygyros**	**3.48**	**45**	*e*PN	**Pn**	**10 15 06.6**	**+0.5**
KRUS	**Krusevo**	**3.50**	**13**	*i* Pn	**Pn**	**10 15 07.0**	**+0.6**
KRUS	**Krusevo**	**3.50**	**13**	*i* Pn	**Pn**	**10 15 06.9**	**+0.6**
QSH	**Qafa e Shtames**	**3.57**	**356**	*e*PN	**Pn**	**10 15 07.0**	**-0.3**
PE1	**Pezze di Greco**	**3.58**	**324**	*e*Pn	**Pn**	**10 15 07.2**	**-0.2**
LACI	**Lac**	**3.70**	**354**	*e*PN	**Pn**	**10 15 07.7**	**-1.4**
PHP	**Peshkopia**	**3.73**	**3**	*e*PN	**Pn**	**10 15 10.2**	**+0.7**
SOH	**Sokhos**	**3.75**	**39**	P	**Pn**	**10 15 11.1**	**+1.3**
OUR	**Ouranopolis**	**3.77**	**50**	P	**Pn**	**10 15 10.4**	**+0.4**
KNT	**Kendrikon**	**3.81**	**32**	P	**Pn**	**10 15 11.7**	**+1.1**
VAY	**Valandovo**	**3.82**	**28**	*i* Pn	**Pn**	**10 15 12.8**	**+2.1**
SG1	**Sgolgore (BA)**	**3.98**	**317**	*e*Pn	**Pn**	**10 15 13.5**	**+0.6**
CUC	**Castrocucco**	**3.99**	**302**	P	**Pn**	**10 15 15.0**	**+1.9**
STIP	**Stip**	**4.03**	**21**	P	**Pn**	**10 15 14.0**	**+0.4**
STIP	**Stip**	**4.03**	**21**	*i* Pn	**Pn**	**10 15 13.8**	**+0.2**
STIP	**Stip**	**4.03**	**21**	*i* Pn	**Pn**	**10 15 13.7**	**+0.1**
BAI	**Bari**	**4.07**	**322**	*e*Pn	**Pn**	**10 15 15.1**	**+0.9**
ULC	**Ulcinj**	**4.07**	**350**	⇑*i*Pn	**Pn**	**10 15 14.4**	**+0.2**
ULC				*e*Sn	**Sn**	**10 16 02.7**	**+0.8**
VAM	**Vamos**	**4.09**	**127**	*e*Pn	**Pn**	**10 15 14.6**	**+0.2**
VAM	**Vamos**	**4.09**	**127**	*e*PN	**Pn**	**10 15 14.6**	**+0.2**
PUK	**Puka**	**4.09**	**357**	*e*PN	**Pn**	**10 15 14.6**	**+0.1**
SKO	**Skopje**	**4.12**	**13**	*i* Pn	**Pn**	**10 15 15.9**	**+1.0**
SKO	**Skopje**	**4.12**	**13**	*i* Pn	**Pn**	**10 15 15.8**	**+0.9**
APE	**Apeiranthos**	**4.31**	**100**	⇑*i*P	**Pn**	**10 15 23.0**	**+5.5**
APE	**Apeiranthos**	**4.31**	**100**	*e*Pn	**Pn**	**10 15 17.4**	**-0.1**
APE	**Apeiranthos**	**4.31**	**100**	*i* P	**Pn**	**10 15 20.3**	**+2.8**
APE	**Apeiranthos**	**4.31**	**100**	*e*PN	**Pn**	**10 15 17.4**	**-0.1**
LIA	**Limnos Island**	**4.33**	**62**	P	**Pn**	**10 15 18.4**	**+0.7**
LIA	**Limnos Island**	**4.33**	**62**	*e*Pn	**Pn**	**10 15 17.9**	**+0.2**
LIA	**Limnos Island**	**4.33**	**62**	*e*PN	**Pn**	**10 15 17.9**	**+0.2**
NVR	**Nevrokopi**	**4.40**	**39**	*e*Pn	**Pn**	**10 15 20.7**	**+1.9**
NVR	**Nevrokopi**	**4.40**	**39**	*e*PN	**Pn**	**10 15 20.7**	**+1.9**
BCI	**Bajram Curri**	**4.41**	**359**	*e*PN	**Pn**	**10 15 19.2**	**+0.4**
BUM	**Brajici-Budva**	**4.46**	**347**	*e*Pn	**Pn**	**10 15 19.3**	**-0.2**
BUM				*e*Sn	**Sn**	**10 16 11.4**	**0.0**
MMB	**Musomiste**	**4.52**	**36**	*i* P	**Pn**	**10 15 22.0**	**+1.6**
PDG	**Podgorica**	**4.53**	**351**	*e*Pn	**Pn**	**10 15 20.1**	**-0.4**
PDG				*e*Sn	**Sn**	**10 16 12.6**	**-0.6**
TTG	**Podgorica**	**4.53**	**351**	*e*Pn	**Pn**	**10 15 20.1**	**-0.4**
TTG				*e*Sn	**Sn**	**10 16 12.6**	**-0.6**
IDI	**Anoyia**	**4.60**	**124**	Pn	**Pn**	**10 15 21.0**	**-0.5**
	16nm,0.3s,baz=263,slow=6.9,SNR=23						
IDI				Sn	**Sn**	**10 16 15.4**	**+0.4**
	122nm,0.3s,baz=184,slow=23,SNR=39						
IDI				LR	LR	10 17 25.2	
	comp=Z,609nm,19.4s,baz=314,slow=42						
IDI	**Anoyia**	**4.60**	**124**	Pn	**Pn**	**10 15 21.0**	**-0.5**
IDI				Sn	**Sn**	**10 16 15.4**	**+0.4**
VAE	**Valguarnera**	**4.63**	**266**	Pn	**Pn**	**10 15 23.3**	**+1.4**
	24nm,0.3s,baz=301,slow=14,SNR=11						
VAE				Sn	**Sn**	**10 16 18.3**	**+2.6**
	26nm,0.3s,baz=131,slow=8.9,SNR=11						
PVY	**Plav**	**4.64**	**358**	*e*Pn	**Pn**	**10 15 22.8**	**+0.8**
PVY				*e*Sn	**Sn**	**10 16 16.7**	**+0.8**
HCY	**Herceg Novi**	**4.68**	**344**	⇓*i*Pn	**Pn**	**10 15 22.1**	**-0.4**
HCY				*e*Sn	**Sn**	**10 16 16.1**	**-0.7**
PRK	**Paraskevi**	**4.91**	**73**	*e*Pn	**Pn**	**10 15 26.9**	**+1.1**
PRK	**Paraskevi**	**4.91**	**73**	*e*PN	**Pn**	**10 15 26.9**	**+1.1**
BEY	**Berane**	**4.92**	**357**	*e*Pn	**Pn**	**10 15 26.5**	**+0.7**
BEY				*e*Sn	**Sn**	**10 16 22.4**	**-0.3**
IVA	**Berane**	**4.92**	**357**	*e*Pn	**Pn**	**10 15 26.5**	**+0.7**
IVA				*e*Sn	**Sn**	**10 16 22.4**	**-0.3**
NKY	**Niksic**	**4.94**	**349**	*e*Pn	**Pn**	**10 15 25.9**	**-0.2**
NKY				*e*Sn	**Sn**	**10 16 23.1**	**-0.2**
MS1	**Monte Sant'Ang**	**4.99**	**320**	*e*Pn	**Pn**	**10 15 27.5**	**+0.7**
BARS	**Barje**	**5.01**	**14**	*e*Pn	**Pn**	**10 15 26.6**	**-0.4**
URLA	**Izmir**	**5.04**	**83**	*i* P	**Pn**	**10 15 27.2**	**-0.4**
RZN	**Rozhen**	**5.09**	**41**	*e*P	**Pn**	**10 15 34.0**	**+5.9**
NPS	**Neapolis**	**5.10**	**120**	*e*Pn	**Pn**	**10 15 27.2**	**-1.2**
NPS	**Neapolis**	**5.10**	**120**	*e*PN	**Pn**	**10 15 27.2**	**-1.2**
BRY	**Bratogost**	**5.10**	**346**	⇓*i*Pn	**Pn**	**10 15 28.4**	**0.0**
BRY				*e*Sn	**Sn**	**10 16 27.2**	**-0.1**
VTS	**Vitosha**	**5.16**	**25**	*i* P	**Pn**	**10 15 30.0**	**+0.8**
VTS	**Vitosha**	**5.16**	**25**	⇑*i*P	**Pn**	**10 15 30.5**	**+1.3**
VTS	**Vitosha**	**5.16**	**25**	⇑P	**Pn**	**10 15 30.5**	**+1.3**
RDO	**Rodhopi**	**5.20**	**51**	*e*Pn	**Pn**	**10 15 30.2**	**+0.5**
RDO	**Rodhopi**	**5.20**	**51**	*e*PN	**Pn**	**10 15 30.2**	**+0.5**
SMG	**Samos**	**5.24**	**91**	*e*Pn	**Pn**	**10 15 30.8**	**+0.5**
SMG	**Samos**	**5.24**	**91**	*e*PN	**Pn**	**10 15 30.8**	**+0.5**
STON	**Ston**	**5.27**	**339**	*e*Pn	**Pn**	**10 15 28.9**	**-1.8**
STON				Sn	**Sn**	**10 16 25.9**	**-5.6**
STON	**Ston**	**5.27**	**339**	*e*Pn	**Pn**	**10 15 28.9**	**-1.8**
STON				Sn	**Sn**	**10 16 25.8**	**-5.7**
SJES	**Sjenica**	**5.30**	**358**	*e*Pn	**Pn**	**10 15 32.8**	**+1.7**
SJES	**Sjenica**	**5.30**	**358**	*e*Pn	**Pn**	**10 15 30.4**	**-0.7**
SJES				*e*Sn	**Sn**	**10 16 29.7**	**-2.6**
UPM	**Unac-Piva**	**5.34**	**350**	*e*Pn	**Pn**	**10 15 31.6**	**0.0**
UPM				*e*Sn	**Sn**	**10 16 33.3**	**+0.2**
ALN	**Alexandroupoli**	**5.38**	**55**	P	**Pn**	**10 15 32.5**	**+0.3**
PLE	**Pljevlja**	**5.41**	**354**	⇓*i*Pn	**Pn**	**10 15 33.1**	**+0.6**
PLE				*e*Sn	**Sn**	**10 16 33.9**	**-0.9**
KDZ	**Kurdzhali**	**5.44**	**46**	*i* P	**Pn**	**10 15 32.8**	**-0.2**
KDAG	**Bornova**	**5.57**	**83**	*i* P	**Pn**	**10 15 35.9**	**+1.1**
ZAPS	**Zavoj**	**5.62**	**18**	*e*Pn	**Pn**	**10 15 36.3**	**+0.8**
BBLS	**Lazići**	**5.94**	**354**	*e*Pn	**Pn**	**10 15 38.8**	**-1.0**
GRUS	**Gruza**	**5.94**	**3**	*e*Pn	**Pn**	**10 15 38.6**	**-1.2**
BALY	**Balya**	**6.04**	**71**	*i* P	**Pn**	**10 15 35.6**	**-5.7**
KARP	**Karpathos**	**6.07**	**111**	*e*Pn	**Pn**	**10 15 42.1**	**+0.5**
KARP	**Karpathos**	**6.07**	**111**	*e*PN	**Pn**	**10 15 42.1**	**+0.5**
DIVS	**Divibare**	**6.14**	**358**	*e*Pn	**Pn**	**10 15 40.9**	**-1.7**
DIVS	**Divibare**	**6.14**	**358**	P	**Pn**	**10 15 41.3**	**-1.3**
DIVS	**Divibare**	**6.14**	**358**	*e*Sn	**Sn**	**10 16 48.4**	**-4.4**
PVL	**Pavlikeni**	**6.54**	**35**	*i* P	**Pn**	**10 15 47.0**	**-1.1**
ARG	**Arkhangelos**	**6.55**	**103**	*e*Pn	**Pn**	**10 15 49.8**	**+1.5**
ARG	**Arkhangelos**	**6.55**	**103**	*e*PN	**Pn**	**10 15 49.8**	**+1.5**
LTBQ	**Tobruq**	**6.62**	**152**	*i* P	**Pn**	**10 15 49.4**	**+0.1**
	SNR=34						
LTBQ				*e*S	**Sn**	**10 16 59.0**	**-5.8**
	243nm,0.5s,SNR=34						
TURN	**Turunc**	**6.76**	**97**	*i* P	**Pn**	**10 15 50.1**	**-1.0**
LMSR	**Misrath**	**7.07**	**219**	*i* P	**Pn**	**10 15 55.7**	**+0.4**
	SNR=34						
BLY	**Banja Luka**	**7.16**	**342**	*e*Pn	**Pn**	**10 15 55.5**	**-1.1**
BLY				*e*Sn	**Sn**	**10 17 13.6**	**-4.4**
FGSL	**Fruska Gora**	**7.20**	**358**	*e*Pn	**Pn**	**10 15 55.7**	**-1.5**
ULDT	**Uludag**	**7.27**	**70**	*i* P	**Pn**	**10 15 59.7**	**+1.5**
GOLH	**Golhisar**	**7.45**	**93**	*i* P	**Pn**	**10 16 06.5**	**+5.9**
AKAS	**Kas**	**7.69**	**100**	*i* P	**Pn**	**10 16 05.4**	**+1.4**
NVLJ	**Novalja**	**7.73**	**330**	*e*Pn	**Pn**	**10 16 04.4**	**0.0**
NVLJ				Sn	**Sn**	**10 17 25.9**	**-6.1**
VOIR		**8.30**	**24**	⇓*i*P	**Pn**	**10 16 13.7**	**+1.5**
VOIR		**8.30**	**24**	⇓P	**Pn**	**10 16 13.7**	**+1.5**
PKSM	**Moragy**	**8.33**	**352**	⇑*i*P	**Pn**	**10 16 16.6**	**+3.9**
PKSM	**Moragy**	**8.33**	**352**	⇑P	**Pn**	**10 16 16.6**	**+3.9**
BOJS	**Bojanci**	**8.41**	**335**	*i* Pn	**Pn**	**10 16 13.0**	**-0.7**
BOJS				*i* Sn	**Sn**	**10 17 43.3**	**-5.3**
CRES	**Cresnjev**	**8.63**	**337**	*i* Pn	**Pn**	**10 16 15.7**	**-1.1**
CRES				*e*Sn	**Sn**	**10 17 46.4**	**-7.6**
MLR	**Muntele Rosu**	**8.66**	**28**	Pn	**Pn**	**10 16 11.1**	**-6.0**
	0.2nm,0.3s,baz=194,slow=17,SNR=2.5						
MLR	**Muntele Rosu**	**8.66**	**28**	⇑*i*P	**Pn**	**10 16 19.9**	**+2.8**
MLR	**Muntele Rosu**	**8.66**	**28**	⇑P	**Pn**	**10 16 19.9**	**+2.7**
HMAT	**Matruh**	**8.89**	**138**	P	**Pn**	**10 16 16.0**	**-4.3**
KEST	**Kesra**	**9.00**	**259**	Pn	**Pn**	**10 16 22.8**	**+0.9**
	0.9nm,0.3s,baz=78,slow=0.8,SNR=19						
KEST				Sn	**Sn**	**10 18 02.9**	**-0.3**
	0.2nm,0.3s,baz=358,slow=20,SNR=2.9						
LJU	**Ljubljana**	**9.12**	**334**	*e*Pn	**Pn**	**10 16 23.5**	**0.0**
JAVS	**Javornik**	**9.16**	**332**	*i* Pn	**Pn**	**10 16 23.7**	**-0.3**
JAVS				*i* Sn	**Sn**	**10 17 59.6**	**-7.5**
PLOR	**Plostina**	**9.23**	**29**	⇓*i*P	**Pn**	**10 16 27.4**	**+2.4**
VRI	**Vrincioaia**	**9.27**	**29**	⇓*i*P	**Pn**	**10 16 27.6**	**+2.1**
VRI	**Vrincioaia**	**9.27**	**29**	⇓P	**Pn**	**10 16 27.6**	**+2.0**
VOY	**Vojsko**	**9.34**	**332**	*e*Pn	**Pn**	**10 16 26.2**	**-0.3**
PERS	**Pernice**	**9.46**	**338**	*i* Pn	**Pn**	**10 16 26.6**	**-1.6**
PERS				*i* Sn	**Sn**	**10 18 06.3**	**-8.1**
OBKA	**Obir**	**9.52**	**336**	⇑*i*Pn	**Pn**	**10 16 27.9**	**-1.1**
OBKA				⇓*i*Sn	**Sn**	**10 18 09.5**	**-6.5**
SOKA	**Soboth**	**9.52**	**338**	⇓*i*Pn	**Pn**	**10 16 27.5**	**-1.5**
SOKA				⇑*i*Sn	**Sn**	**10 18 09.1**	**-6.9**
PGF	**Pioggiola**	**9.73**	**302**	*e*P	**Pn**	**10 16 34.6**	**+2.8**
	53nm,1.2s						
ARSA	**Arzberg**	**9.91**	**341**	⇓*i*Pn	**Pn**	**10 16 32.0**	**-2.3**
ARSA				⇓*i*Sn	**Sn**	**10 18 18.0**	**-7.5**
MYKA	**Terra Mystica**	**9.94**	**333**	⇑*i*Pn	**Pn**	**10 16 34.8**	**0.0**
MYKA				⇓*i*Sn	**Sn**	**10 18 20.8**	**-5.5**
PSZ	**Piszkesteto**	**9.96**	**359**	⇑*i*P	**Pn**	**10 16 35.4**	**+0.4**
PSZ	**Piszkesteto**	**9.96**	**359**	⇑P	**Pn**	**10 16 35.4**	**+0.4**
KBA	**Koelnbreinsper**	**10.43**	**333**	⇓*i*Pn	**Pn**	**10 16 41.0**	**-0.4**
KBA				⇓*i*Sn	**Sn**	**10 18 33.7**	**-4.6**
ABTA	**Abfaltersbach**	**10.47**	**329**	⇓*i*Pn	**Pn**	**10 16 42.0**	**0.0**
ABTA				⇑*i*Sn	**Sn**	**10 18 32.5**	**-6.8**
VYHS	**Vyhne**	**10.58**	**355**	*e*PN	**Pn**	**10 16 42.2**	**-1.3**
VYHS				*e*SN	**Sn**	**10 18 38.8**	**-3.2**
MODS	**Modra-Piesok**	**10.63**	**349**	*e*PN	**Pn**	**10 16 48.3**	**+4.1**
MODS	**Modra-Piesok**	**10.63**	**349**	*e*Pn	**Pn**	**10 16 48.3**	**+4.1**
	4.9nm,0.6s						
KOLL	**Kolacno**	**10.70**	**353**	*e*PN	**Pn**	**10 16 45.1**	**0.0**
KOLL				*e*SN	**Sn**	**10 18 37.1**	**-7.8**
KOLL	**Kolacno**	**10.70**	**353**	*e*Pn	**Pn**	**10 16 45.2**	**+0.1**
KOLL				*e*Sn	**Sn**	**10 18 37.1**	**-7.8**
MOA	**Molln**	**10.81**	**338**	⇑*i*Pn	**Pn**	**10 16 45.1**	**-1.5**
MOA				⇓*i*Sn	**Sn**	**10 18 39.8**	**-7.7**
CRVS	**Cervenica-Dubn**	**10.98**	**4**	*e*SN	**Sn**	**10 18 46.6**	**-5.1**
KOLS	**Kolonicke sedl**	**11.07**	**7**	*e*PN	**Pn**	**10 16 55.7**	**+5.5**
WTTA	**Wattenberg**	**11.24**	**329**	⇑*i*Pn	**Pn**	**10 16 53.2**	**+0.7**
WTTA				⇑*i*Sn	**Sn**	**10 18 53.5**	**-4.7**
SBF	**Sospel**	**11.33**	**305**	*e*P	**Pn**	**10 16 56.9**	**+3.2**
	53nm,0.9s						
KRUC	**Moravsky**	**11.44**	**347**	Pn	**Pn**	**10 16 53.3**	**-2.0**
STHS	**Stebnicka Huta**	**11.48**	**3**	*e*PN	**Pn**	**10 16 59.6**	**+3.8**
MOTA	**Moosalm**	**11.53**	**327**	⇓*i*Pn	**Pn**	**10 16 57.4**	**+0.9**
MOTA				⇑*i*Sn	**Sn**	**10 19 02.8**	**-2.3**
DAVOX	**Davos/Dischmat**	**11.66**	**322**	Pn	**Pn**	**10 17 00.5**	**+2.2**
	0.6nm,0.3s,baz=141,slow=22,SNR=4.5						
DAVOX				Sn	**Sn**	**10 18 57.8**	**-11**
	0.8nm,0.3s,baz=162,slow=22,SNR=2.9						
DAVOX				LR	LR	10 21 53.3	
	comp=Z,298nm,18.9s,baz=259,slow=40						
DAVOX	**Davos/Dischmat**	**11.66**	**322**	Sn	**Sn**	**10 18 57.8**	**-11**
DAVOS	**Davos**	**11.75**	**322**	P	**Pn**	**10 17 00.5**	**+1.1**
GERES	**GERESS Array B**	**11.87**	**339**	Pn	**Pn**	**10 16 59.7**	**-1.4**
	1.0nm,0.3s,baz=155,slow=14,SNR=15						
GERES				Sn	**Sn**	**10 19 01.9**	**-12**
	0.4nm,0.3s,baz=166,slow=23,SNR=2.3						
GERES				LR	LR	10 22 04.2	
	comp=Z,206nm,18.0s,baz=156,slow=40						
GERES	**GERESS Array B**	**11.87**	**339**	Pn	**Pn**	**10 16 59.7**	**-1.4**
GERES				Sn	**Sn**	**10 19 01.9**	**-12**
OKC	**Ostrava-Krasne**	**11.97**	**354**	AMS	AMS	10 23 20.0	
	700nm,7.0s						
HMYD	**Mayadein**	**11.97**	**130**	P	**Pn**	**10 16 57.1**	**-5.5**
AWBH		**12.04**	**140**	P	**Pn**	**10 16 59.9**	**-3.7**
MBDF	**Montbardon**	**12.15**	**308**	*e*P	**Pn**	**10 17 07.1**	**+2.1**
	27nm,0.9s						
KHC	**Kasperske Hory**	**12.16**	**339**	*e*P	**Pn**	**10 17 02.4**	**-2.7**
KHC				*e*		10 19 12.2	
KHC	**Kasperske Hory**	**12.16**	**339**	*e*P	**Pn**	**10 17 02.4**	**-2.7**
KHC				*e*x	x	10 17 18.0	
KHC				*e*S	**Sn**	**10 19 12.2**	**-8.4**
KHC				*e*x	x	10 19 45.5	
KHC				AMS	AMS	10 22 30.0	
	500nm,12.8s						
KHC	**Kasperske Hory**	**12.16**	**339**	*e*Pn	**Pn**	**10 17 02.4**	**-2.7**
KHC				*e*		10 17 18.0	
KHC				*e*Sn	**Sn**	**10 19 12.2**	**-8.4**
KHC				*e*		10 19 45.5	
AYT	**Al 'Ayyat**	**12.25**	**129**	P	**Pn**	**10 17 00.8**	**-5.6**
KOT	**Kottamia**	**12.52**	**126**	P	**Pn**	**10 17 04.1**	**-6.0**
LPG	**La Plagne**	**12.56**	**311**	*e*P	**Pn**	**10 17 12.4**	**+1.8**
HSAF	**As Saff**	**12.56**	**128**	P	**Pn**	**10 17 05.0**	**-5.6**
LPL	**La Plagne**	**12.58**	**311**	*e*P	**Pn**	**10 17 12.1**	**+1.3**
HHAG	**Hagoal**	**12.68**	**126**	P	**Pn**	**10 17 06.5**	**-5.7**
GLL	**Jalalah**	**12.69**	**128**	P	**Pn**	**10 17 06.9**	**-5.5**
PRU	**Pruhonice**	**12.70**	**343**	AMS	AMS	10 22 50.0	
	500nm,7.4s						
DPC	**Dobruska-Polom**	**12.70**	**349**	AMS	AMS	10 23 00.0	
	600nm,15.7s						
HFRF	**Wahat Farafira**	**12.75**	**145**	P	**Pn**	**10 17 10.0**	**-3.2**
AMAG	**Maghara**	**12.97**	**120**	P	**Pn**	**10 17 10.3**	**-6.0**
PVCC	**Panska Ves**	**13.20**	**344**	AMS	AMS	10 23 20.0	
	600nm,9.3s						
SUZ		**13.23**	**124**	P	**Pn**	**10 17 13.1**	**-6.7**
MMAI	**Mount Meron Ar**	**13.31**	**107**	Pn	**Pn**	**10 17 18.1**	**-2.9**
	3.1nm,0.3s,baz=304,slow=15,SNR=4.2						
MMAI				Sn	**Sn**	**10 19 43.9**	**-5.1**
	4.9nm,0.3s,baz=315,slow=30,SNR=4.5						
NKC	**Novy Kostel**	**13.47**	**338**	AMS	AMS	10 23 30.0	
	700nm,13.2s						
HINF	**Hinteralfeld**	**13.88**	**319**	*e*P	**Pn**	**10 17 27.9**	**-0.6**
	6.1nm,0.5s						
HNKL	**Nakhl**	**13.94**	**121**	P	**Pn**	**10 17 23.6**	**-5.8**
CDF	**Champ du Feu**	**14.06**	**322**	*e*P	**Pn**	**10 17 30.7**	**-0.4**
MOX	**Moxa**	**14.09**	**337**	*e*P	**Pn**	**10 17 30.7**	**-0.7**
	14nm,1.2s						
MOX	**Moxa**	**14.09**	**337**	*e*P	**Pn**	**10 17 30.7**	**-0.7**
MOX				pmax	pmax		
	comp=Z,14nm,1.2s						
HAU	**Haudompre**	**14.26**	**319**	*e*P	**Pn**	**10 17 33.8**	**+0.1**
	comp=Z,14nm,0.5s						
AKASG	**Malin Array Be**	**14.26**	**24**	Pn	**Pn**	**10 17 30.8**	**-3.0**
	comp=Z,0.9nm,0.3s,baz=213,slow=13,SNR=3.8						
GRB	**Gharib**	**14.27**	**129**	P	**Pn**	**10 17 29.1**	**-4.9**
CLL	**Collm**	**14.29**	**341**	*e*P	**Pn**	**10 17 41.0**	**+6.8**
CLL				MLR	MLR		
	comp=Z,200nm,18.1s						
CLL	**Collm**	**14.29**	**341**	*e*PP		10 17 41.0	
CLL				*e*x	x	10 18 07.0	
CLL				Lm		10 22 12.0	
	comp=Z,200nm,18.1s						
EIL	**Elat**	**14.76**	**120**	Pn	**Pn**	**10 17 38.3**	**-2.4**
	comp=Z,1.5nm,0.3s,baz=216,slow=5.9,SNR=15						
EIL				Sn	**Sn**	**10 20 10.8**	**-13**
	comp=Z,2.4nm,0.3s,baz=334,slow=15,SNR=7.4						
EIL	**Elat**	**14.76**	**120**	Pn	**Pn**	**10 17 38.3**	**-2.4**
EIL				Sn	**Sn**	**10 20 10.8**	**-13**
ASF	**Jabal al Asfar**	**14.82**	**108**	Pn	**Pn**	**10 17 42.2**	**+0.7**
	comp=Z,0.3nm,0.3s,baz=199,slow=3.8,SNR=2.6						
ASF				Sn	**Sn**	**10 20 18.6**	**-7.1**
	comp=Z,0.3nm,0.3s,baz=262,slow=18,SNR=2.5						
HKAT	**Jabal Katrina**	**14.86**	**125**	P	**Pn**	**10 17 36.3**	**-5.8**
GTR	**Jabal at Tayr**	**15.19**	**142**	P	**Pn**	**10 17 43.6**	**-2.9**
SSF	**Saint Saulge**	**15.30**	**312**	*e*P	**Pn**	**10 17 47.9**	**+0.2**
HHRG	**Al Ghardaqah**	**15.51**	**130**	P	**Pn**	**10 17 46.5**	**-4.2**
SOC	**Sochi**	**15.79**	**63**	*e*P	**Pn**	**10 17 52.8**	**-1.4**
SOC				*e*		10 20 50.7	
SOC				pmax	pmax		
	comp=Z,4.0nm,0.4s						
SOC				MLR	MLR		
	comp=Z,68nm,8.0s						
SOC	**Sochi**	**15.79**	**63**	*e*P	**Pn**	**10 17 52.8**	**-1.4**
	comp=Z,4.0nm,0.4s						
HEDF	**Idfu**	**16.90**	**136**	P	**Pn**	**10 18 06.5**	**-2.0**
KIV	**Kislovodsk**	**17.97**	**63**	*e*P	**Pn**	**10 18 22.4**	**+0.7**
KIV				pmax	pmax		
	comp=Z,12nm,1.1s						
KIV				MLR	MLR		
	comp=Z,46nm,12.0s						
KIV	**Kislovodsk**	**17.97**	**63**	*e*P	**Pn**	**10 18 22.4**	**+0.7**
	comp=Z,46nm,12.0s						
ESDC	**Sonseca Array**	**18.91**	**283**	P	**Pn**	**10 18 33.4**	**+0.1**
	comp=Z,0.5nm,0.3s,baz=83,slow=12,SNR=7.5						
GNI	**Garni**	**19.16**	**76**	P	**Pn**	**10 18 35.4**	**-0.8**
	comp=Z,1.3nm,0.3s,baz=52,slow=13,SNR=3.6						
GNI	**Garni**	**19.16**	**76**	⇑*e*P	**Pn**	**10 18 36.5**	**+0.3**
GNI				pmax	pmax		
	comp=Z,43nm,1.6s						
OBN	**Obninsk**	**20.43**	**28**	⇑*e*P	**P**	**10 18 48.9**	**-0.2**
OBN				*e*		10 19 06.2	
OBN				pmax	pmax		
	comp=Z,50nm,1.9s						
OBN	**Obninsk**	**20.43**	**28**	*e*P	**P**	**10 18 48.9**	**-0.2**
	comp=Z,50nm,1.9s						
MDT	**Midelt**	**20.86**	**263**	P	**P**	**10 18 54.7**	**+0.8**
	comp=Z,3.2nm,0.6s,baz=68,slow=12,SNR=9.8						
MDT				LR	LR	10 28 26.3	
	comp=Z,69nm,20.5s,MS3.0,baz=236,slow=41						
VSU	**Vasula**	**20.95**	**10**	*d i*P	**P**	**10 18 54.0**	**-0.7**
VSU	**Vasula**	**20.95**	**10**	*i* P	**P**	**10 18 54.0**	**-0.7**
PBRG	**Braganca**	**21.01**	**289**	*e*P	**P**	**10 18 57.4**	**+1.9**
	comp=Z,26nm,1.5s,mb4.3						
MVO	**Moncorvo**	**21.22**	**287**	*e*P	**P**	**10 18 58.9**	**+1.1**
	comp=Z,28nm,1.7s,mb4.3						
PBAR	**Barrancos**	**21.44**	**279**	*e*P	**P**	**10 19 01.2**	**+1.0**
	comp=Z,33nm,1.4s,mb4.5						
PMRV	**Marv??o**	**21.57**	**283**	*e*P	**P**	**10 19 00.0**	**-1.6**
	comp=Z,19nm,2.0s,mb4.2						
MTE	**Manteigas**	**21.63**	**285**	*e*P	**P**	**10 19 02.5**	**+0.3**
	comp=Z,33nm,1.1s,mb4.7						
HFS	**Hagfors**	**22.58**	**351**	P	**P**	**10 19 10.5**	**-1.7**
	comp=Z,6.8nm,0.4s,mb4.5,baz=156,slow=11,SNR=39						
EKA	**Eskdalemuir Ar**	**23.48**	**325**	P	**P**	**10 19 20.9**	**-0.7**
	comp=Z,5.1nm,0.9s,mb4.0,baz=130,slow=9.3,SNR=12						
RST	**Umm Al-Ruwaisa**	**23.75**	**103**	*e*P	**P**	**10 19 22.6**	**-1.9**
	comp=Z,54nm,0.5s,mb5.2						
RST	**Umm Al-Ruwaisa**	**23.75**	**103**	*e*P	**P**	**10 19 22.6**	**-1.9**
	baz=103						
RST				AMb	AMB	10 19 23.5	
	comp=Z,54nm,0.5s,mb5.2,baz=103						
NB2	**NORSAR Subarra**	**23.79**	**349**	P	**P**	**10 19 23.3**	**-1.2**
	comp=Z,15nm,1.1s,mb4.3,baz=159,slow=10						
NOA	**NORSAR Array B**	**23.79**	**349**	P	**P**	**10 19 22.8**	**-1.7**
	comp=Z,5.5nm,1.0s,mb4.0,baz=159,slow=9.2,SNR=13						
MIB	**Mutribah**	**23.88**	**102**	*e*P	**P**	**10 19 23.9**	**-1.7**
	comp=Z,54nm,0.5s,mb5.2						
MIB	**Mutribah**	**23.88**	**102**	*e*P	**P**	**10 19 23.9**	**-1.7**
	baz=102						
MIB				AMb	AMB	10 19 25.7	
	comp=Z,54nm,0.5s,mb5.2,baz=102						
NAY	**Al-Naaiem**	**24.06**	**103**	*e*P	**P**	**10 19 26.1**	**-1.2**
	comp=Z,28nm,0.5s,mb4.9						
NAY	**Al-Naaiem**	**24.06**	**103**	*e*P	**P**	**10 19 26.1**	**-1.2**
	baz=103						
NAY				AMb	AMB	10 19 26.9	
	comp=Z,28nm,0.5s,mb5.0,baz=103						
AKTK	**Aktyubinsk**	**29.50**	**53**	P	**P**	**10 20 14.0**	**-2.1**
AKTK	**Aktyubinsk**	**29.50**	**53**	P	**P**	**10 20 14.0**	**-2.1**
AKTO	**Aktyubinsk**	**29.50**	**53**	P	**P**	**10 20 14.0**	**-2.1**
	comp=Z,0.7nm,0.3s,mb3.9,baz=239,slow=9.0,SNR=5.9						
ARU	**Arti**	**31.38**	**41**	*d i*P	**P**	**10 20 30.9**	**-1.7**
ARU				*e*S	**S**	**10 25 37.8**	**-2.0**
ARU				pmax	pmax		
	comp=Z,2.0nm,0.4s,mb4.3						
ARU	**Arti**	**31.38**	**41**	*i* P	**P**	**10 20 30.9**	**-1.7**
	comp=Z,2.0nm,0.4s,mb4.3						
ARCES	**ARCESS Array B**	**31.77**	**4**	P	**P**	**10 20 34.5**	**-1.3**
	comp=Z,2.3nm,0.7s,mb4.1,baz=190,slow=11,SNR=9.7						
BVAR	**Borovoye Array**	**37.44**	**50**	P	**P**	**10 21 23.5**	**-1.6**
	comp=Z,1.6nm,0.6s,mb4.1,baz=265,slow=6.4,SNR=5.6						
DBIC	**Dimbokro**	**38.57**	**222**	P	**P**	**10 21 35.3**	**+0.3**
	comp=Z,3.2nm,0.7s,mb4.2,baz=25,slow=12,SNR=7.9						
LIC	**Lamto**	**39.03**	**222**	*e*P	**P**	**10 21 39.2**	**+0.3**
KURK	**Kurchatov**	**42.60**	**53**	P	**P**	**10 22 04.5**	**-3.5**
	comp=Z,1.6nm,0.5s,mb4.0,baz=274,slow=7.9,SNR=7.4						
KURK	**Kurchatov**	**42.60**	**53**	⇓*i*P	**P**	**10 22 09.0**	**+1.1**
KURK				pmax	pmax		
	comp=Z,6.0nm,1.3s,mb4.2						
NVS	**Novosibirsk**	**45.00**	**47**	*e*P	**P**	**10 22 24.9**	**-2.3**
MKAR	**Makanchi Array**	**45.62**	**58**	P	**P**	**10 22 30.5**	**-1.7**
	comp=Z,2.8nm,0.5s,mb4.4,baz=275,slow=7.1,SNR=29						
MKAR	**Makanchi Array**	**45.62**	**58**	P	**P**	**10 22 30.5**	**-1.7**
ZALV	**Zalesovo Beam**	**46.02**	**48**	P	**P**	**10 22 33.8**	**-1.4**
	comp=Z,18nm,0.4s,mb5.4,baz=274,slow=8.5,SNR=33						
ZAK	**Zakamensk**	**57.88**	**49**	*e*P	**P**	**10 24 03.3**	**-0.4**
ZAK				pmax	pmax		
	comp=Z,2.0nm,1.2s,mb4.0						
ZAK	**Zakamensk**	**57.88**	**49**	*e*P	**P**	**10 24 03.3**	**-0.4**
	comp=Z,2.0nm,1.2s,mb4.0						
BOD	**Bodaibo**	**60.70**	**38**	*e*P	**P**	**10 24 20.9**	**-2.1**
BOD				pmax	pmax		
	comp=Z,5.0nm,2.3s,mb4.2						
BOD	**Bodaibo**	**60.70**	**38**	*e*P	**P**	**10 24 20.9**	**-2.1**
	comp=Z,5.0nm,2.3s,mb4.2						

SONM Songino Array 60.78 50 P P 10 24 22.9 -1.0
comp=Z,0.7nm,0.4s,mb4.1,baz=286,slow=8.6,SNR=2.7
BOSA Boshof 66.39 175 LR LR 10 57 08.6
comp=Z,149nm,19.5s,MS4.2,baz=354,slow=39
CMAR Chiang Mai Arr 70.16 82 P P 10 25 24.2 -0.7
comp=Z,1.0nm,0.4s,mb4.1,baz=306,slow=8.2,SNR=4.8
CMAR Chiang Mai Arr 70.16 82 P P 10 25 24.2 -0.7
KSRS Korea Array 79.65 50 P P 10 26 18.4 -1.2
comp=Z,0.5nm,0.6s,mb3.6,baz=294,slow=6.3,SNR=4.1
KSRS Korea Array 79.65 50 P P 10 26 18.5 -1.1
KSRS pmax pmax
comp=Z,1.0nm,0.6s,mb3.9
WRA Warramunga Arr 120.77 92 PKP PKPdf 10 33 03.2 -1.3
comp=Z,0.3nm,0.9s,baz=338,slow=1.3,SNR=4.2
ASAR Alice Springs 122.38 96 PKP PKPdf 10 33 06.5 -1.0
comp=Z,0.8nm,1.2s,baz=339,slow=2.3,SNR=3.2
ASAR Alice Springs 122.38 96 PKIKP PKPdf 10 33 06.5 -1.0
ASAR pmax pmax
comp=Z,1.0nm,1.2s

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*BJI **10** 11:04:20.7, 3.00S×101.20E, h35km, mB4.9, mb4.7, Ms4.5, Msz4.2*
*NEIC **10** 11:04:20.8±0.2, 2.97S×101.16E, h35km, mb4.8/24, Error ellipse: s-maj=8.4km s-min=5.7km az=62.0*
NEIC Felt [III] at Mukomuko.
*ISCJB **10** 11:04:22.0±0.7, 3.07S±0.04×101.02E±0.05, h60km±6km, mb4.8/60, MS3.9/26, Error ellipse: s-maj=9.0km s-min=5.1km az=147.5*
*IDC **10** 11:04:22.2±2.0, 2.90S×101.19E, h47km±18km, mb4.4/25, mb1 4.5/26, mb1mx4.5/28, mbtmp4.4/26, ML4.7/1, MS3.7/18, Ms1 3.7/18, ms1mx3.6/44, Error ellipse: s-maj=14.8km s-min=10.4km az=59.0*
*DJA **10** 11:04:25.2±0.7, 3S±5×101E±, h50km, mB5.1/5, Mjma4.4/12, MLv5.0/13, Mw(mB)5.0/5, Mwp4.2/7*
ISC 10 11:04:23.5±0.6**, 3.08S**±0.04×**101.03E**±0.05**, h58km**±5km**, h33km**±1.9km**:pP-P, n151,** σ1.28/145**, mb4.8**/60**, MS3.9**/26**, 5C-6D, Southern Sumatera**

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

KSI Kapahiang 1.66 110 P Pn 11 04 49.7 -0.7
0.0nm,0.0s
PDSI Padang 2.23 345 P Pn 11 04 55.5 -2.6
0.0nm,0.0s
PDSI Padang 2.23 345 P Pn 11 04 55.8 -2.3
PPI Padang Panjang 2.68 346 P Pn 11 05 02.9 -1.4
0.0nm,0.0s
PPI Padang Panjang 2.68 346 P Pn 11 05 04.2 -0.1
RGRI Rengat 3.01 26 P Pn 11 05 07.5 -1.3
0.0nm,0.0s
RGRI Rengat 3.01 26 P Pn 11 05 07.2 -1.6
KLI Kotabumi 4.21 115 P Pn 11 05 26.6 +1.4
0.0nm,0.0s
DSRI Dabo 4.39 54 P Pn 11 05 26.1 -1.6
0.0nm,0.0s
DSRI Dabo 4.39 54 P Pn 11 05 25.8 -1.9
PPBI Pangkal Pinang 5.18 80 P Pn 11 05 39.2 +0.6
84nm,0.6s
PPBI Pangkal Pinang 5.18 80 P Pn 11 05 38.4 -0.2
84nm,0.6s,0.6nm
KGM Kluang 5.55 24 ⇓P Pn 11 05 43.5 -0.2
MYKOM Kota Tinggi 5.60 30 ⇓P Pn 11 05 44.0 -0.3
MYKOM Kota Tinggi 5.60 30 P Pn 11 05 43.2 -1.1
FRIM Kepong 6.30 5 ⇑P Pn 11 05 54.6 +0.7
DBJI Dramaga 6.66 121 P Pn 11 06 01.8 +2.9
211nm,1.0s,2μm0.7nm
CBJI Citeko 6.68 120 P Pn 11 06 03.4 +4.3
530nm,0.8s,2.3nm
IPM Ipoh 7.51 360 ⇑P Pn 11 06 13.3 +2.8
IPM Ipoh 7.51 360 P Pn 11 06 12.4 +1.9
94nm,1.2s,787nm0.2nm
LEM Lembang 7.54 120 P Pn 11 06 13.3 +2.3
155nm,0.9s,0.4nm
JCJI Jatiwangi 7.97 115 P Pn 11 06 21.5 +4.7
132nm,0.7s,0.6nm
KULM Kulim 8.32 357 ⇓P Pn 11 06 23.0 +1.4
KTGM Kuala Trenggan 8.61 14 ⇓P Pn 11 06 26.6 +1.1
XMIS Christmas Isla 8.67 148 ePn Pn 11 06 18.8 -7.5
XMIS eSn Sn 11 07 50.3 -12
BJII Banjamegara 9.62 116 P Pn 11 06 44.2 +4.8
36nm,0.8s
COCO West Island 9.96 204 ePn Pn 11 06 42.0 -2.0
COCO eSn Sn 11 08 27.6 -6.8
KSM Kuching 10.32 64 ⇓P Pn 11 06 51.9 +3.0
KSM Kuching 10.32 64 P Pn 11 06 51.8 +2.9
34nm,1.1s,291nm
KSM Kuching 10.32 64 ePn Pn 11 06 49.4 +0.5
STKI Sintang 10.90 74 P Pn 11 07 06.7 +10
39nm,0.7s
SJI Sawahan 11.64 114 P Pn 11 07 06.8 -0.3
119nm,0.7s
SBUM Sibu 12.46 64 ⇑P Pn 11 07 22.5 +4.2
BBKI Banjar Baru 13.79 92 P Pn 11 07 42.6 +6.2
136nm,0.9s
KKM Kota Kinabalu 17.66 59 ⇑P Pn 11 08 28.7 +2.9
TSM Tawau 18.35 67 ⇑P Pn 11 08 34.5 +0.3
KAPI Kappang 18.77 96 P Pn 11 08 37.5 -1.7
2.4nm,0.3s,baz=274,slow=13,SNR=14
KAPI LR LR 11 16 24.4
comp=Z,198nm,19.7s,baz=278,slow=39
KAPI Kappang 18.77 96 eP Pn 11 08 36.4 -2.8
24nm,0.6s
MYLDM Lahad Datu 19.28 65 ⇓P Pn 11 08 49.2 +3.9
CMAR Chiang Mai Arr 21.50 355 P P 11 09 04.0 -3.7
2.3nm,0.7s,mb3.6,baz=185,slow=9.7,SNR=13
CMAR PcP PcP 11 13 08.4 -0.4
0.7nm,0.3s,baz=210,slow=2.3,SNR=6.3
CMAR ScP ScP 11 16 41.9 +0.7
1.4nm,0.9s,baz=217,slow=3.3,SNR=7.1
CMAR LR LR 11 17 59.4
comp=Z,187nm,18.9s,MS3.5,baz=152,slow=38
BATI Baumata 23.55 109 P P 11 09 27.4 -1.7
14nm,0.5s,mb4.6,baz=241,slow=11,SNR=2.6
QIZ Qiongzhong 23.62 21 P P 11 09 29.3 -0.2
QIZ S S 11 13 42.8 +2.9
QIZ LR LR
comp=N,203nm,22.4s
QIZ LR LR
comp=Z,284nm,22.4s,MS3.7
DAV Davao City (W) 26.49 68 LR LR 11 21 25.8
comp=Z,127nm,20.7s,MS3.5,baz=238,slow=39
KMI Kunming 28.08 3 P P 11 10 13.0 +3.2
KMI AP pP 11 10 22.0 -2.2
KMI XP sP 11 10 26.9 -4.1
KMI PP PP 11 11 04.0 -10
KMI S S 11 14 55.6 +4.9
KMI XS sS 11 15 11.6 -3.6
KMI SS SS 11 16 18.7 -33
KMI AMB AMB
comp=Z,7.0nm,1.2s,mb4.2
KMI AMB AMB
comp=Z,106nm,5.1s
KMI LR LR
comp=N,216nm,18.3s,MS3.9
KMI LR LR
comp=E,149nm,18.7s,MS3.9
KMI LR LR
comp=Z,257nm,19.3s,MS3.8
KMI Kunming 28.08 3 P P 11 10 13.0 +3.2
comp=Z,7.0nm,1.2s,mb4.2
KMI pP pP 11 10 22.0 -2.2
KMI sP sP 11 10 26.9 -4.1
KMI PP PP 11 11 04.0 -10
KMI S S 11 14 55.6 +4.9
KMI sS sS 11 15 11.6 -3.6
KMI SS SS 11 16 18.7 -33
KMI LR LR
comp=Z,260nm,19.3s,MS3.8
FITZ Fitzroy Crossi 28.36 124 eP P 11 10 11.3 -1.1
comp=Z,12nm,0.6s,mb4.7
FITZ Fitzroy Crossi 28.36 124 P P 11 10 10.6 -1.8
comp=Z,8.2nm,0.8s,mb4.4,baz=314,slow=6.9,SNR=8.9
FITZ LR LR 11 21 14.5
comp=Z,85nm,20.2s,MS3.3,baz=146,slow=36
GYA Guiyang 29.86 10 P P 11 10 27.9 +2.3
GYA AP pP 11 10 37.6 -2.5
GYA XP sP 11 10 42.0 -4.9
GYA PP PP 11 11 26.8 -7.2
GYA PCP PcP 11 13 30.7 +3.0
GYA S S 11 15 21.7 +3.0
GYA SCP ScP 11 17 08.6 +3.5
GYA AMB AMB
comp=Z,10.0nm,0.7s,mb4.7
GYA AMB AMB
comp=Z,80nm,4.2s
GYA LR LR
comp=N,570nm,15.8s,MS4.4
GYA LR LR
comp=E,460nm,16.7s,MS4.4
GYA LR LR
comp=Z,500nm,16.4s,MS4.2
ODAN Odare 32.55 337 eP P 11 10 49.2 -0.1
comp=Z,41nm,0.8s,mb5.4
TAPN Taplejung 32.87 338 eP P 11 10 52.1 0.0
comp=Z,83nm,0.9s,mb5.7
RAMN Ramite 32.95 336 eP P 11 10 52.9 +0.2
comp=Z,20nm,0.6s,mb5.2
NWAO Narrogin (SRO) 33.35 155 P P 11 10 56.7 +0.5
comp=Z,13nm,0.8s,mb4.9,baz=323,slow=12,SNR=7.1
NWAO LR LR 11 22 32.0
comp=Z,283nm,21.3s,MS4.0,baz=296,slow=33
NWAO Narrogin (SRO) 33.35 155 P P 11 10 56.7 +0.5
NWAO LR LR 11 22 32.0
JIRN Jiri 33.74 336 eP P 11 10 59.9 +0.2
comp=Z,59nm,0.8s,mb5.6
CD2 Chengdu 33.90 4 eP P 11 11 03.4 +2.4
CD2 AP pP 11 11 13.1 -2.4
CD2 PP PP 11 12 18.2 -0.5
CD2 S S 11 16 25.4 +3.9
CD2 XS sS 11 16 41.2 -5.0
CD2 SS SS 11 18 33.8 -16
CD2 AMB AMB
comp=Z,10.0nm,0.8s,mb4.8
CD2 AMB AMB
comp=Z,40nm,4.8s
CD2 LR LR
comp=N,270nm,20.4s
CD2 LR LR
comp=Z,400nm,22.8s,MS4.1
PKI Pulchoki 33.99 335 eP P 11 11 01.6 -0.2
GUN Gumba 34.09 336 eP P 11 11 03.0 +0.3
comp=Z,68nm,0.7s,mb5.7
DMN Daman 34.15 334 eP P 11 11 03.0 -0.2
KKN Kakani 34.23 335 eP P 11 11 03.6 -0.4
comp=Z,45nm,0.9s,mb5.4
GKN Gorkha 34.70 334 eP P 11 11 07.9 -0.1
comp=Z,66nm,1.1s,mb5.5
KOLN Koldanda 34.97 332 eP P 11 11 10.5 +0.2
comp=Z,43nm,0.7s,mb5.5
DANN Dangsing 35.39 333 eP P 11 11 14.0 +0.1
comp=Z,77nm,0.9s,mb5.7
WRA Warramunga Arr 36.56 120 P P 11 11 22.9 -1.2
comp=Z,9.3nm,0.4s,mb5.0,baz=304,slow=9.0,SNR=38
WRA S S 11 16 58.1 -4.7
comp=Z,2.2nm,0.9s,baz=292,slow=16,SNR=7.8
WRA LR LR 11 28 22.5
comp=Z,88nm,19.0s,MS3.6,baz=195,slow=39
WB2 Warramunga Arr 36.57 120 eP P 11 11 22.6 -1.6
XAN Xi'an 37.66 11 P P 11 11 30.6 -2.6
XAN AP pP 11 11 40.3 -7.6
XAN XP sP 11 11 44.4 -10
XAN PP PP 11 12 57.9 -2.3
XAN S S 11 17 14.4 -4.7
XAN SS SS 11 19 49.2 -16
XAN AMB AMB
comp=Z,7.0nm,0.6s,mb4.6
XAN AMB AMB
comp=Z,57nm,5.3s
XAN LR LR
comp=N,93nm,14.8s,MS3.9
XAN LR LR
comp=E,122nm,18.1s,MS3.9
XAN LR LR
comp=Z,292nm,16.7s,MS4.2
ASAR Alice Springs 37.79 126 P P 11 11 34.0 -0.5
comp=Z,15nm,1.0s,mb4.7,baz=303,slow=8.0,SNR=39
ASAR PcP PcP 11 13 50.5 +0.2
comp=Z,3.5nm,0.7s,baz=307,slow=2.8,SNR=8.9
ASAR S S 11 17 18.6 -2.8
comp=Z,1.4nm,0.6s,baz=299,slow=17,SNR=7.6
NDI New Delhi 38.99 326 eP P 11 11 42.0 -2.5
LZH Lanzhou 39.05 4 eP P 11 11 46.5 +1.7
LZH XP sP 11 12 01.2 -5.1
LZH ePP PP 11 13 20.5 +5.1
LZH AMB AMB
comp=Z,24nm,1.3s,mb4.8
LZH AMB AMB
comp=Z,72nm,5.3s
LZH LR LR
comp=N,487nm,13.0s
LZH LR LR
comp=Z,659nm,17.3s,MS4.5
LZH Lanzhou 39.05 4 eP P 11 11 46.5 +1.7
comp=Z,24nm,1.3s,mb4.8
LZH pP pP 11 11 49.3 -10
LZH sP sP 11 12 01.2 -5.1
LZH ePP PP 11 13 20.5 +5.1
LZH LR LR
comp=Z,660nm,17.3s,MS4.5
JOW Kunigami 39.70 40 LR LR 11 26 16.5
comp=Z,81nm,20.8s,MS3.5,baz=221,slow=33
GTA Gaotai 42.29 359 eP P 11 12 13.1 +1.6
GTA AP pP 11 12 20.6 -5.8
GTA XP sP 11 12 23.8 -9.3
GTA AMB AMB
comp=Z,3.0nm,0.6s,mb4.1
THN Thein Dam 42.70 328 eP P 11 12 12.9 -2.1
HHC Hu-ho-hao-te 44.77 11 eP P 11 12 34.2 +2.8
HHC AP pP 11 12 44.5 -1.9
HHC XP sP 11 12 48.0 -5.1
HHC PCP PcP 11 14 15.2 +2.5
HHC PP PP 11 14 20.9 +4.0
HHC SCP ScP 11 18 04.1 +3.8
HHC PCS PcS 11 18 07.4 +1.2
HHC S S 11 19 09.5 +5.3
HHC XS sS 11 19 26.9 -2.7
HHC SS SS 11 22 23.6 -3.3
HHC SCS ScS 11 22 26.4 +2.7
HHC AMB AMB
comp=Z,13nm,1.0s,mb4.7
HHC AMB AMB
comp=Z,194nm,5.7s
HHC LR LR
comp=N,229nm,12.0s,MS4.4
HHC LR LR
comp=E,193nm,13.4s,MS4.4
HHC LR LR
comp=Z,236nm,11.3s,MS4.4
BJI Beijing 45.10 16 P P 11 12 35.4 +1.3
BJI S S 11 19 00.1 -9.1
BJI AMB AMB
comp=Z,5.0nm,0.6s,mb4.5
BJI AMB AMB
comp=Z,110nm,6.5s
BJI LR LR
comp=N,229nm,15.1s,MS4.3
BJI LR LR
comp=E,135nm,15.1s,MS4.3
BJI LR LR
comp=Z,155nm,26.8s
BJI Beijing 45.10 16 P P 11 12 35.4 +1.3
comp=Z,5.0nm,0.6s,mb4.5
BJI S S 11 19 00.1 -9.1
BJI SS SS 11 22 38.1 +4.9
BJI LR LR
comp=Z,160nm,26.8s,MS3.8
CTA Charters Tower 47.21 115 eP P 11 12 50.0 -1.0
comp=Z,13nm,0.8s,mb4.9
CTA Charters Tower 47.21 115 P P 11 12 50.4 -0.6
comp=Z,15nm,0.7s,mb5.0,baz=286,slow=9.5,SNR=23
CTAO Charters Tower 47.21 115 eP P 11 12 50.3 -0.7
comp=Z,19nm,0.8s,mb5.1
KSRS Korea Array 47.43 29 P P 11 12 51.7 -0.7
comp=Z,12nm,1.2s,mb4.7,baz=217,slow=7.7,SNR=9.4
KSRS LR LR 11 35 08.6
comp=Z,43nm,18.1s,MS3.5,baz=220,slow=39
STKA Stephens Creek 47.67 132 eP P 11 12 54.5 +0.1
comp=Z,14nm,0.5s,mb5.2
STKA Stephens Creek 47.67 132 P P 11 12 54.6 +0.2
comp=Z,18nm,0.6s,mb5.3,baz=306,slow=7.7,SNR=38
WMQ Urumqi 48.20 347 P P 11 12 58.6 +0.3
WMQ AP pP 11 13 08.6 -4.8
WMQ XP sP 11 13 12.6 -7.5
WMQ PCP PcP 11 14 26.4 +1.6
WMQ PP PP 11 14 50.3 -0.9
WMQ S S 11 19 54.6 +1.3
WMQ AMB AMB
comp=Z,33nm,0.8s,mb5.4
WMQ AMB AMB
comp=Z,224nm,4.1s
WMQ LR LR
comp=N,58nm,20.0s,MS3.8
WMQ LR LR
comp=E,76nm,20.0s,MS3.8
WMQ LR LR
comp=Z,64nm,21.2s,MS3.6
CBIJ Chichi jima 49.75 50 LR LR 11 33 25.3
comp=Z,49nm,20.2s,MS3.5,baz=225,slow=35
SONM Songino Array 50.92 5 P P 11 13 18.7 -0.2
comp=Z,5.3nm,0.8s,mb4.5,baz=186,slow=9.2,SNR=11
UCH Uchtor 51.10 335 P P 11 13 20.6 +0.3
SNR=8.8
UCH Uchtor 51.10 335 eP P 11 13 20.3 0.0
comp=Z,5.3nm,0.8s,mb4.5
TKM2 Tokmak 2 51.23 336 P P 11 13 21.2 -0.1
SNR=16
TKM2 Tokmak 2 51.23 336 eP P 11 13 21.0 -0.3
comp=Z,7.2nm,0.6s,mb4.8
AML Almayashu 51.38 334 P P 11 13 22.7 +0.3
SNR=17
AML Almayashu 51.38 334 eP P 11 13 22.4 0.0
comp=Z,9.0nm,0.6s,mb4.9
CN2 Changchun 51.57 22 eP P 11 13 21.0 -2.8
EKS2 Erkin-Say 51.77 335 P P 11 13 25.7 +0.4
SNR=23
EKS2 Erkin-Say 51.77 335 eP P 11 13 25.6 +0.2
comp=Z,20nm,0.8s,mb5.1
USP Ospenovka 51.96 336 P P 11 13 26.3 -0.5
SNR=5.3
MK31 Makanchi Array 52.34 344 eP P 11 13 28.5 -1.0
MKAR Makanchi Array 52.34 344 P P 11 13 28.5 -1.0
comp=Z,6.3nm,0.6s,mb4.7,baz=145,slow=8.0,SNR=51
MKAR Makanchi Array 52.34 344 P P 11 13 28.5 -1.0
MJAR Matsushiro Arr 52.47 38 P P 11 13 28.0 -2.7
comp=Z,2.2nm,0.7s,mb4.2,baz=214,slow=7.5,SNR=7.4
OPO Ambohidratompo 54.85 250 P P 11 13 50.0 +1.6
comp=Z,8.8nm,1.1s,mb4.7,baz=25,slow=5.1,SNR=4.7
KURK Kurchatov 56.93 343 P P 11 14 01.1 -1.6
comp=Z,5.3nm,0.6s,mb4.7,baz=162,slow=7.2,SNR=17
KURK LR LR 11 41 37.8
comp=Z,52nm,19.0s,MS3.6,baz=10.0,slow=39
KURK Kurchatov 56.93 343 eP P 11 14 01.6 -1.1
comp=Z,10nm,0.8s,mb4.9
ZALV Zalesovo Beam 58.41 349 P P 11 14 11.6 -1.4
comp=Z,32nm,0.8s,mb5.4,baz=160,slow=4.7,SNR=91
ZALV LR LR 11 42 13.0
comp=Z,44nm,19.7s,MS3.6,baz=248,slow=39
NAY Al-Naaiem 60.69 306 eP P 11 14 28.8 -0.4
baz=306
NAY AMb AMB 11 14 29.6
comp=Z,16nm,0.8s,mb5.2,baz=306
MIB Mutribah 60.82 307 eP P 11 14 29.8 -0.3
baz=307
MIB AMb AMB 11 14 31.3
comp=Z,49nm,1.1s,mb5.5,baz=307
RST Umm Al-Ruwaisa 60.98 306 eP P 11 14 30.8 -0.4
baz=306
RST AMb AMB 11 14 31.8
comp=Z,37nm,1.4s,mb5.3,baz=306
BRVK Borovoye 61.61 339 eP P 11 14 33.5 -1.5
comp=Z,7.9nm,0.5s,mb5.1
CASY Casey 63.43 176 eP P 11 14 48.1 +1.2
CASY Casey 63.43 176 eP P 11 14 48.0 +1.1
comp=Z,8.4nm,1.0s,mb4.8
KMBO Kilima Mbogo 63.76 270 P P 11 14 51.7 +1.6
comp=Z,3.1nm,0.7s,mb4.5,baz=66,slow=22,SNR=8.3
KMBO LR LR 11 38 07.0
comp=Z,74nm,20.4s,MS3.9,baz=88,slow=32
KMBO Kilima Mbogo 63.76 270 eP P 11 14 52.0 +1.9
comp=Z,4.7nm,1.0s,mb4.5
DZM Mont Dzumac 66.09 113 eP P 11 15 04.4 -0.6
MAW Mawson 69.50 195 eP P 11 15 27.7 +2.1
comp=Z,6.6nm,0.9s,mb4.6
MAW Mawson 69.50 195 P P 11 15 27.3 +1.6
comp=Z,7.7nm,0.9s,mb4.7,baz=26,slow=8.0,SNR=15
MAW LR LR 11 38 47.8
comp=Z,151nm,22.0s,MS4.2,baz=268,slow=30
ASF Jabal al Asfar 70.05 306 LR LR 11 49 25.6
comp=Z,52nm,18.1s,MS3.8,baz=161,slow=39
EIL Elat 70.97 303 LR LR 11 43 18.1
comp=Z,111nm,21.0s,MS4.1,baz=94,slow=33
MMAI Mount Meron Ar 71.50 306 LR LR 11 47 33.9
comp=Z,56nm,20.3s,MS3.8,baz=135,slow=36
LSZ Lusaka 72.65 255 eP P 11 15 46.8 +1.1
comp=Z,5.0nm,0.8s,mb4.5
PETK Petropavlovsk- 73.25 32 P P 11 15 46.8 -1.6
comp=Z,5.6nm,1.0s,mb4.5,baz=0.5,slow=2.7,SNR=4.7
BR131 Keskin Array S 74.81 312 eP P 11 15 56.8 -1.0
comp=Z,5.9nm,0.8s,mb4.6
BOSA Boshof 76.05 241 P P 11 16 06.5 +1.2
comp=Z,8.0nm,0.6s,mb4.8,baz=88,slow=5.3,SNR=24
BOSA LR LR 11 42 05.1
comp=Z,118nm,19.7s,MS4.2,baz=261,slow=30
SUR Sutherland 80.10 238 eP P 11 16 29.7 +2.0
comp=Z,21nm,0.9s,mb5.1
AKASG Malin Array Be 80.96 322 P P 11 16 30.5 -1.3
comp=Z,0.5nm,0.3s,mb3.9,baz=96,slow=4.3,SNR=12
SBA Scott Base 82.00 169 eP P 11 16 38.3 +1.4
comp=Z,6.5nm,0.8s,mb4.6
BUR08 Bucovina Ar. S 82.76 319 eP P 11 16 42.0 +0.7
KOLS Kolonicke sedl 84.94 320 eP P 11 16 52.5 +0.1
CRVS Cervenica-Dubn 85.46 319 eP P 11 16 55.4 +0.4
STHS Stebnicka Huta 85.69 320 eP P 11 16 55.9 -0.2
comp=Z,5.1nm,1.0s,mb4.7
QSPA South Pole Qui 86.89 180 P P 11 17 02.7 +1.1
comp=Z,3.5nm,0.8s,mb4.6,baz=266,slow=2.7,SNR=14
VYHS Vyhne 87.11 319 eP P 11 17 02.9 -0.3
ARCES ARCESS Array B 87.83 340 P P 11 17 05.8 -0.4
comp=Z,1.3nm,0.7s,mb4.3,baz=308,slow=14,SNR=4.3
MODS Modra-Piesok 88.13 318 eP P 11 17 07.7 -0.3
comp=Z,7.0nm,1.5s,mb4.7
ZST Bratislava 88.22 318 eP P 11 17 05.3 -3.2
BRG Berggiesshubel 90.52 321 eP P 11 17 19.6 +0.4
comp=Z,10.0nm,1.1s,mb5.0
GERES GERESS Array B 90.53 319 P P 11 17 20.0 +0.7
comp=Z,2.3nm,0.6s,mb4.7,baz=88,slow=4.1,SNR=17
CLL Collm 91.14 321 eP P 11 17 22.0 -0.1
comp=Z,12nm,1.6s,mb5.0
HFS Hagfors 91.31 330 P P 11 17 22.4 -0.3
comp=Z,6.1nm,0.8s,mb5.0,baz=96,slow=3.0,SNR=8.0
NOA NORSAR Array B 92.58 331 P P 11 17 27.8 -0.7
comp=Z,1.2nm,0.8s,mb4.4,baz=252,slow=2.9,SNR=3.7
TORD Torodi Ar. Bea 99.78 283 LR LR 11 58 54.2
comp=Z,73nm,20.3s,MS4.2,baz=250,slow=33
NVAR Mina Array Bea 129.76 40 PKP PKPdf 11 23 26.9 +0.1
comp=Z,1.0nm,0.6s,baz=281,slow=2.1,SNR=5.2
NVAR SKPbc 11 26 44.9
comp=Z,0.7nm,0.8s,baz=263,slow=4.6,SNR=4.1
PDAR Pinedale Array 132.00 30 PKP PKPdf 11 23 28.9 -2.0
comp=Z,0.5nm,0.7s,baz=151,slow=3.4,SNR=4.5
PDAR SKPbc SKPbc 11 26 51.4 -0.9
comp=Z,0.8nm,0.8s,baz=63,slow=1.6,SNR=5.1
PLCA Paso Flores 135.72 189 PKP PKPdf 11 23 38.5 +0.5
comp=Z,0.7nm,0.5s,baz=148,slow=18,SNR=3.2
ANMO Albuquerque 139.30 36 PKP PKPdf 11 23 44.9 +0.2
comp=Z,0.7nm,0.6s,baz=292,slow=6.1,SNR=3.6
ANMO Albuquerque 139.30 36 PKP PKPdf 11 23 44.9 +0.2
CPUP Villa Florida 144.04 214 PKP PKPdf 11 23 52.0 -1.5
comp=Z,3.5nm,0.7s,baz=70,slow=3.5,SNR=8.2
BDFB Brasilia 144.17 238 PKP PKPdf 11 23 53.4 -0.5
comp=Z,4.3nm,0.5s,baz=118,slow=10,SNR=9.2
TXAR Lajitas Array 144.90 39 PKP PKPdf 11 23 53.8 -1.1
comp=Z,6.8nm,0.6s,baz=283,slow=1.1,SNR=104
MIAR Mount Ida 145.87 22 ePKPdf PKPdf 11 23 55.9 -0.5
WVT Waverly 146.11 13 ePKPdf PKPdf 11 23 55.5 -1.3
JCT Junction City 146.37 34 ePKPdf PKPdf 11 23 56.9 -0.4
LVC Limon Verde 152.64 201 ePKPbc PKPbc 11 24 15.5 +0.9
LPAZ La Paz 157.98 209 PKP PKPdf 11 24 16.4 +1.5
comp=Z,1.4nm,0.8s,baz=95,slow=2.9,SNR=6.0

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*NEIC **10** 11:05:16.8±0.6, 1.39N×126.62E, h35km, mb4.7/4, Error ellipse: s-maj=14.0km s-min=9.5km az=66.0*
*IDC **10** 11:05:19.6±5.1, 1.34N×126.40E, h66km±52km, mb4.0/8, mb1 4.0/10, mb1mx3.9/18, mbtmp3.9/10, ML3.7/2, Error ellipse: s-maj=36.4km s-min=15.4km az=73.0*
*ISCJB **10** 11:05:22.1±3.2, 1.29N±0.10×126.3E±0.2, h110km±34km, mb4.3/9, Error ellipse: s-maj=29.4km s-min=11.1km az=153.6*
ISC 10 11:05:19.8±2.7**, 1.29N**±0.09×**126.5E**±0.2**, h67km**±29km**, n19,** σ0.93/19**, mb4.3**/9**, Northern Molucca Sea**

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

KAPI	Kappang	9.18	227	P	Pn	11 07 29.5	0.0
	0.8nm,0.3s,baz=92,slow=21,SNR=5.5						
KAPI	Kappang	9.18	227	P	Pn	11 07 29.5	0.0
KKM	Kota Kinabalu	11.26	295	*e*Pn	Pn	11 07 59.0	+1.0
KAKA	Kakadu	15.13	157	*e*P	Pn	11 08 54.4	+4.7
	8.7nm,0.6s						
KAKA	Kakadu	15.13	157	*e*P	Pn	11 08 54.4	+4.7
	22nm,0.9s						
KSM	Kuching	16.15	271	Pn	Pn	11 09 01.9	-0.8
FITZ	Fitzroy Crossi	19.29	182	P	Pn	11 09 39.1	-1.9
	0.2nm,0.3s,baz=20,slow=22,SNR=5.5						
WRA	Warramunga Arr	22.47	160	P	P	11 10 13.9	+0.3
	3.4nm,0.5s,mb4.0,baz=341,slow=12,SNR=73						
WB2	Warramunga Arr	22.48	160	*e*P	P	11 10 13.5	-0.1
ASAR	Alice Springs	25.84	164	P	P	11 10 46.2	+1.1
	1.1nm,0.5s,mb3.5,baz=343,slow=7.9,SNR=38						
STKA	Stephens Creek	35.98	158	P	P	11 12 14.6	+0.4
	3.7nm,0.5s,mb4.6,baz=316,slow=7.2,SNR=12						
STKA	Stephens Creek	35.98	158	*e*P	P	11 12 15.5	+1.3
	6.2nm,0.8s,mb4.6						
KSRS	Korea Array	36.01	2	P	P	11 12 14.4	0.0
	0.8nm,0.5s,mb3.9,baz=179,slow=10.0,SNR=5.3						
MJAR	Matsushiro Arr	36.72	16	P	P	11 12 19.7	-0.8
	1.8nm,0.5s,mb4.3,baz=179,slow=9.6,SNR=7.9						
PETK	Petropavlovsk-	57.77	22	P	P	11 15 03.7	-0.1
	8.0nm,1.1s,mb4.7,baz=220,slow=6.3,SNR=4.3						
MKAR	Makanchi Array	59.40	326	P	P	11 15 14.7	-0.6
	2.0nm,0.4s,mb4.5,baz=120,slow=7.1,SNR=9.2						
AML	Almayashu	62.29	318	*e*P	P	11 15 36.9	+1.9
	2.8nm,0.4s,mb4.7						
KURK	Kurchatov	63.65	328	P	P	11 15 43.1	-0.7
	3.7nm,0.5s,mb4.5,baz=128,slow=6.1,SNR=11						
KURK	Kurchatov	63.65	328	*e*P	P	11 15 42.9	-0.9
	6.7nm,0.6s,mb4.7						

*HLW **10** 11:13:54.1, 29.98N×36.63E, h27km, Mb2.8*
*SGS **10** 11:13:55.0, 30.09N×36.14E, h5km*
*CSEM **10** 11:13:56.3±0.5, 29.91N×36.14E, h15km, ML2.5, Error ellipse: s-maj=11.5km s-min=5.8km az=72.0*
ISC 10 11:13:54.9±2.4**, 29.89N**±0.08×**36.2E**±0.1**, h0**km±11km**, n12, σ0.38**/13**, 1C-2D, Western Arabian Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
HQLS		1.17	240	P	Pg	11 14 17.0	-0.2
HQLS		1.17	240	P	Pg	11 14 17.0	-0.2
HQLS				S	Sg	11 14 33.0	+0.6
JLOS		1.31	209	P	Pg	11 14 20.3	+0.2
HBST	Basata	1.46	243	⇓P	Pn	11 14 22.3	-0.2
TBKS	Tabuk	1.69	170	P	Pn	11 14 25.9	+0.4
BDAS	Al Bad‘	1.75	214	S	Sn	11 14 49.6	+0.1
BDAS	Al Bad‘	1.75	214	P	Pn	11 14 26.6	+0.1
HNKL	Nakhl	1.95	272	P	Pn	11 14 29.4	+0.3
RSHS		2.02	219	S	Sg	11 14 59.1	-0.6
RSHS		2.02	219	P	Pn	11 14 29.4	-0.7
HKAT	Jabal Katrina	2.38	236	⇑*i*P	Pn	11 14 35.4	+0.3
AMAG	Maghara	2.71	287	⇓*i*P	Pn	11 14 39.4	-0.3

*MOS **10** 11:21:24.9±1.1, 25.92S×179.58E, h482km, mb5.4/14, Error ellipse: s-maj=10.6km s-min=9.4km az=1.0*
*ISCJB **10** 11:21:25.9±0.1, 26.14S±0.03×179.57E±0.03, h493km, mb4.9/74, Error ellipse: s-maj=4.2km s-min=2.7km az=42.3*
*BJI **10** 11:21:25.5, 25.53S×179.69E, h478km, mB5.1, mb5.1*
*BGS **10** 11:21:26.5±4.0, 26.14S×179.62E, h498km, mb5.1(NEIC)*
*NEIC **10** 11:21:26.6±0.6, 26.14S×179.62E, h498km±7km, mb5.1/46, Error ellipse: s-maj=7.3km s-min=5.7km az=167.0*
*GCMT **10** 11:21:26.6±0.4, 25.93S×179.61E, h499km±2km, MW5.4/62, Moment Tensor Solution. s62,c85; Duration: 1.2s; Moment tensor: Scale 10^{17}Nm; M_{rr}-0.26±.03; $M_{\theta\theta}$0.15±.05; $M_{\phi\phi}$0.10±.05; $M_{r\theta}$-0.57±.05; $M_{\theta\phi}$-0.22±.05; $M_{\phi r}$-1.24±.04; Best double couple: $M_0$1.37600×10^{17} NP1: ϕ_s133.00000°, δ6.00000°, λ-159.00000°. NP2: ϕ_s23.00000°, δ88.00000°, λ-84.00000°. Principal axes: T 1.2240, Plg42.0000°, Azm107.0000°; N 0.3050, Plg6.0000°, Azm202.0000°; P -1.5290, Plg47.0000°, Azm299.0000°; nsta1 refers to body waves, cutoff=40s.*
*IDC **10** 11:21:27.0±0.5, 26.00S×179.62E, h496km±4km, mb4.5/24, mb1 4.5/26, mb1mx4.5/26, mbtmp4.5/26 Error ellipse: s-maj=9.7km s-min=7.3km az=3.0*
*SZGRF **10** 11:21:29.7, 25.92S×179.71W, h527km, South of Fiji Islands*
*DJA **10** 11:21:31, 26.36S×178.87E, h506km, Mw5.3/24*
ISC 10 11:21:26.9±0.1**, 26.22S**±0.03×**179.60E**±0.03**, h496**km**, h496**km±3.0km**: pP-P, n620, σ0.79**/404**, mb4.9**/73**, 149C-141D, South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
RAO	Raoul Island	3.74	144	*e*P	P	11 22 44.6	+1.8
WCZ	Waipu Caves	10.68	204	P	P	11 23 55.6	+4.3
KUZ	Kuaotunu	11.00	197	P	P	11 23 57.8	+3.1
MKAZ	Moumakai	11.49	198	P	P	11 24 02.8	+2.9
PUZ	Puketiti	11.87	185	P	P	11 24 04.4	+0.5
URZ	Urewera	12.19	189	P	P	11 24 06.1	-1.1
	13nm,0.3s,baz=3.9,slow=3.0,SNR=47						
URZ				S	S	11 26 18.8	-0.7
	6.5nm,0.3s,baz=286,slow=22,SNR=4.0						
URZ	Urewera	12.19	189	P	P	11 24 07.0	-0.3
MWZ	Matawai	12.21	188	P	P	11 24 06.4	-1.0
LASL	Noumea	12.56	286	*e*P	P	11 24 13.1	+1.7
DZM	Mont Dzumac	12.70	286	*e*P	P	11 24 13.9	+0.9
DZM	Mont Dzumac	12.70	286	*e*Pn	P	11 24 14.6	+1.7
NOUC	Port Laguerre	12.81	286	*e*P	P	11 24 15.1	+1.0
KNZ	Kokohu	12.87	187	P	P	11 24 15.2	+0.7
HIZ	Hauiti	12.90	197	P	P	11 24 17.7	+3.0
BKZ	Black Stump Fm	13.17	191	P	P	11 24 16.7	-1.0
TSZ	Takapari Road	14.13	192	P	P	11 24 26.6	-1.2
AFI	Afiamalu	14.68	35	P	P	11 24 27.1	-6.8
	12nm,0.3s,baz=34,slow=11,SNR=23						
AFI				S	S	11 26 58.3	-10
	12nm,0.3s,baz=39,slow=20,SNR=5.3						
AFI	Afiamalu	14.68	35	*e*P	P	11 24 27.6	-6.3
AFI				pmax	pmax		
	comp=Z,75nm,0.6s						
AFI	Afiamalu	14.68	35	*e*Pn	P	11 24 27.6	-6.3
	comp=Z,75nm,0.6s						
MRZ	Mangatainoka R	14.79	192	P	P	11 24 32.0	-2.7
KIW	Kapiti Island	15.12	194	P	P	11 24 37.5	-0.6
MTW	Mount Morrison	15.28	192	P	P	11 24 37.3	-2.6
CAW	Cannon Point	15.32	193	P	P	11 24 39.5	-0.8
MRW	Makara Radio	15.51	194	P	P	11 24 41.0	-1.3
SNZO	South Karori	15.59	194	*e*P	P	11 24 41.8	-1.3
	comp=Z,30nm,0.5s						
SNZO				*e*S	S	11 27 23.3	-1.6
TCW	Tory Channel	15.59	195	P	P	11 24 41.6	-1.5
QRZ	Quartz Range	15.71	200	P	P	11 24 45.3	+1.0
NNZ	Nelson	15.82	197	P	P	11 24 44.6	-0.9
THZ	Tophouse	16.46	198	P	P	11 24 51.9	-0.2
DSZ	Denniston Nort	16.77	201	P	P	11 24 56.2	+0.8
KHZ	Kahutara	16.91	196	P	P	11 24 55.2	-1.6
LTZ	Lake Taylor	17.58	198	P	P	11 25 02.3	-1.1
WVZ	Waitaha Valley	18.31	201	P	P	11 25 10.0	-0.1
RPZ	Rata Peaks	18.79	200	P	P	11 25 14.8	+0.3
	comp=Z,5.0nm,0.3s,baz=23,slow=5.3,SNR=22						
RPZ				S	S	11 28 19.9	0.0
	comp=Z,0.6nm,0.3s,baz=147,slow=16,SNR=2.7						
FOZ	Fox Glacier	19.09	202	P	P	11 25 16.3	-0.9
RAR	Rarotonga	19.53	80	P	P	11 25 20.2	-1.3
	comp=Z,10.0nm,0.3s,baz=236,slow=6.9,SNR=17						
RAR	Rarotonga	19.53	80	*e*P	P	11 25 20.4	-1.1
RAR				pmax	pmax		
	comp=Z,254nm,1.3s						
RAR	Rarotonga	19.53	80	*e*P	P	11 25 20.4	-1.2
	comp=Z,254nm,1.3s						
ARMA	Armidale	24.95	254	*e*P	P	11 26 12.3	+2.2
HNR	Honiara	25.01	308	P	P	11 26 08.9	-1.9
	comp=Z,194nm,0.8s,mb5.6,baz=160,slow=2.7,SNR=8.0						
HNR	Honiara	25.01	308	*e*P	P	11 26 08.4	-2.5
HNR				pmax	pmax		
	comp=Z,142nm,0.8s,mb5.5						
HNR	Honiara	25.01	308	*e*P	P	11 26 08.4	-2.5
	comp=Z,142nm,0.8s,mb5.5						
EIDS	Eidsvold	25.67	266	*e*P	P	11 26 22.7	+6.1
CNB	Canberra Magne	27.43	243	*e*P	P	11 26 34.7	+2.7
CNB				*e*SCP	ScP	11 32 29.7	+1.5
CAN	Canberra	27.72	243	*e*P	P	11 26 37.1	+2.5
TBI	Tubuai	28.20	91	*e*P	P	11 26 39.0	+0.1
	comp=Z,176nm,0.8s,mb5.6						
PPT	Papeete	29.81	80	*e*P	P	11 26 52.6	-0.4
	comp=Z,28nm,1.0s,mb4.6						
PPT	Papeete	29.81	80	P	P	11 26 52.2	-0.8
	comp=Z,37nm,0.6s,mb5.0,baz=268,slow=5.4,SNR=9.7						
TIAR	Tiarei	30.02	80	*e*P	P	11 26 54.2	-0.6
	comp=Z,276nm,0.6s,mb5.8						
TVO	Taravao	30.02	80	*e*P	P	11 26 54.1	-0.7
	comp=Z,304nm,0.6s,mb5.9						
TVO	Taravao	30.02	80	*e*P	P	11 26 54.1	-0.7
TVO				pmax	pmax		
	comp=Z,304nm,0.6s,mb5.9						
TOO	Toolangi	30.93	240	*e*P	P	11 27 04.2	+1.8
TOO				*e*SCP	ScP	11 32 40.6	+1.2
CTA	Charters Tower	31.20	274	⇓*i*P	P	11 27 05.8	+0.8
	comp=Z,143nm,0.9s,mb5.4						
CTA				*e*		11 28 21.8	
CTA				*e*S	S	11 31 34.8	-0.9
CTA				*e*SCP	ScP	11 32 42.6	+2.0
CTA				*e*SS	SS	11 34 26.0	-17
CTA	Charters Tower	31.20	274	P	P	11 27 05.8	+0.8
	comp=Z,90nm,0.5s,mb5.5,baz=98,slow=10,SNR=210						
CTA				ScP	ScP	11 32 42.9	+2.2
	comp=Z,32nm,1.0s,baz=132,slow=2.1,SNR=14						
CTA	Charters Tower	31.20	274	⇓*i*P	P	11 27 05.8	+0.8
CTA				*e*S	S	11 31 34.8	-0.9
CTA				pmax	pmax		
	comp=Z,143nm,0.9s						
CTAO	Charters Tower	31.20	274	*e*P	P	11 27 05.8	+0.8
CTAO				pmax	pmax		
	comp=Z,253nm,1.0s,mb5.6						
CTAO	Charters Tower	31.20	274	*e*P	P	11 27 05.8	+0.9
	comp=Z,253nm,1.0s,mb5.6						
CTAO				*e*ScP	ScP	11 32 42.6	+2.0
PMOR	Pomariorio Ree	32.32	76	*e*P	P	11 27 13.9	-0.7
	comp=Z,53nm,0.9s,mb5.0						
VAH	Vaihoa	32.45	77	*e*P	P	11 27 15.0	-0.7
	comp=Z,41nm,0.9s,mb4.9						
STKA	Stephens Creek	33.58	251	*e*P	P	11 27 26.1	+1.0
	comp=Z,24nm,0.6s,mb4.8						
STKA				*e*PCP	PcP	11 29 51.8	+0.4
STKA				*e*S	S	11 32 17.8	+6.0
STKA				*e*SCP	ScP	11 32 49.8	+1.1
STKA				*e*SCS	ScS	11 36 51.7	+0.2
STKA	Stephens Creek	33.58	251	P	P	11 27 26.1	+1.0
	comp=Z,42nm,0.8s,mb4.9,baz=94,slow=9.4,SNR=103						
STKA				PcP	PcP	11 29 52.2	+0.8
	comp=Z,13nm,0.6s,baz=140,slow=3.5,SNR=6.8						
STKA				ScP	ScP	11 32 50.1	+1.4
	comp=Z,12nm,0.9s,baz=58,slow=4.0,SNR=5.9						
STKA				ScS	ScS	11 36 52.9	+1.4
	comp=Z,3.3nm,0.9s,baz=76,slow=22,SNR=9.6						
PMG	Port Moresby	34.97	293	*e*P	P	11 27 36.4	-0.6
PMG				*e*		11 29 55.8	
PMG				pmax	pmax		
	comp=Z,92nm,0.9s						
PMG	Port Moresby	34.97	293	*e*P	P	11 27 36.4	-0.7
	comp=Z,92nm,0.9s,mb5.2						
PMG				*e*PcP	PcP	11 29 55.8	+0.1
PMG				*e*ScP	ScP	11 32 56.2	+2.2
COEN	Coen	36.19	283	*e*P	P	11 27 47.4	+0.2
	comp=Z,52nm,0.9s,mb5.0						
BBOO	Buckleboo	38.25	250	*e*P	P	11 28 03.7	-0.2
	comp=Z,132nm,1.3s,mb5.2						
ASAR	Alice Springs	41.35	263	P	P	11 28 29.1	+0.2
	comp=Z,61nm,0.6s,mb5.2,baz=107,slow=8.1,SNR=353						
ASAR				pP	pP	11 29 59.8	+0.4
	comp=Z,2.1nm,0.5s,baz=92,slow=6.9,SNR=1.3						
ASAR				PcP	PcP	11 30 15.2	-0.7
	comp=Z,9.7nm,0.9s,baz=104,slow=3.9,SNR=6.4						
ASAR				ScP	ScP	11 33 19.3	+1.0
	comp=Z,11nm,0.9s,baz=108,slow=4.0,SNR=16						
ASAR				S	S	11 34 06.8	-0.5
	comp=Z,2.2nm,0.9s,baz=111,slow=14,SNR=4.3						
ASAR	Alice Springs	41.35	263	P	P	11 28 29.2	+0.2
ASAR				*PP	pP	11 29 59.8	+0.4
ASAR						11 30 15.2	
ASAR				S	S	11 34 06.9	-0.4
WB2	Warramunga Arr	41.93	269	*e*P	P	11 28 33.0	-0.7
WB2				*e*ScP	ScP	11 33 22.1	+1.4
WRA	Warramunga Arr	41.94	269	P	P	11 28 32.8	-0.9
	comp=Z,53nm,0.8s,mb5.0,baz=100,slow=6.9,SNR=524						
WRA				pP	pP	11 30 04.4	0.0
	comp=Z,3.4nm,0.5s,baz=104,slow=8.9,SNR=1.5						
WRA				ScP	ScP	11 33 22.3	+1.5
	comp=Z,14nm,1.0s,baz=107,slow=4.2,SNR=18						
WRA				S	S	11 34 15.5	-0.4
	comp=Z,6.9nm,1.0s,baz=97,slow=15,SNR=10						
WRA				PKiKP	PKiKP	11 37 20.4	-1.9
	comp=Z,0.4nm,0.4s,baz=80,slow=0.4,SNR=6.8						
WRA	Warramunga Arr	41.94	269	P	P	11 28 32.8	-0.9
WRA				*PP	pP	11 30 04.4	0.0
WRA				S	S	11 34 15.5	-0.4
WRA	Warramunga Arr	41.94	269	P	P	11 28 32.8	-0.9
WRA				pP	pP	11 30 04.4	0.0
WRA				ScP	ScP	11 33 22.3	+1.5
WRA				S	S	11 34 15.5	-0.4
FORT	Forrest	45.20	252	*e*P	P	11 28 58.5	-0.5
	comp=Z,115nm,0.6s,mb5.5						
FORT				*e*SCP	ScP	11 33 35.0	+1.0
KAKA	Kakadu	46.20	278	⇓*i*P	P	11 29 04.6	-2.3
	comp=Z,46nm,0.6s,mb5.1						
KAKA				*e*SCP	ScP	11 33 38.6	+0.2
KAKA	Kakadu	46.20	278	*e*P	P	11 29 04.2	-2.7
	comp=Z,158nm,0.8s,mb5.5						
KAKA				*e*ScP	ScP	11 33 38.4	0.0
KAKA				*e*ScP	ScP	11 33 38.6	+0.2
FITZ	Fitzroy Crossi	50.33	268	*e*P	P	11 29 37.4	-0.3
	comp=Z,53nm,0.6s,mb5.0						
FITZ				*e*pP	pP	11 31 14.5	+1.5
FITZ				*e*S	S	11 36 13.3	0.0
FITZ	Fitzroy Crossi	50.33	268	P	P	11 29 37.6	-0.1
	comp=Z,47nm,0.8s,mb4.9,baz=115,slow=6.7,SNR=101						
FITZ				pP	pP	11 31 14.6	+1.7
	comp=Z,18nm,1.0s,baz=122,slow=10,SNR=5.8						
FITZ				ScP	ScP	11 33 57.7	+1.8
	comp=Z,2.3nm,0.8s,baz=162,slow=13,SNR=3.3						
GUMO	Guam	52.03	315	P	P	11 29 48.3	-1.6
	comp=Z,145nm,0.5s,mb5.5,baz=164,slow=8.4,SNR=23						
GUMO	Guam	52.03	315	*e*P	P	11 29 48.5	-1.5
GUMO				pmax	pmax		
	comp=Z,120nm,0.6s,mb5.4						
GUMO	Guam	52.03	315	*e*P	P	11 29 48.5	-1.5
	comp=Z,120nm,0.6s,mb5.4						
SBA	Scott Base	52.05	183	*e*P	P	11 29 52.3	+3.0
SBA				*e*		11 30 53.0	
SBA				pmax	pmax		
	comp=Z,35nm,1.2s,mb4.6						
SBA	Scott Base	52.05	183	*e*P	P	11 29 52.3	+3.0
	comp=Z,35nm,1.2s,mb4.6						
SBA				*e*PcP	PcP	11 30 53.0	-0.2
SBA				*e*ScP	ScP	11 34 03.2	+0.9
KLBR	Kellerberrin	53.79	249	*e*P	P	11 30 02.0	-0.4
	comp=Z,76nm,0.7s,mb5.1						
NWAO	Narrogin (SRO)	53.97	247	*e*P	P	11 30 02.2	-1.5
NWAO				pmax	pmax		
	comp=Z,75nm,1.5s						
NWAO	Narrogin (SRO)	53.97	247	*e*P	P	11 30 02.2	-1.5
	comp=Z,75nm,1.5s,mb4.8						
MUN	Mundaring	55.00	248	*e*P	P	11 30 10.4	-0.6
BATI	Baumata	55.06	276	P	P	11 30 12.7	+1.0
	comp=Z,61nm,0.6s,mb5.1,baz=165,slow=1.6,SNR=11						
BATI				pP	pP	11 31 50.5	+1.1
	comp=Z,41nm,0.9s,baz=69,slow=13,SNR=2.6						
CASY	Casey	57.88	206	*e*P	P	11 30 30.5	+0.3
CASY				*e*		11 34 27.2	
KAPI	Kappang	60.81	279	*e*P	P	11 30 49.1	-1.7
	comp=Z,14nm,0.6s,mb4.6						
RPN	Rapa Nui	62.68	108	P	P	11 31 04.8	+2.0
	comp=Z,333μm,0.8s,baz=231,slow=1.5,SNR=3.7						
QSPA	South Pole Qui	63.88	180	P	P	11 31 11.7	+2.1
	comp=Z,50nm,0.6s,mb5.2,baz=22,slow=1.3,SNR=532						
CBIJ	Chichi jima	64.09	323	P	P	11 31 09.8	-1.9
	comp=Z,45nm,0.5s,mb5.2,baz=295,slow=5.5,SNR=5.7						
MYLDM	Lahad Datu	66.86	289	⇑P	P	11 31 31.4	+2.0
TSM	Tawau	66.94	287	⇑P	P	11 31 30.4	+0.4
SDKM	Sandakan	68.21	288	⇑P	P	11 31 37.8	+0.1
KDM	Kudat	69.17	289	⇑P	P	11 31 44.5	+1.0
KKM	Kota Kinabalu	69.25	288	⇑P	P	11 31 44.7	+0.6
BTM	Bintulu	70.55	284	⇓P	P	11 31 52.4	+0.6
SBUM	Sibu	70.94	283	⇓P	P	11 31 55.1	+1.0
KSM	Kuching	72.16	281	⇑P	P	11 32 01.9	+0.6
KSM	Kuching	72.16	281	*e*P	P	11 32 01.0	-0.3
JOW	Kunigami	72.28	313	P	P	11 32 01.0	-0.7
	comp=Z,41nm,0.7s,mb5.1,baz=123,slow=6.0,SNR=9.0						
MJAR	Matsushiro Arr	73.61	326	P	P	11 32 07.4	-1.7
	comp=Z,68nm,1.0s,mb5.1,baz=163,slow=5.5,SNR=92						
MAJO	Matsushiro	73.61	326	*e*P	P	11 32 07.9	-1.2
MAJO				pmax	pmax		
	comp=Z,91nm,0.9s,mb5.3						
MAJO	Matsushiro	73.61	326	*e*P	P	11 32 07.9	-1.2
	comp=Z,91nm,0.9s,mb5.3						
MAT	Matsushiro	73.61	326	P	P	11 32 07.5	-1.6
MAW	Mawson	75.46	201	*e*P	P	11 32 20.1	+1.0
	comp=Z,12nm,0.6s,mb4.6						
MAW	Mawson	75.46	201	P	P	11 32 20.1	+1.0
	comp=Z,14nm,0.6s,mb4.7,baz=133,slow=6.7,SNR=95						
MAW	Mawson	75.46	201	*e*P	P	11 32 20.1	+1.0
MAW				pmax	pmax		
	comp=Z,12nm,0.6s						
YHNB	Yeheng	75.64	307	*e*P	P	11 32 18.7	-2.1
	comp=Z,24nm,0.9s,mb4.7						
MYKOM	Kota Tinggi	78.03	278	⇓P	P	11 32 35.1	+0.9
KGM	Kluang	78.60	278	⇓P	P	11 32 38.0	+0.7
KSRS	Korea Array	79.79	321	P	P	11 32 42.6	-0.3
	comp=Z,31nm,0.8s,mb4.9,baz=136,slow=5.8,SNR=99						
YSS	Yuzh-Sakhalins	80.08	335	⇓*i*P	P	11 32 43.2	-1.0
YSS				pmax	pmax		
	comp=Z,70nm,1.0s,mb5.2						
YSS	Yuzh-Sakhalins	80.08	335	*e*P	P	11 32 44.4	+0.2
	comp=Z,61nm,0.9s,mb5.1						
KTGM	Kuala Trenggan	80.28	281	⇓P	P	11 32 47.1	+1.0
USHA	Ushuaia	80.56	147	P	P	11 32 48.2	+1.4
	comp=Z,18nm,0.9s,mb4.6,baz=271,slow=7.7,SNR=5.0						
FRIM	Kepong	80.66	278	⇓P	P	11 32 48.0	-0.1
SYO	Syowa Base	80.68	194	⇓*i*P	P	11 32 45.8	-1.4
PEA0B	Petropavlovsk-	81.26	347	*e*P	P	11 32 49.1	-1.1
PETK	Petropavlovsk-	81.26	347	P	P	11 32 49.5	-0.8
	comp=Z,22nm,0.5s,mb4.9,baz=113,slow=7.8,SNR=75						
PETK	Petropavlovsk-	81.26	347	P	P	11 32 49.5	-0.8
VLA	Vladivostok	81.76	327	*e*P	P	11 32 52.0	-1.1
VLA				pmax	pmax		
	comp=Z,47nm,0.9s,mb5.0						
IPM	Ipoh	81.76	279	⇓P	P	11 32 54.3	+0.5
NJ2	Nanjing	81.91	312	*e*P	P	11 32 53.7	-0.4
NJ2				AMB	AMB		
	comp=Z,20nm,0.8s,mb4.7						
SNAA	Sanae	82.36	179	*e*P	P	11 32 55.5	-0.3
SNAA				pmax	pmax		
	comp=Z,16nm,0.8s						
SNAA	Sanae	82.36	179	*e*P	P	11 32 55.5	-0.3
	comp=Z,16nm,0.8s,mb4.6						
KULM	Kulim	82.46	280	⇓P	P	11 32 58.1	+0.8
VNA3	Neumayer Olymp	82.59	177	*e*P	P	11 32 57.1	+0.1
VNA3				*e*		11 33 00.6	
VNA3				*e*		11 33 06.4	
MAIT	Maitri	82.89	184	⇑*i*P	P	11 32 58.6	+0.1
VNA2	Neumayer--Watz	83.00	178	*e*P	P	11 32 59.6	+0.6
VNA2				*e*		11 33 02.8	
VNA1	Neumayer--Stat	83.24	177	*e*P	P	11 33 01.3	+1.0
VNA1				*e*		11 33 04.2	
VNA1				*e*		11 33 11.0	
SMMC	Simmler	83.68	46	⇓P	P	11 33 03.1	+0.1
	baz=84						
MDJ	Mudanjiang	83.99	327	P	P	11 33 03.9	-0.3
MDJ				AMB	AMB		
	comp=Z,50nm,1.1s,mb5.0						
MDJ				AMB	AMB		
	comp=Z,118nm,4.9s						
MDJ	Mudanjiang	83.99	327	*e*P	P	11 33 03.9	-0.3
	comp=Z,62nm,1.1s,mb5.0						
WHN	Wuhan	84.13	308	⇑P	P	11 33 05.4	+0.1
WHN				AMB	AMB		
	comp=Z,69nm,1.0s,mb5.1						
HABR	Khabarovsk	84.37	332	*e*P	P	11 33 05.3	-0.7
HABR				*e*		11 36 27.9	
HABR				*e*S	S	11 42 36.6	-14
HABR				*e*		11 42 53.4	
MNRC	McLaughlin Nat	84.42	42	⇓P	P	11 33 07.3	+0.8
	baz=84						
MURC	Murrieta	84.49	48	⇑P	P	11 33 07.0	-0.1
	baz=84						
BFSC	Mount Baldy St	84.56	48	⇓P	P	11 33 07.5	+0.2
	baz=84						
VES	Vestal, Richgr	84.60	46	⇑P	P	11 33 07.2	-0.3
	baz=85						
MONP	Monument Peak	84.60	49	⇑P	P	11 33 08.1	+0.5
	baz=85						
DVTC	Desert V Tower	84.69	50	⇑P	P	11 33 08.4	+0.4
	baz=85						
EDW2	Edwards Air Fo	84.73	47	⇓P	P	11 33 08.1	-0.1
	baz=85						
GASB	Alder Springs	84.75	41	⇑P	P	11 33 08.9	+0.7
	baz=85						
ISA	Isabella	84.88	46	*e*P	P	11 33 08.3	-0.6
ISA				pmax	pmax		
	comp=Z,18nm,1.2s,mb4.6						
ISA	Isabella	84.88	46	⇑P	P	11 33 09.1	+0.2
	baz=85						
ISA	Isabella	84.88	46	*e*P	P	11 33 08.3	-0.6
	comp=Z,18nm,1.2s,mb4.6						
T06C	Millerton Lake	84.92	44	⇓P	P	11 33 08.6	-0.4
	baz=85						
PFO	Pinyon Flat Ob	85.00	49	P	P	11 33 09.5	0.0
	comp=Z,4.5nm,0.9s,mb4.1,baz=278,slow=5.0,SNR=5.3						
PFO	Pinyon Flat Ob	85.00	49	⇑P	P	11 33 09.7	+0.2
	baz=85						
PFO	Pinyon Flat Ob	85.00	49	P	P	11 33 09.5	0.0
O02C	Red Bluff	85.05	40	⇓P	P	11 33 09.9	+0.4
	baz=85						
SWSC	Sam W. Stewart	85.06	50	⇑P	P	11 33 09.5	-0.3
	baz=85						
CMB	Columbia Colle	85.13	43	*e*P	P	11 33 09.8	-0.2
CMB				pmax	pmax		
	comp=Z,6.0nm,0.9s,mb4.2						
CMB	Columbia Colle	85.13	43	⇓P	P	11 33 09.8	-0.2
	baz=85						
CMB	Columbia Colle	85.13	43	*e*P	P	11 33 09.8	-0.3
	comp=Z,6.2nm,0.9s,mb4.2						
HELL	Mitchell Peak	85.15	45	⇑P	P	11 33 09.7	-0.5
	baz=85						
SNY	Shenyang	85.22	322	⇓P	P	11 33 09.8	-0.6
SNY				AMB	AMB		
	comp=Z,35nm,0.8s,mb5.0						
KCC	Kaiser Creek	85.36	44	⇑P	P	11 33 10.9	-0.2
	baz=85						
ORV	Oroville	85.41	42	⇓P	P	11 33 11.2	-0.2
	baz=85						
CN2	Changchun	85.53	324	⇓P	P	11 33 11.5	-0.3
CN2				*e*S	S	11 43 02.1	+0.5
CN2				AMB	AMB		
	comp=Z,110nm,1.0s,mb5.4						
CN2				AMB	AMB		
	comp=Z,320nm,4.0s						
BELC	Belle Mtn.	85.54	49	⇑P	P	11 33 12.5	+0.4
	baz=86						
TIA	Tai’an	85.57	314	⇑P	P	11 33 11.9	-0.3
BC3	Big Chuckw Mtn	85.71	49	⇓P	P	11 33 12.6	-0.3
	baz=86						
GSC	Goldstone	85.76	47	⇓P	P	11 33 13.0	-0.2
	baz=86						
MPMC	Manual Prospec	85.76	46	⇓P	P	11 33 13.1	0.0
	baz=86						
GLA	Glamis	85.79	50	⇑P	P	11 33 14.0	+0.6
	baz=86						
P05C	Yuba Gap, Truc	85.79	42	⇓P	P	11 33 13.1	-0.1
	baz=86						
HEC	Hector,Ludlow	85.80	48	⇑P	P	11 33 13.4	0.0
	baz=86						
R06C	Coleville	86.01	43	⇑P	P	11 33 14.3	0.0
	baz=86						
O05C	Quincy	86.02	42	⇓P	P	11 33 14.4	+0.2
	baz=86						
YBH	Yreka Blue Hor	86.10	39	P	P	11 33 15.5	+0.9
	comp=Z,2.2nm,0.8s,mb3.9,baz=242,slow=6.2,SNR=3.0						
YBH	Yreka Blue Hor	86.10	39	⇑P	P	11 33 15.0	+0.4
	baz=86						
IRM	Iron Mountain	86.20	49	⇓P	P	11 33 15.9	+0.7
	baz=86						
GMRC	Granite Mounta	86.22	48	⇓P	P	11 33 15.3	-0.1
	baz=86						
WCN	Washoe City	86.30	43	⇓P	P	11 33 14.8	-0.8
	baz=86						
K02A	Glendale	86.34	38	⇓P	P	11 33 15.4	-0.3
	baz=86						
113A	Mohawk Valley,	86.36	51	⇑P	P	11 33 16.1	0.0
	baz=86						
KLR	Kul’dur	86.37	331	*e*P	P	11 33 10.0	-5.7
KLR				pmax	pmax		
	comp=E,35nm,1.6s						
KLR				pmax	pmax		

comp=Z,94nm,1.6s,mb5.2
Y12C Blythe 86.39 50 ⇑P P 11 33 16.2 0.0
baz=86
FURC Furnace Creek, 86.41 46 ⇓P P 11 33 15.9 -0.3
baz=86
SHOC Shoshone 86.46 47 ⇓P P 11 33 16.7 +0.2
baz=86
214A Organ Pipe Nat 86.58 52 ⇓P P 11 33 17.2 +0.1
baz=86,SNR=8.3
M04C Macdoel 86.63 40 ⇑P P 11 33 17.5 +0.4
baz=87
NVAR Mina Array Bea 86.67 44 P P 11 33 17.5 +0.2
comp=Z,3.4nm,0.8s,mb4.1,baz=225,slow=7.9,SNR=15
NVAR Mina Array Bea 86.67 44 P P 11 33 17.5 +0.2
U10A Ash Meadows, A 86.73 47 ⇓P P 11 33 18.1 +0.3
baz=87
LDFC Landfair 86.76 48 *e*P P 11 33 18.5 +0.6
comp=Z,5.8nm,0.6s,mb4.5
O06A Flanigan 86.80 42 ⇑P P 11 33 17.4 -0.6
baz=87
L04A Klamath Falls 86.86 39 ⇑P P 11 33 17.9 -0.2
baz=87
PLCA Paso Flores 86.92 134 P P 11 33 20.0 +1.3
comp=Z,16nm,1.0s,mb4.7,baz=232,slow=4.2,SNR=22
PDMCI Parker Dam,Lak 86.97 49 ⇓P P 11 33 19.1 +0.2
baz=87
TPNV Topopah Spring 87.09 46 ⇓P P 11 33 19.3 -0.1
baz=87
TPH Tonopah 87.13 45 *e*P P 11 33 19.6 0.0
TPH pmax pmax
comp=Z,2.0nm,0.7s,mb4.0
TPH Tonopah 87.13 45 *e*P P 11 33 19.6 0.0
comp=Z,1.9nm,0.7s,mb3.9
N06A Buffalo Meadow 87.15 41 ⇓P P 11 33 19.2 -0.4
baz=87
Q08A Gabbs 87.16 44 ⇓P P 11 33 19.5 -0.2
baz=87
Z14A Wintersburg 87.27 51 ⇓P P 11 33 20.7 +0.4
baz=87
V12A Nelson 87.30 48 ⇓P P 11 33 20.7 +0.3
baz=87
R09A Tonopah 87.33 45 ⇓P P 11 33 20.9 +0.4
baz=87
X13A Yucca 87.34 49 ⇓P P 11 33 21.1 +0.4
baz=87
O07A Toulon 87.37 42 ⇑P P 11 33 20.8 +0.2
baz=87
L05A Lakeview 87.38 40 ⇑P P 11 33 21.1 +0.5
baz=87
115A Sonoran Desert 87.40 52 ⇓P P 11 33 20.7 -0.3
baz=87
J04A Umpqua Nationa 87.42 38 ⇑P P 11 33 21.3 +0.5
baz=87
S10A Tonopah Range, 87.44 45 ⇑P P 11 33 21.2 +0.1
baz=87
EFI East Falkland 87.44 148 *c i*P P 11 33 21.6 +0.7
EFI East Falkland 87.44 148 *e*P P 11 33 21.8 +0.9
comp=Z,98nm,0.8s,mb5.6
Y14A Wickenburg 87.54 50 ⇑P P 11 33 21.6 0.0
baz=88,SNR=5.6
216A Three Points, 87.57 53 ⇑P P 11 33 22.4 +0.6
baz=88,SNR=7.1
W13A Hualapai Mount 87.59 49 ⇑P P 11 33 22.0 +0.2
baz=88
MOD Modoc 87.60 40 ⇑P P 11 33 22.3 +0.6
baz=88
I04A Tendick Farm, 87.61 38 ⇑P P 11 33 21.6 -0.1
baz=88
GYA Guiyang 87.61 301 ⇑ *i*P P 11 33 22.4 +0.3
GYA AP pP 11 35 12.8 +0.5
GYA XP sP 11 36 01.4 -1.3
GYA PP PP 11 36 58.7 +2.1
GYA S S 11 43 21.3 -0.7
GYA AMB AMB
comp=Z,20nm,1.0s,mb4.8
GYA AMB AMB
comp=Z,120nm,5.9s
N07B Gerlach 87.69 42 ⇓P P 11 33 22.6 +0.4
baz=88
NST Nakhon Sawan 87.69 289 P P 11 33 24.0 +1.3
comp=Z,58nm,1.0s,mb5.3
116A Eloy 87.69 52 ⇓P P 11 33 23.1 +0.7
baz=88
K05A Summer Lake 87.78 39 ⇓P P 11 33 22.6 +0.1
baz=88
R10A Warm Springs 87.84 45 ⇓P P 11 33 23.3 +0.4
baz=88
O08A Rochester Mine 87.88 43 ⇓P P 11 33 23.2 +0.2
baz=88
217A Green Valley 87.90 53 ⇓P P 11 33 24.3 +1.0
baz=88,SNR=19
U12A Valley of Fire 87.91 47 ⇓P P 11 33 23.5 +0.2
baz=88
X14A Yava 87.92 50 ⇑P P 11 33 23.5 +0.2
baz=88,SNR=5.2
T11A Corn Creek, Al 87.93 46 ⇑P P 11 33 23.7 +0.3
baz=88,SNR=9.5
J05A Fort Rock 87.94 39 ⇓P P 11 33 23.2 0.0
baz=88
M07A Soldier Meadow 87.94 41 ⇓P P 11 33 23.7 +0.5
baz=88
V13A Grand Canyon W 87.95 48 ⇓P P 11 33 23.5 +0.1
baz=88
Y15A Casa Rosa Ranc 88.02 50 ⇓P P 11 33 24.1 +0.3
baz=88,SNR=6.3
K06A Valley Falls 88.19 40 ⇓P P 11 33 24.9 +0.5
baz=88
N08A GE Springer Mi 88.19 42 ⇑P P 11 33 24.5 +0.1
baz=88
W14A Seligman 88.20 49 ⇓P P 11 33 25.1 +0.4
baz=88
TUC Tucson 88.21 53 *e*P P 11 33 25.2 +0.4
TUC *e**PP pP 11 35 16.0 +0.9
TUC pmax pmax
comp=Z,24nm,1.4s,mb4.7
TUC Tucson 88.21 53 *e*P P 11 33 25.2 +0.4
comp=Z,24nm,1.4s,mb4.7
TUC *e*pP pP 11 35 16.0 +0.9
L07A Adell 88.23 41 ⇓P P 11 33 25.0 +0.3
baz=88
U13A Pakoon Wash 88.28 48 ⇑P P 11 33 25.7 +0.7
baz=88,SNR=8.0
H04A Detroit Lake 88.30 37 ⇓P P 11 33 24.8 -0.1
baz=88
318A Bisbee 88.32 54 ⇓P P 11 33 25.7 +0.4
baz=88,SNR=22
X15A Humboldt 88.38 50 ⇓P P 11 33 26.1 +0.6
baz=88,SNR=7.1
S12A Delamar Landin 88.38 46 ⇑P P 11 33 26.2 +0.7
baz=88,SNR=5.1
117A Oracle 88.39 52 ⇓P P 11 33 26.4 +0.8
baz=88,SNR=10
O09A Fish Creek Ran 88.40 43 ⇑P P 11 33 25.4 -0.1
baz=88
V14A Boquillas Ranc 88.42 49 ⇑P P 11 33 25.7 +0.1
baz=88,SNR=5.5
BJT Baijiatuau 88.44 317 *e*P P 11 33 26.1 +0.4
BJT pmax pmax
comp=Z,66nm,0.9s
BJT Baijiatuau 88.44 317 *e*P P 11 33 26.1 +0.4
comp=Z,66nm,0.9s,mb5.4
BJI Beijing 88.45 317 P P 11 33 26.1 +0.4
BJI AP pP 11 35 14.2 -1.9
BJI XP sP 11 36 02.8 -3.7
BJI AMB AMB
comp=Z,75nm,0.7s,mb5.5
BJI AMB AMB
comp=Z,358nm,3.5s
BJI Beijing 88.45 317 P P 11 33 26.1 +0.4
BJI *PP pP 11 35 14.2 -1.9
BJI *SP sP 11 36 02.8 -3.7
BJI pmax pmax
comp=Z,75nm,0.7s,mb5.5
BJI Beijing 88.45 317 P P 11 33 26.1 +0.4
comp=Z,75nm,0.7s,mb5.5
BJI pP pP 11 35 14.2 -1.9
BJI sP sP 11 36 02.8 -3.7
BJI sS sS 11 46 42.9 -3.1
I05A Bend 88.47 38 ⇓P P 11 33 25.6 -0.1
baz=88
G04A Mulino 88.48 37 ⇓P P 11 33 25.6 -0.1
baz=88
J06A Christmas Vall 88.53 39 ⇑P P 11 33 25.9 -0.1
baz=88,SNR=5.3
218A Dragoon 88.56 53 ⇑P P 11 33 27.2 +0.8
baz=88,SNR=18
Y16A Circle Bar Ran 88.57 51 ⇑P P 11 33 26.8 +0.4
baz=88,SNR=14
Q11A Duckwater 88.58 45 ⇓P P 11 33 26.5 +0.1
baz=88
N09A Rock Creek Ran 88.61 42 ⇑P P 11 33 26.7 +0.3
baz=89
T13A Saint George 88.66 47 ⇓P P 11 33 27.1 +0.3
baz=89
K07A Rock Creek Ran 88.70 40 ⇓P P 11 33 27.0 +0.2
baz=89,SNR=5.8
319A Douglas 88.80 54 ⇓P P 11 33 28.2 +0.7
baz=89,SNR=11
H05A Madras 88.81 38 ⇑P P 11 33 27.5 +0.3
baz=89
U14A Mt Trumbull 88.81 48 ⇑P P 11 33 28.0 +0.6
baz=89,SNR=8.8
X16A Lo Mia Camp, P 88.89 51 ⇓P P 11 33 28.4 +0.5
baz=89,SNR=9.8
Y17A Roosevelt 88.92 51 ⇑P P 11 33 28.3 +0.2
baz=89,SNR=5.2
L08A Fields 88.92 41 ⇑P P 11 33 27.8 0.0
baz=89,SNR=7.5
I06A Prineville 88.93 39 ⇑P P 11 33 28.2 +0.4
baz=89
R12A Pony Springs, 88.95 46 ⇓P P 11 33 28.4 +0.4
baz=89
118A Homack Ranch, 88.97 53 ⇓P P 11 33 28.5 +0.2
baz=89,SNR=8.7
F04A Amboy 88.99 36 ⇑P P 11 33 28.0 -0.1
baz=89
M09A Marrel Ranch, 88.99 42 ⇑P P 11 33 28.8 +0.6
baz=89
S13A Holt Ranch, En 89.01 47 ⇓P P 11 33 28.7 +0.3
baz=89,SNR=8.4
219A White Tail Can 89.14 54 ⇓P P 11 33 29.4 +0.3
baz=89,SNR=9.3
V15A Kaibab Nationa 89.15 49 ⇑P P 11 33 29.4 +0.3
baz=89,SNR=5.3
K08A Mann Creek Ran 89.17 41 ⇓P P 11 33 28.9 0.0
baz=89,SNR=6.7
W16A Flagstaff 89.19 50 ⇑P P 11 33 29.3 0.0
baz=89,SNR=6.0
Q12A Willow Creek R 89.22 45 ⇓P P 11 33 29.7 +0.4
baz=89
L09A Wilkinson Ranc 89.22 41 ⇑P P 11 33 29.3 +0.1
baz=89
T14A Hurricane 89.23 48 ⇑P P 11 33 29.6 +0.2
baz=89
R13A O'Grain Ranch, 89.28 46 ⇑P P 11 33 30.0 +0.4
baz=89
X17A Forest Lakes 89.29 51 ⇑P P 11 33 29.7 0.0
baz=89
O11A Cowboy Ranch, 89.33 44 ⇑P P 11 33 29.8 0.0
baz=89
H06A Lindquist Farm 89.36 38 ⇓P P 11 33 29.7 -0.1
baz=89
U15A North Rim 89.41 48 ⇑P P 11 33 30.8 +0.6
baz=89,SNR=10
I07A Izee 89.41 39 ⇑P P 11 33 30.0 -0.1
baz=89,SNR=5.0
P12A McGill 89.42 45 ⇓P P 11 33 30.5 +0.3
baz=89
G06A Carlson Farm, 89.50 38 ⇓P P 11 33 30.4 -0.1
baz=90
119A Ashpeak Ranch, 89.51 53 ⇓P P 11 33 31.7 +0.8
baz=90
Y18A Canyon Day Jun 89.53 52 ⇓P P 11 33 31.1 +0.2
baz=90,SNR=11
WUAZ Wupatki 89.53 50 ⇑P P 11 33 31.1 +0.3
baz=90
J08A Circle Bar Ran 89.56 40 ⇑P P 11 33 30.9 +0.1
baz=90
S14A Cedar City 89.57 47 ⇑P P 11 33 30.7 -0.3
baz=90
K09A Rome 89.59 41 ⇑P P 11 33 30.5 -0.4
baz=90,SNR=7.9
M10A I.L. Ranch, Tu 89.60 42 ⇑P P 11 33 30.9 -0.1
baz=90,SNR=7.5
T15A Red Dirt Ranch 89.67 48 ⇓P P 11 33 31.7 +0.2
baz=90
Q13A Wheeler Ranch, 89.69 46 ⇓P P 11 33 31.5 0.0
baz=90
H07A Lands Inn, Kim 89.69 39 ⇑P P 11 33 31.5 +0.1
baz=90
E05A Randle 89.74 36 ⇓P P 11 33 31.6 +0.1
baz=90
F06A Goldendale 89.76 37 ⇓P P 11 33 32.0 +0.4
baz=90
Z19A T-Link Ranch, 89.82 52 ⇑P P 11 33 32.7 +0.5
baz=90
I08A Drewsey 89.84 40 ⇓P P 11 33 32.2 +0.1
baz=90
SLKM Skilak Lake 89.86 14 *e*P P 11 33 30.1 -1.6
XAN Xi'an 89.89 308 P P 11 33 32.7 +0.2
XAN AMB AMB
comp=Z,47nm,1.1s,mb5.2
XAN AMB AMB
comp=Z,101nm,6.5s
CHRT Chiangrai 89.94 292 ⇓P P 11 33 34.0 +0.9
comp=Z,237nm,0.8s
J09A Fry Pan Ranch, 89.97 40 ⇓P P 11 33 32.4 -0.3
baz=90,SNR=6.5
L10A Juniper Basin 89.97 42 ⇑P P 11 33 32.3 -0.4
baz=90,SNR=10
P13A Bates Ranch, G 89.97 45 ⇓P P 11 33 32.7 -0.1
baz=90,SNR=10
O12A Currie 89.97 44 ⇑P P 11 33 32.9 +0.1
baz=90
X18A Snowflake 89.99 51 ⇑P P 11 33 33.2 +0.3
baz=90,SNR=5.5
CMAR Chiang Mai Arr 89.99 291 P P 11 33 34.0 +0.7
comp=Z,14nm,1.0s,mb4.7,baz=142,slow=3.2,SNR=67
CMAR pP pP 11 35 24.8 +0.7
comp=Z,1.3nm,0.5s,baz=142,slow=3.9,SNR=3.7
CMAR PKKPbc PKKPbc 11 51 01.6 +0.3
comp=Z,0.8nm,0.6s,baz=287,slow=4.0,SNR=5.2
CMAR Chiang Mai Arr 89.99 291 P P 11 33 34.1 +0.8
CMAR *PP pP 11 35 24.8 +0.8
M11A Holland Ranch, 90.00 43 ⇑P P 11 33 33.3 +0.4
baz=90,SNR=5.8
KMI Kunming 90.02 298 P P 11 33 34.7 +1.3
KMI AP pP 11 35 24.8 +0.8
KMI XP sP 11 36 13.5 -0.8
KMI SKS 11 43 14.9
KMI S S 11 43 43.3 -0.8
KMI XS sS 11 46 55.5 -6.2
KMI SS SS 11 49 59.2 +1.5
KMI AMB AMB
comp=Z,35nm,1.0s,mb5.1
KMI AMB AMB
comp=Z,122nm,5.8s
KMI Kunming 90.02 298 P P 11 33 34.7 +1.3
KMI *PP pP 11 35 24.8 +0.8
KMI *SP sP 11 36 13.5 -0.8
KMI 11 43 14.9
KMI S S 11 43 43.3 -0.8
KMI SS SS 11 49 59.2 +1.5
KMI pmax pmax
comp=Z,35nm,1.0s,mb5.1
KMI Kunming 90.02 298 P P 11 33 34.7 +1.3
comp=Z,35nm,1.0s,mb5.1
KMI pP pP 11 35 24.8 +0.8
KMI sP sP 11 36 13.5 -0.8
KMI SKS 11 43 14.9
KMI S S 11 43 43.3 -0.8
KMI sS sS 11 46 55.5 -6.2
KMI SS SS 11 49 59.2 +1.5
KMI LR LR
comp=Z,110nm,31.1s
U16A Tuba City 90.04 49 ⇓P P 11 33 33.2 0.0
baz=90,SNR=6.0
K10A MacKenzie Ranc 90.15 41 ⇑P P 11 33 33.3 -0.2
baz=90,SNR=6.1
CHG Chiang Mai 90.15 291 ⇓P P 11 33 34.8 +0.7
comp=Z,37nm,1.0s,mb5.2
CHTO Chiang Mai 90.15 291 *e*P P 11 33 35.0 +0.9
CHTO pmax pmax
comp=Z,37nm,1.0s,mb5.2
CHTO Chiang Mai 90.15 291 *e*P P 11 33 35.0 +0.9
comp=Z,37nm,1.0s,mb5.2
Y19A Nutrioso 90.17 52 ⇑P P 11 33 34.6 +0.7
baz=90,SNR=8.0
O13A Hicks Ranch, I 90.38 45 ⇑P P 11 33 34.8 +0.1
baz=90
L11A Cat Creek Ranc 90.45 42 ⇑P P 11 33 34.6 -0.3
baz=90,SNR=5.8
G08A Pilot Rock 90.46 38 ⇑P P 11 33 34.9 0.0
baz=90
M12A Wells 90.53 43 ⇑P P 11 33 35.2 -0.1
baz=90
U17A Shonto 90.60 49 ⇓P P 11 33 35.8 0.0
baz=91
V18A Ganado 90.63 50 ⇑P P 11 33 35.9 0.0
baz=91
N13A Wendover, West 90.65 44 ⇑P P 11 33 36.3 +0.4
baz=91
T17A Navajo Res., N 90.72 49 ⇑P P 11 33 36.1 -0.2
baz=91
Q15A Fillmore 90.77 46 ⇑P P 11 33 36.8 +0.3
baz=91
L12A House Creek Ra 90.89 43 ⇓P P 11 33 37.5 +0.6
baz=91
M13A Montello 90.96 44 ⇑P P 11 33 37.2 -0.1
baz=91,SNR=9.0
R16A Teasdale 90.97 47 ⇓P P 11 33 37.7 +0.3
baz=91
S17A Black Ridge (B 91.07 48 ⇑P P 11 33 37.6 -0.3
baz=91
PMR Palmer 91.07 14 *e*P P 11 33 35.4 -1.9
PMR pmax pmax
comp=Z,5.0nm,0.9s,mb4.4
PMR Palmer 91.07 14 *e*P P 11 33 35.4 -1.9
comp=Z,4.9nm,0.9s,mb4.4
DUG Dugway 91.15 45 ⇑P P 11 33 37.7 -0.5
baz=91
N14A Grayback Hills 91.28 44 ⇓P P 11 33 38.1 -0.7
baz=91
I11A Placerville 91.35 41 ⇑P P 11 33 39.0 0.0
baz=91
T18A Mexican Hat 91.42 49 ⇓P P 11 33 38.7 -0.8
baz=91,SNR=7.6
SEY Seymchan 91.45 348 ⇑ *e*P P 11 33 37.5 -1.5
J12A Stokes Ranch, 91.48 42 ⇑P P 11 33 39.8 +0.2
baz=91
G10A Bishop Farm, J 91.50 39 ⇓P P 11 33 38.7 -1.0
baz=92
Q16A Castle Valley 91.51 47 ⇓P P 11 33 40.5 +0.6
baz=92
R17A Hanksville Air 91.55 47 ⇓P P 11 33 39.9 -0.2
baz=92
M14A Sheep Mountain 91.55 44 ⇓P P 11 33 39.5 -0.5
baz=92,SNR=7.2
K13A Stover Farm, H 91.74 43 ⇓P P 11 33 40.7 -0.2
baz=92
H11A Donnelly 91.78 40 ⇓P P 11 33 40.5 -0.5
baz=92
HHC Hu-ho-hao-te 91.80 315 ⇑P P 11 33 42.1 +0.9
HHC PP PP 11 37 32.5 +3.4
HHC SKS 11 43 25.3
HHC S S 11 43 56.5 -2.7
HHC SS SS 11 50 23.2 +0.7
HHC AMB AMB
comp=Z,26nm,1.1s,mb5.1
HHC AMB AMB
comp=Z,184nm,6.5s
F10A Beach Ranch, E 91.84 39 ⇓P P 11 33 40.6 -0.6
baz=92
D09A Jones Farm, Ri 91.90 37 ⇓P P 11 33 41.3 -0.2
baz=92
L14A Malta 91.91 43 ⇑P P 11 33 41.3 -0.3
baz=92
TXAR Lajitas Array 91.96 58 P P 11 33 42.0 -0.2
comp=Z,3.6nm,0.8s,mb4.3,baz=213,slow=6.6,SNR=32
TXAR pP pP 11 35 34.0 +0.9
comp=Z,2.2nm,0.9s,baz=217,slow=6.0,SNR=5.5
TXAR PP PP 11 37 32.4 +1.7
comp=Z,1.6nm,1.1s,baz=231,slow=7.9,SNR=4.5
TXAR PKKPbc PKKPbc 11 50 57.6 +0.9
comp=Z,0.4nm,0.5s,baz=92,slow=3.1,SNR=11
TXAR Lajitas Array 91.96 58 P P 11 33 42.0 -0.2
TXAR *PP pP 11 35 34.0 +0.9
TXAR 11 37 32.4
O16A Springville 92.00 46 ⇓P P 11 33 42.1 0.0
baz=92,SNR=6.2
SRU San Rafael 92.04 47 *e*P P 11 33 42.2 -0.1
SRU pmax pmax
comp=Z,2.0nm,0.7s,mb4.2
SRU San Rafael 92.04 47 ⇑P P 11 33 42.0 -0.3
baz=92
SRU San Rafael 92.04 47 *e*P P 11 33 42.2 -0.1
comp=Z,2.3nm,0.7s,mb4.2
CD2 Chengdu 92.05 303 P P 11 33 43.3 +0.7
CD2 AP pP 11 35 31.5 -1.9
CD2 XP sP 11 36 19.3 -4.3
CD2 PP PP 11 37 33.5 +2.2
CD2 SKS 11 43 29.9
CD2 S S 11 44 01.9 0.0
CD2 XS sS 11 47 13.5 -7.1
CD2 SS SS 11 50 28.3 +1.9
CD2 AMB AMB
comp=Z,70nm,1.0s,mb5.5
CD2 AMB AMB
comp=Z,210nm,6.8s
G11A Walters Elk Ra 92.05 39 ⇑P P 11 33 41.8 -0.4
baz=92
HLID Hailey 92.06 42 ⇑P P 11 33 42.0 -0.3
baz=92
K14A Jones Ranch, D 92.24 43 ⇑P P 11 33 42.6 -0.6
baz=92
S19A Harvey Farm, M 92.24 49 ⇓P P 11 33 43.3 0.0
baz=92
Q18A Rafter H Ranch 92.30 47 ⇑P P 11 33 43.0 -0.6
baz=92
H12A Diamond D Ranc 92.37 41 ⇓P P 11 33 43.4 -0.3
baz=92
N16A Rees Ranch, Co 92.41 45 ⇑P P 11 33 44.1 +0.1
baz=92
L15A Malad City 92.42 44 ⇑P P 11 33 43.9 -0.1
baz=92
KTH Kantishna Hill 92.45 13 *e*P P 11 33 41.1 -2.5
comp=Z,8.5nm,0.8s,mb4.7
J14A Carey 92.47 42 ⇑P P 11 33 44.7 +0.5
baz=92
O17A Robinson Place 92.48 46 ⇓P P 11 33 44.6 +0.2
baz=92
TRF Thorofare Moun 92.48 13 *e*P P 11 33 41.5 -2.3
comp=Z,15nm,0.8s,mb5.0
M16A Huntsville 92.52 45 ⇓P P 11 33 44.4 -0.1
baz=92
ANMO Albuquerque 92.66 52 ⇑ *e*P P 11 33 45.2 -0.1
ANMO Albuquerque 92.66 52 *e*P P 11 33 45.1 -0.2
comp=Z,5.8nm,1.5s,mb4.4
ANMO *e*pP pP 11 35 37.6 +1.4
K15A Arbon 92.71 43 ⇓P P 11 33 45.0 -0.4
baz=93
HWUT Hardware Ranch 92.72 44 *e*P P 11 33 44.5 -0.9
comp=Z,2.8nm,1.0s,mb4.2
H13A Challis 92.73 41 ⇓P P 11 33 45.2 -0.2
baz=93
Q19A Hogan Spring (92.79 48 ⇓P P 11 33 45.3 -0.5
baz=93
N17A Moffit Pass 92.83 45 ⇓P P 11 33 45.7 -0.2
baz=93
F12A Elk City 92.83 39 ⇓P P 11 33 45.0 -0.8
baz=93
I14A Mackay 92.85 42 ⇑P P 11 33 45.1 -0.8
baz=93
MCK McKinley 93.01 13 *e*P P 11 33 44.1 -2.0
comp=Z,18µm,1.2s
L16A Fish Haven 93.03 44 ⇓P P 11 33 46.4 -0.4
baz=93
J15A Blackfoot 93.17 43 ⇑P P 11 33 47.9 +0.5
baz=93
CFAA Coronel Fontan 93.44 128 P P 11 33 49.0 -0.1
comp=Z,1.0nm,0.8s,mb3.9,baz=257,slow=4.2,SNR=11
CFAA pP pP 11 35 41.4 +1.4
comp=Z,0.5nm,0.9s,baz=168,slow=0.7,SNR=3.3
CFAA Coronel Fontan 93.44 128 P P 11 33 49.0 -0.1
CFAA pP pP 11 35 41.4 +1.4
O19A Miners Draw (B 93.59 47 ⇓P P 11 33 48.6 -0.8
baz=94
I16A Newdale 94.00 43 ⇓P P 11 33 51.4 +0.2
baz=94
COLA College 94.25 13 *e*P P 11 33 49.7 -2.1
COLA pmax pmax
comp=Z,5.0nm,0.9s,mb4.5
COLA College 94.25 13 *e*P P 11 33 49.7 -2.1
comp=Z,4.5nm,0.9s,mb4.5
COLA *e*pP pP 11 35 44.3 +1.4
LZH Lanzhou 94.51 308 ⇑P P 11 33 54.0 +0.3
LZH PP PP 11 37 53.1 +2.9
LZH SKS 11 43 39.7
LZH *e*S S 11 44 20.0 -3.0
LZH AMB AMB
comp=Z,39nm,1.3s,mb5.3

LZH AMB AMB
comp=Z,167nm,8.5s
LZH Lanzhou 94.51 308 ⇑P P 11 33 54.0 +0.3
LZH 11 37 53.1
LZH 11 43 39.7
LZH eS S 11 44 20.0 -3.0
LZH pmax pmax
comp=Z,39nm,1.3s,mb5.3
LZH Lanzhou 94.51 308 ⇑P P 11 33 54.0 +0.3
comp=Z,39nm,1.3s,mb5.3
LZH pP pP 11 35 51.0 +6.3
LZH sP sP 11 36 40.3 +5.4
LZH PP PP 11 37 53.1 +2.9
LZH SKS 11 43 39.7
LZH eS S 11 44 20.0 -3.0
LZH sS sS 11 47 43.5 +0.8
PDAR Pinedale Array 94.60 44 P P 11 33 52.6 -1.4
comp=Z,0.6nm,0.8s,baz=241,slow=1.5,SNR=4.5
PDAR pP pP 11 35 45.4 +0.4
comp=Z,1.5nm,1.0s,baz=194,slow=3.1,SNR=4.8
DAWY Dawson 95.54 17 eP P 11 33 56.2 -1.5
SONM Songino Array 98.61 319 P Pdif 11 34 12.0 -0.1
comp=Z,3.0nm,0.8s,baz=114,slow=3.6,SNR=4.8
GTA Gaotai 98.88 309 eP Pdif 11 34 13.5 +0.2
GTA AP pP 11 36 03.5 -1.2
GTA SKS 11 44 01.5
GTA AMB AMB
comp=Z,5.0nm,1.2s,mb4.7
GTA AMB AMB
comp=Z,51nm,5.1s
ZAK Zakamensk 101.62 321 eP Pdif 11 34 26.2 +0.7
ZAK pmax pmax
comp=Z,2.0nm,1.5s
LPAZ La Paz 101.80 115 P Pdif 11 34 29.5 +3.2
comp=Z,1.0nm,1.0s,baz=239,slow=5.9,SNR=2.6
LPAZ PKiKP PKiKP 11 38 46.3 -0.7
comp=Z,1.3nm,0.9s,baz=294,slow=1.3,SNR=5.0
LPAZ PKKPbc PKKPbc 11 50 30.4 +0.5
comp=Z,0.5nm,0.4s,baz=221,slow=4.7,SNR=3.7
CPUP Villa Florida 104.25 129 PKiKP PKiKP 11 38 50.7 -0.6
comp=Z,0.4nm,0.3s,baz=282,slow=3.9,SNR=3.0
MK31 Makanchi Array 113.44 312 i PKIKP PKiKP 11 39 06.1 -1.7
MK31 pmax pmax
comp=Z,2.0nm,0.6s
MKAR Makanchi Array 113.44 312 Pdiff Pdif 11 35 19.9 +1.9
comp=Z,0.5nm,0.5s,baz=93,slow=5.4,SNR=3.5
MKAR PKiKP PKiKP 11 39 06.3 -1.5
comp=Z,1.2nm,0.4s,baz=170,slow=0.7,SNR=24
MKAR PP PP 11 40 11.6 +2.9
comp=Z,0.9nm,0.8s,baz=90,slow=2.4,SNR=3.6
MKAR SKP 11 41 55.4
comp=Z,3.3nm,0.9s,baz=72,slow=4.0,SNR=8.8
MKAR PKKPbc PKKPbc 11 49 54.1 -0.3
comp=Z,1.2nm,0.7s,baz=278,slow=3.7,SNR=9.9
MKAR Makanchi Array 113.44 312 P Pdif 11 35 19.9 +1.9
MKAR 11 39 06.3
MKAR 11 40 11.6
MKAR 11 49 54.1
ZALV Zalesovo Beam 113.49 320 PKiKP PKiKP 11 39 05.5 -2.2
comp=Z,1.4nm,0.4s,baz=142,slow=2.2,SNR=6.6
ZALV SKP 11 41 54.7
comp=Z,2.0nm,0.8s,baz=270,slow=1.0,SNR=4.6
ZALV Zalesovo Beam 113.49 320 PKPdf PKiKP 11 39 05.5 -2.2
ZALV SKP 11 41 54.7
KURK Kurchatov 116.61 316 PP PP 11 40 26.4 -4.3
comp=Z,3.2nm,1.0s,baz=100,slow=6.2,SNR=6.3
KURK SKP 11 42 01.5
comp=Z,4.8nm,0.8s,baz=99,slow=2.1,SNR=12
KURK PKKPbc PKKPbc 11 49 43.0 -0.6
comp=Z,1.6nm,0.8s,baz=278,slow=4.3,SNR=5.7
KURK Kurchatov 116.61 316⇑iPKIKP PKPdf 11 39 11.8 -2.0
UCH Uchtor 117.89 306 ePKPdf PKPdf 11 39 16.1 -0.4
UCH eSKPdf SKPdf 11 42 03.5 -1.2
AML Almayashu 118.47 306 ePKPdf PKPdf 11 39 17.3 -0.4
AML eSKPdf SKPdf 11 42 06.5 +0.7
BOSA Boshof 120.17 206 PKP PKPdf 11 39 21.4 -0.2
comp=Z,5.6nm,0.9s,baz=186,slow=5.6,SNR=7.6
KBL Kabul 120.55 296 ePKIKP PKPdf 11 39 21.7 -0.2
KK31 Karatay Array 120.95 306 i PKIKP PKPdf 11 39 21.4 -1.0
KK31 pmax pmax
comp=Z,3.0nm,0.5s
VOSK Vostochnaya 121.55 317 PKIKP PKPdf 11 39 21.5 -1.7
VOSK pmax pmax
comp=Z,12nm,0.7s
BVA0 Borovoye Array 121.92 318 i PKIKP PKPdf 11 39 22.6 -1.3
BVA0 pmax pmax
comp=Z,2.0nm,0.5s
BVAR Borovoye Array 121.92 318 PKP PKPdf 11 39 22.6 -1.3
comp=Z,7.7nm,0.5s,baz=135,slow=2.1,SNR=14
BVAR SKP 11 42 11.7
comp=Z,6.6nm,1.0s,baz=93,slow=3.0,SNR=7.3
BRVK Borovoye 121.98 318 ePKIKP PKPdf 11 39 23.1 -1.0
SPITS Spitsbergen Ar 127.39 356 PKP PKPdf 11 39 32.6 -1.2
comp=Z,3.9nm,0.5s,baz=19,slow=5.3,SNR=9.1
ARU Arti 128.51 323 i PKIKP PKPdf 11 39 35.9 -0.5
ARU 11 41 46.9
ARU Arti 128.51 323 ePKPdf PKPdf 11 39 35.8 -0.6
AKTK Aktyubinsk 129.69 315 PKP PKPdf 11 39 38.3 -0.5
AKTK SKPbc SKPbc 11 42 14.7 +0.2
AKTO Aktyubinsk 129.69 315 PKP PKPdf 11 39 38.3 -0.5
comp=Z,4.0nm,0.5s,baz=98,slow=3.4,SNR=18
AKTO SKPbc SKPbc 11 42 14.7 +0.2
comp=Z,4.6nm,0.9s,baz=95,slow=2.1,SNR=6.8
ARCES ARCESS Array B 134.07 348 PKP PKPdf 11 39 45.0 -1.6
comp=Z,4.6nm,0.5s,baz=304,slow=0.9,SNR=11
ARCES SKPbc SKPbc 11 42 29.1 -0.1
comp=Z,34nm,0.9s,baz=44,slow=3.7,SNR=19
ARCES ARCESS Array B 134.07 348 PKP PKPdf 11 39 45.0 -1.6
ARCES SKPbc SKPbc 11 42 29.1 -0.1
KMBO Kilima Mbogo 134.62 239 PKP PKPdf 11 39 49.7 +0.3
comp=Z,2.4nm,0.7s,baz=228,slow=22,SNR=4.0
KMBO SKPbc SKPbc 11 42 32.8 0.0
comp=Z,14nm,0.3s,baz=76,slow=24,SNR=26
KMBO Kilima Mbogo 134.62 239 PKP PKPdf 11 39 49.7 +0.3
KMBO SKPbc SKPbc 11 42 32.8 0.0
KLMR Klimovskoe 136.09 333 ePKIKP PKPdf 11 39 45.7 -4.9
KLMR e 11 42 33.8
GNI Garni 140.16 302 PKP PKPdf 11 39 58.4 -0.3
comp=Z,6.9nm,0.5s,baz=63,slow=12,SNR=4.3
GNI SKPbc SKPbc 11 42 48.8 +1.0
comp=Z,4.5nm,0.3s,baz=15,slow=14,SNR=4.2
OBN Obninsk 140.53 327⇑iPKIKP PKPdf 11 39 58.1 -0.8
OBN e 11 43 01.1
OBN pmax pmax
comp=Z,11nm,0.7s
KIV Kislovodsk 141.05 308⇑iPKIKP PKPdf 11 39 59.6 -0.6
EZM Erzurum 142.77 302 eP PKPdf 11 40 01.0 -2.3
SOC Sochi 143.23 309 i PKIKP PKPdf 11 40 00.7 -3.3
SOC e 11 43 15.3
SOC eSSS 12 06 56.9
EZC Erzincan 143.97 302 eP PKPdf 11 40 06.9 +1.5
GUMT Gumushane 144.09 303 eP PKPdf 11 40 05.5 -0.1
NB2 NORSAR Subarra144.30 350 PKP PKPdf 11 40 03.6 -1.7
comp=Z,34nm,0.7s,baz=16,slow=3.2
NB2 NORSAR Subarra144.30 350 PKP PKPdf 11 40 03.6 -1.7
baz=16,slow=3.2
NOA NORSAR Array B 144.30 350 PKP PKPdf 11 40 03.6 -1.7
comp=Z,55nm,0.8s,baz=21,slow=3.8,SNR=102
NOA SKPbc SKPbc 11 42 56.3 -1.0
comp=Z,2.2nm,0.7s,baz=14,slow=4.2,SNR=3.5
PTK Pertek 144.43 301 eP PKPdf 11 40 06.8 +0.6
ANN Anapa 144.45 311 i PKIKP PKPdf 11 40 05.1 -1.0
ANN pmax pmax
comp=Z,346nm,1.0s
NAO01 NORSAR Array S 144.54 350 ePKPdf PKPdf 11 40 04.5 -1.2
SVRC Sivrice-ELAZID 144.57 300 eP PKPdf 11 40 06.9 +0.4
HFS Hagfors 144.73 348 PKP PKPdf 11 40 04.7 -1.4
comp=Z,32nm,0.5s,baz=66,slow=3.7,SNR=180
URFA Urfa 145.07 298 eP PKPdf 11 40 08.4 +1.0
MYA Malataya 145.26 300 eP PKPdf 11 40 09.4 +1.7
KONO Kongsberg 145.87 351⇑iPKP2 PKPab 11 40 08.9 -2.5
WAL1 Walls 145.97 1 eP PKPdf 11 40 08.2 0.0
SVSK Karacayir 146.06 303 eP PKPbc 11 40 11.5 +0.6
LRW Lerwick 146.09 1 eP PKPdf 11 40 08.8 +0.3
GAZ Gaziantep 146.38 298 eP PKPbc 11 40 11.8 -0.1
KVT Kavak 146.50 306 eP PKPdf 11 40 11.5 +1.8
SARI SarD1z-Kayseri 146.54 301 eP PKPbc 11 40 12.9 +0.6
KMRS Kahramanmaras 146.58 299 eP PKPbc 11 40 12.5 0.0
AKASG Malin Array Be 146.69 325 PKPbc PKPbc 11 40 11.1 -1.2
comp=Z,15nm,0.5s,baz=46,slow=3.7,SNR=49
AKASG pPKPbc pPKPbc 11 42 03.4 -4.8
comp=Z,3.6nm,0.7s,baz=43,slow=4.4,SNR=4.1
AKASG SKPbc SKPbc 11 43 02.4 -0.6
comp=Z,7.3nm,0.8s,baz=48,slow=2.9,SNR=6.7
AKASG Malin Array Be 146.69 325 PKPbc PKPbc 11 40 11.1 -1.2
AKASG pPKPbc pPKPbc 11 42 03.4 -4.8
AKASG SKPbc SKPbc 11 43 02.4 -0.6
ASF Jabal al Asfar 147.02 289 PKPbc PKPbc 11 40 14.5 +0.7
comp=Z,40nm,1.0s,baz=344,slow=1.6,SNR=45
BNN Bunyan 147.16 302 eP PKPbc 11 40 13.0 -0.9
SUW Suwalki 147.20 334 ePKP PKPbc 11 40 12.6 -1.0
HTY Hatay 147.38 297 eP PKPbc 11 40 14.7 +0.1
KOZT Kozan 147.43 299 eP PKPbc 11 40 16.4 +1.7
CEYT Ceyhan 147.56 298 eP PKPbc 11 40 14.7 -0.3
RTO Tolsta 147.60 6⇓eP PKPbc 11 40 12.6 -1.9
RSC Scourie 147.71 5 eP PKPdf 11 40 12.0 +0.8
CORM Corum 147.77 304 eP PKPbc 11 40 15.7 +0.2
MLA1 Latheron 147.87 3 eP PKPbc 11 40 13.8 -1.3
RCY Rachaya 147.88 292 eP PKPbc 11 40 16.8 +0.8
REB Eisghbrachaidh 147.93 5 eP PKPbc 11 40 13.9 -1.4
BHL Bhannes 147.99 293 eP PKPbc 11 40 16.6 +0.3
RRH Rhenigidale 148.01 6 eP PKPbc 11 40 14.1 -1.4
RRR Rubha Reidh 148.15 5⇓eP PKPbc 11 40 14.1 -1.8
MVH1 Achvaich 148.20 4⇓eP PKPbc 11 40 14.8 -1.2
MMAI Mount Meron Ar 148.25 291 PKPbc PKPbc 11 40 17.9 +0.9
comp=Z,60nm,0.7s,baz=60,slow=4.9,SNR=43
MMAI PKPab PKPab 11 40 22.7 +0.8
comp=Z,12nm,0.5s,baz=84,slow=8.5,SNR=8.2
KAC Achnashellach 148.55 5⇓eP PKPbc 11 40 16.0 -0.9
MERS Mersin 148.56 298 eP PKPbc 11 40 17.4 -0.2
MCD Coleburn Disti 148.59 3⇓eP PKPdf 11 40 15.6 +3.0
BR131 Keskin Array S 148.62 304 ePKPbc PKPbc 11 40 16.9 -0.7
BR131 ePKPab PKPab 11 40 23.1 -0.1
EIL Elat 148.65 285 PKPbc PKPbc 11 40 18.4 +0.3
comp=Z,45nm,1.0s,baz=9.7,slow=0.9,SNR=22
KAMT Kaman 148.66 303 eP PKPbc 11 40 17.3 -0.5
MDO Dochfour 148.67 4⇓eP PKPdf 11 40 15.9 +3.1
KPL Plockton 148.68 5 eP PKPbc 11 40 16.1 -1.1
SAFT Safranbolu 148.88 307 eP PKPbc 11 40 16.8 -1.5
EREN Erenkoy 149.04 296 eP PKPbc 11 40 17.3 -1.5
KAR1 Arisaig 149.08 6⇓eP PKPbc 11 40 17.2 -1.0
ANTO Ankara 149.21 305 eP PKPdf 11 40 16.9 +2.7
ANTO Ankara 149.21 305⇑iP PKPbc 11 40 19.4 +0.3
ANTO Ankara 149.21 305 ePKPbc PKPbc 11 40 19.0 -0.1
IKL Isikli 149.32 297 eP PKPbc 11 40 17.4 -2.0
CSS Prodhromos 149.79 295 eP PKPbc 11 40 18.3 -2.4
CSS Prodhromos 149.79 295 ePKPbc PKPbc 11 40 20.4 -0.2
CSS ePKPab PKPab 11 40 27.2 -1.1
LVV L'vov 149.83 328 i PKHKP 11 40 19.7
TLCR 149.90 317⇑iP PKPbc 11 40 20.5 0.0
EBH Black Hill 149.91 3 eP PKPbc 11 40 18.9 -1.3
EAB Aberfoyle 149.92 4 eP PKPbc 11 40 18.9 -1.3
HDMB Hadim 150.14 299 eP PKPbc 11 40 19.9 -1.5
KIZT Kizilcal 150.16 303 eP PKPbc 11 40 20.7 -0.7
ESY Stoneypath 150.28 3⇓eP PKPbc 11 40 19.9 -1.1
EAU Auchinoon 150.32 3 eP PKPbc 11 40 20.3 -0.8
EBL Broad Law 150.41 3⇓eP PKPbc 11 40 20.4 -1.0
TIRR Tirgusor 150.50 316⇑iP PKPbc 11 40 21.9 -0.1
KWP Kalwaria 150.58 329 ePKP PKPbc 11 40 21.7 -0.2
KWP Kalwaria 150.58 329⇓iP PKPbc 11 40 21.7 -0.3
KWP Kalwaria 150.58 329 ePKPbc PKPbc 11 40 21.4 -0.6
KWP ePKPab PKPab 11 40 30.4 -0.5
BUR08 Bucovina Ar. S 150.63 323 ePKPbc PKPbc 11 40 22.2 +0.1
BUR08 ePKPab PKPab 11 40 30.7 -0.6
BURAR Bucovina Array 150.64 323⇑iP PKPbc 11 40 22.6 +0.4
HARR Harsova 150.69 316⇓iP PKPbc 11 40 22.4 0.0
XSO Sourhope Farm 150.72 2⇓eP PKPbc 11 40 21.1 -1.0
VRI Vrincioaia 150.80 319⇓iP PKPbc 11 40 22.5 -0.1
EKA Eskdalemuir Ar 150.84 3 PKPbc PKPbc 11 40 21.1 -1.3
comp=Z,8.1nm,0.5s,baz=336,slow=2.6,SNR=58
EKA pPKPbc pPKPbc 11 42 20.6 +1.3
comp=Z,1.8nm,0.8s,baz=319,slow=2.3,SNR=4.9
ESK Eskdalemuir 150.86 3 eP PKPbc 11 40 20.0 -2.4
PLOR Plostina 150.86 319⇓iP PKPbc 11 40 22.4 -0.3
ECK Cauldkaine Hil 151.00 3⇓eP PKPbc 11 40 21.1 -1.7
BSEG Bad Segeberg 151.19 347 ePKPbc PKPbc 11 40 22.9 -0.3
BSEG ePKPab PKPab 11 40 32.5 -0.9
GAL1 Galloway 151.21 5 eP PKPbc 11 40 21.9 -1.3
KOLS Kolonicke sedl 151.27 328 ePKP PKPbc 11 40 23.8 +0.2
XAL Allendale 151.35 2⇓eP PKPbc 11 40 22.4 -1.2
STHS Stebnicka Huta 151.41 330 ePKP PKPbc 11 40 24.2 +0.3
STHS e 11 40 34.7
OJC Ojcow 151.44 332 ePKP PKPbc 11 40 23.3 -0.6
MLR Muntele Rosu 151.47 319 PKPbc PKPbc 11 40 23.4 -0.8
comp=Z,4.9nm,0.3s,baz=338,slow=3.9,SNR=10
MLR PKPab PKPab 11 40 34.1 -0.7
comp=Z,9.0nm,0.8s,baz=125,slow=22,SNR=4.0
MLR Muntele Rosu 151.47 319⇑iP PKPbc 11 40 23.7 -0.4
UZH Uzhgorod 151.47 328 ePKIKP PKPdf 11 40 20.7 +3.3
UZH i 11 40 34.3
CRVS Cervenica-Dubn 151.68 329 ePKP PKPbc 11 40 24.0 -0.5
CRVS e 11 40 35.0
RUE Ruedersdorf 151.68 342 ePKPbc PKPbc 11 40 24.1 -0.3
GIM North Isle of 151.80 5⇓eP PKPbc 11 40 23.3 -1.3
NIE Niedzica 151.82 331 ePKP PKPbc 11 40 25.2 +0.4
KSP Ksiaz 152.29 337 ePKP PKPbc 11 40 25.6 -0.1
KSP Ksiaz 152.29 337 i PKIKP PKPbc 11 40 25.6 -0.2
KSP Ksiaz 152.29 337 ePKPdf PKPbc 11 40 25.6 -0.2
KSP ePKPab PKPab 11 40 37.4 -0.7
OKC Ostrava-Krasne 152.41 334 ePKPbc PKPbc 11 40 25.3 -0.8
OKC ePKPab PKPab 11 40 35.9 -2.8
DRGR 152.49 324⇑iP PKPbc 11 40 26.1 -0.3
UPC Upice 152.67 337 ePKPbc PKPbc 11 40 26.5 -0.1
UPC ePKPab PKPab 11 40 39.0 -0.7
LHO Holmfirth 152.68 2 eP PKPbc 11 40 25.1 -1.4
DPC Dobruska-Polom 152.69 336 ePKIKP PKPbc 11 40 26.6 -0.1
DPC e 11 40 39.5
DPC Dobruska-Polom 152.69 336 ePKPbc PKPbc 11 40 26.6 -0.1
DPC ePKPab PKPab 11 40 39.5 -0.3
DPC epPKP pPKPbc 11 42 25.0 +1.1
MORC Moravsky Berou 152.70 334⇑iP PKPbc 11 40 27.0 +0.3
CLL Collm 152.94 341⇓iPKIKP PKPbc 11 40 26.5 -0.7
CLL i 11 40 40.0
CLL pmax pmax
comp=Z,23nm,0.9s
CLL pmax pmax
comp=Z,32nm,0.8s
CLL Collm 152.94 341 ePKPbc PKPbc 11 40 26.8 -0.4
CLL ePKPab PKPab 11 40 39.9 -1.0
CLL epPKPbc pPKPab 11 42 30.1 -3.1
CLL Collm 152.94 341⇓iPKPbc PKPbc 11 40 26.5 -0.7
comp=Z,23nm,0.9s
CLL ⇑iPKPab PKPab 11 40 40.0 -0.9
comp=Z,32nm,0.8s
CLL ex x 11 40 48.0
CLL epPKPab pPKPab 11 42 32.0 -1.2
CLL Collm 152.94 341⇓iPKP PKPbc 11 40 26.5 -0.7
CLL ⇑iPKP PKPab 11 40 40.0 -0.9
CLL epPKP pPKPab 11 42 32.0 -1.2
BRG Berggiesshubel 153.04 340 i PKIKP PKPbc 11 40 26.9 -0.5
BRG i 11 40 40.7
BRG pmax pmax
comp=Z,7.0nm,0.7s
BRG pmax pmax
comp=Z,14nm,0.9s
BRG pmax pmax
comp=Z,2.0nm,0.7s
BRG Berggiesshubel 153.04 340 ePKPbc PKPbc 11 40 27.1 -0.3
BRG ePKPab PKPab 11 40 40.7 -0.6
BRG Berggiesshubel 153.04 340 i PKP PKPbc 11 40 26.9 -0.6
comp=Z,12nm,0.7s
BRG i 11 40 40.7
comp=Z,24nm,0.8s
BRG e 11 42 25.4
comp=Z,3.7nm,0.7s
PSZ Piszkesteto 153.11 329 ePKIKP PKPbc 11 40 26.7 -1.0
PSZ e 11 40 41.0
CLZ Clausthal 153.14 345 ePKP2 PKPab 11 40 40.9 -0.8
CLZ Clausthal 153.14 345 ePKPbc PKPbc 11 40 27.3 -0.3
CLZ ePKPab PKPab 11 40 40.9 -0.8
PVCC Panska Ves 153.14 339 ePKPbc PKPbc 11 40 27.2 -0.5
VYHS Vyhne 153.16 331 ePKP PKPbc 11 40 27.1 -0.7
VYHS e 11 40 40.4
FBE Freiberg 153.18 341 ePKPbc PKPbc 11 40 27.4 -0.3
FBE ePKPab PKPab 11 40 41.5 -0.4
IBBN Ibbenburen 153.23 349 ePKPab PKPab 11 40 40.9 -1.1
SBD1 Bryn Du 153.26 4 eP PKPbc 11 40 26.1 -1.7
GZR Gura Zlata 153.34 322⇓iP PKPbc 11 40 27.5 -0.7
VRAC Vranov 153.44 335 PKPbc PKPbc 11 40 31.0 +2.6
comp=Z,4.5nm,0.5s,baz=58,slow=2.4,SNR=5.9
VRAC PKPab PKPab 11 40 42.8 -0.2
comp=Z,4.4nm,0.5s,baz=208,slow=6.3,SNR=6.4
VRAC Vranov 153.44 335⇓iP PKPdf 11 40 23.6 +3.4
PRU Pruhonice 153.62 338 ePKPbc PKPbc 11 40 27.9 -0.8
PRU ePKPab PKPab 11 40 43.8 0.0
TANN Tannenbergstha 153.90 341 ePKPab PKPab 11 40 44.4 -0.5
MODS Modra-Piesok 153.91 333 ePKP PKPab 11 40 44.9 -0.2
MOX Moxa 153.93 342 ePKP PKPab 11 40 44.2 -0.9
comp=Z,18nm,1.1s
MOX Moxa 153.93 342 ePKP2 PKPab 11 40 44.2 -0.9
MOX pmax pmax
comp=Z,18nm,1.1s
MOX Moxa 153.93 342 ePKPbc PKPbc 11 40 28.9 -0.4
MOX ePKPab PKPab 11 40 44.2 -0.9
GUNZ Gunzen 153.98 341 ePKPab PKPab 11 40 45.0 -0.3
WERN Wernitzgruen 154.03 341 ePKPab PKPab 11 40 45.2 -0.3
NKC Novy Kostel 154.06 341 ePKPbc PKPbc 11 40 29.3 -0.3
NKC ePKPab PKPab 11 40 44.7 -1.0
MANZ Manzenberg 154.38 341 ePKPab PKPab 11 40 46.4 -0.6
ROTZ Rotzenmuhle 154.55 341 ePKPab PKPab 11 40 47.4 -0.4
KHC Kasperske Hory 154.67 338 ePKIKP PKPbc 11 40 30.2 -0.7
KHC e 11 40 46.6
KHC Kasperske Hory 154.67 338 ePKPdf PKPdf 11 40 21.0 -0.9
KHC PKPbc PKPbc 11 40 30.2 -0.7
KHC ePKPab PKPab 11 40 46.6 -1.7
KHC epPKP pPKPab 11 42 34.7 -5.8
KHC Kasperske Hory 154.67 338 ePKP PKPbc 11 40 30.2 -0.7
KHC e 11 40 46.6
KHC e 11 42 34.7
VTS Vitosha 154.70 316⇑iP PKPab 11 40 49.3 +0.6
CONA Conrad Observa 154.84 334⇑iPKPab PKPab 11 40 48.2 -0.9
comp=Z,9.4nm,0.7s
CSNA Conrad Observa 154.84 334⇑iPKPab PKPab 11 40 48.1 -1.0
comp=Z,9.1nm,0.7s
GEC2 GERESS Array S 154.88 338 ePKPab PKPab 11 40 47.8 -1.4
GERES GERESS Array B 154.88 338 PKP PKPdf 11 40 22.0 -0.2
comp=Z,0.3nm,0.3s,baz=75,slow=1.5,SNR=3.8
GERES PKPbc PKPdf 11 40 30.7 +8.5
comp=Z,1.1nm,0.5s,baz=45,slow=2.3,SNR=5.8
GERES PKPab PKPab 11 40 48.0 -1.2
comp=Z,3.1nm,0.7s,baz=35,slow=4.9,SNR=11
WET Wettzell 154.89 339 ePKPab PKPab 11 40 49.0 -0.3
GRA1 Grafenberg Arr 154.90 342 ePKPab PKPab 11 40 48.9 -0.4
GRF Grafenberg Arr 154.90 342 ePKPab PKPab 11 40 48.9 -0.4
GRF epPKPab pPKPab 11 42 50.0 +8.6
GRFO Grafenberg 154.90 342 ePKP2 PKPab 11 40 49.1 -0.2
PKSM Moragy 154.94 328⇑iP PKPdf 11 40 31.1 +8.7
TNS Taunus Mts 155.08 346 ePKPab PKPab 11 40 48.9 -1.1
BCLA Clavier 155.44 351 PKPab PKPab 11 40 50.4 -1.2
VAY Valandovo 155.78 314 i PKP PKPab 11 40 52.4 -1.1
GIVF Givet 155.81 352⇑iPKP2 PKPab 11 40 51.7 -1.5
STIP Stip 155.83 315 i PKP PKPab 11 40 53.1 -0.5
DOU Dourbes 155.85 352 PKPab PKPab 11 40 51.9 -1.5
BAIF Baives 155.93 353⇑iPKP2 PKPab 11 40 52.6 -1.1
comp=Z,20nm,0.9s
SKO Skopje 156.14 317 i PKP PKPab 11 40 55.6 +0.6
PERS Pernice 156.19 333 i PKPdf PKPab 11 40 53.7 -1.2
FUR Furstenfeldbru 156.25 340 ePKP2 PKPab 11 40 54.6 -0.6
IDI Anoyia 156.51 299 PKPab PKPab 11 40 55.9 -0.9
comp=Z,7.5nm,0.5s,baz=21,slow=11,SNR=9.0
KRUS Krusevo 156.59 316 i PKP PKPab 11 40 56.8 -0.1
BIA Bitola 156.74 315 i PKP PKPab 11 40 55.9 -1.7
BFO Black Forest 156.89 345 ePKP2 PKPab 11 40 56.7 -1.2
VISS Visnje 156.97 332 i PKPbc PKPab 11 40 57.0 -1.3
RETA Reutte 157.02 340⇑iPKPab PKPab 11 40 58.2 -0.3
comp=Z,25nm,0.9s
OHR Ohrid 157.02 316 i PKP PKPab 11 40 57.7 -1.1
BOJS Bojanci 157.03 331 i PKPbc PKPab 11 40 57.9 -0.8
MOTA Moosalm 157.04 340⇓iPKPab PKPab 11 40 58.0 -0.5
comp=Z,28nm,1.2s
CDF Champ du Feu 157.04 347⇑iPKP2 PKPab 11 40 57.4 -1.1
comp=Z,7.5nm,0.6s
ABTA Abfaltersbach 157.09 337⇓iPKPab PKPab 11 40 57.5 -1.3
comp=Z,11nm,0.9s
JAVS Javornik 157.22 333 i PKPbc PKPab 11 40 57.9 -1.5
DAVA Damuels 157.46 342⇑iPKPab PKPab 11 41 00.1 -0.3
comp=Z,19nm,0.7s
HAU Haudompre 157.62 348⇑iPKP2 PKPab 11 40 59.8 -1.2
comp=Z,20nm,0.7s
HINF Hinteralfeld 157.70 347⇑iPKP2 PKPab 11 40 59.9 -1.5
comp=Z,4.2nm,0.5s
DAVOX Davos/Dischmat 157.91 341 PKPab PKPab 11 41 02.3 -0.1
comp=Z,15nm,0.6s,baz=31,slow=1.5,SNR=15
LOR Lormes 158.72 352⇑iPKP2 PKPab 11 41 04.5 -1.4
comp=Z,16nm,0.7s
SSF Saint Saulge 158.97 353⇑iPKP2 PKPab 11 41 05.8 -1.1
comp=Z,49nm,0.8s
CABF La Chapelle 159.00 347⇑iPKP2 PKPab 11 41 06.3 -0.8
comp=Z,6.8nm,0.5s
AVF Avril sur Loir 159.25 353⇑iPKP2 PKPab 11 41 06.9 -1.3
comp=Z,32nm,0.9s
SMF Signal de Mont 159.34 352⇑iPKP2 PKPab 11 41 07.4 -1.2
comp=Z,66nm,0.8s
BGF Bois d'Agland 159.54 354⇑iPKP2 PKPab 11 41 08.1 -1.3
LIC Lamto 159.63 167 ePKP2 PKPab 11 41 11.0 +0.4
comp=Z,23nm,0.7s
LIC Lamto 159.63 167 ePKP1 PKPab 11 41 11.0 +0.4
comp=Z,38nm,0.7s
KIC Kosan Boka 159.82 167 ePKP1 PKPab 11 41 11.5 0.0
comp=Z,56nm,0.8s
TCF Toulx Ste Croi 159.86 355⇑iPKP2 PKPab 11 41 09.6 -1.3
LPG La Plagne 159.92 345⇑iPKP2 PKPab 11 41 11.2 0.0
comp=Z,22nm,1.0s
TIC Toumodi 160.04 166 ePKP1 PKPab 11 41 12.5 +0.1
comp=Z,24nm,0.5s
DBIC Dimbokro 160.10 167 PKPab PKPab 11 41 13.2 +0.5
comp=Z,11nm,0.8s,baz=204,slow=4.7,SNR=7.3
ORIF Oris-en-Rattie 160.67 346⇑iPKP2 PKPab 11 41 13.9 -0.5
comp=Z,7.7nm,0.5s
VIVF Saint-Julien-l 160.96 349⇑iPKP2 PKPab 11 41 14.9 -0.8
comp=Z,26nm,1.1s
SBF Sospel 161.28 342⇑iPKP2 PKPab 11 41 16.1 -1.1
comp=Z,53nm,0.8s
SMRF Simiane la Rot 161.63 346⇑iPKP2 PKPab 11 41 18.5 -0.2
comp=Z,16nm,0.9s
FRF La Foret Royal 161.77 343⇑iPKP2 PKPab 11 41 18.2 -1.1
PGF Pioggiola 161.98 337⇑iPKP2 PKPab 11 41 21.7 +1.4
comp=Z,24nm,1.0s
LMR La Mourre 162.02 343⇑iPKP2 PKPab 11 41 18.9 -1.5
comp=Z,31nm,1.0s
ESDC Sonseca Array 166.25 12 PKPab PKPab 11 41 37.8 -1.3
comp=Z,4.2nm,0.9s,baz=347,slow=4.2,SNR=14
TORD Torodi Ar. Bea 166.85 189 PKP PKPdf 11 40 35.2 -0.7
comp=Z,2.3nm,0.7s,baz=346,slow=0.4,SNR=13
TORD PKPab PKPab 11 41 42.4 +0.1
comp=Z,5.6nm,0.6s,baz=162,slow=4.5,SNR=32
TORD pPKPab pPKPab 11 43 38.3 +4.5
comp=Z,2.3nm,0.8s,baz=168,slow=3.0,SNR=5.9
TORD Torodi Ar. Bea 166.85 189 PKP PKPdf 11 40 35.2 -0.7
TORD PKPab PKPab 11 41 42.4 +0.1
TORD pPKPab pPKPab 11 43 38.3 +4.5
KEST Kesra 167.37 321 PKPab PKPab 11 41 44.6 +0.3
comp=Z,1.5nm,0.8s,baz=348,slow=2.9,SNR=5.9

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*ISCJB **10** 11:36:10.4±0.5, 3664N±002×12136W±004, h19km±5km,*
Error ellipse: s-maj=6.2km s-min=3.9km az=163.3
*NEIC **10** 11:36:10.3, 3667N×12126W, h5km, MD2.8(NCEDC),*
After NCEDC.

ISC 10 11:36:10.4±0.5, **3664N**±002×**12135W**±005, **h16**km±3km,
n21, σ0s85/36, **16C-9D, Central California**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SAO	San Andreas Ge	0.14	326	ePg	Pg	11 36 13.8	-0.4
SAO				eSg	Sg	11 36 16.3	-0.6
PACP	Pacheco Peak	0.37	8	⇓P	Pg	11 36 17.8	-0.1
	baz=0.3,SNR=40						
PACP				⇑S	Sg	11 36 23.8	+0.8
	baz=0.3						
U04C	Hernandez Rese	0.53	121	⇑P	Pg	11 36 20.6	-0.3
	baz=0.5,SNR=330						
U04C				⇓S	Sg	11 36 28.8	+0.7
	baz=0.5						
V03C	Hunter Liggett	0.63	172	P	Pg	11 36 22.5	-0.2
	baz=0.6,SNR=348						
V03C				⇑S	Sg	11 36 31.8	+0.8
	baz=0.6						
PKD	Parkfield	0.95	137	P	Pb	11 36 27.8	-0.7
	baz=0.9,SNR=80						
PKD				⇓S	Sb	11 36 40.9	0.0
	baz=0.9						
U05C	Westside ANR,	1.03	107	⇑P	Pb	11 36 29.5	-0.4
	baz=1.0,SNR=26						
JRSC	Jasper Ridge	1.04	317	⇓P	Pb	11 36 29.7	-0.3
	baz=1.1,SNR=36						
JRSC				⇓S	Sb	11 36 45.1	+1.6
	baz=1.1						
S05C	Merced	1.07	49	⇑P	Pb	11 36 29.7	-0.9
	baz=1.0,SNR=7.1						
S05C				⇓S	Sb	11 36 43.4	-1.0

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
	baz=1.0						
PTRM	**Twissleman Ran**	**1.35**	**137**	*e*Pn	**Pn**	**11 36 34.7**	**+0.2**
T06C	**Millerton Lake**	**1.36**	**74**	⇑P	**Pn**	**11 36 33.7**	**-1.0**
	baz=1.3,SNR=17						
T06C				⇓S	**Sn**	**11 36 51.3**	**-1.2**
	baz=1.3						
CMB	**Columbia Colle**	**1.59**	**29**	⇓P	**Pn**	**11 36 37.7**	**-0.1**
	baz=1.5,SNR=17						
CMB				⇑S	**Sn**	**11 36 57.6**	**-0.4**
	baz=1.5						
CMB	**Columbia Colle**	**1.59**	**29**	*e*Pn	**Pn**	**11 36 37.8**	**0.0**
CMB				*e*Sn	**Sn**	**11 36 57.2**	**-0.8**
R04C	**Big Horse Ranc**	**1.64**	**11**	⇑P	**Pn**	**11 36 38.1**	**-0.5**
	baz=1.6,SNR=7.5						
R04C				⇑S	**Sn**	**11 36 59.0**	**-0.4**
	baz=1.6						
SMMC	**Simmler**	**1.72**	**140**	⇑S	**Sn**	**11 37 01.4**	**0.0**
	baz=1.7						
KCC	**Kaiser Creek**	**1.76**	**67**	⇑P	**Pn**	**11 36 39.6**	**-0.6**
	baz=1.7,SNR=24						
KCC				⇑S	**Sn**	**11 37 02.3**	**0.0**
	baz=1.7						
HELL	**Mitchell Peak**	**1.87**	**88**	⇑P	**Pn**	**11 36 41.1**	**-0.6**
	baz=1.8,SNR=34						
HELL				⇑S	**Sn**	**11 37 05.3**	**+0.3**
	baz=1.8						
MLAC	**Mammoth Lakes**	**2.23**	**63**	⇑Sb	**Sb**	**11 37 18.8**	**+1.0**
	baz=2.2						
MTUM	**Tungsten Hills**	**2.34**	**72**	*e*Pn	**Pn**	**11 36 50.0**	**+1.8**
MTUM				*e*S	**Sn**	**11 37 19.2**	**+2.7**
R06C	**Coleville**	**2.41**	**38**	⇑Sb	**Sb**	**11 37 24.2**	**+1.4**
	baz=2.3						
ISA	**Isabella**	**2.52**	**112**	⇓S	**Sn**	**11 37 21.4**	**+0.3**
	baz=2.5						
ISA	**Isabella**	**2.52**	**112**	*e*Pn	**Pn**	**11 36 51.4**	**+0.7**
ISA				*e*Sn	**Sn**	**11 37 19.6**	**-1.5**

*ISCJB **10** 11:41:29.4±0.4, 3979N±002×2867E±003, h4^{km}±5^{km}, Error ellipse: s-maj=4.3km s-min=3.3km az=30.4*
*NEIC **10** 11:41:29.1, 3978N×2868E, h8^{km}, MD2.8(ISK), After ISK.*
*CSEM **10** 11:41:29.1±0.1, 3978N×2867E, h8^{km}, MD2.8, Error ellipse: s-maj=1.2km s-min=1.1km az=118.0*
*DDA **10** 11:41:29.3, 3981N×2867E, h6^{km}±3^{km}, Md3.2*
*ISK **10** 11:41:29.3, 3979N×2867E, h8^{km}, MD2.8*
ISC 10 11:41:29.9±0.4**, 3979N**±002×**2867E**±003**, h8**^{km}±4^{km}**, n39,** σ**0^{s}40**/52**, Turkey**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
DST	**Dursunbey**	**0.18**	**190**	PG	**Pg**	**11 41 33.8**	**+0.1**
DST				*e*SG	**Sg**	**11 41 36.8**	**+0.5**
ULDT	**Uludag**	**0.50**	**45**	*i* P	**Pg**	**11 41 39.5**	**-0.2**
ULDT				*i* S	**Sg**	**11 41 46.1**	**-0.1**
KCT	**Karacabey**	**0.54**	**333**	*e*PG	**Pg**	**11 41 40.0**	**-0.2**
KCT				*e*SG	**Sg**	**11 41 47.5**	**+0.3**
KCT	**Karacabey**	**0.54**	**333**	*e*Pg	**Pg**	**11 41 40.0**	**-0.3**
KCT				Sg	**Sg**	**11 41 47.9**	**+0.6**
KCT	**Karacabey**	**0.54**	**333**	Pg	**Pg**	**11 41 39.9**	**-0.4**
KCT				Sg	**Sg**	**11 41 47.9**	**+0.6**
BALB	**Balikesir**	**0.63**	**257**	*e*PG	**Pg**	**11 41 41.8**	**-0.2**
BALB				*e*SG	**Sg**	**11 41 50.0**	**-0.1**
BALB	**Balikesir**	**0.63**	**257**	Pg	**Pg**	**11 41 42.0**	**0.0**
DEMI	**Demirci**	**0.74**	**177**	*i* P	**Pg**	**11 41 44.1**	**-0.2**
DEMI				*i* S	**Sg**	**11 41 54.5**	**+0.6**
GEMT	**Gemlik**	**0.76**	**31**	*e*PG	**Pg**	**11 41 44.5**	**0.0**
GEMT	**Gemlik**	**0.76**	**31**	Pg	**Pg**	**11 41 45.7**	**+1.2**
BALY	**Balya**	**0.81**	**267**	*i* P	**Pg**	**11 41 45.4**	**-0.2**
BALY				*i* S	**Sg**	**11 41 56.3**	**+0.2**
BALY	**Balya**	**0.81**	**267**	*i* P	**Pg**	**11 41 45.3**	**-0.2**
BALY				*i* S	**Sg**	**11 41 56.3**	**+0.2**
EDC	**Edincik**	**0.83**	**312**	*e*PG	**Pg**	**11 41 45.8**	**-0.2**
GDZ	**Gediz**	**0.94**	**138**	*i* P	**Pg**	**11 41 48.4**	**+0.5**
GDZ				*i* S	**Sg**	**11 41 59.7**	**-0.4**
YLV	**Yalova**	**0.95**	**34**	*e*PG	**Pg**	**11 41 47.7**	**-0.4**
CAVI	**Cavuskoy**	**0.99**	**65**	*e*PG	**Pg**	**11 41 48.5**	**-0.5**
ADVT	**Abdulvahap**	**1.04**	**51**	*e*PG	**Pg**	**11 41 49.5**	**-0.4**
ADVT	**Abdulvahap**	**1.04**	**51**	Pg	**Pg**	**11 41 49.2**	**-0.7**
AKHS	**Akhisar**	**1.12**	**216**	*i* P	**Pg**	**11 41 51.0**	**-0.5**
AKHS				*i* S	**Sg**	**11 42 06.5**	**+0.4**
AKS	**Akhisar**	**1.12**	**217**	*e*PN	**Pn**	**11 41 51.1**	**-0.8**
AKS	**Akhisar**	**1.12**	**217**	Pn	**Pn**	**11 41 50.9**	**-1.0**
MRMT	**Marmara Adasi**	**1.16**	**315**	*e*PN	**Pn**	**11 41 52.5**	**+0.1**
KULA	**Kula-Manisa**	**1.27**	**180**	*e*PN	**Pn**	**11 41 53.8**	**-0.1**
HRT	**Hereke**	**1.28**	**36**	*e*PN	**Pn**	**11 41 54.1**	**0.0**
HRT	**Hereke**	**1.28**	**36**	Pn	**Pn**	**11 41 54.8**	**+0.7**
MANT	**Manisa**	**1.30**	**184**	*i* P	**Pn**	**11 41 54.5**	**+0.2**
MANT				*i* S	**Sb**	**11 42 11.0**	**-0.3**
ISK	**Istanbul-Kandi**	**1.31**	**13**	*e*PN	**Pn**	**11 41 54.6**	**+0.1**
ISK	**Istanbul-Kandi**	**1.31**	**13**	Pn	**Pn**	**11 41 54.4**	**-0.1**
ISK	**Istanbul-Kandi**	**1.31**	**13**	Pn	**Pn**	**11 41 54.4**	**-0.1**
ALT	**Altintas**	**1.33**	**123**	*e*PN	**Pn**	**11 41 54.5**	**-0.3**
ALT	**Altintas**	**1.33**	**123**	Pn	**Pn**	**11 41 54.4**	**-0.4**
GPA	**Golpazari**	**1.35**	**68**	*e*PN	**Pn**	**11 41 55.1**	**+0.1**
GPA	**Golpazari**	**1.35**	**68**	Pn	**Pn**	**11 41 55.3**	**+0.2**
BORA	**Eskisehir**	**1.38**	**86**	*i* P	**Pn**	**11 41 55.2**	**-0.1**
BORA				*i* S	**Sb**	**11 42 14.1**	**+0.6**
BGKT	**Bogazkoy**	**1.39**	**3**	*e*PN	**Pn**	**11 41 55.7**	**+0.1**
BGKT	**Bogazkoy**	**1.39**	**3**	Pn	**Pn**	**11 41 56.0**	**+0.4**
CTKS	**Kestanelik-??a**	**1.45**	**355**	*e*PN	**Pn**	**11 41 56.6**	**+0.2**
GULT	**Gulveren**	**1.55**	**65**	*e*PN	**Pn**	**11 41 57.9**	**+0.1**
GULT	**Gulveren**	**1.55**	**65**	Pn	**Pn**	**11 41 58.5**	**+0.7**

*IDC **10** 12:10:57.7±2.1, 6.13S×147.95E, h0^{km}, mb4.1/4, mb1 4.3/5, mb1mx4.0/15, mbtmp4.1/5, ML4.1/1, MS3.0/3, Ms1 3.0/3, ms1mx2.6/27, Error ellipse: s-maj=59.9km s-min=26.6km az=99.0*
*ISCJB **10** 12:11:02.1±1.9, 6.2S±0.1×147.7E±0.2, h33^{km}, mb4.1/4, Error ellipse: s-maj=32.2km s-min=20.3km az=173.5*
*NEIC **10** 12:11:03.2±1.2, 6.13S×147.77E, h35^{km}, mb4.3/3, Error ellipse: s-maj=25.2km s-min=14.8km az=93.0*
ISC 10 12:11:04.2±1.9**, 6.2S**±0.1×**147.7E**±0.2**, h35**^{km}**, n14,** σ**0^{s}47**/12**, mb4.1**/4**, Eastern New Guinea region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.23**	**189**	*e*Pn	**Pn**	**12 11 52.6**	**+0.1**
HNR	**Honiara**	**12.56**	**106**	LR	LR	12 17 20.9	
	comp=Z,44nm,19.3s,baz=230,slow=31						
KAKA	**Kakadu**	**16.37**	**246**	*e*P	**Pn**	**12 14 51.4**	**-0.1**
	5.9nm,0.5s						
KAKA	**Kakadu**	**16.37**	**246**	*e*P	**Pn**	**12 14 51.6**	**+0.2**
	15nm,0.6s						
WB2	**Warramunga Arr**	**18.83**	**222**	*e*P	**Pn**	**12 15 21.3**	**-0.6**
WRA	**Warramunga Arr**	**18.84**	**222**	P	**Pn**	**12 15 21.4**	**-0.6**
	0.7nm,0.3s,baz=49,slow=11,SNR=36						
WRA				LR	LR	12 23 07.9	
	comp=Z,36nm,18.2s,baz=30,slow=38						
ASAR	**Alice Springs**	**21.85**	**216**	P	**P**	**12 15 54.2**	**+0.3**
	5.3nm,0.7s,mb4.1,baz=52,slow=9.5,SNR=58						
FITZ	**Fitzroy Crossi**	**24.55**	**239**	*e*P	**P**	**12 16 21.7**	**+0.8**
	14nm,0.6s,mb4.7						
FITZ	**Fitzroy Crossi**	**24.55**	**239**	P	**P**	**12 16 22.0**	**+1.1**
	8.6nm,0.6s,mb4.5,baz=68,slow=9.7,SNR=25						
FITZ				LR	LR	12 26 50.9	
	comp=Z,43nm,18.1s,baz=294,slow=38						
FITZ	**Fitzroy Crossi**	**24.55**	**239**	*e*P	**P**	**12 16 21.9**	**+1.0**
	26nm,0.9s,mb4.8						
STKA	**Stephens Creek**	**26.18**	**192**	*e*P	**P**	**12 16 35.4**	**-0.1**
	4.4nm,1.1s,mb3.9						
STKA	**Stephens Creek**	**26.18**	**192**	P	**P**	**12 16 35.6**	**+0.1**
	2.1nm,0.4s,mb4.0,baz=12,slow=10,SNR=9.6						
MKAR	**Makanchi Array**	**78.08**	**320**	P	**P**	**12 22 59.2**	**-0.3**
	0.2nm,0.2s,mb3.6,baz=97,slow=7.1,SNR=2.9						
TORD	**Torodi Ar. Bea**	**145.80**	**284**	PKPbc	PKPbc	12 30 39.4	-1.4
	0.6nm,0.6s,baz=58,slow=3.0,SNR=6.0						

*ISCJB **10** 12:14:21.3±0.8, 35.64N±0.04×140.77E±0.07, h51^{km}±6^{km}, mb3.4/2, Error ellipse: s-maj=9.8km s-min=5.9km az=158.1*
*JMA **10** 12:14:21.5±0.1, 35.68N×140.73E, h46^{km}±1^{km}, M2.8*
*IDC **10** 12:14:23.3±4.9, 35.59N×140.74E, h47^{km}±37^{km}, mb3.2/2, mb1 3.5/4, mb1mx3.3/22, mbtmp3.4/4, ML3.0/2, Error ellipse: s-maj=56.8km s-min=9.1km az=67.0*
ISC 10 12:14:22.2±0.8**, 35.64N**±0.04×**140.76E**±0.07**, h44**^{km}±6^{km}**, n15,** σ**0^{s}95**/23**, mb3.4**/2**, Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CHOJ	**Chosi**	**0.10**	**52**	P	**Pn**	**12 14 28.8**	**-0.5**
CHOJ				*e*S	**Sn**	**12 14 34.9**	**+0.6**
JCN	**Nagara**	**0.51**	**244**	P	**Pn**	**12 14 33.2**	**0.0**
JCN				*e*S	**Sn**	**12 14 42.4**	**+1.3**
BSO4	**Boso 4**	**0.74**	**208**	P	**Pn**	**12 14 36.6**	**+0.4**
JYT	**Yasato**	**0.74**	**322**	P	**Pn**	**12 14 35.1**	**-1.2**
JYT				*e*S	**Sn**	**12 14 45.3**	**-1.2**
BSO3	**Boso 3**	**0.86**	**194**	P	**Pn**	**12 14 38.1**	**+0.2**
BSO2	**Boso 2**	**0.89**	**181**	*e*S	**Sn**	**12 14 50.9**	**+0.9**
BSO1	**Boso 1**	**1.00**	**170**	P	**Pn**	**12 14 39.1**	**-0.7**
JAG	**Ashikaga**	**1.32**	**307**	P	**Pn**	**12 14 43.0**	**-1.1**
JOD2	**Odawara 2**	**1.42**	**255**	P	**Pn**	**12 14 44.9**	**-0.6**
JOD2				*e*S	**Sn**	**12 15 02.3**	**-0.7**
JIM2	**Oshima 3**	**1.43**	**230**	P	**Pn**	**12 14 44.4**	**-1.3**
JIM2				*e*S	**Sn**	**12 15 01.4**	**-1.8**
MJAR	**Matsushiro Arr**	**2.26**	**294**	P	**Pn**	**12 14 58.3**	**+1.3**
	5.4nm,0.3s,baz=101,slow=14,SNR=48						
MJAR				S	**Sn**	**12 15 24.6**	**+1.0**
	3.4nm,0.3s,baz=142,slow=14,SNR=7.1						
MAT	**Matsushiro**	**2.26**	**294**	P	**Pn**	**12 14 58.4**	**+1.4**
MAT				S	**Sn**	**12 15 24.8**	**+1.2**
JHJ	**Hachijo jima 2**	**2.65**	**198**	P	**Pn**	**12 15 02.5**	**+0.2**
	5.0nm,0.3s,baz=72,slow=20,SNR=2.9						
JHJ				S	**Sn**	**12 15 33.0**	**-0.2**
	16nm,0.3s,baz=52,slow=19,SNR=2.6						
MKAR	**Makanchi Array**	**44.43**	**303**	P	**P**	**12 22 28.5**	**-0.1**
	0.2nm,0.2s,mb3.4,baz=87,slow=9.6,SNR=2.8						
WRA	**Warramunga Arr**	**55.61**	**187**	P	**P**	**12 23 54.5**	**+1.0**
	0.3nm,0.7s,mb3.4,baz=1.1,slow=7.5,SNR=5.7						

*ATH **10** 12:16:48.5, 40.21N×28.08E, h3^{km}, MD3.5/4*
*CSEM **10** 12:16:49.5±0.0, 40.28N×28.01E, h2^{km}, MD3.1, Error ellipse: s-maj=1.1km s-min=1.0km az=82.0*
*ISK **10** 12:16:50.3, 40.28N×28.02E, h5^{km}, MD3.1*
*NEIC **10** 12:16:50.0, 40.28N×28.02E, h5^{km}, MD2.9(ISK), MD3.5(ATH), After ISK.*
*ISCJB **10** 12:16:50.2±0.4, 40.27N±0.02×28.03E±0.02, h1^{km}±3^{km}, Error ellipse: s-maj=3.3km s-min=2.7km az=40.0*
*DDA **10** 12:16:51.5, 40.26N×27.91E, h7^{km}±2^{km}, Md3.0*
ISC 10 12:16:50.8±0.4**, 40.28N**±0.02×**28.02E**±0.02**, h5**^{km}±3^{km}**, n56,** σ**0^{s}82**/78**, Turkey**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
BNT	**Bandirma**	**0.11**	**318**	PG	**Pg**	**12 16 53.5**	**+0.4**
EDC	**Edincik**	**0.14**	**302**	PG	**Pg**	**12 16 53.7**	**+0.1**
MRMT	**Marmara Adasi**	**0.46**	**316**	*e*PG	**Pg**	**12 16 59.7**	**0.0**
MRMT				*e*SG	**Sg**	**12 17 06.4**	**+0.7**
BALY	**Balya**	**0.61**	**210**	*i* P	**Pg**	**12 17 02.2**	**-0.5**
BALY				*i* S	**Sg**	**12 17 10.4**	**-0.2**
BALB	**Balikesir**	**0.64**	**189**	*e*PG	**Pg**	**12 17 02.9**	**-0.2**
DURS	**Dursunbey**	**0.76**	**152**	*i* P	**Pg**	**12 17 05.0**	**-0.3**
DURS				*i* S	**Sg**	**12 17 15.8**	**+0.6**
MFT	**Murefte**	**0.76**	**313**	*e*PG	**Pg**	**12 17 05.0**	**-0.4**
SART	**Tekirdag**	**0.76**	**303**	*i* P	**Pg**	**12 17 05.2**	**-0.3**
SART				*i* S	**Sg**	**12 17 18.2**	**+2.9**
RKY	**Sarkoy-Tekirda**	**0.76**	**303**	*e*PG	**Pg**	**12 17 05.2**	**-0.2**
TKR	**Tekirdag**	**0.80**	**333**	*e*PG	**Pg**	**12 17 06.6**	**+0.3**
DST	**Dursunbey**	**0.82**	**145**	*e*PG	**Pg**	**12 17 06.3**	**-0.2**
ULDT	**Uludag**	**0.87**	**98**	*i* P	**Pg**	**12 17 07.4**	**-0.1**
ULDT				*i* S	**Sg**	**12 17 19.4**	**+0.7**
CRLT	**Corlu**	**0.88**	**346**	*e*PG	**Pg**	**12 17 07.5**	**-0.2**
GEMT	**Gemlik**	**0.91**	**79**	*e*PG	**Pg**	**12 17 08.1**	**-0.2**
LPK	**Lapseki**	**0.96**	**276**	*e*PG	**Pg**	**12 17 09.3**	**0.0**
SLVT	**Silivri**	**0.97**	**9**	*e*PG	**Pg**	**12 17 09.1**	**-0.3**
CTKS	**Kestanelik-??a**	**1.03**	**21**	*e*PG	**Pg**	**12 17 10.2**	**-0.4**
BGKT	**Bogazkoy**	**1.07**	**32**	*e*PG	**Pg**	**12 17 11.2**	**-0.2**
YLV	**Yalova**	**1.08**	**74**	*e*PN	**Pn**	**12 17 12.0**	**-0.5**
ISK	**Istanbul-Kandi**	**1.12**	**45**	*e*PN	**Pn**	**12 17 11.9**	**-1.2**
CTYL	**Yal??k??y-??at**	**1.22**	**10**	*e*PN	**Pn**	**12 17 13.7**	**-0.8**
KLYT	**Kilyos**	**1.25**	**38**	*e*PN	**Pn**	**12 17 14.4**	**-0.5**
ADVT	**Abdulvahap**	**1.33**	**83**	*e*PN	**Pn**	**12 17 15.7**	**-0.3**
DEMI	**Demirci**	**1.34**	**156**	*i* P	**Pn**	**12 17 15.9**	**-0.3**
DEMI				*i* S	**Sb**	**12 17 34.1**	**+0.2**
HRT	**Hereke**	**1.37**	**66**	*e*PN	**Pn**	**12 17 16.5**	**-0.1**
EZN	**Ezine**	**1.37**	**251**	*e*PN	**Pn**	**12 17 15.6**	**-1.0**
CAVI	**Cavuskoy**	**1.40**	**92**	*e*PN	**Pn**	**12 17 17.0**	**0.0**
AKHS	**Akhisar**	**1.40**	**186**	*i* P	**Pn**	**12 17 16.4**	**-0.6**
AKHS				*i* S	**Sb**	**12 17 35.1**	**-0.6**
AYVA	**Ayvalik**	**1.41**	**227**	*i* P	**Pn**	**12 17 16.3**	**-0.7**
AYVA				*i* S	**Sb**	**12 17 35.8**	**+0.1**
ENEZ	**Enez**	**1.49**	**289**	*e*PN	**Pn**	**12 17 18.2**	**-0.1**
SILT	**Sile**	**1.52**	**54**	*e*PN	**Pn**	**12 17 18.5**	**-0.1**
GADA	**Gvkgeada**	**1.62**	**268**	*e*PN	**Pn**	**12 17 19.6**	**-0.4**
GDZ	**Gediz**	**1.64**	**136**	*i* P	**Pn**	**12 17 20.0**	**-0.2**
GDZ				*i* S	**Sn**	**12 17 42.7**	**+1.0**
PRK	**Paraskevi**	**1.69**	**233**	*e*Pb	**Pn**	**12 17 20.8**	**-0.2**
PRK				*e*Sb	**Sb**	**12 17 43.1**	**-0.9**
PRK	**Paraskevi**	**1.69**	**233**	*e*PB	**Pn**	**12 17 20.8**	**-0.2**
PRK				*e*SB	**Sb**	**12 17 43.1**	**-0.9**
KULA	**Kula-Manisa**	**1.83**	**164**	*e*PN	**Pn**	**12 17 23.5**	**+0.6**
MANT	**Manisa**	**1.83**	**167**	*i* P	**Pn**	**12 17 24.6**	**+1.7**
MANT				*i* S	**Sn**	**12 17 47.6**	**+1.2**
EDRB	**Edirne**	**1.84**	**329**	*e*PN	**Pn**	**12 17 23.3**	**+0.2**
BORA	**Eskisehir**	**1.91**	**101**	*i* P	**Pn**	**12 17 23.4**	**-0.7**
BORA				*i* S	**Sn**	**12 17 53.0**	**+4.6**
GULT	**Gulveren**	**1.92**	**84**	*e*PN	**Pn**	**12 17 24.4**	**+0.4**
IZM	**Izmir**	**1.96**	**198**	*e*PN	**Pn**	**12 17 25.1**	**+0.4**
ALT	**Altintas**	**2.02**	**126**	*e*PN	**Pn**	**12 17 25.7**	**+0.2**
BLCB	**Balcova**	**2.03**	**202**	*e*PN	**Pn**	**12 17 26.3**	**+0.7**
RDO	**Rodhopi**	**2.08**	**296**	*e*Pb	**Pn**	**12 17 26.3**	**0.0**
RDO				*e*Sn	**Sn**	**12 17 55.5**	**+3.0**
RDO	**Rodhopi**	**2.08**	**296**	*e*PB	**Pn**	**12 17 26.3**	**0.0**
RDO				*e*SN	**Sn**	**12 17 55.5**	**+3.0**
LIA	**Limnos Island**	**2.21**	**261**	*e*Pg	**Pn**	**12 17 29.6**	**+1.5**
LIA				*e*Sn	**Sn**	**12 17 58.4**	**+2.7**
LIA	**Limnos Island**	**2.21**	**261**	*e*PG	**Pn**	**12 17 29.6**	**+1.5**
LIA				*e*SN	**Sn**	**12 17 58.4**	**+2.7**
URLA	**Izmir**	**2.21**	**210**	*i* P	**Pn**	**12 17 26.6**	**-1.5**
URLA				*i* S	**Sn**	**12 17 54.5**	**-1.3**
KHL	**Karahalli**	**2.27**	**149**	*e*PN	**Pn**	**12 17 30.1**	**+1.2**
ESKT	**Eskisehir**	**2.31**	**108**	*i* P	**Pn**	**12 17 29.5**	**+0.1**
ESKT				*i* S	**Sn**	**12 18 03.0**	**+4.8**
SEYT	**Eskypehyr**	**2.31**	**108**	*i* P	**Pn**	**12 17 29.5**	**0.0**
SEYT				*i* S	**Sn**	**12 18 03.0**	**+4.8**
AYDN	**Tasoluk**	**2.61**	**182**	*i* P	**Pn**	**12 17 31.8**	**-1.9**
AYDN				*i* S	**Sn**	**12 18 05.7**	**-0.1**
SMG	**Samos**	**2.72**	**200**	*e*Pn	**Pn**	**12 17 34.5**	**-0.7**
SMG	**Samos**	**2.72**	**200**	*e*PN	**Pn**	**12 17 34.5**	**-0.7**
TKTP	**Tekketepe**	**2.86**	**141**	*i* P	**Pg**	**12 17 40.6**	**-5.1**
TKTP				*i* S	**Sg**	**12 18 25.9**	**+3.2**
KIZT	**Kizilcal**	**3.29**	**114**	*e*PN	**Pn**	**12 17 43.9**	**+0.9**

*ISCJB **10** 12:20:05.2±3.0, 19.4N±0.1×146.0E±0.4, h189^{km}±21^{km}, mb3.8/11, Error ellipse: s-maj=62.6km s-min=16.7km az=168.8*
*IDC **10** 12:20:08.1±2.6, 19.28N×145.57E, h180^{km}±23^{km}, mb3.5/11, mb1 3.7/12, mb1mx3.6/23, mbtmp3.5/12, Error ellipse: s-maj=26.1km s-min=13.1km az=76.0*
ISC 10 12:20:08.5±2.2**, 19.3N**±0.1×**145.5E**±0.2**, h184**^{km}±20^{km}**, n14,** σ**0^{s}97**/14**, mb3.8**/11**, Mariana Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**5.69**	**187**	P	**Pn**	**12 21 30.3**	**-1.2**
	6.3nm,0.3s,baz=142,slow=13,SNR=9.3						
GUMO				S	**Sn**	**12 22 37.8**	**+0.9**
	5.6nm,0.3s,baz=168,slow=20,SNR=3.2						
CBIJ	**Chichi jima**	**8.38**	**339**	S	**Sn**	**12 23 27.9**	**-13**
	4.4nm,0.3s,baz=255,slow=23,SNR=4.2						
KSRS	**Korea Array**	**23.77**	**323**	P	**P**	**12 25 05.2**	**+1.0**
	0.4nm,0.4s,mb3.3,baz=144,slow=8.8,SNR=3.5						
WRA	**Warramunga Arr**	**40.49**	**196**	P	**P**	**12 27 29.5**	**+0.1**
	11nm,0.6s,mb4.6,baz=22,slow=8.8,SNR=147						
FITZ	**Fitzroy Crossi**	**41.97**	**209**	P	**P**	**12 27 42.1**	**+0.6**
	1.8nm,0.4s,mb4.0,baz=220,slow=17,SNR=42						
CMAR	**Chiang Mai Arr**	**44.00**	**277**	P	**P**	**12 27 59.2**	**+1.3**
	1.1nm,0.7s,mb3.6,baz=65,slow=7.1,SNR=10						
ASAR	**Alice Springs**	**44.16**	**195**	P	**P**	**12 27 59.0**	**0.0**
	1.4nm,0.6s,mb3.8,baz=15,slow=7.8,SNR=28						
STKA	**Stephens Creek**	**51.00**	**184**	P	**P**	**12 28 50.0**	**-1.5**
	0.6nm,0.4s,mb3.6,baz=7.3,slow=8.1,SNR=4.5						
ZALV	**Zalesovo Beam**	**57.47**	**322**	P	**P**	**12 29 36.8**	**-1.2**
	0.8nm,0.3s,mb4.0,baz=104,slow=6.5,SNR=3.2						
MKAR	**Makanchi Array**	**57.96**	**314**	P	**P**	**12 29 41.2**	**-0.3**
	0.3nm,0.2s,mb3.7,baz=83,slow=9.2,SNR=5.0						
KURK	**Kurchatov**	**60.75**	**318**	P	**P**	**12 29 59.7**	**-0.8**
	0.6nm,0.4s,mb3.8,baz=91,slow=8.0,SNR=3.0						
BVAR	**Borovoye Array**	**65.94**	**320**	P	**P**	**12 30 34.3**	**-0.3**
	0.7nm,0.3s,mb3.9,baz=101,slow=7.2,SNR=3.8						
NVAR	**Mina Array Bea**	**82.91**	**52**	P	**P**	**12 32 14.3**	**+1.5**
	1.0nm,0.7s,mb3.7,baz=268,slow=6.2,SNR=5.8						
LPAZ	**La Paz**	**147.83**	**90**	PKPbc	PKPbc	12 39 32.5	+0.1
	0.8nm,0.7s,baz=252,slow=4.5,SNR=4.0						

*ISCJB **10** 12:25:31.0±0.8, 9.68N±0.03×91.69E±0.03, h9^{km}±5^{km}, mb4.8/99, MS5.0/67, Error ellipse: s-maj=5.1km s-min=3.8km az=30.7*
*IDC **10** 12:25:30.5±0.4, 9.72N×91.69E, h0^{km}, mb4.5/28, mb1 4.5/29, mb1mx4.5/30, mbtmp4.5/29, ML4.4/1, MS4.9/35, Ms1 4.9/35, ms1mx4.8/46, Error ellipse: s-maj=16.7km s-min=10.5km az=54.0*
*SZGRF **10** 12:25:33.0, 9.08N×91.81E, h33^{km}, mb4.9, MS5.0, Nicobar Islands, India, region*
*MOS **10** 12:25:34.8±1.7, 9.76N×91.84E, h33^{km}, mb5.3/36, MS5.0/18, Error ellipse: s-maj=8.4km s-min=5.0km az=108.6*
*GCMT **10** 12:25:36.7±0.2, 9.71N×91.64E, h12^{km}, MW5.2/93, Moment Tensor Solution. s44,c59; s93,c173; Duration: 1^{s}0 Moment tensor: Scale 10^{16}Nm; M_{rr}0.28±.13; $M_{\theta\theta}$4.32±.11; $M_{\phi\phi}$-4.61±.13; $M_{r\theta}$2.81±.33; $M_{\theta\phi}$6.01±.10; $M_{\phi r}$0.08±.33; Best double couple: $M_0$7.99500×10^{16} NP1:ϕ_s17.00000°, δ71.00000°, λ173.00000°. NP2: ϕ_s109.00000°, δ84.00000°, λ19.00000°. Principal axes: T 8.1730, Plg18.0000°, Azm335.0000°; N -0.3610, Plg70.0000°, Azm127.0000°; P -7.8170, Plg9.0000°, Azm242.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **10** 12:25:36.7±2.1, 9.70N×91.80E, h37^{km}±18^{km}, mb5.0/38 Error ellipse: s-maj=12.4km s-min=6.7km az=53.0*
*DJA **10** 12:25:37, 10.02N×91.80E, h10^{km}, Mw5.5/27*
*BJI **10** 12:25:41.2, 10.38N×91.82E, h36^{km}, mB5.3, mb4.8, Ms5.2, Msz5.0*
ISC 10 12:25:33.8±1.0**, 9.72N**±0.03×**91.71E**±0.03**, h15**^{km}±6^{km}**, h31**^{km}±2.8^{km}**:pP-P, n274,** σ**1^{s}35**/282**, mb4.8**/99**, MS5.0**/67**, 18C-16D, Nicobar Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PBA	**Port Blair**	**2.18**	**28**	*e*P	x	12 26 41.1	
PBA				*e*S	x	12 27 07.7	
NNT	**Nongplab**	**8.38**	**69**	P	**Pn**	**12 27 37.0**	**+2.2**
SNG	**Songkhla**	**9.17**	**105**	P	**Pn**	**12 27 48.0**	**+2.4**
	460nm,1.0s						
NST	**Nakhon Sawan**	**10.13**	**53**	P	**Pn**	**12 27 55.0**	**-3.8**
IPM	**Ipoh**	**10.61**	**119**	⇓P	**Pn**	**12 28 05.3**	**-0.1**
PALK	**Pallekele**	**11.15**	**258**	*e*Pn	**Pn**	**12 28 10.8**	**-2.1**
	24nm,0.8s						
PALK				*e*Sn	**Sn**	**12 30 06.1**	**-11**
CMAR	**Chiang Mai Arr**	**11.17**	**38**	Pn	**Pn**	**12 28 11.9**	**-1.1**
	0.7nm,0.3s,baz=230,slow=14,SNR=18						
CMAR				LR	LR	12 32 53.4	
	comp=Z,4μm,19.6s,baz=222,slow=40						
VIS	**Vishakhapatnam**	**11.38**	**315**	*e*P	**Pn**	**12 28 14.1**	**-1.8**
VIS				*e*x	x	12 30 06.3	
CHG	**Chiang Mai**	**11.44**	**37**	P	**Pn**	**12 28 16.5**	**-0.3**
CHTO	**Chiang Mai**	**11.44**	**37**	*e*P	**Pn**	**12 28 15.8**	**-1.0**
MDRS	**Chennai**	**11.72**	**288**	*e*P	**Pn**	**12 28 19.5**	**-1.1**
MDRS				*e*x	x	12 30 17.1	
FRIM	**Kepong**	**11.77**	**123**	⇑P	**Pn**	**12 28 21.1**	**-0.2**
BWNR	**Bhubaneshwar**	**11.96**	**332**	*e*x	x	12 28 19.0	
BWNR				*e*S	**Sn**	**12 30 26.9**	**-10**
KTGM	**Kuala Trenggan**	**12.14**	**110**	⇓P	**Pn**	**12 28 28.1**	**+1.7**
CHRT	**Chiangrai**	**12.76**	**37**	P	**Pn**	**12 28 32.0**	**-2.8**
	105nm,1.2s						
CAL	**Calcutta**	**13.15**	**346**	*e*x	x	12 29 55.3	
CAL				*e*x	x	12 34 06.7	
MYKOM	**Kota Tinggi**	**14.41**	**122**	⇓P	**Pn**	**12 28 57.9**	**+0.5**
TRD	**Trivandrum**	**14.61**	**266**	*e*P	**Pn**	**12 29 02.5**	**+2.4**
TRD				AMb	AMB	12 29 06.2	
	comp=Z,25nm,0.8s						
HYB	**Hyderabad**	**14.90**	**302**	*e*P	**Pn**	**12 29 09.5**	**+5.5**
HYB				*e*S	**Sn**	**12 31 51.5**	**+2.7**
HYB	**Hyderabad**	**14.90**	**302**	*i* P	**Pn**	**12 29 09.5**	**+5.5**
HYB				*e*S	**Sn**	**12 31 51.5**	**+2.7**
HYB				LR	LR	12 37 04.0	
	comp=Z,7.7nm,16.0s						
HYB	**Hyderabad**	**14.90**	**302**	*e*P	**Pn**	**12 29 09.5**	**+5.5**
HYB				*e*S	**Sn**	**12 31 51.5**	**+2.7**
HYB				*e*		12 37 04.0	
BOK	**Bokaro**	**15.06**	**339**	*e*x	**Pn**	**12 29 03.0**	**-3.2**
BOK				AMb	AMB	12 29 18.7	
	comp=Z,82nm,1.1s						
BOK				*e*x	x	12 31 41.5	
SHL	**Shillong**	**15.77**	**1**	*e*P	**Pn**	**12 29 16.0**	**+0.6**
SHL				*e*S	**Sn**	**12 32 12.0**	**+2.1**
NGP	**Nagpur**	**16.66**	**314**	*i* P	**Pn**	**12 29 27.4**	**+0.5**
NGP				*e*x	x	12 29 36.1	
	comp=Z,143nm,1.6s						
NGP				*e*x	x	12 32 28.7	
LATR	**Latur**	**17.04**	**302**	*e*x	x	12 29 28.0	
LATR				*e*x	x	12 32 24.5	
JBP	**Jabalpur**	**17.45**	**321**	*e*x	x	12 29 40.3	
JBP				*e*x	x	12 32 42.6	
ODAN	**Odare**	**17.53**	**347**	*e*P	**Pn**	**12 29 37.0**	**-0.8**
	comp=Z,209nm,1.3s						
RAMN	**Ramite**	**17.81**	**345**	*e*P	**Pn**	**12 29 40.4**	**-0.8**
AKL	**Akola**	**17.88**	**309**	*e*P	**Pn**	**12 29 44.2**	**+2.1**
TAPN	**Taplejung**	**17.94**	**348**	*e*P	**Pn**	**12 29 42.4**	**-0.4**
	comp=Z,493nm,1.7s						
GOA	**Goa**	**18.36**	**290**	⇓*i*x	**Pn**	**12 29 45.0**	**-3.1**
GOA				*e*x	**Sn**	**12 33 19.5**	**+6.4**
KMI	**Kunming**	**18.57**	**33**	P	**Pn**	**12 29 50.5**	**-0.1**
KMI				AP	pP	12 29 59.1	+4.5
KMI				XP	sP	12 30 03.9	+7.3
KMI				S	**Sn**	**12 33 15.5**	**-2.5**
KMI				AMB	AMB		
	comp=Z,19nm,1.4s						
KMI				AMB	AMB		
	comp=Z,270nm,5.4s						
KMI				LR	LR		
	comp=N,4μm,15.6s						
KMI				LR	LR		
	comp=E,3μm,16.1s						
KMI				LR	LR		
	comp=Z,5μm,16.1s						
KMI	**Kunming**	**18.57**	**33**	P	**Pn**	**12 29 50.5**	**-0.1**
	comp=Z,19nm,1.4s						
KMI				pP	pP	12 29 59.1	+4.5
KMI				sP	sP	12 30 03.9	+7.3
KMI				PP		12 30 10.8	
KMI				PPP		12 30 17.0	
KMI				S	**Sn**	**12 33 15.5**	**-2.5**
KMI				sS	sS	12 33 27.9	-0.7
KMI				SS		12 33 40.3	
KMI				SSS		12 33 54.2	
JIRN	**Jiri**	**18.59**	**344**	*e*P	**Pn**	**12 29 50.8**	**0.0**
	comp=Z,365nm,1.4s						
KAD	**Karad**	**18.62**	**296**	*e*P	**Pn**	**12 29 49.8**	**-1.5**
KAD				*e*x	x	12 29 56.0	
KAD				*e*S	**Sn**	**12 33 22.5**	**+3.1**
PKI	**Pulchoki**	**18.73**	**342**	*e*P	**Pn**	**12 29 52.0**	**-0.4**
	comp=Z,403nm,1.2s						
PKI	**Pulchoki**	**18.73**	**342**	*e*P	**Pn**	**12 29 52.8**	**+0.4**
PKIN	**Phulchoki**	**18.74**	**342**	*e*P	**Pn**	**12 29 52.8**	**+0.3**
DMN	**Daman**	**18.86**	**342**	*e*P	**Pn**	**12 29 53.7**	**-0.3**
	comp=Z,436nm,1.4s						
GUN	**Gumba**	**18.91**	**344**	*e*P	**Pn**	**12 29 54.3**	**-0.4**
	comp=Z,385nm,1.3s						
KKN	**Kakani**	**18.97**	**342**	*e*P	**Pn**	**12 29 55.0**	**-0.4**
	comp=Z,210nm,1.3s						
GKN	**Gorkha**	**19.37**	**341**	*e*P	**Pn**	**12 30 00.0**	**-0.2**
POO	**Poona**	**19.39**	**299**	*e*P	**Pn**	**12 30 00.1**	**-0.4**
POO				AMb	AMB	12 30 08.1	
	comp=Z,113nm,1.1s						
POO				*e*S	**Sn**	**12 33 40.0**	**+2.0**
KOLN	**Koldanda**	**19.52**	**338**	*e*P	**Pn**	**12 30 00.4**	**-1.5**
QIZ	**Qiongzhong**	**19.84**	**60**	P	**Pn**	**12 30 03.9**	**-2.0**
QIZ				AP	pP	12 30 11.5	+2.9
QIZ				S	**Sn**	**12 33 44.6**	**-4.2**
QIZ				LR	LR		
	comp=E,5μm,14.3s						
QIZ				LR	LR		
	comp=Z,6μm,14.3s						
LSA	**Lhasa**	**19.89**	**359**	P	**Pn**	**12 30 05.2**	**-1.2**

LSA AP pP 12 30 13.0 +4.0
LSA XP sP 12 30 15.0 +4.0
LSA S **Sn** **12 33 43.1 -6.6**
LSA AMB AMB
comp=Z,10.0nm,1.0s
LSA AMB AMB
comp=Z,5μm,4.0s
LSA LR LR
comp=N,3μm,14.0s
LSA LR LR
comp=E,7μm,14.0s
LSA LR LR
comp=Z,4μm,14.0s
LSA Lhasa 19.89 359 *e*P **Pn** **12 30 06.0 -0.4**
LSA pmax pmax
comp=Z,296nm,1.4s
LSA Lhasa 19.89 359 *e*P **Pn** **12 30 06.0 -0.3**
comp=Z,296nm,1.4s
DANN Dangsing 19.99 339 *e*P **Pn** **12 30 05.9 -1.6**
comp=Z,423nm,1.4s
KSM Kuching 20.23 113 ⇓P **P** **12 30 10.5 +2.0**
KSM Kuching 20.23 113 *e*P **P** **12 30 09.7 +1.1**
BOM Bombay 20.44 299 *ex* x 12 30 06.9
SBUM Sibu 21.62 108 ⇑P **P** **12 30 24.6 +0.9**
GYA Guiyang 21.86 38 P **P** **12 30 28.0 +2.0**
GYA AP 12 30 37.2
GYA PP 12 30 54.2
GYA XS sS 12 34 26.9 -7.3
GYA AMB AMB
comp=Z,30nm,0.8s,mb4.8
GYA AMB AMB
comp=Z,140nm,4.2s
GYA LR LR
comp=N,870nm,15.4s,MS4.4
GYA LR LR
comp=E,760nm,16.5s,MS4.4
GYA LR LR
comp=Z,600nm,16.9s,MS4.1
BTM Bintulu 22.20 106 ⇓P **P** **12 30 30.2 +0.4**
PTH Pithoragarh 22.47 333 *e*P **P** **12 30 31.9 -0.7**
PTH *e*P 12 32 52.0
PTH *ex* x 12 34 52.0
AJM Ajmer 23.21 318 *e*P **P** **12 30 40.1 -0.4**
AJM AMb AMB 12 30 54.8
comp=Z,82nm,1.1s,mb5.1
NDI New Delhi 23.26 326 *e*P **P** **12 30 40.0 -0.9**
NDI *ex* x 12 34 56.0
CD2 Chengdu 23.89 26 ⇑P **P** **12 30 46.0 -0.9**
CD2 AP 12 30 55.3
CD2 XP sP 12 30 59.3 +5.8
CD2 PP 12 31 21.9
CD2 S **S** **12 34 57.8 -4.8**
CD2 AMB AMB
comp=Z,140nm,1.4s,mb5.2
CD2 AMB AMB
comp=Z,730nm,5.6s
CD2 LR LR
comp=E,4μm,11.8s
CD2 LR LR
comp=Z,3μm,13.1s,MS5.0
KKM Kota Kinabalu 24.55 97 ⇑P **P** **12 31 02.1 +8.9**
KKM Kota Kinabalu 24.55 97 *e*P **P** **12 30 59.0 +5.9**
KDM Kudat 25.01 94 ⇓P **P** **12 31 06.3 +8.9**
SMLA Simla 25.23 330 *i* P **P** **12 31 01.0 +1.7**
SMLA *ex* x 12 31 12.0
comp=Z,106nm,0.8s
SMLA *i* x x 12 35 46.9
SDKM Sandakan 25.58 97 ⇑P **P** **12 31 03.5 +0.9**
TSM Tawau 26.51 100 ⇓P **P** **12 31 15.4 +4.4**
MYLDM Lahad Datu 26.94 98 ⇓P **P** **12 31 17.5 +2.7**
LZH Lanzhou 28.48 21 ⇑P **P** **12 31 28.6 +0.2**
LZH AP pP 12 31 38.0 +4.9
LZH XP sP 12 31 42.1 +7.1
LZH PP PP 12 32 22.5 -10
LZH S **S** **12 36 13.0 -2.4**
LZH AMB AMB
comp=Z,45nm,1.0s,mb5.0
LZH AMB AMB
comp=Z,413nm,5.3s
LZH LR LR
comp=N,4μm,15.6s
LZH LR LR
comp=Z,6μm,17.5s,MS5.2
LZH Lanzhou 28.48 21 ⇑P **P** **12 31 28.6 +0.2**
comp=Z,45nm,1.0s,mb5.0
LZH pP pP 12 31 38.0 +4.9
LZH sP sP 12 31 42.1 +7.1
LZH PP PP 12 32 22.5 -10
LZH S **S** **12 36 13.0 -2.4**
LZH sS sS 12 36 28.7 +5.6
LZH SS 12 37 38.4
LZH LR LR
comp=Z,6μm,17.5s,MS5.2
XAN Xi'an 28.91 31 P **P** **12 31 30.0 -2.3**
XAN AP pP 12 31 39.4 +2.5
XAN XP sP 12 31 43.5 +4.6
XAN S **S** **12 36 15.7 -6.6**
XAN AMB AMB
comp=Z,5.0nm,0.6s,mb4.4
XAN AMB AMB
comp=Z,128nm,5.3s
XAN LR LR
comp=N,1μm,13.6s,MS5.0
XAN LR LR
comp=E,2μm,15.3s,MS5.0
XAN LR LR
comp=Z,4μm,14.9s,MS5.1
WHN Wuhan 29.57 42 ⇑P **P** **12 31 42.3 +4.1**
WHN S **S** **12 36 32.9 +0.1**
WHN AMB AMB
comp=Z,29nm,0.7s,mb5.1
WHN LR LR
comp=N,7μm,12.6s
WHN LR LR
comp=E,2μm,9.9s
WHN LR LR
comp=Z,11μm,16.0s,MS5.6
QZH Quanzhou 29.71 56 *e*P **P** **12 31 40.5 +1.0**
QZH S **S** **12 36 30.0 -5.1**
QZH LR LR
comp=N,6μm,17.0s,MS5.4
QZH LR LR
comp=E,5μm,13.4s,MS5.4
QZH LR LR
comp=Z,5μm,17.0s,MS5.2
GTA Gaotai 30.44 12 *e*P **P** **12 31 46.8 +1.0**
GTA AP pP 12 31 55.8 +5.3
GTA XP sP 12 32 00.0 +7.6
GTA S **S** **12 36 47.1 +0.9**
GTA AMB AMB
comp=Z,8.0nm,1.1s,mb4.4
GTA AMB AMB
comp=Z,203nm,5.1s
GTA LR LR
comp=N,2μm,15.9s,MS5.0
GTA LR LR
comp=E,2μm,16.2s,MS5.0
GTA LR LR
comp=Z,2μm,13.8s,MS4.9
KAPI Kappang 31.54 116 P **P** **12 31 54.7 -1.1**
comp=Z,10nm,0.8s,mb4.7,baz=283,slow=9.9,SNR=4.0
KAPI Kappang 31.54 116 *e*P **P** **12 31 57.0 +1.2**
KBL Kabul 32.26 323 *e*P **P** **12 32 04.6 +2.7**
KBL pmax pmax
comp=Z,17nm,1.1s,mb4.8
KBL Kabul 32.26 323 *e*P **P** **12 32 04.6 +2.7**
comp=Z,17nm,1.1s,mb4.8
NJ2 Nanjing 33.54 45 *e*P **P** **12 32 14.3 +1.2**
NJ2 AP pP 12 32 23.8 +6.0
NJ2 XP sP 12 32 28.2 +8.5
NJ2 S **S** **12 37 30.5 -4.3**
NJ2 AMB AMB
comp=Z,10.0nm,0.7s,mb4.8
NJ2 AMB AMB
comp=Z,140nm,4.2s
NJ2 LR LR
comp=N,890nm,19.1s,MS4.9
NJ2 LR LR
comp=E,2μm,17.7s,MS4.9
NJ2 LR LR
comp=Z,2μm,17.7s,MS4.9
DAV Davao City (W) 33.60 92 LR LR 12 47 20.6
comp=Z,880nm,19.8s,MS4.5,baz=121,slow=39
WMQ Urumqi 34.16 355 P **P** **12 32 21.3 +3.0**
WMQ PCP PcP 12 34 57.9 +2.7
WMQ S **S** **12 37 44.7 +0.7**
WMQ AMB AMB
comp=Z,32nm,1.0s,mb5.2
WMQ AMB AMB
comp=Z,342nm,3.0s
WMQ LR LR
comp=N,2μm,18.6s,MS5.0
WMQ LR LR
comp=E,2μm,22.1s,MS5.0
WMQ LR LR
comp=Z,1μm,21.1s,MS4.7
SSE Sheshan 34.68 48 P **P** **12 32 23.6 +0.6**
SSE S **S** **12 37 52.0 -0.4**
SSE AMB AMB
comp=Z,23nm,0.7s,mb5.2
SSE AMB AMB
comp=Z,195nm,4.6s
SSE LR LR
comp=N,2μm,15.6s,MS5.1
SSE LR LR
comp=E,2μm,15.6s,MS5.1
SSE LR LR
comp=Z,2μm,15.6s,MS5.0
SSE Sheshan 34.68 48 P **P** **12 32 23.6 +0.6**
comp=Z,23nm,0.7s,mb5.2
SSE S **S** **12 37 52.0 -0.4**
SSE LR LR
comp=Z,2μm,15.6s,MS5.0
BTO Baotou 34.79 25 *e*P **P** **12 32 27.8 +4.0**
HHC Hu-ho-hao-te 35.65 26 *e*P **P** **12 32 35.1 +3.9**
HHC PCP PcP 12 35 01.7 +2.1
HHC S **S** **12 38 10.4 +3.4**
HHC PCS PcS 12 38 48.4 +1.7
HHC SCS ScS 12 42 48.7 -1.3
HHC AMB AMB
comp=Z,31nm,1.2s,mb5.1
HHC AMB AMB
comp=Z,183nm,6.1s
HHC LR LR
comp=N,2μm,16.3s,MS5.1
HHC LR LR
comp=E,1μm,15.1s,MS5.1
HHC LR LR
comp=Z,2μm,16.3s,MS4.9
UCH Uchtor 35.73 338 *e*P **P** **12 32 35.2 +3.3**
comp=Z,9.4nm,1.2s,mb4.6
TKM2 Tokmak 2 35.95 340 *e*P **P** **12 32 37.2 +3.4**
TKM2 pmax pmax
comp=Z,10.0nm,1.2s,mb4.6
TKM2 Tokmak 2 35.95 340 *e*P **P** **12 32 37.2 +3.5**
comp=Z,10nm,1.2s,mb4.6
AML Almayashu 35.96 337 *e*P **P** **12 32 34.2 +0.4**
comp=Z,40nm,1.1s,mb5.3
FRU Bishkek 36.22 339 *e*P **P** **12 32 38.0 +1.9**
FRU *e*S **S** **12 38 24.0 +8.2**
FRU pmax pmax
comp=Z,90nm,2.0s,mb5.3
FRU MLR MLR
comp=Z,3μm,16.0s,MS5.2
EKS2 Erkin-Say 36.38 337 *e*P **P** **12 32 40.6 +3.1**
comp=Z,14nm,1.1s,mb4.8
BJI Beijing 37.22 32 P **P** **12 32 46.8 +2.1**
BJI S **S** **12 38 31.8 +0.7**
BJI AMB AMB
comp=Z,17nm,0.7s,mb5.0
BJI AMB AMB
comp=Z,364nm,5.3s
BJI LR LR
comp=N,2μm,20.5s,MS5.1
BJI LR LR
comp=E,3μm,24.3s,MS5.1
BJI LR LR
comp=Z,2μm,24.3s,MS4.9
BJI Beijing 37.22 32 P **P** **12 32 46.8 +2.1**
comp=Z,17nm,0.7s,mb5.0
BJI S **S** **12 38 31.8 +0.7**
BJI SS SS 12 41 10.3 -4.1
BJI LR LR
comp=Z,2μm,24.3s,MS4.9
BATI Baumata 37.45 121 P **P** **12 32 44.3 -2.6**
comp=Z,11nm,0.4s,mb5.1,baz=100,slow=19,SNR=2.6
MK31 Makanchi Array 37.81 349 *e*P **P** **12 32 48.8 -0.7**
MKAR Makanchi Array 37.81 349 P **P** **12 32 47.9 -1.6**
comp=Z,18nm,1.3s,mb4.7,baz=166,slow=7.7,SNR=15
MKAR LR LR 12 49 46.3
comp=Z,2μm,21.3s,MS4.8,baz=170,slow=38
JOW Kunigami 38.48 59 P **P** **12 32 54.4 -1.2**
comp=Z,9.8nm,0.5s,mb4.8,baz=239,slow=3.5,SNR=5.8
DL2 Dalian 39.51 38 P **P** **12 33 05.1 +1.2**
DL2 S **S** **12 39 05.0 -0.8**
DL2 AMB AMB
comp=Z,10.0nm,1.1s,mb4.5
DL2 AMB AMB
comp=Z,180nm,3.9s
DL2 LR LR
comp=N,780nm,15.3s,MS4.8
DL2 LR LR
comp=E,700nm,14.9s,MS4.8
DL2 LR LR
comp=Z,1μm,18.0s,MS4.8
SONM Songino Array 39.97 15 P **P** **12 33 07.3 -0.4**
comp=Z,7.0nm,0.9s,mb4.4,baz=203,slow=6.4,SNR=9.7
SONM LR LR 12 53 01.2
comp=Z,1μm,19.6s,MS4.8,baz=309,slow=41
ABKT Ailbek 41.23 318 P **P** **12 33 19.7 +1.5**
comp=Z,133nm,1.3s,mb5.4,SNR=6.4
ZAK Zakamensk 41.66 11 *e*P **P** **12 33 24.4 +2.9**
ZAK pmax pmax
comp=Z,7.0nm,1.6s,mb4.0
KURK Kurchatov 42.28 348 P **P** **12 33 26.3 -0.3**
comp=Z,20nm,1.2s,mb4.6,baz=163,slow=7.0,SNR=28
KURK LR LR 12 52 33.3
comp=Z,2μm,21.3s,MS5.1,baz=165,slow=38
KURK Kurchatov 42.28 348⇑ *e*P **P** **12 33 26.0 -0.6**
KURK pmax pmax
comp=Z,67nm,1.6s,mb5.0
KURK Kurchatov 42.28 348 *e*P **P** **12 33 27.4 +0.8**
comp=Z,81nm,1.5s,mb5.1
SNY Shenyang 42.51 36 ⇓P **P** **12 33 33.8 +5.1**
SNY AMB AMB
comp=Z,27nm,1.4s,mb4.8
SNY AMB AMB
comp=Z,155nm,3.5s
SNY LR LR
comp=E,248nm,14.8s
SNY LR LR
comp=Z,3μm,13.6s,MS5.3
KSRS Korea Array 42.74 44 P **P** **12 33 29.1 -1.4**
comp=Z,1.4nm,0.8s,mb3.7,baz=240,slow=8.5,SNR=6.8
KSRS LR LR 12 53 36.9
comp=Z,2μm,18.4s,MS5.1,baz=242,slow=40
TLY Talaya 42.97 11 *e*P **P** **12 33 38.2 +6.0**
TLY *e* 12 35 08.5
TLY *e*SS SS 12 43 23.7 +15
TLY pmax pmax
comp=Z,16nm,1.8s,mb4.5
TLY MLR MLR
comp=Z,1μm,17.0s,MS4.8
FITZ Fitzroy Crossi 43.43 129 *e*P **P** **12 33 35.3 -1.1**
comp=Z,10nm,1.0s,mb4.5
FITZ Fitzroy Crossi 43.43 129 P **P** **12 33 35.0 -1.4**
comp=Z,4.0nm,0.9s,mb4.2,baz=307,slow=8.1,SNR=7.3
ZAA0 Zalesovo Array 44.46 354 *e*P **P** **12 33 43.4 -0.7**
ZALV Zalesovo Beam 44.46 354 P **P** **12 33 43.1 -1.0**
comp=Z,4.2nm,0.7s,mb4.3,baz=161,slow=9.4,SNR=13
CN2 Changchun 44.83 35 *e*P **P** **12 33 47.4 +0.1**
CN2 AMB AMB
comp=Z,10.0nm,0.6s,mb4.8
CN2 AMB AMB
comp=Z,310nm,5.0s
CN2 LR LR
comp=N,2μm,16.0s,MS5.2
CN2 LR LR
comp=E,2μm,16.0s,MS5.2
CN2 LR LR
comp=Z,2μm,19.0s,MS5.1
NVS Novosibirsk 45.51 353 ⇓ *i* P **P** **12 33 53.2 +0.7**
NVS *e*S **S** **12 40 25.5 -8.2**
NVS pmax pmax
comp=N,46nm,1.5s
NVS pmax pmax
comp=E,17nm,1.5s
NVS pmax pmax
comp=Z,43nm,1.5s,mb5.2
NVS smax
comp=N,19nm,1.8s
NVS smax
comp=E,27nm,2.2s
RDF Al-Radifah 45.52 301 *e*P **P** **12 33 52.2 -0.8**
baz=301
RDF AMb AMB 12 34 01.1
comp=Z,87nm,1.7s,mb5.4,baz=301
NAY Al-Naaiem 45.86 301 *e*P **P** **12 33 54.7 -1.0**
baz=301
NAY AMb AMB 12 34 01.8
comp=Z,38nm,1.4s,mb5.1,baz=301
MIB Mutribah 45.94 302 *e*P **P** **12 33 55.5 -0.8**
baz=302
KAKA Kakadu 46.19 118 *e*P **P** **12 33 55.8 -2.6**
comp=Z,6.1nm,0.7s,mb4.6
KRAR Krasnoyarsk 46.19 1⇑ *i* P **P** **12 33 58.0 +0.2**
KRAR pmax pmax
comp=Z,70nm,1.7s,mb5.3
BVAR Borovoye Array 46.50 342 P **P** **12 33 59.9 -0.4**
comp=Z,0.8nm,0.4s,mb4.0,baz=152,slow=6.4,SNR=4.6
BVAR LR LR 12 55 31.5
comp=Z,2μm,19.2s,MS5.0,baz=151,slow=39
MUN Mundaring 47.62 152 *e*P **P** **12 34 08.6 -0.8**
MDJ Mudanjiang 47.70 36 P **P** **12 34 10.3 +0.5**
MDJ AP pP 12 34 19.4 +4.7
MDJ XP sP 12 34 23.2 +6.7
MDJ PP PP 12 36 01.9 +0.4
MDJ PCS PcS 12 39 34.9 +0.5
MDJ S **S** **12 41 04.8 -0.6**
MDJ SCS ScS 12 44 00.7 -2.4
MDJ AMB AMB
comp=Z,5.0nm,0.8s,mb4.6
MDJ AMB AMB
comp=Z,75nm,4.0s
MDJ LR LR
comp=N,1μm,15.1s,MS5.1
MDJ LR LR
comp=E,848nm,15.1s,MS5.1
MDJ LR LR
comp=Z,1μm,14.3s,MS5.0
KLBR Kellerberrin 48.05 150 *e*P **P** **12 34 12.1 -0.6**
comp=Z,21nm,1.0s,mb5.1
NWAO Narrogin (SRO) 48.89 151 P **P** **12 34 17.9 -1.3**
comp=Z,20nm,1.0s,mb5.1,baz=316,slow=7.4,SNR=4.4
AKTO Aktyubinsk 49.20 332 LR LR 12 57 19.7
comp=Z,1μm,18.0s,MS5.0,baz=143,slow=39
MAT Matsushiro 49.77 50 P **P** **12 34 28.5 +2.6**
MAT *e*S **S** **12 41 33.0 -1.8**
MJAR Matsushiro Arr 49.77 50 P **P** **12 34 26.2 +0.3**
comp=Z,0.4nm,0.4s,mb3.8,baz=245,slow=7.9,SNR=2.3
MJAR LR LR 12 58 07.3
comp=Z,1μm,18.7s,MS4.9,baz=240,slow=39
JHJ Hachijo jima 2 49.91 55 LR LR 12 57 54.3
comp=Z,720nm,18.1s,MS4.7,baz=283,slow=39
CBIJ Chichi jima 50.56 63 LR LR 12 56 06.2
comp=Z,286nm,19.0s,MS4.3,baz=279,slow=36
MAK Makhachkala 50.75 319 *e*P **P** **12 34 36.1 +2.9**
MAK *e* 12 35 43.5
MAK *e*S **S** **12 41 46.3 -2.0**
MAK *e*SS SS 12 45 20.0 -2.9
MAK pmax pmax
comp=Z,28nm,0.3s,mb5.7
BOD Bodaibo 50.97 15 *e*P **P** **12 34 34.7 +0.1**
BOD pmax pmax
comp=Z,12nm,1.1s,mb4.7
WRA Warramunga Arr 51.28 125 P **P** **12 34 35.4 -2.1**
comp=Z,11nm,0.9s,mb4.8,baz=300,slow=9.8,SNR=61
WRA LR LR 13 00 50.6
comp=Z,1μm,18.3s,MS4.9,baz=295,slow=41
WB2 Warramunga Arr 51.29 125 *e*P **P** **12 34 36.4 -1.2**
GNI Garni 51.44 314 P **P** **12 34 38.5 0.0**
comp=Z,9.0nm,0.7s,mb4.8,baz=61,slow=9.0,SNR=11
GNI Garni 51.44 314‖ *e*P **P** **12 34 38.6 +0.2**
GNI pmax pmax
comp=Z,61nm,1.7s
GNI Garni 51.44 314 *e*P **P** **12 34 41.9 +3.5**
comp=Z,29nm,0.8s,mb5.3
DGRG David-gareji 51.52 316 P **P** **12 34 39.6 +0.6**
KLR Kul'dur 51.58 33 *e*P **P** **12 34 35.8 -3.6**
KLR MLR MLR
comp=N,4μm,16.0s,MS5.6
KLR MLR MLR
comp=E,1μm,16.0s,MS5.6
MTA Mtatsminda 52.02 316 P **P** **12 34 47.4 +4.7**
TBLG Delisi 52.07 316 P **P** **12 34 48.6 +5.5**
GUMO Guam 52.13 80 LR LR 12 58 29.7
comp=E,720nm,18.6s,MS4.7,baz=243,slow=38
ABPO Ambohimpanom 52.33 237 *e*P **P** **12 34 46.2 +0.8**
comp=E,25nm,1.2s,mb5.0
SVE Sverdlovsk 52.82 339 *e*P **P** **12 34 51.4 +3.0**
SVE *e*S **S** **12 42 22.2 +5.9**
SVE pmax pmax
comp=Z,45nm,1.1s,mb5.3
SVE MLR MLR
comp=Z,3μm,20.0s,MS5.3
ASAR Alice Springs 52.94 129 P **P** **12 34 48.8 -1.0**
comp=Z,6.1nm,0.9s,mb4.5,baz=309,slow=7.6,SNR=50
HABR Khabarovsk 52.97 35⇑ *e*P **P** **12 34 46.8 -2.9**
HABR *e* 12 34 56.8
HABR *e* 12 35 01.3
HABR *e*S **S** **12 42 14.4 -4.2**
HABR *e* 12 42 31.9
HABR *e* 12 44 34.0
ARU Arti 53.27 338 *d i* P **P** **12 34 51.5 -0.3**
ARU *e* 12 36 48.9
ARU *e*S **S** **12 42 23.2 +0.7**
ARU *e*SS SS 12 45 56.0 -6.3
ARU pmax pmax
comp=Z,23nm,1.7s,mb4.8
ARU MLR MLR
comp=Z,2μm,20.0s,MS5.2
ARU Arti 53.27 338 *e*P **P** **12 34 54.3 +2.5**
comp=Z,58nm,1.7s,mb5.2
ONI Oni 53.28 317 P **P** **12 34 57.7 +5.6**
CLNS Chul'man 53.59 22 *e*P **P** **12 34 57.3 +3.2**
CLNS pmax pmax
comp=Z,20nm,1.1s,mb5.0
CLNS pmax pmax
comp=E,10.0nm,1.0s
CLNS pmax pmax
comp=N,11nm,1.3s
KIV Kislovodsk 54.35 318 *e*P **P** **12 34 59.4 -0.5**
KIV *e*S **S** **12 42 33.2 -4.2**
KIV pmax pmax
comp=Z,26nm,1.1s,mb5.1
KIV MLR MLR
comp=Z,512nm,17.0s,MS4.7
KMBO Kilima Mbogo 55.27 262 LR LR 12 56 10.1
comp=Z,2μm,18.9s,MS5.2,baz=284,slow=33
KMBO Kilima Mbogo 55.27 262 *e*P **P** **12 35 09.8 +2.7**
ASAJ Asahikawa 55.65 43 LR LR 13 00 50.4
comp=Z,1μm,18.2s,MS5.1,baz=257,slow=38
SOC Sochi 56.20 316 *e*P **P** **12 35 11.4 -1.8**
SOC *i* *PP pP 12 35 22.7 +4.6
SOC *e* 12 36 06.5
SOC *e*PPP 12 38 34.7
SOC *e*S **S** **12 42 59.6 -2.6**
SOC *e* 12 44 58.5
SOC *e*SS SS 12 46 54.0 +5.1
SOC pmax pmax
comp=Z,5.0nm,0.4s,mb4.9
YSS Yuzh-Sakhalins 56.86 40 *e*P **P** **12 35 21.3 +3.4**
YSS pmax pmax
comp=Z,40nm,1.2s,mb5.3
YSS MLR MLR
comp=N,1μm,16.0s,MS5.1
YSS MLR MLR
comp=E,800nm,16.0s,MS5.1
YSS MLR MLR
comp=Z,1μm,16.0s,MS5.0
ANN Anapa 58.16 317 *e*P **P** **12 35 19.2 -7.9**
ANN *e*S **S** **12 43 17.8 -10**
ANN pmax pmax
comp=Z,40nm,1.2s,mb5.3
ANN MLR MLR
comp=N,1μm,21.0s,MS5.0
ANN MLR MLR
comp=E,575nm,21.0s,MS5.0
ANN MLR MLR
comp=Z,943nm,21.0s,MS4.9
PMG Port Moresby 58.37 107⇑ *e*P **P** **12 35 29.6 +0.5**
YAK Yakutsk 59.05 20 *e*P **P** **12 35 35.3 +2.3**
YAK *e* *PP pP 12 35 41.2 +3.3
YAK *e* 12 36 23.0
YAK *e*S **S** **12 43 39.7 +0.6**
YAK *e* 12 45 24.2
YAK pmax pmax

comp=Z,23nm,1.0s,mb5.2
YAK pmax pmax
comp=N,8.0nm,1.3s
YAK pmax pmax
comp=E,9.0nm,1.2s
YAK smax
comp=N,379µm,4.1s
YAK smax
comp=E,303µm,4.9s
YAK MLR MLR
comp=Z,1µm,15.0s,MS5.2
YAK MLR MLR
comp=N,407nm,16.0s,MS5.1
YAK MLR MLR
comp=E,1µm,16.0s,MS5.1
BR131 Keskin Array S 59.41 311 *e*P **P 12 35 34.4 -1.5**
comp=E,3.3nm,0.7s,mb4.5
VSR Storozhevoye 59.51 325 *e*P **P 12 35 35.8 -0.5**
VSR pmax pmax
comp=Z,2.0nm,0.9s,mb4.2
VSR pmax pmax
comp=N,9.0nm,1.1s
VSR pmax pmax
comp=E,3.0nm,0.4s
CTA Charters Tower 61.30 119 *e*P **P 12 35 49.2 +0.1**
comp=E,20nm,1.2s,mb5.1
CTA Charters Tower 61.30 119 P **P 12 35 49.8 +0.7**
comp=E,24nm,1.0s,mb5.3,baz=296,slow=8.5,SNR=22
CTA LR LR 13 04 38.5
comp=E,1µm,21.6s,MS5.0,baz=310,slow=38
CTA Charters Tower 61.30 119 *e*P **P 12 35 49.2 +0.1**
CTA pmax pmax
comp=Z,20nm,1.2s
CTAO Charters Tower 61.30 119 *e*P **P 12 35 49.5 +0.4**
CTAO pmax pmax
comp=Z,37nm,1.0s,mb5.5
CTAO Charters Tower 61.30 119 *e*P **P 12 35 49.5 +0.4**
comp=Z,36nm,1.0s,mb5.5
MOS Moscow 62.27 329 *e*P **P 12 35 55.9 +0.9**
MOS MLR MLR
comp=Z,2µm,19.0s,MS5.3
OBN Obninsk 62.55 328⇑*e*P **P 12 35 55.5 -1.4**
OBN *e* 12 36 14.3
OBN pmax pmax
comp=Z,54nm,2.1s,mb5.3
OBN MLR MLR
comp=Z,1µm,17.0s,MS5.1
STKA Stephens Creek 63.11 133 *e*P **P 12 36 00.8 -0.2**
comp=Z,5.5nm,0.8s,mb4.7
STKA Stephens Creek 63.11 133 P **P 12 36 01.0 0.0**
comp=Z,10.0nm,1.1s,mb4.9,baz=308,slow=10,SNR=12
STKA LR LR 13 08 05.5
comp=Z,2µm,19.2s,MS5.2,baz=294,slow=40
STKA Stephens Creek 63.11 133 *e*P **P 12 36 00.5 -0.5**
comp=Z,18nm,1.1s,mb5.1
KLMR Klimovskoe 63.76 334 *e*P **P 12 36 06.1 +1.2**
KLMR pmax pmax
comp=Z,29nm,1.4s,mb5.1
KIS Kishinev 64.55 318 *e*P **P 12 36 14.0 +3.7**
KIS LRM 13 08 00.0
comp=Z,600nm,17.0s
AKASG Malin Array Be 65.23 322 P **P 12 36 12.4 -2.2**
comp=Z,0.7nm,0.5s,mb4.0,baz=82,slow=5.6,SNR=7.2
AKASG LR LR 13 08 52.6
comp=Z,755nm,18.2s,MS4.9,baz=85,slow=40
VRI Vrincioaia 65.71 316⇑*i*P **P 12 36 17.9 0.0**
TIXI Tiksi 65.93 12 *e*P **P 12 36 19.7 +0.9**
TIXI pmax pmax
comp=Z,19nm,1.1s,mb5.0
TIXI Tiksi 65.93 12 *e*P **P 12 36 18.9 +0.1**
comp=Z,23nm,1.1s,mb5.1
MLR Muntele Rosu 66.18 315⇓*i*P **P 12 36 20.1 -0.8**
VOIR 66.79 315⇓*i*P **P 12 36 23.5 -1.3**
LSZ Lusaka 67.64 249 *e*P **P 12 36 34.1 +3.4**
LSZ pmax pmax
comp=Z,15nm,1.1s,mb4.9
LSZ Lusaka 67.64 249 *e*P **P 12 36 34.1 +3.4**
comp=Z,15nm,1.1s,mb4.9
PETK Petropavlovsk- 67.94 36 P **P 12 36 30.1 -1.8**
comp=Z,3.1nm,0.9s,mb4.3,baz=249,slow=14,SNR=2.4
PETK LR LR 13 09 51.7
comp=Z,556nm,18.2s,MS4.8,baz=261,slow=39
SEY Seymchan 68.29 25⇑*i*P **P 12 36 36.5 +2.6**
UZH Uzhgorod 69.18 318 *e*P **P 12 36 42.3 +2.5**
KOLS Kolonicke sedl 69.24 319 *e*P **P 12 36 42.1 +1.9**
APA Apatity 69.29 340⇓*e*P **P 12 36 35.0 -5.1**
APA pmax pmax
comp=Z,43nm,1.4s,mb5.2
APA MLR MLR
comp=Z,2µm,20.0s,MS5.4
ARMA Armidale 69.98 127 *e*P **P 12 36 46.2 +1.2**
STHS Stebnicka Huta 69.98 319 *e*P **P 12 36 45.6 +0.9**
STHS pmax pmax
comp=Z,4.0nm,1.3s,mb4.2
STHS Stebnicka Huta 69.98 319 *e*P **P 12 36 45.6 +0.9**
comp=Z,4.0nm,1.3s,mb4.2
MODS Modra-Piesok 72.46 318 *e*P **P 12 37 00.5 +0.8**
MODS pmax pmax
comp=Z,22nm,2.1s,mb4.7
MODS Modra-Piesok 72.46 318 *e*P **P 12 37 00.5 +0.8**
comp=Z,22nm,2.1s,mb4.7
ZST Bratislava 72.56 317 *e*P **P 12 37 00.9 +0.6**
comp=Z,13nm,1.3s,mb4.7
ZST LR LR
comp=Z,200nm,15.2s,MS4.5
ARCES ARCESS Array B 72.73 340 P **P 12 37 00.3 -0.7**
comp=Z,6.8nm,1.0s,mb4.5,baz=76,slow=6.8,SNR=5.9
ARCES LR LR 13 10 53.6
comp=Z,2µm,21.0s,MS5.4,baz=135,slow=37
DPC Dobruska-Polom 73.25 320 *e*P **P 12 37 04.8 +0.4**
KSP Ksiaz 73.32 320 *e*P **P 12 37 06.1 +1.3**
KSP MLR MLR
comp=Z,2µm,17.5s,MS5.4
UPC Upice 73.47 320 *e*P **P 12 37 07.5 +1.8**
BOSA Boshof 74.55 237 P **P 12 37 10.7 -1.7**
comp=Z,6.5nm,1.0s,mb4.5,baz=100,slow=2.5,SNR=5.3
BRG Berggiesshubel 74.81 320 *e*P **P 12 37 12.7 -0.8**
BRG *e* pP 12 37 18.9 +0.4
BRG pmax pmax
comp=Z,2.0nm,0.7s,mb4.2
BRG pmax pmax
comp=Z,13nm,1.6s,mb4.6
BRG Berggiesshubel 74.81 320 *e*P **P 12 37 13.1 -0.4**
comp=Z,12nm,1.2s,mb4.7
BRG Berggiesshubel 74.81 320 *e*P **P 12 37 12.7 -0.7**
comp=Z,3.0nm,0.7s,mb4.3
BRG *e* pP 12 37 18.9 +0.4
comp=Z,22nm,1.6s
GEC2 GERESS Array S 74.86 318 *e*P **P 12 37 15.2 +1.4**
GEC2 pmax pmax
comp=Z,19nm,1.7s,mb4.8
GEC2 GERESS Array S 74.86 318 *e*P **P 12 37 15.2 +1.4**
comp=Z,19nm,1.7s,mb4.8
GERES GERESS Array B 74.86 318 P **P 12 37 11.7 -2.1**
comp=Z,1.4nm,0.6s,mb4.1,baz=84,slow=5.5,SNR=8.0
GERES LR LR 13 14 29.9
comp=Z,437nm,18.6s,MS4.8,baz=223,slow=39
KHC Kasperske Hory 74.95 318 *e*P **P 12 37 15.7 +1.3**
FBE Freiberg 75.18 320 *e*P **P 12 37 15.4 -0.2**
comp=Z,21nm,1.3s,mb4.9
CLL Collm 75.42 321 *e*P **P 12 37 17.1 +0.1**
comp=Z,8.0nm,1.1s,mb4.6
CLL Collm 75.42 321 *e*P **P 12 37 18.0 +1.0**
CLL *e*SS SS 12 51 54.0 +7.3
CLL *e*SSS 12 55 30.0
CLL *e*x x 12 58 48.0
CLL Collm 75.42 321 *e*P **P 12 37 18.0 +1.0**
CLL LR LR
comp=Z,800nm,17.6s,MS5.1
TANN Tannenbergstha 75.73 320 *e*P **P 12 37 18.0 -0.8**
comp=Z,9.0nm,1.4s,mb4.5
GUNZ Gunzen 75.81 320 *e*P **P 12 37 17.5 -1.8**
comp=Z,11nm,1.2s,mb4.7
WERD Werda 75.83 320 *e*P **P 12 37 19.8 +0.4**
comp=Z,16nm,1.6s,mb4.7
ROTZ Rotzenmuhle 75.87 319 *e*P **P 12 37 19.2 -0.4**
comp=Z,37nm,2.1s,mb5.0
MANZ Manzenberg 75.94 319 *e*P **P 12 37 20.8 +0.8**
comp=Z,25nm,1.8s,mb4.8
MIR Mirnyy 76.07 179 *e*P **P 12 37 23.0 +2.7**
MIR pmax pmax
comp=Z,100nm,0.8s,mb5.8
MOX Moxa 76.27 320 *e*P **P 12 37 23.8 +1.9**
comp=Z,35nm,2.0s,mb4.9
MOX
comp=Z,500nm,18.0s
MOX Moxa 76.27 320 *e*P **P 12 37 23.8 +1.9**
MOX pmax pmax
comp=Z,35nm,2.0s,mb4.9
MOX MLR MLR
comp=Z,500nm,18.0s,MS4.9
GRA1 Grafenberg Arr 76.51 319 *e*P **P 12 37 23.0 -0.2**
comp=Z,12nm,0.9s,mb4.8
GRA1 LR LR
comp=Z,600nm,18.3s,MS4.9
GRF Grafenberg Arr 76.51 319 *e*P **P 12 37 23.0 -0.2**
GRF pmax pmax
comp=Z,12nm,0.9s,mb4.8
GRF MLR MLR
comp=Z,600nm,18.3s,MS4.9
GRF Grafenberg Arr 76.51 319 *e*P **P 12 37 23.0 -0.2**
GRF pmax pmax
comp=Z,12nm,0.9s,mb4.8
GRF MLR MLR
comp=Z,600nm,18.3s,MS4.9
GRF Grafenberg Arr 76.51 319 *e*P **P 12 37 23.0 -0.2**
comp=Z,12nm,0.9s,mb4.8
GRF *e*L 13 15 59.7
comp=Z,610nm,18.3s
FETA Feichten 76.82 316⇑*i*P **P 12 37 25.9 +0.8**
comp=Z,13nm,1.6s,mb4.6
NOA NORSAR Array B 76.95 330 P **P 12 37 24.1 -1.4**
comp=Z,2.0nm,0.7s,mb4.1,baz=96,slow=5.4,SNR=5.2
NOA LR LR 13 15 53.6
comp=Z,749nm,20.0s,MS5.0,baz=95,slow=39
CASY Casey 77.05 172 *e*P **P 12 37 26.0 +0.2**
CASY Casey 77.05 172 *e*P **P 12 37 23.7 -2.1**
comp=Z,37nm,1.9s,mb5.0
DAVA Damuels 77.39 316⇑*i*P **P 12 37 27.1 -1.2**
comp=Z,20nm,1.4s,mb4.8
DAVOX Davos/Dischmat 77.40 316 LR LR 13 19 10.1
comp=Z,308nm,18.3s,MS4.7,baz=81,slow=42
KEST Kesra 78.22 305 P **P 12 37 32.6 -0.6**
comp=Z,3.7nm,1.0s,mb4.3,baz=341,slow=3.4,SNR=4.7
KEST LR LR 13 12 43.0
comp=Z,211nm,19.7s,MS4.5,baz=22,slow=36
CDF Champ du Feu 79.12 318 *e*P **P 12 37 36.5 -1.3**
LPG La Plagne 79.62 315 *e*P **P 12 37 40.3 -0.3**
LPL La Plagne 79.63 315 *e*P **P 12 37 40.2 -0.5**
HAU Haudompre 79.76 317 *e*P **P 12 37 40.3 -1.0**
MAW Mawson 79.86 191 *e*P **P 12 37 42.1 +0.8**
comp=Z,4.6nm,0.9s,mb4.4
MAW Mawson 79.86 191 P **P 12 37 41.3 0.0**
comp=Z,6.2nm,1.1s,mb4.4,baz=26,slow=12,SNR=6.3
MAW LR LR 13 10 28.5
comp=Z,441nm,18.4s,MS4.8,baz=36,slow=34
MAW Mawson 79.86 191 *e*P **P 12 37 41.4 +0.1**
MAW *e* 12 37 57.4
MAW pmax pmax
comp=Z,10.0nm,1.0s
MAW Mawson 79.86 191 *e*P **P 12 37 41.4 0.0**
comp=Z,10nm,1.0s,mb4.7
MAW *e* 12 37 57.4
CABF La Chapelle 80.02 316 *e*P **P 12 37 42.2 -0.6**
comp=Z,130nm,1.7s,mb5.3
CABF La Chapelle 80.02 316 *e*P **P 12 37 42.2 -0.6**
CABF pmax pmax
comp=Z,65nm,1.7s,mb5.3
CABF La Chapelle 80.02 316 *e*P **P 12 37 42.2 -0.6**
comp=Z,65nm,1.7s,mb5.3
ORIF Oris-en-Rattie 80.27 314 *e*P **P 12 37 43.5 -0.7**
GIVF Givet 80.63 319 *e*P **P 12 37 45.2 -0.8**
LOR Lormes 81.49 317 *e*P **P 12 37 49.7 -0.9**
comp=Z,63nm,1.6s,mb5.0
LOR Lormes 81.49 317 *e*P **P 12 37 49.7 -0.9**
LOR pmax pmax
comp=Z,31nm,1.6s,mb5.0
LOR Lormes 81.49 317 *e*P **P 12 37 49.7 -0.9**
comp=Z,31nm,1.6s,mb5.0
SMF Signal de Mont 81.56 316 *e*P **P 12 37 50.1 -0.9**
comp=Z,16nm,0.9s,mb4.7
SMF Signal de Mont 81.56 316 *e*P **P 12 37 50.1 -0.9**
SMF pmax pmax
comp=Z,8.0nm,0.9s,mb4.7
SMF Signal de Mont 81.56 316 *e*P **P 12 37 50.1 -0.9**
comp=Z,7.9nm,0.9s,mb4.6
SSF Saint Saulge 81.75 316 *e*P **P 12 37 51.2 -0.8**
AVF Avril sur Loir 81.88 316 *e*P **P 12 37 52.0 -0.7**
TCF Toulx Ste Croi 82.72 316 *e*P **P 12 37 56.8 -0.3**
comp=Z,50nm,1.5s,mb5.0
TCF Toulx Ste Croi 82.72 316 *e*P **P 12 37 56.8 -0.3**
TCF pmax pmax
comp=Z,25nm,1.5s,mb5.0
TCF Toulx Ste Croi 82.72 316 *e*P **P 12 37 56.8 -0.3**
comp=Z,25nm,1.5s,mb5.0
TAM Tamanrasset 82.81 292 *e*P **P 12 37 59.0 +0.9**
JMIC Jan Mayen 84.20 341 LR LR 13 16 34.8
comp=Z,994nm,19.7s,MS5.2,baz=173,slow=36
SYO Syowa Base 86.46 197⇓*e*P **P 12 38 16.4 +1.0**
TORD Torodi Ar. Bea 87.84 283 P **P 12 38 22.9 -0.4**
comp=Z,2.4nm,1.1s,mb4.3,baz=85,slow=5.1,SNR=6.7
TORD LR LR 13 15 01.4
comp=Z,457nm,21.1s,MS4.9,baz=110,slow=34
ESDC Sonseca Array 88.20 310 P **P 12 38 24.1 -0.4**
comp=Z,1.2nm,0.7s,mb4.2,baz=57,slow=4.7,SNR=3.9
ESDC LR LR 13 17 52.0
comp=Z,242nm,19.8s,MS4.6,baz=65,slow=36
ESDC Sonseca Array 88.20 310 P **P 12 38 24.1 -0.4**
ESDC LR LR 13 17 52.0
RPZ Rata Peaks 89.04 135 P **P 12 38 27.3 -1.0**
comp=Z,19nm,0.9s,mb5.4,baz=57,slow=9.8,SNR=4.1
RPZ LR LR 13 17 09.0
comp=Z,1µm,20.8s,MS5.3,baz=247,slow=35
MDT Midelt 90.06 303 LR LR 13 20 59.1
comp=Z,523nm,19.5s,MS5.0,baz=95,slow=37
BORG Borgarnes 90.80 337 LR LR 13 24 07.1
comp=Z,1µm,19.6s,MS5.4,baz=340,slow=39
SVW2 Sparrevohn 92.20 27 *e*P **P 12 38 46.0 +3.2**
URZ Urewera 92.36 128 LR LR 13 19 37.6
comp=Z,395nm,21.0s,MS4.8,baz=281,slow=35
BPAW Bear Paw Mtn. 92.75 23 *e*P **P 12 38 45.8 +0.5**
comp=Z,22nm,1.4s,mb5.4
MCK McKinley 93.72 23 *e*P **P 12 38 48.8 -0.9**
DBIC Dimbokro 95.31 278 LR LR 13 21 15.1
comp=Z,524nm,18.3s,MS5.0,baz=65,slow=35
AFI Afiamalu 98.55 103 LR LR 13 21 21.8
comp=Z,188nm,18.2s,MS4.6,baz=55,slow=34
SFJD Kangerlussuaq 98.77 346 LR LR 13 27 55.2
comp=Z,858nm,19.5s,MS5.2,baz=341,slow=38
PPT Papeete 120.14 105 *e*LR LR 13 21 16.2
comp=Z,348nm,24.0s
TBI Tubuai 120.20 111 *e*LR LR 13 21 18.4
comp=Z,377nm,23.2s
PDAR Pinedale Array 124.27 19 PKP PKPdf 12 44 32.4 0.0
comp=Z,0.3nm,0.6s,baz=47,slow=6.6,SNR=3.3
NVAR Mina Array Bea 124.52 28 PKP PKPdf 12 44 32.9 -0.1
comp=Z,0.3nm,0.4s,baz=310,slow=3.4,SNR=2.8
RKT Rikitea 133.48 113 *e*LR LR 13 27 28.2
comp=Z,396nm,23.5s
TXAR Lajitas Array 138.44 20 PKP PKPdf 12 45 00.8 +1.2
comp=Z,0.2nm,0.3s,baz=251,slow=8.5,SNR=4.2
TXAR Lajitas Array 138.44 20 PKP PKPdf 12 45 00.8 +1.2
PLCA Paso Flores 145.34 204 PKPbc PKPbc 12 45 11.2 0.0
comp=Z,6.0nm,0.9s,baz=149,slow=4.3,SNR=10
CPUP Villa Florida 146.37 236 PKPbc PKPbc 12 45 13.3 -1.5
comp=Z,6.8nm,1.0s,baz=79,slow=5.2,SNR=5.0
CPUP Villa Florida 146.37 236 PKPbc PKPbc 12 45 13.3 -1.5
LPAZ La Paz 159.31 250 PKP PKPdf 12 45 34.0 +1.4
comp=Z,0.4nm,0.4s,baz=179,slow=3.6,SNR=3.8
LPAZ PKPab PKPab 12 46 13.4 +3.4
comp=Z,1.8nm,1.0s,baz=201,slow=1.5,SNR=3.5

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*ISCJB **10** 12:33:58.1±1.0, 2475N±005×12779E±006, h47km±11km, mb3.8/5, Error ellipse: s-maj=10.8km s-min=7.1km az=43.6*
*JMA **10** 12:33:59.0±0.3, 2476N×12775E, h59km, M3.4*
*IDC **10** 12:34:02.8±5.1, 2500N×12797E, h79km±63km, mb3.5/5, mb1 3.7/5, mb1mx3.5/20, mbtmp3.5/5, Error ellipse: s-maj=86.4km s-min=17.2km az=66.0*
ISC 10 12:33:59.2±1.0**, 2477N**±006×**12778E**±006**, h38**km±12km**, n18, σ1s07**/27**, mb3.8**/5**, Southeast of Ryukyu Islands**

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
NAH1 Naha 1.43 357 P **Pn 12 34 23.3 +0.6**
NAH1 *e*S **Sn 12 34 40.9 +0.6**
JKE Kume jima 2 1.79 330 P **Pn 12 34 28.4 +0.7**
JKE *e*S **Sn 12 34 49.4 +0.2**
JAGN Aguni-jima 1.88 345 P **Pn 12 34 29.6 +0.8**
JAGN *e*S **Sn 12 34 51.7 +0.4**
JOW Kunigami 2.10 12 P **Pn 12 34 32.4 +0.4**
15nm,0.3s,baz=167,slow=15,SNR=102
JOW S **Sn 12 34 55.8 -1.1**
45nm,0.3s,baz=119,slow=21,SNR=16
JOW Kunigami 2.10 12 P **Pn 12 34 32.3 +0.3**
JOGS Gusukube 2.16 270 *e*S **Sn 12 34 57.2 -1.0**
JIH Iheya 2.26 4 P **Pn 12 34 35.4 +1.2**
JIH *e*S **Sn 12 35 01.7 +0.9**
JTK Tokunoshima 3.19 19 P **Pn 12 34 47.2 +0.4**
JTK *e*S **Sn 12 35 23.1 -0.4**
JMZ Minamidaito 2 3.29 71 P **Pn 12 34 45.9 -2.3**
JMZ *e*S **Sn 12 35 19.6 -6.5**
JIJ Ishigaki jima 3.33 264 P **Pn 12 34 48.1 -0.8**
JIJ *e*S **Sn 12 35 22.6 -4.7**
JKRS Kuro-shima 3.47 262 P **Pn 12 34 50.3 -0.5**
JAM Amami Oshima 3.98 24 P **Pn 12 34 58.7 +1.0**
JAM *e*S **Sn 12 35 41.1 -2.1**
MKAR Makanchi Array 42.22 313 P **P 12 41 46.7 -1.8**
0.5nm,0.6s,mb3.4,baz=111,slow=7.6,SNR=3.6
ZALV Zalesovo Beam 43.17 324 P **P 12 41 55.4 -0.7**
0.9nm,0.4s,mb3.8,baz=96,slow=7.2,SNR=2.8
WRA Warramunga Arr 44.90 171 P **P 12 42 11.0 +0.8**
2.6nm,0.5s,mb4.3,baz=352,slow=8.7,SNR=36
KURK Kurchatov 45.61 318 P **P 12 42 15.0 -0.6**
0.3nm,0.3s,mb3.7,baz=102,slow=8.6,SNR=3.5
LATR Latur 47.82 273 *e*P **P 12 42 36.5 +3.1**
ASAR Alice Springs 48.51 172 P **P 12 42 39.9 +1.4**
0.8nm,0.8s,mb3.8,baz=360,slow=8.4,SNR=15

IGQ 10 12:48:57.2, 217S×7829W, h12km±3km, Mb4.0, Ms3.8, 4C-6D, Error ellipse: s-maj=5.4km s-min=1.7km az=177.9, Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PATA	**Patacocha**	**0.67**	**347**	⇑P	Pg	12 49 10.8	+0.5
PATA	**Patacocha**	**0.67**	**347**	⇑S	Sg	12 49 20.1	+0.8
ARRY	**Arrayan**	**0.68**	**345**	⇓P	Pg	12 49 10.2	-0.2
ULBA	**Ulba**	**0.72**	**350**	⇑P	Pg	12 49 11.8	+0.5
ULBA	**Ulba**	**0.72**	**350**	⇑S	Sg	12 49 22.4	+1.7
BIL2	**Estacion Bilba**	**0.74**	**343**	P	Pg	12 49 12.3	+0.7
IGUA	**Igualata**	**0.76**	**332**	⇓P	Pg	12 49 12.7	+0.7
JUI6	**Juive**	**0.76**	**346**	⇓P	Pg	12 49 12.2	+0.2
JUI6	**Juive**	**0.76**	**346**	⇓S	Sg	12 49 22.7	+0.8
RUN5	**Runtun**	**0.76**	**349**	P	Pg	12 49 12.2	+0.3
RUN5	**Runtun**	**0.76**	**349**	S	Sg	12 49 23.1	+1.2
PISA	**Pisayambo**	**1.10**	**355**	P	Pb	12 49 18.6	+0.3
PISA	**Pisayambo**	**1.10**	**355**	S	Sb	12 49 32.1	-0.5
TAMB	**Tambo**	**1.46**	**357**	P	Pn	12 49 25.7	+2.2
TAMB	**Tambo**	**1.46**	**357**	S	Sn	12 49 49.2	+6.6
VC1	**Cotopaxi 1**	**1.52**	**356**	⇓P	Pn	12 49 26.8	+2.6
VC1	**Cotopaxi 1**	**1.52**	**356**	⇓S	Sn	12 49 49.3	+5.4
ANTI	**Antisana**	**1.71**	**4**	P	Pn	12 49 29.2	+2.4
ANTI	**Antisana**	**1.71**	**4**	S	Sn	12 49 53.0	+4.4
GGP	**Refugio Guagua**	**2.00**	**351**	P	Pn	12 49 35.9	+5.0
TERV	**Terraza Guagua**	**2.00**	**351**	P	Pn	12 49 35.7	+4.8
PINO	**Pino**	**2.02**	**351**	P	Pn	12 49 36.1	+4.9
LAV3	**Lava3-Reventad**	**2.16**	**18**	P	Pn	12 49 36.7	+3.7
LAV3	**Lava3-Reventad**	**2.16**	**18**	S	Sn	12 50 06.8	+7.1
CONE	**Cono NE Rev Vo**	**2.18**	**17**	P	Pn	12 49 37.1	+3.8
CONE	**Cono NE Rev Vo**	**2.18**	**17**	S	Sn	12 50 07.8	+7.5

IDC 10 12:58:05.0±1.4**, 399N**×**12563E, h0**km**, mb3.8**/6**, mb1 4.0**/6**, mb1mx3.7**/19**, mbtmp3.8**/6**, Error ellipse: s-maj=106.7km s-min=18.5km az=67.0, Talaud Islands**

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
FITZ Fitzroy Crossi 21.95 180 P P 13 03 00.0 -0.4
0.8nm,0.3s,baz=16,slow=14,SNR=10
WRA Warramunga Arr 25.27 161 P P 13 03 33.6 +0.4
1.6nm,0.3s,baz=341,slow=9.6,SNR=56
ASAR Alice Springs 28.65 164 P P 13 04 02.8 -0.8
0.3nm,0.3s,baz=344,slow=7.5,SNR=9.9
STKA Stephens Creek 38.77 158 P P 13 05 32.5 +1.1
2.7nm,1.0s,baz=354,slow=9.2,SNR=2.9
MKAR Makanchi Array 56.72 326 P P 13 07 51.1 +0.5
0.4nm,0.4s,baz=117,slow=7.8,SNR=12
KURK Kurchatov 60.94 328 P P 13 08 18.9 -0.9
1.0nm,0.5s,baz=126,slow=6.0,SNR=4.0

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*DDA **10** 13:17:07.8, 3979N×2868E, h7km±3km, Md3.0*
*ISCJB **10** 13:17:08.4±0.4, 3980N±002×2867E±003, h7km±4km, Error ellipse: s-maj=4.3km s-min=3.2km az=142.3*
*ISK **10** 13:17:08.1, 3978N×2869E, h9km, MD2.9*
*CSEM **10** 13:17:08.1±0.1, 3977N×2868E, h10km, MD2.9, Error ellipse: s-maj=1.4km s-min=1.2km az=131.0*
ISC 10 13:17:08.8±0.4**, 3978N**±002×**2868E**±003**, h9**km±3km**, n30, σ0s56**/44**, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DST	**Dursunbey**	**0.18**	**192**	*e*PG	**Pg**	**13 17 12.5**	**-0.1**
DST				SG	**Sg**	**13 17 15.7**	**+0.5**
DURS	**Dursunbey**	**0.24**	**221**	*i* P	**Pg**	**13 17 13.6**	**0.0**
DURS				*i* S	**Sg**	**13 17 17.3**	**+0.4**
ULDT	**Uludag**	**0.50**	**44**	*i* P	**Pg**	**13 17 18.4**	**-0.2**
ULDT				*i* S	**Sg**	**13 17 25.2**	**0.0**
BALB	**Balikesir**	**0.63**	**257**	*e*PG	**Pg**	**13 17 20.7**	**-0.3**
BALB				*e*SG	**Sg**	**13 17 30.4**	**+1.2**
DEMI	**Demirci**	**0.74**	**178**	*i* P	**Pg**	**13 17 22.7**	**-0.4**
DEMI				*i* S	**Sg**	**13 17 37.0**	**+4.3**
BALY	**Balya**	**0.82**	**267**	*i* P	**Pg**	**13 17 23.8**	**-0.7**
BALY				*i* S	**Sg**	**13 17 35.8**	**+0.7**
EDC	**Edincik**	**0.84**	**312**	*e*PG	**Pg**	**13 17 25.0**	**0.0**
GDZ	**Gediz**	**0.93**	**138**	*i* P	**Pg**	**13 17 27.3**	**+0.6**
GDZ				*i* S	**Sg**	**13 17 38.5**	**-0.3**
YLV	**Yalova**	**0.95**	**34**	*e*PG	**Pg**	**13 17 26.4**	**-0.6**
CAVI	**Cavuskoy**	**0.99**	**65**	*e*PG	**Pg**	**13 17 27.8**	**0.0**
ADVT	**Abdulvahap**	**1.04**	**51**	*e*PG	**Pg**	**13 17 28.4**	**-0.5**
AKHS	**Akhisar**	**1.12**	**217**	*i* P	**Pb**	**13 17 29.6**	**-0.8**
AKHS				*i* S	**Sg**	**13 17 45.1**	**+0.1**
AKS	**Akhisar**	**1.12**	**217**	*e*PN	**Pn**	**13 17 29.9**	**-0.8**
MRMT	**Marmara Adasi**	**1.17**	**315**	*e*PN	**Pn**	**13 17 31.3**	**+0.1**
KULA	**Kula-Manisa**	**1.27**	**181**	*e*PN	**Pn**	**13 17 32.4**	**-0.2**
MANT	**Manisa**	**1.29**	**184**	*i* P	**Pn**	**13 17 33.0**	**0.0**
MANT				*i* S	**Sb**	**13 17 49.0**	**-1.0**
ISK	**Istanbul-Kandi**	**1.31**	**13**	*e*PN	**Pn**	**13 17 33.0**	**-0.3**
ALT	**Altintas**	**1.33**	**123**	*e*PN	**Pn**	**13 17 33.0**	**-0.5**
GPA	**Golpazari**	**1.35**	**68**	*e*PN	**Pn**	**13 17 33.7**	**-0.1**
BORA	**Eskisehir**	**1.37**	**85**	*i* P	**Pn**	**13 17 33.9**	**-0.2**
BORA				*i* S	**Sb**	**13 17 53.4**	**+1.1**
BORA	**Eskisehir**	**1.37**	**85**	*i* P	**Pn**	**13 17 33.9**	**-0.2**
BORA				*i* S	**Sb**	**13 17 53.3**	**+1.1**
BGKT	**Bogazkoy**	**1.40**	**3**	*e*PN	**Pn**	**13 17 34.4**	**0.0**
RKY	**Sarkoy-Tekirda**	**1.46**	**309**	*e*PN	**Pn**	**13 17 35.5**	**+0.2**
SLVT	**Silivri**	**1.49**	**346**	*e*PN	**Pn**	**13 17 35.8**	**+0.1**
KLYT	**Kilyos**	**1.50**	**11**	*e*PN	**Pn**	**13 17 35.8**	**0.0**
GULT	**Gulveren**	**1.55**	**65**	*e*PN	**Pn**	**13 17 36.5**	**-0.1**
KHL	**Karahalli**	**1.60**	**155**	*e*PN	**Pn**	**13 17 37.1**	**-0.1**
AYVA	**Ayvalik**	**1.61**	**253**	*i* P	**Pn**	**13 17 37.8**	**+0.5**
AYVA				*i* S	**Sn**	**13 17 58.2**	**0.0**
ESKT	**Eskisehir**	**1.70**	**98**	*i* P	**Pn**	**13 17 38.6**	**0.0**
ESKT				*i* S	**Sn**	**13 18 02.5**	**+2.1**
SEYT	**Eskypehyr**	**1.70**	**98**	*i* P	**Pn**	**13 17 38.6**	**0.0**
SEYT				*i* S	**Sn**	**13 18 02.5**	**+2.1**

IDC 10 13:32:38.4±1.7**, 917S**×**12647E, h0**km**, mb3.3**/1**, mb1 3.4**/4**, mb1mx3.4**/15**, mbtmp3.3**/4**, ML2.9**/3**, Error ellipse: s-maj=72.1km s-min=23.4km az=71.0, Timor region**

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
FITZ Fitzroy Crossi 8.92 185 Pn Pn 13 34 48.8 +0.2
0.1nm,0.3s,baz=3.6,slow=16,SNR=4.5
FITZ Sn Sn 13 36 30.4 +0.6
0.1nm,0.3s,baz=252,slow=20,SNR=3.7
WRA Warramunga Arr 13.13 145 Pn Pn 13 35 45.0 -1.4
0.1nm,0.3s,baz=319,slow=14,SNR=9.8
WRA Sn Sn 13 38 13.9 +0.6
0.0nm,0.3s,baz=315,slow=24,SNR=3.1
ASAR Alice Springs 16.07 155 Pn Pn 13 36 27.9 +2.0
0.1nm,0.3s,baz=329,slow=12,SNR=6.3
MKAR Makanchi Array 68.19 329 P P 13 43 40.7 +0.1
0.1nm,0.5s,baz=138,slow=6.3,SNR=2.1

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*IDC **10** 13:45:36.8±1.8, 1.11N×9760E, h0km, mb4.2/8, mb1 4.2/9, mb1mx4.0/22, mbtmp4.2/9, ML4.3/1, MS3.2/1, Ms1 3.2/1, ms1mx2.5/36, Error ellipse: s-maj=64.7km s-min=18.7km*

az=57.0
*BJI **10** 13:45:38.6, 0.60N×97.81E, h54km, mb3.9*
*ISCJB **10** 13:45:39.3±1.1, 1.1N±0.1×97.5E±0.2, h33km, mb4.2/8, Error ellipse: s-maj=28.5km s-min=11.6km az=147.4*
*NEIC **10** 13:45:41.3±0.8, 1.04N×97.42E, h35km, mb3.4/1, Error ellipse: s-maj=22.8km s-min=8.8km az=57.0*
ISC 10 13:45:41.7±1.1**, 1.1N**±0.1×**97.5E**±0.2**, h35km, n16,** σ**0.58**/16**, mb4.2**/8**, Northern Sumatera**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**17.32**	**4**	P	**Pn**	**13 49 40.7**	**-0.1**
	0.4nm,0.3s,baz=196,slow=11,SNR=29						
CHTO	**Chiang Mai**	**17.67**	**4**	*e*Pn	**Pn**	**13 49 44.6**	**-0.6**
	2.6nm,0.8s						
KKM	**Kota Kinabalu**	**19.28**	**75**	*e*P	**Pn**	**13 50 05.6**	**+0.7**
XAN	**Xi'an**	**34.47**	**17**	P	**P**	**13 52 26.1**	**-0.2**
GTA	**Gaotai**	**38.20**	**3**	*e*P	**P**	**13 52 59.0**	**+0.9**
WRA	**Warramunga Arr**	**41.69**	**122**	P	**P**	**13 53 27.1**	**-0.3**
	0.8nm,0.4s,mb3.7,baz=302,slow=9.1,SNR=16						
WB2	**Warramunga Arr**	**41.70**	**122**	*e*P	**P**	**13 53 27.3**	**-0.2**
ASAR	**Alice Springs**	**43.06**	**127**	P	**P**	**13 53 38.7**	**+0.1**
	0.2nm,0.3s,mb3.3,baz=304,slow=7.3,SNR=6.4						
KSRS	**Korea Array**	**45.75**	**34**	P	**P**	**13 53 58.5**	**-1.3**
	1.3nm,0.8s,mb3.9,baz=226,slow=10.0,SNR=6.2						
KSRS				LR	LR	14 16 04.0	
	comp=Z,25nm,18.1s,baz=80,slow=40						
SONM	**Songino Array**	**47.19**	**8**	P	**P**	**13 54 11.8**	**+0.8**
	1.6nm,0.5s,mb4.2,baz=179,slow=8.9,SNR=5.2						
MK31	**Makanchi Array**	**47.43**	**346**	*e*P	**P**	**13 54 13.2**	**+0.4**
MKAR	**Makanchi Array**	**47.43**	**346**	P	**P**	**13 54 13.1**	**+0.3**
	3.3nm,0.5s,mb4.5,baz=160,slow=8.1,SNR=41						
KURK	**Kurchatov**	**51.99**	**345**	P	**P**	**13 54 47.6**	**+0.2**
	4.2nm,0.3s,mb4.9,baz=164,slow=6.4,SNR=4.5						
ZAA0	**Zalesovo Array**	**53.72**	**351**	*e*P	**P**	**13 54 59.4**	**-0.8**
ZALV	**Zalesovo Beam**	**53.72**	**351**	P	**P**	**13 55 00.5**	**+0.4**
	4.4nm,0.5s,mb4.7,baz=177,slow=7.2,SNR=16						
BVAR	**Borovoye Array**	**56.46**	**341**	P	**P**	**13 55 19.5**	**-0.4**
	1.7nm,0.6s,mb4.2,baz=148,slow=8.7,SNR=9.2						

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*ISCJB **10** 14:08:10.4±0.4, 37.31N±0.02×71.89E±0.05, h130km±6km, mb4.1/13, Error ellipse: s-maj=6.5km s-min=4.0km az=170.7*
*IDC **10** 14:08:10.8±7.7, 37.35N×71.88E, h108km±70km, mb3.4/5, mb1 3.7/9, mb1mx3.4/24, mbtmp3.6/9, ML4.0/4, Error ellipse: s-maj=46.1km s-min=23.8km az=23.0*
*BJI **10** 14:08:10.3, 37.33N×71.76E, h117km, mB4.6, mb4.5*
*NEIC **10** 14:08:12.7±0.7, 37.46N×71.71E, h121km±8km, mb4.3/8, Error ellipse: s-maj=8.7km s-min=8.0km az=116.0*
*NNC **10** 14:08:18.9±5.0, 37.94N×71.60E, h174km±46km, mb3.0, mpv4.0, Error ellipse: s-maj=45.4km s-min=21.8km az=15.0*
ISC 10 14:08:11.6±0.4**, 37.31N**±0.02×**71.91E**±0.05**, h127km**±6km**, h134km**±2.1km**:pP-P, n70,** σ**1.34**/98**, mb4.1**/13**, 8C-4D, Afghanistan-Tajikistan border region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CEP	**Cherat**	**3.48**	**180**	⇑P	**Pn**	**14 09 06.2**	**+1.9**
KBL	**Kabul**	**3.61**	**221**	*e*P	**Pn**	**14 09 07.1**	**+1.0**
KBL				*e*S	**Sn**	**14 09 48.8**	**+0.6**
KSH	**Kashi**	**3.88**	**54**	⇓*i*P	**Pn**	**14 09 11.7**	**+2.1**
KSH				S	**Sn**	**14 09 56.0**	**+1.4**
KSH				Smax			
	comp=N,2μm,0.5s						
KSH				Smax			
	comp=E,1μm,1.1s						
THW	**Thamme Wali**	**4.50**	**182**	P	**Pn**	**14 09 19.3**	**+1.3**
AML	**Almayashu**	**5.01**	**15**	P	**Pn**	**14 09 25.0**	**+0.3**
	SNR=223						
AML	**Almayashu**	**5.01**	**15**	*e*P	**Pn**	**14 09 24.9**	**+0.2**
AML				*e*S	**Sn**	**14 10 16.1**	**-5.5**
UCH	**Uchtor**	**5.31**	**21**	P	**Pn**	**14 09 29.5**	**+0.8**
	SNR=24						
UCH	**Uchtor**	**5.31**	**21**	*e*Pn	**Pn**	**14 09 29.5**	**+0.8**
	comp=E,66nm,0.5s						
UCH				*e*S	**Sn**	**14 10 20.0**	**-8.8**
KZA	**Kyzart**	**5.42**	**27**	P	**Pn**	**14 09 34.0**	**+3.9**
	SNR=6.1						
EKS2	**Erkin-Say**	**5.54**	**14**	P	**Pn**	**14 09 32.4**	**+0.7**
	SNR=16						
EKS2	**Erkin-Say**	**5.54**	**14**	*e*Pn	**Pn**	**14 09 32.3**	**+0.5**
	comp=E,16nm,0.8s						
AAK	**Ala-Archa**	**5.68**	**20**	P	**Pn**	**14 09 34.5**	**+0.9**
	SNR=11						
THN	**Thein Dam**	**5.78**	**146**	*e*P	**Pn**	**14 09 35.8**	**+0.7**
THN				*e*S	**Sn**	**14 10 39.4**	**-0.8**
KK31	**Karatay Array**	**5.89**	**350**	⇑P	**Pn**	**14 09 35.3**	**-1.1**
	comp=E,4.6nm,0.2s,baz=168,slow=12,SNR=195						
KK31				S	**Sn**	**14 10 37.2**	**-5.4**
	comp=E,44nm,0.5s,baz=163,slow=18,SNR=15						
CHMS	**Chumysh**	**6.09**	**20**	P	**Pn**	**14 09 39.8**	**+0.6**
	SNR=12						
USP	**Ospenovka**	**6.28**	**18**	P	**Pn**	**14 09 40.9**	**-0.7**
	SNR=7.5						
TKM2	**Tokmak 2**	**6.28**	**26**	⇑P	**Pn**	**14 09 42.8**	**+1.1**
	comp=E,7.1nm,0.6s						
TKM2				⇑S	**Sn**	**14 10 50.5**	**-1.6**
	comp=E,11nm,0.6s						
TKM2	**Tokmak 2**	**6.28**	**26**	P	**Pn**	**14 09 42.8**	**+1.1**
	SNR=16						
TKM2	**Tokmak 2**	**6.28**	**26**	*e*Pn	**Pn**	**14 09 42.5**	**+0.8**
	comp=E,8.4nm,0.5s						
SDNR	**Sundarnagar**	**7.14**	**143**	*e*P	**Pn**	**14 09 54.0**	**+0.5**
SDNR				*e*x	x	14 11 04.6	
SMLA	**Simla**	**7.54**	**143**	*i* P	**Pn**	**14 09 59.0**	**+0.1**
SMLA				*i* S	**Sn**	**14 11 17.4**	**-5.4**
SMLA				*i* S	**Sn**	**14 11 17.7**	**-5.2**
SMLA				*e*x	x	14 11 21.9	
	comp=N,963nm,0.4s						
SMLA				*e*x	x	14 11 22.5	
	comp=E,1μm,0.5s						
JOSI	**Joshimath**	**9.26**	**134**	*e*P	**Pn**	**14 10 23.1**	**+1.1**
JOSI				*e*S	**Sn**	**14 11 58.8**	**-5.4**
JOSI				AML	AML	14 12 04.3	
	comp=E,295nm,1.2s						
JOSI				AML	AML	14 12 05.1	
	comp=N,380nm,1.1s						
NDI	**New Delhi**	**9.68**	**151**	*e*P	**Pn**	**14 10 27.0**	**-0.7**
NDI				*e*S	**Sn**	**14 12 08.5**	**-6.1**
KHET	**Khetri**	**9.77**	**159**	*e*P	**Pn**	**14 10 27.1**	**-1.8**
KHET				*e*S	**Sn**	**14 12 08.4**	**-8.4**
KHET				AML	AML	14 12 12.0	
	comp=E,18nm,0.4s						
KHET				AML	AML	14 12 13.8	
	comp=N,16nm,0.4s						
SONA	**Sohna**	**10.02**	**153**	*e*P	**Pn**	**14 10 32.2**	**0.0**
SONA				*e*S	**Sn**	**14 12 14.6**	**-8.3**
SONA				AML	AML	14 12 23.3	
	comp=E,42nm,0.3s						
SONA				AML	AML	14 12 23.7	
	comp=N,24nm,0.4s						
MK31	**Makanchi Array**	**12.21**	**36**	⇑P	**Pn**	**14 11 01.8**	**+0.7**
	comp=N,1.6nm,0.7s,baz=228,slow=14,SNR=7.8						
MK31	**Makanchi Array**	**12.21**	**36**	*e*P	**Pn**	**14 11 01.7**	**+0.6**
MKAR	**Makanchi Array**	**12.21**	**36**	P	**Pn**	**14 11 01.8**	**+0.7**
	comp=N,0.1nm,0.3s,baz=229,slow=14,SNR=10						
DANN	**Dangsing**	**13.37**	**128**	*e*P	**Pn**	**14 11 15.1**	**-1.2**
	comp=N,25nm,0.4s						
WMQ	**Urumqi**	**13.64**	**57**	*e*P	**Pn**	**14 11 21.5**	**+1.8**
WMQ				XP		14 11 59.0	
WMQ				AMB	AMB		
	comp=Z,7.0nm,0.5s						
KOLN	**Koldanda**	**13.69**	**131**	*e*P	**Pn**	**14 11 18.9**	**-1.5**
	comp=Z,12nm,0.4s						
KOLN				*e*S	**Sn**	**14 13 42.8**	**-8.6**
KURBB	**Kurchatov Arra**	**14.13**	**18**	⇑P	**Pn**	**14 11 28.9**	**+3.1**
	comp=Z,0.6nm,0.6s						
GKN	**Gorkha**	**14.16**	**127**	*e*P	**Pn**	**14 11 24.7**	**-1.8**
	comp=Z,70nm,0.9s						
GKN				*e*S	**Sn**	**14 13 53.7**	**-9.3**
KURK	**Kurchatov**	**14.24**	**18**	⇓P	**Pn**	**14 11 24.8**	**-2.4**
	comp=Z,1.3nm,0.8s						
KURK	**Kurchatov**	**14.24**	**18**	P	**Pn**	**14 11 22.9**	**-4.3**
	comp=Z,0.1nm,0.3s,baz=206,slow=10,SNR=3.4						
KKN	**Kakani**	**14.72**	**126**	*e*P	**Pn**	**14 11 31.3**	**-2.2**
	comp=Z,8.8nm,0.3s						
KKN				*e*S	**Sn**	**14 14 05.1**	**-11**
DMN	**Daman**	**14.74**	**127**	*e*P	**Pn**	**14 11 32.9**	**-0.8**
	comp=Z,40nm,0.7s						
DMN				*e*S	**Sn**	**14 14 06.4**	**-10**
AB31	**Akbulak array**	**14.76**	**328**	⇓P	**Pn**	**14 11 31.0**	**-2.8**
	comp=Z,2.2nm,0.6s,baz=137,slow=12,SNR=39						
AB31				S	**Sn**	**14 14 02.5**	**-15**
	comp=Z,10nm,0.7s,baz=144,slow=22,SNR=19						
PKI	**Pulchoki**	**14.96**	**127**	*e*P	**Pn**	**14 11 35.7**	**-0.7**
PKI				*e*S	**Sn**	**14 14 11.3**	**-11**
GUN	**Gumba**	**15.03**	**125**	*e*P	**Pn**	**14 11 36.5**	**-0.9**
	comp=Z,56nm,0.8s						
JIRN	**Jiri**	**15.40**	**125**	*e*P	**Pn**	**14 11 40.5**	**-1.5**
	comp=Z,53nm,0.5s						
JIRN				*e*S	**S**	**14 14 22.3**	**-17**
VOSK	**Vostochnaya**	**15.43**	**358**	⇓P	**Pn**	**14 11 39.8**	**-2.4**
	comp=Z,1.6nm,0.7s						
BVA0	**Borovoye Array**	**15.76**	**357**	P	**Pn**	**14 11 44.2**	**-1.9**
	comp=Z,0.5nm,0.7s,baz=178,slow=21,SNR=8.0						
BVAR	**Borovoye Array**	**15.76**	**357**	P	**Pn**	**14 11 44.6**	**-1.5**
	comp=Z,0.6nm,0.3s,baz=159,slow=8.8,SNR=9.2						
BVAR				S	**S**	**14 14 32.0**	**-14**
	comp=Z,0.2nm,0.3s,baz=169,slow=24,SNR=5.8						
BRVK	**Borovoye**	**15.79**	**356**	P	**Pn**	**14 11 45.5**	**-1.2**
	comp=Z,6.0nm,0.7s						
RAMN	**Ramite**	**16.15**	**126**	*e*P	**Pn**	**14 11 49.8**	**-1.5**
	comp=Z,29nm,0.7s						
AKTK	**Aktyubinsk**	**16.47**	**327**	P	**Pn**	**14 11 53.9**	**-1.1**
AKTK				S	**S**	**14 14 45.4**	**-13**
AKTO	**Aktyubinsk**	**16.47**	**327**	⇑P	**Pn**	**14 11 54.2**	**-0.8**
	comp=Z,3.1nm,0.7s						
AKTO				⇑S	**S**	**14 14 45.9**	**-13**
	comp=Z,1.3nm,0.7s						
AKTO	**Aktyubinsk**	**16.47**	**327**	P	**Pn**	**14 11 53.9**	**-1.1**
	comp=Z,2.6nm,0.3s,baz=131,slow=9.6,SNR=30						
AKTO				S	**S**	**14 14 45.4**	**-13**
	comp=Z,0.3nm,0.3s,baz=131,slow=20,SNR=7.4						
TAPN	**Taplejung**	**16.62**	**122**	*e*P	**Pn**	**14 11 56.8**	**-0.2**
ODAN	**Odare**	**16.73**	**124**	*e*P	**Pn**	**14 11 57.8**	**-0.5**
	comp=Z,24nm,0.6s						
ODAN				*e*S	**S**	**14 14 52.1**	**-13**
LSA	**Lhasa**	**17.73**	**110**	*e*P	**Pn**	**14 12 13.5**	**+3.1**
	comp=Z,6.4nm,0.8s						
ZALV	**Zalesovo Beam**	**18.88**	**24**	P	**P**	**14 12 21.9**	**+0.2**
	comp=Z,0.7nm,0.3s,baz=220,slow=10,SNR=14						
GTA	**Gaotai**	**21.95**	**76**	*e*P	**P**	**14 12 59.5**	**+4.6**
GTA				AP		14 13 24.8	
GTA				XP	sP	14 13 39.9	+5.7
GTA				AMB	AMB		
	comp=Z,4.0nm,1.0s,mb3.7						
LZH	**Lanzhou**	**25.58**	**83**	P	**P**	**14 13 33.5**	**+4.8**
LZH				AP	pP	14 14 01.2	+5.5
LZH				XP	sP	14 14 16.0	+5.5
LZH				PP		14 14 19.7	
LZH				AMB	AMB		
	comp=Z,19nm,1.2s,mb4.4						
LZH				AMB	AMB		
	comp=Z,82nm,4.8s						
LZH	**Lanzhou**	**25.58**	**83**	P	**P**	**14 13 33.5**	**+4.8**
	comp=Z,19nm,1.2s,mb4.4						
LZH				pP	pP	14 14 01.2	+5.5
LZH				sP	sP	14 14 16.0	+5.5
LZH				PP		14 14 19.7	
CD2	**Chengdu**	**27.05**	**94**	*e*P	**P**	**14 13 43.7**	**+1.7**
CD2				AP	pP	14 14 11.7	+2.6
CD2				XP	sP	14 14 27.7	+3.8
CD2				PP	PP	14 14 34.4	-11
CD2				S	**S**	**14 18 10.1**	**-0.3**
CD2				XS	sS	14 18 59.0	+0.7
CD2				SS		14 19 34.9	
CD2				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.5						
CD2				AMB	AMB		
	comp=Z,20nm,5.2s						
KMI	**Kunming**	**28.90**	**106**	P	**P**	**14 14 03.3**	**+4.8**
KMI				AMB	AMB		
	comp=Z,6.0nm,1.2s,mb4.1						
KMI	**Kunming**	**28.90**	**106**	P	**P**	**14 14 03.3**	**+4.8**
	comp=Z,6.0nm,1.2s,mb4.1						
XAN	**Xi'an**	**30.12**	**85**	P	**P**	**14 14 11.5**	**+2.3**
XAN				AP	pP	14 14 39.5	+2.9
XAN				AMB	AMB		
	comp=Z,1.0nm,0.4s,mb3.8						
HHC	**Hu-ho-hao-te**	**30.81**	**71**	*e*P	**P**	**14 14 18.2**	**+3.1**
HHC				AP	pP	14 14 45.5	+2.9
HHC				XP	sP	14 15 00.0	+2.7
HHC				PP	PP	14 15 26.1	-0.9
HHC				PCP	PcP	14 17 08.5	-0.7
HHC				S	**S**	**14 19 12.8**	**+3.6**
HHC				XS	sS	14 20 01.9	+4.7
HHC				SCP	ScP	14 20 39.6	-0.5
HHC				PCS	PcS	14 20 53.6	+0.4
HHC				SCS	ScS	14 24 33.7	-3.2
HHC				AMB	AMB		
	comp=Z,13nm,1.0s,mb4.6						
HHC				AMB	AMB		
	comp=Z,100nm,6.1s						
HHC				LR	LR		
	comp=N,162nm,12.7s						
HHC				LR	LR		
	comp=E,150nm,15.9s						
HHC				LR	LR		
	comp=Z,108nm,12.1s						
GYA	**Guiyang**	**31.27**	**100**	P	**P**	**14 14 24.3**	**+4.9**
GYA				AP	pP	14 14 54.2	+7.3
GYA				PP	PP	14 15 33.7	+1.3
GYA				PCP	PcP	14 17 13.8	+3.1
GYA				S	**S**	**14 19 21.8**	**+5.1**
GYA				SCP	ScP	14 20 43.2	+1.3
GYA				PCS	PcS	14 20 56.8	+1.6
GYA				SCS	ScS	14 24 40.6	+0.9
GYA				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb4.5						
BJI	**Beijing**	**34.40**	**72**	P	**P**	**14 14 48.2**	**+1.7**
BJI				AMB	AMB		
	comp=Z,14nm,0.4s,mb5.1						
BJI	**Beijing**	**34.40**	**72**	P	**P**	**14 14 48.2**	**+1.7**
	comp=Z,14nm,0.4s,mb5.1						
ARCES	**ARCESS Array B**	**40.68**	**337**	P	**P**	**14 15 40.0**	**+1.1**
	comp=Z,1.8nm,0.6s,mb4.1,baz=107,slow=7.8,SNR=8.0						
NB2	**NORSAR Subarra**	**44.18**	**322**	P	**P**	**14 16 07.7**	**+0.4**
	comp=Z,2.8nm,0.8s,mb4.0,baz=94,slow=7.9						
NOA	**NORSAR Array B**	**44.18**	**322**	P	**P**	**14 16 07.5**	**+0.2**
	comp=Z,2.2nm,0.7s,mb4.0,baz=93,slow=7.7,SNR=7.3						
ESDC	**Sonseca Array**	**57.73**	**298**	P	**P**	**14 17 50.1**	**+1.2**
	comp=Z,0.7nm,0.5s,mb4.0,baz=51,slow=6.9,SNR=3.7						
TORD	**Torodi Ar. Bea**	**66.46**	**269**	P	**P**	**14 18 48.9**	**+1.3**
	comp=Z,0.3nm,0.6s,mb3.3,baz=32,slow=7.2,SNR=2.5						
WRA	**Warramunga Arr**	**81.80**	**123**	P	**P**	**14 20 17.9**	**+1.5**
	comp=Z,0.3nm,1.0s,mb3.1,baz=334,slow=5.5,SNR=3.2						

IDC 10 14:27:13.4±4.8**, 5.60S**×**129.45E, h311km**±53km**, mb2.9**/1**, mb1 2.9**/3**, mb1mx2.7**/14**, mbtmp2.7**/3**, Error ellipse: s-maj=105.3km s-min=16.5km az=71.0, Banda Sea**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**7.66**	**158**	*e*P	Pn	14 28 58.4	-4.6
	5.6nm,0.3s						
KAKA				*e*S	S	14 30 21.6	-10
WRA	**Warramunga Arr**	**15.03**	**162**	P	P	14 30 29.6	-0.7
	0.2nm,0.3s,baz=339,slow=12,SNR=17						
WRA				S	S	14 33 12.7	-1.0
	0.1nm,0.3s,baz=341,slow=22,SNR=3.8						
ASAR	**Alice Springs**	**18.47**	**167**	P	P	14 31 08.0	+0.5
	0.2nm,0.3s,baz=350,slow=12,SNR=31						
ASAR				S	S	14 34 22.8	+1.1
	0.1nm,0.3s,baz=352,slow=24,SNR=4.2						
MKAR	**Makanchi Array**	**66.76**	**327**	P	P	14 37 31.9	+0.1
	0.3nm,0.5s,baz=139,slow=7.5,SNR=4.4						

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*MOS **10** 14:43:51.4±2.4, 35.36N×140.00E, h33km, mb4.5/1, Error ellipse: s-maj=17.6km s-min=10.7km az=106.5*
*IDC **10** 14:43:58.0±1.2, 35.65N×139.78E, h74km±10km, mb3.6/7, mb1 3.7/9, mb1mx3.5/24, mbtmp3.7/9, Error ellipse: s-maj=19.2km s-min=6.8km az=68.0*
*ISCJB **10** 14:43:57.8±0.4, 35.66N±0.03×139.68E±0.05, h87km±3km, mb3.9/7, Error ellipse: s-maj=7.0km s-min=4.4km az=157.9*
*NEIC **10** 14:43:58.5±1.1, 35.61N×139.68E, h78km±9km, mb4.3/1, Error ellipse: s-maj=13.4km s-min=11.4km az=124.0*
*JMA **10** 14:43:59.2±0.1, 35.68N×139.64E, h79km±1km, M3.9 Broadband fault plane solution: P waves. NP1: ϕs19.00000°, δ62.00000°, λ175.00000°. NP2: ϕs112.00000°, δ85.00000°, λ28.00000°. Principal axes: T Plg23.0000°, Azm339.0000°; N Plg61.0000°, Azm120.0000°; P Plg16.0000°, Azm242.0000°;*
JMA Felt II J1.
*NIED **10** 14:44:00, 35.70N×139.60E, h77km, Mw3.9 Best double couple: M0 8.59000×10^14 NP1:ϕs114.00000°, δ88.00000°, λ23.00000°. NP2:ϕs23.00000°, δ67.00000°, λ178.00000°.*
ISC 10 14:43:58.9±0.4**, 35.66N**±0.03×**139.66E**±0.05**, h81km**±3km**, n34,** σ**0.70**/51**, mb3.9**/7**, 7C-1D, Near south coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
TOK	**Tokyo**	**0.08**	**69**	P	**Pn**	**14 44 11.0**	**+0.6**
TOK				S	**Sn**	**14 44 20.0**	**+1.1**
JHU	**Hanno**	**0.37**	**302**	⇑P	**Pn**	**14 44 12.1**	**+0.4**
JHU				S	**Sn**	**14 44 21.0**	**-0.1**
JOD2	**Odawara 2**	**0.61**	**230**	⇑P	**Pn**	**14 44 13.5**	**-0.2**
JOD2				S	**Sn**	**14 44 23.8**	**-0.9**
JRY	**Ryogami san**	**0.72**	**300**	⇑P	**Pn**	**14 44 15.1**	**+0.3**
JRY				S	**Sn**	**14 44 26.8**	**+0.3**
JAG	**Ashikaga**	**0.79**	**348**	⇑P	**Pn**	**14 44 15.5**	**0.0**
JAG				S	**Sn**	**14 44 27.1**	**-0.8**
JYN	**Shimob**	**0.93**	**260**	⇓P	**Pn**	**14 44 17.0**	**-0.1**
JYN				S	**Sn**	**14 44 30.6**	**-0.1**
JIM2	**Oshima 3**	**0.96**	**192**	⇑P	**Pn**	**14 44 17.2**	**-0.3**
JIM2				S	**Sn**	**14 44 30.4**	**-0.9**
BSO3	**Boso 3**	**1.10**	**141**	P	**Pn**	**14 44 19.4**	**+0.2**
BSO3				S	**Sn**	**14 44 35.4**	**+1.1**
JIZS	**Izushimoda**	**1.14**	**215**	P	**Pn**	**14 44 20.0**	**+0.4**
JIZS				S	**Sn**	**14 44 35.7**	**+0.6**
JKT	**Katashina**	**1.16**	**343**	⇑P	**Pn**	**14 44 19.4**	**-0.5**
JKT				S	**Sn**	**14 44 34.8**	**-0.8**
BSO1	**Boso 1**	**1.47**	**132**	P	**Pn**	**14 44 23.6**	**-0.2**
BSO1				S	**Sn**	**14 44 42.4**	**-0.3**
MJAR	**Matsushiro Arr**	**1.47**	**307**	P	**Pn**	**14 44 24.0**	**+0.2**
	44nm,0.3s,baz=128,slow=10,SNR=359						
MJAR				S	**Sn**	**14 44 42.6**	**-0.1**
	132nm,0.3s,baz=145,slow=24,SNR=27						
MAJO	**Matsushiro**	**1.47**	**307**	⇑*e*P	**Pn**	**14 44 23.9**	**0.0**
MAT	**Matsushiro**	**1.47**	**307**	P	**Pn**	**14 44 23.8**	**-0.1**
MAT				S	**Sn**	**14 44 42.5**	**-0.2**
MAT	**Matsushiro**	**1.47**	**307**	P	**Pn**	**14 44 23.9**	**0.0**
MAT				S	**Sn**	**14 44 43.2**	**+0.5**
JHJ	**Hachijo jima 2**	**2.53**	**178**	P	**Pn**	**14 44 38.7**	**+0.8**
	284nm,0.3s,baz=16,slow=4.6,SNR=34						
JHJ				S	**Sn**	**14 45 06.5**	**-1.4**
	43nm,0.3s,baz=90,slow=20,SNR=3.8						
ERM	**Erimo**	**6.91**	**22**	*e*P	**Pn**	**14 45 37.4**	**0.0**
ASAJ	**Asahikawa**	**8.74**	**14**	P	**Pn**	**14 46 01.0**	**-1.4**
	1.8nm,0.3s,baz=198,slow=11,SNR=18						
ASAJ				S	**Sn**	**14 47 34.1**	**-5.2**
	0.1nm,0.3s,baz=128,slow=17,SNR=2.6						
ASAJ	**Asahikawa**	**8.74**	**14**	P	**Pn**	**14 46 01.0**	**-1.4**
ASAJ				S	**Sn**	**14 47 34.1**	**-5.2**
ASAJ				pmax	pmax		
	comp=Z,2.0nm,0.3s						
KSRS	**Korea Array**	**9.62**	**284**	P	**Pn**	**14 46 17.6**	**+3.2**
	comp=Z,0.3nm,0.3s,baz=97,slow=14,SNR=10						
YSS	**Yuzh-Sakhalins**	**11.52**	**11**	*e*P	**Pn**	**14 46 40.4**	**+0.1**
ZALV	**Zalesovo Beam**	**41.82**	**314**	P	**P**	**14 51 40.9**	**+0.4**
	comp=Z,0.5nm,0.4s,mb3.6,baz=102,slow=6.3,SNR=3.3						
MK31	**Makanchi Array**	**43.67**	**303**	P	**P**	**14 51 56.4**	**+0.9**
MKAR	**Makanchi Array**	**43.67**	**303**	P	**P**	**14 51 55.9**	**+0.4**
	comp=Z,0.3nm,0.3s,mb3.6,baz=90,slow=10,SNR=4.9						
MKAR	**Makanchi Array**	**43.67**	**303**	P	**P**	**14 51 55.9**	**+0.4**
KURK	**Kurchatov**	**45.68**	**309**	P	**P**	**14 52 11.8**	**+0.4**
	comp=Z,1.5nm,0.5s,mb4.0,baz=83,slow=7.6,SNR=12						
KURK	**Kurchatov**	**45.68**	**309**	*e*P	**P**	**14 52 11.5**	**+0.1**
KURK				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.1						
KURK	**Kurchatov**	**45.68**	**309**	*e*P	**P**	**14 52 11.5**	**0.0**
	comp=Z,3.4nm,0.8s,mb4.1						
KDAK	**Kodiak Island**	**49.06**	**41**	P	**P**	**14 52 38.6**	**+1.0**
	comp=Z,6.7nm,1.0s,mb4.5,baz=284,slow=4.2,SNR=3.0						
WB2	**Warramunga Arr**	**55.52**	**186**	*e*P	**P**	**14 53 24.9**	**-0.8**
WRA	**Warramunga Arr**	**55.52**	**186**	P	**P**	**14 53 24.7**	**-1.0**
	comp=Z,0.9nm,0.4s,mb4.1,baz=0.9,slow=7.6,SNR=39						
ASAR	**Alice Springs**	**59.25**	**186**	P	**P**	**14 53 52.5**	**+0.6**
	comp=Z,0.3nm,0.5s,mb3.6,baz=15,slow=10,SNR=10						
NOA	**NORSAR Array B**	**74.90**	**337**	P	**P**	**14 55 29.4**	**-1.1**
	comp=Z,0.7nm,0.6s,mb3.5,baz=40,slow=5.9,SNR=3.5						
NOA	**NORSAR Array B**	**74.90**	**337**	P	**P**	**14 55 29.4**	**-1.1**

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*SKHL **10** 15:38:58.4±2.6, 44.23N×149.98E, h43km±12km, mb5.1/2, Ms4.5/1*
*NIED **10** 15:39:00, 44.40N×149.60E, h14km, Mw4.4 Best double couple: M0 3.96000×10^15 NP1:ϕs34.00000°, δ55.00000°, λ89.00000°. NP2:ϕs216.00000°, δ35.00000°, λ92.00000°.*
*MOS **10** 15:39:02.9±1.2, 44.23N×149.49E, h27km, mb4.7/11, Error ellipse: s-maj=12.6km s-min=8.3km az=43.7*
*JMA **10** 15:39:02.5±0.7, 44.37N×149.63E, h30km, M4.5*
*ISCJB **10** 15:39:04.2±0.9, 43.94N±0.05×149.45E±0.07, h42km±7km, mb4.4/34, MS4.0/9, Error ellipse: s-maj=9.8km s-min=7.7km az=44.6*
*BJI **10** 15:39:05.9, 44.01N×149.32E, h51km, mB4.8, mb4.6, Ms4.1, Msz3.9*
*NEIC **10** 15:39:07.9±1.1, 44.20N×149.38E, h53km±9km, mb4.5/9, Error ellipse: s-maj=12.3km s-min=8.5km az=143.0*
*IDC **10** 15:39:08.8±3.2, 44.22N×149.42E, h64km±27km, mb3.7/14, mb1 3.8/17, mb1mx3.8/24, mbtmp3.7/17, ML3.5/3, MS3.8/9, Ms1 3.9/9, ms1mx3.4/35, Error ellipse: s-maj=19.9km s-min=17.6km az=131.0*
ISC 10 15:39:06.3±0.8**, 44.00N**±0.06×**149.43E**±0.07**, h41km**±6km**, h39km**±4.8km**:pP-P, n119,** σ**1.07**/130**, mb4.4**/34**, MS4.0**/9**, 6C-2D, East of Kuril Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**1.66**	**318**	⇑*i*PN	**Pn**	**15 39 26.4**	**-6.5**
KUR				*i* S	**Sn**	**15 39 49.4**	**-3.6**
KUR				pmax	pmax		
	comp=N,330nm,0.7s						
KUR				pmax	pmax		
	comp=E,650nm,0.7s						
KUR				pmax	pmax		
	comp=Z,1μm,0.7s						
KUR				pmax	pmax		
	comp=N,4μm,1.0s						
KUR				smax			
	comp=N,4μm,0.5s						
KUR				smax			
	comp=E,2μm,0.5s						
KUR				smax			
	comp=N,11μm,1.6s						
KUR				smax			
	comp=E,7μm,1.0s						
KUR	**Kuril'sk**	**1.66**	**318**	⇑*i*P	**Pn**	**15 39 26.4**	**-6.5**
KUR				AMB	AMB	15 39 33.6	
	comp=E,330nm,0.7s						
KUR				AMB	AMB	15 39 33.6	
	comp=E,650nm,0.7s						
KUR				AMB	AMB	15 39 33.6	
	comp=E,1μm,0.7s						
KUR				AMB	AMB	15 39 33.6	
	comp=E,4μm,1.0s						
KUR				*i* S	**Sn**	**15 39 49.4**	**-3.6**
KUR				A		15 39 54.0	
	comp=E,4μm,0.5s						
KUR				A		15 39 54.0	
	comp=E,2μm,0.5s						
KUR				A		15 40 10.4	
	comp=E,11μm,1.6s						
KUR				A		15 40 10.4	
	comp=E,7μm,1.6s						
YUK	**Yuzh-Kuril'sk**	**2.57**	**272**	*e*P	**Pn**	**15 39 44.5**	**-0.9**
YUK				AMB	AMB	15 39 57.5	
	comp=E,370nm,0.5s						
YUK				*i* S	**Sn**	**15 40 29.5**	**+14**
YUK				A		15 40 31.2	
	comp=E,1μm,0.5s						
YUK				A		15 40 31.2	
	comp=E,960nm,0.5s						
YUK				A		15 40 37.0	
	comp=E,5μm,1.0s						
YUK				A		15 40 37.0	
	comp=E,3μm,1.0s						
YUK				AMS	AMS	15 41 28.0	
	comp=E,5μm,8.0s						
YUK				AMS	AMS	15 41 28.0	
	comp=E,5μm,11.0s						
NEM2	**Nemuro 2**	**2.75**	**258**	P	**Pn**	**15 39 46.7**	**-1.1**
JRA	**Rausu**	**3.11**	**270**	P	**Pn**	**15 39 53.1**	**+0.3**
JNK	**Nakash**	**3.43**	**265**	P	**Pn**	**15 39 56.9**	**-0.3**

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
JNK				eS	Sn	15 40 36.8	+0.2
JAK	Akkeshi	3.58	255	P	Pn	15 39 58.7	-0.6
JTKR	Abashiri--Toko	3.98	272	P	Pn	15 40 04.9	+0.1
JAR	Ashorobuto	4.16	262	P	Pn	15 40 07.5	+0.2
JOB	Onbets	4.21	257	P	Pn	15 40 08.3	+0.3
JMP	Maruseppu	4.38	272	P	Pn	15 40 10.3	+0.1
JCH	Churui	4.64	255	P	Pn	15 40 13.8	0.0
JCH				eS	Sn	15 41 06.0	-0.3
JKK2	Kamakawa 2	4.82	271	P	Pn	15 40 17.8	+1.5
ASAJ	Asahikawa	4.92	274	P	Pn	15 40 20.8	+3.1
	comp=E,1.4nm,0.3s,baz=147,slow=22,SNR=16						
ASAJ				LR	LR	15 42 27.5	
	comp=E,892nm,19.6s,baz=115,slow=40						
ASAJ	Asahikawa	4.92	274	P	Pn	15 40 20.3	+2.6
ASAJ	Asahikawa	4.92	274	PN	Pn	15 40 20.8	+3.1
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ASAJ				MLR	MLR		
	comp=Z,892nm,19.6s						
JEM	Erimo	5.00	249	P	Pn	15 40 20.1	+1.3
ERM	Erimo	5.01	249	ePN	Pn	15 40 20.2	+1.4
ERM				pmax	pmax		
	comp=Z,50nm,0.5s						
ERM	Erimo	5.01	249	ePn	Pn	15 40 20.2	+1.3
	comp=Z,50nm,0.5s						
JFR	Furan	5.03	263	P	Pn	15 40 20.6	+1.4
JNBK	Urakawa-nobuka	5.18	253	P	Pn	15 40 20.9	-0.3
JAB	Ashibetsu	5.24	267	P	Pn	15 40 24.4	+2.3
JBT2	Biratori 2	5.29	259	P	Pn	15 40 22.8	+0.1
YSS	Yuzh-Sakhalins	5.54	305	ePN	Pn	15 40 27.0	+0.8
YSS				eS	Sn	15 41 31.5	+2.9
YSS				smax			
	comp=Z,50nm,0.9s						
YSS				MLR	MLR		
	comp=E,1µm,15.0s						
YSS				MLR	MLR		
	comp=Z,1µm,15.0s						
YSS	Yuzh-Sakhalins	5.54	305	eP	Pn	15 40 27.0	+0.8
YSS				eS	Sn	15 41 31.5	+2.9
YSS				A		15 41 36.0	
	comp=Z,50nm,0.9s						
YSS				eLQ		15 42 14.0	
YSS				AMS	AMS	15 42 56.0	
	comp=Z,1µm,15.0s						
YSS				AMS	AMS	15 42 56.0	
	comp=Z,1µm,15.0s						
YSS	Yuzh-Sakhalins	5.54	305	ePn	Pn	15 40 27.3	+1.1
	comp=Z,30nm,0.7s						
JEW	Eniwo	5.92	261	P	Pn	15 40 33.0	+1.6
JNB	Noboribetsu	6.32	259	P	Pn	15 40 37.3	+0.5
JNB				eS	Sn	15 41 47.3	-0.3
JKB	Kayabe	6.51	254	P	Pn	15 40 39.5	0.0
JKB				eS	Sn	15 41 49.9	-2.5
JSK	Shakotan	6.52	267	P	Pn	15 40 41.8	+2.2
JANG	Nango	6.90	241	P	Pn	15 40 43.3	-1.6
JANG				eS	Sn	15 41 56.5	-5.5
JTH	Tanohata	6.94	237	P	Pn	15 40 43.2	-2.2
JTH				eS	Sn	15 41 56.8	-6.3
JTM	Tenmabayashi	6.97	245	P	Pn	15 40 45.6	-0.2
JTM				eS	Sn	15 41 59.7	-4.0
JSR	Shiriuchi	7.07	253	P	Pn	15 40 47.9	+0.7
JSR				eS	Sn	15 42 03.9	-2.4
JOSM	Okushiri--Mats	7.54	259	P	Pn	15 40 53.6	0.0
JOSM				eS	Sn	15 42 16.6	-1.1
OFUJ	Ofunato	7.61	232	P	Pn	15 40 52.6	-2.0
JRG	Rokugo	8.02	238	P	Pn	15 41 00.0	-0.3
JIO	Ouri	8.23	230	P	Pn	15 41 01.0	-2.0
JFY	Yanaizu	9.89	232	P	Pn	15 41 25.5	-0.3
PETK	Petropavlovsk-	10.63	28	P	Pn	15 41 35.6	-0.2
	comp=Z,0.6nm,0.3s,baz=213,slow=13,SNR=7.1						
HABR	Khabarovsk	10.91	299	ePN	Pn	15 41 35.2	-4.5
VLA	Vladivostok	12.75	272	PN	Pn	15 42 04.0	-0.9
VLA				MLR	MLR		
	comp=Z,500nm,17.6s						
KLR	Kul'dur	13.22	300	ePN	Pn	15 42 14.3	+3.1
KLR				MLR	MLR		
	comp=N,1µm,15.5s						
KLR				MLR	MLR		
	comp=E,500nm,15.5s						
MDJ	Mudanjiang	14.22	279	P	Pn	15 42 24.8	-0.1
MDJ				AMB	AMB		
	comp=Z,9.0nm,1.1s						
MDJ				AMB	AMB		
	comp=Z,115nm,5.8s						
MDJ	Mudanjiang	14.22	279	eP	Pn	15 42 25.1	+0.2
	comp=Z,9.2nm,1.0s						
CN2	Changchun	17.27	278	eP	Pn	15 43 04.7	+0.4
CN2				AMB	AMB		
	comp=Z,10.0nm,0.6s						
KSRS	Korea Array	17.54	255	P	Pn	15 43 08.4	+0.9
	comp=Z,0.2nm,0.3s,baz=72,slow=7.8,SNR=7.8						
KSRS				LR	LR	15 49 44.8	
	comp=Z,121nm,20.6s,baz=36,slow=36						
SNY	Shenyang	19.03	272	⇓P	Pn	15 43 25.5	-0.2
SNY				AMB	AMB		
	comp=Z,16nm,0.9s						
YAK	Yakutsk	21.45	334	eP	P	15 43 45.8	-5.0
YAK				pmax	pmax		
	comp=Z,19nm,1.2s,mb4.3						
YAK				pmax	pmax		
	comp=N,9.0nm,1.5s						
YAK				pmax	pmax		
	comp=E,7.0nm,1.5s						
YAK				MLR	MLR		
	comp=Z,371nm,24.0s,MS3.7						
YAK				MLR	MLR		
	comp=N,188nm,18.0s						
YAK	Yakutsk	21.45	334	eP	P	15 43 46.5	-4.3
	comp=N,24nm,1.1s,mb4.4						
TIXI	Tiksi	29.47	347	⇑iP	P	15 45 06.7	+0.8
TIXI				pmax	pmax		
	comp=Z,6.0nm,1.0s,mb4.3						
SONM	Songino Array	29.89	293	P	P	15 45 09.8	-0.1
	comp=Z,2.2nm,0.7s,mb4.0,baz=84,slow=10,SNR=7.9						
SONM				LR	LR	15 58 27.4	
	comp=Z,305nm,18.3s,MS4.0,baz=248,slow=39						
GTA	Gaotai	36.87	280	P	P	15 46 10.2	-0.4
IMA2	Indian Mountai	37.55	34	eP	P	15 46 15.9	-0.1
CD2	Chengdu	38.07	266	⇑P	P	15 46 21.3	+0.4
CD2				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb4.5						
ZALV	Zalesovo Beam	42.16	307	P	P	15 46 52.5	-2.0
	comp=Z,0.7nm,0.3s,mb3.7,baz=95,slow=7.7,SNR=4.4						
ZALV				PcP	PcP	15 48 47.5	-0.6
	comp=Z,0.6nm,0.3s,baz=64,slow=3.4,SNR=4.3						
ZALV				LR	LR	16 05 55.2	
	comp=Z,93nm,18.3s,MS3.7,baz=76,slow=38						
ZALV	Zalesovo Beam	42.16	307	P	P	15 46 52.5	-2.0
ZALV						15 48 47.5	
ZALV	Zalesovo Beam	42.16	307	P	P	15 46 52.5	-2.0
ZALV				PcP	PcP	15 48 47.5	-0.6
ZALV				LR	LR	16 05 55.1	
WMQ	Urumqi	43.53	292	eP	P	15 47 06.5	+0.8
MKAR	Makanchi Array	45.92	298	P	P	15 47 24.6	-0.1
	comp=Z,8.0nm,0.9s,mb4.7,baz=73,slow=7.8,SNR=47						
MKAR				LR	LR	16 08 04.3	
	comp=Z,311nm,18.1s,MS4.3,baz=17,slow=38						
KURK	Kurchatov	46.75	304	P	P	15 47 30.4	-0.7
	comp=Z,2.7nm,0.4s,mb4.6,baz=71,slow=8.0,SNR=31						
KURK	Kurchatov	46.75	304	⇑eP	P	15 47 30.1	-1.1
KURK				i *PP	pP	15 47 45.5	+2.8
KURK				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb4.3						
KURK	Kurchatov	46.75	304	P	P	15 47 30.4	-0.7
CMAR	Chiang Mai Arr	49.18	255	P	P	15 47 51.2	+0.9
	comp=Z,0.4nm,0.8s,mb3.5,baz=25,slow=10,SNR=4.6						
CMAR	Chiang Mai Arr	49.18	255	i P	P	15 47 53.2	+2.9
BVAR	Borovoye Array	50.61	310	P	P	15 48 00.3	-0.4
	comp=Z,0.5nm,0.3s,mb3.9,baz=60,slow=8.8,SNR=5.5						
BRVK	Borovoye	50.66	310	eP	P	15 47 59.4	-1.7
BRVK				pmax	pmax		
	comp=Z,2.0nm,0.5s,mb4.3						
BRVK	Borovoye	50.66	310	eP	P	15 47 59.4	-1.7
	comp=Z,2.4nm,0.5s,mb4.4						
TKM2	Tokmak 2	51.88	296	eP	P	15 48 10.8	+0.4
TKM2				pmax	pmax		
	comp=Z,12nm,1.1s,mb4.7						
TKM2	Tokmak 2	51.88	296	P	P	15 48 11.1	+0.7
	SNR=11						
TKM2	Tokmak 2	51.88	296	eP	P	15 48 10.8	+0.4
	comp=Z,12nm,1.1s,mb4.7						
USP	Ospenovka	52.42	297	P	P	15 48 14.9	+0.5
	SNR=9.4						
KBK	Karagaybulak	52.42	296	P	P	15 48 15.2	+0.7
	SNR=7.0						
JIRN	Jiri	52.56	274	eP	P	15 48 16.7	+1.0
GUN	Gumba	52.64	275	eP	P	15 48 17.5	+1.2
RAMN	Ramite	52.68	273	eP	P	15 48 17.1	+0.5
	comp=Z,10nm,0.4s,mb5.1						
KKN	Kakani	53.14	275	eP	P	15 48 20.6	+0.6
PKI	Pulchoki	53.17	275	eP	P	15 48 20.9	+0.7
EKS2	Erkin-Say	53.18	297	P	P	15 48 20.6	+0.6
	SNR=9.7						
EKS2	Erkin-Say	53.18	297	eP	P	15 48 20.2	+0.1
	comp=Z,8.6nm,0.9s,mb4.7						
PKIN	Phulchoki	53.18	275	eP	P	15 48 20.7	+0.4
DMN	Daman	53.37	275	eP	P	15 48 22.4	+0.7
GKN	Gorkha	53.48	275	eP	P	15 48 23.1	+0.6
	comp=Z,30nm,1.2s,mb5.1						
AML	Almayashu	53.49	296	P	P	15 48 23.4	+1.1
	SNR=7.6						
AML	Almayashu	53.49	296	eP	P	15 48 23.1	+0.8
	comp=Z,5.1nm,0.9s,mb4.5						
DANN	Dangsing	53.91	276	eP	P	15 48 26.8	+1.2
	comp=Z,21nm,1.0s,mb5.0						
KOLN	Koldanda	54.36	276	eP	P	15 48 29.0	+0.1
ARU	Arti	55.28	317	⇑eP	P	15 48 33.9	-1.2
ARU				pmax	pmax		
	comp=Z,13nm,1.7s,mb4.7						
ARCES	ARCESS Array B	59.58	340	P	P	15 49 03.5	-1.7
	comp=Z,3.3nm,0.9s,mb4.4,baz=46,slow=10,SNR=3.2						
KBL	Kabul	60.65	291	eP	P	15 49 12.0	-1.1
KBL				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.6						
KBL	Kabul	60.65	291	eP	P	15 49 12.0	-1.0
	comp=Z,4.1nm,0.8s,mb4.6						
JOF	Joensuu	62.62	333	ep	P	15 49 24.0	-1.9
	comp=Z,1.9nm,0.4s,mb4.6						
KAF	Kangasniemi	64.82	334	ep	P	15 49 38.8	-1.6
	comp=Z,0.9nm,0.4s,mb4.2						
KAF	Kangasniemi	64.82	334	eP	P	15 49 38.8	-1.6
KAF				pmax	pmax		
	comp=Z,1.0nm,0.4s,mb4.2						
WRA	Warramunga Arr	65.11	196	P	P	15 49 43.7	+0.9
	comp=Z,0.5nm,0.8s,mb3.6,baz=7.1,slow=6.7,SNR=4.3						
OBN	Obninsk	66.08	325	⇓iP	P	15 49 47.7	-0.9
OBN				e	pP	15 50 00.4	-0.3
OBN				pmax	pmax		
	comp=Z,26nm,1.2s,mb5.1						
VSR	Storozhevoye	67.61	320	eP	P	15 49 57.6	-0.8
VSR				pmax	pmax		
	comp=Z,6.0nm,1.3s,mb4.5						
VSR				pmax	pmax		
	comp=N,8.0nm,1.1s						
VSR				pmax	pmax		
	comp=E,7.0nm,0.8s						
AFI	Afiamalu	67.61	139	LR	LR	16 17 36.6	
	comp=E,78nm,18.7s,MS4.0,baz=27,slow=34						
PDAR	Pinedale Array	68.48	51	P	P	15 50 03.1	-1.0
	comp=E,0.4nm,0.6s,mb3.6,baz=291,slow=4.1,SNR=3.8						
ASAR	Alice Springs	68.82	195	P	P	15 50 07.8	+1.6
	comp=E,0.5nm,0.8s,mb3.5,baz=14,slow=5.2,SNR=7.5						
NB2	NORSAR Subarra	69.95	340	P	P	15 50 11.9	-0.9
	comp=Z,21nm,1.1s,mb5.0,baz=29,slow=6.5						
NOA	NORSAR Array B	69.95	340	P	P	15 50 11.8	-1.0
	comp=Z,6.1nm,0.7s,mb4.6,baz=31,slow=6.2,SNR=19						
NOA				LR	LR	16 27 44.1	
	comp=Z,78nm,18.3s,MS4.0,baz=330,slow=42						
KIV	Kislovodsk	70.81	313	eP	P	15 50 19.1	+0.7
KIV				pmax	pmax		
	comp=Z,8.0nm,1.0s,mb4.6						
KIV				MLR	MLR		
	comp=Z,207nm,19.0s,MS4.4						
GNI	Garni	72.28	309	LR	LR	16 27 05.0	
	comp=Z,58nm,18.4s,MS3.9,baz=48,slow=40						
AKASG	Malin Array Be	72.34	325	P	P	15 50 26.1	-1.3
	comp=Z,0.3nm,0.3s,mb3.7,baz=37,slow=6.6,SNR=12						
OKC	Ostrava-Krasne	77.34	330	eP	P	15 51 00.3	+3.9
OKC				epP	pP	15 51 08.7	+0.1
UPC	Upice	77.52	332	eP	P	15 50 57.3	-0.1
UPC				epP	pP	15 51 08.6	-1.1
DPC	Dobruska-Polom	77.55	331	eP	P	15 50 58.0	+0.4
DPC				epP	pP	15 51 08.3	-1.5
CLL	Collm	77.84	334	e(P)	P	15 51 03.0	+3.9
CLL				e(PcP)	PcP	15 51 10.0	+1.0
KHC	Kasperske Hory	79.52	332	eP	P	15 51 08.4	-0.1
KHC				ex	x	15 51 18.4	
GERES	GERESS Array B	79.73	332	P	P	15 51 09.1	-0.5
	comp=Z,0.5nm,0.3s,mb3.9,baz=59,slow=5.4,SNR=3.5						
GRA1	Grafenberg Arr	79.81	334	eP	P	15 51 10.2	+0.2
	comp=Z,6.0nm,1.1s,mb4.4						
GRF	Grafenberg Arr	79.81	334	eP	P	15 51 10.2	+0.2
GRF				pmax	pmax		
	comp=Z,6.0nm,1.1s,mb4.4						
GRF	Grafenberg Arr	79.81	334	eP	P	15 51 10.2	+0.2
GRF				pmax	pmax		
	comp=Z,6.0nm,1.1s,mb4.4						
GRF	Grafenberg Arr	79.81	334	eP	P	15 51 10.2	+0.2
	comp=Z,6.0nm,1.1s,mb4.4						
TXAR	Lajitas Array	81.14	58	P	P	15 51 17.3	-0.2
	comp=Z,0.8nm,0.5s,mb3.9,baz=294,slow=3.4,SNR=9.1						
LPG	La Plagne	84.93	335	eP	P	15 51 37.3	+0.5
	comp=Z,14nm,1.0s,mb4.8						
ORIF	Oris-en-Rattie	85.72	335	eP	P	15 51 40.9	+0.2
	comp=Z,9.2nm,0.8s,mb4.8						
KEST	Kesra	92.74	328	LR	LR	16 40 31.7	
	comp=Z,36nm,18.1s,MS3.9,baz=226,slow=40						

*NIED **10** 15:41:00, 38.40N×144.70E, h11km, Mw3.9 Best double couple: Mo8.32000×10^14 NP1:φs255.00000°, δ60.00000°, λ-39.00000°. NP2:φs7.00000°, δ57.00000°, λ-143.00000°.*

JMA 10 15:41:17.0±0.2**, 38.35N×144.71E, h39km, M3.5, Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
OFUJ	Ofunato	2.49	288	P	Pn	15 41 56.5	+1.5
OFUJ				eS	Sn	15 42 25.7	+1.6
MIYJ	Miyakonagasawa	2.56	299	P	Pn	15 41 57.2	+1.2
JIO	Ouri	2.64	273	P	Pn	15 41 58.7	+1.6
JIO				S	Sn	15 42 29.7	+1.8
JMK	Ichinoseki	2.80	283	P	Pn	15 42 01.1	+1.9

*ISCJB **10** 15:51:53.8±0.4, 38.43S±0.03×176.49E±0.06, h166km±4km, mb4.0/5, Error ellipse: s-maj=7.9km s-min=4.9km az=19.5*
*IDC **10** 15:51:54.4±0.5, 38.54S×176.49E, h145km±6km, mb3.9/5, mb1 4.0/6, mb1mx3.9/14, mbtmp3.9/6, Error ellipse: s-maj=26.9km s-min=15.5km az=132.0*
*NEIC **10** 15:51:55.6, 38.29S×176.42E, h155km, MG5.1(WEL), After WEL.*
NEIC Felt at Ohiwa.

ISC 10 15:51:54.9±0.4**, 38.42S**±0.03×**176.46E**±0.06**, h159**km±4km**, n89, σ1.06**/87**, mb4.0**/5**, North Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TAZ	Tarawera	0.19	11	P	Pn	15 52 16.4	+0.2
UTU	Utuhina	0.32	319	P	Pn	15 52 16.7	+0.2
EDRZ	Edgecumbe	0.38	35	P	Pn	15 52 16.6	-0.1
LIRZ	Lichensteins R	0.42	352	P	Pn	15 52 16.6	-0.3
KARZ	Kaharoa	0.43	337	P	Pn	15 52 16.6	-0.3
MARZ	Manawahe	0.47	21	P	Pn	15 52 17.0	-0.1
URZ	Urewera	0.54	73	P	Pn	15 52 17.4	0.0
	900nm,0.3s,baz=254,slow=5.1,SNR=6361						
URZ				S	Sn	15 52 32.5	-2.0
	705nm,0.3s,baz=292,slow=12,SNR=51						
URZ	Urewera	0.54	73	P	Pn	15 52 16.8	-0.6
HATZ	Hinemaiaia	0.55	211	P	Pn	15 52 18.3	+0.9
WATZ	Wairara	0.64	243	P	Pn	15 52 18.5	+0.6
RATZ	Rangitukua	0.70	230	P	Pn	15 52 19.1	+0.8
TGRZ	Tauranga	0.71	347	P	Pn	15 52 17.7	-0.7
RITZ	Rihia Road	0.73	220	P	Pn	15 52 19.6	+1.2
BKZ	Black Stump Fm	0.74	178	eP	Pn	15 52 19.0	+0.5
KATZ	Kakaramea	0.81	227	P	Pn	15 52 20.0	+1.0
MWZ	Matawai	0.84	84	P	Pn	15 52 19.5	+0.3
MWZ				S	Sn	15 52 37.5	-0.3
WTVZ	West Tongariro	0.97	224	P	Pn	15 52 21.3	+1.1
NGZ	Ngauruhoe	1.01	221	P	Pn	15 52 21.7	+1.2
TOZ	Tahuroa Road	1.02	312	P	Pn	15 52 19.8	-0.9
TWVZ	Taurewa	1.03	231	P	Pn	15 52 21.6	+0.9
TUVZ	Tukino	1.05	216	P	Pn	15 52 22.4	+1.5
WPVZ	Whakapapa	1.06	222	P	Pn	15 52 22.0	+1.1
WIZ	White Island	1.06	33	P	Pn	15 52 20.3	-0.7
FWVZ	Far West T-bar	1.09	220	P	Pn	15 52 22.4	+1.2
KNZ	Kokohu	1.12	123	P	Pn	15 52 23.1	+1.6
WNVZ	Wahianoa	1.13	216	P	Pn	15 52 23.0	+1.5
MOVZ	Moawhango	1.13	209	P	Pn	15 52 22.7	+1.2
HIZ	Hauiti	1.26	265	P	Pn	15 52 22.7	0.0
PUZ	Puketiti	1.46	77	P	Pn	15 52 25.3	+0.7
PUZ				S	Sn	15 52 46.5	-0.9
VRZ	Vera Road	1.50	242	P	Pn	15 52 25.4	+0.3
MKAZ	Moumakai	1.66	322	P	Pn	15 52 25.4	-1.4
TSZ	Takapari Road	1.68	193	P	Pn	15 52 27.9	+1.0
MXZ	Matakaoa Point	1.69	60	P	Pn	15 52 28.0	+0.9
MXZ				S	Sn	15 52 51.0	-0.8
WAZ	Wanganui	1.76	220	P	Pn	15 52 28.8	+1.0
KUZ	Kuaotunu	1.77	340	P	Pn	15 52 26.6	-1.4
RAEZ	Rainy Point	1.83	241	P	Pn	15 52 30.1	+1.5
OTAZ	Otara	1.91	320	P	Pn	15 52 29.0	-0.5
NEZ	North Egmont	2.03	245	P	Pn	15 52 32.6	+1.8
MTAZ	Motutapu	2.04	323	P	Pn	15 52 30.4	-0.6
WTAZ	Waiatarua	2.11	314	P	Pn	15 52 31.2	-0.6
KAAZ	Kauri Point	2.12	318	P	Pn	15 52 31.1	-0.8
NWEZ	Newall Road	2.20	246	P	Pn	15 52 34.0	+1.2
MRZ	Mangatainoka R	2.34	197	P	Pn	15 52 35.1	+0.7
KIW	Kapiti Island	2.71	206	P	Pn	15 52 39.4	+0.4
MTW	Mount Morrison	2.83	195	P	Pn	15 52 40.8	+0.4
CAW	Cannon Point	2.89	201	P	Pn	15 52 41.5	+0.4
WCZ	Waipu Caves	3.00	325	P	Pn	15 52 41.2	-1.4
PAWZ	Paruwai Farm	3.06	195	P	Pn	15 52 43.6	+0.3
MRW	Makara Radio	3.11	205	P	Pn	15 52 43.9	0.0
MSWZ	Moikau Station	3.13	197	P	Pn	15 52 44.2	0.0
WEL	Wellington	3.14	204	P	Pn	15 52 44.4	+0.1
SNZO	South Karori	3.18	205	P	Pn	15 52 44.7	-0.1
BHW	Baring Head	3.22	202	P	Pn	15 52 45.3	0.0
TCW	Tory Channel	3.25	210	P	Pn	15 52 45.4	-0.3
NNZ	Nelson	3.66	219	P	Pn	15 52 50.3	-0.6
CMWZ	Cape Campbell	3.74	207	P	Pn	15 52 52.2	+0.3
BSWZ	Blackbirch Sta	3.84	210	P	Pn	15 52 52.7	-0.5
QRZ	Quartz Range	3.87	230	P	Pn	15 52 52.6	-1.0
THZ	Tophouse	4.31	218	P	Pn	15 52 58.8	-0.5
KHZ	Kahutara	4.57	208	P	Pn	15 53 02.0	-0.7
DSZ	Denniston Nort	4.88	226	P	Pn	15 53 05.1	-1.6
LTZ	Lake Taylor	5.40	215	P	Pn	15 53 12.0	-1.6
CRLZ	Canterbury Las	5.91	208	P	Pn	15 53 18.3	-2.1
MQZ	McQueen's Vall	6.01	207	P	Pn	15 53 19.5	-2.2
WVZ	Waitaha Valley	6.36	221	P	Pn	15 53 25.0	-1.4
RPZ	Rata Peaks	6.68	216	P	Pn	15 53 29.7	-0.9
	18nm,0.3s,baz=60,slow=2.0,SNR=72						
RPZ				S	Sn	15 54 40.4	-5.3
	26nm,0.3s,baz=58,slow=20,SNR=15						
RPZ	Rata Peaks	6.68	216	P	Pn	15 53 29.3	-1.3
FOZ	Fox Glacier	7.25	223	P	Pn	15 53 34.0	-4.2
LBZ	Lake Benmore	7.60	216	P	Pn	15 53 41.1	-1.7
ODZ	Otahua Downs	7.92	211	P	Pn	15 53 45.0	-2.0
WKZ	Wanaka	8.48	219	P	Pn	15 53 52.4	-2.1
EAZ	Earnscleugh	8.64	216	P	Pn	15 53 55.2	-1.5
MSZ	Milford Sound	8.94	223	P	Pn	15 54 01.0	+0.5
TUZ	Tuapeka	9.07	212	P	Pn	15 54 01.4	-0.9
WHZ	Wether Hill Ro	9.78	218	P	Pn	15 54 10.1	-1.5
DZM	Mont Dzumac	18.43	329	eP	P	15 55 59.6	+1.3
STKA	Stephens Creek	29.12	272	P	P	15 57 43.2	+2.4
	2.7nm,0.8s,mb4.0,baz=97,slow=12,SNR=3.7						
STKA	Stephens Creek	29.12	272	P	P	15 57 43.2	+2.4
ASAR	Alice Springs	38.97	280	P	P	15 59 07.2	+1.6
	5.8nm,0.7s,mb4.3,baz=136,slow=8.8,SNR=152						
ASAR				PcP	PcP	16 01 12.7	-0.2
	0.8nm,0.4s,baz=122,slow=3.8,SNR=7.3						
WRA	Warramunga Arr	40.72	285	P	P	15 59 21.2	+1.0
	1.8nm,0.6s,mb3.9,baz=123,slow=7.7,SNR=51						
KSRS	Korea Array	87.76	323	P	P	16 04 27.1	+1.5
	2.9nm,0.8s,mb4.2,baz=146,slow=5.4,SNR=11						
CMAR	Chiang Mai Arr	91.92	292	P	P	16 04 46.2	+0.7
	0.2nm,0.4s,mb3.5,baz=136,slow=4.6,SNR=4.5						
MKAR	Makanchi Array	119.27	308	PKP	PKPdf	16 10 24.1	-0.5
	0.2nm,0.3s,baz=141,slow=0.9,SNR=2.7						
ARCES	ARCESS Array B	145.17	343	PKPbc	PKPbc	16 11 12.8	+0.6
	7.7nm,0.7s,baz=29,slow=2.8,SNR=31						
ARCES	ARCESS Array B	145.17	343	PKPbc	PKPbc	16 11 12.8	+0.6
JOF	Joensuu	147.70	331	ep	PKPbc	16 11 19.6	-0.1
	1.5nm,0.3s						
KAF	Kangasniemi	150.06	332	ep	PKPbc	16 11 25.6	-0.1
	1.0nm,0.4s						
TORD	Torodi Ar. Bea	154.40	192	PKPbc	PKPbc	16 11 38.1	+1.2
	0.4nm,0.6s,baz=183,slow=4.7,SNR=7.4						
TORD				PKPab	PKPab	16 11 53.4	+1.8
	0.8nm,0.6s,baz=162,slow=4.1,SNR=6.1						
NOA	NORSAR Array B	155.55	343	PKPab	PKPab	16 11 54.6	-0.7
	1.2nm,0.7s,baz=25,slow=3.4,SNR=3.3						

*IDC **10** 16:04:15.4±1.8, 3.12S×100.34E, h0km, mb4.3/9, mb1 4.4/10, mb1mx4.1/21, mbtmp4.3/10, ML4.5/1, MS3.6/2, Ms1 3.7/2, ms1mx3.1/23, Error ellipse: s-maj=60.6km s-min=13.3km az=55.0*
*BJI **10** 16:04:18.3, 3.43S×100.38E, h60km, mB5.0, mb4.6*
*MOS **10** 16:04:19.2±1.4, 2.89S×100.47E, h33km, mb4.9/8, Error ellipse: s-maj=25.6km s-min=9.7km az=103.5*
*NEIC **10** 16:04:21.2±0.8, 2.94S×100.50E, h35km, mb4.6/8, Error ellipse: s-maj=29.8km s-min=7.9km az=54.0*
*DJA **10** 16:04:21.6±0.9, 3S±5×100E±, h15km, mB5.8/3, Mjma4.0/9, MLv4.6/10, Mw(mB)5.5/3, Mwp4.5/3*
*ISCJB **10** 16:04:21.2±1.4, 3.06S±0.07×100.36E±0.10, h60km±10km, mb4.7/36, Error ellipse: s-maj=19.0km s-min=6.5km az=145.6*

ISC 10 16:04:22.6±1.4**, 3.06S**±0.08×**100.38E**±0.10**, h53**km±10km**, n72, σ0.98**/70**, mb4.7**/36**, 4C-1D, Southern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PDSI	Padang	2.14	2	P	Pn	16 04 53.9	-2.0
	0.0nm,0.0s						
PDSI	Padang	2.14	2	S	Sn	16 05 21.0	-0.3
KSI	Kapahiang	2.28	105	P	Pn	16 04 56.4	-1.5
	0.0nm,0.0s						
KSI	Kapahiang	2.28	105	P	Pn	16 04 57.3	-0.6
PPI	Padang Panjang	2.59	0	P	Pn	16 05 00.8	-1.3
	0.0nm,0.0s						
PPI	Padang Panjang	2.59	0	S	Sn	16 05 34.1	+1.7
RGRI	Rengat	3.33	36	P	Pn	16 05 12.9	+0.7
	0.0nm,0.0s						
RGRI	Rengat	3.33	36	P	Pn	16 05 12.5	+0.3
DSRI	Dabo	4.92	59	P	Pn	16 05 34.5	+0.5
	0.0nm,0.0s						
TRSI	Tarutung	5.25	344	P	Pn	16 05 37.6	-1.0
MYKOM	Kota Tinggi	5.94	36	P	Pn	16 05 48.8	+0.8
CBJI	Citeko	7.25	118	P	Pn	16 06 08.7	+2.6
	0.0nm,0.0s						
CBJI	Citeko	7.25	118	P	Pn	16 06 08.2	+2.1
	178nm,0.7s						
SKJI	Sukabumi	7.29	123	P	Pn	16 06 09.8	+3.2
IPM	Ipoh	7.52	5	P	Pn	16 06 10.2	+0.5
	21nm,0.7s,303nm0.1nm						
KAPI	Kappang	19.42	96	P	Pn	16 08 45.4	-0.9
	1.5nm,0.3s,baz=279,slow=9.9,SNR=6.8						
KAPI	Kappang	19.42	96	eP	Pn	16 08 44.2	-2.1
	9.9nm,0.8s						
CM31	Chiang Mai Arr	21.43	356	eP	P	16 09 05.5	-0.9
CMAR	Chiang Mai Arr	21.43	356	P	P	16 09 04.3	-2.1
	4.2nm,0.7s,mb3.9,baz=183,slow=9.1,SNR=27						
CMAR				LR	LR	16 19 52.0	
	comp=Z,104nm,18.1s,baz=175,slow=44						
CMAR	Chiang Mai Arr	21.43	356	i P	P	16 09 04.6	-1.8
CMAR				pmax	pmax		
	comp=Z,4.0nm,0.7s						
CHTO	Chiang Mai	21.79	356	eP	P	16 09 06.4	-3.8
CHTO				pmax	pmax		
	comp=Z,5.0nm,0.9s,mb3.9						
CHTO	Chiang Mai	21.79	356	eP	P	16 09 06.4	-3.7
	comp=Z,4.5nm,0.9s,mb3.9						
FITZ	Fitzroy Crossi	28.91	123	P	P	16 10 15.8	-1.0
	comp=Z,1.2nm,0.6s,mb3.8,baz=335,slow=17,SNR=3.0						
FITZ	Fitzroy Crossi	28.91	123	eP	P	16 10 16.4	-0.4
ODAN	Odare	32.29	338	eP	P	16 10 47.7	+1.2
	comp=Z,16nm,0.5s,mb5.1						
TAPN	Taplejung	32.61	339	eP	P	16 10 50.5	+1.1
	comp=Z,16nm,0.4s,mb5.3						
RAMN	Ramite	32.67	337	eP	P	16 10 51.3	+1.4
	comp=Z,11nm,0.4s,mb5.1						
JIRN	Jiri	33.47	337	eP	P	16 10 57.4	+0.6
	comp=Z,14nm,0.4s,mb5.3						
PKI	Pulchoki	33.70	336	eP	P	16 10 58.9	0.0
	comp=Z,10nm,0.7s,mb4.9						
PKI	Pulchoki	33.70	336	eP	P	16 10 59.6	+0.7
PKIN	Phulchoki	33.71	336	eP	P	16 10 59.6	+0.6
	comp=Z,5.7nm,0.6s,mb4.7						
LSA	Lhasa	33.76	345	eP	P	16 11 01.2	+1.9
LSA	Lhasa	33.76	345	eP	P	16 11 00.4	+1.1

LSA				pmax	pmax		
	comp=Z,8.0nm,0.6s,mb4.8						
LSA	**Lhasa**	**33.76**	**345**	*e*P	**P**	**16 11 00.3**	**+1.1**
	comp=Z,8.0nm,0.6s,mb4.8						
GUN	**Gumba**	**33.81**	**337**	*e*P	**P**	**16 10 59.8**	**0.0**
	comp=Z,38nm,0.5s,mb5.6						
DMN	**Daman**	**33.86**	**335**	*e*P	**P**	**16 10 59.6**	**-0.6**
	comp=Z,12nm,0.6s,mb5.0						
KKN	**Kakani**	**33.95**	**336**	*e*P	**P**	**16 11 00.5**	**-0.5**
	comp=Z,28nm,0.6s,mb5.3						
GKN	**Gorkha**	**34.41**	**335**	*e*P	**P**	**16 11 05.3**	**+0.4**
	comp=Z,16nm,0.3s,mb5.4						
KOLN	**Koldanda**	**34.66**	**333**	*e*P	**P**	**16 11 06.3**	**-0.8**
	comp=Z,22nm,0.6s,mb5.2						
DANN	**Dangsing**	**35.09**	**334**	*e*P	**P**	**16 11 11.5**	**+0.7**
	comp=Z,28nm,0.4s,mb5.5						
WRA	**Warramunga Arr**	**37.13**	**119**	P	**P**	**16 11 27.5**	**-1.0**
	comp=Z,2.1nm,0.6s,mb4.2,baz=298,slow=8.8,SNR=40						
XAN	**Xi'an**	**37.77**	**12**	P	**P**	**16 11 32.8**	**-0.8**
XAN				AMB	AMB		
	comp=Z,18nm,0.8s,mb4.8						
XAN				AMB	AMB		
	comp=Z,28nm,5.9s						
ASAR	**Alice Springs**	**38.33**	**125**	P	**P**	**16 11 38.5**	**0.0**
	comp=Z,1.7nm,0.3s,mb4.2,baz=299,slow=8.1,SNR=24						
ASAR				S	**S**	**16 17 34.2**	**+4.9**
	comp=Z,0.6nm,0.8s,baz=303,slow=18,SNR=4.4						
LZH	**Lanzhou**	**39.08**	**4**	*e*P	**P**	**16 11 45.0**	**+0.4**
LZH				AMB	AMB		
	comp=Z,22nm,1.4s,mb4.7						
LZH				AMB	AMB		
	comp=Z,81nm,4.3s						
LZH	**Lanzhou**	**39.08**	**4**	*e*P	**P**	**16 11 45.0**	**+0.4**
	comp=Z,22nm,1.4s,mb4.7						
LZH				pP	pP	16 11 51.2	-7.3
LZH				sP	sP	16 11 55.0	-10
GTA	**Gaotai**	**42.27**	**359**	*e*P	**P**	**16 12 11.1**	**+0.3**
GTA				AMB	AMB		
	comp=Z,4.0nm,1.1s,mb4.0						
KSRS	**Korea Array**	**47.74**	**30**	P	**P**	**16 12 54.5**	**+0.2**
	comp=Z,0.7nm,0.4s,mb4.0,baz=224,slow=7.0,SNR=5.6						
STKA	**Stephens Creek**	**48.16**	**131**	P	**P**	**16 12 58.1**	**+0.4**
	comp=Z,1.4nm,0.4s,mb4.4,baz=298,slow=11,SNR=5.1						
STKA	**Stephens Creek**	**48.16**	**131**	*e*P	**P**	**16 12 58.3**	**+0.5**
TKM2	**Tokmak 2**	**50.95**	**337**	*e*P	**P**	**16 13 18.9**	**+0.1**
TKM2				pmax	pmax		
	comp=Z,3.0nm,0.4s,mb4.6						
TKM2	**Tokmak 2**	**50.95**	**337**	*e*P	**P**	**16 13 18.9**	**+0.2**
	comp=Z,2.7nm,0.4s,mb4.5						
SONM	**Songino Array**	**50.96**	**5**	P	**P**	**16 13 19.9**	**+1.2**
	comp=Z,5.3nm,0.7s,mb4.6,baz=189,slow=9.4,SNR=18						
AML	**Almayashu**	**51.08**	**335**	*e*P	**P**	**16 13 20.4**	**+0.7**
	comp=Z,3.4nm,0.6s,mb4.5						
EKS2	**Erkin-Say**	**51.48**	**335**	*e*P	**P**	**16 13 23.0**	**+0.3**
	comp=Z,4.3nm,0.5s,mb4.6						
CN2	**Changchun**	**51.80**	**23**	*e*P	**P**	**16 13 25.0**	**-0.1**
MK31	**Makanchi Array**	**52.15**	**344**	*e*P	**P**	**16 13 27.7**	**+0.1**
MKAR	**Makanchi Array**	**52.15**	**344**	P	**P**	**16 13 27.9**	**+0.3**
	comp=Z,8.1nm,0.7s,mb4.8,baz=148,slow=8.0,SNR=85						
MKAR	**Makanchi Array**	**52.15**	**344**	P	**P**	**16 13 27.9**	**+0.3**
HIA	**Hailar**	**54.76**	**15**	⇑*i*P	**P**	**16 13 46.1**	**-0.6**
KURK	**Kurchatov**	**56.73**	**344**	*e*P	**P**	**16 14 00.2**	**-0.6**
KURK				pmax	pmax		
	comp=Z,7.0nm,0.3s,mb5.2						
KURK	**Kurchatov**	**56.73**	**344**	*e*P	**P**	**16 14 00.1**	**-0.6**
	comp=Z,7.2nm,0.3s,mb5.2						
ZAA0	**Zalesovo Array**	**58.28**	**349**	*e*P	**P**	**16 14 11.2**	**-0.4**
ZALV	**Zalesovo Beam**	**58.28**	**349**	P	**P**	**16 14 11.5**	**-0.1**
	comp=Z,6.4nm,0.7s,mb4.7,baz=160,slow=4.7,SNR=28						
YSS	**Yuzh-Sakhalins**	**62.18**	**31**	⇑*i*P	**P**	**16 14 38.0**	**-0.5**
YSS				pmax	pmax		
	comp=Z,30nm,1.6s,mb5.2						
ARU	**Arti**	**68.33**	**337**	⇑*i*P	**P**	**16 15 15.9**	**-2.2**
ARU				pmax	pmax		
	comp=Z,9.0nm,1.7s,mb4.5						
YAK	**Yakutsk**	**68.67**	**14**	⇓*i*P	**P**	**16 15 19.5**	**-0.6**
YAK				pmax	pmax		
	comp=Z,8.0nm,1.3s,mb4.5						
KIV	**Kislovodsk**	**69.59**	**319**	*e*P	**P**	**16 15 26.6**	**+0.4**
KIV				pmax	pmax		
	comp=Z,5.0nm,1.0s,mb4.4						
VSR	**Storozhevoye**	**74.86**	**325**	*e*P	**P**	**16 15 56.3**	**-1.2**
VSR				pmax	pmax		
	comp=N,2.0nm,0.7s						
VSR				pmax	pmax		
	comp=Z,2.0nm,0.7s,mb4.2						
VSR				pmax	pmax		
	comp=E,5.0nm,0.8s						
BOSA	**Boshof**	**75.48**	**241**	LR	LR	16 44 38.8	
	comp=E,55nm,19.3s,baz=126,slow=32						
TIXI	**Tiksi**	**76.84**	**9**	⇑*i*P	**P**	**16 16 09.9**	**+1.5**
TIXI				pmax	pmax		
	comp=Z,12nm,1.7s,mb4.5						
TXAR	**Lajitas Array**	**145.30**	**39**	PKPbc	PKPbc	16 23 56.4	+1.4
	comp=Z,4.3nm,0.7s,baz=299,slow=0.9,SNR=38						
JCT	**Junction City**	**146.71**	**33**	*e*PKP2	PKPab	16 23 59.6	-0.8

IDC 10 16:24:24.7±9.2**,2324S**×**6649W,h209**km±77km**,mb3.1**/1**,**
mb1 3.2/2**,mb1mx3.0**/14**,mbtmp3.1**/2**,Error ellipse:**
s-maj=82.4km s-min=75.3km az=178.0,Jujuy Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**7.08**	**347**	P	Pn	16 26 07.4	+1.2
	0.7nm,0.3s,baz=171,slow=11,SNR=15						
LPAZ				S	Sn	16 27 27.6	+0.6
	baz=24,slow=20,SNR=2.4						
TORD	**Torodi Ar. Bea**	**75.86**	**69**	P	P	16 35 48.3	-0.2
	0.3nm,0.4s,baz=256,slow=5.8,SNR=4.9						
WRA	**Warramunga Arr**	**132.52**	**207**	PKP	PKPdf	16 43 13.6	-1.5
	0.2nm,0.8s,baz=150,slow=1.9,SNR=3.8						
MKAR	**Makanchi Array**	**145.64**	**39**	PKPbc	PKPbc	16 43 38.6	0.0
	0.1nm,0.3s,baz=317,slow=4.1,SNR=4.0						

IDC 10 16:47:09.9±9.2**,1837N**×**14700E,h71**km±64km**,mb3.1**/3**,**
mb1 3.4/4**,mb1mx3.2**/19**,mbtmp3.2**/4**,Error ellipse:**
s-maj=112.7km s-min=31.0km az=83.0,Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**5.17**	**204**	P	Pn	16 48 24.3	-0.6
	baz=29,slow=19						
GUMO				S	Sn	16 49 24.2	+1.0
	2.4nm,0.3s,baz=11,slow=18,SNR=3.5						
WRA	**Warramunga Arr**	**40.05**	**199**	P	P	16 54 38.0	-0.3
	0.3nm,0.6s,baz=19,slow=8.0,SNR=5.4						
ASAR	**Alice Springs**	**43.69**	**198**	P	P	16 55 08.0	0.0
	0.2nm,0.7s,baz=14,slow=7.3,SNR=5.4						
MKAR	**Makanchi Array**	**59.59**	**314**	P	P	16 57 06.5	+0.2
	0.2nm,0.2s,baz=113,slow=6.7,SNR=4.2						

*ISCJB **10** 16:56:38.8±2.5, 220S±02×1792W±02, h530km±40km, mb3.8/5, Error ellipse: s-maj=35.2km s-min=29.3km az=141.3*
*IDC **10** 16:56:38.9±3.2, 2221S×17897W, h536km±21km, mb3.3/5, mb1 3.5/6, mb1mx3.2/17, mbtmp3.4/6, Error ellipse: s-maj=83.4km s-min=22.9km az=147.0*
*NEIC **10** 16:56:40.8±1.6, 2190S×179.16W, h545km±23km, mb4.0/1, Error ellipse: s-maj=27.9km s-min=19.1km az=146.0*
ISC 10 16:56:39.9±2.2**,220S**±02×**1792W**±02**,h526**km±37km**,n12,**
σ**0s55**/10**,mb3.8**/5**,Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**10.68**	**43**	P	**P**	**16 59 04.6**	**-0.2**
	1.6nm,0.3s,baz=295,slow=14,SNR=3.4						
AFI	**Afiamalu**	**10.68**	**43**	*e*P	**P**	**16 59 05.1**	**+0.3**
CTA	**Charters Tower**	**32.24**	**267**	P	**P**	**17 02 25.8**	**+0.7**
	2.4nm,0.5s,mb4.0,baz=102,slow=9.0,SNR=6.8						
CTA	**Charters Tower**	**32.24**	**267**	P	**P**	**17 02 25.8**	**+0.7**
CTAO	**Charters Tower**	**32.24**	**267**	*e*P	**P**	**17 02 25.8**	**+0.7**
	2.0nm,0.5s,mb3.9						
ASAR	**Alice Springs**	**43.09**	**258**	P	**P**	**17 03 53.5**	**-0.2**
	3.7nm,0.8s,mb4.0,baz=100,slow=7.6,SNR=52						
ASAR				ScP	ScP	17 08 30.6	-2.3
	0.3nm,0.7s,baz=94,slow=4.1,SNR=4.4						
WRA	**Warramunga Arr**	**43.29**	**264**	P	**P**	**17 03 54.5**	**-0.7**
	3.4nm,0.8s,mb3.9,baz=101,slow=8.8,SNR=41						
WRA				ScP	ScP	17 08 31.4	-2.3
	0.2nm,0.9s,baz=99,slow=3.9,SNR=6.2						
SBA	**Scott Base**	**56.36**	**184**	*e*P	**P**	**17 05 30.3**	**-0.1**
MJAR	**Matsushiro Arr**	**70.71**	**325**	P	**P**	**17 07 02.2**	**-0.5**
	1.1nm,0.7s,mb3.5,baz=147,slow=5.4,SNR=3.5						
CMAR	**Chiang Mai Arr**	**89.53**	**290**	P	**P**	**17 08 42.3**	**+0.8**
	1.2nm,0.9s,mb3.7,baz=133,slow=3.3,SNR=9.9						
AKASG	**Malin Array Be**	**143.70**	**329**	PKP	PKPdf	17 15 11.5	-3.2
	1.7nm,0.5s,baz=44,slow=4.1,SNR=8.4						
CLL	**Collm**	**149.19**	**345**	*e*PKPbc	PKPbc	17 15 27.0	-1.7

*ATH **10** 17:05:30.8, 3640N×28.10E, h55km, MD3.2/4*
*CSEM **10** 17:05:31.4±0.2, 3642N×2768E, h2km, MD3.0, Error ellipse: s-maj=5.5km s-min=4.0km az=75.0*
*ISCJB **10** 17:05:32.5±0.6, 3641N±004×2767E±006, h10km, Error ellipse: s-maj=7.4km s-min=4.8km az=146.7*
*ISK **10** 17:05:32.5, 3641N×2763E, h31km, MD3.1*
*DDA **10** 17:05:34.3, 3653N×2782E, h16km±41km, Md3.0*
ISC 10 17:05:32.5±0.8**,3639N**±004×**2768E**±006**,h4**km±8km**,n18,**
σ**1s19**/25**,Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARG	**Arkhangelos**	**0.40**	**115**	*e*P	**Pg**	**17 05 40.1**	**-0.1**
ARG	**Arkhangelos**	**0.40**	**115**	*e*P	**Pg**	**17 05 40.1**	**-0.1**
BDRM	**Kayabasi**	**0.70**	**344**	*i* P	**Pg**	**17 05 45.4**	**-0.7**
BDRM				*i* S	**Sg**	**17 05 57.4**	**+2.1**
BODT	**Bodrum**	**0.74**	**336**	*e*PG	**Pg**	**17 05 46.2**	**-0.5**
BODT				*e*SG	**Sg**	**17 05 56.5**	**+0.2**
TURN	**Turunc**	**0.89**	**56**	*i* P	**Pg**	**17 05 42.5**	**-7.1**
TURN				*i* S	**Sg**	**17 05 53.3**	**-7.8**
YER	**Yerkesik**	**0.89**	**33**	*e*PG	**Pg**	**17 05 48.5**	**-1.1**
MLSB	**Milas**	**0.91**	**5**	*e*PG	**Pg**	**17 05 49.6**	**-0.4**
KARP	**Karpathos**	**0.94**	**207**	*e*P	**Pg**	**17 05 51.7**	**+1.2**
KARP	**Karpathos**	**0.94**	**207**	*e*P	**Pg**	**17 05 51.7**	**+1.2**
AYDN	**Tasoluk**	**1.28**	**7**	*i* P	**Pg**	**17 05 55.3**	**-1.8**
AYDN				*i* S	**Sg**	**17 06 15.1**	**+1.3**
GCAM	**G?zelcaml?**	**1.36**	**345**	*i* P	**Pn**	**17 05 55.2**	**-3.1**
GCAM				*i* S	**Sg**	**17 06 17.2**	**+0.9**
SMG	**Samos**	**1.48**	**333**	*e*P	**Pn**	**17 05 58.6**	**-1.3**
SMG	**Samos**	**1.48**	**333**	*e*P	**Pn**	**17 05 58.6**	**-1.3**
AKAS	**Kas**	**1.56**	**95**	*i* P	**Pn**	**17 06 00.7**	**-0.3**
AKAS				*i* S	**Sn**	**17 06 23.5**	**+1.8**
GOLH	**Golhisar**	**1.73**	**60**	*i* P	**Pn**	**17 06 04.3**	**+0.9**
GOLH				*i* S	**Sn**	**17 06 31.4**	**+5.6**
ELL	**Elmali**	**1.83**	**78**	*e*PN	**Pn**	**17 06 03.4**	**-1.3**
NPS	**Neapolis**	**2.02**	**237**	*e*P	**Pn**	**17 06 07.5**	**+0.2**
NPS	**Neapolis**	**2.02**	**237**	*e*P	**Pn**	**17 06 07.5**	**+0.2**

IDC 10 17:15:44.8±2.7**,212N**×**9690E,h25**km±6km**,mb3.5**/4**,**
mb1 3.7/5**,mb1mx3.4**/20**,mbtmp3.6**/5**,ML3.6**/1**,Error**
ellipse: s-maj=119.6km s-min=16.7km az=57.0,
Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**16.36**	**7**	Pn	Pn	17 19 34.1	+1.3
	0.1nm,0.3s,baz=197,slow=12,SNR=24						
WRA	**Warramunga Arr**	**42.77**	**123**	P	P	17 23 40.4	-0.2
	0.7nm,0.9s,baz=300,slow=9.2,SNR=7.2						
WRA				pP	pP	17 23 47.9	-0.4
	0.6nm,0.6s,baz=300,slow=9.2,SNR=4.9						
ASAR	**Alice Springs**	**44.19**	**128**	P	P	17 23 52.1	+0.1
	0.4nm,0.9s,baz=302,slow=7.8,SNR=4.2						
ASAR				pP	pP	17 24 00.2	+0.6
	0.3nm,0.8s,baz=301,slow=7.7,SNR=2.1						
MKAR	**Makanchi Array**	**46.28**	**346**	P	P	17 24 08.2	-0.1
	1.5nm,0.7s,baz=162,slow=7.2,SNR=14						
MKAR				pP	pP	17 24 16.5	+0.6
	0.4nm,0.4s,baz=161,slow=8.6,SNR=3.3						
ZALV	**Zalesovo Beam**	**52.60**	**351**	P	P	17 24 56.2	-0.2
	1.4nm,0.6s,baz=172,slow=7.0,SNR=8.2						
ZALV				pP	pP	17 25 03.5	-0.7
	0.8nm,0.4s,baz=162,slow=7.4,SNR=4.1						

PGC 10 17:50:42.0,5288N×**12407W,h27**km±3km**,ML2.7**/16**,**
Mw3.9,1D,144km southwest of Prince George, Bc
Central British Columbia.,British Columbia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THMB	**Thunder Mounta**	**0.34**	**186**	⇓P	Pb	17 50 49.8	+0.2
THMB				S	Sb	17 50 55.5	+0.7
SULB	**Vanderhoof**	**0.43**	**337**	⇑P	Pb	17 50 51.2	+0.1
SULB				S	Sb	17 50 57.9	+0.6
ALRB	**Anaheim Lake**	**0.72**	**239**	P	Pb	17 50 55.7	-0.1
ALRB				S	Sb	17 51 06.3	+0.9
TALB	**Tatla Lake BC**	**0.88**	**187**	P	Pn	17 50 58.3	-0.2
TALB				S	Sb	17 51 10.5	+0.7
CLSB	**Cack Lake**	**0.93**	**97**	P	Pn	17 50 59.1	-0.2
CLSB				S	Sb	17 51 12.2	+0.8
FLLB	**Fletcher Lake**	**1.29**	**152**	P	Pn	17 51 05.4	+1.2
FLLB				Sg	Sn	17 51 22.7	+2.2
FSB	**Fort Saint Jam**	**1.60**	**355**	Pn	Pn	17 51 08.9	+0.4
FSB				Pg	Pn	17 51 14.3	+5.8
FSB				Sg	Sn	17 51 31.3	+3.0
FSB				Trac		17 51 32.7	
	comp=Z,33nm,0.2s						
BBB	**Bella Bella**	**2.56**	**256**	Pn	Pn	17 51 26.1	+4.4
BBB				Sg	Sn	17 52 00.9	+8.9
BBB				Trac		17 52 02.6	
	comp=Z,12nm,0.2s						
LLLB	**Lillooet**	**2.65**	**148**	Pn	Pn	17 51 22.7	-0.2
LLLB				Sg	Sn	17 52 03.1	+9.0
LLLB				Trac		17 52 06.3	
	comp=Z,22nm,0.4s						
PHC	**Port Hardy**	**3.02**	**225**	Trac		17 52 15.9	
	comp=Z,11nm,0.6s						
PHC	**Port Hardy**	**3.02**	**225**	Sg	Sn	17 52 12.4	+9.3
BLBC	**Blue River**	**3.07**	**104**	Pn	Pn	17 51 28.4	-0.3
BLBC				Sg	Sn	17 52 17.7	+13
BLBC				Trac		17 52 22.8	
	comp=Z,16nm,0.4s						
WOSB	**Woss**	**3.14**	**211**	Pn	Pn	17 51 27.7	-2.0
WOSB				Sg	Sn	17 52 18.6	+12
WOSB				Trac		17 52 18.8	
	comp=Z,4.0nm,0.3s						
MAYB	**Maynard**	**3.15**	**219**	Sg	Sn	17 52 17.2	+11
MAYB				Trac		17 52 21.9	
	comp=Z,2.0nm,0.2s						
TXB	**Texada**	**3.20**	**184**	Pn	Pn	17 51 31.7	+1.2
TXB				Sg	Sn	17 52 17.1	+10
TXB				Trac		17 52 20.3	
	comp=Z,4.0nm,0.2s						
SHB	**Sechelt**	**3.29**	**178**	Pg	Pn	17 51 40.5	+8.8
SHB				Sg	Sn	17 52 21.4	+11
SHB				Trac		17 52 25.3	
	comp=Z,20nm,0.3s						
BMBC	**Bull Mountain**	**3.37**	**19**	Trac		17 52 30.2	
	comp=Z,6.0nm,0.2s						
BMBC	**Bull Mountain**	**3.37**	**19**	Sg	Sn	17 52 24.8	+13
HOLB	**Holberg**	**3.38**	**230**	Sg	Sn	17 52 25.2	+13
HOLB				Trac		17 52 29.3	
	comp=Z,6.0nm,0.2s						
MNB	**Mounoet Dainar**	**3.54**	**99**	Pn	Pn	17 51 33.7	-1.4
MNB				Pg	Pn	17 51 46.2	+11
MNB				Sg	Sn	17 52 33.0	+17
MNB				Trac		17 52 40.2	
	comp=Z,8.0nm,0.4s						
DOWB	**Downie Slide**	**3.68**	**110**	Pn	Pn	17 51 36.6	-0.5
DOWB				Sg	Sn	17 52 35.2	+16
DOWB				Trac		17 52 39.1	
	comp=Z,43nm,0.3s						
RUBB	**Prince Rupert**	**3.96**	**294**	Pn	Pn	17 51 45.5	+4.7
RUBB				Sg	Sn	17 52 42.8	+17
RUBB				Trac		17 52 47.3	
	comp=Z,28nm,0.4s						
SLEB	**Sale Mountain**	**4.05**	**113**	Trac		17 52 55.1	
	comp=Z,11nm,0.5s						
SLEB	**Sale Mountain**	**4.05**	**113**	Sg	Sn	17 52 47.0	+18
PNT	**Penticton**	**4.54**	**140**	Trac		17 53 06.0	
	comp=Z,7.0nm,0.3s						
PNT	**Penticton**	**4.54**	**140**	Sg	Sn	17 53 01.2	+20

*ISCJB **10** 18:03:25.1±0.5, 5990N±004×14743W±006, h36km±9km, mb3.5/6, Error ellipse: s-maj=6.0km s-min=4.7km az=169.6*
*NEIC **10** 18:03:26.3, 5996N×14741W, h12km, ML3.9(PMR), ML4.0(AEIC), After AEIC.*
NEIC Felt at Anchorage and Valdez.
*IDC **10** 18:03:27.8±0.8, 60.14N×14763W, h27km±5km, mb3.3/6, mb1 3.7/8, mb1mx3.5/20, mbtmp3.5/8, ML3.8/2, MS2.7/1, Ms1 2.7/1, ms1mx2.4/30, Error ellipse: s-maj=22.1km s-min=14.6km az=8.0*
ISC 10 18:03:25.5±1.6**,5993N**±003×**14746W**±005**,h19**km±12km**,**
h30km±.6km**:pP-P,n47,**σ**0s79**/50**,mb3.5**/6**,Gulf of Alaska**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MID	**Middleton Isla**	**0.76**	**131**	P	**Pb**	**18 03 39.5**	**-0.5**
SEW	**Seward**	**1.01**	**281**	P	**Pb**	**18 03 44.3**	**-0.1**
SEW				S	**Sb**	**18 03 58.6**	**+1.2**
EYAK	**Cordova Ski Ar**	**1.06**	**53**	P	**Pb**	**18 03 43.9**	**-1.3**
EYAK				S	**Sb**	**18 03 58.0**	**-0.6**
RAGM	**Ragged Mountai**	**1.47**	**70**	P	**Pn**	**18 03 50.1**	**-0.8**
SLKM	**Skilak Lake**	**1.50**	**294**	P	**Pn**	**18 03 50.7**	**-0.6**
KNK	**Knik Glacier**	**1.57**	**342**	P	**Pn**	**18 03 51.5**	**-0.8**
RC01	**Rabbit Creek A**	**1.62**	**317**	P	**Pn**	**18 03 52.4**	**-0.6**
RC01				S	**Sn**	**18 04 13.7**	**+0.3**
FIB	**Fire Island**	**1.83**	**314**	P	**Pn**	**18 03 56.0**	**+0.1**
PMR	**Palmer**	**1.86**	**335**	P	**Pn**	**18 03 56.5**	**+0.2**
SML	**Sawmill**	**1.94**	**348**	P	**Pn**	**18 03 57.0**	**-0.4**
SML				S	**Sn**	**18 04 20.0**	**-1.2**
PAX	**Paxson**	**3.20**	**16**	P	**Pn**	**18 04 15.3**	**+0.6**
KDAK	**Kodiak Island**	**3.42**	**233**	Pn	**Pn**	**18 04 18.2**	**+0.5**
	19nm,0.3s,baz=45,slow=10,SNR=3.5						
KDAK				Sn	**Sn**	**18 04 55.9**	**-1.9**
	116nm,0.3s,baz=326,slow=22,SNR=45						
KDAK	**Kodiak Island**	**3.42**	**233**	P	**Pn**	**18 04 18.9**	**+1.1**
PPLA	**Purkeypile**	**3.75**	**325**	P	**Pn**	**18 04 23.2**	**+1.0**
TRF	**Thorofare Moun**	**3.79**	**340**	P	**Pn**	**18 04 22.8**	**+0.1**
MCK	**McKinley**	**3.88**	**350**	P	**Pn**	**18 04 24.2**	**+0.1**
KTH	**Kantishna Hill**	**4.00**	**337**	P	**Pn**	**18 04 25.6**	**0.0**
DOT	**Dot Lake**	**4.07**	**22**	P	**Pn**	**18 04 27.1**	**+0.5**
OHAK	**Old Harbor**	**4.08**	**231**	P	**Pn**	**18 04 26.5**	**-0.3**
PNL	**Peninsula**	**4.08**	**90**	P	**Pn**	**18 04 26.2**	**-0.6**
BCA3	**Beaver Creek A**	**4.16**	**38**	P	**Pn**	**18 04 28.1**	**+0.3**
SVW2	**Sparrevohn**	**4.18**	**290**	P	**Pn**	**18 04 28.0**	**-0.2**
BPAW	**Bear Paw Mtn.**	**4.51**	**340**	P	**Pn**	**18 04 32.5**	**-0.2**
CHUM	**Lake Minchumin**	**4.59**	**332**	*e*P	**Pn**	**18 04 34.2**	**+0.5**
IL1	**Eielson Array**	**4.87**	**3**	P	**Pn**	**18 04 36.9**	**-0.7**
ILB	**Eielson Array**	**4.87**	**3**	P	**Pn**	**18 04 36.9**	**-0.7**
COLA	**College**	**4.97**	**358**	*e*P	**Pn**	**18 04 39.6**	**+0.6**
TT01	**Tatalina**	**5.08**	**310**	P	**Pn**	**18 04 40.0**	**-0.6**
DAWY	**Dawson**	**5.63**	**39**	P	**Pn**	**18 04 48.4**	**+0.4**
SKAG	**Skagway**	**6.16**	**89**	*e*P	**Pn**	**18 04 54.9**	**-0.5**
WHY	**Whitehorse**	**6.30**	**78**	P	**Pn**	**18 04 56.7**	**-0.5**
IM3	**Indian Mountai**	**6.72**	**337**	P	**Pn**	**18 05 03.5**	**+0.6**
IMA2	**Indian Mountai**	**6.78**	**338**	*e*P	**Pn**	**18 05 04.3**	**+0.5**
COLD	**Coldfoot**	**7.43**	**352**	P	**Pn**	**18 05 13.3**	**+0.6**
BM3	**Burnt Mountain**	**7.63**	**8**	P	**Pn**	**18 05 15.9**	**+0.5**
SDPT	**Sand Point**	**8.35**	**242**	P	**Pn**	**18 05 25.5**	**+0.2**
DLBC	**Dease Lake**	**9.07**	**92**	Pn	**Pn**	**18 05 35.6**	**+0.4**
	1.2nm,0.3s,baz=243,slow=12,SNR=10						
DLBC				LR	LR	18 08 27.8	
	comp=Z,46nm,19.5s,baz=287,slow=33						
UNV	**Unalaska Valle**	**12.04**	**248**	*e*P	**Pn**	**18 06 15.1**	**-0.6**
	27nm,0.4s						
YKA	**Yellowknife Ar**	**15.93**	**67**	Pn	**Pn**	**18 07 10.0**	**+1.8**
	0.4nm,0.3s,baz=273,slow=9.6,SNR=8.2						
PDAR	**Pinedale Array**	**28.70**	**110**	P	**P**	**18 09 23.7**	**+2.6**
	0.1nm,0.3s,mb3.0,baz=343,slow=11,SNR=2.3						
PDAR				pP	pP	18 09 32.0	+5.3
	0.5nm,0.8s,baz=304,slow=2.9,SNR=3.4						
TXAR	**Lajitas Array**	**42.39**	**116**	P	**P**	**18 11 20.3**	**+1.9**
	0.2nm,0.7s,mb2.9,baz=336,slow=8.0,SNR=2.6						
TXAR				pP	pP	18 11 29.2	+5.0
	0.4nm,0.6s,baz=338,slow=9.5,SNR=3.4						
KSRS	**Korea Array**	**55.89**	**287**	P	**P**	**18 13 01.9**	**+0.2**
	0.8nm,0.6s,mb3.9,baz=36,slow=4.8,SNR=3.1						
KSRS				pP	pP	18 13 10.4	+2.9
	1.9nm,0.8s,baz=39,slow=6.8,SNR=4.5						
SONM	**Songino Array**	**57.04**	**310**	P	**P**	**18 13 10.3**	**+0.6**
	0.4nm,0.5s,mb3.7,baz=28,slow=6.5,SNR=2.5						
SONM				pP	pP	18 13 18.7	+3.1
	1.0nm,0.6s,baz=46,slow=7.5,SNR=4.3						
ZALV	**Zalesovo Beam**	**59.03**	**327**	pP	pP	18 13 30.7	+1.3
	0.4nm,0.5s,baz=35,slow=5.3,SNR=2.0						
MKAR	**Makanchi Array**	**66.17**	**325**	P	**P**	**18 14 10.4**	**-0.9**
	0.2nm,0.5s,mb3.4,baz=40,slow=4.7,SNR=3.6						
AKASG	**Malin Array Be**	**69.70**	**2**	P	**P**	**18 14 32.4**	**-1.0**
	0.8nm,0.3s,mb4.1,baz=342,slow=8.9,SNR=5.4						
AKASG				pP	pP	18 14 40.6	+1.2
	1.0nm,0.6s,baz=354,slow=5.4,SNR=3.3						
CMAR	**Chiang Mai Arr**	**85.38**	**299**	pP	pP	18 16 11.8	+4.2
	0.3nm,0.6s,baz=19,slow=4.6,SNR=2.3						

*ISK **10** 18:20:18.7, 3720N×3721E, h5km, MD2.9*
*DDA **10** 18:20:18.3, 37.16N×3721E, h10km±5km, Md3.0*
*CSEM **10** 18:20:18.1±0.1, 37.17N×37.18E, h1km, MD2.9, Error ellipse: s-maj=3.9km s-min=2.0km az=143.0*
*ISCJB **10** 18:20:19.4±0.6, 37.16N±006×3720E±006, h10km, Error ellipse: s-maj=9.8km s-min=4.9km az=138.6*
ISC 10 18:20:18.9±0.9**,3715N**±005×**3719E**±007**,h0**km±8km**,n13,**
σ**0s68**/17**,Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GAZ	**Gaziantep**	**0.03**	**41**	PG	**Pg**	**18 20 19.2**	**-0.2**
GAZ				*e*SG	**Sg**	**18 20 19.9**	**0.0**
GZT	**Gaziantep**	**0.36**	**56**	*i* P	**Pg**	**18 20 25.3**	**-0.6**
GZT				*i* S	**Sg**	**18 20 30.2**	**-0.4**
KMRS	**Kahramanmaras**	**0.42**	**327**	*e*PG	**Pg**	**18 20 27.7**	**+0.7**
KOZT	**Kozan**	**1.14**	**287**	*e*PN	**Pn**	**18 20 41.6**	**-0.4**
AKCD	**Akcadag**	**1.28**	**27**	*i* P	**Pg**	**18 20 43.0**	**-0.5**
AKCD				*i* S	**Sg**	**18 21 00.7**	**+0.6**
URFA	**Urfa**	**1.33**	**77**	*e*PN	**Pn**	**18 20 45.1**	**+0.4**
YAYL	**Yayladag**	**1.41**	**218**	*i* P	**Pn**	**18 20 45.1**	**-0.7**
YAYL				*i* S	**Sg**	**18 21 04.8**	**+0.5**
MYA	**Malataya**	**1.53**	**40**	*e*PN	**Pn**	**18 20 47.8**	**+0.4**
SARI	**SarD1z-Kayseri**	**1.57**	**346**	*e*PN	**Pn**	**18 20 46.1**	**-1.9**
DARE	**Darende-Malaty**	**1.86**	**15**	*e*PN	**Pn**	**18 20 45.5**	**-6.5**
BNN	**Bunyan**	**2.00**	**328**	*e*PN	**Pn**	**18 20 54.5**	**+0.6**
SVRC	**Sivrice-ELAZID**	**2.08**	**53**	*e*PN	**Pn**	**18 20 55.6**	**+0.7**
PTK	**Pertek**	**2.46**	**44**	*e*PN	**Pn**	**18 21 00.8**	**+0.6**

*ISK **10** 19:12:35.2, 3797N×3795E, h5km, MD3.4*
*CSEM **10** 19:12:35.7±0.1, 3796N×3797E, h2km, MD3.7, Error ellipse: s-maj=1.8km s-min=1.5km az=164.0*
*ISCJB **10** 19:12:37.0±0.3, 3794N±002×3797E±003, h10km, Error ellipse: s-maj=3.6km s-min=3.0km az=156.4*
*DDA **10** 19:12:36.3, 3795N×3796E, h4km±2km, Md3.7*
ISC 10 19:12:37.5±0.3**,3795N**±002×**3797E**±003**,h10**km**,n33,**
σ**1s11**/43**,Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKCD	**Akcadag**	**0.35**	**354**	*i* P	**Pg**	**19 12 43.4**	**-1.0**
AKCD				*i* S	**Sg**	**19 12 48.7**	**-0.4**
MYA	**Malataya**	**0.52**	**44**	*e*PG	**Pg**	**19 12 46.6**	**-1.1**
MYA				*e*SG	**Sg**	**19 12 54.3**	**-0.2**
ATAB	**Bozova**	**0.54**	**151**	*i* P	**Pg**	**19 12 47.4**	**-0.6**
ATAB				*i* S	**Sg**	**19 12 54.0**	**-1.2**
GZT	**Gaziantep**	**0.67**	**209**	*i* P	**Pg**	**19 12 49.6**	**-0.9**
GZT				*i* S	**Sg**	**19 12 59.2**	**-0.1**
URFA	**Urfa**	**0.84**	**127**	*e*PG	**Pg**	**19 12 53.0**	**-0.7**
KMRS	**Kahramanmaras**	**0.96**	**243**	*e*PG	**Pg**	**19 12 54.4**	**-1.4**
ELZG	**Elazig**	**0.97**	**55**	*i* P	**Pg**	**19 12 54.9**	**-1.3**
ELZG				*i* S	**Sg**	**19 13 08.1**	**-0.7**
ELZG	**Elazig**	**0.97**	**55**	*i* P	**Pg**	**19 12 54.8**	**-1.4**
GAZ	**Gaziantep**	**0.98**	**218**	*e*PG	**Pg**	**19 12 54.5**	**-1.8**
DARE	**Darende-Malaty**	**1.01**	**353**	*e*PG	**Pg**	**19 12 49.7**	**-7.2**
DARE				*e*SG	**Sg**	**19 13 00.7**	**-9.4**
SVRC	**Sivrice-ELAZID**	**1.14**	**67**	*e*PN	**Pn**	**19 12 57.2**	**-2.2**
SARI	**SarD1z-Kayseri**	**1.24**	**306**	*e*PN	**Pn**	**19 13 00.1**	**-0.8**
ANDN	**Andirin**	**1.34**	**255**	*i* P	**Pn**	**19 13 01.0**	**-1.2**
ANDN				*i* S	**Sb**	**19 13 20.9**	**+1.1**
PINB	**Pinarbasi**	**1.43**	**301**	*i* P	**Pn**	**19 13 04.1**	**+0.7**
PINB				*i* S	**Sn**	**19 13 21.3**	**-1.0**
PTK	**Pertek**	**1.46**	**49**	*e*PN	**Pn**	**19 13 04.3**	**+0.4**
DIYA	**Diyarbakir**	**1.70**	**90**	*i* P	**Pn**	**19 13 07.7**	**+0.5**
DIYA				*i* S	**Sn**	**19 13 30.7**	**+1.7**
KOZT	**Kozan**	**1.76**	**255**	*e*PN	**Pn**	**19 13 08.3**	**+0.3**
BNN	**Bunyan**	**1.90**	**299**	*e*PN	**Pn**	**19 13 10.0**	**+0.1**
COBT	**Iskenderun**	**1.98**	**224**	*i* P	**Pn**	**19 13 14.2**	**+3.2**
CEYT	**Ceyhan**	**2.00**	**243**	*e*PN	**Pn**	**19 13 12.2**	**+0.9**
SVSK	**Karacayir**	**2.11**	**339**	*e*PN	**Pn**	**19 13 13.3**	**+0.5**
EZC	**Erzincan**	**2.30**	**38**	*e*PN	**Pn**	**19 13 13.1**	**-2.4**
MARD	**Mardin**	**2.32**	**105**	*i* P	**Pn**	**19 13 15.8**	**+0.1**
MARD				*i* S	**Sn**	**19 13 45.8**	**+1.6**
KARA	**Karaisali**	**2.41**	**254**	*e*PN	**Pn**	**19 13 18.0**	**+1.0**
RSDY	**Resadiye-TOKAT**	**2.50**	**349**	*e*PN	**Pn**	**19 13 18.3**	**+0.2**

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
BEST	**Besiri**	**2.61**	**90**	*i* P	**Pn**	**19 13 22.8**	**+3.1**
NIG	**Nigde**	**2.66**	**275**	*e*PN	**Pn**	**19 13 21.3**	**+0.9**
GUMT	**Gumushane**	**2.77**	**25**	*e*PN	**Pn**	**19 13 22.9**	**+1.1**
MERS	**Mersin**	**2.95**	**250**	*e*PN	**Pn**	**19 13 25.5**	**+1.1**
ESPY	**Espiye-Giresun**	**3.02**	**11**	*e*PN	**Pn**	**19 13 26.2**	**+0.8**
EZM	**Erzurum**	**3.29**	**53**	*e*PN	**Pn**	**19 13 30.0**	**+0.9**
CORM	**Corum**	**3.42**	**312**	*e*PN	**Pn**	**19 13 31.6**	**+0.7**
SIRT	**Sirnak**	**3.57**	**96**	*e*PN	**Pn**	**19 13 34.3**	**+1.4**

*NEIC **10** 19:21:58.7, 32.97S×70.03W, h2km, ML2.5(GUC), After GUC.*

GUC 10 19:21:58.7±1.0, 32.97S×70.03W, h2km±2km, MD3.6, ML2.5, 5C-6D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
FCH	**Farellones**	**0.42**	**212**	⇓*i*P	Pg	19 22 07.8	+1.1
FCH				*i* S	Sg	19 22 14.5	+2.4
FCH				AML	AML	19 22 14.9	
	comp=E,1μm,0.2s						
JACH	**Jahuel**	**0.56**	**301**	⇑*i*P	Pg	19 22 09.6	+0.2
JACH				*i* S	Sg	19 22 17.8	+1.2
PEL	**Peldehue**	**0.58**	**253**	⇑*i*P	Pg	19 22 10.5	+0.7
PEL				*i* S	Sg	19 22 19.2	+2.0
PEL				AML	AML	19 22 23.3	
	comp=E,308nm,0.6s						
CLCH	**Cerro Calan**	**0.60**	**225**	⇓*i*P	Pg	19 22 11.4	+1.2
CLCH				*i* S	Sg	19 22 20.5	+2.5
CLCH				AML	AML	19 22 22.9	
	comp=E,813nm,0.4s						
CLCH				AML	AML	19 22 26.4	
	comp=E,1μm,0.6s						
PCH	**Pirque**	**0.76**	**212**	⇑*i*P	Pg	19 22 14.2	+0.8
PCH				*i* S	Sg	19 22 25.5	+2.2
RCDM	**Rinconada Maip**	**0.83**	**231**	⇓*i*P	Pg	19 22 15.4	+0.8
RCDM				*i* S	Sg	19 22 27.8	+2.4
RCDM				AML	AML	19 22 28.1	
	comp=N,283nm,0.3s						
RCDM	**Rinconada Maip**	**0.83**	**231**	⇓*i*P	Pg	19 22 15.4	+0.8
RCDM				*i* S	Sg	19 22 27.8	+2.4
LMEL	**Las Melosas**	**0.89**	**189**	⇓*i*P	Pg	19 22 15.9	+0.3
LMEL				*i* S	Sg	19 22 29.1	+2.0
LMEL				AML	AML	19 22 33.6	
	comp=N,138nm,0.2s						
LMEL	**Las Melosas**	**0.89**	**189**	⇓*i*P	Pg	19 22 15.9	+0.3
LMEL				*i* S	Sg	19 22 29.1	+2.0
TACH	**Talagante**	**1.02**	**228**	⇑*i*P	Pg	19 22 18.6	+0.4
TACH				*i* S	Sg	19 22 33.1	+1.6
CHCH	**Chadas Angostu**	**1.09**	**208**	*i* S	Sg	19 22 35.3	+1.5
CACH	**El Canelo**	**1.24**	**202**	⇑*i*P	Pg	19 22 21.9	-0.5
CACH				*e*S	Sg	19 22 40.6	+2.1
CHNG	**Los Chungos**	**1.65**	**311**	*e*P	Pn	19 22 28.5	-0.2
CHNG				*i* S	Sn	19 22 50.6	+0.2
CHNG				AML	AML	19 22 55.3	
	comp=E,73nm,0.6s						
SFDO	**San Fernando**	**1.83**	**206**	*e*P	Pn	19 22 32.5	+1.3
SFDO				*e*S	Sn	19 22 57.3	+2.4
TLL	**Tololo Astrono**	**2.87**	**346**	AML	AML	19 23 36.7	
	comp=E,61nm,0.5s						

*ISK **10** 19:44:12.5, 38.72N×43.03E, h5km, MD3.2*
*DDA **10** 19:44:12.9, 38.71N×43.01E, h7km±3km, Md3.1*
*CSEM **10** 19:44:12.6±0.1, 38.72N×43.04E, h2km, MD3.2, Error ellipse: s-maj=2.4km s-min=1.9km az=62.0*
*ISCJB **10** 19:44:14.1±0.4, 38.70N±0.03×43.07E±0.04, h10km, Error ellipse: s-maj=4.7km s-min=4.0km az=29.7*

ISC 10 19:44:14.5±0.4, 38.69N±0.03×43.07E±0.04, h10km, n20, σ0.86/24, Turkey

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
TVAN	**Van**	**0.31**	**121**	*i* P	**Pg**	**19 44 20.6**	**-0.1**
TVAN				*i* S	**Sg**	**19 44 26.0**	**+1.2**
TVAN	**Van**	**0.31**	**121**	*i* P	**Pg**	**19 44 20.5**	**-0.2**
VANT	**Van**	**0.35**	**134**	*e*PG	**Pg**	**19 44 20.7**	**-0.7**
VANT				*e*SG	**Sg**	**19 44 26.6**	**+0.5**
CLDR	**Caldiran**	**0.80**	**55**	*e*PG	**Pg**	**19 44 29.5**	**-0.5**
CLDR				*e*SG	**Sg**	**19 44 41.5**	**+1.0**
AGRB	**Hanur-Agry**	**0.89**	**356**	*e*PG	**Pg**	**19 44 29.7**	**-2.0**
DYDN	**Diyadin**	**0.98**	**29**	*i* P	**Pg**	**19 44 31.4**	**-2.0**
HKR	**Hakkari**	**1.23**	**154**	*e*PN	**Pn**	**19 44 38.1**	**+0.4**
HAKT	**HAKKARI**	**1.23**	**156**	*i* P	**Pn**	**19 44 36.3**	**-1.5**
SIRT	**Sirnak**	**1.28**	**203**	*e*PN	**Pn**	**19 44 37.9**	**-0.6**
BEST	**Besiri**	**1.62**	**241**	*i* P	**Pn**	**19 44 43.4**	**+0.2**
BEST				*i* S	**Sn**	**19 45 04.0**	**-0.1**
DIGO	**Kars**	**1.74**	**8**	*i* P	**Pn**	**19 44 45.4**	**+0.6**
ERZM	**Erzurum**	**1.80**	**313**	*i* P	**Pn**	**19 44 46.0**	**+0.5**
ERZM				*i* S	**Sn**	**19 45 09.8**	**+1.3**
EZM	**Erzurum**	**1.80**	**313**	*e*PN	**Pn**	**19 44 45.4**	**-0.2**
KARS	**Kars**	**1.92**	**1**	*e*PN	**Pn**	**19 44 47.3**	**0.0**
GNI	**Garni**	**1.95**	**41**	*e*PN	**Pn**	**19 44 48.3**	**+0.6**
MARD	**Mardin**	**2.27**	**234**	*i* P	**Pn**	**19 44 51.6**	**-0.5**
MSL	**Mosul**	**2.28**	**179**	*e*x	x	19 44 58.5	
MSL				*e*x	x	19 45 31.0	
PTK	**Pertek**	**2.88**	**275**	*e*PN	**Pn**	**19 45 00.9**	**+0.5**
SVRC	**Sivrice-ELAZID**	**2.97**	**265**	*e*PN	**Pn**	**19 45 02.3**	**+0.6**
BCA	**Borcka**	**2.97**	**339**	*e*PN	**Pn**	**19 45 02.2**	**+0.5**

*BJI **10** 20:01:57.7, 4.29S×137.62E, h2km, mB5.2, mb4.7, Ms4.7, Msz4.5*
*NEIC **10** 20:02:00.2±5.5, 4.41S×137.27E, h2km±36km, mb4.7/10, Error ellipse: s-maj=11.1km s-min=9.3km az=136.0*
NEIC Felt [III] at Timuka.
*ISCJB **10** 20:02:03.7±0.9, 4.59S±0.04×137.31E±0.05, h44km±9km, mb4.5/22, MS3.6/7, Error ellipse: s-maj=8.5km s-min=6.3km az=168.9*
*DJA **10** 20:02:04, 4.36S×137.46E, h10km, mb5.2/4*
*IDC **10** 20:02:06.1±0.9, 4.45S×137.27E, h47km±6km, mb3.9/10, mb1 4.2/13, mb1mx4.1/17, mbtmp4.1/13, MS3.5/11, Ms1 3.5/11, ms1mx3.3/30, Error ellipse: s-maj=26.2km s-min=13.8km az=82.0*

ISC 10 20:02:05.6±0.8, 4.56S±0.05×137.32E±0.05, h41km±8km, h44km±2.5km:pP-P, n57, σ0.96/56, mb4.5/22, MS3.6/7, 1C, Irian Jaya

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
BAKI	**Biak**	**3.56**	**340**	P	**Pn**	**20 02 59.1**	**+0.7**
JAY	**Jayapura**	**3.94**	**59**	P	**Pn**	**20 03 02.5**	**-1.1**
TLE	**Tual**	**4.69**	**257**	P	**Pn**	**20 03 20.9**	**+7.1**
MMPI	**Merauke**	**4.93**	**142**	P	**Pn**	**20 03 19.4**	**+2.2**
	1μm,0.6s,12nm						
AAI	**Ambon**	**9.14**	**275**	P	**Pn**	**20 04 17.1**	**+2.1**
	44nm,0.6s						
AAI	**Ambon**	**9.14**	**275**	P	**Pn**	**20 04 17.1**	**+2.1**
	44nm,0.6s						
KAKA	**Kakadu**	**9.42**	**210**	⇑*i*P	**Pn**	**20 04 18.8**	**-0.1**
	268nm,0.6s						
PMG	**Port Moresby**	**10.89**	**117**	*e*P	**Pn**	**20 04 38.8**	**-0.1**
	14nm,0.6s						
COEN	**Coen**	**10.98**	**149**	*e*P	**Pn**	**20 04 39.5**	**-0.7**
	25nm,0.8s						
BATI	**Baumata**	**14.65**	**247**	P	**Pn**	**20 05 30.3**	**0.0**
	11nm,0.3s,baz=142,slow=2.9,SNR=33						
BATI				S	**Sn**	**20 08 10.2**	**-1.4**
	0.7nm,0.3s,baz=328,slow=23,SNR=2.2						
WB2	**Warramunga Arr**	**15.56**	**190**	*e*P	**Pn**	**20 05 39.6**	**-2.6**
WRA	**Warramunga Arr**	**15.56**	**191**	P	**Pn**	**20 05 39.4**	**-2.8**
	2.7nm,0.3s,baz=12,slow=13,SNR=120						
WRA				S	S	20 08 22.0	-26
	2.4nm,0.3s,baz=14,slow=22,SNR=5.7						
WRA				LR	LR	20 12 26.2	
	comp=Z,268nm,19.2s,baz=15,slow=40						
FITZ	**Fitzroy Crossi**	**17.65**	**219**	*e*P	**Pn**	**20 06 07.3**	**-1.2**
	60nm,0.8s						
FITZ				*e*S	**S**	**20 09 13.4**	**-17**
FITZ	**Fitzroy Crossi**	**17.65**	**219**	P	**Pn**	**20 06 07.4**	**-1.1**
	1.4nm,0.3s,baz=44,slow=15,SNR=29						
FITZ				S	**S**	**20 09 12.0**	**-18**
	1.6nm,0.3s,baz=325,slow=18,SNR=3.2						
FITZ				LR	LR	20 13 25.4	
	comp=Z,124nm,19.5s,baz=33,slow=38						
CTA	**Charters Tower**	**17.72**	**151**	*e*P	**Pn**	**20 06 11.0**	**+1.7**
	11nm,0.7s						
CTA				*e*S	**S**	**20 09 23.6**	**-8.0**
CTA	**Charters Tower**	**17.72**	**151**	P	**Pn**	**20 06 10.6**	**+1.3**
	1.4nm,0.3s,baz=328,slow=11,SNR=22						
CTA				LR	LR	20 12 49.0	
	comp=Z,132nm,19.4s,baz=180,slow=36						
CTAO	**Charters Tower**	**17.72**	**151**	*e*P	**Pn**	**20 06 10.8**	**+1.5**
	16nm,0.8s						
ASAR	**Alice Springs**	**19.28**	**190**	P	**Pn**	**20 06 28.4**	**+0.2**
	9.1nm,0.3s,baz=9.8,slow=12,SNR=454						
ASAR				pP	pP	20 06 41.0	+4.0
	15nm,0.3s,baz=12,slow=9.4,SNR=14						
ASAR				S	**S**	**20 09 54.0**	**-9.1**
	0.8nm,0.3s,baz=10,slow=30,SNR=4.4						
GUMO	**Guam**	**19.53**	**22**	LR	LR	20 13 30.6	
	comp=Z,84nm,19.7s,baz=251,slow=35						
STKA	**Stephens Creek**	**27.47**	**172**	*e*P	**P**	**20 07 49.1**	**+1.2**
	7.1nm,0.6s,mb4.4						
STKA	**Stephens Creek**	**27.47**	**172**	P	**P**	**20 07 48.7**	**+0.8**
	4.6nm,0.7s,mb4.1,baz=335,slow=8.3,SNR=12						
STKA				LR	LR	20 19 09.4	
	comp=Z,119nm,18.8s,MS3.5,baz=24,slow=37						
FORT	**Forrest**	**27.50**	**197**	*e*P	**P**	**20 07 49.0**	**+0.8**
	34nm,0.6s,mb5.0						
FORT				*e*		20 08 11.9	
CBIJ	**Chichi jima**	**31.82**	**8**	LR	LR	20 20 26.9	
	comp=Z,73nm,18.2s,MS3.4,baz=134,slow=35						
KLBR	**Kellerberrin**	**32.57**	**212**	*e*P	**P**	**20 08 33.8**	**+0.8**
	36nm,1.2s,mb5.2						
MUN	**Mundaring**	**33.70**	**213**	*e*P	**P**	**20 08 44.6**	**+1.7**
NWAO	**Narrogin (SRO)**	**33.89**	**211**	LR	LR	20 23 57.0	
	comp=Z,269nm,19.5s,MS4.0,baz=314,slow=39						
KSRS	**Korea Array**	**42.70**	**349**	P	**P**	**20 09 58.0**	**-0.5**
	1.5nm,0.8s,mb3.8,baz=169,slow=7.3,SNR=5.6						
KSRS				LR	LR	20 26 38.4	
	comp=Z,28nm,19.0s,MS3.2,baz=336,slow=35						
CMAR	**Chiang Mai Arr**	**44.20**	**302**	P	**P**	**20 10 11.5**	**+0.6**
	1.0nm,0.6s,mb3.7,baz=125,slow=6.7,SNR=9.7						
CMAR				pP	pP	20 10 23.4	+0.8
	1.6nm,0.7s,baz=120,slow=6.4,SNR=5.0						
ASAJ	**Asahikawa**	**48.69**	**5**	LR	LR	20 29 11.3	
	comp=Z,66nm,21.8s,MS3.6,baz=337,slow=34						
LZH	**Lanzhou**	**51.16**	**325**	*e*P	**P**	**20 11 05.0**	**+0.4**
LZH				AMB	AMB		
	comp=Z,19nm,1.4s,mb4.8						
LZH				AMB	AMB		
	comp=Z,84nm,4.5s						
LZH	**Lanzhou**	**51.16**	**325**	*e*P	**P**	**20 11 05.0**	**+0.4**
	comp=Z,19nm,1.4s,mb4.8						
LZH				pP	pP	20 11 15.2	-1.2
LZH				sP	sP	20 11 19.5	-1.7
GTA	**Gaotai**	**55.76**	**325**	*e*P	**P**	**20 11 38.6**	**+0.3**
GTA				AMB	AMB		
	comp=Z,4.0nm,0.9s,mb4.5						
TAPN	**Taplejung**	**57.42**	**306**	*e*P	**P**	**20 11 51.0**	**+0.6**
	comp=Z,8.1nm,0.6s,mb5.0						
ODAN	**Odare**	**57.47**	**306**	*e*P	**P**	**20 11 51.4**	**+0.6**
	comp=Z,9.6nm,0.6s,mb5.0						
RAMN	**Ramite**	**58.15**	**306**	*e*P	**P**	**20 11 56.0**	**+0.5**
	comp=Z,7.2nm,0.6s,mb4.9						
JIRN	**Jiri**	**58.77**	**306**	*e*P	**P**	**20 12 00.8**	**+0.9**
SONM	**Songino Array**	**58.81**	**336**	P	**P**	**20 11 58.9**	**-0.9**
	comp=Z,0.4nm,0.7s,mb3.6,baz=111,slow=3.2,SNR=3.5						
SONM				PcP	PcP	20 12 47.2	-1.8
	comp=Z,0.7nm,0.6s,baz=148,slow=3.8,SNR=3.1						
SONM				LR	LR	20 35 52.7	
	comp=Z,64nm,19.7s,MS3.8,baz=243,slow=34						
GUN	**Gumba**	**59.13**	**306**	*e*P	**P**	**20 12 03.1**	**+0.8**
PKI	**Pulchoki**	**59.37**	**306**	*e*P	**P**	**20 12 04.1**	**+0.1**
KKN	**Kakani**	**59.56**	**306**	*e*P	**P**	**20 12 04.9**	**-0.4**
DMN	**Daman**	**59.63**	**306**	*e*P	**P**	**20 12 06.4**	**+0.6**
PETK	**Petropavlovsk-**	**59.98**	**14**	P	**P**	**20 12 06.9**	**-0.8**
	comp=Z,4.1nm,0.6s,mb4.6,baz=127,slow=5.1,SNR=10.0						
PETK				LR	LR	20 35 25.7	
	comp=Z,45nm,18.8s,MS3.6,baz=94,slow=33						
GKN	**Gorkha**	**60.17**	**306**	*e*P	**P**	**20 12 09.2**	**-0.3**
	comp=Z,7.6nm,0.6s,mb4.9						
KOLN	**Koldanda**	**60.91**	**305**	*e*P	**P**	**20 12 14.7**	**+0.1**
	comp=Z,3.6nm,0.6s,mb4.7						
MK31	**Makanchi Array**	**70.42**	**323**	*e*P	**P**	**20 13 14.7**	**-0.8**
MKAR	**Makanchi Array**	**70.42**	**323**	P	**P**	**20 13 14.7**	**-0.8**
	comp=Z,3.1nm,0.8s,mb4.3,baz=119,slow=7.8,SNR=28						
MKAR				pP	pP	20 13 27.9	+0.2
	comp=Z,2.1nm,0.7s,baz=119,slow=6.2,SNR=7.8						
MKAR	**Makanchi Array**	**70.42**	**323**	P	**P**	**20 13 14.7**	**-0.8**
MKAR				pP	pP	20 13 27.9	+0.2
ZALV	**Zalesovo Beam**	**72.84**	**331**	P	**P**	**20 13 28.4**	**-1.5**
	comp=Z,0.4nm,0.3s,mb3.9,baz=102,slow=6.2,SNR=5.4						
TKM2	**Tokmak 2**	**72.94**	**317**	*e*P	**P**	**20 13 30.7**	**-0.1**
	comp=Z,1.8nm,0.5s,mb4.3						
UCH	**Uchtor**	**73.41**	**316**	*e*P	**P**	**20 13 34.2**	**+0.6**
	comp=Z,5.5nm,1.1s,mb4.4						
AML	**Almayashu**	**73.94**	**316**	*e*P	**P**	**20 13 37.2**	**+0.5**
	comp=Z,10.0nm,1.1s,mb4.7						
KURK	**Kurchatov**	**74.44**	**326**	P	**P**	**20 13 38.6**	**-0.8**
	comp=Z,0.8nm,0.4s,mb4.0,baz=131,slow=6.1,SNR=3.8						
BVAR	**Borovoye Array**	**80.04**	**326**	P	**P**	**20 14 10.1**	**-0.7**
	comp=Z,4.7nm,0.8s,mb4.5,baz=116,slow=6.8,SNR=16						
BVAR				pP	pP	20 14 23.2	+0.1
	comp=Z,1.8nm,0.6s,baz=116,slow=8.4,SNR=3.9						
AKTK	**Aktyubinsk**	**86.70**	**321**	P	**P**	**20 14 44.7**	**-0.4**
AKTO	**Aktyubinsk**	**86.70**	**321**	P	**P**	**20 14 44.7**	**-0.4**
	comp=Z,1.7nm,0.9s,mb4.3,baz=124,slow=5.4,SNR=4.5						
TORD	**Torodi Ar. Bea**	**135.39**	**284**	PKP	PKPdf	20 21 20.5	-1.7
	comp=Z,0.4nm,0.8s,baz=77,slow=2.1,SNR=3.5						
TORD				SKPbc	SKPbc	20 24 48.0	-2.1
	comp=Z,1.6nm,1.0s,baz=99,slow=2.8,SNR=5.5						
LPAZ	**La Paz**	**147.40**	**130**	PKPbc	PKPbc	20 21 47.0	+1.0
	comp=Z,1.5nm,0.8s,baz=216,slow=4.6,SNR=3.6						

IDC 10 20:07:41.0±28.0, 23.50S×178.26W, h0km, mb4.3/4, mb1 4.5/4, mb1mx4.1/16, mbtmp4.3/4, Error ellipse: s-maj=528.7km s-min=144.7km az=91.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**36.35**	**248**	P	P	20 14 45.4	-1.5
	4.7nm,0.9s,baz=96,slow=16,SNR=4.2						
ASAR	**Alice Springs**	**43.67**	**260**	P	P	20 15 47.8	-0.1
	2.1nm,0.4s,baz=92,slow=7.4,SNR=11						
WRA	**Warramunga Arr**	**44.03**	**265**	P	P	20 15 51.6	+0.9
	1.3nm,0.4s,baz=101,slow=7.9,SNR=9.5						
FITZ	**Fitzroy Crossi**	**52.45**	**265**	P	P	20 16 56.1	+0.2
	2.8nm,0.8s,baz=122,slow=9.5,SNR=2.6						

*ISCJB **10** 20:10:57.0±3.2, 10.4S±0.1×79.5W±0.2, h6km±29km, mb4.1/2, MS4.1/2, Error ellipse: s-maj=40.6km s-min=9.0km az=158.3*
*IDC **10** 20:10:59.1±2.5, 10.36S×79.38W, h0km, mb4.1/2, mb1 4.0/7, mb1mx3.8/23, mbtmp4.0/7, ML3.9/5, MS3.6/5, Ms1 3.5/5, ms1mx3.1/33, Error ellipse: s-maj=52.3km s-min=23.8km az=64.0*
*NEIC **10** 20:11:02.3±5.4, 10.32S×79.36W, h23km±35km, mb4.0/1, Error ellipse: s-maj=38.6km s-min=10.7km az=66.0*

ISC 10 20:10:59.7±3.8, 10.4S±0.1×79.5W±0.2, h11km±33km, n14, σ0.86/14, mb4.1/2, MS4.1/2, Off coast of Peru

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
NNA	**Nana**	**3.03**	**121**	Pn	**Pn**	**20 11 47.8**	**+0.1**
	42nm,0.3s,baz=309,slow=10,SNR=40						
NNA				Sn	**Sn**	**20 12 23.2**	**-0.9**
	86nm,0.3s,baz=113,slow=17,SNR=6.8						
NNA	**Nana**	**3.03**	**121**	Pn	**Pn**	**20 11 47.8**	**+0.1**
NNA				Sn	**Sn**	**20 12 23.2**	**-0.9**
ATAH	**Atahualpa**	**3.59**	**18**	Pn	**Pn**	**20 11 54.3**	**-1.1**
	14nm,0.3s,baz=185,slow=9.8,SNR=27						
ATAH				Sn	**Sn**	**20 12 39.1**	**+1.3**
	28nm,0.3s,baz=204,slow=22,SNR=4.8						
OTAV	**Otavalo**	**10.66**	**6**	*e*P	**Pn**	**20 13 32.4**	**-0.2**
	9.7nm,0.8s						
LPAZ	**La Paz**	**12.50**	**119**	Pn	**Pn**	**20 13 58.9**	**+1.2**
	0.1nm,0.3s,baz=302,slow=15,SNR=3.4						
LPAZ				LR	LR	20 18 11.3	
	comp=Z,39nm,18.7s,baz=122,slow=35						
LVC	**Limon Verde**	**15.79**	**141**	Pn	**Pn**	**20 14 44.0**	**+1.8**
	0.1nm,0.3s,baz=302,slow=12,SNR=2.4						
LVC				LR	LR	20 20 29.4	
	comp=Z,135nm,20.2s,baz=206,slow=36						
LVC	**Limon Verde**	**15.79**	**141**	P	**Pn**	**20 14 49.5**	**+7.3**
	9.9nm,0.8s						
LVC				LR	LR	20 20 29.4	
ROSC	**El Rosal**	**16.05**	**19**	LR	LR	20 21 09.0	
	comp=Z,182nm,19.7s,baz=336,slow=38						
SIV	**San Ignacio**	**18.77**	**109**	P	**Pn**	**20 15 19.3**	**-0.2**
	0.4nm,0.3s,baz=290,slow=11,SNR=25						
SDV	**Santo Domingo**	**21.13**	**25**	P	**P**	**20 15 44.2**	**-0.6**
	3.3nm,0.3s,mb4.1,baz=202,slow=5.4,SNR=3.7						
PPT	**Papeete**	**68.05**	**255**	LR	LR	20 45 25.6	
	comp=Z,81nm,18.3s,MS4.0,baz=16,slow=30						
TORD	**Torodi Ar. Bea**	**83.92**	**75**	P	**P**	**20 23 30.4**	**-0.2**
	1.2nm,0.8s,mb4.1,baz=270,slow=4.9,SNR=5.8						
TORD				LR	LR	21 00 56.3	
	comp=Z,102nm,18.5s,MS4.2,baz=320,slow=36						
TORD	**Torodi Ar. Bea**	**83.92**	**75**	P	**P**	**20 23 30.4**	**-0.2**
TORD				LR	LR	21 00 56.3	
WRA	**Warramunga Arr**	**135.03**	**228**	PKP	PKPdf	20 30 21.2	+1.1
	0.4nm,0.8s,baz=116,slow=2.1,SNR=4.5						

*BJI **10** 20:27:55.7, 52.01N×177.50W, h88km, mB4.7, mb4.4, Ms4.6, Msz4.6*
*ISCJB **10** 20:27:56.7±0.6, 51.8N±0.1×178.05W±0.08, h82km±5km, mb4.1/14, Error ellipse: s-maj=18.8km s-min=6.5km az=163.0*
*IDC **10** 20:27:58.1±9.3, 51.89N×178.17W, h85km±83km, mb3.7/10, mb1 4.0/10, mb1mx3.6/24, mbtmp3.7/10, MS3.9/1, Ms1 3.9/1, ms1mx2.8/47, Error ellipse: s-maj=53.8km s-min=16.8km az=166.0*
*NEIC **10** 20:27:58.6, 51.62N×177.99W, h74km, mb4.1/5, After AEIC.*

ISC 10 20:27:57.8±0.6, 51.7N±0.1×178.04W±0.08, h77km±5km, h79km±2.1km:pP-P, n29, σ1.00/28, mb4.1/14, Andreanof Islands

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
ADK	**Adak**	**0.85**	**80**	P	**Pn**	**20 28 14.4**	**-0.4**
ADK				S	**Sn**	**20 28 27.4**	**-0.1**
AMKA	**Amchitka**	**1.70**	**259**	P	**Pn**	**20 28 25.6**	**+0.1**
AMKA				S	**Sn**	**20 28 46.3**	**-0.3**
FX1	**Attu Island--F**	**5.52**	**285**	P	**Pn**	**20 29 17.4**	**+0.2**
SPIA	**Saint Paul Isl**	**7.09**	**37**	P	**Pn**	**20 29 38.5**	**-0.1**
UNV	**Unalaska Valle**	**7.31**	**69**	*e*P	**Pn**	**20 29 43.5**	**+1.9**
SVW2	**Sparrevohn**	**15.48**	**44**	*e*P	**Pn**	**20 31 35.1**	**+3.8**
PPLA	**Purkeypile**	**17.73**	**41**	*e*P	**Pn**	**20 32 02.1**	**+3.0**
	7.4nm,0.7s						
SEW	**Seward**	**17.95**	**51**	*e*P	**Pn**	**20 32 00.3**	**-1.4**
KTH	**Kantishna Hill**	**18.54**	**40**	*e*P	**Pn**	**20 32 08.1**	**-0.7**
	14nm,0.7s						
TRF	**Thorofare Moun**	**18.75**	**41**	*e*P	**Pn**	**20 32 10.5**	**-0.8**
	10.0nm,0.9s						
BPAW	**Bear Paw Mtn.**	**18.77**	**38**	*e*P	**Pn**	**20 32 10.5**	**-1.1**
	3.8nm,0.6s						
MJAR	**Matsushiro Arr**	**34.31**	**261**	P	**P**	**20 34 35.8**	**-0.8**
	0.6nm,0.5s,mb3.6,baz=48,slow=8.9,SNR=2.8						
YBH	**Yreka Blue Hor**	**38.36**	**83**	P	**P**	**20 35 12.1**	**+1.1**
	2.1nm,0.9s,mb4.0,baz=322,slow=12,SNR=3.8						
NVAR	**Mina Array Bea**	**43.04**	**84**	P	**P**	**20 35 50.2**	**+0.7**
	1.4nm,0.6s,mb3.8,baz=289,slow=8.7,SNR=8.7						
NVAR				PcP	PcP	20 37 38.7	+0.4
	0.3nm,0.5s,baz=297,slow=4.0,SNR=2.9						
PDAR	**Pinedale Array**	**45.75**	**73**	P	**P**	**20 36 10.8**	**-0.3**
	2.4nm,0.6s,mb4.1,baz=308,slow=4.3,SNR=17						
SRU	**San Rafael**	**47.39**	**78**	*e*P	**P**	**20 36 24.1**	**+0.1**
	2.7nm,0.9s,mb4.0						
LZH	**Lanzhou**	**55.74**	**286**	*e*P	**P**	**20 37 29.6**	**+3.4**
LZH				AP	pP	20 37 48.7	+3.1
LZH				XP	sP	20 37 57.8	+3.5
LZH				*e*PP	PP	20 39 36.0	+5.0
LZH				AMB	AMB		
	comp=Z,20nm,1.2s,mb5.0						
LZH				AMB	AMB		
	comp=Z,52nm,5.1s						
LZH				LR	LR		
	comp=N,302nm,16.5s						
LZH				LR	LR		
	comp=Z,497nm,18.9s						
ARCES	**ARCESS Array B**	**57.81**	**350**	LR	LR	21 02 40.1	
	comp=Z,87nm,18.2s,baz=194,slow=36						
TXAR	**Lajitas Array**	**58.13**	**82**	P	**P**	**20 37 42.5**	**-0.8**
	comp=Z,0.9nm,0.5s,mb4.1,baz=308,slow=5.5,SNR=20						
TXAR				pP	pP	20 38 03.0	+0.2
	comp=Z,0.3nm,0.4s,baz=306,slow=4.3,SNR=4.1						
TXAR	**Lajitas Array**	**58.13**	**82**	P	**P**	**20 37 42.5**	**-0.8**
TXAR				pP	pP	20 38 03.0	+0.2
GYA	**Guiyang**	**60.76**	**276**	P	**P**	**20 38 03.2**	**+1.9**
GYA				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.9						
KMI	**Kunming**	**64.14**	**278**	P	**P**	**20 38 25.1**	**+1.2**
KMI				AP	pP	20 38 44.7	+0.9
KMI				XP	sP	20 38 53.3	+1.0
KMI				AMB	AMB		
	comp=Z,9.0nm,1.2s,mb4.5						
KMI				AMB	AMB		
	comp=Z,50nm,4.2s						
KMI				LR	LR		
	comp=N,77nm,18.3s						
KMI				LR	LR		
	comp=E,91nm,13.7s						
KMI				LR	LR		
	comp=Z,61nm,17.0s						
CMAR	**Chiang Mai Arr**	**71.45**	**276**	P	**P**	**20 39 09.0**	**-0.9**
	comp=Z,0.2nm,0.4s,mb3.3,baz=24,slow=7.1,SNR=5.2						
WRA	**Warramunga Arr**	**82.61**	**224**	P	**P**	**20 40 11.3**	**-1.0**
	comp=Z,0.6nm,0.7s,mb3.5,baz=32,slow=5.8,SNR=6.6						
FITZ	**Fitzroy Crossi**	**85.06**	**233**	P	**P**	**20 40 24.5**	**-0.3**
	comp=Z,0.9nm,0.6s,mb3.9,baz=45,slow=17,SNR=4.3						
ASAR	**Alice Springs**	**86.08**	**223**	P	**P**	**20 40 29.4**	**-0.3**
	comp=Z,1.0nm,0.7s,mb3.9,baz=37,slow=4.8,SNR=11						
STKA	**Stephens Creek**	**90.49**	**213**	P	**P**	**20 40 50.2**	**-0.3**
	comp=Z,1.5nm,0.7s,mb4.2,baz=350,slow=11,SNR=3.9						
MAW	**Mawson**	**147.06**	**218**	PKPbc	PKPbc	20 47 29.4	-0.8
	comp=Z,2.5nm,0.6s,baz=111,slow=2.7,SNR=4.9						
BOSA	**Boshof**	**151.07**	**314**	PKPbc	PKPbc	20 47 40.0	-1.5
	comp=Z,1.5nm,0.8s,baz=45,slow=1.4,SNR=4.0						

*NIED **10** 20:56:00, 27.80N×142.20E, h47km, Mw3.9 Best double couple: $M_0$8.81000×10^14 NP1:ϕ_s328.00000°, δ57.00000°, λ69.00000°. NP2:ϕ_s184.00000°, δ39.00000°, λ119.00000°.*
*ISCJB **10** 20:56:08.3±1.6, 27.8N±0.2×141.7E±0.5, h36km±22km, mb3.7/8, Error ellipse: s-maj=74.7km s-min=9.9km az=158.5*
*IDC **10** 20:56:10.2±2.7, 27.68N×141.57E, h37km±26km, mb3.5/8, mb1 3.6/9, mb1mx3.6/21, mbtmp3.5/9, ML3.6/1, MS3.1/2, Ms1 3.1/2, ms1mx2.4/44, Error ellipse: s-maj=72.4km s-min=17.1km az=51.0*

ISC 10 20:56:10.3±1.1, 27.8N±0.2×141.8E±0.5, h44km±18km, n15, σ0.48/13, mb3.7/8, Bonin Islands region

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**0.75**	**151**	Pn	**Pn**	**20 56 25.0**	**+0.5**
	277nm,0.3s,baz=312,slow=21,SNR=163						
CBIJ				Sn	**Sn**	**20 56 34.3**	**-0.5**
	834nm,0.3s,baz=3.1,slow=23,SNR=76						
MJAR	**Matsushiro Arr**	**9.27**	**342**	Pn	**Pn**	**20 58 22.1**	**+0.8**
	0.6nm,0.3s,baz=168,slow=12,SNR=5.4						
MJAR				Sn	**Sn**	**21 00 03.5**	**-0.7**
	0.2nm,0.3s,baz=140,slow=25,SNR=3.2						
KSRS	**Korea Array**	**15.14**	**313**	LR	LR	21 05 25.0	
	comp=Z,20nm,18.2s,baz=15,slow=37						
SONM	**Songino Array**	**33.99**	**316**	P	**P**	**21 02 50.2**	**+0.6**
	0.4nm,0.6s,mb3.5,baz=121,slow=8.9,SNR=2.3						
CTA	**Charters Tower**	**47.76**	**174**	LR	LR	21 21 57.6	
	comp=Z,84nm,21.0s,baz=46,slow=32						
ZALV	**Zalesovo Beam**	**48.75**	**319**	P	**P**	**21 04 50.0**	**-0.5**
	0.5nm,0.3s,mb4.0,baz=97,slow=8.1,SNR=2.8						
ZALV				PcP	PcP	21 06 15.4	+0.5
	0.5nm,0.4s,baz=108,slow=4.7,SNR=4.6						
MKAR	**Makanchi Array**	**49.78**	**309**	P	**P**	**21 04 58.4**	**-0.1**
	0.1nm,0.3s,mb3.3,baz=87,slow=11,SNR=6.5						
MKAR				PcP	PcP	21 06 19.9	+1.1
	0.3nm,0.5s,baz=66,slow=4.9,SNR=5.5						
KURK	**Kurchatov**	**52.27**	**314**	P	**P**	**21 05 16.3**	**-0.7**
	0.4nm,0.4s,mb3.7,baz=91,slow=7.1,SNR=3.6						
BVAR	**Borovoye Array**	**57.31**	**317**	P	**P**	**21 05 53.7**	**+0.2**
	0.5nm,0.4s,mb3.9,baz=83,slow=7.1,SNR=5.5						
AKASG	**Malin Array Be**	**81.87**	**324**	P	**P**	**21 08 24.9**	**0.0**
	0.6nm,0.4s,mb3.9,baz=51,slow=4.9,SNR=4.9						
NB2	**NORSAR Subarra**	**82.86**	**338**	P	**P**	**21 08 29.9**	**0.0**
	comp=Z,0.6nm,0.6s,mb3.8,baz=42,slow=5.3						
NOA	**NORSAR Array B**	**82.86**	**338**	P	**P**	**21 08 30.3**	**+0.4**
	comp=Z,1.0nm,0.7s,mb4.0,baz=48,slow=4.6,SNR=3.5						
GERES	**GERESS Array B**	**90.76**	**329**	P	**P**	**21 09 08.8**	**+0.2**
	comp=Z,0.2nm,0.4s,mb3.8,baz=49,slow=6.2,SNR=4.0						
TORD	**Torodi Ar. Bea**	**123.88**	**311**	PKP	PKPdf	21 15 04.6	+0.3
	comp=Z,0.3nm,0.8s,baz=355,slow=3.1,SNR=3.1						
LPAZ	**La Paz**	**150.10**	**74**	PKPbc	PKPbc	21 15 59.0	+2.1
	comp=Z,0.6nm,0.4s,baz=270,slow=5.1,SNR=3.8						

ISCJB **10** *20:59:56.4±2.5, 2.81S±0.04×138.56E±0.07, h15km±18km, mb4.2/13, Error ellipse: s-maj=12.0km s-min=6.6km az=179.6*
NEIC **10** *21:00:01.5±1.4, 2.84S×138.54E, h41km±14km, mb4.2/10, Error ellipse: s-maj=11.0km s-min=9.8km az=223.0*
IDC **10** *21:00:01.2±0.8, 2.75S×138.59E, h35km±5km, mb3.9/7, mb1 4.0/9, mb1mx3.8/15, mbtmp3.9/9, ML4.0/1, MS4.0/4, Ms1 4.0/4, ms1mx3.4/24, Error ellipse: s-maj=41.9km s-min=15.5km az=73.0*
ISC 10 21:00:02.3±1.5**, 2.89S**±0.06×**138.47E**±0.08**, h45**km±15km**,**
h36km±.2km**:pP-P, n36,** σ**0.92**/39**, mb4.2**/13**, 1D, Irian Jaya**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	10.79	127	ePn	Pn	21 02 34.2	-0.1
	11nm,0.8s						
PMG				eSn	Sn	21 04 27.9	-5.9
KAKA	Kakadu	11.44	211	⇓iP	Pn	21 02 44.0	+0.9
	22nm,0.5s						
KAKA				eS	Sn	21 04 54.4	+4.9
COEN	Coen	11.94	157	ePn	Pn	21 02 47.9	-2.0
	22nm,1.4s						
COEN				eSn	Sn	21 05 03.5	+1.8
BATI	Baumata	16.40	243	Pn	Pn	21 03 54.2	+4.8
	1.5nm,0.3s,baz=112,slow=19,SNR=2.7						
WB2	Warramunga Arr	17.42	193	ePn	Pn	21 04 01.6	-0.4
WB2				eSn	Sn	21 07 13.9	-1.2
WRA	Warramunga Arr	17.42	193	P	Pn	21 04 00.7	-1.4
	0.4nm,0.3s,baz=18,slow=13,SNR=38						
WRA				S	S	21 07 07.0	-15
	0.0nm,0.3s,baz=11,slow=22,SNR=2.6						
WRA				LR	LR	21 11 33.9	
	comp=Z,320nm,19.3s,baz=20,slow=39						
GUMO	Guam	17.56	21	LR	LR	21 09 55.1	
	comp=Z,76nm,20.0s,baz=136,slow=34						
CTA	Charters Tower	18.70	157	eP	Pn	21 04 19.9	+2.1
	4.9nm,0.8s						
CTA	Charters Tower	18.70	157	P	Pn	21 04 18.6	+0.8
	0.3nm,0.3s,baz=338,slow=13,SNR=5.1						
CTA				LR	LR	21 11 55.5	
	comp=Z,430nm,19.6s,baz=29,slow=38						
CTAO	Charters Tower	18.70	157	eP	Pn	21 04 17.6	-0.2
	7.3nm,0.9s						
KAPI	Kappang	18.79	263	LR	LR	21 10 40.3	
	comp=Z,4µm,21.7s,baz=342,slow=34						
FITZ	Fitzroy Crossi	19.66	219	eP	Pn	21 04 30.0	+0.7
	11nm,0.9s						
FITZ				eS	S	21 08 06.3	-0.8
FITZ	Fitzroy Crossi	19.66	219	P	Pn	21 04 30.1	+0.8
	0.2nm,0.3s,baz=36,slow=13,SNR=6.1						
FITZ				S	S	21 08 04.0	-3.1
	0.1nm,0.3s,baz=84,slow=9.2,SNR=2.3						
FITZ	Fitzroy Crossi	19.66	219	eP	Pn	21 04 29.2	-0.1
	9.6nm,0.6s						
FITZ				eS	S	21 08 06.3	-0.8
ASAR	Alice Springs	21.12	192	P	P	21 04 43.6	+0.3
	2.8nm,0.4s,mb3.9,baz=18,slow=11,SNR=38						
ASAR				S	S	21 08 35.5	-0.4
	0.7nm,0.8s,baz=16,slow=21,SNR=2.4						
HNR	Honiara	22.31	108	P	P	21 04 55.4	-0.8
KKM	Kota Kinabalu	23.93	292	eP	P	21 05 12.7	+0.3
STKA	Stephens Creek	28.98	175	P	P	21 05 58.8	+1.1
	5.2nm,1.2s,mb4.1,baz=356,slow=8.7,SNR=4.8						
NWAO	Narrogin (SRO)	35.90	211	eP	P	21 06 59.7	+1.5
	26nm,1.4s,mb5.0						
SONM	Songino Array	57.78	335	P	P	21 09 48.9	+0.1
	0.9nm,0.6s,mb4.0,baz=153,slow=7.5,SNR=4.7						
MK31	Makanchi Array	69.78	323	eP	P	21 11 07.9	0.0
MK31				e	pP	21 11 18.6	-2.4
MKAR	Makanchi Array	69.78	323	P	P	21 11 08.3	+0.4
	2.3nm,0.7s,mb4.2,baz=109,slow=8.1,SNR=25						
MKAR				pP	pP	21 11 18.9	-2.1
	1.3nm,0.6s,baz=112,slow=8.0,SNR=7.1						
MKAR	Makanchi Array	69.78	323	P	P	21 11 08.3	+0.4
MKAR				pP	pP	21 11 18.9	-2.1
ZALV	Zalesovo Beam	71.97	330	P	P	21 11 19.8	-1.2
	0.8nm,0.5s,mb3.9,baz=119,slow=5.9,SNR=4.3						
TKM2	Tokmak 2	72.51	317	eP	P	21 11 23.9	-0.6
	2.3nm,1.1s,mb4.0						
UCH	Uchtor	73.01	316	eP	P	21 11 27.5	+0.1
	1.8nm,0.7s,mb4.1						
AML	Almayashu	73.55	315	eP	P	21 11 31.6	+0.9
	3.2nm,1.0s,mb4.2						
EKS2	Erkin-Say	73.67	316	eP	P	21 11 31.6	+0.2
	0.9nm,0.6s,mb3.9						
KURK	Kurchatov	73.72	325	P	P	21 11 31.5	+0.1
	2.1nm,0.9s,mb4.1,baz=112,slow=6.2,SNR=7.7						
KURK	Kurchatov	73.72	325	eP	P	21 11 31.1	-0.3
	7.3nm,1.4s,mb4.4						
KURK				e	pP	21 11 41.9	-2.8
BVAR	Borovoye Array	79.32	325	P	P	21 12 03.0	-0.1
	1.5nm,0.6s,mb4.1,baz=114,slow=7.2,SNR=14						
BVAR				pP	pP	21 12 13.6	-2.9
	1.3nm,0.6s,baz=111,slow=7.0,SNR=6.0						
BRVK	Borovoye	79.39	325	eP	P	21 12 03.1	-0.4
	2.8nm,0.6s,mb4.4						
TORD	Torodi Ar. Bea	136.07	286	PKP	PKPdf	21 19 18.0	-1.6
	0.2nm,0.6s,baz=112,slow=1.8,SNR=4.2						
CPUP	Villa Florida	147.18	153	PKPbc	PKPbc	21 19 40.9	-0.4
	3.1nm,0.9s,baz=153,slow=6.4,SNR=5.6						
LPAZ	La Paz	147.53	127	PKPbc	PKPbc	21 19 42.5	-0.1
	1.2nm,0.7s,baz=220,slow=7.9,SNR=4.8						
LPAZ				pPKPbc	pPKPbc	21 19 54.4	-2.1
	0.4nm,0.5s,baz=284,slow=8.3,SNR=3.8						
LPAZ	La Paz	147.53	127	PKPbc	PKPbc	21 19 42.5	-0.1
LPAZ				pPKPbc	pPKPbc	21 19 54.4	-2.0

TAP **10** *21:06:21.4, 21.99N×120.41E, h44km, ML2.7, C*
ISC 10 21:06:21.9±1.0**, 21.94N**±0.05×**120.38E**±0.06**, h47**km±8km**,**
n21, σ**0.46**/42**, 1D, Taiwan region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
HEN	Hengchun	0.34	79	iP	Pn	21 06 30.6	-0.5
	baz=86						
HEN				iS	Sn	21 06 37.7	0.0
	baz=86						
TWK1	Hengchun	0.39	90	iP	Pn	21 06 31.3	-0.4
	baz=86						
TWK1				iS	Sn	21 06 38.6	-0.1
	baz=86						
TWP	Hsiaoliuchiu	0.40	357	eP	Pn	21 06 32.4	+0.6
	baz=342						
TWP				eS	Sn	21 06 41.0	+2.0
	baz=342						
SCZT	Fangliau	0.48	27	⇓iP	Pn	21 06 32.1	-0.7
	baz=28						
SCZT				iS	Sn	21 06 39.8	-0.7
	baz=28						
EAST	Anshuo	0.61	44	P	Pn	21 06 34.2	-0.2
	baz=46						
EAST				S	Sn	21 06 43.6	+0.1
	baz=46						
KAU	Kaohsiung	0.63	354	eP	Pn	21 06 34.3	-0.3
	baz=342						
KAU				eS	Sn	21 06 43.4	-0.3
	baz=342						
TAW	Tawu	0.63	49	eP	Pn	21 06 34.1	-0.6
	baz=41						
TAW				eS	Sn	21 06 43.1	-0.7
	baz=41						
SSD	Sandimen	0.83	16	P	Pn	21 06 37.1	-0.2
	baz=26						
SSD				S	Sn	21 06 48.8	+0.2
	baz=26						
ECL	Taimali	0.84	39	eP	Pn	21 06 37.2	-0.2
	baz=32						
ECL				eS	Sn	21 06 48.8	+0.1
	baz=32						
TWM1	Shoushan	0.88	2	eP	Pn	21 06 37.7	-0.2
	baz=14						
TWM1				eS	Sn	21 06 49.1	-0.5
	baz=14						
TWG	Pinlang	1.08	36	eP	Pn	21 06 40.9	+0.2
	baz=32						
TWG				eS	Sn	21 06 54.8	+0.2
	baz=32						
LAY	Lan-yu	1.09	85	eP	Pn	21 06 41.2	+0.4
	baz=77						
LAY				eS	Sn	21 06 55.6	+0.9
	baz=77						
SGST	Jiashian	1.15	9	eP	Pn	21 06 41.4	-0.2
	baz=10.0						
SGST				eS	Sn	21 06 56.3	+0.1
	baz=10.0						
CHN1	Nanshi	1.24	6	eP	Pn	21 06 43.1	+0.2
	baz=7.0						
CHN1				eS	Sn	21 06 58.1	-0.4
	baz=7.0						
STYT	Tauyuan	1.26	16	eP	Pn	21 06 43.4	+0.3
	baz=17						
STYT				eS	Sn	21 06 58.9	-0.1
	baz=17						
TWK	Hsinying	1.32	4	eP	Pn	21 06 44.1	+0.1
	baz=5.0						
TWK				eS	Sn	21 07 00.5	+0.1
	baz=5.0						
ELDTW	Lidau	1.37	25	eP	Pn	21 06 44.2	-0.5
	baz=27						
ELDTW				eS	Sn	21 07 01.4	-0.3
	baz=27						
CHKT	Chengkung	1.47	38	eP	Pn	21 06 46.2	+0.3
	baz=47						
CHKT				eS	Sn	21 07 04.3	+0.3
	baz=47						
ALS	Alishan	1.61	14	eP	Pn	21 06 48.5	+0.6
	baz=16						
ALS				eS	Sn	21 07 07.6	+0.2
	baz=16						
YUS	Yu-Shan	1.63	19	eP	Pn	21 06 48.4	+0.3
	baz=21						
YUS				eS	Sn	21 07 07.9	0.0
	baz=21						
TWF1	Yuli	1.64	31	eP	Pn	21 06 48.2	0.0
	baz=22						
TWF1				eS	Sn	21 07 08.3	+0.1
	baz=22						

MOS **10** *21:06:42.3±0.9, 0.61N×120.48E, h33km, mb5.3/23, Error ellipse: s-maj=13.8km s-min=5.9km az=120.7*
ISCJB **10** *21:06:44.3±0.2, 0.58N±0.02×120.42E±0.03, h48km, mb5.2/97, MS4.0/28, Error ellipse: s-maj=3.7km s-min=3.3km az=161.2*
IDC **10** *21:06:45.5±0.4, 0.57N×120.42E, h46km±3km, mb4.7/23, mb1 4.7/25, mb1mx4.6/28, mbtmp4.7/25, MS4.0/17, Ms1 4.0/17, ms1mx3.9/23, Error ellipse: s-maj=17.8km s-min=8.5km az=70.0*
BJI **10** *21:06:45.7, 0.45N×120.46E, h71km, mB5.1, mb5.1, Ms4.2, Msz4.2*
DJA **10** *21:06:45.9±0.4, 1N±4×120E±, h10km, mB5.6/7, Mjma4.6/7, MLv5.3/9, Mw(mB)5.3/7, Mwp4.4/7*
NEIC **10** *21:06:47.1±0.8, 0.56N×120.41E, h60km±8km, mb5.1/27, Error ellipse: s-maj=7.5km s-min=3.9km az=60.0*
GCMT **10** *21:06:47.1±0.3, 0.57N×120.38E, h54km±3km, MW4.9/56, Moment Tensor Solution. s24,c30; s56,c92; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-0.80±.20; $M_{\theta\theta}$2.21±.13; $M_{\phi\phi}$-1.41±.19; $M_{r\theta}$-1.56±.09; $M_{\theta\phi}$0.00±.12; $M_{\phi r}$-1.49±.12; Best double couple: $M_0$2.89800×10^{16} NP1:ϕ_s309.00000°, δ39.00000°, λ-16.00000°. NP2: ϕ_s52.00000°, δ80.00000°, λ-128.00000°. Principal axes: T 2.9600, Plg25.0000°, Azm171.0000°; N -0.1200, Plg37.0000°, Azm60.0000°; P -2.8360, Plg43.0000°, Azm286.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
ISC 10 21:06:46.3±0.2**, 0.57N**±0.02×**120.44E**±0.03**, h50**km±1.4km**:pP-P, n267,** σ**1.09**/269**, mb5.2**/97**, MS4.0**/28**,**
18C-36D, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PCI	Palu	1.58	202	P	Pn	21 07 13.5	+1.5
PCI	Palu	1.58	202	S	Sn	21 07 33.8	+2.5
MNI	Manado	4.49	79	P	Pn	21 07 55.0	+3.2
MNI	Manado	4.49	79	S	Sn	21 08 43.8	+1.0
TSM	Tawau	4.50	325	⇓P	Pn	21 07 50.8	-1.2
MYLDM	Lahad Datu	4.97	337	⇑P	Pn	21 08 00.1	+1.6
KDI	Kendari	5.00	154	P	Pn	21 08 01.3	+2.4
	836nm,0.9s,6µm2.1nm						
KAPI	Kappang	5.59	187	Pn	Pn	21 08 08.5	+1.5
	3µm,0.5s,SNR=28						
KAPI	Kappang	5.59	187	⇑P	Pn	21 08 08.0	+1.1
	SNR=30						
KAPI	Kappang	5.59	187	P	Pn	21 08 07.7	+0.7
	8.9nm,0.3s,baz=354,slow=6.7,SNR=6.6						
KAPI	Kappang	5.59	187	ePn	Pn	21 08 08.4	+1.5
KAPI				eSn	Sn	21 09 07.7	-2.2
SDKM	Sandakan	5.99	327	⇓P	Pn	21 08 12.1	-0.3
ZMPH	Zamboanga City	6.54	14	⇓iP	Pn	21 08 20.0	0.0
ZMPH				eS	Sn	21 09 11.9	-22
KKM	Kota Kinabalu	6.88	322	⇑P	Pn	21 08 24.7	0.0
KKM	Kota Kinabalu	6.88	322	ePn	Pn	21 08 24.1	-0.5
KKM				eSn	Sn	21 09 25.6	-16
BBKI	Banjar Baru	6.88	234	P	Pn	21 08 24.7	0.0
	214nm,0.9s,2µm0.9nm						
TNTI	Ternate	6.93	88	P	Pn	21 08 28.7	+3.3
	145nm,1.1s,2µm0.5nm						
PLKI	Palangkaraya	7.06	247	P	Pn	21 08 30.4	+3.3
	218nm,0.6s,1.1nm						
LBMI	Labuha	7.17	100	P	Pn	21 08 31.0	+2.4
	256nm,0.6s,3µm3.0nm						
LBMI	Labuha	7.17	100	S	Sn	21 09 54.3	+5.6
	256nm,0.6s,3µm3.0nm						
KDM	Kudat	7.25	330	⇓P	Pn	21 08 30.1	+0.3
BTM	Bintulu	7.80	290	⇑P	Pn	21 08 39.3	+2.0
PAGZ	Pagadian	7.80	22	eP	Pn	21 08 36.1	-1.2
DAV	Davao City (W)	8.24	38	S	Sn	21 10 19.4	+4.2
	28nm,0.3s,baz=92,slow=9.0,SNR=2.0						
DAV				LR	LR	21 11 55.7	
	comp=Z,764nm,21.0s,baz=348,slow=38						
SBUM	Sibu	8.42	283	⇓P	Pn	21 08 48.4	+2.6
BATP	Bataraza	8.58	342	eP	Pn	21 08 49.1	+1.1
BUKP	Musuan	8.60	32	eP	Pn	21 08 45.6	-2.7
AAI	Ambon	8.83	119	P	Pn	21 08 57.6	+6.2
	271nm,0.8s,2µm0.7nm						
AAI	Ambon	8.83	119	P	Pn	21 08 58.3	+6.9
	271nm,0.8s,2µm0.7nm						
STKI	Sintang	8.97	267	P	Pn	21 08 52.8	-0.6
	78nm,1.0s,0.2nm						
PBKI	Pangkalan Bun	9.35	250	P	Pn	21 08 57.8	-0.7
	293nm,1.0s,3µm						
BUTP	Butuan	9.81	32	eP	Pn	21 08 55.6	-9.2
KHKI	Kahang-Kahang	10.10	208	P	Pn	21 09 11.5	+2.7
KSM	Kuching	10.17	275	⇑P	Pn	21 09 11.3	+1.5
KSM	Kuching	10.17	275	eP	Pn	21 09 09.4	-0.4
GUIM	Jordan	10.21	12	eP	Pn	21 09 10.4	0.0
CUYO	Cuyo Island	10.23	3	eP	Pn	21 09 10.5	0.0
ENPP	El Nido	10.61	355	eP	Pn	21 09 16.0	+0.2
BATI	Baumata	11.18	163	P	Pn	21 09 29.0	+5.5
	6.6nm,0.3s,baz=15,slow=1.4,SNR=7.7						
BATI				LR	LR	21 14 25.4	
	comp=Z,3µm,20.8s,baz=329,slow=41						
BUSP	Coron	11.36	359	eP	Pn	21 09 26.5	+0.5
SJMP	San Jose	11.83	3	eP	Pn	21 09 39.1	+6.7
LUBP	Lubang	13.08	359	eP	Pn	21 09 50.9	+1.4
TPI	Tanjungpandan	13.20	255	P	Pn	21 09 51.9	+0.7
	58nm,1.6s,684nm						
BJII	Banjamegara	13.27	234	P	Pn	21 09 56.2	+4.0
PPBI	Pangkal Pinang	14.55	259	P	Pn	21 10 09.6	+0.1
BALP	Baler	15.12	4	eP	Pn	21 10 18.8	+2.0
CAUP	Cauayan	16.33	5	eP	Pn	21 10 30.6	-1.7
MYKOM	Kota Tinggi	16.63	274	⇓P	Pn	21 10 36.1	-0.1
KGM	Kluang	17.17	275	⇑P	Pn	21 10 43.0	+0.1
KAKA	Kakadu	17.77	138	eP	Pn	21 10 49.6	-0.7
	58nm,0.6s						
KTGM	Kuala Trenggan	17.91	286	⇓P	Pn	21 10 52.6	+0.6
FRIM	Kepong	18.98	278	⇓P	Pn	21 11 05.5	+0.5
FITZ	Fitzroy Crossi	19.25	165	eP	Pn	21 11 07.8	-0.3
	26nm,0.6s						
FITZ	Fitzroy Crossi	19.25	165	P	Pn	21 11 06.2	-1.9
	3.2nm,0.3s,baz=5.0,slow=9.7,SNR=45						
FITZ				LR	LR	21 19 23.5	
	comp=Z,327nm,21.8s,baz=170,slow=39						
FITZ	Fitzroy Crossi	19.25	165	eP	Pn	21 11 06.7	-1.5
	24nm,0.6s						
IPM	Ipoh	19.77	282	⇓P	Pn	21 11 14.3	-0.1
KULM	Kulim	20.30	284	⇑P	P	21 11 19.1	+0.8
QIZ	Qiongzhong	21.08	331	P	P	21 11 26.2	-0.4
QIZ				AP		21 11 39.7	
QIZ				S	S	21 15 17.8	-0.9
QIZ				XS	sS	21 15 39.7	+2.3
QIZ				AMB	AMB		
	comp=Z,57nm,1.1s,mb4.8						
QIZ				LR	LR		
	comp=N,319nm,25.1s,MS3.7						
QIZ				LR	LR		
	comp=E,279nm,23.2s,MS3.7						
QIZ				LR	LR		
	comp=Z,761nm,25.1s,MS4.0						
QIZ	Qiongzhong	21.08	331	eP	P	21 11 26.4	-0.2
	comp=Z,149nm,1.5s,mb5.1						
NACB	Ninganchiao	23.49	3	eP	P	21 11 51.3	-0.6
YHNB	Yeheng	23.97	2	eP	P	21 11 56.3	0.0
	comp=Z,93nm,1.3s,mb5.0						
QZH	Quanzhou	24.29	356	⇑iP	P	21 11 59.5	+0.3
QZH				AMB	AMB		
	comp=Z,170nm,1.1s,mb5.4						
WRA	Warramunga Arr	24.52	147	P	P	21 12 01.0	-0.4
	comp=Z,19nm,0.4s,mb5.0,baz=337,slow=9.4,SNR=296						
WRA				PcP	PcP	21 15 37.8	-1.1
	comp=Z,0.5nm,0.4s,baz=331,slow=2.0,SNR=3.1						
WRA				ScP	ScP	21 19 10.9	-2.8
	comp=Z,4.1nm,1.0s,baz=335,slow=3.1,SNR=9.9						
WRA	Warramunga Arr	24.52	147	P	P	21 12 01.0	-0.3
WRA						21 15 37.8	
WB2	Warramunga Arr	24.53	147	eP	P	21 12 00.7	-0.7
COCO	West Island	26.64	241	P	P	21 12 20.2	-0.4
BDT	Bhumibol Dam	26.82	309	P	P	21 12 22.0	-0.2
JOW	Kunigami	27.18	15	LR	LR	21 22 26.3	
	comp=Z,448nm,20.9s,MS4.0,baz=150,slow=35						
ASAR	Alice Springs	27.42	152	P	P	21 12 27.4	0.0
	comp=Z,14nm,0.3s,mb4.9,baz=334,slow=9.5,SNR=246						
ASAR				PcP	PcP	21 15 44.6	-0.9
	comp=Z,0.9nm,0.4s,baz=351,slow=2.1,SNR=4.3						
ASAR				pPcP		21 15 59.6	
	comp=Z,1.2nm,0.5s,baz=348,slow=2.5,SNR=4.0						
ASAR				S	S	21 17 04.5	+0.1
	comp=Z,3.4nm,1.1s,baz=345,slow=22,SNR=6.4						
ASAR				ScP	ScP	21 19 20.0	-2.1
	comp=Z,3.2nm,0.9s,baz=335,slow=2.1,SNR=12						
ASAR	Alice Springs	27.42	152	P	P	21 12 27.5	0.0
ASAR						21 15 44.6	
ASAR				S	S	21 17 04.6	+0.1
GUMO	Guam	27.43	61	LR	LR	21 21 15.5	
	comp=Z,117nm,21.5s,MS3.4,baz=244,slow=32						
CM31	Chiang Mai Arr	27.59	311	eP	P	21 12 28.6	-0.5
	comp=Z,5.3nm,0.9s,mb4.2						
CMAR	Chiang Mai Arr	27.59	311	P	P	21 12 28.5	-0.6
	comp=Z,3.4nm,0.8s,mb4.0,baz=136,slow=7.3,SNR=29						
CMAR				PcP	PcP	21 15 46.4	+0.3
	comp=Z,2.3nm,0.9s,baz=169,slow=2.3,SNR=8.6						
CMAR				LR	LR	21 25 08.9	
	comp=Z,485nm,19.3s,MS4.1,baz=128,slow=40						
CMAR	Chiang Mai Arr	27.59	311	P	P	21 12 28.5	-0.6
CMAR						21 15 46.4	
CHG	Chiang Mai	27.81	312	⇓P	P	21 12 30.4	-0.7
	comp=Z,14nm,1.2s,mb4.5						
CHTO	Chiang Mai	27.81	312	⇑P	P	21 12 31.1	+0.1
	SNR=7.3						
CHTO	Chiang Mai	27.81	312	eP	P	21 12 30.9	-0.2
PMG	Port Moresby	28.39	111	eP	P	21 12 36.2	-0.1
PMG				pmax	pmax		
	comp=Z,18nm,1.2s						
PMG	Port Moresby	28.39	111	eP	P	21 12 36.2	-0.1
	comp=Z,18nm,1.2s,mb4.6						
GYA	Guiyang	28.95	334	⇑iP	P	21 12 44.0	+2.9
GYA				AP	pP	21 12 58.3	+4.3
GYA				XP	sP	21 13 04.6	+4.8
GYA				PP	PP	21 13 41.2	-6.1
GYA				PCP	PcP	21 15 51.8	+2.6
GYA				S	S	21 17 31.0	+2.4
GYA				XS	sS	21 17 55.8	+5.5
GYA				SCP	ScP	21 19 26.4	-0.4
GYA				AMB	AMB		
	comp=Z,20nm,0.9s,mb4.8						
GYA				AMB	AMB		
	comp=Z,130nm,4.9s						
GYA				LR	LR		
	comp=N,870nm,16.8s,MS4.5						
GYA				LR	LR		
	comp=E,760nm,17.7s,MS4.5						
GYA				LR	LR		
	comp=Z,900nm,16.4s,MS4.5						
KMI	Kunming	29.80	326	P	P	21 12 50.4	+1.7
KMI				PP	PP	21 13 50.4	-6.3
KMI				S	S	21 17 45.1	+3.1
KMI				XS	sS	21 18 05.9	+2.2
KMI				SS	ScP	21 19 23.0	-6.6
KMI				AMB	AMB		
	comp=Z,12nm,1.0s,mb4.6						
KMI				AMB	AMB		
	comp=Z,64nm,3.1s						
KMI				LR	LR		
	comp=N,223nm,20.8s,MS3.9						
KMI				LR	LR		
	comp=E,205nm,22.7s,MS3.9						
KMI				LR	LR		
	comp=Z,389nm,24.7s,MS3.9						
KMI	Kunming	29.80	326	P	P	21 12 50.4	+1.7
KMI				*PP	pP	21 13 01.1	-0.4
KMI				*SP	sP	21 13 06.8	-0.6
KMI						21 13 50.4	
KMI				PPP		21 14 05.7	
KMI				S	S	21 17 45.1	+3.1
KMI				*SS	sS	21 18 05.9	+2.2
KMI				SS	ScP	21 19 23.0	-6.6
KMI				pmax	pmax		
	comp=Z,12nm,1.0s,mb4.6						
KMI				MLR	MLR		
	comp=Z,390nm,24.7s,MS4.0						
KMI	Kunming	29.80	326	P	P	21 12 50.4	+1.7
	comp=Z,12nm,1.0s,mb4.6						
KMI				pP	pP	21 13 01.1	-0.4
KMI				sP	sP	21 13 06.8	-0.6
KMI				PP	PP	21 13 50.4	-6.3
KMI				PPP		21 14 05.7	
KMI				S	S	21 17 45.1	+3.1
KMI				sS	sS	21 18 05.9	+2.2
KMI				SS	ScP	21 19 23.0	-6.6
KMI				LR	LR		
	comp=Z,390nm,24.7s,MS4.0						
NJ2	Nanjing	31.35	357	eP	P	21 13 03.8	+1.6
NJ2				AP	pP	21 13 18.6	+3.5
NJ2				XP	sP	21 13 25.7	+4.7
NJ2				S	S	21 18 05.5	-0.5
NJ2				XS	sS	21 18 31.0	+3.3
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.8						
NJ2				AMB	AMB		
	comp=Z,130nm,5.4s						
NJ2				LR	LR		
	comp=N,320nm,23.6s,MS4.1						
NJ2				LR	LR		
	comp=E,490nm,28.5s,MS4.1						
NJ2				LR	LR		
	comp=Z,520nm,30.0s,MS4.0						
FORT	Forrest	32.01	168	eP	P	21 13 07.6	-0.5
	comp=Z,25nm,0.4s,mb5.4						
KLBR	Kellerberrin	32.09	184	eP	P	21 13 07.4	-1.3
	comp=Z,34nm,1.3s,mb5.0						
CTA	Charters Tower	32.58	131	P	P	21 13 13.6	+0.4
	comp=Z,5.6nm,0.9s,mb4.5,baz=304,slow=11,SNR=4.6						
CTAO	Charters Tower	32.58	131	eP	P	21 13 11.8	-1.4
CTAO				e	pP	21 13 25.3	-0.8
CTAO				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.5						
CTAO	Charters Tower	32.58	131	eP	P	21 13 11.8	-1.4
	comp=Z,4.6nm,0.8s,mb4.5						
CTAO				e	pP	21 13 25.3	-0.8
NWAO	Narrogin (SRO)	33.45	185	P	P	21 13 20.1	-0.5
	comp=Z,12nm,0.6s,mb5.0,baz=5.4,slow=6.9,SNR=22						
NWAO	Narrogin (SRO)	33.45	185	eP	P	21 13 20.3	-0.3
CBIJ	Chichi jima	33.65	37	LR	LR	21 25 08.2	
	comp=Z,72nm,20.3s,MS3.4,baz=236,slow=33						
CD2	Chengdu	34.07	334	⇓iP	P	21 13 26.0	-0.1
CD2				AP	pP	21 13 41.0	+2.0
CD2				XP	sP	21 13 48.2	+3.3
CD2				PP	PP	21 14 41.3	-2.7
CD2				PCP	PcP	21 16 03.0	+0.1
CD2				S	S	21 18 45.9	-2.5
CD2				PCS	PcS	21 19 48.0	-1.1
CD2				SS	SS	21 20 56.4	-21
CD2				SCS	ScS	21 23 42.0	-4.1
CD2				AMB	AMB		
	comp=Z,70nm,1.2s,mb5.5						
CD2				AMB	AMB		
	comp=Z,180nm,4.8s						
CD2				LR	LR		
	comp=E,280nm,20.4s						
CD2				LR	LR		

comp=Z,450nm,20.8s,MS4.2
XAN Xi'an 35.00 343 P **P** **21 13 33.9 -0.2**
XAN AP pP 21 13 47.4 +0.4
XAN XP sP 21 13 55.5 +2.6
XAN S **S** **21 18 59.8 -2.9**
XAN AMB AMB
comp=Z,15nm,1.0s,mb4.9
XAN AMB AMB
comp=Z,84nm,6.8s
XAN LR LR
comp=N,86nm,19.3s,MS3.7
XAN LR LR
comp=E,103nm,20.2s,MS3.7
XAN LR LR
comp=Z,348nm,20.6s,MS4.1
SHL Shillong 37.10 314 *eP* **P** **21 13 52.5 +0.3**
SHL AMb AMB 21 13 59.7
comp=Z,24nm,0.4s,mb5.4
KS15 Wonju Array Si 37.33 10 *eP* **P** **21 13 55.6 +1.7**
KS15 *epP* pP 21 14 08.7 +1.7
KSRS Korea Array 37.35 10 P **P** **21 13 54.5 +0.5**
comp=Z,14nm,0.7s,mb4.9,baz=195,slow=8.7,SNR=51
KSRS pP pP 21 14 07.1 0.0
comp=Z,7.9nm,0.8s,baz=228,slow=5.0,SNR=8.9
KSRS LR LR 21 28 21.8
comp=Z,216nm,20.8s,MS3.9,baz=190,slow=35
STKA Stephens Creek 37.98 150⇑ *iP* **P** **21 13 59.9 +0.4**
comp=Z,15nm,0.4s,mb5.1
STKA Stephens Creek 37.98 150 P **P** **21 13 60.0 +0.4**
comp=Z,15nm,0.4s,mb5.1,baz=327,slow=8.0,SNR=140
STKA Stephens Creek 37.98 150 *eP* **P** **21 13 59.8 +0.3**
comp=Z,46nm,1.2s,mb5.1
DL2 Dalian 38.16 2 P **P** **21 14 01.5 +0.5**
DL2 AMB AMB
comp=Z,30nm,1.3s,mb4.9
LZH Lanzhou 38.55 338⇓ P **P** **21 14 05.2 +0.9**
LZH AP pP 21 14 17.3 0.0
LZH PP PP 21 15 38.5 +5.2
LZH S **S** **21 19 59.3 +2.5**
LZH *eSS* SS 21 22 42.5 -5.7
LZH AMB AMB
comp=Z,49nm,1.0s,mb5.2
LZH AMB AMB
comp=Z,173nm,5.2s
LZH LR LR
comp=N,552nm,12.8s
LZH LR LR
comp=Z,897nm,16.5s,MS4.7
LZH Lanzhou 38.55 338⇓ P **P** **21 14 05.2 +0.9**
LZH *PP pP 21 14 17.3 0.0
LZH 21 15 38.5
LZH S **S** **21 19 59.3 +2.5**
LZH *SS sS 21 20 12.1 -6.7
LZH *eSS* SS 21 22 42.5 -5.7
LZH pmax pmax
comp=Z,49nm,1.0s,mb5.2
LZH MLR MLR
comp=Z,900nm,16.5s,MS4.7
LZH Lanzhou 38.55 338⇓ P **P** **21 14 05.2 +0.9**
comp=Z,49nm,1.0s,mb5.2
LZH pP pP 21 14 17.3 0.0
LZH sP sP 21 14 23.0 -0.2
LZH PP PP 21 15 38.5 +5.2
LZH S **S** **21 19 59.3 +2.5**
LZH sS sS 21 20 12.1 -6.7
LZH *eSS* SS 21 22 42.5 -5.7
LZH LR LR
comp=Z,900nm,16.5s,MS4.7
MAJO Matsushiro 39.40 23 *eP* **P** **21 14 09.9 -1.4**
MAJO *e*PP pP 21 14 23.2 -1.3
MAJO pmax pmax
comp=Z,77nm,1.7s,mb5.2
MAJO Matsushiro 39.40 23 *eP* **P** **21 14 09.9 -1.5**
comp=Z,77nm,1.7s,mb5.2
MAJO *epP* pP 21 14 23.2 -1.2
MAT Matsushiro 39.40 23 P **P** **21 14 09.8 -1.5**
MJAR Matsushiro Arr 39.40 23 P **P** **21 14 09.7 -1.7**
comp=Z,9.5nm,0.8s,mb4.6,baz=198,slow=9.2,SNR=32
MJAR pP pP 21 14 22.2 -2.2
comp=Z,8.4nm,0.9s,baz=198,slow=9.3,SNR=9.1
MJAR LR LR 21 27 59.6
comp=Z,113nm,21.5s,MS3.7,baz=210,slow=32
MJAR Matsushiro Arr 39.40 23 P **P** **21 14 09.7 -1.6**
MJAR *PP pP 21 14 22.2 -2.3
BJI Beijing 39.47 355 P **P** **21 14 12.5 +0.6**
BJI AMB AMB
comp=Z,46nm,0.8s,mb5.3
BJI AMB AMB
comp=Z,124nm,3.8s
BJI LR LR
comp=N,171nm,17.1s,MS4.1
BJI LR LR
comp=E,158nm,19.2s,MS4.1
BJI LR LR
comp=Z,198nm,26.8s
BJI Beijing 39.47 355 P **P** **21 14 12.5 +0.6**
comp=Z,46nm,0.8s,mb5.3
BJI S **S** **21 20 22.4 +12**
BJI LR LR
comp=Z,200nm,26.8s,MS3.8
PALK Pallekele 40.17 281 *eP* **P** **21 14 18.4 +0.2**
LSA Lhasa 40.21 319 P **P** **21 14 20.0 +1.8**
LSA AMB AMB
comp=Z,40nm,1.1s,mb5.1
LSA Lhasa 40.21 319 *eP* **P** **21 14 19.6 +1.4**
LSA pmax pmax
comp=Z,33nm,1.0s,mb5.0
LSA Lhasa 40.21 319 *eP* **P** **21 14 19.6 +1.4**
comp=Z,33nm,1.0s,mb5.0
VIS Vishakhapatnam 40.26 297 *eP* **P** **21 14 18.7 -0.1**
HNR Honiara 40.57 105 *eP* **P** **21 14 20.8 -0.6**
BOK Bokaro 40.68 307 *eP* **P** **21 14 22.1 -0.1**
BOK AMb AMB 21 14 26.7
comp=Z,33nm,1.8s,mb4.7
HHC Hu-ho-hao-te 40.89 350⇓ P **P** **21 14 24.7 +1.1**
HHC AP pP 21 14 40.2 +3.4
HHC XP sP 21 14 47.1 +4.5
HHC PP PP 21 16 02.5 +3.8
HHC PCP PcP 21 16 24.9 +1.4
HHC SCP ScP 21 20 07.7 -1.6
HHC PCS PcS 21 20 15.7 +1.3
HHC S **S** **21 20 32.6 +0.9**
HHC XS sS 21 20 59.7 +5.9
HHC SCS ScS 21 24 21.1 -3.2
HHC AMB AMB
comp=Z,28nm,1.2s,mb4.8
HHC AMB AMB
comp=Z,132nm,5.6s
HHC LR LR
comp=N,192nm,15.4s,MS4.2
HHC LR LR
comp=E,178nm,12.7s,MS4.2
HHC LR LR
comp=Z,264nm,14.4s,MS4.2
BTO Baotou 40.96 348 *eP* **P** **21 14 24.6 +0.4**
ODAN Odare 41.13 312⇓ *iP* **P** **21 14 26.4 +0.6**
comp=Z,183nm,1.2s,mb5.6
SNY Shenyang 41.17 4⇓ P **P** **21 14 25.8 -0.1**
SNY AP pP 21 14 38.3 -0.8
SNY AMB AMB
comp=Z,49nm,1.1s,mb5.0
SNY AMB AMB
comp=Z,285nm,5.1s
SNY LR LR
comp=N,258nm,22.7s
SNY LR LR
comp=Z,204nm,32.5s
TAPN Taplejung 41.17 313 *eP* **P** **21 14 26.7 +0.5**
comp=Z,98nm,0.9s,mb5.5
MDRS Chennai 41.71 289 *ex* x 21 13 50.0
MDRS *ex* x 21 17 14.0
RAMN Ramite 41.77 312⇓ *iP* **P** **21 14 32.0 +0.9**
JIRN Jiri 42.46 312⇓ *iP* **P** **21 14 37.5 +0.8**
comp=Z,148nm,0.7s,mb5.7
ARMA Armidale 42.78 139 *eP* **P** **21 14 41.6 +2.3**
GUN Gumba 42.83 312⇓ *iP* **P** **21 14 40.5 +0.8**
comp=Z,300nm,0.8s,mb6.1
PKI Pulchoki 42.99 312⇓ *iP* **P** **21 14 41.5 +0.5**
comp=Z,136nm,0.7s,mb5.8
GTA Gaotai 43.01 336⇓ *iP* **P** **21 14 42.2 +1.3**
GTA AP pP 21 14 53.8 -0.4
GTA PP PP 21 16 26.4 +4.8
GTA PCP PcP 21 16 31.0 +0.4
GTA SCP ScP 21 20 17.4 -0.4
GTA S **S** **21 21 06.3 +3.3**
GTA XS sS 21 21 27.6 +2.4
GTA SCS ScS 21 24 35.2 -2.1
GTA AMB AMB
comp=Z,58nm,0.9s,mb5.3
GTA AMB AMB
comp=Z,164nm,5.4s
GTA LR LR
comp=N,138nm,17.4s,MS4.0
GTA LR LR
comp=E,100nm,15.0s,MS4.0
GTA LR LR
comp=Z,109nm,15.0s,MS3.9
PKIN Phulchoki 43.01 312⇓ *iP* **P** **21 14 41.4 +0.3**
comp=Z,104nm,0.7s,mb5.7
KKN Kakani 43.21 312⇓ *iP* **P** **21 14 43.2 +0.5**
comp=Z,215nm,0.9s,mb5.9
DMN Daman 43.24 311⇓ *iP* **P** **21 14 43.6 +0.6**
comp=Z,227nm,0.7s,mb6.0
KOD Kodaikanal 43.79 284 *eP* **P** **21 14 47.8 +0.2**
KOD AMb AMB 21 14 50.6
comp=Z,28nm,0.5s,mb5.3
GKN Gorkha 43.80 312⇓ *iP* **P** **21 14 47.9 +0.4**
comp=Z,417nm,0.8s,mb6.2
TOO Toolangi 44.46 151 *eP* **P** **21 14 46.7 -5.9**
KOLN Koldanda 44.46 311⇓ *iP* **P** **21 14 53.5 +0.7**
comp=Z,346nm,0.6s,mb6.3
HYB Hyderabad 44.46 294 *i* P **P** **21 14 53.5 +0.5**
HYB *epP* pP 21 15 09.5 +3.2
HYB Hyderabad 44.46 294 *eP* **P** **21 14 53.5 +0.5**
CAN Canberra 44.56 146 *eP* **P** **21 14 54.7 +1.2**
MDJ Mudanjiang 44.60 9 P **P** **21 14 54.3 +0.7**
MDJ AMB AMB
comp=Z,25nm,0.8s,mb5.1
MDJ AMB AMB
comp=Z,34nm,2.8s,mb4.7
MDJ LR LR
comp=N,200nm,20.8s
MDJ LR LR
comp=Z,268nm,19.3s,MS4.2
MDJ Mudanjiang 44.60 9 *eP* **P** **21 14 53.7 +0.1**
comp=Z,25nm,1.0s,mb5.0
MDJ *e* pP 21 15 05.7 -1.3
DANN Dangsing 44.64 311⇓ *iP* **P** **21 14 54.8 +0.6**
comp=Z,487nm,0.6s
CNB Canberra Magne 44.76 146 *eP* **P** **21 14 56.6 +1.5**
NGP Nagpur 45.26 300 *eP* **P** **21 14 57.3 -2.0**
NGP AMb AMB 21 14 59.1
comp=Z,93nm,1.2s,mb5.5
AKL Akola 46.89 298 *eP* **P** **21 15 10.8 -1.3**
AKL AMb AMB 21 15 14.5
comp=Z,59nm,2.2s,mb5.1
ASAJ Asahikawa 47.63 22 P **P** **21 15 17.5 0.0**
comp=Z,27nm,0.7s,mb5.4,baz=236,slow=10,SNR=25
ASAJ pP pP 21 15 30.4 -0.5
comp=Z,35nm,0.7s,baz=235,slow=10.0,SNR=9.9
GOA Goa 48.33 290 *eP* **P** **21 15 23.4 +0.1**
GOA AMb AMB 21 15 24.0
comp=Z,56nm,1.1s,mb5.5
KAD Karad 48.44 293 *eP* **P** **21 15 23.0 -1.2**
KAD AMb AMB 21 15 24.7
comp=Z,46nm,0.5s,mb5.8
HIA Hailar 48.51 359 *eP* **P** **21 15 23.6 -0.6**
HIA pmax pmax
comp=Z,15nm,1.1s
HIA Hailar 48.51 359 *eP* **P** **21 15 23.6 -0.6**
comp=Z,15nm,1.1s,mb5.0
SONM Songino Array 48.63 347 P **P** **21 15 25.9 +0.7**
comp=Z,14nm,0.9s,mb5.0,baz=165,slow=8.7,SNR=49
SONM pP pP 21 15 37.4 -1.2
comp=Z,11nm,0.9s,baz=168,slow=6.7,SNR=9.1
SONM PcP PcP 21 16 49.4 -0.6
comp=Z,5.0nm,0.7s,baz=169,slow=3.5,SNR=5.2
SONM ScP ScP 21 20 39.2 -1.8
comp=Z,0.4nm,0.4s,baz=180,slow=4.4,SNR=3.7
SONM LR LR 21 36 24.6
comp=Z,205nm,18.9s,MS4.1,baz=348,slow=37
SONM Songino Array 48.63 347 P **P** **21 15 25.9 +0.8**
SONM *PP pP 21 15 37.4 -1.2
SONM 21 16 49.4
POO Poona 49.07 294 *eP* **P** **21 15 28.8 -0.2**
KLR Kul'dur 49.44 10 *eP* **P** **21 15 27.0 -4.3**
KLR *e* pP 21 15 38.7 -6.1
KLR pmax pmax
comp=E,35nm,1.8s
KLR pmax pmax
comp=Z,100nm,1.8s,mb5.5
TAU Tasmania Unive 49.57 154 P **P** **21 15 32.3 -0.1**
NDI New Delhi 49.84 308 *eP* **P** **21 15 32.5 -2.2**
YSS Yuzh-Sakhalins 50.14 20⇓ *iP* **P** **21 15 34.5 -2.2**
YSS pmax pmax
comp=Z,30nm,1.7s,mb5.0
DZM Mont Dzumac 50.17 120 *eP* **P** **21 15 38.0 +0.7**
SMLA Simla 50.99 311 *iP* **P** **21 15 43.7 +0.3**
SMLA AMb AMB 21 15 45.4
comp=Z,161nm,0.9s,mb5.9
AJM Ajmer 51.00 304 *eP* **P** **21 15 43.3 -0.3**
AJM AMb AMB 21 15 45.0
comp=Z,48nm,1.2s,mb5.3
ZAK Zakamensk 51.73 346 *eP* **P** **21 15 49.0 +0.4**
ZAK *e* 21 16 59.1
ZAK pmax pmax
comp=Z,10.0nm,1.3s,mb4.6
ZAK pmax pmax
comp=Z,11nm,1.5s,mb4.6
WMQ Urumqi 52.00 330 P **P** **21 15 51.8 +1.1**
WMQ AP pP 21 16 04.3 0.0
WMQ PCP PcP 21 17 03.8 +1.3
WMQ PP PP 21 17 51.0 +1.7
WMQ S **S** **21 23 10.8 +0.2**
WMQ AMB AMB
comp=Z,36nm,1.0s,mb5.3
WMQ LR LR
comp=N,180nm,24.2s,MS4.1
WMQ LR LR
comp=E,142nm,28.0s,MS4.1
WMQ LR LR
comp=Z,229nm,28.0s,MS4.1
THN Thein Dam 52.69 312 *eP* **P** **21 15 54.0 -2.0**
TLY Talaya 52.86 347 *eP* **P** **21 15 57.5 +0.6**
TLY pmax pmax
comp=Z,22nm,1.1s,mb5.0
TLY MLR MLR
comp=Z,107nm,19.0s,MS3.9
TLY Talaya 52.86 347 *eP* **P** **21 15 58.1 +1.2**
comp=Z,16nm,0.9s,mb5.0
MOY Mondy 53.49 345 *eP* **P** **21 16 02.5 +1.0**
MOY pmax pmax
comp=Z,44nm,2.7s,mb4.9
MK31 Makanchi Array 56.80 330 *eP* **P** **21 16 25.9 +0.4**
MK31 pmax pmax
comp=Z,10.0nm,0.4s,mb5.2
MK31 Makanchi Array 56.80 330 *eP* **P** **21 16 25.8 +0.3**
MKAR Makanchi Array 56.80 330 P **P** **21 16 26.1 +0.6**
comp=Z,14nm,0.3s,mb5.4,baz=128,slow=8.5,SNR=267
MKAR pP pP 21 16 37.8 -1.5
comp=Z,5.1nm,0.7s,baz=137,slow=9.1,SNR=4.8
MKAR sP sP 21 16 43.6 -1.3
comp=Z,11nm,0.8s,baz=134,slow=6.9,SNR=6.7
MKAR PcP PcP 21 17 19.3 -1.5
comp=Z,4.9nm,0.6s,baz=152,slow=4.5,SNR=4.7
BOD Bodaibo 57.31 356 *eP* **P** **21 16 29.1 +0.2**
BOD *e* pP 21 16 41.8 -0.8
BOD pmax pmax
comp=Z,25nm,1.2s,mb5.1
BOD pmax pmax
comp=Z,35nm,1.6s,mb5.1
TKM2 Tokmak 2 58.16 322 *eP* **P** **21 16 35.7 +0.5**
TKM2 pmax pmax
comp=Z,29nm,0.9s,mb5.3
TKM2 Tokmak 2 58.16 322 P **P** **21 16 35.8 +0.6**
SNR=28
TKM2 Tokmak 2 58.16 322 *eP* **P** **21 16 35.7 +0.5**
comp=Z,29nm,0.9s,mb5.3
KBK Karagaybulak 58.41 322 P **P** **21 16 38.2 +1.3**
SNR=31
UCH Uchtor 58.45 321 P **P** **21 16 38.8 +1.6**
SNR=21
UCH Uchtor 58.45 321 *eP* **P** **21 16 37.9 +0.7**
KBL Kabul 58.62 311 *eP* **P** **21 16 38.4 -0.2**
KBL pmax pmax
comp=Z,87nm,0.9s,mb5.8
KBL Kabul 58.62 311 *eP* **P** **21 16 38.4 -0.2**
comp=Z,87nm,0.9s,mb5.8
AAK Ala-Archa 58.68 322 P **P** **21 16 40.0 +1.1**
SNR=21
FRU Bishkek 58.71 322 *eP* **P** **21 16 39.0 0.0**
CHMS Chumysh 58.72 322 P **P** **21 16 39.4 +0.3**
SNR=8.9
AML Almayashu 58.91 321 P **P** **21 16 41.8 +1.3**
SNR=44
AML Almayashu 58.91 321 *eP* **P** **21 16 40.9 +0.5**
comp=Z,245nm,1.2s,mb6.1
USP Ospenovka 59.02 322 P **P** **21 16 41.7 +0.5**
SNR=21
EKS2 Erkin-Say 59.14 321 P **P** **21 16 43.1 +1.1**
SNR=28
EKS2 Erkin-Say 59.14 321 *eP* **P** **21 16 42.9 +0.8**
comp=Z,21nm,1.0s,mb5.1
ZAA0 Zalesovo Array 60.76 337 *eP* **P** **21 16 52.3 -0.6**
ZALV Zalesovo Beam 60.76 337 P **P** **21 16 52.2 -0.6**
comp=Z,21nm,0.8s,mb5.3,baz=127,slow=6.1,SNR=68
ZALV pP pP 21 17 04.5 -2.2
comp=Z,7.1nm,0.8s,baz=122,slow=5.4,SNR=4.6
ZALV sP sP 21 17 10.6 -1.7
comp=Z,20nm,1.1s,baz=116,slow=6.8,SNR=4.2
ZALV PcP PcP 21 17 34.1 -2.3
comp=Z,2.8nm,0.5s,baz=144,slow=5.9,SNR=2.0
ZALV Zalesovo Beam 60.76 337 P **P** **21 16 52.2 -0.7**
ZALV *PP pP 21 17 04.5 -2.2
ZALV 21 17 34.1
ZALV Zalesovo Beam 60.76 337 P **P** **21 16 52.2 -0.6**
ZALV pP pP 21 17 04.5 -2.2
ZALV sP sP 21 17 10.6 -1.7
ZALV PcP PcP 21 17 34.1 -2.3
PETK Petropavlovsk- 60.81 25 LR LR 21 42 27.4
comp=Z,43nm,19.8s,MS3.6,baz=128,slow=35
KURK Kurchatov 61.22 331 P **P** **21 16 56.0 -0.1**
comp=Z,394nm,1.0s,SNR=46
KURK Kurchatov 61.22 331⇑ P **P** **21 16 56.9 +0.8**
SNR=18
KURK Kurchatov 61.22 331 P **P** **21 16 55.8 -0.2**
comp=Z,14nm,0.5s,mb5.3,baz=128,slow=6.4,SNR=53
KURK pP pP 21 17 08.3 -1.6
comp=Z,3.7nm,0.6s,baz=145,slow=5.9,SNR=4.2
KURK sP sP 21 17 14.3 -1.3
comp=Z,7.9nm,0.6s,baz=114,slow=5.8,SNR=5.6
KURK PcP PcP 21 17 37.4 -1.0
comp=Z,7.4nm,1.1s,baz=122,slow=4.1,SNR=3.9
KURK Kurchatov 61.22 331⇑ *eP* **P** **21 16 55.7 -0.4**
KURK *i* *PP pP 21 17 14.6 +4.7
KURK pmax pmax
comp=Z,62nm,0.9s,mb5.7
KURK Kurchatov 61.22 331 *eP* **P** **21 16 56.3 +0.3**
KK31 Karatay Array 61.43 320 *i* P **P** **21 16 57.2 -0.4**
KK31 pmax pmax
comp=Z,16nm,1.0s,mb5.1
YAK Yakutsk 61.70 5 *eP* **P** **21 16 56.2 -2.9**
YAK *e* pP 21 17 10.8 -2.2
YAK pmax pmax
comp=Z,21nm,1.1s,mb5.2
YAK pmax pmax
comp=N,9.0nm,1.0s
YAK pmax pmax
comp=E,5.0nm,1.0s
YAK Yakutsk 61.70 5 *eP* **P** **21 16 58.4 -0.7**
YAK *epP* pP 21 17 12.3 -0.7
NVS Novosibirsk 62.04 337⇓ *iP* **P** **21 16 59.4 -2.1**
NVS pmax pmax
comp=N,26nm,1.6s
NVS pmax pmax
comp=E,22nm,1.6s
NVS pmax pmax
comp=Z,42nm,1.6s,mb5.3
RPZ Rata Peaks 63.05 141 LR LR 21 42 43.1
comp=Z,236nm,18.6s,MS4.4,baz=274,slow=34
JMDO Jabal Madar 64.31 295⇓ P **P** **21 17 16.4 -0.8**
SNR=5.5
URZ Urewera 64.76 133 LR LR 21 43 43.7
comp=Z,132nm,19.2s,MS4.1,baz=116,slow=34
VOSK Vostochnaya 66.22 330 P **P** **21 17 28.2 -0.8**
VOSK pmax pmax
comp=Z,23nm,1.0s,mb5.2
BVA0 Borovoye Array 66.69 330 *i* P **P** **21 17 31.3 -0.6**
BVA0 pmax pmax
comp=Z,9.0nm,1.3s,mb4.6
BVAR Borovoye Array 66.69 330 P **P** **21 17 31.8 -0.1**
comp=Z,13nm,0.8s,mb5.0,baz=139,slow=9.2,SNR=76
BVAR pP pP 21 17 45.0 -0.9
comp=Z,4.1nm,0.7s,baz=146,slow=12,SNR=5.1
BVAR sP sP 21 17 49.5 -2.0
comp=Z,8.6nm,0.8s,baz=138,slow=9.0,SNR=6.1
BVAR Borovoye Array 66.69 330 P **P** **21 17 31.8 -0.1**
BVAR *PP pP 21 17 45.0 -0.9
BRVK Borovoye 66.76 330 P **P** **21 17 32.9 +0.5**
comp=Z,167nm,1.1s,mb6.0,SNR=16
BRVK Borovoye 66.76 330⇑ P **P** **21 17 33.0 +0.6**
SNR=11
BRVK Borovoye 66.76 330 *eP* **P** **21 17 32.3 -0.1**
CASY Casey 67.08 184 *eP* **P** **21 17 33.5 -0.7**
comp=Z,2.0nm,0.4s,mb4.5
CASY *e* pP 21 17 46.8 -1.3
RBK Rabkut 67.20 289⇓ P **P** **21 17 34.8 -1.1**
SNR=5.6
WHFO Wadi Hawf 67.66 289⇓ P **P** **21 17 37.6 -1.2**
SNR=8.4
ABTO Aybut 68.04 288⇑ P **P** **21 17 40.1 -1.1**
SNR=5.3
ABKT Aibek 68.07 311 P **P** **21 17 41.9 +0.8**
comp=Z,117nm,0.7s,mb6.0,SNR=14
AB31 Akbulak array 70.72 323 P **P** **21 17 56.2 -1.0**
AB31 pmax pmax
comp=Z,8.0nm,0.6s,mb4.8
AKTK Aktyubinsk 72.32 323 P **P** **21 18 06.7 -0.1**
AKTO Aktyubinsk 72.32 323 P **P** **21 18 06.7 -0.1**
comp=Z,15nm,0.8s,mb5.0,baz=110,slow=6.6,SNR=56
SVE Sverdlovsk 73.45 330⇑ *eP* **P** **21 18 13.2 -0.1**
SVE *e* 21 18 32.4
SVE pmax pmax
comp=Z,85nm,1.1s,mb5.6
ARU Arti 74.33 329 P **P** **21 18 17.2 -1.3**
comp=Z,282nm,0.8s,mb6.2,SNR=15
ARU Arti 74.33 329*d* *iP* **P** **21 18 17.8 -0.7**
ARU *e* pP 21 18 30.5 -2.2
ARU *e**PP pP 21 18 36.2 +3.5
ARU *e* 21 21 01.8
ARU *ePPP* 21 22 54.0
ARU *eS* S 21 27 48.3 -0.6
ARU pmax pmax
comp=Z,58nm,1.0s,mb5.5
ARU Arti 74.33 329 *eP* **P** **21 18 17.9 -0.6**
comp=Z,46nm,0.9s,mb5.4
UMR Umm Al-Rimmam 74.71 300 *eP* **P** **21 18 20.1 -1.2**
baz=300
UMR AMb AMB 21 18 21.3
comp=Z,38nm,1.2s,mb5.2,baz=300
MIB Mutribah 75.07 301 *eP* **P** **21 18 21.9 -1.4**
baz=301
MIB AMb AMB 21 18 23.2
comp=Z,76nm,0.8s,mb5.7,baz=301
NAY Al-Naaiem 75.08 300 *eP* **P** **21 18 21.7 -1.7**
baz=300
NAY AMb AMB 21 18 23.8
comp=Z,10.0nm,1.0s,mb4.7,baz=300
RST Umm Al-Ruwaisa 75.33 300 *eP* **P** **21 18 23.1 -1.7**
baz=300
RST AMb AMB 21 18 24.3
comp=Z,62nm,1.1s,mb5.5,baz=300
MAW Mawson 78.68 199 P **P** **21 18 42.5 -0.3**
comp=Z,5.9nm,0.9s,mb4.5,baz=57,slow=7.3,SNR=8.4
MAW LR LR 21 46 22.7
comp=Z,113nm,20.4s,MS4.2,baz=246,slow=30
MAW Mawson 78.68 199 *eP* **P** **21 18 42.2 -0.6**
MAW pmax pmax
comp=Z,12nm,1.0s
MAW Mawson 78.68 199 *eP* **P** **21 18 42.2 -0.7**
comp=Z,12nm,1.0s,mb4.8
GNI Garni 78.71 311 P **P** **21 18 44.0 +0.4**
comp=Z,1.9nm,0.5s,mb4.2,baz=116,slow=16,SNR=4.2
GNI Garni 78.71 311⇑ *eP* **P** **21 18 44.0 +0.4**
GNI pmax pmax
comp=Z,18nm,1.5s
GNI Garni 78.71 311 *eP* **P** **21 18 44.5 +0.9**
comp=Z,24nm,1.2s,mb5.0
KIV Kislovodsk 80.79 314 *eP* **P** **21 18 53.4 -1.4**
KIV pmax pmax
comp=Z,6.0nm,1.0s,mb4.5
KIV MLR MLR
comp=Z,53nm,18.0s,MS3.9
KIV Kislovodsk 80.79 314 *eP* **P** **21 18 54.6 -0.2**
KIV *e* pP 21 19 07.8 -1.4
KMBO Kilima Mbogo 83.20 269 P **P** **21 19 08.4 +0.3**
comp=Z,9.1nm,0.9s,mb4.8,baz=51,slow=7.9,SNR=19

KMBO	Kilima Mbogo	83.20	269	eP	P	21 19 07.8	-0.3
KMBO				pmax	pmax		
	comp=Z,13nm,1.0s						
KMBO	Kilima Mbogo	83.20	269	eP	P	21 19 07.8	-0.3
	comp=Z,13nm,1.0s,mb4.9						
VSR	Storozhevoye	84.08	321	eP	P	21 19 10.5	-1.3
VSR				pmax	pmax		
	comp=N,4.0nm,0.9s						
VSR				pmax	pmax		
	comp=E,10.0nm,0.9s						
VSR				pmax	pmax		
	comp=Z,10.0nm,0.9s,mb5.0						
KLMR	Klimovskoe	85.07	331	i P	P	21 19 15.4	-1.2
KLMR				pmax	pmax		
	comp=Z,51nm,1.2s,mb5.5						
OBN	Obninsk	86.02	325	⇓iP	P	21 19 20.2	-1.2
OBN				e	pP	21 19 33.8	-2.1
OBN				pmax	pmax		
	comp=Z,22nm,0.9s,mb5.4						
OBN	Obninsk	86.02	325	eP	P	21 19 20.7	-0.7
	comp=Z,32nm,1.0s,mb5.5						
SIM	Simferopol’	86.99	315	eP	P	21 19 26.1	-0.3
SIM				pmax	pmax		
	comp=Z,11nm,0.9s,mb5.1						
BR131	Keskin Array S	87.17	310	eP	P	21 19 26.6	-0.8
SYO	Syowa Base	87.24	201	⇓eX		21 19 25.0	
SYO	Syowa Base	87.24	201	⇑ePcP	PcP	21 19 32.2	+3.0
KTH	Kantishna Hill	88.88	27	eP	P	21 19 34.7	-0.3
MCK	McKinley	89.77	26	eP	P	21 19 38.3	-0.9
MCK				e	pP	21 19 51.7	-2.0
AKASG	Malin Array Be	90.33	321	P	P	21 19 40.0	-2.1
	comp=Z,2.8nm,0.5s,mb4.8,baz=78,slow=4.3,SNR=15						
AKASG				LR	LR	22 08 29.3	
	comp=Z,74nm,18.0s,MS4.2,baz=300,slow=41						
ARCES	ARCESS Array B	91.20	339	P	P	21 19 45.5	-0.2
	comp=Z,3.4nm,0.8s,mb4.7,baz=48,slow=1.8,SNR=6.0						
ARCES				LR	LR	22 05 07.0	
	comp=Z,107nm,18.3s,MS4.3,baz=354,slow=38						
SPITS	Spitsbergen Ar	92.32	348	P	P	21 19 49.2	-1.6
	comp=Z,7.2nm,0.7s,mb5.1,baz=71,slow=15,SNR=5.7						
LSZ	Lusaka	92.32	255	eP	P	21 19 51.2	-0.9
MLR	Muntele Rosu	92.75	315	PP	PP	21 23 36.8	+0.9
	comp=Z,5.7nm,0.9s,baz=123,slow=5.6,SNR=4.1						
BUR08	Bucovina Ar. S	93.12	318	eP	P	21 19 54.7	-0.4
BUR08				ePP	PP	21 23 37.8	-0.9
SANT	Santorini	93.68	306	eP	P	21 19 55.8	-2.1
LBTB	Lobatse	94.63	245	eP	P	21 20 02.3	-0.2
SKAG	Skagway	96.72	30	eP	P	21 20 12.3	+1.0
HFS	Hagfors	97.79	331	P	P	21 20 14.1	-1.9
	comp=Z,1.3nm,0.5s,mb4.7,baz=93,slow=7.4,SNR=5.6						
NB2	NORSAR Subarra	98.72	332	P	P	21 20 17.8	-2.4
	comp=Z,2.0nm,0.8s,mb4.7,baz=76,slow=4.6						
NOA	NORSAR Array B	98.72	332	P	P	21 20 17.8	-2.5
	comp=Z,1.4nm,0.8s,mb4.5,baz=76,slow=4.7,SNR=4.3						
NOA				LR	LR	22 08 46.4	
	comp=Z,112nm,18.5s,MS4.4,baz=295,slow=38						
GERES	GERESS Array B	100.53	320	PP	PP	21 24 34.3	-1.4
	comp=Z,0.6nm,0.9s,baz=72,slow=10.0,SNR=4.0						
SNAA	Sanae	100.54	196	P	Pdif	21 20 27.4	-1.1
TOA0	Torodi Ar. Sit	117.79	285	ePKPdf	PKPdf	21 25 26.9	-1.3
TORD	Torodi Ar. Bea	117.79	285	PKP	PKPdf	21 25 26.5	-1.7
	comp=Z,0.5nm,0.7s,baz=133,slow=1.4,SNR=7.9						
TORD				pPKP	pPKPdf	21 25 41.9	-1.4
	comp=Z,0.9nm,0.7s,baz=133,slow=0.9,SNR=4.2						
TORD				PP	PP	21 26 38.2	-3.9
	comp=Z,0.7nm,0.9s,baz=87,slow=5.9,SNR=3.3						
TORD	Torodi Ar. Bea	117.79	285	PKP	PKPdf	21 25 26.5	-1.7
TORD				pPKP	pPKPdf	21 25 41.9	-1.4
TORD				PP	PP	21 26 38.2	-3.9
TXAR	Lajitas Array	128.47	51	PKP	PKPdf	21 25 48.1	-0.3
	comp=Z,0.6nm,0.7s,baz=271,slow=0.5,SNR=7.5						
TXAR				SKPbc		21 29 02.3	
	comp=Z,0.5nm,0.8s,baz=223,slow=4.9,SNR=3.5						
CPUP	Villa Florida	154.30	185	pPKPbc	pPKPbc	21 26 55.2	-1.7
	comp=Z,1.5nm,0.5s,baz=103,slow=3.2,SNR=5.5						

NEIC 10 21:14:03.9, 4216S×17282E, h51km, ML3.7(WEL), After WEL., South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
THZ	Tophouse	0.40	9	P	Pn	21 14 13.5	-0.6
THZ				S	Sn	21 14 20.6	-0.7
KHZ	Kahutara	0.59	116	P	Pn	21 14 16.3	0.0
KHZ				S	Sn	21 14 26.0	+0.7
LTZ	Lake Taylor	0.74	213	P	Pn	21 14 19.3	+1.1
DSZ	Denniston Nort	0.86	298	P	Pn	21 14 19.8	0.0
BSWZ	Blackbirch Sta	0.91	61	P	Pn	21 14 20.3	0.0
NNZ	Nelson	1.03	24	P	Pn	21 14 21.5	-0.5
CMWZ	Cape Campbell	1.12	69	P	Pn	21 14 25.3	+2.1
QRZ	Quartz Range	1.35	351	P	Pn	21 14 25.5	-0.8
CRLZ	Canterbury Las	1.42	186	P	Pn	21 14 26.9	-0.4
TCW	Tory Channel	1.44	50	P	Pn	21 14 27.0	-0.6
MQZ	McQueen’s Vall	1.55	185	P	Pn	21 14 28.3	-0.8
SNZO	South Karori	1.65	60	P	Pn	21 14 29.3	-1.1
MRW	Makara Radio	1.69	57	P	Pn	21 14 29.9	-1.0
WEL	Wellington	1.70	60	P	Pn	21 14 30.5	-0.6
BHW	Baring Head	1.71	65	P	Pn	21 14 30.3	-0.9
WVZ	Waitaha Valley	1.79	239	P	Pn	21 14 32.7	+0.4
MSWZ	Moikau Station	1.96	69	P	Pn	21 14 33.0	-1.7
CAW	Cannon Point	1.99	59	P	Pn	21 14 33.5	-1.5
RPZ	Rata Peaks	2.02	219	P	Pn	21 14 35.4	-0.1
KIW	Kapiti Island	2.04	51	P	Pn	21 14 34.7	-1.0
PAWZ	Paruwai Farm	2.10	69	P	Pn	21 14 35.4	-1.2
MTW	Mount Morrison	2.25	64	P	Pn	21 14 36.3	-2.3
MRZ	Mangatainoka R	2.56	55	P	Pn	21 14 40.8	-2.1
FOZ	Fox Glacier	2.70	238	P	Pn	21 14 43.2	-1.5
WAZ	Wanganui	2.91	35	P	Pn	21 14 49.1	+1.5
LBZ	Lake Benmore	2.94	220	P	Pn	21 14 47.3	-0.8
NWEZ	Newall Road	2.99	16	P	Pn	21 14 49.1	+0.3
DFE	Dawson Falls	2.99	19	P	Pn	21 14 49.5	+0.7
NEZ	North Egmont	3.04	19	P	Pn	21 14 50.2	+0.7
RAEZ	Rainy Point	3.11	23	P	Pn	21 14 51.4	+1.0
TSZ	Takapari Road	3.17	50	P	Pn	21 14 48.7	-2.5
ODZ	Otahua Downs	3.29	208	P	Pn	21 14 51.8	-1.0
VRZ	Vera Road	3.37	27	P	Pn	21 14 54.2	+0.2
WNVZ	Wahianoa	3.53	38	P	Pn	21 14 55.6	-0.6
JCZ	Jackson Bay	3.54	236	P	Pn	21 14 56.2	0.0
MOVZ	Moawhango	3.54	40	P	Pn	21 14 54.7	-1.6
TUVZ	Tukino	3.60	38	P	Pn	21 14 57.2	0.0
NGZ	Ngauruhoe	3.65	36	P	Pn	21 14 57.0	-0.9
TWVZ	Taurewa	3.67	34	P	Pn	21 14 59.4	+1.3
WTVZ	West Tongariro	3.70	36	P	Pn	21 14 59.7	+1.2
WKZ	Wanaka	3.84	225	P	Pn	21 14 58.7	-1.7
HIZ	Hauiti	3.96	24	P	Pn	21 15 01.4	-0.7
EAZ	Earnscleugh	3.99	218	P	Pn	21 15 01.0	-1.5
TUZ	Tuapeka	4.44	210	P	Pn	21 15 07.7	-0.9
MLZ	Mavora Lakes	4.63	225	P	Pn	21 15 10.6	-0.7
TOZ	Tahuroa Road	4.88	26	P	Pn	21 15 14.4	-0.3
WHZ	Wether Hill Ro	5.13	222	P	Pn	21 15 16.1	-1.9
MWZ	Matawai	5.25	45	P	Pn	21 15 13.9	-5.9
MKAZ	Moumakai	5.36	21	P	Pn	21 15 21.0	-0.2
WTAZ	Waiatarua	5.39	15	P	Pn	21 15 22.4	+0.7
WCZ	Waipu Caves	6.32	11	P	Pn	21 15 34.4	-0.1

IDC 10 21:19:04.2±1.2, 1766N×4646W, h0km, mb3.7/5, mb1 4.0/5, mb1mx3.7/21, mbtmp3.7/5, MS3.6/4, Ms1 3.6/4, ms1mx3.2/28, Error ellipse: s-maj=38.0km s-min=26.0km az=173.0, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ROSC	El Rosal	30.09	248	LR	LR	21 36 32.8	
	comp=Z,89nm,18.4s,baz=30,slow=35						
LPAZ	La Paz	39.92	214	P	P	21 26 41.0	+0.6
	1.9nm,1.0s,baz=30,slow=8.1,SNR=4.0						
LPAZ				LR	LR	21 42 45.8	
	comp=Z,45nm,19.3s,baz=21,slow=36						
DBIC	Dimbokro	42.01	100	LR	LR	21 43 30.0	
	comp=Z,64nm,18.5s,baz=303,slow=35						
TORD	Torodi Ar. Bea	46.55	88	P	P	21 27 34.0	-0.1
	0.8nm,0.8s,baz=283,slow=7.7,SNR=6.9						
TORD				LR	LR	21 44 09.2	
	comp=Z,129nm,18.8s,baz=30,slow=32						
TXAR	Lajitas Array	53.28	294	P	P	21 28 25.3	+0.1
	0.7nm,0.9s,baz=95,slow=8.9,SNR=5.5						
GERES	GERESS Array B	57.33	43	P	P	21 28 54.1	+0.1
	0.1nm,0.3s,baz=237,slow=5.4,SNR=3.8						
PDAR	Pinedale Array	58.56	310	P	P	21 29 03.0	+0.3
	0.6nm,0.8s,baz=108,slow=9.8,SNR=4.9						

SZGRF 10 21:27:33.2, 3639N×2895E, h33km, mb4.3, MS3.4, Dodecanese Islands, Greece
MOS 10 21:27:39.5±1.6, 3597N×2790E, h33km, mb4.6/27, Error ellipse: s-maj=6.1km s-min=2.8km az=113.6
CSEM 10 21:27:47.8±0.0, 3663N×28.12E, h83km, mb4.5/37, Mw3.9, Error ellipse: s-maj=1.1km s-min=1.0km az=53.0
HLW 10 21:27:47.0, 3663N×2801E, h23km, Mb5.4
ISCJB 10 21:27:48.9±0.1, 3656N±001×2802E±001, h101km±1km, mb4.4/71, Error ellipse: s-maj=2.4km s-min=1.6km az=30.9
IDC 10 21:27:50.0±0.5, 3679N×2781E, h86km±4km, mb4.0/26, mb1 4.1/30, mb1mx4.1/33, mbtmp4.0/30, MS3.0/6, Ms1 3.0/6, ms1mx2.8/35, Error ellipse: s-maj=11.2km s-min=7.1km az=146.0
NEIC 10 21:27:49.6, 3663N×2795E, h94km, mb4.3/56, After ATH.
ATH 10 21:27:49.6, 3663N×2795E, h94km±2km, ML4.3
GRAL 10 21:27:50.0±2.0, 3586N×2795E, h0km±999km, MD4.4
ISK 10 21:27:51.3, 3681N×2804E, h81km, ML4.1
THE 10 21:27:51.1, 3656N×28.10E, h34km±5km, ML4.8/2, Error ellipse: s-maj=5.4km s-min=1.1km az=160.0
NIC 10 21:27:54.8±0.3, 3606N×2823E, h35km, mb4.7, ML4.4, MW3.9
GII 10 21:27:55.0±0.5, 3633N×2835E, h50km, mb4.4/5, ML4.2/5
DDA 10 21:27:55.8, 3692N×28.10E, h7km±5km, Md3.6, Ml4.0
ISC 10 21:27:50.1±0.1, 3656N±001×2800E±001, h97km±1km, h86km±2.5km: pP-P, n649, σ1§18/686, mb4.4/71, 33C-32D, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ARG	Arkhangelos	0.36	164	⇑iP	Pn	21 28 05.6	+1.0
ARG				eS	Sn	21 28 16.3	+1.0
ARG	Arkhangelos	0.36	164	⇑iP	Pn	21 28 05.6	+1.0
ARG				eS	Sn	21 28 16.3	+1.0
TURN	Turunc	0.57	57	i P	Pn	21 28 04.2	-1.8
TURN	Turunc	0.57	57	i P	Pn	21 28 04.3	-1.8
YER	Yerkesik	0.62	21	PG	Pn	21 28 05.5	-1.0
YER	Yerkesik	0.62	21	Pg	Pn	21 28 04.2	-2.3
YER				Sg	Sn	21 28 12.2	-6.5
YER	Yerkesik	0.62	21	Pg	Pn	21 28 04.2	-2.2
YER				Sg	Sn	21 28 12.2	-6.4
BDRM	Kayabasi	0.68	319	i P	Pn	21 28 06.3	-0.7
NISR	Nisiros	0.71	275	eP	Pn	21 28 07.0	-0.2
NISR	Nisiros	0.71	275	eP	Pn	21 28 07.0	-0.2
BODT	Bodrum	0.75	312	PG	Pn	21 28 06.2	-1.4
BODT				eSG	Sn	21 28 18.3	-2.5
BODT	Bodrum	0.75	312	Pg	Pn	21 28 06.6	-1.1
BODT				Sg	Sn	21 28 17.6	-3.2
BODT	Bodrum	0.75	312	Pg	Pn	21 28 06.6	-1.1
BODT				Sg	Sn	21 28 17.6	-3.2
MLSB	Milas	0.76	346	PG	Pn	21 28 06.5	-1.2
MLSB				eSG	Sn	21 28 17.2	-3.7
MLSB	Milas	0.76	346	i Pg	Pn	21 28 06.5	-1.2
MLSB				Sg	Sn	21 28 15.8	-5.1
MLSB	Milas	0.76	346	Pg	Pn	21 28 05.8	-2.0
MLSB				Sg	Sn	21 28 15.8	-5.2
AYDN	Tasoluk	1.10	355	i P	Pn	21 28 11.0	-0.4
KARP	Karpathos	1.22	214	⇓iP	Pn	21 28 13.6	+0.8
KARP				eS	Sn	21 28 30.2	+0.4
KARP	Karpathos	1.22	214	⇓iP	Pn	21 28 13.6	+0.8
KARP				eS	Sn	21 28 30.2	+0.4
GCAM	G?zelcaml?	1.29	332	i P	Pn	21 28 13.0	-0.7
GCAM				i S	Sn	21 28 23.5	-7.9
AKAS	Kas	1.33	104	i P	Pn	21 28 15.2	+1.1
KSL	Kastellorizon	1.34	107	eP	Pn	21 28 15.0	+0.8
KSL	Kastellorizon	1.34	107	eP	Pn	21 28 15.0	+0.8
DNZL	Cakiroluk	1.40	36	i P	Pn	21 28 15.3	+0.4
GOLH	Golhisar	1.42	61	i P	Pn	21 28 16.6	+1.4
DENT	Denizli	1.45	34	ePN	Pn	21 28 14.5	-1.0
DENT	Denizli	1.45	34	Pn	Pn	21 28 13.4	-2.1
SMG	Samos	1.48	321	⇑iP	Pn	21 28 15.1	-0.8
SMG				eS	Sn	21 28 33.0	-2.4
SMG	Samos	1.48	321	⇑iP	Pn	21 28 15.1	-0.8
SMG				eS	Sn	21 28 33.0	-2.4
ELL	Elmali	1.54	82	ePN	Pn	21 28 17.8	+1.1
ELL	Elmali	1.54	82	Pn	Pn	21 28 17.7	+1.0
ELL	Elmali	1.54	82	Pn	Pn	21 28 17.7	+1.0
IZM	Izmir	1.93	342	ePN	Pn	21 28 20.4	-1.2
KDAG	Bornova	1.93	343	i P	Pn	21 28 20.9	-0.8
BLCB	Balcova	1.98	338	ePN	Pn	21 28 21.5	-0.7
BLCB	Balcova	1.98	338	Pn	Pn	21 28 21.3	-1.0
MANT	Manisa	1.98	13	i P	Pn	21 28 21.6	-0.7
MANT	Manisa	1.98	13	i P	Pn	21 28 21.6	-0.6
KULA	Kula-Manisa	2.02	15	ePN	Pn	21 28 21.3	-1.5
ZKR	Zakros	2.05	226	P	Pn	21 28 24.1	+1.0
ZKR				S	Sn	21 28 48.1	-0.2
APE	Apeiranthos	2.05	285	P	Pn	21 28 23.5	+0.4
APE				eS	Sn	21 28 47.1	-1.3
APE	Apeiranthos	2.05	285	⇓iP	Pn	21 28 23.6	+0.5
APE				eS	Sn	21 28 47.1	-1.3
APE	Apeiranthos	2.05	285	⇓iP	Pn	21 28 23.6	+0.5
APE				eS	Sn	21 28 47.1	-1.3
SANT	Santorini	2.06	266	P	Pn	21 28 23.6	+0.3
SANT	Santorini	2.06	266	ePn	Pn	21 28 23.5	+0.2
SANT				eSn	Sn	21 28 50.9	+2.2
SANT	Santorini	2.06	266	ePn	Pn	21 28 23.5	+0.2
SANT				eSn	Sn	21 28 50.9	+2.3
THR1	Thera Island	2.06	266	P	Pn	21 28 23.6	+0.3
THR4	Thira Island,	2.10	268	P	Pn	21 28 24.3	+0.5
THR3	Thira Island,	2.10	267	P	Pn	21 28 24.4	+0.5
THR6	Thira Island,	2.11	265	P	Pn	21 28 24.6	+0.6
URLA	Izmir	2.12	328	i P	Pn	21 28 23.3	-0.8
KHL	Karahalli	2.14	34	ePN	Pn	21 28 22.9	-1.4
THR5	Thira Island,	2.15	267	P	Pn	21 28 24.9	+0.5
ANTB	Antalya	2.16	80	ePN	Pn	21 28 25.9	+1.3
BCK	Bucak	2.26	66	ePN	Pn	21 28 26.5	+0.7
AKHS	Akhisar	2.32	356	i P	Pn	21 28 25.9	-0.8
AKS	Akhisar	2.32	356	ePN	Pn	21 28 25.5	-1.2
NPS	Neapolis	2.33	237	⇓iP	Pn	21 28 27.1	+0.2
NPS	Neapolis	2.33	237	⇓iP	Pn	21 28 27.1	+0.2
TKTP	Tekketepe	2.37	51	i P	Pn	21 28 28.0	+0.7
CHOS	Chios island	2.39	320	P	Pn	21 28 27.3	-0.4
CHOS				S	Sn	21 28 57.5	+1.0
LAST	Lasithi	2.48	237	P	Pn	21 28 29.0	+0.2
DEMI	Demirci	2.54	13	i P	Pn	21 28 29.2	-0.4
GDZ	Gediz	2.78	24	i P	Pn	21 28 32.3	-0.5
IDI	Anoyia	2.83	244	P	Pn	21 28 33.3	-0.1
	258nm,0.3s,baz=62,slow=14,SNR=904						
IDI				S	Sn	21 29 05.5	-1.3
	61nm,0.3s,baz=90,slow=23,SNR=8.0						
SHUT	Suhut-Afyon	2.84	45	ePN	Pn	21 28 33.2	-0.4
ALT	Altintas	3.00	33	ePN	Pn	21 28 34.9	-0.8
ALT	Altintas	3.00	33	Pn	Pn	21 28 34.8	-1.0
PRK	Paraskevi	3.01	333	eP	Pn	21 28 35.9	0.0
PRK				S	Sn	21 29 10.9	-0.3
PRK	Paraskevi	3.01	333	eP	Pn	21 28 35.9	0.0
SIVA	Sivas	3.02	240	P	Pn	21 28 36.8	+0.8
BALB	Balikesir	3.08	358	ePN	Pn	21 28 35.9	-0.9
BALB	Balikesir	3.08	358	Pn	Pn	21 28 36.0	-0.8
BALB	Balikesir	3.08	358	Pn	Pn	21 28 36.0	-0.8
DST	Dursunbey	3.08	9	ePN	Pn	21 28 36.0	-0.8
DST	Dursunbey	3.08	9	P	Pn	21 28 35.8	-1.0
DST	Dursunbey	3.08	9	ePn	Pn	21 28 36.0	-0.8
DST	Dursunbey	3.08	9	Pn	Pn	21 28 35.8	-1.0
BALY	Balya	3.19	355	i P	Pn	21 28 37.2	-1.1
VAM	Vamos	3.29	251	eP	Pn	21 28 40.3	+0.6
VAM	Vamos	3.29	251	eP	Pn	21 28 40.3	+0.6
EZN	Ezine	3.52	338	ePN	Pn	21 28 42.6	-0.1
EZN	Ezine	3.52	338	Pn	Pn	21 28 42.8	+0.1
KVR	Kavouri	3.61	292	eP	Pn	21 28 45.0	+1.1
KVR	Kavouri	3.61	292	eP	Pn	21 28 45.0	+1.1
PTL	Penteli	3.62	295	eP	Pn	21 28 45.0	+0.9
PTL	Penteli	3.62	295	eP	Pn	21 28 45.0	+0.9
HDMB	Hadim	3.62	82	ePN	Pn	21 28 46.5	+2.4
HDMB	Hadim	3.62	82	Pn	Pn	21 28 46.3	+2.2
HDMB	Hadim	3.62	82	Pn	Pn	21 28 46.3	+2.2
ULDT	Uludag	3.69	14	i P	Pn	21 28 44.8	-0.2
ULDT	Uludag	3.69	14	i P	Pn	21 28 44.7	-0.3
ULDT	Uludag	3.69	14	i P	Pn	21 28 44.7	-0.3
ATH	Athens Observa	3.70	294	eP	Pn	21 28 46.5	+1.4
ATH	Athens Observa	3.70	294	eP	Pn	21 28 46.5	+1.4
KONT	Konya--Tatoy	3.74	67	ePN	Pn	21 28 46.8	+1.1
KONT	Konya--Tatoy	3.74	67	Pn	Pn	21 28 46.9	+1.2
EDC	Edincik	3.78	358	ePN	Pn	21 28 45.9	-0.4
BNT	Bandirma	3.79	359	ePN	Pn	21 28 45.6	-0.8
NAIG	Nisos Aigina	3.80	290	eP	Pn	21 28 46.5	0.0
NAIG	Nisos Aigina	3.80	290	eP	Pn	21 28 46.5	0.0
AKMC	Akamas	3.83	112	⇓P	Pn	21 28 47.3	+0.3
	27nm,0.3s						
AKMC				S	Sn	21 29 28.6	-2.4
BORA	Eskisehir	3.84	29	i P	Pn	21 28 47.1	+0.1
BORA	Eskisehir	3.84	29	i P	Pn	21 28 47.3	+0.3
BORA	Eskisehir	3.84	29	i P	Pn	21 28 47.3	+0.3
LADK	Ladik-KONYA	3.84	63	ePN	Pn	21 28 47.5	+0.4
KIZT	Kizilcal	3.85	52	ePN	Pn	21 28 48.1	+1.0
PPCY	Paphos	3.91	114	P	Pn	21 28 48.4	+0.4
	40nm,0.3s						
PPCY				S	Sn	21 29 31.3	-1.5
CAVI	Cavuskoy	3.91	21	ePN	Pn	21 28 47.6	-0.4
DID	Didima	3.93	285	P	Pn	21 28 49.1	+0.9
LPK	Lapseki	3.93	346	ePN	Pn	21 28 48.0	-0.2
GEMT	Gemlik	3.98	13	ePN	Pn	21 28 48.5	-0.4
GEMT	Gemlik	3.98	13	Pn	Pn	21 28 48.5	-0.4
ALFC	Alevga	3.99	109	P	Pn	21 28 49.3	+0.3
	44nm,0.4s						
ALFC				S	Sn	21 29 32.4	-2.3
GADA	Gvkgeada	3.99	336	ePN	Pn	21 28 48.9	-0.1
LIA	Limnos Island	4.01	327	P	Pn	21 28 49.8	+0.5
LIA	Limnos Island	4.01	327	eP	Pn	21 28 49.7	+0.4
LIA	Limnos Island	4.01	327	eP	Pn	21 28 49.7	+0.4
KYTH	Kithira	4.02	268	eP	Pn	21 28 50.0	+0.6
KYTH	Kithira	4.02	268	eP	Pn	21 28 50.0	+0.6
MRMT	Marmara Adasi	4.05	356	ePN	Pn	21 28 49.9	+0.1
VLI	Veliai	4.08	274	eP	Pn	21 28 51.0	+0.7
VLI	Veliai	4.08	274	eP	Pn	21 28 51.0	+0.7
ADVT	Abdulvahap	4.10	19	ePN	Pn	21 28 50.3	-0.2
GPA	Golpazari	4.14	25	ePN	Pn	21 28 51.0	-0.1
GPA	Golpazari	4.14	25	Pn	Pn	21 28 50.9	-0.2
GPA	Golpazari	4.14	25	Pn	Pn	21 28 50.9	-0.2
YLV	Yalova	4.14	15	ePN	Pn	21 28 49.8	-1.3
RKY	Sarkoy-Tekirda	4.17	351	ePN	Pn	21 28 51.4	-0.1
RKY	Sarkoy-Tekirda	4.17	351	Pn	Pn	21 28 51.5	0.0
RKY	Sarkoy-Tekirda	4.17	351	Pn	Pn	21 28 51.5	0.0
LEF	Lefka	4.22	108	Pn	Pn	21 28 51.4	-0.8
LEF	Lefka	4.22	108	Pn	Pn	21 28 51.4	-0.8
LTK	Loutraki	4.27	291	P	Pn	21 28 54.2	+1.3
GULT	Gulveren	4.34	26	ePN	Pn	21 28 53.5	-0.2
SZAC	Souni-Zanaja	4.36	113	P	Pn	21 28 54.4	+0.3
SZAC				S	Sn	21 29 41.8	-2.0
ENEZ	Enez	4.42	341	ePN	Pn	21 28 54.9	+0.1
HRT	Hereke	4.45	16	ePN	Pn	21 28 54.6	-0.7
HRT	Hereke	4.45	16	Pn	Pn	21 28 55.1	-0.2
HRT	Hereke	4.45	16	Pn	Pn	21 28 55.1	-0.2
MAMC	Mammari	4.46	107	⇓P	Pn	21 28 55.6	+0.2
MAMC				S	Sn	21 29 45.8	-0.3
LKR	Lokris	4.49	299	eP	Pn	21 28 57.0	+1.2
LKR	Lokris	4.49	299	eP	Pn	21 28 57.0	+1.2
VLX	Vlachokerasia	4.58	282	P	Pn	21 28 58.9	+1.9
ALN	Alexandroupoli	4.59	341	P	Pn	21 28 57.4	+0.2
IKL	Isikli	4.59	92	ePN	Pn	21 28 58.3	+1.0
IKL	Isikli	4.59	92	Pn	Pn	21 28 58.2	+1.0
IKL	Isikli	4.59	92	Pn	Pn	21 28 58.2	+1.0
CSS	Prodhromos	4.62	109	P	Pn	21 28 57.9	+0.4
	18nm,0.2s						
CSS				S	Sn	21 29 48.6	-1.4
CSS	Prodhromos	4.62	109	P	Pn	21 28 57.1	-0.4
CSS				S	Sn	21 29 48.6	-1.4
BGKT	Bogazkoy	4.65	7	ePN	Pn	21 28 56.5	-1.6
BGKT	Bogazkoy	4.65	7	Pn	Pn	21 28 57.4	-0.6
BGKT	Bogazkoy	4.65	7	Pn	Pn	21 28 57.4	-0.6
SLVT	Silivri	4.67	2	ePN	Pn	21 28 57.5	-0.7
SLVT	Silivri	4.67	2	Pn	Pn	21 28 57.8	-0.4
SLVT	Silivri	4.67	2	Pn	Pn	21 28 57.8	-0.5
NEO	Neokhori	4.67	307	eP	Pn	21 28 59.6	+1.4
NEO	Neokhori	4.67	307	eP	Pn	21 28 59.6	+1.4
CTKS	Kestanelik-??a	4.69	5	ePN	Pn	21 28 57.4	-1.0
ITM	Ithomi	4.91	279	eP	Pn	21 29 03.5	+2.0
ITM				eS	Sn	21 29 55.5	-1.6
ITM	Ithomi	4.91	279	eP	Pn	21 29 03.5	+2.0
ITM				eS	Sn	21 29 55.5	-1.6
CTYL	Yal??k??y-??at	4.91	3	ePN	Pn	21 29 00.3	-1.2
MEST	Erdemli	4.94	88	i P	Pn	21 29 04.2	+2.2
RDO	Rodhopi	4.97	338	eP	Pn	21 29 02.6	+0.3
RDO	Rodhopi	4.97	338	eP	Pn	21 29 02.6	+0.3
ANTO	Ankara	5.01	47	⇑iP	Pn	21 29 04.7	+1.8
ANTO	Ankara	5.01	47	ePn	Pn	21 29 04.6	+1.7
ANTO	Ankara	5.01	47	ePn	Pn	21 29 04.6	+1.7
PYL	PYLOS	5.04	276	P	Pn	21 29 03.8	+0.5
AGG	Agios Georgios	5.12	300	P	Pn	21 29 06.3	+1.9
AGG				S	Sn	21 30 04.2	+2.0
PHNC	Paralimni	5.14	106	P	Pn	21 29 06.5	+1.8
	20nm,0.7s						
PHNC				S	Sn	21 30 07.1	+4.4
RLS	Riolos of Patr	5.42	288	eP	Pn	21 29 10.7	+2.2
RLS	Riolos of Patr	5.42	288	eP	Pn	21 29 10.7	+2.2
EVR	Evrytania	5.45	297	eP	Pn	21 29 11.5	+2.7
EVR	Evrytania	5.45	297	eP	Pn	21 29 11.5	+2.7
BR131	Keskin Array S	5.45	53	ePn	Pn	21 29 10.4	+1.6
BR131	Keskin Array S	5.45	53	ePn	Pn	21 29 10.4	+1.5
KDZ	Kurdzhali	5.47	339	i P	Pn	21 29 10.0	+0.9
SLUM		5.56	205	⇑eP	Pn	21 29 08.7	-1.7
LIT	Litokhoron	5.59	311	P	Pn	21 29 12.7	+1.9
THL	Klokotos Trika	5.60	304	P	Pn	21 29 12.7	+1.9
THL	Klokotos Trika	5.60	304	eP	Pn	21 29 12.7	+1.9
LTBQ	Tobruq	5.62	218	i P	Pn	21 29 11.2	0.0
	SNR=48						
NVR	Nevrokopi	5.77	327	eP	Pn	21 29 14.0	+0.8
NVR	Nevrokopi	5.77	327	eP	Pn	21 29 14.0	+0.8
CDAG	Cicekdag	5.88	57	i P	Pn	21 29 16.0	+1.4
CDAG	Cicekdag	5.88	57	i P	Pn	21 29 15.9	+1.2
MMB	Musomiste	6.02	328	i P	Pn	21 29 17.0	+0.4
KNT	Kendrikon	6.08	321	P	Pn	21 29 19.8	+2.4
VLS	Valsamata	6.12	288	P	Pn	21 29 19.8	+1.8
VLS	Valsamata	6.12	288	eP	Pn	21 29 20.0	+2.0
VLS	Valsamata	6.12	288	eP	Pn	21 29 20.0	+2.0
YURE	YUREGIR	6.14	85	i P	Pn	21 29 18.7	+0.5
GRG	Griva	6.20	317	P	Pn	21 29 21.3	+2.3
LKD	Levkas	6.22	292	P	Pn	21 29 21.5	+2.2
LKD				S	Sn	21 30 31.3	+2.4
ILGA	Ilgaz	6.33	43	i P	Pn	21 29 22.1	+1.4
ILGA	Ilgaz	6.33	43	i P	Pn	21 29 22.4	+1.7
VAY	Valandovo	6.37	320	i Pn	Pn	21 29 23.1	+1.8
BALT	Daday	6.50	38	i P	Pn	21 29 24.3	+1.3
YAYL	Yayladag	6.56	92	i P	Pn	21 29 23.4	-0.7
CTKT	Corum	6.69	51	i P	Pn	21 29 28.4	+2.8
MATL	Matirih	6.75	115	eP	Pn	21 29 25.3	-1.2
ANDN	Andirin	6.75	79	i P	Pn	21 29 26.6	+0.1
BHL	Bhannes	6.80	111	eP	Pn	21 29 25.6	-1.6
BHL				eS	Sn	21 30 36.2	-6.9
HNTI	Hanita	6.84	118	Pn	Pn	21 29 28.1	+0.3
BIA	Bitola	6.86	313	i Pn	Pn	21 29 37.3	+9.3
AANS		6.87	155	⇓iP	Pn	21 29 26.4	-1.7
AANS		6.87	155	P	Pn	21 29 26.6	-1.5
HWQ	Hawqa	6.87	107	eP	Pn	21 29 28.0	-0.2
HWQ				eS	Sn	21 30 40.5	-4.4
PVL	Pavlikeni	6.96	344	i P	Pn	21 29 31.0	+1.7
OFRI	‘Ofer	6.97	122	Pn	Pn	21 29 29.8	+0.2
PINB	Pinarbasi	6.99	70	i P	Pn	21 29 31.0	+1.2
MMAI	Mount Meron Ar	7.04	118	P	Pn	21 29 29.9	-0.6
	32nm,0.3s,baz=308,slow=12,SNR=79						
MMAI				S	Sn	21 30 43.3	-5.6
	162nm,0.3s,baz=314,slow=24,SNR=17						
MMAI				LR	LR	21 33 23.6	
	comp=Z,55nm,18.2s,baz=280,slow=46						
VTS	Vitosha	7.07	330	i P	Pn	21 29 32.7	+1.9
VTS	Vitosha	7.07	330	⇑iP	Pn	21 29 32.6	+1.8
VTS	Vitosha	7.07	330	⇑P	Pn	21 29 32.6	+1.8
RCY	Rachaya	7.11	113	eP	Pn	21 29 30.6	-0.8
RCY				eS	Sn	21 30 45.3	-5.3
RCY	Rachaya	7.11	113	eP	Pn	21 29 30.6	-0.8
KRUS	Krusevo	7.12	314	i Pn	Pn	21 29 38.5	+7.0
KRUS				eSn	Sn	21 31 05.9	+15
KSDI	Kefar Szold	7.13	116	Pn	Pn	21 29 31.1	-0.6
HRI	Mount Hermon	7.15	115	Pn	Pn	21 29 31.7	-0.3
SQR		7.18	157	⇑iP	Pn	21 29 30.9	-1.5
KEK	Kerkira	7.19	298	eP	Pn	21 29 35.4	+2.9
KEK	Kerkira	7.19	298	eP	Pn	21 29 35.4	+2.9
SLTI	Sal’it	7.24	124	Pn	Pn	21 29 33.1	-0.1
SLTI				Sn	Sn	21 30 50.8	-3.0
FKH	Fakeheh	7.24	106	eP	Pn	21 29 33.1	-0.1
FKH				eS	Sn	21 30 50.1	-3.8
AMAG	Maghara	7.32	142	⇓eP	Pn	21 29 33.2	-1.2
AYT	Al ‘Ayyat	7.33	158	⇓eP	Pn	21 29 33.5	-1.0
KOT	Kottamia	7.35	153	⇓eP	Pn	21 29 33.7	-1.1
KSHT	Keshet	7.35	117	Pn	Pn	21 29 34.7	0.0
MMLI	Mount Malkishu	7.37	122	Pn	Pn	21 29 35.1	+0.1
MMLI				Sn	Sn	21 30 54.5	-2.6

HHAG Hagoal 7.43 151⇓eP Pn 21 29 34.7 -1.0
HSAF As Saff 7.53 156 ⇓P Pn 21 29 35.4 -1.9
HMDT Nahal Hemdat 7.55 122 Pn Pn 21 29 37.4 -0.1
HMDT Sn Sn 21 30 57.9 -3.7
GLL Jalalah 7.62 155⇓eP Pn 21 29 37.6 -0.9
GZT Gaziantep 7.70 81 iP Pn 21 29 39.9 +0.5
RTMI Retamim 7.81 133 Pn Pn 21 29 41.0 -0.1
YTIR Yattir 7.86 129 Pn Pn 21 29 42.4 +0.7
DSI Dead Sea 7.89 127 Pn Pn 21 29 42.0 0.0
TIRR Tirgusor 7.90 2 ePn Pn 21 29 41.5 -0.6
TIRR eSn Sn 21 31 06.1 -3.6
TIRR Tirgusor 7.90 2 ePn Pn 21 29 41.5 -0.5
TIRR eSn Sn 21 31 06.1 -3.6
MZDA Masada 8.05 128 Pn Pn 21 29 44.4 +0.2
AKCD Akcadag 8.08 75 iP Pn 21 29 46.5 +1.9
HARR Harsova 8.12 360⇓iP Pn 21 29 45.4 +0.3
HARR Harsova 8.12 360 ⇓P Pn 21 29 45.4 +0.3
RMNI Mount Ramon 8.19 135 Pn Pn 21 29 46.3 +0.1
ZFRI Zfri 8.47 133 Pn Pn 21 29 50.4 +0.4
PRNI Paran 8.51 135 Pn Pn 21 29 50.5 -0.1
PRNI Sn Sn 21 31 21.1 -3.8
KRMI Paran Flat 8.54 137 Pn Pn 21 29 50.1 -0.7
ASF Jabal al Asfar 8.55 118 P Pn 21 29 51.8 +0.7
2.3nm,0.3s,baz=156,slow=5.2,SNR=30
ASF S Sn 21 31 22.3 -3.6
8.2nm,0.3s,baz=123,slow=16,SNR=4.6
HRFI Mount Harif 8.77 136 Pn Pn 21 29 54.3 +0.2
MBRI Mt Berech 8.89 137 Pn Pn 21 29 55.4 -0.3
EIL Elat 9.01 138 P Pn 21 29 57.0 -0.2
6.2nm,0.3s,baz=341,slow=13,SNR=28
EIL S Sn 21 31 31.1 -5.8
14nm,0.3s,baz=2.2,slow=18,SNR=12
EIL LR LR 21 35 51.3
comp=Z,52nm,18.1s,baz=74,slow=52
EIL Elat 9.01 138 Pn Pn 21 29 57.3 0.0
MLR Muntele Rosu 9.06 351 P Pn 21 29 51.2 -6.6
0.1nm,0.3s,baz=152,slow=17,SNR=3.0
MLR LR LR 21 33 45.5
comp=Z,115nm,20.0s,baz=196,slow=40
MLR Muntele Rosu 9.06 351⇓iP Pn 21 30 05.2 +7.3
VOIR 9.14 347⇑iP Pn 21 29 59.7 +0.7
VOIR 9.14 347 ⇑P Pn 21 29 59.7 +0.6
PLOR Plostina 9.34 354⇑iP Pn 21 30 04.8 +3.1
VRI Vrincioaia 9.35 355⇑iP Pn 21 30 05.0 +3.2
VRI Vrincioaia 9.35 355 ⇑P Pn 21 30 05.0 +3.2
HQLS 9.36 139 S Sn 21 31 38.8 -6.6
HQLS 9.36 139 P Pn 21 30 01.5 -0.5
HKAT Jabal Katrina 9.47 146 P Pn 21 30 03.6 0.0
TR2 9.47 148⇑eP Pn 21 30 03.0 -0.6
SIM Simferopol' 9.57 27c iP Pn 21 30 07.6 +2.7
SIM eS Sn 21 31 49.9 -0.7
SIM pmax pmax
comp=Z,107nm,0.3s
GZR Gura Zlata 9.67 338⇓iP Pn 21 30 05.8 -0.3
GZR Gura Zlata 9.67 338 ⇓P Pn 21 30 05.8 -0.4
TR1 9.90 148⇓eP Pn 21 30 08.7 -0.7
RSHS 10.03 143 S Sn 21 31 54.0 -7.9
RSHS 10.03 143 P Pn 21 30 10.6 -0.7
SHRM 10.08 147⇑eP Pn 21 30 11.0 -0.9
CUC Castrocucco 10.18 293 ePn Pn 21 30 12.8 -0.3
comp=Z,32nm,0.6s
CUC eSn Sn 21 32 02.7 -2.6
CUC Castrocucco 10.18 293 ePn Pn 21 30 12.8 -0.3
comp=Z,32nm,0.6s
CUC eSn Sn 21 32 02.7 -2.6
BZS Buzias 10.25 334⇓iP Pn 21 30 13.7 -0.3
BZS Buzias 10.25 334 ⇓P Pn 21 30 13.7 -0.3
MARD Mardin 10.26 82 iP Pn 21 30 13.7 -0.5
HHRG Al Ghardaqah 10.44 152⇓eP Pn 21 30 16.4 -0.4
VAE Valguarnera 10.91 279 P Pn 21 30 21.7 -1.4
comp=Z,0.9nm,0.3s,baz=149,slow=1.6,SNR=2.6
VAE S Sn 21 32 13.0 -10
comp=Z,5.5nm,0.3s,baz=8.4,slow=6.1,SNR=5.8
HSFG 11.16 151 ⇓P Pn 21 30 26.4 -0.3
SOC Sochi 11.38 48 eP Pn 21 30 30.7 +1.2
SOC e 21 32 37.6
SOC pmax pmax
comp=Z,34nm,1.2s
PKSM Moragy 11.93 327⇓iP Pn 21 30 45.9 +9.2
PKSM Moragy 11.93 327 ⇓P Pn 21 30 45.9 +9.2
HQSR 12.07 151⇓eP Pn 21 30 38.7 -0.1
WJHS 12.12 142 P Pn 21 30 39.3 -0.2
HDK2 Wahat Dakhilah 12.23 176 ⇓P Pn 21 30 41.9 +1.0
HADB 12.53 151⇑eP Pn 21 30 45.7 +0.8
PSZ Piszkesteto 12.83 335⇓ePP 21 30 56.6
PSZ Piszkesteto 12.83 335⇓iP Pn 21 30 56.0 +7.3
PSZ Piszkesteto 12.83 335 ePn Pn 21 30 53.4 +4.7
KIV Kislovodsk 13.42 52 eP Pn 21 30 57.4 +1.0
KIV pmax pmax
comp=Z,7.0nm,1.2s
KIV Kislovodsk 13.42 52 Pn Pn 21 30 55.9 -0.5
KIV Kislovodsk 13.42 52 eP Pn 21 30 57.4 +1.0
comp=Z,7.0nm,1.2s
KIV Kislovodsk 13.42 52 Pn Pn 21 30 55.9 -0.6
HAGS Hagol 13.54 152⇑eP Pn 21 30 59.8 +1.5
LVV L'vov 13.56 349 eP Pn 21 31 04.5 +6.2
GNI Garni 13.62 70 P Pn 21 31 00.3 +1.2
comp=Z,0.2nm,0.3s,baz=313,slow=8.5,SNR=3.6
GNI LR LR 21 37 24.3
comp=Z,111nm,21.4s,baz=324,slow=42
GNI Garni 13.62 70⇑iP Pn 21 30 59.9 +0.8
GNI pmax pmax
comp=Z,20nm,2.5s
GNI Garni 13.62 70 iP Pn 21 30 59.9 +0.8
comp=Z,20nm,2.5s
KWP Kalwaria 13.62 345⇑iP Pn 21 31 07.0 +8.0
KWP Kalwaria 13.62 345 Pn Pn 21 30 57.5 -1.5
KWP Kalwaria 13.62 345 Pn Pn 21 30 57.5 -1.6
VYHS Vyhne 13.70 333 eP Pn 21 31 01.8 +1.8
VYHS Vyhne 13.70 333 ePn Pn 21 31 01.9 +1.9
STHS Stebnicka Huta 13.76 341 eP Pn 21 31 07.6 +6.7
KOLL Kolacno 13.93 333 eP Pn 21 31 08.3 +5.3
KOLL Kolacno 13.93 333 ePn Pn 21 31 08.4 +5.4
NIE Niedzica 14.02 339 eP Pn 21 31 06.2 +2.0
AKASG Malin Array Be 14.16 3 P Pn 21 31 04.4 -1.7
comp=Z,0.4nm,0.3s,baz=200,slow=12,SNR=2.7
MODS Modra-Piesok 14.20 330 eP Pn 21 31 11.0 +4.5
MODS Modra-Piesok 14.20 330 ePn Pn 21 31 11.1 +4.6
OJC Ojcow 14.89 339 eP Pn 21 31 21.4 +6.1
VSL Villasalto 14.97 287 Pn Pn 21 31 15.3 -1.2
VSL Villasalto 14.97 287 Pn Pn 21 31 15.3 -1.2
KEST Kesra 15.10 272 P Pn 21 31 17.6 -0.5
comp=Z,0.1nm,0.3s,baz=11,slow=5.2,SNR=5.0
KEST S S 21 33 56.1 -20
comp=Z,0.1nm,0.3s,baz=116,slow=21,SNR=2.3
KBA Koelnbreinsper 15.14 319⇑iP Pn 21 31 22.2 +3.7
comp=Z,27nm,0.6s,SNR=18
VRAC Vranov 15.21 330 P Pn 21 31 20.3 +0.8
comp=Z,1.4nm,0.3s,baz=140,slow=11,SNR=17
VRAC LR LR 21 36 57.9
comp=Z,79nm,18.2s,baz=182,slow=37
VRAC Vranov 15.21 330⇑iP Pn 21 31 23.1 +3.6
VRAC Vranov 15.21 330 ⇑P Pn 21 31 23.1 +3.6
MORC Moravsky Berou 15.23 333⇑iP Pn 21 31 20.9 +1.1
MORC Moravsky Berou 15.23 333 ePn Pn 21 31 20.3 +0.5
TREC Trest 15.66 328 eP Pn 21 31 27.7 +2.6
PGF Pioggiola 15.82 298 eP Pn 21 31 26.5 -0.7
comp=Z,19nm,0.9s
PGF Pioggiola 15.82 298 eP Pn 21 31 26.5 -0.7
PGF pmax pmax
comp=Z,10.0nm,0.9s
PGF Pioggiola 15.82 298 eP Pn 21 31 26.5 -0.7
comp=Z,9.7nm,0.9s
RJOB Jochberg 15.84 320 eP Pn 21 31 29.7 +2.3
comp=Z,30nm,1.9s
GEC2 GERESS Array S 16.13 324 eP Pn 21 31 32.1 +1.2
GEC2 pmax pmax
comp=Z,16nm,1.0s
GEC2 GERESS Array S 16.13 324 eP Pn 21 31 32.1 +1.2
comp=Z,16nm,1.0s
GERES GERESS Array B 16.13 324 P Pn 21 31 31.5 +0.5
comp=Z,0.6nm,0.3s,baz=134,slow=11,SNR=30
GERES PcP PcP 21 36 21.2 +0.7
comp=Z,0.2nm,0.3s,baz=158,slow=1.6,SNR=8.0
GERES GERESS Array B 16.13 324 PcP PcP 21 36 21.2 +0.7
DPC Dobruska-Polom 16.16 332 eP Pn 21 31 32.1 +0.8
WTTA Wattenberg 16.18 316⇑iP Pn 21 31 33.7 +2.1
comp=Z,31nm,0.9s,SNR=11
WATA Walderalm 16.25 317⇑iP Pn 21 31 34.4 +1.9
comp=Z,22nm,0.7s,SNR=16
KHC Kasperske Hory 16.39 325 eP Pn 21 31 35.1 +1.0
KHC epP pP 21 31 48.0 -5.3
UPC Upice 16.40 332 eP Pn 21 31 35.6 +1.3

MOTA Moosalm 16.52 316⇑iP Pn 21 31 37.0 +1.2
comp=Z,30nm,1.0s,SNR=22
FETA Feichten 16.55 315⇑iP Pn 21 31 38.6 +2.4
comp=Z,58nm,0.9s,SNR=52
PRU Pruhonice 16.58 328 eP Pn 21 31 37.6 +1.0
VSR Storozhevoye 16.68 25 eP Pn 21 31 37.2 -0.6
VSR pmax pmax
comp=Z,2.0nm,1.3s
VSR pmax pmax
comp=N,6.0nm,1.2s
VSR pmax pmax
comp=E,3.0nm,0.8s
WET Wettzell 16.73 323 eP Pn 21 31 38.4 +0.1
WET pmax pmax
comp=Z,16nm,0.9s
WET Wettzell 16.73 323 eP Pn 21 31 38.4 +0.1
comp=Z,16nm,0.9s
RETA Reutte 16.79 316⇑iP Pn 21 31 40.0 +0.8
comp=Z,10nm,0.6s
FUR Furstenfeldbru 16.91 319 eP Pn 21 31 40.7 +0.1
FUR pmax pmax
comp=Z,39nm,0.7s
FUR Furstenfeldbru 16.91 319 eP Pn 21 31 40.7 +0.1
comp=Z,39nm,0.7s
DAVOX Davos/Dischmat 16.92 313 P Pn 21 31 38.8 -1.9
comp=Z,0.1nm,0.3s,baz=307,slow=20,SNR=1.8
DAVOX LR LR 21 37 49.9
comp=Z,97nm,18.5s,baz=85,slow=36
DAVOX Davos/Dischmat 16.92 313 P Pn 21 31 38.8 -1.9
PVCC Panska Ves 16.98 329 eP Pn 21 31 42.5 +1.0
DAVOS Davos 17.00 313 P Pn 21 31 38.9 -2.8
TUE Stuetta 17.09 311 eP Pn 21 31 42.5 -0.3
comp=Z,5.1nm,0.6s
TUE Stuetta 17.09 311 eP Pn 21 31 42.5 -0.3
comp=Z,5.1nm,0.6s
DAVA Damuels 17.18 314⇑iP Pn 21 31 45.0 +1.1
comp=Z,9.4nm,0.6s,SNR=8.3
SBF Sospel 17.30 301 eP Pn 21 31 42.7 -2.6
comp=Z,39nm,0.8s
SBF Sospel 17.30 301 eP Pn 21 31 42.7 -2.6
SBF pmax pmax
comp=Z,19nm,0.8s
SBF Sospel 17.30 301 eP Pn 21 31 42.7 -2.6
comp=Z,20nm,0.8s
RST Umm Al-Ruwaisa 17.40 108 eP Pn 21 31 48.1 +1.4
comp=Z,44nm,0.9s
RST Umm Al-Ruwaisa 17.40 108 eP Pn 21 31 48.1 +1.4
baz=109
RST AMb AMB 21 31 50.2
comp=Z,44nm,0.9s,baz=109
ROTZ Rotzenmuhle 17.47 324 eP Pn 21 31 47.9 +0.5
comp=Z,11nm,0.8s
BRG Berggiesshubel 17.50 329 eP Pn 21 31 47.9 +0.1
BRG pmax pmax
comp=Z,14nm,1.5s
BRG Berggiesshubel 17.50 329 eP Pn 21 31 47.6 -0.2
comp=Z,15nm,1.2s
BRG Berggiesshubel 17.50 329 eP Pn 21 31 47.9 +0.1
comp=Z,24nm,1.5s
MIB Mutribah 17.52 107 eP Pn 21 31 49.7 +1.5
comp=Z,39nm,0.8s
MIB Mutribah 17.52 107 eP Pn 21 31 49.7 +1.6
baz=107
MIB AMb AMB 21 31 51.5
comp=Z,39nm,0.8s,baz=107
MANZ Manzenberg 17.67 324 eP Pn 21 31 49.7 -0.1
comp=Z,49nm,1.5s
NKC Novy Kostel 17.69 325 eP Pn 21 31 50.2 +0.2
NAY Al-Naaiem 17.71 109 eP Pn 21 31 51.7 +1.3
comp=Z,11nm,1.2s
NAY Al-Naaiem 17.71 109 eP Pn 21 31 51.6 +1.2
baz=109
NAY AMb AMB 21 31 52.8
comp=Z,11nm,1.2s,baz=109
FRF La Foret Royal 17.76 300 eP Pn 21 31 44.1 -6.8
comp=Z,13nm,0.8s
FRF La Foret Royal 17.76 300 eP Pn 21 31 44.1 -6.8
FRF pmax pmax
comp=Z,7.0nm,0.8s
FRF La Foret Royal 17.76 300 eP Pn 21 31 44.1 -6.8
comp=Z,6.5nm,0.8s
SUW Suwalki 17.77 351 eP Pn 21 31 51.8 +0.8
LMR La Mourre 17.79 299 eP Pn 21 31 50.0 -1.3
TANN Tannenbergstha 17.81 326 eP Pn 21 31 51.2 -0.3
comp=Z,27nm,1.0s
GRA1 Grafenberg Arr 17.90 322 eP Pn 21 31 52.8 +0.2
comp=Z,14nm,1.0s
GRF Grafenberg Arr 17.90 322 eP Pn 21 31 52.8 +0.2
comp=Z,14nm,1.0s
GRF eL 22 09 48.7
comp=Z,183nm,18.7s
UMR Umm Al-Rimmam 17.93 107 eP Pn 21 31 54.3 +1.2
comp=Z,47nm,0.5s
UMR Umm Al-Rimmam 17.93 107 eP Pn 21 31 54.4 +1.3
baz=108
UMR AMb AMB 21 31 55.4
comp=Z,47nm,0.5s,baz=108
MBDF Montbardon 18.03 303 eP Pn 21 31 50.6 -3.6
comp=Z,18nm,0.6s
MBDF Montbardon 18.03 303 eP Pn 21 31 50.6 -3.6
MBDF pmax pmax
comp=Z,9.0nm,0.6s
MBDF Montbardon 18.03 303 eP Pn 21 31 50.6 -3.6
comp=Z,8.9nm,0.6s
BNI Bardonecchia 18.20 304 eP Pn 21 31 57.0 +0.8
BNI Bardonecchia 18.20 304 eP Pn 21 31 57.0 +0.7
CLL Collm 18.22 329 eP Pn 21 31 55.9 -0.6
comp=Z,27nm,0.8s
CLL Collm 18.22 329⇓iP Pn 21 31 56.2 -0.2
comp=Z,27nm,0.8s
CLL LmV 21 09 00.0
comp=Z,200nm,19.1s
SPAK Spaichingen-Ko 18.25 315 eP Pn 21 31 55.8 -1.0
LPG La Plagne 18.31 306 eP Pn 21 31 57.0 -0.6
comp=Z,16nm,0.5s
LPG La Plagne 18.31 306 eP Pn 21 31 57.0 -0.6
LPG pmax pmax
comp=Z,8.0nm,0.4s
LPG La Plagne 18.31 306 eP Pn 21 31 57.0 -0.6
comp=Z,8.1nm,0.5s
LPL La Plagne 18.33 306 eP Pn 21 31 56.5 -1.3
comp=Z,27nm,0.5s
LPL La Plagne 18.33 306 eP Pn 21 31 56.5 -1.3
LPL pmax pmax
comp=Z,13nm,0.5s
LPL La Plagne 18.33 306 eP Pn 21 31 56.5 -1.3
comp=Z,13nm,0.5s
MOX Moxa 18.36 325 eP Pn 21 31 58.0 0.0
comp=Z,35nm,1.3s
MOX Moxa 18.36 325 eP Pn 21 31 58.0 0.0
MOX pmax pmax
comp=Z,35nm,1.3s
MOX Moxa 18.36 325 eP Pn 21 31 57.7 -0.3
comp=Z,37nm,0.8s
STU Stuttgart 18.39 317 eP Pn 21 31 59.7 +1.3
comp=Z,19nm,0.7s
STU Stuttgart 18.39 317 eP Pn 21 31 54.9 -3.6
FELD Feldberg im Sc 18.58 314 eP Pn 21 32 00.5 -0.2
SMRF Simiane la Rot 18.62 300 eP Pn 21 31 59.0 -2.2
comp=Z,14nm,0.9s
SMRF Simiane la Rot 18.62 300 eP Pn 21 31 59.0 -2.2
comp=Z,7.2nm,0.9s
BFO Black Forest 18.62 315 eP Pn 21 32 02.0 +0.7
BFO pmax pmax
comp=Z,13nm,0.8s
BFO Black Forest 18.62 315 eP Pn 21 32 02.0 +0.7
comp=Z,13nm,0.8s
BFO Black Forest 18.62 315 eP Pn 21 32 00.5 -0.8
comp=Z,7.8nm,0.5s
BFO Black Forest 18.62 315 eP Pn 21 32 00.5 -0.8
comp=Z,7.8nm,0.5s
BBS Basel-Blauen 18.67 312 eP Pn 21 31 59.8 -2.0
ORIF Oris-en-Rattie 18.69 303 eP Pn 21 31 59.9 -2.2
comp=Z,18nm,0.8s
ORIF Oris-en-Rattie 18.69 303 eP Pn 21 31 59.9 -2.2
ORIF pmax pmax
comp=Z,9.0nm,0.8s
ORIF Oris-en-Rattie 18.69 303 eP Pn 21 31 59.9 -2.2
comp=Z,8.9nm,0.8s
RUE Ruedersdorf 18.82 332 eP Pn 21 32 01.3 -2.2
comp=Z,20nm,0.6s
RUE Ruedersdorf 18.82 332 eP Pn 21 32 01.3 -2.2
comp=Z,20nm,0.6s
LOMF Lomont 19.03 311 eP Pn 21 32 06.4 +0.4
TOD Tromm 19.08 319 eP Pn 21 32 04.9 -1.7
CABF La Chapelle 19.17 308 eP Pn 21 32 04.9 -2.8
comp=Z,18nm,0.6s

CABF La Chapelle 19.17 308 eP Pn 21 32 04.9 -2.8
CABF pmax pmax
comp=Z,9.0nm,0.6s
CABF La Chapelle 19.17 308 eP Pn 21 32 04.9 -2.8
comp=Z,9.1nm,0.6s
HINF Hinteralfeld 19.23 312 eP Pn 21 32 06.3 -2.1
comp=Z,7.1nm,0.5s
HINF Hinteralfeld 19.23 312 eP Pn 21 32 06.3 -2.1
HINF pmax pmax
comp=Z,4.0nm,0.5s
HINF Hinteralfeld 19.23 312 eP Pn 21 32 06.3 -2.1
comp=Z,3.5nm,0.5s
UBBA Unterbreizbach 19.23 323 eP Pn 21 32 06.8 -1.6
comp=Z,8.0nm,1.4s
ECH Echery 19.24 314 eP Pn 21 32 06.3 -2.2
LANF Langenberg 19.27 316 eP Pn 21 32 10.3 +1.5
CDF Champ du Feu 19.27 314 eP Pn 21 32 06.9 -2.0
comp=Z,16nm,0.8s
CDF Champ du Feu 19.27 314 eP Pn 21 32 06.9 -2.0
CDF pmax pmax
comp=Z,8.0nm,0.8s
CDF Champ du Feu 19.27 314 eP Pn 21 32 06.9 -2.0
comp=Z,8.0nm,0.8s
OBN Obninsk 19.46 15⇑eP Pn 21 32 08.7 -2.4
OBN pmax pmax
comp=Z,20nm,0.9s
OBN Obninsk 19.46 15 eP Pn 21 32 08.7 -2.4
comp=Z,20nm,0.9s
OBN Obninsk 19.46 15 eP Pn 21 32 08.3 -2.8
comp=Z,18nm,0.4s
VIVF Saint-Julien-l 19.48 302 eP Pn 21 32 08.9 -2.6
comp=Z,21nm,0.6s
VIVF Saint-Julien-l 19.48 302 eP Pn 21 32 08.9 -2.6
VIVF pmax pmax
comp=Z,10.0nm,0.6s
VIVF Saint-Julien-l 19.48 302 eP Pn 21 32 08.9 -2.6
comp=Z,10nm,0.6s
HAU Haudompre 19.61 312 eP Pn 21 32 10.6 -2.3
comp=Z,34nm,0.8s
HAU Haudompre 19.61 312 eP Pn 21 32 10.6 -2.3
HAU pmax pmax
comp=Z,17nm,0.8s
HAU Haudompre 19.61 312 eP Pn 21 32 10.6 -2.3
comp=Z,17nm,0.8s
TNS Taunus Mts 19.63 320 eP Pn 21 32 10.9 -2.2
TNS pmax pmax
comp=Z,14nm,0.8s
TNS Taunus Mts 19.63 320 eP Pn 21 32 10.9 -2.2
comp=Z,14nm,0.8s
CLZ Clausthal 19.75 326 eP Pn 21 32 11.8 -2.6
CLZ pmax pmax
comp=Z,22nm,0.9s
CLZ Clausthal 19.75 326 eP Pn 21 32 11.8 -2.6
comp=Z,22nm,0.9s
LASF Ste Croix 19.84 300 eP Pn 21 32 12.7 -2.9
comp=Z,8.3nm,0.7s
LASF Ste Croix 19.84 300 eP Pn 21 32 12.7 -2.9
comp=Z,4.2nm,0.7s
THEF They Montfort 19.93 313 eP Pn 21 32 14.4 -2.2
RUP Ruppelstein 20.07 317 eP P 21 32 15.3 -0.2
PLDF La Plantade 20.53 305 eP P 21 32 19.7 -0.9
WLF Walferdange 20.55 316 eP P 21 32 20.1 -0.6
WLF pmax pmax
comp=Z,7.0nm,0.7s
WLF Walferdange 20.55 316 eP P 21 32 21.0 +0.3
comp=Z,12nm,1.1s
WLF Walferdange 20.55 316 eP P 21 32 20.1 -0.6
comp=Z,6.8nm,0.7s
WLF Walferdange 20.55 316 eP P 21 32 20.1 -0.6
comp=Z,6.8nm,0.7s
LBL Lubilhac 20.56 303 eP P 21 32 19.6 -1.3
MEZF Maizieres J'vi 20.61 313 eP P 21 32 21.8 +0.4
comp=Z,13nm,0.7s
MEZF Maizieres J'vi 20.61 313 eP P 21 32 21.8 +0.4
comp=Z,6.4nm,0.7s
SMF Signal de Mont 20.61 307 eP P 21 32 20.5 -1.0
comp=Z,44nm,0.8s
SMF Signal de Mont 20.61 307 eP P 21 32 20.5 -1.0
SMF pmax pmax
comp=Z,22nm,0.8s
SMF Signal de Mont 20.61 307 eP P 21 32 20.5 -1.0
comp=Z,22nm,0.8s
RGN Rugen 20.64 335 eP P 21 32 20.7 -1.0
RGN Rugen 20.64 335 eP P 21 32 20.7 -1.0
LOR Lormes 20.83 308 eP P 21 32 22.7 -1.1
comp=Z,18nm,0.9s
LOR Lormes 20.83 308 eP P 21 32 22.7 -1.1
LOR pmax pmax
comp=Z,9.0nm,0.9s
LOR Lormes 20.83 308 eP P 21 32 22.7 -1.1
comp=Z,8.9nm,0.9s
MTLF Montolieu 20.85 297 eP P 21 32 22.9 -1.1
comp=Z,30nm,1.0s
MTLF Montolieu 20.85 297 eP P 21 32 22.9 -1.1
MTLF pmax pmax
comp=Z,15nm,1.0s
MTLF Montolieu 20.85 297 eP P 21 32 22.9 -1.1
comp=Z,15nm,1.0s
PYM Petit Puy Mans 20.87 304 eP P 21 32 23.8 -0.4
AGO Saint Agoulin 20.88 305 eP P 21 32 23.1 -1.2
SSF Saint Saulge 20.98 308 eP P 21 32 24.8 -0.6
comp=Z,29nm,0.6s
SSF Saint Saulge 20.98 308 eP P 21 32 24.8 -0.6
SSF pmax pmax
comp=Z,14nm,0.6s
SSF Saint Saulge 20.98 308 eP P 21 32 24.8 -0.6
comp=Z,14nm,0.6s
AVF Avril sur Loir 20.98 307 eP P 21 32 24.5 -0.9
comp=Z,22nm,0.8s
AVF Avril sur Loir 20.98 307 eP P 21 32 24.5 -0.9
AVF pmax pmax
comp=Z,11nm,0.8s
AVF Avril sur Loir 20.98 307 eP P 21 32 24.5 -0.9
comp=Z,11nm,0.8s
BGF Bois d'Agland 21.23 306 eP P 21 32 27.2 -0.9
comp=Z,28nm,0.7s,mb4.4
BGF Bois d'Agland 21.23 306 eP P 21 32 27.2 -0.9
BGF pmax pmax
comp=Z,14nm,0.7s,mb4.4
BGF Bois d'Agland 21.23 306 eP P 21 32 27.2 -0.9
comp=Z,14nm,0.7s,mb4.4
BSEG Bad Segeberg 21.27 330 eP P 21 32 27.7 -0.7
comp=Z,18nm,1.1s,mb4.3
CAF Calviac 21.29 301 eP P 21 32 27.7 -1.0
comp=Z,24nm,1.1s,mb4.1
CAF Calviac 21.29 301 eP P 21 32 27.7 -1.0
CAF pmax pmax
comp=Z,12nm,1.1s,mb4.1
CAF Calviac 21.29 301 eP P 21 32 27.7 -1.0
comp=Z,12nm,1.1s,mb4.1
TCF Toulx Ste Croi 21.56 305 eP P 21 32 32.1 +0.5
comp=Z,20nm,0.7s,mb4.2
TCF Toulx Ste Croi 21.56 305 eP P 21 32 32.1 +0.5
TCF pmax pmax
comp=Z,10.0nm,0.7s,mb4.2
TCF Toulx Ste Croi 21.56 305 eP P 21 32 32.1 +0.5
comp=Z,10nm,0.7s,mb4.2
RJF Les Rejaudoux 21.76 302 eP P 21 32 33.1 -0.6
comp=Z,19nm,0.8s,mb4.2
RJF Les Rejaudoux 21.76 302 eP P 21 32 33.1 -0.6
RJF pmax pmax
comp=Z,9.0nm,0.8s,mb4.2
RJF Les Rejaudoux 21.76 302 eP P 21 32 33.1 -0.6
comp=Z,9.4nm,0.8s,mb4.2
BAIF Baives 21.83 316 eP P 21 32 33.6 -0.8
comp=Z,5.6nm,0.4s,mb3.9
BAIF Baives 21.83 316 eP P 21 32 33.6 -0.8
comp=Z,2.8nm,0.4s,mb3.9
VSU Vasula 21.93 358 iP P 21 32 36.9 +1.5
EPF Esparros 22.16 295 eP P 21 32 36.3 -1.7
comp=Z,13nm,0.8s,mb4.0
EPF Esparros 22.16 295 eP P 21 32 36.3 -1.7
EPF pmax pmax
comp=Z,7.0nm,0.8s,mb4.0
EPF Esparros 22.16 295 eP P 21 32 36.3 -1.7
comp=Z,6.7nm,0.8s,mb4.0
LFF La Frestale 22.21 301 eP P 21 32 39.2 +0.7
comp=Z,6.6nm,0.4s,mb4.0
LFF La Frestale 22.21 301 eP P 21 32 39.2 +0.7
comp=Z,3.3nm,0.4s,mb4.0
ETSF Etsaut 22.80 295 eP P 21 32 43.7 -1.0
MFF Saint Martin d 23.21 304 eP P 21 32 47.6 -0.9
comp=Z,39nm,0.8s,mb4.5
MFF Saint Martin d 23.21 304 eP P 21 32 47.6 -0.9
MFF pmax pmax
comp=Z,20nm,0.8s,mb4.5
MFF Saint Martin d 23.21 304 eP P 21 32 47.6 -0.9

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
	comp=Z,20nm,0.8s,mb4.5						
SJPF	Ste Jean	23.31	295	eP	P	21 32 49.3	-0.1
	comp=Z,50nm,1.0s,mb4.5						
SJPF	Ste Jean	23.31	295	eP	P	21 32 49.3	-0.1
SJPF				pmax	pmax		
	comp=Z,25nm,1.0s,mb4.5						
SJPF	Ste Jean	23.31	295	eP	P	21 32 49.3	-0.1
	comp=Z,25nm,1.0s,mb4.5						
TAM	Tamanrasset	23.79	241	eP	P	21 32 53.2	-0.8
TAM	Tamanrasset	23.79	241	eP	P	21 32 53.2	-0.8
LDF	La Druitiere	23.80	309	eP	P	21 32 53.4	-0.4
	comp=Z,23nm,0.5s,mb4.5						
LDF	La Druitiere	23.80	309	eP	P	21 32 53.4	-0.4
LDF				pmax	pmax		
	comp=Z,11nm,0.5s,mb4.4						
LDF	La Druitiere	23.80	309	eP	P	21 32 53.4	-0.4
	comp=Z,11nm,0.5s,mb4.5						
FLN	La Foliniere	24.09	309	eP	P	21 32 55.1	-1.3
	comp=Z,32nm,0.6s,mb4.5						
FLN	La Foliniere	24.09	309	eP	P	21 32 55.1	-1.3
FLN				pmax	pmax		
	comp=Z,16nm,0.6s,mb4.5						
FLN	La Foliniere	24.09	309	eP	P	21 32 55.1	-1.3
	comp=Z,16nm,0.6s,mb4.5						
GRR	Gorron	24.20	308	eP	P	21 32 55.6	-1.8
	comp=Z,36nm,0.6s,mb4.6						
GRR	Gorron	24.20	308	eP	P	21 32 55.6	-1.8
GRR				pmax	pmax		
	comp=Z,18nm,0.6s,mb4.6						
GRR	Gorron	24.20	308	eP	P	21 32 55.6	-1.8
	comp=Z,18nm,0.6s,mb4.6						
SGMF	Saint Gilles	25.24	307	eP	P	21 33 05.9	-1.0
	comp=Z,20nm,0.7s,mb4.4						
SGMF	Saint Gilles	25.24	307	eP	P	21 33 05.9	-1.0
SGMF				pmax	pmax		
	comp=Z,10.0nm,0.7s,mb4.3						
SGMF	Saint Gilles	25.24	307	eP	P	21 33 05.9	-1.0
	comp=Z,10nm,0.7s,mb4.4						
ESDC	Sonseca Array	25.27	287	P	P	21 33 07.4	+0.1
	comp=Z,3.1nm,0.5s,mb4.0,baz=81,slow=9.5,SNR=26						
ESLA	Sonseca Array	25.27	287	eP	P	21 33 07.8	+0.5
ESLA	Sonseca Array	25.27	287	eP	P	21 33 07.8	+0.5
HFS	Hagfors	25.32	343	P	P	21 33 06.3	-1.2
	comp=Z,3.2nm,0.6s,mb3.9,baz=141,slow=9.6,SNR=20						
KLMR	Klimovskoe	25.40	13	eP	P	21 33 07.5	-0.6
KLMR				pmax	pmax		
	comp=Z,49nm,1.2s,mb4.8						
KLMR	Klimovskoe	25.40	13	eP	P	21 33 07.5	-0.6
	comp=Z,49nm,1.2s,mb4.8						
QUIF	Quistinic	25.54	306	eP	P	21 33 08.1	-1.5
	comp=Z,11nm,0.6s,mb4.2						
QUIF	Quistinic	25.54	306	eP	P	21 33 08.1	-1.5
QUIF				pmax	pmax		
	comp=Z,6.0nm,0.6s,mb4.2						
QUIF	Quistinic	25.54	306	eP	P	21 33 08.1	-1.5
	comp=Z,5.5nm,0.6s,mb4.2						
KAF	Kangasniemi	25.60	358	ep	P	21 33 09.1	-0.9
	comp=Z,2.1nm,0.4s,mb3.9						
KAF	Kangasniemi	25.60	358	eP	P	21 33 09.1	-0.9
KAF				pmax	pmax		
	comp=Z,2.0nm,0.4s,mb3.9						
AKTK	Aktyubinsk	25.60	48	P	P	21 33 11.2	+1.0
AKTK	Aktyubinsk	25.60	48	P	P	21 33 11.2	+1.0
AKTO	Aktyubinsk	25.60	48	P	P	21 33 11.2	+1.0
	comp=Z,2.1nm,0.7s,mb3.7,baz=258,slow=8.5,SNR=9.0						
JOF	Joensuu	26.47	3	ep	P	21 33 16.9	-0.9
	comp=Z,1.5nm,0.4s,mb3.8						
NAO01	NORSAR Array S	26.63	341	eP	P	21 33 18.0	-1.3
NAO01	NORSAR Array S	26.63	341	eP	P	21 33 17.9	-1.3
NB2	NORSAR Subarra	26.72	342	P	P	21 33 18.3	-1.7
	comp=Z,1.2nm,0.7s,mb3.5,baz=149,slow=9.3						
NOA	NORSAR Array B	26.72	342	P	P	21 33 18.2	-1.8
	comp=Z,2.0nm,0.9s,mb3.6,baz=144,slow=8.8,SNR=4.5						
MDT	Midelt	27.01	272	P	P	21 33 22.5	-0.5
	comp=Z,1.6nm,0.8s,mb3.6,baz=48,slow=11,SNR=3.7						
PBRG	Braganca	27.32	292	eP	P	21 33 28.6	+2.9
	comp=Z,29nm,2.0s,mb4.5						
MVO	Moncorvo	27.55	290	eP	P	21 33 31.1	+3.4
	comp=Z,23nm,1.1s,mb4.6						
PBAR	Barrancos	27.80	284	eP	P	21 33 29.9	-0.1
	comp=Z,17nm,1.9s,mb4.2						
PMRV	Marv??o	27.93	287	eP	P	21 33 30.9	-0.3
	comp=Z,20nm,1.8s,mb4.3						
MTE	Manteigas	27.97	289	eP	P	21 33 30.9	-0.6
	comp=Z,24nm,1.7s,mb4.4						
PVIS	Viseu	28.22	290	eP	P	21 33 34.9	+1.2
	comp=Z,16nm,1.8s,mb4.3						
EKA	Eskdalemuir Ar	28.31	321	P	P	21 33 32.8	-1.6
	comp=Z,0.7nm,0.4s,mb3.5,baz=118,slow=9.2,SNR=9.1						
EKA				PcP	PcP	21 36 45.4	+0.6
	comp=Z,2.2nm,0.6s,baz=113,slow=2.4,SNR=12						
EKA	Eskdalemuir Ar	28.31	321	PcP	PcP	21 36 45.4	+0.6
PVAQ	Vaqueiros	28.45	283	eP	P	21 33 35.5	-0.3
	comp=Z,39nm,2.3s,mb4.5						
PBEJ	Beja	28.47	284	eP	P	21 33 34.5	-1.5
	comp=Z,12nm,1.5s,mb4.2						
ARU	Arti	28.56	36	P	P	21 33 35.6	-1.0
ARU	Arti	28.56	36	P	P	21 33 35.6	-0.9
PBDV	Barranco-do-Ve	28.64	282	eP	P	21 33 38.1	+0.6
	comp=Z,50nm,1.7s,mb4.9						
ARCES	ARCESS Array B	33.06	358	P	P	21 34 15.1	-0.9
	comp=Z,4.7nm,0.7s,mb4.5,baz=171,slow=8.4,SNR=14						
ARCES	ARCESS Array B	33.06	358	P	P	21 34 15.1	-0.9
TOA0	Torodi Ar. Sit	33.16	232	eP	P	21 34 18.5	+1.0
TOA0	Torodi Ar. Sit	33.16	232	eP	P	21 34 18.5	+1.1
TORD	Torodi Ar. Bea	33.16	232	P	P	21 34 18.6	+1.1
	comp=Z,2.6nm,0.4s,mb4.5,baz=35,slow=8.5,SNR=66						
TORD				pP	pP	21 34 38.0	-1.3
	comp=Z,3.6nm,0.5s,baz=33,slow=8.8,SNR=6.9						
TORD				PcP	PcP	21 36 59.5	+1.1
	comp=Z,11nm,1.4s,baz=37,slow=3.0,SNR=4.6						
TORD				ScP	ScP	21 40 34.5	+0.7
	comp=Z,0.5nm,0.6s,baz=19,slow=3.2,SNR=3.5						
TORD	Torodi Ar. Bea	33.16	232	P	P	21 34 18.6	+1.1
TORD				pP	pP	21 34 38.0	-1.3
TORD				PcP	PcP	21 36 59.5	+1.1
TORD				ScP	ScP	21 40 34.5	+0.7
BRVK	Borovoye	33.65	47	eP	P	21 34 20.7	-0.6
BRVK	Borovoye	33.65	47	eP	P	21 34 20.7	-0.6
BVAR	Borovoye Array	33.71	47	P	P	21 34 22.8	+1.0
	comp=Z,0.8nm,0.5s,mb3.8,baz=249,slow=9.5,SNR=5.7						
TKM2	Tokmak 2	36.75	65	P	P	21 34 47.5	-0.5
TKM2	Tokmak 2	36.75	65	P	P	21 34 47.5	-0.6
KURK	Kurchatov	38.50	52	P	P	21 35 03.4	+0.7
	comp=Z,7.6nm,0.6s,mb4.7,baz=275,slow=8.7,SNR=21						
KURK				PcP	PcP	21 37 14.4	+0.8
	comp=Z,2.4nm,0.6s,baz=270,slow=4.0,SNR=5.5						
KURK	Kurchatov	38.50	52	PcP	PcP	21 37 14.4	+0.8
MK31	Makanchi Array	41.08	58	eP	P	21 35 25.5	+1.4
MK31	Makanchi Array	41.08	58	eP	P	21 35 25.5	+1.5
MKAR	Makanchi Array	41.08	58	P	P	21 35 25.4	+1.3
	comp=Z,2.4nm,0.6s,mb4.2,baz=280,slow=6.5,SNR=31						
MKAR				PcP	PcP	21 37 23.0	+1.1
	comp=Z,2.0nm,0.6s,baz=270,slow=4.2,SNR=6.1						
MKAR				ScP	ScP	21 41 03.4	+0.5
	comp=Z,0.5nm,0.7s,baz=260,slow=3.7,SNR=4.6						
MKAR	Makanchi Array	41.08	58	P	P	21 35 25.4	+1.3
MKAR						21 37 23.0	
MKAR	Makanchi Array	41.08	58	PcP	PcP	21 37 23.0	+1.1
MKAR	Makanchi Array	41.08	58	P	P	21 35 25.4	+1.3
MKAR				PcP	PcP	21 37 23.0	+1.1
MKAR				ScP	ScP	21 41 03.4	+0.5
NVS	Novosibirsk	41.46	46	eP	P	21 35 27.0	-0.1
NVS				pmax	pmax		
	comp=N,3.0nm,0.6s						
NVS				pmax	pmax		
	comp=Z,7.0nm,0.6s,mb4.7						
NVS				pmax	pmax		
	comp=E,5.0nm,0.9s						
SPITS	Spitsbergen Ar	42.02	356	P	P	21 35 30.9	-0.5
	comp=E,27nm,1.1s,mb4.9,baz=297,slow=10,SNR=5.4						
SPITS				PcP	PcP	21 37 24.7	+0.1
	comp=E,11nm,0.9s,baz=295,slow=8.8,SNR=3.6						
SPITS	Spitsbergen Ar	42.02	356	PcP	PcP	21 37 24.7	+0.2
DBIC	Dimbokro	42.25	233	P	P	21 35 34.9	+0.9
	comp=E,5.7nm,0.8s,mb4.3,baz=40,slow=12,SNR=6.8						
DBIC				pP	pP	21 35 55.1	-1.5
	comp=E,3.4nm,0.6s,baz=27,slow=12,SNR=2.3						
DBIC				PcP	PcP	21 37 27.6	+1.4
	comp=E,4.1nm,0.8s,baz=83,slow=3.3,SNR=4.1						
DBIC	Dimbokro	42.25	233	P	P	21 35 34.9	+0.9
DBIC				pP	pP	21 35 55.1	-1.5
DBIC	Dimbokro	42.25	233	PcP	PcP	21 37 27.7	+1.4
ZAA0	Zalesovo Array	42.37	47	eP	P	21 35 35.0	+0.5
ZAA0	Zalesovo Array	42.37	47	eP	P	21 35 35.0	+0.5
ZALV	Zalesovo Beam	42.37	47	P	P	21 35 35.0	+0.6
	comp=E,4.7nm,0.5s,mb4.5,baz=267,slow=8.4,SNR=28						
TIC	Toumodi	42.37	233	eP	P	21 35 36.0	+1.0
	comp=E,159nm,1.5s,mb5.5						
KIC	Kosan Boka	42.41	233	eP	P	21 35 36.3	+1.0
	comp=E,107nm,1.2s,mb5.4						
LIC	Lamto	42.70	233	eP	P	21 35 37.8	+0.2
	comp=E,76nm,1.8s,mb5.1						
DANN	Dangsing	47.20	83	eP	P	21 36 15.6	+2.4
	comp=E,22nm,0.6s,mb5.1						
KOLN	Koldanda	47.31	84	eP	P	21 36 15.9	+1.8
	comp=E,2.4nm,0.3s,mb4.4						
GKN	Gorkha	48.04	83	eP	P	21 36 21.3	+1.6
	comp=E,5.6nm,0.6s,mb4.6						
DMN	Daman	48.59	83	eP	P	21 36 25.9	+2.0
KKN	Kakani	48.65	83	eP	P	21 36 25.8	+1.4
RAMN	Ramite	50.07	83	eP	P	21 36 36.3	+1.1
	comp=E,11nm,0.8s,mb4.8						
LSZ	Lusaka	51.55	180	pP	pP	21 37 10.0	+0.5
	comp=E,2.3nm,0.9s,baz=348,slow=8.3,SNR=4.1						
LSZ				PcP	PcP	21 38 02.2	+3.2
	comp=E,3.7nm,0.6s,baz=38,slow=3.4,SNR=11						
LSZ	Lusaka	51.55	180	eP	P	21 36 46.6	+0.3
LSZ				pmax	pmax		
	comp=Z,14nm,2.0s,mb4.7						
LSZ	Lusaka	51.55	180	eP	P	21 36 46.6	+0.3
	comp=Z,14nm,2.0s,mb4.7						
ZAK	Zakamensk	54.08	50	eP	P	21 37 05.2	+0.6
ZAK				pmax	pmax		
	comp=Z,3.0nm,1.0s,mb4.3						
ZAK	Zakamensk	54.08	50	eP	P	21 37 05.2	+0.6
	comp=Z,3.0nm,1.0s,mb4.3						
PALK	Pallekele	56.04	108	P	P	21 37 19.3	+0.1
PALK	Pallekele	56.04	108	P	P	21 37 19.3	+0.1
SONM	Songino Array	56.81	52	P	P	21 37 26.0	+1.8
	comp=Z,1.9nm,0.7s,mb4.3,baz=289,slow=7.4,SNR=9.2						
SONM				PcP	PcP	21 38 20.3	+1.4
	comp=Z,1.4nm,0.8s,baz=292,slow=6.4,SNR=4.6						
OPO	Ambohidratompo	57.75	158	P	P	21 37 34.7	+3.7
	comp=Z,1.8nm,0.6s,mb4.3,baz=340,slow=5.0,SNR=6.9						
LBTB	Lobatse	61.28	182	P	P	21 37 58.8	+3.6
	comp=Z,5.0nm,0.7s,mb4.7,baz=12,slow=4.0,SNR=11						
LBTB				pP	pP	21 38 19.8	+0.6
	comp=Z,3.7nm,0.7s,baz=136,slow=24,SNR=3.3						
LBTB				PcP	PcP	21 38 39.1	+2.3
	comp=Z,2.9nm,0.6s,baz=3.6,slow=14,SNR=5.1						
LBTB	Lobatse	61.28	182	P	P	21 37 58.8	+3.6
LBTB						21 38 39.1	
LBTB				pmax	pmax		
	comp=Z,5.0nm,0.7s,mb4.7						
LBTB				pmax	pmax		
	comp=Z,4.0nm,0.7s,mb4.6						
LBTB				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.5						
LBTB	Lobatse	61.28	182	PcP	PcP	21 38 39.1	+2.3
	comp=Z,3.0nm,0.6s						
LBTB	Lobatse	61.28	182	eP	P	21 37 59.0	+3.8
	comp=Z,4.6nm,0.6s,mb4.7						
LBTB				pP	pP	21 38 19.8	+0.6
LBTB				PcP	PcP	21 38 39.1	+2.3
YAK	Yakutsk	63.50	31c	iP	P	21 38 09.5	-0.1
YAK				pmax	pmax		
	comp=Z,12nm,0.6s,mb4.9						
YAK	Yakutsk	63.50	31	i P	P	21 38 09.5	-0.1
	comp=Z,12nm,0.6s,mb4.9						
CHTO	Chiang Mai	63.95	85	eP	P	21 38 14.5	+1.3
CHTO				pmax	pmax		
	comp=Z,3.0nm,0.9s,mb4.1						
CHTO	Chiang Mai	63.95	85	eP	P	21 38 14.5	+1.3
	comp=Z,2.5nm,0.9s,mb4.0						
CHTO	Chiang Mai	63.95	85	eP	P	21 38 14.5	+1.2
	comp=Z,2.5nm,0.9s,mb4.0						
CMAR	Chiang Mai Arr	64.14	86	P	P	21 38 15.1	+0.6
	comp=Z,3.1nm,0.7s,mb4.2,baz=299,slow=8.0,SNR=35						
CMAR				pP	pP	21 38 38.0	-0.6
	comp=Z,0.8nm,0.6s,baz=295,slow=7.7,SNR=3.5						
CMAR				sP	sP	21 38 47.6	-1.6
	comp=Z,1.7nm,0.8s,baz=297,slow=7.7,SNR=5.4						
CMAR	Chiang Mai Arr	64.14	86	PcP	PcP	21 38 47.6	-1.2
CMAR	Chiang Mai Arr	64.14	86	P	P	21 38 15.1	+0.6
CMAR				pP	pP	21 38 38.0	-0.6
CMAR				sP	sP	21 38 47.6	-1.6
BOSA	Boshof	64.88	183	P	P	21 38 21.6	+2.7
	comp=Z,12nm,1.2s,mb4.6,baz=348,slow=4.1,SNR=9.2						
BOSA	Boshof	64.88	183	eP	P	21 38 21.5	+2.6
BOSA	Boshof	64.88	183	eP	P	21 38 21.5	+2.6
KSRS	Korea Array	75.60	54	P	P	21 39 25.3	+0.9
	comp=Z,3.1nm,0.6s,mb4.2,baz=309,slow=4.7,SNR=13						
KSRS	Korea Array	75.60	54	P	P	21 39 25.3	+0.9
KSRS				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.2						
YKA	Yellowknife Ar	76.81	343	P	P	21 39 29.0	-1.8
	comp=Z,3.6nm,0.8s,mb4.2,baz=175,slow=34,SNR=3.8						
DAWY	Dawson	79.22	354	eP	P	21 39 44.4	+0.3
DAWY	Dawson	79.22	354	eP	P	21 39 44.4	+0.3
MCWV	Mont Chateau	79.25	312	eP	P	21 39 45.4	+0.6
	comp=Z,20nm,0.8s,mb5.0						
MCWV	Mont Chateau	79.25	312	eP	P	21 39 45.4	+0.6
	comp=Z,20nm,0.8s,mb5.0						
BPAW	Bear Paw Mtn.	79.67	360	eP	P	21 39 46.5	-0.1
	comp=Z,5.2nm,0.8s,mb4.4						
BPAW	Bear Paw Mtn.	79.67	360	eP	P	21 39 46.5	-0.1
	comp=Z,5.2nm,0.8s,mb4.4						
ULM	Lac du Bonnet	80.41	327	P	P	21 39 49.4	-1.4
	comp=Z,4.1nm,0.6s,mb4.4,baz=49,slow=7.8,SNR=4.9						
ULM	Lac du Bonnet	80.41	327	P	P	21 39 49.4	-1.4
MJAR	Matsushiro Arr	82.67	50	P	P	21 40 03.7	+0.8
	comp=Z,1.7nm,0.7s,mb4.0,baz=314,slow=5.1,SNR=5.8						
MJAR	Matsushiro Arr	82.67	50	P	P	21 40 03.7	+0.8
RC01	Rabbit Creek A	82.68	359	eP	P	21 40 02.7	+0.2
RC01	Rabbit Creek A	82.68	359	eP	P	21 40 02.7	+0.1
WCI	Wyandotte Cave	84.00	314	eP	P	21 40 09.9	+0.1
WCI				pmax	pmax		
	comp=Z,17nm,0.7s,mb5.0						
WCI	Wyandotte Cave	84.00	314	eP	P	21 40 09.9	+0.1
	comp=Z,17nm,0.7s,mb5.0						
WCI	Wyandotte Cave	84.00	314	eP	P	21 40 09.9	+0.1
	comp=Z,17nm,0.7s,mb5.0						
TKL	Tuckaleechee C	84.21	311	eP	P	21 40 11.5	+0.6
TKL	Tuckaleechee C	84.21	311	eP	P	21 40 11.4	+0.6
OLIL	Olney	84.69	315	eP	P	21 40 12.8	-0.5
	comp=Z,16nm,0.7s,mb5.0						
OLIL	Olney	84.69	315	ePcP	PcP	21 40 16.0	-0.6
OLIL	Olney	84.69	315	eP	P	21 40 12.8	-0.4
	comp=Z,16nm,0.7s,mb5.0						
OLIL				ePcP	PcP	21 40 16.0	-0.6
CPCT	Cooper Cave	84.80	311	eP	P	21 40 14.7	+0.8
CPCT	Cooper Cave	84.80	311	eP	P	21 40 14.7	+0.8
GOGA	Godfrey	85.50	309	eP	P	21 40 17.9	+0.5
GOGA				pmax	pmax		
	comp=Z,30nm,1.4s,mb5.0						
GOGA	Godfrey	85.50	309	eP	P	21 40 17.9	+0.5
	comp=Z,30nm,1.4s,mb5.0						
GOGA	Godfrey	85.50	309	eP	P	21 40 17.9	+0.5
	comp=Z,30nm,1.4s,mb5.0						
FVM	French Village	86.53	316	eP	P	21 40 22.0	-0.4
FVM	French Village	86.53	316	eP	P	21 40 22.0	-0.4
CCM	Cathedral Cave	86.93	316	eP	P	21 40 23.8	-0.5
CCM	Cathedral Cave	86.93	316	eP	P	21 40 23.8	-0.6
LRAL	Lakeview Retre	87.94	310	eP	P	21 40 29.2	-0.1
LRAL	Lakeview Retre	87.94	310	eP	P	21 40 29.2	0.0
BDFB	Brasilia	88.36	249	P	P	21 40 33.5	+2.1
	comp=Z,1.3nm,0.5s,mb4.2,baz=28,slow=24,SNR=7.4						
MIAR	Mount Ida	90.76	315	eP	P	21 40 42.8	+0.4
MIAR				pmax	pmax		
	comp=Z,11nm,0.8s,mb5.0						
MIAR	Mount Ida	90.76	315	eP	P	21 40 42.8	+0.4
	comp=Z,10nm,0.8s,mb5.0						
MIAR	Mount Ida	90.76	315	eP	P	21 40 42.8	+0.4
	comp=Z,10nm,0.8s,mb5.0						
PDAR	Pinedale Array	92.08	330	P	P	21 40 47.1	-1.2
	comp=Z,0.9nm,0.7s,mb4.1,baz=69,slow=4.9,SNR=7.2						
NVAR	Mina Array Bea	99.15	334	P	P	21 41 20.5	-0.1
	comp=Z,0.4nm,0.5s,mb4.2,baz=38,slow=6.0,SNR=3.1						
TXAR	Lajitas Array	100.28	318	P	Pdif	21 41 25.3	-0.3
	comp=Z,0.8nm,0.8s,baz=43,slow=5.1,SNR=9.0						
WRA	Warramunga Arr	114.46	97	PKP	PKiKP	21 46 19.4	+0.4
	comp=Z,0.5nm,0.6s,baz=313,slow=1.7,SNR=5.6						
ASAR	Alice Springs	116.04	101	PKP	PKPdf	21 46 22.6	+0.7
	comp=Z,0.7nm,0.6s,baz=332,slow=1.6,SNR=8.4						
PLCA	Paso Flores	118.46	239	PKP	PKPdf	21 46 26.9	+0.8
	comp=Z,1.4nm,0.8s,baz=34,slow=3.6,SNR=3.3						
PLCA	Paso Flores	118.46	239	PKP	PKPdf	21 46 26.9	+0.8
QSPA	South Pole Qui	126.41	180	PKP	PKPdf	21 46 41.2	+1.0
	comp=Z,2.9nm,0.6s,baz=281,slow=1.2,SNR=18						
RPZ	Rata Peaks	151.04	116	PKPbc	PKPbc	21 47 33.0	+1.6
	comp=Z,6.7nm,0.8s,baz=270,slow=6.1,SNR=3.7						

IDC 10 21:45:33.4±7.4**,2473S**×**17655W,h0^{km},mb4.1**/4**, mb1 4.3**/4**,mb1mx4.0**/17**,mbtmp4.1**/4**,Error ellipse: s-maj=245.2km s-min=89.5km az=148.0,South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	Charters Tower	34.63	270	P	P	21 52 25.6	+1.1
	1.2nm,0.3s,baz=96,slow=9.2,SNR=4.4						
ASAR	Alice Springs	45.01	261	P	P	21 53 51.0	+0.1
	0.6nm,0.4s,baz=97,slow=7.0,SNR=13						
WRA	Warramunga Arr	45.49	266	P	P	21 53 53.7	-1.1
	0.9nm,0.5s,baz=104,slow=8.1,SNR=37						
CMAR	Chiang Mai Arr	92.77	289	P	P	21 58 48.4	+0.2
	1.6nm,0.8s,baz=138,slow=3.5,SNR=12						

*IDC **10** 21:55:34.9±1.1, 19.12N×121.26E, h0^{km}, mb3.5/4, mb1 3.8/6, mb1mx3.6/20, mbtmp3.7/6, ML3.5/2, MS3.1/6, Ms1 3.2/6, ms1mx3.0/26, Error ellipse: s-maj=31.7km s-min=21.0km az=72.0*

*ISCJB **10** 21:55:38.8±0.7, 19.43N±0.04×121.13E±0.07, h33^{km}, mb3.4/4, MS3.0/4, Error ellipse: s-maj=9.5km s-min=6.0km az=176.4*

ISC 10 21:55:40.6±0.7**,1937N**±004×**12112E**±007**,h35^{km},n18, σ1^{s}29**/21**,mb3.4**/4**,MS3.0**/4**,2D,Philippine Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PIP	Pasuquin	1.15	205⇓	iP	Pn	21 55 57.6	-2.5
PIP				eS	Sn	21 56 12.2	-2.4
SGCP	Mt. Cagua	1.42	142	eP	Pn	21 56 03.0	-0.9
SGCP				eS	Sn	21 56 21.4	-0.1
SIPP	Brgy, Tapao	1.57	204⇓	eP	Pn	21 56 05.6	-0.5
SIPP				i S	Sn	21 56 30.7	+5.5
ABRA	Dolores	1.76	193	eP	Pn	21 56 07.8	-0.8
ABRA				eS	Sn	21 56 32.2	+2.5
CVP	Callao Caves	1.79	158	eP	Pn	21 56 08.5	-0.5
CVP				eS	Sn	21 56 30.3	-0.1
PALP	Palanan	2.61	151	eP	Pn	21 56 20.5	+0.3
BOLP	Bolinao	3.19	201	eP	Pn	21 56 28.4	+0.1
BALP	Baler	3.64	173	eP	Pn	21 56 36.0	+1.5
BALP				eS	Sn	21 57 18.8	+2.6
SCZP	Santa Cruz	3.76	198	eP	Pn	21 56 40.2	+4.1
JOW	Kunigami	9.92	40	Pn	Pn	21 58 00.9	+0.2
	0.9nm,0.3s,baz=208,slow=16,SNR=4.1						
JOW				LR	LR	22 01 48.6	
	comp=Z,95nm,18.2s,baz=186,slow=37						
KSRS	Korea Array	18.97	17	P	Pn	22 00 00.0	+0.2
	0.1nm,0.3s,baz=197,slow=11,SNR=5.8						
KSRS				LR	LR	22 08 28.9	
	comp=Z,65nm,18.4s,baz=205,slow=40						
CMAR	Chiang Mai Arr	21.00	271	P	P	22 00 21.9	+0.6
	0.9nm,0.8s,mb3.2,baz=74,slow=10.0,SNR=8.7						
CMAR				LR	LR	22 09 07.4	
	comp=Z,36nm,18.0s,MS2.8,baz=90,slow=38						
GUMO	Guam	23.47	101	LR	LR	22 07 30.0	
	comp=Z,49nm,20.1s,MS3.0,baz=37,slow=31						
KAPI	Kappang	24.27	183	LR	LR	22 11 09.3	
	comp=Z,36nm,18.2s,MS2.9,baz=67,slow=39						
SONM	Songino Array	30.82	340	LR	LR	22 14 53.2	
	comp=Z,63nm,18.8s,MS3.3,baz=105,slow=37						
WRA	Warramunga Arr	41.16	161	P	P	22 03 17.6	-4.1
	0.6nm,0.5s,mb3.5,baz=344,slow=9.1,SNR=18						
WRA				PcP	PcP	22 05 20.5	-0.2
	0.3nm,0.8s,baz=351,slow=3.3,SNR=4.7						
MKAR	Makanchi Array	41.85	320	P	P	22 03 28.3	+1.1
	0.6nm,0.6s,mb3.4,baz=117,slow=9.7,SNR=5.8						
ASAR	Alice Springs	44.55	163	P	P	22 03 47.2	-2.0
	0.6nm,0.5s,mb3.7,baz=350,slow=7.2,SNR=12						

*IDC **10** 22:00:20.7±0.9, 4621N×15352E, h0^{km}, mb3.8/6, mb1 4.0/7, mb1mx3.7/21, mbtmp3.8/7, ML3.4/1, MS2.7/1, Ms1 2.7/1, ms1mx2.3/42, Error ellipse: s-maj=34.8km s-min=24.0km az=101.0*

*ISCJB **10** 22:00:22.2±4.0, 463N±0.1×1536E±02, h24^{km}±28^{km}, mb3.9/6, Error ellipse: s-maj=26.0km s-min=14.4km az=38.7*

*MOS **10** 22:00:24.4±2.0, 4638N×15355E, h39^{km}, mb4.1/6, Error ellipse: s-maj=19.5km s-min=14.3km az=51.3*

ISC 10 22:00:26.4±1.8**,463N**±01×**1536E**±02**,h40^{km}**±15^{km}**,n20, σ0^{s}88**/19**,mb3.9**/6**,2C-1D,Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	Kuril'sk	4.17	257	ePN	Pn	22 01 23.2	-4.2
KUR				pmax	pmax		
	comp=Z,150nm,0.5s						
PETK	Petropavlovsk-	7.32	20	Pn	Pn	22 02 09.8	-0.8
	comp=Z,0.6nm,0.3s,baz=175,slow=12,SNR=4.5						
YSS	Yuzh-Sakhalins	7.52	279⇑	iPN	Pn	22 02 14.7	+1.3
ASAJ	Asahikawa	8.09	258	LR	LR	22 06 16.9	
	comp=Z,45nm,18.2s,baz=170,slow=44						
ERM	Erimo	8.65	244⇑	iPN	Pn	22 02 34.2	+5.3
MJAR	Matsushiro Arr	15.09	235	Pn	Pn	22 03 56.5	-0.2
	comp=Z,0.2nm,0.3s,baz=27,slow=11,SNR=2.9						
MKAR	Makanchi Array	47.47	298	P	P	22 08 56.9	-0.1
	comp=Z,0.2nm,0.3s,mb3.6,baz=64,slow=8.5,SNR=5.3						
MKAR				PcP	PcP	22 10 27.1	+0.4
	comp=Z,0.2nm,0.2s,baz=60,slow=3.5,SNR=2.7						
KURK	Kurchatov	47.92	304⇓	iP	P	22 08 58.6	-1.8
KURK				pmax	pmax		
	comp=Z,5.0nm,2.5s,mb4.1						
CMAR	Chiang Mai Arr	52.61	257	i P	P	22 09 35.7	-0.5
WRA	Warramunga Arr	68.19	200	P	P	22 11 21.5	-0.9
	comp=Z,0.8nm,0.8s,mb3.8,baz=20,slow=7.1,SNR=6.7						
WRA	Warramunga Arr	68.19	200	P	P	22 11 21.5	-0.9
WRA				pmax	pmax		
	comp=Z,1.0nm,0.8s						
NB2	NORSAR Subarra	68.78	341	P	P	22 11 26.2	+0.4
	comp=Z,0.6nm,0.6s,mb3.7,baz=26,slow=6.5						
NOA	NORSAR Array B	68.78	341	P	P	22 11 26.2	+0.5
	comp=Z,0.9nm,0.7s,mb3.8,baz=33,slow=7.5,SNR=3.8						
NOA	NORSAR Array B	68.78	341	P	P	22 11 26.3	+0.5
NOA				pmax	pmax		
	comp=Z,1.0nm,0.7s						
ASAR	Alice Springs	71.88	199	P	P	22 11 45.5	+0.5
	comp=Z,0.4nm,0.8s,baz=21,slow=5.7,SNR=5.1						
AKASG	Malin Array Be	72.13	327	P	P	22 11 46.8	+0.4
	comp=Z,1.3nm,0.5s,mb4.1,baz=29,slow=5.7,SNR=3.7						
AKASG	Malin Array Be	72.13	327	P	P	22 11 46.8	+0.4
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.5s						
LVV	L'vov	74.78	329	eP	P	22 12 02.3	+0.4
TXAR	Lajitas Array	77.41	61	P	P	22 12 18.5	+1.2
	comp=Z,0.9nm,0.7s,mb3.8,baz=311,slow=3.9,SNR=9.5						
TXAR	Lajitas Array	77.41	61	P	P	22 12 18.5	+1.2
TXAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						

*ISCJB **10** 22:32:39.4±2.0, 2.43N±0.07×128.4E±0.1, h184^{km}±21^{km}, mb4.1/16, Error ellipse: s-maj=18.2km s-min=9.5km az=151.6*

*IDC **10** 22:32:39.9±0.9, 2.42N×128.43E, h170^{km}±8^{km}, mb3.8/13, mb1 3.9/14, mb1mx3.9/20, mbtmp3.8/14, Error ellipse: s-maj=26.7km s-min=10.5km az=74.0*

*NEIC **10** 22:32:39.5±1.4, 2.42N×128.44E, h168^{km}±15^{km}, mb4.4/6, Error ellipse: s-maj=11.2km s-min=5.7km az=59.0*

ISC 10 22:32:39.6±2.1**,242N**±007×**12844E**±010**,h169^{km}**±21^{km}**, h173^{km}**±2.2^{km}**:pP-P,n35,σ0^{s}72**/34**,mb4.1**/16**,Halmahera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAPI	Kappang	11.39	230	P	Pn	22 35 16.5	-1.1
	2.2nm,0.3s,baz=57,slow=6.3,SNR=12						
KAPI				S	Sn	22 37 15.5	-8.5
	2.1nm,0.3s,baz=181,slow=23,SNR=9.0						
KAPI	Kappang	11.39	230	P	Pn	22 35 16.5	-1.1
KAPI				S	Sn	22 37 15.5	-8.5
KKM	Kota Kinabalu	12.71	287	Pn	Pn	22 35 35.0	+0.5
KAKA	Kakadu	15.55	165	eP	Pn	22 36 10.5	+0.5
	6.6nm,1.0s						
KSM	Kuching	18.14	267	eP	P	22 36 39.0	-0.3
FITZ	Fitzroy Crossi	20.57	188	eP	P	22 37 05.1	-0.3
	12nm,1.2s						
PMG	Port Moresby	22.04	122	eP	P	22 37 20.8	-0.2
	9.2nm,0.6s,mb4.4						
WRA	Warramunga Arr	22.96	166	P	P	22 37 29.8	+0.4
	4.0nm,0.6s,mb4.0,baz=345,slow=10,SNR=51						
WB2	Warramunga Arr	22.97	166	eP	P	22 37 29.4	0.0

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
ASAR	**Alice Springs**	**26.47**	**169**	P	**P**	**22 38 01.2**	**+0.1**
	0.7nm,0.4s,mb3.6,baz=354,slow=8.2,SNR=15						
ASAR				PP	PP	22 38 49.6	-15
	0.8nm,0.7s,baz=347,slow=9.8,SNR=4.4						
CMAR	**Chiang Mai Arr**	**33.00**	**301**	P	**P**	**22 39 00.6**	**+1.8**
	0.6nm,0.4s,mb3.7,baz=125,slow=7.8,SNR=4.2						
KSRS	**Korea Array**	**34.87**	**359**	P	**P**	**22 39 15.7**	**+0.9**
	1.7nm,0.6s,mb3.9,baz=175,slow=10.0,SNR=6.0						
MJAR	**Matsushiro Arr**	**35.13**	**14**	P	**P**	**22 39 16.6**	**-0.4**
	3.5nm,0.7s,mb4.1,baz=184,slow=9.7,SNR=11						
MAJO	**Matsushiro**	**35.14**	**14**	*e*P	**P**	**22 39 16.8**	**-0.2**
	5.8nm,0.6s,mb4.4						
STKA	**Stephens Creek**	**36.32**	**161**	*e*P	**P**	**22 39 27.9**	**+0.7**
	4.9nm,0.4s,mb4.5						
STKA	**Stephens Creek**	**36.32**	**161**	P	**P**	**22 39 28.1**	**+1.0**
	6.1nm,0.4s,mb4.6,baz=344,slow=8.1,SNR=22						
STKA	**Stephens Creek**	**36.32**	**161**	*e*P	**P**	**22 39 28.0**	**+0.8**
	6.7nm,0.5s,mb4.5						
NWAO	**Narrogin (SRO)**	**36.72**	**196**	P	**P**	**22 39 30.3**	**-0.2**
MDJ	**Mudanjiang**	**42.03**	**1**	Pn	**P**	**22 40 11.3**	**-3.1**
HIA	**Hailar**	**47.26**	**352**	P	**P**	**22 40 55.6**	**0.0**
SONM	**Songino Array**	**49.09**	**340**	P	**P**	**22 41 10.6**	**+1.0**
	1.2nm,0.6s,mb3.7,baz=153,slow=6.6,SNR=6.0						
MK31	**Makanchi Array**	**59.60**	**325**	*e*P	**P**	**22 42 25.9**	**+0.4**
MKAR	**Makanchi Array**	**59.60**	**325**	P	**P**	**22 42 26.2**	**+0.6**
	1.6nm,0.4s,mb4.2,baz=115,slow=8.3,SNR=23						
MKAR				pP	pP	22 43 05.0	0.0
	0.7nm,0.5s,baz=120,slow=8.0,SNR=3.0						
MKAR	**Makanchi Array**	**59.60**	**325**	P	**P**	**22 42 26.2**	**+0.6**
MKAR				pP	pP	22 43 05.0	0.0
ZALV	**Zalesovo Beam**	**62.52**	**333**	P	**P**	**22 42 44.5**	**-0.6**
	0.5nm,0.4s,mb3.7,baz=123,slow=5.3,SNR=3.0						
KURK	**Kurchatov**	**63.76**	**327**	P	**P**	**22 42 53.5**	**+0.2**
	2.6nm,0.5s,mb4.4,baz=127,slow=6.1,SNR=20						
KURK				pP	pP	22 43 33.5	+0.3
	1.0nm,0.6s,baz=126,slow=6.2,SNR=2.8						
BVAR	**Borovoye Array**	**69.34**	**327**	P	**P**	**22 43 29.0**	**+0.3**
	2.7nm,0.8s,mb4.0,baz=134,slow=8.5,SNR=8.5						
BRVK	**Borovoye**	**69.42**	**327**	*e*P	**P**	**22 43 28.9**	**-0.2**
	6.4nm,0.8s,mb4.4						
AKTK	**Aktyubinsk**	**75.74**	**322**	P	**P**	**22 44 05.8**	**-0.7**
AKTK				pP	pP	22 44 48.1	+0.4
AKTO	**Aktyubinsk**	**75.74**	**322**	P	**P**	**22 44 05.8**	**-0.7**
	0.7nm,0.6s,mb3.5,baz=54,slow=1.3,SNR=4.8						
AKTO				pP	pP	22 44 48.1	+0.4
	0.7nm,0.4s,baz=108,slow=18,SNR=2.7						
ARU	**Arti**	**76.95**	**328**	P	**P**	**22 44 13.2**	**-0.1**
ARCES	**ARCESS Array B**	**92.26**	**340**	P	**P**	**22 45 29.2**	**-0.8**
	4.4nm,1.0s,mb4.4,baz=104,slow=3.1,SNR=3.6						
BOSA	**Boshof**	**102.72**	**241**	Pdif	Pdif	22 46 18.0	+0.5
TORD	**Torodi Ar. Bea**	**124.94**	**288**	PKP	PKPdf	22 51 19.6	-1.0
	0.5nm,0.8s,baz=76,slow=1.2,SNR=7.2						
TORD	**Torodi Ar. Bea**	**124.94**	**288**	PKP	PKPdf	22 51 19.6	-1.0

ISCJB ***10*** *22:32:40.4±1.4, 19.1S±0.1×169.3E±0.1, h256^{km}±13^{km}, mb3.6/7, Error ellipse: s-maj=24.3km s-min=19.0km az=144.6*
NEIC ***10*** *22:32:40.3±1.4, 19.11S×169.35E, h246^{km}±12^{km}, mb3.8/1, Error ellipse: s-maj=18.6km s-min=13.7km az=151.0*
IDC ***10*** *22:32:47.7±12.0, 19.34S×169.29E, h319^{km}±127^{km}, mb3.3/7, mb1 3.6/7, mb1mx3.4/16, mbtmp3.3/7, Error ellipse: s-maj=109.1km s-min=39.3km az=168.0*
ISC 10 22:32:40.8±1.4**, 19.1S**±0.1×**169.3E**±0.1**, h246**^{km}±13^{km}**, n17,** σ0^{s}.**73**/16**, mb3.6**/7**, Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**4.03**	**221**	*e*P	**Pn**	**22 33 43.4**	**-1.2**
DZM	**Mont Dzumac**	**4.03**	**221**	*e*Pn	**Pn**	**22 33 43.9**	**-0.8**
DZM				*e*S	**S**	**22 34 36.8**	**+1.3**
NOUC	**Port Laguerre**	**4.14**	**223**	*e*P	**Pn**	**22 33 45.3**	**-0.7**
HNR	**Honiara**	**13.19**	**315**	*e*P	**Pn**	**22 35 39.7**	**+0.5**
CTAO	**Charters Tower**	**21.76**	**263**	P	**P**	**22 37 12.6**	**-0.3**
STKA	**Stephens Creek**	**28.00**	**237**	P	**P**	**22 38 09.9**	**+0.8**
WB2	**Warramunga Arr**	**32.94**	**263**	*e*P	**P**	**22 38 51.5**	**-1.0**
WRA	**Warramunga Arr**	**32.95**	**263**	P	**P**	**22 38 51.5**	**-1.1**
	0.2nm,0.4s,mb3.0,baz=85,slow=8.3,SNR=2.4						
ASAR	**Alice Springs**	**33.24**	**256**	P	**P**	**22 38 55.2**	**+0.1**
	1.3nm,0.5s,mb3.8,baz=82,slow=9.1,SNR=19						
FITZ	**Fitzroy Crossi**	**41.34**	**264**	P	**P**	**22 40 03.7**	**+0.7**
	1.5nm,0.6s,mb3.6,baz=84,slow=10,SNR=4.5						
FITZ	**Fitzroy Crossi**	**41.34**	**264**	*e*P	**P**	**22 40 03.8**	**+0.8**
	3.2nm,0.7s,mb3.9						
YBH	**Yreka Blue Hor**	**87.12**	**44**	P	**P**	**22 44 59.1**	**+0.3**
	1.7nm,0.6s,mb3.9,baz=169,slow=5.2,SNR=3.6						
SONM	**Songino Array**	**87.12**	**323**	P	**P**	**22 44 59.1**	**+0.4**
	0.5nm,0.4s,mb3.6,baz=134,slow=7.0,SNR=4.7						
NVAR	**Mina Array Bea**	**88.62**	**48**	P	**P**	**22 45 06.3**	**+0.3**
	1.2nm,0.8s,mb3.8,baz=229,slow=7.7,SNR=4.8						
TXAR	**Lajitas Array**	**96.61**	**61**	P	**P**	**22 45 42.9**	**-0.2**
	0.2nm,0.8s,mb3.4,baz=224,slow=2.5,SNR=2.4						
ARCES	**ARCESS Array B**	**124.92**	**345**	PKP	PKPdf	22 51 09.2	-1.5
	4.9nm,1.1s,baz=67,slow=3.3,SNR=7.9						
GERES	**GERESS Array B**	**144.37**	**332**	PKP	PKPdf	22 51 45.9	-1.5
	0.5nm,0.5s,baz=46,slow=3.9,SNR=7.4						

ISCJB ***10*** *22:37:14.1±0.8, 36.27N±0.04×71.13E±0.08, h74^{km}±10^{km}, mb4.0/5, Error ellipse: s-maj=11.3km s-min=6.4km az=23.8*
IDC ***10*** *22:37:15.9±8.8, 36.25N×71.11E, h68^{km}±83^{km}, mb3.5/4, mb1 3.5/7, mb1mx3.2/24, mbtmp3.4/7, ML3.2/3, Error ellipse: s-maj=70.0km s-min=49.8km az=135.0*
NEIC ***10*** *22:37:18.4±0.9, 36.37N×71.09E, h93^{km}±9^{km}, mb4.0/4, Error ellipse: s-maj=19.6km s-min=8.0km az=127.0*
NNC ***10*** *22:37:20.6±8.5, 37.07N×70.21E, h0^{km}, mb3.5, mpv3.4, Error ellipse: s-maj=95.1km s-min=66.1km az=80.0*
ISC 10 22:37:15.9±0.7**, 36.27N**±0.04×**71.05E**±0.08**, h70**^{km}±9^{km}**, n26,** σ1^{s}.**17**/35**, mb4.0**/5**, 4D, Afghanistan-Tajikistan border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KBL	**Kabul**	**2.38**	**224**	*e*Pn	**Pn**	**22 37 57.8**	**+5.0**
KBL				Sn	**Sn**	**22 38 20.9**	**0.0**
AML	**Almayashu**	**6.20**	**18**	*e*Pn	**Pn**	**22 38 46.2**	**+1.5**
	10nm,0.5s						
AML				*e*Sn	**Sn**	**22 39 52.9**	**-1.2**
UCH	**Uchtor**	**6.52**	**23**	*e*Pn	**Pn**	**22 38 50.7**	**+1.5**
	1.8nm,0.4s						
UCH				*e*Sn	**Sn**	**22 40 01.3**	**-0.8**
EKS2	**Erkin-Say**	**6.72**	**17**	*e*Pn	**Pn**	**22 38 53.2**	**+1.4**
	3.7nm,0.5s						
EKS2				*e*Sn	**Sn**	**22 40 07.6**	**+0.8**
KK31	**Karatay Array**	**6.83**	**357**	⇓Pn	**Pn**	**22 38 54.2**	**+0.8**
	1.9nm,0.3s,baz=175,slow=12,SNR=97						
KK31				⇓Sn	**Sn**	**22 40 07.3**	**-2.4**
	6.0nm,0.5s,baz=188,slow=24,SNR=3.7						
SMLA	**Simla**	**7.23**	**133**	*i* P	**Pn**	**22 38 58.0**	**-0.8**
SMLA				*i* S	**Sn**	**22 40 16.4**	**-3.1**
SMLA				*i* S	**Sn**	**22 40 16.8**	**-2.6**
SMLA				*e*x	x	22 40 20.5	
	comp=E,113nm,0.3s						
SMLA				*e*x	x	22 40 20.9	
	comp=N,112nm,0.3s						
TKM2	**Tokmak 2**	**7.51**	**26**	⇓Pn	**Pn**	**22 39 04.1**	**+1.5**
	comp=N,0.7nm,0.5s						
TKM2	**Tokmak 2**	**7.51**	**26**	*e*Pn	**Pn**	**22 39 03.0**	**+0.4**
TKM2				*e*Sn	**Sn**	**22 40 21.7**	**-4.5**
MKAR	**Makanchi Array**	**13.45**	**35**	P	**Pn**	**22 40 24.2**	**+0.7**
	comp=N,0.1nm,0.3s,baz=215,slow=11,SNR=2.6						
AB31	**Akbulak array**	**15.30**	**331**	Pn	**Pn**	**22 40 45.6**	**-2.0**
	comp=N,0.1nm,0.3s,baz=5.4,slow=32,SNR=9.4						
AB31				⇓Sn	**Sn**	**22 43 22.8**	**-13**
	comp=N,0.6nm,0.6s,baz=153,slow=23,SNR=3.3						
KURK	**Kurchatov**	**15.43**	**18**	P	**Pn**	**22 40 49.8**	**+0.5**
	comp=N,0.0nm,0.3s,baz=207,slow=11,SNR=3.8						
KURK	**Kurchatov**	**15.43**	**18**	Pn	**Pn**	**22 40 46.9**	**-2.3**
	comp=N,5.3nm,1.6s						
BRVK	**Borovoye**	**16.79**	**358**	*e*Pn	**Pn**	**22 41 07.9**	**+1.6**
	comp=N,3.9nm,0.7s						
AKTK	**Aktyubinsk**	**17.00**	**330**	P	**Pn**	**22 41 08.2**	**-0.7**
AKTO	**Aktyubinsk**	**17.00**	**330**	P	**Pn**	**22 41 08.2**	**-0.7**
	comp=N,0.2nm,0.3s,baz=127,slow=13,SNR=3.1						
ZALV	**Zalesovo Beam**	**20.10**	**24**	P	**P**	**22 41 42.7**	**-1.0**
	comp=N,0.7nm,0.3s,baz=213,slow=11,SNR=4.6						
ZALV	**Zalesovo Beam**	**20.10**	**24**	P	**P**	**22 41 42.7**	**-1.0**
TIRR	**Tirgusor**	**33.19**	**298**	P	**P**	**22 43 45.5**	**-0.3**
ARCES	**ARCESS Array B**	**41.37**	**338**	P	**P**	**22 44 55.5**	**+0.9**
	comp=N,4.6nm,0.9s,mb4.3,baz=93,slow=7.3,SNR=3.8						
YAK	**Yakutsk**	**44.13**	**35**	P	**P**	**22 45 16.6**	**-0.3**
NB2	**NORSAR Subarra**	**44.59**	**323**	P	**P**	**22 45 21.9**	**+1.2**
	comp=Z,0.7nm,0.5s,mb3.6,baz=96,slow=7.9						
NOA	**NORSAR Array B**	**44.59**	**323**	P	**P**	**22 45 21.4**	**+0.7**
	comp=Z,1.4nm,0.8s,mb3.8,baz=95,slow=7.8,SNR=5.0						
WLF	**Walferdange**	**47.90**	**308**	*e*P	**P**	**22 45 46.0**	**-0.8**
	comp=Z,4.8nm,0.7s,mb4.4						
KMBO	**Kilima Mbogo**	**48.71**	**228**	*e*P	**P**	**22 45 54.1**	**+0.7**
	comp=Z,4.1nm,1.1s,mb4.3						
TORD	**Torodi Ar. Bea**	**65.76**	**269**	P	**P**	**22 47 54.2**	**+0.5**
	comp=Z,0.3nm,0.8s,mb3.2,baz=41,slow=5.6,SNR=6.7						
TORD	**Torodi Ar. Bea**	**65.76**	**269**	P	**P**	**22 47 54.2**	**+0.5**

MOS ***10*** *22:45:17.2±0.6, 35.64N×141.23E, h33^{km}, mb4.5/4, Error ellipse: s-maj=18.7km s-min=10.9km az=43.1*
ISCJB ***10*** *22:45:20.8±0.6, 35.63N±0.04×140.88E±0.06, h54^{km}±3^{km}, mb4.1/14, Error ellipse: s-maj=8.4km s-min=6.2km az=168.6*
IDC ***10*** *22:45:20.8±3.1, 35.61N×141.03E, h40^{km}±24^{km}, mb3.5/8, mb1 3.6/12, mb1mx3.5/26, mbtmp3.6/12, ML3.6/2, MS3.0/2, Ms1 3.0/2, ms1mx2.6/32, Error ellipse: s-maj=36.7km s-min=11.9km az=84.0*
NEIC ***10*** *22:45:20.1±0.6, 35.63N×141.06E, h35^{km}, mb4.4/7, Error ellipse: s-maj=15.0km s-min=7.8km az=56.0*
JMA ***10*** *22:45:21.9±0.1, 35.68N×140.73E, h48^{km}±1^{km}, M3.2 Broadband fault plane solution: P waves. NP1: ϕ_s206.00000°, δ9.00000°, λ90.00000°. NP2: ϕ_s26.00000°, δ81.00000°, λ90.00000°. Principal axes: T Plg54.0000°, Azm296.0000°; N Plg0.0000°, Azm26.0000°; P Plg36.0000°, Azm116.0000°;*
JMA Felt I J1.
ISC 10 22:45:21.8±0.6**, 35.63N**±0.04×**140.89E**±0.06**, h44**^{km}±4^{km}**, n44,** σ0^{s}.**89**/51**, mb4.1**/14**, 1C-3D, Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CHOJ	**Chosi**	**0.08**	**344**	⇑P	**Pn**	**22 45 29.5**	**+0.7**
CHOJ				S	**Sn**	**22 45 35.0**	**+1.2**
JCN	**Nagara**	**0.60**	**250**	⇓P	**Pn**	**22 45 33.6**	**-0.3**
JCN				S	**Sn**	**22 45 42.6**	**0.0**
BSO4	**Boso 4**	**0.78**	**215**	P	**Pn**	**22 45 36.8**	**+0.4**
JYT	**Yasato**	**0.82**	**317**	P	**Pn**	**22 45 35.4**	**-1.5**
BSO3	**Boso 3**	**0.88**	**201**	P	**Pn**	**22 45 38.2**	**+0.5**
BSO1	**Boso 1**	**0.98**	**176**	P	**Pn**	**22 45 40.1**	**+1.1**
JHO	**Hitachi**	**1.01**	**345**	⇓P	**Pn**	**22 45 39.2**	**-0.3**
JAG	**Ashikaga**	**1.41**	**305**	P	**Pn**	**22 45 43.3**	**-1.6**
JIM2	**Oshima 3**	**1.50**	**233**	P	**Pn**	**22 45 44.5**	**-1.7**
JIM2				*e*S	**Sn**	**22 46 03.7**	**-0.8**
JOD2	**Odawara 2**	**1.51**	**257**	⇓P	**Pn**	**22 45 45.1**	**-1.3**
JOD2				*e*S	**Sn**	**22 46 05.3**	**+0.5**
MJAR	**Matsushiro Arr**	**2.35**	**294**	P	**Pn**	**22 45 57.8**	**-0.1**
	12nm,0.3s,baz=99,slow=14,SNR=86						
MAJO	**Matsushiro**	**2.35**	**294**	*e*Pn	**Pn**	**22 45 58.4**	**+0.5**
MAJO				*e*Sn	**Sn**	**22 46 27.0**	**+1.5**
MAT	**Matsushiro**	**2.35**	**294**	P	**Pn**	**22 45 57.7**	**-0.2**
MAT				*e*S	**Sn**	**22 46 24.8**	**-0.7**
JHJ	**Hachijo jima 2**	**2.66**	**200**	P	**Pn**	**22 46 02.1**	**0.0**
	31nm,0.3s,baz=244,slow=22,SNR=11						
JHJ				S	**Sn**	**22 46 32.8**	**-0.5**
	69nm,0.3s,baz=72,slow=24,SNR=7.3						
ASAJ	**Asahikawa**	**8.58**	**8**	P	**Pn**	**22 47 21.6**	**-1.7**
	0.6nm,0.3s,baz=231,slow=29,SNR=2.8						
ASAJ				S	**Sn**	**22 48 54.3**	**-4.3**
	0.6nm,0.3s,baz=353,slow=29,SNR=2.3						
ASAJ	**Asahikawa**	**8.58**	**8**	P	**Pn**	**22 47 21.6**	**-1.7**
ASAJ				S	**Sn**	**22 48 54.3**	**-4.3**
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ASAJ				smax			
	comp=N,1.0nm,0.3s						
KSRS	**Korea Array**	**10.59**	**284**	P	**Pn**	**22 47 53.9**	**+3.1**
	comp=N,0.3nm,0.3s,baz=88,slow=14,SNR=4.6						
INCN	**Inchon**	**11.61**	**283**	Pn	**Pn**	**22 48 04.7**	**-0.1**
JOW	**Kunigami**	**13.89**	**234**	LR	LR	22 53 38.8	
	comp=N,63nm,18.8s,baz=134,slow=36						
PETK	**Petropavlovsk-**	**21.12**	**29**	LR	LR	22 57 59.7	
	comp=N,38nm,19.1s,baz=132,slow=36						
SONM	**Songino Array**	**28.24**	**306**	P	**P**	**22 51 12.5**	**+2.0**
	comp=N,0.5nm,0.2s,mb3.8,baz=112,slow=11,SNR=2.5						
QIZ	**Qiongzhong**	**31.98**	**247**	P	**P**	**22 51 45.1**	**+1.4**
CHTO	**Chiang Mai**	**40.55**	**257**	P	**P**	**22 52 56.9**	**0.0**
LSA	**Lhasa**	**41.93**	**276**	*e*P	**P**	**22 53 08.9**	**+0.8**
ZALV	**Zalesovo Beam**	**42.56**	**314**	P	**P**	**22 53 13.0**	**+0.1**
	comp=N,1.0nm,0.6s,mb3.7,baz=95,slow=7.4,SNR=7.0						
MKAR	**Makanchi Array**	**44.52**	**303**	P	**P**	**22 53 28.5**	**-0.3**
	comp=N,0.8nm,0.4s,mb3.9,baz=85,slow=10,SNR=8.6						
KURK	**Kurchatov**	**46.47**	**309**	P	**P**	**22 53 44.2**	**0.0**
	comp=N,1.3nm,0.5s,mb4.1,baz=84,slow=7.9,SNR=12						
KURK	**Kurchatov**	**46.47**	**309**	*e*P	**P**	**22 53 43.5**	**-0.7**
KURK				pmax	pmax		
	comp=Z,3.0nm,0.7s,mb4.3						
KURK	**Kurchatov**	**46.47**	**309**	*e*P	**P**	**22 53 43.5**	**-0.7**
	comp=Z,2.8nm,0.7s,mb4.3						
TKM2	**Tokmak 2**	**49.93**	**299**	*e*P	**P**	**22 54 11.6**	**+0.6**
TKM2				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.3						
TKM2	**Tokmak 2**	**49.93**	**299**	*e*P	**P**	**22 54 11.6**	**+0.5**
	comp=Z,2.2nm,0.6s,mb4.4						
BVAR	**Borovoye Array**	**51.21**	**313**	P	**P**	**22 54 20.6**	**+0.1**
	comp=Z,0.6nm,0.6s,mb3.7,baz=80,slow=8.0,SNR=4.0						
BRVK	**Borovoye**	**51.27**	**313**	*e*P	**P**	**22 54 21.4**	**+0.5**
BRVK				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.2						
BRVK	**Borovoye**	**51.27**	**313**	*e*P	**P**	**22 54 21.4**	**+0.5**
	comp=Z,1.8nm,0.6s,mb4.2						
AML	**Almayashu**	**51.50**	**299**	*e*P	**P**	**22 54 23.6**	**+0.7**
	comp=Z,1.8nm,0.6s,mb4.2						
FITZ	**Fitzroy Crossi**	**55.36**	**198**	*e*P	**P**	**22 54 50.7**	**-0.5**
	comp=Z,2.0nm,0.6s,mb4.3						
WRA	**Warramunga Arr**	**55.61**	**187**	P	**P**	**22 54 52.3**	**-0.8**
	comp=Z,0.5nm,0.4s,mb3.9,baz=1.2,slow=7.7,SNR=17						
ARU	**Arti**	**57.13**	**319**	*e*P	**P**	**22 55 03.3**	**-0.2**
ARU				pmax	pmax		
	comp=Z,2.0nm,0.3s,mb4.6						
ARU	**Arti**	**57.13**	**319**	*e*P	**P**	**22 55 03.3**	**-0.3**
	comp=Z,2.1nm,0.3s,mb4.7						
KBL	**Kabul**	**57.53**	**292**	P	**P**	**22 55 06.8**	**+0.1**
ASAR	**Alice Springs**	**59.34**	**187**	P	**P**	**22 55 19.5**	**+0.3**
	comp=Z,0.2nm,0.5s,mb3.5,baz=21,slow=12,SNR=3.4						
NOA	**NORSAR Array B**	**75.32**	**337**	P	**P**	**22 57 00.1**	**+0.2**
	comp=Z,0.8nm,0.7s,mb3.8,baz=41,slow=5.7,SNR=4.1						
TAU	**Tasmania Unive**	**78.38**	**175**	*e*P	**P**	**22 57 16.2**	**-1.0**
TAU				pmax	pmax		
	comp=Z,21nm,1.2s,mb4.9						
TAU	**Tasmania Unive**	**78.38**	**175**	*e*P	**P**	**22 57 16.2**	**-0.9**
	comp=Z,21nm,1.2s,mb5.0						

ISCJB ***10*** *22:47:18.3±1.2, 35.23N±0.09×23.62E±0.07, h10^{km}, Error ellipse: s-maj=14.6km s-min=4.5km az=31.5*
CSEM ***10*** *22:47:18.2±0.2, 35.25N×23.69E, h5^{km}, MD3.5, Error ellipse: s-maj=6.1km s-min=2.1km az=24.0*
THE ***10*** *22:47:19.4, 35.29N×23.70E, h0^{km}±1^{km}, Error ellipse: s-maj=3.4km s-min=0.9km az=221.0*
NEIC ***10*** *22:47:21.9, 35.63N×23.92E, h12^{km}, MD3.5(ATH), After ATH.*
ATH ***10*** *22:47:21.9, 35.63N×23.92E, h12^{km}±11^{km}, MD3.5/5*
ISC 10 22:47:18.5±1.3**, 35.26N**±0.10×**23.64E**±0.08**, h3**^{km}±7^{km}**, n28,** σ0^{s}.**68**/35**, Crete**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
VAM	**Vamos**	**0.48**	**71**	*e*Pb	**Pg**	**22 47 28.5**	**+0.8**
VAM	**Vamos**	**0.48**	**71**	*e*PB	**Pg**	**22 47 28.5**	**+0.8**
SIVA	**Sivas**	**0.99**	**104**	P	**Pg**	**22 47 36.8**	**-0.6**
SIVA				S	**Sg**	**22 47 51.8**	**+1.6**
KYTH	**Kithira**	**1.14**	**334**	*e*Pg	**Pg**	**22 47 40.0**	**-0.2**
KYTH	**Kithira**	**1.14**	**334**	*e*PG	**Pg**	**22 47 40.0**	**-0.2**
LAST	**Lasithi**	**1.51**	**93**	P	**Pn**	**22 47 45.7**	**-0.6**
LAST				S	**Sn**	**22 48 07.3**	**+0.9**
VLI	**Veliai**	**1.57**	**339**	*e*Pb	**Pb**	**22 47 48.0**	**-0.1**
VLI	**Veliai**	**1.57**	**339**	*e*PB	**Pb**	**22 47 48.0**	**-0.1**
NPS	**Neapolis**	**1.61**	**89**	*e*Pg	**Pg**	**22 47 48.6**	**-0.8**
NPS	**Neapolis**	**1.61**	**89**	*e*PG	**Pg**	**22 47 48.6**	**-0.8**
THR6	**Thira Island,**	**1.80**	**52**	P	**Pn**	**22 47 50.2**	**-0.1**
THR5	**Thira Island,**	**1.81**	**50**	P	**Pn**	**22 47 50.2**	**-0.2**
THR3	**Thira Island,**	**1.83**	**51**	P	**Pn**	**22 47 50.5**	**-0.3**
THR1	**Thera Island**	**1.85**	**52**	P	**Pn**	**22 47 50.5**	**-0.5**
SANT	**Santorini**	**1.85**	**52**	P	**Pn**	**22 47 50.4**	**-0.6**
SANT				S	**Sn**	**22 48 14.3**	**-0.6**
SANT	**Santorini**	**1.85**	**52**	*e*Pn	**Pn**	**22 47 49.8**	**-1.2**
SANT	**Santorini**	**1.85**	**52**	P	**Pn**	**22 47 50.4**	**-0.6**
SANT				S	**Sn**	**22 48 14.3**	**-0.6**
SANT	**Santorini**	**1.85**	**52**	*e*Pn	**Pn**	**22 47 49.8**	**-1.2**
SANT				*e*Sn	**Sn**	**22 48 08.4**	**-6.5**
ZKR	**Zakros**	**2.11**	**93**	P	**Pn**	**22 47 55.0**	**+0.4**
ZKR				S	**Sn**	**22 48 21.2**	**-0.2**
PYL	**PYLOS**	**2.25**	**317**	P	**Pn**	**22 47 57.1**	**+0.6**
DID	**Didima**	**2.27**	**352**	P	**Pn**	**22 47 56.8**	**0.0**
DID				S	**Sn**	**22 48 26.6**	**+1.4**
VLX	**Vlachokerasia**	**2.34**	**335**	P	**Pn**	**22 47 58.3**	**+0.5**
APE	**Apeiranthos**	**2.37**	**40**	P	**Pn**	**22 47 57.1**	**-1.0**
APE	**Apeiranthos**	**2.37**	**40**	*e*Pn	**Pn**	**22 47 57.2**	**-0.9**
APE	**Apeiranthos**	**2.37**	**40**	*e*PN	**Pn**	**22 47 57.2**	**-0.9**
LTK	**Loutraki**	**2.81**	**349**	P	**Pn**	**22 48 04.2**	**-0.1**
ARG	**Arkhangelos**	**3.77**	**74**	*e*Pn	**Pn**	**22 48 17.1**	**-0.3**
ARG	**Arkhangelos**	**3.77**	**74**	*e*PN	**Pn**	**22 48 17.1**	**-0.3**

IDC 10 22:53:37.3±6.7**, 17.91S**×**174.84W, h160**^{km}±128^{km}**, mb3.9**/6**, mb1 4.0**/7**, mb1mx3.7**/20**, mbtmp3.9**/7**, ML2.1**/1**, Error ellipse: s-maj=122.3km s-min=32.5km az=91.0, Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**4.95**	**37**	P	Pn	22 54 52.0	+1.7
	4.1nm,0.3s,baz=78,slow=21,SNR=4.2						
AFI				S	Sn	22 55 47.1	-0.2
	7.3nm,0.3s,baz=44,slow=22,SNR=6.3						
URZ	**Urewera**	**21.46**	**198**	P	P	22 58 12.8	-0.1
	7.0nm,0.6s,baz=37,slow=8.8,SNR=3.4						
CTA	**Charters Tower**	**36.80**	**260**	P	P	23 00 28.9	-1.0
	1.2nm,0.4s,baz=82,slow=10,SNR=3.5						
STKA	**Stephens Creek**	**41.62**	**242**	P	P	23 01 09.9	+0.1
	1.3nm,0.4s,baz=89,slow=8.9,SNR=4.4						
WRA	**Warramunga Arr**	**47.97**	**259**	P	P	23 02 00.2	0.0
	2.5nm,0.4s,baz=98,slow=7.0,SNR=10						
ASAR	**Alice Springs**	**48.06**	**254**	P	P	23 02 00.8	0.0
	9.5nm,0.5s,baz=90,slow=8.2,SNR=26						
FITZ	**Fitzroy Crossi**	**56.38**	**260**	P	P	23 03 02.5	+0.3
	2.2nm,0.6s,baz=96,slow=9.2,SNR=2.2						

ISCJB ***10*** *22:54:54.5±0.6, 8.89S±0.05×111.48E±0.03, h66^{km}±5^{km}, mb4.4/31, Error ellipse: s-maj=9.2km s-min=4.4km az=21.2*
NEIC ***10*** *22:54:54.9±1.7, 8.72S×111.55E, h48^{km}±15^{km}, mb4.6/18, Error ellipse: s-maj=10.7km s-min=5.3km az=59.0*
NEIC Felt [IV] at Nganjuk and Pacitan and [III] at Karangkates and Sawahan.
IDC ***10*** *22:54:54.8±4.4, 8.71S×111.56E, h43^{km}±41^{km}, mb4.1/16, mb1 4.2/17, mb1mx4.1/22, mbtmp4.1/17, ML4.7/2, MS3.6/3, Ms1 3.7/3, ms1mx3.0/34, Error ellipse: s-maj=27.3km s-min=14.3km az=59.0*
DJA ***10*** *22:54:54, 9.02S×111.43E, h30^{km}, Mw5.3/8*
BJI ***10*** *22:54:54.0, 8.70S×111.60E, h47^{km}, mB4.9, mb4.5*
ISC 10 22:54:55.8±0.5**, 8.90S**±0.05×**111.49E**±0.03**, h58**^{km}±4^{km}**, n109,** σ1^{s}.**13**/106**, mb4.5**/31**, Jawa**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SJI	**Sawahan**	**1.19**	**13**	P	**Pn**	**22 55 15.3**	**-1.0**
	0.0nm,0.0s						
SJI	**Sawahan**	**1.19**	**13**	S	**Sn**	**22 55 34.2**	**+2.7**
KRKI	**Karangkates**	**1.20**	**53**	P	**Pn**	**22 55 15.4**	**-1.1**
	0.0nm,0.0s						
KRKI	**Karangkates**	**1.20**	**53**	P	**Pn**	**22 55 15.3**	**-1.2**
KRKI	**Karangkates**	**1.20**	**53**	S	**Sn**	**22 55 32.2**	**+0.3**
UGM	**Wanagama**	**1.37**	**316**	P	**Pn**	**22 55 16.9**	**-1.8**
UGM	**Wanagama**	**1.37**	**316**	S	**Sn**	**22 55 36.1**	**+0.3**
SMRI	**Semarang**	**2.11**	**330**	P	**Pn**	**22 55 29.2**	**+0.5**
BJII	**Banjamegara**	**2.35**	**311**	P	**Pn**	**22 55 31.6**	**-0.4**
	0.0nm,0.0s						
BJII	**Banjamegara**	**2.35**	**311**	P	**Pn**	**22 55 31.3**	**-0.7**
BJII	**Banjamegara**	**2.35**	**311**	S	**Sn**	**22 56 00.8**	**+1.1**
KMMI	**Kalianget**	**3.06**	**53**	P	**Pn**	**22 55 41.5**	**-0.3**
	0.0nm,0.0s						
KMMI	**Kalianget**	**3.06**	**53**	P	**Pn**	**22 55 41.7**	**-0.1**
NBBI	**Negara**	**3.14**	**81**	P	**Pn**	**22 55 43.6**	**+0.8**
	0.0nm,0.0s						
NBBI	**Negara**	**3.14**	**81**	P	**Pn**	**22 55 44.5**	**+1.7**
BWJI	**Bawean**	**3.24**	**21**	P	**Pn**	**22 55 45.2**	**+1.0**
	0.0nm,0.0s						
IGBI	**Denpasar**	**3.62**	**89**	P	**Pn**	**22 55 47.8**	**-1.5**
	0.0nm,0.0s						
IGBI	**Denpasar**	**3.62**	**89**	P	**Pn**	**22 55 48.1**	**-1.2**
DNP	**Denpasar**	**3.69**	**87**	P	**Pn**	**22 55 51.5**	**+1.2**
	0.0nm,0.0s						
DNP	**Denpasar**	**3.69**	**87**	P	**Pn**	**22 55 49.9**	**-0.4**
JCJI	**Jatiwangi**	**3.98**	**307**	P	**Pn**	**22 55 51.9**	**-2.5**
	0.0nm,0.0s						
JCJI	**Jatiwangi**	**3.98**	**307**	P	**Pn**	**22 55 51.7**	**-2.7**
KHKI	**Kahang-Kahang**	**4.11**	**83**	P	**Pn**	**22 55 54.8**	**-1.3**
	0.0nm,0.0s						
KHKI	**Kahang-Kahang**	**4.11**	**83**	P	**Pn**	**22 55 55.2**	**-0.9**
LEM	**Lembang**	**4.35**	**298**	P	**Pn**	**22 55 59.2**	**-0.2**
	0.0nm,0.0s						
LEM	**Lembang**	**4.35**	**298**	P	**Pn**	**22 55 59.1**	**-0.3**
MTNI	**Mataram**	**4.64**	**87**	P	**Pn**	**22 56 02.6**	**-0.7**
	0.0nm,0.0s						
MTNI	**Mataram**	**4.64**	**87**	P	**Pn**	**22 56 02.5**	**-0.8**
CBJI	**Citeko**	**5.21**	**298**	P	**Pn**	**22 56 08.5**	**-2.8**
	0.0nm,0.0s						
CBJI	**Citeko**	**5.21**	**298**	P	**Pn**	**22 56 08.4**	**-2.9**
	953nm,0.6s,4.3nm						
SKJI	**Sukabumi**	**5.23**	**291**	P	**Pn**	**22 56 11.7**	**+0.2**
	0.0nm,0.0s						
SKJI	**Sukabumi**	**5.23**	**291**	P	**Pn**	**22 56 09.7**	**-1.8**
	394nm,0.9s,8µm3.3nm						
DBJI	**Dramaga**	**5.24**	**296**	P	**Pn**	**22 56 11.5**	**-0.1**
	353nm,0.9s,5µm1.2nm						
XMIS	**Christmas Isla**	**5.96**	**254**	*e*P	**Pn**	**22 56 16.9**	**-4.7**
XMIS				*e*S	**Sn**	**22 57 15.6**	**-13**
XMIS				*e*T		23 02 18.4	
PBKI	**Pangkalan Bun**	**6.15**	**2**	P	**Pn**	**22 56 25.6**	**+1.5**
	0.0nm,0.0s						
PBKI	**Pangkalan Bun**	**6.15**	**2**	P	**Pn**	**22 56 26.8**	**+2.7**
	172nm,1.0s,2µm1.0nm						
BBKI	**Banjar Baru**	**6.34**	**32**	P	**Pn**	**22 56 28.5**	**+1.7**
	131nm,0.9s,0.5nm						
TPI	**Tanjungpandan**	**7.19**	**328**	P	**Pn**	**22 56 39.7**	**+1.3**
	0.0nm,0.0s						
TPI	**Tanjungpandan**	**7.19**	**328**	P	**Pn**	**22 56 39.4**	**+1.0**
	24nm,0.7s,700nm0.3nm						
KLI	**Kotabumi**	**7.71**	**301**	P	**Pn**	**22 56 45.8**	**+0.4**
	101nm,0.7s,0.4nm						
PPBI	**Pangkal Pinang**	**8.55**	**321**	P	**Pn**	**22 56 58.1**	**+1.1**
	0.0nm,0.0s						
PPBI	**Pangkal Pinang**	**8.55**	**321**	P	**Pn**	**22 56 58.0**	**+1.0**
	70nm,1.0s,1µm0.2nm						
STKI	**Sintang**	**8.90**	**360**	P	**Pn**	**22 57 04.1**	**+2.3**
	48nm,1.1s,8µm						
KAPI	**Kappang**	**9.06**	**65**	P	**Pn**	**22 57 02.5**	**-1.5**
	1.7nm,0.3s,baz=243,slow=9.9,SNR=5.1						
KSI	**Kapahiang**	**10.26**	**300**	P	**Pn**	**22 57 20.7**	**+0.3**
	191nm,0.7s						
BATI	**Baumata**	**12.08**	**97**	P	**Pn**	**22 57 44.1**	**-1.1**
	0.0nm,0.0s						
BATI	**Baumata**	**12.08**	**97**	P	**Pn**	**22 57 42.2**	**-3.0**
	18nm,0.3s,baz=335,slow=2.2,SNR=13						
BATI				LR	LR	23 04 12.0	
	comp=Z,324nm,19.4s,baz=104,slow=46						
BATI	**Baumata**	**12.08**	**97**	P	**Pn**	**22 57 44.0**	**-1.2**
	77nm,0.9s						
FITZ	**Fitzroy Crossi**	**16.51**	**125**	*e*P	**Pn**	**22 58 40.4**	**-3.3**
	16nm,0.8s						
FITZ				*e*S	S	23 01 31.9	-23
FITZ	**Fitzroy Crossi**	**16.51**	**125**	P	**Pn**	**22 58 39.2**	**-4.4**
	0.8nm,0.3s,baz=303,slow=8.0,SNR=12						
FITZ	**Fitzroy Crossi**	**16.51**	**125**	*e*Pn	**Pn**	**22 58 43.2**	**-0.5**
	16nm,0.7s						
FITZ				*e*S	S	23 01 31.9	-23
AAI	**Ambon**	**17.39**	**74**	P	**Pn**	**22 58 56.4**	**+1.8**
	94nm,0.8s						
AAI	**Ambon**	**17.39**	**74**	P	**Pn**	**22 58 56.6**	**+2.0**
	94nm,0.8s						
KAKA	**Kakadu**	**20.92**	**102**	*e*P	**P**	**22 59 32.0**	**-1.8**
	25nm,0.6s						
KAKA	**Kakadu**	**20.92**	**102**	*e*P	**P**	**22 59 32.1**	**-1.7**
NWAO	**Narrogin (SRO)**	**24.50**	**168**	*e*P	**P**	**23 00 10.3**	**+0.7**
WRA	**Warramunga Arr**	**24.67**	**119**	P	**P**	**23 00 11.7**	**+0.3**
	23nm,0.7s,mb4.8,baz=291,slow=11,SNR=103						
WRA				LR	LR	23 10 04.8	
	comp=Z,183nm,20.2s,baz=285,slow=37						
WB2	**Warramunga Arr**	**24.68**	**119**	*e*P	**P**	**23 00 12.1**	**+0.6**

ASAR	**Alice Springs**	**25.99**	**127**	P	**P**	**23 00 23.8**	**+0.5**
	16nm,0.6s,mb4.7,baz=303,slow=9.0,SNR=148						
FORT	**Forrest**	**26.70**	**147**	*e*P	**P**	**23 00 30.5**	**+0.8**
	34nm,0.7s,mb5.0						
CMAR	**Chiang Mai Arr**	**29.87**	**336**	P	**P**	**23 00 58.0**	**+0.1**
	0.6nm,0.4s,mb3.7,baz=171,slow=7.7,SNR=4.1						
CMAR				LR	LR	23 13 23.1	
	comp=Z,91nm,19.6s,baz=155,slow=37						
CHTO	**Chiang Mai**	**30.18**	**336**	P	**P**	**23 00 59.7**	**-1.0**
COEN	**Coen**	**31.45**	**102**	*e*P	**P**	**23 01 12.7**	**+0.7**
	9.8nm,0.9s,mb4.6						
PMG	**Port Moresby**	**35.21**	**94**	*e*P	**P**	**23 01 44.2**	**-0.6**
	6.5nm,0.7s,mb4.7						
CTA	**Charters Tower**	**35.37**	**112**	*e*P	**P**	**23 01 47.4**	**+1.3**
	4.9nm,0.9s,mb4.4						
CTA	**Charters Tower**	**35.37**	**112**	P	**P**	**23 01 47.8**	**+1.6**
	5.6nm,0.8s,mb4.6,baz=288,slow=11,SNR=7.5						
CTAO	**Charters Tower**	**35.37**	**112**	*e*P	**P**	**23 01 46.6**	**+0.5**
	6.5nm,0.8s,mb4.6						
STKA	**Stephens Creek**	**36.10**	**134**	*e*P	**P**	**23 01 53.1**	**+0.9**
	6.4nm,0.6s,mb4.7						
STKA	**Stephens Creek**	**36.10**	**134**	P	**P**	**23 01 53.1**	**+1.0**
	7.4nm,0.6s,mb4.8,baz=311,slow=8.6,SNR=22						
STKA	**Stephens Creek**	**36.10**	**134**	*e*P	**P**	**23 01 53.2**	**+1.0**
	6.3nm,0.4s,mb4.9						
ENH	**Enshi**	**38.99**	**357**	P	**P**	**23 02 15.3**	**-1.3**
LSA	**Lhasa**	**43.08**	**334**	*e*P	**P**	**23 02 46.2**	**-4.0**
LSA	**Lhasa**	**43.08**	**334**	*e*P	**P**	**23 02 48.7**	**-1.5**
	4.5nm,1.1s,mb4.1						
BJT	**Baijiatuau**	**48.86**	**5**	*e*P	**P**	**23 03 34.4**	**-1.1**
	11nm,0.4s,mb5.2						
GTA	**Gaotai**	**49.27**	**348**	*e*P	**P**	**23 03 39.8**	**+1.2**
GTA				AMB	AMB		
	comp=Z,4.0nm,0.7s,mb4.6						
MJAR	**Matsushiro Arr**	**51.70**	**27**	P	**P**	**23 03 55.5**	**-1.6**
	comp=Z,1.2nm,0.5s,mb4.1,baz=200,slow=8.4,SNR=4.6						
SONM	**Songino Array**	**56.66**	**356**	P	**P**	**23 04 33.2**	**+0.3**
	comp=Z,1.5nm,0.7s,mb4.1,baz=183,slow=8.6,SNR=6.9						
KBL	**Kabul**	**58.99**	**319**	*e*P	**P**	**23 04 48.1**	**-1.4**
	comp=Z,2.0nm,0.7s,mb4.3						
TKM2	**Tokmak 2**	**61.06**	**331**	*e*P	**P**	**23 05 03.6**	**0.0**
	comp=Z,4.3nm,0.8s,mb4.6						
UCH	**Uchtor**	**61.09**	**329**	*e*P	**P**	**23 05 03.5**	**-0.3**
MKAR	**Makanchi Array**	**61.25**	**338**	P	**P**	**23 05 04.0**	**-0.8**
	comp=Z,3.2nm,0.4s,mb4.8,baz=150,slow=7.3,SNR=63						
EKS2	**Erkin-Say**	**61.78**	**329**	*e*P	**P**	**23 05 08.9**	**+0.5**
	comp=Z,2.9nm,0.7s,mb4.5						
KURK	**Kurchatov**	**65.86**	**338**	P	**P**	**23 05 34.5**	**-0.6**
	comp=Z,0.9nm,0.2s,mb4.4,baz=159,slow=5.0,SNR=3.3						
KURK	**Kurchatov**	**65.86**	**338**	*e*P	**P**	**23 05 34.1**	**-1.0**
	comp=Z,7.1nm,1.4s,mb4.5						
ZAA0	**Zalesovo Array**	**66.54**	**343**	*e*P	**P**	**23 05 38.1**	**-1.3**
ZALV	**Zalesovo Beam**	**66.54**	**343**	P	**P**	**23 05 38.4**	**-1.0**
	comp=Z,1.7nm,0.4s,mb4.4,baz=156,slow=4.9,SNR=11						
ZALV	**Zalesovo Beam**	**66.54**	**343**	P	**P**	**23 05 38.4**	**-1.0**
BVAR	**Borovoye Array**	**70.89**	**335**	P	**P**	**23 06 05.6**	**-0.9**
	comp=Z,0.7nm,0.5s,mb3.9,baz=155,slow=12,SNR=6.5						
BRVK	**Borovoye**	**70.96**	**335**	P	**P**	**23 06 06.4**	**-0.6**
NAY	**Al-Naaiem**	**72.51**	**304**	*e*P	**P**	**23 06 16.2**	**-0.6**
	baz=304						
NAY				AMb	AMB	23 06 25.0	
	comp=Z,11nm,1.0s,mb4.7,baz=304						
MIB	**Mutribah**	**72.63**	**305**	*e*P	**P**	**23 06 17.0**	**-0.5**
	baz=305						
MIB				AMb	AMB	23 06 25.8	
	comp=Z,17nm,1.0s,mb4.9,baz=305						
RST	**Umm Al-Ruwaisa**	**72.80**	**305**	*e*P	**P**	**23 06 17.9**	**-0.5**
	baz=305						
RST				AMb	AMB	23 06 26.5	
	comp=Z,39nm,1.0s,mb5.3,baz=305						
PETK	**Petropavlovsk-**	**73.16**	**27**	P	**P**	**23 06 20.3**	**+0.2**
	comp=Z,3.7nm,0.7s,mb4.4,baz=249,slow=1.8,SNR=3.0						
KMBO	**Kilima Mbogo**	**74.25**	**271**	P	**P**	**23 06 28.7**	**+1.3**
	comp=Z,1.1nm,0.9s,mb3.8,baz=38,slow=23,SNR=3.3						
KMBO	**Kilima Mbogo**	**74.25**	**271**	*e*P	**P**	**23 06 28.6**	**+1.2**
	comp=Z,1.0nm,0.7s,mb3.9						
AKTK	**Aktyubinsk**	**75.05**	**328**	P	**P**	**23 06 31.7**	**+0.6**
AKTO	**Aktyubinsk**	**75.05**	**328**	P	**P**	**23 06 31.7**	**+0.6**
	comp=Z,1.8nm,0.6s,mb4.2,baz=92,slow=6.3,SNR=4.4						
ARU	**Arti**	**78.28**	**333**	*e*P	**P**	**23 06 48.8**	**-0.5**
KIV	**Kislovodsk**	**81.27**	**317**	P	**P**	**23 07 05.4**	**-0.3**
LSZ	**Lusaka**	**81.29**	**256**	P	**P**	**23 07 08.5**	**+2.1**
	comp=Z,2.1nm,0.6s,mb4.3,baz=48,slow=6.6,SNR=10						
LSZ	**Lusaka**	**81.29**	**256**	*e*P	**P**	**23 07 09.3**	**+2.8**
	comp=Z,4.0nm,0.6s,mb4.5						
BOSA	**Boshof**	**82.51**	**242**	P	**P**	**23 07 14.2**	**+1.5**
	comp=Z,2.5nm,1.0s,mb4.2,baz=177,slow=15,SNR=2.2						
LBTB	**Lobatse**	**82.60**	**246**	*e*P	**P**	**23 07 14.2**	**+0.9**
	comp=Z,6.1nm,0.9s,mb4.6						
BR131	**Keskin Array S**	**86.41**	**311**	*e*P	**P**	**23 07 32.7**	**+0.6**
	comp=Z,2.8nm,0.7s,mb4.6						
SNAA	**Sanae**	**89.03**	**197**	*e*P	**P**	**23 07 46.5**	**+2.5**
	comp=Z,4.0nm,1.1s,mb4.7						
TORD	**Torodi Ar. Bea**	**111.14**	**281**	PKiKP	PKiKP	23 13 25.4	+1.5
	comp=Z,0.7nm,1.1s,baz=51,slow=2.2,SNR=3.4						
TXAR	**Lajitas Array**	**141.29**	**54**	PKhKP		23 14 18.0	
	comp=Z,0.1nm,0.5s,baz=260,slow=4.1,SNR=2.6						
NCB	**Newcomb**	**144.71**	**7**	*e*PKPdf	PKPdf	23 14 26.2	0.0
WVT	**Waverly**	**147.68**	**30**	PKP	PKPdf	23 14 35.1	+3.6

*CSEM **10** 23:03:27.8±0.1, 3882N×4364E, h2km, MD3.1, Error ellipse: s-maj=4.7km s-min=1.8km az=117.0*
*DDA **10** 23:03:28.7, 3877N×4375E, h5km±3km, Md3.1*
*ISCJB **10** 23:03:30.0±0.7, 3883N±003×4366E±010, h5km±7km, Error ellipse: s-maj=13.0km s-min=4.1km az=17.1*
*ISK **10** 23:03:29.0, 3881N×4364E, h8km, MD2.9*
ISC 10 23:03:30.3±0.7**, 3882N**±003×**4368E**±010**, h8**km±6km**, n9, σ1ˢ32**/15**, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TVAN	**Van**	**0.36**	**216**	*i* P	**Pg**	**23 03 35.7**	**-1.7**
TVAN				*i* S	**Sg**	**23 03 43.3**	**+1.2**
CLDR	**Caldiran**	**0.37**	**30**	*e*PG	**Pg**	**23 03 36.8**	**-0.8**
CLDR				*e*SG	**Sg**	**23 03 43.6**	**+1.1**
VANT	**Van**	**0.44**	**211**	*e*PG	**Pg**	**23 03 38.5**	**-0.4**
VANT				*e*SG	**Sg**	**23 03 46.7**	**+2.1**
DYDN	**Diyadin**	**0.72**	**1**	*i* P	**Pg**	**23 03 42.0**	**-2.3**
DYDN				*i* S	**Sg**	**23 03 55.7**	**+2.1**
AGRB	**Hanur-Agry**	**0.92**	**325**	*e*PG	**Pg**	**23 03 46.6**	**-1.4**
HAKT	**HAKKARI**	**1.26**	**179**	*i* P	**Pn**	**23 03 50.7**	**-3.6**
HAKT				*i* S	**Sb**	**23 04 11.2**	**+0.5**
GNI	**Garni**	**1.56**	**32**	*e*PN	**Pn**	**23 03 58.1**	**-0.3**
DIGO	**Kars**	**1.61**	**352**	*i* P	**Pn**	**23 03 59.7**	**+0.6**
DIGO				*i* S	**Sn**	**23 04 20.9**	**+0.9**
SIRT	**Sirnak**	**1.64**	**217**	*e*PN	**Pn**	**23 03 58.5**	**-0.9**

*SZGRF **10** 23:11:39.9, 2245S×17083E, h33km, mb5.1, Southeast of Loyalty Islands*
*NOU **10** 23:11:39.6±0.6, 2472S×16960E, h10km*
*IDC **10** 23:11:40.7±0.6, 2111S×17025E, h0km, mb4.6/17, mb1 4.8/19, mb1mx4.8/22, mbtmp4.7/19, ML4.8/2, MS4.7/23, Ms1 4.7/23, ms1mx4.5/29, Error ellipse: s-maj=13.4km s-min=12.2km az=52.0*
*NEIC **10** 23:11:41.9±0.2, 2124S×17026E, h10km, mb5.2/28, MS5.1/7, Error ellipse: s-maj=7.8km s-min=6.0km az=160.0*
*GCMT **10** 23:11:41.9±0.1, 2121S×17030E, h15km, MW5.4/96, Moment Tensor Solution. s78,c139; s96,c187; Duration: 1ˢ2 Moment tensor: Scale 10^{17}Nm; M_{rr}-0.10±.02; $M_{\theta\theta}$-1.12±.02; $M_{\phi\phi}$ 1.22±.02; $M_{r\theta}$0.33±.06; $M_{\theta\phi}$-0.99±.02; $M_{\phi r}$0.13±.06; Best double couple: $M_0$1.57400×10^{17} NP1:ϕ_s296.00000°, δ80.00000°, λ-171.00000°. NP2:ϕ_s204.00000°, δ81.00000°, λ-10.00000°. Principal axes: T 1.5810, Plg0.0000°, Azm250.0000°; N -0.0170, Plg76.0000°, Azm341.0000°; P -1.5670, Plg14.0000°, Azm160.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*BJI **10** 23:11:41.8, 2120S×17030E, h10km, mB5.1, mb5.0, Ms5.1, Msz4.8*
*LDG **10** 23:11:43.6±0.3, 20.18S×169.74E, h10km, Mb4.9/2, Ms4.8/10, Error ellipse: s-maj=27.0km s-min=5.2km az=138.0*
*MOS **10** 23:11:44.6±1.8, 2131S×17020E, h33km, mb5.3/15, MS4.8/9, Error ellipse: s-maj=11.1km s-min=9.8km az=11.3*
*ISCJB **10** 23:11:45.0±0.1, 2136S±004×170.19E±003, h37km, mb4.9/48, MS4.8/40, Error ellipse: s-maj=6.2km s-min=3.3km az=163.6*
ISC 10 23:11:46.1±0.1**, 2134S**±004×**17023E**±003**, h34**km±3.7km**: pP-P, n359,** σ**0ˢ83**/260**, mb4.9**/48**, MS4.8**/40**, 69C-60D, Southeast of Loyalty Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BAYA	**Yate Dam**	**3.21**	**255**	*e*P	**Pn**	**23 12 32.7**	**-1.4**
BAYA				*e*S	**Sn**	**23 13 12.7**	**+1.4**
DZM	**Mont Dzumac**	**3.59**	**258**	*e*P	**Pn**	**23 12 38.5**	**-0.9**
DZM				*e*S	**Sn**	**23 13 21.4**	**+0.8**
DZM	**Mont Dzumac**	**3.59**	**258**	*e*Pn	**Pn**	**23 12 38.0**	**-1.4**
DZM				*e*Sn	**Sn**	**23 13 21.5**	**+0.8**
NOUC	**Port Laguerre**	**3.72**	**258**	*e*P	**Pn**	**23 12 40.3**	**-0.9**
NOUC				*e*S	**Sn**	**23 13 25.3**	**+1.4**
HNR	**Honiara**	**15.43**	**319**	Pn	**Pn**	**23 15 17.6**	**-3.8**
	16nm,0.3s,baz=190,slow=11,SNR=2.2						
HNR				LR	LR	23 20 27.6	
	comp=Z,2μm,18.7s,baz=146,slow=34						
HNR	**Honiara**	**15.43**	**319**	*e*P	**Pn**	**23 15 21.4**	**0.0**
HNR				*e*		23 18 13.5	
HNR				pmax	pmax		
	comp=Z,623nm,1.6s						
HNR	**Honiara**	**15.43**	**319**	*e*Pn	**Pn**	**23 15 21.4**	**-0.1**
	comp=Z,623nm,1.6s						
HNR				*e*Sn	**Sn**	**23 18 13.5**	**+2.1**
HNR				LR	LR	23 20 27.6	
URZ	**Urewera**	**17.88**	**162**	P	**Pn**	**23 15 52.4**	**+0.2**
	comp=Z,0.8nm,0.3s,baz=36,slow=6.6,SNR=13						
URZ				S	**Sn**	**23 19 17.6**	**+7.2**
	comp=Z,0.3nm,0.3s,baz=112,slow=13,SNR=2.0						
URZ				LR	LR	23 21 07.2	
	comp=Z,6μm,21.9s,baz=349,slow=31						
AFI	**Afiamalu**	**18.67**	**70**	P	**Pn**	**23 15 56.6**	**-5.4**
	comp=Z,2.3nm,0.3s,baz=282,slow=5.1,SNR=8.6						
AFI				LR	LR	23 22 01.7	
	comp=Z,1μm,18.7s,baz=250,slow=34						
AFI	**Afiamalu**	**18.67**	**70**	*e*P	**Pn**	**23 15 56.5**	**-5.5**
AFI				pmax	pmax		
	comp=Z,236nm,1.3s						
AFI	**Afiamalu**	**18.67**	**70**	*e*P	**Pn**	**23 15 56.5**	**-5.4**
	comp=Z,236nm,1.3s						
ARMA	**Armidale**	**19.00**	**238**	*e*P	**Pn**	**23 16 08.3**	**+2.5**
SNZO	**South Karori**	**20.26**	**170**	*e*P	**P**	**23 16 20.6**	**+2.0**
	comp=Z,617nm,1.6s						
RPZ	**Rata Peaks**	**22.32**	**178**	P	**P**	**23 16 41.1**	**+0.3**
	comp=Z,40nm,1.1s,mb4.8,baz=316,slow=3.8,SNR=4.6						
RPZ				LR	LR	23 24 33.8	
	comp=Z,3μm,18.3s,MS4.8,baz=351,slow=34						
CTA	**Charters Tower**	**22.45**	**269**	*e*P	**P**	**23 16 43.0**	**+0.6**
	comp=Z,24nm,1.0s,mb4.6						
CTA				*e*S	**S**	**23 20 52.7**	**+5.3**
CTA	**Charters Tower**	**22.45**	**269**	P	**P**	**23 16 43.0**	**+0.5**
	comp=Z,15nm,0.7s,mb4.5,baz=106,slow=13,SNR=25						
CTA				S	**S**	**23 20 51.4**	**+3.9**
	comp=Z,1.5nm,0.6s,baz=240,slow=23,SNR=4.4						
CTA	**Charters Tower**	**22.45**	**269**	*e*P	**P**	**23 16 43.0**	**+0.6**
CTA				pmax	pmax		
	comp=Z,24nm,1.0s						
CTAO	**Charters Tower**	**22.45**	**269**	*e*P	**P**	**23 16 42.6**	**+0.2**
CNB	**Canberra Magne**	**22.98**	**228**	*e*P	**P**	**23 16 49.2**	**+1.4**
CNB				*e*S	**S**	**23 21 00.4**	**+4.4**
CAN	**Canberra**	**23.23**	**229**	*e*P	**P**	**23 16 50.0**	**-0.5**
CAN				*e*		23 17 05.9	
PMG	**Port Moresby**	**25.17**	**295**	*e*P	**P**	**23 17 07.2**	**-1.4**
COEN	**Coen**	**26.77**	**281**	*e*P	**P**	**23 17 23.3**	**+0.2**
	comp=Z,51nm,1.5s,mb4.8						
COEN				*e*		23 17 37.5	
TOO	**Toolangi**	**26.81**	**227**	*e*P	**P**	**23 17 24.1**	**+0.8**
TOO				*e*S	**S**	**23 22 05.9**	**+8.6**
STKA	**Stephens Creek**	**27.59**	**242**	*e*P	**P**	**23 17 31.0**	**+0.7**
	comp=Z,15nm,0.8s,mb4.7						
STKA				*e*S	**S**	**23 22 12.9**	**+3.3**
STKA	**Stephens Creek**	**27.59**	**242**	P	**P**	**23 17 31.4**	**+1.1**
	comp=Z,7.5nm,0.6s,mb4.5,baz=72,slow=9.3,SNR=15						
STKA				LR	LR	23 27 49.0	
	comp=Z,4μm,19.5s,MS5.0,baz=70,slow=35						
RAR	**Rarotonga**	**27.94**	**95**	LR	LR	23 26 27.3	
	comp=Z,789nm,19.3s,MS4.3,baz=267,slow=32						
RAR	**Rarotonga**	**27.94**	**95**	*e*P	**P**	**23 17 31.7**	**-1.8**
RAR				pmax	pmax		
	comp=Z,78nm,1.2s						
RAR	**Rarotonga**	**27.94**	**95**	*e*P	**P**	**23 17 31.6**	**-1.9**
	comp=Z,78nm,1.2s,mb5.2						
WB2	**Warramunga Arr**	**33.56**	**266**	*e*P	**P**	**23 18 21.7**	**-1.4**
WRA	**Warramunga Arr**	**33.57**	**266**	P	**P**	**23 18 22.1**	**-1.1**
	comp=Z,19nm,0.6s,mb5.2,baz=97,slow=7.9,SNR=144						
WRA				LR	LR	23 32 22.1	
	comp=Z,4μm,18.8s,MS5.2,baz=100,slow=37						
ASAR	**Alice Springs**	**33.58**	**259**	P	**P**	**23 18 22.8**	**-0.5**
	comp=Z,20nm,0.7s,mb5.1,baz=85,slow=8.9,SNR=169						
KAKA	**Kakadu**	**37.06**	**277**	*e*P	**P**	**23 18 51.1**	**-2.2**
	comp=Z,11nm,0.6s,mb4.9						
KAKA	**Kakadu**	**37.06**	**277**	*e*P	**P**	**23 18 50.8**	**-2.5**
KAKA				PcP	PcP	23 21 13.0	-0.7
TBI	**Tubuai**	**37.26**	**101**	*e*S	**S**	**23 24 39.7**	**-0.5**
	comp=Z,595nm,28.2s						
TBI				*e*LQ		23 27 14.8	
	comp=Z,4μm,32.5s						
TBI				*e*LR	LR	23 28 52.6	
	comp=Z,1μm,28.2s,baz=254						
PPT	**Papeete**	**38.02**	**91**	*e*S	**S**	**23 24 50.6**	**-1.2**
	comp=Z,458nm,25.8s						
PPT				*e*LQ		23 27 48.6	
	comp=Z,7μm,27.8s						
PPT				*e*LR	LR	23 29 29.7	
	comp=Z,3μm,26.0s,baz=254						
PPT	**Papeete**	**38.02**	**91**	LR	LR	23 30 33.5	
	comp=Z,795nm,21.9s,MS4.5,baz=259,slow=30						
FORT	**Forrest**	**38.84**	**247**	*e*P	**P**	**23 19 08.0**	**-0.2**
	comp=Z,16nm,0.7s,mb4.9						
PMOR	**Pomariorio Ree**	**40.20**	**88**	*e*P	**P**	**23 19 17.7**	**-2.0**
	comp=Z,163nm,1.3s,mb5.6						
VAH	**Vaihoa**	**40.39**	**89**	*e*P	**P**	**23 19 18.8**	**-2.4**
	comp=Z,146nm,1.4s,mb5.5						
FITZ	**Fitzroy Crossi**	**41.99**	**266**	*e*P	**P**	**23 19 34.4**	**0.0**
	comp=Z,60nm,0.6s,mb5.4						
FITZ				*e*S	**S**	**23 25 35.7**	**-16**
FITZ	**Fitzroy Crossi**	**41.99**	**266**	P	**P**	**23 19 34.5**	**+0.1**
	comp=Z,32nm,0.7s,mb5.1,baz=122,slow=9.0,SNR=86						
FITZ				LR	LR	23 37 16.3	
	comp=Z,4μm,19.3s,MS5.3,baz=359,slow=36						
GUMO	**Guam**	**42.72**	**322**	LR	LR	23 35 09.4	
	comp=Z,462nm,18.8s,MS4.4,baz=122,slow=33						
GUMO	**Guam**	**42.72**	**322**	P	**P**	**23 19 39.5**	**-0.8**
KLBR	**Kellerberrin**	**47.68**	**246**	*e*P	**P**	**23 20 18.5**	**-1.1**
	comp=Z,88nm,1.4s,mb5.6						
NWAO	**Narrogin (SRO)**	**48.11**	**244**	P	**P**	**23 20 22.7**	**-0.2**
	comp=Z,19nm,0.8s,mb5.2,baz=109,slow=5.5,SNR=11						
NWAO	**Narrogin (SRO)**	**48.11**	**244**	*e*P	**P**	**23 20 22.8**	**-0.1**
NWAO				pmax	pmax		
	comp=Z,37nm,1.0s						
NWAO	**Narrogin (SRO)**	**48.11**	**244**	*e*P	**P**	**23 20 22.8**	**-0.1**
	comp=Z,37nm,1.0s,mb5.4						
DRV	**Dumont d'Urvil**	**49.25**	**195**	S	**S**	**23 27 47.0**	**+13**
DRV				SS	SS	23 31 11.0	+5.1
DRV				L		23 32 00.0	
DRV				R		23 35 00.0	
TAOE	**Nuku Hiva Isla**	**49.30**	**83**	*e*S	**S**	**23 27 34.0**	**-2.7**
	comp=Z,2μm,25.6s						
TAOE				*e*LR	LR	23 34 23.0	
	comp=Z,10μm,26.8s,baz=249						
RKT	**Rikitea**	**50.51**	**103**	*e*S	**S**	**23 27 52.1**	**-1.3**
	comp=Z,414nm,32.2s						
RKT				*e*LQ		23 32 21.3	
	comp=Z,1μm,36.0s						
RKT				*e*LR	LR	23 34 57.3	
	comp=Z,698nm,29.8s,baz=241						
MIDW	**Midway**	**50.70**	**14**	*e*P	**P**	**23 20 40.5**	**-2.0**
KAPI	**Kappang**	**51.50**	**281**	*e*P	**P**	**23 20 47.3**	**-1.6**
CBIJ	**Chichi jima**	**55.28**	**329**	LR	LR	23 41 38.8	
	comp=Z,958nm,21.2s,MS4.8,baz=151,slow=33						
SBA	**Scott Base**	**56.58**	**181**	*e*P	**P**	**23 21 26.3**	**+1.3**
SBA				pmax	pmax		
	comp=Z,38nm,1.0s,mb5.4						
SBA	**Scott Base**	**56.58**	**181**	*e*P	**P**	**23 21 26.2**	**+1.2**
	comp=Z,38nm,1.0s,mb5.4						
CASY	**Casey**	**58.58**	**204**	*e*P	**P**	**23 21 38.2**	**-1.1**
KKM	**Kota Kinabalu**	**59.54**	**291**	*e*P	**P**	**23 21 45.3**	**-1.4**
KSM	**Kuching**	**62.75**	**283**	*e*P	**P**	**23 22 07.6**	**-0.9**
JOW	**Kunigami**	**62.80**	**318**	LR	LR	23 46 10.3	
	comp=Z,319nm,20.0s,MS4.5,baz=158,slow=33						
MJAR	**Matsushiro Arr**	**65.03**	**332**	P	**P**	**23 22 20.6**	**-2.4**
	comp=Z,1.3nm,0.5s,mb4.2,baz=164,slow=5.9,SNR=5.0						
MJAR				LR	LR	23 46 28.2	
	comp=Z,413nm,19.3s,MS4.6,baz=135,slow=32						
MAJO	**Matsushiro**	**65.04**	**332**	*e*P	**P**	**23 22 20.9**	**-2.1**
MAT	**Matsushiro**	**65.04**	**332**	P	**P**	**23 22 17.8**	**-5.2**
MAT				*e*S	S	23 31 00.8	-2.1
MIR	**Mirnyy**	**65.53**	**205**	*e*P	**P**	**23 22 24.0**	**-1.9**
MIR				*i*		23 22 39.0	
MIR				pmax	pmax		
	comp=Z,100nm,1.0s,mb5.8						
TATO	**Taipei**	**66.04**	**312**	*e*P	**P**	**23 22 27.6**	**-2.2**
QSPA	**South Pole Qui**	**68.72**	**180**	LR	LR	23 49 08.5	
	comp=Z,533nm,18.4s,MS4.8,baz=28,slow=33						
SSE	**Sheshan**	**70.23**	**316**	P	**P**	**23 22 56.7**	**+0.8**
SSE				AMB	AMB		
	comp=Z,21nm,0.6s,mb5.2						
SSE				AMB	AMB		
	comp=Z,63nm,4.0s						
SSE				LR	LR		
	comp=N,167nm,22.7s,MS4.4						
SSE				LR	LR		
	comp=E,179nm,22.7s,MS4.4						
SSE				LR	LR		
	comp=Z,203nm,18.9s,MS4.4						
SSE	**Sheshan**	**70.23**	**316**	P	**P**	**23 22 56.7**	**+0.8**
	comp=Z,21nm,0.6s,mb5.2						
SSE				S	S	23 32 01.9	-3.5
SSE				LR	LR		
	comp=Z,200nm,18.9s,MS4.4						
KSRS	**Korea Array**	**70.75**	**325**	P	**P**	**23 22 57.8**	**-1.2**
	comp=Z,0.7nm,0.4s,mb3.9,baz=24,slow=32,SNR=4.1						
KSRS				LR	LR	23 53 11.7	
	comp=Z,251nm,18.2s,MS4.5,baz=313,slow=35						
QIZ	**Qiongzhong**	**71.42**	**300**	P	**P**	**23 23 03.6**	**+0.2**
QIZ				S	S	23 32 18.0	-1.8
QIZ				LR	LR		
	comp=Z,325nm,20.2s,MS4.6						
NJ2	**Nanjing**	**72.36**	**316**	*e*P	**P**	**23 23 10.6**	**+1.8**
NJ2				AMB	AMB		
	comp=Z,20nm,0.6s,mb5.2						
NJ2				AMB	AMB		
	comp=Z,80nm,10.4s						
NJ2				LR	LR		
	comp=N,360nm,27.0s,MS4.6						
NJ2				LR	LR		
	comp=E,270nm,25.3s,MS4.6						
NJ2				LR	LR		
	comp=Z,240nm,23.4s,MS4.4						
PETK	**Petropavlovsk-**	**74.93**	**352**	LR	LR	23 51 40.7	
	comp=Z,457nm,19.3s,MS4.8,baz=166,slow=32						
MDJ	**Mudanjiang**	**75.40**	**331**	P	**P**	**23 23 27.6**	**+1.3**
MDJ				S	S	23 33 04.4	+0.6
MDJ				AMB	AMB		
	comp=Z,9.0nm,1.6s,mb4.5						
MDJ				AMB	AMB		
	comp=Z,114nm,5.1s						
MDJ				LR	LR		
	comp=N,498nm,24.3s,MS4.8						
MDJ				LR	LR		
	comp=E,376nm,22.5s,MS4.8						
MDJ				LR	LR		
	comp=Z,698nm,23.7s,MS4.9						
CN2	**Changchun**	**76.73**	**328**	*e*P	**P**	**23 23 31.9**	**-2.0**
CN2				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb4.7						
CN2				AMB	AMB		
	comp=Z,250nm,5.0s						
CN2				LR	LR		
	comp=N,560nm,20.0s,MS5.0						
CN2				LR	LR		
	comp=E,460nm,20.0s,MS5.0						
CN2				LR	LR		
	comp=Z,570nm,22.0s,MS4.8						
MAW	**Mawson**	**76.84**	**202**	*e*P	**P**	**23 23 34.0**	**-0.3**
	comp=Z,11nm,1.2s,mb4.7						
MAW	**Mawson**	**76.84**	**202**	P	**P**	**23 23 35.9**	**+1.7**
	comp=Z,2.1nm,0.8s,mb4.1,baz=122,slow=13,SNR=4.6						
MAW	**Mawson**	**76.84**	**202**	*e*P	**P**	**23 23 33.8**	**-0.5**
MAW				pmax	pmax		
	comp=Z,71nm,1.7s						
MAW	**Mawson**	**76.84**	**202**	*e*P	**P**	**23 23 33.8**	**-0.5**
	comp=Z,71nm,1.7s,mb5.3						
GYA	**Guiyang**	**77.78**	**305**	⇓*i*P	**P**	**23 23 41.5**	**+1.3**
GYA				PP	PP	23 26 39.0	+2.8
GYA				SKS		23 33 43.8	
GYA				AMB	AMB		
	comp=Z,20nm,1.0s,mb5.0						
GYA				AMB	AMB		
	comp=Z,160nm,5.2s						
GYA				LR	LR		
	comp=N,890nm,19.8s,MS5.2						
GYA				LR	LR		
	comp=E,780nm,20.7s,MS5.2						
GYA				LR	LR		
	comp=Z,940nm,19.4s,MS5.1						
BJI	**Beijing**	**79.14**	**321**	P	**P**	**23 23 48.6**	**+1.2**
BJI				S	S	23 33 45.0	+0.3
BJI				AMB	AMB		
	comp=Z,9.0nm,0.9s,mb4.7						
BJI				AMB	AMB		
	comp=Z,90nm,3.5s						
BJI				LR	LR		
	comp=N,383nm,20.7s,MS4.9						
BJI				LR	LR		
	comp=E,385nm,21.3s,MS4.9						
BJI				LR	LR		
	comp=Z,595nm,28.4s						
BJI	**Beijing**	**79.14**	**321**	P	**P**	**23 23 48.6**	**+1.2**
	comp=Z,9.0nm,0.9s,mb4.7						
BJI				S	S	23 33 45.0	+0.3
BJI				SS	SS	23 38 44.3	-7.6
BJI				LR	LR		
	comp=Z,600nm,28.4s,MS4.8						
KMI	**Kunming**	**80.16**	**302**	P	**P**	**23 23 53.8**	**+0.5**
KMI				PP	PP	23 26 59.5	+3.3
KMI				S	S	23 33 53.7	-2.4
KMI				AMB	AMB		
	comp=Z,9.0nm,1.6s,mb4.5						
KMI				AMB	AMB		
	comp=Z,91nm,4.5s						
KMI				LR	LR		
	comp=N,169nm,22.3s,MS4.5						
KMI				LR	LR		
	comp=E,157nm,24.3s,MS4.5						
KMI				LR	LR		
	comp=Z,217nm,25.3s,MS4.4						
KMI	**Kunming**	**80.16**	**302**	P	**P**	**23 23 53.8**	**+0.5**
KMI				*PP	pP	23 24 07.5	+3.6
KMI						23 26 59.5	
KMI				S	S	23 33 53.7	-2.4
KMI				SS	SS	23 39 07.6	-0.1
KMI				SSS		23 42 29.2	
KMI				pmax	pmax		
	comp=Z,9.0nm,1.6s,mb4.5						
KMI				MLR	MLR		
	comp=Z,220nm,25.3s,MS4.4						
KMI	**Kunming**	**80.16**	**302**	P	**P**	**23 23 53.8**	**+0.5**
	comp=Z,9.0nm,1.6s,mb4.5						
KMI				pP	pP	23 24 07.5	+3.6
KMI				sP	sP	23 24 15.5	+7.7
KMI				PP	PP	23 26 59.5	+3.3
KMI				S	S	23 33 53.7	-2.4
KMI				sS	sS	23 34 21.7	+8.1
KMI				SS	SS	23 39 07.6	-0.1
KMI				SSS		23 42 29.2	
KMI				LR	LR		
	comp=Z,220nm,25.3s,MS4.4						
CMAR	**Chiang Mai Arr**	**80.21**	**294**	P	**P**	**23 23 54.1**	**+0.5**
	comp=Z,3.2nm,0.6s,mb4.4,baz=130,slow=3.9,SNR=21						
XAN	**Xi'an**	**80.21**	**312**	P	**P**	**23 23 52.2**	**-1.1**
XAN				PP	PP	23 26 57.2	+0.8
XAN				XS	sS	23 34 10.3	-3.4
XAN				AMB	AMB		
	comp=Z,6.0nm,0.8s,mb4.6						
XAN				AMB	AMB		
	comp=Z,46nm,4.9s						
XAN				LR	LR		
	comp=N,108nm,20.0s,MS4.5						
XAN				LR	LR		
	comp=E,197nm,21.7s,MS4.5						
XAN				LR	LR		
	comp=Z,345nm,22.9s,MS4.6						
CHTO	**Chiang Mai**	**80.36**	**294**	*e*P	**P**	**23 23 54.2**	**-0.3**
CHTO				*e*	pP	23 24 01.5	-3.6
CHTO				pmax	pmax		
	comp=Z,16nm,1.1s,mb4.9						
CHTO	**Chiang Mai**	**80.36**	**294**	*e*P	**P**	**23 23 54.2**	**-0.2**
	comp=Z,16nm,1.1s,mb4.9						

CHTO ePcP PcP 23 24 01.4 -0.1
CD2 Chengdu 82.24 307 eP P 23 24 05.2 +1.0
CD2 PP PP 23 27 16.2 +2.9
CD2 S S 23 34 14.1 -3.4
CD2 AMB AMB
comp=Z,20nm,0.9s,mb5.0
CD2 AMB AMB
comp=Z,80nm,8.5s
CD2 LR LR
comp=E,340nm,22.8s
CD2 LR LR
comp=Z,330nm,18.0s,MS4.7
HHC Hu-ho-hao-te 82.41 319 eP P 23 24 05.9 +1.1
HHC PP PP 23 27 18.6 +4.2
HHC S S 23 34 16.1 -2.7
HHC SKS 23 34 18.2
HHC AMB AMB
comp=Z,16nm,1.1s,mb4.9
HHC AMB AMB
comp=Z,90nm,5.8s
HHC LR LR
comp=N,219nm,18.7s,MS4.9
HHC LR LR
comp=E,374nm,17.1s,MS4.9
HHC LR LR
comp=Z,502nm,19.8s,MS4.9
SYO Syowa Base 83.18 196⇑ eP P 23 24 08.9 +0.4
SYO Syowa Base 83.18 196⇓ ePcP PcP 23 24 12.2 -0.8
KDAK Kodiak Island 84.70 19 P P 23 24 15.8 -0.4
comp=Z,6.7nm,0.8s,mb4.8,baz=191,slow=5.2,SNR=2.7
LZH Lanzhou 84.82 312 eP P 23 24 17.0 -0.3
LZH PP PP 23 27 36.3 +2.1
LZH SKS 23 34 33.0
LZH eS S 23 34 39.3 -3.9
LZH AMB AMB
comp=Z,25nm,1.5s,mb5.1
LZH AMB AMB
comp=Z,129nm,8.7s
LZH LR LR
comp=E,567nm,17.8s
LZH LR LR
comp=Z,912nm,19.9s,MS5.2
LZH Lanzhou 84.82 312 eP P 23 24 17.0 -0.3
LZH *PP pP 23 24 34.2 +6.2
LZH 23 27 36.3
LZH 23 34 33.0
LZH eS S 23 34 39.3 -3.9
LZH eSS SS 23 40 17.5 +1.0
LZH pmax pmax
comp=Z,25nm,1.5s,mb5.1
LZH MLR MLR
comp=Z,910nm,19.9s,MS5.2
LZH Lanzhou 84.82 312 eP P 23 24 17.0 -0.3
comp=Z,25nm,1.5s,mb5.1
LZH pP pP 23 24 34.2 +6.2
LZH sP sP 23 24 41.5 +10
LZH PP PP 23 27 36.3 +2.1
LZH SKS 23 34 33.0
LZH eS S 23 34 39.3 -3.9
LZH sS sS 23 35 08.2 +7.3
LZH eSS SS 23 40 17.5 +1.0
LZH LR LR
comp=Z,910nm,19.9s,MS5.2
SNCC San Nicolas Is 86.19 52 ⇓P P 23 24 24.3 +0.1
baz=86
MCCM Marconi Confer 86.22 47 ⇑P P 23 24 24.9 +0.7
baz=86
JRSC Jasper Ridge 86.28 48 ⇑P P 23 24 25.0 +0.4
baz=86
GASB Alder Springs 87.10 45 ⇓P P 23 24 30.1 +1.5
baz=87
SNAA Sanae 87.11 182 eP P 23 24 26.1 -2.0
SNAA e 23 24 32.1
SNAA pmax pmax
comp=Z,13nm,1.0s
SNAA Sanae 87.11 182 eP P 23 24 26.1 -2.0
comp=Z,13nm,1.0s,mb5.1
SNAA e 23 24 32.1
N02C Big Bar 87.31 44 ⇓P P 23 24 30.3 +0.8
baz=88
O02C Red Bluff 87.32 45 ⇓P P 23 24 30.4 +0.8
baz=88
VNA3 Neumayer Olymp 87.66 180 eP P 23 24 29.1 -1.7
VNA3 e 23 24 35.4
WDC Whiskeytown Da 87.69 45 ⇑P P 23 24 30.7 -0.6
baz=88
WDC Whiskeytown Da 87.69 45 eP P 23 24 30.1 -1.2
T06C Millerton Lake 87.85 49 ⇓P P 23 24 32.2 0.0
baz=88
ORV Oroville 87.86 46 ⇑P P 23 24 32.3 +0.1
baz=88
CMB Columbia Colle 87.87 48 eP P 23 24 32.0 -0.3
CMB pmax pmax
comp=Z,12nm,1.3s,mb5.0
CMB Columbia Colle 87.87 48 ⇑P P 23 24 32.3 +0.1
baz=88
CMB Columbia Colle 87.87 48 eP P 23 24 32.0 -0.3
comp=Z,12nm,1.3s,mb5.0
M02C Callahan 87.90 44 ⇓P P 23 24 32.6 +0.3
baz=88
VNA2 Neumayer--Watz 87.97 181 eP P 23 24 31.0 -1.3
VNA2 e 23 24 37.7
ISA Isabella 88.09 51 ⇓P P 23 24 33.3 0.0
baz=88
ISA Isabella 88.09 51 eP P 23 24 32.9 -0.4
ISA epP pP 23 24 42.0 -2.1
ISA e 23 24 50.3
YBH Yreka Blue Hor 88.17 44 P P 23 24 32.4 -1.2
comp=Z,2.5nm,0.9s,mb4.4,baz=110,slow=4.5,SNR=4.2
YBH LR LR 23 55 36.8
comp=Z,436nm,21.2s,MS4.8,baz=329,slow=30
YBH Yreka Blue Hor 88.17 44 ⇓P P 23 24 33.6 0.0
baz=88
HELL Mitchell Peak 88.17 49 ⇑P P 23 24 33.5 -0.2
baz=88
VNA1 Neumayer--Stat 88.25 181 eP P 23 24 38.8 +5.2
KCC Kaiser Creek 88.27 49 ⇓P P 23 24 34.2 0.0
baz=88
M03C McCloud 88.32 44 ⇑P P 23 24 34.8 +0.5
baz=88
MONP Monument Peak 88.33 54 ⇑P P 23 24 34.7 +0.1
baz=88
P05C Yuba Gap, Truc 88.34 47 ⇑P P 23 24 34.9 +0.5
baz=88
HUMO Hull Mountain 88.46 43 ⇓P P 23 24 35.2 +0.3
baz=89
R06C Coleville 88.75 48 ⇑P P 23 24 36.8 +0.4
baz=89
M04C Macdoel 88.75 44 ⇓P P 23 24 36.4 0.0
baz=89
BEKR Beckwourth 88.78 46 ⇓P P 23 24 36.4 -0.2
baz=89
MTUM Tungsten Hills 88.82 49 eP P 23 24 36.4 -0.3
MPMC Manual Prospec 88.98 51 ⇓P P 23 24 38.3 +0.7
baz=89
BELC Belle Mtn. 89.14 53 ⇓P P 23 24 38.4 0.0
baz=89
O06A Flanigan 89.28 46 ⇓P P 23 24 39.1 +0.2
baz=89
M06C Likely Place G 89.36 45 ⇓P P 23 24 39.9 +0.7
baz=90
PAHR Pah Rah Range 89.36 47 eP P 23 24 39.4 +0.1
comp=Z,30nm,1.3s,mb5.5
BC3 Big Chuckw Mtn 89.40 53 ⇑P P 23 24 39.9 +0.4
baz=90
SONM Songino Array 89.45 323 P P 23 24 37.9 -1.5
comp=Z,0.6nm,0.8s,mb4.0,baz=146,slow=2.9,SNR=5.5
SONM LR LR 00 06 46.0
comp=Z,336nm,18.3s,MS4.8,baz=121,slow=37
GRAC Grapevine Rang 89.50 50 ⇓P P 23 24 40.6 +0.6
baz=90
NVAR Mina Array Bea 89.50 48 P P 23 24 39.0 -0.9
comp=Z,2.6nm,0.9s,mb4.6,baz=228,slow=7.7,SNR=12
L05A Lakeview 89.54 44 ⇓P P 23 24 40.8 +0.8
baz=90
N06A Buffalo Meadow 89.56 46 ⇑P P 23 24 40.5 +0.3
baz=90
GLA Glamis 89.60 54 eP P 23 24 40.1 -0.5
GLA pmax pmax
comp=Z,21nm,1.3s,mb5.3
GLA Glamis 89.60 54 eP P 23 24 40.1 -0.5
comp=Z,21nm,1.3s,mb5.3
GMRC Granite Mounta 89.74 52 ⇑P P 23 24 41.3 +0.2
baz=90
MOD Modoc 89.81 44 ⇓P P 23 24 41.7 +0.4
baz=90
MOD Modoc 89.81 44 eP P 23 24 41.4 0.0
MOD epP pP 23 24 51.2 -0.8
TUQ Turquoise Moun 89.83 52 ⇑P P 23 24 42.0 +0.4
baz=90
J05A Fort Rock 89.89 43 ⇓P P 23 24 42.1 +0.4
baz=90
O07A Toulon 89.92 46 ⇑P P 23 24 42.1 +0.2
baz=90
S09A Goldfield 89.93 49 ⇓P P 23 24 41.8 -0.1
baz=90
Q08A Gabbs 89.96 48 ⇑P P 23 24 42.3 +0.3
baz=90
H04A Detroit Lake 90.00 41 ⇓P P 23 24 42.6 +0.4
baz=90
TPH Tonopah 90.09 49 eP P 23 24 43.1 +0.4
TPH pmax pmax
comp=Z,19nm,1.4s,mb5.2
TPH Tonopah 90.09 49 eP P 23 24 43.1 +0.4
comp=Z,19nm,1.4s,mb5.2
N07B Gerlach 90.15 46 ⇓P P 23 24 43.4 +0.4
baz=90
R09A Tonopah 90.27 49 ⇓P P 23 24 43.4 -0.1
baz=90
TPNV Topopah Spring 90.27 50 ⇓P P 23 24 43.2 -0.4
baz=90
TPNV Topopah Spring 90.27 50 eP P 23 24 43.6 +0.1
K06A Valley Falls 90.28 44 ⇓P P 23 24 43.7 +0.3
baz=90
M07A Soldier Meadow 90.31 45 ⇑P P 23 24 43.9 +0.2
baz=90,SNR=6.9
V11A Goodsprings 90.37 51 ⇓P P 23 24 44.5 +0.4
baz=90
S10A Tonopah Range, 90.47 49 P P 23 24 43.8 -0.6
baz=91,SNR=9.7
L07A Adell 90.50 45 ⇑P P 23 24 44.4 -0.1
baz=91
J06A Christmas Vall 90.56 43 ⇓P P 23 24 45.2 +0.4
baz=91
MCK McKinley 90.58 17 eP P 23 24 44.2 -0.2
PDMCI Parker Dam,Lak 90.66 53 ⇑P P 23 24 45.8 +0.4
baz=91
214A Organ Pipe Nat 90.68 56 ⇓P P 23 24 45.3 -0.3
baz=91
Y13A Salome 90.69 54 ⇓P P 23 24 45.7 +0.1
baz=91
N08A GE Springer Mi 90.71 46 ⇓P P 23 24 45.0 -0.5
baz=91,SNR=7.4
BBB Bella Bella 90.73 33 LR LR 23 58 44.2
comp=Z,250nm,18.2s,MS4.7,baz=264,slow=31
R10A Warm Springs 90.84 49 ⇑P P 23 24 46.4 +0.2
baz=91
I06A Prineville 90.86 43 ⇑P P 23 24 46.4 +0.3
baz=91
K07A Rock Creek Ran 90.88 44 ⇓P P 23 24 46.1 -0.1
baz=91
Q10A Clear Creek Ra 91.01 48 ⇑P P 23 24 47.4 +0.5
baz=91
O09A Fish Creek Ran 91.07 47 ⇑P P 23 24 47.2 -0.1
baz=91,SNR=5.4
T11A Corn Creek, Al 91.14 50 ⇓P P 23 24 47.5 -0.2
baz=91,SNR=5.8
N09A Rock Creek Ran 91.16 46 ⇓P P 23 24 47.9 +0.3
baz=91
Z14A Wintersburg 91.16 55 ⇑P P 23 24 48.1 +0.3
baz=91
J07A Hines 91.16 43 ⇓P P 23 24 48.1 +0.5
baz=91
H06A Lindquist Farm 91.17 42 ⇑P P 23 24 47.7 +0.2
baz=91
W13A Hualapai Mount 91.19 53 ⇓P P 23 24 48.3 +0.4
baz=91
L08A Fields 91.23 45 ⇑P P 23 24 47.6 -0.3
baz=91
R11A Troy Canyon, C 91.37 49 ⇑P P 23 24 48.3 -0.3
baz=92,SNR=5.5
I07A Izee 91.38 43 ⇑P P 23 24 48.3 -0.2
baz=92
K08A Mann Creek Ran 91.39 44 ⇓P P 23 24 49.0 +0.3
baz=92
M09A Marrel Ranch, 91.47 46 ⇑P P 23 24 49.8 +0.8
baz=92
Q11A Duckwater 91.54 49 ⇑P P 23 24 50.1 +0.7
baz=92
S12A Delamar Landin 91.57 50 ⇑P P 23 24 49.5 0.0
baz=92,SNR=5.7
H07A Lands Inn, Kim 91.58 42 ⇓P P 23 24 49.4 -0.1
baz=92
O10A Cortez Mining, 91.60 47 ⇑P P 23 24 49.9 +0.3
baz=92
X14A Yava 91.67 54 ⇓P P 23 24 50.8 +0.7
baz=92
U13A Pakoon Wash 91.69 51 ⇑P P 23 24 50.3 +0.1
baz=92
J08A Circle Bar Ran 91.69 44 ⇓P P 23 24 50.3 +0.2
baz=92
A04A Legoe Bay, Lum 91.75 38 ⇑P P 23 24 50.8 +0.6
baz=92
COLA College 91.78 17 P P 23 24 49.8 -0.1
W14A Seligman 91.83 53 ⇓P P 23 24 51.2 +0.3
baz=92
B05A Bryant 91.87 38 ⇑P P 23 24 51.0 +0.2
baz=92
Y15A Casa Rosa Ranc 91.87 54 ⇓P P 23 24 50.8 -0.3
baz=92,SNR=6.4
K09A Rome 91.87 45 ⇑P P 23 24 50.4 -0.4
baz=92
I08A Drewsey 91.89 43 ⇑P P 23 24 51.4 +0.5
baz=92
SKAG Skagway 91.96 25 eP P 23 24 50.6 -0.2
T13A Saint George 91.99 51 ⇑P P 23 24 51.2 -0.3
baz=92
V14A Boquillas Ranc 91.99 52 ⇓P P 23 24 51.3 -0.3
baz=92,SNR=6.9
R12A Pony Springs, 92.05 50 ⇓P P 23 24 52.0 +0.2
baz=92
O11A Cowboy Ranch, 92.10 48 ⇓P P 23 24 52.4 +0.4
baz=92
217A Green Valley 92.15 57 ⇑P P 23 24 52.9 +0.5
baz=92
J09A Fry Pan Ranch, 92.15 44 ⇑P P 23 24 52.3 +0.2
baz=92
X15A Humboldt 92.17 54 ⇓P P 23 24 52.2 -0.2
baz=92,SNR=5.7
Q12A Willow Creek R 92.20 49 ⇑P P 23 24 53.1 +0.6
baz=92
S13A Holt Ranch, En 92.26 50 ⇓P P 23 24 52.9 0.0
baz=92
U14A Mt Trumbull 92.27 52 ⇑P P 23 24 52.5 -0.4
baz=92,SNR=5.6
G08A Pilot Rock 92.30 42 ⇑P P 23 24 52.6 -0.1
baz=92
P12A McGill 92.33 48 ⇓P P 23 24 53.2 +0.1
baz=92
TUC Tucson 92.39 56 eP P 23 24 54.3 +0.8
RSW Rattlesnake Hi 92.43 41 eP P 23 24 52.6 -0.7
RSW e 23 25 06.2
R13A O'Grain Ranch, 92.44 50 ⇑P P 23 24 54.5 +0.9
baz=93
K10A MacKenzie Ranc 92.47 45 ⇓P P 23 24 53.7 +0.1
baz=93
Y16A Circle Bar Ran 92.49 55 ⇓P P 23 24 54.3 +0.3
baz=93,SNR=5.2
117A Oracle 92.53 56 ⇑P P 23 24 54.4 +0.3
baz=93
ZAK Zakamensk 92.53 324 eP P 23 24 51.6 -2.1
ZAK pmax pmax
comp=Z,6.0nm,1.5s,mb4.8
T14A Hurricane 92.61 51 ⇑P P 23 24 54.7 +0.3
baz=93
318A Bisbee 92.66 57 ⇓P P 23 24 55.0 +0.2
baz=93
Q13A Wheeler Ranch, 92.73 49 ⇑P P 23 24 55.5 +0.6
baz=93
X16A Lo Mia Camp, P 92.74 54 ⇑P P 23 24 55.7 +0.6
baz=93,SNR=5.3
V15A Kaibab Nationa 92.76 53 ⇑P P 23 24 55.9 +0.7
baz=93
O12A Currie 92.79 48 ⇑P P 23 24 55.5 +0.3
baz=93
Y17A Roosevelt 92.90 55 ⇑P P 23 24 56.7 +0.9
baz=93
U15A North Rim 92.92 52 ⇓P P 23 24 56.4 +0.5
baz=93,SNR=8.2
L11A Cat Creek Ranc 92.94 46 ⇑P P 23 24 56.6 +0.8
baz=93
W16A Flagstaff 92.94 54 ⇓P P 23 24 56.6 +0.6
baz=93
P13A Bates Ranch, G 92.95 49 ⇓P P 23 24 56.5 +0.6
baz=93
K11A Parker Ranch, 93.02 45 ⇑P P 23 24 57.0 +0.8
baz=93
118A Homack Ranch, 93.15 56 ⇑P P 23 24 57.2 +0.1
baz=93
X17A Forest Lakes 93.19 54 ⇑P P 23 24 57.2 0.0
baz=93
WUAZ Wupatki 93.23 53 ⇑P P 23 24 57.5 +0.1
baz=93,SNR=5.2
WUAZ Wupatki 93.23 53 eP P 23 24 56.7 -0.6
comp=Z,8.9nm,1.0s,mb5.2
WUAZ e pP 23 25 05.9 -2.2
Q14A Sevier Lake (B 93.27 49 ⇓P P 23 24 57.1 -0.3
baz=93
H10A Noah's Angus R 93.36 43 ⇑P P 23 24 58.3 +0.6
baz=94
G10A Bishop Farm, J 93.45 42 ⇑P P 23 24 58.5 +0.5
baz=94
219A White Tail Can 93.46 57 ⇓P P 23 24 58.7 +0.2
baz=94
DLBC Dease Lake 93.48 27 LR LR 00 06 08.3
comp=Z,410nm,18.1s,MS4.9,baz=340,slow=35
Y18A Canyon Day Jun 93.55 55 ⇓P P 23 24 59.2 +0.4
baz=94
DAWY Dawson 93.65 20 eP P 23 24 58.5 -0.1
U16A Tuba City 93.66 53 P P 23 24 59.9 +0.5
baz=94,SNR=8.6
119A Ashpeak Ranch, 93.72 56 ⇑P P 23 24 59.9 +0.2
baz=94
G11A Walters Elk Ra 94.03 43 ⇑P P 23 25 00.8 +0.1
baz=94
T17A Navajo Res., N 94.25 52 ⇑P P 23 25 02.2 +0.2
baz=94
F12A Elk City 94.83 43 ⇑P P 23 25 04.3 -0.1
baz=95
T18A Mexican Hat 94.98 52 ⇑P P 23 25 05.2 -0.2
baz=95
HWUT Hardware Ranch 95.54 48 P P 23 25 07.2 -0.6
O17A Robinson Place 95.56 49 ⇑P P 23 25 08.2 +0.4
baz=96
PLCA Paso Flores 96.36 138 LR LR 23 58 28.6
comp=Z,268nm,20.8s,MS4.7,baz=232,slow=29
PLCA Paso Flores 96.36 138 eP P 23 25 11.9 +0.2
PLCA pmax pmax
comp=Z,2.0nm,0.8s
PLCA Paso Flores 96.36 138 eP P 23 25 11.9 +0.2
comp=Z,1.7nm,0.8s,mb4.5
ANMO Albuquerque 96.73 55 eP P 23 25 12.0 -1.4
ANMO pmax pmax
comp=Z,2.0nm,0.9s
ANMO Albuquerque 96.73 55 eP P 23 25 11.9 -1.4
comp=Z,2.1nm,0.9s,mb4.6
TXAR Lajitas Array 96.96 61 P P 23 25 14.2 -0.4
comp=Z,0.7nm,0.9s,mb4.1,baz=263,slow=2.0,SNR=6.6
TXAR LR LR 00 00 22.4
comp=Z,852nm,20.4s,MS5.2,baz=110,slow=30
PDAR Pinedale Array 97.36 47 P P 23 25 15.5 -0.5
comp=Z,0.4nm,0.9s,mb3.9,baz=247,slow=4.7,SNR=3.2
PDAR PP PP 23 29 09.3 -4.2
comp=Z,0.4nm,0.8s,baz=251,slow=2.8,SNR=2.8
PDAR LR LR 00 01 01.3
comp=Z,188nm,18.8s,MS4.6,baz=115,slow=30
PDAR Pinedale Array 97.36 47 P P 23 25 15.5 -0.5
PDAR PP PP 23 29 09.3 -4.2
RLMT Red Lodge 98.44 45 P P 23 25 16.0 -4.8
WMQ Urumqi 99.32 313 P P 23 25 24.0 -0.8
WMQ AP pP 23 25 36.5 +1.0
WMQ PP PP 23 29 29.5 +1.1
WMQ AMB AMB
comp=Z,4.0nm,0.6s,mb5.1
WMQ AMB AMB
comp=Z,123nm,8.0s
WMQ LR LR
comp=N,182nm,27.5s,MS4.5
WMQ LR LR
comp=E,25nm,25.0s,MS4.5
WMQ LR LR
comp=Z,49nm,28.1s,MS3.9
MK31 Makanchi Array 103.88 315 eP Pdif 23 25 43.6 -1.4
MKAR Makanchi Array 103.88 315 PP PP 23 30 00.6 -2.1
comp=Z,0.8nm,1.0s,baz=120,slow=8.5,SNR=3.5
KURK Kurchatov 107.21 318 PKiKP PKiKP 23 30 07.4 -1.2
TKM2 Tokmak 2 107.50 310 ePKiKP PKiKP 23 30 08.8 -0.6
TKM2 ePP PP 23 30 30.7 +1.1
UCH Uchtor 108.13 309 ePKiKP PKiKP 23 30 09.9 -0.7
EKS2 Erkin-Say 108.75 309 ePKiKP PKiKP 23 30 11.1 -0.7
EKS2 ePP PP 23 30 38.9 +0.2
ARU Arti 119.47 324 ePKIKP PKPdf 23 30 29.8 -2.0
ARU Arti 119.47 324 ePKPdf PKPdf 23 30 29.8 -2.0
ARCES ARCESS Array B 127.33 345 PKP PKPdf 23 30 47.8 +1.3
comp=Z,2.5nm,0.6s,baz=40,slow=1.5,SNR=6.0
OBN Obninsk 131.75 326 PKPdf PKPdf 23 30 53.4 -1.9
NOA NORSAR Array B 137.71 345 PKP PKPdf 23 31 05.2 -1.1
comp=Z,0.8nm,0.8s,baz=50,slow=1.8,SNR=2.4
NOA PP PP 23 33 49.8 -3.1
comp=Z,0.9nm,0.8s,baz=24,slow=4.7,SNR=3.4
AKASG Malin Array Be 137.73 323 PKP PKPdf 23 31 03.6 -3.0
comp=Z,0.2nm,0.3s,baz=49,slow=1.2,SNR=3.2
KOLS Kolonicke sedl 142.47 325 ePKP PKPdf 23 31 20.3 +5.0
CRVS Cervenica-Dubn 142.93 325 ePKP PKPdf 23 31 22.4 +6.3
PSZ Piszkesteto 144.35 325 ePKP PKPdf 23 31 17.1 -1.5
PSZ Piszkesteto 144.35 325 ePKPdf PKPdf 23 31 17.3 -1.3
DPC Dobruska-Polom 144.51 331 ePKP PKPdf 23 31 16.0 -2.8
DPC epPKP pPKPdf 23 31 22.9 -7.0
UPC Upice 144.53 331 epPKP pPKPdf 23 31 23.3 -6.6
VYHS Vyhne 144.54 327 ePKP PKPdf 23 31 21.8 +2.8
KOLL Kolacno 144.71 327 ePKP PKPdf 23 31 20.7 +1.5
PVCC Panska Ves 145.15 333 ePKP PKPdf 23 31 18.4 -1.5
PVCC epPKP pPKPdf 23 31 24.8 -6.2
BRG Berggiesshubel 145.16 334 ePKPbc PKPbc 23 31 17.4 -2.1
BRG Berggiesshubel 145.16 334 ePKP PKPdf 23 31 15.8 -4.1
comp=Z,24nm,1.9s
BRG *i* 23 31 24.9
comp=Z,16nm,1.2s
CLL Collm 145.21 335 ePKPbc PKPbc 23 31 17.3 -2.4
CLL Collm 145.21 335 ePKPdf PKPdf 23 31 18.0 -2.0
CLL *i* PKiKP PKiKP 23 31 24.6 +0.7
comp=Z,27nm,1.4s
CLL eSS SS 23 53 48.0 +21
CLL eSSS 23 59 12.0
CLL eSSSS 00 02 54.0
CLL Collm 145.21 335 ePKP PKPdf 23 31 18.0 -2.0
CLL *i* 23 31 24.6
CLL epPKP pPKPdf 23 31 40.0 +8.9
CLL LR LR
comp=Z,400nm,24.6s,MS5.1
FBE Freiberg 145.36 334 ePKPbc PKPbc 23 31 18.3 -1.9
MODS Modra-Piesok 145.41 328 ePKP PKPbc 23 31 22.9 +2.5
ZST Bratislava 145.62 328 ePKP PKPab 23 31 23.9 +2.5
ZST MLR MLR
comp=Z,100nm,20.8s,MS4.6
TREC Trest 145.64 330 ePKP PKPdf 23 31 19.5 -1.3
TREC epPKP pPKPdf 23 31 27.2 -4.7
CLZ Clausthal 145.77 338 ePKPbc PKPbc 23 31 19.6 -1.8
WERD Werda 146.15 334 ePKPbc PKPbc 23 31 21.0 -1.7
GUNZ Gunzen 146.21 334 ePKPbc PKPbc 23 31 19.0 -3.8
WERN Wernitzgruen 146.25 334 ePKPbc PKPbc 23 31 21.5 -1.4
NKC Novy Kostel 146.26 334 ePKP pPKPdf 23 31 28.6 -4.3
MOX Moxa 146.27 335 e(PKP) 23 31 16.8
comp=Z,49nm,2.2s
MOX Moxa 146.27 335 ePKPbc PKPbc 23 31 19.2 -3.8
CONA Conrad Observa 146.41 328⇑ i/PKPab PKPab 23 31 22.6 -1.8
comp=Z,22nm,1.3s
CSNA Conrad Observa 146.41 328⇑ i/PKPab PKPab 23 31 22.7 -1.7
comp=Z,22nm,1.4s
MANZ Manzenberg 146.59 334 ePKPbc PKPbc 23 31 22.8 -1.2
KHC Kasperske Hory 146.62 332 ePKP PKPdf 23 31 22.7 +0.2
KHC epPKP pPKPdf 23 31 31.0 -2.5
KHC Kasperske Hory 146.62 332 ePKP PKPdf 23 31 22.7 +0.2
KHC e 23 31 31.0
ROTZ Rotzenmuhle 146.72 334 ePKPbc PKPdf 23 31 20.8 -1.8
UBBA Unterbreizbach 146.74 337 ePKPbc PKPdf 23 31 20.4 -2.2
GEC2 GERESS Array S 146.77 331 ePKPbc PKPdf 23 31 20.6 -2.2
GERES GERESS Array B 146.77 331 PKPbc PKPbc 23 31 23.0 -1.5
comp=Z,3.5nm,0.8s,baz=36,slow=2.6,SNR=25
WETT Wettzell 146.91 332 ePKPbc PKPbc 23 31 23.0 -1.9
GRA1 Grafenberg Arr 147.18 335 ePKPbc PKPbc 23 31 23.0 -2.6
GRF Grafenberg Arr 147.18 335 ePKIKP PKPdf 23 31 23.0 -0.4
GRF MLR MLR
comp=Z,300nm,20.0s,MS5.1
GRF Grafenberg Arr 147.18 335 eL 00 36 25.6
comp=Z,312nm,20.0s
TOD Tromm 148.18 337 PKP2 PKPab 23 31 30.3 -1.0
ABH Alteburg 148.39 338 PKP PKPbc 23 31 30.8 +1.9
RUP Ruppelstein 148.71 339 PKP2 PKPbc 23 31 28.2 -1.5

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MOTA	**Moosalm**	**149.05**	**332**	⇑*i*pPKPdf	pPKPdf	23 31 28.7	-8.9
	comp=Z,15nm,1.1s						
LANF	**Langenberg**	**149.06**	**337**	PKP	PKPab	23 31 37.8	+2.9
GIVF	**Givet**	**149.07**	**342**	*e*PKP1	PKPbc	23 31 28.9	-1.7
BAIF	**Baives**	**149.28**	**342**	*e*PKP1	PKPbc	23 31 29.7	-1.5
BFO	**Black Forest**	**149.41**	**336**	*e*PKPbc	PKPbc	23 31 29.4	-2.1
BFO	**Black Forest**	**149.41**	**336**	*e*PKPdf	PKPdf	23 31 25.3	-1.8
BFO				*e*PKPbc	PKPbc	23 31 29.4	-2.1
STR	**Strasbourg**	**149.41**	**337**	PKP	PKPab	23 31 37.2	+0.9
SPAK	**Spaichingen-Ko**	**149.42**	**335**	PKP	PKPbc	23 31 31.3	-0.3
FETA	**Feichten**	**149.46**	**332**	⇓*i*PKPbc	PKPbc	23 31 30.3	-1.4
	comp=Z,19nm,1.1s						
DAVA	**Damuels**	**149.62**	**333**	⇑*i*PKPbc	PKPbc	23 31 30.5	-1.6
	comp=Z,25nm,1.3s						
CDF	**Champ du Feu**	**149.73**	**337**	*e*PKP1	PKPbc	23 31 30.4	-1.9
	comp=Z,56nm,1.3s						
LIBD	**Limburg**	**149.83**	**337**	PKHKP		23 31 31.3	
FELD	**Feldberg im Sc**	**149.90**	**336**	PKP	PKPab	23 31 37.9	-0.5
ECH	**Echery**	**149.94**	**337**	PKP	PKPab	23 31 37.6	-0.9
ECH	**Echery**	**149.94**	**337**	*e*PKPbc	PKPbc	23 31 30.2	-2.6
ECH				PKP	PKPab	23 31 37.6	-0.9
MOF	**Molkenrain**	**150.25**	**337**	PKP	PKPab	23 31 37.9	-1.9
THEF	**They Montfort**	**150.34**	**338**	PKP	PKPab	23 31 37.8	-2.3
HINF	**Hinteralfeld**	**150.38**	**337**	*e*PKP1	PKPbc	23 31 31.9	-2.0
	comp=Z,55nm,1.4s						
HAU	**Haudompre**	**150.40**	**338**	*e*PKP1	PKPbc	23 31 32.1	-1.9
	comp=Z,39nm,1.0s						
HAU				*e*MLR	MLR		
	comp=Z,364nm,21.5s,MS4.8						
HAU	**Haudompre**	**150.40**	**338**	*e*PKP	PKPbc	23 31 32.1	-1.9
HAU				LR	LR		
	comp=Z,360nm,21.5s,MS5.1						
MEZF	**Maizieres J'vi**	**150.41**	**340**	*e*PKP1	PKPbc	23 31 32.6	-1.4
	comp=Z,131nm,1.3s						
TUE	**Stuetta**	**150.49**	**333**	*e*PKPdf	PKPdf	23 31 28.0	-0.9
LOMF	**Lomont**	**150.78**	**337**	PKP	PKPbc	23 31 39.8	+4.9
FLN	**La Foliniere**	**151.65**	**347**	*e*PKP1	PKPbc	23 31 34.6	-2.3
	comp=Z,68nm,1.2s						
FLN				*e*MLR	MLR		
	comp=Z,355nm,20.2s,MS4.9						
FLN	**La Foliniere**	**151.65**	**347**	*e*PKP	PKPdf	23 31 34.6	+4.0
FLN				LR	LR		
	comp=Z,350nm,20.3s,MS5.2						
CABF	**La Chapelle**	**151.68**	**337**	*e*PKP1	PKPbc	23 31 35.6	-1.4
	comp=Z,55nm,1.2s						
LDF	**La Druitiere**	**151.73**	**346**	*e*PKP1	PKPbc	23 31 34.7	-2.3
	comp=Z,82nm,1.4s						
LOR	**Lormes**	**151.88**	**340**	*e*PKP1	PKPbc	23 31 35.4	-2.0
	comp=Z,30nm,1.1s						
LOR				*e*MLR	MLR		
	comp=Z,342nm,21.5s,MS4.8						
LOR	**Lormes**	**151.88**	**340**	*e*PKP	PKPbc	23 31 35.4	-2.0
LOR				LR	LR		
	comp=Z,340nm,21.5s,MS5.1						
GRR	**Gorron**	**152.08**	**347**	*e*PKP1	PKPbc	23 31 35.8	-2.1
	comp=Z,174nm,1.6s						
SSF	**Saint Saulge**	**152.17**	**340**	*e*PKP1	PKPbc	23 31 36.2	-1.9
	comp=Z,37nm,1.2s						
LPL	**La Plagne**	**152.34**	**335**	*e*PKP1	PKPbc	23 31 36.9	-1.6
	comp=Z,26nm,1.1s						
LPG	**La Plagne**	**152.35**	**334**	*e*PKP1	PKPbc	23 31 37.1	-1.5
	comp=Z,19nm,0.8s						
SMF	**Signal de Mont**	**152.44**	**339**	*e*PKP1	PKPbc	23 31 36.5	-2.2
	comp=Z,23nm,1.1s						
AVF	**Avril sur Loir**	**152.46**	**340**	*e*PKP1	PKPbc	23 31 36.2	-2.6
BNI	**Bardonecchia**	**152.75**	**334**	*e*PKIKP	PKPdf	23 31 32.5	+0.2
BNI				*e*		23 31 38.4	
BNI				*e*		23 31 49.0	
BGF	**Bois d'Agland**	**152.83**	**341**	*e*PKP1	PKPbc	23 31 37.4	-2.2
	comp=Z,23nm,1.1s						
MBDF	**Montbardon**	**152.97**	**333**	*e*PKP1	PKPbc	23 31 39.7	-0.3
	comp=Z,18nm,1.1s						
ORIF	**Oris-en-Rattie**	**153.18**	**335**	*e*PKP1	PKPbc	23 31 38.4	-2.0
	comp=Z,13nm,0.8s						
ORIF				*e*MLR	MLR		
	comp=Z,284nm,22.2s,MS4.7						
TCF	**Toulx Ste Croi**	**153.26**	**341**	*e*PKP1	PKPbc	23 31 38.5	-2.0
SBF	**Sospel**	**153.38**	**331**	*e*PKP1	PKPbc	23 31 39.5	-1.4
PGF	**Pioggiola**	**153.64**	**328**	*e*PKP1	PKPbc	23 31 39.3	-2.2
	comp=Z,94nm,1.4s						
VIVF	**Saint-Julien-l**	**153.69**	**336**	*e*PKP1	PKPbc	23 31 39.7	-1.8
FRF	**La Foret Royal**	**153.97**	**332**	*e*PKP1	PKPbc	23 31 40.0	-2.2
SMRF	**Simiane la Rot**	**154.08**	**334**	*e*PKP1	PKPbc	23 31 40.8	-1.6
	comp=Z,70nm,1.6s						
LMR	**La Mourre**	**154.21**	**332**	*e*PKP1	PKPbc	23 31 40.4	-2.3
TORD	**Torodi Ar. Bea**	**166.35**	**235**	PKP	PKPdf	23 31 48.0	-0.7
	comp=Z,0.4nm,1.0s,baz=202,slow=4.6,SNR=2.5						
TORD				PKPab	PKPab	23 32 51.3	+1.2
	comp=Z,1.7nm,1.1s,baz=127,slow=4.2,SNR=4.3						

JMA ***10*** *23:36:34.8±0.4, 4333N×147.13E, h29^{km}±5^{km}, M4.0*
MOS ***10*** *23:36:34.8±1.9, 4344N×147.24E, h46^{km}, mb4.1/1, Error ellipse: s-maj=29.2km s-min=20.2km az=121.7*
ISCJB ***10*** *23:36:35.6±1.2, 4346N±008×1472E±01, h41^{km}±12^{km}, mb3.3/5, Error ellipse: s-maj=16.9km s-min=7.8km az=44.5*
IDC ***10*** *23:36:38.2±3.6, 4326N×147.06E, h55^{km}±31^{km}, mb3.1/5, mb1 3.4/7, mb1mx3.3/21, mbtmp3.3/7, ML3.7/2, Error ellipse: s-maj=28.9km s-min=25.6km az=156.0*
ISC 10 23:36:37.1±1.1**, 4348N**±008×**1471E**±01**, h39**^{km}±11^{km}**, n24,** σ1^{s}**24**/27**, mb3.3**/5**, Kuril Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
NEM2	**Nemuro 2**	**1.01**	**264**	P	**Pn**	**23 36 53.2**	**-1.6**
NEM2				*e*S	**Sn**	**23 37 06.6**	**-1.2**
YUK	**Yuzh-Kuril'sk**	**1.07**	**302**	*i* PN	**Pn**	**23 36 55.1**	**-0.4**
YUK				*i* S	**Sn**	**23 37 09.2**	**0.0**
YUK				pmax	pmax		
	comp=Z,2µm,0.3s						
YUK				pmax	pmax		
	comp=N,210nm,0.4s						
YUK				pmax	pmax		
	comp=E,210nm,0.4s						
YUK				pmax	pmax		
	comp=Z,3µm,0.6s						
YUK				smax			
	comp=N,5µm,0.5s						
YUK				smax			
	comp=E,8µm,0.5s						
YUK				smax			
	comp=N,14µm,0.8s						
YUK				smax			
	comp=E,10µm,0.8s						
JRA	**Rausu**	**1.52**	**288**	P	**Pn**	**23 37 01.6**	**-0.2**
JNK	**Nakash**	**1.75**	**274**	P	**Pn**	**23 37 04.3**	**-0.6**
KUR	**Kuril'sk**	**1.83**	**17**	*e*PN	**Pn**	**23 37 03.6**	**-2.4**
KUR				*i* S	**Sn**	**23 37 27.0**	**-0.9**
KUR				pmax	pmax		
	comp=Z,140nm,0.5s						
KUR				smax			
	comp=N,460nm,0.5s						
KUR				smax			
	comp=E,170nm,0.5s						
JAK	**Akkeshi**	**1.84**	**256**	P	**Pn**	**23 37 04.8**	**-1.3**
JTKR	**Abashiri--Toko**	**2.38**	**283**	P	**Pn**	**23 37 14.3**	**+0.7**
JAR	**Ashorobuto**	**2.45**	**267**	P	**Pn**	**23 37 14.1**	**-0.4**
JMP	**Maruseppu**	**2.78**	**282**	P	**Pn**	**23 37 20.1**	**+1.1**
JCH	**Churui**	**2.89**	**254**	P	**Pn**	**23 37 20.6**	**0.0**
JKK2	**Kamakawa 2**	**3.20**	**279**	P	**Pn**	**23 37 27.2**	**+2.4**
JEM	**Erimo**	**3.27**	**245**	P	**Pn**	**23 37 27.4**	**+1.7**
ASAJ	**Asahikawa**	**3.34**	**283**	P	**Pn**	**23 37 29.1**	**+2.4**
	comp=E,6.1nm,0.3s,baz=106,slow=22,SNR=10						
ASAJ	**Asahikawa**	**3.34**	**283**	PN	**Pn**	**23 37 29.1**	**+2.4**
ASAJ				pmax	pmax		
	comp=Z,6.0nm,0.3s						
JNBK	**Urakawa-nobuka**	**3.43**	**251**	P	**Pn**	**23 37 27.8**	**-0.2**
JBT2	**Biratori 2**	**3.56**	**260**	P	**Pn**	**23 37 30.1**	**+0.4**
PETK	**Petropavlovsk-**	**11.92**	**32**	P	**Pn**	**23 39 26.8**	**+2.5**
	comp=Z,0.4nm,0.3s,baz=192,slow=10,SNR=5.0						
SONM	**Songino Array**	**28.56**	**293**	P	**P**	**23 42 28.2**	**-0.8**
	comp=Z,0.4nm,0.4s,mb3.5,baz=91,slow=12,SNR=3.3						
SONM	**Songino Array**	**28.56**	**293**	P	**P**	**23 42 28.2**	**-0.8**
MKAR	**Makanchi Array**	**44.70**	**298**	P	**P**	**23 44 46.4**	**+0.4**
	comp=Z,0.2nm,0.6s,mb3.1,baz=58,slow=5.4,SNR=3.8						
WRA	**Warramunga Arr**	**64.19**	**193**	P	**P**	**23 47 05.3**	**-2.4**
	comp=Z,0.2nm,0.8s,mb3.2,baz=14,slow=6.8,SNR=2.6						
NOA	**NORSAR Array B**	**69.85**	**339**	P	**P**	**23 47 43.6**	**+0.3**
	comp=Z,0.7nm,0.7s,mb3.7,baz=30,slow=6.4,SNR=3.8						
NOA	**NORSAR Array B**	**69.85**	**339**	P	**P**	**23 47 43.6**	**+0.4**
NOA				pmax	pmax		
	comp=Z,1.0nm,0.7s						
TXAR	**Lajitas Array**	**82.81**	**56**	P	**P**	**23 48 58.3**	**+1.0**
	comp=Z,0.1nm,0.7s,mb3.0,baz=335,slow=4.0,SNR=2.8						

ISCJB ***10*** *23:49:12.4±1.1, 3931N±003×20.10E±007, h4^{km}±7^{km}, Error ellipse: s-maj=9.8km s-min=5.1km az=171.7*
CSEM ***10*** *23:49:13.7±0.1, 3923N×2027E, h0^{km}±1^{km}, ML2.5/2, Error ellipse: s-maj=3.3km s-min=2.5km az=106.0*
THE ***10*** *23:49:13.3, 3930N×20.15E, h1^{km}±3^{km}, ML2.5/2, Error ellipse: s-maj=5.3km s-min=0.7km az=274.0*
NEIC ***10*** *23:49:14.3, 3928N×2026E, h20^{km}, MD3.2(ATH), After ATH.*
ATH ***10*** *23:49:14.3, 3928N×2026E, h20^{km}±14^{km}, MD3.2/5*
ISC 10 23:49:14.5±0.6**, 3928N**±003×**2026E**±006**, h5**^{km}±6^{km}**, n16,** σ**0**^{s}**91**/29**, Greece-Albania border region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
IGT	**Igoumenitsa**	**0.26**	**13**	P	**Pg**	**23 49 18.5**	**-1.0**
IGT				S	**Sg**	**23 49 22.1**	**-0.7**
KEK	**Kerkira**	**0.56**	**321**	*e*Pn	**Pg**	**23 49 25.1**	**-0.1**
KEK				*e*Sn	**Sg**	**23 49 34.3**	**+1.9**
KEK	**Kerkira**	**0.56**	**321**	*e*PN	**Pg**	**23 49 25.1**	**-0.1**
KEK				*e*SN	**Sg**	**23 49 34.3**	**+1.9**
JAN	**Janina**	**0.59**	**51**	*e*Pn	**Pg**	**23 49 25.2**	**-0.6**
JAN				*e*Sn	**Sg**	**23 49 34.1**	**+0.6**
JAN	**Janina**	**0.59**	**51**	*e*PN	**Pg**	**23 49 25.2**	**-0.6**
JAN				*e*SN	**Sg**	**23 49 34.1**	**+0.6**
LKD	**Levkas**	**0.65**	**152**	P	**Pg**	**23 49 26.8**	**-0.2**
LKD				S	**Sg**	**23 49 36.7**	**+1.3**
MEV	**Metsovon**	**0.90**	**56**	P	**Pg**	**23 49 31.3**	**-0.5**
VLS	**Valsamata**	**1.14**	**167**	P	**Pg**	**23 49 34.9**	**-1.3**
VLS				S	**Sg**	**23 49 52.0**	**+1.1**
VLS	**Valsamata**	**1.14**	**167**	*e*Pn	**Pn**	**23 49 35.6**	**-1.4**
VLS				S	**Sg**	**23 49 52.0**	**+1.1**
VLS				*e*Sn	**Sn**	**23 49 52.2**	**-0.7**
VLS	**Valsamata**	**1.14**	**167**	*e*Pn	**Pn**	**23 49 35.6**	**-1.4**
VLS				*e*Sn	**Sn**	**23 49 52.2**	**-0.7**
VLS	**Valsamata**	**1.14**	**167**	*e*PN	**Pn**	**23 49 35.6**	**-1.4**
VLS				*e*SN	**Sn**	**23 49 52.2**	**-0.7**
EVR	**Evrytania**	**1.26**	**106**	*e*Pn	**Pn**	**23 49 38.7**	**0.0**
EVR	**Evrytania**	**1.26**	**106**	*e*PN	**Pn**	**23 49 38.7**	**0.0**
THL	**Klokotos Trika**	**1.39**	**78**	*e*Pn	**Pn**	**23 49 41.3**	**+0.8**
THL				*e*Sn	**Sn**	**23 50 00.2**	**+1.0**
THL	**Klokotos Trika**	**1.39**	**78**	*e*PN	**Pn**	**23 49 41.3**	**+0.8**
THL				*e*SN	**Sn**	**23 50 00.2**	**+1.0**
AGG	**Agios Georgios**	**1.63**	**99**	P	**Pn**	**23 49 44.0**	**+0.2**

IDC ***10*** *23:52:33.3±2.7, 2795N×5296E, h0^{km}, mb3.7/6, mb1 3.8/6, mb1mx3.6/22, mbtmp3.7/6, Error ellipse: s-maj=63.0km s-min=29.2km az=153.0*
THR ***10*** *23:52:34.2±0.3, 2790N×5289E, h14^{km}±4^{km}, ML3.3*
ISCJB ***10*** *23:52:36.4±1.1, 2798N±006×5290E±007, h25^{km}±6^{km}, mb3.7/6, Error ellipse: s-maj=12.5km s-min=7.3km az=44.0*
CSEM ***10*** *23:52:36.1±0.3, 2785N×5296E, h33^{km}, ML3.3, Error ellipse: s-maj=6.8km s-min=4.7km az=148.0*
NEIC ***10*** *23:52:36.7, 2783N×5284E, h18^{km}, ML3.3(THR), MN3.2(TEH), After TEH.*
ISC 10 23:52:36.6±1.2**, 2794N**±006×**5294E**±007**, h13**^{km}±6^{km}**, n33,** σ**1**^{s}**10**/41**, mb3.7**/6**, Southern Iran**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
GHIR	**Ghir-Karzin**	**0.35**	**6**	*e*Pg	**Pg**	**23 52 42.3**	**-1.3**
GHIR				*e*Sg	**Sg**	**23 52 48.2**	**-0.2**
GHIR				AML	AML	23 52 49.7	
	comp=E,5µm,0.4s						
GHIR				AML	AML	23 52 50.0	
	comp=N,3µm,0.3s						
GHIR	**Ghir-Karzin**	**0.35**	**6**	*e*Pg	**Pg**	**23 52 42.0**	**-1.7**
GHIR				*e*Sg	**Sg**	**23 52 48.0**	**-0.4**
ISRV	**Sarvestan**	**1.45**	**6**	Pn	**Pn**	**23 53 03.3**	**+0.9**
IPAR	**Pars**	**1.90**	**3**	Pn	**Pn**	**23 53 09.9**	**+1.3**
IPAR				Sn	**Sn**	**23 53 34.9**	**+2.5**
IMEH	**Mehriz**	**3.73**	**22**	Pn	**Pn**	**23 53 35.7**	**+1.8**
IMEH				Sn	**Sn**	**23 54 18.2**	**+0.5**
KRBR	**Kerman**	**3.92**	**58**	*e*Pn	**Pn**	**23 53 37.2**	**+0.8**
KRBR				AML	AML	23 54 46.4	
	comp=E,25nm,0.8s						
KRBR	**Kerman**	**3.92**	**58**	*e*Pn	**Pn**	**23 53 37.0**	**+0.6**
ISAD	**Sadrabad**	**4.01**	**9**	Pn	**Pn**	**23 53 39.8**	**+2.1**
ISAD				Sn	**Sn**	**23 54 24.5**	**-0.1**
ICHK	**Chekchek**	**4.47**	**16**	Pn	**Pn**	**23 53 45.2**	**+1.1**
ICHK				Sn	**Sn**	**23 54 35.5**	**-0.4**
NASN	**Na'in**	**4.84**	**359**	*e*Pn	**Pn**	**23 53 49.7**	**+0.6**
NASN	**Na'in**	**4.84**	**359**	*e*Pn	**Pn**	**23 53 49.0**	**-0.2**
UMR	**Umm Al-Rimmam**	**4.86**	**291**	*e*P	**Pn**	**23 53 50.8**	**+1.4**
IZEF	**Zefreh**	**4.97**	**354**	Pn	**Pn**	**23 53 50.9**	**0.0**
IZEF				Sn	**Sn**	**23 54 47.5**	**-0.6**
IPIR	**Pirpir**	**5.05**	**340**	Pn	**Pn**	**23 53 52.3**	**+0.3**
NAY	**Al-Naaiem**	**5.18**	**286**	*e*P	**Pn**	**23 53 54.4**	**+0.7**
	baz=287						
NAY				AML	AML	23 54 34.2	
	comp=Z,5.0nm,0.6s,baz=287						
MIB	**Mutribah**	**5.25**	**292**	*e*P	**Pn**	**23 53 55.5**	**+0.7**
	baz=293						
MIB				AML	AML	23 54 39.0	
	comp=Z,11nm,0.6s,baz=293						
RST	**Umm Al-Ruwaisa**	**5.45**	**288**	*e*P	**Pn**	**23 53 58.5**	**+1.0**
	baz=289						
RST				AML	AML	23 54 36.9	
	comp=Z,9.0nm,0.5s,baz=289						
IKLH	**Kolahrood**	**5.49**	**348**	Pn	**Pn**	**23 53 58.1**	**+0.1**
IKLH				Sn	**Sn**	**23 54 58.6**	**-2.4**
ISFB	**Sefidab**	**6.42**	**355**	Pn	**Pn**	**23 54 10.1**	**-0.7**
IVRN	**Varamin**	**7.11**	**352**	Pn	**Pn**	**23 54 19.8**	**-0.5**
IANJ	**Anjilo**	**7.55**	**6**	Pn	**Pn**	**23 54 26.3**	**0.0**
IKOM	**Komasi**	**7.77**	**324**	Pn	**Pn**	**23 54 28.9**	**-0.4**
MKAR	**Makanchi Array**	**29.71**	**43**	P	**P**	**23 58 40.9**	**-1.4**
	comp=Z,0.2nm,0.5s,mb3.1,baz=238,slow=8.3,SNR=3.0						
ZALV	**Zalesovo Beam**	**34.91**	**33**	P	**P**	**23 59 26.3**	**-1.4**
	comp=Z,1.0nm,0.4s,mb4.1,baz=243,slow=9.5,SNR=5.5						
ZALV	**Zalesovo Beam**	**34.91**	**33**	P	**P**	**23 59 26.3**	**-1.4**
HFS	**Hagfors**	**41.72**	**332**	P	**P**	**00 00 23.7**	**-1.2**
	comp=Z,0.6nm,0.3s,mb3.7,baz=123,slow=11,SNR=6.7						
HFS	**Hagfors**	**41.72**	**332**	P	**P**	**00 00 23.7**	**-1.2**
NOA	**NORSAR Array B**	**43.24**	**332**	P	**P**	**00 00 35.5**	**-1.7**
	comp=Z,1.3nm,1.0s,mb3.6,baz=147,slow=6.5,SNR=3.3						
NOA	**NORSAR Array B**	**43.24**	**332**	P	**P**	**00 00 35.5**	**-1.7**
ARCES	**ARCESS Array B**	**44.56**	**347**	P	**P**	**00 00 46.7**	**-1.0**
	comp=Z,4.3nm,1.0s,mb4.2,baz=152,slow=8.8,SNR=6.7						
ARCES	**ARCESS Array B**	**44.56**	**347**	P	**P**	**00 00 46.7**	**-1.1**
ARCES	**ARCESS Array B**	**44.56**	**347**	P	**P**	**00 00 46.7**	**-1.1**
TORD	**Torodi Ar. Bea**	**49.85**	**264**	P	**P**	**00 01 28.6**	**-1.1**
	comp=Z,0.4nm,0.8s,mb3.5,baz=65,slow=7.9,SNR=5.9						

ISCJB ***10*** *23:54:00.6±1.8, 5647N±007×15648W±009, h14^{km}±11^{km}, mb3.6/3, Error ellipse: s-maj=13.5km s-min=5.3km az=145.9*
NEIC ***10*** *23:54:03.4, 5628N×15640W, h10^{km}, ML3.4(AEIC), After AEIC.*
IDC ***10*** *23:54:05.7±7.8, 5687N×15670W, h62^{km}±88^{km}, mb3.3/3, mb1 3.8/4, mb1mx3.3/23, mbtmp3.4/4, ML3.1/1, Error ellipse: s-maj=231.6km s-min=56.5km az=156.0*
ISC 10 23:54:02.8±2.0**, 5638N**±007×**15644W**±010**, h20**^{km}±13^{km}**, n18,** σ**0**^{s}**68**/26**, mb3.6**/3**, Alaska Peninsula**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CHGN	**Chignik**	**1.10**	**267**	P	**Pn**	**23 54 22.3**	**-0.8**
OHAK	**Old Harbor**	**1.93**	**63**	P	**Pn**	**23 54 34.5**	**0.0**
OHAK				S	**Sn**	**23 54 57.9**	**-0.2**
SDPT	**Sand Point**	**2.50**	**247**	P	**Pn**	**23 54 41.9**	**-0.3**
SDPT				S	**Sn**	**23 55 12.9**	**+0.9**
KDAK	**Kodiak Island**	**2.53**	**55**	P	**Pn**	**23 54 42.8**	**0.0**
	4.7nm,0.3s,baz=233,slow=6.7,SNR=56						
KDAK				S	**Sn**	**23 55 11.7**	**-1.3**
	16nm,0.3s,baz=277,slow=9.6,SNR=5.6						
KDAK	**Kodiak Island**	**2.53**	**55**	P	**Pn**	**23 54 42.8**	**0.0**
SVW2	**Sparrevohn**	**4.76**	**5**	*e*Pn	**Pn**	**23 55 14.6**	**+1.3**
SVW2				*e*Pg	**Pg**	**23 55 34.0**	**+0.2**
SVW2				*e*Sn	**Sn**	**23 56 12.9**	**+5.1**
SVW2				*e*Sg	**Sg**	**23 56 35.3**	**-0.1**
SEW	**Seward**	**5.25**	**42**	P	**Pn**	**23 55 19.2**	**-0.9**
SEW				*e*Sn	**Sn**	**23 56 20.1**	**+0.1**
RC01	**Rabbit Creek A**	**5.88**	**34**	Pn	**Pn**	**23 55 28.6**	**-0.1**
RC01				Sn	**Sn**	**23 56 30.4**	**-4.9**
UNV	**Unalaska Valle**	**6.30**	**251**	P	**Pn**	**23 55 33.2**	**-1.4**
TT01	**Tatalina**	**6.56**	**2**	P	**Pn**	**23 55 38.6**	**+0.6**
RAGM	**Ragged Mountai**	**7.37**	**52**	P	**Pn**	**23 55 50.0**	**+0.8**
SPIA	**Saint Paul Isl**	**7.63**	**282**	P	**Pn**	**23 55 52.4**	**-0.3**
TRF	**Thorofare Moun**	**7.74**	**21**	P	**Pn**	**23 55 54.0**	**-0.2**
BPAW	**Bear Paw Mtn.**	**8.21**	**17**	P	**Pn**	**23 56 00.8**	**+0.2**
NVAR	**Mina Array Bea**	**30.90**	**109**	P	**P**	**00 00 19.0**	**+1.2**
	0.4nm,0.6s,mb3.5,baz=305,slow=8.6,SNR=3.5						
PDAR	**Pinedale Array**	**32.63**	**94**	P	**P**	**00 00 33.2**	**+0.3**
	0.6nm,0.6s,mb3.7,baz=319,slow=5.9,SNR=4.2						
PDAR	**Pinedale Array**	**32.63**	**94**	P	**P**	**00 00 33.2**	**+0.3**
TXAR	**Lajitas Array**	**45.66**	**104**	P	**P**	**00 02 21.7**	**-0.2**
	0.6nm,0.7s,mb3.7,baz=309,slow=5.7,SNR=8.4						

NIED ***10*** *23:56:00, 2280N×124.10E, h5^{km}, Mw4.3 Best double couple: M₀3.15000×10^{15} NP1:φs323.00000°, δ81.00000°, λ128.00000°. NP2:φs64.00000°, δ39.00000°, λ14.00000°.*
IDC ***10*** *23:56:32.9±0.9, 2257N×12399E, h0^{km}, mb3.6/7, mb1 4.1/10, mb1mx3.9/23, mbtmp4.0/10, ML4.3/2, MS3.5/6, Ms1 3.6/6, ms1mx3.1/32, Error ellipse: s-maj=26.6km s-min=17.8km az=76.0*
ISCJB ***10*** *23:56:36.5±0.8, 2269N±004×12406E±004, h39^{km}±8^{km}, mb3.8/9, MS3.6/2, Error ellipse: s-maj=7.2km s-min=6.5km az=163.1*
NEIC ***10*** *23:56:37.3±2.6, 2266N×12399E, h30^{km}±20^{km}, mb4.3/4, Error ellipse: s-maj=9.4km s-min=7.5km az=56.0*
JMA ***10*** *23:56:38.1±0.2, 2277N×12408E, h38^{km}, M4.6*
ISC 10 23:56:37.8±1.7**, 2272N**±003×**12406E**±004**, h34**^{km}±14^{km}**, n43,** σ**1**^{s}**10**/56**, mb3.8**/9**, MS3.6**/2**, Southeast of Taiwan**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
HATJ	**Hateruma jima**	**1.35**	**350**	P	**Pn**	**23 57 00.6**	**+0.3**
HATJ				S	**Sn**	**23 57 16.6**	**-0.5**
JKRS	**Kuro-shima**	**1.52**	**358**	P	**Pn**	**23 57 02.9**	**+0.4**
JKRS				S	**Sn**	**23 57 21.7**	**+0.6**
IRIF	**Iriomote-Funau**	**1.64**	**349**	P	**Pn**	**23 57 05.0**	**+0.8**
IRIF				S	**Sn**	**23 57 24.1**	**-0.1**
JIJ	**Ishigaki jima**	**1.64**	**3**	P	**Pn**	**23 57 04.5**	**+0.3**
JIJ				S	**Sn**	**23 57 23.9**	**-0.3**
YOJ	**Yonaguni jima**	**1.99**	**331**	P	**Pn**	**23 57 09.8**	**+0.8**
YOJ				S	**Sn**	**23 57 32.1**	**-0.6**
JMJ	**Miyako jima 2**	**2.37**	**28**	P	**Pn**	**23 57 14.9**	**+0.6**
JMJ				S	**Sn**	**23 57 43.2**	**+0.9**
JOGS	**Gusukube**	**2.38**	**31**	P	**Pn**	**23 57 15.2**	**+0.8**
JOGS				S	**Sn**	**23 57 43.3**	**+0.9**
NACB	**Ninganchiao**	**2.69**	**303**	*e*Pn	**Pn**	**23 57 17.4**	**-1.3**
NACB				*e*Sn	**Sn**	**23 57 44.0**	**-6.1**
YHNB	**Yeheng**	**3.14**	**309**	*e*Pn	**Pn**	**23 57 25.0**	**+0.2**
YHNB				*e*Sn	**Sn**	**23 57 48.8**	**-12**
TATO	**Taipei**	**3.26**	**314**	*e*Pn	**Pn**	**23 57 27.2**	**+0.7**
TATO				*e*Sn	**Sn**	**23 58 03.3**	**-0.8**
JKE	**Kume jima 2**	**4.37**	**34**	P	**Pn**	**23 57 40.8**	**-0.9**
JKE				S	**Sn**	**23 58 29.4**	**-2.0**
JAGN	**Aguni-jima**	**4.82**	**36**	S	**Sn**	**23 58 40.7**	**-1.9**
JIH	**Iheya**	**5.57**	**39**	P	**Pn**	**23 57 57.5**	**-0.8**
JOW	**Kunigami**	**5.61**	**42**	Pn	**Pn**	**23 57 58.1**	**-0.6**
	20nm,0.3s,baz=222,slow=12,SNR=58						
JOW				Sn	**Sn**	**23 58 57.7**	**-4.3**
	17nm,0.3s,baz=141,slow=27,SNR=8.3						
JOW				LR	LR	00 00 34.3	
	comp=Z,566nm,19.4s,baz=177,slow=42						
JOW	**Kunigami**	**5.61**	**42**	P	**Pn**	**23 57 58.2**	**-0.6**
JOW				S	**Sn**	**23 58 58.2**	**-3.8**
JTK	**Tokunoshima**	**6.71**	**40**	P	**Pn**	**23 58 12.3**	**-1.6**
JTK				S	**Sn**	**23 59 23.5**	**-5.7**
JAM	**Amami Oshima**	**7.56**	**40**	P	**Pn**	**23 58 23.6**	**-2.0**
QIZ	**Qiongzhong**	**13.79**	**257**	Pn	**Pn**	**23 59 49.7**	**-1.2**
KSRS	**Korea Array**	**15.06**	**12**	Pn	**Pn**	**00 00 08.4**	**+0.4**
	0.9nm,0.3s,baz=187,slow=13,SNR=50						
KSRS				LR	LR	00 06 32.9	
	comp=Z,95nm,18.5s,baz=120,slow=40						
DAV	**Davao City (W)**	**15.62**	**174**	*e*Pn	**Pn**	**00 00 16.3**	**+0.7**
CBIJ	**Chichi jima**	**17.00**	**71**	LR	LR	00 05 32.9	
	comp=Z,136nm,18.3s,baz=187,slow=32						
MAJO	**Matsushiro**	**18.43**	**38**	*e*P	**Pn**	**00 00 52.6**	**+2.0**
	26nm,0.8s						
MAT	**Matsushiro**	**18.43**	**38**	P	**Pn**	**00 00 53.4**	**+2.8**
MAT				*e*S	**Sn**	**00 04 09.0**	**-6.6**
MJAR	**Matsushiro Arr**	**18.44**	**38**	P	**Pn**	**00 00 52.7**	**+2.1**
	1.3nm,0.3s,baz=230,slow=9.9,SNR=44						
MJAR				LR	LR	00 07 02.9	
	comp=Z,104nm,21.3s,baz=205,slow=34						
MJAR	**Matsushiro Arr**	**18.44**	**38**	P	**Pn**	**00 00 52.7**	**+2.1**
MJAR				LR	LR	00 07 02.9	
BJT	**Baijiatuau**	**18.50**	**341**	P	**Pn**	**00 00 50.6**	**-0.8**
GUMO	**Guam**	**21.73**	**111**	*e*P	**P**	**00 01 26.7**	**+0.3**
	71nm,0.9s,mb5.1						
CMAR	**Chiang Mai Arr**	**23.88**	**264**	P	**P**	**00 01 46.7**	**-1.8**
	0.5nm,0.3s,mb3.4,baz=79,slow=6.5,SNR=2.5						
CMAR				LR	LR	00 11 39.3	
	comp=Z,141nm,18.6s,MS3.5,baz=170,slow=38						
ASAJ	**Asahikawa**	**26.24**	**31**	LR	LR	00 12 37.3	
	comp=Z,180nm,18.1s,MS3.6,baz=178,slow=36						
HIA	**Hailar**	**26.72**	**354**	P	**P**	**00 02 12.8**	**-1.0**
SONM	**Songino Array**	**28.78**	**335**	P	**P**	**00 02 33.2**	**+0.9**
	1.1nm,0.6s,mb3.7,baz=147,slow=9.5,SNR=7.7						
MKAR	**Makanchi Array**	**41.23**	**316**	P	**P**	**00 04 20.8**	**+1.4**
	0.2nm,0.3s,mb3.2,baz=99,slow=10.0,SNR=3.5						
ZALV	**Zalesovo Beam**	**42.91**	**327**	P	**P**	**00 04 33.6**	**+0.6**
	0.6nm,0.4s,mb3.6,baz=114,slow=6.7,SNR=4.3						
WRA	**Warramunga Arr**	**43.57**	**166**	P	**P**	**00 04 37.4**	**-1.2**
	1.9nm,0.8s,mb3.9,baz=345,slow=8.6,SNR=11						
WB2	**Warramunga Arr**	**43.57**	**166**	*e*P	**P**	**00 04 37.7**	**-0.9**
TKM2	**Tokmak 2**	**44.74**	**309**	*e*P	**P**	**00 04 47.1**	**-0.8**
	2.1nm,0.8s,mb4.0						
KURK	**Kurchatov**	**44.91**	**320**	P	**P**	**00 04 50.4**	**+1.3**
	0.2nm,0.4s,mb3.3,baz=112,slow=7.9,SNR=3.2						
KURK	**Kurchatov**	**44.91**	**320**	*e*P	**P**	**00 04 48.3**	**-0.8**
	1.9nm,0.6s,mb4.1						
UCH	**Uchtor**	**45.41**	**307**	*e*P	**P**	**00 04 55.1**	**+1.9**
AML	**Almayashu**	**46.00**	**307**	P	**P**	**00 04 59.4**	**+1.6**
ASAR	**Alice Springs**	**47.09**	**168**	P	**P**	**00 05 06.0**	**-0.4**
	0.5nm,0.5s,mb3.7,baz=356,slow=12,SNR=12						
STKA	**Stephens Creek**	**56.82**	**162**	*e*P	**P**	**00 06 19.5**	**+0.6**
OBN	**Obninsk**	**70.28**	**322**	P	**P**	**00 07 47.6**	**0.0**

ISCJB ***11*** *00:36:50.0±0.6, 1067N±004×6237W±003, h93^{km}±6^{km}, Error ellipse: s-maj=6.3km s-min=4.2km az=163.6*
FUNV ***11*** *00:36:51.7, 1068N×6231W, h85^{km}, MW3.1*
NEIC ***11*** *00:36:53.9, 1072N×62.15W, h89^{km}, MD3.3(TRN), After TRN.*
TRN ***11*** *00:36:53.9, 1072N×62.15W, h89^{km}, MD3.3*
ISC 11 00:36:50.9±0.6**, 1068N**±004×**6237W**±003**, h88**^{km}±7^{km}**, n18,** σ**1**^{s}**10**/36**, 5C-2D, Near coast of Venezuela**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
GUIV	**Guiria**	**0.14**	**101**	⇑*i*P	**Pn**	**00 37 03.6**	**+0.2**
GUIV				*e*S	**Sn**	**00 37 11.9**	**-0.8**
TCE	**Chacachacare**	**0.60**	**88**	⇓*e*P	**Pn**	**00 37 07.4**	**+1.1**
TCE				*e*S	**Sn**	**00 37 18.1**	**+0.3**
GUNV	**Guanoco**	**0.76**	**228**	*e*P	**Pn**	**00 37 09.2**	**+1.3**
GUNV				*e*S	**Sn**	**00 37 21.8**	**+1.3**
CRUV	**Carupano**	**0.85**	**270**	⇓*i*P	**Pn**	**00 37 09.2**	**+0.4**
CRUV				*e*S	**Sn**	**00 37 21.9**	**-0.3**
TRN	**Trinidad (W)**	**0.95**	**92**	⇑*i*P	**Pn**	**00 37 11.0**	**+1.1**
TRN				*e*S	**Sn**	**00 37 23.3**	**-0.8**
TPP	**Pointe-a-Pierr**	**0.97**	**112**	⇑*i*P	**Pn**	**00 37 11.9**	**+1.8**
TPP				*e*S	**Sn**	**00 37 24.4**	**-0.1**
TBH	**Brigand Hill**	**1.29**	**98**	*e*P	**Pn**	**00 37 15.3**	**+1.4**
TBH				*e*S	**Sn**	**00 37 29.4**	**-2.0**
GRGR	**Grenville**	**1.61**	**26**	*e*Pn	**Pn**	**00 37 17.8**	**-0.2**
GRGR				*e*Sn	**Sn**	**00 37 36.6**	**-1.8**
GRW	**Mount Saint Ca**	**1.63**	**25**	⇑*e*P	**Pn**	**00 37 19.0**	**+0.7**
GRW				*e*S	**Sn**	**00 37 39.9**	**+1.0**
TPR	**Prospect**	**1.64**	**72**	*e*P	**Pn**	**00 37 19.2**	**+0.8**
TPR				*e*S	**Sn**	**00 37 39.3**	**+0.1**
TOSP	**Speyside**	**1.90**	**71**	⇑*i*P	**Pn**	**00 37 21.5**	**-0.3**
TOSP				*e*S	**Sn**	**00 37 43.4**	**-1.8**
PCRV	**Puerto La Cruz**	**2.29**	**258**	*e*P	**Pn**	**00 37 27.6**	**+0.7**
PCRV				*e*S	**Sn**	**00 37 53.2**	**-1.1**
IBAV	**Isla La Blanqu**	**2.45**	**298**	*e*P	**Pn**	**00 37 29.6**	**+0.6**
IBAV				*e*S	**Sn**	**00 37 57.9**	**-0.3**
RIOV	**Rio Grande**	**2.65**	**168**	*e*P	**Pn**	**00 37 31.9**	**+0.2**
RIOV				*e*S	**Sn**	**00 38 01.4**	**-1.6**
SVB	**Belmont**	**2.80**	**23**	*e*P	**Pn**	**00 37 36.3**	**+2.5**
SVB				*e*S	**Sn**	**00 38 05.3**	**-1.4**
BIRV	**Birongo**	**3.84**	**267**	*e*P	**Pn**	**00 37 48.6**	**+0.8**
BIRV				*e*S	**Sn**	**00 38 30.4**	**-1.5**

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
CAOV	**Caicara del Or**	**5.13**	**230**	*e*P	**Pn**	**00 38 04.8**	**-0.5**
CAOV				*e*S	**Sn**	**00 38 59.4**	**-3.9**
BAUV	**El Baul**	**5.85**	**253**	*e*P	**Pn**	**00 38 14.1**	**-1.0**
BAUV				*e*S	**Sn**	**00 39 16.7**	**-4.2**

DJA 11 00:39:40.6±0.7**, 8S**±16×**109E**±**, h50**^{km}±15^{km}**, MLv3.7**/8**, Jawa**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CLJI	**Cilicap**	**0.24**	**349**	P	Pn	00 39 48.9	-0.4
BJII	**Banjamegara**	**0.90**	**46**	P	Pn	00 39 59.0	+2.1
UGM	**Wanagama**	**1.45**	**88**	P	Pn	00 40 04.7	+0.3
LEM	**Lembang**	**1.82**	**308**	P	Pn	00 40 10.5	+1.0
LEM	**Lembang**	**1.82**	**308**	S	Sn	00 40 32.6	+1.2
SKJI	**Sukabumi**	**2.66**	**291**	P	Pn	00 40 21.1	+0.1
SKJI	**Sukabumi**	**2.66**	**291**	S	Sn	00 40 54.4	+2.4
CBJI	**Citeko**	**2.67**	**305**	P	Pn	00 40 17.8	-3.4
DBJI	**Dramaga**	**2.68**	**301**	P	Pn	00 40 21.2	-0.1
SJI	**Sawahan**	**2.69**	**85**	P	Pn	00 40 20.6	-0.8

*ISCJB **11** 00:48:26.7±0.6, 11.54N±0.03×124.37E±0.04, h22^{km}±6^{km}, mb3.8/7, MS3.3/2, Error ellipse: s-maj=6.9km s-min=4.7km az=152.7*
*IDC **11** 00:48:26.6±2.1, 10.90N×123.10E, h0^{km}, mb3.8/7, mb1 3.9/7, mb1mx3.7/20, mbtmp3.8/7, MS3.0/3, Ms1 3.1/3, ms1mx2.7/42, Error ellipse: s-maj=288.4km s-min=17.2km az=64.0*
*MAN **11** 00:48:26, 11.56N×124.41E, h22^{km}, mb4.6, ML3.5, MS3.5*
MAN INTENSITY II - ORMOC, LEYTE.
ISC 11 00:48:25.7±0.7**, 11.51N**±0.03×**124.35E**±0.04**, h1**^{km}±5^{km}**, n29,** σ**1**^{s}**06**/31**, mb3.8**/7**, MS3.3**/2**, 3C-3D, Leyte**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLP	**Palo**	**0.71**	**119**⇓	*e*P	**Pg**	**00 48 39.7**	**+0.4**
PLP				*e*S	**Sg**	**00 48 50.0**	**+1.5**
CNP	**Catarman**	**1.04**	**17**	*e*P	**Pg**	**00 48 45.0**	**-0.6**
BESP	**Borongan**	**1.07**	**85**	*e*P	**Pg**	**00 48 44.8**	**-1.6**
MMPH	**Masbate**	**1.10**	**320**⇑	*i*P	**Pg**	**00 48 46.4**	**-0.3**
MMPH				*i* S	**Sg**	**00 49 01.6**	**+0.6**
LLP	**Lapu-Lapu**	**1.25**	**197**	*e*P	**Pg**	**00 48 49.3**	**-0.3**
LLP				*e*S	**Sg**	**00 49 04.8**	**-0.9**
MSLP	**Maasin**	**1.46**	**160**	*e*P	**Pn**	**00 48 53.1**	**-0.1**
RCP	**Roxas**	**1.57**	**272**⇓	*e*P	**Pn**	**00 48 54.2**	**-0.5**
TBP	**Tagbilaran**	**1.87**	**195**	*e*P	**Pn**	**00 48 58.3**	**-0.5**
TBP				*e*S	**Sn**	**00 49 21.8**	**-1.3**
GUIM	**Jordan**	**1.94**	**243**	*e*P	**Pn**	**00 48 60.0**	**+0.2**
KALP	**Kalibo**	**1.97**	**275**⇓	*e*P	**Sn**	**00 49 21.9**	**-3.8**
SCPH	**Surigao**	**2.05**	**147**⇑	*e*P	**Pn**	**00 49 03.6**	**+2.2**
PVCP	**Virac**	**2.08**	**355**	*e*P	**Pn**	**00 49 00.2**	**-1.6**
OTRP	**Odiongan**	**2.43**	**291**	*e*P	**Pn**	**00 49 06.2**	**-0.3**
AUQP	**San Andres**	**2.43**	**318**	*e*P	**Pn**	**00 49 09.7**	**+3.2**
GQP	**Guinayangan**	**3.02**	**322**⇑	*e*P	**Pn**	**00 49 17.0**	**+2.4**
SJMP	**San Jose**	**3.29**	**287**	*e*P	**Pn**	**00 49 19.2**	**+0.7**
CUYO	**Cuyo Island**	**3.33**	**259**	*e*P	**Pn**	**00 49 18.5**	**-0.4**
PAGZ	**Pagadian**	**3.76**	**195**	*e*P	**Pn**	**00 49 25.6**	**+0.8**
PAGZ				*e*S	**Sn**	**00 50 10.9**	**+1.1**
ENPP	**El Nido**	**4.83**	**267**	*e*P	**Pn**	**00 49 41.5**	**+1.8**
KAPI	**Kappang**	**17.04**	**196**	LR	LR	00 59 57.8	
	comp=Z,16nm,19.4s,baz=194,slow=43						
CMAR	**Chiang Mai Arr**	**25.47**	**289**	LR	LR	01 04 13.7	
	comp=Z,16nm,18.8s,MS2.6,baz=65,slow=39						
WRA	**Warramunga Arr**	**32.77**	**162**	P	**P**	**00 54 59.1**	**-1.3**
	0.3nm,0.7s,mb3.3,baz=331,slow=9.3,SNR=2.8						
ASAR	**Alice Springs**	**36.19**	**165**	P	**P**	**00 55 29.6**	**-0.5**
	0.6nm,0.8s,mb3.5,baz=346,slow=8.2,SNR=5.9						
STKA	**Stephens Creek**	**46.20**	**160**	P	**P**	**00 56 52.5**	**+0.2**
	1.2nm,0.5s,mb4.2,baz=346,slow=11,SNR=3.0						
MKAR	**Makanchi Array**	**49.90**	**323**	P	**P**	**00 57 21.4**	**+0.6**
	1.3nm,0.7s,mb4.0,baz=122,slow=8.5,SNR=9.5						
ZALV	**Zalesovo Beam**	**52.64**	**332**	P	**P**	**00 57 40.2**	**-1.0**
	0.8nm,0.5s,mb3.9,baz=131,slow=5.9,SNR=4.6						
KURK	**Kurchatov**	**53.98**	**326**	P	**P**	**00 57 51.1**	**-0.1**
	1.8nm,0.6s,mb4.3,baz=127,slow=7.2,SNR=11						
BVAR	**Borovoye Array**	**59.58**	**325**	P	**P**	**00 58 30.4**	**-0.5**
	0.3nm,0.5s,mb3.5,baz=90,slow=2.9,SNR=2.9						
YKA	**Yellowknife Ar**	**93.39**	**23**	LR	LR	01 44 46.9	
	comp=Z,53nm,18.1s,MS4.0,baz=85,slow=36						

*BJI **11** 00:55:53.3, 4.90S×152.60E, h40^{km}, mb4.6*
*IDC **11** 00:55:54.2±0.9, 4.86S×152.91E, h49^{km}±6^{km}, mb4.4/15, mb1 4.5/16, mb1mx4.4/21, mbtmp4.4/16, MS4.0/15, Ms1 4.0/15, ms1mx3.8/26, Error ellipse: s-maj=22.7km s-min=13.3km az=95.0*
*ISCJB **11** 00:55:55.4±2.0, 4.89S±0.06×152.78E±0.08, h71^{km}±17^{km}, mb4.6/27, Error ellipse: s-maj=13.6km s-min=9.3km az=5.5*
*NEIC **11** 00:55:59.3±1.6, 4.93S×152.64E, h88^{km}±13^{km}, mb4.7/16, Error ellipse: s-maj=12.7km s-min=6.7km az=76.0*
ISC 11 00:55:57.0±1.6**, 4.87S**±0.05×**152.77E**±0.09**, h70**^{km}±13^{km}**, h45**^{km}±3.5^{km}**:pP-P, n75,** σ**1**^{s}**10**/53**, mb4.6**/27**, 1C, New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**7.16**	**231**	*e*Pn	**Pn**	**00 57 39.4**	**+0.3**
COEN	**Coen**	**13.07**	**226**	*e*Pn	**Pn**	**00 59 01.2**	**+1.4**
	27nm,0.9s						
COEN				*e*		00 59 09.8	
COEN				*e*Sn	**Sn**	**01 01 23.4**	**-0.2**
CTA	**Charters Tower**	**16.40**	**202**	*e*P	**Pn**	**00 59 43.6**	**+0.8**
	12nm,0.9s						
CTA				*e*		01 00 01.4	
CTA	**Charters Tower**	**16.40**	**202**	P	**Pn**	**00 59 42.4**	**-0.4**
	0.4nm,0.3s,baz=31,slow=13,SNR=14						
CTAO	**Charters Tower**	**16.40**	**202**	*e*Pn	**Pn**	**00 59 42.1**	**-0.7**
	49nm,1.3s						
GUMO	**Guam**	**19.95**	**337**	LR	LR	01 06 49.9	
	comp=Z,154nm,19.5s,baz=135,slow=33						
GUMO	**Guam**	**19.95**	**337**	P	**Pn**	**01 00 24.6**	**-1.1**
KAKA	**Kakadu**	**21.53**	**247**	*e*P	**P**	**01 00 38.7**	**-1.9**
	95nm,1.0s,mb5.1						
KAKA				*e*S	**S**	**01 04 31.5**	**-4.0**
WB2	**Warramunga Arr**	**23.36**	**229**	*e*P	**P**	**01 00 59.4**	**-0.2**
WRA	**Warramunga Arr**	**23.37**	**229**	P	**P**	**01 00 59.2**	**-0.4**
	163nm,0.9s,mb5.3,baz=53,slow=9.6,SNR=239						
WRA				S	**S**	**01 05 09.2**	**+1.8**
	3.7nm,1.1s,baz=51,slow=12,SNR=6.1						
ARMA	**Armidale**	**25.43**	**182**	*e*P	**P**	**01 01 18.6**	**+0.4**
ASAR	**Alice Springs**	**26.08**	**222**	P	**P**	**01 01 23.9**	**-0.2**
	7.5nm,0.5s,mb4.4,baz=56,slow=9.3,SNR=26						
ASAR				S	**S**	**01 06 01.2**	**+11**
	1.6nm,0.9s,baz=49,slow=16,SNR=3.6						
STKA	**Stephens Creek**	**28.84**	**200**	*e*P	**P**	**01 01 47.4**	**-1.3**
	11nm,0.9s,mb4.5						
STKA	**Stephens Creek**	**28.84**	**200**	P	**P**	**01 01 48.0**	**-0.8**
	14nm,0.9s,mb4.6,baz=352,slow=8.7,SNR=20						
STKA				LR	LR	01 12 32.2	
	comp=Z,330nm,21.2s,baz=26,slow=34						
STKA	**Stephens Creek**	**28.84**	**200**	*e*P	**P**	**01 01 47.5**	**-1.2**
	12nm,0.7s,mb4.6						
BATI	**Baumata**	**29.32**	**258**	P	**P**	**01 01 55.5**	**+2.2**
	14nm,0.3s,mb5.1,baz=266,slow=19,SNR=4.1						
FITZ	**Fitzroy Crossi**	**29.60**	**241**	*e*P	**P**	**01 01 55.2**	**-0.5**
	70nm,0.8s,mb5.3						
FITZ	**Fitzroy Crossi**	**29.60**	**241**	P	**P**	**01 01 55.3**	**-0.4**
	44nm,0.8s,mb5.1,baz=89,slow=8.5,SNR=73						
FITZ				LR	LR	01 15 04.5	
	comp=Z,190nm,19.3s,baz=89,slow=39						
CNB	**Canberra Magne**	**30.46**	**185**	*e*P	**P**	**01 02 03.1**	**+0.1**
CBIJ	**Chichi jima**	**33.38**	**343**	LR	LR	01 14 16.2	
	comp=Z,129nm,20.1s,baz=155,slow=33						
FORT	**Forrest**	**34.71**	**219**	*e*P	**P**	**01 02 39.4**	**-0.9**
	43nm,1.0s,mb5.2						
RAO	**Raoul Island**	**36.84**	**134**	P	**P**	**01 02 59.9**	**+1.3**
TAU	**Tasmania Unive**	**38.19**	**186**	*e*P	**P**	**01 03 10.0**	**+0.2**
JOW	**Kunigami**	**39.43**	**324**	LR	LR	01 16 18.0	
	comp=Z,156nm,21.9s,baz=149,slow=31						
RPZ	**Rata Peaks**	**41.92**	**160**	P	**P**	**01 03 40.3**	**-0.3**
	25nm,0.8s,mb5.0,baz=116,slow=3.1,SNR=5.8						
KLBR	**Kellerberrin**	**42.23**	**227**	*e*P	**P**	**01 03 41.9**	**-1.5**
	14nm,1.0s,mb4.7						
NWAO	**Narrogin (SRO)**	**43.32**	**225**	LR	LR	01 20 07.9	
	comp=Z,223nm,20.4s,baz=289,slow=34						
MJAR	**Matsushiro Arr**	**43.39**	**343**	LR	LR	01 19 53.9	
	comp=Z,97nm,18.0s,baz=185,slow=33						
KSRS	**Korea Array**	**48.05**	**333**	P	**P**	**01 04 28.5**	**-0.8**
	1.3nm,0.7s,mb3.9,baz=163,slow=8.3,SNR=8.1						
KSRS				pP	pP	01 04 41.9	-5.1
	6.3nm,1.0s,baz=160,slow=9.2,SNR=6.7						
CMAR	**Chiang Mai Arr**	**57.88**	**295**	P	**P**	**01 05 43.4**	**+1.3**
	5.0nm,0.8s,mb4.6,baz=114,slow=5.3,SNR=20						
PETK	**Petropavlovsk-**	**57.91**	**4**	P	**P**	**01 05 41.4**	**-0.2**
	1.8nm,0.7s,mb4.2,baz=216,slow=8.7,SNR=3.0						
PETK				LR	LR	01 30 48.2	
	comp=Z,43nm,18.9s,baz=88,slow=36						
CHTO	**Chiang Mai**	**57.99**	**296**	*e*P	**P**	**01 05 43.5**	**+0.7**
	1.0nm,0.6s,mb4.0						
GTA	**Gaotai**	**65.69**	**317**	*e*P	**P**	**01 06 35.7**	**+1.5**
GTA				AP	pP	01 06 44.7	-8.0
GTA				XP	sP	01 06 48.8	-12
GTA				AMB	AMB		
	comp=Z,5.0nm,0.8s,mb4.4						
SONM	**Songino Array**	**66.37**	**328**	P	**P**	**01 06 39.9**	**+1.5**
	comp=Z,0.9nm,0.6s,mb3.8,baz=147,slow=8.3,SNR=4.6						
SONM				LR	LR	01 34 11.9	
	comp=Z,92nm,20.2s,baz=224,slow=35						
CASY	**Casey**	**67.94**	**197**	*e*P	**P**	**01 06 47.3**	**-0.7**
	comp=Z,16nm,1.1s,mb4.8						
SBA	**Scott Base**	**73.31**	**177**	*e*P	**P**	**01 07 22.3**	**+1.8**
	comp=Z,20nm,1.3s,mb4.8						
MK31	**Makanchi Array**	**80.36**	**319**	*e*P	**P**	**01 08 01.2**	**+0.5**
MKAR	**Makanchi Array**	**80.36**	**319**	P	**P**	**01 08 01.1**	**+0.4**
	comp=Z,1.8nm,0.8s,mb4.0,baz=101,slow=7.7,SNR=8.0						
MKAR				LR	LR	01 44 33.7	
	comp=Z,40nm,18.8s,baz=174,slow=36						
ZAA0	**Zalesovo Array**	**81.19**	**326**	*e*P	**P**	**01 08 04.3**	**-0.7**
ZALV	**Zalesovo Beam**	**81.19**	**326**	P	**P**	**01 08 04.2**	**-0.8**
	comp=Z,3.5nm,0.6s,mb4.3,baz=106,slow=5.8,SNR=16						
KURK	**Kurchatov**	**83.80**	**322**	P	**P**	**01 08 18.9**	**+0.2**
	comp=Z,3.6nm,0.9s,mb4.2,baz=108,slow=4.4,SNR=10						
KURK	**Kurchatov**	**83.80**	**322**	*e*P	**P**	**01 08 18.9**	**+0.3**
	comp=Z,12nm,1.3s,mb4.6						
KURK				*e*pP	pP	01 08 31.5	-6.3
TKM2	**Tokmak 2**	**83.96**	**314**	*e*P	**P**	**01 08 20.3**	**+0.7**
	comp=Z,3.8nm,0.7s,mb4.3						
UCH	**Uchtor**	**84.60**	**313**	*e*P	**P**	**01 08 24.3**	**+1.4**
	comp=Z,9.4nm,1.1s,mb4.6						
AML	**Almayashu**	**85.17**	**313**	*e*P	**P**	**01 08 27.4**	**+1.6**
	comp=Z,17nm,0.9s,mb5.0						
EKS2	**Erkin-Say**	**85.22**	**313**	*e*P	**P**	**01 08 27.1**	**+1.2**
	comp=Z,5.6nm,0.9s,mb4.5						
MAW	**Mawson**	**85.49**	**203**	*e*P	**P**	**01 08 26.8**	**0.0**
	comp=Z,16nm,1.3s,mb4.8						
MAW	**Mawson**	**85.49**	**203**	P	**P**	**01 08 27.3**	**+0.4**
	comp=Z,12nm,0.8s,mb4.9,baz=72,slow=5.6,SNR=19						
MAW				LR	LR	01 43 32.2	
	comp=Z,139nm,18.2s,baz=227,slow=33						
YBH	**Yreka Blue Hor**	**89.12**	**48**	LR	LR	01 39 08.7	
	comp=Z,220nm,21.1s,baz=349,slow=29						
BVAR	**Borovoye Array**	**89.28**	**323**	P	**P**	**01 08 44.7**	**-0.6**
	comp=Z,11nm,0.7s,mb5.0,baz=102,slow=6.2,SNR=66						
BVAR				pP	pP	01 08 58.6	-6.1
	comp=Z,6.6nm,0.8s,baz=104,slow=6.3,SNR=8.0						
BRVK	**Borovoye**	**89.35**	**323**	*e*P	**P**	**01 08 45.1**	**-0.5**
BRVK				*e*pP	pP	01 08 59.2	-5.9
PFO	**Pinyon Flat Ob**	**93.31**	**57**	LR	LR	01 41 04.3	
	comp=Z,206nm,21.1s,baz=330,slow=29						
SYO	**Syowa Base**	**93.59**	**199**⇑	*e*P	**P**	**01 09 02.6**	**-2.4**
ARU	**Arti**	**96.36**	**326**	P	**P**	**01 09 16.1**	**-1.7**
AKTK	**Aktyubinsk**	**96.75**	**320**	P	**P**	**01 09 18.2**	**-1.7**
AKTO	**Aktyubinsk**	**96.75**	**320**	P	**P**	**01 09 18.2**	**-1.6**
	comp=Z,0.8nm,0.6s,mb4.3,baz=62,slow=5.5,SNR=3.7						
LPIG	**La Paz**	**98.28**	**66**	LR	LR	01 42 23.2	
	comp=Z,122nm,21.1s,baz=179,slow=28						
PDAR	**Pinedale Array**	**98.92**	**48**	LR	LR	01 51 13.4	
	comp=Z,155nm,19.0s,baz=4.4,slow=34						
BOSA	**Boshof**	**119.56**	**233**	*e*PKPdf	PKPdf	01 14 39.1	-0.3
LBTB	**Lobatse**	**120.72**	**237**	*e*PKPdf	PKPdf	01 14 41.6	-0.1
LSZ	**Lusaka**	**121.58**	**249**	*e*PKPdf	PKPdf	01 14 44.4	+0.8
BRG	**Berggiesshubel**	**122.72**	**330**	*e*(P)	PKPdf	01 14 45.1	+0.3
	comp=Z,2.2nm,0.9s						
BRG				*e*		01 15 01.8	
	comp=Z,6.3nm,1.2s						
KHC	**Kasperske Hory**	**123.98**	**329**	*e*PKP	PKPdf	01 14 47.5	+0.2
KHC				*e*x	x	01 15 02.5	
GERES	**GERESS Array B**	**124.10**	**328**	PKP	PKPdf	01 14 47.8	+0.3
	comp=Z,1.2nm,0.8s,baz=90,slow=1.3,SNR=9.7						
GERES				pPKP	pPKPdf	01 15 02.9	-4.8
	comp=Z,2.0nm,0.8s,baz=66,slow=2.4,SNR=6.3						
CDF	**Champ du Feu**	**127.59**	**332**	*e*PKIKP	PKPdf	01 14 56.6	+2.4
ORIF	**Oris-en-Rattie**	**130.72**	**329**	*e*PKIKP	PKPdf	01 15 01.2	+0.9
	comp=Z,24nm,1.4s						
FRF	**La Foret Royal**	**131.25**	**327**	*e*PKIKP	PKPdf	01 15 03.1	+1.8
LPAZ	**La Paz**	**134.41**	**118**	PKP	PKPdf	01 15 09.9	+1.9
	comp=Z,1.8nm,0.8s,baz=250,slow=2.5,SNR=9.0						
LPAZ				SKP		01 18 37.0	
	comp=Z,5.9nm,1.1s,baz=323,slow=4.0,SNR=14						
LPAZ	**La Paz**	**134.41**	**118**	PKP	PKPdf	01 15 09.9	+1.9
LPAZ				SKP		01 18 37.0	
MDT	**Midelt**	**145.09**	**326**	PKPbc	PKPbc	01 15 27.4	+0.9
	comp=Z,3.5nm,0.5s,baz=58,slow=3.9,SNR=16						
TOA0	**Torodi Ar. Sit**	**150.30**	**288**	*e*PKPbc	PKPbc	01 15 41.2	-0.1
TORD	**Torodi Ar. Bea**	**150.30**	**288**	PKPbc	PKPbc	01 15 40.9	-0.3
	comp=Z,29nm,0.8s,baz=70,slow=2.2,SNR=127						
TORD	**Torodi Ar. Bea**	**150.30**	**288**	PKPbc	PKPbc	01 15 40.9	-0.3
BDFB	**Brasilia**	**151.04**	**135**	PKPbc	PKPbc	01 15 43.3	+0.3
	comp=Z,1.8nm,0.3s,baz=241,slow=2.6,SNR=9.2						
DBIC	**Dimbokro**	**157.67**	**276**	PKPab	PKPab	01 16 19.1	+0.1
	comp=Z,2.7nm,0.8s,baz=128,slow=15,SNR=3.6						

*CSEM **11** 01:14:03.4±0.2, 34.50N×24.81E, h10^{km}, MD3.5, Error ellipse: s-maj=6.2km s-min=2.4km az=83.0*
*ISCJB **11** 01:14:03.5±1.3, 34.49N±0.03×24.79E±0.06, h7^{km}±10^{km}, Error ellipse: s-maj=8.3km s-min=5.3km az=178.0*
*NEIC **11** 01:14:05.1, 34.51N×24.79E, h40^{km}, MD3.5(ATH), After ATH.*
*ATH **11** 01:14:05.1, 34.51N×24.79E, h40^{km}±33^{km}, MD3.5/5*
*HLW **11** 01:14:06.0, 34.72N×24.92E, h33^{km}, Mb3.3*
*THE **11** 01:14:11.4, 34.92N×24.94E, h12^{km}±1^{km}, Error ellipse: s-maj=3.0km s-min=0.9km az=7.0*
ISC 11 01:14:04.9±1.1**, 34.55N**±0.03×**24.81E**±0.06**, h8**^{km}±7^{km}**, n27,** σ**0**^{s}**96**/36**, Crete**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIVA	**Sivas**	**0.47**	**360**	P	**Pg**	**01 14 15.0**	**+1.0**
SIVA				S	**Sg**	**01 14 18.6**	**-1.5**
LAST	**Lasithi**	**0.82**	**42**	P	**Pg**	**01 14 21.3**	**+0.6**
LAST				S	**Sg**	**01 14 28.8**	**-2.5**
NPS	**Neapolis**	**0.97**	**42**	*e*P	**Pb**	**01 14 23.6**	**-0.3**
NPS				*e*S	**Sb**	**01 14 37.1**	**+0.3**
NPS	**Neapolis**	**0.97**	**42**	*e*P	**Pb**	**01 14 23.6**	**-0.3**
NPS				*e*S	**Sb**	**01 14 37.1**	**+0.3**
VAM	**Vamos**	**0.99**	**330**	*e*P	**Pb**	**01 14 24.7**	**+0.4**
VAM				*e*S	**Sb**	**01 14 38.9**	**+1.4**
VAM	**Vamos**	**0.99**	**330**	*e*P	**Pb**	**01 14 24.7**	**+0.4**
VAM				*e*S	**Sb**	**01 14 38.9**	**+1.4**
ZKR	**Zakros**	**1.28**	**64**	P	**Pn**	**01 14 30.4**	**+1.3**
ZKR				S	**Sb**	**01 14 46.3**	**+0.4**
THR6	**Thira Island,**	**1.87**	**15**	P	**Pn**	**01 14 36.9**	**-0.2**
SANT	**Santorini**	**1.89**	**16**	P	**Pn**	**01 14 36.6**	**-0.8**
THR1	**Thera Island**	**1.89**	**16**	P	**Pn**	**01 14 36.6**	**-0.8**
THR5	**Thira Island,**	**1.92**	**13**	P	**Pn**	**01 14 37.6**	**-0.1**
THR3	**Thira Island,**	**1.92**	**14**	P	**Pn**	**01 14 37.3**	**-0.5**
KARP	**Karpathos**	**2.17**	**62**	*e*P	**Pn**	**01 14 42.6**	**+1.4**
KARP	**Karpathos**	**2.17**	**62**	*e*P	**Pn**	**01 14 42.6**	**+1.4**
APE	**Apeiranthos**	**2.58**	**13**	*e*P	**Pn**	**01 14 46.6**	**-0.3**
APE	**Apeiranthos**	**2.58**	**13**	*e*P	**Pn**	**01 14 46.6**	**-0.3**
SLUM		**3.07**	**174**	P	**Pn**	**01 14 54.6**	**+1.0**
SLUM				S	**Sn**	**01 15 29.7**	**-0.7**
ARG	**Arkhangelos**	**3.18**	**57**	*e*P	**Pn**	**01 14 55.8**	**+0.7**
ARG	**Arkhangelos**	**3.18**	**57**	*e*P	**Pn**	**01 14 55.8**	**+0.7**
ITM	**Ithomi**	**3.52**	**319**	*e*P	**Pn**	**01 14 58.5**	**-1.3**
ITM	**Ithomi**	**3.52**	**319**	*e*P	**Pn**	**01 14 58.5**	**-1.3**
SMG	**Samos**	**3.55**	**27**	*e*P	**Pn**	**01 14 59.9**	**-0.4**
SMG	**Samos**	**3.55**	**27**	*e*P	**Pn**	**01 14 59.9**	**-0.4**
HMAT	**Matruh**	**3.94**	**150**	P	**Pn**	**01 15 05.8**	**+0.1**
HMAT				S	**Sn**	**01 15 49.6**	**-2.5**
AWBH		**7.12**	**150**	P	**Pn**	**01 15 49.7**	**+0.4**
GLL	**Jalalah**	**7.67**	**128**	P	**Pn**	**01 15 56.9**	**+0.1**
HFRF	**Wahat Farafira**	**7.96**	**157**	P	**Pn**	**01 16 01.6**	**+0.7**

TRN 11 01:29:57.6, 15.81N×**61.64W, h3**^{km}**, M2.6**(FDF)**, 2C-2D, Leeward Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TBG	**Guadaloupe-3**	**0.05**	**357**⇓	*i*P	Pg	01 29 58.8	+0.2
TBG	**Guadaloupe-3**	**0.05**	**357**⇓	*e*P	Pg	01 30 05.3	+6.7
SCG	**Saint Claude**	**0.23**	**351**⇑	*e*P	Pg	01 30 02.2	+0.3
MGG	**Marie-Galante**	**0.33**	**70**⇑	*i*P	Pg	01 30 04.1	+0.1
MGG	**Marie-Galante**	**0.33**	**70**	*e*P	Pg	01 30 06.4	+2.4
LZG	**Guadaloupe-1**	**0.36**	**339**	*e*P	Pg	01 30 04.5	0.0
DEG	**La Desirade**	**0.75**	**48**	*e*P	Pg	01 30 10.6	-1.5

*NEIC **11** 01:30:06.2, 15.84N×61.10W, h10^{km}, MD3.4(TRN), After TRN.*
TRN 11 01:30:06.0, 15.67N×**61.22W, h29**^{km}**, MD3.4, Leeward Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DWS	**Wesley**	**0.13**	**222**	*e*P	Pb	01 30 13.1	+1.6
DWS				*e*S	Sb	01 30 17.0	+1.9
MDN	**Morne-Daniel**	**0.39**	**206**	*e*P	Pb	01 30 15.9	+1.3
MDN				*e*S	Sb	01 30 23.9	+3.5
DBCT	**Belle View Cho**	**0.41**	**197**	*e*P	Pb	01 30 16.2	+1.2
DBCT				*e*S	Sb	01 30 24.9	+3.7
DPMT	**Pointe Michel**	**0.43**	**201**	*e*P	Pb	01 30 17.1	+1.8
DPMT				*e*S	Sb	01 30 24.9	+3.2
DSHT	**Scott's Head**	**0.47**	**198**	*e*P	Pb	01 30 17.8	+1.8
DSHT				*e*S	Sb	01 30 26.1	+3.2

*ISK **11** 01:35:16.4, 38.44N×39.32E, h2^{km}, MD2.8*
*CSEM **11** 01:35:16.6±0.1, 38.44N×39.33E, h10^{km}, MD2.8, Error ellipse: s-maj=2.0km s-min=1.6km az=118.0*
*ISCJB **11** 01:35:17.2±0.6, 38.42N±0.04×39.35E±0.04, h8^{km}±5^{km}, Error ellipse: s-maj=7.5km s-min=5.0km az=24.3*
*DDA **11** 01:35:17.1, 38.40N×39.37E, h7^{km}±4^{km}, Md2.9*
ISC 11 01:35:17.7±0.6**, 38.43N**±0.04×**39.34E**±0.04**, h13**^{km}±5^{km}**, n8,** σ**0**^{s}**89**/14**, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SVRC	**Sivrice-ELAZID**	**0.06**	**206**	PG	**Pg**	**01 35 17.9**	**-2.3**
ELZG	**Elazig**	**0.29**	**283**	*i* P	**Pg**	**01 35 23.4**	**-0.2**
ELZG				*i* S	**Sg**	**01 35 28.9**	**+1.3**
PTK	**Pertek**	**0.46**	**5**	*e*PG	**Pg**	**01 35 26.3**	**-0.5**
PTK				*e*SG	**Sg**	**01 35 33.4**	**+0.4**
MYA	**Malataya**	**0.73**	**262**	*e*PG	**Pg**	**01 35 31.2**	**-0.6**
MYA				*e*SG	**Sg**	**01 35 41.7**	**+0.4**
DIYA	**Diyarbakir**	**0.80**	**129**	*i* P	**Pg**	**01 35 33.3**	**+0.1**
DIYA				*i* S	**Sg**	**01 35 43.9**	**+0.3**
URFA	**Urfa**	**1.07**	**203**	*e*PG	**Pg**	**01 35 38.1**	**-0.3**
AKCD	**Akcadag**	**1.12**	**263**	*i* P	**Pn**	**01 35 38.5**	**-0.6**
AKCD				*i* S	**Sn**	**01 35 55.1**	**+0.6**
MARD	**Mardin**	**1.59**	**134**	*i* P	**Sn**	**01 36 05.4**	**-0.7**
MARD				*i* S	**Sg**	**01 36 10.7**	**+1.7**

*IDC **11** 01:36:47.3±1.4, 24.13S×179.77E, h521^{km}±13^{km}, mb3.6/15, mb1 3.8/16, mb1mx3.7/19, mbtmp3.6/16, Error ellipse: s-maj=16.2km s-min=11.8km az=156.0*
*ISCJB **11** 01:36:48.9±1.5, 24.24S±0.10×179.68E±0.08, h552^{km}±18^{km}, mb4.0/25, Error ellipse: s-maj=14.8km s-min=11.4km az=173.0*
*NEIC **11** 01:36:48.6±1.4, 24.20S×179.77E, h539^{km}±15^{km}, mb4.2/14, Error ellipse: s-maj=11.7km s-min=10.6km az=221.0*
ISC 11 01:36:49.0±1.5**, 24.22S**±0.10×**179.73E**±0.08**, h540**^{km}±17^{km}**, n56,** σ**0**^{s}**85**/38**, mb4.0**/25**, 1C-1D, South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**12.41**	**277**	*e*P	**P**	**01 39 32.7**	**+0.9**
DZM	**Mont Dzumac**	**12.41**	**277**	*e*Pn	**P**	**01 39 33.2**	**+1.4**
URZ	**Urewera**	**14.18**	**188**	P	**P**	**01 39 47.5**	**-2.3**
	6.9nm,0.3s,baz=152,slow=1.2,SNR=25						
URZ				S	**S**	**01 42 08.9**	**-10**
	1.6nm,0.3s,baz=268,slow=17,SNR=6.2						
RPZ	**Rata Peaks**	**20.71**	**198**	P	**P**	**01 40 51.8**	**0.0**
	15nm,1.0s,baz=90,slow=6.1,SNR=4.0						
CTA	**Charters Tower**	**31.23**	**271**⇓	*i*P	**P**	**01 42 25.7**	**+1.0**
	17nm,0.3s,mb5.0						
CTA	**Charters Tower**	**31.23**	**271**	P	**P**	**01 42 25.6**	**+0.9**
	21nm,0.4s,mb5.1,baz=95,slow=11,SNR=61						
CTAO	**Charters Tower**	**31.23**	**271**	*e*P	**P**	**01 42 25.4**	**+0.7**
	30nm,0.9s,mb4.8						
PMG	**Port Moresby**	**34.37**	**290**	*e*P	**P**	**01 42 51.2**	**-0.1**
	20nm,0.8s,mb4.7						
STKA	**Stephens Creek**	**34.38**	**249**	P	**P**	**01 42 51.9**	**+0.7**
	0.8nm,0.4s,mb3.6,baz=63,slow=6.8,SNR=2.9						
COEN	**Coen**	**35.92**	**280**	*e*P	**P**	**01 43 04.8**	**+0.5**
	2.2nm,0.6s,mb3.9						
ASAR	**Alice Springs**	**41.74**	**261**	P	**P**	**01 43 51.6**	**+0.4**
	1.9nm,0.7s,mb3.7,baz=93,slow=7.5,SNR=23						
ASAR				ScP	ScP	01 48 37.9	+4.0
	2.1nm,0.9s,baz=104,slow=4.2,SNR=8.3						
ASAR				S	**S**	**01 49 29.6**	**+0.1**
	0.9nm,0.8s,baz=96,slow=16,SNR=6.3						
WB2	**Warramunga Arr**	**42.13**	**267**	*e*P	**P**	**01 43 53.6**	**-0.7**
WRA	**Warramunga Arr**	**42.14**	**267**	P	**P**	**01 43 54.1**	**-0.3**
	6.8nm,0.6s,mb4.4,baz=103,slow=8.2,SNR=58						
WRA				ScP	ScP	01 48 40.0	+4.4
	2.7nm,0.9s,baz=102,slow=4.0,SNR=12						
WRA				S	**S**	**01 49 34.8**	**-0.6**
	2.5nm,1.1s,baz=108,slow=14,SNR=6.1						
FORT	**Forrest**	**45.97**	**250**	*e*P	**P**	**01 44 23.4**	**-0.4**
	1.6nm,0.6s,mb3.7						
KAKA	**Kakadu**	**46.09**	**276**	*e*P	**P**	**01 44 23.1**	**-1.9**
	5.9nm,0.3s,mb4.6						
FITZ	**Fitzroy Crossi**	**50.56**	**266**	*e*P	**P**	**01 44 59.3**	**+1.1**
	5.0nm,0.6s,mb4.0						
CASY	**Casey**	**59.72**	**206**	*e*P	**P**	**01 46 01.0**	**-0.2**
	9.1nm,0.9s,mb4.1						
QSPA	**South Pole Qui**	**65.87**	**180**	*e*P	**P**	**01 46 41.9**	**+1.3**
	18nm,0.8s,mb4.6						
MJAR	**Matsushiro Arr**	**72.02**	**326**	P	**P**	**01 47 17.8**	**-0.4**
	2.0nm,0.7s,mb3.7,baz=147,slow=7.0,SNR=4.8						
MAW	**Mawson**	**77.37**	**201**	P	**P**	**01 47 48.6**	**+0.8**
	4.9nm,0.5s,mb4.2,baz=125,slow=7.6,SNR=15						
PETK	**Petropavlovsk-**	**79.35**	**347**	P	**P**	**01 47 58.6**	**+0.1**
	2.1nm,0.6s,mb3.6,baz=119,slow=11,SNR=2.7						
SNAA	**Sanae**	**84.35**	**179**	*e*	**P**	**01 48 23.3**	**-0.5**
SNAA				*e*		01 48 28.8	
SNAA	**Sanae**	**84.35**	**179**	*e*P	**P**	**01 48 23.3**	**-0.6**
	2.7nm,0.8s,mb3.8						
YBH	**Yreka Blue Hor**	**84.49**	**39**	P	**P**	**01 48 24.5**	**-0.3**
	1.3nm,0.7s,mb3.6,baz=321,slow=6.5,SNR=3.0						
NVAR	**Mina Array Bea**	**85.15**	**44**	P	**P**	**01 48 28.3**	**+0.1**
	1.1nm,0.6s,mb3.5,baz=228,slow=8.2,SNR=8.1						
NVAR	**Mina Array Bea**	**85.15**	**44**	P	**P**	**01 48 28.3**	**+0.1**
TUC	**Tucson**	**86.91**	**53**	*e*P	**P**	**01 48 37.5**	**+0.8**
	4.9nm,1.1s,mb4.0						
PLCA	**Paso Flores**	**88.22**	**134**	P	**P**	**01 48 43.9**	**+1.0**
	1.3nm,0.8s,mb3.7,baz=236,slow=8.5,SNR=5.4						
HLID	**Hailey**	**90.50**	**42**	*e*P	**P**	**01 48 53.4**	**+0.3**
	1.2nm,0.9s,mb3.7						
TXAR	**Lajitas Array**	**90.81**	**58**	P	**P**	**01 48 55.6**	**+0.7**
	2.3nm,0.7s,mb4.2,baz=214,slow=6.5,SNR=36						
HWUT	**Hardware Ranch**	**91.21**	**44**	*e*P	**P**	**01 48 56.0**	**-0.5**
	2.3nm,0.7s,mb4.2						
ANMO	**Albuquerque**	**91.35**	**52**	P	**P**	**01 48 57.2**	**-0.1**
	0.8nm,0.7s,mb3.8,baz=306,slow=8.7,SNR=3.9						
ANMO	**Albuquerque**	**91.35**	**52**	*e*P	**P**	**01 48 56.8**	**-0.5**
	0.9nm,0.7s,mb3.8						
PDAR	**Pinedale Array**	**93.09**	**44**	P	**P**	**01 49 04.7**	**-0.4**
	0.5nm,0.6s,mb3.7,baz=248,slow=1.6,SNR=3.7						
SONM	**Songino Array**	**97.18**	**319**	P	**P**	**01 49 21.5**	**-2.0**
	0.4nm,0.3s,mb4.1,baz=96,slow=2.9,SNR=2.9						
BOSA	**Boshof**	**122.01**	**207**	PKP	PKPdf	01 54 42.8	+0.1
	2.5nm,0.7s,baz=124,slow=3.4,SNR=3.8						
ARU	**Arti**	**126.99**	**323**	*e*PKPdf	PKPdf	01 54 50.9	-0.3
LSZ	**Lusaka**	**131.90**	**218**	*e*PKPdf	PKPdf	01 55 03.0	+1.1
ARCES	**ARCESS Array B**	**132.15**	**348**	PKP	PKPdf	01 55 00.6	0.0
	1.6nm,0.8s,baz=27,slow=1.0,SNR=8.2						
TSUM	**Tsumeb**	**133.47**	**204**	*e*PKPdf	PKPdf	01 55 05.8	+1.1
NB2	**NORSAR Subarra**	**142.36**	**351**	PKPdf	PKPdf	01 55 15.3	-4.3
	comp=Z,0.5nm,0.5s,baz=31,slow=1.9						
NOA	**NORSAR Array B**	**142.36**	**351**	PKP	PKPdf	01 55 18.0	-1.6
	comp=Z,0.4nm,0.4s,baz=41,slow=2.4,SNR=3.6						
NOA				SKPbc	SKPbc	01 58 07.8	+1.3
	comp=Z,0.9nm,0.8s,baz=29,slow=3.5,SNR=3.7						
NOA	**NORSAR Array B**	**142.36**	**351**	PKP	PKPdf	01 55 18.0	-1.6
NOA				SKPbc	SKPbc	01 58 07.8	+1.3
AKASG	**Malin Array Be**	**145.10**	**327**	PKPbc	PKPbc	01 55 24.5	-1.0
	comp=Z,2.2nm,0.6s,baz=44,slow=3.6,SNR=9.9						
AKASG				SKPbc	SKPbc	01 58 14.1	+0.8
	comp=Z,2.3nm,0.6s,baz=51,slow=2.0,SNR=9.7						
AKASG	**Malin Array Be**	**145.10**	**327**	PKPbc	PKPbc	01 55 24.5	-1.0
AKASG				SKPbc	SKPbc	01 58 14.1	+0.8
BR131	**Keskin Array S**	**147.57**	**307**	*e*PKPbc	PKPbc	01 55 32.1	-0.6
KWP	**Kalwaria**	**148.92**	**331**	*e*PKPbc	PKPbc	01 55 35.5	-0.2

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CSS	**Prodhromos**	**149.01**	**298**	*e*PKPbc	PKPbc	01 55 36.1	-0.4
BUR08	**Bucovina Ar. S**	**149.08**	**326**	*e*PKPbc	PKPbc	01 55 37.3	+1.1
OJC	**Ojcow**	**149.72**	**334**	*e*PX	PKPbc	01 55 37.5	-0.1
NIE	**Niedzica**	**150.12**	**333**	*e*PX	PKPbc	01 55 39.2	+0.6
KSP	**Ksiaz**	**150.49**	**338**	*e*P	PKPbc	01 55 39.6	+0.2
CLL	**Collm**	**151.09**	**343**	⇑*i*PKPbc	PKPbc	01 55 40.6	-0.2
	comp=Z,11nm,0.8s						
CLL				*i* pPKPbc	pPKPbc	01 57 48.1	+1.4
BRG	**Berggiesshubel**	**151.21**	**341**	*e*P	PKPbc	01 55 41.1	0.0
	comp=Z,6.8nm,0.5s						
GERES	**GERESS Array B**	**153.07**	**339**	PKPbc	PKPbc	01 55 44.3	-0.9
	comp=Z,0.6nm,0.8s,baz=48,slow=2.0,SNR=5.9						
TORD	**Torodi Ar. Bea**	**168.83**	**190**	PKP	PKPdf	01 55 53.8	-1.0
	comp=Z,1.1nm,0.9s,baz=262,slow=0.6,SNR=11						
TORD				PKPab	PKPab	01 57 09.1	0.0
	comp=Z,2.6nm,0.7s,baz=159,slow=3.8,SNR=22						

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*IDC **11** 01:46:47.2±0.9, 32.83S×178.17W, h0km, mb4.3/7, mb1 4.6/8, mb1mx4.3/19, mbtmp4.3/8, ML4.2/1, MS3.7/4, Ms1 3.7/4, ms1mx3.2/26, Error ellipse: s-maj=31.0km s-min=22.2km az=16.0*

*ISCJB **11** 01:46:51.7±3.3, 33.2S±0.1×178.3W±0.2, h40km±27km, mb4.3/10, MS3.6/4, Error ellipse: s-maj=26.6km s-min=16.2km az=154.7*

*NEIC **11** 01:46:53.1±2.5, 33.18S×178.21W, h43km±19km, mb4.4/4, Error ellipse: s-maj=22.2km s-min=12.4km az=51.0*

ISC 11 01:46:53.5±2.9**, 33.2S**±0.1**×178.3W**±0.2**, h41**km±23km**, n24, σ0.82s**/17**, mb4.3**/10**, MS3.6**/4**, South of Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
URZ	**Urewera**	**6.30**	**215**	Pn	**Pn**	**01 48 24.4**	**+0.5**
	4.9nm,0.3s,baz=191,slow=1.1,SNR=19						
URZ				Sn	**Sn**	**01 49 38.9**	**+4.3**
	14nm,0.3s,baz=168,slow=19,SNR=16						
RPZ	**Rata Peaks**	**13.42**	**215**	Pn	**Pn**	**01 49 60.0**	**-1.3**
	0.4nm,0.3s,baz=72,slow=3.2,SNR=2.0						
RPZ				Sn	**Sn**	**01 52 21.6**	**-7.4**
	0.5nm,0.3s,baz=346,slow=12,SNR=4.8						
DZM	**Mont Dzumac**	**17.46**	**305**	*e*P	**Pn**	**01 50 54.9**	**+0.8**
RAR	**Rarotonga**	**20.29**	**59**	LR	LR	01 57 33.8	
	comp=Z,132nm,19.4s,MS3.3,baz=203,slow=32						
PPT	**Papeete**	**30.11**	**66**	LR	LR	02 03 00.7	
	comp=Z,136nm,19.8s,MS3.6,baz=226,slow=33						
CTA	**Charters Tower**	**34.11**	**283**	P	**P**	**01 53 35.5**	**+1.1**
	5.0nm,0.5s,mb4.7,baz=122,slow=9.4,SNR=8.7						
CTAO	**Charters Tower**	**34.11**	**283**	*e*P	**P**	**01 53 34.9**	**+0.4**
	5.0nm,0.6s,mb4.6						
COEN	**Coen**	**39.89**	**289**	*e*P	**P**	**01 54 23.4**	**-0.1**
	1.9nm,0.8s,mb3.9						
ASAR	**Alice Springs**	**42.80**	**270**	P	**P**	**01 54 47.4**	**0.0**
	4.7nm,0.8s,mb4.3,baz=111,slow=7.7,SNR=46						
WB2	**Warramunga Arr**	**44.03**	**275**	*e*P	**P**	**01 54 56.6**	**-0.7**
WRA	**Warramunga Arr**	**44.04**	**275**	P	**P**	**01 54 56.8**	**-0.6**
	4.8nm,0.4s,mb4.5,baz=115,slow=7.6,SNR=80						
WRA				LR	LR	02 12 09.4	
	comp=Z,71nm,18.6s,MS3.6,baz=125,slow=34						
FITZ	**Fitzroy Crossi**	**52.17**	**272**	P	**P**	**01 56 00.3**	**0.0**
	1.9nm,0.7s,mb4.2,baz=150,slow=12,SNR=4.5						
CASY	**Casey**	**52.59**	**209**	*e*P	**P**	**01 56 03.4**	**+0.8**
	5.4nm,0.8s,mb4.5						
QSPA	**South Pole Qui**	**56.94**	**180**	P	**P**	**01 56 38.2**	**+4.3**
	1.8nm,0.9s,mb4.1,baz=90,slow=15,SNR=4.3						
BATI	**Baumata**	**57.82**	**279**	LR	LR	02 22 33.5	
	comp=Z,85nm,18.1s,MS3.9,baz=112,slow=37						
SNAA	**Sanae**	**75.39**	**179**	*e*P	**P**	**01 58 31.8**	**-0.5**
	3.5nm,1.1s,mb4.2						
PLCA	**Paso Flores**	**80.79**	**133**	P	**P**	**01 59 04.2**	**+1.3**
	4.3nm,1.1s,mb4.3,baz=208,slow=3.1,SNR=3.9						
NVAR	**Mina Array Bea**	**90.44**	**43**	P	**P**	**01 59 49.4**	**-1.1**
	0.7nm,0.8s,mb4.1,baz=227,slow=7.2,SNR=4.9						
KURK	**Kurchatov**	**122.77**	**313**	*e*PKPdf	PKPdf	02 05 43.4	-1.1
NOA	**NORSAR Array B**	**151.45**	**350**	PKPbc	PKPbc	02 06 41.2	-0.9
	0.4nm,0.5s,baz=14,slow=4.1,SNR=2.4						
NOA	**NORSAR Array B**	**151.45**	**350**	PKPbc	PKPbc	02 06 41.2	-0.9
AKASG	**Malin Array Be**	**153.31**	**319**	PKP	PKPdf	02 06 38.2	-0.8
	0.5nm,0.4s,baz=37,slow=3.9,SNR=3.6						
AKASG	**Malin Array Be**	**153.31**	**319**	PKP	PKPdf	02 06 38.2	-0.8
TORD	**Torodi Ar. Bea**	**160.06**	**180**	PKP	PKPdf	02 06 47.0	-1.8
	0.7nm,1.1s,baz=180,slow=3.9,SNR=2.7						
TORD				PKPab	PKPab	02 07 28.9	+0.5
	0.6nm,0.9s,baz=208,slow=4.9,SNR=3.2						

IDC 11 01:56:17.1±3.8**, 3.23S×149.23E, h0**km**, mb3.7**/3**, mb1 4.0**/3**, mb1mx3.7**/15**, mbtmp3.8**/3**, MS3.4**/1**, Ms1 3.4**/1**, ms1mx2.7**/22**, Error ellipse: s-maj=126.8km s-min=46.9km az=112.0, Bismarck Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.07**	**220**	P	P	02 01 14.0	+0.2
	2.3nm,1.0s,baz=43,slow=10,SNR=8.5						
ASAR	**Alice Springs**	**25.14**	**215**	P	P	02 01 43.2	-0.8
	1.1nm,0.9s,baz=48,slow=8.0,SNR=9.0						
FITZ	**Fitzroy Crossi**	**27.43**	**236**	P	P	02 02 05.7	+0.8
	2.5nm,0.8s,baz=59,slow=13,SNR=4.8						
MJAR	**Matsushiro Arr**	**40.88**	**346**	LR	LR	02 17 47.6	
	comp=Z,46nm,20.3s,baz=95,slow=32						
TORD	**Torodi Ar. Bea**	**146.44**	**289**	PKPbc	PKPbc	02 16 00.4	-0.8
	0.5nm,0.8s,baz=67,slow=2.4,SNR=2.6						

IDC 11 02:43:25.6±10.0**, 2.14S×127.36E, h0**km**, mb3.6**/2**, mb1 3.7**/3**, mb1mx3.4**/16**, mbtmp3.5**/3**, ML3.5**/1**, Error ellipse: s-maj=161.2km s-min=141.9km az=105.0, Ceram Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**18.96**	**159**	P	Pn	02 47 47.7	-1.5
	0.1nm,0.3s,baz=338,slow=11,SNR=8.9						
ASAR	**Alice Springs**	**22.32**	**164**	P	P	02 48 24.2	-0.7
	0.2nm,0.3s,baz=345,slow=12,SNR=4.6						
STKA	**Stephens Creek**	**32.48**	**157**	P	P	02 49 59.2	+1.3
	1.1nm,0.4s,baz=343,slow=11,SNR=3.2						

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*CSEM **11** 02:47:33.3±0.2, 34.49N×25.14E, h2km, ML2.6, Error ellipse: s-maj=8.4km s-min=6.2km az=70.0*

*HLW **11** 02:47:41.0, 34.05N×24.56E, h18km, Mb2.6*

ATH 11 02:47:34.6, 34.55N×25.20E, h27km**, MD3.3**/3**, Crete**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
NPS	**Neapolis**	**0.79**	**25**	*e*Pn	Pn	02 47 49.8	-0.1
NPS	**Neapolis**	**0.79**	**25**	*e*PN	Pn	02 47 49.8	-0.1
VAM	**Vamos**	**1.19**	**316**	*e*Pn	Pn	02 47 57.2	+1.8
VAM				*e*Sn	Sn	02 48 13.8	+3.2
VAM	**Vamos**	**1.19**	**316**	*e*PN	Pn	02 47 57.2	+1.8
VAM				*e*SN	Sn	02 48 13.8	+3.2
KARP	**Karpathos**	**1.89**	**58**	*e*Pn	Pn	02 48 07.4	+2.3
KARP	**Karpathos**	**1.89**	**58**	*e*PN	Pn	02 48 07.4	+2.3
SLUM		**3.05**	**180**	P	Pn	02 48 20.9	-0.2
SLUM				S	Sn	02 48 50.6	-6.1
HMAT	**Matruh**	**3.80**	**155**	P	Pn	02 48 35.4	+4.1
HMAT				S	Sn	02 49 15.3	+0.2
AMAG	**Maghara**	**7.80**	**118**	P	Pn	02 49 37.1	+11
HFRF	**Wahat Farafira**	**7.85**	**159**	P	Pn	02 49 30.8	+3.8

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*NIED **11** 03:05:00, 24.70N×121.90E, h62km, Mw4.5 Best double couple: $M_0$5.55000×10^15 NP1:ϕ_s79.00000°, δ53.00000°, λ130.00000°. NP2:ϕ_s204.00000°, δ52.00000°, λ49.00000°.*

*NEIC **11** 03:05:01.9±0.5, 24.68N×121.94E, h79km±4km, mb4.6/37, Error ellipse: s-maj=6.7km s-min=5.0km az=68.0*

NEIC Felt [III] at Taipei. Also felt at Hsin-chu. Recorded [3 TAP] in Hua-lien, I-lan, Nan-t'ou and T'ai-pei; [2 TAP] in Hsin-chu, Miao-li, T'ai-chung and T'ao-yuan; [1 TAP] in Chang-hua and T'ai-tung Counties.

*IDC **11** 03:05:01.9±0.6, 24.66N×121.87E, h79km±5km, mb4.3/23, mb1 4.3/26, mb1mx4.3/32, mbtmp4.3/26, MS3.3/12, Ms1 3.3/12, ms1mx3.0/32, Error ellipse: s-maj=15.2km s-min=9.0km az=65.0*

*BJI **11** 03:05:01.8, 24.84N×121.80E, h72km, mB4.5, mb4.6, Ms4.1, Msz3.7*

*ISCJB **11** 03:05:01.5±0.1, 24.75N±0.01×121.88E±0.01, h80km, mb4.6/79, Error ellipse: s-maj=2.1km s-min=1.4km az=38.5*

*TAP **11** 03:05:01.7, 24.75N×121.85E, h80km, ML5.2, B*

*DJA **11** 03:05:02, 24.56N×121.78E, h49km, Mw5.9/5*

*JMA **11** 03:05:02.4±0.3, 24.75N×121.90E, h78km, M4.5*

*MOS **11** 03:05:04.9±1.1, 24.72N×121.90E, h121km, mb4.5/37, Error ellipse: s-maj=10.3km s-min=6.0km az=121.5*

ISC 11 03:05:02.7±0.1**, 24.71N**±0.01**×121.87E**±0.01**, h82**km±1.6km**:pP-P, n400, σ0.91s**/464**, mb4.6**/79**, 63C-103D, Taiwan**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TWC	**Suao**	**0.11**	**191**	*i* P	**Pn**	**03 05 14.0**	**-0.4**
	baz=188						
ILA	**Ilan**	**0.12**	**295**	⇓*i*P	**Pn**	**03 05 14.0**	**-0.4**
	baz=291						
ILA				*i* S	**Sn**	**03 05 22.7**	**-0.3**
	baz=291						
TWE	**Neicheng**	**0.18**	**272**	⇓*i*P	**Pn**	**03 05 14.1**	**-0.5**
	baz=268						
TWE				*e*S	**Sn**	**03 05 22.7**	**-0.7**
	baz=268						
ENA	**Nanau**	**0.31**	**203**	⇓*i*P	**Pn**	**03 05 15.0**	**-0.2**
	baz=206						
ENA				*e*S	**Sn**	**03 05 24.9**	**+0.5**
	baz=206						
TWB1	**Santiao Chiao**	**0.31**	**20**	⇓*i*P	**Pn**	**03 05 14.3**	**-0.9**
	baz=34						
NWF	**Wu-fen Shan**	**0.36**	**347**	⇓*i*P	**Pn**	**03 05 14.6**	**-0.9**
	baz=353						
TWA	**Mucha**	**0.37**	**316**	⇓*i*P	**Pn**	**03 05 14.7**	**-0.9**
	baz=314						
TWA				*i* S	**Sn**	**03 05 24.1**	**-1.0**
	baz=314						
EHP	**Heping Village**	**0.42**	**196**	P	**Pn**	**03 05 15.7**	**-0.3**
	baz=192						
EHP				S	**Sn**	**03 05 27.0**	**+1.3**
	baz=192						
TATO	**Taipei**	**0.43**	**307**	*e*Pn	**Pn**	**03 05 14.3**	**-1.7**
TATO				*e*Sn	**Sn**	**03 05 23.9**	**-2.0**
TAP1	**Taipei**	**0.45**	**316**	⇓*i*P	**Pn**	**03 05 15.1**	**-1.1**
	baz=321						
TAP1				*i* S	**Sn**	**03 05 24.1**	**-2.1**
	baz=321						
YHNB	**Yeheng**	**0.45**	**265**	*e*Pn	**Pn**	**03 05 14.8**	**-1.3**
YHNB				*e*Sn	**Sn**	**03 05 23.3**	**-2.8**
NNS	**Nan Shan**	**0.53**	**239**	⇓*i*P	**Pn**	**03 05 16.6**	**-0.2**
	baz=242						
NNS				S	**Sn**	**03 05 26.9**	**-0.3**
	baz=242						
NACB	**Ninganchiao**	**0.59**	**205**	*e*Pn	**Pn**	**03 05 16.2**	**-1.2**
NACB				*e*Sn	**Sn**	**03 05 27.2**	**-1.1**
TWY	**Chenhua**	**0.61**	**336**	⇓*i*P	**Pn**	**03 05 16.6**	**-0.9**
	baz=333						
TWY				*i* S	**Sn**	**03 05 27.4**	**-1.2**
	baz=333						
NCU	**National Centr**	**0.67**	**292**	⇓*i*P	**Pn**	**03 05 17.4**	**-0.7**
	baz=283						
NCU				*i* S	**Sn**	**03 05 28.7**	**-1.0**
	baz=283						
TWD	**Chiawan**	**0.68**	**202**	⇓*i*P	**Pn**	**03 05 17.4**	**-0.8**
	baz=206						
TWD				S	**Sn**	**03 05 28.9**	**-0.9**
	baz=206						
HWA	**Hwalien**	**0.77**	**198**	P	**Pn**	**03 05 18.9**	**-0.4**
	baz=203						
HWA				S	**Sn**	**03 05 31.8**	**+0.3**
	baz=203						
TWT	**Tachien**	**0.78**	**234**	⇓*i*P	**Pn**	**03 05 20.0**	**+0.7**
	baz=227						
TWT				*e*S	**Sn**	**03 05 31.9**	**+0.2**
	baz=227						
WHF	**Hehuan Shan**	**0.79**	**224**	⇓*i*P	**Pn**	**03 05 19.7**	**+0.3**
	baz=213						
NSTT	**Nanjuang**	**0.80**	**264**	⇓*i*P	**Pn**	**03 05 18.6**	**-0.8**
	baz=267						
NSTT				*i* S	**Sn**	**03 05 30.5**	**-1.5**
	baz=267						
HSN	**Hsinchu**	**0.82**	**276**	⇓P	**Pn**	**03 05 18.8**	**-1.0**
	baz=270						
HSN				S	**Sn**	**03 05 30.6**	**-1.9**
	baz=270						
ESF	**Shoufeng Towns**	**0.90**	**202**	P	**Pn**	**03 05 19.6**	**-1.0**
	baz=206						
ESF				S	**Sn**	**03 05 33.0**	**-1.1**
	baz=206						
PCYT	**Pengchaiyu**	**0.93**	**11**	⇓*i*P	**Pn**	**03 05 20.1**	**-0.9**
	baz=9.0						
PCYT				*i* S	**Sn**	**03 05 33.5**	**-1.2**
	baz=9.0						
ESL	**Shilin**	**0.98**	**204**	⇓P	**Pn**	**03 05 20.3**	**-1.3**
	baz=200						
ESL				*e*S	**Sn**	**03 05 34.0**	**-1.7**
	baz=200						
TEGC	**Jichi Village**	**1.04**	**197**	*e*P	**Pn**	**03 05 22.4**	**+0.1**
	baz=202						
TEGC				*e*S	**Sn**	**03 05 38.4**	**+1.3**
	baz=202						
NSY	**Sanyi**	**1.05**	**254**	⇓P	**Pn**	**03 05 22.3**	**-0.1**
	baz=251						
NSY				*e*S	**Sn**	**03 05 36.5**	**-0.8**
	baz=251						
YOJ	**Yonaguni jima**	**1.07**	**103**	P	**Pn**	**03 05 22.1**	**-0.5**
YOJ				S	**Sn**	**03 05 37.0**	**-0.5**
YOJ	**Yonaguni jima**	**1.07**	**103**	⇓*i*P	**Pn**	**03 05 22.1**	**-0.4**
	baz=103						
YOJ				*i* S	**Sn**	**03 05 36.7**	**-0.8**
	baz=103						
SMLT	**Sun Moon Lake**	**1.21**	**227**	⇓*i*P	**Pn**	**03 05 24.9**	**+0.6**
	baz=224						
SMLT				S	**Sn**	**03 05 42.4**	**+1.7**
	baz=224						
TCU	**Taichung**	**1.23**	**243**	P	**Pn**	**03 05 24.6**	**0.0**
	baz=248						
TCU				S	**Sn**	**03 05 40.3**	**-0.7**
	baz=248						
EHY	**Hungye**	**1.30**	**203**	⇑P	**Pn**	**03 05 24.0**	**-1.5**
	baz=193						
EHY				*e*S	**Sn**	**03 05 40.7**	**-2.0**
	baz=193						
WNT	**Mingjian**	**1.36**	**233**	P	**Pn**	**03 05 26.5**	**+0.2**
	baz=229						
WNT				*i* S	**Sn**	**03 05 44.5**	**+0.4**
	baz=229						
TWF1	**Yuli**	**1.45**	**201**	P	**Pn**	**03 05 26.1**	**-1.4**
	baz=199						
TWF1				*e*S	**Sn**	**03 05 45.2**	**-0.9**
	baz=199						
YUS	**Yu-Shan**	**1.48**	**215**	⇓P	**Pn**	**03 05 28.8**	**+1.1**
	baz=211						
YUS				*e*S	**Sn**	**03 05 48.6**	**+1.8**
	baz=211						
ALS	**Alishan**	**1.54**	**219**	⇓P	**Pn**	**03 05 29.5**	**+0.9**
	baz=216						
ALS				*e*S	**Sn**	**03 05 50.5**	**+2.3**
	baz=216						
CHN5	**Tsauling**	**1.56**	**225**	*e*P	**Pn**	**03 05 29.0**	**+0.2**
	baz=230						
WGK	**Gukeng**	**1.57**	**230**	P	**Pn**	**03 05 29.3**	**+0.3**
	baz=235						
WGK				S	**Sn**	**03 05 49.9**	**+1.0**
	baz=235						
CHKT	**Chengkung**	**1.67**	**196**	*e*P	**Pn**	**03 05 29.1**	**-1.1**
	baz=185						
CHKT				*e*S	**Sn**	**03 05 49.6**	**-1.6**
	baz=185						
WTCT	**Ta-ch'eng**	**1.68**	**240**	P	**Pn**	**03 05 30.0**	**-0.4**
	baz=237						
WTCT				*i* S	**Sn**	**03 05 50.6**	**-0.7**
	baz=237						
ELDTW	**Lidau**	**1.71**	**207**	⇑P	**Pn**	**03 05 30.3**	**-0.5**
	baz=197						
ELDTW				*e*S	**Sn**	**03 05 51.3**	**-0.7**
	baz=197						
CHN2	**Minshiung**	**1.73**	**228**	*e*P	**Pn**	**03 05 31.5**	**+0.4**
	baz=232						
CHN2				*e*S	**Sn**	**03 05 53.7**	**+1.0**
	baz=232						
IRIF	**Iriomote-Funau**	**1.73**	**102**	P	**Pn**	**03 05 30.6**	**-0.5**
IRIF				S	**Sn**	**03 05 51.9**	**-0.8**
WSF	**Szhu**	**1.85**	**235**	*e*P	**Pn**	**03 05 31.9**	**-0.7**
	baz=241						
WSF				S	**Sn**	**03 05 55.1**	**-0.2**
	baz=241						
STYT	**Tauyuan**	**1.85**	**214**	P	**Pn**	**03 05 33.4**	**+0.8**
	baz=201						
STYT				S	**Sn**	**03 05 57.0**	**+1.6**
	baz=201						
HATJ	**Hateruma jima**	**1.88**	**110**	P	**Pn**	**03 05 33.3**	**+0.3**
HATJ				*e*S	**Sn**	**03 05 55.8**	**-0.3**
TWK	**Hsinying**	**1.92**	**222**	*e*P	**Pn**	**03 05 33.8**	**+0.3**
	baz=218						
TWK				*e*S	**Sn**	**03 05 57.9**	**+1.0**
	baz=218						
CHN1	**Nanshi**	**1.96**	**219**	*e*P	**Pn**	**03 05 34.2**	**+0.2**
	baz=226						
CHN1				*e*S	**Sn**	**03 05 58.9**	**+1.0**
	baz=226						
JKRS	**Kuro-shima**	**2.00**	**103**	P	**Pn**	**03 05 34.6**	**0.0**
JKRS				S	**Sn**	**03 05 58.9**	**-0.2**
SGST	**Jiashian**	**2.01**	**216**	P	**Pn**	**03 05 35.3**	**+0.6**
	baz=223						
SGST				*e*S	**Sn**	**03 06 00.1**	**+1.0**
	baz=223						
TWG	**Pinlang**	**2.02**	**201**	*e*P	**Pn**	**03 05 33.5**	**-1.4**
	baz=191						
TWG				*e*S	**Sn**	**03 05 58.4**	**-1.1**
	baz=191						
CHN8	**Yiju**	**2.04**	**228**	*e*P	**Pn**	**03 05 34.9**	**-0.2**
	baz=234						
CHN8				*e*S	**Sn**	**03 06 00.3**	**+0.5**
	baz=234						
TTN	**Taitung**	**2.06**	**199**	*e*P	**Pn**	**03 05 34.8**	**-0.6**
	baz=191						
TTN				*e*S	**Sn**	**03 06 00.8**	**+0.4**
	baz=191						
JIJ	**Ishigaki jima**	**2.10**	**99**	P	**Pn**	**03 05 35.4**	**-0.5**
JIJ				*e*S	**Sn**	**03 06 00.3**	**-1.0**
CHN3	**Shinhua**	**2.13**	**221**	*e*P	**Pn**	**03 05 36.7**	**+0.3**
	baz=217						
SCLT	**Jiali**	**2.17**	**225**	*e*P	**Pn**	**03 05 37.1**	**+0.2**
	baz=221						
SCLT				S	**Sn**	**03 06 04.0**	**+1.1**
	baz=221						
TAI1	**Yung-k'ang**	**2.24**	**222**	*e*P	**Pn**	**03 05 38.2**	**+0.4**
	baz=218						
TAI1				*e*S	**Sn**	**03 06 06.4**	**+1.7**
	baz=218						
SSD	**Sandimen**	**2.26**	**210**	P	**Pn**	**03 05 39.4**	**+1.3**
	baz=215						
SSD				*e*S	**Sn**	**03 06 07.0**	**+1.7**
	baz=215						
ECL	**Taimali**	**2.27**	**202**	*e*P	**Pn**	**03 05 37.0**	**-1.2**
	baz=192						
ECL				S	**Sn**	**03 06 04.6**	**-0.7**
	baz=192						
TWM1	**Shoushan**	**2.30**	**215**	*e*P	**Pn**	**03 05 39.9**	**+1.2**
	baz=212						
PNG	**Penghu**	**2.40**	**242**	*e*P	**Pn**	**03 05 38.6**	**-1.4**
	baz=239						
PNG				*e*S	**Sn**	**03 06 05.7**	**-2.9**
	baz=239						
EAST	**Anshuo**	**2.50**	**202**	*e*P	**Pn**	**03 05 40.5**	**-0.8**
	baz=192						
EAST				*e*S	**Sn**	**03 06 11.6**	**+0.6**
	baz=192						
TAW	**Tawu**	**2.51**	**201**	*e*P	**Pn**	**03 05 41.1**	**-0.3**
	baz=193						
TAW				*e*S	**Sn**	**03 06 09.6**	**-1.6**
	baz=193						
SCZT	**Fangliau**	**2.60**	**206**	P	**Pn**	**03 05 43.1**	**+0.5**
	baz=201						
SCZT				*e*S	**Sn**	**03 06 15.8**	**+2.6**
	baz=201						
LAY	**Lan-yu**	**2.68**	**186**	*e*P	**Pn**	**03 05 42.4**	**-1.3**
	baz=179						
LAY				S	**Sn**	**03 06 13.0**	**-2.2**
	baz=179						
TWP	**Hsiaoliuchiu**	**2.73**	**211**	*e*P	**Pn**	**03 05 46.6**	**+2.1**
	baz=218						
HEN	**Hengchun**	**2.89**	**201**	*e*P	**Pn**	**03 05 47.5**	**+1.0**
	baz=207						
HEN				*e*S	**Sn**	**03 06 21.2**	**+0.8**
	baz=207						
TWK1	**Hengchun**	**2.93**	**200**	*e*P	**Pn**	**03 05 47.9**	**+0.9**
	baz=196						
TWK1				*e*S	**Sn**	**03 06 22.4**	**+1.2**
	baz=196						
QZH	**Quanzhou**	**2.99**	**275**	⇓*i*P	**Pn**	**03 05 46.4**	**-1.4**
QZH				S	**Sn**	**03 06 18.1**	**-4.6**
QZH				Smax			
	comp=N,3μm,0.6s						
QZH				Smax			
	comp=E,2μm,0.4s						
JMJ	**Miyako jima 2**	**3.11**	**87**	P	**Pn**	**03 05 50.0**	**+0.5**
JMJ	**Miyako jima 2**	**3.11**	**87**	*e*P	**Pn**	**03 05 51.5**	**+2.0**
	baz=88						
KNM	**Kinmen**	**3.14**	**265**	P	**Pn**	**03 05 50.1**	**+0.1**
	baz=266						
KNM				*e*S	**Sn**	**03 06 25.3**	**-1.2**
	baz=266						
JOGS	**Gusukube**	**3.21**	**88**	P	**Pn**	**03 05 52.3**	**+1.4**
JOGS				*e*S	**Sn**	**03 06 28.4**	**+0.2**
JKE	**Kume jima 2**	**4.72**	**69**	P	**Pn**	**03 06 12.5**	**+1.1**
JAGN	**Aguni-jima**	**5.20**	**68**	P	**Pn**	**03 06 18.8**	**+0.9**
JIH	**Iheya**	**5.96**	**66**	P	**Pn**	**03 06 28.5**	**+0.2**
JOW	**Kunigami**	**6.15**	**69**	P	**Pn**	**03 06 30.1**	**-0.8**
	comp=E,14nm,0.3s,baz=229,slow=10,SNR=29						
JOW	**Kunigami**	**6.15**	**69**	P	**Pn**	**03 06 30.3**	**-0.5**
JOW	**Kunigami**	**6.15**	**69**	*e*P	**Pn**	**03 06 29.5**	**-1.4**
	baz=71						
SSE	**Sheshan**	**6.39**	**355**	P	**Pn**	**03 06 33.1**	**-1.0**
SSE				S	**Sn**	**03 07 45.5**	**0.0**
SSE				Smax			
	comp=N,181nm,0.8s						
SSE				Smax			
	comp=E,391nm,1.0s						
SSE				LR	LR		
	comp=Z,349nm,13.8s						
SSE	**Sheshan**	**6.39**	**355**	Pn	**Pn**	**03 06 33.1**	**-1.0**
	comp=Z,181nm,0.8s						
SSE				Sn	**Sn**	**03 07 45.5**	**0.0**
CVP	**Callao Caves**	**6.98**	**180**	⇓*e*P	**Pn**	**03 06 43.2**	**+1.0**
JTK	**Tokunoshima**	**7.05**	**63**	P	**Pn**	**03 06 42.0**	**-1.2**
NJ2	**Nanjing**	**7.78**	**341**	*e*P	**Pn**	**03 06 55.2**	**+2.1**
NJ2				XP		03 07 16.2	
NJ2				S	**Sn**	**03 08 22.2**	**+2.6**
NJ2				Smax			
	comp=N,270nm,1.0s						
NJ2				Smax			
	comp=E,240nm,0.8s						
NJ2				LR	LR		
	comp=N,270nm,12.7s						
NJ2				LR	LR		
	comp=E,260nm,10.2s						
NJ2				LR	LR		
	comp=Z,300nm,9.5s						
JAM	**Amami Oshima**	**7.84**	**60**	P	**Pn**	**03 06 52.5**	**-1.5**
WHN	**Wuhan**	**8.84**	**313**	P	**Pn**	**03 07 06.0**	**-1.6**
WHN				S	**Sn**	**03 08 40.0**	**-5.6**
QIZ	**Qiongzhong**	**12.51**	**245**	*e*P	**Pn**	**03 07 57.9**	**+0.2**
QIZ				*e*S	**Sn**	**03 10 17.1**	**+1.9**
QIZ				LR	LR		
	comp=Z,167nm,28.9s						
KS15	**Wonju Array Si**	**13.69**	**21**	*e*Pn	**Pn**	**03 08 20.3**	**+7.2**
KSRS	**Korea Array**	**13.71**	**21**	P	**Pn**	**03 08 19.9**	**+6.5**
	comp=Z,2.0nm,0.3s,baz=200,slow=11,SNR=68						
KSRS				LR	LR	03 13 14.1	
	comp=Z,49nm,19.2s,baz=352,slow=36						
KSRS	**Korea Array**	**13.71**	**21**	P	**Pn**	**03 08 19.9**	**+6.5**
KSRS				pmax	pmax		
	comp=Z,2.0nm,0.3s						
KSRS				MLR	MLR		
	comp=Z,49nm,19.2s						
GYA	**Guiyang**	**13.83**	**280**	P	**Pn**	**03 08 15.9**	**+0.8**
GYA				AP		03 08 27.9	
GYA				PPP		03 08 38.4	
GYA				S	**Sn**	**03 10 49.8**	**+2.6**
GYA				SS		03 11 08.4	
GYA				AMB	AMB		
	comp=Z,10.0nm,1.0s						
GYA				AMB	AMB		
	comp=Z,90nm,4.2s						
GYA				LR	LR		
	comp=N,2μm,15.4s						
GYA				LR	LR		
	comp=E,2μm,14.8s						
GYA				LR	LR		
	comp=Z,2μm,15.0s						
XAN	**Xi'an**	**14.61**	**312**	P	**Pn**	**03 08 24.1**	**-1.0**
XAN				AP		03 08 37.5	
XAN				LG1		03 12 12.5	
XAN				LG2		03 12 47.4	
XAN				AMB	AMB		
	comp=Z,7.0nm,1.0s						

XAN LR LR
comp=N,130nm,6.1s
XAN LR LR
comp=E,145nm,6.1s
XAN LR LR
comp=Z,213nm,9.4s
BJI Beijing 16.02 344 P **Pn** **03 08 44.1 +1.2**
BJI S **S** **03 11 43.5 -5.1**
BJI AMB AMB
comp=Z,14nm,0.9s
BJI LR LR
comp=N,167nm,27.8s
BJI LR LR
comp=E,165nm,22.6s
BJI LR LR
comp=Z,147nm,31.6s
BJI Beijing 16.02 344 P **Pn** **03 08 44.1 +1.2**
comp=Z,14nm,0.9s
BJI S **S** **03 11 43.5 -5.1**
CD2 Chengdu 17.16 295 P **Pn** **03 08 56.4 -0.8**
CD2 AP pP 03 09 07.6 -6.0
CD2 PP 03 09 12.5
CD2 XP sP 03 09 15.9 -8.1
CD2 S **S** **03 12 04.6 -7.6**
CD2 XS sS 03 12 22.3 -16
CD2 SS 03 12 27.5
CD2 AMB AMB
comp=Z,30nm,0.6s
CD2 AMB AMB
comp=Z,150nm,4.2s
CD2 LR LR
comp=E,400nm,6.9s
CD2 LR LR
comp=Z,300nm,7.2s
KMI Kunming 17.36 275 P **Pn** **03 09 02.5 +2.8**
KMI AP pP 03 09 14.1 -1.8
KMI PP 03 09 17.9
KMI XP sP 03 09 25.1 -1.1
KMI PPP 03 09 27.2
KMI S **S** **03 12 09.5 -6.8**
KMI XS sS 03 12 30.7 -12
KMI SS 03 12 35.5
KMI SSS 03 12 49.6
KMI AMB AMB
comp=Z,12nm,0.5s
KMI AMB AMB
comp=Z,76nm,3.1s
KMI LR LR
comp=N,188nm,5.0s
KMI LR LR
comp=E,140nm,9.1s
KMI LR LR
comp=Z,133nm,10.7s
KMI Kunming 17.36 275 P **Pn** **03 09 02.5 +2.8**
comp=Z,0.1nm,3.1s
KMI pP pP 03 09 14.1 -1.8
KMI PP 03 09 17.9
KMI sP sP 03 09 25.1 -1.1
KMI PPP 03 09 27.2
KMI S **S** **03 12 09.5 -6.8**
KMI sS sS 03 12 30.7 -12
KMI SS 03 12 35.5
KMI SSS 03 12 49.6
JHJ Hachijo jima 2 17.76 58 P **Pn** **03 09 05.5 +1.0**
comp=Z,14nm,0.3s,baz=300,slow=18,SNR=4.7
DAV Davao City (W) 17.90 168 LR LR 03 15 38.6
comp=Z,77nm,21.2s,baz=354,slow=36
MJAR Matsushiro Arr 18.32 46 P **Pn** **03 09 11.6 +0.4**
comp=Z,0.6nm,0.3s,baz=236,slow=1.4,SNR=4.6
MJAR LR LR 03 16 53.8
comp=Z,74nm,19.0s,baz=260,slow=39
MJAR Matsushiro Arr 18.32 46 P **Pn** **03 09 11.6 +0.4**
MJAR pmax pmax
comp=Z,1.0nm,0.3s
MJAR MLR MLR
comp=Z,74nm,19.0s
CBIJ Chichi jima 18.43 78 LR LR 03 15 17.7
comp=Z,62nm,19.7s,baz=288,slow=33
BTO Baotou 18.70 331 *e*P **Pn** **03 09 15.1 -0.6**
LZH Lanzhou 19.21 310 ⇑P **Pn** **03 09 21.7 -0.1**
LZH AP pP 03 09 32.0 -4.2
LZH *e*PP 03 09 40.0
LZH *e*S **S** **03 12 51.6 -1.7**
LZH *e*SS 03 13 17.8
LZH AMB AMB
comp=Z,29nm,1.0s
LZH AMB AMB
comp=Z,112nm,4.2s
LZH LR LR
comp=N,418nm,10.5s
LZH LR LR
comp=Z,702nm,13.7s
LZH Lanzhou 19.21 310 ⇑P **Pn** **03 09 21.7 -0.1**
LZH *e*S **S** **03 12 51.6 -1.7**
LZH pmax pmax
comp=Z,29nm,1.0s
LZH Lanzhou 19.21 310 ⇑P **Pn** **03 09 21.7 -0.1**
comp=Z,29nm,1.0s
LZH pP pP 03 09 32.0 -4.2
LZH sP sP 03 09 37.9 -8.6
LZH *e*PP 03 09 40.0
LZH *e*S **S** **03 12 51.6 -1.7**
LZH sS sS 03 13 06.5 -13
LZH *e*SS 03 13 17.8
CN2 Changchun 19.27 8 *e*P **Pn** **03 09 25.7 +3.3**
CN2 *e*XP sP 03 09 46.1 -1.0
CN2 *e*S **S** **03 12 56.0 +1.7**
CN2 AMB AMB
comp=Z,10.0nm,0.6s
CN2 AMB AMB
comp=Z,200nm,3.0s
CN2 LR LR
comp=N,200nm,13.0s
CN2 LR LR
comp=E,300nm,13.0s
CN2 LR LR
comp=Z,400nm,15.0s
KKM Kota Kinabalu 19.34 197 *e*P **Pn** **03 09 22.2 -1.3**
MDJ Mudanjiang 20.83 16 P **P** **03 09 37.7 +0.2**
MDJ AP 03 09 55.4
MDJ S **S** **03 13 24.3 -0.9**
MDJ SCP ScP 03 17 14.7 +2.1
MDJ AMB AMB
comp=Z,11nm,1.0s
MDJ AMB AMB
comp=Z,45nm,6.6s
MDJ LR LR
comp=N,139nm,52.5s
MDJ LR LR
comp=E,131nm,48.3s
MDJ LR LR
comp=Z,47nm,34.7s
MDJ Mudanjiang 20.83 16 *e*P **P** **03 09 37.5 +0.1**
comp=Z,9.7nm,0.8s
MDJ *e* 03 09 55.6
CHTO Chiang Mai 22.07 259 *e*P **P** **03 09 52.1 +1.1**
CHTO pmax pmax
comp=Z,2.0nm,0.6s,mb3.6
CHTO Chiang Mai 22.07 259 *e*P **P** **03 09 52.1 +1.1**
comp=Z,1.9nm,0.6s,mb3.6
CMAR Chiang Mai Arr 22.20 258 P **P** **03 09 53.5 +1.2**
comp=Z,1.6nm,0.5s,mb3.6,baz=62,slow=9.1,SNR=11
CMAR Chiang Mai Arr 22.20 258 P **P** **03 09 53.5 +1.2**
CMAR pmax pmax
comp=Z,2.0nm,0.5s
GTA Gaotai 23.66 314 P **P** **03 10 06.5 -0.1**
GTA AP 03 10 23.7
GTA XP sP 03 10 32.8 -1.8
GTA PP 03 10 43.4
GTA S **S** **03 14 13.7 -1.7**
GTA XS sS 03 14 42.5 -4.9
GTA AMB AMB
comp=Z,12nm,1.4s,mb4.0
GTA AMB AMB
comp=Z,74nm,6.3s
GTA LR LR
comp=N,154nm,12.6s
GTA LR LR
comp=E,124nm,12.6s
GTA LR LR
comp=Z,90nm,13.5s
GUMO Guam 24.34 113 LR LR 03 18 09.0
comp=Z,44nm,19.3s,baz=330,slow=32
HIA Hailar 24.57 357 ⇑*i*P **P** **03 10 14.6 -0.1**
KSM Kuching 25.66 208 *e*P **P** **03 10 24.2 -0.8**
KLR Kul'dur 25.67 15 *e*P **P** **03 10 20.3 -4.4**
ASAJ Asahikawa 25.70 36 P **P** **03 10 26.4 +1.3**
comp=Z,3.2nm,0.4s,mb4.2,baz=211,slow=12,SNR=4.3
ASAJ LR LR 03 19 06.8
comp=Z,59nm,20.8s,baz=152,slow=33
ASAJ Asahikawa 25.70 36 P **P** **03 10 26.4 +1.3**
ASAJ pmax pmax
comp=Z,3.0nm,0.4s
ASAJ MLR MLR
comp=Z,59nm,20.8s
SONM Songino Array 26.13 336 P **P** **03 10 29.2 +0.3**
comp=Z,17nm,0.9s,mb4.5,baz=149,slow=8.5,SNR=44
SONM pP pP 03 10 47.8 +0.2
comp=Z,34nm,0.9s,baz=149,slow=9.6,SNR=18
SONM LR LR 03 22 13.3
comp=Z,137nm,18.1s,baz=81,slow=39
SONM Songino Array 26.13 336 P **P** **03 10 29.2 +0.3**
SONM pmax pmax
comp=Z,17nm,0.9s
SONM pmax pmax
comp=Z,34nm,0.9s
SONM MLR MLR
comp=Z,137nm,18.1s
LSA Lhasa 27.72 287 P **P** **03 10 44.2 +0.8**
LSA Lhasa 27.72 287 *e*P **P** **03 10 44.7 +1.3**
LSA pmax pmax
comp=Z,6.0nm,0.4s,mb4.5
LSA Lhasa 27.72 287 *e*P **P** **03 10 44.7 +1.2**
comp=Z,5.6nm,0.4s,mb4.5
YSS Yuzh-Sakhalins 27.75 32*c i*P **P** **03 10 44.1 +0.6**
YSS pmax pmax
comp=Z,57nm,1.7s,mb4.8
ZAK Zakamensk 29.39 335 *e*P **P** **03 10 57.2 -0.8**
ZAK pmax pmax
comp=Z,6.0nm,1.1s,mb4.1
KAPI Kappang 29.62 184 LR LR 03 23 06.2
comp=Z,32nm,18.4s,baz=0.2,slow=37
IRK Irkutsk 30.58 339⇑*i*P **P** **03 11 08.2 -0.2**
IRK pmax pmax
comp=Z,35nm,0.9s,mb5.1
TAPN Taplejung 30.75 282 *e*P **P** **03 11 11.5 +1.2**
comp=Z,30nm,0.7s,mb5.2
ODAN Odare 31.07 281 *e*P **P** **03 11 14.5 +1.4**
comp=Z,31nm,0.7s,mb5.1
RAMN Ramite 31.76 282 *e*P **P** **03 11 20.0 +0.8**
comp=Z,16nm,0.6s,mb4.9
JIRN Jiri 32.09 283 *e*P **P** **03 11 23.4 +1.4**
comp=Z,24nm,0.8s,mb5.0
GUN Gumba 32.35 284 *e*P **P** **03 11 25.6 +1.3**
comp=Z,21nm,0.7s,mb5.0
PKI Pulchoki 32.78 283 *e*P **P** **03 11 28.9 +0.8**
comp=Z,16nm,0.6s,mb5.0
KKN Kakani 32.88 283 *e*P **P** **03 11 29.9 +0.9**
comp=Z,26nm,0.8s,mb5.1
GKN Gorkha 33.44 284 *e*P **P** **03 11 34.3 +0.4**
comp=Z,26nm,0.8s,mb5.1
WMQ Urumqi 33.75 313⇓*i*P **P** **03 11 37.0 +0.7**
WMQ AP pP 03 11 55.0 -0.4
WMQ XP sP 03 12 04.1 -0.8
WMQ PP PP 03 12 52.2 -1.9
WMQ PPP 03 13 11.2
WMQ PCP PcP 03 14 14.8 +0.8
WMQ S **S** **03 16 54.5 +0.6**
WMQ XS sS 03 17 25.3 -1.4
WMQ AMB AMB
comp=Z,12nm,0.6s,mb4.9
WMQ AMB AMB
comp=Z,24nm,4.8s
WMQ LR LR
comp=N,32nm,16.8s
WMQ LR LR
comp=E,42nm,18.2s
WMQ LR LR
comp=Z,56nm,20.1s
DANN Dangsing 34.20 285 *e*P **P** **03 11 40.4 0.0**
comp=Z,34nm,0.9s,mb5.2
KOLN Koldanda 34.37 284 *e*P **P** **03 11 42.7 +0.8**
comp=Z,21nm,0.8s,mb5.0
MK31 Makanchi Array 38.40 315 P **P** **03 12 15.7 -0.3**
MK31 pmax pmax
comp=Z,2.0nm,0.4s,mb4.3
MK31 Makanchi Array 38.40 315 *e*P **P** **03 12 16.2 +0.2**
MKAR Makanchi Array 38.40 315 P **P** **03 12 16.2 +0.2**
comp=Z,3.3nm,0.5s,mb4.4,baz=100,slow=11,SNR=18
MKAR pP pP 03 12 35.0 -0.4
comp=Z,4.1nm,0.7s,baz=104,slow=10,SNR=4.7
MKAR LR LR 03 29 23.0
comp=Z,42nm,18.6s,baz=175,slow=38
MKAR Makanchi Array 38.40 315 P **P** **03 12 16.2 +0.2**
MKAR pmax pmax
comp=Z,3.0nm,0.5s
MKAR pmax pmax
comp=Z,4.0nm,0.7s
MKAR MLR MLR
comp=Z,42nm,18.6s
KAKA Kakadu 38.60 163 *e*P **P** **03 12 14.9 -3.0**
comp=Z,5.8nm,0.6s,mb4.6
ZAA0 Zalesovo Array 40.15 326 *e*P **P** **03 12 29.5 -0.9**
ZAA0 *e*pP pP 03 12 49.1 -0.8
ZALV Zalesovo Beam 40.15 326 P **P** **03 12 29.6 -0.8**
comp=Z,7.7nm,0.6s,mb4.7,baz=113,slow=7.8,SNR=19
ZALV pP pP 03 12 49.0 -0.9
comp=Z,14nm,0.7s,baz=112,slow=8.4,SNR=12
ZALV LR LR 03 29 21.5
comp=Z,52nm,19.1s,baz=235,slow=36
ZALV Zalesovo Beam 40.15 326 P **P** **03 12 29.6 -0.8**
ZALV pmax pmax
comp=Z,8.0nm,0.6s,mb4.7
ZALV pmax pmax
comp=Z,14nm,0.7s,mb4.9
ZALV MLR MLR
comp=Z,52nm,19.1s
NVS Novosibirsk 41.40 327 *e*P **P** **03 12 40.8 +0.1**
PMG Port Moresby 41.94 141 *e*P **P** **03 12 45.6 +0.1**
PMG pmax pmax
comp=Z,25nm,1.0s
PMG Port Moresby 41.94 141 *e*P **P** **03 12 45.6 +0.1**
comp=Z,25nm,1.0s,mb4.9
TKM2 Tokmak 2 41.94 307 *e*P **P** **03 12 46.6 +1.3**
TKM2 pmax pmax
comp=Z,11nm,0.7s,mb4.7
TKM2 Tokmak 2 41.94 307 *e*P **P** **03 12 46.5 +1.3**
comp=Z,11nm,0.7s,mb4.7
TKM2 *e*pP pP 03 13 06.5 +1.7
KURK Kurchatov 42.09 319 P **P** **03 12 46.4 0.0**
comp=Z,2.5nm,0.4s,mb4.3,baz=111,slow=9.3,SNR=23
KURK pP pP 03 13 05.6 -0.4
comp=Z,1.6nm,0.7s,baz=95,slow=7.6,SNR=4.2
KURK LR LR 03 32 48.9
comp=Z,22nm,18.9s,baz=315,slow=40
KURK Kurchatov 42.09 319 P **P** **03 12 46.4 0.0**
KURK pmax pmax
comp=Z,3.0nm,0.4s,mb4.4
KURK pmax pmax
comp=Z,2.0nm,0.7s,mb4.0
KURK MLR MLR
comp=Z,22nm,18.9s
KURK Kurchatov 42.09 319 *e*P **P** **03 12 46.2 -0.2**
comp=Z,6.2nm,0.7s,mb4.5
UCH Uchtor 42.61 306 *e*P **P** **03 12 52.6 +1.9**
comp=Z,14nm,1.2s,mb4.6
UCH *e*pP pP 03 13 13.2 +2.8
FITZ Fitzroy Crossi 42.71 175 *e*P **P** **03 12 49.9 -1.8**
comp=Z,3.5nm,0.5s,mb4.3
FITZ Fitzroy Crossi 42.71 175 P **P** **03 12 49.9 -1.9**
comp=Z,2.0nm,0.5s,mb4.1,baz=351,slow=9.1,SNR=10
FITZ PcP PcP 03 14 41.5 -0.7
comp=Z,2.7nm,0.6s,baz=344,slow=5.0,SNR=7.5
AML Almayashu 43.20 306 *e*P **P** **03 12 57.2 +1.7**
comp=Z,7.1nm,1.0s,mb4.3
AML *e*pP pP 03 13 17.3 +2.1
EKS2 Erkin-Say 43.21 307 *e*P **P** **03 12 56.2 +0.6**
comp=Z,3.4nm,0.7s,mb4.2
COEN Coen 43.70 149 *e*P **P** **03 12 59.8 0.0**
comp=Z,16nm,0.8s,mb4.8
COEN *e*pP pP 03 13 21.9 +2.4
KK31 Karatay Array 45.65 307 P **P** **03 13 16.0 +1.0**
KK31 pmax pmax
comp=Z,3.0nm,0.5s,mb4.3
WRA Warramunga Arr 46.02 164 P **P** **03 13 16.7 -1.4**
comp=Z,14nm,0.7s,mb4.8,baz=346,slow=8.7,SNR=116
WRA PcP PcP 03 14 52.3 -1.1
comp=Z,2.3nm,0.5s,baz=344,slow=3.3,SNR=7.2
WRA Warramunga Arr 46.02 164 P **P** **03 13 16.7 -1.4**
WRA 03 14 52.3
WRA pmax pmax
comp=Z,14nm,0.7s
WRA pmax pmax
comp=Z,2.0nm,0.5s
WB2 Warramunga Arr 46.02 164 *e*P **P** **03 13 17.1 -1.0**
KBL Kabul 46.51 295 *e*P **P** **03 13 23.4 +1.5**
KBL pmax pmax
comp=Z,5.0nm,0.6s,mb4.4
KBL Kabul 46.51 295 *e*P **P** **03 13 23.4 +1.5**
comp=Z,5.0nm,0.6s,mb4.4
TIXI Tiksi 47.13 3⇓*i*P **P** **03 13 23.9 -2.3**
TIXI pmax pmax
comp=Z,24nm,1.7s,mb4.7
BVAR Borovoye Array 47.66 320 P **P** **03 13 30.4 -0.2**
comp=Z,4.2nm,0.6s,mb4.5,baz=102,slow=8.0,SNR=20
BVAR pP pP 03 13 50.3 -0.3
comp=Z,4.6nm,0.6s,baz=107,slow=9.0,SNR=5.9
BVAR PcP PcP 03 14 57.1 -1.8
comp=Z,0.7nm,0.4s,baz=131,slow=5.9,SNR=2.4
BVAR Borovoye Array 47.66 320 P **P** **03 13 30.4 -0.2**
BVAR 03 14 57.1
BVAR pmax pmax
comp=Z,4.0nm,0.6s
BVAR pmax pmax
comp=Z,5.0nm,0.6s
BVAR pmax pmax
comp=Z,1.0nm,0.4s
BRVK Borovoye 47.74 320 *e*P **P** **03 13 31.5 +0.4**
BRVK pmax pmax
comp=Z,6.0nm,0.5s,mb4.7
BRVK Borovoye 47.74 320 *e*P **P** **03 13 31.5 +0.4**
comp=Z,6.1nm,0.5s,mb4.7
BRVK *e*pP pP 03 13 51.1 -0.1
ASAR Alice Springs 49.49 165 P **P** **03 13 44.2 -0.7**
comp=Z,11nm,0.7s,mb4.9,baz=343,slow=7.2,SNR=121
ASAR PcP PcP 03 15 05.0 -0.8
comp=Z,2.4nm,0.7s,baz=352,slow=3.7,SNR=6.3
ASAR Alice Springs 49.49 165 P **P** **03 13 44.2 -0.7**
ASAR 03 15 05.0
ASAR pmax pmax
comp=Z,11nm,0.7s
ASAR pmax pmax
comp=Z,2.0nm,0.7s
CTA Charters Tower 50.46 150 *e*P **P** **03 13 52.7 +0.4**
comp=Z,10nm,0.6s,mb4.9
CTA Charters Tower 50.46 150 P **P** **03 13 52.8 +0.5**
comp=Z,14nm,0.7s,mb5.0,baz=331,slow=9.6,SNR=22
CTA PcP PcP 03 15 09.3 -0.1
comp=Z,4.5nm,0.6s,baz=359,slow=6.3,SNR=2.7
CTA Charters Tower 50.46 150 P **P** **03 13 52.8 +0.5**
CTA 03 15 09.4
CTA pmax pmax
comp=Z,14nm,0.7s
CTA pmax pmax
comp=Z,5.0nm,0.6s
CTAO Charters Tower 50.46 150 *e*P **P** **03 13 52.7 +0.4**
CTAO pmax pmax
comp=Z,30nm,1.1s,mb5.1
CTAO Charters Tower 50.46 150 *e*P **P** **03 13 52.7 +0.5**
comp=Z,30nm,1.1s,mb5.1
CTAO *e*pP pP 03 14 10.2 -2.3
AB31 Akbulak array 53.52 314 *i* P **P** **03 14 14.4 -0.3**
AB31 pmax pmax
comp=Z,3.0nm,0.4s,mb4.7
AKTK Aktyubinsk 54.84 315 P **P** **03 14 24.3 0.0**
AKTO Aktyubinsk 54.84 315 P **P** **03 14 24.3 0.0**
comp=Z,1.2nm,0.4s,mb4.3,baz=79,slow=9.1,SNR=4.6
AKTO Aktyubinsk 54.84 315 P **P** **03 14 24.3 0.0**
AKTO pmax pmax
comp=Z,1.0nm,0.4s,mb4.2
ARU Arti 55.06 323⇑*e*P **P** **03 14 24.7 -1.1**
ARU pmax pmax
comp=Z,1.0nm,0.3s,mb4.3
ARU Arti 55.06 323 *e*P **P** **03 14 25.3 -0.5**
comp=Z,8.9nm,0.7s,mb4.9
ARU *e*pP pP 03 14 44.7 -1.5
FORT Forrest 55.49 174 *e*P **P** **03 14 28.4 -0.7**
comp=Z,22nm,0.7s,mb5.3
KLBR Kellerberrin 56.12 184 *e*P **P** **03 14 31.6 -2.0**
comp=Z,6.8nm,0.6s,mb4.8
MUN Mundaring 56.63 186 *e*P **P** **03 14 37.0 -0.2**
NWAO Narrogin (SRO) 57.49 185 P **P** **03 14 41.9 -1.3**
comp=Z,6.5nm,0.4s,mb5.0,baz=359,slow=6.0,SNR=12
NWAO Narrogin (SRO) 57.49 185 P **P** **03 14 41.9 -1.3**
NWAO pmax pmax
comp=Z,7.0nm,0.4s
STKA Stephens Creek 59.34 161 *e*P **P** **03 14 55.4 -0.8**
comp=Z,6.4nm,0.8s,mb4.7
STKA Stephens Creek 59.34 161 P **P** **03 14 55.6 -0.6**
comp=Z,6.8nm,0.6s,mb4.8,baz=336,slow=6.7,SNR=14
GNI Garni 65.02 304 P **P** **03 15 35.8 +1.5**
comp=Z,2.7nm,0.4s,mb4.4,baz=41,slow=18,SNR=2.5
GNI Garni 65.02 304⇑*i*P **P** **03 15 35.3 +1.1**
GNI pmax pmax
comp=Z,7.0nm,1.0s
GNI Garni 65.02 304 *e*P **P** **03 15 35.2 +1.0**
comp=Z,9.0nm,0.8s,mb4.7
MIB Mutribah 65.39 293 *e*P **P** **03 15 36.1 -0.7**
baz=293
MIB AMb AMB 03 15 39.6
comp=Z,18nm,0.6s,mb5.1,baz=293
RDF Al-Radifah 65.45 292 *e*P **P** **03 15 36.5 -0.7**
baz=292
RDF AMb AMB 03 15 39.6
comp=Z,21nm,0.6s,mb5.1,baz=292
NAY Al-Naaiem 65.62 292 *e*P **P** **03 15 37.1 -1.2**
baz=292
NAY AMb AMB 03 15 40.6
comp=Z,7.0nm,0.7s,mb4.6,baz=292
KIV Kislovodsk 65.74 309⇑*e*P **P** **03 15 39.8 +1.0**
KIV pmax pmax
comp=Z,13nm,1.5s,mb4.5
PPLA Purkeypile 66.48 30 *e*P **P** **03 15 43.2 0.0**
comp=Z,2.7nm,0.6s,mb4.2
VSR Storozhevoye 66.68 317 *e*P **P** **03 15 43.1 -1.6**
VSR pmax pmax
comp=Z,4.0nm,1.3s,mb4.1
VSR pmax pmax
comp=N,10.0nm,1.2s
VSR pmax pmax
comp=E,6.0nm,0.8s
APA Apatity 66.84 335⇓*e*P **P** **03 15 54.0 +8.6**
APA pmax pmax
comp=Z,26nm,1.0s,mb5.0
APA MLR MLR
comp=Z,1μm,21.0s
OBN Obninsk 67.47 322⇓*e*P **P** **03 15 48.6 -1.0**
OBN *e**PP pP 03 16 09.2 -1.5
OBN *e* 03 25 05.2
OBN pmax pmax
comp=Z,7.0nm,0.6s,mb4.7
MCK McKinley 67.79 29 *e*P **P** **03 15 51.2 -0.2**
MCK pmax pmax
comp=Z,3.0nm,0.4s,mb4.5
MCK McKinley 67.79 29 *e*P **P** **03 15 51.2 -0.3**
comp=Z,3.2nm,0.4s,mb4.5
COLA College 68.03 27⇑*i*P **P** **03 15 53.4 +0.4**
JOF Joensuu 68.56 331 *e*p **P** **03 15 54.7 -1.6**
comp=Z,8.7nm,0.5s,mb4.8
KEV Kevo 68.72 338 *e*p **P** **03 15 56.3 -0.9**
comp=Z,1.4nm,0.3s,mb4.3
KEV Kevo 68.72 338 *e*P **P** **03 15 56.3 -0.9**
KEV pmax pmax
comp=Z,1.0nm,0.3s,mb4.1
ARCES ARCESS Array B 69.28 338 P **P** **03 15 60.0 -0.7**
comp=Z,3.6nm,0.8s,mb4.2,baz=60,slow=7.2,SNR=7.2
ARCES ARCESS Array B 69.28 338 P **P** **03 16 00.0 -0.7**
ARCES pmax pmax
comp=Z,4.0nm,0.8s
ARCES ARCESS Array B 69.28 338 P **P** **03 15 60.0 -0.7**
KAF Kangasniemi 71.01 330 *e*p **P** **03 16 09.9 -1.4**
comp=Z,6.1nm,0.7s,mb4.5,baz=72,slow=5.7
KAF Kangasniemi 71.01 330 *e*P **P** **03 16 09.9 -1.4**
KAF pmax pmax
comp=Z,6.0nm,0.7s,mb4.5
DAWY Dawson 71.78 27 *e*P **P** **03 16 15.2 -0.7**
AKASG Malin Array Be 72.89 318 P **P** **03 16 21.5 -1.3**
comp=Z,1.0nm,0.4s,mb4.0,baz=61,slow=5.9,SNR=9.0
AKASG pP pP 03 16 42.0 -2.2
comp=Z,4.0nm,0.8s,baz=61,slow=5.5,SNR=5.1
AKASG Malin Array Be 72.89 318 P **P** **03 16 21.5 -1.3**
AKASG *PP pP 03 16 42.0 -2.2
AKASG pmax pmax
comp=Z,1.0nm,0.4s
AKASG pmax pmax
comp=Z,4.0nm,0.8s
AKBB Malin Array Si 72.89 318 *e*P **P** **03 16 20.7 -2.1**
BR131 Keskin Array S 73.36 306 *e*P **P** **03 16 26.1 +0.3**

comp=Z,1.5nm,0.5s,mb4.1
BUR08 Bucovina Ar. S 76.42 316 *e*P **P 03 16 42.5 -0.7**
KWP Kalwaria 77.19 319 *e*P **P 03 16 47.5 -0.1**
KWP Kalwaria 77.19 319 *e*P **P 03 16 47.0 -0.6**
KWP pmax pmax
comp=Z,21nm,1.0s,mb4.8
KWP Kalwaria 77.19 319 *e*P **P 03 16 47.0 -0.6**
comp=Z,21nm,1.0s,mb4.8
NB2 NORSAR Subarra 78.05 332 P **P 03 16 52.1 0.0**
comp=Z,2.0nm,0.6s,mb4.0,baz=53,slow=5.9
NOA NORSAR Array B 78.05 332 P **P 03 16 52.1 0.0**
comp=Z,2.4nm,0.7s,mb4.0,baz=58,slow=5.6,SNR=11
NOA LR LR 03 55 14.7
comp=Z,42nm,18.3s,baz=105,slow=39
NOA NORSAR Array B 78.05 332 P **P 03 16 52.1 0.0**
NOA pmax pmax
comp=Z,2.0nm,0.7s
NOA MLR MLR
comp=Z,42nm,18.3s
NAO01 NORSAR Array S 78.29 332 *e*P **P 03 16 53.1 -0.3**
comp=Z,1.8nm,0.5s,mb4.1
OJC Ojcow 78.67 320 *e*P **P 03 16 57.0 +1.2**
OKC Ostrava-Krasne 79.80 320 *e*P **P 03 17 02.4 +0.5**
DPC Dobruska-Polom 80.62 321 *e*P **P 03 17 06.1 -0.2**
DPC *e*pP pP 03 17 28.0 0.0
RPZ Rata Peaks 81.68 146 P **P 03 17 11.5 -0.3**
comp=Z,25nm,0.8s,mb5.1,baz=22,slow=5.4,SNR=6.9
CLL Collm 82.01 323 *e*P **P 03 17 15.0 +1.4**
CLL *e*pP pP 03 17 34.0 -1.4
YKA Yellowknife Ar 82.24 23 P **P 03 17 13.0 -1.6**
comp=Z,1.8nm,0.7s,mb4.0,baz=309,slow=5.2,SNR=6.5
YKA Yellowknife Ar 82.24 23 P **P 03 17 13.0 -1.6**
YKA pmax pmax
comp=Z,2.0nm,0.7s
YKA Yellowknife Ar 82.24 23 P **P 03 17 13.0 -1.6**
GERES GERESS Array B 82.83 321 P **P 03 17 18.1 +0.1**
comp=Z,1.2nm,0.7s,mb3.8,baz=57,slow=4.9,SNR=12
GERES pP pP 03 17 39.1 -0.7
comp=Z,1.6nm,0.8s,baz=70,slow=4.4,SNR=4.8
GERES GERESS Array B 82.83 321 P **P 03 17 18.1 +0.1**
GERES pmax pmax
comp=Z,1.0nm,0.7s
GERES pmax pmax
comp=Z,2.0nm,0.8s
KMBO Kilima Mbogo 85.58 267 P **P 03 17 29.6 -2.9**
comp=Z,0.7nm,0.3s,mb4.0,baz=45,slow=7.1,SNR=3.5
KMBO pP pP 03 17 54.7 +0.3
comp=Z,1.8nm,0.7s,baz=54,slow=9.1,SNR=3.7
KMBO Kilima Mbogo 85.58 267 P **P 03 17 29.6 -2.9**
KMBO pmax pmax
comp=Z,1.0nm,0.4s
KMBO pmax pmax
comp=Z,2.0nm,0.7s
KMBO Kilima Mbogo 85.58 267 P **P 03 17 29.6 -2.9**
KMBO pP pP 03 17 54.7 +0.2
B05A Bryant 87.56 37 ⇑P **P 03 17 41.9 +0.3**
baz=87
B06A Marblemount 87.74 36 ⇑P **P 03 17 42.9 +0.4**
baz=88
C05A Tolt Reservoir 88.11 37 ⇑P **P 03 17 44.5 +0.3**
baz=88
D05A Enumclaw 88.24 38 ⇑P **P 03 17 45.5 +0.7**
baz=88
B07A Winthrop 88.51 36 ⇑P **P 03 17 46.1 +0.1**
baz=88
LPG La Plagne 88.62 320 *e*P **P 03 17 45.8 -0.9**
comp=Z,9.3nm,0.9s,mb4.5
LPG La Plagne 88.62 320 *e*P **P 03 17 45.8 -0.9**
LPG pmax pmax
comp=Z,5.0nm,0.9s,mb4.5
LPG La Plagne 88.62 320 *e*P **P 03 17 45.8 -0.9**
comp=Z,4.7nm,0.9s,mb4.5
LPL La Plagne 88.62 320 *e*P **P 03 17 45.8 -0.9**
comp=Z,3.9nm,0.7s,mb4.2
LPL La Plagne 88.62 320 *e*P **P 03 17 45.8 -0.9**
LPL pmax pmax
comp=Z,2.0nm,0.7s,mb4.3
LPL La Plagne 88.62 320 *e*P **P 03 17 45.8 -0.9**
comp=Z,2.0nm,0.7s,mb4.3
A08A Turner Farm, O 88.67 35 ⇑P **P 03 17 46.7 -0.1**
baz=88
F04A Amboy 88.72 39 ⇓P **P 03 17 47.4 +0.3**
baz=88
D06A Cle Elum 88.87 37 ⇑P **P 03 17 47.7 -0.1**
baz=89
ETW Entiat 88.91 37 *e*P **P 03 17 47.9 0.0**
BNI Bardonecchia 88.92 320 *e*P **P 03 17 49.7 +1.6**
BNI pmax pmax
comp=Z,4.0nm,0.8s,mb4.5
BNI Bardonecchia 88.92 320 *e*P **P 03 17 49.7 +1.6**
comp=Z,4.1nm,0.8s,mb4.5
B08A Colville Reser 88.99 36 ⇑P **P 03 17 48.6 +0.3**
baz=89
C07A Waterville 89.00 37 ⇓P **P 03 17 48.3 -0.1**
baz=89
A09A Danville 89.01 35 ⇓P **P 03 17 49.1 +0.7**
baz=89
E06A Yakima 89.18 38 ⇓P **P 03 17 49.7 +0.4**
baz=89
D07A Quincy 89.35 37 ⇓P **P 03 17 49.9 -0.1**
baz=89
C08A Higginbotham F 89.49 36 ⇓P **P 03 17 50.6 -0.1**
baz=89
A10A Northport 89.54 35 ⇑P **P 03 17 51.3 +0.4**
baz=89
B09A Rice 89.58 35 ⇓P **P 03 17 51.0 -0.1**
baz=89
F06A Goldendale 89.75 38 ⇓P **P 03 17 52.1 +0.1**
baz=90
G05A Wamic 89.75 39 ⇓P **P 03 17 52.2 +0.2**
baz=90
E07A Sunnyside 89.79 37 ⇓P **P 03 17 53.0 +0.9**
baz=90
C09A Chrisman Ranch 89.90 36 ⇑P **P 03 17 52.9 +0.3**
baz=90
D08A Wollman Farm, 90.00 37 ⇓P **P 03 17 53.9 +0.8**
baz=90
G06A Carlson Farm, 90.14 39 ⇓P **P 03 17 54.3 +0.5**
baz=90
A11A Hall Mountain, 90.17 34 ⇓P **P 03 17 54.5 +0.7**
baz=90
NEW Newport 90.21 35 *e*P **P 03 17 53.8 -0.3**
NEW pmax pmax
comp=Z,5.0nm,0.8s
NEW Newport 90.21 35 *e*P **P 03 17 53.8 -0.3**
comp=Z,4.9nm,0.8s,mb4.7
E08A Dider Farm, El 90.27 37 ⇑P **P 03 17 54.9 +0.5**
baz=90
HUMO Hull Mountain 90.30 42 ⇓P **P 03 17 55.5 +1.0**
baz=90
D09A Jones Farm, Ri 90.33 36 ⇑P **P 03 17 55.0 +0.4**
baz=90
J04A Umpqua Nationa 90.44 41 ⇓P **P 03 17 56.0 +0.7**
baz=90
B11A Sandpoint 90.50 34 ⇑P **P 03 17 56.1 +0.8**
baz=90
A12A Yaak River Ran 90.54 34 ⇑P **P 03 17 56.4 +0.8**
baz=90
H06A Lindquist Farm 90.61 39 ⇑P **P 03 17 56.8 +0.8**
baz=90
E09A Wood Farm, Sta 90.76 37 ⇓P **P 03 17 57.1 +0.5**
baz=90
F08A Pendleton 90.85 38 ⇓P **P 03 17 58.1 +1.0**
baz=91
C11A Tepee Creek (N 90.93 35 ⇓P **P 03 17 58.3 +0.9**
baz=91
J05A Fort Rock 90.94 41 ⇓P **P 03 17 58.4 +0.8**
baz=91
YBH Yreka Blue Hor 90.94 43 P **P 03 17 58.4 +0.8**
comp=Z,4.8nm,1.0s,mb4.6,baz=175,slow=3.9,SNR=5.8
YBH Yreka Blue Hor 90.94 43 P **P 03 17 58.4 +0.8**
YBH pmax pmax
comp=Z,5.0nm,1.0s
YBH Yreka Blue Hor 90.94 43 ⇑P **P 03 17 58.5 +0.9**
baz=91
M02C Callahan 91.05 43 ⇑P **P 03 17 59.2 +1.1**
baz=91
N02C Big Bar 91.09 44 ⇑P **P 03 17 59.4 +1.1**
baz=91
H07A Lands Inn, Kim 91.14 39 ⇓P **P 03 17 59.0 +0.6**
baz=91
I06A Prineville 91.15 40 ⇓P **P 03 17 59.2 +0.7**
baz=91
A13A Flathead Natio 91.17 33 ⇓P **P 03 17 58.9 +0.4**
baz=91
L04A Klamath Falls 91.19 42 ⇓P **P 03 17 58.8 +0.1**
baz=91
E10A Myers Farm, Un 91.33 36 ⇓P **P 03 17 59.3 0.0**
baz=91
F09A S2 Ranch, Elgi 91.38 37 ⇓P **P 03 17 59.8 +0.2**
baz=91
M04C Macdoel 91.45 42 ⇑P **P 03 18 00.1 +0.2**
baz=91
K05A Summer Lake 91.47 41 ⇓P **P 03 18 00.2 +0.2**
baz=91
I07A Izee 91.48 39 ⇑P **P 03 18 00.5 +0.5**
baz=91
B13A Whitefish 91.51 34 ⇓P **P 03 18 00.3 +0.3**
baz=91
M03C McCloud 91.57 43 ⇑P **P 03 18 00.7 +0.2**
baz=91
J06A Christmas Vall 91.60 40 ⇓P **P 03 18 00.8 +0.2**
baz=91
A14A Double T Ranch 91.63 33 ⇓P **P 03 18 00.9 +0.3**
baz=91,SNR=10.0
H08A Prairie City 91.69 39 ⇓P **P 03 18 01.4 +0.5**
baz=91
WDC Whiskeytown Da 91.71 43 ⇓P **P 03 18 01.3 +0.2**
baz=91
G09A Cove 91.72 38 ⇑P **P 03 18 01.1 0.0**
baz=91
O02C Red Bluff 91.78 44 ⇓P **P 03 18 01.9 +0.4**
baz=92
K06A Valley Falls 91.81 41 ⇓P **P 03 18 02.3 +0.8**
baz=92,SNR=5.8
E11A Bogner Ranch, 91.90 36 ⇓P **P 03 18 02.3 +0.3**
baz=92
C13A Hot Springs 91.91 34 ⇑P **P 03 18 02.4 +0.5**
baz=92
L05A Lakeview 91.91 41 ⇑P **P 03 18 03.1 +1.0**
baz=92
D12A Red Ives Fores 91.91 35 ⇓P **P 03 18 02.2 +0.2**
baz=92
J07A Hines 92.02 40 ⇓P **P 03 18 03.3 +0.8**
baz=92
G10A Bishop Farm, J 92.08 37 ⇑P **P 03 18 02.8 +0.1**
baz=92,SNR=9.5
B14A Marquette Ranc 92.11 33 ⇓P **P 03 18 03.6 +0.7**
baz=92
I08A Drewsey 92.12 39 ⇑P **P 03 18 03.3 +0.3**
baz=92
E12A Beaver Dam Sad 92.20 36 ⇑P **P 03 18 03.8 +0.5**
baz=92
BMO Blue Mountains 92.25 38 *e*P **P 03 18 03.8 +0.2**
C14A Swan Lake 92.27 34 ⇑P **P 03 18 04.1 +0.5**
baz=92
MOD Modoc 92.31 41 ⇑P **P 03 18 04.2 +0.3**
baz=92,SNR=6.5
MOD Modoc 92.31 41 *e*P **P 03 18 04.4 +0.5**
K07A Rock Creek Ran 92.47 40 ⇑P **P 03 18 05.3 +0.7**
baz=92
G11A Walters Elk Ra 92.48 37 ⇑P **P 03 18 04.3 -0.3**
baz=92
B15A Bradely Ranch, 92.50 33 ⇑P **P 03 18 04.8 +0.1**
baz=92
J08A Circle Bar Ran 92.51 39 ⇓P **P 03 18 05.5 +0.7**
baz=92,SNR=5.8
A16A West Butte Ran 92.54 32 ⇓P **P 03 18 04.3 -0.5**
baz=92,SNR=5.6
I09A Lost Marbles R 92.55 39 ⇓P **P 03 18 05.2 +0.2**
baz=92
H10A Noah's Angus R 92.72 38 ⇑P **P 03 18 05.4 -0.4**
baz=92,SNR=7.7
O04C Chester 92.76 43 ⇑P **P 03 18 06.2 +0.2**
baz=92,SNR=5.6
F12A Elk City 92.80 36 ⇓P **P 03 18 05.9 -0.2**
baz=92
L07A Adell 92.82 41 ⇓P **P 03 18 07.0 +0.7**
baz=92,SNR=7.5
C15A Salmond Ranch, 92.84 33 ⇓P **P 03 18 06.3 +0.1**
baz=92
D14A Greenough 92.84 34 ⇑P **P 03 18 06.2 0.0**
baz=93
E13A Victor 92.91 35 ⇑P **P 03 18 06.6 -0.1**
baz=93
J09A Fry Pan Ranch, 92.93 39 ⇑P **P 03 18 06.9 +0.2**
baz=93,SNR=7.8
ORV Oroville 92.95 44 ⇑P **P 03 18 06.1 -0.9**
baz=93
I10A Payette 93.01 38 ⇓P **P 03 18 07.4 +0.3**
baz=93
H11A Donnelly 93.06 37 ⇑P **P 03 18 07.0 -0.3**
baz=93
C16A Fuhringer Ranc 93.25 33 ⇓P **P 03 18 07.6 -0.5**
baz=93
N06A Buffalo Meadow 93.28 42 ⇓P **P 03 18 08.3 -0.1**
baz=93
E14A Clinton 93.29 35 ⇓P **P 03 18 08.4 +0.1**
baz=93
L08A Fields 93.30 40 ⇑P **P 03 18 09.0 +0.6**
baz=93,SNR=8.1
K09A Rome 93.35 40 ⇑P **P 03 18 08.7 0.0**
baz=93
BEKR Beckwourth 93.48 43 ⇓P **P 03 18 09.0 -0.3**
baz=93,SNR=5.1
O06A Flanigan 93.63 43 ⇓P **P 03 18 10.0 0.0**
baz=93,SNR=5.1
P05C Yuba Gap, Truc 93.66 44 ⇓P **P 03 18 10.1 -0.1**
baz=93
E15A Deer Lodge 93.73 34 ⇑P **P 03 18 10.3 -0.1**
baz=93
M08A Happy Creek Ra 93.73 41 ⇓P **P 03 18 10.7 +0.2**
baz=94
F14A Wisdom 93.76 35 ⇓P **P 03 18 10.7 +0.2**
baz=94
G13A Cobalt 93.77 36 ⇓P **P 03 18 09.6 -1.0**
baz=94
H12A Diamond D Ranc 93.79 37 ⇓P **P 03 18 10.6 -0.1**
baz=94
K10A MacKenzie Ranc 93.79 39 ⇑P **P 03 18 11.0 +0.3**
baz=94
D16A Dana Ranch, Ca 93.87 33 ⇓P **P 03 18 11.2 +0.2**
baz=94
LAVA Lava Cap Winer 93.90 44 ⇑P **P 03 18 10.9 -0.4**
baz=94
MFID Camas Ranch 93.98 38 ⇓P **P 03 18 12.1 +0.5**
baz=94
H13A Challis 94.11 37 ⇓P **P 03 18 11.8 -0.4**
baz=94
WCN Washoe City 94.19 43 ⇓P **P 03 18 13.0 +0.3**
baz=94
F15A Butte 94.19 35 ⇑P **P 03 18 12.8 +0.3**
baz=94
O07A Toulon 94.22 42 ⇓P **P 03 18 13.1 +0.3**
baz=94
N08A GE Springer Mi 94.29 41 ⇑P **P 03 18 13.5 +0.5**
baz=94
DLMT Dillon 94.46 35 *e*P **P 03 18 14.4 +0.7**
L10A Juniper Basin 94.46 39 ⇓P **P 03 18 14.3 +0.5**
baz=94
CMB Columbia Colle 94.54 45 *e*P **P 03 18 13.5 -0.8**
CMB pmax pmax
comp=Z,27nm,1.9s,mb5.3
CMB Columbia Colle 94.54 45 ⇓P **P 03 18 13.6 -0.7**
baz=94
CMB Columbia Colle 94.54 45 *e*P **P 03 18 13.5 -0.8**
comp=Z,27nm,1.9s,mb5.4
O08A Rochester Mine 94.58 42 ⇓P **P 03 18 14.7 +0.3**
baz=94
E17A Martinsdale 94.61 33 ⇓P **P 03 18 14.5 +0.1**
baz=94
I13A Wildhorse Cree 94.61 37 ⇑P **P 03 18 14.9 +0.5**
baz=94
N09A Rock Creek Ran 94.61 41 ⇑P **P 03 18 14.7 +0.2**
baz=94
G15A Dillon 94.65 35 ⇑P **P 03 18 14.4 -0.2**
baz=94,SNR=5.0
HLID Hailey 94.67 37 ⇓P **P 03 18 15.2 +0.5**
baz=94
HLID Hailey 94.67 37 *e*P **P 03 18 15.1 +0.4**
comp=Z,2.1nm,0.8s,mb4.6
L11A Cat Creek Ranc 94.82 39 ⇓P **P 03 18 15.7 +0.2**
baz=94
R06C Coleville 94.85 44 ⇑P **P 03 18 15.6 -0.1**
baz=95
I14A Mackay 94.96 37 ⇑P **P 03 18 16.2 +0.1**
baz=95
S05C Merced 94.98 45 ⇓P **P 03 18 15.4 -0.9**
baz=95
E18A Harlowton 95.00 33 ⇓P **P 03 18 16.2 0.0**
baz=95
T06C Millerton Lake 95.58 45 ⇓P **P 03 18 18.5 -0.6**
baz=95
Q08A Gabbs 95.59 43 ⇓P **P 03 18 18.6 -0.4**
baz=95
NVAR Mina Array Bea 95.62 43 P **P 03 18 19.4 +0.2**
comp=Z,1.9nm,0.8s,mb4.6,baz=288,slow=5.1,SNR=13
KCC Kaiser Creek 95.65 45 ⇓P **P 03 18 18.9 -0.5**
baz=95
HELL Mitchell Peak 96.22 45 ⇓P **P 03 18 20.9 -1.1**
baz=96
RLMT Red Lodge 96.34 34 *e*P **P 03 18 24.2 +1.9**
comp=Z,7.8nm,0.5s,mb5.4
R09A Tonopah 96.50 43 ⇓P **P 03 18 23.0 -0.2**
baz=96
S10A Tonopah Range, 96.99 43 ⇓P **P 03 18 25.0 -0.4**
baz=97
MPMC Manual Prospec 97.58 45 ⇓P **P 03 18 27.8 -0.3**
baz=97
TPNV Topopah Spring 97.81 43 ⇓P **P 03 18 28.9 -0.3**
baz=98
TORD Torodi Ar. Bea 110.57 296 PKiKP PKiKP 03 23 24.8 -1.7
comp=Z,0.3nm,0.6s,baz=35,slow=3.8,SNR=5.0
TXAR Lajitas Array 110.71 42 *i* PKiKP PKiKP 03 23 25.6 -0.9
comp=Z,0.2nm,0.7s,baz=292,slow=0.7,SNR=4.5
TXAR Lajitas Array 110.71 42 *i* PKiKP PKiKP 03 23 25.6 -0.9
SDV Santo Domingo 144.45 22 *e*PKPdf PKPdf 03 24 27.9 -2.5
ROSC El Rosal 146.65 30 PKPbc PKPbc 03 24 36.0 +0.2
comp=Z,5.1nm,0.5s,baz=92,slow=20,SNR=5.5
ROSC El Rosal 146.65 30 *e*PKPbc PKPbc 03 24 34.5 -1.3
OTAV Otavalo 148.34 41 *e*PKPbc PKPbc 03 24 38.5 -1.9
PLCA Paso Flores 160.94 150 PKPab PKPab 03 25 34.5 -1.9
comp=Z,2.1nm,0.8s,baz=225,slow=1.4,SNR=5.0
PLCA Paso Flores 160.94 150 PKP2 PKPab 03 25 34.5 -1.9
PLCA pmax pmax
comp=Z,2.0nm,0.8s
LPAZ La Paz 167.43 50 PKP PKPdf 03 25 00.6 +0.7
comp=Z,2.3nm,1.1s,baz=21,slow=4.4,SNR=5.4
LPAZ PKPab PKPab 03 26 04.0 -1.5
comp=Z,0.5nm,0.7s,baz=348,slow=9.0,SNR=3.9
LPAZ La Paz 167.43 50 PKIKP PKPdf 03 25 00.6 +0.7
LPAZ 03 26 04.1
LPAZ pmax pmax
comp=Z,2.0nm,1.1s
LPAZ pmax pmax
comp=Z,1.0nm,0.7s
LPAZ La Paz 167.43 50 *e*PKPdf PKPdf 03 25 00.7 +0.8

IDC 11 03:06:60.0±3.1, 390S×13593E, h0km, mb3.7/1, mb1 3.6/3, mb1mx3.5/13, mbtmp3.4/3, ML3.0/2, Error ellipse: s-maj=134.3km s-min=30.7km az=80.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**16.02**	**185**	Pn	Pn	03 10 47.0	+0.2
	0.0nm,0.3s,baz=7.0,slow=12,SNR=2.7						
ASAR	**Alice Springs**	**19.75**	**186**	P	Pn	03 11 31.6	-1.4
	0.1nm,0.3s,baz=12,slow=12,SNR=9.3						
MKAR	**Makanchi Array**	**69.07**	**324**	P	P	03 18 07.8	+0.1
	0.7nm,0.7s,baz=104,slow=5.8,SNR=3.5						

MAN 11 03:15:52, 1160N×12440E, h1km, mb4.4, ML3.3, MS3.1, 1C-1D, Leyte

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OCLP	**Ormoc**	**0.58**	**160**	*e*P	Pg	03 16 03.3	+0.2
OCLP				*e*S	Sg	03 16 14.2	+3.5
PLP	**Palo**	**0.71**	**127**	⇓*e*P	Pg	03 16 07.0	+1.4
PLP				*e*S	Sg	03 16 16.7	+1.8
CNP	**Catarman**	**0.94**	**16**	*e*P	Pg	03 16 10.5	+0.4
BESP	**Borongan**	**1.01**	**90**	*e*P	Pg	03 16 13.4	+2.0
MSLP	**Maasin**	**1.52**	**163**	*e*P	Pn	03 16 21.2	+0.8
MSLP				*e*S	Sn	03 16 41.6	+0.7
RCP	**Roxas**	**1.63**	**269**	⇑*e*P	Pn	03 16 22.4	+0.6
PVCP	**Virac**	**2.00**	**353**	*e*P	Pn	03 16 27.3	+0.4
GUIM	**Jordan**	**2.03**	**242**	*e*P	Pn	03 16 29.1	+1.7

*IDC **11** 03:24:33.2±4.3, 3645N×10868E, h0km, mb3.4/4, mb1 3.6/4, mb1mx3.4/20, mbtmp3.5/4, Error ellipse: s-maj=365.3km s-min=23.2km az=49.0*
*ISCJB **11** 03:24:35.7±2.4, 347N±02×106.1E±0.1, h6km±17km, mb3.4/4, Error ellipse: s-maj=37.3km s-min=11.1km az=26.6*
*BJI **11** 03:24:38.7, 35.18N×10651E, h16km, ML2.9*
ISC 11 03:24:37.3±2.5, 348N±02×1062E±02, h2km±17km, n7, σ0°78/9, mb3.4/4, Gansu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
XAN	**Xi'an**	**2.33**	**107**	P	**Pn**	**03 25 16.8**	**+0.2**
XAN				S	**Sn**	**03 25 46.0**	**+0.2**
XAN				Smax			
	comp=N,74nm,1.1s						
XAN				Smax			
	comp=E,58nm,1.1s						
LZH	**Lanzhou**	**2.37**	**305**	PG	**Pg**	**03 25 21.7**	**-0.9**
LZH				SG	**Sg**	**03 25 54.3**	**+1.0**
LZH				Smax			
	comp=N,67nm,0.7s						
LZH				Smax			
	comp=E,165nm,0.9s						
GTA	**Gaotai**	**6.93**	**314**	*e*P	**Pn**	**03 26 19.3**	**-0.5**
MKAR	**Makanchi Array**	**21.67**	**311**	P	**P**	**03 29 30.3**	**+1.2**
	comp=E,0.3nm,0.2s,mb3.3,baz=102,slow=11,SNR=4.0						
KURK	**Kurchatov**	**25.60**	**317**	P	**P**	**03 30 06.3**	**-1.4**
	comp=E,0.5nm,0.5s,mb3.3,baz=118,slow=9.3,SNR=4.4						
WRA	**Warramunga Arr**	**60.60**	**149**	P	**P**	**03 34 49.6**	**+0.1**
	comp=E,0.4nm,0.7s,mb3.7,baz=344,slow=7.5,SNR=4.9						
ASAR	**Alice Springs**	**63.76**	**152**	P	**P**	**03 35 10.6**	**0.0**
	comp=E,0.3nm,0.8s,mb3.4,baz=338,slow=7.1,SNR=3.4						

*IDC **11** 03:50:43.5±1.0, 3284S×17823W, h0km, mb4.5/7, mb1 4.6/8, mb1mx4.3/18, mbtmp4.5/8, ML4.3/1, MS4.1/7, Ms1 4.0/7, ms1mx3.5/29, Error ellipse: s-maj=33.6km s-min=21.5km az=23.0*
*NEIC **11** 03:50:50.3±3.0, 3315S×17837W, h44km±22km, mb4.3/5, Error ellipse: s-maj=26.6km s-min=12.9km az=51.0*
*ISCJB **11** 03:50:52.2±4.0, 333S±02×1787W±02, h61km±29km, mb4.3/11, Error ellipse: s-maj=39.4km s-min=16.0km az=143.8*
ISC 11 03:50:52.9±3.4, 333S±02×1786W±02, h55km±23km, n40, σ0°98/19, mb4.4/11, MS4.0/7, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera**	**6.08**	**214**	Pn	**Pn**	**03 52 20.6**	**+0.5**
	6.0nm,0.3s,baz=350,slow=3.0,SNR=27						
URZ				Sn	**Sn**	**03 53 36.4**	**+8.1**
	10nm,0.3s,baz=152,slow=16,SNR=14						
RPZ	**Rata Peaks**	**13.19**	**215**	Pn	**Pn**	**03 53 56.1**	**-1.3**
	1.4nm,0.3s,baz=18,slow=6.4,SNR=5.4						
DZM	**Mont Dzumac**	**17.32**	**306**	*e*P	**Pn**	**03 54 52.8**	**+1.9**
DZM	**Mont Dzumac**	**17.32**	**306**	*e*P	**Pn**	**03 54 51.4**	**+0.5**
RAR	**Rarotonga**	**20.55**	**59**	LR	LR	04 01 40.4	
	comp=Z,244nm,19.6s,MS3.6,baz=262,slow=33						
PPT	**Papeete**	**30.38**	**66**	LR	LR	04 07 05.6	
	comp=Z,232nm,18.8s,MS3.9,baz=143,slow=33						
STKA	**Stephens Creek**	**33.45**	**261**	P	**P**	**03 57 27.2**	**+0.5**
	0.7nm,0.4s,mb4.0,baz=100,slow=6.1,SNR=2.9						
STKA				LR	LR	04 10 34.8	
	comp=Z,242nm,18.2s,MS4.0,baz=182,slow=35						
STKA	**Stephens Creek**	**33.45**	**261**	P	**P**	**03 57 27.2**	**+0.5**
STKA				LR	LR	04 10 34.8	
CTA	**Charters Tower**	**33.89**	**284**	P	**P**	**03 57 31.4**	**+0.8**
	11nm,0.5s,mb5.1,baz=117,slow=10,SNR=14						
CTAO	**Charters Tower**	**33.89**	**284**	*e*P	**P**	**03 57 31.3**	**+0.7**
	10.0nm,0.5s,mb5.0						
COEN	**Coen**	**39.68**	**290**	*e*P	**P**	**03 58 19.4**	**-0.5**
	2.1nm,0.7s,mb4.0						
ASAR	**Alice Springs**	**42.55**	**270**	P	**P**	**03 58 43.4**	**+0.1**
	5.9nm,0.6s,mb4.5,baz=109,slow=7.5,SNR=58						
WB2	**Warramunga Arr**	**43.79**	**275**	*e*P	**P**	**03 58 52.2**	**-1.2**
WRA	**Warramunga Arr**	**43.80**	**275**	P	**P**	**03 58 52.5**	**-1.0**
	9.8nm,0.4s,mb4.9,baz=114,slow=7.8,SNR=232						
FORT	**Forrest**	**44.90**	**258**	*e*P	**P**	**03 59 02.2**	**0.0**
	1.6nm,0.5s,mb4.1						
FITZ	**Fitzroy Crossi**	**51.92**	**272**	P	**P**	**03 59 56.2**	**-0.2**
	2.7nm,0.6s,mb4.3,baz=138,slow=12,SNR=8.5						
CASY	**Casey**	**52.38**	**209**	*e*P	**P**	**04 00 00.2**	**+1.2**
	15nm,1.4s,mb4.7						
QSPA	**South Pole Qui**	**56.83**	**180**	P	**P**	**04 00 33.7**	**+2.5**
	2.4nm,0.9s,mb4.2,baz=33,slow=2.0,SNR=6.6						
KAPI	**Kappang**	**63.68**	**282**	LR	LR	04 27 13.3	

	comp=Z,84nm,18.1s,MS4.0,baz=49,slow=34						
MAW	**Mawson**	**69.45**	**201**	LR	LR	04 31 09.2	
	comp=Z,205nm,20.0s,MS4.4,baz=72,slow=35						
SNAA	**Sanae**	**75.29**	**179**	*e*	PcP	04 02 41.6	-1.1
SNAA	**Sanae**	**75.29**	**179**	*e*P	**P**	**04 02 29.0**	**-0.6**
	2.9nm,1.1s,mb4.1						
VNA2	**Neumayer--Watz**	**75.89**	**177**	*e*	PcP	04 02 46.0	+0.7
PLCA	**Paso Flores**	**80.91**	**133**	P	**P**	**04 03 00.3**	**-1.0**
	2.3nm,1.0s,mb4.1,baz=210,slow=8.1,SNR=2.8						
TXAR	**Lajitas Array**	**94.35**	**58**	LR	LR	04 39 10.5	
	comp=Z,105nm,18.2s,MS4.3,baz=0.0,slow=31						
PDAR	**Pinedale Array**	**98.55**	**44**	LR	LR	04 42 17.1	
	comp=Z,112nm,21.6s,MS4.3,baz=267,slow=32						
MKAR	**Makanchi Array**	**119.22**	**309**	PKP	PKPdf	04 09 33.6	-1.8
	0.3nm,0.3s,baz=132,slow=2.1,SNR=3.3						
KURK	**Kurchatov**	**122.66**	**313**	*e*PKPdf	PKPdf	04 09 39.7	-2.2
JOF	**Joensuu**	**144.89**	**337**	*e*pkp	PKPdf	04 10 19.5	-3.4
	0.7nm,0.3s						
KAF	**Kangasniemi**	**147.07**	**339**	*e*pkp	PKPdf	04 10 27.2	+0.6
	1.3nm,0.4s,baz=42,slow=2.7						
NB2	**NORSAR Subarra**	**151.51**	**350**	PKP	PKPbc	04 10 37.2	-2.7
	comp=Z,3.1nm,0.8s,baz=15,slow=4.1						
NOA	**NORSAR Array B**	**151.51**	**350**	PKPbc	PKPbc	04 10 37.6	-2.3
	comp=Z,0.9nm,0.6s,baz=14,slow=4.1,SNR=5.4						
LIC	**Lamto**	**152.42**	**166**	*e*PKIKP	PKPbc	04 10 42.6	-0.9
	comp=Z,123nm,2.1s						
KIC	**Kosan Boka**	**152.60**	**167**	*e*PKIKP	PKPbc	04 10 43.1	-0.8
	comp=Z,73nm,1.4s						
TIC	**Toumodi**	**152.83**	**166**	*e*PKIKP	PKPbc	04 10 42.8	-1.6
	comp=Z,116nm,1.4s						
DBIC	**Dimbokro**	**152.88**	**166**	PKPbc	PKPbc	04 10 43.4	-1.1
	comp=Z,3.8nm,0.9s,baz=92,slow=7.2,SNR=4.3						
DBIC	**Dimbokro**	**152.88**	**166**	PKPbc	PKPbc	04 10 43.4	-1.1
AKASG	**Malin Array Be**	**153.22**	**319**	PKPbc	PKPbc	04 10 42.3	-1.8
	comp=Z,0.3nm,0.3s,baz=65,slow=2.4,SNR=5.9						
TORD	**Torodi Ar. Bea**	**159.95**	**181**	PKP	PKPdf	04 10 46.0	-0.4
	comp=Z,0.3nm,0.7s,baz=157,slow=0.9,SNR=2.4						
TORD				PKPab	PKPab	04 11 25.6	-0.2
	comp=Z,0.3nm,0.6s,baz=163,slow=3.1,SNR=5.2						
TORD	**Torodi Ar. Bea**	**159.95**	**181**	PKP	PKPdf	04 10 46.0	-0.4
TORD				PKPab	PKPab	04 11 25.6	-0.2

*ISCJB **11** 04:14:01.4±0.8, 7.06N±0.04×126.94E±0.07, h75km±7km, mb4.3/33, Error ellipse: s-maj=11.4km s-min=6.4km az=176.9*
*MAN **11** 04:14:01, 7.31N×126.69E, h1km, mb5.1, ML4.0, MS4.2*
*IDC **11** 04:14:02.4±2.2, 7.06N×126.85E, h64km±20km, mb3.9/14, mb1 4.1/16, mb1mx4.0/23, mbtmp4.0/16, MS3.5/1, Ms1 3.5/1, ms1mx2.4/33, Error ellipse: s-maj=24.4km s-min=10.9km az=75.0*
*NEIC **11** 04:14:02.2±1.0, 7.06N×126.84E, h63km±9km, mb4.5/21, Error ellipse: s-maj=10.1km s-min=4.9km az=75.0*
ISC 11 04:14:03.1±0.8**, 7.04N**±0.04×**126.91E**±0.07**, h73**km±7km**, n76, σ0.98**/73**, mb4.3**/33**, 4C-5D, Mindanao**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MATI	**Mati**	**0.65**	**262**	*e*P	**Pn**	**04 14 11.3**	**-6.5**
BIPH	**Bislig**	**1.26**	**334**	⇓*i*P	**Pn**	**04 14 21.3**	**-3.8**
BIPH				*i* S	**Sn**	**04 14 38.1**	**-3.4**
DAV	**Davao City (W)**	**1.32**	**271**	P	**Pn**	**04 14 24.3**	**-1.5**
	555nm,0.3s,baz=85,slow=0.4,SNR=86						
DAV				S	**Sn**	**04 14 44.7**	**+1.7**
	276nm,0.3s,baz=278,slow=17,SNR=8.5						
KCP	**Kidapawan**	**1.81**	**269**	⇓*e*P	**Pn**	**04 14 31.1**	**-1.1**
KCP				*i* S	**Sn**	**04 14 55.3**	**+0.9**
BUKP	**Musuan**	**2.01**	**295**	*e*P	**Pn**	**04 14 33.0**	**-2.0**
GSPH	**General Santos**	**2.17**	**244**	⇑*e*P	**Pn**	**04 14 33.7**	**-3.5**
BUTP	**Butuan**	**2.30**	**326**	*e*P	**Pn**	**04 14 38.9**	**0.0**
CTBH	**Cotabato--PC H**	**2.65**	**274**	⇓*e*P	**Pn**	**04 14 43.0**	**-0.7**
SCPH	**Surigao**	**3.06**	**333**	⇑*e*P	**Pn**	**04 14 50.0**	**+0.8**
MSLP	**Maasin**	**3.68**	**327**	*e*P	**Pn**	**04 14 57.3**	**-0.4**
DCPH	**Dipolog City**	**3.84**	**294**	⇑*e*P	**Pn**	**04 15 01.1**	**+1.2**
DCPH				*e*S	**Sn**	**04 16 01.2**	**+17**
TBP	**Tagbilaran**	**4.00**	**311**	*e*P	**Pn**	**04 15 01.5**	**-0.6**
TBP				*e*S	**Sn**	**04 15 38.1**	**-10**
LLP	**Lapu-Lapu**	**4.36**	**318**	⇓*e*P	**Pn**	**04 15 07.6**	**+0.6**
PLP	**Palo**	**4.52**	**335**	⇓*e*P	**Pn**	**04 15 11.3**	**+2.2**
PLP				*e*S	**Sn**	**04 16 08.2**	**+7.8**
OCLP	**Ormoc**	**4.58**	**330**	*e*P	**Pn**	**04 15 13.8**	**+3.7**
GUIM	**Jordan**	**5.56**	**310**	*e*P	**Pn**	**04 15 22.3**	**-1.0**
CNP	**Catarman**	**5.87**	**338**	*e*P	**Pn**	**04 15 33.4**	**+5.9**
RCP	**Roxas**	**6.08**	**318**	⇑*e*P	**Pn**	**04 15 31.8**	**+1.3**
PVCP	**Virac**	**7.05**	**338**	*e*P	**Pn**	**04 15 50.2**	**+6.4**
OTRP	**Odiongan**	**7.15**	**318**	*e*P	**Pn**	**04 15 47.1**	**+2.0**
SJMP	**San Jose**	**7.84**	**314**	*e*P	**Pn**	**04 15 55.4**	**+0.8**
ENPP	**El Nido**	**8.47**	**300**	*e*P	**Pn**	**04 16 02.4**	**-0.7**
KAPI	**Kappang**	**13.95**	**211**	P	**Pn**	**04 17 16.2**	**-1.2**
	2.8nm,0.3s,baz=168,slow=15,SNR=3.9						
JOW	**Kunigami**	**19.72**	**4**	P	**Pn**	**04 18 28.6**	**-0.4**
	1.4nm,0.3s,baz=173,slow=13,SNR=6.6						
KAKA	**Kakadu**	**20.38**	**164**	*e*P	**P**	**04 18 33.2**	**-0.9**
	21nm,0.6s						
FITZ	**Fitzroy Crossi**	**25.02**	**183**	*e*P	**P**	**04 19 20.9**	**+0.5**
	5.1nm,0.4s,mb4.3						
FITZ	**Fitzroy Crossi**	**25.02**	**183**	P	**P**	**04 19 19.5**	**-0.9**
	5.4nm,0.8s,mb4.0,baz=4.1,slow=8.4,SNR=10.0						
COEN	**Coen**	**26.38**	**142**	*e*P	**P**	**04 19 32.4**	**-0.4**
	2.1nm,0.8s,mb3.6						
WRA	**Warramunga Arr**	**27.80**	**165**	P	**P**	**04 19 45.0**	**-0.5**
	0.6nm,0.4s,mb3.5,baz=340,slow=10,SNR=24						
WRA				PcP	PcP	04 23 01.6	+1.3
	0.7nm,0.5s,baz=332,slow=2.5,SNR=4.6						
WB2	**Warramunga Arr**	**27.80**	**165**	*e*P	**P**	**04 19 45.6**	**+0.2**
CMAR	**Chiang Mai Arr**	**29.49**	**295**	P	**P**	**04 20 01.0**	**+0.4**
	0.6nm,0.3s,mb3.8,baz=111,slow=7.2,SNR=1.9						
KSRS	**Korea Array**	**30.29**	**2**	P	**P**	**04 20 06.8**	**-0.6**
	1.4nm,0.5s,mb3.8,baz=171,slow=9.4,SNR=4.8						
MJAR	**Matsushiro Arr**	**31.12**	**18**	P	**P**	**04 20 14.2**	**-0.5**
	4.1nm,0.7s,mb4.3,baz=192,slow=9.5,SNR=11						
MAJO	**Matsushiro**	**31.12**	**18**	*e*P	**P**	**04 20 13.9**	**-0.8**
	8.4nm,0.8s,mb4.5						
ASAR	**Alice Springs**	**31.28**	**168**	P	**P**	**04 20 16.4**	**+0.2**
	1.1nm,0.4s,mb3.9,baz=342,slow=7.3,SNR=21						
ASAR				PcP	PcP	04 23 10.2	+1.1
	2.6nm,0.5s,baz=344,slow=2.4,SNR=15						
CTA	**Charters Tower**	**33.00**	**145**	LR	LR	04 33 56.6	
	comp=Z,80nm,19.8s,baz=52,slow=36						
FORT	**Forrest**	**37.62**	**178**	*e*P	**P**	**04 21 11.7**	**+0.8**
	15nm,0.4s,mb5.2						
FORT	**Forrest**	**37.62**	**178**	*e*P	**P**	**04 21 11.5**	**+0.6**
	2.9nm,0.6s,mb4.3						
KLBR	**Kellerberrin**	**39.40**	**192**	*e*P	**P**	**04 21 26.9**	**+1.1**
	15nm,1.0s,mb4.8						
MUN	**Mundaring**	**40.12**	**194**	*e*P	**P**	**04 21 33.2**	**+1.4**
STKA	**Stephens Creek**	**41.16**	**161**	*e*P	**P**	**04 21 41.1**	**+0.7**
	2.8nm,0.4s,mb4.5						
STKA	**Stephens Creek**	**41.16**	**161**	P	**P**	**04 21 41.3**	**+0.9**
	2.9nm,0.7s,mb4.2,baz=92,slow=15,SNR=8.0						
SONM	**Songino Array**	**44.25**	**340**	P	**P**	**04 22 04.1**	**-1.1**
	0.3nm,0.4s,mb3.4,baz=155,slow=11,SNR=2.6						
SONM				PcP	PcP	04 23 49.1	+0.5
	0.7nm,0.7s,baz=157,slow=4.3,SNR=3.5						
SONM	**Songino Array**	**44.25**	**340**	P	**P**	**04 22 04.1**	**-1.1**
SONM				PcP	PcP	04 23 49.1	+0.5
PETK	**Petropavlovsk-**	**52.32**	**23**	P	**P**	**04 23 07.7**	**+0.4**
	7.7nm,0.6s,mb4.9,baz=191,slow=5.2,SNR=5.6						
MK31	**Makanchi Array**	**54.98**	**324**	*e*P	**P**	**04 23 26.6**	**-0.1**
MKAR	**Makanchi Array**	**54.98**	**324**	P	**P**	**04 23 26.9**	**+0.1**
	3.6nm,0.6s,mb4.6,baz=123,slow=8.3,SNR=23						
TKM2	**Tokmak 2**	**57.42**	**317**	*e*P	**P**	**04 23 44.2**	**-0.1**
	1.8nm,0.7s,mb4.2						
ZALV	**Zalesovo Beam**	**57.75**	**332**	P	**P**	**04 23 45.6**	**-0.7**
	0.8nm,0.4s,mb4.1,baz=116,slow=6.8,SNR=5.1						
UCH	**Uchtor**	**57.90**	**316**	*e*P	**P**	**04 23 48.3**	**+0.6**
	4.2nm,0.8s,mb4.5						
AML	**Almayashu**	**58.43**	**316**	*e*P	**P**	**04 23 52.1**	**+0.8**
	4.5nm,0.9s,mb4.5						
EKS2	**Erkin-Say**	**58.56**	**316**	*e*P	**P**	**04 23 52.1**	**-0.2**
	2.8nm,0.6s,mb4.5						
KURK	**Kurchatov**	**59.08**	**326**	P	**P**	**04 23 55.4**	**-0.3**
	3.0nm,0.7s,mb4.4,baz=125,slow=6.3,SNR=17						
KURK	**Kurchatov**	**59.08**	**326**	*e*P	**P**	**04 23 55.0**	**-0.6**
	4.0nm,0.8s,mb4.5						
KBL	**Kabul**	**59.70**	**306**	*e*P	**P**	**04 24 00.1**	**-0.2**
	4.5nm,0.6s,mb4.7						
BVAR	**Borovoye Array**	**64.67**	**326**	P	**P**	**04 24 32.9**	**-0.3**
	1.1nm,0.6s,mb3.9,baz=120,slow=8.8,SNR=5.8						
BRVK	**Borovoye**	**64.74**	**326**	*e*P	**P**	**04 24 32.8**	**-0.8**
	4.1nm,0.8s,mb4.3						
ARU	**Arti**	**72.26**	**327**	*e*P	**P**	**04 25 19.9**	**-0.5**
	4.7nm,0.6s,mb4.5						
CASY	**Casey**	**74.11**	**187**	*e*P	**P**	**04 25 32.4**	**+1.4**
CASY	**Casey**	**74.11**	**187**	*e*P	**P**	**04 25 32.3**	**+1.2**
	3.4nm,0.7s,mb4.2						
NAY	**Al-Naaiem**	**77.60**	**298**	*e*P	**P**	**04 25 50.9**	**-0.9**
NAY				AMb	AMB	04 25 52.0	
	comp=Z,6.0nm,1.0s,mb4.3						
RST	**Umm Al-Ruwaisa**	**77.80**	**299**	*e*P	**P**	**04 25 51.6**	**-1.3**
RST				AMb	AMB	04 25 52.9	
	comp=Z,13nm,0.9s,mb4.7						
PPLA	**Purkeypile**	**79.62**	**27**	*e*P	**P**	**04 26 03.9**	**+1.7**
	comp=Z,5.1nm,0.6s,mb4.5						
RC01	**Rabbit Creek A**	**80.66**	**29**	*e*P	**P**	**04 26 08.9**	**+1.1**
	comp=Z,5.9nm,0.6s,mb4.6						
COLA	**College**	**81.64**	**25**	*e*P	**P**	**04 26 13.8**	**+0.8**
	comp=Z,3.4nm,0.7s,mb4.3						
BR131	**Keskin Array S**	**88.06**	**310**	*e*P	**P**	**04 26 45.5**	**-0.2**
	comp=Z,0.7nm,0.6s,mb3.9						
CSS	**Prodhromos**	**88.93**	**305**	*e*P	**P**	**04 26 50.4**	**+0.4**
	comp=Z,9.0nm,0.7s,mb4.9						
AKASG	**Malin Array Be**	**89.45**	**321**	P	**P**	**04 26 51.1**	**-0.9**
	comp=Z,1.1nm,0.5s,mb4.1,baz=71,slow=4.4,SNR=6.8						
TXAR	**Lajitas Array**	**119.41**	**51**	PKP	PKPdf	04 32 47.0	+2.0
	comp=Z,0.5nm,0.6s,baz=224,slow=0.9,SNR=9.1						
JCT	**Junction City**	**121.74**	**48**	*e*PKPdf	PKPdf	04 32 50.9	+1.6
PMSA	**Palmer Station**	**121.85**	**174**	*e*PKPdf	PKPdf	04 32 49.9	+1.5
TOA0	**Torodi Ar. Sit**	**122.00**	**290**	*e*PKPdf	PKPdf	04 32 50.0	-0.2
TORD	**Torodi Ar. Bea**	**122.00**	**290**	PKP	PKPdf	04 32 50.2	0.0
	comp=Z,0.5nm,0.4s,baz=58,slow=2.3,SNR=19						
WVT	**Waverly**	**126.07**	**35**	*e*PKPdf	PKPdf	04 32 58.7	+1.1
TRQA	**Tornquist**	**148.09**	**167**	*e*PKPbc	PKPbc	04 33 41.8	+0.9
LPAZ	**La Paz**	**162.65**	**123**	PKPab	PKPab	04 34 48.2	+1.9
	comp=Z,0.8nm,0.7s,baz=212,slow=7.6,SNR=4.1						

MAN 11 04:33:08, 17.52N×122.63E, h6km, mb4.3, ML3.1, MS2.9, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PALP	**Palanan**	**0.49**	**204**	*e*P	Pg	04 33 18.1	+0.6
PALP				*e*S	Sg	04 33 23.1	-0.8
CVP	**Callao Caves**	**0.80**	**284**	*e*P	Pg	04 33 23.6	+0.3
CVP				*e*S	Sg	04 33 34.8	+1.2
CAUP	**Cauayan**	**0.96**	**234**	*e*P	Pg	04 33 27.7	+1.2
CAUP				*e*S	Sg	04 33 43.0	+4.1
ABRA	**Dolores**	**1.84**	**274**	*e*P	Pn	04 33 34.2	-5.9
BALP	**Baler**	**2.04**	**210**	*e*P	Pn	04 33 43.1	+0.3
BALP				*e*S	Sn	04 34 08.6	+0.1
BOLP	**Bolinao**	**2.84**	**247**	*e*P	Pn	04 33 55.4	+1.5

*NIED **11** 04:35:00, 47.20N×141.80E, h5km, Mw4.4 Best double couple: $M_0$5.23000×10^15 NP1: ϕ_s359.00000°, δ57.00000°, λ43.00000°. NP2: ϕ_s242.00000°, δ56.00000°, λ138.00000°.*
*JMA **11** 04:35:39.5±0.4, 47.15N×141.81E, h22km, M4.8*
*SKHL **11** 04:35:40.9±0.9, 46.81N×141.75E, h10km, mb4.7/10, Ms4.4/4, Feli (IV-V) at Nevel'sk, Lopatino, Gornozavodsk, (IV) at Seleznevo, Yasnomorskiy, (III-IV) at Vatutino, (III) at Kholmsk*
*ISCJB **11** 04:35:41.1±0.6, 46.90N±0.02×141.81E±0.03, h7km±3km, mb4.5/66, MS4.1/22, Error ellipse: s-maj=3.2km s-min=2.9km az=38.3*
*BJI **11** 04:35:41.3, 47.03N×141.82E, h11km, mB4.7, mb4.5, ML4.7, Ms4.5, Msz4.4*
*MOS **11** 04:35:42.0±1.0, 46.81N×141.80E, h15km, mb4.7/36, MS3.9/14, Error ellipse: s-maj=8.4km s-min=5.9km az=100.5*
MOS Felt (IV-V) at Nevel'sk, Lopatino, Gornozavodsk; (IV) at Seleznevo, Yasnomorskyi; (III-IV) at Vatutino; (III) at Kholmsk.
*NEIC **11** 04:35:43.5±0.2, 46.90N×141.81E, h10km, mb4.6/40, Error ellipse: s-maj=6.5km s-min=4.7km az=160.0*
NEIC Felt at Makarov.
*IDC **11** 04:35:45.8±3.8, 46.80N×141.80E, h30km±28km, mb4.1/18, mb1 4.3/22, mb1mx4.2/26, mbtmp4.1/22, ML3.8/4, MS3.8/12, Ms1 3.9/12, ms1mx3.5/42, Error ellipse: s-maj=14.6km s-min=13.3km az=177.0*
ISC 11 04:35:43.1±0.6**, 46.87N**±0.02×**141.78E**±0.03**, h8**km±3km**, h15**km±2.3km**:pP-P, n366, σ0.77**/394**, mb4.5**/66**, MS4.1**/22**, 89C-94D, Sakhalin Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
YSS	**Yuzh-Sakhalins**	**0.68**	**82**	⇓*i*PN	**Pg**	**04 35 54.0**	**-2.1**
YSS				*i*		04 36 04.0	
YSS				pmax	pmax		
	comp=Z,1μm,0.8s						
YSS				smax			
	comp=E,10μm,0.4s						
YSS	**Yuzh-Sakhalins**	**0.68**	**82**	⇓*i*Pg	**Pg**	**04 35 54.0**	**-2.1**
YSS				⇓*i*Pg	**Pg**	**04 35 54.0**	**-2.1**
YSS				⇓*i*Pg	**Pg**	**04 35 54.0**	**-2.1**
YSS				AMB	AMB	04 35 55.1	
	comp=E,1μm,0.8s						
YSS				*i* Sg	**Sg**	**04 36 04.0**	**-0.8**
YSS				A		04 36 06.5	
	comp=E,10μm,0.4s						
YSS				AMS	AMS	04 36 20.0	
	comp=E,26μm,4.0s						
YSS				AMS	AMS	04 36 20.0	
	comp=E,25μm,4.0s						
YSS				AMS	AMS	04 36 20.0	
	comp=E,38μm,4.0s						
YSS				AMS	AMS	04 36 20.0	
	comp=E,34μm,4.0s						
YSS				AMS	AMS	04 36 20.0	
	comp=E,19μm,4.0s						
YSS				AMS	AMS	04 36 20.0	
	comp=E,28μm,4.0s						
YSS	**Yuzh-Sakhalins**	**0.68**	**82**	*e*Pn	**Pn**	**04 35 55.3**	**-3.6**
YSS				*e*Sn	**Sg**	**04 36 06.8**	**+2.0**
JWK2	**Keihoku**	**1.55**	**177**	P	**Pn**	**04 36 10.4**	**-0.5**
JWK2				*e*S	**Sn**	**04 36 32.5**	**+1.3**
JRR	**Rishiri**	**1.76**	**191**	P	**Pn**	**04 36 14.2**	**+0.4**
JRR				*e*S	**Sn**	**04 36 40.1**	**+3.8**
JSE	**Soyaes**	**1.99**	**163**	P	**Pn**	**04 36 16.3**	**-0.6**
JSE				*e*S	**Sn**	**04 36 43.3**	**+1.3**
UGL	**Uglegorsk**	**2.22**	**5**	*e*PN	**Pn**	**04 36 22.0**	**+1.9**
UGL				S	**Sn**	**04 36 50.5**	**+2.8**
UGL				pmax	pmax		
	comp=N,760nm,1.0s						
UGL				pmax	pmax		
	comp=E,2μm,1.0s						
UGL				pmax	pmax		
	comp=Z,2μm,1.0s						
UGL				pmax	pmax		
	comp=Z,2μm,1.2s						
UGL				pmax	pmax		
	comp=N,2μm,1.0s						
UGL				pmax	pmax		
	comp=E,2μm,1.0s						
UGL				smax			
	comp=N,10μm,1.4s						
UGL				smax			
	comp=E,11μm,1.4s						
UGL				smax			
	comp=N,2μm,0.8s						
UGL				smax			
	comp=E,5μm,0.8s						
UGL	**Uglegorsk**	**2.22**	**5**	*e*P	**Pn**	**04 36 19.0**	**-1.1**
UGL				*e*Pg	**Pg**	**04 36 26.5**	**+0.9**
UGL				AMB	AMB	04 36 28.0	
	comp=E,760nm,1.0s						
UGL				AMB	AMB	04 36 28.0	
	comp=E,2μm,1.0s						
UGL				AMB	AMB	04 36 28.0	
	comp=E,2μm,1.0s						
UGL				AMB	AMB	04 36 30.0	
	comp=E,2μm,1.1s						
UGL				AMB	AMB	04 36 30.0	
	comp=E,2μm,1.1s						
UGL				AMB	AMB	04 36 30.0	
	comp=E,2μm,1.1s						
UGL				*e*S	**Sn**	**04 36 47.4**	**-0.3**
UGL				*e*Sg	**Sg**	**04 36 56.5**	**+2.1**
UGL				A		04 36 58.0	
	comp=E,10μm,1.4s						
UGL				A		04 36 58.0	
	comp=E,11μm,1.4s						
UGL				A		04 36 58.5	
	comp=E,2μm,0.8s						
UGL				A		04 36 58.5	
	comp=E,5μm,0.8s						
JYG	**Yagishiri**	**2.45**	**186**	P	**Pn**	**04 36 23.9**	**+0.6**
JYG				*e*S	**Sn**	**04 36 56.6**	**+3.2**
JSS	**Shosan**	**2.47**	**179**	P	**Pn**	**04 36 24.5**	**+1.0**
ASAJ	**Asahikawa**	**2.81**	**168**	Pn	**Pn**	**04 36 28.2**	**0.0**
	comp=E,27nm,0.3s,baz=13,slow=8.5,SNR=27						
ASAJ				Lg		04 37 12.2	
	comp=E,50nm,0.3s,baz=152,slow=32,SNR=11						
ASAJ	**Asahikawa**	**2.81**	**168**	P	**Pn**	**04 36 28.0**	**-0.2**
JKK2	**Kamakawa 2**	**3.07**	**167**	P	**Pn**	**04 36 31.8**	**0.0**
JHR	**Hokuryu**	**3.12**	**181**	P	**Pn**	**04 36 33.6**	**+1.1**
JTKR	**Abashiri--Toko**	**3.26**	**152**	P	**Pn**	**04 36 33.6**	**-0.8**
JAR	**Ashorobuto**	**3.84**	**158**	P	**Pn**	**04 36 42.3**	**0.0**
YUK	**Yuzh-Kuril'sk**	**4.03**	**133**	*e*PN	**Pn**	**04 36 44.5**	**-0.5**
YUK				S	**Sn**	**04 37 30.5**	**-1.9**
YUK				pmax	pmax		
	comp=N,210nm,0.4s						
YUK				pmax	pmax		
	comp=Z,330nm,0.4s						
YUK				pmax	pmax		
	comp=E,150nm,0.5s						
YUK				smax			
	comp=N,2μm,1.0s						
YUK				smax			
	comp=E,3μm,1.2s						
YUK				smax			
	comp=N,470nm,0.6s						
YUK				MLR	MLR		
	comp=N,3μm,17.0s						
YUK				MLR	MLR		
	comp=Z,2μm,17.0s						
YUK				MLR	MLR		
	comp=E,1μm,15.0s						
YUK	**Yuzh-Kuril'sk**	**4.03**	**133**	*e*P	**Pn**	**04 36 44.5**	**-0.5**
YUK				AMB	AMB	04 36 49.0	
	comp=E,150nm,0.5s						
YUK				AMB	AMB	04 36 49.0	
	comp=E,210nm,0.4s						
YUK				AMB	AMB	04 36 49.0	
	comp=E,330nm,0.4s						
YUK				*e*S	**Sn**	**04 37 30.5**	**-1.9**
YUK				A		04 37 42.0	
	comp=E,2μm,1.0s						
YUK				A		04 37 42.0	
	comp=E,3μm,1.2s						
YUK				A		04 37 49.5	
	comp=E,470nm,0.6s						
YUK				AMS	AMS	04 38 25.0	
	comp=E,3μm,16.0s						
YUK				AMS	AMS	04 38 25.0	
	comp=E,1μm,16.0s						
YUK				AMS	AMS	04 38 25.0	
	comp=E,2μm,16.0s						
TYV	**Tymovskoe**	**4.04**	**8**	*e*P	**Pn**	**04 36 45.0**	**-0.1**
TYV				AMB	AMB	04 36 46.2	
	comp=E,30nm,0.8s						
TYV				*e*S	**Sn**	**04 37 34.0**	**+1.4**
TYV				AMS	AMS	04 39 00.0	
	comp=E,2μm,8.0s						
TYV				AMS	AMS	04 39 00.0	
	comp=E,3μm,8.0s						
TEY	**Ternei**	**4.05**	**245**	*e*P	**Pn**	**04 36 43.0**	**-2.2**
TEY				AMB	AMB	04 36 48.5	
	comp=E,56nm,0.3s						
TEY				*e*Pg	**Pg**	**04 36 58.8**	**-1.8**
TEY				AMB	AMB	04 37 05.0	
	comp=E,53nm,0.5s						
TEY				*e*S	**Sn**	**04 37 28.0**	**-4.8**
TEY				A		04 37 29.5	
	comp=E,158nm,0.5s						
TEY				*e*Sg	**Sg**	**04 37 56.0**	**+3.0**
TEY				A		04 38 10.0	
	comp=E,130nm,0.6s						
TEY				AMS	AMS	04 38 36.0	
	comp=E,4μm,12.0s						
TEY				AMS	AMS	04 38 36.0	
	comp=E,2μm,12.0s						
JCH	**Churui**	**4.40**	**165**	P	**Pn**	**04 36 50.6**	**+0.5**
NEM2	**Nemuro 2**	**4.49**	**140**	P	**Pn**	**04 36 51.4**	**+0.1**
KUR	**Kuril'sk**	**4.54**	**109**	*e*PN	**Pn**	**04 36 51.0**	**-1.0**
KUR				pmax	pmax		
	comp=N,50nm,0.5s						
KUR				pmax	pmax		
	comp=E,40nm,0.5s						
KUR				pmax	pmax		
	comp=Z,80nm,0.5s						
KUR	**Kuril'sk**	**4.54**	**109**	*e*P	**Pn**	**04 36 51.0**	**-1.0**
KUR				AMB	AMB	04 36 54.1	
	comp=Z,53nm,0.5s						
KUR				AMB	AMB	04 36 54.1	
	comp=Z,38nm,0.5s						
KUR				AMB	AMB	04 36 54.1	
	comp=Z,76nm,0.5s						
KUR				*i* S	**Sn**	**04 37 40.7**	**-4.2**
KUR				A		04 37 48.7	
	comp=Z,258nm,0.7s						
KUR				A		04 37 48.7	
	comp=Z,86nm,0.7s						
HABR	**Khabarovsk**	**4.82**	**292**	*e*PN	**Pn**	**04 36 54.0**	**-1.8**
ERM	**Erimo**	**4.95**	**168**	*e*PN	**Pn**	**04 37 00.5**	**+2.9**
GRNR	**Gornyy**	**5.27**	**320**	*e*P	**Pn**	**04 36 57.0**	**-5.0**
GRNR				AMB	AMB	04 36 58.2	
	comp=Z,98nm,0.9s						
GRNR				AMB	AMB	04 36 58.2	
	comp=Z,71nm,0.9s						
GRNR				*e*S	**Sn**	**04 37 55.0**	**-7.8**
GRNR				*e*Sg	**Sg**	**04 38 30.0**	**-2.1**
GRNR				A		04 38 32.8	
	comp=Z,176nm,0.5s						
GRNR				A		04 38 32.8	
	comp=Z,131nm,0.5s						
NKL	**Nikolayevsk**	**6.33**	**354**	*e*P	**Pn**	**04 37 12.0**	**-4.5**
NKL				*e*Pg	**Pg**	**04 37 45.0**	**+0.8**
NKL				AMB	AMB	04 37 54.0	
	comp=Z,35nm,0.5s						
NKL				*e*S	**Sn**	**04 38 23.5**	**-5.4**
NKL				*e*Sg	**Sg**	**04 39 12.3**	**+6.2**
NKL				A		04 39 18.0	
	comp=Z,46nm,0.6s						
NKL				A		04 39 18.0	
	comp=Z,28nm,0.6s						
NKL				AMS	AMS	04 40 30.0	
	comp=Z,1μm,15.0s						
KLR	**Kul'dur**	**7.13**	**293**	*e*PN	**Pn**	**04 37 22.7**	**-4.8**
KLR				*e*		04 39 00.0	
KLR				MLR	MLR		
	comp=E,2μm,11.0s						
KLR				MLR	MLR		
	comp=Z,2μm,11.0s						
KLR	**Kul'dur**	**7.13**	**293**	*e*P	**Pn**	**04 37 22.7**	**-4.8**
KLR				*e*rx	rx	04 37 54.8	
KLR				AMS	AMS	04 40 31.5	
	comp=Z,2μm,11.0s						
KLR				AMS	AMS	04 40 31.5	
	comp=Z,2μm,11.0s						
VLA	**Vladivostok**	**7.94**	**245**	*e*PN	**Pn**	**04 37 36.3**	**-2.4**
VLA				pmax	pmax		
	comp=Z,49nm,0.7s						
VLA				MLR	MLR		
	comp=Z,800nm,11.3s						
EKMR	**Ekimchan**	**8.42**	**321**	*e*P	**Pn**	**04 37 41.0**	**-4.2**
EKMR				*e*Pg	Pn	04 38 29.0	+44
EKMR				AMB	AMB	04 38 30.0	
	comp=Z,14nm,0.7s						
EKMR				*e*S	**Sn**	**04 39 24.5**	**+4.2**
EKMR				*e*Sg	Sn	04 40 16.0	+56
EKMR				A		04 40 22.0	
	comp=Z,450nm,1.0s						
EKMR				A		04 40 22.0	
	comp=Z,210nm,1.0s						
EKMR				A		04 40 22.0	
	comp=Z,220nm,1.0s						
MDJ	**Mudanjiang**	**8.82**	**260**	P	**Pn**	**04 37 51.7**	**+1.0**
MDJ				S	**Sn**	**04 39 42.2**	**+12**
MDJ				PCP	PcP	04 44 17.6	+0.9
MDJ				SCS	ScS	04 51 22.1	-0.5
MDJ				AMB	AMB		
	comp=Z,6.0nm,1.1s						
MDJ				AMB	AMB		
	comp=Z,94nm,6.0s						
MDJ				LR	LR		
	comp=N,1μm,16.4s						
MDJ				LR	LR		
	comp=E,1μm,15.5s						
MDJ				LR	LR		
	comp=Z,2μm,15.0s						
SKR	**Severo-Kuril's**	**10.20**	**63**	*e*rx	rx	04 41 07.5	
MAJO	**Matsushiro**	**10.65**	**196**	*e*PN	**Pn**	**04 38 17.0**	**+1.1**

MAJO pmax pmax
comp=Z,35nm,0.8s
MAJO Matsushiro 10.65 196 *e*Pn **Pn 04 38 17.0 +1.1**
comp=Z,35nm,0.8s
MAT Matsushiro 10.65 196 P **Pn 04 38 13.2 -2.7**
MJAR Matsushiro Arr 10.65 196 Pn **Pn 04 38 16.4 +0.6**
comp=Z,0.6nm,0.3s,baz=6.6,slow=14,SNR=24
MJAR Matsushiro Arr 10.65 196 PN **Pn 04 38 16.4 +0.5**
MJAR pmax pmax
comp=Z,1.0nm,0.3s
BMKR Bomnak 11.33 319 *e*Sg Sx 04 41 44.0
BMKR A 04 42 06.5
comp=Z,50nm,0.9s
BMKR A 04 42 06.5
comp=Z,58nm,0.9s
ZEA Zeya 11.55 312 *e*S **Sn 04 40 43.5 +6.5**
ZEA *e*Sg 04 41 51.5
ZEA AMS AMS 04 43 12.0
comp=Z,1μm,13.0s
ZEA AMS AMS 04 43 12.0
comp=Z,1μm,13.0s
PETK Petropavlovsk- 11.99 53 Pn **Pn 04 38 35.0 +0.9**
comp=Z,0.1nm,0.3s,baz=240,slow=8.1,SNR=3.0
PETK LR LR 04 42 34.8
comp=Z,90nm,21.9s,baz=239,slow=34
PETK Petropavlovsk- 11.99 53 Pn **Pn 04 38 35.0 +0.9**
PETK LR LR 04 42 34.8
KROS Kirovskiy 12.05 314 *e*P **Pn 04 38 33.2 -1.7**
KROS AMB AMB 04 38 34.6
comp=Z,7.0nm,0.8s
KROS *e*Sg 04 42 04.0
KROS A 04 42 17.4
comp=Z,140nm,1.4s
PET Petropavlovsk 12.48 54 *e*PN **Pn 04 38 41.3 +0.5**
KSRS Korea Array 13.91 232 Pn **Pn 04 39 01.1 +0.7**
comp=Z,0.4nm,0.3s,baz=47,slow=13,SNR=2.9
KSRS LR LR 04 43 15.6
comp=Z,130nm,19.8s,baz=212,slow=32
CLNS Chul'man 14.40 320 *e*P x 04 39 22.8
CLNS pmax pmax
comp=Z,16nm,1.1s
CLNS pmax pmax
comp=N,6.0nm,1.0s
CLNS pmax pmax
comp=E,9.0nm,0.8s
CLNS pmax pmax
comp=Z,7.0nm,0.6s
CLNS MLR MLR
comp=Z,314nm,11.0s
CLNS MLR MLR
comp=E,227nm,17.0s
CLNS MLR MLR
comp=N,233nm,11.0s
HIA Hailar 14.92 287 *e*P **Pn 04 39 15.4 +1.3**
HIA pmax pmax
comp=Z,17nm,0.8s
HIA Hailar 14.92 287 *e*Pn **Pn 04 39 15.4 +1.3**
comp=Z,17nm,0.8s
YAK Yakutsk 16.70 340 *e*P **Pn 04 39 38.0 +1.0**
YAK pmax pmax
comp=Z,23nm,0.9s
YAK pmax pmax
comp=N,12nm,0.9s
YAK pmax pmax
comp=E,11nm,1.1s
SEY Seymchan 17.18 17⇑ *i*P **Pn 04 39 44.4 +1.4**
BJI Beijing 19.75 259 P **Pn 04 40 13.5 -1.1**
BJI S **Sn 04 43 56.2 -0.2**
BJI AMB AMB
comp=Z,9.0nm,0.7s
BJI AMB AMB
comp=Z,164nm,3.8s
BJI LR LR
comp=N,1μm,15.2s
BJI LR LR
comp=E,542nm,14.5s
BJI LR LR
comp=Z,474nm,17.3s
BJI Beijing 19.75 259 P **Pn 04 40 13.5 -1.1**
comp=Z,9.0nm,0.7s
BJI S **Sn 04 43 56.2 -0.2**
BOD Bodaibo 20.05 313 *e*P **P 04 40 16.3 +0.1**
BOD pmax pmax
comp=Z,14nm,1.4s
HHC Hu-ho-hao-te 22.52 266 *e*P **P 04 40 43.0 0.0**
HHC AP 04 40 47.8
HHC XP sP 04 40 50.1 +3.7
HHC PP 04 41 11.0
HHC PCP PcP 04 44 38.0 +1.4
HHC S **S 04 44 45.0 -5.3**
HHC XS sS 04 44 51.0 -3.0
HHC SS 04 45 27.3
HHC SCP ScP 04 48 14.7 +0.4
HHC AMB AMB
comp=Z,10.0nm,1.0s,mb4.2
HHC AMB AMB
comp=Z,101nm,5.6s
HHC LR LR
comp=N,609nm,11.3s,MS4.4
HHC LR LR
comp=E,686nm,12.0s,MS4.4
HHC LR LR
comp=Z,876nm,13.3s,MS4.4
NJ2 Nanjing 22.95 238 *e*P **P 04 40 49.2 +1.5**
NJ2 AP 04 40 53.4
NJ2 XP sP 04 40 56.2 +5.1
NJ2 PP 04 41 19.1
NJ2 S **S 04 44 55.0 -3.0**
NJ2 XS sS 04 45 03.0 +0.9
NJ2 AMB AMB
comp=Z,20nm,0.9s,mb4.5
NJ2 AMB AMB
comp=Z,50nm,4.8s
NJ2 LR LR
comp=N,210nm,24.3s
NJ2 LR LR
comp=E,280nm,12.9s
SONM Songino Array 23.87 285 P **P 04 40 57.3 +0.6**
comp=E,4.0nm,0.8s,mb3.9,baz=87,slow=9.5,SNR=12
SONM PcP PcP 04 44 39.5 +0.2
comp=E,0.7nm,0.8s,baz=90,slow=2.9,SNR=3.2
SONM LR LR 04 50 56.1
comp=E,453nm,20.5s,MS3.9,baz=180,slow=38
SONM Songino Array 23.87 285 P **P 04 40 57.3 +0.6**
SONM 04 44 39.5
SONM pmax pmax
comp=Z,4.0nm,0.8s
SONM pmax pmax
comp=Z,1.0nm,0.8s
SONM MLR MLR
comp=Z,453nm,20.5s
IRK Irkutsk 24.72 296 *e*P **P 04 41 02.4 -2.0**
IRK *e* 04 46 41.8
IRK pmax pmax
comp=Z,56nm,1.5s,mb4.9
TLY Talaya 25.14 295 *e*P **P 04 41 08.6 +0.3**
TLY pmax pmax
comp=Z,15nm,1.0s,mb4.5
TLY MLR MLR
comp=Z,546nm,15.0s,MS4.2
TLY Talaya 25.14 295 *e*P **P 04 41 09.5 +1.2**
comp=Z,15nm,1.0s,mb4.5
ZAK Zakamensk 25.50 292⇑ *i*P **P 04 41 10.7 -0.8**
ZAK pmax pmax
comp=Z,21nm,1.3s,mb4.5
XAN Xi'an 27.88 254 P **P 04 41 31.4 -1.7**
XAN S **S 04 46 18.2 +1.6**
XAN XS sS 04 46 23.4 +2.7
XAN AMB AMB
comp=Z,1.0nm,0.6s,mb3.6
XAN LR LR
comp=N,260nm,19.6s,MS4.0
XAN LR LR
comp=E,333nm,21.9s,MS4.0
XAN LR LR
comp=Z,109nm,22.8s,MS3.4
LZH Lanzhou 30.12 263 *e*P **P 04 41 54.0 +0.9**
LZH AP pP 04 41 58.6 +3.0
LZH XP sP 04 42 00.2 +3.6
LZH PP PP 04 42 52.1 -8.8
LZH AMB AMB
comp=Z,22nm,1.3s,mb4.7
LZH AMB AMB
comp=Z,114nm,4.9s
LZH LR LR
comp=N,412nm,12.9s
LZH LR LR
comp=Z,603nm,17.0s,MS4.3
LZH Lanzhou 30.12 263 *e*P **P 04 41 54.0 +0.9**
LZH *PP pP 04 41 58.6 +3.0
LZH *SP sP 04 42 00.2 +3.6
LZH 04 42 52.1
LZH pmax pmax
comp=Z,22nm,1.3s,mb4.7
LZH MLR MLR
comp=Z,600nm,17.0s,MS4.3
LZH Lanzhou 30.12 263 *e*P **P 04 41 54.0 +0.9**
comp=Z,22nm,1.3s,mb4.7
LZH pP pP 04 41 58.6 +3.0
LZH sP sP 04 42 00.2 +3.6
LZH PP PP 04 42 52.1 -8.8
LZH LR LR
comp=Z,600nm,17.0s,MS4.3
CD2 Chengdu 33.23 255 *e*P **P 04 42 22.6 +2.1**
CD2 AP pP 04 42 27.0 +4.0
CD2 XP sP 04 42 29.8 +5.8
CD2 PP PP 04 43 33.8 -1.7
CD2 S **S 04 47 40.9 +0.3**
CD2 XS sS 04 47 48.2 +3.5
CD2 SS SS 04 49 42.1 -21
CD2 AMB AMB
comp=Z,20nm,0.8s,mb5.1
CD2 AMB AMB
comp=Z,60nm,4.8s
CD2 LR LR
comp=N,520nm,18.0s,MS4.4
CD2 LR LR
comp=E,500nm,19.2s,MS4.4
CD2 LR LR
comp=Z,320nm,10.8s
GUMO Guam 33.27 175 LR LR 04 55 17.2
comp=Z,43nm,19.6s,MS3.2,baz=37,slow=35
GYA Guiyang 34.36 246 P **P 04 42 34.8 +4.5**
GYA PP PP 04 43 48.7 +0.7
GYA PCP PcP 04 45 07.6 +1.5
GYA SCP ScP 04 48 52.8 +1.5
GYA AMB AMB
comp=Z,50nm,5.4s
GYA LR LR
comp=N,390nm,14.1s,MS4.4
GYA LR LR
comp=E,330nm,13.7s,MS4.4
GYA LR LR
comp=Z,470nm,11.4s,MS4.5
ZALV Zalesovo Beam 36.11 303 P **P 04 42 45.5 +0.4**
comp=Z,1.0nm,0.4s,mb4.1,baz=88,slow=7.4,SNR=4.8
ZALV PcP PcP 04 45 09.2 -1.5
comp=Z,1.9nm,0.7s,baz=64,slow=3.4,SNR=6.1
ZALV LR LR 04 57 37.3
comp=Z,85nm,20.5s,MS3.5,baz=79,slow=36
ZALV Zalesovo Beam 36.11 303 P **P 04 42 45.5 +0.4**
ZALV 04 45 09.2
ZALV pmax pmax
comp=Z,1.0nm,0.4s,mb4.1
ZALV pmax pmax
comp=Z,2.0nm,0.7s,mb4.2
ZALV MLR MLR
comp=Z,85nm,20.5s,MS3.5
ZALV Zalesovo Beam 36.11 303 P **P 04 42 45.5 +0.4**
ZALV PcP PcP 04 45 09.2 -1.5
ZALV LR LR 04 57 37.3
NVS Novosibirsk 36.82 305 *e*P **P 04 42 50.8 -0.3**
NVS pmax pmax
comp=N,9.0nm,1.1s
NVS pmax pmax
comp=Z,7.0nm,1.1s,mb4.4
WMQ Urumqi 37.51 286⇑ P **P 04 42 56.6 -0.5**
WMQ AP pP 04 43 01.1 +1.5
WMQ XP sP 04 43 03.7 +3.1
WMQ PP PP 04 44 23.6 +1.1
WMQ PPP 04 44 45.1
WMQ PCP PcP 04 45 14.6 -0.6
WMQ S **S 04 48 44.6 -1.4**
WMQ XS sS 04 48 51.6 +1.5
WMQ AMB AMB
comp=Z,10.0nm,0.6s,mb4.7
WMQ AMB AMB
comp=Z,142nm,4.0s
WMQ LR LR
comp=N,256nm,17.0s,MS4.3
WMQ LR LR
comp=E,276nm,15.7s,MS4.3
WMQ LR LR
comp=Z,310nm,15.0s,MS4.2
KMI Kunming 37.79 249 P **P 04 43 01.1 +1.4**
KMI AMB AMB
comp=Z,12nm,1.4s,mb4.4
KMI Kunming 37.79 249 P **P 04 43 01.1 +1.4**
comp=Z,12nm,1.4s,mb4.4
QIZ Qiongzhong 38.13 234 P **P 04 43 01.0 -1.6**
QIZ S **S 04 48 56.2 +0.4**
QIZ LR LR
comp=E,334nm,11.7s
QIZ LR LR
comp=Z,237nm,10.3s,MS4.3
PPLA Purkeypile 39.26 41 *e*P **P 04 43 12.8 +1.2**
comp=Z,46nm,1.5s,mb5.0
BPAW Bear Paw Mtn. 39.63 39 *e*P **P 04 43 17.1 +2.4**
comp=Z,3.9nm,0.8s,mb4.2
COLD Coldfoot 39.64 34 *e*P **P 04 43 14.0 -0.7**
comp=Z,8.3nm,0.9s,mb4.5
KTH Kantishna Hill 39.73 40 *e*P **P 04 43 16.5 +0.9**
comp=Z,22nm,1.2s,mb4.8
MK31 Makanchi Array 39.83 292 *e*P **P 04 43 16.8 +0.2**
MKAR Makanchi Array 39.83 292 P **P 04 43 15.9 -0.6**
comp=Z,5.0nm,0.8s,mb4.3,baz=72,slow=8.0,SNR=12
MKAR LR LR 05 00 49.4
comp=Z,654nm,18.1s,MS4.5,baz=356,slow=38
MKAR Makanchi Array 39.83 292 P **P 04 43 16.0 -0.6**
MKAR pmax pmax
comp=Z,5.0nm,0.8s
MKAR MLR MLR
comp=Z,654nm,18.1s
MCK McKinley 40.58 40 *e*P **P 04 43 22.7 +0.1**
MCK pmax pmax
comp=Z,12nn,0.9s,mb4.5
MCK McKinley 40.58 40 *e*P **P 04 43 22.7 +0.1**
comp=Z,12nn,0.9s,mb4.5
KURK Kurchatov 40.67 299 P **P 04 43 23.9 +0.4**
comp=Z,3.5nn,0.5s,mb4.2,baz=71,slow=8.9,SNR=12
KURK Kurchatov 40.67 299 P **P 04 43 23.9 +0.4**
KURK pmax pmax
comp=Z,4.0nn,0.5s,mb4.3
KURK Kurchatov 40.67 299 *e*P **P 04 43 23.3 -0.2**
comp=Z,5.8nn,0.8s,mb4.3
RC01 Rabbit Creek A 40.70 44 *e*P **P 04 43 21.7 -1.9**
comp=Z,9.0nn,0.8s,mb4.5
COLA College 40.87 38 *e*P **P 04 43 24.8 -0.1**
COLA pmax pmax
comp=Z,12nn,0.8s,mb4.6
COLA College 40.87 38 *e*P **P 04 43 24.8 -0.1**
comp=Z,12nn,0.8s,mb4.6
PMR Palmer 40.89 43 *e*P **P 04 43 25.1 0.0**
PMR pmax pmax
comp=Z,19nn,1.2s,mb4.6
PMR Palmer 40.89 43 *e*P **P 04 43 25.1 -0.1**
comp=Z,19nn,1.2s,mb4.6
BVAR Borovoye Array 44.60 305 P **P 04 43 55.3 -0.1**
comp=Z,1.7nn,0.8s,mb3.9,baz=83,slow=4.6,SNR=5.9
BVAR PcP PcP 04 45 37.4 -0.7
comp=Z,2.6nn,0.7s,baz=83,slow=3.7,SNR=6.8
BVAR Borovoye Array 44.60 305 P **P 04 43 55.3 -0.1**
BVAR 04 45 37.4
BVAR pmax pmax
comp=Z,2.0nn,0.8s
BVAR pmax pmax
comp=Z,3.0nn,0.7s
BRVK Borovoye 44.65 305 *e*P **P 04 43 56.2 +0.5**
BRVK pmax pmax
comp=Z,4.0nn,0.5s,mb4.5
BRVK Borovoye 44.65 305 *e*P **P 04 43 56.2 +0.4**
comp=Z,3.9nn,0.5s,mb4.5
CMAR Chiang Mai Arr 45.05 246 P **P 04 43 59.1 -0.2**
comp=Z,1.5nn,0.3s,mb4.2,baz=32,slow=8.6,SNR=4.5
CMAR LR LR 05 05 50.5
comp=Z,96nn,18.1s,MS3.8,baz=25,slow=40
CMAR Chiang Mai Arr 45.05 246 P **P 04 43 59.1 -0.2**
CMAR pmax pmax
comp=Z,2.0nn,0.3s
CMAR MLR MLR
comp=Z,96nn,18.1s
TKM2 Tokmak 2 45.80 290 *e*P **P 04 44 06.0 +1.0**
TKM2 pmax pmax
comp=Z,7.0nm,0.9s,mb4.6
TKM2 Tokmak 2 45.80 290 *e*P **P 04 44 06.0 +0.9**
comp=Z,7.1nm,0.9s,mb4.6
EKS2 Erkin-Say 47.10 291 *e*P **P 04 44 15.4 +0.2**
comp=Z,4.5nm,0.9s,mb4.4
ARU Arti 49.47 313 *d i*P **P 04 44 33.2 -0.1**
ARU 04 46 23.4
ARU *e*S **S 04 51 43.3 +2.8**
ARU *e*SS SS 04 55 04.3 -7.4
ARU pmax pmax
comp=Z,24nm,2.5s,mb4.8
ARU MLR MLR
comp=Z,126nm,15.0s,MS4.0
DLBC Dease Lake 50.95 43 P **P 04 44 45.1 +0.6**
baz=286,slow=7.4
AKTK Aktyubinsk 52.63 307 P **P 04 44 57.2 0.0**
AKTO Aktyubinsk 52.63 307 P **P 04 44 57.2 0.0**
comp=Z,1.6nm,0.7s,mb4.1,baz=81,slow=9.9,SNR=5.9
AKTO Aktyubinsk 52.63 307 P **P 04 44 57.2 0.0**
AKTO pmax pmax
comp=Z,2.0nm,0.7s,mb4.2
APA Apatity 53.93 333⇑ *e*P **P 04 45 13.0 +6.5**
APA pmax pmax
comp=Z,100nm,1.6s,mb5.5
YKA Yellowknife Ar 55.30 33 P **P 04 45 15.9 -0.5**
comp=Z,4.3nm,0.7s,mb4.6,baz=306,slow=7.5,SNR=6.4
YKA Yellowknife Ar 55.30 33 *i* P **P 04 45 19.1 +2.6**
YKA pmax pmax
comp=Z,4.0nm,0.7s
YKA Yellowknife Ar 55.30 33 P **P 04 45 15.9 -0.5**
DAG Danmarks Havn 56.01 355 *i* P **P 04 45 20.0 -1.4**
DAG Danmarks Havn 56.01 355 *e*P **P 04 45 20.0 -1.4**
OBN Obninsk 60.53 320⇑ *i*P **P 04 46 00.0 +6.7**
OBN pmax pmax
comp=Z,29nm,2.1s,mb5.0
OBN MLR MLR
comp=Z,100nm,14.0s,MS4.1
COEN Coen 60.55 178 *e*P **P 04 45 53.7 -0.1**
comp=Z,1.8nm,0.8s,mb4.2
A08A Turner Farm, O 61.53 48 ⇓P **P 04 45 59.6 -0.6**
baz=61
EDM Edmonton 61.62 41 *e*P **P 04 46 00.2 -0.5**
ETW Entiat 61.85 49 *e*P **P 04 46 02.4 0.0**
A10A Northport 62.38 47⇑P **P 04 46 05.7 -0.2**
baz=62
B09A Rice 62.44 48 ⇓P **P 04 46 06.3 -0.1**
baz=62
HOOD Mount Hood Mea 62.60 52 *e*P **P 04 46 08.8 +1.3**
H04A Detroit Lake 62.72 53 ⇓P **P 04 46 08.1 -0.1**
baz=62
F06A Goldendale 62.78 51 ⇓P **P 04 46 08.8 +0.1**
baz=62
A11A Hall Mountain, 62.99 46⇑P **P 04 46 09.8 -0.2**
baz=63
NEW Newport 63.07 47 *e*P **P 04 46 09.8 -0.7**
NEW pmax pmax
comp=Z,2.0nm,0.7s
NEW Newport 63.07 47 *e*P **P 04 46 09.8 -0.7**
comp=Z,2.4nm,0.7s,mb4.4
I04A Tendick Farm, 63.17 54 ⇓P **P 04 46 11.4 +0.2**
baz=63
H05A Madras 63.27 52⇑P **P 04 46 12.3 +0.4**
baz=63
E09A Wood Farm, Sta 63.69 49⇑P **P 04 46 13.8 -0.9**
baz=63
C11A Tepee Creek (N 63.78 47 ⇓P **P 04 46 15.2 0.0**
baz=64
F08A Pendleton 63.83 50 ⇓P **P 04 46 14.5 -1.1**
baz=64
A13A Flathead Natio 63.97 45 ⇓P **P 04 46 16.4 -0.1**
baz=64
J05A Fort Rock 64.15 54⇑P **P 04 46 18.0 +0.3**
baz=64
E10A Myers Farm, Un 64.25 49⇑P **P 04 46 18.0 -0.3**
baz=64
D11A Klaveano Farm, 64.27 48 ⇓P **P 04 46 18.3 -0.2**
baz=64
I06A Prineville 64.28 53 ⇓P **P 04 46 18.6 0.0**
baz=64
B13A Whitefish 64.32 46 ⇓P **P 04 46 18.8 +0.1**
baz=64
A14A Double T Ranch 64.42 45⇑P **P 04 46 19.4 -0.1**
baz=64
L04A Klamath Falls 64.51 55⇑P **P 04 46 20.2 +0.1**
baz=64
I07A Izee 64.57 52 ⇓P **P 04 46 20.2 -0.2**
baz=64
G09A Cove 64.70 50 ⇓P **P 04 46 21.4 +0.1**
baz=64
K05A Summer Lake 64.70 54 ⇓P **P 04 46 21.7 +0.3**
baz=64
H08A Prairie City 64.73 51 ⇓P **P 04 46 21.4 -0.1**
baz=64
C13A Hot Springs 64.73 47 ⇓P **P 04 46 21.5 +0.1**
baz=64
A15A Johnson Ranch, 64.75 45⇑P **P 04 46 21.4 -0.2**
baz=64
D12A Red Ives Fores 64.77 47⇑P **P 04 46 21.8 +0.1**
baz=64
J06A Christmas Vall 64.77 53 ⇓P **P 04 46 21.7 -0.1**
baz=64
M04C Macdoel 64.80 55⇑P **P 04 46 21.8 -0.2**
baz=64
KIV Kislovodsk 64.86 308⇑ *e*P **P 04 46 22.9 +0.6**
KIV pmax pmax
comp=Z,22nm,1.2s,mb5.1
KIV MLR MLR
comp=Z,200nm,18.0s,MS4.3
KIV Kislovodsk 64.86 308 *e*P **P 04 46 23.3 +1.0**
comp=Z,18nm,0.8s,mb5.2
B14A Marquette Ranc 64.91 45⇑P **P 04 46 21.7 -0.9**
baz=65
K06A Valley Falls 65.01 54 ⇓P **P 04 46 23.4 0.0**
baz=65
G10A Bishop Farm, J 65.04 50⇑P **P 04 46 23.4 -0.1**
baz=65
C14A Swan Lake 65.08 46⇑P **P 04 46 23.4 -0.3**
baz=65
E12A Beaver Dam Sad 65.08 48 ⇓P **P 04 46 23.2 -0.5**
baz=65,SNR=6.4
F11A Grangeville 65.14 49⇑P **P 04 46 23.6 -0.5**
baz=65
J07A Hines 65.15 53⇑P **P 04 46 24.4 +0.2**
baz=65
L05A Lakeview 65.19 54⇑P **P 04 46 24.9 +0.4**
baz=65
WDC Whiskeytown Da 65.19 57 ⇓P **P 04 46 24.9 +0.3**
baz=65
D13A Huson 65.19 47⇑P **P 04 46 24.3 -0.2**
baz=65
I08A Drewsey 65.19 52⇑P **P 04 46 24.5 0.0**
baz=65
BMO Blue Mountains 65.23 50 *e*P **P 04 46 26.3 +1.6**
NB2 NORSAR Subarra 65.27 336 P **P 04 46 24.2 -0.5**
comp=Z,1.9nm,0.6s,mb4.3,baz=34,slow=6.5
NOA NORSAR Array B 65.27 336 P **P 04 46 24.4 -0.4**
comp=Z,3.6nm,0.8s,mb4.5,baz=35,slow=6.3,SNR=8.9
NOA LR LR 05 18 59.8
comp=Z,109nm,18.5s,MS4.1,baz=345,slow=40
NOA NORSAR Array B 65.27 336 P **P 04 46 24.4 -0.3**
NOA pmax pmax
comp=Z,4.0nm,0.8s
NOA MLR MLR
comp=Z,109nm,18.5s
B15A Bradely Ranch, 65.29 45⇑P **P 04 46 24.9 -0.2**
baz=65
O02C Red Bluff 65.31 57 ⇓P **P 04 46 25.6 +0.2**
baz=65
A16A West Butte Ran 65.32 44 ⇓P **P 04 46 25.4 +0.2**
baz=65
FFC Flin Flon 65.38 35 *e*P **P 04 46 24.7 -0.9**
FFC pmax pmax
comp=Z,10.0nm,1.0s,mb4.8
FFC Flin Flon 65.38 35 *e*P **P 04 46 24.7 -0.9**
comp=Z,10.0nm,1.0s,mb4.8
G11A Walters Elk Ra 65.41 49⇑P **P 04 46 25.5 -0.4**
baz=65,SNR=8.7
MOD Modoc 65.58 54⇑P **P 04 46 27.4 +0.3**
baz=65
J08A Circle Bar Ran 65.61 52⇑P **P 04 46 27.1 -0.1**
baz=65
B16A M & M Farms, S 65.64 45⇑P **P 04 46 26.7 -0.6**
baz=65
K07A Rock Creek Ran 65.64 53⇑P **P 04 46 27.3 -0.1**
baz=65
C15A Salmond Ranch, 65.64 45 ⇓P **P 04 46 27.0 -0.3**

baz=65,SNR=5.2
D14A Greenough 65.67 47 ⇓P P 04 46 27.3 -0.3
baz=65
F12A Elk City 65.69 48 ⇓P P 04 46 27.3 -0.4
baz=65
H10A Noah's Angus R 65.71 50 ⇑P P 04 46 27.2 -0.6
baz=65,SNR=5.4
J09A Fry Pan Ranch, 66.01 52 ⇓P P 04 46 30.1 +0.3
baz=66
H11A Donnelly 66.02 50 ⇓P P 04 46 29.7 -0.1
baz=66
L07A Adell 66.03 54 ⇑P P 04 46 30.2 +0.2
baz=66
C16A Fuhringer Ranc 66.04 45 ⇓P P 04 46 29.3 -0.7
baz=66,SNR=5.4
E14A Clinton 66.14 47 ⇑P P 04 46 30.3 -0.3
baz=66
F13A Darby 66.14 48 ⇑P P 04 46 30.3 -0.3
baz=66
WVOR Wild Horse Val 66.14 53 *e*P P 04 46 30.5 -0.2
WVOR pmax pmax
comp=Z,4.0nm,0.9s,mb4.5
WVOR Wild Horse Val 66.14 53 *e*P P 04 46 30.5 -0.2
comp=Z,3.7nm,0.9s,mb4.4
D15A Lincoln 66.19 46 ⇑P P 04 46 30.8 0.0
baz=66
O04C Chester 66.19 56 ⇓P P 04 46 31.1 +0.1
baz=66
K09A Rome 66.46 52 ⇑P P 04 46 32.6 -0.1
baz=66
ORV Oroville 66.47 57 ⇑P P 04 46 32.8 0.0
baz=66
O05C Quincy 66.53 56 ⇑P P 04 46 33.2 0.0
baz=66
M07A Soldier Meadow 66.55 54 ⇓P P 04 46 33.9 +0.6
baz=66,SNR=12
E15A Deer Lodge 66.56 47 ⇑P P 04 46 33.3 +0.1
baz=66
I11A Placerville 66.58 50 ⇓P P 04 46 33.7 +0.3
baz=66
MCCM Marconi Confer 66.60 59 ⇓P P 04 46 33.7 0.0
baz=66
N06A Buffalo Meadow 66.61 55 ⇑P P 04 46 33.4 -0.3
baz=66
C17A Wharram Farm, 66.64 45 ⇓P P 04 46 33.7 -0.1
baz=66
G13A Cobalt 66.67 48 ⇓P P 04 46 34.1 +0.1
baz=66
H12A Diamond D Ranc 66.72 49 ⇑P P 04 46 34.5 +0.1
baz=66
HRY Holter Researc 66.76 46 *e*P P 04 46 38.5 +3.9
AKASG Malin Array Be 66.79 320 P P 04 46 33.7 -1.0
comp=Z,2.5nm,0.7s,mb4.3,baz=44,slow=5.9,SNR=8.6
AKASG Malin Array Be 66.79 320 *i* P P 04 46 34.2 -0.5
AKASG pmax pmax
comp=Z,3.0nm,0.7s
WRA Warramunga Arr 66.83 188 P P 04 46 33.2 -2.0
comp=Z,1.7nm,0.8s,mb4.1,baz=2.6,slow=6.7,SNR=16
WRA Warramunga Arr 66.83 188 P P 04 46 33.2 -1.9
WRA pmax pmax
comp=Z,2.0nm,0.8s
EGMT Eagleton 66.84 44 ⇑P P 04 46 34.9 -0.2
baz=66
K10A MacKenzie Ranc 66.87 52 ⇓P P 04 46 35.4 0.0
baz=66
BEKR Beckwourth 66.91 56 ⇓P P 04 46 35.7 +0.1
baz=67
M08A Happy Creek Ra 66.95 54 ⇑P P 04 46 35.7 -0.2
baz=67
MFID Camas Ranch 66.99 51 ⇑P P 04 46 36.1 0.0
baz=67
F15A Butte 67.04 47 ⇑P P 04 46 35.9 -0.4
baz=67
I12A Atlanta 67.10 50 ⇓P P 04 46 36.9 +0.1
baz=67
DLMT Dillon 67.32 47 *e*P P 04 46 37.0 -1.2
comp=Z,6.0nm,0.6s,mb4.8
K11A Parker Ranch, 67.32 51 ⇑P P 04 46 38.5 +0.3
baz=67
E17A Martinsdale 67.41 46 ⇓P P 04 46 38.7 0.0
baz=67
LAVA Lava Cap Winer 67.44 57 ⇓P P 04 46 39.3 +0.3
baz=67
H14A Leadore 67.44 48 ⇑P P 04 46 39.4 +0.5
baz=67
J12A Stokes Ranch, 67.49 50 ⇓P P 04 46 39.4 +0.1
baz=67
G15A Dillon 67.51 47 ⇓P P 04 46 39.2 -0.1
baz=67,SNR=6.1
N08A GE Springer Mi 67.54 54 ⇓P P 04 46 39.6 0.0
baz=67
I13A Wildhorse Cree 67.55 49 ⇓P P 04 46 39.5 -0.1
baz=67,SNR=13
O07A Toulon 67.55 55 ⇓P P 04 46 39.8 +0.1
baz=67
MCMT McKenzie Canyo 67.56 48 *e*P P 04 46 41.8 +2.1
L10A Juniper Basin 67.56 52 ⇓P P 04 46 39.8 0.0
baz=67
PAHR Pah Rah Range 67.57 56 *e*P P 04 46 43.7 +3.9
comp=Z,6.7nm,0.8s,mb4.7
G16A Moss Hill, Enn 67.81 47 ⇓P P 04 46 41.1 -0.1
baz=68
N09A Rock Creek Ran 67.83 54 ⇓P P 04 46 41.0 -0.4
baz=68
O08A Rochester Mine 67.86 54 ⇑P P 04 46 41.5 -0.2
baz=68
J13A Cove Ranch, Pi 67.88 50 ⇑P P 04 46 41.4 -0.2
baz=68
L11A Cat Creek Ranc 67.89 52 ⇓P P 04 46 41.2 -0.6
baz=68
CMB Columbia Colle 68.13 57 ⇑P P 04 46 42.8 -0.6
baz=68
J14A Carey 68.27 49 ⇑P P 04 46 43.7 -0.5
baz=68
R06C Coleville 68.34 57 ⇑P P 04 46 44.8 +0.1
baz=68
M11A Holland Ranch, 68.38 52 ⇑P P 04 46 44.8 -0.1
baz=68
O09A Fish Creek Ran 68.48 54 ⇑P P 04 46 45.5 0.0
baz=68
S05C Merced 68.63 58 ⇓P P 04 46 46.6 0.0
baz=68
J15A Blackfoot 68.78 49 ⇓P P 04 46 46.7 -0.6
baz=68
L13A Double Diamond 68.91 51 ⇓P P 04 46 48.3 +0.2
baz=69
Q08A Gabbs 68.97 55 ⇓P P 04 46 48.6 0.0
baz=69
K14A Jones Ranch, D 68.99 50 ⇑P P 04 46 49.1 +0.4
baz=69
NVAR Mina Array Bea 69.06 56 P P 04 46 49.5 +0.4
comp=Z,3.8nm,0.7s,mb4.4,baz=297,slow=4.0,SNR=22
N12A Clover Valley, 69.19 52 ⇑P P 04 46 49.9 -0.1
baz=69
KCC Kaiser Creek 69.23 57 ⇓P P 04 46 50.2 -0.1
baz=69
J16A Bone 69.29 48 ⇓P P 04 46 50.5 0.0
baz=69
M13A Montello 69.30 51 ⇓P P 04 46 50.3 -0.3
baz=69
L14A Malta 69.32 50 ⇓P P 04 46 50.4 -0.3
baz=69
RRI2 Red Ridge 69.39 48 *e*P P 04 46 52.2 +1.1
comp=Z,7.7nm,0.8s,mb4.7
MOOW Moose Ponds 69.39 48 *e*P P 04 46 51.4 +0.3
comp=Z,3.9nm,1.0s,mb4.3
TPAW Teton Pass 69.47 48 *e*P P 04 46 52.6 +0.9
LOHW Long Hollow 69.56 48 *e*P P 04 46 52.3 +0.1
comp=Z,2.8nm,0.9s,mb4.2
K16A Soda Springs 69.62 49 ⇑P P 04 46 52.6 0.0
baz=69
O12A Currie 69.76 52 ⇓P P 04 46 52.9 -0.5
baz=69
HELL Mitchell Peak 69.85 58 ⇑P P 04 46 53.6 -0.4
baz=70
Q10A Clear Creek Ra 69.85 55 ⇓P P 04 46 54.1 0.0
baz=70
R09A Tonopah 69.89 55 ⇑P P 04 46 54.0 -0.2
baz=70
S09A Goldfield 70.16 56 ⇓P P 04 46 55.9 -0.1
baz=70
P12A McGill 70.23 53 ⇓P P 04 46 56.4 +0.1
baz=70
S10A Tonopah Range, 70.38 55 ⇓P P 04 46 57.2 -0.1
baz=70
HWUT Hardware Ranch 70.50 50 *e*P P 04 46 57.9 -0.2
comp=Z,4.9nm,0.9s,mb4.4
ASAR Alice Springs 70.56 188 P P 04 46 58.0 -0.3
comp=Z,3.7nm,0.8s,mb4.4,baz=6.1,slow=5.7,SNR=35
ASAR Alice Springs 70.56 188 P P 04 46 58.0 -0.3
ASAR pmax pmax
comp=Z,4.0nm,0.8s
Q12A Willow Creek R 70.58 53 ⇓P P 04 46 58.1 -0.4
baz=70
R11A Troy Canyon, C 70.64 54 ⇓P P 04 46 58.9 0.0
baz=70
BW06 Boulder Array 70.70 48 ⇑P P 04 46 58.7 -0.5
baz=70
BW06 Boulder Array 70.70 48 *e*P P 04 46 59.1 -0.1
PDAR Pinedale Array 70.70 48 P P 04 46 58.8 -0.5
comp=Z,2.9nm,0.7s,mb4.3,baz=325,slow=1.8,SNR=14
P13A Bates Ranch, G 70.73 53 ⇓P P 04 46 59.5 +0.1
baz=70
DUG Dugway 70.85 51 *e*P P 04 47 00.0 -0.2
DUG pmax pmax
comp=Z,6.0nm,1.0s,mb4.5
DUG Dugway 70.85 51 ⇑P P 04 47 00.1 -0.1
baz=70
DUG Dugway 70.85 51 *e*P P 04 46 60.0 -0.2
comp=Z,5.7nm,1.0s,mb4.5
S11A Rachel 71.05 55 ⇓P P 04 47 01.4 0.0
baz=71
Q13A Wheeler Ranch, 71.08 53 ⇓P P 04 47 01.5 0.0
baz=71
STHS Stebnicka Huta 71.14 324 *e*P P 04 46 58.1 -3.6
STHS pmax pmax
comp=Z,3.0nm,0.9s,mb4.2
STHS Stebnicka Huta 71.14 324 *e*P P 04 46 58.1 -3.6
comp=Z,2.5nm,0.9s,mb4.1
P14A Drum Mountains 71.15 52 ⇓P P 04 47 01.8 -0.2
baz=71
MPMC Manual Prospec 71.17 57 ⇓P P 04 47 02.1 -0.1
baz=71
ULM Lac du Bonnet 71.21 35 P P 04 47 01.1 -1.1
comp=Z,2.9nm,0.7s,mb4.3,baz=326,slow=8.8,SNR=6.4
ULM Lac du Bonnet 71.21 35 *e*P P 04 47 03.8 +1.6
comp=Z,2.4nm,0.6s,mb4.3
FURC Furnace Creek, 71.24 57 ⇓P P 04 47 02.8 +0.2
baz=71
TPNV Topopah Spring 71.25 56 ⇓P P 04 47 02.7 0.0
baz=71
Q14A Sevier Lake (B 71.46 53 ⇓P P 04 47 04.1 +0.2
baz=71
S12A Delamar Landin 71.58 55 ⇑P P 04 47 04.5 -0.1
baz=71
T11A Corn Creek, Al 71.63 55 ⇓P P 04 47 04.8 -0.1
baz=71,SNR=5.6
EDW2 Edwards Air Fo 71.70 58 ⇓P P 04 47 05.5 +0.1
baz=71
MLR Muntele Rosu 72.14 318 LR LR 05 20 01.9
comp=Z,142nm,18.6s,MS4.3,slow=37
MORC Moravsky Berou 72.33 326 *e*P P 04 47 08.6 -0.3
MORC pmax pmax
comp=Z,10.0nm,1.3s,mb4.6
MORC Moravsky Berou 72.33 326 *e*P P 04 47 08.6 -0.2
comp=Z,9.6nm,1.3s,mb4.6
DPC Dobruska-Polom 72.33 327 *e*P P 04 47 09.0 +0.1
T13A Saint George 72.52 54 ⇓P P 04 47 10.4 +0.1
baz=72
P18A Preston Nutter 72.63 50 ⇓P P 04 47 10.7 -0.2
baz=72
BR131 Keskin Array S 72.64 310 *e*P P 04 47 11.2 +0.3
comp=Z,0.4nm,0.4s,mb3.7
CLL Collm 72.75 329 ⇑*i*P P 04 47 11.9 +0.5
CLL *i* *PP pP 04 47 14.9 +0.9
CLL pmax pmax
comp=Z,5.0nm,0.8s,mb4.5
CLL MLR MLR
comp=Z,100nm,21.4s,MS4.1
CLL Collm 72.75 329 ⇑*i*P P 04 47 11.9 +0.5
comp=Z,5.0nm,0.8s,mb4.5
CLL *i* pP pP 04 47 14.9 +0.9
CLL Lm 05 15 00.0
comp=N,100nm,19.9s
CLL Lm 05 15 00.0
comp=E,200nm,20.6s
CLL Lm 05 15 00.0
comp=Z,100nm,21.4s
CLL Collm 72.75 329 ⇑*i*P P 04 47 11.9 +0.5
comp=Z,5.0nm,0.8s,mb4.5
CLL *i* pP pP 04 47 14.9 +0.9
CLL LR LR
comp=Z,100nm,21.4s,MS4.1
SRU San Rafael 72.86 51 ⇑P P 04 47 12.3 +0.1
baz=72
SRU San Rafael 72.86 51 *e*P P 04 47 12.9 +0.7
V12A Nelson 72.92 56 ⇓P P 04 47 12.7 +0.1
baz=73
U13A Pakoon Wash 72.92 55 ⇑P P 04 47 12.7 0.0
baz=73
R16A Teasdale 72.94 52 ⇑P P 04 47 12.5 -0.3
baz=73
VRAC Vranov 73.07 326 LR LR 05 22 07.0
comp=Z,196nm,19.2s,MS4.4,baz=27,slow=38
R17A Hanksville Air 73.26 51 ⇓P P 04 47 13.9 -0.8
baz=73
PRU Pruhonice 73.28 328 *e*P P 04 47 15.5 +0.9
S16A Weppner Ranch, 73.29 52 ⇑P P 04 47 15.7 +0.9
baz=73
V13A Grand Canyon W 73.32 55 ⇑P P 04 47 14.7 -0.3
baz=73
U14A Mt Trumbull 73.36 54 ⇑P P 04 47 15.3 0.0
baz=73
T15A Red Dirt Ranch 73.37 53 ⇑P P 04 47 15.1 -0.2
baz=73
BELC Belle Mtn. 73.49 58 ⇓P P 04 47 15.4 -0.6
baz=73
MODS Modra-Piesok 73.56 325 *e*P P 04 47 14.0 -2.2
Q19A Hogan Spring (73.64 50 ⇑P P 04 47 16.6 -0.3
baz=73
R18A Canyonlands Na 73.72 51 ⇑P P 04 47 16.6 -0.8
baz=73
S17A Black Ridge (B 73.78 52 ⇑P P 04 47 18.0 +0.2
baz=74
U15A North Rim 73.85 54 ⇓P P 04 47 18.0 -0.1
baz=74
IRM Iron Mountain 73.86 57 ⇑P P 04 47 18.2 0.0
baz=74
V14A Boquillas Ranc 73.97 55 ⇑P P 04 47 18.8 -0.1
baz=74
BC3 Big Chuckw Mtn 74.05 58 ⇓P P 04 47 19.1 -0.3
baz=74
S18A Hurst Farm, Bl 74.18 52 ⇑P P 04 47 20.1 +0.1
baz=74
PV10 Paradox Valley 74.18 50 *e*P P 04 47 22.5 +2.4
T17A Navajo Res., N 74.25 53 ⇓P P 04 47 20.8 +0.4
baz=74
X13A Yucca 74.31 56 ⇑P P 04 47 20.9 +0.1
baz=74
KHC Kasperske Hory 74.35 328 *e*P P 04 47 21.3 +0.5
V15A Kaibab Nationa 74.36 54 ⇓P P 04 47 21.4 +0.3
baz=74
Y12C Blythe 74.52 57 ⇓P P 04 47 22.4 +0.4
baz=74
GERES GERESS Array B 74.54 327 P P 04 47 21.6 -0.3
comp=Z,0.7nm,0.6s,mb3.8,baz=21,slow=5.7,SNR=7.2
GERES LR LR 05 23 49.2
comp=Z,127nm,18.2s,MS4.2,baz=196,slow=39
GERES GERESS Array B 74.54 327 P P 04 47 21.6 -0.3
GERES pmax pmax
comp=Z,1.0nm,0.6s
GERES MLR MLR
comp=Z,127nm,18.2s
S19A Harvey Farm, M 74.60 51 ⇑P P 04 47 22.1 -0.4
baz=74
U17A Shonto 74.62 53 ⇑P P 04 47 23.0 +0.4
baz=74
T18A Mexican Hat 74.65 52 ⇑P P 04 47 22.4 -0.4
baz=74
U16A Tuba City 74.70 53 ⇑P P 04 47 23.1 0.0
baz=74
X14A Yava 74.93 56 ⇓P P 04 47 24.3 -0.2
baz=75
U18A Rough Rock, Ch 75.18 52 ⇑P P 04 47 25.9 0.0
baz=75
Y14A Wickenburg 75.25 56 ⇓P P 04 47 26.5 +0.2
baz=75
X15A Humboldt 75.29 55 ⇓P P 04 47 27.1 +0.6
baz=75
MVCO Mesa Verde 75.33 51 ⇑P P 04 47 27.0 +0.2
baz=75
Y15A Casa Rosa Ranc 75.62 56 ⇓P P 04 47 28.4 0.0
baz=75
X16A Lo Mia Camp, P 75.79 55 ⇓P P 04 47 29.4 +0.1
baz=76
SDCO Great Sand Dun 76.50 49 *e*P P 04 47 35.2 +1.8
comp=Z,3.1nm,1.1s,mb4.2
CDF Champ du Feu 77.17 331 *e*P P 04 47 37.0 0.0
118A Homack Ranch, 77.93 55 ⇓P P 04 47 41.2 -0.3
baz=78
217A Green Valley 78.09 56 ⇑P P 04 47 42.8 +0.4
baz=78
ANMO Albuquerque 78.12 51 *e*P P 04 47 42.7 +0.2
ANMO pmax pmax
comp=Z,3.0nm,1.2s
ANMO Albuquerque 78.12 51 *e*P P 04 47 42.7 +0.2
comp=Z,3.2nm,1.2s,mb4.1
219A White Tail Can 78.80 55 ⇑P P 04 47 46.2 -0.1
baz=78
318A Bisbee 78.81 56 ⇑P P 04 47 46.4 0.0
baz=78
LOR Lormes 79.29 332 *e*P P 04 47 48.2 -0.5
SSF Saint Saulge 79.58 332 *e*P P 04 47 49.9 -0.4
SMF Signal de Mont 79.85 332 *e*P P 04 47 51.5 -0.2
comp=Z,24nm,1.2s,mb4.7
SMF Signal de Mont 79.85 332 *e*P P 04 47 51.5 -0.2
SMF pmax pmax
comp=Z,12nm,1.2s,mb4.7
SMF Signal de Mont 79.85 332 *e*P P 04 47 51.5 -0.2
comp=Z,12nm,1.2s,mb4.7
LPL La Plagne 79.87 330 *e*P P 04 47 52.4 +0.5
comp=Z,49nm,1.6s,mb4.9
LPL La Plagne 79.87 330 *e*P P 04 47 52.4 +0.5
LPL pmax pmax
comp=Z,24nm,1.6s,mb4.9
LPL La Plagne 79.87 330 *e*P P 04 47 52.4 +0.5
comp=Z,24nm,1.6s,mb4.9
AVF Avril sur Loir 79.87 332 *e*P P 04 47 51.8 -0.1
LPG La Plagne 79.88 330 *e*P P 04 47 52.4 +0.4
comp=Z,11nm,0.9s,mb4.5
LPG La Plagne 79.88 330 *e*P P 04 47 52.4 +0.4
LPG pmax pmax
comp=Z,5.0nm,0.9s,mb4.4
LPG La Plagne 79.88 330 *e*P P 04 47 52.4 +0.4
comp=Z,5.3nm,0.9s,mb4.5
TCF Toulx Ste Croi 80.68 333 *e*P P 04 47 56.2 -0.1
ORIF Oris-en-Rattie 80.69 330 *e*P P 04 47 56.3 0.0
TXAR Lajitas Array 83.94 53 P P 04 48 13.5 -0.1
comp=Z,2.9nm,0.9s,mb4.4,baz=293,slow=3.3,SNR=19
TXAR Lajitas Array 83.94 53 P P 04 48 13.5 -0.1
TXAR pmax pmax
comp=Z,3.0nm,0.9s
WCI Wyandotte Cave 85.00 36 *e*P P 04 48 18.3 -0.5
WCI pmax pmax
comp=Z,6.0nm,0.7s,mb4.8
WCI Wyandotte Cave 85.00 36 *e*P P 04 48 18.3 -0.5
comp=Z,6.4nm,0.7s,mb4.9
WVT Waverly 86.15 38 *e*P P 04 48 25.4 +0.8
WVT pmax pmax
comp=Z,3.0nm,0.6s,mb4.7
WVT Waverly 86.15 38 *e*P P 04 48 25.4 +0.8
comp=Z,2.7nm,0.6s,mb4.7
KEST Kesra 87.35 323 LR LR 05 29 49.0
comp=Z,43nm,19.1s,MS3.9,baz=263,slow=37
ESDC Sonseca Array 88.58 334 P P 04 48 35.1 -1.2
comp=Z,0.3nm,0.5s,mb3.9,baz=38,slow=2.3,SNR=3.7

ISCJB ***11*** *04:45:47.3±0.2,2865S±002×7002W±005,h105km, mb4.8/29, Error ellipse: s-maj=6.3km s-min=3.4km az=7.5*
NEIC ***11*** *04:45:48.9±0.3,2860S×6987W, mb4.8/23, Error ellipse: s-maj=12.2km s-min=6.8km az=76.0*
NEIC Felt [III] at Vallenar and [II] at Copiapo, La Higuera and Tierra Amarilla.
BJI ***11*** *04:45:48.9, 2860S×6990W, h106km, mB4.9*
GUC ***11*** *04:45:48.5±0.5, 2870S×7004W, ML4.8*
IDC ***11*** *04:45:49.8±0.4, 2867S×6989W, h108km±3km, mb4.5/8, mb1 4.4/10, mb1mx4.3/14, mbtmp4.4/10, MS3.2/5, Ms1 3.3/5, ms1mx3.1/28, Error ellipse: s-maj=16.9km s-min=8.2km az=73.0*

ISC 11 04:45:49.0±0.2, 2869S±003×7008W±005, h107km, h107km±1.1km; pP-P, n333, σ0 89/80, mb4.8/29, 108C-104D, Central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VACH	**Vallenar**	**0.61**	**280**	⇓*i*P	**Pn**	**04 46 06.0**	**-0.3**
VACH				*i* S	**Sn**	**04 46 18.8**	**-0.5**
VACH				AML	AML	04 46 20.4	
	comp=N,116μm,0.1s						
LSCH	**La Serena**	**1.59**	**220**	⇑*i*P	**Pn**	**04 46 16.5**	**-0.2**
LSCH				*i* S	**Sn**	**04 46 37.3**	**-0.5**
TLL	**Tololo Astrono**	**1.60**	**203**	⇑*i*P	**Pn**	**04 46 17.4**	**+0.5**
TLL				*i* S	**Sn**	**04 46 39.0**	**+0.8**
TLL				AML	AML	04 46 42.9	
	comp=E,9μm,0.6s						
OVCH	**Ovalle**	**2.15**	**207**	⇑*i*P	**Pn**	**04 46 23.3**	**-0.4**
OVCH				*i* S	**Sn**	**04 46 50.1**	**-0.3**
OVCH				AML	AML	04 46 53.0	
	comp=N,5μm,0.6s						
CFAA	**Coronel Fontan**	**3.32**	**152**	P	**Pn**	**04 46 40.0**	**+0.9**
	comp=N,8.8nm,0.3s,baz=330,slow=12,SNR=182						
CFAA				S	**Sn**	**04 47 17.1**	**-0.8**
	comp=N,14nm,0.3s,baz=186,slow=16,SNR=16						
CHNG	**Los Chungos**	**3.41**	**201**	⇑*i*P	**Pn**	**04 46 39.4**	**-1.0**
CHNG				*i* S	**Sn**	**04 47 18.9**	**-1.3**
CHNG				AML	AML	04 47 29.9	
	comp=N,860nm,0.6s						
JACH	**Jahuel**	**4.01**	**186**	⇑*i*P	**Pn**	**04 46 48.4**	**+0.1**
FCH	**Farellones**	**4.63**	**182**	⇓*i*P	**Pn**	**04 46 57.4**	**+0.6**
FCH				*i* S	**Sn**	**04 47 50.0**	**+0.6**
LVC	**Limon Verde**	**6.14**	**10**	P	**Pn**	**04 47 15.7**	**-1.5**
	comp=N,11nm,0.3s,baz=157,slow=7.9,SNR=12						
LVC				S	**Sn**	**04 48 22.9**	**-3.2**
	comp=N,51nm,0.3s,baz=332,slow=22,SNR=10						
LVC	**Limon Verde**	**6.14**	**10**	*e*Pn	**Pn**	**04 47 12.4**	**-4.9**
LVC				S	**Sn**	**04 48 22.9**	**-3.2**
TRQA	**Tornquist**	**11.53**	**146**	*e*Pn	**Pn**	**04 48 28.0**	**-2.2**
	comp=N,30nm,0.6s						
CPUP	**Villa Florida**	**11.56**	**81**	P	**Pn**	**04 48 25.9**	**-4.7**
	comp=N,4.1nm,0.3s,baz=231,slow=12,SNR=32						
CPUP				LR	LR	04 53 06.2	
	comp=N,182nm,19.2s,baz=228,slow=38						
CPUP	**Villa Florida**	**11.56**	**81**	*e*Pn	**Pn**	**04 48 25.7**	**-5.0**
	comp=N,107nm,0.5s						
PLCA	**Paso Flores**	**12.02**	**182**	P	**Pn**	**04 48 35.4**	**-1.3**
	comp=N,0.4nm,0.3s,baz=352,slow=14,SNR=19						
PLCA				LR	LR	04 53 58.7	
	comp=N,158nm,18.1s,baz=360,slow=41						
PLCA				ScP	ScP	04 57 37.4	+1.5
	comp=N,0.1nm,0.3s,baz=336,slow=4.4,SNR=3.4						
PLCA	**Paso Flores**	**12.02**	**182**	*e*Pn	**Pn**	**04 48 34.8**	**-1.8**
	comp=N,17nm,0.9s						
ARE	**Arequipa**	**12.24**	**354**	*e*P	**Pn**	**04 48 41.0**	**+1.3**
ARE				*e*S	**Sn**	**04 50 46.0**	**-8.3**
LPAZ	**La Paz**	**12.47**	**9**	P	**Pn**	**04 48 40.9**	**-1.9**
	comp=N,0.6nm,0.3s,baz=186,slow=8.8,SNR=29						
LPAZ				LR	LR	04 53 47.1	
	comp=N,155nm,20.3s,baz=122,slow=38						
LPAZ	**La Paz**	**12.47**	**9**	*e*Pn	**Pn**	**04 48 41.6**	**-1.2**
	comp=N,7.6nm,0.8s						
SIV	**San Ignacio**	**15.12**	**35**	P	**Pn**	**04 49 12.0**	**-5.0**
	comp=N,1.7nm,0.3s,baz=238,slow=9.5,SNR=37						
COYC	**Coyhaique**	**16.93**	**185**	*i* P	**Pn**	**04 49 39.3**	**+0.1**
NNA	**Nana**	**17.77**	**338**	LR	LR	04 56 23.4	
	comp=N,47nm,19.1s,baz=136,slow=36						
VAO	**Valinhos**	**21.55**	**80**	⇑*i*P	**P**	**04 50 29.4**	**-0.3**
VAO				*i*		04 50 30.8	
VAO				*i*		04 50 33.8	
VAO				*i*		04 51 19.5	
VAO				*i*		04 51 42.5	
VAO				*i*		04 52 10.8	
VAO				*i*		04 52 36.7	
BDFB	**Brasilia**	**24.16**	**62**	P	**P**	**04 50 54.6**	**-0.7**
	comp=N,2.2nm,0.4s,mb3.8,baz=205,slow=15,SNR=14						
USHA	**Ushuaia**	**26.15**	**178**	P	**P**	**04 51 13.2**	**+0.3**
	comp=N,54nm,0.9s,mb5.0,baz=328,slow=6.0,SNR=13						
ROSC	**El Rosal**	**33.60**	**352**	P	**P**	**04 52 21.0**	**+1.9**
	comp=N,1.5nm,0.6s,mb4.0,baz=226,slow=14,SNR=1.7						
ROSC				pP	pP	04 52 45.9	+2.8
	comp=N,6.6nm,0.7s,baz=247,slow=3.0,SNR=5.5						
ROSC				LR	LR	05 06 48.8	
	comp=N,33nm,20.7s,baz=3.2,slow=38						
SDV	**Santo Domingo**	**37.35**	**359**	P	**P**	**04 52 51.3**	**0.0**
	comp=N,14nm,1.1s,mb4.8						
SDV				*e*pP	pP	04 53 14.3	-1.3
VNA3	**Neumayer Olymp**	**53.69**	**160**	*e*PKPdf	**P**	**04 55 00.1**	**+0.9**
VNA3				*e*		04 55 03.2	
VNA1	**Neumayer--Stat**	**53.95**	**159**	*e*PKPdf	**P**	**04 55 02.0**	**+0.9**
VNA1				*e*		04 55 05.3	

VNA2 Neumayer--Watz 54.30 159 *e*PKPdf **P 04 55 04.6 +0.9**
baz=288,slow=6.2
VNA2 *e* 04 55 06.8
SNAA Sanae 55.91 159 *e*PKPdf **P 04 55 15.6 +0.4**
SNAA *e* 04 55 19.4
SNAA Sanae 55.91 159 *e*P **P 04 55 15.5 +0.2**
comp=N,63nm,0.9s,mb5.7
HKT Hockley 63.28 335 P **P 04 56 05.1 -1.2**
comp=N,3.6nm,0.9s,mb4.3
HKT *e*pP pP 04 56 32.7 -0.1
LRAL Lakeview Retre 63.45 344 *e*P pP 04 56 33.5 -0.3
CPCT Cooper Cave 65.23 347 *e*P pP 04 56 45.5 -0.1
SWET Sewanee 65.30 346 *e*P pP 04 56 45.3 -0.6
JCT Junction City 65.31 332 *e*P **P 04 56 18.9 -0.6**
comp=N,12nm,0.7s,mb4.8
JCT *e*pP pP 04 56 46.5 +0.4
OXF Oxford 65.46 343 *e*P **P 04 56 20.5 +0.1**
comp=N,23nm,1.0s,mb5.0
OXF *e*pP pP 04 56 46.2 -0.9
TXAR Lajitas Array 66.02 328 P **P 04 56 26.0 +1.8**
comp=N,1.2nm,0.9s,mb3.7,baz=147,slow=7.7,SNR=9.5
TXAR pP pP 04 56 52.5 +1.6
comp=N,2.7nm,0.9s,baz=148,slow=8.6,SNR=12
WVT Waverly 66.60 344 *e*P **P 04 56 24.3 -3.4**
WVT *e*pP pP 04 56 52.2 -2.2
MIAR Mount Ida 66.70 339 *e*P pP 04 56 55.5 +0.4
WCI Wyandotte Cave 68.27 346 *e*P **P 04 56 38.1 0.0**
comp=N,14nm,1.3s,mb4.6
WCI *e*pP pP 04 57 02.5 -2.5
SIUC Southern Illin 68.44 344 *e*P pP 04 57 06.0 -0.1
GDL2 Guadalupe Moun 68.76 329 *e*P pP 04 57 10.6 +2.4
FVM French Village 69.00 343 *e*P **P 04 56 43.4 +0.7**
FVM *e*pP pP 04 57 08.5 -1.1
SYO Syowa Base 70.19 159 ⇑P **P 04 56 48.6 -1.1**
319A Douglas 70.43 325 ⇑P pP 04 57 20.9 +2.3
baz=71
BINY Binghamton 70.74 355 *e*P pP 04 57 20.1 -0.1
318A Bisbee 70.84 325 ⇑P pP 04 57 23.1 +2.0
baz=71
219A White Tail Can 70.92 325 ⇓P pP 04 57 23.6 +2.0
baz=71
218A Dragoon 71.30 325 ⇓P pP 04 57 26.0 +2.1
baz=72
LIC Lamto 71.52 72 *e*P **P 04 56 58.6 0.0**
comp=N,78nm,0.9s,mb5.5
217A Green Valley 71.53 324 ⇑P pP 04 57 27.3 +2.0
baz=72
119A Ashpeak Ranch, 71.56 326 ⇑P pP 04 57 27.0 +1.6
baz=72
TIC Toumodi 71.75 72 *e*P **P 04 57 00.0 0.0**
comp=N,149nm,1.2s,mb5.7
118A Homack Ranch, 71.79 325 ⇑P pP 04 57 28.8 +2.0
baz=72
KIC Kosan Boka 71.83 72 *e*P **P 04 57 00.5 0.0**
comp=N,128nm,0.8s,mb5.8
LAZ Ladron 71.87 328 *e*P **P 04 56 59.0 -1.3**
LAZ *e*pP pP 04 57 26.5 -0.8
DBIC Dimbokro 71.90 72 P **P 04 57 01.4 +0.5**
comp=N,27nm,0.7s,mb5.2,baz=213,slow=6.5,SNR=52
DBIC pP pP 04 57 28.9 +0.9
comp=N,11nm,0.7s,baz=216,slow=5.5,SNR=4.3
DBIC Dimbokro 71.90 72 *e*P **P 04 57 00.8 -0.1**
comp=N,29nm,0.7s,mb5.2
DBIC *e*pP pP 04 57 27.5 -0.5
TUC Tucson 71.94 324 *e*P pP 04 57 29.6 +1.9
ANMO Albuquerque 72.02 329 *e*P pP 04 57 30.2 +2.0
117A Oracle 72.12 325 ⇓P pP 04 57 30.7 +1.9
baz=72
Y19A Nutrioso 72.50 327 ⇑P pP 04 57 32.9 +1.7
baz=73
214A Organ Pipe Nat 72.72 323 ⇑P pP 04 57 34.0 +1.6
baz=73,SNR=6.3
Y18A Canyon Day Jun 72.74 326 ⇓P pP 04 57 34.2 +1.7
baz=73
115A Sonoran Desert 72.99 324 ⇑P pP 04 57 35.7 +1.6
baz=73
Y17A Roosevelt 73.07 325 ⇓P pP 04 57 35.7 +1.2
baz=73,SNR=5.3
Y16A Circle Bar Ran 73.54 325 ⇓P pP 04 57 38.9 +1.6
baz=74
X17A Forest Lakes 73.57 326 ⇓P pP 04 57 38.9 +1.5
baz=74,SNR=5.2
V19A Window Rock 73.83 328 ⇑P pP 04 57 40.3 +1.3
baz=74
SDCO Great Sand Dun 73.95 331 *e*P pP 04 57 41.6 +2.0
X16A Lo Mia Camp, P 73.95 325 ⇑P pP 04 57 40.8 +1.1
baz=74,SNR=5.9
Y15A Casa Rosa Ranc 74.03 324 ⇓P pP 04 57 41.7 +1.5
baz=74
Y14A Wickenburg 74.36 324 ⇓P pP 04 57 43.3 +1.2
baz=75
X15A Humboldt 74.40 325 ⇓P pP 04 57 43.8 +1.4
baz=75
W16A Flagstaff 74.53 326 ⇓P pP 04 57 44.3 +1.2
baz=75
Y13A Salome 74.70 323 ⇓P pP 04 57 45.7 +1.6
baz=75
X14A Yava 74.72 324 ⇑P pP 04 57 45.8 +1.5
baz=75
T19A Beclabito 74.73 328 ⇓P pP 04 57 44.8 +0.5
baz=75,SNR=5.9
WUAZ Wupatki 74.79 326 ⇑P pP 04 57 45.9 +1.2
baz=75
WUAZ Wupatki 74.79 326 *e*P **P 04 57 18.1 +0.7**
WUAZ *e*pP pP 04 57 44.7 +0.1
U18A Rough Rock, Ch 74.79 328 ⇑P pP 04 57 46.0 +1.4
baz=75
MVCO Mesa Verde 74.81 329 ⇓P pP 04 57 45.5 +0.9
baz=75
MVCO Mesa Verde 74.81 329 *e*P pP 04 57 46.9 +2.2
Y12C Blythe 75.01 323 ⇑P pP 04 57 47.8 +1.8
baz=75
U16A Tuba City 75.17 327 ⇑P pP 04 57 47.5 +0.7
baz=76
X13A Yucca 75.30 324 ⇓P pP 04 57 49.0 +1.4
baz=76,SNR=5.5
U17A Shonto 75.31 327 ⇓P pP 04 57 48.5 +0.8
baz=76
T18A Mexican Hat 75.38 328 ⇓P pP 04 57 49.0 +1.0
baz=76,SNR=7.0
W14A Seligman 75.40 325 ⇑P pP 04 57 49.2 +1.1
baz=76
V15A Kaibab Nationa 75.42 326 ⇑P pP 04 57 50.0 +1.7
baz=76,SNR=5.5
BC3 Big Chuckw Mtn 75.44 322 ⇓P pP 04 57 49.9 +1.5
baz=76
S19A Harvey Farm, M 75.54 329 ⇓P pP 04 57 49.4 +0.5
baz=76
PV01 Paradox Valley 75.60 330 *e*P **P 04 57 21.5 -0.4**
PV01 *e*pP pP 04 57 49.3 +0.1
IRM Iron Mountain 75.66 323 ⇓P pP 04 57 51.4 +1.7
baz=76
T17A Navajo Res., N 75.70 327 ⇓P pP 04 57 51.3 +1.4
baz=76,SNR=7.6
W13A Hualapai Mount 75.72 324 ⇓P pP 04 57 51.7 +1.7
baz=76
ISCO Idaho Springs 75.74 332 *e*P pP 04 57 52.0 +2.0
V14A Boquillas Ranc 75.74 325 ⇑P pP 04 57 51.8 +1.6
baz=76,SNR=9.0
S18A Hurst Farm, Bl 75.88 328 ⇑P pP 04 57 52.4 +1.6
baz=76,SNR=5.9
SUR Sutherland 75.94 119 *e*P **P 04 57 25.2 +0.9**
comp=N,16nm,0.6s,mb4.9
U15A North Rim 75.96 326 ⇓P pP 04 57 53.0 +1.6
baz=76,SNR=5.8
T16A Glen Canyon Da 76.03 327 ⇑P pP 04 57 53.3 +1.5
baz=76
ECSD EROS,Sioux Fal 76.06 341 *e*P pP 04 57 51.8 +0.1
MURC Murrieta 76.35 321 ⇓P pP 04 57 55.1 +1.5
baz=77
V13A Grand Canyon W 76.36 325 ⇓P pP 04 57 55.1 +1.5
baz=77
U14A Mt Trumbull 76.40 325 ⇑P pP 04 57 55.6 +1.8
baz=77,SNR=7.9
R18A Canyonlands Na 76.40 329 ⇑P pP 04 57 54.9 +1.1
baz=77
GMRC Granite Mounta 76.41 323 ⇑P pP 04 57 55.6 +1.7
baz=77
T15A Red Dirt Ranch 76.48 326 ⇑P pP 04 57 56.1 +1.8
baz=77
S16A Weppner Ranch, 76.66 327 ⇑P pP 04 57 56.1 +0.8
baz=77
V12A Nelson 76.71 324 ⇓P pP 04 57 57.0 +1.4
baz=77,SNR=5.6
U13A Pakoon Wash 76.79 325 ⇑P pP 04 57 57.2 +1.2
baz=77
R17A Hanksville Air 76.80 328 ⇓P pP 04 57 57.2 +1.1
baz=77,SNR=5.4
S15A Panguitch 76.99 327 ⇑P pP 04 57 58.6 +1.5
baz=77
TUQ Turquoise Moun 77.05 323 ⇑P pP 04 57 59.3 +1.7
baz=77
R16A Teasdale 77.06 328 ⇑P pP 04 57 58.9 +1.4
baz=77
U12A Valley of Fire 77.09 325 ⇑P pP 04 57 59.4 +1.6
baz=77
V11A Goodsprings 77.09 324 ⇓P pP 04 57 59.5 +1.7
baz=77
Q18A Rafter H Ranch 77.09 329 ⇓P pP 04 57 58.9 +1.1
baz=77
T13A Saint George 77.23 325 ⇓P pP 04 58 00.5 +1.9
baz=78
SRU San Rafael 77.28 329 ⇓P pP 04 58 00.1 +1.3
baz=78
S14A Cedar City 77.44 326 ⇓P pP 04 58 01.8 +2.1
baz=78
SHPR Sheep Range 77.47 324 *e*P pP 04 58 01.8 +1.9
MSU Marysvale 77.56 327 *e*P **P 04 57 33.7 +0.7**
MSU *e*pP pP 04 58 01.7 +1.3
P18A Preston Nutter 77.57 329 ⇑P pP 04 58 02.1 +1.7
baz=78,SNR=6.3
ARUT Antelope Range 77.60 326 *e*P **P 04 57 32.7 -0.5**
ARUT *e*pP pP 04 57 59.1 -1.5
O19A Miners Draw (B 77.63 330 ⇓P pP 04 58 01.7 +1.0
baz=78
S13A Holt Ranch, En 77.64 326 ⇓P pP 04 58 03.0 +2.1
baz=78
P17A Butcher Ranch, 77.67 329 ⇑P pP 04 58 02.5 +1.6
baz=78
MAW Mawson 77.78 163 *e*P **P 04 57 34.9 +1.0**
comp=N,13nm,0.5s,mb4.9
MAW Mawson 77.78 163 P **P 04 57 35.0 +1.1**
comp=N,30nm,0.8s,mb5.0,baz=213,slow=6.2,SNR=44
RWWY Rawlins 77.98 332 *e*P pP 04 58 04.8 +2.2
O18A Roosevelt 77.99 330 ⇓P pP 04 58 04.1 +1.3
baz=78
U10A Ash Meadows, A 78.01 323 ⇓P pP 04 58 05.1 +2.1
baz=78
Q15A Fillmore 78.05 328 ⇓P pP 04 58 05.1 +2.0
baz=78
T11A Corn Creek, Al 78.06 325 ⇓P pP 04 58 05.2 +2.0
baz=78
N19A John Jarvie Ra 78.14 331 ⇓P pP 04 58 04.8 +1.3
baz=78,SNR=6.6
S12A Dear Landin 78.16 325 ⇑P pP 04 58 05.3 +1.6
baz=78
R13A O'Grain Ranch, 78.17 326 ⇑P pP 04 58 05.4 +1.6
baz=78
O17A Robinson Place 78.25 329 ⇓P pP 04 58 06.2 +2.0
baz=78,SNR=8.8
FURC Furnace Creek, 78.32 323 ⇑P pP 04 58 06.4 +1.7
baz=79
TPNV Topopah Spring 78.37 324 ⇑P pP 04 58 06.3 +1.4
baz=79
N18A Larsen Ranch, 78.42 330 ⇓P pP 04 58 06.7 +1.6
baz=79
Q14A Sevier Lake (B 78.47 327 ⇑P pP 04 58 07.1 +1.6
baz=79,SNR=5.8
MPU Maple Canyon 78.51 329 *e*P pP 04 58 07.3 +1.7
ISA Isabella 78.58 322 ⇓P pP 04 58 07.6 +1.4
baz=79
R12A Pony Springs, 78.59 326 ⇑P pP 04 58 08.1 +1.9
baz=79,SNR=5.9
O16A Springville 78.61 329 ⇑P pP 04 58 07.7 +1.5
baz=79
PKM Peak Mountain 78.77 320 ⇑P pP 04 58 09.4 +2.2
baz=79
Q13A Wheeler Ranch, 78.80 327 ⇓P pP 04 58 09.2 +1.9
baz=79
P14A Drum Mountains 78.84 328 ⇑P pP 04 58 09.0 +1.5
baz=79
N17A Moffit Pass 78.90 330 ⇑P pP 04 58 09.2 +1.4
baz=79,SNR=6.5
TSUM Tsumeb 79.05 106 *e*P **P 04 57 41.6 -0.2**
comp=N,26nm,1.6s,mb4.8
TSUM *e*pP pP 04 58 09.6 +0.3
VES Vestal, Richgr 79.05 321 ⇓P pP 04 58 09.9 +1.1
baz=79
R11A Troy Canyon, C 79.10 325 ⇑P pP 04 58 10.3 +1.3
baz=79
N16A Rees Ranch, Co 79.13 329 ⇑P pP 04 58 10.4 +1.4
baz=79
SMMC Simler 79.17 320 ⇓P pP 04 58 11.9 +2.4
baz=79
P13A Bates Ranch, G 79.19 327 ⇑P pP 04 58 10.7 +1.3
baz=80
DUG Dugway 79.20 328 ⇓P pP 04 58 10.7 +1.3
baz=80
DUG Dugway 79.20 328 *e*P pP 04 58 11.0 +1.5
Q12A Willow Creek R 79.26 326 ⇑P pP 04 58 10.9 +1.1
baz=80
S10A Tonopah Range, 79.28 324 ⇓P pP 04 58 11.2 +1.2
baz=80
R10A Warm Springs 79.41 325 ⇓P pP 04 58 12.3 +1.6
baz=80
S09A Goldfield 79.46 324 ⇓P pP 04 58 12.1 +1.2
baz=80
Q11A Duckwater 79.52 325 ⇑P pP 04 58 12.2 +1.0
baz=80
M16A Huntsville 79.56 329 ⇑P pP 04 58 11.7 +0.3
baz=80
P12A McGill 79.63 326 ⇑P pP 04 58 13.2 +1.3
baz=80
HELL Mitchell Peak 79.64 322 ⇓P pP 04 58 13.3 +1.3
baz=80
HWUT Hardware Ranch 79.76 330 *e*P pP 04 58 13.4 +0.9
BW06 Boulder Array 79.84 332 ⇓P pP 04 58 13.4 +0.5
baz=80,SNR=5.3
BW06 Boulder Array 79.84 332 *e*P **P 04 57 44.8 -0.6**
comp=N,5.0nm,1.1s,mb4.3
BW06 *e*pP pP 04 58 12.3 -0.6
PDAR Pinedale Array 79.84 332 P **P 04 57 45.9 +0.5**
comp=N,0.6nm,0.8s,baz=126,slow=6.8,SNR=3.7
PDAR pP pP 04 58 13.8 +0.8
comp=N,2.3nm,0.9s,baz=129,slow=5.9,SNR=7.4
PDAR PKKPbc PKKPbc 05 16 30.9 -1.9
comp=N,0.4nm,0.5s,baz=270,slow=0.2,SNR=4.2
Q10A Clear Creek Ra 79.87 325 ⇓P pP 04 58 14.5 +1.4
baz=80
PKD Parkfield 79.93 321 ⇑P pP 04 58 15.4 +1.8
baz=80
O12A Currie 80.17 327 ⇑P pP 04 58 15.9 +1.2
baz=80
U04C Hernandez Rese 80.37 321 ⇓P pP 04 58 18.0 +2.1
baz=81
L15A Malad City 80.45 329 ⇓P pP 04 58 16.8 +0.6
baz=81
M14A Sheep Mountain 80.48 329 ⇑P pP 04 58 17.2 +0.8
baz=81
O11A Cowboy Ranch, 80.51 326 ⇑P pP 04 58 17.9 +1.3
baz=81
P10A Eureka 80.51 325 ⇓P pP 04 58 17.8 +1.1
baz=81
NVAR Mina Array Bea 80.55 324 P **P 04 57 51.0 +1.7**
comp=N,0.3nm,0.6s,baz=116,slow=10,SNR=2.1
NVAR pP pP 04 58 18.3 +1.4
comp=N,1.1nm,0.9s,baz=161,slow=5.3,SNR=4.1
NVAR PKKPbc PKKPbc 05 16 29.7 -1.2
comp=N,0.3nm,0.5s,baz=338,slow=3.2,SNR=3.5
NVAR Mina Array Bea 80.55 324 P **P 04 57 51.0 +1.7**
NVAR pP pP 04 58 18.3 +1.4
NVAR PKKPbc PKKPbc 05 16 29.7 -1.2
Q08A Gabbs 80.68 324 ⇑P pP 04 58 18.5 +0.9
baz=81
M13A Montello 80.75 328 ⇓P pP 04 58 18.4 +0.6
baz=81
K16A Soda Springs 80.76 330 ⇓P pP 04 58 18.9 +1.0
baz=81,SNR=6.1
N12A Clover Valley, 80.77 327 ⇓P pP 04 58 19.0 +1.0
baz=81
ELK Elko 80.78 327 P **P 04 57 50.7 +0.3**
comp=N,1.6nm,0.7s,mb4.0
ELK *e*pP pP 04 58 17.7 -0.3
TOA0 Torodi Ar. Sit 80.81 70 *e*P **P 04 57 51.2 0.0**
TOA0 *e*pP pP 04 58 19.5 +0.7
TORD Torodi Ar. Bea 80.81 70 P **P 04 57 51.2 0.0**
comp=N,27nm,0.7s,mb5.2,baz=269,slow=5.3,SNR=315
TORD pP pP 04 58 19.9 +1.1
comp=N,8.2nm,0.7s,baz=257,slow=4.8,SNR=6.2
TORD Torodi Ar. Bea 80.81 70 P **P 04 57 51.2 0.0**
TORD pP pP 04 58 19.9 +1.1
L14A Malta 80.86 329 ⇑P pP 04 58 19.0 +0.6
baz=81
REDW Red Top Meadow 80.88 331 *e*P pP 04 58 20.0 +1.5
SNOW Snow King Moun 80.92 331 *e*P **P 04 57 50.8 -0.3**
comp=N,7.7nm,1.1s,mb4.5
SNOW *e*pP pP 04 58 18.3 -0.4
LOHW Long Hollow 80.97 331 *e*P pP 04 58 20.6 +1.6
TPAW Teton Pass 81.02 331 *e*P pP 04 58 20.8 +1.5
BOSA Boshof 81.05 118 P **P 04 57 52.1 -0.2**
comp=N,19nm,0.7s,mb5.0,baz=238,slow=4.7,SNR=9.3
BOSA Boshof 81.05 118 *e*P **P 04 57 52.1 -0.3**
K15A Arbon 81.06 330 ⇑P pP 04 58 20.1 +0.6
baz=81
RRI2 Red Ridge 81.06 331 *e*P pP 04 58 21.2 +1.7
J16A Bone 81.13 331 ⇑P pP 04 58 20.4 +0.6
baz=81
MOOW Moose Ponds 81.14 331 *e*P **P 04 57 51.9 -0.5**
comp=N,1.2nm,0.6s,mb3.9
M12A Wells 81.14 328 ⇓P pP 04 58 20.9 +0.9
baz=81
L13A Double Diamond 81.22 329 ⇑P pP 04 58 21.4 +1.0
baz=82
R06C Coleville 81.22 323 ⇑P pP 04 58 22.4 +1.9
baz=82
K14A Jones Ranch, D 81.23 329 ⇓P pP 04 58 21.2 +0.7
baz=82
IMW Indian Meadow 81.35 331 *e*P pP 04 58 22.2 +1.2
CMB Columbia Colle 81.36 322 ⇑P pP 04 58 23.3 +2.0
baz=82
M11A Holland Ranch, 81.57 327 ⇑P pP 04 58 23.7 +1.4
baz=82
RLMT Red Ledge 81.67 333 ⇑P pP 04 58 23.4 +0.8
baz=82
L12A House Creek Ra 81.76 328 ⇑P pP 04 58 24.2 +0.9
baz=82
ULM Lac du Bonnet 81.85 344 pP pP 04 58 23.2 -0.3
comp=N,9.9nm,1.0s,baz=163,slow=4.8,SNR=6.6
ULM Lac du Bonnet 81.85 344 *e*P **P 04 57 56.0 +0.2**
comp=N,22nm,1.4s,mb4.8
ULM *e*pP pP 04 58 22.3 -1.2
O08A Rochester Mine 81.87 325 ⇓P pP 04 58 24.7 +0.9
baz=82
M10A I.L. Ranch, Tu 82.00 327 ⇑P pP 04 58 25.4 +0.8
baz=82
PAHR Pah Rah Range 82.06 324 *e*P pP 04 58 26.9 +2.0
K12A Draper Farm, C 82.09 328 ⇓P pP 04 58 26.1 +1.1
baz=82
L11A Cat Creek Ranc 82.12 328 ⇓P pP 04 58 26.4 +1.3
baz=82
J13A Cove Ranch, Pi 82.36 329 ⇓P pP 04 58 28.0 +1.6
baz=83
L10A Juniper Basin 82.39 327 ⇑P pP 04 58 27.1 +0.5
baz=83
P05C Yuba Gap, Truc 82.41 323 ⇑P pP 04 58 28.3 +1.6
baz=83
F18A Big Timber 82.49 333 ⇓P pP 04 58 27.6 +0.6
baz=83
HLID Hailey 82.59 329 ⇓P pP 04 58 28.4 +0.8
baz=83
HLID Hailey 82.59 329 *e*P **P 04 58 01.6 +1.7**
comp=N,3.6nm,1.0s,mb4.2
HLID *e*pP pP 04 58 26.6 -1.0
N07B Gerlach 82.64 325 ⇓P pP 04 58 29.7 +1.7
baz=83
J12A Stokes Ranch, 82.66 329 ⇑P pP 04 58 28.6 +0.7
baz=83
BEKR Beckwourth 82.69 323 ⇓P pP 04 58 28.9 +0.7
baz=83
K11A Parker Ranch, 82.72 328 ⇑P pP 04 58 29.1 +0.8
baz=83
I13A Wildhorse Cree 82.74 330 ⇑P pP 04 58 29.3 +0.9
baz=83
H14A Leadore 82.96 330 ⇓P pP 04 58 29.9 +0.4
baz=83
LBTB Lobatse 83.00 115 *e*P **P 04 58 02.6 -0.1**
comp=N,21nm,0.6s,mb5.2
G15A Dillon 83.03 331 ⇑P pP 04 58 30.1 +0.3
baz=83
O05C Quincy 83.05 323 ⇑P pP 04 58 31.2 +1.1
baz=83
N06A Buffalo Meadow 83.06 324 ⇑P pP 04 58 31.1 +1.0
baz=83
ORV Oroville 83.07 322 ⇑P pP 04 58 31.3 +1.1
baz=83
E18A Harlowton 83.12 334 ⇓P pP 04 58 30.2 -0.1
baz=83
K10A MacKenzie Ranc 83.12 327 ⇓P pP 04 58 31.4 +1.1
baz=83
MFID Camas Ranch 83.12 328 ⇓P pP 04 58 31.2 +0.8
baz=83
M07A Soldier Meadow 83.20 325 ⇓P pP 04 58 31.6 +0.8
baz=84
H13A Challis 83.31 330 ⇑P pP 04 58 31.8 +0.5
baz=84
L08A Fields 83.39 326 ⇑P pP 04 58 32.1 +0.3
baz=84
O04C Chester 83.40 323 ⇑P pP 04 58 33.0 +1.1
baz=84
E17A Martinsdale 83.40 333 ⇑P pP 04 58 31.6 -0.2
baz=84
K09A Rome 83.47 327 ⇑P pP 04 58 32.3 +0.1
baz=84
HOPS Hopland 83.52 321 ⇓P pP 04 58 33.7 +1.1
baz=84
G13A Cobalt 83.72 330 ⇑P pP 04 58 33.7 +0.3
baz=84
M06C Likely Place G 83.73 324 ⇑P pP 04 58 34.8 +1.2
baz=84
L07A Adell 83.75 325 ⇓P pP 04 58 34.5 +0.8
baz=84
GASB Alder Springs 83.79 322 ⇑P pP 04 58 36.5 +2.6
baz=84
F14A Wisdom 83.91 331 ⇑P pP 04 58 34.9 +0.5
baz=84
J09A Fry Pan Ranch, 83.97 327 ⇓P pP 04 58 36.0 +1.2
baz=84
MOD Modoc 84.15 325 ⇑P pP 04 58 36.9 +1.2
baz=84
H11A Donnelly 84.20 329 ⇑P pP 04 58 36.2 +0.3
baz=84
K07A Rock Creek Ran 84.20 326 ⇓P pP 04 58 37.3 +1.4
baz=84
F13A Darby 84.31 331 ⇓P pP 04 58 36.6 +0.2
baz=85
C17A Wharram Farm, 84.32 334 ⇑P pP 04 58 36.9 +0.4
baz=85
J08A Circle Bar Ran 84.33 327 ⇑P pP 04 58 37.8 +1.2
baz=85
I09A Lost Marbles R 84.44 328 ⇑P pP 04 58 37.9 +0.7
baz=85
E14A Clinton 84.45 331 ⇑P pP 04 58 37.6 +0.5
baz=85
H10A Noah's Angus R 84.45 329 ⇑P pP 04 58 37.6 +0.4
baz=85
L05A Lakeview 84.53 325 ⇓P pP 04 58 39.1 +1.5
baz=85
D15A Lincoln 84.54 332 ⇑P pP 04 58 38.2 +0.6
baz=85
M03C McCloud 84.63 323 ⇓P pP 04 58 39.5 +1.3
baz=85
C16A Fuhringer Ranc 84.85 333 ⇑P pP 04 58 39.9 +0.8
baz=85
M04C Macdoel 84.85 324 ⇑P pP 04 58 40.1 +0.8
baz=85
G11A Walters Elk Ra 84.86 329 ⇓P pP 04 58 40.1 +0.9
baz=85
K05A Summer Lake 85.05 325 ⇓P pP 04 58 41.4 +1.2
baz=85
J06A Christmas Vall 85.07 326 ⇓P pP 04 58 41.2 +0.9
baz=85
L04A Klamath Falls 85.16 324 ⇓P pP 04 58 41.8 +1.0
baz=85
C15A Salmond Ranch, 85.17 333 ⇑P pP 04 58 41.2 +0.5
baz=86
F11A Grangeville 85.18 330 ⇑P pP 04 58 41.4 +0.5
baz=86
CASY Casey 85.34 180 *e*P **P 04 58 14.2 +0.6**
comp=N,15nm,0.8s,mb5.0
I07A Izee 85.36 327 ⇓P pP 04 58 42.4 +0.5
baz=86
G09A Cove 85.45 328 ⇓P pP 04 58 42.9 +0.7
baz=86
E11A Bogner Ranch, 85.57 330 ⇑P pP 04 58 42.9 +0.1
baz=86
B15A Bradely Ranch, 85.58 333 ⇓P pP 04 58 42.8 -0.1
baz=86
I06A Prineville 85.61 326 ⇑P pP 04 58 43.9 +0.9
baz=86
C14A Swan Lake 85.63 332 ⇓P pP 04 58 43.6 +0.5
baz=86
J05A Fort Rock 85.63 325 ⇑P pP 04 58 44.0 +0.9

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
	baz=86						
A16A	West Butte Ran	85.72	334	⇓P	pP	04 58 43.2	-0.2
	baz=86						
D12A	Red Ives Fores	85.74	331	⇓P	pP	04 58 43.5	-0.1
	baz=86						
C13A	Hot Springs	85.90	332	⇓P	pP	04 58 44.8	+0.4
	baz=86						
G08A	Pilot Rock	86.01	328	⇓P	pP	04 58 45.6	+0.6
	baz=86						
E10A	Myers Farm, Un	86.06	330	⇓P	pP	04 58 45.6	+0.3
	baz=86						
A15A	Johnson Ranch,	86.19	333	⇑P	pP	04 58 45.6	-0.2
	baz=86						
H06A	Lindquist Farm	86.25	327	⇓P	pP	04 58 48.1	+1.9
	baz=86						
C12B	Naegeli Ranch,	86.30	331	⇓P	pP	04 58 47.0	+0.6
	baz=87						
C11A	Tepee Creek (N	86.73	331	⇓P	pP	04 58 48.6	0.0
	baz=87						
G06A	Carlson Farm,	86.76	327	⇓P	pP	04 58 50.2	+1.5
	baz=87						
A13A	Flathead Natio	86.82	333	⇓P	pP	04 58 50.1	+1.2
	baz=87						
B12A	Libby	86.94	332	⇑P	pP	04 58 50.3	+0.8
	baz=87						
I02A	Mapleton	87.46	324	⇑P	pP	04 58 53.8	+1.6
	baz=88						
FFC	Flin Flon	87.49	342	eP	P	04 58 23.4	-0.7
	comp=N,4.7nm,0.8s,mb4.5						
A11A	Hall Mountain,	87.64	332	⇓P	pP	04 58 53.2	+0.3
	baz=88						
H03A	Soap Creek Ran	87.66	325	⇓P	pP	04 58 54.1	+1.0
	baz=88						
B09A	Rice	88.00	330	⇓P	pP	04 58 54.6	-0.1
	baz=88						
C07A	Waterville	88.30	329	⇑P	pP	04 58 57.0	+0.8
	baz=89						
A08A	Turner Farm, O	88.89	330	⇑P	pP	04 58 59.1	+0.2
	baz=89						
LSZ	Lusaka	89.82	107	eP	P	04 58 37.4	+1.3
	comp=N,6.5nm,1.0s,mb4.7						
AKASG	Malin Array Be	117.31	45	PKP	PKPdf	05 04 20.9	-0.5
	comp=N,0.4nm,0.3s,baz=275,slow=1.9,SNR=5.0						
ASAR	Alice Springs	123.05	206	PKP	PKPdf	05 04 33.5	0.0
	comp=N,2.5nm,0.5s,baz=131,slow=1.8,SNR=37						
ASAR				pPKP	pPKPdf	05 05 02.6	-0.1
	comp=N,1.4nm,0.8s,baz=157,slow=1.3,SNR=4.8						
ASAR				PKKPbc	PKKPbc	05 14 25.1	+0.5
	comp=N,0.4nm,0.4s,baz=337,slow=3.7,SNR=6.8						
WRA	Warramunga Arr	126.21	209	PKP	PKPdf	05 04 39.9	+0.4
	comp=N,7.2nm,0.6s,baz=165,slow=1.6,SNR=142						
WRA				pPKP	pPKPdf	05 05 08.6	-0.2
	comp=N,2.9nm,0.9s,baz=164,slow=1.6,SNR=5.1						
FITZ	Fitzroy Crossi	131.07	200	PKP	PKPdf	05 04 48.9	+0.1
	comp=N,1.5nm,0.5s,baz=162,slow=21,SNR=9.3						
PETK	Petropavlovsk-	137.47	319	PKP	PKPdf	05 05 00.9	+1.3
	comp=N,3.7nm,0.8s,baz=93,slow=3.0,SNR=4.4						
KBL	Kabul	144.88	70	ePKPdf	PKPdf	05 05 13.0	-0.5
KAPI	Kappang	145.18	197	PKPbc	PKPbc	05 05 14.6	+0.2
	comp=N,46nm,0.8s,baz=228,slow=4.0,SNR=28						
KAPI	Kappang	145.18	197	ePKPdf	PKPdf	05 05 13.5	-1.2
EKS2	Erkin-Say	147.76	55	P	PKPbc	05 05 23.0	+1.8
	SNR=18						
EKS2	Erkin-Say	147.76	55	ePKPdf	PKPdf	05 05 19.9	+1.8
EKS2				ePKPbc	PKPbc	05 05 22.5	+1.4
EKS2				e		05 05 48.8	
KURK	Kurchatov	147.77	38	ePKPdf	PKPdf	05 05 18.3	+0.4
KURK				ePKPbc	PKPbc	05 05 21.5	+0.6
AML	Almayashu	147.82	56	P	PKPbc	05 05 23.4	+2.0
	SNR=10						
AML	Almayashu	147.82	56	ePKPbc	PKPbc	05 05 22.7	+1.4
USP	Ospenovka	148.12	53	P	PKPbc	05 05 23.3	+1.2
	SNR=6.0						
AAK	Ala-Archa	148.28	54	P	PKPbc	05 05 24.3	+1.8
	SNR=12						
CHMS	Chumysh	148.37	54	P	PKPbc	05 05 24.1	+1.4
	SNR=7.7						
UCH	Uchtor	148.39	55	P	PKPbc	05 05 25.0	+2.2
	SNR=39						
UCH	Uchtor	148.39	55	ePKPdf	PKPdf	05 05 21.2	+2.0
UCH				ePKPbc	PKPbc	05 05 24.9	+2.0
UCH				e		05 05 53.8	
KBK	Karagaybulak	148.60	54	P	PKPbc	05 05 25.0	+1.7
	SNR=9.6						
ZAA0	Zalesovo Array	148.81	29	ePKPdf	PKPdf	05 05 20.9	+1.5
ZAA0				ePKPbc	PKPbc	05 05 24.0	+0.5
ZAA0				e		05 05 50.0	
ZALV	Zalesovo Beam	148.81	29	PKP	PKPdf	05 05 19.9	+0.5
	comp=N,33nm,0.5s,baz=300,slow=3.5,SNR=44						
ZALV				PKPbc	PKPbc	05 05 23.7	+0.2
	comp=N,33nm,0.5s,baz=303,slow=3.5,SNR=80						
ZALV				pPKPbc	pPKPbc	05 05 53.2	+0.7
	comp=N,17nm,0.9s,baz=300,slow=3.3,SNR=5.0						
TKM2	Tokmak 2	148.99	54	P	PKPbc	05 05 25.7	+1.4
	SNR=12						
TKM2	Tokmak 2	148.99	54	ePKPdf	PKPdf	05 05 21.4	+1.2
TKM2				ePKPbc	PKPbc	05 05 25.4	+1.1
MK31	Makanchi Array	151.86	43	ePKPbc	PKPbc	05 05 31.6	+0.6
MK31				e		05 05 59.9	
MKAR	Makanchi Array	151.86	43	PKPbc	PKPbc	05 05 31.0	0.0
	comp=N,15nm,0.6s,baz=314,slow=2.0,SNR=48						
MKAR				pPKPbc	pPKPbc	05 06 00.1	0.0
	comp=N,12nm,0.9s,baz=307,slow=2.6,SNR=7.4						
MKAR	Makanchi Array	151.86	43	PKPbc	PKPbc	05 05 31.0	0.0
MKAR				pPKPbc	pPKPbc	05 06 00.1	0.0
WMQ	Urumqi	156.67	44	PKP	PKPdf	05 05 30.5	-0.8
WMQ				APKP		05 05 57.5	
WMQ				PKP2	PKPab	05 06 02.5	+1.5
WMQ				XPKP		05 06 08.0	
WMQ				PP	PP	05 09 41.7	+2.2
WMQ				PP	PP		
	comp=Z,82nm,5.8s						
WMQ				LR	LR		
	comp=N,141nm,23.2s						
WMQ				LR	LR		
	comp=E,89nm,27.0s						
WMQ				LR	LR		
	comp=Z,61nm,19.3s						
MDJ	Mudanjiang	157.69	321	PKP	PKPdf	05 05 32.9	+0.3
MDJ				APKP		05 05 59.5	
SONM	Songino Array	160.69	7	PKP	PKPdf	05 05 37.1	+1.2
	comp=Z,0.7nm,0.7s,baz=188,slow=1.0,SNR=5.1						
SONM				pPKP	pPKPdf	05 06 06.7	+1.3
	comp=Z,0.3nm,0.6s,baz=24,slow=3.9,SNR=2.7						
SONM				PKPab	PKPab	05 06 19.0	+0.8
	comp=Z,0.3nm,0.2s,baz=335,slow=6.4,SNR=5.1						
SONM				pPKPab	pPKPab	05 06 46.6	+0.1
	comp=Z,1.2nm,0.7s,baz=344,slow=3.6,SNR=3.9						
KSRS	Korea Array	162.58	305	PKP	PKPdf	05 05 39.9	+1.7
	comp=Z,0.6nm,0.3s,baz=98,slow=27,SNR=4.9						
CMAR	Chiang Mai Arr	165.69	133	PKP	PKPdf	05 05 42.4	+0.8
	comp=Z,0.6nm,0.3s,baz=265,slow=2.9,SNR=7.4						
CMAR				pPKP	pPKPdf	05 06 10.9	-0.1
	comp=Z,0.9nm,0.3s,baz=256,slow=1.5,SNR=2.0						
CMAR				PKPab	PKPab	05 06 38.9	-2.2
	comp=Z,0.9nm,0.6s,baz=229,slow=4.3,SNR=5.4						
HHC	Hu-ho-hao-te	167.79	354	ePKP	PKPdf	05 05 42.5	0.0
HHC				APKP		05 06 09.7	
HHC				XPKP		05 06 20.1	
HHC				PKS		05 09 13.6	
HHC				PP	PP	05 10 41.4	+3.8
HHC				SKS	SKSdf	05 12 35.4	-1.1
HHC				SKKS	SKKSac	05 17 17.4	+2.0
HHC				PP	PP		
	comp=Z,84nm,7.1s						
HHC				LR	LR		
	comp=N,108nm,22.9s						
HHC				LR	LR		
	comp=E,235nm,23.7s						
HHC				LR	LR		
	comp=Z,104nm,21.4s						
KMI	Kunming	172.68	117	PKP	PKPdf	05 05 44.0	-1.8
GYA	Guiyang	176.36	127	ePKP	PKPdf	05 05 45.8	-1.1
GYA				APKP		05 06 16.2	
GYA				XPKP		05 06 26.7	
GYA				PKP2	PKPab	05 07 28.9	+0.6
GYA				PP	PP	05 11 23.0	+1.9
GYA				PP	PP		
	comp=Z,80nm,8.9s						

ISK ***11*** *04:48:06.1, 3985N×4104E, h8km, MD3.4*
CSEM ***11*** *04:48:06.3±0.1, 3985N×4105E, h10km, MD3.4, Error ellipse: s-maj=2.2km s-min=2.0km az=3.0*
ISCJB ***11*** *04:48:07.3±0.6, 3985N±003×4106E±004, h12km±4km, Error ellipse: s-maj=5.8km s-min=4.4km az=158.0*
DDA ***11*** *04:48:08.2, 3998N×4104E, h8km±3km, Md3.4*
ISC 11 04:48:07.8±0.6**, 3988N**±003×**4107E**±004**, h12**km±4km**, n23, σ0.87**/31**, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EZM	Erzurum	0.23	83	PG	Pg	04 48 11.6	-1.0
ERZM	Erzurum	0.23	83	iP	Pg	04 48 11.8	-0.8
ERZM				iS	Sg	04 48 17.9	+2.0
KOPT	Kop Dagi	0.46	288	iP	Pg	04 48 16.0	-0.9
KOPT				iS	Sg	04 48 24.0	+0.9
EZC	Erzincan	0.98	263	ePN	Pn	04 48 30.3	+3.0
DDEM	Demirkent	1.14	27	iP	Pb	04 48 28.6	-0.8
DDEM				iS	Sb	04 48 44.6	+0.6
DBAD	Bademkaya	1.23	22	iP	Pn	04 48 30.5	-0.3
DBAD				iS	Sb	04 48 45.9	-0.9
PZAR	Pazar-Rize	1.30	354	ePN	Pn	04 48 31.7	-0.1
PZAR				eSN	Sn	04 48 49.2	+0.1
GUMT	Gumushane	1.35	296	ePN	Pn	04 48 32.1	-0.3
GUMT				eSN	Sn	04 48 50.7	+0.4
DAGI	Agillar	1.36	28	iP	Pn	04 48 32.7	+0.1
DAGI				iS	Sb	04 48 51.0	+0.5
MACK	Trabzon	1.46	317	iP	Pn	04 48 34.5	+0.6
ARTV	Artvin	1.46	26	iP	Pn	04 48 34.1	+0.2
ARTV				iS	Sn	04 48 53.4	+0.5
KTUT	Trabzon	1.49	318	ePN	Pn	04 48 34.2	-0.1
AGRB	Hanur-Agry	1.51	101	ePN	Pn	04 48 34.1	-0.5
DBOC	Borcka	1.53	17	iP	Pn	04 48 32.1	-2.8
BCA	Borcka	1.62	15	ePN	Pn	04 48 36.6	+0.5
PTK	Pertek	1.63	233	ePN	Pn	04 48 34.9	-1.4
KARS	Kars	1.71	64	ePN	Pn	04 48 37.7	+0.3
BEST	Besiri	1.99	175	iP	Pn	04 48 42.4	+1.2
SVRC	Sivrice-ELAZID	2.03	223	ePN	Pn	04 48 41.3	-0.5
ESPY	Espiye-Giresun	2.07	301	ePN	Pn	04 48 42.0	-0.3
CLDR	Caldiran	2.32	108	ePN	Pn	04 48 46.1	+0.3
SIRT	Sirnak	2.60	155	ePN	Pn	04 48 49.8	+0.1
SVSK	Karacayir	3.13	272	ePN	Pn	04 48 57.1	+0.2

NEIC 11 05:06:32.7, 3723S×17707E, h257km, MG4.0(WEL)**, After WEL., Off east coast of North Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MWZ	Matawai	1.16	162	P	Pn	05 07 09.6	+0.3
MWZ				S	S	05 07 38.0	-0.2
PUZ	Puketiti	1.26	132	P	Pn	05 07 09.6	-0.3
PUZ				S	S	05 07 38.6	-0.8
KNZ	Kokohu	1.85	165	P	Pn	05 07 14.5	+0.2
KNZ				S	S	05 07 45.7	-1.6
BKZ	Black Stump Fm	1.99	193	P	Pn	05 07 14.8	-0.7
BKZ				S	S	05 07 49.4	0.0
WNVZ	Wahianoa	2.39	208	P	Pn	05 07 18.8	-0.5
MRZ	Mangatainoka R	3.62	198	P	Pn	05 07 30.7	-1.6
KIW	Kapiti Island	4.00	204	P	Pn	05 07 34.5	-2.2
MTW	Mount Morrison	4.11	197	P	Pn	05 07 36.1	-1.8
TCW	Tory Channel	4.53	208	P	Pn	05 07 40.3	-2.6
NNZ	Nelson	4.91	215	P	Pn	05 07 44.4	-3.0
QRZ	Quartz Range	5.04	223	P	Pn	05 07 45.1	-4.0
THZ	Tophouse	5.56	214	P	Pn	05 07 51.7	-3.7
KHZ	Kahutara	5.85	207	P	Pn	05 07 56.6	-2.4

SZGRF ***11*** *05:31:28.4, 1990S×17066E, h33km, Vanuatu Islands*
NOU ***11*** *05:31:47.2±1.1, 1764S×16914E, h30km, MD3.1, ML5.2*
IDC ***11*** *05:31:53.8±0.6, 1847S×16904E, h200km±4km, mb4.8/20, mb1 4.9/22, mb1mx4.8/24, mbtmp4.8/22, MS4.1/3, Ms1 4.1/3, ms1mx3.4/26, Error ellipse: s-maj=8.9km s-min=8.2km az=168.0*
BJI ***11*** *05:31:54.2, 18.12S×16926E, h213km, mB5.0, mb5.3*
LDG ***11*** *05:31:54.5±0.1, 1830S×16867E, h200km, Mb5.5/4, Error ellipse: s-maj=15.0km s-min=4.7km az=108.0*
ISCJB ***11*** *05:31:54.3±0.1, 1847S±003×16895E±003, h213km, mb5.2/124, Error ellipse: s-maj=4.4km s-min=2.9km az=149.7*
MOS ***11*** *05:31:54.0±1.2, 1839S×16901E, h212km, mb5.5/39, Error ellipse: s-maj=8.2km s-min=7.6km az=59.4*
GCMT ***11*** *05:31:55.8±0.1, 1849S×16889E, h218km, MW5.4/93, Moment Tensor Solution. s80,c134; s93,c176; Duration: 1.2 Moment tensor: Scale 10^{17}Nm; M_{rr}0.75±.02; $M_{\theta\theta}$-0.17±.02; $M_{\phi\phi}$-0.57±.02; $M_{r\theta}$0.84±.02; $M_{\theta\phi}$-1.10±.02; $M_{\phi r}$-0.38±.02; Best double couple: $M_0$1.58300×10^{17} NP1:ϕ_s185.00000°, δ54.00000°, λ31.00000°. NP2:ϕ_s75.00000°, δ65.00000°, λ140.00000°. Principal axes: T 1.6430, Plg45.0000°, Azm35.0000°; N -0.1200, Plg44.0000°, Azm229.0000°; P -1.5230, Plg7.0000°, Azm133.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
BGS ***11*** *05:31:55.7±5.1, 1850S×16900E, h220km, mb5.3(NEIC)*
NEIC ***11*** *05:31:55.8±0.1, 1850S×16900E, mb5.3/82, Error ellipse: s-maj=5.5km s-min=4.2km az=145.0*
DJA ***11*** *05:32:11, 1865S×16846E, h340km, Mw5.1/7*
ISC 11 05:31:55.7±0.1**, 1851S**±003×**16899E**±002**, h214**km**, h214**km±2.5km**:pP-P, n1041, σ0.60**/708**, mb5.2**/124**, 322C-206D, Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BAYA	Yate Dam	4.13	208	eP	Pn	05 32 58.2	-1.4
BAYA				AMP		05 33 52.9	
	comp=Z,102nm,3.5s						
DZM	Mont Dzumac	4.28	214	eP	Pn	05 33 01.0	-0.4
DZM				eS	S	05 33 54.6	+1.3
DZM				AMP		05 33 55.8	
	comp=Z,26µm,2.0s						
LASL	Noumea	4.36	211	eP	Pn	05 33 01.6	-0.8
LASL				AMP		05 33 11.9	
	comp=Z,699µm,0.9s						
NOUC	Port Laguerre	4.38	215	eP	Pn	05 33 01.3	-1.3
NORM	Noumea	4.39	212	eP	Pn	05 33 02.4	-0.4
NORM				AMP		05 33 20.9	
	comp=Z,2µm,0.9s						
ONTRN	Noumea	4.47	212	eP	Pn	05 33 02.6	-1.1
HNR	Honiara	12.58	315	P	Pn	05 34 47.0	-0.6
	comp=Z,20nm,0.3s,baz=235,slow=2.5,SNR=8.8						
HNR	Honiara	12.58	315	eP	Pn	05 34 46.9	-0.6
HNR				pmax	pmax		
	comp=Z,2µm,1.4s						
HNR	Honiara	12.58	315	ePn	Pn	05 34 46.9	-0.6
	comp=Z,2µm,1.4s						
EIDS	Eidsvold	17.95	244	ePn	Pn	05 35 52.5	+0.1
AFI	Afiamalu	19.02	79	P	P	05 36 00.2	-1.5
	comp=Z,1.9nm,0.3s,baz=281,slow=19,SNR=4.5						
AFI	Afiamalu	19.02	79	P	P	05 36 00.2	-1.5
ARMA	Armidale	19.73	230	eP	P	05 36 11.5	+2.3
URZ	Urewera	20.92	162	P	P	05 36 22.4	+0.7
	comp=Z,168nm,0.7s,baz=348,slow=5.2,SNR=68						
URZ				S	S	05 40 03.7	+1.7
	comp=Z,7.3nm,0.8s,baz=18,slow=19,SNR=4.8						
URZ				ScP	ScP	05 43 38.0	+1.2
	comp=Z,17nm,0.9s,baz=310,slow=10.0,SNR=4.4						
PUZ	Puketiti	21.11	159	P	P	05 36 23.0	-0.7
CTA	Charters Tower	21.52	262	eP	P	05 36 28.9	+0.7
	comp=Z,38nm,1.4s,mb4.7						
CTA				eS	S	05 40 14.7	+2.5
CTA				eSCP	ScP	05 43 40.0	+1.4
CTA	Charters Tower	21.52	262	P	P	05 36 28.5	+0.3
	comp=Z,38nm,0.9s,mb4.9,baz=86,slow=11,SNR=37						
CTA				S	S	05 40 14.8	+2.6
	comp=Z,40nm,1.3s,baz=213,slow=18,SNR=14						
CTA				ScP	ScP	05 43 40.5	+1.9
	comp=Z,3.1nm,0.7s,baz=15,slow=2.6,SNR=3.3						
CTA	Charters Tower	21.52	262	eP	P	05 36 28.9	+0.7
CTA				eS	S	05 40 14.7	+2.5
CTA				pmax	pmax		
	comp=Z,38nm,1.4s						
CTAO	Charters Tower	21.52	262	eP	P	05 36 27.9	-0.3
CTAO				e*PP		05 37 08.4	
CTAO				e*SP	sP	05 37 35.0	+3.8
CTAO				pmax	pmax		
	comp=Z,29nm,0.8s,mb4.9						
CTAO	Charters Tower	21.52	262	eP	P	05 36 27.9	-0.3
	comp=Z,29nm,0.8s,mb4.9						
CTAO				epP		05 37 08.4	
CTAO				esP	sP	05 37 35.0	+3.8
CTAO				eScP	ScP	05 43 40.2	+1.6
BKZ	Black Stump Fm	21.59	164	P	P	05 36 25.7	-3.1
KNZ	Kokohu	21.79	162	P	P	05 36 29.8	-0.8
MRZ	Mangatainoka R	22.80	167	P	P	05 36 38.9	-0.9
KIW	Kapiti Island	22.86	168	eP	P	05 36 40.1	-0.2
PMG	Port Moresby	23.01	290	eP	P	05 36 42.7	+0.6
PMG				e*PP		05 37 20.4	
PMG				eS	S	05 40 39.7	+3.2
PMG				pmax	pmax		
	comp=Z,61nm,1.0s						
PMG	Port Moresby	23.01	290	eP	P	05 36 42.7	+0.6
	comp=Z,61nm,1.0s,mb5.1						
PMG				epP		05 37 20.4	
PMG				eS	S	05 40 39.6	+3.1
PMG				eScP	ScP	05 43 44.3	+1.7
SNZO	South Karori	23.25	169	eP	P	05 36 43.7	-0.2
	comp=Z,106nm,0.7s,mb5.5						
MTW	Mount Morrison	23.26	167	P	P	05 36 43.2	-0.8
PAWZ	Paruwai Farm	23.46	168	eP	P	05 36 45.2	-0.6
CNB	Canberra Magne	24.15	222	eP	P	05 36 53.5	+1.3
CNB				eS		05 37 31.4	
COEN	Coen	25.18	277	eP	P	05 37 02.1	+0.3
	comp=Z,16nm,0.9s,mb4.6						
COEN				ePcP	PcP	05 40 30.0	+0.3
RPZ	Rata Peaks	25.20	176	P	P	05 37 01.4	-0.1
	comp=Z,59nm,0.7s,mb5.3,baz=300,slow=0.9,SNR=17						
RPZ				ScP	ScP	05 43 49.6	+1.6
	comp=Z,27nm,0.9s,baz=345,slow=22,SNR=4.1						
STKA	Stephens Creek	28.05	236	eP	P	05 37 28.1	+0.9
	comp=Z,5.4nm,0.5s,mb4.4						
STKA				e		05 38 04.1	
STKA				ePCP	PcP	05 40 36.3	+0.1
STKA				eSCP	ScP	05 43 58.8	+2.0
STKA				eSCS	ScS	05 47 51.0	+1.2
STKA	Stephens Creek	28.05	236	P	P	05 37 28.0	+0.8
	comp=Z,8.8nm,0.8s,mb4.5,baz=54,slow=7.8,SNR=17						
STKA				pP	pP	05 38 06.5	-3.7
	comp=Z,37nm,1.0s,baz=69,slow=8.3,SNR=8.9						
STKA				PcP	PcP	05 40 36.1	-0.1
	comp=Z,16nm,0.8s,baz=57,slow=4.3,SNR=5.3						
STKA				ScP	ScP	05 43 58.9	+2.1
	comp=Z,14nm,1.0s,baz=7.8,slow=3.8,SNR=7.7						
STKA				PKiKP	PKiKP	05 48 09.3	-2.6
	comp=Z,1.3nm,0.6s,baz=145,slow=16,SNR=3.5						
WB2	Warramunga Arr	32.71	262	eP	P	05 38 07.5	-0.8
WB2				ePcP	PcP	05 40 48.3	-0.4
WB2				eS	S	05 43 06.4	-2.4
WB2				eScP	ScP	05 44 13.8	+1.4
WRA	Warramunga Arr	32.72	262	P	P	05 38 07.4	-0.9
	comp=Z,5.1nm,0.3s,mb4.5,baz=84,slow=8.3,SNR=148						
WRA				PP	PP	05 39 25.3	-1.7
	comp=Z,17nm,1.2s,baz=90,slow=10,SNR=7.7						
WRA				PcP	PcP	05 40 48.2	-0.5
	comp=Z,15nm,1.0s,baz=89,slow=2.8,SNR=10						
WRA				S	S	05 43 05.8	-3.2
	comp=Z,41nm,1.1s,baz=87,slow=16,SNR=31						
WRA				ScP	ScP	05 44 14.0	+1.6
	comp=Z,12nm,0.9s,baz=87,slow=3.7,SNR=11						
WRA				PKiKP	PKiKP	05 48 13.2	-2.1
	comp=Z,3.6nm,1.0s,baz=27,slow=0.4,SNR=12						
WRA				LR	LR	05 50 03.8	
	comp=Z,350nm,20.6s,baz=85,slow=33						
WRA				P3KPbc		06 09 26.2	
	comp=Z,1.4nm,1.0s,baz=284,slow=3.2,SNR=7.0						
WRA	Warramunga Arr	32.72	262	P	P	05 38 07.4	-1.0
WRA						05 39 25.3	
WRA						05 40 48.2	
WRA				S	S	05 43 05.8	-3.2
WRA	Warramunga Arr	32.72	262	P	P	05 38 07.4	-0.9
WRA				PP	PP	05 39 25.3	-1.7
WRA				PcP	PcP	05 40 48.2	-0.5
WRA				S	S	05 43 05.8	-3.2
WRA				ScP	ScP	05 44 14.0	+1.6
ASAR	Alice Springs	33.08	255	P	P	05 38 11.3	-0.2
	comp=Z,40nm,0.7s,mb5.1,baz=81,slow=8.8,SNR=458						
ASAR				PcP	PcP	05 40 48.5	-1.2
	comp=Z,7.3nm,0.7s,baz=102,slow=2.9,SNR=6.9						
ASAR				S	S	05 43 11.7	-2.9
	comp=Z,20nm,0.9s,baz=85,slow=17,SNR=34						
ASAR				ScP	ScP	05 44 14.9	+1.3
	comp=Z,6.6nm,0.9s,baz=104,slow=3.5,SNR=8.1						
ASAR				PKiKP	PKiKP	05 48 13.5	-2.0
	comp=Z,1.7nm,1.0s,baz=61,slow=1.3,SNR=8.1						
ASAR				P3KPbc		06 09 24.7	
	comp=Z,1.1nm,0.9s,baz=273,slow=4.7,SNR=6.2						
ASAR	Alice Springs	33.08	255	P	P	05 38 11.3	-0.2
ASAR						05 40 48.6	
ASAR				S	S	05 43 11.7	-2.8
ASAR	Alice Springs	33.08	255	P	P	05 38 11.3	-0.2
ASAR				PcP	PcP	05 40 48.5	-1.2
ASAR				S	S	05 43 11.7	-2.9
ASAR				ScP	ScP	05 44 14.9	+1.3
KAKA	Kakadu	35.63	274	eP	P	05 38 31.5	-1.9
	comp=Z,14nm,0.6s,mb4.7						
KAKA				ePCP	PcP	05 40 55.3	-1.9
FORT	Forrest	38.95	244	eP	P	05 39 01.1	-0.1
	comp=Z,21nm,0.6s,mb4.8						
FORT				epP	pP	05 39 48.2	+2.3
TBI	Tubuai	39.01	104	eS	S	05 44 39.5	-5.1
	comp=Z,388nm,28.0s						
PPT	Papeete	39.35	95	eS	S	05 44 45.9	-3.9
	comp=Z,415nm,26.2s						
FITZ	Fitzroy Crossi	41.09	263	eP	P	05 39 19.3	+0.5
	comp=Z,42nm,0.8s,mb4.9						
FITZ				ePCP	sP	05 40 32.3	+4.0
FITZ				eS	S	05 45 13.3	-2.3
FITZ	Fitzroy Crossi	41.09	263	P	P	05 39 19.3	+0.5
	comp=Z,18nm,0.6s,mb4.7,baz=87,slow=7.2,SNR=68						
FITZ				pP	pP	05 40 00.8	-3.2
	comp=Z,11nm,0.9s,baz=150,slow=10,SNR=1.7						
FITZ				S	S	05 45 15.3	-0.2
	comp=Z,3.8nm,0.9s,baz=290,slow=21,SNR=8.0						
BATI	Baumata	44.58	274	P	P	05 39 48.3	+1.4
	comp=Z,25nm,0.5s,mb4.8,baz=229,slow=1.4,SNR=4.1						
KLBR	Kellerberrin	47.82	244	eP	P	05 40 11.1	-0.8
	comp=Z,8.4nm,0.4s,mb4.4						
KLBR				epP	pP	05 40 54.5	-3.9
NWAO	Narrogin (SRO)	48.34	242	eP	P	05 40 15.7	-0.2
NWAO				e*PP	pP	05 41 04.0	+1.5
NWAO				pmax	pmax		
	comp=Z,73nm,1.6s						
NWAO	Narrogin (SRO)	48.34	242	eP	P	05 40 15.7	-0.2
	comp=Z,73nm,1.6s,mb4.8						
NWAO				epP	pP	05 41 04.0	+1.5
MUN	Mundaring	49.15	243	eP	P	05 40 20.5	-1.6
MUN				epP	pP	05 41 03.5	-5.3
KAPI	Kappang	49.86	279	eP	P	05 40 26.8	-0.9
	comp=Z,20nm,0.7s,mb4.6						
KAPI				epP	pP	05 41 15.5	+1.0
KHU	Kahuku	51.13	45	eP	P	05 40 36.2	-0.8
KIP	Kipapa	51.17	41	⇓iP	P	05 40 35.5	-1.7
KIP	Kipapa	51.17	41	eP	P	05 40 35.5	-1.7
	comp=Z,106nm,0.8s,mb5.3						
POHA	Pohakuloa	51.55	44	eP	P	05 40 39.4	-0.7
	comp=Z,147nm,0.8s,mb5.5						
STCH	Steam Cracks	51.56	45	eP	P	05 40 39.6	-0.5
DRV	Dumont d'Urvil	51.68	194	S	S	05 47 46.0	+1.3
DRV				L		05 53 00.0	
HKL	Haleakala	51.76	43	eP	P	05 40 41.6	0.0
RKT	Rikitea	52.32	105	eS	S	05 47 49.3	-5.4
	comp=Z,423nm,27.2s						
TSM	Tawau	55.21	289	⇑P	P	05 41 08.2	+1.4
SDKM	Sandakan	56.41	290	⇓P	P	05 41 15.4	+0.1
KDM	Kudat	57.30	291	⇓P	P	05 41 22.8	+1.2
KKM	Kota Kinabalu	57.46	290	⇓P	P	05 41 23.4	+0.7
KKM	Kota Kinabalu	57.46	290	eP	P	05 41 22.9	+0.2
KKM				epP	pP	05 42 12.1	+1.1
BTM	Bintulu	59.10	285	⇑P	P	05 41 35.3	+1.3
SBA	Scott Base	59.39	181	eP	P	05 41 35.8	+0.7
SBA				e	pP	05 42 21.6	-2.0
SBA				pmax	pmax		
	comp=Z,21nm,0.9s,mb4.8						
SBA	Scott Base	59.39	181	eP	P	05 41 35.8	+0.8
	comp=Z,21nm,0.9s,mb4.8						
SBA				e	pP	05 42 21.6	-2.0
SBUM	Sibu	59.59	284	⇑P	P	05 41 39.1	+1.6
CASY	Casey	60.70	203	eP	P	05 41 43.9	-0.2
CASY				epP	pP	05 42 28.6	-4.2
KSM	Kuching	60.99	282	⇓P	P	05 41 47.6	+0.7
KSM	Kuching	60.99	282	eP	P	05 41 47.3	+0.4
MJAR	Matsushiro Arr	61.99	332	P	P	05 41 52.5	-0.6
	comp=Z,34nm,0.9s,mb5.0,baz=167,slow=7.1,SNR=54						
MAJO	Matsushiro	62.00	332	eP	P	05 41 52.8	-0.3
MAJO				e		05 42 31.7	
MAJO				pmax	pmax		
	comp=Z,59nm,0.9s,mb5.2						
MAJO	Matsushiro	62.00	332	eP	P	05 41 52.8	-0.3

MAJO e PcP PcP 05 42 31.7 +0.1
comp=Z,59nm,0.9s,mb5.2
MAT Matsushiro 62.00 332 P **P** **05 41 52.6 -0.6**
MAT S **S** **05 50 00.0 -0.3**
NACB Ninganchiao 62.73 311 eP **P** **05 41 57.7 -0.5**
comp=Z,602nm,1.3s,mb6.1
YHNB Yeheng 63.19 311 eP **P** **05 42 01.3 0.0**
comp=Z,116nm,1.0s,mb5.5
YHNB e pP 05 42 46.9 -3.6
TATO Taipei 63.30 311 eP **P** **05 42 01.8 -0.2**
comp=Z,184nm,1.1s,mb5.6
MYKOM Kota Tinggi 67.11 280 ⇓P **P** **05 42 27.5 +0.7**
MIR Mirnyy 67.60 205 ⇓iP **P** **05 42 30.0 +1.1**
MIR pmax pmax
comp=Z,200nm,1.0s,mb5.7
KGM Kluang 67.69 280 ⇓P **P** **05 42 31.2 +0.8**
KSRS Korea Array 67.77 326 P **P** **05 42 30.5 +0.2**
comp=Z,13nm,0.9s,mb4.6,baz=140,slow=6.3,SNR=28
INCN Inchon 68.49 325 eP **P** **05 42 35.1 +0.3**
comp=Z,103nm,1.1s,mb5.4
QIZ Qiongzhong 69.01 300 P **P** **05 42 39.3 +0.9**
QIZ AP pP 05 43 26.6 -1.8
QIZ XP sP 05 43 51.1 -0.3
QIZ S S 05 51 26.6 +0.5
QIZ XS sS 05 52 53.9 +0.4
QIZ SS SS 05 55 58.0 +1.3
QIZ AMB AMB
comp=Z,15nm,0.7s,mb4.7
KTGM Kuala Trenggan 69.06 283 ⇓P **P** **05 42 39.8 +0.9**
YSS Yuzh-Sakhalins 69.31 341 ⇑iP **P** **05 42 39.0 -0.7**
YSS eS S 05 51 28.0 -0.5
YSS eSS SS 05 56 00.0 -0.4
YSS pmax pmax
comp=Z,80nm,1.1s,mb5.3
YSS Yuzh-Sakhalins 69.31 341 eP **P** **05 42 40.7 +1.1**
comp=Z,62nm,0.9s,mb5.2
NJ2 Nanjing 69.52 316 eP **P** **05 42 42.2 +0.9**
NJ2 AP pP 05 43 34.6 +3.2
NJ2 XP sP 05 43 58.4 +4.1
NJ2 PP PP 05 45 21.3 +3.1
NJ2 S S 05 51 30.0 -1.5
NJ2 XS sS 05 53 01.0 +1.9
NJ2 AMB AMB
comp=Z,40nm,1.2s,mb4.9
NJ2 AMB AMB
comp=Z,280nm,7.9s
NJ2 LR LR
comp=N,1μm,26.5s
NJ2 LR LR
comp=E,340nm,20.6s
NJ2 LR LR
comp=Z,270nm,23.9s
FRIM Kepong 69.70 281 ⇓P **P** **05 42 43.3 +0.5**
SKR Severo-Kuril's 69.81 351 eP **P** **05 42 41.0 -1.6**
SKR pmax pmax
comp=Z,220nm,1.0s,mb5.7
IPM Ipoh 70.70 282 ⇑P **P** **05 42 49.3 +0.4**
SMY Shemya 71.07 3 eP **P** **05 42 49.2 -1.0**
ADK Adak 71.19 9 eP **P** **05 42 50.0 -0.9**
ADK pmax pmax
comp=Z,146nm,1.2s,mb5.5
ADK Adak 71.19 9 eP **P** **05 42 50.0 -0.9**
comp=Z,146nm,1.2s,mb5.5
KULM Kulim 71.34 282 ⇓P **P** **05 42 53.5 +0.7**
WHN Wuhan 71.68 312 ⇑P **P** **05 42 54.0 -0.4**
WHN AMB AMB
comp=Z,117nm,1.0s,mb5.5
PET Petropavlovsk 71.79 353 eP **P** **05 42 54.3 -0.2**
PET eS S 05 52 04.2 +7.4
PET ePS 05 52 39.4
PET pmax pmax
comp=Z,111nm,0.6s,mb5.7
PET Petropavlovsk 71.79 353 eP **P** **05 42 54.2 -0.3**
comp=Z,49nm,0.6s,mb5.3
PEA0B Petropavlovsk- 71.98 353 eP **P** **05 42 55.7 +0.1**
PETK Petropavlovsk- 71.98 353 P **P** **05 42 55.9 +0.3**
comp=Z,112nm,0.8s,mb5.5,baz=127,slow=3.1,SNR=16
PETK Petropavlovsk- 71.98 353 P **P** **05 42 55.9 +0.3**
DL2 Dalian 72.29 323 iP **P** **05 42 58.2 +0.4**
DL2 AMB AMB
comp=Z,90nm,0.8s,mb5.5
MDJ Mudanjiang 72.37 332 P **P** **05 42 58.7 +0.6**
MDJ PCP PcP 05 43 16.1 +1.3
MDJ AP pP 05 43 47.3 -1.3
MDJ XP sP 05 44 09.9 -1.5
MDJ SS SS 05 56 45.3 -2.0
MDJ AMB AMB
comp=Z,77nm,1.2s,mb5.2
MDJ AMB AMB
comp=Z,174nm,9.6s
MDJ Mudanjiang 72.37 332 eP **P** **05 42 58.1 0.0**
comp=Z,84nm,1.0s,mb5.3
HABR Khabarovsk 73.24 337 eP **P** **05 43 03.0 -0.1**
HABR e pP 05 43 55.5 +1.8
HABR e 05 44 19.7
HABR e 05 45 47.0
HABR eS S 05 52 10.9 -2.5
HABR e 05 53 14.4
HABR e 05 56 58.0
HABR e 06 00 19.9
SNY Shenyang 73.25 326 ⇑P **P** **05 43 03.1 -0.2**
SNY S S 05 52 14.5 +0.7
SNY AMB AMB
comp=Z,23nm,2.0s,mb4.5
SNY LR LR
comp=N,202nm,19.2s
SNY LR LR
comp=E,126nm,16.8s
SNY LR LR
comp=Z,118nm,19.2s
CN2 Changchun 73.71 329 eP **P** **05 43 07.6 +1.6**
CN2 eAP pP 05 44 00.5 +3.8
CN2 eS S 05 52 18.9 -0.1
CN2 AMB AMB
comp=Z,10.0nm,0.6s,mb4.6
CN2 AMB AMB
comp=Z,200nm,5.0s
NIKO Nikolski 73.72 14 eP **P** **05 43 04.6 -1.2**
UNV Unalaska Valle 75.08 15 eP **P** **05 43 12.0 -1.6**
KLR Kul'dur 75.11 336 eP **P** **05 43 10.1 -3.8**
KLR pmax pmax
comp=E,53nm,1.8s
KLR pmax pmax
comp=Z,210nm,1.8s,mb5.5
GYA Guiyang 75.21 305 ⇑iP **P** **05 43 15.4 +0.4**
GYA PCP PcP 05 43 28.7 +1.3
GYA AP pP 05 44 08.5 +2.6
GYA XP sP 05 44 32.0 +3.3
GYA PP PP 05 46 10.2 +3.4
GYA S S 05 52 37.6 +1.3
GYA SKS 05 52 59.4
GYA XS sS 05 54 06.8 +1.6
GYA AMB AMB
comp=Z,40nm,0.8s,mb5.1
GYA AMB AMB
comp=Z,160nm,3.7s
BJT Baijiatuau 76.21 321 eP **P** **05 43 20.8 +0.4**
BJT pmax pmax
comp=Z,90nm,0.8s
BJT Baijiatuau 76.21 321 eP **P** **05 43 20.8 +0.4**
comp=Z,90nm,0.8s,mb5.5
BJI Beijing 76.22 321 P **P** **05 43 20.8 +0.3**
BJI AP pP 05 44 12.3 +0.9
BJI XP sP 05 44 32.3 -1.9
BJI S S 05 52 49.9 +3.1
BJI XS sS 05 54 13.3 -2.6
BJI AMB AMB
comp=Z,140nm,0.8s,mb5.6
BJI Beijing 76.22 321 P **P** **05 43 20.8 +0.3**
BJI *PP pP 05 44 12.3 +0.9
BJI *SP sP 05 44 32.3 -1.9
BJI S S 05 52 49.9 +3.1
BJI pmax pmax
comp=Z,140nm,0.8s,mb5.6
BJI Beijing 76.22 321 P **P** **05 43 20.8 +0.3**
comp=Z,140nm,0.8s,mb5.6
BJI pP pP 05 44 12.3 +0.9
BJI sP sP 05 44 32.3 -1.9
BJI S S 05 52 49.9 +3.1
BJI sS sS 05 54 13.3 -2.6
XAN Xi'an 77.44 312 P **P** **05 43 27.6 +0.2**
XAN AP pP 05 44 18.7 +0.1
XAN XP sP 05 44 36.5 -4.8
XAN S S 05 53 00.5 +0.2
XAN AMB AMB
comp=Z,82nm,1.0s,mb5.3
XAN AMB AMB
comp=Z,123nm,4.4s
XAN LR LR
comp=E,92nm,15.3s
XAN LR LR
comp=Z,127nm,23.7s
BDT Bhumibol Dam 77.44 293 P **P** **05 43 28.0 +0.2**
KMI Kunming 77.69 302 ⇑P **P** **05 43 30.4 +1.4**
KMI PCP PcP 05 43 39.9 +1.7
KMI AP pP 05 44 22.3 +2.2
KMI XP sP 05 44 45.4 +2.6
KMI PP PP 05 46 30.6 +3.0
KMI PPP 05 48 20.7
KMI S S 05 53 00.7 -2.6
KMI SKS 05 53 16.9
KMI SCS ScS 05 53 25.6 -2.4
KMI PS 05 54 14.0
KMI XS sS 05 54 34.1 +1.4
KMI SS SS 05 58 09.9 +1.3
KMI SSS 06 01 29.4
KMI AMB AMB
comp=Z,106nm,0.7s,mb5.6
KMI AMB AMB
comp=Z,236nm,3.1s
KMI LR LR
comp=N,117nm,19.5s
KMI LR LR
comp=E,93nm,17.6s
KMI LR LR
comp=Z,121nm,31.6s
KMI Kunming 77.69 302 ⇑P **P** **05 43 30.4 +1.4**
KMI 05 43 39.9
KMI *PP pP 05 44 22.3 +2.2
KMI *SP sP 05 44 45.4 +2.6
KMI 05 46 30.6
KMI PPP 05 48 20.7
KMI S S 05 53 00.7 -2.6
KMI 05 53 16.9
KMI 05 53 25.6
KMI PS 05 54 14.0
KMI SS SS 05 58 09.9 +1.3
KMI SSS 06 01 29.4
KMI pmax pmax
comp=Z,106nm,0.7s,mb5.6
KMI MLR MLR
comp=Z,120nm,31.6s
KMI Kunming 77.69 302 ⇑P **P** **05 43 30.4 +1.4**
comp=Z,106nm,0.7s,mb5.6
KMI PcP PcP 05 43 39.9 +1.7
KMI pP pP 05 44 22.3 +2.2
KMI sP sP 05 44 45.4 +2.6
KMI PP PP 05 46 30.6 +3.0
KMI PPP 05 48 20.7
KMI S S 05 53 00.7 -2.6
KMI SKS 05 53 16.9
KMI ScS ScS 05 53 25.6 -2.4
KMI PS 05 54 14.0
KMI sS sS 05 54 34.1 +1.4
KMI SS SS 05 58 09.9 +1.3
KMI SSS 06 01 29.4
KMI LR LR
comp=Z,120nm,31.6s
CHRT Chiangrai 77.85 296 ⇑P **P** **05 43 31.0 +1.0**
comp=Z,368nm,1.0s,mb6.0
CMAR Chiang Mai Arr 77.99 294 P **P** **05 43 31.9 +1.1**
comp=Z,31nm,0.8s,mb5.0,baz=131,slow=4.2,SNR=139
SDPT Sand Point 78.00 17 eP **P** **05 43 28.4 -1.6**
comp=Z,118nm,0.7s,mb5.6
CHG Chiang Mai 78.14 295 ⇑P **P** **05 43 32.4 +0.9**
comp=Z,52nm,1.0s,mb5.1
CHTO Chiang Mai 78.14 295 eP **P** **05 43 32.3 +0.8**
CHTO e*PP pP 05 44 26.3 +3.5
CHTO pmax pmax
comp=Z,33nm,0.7s,mb5.1
CHTO Chiang Mai 78.14 295 eP **P** **05 43 32.3 +0.7**
comp=Z,33nm,0.7s,mb5.1
CHTO epP pP 05 44 26.2 +3.5
MAW Mawson 79.02 202 eP **P** **05 43 36.7 +1.2**
comp=Z,5.8nm,0.8s,mb4.3
MAW epP pP 05 44 24.9 -2.0
MAW Mawson 79.02 202 P **P** **05 43 37.0 +1.4**
comp=Z,7.2nm,0.8s,mb4.4,baz=121,slow=5.9,SNR=12
MAW pP pP 05 44 24.1 -2.8
comp=Z,7.5nm,0.9s,baz=118,slow=7.8,SNR=3.6
MAW LR LR 06 15 50.4
comp=Z,117nm,20.3s,baz=246,slow=33
MAW Mawson 79.02 202 eP **P** **05 43 36.7 +1.2**
MAW e*PP pP 05 44 24.9 -2.0
MAW pmax pmax
comp=Z,6.0nm,0.8s
CHGN Chignik 79.41 18 eP **P** **05 43 36.0 -1.6**
HHC Hu-ho-hao-te 79.51 319 ⇑iP **P** **05 43 39.3 +0.7**
HHC PCP PcP 05 43 46.6 +0.8
HHC AP pP 05 44 34.1 +4.1
HHC PP PP 05 46 44.6 +2.1
HHC S S 05 53 20.7 -1.3
HHC SKS 05 53 27.7
HHC SCS ScS 05 53 38.6 -3.6
HHC XS sS 05 54 55.2 +3.4
HHC SS SS 05 58 36.8 +1.5
HHC AMB AMB
comp=Z,68nm,1.2s,mb5.2
HHC AMB AMB
comp=Z,132nm,5.8s
HHC LR LR
comp=N,159nm,17.3s
HHC LR LR
comp=E,248nm,15.9s
HHC LR LR
comp=Z,140nm,18.3s
CD2 Chengdu 79.61 307 ⇑iP **P** **05 43 39.7 +0.4**
CD2 AP pP 05 44 33.7 +3.0
CD2 XP sP 05 44 57.2 +3.9
CD2 PP PP 05 46 45.6 +2.2
CD2 S S 05 53 22.4 -1.0
CD2 XS sS 05 54 56.4 +3.1
CD2 SS SS 05 58 40.2 +3.1
CD2 AMB AMB
comp=Z,50nm,1.2s,mb5.0
CD2 AMB AMB
comp=Z,160nm,5.8s
BTO Baotou 80.33 319 eP **P** **05 43 42.7 -0.3**
HIA Hailar 80.36 330 eP **P** **05 43 42.7 -0.2**
HIA pmax pmax
comp=Z,8.0nm,0.6s
HIA Hailar 80.36 330 eP **P** **05 43 42.7 -0.2**
comp=Z,8.4nm,0.6s,mb4.5
OHAK Old Harbor 81.74 20 eP **P** **05 43 49.7 -0.3**
LZH Lanzhou 82.06 312 ⇑P **P** **05 43 53.6 +1.4**
LZH AP pP 05 44 48.0 +4.1
LZH XP sP 05 45 06.7 +0.2
LZH PP PP 05 47 07.2 +3.6
LZH S S 05 53 49.0 +0.4
LZH PS 05 55 10.3
LZH XS sS 05 55 22.8 +3.8
LZH SS SS 05 59 18.0 +4.5
LZH AMB AMB
comp=Z,139nm,1.3s,mb5.4
LZH AMB AMB
comp=Z,378nm,6.2s
LZH Lanzhou 82.06 312 ⇑P **P** **05 43 53.6 +1.4**
LZH *PP pP 05 44 48.0 +4.1
LZH *SP sP 05 45 06.7 +0.2
LZH 05 47 07.2
LZH S S 05 53 49.0 +0.4
LZH PS 05 55 10.3
LZH SS SS 05 59 18.0 +4.5
LZH pmax pmax
comp=Z,139nm,1.3s,mb5.4
LZH Lanzhou 82.06 312 ⇑P **P** **05 43 53.6 +1.4**
comp=Z,139nm,1.3s,mb5.4
LZH pP pP 05 44 48.0 +4.1
LZH sP sP 05 45 06.7 +0.2
LZH PP PP 05 47 07.2 +3.6
LZH S S 05 53 49.0 +0.4
LZH PS 05 55 10.3
LZH sS sS 05 55 22.8 +3.8
LZH SS SS 05 59 18.0 +4.5
SEY Seymchan 82.21 352 ⇑eP **P** **05 43 51.7 -0.6**
KDAK Kodiak Island 82.42 20 P **P** **05 43 53.5 0.0**
comp=Z,579nm,0.9s,mb6.2,SNR=7.6
KDAK Kodiak Island 82.42 20 eP **P** **05 43 53.1 -0.4**
comp=Z,102nm,1.0s,mb5.4
GAMB Gambell 83.38 9 eP **P** **05 43 58.4 +0.1**
comp=Z,57nm,0.7s,mb5.4
CLNS Chul'man 83.63 337 eP **P** **05 44 00.5 +0.8**
CLNS eS S 05 54 02.0 -1.4
CLNS e*SS 05 54 53.5
CLNS pmax pmax
comp=Z,79nm,0.8s,mb5.5
CLNS pmax pmax
comp=E,11nm,0.9s
CLNS pmax pmax
comp=N,45nm,1.1s
CLNS pmax pmax
comp=Z,12nm,0.9s,mb4.6
CLNS pmax pmax
comp=N,17nm,1.6s
CLNS pmax pmax
comp=E,9.0nm,1.4s
CLNS smax
comp=N,248nm,12.9s
CLNS smax
comp=E,141nm,17.1s
SVW2 Sparrevohn 84.27 16 eP **P** **05 44 02.9 +0.1**
IMP Imphal 84.78 298 eP **P** **05 44 05.0 -1.3**
FARB Farallon Islan 84.85 48 ⇑P **P** **05 44 06.5 +0.1**
baz=85
MCCM Marconi Confer 85.14 47 ⇑P **P** **05 44 07.8 +0.1**
baz=85
MCCM Marconi Confer 85.14 47 eP **P** **05 44 08.0 +0.2**
comp=E,92nm,0.8s,mb5.6
JRSC Jasper Ridge 85.25 48 ⇓P **P** **05 44 08.7 +0.4**
baz=85
SEW Seward 85.26 19 eP **P** **05 44 06.1 -1.7**
SLKM Skilak Lake 85.33 19 eP **P** **05 44 07.2 -0.9**
V03C Hunter Liggett 85.34 50 ⇓P **P** **05 44 09.4 +0.7**
baz=86
KCPM Cahto Peak 85.39 46 eP **P** **05 44 09.3 +0.4**
HOPS Hopland 85.41 46 ⇓P **P** **05 44 09.3 +0.3**
baz=86
HOPS Hopland 85.41 46 eP **P** **05 44 09.3 +0.3**
comp=E,72nm,1.0s,mb5.4
O01C Eel River Cons 85.44 45 ⇓P **P** **05 44 10.0 +0.8**
baz=86
KIPM Iron Peak 85.51 46 eP **P** **05 44 09.6 0.0**
SAO San Andreas Ge 85.52 49 eP **P** **05 44 10.3 +0.6**
SAO pmax pmax
comp=Z,48nm,0.9s,mb5.2
SAO San Andreas Ge 85.52 49 eP **P** **05 44 10.3 +0.6**
comp=Z,48nm,0.9s,mb5.2
CVS Carmenet Viney 85.53 47 ⇑P **P** **05 44 09.6 -0.1**
baz=86
SYO Syowa Base 85.57 196 ⇑eP **P** **05 44 08.0 -1.4**
TNA Tin City 85.62 9 eP **P** **05 44 10.2 +0.8**
JCC Jacoby Creek 85.63 44 ⇓P **P** **05 44 10.7 +0.6**
baz=86
BSC Santa Cruz Isl 85.63 52 ⇑P **P** **05 44 10.3 +0.1**
baz=86
WENL Wente Vineyard 85.69 48 ⇑P **P** **05 44 11.0 +0.5**
baz=86
PACP Pacheco Peak 85.75 49 ⇓P **P** **05 44 11.2 +0.4**
baz=86
BDM Black Diamond 85.76 48 ⇑P **P** **05 44 11.3 +0.4**
baz=86
MNRC McLaughlin Nat 85.79 47 ⇑P **P** **05 44 11.6 +0.7**
baz=86
PKD Parkfield 85.81 50 ⇓P **P** **05 44 11.3 +0.2**
baz=86,SNR=6.4
U04C Hernandez Rese 85.82 50 ⇑P **P** **05 44 11.9 +0.8**
baz=86,SNR=11
KHMM Horse Mountain 85.85 45 eP **P** **05 44 12.2 +1.0**
FIB Fire Island 85.86 19 eP **P** **05 44 10.1 -0.6**
FIB pmax pmax
comp=Z,71nm,0.7s,mb5.5
FIB Fire Island 85.86 19 eP **P** **05 44 10.1 -0.7**
comp=Z,71nm,0.7s,mb5.5
PKM Peak Mountain 85.88 51 ⇓P **P** **05 44 12.0 +0.6**
baz=86,SNR=6.8
PTRM Twissleman Ran 85.92 50 eP **P** **05 44 12.0 +0.3**
SMMC Simmler 85.93 51 ⇑P **P** **05 44 12.1 +0.4**
baz=86
RC01 Rabbit Creek A 85.94 19 eP **P** **05 44 09.9 -1.2**
comp=Z,48nm,0.9s,mb5.2
GASB Alder Springs 85.96 46 ⇓P **P** **05 44 12.8 +1.0**
baz=86,SNR=26
Q03C Winters 85.97 47 ⇓P **P** **05 44 12.8 +0.9**
baz=86
SCI San Clemente I 86.02 53 ⇑P **P** **05 44 11.9 -0.3**
baz=86
M01C Crescent City 86.06 44 ⇓P **P** **05 44 12.7 +0.5**
baz=86
YAK Yakutsk 86.10 343 eP **P** **05 44 10.3 -1.6**
YAK e 05 54 23.4
YAK pmax pmax
comp=Z,155nm,1.4s,mb5.5
YAK pmax pmax
comp=E,28nm,1.3s
YAK pmax pmax
comp=N,36nm,1.1s
BLG Laguna Peak 86.10 52 ⇑P **P** **05 44 12.9 +0.2**
baz=86
N02C Big Bar 86.11 45 ⇓P **P** **05 44 13.0 +0.5**
baz=86,SNR=17
O02C Red Bluff 86.16 45 ⇑P **P** **05 44 13.5 +0.8**
baz=86,SNR=51
V05C Boulder Hill, 86.24 50 ⇑P **P** **05 44 13.9 +0.7**
baz=86
K01A Sixes 86.31 43 ⇓P **P** **05 44 13.5 +0.1**
baz=86
GTA Gaotai 86.45 313 ⇑iP **P** **05 44 14.7 +0.5**
GTA S S 05 54 31.4 -0.6
GTA AMB AMB
comp=Z,61nm,1.1s,mb5.2
GTA AMB AMB
comp=Z,212nm,8.1s
GTA LR LR
comp=N,169nm,19.5s
GTA LR LR
comp=E,117nm,21.6s
GTA LR LR
comp=Z,88nm,17.7s
SONM Songino Array 86.49 323 P **P** **05 44 14.3 +0.1**
comp=Z,41nm,0.8s,mb5.2,baz=141,slow=5.4,SNR=127
SONM pP pP 05 45 04.1 -2.3
comp=Z,6.4nm,1.0s,baz=141,slow=7.4,SNR=1.4
Q04C Lincoln 86.51 47 ⇓P **P** **05 44 14.3 -0.1**
baz=87,SNR=7.6
WDC Whiskeytown Da 86.51 45 ⇓P **P** **05 44 14.6 +0.2**
baz=87,SNR=32
PMR Palmer 86.51 19 eP **P** **05 44 12.2 -1.7**
PMR pmax pmax
comp=Z,18nm,0.7s,mb4.9
PMR Palmer 86.51 19 eP **P** **05 44 12.2 -1.7**
comp=Z,18nm,0.7s,mb4.9
FMP Fort Macarthur 86.52 53 ⇑P **P** **05 44 14.7 0.0**
baz=87
L02A Cave Junction 86.55 43 ⇑P **P** **05 44 15.4 +0.8**
baz=87
R04C Big Horse Ranc 86.55 48 ⇓P **P** **05 44 14.1 -0.6**
baz=87,SNR=6.2
OSI Osito Adit 86.57 52 ⇓P **P** **05 44 15.0 +0.2**
baz=87
S05C Merced 86.58 49 ⇓P **P** **05 44 14.8 -0.1**
baz=87,SNR=18
PPLA Purkeypile 86.66 17 eP **P** **05 44 12.7 -1.9**
comp=Z,10.0nm,0.9s,mb4.5
M02C Callahan 86.68 44 ⇓P **P** **05 44 16.1 +0.9**
baz=87,SNR=24
ARVC Arvin 86.71 51 ⇓P **P** **05 44 15.4 -0.1**
baz=87
DECC Green Verdugo 86.72 52 ⇑P **P** **05 44 15.4 -0.2**
baz=87
ORV Oroville 86.75 46 ⇓P **P** **05 44 15.4 -0.1**
baz=87,SNR=65
SHL Shillong 86.80 298 ⇑iP **P** **05 44 16.5 +0.3**
VES Vestal, Richgr 86.83 51 ⇑P **P** **05 44 15.6 -0.5**
baz=87,SNR=7.9
CMB Columbia Colle 86.84 48 eP **P** **05 44 15.6 -0.5**
CMB pmax pmax
comp=Z,69nm,0.9s,mb5.4
CMB Columbia Colle 86.84 48 ⇓P **P** **05 44 15.9 -0.1**
baz=87,SNR=58
CMB Columbia Colle 86.84 48 eP **P** **05 44 15.6 -0.5**
comp=Z,69nm,0.9s,mb5.4
T06C Millerton Lake 86.88 49 ⇓P **P** **05 44 16.0 -0.3**
baz=87,SNR=45
MWC Mount Wilson 86.91 52 eP **P** **05 44 16.4 -0.1**

MWC e 05 47 41.9
MWC pmax pmax
comp=Z,32nm,0.8s,mb5.1
MWC Mount Wilson 86.91 52 *e*P **P 05 44 16.4 -0.1**
comp=Z,32nm,0.8s,mb5.1
MWC *e*PP PP 05 47 41.9 -1.1
LAVA Lava Cap Winer 86.92 47 ⇓P **P 05 44 16.3 -0.2**
baz=87,SNR=17
RCTC Rector, Farmer 86.92 50 ⇑P **P 05 44 15.8 -0.7**
baz=87,SNR=5.4
K02A Glendale 86.92 43 ⇓P **P 05 44 16.5 +0.2**
baz=87,SNR=6.3
YBH Yreka Blue Hor 86.94 44 P **P 05 44 17.0 +0.5**
comp=Z,51nm,1.0s,mb5.2,baz=189,slow=1.4,SNR=66
YBH Yreka Blue Hor 86.94 44 *e*P **P 05 44 17.1 +0.6**
YBH *e* 05 47 41.4
YBH pmax pmax
comp=Z,80nm,1.2s
YBH Yreka Blue Hor 86.94 44 ⇑P **P 05 44 17.0 +0.6**
baz=87,SNR=22
YBH Yreka Blue Hor 86.94 44 *e*P **P 05 44 17.1 +0.6**
comp=Z,80nm,1.2s,mb5.3
YBH *e*PP PP 05 47 41.4 -1.6
109C Camp Elliot, M 87.08 54 ⇓P **P 05 44 17.3 0.0**
baz=87
M03C McCloud 87.11 45 ⇑P **P 05 44 17.7 +0.3**
baz=87,SNR=49
J02A Umpqua 87.15 42 ⇑P **P 05 44 17.5 +0.1**
baz=87
HUMO Hull Mountain 87.19 43 ⇑P **P 05 44 18.2 +0.6**
baz=87,SNR=21
HUMO Hull Mountain 87.19 43 *e*P **P 05 44 18.1 +0.4**
comp=Z,62nm,0.9s,mb5.3
ISA Isabella 87.20 51 *e*P **P 05 44 18.0 +0.1**
ISA pmax pmax
comp=Z,25nm,0.9s,mb4.9
ISA Isabella 87.20 51 ⇓P **P 05 44 18.0 +0.2**
baz=87,SNR=33
ISA Isabella 87.20 51 *e*P **P 05 44 18.0 +0.1**
comp=Z,25nm,0.9s,mb5.0
BFSC Mount Baldy St 87.22 53 ⇑P **P 05 44 17.6 -0.3**
baz=87,SNR=12
HELL Mitchell Peak 87.23 50 ⇓P **P 05 44 17.7 -0.3**
baz=87,SNR=19
EDW2 Edwards Air Fo 87.23 52 ⇑P **P 05 44 18.0 0.0**
baz=87,SNR=17
P05C Yuba Gap, Truc 87.25 47 ⇑P **P 05 44 18.4 +0.4**
baz=87,SNR=63
I02A Mapleton 87.29 42 ⇑P **P 05 44 18.8 +0.7**
baz=87
KCC Kaiser Creek 87.30 49 ⇑P **P 05 44 18.3 +0.1**
baz=87,SNR=28
MURC Murrieta 87.30 53 ⇓P **P 05 44 18.0 -0.4**
baz=87,SNR=9.1
O05C Quincy 87.33 46 ⇑P **P 05 44 18.6 +0.2**
baz=88,SNR=24
O04C Chester 87.38 46 ⇓P **P 05 44 19.0 +0.4**
baz=88,SNR=23
CHUM Lake Minchumin 87.42 16 *e*P **P 05 44 16.5 -1.8**
comp=Z,28nm,1.0s,mb4.9
LTIM Timbered Crate 87.49 45 P **P 05 44 19.5 +0.4**
BUOR Burton Butte 87.50 44 P **P 05 44 19.6 +0.4**
KTH Kantishna Hill 87.53 17 *e*P **P 05 44 16.1 -2.6**
comp=Z,33nm,0.8s,mb5.2
M04C Macdoel 87.54 44 ⇑P **P 05 44 19.6 +0.3**
baz=88,SNR=24
MONP Monument Peak 87.61 54 ⇓P **P 05 44 20.3 +0.4**
baz=88,SNR=14
I03A Eugene 87.63 42 ⇓P **P 05 44 19.9 +0.3**
baz=88
TRF Thorofare Moun 87.63 17 P **P 05 44 14.4 -4.8**
comp=Z,32nm,0.8s,mb5.2
TRF *e*pP pP 05 45 13.7 +2.1
BEKR Beckwourth 87.67 47 ⇑P **P 05 44 20.0 0.0**
baz=88,SNR=60
L04A Klamath Falls 87.68 44 ⇓P **P 05 44 20.3 +0.3**
baz=88,SNR=10
LRMC Laurel Mountai 87.70 51 ⇑P **P 05 44 20.2 0.0**
baz=88,SNR=23
MPOR Mary's Peak 87.71 41 P **P 05 44 20.8 +0.7**
R06C Coleville 87.72 48 ⇓P **P 05 44 20.7 +0.5**
baz=88,SNR=21
WAKR Walker 87.72 48 *e*P **P 05 44 20.7 +0.5**
DVTC Desert V Tower 87.77 55 ⇓P **P 05 44 20.7 +0.1**
baz=88
MLAC Mammoth Lakes 87.77 49 ⇓P **P 05 44 21.0 +0.5**
baz=88,SNR=7.6
BBRC Big Bear Sol-O 87.78 53 ⇓P **P 05 44 20.9 +0.2**
baz=88
CWC Cottonwood Cre 87.82 50 ⇑P **P 05 44 21.1 +0.4**
baz=88
WCN Washoe City 87.84 47 ⇑P **P 05 44 21.2 +0.4**
baz=88,SNR=19
MTUM Tungsten Hills 87.85 49 *e*P **P 05 44 21.4 +0.5**
PFO Pinyon Flat Ob 87.87 54 P **P 05 44 21.9 +0.8**
comp=Z,101nm,0.8s,mb5.7,SNR=5.3
PFO Pinyon Flat Ob 87.87 54 P **P 05 44 21.1 -0.1**
comp=Z,10nm,0.8s,mb4.7,baz=277,slow=4.9,SNR=13
PFO Pinyon Flat Ob 87.87 54 *e*P **P 05 44 20.2 -0.9**
PFO pmax pmax
comp=Z,9.0nm,0.8s,mb4.7
PFO Pinyon Flat Ob 87.87 54 ⇑P **P 05 44 20.8 -0.3**
baz=88,SNR=5.2
PFO Pinyon Flat Ob 87.87 54 *e*P **P 05 44 20.2 -0.9**
comp=Z,9.3nm,0.8s,mb4.7
P06A Stead Airport, 87.91 47 ⇓P **P 05 44 21.6 +0.5**
baz=88,SNR=10
BPAW Bear Paw Mtn. 87.95 16 *e*P **P 05 44 18.1 -2.6**
comp=Z,7.0nm,0.7s,mb4.6
H03A Soap Creek Ran 87.96 41 ⇓P **P 05 44 21.5 +0.3**
baz=88,SNR=5.5
TIN Tinemaha 87.97 50 ⇓P **P 05 44 22.0 +0.6**
baz=88
K04A Chilquin 87.99 44 ⇓P **P 05 44 21.8 +0.4**
baz=88,SNR=7.0
J04A Umpqua Nationa 88.03 43 ⇓P **P 05 44 22.0 +0.4**
baz=88,SNR=16
MPMC Manual Prospec 88.09 51 ⇑P **P 05 44 22.1 0.0**
baz=88,SNR=23
I04A Tendick Farm, 88.10 42 ⇑P **P 05 44 21.5 -0.4**
baz=88,SNR=10
O06A Flanigan 88.17 47 ⇑P **P 05 44 22.6 +0.3**
baz=88,SNR=66
M06C Likely Place G 88.19 45 ⇑P **P 05 44 22.8 +0.4**
baz=88,SNR=29
MCK McKinley 88.23 17 *e*P **P 05 44 20.1 -1.9**
MCK pmax pmax
comp=Z,25nm,0.9s,mb5.0
MCK McKinley 88.23 17 *e*P **P 05 44 20.1 -2.0**
comp=Z,25nm,0.9s,mb5.0
PAHR Pah Rah Range 88.28 47 *e*P **P 05 44 23.2 +0.3**
comp=Z,121nm,1.3s,mb5.6
GSC Goldstone 88.29 52 *e*P **P 05 44 23.0 0.0**
GSC pmax pmax
comp=Z,109nm,1.8s,mb5.4
GSC Goldstone 88.29 52 ⇓P **P 05 44 22.8 -0.3**
baz=88,SNR=13
GSC Goldstone 88.29 52 *e*P **P 05 44 23.0 0.0**
comp=Z,109nm,1.8s,mb5.4
L05A Lakeview 88.33 45 ⇓P **P 05 44 23.2 +0.2**
baz=88,SNR=18
BELC Belle Mtn. 88.38 53 ⇓P **P 05 44 23.5 +0.1**
baz=88,SNR=34
N06A Buffalo Meadow 88.42 46 ⇑P **P 05 44 23.8 +0.3**
baz=88,SNR=48
HEC Hector,Ludlow 88.46 53 ⇓P **P 05 44 23.4 -0.4**
baz=89,SNR=12
NVAR Mina Array Bea 88.49 49 P **P 05 44 24.2 +0.3**
comp=Z,19nm,0.8s,mb5.0,baz=227,slow=8.6,SNR=113
NVAR PP PP 05 47 51.3 -4.2
comp=Z,1.0nm,0.8s,baz=236,slow=9.7,SNR=3.7
NVAR PKKPbc PKKPbc 06 02 05.2 -1.0
comp=Z,0.4nm,0.5s,baz=69,slow=3.4,SNR=4.5
NVAR Mina Array Bea 88.49 49 P **P 05 44 24.2 +0.3**
NVAR PP PP 05 47 51.3 -4.2
NVAR PKKPbc PKKPbc 06 02 05.2 -1.0
P07A Fallon 88.55 47 ⇓P **P 05 44 24.6 +0.5**
baz=89
GRAC Grapevine Rang 88.57 50 ⇓P **P 05 44 24.5 +0.2**
baz=89,SNR=11
BOD Bodaibo 88.57 334 *e*P **P 05 44 22.7 -1.1**
BOD pmax pmax
comp=Z,52nm,1.5s,mb5.1
K05A Summer Lake 88.59 44 ⇓P **P 05 44 24.7 +0.5**
baz=89,SNR=28
R08A Mina 88.60 49 ⇓P **P 05 44 24.5 +0.1**
baz=89,SNR=7.0
MOD Modoc 88.61 45 ⇑P **P 05 44 24.5 +0.2**
baz=89,SNR=57
MOD Modoc 88.61 45 *e*P **P 05 44 24.6 +0.2**
comp=Z,39nm,0.8s,mb5.3
J05A Fort Rock 88.62 43 ⇑P **P 05 44 24.8 +0.4**
baz=89,SNR=65
H04A Detroit Lake 88.66 42 ⇑P **P 05 44 24.1 -0.4**
baz=89,SNR=11
BC3 Big Chuckw Mtn 88.66 54 ⇑P **P 05 44 24.9 +0.1**
baz=89,SNR=14
E03A Lebam 88.69 40 ⇑P **P 05 44 24.9 +0.3**
baz=89,SNR=6.4
G04A Mulino 88.72 41 ⇑P **P 05 44 24.5 -0.2**
baz=89,SNR=8.1
FURC Furnace Creek, 88.73 51 ⇑P **P 05 44 24.7 -0.4**
baz=89,SNR=28
BKCOR Black Crater 88.79 42 P **P 05 44 25.5 +0.3**
O07A Toulon 88.83 47 ⇓P **P 05 44 25.5 +0.1**
baz=89,SNR=46
D03A Wishkah Elem. 88.83 39 ⇓P **P 05 44 25.8 +0.5**
baz=89
BMW Boistfort Moun 88.85 40 *e*P **P 05 44 24.6 -0.8**
IMA2 Indian Mountai 88.86 14 *e*P **P 05 44 24.6 -0.3**
112A Yuma 88.90 55 ⇑P **P 05 44 25.9 0.0**
baz=89,SNR=7.0
GLA Glamis 88.91 55 *e*P **P 05 44 26.6 +0.6**
GLA pmax pmax
comp=Z,24nm,0.8s,mb5.1
GLA Glamis 88.91 55 ⇓P **P 05 44 26.5 +0.5**
baz=89,SNR=14
GLA Glamis 88.91 55 *e*P **P 05 44 26.6 +0.7**
comp=Z,24nm,0.8s,mb5.1
NLWA Neilton Lookou 88.91 39 ⇑P **P 05 44 25.9 +0.2**
baz=89,SNR=6.0
NLWA Neilton Lookou 88.91 39 *e*P **P 05 44 26.6 +1.0**
SHOC Shoshone 88.92 52 ⇑P **P 05 44 25.7 -0.3**
baz=89,SNR=22
Q08A Gabbs 88.94 48 ⇑P **P 05 44 26.1 +0.1**
baz=89,SNR=35
GMRC Granite Mounta 88.94 53 ⇑P **P 05 44 26.2 +0.1**
baz=89,SNR=12
LSA Lhasa 88.95 302 P **P 05 44 27.2 +1.0**
LSA AMB AMB
comp=Z,30nm,0.8s,mb5.2
LSA Lhasa 88.95 302 *e*P **P 05 44 26.9 +0.7**
LSA pmax pmax
comp=Z,16nm,0.6s,mb5.0
LSA Lhasa 88.95 302 *e*P **P 05 44 26.9 +0.6**
comp=Z,16nm,0.6s,mb5.0
S09A Goldfield 88.97 50 ⇑P **P 05 44 26.2 0.0**
baz=89,SNR=27
I05A Bend 89.00 42 ⇓P **P 05 44 26.5 +0.3**
baz=89,SNR=16
TUQ Turquoise Moun 89.00 52 ⇓P **P 05 44 26.5 +0.1**
baz=89,SNR=16
N07B Gerlach 89.03 46 ⇓P **P 05 44 26.6 +0.3**
baz=89,SNR=42
K06A Valley Falls 89.05 44 ⇓P **P 05 44 26.9 +0.5**
baz=89,SNR=46
IRM Iron Mountain 89.09 54 ⇓P **P 05 44 27.0 +0.2**
baz=89,SNR=28
F04A Amboy 89.09 41 ⇑P **P 05 44 26.6 +0.1**
baz=89,SNR=18
U10A Ash Meadows, A 89.10 51 ⇑P **P 05 44 27.1 +0.3**
baz=89,SNR=24
TPH Tonopah 89.12 49 *e*P **P 05 44 27.1 +0.3**
TPH pmax pmax
comp=Z,65nm,1.4s,mb5.3
TPH Tonopah 89.12 49 *e*P **P 05 44 27.1 +0.2**
comp=Z,65nm,1.4s,mb5.3
M07A Soldier Meadow 89.15 46 ⇑P **P 05 44 27.3 +0.4**
baz=89,SNR=61
P08A Dixie Valley 89.18 48 ⇓P **P 05 44 27.7 +0.6**
baz=89,SNR=11
E04A Onalaska 89.22 40 ⇓P **P 05 44 27.7 +0.6**
baz=89,SNR=7.3
H05A Madras 89.25 42 ⇑P **P 05 44 27.2 -0.1**
baz=89,SNR=11
HOOD Mount Hood Mea 89.29 41 *e*P **P 05 44 27.7 +0.3**
comp=Z,83nm,1.0s,mb5.5
R09A Tonopah 89.30 49 ⇑P **P 05 44 27.8 +0.1**
baz=89,SNR=27
LPIG La Paz 89.31 64 P **P 05 44 28.9 +0.8**
comp=Z,38nm,0.8s,mb5.3,baz=56,slow=2.7,SNR=8.6
L07A Adell 89.31 45 ⇓P **P 05 44 28.3 +0.6**
baz=89,SNR=86
J06A Christmas Vall 89.31 44 ⇑P **P 05 44 27.5 -0.1**
baz=89,SNR=30
WRAK Wrangell Islan 89.31 28 *e*P **P 05 44 27.2 -0.1**
comp=Z,93nm,1.3s,mb5.5
TPNV Topopah Spring 89.37 51 *e*P **P 05 44 28.2 +0.2**
TPNV pmax pmax
comp=Z,66nm,1.2s,mb5.3
TPNV Topopah Spring 89.37 51 ⇓P **P 05 44 28.1 0.0**
baz=90,SNR=38
TPNV Topopah Spring 89.37 51 *e*P **P 05 44 28.2 +0.2**
comp=Z,66nm,1.2s,mb5.3
O08A Rochester Mine 89.38 47 ⇑P **P 05 44 28.6 +0.6**
baz=90,SNR=87
Y12C Blythe 89.41 54 ⇓P **P 05 44 28.6 +0.3**
baz=90,SNR=9.4
COLA College 89.41 17 *e*P **P 05 44 25.3 -2.2**
COLA pmax pmax
comp=Z,41nm,0.9s,mb5.3
COLA College 89.41 17 *e*P **P 05 44 25.3 -2.2**
comp=Z,41nm,0.9s,mb5.3
D04A Dobbs Creek Ra 89.41 39 ⇑P **P 05 44 29.0 +1.0**
baz=90
TDL Tradedollar La 89.41 40 P **P 05 44 28.6 +0.6**
B04A Port Angeles 89.45 38 ⇓P **P 05 44 28.8 +0.7**
baz=90,SNR=8.4
G05A Wamic 89.46 42 ⇑P **P 05 44 28.3 +0.1**
baz=90,SNR=8.3
Q09A Carvers 89.46 49 ⇓P **P 05 44 28.6 +0.2**
baz=90,SNR=6.9
LDFC Landfair 89.48 53 *e*P **P 05 44 29.0 +0.4**
comp=Z,146nm,1.2s,mb5.7
S10A Tonopah Range, 89.51 50 ⇑P **P 05 44 28.8 +0.1**
baz=90,SNR=61
V11A Goodsprings 89.53 52 ⇓P **P 05 44 28.9 +0.1**
baz=90,SNR=22
ZAK Zakamensk 89.57 324 *e*P **P 05 44 27.9 -0.7**
ZAK *e* 05 48 06.8
ZAK pmax pmax
comp=Z,22nm,1.2s,mb4.9
VIPM Ingram Point 89.57 42 P **P 05 44 29.2 +0.4**
I06A Prineville 89.58 43 ⇑P **P 05 44 29.5 +0.6**
baz=90,SNR=54
C04A Brinnon 89.60 39 ⇑P **P 05 44 29.3 +0.4**
baz=90,SNR=14
N08A GE Springer Mi 89.60 47 ⇑P **P 05 44 29.1 +0.1**
baz=90,SNR=50
GNW Green Mountain 89.61 39 *e*P **P 05 44 29.2 +0.3**
comp=Z,74nm,1.0s,mb5.5
113A Mohawk Valley, 89.62 55 ⇑P **P 05 44 29.4 +0.1**
baz=90,SNR=7.6
F05A White Salmon 89.66 41 ⇓P **P 05 44 29.4 +0.2**
baz=90,SNR=16
K07A Rock Creek Ran 89.67 44 ⇓P **P 05 44 29.6 +0.4**
baz=90,SNR=54
M08A Happy Creek Ra 89.72 46 ⇑P **P 05 44 30.2 +0.7**
baz=90,SNR=34
NEE2 Needles Airpor 89.73 53 ⇓P **P 05 44 30.1 +0.4**
W12A Cal Nev Ari 89.74 53 ⇑P **P 05 44 30.3 +0.5**
baz=90
PGC Sidney 89.76 38 *e*P **P 05 44 29.5 -0.1**
comp=Z,164nm,1.0s,mb5.8
P09A Austin 89.78 48 ⇓P **P 05 44 29.9 0.0**
baz=90,SNR=10
E05A Randle 89.79 40 ⇓P **P 05 44 29.6 -0.1**
baz=90,SNR=29
U11A Corn Creek 89.80 51 ⇓P **P 05 44 30.3 +0.2**
baz=90,SNR=13
LON Longmire 89.85 40 *e*P **P 05 44 29.8 -0.2**
LON pmax pmax
comp=Z,13nm,0.8s,mb4.8
LON Longmire 89.85 40 *e*P **P 05 44 29.8 -0.2**
comp=Z,13nm,0.8s,mb4.8
H06A Lindquist Farm 89.85 42 ⇑P **P 05 44 30.3 +0.2**
baz=90,SNR=58
R10A Warm Springs 89.87 49 ⇑P **P 05 44 30.8 +0.5**
baz=90,SNR=36
SNAA Sanae 89.88 183 *e*P **P 05 44 28.7 -1.2**
SNAA *e* 05 44 29.6
SNAA *e* pP 05 45 19.5 -2.9
SNAA *e* 05 45 28.6
SKAG Skagway 89.89 25 *e*P **P 05 44 29.4 -0.5**
G06A Carlson Farm, 89.89 42 ⇓P **P 05 44 30.1 -0.2**
baz=90,SNR=17
PDMCI Parker Dam,Lak 89.91 54 ⇑P **P 05 44 30.6 -0.1**
baz=90,SNR=26
J07A Hines 89.92 44 ⇓P **P 05 44 30.5 +0.1**
baz=90,SNR=40
V12A Nelson 89.92 52 ⇓P **P 05 44 30.7 +0.1**
baz=90,SNR=22
D05A Enumclaw 89.94 40 ⇑P **P 05 44 30.8 +0.4**
baz=90,SNR=28
WVOR Wild Horse Val 89.96 45 *e*P **P 05 44 30.8 +0.1**
WVOR pmax pmax
comp=Z,94nm,1.1s,mb5.5
WVOR Wild Horse Val 89.96 45 *e*P **P 05 44 30.8 +0.1**
comp=Z,94nm,1.1s,mb5.5
Y13A Salome 89.97 54 ⇑P **P 05 44 31.0 +0.1**
baz=90,SNR=36
SHPR Sheep Range 90.00 51 *e*P **P 05 44 31.3 +0.3**
O09A Fish Creek Ran 90.00 47 ⇓P **P 05 44 31.3 +0.3**
baz=90,SNR=30
S11A Rachel 90.01 50 ⇑P **P 05 44 31.0 0.0**
baz=90,SNR=24
Q10A Clear Creek Ra 90.01 49 ⇑P **P 05 44 30.9 -0.1**
baz=90,SNR=26
TLY Talaya 90.02 326 P **P 05 44 30.3 -0.4**
comp=Z,192nm,0.8s,mb6.0,SNR=5.3
TLY Talaya 90.02 326 *e*P **P 05 44 30.4 -0.3**
TLY *e*S S 05 55 07.7 +2.7
TLY pmax pmax
comp=Z,24nm,0.8s,mb5.1
TLY Talaya 90.02 326 *e*P **P 05 44 30.2 -0.5**
comp=Z,14nm,0.7s,mb4.9
F06A Goldendale 90.03 41 ⇓P **P 05 44 31.1 +0.2**
baz=90,SNR=28
N09A Rock Creek Ran 90.05 47 ⇓P **P 05 44 31.2 +0.1**
baz=90,SNR=26
L08A Fields 90.05 45 ⇓P **P 05 44 31.4 +0.3**
baz=90,SNR=134
214A Organ Pipe Nat 90.07 56 ⇑P **P 05 44 31.9 +0.4**
baz=90,SNR=30
BMN Battle Mountai 90.09 47 *e*P **P 05 44 31.8 +0.5**
BMN pmax pmax
comp=Z,31nm,0.8s,mb5.2
BMN Battle Mountai 90.09 47 *e*P **P 05 44 31.8 +0.5**
comp=Z,31nm,0.8s,mb5.2
I07A Izee 90.10 43 ⇑P **P 05 44 31.7 +0.4**
baz=90,SNR=69
K08A Mann Creek Ran 90.19 45 ⇓P **P 05 44 32.0 +0.3**
baz=90,SNR=16
A04A Legoe Bay, Lum 90.23 38 ⇑P **P 05 44 32.1 +0.3**
baz=90,SNR=16
T11A Corn Creek, Al 90.24 51 ⇓P **P 05 44 32.4 +0.3**
baz=90,SNR=65
E06A Yakima 90.26 40 ⇓P **P 05 44 32.2 +0.3**
baz=90,SNR=20
X13A Yucca 90.26 54 ⇓P **P 05 44 32.2 -0.1**
baz=90,SNR=41
H07A Lands Inn, Kim 90.28 43 ⇑P **P 05 44 32.0 -0.1**
baz=90,SNR=73
P10A Eureka 90.29 48 ⇓P **P 05 44 32.4 +0.1**
baz=90,SNR=15
M09A Marrel Ranch, 90.34 46 ⇑P **P 05 44 33.1 +0.7**
baz=90,SNR=23
C05A Tolt Reservoir 90.36 39 ⇑P **P 05 44 32.1 -0.3**
baz=90,SNR=28
B05A Bryant 90.38 39 ⇑P **P 05 44 32.6 +0.1**
baz=90,SNR=23
R11A Troy Canyon, C 90.41 50 ⇑P **P 05 44 32.7 -0.1**
baz=90,SNR=19
T12A Moapa 90.41 51 ⇑P **P 05 44 32.9 0.0**
baz=90,SNR=10
W13A Hualapai Mount 90.41 53 ⇓P **P 05 44 33.2 +0.2**
baz=90,SNR=32
U12A Valley of Fire 90.43 52 ⇑P **P 05 44 33.0 0.0**
baz=90,SNR=19
L09A Wilkinson Ranc 90.44 46 ⇑P **P 05 44 33.4 +0.5**
baz=91,SNR=19
JCW Jim Creek 90.44 39 *e*P **P 05 44 32.7 0.0**
JCW *e*pP pP 05 45 25.3 -0.1
J08A Circle Bar Ran 90.46 44 ⇓P **P 05 44 33.0 +0.1**
baz=91,SNR=85
VNA3 Neumayer Olymp 90.48 180 *e*P **P 05 44 31.6 -1.1**
VNA3 *e* 05 44 33.0
VNA3 *e* pP 05 45 22.5 -2.7
VNA3 *e* 05 45 29.0
Z14A Wintersburg 90.48 55 ⇓P **P 05 44 33.7 +0.4**
baz=91,SNR=11
O10A Cortez Mining, 90.53 47 ⇓P **P 05 44 33.7 +0.3**
baz=91,SNR=10
Q11A Duckwater 90.56 49 ⇑P **P 05 44 33.9 +0.4**
baz=91,SNR=51
V13A Grand Canyon W 90.62 52 ⇓P **P 05 44 34.0 +0.1**
baz=91,SNR=39
F07A Phinny Hill Vi 90.62 41 ⇓P **P 05 44 33.8 +0.1**
baz=91,SNR=8.3
COLD Coldfoot 90.63 15 *e*P **P 05 44 32.9 -0.2**
comp=Z,36nm,0.8s,mb5.3
I08A Drewsey 90.64 44 ⇑P **P 05 44 33.8 +0.1**
baz=91,SNR=22
D06A Cle Elum 90.64 40 ⇑P **P 05 44 33.9 +0.2**
baz=91,SNR=14
Y14A Wickenburg 90.65 54 ⇑P **P 05 44 33.9 -0.2**
baz=91,SNR=18
S12A Delamar Landin 90.65 50 ⇑P **P 05 44 34.8 +0.8**
baz=91,SNR=79
K09A Rome 90.68 45 ⇑P **P 05 44 34.0 0.0**
baz=91,SNR=57
A05A Maple Falls 90.72 38 ⇑P **P 05 44 33.6 -0.5**
baz=91,SNR=5.5
P11A Circle Ranch, 90.77 48 ⇑P **P 05 44 34.6 +0.1**
baz=91,SNR=7.9
VNA2 Neumayer--Watz 90.77 181 *e*P **P 05 44 33.6 -0.4**
VNA2 *e* 05 44 34.6
VNA2 *e* pP 05 45 24.3 -2.3
VNA2 *e* 05 45 33.6
115A Sonoran Desert 90.80 56 ⇑P **P 05 44 35.1 +0.3**
baz=91,SNR=16
RPW Rockport 90.81 39 P **P 05 44 34.2 -0.2**
H08A Prairie City 90.83 43 ⇑P **P 05 44 34.5 -0.1**
baz=91,SNR=21
U13A Pakoon Wash 90.85 52 ⇓P **P 05 44 35.2 +0.3**
baz=91,SNR=29
B06A Marblemount 90.86 39 ⇑P **P 05 44 34.3 -0.4**
baz=91,SNR=6.0
TAPN Taplejung 90.93 298 *e*P **P 05 44 35.5 0.0**
comp=Z,59nm,1.3s,mb5.4
X14A Yava 90.93 54 ⇑P **P 05 44 35.9 +0.5**
baz=91,SNR=18
J09A Fry Pan Ranch, 90.94 44 ⇓P **P 05 44 35.3 +0.1**
baz=91,SNR=90
C06A Tall Timber Ra 90.94 39 ⇑P **P 05 44 35.0 0.0**
baz=91
E07A Sunnyside 90.96 41 ⇓P **P 05 44 35.4 +0.1**
baz=91,SNR=26
G08A Pilot Rock 90.97 42 ⇑P **P 05 44 35.1 -0.2**
baz=91,SNR=105
M10A I.L. Ranch, Tu 91.00 46 ⇑P **P 05 44 36.0 +0.5**
baz=91,SNR=79
ODAN Odare 91.03 298 *e*P **P 05 44 35.9 -0.1**
comp=Z,72nm,1.1s,mb5.5
RSW Rattlesnake Hi 91.05 41 *e*P **P 05 44 36.0 +0.3**
O11A Cowboy Ranch, 91.06 48 ⇑P **P 05 44 36.3 +0.4**
baz=91,SNR=26
W14A Seligman 91.06 53 ⇑P **P 05 44 36.5 +0.5**
baz=91,SNR=46
Z15A Gila River Ind 91.07 55 ⇑P **P 05 44 36.1 +0.1**
baz=91,SNR=5.9
HAWA Hanford 91.09 41 *e*P **P 05 44 35.9 +0.1**
comp=Z,66nm,0.9s,mb5.6
R12A Pony Springs, 91.11 50 ⇓P **P 05 44 36.4 +0.3**
baz=91,SNR=11
T13A Saint George 91.12 51 ⇑P **P 05 44 36.6 +0.4**
baz=91,SNR=56
A06A Chilliwack 91.12 38 ⇑P **P 05 44 35.8 -0.1**
baz=91,SNR=8.3
ETW Entiat 91.13 40 *e*P **P 05 44 35.9 -0.1**
216A Three Points, 91.16 57 ⇓P **P 05 44 36.8 +0.3**
baz=91,SNR=16
116A Eloy 91.16 56 ⇓P **P 05 44 36.6 +0.1**
baz=91,SNR=23
D07A Quincy 91.17 40 ⇑P **P 05 44 36.2 +0.1**
baz=91,SNR=12
Y15A Casa Rosa Ranc 91.17 55 ⇓P **P 05 44 36.7 +0.2**
baz=91,SNR=61
V14A Boquillas Ranc 91.20 53 ⇑P **P 05 44 36.9 +0.3**
baz=91,SNR=43

I09A	**Lost Marbles R**	**91.20**	**44**	⇓P	**P**	**05 44 36.0**	**-0.3**
	baz=91,SNR=33						
Q12A	**Willow Creek R**	**91.22**	**49**	⇑P	**P**	**05 44 36.7**	**+0.1**
	baz=91,SNR=19						
L10A	**Juniper Basin**	**91.28**	**46**	⇑P	**P**	**05 44 36.9**	**+0.1**
	baz=91,SNR=66						
N11A	**Elko Archery C**	**91.28**	**47**	⇓P	**P**	**05 44 36.7**	**-0.2**
	baz=91,SNR=8.5						
K10A	**MacKenzie Ranc**	**91.29**	**45**	⇓P	**P**	**05 44 36.8**	**0.0**
	baz=91,SNR=41						
F08A	**Pendleton**	**91.31**	**42**	⇓P	**P**	**05 44 36.6**	**-0.2**
	baz=91,SNR=18						
C07A	**Waterville**	**91.33**	**40**	⇑P	**P**	**05 44 36.4**	**-0.5**
	baz=92,SNR=17						
P12A	**McGill**	**91.34**	**49**	⇑P	**P**	**05 44 37.5**	**+0.4**
	baz=92,SNR=24						
S13A	**Holt Ranch, En**	**91.37**	**51**	⇑P	**P**	**05 44 37.5**	**+0.2**
	baz=92,SNR=63						
DAWY	**Dawson**	**91.39**	**20**	*e*P	**P**	**05 44 35.5**	**-1.2**
E08A	**Dider Farm, El**	**91.43**	**41**	⇑P	**P**	**05 44 37.6**	**+0.2**
	baz=92,SNR=9.1						
U14A	**Mt Trumbull**	**91.44**	**52**	⇑P	**P**	**05 44 38.3**	**+0.7**
	baz=92,SNR=55						
X15A	**Humboldt**	**91.44**	**54**	⇓P	**P**	**05 44 38.2**	**+0.5**
	baz=92,SNR=58						
MOY	**Mondy**	**91.45**	**325**	*e*P	**P**	**05 44 37.4**	**0.0**
MOY				pmax	pmax		
	comp=Z,52nm,2.8s,mb5.0						
M11A	**Holland Ranch,**	**91.48**	**47**	⇓P	**P**	**05 44 38.2**	**+0.4**
	baz=92,SNR=20						
DLBC	**Dease Lake**	**91.50**	**27**	*e*P	**P**	**05 44 37.3**	**-0.1**
R13A	**O'Grain Ranch,**	**91.52**	**50**	⇑P	**P**	**05 44 38.6**	**+0.6**
	baz=92,SNR=15						
H09A	**Durkee**	**91.54**	**43**	⇓P	**P**	**05 44 38.1**	**+0.2**
	baz=92,SNR=6.0						
217A	**Green Valley**	**91.58**	**57**	⇓P	**P**	**05 44 39.0**	**+0.5**
	baz=92,SNR=40						
ELK	**Elko**	**91.60**	**47**	*e*P	**P**	**05 44 38.2**	**-0.1**
ELK				pmax	pmax		
	comp=Z,26nm,1.1s						
ELK	**Elko**	**91.60**	**47**	*e*P	**P**	**05 44 38.2**	**-0.1**
	comp=Z,26nm,1.1s,mb5.1						
J10A	**Berg Farm, Mel**	**91.62**	**45**	⇑P	**P**	**05 44 38.3**	**-0.1**
	baz=92,SNR=8.3						
B07A	**Winthrop**	**91.64**	**39**	⇓P	**P**	**05 44 38.3**	**0.0**
	baz=92,SNR=23						
LNOR	**Lincton Mounta**	**91.65**	**42**	*e*P	**P**	**05 44 38.0**	**-0.4**
LNOR				*e**PP	pP	05 45 26.9	-4.1
LNOR				*e*		05 48 18.2	
Z16A	**Peralta Trail,**	**91.66**	**55**	⇓P	**P**	**05 44 38.9**	**+0.2**
	baz=92,SNR=23						
W15A	**Williams**	**91.67**	**53**	⇑P	**P**	**05 44 39.2**	**+0.4**
	baz=92,SNR=17						
G09A	**Cove**	**91.72**	**43**	⇑P	**P**	**05 44 38.5**	**-0.2**
	baz=92,SNR=21						
CCUT	**Cedar City**	**91.72**	**51**	*e*P	**P**	**05 44 39.5**	**+0.5**
A07A	**Ashnola River,**	**91.74**	**38**	⇑P	**P**	**05 44 38.7**	**-0.1**
	baz=92,SNR=20						
T14A	**Hurricane**	**91.75**	**52**	⇑P	**P**	**05 44 39.2**	**+0.1**
	baz=92,SNR=19						
ARUT	**Antelope Range**	**91.76**	**51**	*e*P	**P**	**05 44 39.3**	**+0.2**
D08A	**Wollman Farm,**	**91.76**	**41**	⇓P	**P**	**05 44 38.7**	**-0.2**
	baz=92,SNR=12						
O12A	**Currie**	**91.76**	**48**	⇑P	**P**	**05 44 39.0**	**-0.1**
	baz=92,SNR=27						
Q13A	**Wheeler Ranch,**	**91.77**	**49**	⇓P	**P**	**05 44 39.1**	**0.0**
	baz=92,SNR=26						
N12A	**Clover Valley,**	**91.78**	**47**	⇑P	**P**	**05 44 39.3**	**+0.1**
	baz=92,SNR=27						
TUC	**Tucson**	**91.80**	**57**	*e*P	**P**	**05 44 39.9**	**+0.5**
L11A	**Cat Creek Ranc**	**91.80**	**46**	⇓P	**P**	**05 44 39.4**	**+0.2**
	baz=92,SNR=42						
Y16A	**Circle Bar Ran**	**91.81**	**55**	⇑P	**P**	**05 44 40.0**	**+0.6**
	baz=92,SNR=60						
F09A	**S2 Ranch, Elgi**	**91.82**	**42**	⇓P	**P**	**05 44 39.2**	**0.0**
	baz=92,SNR=17						
BMO	**Blue Mountains**	**91.85**	**43**	*e*P	**P**	**05 44 39.0**	**-0.4**
BMO				pmax	pmax		
	comp=Z,52nm,1.6s,mb5.2						
BMO	**Blue Mountains**	**91.85**	**43**	*e*P	**P**	**05 44 39.0**	**-0.4**
	comp=Z,52nm,1.6s,mb5.2						
K11A	**Parker Ranch,**	**91.85**	**45**	⇓P	**P**	**05 44 39.5**	**+0.1**
	baz=92,SNR=25						
I10A	**Payette**	**91.87**	**44**	⇓P	**P**	**05 44 39.7**	**+0.2**
	baz=92,SNR=8.8						
117A	**Oracle**	**91.92**	**56**	⇑P	**P**	**05 44 40.1**	**+0.1**
	baz=92,SNR=38						
S14A	**Cedar City**	**91.94**	**51**	⇓P	**P**	**05 44 40.2**	**+0.2**
	baz=92,SNR=10						
P13A	**Bates Ranch, G**	**91.97**	**49**	⇑P	**P**	**05 44 40.3**	**+0.3**
	baz=92,SNR=25						
V15A	**Kaibab Nationa**	**91.97**	**53**	⇓P	**P**	**05 44 40.6**	**+0.4**
	baz=92,SNR=23						
C08A	**Higginbotham F**	**91.99**	**40**	⇓P	**P**	**05 44 39.9**	**0.0**
	baz=92						
E09A	**Wood Farm, Sta**	**92.01**	**41**	⇓P	**P**	**05 44 39.5**	**-0.6**
	baz=92						
OD2	**Odessa Site #2**	**92.03**	**40**	*e*P	**P**	**05 44 40.0**	**-0.2**
OD2				*e*PP	PP	05 48 21.0	-2.2
X16A	**Lo Mia Camp, P**	**92.03**	**54**	⇓P	**P**	**05 44 40.9**	**+0.5**
	baz=92,SNR=51						
B08A	**Colville Reser**	**92.07**	**39**	⇓P	**P**	**05 44 39.7**	**-0.5**
	baz=92,SNR=18						
M12A	**Wells**	**92.08**	**47**	⇑P	**P**	**05 44 40.6**	**0.0**
	baz=92,SNR=16						
U15A	**North Rim**	**92.11**	**52**	⇑P	**P**	**05 44 41.1**	**+0.3**
	baz=92,SNR=56						
H10A	**Noah's Angus R**	**92.11**	**43**	⇓P	**P**	**05 44 40.1**	**-0.5**
	baz=92,SNR=25						
318A	**Bisbee**	**92.13**	**58**	⇑P	**P**	**05 44 41.4**	**+0.5**
	baz=92,SNR=36						
D09A	**Jones Farm, Ri**	**92.14**	**41**	⇑P	**P**	**05 44 40.4**	**-0.3**
	baz=92,SNR=23						
G10A	**Bishop Farm, J**	**92.15**	**43**	⇓P	**P**	**05 44 40.1**	**-0.6**
	baz=92,SNR=23						
W16A	**Flagstaff**	**92.20**	**54**	⇓P	**P**	**05 44 41.8**	**+0.6**
	baz=92,SNR=14						
Y17A	**Roosevelt**	**92.24**	**55**	⇑P	**P**	**05 44 41.6**	**+0.1**
	baz=92,SNR=27						
MFID	**Camas Ranch**	**92.25**	**45**	⇑P	**P**	**05 44 41.0**	**-0.2**
	baz=92,SNR=24						
O13A	**Hicks Ranch, I**	**92.25**	**48**	⇓P	**P**	**05 44 41.4**	**+0.1**
	baz=92,SNR=9.9						
T15A	**Red Dirt Ranch**	**92.25**	**52**	⇓P	**P**	**05 44 41.6**	**+0.2**
	baz=92,SNR=19						
218A	**Dragoon**	**92.27**	**57**	⇓P	**P**	**05 44 42.1**	**+0.5**
	baz=92,SNR=34						
L12A	**House Creek Ra**	**92.30**	**46**	⇓P	**P**	**05 44 41.9**	**+0.4**
	baz=92,SNR=17						
JIRN	**Jiri**	**92.30**	**298**	*e*P	**P**	**05 44 41.8**	**-0.1**
	comp=Z,17nm,0.6s,mb5.2						
Q14A	**Sevier Lake (B**	**92.32**	**50**	⇑P	**P**	**05 44 41.9**	**+0.2**
	baz=92,SNR=28						
I11A	**Placerville**	**92.36**	**44**	⇓P	**P**	**05 44 41.5**	**-0.2**
	baz=92,SNR=28						
A08A	**Turner Farm, O**	**92.36**	**39**	⇑P	**P**	**05 44 41.5**	**-0.1**
	baz=92,SNR=16						
N13A	**Wendover, West**	**92.36**	**48**	⇓P	**P**	**05 44 41.8**	**0.0**
	baz=92,SNR=7.3						
Z17A	**San Carlos Hig**	**92.39**	**56**	⇑P	**P**	**05 44 42.6**	**+0.4**
	baz=92,SNR=9.9						
C09A	**Chrisman Ranch**	**92.47**	**40**	⇓P	**P**	**05 44 42.1**	**-0.1**
	baz=93						
WUAZ	**Wupatki**	**92.47**	**53**	⇓P	**P**	**05 44 42.7**	**+0.2**
	baz=93,SNR=18						
X17A	**Forest Lakes**	**92.49**	**55**	⇑P	**P**	**05 44 43.2**	**+0.6**
	baz=93,SNR=33						
S15A	**Panguitch**	**92.51**	**51**	⇑P	**P**	**05 44 43.4**	**+0.8**
	baz=93,SNR=9.7						
118A	**Homack Ranch,**	**92.56**	**57**	⇓P	**P**	**05 44 43.3**	**+0.4**
	baz=93,SNR=33						
K12A	**Draper Farm, C**	**92.56**	**46**	⇑P	**P**	**05 44 42.9**	**+0.2**
	baz=93,SNR=19						
M13A	**Montello**	**92.58**	**47**	⇓P	**P**	**05 44 42.9**	**+0.1**
	baz=93,SNR=30						
H11A	**Donnelly**	**92.63**	**44**	⇓P	**P**	**05 44 42.6**	**-0.4**
	baz=93,SNR=26						
GUN	**Gumba**	**92.65**	**298**	*e*P	**P**	**05 44 43.3**	**-0.2**
Z18A	**Geronimo**	**92.66**	**56**	⇑P	**P**	**05 44 44.0**	**+0.6**
	baz=93						
J12A	**Stokes Ranch,**	**92.67**	**45**	⇑P	**P**	**05 44 43.3**	**+0.1**
	baz=93,SNR=37						
319A	**Douglas**	**92.67**	**58**	⇑P	**P**	**05 44 43.9**	**+0.3**
	baz=93,SNR=32						
P14A	**Drum Mountains**	**92.70**	**49**	⇑P	**P**	**05 44 43.3**	**-0.1**
	baz=93,SNR=8.0						
G11A	**Walters Elk Ra**	**92.75**	**43**	⇓P	**P**	**05 44 42.6**	**-0.8**
	baz=93,SNR=18						

A09A	**Danville**	**92.78**	**39**	⇓P	**P**	**05 44 43.3**	**-0.2**
	baz=93,SNR=11						
B09A	**Rice**	**92.81**	**40**	⇓P	**P**	**05 44 43.1**	**-0.6**
	baz=93,SNR=7.5						
U16A	**Tuba City**	**92.88**	**53**	⇓P	**P**	**05 44 44.7**	**+0.3**
	baz=93,SNR=24						
T16A	**Glen Canyon Da**	**92.90**	**52**	⇑P	**P**	**05 44 44.5**	**+0.1**
	baz=93,SNR=11						
Y18A	**Canyon Day Jun**	**92.90**	**55**	⇓P	**P**	**05 44 45.1**	**+0.6**
	baz=93,SNR=30						
219A	**White Tail Can**	**92.90**	**57**	⇓P	**P**	**05 44 44.6**	**+0.1**
	baz=93,SNR=40						
PKI	**Pulchoki**	**92.93**	**298**	*e*P	**P**	**05 44 44.5**	**-0.3**
MSU	**Marysvale**	**92.95**	**50**	*e*P	**P**	**05 44 44.6**	**0.0**
Q15A	**Fillmore**	**92.98**	**50**	⇓P	**P**	**05 44 44.8**	**+0.1**
	baz=93,SNR=6.1						
L13A	**Double Diamond**	**93.01**	**47**	⇓P	**P**	**05 44 44.7**	**-0.1**
	baz=93,SNR=6.8						
F11A	**Grangeville**	**93.01**	**42**	⇓P	**P**	**05 44 44.8**	**0.0**
	baz=93,SNR=7.6						
N14A	**Grayback Hills**	**93.08**	**48**	⇓P	**P**	**05 44 44.9**	**-0.2**
	baz=93						
S16A	**Weppner Ranch,**	**93.09**	**51**	⇓P	**P**	**05 44 44.9**	**-0.3**
	baz=93,SNR=12						
DUG	**Dugway**	**93.10**	**49**	*e*P	**P**	**05 44 45.1**	**-0.2**
DUG				pmax	pmax		
	comp=Z,4.0nm,0.7s,mb4.6						
DUG	**Dugway**	**93.10**	**49**	⇓P	**P**	**05 44 45.0**	**-0.3**
	baz=93,SNR=6.6						
DUG	**Dugway**	**93.10**	**49**	*e*P	**P**	**05 44 45.1**	**-0.1**
	comp=Z,4.1nm,0.7s,mb4.6						
KKN	**Kakani**	**93.11**	**298**	*e*P	**P**	**05 44 45.2**	**-0.4**
	comp=Z,28nm,0.7s,mb5.4						
K13A	**Stover Farm, H**	**93.13**	**46**	⇑P	**P**	**05 44 45.2**	**-0.1**
	baz=93,SNR=13						
119A	**Ashpeak Ranch,**	**93.13**	**57**	⇑P	**P**	**05 44 45.9**	**+0.3**
	baz=93,SNR=20						
E11A	**Bogner Ranch,**	**93.17**	**42**	⇑P	**P**	**05 44 44.5**	**-0.9**
	baz=93,SNR=8.0						
DMN	**Daman**	**93.19**	**298**	*e*P	**P**	**05 44 45.8**	**-0.2**
	comp=Z,91nm,1.0s,mb5.7						
M14A	**Sheep Mountain**	**93.21**	**47**	⇑P	**P**	**05 44 45.7**	**0.0**
	baz=93,SNR=12						
BGU	**Big Grassy Mou**	**93.22**	**48**	*e*P	**P**	**05 44 41.3**	**-4.5**
X18A	**Snowflake**	**93.22**	**55**	⇑P	**P**	**05 44 46.0**	**0.0**
	baz=93,SNR=18						
HLID	**Hailey**	**93.25**	**45**	⇓P	**P**	**05 44 45.7**	**-0.1**
	baz=93,SNR=30						
HLID	**Hailey**	**93.25**	**45**	*e*P	**P**	**05 44 45.8**	**0.0**
	comp=Z,16nm,0.9s,mb5.1						
P15A	**Leamington**	**93.26**	**49**	⇑P	**P**	**05 44 45.9**	**-0.1**
	baz=93						
Z19A	**T-Link Ranch,**	**93.34**	**56**	⇑P	**P**	**05 44 46.9**	**+0.4**
	baz=93						
J13A	**Cove Ranch, Pi**	**93.35**	**45**	⇓P	**P**	**05 44 46.4**	**0.0**
	baz=94,SNR=35						
D11A	**Klaveano Farm,**	**93.36**	**41**	⇓P	**P**	**05 44 45.9**	**-0.4**
	baz=94,SNR=16						
NEW	**Newport**	**93.37**	**40**	*e*P	**P**	**05 44 45.9**	**-0.4**
R16A	**Teasdale**	**93.38**	**51**	⇑P	**P**	**05 44 47.0**	**+0.5**
	baz=94,SNR=22						
O15A	**The Old Anders**	**93.38**	**49**	⇑P	**P**	**05 44 46.9**	**+0.3**
	baz=94						
U17A	**Shonto**	**93.39**	**53**	⇑P	**P**	**05 44 47.0**	**+0.3**
	baz=94,SNR=11						
A10A	**Northport**	**93.40**	**39**	⇑P	**P**	**05 44 46.2**	**-0.2**
	baz=94,SNR=8.4						
T17A	**Navajo Res., N**	**93.43**	**52**	⇓P	**P**	**05 44 47.2**	**+0.3**
	baz=94,SNR=39						
L14A	**Malta**	**93.48**	**47**	⇑P	**P**	**05 44 46.9**	**0.0**
	baz=94,SNR=13						
F12A	**Elk City**	**93.54**	**43**	⇑P	**P**	**05 44 47.1**	**0.0**
	baz=94,SNR=15						
Y19A	**Nutrioso**	**93.57**	**56**	⇓P	**P**	**05 44 48.0**	**+0.4**
	baz=94,SNR=19						
I13A	**Wildhorse Cree**	**93.58**	**45**	⇑P	**P**	**05 44 47.6**	**+0.3**
	baz=94,SNR=23						
W18A	**Petrified Fore**	**93.59**	**54**	⇓P	**P**	**05 44 48.1**	**+0.4**
	baz=94						
E12A	**Beaver Dam Sad**	**93.59**	**42**	⇑P	**P**	**05 44 47.8**	**+0.4**
	baz=94,SNR=5.3						
V18A	**Ganado**	**93.64**	**54**	⇑P	**P**	**05 44 48.1**	**+0.3**
	baz=94,SNR=15						
S17A	**Black Ridge (B**	**93.65**	**52**	⇑P	**P**	**05 44 47.2**	**-0.7**
	baz=94,SNR=14						
HVU	**Hansel Valley**	**93.71**	**47**	*e*P	**P**	**05 44 48.4**	**+0.4**
HVU				pmax	pmax		
	comp=Z,14nm,0.8s,mb5.0						
HVU	**Hansel Valley**	**93.71**	**47**	*e*P	**P**	**05 44 48.4**	**+0.3**
	comp=Z,14nm,0.8s,mb5.0						
K14A	**Jones Ranch, D**	**93.71**	**46**	⇑P	**P**	**05 44 47.9**	**-0.1**
	baz=94,SNR=13						
GKN	**Gorkha**	**93.72**	**298**	*e*P	**P**	**05 44 47.4**	**-1.0**
	comp=Z,24nm,0.6s,mb5.4						
C11A	**Tepee Creek (N**	**93.73**	**41**	⇓P	**P**	**05 44 47.7**	**-0.2**
	baz=94,SNR=18						
H13A	**Challis**	**93.74**	**44**	⇓P	**P**	**05 44 47.7**	**-0.3**
	baz=94,SNR=14						
J14A	**Carey**	**93.77**	**46**	⇓P	**P**	**05 44 48.3**	**0.0**
	baz=94,SNR=19						
Q16A	**Castle Valley**	**93.83**	**50**	⇓P	**P**	**05 44 49.1**	**+0.5**
	baz=94,SNR=8.9						
B11A	**Sandpoint**	**93.90**	**40**	⇓P	**P**	**05 44 48.7**	**0.0**
	baz=94						
U18A	**Rough Rock, Ch**	**93.93**	**53**	⇓P	**P**	**05 44 49.2**	**0.0**
	baz=94,SNR=8.9						
TMUT	**Trail Mountain**	**93.93**	**50**	*e*P	**P**	**05 44 49.2**	**+0.1**
G13A	**Cobalt**	**93.95**	**44**	⇑P	**P**	**05 44 48.5**	**-0.5**
	baz=94,SNR=12						
TIXI	**Tiksi**	**93.98**	**348**	⇑*e*P	**P**	**05 44 46.6**	**-2.0**
TIXI				pmax	pmax		
	comp=Z,23nm,1.5s,mb5.0						
D12A	**Red Ives Fores**	**93.98**	**42**	⇓P	**P**	**05 44 48.6**	**-0.6**
	baz=94						
R17A	**Hanksville Air**	**93.99**	**51**	⇓P	**P**	**05 44 49.1**	**-0.3**
	baz=94						
I14A	**Mackay**	**94.03**	**45**	⇑P	**P**	**05 44 49.5**	**0.0**
	baz=94,SNR=28						
O16A	**Springville**	**94.04**	**49**	⇓P	**P**	**05 44 49.7**	**+0.1**
	baz=94						
L15A	**Malad City**	**94.06**	**47**	⇑P	**P**	**05 44 49.1**	**-0.5**
	baz=94,SNR=8.2						
A11A	**Hall Mountain,**	**94.11**	**40**	⇓P	**P**	**05 44 49.7**	**+0.1**
	baz=94,SNR=8.0						
F13A	**Darby**	**94.15**	**43**	⇑P	**P**	**05 44 48.8**	**-1.1**
	baz=94,SNR=12						
C12B	**Naegeli Ranch,**	**94.16**	**41**	⇓P	**P**	**05 44 49.5**	**-0.4**
	baz=94						
T18A	**Mexican Hat**	**94.17**	**52**	⇑P	**P**	**05 44 50.1**	**-0.2**
	baz=94,SNR=38						
K15A	**Arbon**	**94.21**	**46**	⇑P	**P**	**05 44 50.2**	**0.0**
	baz=94						
JLU	**Jordanelle**	**94.22**	**49**	*e*P	**P**	**05 44 50.1**	**-0.2**
S18A	**Hurst Farm, Bl**	**94.27**	**52**	⇑P	**P**	**05 44 50.4**	**-0.3**
	baz=94,SNR=14						
DAU	**Daniels Canyon**	**94.29**	**49**	*e*P	**P**	**05 44 50.8**	**+0.1**
N16A	**Rees Ranch, Co**	**94.33**	**48**	⇑P	**P**	**05 44 50.8**	**-0.1**
	baz=94,SNR=5.5						
P17A	**Butcher Ranch,**	**94.33**	**50**	⇑P	**P**	**05 44 51.1**	**+0.2**
	baz=94						
M16A	**Huntsville**	**94.34**	**48**	⇓P	**P**	**05 44 50.4**	**-0.6**
	baz=94						
H14A	**Leadore**	**94.34**	**44**	⇓P	**P**	**05 44 50.5**	**-0.4**
	baz=94,SNR=17						
SRU	**San Rafael**	**94.37**	**50**	⇓P	**P**	**05 44 50.8**	**-0.3**
	baz=94,SNR=8.9						
SRU	**San Rafael**	**94.37**	**50**	*e*P	**P**	**05 44 50.5**	**-0.6**
B12A	**Libby**	**94.39**	**40**	⇑P	**P**	**05 44 50.9**	**0.0**
	baz=94						
E13A	**Victor**	**94.49**	**42**	⇑P	**P**	**05 44 51.0**	**-0.5**
	baz=95						
HWUT	**Hardware Ranch**	**94.49**	**48**	P	**P**	**05 44 47.2**	**-4.3**
	comp=Z,14nm,1.0s,mb4.9						
HWUT				*e*PP	PP	05 48 40.9	-1.7
KOLN	**Koldanda**	**94.51**	**298**	*e*P	**P**	**05 44 51.0**	**-1.0**
	comp=Z,17nm,0.9s,mb5.2						
G14A	**Jackson**	**94.51**	**44**	⇑P	**P**	**05 44 51.3**	**-0.3**
	baz=95,SNR=11						
A12A	**Yaak River Ran**	**94.53**	**40**	⇓P	**P**	**05 44 51.6**	**0.0**
	baz=95						
J15A	**Blackfoot**	**94.53**	**46**	⇓P	**P**	**05 44 51.9**	**+0.2**
	baz=95,SNR=18						
DANN	**Dangsing**	**94.56**	**298**	*e*P	**P**	**05 44 51.1**	**-1.1**
	comp=Z,40nm,0.9s,mb5.5						
D13A	**Huson**	**94.56**	**42**	⇑P	**P**	**05 44 51.5**	**-0.3**
	baz=95						
R18A	**Canyonlands Na**	**94.58**	**51**	⇓P	**P**	**05 44 51.7**	**-0.4**
	baz=95,SNR=12						

O17A	**Robinson Place**	**94.59**	**49**	⇑P	**P**	**05 44 52.1**	**+0.1**
	baz=95,SNR=19						
BSMT	**Bassoo Peak**	**94.64**	**41**	*e*P	**P**	**05 44 51.6**	**-0.5**
Q18A	**Rafter H Ranch**	**94.65**	**50**	⇑P	**P**	**05 44 52.1**	**-0.3**
	baz=95,SNR=8.5						
I15A	**Monteview**	**94.71**	**45**	⇑P	**P**	**05 44 52.5**	**0.0**
	baz=95,SNR=8.2						
T19A	**Beclabito**	**94.71**	**53**	⇑P	**P**	**05 44 52.8**	**+0.1**
	baz=95						
C13A	**Hot Springs**	**94.71**	**41**	⇓P	**P**	**05 44 52.0**	**-0.5**
	baz=95						
L16A	**Fish Haven**	**94.73**	**47**	⇓P	**P**	**05 44 52.3**	**-0.4**
	baz=95						
P18A	**Preston Nutter**	**94.75**	**50**	⇓P	**P**	**05 44 52.5**	**-0.3**
	baz=95,SNR=6.5						
MCMT	**McKenzie Canyo**	**94.77**	**44**	*e*P	**P**	**05 44 52.5**	**-0.3**
N17A	**Moffit Pass**	**94.78**	**49**	⇓P	**P**	**05 44 52.3**	**-0.6**
	baz=95						
F14A	**Wisdom**	**94.78**	**43**	⇑P	**P**	**05 44 52.1**	**-0.7**
	baz=95						
H15A	**Lima**	**94.83**	**45**	⇑P	**P**	**05 44 52.8**	**-0.3**
	baz=95,SNR=8.3						
K16A	**Soda Springs**	**94.91**	**47**	⇑P	**P**	**05 44 53.4**	**0.0**
	baz=95,SNR=6.8						
E14A	**Clinton**	**94.93**	**43**	⇓P	**P**	**05 44 52.4**	**-1.0**
	baz=95,SNR=6.9						
S19A	**Harvey Farm, M**	**94.93**	**52**	⇓P	**P**	**05 44 53.5**	**-0.2**
	baz=95,SNR=7.2						
B13A	**Whitefish**	**95.04**	**41**	⇑P	**P**	**05 44 53.2**	**-0.8**
	baz=95						
J16A	**Bone**	**95.05**	**46**	⇑P	**P**	**05 44 54.1**	**+0.1**
	baz=95,SNR=15						
DLMT	**Dillon**	**95.13**	**44**	*e*P	**P**	**05 44 54.1**	**-0.3**
	comp=Z,22nm,1.3s,mb5.1						
DLMT				*e*PP	PP	05 48 46.8	-0.6
G15A	**Dillon**	**95.13**	**44**	⇑P	**P**	**05 44 54.0**	**-0.4**
	baz=95,SNR=11						
O18A	**Roosevelt**	**95.14**	**49**	⇑P	**P**	**05 44 54.6**	**+0.1**
	baz=95						
Q19A	**Hogan Spring (**	**95.24**	**51**	⇑P	**P**	**05 44 54.5**	**-0.6**
	baz=95,SNR=10						
C14A	**Swan Lake**	**95.26**	**41**	⇑P	**P**	**05 44 54.9**	**-0.1**
	baz=95						
RRI2	**Red Ridge**	**95.27**	**46**	*e*P	**P**	**05 44 54.6**	**-0.5**
RRI2				*e*PP	PP	05 48 46.9	-1.6
A13A	**Flathead Natio**	**95.28**	**40**	⇓P	**P**	**05 44 54.6**	**-0.5**
	baz=95						
I16A	**Newdale**	**95.34**	**46**	⇑P	**P**	**05 44 55.7**	**+0.3**
	baz=96						
F15A	**Butte**	**95.36**	**43**	⇑P	**P**	**05 44 54.8**	**-0.7**
	baz=96,SNR=5.2						
LAZ	**Ladron**	**95.37**	**56**	*e*P	**P**	**05 44 55.8**	**0.0**
LRM	**Limekiln Ridge**	**95.39**	**44**	*e*P	**P**	**05 44 55.4**	**-0.2**
E15A	**Deer Lodge**	**95.48**	**43**	⇑P	**P**	**05 44 55.3**	**-0.7**
	baz=96						
PV01	**Paradox Valley**	**95.48**	**52**	*e*P	**P**	**05 44 55.9**	**-0.3**
PV01				*e*pP	pP	05 45 49.1	+0.2
TPAW	**Teton Pass**	**95.57**	**46**	*e*P	**P**	**05 44 56.2**	**-0.3**
	comp=Z,37nm,1.8s,mb5.3						
REDW	**Red Top Meadow**	**95.60**	**46**	*e*P	**P**	**05 44 56.7**	**+0.1**
	comp=Z,29nm,1.3s,mb5.3						
G16A	**Moss Hill, Enn**	**95.60**	**44**	⇑P	**P**	**05 44 56.5**	**-0.1**
	baz=96,SNR=7.2						
N18A	**Larsen Ranch,**	**95.61**	**49**	⇑P	**P**	**05 44 56.1**	**-0.6**
	baz=96,SNR=5.4						
BNM	**Barren Site**	**95.69**	**56**	*e*P	**P**	**05 44 57.0**	**-0.3**
SNOW	**Snow King Moun**	**95.70**	**46**	*e*P	**P**	**05 44 57.0**	**0.0**
IMW	**Indian Meadow**	**95.72**	**46**	*e*P	**P**	**05 44 57.7**	**+0.5**
B14A	**Marquette Ranc**	**95.78**	**41**	⇑P	**P**	**05 44 56.6**	**-0.7**
	baz=96						
D15A	**Lincoln**	**95.78**	**42**	⇓P	**P**	**05 44 56.9**	**-0.5**
	baz=96						
O19A	**Miners Draw (B**	**95.78**	**50**	⇓P	**P**	**05 44 57.0**	**-0.6**
	baz=96						
H16A	**Russell Place,**	**95.79**	**45**	⇑P	**P**	**05 44 57.3**	**-0.1**
	baz=96,SNR=5.9						
MOOW	**Moose Ponds**	**95.80**	**46**	*e*P	**P**	**05 44 57.6**	**+0.1**
	comp=Z,56nm,2.3s,mb5.4						
LOHW	**Long Hollow**	**95.85**	**46**	*e*P	**P**	**05 44 57.8**	**0.0**
A14A	**Double T Ranch**	**95.91**	**40**	⇓P	**P**	**05 44 57.5**	**-0.4**
	baz=96						
N19A	**John Jarvie Ra**	**95.94**	**49**	⇑P	**P**	**05 44 57.6**	**-0.7**
	baz=96						
C15A	**Salmond Ranch,**	**95.98**	**42**	⇓P	**P**	**05 44 57.6**	**-0.6**
	baz=96						
ANMO	**Albuquerque**	**96.08**	**55**	⇑*e*P	**P**	**05 44 56.5**	**-2.5**
ANMO				*i* *PP	pP	05 45 53.2	+1.5
HRY	**Holter Researc**	**96.10**	**43**	*e*P	**P**	**05 44 58.3**	**-0.5**
E16A	**East Helena**	**96.14**	**43**	⇑P	**P**	**05 44 58.5**	**-0.5**
	baz=96,SNR=6.1						
B15A	**Bradely Ranch,**	**96.20**	**41**	⇑P	**P**	**05 44 58.1**	**-1.1**
	baz=96						
BW06	**Boulder Array**	**96.29**	**47**	⇑P	**P**	**05 44 59.0**	**-0.7**
	baz=96						
PDAR	**Pinedale Array**	**96.29**	**47**	P	**P**	**05 44 59.0**	**-0.8**
	comp=Z,1.6nm,0.6s,mb4.4,baz=222,slow=2.0,SNR=13						
PDAR				PP	PP	05 48 48.5	-7.9
	comp=Z,1.5nm,0.9s,baz=243,slow=6.5,SNR=7.3						
PDAR				LR	LR	06 26 29.3	
	comp=Z,92nm,18.7s,baz=341,slow=34						
A15A	**Johnson Ranch,**	**96.33**	**40**	⇓P	**P**	**05 44 59.1**	**-0.7**
	baz=96						
D16A	**Dana Ranch, Ca**	**96.39**	**43**	⇑P	**P**	**05 44 59.7**	**-0.4**
	baz=96						
WMQ	**Urumqi**	**96.53**	**314**	⇑P	**P**	**05 45 00.9**	**+0.1**
WMQ				AP	pP	05 45 56.4	+2.8
WMQ				XP	sP	05 46 19.0	+3.1
WMQ				PP	PP	05 48 59.9	+1.6
WMQ				SKS		05 55 14.4	
WMQ				S	S	05 55 58.4	-4.2
WMQ				AMB	AMB		
	comp=Z,24nm,0.9s,mb5.4						
WMQ				AMB	AMB		
	comp=Z,160nm,4.0s						
WMQ				LR	LR		
	comp=N,108nm,19.2s						
WMQ				LR	LR		
	comp=E,53nm,20.9s						
WMQ				LR	LR		
	comp=Z,142nm,22.6s						
C16A	**Fuhringer Ranc**	**96.53**	**42**	⇑P	**P**	**05 45 00.1**	**-0.7**
	baz=97						
TXAR	**Lajitas Array**	**96.62**	**61**	P	**P**	**05 45 01.6**	**0.0**
	comp=Z,8.9nm,1.0s,mb5.0,baz=226,slow=5.0,SNR=71						
TXAR				PKKPbc	PKKPbc	06 01 45.2	+0.5
	comp=Z,0.8nm,0.9s,baz=104,slow=3.8,SNR=4.6						
TXAR	**Lajitas Array**	**96.62**	**61**	P	**P**	**05 45 01.6**	**0.0**
TXAR				PKKPbc	PKKPbc	06 01 45.2	+0.5
E17A	**Martinsdale**	**96.65**	**43**	⇓P	**P**	**05 45 01.5**	**+0.3**
	baz=97						
GDL2	**Guadalupe Moun**	**96.90**	**58**	*e*P	**P**	**05 45 03.0**	**+0.2**
A16A	**West Butte Ran**	**97.02**	**41**	⇑P	**P**	**05 45 02.1**	**-0.8**
	baz=97						
C17A	**Wharram Farm,**	**97.10**	**42**	⇓P	**P**	**05 45 02.7**	**-0.6**
	baz=97						
F18A	**Big Timber**	**97.21**	**44**	⇑P	**P**	**05 45 03.9**	**0.0**
	baz=97						
E18A	**Harlowton**	**97.30**	**43**	⇓P	**P**	**05 45 04.3**	**+0.1**
	baz=97						
RWWY	**Rawlins**	**97.60**	**49**	*e*P	**P**	**05 45 05.4**	**-0.3**
	comp=Z,18nm,1.2s,mb5.3						
EGMT	**Eagleton**	**97.87**	**42**	⇓P	**P**	**05 45 06.5**	**-0.3**
	baz=98						
YKA	**Yellowknife Ar**	**100.13**	**27**	P	Pdif	05 45 15.5	-1.4
	comp=Z,13nm,0.6s,baz=256,slow=4.8,SNR=24						
YKA	**Yellowknife Ar**	**100.13**	**27**	P	Pdif	05 45 15.5	-1.4
MKAR	**Makanchi Array**	**101.05**	**316**	P	Pdif	05 45 20.9	0.0
	comp=Z,5.8nm,0.6s,baz=96,slow=6.0,SNR=36						
MKAR				PP	PP	05 49 29.0	-3.5
	comp=Z,2.5nm,1.0s,baz=111,slow=6.6,SNR=4.2						
MKAR				PKKPbc	PKKPbc	06 01 29.2	-3.8
	comp=Z,0.3nm,0.4s,baz=273,slow=4.7,SNR=5.2						
MKAR	**Makanchi Array**	**101.05**	**316**	P	Pdif	05 45 21.0	0.0
MKAR						05 49 29.0	
ZAA0	**Zalesovo Array**	**101.39**	**323**	*e*Pdif	Pdif	05 45 20.8	-1.7
ZALV	**Zalesovo Beam**	**101.39**	**323**	P	Pdif	05 45 21.1	-1.4
	comp=Z,2.4nm,0.7s,baz=114,slow=3.7,SNR=9.4						
UCH	**Uchtor**	**105.44**	**310**	*e*PKPdf	PKiKP	05 49 53.8	+0.7
UCH				*e*PP	PP	05 50 04.4	-0.9
PARMO	**Parma**	**109.66**	**57**	*e*Pdif	Pdif	05 45 55.5	-3.7
LPAZ	**La Paz**	**114.00**	**118**	PKiKP	PKiKP	05 50 09.8	-0.2
	comp=Z,1.6nm,0.9s,baz=57,slow=1.2,SNR=5.1						
LPAZ				PKKPbc	PKKPbc	06 00 50.5	-1.1
	comp=Z,1.3nm,0.8s,baz=219,slow=3.2,SNR=4.8						
ARU	**Arti**	**116.51**	**324**	*i* PKIKP	PKPdf	05 50 11.7	-1.9
ARU						05 51 21.6	

Sta	Name	Dist	Az	Phase	ID	Time	Res
ARU						05 56 40.1	
ARU	**Arti**	**116.51**	**324**	ePKPdf	PKPdf	05 50 11.2	-2.5
CPUP	**Villa Florida**	**116.68**	**133**	PKP	PKPdf	05 50 13.2	-1.8
	comp=Z,1.5nm,0.6s,baz=118,slow=3.2,SNR=4.1						
AKTK	**Aktyubinsk**	**117.37**	**318**	PKP	PKPdf	05 50 14.4	-1.0
AKTO	**Aktyubinsk**	**117.37**	**318**	PKP	PKPdf	05 50 14.4	-1.0
	comp=Z,11nm,0.8s,baz=95,slow=3.8,SNR=26						
SIV	**San Ignacio**	**119.97**	**122**	PKP	PKPdf	05 50 19.8	-1.7
	comp=Z,2.5nm,0.7s,baz=212,slow=1.2,SNR=15						
SIV				PKKPbc	PKKPbc	06 00 29.5	-1.2
	comp=Z,1.6nm,0.8s,baz=61,slow=5.5,SNR=7.0						
BOSA	**Boshof**	**121.50**	**218**	PKP	PKPdf	05 50 24.1	-0.1
	comp=Z,7.0nm,0.7s,baz=63,slow=3.2,SNR=12						
BOSA				PKKPbc	PKKPbc	06 00 22.4	-3.1
	comp=Z,3.9nm,0.6s,baz=297,slow=0.9,SNR=8.1						
BOSA	**Boshof**	**121.50**	**218**	PKP	PKPdf	05 50 24.1	-0.1
BOSA				PKKPbc	PKKPbc	06 00 22.4	-3.1
DAG	**Danmarks Havn**	**121.57**	**2**	⇑iPKIKP	PKPdf	05 50 20.7	-2.2
DAG				pmax	pmax		
	comp=Z,2.0nm,0.5s						
DAG	**Danmarks Havn**	**121.57**	**2**	⇑iP	PKPdf	05 50 20.7	-2.2
	comp=Z,2.1nm,0.5s						
MDV	**Middlebury**	**122.55**	**49**	ePKPdf	PKPdf	05 50 23.7	-2.0
KEV	**Kevo**	**123.78**	**345**	ep	PKPdf	05 50 25.2	-2.0
	comp=Z,1.6nm,0.5s						
KEV	**Kevo**	**123.78**	**345**	ePKIKP	PKPdf	05 50 25.2	-2.0
KEV				pmax	pmax		
	comp=Z,2.0nm,0.5s						
ARCES	**ARCESS Array B**	**124.30**	**345**	PKP	PKPdf	05 50 27.2	-1.1
	comp=Z,13nm,0.5s,baz=70,slow=1.5,SNR=107						
ARCES				PKKPbc	PKKPbc	06 00 12.2	-3.2
	comp=Z,3.8nm,0.9s,baz=191,slow=5.8,SNR=3.7						
ARCES	**ARCESS Array B**	**124.30**	**345**	PKP	PKPdf	05 50 27.2	-1.1
ARCES				PKKPbc	PKKPbc	06 00 12.2	-3.2
ARE0	**ARCESS Array S**	**124.30**	**345**	ePKPdf	PKPdf	05 50 27.0	-1.3
UMR	**Umm Al-Rimmam**	**125.74**	**293**	eP	PKPdf	05 50 31.5	-0.7
	baz=294						
UMR				AMb	AMB	05 50 32.8	
	comp=Z,101nm,1.0s,baz=294						
MIB	**Mutribah**	**126.07**	**294**	eP	PKPdf	05 50 31.9	-0.9
	baz=294						
MIB				AMb	AMB	05 50 33.8	
	comp=Z,73nm,1.0s,baz=294						
NAY	**Al-Naaiem**	**126.14**	**293**	eP	PKPdf	05 50 31.7	-1.3
	baz=293						
NAY				AMb	AMB	05 50 33.2	
	comp=Z,28nm,1.1s,baz=293						
RST	**Umm Al-Ruwaisa**	**126.36**	**293**	eP	PKPdf	05 50 32.2	-1.2
	baz=293						
RST				AMb	AMB	05 50 33.6	
	comp=Z,97nm,0.9s,baz=293						
JOF	**Joensuu**	**126.98**	**337**	ep	PKPdf	05 50 32.4	-1.2
	comp=Z,0.8nm,0.4s						
JOF	**Joensuu**	**126.98**	**337**	ePKIKP	PKPdf	05 50 32.4	-1.2
JOF				pmax	pmax		
	comp=Z,1.0nm,0.4s						
GNI	**Garni**	**127.73**	**307**	PKP	PKPdf	05 50 34.2	-1.5
	comp=Z,3.9nm,0.4s,baz=84,slow=21,SNR=5.7						
GNI	**Garni**	**127.73**	**307**	⇑iPKIKP	PKPdf	05 50 34.9	-0.8
SJG	**San Juan**	**127.83**	**81**	ePKIKP	PKPdf	05 50 34.5	-2.0
KIV	**Kislovodsk**	**128.61**	**312**	⇑iPKIKP	PKPdf	05 50 36.2	-1.0
KIV	**Kislovodsk**	**128.61**	**312**	⇑ePKP	PKPdf	05 50 36.3	-0.9
KMBO	**Kilima Mbogo**	**128.72**	**253**	PKP	PKPdf	05 50 38.4	0.0
	comp=Z,2.5nm,0.3s,baz=83,slow=24,SNR=8.4						
KMBO	**Kilima Mbogo**	**128.72**	**253**	ePKPdf	PKPdf	05 50 39.8	+1.4
OBN	**Obninsk**	**128.75**	**327**	⇑iPKIKP	PKPdf	05 50 33.3	-3.9
OBN				pmax	pmax		
	comp=Z,10.0nm,0.5s						
OBN				pmax	pmax		
	comp=Z,65nm,1.8s						
OBN	**Obninsk**	**128.75**	**327**	i PKP	PKPdf	05 50 35.0	-2.2
VSR	**Storozhevoye**	**128.87**	**322**	ePKIKP	PKPdf	05 50 36.7	-0.8
VSR				pmax	pmax		
	comp=N,5.0nm,0.4s						
VSR				pmax	pmax		
	comp=Z,2.0nm,0.4s						
VSR				pmax	pmax		
	comp=E,5.0nm,0.3s						
KAF	**Kangasniemi**	**129.29**	**338**	ep	PKPdf	05 50 36.7	-1.3
	comp=E,1.5nm,0.4s						
KAF	**Kangasniemi**	**129.29**	**338**	ePKIKP	PKPdf	05 50 36.7	-1.3
KAF				pmax	pmax		
	comp=Z,2.0nm,0.4s						
ARTV	**Artvin**	**129.69**	**308**	i P	PKPdf	05 50 39.2	-0.2
DDEM	**Demirkent**	**129.87**	**308**	i P	PKPdf	05 50 37.2	-2.5
DBAD	**Bademkaya**	**129.89**	**308**	i P	PKPdf	05 50 38.0	-1.8
BDFB	**Brasilia**	**130.21**	**131**	PKP	PKPdf	05 50 40.0	-1.2
	comp=Z,5.2nm,0.8s,baz=23,slow=22,SNR=12						
BDFB				SKPbc	SKPbc	05 53 45.0	+1.0
	comp=Z,4.0nm,0.8s,baz=207,slow=12,SNR=9.8						
TSUM	**Tsumeb**	**133.18**	**218**	ePKPdf	PKPdf	05 50 46.9	+0.2
GZT	**Gaziantep**	**133.70**	**304**	i P	PKPdf	05 50 45.6	-1.5
NB2	**NORSAR Subarra**	**134.68**	**345**	PKPdf	PKPdf	05 50 47.8	-0.4
	comp=Z,2.1nm,0.6s,baz=31,slow=1.9						
NOA	**NORSAR Array B**	**134.68**	**345**	PKP	PKPdf	05 50 47.7	-0.5
	comp=Z,2.7nm,0.6s,baz=30,slow=2.0,SNR=7.1						
NOA				PP	PP	05 53 23.2	-0.5
	comp=Z,0.9nm,0.8s,baz=29,slow=5.6,SNR=3.0						
NOA				SKPbc	SKPbc	05 53 57.8	-0.3
	comp=Z,2.6nm,0.9s,baz=32,slow=2.8,SNR=3.9						
NOA				SKKPbc		06 03 10.5	
	comp=Z,2.7nm,0.9s,baz=208,slow=4.9,SNR=3.8						
NOA	**NORSAR Array B**	**134.68**	**345**	PKIKP	PKPdf	05 50 47.7	-0.5
NOA						05 53 23.3	
AKASG	**Malin Array Be**	**134.76**	**325**	PKP	PKPdf	05 50 46.8	-1.9
	comp=Z,4.9nm,0.7s,baz=60,slow=2.0,SNR=14						
AKASG				PP	PP	05 53 23.6	-1.3
	comp=Z,0.2nm,0.3s,baz=61,slow=7.9,SNR=4.9						
AKASG				SKPbc	SKPbc	05 53 58.5	-0.2
	comp=Z,7.3nm,0.8s,baz=46,slow=3.4,SNR=12						
AKASG	**Malin Array Be**	**134.76**	**325**	PKIKP	PKPdf	05 50 46.8	-1.8
AKASG						05 53 23.6	
AKBB	**Malin Array Si**	**134.76**	**325**	ePKIKP	PKPdf	05 50 47.1	-1.5
HFS	**Hagfors**	**134.80**	**343**	PKhKP		05 50 40.0	
	comp=Z,1.5nm,0.7s,baz=87,slow=6.2,SNR=5.5						
HFS				PKP	PKPdf	05 50 47.2	-1.2
	comp=Z,1.3nm,0.5s,baz=96,slow=4.6,SNR=7.3						
HFS				PP	PP	05 53 19.0	-5.5
	comp=Z,6.0nm,1.1s,baz=186,slow=10,SNR=3.8						
HFS				SKPbc	SKPbc	05 53 59.6	+1.2
	comp=Z,3.9nm,0.7s,baz=90,slow=3.0,SNR=4.5						
HFS	**Hagfors**	**134.80**	**343**	PKP	PKPdf	05 50 47.2	-1.2
HFS				PP	PP	05 53 19.0	-5.5
HFS				SKPbc	SKPbc	05 53 59.6	+1.2
ASF	**Jabal al Asfar**	**134.96**	**297**	PKP	PKPdf	05 50 49.0	-0.7
	comp=Z,4.6nm,0.7s,baz=297,slow=2.5,SNR=10						
ASF				SKPbc	SKPbc	05 54 01.8	+1.9
	comp=Z,8.2nm,1.0s,baz=170,slow=1.0,SNR=11						
MMAI	**Mount Meron Ar**	**136.12**	**299**	PKP	PKPdf	05 50 50.9	-0.8
	comp=Z,3.9nm,0.5s,baz=56,slow=3.1,SNR=8.7						
MMAI				SKPbc	SKPbc	05 54 05.3	+1.8
	comp=Z,31nm,1.0s,baz=55,slow=4.4,SNR=18						
BR131	**Keskin Array S**	**136.18**	**308**	ePKPdf	PKPdf	05 50 49.3	-2.4
BR131				ePP	PP	05 53 34.4	+0.1
MEST	**Erdemli**	**136.54**	**304**	i P	PKPdf	05 50 52.2	-0.2
EIL	**Elat**	**136.84**	**294**	PKP	PKPdf	05 50 52.6	-0.5
	comp=Z,8.7nm,0.7s,baz=82,slow=2.7,SNR=6.6						
EIL				SKPbc	SKPbc	05 54 07.6	+1.8
	comp=Z,11nm,1.1s,baz=134,slow=3.6,SNR=6.6						
BUR08	**Bucovina Ar. S**	**138.60**	**323**	ePKPdf	PKPdf	05 50 55.5	-0.4
BURAR	**Bucovina Array**	**138.61**	**323**	⇑iP	PKPdf	05 50 55.8	-0.1
BURAR	**Bucovina Array**	**138.61**	**323**	⇑P	PKPdf	05 50 55.8	-0.1
PLOR	**Plostina**	**138.65**	**320**	⇑iP	PKPdf	05 50 50.1	-5.9
MLR	**Muntele Rosu**	**139.26**	**320**	PKhKP		05 50 48.7	
	comp=Z,2.9nm,0.9s,baz=196,slow=10,SNR=3.7						
MLR				PKP	PKPdf	05 50 56.8	-0.3
	comp=Z,5.8nm,0.7s,baz=187,slow=4.2,SNR=6.8						
MLR				SKPbc	SKPbc	05 54 12.5	+0.4
	comp=Z,6.0nm,1.0s,baz=74,slow=5.4,SNR=4.5						
MLR	**Muntele Rosu**	**139.26**	**320**	⇓iP	PKPdf	05 50 49.6	-7.5
MLR	**Muntele Rosu**	**139.26**	**320**	PKP	PKPdf	05 50 56.8	-0.3
MLR				SKPbc	SKPbc	05 54 12.5	+0.4
KOLS	**Kolonicke sedl**	**139.49**	**326**	ePKP	PKPdf	05 50 53.1	-4.3
KOLS				e		05 50 59.0	
KOLS				ePP	PP	05 53 46.5	-7.6
KOLS				eSKP		05 54 17.5	
KOLS	**Kolonicke sedl**	**139.49**	**326**	ePKP	PKPdf	05 50 53.1	-4.3
KOLS				e		05 50 59.0	
UZH	**Uzhgorod**	**139.66**	**326**	ePKHKP		05 50 47.0	
STHS	**Stebnicka Huta**	**139.73**	**327**	ePKP	PKPdf	05 50 51.5	-6.4
STHS				e		05 51 00.0	
STHS				ePP	PP	05 53 45.4	-10
STHS				eSKP		05 54 13.9	
VOIR		**139.83**	**320**	⇓iP	PKPdf	05 50 52.2	-6.0
CRVS	**Cervenica-Dubn**	**139.94**	**327**	ePKP	PKPdf	05 50 54.0	-4.2

Sta	Name	Dist	Az	Phase	ID	Time	Res
OJC	**Ojcow**	**139.94**	**329**	ePKIKP	PKPdf	05 50 59.9	+1.7
DRGR		**140.49**	**323**	⇑iP	PKPdf	05 50 56.1	-3.2
DRGR		**140.49**	**323**	⇑P	PKPdf	05 50 56.1	-3.2
BSEG	**Bad Segeberg**	**141.00**	**340**	ePKPbc	PKPdf	05 50 54.0	-6.0
KSP	**Ksiaz**	**141.13**	**332**	ePKHKP		05 50 54.4	
GZR	**Gura Zlata**	**141.22**	**321**	⇑iP	PKPdf	05 50 56.2	-4.5
GZR	**Gura Zlata**	**141.22**	**321**	⇑P	PKPdf	05 50 56.2	-4.5
MORC	**Moravsky Berou**	**141.31**	**330**	ePKHKP		05 50 54.2	
PSZ	**Piszkesteto**	**141.36**	**326**	⇑ePKP	PKPdf	05 50 53.0	-7.9
PSZ	**Piszkesteto**	**141.36**	**326**	⇑iP	PKPdf	05 50 56.3	-4.6
PSZ	**Piszkesteto**	**141.36**	**326**	ePKPdf	PKPdf	05 50 55.9	-5.0
DPC	**Dobruska-Polom**	**141.47**	**332**	ePKP	PKPdf	05 50 54.2	-6.8
UPC	**Upice**	**141.50**	**332**	ePKP	PKPdf	05 50 55.5	-5.5
VYHS	**Vyhne**	**141.54**	**328**	ePKP	PKPdf	05 50 56.2	-5.0
KOLL	**Kolacno**	**141.70**	**328**	ePKP	PKPdf	05 50 56.0	-5.4
BZS	**Buzias**	**141.78**	**322**	⇑iP	PKPdf	05 50 57.4	-4.3
BZS	**Buzias**	**141.78**	**322**	⇑P	PKPdf	05 50 57.4	-4.3
VRAC	**Vranov**	**142.08**	**330**	PKhKP		05 50 56.4	
	comp=Z,3.7nm,0.4s,baz=42,slow=1.5,SNR=7.1						
VRAC	**Vranov**	**142.08**	**330**	⇓iP	PKPdf	05 50 57.9	-4.2
VRAC	**Vranov**	**142.08**	**330**	⇓P	PKPdf	05 50 57.9	-4.2
PVCC	**Panska Ves**	**142.11**	**333**	ePKP	PKPdf	05 50 57.3	-4.8
BRG	**Berggiesshubel**	**142.11**	**334**	ePKP	PKPdf	05 50 57.1	-5.0
	comp=Z,14nm,1.3s						
BRG				i		05 52 58.9	
	comp=Z,7.5nm,0.9s						
BRG				e		05 54 19.5	
	comp=Z,16nm,1.3s						
ESY	**Stoneypath**	**142.11**	**352**	eP	PKPdf	05 50 58.0	-3.9
CLL	**Collm**	**142.16**	**335**	⇓iPKHKP		05 50 57.1	
CLL				i		05 51 01.0	
CLL				pmax	pmax		
	comp=Z,14nm,0.9s						
CLL				pmax	pmax		
	comp=Z,19nm,1.0s						
CLL	**Collm**	**142.16**	**335**	ePKPbc	PKPdf	05 50 57.4	-4.8
CLL				ePP	PP	05 54 16.2	+6.2
CLL	**Collm**	**142.16**	**335**	⇓iPKPpre		05 50 57.1	
	comp=Z,14nm,0.9s						
CLL				i PKPdf	PKPdf	05 51 01.0	-1.2
	comp=Z,19nm,1.0s						
CLL				i PKiKP	PKiKP	05 51 04.7	-0.5
CLL				eSKPdf	SKPdf	05 54 16.0	-0.4
CLL	**Collm**	**142.16**	**335**	⇓iPKP		05 50 57.1	
CLL				i PKP	PKPdf	05 51 01.0	-1.2
CLL				i PKPdf	PKPdf	05 51 04.7	+2.5
FBE	**Freiberg**	**142.31**	**335**	ePKPbc	PKPdf	05 50 58.8	-3.7
VTS	**Vitosha**	**142.39**	**317**	⇓iP	PKPdf	05 51 00.2	-2.7
VTS	**Vitosha**	**142.39**	**317**	⇓P	PKPdf	05 51 00.2	-2.7
MODS	**Modra-Piesok**	**142.40**	**329**	ePKP	PKPdf	05 50 59.3	-3.4
MODS				ePP	PP	05 54 08.7	-3.0
PRU	**Pruhonice**	**142.52**	**333**	ePKP	PKPdf	05 50 58.4	-4.4
TREC	**Trest**	**142.60**	**331**	ePKP	PKPdf	05 50 58.4	-4.6
ZST	**Bratislava**	**142.60**	**329**	ePKP	PKPdf	05 50 59.2	-3.9
CLZ	**Clausthal**	**142.71**	**338**	ePKPbc	PKPdf	05 50 59.9	-3.2
EKA	**Eskdalemuir Ar**	**142.75**	**353**	PKhKP		05 50 58.1	
	comp=Z,5.9nm,0.6s,baz=339,slow=2.8,SNR=20						
EKA				SKKPbc		06 02 36.2	
	comp=Z,4.1nm,1.0s,baz=190,slow=4.2,SNR=4.2						
TANN	**Tannenbergstha**	**143.07**	**335**	ePKPbc	PKPdf	05 51 00.3	-3.5
PKSM	**Moragy**	**143.10**	**325**	⇑iP	PKPdf	05 51 00.2	-3.8
PKSM	**Moragy**	**143.10**	**325**	⇑P	PKPdf	05 51 00.1	-3.8
WERD	**Werda**	**143.10**	**335**	ePKPbc	PKPdf	05 51 00.4	-3.5
GUNZ	**Gunzen**	**143.16**	**335**	ePKPbc	PKPdf	05 51 00.9	-3.1
IBBN	**Ibbenburen**	**143.19**	**341**	ePKPbc	PKPdf	05 51 00.9	-3.1
WERN	**Wernitzgruen**	**143.20**	**335**	ePKPbc	PKPdf	05 51 01.0	-3.0
NKC	**Novy Kostel**	**143.21**	**335**	ePKP	PKPdf	05 51 01.0	-3.1
MOX	**Moxa**	**143.22**	**336**	ePKP	PKPdf	05 51 00.9	-3.2
	comp=Z,91nm,1.4s						
MOX	**Moxa**	**143.22**	**336**	ePKIKP	PKPdf	05 51 00.9	-3.2
MOX				pmax	pmax		
	comp=Z,91nm,1.4s						
MOX	**Moxa**	**143.22**	**336**	ePKPbc	PKPdf	05 51 00.7	-3.4
MOX				ePP	PP	05 54 22.2	+5.8
KNT	**Kendrikon**	**143.27**	**315**	P	PKPdf	05 51 00.3	-4.2
SANT	**Santorini**	**143.34**	**307**	ePKPdf	PKPdf	05 51 00.8	-3.9
GAL1	**Galloway**	**143.38**	**354**	eP	PKPdf	05 51 00.6	-3.6
GAL1				AMb	AMB	05 51 02.7	
	comp=Z,58nm,2.3s						
THR6	**Thira Island,**	**143.39**	**307**	P	PKPdf	05 51 00.8	-4.0
CONA	**Conrad Observa**	**143.39**	**329**	⇑iPKPdf	PKPdf	05 51 02.2	-2.3
	comp=Z,73nm,0.9s,SNR=48						
CSNA	**Conrad Observa**	**143.40**	**329**	⇑iPKPdf	PKPdf	05 51 01.7	-2.8
	comp=Z,91nm,1.1s						
VAY	**Valandovo**	**143.42**	**316**	P	PKPdf	05 51 00.9	-3.8
VAY	**Valandovo**	**143.42**	**316**	ePKP	PKPdf	05 51 00.4	-4.3
STIP	**Stip**	**143.49**	**316**	ePKP	PKPdf	05 51 00.9	-3.9
MANZ	**Manzenberg**	**143.54**	**335**	ePKPbc	PKPdf	05 51 02.0	-2.6
MANZ				ePP	PP	05 54 23.2	+4.8
KHC	**Kasperske Hory**	**143.58**	**333**	ePKP	PKPdf	05 51 01.5	-3.2
KHC				ex	x	05 51 09.5	
DIVS	**Divibare**	**143.59**	**321**	P	PKPdf	05 51 02.6	-2.3
ROTZ	**Rotzenmuhle**	**143.67**	**334**	ePKPbc	PKPdf	05 51 02.7	-2.2
UBBA	**Unterbreizbach**	**143.69**	**337**	ePKPbc	PKPdf	05 51 02.2	-2.7
GRG	**Griva**	**143.70**	**315**	P	PKPdf	05 51 01.9	-3.3
LAST	**Lasithi**	**143.70**	**305**	P	PKPdf	05 51 03.1	-2.3
GEC2	**GERESS Array S**	**143.74**	**332**	ePKPbc	PKPdf	05 51 02.5	-2.5
GEC2				ePP	PP	05 54 23.4	+3.8
GERES	**GERESS Array B**	**143.74**	**332**	PKP	PKPdf	05 51 02.3	-2.7
	comp=Z,32nm,0.9s,baz=35,slow=3.3,SNR=106						
GERES				SKPbc	SKPbc	05 54 23.2	-0.2
	comp=Z,5.3nm,0.8s,baz=48,slow=2.0,SNR=9.9						
GERES				SKKPbc		06 02 32.2	
	comp=Z,0.5nm,0.3s,baz=212,slow=4.7,SNR=7.6						
GERES	**GERESS Array B**	**143.74**	**332**	PKIKP	PKPdf	05 51 02.3	-2.7
GERES						05 54 23.2	
WTSB	**Winterswijk**	**143.79**	**341**	ePKP	PKPdf	05 51 02.0	-3.0
	comp=Z,71nm,1.7s						
SKO	**Skopje**	**143.84**	**317**	ePKP	PKPdf	05 51 03.7	-1.8
WET	**Wettzell**	**143.87**	**333**	ePKPbc	PKPdf	05 51 03.1	-2.2
XOR	**Xorichti**	**143.87**	**312**	P	PKPdf	05 51 02.5	-3.1
ARSA	**Arzberg**	**144.03**	**329**	⇑iPKPdf	PKPdf	05 51 03.8	-1.8
	comp=Z,106nm,1.2s,SNR=28						
LIT	**Litokhoron**	**144.03**	**314**	P	PKPdf	05 51 03.1	-2.7
BUG	**Bochum--Univer**	**144.10**	**340**	ePKPbc	PKPdf	05 51 03.2	-2.4
IDI	**Anoyia**	**144.12**	**305**	PKP	PKPdf	05 51 04.0	-2.1
	comp=Z,43nm,0.5s,baz=26,slow=9.2,SNR=38						
IDI				SKPbc	SKPbc	05 54 25.4	+0.6
	comp=Z,10nm,0.9s,baz=198,slow=3.2,SNR=5.4						
GRF	**Grafenberg Arr**	**144.13**	**335**	ePKPbc	PKPdf	05 51 04.3	-1.4
MOA	**Molln**	**144.21**	**331**	⇓iPKPdf	PKPdf	05 51 04.2	-1.7
	comp=Z,214nm,1.1s,SNR=46						
KOGS	**Kog**	**144.21**	**327**	i PKPbc	PKPdf	05 51 04.3	-1.7
KRUS	**Krusevo**	**144.26**	**317**	ePKP	PKPdf	05 51 04.7	-1.5
SIVA	**Sivas**	**144.27**	**305**	P	PKPdf	05 51 05.1	-1.3
LHO	**Holmfirth**	**144.31**	**351**	⇑iP	PKPdf	05 51 03.5	-2.4
IVA	**Berane**	**144.33**	**320**	⇑iPKP	PKPdf	05 51 05.3	-1.0
PLE	**Pljevlja**	**144.38**	**321**	⇑iPKP	PKPdf	05 51 06.2	-0.1
BIA	**Bitola**	**144.39**	**316**	ePKP	PKPdf	05 51 04.8	-1.6
ABA1	**Baconsthorpe**	**144.40**	**347**	eP	PKPdf	05 51 04.2	-1.9
PVY	**Plav**	**144.44**	**319**	⇑iPKP	PKPdf	05 51 04.9	-1.6
FNA	**Florina**	**144.47**	**316**	P	PKPdf	05 51 04.4	-2.2
BCI	**Bajram Curri**	**144.50**	**319**	i PN	PKPdf	05 51 05.4	-1.2
DMUB	**Kingscourt**	**144.53**	**356**	⇑iP	PKPdf	05 51 04.5	-1.7
KBI1	**Birley Grange**	**144.54**	**350**	⇑iP	PKPdf	05 51 04.3	-2.0
LTK	**Loutraki**	**144.59**	**310**	P	PKPdf	05 51 03.5	-3.4
DID	**Didima**	**144.59**	**309**	P	PKPdf	05 51 04.2	-2.7
THL	**Klokotos Trika**	**144.60**	**313**	P	PKPdf	05 51 06.0	-0.8
AGG	**Agios Georgios**	**144.62**	**312**	P	PKPdf	05 51 04.6	-2.3
PHP	**Peshkopia**	**144.62**	**318**	ePN	PKPdf	05 51 05.8	-1.0
AEU	**East Anglia Un**	**144.63**	**347**	eP	PKPdf	05 51 04.6	-1.9
PERS	**Pernice**	**144.66**	**328**	i PKPbc	PKPdf	05 51 05.5	-1.2
SOKA	**Soboth**	**144.67**	**328**	⇑iPKPdf	PKPdf	05 51 05.7	-1.1
OHR	**Ohrid**	**144.69**	**316**	P	PKPdf	05 51 05.4	-1.5
OHR	**Ohrid**	**144.69**	**316**	ePKP	PKPdf	05 51 05.3	-1.6
TNS	**Taunus Mts**	**144.74**	**338**	ePKPbc	PKPdf	05 51 06.1	-0.6
UPM	**Unac-Piva**	**144.75**	**321**	⇑iPKP	PKPdf	05 51 05.9	-1.1
PUK	**Puka**	**144.78**	**318**	ePN	PKPdf	05 51 06.3	-0.8
SISC	**Sisak**	**144.79**	**326**	P	PKPdf	05 51 07.2	+0.2
STNC	**Stoke**	**144.81**	**351**	⇑eP	PKPdf	05 51 05.8	-1.0
STNC				AMb	AMB	05 51 06.7	
	comp=Z,286nm,0.8s						
KWE	**Weaver Farm**	**144.82**	**350**	⇑iP	PKPdf	05 51 05.5	-1.3
NKY	**Niksic**	**144.91**	**320**	⇑iPKP	PKPdf	05 51 06.6	-0.7
KBN	**Korca**	**144.94**	**316**	ePN	PKPdf	05 51 06.8	-0.6
RJOB	**Jochberg**	**144.97**	**332**	ePKPbc	PKPdf	05 51 06.7	-0.5
TTG	**Podgorica**	**144.97**	**319**	⇑iPKP	PKPdf	05 51 06.3	-1.1
CWF	**Charnwood Fore**	**145.00**	**350**	⇑eP	PKPbc	05 51 05.9	-1.0
CWF				AMb	AMB	05 51 06.8	
	comp=Z,190nm,0.8s						
OBKA	**Obir**	**145.03**	**329**	⇓iPKPdf	PKPdf	05 51 06.5	-0.8
	comp=Z,138nm,0.8s,SNR=18						

Sta	Name	Dist	Az	Phase	ID	Time	Res
QSH	**Qafa e Shtames**	**145.05**	**318**	ePN	PKPbc	05 51 08.5	+1.0
HGN	**Heimansgroeve**	**145.10**	**341**	ePKP	PKPdf	05 51 06.4	-0.9
	comp=Z,162nm,1.4s						
DLF	**Lyons Farm**	**145.10**	**355**	⇑iP	PKPbc	05 51 06.4	-0.8
DCN	**Croghan**	**145.11**	**356**	⇑iP	PKPbc	05 51 06.6	-0.6
TOD	**Tromm**	**145.12**	**337**	PKIKP	PKPdf	05 51 07.1	-0.3
BRY	**Bratogost**	**145.14**	**321**	⇑iPKP	PKPdf	05 51 06.1	-1.6
SBD1	**Bryn Du**	**145.14**	**352**	⇑iP	PKPdf	05 51 06.6	-0.7
BEBN	**Eben Emael**	**145.15**	**341**	PKP	PKPdf	05 51 06.9	-0.5
TIR	**Tirane**	**145.17**	**317**	P	PKPdf	05 51 07.4	-0.4
TIR	**Tirane**	**145.17**	**317**	ePN	PKPdf	05 51 07.6	-0.2
KBA	**Koelnbreinsper**	**145.20**	**330**	⇑iPKPab	PKPab	05 51 07.0	-1.0
	comp=Z,188nm,1.4s,SNR=24						
MEM	**Membach**	**145.22**	**341**	PKP	PKPdf	05 51 06.8	-0.7
ULC	**Ulcinj**	**145.23**	**319**	⇑iPKP	PKPdf	05 51 07.4	-0.4
BUM	**Brajici-Budva**	**145.26**	**320**	⇑iPKP	PKPdf	05 51 07.5	-0.4
VLX	**Vlachokerasia**	**145.28**	**310**	P	PKPdf	05 51 07.9	-0.2
FUR	**Furstenfeldbru**	**145.30**	**334**	ePKPbc	PKPbc	05 51 07.9	-0.1
ABH	**Alteburg**	**145.34**	**339**	PKP	PKPdf	05 51 07.8	0.0
BOJS	**Bojanci**	**145.36**	**327**	ePKPbc	PKPbc	05 51 08.4	+0.1
LJU	**Ljubljana**	**145.36**	**328**	i PKPbc	PKPbc	05 51 08.0	-0.3
MYKA	**Terra Mystica**	**145.38**	**330**	⇑iPKPab	PKPdf	05 51 07.3	-0.6
	comp=Z,654nm,1.7s						
HCY	**Herceg Novi**	**145.43**	**320**	⇑iPKP	PKPdf	05 51 06.2	-2.0
HLM1	**Long Mynd**	**145.46**	**351**	⇑eP	PKPdf	05 51 07.5	-0.4
UCC	**Uccle**	**145.53**	**343**	PKP	PKPdf	05 51 07.9	-0.2
KTD	**Kalmit**	**145.62**	**338**	PKP2	PKPab	05 51 08.5	-1.0
CADS	**Cadrg**	**145.62**	**329**	i PKPbc	PKPbc	05 51 07.8	-1.2
RUP	**Ruppelstein**	**145.66**	**339**	PKP2	PKPab	05 51 08.7	-1.0
STON	**Ston**	**145.66**	**321**	P	PKPdf	05 51 08.3	-0.3
STU	**Stuttgart**	**145.66**	**336**	ePKPbc	PKPbc	05 51 08.3	-0.8
STU	**Stuttgart**	**145.66**	**336**	ePKPbc	PKPbc	05 51 09.1	0.0
VOJS	**Vojsko**	**145.69**	**329**	ePKPbc	PKPbc	05 51 08.4	-0.8
IGT	**Igoumenitsa**	**145.77**	**314**	P	PKPdf	05 51 08.9	+0.1
WATA	**Walderalm**	**145.81**	**332**	⇑iPKPab	PKPdf	05 51 09.1	+0.4
	comp=Z,42nm,0.8s						
SNF	**Seneffe**	**145.82**	**343**	PKP	PKPdf	05 51 09.1	+0.6
SRN	**Sarande**	**145.82**	**315**	ePN	PKPdf	05 51 09.3	+0.4
ABTA	**Abfaltersbach**	**145.83**	**331**	⇑iPKPab	PKPdf	05 51 08.6	-0.1
	comp=Z,89nm,1.1s,SNR=21						
WTTA	**Wattenberg**	**145.84**	**332**	⇑iPKPab	PKPdf	05 51 09.3	+0.6
	comp=Z,158nm,1.5s,SNR=16						
PYL	**PYLOS**	**145.93**	**309**	P	PKPdf	05 51 09.0	-0.2
LKD	**Levkas**	**145.94**	**313**	P	PKPdf	05 51 10.0	+0.8
HTR	**Trewern Hill**	**145.95**	**351**	⇑iP	PKPdf	05 51 08.8	+0.1
MCH1	**Michaelchurch**	**145.99**	**351**	⇑eP	PKPdf	05 51 08.9	+0.1
MCH1				AMb	AMB	05 51 12.2	
	comp=Z,143nm,1.9s						
WLF	**Walferdange**	**145.99**	**340**	PKP	PKPbc	05 51 10.4	+0.3
WLF	**Walferdange**	**145.99**	**340**	ePKPbc	PKPbc	05 51 09.7	-0.3
WLF	**Walferdange**	**145.99**	**340**	ePKPbc	PKPbc	05 51 10.2	+0.2
LANF	**Langenberg**	**146.01**	**338**	PKP	PKPdf	05 51 09.6	+0.7
MOTA	**Moosalm**	**146.01**	**333**	⇑iPKPab	PKPdf	05 51 09.7	+0.7
	comp=Z,141nm,0.9s,SNR=46						
GIVF	**Givet**	**146.02**	**342**	⇑iPKP1	PKPbc	05 51 09.7	-0.4
	comp=Z,213nm,1.2s						
RETA	**Reutte**	**146.05**	**333**	⇑iPKPab	PKPab	05 51 09.8	-1.4
	comp=Z,76nm,1.0s,SNR=19						
DOU	**Dourbes**	**146.09**	**342**	PKP	PKPbc	05 51 10.0	-0.3
KFL	**Anninata**	**146.11**	**312**	P	PKPbc	05 51 11.1	+0.3
NVLJ	**Novalja**	**146.19**	**326**	P	PKPdf	05 51 09.8	+0.4
VLS	**Valsamata**	**146.22**	**312**	P	PKPdf	05 51 10.1	+0.4
BAIF	**Baives**	**146.24**	**342**	⇑iPKP1	PKPbc	05 51 10.4	-0.4
	comp=Z,176nm,1.0s						
SWN1	**Swindon**	**146.27**	**350**	⇑eP	PKPdf	05 51 10.2	+0.9
SWN1				AMb	AMB	05 51 11.4	
	comp=Z,373nm,1.2s						
HGH	**Gray Hill**	**146.31**	**351**	⇑iP	PKPdf	05 51 09.5	+0.2
MENF	**Mencas**	**146.34**	**345**	PKP	PKPdf	05 51 09.9	+0.5
STR	**Strasbourg**	**146.35**	**337**	PKP	PKPbc	05 51 11.2	+0.1
BFO	**Black Forest**	**146.35**	**336**	ePKPbc	PKPbc	05 51 10.2	-0.9
WOL	**Wolverton**	**146.36**	**349**	⇑eP	PKPdf	05 51 10.2	+0.8
WOL				AMb	AMB	05 51 13.5	
	comp=Z,227nm,1.6s						
SPAK	**Spaichingen-Ko**	**146.37**	**336**	PKP	PKPdf	05 51 10.4	+0.8
FETA	**Feichten**	**146.42**	**333**	i PKPab	PKPbc	05 51 11.3	-0.1
	comp=Z,130nm,1.1s,SNR=40						
DAVA	**Damuels**	**146.58**	**334**	⇑iPKPab	PKPbc	05 51 11.3	-0.5
	comp=Z,187nm,1.2s,SNR=33						
CDF	**Champ du Feu**	**146.68**	**338**	⇑iPKP1	PKPbc	05 51 11.7	-0.4
	comp=Z,268nm,1.0s						
LIBD	**Limburg**	**146.78**	**337**	PKP2	PKPbc	05 51 11.5	-0.8
FELD	**Feldberg im Sc**	**146.85**	**336**	PKP	PKPbc	05 51 11.8	-0.8
ECH	**Echery**	**146.88**	**338**	PKP	PKPbc	05 51 11.7	-0.9
ECH	**Echery**	**146.88**	**338**	ePKPbc	PKPbc	05 51 11.9	-0.7
DAVOX	**Davos/Dischmat**	**146.98**	**333**	PKPbc	PKPbc	05 51 13.0	+0.1
	comp=Z,88nm,0.7s,baz=37,slow=0.9,SNR=86						
HTL	**Hartland**	**147.17**	**352**	eP	PKPbc	05 51 12.6	-0.7
HTL				AMb	AMB	05 51 13.9	
	comp=Z,3.1nm,1.7s						
MOF	**Molkenrain**	**147.20**	**337**	PKP	PKPbc	05 51 12.7	-0.8
THEF	**They Montfort**	**147.29**	**339**	PKP	PKPbc	05 51 13.0	-0.8
HINF	**Hinteralfeld**	**147.33**	**337**	⇑iPKP1	PKPbc	05 51 13.1	-0.8
	comp=Z,137nm,1.2s						
HAU	**Haudompre**	**147.35**	**338**	⇑iPKP1	PKPbc	05 51 13.4	-0.5
	comp=Z,161nm,1.1s						
MEZF	**Maizieres J'vi**	**147.36**	**340**	⇑iPKP1	PKPbc	05 51 13.9	0.0
	comp=Z,219nm,0.9s						
BBS	**Basel-Blauen**	**147.38**	**336**	PKP2	PKPbc	05 51 13.2	-0.8
TUE	**Stuetta**	**147.45**	**333**	ePKPdf	PKPdf	05 51 10.7	-0.8
TUE				ePKPbc	PKPbc	05 51 14.3	0.0
LOMF	**Lomont**	**147.73**	**337**	PKP	PKPbc	05 51 14.4	-0.6
CUC	**Castrocucco**	**148.49**	**318**	ePKPbc	PKPbc	05 51 15.7	-1.5
JLP	**Les Platons**	**148.50**	**349**	eP	PKPbc	05 51 15.8	-1.1
JQE	**Queens East**	**148.53**	**349**	eP	PKPbc	05 51 16.0	-1.0
JSA	**Saint Aubin**	**148.57**	**349**	⇑eP	PKPbc	05 51 16.1	-1.0
JSA				AMb	AMB	05 51 22.0	
	comp=Z,137nm,1.7s						
CABF	**La Chapelle**	**148.63**	**337**	⇑iPKP1	PKPbc	05 51 17.3	0.0
	comp=Z,208nm,0.9s						
FLN	**La Foliniere**	**148.63**	**347**	⇑iPKP1	PKPbc	05 51 16.4	-0.9
	comp=Z,126nm,0.7s						
LDF	**La Druitiere**	**148.71**	**346**	⇑iPKP1	PKPbc	05 51 16.5	-1.0
	comp=Z,85nm,0.8s						
VLC	**Villacollemand**	**148.75**	**330**	ePKPbc	PKPbc	05 51 16.5	-1.2
LOR	**Lormes**	**148.83**	**340**	⇑iPKP1	PKPbc	05 51 17.3	-0.5
	comp=Z,242nm,1.1s						
GRR	**Gorron**	**149.07**	**347**	⇑iPKP1	PKPbc	05 51 17.7	-0.7
SSF	**Saint Saulge**	**149.12**	**340**	⇑iPKP1	PKPbc	05 51 18.1	-0.5
	comp=Z,243nm,1.1s						
HYF	**Humbligny**	**149.21**	**342**	⇑iPKP1	PKPbc	05 51 18.6	-0.1
LPL	**La Plagne**	**149.29**	**335**	⇑iPKP1	PKPbc	05 51 19.1	+0.1
	comp=Z,125nm,1.0s						
LPG	**La Plagne**	**149.30**	**335**	⇑iPKP1	PKPbc	05 51 19.2	+0.2
	comp=Z,152nm,1.0s						
SMF	**Signal de Mont**	**149.38**	**340**	⇑iPKP1	PKPbc	05 51 18.5	-0.7
	comp=Z,116nm,1.1s						
AVF	**Avril sur Loir**	**149.41**	**340**	⇑iPKP1	PKPbc	05 51 18.5	-0.8
	comp=Z,74nm,1.0s						
SGMF	**Saint Gilles**	**149.54**	**349**	⇑iPKP1	PKPbc	05 51 18.5	-1.0
	comp=Z,145nm,1.0s						
ROSF	**Rostrenen**	**149.59**	**350**	⇑iPKP1	PKPbc	05 51 18.6	-1.0
	comp=Z,84nm,1.0s						
BNI	**Bardonecchia**	**149.70**	**335**	ePKPdf	PKPdf	05 51 14.5	-0.6
BNI				ePKPbc	PKPbc	05 51 19.9	-0.2
BGF	**Bois d'Agland**	**149.78**	**341**	⇑iPKP1	PKPbc	05 51 19.5	-0.7
	comp=Z,119nm,0.9s						
GDM	**Grand'Maison**	**149.80**	**336**	PKP	PKPbc	05 51 20.0	-0.3
GRN	**Grenoble**	**149.91**	**336**	PKP	PKPbc	05 51 20.5	0.0
MBDF	**Montbardon**	**149.93**	**334**	⇑iPKP1	PKPbc	05 51 20.0	-0.6
	comp=Z,70nm,0.9s						
QUIF	**Quistinic**	**149.97**	**349**	⇑iPKP1	PKPbc	05 51 19.4	-1.2
	comp=Z,47nm,0.7s						
PLDF	**La Plantade**	**150.05**	**339**	PKP	PKPbc	05 51 20.6	-0.2
SURF	**Saint Ours**	**150.11**	**334**	PKP	PKPbc	05 51 21.2	+0.2
ORIF	**Oris-en-Rattie**	**150.13**	**336**	⇑iPKP1	PKPbc	05 51 20.6	-0.5
	comp=Z,111nm,0.9s						
AGO	**Saint Agoulin**	**150.14**	**340**	PKP	PKPbc	05 51 20.3	-0.7
SAOF	**Saorge**	**150.19**	**332**	PKP	PKPbc	05 51 20.0	-1.2
TCF	**Toulx Ste Croi**	**150.22**	**341**	⇑iPKP1	PKPbc	05 51 20.5	-0.7
	comp=Z,182nm,1.2s						
AUTN	**L'Aution**	**150.24**	**333**	PKP	PKPbc	05 51 20.9	-0.5
TOUF	**Mont Tournerai**	**150.30**	**333**	PKP	PKPbc	05 51 20.6	-0.9
SSB	**Saint Sauveur**	**150.33**	**338**	PKP	PKPbc	05 51 21.1	-0.4
SSB	**Saint Sauveur**	**150.33**	**338**	ePKPdf	PKPdf	05 51 15.7	-0.5
SSB				ePKPbc	PKPbc	05 51 21.2	-0.3
SSB				ePKPab	PKPab	05 51 28.7	+0.2
SBF	**Sospel**	**150.34**	**332**	⇑iPKP1	PKPbc	05 51 20.6	-1.0
	comp=Z,262nm,1.1s						
LUCF	**Luceram**	**150.35**	**333**	PKP	PKPbc	05 51 20.6	-1.0
MVIF	**Mont Vial**	**150.44**	**333**	PKP	PKPbc	05 51 21.0	-0.8
PYM	**Petit Puy Mans**	**150.44**	**340**	PKP	PKPbc	05 51 20.8	-1.0
REVF	**Revere**	**150.47**	**332**	PKP	PKPbc	05 51 20.5	-1.4

MFF	**Saint Martin d**	**150.58**	**345**	⇑*i*PKP1	PKPbc	05 51 21.3	-0.8
	comp=Z,79nm,0.8s							
PGF	**Pioggiola**	**150.63**	**329**	⇑*i*PKP1	PKPbc	05 51 21.7	-0.6
	comp=Z,412nm,0.9s							
VIVF	**Saint-Julien-l**	**150.64**	**337**	⇑*i*PKP1	PKPbc	05 51 21.7	-0.6
	comp=Z,133nm,1.1s							
CALN	**Calern**	**150.66**	**333**	PKP	PKPbc	05 51 21.3	-1.1
CORF	**Corte**	**150.74**	**328**	PKP	PKPbc	05 51 21.7	-0.9
VAE	**Valguarnera**	**150.81**	**316**	PKPab	PKPab	05 51 28.8	-2.0
	comp=Z,67nm,0.8s,baz=356,slow=7.4,SNR=12							
LBL	**Lubilhac**	**150.82**	**339**	PKP	PKPbc	05 51 21.9	-0.8
STOF	**St-Etienne Org**	**150.88**	**334**	PKP	PKPbc	05 51 22.4	-0.5
FRNF	**Fournols**	**150.91**	**340**	PKP	PKPbc	05 51 22.8	-0.1
FRF	**La Foret Royal**	**150.92**	**333**	⇑*i*PKP1	PKPbc	05 51 22.0	-1.0
	comp=Z,206nm,1.2s							
SMRF	**Simiane la Rot**	**151.03**	**335**	⇑*i*PKP1	PKPbc	05 51 23.0	-0.2
	comp=Z,161nm,1.0s							
TAVF	**Tavernes**	**151.13**	**334**	PKP	PKPbc	05 51 22.2	-1.3
LMR	**La Mourre**	**151.16**	**333**	⇑*i*PKP1	PKPbc	05 51 22.7	-0.8
	comp=Z,152nm,1.1s							
OSPF	**L'Ospedale**	**151.19**	**328**	PKP	PKPbc	05 51 22.9	-0.8
RJF	**Les Rejaudoux**	**151.31**	**341**	⇑*i*PKP1	PKPbc	05 51 23.1	-0.7
	comp=Z,66nm,1.1s							
PRAF	**Pradon**	**151.34**	**335**	PKP	PKPbc	05 51 23.6	-0.3
PUYF	**Puyloubier**	**151.35**	**334**	PKP	PKPbc	05 51 23.6	-0.4
TREF	**Trevaresse**	**151.40**	**335**	PKP	PKPbc	05 51 22.7	-1.4
CAF	**Calviac**	**151.48**	**340**	⇑*i*PKP1	PKPbc	05 51 23.6	-0.6
	comp=Z,46nm,1.1s							
LASF	**Ste Croix**	**151.61**	**337**	⇑*i*PKP1	PKPbc	05 51 24.1	-0.4
	comp=Z,113nm,1.1s							
LFF	**La Frestale**	**151.88**	**342**	⇑*i*PKP1	PKPbc	05 51 24.4	-0.7
	comp=Z,37nm,0.7s							
MTLF	**Montolieu**	**152.84**	**339**	⇑*i*PKP1	PKPbc	05 51 26.5	-0.8
	comp=Z,13nm,0.7s							
KEST	**Kesra**	**155.13**	**318**	PKPbc	PKPdf	05 51 31.6	+8.2
	comp=Z,3.8nm,0.9s,baz=309,slow=3.7,SNR=9.1							
KEST				PKPab	PKPab	05 51 49.7	+0.5
	comp=Z,8.4nm,0.9s,baz=194,slow=5.9,SNR=4.7							
PBRG	**Braganca**	**156.49**	**352**	*e*PKPab	PKPab	05 51 54.3	-0.4
PVRL	**Vila Real**	**157.13**	**354**	*e*PKPab	PKPab	05 51 57.1	-0.4
MVO	**Moncorvo**	**157.16**	**352**	*e*PKPab	PKPab	05 51 56.8	-0.8
PVIS	**Viseu**	**157.70**	**354**	*e*PKPab	PKPab	05 51 59.9	0.0
MTE	**Manteigas**	**157.98**	**353**	*e*PKPab	PKPab	05 52 01.1	0.0
ESDC	**Sonseca Array**	**158.04**	**345**	PKPab	PKPab	05 52 01.3	-0.1
	comp=Z,2.0nm,0.4s,baz=19,slow=3.3,SNR=20							
ESLA	**Sonseca Array**	**158.04**	**345**	*e*PKPab	PKPab	05 51 59.9	-1.6
PCBR	**Castelo Branco**	**158.52**	**353**	*e*PKPab	PKPab	05 52 03.1	-0.4
PTOM	**Tomar**	**158.84**	**354**	*e*PKPab	PKPab	05 52 04.5	-0.4
PMRV	**Marv??o**	**158.91**	**352**	*e*PKPab	PKPab	05 52 04.5	-0.7
PESTR	**Estremoz**	**159.49**	**352**	*e*PKPab	PKPab	05 52 07.5	-0.3
EVO	**Evora**	**159.88**	**353**	⇑*i*PKIKP	PKPdf	05 51 27.7	-1.5
	comp=Z,20nm,1.1s							
EVO	**Evora**	**159.88**	**353**	*e*PKPab	PKPab	05 52 09.6	+0.2
PBAR	**Barrancos**	**160.10**	**351**	*e*PKPab	PKPab	05 52 10.2	-0.2
PVQ	**Vaqueiros**	**160.95**	**352**	*e*PKPab	PKPab	05 52 14.3	+0.1
PBDV	**Barranco-do-Ve**	**161.14**	**352**	*e*PKPab	PKPab	05 52 15.8	+0.8
MORF	**Marmelete**	**161.15**	**354**	*e*PKPab	PKPab	05 52 15.5	+0.4
TAM	**Tamanrasset**	**163.95**	**288**	*e*PKIKP	PKPdf	05 51 31.5	-2.3
MDT	**Midelt**	**164.63**	**339**	PKP	PKPdf	05 51 33.5	-0.7
	comp=Z,2.8nm,1.1s,baz=36,slow=7.9,SNR=4.2							
MDT				PKPab	PKPab	05 52 30.6	+0.1
	comp=Z,3.0nm,0.6s,baz=25,slow=5.4,SNR=12							
KIC	**Kosan Boka**	**166.47**	**208**	*e*PKIKP	PKPdf	05 51 34.5	-1.7
	comp=Z,94nm,1.2s							
LIC	**Lamto**	**166.47**	**206**	⇑*i*PKIKP	PKPdf	05 51 34.6	-1.6
	comp=Z,52nm,1.3s							
LIC	**Lamto**	**166.47**	**206**	*e*PKIKP	PKPdf	05 51 34.7	-1.5
	comp=Z,52nm,1.3s							
TOA0	**Torodi Ar. Sit**	**166.67**	**248**	*e*PKPdf	PKPdf	05 51 34.9	-1.4
TOA0				*e*PKPab	PKPab	05 52 38.8	-1.3
TORD	**Torodi Ar. Bea**	**166.67**	**248**	PKP	PKPdf	05 51 35.0	-1.3
	comp=Z,18nm,1.0s,baz=58,slow=0.6,SNR=58							
TORD				PKPab	PKPab	05 52 39.0	-1.2
	comp=Z,4.9nm,0.8s,baz=108,slow=3.4,SNR=10							
DBIC	**Dimbokro**	**166.80**	**208**	PKP	PKPdf	05 51 35.0	-1.5
	comp=Z,12nm,1.1s,baz=144,slow=3.3,SNR=5.4							
TIC	**Toumodi**	**166.85**	**207**	*e*PKIKP	PKPdf	05 51 34.9	-1.6
	comp=Z,111nm,1.3s							

*ISCJB **11** 05:49:21.5±1.4, 470N±0.1×1530E±0.2, h57km±12km, mb3.9/11, Error ellipse: s-maj=24.9km s-min=9.0km az=137.6*
*MOS **11** 05:49:21.0±1.8, 4696N×1529.8E, h53km, mb4.4/6, Error ellipse: s-maj=21.8km s-min=13.6km az=55.3*
*NEIC **11** 05:49:24.4±1.6, 4696N×153.19E, h73km±15km, mb4.6/1, Error ellipse: s-maj=20.7km s-min=11.1km az=126.0*
*IDC **11** 05:49:24.4±3.0, 4697N×153.12E, h69km±26km, mb3.5/11, mb1 3.8/14,mb1mx3.6/26,mbtmp3.6/14, Error ellipse: s-maj=25.3km s-min=17.5km az=129.0*

ISC 11 05:49:23.7±1.3, 470N±01×1530E±02, h61km±11km, n30, σ1§12/31, mb3.9/11, 1C, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KUR	**Kuril'sk**	**3.97**	**246**	⇑*i*PN	**Pn**	**05 50 17.2**	**-4.9**
KUR				S	**Sn**	**05 51 04.9**	**-2.5**
KUR				pmax	pmax		
	comp=E,30nm,0.5s						
KUR				pmax	pmax		
	comp=Z,110nm,0.5s						
KUR				smax			
	comp=N,220nm,0.7s						
KUR				smax			
	comp=E,110nm,0.7s						
SKR	**Severo-Kuril's**	**4.26**	**28**	*e*PN	**Pn**	**05 50 26.0**	**+0.1**
SKR				*e*		05 51 14.5	
PETK	**Petropavlovsk-**	**6.86**	**24**	P	**Pn**	**05 51 02.0**	**+0.5**
	comp=E,0.2nm,0.3s,baz=181,slow=12,SNR=8.0						
ASAJ	**Asahikawa**	**7.85**	**253**	P	**Pn**	**05 51 15.6**	**+0.5**
	comp=E,1.2nm,0.3s,baz=68,slow=18,SNR=4.1						
ASAJ	**Asahikawa**	**7.85**	**253**	PN	**Pn**	**05 51 15.6**	**+0.5**
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
MJAR	**Matsushiro Arr**	**15.15**	**232**	P	**Pn**	**05 52 55.2**	**+1.2**
	comp=Z,0.5nm,0.3s,baz=35,slow=8.6,SNR=5.8						
MJAR	**Matsushiro Arr**	**15.15**	**232**	P	**Pn**	**05 52 55.2**	**+1.2**
MJAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
MJAR	**Matsushiro Arr**	**15.15**	**232**	P	**Pn**	**05 52 55.2**	**+1.2**
KSRS	**Korea Array**	**20.80**	**252**	P	**P**	**05 54 02.6**	**+2.8**
	comp=Z,1.9nm,0.7s,baz=57,slow=10,SNR=4.6						
KSRS	**Korea Array**	**20.80**	**252**	P	**P**	**05 54 02.6**	**+2.8**
KSRS				pmax	pmax		
	comp=Z,2.0nm,0.7s						
COLD	**Coldfoot**	**35.20**	**34**	*e*P	**P**	**05 56 08.7**	**-2.7**
	comp=Z,12nm,1.3s,mb4.7						
MKAR	**Makanchi Array**	**46.79**	**297**	P	**P**	**05 57 46.4**	**-0.4**
	comp=Z,0.3nm,0.5s,mb3.5,baz=60,slow=7.8,SNR=4.4						
KURK	**Kurchatov**	**47.20**	**303**	P	**P**	**05 57 50.0**	**+0.1**
	comp=Z,0.3nm,0.3s,mb3.6,baz=71,slow=8.6,SNR=3.3						
CMAR	**Chiang Mai Arr**	**52.35**	**256**	P	**P**	**05 58 30.0**	**+0.5**
	comp=Z,0.6nm,0.4s,mb3.9,baz=33,slow=9.7,SNR=5.3						
CMAR	**Chiang Mai Arr**	**52.35**	**256**	P	**P**	**05 58 30.0**	**+0.5**
CMAR				pmax	pmax		
	comp=Z,1.0nm,0.4s						
NB2	**NORSAR Subarra**	**68.01**	**341**	P	**P**	**06 00 15.7**	**-0.2**
	comp=Z,1.3nm,0.6s,mb4.1,baz=26,slow=6.5						
NOA	**NORSAR Array B**	**68.01**	**341**	P	**P**	**06 00 15.8**	**-0.2**
	comp=Z,1.8nm,0.6s,mb4.3,baz=28,slow=6.2,SNR=6.1						
NOA	**NORSAR Array B**	**68.01**	**341**	P	**P**	**06 00 15.8**	**-0.1**
NOA				pmax	pmax		
	comp=Z,2.0nm,0.6s						
NOA	**NORSAR Array B**	**68.01**	**341**	P	**P**	**06 00 15.8**	**-0.2**
HFS	**Hagfors**	**68.24**	**339**	P	**P**	**06 00 17.3**	**-0.1**
	comp=Z,3.2nm,0.6s,mb4.6,baz=63,slow=6.8,SNR=11						
HFS	**Hagfors**	**68.24**	**339**	P	**P**	**06 00 17.3**	**-0.1**
HFS				pmax	pmax		
	comp=Z,3.0nm,0.6s						
WRA	**Warramunga Arr**	**68.68**	**199**	P	**P**	**06 00 21.2**	**+0.7**
	comp=Z,0.3nm,0.7s,mb3.3,baz=20,slow=6.4,SNR=3.1						
AKASG	**Malin Array Be**	**71.34**	**326**	P	**P**	**06 00 36.1**	**-0.5**
	comp=Z,1.0nm,0.4s,mb4.1,baz=33,slow=6.1,SNR=4.1						
AKASG	**Malin Array Be**	**71.34**	**326**	P	**P**	**06 00 36.1**	**-0.5**
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.4s						
ASAR	**Alice Springs**	**72.38**	**198**	P	**P**	**06 00 41.7**	**-1.3**
	comp=Z,0.3nm,0.6s,mb3.4,baz=17,slow=6.8,SNR=3.3						
MLR	**Muntele Rosu**	**76.86**	**325**	P	**P**	**06 01 10.3**	**+1.5**
	comp=Z,1.1nm,0.3s,mb4.2,baz=193,slow=12,SNR=3.4						
MLR	**Muntele Rosu**	**76.86**	**325**	P	**P**	**06 01 10.3**	**+1.5**
MLR				pmax	pmax		
	comp=Z,1.0nm,0.4s						
TXAR	**Lajitas Array**	**77.45**	**61**	P	**P**	**06 01 12.0**	**-0.4**
	comp=Z,0.5nm,0.5s,mb3.7,baz=304,slow=4.7,SNR=19						
TXAR	**Lajitas Array**	**77.45**	**61**	P	**P**	**06 01 12.0**	**-0.4**
TXAR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
TXAR	**Lajitas Array**	**77.45**	**61**	P	**P**	**06 01 12.0**	**-0.4**

*PGC **11** 05:51:25.5, 4949N×130.46W, h10km, ML3.3, 255km Wsw of Pt. Hardy, Bc Vancouver Island Region*
*NEIC **11** 05:51:25.5, 4949N×130.46W, h10km, mb3.9/1, ML3.3(PGC), After PGC.*
*ISCJB **11** 05:51:29.8±0.9, 4997N±005×130.16W±008, h10km, mb3.5/2, MS3.8/8, Error ellipse: s-maj=8.4km s-min=6.5km az=139.3*
*IDC **11** 05:51:33.4±3.7, 4993N×129.78W, h0km, mb3.6/2, mb1 3.9/7, mb1mx3.7/25, mbtmp3.6/7, ML3.7/5, MS3.8/15, Ms1 3.8/15, ms1mx3.6/28, Error ellipse: s-maj=62.9km s-min=13.1km az=86.0*

ISC 11 05:51:31.5±0.9, 5001N±006×13011W±009, h10km, n29, σ1§57/25, mb3.5/2, MS3.8/8, 2D, Vancouver Island region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HOLB	**Holberg**	**1.42**	**63**	⇑Pn	**Pn**	**05 51 55.6**	**-1.7**
HOLB				⇑Sn	**Sn**	**05 52 17.7**	**+1.7**
BPBC	**Brooks Peninsu**	**1.51**	**83**	⇑Pn	**Pn**	**05 51 55.3**	**-3.4**
BPBC				⇑Sn	**Sn**	**05 52 17.6**	**-0.8**
PHC	**Port Hardy**	**1.85**	**67**	Pn	**Pn**	**05 52 01.5**	**-1.8**
PHC				⇑Sn	**Sn**	**05 52 27.1**	**+0.4**
MAYB	**Maynard**	**1.93**	**77**	⇑Pn	**Pn**	**05 52 02.3**	**-2.0**
MAYB				⇓Sn	**Sn**	**05 52 28.9**	**+0.2**
WOSB	**Woss**	**2.29**	**85**	⇑Pn	**Pn**	**05 52 06.9**	**-2.3**
BBB	**Bella Bella**	**2.52**	**29**	Pn	**Pn**	**05 52 13.3**	**+0.9**
	37nm,0.3s,baz=212,slow=8.2,SNR=312						
BBB				Sn	**Sn**	**05 52 45.1**	**+1.9**
	12nm,0.3s,baz=308,slow=24,SNR=17						
BBB				LR	LR	05 53 21.2	
	comp=Z,544nm,19.4s,baz=140,slow=43						
BBB	**Bella Bella**	**2.52**	**29**	⇓Pn	**Pn**	**05 52 13.2**	**+0.8**
BNB	**Barry Inlet**	**2.77**	**339**	⇑Pn	**Pn**	**05 52 14.4**	**-1.5**
BNB				⇑Sn	**Sn**	**05 52 49.9**	**+0.5**
RPW	**Rockport**	**5.84**	**102**	Pn	**Pn**	**05 52 54.0**	**-4.2**
ETW	**Entiat**	**6.89**	**107**	*e*Pn	**Pn**	**05 53 07.7**	**-4.8**
OD2	**Odessa Site #2**	**7.98**	**105**	Pn	**Pn**	**05 53 22.8**	**-4.7**
LNOR	**Lincton Mounta**	**8.95**	**113**	*e*Pn	**Pn**	**05 53 40.4**	**-0.4**
YBH	**Yreka Blue Hor**	**9.75**	**145**	Pn	**Pn**	**05 53 54.0**	**+2.3**
	0.0nm,0.3s,baz=49,slow=4.2,SNR=3.7						
YBH				LR	LR	05 57 03.3	
	comp=Z,1μm,19.0s,baz=334,slow=34						
ELK	**Elko**	**13.94**	**126**	LR	LR	06 00 01.0	
	comp=Z,433nm,18.8s,baz=314,slow=37						
NVAR	**Mina Array Bea**	**14.32**	**139**	Pn	**Pn**	**05 54 57.3**	**+3.2**
	0.3nm,0.3s,baz=318,slow=12,SNR=4.3						
YKA	**Yellowknife Ar**	**15.13**	**28**	Pn	**Pn**	**05 55 04.5**	**-0.6**
	0.1nm,0.3s,baz=217,slow=11,SNR=2.7						
YKA				LR	LR	06 00 35.5	
	comp=Z,61nm,19.1s,baz=185,slow=36						
KDAK	**Kodiak Island**	**15.31**	**309**	LR	LR	05 59 31.6	
	comp=Z,732nm,19.3s,baz=112,slow=31						
PDAR	**Pinedale Array**	**15.89**	**109**	Pn	**Pn**	**05 55 16.6**	**+1.5**
	0.1nm,0.3s,baz=310,slow=10,SNR=11						
PDAR				LR	LR	06 01 37.6	
	comp=Z,414nm,19.7s,baz=355,slow=39						
FFC	**Flin Flon**	**17.75**	**64**	*e*Pn	**Pn**	**05 55 39.1**	**+0.6**
	11nm,1.0s						
PFO	**Pinyon Flat Ob**	**19.24**	**143**	LR	LR	06 03 16.9	
	comp=Z,466nm,18.3s,baz=136,slow=37						
ULM	**Lac du Bonnet**	**21.84**	**76**	P	**P**	**05 56 27.0**	**+3.1**
	4.9nm,0.8s,mb4.0,baz=282,slow=9.3,SNR=5.4						
ANMO	**Albuquerque**	**22.90**	**122**	LR	LR	06 05 57.8	
	comp=Z,151nm,18.1s,MS3.5,baz=165,slow=38						
TXAR	**Lajitas Array**	**28.74**	**126**	P	**P**	**05 57 31.0**	**+2.0**
	0.3nm,1.0s,mb3.0,baz=316,slow=7.6,SNR=2.3						
TXAR				LR	LR	06 09 29.9	
	comp=Z,362nm,18.5s,MS4.0,baz=355,slow=38						
PETK	**Petropavlovsk-**	**43.24**	**303**	LR	LR	06 17 57.1	
	comp=Z,68nm,18.7s,MS3.6,baz=264,slow=36						
KSRS	**Korea Array**	**69.14**	**304**	LR	LR	06 30 51.9	
	comp=Z,31nm,19.6s,MS3.5,baz=148,slow=34						
SONM	**Songino Array**	**71.06**	**324**	LR	LR	06 33 12.8	
	comp=Z,127nm,20.5s,MS4.2,baz=240,slow=35						
ZALV	**Zalesovo Beam**	**72.33**	**339**	LR	LR	06 36 60.0	
	comp=Z,50nm,18.4s,MS3.8,baz=244,slow=38						
MKAR	**Makanchi Array**	**79.58**	**338**	LR	LR	06 41 22.7	
	comp=Z,99nm,19.1s,MS4.2,baz=355,slow=38						
CMAR	**Chiang Mai Arr**	**99.26**	**313**	LR	LR	06 52 27.5	
	comp=Z,33nm,20.9s,MS3.8,baz=0.0,slow=37						

IDC 11 06:14:54.3±5.3, 3046S×13845E, h0km, mb1 2.9/3, mb1mx2.9/14, mbtmp2.7/3, ML2.1/2, Error ellipse: s-maj=142.9km s-min=18.2km az=40.0, South Australia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**3.05**	**118**	Pn	Pn	06 15 43.5	-0.3
	0.1nm,0.3s,baz=308,slow=13,SNR=2.7						
STKA				Pg	Pg	06 15 53.6	+0.9
	0.5nm,0.3s,baz=300,slow=14,SNR=5.6						
STKA				Sn	Sn	06 16 20.7	-0.2
	0.5nm,0.3s,baz=295,slow=15,SNR=4.6						
STKA				Lg		06 16 31.9	
	1.3nm,0.3s,baz=190,slow=24,SNR=5.2						
ASAR	**Alice Springs**	**7.88**	**328**	Pn	Pn	06 16 50.0	-0.2
	0.1nm,0.3s,baz=150,slow=13,SNR=5.2						
WRA	**Warramunga Arr**	**11.11**	**340**	Pn	Pn	06 17 35.0	+0.5
	baz=159,slow=12,SNR=2.8						

NEIC 11 06:20:05.1, 5316N×16857W, h1km, ML3.2(AEIC), ML3.8(PMR), After AEIC., Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
NIKO	**Nikolski**	**0.26**	**223**	P	Pg	06 20 11.0	+1.0
NIKO				S	Sg	06 20 15.6	+2.4
OKCE	**Okmok Cone E**	**0.36**	**42**	P	Pg	06 20 12.5	+0.5
OKCD	**Okmok Cone D**	**0.38**	**45**	P	Pg	06 20 13.2	+0.8
UNV	**Unalaska Valle**	**1.41**	**60**	P	Pn	06 20 30.2	-1.7
UNV				S	Sg	06 20 49.2	-1.2
AKGG	**Akutan Green G**	**1.85**	**55**	P	Pn	06 20 36.6	-1.3
AKUT	**Akutan**	**1.93**	**58**	P	Pn	06 20 38.7	-0.3

IDC 11 06:20:30.4±2.5, 5394N×16835W, h0km, mb3.5/4, mb1 4.0/4, mb1mx3.6/23, mbtmp3.6/4, Error ellipse: s-maj=263.1km s-min=28.9km az=6.0, Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PETK	**Petropavlovsk-**	**20.10**	**281**	P	P	06 25 05.5	+0.1
	3.3nm,0.7s,baz=86,slow=12,SNR=5.5						
NVAR	**Mina Array Bea**	**37.12**	**94**	P	P	06 27 43.1	+0.7
	0.3nm,0.3s,baz=295,slow=8.9,SNR=4.2						
PDAR	**Pinedale Array**	**39.53**	**82**	P	P	06 28 03.0	+0.3
	0.6nm,0.8s,baz=302,slow=5.2,SNR=4.2						
TXAR	**Lajitas Array**	**52.13**	**91**	P	P	06 29 41.9	-0.4
	0.5nm,0.7s,baz=296,slow=5.4,SNR=9.2						

*NEIC **11** 07:14:04.9, 1886N×6597W, h121km, MD3.6(RSPR), After RSPR.*

RSPR 11 07:14:04.9, 1886N×6597W, h121km±3km, MD3.6/7, MD3.6/7, 6C-1D, Puerto Rico region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CBYP	**Canovanas**	**0.59**	**169**	⇑*e*P	Pn	07 14 22.7	-0.8
HUMP	**Col San Antoni**	**0.72**	**171**	⇑*e*P	Pn	07 14 24.4	-0.1
CPD	**Cerro la Pandu**	**0.82**	**176**	⇑*e*P	Pn	07 14 25.0	-0.3
CPD				*e*S	Sn	07 14 40.3	-0.4
MTP	**Monte Pirata**	**0.85**	**152**	⇑*e*P	Pn	07 14 25.1	-0.5
MTP				*e*S	Sn	07 14 41.3	0.0
AOPR	**Arecibo Observ**	**0.90**	**236**	⇑*e*P	Pn	07 14 25.5	-0.5
AOPR				*e*S	Sn	07 14 42.0	0.0
STVI	**Saint Thomas**	**1.09**	**117**	⇓*e*P	Pn	07 14 27.3	-0.5
STVI				*e*S	Sn	07 14 45.6	+0.3
CRPR	**Cabo Rojo, PR**	**1.37**	**232**	⇑*e*P	Pn	07 14 31.0	+0.1

*CSEM **11** 07:18:11.5±0.5, 3934N×2005E, h10km, ML3.3/2, Error ellipse: s-maj=11.3km s-min=3.5km az=115.0*
*THE **11** 07:18:12.9, 3931N×2017E, h0km±2km, ML3.3/2, Error ellipse: s-maj=3.7km s-min=0.5km az=274.0*
*ISCJB **11** 07:18:13.7±0.7, 3930N±003×2029E±005, h1km±8km, Error ellipse: s-maj=6.5km s-min=5.0km az=162.0*
*ATH **11** 07:18:14.3, 3928N×2030E, h10km±5km, MD3.7/7*
*NEIC **11** 07:18:14.3, 3928N×2030E, h10km, MD3.7(ATH), After ATH.*

ISC 11 07:18:14.3±0.6, 3930N±002×2028E±005, h5km±6km, n30, σ1§02/43, Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
IGT	**Igoumenitsa**	**0.23**	**11**	P	**Pg**	**07 18 18.3**	**-0.6**
IGT				S	**Sg**	**07 18 21.9**	**-0.1**
KEK	**Kerkira**	**0.55**	**318**	*e*Pb	**Pg**	**07 18 24.8**	**-0.1**
KEK				*e*Sb	**Sg**	**07 18 34.0**	**+1.9**
KEK	**Kerkira**	**0.55**	**318**	*e*PB	**Pg**	**07 18 24.8**	**-0.1**
KEK				*e*SB	**Sg**	**07 18 34.0**	**+1.9**
JAN	**Janina**	**0.57**	**51**	*e*Pb	**Pg**	**07 18 24.8**	**-0.5**
JAN				*e*Sb	**Sg**	**07 18 32.9**	**+0.3**
JAN	**Janina**	**0.57**	**51**	*e*PB	**Pg**	**07 18 24.8**	**-0.5**
JAN				*e*SB	**Sg**	**07 18 32.9**	**+0.3**
LKD	**Levkas**	**0.66**	**154**	P	**Pg**	**07 18 26.3**	**-0.7**
LKD				S	**Sg**	**07 18 37.0**	**+1.4**
MEV	**Metsovon**	**0.88**	**57**	P	**Pg**	**07 18 30.5**	**-0.7**
VLS	**Valsamata**	**1.15**	**168**	P	**Pn**	**07 18 34.6**	**-2.4**
VLS				S	**Sg**	**07 18 52.1**	**+0.8**
VLS	**Valsamata**	**1.15**	**168**	*e*Pb	**Pb**	**07 18 35.9**	**-0.7**
VLS				*e*Sb	**Sb**	**07 18 51.7**	**-0.1**
VLS				S	**Sg**	**07 18 52.1**	**+0.8**
VLS	**Valsamata**	**1.15**	**168**	*e*Pb	**Pb**	**07 18 35.9**	**-0.7**
VLS				*e*Sb	**Sb**	**07 18 51.7**	**-0.1**
VLS	**Valsamata**	**1.15**	**168**	*e*PB	**Pb**	**07 18 35.9**	**-0.7**
VLS				*e*SB	**Sb**	**07 18 51.7**	**-0.1**
EVR	**Evrytania**	**1.25**	**107**	*e*Pb	**Pb**	**07 18 38.3**	**-0.1**
EVR	**Evrytania**	**1.25**	**107**	*e*PB	**Pb**	**07 18 38.3**	**-0.1**
KFL	**Anninata**	**1.26**	**161**	P	**Pg**	**07 18 37.3**	**-1.1**
THL	**Klokotos Trika**	**1.37**	**78**	P	**Pn**	**07 18 39.6**	**-0.5**
THL				S	**Sg**	**07 19 00.3**	**+1.9**
THL	**Klokotos Trika**	**1.37**	**78**	*e*Pg	**Pg**	**07 18 39.7**	**-0.9**
THL				S	**Sg**	**07 19 00.3**	**+1.9**
THL	**Klokotos Trika**	**1.37**	**78**	*e*PG	**Pg**	**07 18 39.7**	**-0.9**
KZN	**Kozani**	**1.53**	**48**	*e*Pb	**Pg**	**07 18 44.1**	**+0.5**
KZN	**Kozani**	**1.53**	**48**	*e*PB	**Pg**	**07 18 44.1**	**+0.5**
RLS	**Riolos of Patr**	**1.55**	**143**	*e*Pg	**Pn**	**07 18 42.7**	**+0.2**
RLS	**Riolos of Patr**	**1.55**	**143**	*e*PG	**Pn**	**07 18 42.7**	**+0.2**
AGG	**Agios Georgios**	**1.62**	**99**	P	**Pn**	**07 18 43.1**	**-0.4**
OHR	**Ohrid**	**1.85**	**12**	*e*Pn	**Pg**	**07 18 49.0**	**-0.1**
BIA	**Bitola**	**1.89**	**25**	*e*Pn	**Pg**	**07 18 49.1**	**-1.5**
KRUS	**Krusevo**	**2.19**	**19**	*e*Pn	**Pn**	**07 18 52.7**	**+1.3**
ITM	**Ithomi**	**2.49**	**148**	*e*Pb	**Pn**	**07 18 56.3**	**+0.9**
ITM	**Ithomi**	**2.49**	**148**	*e*PB	**Pn**	**07 18 56.3**	**+0.9**
PYL	**PYLOS**	**2.67**	**154**	P	**Pn**	**07 18 57.3**	**-0.6**
VLI	**Veliai**	**3.33**	**140**	*e*Pb	**Pn**	**07 19 09.4**	**+2.5**
VLI	**Veliai**	**3.33**	**140**	*e*PB	**Pn**	**07 19 09.4**	**+2.5**

*ISCJB **11** 07:19:40.2±0.4, 4146N±002×198E±002, h6km±2km, Error ellipse: s-maj=3.0km s-min=2.3km az=151.4*
*MDD **11** 07:19:43.0±0.3, 4139N×199E, h9km±2km, mbLg2.9/45, Error ellipse: s-maj=2.9km s-min=1.9km az=130.0, PRIMO*
MDD EMS: III INTENSIDAD MIMA.
*NEIC **11** 07:19:42.3, 4134N×200E, h0km, ML3.4(LDG), ML3.3(STR), MN3.0(MDD), After MDD.*
NEIC Felt [III] in the Torrellas de Llobregat area.
*MRB **11** 07:19:43.0±0.1, 4140N×198E, h4km±15km, ML3.1/1, Error ellipse: s-maj=0.8km s-min=0.2km az=297.0*
*LDG **11** 07:19:43.0±0.1,

111nm,0.4s,SNR=13
ERTA Lg 07 20 26.1
93nm,0.1s,SNR=7.9
ERTA Horta de San J 1.33 250 Pn **Pn 07 20 05.8 -0.5**
44nm,0.3s,SNR=229
ERTA Horta de San J 1.33 250 Pg **Pg 07 20 07.3 +0.1**
48nm,0.5s,SNR=11
ERTA Lg 07 20 24.3
111nm,0.4s,SNR=13
ERTA Horta de San J 1.33 250 Pg **Pg 07 20 07.9 +0.7**
ERTA Lg 07 20 25.5
CMAS Mas de Barbera 1.44 241 Pn **Pn 07 20 07.0 -0.8**
LRDF Laroque-de-Fa 1.56 15 Pg **Pg 07 20 11.7 +0.1**
LRDF Sg **Sg 07 20 32.7 +0.8**
MLS Moulis 1.66 337 Pg **Pg 07 20 13.1 -0.5**
MLS Sg **Sg 07 20 35.4 +0.2**
MELF Melles 1.71 328 Pg **Pg 07 20 14.2 -0.2**
MELF Sg **Sg 07 20 37.0 +0.5**
ETOS Mallorca 1.78 159 Pn **Pn 07 20 11.2 -1.2**
8.1nm,0.4s,SNR=8.2
ETOS Sn **Sn 07 20 31.0 -4.0**
18nm,0.3s,SNR=17
ETOS Mallorca 1.78 159 Pn **Pn 07 20 11.2 -1.2**
8.1nm,0.4s,SNR=8.2
ETOS Mallorca 1.78 159 P **Pn 07 20 12.9 +0.5**
ETOS Sn **Sn 07 20 31.0 -4.1**
18nm,0.3s,SNR=17
ETOS Mallorca 1.78 159 P **Pn 07 20 12.9 +0.5**
ETOS Lg 07 20 35.3
RESF Ens 1.84 319 Pg **Pg 07 20 16.1 -0.9**
RESF Sg **Sg 07 20 39.9 -1.0**
EBIE Bielsa 1.86 313 ⇓Pn **Pn 07 20 15.1 +1.5**
1.8nm,0.1s,SNR=18
EBIE Pg **Pg 07 20 17.0 -0.3**
13nm,0.3s,SNR=7.9
EBIE Lg 07 20 40.8
165nm,0.2s,SNR=7.9
EBIE Bielsa 1.86 313 Pn **Pn 07 20 15.1 +1.5**
1.8nm,0.1s,SNR=18
EBIE Bielsa 1.86 313 Pg **Pg 07 20 17.0 -0.3**
13nm,0.3s,SNR=7.9
EBIE Lg 07 20 40.8
165nm,0.2s,SNR=7.9
ESAC San Caprasio 1.86 280 ⇑Pn **Pn 07 20 14.9 +1.3**
120nm,0.3s,SNR=18
ESAC Pg **Pg 07 20 17.1 -0.3**
117nm,0.3s,SNR=12
ESAC Sn **Sn 07 20 37.5 +0.3**
444nm,0.3s,SNR=110
ESAC Lg 07 20 41.5
913nm,0.2s,SNR=5.0
ESAC San Caprasio 1.86 280 Pn **Pn 07 20 14.9 +1.3**
120nm,0.3s,SNR=18
ESAC San Caprasio 1.86 280 Pg **Pg 07 20 17.1 -0.3**
117nm,0.3s,SNR=12
ESAC Sn **Sn 07 20 37.5 +0.3**
444nm,0.3s,SNR=110
ESAC Lg 07 20 41.5
913nm,0.2s,SNR=5.0
ESAC San Caprasio 1.86 280 Pn **Pn 07 20 14.9 +1.3**
ESAC Pg **Pg 07 20 18.1 +0.8**
MTLF Montolieu 1.92 5 *e*Pn **Pn 07 20 15.6 +1.2**
SNR=1.0
MTLF Montolieu 1.92 5 *e*P **Pn 07 20 17.6 +3.2**
MTLF Montolieu 1.92 5 *e*Pg **Pg 07 20 19.6 +1.2**
MTLF *e*Sn **Sn 07 20 38.4 -0.2**
MTLF *e*Sg **Sg 07 20 43.3 0.0**
97nm,0.3s,SNR=1.0
MTLF Montolieu 1.92 5 Pn **Pn 07 20 15.6 +1.2**
MTLF Pg **Pg 07 20 19.6 +1.2**
MTLF Sn **Sn 07 20 38.4 -0.2**
MTLF Lg 07 20 43.3
49nm,0.3s
MTLF Montolieu 1.92 5 *e*P **Pn 07 20 17.6 +3.2**
MTLF Montolieu 1.92 5 *e*Pg **Pg 07 20 19.6 +1.2**
MTLF *e*Sn **Sn 07 20 38.4 -0.2**
MTLF *e*Sg **Sg 07 20 43.3 0.0**
49nm,0.3s,SNR=1.0
MTLF Montolieu 1.92 5 *e*P **Pn 07 20 17.6 +3.2**
MTLF *e*Pg **Pg 07 20 19.6 +1.2**
MTLF *e*Sn **Sn 07 20 38.4 -0.2**
MTLF *e*Sg **Sg 07 20 43.3 0.0**
EPF Esparros 2.01 323 *e*Pn **Pn 07 20 17.2 +1.5**
SNR=1.0
EPF Esparros 2.01 323 *e*P **Pg 07 20 19.7 -0.5**
EPF *e*Sn **Sn 07 20 41.0 +0.1**
EPF *e*Sg **Sg 07 20 45.8 -0.5**
532nm,0.3s
EPF Esparros 2.01 323 Pn **Pn 07 20 17.2 +1.5**
EPF Pg **Pg 07 20 19.7 -0.5**
EPF Sn **Sn 07 20 41.0 +0.1**
EPF Lg 07 20 45.8
266nm,0.3s
EPF Esparros 2.01 323 *e*P **Pg 07 20 19.7 -0.5**
EPF *e*Sn **Sn 07 20 41.0 +0.1**
EPF *e*Sg **Sg 07 20 45.8 -0.5**
266nm,0.3s
VIEF Viey 2.06 316 Pg **Pg 07 20 19.8 -1.3**
VIEF Sg **Sg 07 20 46.7 -1.1**
EMOS Mosqueruela 2.14 241 Pn **Pn 07 20 17.6 +0.1**
20nm,0.7s,SNR=7.2
EMOS Pg **Pg 07 20 22.4 -0.3**
58nm,0.8s,SNR=32
EMOS Sn **Sn 07 20 43.7 -0.5**
5.1nm,0.5s,SNR=7.9
EMOS Lg 07 20 51.0
51nm,0.5s,SNR=5.8
EMOS Mosqueruela 2.14 241 Pn **Pn 07 20 17.6 +0.1**
20nm,0.7s,SNR=7.2
EMOS Mosqueruela 2.14 241 Pg **Pg 07 20 22.4 -0.3**
58nm,0.8s,SNR=32
EMOS Sn **Sn 07 20 43.7 -0.4**
5.1nm,0.5s,SNR=7.9
EMOS Lg 07 20 51.0
51nm,0.5s,SNR=5.8
LABF Labassere 2.15 319 Pg **Pg 07 20 22.2 -0.7**
ETSF Etsaut 2.39 309 *e*Pg **Pg 07 20 28.1 +0.6**
ETSF *e*Sg **Sg 07 20 58.4 -0.1**
169nm,0.4s,SNR=1.0
ETSF Etsaut 2.39 309 Pn **Pn 07 20 21.8 +0.9**
ETSF Pg **Pg 07 20 28.1 +0.6**
ETSF Lg 07 20 58.4
85nm,0.4s
ETSF Etsaut 2.39 309 *e*Pg **Pg 07 20 28.1 +0.6**
ETSF *e*Sg **Sg 07 20 58.4 -0.1**
85nm,0.4s,SNR=1.0
ETSF Etsaut 2.39 309 *e*Pn **Pn 07 20 21.8 +0.9**
ETSF *e*Pg **Pg 07 20 28.1 +0.6**
ETSF *e*Sg **Sg 07 20 58.4 -0.1**
REYF Montagne du Re 2.41 314 Pg **Pg 07 20 28.1 +0.3**
REYF Sg **Sg 07 20 57.5 -1.5**
REYF Montagne du Re 2.41 314 Pg **Pg 07 20 28.1 +0.3**
REYF Sg **Sg 07 20 57.5 -1.5**
REYF Montagne du Re 2.41 314 Pn **Pn 07 20 23.0 +1.9**
REYF Pg **Pg 07 20 28.1 +0.3**
REYF Sg **Sg 07 20 57.5 -1.5**
EIBI Ibiza 2.45 192 Pn **Pn 07 20 20.5 -1.2**
4.4nm,0.2s,SNR=7.9
EIBI Sn **Sn 07 20 47.4 -4.3**
18nm,0.5s,SNR=7.8
EIBI Ibiza 2.45 192 Pn **Pn 07 20 20.5 -1.2**
4.4nm,0.2s,SNR=7.9
EIBI Sn **Sn 07 20 47.4 -4.3**
18nm,0.5s,SNR=7.8
EIBI Ibiza 2.45 192 Pn **Pn 07 20 20.5 -1.2**
EIBI Sn **Sn 07 20 47.4 -4.3**
ATE Arette 2.59 311 Pn **Pn 07 20 25.9 +2.3**
ATE Sg **Sg 07 21 03.8 -1.0**
LARF Larrau 2.73 307 Pn **Pn 07 20 27.4 +1.9**
IPRE Itoiz 2.84 300 Pn **Pn 07 20 28.3 +1.2**
5.5nm,0.3s,SNR=5.1
IPRE Pg **Pg 07 20 36.0 -0.1**
5.9nm,0.3s,SNR=5.9
IPRE Sn **Sn 07 21 01.2 -0.1**
27nm,0.3s,SNR=13
IPRE Lg 07 21 13.2
26nm,0.3s,SNR=8.1
IPRE Itoiz 2.84 300 Pn **Pn 07 20 28.3 +1.3**
5.5nm,0.3s,SNR=5.1
IPRE Itoiz 2.84 300 Pg **Pg 07 20 36.0 -0.1**
5.9nm,0.3s,SNR=5.9
IPRE Sn **Sn 07 21 01.2 -0.1**
27nm,0.3s,SNR=13
IPRE Lg 07 21 13.2
26nm,0.3s,SNR=8.1

EORO Oroz-Betelu 2.85 302 Pn **Pn 07 20 28.9 +1.7**
0.9nm,0.3s,SNR=8.2
EORO Pg **Pg 07 20 36.0 -0.3**
5.2nm,0.3s,SNR=17
EORO Sn **Sn 07 21 01.0 -0.6**
41nm,0.4s,SNR=4.0
EORO Lg 07 21 13.0
36nm,0.3s,SNR=9.8
EORO Oroz-Betelu 2.85 302 Pn **Pn 07 20 28.9 +1.7**
0.9nm,0.3s,SNR=8.2
EORO Oroz-Betelu 2.85 302 Pg **Pg 07 20 36.0 -0.3**
5.2nm,0.3s,SNR=17
EORO Sn **Sn 07 21 01.0 -0.6**
41nm,0.4s,SNR=4.0
EORO Lg 07 21 13.0
36nm,0.3s,SNR=9.8
IUNC Unciti 2.91 298 Pn **Pn 07 20 29.6 +1.6**
54nm,0.6s,SNR=5.8
IUNC Pg **Pg 07 20 36.9 -0.5**
3.0nm,0.2s,SNR=7.9
IUNC Sn **Sn 07 21 02.8 -0.3**
39nm,0.3s,SNR=5.5
IUNC Lg 07 21 15.8
57nm,0.3s,SNR=16
IUNC Unciti 2.91 298 Pn **Pn 07 20 29.6 +1.6**
54nm,0.6s,SNR=5.8
IUNC Unciti 2.91 298 Pg **Pg 07 20 36.9 -0.5**
3.0nm,0.2s,SNR=7.9
IUNC Sn **Sn 07 21 02.8 -0.3**
39nm,0.3s,SNR=5.5
IUNC Lg 07 21 15.8
57nm,0.3s,SNR=16
SJPF Ste Jean 2.92 306 *e*Pg **Pg 07 20 37.8 +0.3**
SNR=1.0
SJPF *e*Sn **Sn 07 21 02.6 -0.6**
SJPF *e*Sg **Sg 07 21 15.3 0.0**
103nm,0.3s,SNR=1.0
SJPF Ste Jean 2.92 306 Pn **Pn 07 20 29.2 +1.1**
SJPF Pg **Pg 07 20 37.8 +0.3**
SJPF Sn **Sn 07 21 02.6 -0.6**
SJPF Lg 07 21 15.3
0.1nm,0.3s
SJPF Ste Jean 2.92 306 *e*Pg **Pg 07 20 37.8 +0.3**
SNR=1.0
SJPF *e*Sn **Sn 07 21 02.6 -0.6**
SJPF *e*Sg **Sg 07 21 15.3 0.0**
52nm,0.3s,SNR=1.0
SJPF Ste Jean 2.92 306 *e*Pn **Pn 07 20 29.2 +1.1**
SJPF *e*Pg **Pg 07 20 37.8 +0.3**
SJPF *e*Sn **Sn 07 21 02.6 -0.6**
SJPF *e*Sg **Sg 07 21 15.3 0.0**
IZUN Zunzarren 2.93 300 Pn **Pn 07 20 30.0 +1.7**
0.5nm,0.2s,SNR=4.0
IZUN Pg **Pg 07 20 37.6 -0.1**
6.0nm,0.3s,SNR=7.9
IZUN Sn **Sn 07 21 03.5 -0.1**
5.3nm,0.5s,SNR=4.0
IZUN Lg 07 21 16.7
20nm,0.7s,SNR=7.9
IZUN Zunzarren 2.93 300 Pn **Pn 07 20 30.0 +1.7**
0.5nm,0.2s,SNR=4.0
IZUN Zunzarren 2.93 300 Pg **Pg 07 20 37.7 -0.1**
6.0nm,0.3s,SNR=7.9
IZUN Sn **Sn 07 21 03.5 0.0**
5.3nm,0.5s,SNR=4.0
IZUN Lg 07 21 16.7
20nm,0.7s,SNR=7.9
EARA Aranguren 2.97 298 Pn **Pn 07 20 29.9 +1.1**
45nm,0.4s,SNR=4.0
EARA Pg **Pg 07 20 38.0 -0.5**
1.2nm,0.1s,SNR=7.9
EARA Lg 07 21 16.9
27nm,0.4s,SNR=6.6
LASF Ste Croix 2.98 27 *e*Pg **Pg 07 20 39.1 +0.3**
LASF *e*Sn **Sn 07 21 04.1 -0.8**
LASF *e*Sg **Sg 07 21 17.6 +0.1**
28nm,0.2s,SNR=1.0
LASF Ste Croix 2.98 27 Pn **Pn 07 20 29.9 +0.9**
LASF Pg **Pg 07 20 39.1 +0.3**
LASF Sn **Sn 07 21 04.1 -0.8**
LASF Lg 07 21 17.6
14nm,0.2s
LASF Ste Croix 2.98 27 *e*Pg **Pg 07 20 39.1 +0.3**
LASF *e*Sn **Sn 07 21 04.1 -0.8**
LASF *e*Sg **Sg 07 21 17.6 +0.1**
14nm,0.2s,SNR=1.0
LASF Ste Croix 2.98 27 *e*Pn **Pn 07 20 29.9 +0.9**
LASF *e*Pg **Pg 07 20 39.1 +0.3**
LASF *e*Sn **Sn 07 21 04.1 -0.8**
LASF *e*Sg **Sg 07 21 17.6 +0.1**
OSSF Osses 3.02 308 Pn **Pn 07 20 31.0 +1.5**
IUSE Utxeti 3.03 301 Pn **Pn 07 20 30.3 +0.6**
3.3nm,0.3s,SNR=4.0
IUSE Pg **Pg 07 20 39.1 -0.6**
7.1nm,0.3s,SNR=7.8
IUSE Sn **Sn 07 21 05.8 -0.2**
20nm,0.3s,SNR=6.8
IUSE Lg 07 21 19.2
15nm,0.3s,SNR=8.8
IUSE Utxeti 3.03 301 Pn **Pn 07 20 30.3 +0.6**
3.3nm,0.3s,SNR=4.0
IUSE Utxeti 3.03 301 Pg **Pg 07 20 39.1 -0.6**
7.1nm,0.3s,SNR=7.8
IUSE Sn **Sn 07 21 05.8 -0.2**
20nm,0.3s,SNR=6.8
IUSE Lg 07 21 19.2
15nm,0.3s,SNR=8.8
ELIZ Elizondo 3.13 305 Pn **Pn 07 20 32.8 +1.8**
12nm,0.3s,SNR=11
ELIZ Pg **Pg 07 20 40.3 -1.3**
11nm,0.3s,SNR=18
ELIZ Sn **Sn 07 21 09.8 +1.3**
1.9nm,0.5s,SNR=7.9
ELIZ Lg 07 21 22.8
33nm,0.3s,SNR=8.3
EALK Alkurruntz 3.15 306 Pn **Pn 07 20 32.9 +1.6**
4.1nm,0.4s,SNR=18
EALK Pg **Pg 07 20 41.5 -0.5**
16nm,0.3s,SNR=11
EALK Sn **Sn 07 21 09.2 +0.3**
18nm,0.3s,SNR=5.4
EALK Lg 07 21 21.8
48nm,0.3s,SNR=11
EALK Alkurruntz 3.15 306 P **Pn 07 20 33.3 +2.0**
EALK Alkurruntz 3.15 306 P **Pn 07 20 33.3 +2.0**
EALK Pg **Pg 07 20 41.8 -0.1**
EALK Lg 07 21 24.5
EBEN Beniarda 3.21 213 Pn **Pn 07 20 31.6 -0.5**
4.5nm,0.5s,SNR=7.9
EBEN Sn **Sn 07 21 08.2 -2.1**
3.7nm,0.7s,SNR=7.9
EBEN Beniarda 3.21 213 Pn **Pn 07 20 31.6 -0.5**
4.5nm,0.5s,SNR=7.9
EBEN Sn **Sn 07 21 08.2 -2.2**
3.7nm,0.7s,SNR=7.9
CAF Calviac 3.50 1 *e*Pg **Pg 07 20 48.0 -0.6**
SNR=1.0
CAF *e*Sg **Sg 07 21 33.0 -0.9**
26nm,0.2s,SNR=1.0
CAF Calviac 3.50 1 Pn **Pn 07 20 37.0 +0.9**
CAF Pg **Pg 07 20 48.0 -0.6**
CAF Lg 07 21 33.0
13nm,0.2s
CAF Calviac 3.50 1 *e*Pg **Pg 07 20 48.0 -0.6**
SNR=1.0
CAF *e*Sg **Sg 07 21 33.0 -0.9**
13nm,0.2s,SNR=1.0
CAF Calviac 3.50 1 *e*Pn **Pn 07 20 37.0 +0.9**
CAF *e*Pg **Pg 07 20 48.0 -0.6**
CAF *e*Sg **Sg 07 21 33.0 -0.9**
ECRI Cripan 3.55 291 Pn **Pn 07 20 38.5 +1.7**
3.2nm,0.2s,SNR=7.9
ECRI Pg **Pg 07 20 47.6 -2.0**
3.8nm,0.3s,SNR=7.9
ECRI Sn **Sn 07 21 18.1 -0.7**
4.6nm,0.3s,SNR=7.9
ECRI Lg 07 21 36.3
62nm,0.8s,SNR=7.9
LFF La Frestale 3.62 346 *e*Pg **Pg 07 20 51.1 0.0**
SNR=1.0
LFF *e*Sn **Sn 07 21 19.8 -0.8**
SNR=1.0
LFF *e*Sg **Sg 07 21 38.5 +0.5**
69nm,0.5s,SNR=1.0
LFF La Frestale 3.62 346 Pn **Pn 07 20 39.2 +1.4**
LFF Pg **Pg 07 20 51.1 0.0**
LFF Sn **Sn 07 21 19.8 -0.8**

LFF Lg 07 21 38.5
34nm,0.5s
LFF La Frestale 3.62 346 *e*Pg **Pg 07 20 51.1 0.0**
SNR=1.0
LFF *e*Sn **Sn 07 21 19.8 -0.8**
SNR=1.0
LFF *e*Sg **Sg 07 21 38.5 +0.5**
34nm,0.5s,SNR=1.0
LFF La Frestale 3.62 346 *e*Pn **Pn 07 20 39.2 +1.4**
LFF *e*Pg **Pg 07 20 51.1 0.0**
LFF *e*Sn **Sn 07 21 19.8 -0.8**
LFF *e*Sg **Sg 07 21 38.5 +0.5**
SMRF Simiane la Rot 3.67 45 *e*Pg **Pg 07 20 51.9 -0.1**
SNR=1.0
SMRF *e*Sg **Sg 07 21 39.1 -0.4**
17nm,0.4s,SNR=1.0
SMRF Simiane la Rot 3.67 45 Pn **Pn 07 20 39.8 +1.3**
SMRF Pg **Pg 07 20 51.9 -0.1**
SMRF Lg 07 21 39.1
17nm,0.4s
SMRF Simiane la Rot 3.67 45 *e*Pn **Pn 07 20 39.8 +1.3**
SNR=1.0
SMRF *e*Sg **Sg 07 21 39.1 -0.4**
8.6nm,0.4s,SNR=1.0
SMRF Simiane la Rot 3.67 45 *e*Pn **Pn 07 20 39.8 +1.3**
SMRF *e*Pg **Pg 07 20 51.9 -0.1**
SMRF *e*Sg **Sg 07 21 39.1 -0.4**
LMR La Mourre 3.85 59 *e*Pn **Pn 07 20 41.5 +0.5**
SNR=1.0
LMR *e*Sn **Sn 07 21 24.6 -1.7**
6.6nm,0.2s
LMR La Mourre 3.85 59 Pn **Pn 07 20 41.5 +0.5**
LMR Sn **Sn 07 21 24.6 -1.7**
3.3nm,0.2s
ETOB Tobarra 3.88 225 Pn **Pn 07 20 41.3 -0.1**
0.1nm,0.1s,SNR=7.9
ETOB Sn **Sn 07 21 22.6 -4.5**
25nm,0.9s,SNR=7.9
ETOB Tobarra 3.88 225 Pn **Pn 07 20 41.3 -0.1**
0.1nm,0.1s,SNR=7.9
ETOB Sn **Sn 07 21 22.6 -4.5**
25nm,0.9s,SNR=7.9
RJF Les Rejaudoux 3.89 355 *e*Pn **Pn 07 20 42.1 +0.6**
RJF Les Rejaudoux 3.89 355 *e*P **Pn 07 20 45.7 +4.2**
RJF Les Rejaudoux 3.89 355 *e*Pg **Pg 07 20 55.6 -0.5**
RJF *e*Sg **Sg 07 21 47.1 +0.6**
23nm,0.3s
RJF Les Rejaudoux 3.89 355 Pn **Pn 07 20 42.1 +0.6**
RJF Pn **Pn 07 20 45.7 +4.2**
RJF Pg **Pg 07 20 55.6 -0.5**
RJF Lg 07 21 47.1
11nm,0.3s
RJF Les Rejaudoux 3.89 355 *e*P **Pn 07 20 45.7 +4.2**
RJF Les Rejaudoux 3.89 355 *e*Pg **Pg 07 20 55.6 -0.5**
RJF *e*Sg **Sg 07 21 47.1 +0.6**
11nm,0.3s
RJF Les Rejaudoux 3.89 355 *e*P **Pn 07 20 45.7 +4.2**
RJF *e*Pg **Pg 07 20 55.6 -0.5**
RJF *e*Sg **Sg 07 21 47.1 +0.6**
LBL Lubilhac 3.91 13 Pn **Pn 07 20 44.4 +2.6**
VIVF Saint-Julien-l 3.95 29 *e*Pg **Pg 07 20 56.2 -1.1**
VIVF *e*Sn **Sn 07 21 27.0 -1.7**
SNR=1.0
VIVF *e*Sg **Sg 07 21 47.8 -0.7**
14nm,0.3s,SNR=1.0
VIVF Saint-Julien-l 3.95 29 Pn **Pn 07 20 43.5 +1.2**
VIVF Pg **Pg 07 20 56.2 -1.1**
VIVF Sn **Sn 07 21 27.0 -1.7**
VIVF Lg 07 21 47.8
6.9nm,0.3s
VIVF Saint-Julien-l 3.95 29 *e*Pg **Pg 07 20 56.2 -1.1**
VIVF *e*Sn **Sn 07 21 27.0 -1.7**
SNR=1.0
VIVF *e*Sg **Sg 07 21 47.8 -0.7**
6.9nm,0.3s,SNR=1.0
VIVF Saint-Julien-l 3.95 29 *e*Pn **Pn 07 20 43.5 +1.2**
VIVF *e*Pg **Pg 07 20 56.2 -1.1**
VIVF *e*Sn **Sn 07 21 27.0 -1.7**
VIVF *e*Sg **Sg 07 21 47.8 -0.7**
FRF La Foret Royal 4.05 57 *e*Pn **Pn 07 20 44.0 +0.3**
FRF *e*Sn **Sn 07 21 29.5 -1.7**
8.4nm,0.3s
FRF La Foret Royal 4.05 57 Pn **Pn 07 20 44.0 +0.3**
FRF Sn **Sn 07 21 29.5 -1.7**
4.2nm,0.3s
PYM Petit Puy Mans 4.38 9 Pn **Pn 07 20 46.2 -2.0**
ELAN Lanestosa 4.40 296 Pn **Pn 07 20 50.1 +1.6**
6.6nm,0.7s,SNR=8.3
ELAN Pg **Pg 07 21 03.6 -2.4**
4.4nm,0.4s,SNR=6.6
ELAN Sn **Sn 07 21 37.7 -2.1**
18nm,0.9s,SNR=7.9
ELAN Lg 07 22 04.3
7.8nm,0.2s,SNR=4.0
ELAN Lanestosa 4.40 296 Pn **Pn 07 20 50.1 +1.6**
6.6nm,0.7s,SNR=8.3
ELAN Lanestosa 4.40 296 Pg **Pg 07 21 03.6 -2.3**
4.4nm,0.4s,SNR=6.6
ELAN Sn **Sn 07 21 37.7 -2.1**
18nm,0.9s,SNR=7.9
ELAN Lg 07 22 04.3
7.8nm,0.2s,SNR=4.0
EVIA Vianos 4.43 232 Pn **Pn 07 20 48.4 -0.5**
EVIA Lg 07 22 03.5
6.6nm,0.4s,SNR=7.9
ORIF Oris-en-Rattie 4.50 38 *e*Sg **Sg 07 22 05.6 -0.6**
3.3nm,0.4s
ORIF Oris-en-Rattie 4.50 38 *e*Sg **Sg 07 22 05.6 -0.6**
1.6nm,0.4s
SBF Sospel 4.70 57 *e*Pn **Pn 07 20 53.3 +0.7**
SNR=1.0
SBF *e*Sn **Sn 07 21 44.2 -3.0**
6.1nm,0.2s
SBF Sospel 4.70 57 *e*Pn **Pn 07 20 53.3 +0.7**
SNR=1.0
SBF *e*Sn **Sn 07 21 44.2 -3.0**
3.0nm,0.2s
GUD Guadarrama 4.71 262 Pn **Pn 07 20 53.8 +1.0**
2.6nm,0.3s,SNR=5.5
GUD Pg **Pg 07 21 09.1 -2.7**
4.5nm,0.3s,SNR=4.0
GUD Sn **Sn 07 21 44.8 -2.6**
12nm,0.7s,SNR=5.6
GUD Lg 07 22 13.1
3.8nm,0.5s,SNR=5.0
GUD Guadarrama 4.71 262 P **Pn 07 20 55.3 +2.6**
GUD Guadarrama 4.71 262 P **Pn 07 20 55.3 +2.6**
GUD Pg **Pg 07 21 09.5 -2.3**
GUD Lg 07 22 20.2
MBDF Montbardon 4.81 45 *e*Sg **Sg 07 22 15.2 -0.9**
1.9nm,0.2s
MBDF Montbardon 4.81 45 *e*Sg **Sg 07 22 15.2 -0.9**
0.9nm,0.2s
ESDC Sonseca Array 4.86 251 Pg **Pg 07 21 11.4 -3.2**
1.6nm,0.3s,baz=67,slow=17,SNR=6.6
ESDC Lg 07 22 13.6
5.5nm,0.3s,baz=63,slow=30,SNR=4.3
ESDC Sonseca Array 4.86 251 Pn **Pn 07 20 56.3 +1.5**
ESDC Sonseca Array 4.86 251 Pg **Pg 07 21 11.4 -3.3**
1.6nm,0.3s,SNR=6.6
ESDC Lg 07 22 13.6
5.5nm,0.3s,SNR=4.3
ESDC Sonseca Array 4.86 251 Pn **Pn 07 20 56.3 +1.6**
ESDC Pg **Pg 07 21 12.7 -2.0**
ESDC Lg 07 22 14.9
TCF Toulx Ste Croi 4.86 2 *e*Pg **Pg 07 21 13.4 -1.3**
TCF *e*Sn **Sn 07 21 49.1 -2.0**
SNR=1.0
TCF *e*Sg **Sg 07 22 15.3 -2.3**
13nm,0.3s
TCF Toulx Ste Croi 4.86 2 *e*Pg **Pg 07 21 13.4 -1.3**
TCF *e*Sn **Sn 07 21 49.1 -2.0**
SNR=1.0
TCF *e*Sg **Sg 07 22 15.3 -2.3**
6.3nm,0.3s
EHUE Huescar 5.05 226 Pn **Pn 07 20 57.1 -0.3**
2.0nm,0.3s,SNR=7.9
EHUE Pg **Pg 07 21 15.0 -3.4**
1.3nm,0.2s,SNR=7.9
EHUE Sn **Sn 07 21 52.2 -3.6**
3.8nm,0.7s,SNR=7.9
EHUE Lg 07 22 24.0
56nm,2.0s,SNR=7.9
EHUE Huescar 5.05 226 Pg **Pg 07 21 15.0 -3.4**
1.3nm,0.2s,SNR=7.9
EHUE Sn **Sn 07 21 52.2 -3.6**

3.8nm,0.7s,SNR=7.9
EHUE Lg 07 22 24.0
56nm,2.0s,SNR=7.9
BGF Bois d'Agland 5.17 7 *e*Pg **Pg 07 21 19.0 -1.5**
SNR=1.0
BGF *e*Sg **Sg 07 22 25.8 -1.6**
36nm,0.4s
BGF Bois d'Agland 5.17 7 *e*Pg **Pg 07 21 19.0 -1.5**
SNR=1.0
BGF *e*Sg **Sg 07 22 25.8 -1.6**
18nm,0.4s
EQES Quesada 5.32 229 Pn **Pn 07 21 01.7 +0.5**
1.8nm,0.2s,SNR=4.0
EQES Quesada 5.32 229 Pn **Pn 07 21 01.7 +0.5**
1.8nm,0.2s,SNR=4.0
PGF Pioggiola 5.35 76 *e*Pn **Pn 07 21 01.4 -0.1**
SNR=1.0
PGF *e*Sn **Sn 07 21 59.2 -3.9**
5.7nm,0.3s,SNR=1.0
PGF Pioggiola 5.35 76 *e*Pn **Pn 07 21 01.4 -0.1**
SNR=1.0
PGF *e*Sn **Sn 07 21 59.2 -3.9**
2.8nm,0.3s,SNR=1.0
SMF Signal de Mont 5.38 14 *e*Pg **Pg 07 21 23.6 -1.1**
SNR=1.0
SMF *e*Sg **Sg 07 22 31.8 -2.6**
8.2nm,0.4s,SNR=1.0
SMF Signal de Mont 5.38 14 *e*Pg **Pg 07 21 23.6 -1.1**
SNR=1.0
SMF *e*Sg **Sg 07 22 31.8 -2.6**
4.1nm,0.4s,SNR=1.0
MFF Saint Martin d 5.39 344 *e*Pg **Pg 07 21 23.0 -1.9**
SNR=1.0
MFF *e*Sg **Sg 07 22 33.6 -1.2**
4.4nm,0.2s
MFF Saint Martin d 5.39 344 Pn **Pn 07 21 02.4 +0.3**
MFF Pg **Pg 07 21 23.0 -1.9**
MFF Lg 07 22 33.6
2.2nm,0.2s
MFF Saint Martin d 5.39 344 *e*Pg **Pg 07 21 23.0 -1.9**
SNR=1.0
MFF *e*Sg **Sg 07 22 33.6 -1.2**
2.2nm,0.2s
MFF Saint Martin d 5.39 344 *e*Pn **Pn 07 21 02.4 +0.3**
MFF *e*Pg **Pg 07 21 23.0 -1.9**
MFF *e*Sg **Sg 07 22 33.6 -1.2**
AVF Avril sur Loir 5.45 10 *e*Pg **Pg 07 21 24.5 -1.5**
SNR=1.0
AVF *e*Sg **Sg 07 22 34.3 -2.2**
9.2nm,0.4s,SNR=1.0
AVF Avril sur Loir 5.45 10 Pg **Pg 07 21 24.5 -1.5**
AVF Lg 07 22 34.3
4.6nm,0.4s
EARI Arriondas 5.65 292 Pn **Pn 07 21 07.1 +1.4**
0.6nm,0.3s,SNR=7.9
EARI Sn **Sn 07 22 08.2 -2.3**
22nm,0.7s,SNR=7.9
EARI Arriondas 5.65 292 Pn **Pn 07 21 07.1 +1.5**
0.6nm,0.3s,SNR=7.9
EARI Sn **Sn 07 22 08.2 -2.3**
22nm,0.7s,SNR=7.9
SSF Saint Saulge 5.74 10 *e*Pg **Pg 07 21 29.5 -2.0**
SNR=1.0
SSF *e*Sg **Sg 07 22 43.6 -2.1**
5.3nm,0.4s,SNR=1.0
SSF Saint Saulge 5.74 10 *e*Pg **Pg 07 21 29.5 -2.0**
SNR=1.0
SSF *e*Sg **Sg 07 22 43.6 -2.1**
2.7nm,0.4s,SNR=1.0
CABF La Chapelle 5.96 28 *e*Sg **Sg 07 22 51.9 -1.1**
8.1nm,0.5s
CABF La Chapelle 5.96 28 *e*Sg **Sg 07 22 51.9 -1.1**
4.1nm,0.5s
LOR Lormes 5.99 12 *e*Pg **Pg 07 21 34.9 -1.4**
LOR *e*Sn **Sn 07 22 15.7 -3.2**
LOR *e*Sg **Sg 07 22 51.3 -2.6**
9.0nm,0.4s,SNR=1.0
LOR Lormes 5.99 12 *e*Pg **Pg 07 21 34.9 -1.4**
LOR *e*Sn **Sn 07 22 15.7 -3.2**
LOR *e*Sg **Sg 07 22 51.3 -2.6**
4.5nm,0.4s,SNR=1.0
EADA Adamuz 6.01 239 Pg **Pg 07 21 32.7 -4.0**
0.1nm,0.1s,SNR=7.9
EADA Sn **Sn 07 22 14.6 -4.9**
1.8nm,0.4s,SNR=7.9
EADA Lg 07 22 53.9
3.3nm,0.5s,SNR=7.9
EADA Adamuz 6.01 239 Pg **Pg 07 21 32.7 -4.0**
0.1nm,0.1s,SNR=7.9
EADA Sn **Sn 07 22 14.6 -4.9**
1.8nm,0.4s,SNR=7.9
EADA Lg 07 22 53.9
3.3nm,0.5s,SNR=7.9
ECAL Calabor 6.55 277 Pn **Pn 07 21 18.2 +0.2**
2.3nm,0.2s,SNR=7.9
ECAL Pg **Pg 07 21 42.1 -4.9**
1.3nm,0.4s,SNR=7.9
ECAL Sn **Sn 07 22 29.7 -3.0**
21nm,0.8s,SNR=7.9
ECAL Calabor 6.55 277 Pn **Pn 07 21 18.2 +0.2**
2.3nm,0.2s,SNR=7.9
ECAL Calabor 6.55 277 Pg **Pg 07 21 42.1 -4.9**
1.3nm,0.4s,SNR=7.9
ECAL Sn **Sn 07 22 29.7 -3.0**
21nm,0.8s,SNR=7.9
ECAB El Cabril 6.61 242 Lg 07 23 14.4
88nm,2.0s,SNR=4.0
ECAB El Cabril 6.61 242 Lg 07 23 14.4
88nm,2.0s,SNR=4.0
EPON Pontenova 7.02 289 Pn **Pn 07 21 24.9 +0.3**
0.3nm,0.1s,SNR=7.9
EPON Sn **Sn 07 22 40.3 -4.1**
7.9nm,0.8s,SNR=4.0
LDF La Druitiere 7.32 349 *e*Pn **Pn 07 21 28.6 +0.1**
QUIF Quistinic 7.45 332 *e*Pn **Pn 07 21 29.9 -0.5**
ELOB Lobios 7.54 277 Pn **Pn 07 21 31.6 0.0**
0.4nm,0.1s,SNR=7.9
ELOB Sn **Sn 07 22 52.3 -4.7**
12nm,0.8s,SNR=7.9
ELOB Lg 07 23 43.1
2.0nm,0.6s,SNR=4.0
ELOB Lobios 7.54 277 Pn **Pn 07 21 31.6 0.0**
0.4nm,0.1s,SNR=7.9
ELOB Sn **Sn 07 22 52.3 -4.7**
12nm,0.8s,SNR=7.9
ELOB Lg 07 23 43.1
2.0nm,0.6s,SNR=4.0
FLN La Foliniere 7.54 347 *e*Pn **Pn 07 21 31.6 +0.1**
SGMF Saint Gilles 7.55 336 *e*Pn **Pn 07 21 31.8 +0.1**
ROSF Rostrenen 7.85 333 *e*Pn **Pn 07 21 35.7 -0.1**

IDC ***11*** *07:44:13.5±2.8, 244S×140.44E, h0km, mb4.0/5, mb1 4.3/6, mb1mx4.0/14, mbtmp4.1/6, ML4.4/1, MS3.2/3, Ms1 3.2/3, ms1mx2.8/23, Error ellipse: s-maj=85.0km s-min=23.1km az=90.0*
ISCJB ***11*** *07:44:17.2±4.0, 256S±008×140.0E±03, h26km±26km, mb4.0/4, Error ellipse: s-maj=45.4km s-min=13.3km az=179.5*
NEIC ***11*** *07:44:19.6±1.2, 254S×140.13E, h35km, mb4.1/2, Error ellipse: s-maj=29.9km s-min=12.0km az=92.0*
ISC 11 07:44:21.0±3.4, 26S±01×1401E±03, h46km±26km, n13, σ1♀02/13, mb4.0/4, Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KAKA	**Kakadu**	**12.56**	**217**	*e*P	**Pn**	**07 47 15.5**	**-1.7**
	20nm,0.5s						
GUMO	**Guam**	**16.78**	**16**	LR	LR	07 53 12.6	
	comp=Z,59nm,19.2s,baz=191,slow=33						
WB2	**Warramunga Arr**	**18.11**	**198**	*e*Pn	**Pn**	**07 48 29.4**	**+0.1**
WRA	**Warramunga Arr**	**18.11**	**198**	P	**Pn**	**07 48 30.1**	**+0.7**
	1.3nm,0.3s,baz=20,slow=12,SNR=66						
WRA				S	**S**	**07 51 45.0**	**-10**
	0.1nm,0.3s,baz=11,slow=22,SNR=5.3						
WRA				LR	LR	07 56 24.0	
	comp=Z,76nm,19.7s,baz=30,slow=40						
KAPI	**Kappang**	**20.42**	**263**	*e*P	**P**	**07 48 54.6**	**0.0**
	3.0nm,0.4s						
FITZ	**Fitzroy Crossi**	**20.91**	**222**	*e*P	**P**	**07 49 01.5**	**+1.7**
	10nm,0.9s						
FITZ	**Fitzroy Crossi**	**20.91**	**222**	P	**P**	**07 49 01.4**	**+1.6**
	1.9nm,0.5s,baz=82,slow=14,SNR=7.7						
FITZ				LR	LR	07 58 15.0	
	comp=Z,63nm,18.4s,baz=238,slow=40						
ASAR	**Alice Springs**	**21.77**	**195**	P	**P**	**07 49 09.7**	**+0.7**
	6.8nm,0.5s,mb4.3,baz=28,slow=11,SNR=78						
ASAR				S	**S**	**07 53 05.4**	**-1.8**
	0.7nm,1.0s,baz=16,slow=23,SNR=2.8						
CMAR	**Chiang Mai Arr**	**45.58**	**299**	P	**P**	**07 52 37.6**	**+0.7**
	0.7nm,0.3s,mb4.0,baz=120,slow=6.0,SNR=8.8						
MKAR	**Makanchi Array**	**70.55**	**322**	P	**P**	**07 55 31.0**	**-0.3**
	1.3nm,0.8s,mb3.9,baz=119,slow=7.6,SNR=5.3						
ZALV	**Zalesovo Beam**	**72.54**	**329**	P	**P**	**07 55 41.9**	**-1.2**
	0.7nm,0.4s,mb3.9,baz=106,slow=9.4,SNR=3.9						
ZALV	**Zalesovo Beam**	**72.54**	**329**	P	**P**	**07 55 41.9**	**-1.2**
DBIC	**Dimbokro**	**144.82**	**278**	PKPbc	PKPdf	08 03 53.8	-0.3
	9.7nm,1.1s,baz=86,slow=1.6,SNR=5.2						

ISCJB ***11*** *07:50:19.7±0.6, 3824N±004×3907E±004, h10km, Error ellipse: s-maj=6.3km s-min=4.0km az=2.1*
CSEM ***11*** *07:50:19.3±0.2, 3832N×3904E, h10km, MD2.9, Error ellipse: s-maj=5.2km s-min=3.7km az=168.0*
DDA ***11*** *07:50:19.7, 3824N×3905E, h7km±5km, Md3.0*
ISK ***11*** *07:50:19.1, 3832N×3902E, h5km, MD2.9*
ISC 11 07:50:20.2±0.6, 3824N±006×3905E±004, h11km±9km, n10, σ0♀98/17, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SVRC	**Sivrice-ELAZID**	**0.24**	**56**	*e*PG	**Pg**	**07 50 24.1**	**-1.0**
SVRC				*e*SG	**Sg**	**07 50 29.0**	**+0.5**
ELZG	**Elazig**	**0.26**	**348**	*i* P	**Pg**	**07 50 25.1**	**-0.4**
ELZG				*i* S	**Sg**	**07 50 29.8**	**+0.7**
MYA	**Malataya**	**0.50**	**280**	*e*PG	**Pg**	**07 50 29.2**	**-0.8**
MYA				*e*SG	**Sg**	**07 50 37.0**	**+0.4**
PTK	**Pertek**	**0.70**	**22**	*e*PG	**Pg**	**07 50 32.6**	**-1.1**
URFA	**Urfa**	**0.82**	**193**	*e*PG	**Pn**	**07 50 37.5**	**-0.2**
AKCD	**Akcadag**	**0.89**	**274**	*i* P	**Pg**	**07 50 36.1**	**-1.2**
AKCD				*i* S	**Sg**	**07 50 50.7**	**+1.7**
DIYA	**Diyarbakir**	**0.90**	**110**	*i* P	**Pg**	**07 50 37.7**	**+0.2**
DIYA				*i* S	**Sg**	**07 50 53.5**	**+4.2**
GZT	**Gaziantep**	**1.48**	**234**	*i* P	**Pn**	**07 50 46.2**	**-0.5**
GZT				*i* S	**Sn**	**07 51 10.3**	**+4.3**
BEST	**Besiri**	**1.78**	**101**	*i* P	**Pg**	**07 50 53.3**	**-1.0**
BEST				*i* S	**Sg**	**07 51 19.5**	**+1.9**
SVSK	**Karacayir**	**2.31**	**317**	*e*PN	**Pn**	**07 50 59.1**	**+0.9**

NEIC ***11*** *07:54:12.5±1.2, 5026N×1898E, h5km, MG2.5(WAR), Error ellipse: s-maj=18.3km s-min=6.9km az=179.0*
PRU ***11*** *07:54:13.1, 5026N×1897E, h0km*
WAR 11 07:54:13.0, 5023N×1911E, ML2.5, Mining Induced, Poland

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OJC	**Ojcow**	**0.44**	**91**	*e*Pg	Pg	07 54 21.7	+0.2
OJC				*e*Sg	Sg	07 54 28.3	+1.1
OKC	**Ostrava-Krasne**	**0.73**	**238**	*e*PG	Pg	07 54 24.6	-2.4
MORC	**Moravsky Berou**	**1.11**	**247**	*e*Pg	Pg	07 54 33.0	-1.2
MORC				*e*Sg	Sg	07 54 47.5	-1.0
NIE	**Niedzica**	**1.12**	**136**	*e*Pg	Pg	07 54 35.7	+1.2
NIE				*e*Sg	Sg	07 54 51.0	+2.0
NIE	**Niedzica**	**1.12**	**136**	*e*Pg	Pg	07 54 35.6	+1.1
NIE				*e*Sg	Sg	07 54 51.0	+2.0
STHS	**Stebnicka Huta**	**1.60**	**120**	*e*PN	Pn	07 54 44.0	+1.5
STHS				*e*SN	Sn	07 55 05.3	+1.4
KOLL	**Kolacno**	**1.71**	**196**	*e*	Sg	07 55 07.6	-0.4
VYHS	**Vyhne**	**1.74**	**186**	*e*PN	Pn	07 54 43.7	-0.8
VYHS				*e*SN	Sn	07 55 05.6	-1.7
DPC	**Dobruska-Polom**	**1.79**	**275**	*e*PG	Pg	07 54 43.1	-4.2
DPC				*e*SG	Sg	07 55 06.8	-3.7
	14nm,0.5s						
UPC	**Upice**	**2.00**	**279**	*e*SG	Sg	07 55 13.8	-3.5
CRVS	**Cervenica-Dubn**	**2.03**	**130**	*e*SN	Sn	07 55 17.1	+2.8
PRU	**Pruhonice**	**2.95**	**267**	*e*SG	Sg	07 55 44.2	-3.5
BRG	**Berggiesshubel**	**3.36**	**283**	SG	Sg	07 55 58.5	-2.3
	3.8nm,0.5s						
KHC	**Kasperske Hory**	**3.75**	**255**	*e*SG	Sg	07 56 08.1	-5.5
	4.6nm,0.5s						
CLL	**Collm**	**4.02**	**288**	*e*Sg	Sg	07 56 22.0	-0.2

IDC ***11*** *07:59:56.3±0.6, 5570S×2746W, h0km, mb4.7/10, mb1 4.6/10, mb1mx4.4/18, mbtmp4.7/10, MS3.7/9, Ms1 3.7/9, ms1mx3.4/24, Error ellipse: s-maj=20.7km s-min=16.3km az=16.0*
ISCJB ***11*** *07:59:59.8±4.4, 557S±01×273W±02, h35km±42km, mb4.5/12, MS3.7/9, Error ellipse: s-maj=20.3km s-min=13.7km az=21.8*
NEIC ***11*** *08:00:01.6±0.4, 5568S×2736W, h35km, mb4.5/2, Error ellipse: s-maj=13.0km s-min=11.2km az=205.0*
ISC 11 08:00:01.9±3.8, 557S±01×273W±02, h38km±39km, n33, σ1♀07/20, mb4.5/12, MS3.7/9, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VNA3	**Neumayer Olymp**	**17.33**	**161**	*e*	**Pn**	**08 03 59.2**	**-1.3**
VNA2	**Neumayer--Watz**	**17.53**	**158**	*e*	**Pn**	**08 04 04.0**	**+1.0**
	baz=308,slow=8.8						
SNAA	**Sanae**	**19.08**	**156**	*e*	**Pn**	**08 04 21.1**	**-0.7**
SNAA	**Sanae**	**19.08**	**156**	*e*P	**Pn**	**08 04 20.4**	**-1.4**
	18nm,0.6s						
PMSA	**Palmer Station**	**20.05**	**228**	P	**P**	**08 04 33.7**	**+2.4**
	21nm,0.7s,baz=52,slow=6.5,SNR=5.5						
PMSA				LR	LR	08 11 08.5	
	comp=Z,150nm,18.7s,MS3.4,baz=70,slow=34						
USHA	**Ushuaia**	**23.18**	**255**	P	**P**	**08 05 04.6**	**-0.3**
	34nm,1.2s,mb4.6,baz=27,slow=7.1,SNR=5.8						
USHA				LR	LR	08 12 05.3	
	comp=Z,158nm,21.3s,MS3.4,baz=52,slow=32						
PLCA	**Paso Flores**	**31.86**	**280**	LR	LR	08 19 19.9	
	comp=Z,72nm,20.5s,MS3.3,baz=162,slow=37						
QSPA	**South Pole Qui**	**34.53**	**180**	P	**P**	**08 06 46.5**	**+0.6**
	7.5nm,0.6s,mb4.8,baz=200,slow=2.8,SNR=58						
CPUP	**Villa Florida**	**36.53**	**311**	P	**P**	**08 07 03.1**	**-0.4**
	3.4nm,0.6s,mb4.4,baz=131,slow=8.0,SNR=8.6						
CPUP				LR	LR	08 19 56.6	
	comp=Z,69nm,18.4s,MS3.5,baz=299,slow=33						
CFAA	**Coronel Fontan**	**37.35**	**293**	P	**P**	**08 07 08.0**	**-2.5**
	0.2nm,0.4s,mb3.3,baz=132,slow=7.7,SNR=11						
CFAA				PcP	PcP	08 09 29.2	+0.3
	0.2nm,0.5s,baz=162,slow=3.7,SNR=6.9						
CFAA	**Coronel Fontan**	**37.35**	**293**	P	**P**	**08 07 08.0**	**-2.5**
CFAA				PcP	PcP	08 09 29.2	+0.2
MAW	**Mawson**	**40.47**	**144**	P	**P**	**08 07 36.4**	**+0.2**
	2.5nm,0.6s,mb4.2,baz=230,slow=7.5,SNR=7.0						
SUR	**Sutherland**	**40.64**	**75**	P	**P**	**08 07 38.6**	**+0.6**
	10nm,0.7s,mb4.6,baz=216,slow=9.9,SNR=12						
SUR	**Sutherland**	**40.64**	**75**	P	**P**	**08 07 38.6**	**+0.6**
LVC	**Limon Verde**	**45.06**	**300**	LR	LR	08 24 46.9	
	comp=Z,48nm,18.1s,MS3.5,baz=95,slow=33						
LVC	**Limon Verde**	**45.06**	**300**	*e*P	**P**	**08 08 14.3**	**+0.5**
	4.8nm,0.6s,mb4.5						
BOSA	**Boshof**	**45.97**	**76**	P	**P**	**08 08 21.8**	**+0.7**
	10.0nm,0.8s,mb4.8,baz=217,slow=7.7,SNR=12						
BOSA				LR	LR	08 23 25.4	
	comp=Z,130nm,18.6s,MS3.9,baz=50,slow=31						
BOSA	**Boshof**	**45.97**	**76**	P	**P**	**08 08 21.8**	**+0.7**
BOSA				LR	LR	08 23 25.4	
LPAZ	**La Paz**	**50.11**	**305**	P	**P**	**08 08 54.0**	**+0.9**
	3.3nm,0.4s,mb4.7,baz=117,slow=6.8,SNR=27						
DBIC	**Dimbokro**	**64.90**	**25**	P	**P**	**08 10 36.5**	**-0.7**
	4.6nm,0.9s,mb4.5,baz=189,slow=7.6,SNR=3.7						
DBIC				LR	LR	08 31 20.5	
	comp=Z,92nm,20.8s,MS4.0,baz=126,slow=29						
TORD	**Torodi Ar. Bea**	**72.81**	**30**	P	**P**	**08 11 26.9**	**+0.6**
	14nm,0.5s,mb5.1,baz=199,slow=6.5,SNR=217						
TORD				LR	LR	08 35 05.7	
	comp=Z,74nm,19.5s,MS4.0,baz=0.0,slow=29						
STKA	**Stephens Creek**	**92.25**	**171**	LR	LR	08 53 12.9	
	comp=Z,69nm,18.7s,MS4.1,baz=22,slow=35						
ASAR	**Alice Springs**	**99.33**	**163**	P	**P**	**08 13 38.6**	**-1.4**
	0.7nm,0.8s,mb4.3,baz=190,slow=3.8,SNR=12						
WRA	**Warramunga Arr**	**103.05**	**162**	Pdiff	Pdif	08 13 55.1	-1.5
	0.7nm,1.1s,baz=197,slow=4.3,SNR=4.0						
NVAR	**Mina Array Bea**	**121.18**	**293**	PKP	PKPdf	08 18 50.0	+0.2
	0.4nm,0.5s,baz=103,slow=2.8,SNR=5.2						
ARCES	**ARCESS Array B**	**130.67**	**22**	PKP	PKPdf	08 19 08.9	+2.0
	4.3nm,0.9s,baz=199,slow=1.9,SNR=5.6						
BVAR	**Borovoye Array**	**134.67**	**57**	PKP	PKPdf	08 19 16.6	+1.6
	0.5nm,0.4s,baz=211,slow=0.8,SNR=3.2						
YKA	**Yellowknife Ar**	**135.86**	**318**	PKP	PKPdf	08 19 17.6	+0.7
	1.6nm,0.6s,baz=130,slow=2.3,SNR=6.5						
YKA	**Yellowknife Ar**	**135.86**	**318**	PKP	PKPdf	08 19 17.6	+0.7
SONM	**Songino Array**	**150.79**	**86**	PKPbc	PKPbc	08 19 48.2	-0.8
	1.3nm,0.5s,baz=223,slow=4.4,SNR=4.8						
KTH	**Kantishna Hill**	**151.33**	**309**	*e*PKPbc	PKPbc	08 19 49.6	-0.2
COLD	**Coldfoot**	**151.52**	**317**	*e*PKPbc	PKPbc	08 19 50.2	+0.1
PPLA	**Purkeypile**	**151.76**	**307**	*e*PKPbc	PKPbc	08 19 50.7	-0.1

IDC 11 08:14:17.1±2.4, 984N×9355E, h0km, mb3.5/3, mb1 3.8/4, mb1mx3.5/21, mbtmp3.6/4, ML4.3/1, Error ellipse: s-maj=76.8km s-min=27.2km az=67.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**10.03**	**31**	Pn	Pn	08 16 43.4	+0.8
	0.7nm,0.3s,baz=216,slow=14,SNR=9.4						
MKAR	**Makanchi Array**	**38.05**	**347**	P	P	08 21 36.6	-0.6
	0.7nm,0.7s,baz=158,slow=7.8,SNR=4.3						
WRA	**Warramunga Arr**	**49.88**	**127**	P	P	08 23 12.1	-0.6
	0.5nm,0.6s,baz=304,slow=8.6,SNR=9.6						
ASAR	**Alice Springs**	**51.63**	**131**	P	P	08 23 26.9	+1.1
	1.0nm,1.1s,baz=307,slow=8.2,SNR=4.2						

CSEM ***11*** *08:17:41.2±0.2, 3937N×2029E, h15km, ML2.5/2, Error ellipse: s-maj=6.7km s-min=4.9km az=73.0*
ISCJB ***11*** *08:17:42.5±0.7, 3932N±004×2031E±006, h8km±9km, Error ellipse: s-maj=8.2km s-min=6.0km az=165.0*
ATH ***11*** *08:17:42.1, 3939N×2030E, h42km±7km, MD3.3/4*
NEIC ***11*** *08:17:42.1, 3939N×2030E, h42km, MD3.3(ATH), After ATH.*
THE ***11*** *08:17:42.0, 3932N×2024E, h12km±1km, ML2.5/2, Error ellipse: s-maj=3.5km s-min=0.6km az=82.0*
ISC 11 08:17:42.7±0.7, 3933N±004×2031E±006, h15km±7km, n12, σ0♀94/21, Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IGT	**Igoumenitsa**	**0.21**	**5**	P	**Pg**	**08 17 46.4**	**-1.0**
IGT				S	**Sg**	**08 17 50.6**	**-0.1**
JAN	**Janina**	**0.53**	**52**	*e*P	**Pg**	**08 17 52.9**	**-0.3**
JAN				*e*S	**Sg**	**08 18 02.1**	**+1.7**
JAN	**Janina**	**0.53**	**52**	*e*P	**Pg**	**08 17 52.9**	**-0.3**
JAN				*e*S	**Sg**	**08 18 02.1**	**+1.7**
KEK	**Kerkira**	**0.55**	**315**	*e*P	**Pg**	**08 17 53.0**	**-0.6**
KEK				*e*S	**Sg**	**08 18 02.2**	**+1.3**
KEK	**Kerkira**	**0.55**	**315**	*e*P	**Pg**	**08 17 53.0**	**-0.6**
KEK				*e*S	**Sg**	**08 18 02.2**	**+1.3**
LKD	**Levkas**	**0.67**	**157**	P	**Pg**	**08 17 54.6**	**-1.3**
LKD				S	**Sg**	**08 18 05.4**	**+0.6**
MEV	**Metsovon**	**0.85**	**57**	P	**Pb**	**08 17 58.6**	**-0.5**
VLS	**Valsamata**	**1.17**	**169**	P	**Pn**	**08 18 03.6**	**-0.9**
VLS				S	**Sb**	**08 18 19.8**	**+0.3**
VLS	**Valsamata**	**1.17**	**169**	*e*P	**Pn**	**08 18 04.8**	**+0.3**
VLS				*e*S	**Sb**	**08 18 21.1**	**+1.6**
VLS	**Valsamata**	**1.17**	**169**	*e*P	**Pn**	**08 18 04.8**	**+0.3**
VLS				*e*S	**Sb**	**08 18 21.1**	**+1.6**
EVR	**Evrytania**	**1.24**	**109**	*e*P	**Pn**	**08 18 04.7**	**-0.7**
EVR	**Evrytania**	**1.24**	**109**	*e*P	**Pn**	**08 18 04.7**	**-0.7**

IDC 11 08:55:28.1±2.3, 229N×12771E, h0km, mb3.3/3, mb1 3.5/3, mb1mx3.4/15, mbtmp3.3/3, Error ellipse: s-maj=166.6km s-min=27.9km az=67.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**23.03**	**164**	P	P	09 00 34.0	-1.1
	0.4nm,0.7s,baz=343,slow=10,SNR=6.4						
ASAR	**Alice Springs**	**26.50**	**167**	P	P	09 01 08.2	+0.8
	0.2nm,0.9s,baz=352,slow=7.9,SNR=4.2						
MKAR	**Makanchi Array**	**59.29**	**325**	P	P	09 05 32.0	+0.4
	0.5nm,0.5s,baz=120,slow=7.2,SNR=3.6						

IDC 11 09:03:52.0±1.2, 097N×12556E, h0km, mb3.9/4, mb1 4.1/6, mb1mx3.8/19, mbtmp3.9/6, ML3.5/2, Error ellipse: s-maj=53.3km s-min=19.6km az=70.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KAPI	**Kappang**	**8.30**	**224**	Pn	Pn	09 05 53.5	-0.3
	1.1nm,0.3s,baz=29,slow=10,SNR=3.4						
FITZ	**Fitzroy Crossi**	**18.95**	**180**	P	Pn	09 08 13.5	-1.9
	0.1nm,0.3s,baz=41,slow=11,SNR=3.7						
WRA	**Warramunga Arr**	**22.49**	**158**	P	P	09 08 53.0	-0.2
	2.8nm,0.9s,baz=338,slow=10,SNR=15						
ASAR	**Alice Springs**	**25.79**	**162**	P	P	09 09 25.7	+0.8
	2.1nm,0.6s,baz=339,slow=7.2,SNR=33						
MKAR	**Makanchi Array**	**59.18**	**327**	P	P	09 13 55.4	+0.6
	0.5nm,0.4s,baz=124,slow=7.7,SNR=7.0						
KURK	**Kurchatov**	**63.45**	**329**	P	P	09 14 23.2	-0.5
	0.7nm,0.4s,baz=133,slow=6.6,SNR=3.6						
TORD	**Torodi Ar. Bea**	**122.61**	**286**	PKP	PKPdf	09 22 50.4	-0.4
	0.3nm,0.7s,baz=51,slow=2.8,SNR=2.3						

IDC ***11*** *09:15:12.8±2.1, 5382N×8816E, h0km, mb1 3.6/3, mb1mx3.4/24, mbtmp3.6/3, ML3.6/3, Error ellipse: s-maj=18.7km s-min=9.7km az=86.0*
ISC 11 09:15:18.6±2.2, 5383N±008×879E±02, h35km, n6, σ0♀87/11, 4C-2D, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ZALV	**Zalesovo Beam**	**1.85**	**275**	Pn	**Pn**	**09 15 48.0**	**+0.2**
	8.5nm,0.3s,baz=92,slow=12,SNR=71						
ZALV				Lg		09 16 15.4	
	28nm,0.3s,baz=96,slow=24,SNR=29						
KURK	**Kurchatov**	**6.51**	**245**	Pn	**Pn**	**09 16 53.2**	**+1.4**
	1.0nm,0.3s,baz=62,slow=14,SNR=57						
KURK				Sn	**Sn**	**09 18 08.9**	**+4.1**
	0.3nm,0.3s,baz=56,slow=20,SNR=6.8						
KURK				Lg		09 18 44.7	
	0.3nm,0.3s,baz=58,slow=30,SNR=6.7						
KURBB	**Kurchatov Arra**	**6.61**	**245**	⇑Pn	**Pn**	**09 16 53.3**	**+0.2**
	1.2nm,0.5s						
KURBB				⇑Sn	**Sn**	**09 18 07.8**	**+0.7**
	2.2nm,0.6s						
KURBB				⇓Lg		09 18 42.3	
	2.6nm,0.6s						
MK31	**Makanchi Array**	**7.91**	**209**	⇑Pn	**Pn**	**09 17 10.3**	**-0.6**
	1.6nm,0.7s,baz=33,slow=13,SNR=14						
MK31				⇓Sn	**Sn**	**09 18 39.1**	**-0.1**
	1.1nm,0.5s,baz=29,slow=21,SNR=4.7						
MK31				⇑Lg		09 19 21.8	
	3.2nm,0.7s						
MKAR	**Makanchi Array**	**7.91**	**209**	Pn	**Pn**	**09 17 10.6**	**-0.4**
	0.4nm,0.3s,baz=30,slow=14,SNR=13						
MKAR				Sn	**Sn**	**09 18 38.9**	**-0.3**
	0.6nm,0.3s,baz=27,slow=30,SNR=5.4						
MKAR				Lg		09 19 23.4	
	0.4nm,0.3s,baz=32,slow=30,SNR=5.3						
BVAR	**Borovoye Array**	**10.51**	**273**	Pn	**Pn**	**09 17 46.5**	**0.0**
	0.5nm,0.3s,baz=76,slow=15,SNR=4.7				

JKRS				*e*S		**Sb**	**09 43 10.0**	**+0.2**
HATJ	**Hateruma jima**	**1.14**	**281**	P		**Pn**	**09 42 59.0**	**+0.1**
HATJ				*e*S		**Sb**	**09 43 13.0**	**-0.5**
IRIF	**Iriomote-Funau**	**1.29**	**293**	P		**Pn**	**09 43 00.8**	**-0.1**
YOJ	**Yonaguni jima**	**1.94**	**289**	P		**Pn**	**09 43 10.2**	**+0.3**
JKE	**Kume jima 2**	**2.94**	**32**	P		**Pn**	**09 43 23.0**	**-0.7**
JOW	**Kunigami**	**4.18**	**44**	Pn		**Pn**	**09 43 40.4**	**-0.3**
	1.4nm,0.3s,baz=34,slow=18,SNR=10							
JOW				Sn		**Sn**	**09 44 28.8**	**-0.5**
	2.4nm,0.3s,baz=138,slow=23,SNR=3.1							
JOW				LR		LR	09 45 24.6	
	comp=Z,112nm,20.8s,baz=276,slow=40							
JOW	**Kunigami**	**4.18**	**44**	P		**Pn**	**09 43 41.0**	**+0.3**
JTK	**Tokunoshima**	**5.29**	**41**	P		**Pn**	**09 43 54.3**	**-1.6**
JMZ	**Minamidaito 2**	**5.96**	**69**	P		**Pn**	**09 44 02.6**	**-2.6**
KSRS	**Korea Array**	**13.80**	**10**	Pn		**Pn**	**09 45 51.7**	**-0.8**
	0.3nm,0.3s,baz=115,slow=19,SNR=3.4							
KSRS				LR		LR	09 51 34.5	
	comp=Z,60nm,18.4s,baz=180,slow=39							
MJAR	**Matsushiro Arr**	**17.01**	**39**	Pn		**Pn**	**09 46 36.1**	**+1.3**
	0.2nm,0.3s,baz=230,slow=9.3,SNR=4.7							
CMAR	**Chiang Mai Arr**	**24.89**	**263**	LR		LR	09 58 51.6	
	comp=Z,31nm,19.3s,MS2.8,baz=60,slow=39							
SONM	**Songino Array**	**28.17**	**333**	LR		LR	09 59 35.1	
	comp=Z,37nm,21.8s,MS2.9,baz=234,slow=36							
PETK	**Petropavlovsk-**	**38.25**	**32**	LR		LR	10 08 30.6	
	comp=Z,9.7nm,18.3s,MS2.6,baz=77,slow=41							
MKAR	**Makanchi Array**	**41.05**	**315**	P		**P**	**09 50 19.9**	**-0.2**
	1.3nm,0.5s,mb3.8,baz=101,slow=10,SNR=6.8							
MKAR				LR		LR	10 10 13.3	
	comp=Z,16nm,18.0s,MS2.9,baz=176,slow=40							
ZALV	**Zalesovo Beam**	**42.48**	**326**	P		**P**	**09 50 29.8**	**-1.9**
	2.0nm,0.6s,mb4.0,baz=110,slow=8.0,SNR=4.7							
WRA	**Warramunga Arr**	**44.45**	**167**	P		**P**	**09 50 48.9**	**+1.0**
	0.7nm,0.8s,mb3.4,baz=348,slow=8.8,SNR=7.2							
KURK	**Kurchatov**	**44.63**	**319**	P		**P**	**09 50 49.0**	**-0.1**
	0.8nm,0.6s,mb3.7,baz=111,slow=8.8,SNR=5.6							
ASAR	**Alice Springs**	**48.00**	**169**	P		**P**	**09 51 17.7**	**+1.9**
	0.3nm,0.6s,mb3.5,baz=354,slow=12,SNR=6.6							
CTA	**Charters Tower**	**48.31**	**153**	LR		LR	10 13 02.9	
	comp=Z,60nm,18.1s,MS3.6,baz=232,slow=38							
RPZ	**Rata Peaks**	**79.38**	**148**	LR		LR	10 25 01.4	
	comp=Z,405nm,19.7s,MS4.8,baz=28,slow=32							
NOA	**NORSAR Array B**	**80.15**	**333**	P		**P**	**09 54 46.9**	**+0.3**
	0.9nm,0.7s,mb3.8,baz=57,slow=5.8,SNR=3.0							

CASC 11 09:58:17.9±2.0, 1186N×8672W, h95km±10km, MD4.1, ML3.3, 5C-10D, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID		ISC	Time	Res
				Op			h m s	ISC
COPN	**Copaltepe**	**0.34**	**21**	*e*S		Sn	09 58 43.4	+0.7
CRUN	**El Crucero**	**0.43**	**73**	*i*P		Pn	09 58 33.7	+1.1
CSAN		**0.43**	**42**	*i*P		Pn	09 58 32.9	+0.2
CSAN				*e*S		Sn	09 58 43.8	+0.1
APYN	**Apoyeque**	**0.52**	**44**	*e*P		Pn	09 58 32.8	-0.5
APYN				*e*S		Sn	09 58 46.5	+1.7
MGAN	**Managua**	**0.54**	**58**	*e*P		Pn	09 58 33.5	0.0
MGAN				*e*S		Sn	09 58 45.3	+0.2
MOMN	**Momotombo**	**0.57**	**18**	*i*P		Pn	09 58 33.7	-0.1
MOMN				*e*S		Sn	09 58 45.9	+0.3
MIRN	**Miramar**	**0.58**	**1**	*e*P		Pn	09 58 33.9	0.0
MIRN				*e*S		Sn	09 58 47.5	+1.9
APON	**Apoyo**	**0.64**	**85**	*e*P		Pn	09 58 34.5	+0.2
APON				*e*S		Sn	09 58 47.1	+0.5
CNCH	**Conchagua**	**1.78**	**322**	*e*P		x	09 58 47.6	
CNCH				*e*S		x	09 59 11.3	
CNCH				AML		x	09 59 18.0	
	comp=Z,294nm,0.2s							
VCR	**Vista de Mar**	**2.02**	**148**	*e*P		Pn	09 58 52.0	+1.4
BLLM	**Bellamira**	**2.16**	**317**	*e*P		x	09 58 52.9	
VSM	**San Miguel**	**2.18**	**316**	*e*P		x	09 58 53.7	
TGUH	**Tegucigalpa,Un**	**2.25**	**346**	*i*P		Pn	09 58 53.1	-0.5
JTS	**JuntasAbangare**	**2.33**	**132**	*e*P		Pn	09 58 54.6	-0.1
CAHU	**Cacacuatique**	**2.40**	**323**	*e*P		x	09 58 55.8	
JCR	**Jicaral**	**2.54**	**142**	*e*P		Pn	09 58 58.7	+1.2
JCR				*e*S		Sn	09 59 27.6	-0.2
CAO	**Cobano**	**2.67**	**143**	*e*P		Pn	09 59 00.2	+1.1
CAO				*e*S		Sn	09 59 31.3	+0.6
CGA2	**Cerro Gallo 2**	**2.87**	**129**	*e*P		Pn	09 59 02.3	+0.4
CGA2				*e*S		Sn	09 59 37.9	+2.3
LFRS	**El Faro**	**2.88**	**308**	*e*P		x	09 59 03.0	
LFRS				*e*S		x	09 59 35.3	
PRS1	**Puriscal**	**3.01**	**128**	*e*P		Pn	09 59 05.1	+1.5
SNET	**Serv Nac Est T**	**3.05**	**307**	*e*P		x	09 59 05.9	
BOQS	**Boqueron**	**3.12**	**307**	*e*P		x	09 59 07.1	
BOQS				*e*S		x	09 59 43.0	
SBLS	**San Blas**	**3.45**	**305**	*e*P		x	09 59 11.3	
SBLS				*e*S		x	09 59 53.6	
URSC	**Urasca**	**3.52**	**125**	*e*P		Pn	09 59 10.9	+0.4
URSC				*e*S		Sn	09 59 54.7	+3.5
BUS	**Buena Vista**	**3.70**	**128**	*e*P		Pn	09 59 14.0	+1.1
BUS				*e*S		Sn	09 59 58.8	+3.1
BAR1		**4.24**	**127**	*e*P		Pn	09 59 21.6	+1.3
ACR	**Cerro Adams**	**4.73**	**132**	*e*P		Pn	09 59 27.6	+0.7
CTCR	**Cotoan**	**4.88**	**127**	*e*P		Pn	09 59 29.7	+0.7
LAPE	**La Pedrera**	**15.52**	**105**	*i*P			09 58 45.5	

KRSC 11 10:02:42.9±0.4, 5191N×15897E, h42km±42km, ML3.7, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID		ISC	Time	Res
				Op			h m s	ISC
RUS	**Russkaya**	**0.59**	**332**	*e*P		Pn	10 02 55.9	+1.0
RUS				*i*S		Sn	10 03 04.9	+1.4
GRL	**Gorelyy**	**0.85**	**320**	*e*P		Pn	10 02 59.7	+1.4
GRL				*i*S		Sn	10 03 12.4	+2.8
PET	**Petropavlovsk**	**1.13**	**350**	*e*P		Pn	10 03 03.6	+1.4
PET				*i*S		Sn	10 03 17.7	+1.1
NLC	**Nalytchevo**	**1.28**	**10**	*e*P		Pn	10 03 05.0	+0.7
NLC				*i*S		Sn	10 03 20.9	+0.6
SPN	**Mys Shipunski**	**1.35**	**28**	*e*P		Pn	10 03 07.4	+2.1
SPN				*i*S		Sn	10 03 25.7	+3.7
AVH	**Avacha**	**1.36**	**354**	*e*P		Pn	10 03 07.5	+2.1
AVH				*i*S		Sn	10 03 25.9	+3.6
MIPR	**Malaya Ipel'ka**	**1.41**	**286**	*e*P		Pn	10 03 06.8	+0.7
MIPR				*i*S		Sn	10 03 24.3	+0.9
GNL	**Ganaly**	**1.89**	**341**	*e*P		Pn	10 03 15.1	+2.4
GNL				*i*S		Sn	10 03 39.3	+4.0
MKZ	**Mys Kozlova**	**3.13**	**31**	*e*P		Pn	10 03 31.2	+1.6
MKZ				*i*S		Sn	10 04 06.6	+1.0
KBTR	**Krutoberegovo**	**4.87**	**26**	*e*P		Pn	10 03 56.9	+3.5
KBTR				*i*S		Sn	10 04 52.2	+3.8

IDC 11 10:07:51.4±1.6, 2324S×11491W, h0km, mb3.8/6, mb1 4.2/6, mb1mx4.0/16, mbtmp3.8/6, MS3.8/5, Ms1 3.7/5, ms1mx3.3/24, Error ellipse: s-maj=49.8km s-min=30.4km az=36.0, Easter Island region

Code	Station Name	Δ°	AZ°	Phase ID		ISC	Time	Res
				Op			h m s	ISC
PLCA	**Paso Flores**	**40.99**	**126**	LR		LR	10 28 13.2	
	comp=Z,115nm,19.3s,baz=90,slow=30							
LPAZ	**La Paz**	**44.41**	**90**	P		P	10 16 06.2	+2.0
	1.1nm,1.0s,baz=309,slow=7.3,SNR=5.0							
USHA	**Ushuaia**	**46.64**	**145**	LR		LR	10 30 30.7	
	comp=Z,132nm,18.4s,baz=214,slow=29							
SIV	**San Ignacio**	**50.99**	**92**	P		P	10 16 54.0	-1.3
	0.4nm,0.4s,baz=287,slow=14,SNR=4.3							
CPUP	**Villa Florida**	**52.00**	**106**	LR		LR	10 35 52.2	
	comp=Z,37nm,20.1s,baz=73,slow=32							
TXAR	**Lajitas Array**	**53.38**	**12**	P		P	10 17 13.4	+0.6
	0.6nm,0.9s,baz=193,slow=10,SNR=5.3							
AFI	**Afiamalu**	**54.41**	**269**	LR		LR	10 33 24.3	
	comp=Z,128nm,21.9s,baz=56,slow=28							
NVAR	**Mina Array Bea**	**61.43**	**357**	P		P	10 18 11.1	+1.6
	2.0nm,0.8s,baz=185,slow=9.2,SNR=13							
PDAR	**Pinedale Array**	**65.86**	**4**	P		P	10 18 37.1	-1.5
	0.5nm,0.6s,baz=152,slow=6.7,SNR=4.3							
HNR	**Honiara**	**81.91**	**263**	LR		LR	10 47 10.3	
	comp=Z,54nm,21.1s,baz=139,slow=29							
YKA	**Yellowknife Ar**	**85.44**	**0**	P		P	10 20 29.7	-0.6
	2.4nm,1.0s,baz=182,slow=3.7,SNR=3.9							
ZALV	**Zalesovo Beam**	**145.92**	**339**	PKPbc		PKPbc	10 27 30.8	-1.7
	0.4nm,0.3s,baz=5.7,slow=5.8,SNR=2.7							
CMAR	**Chiang Mai Arr**	**148.05**	**268**	PKPbc		PKPbc	10 27 39.6	-0.1
	0.7nm,0.5s,baz=38,slow=0.8,SNR=6.5							

NEIC 11 10:19:12.1, 3659S×177.10E, h12km, ML5.1(WEL), After WEL.

NEIC Felt at Auckland.

IDC 11 10:19:13.2±1.1, 3687S×17686E, h0km, mb4.2/8, mb1 4.3/9, mb1mx4.3/16, mbtmp4.2/9, ML3.5/1, MS4.0/15, Ms1 4.0/15, ms1mx3.7/30, Error ellipse: s-maj=32.1km s-min=16.4km az=57.0

ISCJB 11 10:19:15.2±0.7, 3679S±005×17701E±006, h33km, mb4.2/10, MS4.0/15, Error ellipse: s-maj=9.2km s-min=4.7km az=44.5

ISC 11 10:19:17.0±0.7, 3681S±005×17694E±007, h35km, n56, σ1§44/43, mb4.2/10, MS4.0/15, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID		ISC	Time	Res
				Op			h m s	ISC
WIZ	**White Island**	**0.75**	**165**	P		**Pn**	**10 19 28.2**	**-2.9**
WIZ				S		**Sn**	**10 19 38.8**	**-2.4**
KUZ	**Kuaotunu**	**0.98**	**273**	P		**Pn**	**10 19 31.5**	**-2.8**
KUZ				S		**Sn**	**10 19 46.5**	**-0.5**
LIRZ	**Lichensteins R**	**1.28**	**200**	P		**Pn**	**10 19 37.6**	**-0.8**
MXZ	**Matakaoa Point**	**1.33**	**125**	P		**Pn**	**10 19 34.8**	**-4.2**
KARZ	**Kaharoa**	**1.34**	**204**	P		**Pn**	**10 19 39.1**	**-0.1**
MKAZ	**Moumakai**	**1.46**	**257**	P		**Pn**	**10 19 39.3**	**-1.5**
MKAZ				S		**Sn**	**10 20 02.0**	**+3.3**
URZ	**Urewera**	**1.46**	**175**	Pn		**Pn**	**10 19 39.0**	**-1.8**
	16nm,0.3s,baz=337,slow=8.7,SNR=28							
URZ				LR		LR	10 19 57.6	
	comp=Z,2μm,19.3s,baz=20,slow=32							
URZ				Sn		**Sn**	**10 20 01.3**	**+2.6**
	217nm,0.3s,baz=290,slow=23,SNR=14							
URZ	**Urewera**	**1.46**	**175**	P		**Pn**	**10 19 39.1**	**-1.8**
TOZ	**Tahuna Road**	**1.48**	**231**	P		**Pn**	**10 19 40.6**	**-0.5**
MWZ	**Matawai**	**1.60**	**163**	P		**Pn**	**10 19 40.5**	**-2.2**
OTAZ	**Otara**	**1.63**	**264**	P		**Pn**	**10 19 42.9**	**-0.2**
MTAZ	**Motutapu**	**1.63**	**270**	P		**Pn**	**10 19 43.3**	**+0.1**
PUZ	**Puketiti**	**1.64**	**141**	P		**Pn**	**10 19 42.2**	**-1.2**
KAAZ	**Kauri Point**	**1.80**	**269**	P		**Pn**	**10 19 45.3**	**-0.2**
WTAZ	**Waiatarua**	**1.91**	**265**	P		**Pn**	**10 19 46.3**	**-0.7**
WATZ	**Wairara**	**2.13**	**206**	P		**Pn**	**10 19 53.3**	**+3.2**
WCZ	**Waipu Caves**	**2.27**	**292**	P		**Pn**	**10 19 49.7**	**-2.3**
KNZ	**Kokohu**	**2.29**	**166**	P		**Pn**	**10 19 52.4**	**+0.2**
HIZ	**Hauiti**	**2.38**	**224**	P		**Pn**	**10 19 53.6**	**+0.1**
BKZ	**Black Stump Fm**	**2.38**	**188**	P		**Pn**	**10 19 56.3**	**+2.7**
VRZ	**Vera Road**	**2.89**	**216**	P		**Pn**	**10 20 01.6**	**+1.1**
OUZ	**Omahuta**	**3.14**	**299**	P		**Pn**	**10 20 01.8**	**-2.2**
TSZ	**Takapari Road**	**3.34**	**193**	P		**Pn**	**10 20 07.3**	**+0.6**
MRZ	**Mangatainoka R**	**4.00**	**195**	P		**Pn**	**10 20 15.4**	**-0.3**
SNZO	**South Karori**	**4.82**	**200**	*e*Pn		**Pn**	**10 20 27.0**	**-0.1**
	133nm,0.6s							
RPZ	**Rata Peaks**	**8.24**	**211**	Pn		**Pn**	**10 21 14.5**	**+0.6**
	0.7nm,0.3s,baz=176,slow=14,SNR=4.8							
STKA	**Stephens Creek**	**29.49**	**269**	P		**P**	**10 25 21.7**	**+3.9**
	1.0nm,0.4s,mb3.9,baz=137,slow=11,SNR=2.1							
STKA				LR		LR	10 35 54.9	
	comp=Z,147nm,19.6s,MS3.6,baz=32,slow=34							
STKA	**Stephens Creek**	**29.49**	**269**	P		**P**	**10 25 21.7**	**+3.9**
STKA				LR		LR	10 35 54.9	
CTA	**Charters Tower**	**31.53**	**293**	LR		LR	10 36 28.1	
	comp=Z,232nm,20.7s,MS3.8,baz=324,slow=33							
TBI	**Tubuai**	**31.84**	**75**	*e*LR		LR	10 33 55.4	
	184nm,25.2s							
PPT	**Papeete**	**35.16**	**66**	*e*LR		LR	10 35 23.9	
	160nm,27.0s,baz=229							
PPT	**Papeete**	**35.16**	**66**	LR		LR	10 36 36.2	
	comp=Z,95nm,20.4s,MS3.5,baz=242,slow=30							
ASAR	**Alice Springs**	**39.11**	**277**	P		**P**	**10 26 41.9**	**+0.8**
	1.9nm,0.7s,mb4.0,baz=122,slow=8.4,SNR=26							
WB2	**Warramunga Arr**	**40.72**	**282**	*e*P		**P**	**10 26 53.5**	**-0.8**
WRA	**Warramunga Arr**	**40.71**	**282**	P		**P**	**10 26 54.6**	**+0.2**
	1.5nm,0.7s,mb3.7,baz=122,slow=7.2,SNR=13							
WRA				LR		LR	10 44 32.5	
	comp=Z,194nm,18.6s,MS4.0,baz=120,slow=37							
RKT	**Rikitea**	**43.40**	**86**	*e*LR		LR	10 39 13.2	
	184nm,30.2s,baz=239							
NWAO	**Narrogin (SRO)**	**48.46**	**256**	P		**P**	**10 27 55.9**	**-0.2**
	2.4nm,0.8s,mb4.3,baz=79,slow=10,SNR=2.8							
FITZ	**Fitzroy Crossi**	**48.59**	**276**	P		**P**	**10 27 59.3**	**+2.1**
	3.6nm,1.0s,mb4.4,baz=203,slow=18,SNR=3.8							
MUN	**Mundaring**	**49.62**	**257**	*e*P		**P**	**10 28 06.9**	**+1.9**
QSPA	**South Pole Qui**	**53.32**	**180**	P		**P**	**10 28 34.4**	**+2.5**
	8.8nm,0.8s,mb4.7,baz=32,slow=2.9,SNR=27							
BATI	**Baumata**	**54.73**	**285**	LR		LR	10 53 48.9	
	comp=Z,262nm,18.2s,MS4.3,baz=288,slow=38							
GUMO	**Guam**	**58.53**	**323**	LR		LR	10 49 08.7	
	comp=Z,89nm,18.5s,MS3.9,baz=271,slow=31							
KAPI	**Kappang**	**60.99**	**287**	LR		LR	10 57 03.5	
	comp=Z,198nm,18.3s,MS4.1,baz=112,slow=37							
MAW	**Mawson**	**64.82**	**203**	P		**P**	**10 29 56.9**	**+5.2**
	5.5nm,1.0s,mb4.5,baz=89,slow=10.0,SNR=5.9							
PMSA	**Palmer Station**	**68.15**	**156**	LR		LR	10 57 28.7	
	comp=Z,108nm,19.5s,MS4.1,baz=235,slow=34							
USHA	**Ushuaia**	**72.96**	**147**	LR		LR	10 55 27.6	
	comp=Z,167nm,18.2s,MS4.4,baz=224,slow=30							
PLCA	**Paso Flores**	**81.13**	**135**	P		**P**	**10 31 29.6**	**+0.8**
	2.9nm,0.9s,mb4.2,baz=208,slow=4.8,SNR=5.0							
PLCA				LR		LR	10 57 53.0	
	comp=Z,88nm,20.5s,MS4.1,baz=184,slow=29							
MJAR	**Matsushiro Arr**	**81.34**	**329**	LR		LR	11 01 57.9	
	comp=Z,63nm,18.6s,MS4.0,baz=60,slow=32							
KSRS	**Korea Array**	**86.69**	**323**	P		**P**	**10 31 59.0**	**+2.1**
	2.8nm,1.1s,mb4.4,baz=139,slow=8.3,SNR=5.0							
PETK	**Petropavlovsk-**	**91.09**	**349**	LR		LR	11 08 55.1	
	comp=Z,49nm,18.0s,MS4.0,baz=308,slow=33							
CMAR	**Chiang Mai Arr**	**91.68**	**292**	P		**P**	**10 32 22.3**	**+1.4**
	0.9nm,0.4s,mb4.4,baz=155,slow=3.5,SNR=11							
CMAR				LR		LR	11 16 12.2	
	comp=Z,45nm,19.0s,MS3.9,baz=176,slow=37							
CPUP	**Villa Florida**	**99.06**	**132**	LR		LR	11 11 36.7	
	comp=Z,97nm,18.2s,MS4.3,baz=57,slow=32							
LPAZ	**La Paz**	**99.12**	**118**	LR		LR	11 08 16.2	
	comp=Z,35nm,18.9s,MS3.9,baz=248,slow=30							
KURK	**Kurchatov**	**122.30**	**312**	PKP		PKPdf	10 38 10.2	+2.6
	0.3nm,0.5s,baz=123,slow=2.8,SNR=2.6							
DBIC	**Dimbokro**	**149.96**	**176**	PKPbc		PKPbc	10 39 07.5	+3.2
	5.7nm,0.8s,baz=156,slow=5.2,SNR=5.6							
TORD	**Torodi Ar. Bea**	**156.06**	**191**	PKPab		PKPab	10 39 34.5	-0.9
	2.0nm,0.9s,baz=179,slow=3.5,SNR=5.6							

IDC 11 10:28:45.9±5.1, 1655S×10203E, h0km, mb3.6/4, mb1 3.7/4, mb1mx3.5/17, mbtmp3.6/4, Error ellipse: s-maj=275.4km s-min=24.0km az=54.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		ISC	Time	Res
				Op			h m s	ISC
WRA	**Warramunga Arr**	**36.44**	**122**	P		P	10 35 52.9	+0.1
	0.3nm,0.5s,baz=304,slow=9.1,SNR=5.1							
ASAR	**Alice Springs**	**37.84**	**128**	P		P	10 36 04.8	+0.1
	0.2nm,0.3s,baz=297,slow=8.0,SNR=5.8							
MKAR	**Makanchi Array**	**51.26**	**343**	P		P	10 37 51.8	+0.2
	0.8nm,0.6s,baz=138,slow=9.4,SNR=7.0							
ZALV	**Zalesovo Beam**	**57.22**	**348**	P		P	10 38 34.9	+0.1
	0.3nm,0.3s,baz=151,slow=7.4,SNR=3.3							
TXAR	**Lajitas Array**	**143.17**	**39**	PKP		PKPdf	10 48 20.1	-2.7
	0.4nm,0.6s,baz=228,slow=0.6,SNR=5.7							

IDC 11 10:42:49.4±1.9, 3359S×17860W, h0km, mb4.2/4, mb1 4.4/5, mb1mx4.0/18, mbtmp4.3/5, ML4.2/1, MS3.4/1, Ms1 3.4/1, ms1mx2.5/29, Error ellipse: s-maj=45.2km s-min=27.5km az=53.0, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID		ISC	Time	Res
				Op			h m s	ISC
URZ	**Urewera**	**5.82**	**216**	Pn		Pn	10 44 17.0	+0.1
	6.8nm,0.3s,baz=52,slow=2.8,SNR=35							
URZ				Sn		Sn	10 45 23.0	-1.2
	14nm,0.3s,baz=306,slow=21,SNR=11							
RPZ	**Rata Peaks**	**12.94**	**216**	Pn		Pn	10 45 50.8	-3.5
	0.7nm,0.3s,baz=50,slow=7.9,SNR=4.0							
RPZ				Sn		Sn	10 48 05.7	-13
	1.2nm,0.3s,baz=348,slow=18,SNR=5.6							
PPT	**Papeete**	**30.51**	**66**	LR		LR	10 58 12.2	
	comp=Z,74nm,20.3s,baz=275,slow=30							
CTA	**Charters Tower**	**33.95**	**284**	P		P	10 49 35.6	+1.1
	1.2nm,0.6s,baz=105,slow=8.4,SNR=7.1							
ASAR	**Alice Springs**	**42.53**	**271**	P		P	10 50 46.8	0.0
	2.8nm,0.7s,baz=110,slow=7.3,SNR=35							
ASAR				PcP		PcP	10 52 39.0	-0.5
	0.7nm,0.7s,baz=114,slow=3.7,SNR=4.5							
WRA	**Warramunga Arr**	**43.81**	**276**	P		P	10 50 56.6	-0.6
	3.6nm,0.8s,baz=116,slow=7.7,SNR=30							
QSPA	**South Pole Qui**	**56.53**	**180**	P		P	10 52 33.5	+0.7
	2.7nm,1.0s,baz=44,slow=2.6,SNR=3.7							
TORD	**Torodi Ar. Bea**	**159.65**	**181**	PKPab		PKPab	11 03 28.2	-0.6
	0.6nm,0.7s,baz=173,slow=3.2,SNR=4.3							

HLW 11 11:12:46.9, 2980N×3666E, h15km, Mb2.8
SGS 11 11:12:47.2, 3021N×3624E, h6km
ISCJB 11 11:12:49.0±0.8, 2983N±004×3624E±005, h0km, Error ellipse: s-maj=6.5km s-min=5.0km az=146.8
CSEM 11 11:12:48.8±0.8, 2983N×3623E, h2km, ML2.8, Error ellipse: s-maj=21.9km s-min=11.3km az=72.0
GII 11 11:12:50.0±0.8, 2986N×3611E, h0km, ML2.2/4, EXPLOSION

ISC 11 11:12:49.0±0.8, 2982N±004×3629E±005, h0km, n19, σ0§74/27, 1C-3D, Western Arabian Peninsula

Code	Station Name	Δ°	AZ°	Phase ID		ISC	Time	Res
				Op			h m s	ISC
AQBJ	**Aqaba**	**1.08**	**265**	Pg		**Pg**	**11 13 09.6**	**-0.1**
HRFI	**Mount Harif**	**1.10**	**281**	Pg		**Pg**	**11 13 09.6**	**-0.6**
HRFI				Sg		**Sg**	**11 13 25.1**	**+0.7**
EIL	**Elat**	**1.17**	**263**	Pg		**Pg**	**11 13 11.1**	**-0.3**
EIL				Sg		**Sg**	**11 13 27.5**	**+0.9**
HQLS		**1.19**	**244**	P		**Pg**	**11 13 11.0**	**-0.8**
HQLS		**1.19**	**244**	P		**Pg**	**11 13 11.0**	**-0.8**
HQLS				S		**Sg**	**11 13 28.6**	**+1.5**
MBRI	**Mt Berech**	**1.19**	**269**	Pg		**Pg**	**11 13 11.2**	**-0.6**
MBRI				Sg		**Sg**	**11 13 27.9**	**+0.6**
ZFRI	**Zfri**	**1.20**	**307**	Pg		**Pg**	**11 13 11.0**	**-1.1**
ZFRI				Sg		**Sg**	**11 13 28.1**	**+0.4**
PRNI	**Paran**	**1.23**	**296**	Pg		**Pg**	**11 13 11.7**	**-0.9**
PRNI				Sg		**Sg**	**11 13 28.0**	**-0.5**
JLOS		**1.29**	**213**	P		**Pg**	**11 13 14.1**	**+0.4**
KRMI	**Paran Flat**	**1.39**	**283**	Pg		**Pg**	**11 13 14.4**	**-1.2**
KRMI				Sg		**Sg**	**11 13 32.9**	**-0.6**
HBST	**Basata**	**1.48**	**246**	*e*P		**Pn**	**11 13 16.3**	**-0.6**
TBKS	**Tabuk**	**1.61**	**172**	P		**Pn**	**11 13 19.7**	**+0.9**
MZDA	**Masada**	**1.68**	**332**	Pn		**Pn**	**11 13 20.1**	**+0.4**
MZDA				Sn		**Sn**	**11 13 43.3**	**+1.4**
BDAS	**Al Bad'**	**1.73**	**217**	P		**Pn**	**11 13 20.5**	**+0.2**
DSI	**Dead Sea**	**1.91**	**336**	Pn		**Pn**	**11 13 23.8**	**+1.0**
RSHS		**2.00**	**221**	P		**Pn**	**11 13 23.3**	**-0.7**
HNKL	**Nakhl**	**2.00**	**274**	*i*P		**Pn**	**11 13 24.4**	**+0.3**
HKAT	**Jabal Katrina**	**2.39**	**238**	*e*P		**Pn**	**11 13 28.8**	**-0.6**
AMAG	**Maghara**	**2.79**	**288**	*i*P		**Pn**	**11 13 34.6**	**-0.2**

IDC 11 11:39:39.0±3.1, 4685×15289E, h0km, mb4.0/3, mb1 4.2/3, mb1mx3.7/16, mbtmp4.0/3, MS3.7/1, Ms1 3.7/1, ms1mx2.6/22, Error ellipse: s-maj=121.9km s-min=44.1km az=124.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID		ISC	Time	Res
				Op			h m s	ISC
WRA	**Warramunga Arr**	**23.59**	**228**	P		P	11 44 51.6	-0.2
	3.6nm,0.5s,baz=54,slow=9.8,SNR=56							
ASAR	**Alice Springs**	**26.30**	**222**	P		P	11 45 16.8	+0.3
	0.6nm,0.5s,baz=54,slow=9.0,SNR=12							
FITZ	**Fitzroy Crossi**	**29.80**	**241**	P		P	11 45 47.6	-0.3
	2.5nm,0.8s,baz=78,slow=12,SNR=20							
AFI	**Afiamalu**	**36.01**	**107**	LR		LR	11 57 40.8	
	comp=Z,114nm,19.4s,baz=1.1,slow=30							
TORD	**

URLA				*i* S		**Sn**	12 01 31.6	**+3.0**
LIT	**Litokhoron**	**1.94**	**310**	P		**Pn**	12 01 07.2	**-0.8**
LIT				S		**Sn**	12 01 32.7	**-0.1**
APE	**Apeiranthos**	**2.00**	**154**	⇓*i* P		**Pn**	12 01 07.8	**-1.0**
APE	**Apeiranthos**	**2.00**	**154**	⇓*i* Pb		**Pn**	12 01 08.1	**-0.7**
APE	**Apeiranthos**	**2.00**	**154**	⇓*i* Pb		**Pn**	12 01 08.1	**-0.7**
APE	**Apeiranthos**	**2.00**	**154**	⇓*i* PB		**Pn**	12 01 08.1	**-0.7**
THL	**Klokotos Trika**	**2.00**	**291**	P		**Pn**	12 01 08.7	**-0.1**
THL	**Klokotos Trika**	**2.00**	**291**	*e*Pb		**Pn**	12 01 08.9	**+0.1**
THL	**Klokotos Trika**	**2.00**	**291**	*e*PB		**Pn**	12 01 08.9	**+0.1**
HORT	**Hortiatis**	**2.01**	**330**	P		**Pn**	12 01 08.4	**-0.6**
HORT				S		**Sn**	12 01 33.0	**-1.5**
EVR	**Evrytania**	**2.04**	**272**	*e*Pb		**Pn**	12 01 10.1	**+0.7**
EVR	**Evrytania**	**2.04**	**272**	*e*PB		**Pn**	12 01 10.3	**+0.7**
THE	**Thessaloniki**	**2.09**	**328**	P		**Pn**	12 01 09.6	**-0.5**
BLCB	**Balcova**	**2.10**	**102**	*e*PN		**Pn**	12 01 10.8	**+0.5**
SOH	**Sokhos**	**2.12**	**337**	P		**Pn**	12 01 09.8	**-0.7**
SOH				S		**Sn**	12 01 35.8	**-1.4**
SMG	**Samos**	**2.22**	**121**	*e*Pn		**Pn**	12 01 11.4	**-0.5**
SMG	**Samos**	**2.22**	**121**	*e*PN		**Pn**	12 01 11.4	**-0.5**
IZM	**Izmir**	**2.27**	**101**	*e*PN		**Pn**	12 01 12.3	**-0.2**
KDAG	**Bornova**	**2.27**	**101**	*i* P		**Pg**	12 01 17.1	**-0.8**
ENEZ	**Enez**	**2.29**	**35**	*e*PN		**Pn**	12 01 11.8	**-1.1**
ALN	**Alexandroupoli**	**2.38**	**31**	P		**Pn**	12 01 11.7	**-2.3**
RDO	**Rodhopi**	**2.43**	**20**	*e*Pn		**Pn**	12 01 13.1	**-1.6**
RDO	**Rodhopi**	**2.43**	**20**	*e*PN		**Pn**	12 01 13.1	**-1.6**
VLI	**Veliai**	**2.45**	**209**	*e*Pn		**Pn**	12 01 14.5	**-0.5**
VLI	**Veliai**	**2.45**	**209**	*e*PN		**Pn**	12 01 14.5	**-0.5**
RLS	**Riolos of Patr**	**2.46**	**252**	*e*Pb		**Pn**	12 01 16.7	**+1.5**
RLS	**Riolos of Patr**	**2.46**	**252**	*e*PB		**Pn**	12 01 16.7	**+1.5**
KZN	**Kozani**	**2.50**	**306**	*e*Pn		**Pn**	12 01 15.8	**0.0**
KZN	**Kozani**	**2.50**	**306**	*e*PN		**Pn**	12 01 15.8	**0.0**
NVR	**Nevrokopi**	**2.52**	**350**	*e*Pn		**Pn**	12 01 14.5	**-1.4**
NVR	**Nevrokopi**	**2.52**	**350**	*e*PN		**Pn**	12 01 14.5	**-1.4**
THR5	**Thira Island,**	**2.56**	**163**	P		**Pn**	12 01 15.8	**-0.7**
KNT	**Kendrikon**	**2.57**	**333**	P		**Pn**	12 01 16.6	**-0.1**
THR3	**Thira Island,**	**2.58**	**162**	P		**Pn**	12 01 16.7	**0.0**
ITM	**Ithomi**	**2.60**	**230**	*e*Pb		**Pn**	12 01 18.5	**+1.4**
ITM	**Ithomi**	**2.60**	**230**	*e*PB		**Pn**	12 01 18.5	**+1.4**
GRG	**Griva**	**2.60**	**324**	P		**Pn**	12 01 17.0	**-0.1**
THR6	**Thira Island,**	**2.62**	**163**	P		**Pn**	12 01 17.2	**-0.2**
SANT	**Santorini**	**2.62**	**161**	*e*Pn		**Pn**	12 01 15.4	**-2.0**
SANT	**Santorini**	**2.62**	**161**	*e*PN		**Pn**	12 01 15.4	**-2.1**
AKS	**Akhisar**	**2.64**	**89**	*e*PN		**Pn**	12 01 19.0	**+1.3**
AKHS	**Akhisar**	**2.64**	**89**	*e*P		**Pn**	12 01 18.8	**+1.1**
MEV	**Metsovon**	**2.64**	**291**	P		**Pn**	12 01 18.2	**+0.5**
BALB	**Balikesir**	**2.79**	**73**	*e*PN		**Pn**	12 01 20.6	**+0.9**
RKY	**Sarkoy-Tekirda**	**2.79**	**49**	*e*PN		**Pn**	12 01 20.8	**+1.0**
SART	**Tekirdag**	**2.79**	**49**	*e*P		**Pn**	12 01 18.7	**-1.1**
KYTH	**Kithira**	**2.81**	**204**	*e*Pn		**Pn**	12 01 20.0	**0.0**
KYTH	**Kithira**	**2.81**	**204**	*e*PN		**Pn**	12 01 20.0	**0.0**
VAY	**Valandovo**	**2.83**	**330**	*e*Pn		**Pn**	12 01 20.6	**+0.3**
PYL	**PYLOS**	**2.90**	**228**	P		**Pn**	12 01 22.8	**+1.6**
BODT	**Bodrum**	**2.91**	**127**	*e*PN		**Pn**	12 01 20.4	**-0.9**
MFT	**Murefte**	**2.92**	**48**	*e*PN		**Pn**	12 01 20.5	**-0.9**
LKD	**Levkas**	**2.96**	**268**	P		**Pn**	12 01 23.9	**+1.9**
MRMT	**Marmara Adasi**	**3.00**	**54**	*e*PN		**Pn**	12 01 24.5	**+1.9**
EDC	**Edincik**	**3.04**	**60**	*e*PN		**Pn**	12 01 25.0	**+1.9**
MLSB	**Milas**	**3.08**	**120**	*e*PN		**Pn**	12 01 22.5	**-1.1**
BNT	**Bandirma**	**3.08**	**60**	*e*PN		**Pn**	12 01 25.6	**+1.9**
TKR	**Tekirdag**	**3.19**	**47**	*e*PN		**Pn**	12 01 26.9	**+1.6**
BIA	**Bitola**	**3.21**	**313**	*e*Pn		**Pn**	12 01 25.8	**+0.3**
STIP	**Stip**	**3.30**	**329**	*e*Pn		**Pn**	12 01 26.9	**+0.1**
KULA	**Kula-Manisa**	**3.33**	**95**	*e*PN		**Pn**	12 01 27.1	**0.0**
KCT	**Karacabey**	**3.34**	**64**	*e*PN		**Pn**	12 01 29.1	**+1.8**
DST	**Dursunbey**	**3.34**	**76**	*e*PN		**Pn**	12 01 29.4	**+2.0**
CRLT	**Corlu**	**3.40**	**47**	*e*PN		**Pn**	12 01 30.0	**+1.9**
EDRB	**Edirne**	**3.46**	**30**	*e*PN		**Pn**	12 01 26.8	**-2.1**
KRUS	**Krusevo**	**3.49**	**317**	*e*Pn		**Pn**	12 01 29.6	**+0.3**
YER	**Yerkesik**	**3.50**	**118**	*e*PN		**Pn**	12 01 28.8	**-0.7**
IDI	**Anoyia**	**3.59**	**174**	Pn		**Pn**	12 01 30.5	**-0.3**
	4.6nm,0.3s,baz=356,slow=13,SNR=28							
IDI				Lg			12 02 24.1	
	1.5nm,0.3s,baz=235,slow=18,SNR=2.4							
KEK	**Kerkira**	**3.69**	**285**	*e*Pn		**Pn**	12 01 33.7	**+1.6**
KEK	**Kerkira**	**3.69**	**285**	*e*PN		**Pn**	12 01 33.7	**+1.6**
SKO	**Skopje**	**3.85**	**325**	*e*Pn		**Pn**	12 01 35.0	**+0.7**
SKO	**Skopje**	**3.85**	**325**	*e*Pn		**Pn**	12 01 34.9	**+0.7**
ULDT	**Uludag**	**3.86**	**69**	*e*P		**Pn**	12 01 36.4	**+2.0**
ULDT				*i* S		**Sg**	12 02 35.4	**-2.9**
ULDT	**Uludag**	**3.86**	**69**	*e*P		**Pn**	12 01 36.3	**+1.9**
CTKS	**Kestanelik-??a**	**3.92**	**52**	*e*PN		**Pn**	12 01 35.2	**-0.1**
GDZ	**Gediz**	**3.94**	**85**	*e*P		**Pn**	12 01 37.0	**+1.5**
GDZ	**Gediz**	**3.94**	**85**	*e*P		**Pn**	12 01 37.0	**+1.4**
KARP	**Karpathos**	**3.97**	**146**	*e*Pn		**Pn**	12 01 35.9	**0.0**
KARP	**Karpathos**	**3.97**	**146**	*e*PN		**Pn**	12 01 35.9	**0.0**
GEMT	**Gemlik**	**4.00**	**65**	*e*PN		**Pn**	12 01 39.0	**+2.7**
KHL	**Karahalli**	**4.03**	**96**	*e*PN		**Pn**	12 01 36.0	**-0.8**
BGKT	**Bogazkoy**	**4.06**	**54**	*e*PN		**Pn**	12 01 38.0	**+0.9**
YLV	**Yalova**	**4.17**	**64**	*e*PN		**Pn**	12 01 41.1	**+2.4**
CAVI	**Cavuskoy**	**4.39**	**71**	*e*PN		**Pn**	12 01 44.3	**+2.5**
BARS	**Barje**	**4.41**	**334**	*e*Pn		**Pn**	12 01 42.0	**0.0**
ALT	**Altintas**	**4.43**	**86**	*e*PN		**Pn**	12 01 42.8	**+0.5**
AKAS	**Kas**	**4.88**	**121**	*i* P		**Pn**	12 01 52.4	**+3.9**
GULT	**Gulveren**	**4.95**	**70**	*e*PN		**Pn**	12 01 51.9	**+2.4**
DIVS	**Divibare**	**6.20**	**329**	*e*Pn		**Pn**	12 02 07.8	**+1.3**
VOIR		**6.58**	**4**	⇓*i* P		**Pn**	12 02 10.9	**-0.9**
VOIR		**6.58**	**4**	⇓P		**Pn**	12 02 10.9	**-0.8**
GZR	**Gura Zlata**	**6.63**	**350**	⇓*i* P		**Pn**	12 02 11.3	**-1.2**
GZR	**Gura Zlata**	**6.63**	**350**	⇓P		**Pn**	12 02 11.3	**-1.2**
MLR	**Muntele Rosu**	**6.71**	**9**	Pn		**Pn**	12 02 13.1	**-0.5**
	1.0nm,0.3s,baz=181,slow=12,SNR=13							
MLR				Sn		**Sn**	12 03 31.7	**+1.3**
	baz=245,slow=18,SNR=1.5							
MLR	**Muntele Rosu**	**6.71**	**9**	⇑*i* P		**Pn**	12 02 14.5	**+0.9**
MLR	**Muntele Rosu**	**6.71**	**9**	⇑P		**Pn**	12 02 14.5	**+0.9**
CUC	**Castrocucco**	**6.76**	**282**	*e*Pn		**Pn**	12 02 15.2	**+0.9**
	22nm,0.6s							
CUC	**Castrocucco**	**6.76**	**282**	*e*Pn		**Pn**	12 02 15.2	**+0.9**
	22nm,0.6s							
PLOR	**Plostina**	**7.17**	**13**	⇓*i* P		**Pn**	12 02 19.1	**-0.7**
VRI	**Vrincioaia**	**7.20**	**13**	⇑*i* P		**Pn**	12 02 21.3	**+1.1**
VRI	**Vrincioaia**	**7.20**	**13**	⇑P		**Pn**	12 02 21.2	**+1.0**
VRI	**Vrincioaia**	**7.20**	**13**	⇑P		**Pn**	12 02 21.2	**+1.0**
PKSM	**Moragy**	**8.49**	**332**	⇑*i* P		**Pn**	12 02 35.5	**-2.4**
PKSM	**Moragy**	**8.49**	**332**	⇑P		**Pn**	12 02 35.5	**-2.5**
BURAR	**Bucovina Array**	**8.76**	**4**	⇓*i* P		**Pn**	12 02 42.8	**+1.1**
BURAR	**Bucovina Array**	**8.76**	**4**	⇓P		**Pn**	12 02 42.8	**+1.1**
BUR08	**Bucovina Ar. S**	**8.79**	**3**	*e*Pn		**Pn**	12 02 41.8	**-0.3**
BUR08	**Bucovina Ar. S**	**8.79**	**3**	*e*Pn		**Pn**	12 02 41.8	**-0.3**
AKASG	**Malin Array Be**	**12.31**	**14**	Pn		**Pn**	12 03 28.9	**-1.3**
	1.0nm,0.3s,baz=244,slow=10,SNR=5.5							
EIL	**Elat**	**12.64**	**133**	LR		LR	12 09 54.6	
	comp=Z,29nm,19.3s,baz=260,slow=45							
ESDC	**Sonseca Array**	**21.96**	**281**	P		**P**	**12 05 28.9**	**0.0**
	1.6nm,0.6s,mb3.6,baz=76,slow=11,SNR=4.9							
HFS	**Hagfors**	**22.34**	**346**	P		**P**	**12 05 34.1**	**+1.3**
	2.4nm,0.8s,mb3.7,baz=170,slow=10,SNR=2.6							
NB2	**NORSAR Subarra**	**23.67**	**344**	P		**P**	**12 05 45.2**	**-1.5**
	comp=Z,1.6nm,0.8s,mb3.5,baz=158,slow=10							
NOA	**NORSAR Array B**	**23.67**	**344**	P		**P**	**12 05 48.0**	**+1.3**
	comp=Z,1.2nm,0.7s,mb3.5,baz=148,slow=9.4,SNR=4.3							
TORD	**Torodi Ar. Bea**	**32.58**	**224**	P		**P**	**12 07 06.1**	**-0.8**
	comp=Z,0.6nm,0.6s,mb3.7,baz=31,slow=9.4,SNR=5.2							

*NEIC **11** 12:34:30.5, 3085S×7167W, h31km, ML4.3(GUC), After GUC.*

GUC 11 12:34:30.5±0.5, 3085S×7167W, h31km±1km, MD4.2, ML4.3, 5C-9D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID		ISC	Time	Res
				Op			h m s	ISC
LSCH	**La Serena**	**1.00**	**22**	⇓*i* P		Pn	12 34 48.7	**+0.3**
LSCH				*i* S		Sn	12 35 01.8	**+0.4**
TLL	**Tololo Astrono**	**1.01**	**48**	⇓*i* P		Pn	12 34 48.9	**+0.4**
TLL				*i* S		Sn	12 35 03.2	**+1.7**
CHNG	**Los Chungos**	**1.04**	**172**	⇑*i* P		Pn	12 34 49.0	**0.0**
CHNG				*i* S		Sn	12 35 02.9	**+0.4**
CHNG				AML		AML	12 35 04.9	
	comp=E,8μm,0.2s							
LCO	**Las Campanas**	**2.01**	**25**	*e*Pn		Pn	12 35 03.5	**+1.2**
LCO				*e*Sn		Sn	12 35 27.5	**+1.2**
JACH	**Jahuel**	**2.05**	**154**	⇑*i* P		Pn	12 35 04.6	**+1.8**
JACH				*i* S		Sn	12 35 30.0	**+2.7**
VACH	**Vallenar**	**2.40**	**20**	⇓*i* P		Pn	12 35 08.8	**+1.2**
VACH				*i* S		Sn	12 35 38.1	**+2.3**
VACH				AML		AML	12 35 49.9	
	comp=N,4μm,0.4s							
VACH	**Vallenar**	**2.40**	**20**	⇓*i* P		Pn	12 35 08.8	**+1.2**
VACH				*i* S		Sn	12 35 38.1	**+2.3**
PEL	**Peldehue**	**2.44**	**160**	⇓*i* P		Pn	12 35 09.8	**+1.6**
PEL				*i* S		Sn	12 35 39.5	**+2.6**
PEL				AML		AML	12 35 49.1	
	comp=E,2μm,0.5s							
CLCH	**Cerro Calan**	**2.72**	**160**	⇑*i* P		Pn	12 35 13.6	**+1.6**
CLCH				*i* S		Sn	12 35 46.2	**+2.4**
CLCH				AML		AML	12 35 58.5	
	comp=N,1μm,0.6s							
RCDM	**Rinconada Maip**	**2.74**	**165**	⇓*i* P		Pn	12 35 12.0	**-0.2**
RCDM				*i* S		Sn	12 35 45.0	**+0.8**
RCDM				AML		AML	12 35 55.9	
	comp=E,869nm,0.4s							
RCDM	**Rinconada Maip**	**2.74**	**165**	⇓*i* P		Pn	12 35 12.0	**-0.2**
RCDM				*i* S		Sn	12 35 45.0	**+0.8**
FCH	**Farellones**	**2.74**	**155**	⇓*i* P		Pn	12 35 14.6	**+2.3**
FCH				*i* S		Sn	12 35 47.8	**+3.5**
FCH				AML		AML	12 35 58.4	
	comp=E,597nm,0.3s							
TACH	**Talagante**	**2.87**	**168**	⇑*i* P		Pn	12 35 15.3	**+1.3**
TACH				*i* S		Sn	12 35 49.4	**+1.9**
PCH	**Pirque**	**2.94**	**161**	⇑*i* P		Pn	12 35 16.7	**+1.7**
YECH	**El Yeso**	**3.12**	**155**	AML		AML	12 36 08.2	
	comp=N,710nm,0.4s							
CHCH	**Chadas Angostu**	**3.20**	**165**	*i* P		Pn	12 35 20.2	**+1.6**
LMEL	**Las Melosas**	**3.24**	**158**	*i* P		Pn	12 35 21.4	**+2.3**
LMEL				*i* S		Sn	12 35 59.9	**+3.2**
LMEL				AML		AML	12 36 10.6	
	comp=N,624nm,0.4s							
LMEL	**Las Melosas**	**3.24**	**158**	*i* P		Pn	12 35 21.4	**+2.3**
LMEL				*i* S		Sn	12 35 59.9	**+3.2**
CACH	**El Canelo**	**3.39**	**165**	⇓*i* P		Pn	12 35 23.3	**+2.1**
CACH				*i* S		Sn	12 36 03.7	**+3.4**
CICH	**Cipreses**	**3.62**	**163**	*i* P		Pn	12 35 26.2	**+1.8**
CICH				*i* S		Sn	12 36 08.4	**+2.3**
TRQA	**Tornquist**	**10.75**	**135**	*e*Pn		Pn	12 37 03.6	**+1.3**
	comp=N,6.9nm,0.8s							

*JMA **11** 12:43:15.3±0.2, 4651N×14425E, h443km, M3.4*
*ISCJB **11** 12:43:17.8±1.5, 465N±0.1×144.1E±0.2, h416km±9km, mb3.1/3, Error ellipse: s-maj=28.1km s-min=19.7km az=38.1*
*IDC **11** 12:43:41.1±19.0, 4535N×13946E, h556km±87km, mb2.6/3, mb1 2.9/4, mb1mx2.6/20, mbtmp2.7/4, Error ellipse: s-maj=430.5km s-min=25.0km az=56.0*

ISC 11 12:43:19.8±1.4, 464N±01×1440E±02, h408km±9km, n12, σ0§95/16, mb3.1/3, Sea of Okhotsk

Code	Station Name	Δ°	AZ°	Phase ID		ISC	Time	Res
				Op			h m s	ISC
JWK2	**Keihoku**	**1.81**	**235**	P		**Pn**	**12 44 15.7**	**+0.3**
NEM2	**Nemuro 2**	**3.24**	**157**	P		**Pn**	**12 44 24.6**	**-1.0**
NEM2				*e*S		**S**	**12 45 19.2**	**+0.3**
JAK	**Akkeshi**	**3.40**	**172**	P		**Pn**	**12 44 26.6**	**-0.4**
JAK				*e*S		**S**	**12 45 22.3**	**+0.9**
JCH	**Churui**	**3.78**	**187**	P		**Pn**	**12 44 29.6**	**-0.7**
JCH				*e*S		**S**	**12 45 27.6**	**+0.1**
JNBK	**Urakawa-nobuka**	**4.18**	**193**	*e*S		**S**	**12 45 35.8**	**+1.4**
JKB	**Kayabe**	**4.96**	**207**	P		**Pn**	**12 44 41.6**	**-0.2**
JOT	**Ohata**	**5.42**	**204**	*e*S		**S**	**12 45 57.0**	**-0.2**
JANG	**Nango**	**6.26**	**198**	P		**Pn**	**12 44 55.4**	**-0.1**
JANG				*e*S		**S**	**12 46 11.6**	**-2.0**
MJAR	**Matsushiro Ar**	**10.73**	**206**	P		**P**	**12 45 47.8**	**+2.6**
	0.9nm,0.3s,baz=7.7,slow=13,SNR=9.1							
MKAR	**Makanchi Array**	**41.45**	**294**	P		**P**	**12 50 19.3**	**-9.2**
	0.4nm,0.5s,mb3.0,baz=67,slow=7.3,SNR=4.9							
WRA	**Warramunga Arr**	**66.57**	**190**	P		**P**	**12 53 27.0**	**-0.7**
	0.4nm,0.7s,mb3.2,baz=4.3,slow=6.6,SNR=6.7							
ASAR	**Alice Springs**	**70.30**	**190**	P		**P**	**12 53 51.0**	**+0.6**
	0.5nm,0.7s,mb3.2,baz=357,slow=5.2,SNR=9.1							

*ISCJB **11** 12:49:41.2±0.4, 1131N±002×12457E±003, h10km, mb3.6/2, MS3.4/5, Error ellipse: s-maj=4.0km s-min=3.6km az=165.7*
*IDC **11** 12:49:46.3±3.2, 1058N×12541E, h0km, mb3.6/3, mb1 3.8/3, mb1mx3.5/17, mbtmp3.6/3, MS3.4/7, Ms1 3.4/7, ms1mx3.1/23, Error ellipse: s-maj=254.9km s-min=28.5km az=65.0*

ISC 11 12:49:41.0±0.6, 1133N±002×12455E±004, h5km±6km, n30, σ1§02/35, mb3.6/2, MS3.4/5, 5C-2D, Leyte

Code	Station Name	Δ°	AZ°	Phase ID		ISC	Time	Res
				Op			h m s	ISC
OCLP	**Ormoc**	**0.28**	**168**	*e*P		**Pg**	**12 49 46.6**	**+0.1**
OCLP				*e*S		**Sg**	**12 49 51.6**	**+1.4**
PLP	**Palo**	**0.45**	**111**	⇓*i* P		**Pg**	**12 49 49.5**	**-0.1**
PLP				*i* S		**Sg**	**12 49 55.7**	**+0.2**
BESP	**Borongan**	**0.91**	**73**	*e*P		**Pg**	**12 49 58.5**	**0.0**
BESP				*e*S		**Sg**	**12 50 10.5**	**+0.2**
LLP	**Lapu-Lapu**	**1.16**	**210**	*e*P		**Pg**	**12 50 02.1**	**-1.1**
LLP				*i* S		**Sg**	**12 50 17.3**	**-1.0**
CNP	**Catarman**	**1.18**	**5**	*e*P		**Pb**	**12 50 03.1**	**-0.8**
CNP				*e*S		**Sg**	**12 50 19.6**	**+0.7**
MSLP	**Maasin**	**1.23**	**166**	*e*P		**Pb**	**12 50 02.9**	**-1.7**
MSLP				*e*S		**Sb**	**12 50 22.3**	**+1.5**
MMPH	**Masbate**	**1.37**	**318**	⇑*e*P		**Pn**	**12 50 06.0**	**-0.7**
MMPH				*e*S		**Sb**	**12 50 24.9**	**0.0**
TBP	**Tagbilaran**	**1.76**	**203**	⇑*e*P		**Pn**	**12 50 11.0**	**-1.2**
TBP				*e*S		**Sn**	**12 50 37.1**	**+2.0**
RCP	**Roxas**	**1.79**	**278**	⇑*e*P		**Pn**	**12 50 12.8**	**+0.3**
SCPH	**Surigao**	**1.79**	**149**	⇑*e*P		**Pn**	**12 50 12.2**	**-0.4**
GUIM	**Jordan**	**2.05**	**250**	*e*P		**Pn**	**12 50 16.5**	**+0.4**
GUIM				*e*S		**Sn**	**12 50 42.5**	**+0.4**
PVCP	**Virac**	**2.29**	**350**	*e*P		**Pn**	**12 50 20.2**	**+0.8**
PVCP				*e*S		**Sn**	**12 50 54.5**	**+6.6**
BUTP	**Butuan**	**2.57**	**156**	*e*P		**Pn**	**12 50 27.1**	**+3.7**
OTRP	**Odiongan**	**2.68**	**293**	*e*P		**Pn**	**12 50 24.6**	**-0.2**
CGP	**Cagayan de Oro**	**2.86**	**177**	⇓*e*P		**Pn**	**12 50 27.0**	**-0.3**
CGP				*e*S		**Sn**	**12 51 06.6**	**+4.4**
DCPH	**Dipolog City**	**2.97**	**203**	⇑*e*P		**Pn**	**12 50 27.3**	**-1.6**
DCPH				*e*S		**Sn**	**12 51 10.6**	**+5.6**
BUKP	**Musuan**	**3.47**	**172**	*e*P		**Pn**	**12 50 36.2**	**+0.6**
CUYO	**Cuyo Island**	**3.50**	**263**	*e*P		**Pn**	**12 50 36.3**	**+0.2**
SJMP	**San Jose**	**3.54**	**289**	*e*P		**Pn**	**12 50 40.4**	**+3.7**
PAGZ	**Pagadian**	**3.65**	**199**	*e*P		**Pn**	**12 50 38.4**	**+0.3**
ENPP	**El Nido**	**5.03**	**269**	*e*P		**Pn**	**12 51 00.1**	**+3.0**
KAPI	**Kappang**	**16.92**	**197**	LR		LR	13 00 45.1	
	comp=Z,78nm,19.3s,baz=225,slow=40							
GUMO	**Guam**	**19.97**	**81**	LR		LR	13 00 18.5	
	comp=Z,77nm,20.0s,baz=360,slow=33							
BATI	**Baumata**	**21.41**	**182**	LR		LR	13 03 10.7	
	comp=Z,104nm,18.9s,MS3.2,baz=229,slow=39							
JHJ	**Hachijo jima 2**	**25.80**	**30**	LR		LR	13 03 19.1	
	comp=Z,74nm,18.3s,MS3.2,baz=254,slow=31							
KSRS	**Korea Array**	**26.19**	**6**	LR		LR	13 05 08.0	
	comp=Z,62nm,18.7s,MS3.2,baz=340,slow=34							
MJAR	**Matsushiro Arr**	**27.97**	**24**	LR		LR	13 04 54.9	
	comp=Z,91nm,19.0s,MS3.4,baz=250,slow=32							
WRA	**Warramunga Arr**	**32.53**	**163**	P		**P**	**12 56 09.7**	**-3.4**
	0.5nm,1.0s,mb3.4,baz=343,slow=9.4,SNR=6.4							
ASAR	**Alice Springs**	**35.96**	**165**	P		**P**	**12 56 41.8**	**-1.0**
	0.8nm,0.7s,mb3.7,baz=347,slow=7.7,SNR=11							
NOA	**NORSAR Array B**	**91.06**	**333**	LR		LR	13 46 13.4	
	comp=Z,33nm,19.8s,MS3.8,baz=270,slow=37							

*ISCJB **11** 13:18:52.8±1.2, 3738N±008×712E±0.1, h33km, Error ellipse: s-maj=16.4km s-min=10.0km az=148.0*
*NNC **11** 13:19:07.3±5.6, 3825N×7204E, h208km±62km, mb2.5, mpv3.6, Error ellipse: s-maj=66.5km s-min=32.1km az=22.0*

ISC 11 13:18:55.2±1.2, 3738N±008×711E±01, h35km, n12, σ0§83/16, 3C-2D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID		ISC	Time	Res
				Op			h m s	ISC
AML	**Almayashu**	**5.13**	**22**	P		**Pn**	**13 20 10.0**	**+0.5**
	SNR=15							
UCH	**Uchtor**	**5.49**	**27**	P		**Pn**	**13 20 14.5**	**+0.1**
	SNR=6.2							
EKS2	**Erkin-Say**	**5.65**	**20**	P		**Pn**	**13 20 17.1**	**+0.6**
	SNR=13							
KK31	**Karatay Array**	**5.73**	**355**	P		**Pn**	**13 20 20.8**	**+3.0**
	3.9nm,0.3s,baz=169,slow=12,SNR=53							
KK31				⇑S		**Sn**	**13 21 21.1**	**-1.1**
	14nm,0.6s,baz=164,slow=22,SNR=11							
AAK	**Ala-Archa**	**5.84**	**25**	P		**Pn**	**13 20 19.6**	**+0.4**
	SNR=12							
CHMS	**Chumysh**	**6.25**	**25**	P		**Pn**	**13 20 24.8**	**0.0**
	SNR=5.8							
USP	**Ospenovka**	**6.41**	**23**	P		**Pn**	**13 20 26.6**	**-0.4**
	SNR=6.2							
TKM2	**Tokmak 2**	**6.50**	**30**	⇓P		**Pn**	**13 20 27.6**	**-0.6**
	4.0nm,0.6s							
TKM2	**Tokmak 2**	**6.50**	**30**	P		**Pn**	**13 20 27.8**	**-0.5**
	SNR=7.8							
SMLA	**Simla**	**7.99**	**140**	*i* P		**Pn**	**13 20 47.8**	**-0.9**
SMLA				*i* S		**Sn**	**13 22 05.7**	**-12**
SMLA				*i* S		**Sn**	**13 22 06.0**	**-12**
SMLA				*ex*		x	13 22 11.3	
	comp=N,305nm,0.4s							
SMLA				*ex*		x	13 22 12.6	
	comp=E,284nm,0.3s							
AB31	**Akbulak array**	**14.37**	**329**	⇑P		**Pn**	**13 22 16.6**	**+0.7**
	comp=E,0.4nm,0.5s,baz=135,slow=15,SNR=14							
AB31				⇓S		**Sn**	**13 24 53.0**	**-0.9**
	comp=E,0.9nm,0.6s,baz=158,slow=24,SNR=5.7							
AKTO	**Aktyubinsk**	**16.08**	**328**	⇑P		**Pn**	**13 22 38.7**	**+0.4**
	comp=E,0.4nm,0.5s							

IDC 11 13:41:19.2±1.9, 153N×12632E, h0km, mb3.6/3, mb1 3.8/4, mb1mx3.6/16, mbtmp3.6/4, ML3.4/1, Error ellipse: s-maj=113.8km s-min=25.3km az=68.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID		ISC	Time	Res
				Op			h m s	ISC
FITZ	**Fitzroy Crossi**	**19.52**	**182**	P		Pn	13 45 47.9	-1.5
	0.1nm,0.3s,baz=52,slow=18,SNR=5.4							
WRA	**Warramunga Arr**	**22.75**	**160**	P		P	13 46 23.1	0.0
	1.3nm,0.3s,baz=339,slow=11,SNR=76							
ASAR	**Alice Springs**	**26.11**	**164**	P		P	13 46 55.3	+0.4
	0.6nm,0.5s,baz=343,slow=7.1,SNR=15							
MKAR	**Makanchi Array**	**59.13**	**326**	P		P	13 51 21.6	0.0
	0.2nm,0.3s,baz=108,slow=8.7,SNR=4.1							

*ISK **11** 13:43:25.7, 3859N×3030E, h6km, MD2.7*
*CSEM **11** 13:43:25.5±0

1.1nm,0.7s,mb3.9
MAW Mawson 78.07 202 LR LR 14 44 48.1
comp=Z,85nm,21.9s,MS4.0,baz=202,slow=34

IDC ***11*** *14:07:44.4±1.4,5452N×16178W,h0km,mb3.9/8, mb1 4.1/9,mb1mx3.8/23,mbtmp3.9/9,ML3.1/1,MS3.4/1, Ms1 3.4/1,ms1mx2.5/38,Error ellipse: s-maj=41.8km s-min=19.2km az=176.0*
ISCJB ***11*** *14:07:46.4±1.2,542N±0.1×1614W±0.1,h47km±9km, mb3.9/8,Error ellipse: s-maj=19.6km s-min=6.3km az=155.1*
NEIC ***11*** *14:07:47.6,5434N×16155W,h8km,ML3.6(PMR), ML3.6(AEIC),After AEIC.*

ISC 11 14:07:48.5±1.1,542N±01×16146W±010,h44km±9km,n23, σ0:84/27,mb3.9/8,Alaska Peninsula

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
SDPT	**Sand Point**	**1.25**	**27**	P		**Pn**	**14 08 09.2**	**-0.3**
SDPT				S		**Sn**	**14 08 24.9**	**-0.3**
FALS	**False Pass**	**1.30**	**299**	P		**Pn**	**14 08 10.1**	**-0.1**
FALS				S		**Sn**	**14 08 26.6**	**+0.2**
AKUT	**Akutan**	**2.54**	**270**	*e*P		**Pn**	**14 08 28.0**	**+0.9**
CHGN	**Chignik**	**2.71**	**39**	*e*P		**Pn**	**14 08 30.6**	**+1.2**
UNV	**Unalaska Valle**	**3.00**	**265**	P		**Pn**	**14 08 33.9**	**+0.4**
NIKO	**Nikolski**	**4.58**	**257**	*e*Pn		**Pn**	**14 08 54.7**	**-0.5**
OHAK	**Old Harbor**	**5.50**	**54**	*e*P		**Pn**	**14 09 07.6**	**-0.2**
KDAK	**Kodiak Island**	**6.12**	**51**	Pn		**Pn**	**14 09 15.9**	**-0.2**
	0.5nm,0.3s,baz=23,slow=3.0,SNR=14							
KDAK				Sn		**Sn**	**14 10 24.5**	**-0.2**
	baz=350,slow=23,SNR=2.4							
KDAK	**Kodiak Island**	**6.12**	**51**	Pn		**Pn**	**14 09 15.9**	**-0.2**
KDAK				Sn		**Sn**	**14 10 24.5**	**-0.2**
SVW2	**Sparrevohn**	**7.57**	**22**	*e*P		**Pn**	**14 09 36.5**	**+0.5**
PPLA	**Purkeypile**	**9.93**	**25**	*e*Pn		**Pn**	**14 10 11.4**	**+3.0**
BPAW	**Bear Paw Mtn.**	**11.24**	**24**	Pn		**Pn**	**14 10 24.4**	**-1.8**
AMKA	**Amchitka**	**11.99**	**264**	*e*P		**Pn**	**14 10 35.7**	**-0.8**
	35nm,1.0s							
PEA0B	**Petropavlovsk-**	**23.99**	**284**	P		**P**	**14 12 56.6**	**-2.1**
PETK	**Petropavlovsk-**	**23.99**	**284**	P		**P**	**14 12 58.4**	**-0.2**
	2.9nm,0.5s,mb3.9,baz=79,slow=12,SNR=25							
NVAR	**Mina Array Bea**	**33.13**	**101**	P		**P**	**14 14 24.5**	**+4.2**
	0.3nm,0.5s,mb3.5,baz=305,slow=9.8,SNR=2.7							
NVAR	**Mina Array Bea**	**33.13**	**101**	P		**P**	**14 14 24.4**	**+4.2**
KSRS	**Korea Array**	**49.82**	**281**	P		**P**	**14 16 37.4**	**+0.6**
	1.0nm,1.0s,mb3.8,baz=34,slow=6.9,SNR=4.1							
SONM	**Songino Array**	**54.31**	**304**	P		**P**	**14 17 10.8**	**+0.8**
	1.7nm,0.8s,mb4.0,baz=54,slow=5.9,SNR=8.4							
NOA	**NORSAR Array B**	**64.93**	**4**	P		**P**	**14 18 23.1**	**+0.3**
	1.2nm,0.9s,mb3.9,baz=357,slow=6.3,SNR=3.4							
MKAR	**Makanchi Array**	**65.81**	**318**	P		**P**	**14 18 28.9**	**+0.1**
	0.5nm,0.7s,mb3.6,baz=29,slow=6.6,SNR=4.0							
AKASG	**Malin Array Be**	**75.06**	**353**	P		**P**	**14 19 25.0**	**-0.1**
	2.6nm,0.6s,mb4.4,baz=13,slow=6.1,SNR=8.6							
CMAR	**Chiang Mai Arr**	**80.69**	**288**	P		**P**	**14 19 57.0**	**+0.1**
	0.7nm,0.6s,mb3.8,baz=12,slow=5.5,SNR=7.2							

MOS ***11*** *14:36:30.0±1.3,5434N×16840E,h21km,mb4.2/1,Error ellipse: s-maj=39.3km s-min=20.6km az=17.2*

KRSC 11 14:36:30.0±2.0,5434N×16840E,h21km±20km,ML4.1, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
KBTR	**Krutoberegovo**	**3.70**	**303**	*e*P		Pn	14 37 26.7	+0.9
KBTR				*i* S		Sn	14 38 07.8	-1.0
MKZ	**Mys Kozlova**	**3.90**	**276**	*e*P		Pn	14 37 31.3	+2.7
ZLN	**Zelenaya**	**4.67**	**294**	P		Pn	14 37 40.8	+1.7
BZMR	**Bezymyannaya**	**4.81**	**293**	*e*P		Pn	14 37 44.5	+3.4
BZMR				*i* S		Sn	14 38 39.1	+3.0
KLY	**Klyuchi**	**4.85**	**297**	*e*P		Pn	14 37 43.7	+2.1
KLY				*i* S		Sn	14 38 37.3	+0.3
KRSR	**Krestovskiy**	**4.86**	**296**	P		Pn	14 37 44.4	+2.7
KRSR				*i* S		Sn	14 38 39.5	+2.2
TUMR	**Tumrok**	**4.87**	**285**	*e*P		Pn	14 37 45.2	+3.3
TUMR				*i* S		Sn	14 38 40.6	+3.1
KMNR	**Kamenistaya**	**4.90**	**290**	*e*P		Pn	14 37 45.5	+3.1
KMNR				*i* S		Sn	14 38 40.9	+2.5
KPT	**Kopyto**	**4.96**	**292**	P		Pn	14 37 46.4	+3.2
KPT				*i* S		Sn	14 38 42.1	+2.2
KOZR	**Kozyr**	**5.17**	**293**	PN		Pn	14 37 50.5	+4.5
KOZR				S		Sn	14 38 49.4	+4.5
KOZ	**Kozyrevsk**	**5.18**	**293**	P		Pn	14 37 50.5	+4.4
KOZ				*i* S		Sn	14 38 49.4	+4.2
NLC	**Nalytchevo**	**5.50**	**261**	*e*P		Pn	14 37 53.5	+3.0
NLC				*i* S		Sn	14 38 54.4	+1.3
AVH	**Avacha**	**5.83**	**263**	*e*P		Pn	14 37 58.5	+3.5
AVH				*i* S		Sn	14 39 03.7	+2.6
PET	**Petropavlovsk**	**5.94**	**261**	*e*P		Pn	14 38 00.2	+3.6
PET				*i* S		Sn	14 39 06.1	+2.1
GNL	**Ganaly**	**6.20**	**268**	*e*P		Pn	14 38 04.5	+4.3
GNL				*i* S		Sn	14 39 14.5	+4.2
RUS	**Russkaya**	**6.22**	**256**	*e*P		Pn	14 38 04.2	+3.8
RUS				*i* S		Sn	14 39 12.9	+2.2
MIPR	**Malaya Ipel'ka**	**7.28**	**258**	P		Pn	14 38 17.4	+2.5

IDC 11 14:45:18.4±41.0,1679S×17492E,h0km,mb4.1/4, mb1 4.2/4,mb1mx3.8/16,mbtmp4.1/4,Error ellipse: s-maj=704.2km s-min=133.1km az=70.0,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**27.37**	**259**	P		P	14 51 06.2	+0.5
	0.7nm,0.3s,baz=90,slow=7.1,SNR=2.6							
STKA	**Stephens Creek**	**33.71**	**237**	P		P	14 52 01.6	+0.1
	1.8nm,0.7s,baz=65,slow=11,SNR=5.3							
WRA	**Warramunga Arr**	**38.58**	**259**	P		P	14 52 43.2	-0.2
	0.3nm,0.3s,baz=93,slow=8.7,SNR=12							
ASAR	**Alice Springs**	**38.98**	**253**	P		P	14 52 46.5	-0.2
	4.9nm,0.5s,baz=81,slow=8.9,SNR=154							

IDC ***11*** *14:51:57.8±0.8,1403N×9177W,h0km,mb4.2/14, mb1 4.4/18,mb1mx4.3/26,mbtmp4.3/18,ML4.0/3,MS3.7/11, Ms1 3.7/11,ms1mx3.4/29,Error ellipse: s-maj=33.0km s-min=11.4km az=48.0*
BJI ***11*** *14:52:01.6,1390N×9190W,h30km,mB5.1,Ms4.9,Msz4.5*
NEIC ***11*** *14:52:01.7±1.9,1389N×9193W,h30km±14km,mb4.7/29, MD4.8(MEX),Error ellipse: s-maj=10.9km s-min=6.0km az=213.0*
CASC ***11*** *14:52:03.6±2.1,1388N×92.10W,h33km±10km,MD4.2, ML4.3,mb4.7(NEIC)*
ISCJB ***11*** *14:52:03.4±0.5,1407N±004×91.99W±004,h40km±4km, mb4.5/35,MS3.8/10,Error ellipse: s-maj=8.9km s-min=3.6km az=37.6*
MEX ***11*** *14:52:03.0±0.4,1390N×9208W,h46km±22km,MD4.8*

ISC 11 14:52:05.3±0.4,1408N±004×9204W±003,h35km±3km, n338,σ0:88/326,mb4.5/35,MS3.8/10,104C-101D,Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
JAT	**Jato**	**0.45**	**59⇑**	*i* P		**Pn**	**14 52 17.3**	**+2.0**
JAT				*e*S		**Sn**	**14 52 24.7**	**+2.5**
THIG		**0.85**	**345**	*i* P		**Pn**	**14 52 19.2**	**-1.5**
THIG				*i* S		**Sn**	**14 52 32.1**	**+0.1**
FUG	**Fuego 3**	**1.22**	**73**	*i* P		**Pn**	**14 52 26.4**	**+0.6**
FG6		**1.22**	**67⇓**	*i* P		**Pn**	**14 52 26.9**	**+1.1**
PCG	**Pacaya**	**1.42**	**77**	*e*P		**Pn**	**14 52 29.6**	**+0.9**
GCG	**Guatemala City**	**1.54**	**71**	*e*P		**Pn**	**14 52 31.2**	**+0.9**
GCG				*e*S		**Sn**	**14 52 53.2**	**+4.1**
NBG	**Las Nubes**	**1.71**	**73⇓**	*e*P		**Pn**	**14 52 34.9**	**+2.3**
RTR	**El Retiro**	**2.33**	**94**	*e*P		x	14 52 40.0	
SBLS	**San Blas**	**2.36**	**96**	*e*P		x	14 52 40.5	
SBLS				*e*S		x	14 53 11.1	
SNJE	**San Jose**	**2.37**	**95⇓**	*e*P		x	14 52 41.1	
SNJE				*e*S		x	14 53 11.2	
MRL	**Marmol**	**2.47**	**66**	*e*P		**Pn**	**14 52 45.6**	**+2.4**
BOQS	**Boqueron**	**2.70**	**97**	*e*P		x	14 52 45.3	
BOQS				*e*S		x	14 53 19.2	
BOQS				AML		x	14 53 29.4	
	comp=Z,2μm,0.4s							
TGIG		**2.88**	**339**	*e*P		**Pn**	**14 52 47.6**	**-1.0**
TGIG				*i* S		**Sn**	**14 53 21.8**	**-0.2**
LFRS	**El Faro**	**2.93**	**99**	*e*P		x	14 52 47.8	
LBRS	**Las Brisas**	**2.93**	**96**	*e*P		x	14 52 47.4	
VSM	**San Miguel**	**3.71**	**100**	*e*P		x	14 52 59.1	
CAHU	**Cacacuatique**	**3.73**	**94**	*e*P		x	14 52 59.9	
CMIG	**Matias Romero**	**4.06**	**318**	Pn		**Pn**	**14 53 02.5**	**-2.4**
	comp=Z,9.6nm,0.3s,baz=133,slow=10,SNR=32							
CMIG				Sn		**Sn**	**14 53 53.8**	**+2.6**
	comp=Z,38nm,0.3s,baz=93,slow=16,SNR=6.3							
CMIG	**Matias Romero**	**4.06**	**318**	Pn		**Pn**	**14 53 02.5**	**-2.4**
CMIG				Sn		**Sn**	**14 53 53.8**	**+2.6**
CNCH	**Conchagua**	**4.17**	**101**	*e*P		x	14 53 05.8	
HUIG	**Huatulco**	**4.28**	**294**	*e*S		**Sn**	**14 53 53.3**	**-3.1**
TUIG	**Tuzandepetl**	**4.55**	**330**	*i* P		**Pn**	**14 53 10.0**	**-1.6**
TUIG				*i* S		**Sn**	**14 54 02.7**	**-0.6**
TGUH	**Tegucigalpa,Un**	**4.62**	**90**	*e*P		**Pn**	**14 53 11.9**	**-0.8**
TGUH				AML		AML	14 54 41.1	
	comp=N,872nm,0.7s							
TGUH	**Tegucigalpa,Un**	**4.62**	**90**	*e*Pn		**Pn**	**14 53 10.4**	**-2.3**
TEL3	**Telica 3**	**5.27**	**106**	*e*P		**Pn**	**14 53 20.8**	**-0.8**
VHO	**Vista Hermosa**	**5.41**	**304**	*i* P		**Pn**	**14 53 22.5**	**-1.0**
VHO				*i* S		**Sn**	**14 54 23.5**	**-1.1**
MIRN	**Miramar**	**5.44**	**107**	*e*P		**Pn**	**14 53 23.2**	**-0.7**
MOMN	**Momotombo**	**5.61**	**107**	*e*P		**Pn**	**14 53 25.9**	**-0.3**
COPN	**Copaltepe**	**5.63**	**109**	*e*P		**Pn**	**14 53 25.9**	**-0.7**
CSAN		**5.79**	**108**	*e*P		**Pn**	**14 53 28.7**	**0.0**
APYN	**Apoyeque**	**5.84**	**108⇓**	*e*P		**Pn**	**14 53 28.8**	**-0.6**
MGAN	**Managua**	**5.96**	**108**	*e*P		**Pn**	**14 53 29.9**	**-1.1**
PNIG	**Pinotepa**	**6.31**	**292**	*i* P		**Pn**	**14 53 32.7**	**-3.2**
PNIG				*i* S		**Sn**	**14 54 42.6**	**-4.1**
UTMO	**Huajuapan**	**6.68**	**305**	*i* P		**Pn**	**14 53 40.0**	**-1.0**
UTMO				*i* S		**Sn**	**14 54 55.4**	**-0.4**
TPIG	**Tehuac#an**	**6.69**	**311**	*i* P		**Pn**	**14 53 40.1**	**-0.9**
TPIG				*i* S		**Sn**	**14 54 53.4**	**-2.6**
TEIG	**Tepich**	**7.09**	**30**	Pn		**Pn**	**14 53 47.4**	**+0.8**
	comp=N,59nm,0.3s,baz=40,slow=0.3,SNR=114							
TEIG				Sn		**Sn**	**14 55 04.6**	**-1.3**
	baz=14,slow=19,SNR=1.6							
TEIG	**Tepich**	**7.09**	**30**	*e*P		**Pn**	**14 53 48.5**	**+2.0**
TEIG	**Tepich**	**7.09**	**30**	*e*P		**Pn**	**14 53 48.1**	**+1.5**
TEIG				*i* S		**Sn**	**14 55 08.2**	**+2.3**
TEIG	**Tepich**	**7.09**	**30**	*e*Pn		**Pn**	**14 53 47.5**	**+1.0**
	comp=N,246nm,0.7s							
TEIG				*e*P			14 53 48.1	
TEIG				*i* S		Sn	14 54 42.6	-23
JTS	**JuntasAbangare**	**7.89**	**118**	Pn		**Pn**	**14 53 52.5**	**-5.0**
	baz=356,slow=21,SNR=2.3							
JTS				Lg			14 55 58.2	
	comp=N,1.5nm,0.3s,baz=268,slow=17,SNR=7.0							
JTS				LR		LR	14 57 03.4	
	comp=N,372nm,21.5s,baz=161,slow=40							
JTS	**JuntasAbangare**	**7.89**	**118**	*e*P		**Pn**	**14 53 58.3**	**+0.7**
JTS	**JuntasAbangare**	**7.89**	**118**	Pn		**Pn**	**14 53 52.5**	**-5.0**
JTS				*e*Pn		**Pn**	**14 53 57.4**	**-0.2**
JTS				*e*S		Sn	14 55 54.3	+29
JTS				Lg			14 55 58.2	
JTS				LR		LR	14 57 03.4	
JCR	**Jicaral**	**7.98**	**121**	*e*P		**Pn**	**14 53 58.6**	**-0.2**
PPM	**Popocatepetl**	**8.03**	**309**	*i* P		**Pn**	**14 54 00.7**	**+1.3**
PPM				*i* P			14 54 03.0	
CGA2	**Cerro Gallo 2**	**8.44**	**118**	*e*P		**Pn**	**14 54 05.3**	**+0.2**
CAIG	**El Cayaco**	**8.46**	**291**	*i* P		**Pn**	**14 54 03.0**	**-2.4**
CAIG				*i* S		**Sn**	**14 55 38.1**	**-1.6**
PRS1	**Puriscal**	**8.59**	**117**	*e*P		**Pn**	**14 54 07.1**	**0.0**
URSC	**Urasca**	**9.12**	**117**	*e*P		**Pn**	**14 54 14.9**	**+0.4**
URSC	**Urasca**	**9.12**	**117**	*e*P		**Pn**	**14 54 15.4**	**+1.0**
BUS	**Buena Vista**	**9.27**	**118**	*e*P		**Pn**	**14 54 17.7**	**+1.2**
BUS	**Buena Vista**	**9.27**	**118**	*e*P		**Pn**	**14 54 17.8**	**+1.2**
ZIIG	**Zihuatanejo**	**9.72**	**292**	*i* P		**Pn**	**14 54 21.6**	**-1.2**
ZIIG				*i* S		**Sn**	**14 56 06.1**	**-4.6**
LNIG	**Linares**	**12.83**	**328**	*e*P		**Pn**	**14 55 06.2**	**+1.0**
DWPF	**Disney**	**17.09**	**34**	Pn		**Pn**	**14 55 54.5**	**-7.0**
	comp=N,132nm,1.2s							
TXAR	**Lajitas Array**	**18.61**	**327**	P		**Pn**	**14 56 20.7**	**+0.6**
	comp=N,0.5nm,0.3s,baz=156,slow=12,SNR=72							
TXAR				LR		LR	15 05 23.1	
	comp=N,95nm,19.5s,baz=350,slow=43							
ROSC	**El Rosal**	**19.71**	**116**	P		**Pn**	**14 56 28.4**	**-5.1**
	comp=N,1.9nm,0.3s,baz=268,slow=22,SNR=1.9							
ROSC	**El Rosal**	**19.71**	**116**	P		**Pn**	**14 56 28.4**	**-5.1**
ROSC				*e*P			14 56 33.5	
MIAR	**Mount Ida**	**20.42**	**356**	*e*P		**P**	**14 56 38.4**	**-1.0**
	comp=N,13nm,0.8s							
MIAR				*e*S		**S**	**15 00 18.7**	**-7.5**
OXF	**Oxford**	**20.48**	**6**	P		**P**	**14 56 38.7**	**-1.3**
	comp=N,46nm,1.1s							
GOGA	**Godfrey**	**20.76**	**21**	*e*P		**P**	**14 56 40.1**	**-3.0**
	comp=N,15nm,0.8s							
SDV	**Santo Domingo**	**21.60**	**102**	P		**P**	**14 56 47.1**	**-5.2**
	comp=N,3.6nm,0.4s,mb4.2,baz=186,slow=21,SNR=2.9							
SDV	**Santo Domingo**	**21.60**	**102**	*e*P		**P**	**14 56 47.7**	**-4.6**
	comp=N,7.6nm,0.6s,mb4.3							
WVT	**Waverly**	**22.27**	**9**	*e*P		**P**	**14 56 57.0**	**-2.4**
	comp=N,6.1nm,0.5s,mb4.3							
JSC	**Jenkinsville**	**22.35**	**24**	P		**P**	**14 56 57.8**	**-2.4**
AMTX	**Amarillo**	**22.46**	**339**	*e*P		**P**	**14 57 00.1**	**-1.3**
	comp=N,32nm,0.6s,mb4.9							
TKL	**Tuckaleechee C**	**22.73**	**18**	P		**P**	**14 57 01.7**	**-2.5**
	comp=N,5.4nm,0.6s,mb4.2,baz=177,slow=19,SNR=6.4							
TKL				LR		LR	15 07 09.3	
	comp=N,358nm,18.5s,MS3.8,baz=16,slow=40							
319A	**Douglas**	**23.38**	**320**	⇓P		**P**	**14 57 11.6**	**+0.6**
	baz=24							
SIUC	**Southern Illin**	**23.67**	**6**	*e*P		**P**	**14 57 11.2**	**-2.5**
	comp=N,52nm,0.7s,mb5.1							
219A	**White Tail Can**	**23.79**	**321**	⇓P		**P**	**14 57 15.4**	**+0.5**
	baz=24							
318A	**Bisbee**	**23.86**	**319**	⇓P		**P**	**14 57 16.4**	**+0.9**
	baz=24							
BNM	**Barren Site**	**23.95**	**329**	*e*P		**P**	**14 57 16.3**	**0.0**
LPM	**Los Pinos Moun**	**24.08**	**329**	*e*P		**P**	**14 57 17.8**	**+0.3**
LENM	**Lemitar**	**24.14**	**328**	*e*P		**P**	**14 57 19.2**	**+1.2**
218A	**Dragoon**	**24.26**	**320**	⇓P		**P**	**14 57 19.9**	**+0.8**
	baz=25							
119A	**Ashpeak Ranch,**	**24.36**	**323**	⇑P		**P**	**14 57 20.6**	**+0.6**
	baz=25,SNR=5.2							
LAZ	**Ladron**	**24.41**	**329**	*e*P		**P**	**14 57 21.2**	**+0.8**
ANMO	**Albuquerque**	**24.51**	**330**	P		**P**	**14 57 21.7**	**+0.3**
	comp=N,11nm,0.7s,mb4.5,baz=148,slow=12,SNR=29							
ANMO	**Albuquerque**	**24.51**	**330**	*e*P		**P**	**14 57 21.1**	**-0.3**
	comp=N,10nm,0.7s,mb4.5							
WCI	**Wyandotte Cave**	**24.58**	**11**	*e*P		**P**	**14 57 19.0**	**-3.0**
	comp=N,28nm,0.7s,mb4.9							
217A	**Green Valley**	**24.61**	**319**	⇑P		**P**	**14 57 22.9**	**+0.6**
	baz=25,SNR=5.7							
118A	**Homack Ranch,**	**24.67**	**322**	⇓P		**P**	**14 57 23.9**	**+1.0**
	baz=25							
Z19A	**T-Link Ranch,**	**24.72**	**324**	⇑P		**P**	**14 57 24.2**	**+0.9**
	baz=25							
OLIL	**Olney**	**24.80**	**7**	P		**P**	**14 57 22.1**	**-1.9**
	comp=N,88nm,1.1s,mb5.2							
ATAH	**Atahualpa**	**24.94**	**146**	LR		LR	15 05 55.4	
	comp=N,173nm,18.1s,MS3.6,baz=209,slow=34							
117A	**Oracle**	**25.09**	**320**	⇑P		**P**	**14 57 27.3**	**+0.6**
	baz=25							
Y19A	**Nutrioso**	**25.20**	**325**	⇑P		**P**	**14 57 28.3**	**+0.6**
	baz=26,SNR=8.1							
KSU1	**Kansas State U**	**25.24**	**352**	P		**P**	**14 57 25.8**	**-2.1**
	comp=N,20nm,0.7s,mb4.7							
Y18A	**Canyon Day Jun**	**25.51**	**323**	⇑P		**P**	**14 57 31.3**	**+0.8**
	baz=26							
X19A	**St. Johns**	**25.57**	**325**	⇓P		**P**	**14 57 32.0**	**+1.0**
	baz=26							
214A	**Organ Pipe Nat**	**26.03**	**317**	⇑P		**P**	**14 57 35.5**	**+0.3**
	baz=26							
SDCO	**Great Sand Dun**	**26.43**	**336**	*e*P		**P**	**14 57 39.0**	**+0.2**
	comp=N,3.7nm,0.9s,mb3.9							
X16A	**Lo Mia Camp, P**	**26.79**	**322**	⇓P		**P**	**14 57 42.8**	**+0.8**
	baz=27							
V18A	**Ganado**	**26.88**	**326**	⇑P		**P**	**14 57 43.3**	**+0.5**
	baz=27							
Y15A	**Casa Rosa Ranc**	**27.01**	**321**	⇓P		**P**	**14 57 45.0**	**+0.9**
	baz=27							
T19A	**Beclabito**	**27.27**	**329**	⇓P		**P**	**14 57 46.6**	**+0.4**
	baz=28							
MVCO	**Mesa Verde**	**27.31**	**330**	⇓P		**P**	**14 57 47.7**	**+1.0**
	baz=28,SNR=5.9							
MVCO	**Mesa Verde**	**27.31**	**330**	*e*P		**P**	**14 57 47.1**	**+0.4**
	comp=N,24nm,0.9s,mb4.7							
X15A	**Humboldt**	**27.31**	**322**	⇓P		**P**	**14 57 47.0**	**+0.3**
	baz=28							
WUAZ	**Wupatki**	**27.53**	**324**	⇑P		**P**	**14 57 49.3**	**+0.6**
	baz=28							
X14A	**Yava**	**27.70**	**321**	⇓P		**P**	**14 57 50.5**	**+0.3**
	baz=28							
W15A	**Williams**	**27.81**	**323**	⇑P		**P**	**14 57 52.4**	**+1.2**
	baz=28							
U16A	**Tuba City**	**27.85**	**325**	⇓P		**P**	**14 57 52.1**	**+0.6**
	baz=28							
U17A	**Shonto**	**27.93**	**327**	⇑P		**P**	**14 57 52.8**	**+0.6**
	baz=28							
S19A	**Harvey Farm, M**	**28.04**	**330**	⇑P		**P**	**14 57 53.7**	**+0.4**
	baz=28,SNR=5.5							
PV01	**Paradox Valley**	**28.09**	**332**	*e*P		**P**	**14 57 54.3**	**+0.7**
V15A	**Kaibab Nationa**	**28.20**	**324**	⇓P		**P**	**14 57 55.2**	**+0.6**
	baz=28,SNR=5.7							
X13A	**Yucca**	**28.36**	**320**	⇑P		**P**	**14 57 56.4**	**+0.3**
	baz=29							
PDMCI	**Parker Dam,Lak**	**28.37**	**319**	⇓P		**P**	**14 57 56.2**	**0.0**
	baz=29							
S18A	**Hurst Farm, Bl**	**28.42**	**329**	⇑P		**P**	**14 57 57.1**	**+0.6**
	baz=29,SNR=5.5							
PV10	**Paradox Valley**	**28.50**	**331**	*e*P		**P**	**14 57 57.0**	**-0.3**
V14A	**Boquillas Ranc**	**28.61**	**322**	⇓P		**P**	**14 57 59.1**	**+0.8**
	baz=29							
U15A	**North Rim**	**28.70**	**324**	⇑P		**P**	**14 57 59.5**	**+0.4**
	baz=29							
W13A	**Hualapai Mount**	**28.73**	**321**	⇓P		**P**	**14 58 00.2**	**+0.9**
	baz=29							
S17A	**Black Ridge (B**	**28.79**	**328**	⇓P		**P**	**14 57 59.8**	**-0.1**
	baz=29							
BC3	**Big Chuckw Mtn**	**28.83**	**317**	⇑P		**P**	**14 58 01.0**	**+0.7**
	baz=29							
IRM	**Iron Mountain**	**28.93**	**318**	⇓P		**P**	**14 58 01.7**	**+0.5**
	baz=29							
Q19A	**Hogan Spring (**	**29.07**	**332**	⇑P		**P**	**14 58 02.6**	**+0.3**
	baz=29							
T15A	**Red Dirt Ranch**	**29.17**	**325**	⇑P		**P**	**14 58 04.2**	**+0.9**
	baz=30							
U14A	**Mt Trumbull**	**29.20**	**323**	⇑P		**P**	**14 58 04.2**	**+0.7**
	baz=30							
S16A	**Weppner Ranch,**	**29.26**	**327**	⇓P		**P**	**14 58 04.3**	**+0.2**
	baz=30							
V13A	**Grand Canyon W**	**29.29**	**322**	⇑P		**P**	**14 58 05.0**	**+0.6**
	baz=30							
R17A	**Hanksville Air**	**29.34**	**329**	⇓P		**P**	**14 58 05.4**	**+0.6**
	baz=30							
PFO	**Pinyon Flat Ob**	**29.47**	**315**	LR		LR	15 12 34.7	
	comp=N,171nm,19.8s,MS3.7,baz=320,slow=42							
R16A	**Teasdale**	**29.63**	**328**	⇑P		**P**	**14 58 08.0**	**+0.7**
	baz=30,SNR=6.6							
U13A	**Pakoon Wash**	**29.66**	**322**	⇓P		**P**	**14 58 07.6**	**0.0**
	baz=30							
V12A	**Nelson**	**29.73**	**320**	⇓P		**P**	**14 58 08.9**	**+0.6**
	baz=30							
MSU	**Marysvale**	**30.16**	**327**	*e*P		**P**	**14 58 13.3**	**+1.3**
ARUT	**Antelope Range**	**30.31**	**325**	*e*P		**P**	**14 58 14.3**	**+0.9**
S13A	**Holt Ranch, En**	**30.40**	**324**	⇓P		**P**	**14 58 14.7**	**+0.6**
	baz=31,SNR=5.3							
N19A	**John Jarvie Ra**	**30.61**	**334**	⇑P		**P**	**14 58 15.9**	**0.0**
	baz=31							
CIS	**Catalina Islan**	**30.71**	**313**	⇑P		**P**	**14 58 17.1**	**+0.1**
	baz=31							
O17A	**Robinson Place**	**30.74**	**331**	⇑P		**P**	**14 58 17.0**	**-0.2**
	baz=31							
R13A	**O'Grain Ranch,**	**30.88**	**325**	⇓P		**P**	**14 58 19.0**	**+0.6**
	baz=31							
N18A	**Larsen Ranch,**	**30.89**	**333**	⇑P		**P**	**14 58 18.2**	**-0.3**
	baz=31							
T11A	**Corn Creek, Al**	**30.96**	**322**	⇓P		**P**	**14 58 19.1**	**0.0**
	baz=31							
Q14A	**Sevier Lake (B**	**31.09**	**327**	⇓P		**P**	**14 58 21.0**	**+0.8**
	baz=31							
U10A	**Ash Meadows, A**	**31.10**	**320**	⇑P		**P**	**14 58 21.3**	**+1.0**
	baz=31							
O16A	**Springville**	**31.11**	**330**	⇑P		**P**	**14 58 21.1**	**+0.7**
	baz=31							
DAU	**Daniels Canyon**	**31.16**	**331**	*e*P		**P**	**14 58 21.4**	**+0.

	baz=35								
J14A	**Carey**	**34.48**	**332**	⇓P		**P**	**14 58 49.8**	**0.0**
	baz=35,SNR=12								
K12A	**Draper Farm, C**	**34.62**	**330**	⇑P		**P**	**14 58 51.4**	**+0.4**
	baz=35								
H16A	**Russell Place,**	**34.62**	**336**	⇑P		**P**	**14 58 50.9**	**-0.1**
	baz=35								
M10A	**I.L. Ranch, Tu**	**34.64**	**327**	⇑P		**P**	**14 58 51.9**	**+0.6**
	baz=35,SNR=14								
CMB	**Columbia Colle**	**34.64**	**319**	P		**P**	**14 58 51.5**	**+0.2**
	comp=N,3.0nm,0.7s,mb4.3								
L11A	**Cat Creek Ranc**	**34.70**	**328**	⇑P		**P**	**14 58 52.2**	**+0.5**
	baz=35								
I14A	**Mackay**	**34.93**	**333**	⇑P		**P**	**14 58 54.1**	**+0.4**
	baz=35,SNR=8.2								
L10A	**Juniper Basin**	**35.00**	**328**	⇑P		**P**	**14 58 54.5**	**+0.2**
	baz=35,SNR=8.4								
N08A	**GE Springer Mi**	**35.01**	**324**	⇑P		**P**	**14 58 54.5**	**0.0**
	baz=35								
O07A	**Toulon**	**35.03**	**323**	⇑P		**P**	**14 58 54.7**	**+0.1**
	baz=35								
F18A	**Big Timber**	**35.05**	**338**	⇑P		**P**	**14 58 54.1**	**-0.6**
	baz=35								
HLID	**Hailey**	**35.08**	**331**	⇑P		**P**	**14 58 55.4**	**+0.4**
	baz=35,SNR=9.7								
HLID	**Hailey**	**35.08**	**331**	*e*P		**P**	**14 58 54.8**	**-0.2**
	comp=N,11nm,1.1s,mb4.7								
H15A	**Lima**	**35.12**	**334**	⇑P		**P**	**14 58 55.7**	**+0.4**
	baz=35,SNR=7.1								
J12A	**Stokes Ranch,**	**35.17**	**330**	⇓P		**P**	**14 58 56.2**	**+0.4**
	baz=36								
I13A	**Wildhorse Cree**	**35.22**	**332**	⇑P		**P**	**14 58 56.8**	**+0.6**
	baz=36,SNR=14								
G16A	**Moss Hill, Enn**	**35.27**	**336**	⇓P		**P**	**14 58 57.1**	**+0.4**
	baz=36								
K11A	**Parker Ranch,**	**35.28**	**329**	⇑P		**P**	**14 58 56.9**	**+0.2**
	baz=36,SNR=5.2								
MCMT	**McKenzie Canyo**	**35.38**	**334**	*e*P		**P**	**14 58 58.5**	**+1.0**
H14A	**Leadore**	**35.43**	**333**	⇑P		**P**	**14 58 58.7**	**+0.7**
	baz=36,SNR=6.7								
N07B	**Gerlach**	**35.48**	**324**	⇑P		**P**	**14 58 59.6**	**+1.1**
	baz=36								
G15A	**Dillon**	**35.50**	**335**	⇑P		**P**	**14 58 59.1**	**+0.5**
	baz=36								
O06A	**Flanigan**	**35.59**	**322**	⇓P		**P**	**14 58 59.8**	**+0.3**
	baz=36								
I12A	**Atlanta**	**35.60**	**331**	⇓P		**P**	**14 58 59.4**	**0.0**
	baz=36,SNR=26								
MFID	**Camas Ranch**	**35.65**	**330**	⇑P		**P**	**14 59 00.1**	**+0.2**
	baz=36								
BEKR	**Beckwourth**	**35.73**	**321**	⇓P		**P**	**14 59 00.2**	**-0.4**
	baz=36								
DGMT	**Dagmar**	**35.73**	**346**	⇑P		**P**	**14 59 00.0**	**-0.5**
	baz=36								
H13A	**Challis**	**35.78**	**332**	⇑P		**P**	**14 59 01.5**	**+0.4**
	baz=36,SNR=27								
E17A	**Martinsdale**	**35.94**	**338**	⇓P		**P**	**14 59 01.6**	**-0.8**
	baz=36								
N06A	**Buffalo Meadow**	**35.97**	**323**	⇓P		**P**	**14 59 02.6**	**-0.1**
	baz=36,SNR=6.2								
H12A	**Diamond D Ranc**	**36.05**	**332**	⇑P		**P**	**14 59 03.7**	**+0.4**
	baz=36								
F15A	**Butte**	**36.05**	**335**	⇓P		**P**	**14 59 02.8**	**-0.5**
	baz=36								
I11A	**Placerville**	**36.08**	**330**	⇓P		**P**	**14 59 04.0**	**+0.4**
	baz=36,SNR=24								
K09A	**Rome**	**36.10**	**327**	⇓P		**P**	**14 59 04.3**	**+0.6**
	baz=36,SNR=34								
G13A	**Cobalt**	**36.19**	**333**	⇓P		**P**	**14 59 04.3**	**-0.2**
	baz=36								
ULM	**Lac du Bonnet**	**36.20**	**356**	P		**P**	**14 59 03.1**	**-1.4**
	comp=N,1.6nm,0.5s,mb4.2,baz=133,slow=9.3,SNR=3.1								
ORV	**Oroville**	**36.24**	**320**	⇓P		**P**	**14 59 05.5**	**+0.5**
	baz=37								
WVOR	**Wild Horse Val**	**36.40**	**326**	*e*P		**P**	**14 59 06.0**	**-0.3**
	comp=N,7.2nm,1.0s,mb4.6								
L07A	**Adell**	**36.51**	**325**	⇑P		**P**	**14 59 07.0**	**-0.2**
	baz=37,SNR=8.6								
K08A	**Mann Creek Ran**	**36.52**	**327**	⇓P		**P**	**14 59 07.9**	**+0.5**
	baz=37								
J09A	**Fry Pan Ranch,**	**36.57**	**328**	⇓P		**P**	**14 59 08.3**	**+0.5**
	baz=37								
I10A	**Payette**	**36.62**	**330**	⇓P		**P**	**14 59 09.1**	**+0.9**
	baz=37								
M06C	**Likely Place G**	**36.63**	**323**	⇓P		**P**	**14 59 08.5**	**+0.2**
	baz=37								
H11A	**Donnelly**	**36.70**	**331**	⇓P		**P**	**14 59 08.8**	**0.0**
	baz=37								
G12A	**Big Creek, Yel**	**36.70**	**332**	⇑P		**P**	**14 59 09.1**	**+0.2**
	baz=37								
F13A	**Darby**	**36.78**	**334**	⇑P		**P**	**14 59 09.2**	**-0.3**
	baz=37								
EGMT	**Eagleton**	**36.90**	**340**	⇓P		**P**	**14 59 09.8**	**-0.7**
	baz=37								
C17A	**Wharram Farm,**	**36.90**	**339**	⇓P		**P**	**14 59 10.1**	**-0.4**
	baz=37								
K07A	**Rock Creek Ran**	**36.91**	**326**	⇓P		**P**	**14 59 10.2**	**-0.4**
	baz=37,SNR=13								
J08A	**Circle Bar Ran**	**36.95**	**327**	⇓P		**P**	**14 59 11.0**	**0.0**
	baz=37,SNR=18								
H10A	**Noah's Angus R**	**36.96**	**330**	⇑P		**P**	**14 59 10.9**	**-0.2**
	baz=37								
I09A	**Lost Marbles R**	**37.01**	**329**	⇑P		**P**	**14 59 11.6**	**+0.2**
	baz=37								
D15A	**Lincoln**	**37.05**	**337**	⇑P		**P**	**14 59 10.4**	**-1.4**
	baz=37								
F12A	**Elk City**	**37.16**	**333**	⇓P		**P**	**14 59 12.6**	**-0.1**
	baz=37,SNR=34								
E13A	**Victor**	**37.24**	**334**	⇓P		**P**	**14 59 12.7**	**-0.6**
	baz=38								
G11A	**Walters Elk Ra**	**37.34**	**332**	⇓P		**P**	**14 59 14.1**	**-0.2**
	baz=38								
L05A	**Lakeview**	**37.37**	**324**	⇓P		**P**	**14 59 14.3**	**-0.3**
	baz=38								
C16A	**Fuhringer Ranc**	**37.40**	**338**	⇑P		**P**	**14 59 14.1**	**-0.6**
	baz=38								
J07A	**Hines**	**37.40**	**327**	⇓P		**P**	**14 59 15.0**	**+0.2**
	baz=38								
BMO	**Blue Mountains**	**37.43**	**330**	*e*P		**P**	**14 59 14.1**	**-0.9**
	comp=N,4.1nm,0.9s,mb4.3								
H09A	**Durkee**	**37.47**	**330**	⇑P		**P**	**14 59 15.1**	**-0.3**
	baz=38								
D14A	**Greenough**	**37.47**	**336**	⇑P		**P**	**14 59 14.5**	**-0.9**
	baz=38								
K06A	**Valley Falls**	**37.53**	**325**	⇑P		**P**	**14 59 15.6**	**-0.3**
	baz=38								
F11A	**Grangeville**	**37.66**	**332**	⇑P		**P**	**14 59 17.3**	**+0.3**
	baz=38								
C15A	**Salmond Ranch,**	**37.69**	**337**	⇑P		**P**	**14 59 17.3**	**+0.1**
	baz=38								
J06A	**Christmas Vall**	**37.78**	**326**	⇑P		**P**	**14 59 17.1**	**-0.9**
	baz=38								
M04C	**Macdoel**	**37.79**	**323**	⇑P		**P**	**14 59 18.8**	**+0.7**
	baz=38								
E12A	**Beaver Dam Sad**	**37.81**	**333**	⇓P		**P**	**14 59 17.5**	**-0.7**
	baz=38,SNR=11								
H08A	**Prairie City**	**37.87**	**329**	⇑P		**P**	**14 59 19.3**	**+0.6**
	baz=38,SNR=6.9								
D13A	**Huson**	**37.87**	**335**	⇑P		**P**	**14 59 18.1**	**-0.6**
	baz=38								
G09A	**Cove**	**37.97**	**330**	⇓P		**P**	**14 59 19.3**	**-0.3**
	baz=38								
I07A	**Izee**	**37.99**	**327**	⇑P		**P**	**14 59 19.4**	**-0.4**
	baz=38								
E11A	**Bogner Ranch,**	**38.04**	**333**	⇑P		**P**	**14 59 19.4**	**-0.8**
	baz=38,SNR=10								
C14A	**Swan Lake**	**38.12**	**336**	⇓P		**P**	**14 59 20.9**	**0.0**
	baz=38								
D12A	**Red Ives Fores**	**38.21**	**334**	⇑P		**P**	**14 59 20.8**	**-0.7**
	baz=38								
F10A	**Beach Ranch, E**	**38.22**	**331**	⇓P		**P**	**14 59 21.6**	**-0.1**
	baz=38								
LPAZ	**La Paz**	**38.32**	**141**	P		**P**	**14 59 19.9**	**-3.0**
	comp=N,0.5nm,0.5s,mb3.5,baz=343,slow=5.5,SNR=4.9								
LPAZ					LR	LR	15 13 46.0		
	comp=N,46nm,21.6s,MS3.3,baz=316,slow=34								
LPAZ	**La Paz**	**38.32**	**141**	P		**P**	**14 59 17.4**	**-5.5**
	comp=N,0.8nm,0.6s,mb3.6								
F09A	**S2 Ranch, Elgi**	**38.34**	**330**	⇓P		**P**	**14 59 22.1**	**-0.6**
	baz=39								
H07A	**Lands Inn, Kim**	**38.37**	**328**	⇑P		**P**	**14 59 22.8**	**-0.3**
	baz=39								
C13A	**Hot Springs**	**38.38**	**335**	⇑P		**P**	**14 59 22.3**	**-0.7**
	baz=39								
D11A	**Klaveano Farm,**	**38.63**	**333**	⇑P		**P**	**14 59 24.6**	**-0.5**
	baz=39								
A14A	**Double T Ranch**	**38.99**	**338**	⇓P		**P**	**14 59 27.8**	**-0.3**
	baz=39								
E09A	**Wood Farm, Sta**	**39.05**	**331**	⇑P		**P**	**14 59 28.0**	**-0.7**
	baz=39								
C11A	**Tepee Creek (N**	**39.21**	**334**	⇓P		**P**	**14 59 29.4**	**-0.6**
	baz=40								
B12A	**Libby**	**39.42**	**335**	⇓P		**P**	**14 59 31.3**	**-0.5**
	baz=40								
D09A	**Jones Farm, Ri**	**39.53**	**332**	⇑P		**P**	**14 59 32.4**	**-0.2**
	baz=40								
B11A	**Sandpoint**	**39.72**	**335**	⇓P		**P**	**14 59 33.4**	**-0.8**
	baz=40,SNR=6.6								
G05A	**Wamic**	**39.73**	**327**	⇓P		**P**	**14 59 34.1**	**-0.2**
	baz=40								
F06A	**Goldendale**	**39.81**	**328**	⇓P		**P**	**14 59 34.9**	**-0.1**
	baz=40								
H04A	**Detroit Lake**	**39.82**	**326**	⇓P		**P**	**14 59 34.6**	**-0.5**
	baz=40								
OD2	**Odessa Site #2**	**39.95**	**332**	*e*P		**P**	**14 59 35.0**	**-1.2**
C09A	**Chrisman Ranch**	**40.06**	**332**	⇓P		**P**	**14 59 36.6**	**-0.5**
	baz=40								
A11A	**Hall Mountain,**	**40.12**	**335**	⇑P		**P**	**14 59 37.0**	**-0.6**
	baz=40,SNR=6.6								
F05A	**White Salmon**	**40.23**	**328**	⇑P		**P**	**14 59 39.4**	**+0.8**
	baz=40								
C08A	**Higginbotham F**	**40.40**	**332**	⇓P		**P**	**14 59 40.0**	**+0.2**
	baz=41								
E06A	**Yakima**	**40.44**	**329**	⇑P		**P**	**14 59 40.7**	**+0.5**
	baz=41								
B09A	**Rice**	**40.47**	**333**	⇑P		**P**	**14 59 39.9**	**-0.6**
	baz=41								
C07A	**Waterville**	**40.80**	**331**	⇓P		**P**	**14 59 43.6**	**+0.5**
	baz=41								
E05A	**Randle**	**40.84**	**328**	⇑P		**P**	**14 59 43.0**	**-0.6**
	baz=41								
ETW	**Entiat**	**40.87**	**331**	*e*P		**P**	**14 59 44.1**	**+0.4**
B08A	**Colville Reser**	**40.95**	**332**	⇓P		**P**	**14 59 43.5**	**-0.9**
	baz=41								
LON	**Longmire**	**41.00**	**329**	*e*P		**P**	**14 59 45.2**	**+0.4**
	comp=N,8.0nm,0.7s,mb4.5								
A09A	**Danville**	**41.08**	**333**	⇓P		**P**	**14 59 44.7**	**-0.7**
	baz=41								
A08A	**Turner Farm, O**	**41.36**	**333**	⇓P		**P**	**14 59 47.2**	**-0.5**
	baz=42								
A07A	**Ashnola River,**	**41.93**	**332**	⇑P		**P**	**14 59 52.2**	**-0.2**
	baz=42,SNR=7.9								
JCW	**Jim Creek**	**42.05**	**330**	*e*P		**P**	**14 59 52.6**	**-0.8**
B06A	**Marblemount**	**42.06**	**331**	⇓P		**P**	**14 59 53.1**	**-0.4**
	baz=42								
B05A	**Bryant**	**42.18**	**330**	⇑P		**P**	**14 59 54.0**	**-0.5**
	baz=42								
C04A	**Brinnon**	**42.24**	**329**	⇑P		**P**	**14 59 54.6**	**-0.3**
	baz=42								
A06A	**Chilliwack**	**42.47**	**331**	⇓P		**P**	**14 59 56.6**	**-0.2**
	baz=43								
B04A	**Port Angeles**	**42.73**	**329**	⇑P		**P**	**14 59 58.5**	**-0.4**
	baz=43								
SIV	**San Ignacio**	**42.77**	**133**	P		**P**	**14 59 56.7**	**-3.0**
	comp=N,2.9nm,0.7s,mb4.1,baz=302,slow=7.5,SNR=16								
A04A	**Legoe Bay, Lum**	**42.78**	**330**	⇑P		**P**	**14 59 58.7**	**-0.7**
	baz=43								
YKA	**Yellowknife Ar**	**50.94**	**347**	P		**P**	**15 01 01.0**	**-1.9**
	comp=N,6.6nm,0.6s,mb4.7,baz=148,slow=7.5,SNR=11								
YKA					LR	LR	15 25 59.8		
	comp=N,68nm,18.8s,MS3.7,baz=125,slow=40								
CPUP	**Villa Florida**	**52.47**	**140**	P		**P**	**15 01 09.7**	**-5.2**
	comp=N,0.5nm,0.4s,mb3.8,baz=314,slow=5.7,SNR=5.1								
CPUP					LR	LR	15 22 49.4		
	comp=N,71nm,18.2s,MS3.8,baz=142,slow=35								
CPUP	**Villa Florida**	**52.47**	**140**	P		**P**	**15 01 09.3**	**-5.5**
	comp=N,9.7nm,0.8s,mb4.8								
DLBC	**Dease Lake**	**52.56**	**336**	*e*P		**P**	**15 01 15.6**	**+0.5**
PLCA	**Paso Flores**	**58.06**	**161**	LR		LR	15 21 46.3		
	comp=N,114nm,18.8s,MS4.0,baz=104,slow=31								
KDAK	**Kodiak Island**	**62.63**	**328**	P		**P**	**15 02 25.1**	**-0.8**
	comp=N,6.3nm,0.7s,mb4.9,baz=100,slow=6.3,SNR=9.8								
MCK	**McKinley**	**63.10**	**335**	*e*P		**P**	**15 02 27.1**	**-1.9**
COLA	**College**	**63.16**	**337**	P		**P**	**15 02 29.4**	**0.0**
	comp=N,5.3nm,0.8s,mb4.7								
TRF	**Thorofare Moun**	**63.55**	**335**	*e*P		**P**	**15 02 30.4**	**-1.5**
	comp=N,9.6nm,0.7s,mb4.9								
KTH	**Kantishna Hill**	**63.85**	**335**	*e*P		**P**	**15 02 31.9**	**-2.0**
	comp=N,9.2nm,1.0s,mb4.8								
BPAW	**Bear Paw Mtn.**	**64.08**	**335**	*e*P		**P**	**15 02 33.0**	**-2.4**
	comp=N,5.4nm,0.9s,mb4.6								
PPT	**Papeete**	**64.89**	**243**	LR		LR	15 24 38.8		
	comp=N,107nm,18.3s,MS4.1,baz=67,slow=30								
COLD	**Coldfoot**	**65.04**	**339**	*e*P		**P**	**15 02 38.9**	**-2.7**
	comp=N,6.6nm,1.2s,mb4.5								
SVW2	**Sparrevohn**	**65.08**	**331**	*e*P		**P**	**15 02 39.4**	**-2.5**
ESK	**Eskdalemuir**	**77.89**	**36**	P		**P**	**15 03 53.6**	**-5.8**
	comp=N,26nm,1.1s,mb5.1								
NOA	**NORSAR Array B**	**84.09**	**28**	P		**P**	**15 04 29.7**	**-2.5**
	comp=N,1.2nm,0.7s,mb4.1,baz=266,slow=5.4,SNR=3.7								
NOA					LR	LR	15 43 12.8		
	comp=N,43nm,18.4s,MS3.9,baz=295,slow=37								
ARCES	**ARCESS Array B**	**86.07**	**18**	P		**P**	**15 04 38.6**	**-3.4**
	comp=N,7.6nm,1.1s,mb4.8,baz=316,slow=5.1,SNR=5.2								
TOA0	**Torodi Ar. Sit**	**90.39**	**76**	P		**P**	**15 04 59.5**	**-4.3**
TORD	**Torodi Ar. Bea**	**90.39**	**76**	P		**P**	**15 04 59.5**	**-4.2**
	comp=N,0.3nm,0.5s,mb3.9,baz=281,slow=5.6,SNR=4.9								
TORD	**Torodi Ar. Bea**	**90.39**	**76**	P		**P**	**15 04 59.5**	**-4.3**
CN2	**Changchun**	**113.00**	**331**	*e*PKP		PKiKP	15 10 35.7	-3.2	
KURK	**Kurchatov**	**114.96**	**7**	PKP		PKiKP	15 10 40.1	-2.3	
	comp=N,0.5nm,0.7s,baz=350,slow=2.0,SNR=2.9								
BOSA	**Boshof**	**120.42**	**115**	PKP		PKPdf	15 10 51.1	-2.5	
	comp=N,1.8nm,0.6s,baz=15,slow=4.2,SNR=3.8								
HHC	**Hu-ho-hao-te**	**121.13**	**339**	*e*PKP		PKPdf	15 10 51.4	-3.3	
HHC					PP	PP	15 12 25.2	+1.6	
HHC					PKS		15 14 27.1		
HHC					PP	PP			
	comp=Z,65nm,6.8s								
HHC					LR	LR			
	comp=N,102nm,20.2s,MS4.7								
HHC					LR	LR			
	comp=E,129nm,20.5s,MS4.7								
HHC					LR	LR			
	comp=Z,109nm,20.8s,MS4.5								
WMQ	**Urumqi**	**122.38**	**0**	PKP		PKPdf	15 10 54.0	-3.0	
NJ2	**Nanjing**	**125.41**	**328**	*e*PKP		PKPdf	15 11 00.3	-2.8	
CD2	**Chengdu**	**132.76**	**341**	*e*PKP		PKPdf	15 11 13.2	-3.9	
WRA	**Warramunga Arr**	**135.38**	**256**	PKP		PKPdf	15 11 19.1	-3.2	
	comp=Z,0.5nm,0.7s,baz=87,slow=2.6,SNR=8.3								
ASAR	**Alice Springs**	**135.66**	**251**	PKP		PKPdf	15 11 20.0	-2.7	
	comp=Z,0.3nm,0.6s,baz=105,slow=2.9,SNR=3.3								
GYA	**Guiyang**	**135.79**	**336**	*e*PDIF		Pdif	15 08 20.7	-5.1	
GYA					PKP	PKPdf	15 11 18.0	-4.9	
GYA					PP	PP	15 14 01.2	+1.3	
GYA					PP	PP			
	comp=Z,60nm,7.9s								
KMI	**Kunming**	**138.45**	**340**	PKP		PKPdf	15 11 23.7	-4.2	
CHG	**Chiang Mai**	**145.57**	**341**	P		PKPdf	15 11 38.3	-2.4	
CHTO	**Chiang Mai**	**145.57**	**341**	*e*PKPdf		PKPdf	15 11 37.9	-2.8	
CMAR	**Chiang Mai Arr**	**145.90**	**341**	PKPbc		PKPbc	15 11 40.4	-1.5	
	comp=Z,14nm,0.8s,baz=338,slow=3.4,SNR=84								
HYB	**Hyderabad**	**147.35**	**17**	*i* PKP		PKPdf	15 11 44.5	+0.7	
HYB	**Hyderabad**	**147.35**	**17**	*e*P		PKPdf	15 11 44.5	+0.7	

NIED ***11*** *14:55:00,31.30N×130.50E,h165km,Mw3.8 Best double couple: M₀5.58000×10¹⁴ NP1:φ=12.00000°,δ=71.00000°, λ=75.00000°. NP2:φ=231.00000°,δ=24.00000°,λ=127.00000°.*

ISCJB ***11*** *14:55:34.5±0.4,3127N±005×13046E±007,h163km±3km, mb3.8/8, Error ellipse: s-maj=11.5km s-min=6.5km az=39.3*

IDC ***11*** *14:55:35.4±1.3,3127N×130.33E,h154km±13km,mb3.6/8, mb1 3.6/12,mb1mx3.4/25,mbtmp3.5/12, Error ellipse: s-maj=17.3km s-min=10.3km az=111.0*

JMA ***11*** *14:55:36.7±0.1,31.33N×130.51E,h152km±1km,M3.9*

NEIC ***11*** *14:55:36.2±1.1,31.30N×130.33E,h162km±12km, MG3.9(JMA),Error ellipse: s-maj=18.3km s-min=9.9km az=119.0*

ISC 11 14:55:35.9±0.4,3130N±005×13046E±007,h157km±3km, n21,σ0≥87/30,mb3.8/8,5C-1D,Kyushu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JSU	**Suzuyama**	**0.20**	**358**	⇑P	**Pn**	**14 55 57.4**	**+0.4**
JSU				*e*S	**Sn**	**14 56 13.3**	**0.0**
JTSR	**Tashiro 2**	**0.42**	**109**	⇑P	**Pn**	**14 55 57.9**	**+0.2**
JTSR				S	**Sn**	**14 56 13.4**	**-0.8**
JSJ	**Shimokoshiki**	**0.74**	**301**	⇓P	**Pn**	**14 55 59.8**	**+0.4**
JSJ				S	**Sn**	**14 56 17.4**	**0.0**
JTN	**Tanegashima 3**	**0.78**	**145**	⇑P	**Pn**	**14 56 00.1**	**+0.4**
JTN				S	**Sn**	**14 56 17.7**	**-0.2**
JTZ	**Takazaki**	**0.80**	**42**	⇑P	**Pn**	**14 55 59.9**	**+0.1**
JTZ				S	**Sn**	**14 56 17.0**	**-1.2**
JIU2	**Izumi 2**	**1.28**	**13**	⇑P	**Pn**	**14 56 04.0**	**+0.2**
JNN	**Nakanoshima**	**1.54**	**199**	P	**Pn**	**14 56 07.0**	**+0.6**
JOW	**Kunigami**	**4.85**	**204**	P	**Pn**	**14 56 46.6**	**-0.8**
	1.6nm,0.3s,baz=52,slow=25,SNR=19						
JOW				S	**Sn**	**14 57 39.0**	**-4.2**
	2.9nm,0.3s,baz=112,slow=29,SNR=13						
KSRS	**Korea Array**	**6.49**	**342**	P	**Pn**	**14 57 10.2**	**+1.2**
	0.5nm,0.3s,baz=168,slow=14,SNR=13						
JHJ	**Hachijo jima 2**	**8.10**	**75**	P	**Pn**	**14 57 33.7**	**+3.1**
	12nm,0.3s,baz=243,slow=21,SNR=7.9						
MAJO	**Matsushiro**	**8.29**	**49**	*e*Pn	**Pn**	**14 57 33.3**	**+0.3**
MAJO				*e*Sn	**Sn**	**14 59 04.6**	**-0.7**
MAT	**Matsushiro**	**8.29**	**49**	P	**Pn**	**14 57 35.9**	**+2.9**
MAT				S	**Sn**	**14 59 04.3**	**-1.0**
MJAR	**Matsushiro Arr**	**8.29**	**49**	P	**Pn**	**14 57 36.2**	**+3.2**
	1.1nm,0.3s,baz=240,slow=14,SNR=17						
MJAR				S	**Sn**	**14 59 05.2**	**-0.2**
	0.6nm,0.3s,baz=217,slow=26,SNR=5.5						
CMAR	**Chiang Mai Arr**	**31.20**	**253**	P	**P**	**15 01 40.1**	**-0.3**
	0.3nm,0.5s,mb3.3,baz=55,slow=7.8,SNR=4.3						
BVAR	**Borovoye Array**	**47.94**	**315**	P	**P**	**15 03 58.1**	**-0.1**
	0.6nm,0.3s,mb3.7,baz=99,slow=11,SNR=4.3						
WRA	**Warramunga Arr**	**51.08**	**175**	P	**P**	**15 04 22.2**	**-0.1**
	0.5nm,0.3s,mb3.6,baz=353,slow=7.8,SNR=9.5						
ASAR	**Alice Springs**	**54.75**	**176**	P	**P**	**15 04 49.5**	**+0.4**
	0.8nm,0.6s,mb3.6,baz=359,slow=6.5,SNR=11						
KDAK	**Kodiak Island**	**57.31**	**38**	P	**P**	**15 05 06.7**	**-0.3**
	2.4nm,0.7s,mb4.1,baz=90,slow=6.1,SNR=3.7						
STKA	**Stephens Creek**	**63.71**	**169**	P	**P**	**15 05 50.6**	**+0.1**
	1.7nm,0.6s,mb4.1,baz=346,slow=8.3,SNR=3.7						
ARCES	**ARCESS Array B**	**66.03**	**338**	P	**P**	**15 06 03.8**	**-1.3**
	6.8nm,1.1s,mb4.4,baz=82,slow=9.9,SNR=3.5						
AKASG	**Malin Array Be**	**72.97**	**319**	P	**P**	**15 06 47.0**	**-0.9**
	1.3nm,0.5s,mb3.9,baz=53,slow=7.0,SNR=6.3						

NOU ***11*** *15:43:08.7±0.9,1914S×169.36E,h10km*

ISCJB ***11*** *15:43:10.4±1.6, 192S±0.1×169.0E±0.1,h155km±13km, mb3.9/13, Error ellipse: s-maj=23.6km s-min=17.9km az=30.0*

NEIC ***11*** *15:43:10.1±2.2, 19.16S×169.12E,h142km±17km,mb4.2/7, Error ellipse: s-maj=18.9km s-min=16.8km az=58.0*

IDC ***11*** *15:43:11.2±11.0, 1904S×169.00E,h148km±93km,mb3.7/9, mb1 3.8/9,mb1mx3.7/15,mbtmp3.7/9,Error ellipse: s-maj=46.5km s-min=27.9km az=101.0*

LDG ***11*** *15:43:20.6±0.1, 1929S×167.50E,h220km,Mb3.9/2, Error ellipse: s-maj=17.5km s-min=3.7km az=101.0*

ISC 11 15:43:10.9±1.6, 192S±01×1691E±01,h147km±13km,n40, σ0≥79/30,mb3.9/13,1C-1D,Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BAYA	**Yate Dam**	**3.57**	**214**	*e*P	**Pn**	**15 44 05.0**	**-0.5**
BAYA				*e*S	**Sn**	**15 44 46.4**	**-1.5**
DZM	**Mont Dzumac**	**3.76**	**220**	*e*P	**Pn**	**15 44 08.0**	**+0.1**
DZM				*e*S	**Sn**	**15 44 52.0**	**-0.2**
DZM	**Mont Dzumac**	**3.76**	**220**	*e*Pn	**Pn**	**15 44 07.7**	**-0.3**
DZM				*e*Sn	**Sn**	**15 44 48.5**	**-3.8**
PLUM	**Mont Dore**	**3.80**	**216**	*e*P	**Pn**	**15 44 09.1**	**+0.6**
PLUM				*e*S	**Sn**	**15 44 52.8**	**-0.4**
NORM	**Noumea**	**3.85**	**218**	*e*P	**Pn**	**15 44 09.5**	**+0.3**
NORM				*e*S	**Sn**	**15 44 54.5**	**0.0**
NOUC	**Port Laguerre**	**3.87**	**221**	*e*P	**Pn**	**15 44 09.7**	**+0.4**
NOUC				*e*S	**Sn**	**15 44 56.0**	**+1.3**
ONTRN	**Noumea**	**3.93**	**218**	*e*P	**Pn**	**15 44 10.6**	**+0.3**
ONTRN				*e*S	**Sn**	**15 44 56.3**	**0.0**
CTA	**Charters Tower**	**21.49**	**264**	P	**P**	**15 47 49.3**	**+1.2**
	0.1nm,0.6s,mb3.7,baz=98,slow=12,SNR=6.2						
CTAO	**Charters Tower**	**21.49**	**264**	P	**P**	**15 47 49.0**	**+0.8**
	1.9nm,0.5s,mb3.7						
STKA	**Stephens Creek**	**27.72**	**238**	P	**P**	**15 48 46.4**	**+0.8**
	3.6nm,0.7s,mb4.2,baz=66,slow=10,SNR=12						
STKA	**Stephens Creek**	**27.72**	**238**	*e*P	**P**	**15 48 46.1**	**+0.5**
	4.2nm,0.7s,mb4.3						
WRA	**Warramunga Arr**	**32.

coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAT	**Jato**	**0.56**	**51**	*e*P	**Pn**	**16 17 15.8**	**+1.2**
THIG		**0.96**	**349**	*i* P	**Pn**	**16 17 17.8**	**-2.2**
THIG				*i* S	**Sn**	**16 17 31.9**	**-0.6**
FUG	**Fuego 3**	**1.30**	**68**	*e*P	**Pn**	**16 17 24.8**	**+0.1**
FG6		**1.31**	**63**	⇓*i*P	**Pn**	**16 17 25.6**	**+0.8**
PCG	**Pacaya**	**1.49**	**73**	*e*P	**Pn**	**16 17 28.5**	**+1.1**
PCG				*e*S	**Sn**	**16 17 52.9**	**+7.1**
GCG	**Guatemala City**	**1.63**	**67**	*e*P	**Pn**	**16 17 29.9**	**+0.7**
GCG				*e*S	**Sn**	**16 17 53.8**	**+4.7**
NBG	**Las Nubes**	**1.79**	**69**	⇑*e*P	**Pn**	**16 17 33.7**	**+2.2**
NBG				*e*S	**Sn**	**16 17 59.1**	**+5.9**
CCIG	**Comitan**	**2.31**	**359**	*i* P	**Pn**	**16 17 39.5**	**+0.8**
CCIG				*i* S	**Sn**	**16 18 07.0**	**+1.1**
RTR	**El Retiro**	**2.37**	**91**	*e*P	x	16 17 39.1	
SBLS	**San Blas**	**2.39**	**93**	*e*P	x	16 17 39.3	
SBLS				*e*S	x	16 18 11.3	
SBLS				AML	x	16 18 14.2	
	comp=Z,728nm,0.6s						
SNJE	**San Jose**	**2.41**	**92**	⇑*e*P	x	16 17 38.9	
SNJE				*e*S	x	16 18 12.0	
MRL	**Marmol**	**2.56**	**64**	*e*P	**Pn**	**16 17 44.4**	**+2.3**
MRL				*e*S	**Sn**	**16 18 17.3**	**+5.1**
MTO2	**Montecristo 2**	**2.67**	**80**	⇑*e*P	x	16 17 42.5	
BOQS	**Boqueron**	**2.73**	**94**	*e*P	x	16 17 43.7	
BOQS				*e*S	x	16 18 19.5	
LFRS	**El Faro**	**2.95**	**96**	⇑*e*P	x	16 17 47.1	
LFRS				*e*S	x	16 18 25.1	
LBRS	**Las Brisas**	**2.96**	**94**	*e*P	x	16 17 47.6	
TGIG		**2.98**	**340**	*e*P	**Pn**	**16 17 46.3**	**-1.5**
TGIG				*i* S	**Sn**	**16 18 23.0**	**+0.6**
VSM	**San Miguel**	**3.74**	**98**	*e*P	x	16 17 58.5	
CAHU	**Cacacuatique**	**3.77**	**92**	*e*P	x	16 17 58.1	
CMIG	**Matias Romero**	**4.12**	**319**	P	**Pn**	**16 18 00.4**	**-3.1**
	comp=Z,10nm,0.3s,baz=142,slow=11,SNR=76						
CMIG				S	**Sn**	**16 18 51.6**	**+1.0**
	comp=Z,74nm,0.3s,baz=42,slow=19,SNR=7.2						
CNCH	**Conchagua**	**4.19**	**99**	*e*P	x	16 18 04.2	
HUIG	**Huatulco**	**4.29**	**295**	*e*P	**Pn**	**16 18 03.3**	**-2.5**
HUIG				*i* S	**Sn**	**16 18 50.3**	**-4.4**
TUIG	**Tuzandepetl**	**4.63**	**331**	*i* P	**Pn**	**16 18 08.8**	**-1.8**
TUIG				*i* S	**Sn**	**16 19 02.8**	**-0.5**
TGUH	**Tegucigalpa,Un**	**4.67**	**88**	*e*P	**Pn**	**16 18 10.5**	**-0.6**
TGUH				*e*S	**Sn**	**16 19 05.7**	**+1.5**
TGUH	**Tegucigalpa,Un**	**4.67**	**88**	*e*Pn	**Pn**	**16 18 10.4**	**-0.7**
SCIG	**Sabancuy**	**5.05**	**10**	*i* P	**Pn**	**16 18 16.1**	**-0.2**
SCIG				*i* S	**Sn**	**16 19 15.6**	**+2.0**
VHO	**Vista Hermosa**	**5.45**	**305**	*e*P	**Pn**	**16 18 20.4**	**-1.4**
VHO				*i* S	**Sn**	**16 19 19.7**	**-3.6**
VHO	**Vista Hermosa**	**5.45**	**305**	*e*P	**Pn**	**16 18 21.4**	**-0.4**
VHO				*i* S	**Sn**	**16 19 22.1**	**-1.2**
MOMN	**Momotombo**	**5.62**	**105**	*e*P	**Pn**	**16 18 24.0**	**-0.1**
COPN	**Copaltepe**	**5.64**	**108**	⇓*e*P	**Pn**	**16 18 25.0**	**+0.6**
CSAN		**5.79**	**107**	*e*P	**Pn**	**16 18 26.2**	**-0.4**
PNIG	**Pinotepa**	**6.32**	**293**	*i* P	**Pn**	**16 18 31.1**	**-2.6**
PNIG				*i* S	**Sn**	**16 19 41.4**	**-3.5**
TPIG	**Tehuac#an**	**6.74**	**312**	*i* P	**Pn**	**16 18 38.5**	**-1.0**
TPIG				*i* S	**Sn**	**16 19 51.5**	**-3.7**
TEIG	**Tepich**	**7.21**	**30**	P	**Pn**	**16 18 46.8**	**+0.7**
	comp=Z,36nm,0.3s,baz=209,slow=0.9,SNR=110						
TEIG	**Tepich**	**7.21**	**30**	*e*P	**Pn**	**16 18 46.7**	**+0.6**
TEIG	**Tepich**	**7.21**	**30**	⇑*e*Pn	**Pn**	**16 18 46.3**	**+0.2**
	comp=Z,226nm,0.7s						
TEIG				*e*P		16 18 46.7	
JTS	**JuntasAbangare**	**7.87**	**117**	P	**Pn**	**16 18 58.7**	**+3.6**
	comp=Z,2.0nm,0.3s,baz=300,slow=18,SNR=7.1						
JTS				Lg		16 20 44.3	
	comp=Z,1.2nm,0.3s,baz=128,slow=19,SNR=2.5						
JTS				LR	LR	16 22 13.7	
	comp=Z,3μm,21.0s,baz=312,slow=41						
JTS	**JuntasAbangare**	**7.87**	**117**	*e*Pn	**Pn**	**16 18 57.9**	**+2.8**
	comp=Z,39nm,0.8s						
JTS				*e*S	Sn	16 20 42.9	+20
JCR	**Jicaral**	**7.95**	**120**	*e*P	**Pn**	**16 18 58.0**	**+1.7**
JCR	**Jicaral**	**7.95**	**120**	*e*P	**Pn**	**16 18 49.8**	**-6.4**
PPM	**Popocatepetl**	**8.07**	**310**	*e*P	**Pn**	**16 18 58.2**	**+0.3**
PPM				*i* S	**Sn**	**16 20 28.5**	**+0.5**
PLIG	**Platanillo**	**8.38**	**303**	*e*P	**Pn**	**16 19 01.4**	**-0.7**
PLIG				*i* S	**Sn**	**16 20 35.0**	**-0.6**
CGA2	**Cerro Gallo 2**	**8.42**	**117**	*e*P	**Pn**	**16 18 57.5**	**-5.2**
CAIG	**El Cayaco**	**8.46**	**292**	*e*P	**Pn**	**16 19 01.1**	**-2.1**
CAIG				*i* S	**Sn**	**16 20 32.6**	**-5.1**
PRS1	**Puriscal**	**8.57**	**117**	*e*P	**Pn**	**16 19 06.2**	**+1.4**
PRS1	**Puriscal**	**8.57**	**117**	*e*P	**Pn**	**16 18 59.5**	**-5.2**
URSC	**Urasca**	**9.10**	**116**	*e*P	**Pn**	**16 19 11.2**	**-0.8**
URSC	**Urasca**	**9.10**	**116**	*e*P	**Pn**	**16 19 07.8**	**-6.2**
BUS	**Buena Vista**	**9.25**	**117**	*e*P	**Pn**	**16 19 07.8**	**-6.2**
ZIIG	**Zihuatanejo**	**9.73**	**293**	*e*P	**Pn**	**16 19 18.8**	**-1.8**
BCIP	**Isla Barro Col**	**12.91**	**110**	*e*Pn	**Pn**	**16 20 04.1**	**-0.1**
	comp=Z,33nm,1.0s						
LNIG	**Linares**	**12.91**	**329**	*e*P	**Pn**	**16 20 03.8**	**-0.4**
PAYG	**Puerto Ayora**	**14.65**	**173**	*e*Pn	**Pn**	**16 20 32.4**	**+4.5**
HKT	**Hockley**	**16.29**	**348**	*e*Pn	**Pn**	**16 20 49.2**	**+0.1**
	comp=Z,38nm,1.4s						
DWPF	**Disney**	**17.22**	**33**	*e*Pn	**Pn**	**16 20 56.9**	**-4.1**
	comp=Z,53nm,1.0s						
NATX	**Nacogdoches**	**17.87**	**353**	*e*Pn	**Pn**	**16 21 09.5**	**+0.5**
	comp=Z,22nm,0.3s						
TXAR	**Lajitas Array**	**18.68**	**327**	P	**Pn**	**16 21 19.1**	**+0.2**
	comp=Z,0.6nm,0.3s,baz=157,slow=13,SNR=98						
TXAR				LR	LR	16 29 41.5	
	comp=Z,529nm,19.3s,baz=180,slow=40						
OTAV	**Otavalo**	**19.18**	**134**	*e*P	**Pn**	**16 21 24.5**	**-0.6**
	comp=Z,8.1nm,1.0s						
LRAL	**Lakeview Retre**	**19.55**	**13**	*e*P	**Pn**	**16 21 27.2**	**-2.0**
	comp=Z,29nm,0.9s						
ROSC	**El Rosal**	**19.70**	**116**	P	**Pn**	**16 21 31.1**	**-0.1**
	baz=112,slow=22,SNR=11						
ROSC	**El Rosal**	**19.70**	**116**	*e*P	**Pn**	**16 21 30.9**	**-0.3**
MIAR	**Mount Ida**	**20.54**	**356**	*e*P	**P**	**16 21 37.3**	**-1.3**
	comp=Z,43nm,1.1s						
MIAR				*e*S	**S**	**16 25 21.1**	**-5.6**
OXF	**Oxford**	**20.60**	**6**	*e*P	**P**	**16 21 36.8**	**-2.5**
	comp=Z,38nm,0.9s						
UALR	**University of**	**20.73**	**359**	*e*P	**P**	**16 21 38.6**	**-2.0**
	comp=Z,27nm,0.9s						
SDV	**Santo Domingo**	**21.61**	**101**	P	**P**	**16 21 46.3**	**-4.1**
	comp=Z,2.7nm,0.3s,mb4.2,baz=180,slow=20,SNR=3.0						
WVT	**Waverly**	**22.40**	**9**	*e*P	**P**	**16 21 55.4**	**-3.2**
	comp=Z,7.2nm,0.6s,mb4.3						
AMTX	**Amarillo**	**22.56**	**339**	*e*P	**P**	**16 21 58.7**	**-1.6**
	comp=Z,43nm,0.6s,mb5.0						
TKL	**Tuckaleechee C**	**22.86**	**18**	P	**P**	**16 22 00.2**	**-3.2**
	comp=Z,8.1nm,0.7s,mb4.3,baz=186,slow=9.5,SNR=4.3						
TKL				LR	LR	16 32 49.5	
	comp=Z,2μm,18.1s,MS4.5,baz=207,slow=42						
TKL	**Tuckaleechee C**	**22.86**	**18**	*e*P	**P**	**16 22 01.3**	**-2.1**
319A	**Douglas**	**23.44**	**321**	⇓P	**P**	**16 22 09.8**	**+0.3**
	baz=24,SNR=11						
TZTN	**Tazewell**	**23.75**	**17**	*e*P	**P**	**16 22 09.1**	**-3.2**
	comp=Z,33nm,1.1s,mb4.7						
SIUC	**Southern Illin**	**23.79**	**6**	*e*P	**P**	**16 22 10.2**	**-2.5**
	comp=Z,80nm,0.7s,mb5.3						
219A	**White Tail Can**	**23.86**	**322**	⇓P	**P**	**16 22 13.9**	**+0.4**
	baz=24,SNR=30						
318A	**Bisbee**	**23.93**	**320**	⇑P	**P**	**16 22 14.6**	**+0.5**
	baz=24,SNR=16						
CCM	**Cathedral Cave**	**24.01**	**2**	*e*P	**P**	**16 22 11.3**	**-3.4**
	comp=Z,7.6nm,0.8s,mb4.2						
BNM	**Barren Site**	**24.04**	**329**	*e*P	**P**	**16 22 15.2**	**+0.2**
LPM	**Los Pinos Moun**	**24.17**	**329**	*e*P	**P**	**16 22 16.4**	**+0.3**
LENM	**Lemitar**	**24.22**	**329**	*e*P	**P**	**16 22 16.8**	**+0.1**
USIN	**University of**	**24.23**	**9**	*e*P	**P**	**16 22 14.4**	**-2.2**
	comp=Z,42nm,0.8s,mb4.9						
218A	**Dragoon**	**24.33**	**320**	⇓P	**P**	**16 22 17.9**	**+0.2**
	baz=24						
119A	**Ashpeak Ranch,**	**24.43**	**323**	⇑P	**P**	**16 22 19.1**	**+0.5**
	baz=24						
LAZ	**Ladron**	**24.49**	**329**	*e*P	**P**	**16 22 19.7**	**+0.6**
ANMO	**Albuquerque**	**24.60**	**331**	P	**P**	**16 22 20.3**	**+0.2**
	comp=Z,16nm,0.7s,mb4.7,baz=148,slow=12,SNR=39						
ANMO	**Albuquerque**	**24.60**	**331**	*e*P	**P**	**16 22 19.8**	**-0.3**
	comp=Z,16nm,0.7s,mb4.7						
217A	**Green Valley**	**24.68**	**319**	⇑P	**P**	**16 22 21.3**	**+0.4**
	baz=25,SNR=11						
WCI	**Wyandotte Cave**	**24.71**	**11**	*e*P	**P**	**16 22 17.6**	**-3.5**
	comp=Z,35nm,0.8s,mb4.9						
118A	**Homack Ranch,**	**24.74**	**322**	⇑P	**P**	**16 22 22.0**	**+0.6**
	baz=25,SNR=5.4						
ATAH	**Atahualpa**	**24.86**	**146**	P	**P**	**16 22 24.5**	**+1.8**
	comp=Z,3.6nm,0.7s,mb4.0,baz=336,slow=12,SNR=2.5						
ATAH				LR	LR	16 30 19.8	
	comp=Z,761nm,19.3s,MS4.2,baz=325,slow=32						
OLIL	**Olney**	**24.93**	**7**	*e*P	**P**	**16 22 20.9**	**-2.1**
	comp=Z,42nm,0.7s,mb5.1						
TUC	**Tucson**	**25.01**	**320**	*e*P	**P**	**16 22 23.8**	**-0.2**
	comp=Z,5.1nm,0.9s,mb4.0						
117A	**Oracle**	**25.16**	**321**	⇑P	**P**	**16 22 25.7**	**+0.5**
	baz=25						
216A	**Three Points,**	**25.23**	**319**	⇓P	**P**	**16 22 26.2**	**+0.3**
	baz=25						
Y19A	**Nutrioso**	**25.27**	**325**	⇑P	**P**	**16 22 26.8**	**+0.6**
	baz=25,SNR=13						
Z17A	**San Carlos Hig**	**25.50**	**322**	⇑P	**P**	**16 22 29.0**	**+0.7**
	baz=26						
Y18A	**Canyon Day Jun**	**25.59**	**324**	⇓P	**P**	**16 22 29.9**	**+0.9**
	baz=26						
X19A	**St. Johns**	**25.64**	**326**	⇑P	**P**	**16 22 30.4**	**+0.8**
	baz=26,SNR=5.6						
116A	**Eloy**	**25.76**	**319**	⇓P	**P**	**16 22 31.4**	**+0.8**
	baz=26						
X18A	**Snowflake**	**26.08**	**325**	⇓P	**P**	**16 22 34.5**	**+0.9**
	baz=26						
214A	**Organ Pipe Nat**	**26.09**	**317**	⇓P	**P**	**16 22 34.2**	**+0.5**
	baz=26						
115A	**Sonoran Desert**	**26.18**	**319**	⇑P	**P**	**16 22 35.2**	**+0.7**
	baz=26						
X17A	**Forest Lakes**	**26.43**	**323**	⇑P	**P**	**16 22 37.7**	**+1.0**
	baz=26						
Y16A	**Circle Bar Ran**	**26.51**	**322**	⇓P	**P**	**16 22 38.5**	**+1.0**
	baz=27						
SDCO	**Great Sand Dun**	**26.52**	**336**	*e*P	**P**	**16 22 37.3**	**-0.2**
	comp=Z,8.7nm,1.1s,mb4.2						
X16A	**Lo Mia Camp, P**	**26.86**	**323**	⇑P	**P**	**16 22 41.4**	**+0.7**
	baz=27,SNR=6.7						
Y15A	**Casa Rosa Ranc**	**27.08**	**321**	⇑P	**P**	**16 22 43.3**	**+0.7**
	baz=27						
T19A	**Beclabito**	**27.35**	**329**	⇓P	**P**	**16 22 45.6**	**+0.6**
	baz=27						
ACSO	**Alum Creek Sta**	**27.36**	**15**	P	**P**	**16 22 41.0**	**-4.0**
X15A	**Humboldt**	**27.38**	**322**	⇑P	**P**	**16 22 45.7**	**+0.4**
	baz=27						
W16A	**Flagstaff**	**27.39**	**324**	⇓P	**P**	**16 22 45.9**	**+0.6**
	baz=27						
MVCO	**Mesa Verde**	**27.39**	**331**	⇓P	**P**	**16 22 45.7**	**+0.3**
	baz=27,SNR=6.7						
MVCO	**Mesa Verde**	**27.39**	**331**	*e*P	**P**	**16 22 45.5**	**+0.1**
	comp=Z,37nm,1.0s,mb4.9						
U18A	**Rough Rock, Ch**	**27.46**	**328**	⇓P	**P**	**16 22 46.2**	**+0.3**
	baz=28						
Y14A	**Wickenburg**	**27.48**	**320**	⇑P	**P**	**16 22 46.2**	**0.0**
	baz=28						
WUAZ	**Wupatki**	**27.60**	**324**	⇑P	**P**	**16 22 47.8**	**+0.5**
	baz=28						
WUAZ	**Wupatki**	**27.60**	**324**	*e*P	**P**	**16 22 47.1**	**-0.2**
	comp=Z,8.4nm,1.0s,mb4.3						
U16A	**Tuba City**	**27.92**	**326**	⇑P	**P**	**16 22 50.5**	**+0.4**
	baz=28						
Y13A	**Salome**	**27.92**	**319**	⇓P	**P**	**16 22 50.3**	**+0.1**
	baz=28						
T18A	**Mexican Hat**	**28.01**	**329**	⇓P	**P**	**16 22 51.1**	**+0.2**
	baz=28						
S19A	**Harvey Farm, M**	**28.13**	**330**	⇑P	**P**	**16 22 52.2**	**+0.3**
	baz=28,SNR=9.7						
PV01	**Paradox Valley**	**28.17**	**332**	*e*P	**P**	**16 22 53.4**	**+1.1**
V15A	**Kaibab Nationa**	**28.27**	**324**	⇓P	**P**	**16 22 54.0**	**+0.8**
	baz=28,SNR=6.5						
T17A	**Navajo Res., N**	**28.38**	**327**	⇑P	**P**	**16 22 54.9**	**+0.7**
	baz=28,SNR=6.2						
W14A	**Seligman**	**28.39**	**322**	⇓P	**P**	**16 22 54.6**	**+0.4**
	baz=28						
X13A	**Yucca**	**28.43**	**320**	⇑P	**P**	**16 22 54.7**	**+0.1**
	baz=28						
PDMCI	**Parker Dam,Lak**	**28.43**	**319**	⇓P	**P**	**16 22 55.1**	**+0.4**
	baz=28						
S18A	**Hurst Farm, Bl**	**28.50**	**329**	⇓P	**P**	**16 22 56.0**	**+0.7**
	baz=28,SNR=14						
PV10	**Paradox Valley**	**28.59**	**331**	*e*P	**P**	**16 22 55.9**	**-0.1**
V14A	**Boquillas Ranc**	**28.69**	**322**	⇑P	**P**	**16 22 57.6**	**+0.7**
	baz=29,SNR=10						
U15A	**North Rim**	**28.77**	**325**	⇓P	**P**	**16 22 58.3**	**+0.6**
	baz=29,SNR=8.8						
W13A	**Hualapai Mount**	**28.80**	**321**	⇑P	**P**	**16 22 58.6**	**+0.7**
	baz=29						
S17A	**Black Ridge (B**	**28.87**	**328**	⇓P	**P**	**16 22 59.1**	**+0.6**
	baz=29,SNR=10.0						
BC3	**Big Chuckw Mtn**	**28.89**	**317**	⇑P	**P**	**16 22 59.2**	**+0.4**
	baz=29,SNR=5.5						
IRM	**Iron Mountain**	**28.99**	**318**	⇑P	**P**	**16 23 00.3**	**+0.6**
	baz=29						
R18A	**Canyonlands Na**	**29.00**	**330**	⇑P	**P**	**16 22 59.6**	**-0.1**
	baz=29,SNR=5.6						
Q19A	**Hogan Spring (**	**29.16**	**332**	⇓P	**P**	**16 23 01.0**	**0.0**
	baz=29						
T15A	**Red Dirt Ranch**	**29.25**	**325**	⇓P	**P**	**16 23 02.1**	**+0.2**
	baz=29						
U14A	**Mt Trumbull**	**29.27**	**324**	⇑P	**P**	**16 23 02.7**	**+0.6**
	baz=29,SNR=6.4						
S16A	**Weppner Ranch,**	**29.34**	**327**	⇑P	**P**	**16 23 03.3**	**+0.5**
	baz=29						
V13A	**Grand Canyon W**	**29.36**	**322**	⇓P	**P**	**16 23 03.4**	**+0.5**
	baz=29,SNR=8.6						
R17A	**Hanksville Air**	**29.42**	**329**	⇑P	**P**	**16 23 03.8**	**+0.3**
	baz=29,SNR=7.5						
PFO	**Pinyon Flat Ob**	**29.53**	**316**	LR	LR	16 37 11.5	
	comp=Z,518nm,18.2s,MS4.2,baz=315,slow=41						
PFO	**Pinyon Flat Ob**	**29.53**	**316**	⇑P	**P**	**16 23 05.2**	**+0.8**
	baz=30						
Q18A	**Rafter H Ranch**	**29.68**	**331**	⇓P	**P**	**16 23 06.0**	**+0.3**
	baz=30,SNR=6.2						
GMRC	**Granite Mounta**	**29.71**	**318**	⇑P	**P**	**16 23 06.9**	**+0.9**
	baz=30						
R16A	**Teasdale**	**29.71**	**328**	⇑P	**P**	**16 23 06.6**	**+0.6**
	baz=30,SNR=12						
S15A	**Panguitch**	**29.72**	**326**	⇓P	**P**	**16 23 06.9**	**+0.8**
	baz=30						
U13A	**Pakoon Wash**	**29.73**	**323**	⇑P	**P**	**16 23 07.0**	**+0.8**
	baz=30,SNR=7.8						
V12A	**Nelson**	**29.80**	**321**	⇓P	**P**	**16 23 07.3**	**+0.5**
	baz=30						
SRU	**San Rafael**	**29.87**	**330**	⇑P	**P**	**16 23 07.4**	**0.0**
	baz=30,SNR=5.5						
NNA	**Nana**	**29.88**	**149**	LR	LR	16 32 48.4	
	comp=Z,616nm,21.0s,MS4.2,baz=336,slow=32						
Q16A	**Castle Valley**	**30.04**	**329**	⇑P	**P**	**16 23 09.2**	**+0.3**
	baz=30,SNR=6.8						
U12A	**Valley of Fire**	**30.08**	**322**	⇑P	**P**	**16 23 10.0**	**+0.7**
	baz=30						
P18A	**Preston Nutter**	**30.15**	**331**	⇑P	**P**	**16 23 10.3**	**+0.5**
	baz=30						
MSU	**Marysvale**	**30.24**	**328**	*e*P	**P**	**16 23 11.1**	**+0.4**
P17A	**Butcher Ranch,**	**30.26**	**331**	⇑P	**P**	**16 23 11.3**	**+0.5**
	baz=30						
TUQ	**Turquoise Moun**	**30.29**	**319**	⇓P	**P**	**16 23 11.9**	**+0.8**
	baz=30						
TMUT	**Trail Mountain**	**30.35**	**330**	*e*P	**P**	**16 23 12.2**	**+0.6**
ARUT	**Antelope Range**	**30.39**	**325**	*e*P	**P**	**16 23 13.0**	**+1.0**
S13A	**Holt Ranch, En**	**30.48**	**324**	⇓P	**P**	**16 23 13.9**	**+1.1**
	baz=30						
N19A	**John Jarvie Ra**	**30.70**	**334**	⇑P	**P**	**16 23 14.5**	**-0.2**
	baz=31						
Q15A	**Fillmore**	**30.71**	**328**	⇓P	**P**	**16 23 15.7**	**+0.9**
	baz=31						
O17A	**Robinson Place**	**30.83**	**331**	⇓P	**P**	**16 23 16.2**	**+0.4**
	baz=31,SNR=7.1						
R13A	**O'Grain Ranch,**	**30.96**	**325**	⇓P	**P**	**16 23 17.9**	**+0.8**
	baz=31,SNR=8.0						
N18A	**Larsen Ranch,**	**30.98**	**334**	⇑P	**P**	**16 23 17.1**	**-0.1**
	baz=31,SNR=5.9						
T11A	**Corn Creek, Al**	**31.03**	**323**	⇓P	**P**	**16 23 18.3**	**+0.7**
	baz=31						
P15A	**Leamington**	**31.09**	**329**	⇑P	**P**	**16 23 18.5**	**+0.3**
	baz=31						
Q14A	**Sevier Lake (B**	**31.17**	**327**	⇑P	**P**	**16 23 19.4**	**+0.5**
	baz=31,SNR=7.0						
O16A	**Springville**	**31.20**	**331**	⇓P	**P**	**16 23 19.6**	**+0.5**
	baz=31,SNR=5.2						
DAU	**Daniels Canyon**	**31.24**	**331**	*e*P	**P**	**16 23 19.8**	**+0.3**
R12A	**Pony Springs,**	**31.42**	**325**	⇑P	**P**	**16 23 22.3**	**+1.2**
	baz=32						
TPNV	**Topopah Spring**	**31.45**	**321**	⇑P	**P**	**16 23 22.1**	**+0.7**
	baz=32						
N17A	**Moffit Pass**	**31.47**	**332**	⇑P	**P**	**16 23 21.7**	**+0.2**
	baz=32						
P14A	**Drum Mountains**	**31.50**	**328**	⇓P	**P**	**16 23 22.9**	**+1.1**
	baz=32,SNR=12						
Q13A	**Wheeler Ranch,**	**31.54**	**326**	⇑P	**P**	**16 23 23.2**	**+1.0**
	baz=32						
S11A	**Rachel**	**31.61**	**323**	⇑P	**P**	**16 23 23.8**	**+1.0**
	baz=32						
MPMC	**Manual Prospec**	**31.67**	**319**	⇑P	**P**	**16 23 23.5**	**+0.2**
	baz=32,SNR=5.5						
N16A	**Rees Ranch, Co**	**31.70**	**331**	⇑P	**P**	**16 23 24.2**	**+0.7**
	baz=32						
DUG	**Dugway**	**31.83**	**329**	⇓P	**P**	**16 23 25.3**	**+0.7**
	baz=32						
P13A	**Bates Ranch, G**	**31.90**	**327**	⇓P	**P**	**16 23 26.0**	**+0.8**
	baz=32,SNR=13						
R11A	**Troy Canyon, C**	**31.99**	**324**	⇓P	**P**	**16 23 26.8**	**+0.7**
	baz=32,SNR=9.0						
Q12A	**Willow Creek R**	**32.04**	**325**	⇑P	**P**	**16 23 27.5**	**+0.9**
	baz=32						
ISA	**Isabella**	**32.08**	**317**	⇓P	**P**	**16 23 27.6**	**+0.7**
	baz=32						
ISA	**Isabella**	**32.08**	**317**	*e*P	**P**	**16 23 27.6**	**+0.7**
M16A	**Huntsville**	**32.13**	**332**	⇓P	**P**	**16 23 27.7**	**+0.4**
	baz=32						
GRAC	**Grapevine Rang**	**32.18**	**320**	⇓P	**P**	**16 23 28.7**	**+0.9**
	baz=32						
S10A	**Tonopah Range,**	**32.30**	**322**	⇓P	**P**	**16 23 29.2**	**+0.4**
	baz=32,SNR=7.2						
HWUT	**Hardware Ranch**	**32.33**	**332**	*e*P	**P**	**16 23 28.6**	**-0.4**
	comp=Z,12nm,1.0s,mb4.7						
HWUT				*e*PcP	PcP	16 26 15.1	-1.4
Q11A	**Duckwater**	**32.37**	**324**	⇑P	**P**	**16 23 30.0**	**+0.6**
	baz=32,SNR=9.7						
P12A	**McGill**	**32.39**	**326**	⇓P	**P**	**16 23 30.3**	**+0.6**
	baz=32,SNR=9.6						
BW06	**Boulder Array**	**32.42**	**336**	⇓P	**P**	**16 23 29.6**	**-0.2**
	baz=32						
PDAR	**Pinedale Array**	**32.42**	**336**	P	**P**	**16 23 28.8**	**-1.0**
	comp=Z,0.9nm,0.5s,mb3.9,baz=137,slow=10,SNR=8.5						
PDAR				PcP	PcP	16 26 16.6	-0.2
	comp=Z,1.2nm,0.6s,baz=148,slow=4.8,SNR=6.4						
PDAR				LR	LR	16 38 47.3	
	comp=Z,457nm,19.0s,MS4.2,baz=312,slow=40						
PDAR	**Pinedale Array**	**32.42**	**336**	P	**P**	**16 23 28.8**	**-1.0**
PDAR				PcP	PcP	16 26 16.6	-0.2
PDAR				LR	LR	16 38 47.3	
BGU	**Big Grassy Mou**	**32.49**	**330**	*e*P	**P**	**16 23 30.0**	**-0.4**
N14A	**Grayback Hills**	**32.51**	**329**	⇑P	**P**	**16 23 31.0**	**+0.4**
	baz=32						
L16A	**Fish Haven**	**32.60**	**333**	⇓P	**P**	**16 23 31.1**	**-0.2**
	baz=33,SNR=6.6						
Q10A	**Clear Creek Ra**	**32.78**	**324**	⇑P	**P**	**16 23 34.2**	**+1.2**
	baz=33,SNR=11						
R09A	**Tonopah**	**32.79**	**322**	⇓P	**P**	**16 23 33.8**	**+0.8**
	baz=33						
QUA2	**Belchertown**	**32.98**	**27**	P	**P**	**16 23 31.2**	**-3.5**
	comp=Z,106nm,1.3s,mb5.6						
L15A	**Malad City**	**33.02**	**332**	⇑P	**P**	**16 23 35.0**	**-0.1**
	baz=33,SNR=8.7						
N13A	**Wendover, West**	**33.03**	**328**	⇓P	**P**	**16 23 36.0**	**+0.9**
	baz=33,SNR=7.6						
HVU	**Hansel Valley**	**33.03**	**331**	*e*P	**P**	**16 23 35.3**	**+0.2**
	comp=Z,28nm,1.2s,mb5.1						
HELL	**Mitchell Peak**	**33.03**	**318**	⇑P	**P**	**16 23 35.7**	**+0.4**
	baz=33,SNR=5.3						
M14A	**Sheep Mountain**	**33.09**	**330**	⇓P	**P**	**16 23 36.3**	**+0.6**
	baz=33,SNR=25						
O11A	**Cowboy Ranch,**	**33.27**	**326**	⇓P	**P**	**16 23 38.3**	**+1.1**
	baz=33						
K16A	**Soda Springs**	**33.32**	**333**	⇑P	**P**	**16 23 38.0**	**+0.3**
	baz=33

baz=36
P05C **Yuba Gap, Truc** 35.60 320 ⇑P P 16 23 58.3 +0.8
baz=36
M08A **Happy Creek Ra** 35.67 325 ⇑P P 16 23 59.1 +1.0
baz=36
I12A **Atlanta** 35.69 331 ⇓P P 16 23 58.6 +0.5
baz=36,SNR=36
MFID **Camas Ranch** 35.73 330 ⇓P P 16 23 59.1 +0.5
baz=36,SNR=6.2
E18A **Harlowton** 35.79 339 ⇑P P 16 23 58.8 -0.2
baz=36
K10A **MacKenzie Ranc** 35.79 328 ⇓P P 16 23 59.4 +0.3
baz=36
BEKR **Beckwourth** 35.80 321 ⇓P P 16 23 59.7 +0.5
baz=36,SNR=5.6
DLMT **Dillon** 35.80 335 *eP* P 16 23 58.9 -0.2
comp=Z,25nm,1.2s,mb5.0
DGMT **Dagmar** 35.84 346 *eP* P 16 23 58.0 -1.3
comp=Z,15nm,0.6s,mb5.1
H13A **Challis** 35.87 333 ⇑P P 16 24 00.3 +0.5
baz=36,SNR=14
E17A **Martinsdale** 36.04 338 ⇓P P 16 24 01.2 +0.1
baz=36
N06A **Buffalo Meadow** 36.04 323 ⇓P P 16 24 01.3 +0.1
baz=36,SNR=6.1
G14A **Jackson** 36.06 334 ⇑P P 16 24 01.7 +0.4
baz=36
M07A **Soldier Meadow** 36.07 324 ⇓P P 16 24 01.3 -0.2
baz=36
H12A **Diamond D Ranc** 36.13 332 ⇑P P 16 24 02.1 +0.2
baz=36,SNR=36
F15A **Butte** 36.15 336 ⇓P P 16 24 01.6 -0.4
baz=36,SNR=5.5
L08A **Fields** 36.15 326 ⇑P P 16 24 02.4 +0.3
baz=36,SNR=18
I11A **Placerville** 36.17 330 ⇑P P 16 24 02.9 +0.6
baz=36,SNR=40
K09A **Rome** 36.18 327 ⇓P P 16 24 03.1 +0.7
baz=36,SNR=49
O05C **Quincy** 36.19 321 ⇓P P 16 24 03.0 +0.4
baz=36
G13A **Cobalt** 36.28 333 ⇑P P 16 24 03.0 -0.2
baz=36,SNR=9.4
ORV **Oroville** 36.31 320 ⇑P P 16 24 04.1 +0.6
baz=36
ULM **Lac du Bonnet** 36.32 356 LR LR 16 41 42.7
comp=Z,391nm,19.6s,MS4.2,baz=228,slow=41
E16A **East Helena** 36.40 337 ⇑P P 16 24 03.9 -0.4
baz=36
WVOR **Wild Horse Val** 36.48 326 *eP* P 16 24 04.2 -0.7
comp=Z,8.7nm,0.8s,mb4.7
F14A **Wisdom** 36.48 335 ⇓P P 16 24 04.7 -0.2
baz=36
L07A **Adell** 36.58 325 ⇑P P 16 24 06.1 +0.3
baz=37,SNR=9.3
K08A **Mann Creek Ran** 36.60 327 ⇑P P 16 24 06.5 +0.5
baz=37
J09A **Fry Pan Ranch,** 36.65 328 ⇑P P 16 24 06.9 +0.6
baz=37,SNR=31
E15A **Deer Lodge** 36.69 336 ⇓P P 16 24 06.5 -0.1
baz=37
M06C **Likely Place G** 36.70 323 ⇑P P 16 24 07.2 +0.3
baz=37
I10A **Payette** 36.70 330 ⇓P P 16 24 07.1 +0.2
baz=37,SNR=8.7
H11A **Donnelly** 36.79 331 ⇓P P 16 24 07.5 -0.1
baz=37
F13A **Darby** 36.87 334 ⇓P P 16 24 07.8 -0.4
baz=37,SNR=12
K07A **Rock Creek Ran** 36.98 326 ⇓P P 16 24 09.3 +0.1
baz=37,SNR=18
EGMT **Eagleton** 37.00 340 ⇓P P 16 24 09.0 -0.2
baz=37
EGMT **Eagleton** 37.00 340 *eP* P 16 24 06.4 -2.9
comp=Z,12nm,0.6s,mb4.9
C17A **Wharram Farm,** 37.00 339 ⇑P P 16 24 09.2 -0.1
baz=37
J08A **Circle Bar Ran** 37.03 327 ⇓P P 16 24 10.1 +0.4
baz=37,SNR=41
H10A **Noah's Angus R** 37.05 330 ⇑P P 16 24 09.2 -0.5
baz=37,SNR=11
MOD **Modoc** 37.05 324 ⇑P P 16 24 10.0 +0.2
baz=37
I09A **Lost Marbles R** 37.09 329 ⇓P P 16 24 09.8 -0.4
baz=37,SNR=62
D15A **Lincoln** 37.15 337 ⇑P P 16 24 10.1 -0.5
baz=37
F12A **Elk City** 37.25 333 ⇓P P 16 24 10.9 -0.5
baz=37,SNR=35
E13A **Victor** 37.33 335 ⇑P P 16 24 10.7 -1.4
baz=37,SNR=9.4
G11A **Walters Elk Ra** 37.43 332 ⇓P P 16 24 11.9 -1.1
baz=37,SNR=18
L05A **Lakeview** 37.45 324 ⇓P P 16 24 13.0 -0.2
baz=38
I08A **Drewsey** 37.47 328 ⇓P P 16 24 13.3 0.0
baz=38
J07A **Hines** 37.48 327 ⇑P P 16 24 13.5 +0.1
baz=38
C16A **Fuhringer Ranc** 37.49 338 ⇓P P 16 24 12.7 -0.8
baz=37,SNR=8.1
BMO **Blue Mountains** 37.51 330 *eP* P 16 24 12.0 -1.6
comp=Z,5.6nm,0.9s,mb4.3
H09A **Durkee** 37.55 330 ⇓P P 16 24 13.0 -1.0
baz=38,SNR=5.6
D14A **Greenough** 37.56 336 ⇑P P 16 24 13.1 -1.0
baz=38
K06A **Valley Falls** 37.61 325 ⇑P P 16 24 14.3 -0.3
baz=38
G10A **Bishop Farm, J** 37.75 331 ⇑P P 16 24 15.0 -0.7
baz=38,SNR=13
F11A **Grangeville** 37.75 332 ⇑P P 16 24 14.9 -0.7
baz=38
C15A **Salmond Ranch,** 37.79 337 ⇑P P 16 24 14.8 -1.2
baz=38
J06A **Christmas Vall** 37.85 326 ⇑P P 16 24 15.9 -0.7
baz=38
M04C **Macdoel** 37.86 323 ⇓P P 16 24 16.6 -0.1
baz=38
E12A **Beaver Dam Sad** 37.90 333 ⇓P P 16 24 15.9 -1.0
baz=38,SNR=17
H08A **Prairie City** 37.95 329 ⇓P P 16 24 17.6 +0.2
baz=38,SNR=12
D13A **Huson** 37.96 335 ⇓P P 16 24 16.6 -0.8
baz=38,SNR=8.7
G09A **Cove** 38.05 330 ⇑P P 16 24 16.9 -1.3
baz=38,SNR=16
I07A **Izee** 38.07 327 ⇓P P 16 24 17.3 -1.1
baz=38,SNR=11
E11A **Bogner Ranch,** 38.13 333 ⇓P P 16 24 17.9 -1.0
baz=38,SNR=9.6
N02C **Big Bar** 38.17 320 ⇑P P 16 24 18.6 -0.8
baz=38
LPAZ **La Paz** 38.26 141 P P 16 24 19.1 -1.2
comp=Z,0.8nm,0.8s,mb3.5,baz=257,slow=7.6,SNR=4.0
LPAZ LR LR 16 38 54.8
comp=Z,380nm,21.4s,MS4.2,baz=180,slow=34
LPAZ **La Paz** 38.26 141 P P 16 24 18.1 -2.2
D12A **Red Ives Fores** 38.30 334 ⇓P P 16 24 19.6 -0.7
baz=38,SNR=16
A16A **West Butte Ran** 38.41 339 ⇑P P 16 24 20.6 -0.6
baz=38
F09A **S2 Ranch, Elgi** 38.43 331 ⇓P P 16 24 21.2 -0.2
baz=38
H07A **Lands Inn, Kim** 38.45 328 ⇓P P 16 24 21.0 -0.6
baz=38,SNR=17
J05A **Fort Rock** 38.47 325 ⇑P P 16 24 22.0 +0.2
baz=38
C13A **Hot Springs** 38.48 335 ⇓P P 16 24 21.2 -0.6
baz=38
E10A **Myers Farm, Un** 38.63 332 ⇑P P 16 24 22.6 -0.5
baz=39
G08A **Pilot Rock** 38.64 329 ⇑P P 16 24 22.5 -0.7
baz=39
D11A **Klaveano Farm,** 38.72 333 ⇓P P 16 24 22.6 -1.2
baz=39
LNOR **Lincton Mounta** 38.73 330 *eP* P 16 24 23.2 -0.8
F08A **Pendleton** 38.91 330 ⇑P P 16 24 25.1 -0.3
baz=39
J04A **Umpqua Nationa** 38.93 324 ⇑P P 16 24 26.0 +0.3
baz=39
H06A **Lindquist Farm** 38.95 328 ⇓P P 16 24 25.7 -0.1
baz=39
B13A **Whitefish** 38.99 336 ⇑P P 16 24 25.9 -0.2
baz=39
A14A **Double T Ranch** 39.09 338 ⇑P P 16 24 26.5 -0.3
baz=39,SNR=6.6
E09A **Wood Farm, Sta** 39.13 331 ⇓P P 16 24 26.8 -0.5
baz=39,SNR=7.6
C11A **Tepee Creek (N** 39.30 334 ⇓P P 16 24 28.2 -0.5
baz=39,SNR=17
K02A **Glendale** 39.43 323 ⇓P P 16 24 31.0 +1.1
baz=40
G06A **Carlson Farm,** 39.45 328 ⇑P P 16 24 30.4 +0.5
baz=40
IRO **Indian Ridge** 39.50 325 P P 16 24 30.4 0.0
B12A **Libby** 39.52 335 ⇑P P 16 24 30.2 -0.3
baz=40
E08A **Dider Farm, El** 39.55 331 ⇑P P 16 24 30.7 -0.1
baz=40
FRIS **Frissel Point** 39.55 326 P P 16 24 31.1 +0.3
D09A **Jones Farm, Ri** 39.61 332 ⇑P P 16 24 30.9 -0.4
baz=40,SNR=8.1
G05A **Wamic** 39.81 327 ⇑P P 16 24 33.2 +0.2
baz=40
B11A **Sandpoint** 39.81 335 ⇓P P 16 24 32.3 -0.6
baz=40,SNR=5.4
F06A **Goldendale** 39.89 328 ⇓P P 16 24 33.8 +0.2
baz=40
D08A **Wollman Farm,** 39.89 331 ⇓P P 16 24 33.6 0.0
baz=40
H04A **Detroit Lake** 39.90 326 ⇓P P 16 24 33.7 0.0
baz=40
E07A **Sunnyside** 39.98 330 ⇓P P 16 24 34.7 +0.4
baz=40
NEW **Newport** 39.99 334 *eP* P 16 24 31.7 -2.8
comp=Z,12nm,1.3s,mb4.5
HOOD **Mount Hood Mea** 40.04 327 *eP* P 16 24 34.9 +0.1
comp=Z,35nm,0.7s,mb5.2
OD2 **Odessa Site #2** 40.04 332 *eP* P 16 24 34.2 -0.7
OD2 *e* pP 16 24 44.3 -0.1
I03A **Eugene** 40.05 324 ⇑P P 16 24 34.8 -0.2
baz=40
C09A **Chrisman Ranch** 40.15 333 ⇓P P 16 24 35.3 -0.4
baz=40,SNR=5.9
A11A **Hall Mountain,** 40.22 335 ⇑P P 16 24 35.9 -0.4
baz=40,SNR=8.3
C08A **Higginbotham F** 40.48 332 ⇓P P 16 24 38.5 -0.1
baz=40,SNR=11
D07A **Quincy** 40.49 331 ⇓P P 16 24 38.3 -0.3
baz=40
H03A **Soap Creek Ran** 40.50 325 ⇓P P 16 24 38.5 -0.2
baz=40
E06A **Yakima** 40.52 329 ⇓P P 16 24 39.0 +0.2
baz=40,SNR=6.2
B09A **Rice** 40.56 333 ⇓P P 16 24 38.3 -0.8
baz=40,SNR=6.7
A10A **Northport** 40.73 334 ⇑P P 16 24 39.9 -0.6
baz=41
WTV **Waterville** 40.84 331 P P 16 24 42.0 +0.5
C07A **Waterville** 40.89 331 ⇓P P 16 24 42.2 +0.3
baz=41
G03A **Yamhill** 40.90 326 ⇓P P 16 24 41.0 -1.0
baz=41
E05A **Randle** 40.93 329 ⇓P P 16 24 42.6 +0.4
baz=41
ETW **Entiat** 40.95 331 *eP* P 16 24 42.3 -0.1
B08A **Colville Reser** 41.04 332 ⇑P P 16 24 42.9 -0.2
baz=41
LON **Longmire** 41.08 329 *eP* P 16 24 43.0 -0.4
comp=Z,18nm,0.9s,mb4.7
LON *e* 16 24 56.6
A09A **Danville** 41.17 333 ⇓P P 16 24 43.0 -1.1
baz=41,SNR=7.9
WRW **Wenatchee Ridg** 41.39 331 P P 16 24 45.9 -0.1
A08A **Turner Farm, O** 41.45 333 ⇓P P 16 24 45.8 -0.6
baz=41
D05A **Enumclaw** 41.47 329 ⇓P P 16 24 47.5 +0.9
baz=42
A07A **Ashnola River,** 42.02 332 ⇑P P 16 24 51.0 -0.1
baz=42,SNR=11
RPW **Rockport** 42.11 331 *eP* P 16 24 50.4 -1.5
JCW **Jim Creek** 42.13 330 P P 16 24 50.3 -1.7
B06A **Marblemount** 42.15 331 ⇓P P 16 24 52.1 -0.1
baz=42
B05A **Bryant** 42.26 330 ⇓P P 16 24 52.9 -0.2
baz=42
C04A **Brinnon** 42.32 329 ⇓P P 16 24 53.8 +0.2
baz=42
A06A **Chilliwack** 42.55 332 ⇑P P 16 24 55.4 -0.1
baz=42
EDM **Edmonton** 42.64 341 *eP* P 16 24 53.9 -2.2
SIV **San Ignacio** 42.72 133 P P 16 24 55.2 -2.1
comp=Z,3.0nm,0.7s,mb4.2,baz=306,slow=9.3,SNR=16
SIV PcP PcP 16 26 47.0 -1.7
comp=Z,1.7nm,0.7s,baz=277,slow=8.1,SNR=3.9
A05A **Maple Falls** 42.77 331 ⇓P P 16 24 57.2 0.0
baz=43
B04A **Port Angeles** 42.81 329 ⇓P P 16 24 57.9 +0.3
baz=43
LVC **Limon Verde** 42.85 148 P P 16 24 57.6 -0.6
comp=Z,3.6nm,0.8s,mb4.2,baz=326,slow=7.3,SNR=2.3
LVC **Limon Verde** 42.85 148 P P 16 24 57.6 -0.6
A04A **Legoe Bay, Lum** 42.87 330 ⇑P P 16 24 58.9 +0.9
baz=43
LCO **Las Campanas** 47.45 154 P P 16 25 36.6 +2.0
comp=Z,8.7nm,0.9s,mb4.7
CFAA **Coronel Fontan** 50.76 154 P P 16 25 58.6 -1.3
comp=Z,0.6nm,0.8s,mb3.6,baz=301,slow=9.5,SNR=7.8
CFAA LR LR 16 42 59.6
comp=Z,45nm,19.6s,MS3.5,baz=316,slow=31
YKA **Yellowknife Ar** 51.05 347 P P 16 25 59.5 -2.1
comp=Z,10nm,0.7s,mb4.9,baz=149,slow=7.3,SNR=15
YKA PcP PcP 16 27 15.7 -1.5
comp=Z,4.2nm,0.7s,baz=145,slow=4.0,SNR=6.3
YKA LR LR 16 51 57.4
comp=Z,158nm,19.4s,MS4.0,baz=180,slow=41
YKA **Yellowknife Ar** 51.05 347 P P 16 25 59.5 -2.2
YKA PcP PcP 16 27 15.7 -1.5
YKA LR LR 16 51 57.4
CPUP **Villa Florida** 52.41 140 P P 16 26 08.8 -3.5
comp=Z,0.7nm,0.5s,mb3.9,baz=322,slow=7.2,SNR=4.2
CPUP LR LR 16 49 53.7
comp=Z,410nm,18.4s,MS4.5,baz=304,slow=38
CPUP **Villa Florida** 52.41 140 P P 16 26 08.8 -3.5
CPUP LR LR 16 49 53.7
BDFB **Brasilia** 52.57 122 P P 16 26 11.6 -2.1
comp=Z,2.7nm,0.8s,mb4.2,baz=212,slow=19,SNR=2.6
DLBC **Dease Lake** 52.66 336 *eP* P 16 26 14.1 +0.3
PLCA **Paso Flores** 57.96 161 P P 16 26 54.0 +1.9
comp=Z,3.1nm,1.1s,mb4.3,baz=314,slow=8.0,SNR=4.1
PLCA **Paso Flores** 57.96 161 *eP* P 16 26 54.3 +2.1
OHAK **Old Harbor** 62.90 328 *eP* P 16 27 24.5 -1.2
MCK **McKinley** 63.20 335 *eP* P 16 27 25.6 -1.9
comp=Z,28nm,1.4s,mb5.2
COLA **College** 63.26 337 *eP* P 16 27 25.8 -2.1
TRF **Thorofare Moun** 63.64 335 *eP* P 16 27 29.1 -1.4
comp=Z,14nm,0.7s,mb5.1
KTH **Kantishna Hill** 63.94 335 *eP* P 16 27 30.6 -1.9
comp=Z,8.8nm,0.9s,mb4.8
BPAW **Bear Paw Mtn.** 64.18 335 *eP* P 16 27 31.8 -2.3
comp=Z,6.6nm,0.8s,mb4.7
PPLA **Purkeypile** 64.23 334 *eP* P 16 27 32.6 -1.8
comp=Z,50nm,1.6s,mb5.3
COLD **Cofoot** 65.14 339 *eP* P 16 27 39.4 -0.8
comp=Z,16nm,1.2s,mb4.9
SVW2 **Sparrevohn** 65.17 331 *eP* P 16 27 38.4 -2.1
ESK **Eskdalemuir** 78.02 36 *eP* P 16 28 53.3 -4.7
comp=Z,22nm,1.0s,mb5.0
GRR **Gorron** 80.51 43 *eP* P 16 29 07.7 -4.1
comp=Z,14nm,0.8s,mb4.7
GRR **Gorron** 80.51 43 *eP* P 16 29 07.7 -4.1
comp=Z,6.8nm,0.8s,mb4.6
FLN **La Foliniere** 80.69 42 *eP* P 16 29 08.7 -4.0
FLN *eMLR* MLR
comp=Z,457nm,22.8s,MS4.5
FLN **La Foliniere** 80.69 42 *eP* P 16 29 08.7 -4.0
FLN LR LR
comp=Z,460nm,22.8s,MS4.8
LDF **La Druitiere** 80.95 42 *eP* P 16 29 10.1 -4.1
comp=Z,12nm,1.0s,mb4.5
LDF **La Druitiere** 80.95 42 *eP* P 16 29 10.1 -4.1
comp=Z,6.0nm,1.0s,mb4.5
TCF **Toulx Ste Croi** 82.97 44 *eP* P 16 29 20.5 -4.3
AVF **Avril sur Loir** 83.63 43 *eP* P 16 29 24.3 -3.9
comp=Z,8.2nm,0.9s,mb4.5
AVF **Avril sur Loir** 83.63 43 *eP* P 16 29 24.3 -3.9
comp=Z,4.1nm,0.9s,mb4.6
LOR **Lormes** 83.85 43 *eP* P 16 29 25.1 -4.2
comp=Z,17nm,1.1s,mb4.8
LOR *eMLR* MLR
comp=Z,267nm,23.0s,MS4.3
LOR **Lormes** 83.85 43 *eP* P 16 29 25.1 -4.2
comp=Z,8.7nm,1.0s,mb4.8
LOR LR LR
comp=Z,270nm,23.0s,MS4.6
SMF **Signal de Mont** 83.99 44 *eP* P 16 29 26.3 -3.7
NOA **NORSAR Array B** 84.22 28 P P 16 29 28.3 -2.6
comp=Z,1.3nm,0.7s,mb4.2,baz=289,slow=5.3,SNR=3.7
NOA LR LR 17 03 27.6
comp=Z,206nm,20.4s,MS4.5,baz=295,slow=33
MEZF **Maizieres J'vi** 84.33 42 *eP* P 16 29 27.7 -4.0
HAU **Haudompre** 85.29 42 *eP* P 16 29 32.7 -3.9
comp=Z,9.7nm,0.8s,mb4.7
HAU *eMLR* MLR
comp=Z,283nm,21.2s,MS4.3
HAU **Haudompre** 85.29 42 *eP* P 16 29 32.7 -3.9
comp=Z,4.8nm,0.8s,mb4.7
HAU LR LR
comp=Z,280nm,21.3s,MS4.6
CDF **Champ du Feu** 85.78 41 *eP* P 16 29 34.5 -4.5
comp=Z,7.0nm,0.9s,mb4.6
CDF **Champ du Feu** 85.78 41 *eP* P 16 29 34.5 -4.5
comp=Z,3.5nm,0.9s,mb4.6
ARCES **ARCESS Array B** 86.20 18 P P 16 29 37.4 -3.2
comp=Z,3.3nm,0.7s,mb4.7,baz=325,slow=5.9,SNR=7.6
ARCES LR LR 17 07 04.5
comp=Z,420nm,21.6s,MS4.8,baz=12,slow=35
MBDF **Montbardon** 86.47 45 *eP* P 16 29 39.3 -3.2
comp=Z,8.5nm,0.7s,mb4.8
MBDF **Montbardon** 86.47 45 *eP* P 16 29 39.3 -3.2
comp=Z,4.3nm,0.7s,mb4.8
TORD **Torodi Ar. Bea** 90.47 76 P P 16 29 57.8 -4.2
comp=Z,0.4nm,0.6s,mb3.9,baz=282,slow=3.3,SNR=4.2
AKASG **Malin Array Be** 97.80 33 LR LR 17 13 28.9
comp=Z,119nm,20.1s,MS4.4,baz=55,slow=35
VNA3 **Neumayer Olymp** 100.68 161 *e*PKiKP PKiKP 16 35 11.9 -1.3
VNA3 *e* 16 35 13.7
VNA3 *e* 16 35 25.3
VNA3 *e* 16 35 56.6
VNA1 **Neumayer--Stat** 101.02 160 *e*PKiKP PKiKP 16 35 16.3 +2.5
VNA1 *e* 16 35 17.8
VNA1 *e* 16 35 29.6
VNA1 *e* 16 35 58.6
VNA2 **Neumayer--Watz** 101.35 160 *e*PKiKP PKiKP 16 35 13.9 -0.5
VNA2 *e* 16 35 15.8
VNA2 *e* 16 35 28.1
CN2 **Changchun** 113.09 331 *e*PKP PKiKP 16 35 33.3 -3.8
KURK **Kurchatov** 115.09 7 PKP PKiKP 16 35 38.6 -2.2
comp=Z,0.4nm,0.5s,baz=345,slow=1.9,SNR=4.2
MKAR **Makanchi Array** 119.32 4 PKP PKPdf 16 35 47.3 -1.7
comp=Z,0.7nm,0.9s,baz=336,slow=3.2,SNR=2.5
BOSA **Boshof** 120.41 115 PKP PKPdf 16 35 49.6 -1.9
comp=Z,2.2nm,0.7s,baz=271,slow=2.6,SNR=4.6
LBTB **Lobatse** 120.66 111 PKP PKPdf 16 35 51.7 -0.5
comp=Z,2.1nm,0.5s,baz=222,slow=12,SNR=7.3
LBTB **Lobatse** 120.66 111 PKP PKPdf 16 35 51.7 -0.5
HHC **Hu-ho-hao-te** 121.23 339 *e*PKP PKPdf 16 35 48.9 -4.0
HHC PP PP
comp=Z,83nm,5.9s
HHC LR LR
comp=N,154nm,18.3s,MS4.9
HHC LR LR
comp=E,212nm,21.7s,MS4.9
HHC LR LR
comp=Z,391nm,21.9s,MS5.0
WMQ **Urumqi** 122.50 0 PKP PKPdf 16 35 52.0 -3.2
NJ2 **Nanjing** 125.49 328 *e*PKP PKPdf 16 35 57.8 -3.5
LZH **Lanzhou** 128.00 344 *e*PKP PKPdf 16 36 03.8 -2.2
LZH LR LR
comp=E,129nm,18.1s
LZH LR LR
comp=Z,184nm,20.0s,MS4.8
LZH **Lanzhou** 128.00 344 *e*PKP PKPdf 16 36 03.8 -2.2
LZH pPKP pPKPdf 16 36 29.9 +13
LZH sPKP 16 36 41.3
LZH LR LR
comp=Z,180nm,20.0s,MS4.8
XAN **Xi'an** 128.25 338 PKP PKPdf 16 36 04.9 -1.6
CD2 **Chengdu** 132.86 341 *e*PKP PKPdf 16 36 11.0 -4.3
CD2 PP PP
comp=Z,80nm,10.2s
CD2 LR LR
comp=N,190nm,14.6s
CD2 LR LR
comp=Z,210nm,14.8s,MS5.0
GYA **Guiyang** 135.88 336 *e*PDIF Pdif 16 33 21.0 -3.2
GYA PKP PKPdf 16 36 18.9 -2.2
GYA PP PP
comp=Z,90nm,8.2s
GYA LR LR
comp=N,180nm,20.6s,MS4.9
GYA LR LR
comp=E,160nm,21.4s,MS4.9
GYA LR LR
comp=Z,110nm,20.8s,MS4.6
KMI **Kunming** 138.55 339 PKP PKPdf 16 36 22.2 -3.9
CHG **Chiang Mai** 145.67 341 ⇑P PKPdf 16 36 36.9 -2.0
comp=Z,11nm,1.1s
CHTO **Chiang Mai** 145.67 341 *e*PKPdf PKPdf 16 36 36.8 -2.1
CMAR **Chiang Mai Arr** 146.00 341 PKPbc PKPbc 16 36 38.6 -1.5
comp=Z,19nm,0.8s,baz=339,slow=3.5,SNR=102
BDT **Bhumibol Dam** 147.12 340 P PKPdf 16 36 42.0 +0.6
comp=Z,16nm,0.8s
HYB **Hyderabad** 147.48 17 *i* P PKPdf 16 36 42.5 +0.5
HYB **Hyderabad** 147.48 17 *eP* PKPdf 16 36 42.5 +0.5

ISCJB ***11*** *16:18:14.9±0.4, 24.14N±004×12294E±002, h47km±11km,*
Error ellipse: s-maj=7.1km s-min=3.4km az=176.7
JMA ***11*** *16:18:14.9±0.1, 24.32N×12297E, h60km±1km, M2.5*
TAP ***11*** *16:18:15.7, 24.22N×12283E, h66km±1km, ML3.1, D*
ISC 11 16:18:15.5±0.4, 24.16N±004×12295E±002, h44km±13km,
n33, σ0.95/58, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YOJ	**Yonaguni jima**	**0.31**	**10**	P	**Pn**	**16 18 24.1**	**-0.1**
YOJ				S	**Sn**	**16 18 30.6**	**+0.3**
IRIF	**Iriomote-Funau**	**0.73**	**76**	P	**Pn**	**16 18 29.0**	**-0.5**
IRIF				S	**Sn**	**16 18 39.9**	**+0.3**
HATJ	**Hateruma jima**	**0.79**	**97**	P	**Pn**	**16 18 30.5**	**+0.3**
HATJ				*e*S	**Sn**	**16 18 42.4**	**+1.5**
JKRS	**Kuro-shima**	**0.97**	**85**	P	**Pn**	**16 18 32.5**	**-0.2**
JKRS				S	**Sn**	**16 18 45.8**	**+0.5**
TWC	**Suao**	**1.10**	**294**	P	**Pn**	**16 18 33.9**	**-0.5**
	baz=303						
TWC				S	**Sn**	**16 18 47.4**	**-1.1**
	baz=303						
JIJ	**Ishigaki jima**	**1.11**	**79**	P	**Pn**	**16 18 33.7**	**-0.8**
JIJ				S	**Sn**	**16 18 47.8**	**-0.9**
ENA	**Nanau**	**1.14**	**284**	P	**Pn**	**16 18 34.8**	**-0.2**
	baz=275						
TWD	**Chiawan**	**1.24**	**267**	*e*P	**Pn**	**16 18 36.0**	**-0.4**
	baz=262						
HWA	**Hwalien**	**1.24**	**262**	*e*P	**Pn**	**16 18 35.2**	**-1.2**
	baz=250						
TWE	**Neicheng**	**1.30**	**296**	*e*P	**Pn**	**16 18 37.4**	**+0.2**
	baz=304						
TWE				*e*S	**Sn**	**16 18 53.1**	**-0.2**
	baz=304						
NWF	**Wu-fen Shan**	**1.40**	**311**	*e*P	**Pn**	**16 18 38.2**	**-0.4**
	baz=312						
ESL	**Shilin**	**1.43**	**256**	P	**Pn**	**16 18 38.3**	**-0.6**
	baz=252						
ESL				*e*S	**Sn**	**16 18 55.3**	**-1.3**
	baz=252						
NNS	**Nan Shan**	**1.47**	**281**	P	**Pn**	**16 18 39.5**	**0.0**
	baz=272						
NNS				*e*S	**Sn**	**16 18 57.5**	**0.0**
	baz=272						
TWA	**Mucha**	**1.49**	**304**	*e*P	**Pn**	**16 18 39.7**	**-0.1**
	baz=304						
TWA				*e*S	**Sn**	**16 18 57.3**	**-0.8**
	baz=304						
WHF	**Hehuan Shan**	**1.54**	**270**	P	**Pn**	**16 18 40.4**	**-0.1**
	baz=266						
WHF				*e*S	**Sn**	**16 18 59.4**	**+0.1**
	baz=266						
EHY	**Hungye**	**1.63**	**247**	*e*P	**Pn**	**16 18 41.2**	**-0.5**
	baz=252						
EHY				*e*S	**Sn**	**16 19 00.7**	**-0.8**
	baz=252						
JTJ	**Tarama**	**1.67**	**73**	P	**Pn**	**16 18 41.5**	**-0.7**
JTJ				*e*S	**Sn**	**16 19 01.8**	**-0.6**
TWF1	**Yuli**	**1.71**	**242**	*i* P	**Pn**	**16 18 42.7**	**-0.2**
	baz=230						
TWF1				S	**Sn**	**16 19 03.1**	**-0.5**
	baz=230						
CHKT	**Chengkung**	**1.80**	**234**	*e*P	**Pn**	**16 18 44.0**	**0.0**
	baz=222						

CHKT				*e*S		**Sn**	**16 19 03.5**	**-2.1**
	baz=222							
NSTT	**Nanjuang**	**1.84**	**285**	*e*P		**Pn**	**16 18 45.4**	**+0.8**
	baz=283							
NSTT				*e*S		**Sn**	**16 19 07.5**	**+0.9**
	baz=283							
SMLT	**Sun Moon Lake**	**1.90**	**262**	P		**Pn**	**16 18 45.9**	**+0.5**
	baz=258							
SMLT				*e*S		**Sn**	**16 19 08.0**	**0.0**
	baz=258							
YUS	**Yu-Shan**	**1.95**	**250**	P		**Pn**	**16 18 46.9**	**+0.8**
	baz=246							
YUS				*e*S		**Sn**	**16 19 09.3**	**0.0**
	baz=246							
ELDTW	**Lidau**	**2.02**	**242**	P		**Pn**	**16 18 46.5**	**-0.6**
	baz=237							
ALS	**Alishan**	**2.07**	**252**	*e*P		**Pn**	**16 18 48.8**	**+1.1**
	baz=248							
ALS				*e*S		**Sn**	**16 19 12.8**	**+0.5**
	baz=248							
CHN5	**Tsauling**	**2.15**	**255**	*e*P		**Pn**	**16 18 50.5**	**+1.6**
	baz=251							
CHN5				*e*S		**Sn**	**16 19 16.3**	**+1.9**
	baz=251							
TWG	**Pinlang**	**2.18**	**233**	*e*P		**Pn**	**16 18 46.4**	**-2.8**
	baz=237							
TWG				*e*S		**Sn**	**16 19 13.6**	**-1.5**
	baz=237							
STYT	**Tauyuan**	**2.24**	**244**	*e*P		**Pn**	**16 18 50.8**	**+0.7**
	baz=231							
STYT				*e*S		**Sn**	**16 19 17.4**	**+0.8**
	baz=231							
ECL	**Taimali**	**2.40**	**230**	*e*P		**Pn**	**16 18 51.6**	**-0.8**
	baz=233							
ECL				*e*S		**Sn**	**16 19 19.2**	**-1.3**
	baz=233							
SGST	**Jiashian**	**2.42**	**244**	*e*P		**Pn**	**16 18 54.1**	**+1.5**
	baz=232							
CHN1	**Nanshi**	**2.42**	**247**	*e*P		**Pn**	**16 18 54.2**	**+1.6**
	baz=254							
CHN1				*e*S		**Sn**	**16 19 23.1**	**+2.1**
	baz=254							
TWK	**Hsinying**	**2.42**	**249**	*e*P		**Pn**	**16 18 54.7**	**+2.1**
	baz=236							
SSD	**Sandimen**	**2.55**	**237**	*e*P		**Pn**	**16 18 56.1**	**+1.8**
	baz=228							
EAST	**Anshuo**	**2.62**	**228**	*e*P		**Pn**	**16 18 55.5**	**+0.1**
	baz=229							
EAST				*e*S		**Sn**	**16 19 25.0**	**-0.9**
	baz=229							

NIED ***11*** *16:19:00, 37.90N×141.90E, h44km, Mw3.9 Best double couple: M0 7.93000×10^14 NP1:φs25.00000°, δ76.00000°, λ93.00000°. NP2:φs192.00000°, δ14.00000°, λ77.00000°.*

IDC ***11*** *16:19:47.3±1.8, 38.08N×142.47E, h0km, mb3.7/8, mb1 3.8/11, mb1mx3.7/23, mbtmp3.8/11, ML3.4/3, MS3.0/3, Ms1 3.0/3, ms1mx2.7/33, Error ellipse: s-maj=43.1km s-min=20.1km az=72.0*

ISCJB ***11*** *16:19:53.4±1.0, 37.91N±0.04×142.01E±0.09, h46km±7km, mb3.9/11, Error ellipse: s-maj=12.8km s-min=5.4km az=15.3*

NEIC ***11*** *16:19:55.4±4.6, 37.95N×142.10E, h50km±30km, mb4.5/3, MW3.9(NIED), Error ellipse: s-maj=48.1km s-min=12.7km az=70.0*

JMA ***11*** *16:19:55.0±0.1, 37.92N×141.86E, h43km±1km, M3.8*

ISC 11 16:19:55.2±0.9, 37.93N±0.03×141.93E±0.09, h39km±7km, n31, σ0 90/42, mb3.9/11, 10D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
JIO	**Ouri**	**0.69**	**319**	⇓P		**Pn**	**16 20 08.3**	**-0.2**
JIO				S		**Sn**	**16 20 17.3**	**-0.8**
JMM	**Marumori**	**0.90**	**266**	⇓P		**Pn**	**16 20 10.7**	**-0.6**
JMM				S		**Sn**	**16 20 21.5**	**-1.6**
JFK	**Kawauchi**	**1.01**	**236**	⇓P		**Pn**	**16 20 11.9**	**-0.9**
JFK				S		**Sn**	**16 20 23.8**	**-1.9**
JOU	**Okura**	**1.09**	**294**	⇓P		**Pn**	**16 20 13.8**	**-0.1**
JMK	**Ichinoseki**	**1.16**	**332**	⇓P		**Pn**	**16 20 14.9**	**0.0**
JMK				S		**Sn**	**16 20 29.4**	**-0.1**
JFT	**Otama**	**1.33**	**252**	⇓P		**Pn**	**16 20 17.3**	**+0.1**
JFT				S		**Sn**	**16 20 33.8**	**+0.2**
JYS	**Shirataka**	**1.50**	**282**	⇓P		**Pn**	**16 20 19.5**	**0.0**
JYK	**Kaneyama**	**1.58**	**309**	P		**Pn**	**16 20 20.7**	**+0.1**
JOM	**Ohasama**	**1.62**	**342**	⇓P		**Pn**	**16 20 21.5**	**+0.3**
JOM				S		**Sn**	**16 20 41.4**	**+0.6**
JFY	**Yanaizu**	**1.84**	**254**	⇓P		**Pn**	**16 20 24.3**	**+0.1**
JYA	**Atsumi**	**1.86**	**291**	⇓P		**Pn**	**16 20 24.8**	**+0.3**
MJAR	**Matsushiro Arr**	**3.27**	**246**	Pn		**Pn**	**16 20 46.3**	**+2.3**
	3.3nm,0.3s,baz=74,slow=27,SNR=24							
MJAR						**Sn**	**16 21 26.3**	**+4.6**
	2.8nm,0.3s,baz=86,slow=13,SNR=5.9							
MJAR				LR		LR	16 22 14.7	
	comp=Z,230nm,19.6s,baz=65,slow=40							
MJAR	**Matsushiro Arr**	**3.27**	**246**	Pn		**Pn**	**16 20 46.3**	**+2.3**
MJAR						**Sn**	**16 21 26.3**	**+4.6**
MJAR				LR		LR	16 22 14.7	
	comp=Z,230nm,19.6s,baz=65,slow=40							
MAJO	**Matsushiro**	**3.27**	**246**	*e*Pn		**Pn**	**16 20 45.8**	**+1.8**
MAT	**Matsushiro**	**3.27**	**246**	P		**Pn**	**16 20 44.6**	**+0.7**
MAT				*e*S		**Sn**	**16 21 22.8**	**+1.1**
JHJ	**Hachijo jima 2**	**5.11**	**201**	Pn		**Pn**	**16 21 10.1**	**+0.9**
	8.4nm,0.3s,baz=88,slow=17,SNR=5.4							
JHJ						**Sn**	**16 22 05.4**	**-1.5**
	16nm,0.3s,baz=237,slow=19,SNR=3.7							
ASAJ	**Asahikawa**	**6.20**	**4**	Pn		**Pn**	**16 21 24.4**	**+0.4**
	1.4nm,0.3s,baz=261,slow=9.5,SNR=15							
ASAJ						**Sn**	**16 22 32.5**	**-1.2**
	0.3nm,0.3s,baz=359,slow=27,SNR=2.3							
KSRS	**Korea Array**	**11.11**	**272**	Pn		**Pn**	**16 22 34.8**	**+3.4**
	0.1nm,0.3s,baz=80,slow=14,SNR=4.5							
KSRS				LR		LR	16 26 27.2	
	comp=Z,50nm,20.2s,baz=70,slow=35							
SONM	**Songino Array**	**27.64**	**302**	P		**P**	**16 25 39.0**	**+0.1**
	0.5nm,0.4s,mb3.5,baz=98,slow=10,SNR=4.2							
SONM				LR		LR	16 37 00.6	
	comp=Z,28nm,18.9s,baz=156,slow=37							
ZALV	**Zalesovo Beam**	**41.62**	**312**	P		**P**	**16 27 39.0**	**-0.1**
	1.6nm,0.5s,mb3.9,baz=90,slow=8.3,SNR=7.8							
CMAR	**Chiang Mai Arr**	**42.12**	**255**	P		**P**	**16 27 43.7**	**+0.1**
	0.3nm,0.4s,mb3.2,baz=38,slow=4.6,SNR=3.7							
MKAR	**Makanchi Array**	**43.99**	**301**	P		**P**	**16 27 59.2**	**+0.8**
	0.8nm,0.7s,mb3.5,baz=81,slow=8.9,SNR=4.9							
KURK	**Kurchatov**	**45.71**	**307**	P		**P**	**16 28 12.2**	**+0.2**
	2.3nm,0.6s,mb4.3,baz=82,slow=8.1,SNR=2.8							
TKM2	**Tokmak 2**	**49.57**	**298**	*e*P		**P**	**16 28 42.4**	**+0.3**
	2.9nm,0.7s,mb4.4							
BVAR	**Borovoye Array**	**50.28**	**312**	P		**P**	**16 28 46.3**	**-1.0**
	0.5nm,0.6s,mb3.7,baz=96,slow=11							
AML	**Almayashu**	**51.15**	**298**	P		**P**	**16 28 55.5**	**+1.4**
ARU	**Arti**	**55.96**	**318**	*e*P		**P**	**16 29 28.4**	**-0.7**
	3.8nm,0.6s,mb4.6							
KBL	**Kabul**	**57.48**	**291**	*e*P		**P**	**16 29 39.5**	**-0.7**
	3.1nm,0.9s,mb4.3							
WRA	**Warramunga Arr**	**58.00**	**188**	P		**P**	**16 29 42.7**	**-1.2**
	0.4nm,0.6s,mb3.6,baz=6.4,slow=7.5,SNR=4.8							
WRA	**Warramunga Arr**	**58.00**	**188**	P		**P**	**16 29 42.7**	**-1.2**
ASAR	**Alice Springs**	**61.73**	**188**	P		**P**	**16 30 09.6**	**+0.1**
	0.4nm,1.0s,mb3.5,baz=358,slow=5.9,SNR=5.9							

IDC ***11*** *16:25:04.8±0.4, 49.09S×164.16E, h0km, mb5.0/22, mb1 5.0/23, mb1mx5.0/24, mbtmp5.0/23, ML4.2/1, MS5.0/12, Ms1 5.0/12, ms1mx4.9/17, Error ellipse: s-maj=19.3km s-min=12.5km az=56.0*

ISCJB ***11*** *16:25:05.1±0.3, 48.97S±0.04×164.41E±0.04, h10km, mb5.3/49, MS5.0/162, Error ellipse: s-maj=5.7km s-min=3.6km az=152.4*

BJI ***11*** *16:25:05.8, 49.10S×164.30E, h10km, mB5.7, mb5.6, Ms5.2, Msz4.9*

GCMT ***11*** *16:25:05.8±0.1, 49.05S×163.89E, h12km, MW5.5/85, Moment Tensor Solution. s78,c138; s85,c202; Duration: 1s3 Moment tensor: Scale 10^17 Nm; Mrr 1.41±.02; Mθθ 0.24±.02; Mφφ -1.65±.02; Mrθ 0.01±.06; Mθφ -0.83±.02; Mφr -0.70±.06; Best double couple: M0 1.83900×10^17 NP1:φs36.00000°, δ36.00000°, λ113.00000°. NP2:φs188.00000°, δ57.00000°, λ74.00000°. Principal axes: T 1.5930, Plg73.0000°, Azm57.0000°; N 0.4890, Plg13.0000°, Azm197.0000°; P -2.0860, Plg11.0000°, Azm290.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*

NEIC ***11*** *16:25:05.8±0.2, 49.05S×164.31E, h10km, mb5.4/30, MS5.1/144, MW5.6 Error ellipse: s-maj=6.5km s-min=4.2km az=143.0, Moment Tensor Solution. s10 Moment tensor: Scale 10^17 Nm; Mrr 1.56; Mθθ -0.33; Mφφ -1.24; Mrθ -0.71; Mθφ -0.04; Mφr -2.34; Best double couple: M0 2.80000×10^17 NP1:φs195.00000°, δ75.00000°, λ94.00000°. NP2:φs359.00000°, δ15.00000°, λ75.00000°. Principal axes: T 3.0000, Plg59.0000°, Azm110.0000°; N -0.3700, Plg4.0000°, Azm13.0000°; P -2.6300, Plg30.0000°, Azm281.0000°;*

DJA ***11*** *16:25:09, 49.01S×164.49E, h10km, Mw5.7/23*

MOS ***11*** *16:25:09.7±2.5, 49.08S×163.94E, h33km, mb5.6/19, MS4.9/25, Error ellipse: s-maj=14.6km s-min=8.5km az=102.8*

ISC 11 16:25:06.8±0.2, 48 98S±0.03×164 36E±0.04, h10km, (h18km±3.9km: pP-P), n495, σ1 9 30/165, mb5.3/49, MS5.0/162, 25C-20D, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
WHZ	**Wether Hill Ro**	**3.93**	**40**	P		**Pn**	**16 26 06.9**	**-0.3**
WHZ				S		**Sn**	**16 26 52.0**	**-1.4**
DCZ	**Deep Cove**	**3.99**	**30**	P		**Pn**	**16 26 07.5**	**-0.5**
MLZ	**Mavora Lakes**	**4.47**	**37**	P		**Pn**	**16 26 14.6**	**0.0**
TUZ	**Tuapeka**	**4.69**	**52**	P		**Pn**	**16 26 17.7**	**+0.2**
MSZ	**Milford Sound**	**4.96**	**31**	P		**Pn**	**16 26 21.8**	**+0.5**
EAZ	**Earnscleugh**	**5.05**	**44**	P		**Pn**	**16 26 22.3**	**-0.2**
WKZ	**Wanaka**	**5.24**	**39**	P		**Pn**	**16 26 26.2**	**+1.0**
JCZ	**Jackson Bay**	**5.77**	**33**	P		**Pn**	**16 26 34.1**	**+1.6**
ODZ	**Otahua Downs**	**5.83**	**50**	P		**Pn**	**16 26 32.3**	**-0.9**
LBZ	**Lake Benmore**	**6.10**	**43**	P		**Pn**	**16 26 35.4**	**-1.5**
MCQ	**Macquarie Isla**	**6.46**	**209**	*e*P		**Pn**	**16 26 36.7**	**-5.2**
MCQ				*e*S		**Sn**	**16 27 45.1**	**-10**
FOZ	**Fox Glacier**	**6.56**	**36**	P		**Pn**	**16 26 44.6**	**+1.4**
RPZ	**Rata Peaks**	**7.01**	**44**	Pn		**Pn**	**16 26 47.0**	**-2.5**
	11nm,0.3s,baz=176,slow=3.1,SNR=49							
RPZ						**Sn**	**16 28 08.0**	**-1.3**
	36nm,0.3s,baz=5.5,slow=23,SNR=8.2							
RPZ				LR		LR	16 29 24.6	
	comp=Z,9μm,21.1s,baz=218,slow=36							
RPZ	**Rata Peaks**	**7.01**	**44**	P		**Pn**	**16 26 47.1**	**-2.4**
MQZ	**McQueen's Vall**	**7.79**	**50**	P		**Pn**	**16 26 59.6**	**-0.6**
CRLZ	**Canterbury Las**	**7.87**	**50**	P		**Pn**	**16 27 00.1**	**-1.2**
LTZ	**Lake Taylor**	**8.30**	**45**	P		**Pn**	**16 27 05.3**	**-1.8**
DSZ	**Denniston Nort**	**8.93**	**39**	P		**Pn**	**16 27 15.0**	**-0.8**
KHZ	**Kahutara**	**9.18**	**48**	P		**Pn**	**16 27 19.8**	**+0.6**
THZ	**Tophouse**	**9.39**	**43**	P		**Pn**	**16 27 21.3**	**-0.8**
QRZ	**Quartz Range**	**10.00**	**38**	P		**Pn**	**16 27 29.6**	**-0.8**
NNZ	**Nelson**	**10.04**	**43**	P		**Pn**	**16 27 31.7**	**+0.7**
SNZO	**South Karori**	**10.59**	**47**	*e*Pn		**Pn**	**16 27 41.1**	**+2.7**
	104nm,0.8s							
TAU	**Tasmania Unive**	**13.31**	**291**	Pn		**Pn**	**16 28 13.9**	**-1.8**
	629nm,0.9s,SNR=14							
TAU	**Tasmania Unive**	**13.31**	**291**	*e*P		**Pn**	**16 28 10.3**	**-5.4**
TAU				pmax		pmax		
	comp=Z,72nm,0.8s							
TAU	**Tasmania Unive**	**13.31**	**291**	*e*Pn		**Pn**	**16 28 10.2**	**-5.4**
	comp=Z,72nm,0.8s							
MOO	**Moorlands**	**13.65**	**292**	*e*P		**Pn**	**16 28 16.6**	**-3.7**
MOO				*e*S		**Sn**	**16 30 50.0**	**-1.9**
URZ	**Urewera**	**14.13**	**45**	Pn		**Pn**	**16 28 26.2**	**-0.7**
	comp=Z,1.0nm,0.3s,baz=238,slow=9.9,SNR=7.1							
URZ						**Sn**	**16 30 56.3**	**-7.3**
	comp=Z,0.6nm,0.3s,baz=116,slow=23,SNR=3.7							
URZ				LR		LR	16 34 37.1	
	comp=Z,16μm,18.3s,baz=34,slow=40							
CNB	**Canberra Magne**	**17.57**	**315**	*e*P		**Pn**	**16 29 11.2**	**-0.4**
CNB				*e*S		**Sn**	**16 32 25.8**	**-1.4**
CNB				*e*T			16 45 57.3	
CAN	**Canberra**	**17.73**	**315**	*e*P		**Pn**	**16 29 12.2**	**-1.5**
TOO	**Toolangi**	**17.80**	**303**	*e*P		**Pn**	**16 29 13.9**	**-0.6**
TOO				*e*S		**Sn**	**16 32 46.8**	**+14**
TOO				*e*T			16 46 15.2	
ARMA	**Armidale**	**20.92**	**328**	*e*P		**P**	**16 29 50.3**	**+0.9**
DRV	**Dumont d'Urvil**	**21.70**	**206**	P		**P**	**16 30 07.0**	**+9.5**
DRV				S		**S**	**16 34 00.0**	**+2.7**
ADE	**Adelaide**	**23.52**	**297**	P		**P**	**16 30 17.4**	**+0.3**
RAO	**Raoul Island**	**23.92**	**41**	PFAKE			16 30 30.0	+9.2
RAO				LR		LR		
	comp=Z,2μm,21.0s,MS4.5							
STKA	**Stephens Creek**	**24.19**	**307**	*e*P		**P**	**16 30 23.5**	**+0.2**
	comp=Z,30nm,0.8s,mb4.8							
STKA				*e*S		**S**	**16 34 43.9**	**+2.5**
STKA	**Stephens Creek**	**24.19**	**307**	P		**P**	**16 30 23.4**	**+0.1**
	comp=Z,17nm,0.8s,mb4.5,baz=134,slow=13,SNR=17							
STKA				PcP		PcP	16 34 03.4	-0.3
	comp=Z,6.8nm,0.8s,baz=172,slow=5.9,SNR=4.3							
STKA				LR		LR	16 37 42.1	
	comp=Z,6μm,20.3s,MS5.1,baz=157,slow=31							
SBA	**Scott Base**	**28.99**	**179**	*e*P		**P**	**16 31 06.8**	**+0.7**
SBA				pmax		pmax		
	comp=Z,96nm,1.5s,mb5.3							
SBA				MLR		MLR		
	comp=Z,735nm,19.0s,MS4.3							
SBA	**Scott Base**	**28.99**	**179**	*e*P		**P**	**16 31 06.8**	**+0.6**
	comp=Z,96nm,1.5s,mb5.3							
SBA				LR		LR		
	comp=Z,735nm,19.0s,MS4.3							
CTA	**Charters Tower**	**32.28**	**327**	*e*P		**P**	**16 31 35.7**	**0.0**
	comp=Z,24nm,0.9s,mb5.0							
CTA				*e*PCP		PcP	16 34 23.2	-0.5
CTA				*e*S		**S**	**16 36 51.1**	**+2.0**
CTA	**Charters Tower**	**32.28**	**327**	P		**P**	**16 31 35.2**	**-0.4**
	comp=Z,30nm,0.8s,mb5.1,baz=160,slow=9.2,SNR=22							
CTA				PcP		PcP	16 34 23.6	-0.1
	comp=Z,12nm,0.9s,baz=218,slow=3.6,SNR=5.2							
CTA	**Charters Tower**	**32.28**	**327**	*e*P		**P**	**16 31 35.7**	**0.0**
CTA				*e*			16 34 23.2	
CTA				*e*S		**S**	**16 36 51.1**	**+2.0**
CTA				pmax		pmax		
	comp=Z,24nm,0.9s							
CTAO	**Charters Tower**	**32.28**	**327**	*e*P		**P**	**16 31 35.5**	**-0.2**
CTAO				*e*			16 34 23.1	
CTAO				pmax		pmax		
	comp=Z,30nm,0.9s,mb5.1							
CTAO				MLR		MLR		
	comp=Z,2μm,19.0s,MS4.8							
CTAO	**Charters Tower**	**32.28**	**327**	*e*P		**P**	**16 31 35.5**	**-0.1**
	comp=Z,30nm,0.9s,mb5.1							
CTAO				*e*PcP		PcP	16 34 23.1	-0.7
CTAO				LR		LR		
	comp=Z,2μm,19.0s,MS4.8							
CASY	**Casey**	**32.29**	**218**	*e*P		**P**	**16 31 34.2**	**-1.1**
CASY				*e*S		**S**	**16 36 44.0**	**-4.5**
CASY	**Casey**	**32.29**	**218**	*e*P		**P**	**16 31 34.2**	**-1.1**
CASY				*e*S		**S**	**16 36 44.0**	**-4.5**
CASY				LR		LR		
	comp=Z,943nm,21.0s,MS4.5							
FORT	**Forrest**	**32.86**	**290**	*e*P		**P**	**16 31 39.5**	**-1.1**
	comp=Z,34nm,0.9s,mb5.3							
ASAR	**Alice Springs**	**34.82**	**306**	P		**P**	**16 31 56.7**	**-1.0**
	comp=Z,16nm,0.8s,mb5.0,baz=140,slow=8.1,SNR=94							
ASAR				PcP		PcP	16 34 29.8	-1.1
	comp=Z,8.9nm,1.0s,baz=140,slow=3.0,SNR=5.4							
ASAR				PKiKP		PKiKP	16 41 54.6	+1.5
	comp=Z,0.4nm,0.7s,baz=54,slow=1.0,SNR=5.9							
ASAR	**Alice Springs**	**34.82**	**306**	P		**P**	**16 31 56.7**	**-1.0**
ASAR				PcP		PcP	16 34 29.8	-1.1
WB2	**Warramunga Arr**	**37.65**	**310**	*e*P		**P**	**16 32 19.9**	**-2.1**
WB2				*e*PcP		PcP	16 34 38.3	-1.1
WRA	**Warramunga Arr**	**37.66**	**310**	P		**P**	**16 32 20.3**	**-1.7**
	comp=Z,35nm,1.1s,mb5.0,baz=142,slow=7.5,SNR=52							
WRA				PP		PP	16 33 49.5	+1.6
	comp=Z,4.9nm,1.1s,baz=136,slow=12,SNR=4.6							
WRA				PcP		PcP	16 34 38.6	-0.7
	comp=Z,17nm,0.9s,baz=148,slow=2.6,SNR=12							
WRA				LR		LR	16 46 22.9	
	comp=Z,2μm,20.9s,MS5.0,baz=160,slow=34							
WRA	**Warramunga Arr**	**37.66**	**310**	P		**P**	**16 32 20.3**	**-1.7**
WRA							16 33 49.5	
WRA							16 34 38.6	
NWAO	**Narrogin (SRO)**	**38.37**	**277**	P		**P**	**16 32 25.5**	**-2.5**
	comp=Z,18nm,0.8s,mb4.8,baz=134,slow=6.8,SNR=6.5							
NWAO	**Narrogin (SRO)**	**38.37**	**277**	*e*P		**P**	**16 32 26.5**	**-1.5**
NWAO				pmax		pmax		
	comp=Z,36nm,1.1s							
NWAO				MLR		MLR		
	comp=Z,3μm,19.0s							
NWAO	**Narrogin (SRO)**	**38.37**	**277**	*e*P		**P**	**16 32 26.4**	**-1.5**
	comp=Z,36nm,1.1s,mb5.0							
NWAO				LR		LR		
	comp=Z,3μm,19.0s,MS5.0							
KLBR	**Kellerberrin**	**38.88**	**279**	*e*P		**P**	**16 32 30.7**	**-1.6**
	comp=Z,84nm,1.5s,mb5.2							
COEN	**Coen**	**39.04**	**326**	*e*P		**P**	**16 32 33.7**	**0.0**
	comp=Z,98nm,1.4s,mb5.3							
HNR	**Honiara**	**39.60**	**353**	P		**P**	**16 32 39.0**	**+0.7**
	comp=Z,66nm,0.8s,mb5.4,baz=182,slow=2.4,SNR=3.8							
HNR	**Honiara**	**39.60**	**353**	*e*P		**P**	**16 32 38.6**	**+0.3**
HNR				pmax		pmax		
	comp=Z,191nm,1.1s,mb5.7							
HNR				MLR		MLR		
	comp=Z,833nm,19.0s,MS4.6							
HNR	**Honiara**	**39.60**	**353**	*e*P		**P**	**16 32 38.6**	**+0.3**
	comp=Z,191nm,1.1s,mb5.7							
HNR				LR		LR		
	comp=Z,833nm,19.0s,MS4.6							
MUN	**Mundaring**	**39.64**	**277**	*e*P		**P**	**16 32 37.2**	**-1.4**
MUN				*e*S		**S**	**16 38 43.9**	**+2.2**
RAR	**Rarotonga**	**39.76**	**59**	PFAKE			16 32 50.0	+10
RAR				LR		LR		
	comp=Z,971nm,22.0s,MS4.6							
AFI	**Afiamalu**	**40.12**	**38**	P		**P**	**16 32 44.4**	**+1.8**
	comp=Z,39nm,1.0s,mb5.1,baz=294,slow=12,SNR=3.9							
AFI	**Afiamalu**	**40.12**	**38**	*e*P		**P**	**16 32 44.0**	**+1.3**
AFI				pmax		pmax		
	comp=Z,71nm,1.1s,mb5.3							
AFI				MLR		MLR		
	comp=Z,1μm,21.0s,MS4.6							
AFI	**Afiamalu**	**40.12**	**38**	*e*P		**P**	**16 32 44.0**	**+1.4**
	comp=Z,71nm,1.1s,mb5.3							
AFI				LR		LR		
	comp=Z,1μm,21.0s,MS4.6							
QSPA	**South Pole Qui**	**41.14**	**180**	P		**P**	**16 32 50.9**	**+0.4**
	comp=Z,28nm,0.9s,mb4.9,baz=14,slow=3.1,SNR=32							
QSPA				PcP		PcP	16 34 49.3	-0.2
	comp=Z,13nm,0.9s,baz=322,slow=1.5,SNR=5.8							
QSPA	**South Pole Qui**	**41.14**	**180**	P		**P**	**16 32 50.9**	**+0.4**
QSPA				PcP		PcP	16 34 49.3	-0.2
PMG	**Port Moresby**	**42.00**	**334**	*e*P		**P**	**16 32 59.3**	**+1.1**
PMG				*e*			16 34 54.0	
PMG				pmax		pmax		
	comp=Z,103nm,1.3s							
PMG				MLR		MLR		
	comp=Z,1μm,20.0s							
PMG	**Port Moresby**	**42.00**	**334**	*e*P		**P**	**16 32 59.3**	**+1.1**
	comp=Z,103nm,1.3s,mb5.3							
PMG				*e*PcP		PcP	16 34 54.0	+0.7
PMG				LR		LR		
	comp=Z,1μm,20.0s,MS4.7							
FITZ	**Fitzroy Crossi**	**43.85**	**301**	*e*P		**P**	**16 33 12.2**	**-0.9**
	comp=Z,35nm,0.7s,mb5.2							
FITZ				*e*pP		pP	16 33 20.0	+3.7
FITZ				*e*PP		PP	16 34 55.5	+0.3
FITZ				*e*S		**S**	**16 39 45.8**	**+1.7**
FITZ				*e*SS		SS	16 43 03.3	+3.2
FITZ	**Fitzroy Crossi**	**43.85**	**301**	P		**P**	**16 33 12.4**	**-0.7**
	comp=Z,18nm,0.6s,mb5.0,baz=160,slow=10,SNR=42							
FITZ				PcP		PcP	16 34 58.3	-1.1
	comp=Z,10nm,0.9s,baz=175,slow=10,SNR=3.4							
FITZ				LR		LR	16 51 01.5	
	comp=Z,3μm,18.5s,MS5.3,baz=148,slow=36							
TBI	**Tubuai**	**44.30**	**72**	*e*S		**S**	**16 39 48.5**	**-2.1**
	comp=Z,718nm,28.2s							
TBI				*e*LQ			16 43 26.3	
	comp=Z,3μm,32.5s							
TBI				*e*LR		LR	16 45 29.7	
	comp=Z,2μm,29.2s							
KAKA	**Kakadu**	**44.76**	**313**	*e*P		**P**	**16 33 17.9**	**-2.5**
	comp=Z,52nm,0.7s,mb5.5							
PPT	**Papeete**	**48.57**	**66**	*e*S		**S**	**16 40 51.9**	**0.0**
	comp=Z,1μm,26.5s							
PPT				*e*LQ			16 45 04.6	
	comp=Z,2μm,26.5s							
PPT				*e*LR		LR	16 47 50.4	
	comp=Z,2μm,23.2s,baz=219							
PPT	**Papeete**	**48.57**	**66**	LR		LR	16 51 45.3	
	comp=Z,1μm,18.9s,MS4.9,baz=225,slow=33							
TVO	**Taravao**	**48.60**	**67**	*e*P		**P**	**16 33 53.2**	**+2.6**
	comp=Z,364nm,1.0s,mb6.3							
TVO	**Taravao**	**48.60**	**67**	*e*P		**P**	**16 33 53.2**	**+2.6**
TVO				pmax		pmax		
	comp=Z,364nm,1.0s,mb6.4							
TIAR	**Tiarei**	**48.72**	**67**	*e*P		**P**	**16 33 54.1**	**+2.7**
	comp=Z,408nm,0.9s,mb6.5							
MAW	**Mawson**	**49.86**	**209**	*e*P		**P**	**16 33 58.5**	**-1.1**
	comp=Z,14nm,1.4s,mb4.8							
MAW	**Mawson**	**49.86**	**209**	P		**P**	**16 33 58.0**	**-1.6**
	comp=Z,9.2nm,1.0s,mb4.8,baz=107,slow=10,SNR=11							
MAW				LR		LR	16 54 11.7	
	comp=Z,878nm,18.7s,MS4.8,baz=295,slow=35							
MAW	**Mawson**	**49.86**	**209**	*e*P		**P**	**16 33 58.5**	**-1.1**
MAW				pmax		pmax		
	comp=Z,14nm,1.4s

SNG Songkhla 78.71 295 P **P** **16 37 11.0 +1.7**
comp=Z,200nm,1.0s,mb6.0
YHNB Yeheng 82.75 321 PFAKE 16 37 40.0 +9.3
YHNB LR LR
comp=Z,601nm,22.0s,MS4.9
TATO Taipei 82.98 322 PFAKE 16 37 40.0 +8.1
TATO LR LR
comp=Z,380nm,21.0s,MS4.7
QIZ Qiongzhong 83.23 309 P **P** **16 37 34.2 +0.9**
QIZ PP PP 16 40 45.9 +0.9
QIZ S S 16 47 56.4 +2.9
QIZ AMB AMB
comp=Z,250nm,4.5s
QIZ LR LR
comp=N,319nm,22.6s,MS4.8
QIZ LR LR
comp=E,283nm,23.0s,MS4.8
QIZ LR LR
comp=Z,457nm,21.8s,MS4.8
QIZ Qiongzhong 83.23 309 PFAKE 16 37 40.0 +6.7
QIZ LR LR
comp=Z,525nm,22.0s,MS4.9
TRQA Tornquist 84.10 145 *e*P **P** **16 37 36.8 -0.9**
comp=Z,24nm,1.1s,mb5.2
TRQA LR LR
comp=Z,1µm,22.0s,MS5.2
QZH Quanzhou 84.16 319 P **P** **16 37 40.4 +2.4**
QZH S S 16 48 02.4 -0.4
QZH LR LR
comp=Z,860nm,29.6s,MS5.0
CFAA Coronel Fontan 87.08 137 P **P** **16 37 51.9 -0.8**
comp=Z,2.0nm,1.0s,mb4.3,baz=219,slow=4.7,SNR=22
LCO Las Campanas 88.14 134 *e*P **P** **16 37 57.5 -0.3**
MJAR Matsushiro Arr 88.27 339 P **P** **16 37 57.9 0.0**
comp=Z,9.4nm,1.1s,mb5.0,baz=169,slow=6.3,SNR=10
MAJO Matsushiro 88.27 339 *e*P **P** **16 37 58.0 +0.1**
MAJO pmax pmax
comp=Z,28nm,1.0s,mb5.5
MAJO MLR MLR
comp=Z,307nm,20.0s,MS4.7
MAJO Matsushiro 88.27 339 *e*P **P** **16 37 58.0 +0.2**
comp=Z,28nm,1.0s,mb5.5
MAJO LR LR
comp=Z,307nm,20.0s,MS4.7
MAT Matsushiro 88.27 339 P **P** **16 37 58.5 +0.6**
MAT S S 16 48 36.0 -6.3
SSE Sheshan 88.54 324 P **P** **16 38 00.7 +1.4**
SSE AMB AMB
comp=Z,30nm,0.7s,mb5.7
SSE AMB AMB
comp=Z,249nm,6.2s
SSE LR LR
comp=N,304nm,26.8s,MS4.7
SSE LR LR
comp=E,173nm,26.8s,MS4.7
SSE LR LR
comp=Z,409nm,26.1s,MS4.7
SSE Sheshan 88.54 324 P **P** **16 38 00.7 +1.4**
comp=Z,30nm,0.7s,mb5.7
SSE S S 16 48 34.0 -11
SSE sS sS 16 48 39.4 -11
SSE LR LR
comp=Z,410nm,26.1s,MS4.7
CMAR Chiang Mai Arr 88.66 300 P **P** **16 38 00.3 +0.2**
comp=Z,11nm,0.9s,mb5.2,baz=162,slow=3.3,SNR=15
CMAR PKKPbc PKKPbc 16 55 40.2 +0.8
comp=Z,1.1nm,0.9s,baz=298,slow=2.9,SNR=5.4
CMAR LR LR 17 18 33.9
comp=Z,847nm,19.0s,MS5.2,baz=162,slow=36
CMAR Chiang Mai Arr 88.66 300 *i* P **P** **16 38 02.2 +2.0**
CMAR pmax pmax
comp=Z,11nm,0.9s
CHTO Chiang Mai 88.94 301 *e*P **P** **16 38 02.7 +1.2**
CHTO *e* 16 41 33.2
CHTO pmax pmax
comp=Z,67nm,1.9s,mb5.7
CHTO MLR MLR
comp=Z,780nm,22.0s,MS5.1
CHTO Chiang Mai 88.94 301 *e*P **P** **16 38 02.7 +1.2**
comp=Z,68nm,1.9s,mb5.7
CHTO *e*PP PP 16 41 33.1 +1.8
CHTO LR LR
comp=Z,780nm,22.0s,MS5.1
NJ2 Nanjing 90.30 323 *e*P **P** **16 38 06.2 -1.3**
NJ2 AP pP 16 38 11.0 +0.1
NJ2 XP sP 16 38 13.2 +1.1
NJ2 PP PP 16 41 42.3 +0.2
NJ2 SKS 16 48 34.0
NJ2 S S 16 48 57.0 -4.5
NJ2 AMB AMB
comp=Z,20nm,0.5s,mb5.7
NJ2 AMB AMB
comp=Z,50nm,8.9s
NJ2 LR LR
comp=N,850nm,21.6s,MS5.2
NJ2 LR LR
comp=E,500nm,25.1s,MS5.2
NJ2 LR LR
comp=Z,500nm,25.1s,MS4.8
GYA Guiyang 91.02 311 P **P** **16 38 13.0 +2.0**
GYA PP PP 16 41 51.2 +3.4
GYA PPP 16 43 52.4
GYA SKS 16 48 43.0
GYA S S 16 49 08.6 +0.2
GYA PS PS 16 50 19.8 +2.2
GYA SS SS 16 55 16.7 +4.0
GYA AMB AMB
comp=Z,30nm,1.0s,mb5.6
GYA AMB AMB
comp=Z,150nm,5.8s
GYA LR LR
comp=N,680nm,21.6s,MS5.2
GYA LR LR
comp=E,560nm,22.4s,MS5.2
GYA LR LR
comp=Z,610nm,19.8s,MS5.0
PALK Pallekele 91.28 280 PFAKE 16 38 20.0 +7.4
PALK LR LR
comp=Z,1µm,20.0s,MS5.3
KMI Kunming 91.94 307 P **P** **16 38 16.6 +1.3**
KMI AP pP 16 38 19.2 +0.5
KMI PP PP 16 41 54.6 -0.5
KMI PPP 16 44 00.1
KMI SKS 16 48 48.6
KMI S S 16 49 15.3 -1.5
KMI SS SS 16 55 29.3 +3.3
KMI SSS 16 59 07.3
KMI AMB AMB
comp=Z,7.0nm,1.4s,mb4.8
KMI AMB AMB
comp=Z,219nm,4.8s
KMI LR LR
comp=N,372nm,18.5s,MS5.0
KMI LR LR
comp=E,307nm,19.7s,MS5.0
KMI LR LR
comp=Z,831nm,26.7s
KMI Kunming 91.94 307 P **P** **16 38 16.6 +1.3**
KMI 16 41 54.6
KMI PPP 16 44 00.1
KMI 16 48 48.6
KMI S S 16 49 15.3 -1.5
KMI PS PS 16 50 31.2 +3.4
KMI SS SS 16 55 29.3 +3.3
KMI SSS 16 59 07.3
KMI pmax pmax
comp=Z,7.0nm,1.4s,mb4.8
KMI MLR MLR
comp=Z,830nm,26.7s,MS5.0
KMI Kunming 91.94 307 P **P** **16 38 16.6 +1.3**
comp=Z,7.0nm,1.4s,mb4.8
KMI pP pP 16 38 19.2 +0.5
KMI sP sP 16 38 20.5 +0.7
KMI PP PP 16 41 54.6 -0.5
KMI PPP 16 44 00.1
KMI SKS 16 48 48.6
KMI S S 16 49 15.3 -1.5
KMI sS sS 16 49 20.5 -1.8
KMI PS PS 16 50 31.2 +3.4
KMI SS SS 16 55 29.3 +3.3
KMI SSS 16 59 07.3
KMI LR LR
comp=Z,830nm,26.7s,MS5.0
KSRS Korea Array 91.94 332 P **P** **16 38 16.1 +1.2**
comp=Z,12nm,1.0s,mb5.2,baz=151,slow=5.6,SNR=16
KSRS LR LR 17 17 56.9
comp=Z,289nm,21.6s,MS4.7,baz=166,slow=34
ABPO Ambohimpanom 92.33 237 *e*P **P** **16 38 18.1 +0.7**
comp=Z,15nm,1.1s,mb5.2
ABPO LR LR
comp=Z,912nm,21.0s,MS5.2
INCN Inchon 92.37 331 PFAKE 16 38 30.0 +13
INCN LR LR
comp=Z,313nm,20.0s,MS4.8
ERM Erimo 92.52 344 PFAKE 16 38 30.0 +12
ERM LR LR
comp=Z,271nm,19.0s,MS4.7
OPO Ambohidratompo 92.71 238 P **P** **16 38 19.3 +0.1**
comp=Z,5.0nm,1.0s,mb4.9,baz=144,slow=7.1,SNR=4.2
SUR Sutherland 92.72 210 P **P** **16 38 16.9 -2.1**
comp=Z,11nm,0.9s,mb5.3,baz=101,slow=2.7,SNR=2.3
SUR Sutherland 92.72 210 P **P** **16 38 16.9 -2.2**
SUR LR LR
comp=Z,370nm,19.0s,MS4.8
LVC Limon Verde 94.38 132 P **P** **16 38 27.6 +0.7**
comp=Z,2.4nm,0.7s,mb4.7,baz=194,slow=9.2,SNR=5.0
LVC Limon Verde 94.38 132 P **P** **16 38 27.6 +0.7**
LVC LR LR
comp=Z,415nm,21.0s,MS4.9
BOSA Boshof 94.55 215 P **P** **16 38 25.0 -2.6**
comp=Z,8.9nm,1.1s,mb5.1,baz=158,slow=5.9,SNR=4.5
BOSA LR LR 17 14 11.3
comp=Z,289nm,19.1s,MS4.8,baz=172,slow=31
BOSA Boshof 94.55 215 *e*P **P** **16 38 24.9 -2.7**
BOSA pmax pmax
comp=Z,10.0nm,1.0s,mb5.2
BOSA MLR MLR
comp=Z,492nm,20.0s,MS5.0
BOSA Boshof 94.55 215 *e*P **P** **16 38 24.9 -2.7**
comp=Z,9.5nm,1.0s,mb5.2
BOSA LR LR
comp=Z,492nm,20.0s,MS5.0
CD2 Chengdu 96.12 311 *e*P **P** **16 38 36.2 +1.8**
CD2 AP pP 16 38 44.2 +6.5
CD2 XP sP 16 38 47.2 +8.3
CD2 PP PP 16 42 32.6 +4.8
CD2 SKS 16 49 09.9
CD2 S S 16 49 51.5 -1.8
CD2 XS sS 16 50 05.0 +6.2
CD2 SS SS 16 56 28.8 +3.2
CD2 AMB AMB
comp=Z,20nm,0.9s,mb5.5
CD2 AMB AMB
comp=Z,120nm,8.2s
CD2 LR LR
comp=N,600nm,22.8s,MS5.1
CD2 LR LR
comp=E,400nm,20.4s,MS5.1
CD2 LR LR
comp=Z,490nm,22.8s,MS4.9
XAN Xi'an 96.25 317 P **P** **16 38 38.0 +3.1**
XAN AP pP 16 38 44.3 +6.1
XAN AMB AMB
comp=Z,3.0nm,1.1s,mb4.6
XAN AMB AMB
comp=Z,109nm,6.1s
XAN LR LR
comp=N,57nm,30.7s,MS4.4
XAN LR LR
comp=E,172nm,29.4s,MS4.4
XAN LR LR
comp=Z,553nm,23.9s
CPUP Villa Florida 96.29 143 P **P** **16 38 34.8 -0.8**
comp=Z,1.1nm,0.5s,mb4.5,baz=194,slow=3.3,SNR=5.9
CPUP LR LR 17 17 26.6
comp=Z,718nm,18.1s,MS5.2,baz=187,slow=33
CPUP Villa Florida 96.29 143 *e*P **P** **16 38 34.5 -1.1**
CPUP pmax pmax
comp=Z,50nm,1.6s
CPUP MLR MLR
comp=Z,130nm,19.0s
CPUP Villa Florida 96.29 143 *e*P **P** **16 38 34.5 -1.0**
comp=Z,50nm,1.6s,mb5.7
CPUP LR LR
comp=Z,130nm,19.0s,MS4.4
LBTB Lobatse 97.65 217 PFAKE 16 38 50.0 +8.3
LBTB LR LR
comp=Z,388nm,19.0s,MS4.9
MDJ Mudanjiang 98.05 336 P **P** **16 38 45.1 +2.3**
MDJ S S 16 50 13.8 +4.6
MDJ SS SS 16 56 56.7 +4.2
MDJ AMB AMB
comp=Z,13nm,1.0s,mb5.4
MDJ AMB AMB
comp=Z,71nm,4.7s
MDJ LR LR
comp=N,187nm,44.0s,MS4.4
MDJ LR LR
comp=E,201nm,45.3s,MS4.4
MDJ LR LR
comp=Z,237nm,46.7s,MS4.3
MDJ Mudanjiang 98.05 336 PFAKE 16 38 50.0 +7.2
MDJ LR LR
comp=Z,307nm,19.0s,MS4.8
BJT Baijiatuan 98.31 325 PFAKE 16 38 50.0 +5.9
BJT LR LR
comp=Z,483nm,21.0s,MS5.0
BJI Beijing 98.33 325 P **P** **16 38 45.3 +1.2**
BJI PP PP 16 42 44.5 -0.1
BJI SKS 16 49 21.2
BJI S S 16 50 15.7 +4.0
BJI AMB AMB
comp=Z,10.0nm,0.9s,mb5.3
BJI LR LR
comp=N,298nm,29.0s
BJI LR LR
comp=E,267nm,19.8s
BJI LR LR
comp=Z,516nm,27.7s,MS4.9
BJI Beijing 98.33 325 P **P** **16 38 45.3 +1.2**
BJI 16 42 44.5
BJI 16 49 21.2
BJI S S 16 50 15.7 +4.0
BJI SS SS 16 57 04.6 +8.0
BJI pmax pmax
comp=Z,10.0nm,0.9s,mb5.3
BJI MLR MLR
comp=Z,520nm,27.7s,MS4.9
BJI Beijing 98.33 325 P **P** **16 38 45.3 +1.2**
comp=Z,10.0nm,0.9s,mb5.3
BJI PP PP 16 42 44.5 -0.1
BJI SKS 16 49 21.2
BJI S S 16 50 15.7 +4.0
BJI SS SS 16 57 04.6 +8.0
BJI LR LR
comp=Z,520nm,27.7s,MS4.9
CN2 Changchun 98.50 333 *e*P **P** **16 38 47.9 +3.1**
CN2 *e*S S 16 50 15.3 +2.4
CN2 AMB AMB
comp=Z,10.0nm,0.6s,mb5.5
CN2 AMB AMB
comp=Z,200nm,3.0s
MSEY Mahe Island 98.72 253 PFAKE 16 39 00.0 +13
MSEY LR LR
comp=Z,676nm,20.0s,MS5.1
NNA Nana 98.93 120 PFAKE 16 39 00.0 +12
NNA LR LR
comp=Z,466nm,19.0s,MS5.0
PAYG Puerto Ayora 99.53 102 PFAKE 16 39 00.0 +10
PAYG LR LR
comp=Z,539nm,21.0s,MS5.0
LPAZ La Paz 100.11 129 P Pdif 16 38 51.8 -0.9
comp=Z,0.6nm,0.6s,baz=154,slow=2.0,SNR=5.1
LPAZ La Paz 100.11 129 P Pdif 16 38 51.8 -0.9
LPAZ LR LR
comp=Z,282nm,19.0s,MS4.8
HHC Hu-ho-hao-te 100.83 322 *e*P Pdif 16 38 56.4 +0.5
HHC AP 16 39 02.9
HHC PP PP 16 43 08.3 +4.6
HHC SKS 16 49 33.0
HHC S Sdif 16 50 30.8 -3.1
HHC XS 16 50 42.0
HHC SS SS 16 57 35.5 +3.9
HHC AMB AMB
comp=Z,12nm,1.2s
HHC AMB AMB
comp=Z,149nm,5.6s
HHC LR LR
comp=N,293nm,20.8s
HHC LR LR
comp=E,263nm,14.5s
HHC LR LR
comp=Z,391nm,21.7s,MS4.9
PET Petropavlovsk 101.75 356 PFAKE 16 39 10.0 +10
PET LR LR
comp=Z,677nm,22.0s,MS5.1
LSA Lhasa 101.84 302 PFAKE 16 39 10.0 +10
LSA LR LR
comp=Z,517nm,22.0s,MS5.0
HIA Hailar 105.14 332 PFAKE 16 43 40.0 +12
HIA LR LR
comp=Z,294nm,20.0s,MS4.8
LSZ Lusaka 105.17 224 PFAKE 16 43 40.0 +10
LSZ LR LR
comp=Z,442nm,20.0s,MS5.0
TSUM Tsumeb 105.95 213 PFAKE 16 43 40.0 +8.9
TSUM LR LR
comp=Z,259nm,21.0s,MS4.8
BAR Barrett 107.34 60 PFAKE 16 43 40.0 +6.9
BAR LR LR
comp=Z,588nm,21.0s,MS5.1
MWC Mount Wilson 107.69 58 PFAKE 16 43 40.0 +6.3
MWC LR LR
comp=Z,577nm,19.0s,MS5.2
OTAV Otavalo 107.71 111 PFAKE 16 43 50.0 +16
OTAV LR LR
comp=Z,205nm,20.0s,MS4.7
ISA Isabella 108.51 57 PFAKE 16 43 50.0 +15
ISA LR LR
comp=Z,343nm,19.0s,MS4.9
GLA Glamis 108.67 61 PFAKE 16 43 50.0 +14
GLA LR LR
comp=Z,285nm,20.0s,MS4.8
SONM Songino Array 108.69 323 PKKPbc PKKPbc 16 54 45.2 +1.3
comp=Z,0.9nm,0.8s,baz=318,slow=2.0,SNR=3.6
GSC Goldstone 109.18 58 PFAKE 16 43 50.0 +14
GSC LR LR
comp=Z,969nm,19.0s,MS5.4
CMB Columbia Colle 109.22 54 PFAKE 16 43 50.0 +14
CMB LR LR
comp=Z,487nm,19.0s,MS5.1
DAC Darwin (Calif) 109.45 57 PFAKE 16 43 50.0 +13
DAC LR LR
comp=Z,819nm,20.0s,MS5.3
BDFB Brasilia 109.54 147 PFAKE 16 43 50.0 +12
BDFB LR LR
comp=Z,478nm,21.0s,MS5.0
WDC Whiskeytown Da 109.98 51 PFAKE 16 43 50.0 +12
WDC LR LR
comp=Z,418nm,19.0s,MS5.0
TUC Tucson 110.50 64 PFAKE 16 43 50.0 +11
TUC LR LR
comp=Z,586nm,19.0s,MS5.2
NVAR Mina Array Bea 110.62 55 PKKPbc PKKPbc 16 54 42.4 +5.1
comp=Z,1.7nm,0.9s,baz=69,slow=4.0,SNR=7.0
TPNV Topopah Spring 110.68 57 PFAKE 16 43 50.0 +11
TPNV LR LR
comp=Z,785nm,19.0s,MS5.3
YBH Yreka Blue Hor 110.74 50 PFAKE 16 43 50.0 +11
YBH LR LR
comp=Z,568nm,20.0s,MS5.2
TPH Tonopah 110.95 56 PFAKE 16 43 50.0 +10
TPH LR LR
comp=Z,347nm,19.0s,MS5.0
JTS JuntasAbangare 111.26 99 PFAKE 16 43 50.0 +9.0
JTS LR LR
comp=Z,195nm,20.0s,MS4.7
HUMO Hull Mountain 111.27 49 PFAKE 16 43 50.0 +10
HUMO LR LR
comp=Z,614nm,20.0s,MS5.2
MOD Modoc 112.09 51 PFAKE 16 43 50.0 +8.3
MOD LR LR
comp=Z,536nm,19.0s,MS5.2
WUAZ Wupatki 112.42 61 PFAKE 16 43 50.0 +7.4
WUAZ LR LR
comp=Z,303nm,19.0s,MS4.9
KMBO Kilima Mbogo 112.50 240 PFAKE 16 43 50.0 +6.5
KMBO LR LR
comp=Z,354nm,20.0s,MS5.0
TGUH Tegucigalpa,Un 112.52 94 PFAKE 16 43 50.0 +6.7
TGUH LR LR
comp=Z,317nm,19.0s,MS4.9
COR Corvallis 112.55 47 PFAKE 16 43 50.0 +7.5
COR LR LR
comp=Z,540nm,19.0s,MS5.2
BMN Battle Mountai 112.65 54 PFAKE 16 43 50.0 +7.2
BMN LR LR
comp=Z,703nm,20.0s,MS5.2
TXAR Lajitas Array 112.74 71 PKiKP PKiKP 16 43 43.0 -0.4
comp=Z,0.4nm,0.6s,baz=194,slow=4.6,SNR=4.9
TXAR PKKPbc PKKPbc 16 54 34.1 +4.0
comp=Z,0.9nm,0.8s,baz=93,slow=5.0,SNR=5.1
TLY Talaya 112.83 324 PFAKE 16 43 50.0 +7.2
TLY LR LR
comp=Z,269nm,20.0s,MS4.8
WVOR Wild Horse Val 113.33 52 PFAKE 16 44 00.0 +16
WVOR LR LR
comp=Z,380nm,19.0s,MS5.0
BCIP Isla Barro Col 113.72 104 PFAKE 16 44 00.0 +14
BCIP LR LR
comp=Z,388nm,20.0s,MS5.0
ELK Elko 113.93 55 PKKPbc PKKPbc 16 54 35.8 +10
comp=Z,1.0nm,0.9s,baz=84,slow=7.2,SNR=4.0
ELK Elko 113.93 55 PFAKE 16 44 00.0 +15
ELK LR LR
comp=Z,939nm,20.0s,MS5.4
MVU Marysvale 114.03 59 PFAKE 16 44 00.0 +14
MVU LR LR
comp=Z,514nm,19.0s,MS5.2
MSU Marysvale 114.06 59 *e*PKiKP PKiKP 16 43 46.7 +1.1
WMQ Urumqi 114.15 309 PKP PKiKP 16 43 42.8 -2.8
WMQ PKS 16 47 18.2
WMQ PP PP
comp=Z,154nm,6.2s
WMQ LR LR
comp=N,467nm,28.0s,MS5.0
WMQ LR LR
comp=E,321nm,29.0s,MS5.0
WMQ LR LR
comp=Z,398nm,29.0s,MS4.8
NLWA Neilton Lookou 114.33 45 PFAKE 16 44 00.0 +14
NLWA LR LR
comp=Z,365nm,19.0s,MS5.0
DUG Dugway 114.88 57 PFAKE 16 44 00.0 +13
DUG LR LR
comp=Z,648nm,20.0s,MS5.2
ANMO Albuquerque 114.92 65 PFAKE 16 44 00.0 +13
ANMO LR LR
comp=Z,727nm,18.3s,MS5.3
KVTX Kingsville 115.15 76 PFAKE 16 44 00.0 +12
KVTX LR LR
comp=Z,779nm,19.0s,MS5.3
MVCO Mesa Verde 115.26 62 PFAKE 16 44 00.0 +12
MVCO LR LR
comp=Z,336nm,19.0s,MS5.0
MPU Maple Canyon 115.41 58 PFAKE 16 44 00.0 +12
MPU LR LR
comp=Z,1µm,21.0s,MS5.5
BMO Blue Mountains 115.72 51 PFAKE 16 44 00.0 +11
BMO LR LR
comp=Z,624nm,19.0s,MS5.2
JCT Junction City 115.95 73 PFAKE 16 44 00.0 +11
JCT LR LR
comp=Z,567nm,19.0s,MS5.2
TEIG Tepich 116.31 89 PFAKE 16 44 00.0 +10
TEIG LR LR
comp=Z,681nm,20.0s,MS5.3
HLID Hailey 116.33 53 PFAKE 16 44 00.0 +10
HLID LR LR
comp=Z,283nm,20.0s,MS4.9
PMR Palmer 116.35 23 PFAKE 16 44 00.0 +11
PMR LR LR
comp=Z,454nm,19.0s,MS5.1
HWUT Hardware Ranch 116.53 56 PKPdf PKPdf 16 43 50.0 -0.2
HWUT LR LR
comp=Z,563nm,19.0s,MS5.2
SIT Sitka 116.86 32 PFAKE 16 44 00.0 +10
SIT LR LR
comp=Z,814nm,20.0s,MS5.3
SDCO Great Sand Dun 117.38 63 *e*PKPdf PKPdf 16 43 52.8 +0.7
SDCO LR LR
comp=Z,259nm,19.0s,MS4.9
AHID Auburn Hatcher 117.57 56 PFAKE 16 44 00.0 +7.8
AHID LR LR
comp=Z,730nm,20.0s,MS5.3
TRF Thorofare Moun 117.65 21 *e*PKPdf PKPdf 16 43 50.0 -1.7

AMTX Amarillo 117.76 68 PFAKE 16 44 00.0 +7.2
AMTX LR LR
comp=Z,642nm,20.0s,MS5.2
HKT Hockley 118.11 76 PFAKE 16 44 00.0 +6.3
HKT LR LR
comp=Z,476nm,19.0s,MS5.1
NEW Newport 118.17 48 *e*PKIKP PKiKP 16 43 55.1 +1.9
NEW MLR MLR
comp=Z,829nm,21.0s
MCK McKinley 118.21 22 *e*PKIKP PKPdf 16 43 52.1 -0.6
KBL Kabul 118.36 291 *e*PKIKP PKPdf 16 43 53.1 -0.9
BW06 Boulder Array 118.41 57 PFAKE 16 44 00.0 +6.2
BW06 LR LR
comp=Z,542nm,20.0s,MS5.2
PDAR Pinedale Array 118.41 57 PKP PKPdf 16 43 53.8 -0.1
comp=Z,0.8nm,0.8s,baz=130,slow=6.0,SNR=5.5
PDAR PKKPbc PKKPbc 16 54 13.8 +3.2
comp=Z,1.1nm,0.9s,baz=54,slow=2.6,SNR=4.6
ISCO Idaho Springs 118.68 61 PFAKE 16 44 10.0 +16
ISCO LR LR
comp=Z,538nm,19.0s,MS5.2
MSO Missoula 118.79 51 *e*PKPdf PKPdf 16 43 53.3 -1.1
MSO LR LR
comp=Z,458nm,21.0s,MS5.1
YMR Madison River 118.91 54 PFAKE 16 44 10.0 +15
YMR LR LR
comp=Z,799nm,20.0s,MS5.3
MK31 Makanchi Array 118.96 309 *e*PKIKP PKiKP 16 43 52.7 -2.1
MKAR Makanchi Array 118.96 309 PKP PKPdf 16 43 52.8 -1.9
comp=Z,5.0nm,0.9s,baz=257,slow=2.1,SNR=12
MKAR PKKPbc PKKPbc 16 54 10.1 +1.4
comp=Z,0.9nm,0.8s,baz=316,slow=5.1,SNR=4.3
LKWY Lake 119.15 55 PFAKE 16 44 10.0 +15
LKWY LR LR
comp=Z,495nm,20.0s,MS5.1
SDV Santo Domingo 119.27 112 PFAKE 16 44 10.0 +14
SDV LR LR
comp=Z,96nm,19.0s,MS4.5
COLA College 119.43 21 *e*PKIKP PKPdf 16 43 55.6 +0.5
COLA MLR MLR
comp=Z,373nm,20.0s,MS5.0
TKM2 Tokmak 2 120.00 302 *e*PKIKP PKiKP 16 43 55.5 -1.5
TKM2 MLR MLR
comp=Z,368nm,22.0s,MS5.0
NATX Nacogdoches 120.06 75 PFAKE 16 44 10.0 +13
NATX LR LR
comp=Z,408nm,19.0s,MS5.1
RLMT Red Lodge 120.12 55 *e*PKPdf PKPdf 16 43 57.7 +0.6
RLMT LR LR
comp=Z,354nm,19.0s,MS5.0
UCH Uchtor 120.16 301 *e*PKPdf PKPdf 16 43 57.5 +0.3
UCH LR LR
comp=Z,439nm,22.0s,MS5.0
AML Almayashu 120.56 300 *e*PKPdf PKPdf 16 43 57.5 -0.5
AML LR LR
comp=Z,423nm,20.0s,MS5.1
EKS2 Erkin-Say 120.86 301 PFAKE 16 44 10.0 +11
EKS2 LR LR
comp=Z,567nm,19.0s,MS5.2
COLD Coldfoot 120.87 19 *e*PKPdf PKPdf 16 43 54.8 -3.0
DAWY Dawson 120.98 25 *e*PKPdf PKPdf 16 43 57.5 -0.5
OGNE Ogallala 121.50 62 PFAKE 16 44 10.0 +10
OGNE LR LR
comp=Z,495nm,22.0s,MS5.1
CBKS Cedar Bluff 121.50 66 PFAKE 16 44 10.0 +10
CBKS LR LR
comp=Z,327nm,20.0s,MS5.0
EGMT Eagleton 121.73 52 PFAKE 16 44 10.0 +10
EGMT LR LR
comp=Z,486nm,20.0s,MS5.2
ZAA0 Zalesovo Array 122.42 316 *e*PKPdf PKPdf 16 43 58.4 -2.8
ZALV Zalesovo Beam 122.42 316 PKP PKPdf 16 43 59.5 -1.7
comp=Z,4.8nm,0.7s,baz=161,slow=2.4,SNR=21
ZALV PKKPbc PKKPbc 16 53 55.3 -0.6
comp=Z,1.3nm,0.7s,baz=299,slow=6.6,SNR=5.7
ZALV Zalesovo Beam 122.42 316 PKP PKPdf 16 43 59.5 -1.7
ZALV PKKPbc PKKPbc 16 53 55.3 -0.6
MIAR Mount Ida 122.57 73 PFAKE 16 44 10.0 +7.9
MIAR LR LR
comp=Z,490nm,22.0s,MS5.1
TIXI Tiksi 122.94 347 *i* PKIKP PKiKP 16 44 03.9 +2.0
TIXI pmax pmax
comp=Z,23nm,1.0s
TIXI Tiksi 122.94 347 PFAKE 16 44 10.0 +8.4
TIXI LR LR
comp=Z,299nm,20.0s,MS4.9
EDM Edmonton 123.23 45 *e*PKIKP PKiKP 16 44 01.1 -1.8
KURK Kurchatov 123.34 311 PKP PKiKP 16 44 01.8 -1.5
comp=Z,12nm,1.0s,baz=111,slow=1.9,SNR=21
KURK Kurchatov 123.34 311⇑ *i* PKIKP PKPdf 16 44 02.3 -0.7
KURK MLR MLR
comp=Z,500nm,22.0s,MS5.1
KURK Kurchatov 123.34 311 *e*PKPdf PKPdf 16 44 01.4 -1.6
KURK *e*PP PP 16 45 49.5 +4.8
KURK LR LR
comp=Z,510nm,20.0s,MS5.2
KSU1 Kansas State U 123.58 67 PFAKE 16 44 10.0 +6.1
KSU1 LR LR
comp=Z,560nm,19.0s,MS5.2
NVS Novosibirsk 123.70 317 *e*PKIKP PKiKP 16 44 00.6 -3.2
BRAL Brewton 124.47 81 PFAKE 16 44 20.0 +14
BRAL LR LR
comp=Z,395nm,20.0s,MS5.1
DGMT Dagmar 124.93 54 *e*PKPdf PKPdf 16 44 05.0 -1.2
DGMT LR LR
comp=Z,322nm,19.0s,MS5.0
OXF Oxford 125.19 76 PFAKE 16 44 20.0 +13
OXF LR LR
comp=Z,348nm,20.0s,MS5.0
CCM Cathedral Cave 126.24 71 PFAKE 16 44 20.0 +11
CCM LR LR
comp=Z,521nm,19.0s,MS5.2
DWPF Disney 126.25 87 PFAKE 16 44 20.0 +11
DWPF LR LR
comp=Z,689nm,20.0s,MS5.3
ECSD EROS,Sioux Fal 126.38 63 *e*PKPdf PKPdf 16 44 08.1 -1.0
ECSD LR LR
comp=Z,242nm,19.0s,MS4.9
GRGR Grenville 127.20 118 PFAKE 16 44 20.0 +8.4
GRGR LR LR
comp=Z,388nm,21.0s,MS5.1
YKA Yellowknife Ar 128.22 36 PKP PKPdf 16 44 10.2 -1.7
comp=Z,1.2nm,0.7s,baz=259,slow=1.3,SNR=3.2
YKA Yellowknife Ar 128.22 36 PKP PKPdf 16 44 10.2 -1.7
BVAR Borovoye Array 128.84 309 PKP PKPdf 16 44 13.2 -0.3
comp=Z,8.3nm,0.8s,baz=116,slow=3.4,SNR=13
BRVK Borovoye 128.91 309 *e*PKIKP PKPdf 16 44 13.0 -0.6
BRVK MLR MLR
comp=Z,1μm,22.0s,MS5.5
HDIL Hopedale 128.94 70 PFAKE 16 44 20.0 +5.9
HDIL LR LR
comp=Z,711nm,19.0s,MS5.4
SJG San Juan 129.12 109 PFAKE 16 44 30.0 +15
SJG LR LR
comp=Z,458nm,22.0s,MS5.1
AGMN Agassiz Refuge 129.40 58 PFAKE 16 44 30.0 +15
AGMN LR LR
comp=Z,961nm,20.0s,MS5.5
WCI Wyandotte Cave 129.46 74 *e*PKIKP PKPdf 16 44 14.6 -0.5
TKL Tuckaleechee C 129.53 78 *e*PKPdf PKPdf 16 44 13.3 -2.0
FFC Flin Flon 129.59 49 PFAKE 16 44 30.0 +15
FFC LR LR
comp=Z,301nm,20.0s,MS5.0
TZTN Tazewell 130.21 78 PFAKE 16 44 30.0 +13
TZTN LR LR
comp=Z,453nm,21.0s,MS5.1
NHSC New Hope 130.29 83 PFAKE 16 44 30.0 +13
NHSC LR LR
comp=Z,539nm,19.0s,MS5.3
ULM Lac du Bonnet 130.43 56 PFAKE 16 44 30.0 +13
ULM LR LR
comp=Z,634nm,21.0s,MS5.3
COWI Conover 132.11 64 PFAKE 16 44 30.0 +10
COWI LR LR
comp=Z,721nm,19.0s,MS5.4
BLA Blacksburg 132.62 79 PFAKE 16 44 30.0 +8.8
BLA LR LR
comp=Z,405nm,20.0s,MS5.1
ACSO Alum Creek Sta 132.71 74 PFAKE 16 44 30.0 +8.8
ACSO LR LR
comp=Z,465nm,20.0s,MS5.2
CNNC Cliffs of the 133.10 83 PFAKE 16 44 30.0 +7.9
CNNC LR LR
comp=Z,501nm,20.0s,MS5.2
GLMI Grayling 134.16 68 PFAKE 16 44 30.0 +6.2
GLMI LR LR
comp=Z,673nm,19.0s,MS5.4
MCWV Mont Chateau 134.39 77 PFAKE 16 44 40.0 +16
MCWV LR LR
comp=Z,798nm,22.0s,MS5.4
CBN Corbin 135.17 80 PFAKE 16 44 40.0 +14
CBN LR LR
comp=Z,717nm,19.0s,MS5.4
ERPA Erie 135.63 74 PFAKE 16 44 40.0 +13
ERPA LR LR
comp=Z,487nm,20.0s,MS5.2
LIC Lamto 136.45 195 *e*PKIKP PKPdf 16 44 29.0 -0.1
comp=Z,27nm,0.9s
LIC *e*MLR MLR
comp=Z,359nm,21.2s,MS4.8
LIC Lamto 136.45 195 *e*PKPdf PKPdf 16 44 29.0 -0.1
LIC LR LR
comp=Z,180nm,21.3s,MS4.8
ARU Arti 136.48 309 *i* PKIKP PKPdf 16 44 28.5 +0.8
ARU Arti 136.48 309 *e*PKPdf PKPdf 16 44 27.0 -0.7
ARU LR LR
comp=Z,475nm,21.0s,MS5.2
MAK Makhachkala 136.83 287 *i* PKIKP PKiKP 16 44 36.9 +6.3
MAK pmax pmax
comp=Z,184nm,1.8s
MAK MLR MLR
comp=Z,384nm,20.0s,MS5.1
DBIC Dimbokro 136.86 196 PKhKP 16 44 26.3
comp=Z,9.0nm,0.9s,baz=179,slow=2.9,SNR=5.4
DBIC Dimbokro 136.86 196 *e*PKPdf 16 44 25.7
DBIC LR LR
comp=Z,327nm,19.0s,MS5.1
GNI Garni 137.12 282 PFAKE 16 44 40.0 +11
GNI LR LR
comp=Z,337nm,21.0s,MS5.0
NCB Newcomb 140.22 74 PFAKE 16 44 50.0 +15
NCB LR LR
comp=Z,759nm,20.0s,MS5.4
LONY Lake Ozonia 140.29 73 PFAKE 16 44 50.0 +15
LONY LR LR
comp=Z,634nm,19.0s,MS5.4
KIV Kislovodsk 140.37 285 *i* PKIKP PKiKP 16 44 38.2 +0.4
KIV Kislovodsk 140.37 285 *e*PKPdf PKiKP 16 44 37.3 -0.5
KIV LR LR
comp=Z,360nm,21.0s,MS5.1
HRV Adam Dziewonsk 141.21 78 PFAKE 16 44 50.0 +13
HRV LR LR
comp=Z,387nm,22.0s,MS5.1
WES Weston 141.30 78 PFAKE 16 44 50.0 +13
WES LR LR
comp=Z,1μm,20.0s,MS5.6
TOA0 Torodi Ar. Sit 141.50 208 *e*PKPdf 16 44 32.0
TORD Torodi Ar. Bea 141.50 208 PKhKP 16 44 30.1
comp=Z,2.8nm,0.8s,baz=157,slow=1.7,SNR=9.0
TORD PKP PKPdf 16 44 35.6 -2.6
comp=Z,5.2nm,0.8s,baz=201,slow=1.7,SNR=15
CSS Prodhromos 141.66 267 PFAKE 16 44 50.0 +12
CSS LR LR
comp=Z,649nm,22.0s,MS5.3
CTKT Corum 143.84 276 *i* P PKPdf 16 44 40.4 -1.2
ANN Anapa 144.10 284 *i* PKIKP PKPdf 16 44 41.8 -0.1
ANN pmax pmax
comp=Z,31nm,1.0s
BR131 Keskin Array S 144.13 274 *e*PKPdf PKPdf 16 44 39.0 -3.1
BR131 LR LR
comp=Z,461nm,19.0s,MS5.3
ELDT Eldivan 144.66 275 *i* P PKPdf 16 44 40.6 -2.5
ILGA Ilgaz 144.76 276 *i* P PKPdf 16 44 44.4 +1.2
ANTO Ankara 144.76 274⇓ *i* P PKPdf 16 44 41.7 -1.5
ANTO Ankara 144.76 274 *e*PKPdf PKPdf 16 44 41.2 -2.0
ANTO LR LR
comp=Z,407nm,22.0s,MS5.2
AKAS Kas 144.86 266 *i* P PKPdf 16 44 42.2 -1.3
BALT Daday 145.21 277 *i* P PKPbc 16 44 43.6 -0.1
VSR Storozhevoye 145.46 295 *e*PKIKP PKPdf 16 44 43.4 -0.6
VSR pmax pmax
comp=Z,10.0nm,0.8s
VSR pmax pmax
comp=N,1.0nm,0.7s
VSR pmax pmax
comp=E,10.0nm,0.7s
GOLH Golhisar 145.46 267 *i* P PKPdf 16 44 44.1 -0.4
VOR Voronezh 145.59 296 *e*PKP2 PKPdf 16 44 42.0 -2.3
VOR pmax pmax
comp=Z,220nm,2.0s
ARG Arkhangelos 145.82 265 *e*P PKPdf 16 44 45.4 +0.2
ARG Arkhangelos 145.82 265 *e*P PKPdf 16 44 45.4 +0.2
TURN Turunc 145.89 266 *i* P PKPdf 16 44 46.2 +0.9
KAP Karpathos 146.05 263 *e*P PKiKP 16 44 49.7 -0.1
KAP Karpathos 146.05 263 *e*P PKiKP 16 44 49.7 -0.1
DNZL Cakiroluk 146.06 268 *i* P PKPdf 16 44 45.8 +0.3
SIM Simferopol' 146.30 282 *ce*PKP2 PKiKP 16 44 51.6 +1.6
SIM pmax pmax
comp=Z,41nm,0.8s
BORA Eskisehir 146.31 272 *i* P PKPdf 16 44 46.5 +0.7
GDZ Gediz 146.53 270 *i* P PKPdf 16 44 47.1 +0.8
BDRM Kayabasi 146.76 265 *i* P PKiKP 16 44 51.2 0.0
AYDN Tasoluk 146.81 267 *i* P PKPbc 16 44 48.6 0.0
MANT Manisa 146.82 268 *i* P PKPbc 16 44 48.4 -0.2
KLMR Klimovskoe 147.17 312 *i* PKP2 PKPbc 16 44 48.4 -0.5
ULDT Uludag 147.31 271 *i* P PKPbc 16 44 49.7 -0.2
AKHS Akhisar 147.52 268 *i* P PKPbc 16 44 50.1 -0.5
SMG Samos 147.52 266 *e*P PKPbc 16 44 49.8 -0.8
SMG Samos 147.52 266 *e*P PKPbc 16 44 49.8 -0.8
SANT Santorini 147.66 263 P PKPdf 16 44 49.2 +0.9
SANT LR LR
comp=Z,194nm,20.0s,MS4.9
THR1 Thera Island 147.66 263 P PKPbc 16 44 49.7 -1.3
THR6 Thira Island, 147.69 263 P PKPbc 16 44 50.0 -1.1
THR3 Thira Island, 147.72 263 P PKPbc 16 44 50.1 -1.1
THR5 Thira Island, 147.76 263 P PKPdf 16 44 47.6 -0.8
VAM Vamos 147.90 260 *e*P PKPab 16 44 57.2 +2.9
VAM Vamos 147.90 260 *e*P PKPab 16 44 57.2 +2.9
OBN Obninsk 147.96 301 *c* *i* PKP2 PKPbc 16 44 51.1 -0.1
OBN pmax pmax
comp=Z,123nm,2.1s
OBN pmax pmax
comp=Z,79nm,1.0s
OBN Obninsk 147.96 301 *e*PKPbc PKPbc 16 44 50.6 -0.6
APE Apeiranthos 148.01 264 *e*P PKPbc 16 44 51.9 -0.1
APE Apeiranthos 148.01 264⇓ *i* P PKPdf 16 44 48.9 +0.1
APE Apeiranthos 148.01 264⇓ P PKPdf 16 44 48.9 +0.1
APE Apeiranthos 148.01 264 *e*P PKPbc 16 44 51.9 -0.1
BALY Balya 148.10 270 *i* P PKPbc 16 44 50.9 -1.3
SPB4 Spitsbergen Ar 148.36 348 *e*PKPdf PKPdf 16 44 48.8 +0.6
PRK Paraskevi 148.73 268 P PKPbc 16 44 53.1 -0.7
PRK Paraskevi 148.73 268 *e*P PKPbc 16 44 52.7 -1.1
PRK Paraskevi 148.73 268 *e*P PKPbc 16 44 52.7 -1.1
TAM Tamanrasset 148.95 220 *e*PKIKP PKPdf 16 44 50.2 -0.6
APA Apatity 149.37 325⇑ *e*PKIKP PKPdf 16 44 43.0 -7.1
APA *i* 16 44 54.4
APA pmax pmax
comp=Z,59nm,1.4s
VLI Veliai 149.50 261 *e*P PKPab 16 44 59.7 -1.1
VLI Veliai 149.50 261 *e*P PKPab 16 44 59.7 -1.1
TIRR Tirgusor 149.79 278⇓ *i* P PKPdf 16 44 53.2 +1.7
TIRR Tirgusor 149.79 278⇓ P PKPdf 16 44 53.2 +1.8
TLCR 149.82 280⇑ *i* P PKPbc 16 44 54.8 -1.5
TLCR 149.82 280⇑ P PKPbc 16 44 54.8 -1.5
RDO Rodhopi 150.18 270 *e*P PKPbc 16 44 56.3 -1.0
RDO Rodhopi 150.18 270 *e*P PKPbc 16 44 56.3 -1.0
HARR Harsova 150.20 278⇓ *i* P PKPdf 16 44 52.7 +0.6
HARR Harsova 150.20 278⇓ P PKPdf 16 44 52.7 +0.6
LTK Loutraki 150.23 263 P PKPbc 16 44 56.0 -1.5
VLX Vlachokerasia 150.25 261 P PKPbc 16 44 56.7 -0.9
PYL PYLOS 150.38 260 P PKPbc 16 44 56.0 -1.9
ITM Ithomi 150.43 261 *e*P PKPbc 16 44 58.4 +0.4
ITM Ithomi 150.43 261 *e*P PKPbc 16 44 58.4 +0.4
KIS Kishinev 150.50 283 *e*PKIKP PKPbc 16 44 57.0 -0.8
KIS *e* 16 45 07.0
KIS *e* 16 52 06.0
KEV Kevo 150.92 331 *ep* PKPbc 16 44 57.8 -0.4
comp=Z,41nm,0.7s
KEV Kevo 150.92 331 *e*PKIKP PKPbc 16 44 57.8 -0.4
KEV pmax pmax
comp=Z,41nm,0.7s
JOF Joensuu 151.01 316 *ep* PKPbc 16 44 57.8 -0.7
comp=Z,27nm,0.7s
JOF Joensuu 151.01 316 *e*PKIKP PKPbc 16 44 57.8 -0.7
JOF pmax pmax
comp=Z,27nm,0.7s
AGG Agios Georgios 151.20 264 P PKPbc 16 44 58.5 -1.3
AKASG Malin Array Be 151.35 291 PKP PKPdf 16 44 51.3 -2.4
comp=Z,4.0nm,0.9s,baz=92,slow=1.2,SNR=8.5
AKASG PKPbc PKPbc 16 44 58.2 -1.5
comp=Z,34nm,0.7s,baz=83,slow=2.5,SNR=42
AKBB Malin Array Si 151.35 291 *e*PKIKP PKPbc 16 44 58.6 -1.1
NVR Nevrokopi 151.38 270 *eP* PKPbc 16 45 02.6 +2.5
NVR Nevrokopi 151.38 270 *eP* PKPbc 16 45 02.6 +2.5
VRI Vrincioaia 151.44 280⇓ *i* P PKPbc 16 45 03.4 +3.3
EVR Evrytania 151.48 264 *eP* PKPbc 16 45 00.4 0.0
EVR Evrytania 151.48 264 *eP* PKPbc 16 45 00.4 0.0
ARCES ARCESS Array B 151.49 331 PKPbc PKPbc 16 44 59.8 +0.3
comp=Z,70nm,0.7s,baz=103,slow=1.2,SNR=41
ARE0 ARCESS Array S 151.49 331 *e*PKPbc PKPbc 16 44 59.6 +0.1
THL Klokotos Trika 151.70 265 P PKPbc 16 44 59.8 -1.1
THL Klokotos Trika 151.70 265 *eP* PKPbc 16 45 00.0 -0.9
THL Klokotos Trika 151.70 265 *eP* PKPbc 16 45 00.0 -0.9
MLR Muntele Rosu 151.81 279⇑ *i* P PKPbc 16 44 59.9 -1.0
MLR Muntele Rosu 151.81 279⇑ P PKPbc 16 44 59.9 -1.1
VLS Valsamata 151.87 261 *eP* PKPbc 16 45 00.8 -0.5
VLS Valsamata 151.87 261 *eP* PKPbc 16 45 00.8 -0.5
DAG Danmarks Havn 152.08 1⇑ *i* PKIKP PKPbc 16 45 00.3 -0.4
DAG pmax pmax
comp=Z,24nm,0.8s
DAG Danmarks Havn 152.08 1⇑ *i* P PKPbc 16 45 00.3 -0.4
comp=Z,24nm,0.8s
LKD Levkas 152.13 262 P PKPbc 16 45 01.4 -0.5
GRG Griva 152.15 268 P PKPbc 16 45 00.7 -1.2
VAY Valandovo 152.22 269 *e*PKP PKPbc 16 44 59.1 -3.0
MEV Metsovon 152.33 265 P PKPbc 16 45 02.5 +0.2
VOIR 152.37 278⇓ *i* P PKPbc 16 45 01.4 -0.8
VOIR 152.37 278⇓ P PKPbc 16 45 01.4 -0.8
VTS Vitosha 152.40 271⇓ *i* P PKPbc 16 45 01.9 -0.5
VTS Vitosha 152.40 271⇓ P PKPbc 16 45 01.9 -0.5
BURAR Bucovina Array 153.01 283⇑ *i* P PKPbc 16 45 04.4 +0.8
BUR08 Bucovina Ar. S 153.03 283 *e*PKPbc PKPbc 16 45 03.8 +0.1
KAF Kangasniemi 153.43 315 *ep* PKPbc 16 45 03.0 -1.0
comp=Z,12nm,0.7s
KAF Kangasniemi 153.43 315 *e*PKIKP PKPbc 16 45 03.0 -1.0
KAF pmax pmax
comp=Z,12nm,0.7s
TIR Tirane 154.01 266 *e*PKP2 PKPab 16 45 21.7 +2.2
TIR MLR MLR
comp=Z,443nm,22.0s,MS5.2
BZS Buzias 154.68 277⇑ *i* P PKPab 16 45 15.8 -6.4
KOLS Kolonicke sedl 155.27 284 *e*PKP2 PKPab 16 45 27.3 +2.7
KOLS Kolonicke sedl 155.27 284 *e*PKP PKPab 16 45 27.2 +2.6
CRVS Cervenica-Dubn 155.78 284 *e*PKP PKPab 16 45 30.0 +3.2
CUC Castrocucco 155.97 260 PFAKE 16 45 10.0 +9.4
CUC LR LR
comp=Z,453nm,19.0s,MS5.3
STHS Stebnicka Huta 156.04 285 *e*PKP PKPab 16 45 31.6 +3.7
PSZ Piszkesteto 156.53 281 PFAKE 16 45 10.0 +8.9
PSZ LR LR
comp=Z,286nm,21.0s,MS5.1
LIKS Likavka 157.32 283 *e*PKP PKPab 16 45 35.5 +2.0
VYHS Vyhne 157.37 282 *e*PKP PKPab 16 45 33.6 -0.1
KEST Kesra 157.40 243 PKPab PKPab 16 45 33.0 -1.1
comp=Z,10.0nm,0.9s,baz=297,slow=0.9,SNR=11
KOLL Kolacno 157.67 282 *e*PKP PKPab 16 45 37.1 +2.1
OKC Ostrava-Krasne 158.10 285 *e*PKPab PKPab 16 45 43.3 +6.5
MODS Modra-Piesok 158.34 281 *e*PKP PKPdf 16 45 01.8 -1.6
MODS *e* 16 45 38.0
MODS Modra-Piesok 158.34 281 *e*PKP PKPdf 16 45 01.8 -1.6
MODS *e* 16 45 38.1
ARSA Arzberg 159.19 277⇑ *i* PKPab PKPab 16 45 41.6 0.0
comp=Z,21nm,1.2s
DPC Dobruska-Polom 159.35 286 *e*PKPab PKPab 16 45 44.9 +2.7
UPC Upice 159.56 286 *e*PKPab PKPab 16 45 46.4 +3.2
TREC Trest 159.70 283 *e*PKPab PKPab 16 45 42.9 -0.9
VSL Villasalto 159.80 251 PFAKE 16 45 20.0 +15
VSL LR LR
comp=Z,284nm,19.0s,MS5.1
MOA Molln 160.17 278⇑ *i* pPKPab pPKPab 16 45 48.0 -1.2
comp=Z,12nm,1.1s
PRU Pruhonice 160.42 284 *e*PKPab PKPab 16 45 49.4 +2.5
PVCC Panska Ves 160.48 286 *e*PKPab PKPab 16 45 55.2 +8.1
NB2 NORSAR Subarra 160.61 319 PKP PKPab 16 45 45.3 -2.0
comp=Z,29nm,1.4s,baz=65,slow=4.4
NB2 NORSAR Subarra 160.61 319 PKP PKPab 16 45 45.3 -2.0
baz=65,slow=4.4
NOA NORSAR Array B 160.61 319 PKPab PKPab 16 45 47.6 +0.3
comp=Z,3.9nm,0.8s,baz=64,slow=4.5,SNR=8.5
KHC Kasperske Hory 160.90 282 *e*PKP2 PKPab 16 45 51.4 +2.4
KHC Kasperske Hory 160.90 282 *e*PKPab PKPab 16 45 48.0 -1.0
KHC *ex* x 16 45 51.4
BRG Berggiesshubel 160.92 287 *e*PKP PKPab 16 45 51.7 +2.7
comp=Z,15nm,1.3s
RJOB Jochberg 161.10 277 *e*PKPab PKPab 16 45 50.1 +0.1
WET Wettzell 161.35 281 *e*PKPab PKPab 16 45 51.0 0.0
VLC Villacollemand 161.51 265 PFAKE 16 45 20.0 +13
VLC LR LR
comp=Z,429nm,21.0s
CLL Collm 161.54 288 *e*PKP2 PKPab 16 45 55.0 +3.2
CLL pmax pmax
comp=Z,7.0nm,1.0s
CLL MLR MLR
comp=Z,200nm,21.4s
CLL Collm 161.54 288 *e*PKPab PKPab 16 45 55.0 +3.2
comp=Z,7.0nm,1.0s
CLL *ep*PKPab pPKPab 16 46 01.0 +5.9
comp=Z,133nm,2.7s
CLL *e*(SS) 17 10 46.0
CLL *e*(SSS) 17 15 56.0
CLL LmV 18 06 00.0
comp=Z,200nm,21.4s
PGF Pioggiola 161.69 259 *e*PKP2 PKPab 16 45 51.0 -1.7
WTTA Wattenberg 161.74 275⇓ *i* PKPab PKPab 16 45 51.2 -1.5
comp=Z,25nm,1.3s
NKC Novy Kostel 161.79 285 *e*PKPab PKPab 16 45 55.3 +2.4
ROTZ Rotzenmuhle 161.88 283 *e*PKPab PKPab 16 45 53.7 +0.4
MANZ Manzenberg 161.98 284 *e*PKPab PKPab 16 45 54.1 +0.4
FETA Feichten 162.27 274⇑ *i* PKPab PKPab 16 45 55.4 +0.3
comp=Z,16nm,1.2s
MOX Moxa 162.37 286 *e*(PKP) 16 45 53.4
comp=Z,15nm,1.5s
MOX Moxa 162.37 286 *e*PKP2 PKPab 16 45 53.4 -2.0
MOX pmax pmax
comp=Z,15nm,1.5s
RETA Reutte 162.37 275⇑ *i* PKPab PKPab 16 45 55.0 -0.5
comp=Z,32nm,1.3s
GRF Grafenberg Arr 162.51 283 *e*PKPab PKPab 16 45 56.2 +0.2
GRF *e*PP PP 16 49 36.9 -4.3
GRF *eL* 18 05 04.4
comp=Z,231nm,21.3s
DAVA Damuels 162.90 274⇑ *i* PKPab PKPab 16 45 57.7 -0.1
comp=Z,23nm,1.2s
TUE Stuetta 163.02 271 PFAKE 16 45 20.0 +11
TUE LR LR
comp=Z,484nm,20.0s
CLZ Clausthal 163.21 290 *e*PKPab PKPab 16 46 00.3 +1.3
RTC Rabat Centre 163.65 207 PFAKE 16 45 20.0 +10
RTC LR LR
comp=Z,444nm,22.0s
FRF La Foret Royal 163.69 259 *e*PKP2 PKPab 16 46 00.6 -0.8
comp=Z,110nm,1.5s
MBDF Montbardon 164.10 263 *e*PKP2 PKPab 16 46 02.3 -0.9
comp=Z,22nm,0.9s
BFO Black Forest 164.16 277 *e*PKPab PKPab 16 46 02.9 -0.4
BFO Black Forest 164.16 277 PFAKE 16 45 20.0 +10
BFO LR LR
comp=Z,250nm,20.0s
BNI Bardonecchia 164.29 264 PFAKE 16 45 20.0 +10
BNI LR LR
comp=Z,572nm,20.0s
TNS Taunus Mts 164.35 284 *e*PKPab PKPab 16 46 04.3 +0.2
LPG La Plagne 164.41 266 *e*PKP2 PKPab 16 46 02.7 -1.8
comp=Z,13nm,0.9s
LPL La Plagne 164.43 266 *e*PKP2 PKPab 16 46 02.8 -1.8
comp=Z,26nm,1.1s
SMRF Simiane la Rot 164.57 259 *e*PKP2 PKPab 16 46 04.4 -0.9
comp=Z,39nm,1.1s
ORIF Oris-en-Rattie 164.76 263 *e*PKP2 PKPab 16 46 04.6 -1.5
comp=Z,29nm,1.0s
ORIF *e*MLR MLR
comp=Z,432nm,20.2s
CDF Champ du Feu 164.86 277 *e*PKP2 PKPab 16 46 04.8 -1.6
HINF Hinteralfeld 165.02 274 *e*PKP2 PKPab 16 46 05.2 -2.0
CABF La Chapelle 165.21 269 *e*PKP2 PKPab 16 46 06.8 -1.2
comp=Z,28nm,1.0s
HAU Haudompre 165.39 274 *e*PKP2 PKPab 16 46 07.0 -1.8
comp=Z,35nm,0.9s
HAU *e*MLR MLR
comp=Z,432nm,21.0s
VIVF Saint-Julien-l 165.53 261 *e*PKP2 PKPab 16 46 07.7 -1.8
comp=Z,31nm,1.2s

SFS	**San Fernando**	**165.71**	**212**	PFAKE		16 45	20.0	+8.7
SFS				LR	LR			
	comp=Z,804nm,19.0s							
LASF	**Ste Croix**	**165.72**	**257**	*e*PKP2	PKPab	16 46	08.7	-1.6
	comp=Z,29nm,1.2s							
WLF	**Walferdange**	**165.77**	**281**	PFAKE		16 45	20.0	+9.2
WLF				LR	LR			
	comp=Z,479nm,20.0s							
MEZF	**Maizieres J'vi**	**166.34**	**276**	*e*PKP2	PKPab	16 46	11.6	-1.3
	comp=Z,61nm,1.2s							
MTLF	**Montolieu**	**166.41**	**252**	*e*PKP2	PKPab	16 46	12.1	-1.3
	comp=Z,55nm,1.7s							
LOR	**Lormes**	**166.86**	**270**	*e*PKP2	PKPab	16 46	13.8	-1.5
	comp=Z,27nm,1.2s							
LOR				*e*MLR	MLR			
	comp=Z,475nm,21.2s							
SSF	**Saint Saulge**	**167.04**	**269**	*e*PKP2	PKPab	16 46	14.5	-1.6
	comp=Z,36nm,0.9s							
BAIF	**Baives**	**167.06**	**282**	*e*PKP2	PKPab	16 46	14.9	-1.2
AVF	**Avril sur Loir**	**167.06**	**267**	*e*PKP2	PKPab	16 46	14.3	-1.9
CAF	**Calviac**	**167.25**	**258**	*e*PKP2	PKPab	16 46	15.8	-1.3
	comp=Z,22nm,1.1s							
BGF	**Bois d'Agland**	**167.33**	**266**	*e*PKP2	PKPab	16 46	16.1	-1.3
	comp=Z,36nm,1.1s							
ESDC	**Sonseca Array**	**167.50**	**226**	PKP	PKPdf	16 45	10.8	-1.7
	comp=Z,0.2nm,0.3s,baz=123,slow=4.7,SNR=3.6							
ESDC				PKPab	PKPab	16 46	17.1	-1.2
	comp=Z,0.3nm,0.3s,baz=134,slow=3.2,SNR=5.9							
ESDC	**Sonseca Array**	**167.50**	**226**	PKP	PKPdf	16 45	10.8	-1.7
ESDC				PKPab	PKPab	16 46	17.1	-1.1
ESLA	**Sonseca Array**	**167.50**	**226**	PFAKE		16 45	20.0	+7.5
ESLA				LR	LR			
	comp=Z,2µm,20.0s							
PAB	**San Pablo**	**167.58**	**225**	PFAKE		16 45	20.0	+7.4
PAB				LR	LR			
	comp=Z,564nm,20.0s							
RJF	**Les Rejaudoux**	**167.75**	**259**	*e*PKP2	PKPab	16 46	17.9	-1.4
	comp=Z,19nm,1.0s							
RJF				*e*MLR	MLR			
	comp=Z,651nm,19.8s							
LFF	**La Frestale**	**168.10**	**256**	*e*PKP2	PKPab	16 46	19.5	-1.3
	comp=Z,45nm,1.2s							
MFF	**Saint Martin d**	**169.30**	**263**	*e*PKP2	PKPab	16 46	24.5	-1.6
	comp=Z,12nm,0.9s							
MTE	**Manteigas**	**169.67**	**217**	PFAKE		16 45	20.0	+6.1
MTE				LR	LR			
	comp=Z,547nm,20.0s							
LDF	**La Druitiere**	**169.75**	**274**	*e*PKP2	PKPab	16 46	26.5	-1.5
	comp=Z,34nm,1.0s							
FLN	**La Foliniere**	**170.01**	**274**	*e*PKP2	PKPab	16 46	27.6	-1.6
	comp=Z,40nm,1.0s							
FLN				*e*MLR	MLR			
	comp=Z,617nm,20.2s							
GRR	**Gorron**	**170.20**	**272**	*e*PKP2	PKPab	16 46	28.5	-1.6
	comp=Z,52nm,1.0s							
SGMF	**Saint Gilles**	**171.30**	**270**	*e*PKP2	PKPab	16 46	32.9	-2.0
QUIF	**Quistinic**	**171.64**	**267**	*e*PKP2	PKPab	16 46	34.2	-2.2
	comp=Z,30nm,1.2s							

*IDC **11** 16:29:01.6±1.4, 1369N×9208W, h0km, mb4.0/4, mb1 4.4/6, mb1mx3.9/21, mbtmp4.1/6, ML4.2/2, MS3.5/3, Ms1 3.5/3, ms1mx3.1/31, Error ellipse: s-maj=53.2km s-min=22.9km az=53.0*

*ISCJB **11** 16:29:02.7±1.3, 1372N±005×9237W±004, h16km±10km, mb4.0/10, Error ellipse: s-maj=9.0km s-min=4.9km az=33.2*

*MEX **11** 16:29:03.7±1.1, 1360N×9233W, h11km±153km, MD4.5*

*NEIC **11** 16:29:04.7±4.1, 1374N×9230W, h18km±28km, mb4.1/8, MD4.6(MEX), Error ellipse: s-maj=18.6km s-min=9.1km az=208.0*

*CASC **11** 16:29:09.4±3.9, 1416N×9192W, h80km±27km, MD4.2, mb4.1(NEIC)*

ISC 11 16:29:05.4±1.3, 1380N±005×9225W±004, h21km±10km, n56, σ1°28/65, mb4.0/10, 5C-2D, Off coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
JAT	**Jato**	**0.79**	**49**	⇑*e*P		**Pb**	**16 29 21.0**	**+0.5**
JAT				*e*S		**Sb**	**16 29 30.5**	**-0.3**
THIG		**1.11**	**359**	*i* P		**Pn**	**16 29 23.5**	**-2.3**
THIG				*e*S		**Sb**	**16 29 40.1**	**+0.2**
FUG	**Fuego 3**	**1.51**	**64**	⇓*e*P		**Pn**	**16 29 30.3**	**-1.1**
FG6		**1.53**	**60**	⇑*e*P		**Pn**	**16 29 30.7**	**-0.8**
FG6				*e*S		**Sn**	**16 29 44.9**	**-5.9**
PCG	**Pacaya**	**1.70**	**69**	*e*P		**Pn**	**16 29 33.5**	**-0.5**
NBG	**Las Nubes**	**2.01**	**67**	⇑*e*P		**Pn**	**16 29 38.9**	**+0.8**
NBG				*e*S		**Sn**	**16 29 52.2**	**-10**
CCIG	**Comitan**	**2.48**	**3**	*i* P		**Pn**	**16 29 45.9**	**+1.3**
CCIG				*i* S		**Sn**	**16 30 16.1**	**+1.8**
CCIG	**Comitan**	**2.48**	**3**	*i* P		**Pn**	**16 29 45.8**	**+1.2**
CCIG				*i* S		**Sn**	**16 30 15.5**	**+1.3**
RBDL	**Robledal**	**2.51**	**82**	⇓*e*P		x	16 29 44.1	
RBDL				*e*S		x	16 30 13.2	
RTR	**El Retiro**	**2.53**	**87**	*e*P		x	16 29 44.1	
RTR				*e*P		x	16 29 44.5	
SBLS	**San Blas**	**2.55**	**89**	*e*P		x	16 29 44.4	
SNJE	**San Jose**	**2.57**	**88**	*e*P		x	16 29 44.3	
MTO2	**Montecristo 2**	**2.87**	**78**	*e*P		x	16 29 48.9	
MTO2				⇑*e*P		x	16 29 49.1	
BOQS	**Boqueron**	**2.89**	**91**	*e*P		x	16 29 49.4	
BOQS				*e*S		x	16 30 22.4	
TGIG		**3.08**	**344**	*e*P		**Pn**	**16 29 52.2**	**-0.7**
TGIG				*i* S		**Sn**	**16 30 30.1**	**+0.8**
LFRS	**El Faro**	**3.10**	**93**	⇑*e*P		x	16 29 52.3	
LBRS	**Las Brisas**	**3.12**	**91**	*e*P		x	16 29 52.8	
CMIG	**Matias Romero**	**4.15**	**323**	Pn		**Pn**	**16 30 06.0**	**-1.5**
	1.3nm,0.3s,baz=132,slow=9.6,SNR=13							
CMIG				Sn		**Sn**	**16 30 59.2**	**+3.8**
	10.0nm,0.3s,baz=110,slow=20,SNR=5.1							
CMIG				LR		LR	16 32 01.8	
	comp=Z,354nm,18.6s,baz=140,slow=42							
CMIG	**Matias Romero**	**4.15**	**323**	Pn		**Pn**	**16 30 06.0**	**-1.5**
CMIG				Sn		**Sn**	**16 30 59.2**	**+3.7**
CMIG				LR		LR	16 32 01.8	
CNCH	**Conchagua**	**4.33**	**96**	*e*P		x	16 30 08.7	
TGUH	**Tegucigalpa,Un**	**4.84**	**86**	*e*Pn		**Pn**	**16 30 18.0**	**+0.9**
VHO	**Vista Hermosa**	**5.41**	**308**	*e*P		**Pn**	**16 30 24.1**	**-0.9**
VHO				*i* S		**Sn**	**16 31 25.6**	**-1.1**
PNIG	**Pinotepa**	**6.24**	**295**	*e*P		**Pn**	**16 30 34.2**	**-2.2**
PNIG				*i* S		**Sn**	**16 31 44.2**	**-2.9**
PNIG	**Pinotepa**	**6.24**	**295**	*i* P		**Pn**	**16 30 35.9**	**-0.5**
PNIG				*i* S		**Sn**	**16 31 44.2**	**-2.9**
TPIG	**Tehuac#an**	**6.73**	**314**	*i* S		**Sn**	**16 31 59.6**	**+0.5**
TEIG	**Tepich**	**7.44**	**30**	Pn		**Pn**	**16 30 53.4**	**+0.6**
	6.2nm,0.3s,baz=179,slow=1.3,SNR=27							
TEIG				Sn		**Sn**	**16 32 14.1**	**-2.5**
	baz=48,slow=22,SNR=2.3							
TEIG				LR		LR	16 33 38.4	
	comp=Z,294nm,20.7s,baz=218,slow=37							
TEIG	**Tepich**	**7.44**	**30**	*e*Pn		**Pn**	**16 30 52.5**	**-0.4**
TEIG				Pn		**Pn**	**16 30 53.4**	**+0.6**
TEIG				Sn		**Sn**	**16 32 14.1**	**-2.5**
TEIG				LR		LR	16 33 38.4	
JTS	**JuntasAbangare**	**7.94**	**115**	Pn		**Pn**	**16 30 59.9**	**+0.1**
	1.8nm,0.3s,baz=304,slow=20,SNR=5.9							
JTS				Lg			16 32 56.5	
	0.3nm,0.3s,baz=323,slow=20,SNR=3.1							
JTS	**JuntasAbangare**	**7.94**	**115**	Pn		**Pn**	**16 30 59.9**	**+0.1**
JTS				*e*Pn		**Pn**	**16 31 00.4**	**+0.6**
JTS				Lg			16 32 56.5	
JTS				*e*Sg		Sn	16 33 04.1	+35
PPM	**Popocatepetl**	**8.06**	**311**	*e*P		**Pn**	**16 31 01.2**	**-0.1**
PPM				*e*S		**Sn**	**16 32 31.8**	**-0.1**
PPM	**Popocatepetl**	**8.06**	**311**	*i* P		**Pn**	**16 31 08.2**	**+6.9**
PPM				*i* S		**Sn**	**16 32 47.3**	**+16**
CAIG	**El Cayaco**	**8.38**	**294**	*e*P		**Pn**	**16 31 04.7**	**-1.1**
CAIG				*i* S		**Sn**	**16 32 39.6**	**-0.2**
CAIG	**El Cayaco**	**8.38**	**294**	*i* P		**Pn**	**16 31 01.7**	**-4.1**
CAIG				*i* S		**Sn**	**16 32 58.3**	**+18**
URSC	**Urasca**	**9.18**	**114**	*e*P		**Pn**	**16 31 20.2**	**+3.5**
BUS	**Buena Vista**	**9.32**	**116**	*e*P		**Pn**	**16 31 23.0**	**+4.3**
ZIIG	**Zihuatanejo**	**9.65**	**294**	*i* P		**Pn**	**16 31 25.2**	**+2.0**
TXAR	**Lajitas Array**	**18.73**	**327**	P		**Pn**	**16 33 24.9**	**+1.5**
	0.1nm,0.3s,baz=155,slow=12,SNR=20							
ROSC	**El Rosal**	**19.77**	**115**	P		**Pn**	**16 33 36.2**	**+0.2**
	1.1nm,0.3s,baz=84,slow=22,SNR=6.1							
ROSC	**El Rosal**	**19.77**	**115**	P		**Pn**	**16 33 36.0**	**0.0**
MIAR	**Mount Ida**	**20.70**	**357**	*e*P		**P**	**16 33 43.2**	**-1.1**
	8.9nm,1.0s							
OXF	**Oxford**	**20.79**	**7**	P		**P**	**16 33 48.6**	**+3.3**
WVT	**Waverly**	**22.59**	**9**	P		**P**	**16 33 58.9**	**-5.7**
	5.1nm,0.9s,mb4.0							
ANMO	**Albuquerque**	**24.66**	**331**	P		**P**	**16 34 25.6**	**+0.7**
	3.7nm,0.7s,mb4.0,baz=150,slow=11,SNR=10							
ANMO	**Albuquerque**	**24.66**	**331**	*e*P		**P**	**16 34 24.9**	**+0.1**
	3.5nm,0.7s,mb4.0							
SDCO	**Great Sand Dun**	**26.61**	**336**	*e*P		**P**	**16 34 42.9**	**+0.5**
	2.3nm,1.0s,mb3.7							
NVAR	**Mina Array Bea**	**33.68**	**322**	P		**P**	**16 35 47.5**	**+2.5**
	1.4nm,0.8s,mb4.0,baz=134,slow=8.7,SNR=10							
NVAR	**Mina Array Bea**	**33.68**	**322**	P		**P**	**16 35 47.5**	**+2.4**
HLID	**Hailey**	**35.24**	**332**	*e*P		**P**	**16 35 59.8**	**+1.3**
	3.2nm,1.0s,mb4.2							
WVOR	**Wild Horse Val**	**36.53**	**326**	*e*P		**P**	**16 36 12.8**	**+3.2**
	3.4nm,0.9s,mb4.2							
BMO	**Blue Mountains**	**37.58**	**330**	P		**P**	**16 36 18.5**	**+0.1**
	2.0nm,1.0s,mb3.8							
SIV	**San Ignacio**	**42.73**	**133**	P		**P**	**16 36 59.5**	**-2.0**
	1.0nm,0.6s,mb3.7,baz=302,slow=10,SNR=7.1							
YKA	**Yellowknife Ar**	**51.17**	**347**	P		**P**	**16 38 05.5**	**-1.3**
	1.9nm,0.7s,mb4.2,baz=141,slow=7.0,SNR=3.8							
DLBC	**Dease Lake**	**52.74**	**336**	P		**P**	**16 38 18.6**	**0.0**
ESK	**Eskdalemuir**	**78.25**	**36**	P		**P**	**16 40 58.8**	**-4.8**
	14nm,1.1s,mb4.8							
CHTO	**Chiang Mai**	**145.77**	**341**	*e*PKPdf	PKPdf		16 48 42.4	-1.0
CMAR	**Chiang Mai Arr**	**146.11**	**341**	PKPbc	PKPbc		16 48 44.3	-0.6
	4.5nm,0.7s,baz=337,slow=3.5,SNR=28							

*IDC **11** 16:50:38.3±2.7, 1363N×9203W, h0km, mb4.1/4, mb1 4.4/7, mb1mx3.9/22, mbtmp4.1/7, ML3.9/3, MS3.9/3, Ms1 3.9/3, ms1mx3.2/29, Error ellipse: s-maj=55.8km s-min=39.4km az=29.0*

*ISCJB **11** 16:50:40.5±1.3, 1380N±005×9231W±004, h16km±9km, mb4.2/7, MS4.3/2, Error ellipse: s-maj=9.3km s-min=5.2km az=25.6*

*MEX **11** 16:50:41.5±0.7, 1367N×9228W, h14km±167km, MD4.6*

*NEIC **11** 16:50:41.3±3.6, 1386N×9221W, h6km±24km, mb4.2/5, MD4.6(MEX), Error ellipse: s-maj=15.7km s-min=7.9km az=214.0*

*CASC **11** 16:50:43.0±2.4, 1392N×9225W, h30km±10km, MD4.1, mb4.2(NEIC)*

ISC 11 16:50:41.7±1.3, 1386N±005×9225W±004, h8km±7km, n48, σ1°09/49, mb4.2/7, MS4.3/2, 7C-3D, Off coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
JAT	**Jato**	**0.75**	**53**	⇑*e*P		**Pg**	**16 50 58.7**	**+2.6**
JAT				*e*S		**Sg**	**16 51 05.9**	**+0.1**
THIG		**1.04**	**359**	*i* P		**Pg**	**16 50 60.0**	**-1.7**
THIG				*i* S		**Sg**	**16 51 15.2**	**0.0**
FUG	**Fuego 3**	**1.48**	**67**	⇓*e*P		**Pn**	**16 51 07.8**	**-0.9**
FG6		**1.50**	**62**	⇑*i*P		**Pn**	**16 51 08.4**	**-0.4**
PCG	**Pacaya**	**1.68**	**71**	⇓*e*P		**Pn**	**16 51 11.4**	**0.0**
PCG				*e*S		**Sn**	**16 51 32.8**	**-0.3**
NBG	**Las Nubes**	**1.98**	**68**	⇑*e*P		**Pn**	**16 51 16.4**	**+0.9**
CCIG	**Comitan**	**2.41**	**3**	*e*P		**Pn**	**16 51 21.2**	**-0.2**
CCIG				*i* S		**Sn**	**16 51 51.0**	**-0.2**
RBDL	**Robledal**	**2.50**	**84**	⇑*e*P		x	16 51 21.4	
RBDL				*e*S		x	16 51 52.0	
RTR	**El Retiro**	**2.53**	**89**	⇓*e*P		x	16 51 22.0	
RTR				*e*S		x	16 51 55.1	
SBLS	**San Blas**	**2.55**	**90**	⇑*e*P		x	16 51 22.6	
SNJE	**San Jose**	**2.57**	**90**	⇑*e*P		x	16 51 22.7	
SNJE				*e*S		x	16 51 54.3	
MTO2	**Montecristo 2**	**2.85**	**79**	*e*P		x	16 51 26.6	
BOQS	**Boqueron**	**2.89**	**92**	*e*P		x	16 51 26.9	
BOQS				*e*S		x	16 52 04.0	
TGIG		**3.02**	**344**	*e*P		**Pn**	**16 51 29.2**	**-0.6**
TGIG				*i* S		**Sn**	**16 52 06.2**	**0.0**
LFRS	**El Faro**	**3.11**	**94**	⇑*e*P		x	16 51 29.7	
LFRS				*e*S		x	16 52 07.8	
LBRS	**Las Brisas**	**3.12**	**92**	*e*P		x	16 51 30.1	
CMIG	**Matias Romero**	**4.09**	**322**	Pn		**Pn**	**16 51 44.8**	**+0.2**
	1.9nm,0.3s,baz=142,slow=10,SNR=14							
CMIG				Sn		**Sn**	**16 52 40.2**	**+7.5**
	20nm,0.3s,baz=130,slow=5.2,SNR=6.5							
TGUH	**Tegucigalpa,Un**	**4.83**	**87**	Pn		**Pn**	**16 51 54.9**	**0.0**
VHO	**Vista Hermosa**	**5.37**	**307**	*i* P		**Pn**	**16 52 00.3**	**-1.9**
VHO				*i* S		**Sn**	**16 53 02.8**	**-1.5**
VHO	**Vista Hermosa**	**5.37**	**307**	*i* P		**Pn**	**16 52 00.3**	**-1.9**
VHO				*i* S		**Sn**	**16 53 05.6**	**+1.3**
PNIG	**Pinotepa**	**6.21**	**295**	*i* P		**Pn**	**16 52 12.4**	**-1.3**
PNIG				*i* S		**Sn**	**16 53 21.2**	**-3.7**
PNIG	**Pinotepa**	**6.21**	**295**	*i* P		**Pn**	**16 52 14.4**	**+0.7**
PNIG				*i* S		**Sn**	**16 53 23.6**	**-1.3**
TPIG	**Tehuac#an**	**6.68**	**313**	*i* S		**Sn**	**16 53 35.4**	**-1.2**
TEIG	**Tepich**	**7.38**	**30**	Pn		**Pn**	**16 52 30.1**	**+0.3**
	8.9nm,0.3s,baz=30,slow=0.7,SNR=25							
TEIG				LR		LR	16 55 44.5	
	comp=Z,235nm,20.4s,baz=305,slow=41							
TEIG	**Tepich**	**7.38**	**30**	*e*Pn		**Pn**	**16 52 29.7**	**-0.1**
TEIG				Pn		**Pn**	**16 52 30.1**	**+0.3**
TEIG				LR		LR	16 55 44.5	
JTS	**JuntasAbangare**	**7.97**	**116**	Pn		**Pn**	**16 52 37.3**	**-0.7**
	0.5nm,0.3s,baz=330,slow=20,SNR=2.4							
PPM	**Popocatepetl**	**8.01**	**311**	*e*P		**Pn**	**16 52 40.6**	**+2.1**
PPM				*i* S		**Sn**	**16 54 09.9**	**+0.6**
PPM	**Popocatepetl**	**8.01**	**311**	*e*P		**Pn**	**16 52 30.5**	**-8.0**
PPM				*i* S		**Sn**	**16 54 15.2**	**+5.9**
TXAR	**Lajitas Array**	**18.68**	**327**	P		**Pn**	**16 55 01.8**	**+1.2**
	0.1nm,0.3s,baz=157,slow=12,SNR=11							
OTAV	**Otavalo**	**19.23**	**134**	P		**Pn**	**16 55 06.3**	**-1.2**
	8.1nm,1.3s							
MIAR	**Mount Ida**	**20.63**	**357**	*e*P		**P**	**16 55 22.1**	**+0.5**
WVT	**Waverly**	**22.53**	**9**	P		**P**	**16 55 39.3**	**-2.7**
BNM	**Barren Site**	**24.04**	**330**	*e*P		**P**	**16 55 59.1**	**+1.9**
LPM	**Los Pinos Moun**	**24.17**	**330**	P		**P**	**16 55 59.5**	**+1.1**
ANMO	**Albuquerque**	**24.61**	**331**	P		**P**	**16 56 03.3**	**+0.8**
	3.1nm,0.5s,mb4.1,baz=132,slow=12,SNR=11							
ANMO	**Albuquerque**	**24.61**	**331**	*e*P		**P**	**16 56 02.5**	**0.0**
	4.6nm,0.7s,mb4.1							
HWUT	**Hardware Ranch**	**32.34**	**332**	*e*P		**P**	**16 57 11.9**	**+0.4**
	5.6nm,1.1s,mb4.3							
ELK	**Elko**	**33.48**	**327**	P		**P**	**16 57 22.9**	**+1.5**
	1.8nm,0.8s,mb4.1,baz=139,slow=5.6,SNR=8.7							
TPAW	**Teton Pass**	**33.61**	**335**	P		**P**	**16 57 22.8**	**+0.3**
	5.4nm,1.1s,mb4.4							
NVAR	**Mina Array Bea**	**33.63**	**321**	P		**P**	**16 57 24.6**	**+1.8**
	1.4nm,0.7s,mb4.0,baz=132,slow=7.6,SNR=12							
NVAR	**Mina Array Bea**	**33.63**	**321**	P		**P**	**16 57 24.6**	**+1.8**
HLID	**Hailey**	**35.18**	**332**	*e*P		**P**	**16 57 36.6**	**+0.5**
	1.8nm,0.9s,mb4.0							
MCMT	**McKenzie Canyo**	**35.49**	**334**	*e*P		**P**	**16 57 39.0**	**+0.3**
YKA	**Yellowknife Ar**	**51.10**	**347**	P		**P**	**16 59 42.7**	**-1.9**
	3.1nm,0.8s,mb4.3,baz=149,slow=7.2,SNR=3.6							
BDFB	**Brasilia**	**52.65**	**122**	LR	LR		17 24 25.1	
	comp=Z,113nm,18.5s,MS3.9,baz=7.2,slow=39							
DBIC	**Dimbokro**	**85.91**	**84**	LR	LR		17 40 31.5	
	comp=Z,222nm,18.4s,MS4.6,baz=166,slow=35							
CM31	**Chiang Mai Arr**	**146.04**	**341**	*e*PKPdf	PKPdf		17 10 21.9	-0.4
CMAR	**Chiang Mai Arr**	**146.04**	**341**	PKPbc	PKPbc		17 10 21.4	-1.7
	4.8nm,0.7s,baz=337,slow=3.6,SNR=34							

IDC 11 16:51:45.3±1.4, 267N×12697E, h0km, mb3.7/5, mb1 3.8/5, mb1mx3.6/16, mbtmp3.7/5, Error ellipse: s-maj=135.0km s-min=19.0km az=67.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.61**	**162**	P		P	16 56 57.6	-0.7
	1.3nm,0.5s,baz=343,slow=10,SNR=8.1							
ASAR	**Alice Springs**	**27.04**	**166**	P		P	16 57 29.1	-0.3
	0.2nm,0.5s,baz=345,slow=7.6,SNR=16							
STKA	**Stephens Creek**	**37.06**	**159**	P		P	16 58 57.9	+0.6
	1.8nm,0.7s,baz=336,slow=10.0,SNR=3.3							
MKAR	**Makanchi Array**	**58.55**	**326**	P		P	17 01 42.7	-1.1
	0.5nm,0.5s,baz=128,slow=7.6,SNR=3.1							
ZALV	**Zalesovo Beam**	**61.63**	**333**	P		P	17 02 06.0	+1.3
	0.3nm,0.3s,baz=139,slow=6.9,SNR=2.4							

GUC 11 17:08:23.2±0.9, 3134S×6840W, h155km±40km, MD3.4, ML3.6, 1C-2D, San Juan Province

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
TLL	**Tololo Astrono**	**2.38**	**299**	*e*P		Pn	17 09 04.4	+1.3
TLL				*i* S		Sn	17 09 35.4	+1.6
TLL				AML	AML		17 09 37.7	
	comp=N,198nm,0.5s							
OVCH	**Ovalle**	**2.52**	**286**	*i* S		Sn	17 09 36.7	-0.1
OVCH				AML	AML		17 09 39.8	
	comp=N,377nm,0.3s							
FCH	**Farellones**	**2.55**	**218**	⇓*i*P		Pn	17 09 06.0	+0.9
FCH				*i* S		Sn	17 09 39.4	+1.9
FCH				AML	AML		17 09 41.9	
	comp=N,104nm,0.3s							
PEL	**Peldehue**	**2.65**	**227**	⇓*i*P		Pn	17 09 07.2	+1.0
PEL				*i* S		Sn	17 09 39.9	+0.3
PEL				AML	AML		17 09 43.2	
	comp=E,195nm,0.3s							
CHNG	**Los Chungos**	**2.70**	**258**	*i* P		Pn	17 09 07.9	+1.0
CHNG				*i* S		Sn	17 09 39.9	-0.9
CHNG				AML	AML		17 09 51.4	
	comp=E,134nm,0.3s							
CLCH	**Cerro Calan**	**2.74**	**221**	*e*P		Pn	17 09 09.1	+1.7
CLCH				*i* S		Sn	17 09 43.6	+2.0
CLCH				AML	AML		17 09 51.4	
	comp=N,137nm,0.7s							
PCH	**Pirque**	**2.89**	**218**	*e*P		Pn	17 09 10.1	+0.7
LMEL	**Las Melosas**	**2.93**	**211**	AML	AML		17 09 59.7	
	comp=N,61nm,0.2s							
RCDM	**Rinconada Maip**	**2.96**	**223**	⇑*i*P		Pn	17 09 10.8	+0.6
RCDM				*i* S		Sn	17 09 47.6	+1.0
RCDM				AML	AML		17 09 48.4	
	comp=E,198nm,0.2s							

*JMA **11** 17:16:08.9±0.2, 2433N×12243E, h0km, M1.9*

*TAP **11** 17:16:10.4, 2448N×12252E, h15km±1km, ML2.9, D*

*ISCJB **11** 17:16:11.2±0.7, 2446N±003×12250E±002, h11km±6km, Error ellipse: s-maj=5.1km s-min=2.9km az=5.6*

ISC 11 17:16:11.4±0.5, 2448N±003×12250E±002, h15km±4km, n21, σ0°65/41, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
YOJ	**Yonaguni jima**	**0.47**	**92**	P		**Pg**	**17 16 20.0**	**-0.7**
YOJ				*e*S		**Sg**	**17 16 27.8**	**+0.8**
TWC	**Suao**	**0.60**	**282**	P		**Pg**	**17 16 23.0**	**-0.2**
	baz=281							
TWC				*i* S		**Sg**	**17 16 32.5**	**+1.2**
	baz=281							
ENA	**Nanau**	**0.69**	**266**	P		**Pg**	**17 16 24.7**	**-0.2**
	baz=265							
ENA				S		**Sg**	**17 16 35.0**	**+1.0**
	baz=265							
TWB1	**Santiao Chiao**	**0.70**	**319**	P		**Pg**	**17 16 24.6**	**-0.4**
	baz=317							
TWB1				*e*S		**Sg**	**17 16 33.4**	**-0.9**
	baz=317							
TWE	**Neicheng**	**0.79**	**288**	*i* P		**Pg**	**17 16 26.3**	**-0.5**
	baz=286							
TWE				S		**Sg**	**17 16 38.1**	**+0.9**
	baz=286							
NWF	**Wu-fen Shan**	**0.88**	**312**	*e*P		**Pb**	**17 16 27.8**	**-0.6**
	baz=311							
NWF				*e*S		**Sb**	**17 16 40.6**	**+0.7**
	baz=311							
TWD	**Chiawan**	**0.91**	**244**	*e*P		**Pb**	**17 16 28.4**	**-0.5**
	baz=244							
TWD				*e*S		**Sb**	**17 16 41.6**	**+0.7**
	baz=244							
NNS	**Nan Shan**	**1.02**	**268**	P		**Pb**	**17 16 30.8**	**-0.1**
	baz=267							
NNS				*e*S		**Sb**	**17 16 45.0**	**+0.8**
	baz=267							
IRIF	**Iriomote-Funau**	**1.13**	**97**	P		**Pb**	**17 16 31.6**	**-1.1**
IRIF				*e*S		**Sb**	**17 16 46.7**	**-0.6**
TWY	**Chenhua**	**1.14**	**314**	*e*P		**Pb**	**17 16 32.1**	**-0.6**
	baz=313							
TWY				*e*S		**Sb**	**17 16 47.9**	**+0.5**
	baz=313							
WHF	**Hehuan Shan**	**1.17**	**254**	P		**Pn**	**17 16 33.7**	**+0.4**
	baz=253							
WHF				*e*S		**Sb**	**17 16 49.0**	**+0.6**
	baz=253							
ESL	**Shilin**	**1.18**	**236**	*e*P		**Pn**	**17 16 32.7**	**-0.7**
	baz=236							
ESL				*e*S		**Sb**	**17 16 48.9**	**+0.3**
	baz=236							
HATJ	**Hateruma jima**	**1.27**	**109**	*e*S		**Sb**	**17 16 51.4**	**+0.3**
NSTT	**Nanjuang**	**1.37**

	9.5nm,0.4s								
QUIF	**Quistinic**	**4.62**	**48**	*e*Pn	**Pn**	**17 31 46.2**	**+0.5**
	SNR=1.0								
QUIF				*e*Sn	**Sn**	**17 32 34.7**	**-4.6**
	4.8nm,0.4s								
ROSF	**Rostrenen**	**4.84**	**43**	*e*Pn	**Pn**	**17 31 48.9**	**+0.2**
ROSF				*e*Sn	**Sn**	**17 32 38.8**	**-6.0**
	4.5nm,0.4s,SNR=1.0								
ROSF	**Rostrenen**	**4.84**	**43**	*e*Pn	**Pn**	**17 31 48.9**	**+0.2**
ROSF				*e*Sn	**Sn**	**17 32 38.8**	**-6.0**
	2.2nm,0.4s,SNR=1.0								
EPLA	**Plasencia**	**5.11**	**161**	P	**Pn**	**17 31 53.0**	**+0.6**
EPLA	**Plasencia**	**5.11**	**161**	P	**Pn**	**17 31 53.0**	**+0.6**
EPLA				S	**Sn**	**17 33 02.4**	**+11**
EALK	**Alkurruntz**	**5.14**	**107**	P	**Pn**	**17 31 53.6**	**+0.7**
EALK	**Alkurruntz**	**5.14**	**107**	P	**Pn**	**17 31 53.6**	**+0.7**
EALK				S	**Sn**	**17 32 51.9**	**-0.4**
ELIZ	**Elizondo**	**5.15**	**108**	P	**Pn**	**17 31 54.2**	**+1.2**
ELIZ	**Elizondo**	**5.15**	**108**	P	**Pn**	**17 31 54.2**	**+1.2**
ELIZ				S	**Sn**	**17 32 50.5**	**-1.9**
SGMF	**Saint Gilles**	**5.15**	**48**	*e*Pn	**Pn**	**17 31 53.6**	**+0.6**
SGMF				*e*Sn	**Sn**	**17 32 47.1**	**-5.3**
	3.4nm,0.3s								
SGMF	**Saint Gilles**	**5.15**	**48**	*e*Pn	**Pn**	**17 31 53.6**	**+0.6**
SGMF				*e*Sn	**Sn**	**17 32 47.1**	**-5.3**
	1.7nm,0.3s								
GUD	**Guadarrama**	**5.22**	**143**	P	**Pn**	**17 31 53.6**	**-0.4**
GUD	**Guadarrama**	**5.22**	**143**	P	**Pn**	**17 31 53.6**	**-0.5**
GUD				S	**Sn**	**17 33 01.2**	**+6.9**
SJPF	**Ste Jean**	**5.37**	**107**	*e*Pn	**Pn**	**17 31 57.2**	**+1.1**
SJPF				*e*Sn	**Sn**	**17 32 49.9**	**-8.1**
	2.7nm,0.2s,SNR=1.0								
SJPF	**Ste Jean**	**5.37**	**107**	*e*Pn	**Pn**	**17 31 57.2**	**+1.1**
SJPF				*e*Sn	**Sn**	**17 32 49.9**	**-8.1**
	1.4nm,0.2s,SNR=1.0								
ETSF	**Etsaut**	**5.91**	**107**	*e*Pn	**Pn**	**17 32 05.9**	**+2.5**
	SNR=1.0								
ETSF				*e*Sn	**Sn**	**17 33 03.2**	**-7.9**
	4.5nm,0.4s								
ETSF	**Etsaut**	**5.91**	**107**	*e*Pn	**Pn**	**17 32 05.9**	**+2.5**
	SNR=1.0								
ETSF				*e*Sn	**Sn**	**17 33 03.2**	**-7.9**
	2.2nm,0.4s								
MFF	**Saint Martin d**	**5.91**	**71**	*e*Pn	**Pn**	**17 32 03.5**	**0.0**
	SNR=1.0								
MFF				*e*Sn	**Sn**	**17 33 02.7**	**-8.5**
	2.4nm,0.2s,SNR=1.0								
MFF	**Saint Martin d**	**5.91**	**71**	*e*Pn	**Pn**	**17 32 03.5**	**0.0**
	SNR=1.0								
MFF				*e*Sn	**Sn**	**17 33 02.7**	**-8.5**
	1.2nm,0.2s,SNR=1.0								
GRR	**Gorron**	**6.16**	**53**	*e*Pn	**Pn**	**17 32 06.2**	**-0.6**
	SNR=1.0								
GRR				*e*Sn	**Sn**	**17 33 09.9**	**-7.3**
	4.5nm,0.4s								
GRR	**Gorron**	**6.16**	**53**	*e*Pn	**Pn**	**17 32 06.2**	**-0.6**
	SNR=1.0								
GRR				*e*Sn	**Sn**	**17 33 09.9**	**-7.3**
	2.2nm,0.4s								
LFF	**La Frestale**	**6.38**	**87**	*e*Pn	**Pn**	**17 32 09.9**	**0.0**
	SNR=1.0								
EBIE	**Bielsa**	**6.46**	**107**	P	**Pn**	**17 32 12.6**	**+1.5**
EBIE	**Bielsa**	**6.46**	**107**	P	**Pn**	**17 32 12.6**	**+1.5**
EBIE				S	**Sn**	**17 33 12.1**	**-13**
EPF	**Esparros**	**6.47**	**104**	*e*Pn	**Pn**	**17 32 12.1**	**+0.9**
	SNR=1.0								
FLN	**La Foliniere**	**6.57**	**51**	*e*Pn	**Pn**	**17 32 13.1**	**+0.7**
LDF	**La Druitiere**	**6.68**	**54**	*e*Pn	**Pn**	**17 32 15.1**	**+1.1**
	SNR=1.0								
RJF	**Les Rejaudoux**	**6.92**	**83**	*e*Pn	**Pn**	**17 32 16.7**	**-0.6**
RJF				*e*Sn	**Sn**	**17 33 26.2**	**-10**
	2.4nm,0.4s								
RJF	**Les Rejaudoux**	**6.92**	**83**	*e*Pn	**Pn**	**17 32 16.7**	**-0.6**
RJF				*e*Sn	**Sn**	**17 33 26.2**	**-10**
	1.2nm,0.4s								
ECAB	**El Cabril**	**7.16**	**162**	P	**Pn**	**17 32 21.0**	**+0.4**
EMOS	**Mosqueruela**	**7.32**	**126**	P	**Pn**	**17 32 22.8**	**0.0**
CAF	**Calviac**	**7.32**	**86**	*e*Pn	**Pn**	**17 32 22.3**	**-0.5**
	SNR=1.0								
ERTA	**Horta de San J**	**7.43**	**119**	P	**Pn**	**17 32 23.8**	**-0.6**
TCF	**Toulx Ste Croi**	**7.46**	**76**	*e*Pn	**Pn**	**17 32 24.5**	**-0.2**
	SNR=1.0								
TCF				*e*Sn	**Sn**	**17 33 40.0**	**-9.3**
	3.8nm,0.4s								
TCF	**Toulx Ste Croi**	**7.46**	**76**	*e*Pn	**Pn**	**17 32 24.5**	**-0.2**
	SNR=1.0								
TCF				*e*Sn	**Sn**	**17 33 40.0**	**-9.3**
	1.9nm,0.4s								
MTLF	**Montolieu**	**7.69**	**98**	*e*Pn	**Pn**	**17 32 27.6**	**-0.3**
	SNR=1.0								
MTLF				*e*Sn	**Sn**	**17 33 44.9**	**-10**
	1.9nm,0.4s,SNR=1.0								
MTLF	**Montolieu**	**7.69**	**98**	*e*Pn	**Pn**	**17 32 27.6**	**-0.3**
	SNR=1.0								
MTLF				*e*Sn	**Sn**	**17 33 44.9**	**-10**
	0.9nm,0.4s,SNR=1.0								
EPOB	**Poblet**	**7.69**	**114**	P	**Pn**	**17 32 27.0**	**-0.9**
BGF	**Bois d'Agland**	**7.93**	**74**	*e*Pn	**Pn**	**17 32 31.0**	**-0.2**
	SNR=1.0								
BGF				*e*Sn	**Sn**	**17 33 50.8**	**-10**
	4.0nm,0.2s								
BGF	**Bois d'Agland**	**7.93**	**74**	*e*Pn	**Pn**	**17 32 31.0**	**-0.2**
	SNR=1.0								
BGF				*e*Sn	**Sn**	**17 33 50.8**	**-10**
	2.0nm,0.2s								
AVF	**Avril sur Loir**	**8.31**	**73**	*e*Pn	**Pn**	**17 32 35.9**	**-0.5**
	SNR=1.0								
SSF	**Saint Saulge**	**8.46**	**71**	*e*Pn	**Pn**	**17 32 38.6**	**+0.2**
	SNR=1.0								
LASF	**Ste Croix**	**8.69**	**91**	*e*Pn	**Pn**	**17 32 41.1**	**-0.5**
	SNR=1.0								
LOR	**Lormes**	**8.73**	**70**	*e*Pn	**Pn**	**17 32 41.6**	**-0.6**
VIVF	**Saint-Julien-l**	**9.17**	**86**	*e*Pn	**Pn**	**17 32 47.0**	**-1.2**
BAIF	**Baives**	**9.87**	**54**	*e*Pn	**Pn**	**17 32 57.7**	**0.0**
SMRF	**Simiane la Rot**	**9.93**	**91**	*e*Pn	**Pn**	**17 32 57.9**	**-0.7**
ORIF	**Oris-en-Rattie**	**10.02**	**85**	*e*Pn	**Pn**	**17 32 59.2**	**-0.6**
LMR	**La Mourre**	**10.73**	**93**	*e*Pn	**Pn**	**17 33 09.1**	**-0.4**
FRF	**La Foret Royal**	**10.77**	**92**	*e*Pn	**Pn**	**17 33 10.1**	**0.0**

IDC 11 17:35:52.1±2.6,5629S×2742W,h0km,mb3.8/2,
mb1 3.9/2,mb1mx3.6/15,mbtmp3.8/2,Error ellipse:
s-maj=95.9km s-min=45.4km az=11.0,South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNA2	**Neumayer--Watz**	**17.02**	**157**	*e*P	Pn	17 40 03.0	+12
	baz=314,slow=12						
SNAA	**Sanae**	**18.57**	**156**	*e*P	Pn	17 40 19.4	+9.1
LPAZ	**La Paz**	**50.41**	**306**	P	P	17 44 51.8	+0.6
	0.8nm,0.4s,baz=121,slow=3.6,SNR=3.6						
TORD	**Torodi Ar. Bea**	**73.33**	**30**	P	P	17 47 25.4	+0.1
	0.3nm,0.4s,baz=201,slow=6.2,SNR=5.2						
SONM	**Songino Array**	**150.87**	**87**	PKPbc	PKPbc	17 55 45.3	-0.1
	0.6nm,0.6s,baz=236,slow=3.2,SNR=4.5						

IDC ***11*** *17:45:41.2±1.4,14.10N×92.15W,h0km,mb4.1/4,mb1 4.3/7, mb1mx4.0/21,mbtmp4.1/7,ML3.5/3,MS3.7/4,Ms1 3.8/4, ms1mx3.2/29,Error ellipse: s-maj=51.5km s-min=20.5km az=42.0*

BJI ***11*** *17:45:41.0,1360N×9220W,h18km,mB5.3,Ms4.9,Msz4.4*

MEX ***11*** *17:45:41.6±0.4,1365N×9220W,h12km±55km,MD4.7*

NEIC ***11*** *17:45:42.0,1362N×9219W,h19km,mb4.5/21, MD4.7(MEX),After MEX.*

ISCJB ***11*** *17:45:42.5±1.0,1383N±004×9228W±003,h23km±7km, mb4.4/27,MS4.1/7,Error ellipse: s-maj=7.6km s-min=3.5km az=35.8*

CASC ***11*** *17:45:47.0±2.3,1388N×9194W,h23km±25km,MD4.2, mb4.5(NEIC)*

ISC 11 17:45:44.1±1.7,1393N±004×9222W±003,h16km±11km,
n223,n0s89/215,mb4.4/26,MS4.1/7,64C-56D,Off coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAT	**Jato**	**0.69**	**56**↑	*e*P	**Pb**	**17 45 59.5**	**+1.8**
THIG		**0.97**	**358**	*i* P	**Pb**	**17 46 01.0**	**-1.6**
THIG				*i* S	**Sb**	**17 46 16.7**	**+1.5**
FUG	**Fuego 3**	**1.44**	**69**↑	*e*P	**Pn**	**17 46 08.6**	**-0.9**
FG6		**1.44**	**64**↑	*i* P	**Pn**	**17 46 09.2**	**-0.4**
PCG	**Pacaya**	**1.63**	**73**↓	*e*P	**Pn**	**17 46 11.9**	**-0.3**
GCG	**Guatemala City**	**1.76**	**68**↓	*e*P	**Pn**	**17 46 13.4**	**-0.5**

NBG	**Las Nubes**	**1.93**	**70**↑	*e*P	**Pn**	**17 46 17.0**	**+0.7**
CCIG	**Comitan**	**2.34**	**2**	*e*P	**Pn**	**17 46 21.9**	**0.0**
CCIG				*i* S	**Sn**	**17 46 51.5**	**+1.2**
CCIG	**Comitan**	**2.34**	**2**	*e*P	**Pn**	**17 46 23.6**	**+1.8**
CCIG				*i* S	**Sn**	**17 46 51.5**	**+1.2**
RBDL	**Robledal**	**2.47**	**86**	*e*P	x	17 46 21.8	
RBDL				*e*S	x	17 46 51.0	
RTR	**El Retiro**	**2.50**	**90**	*e*P	x	17 46 22.1	
SBLS	**San Blas**	**2.53**	**92**	*e*P	x	17 46 22.4	
SBLS				*e*S	x	17 46 50.5	
SNJE	**San Jose**	**2.54**	**91**	*e*P	x	17 46 22.7	
SNJE				*e*S	x	17 46 51.5	
MTO2	**Montecristo 2**	**2.81**	**80**↑	*e*P	x	17 46 26.9	
BQQS	**Boqueron**	**2.87**	**94**	*e*P	x	17 46 28.9	
BQQS				↓*e*P	x	17 46 27.4	
TGIG		**2.96**	**343**	*i* P	**Pn**	**17 46 30.4**	**-0.1**
TGIG				*i* S	**Sn**	**17 47 07.1**	**+1.4**
LFRS	**El Faro**	**3.09**	**95**	*e*P	x	17 46 29.9	
LFRS				*e*S	x	17 47 04.7	
LBRS	**Las Brisas**	**3.10**	**93**	*e*P	x	17 46 30.0	
CAHU	**Cacacuatique**	**3.90**	**92**	*e*P	x	17 46 44.4	
CMIG	**Matias Romero**	**4.05**	**321**	Pn	**Pn**	**17 46 44.4**	**-1.1**
	4.0nm,0.3s,baz=134,slow=10,SNR=39						
CMIG				Sn	**Sn**	**17 47 32.5**	**-0.2**
	47nm,0.3s,baz=90,slow=16,SNR=7.4						
CMIG	**Matias Romero**	**4.05**	**321**	Pn	**Pn**	**17 46 44.4**	**-1.1**
CMIG				Sn	**Sn**	**17 47 32.5**	**-0.2**
HUIG	**Huatulco**	**4.18**	**296**	*i* S	**Sn**	**17 47 34.2**	**-1.4**
CNCH	**Conchagua**	**4.32**	**98**	*e*P	x	17 46 47.8	
TUIG	**Tuzandepetl**	**4.59**	**333**	*i* S	**Sn**	**17 47 47.9**	**+1.9**
TUIG	**Tuzandepetl**	**4.59**	**333**	*i* S	**Sn**	**17 47 45.5**	**-0.5**
TGUH	**Tegucigalpa,Un**	**4.81**	**88**	*e*Pn	**Pn**	**17 46 58.0**	**+2.2**
VHO	**Vista Hermosa**	**5.35**	**306**	*e*P	**Pn**	**17 47 02.9**	**-0.5**
VHO				*i* S	**Sn**	**17 48 04.3**	**-0.4**
COPN	**Copaltepe**	**5.76**	**107**	*e*P	**Pn**	**17 47 08.0**	**-0.9**
PNIG	**Pinotepa**	**6.20**	**294**	*e*P	**Pn**	**17 47 13.6**	**-1.4**
PNIG				*i* S	**Sn**	**17 48 24.0**	**-1.6**
PNIG	**Pinotepa**	**6.20**	**294**	*e*P	**Pn**	**17 47 14.6**	**-0.4**
PNIG				*i* S	**Sn**	**17 48 25.6**	**-0.1**
TEIG	**Tepich**	**7.31**	**31**	Pn	**Pn**	**17 47 30.6**	**+0.3**
	11nm,0.3s,baz=144,slow=1.1,SNR=54						
TEIG				Sn	**Sn**	**17 48 47.4**	**-5.5**
	baz=93,slow=21,SNR=2.0						
TEIG	**Tepich**	**7.31**	**31**	*e*P	**Pn**	**17 47 30.6**	**+0.3**
TEIG	**Tepich**	**7.31**	**31**	*e*Pn	**Pn**	**17 47 30.3**	**+0.1**
	89nm,0.6s						
TEIG				*e*P		17 47 30.6	
VCR	**Vista de Mar**	**7.47**	**120**	*e*P	**Pn**	**17 47 32.5**	**0.0**
JTS	**JuntasAbangare**	**7.98**	**116**	Pn	**Pn**	**17 47 40.6**	**+1.1**
	1.7nm,0.3s,baz=286,slow=18,SNR=5.7						
JTS				Lg		17 49 44.5	
	1.0nm,0.3s,baz=307,slow=23,SNR=5.7						
JTS	**JuntasAbangare**	**7.98**	**116**	*e*Pn	**Pn**	**17 47 41.0**	**+1.6**
	20nm,0.8s						
PPM	**Popocatepetl**	**7.99**	**311**	*e*P	**Pn**	**17 47 39.7**	**+0.2**
PPM				*i* S	**Sn**	**17 49 11.2**	**+1.7**
PPM	**Popocatepetl**	**7.99**	**311**	*e*P	**Pn**	**17 47 39.7**	**+0.2**
PPM				*i* S	**Sn**	**17 49 11.4**	**+1.9**
JCR	**Jicaral**	**8.05**	**119**	*e*P	**Pn**	**17 47 40.2**	**-0.3**
CAIG	**El Cayaco**	**8.35**	**293**	*e*P	**Pn**	**17 47 43.2**	**-1.3**
CAIG				*i* S	**Sn**	**17 49 16.9**	**-1.6**
CAIG	**El Cayaco**	**8.35**	**293**	*i* P	**Pn**	**17 47 44.2**	**-0.3**
CAIG				*i* S	**Sn**	**17 49 19.7**	**+1.1**
CGA2	**Cerro Gallo 2**	**8.53**	**116**	*e*P	**Pn**	**17 47 46.8**	**-0.2**
PRS1	**Puriscal**	**8.68**	**116**	*e*P	**Pn**	**17 47 51.6**	**+2.6**
URSC	**Urasca**	**9.21**	**115**	*e*P	**Pn**	**17 47 56.4**	**0.0**
URSC	**Urasca**	**9.21**	**115**	*e*P	**Pn**	**17 47 56.7**	**+0.3**
BUS	**Buena Vista**	**9.36**	**117**	*e*P	**Pn**	**17 47 59.4**	**+0.9**
BUS	**Buena Vista**	**9.36**	**117**	*e*P	**Pn**	**17 48 00.2**	**+1.8**
ZIIG	**Zihuatanejo**	**9.62**	**294**	*e*P	**Pn**	**17 48 01.2**	**-0.7**
ZIIG				*i* S	**Sn**	**17 49 49.0**	**-0.7**
ZIIG	**Zihuatanejo**	**9.62**	**294**	*i* P	**Pn**	**17 48 02.5**	**+0.6**
ZIIG				*i* S	**Sn**	**17 49 51.0**	**+1.3**
LIO	**Limon**	**9.80**	**112**	*e*P	**Pn**	**17 48 04.7**	**+0.3**
ACR	**Cerro Adams**	**10.31**	**120**	*e*P	**Pn**	**17 48 11.6**	**+0.2**
TXAR	**Lajitas Array**	**18.64**	**327**	P	**Pn**	**17 50 02.5**	**+1.1**
	0.2nm,0.3s,baz=155,slow=9.8,SNR=33						
LRAL	**Lakeview Retre**	**19.61**	**13**	*e*P	**Pn**	**17 50 10.8**	**-2.3**
	25nm,1.2s						
ROSC	**El Rosal**	**19.81**	**115**	P	**Pn**	**17 50 15.0**	**-0.6**
	1.5nm,0.3s,baz=100,slow=23,SNR=4.9						
ROSC	**El Rosal**	**19.81**	**115**	*e*P	**Pn**	**17 50 14.0**	**-1.6**
MIAR	**Mount Ida**	**20.56**	**357**	*e*P	**P**	**17 50 21.2**	**-0.9**
	9.9nm,0.8s						
GOGA	**Godfrey**	**20.96**	**21**	*e*P	**P**	**17 50 23.5**	**-3.0**
	20nm,1.2s						
SDV	**Santo Domingo**	**21.74**	**101**	*e*P	**P**	**17 50 34.5**	**-0.5**
	9.9nm,0.8s,mb4.3						
WVT	**Waverly**	**22.45**	**9**	*e*P	**P**	**17 50 39.6**	**-2.8**
	5.9nm,0.8s,mb4.1						
AMTX	**Amarillo**	**22.54**	**339**	*e*P	**P**	**17 50 41.7**	**-1.6**
	24nm,6s,mb4.8						
TKL	**Tuckaleechee C**	**22.93**	**18**	P	**P**	**17 50 45.1**	**-2.4**
	2.9nm,0.6s,mb3.9,baz=178,slow=10,SNR=5.4						
TKL				LR	LR	18 00 43.4	
	comp=Z,408nm,18.7s,MS3.9,baz=270,slow=40						
319A	**Douglas**	**23.38**	**321**	↑P	**P**	**17 50 52.8**	**+0.6**
	baz=24						
219A	**White Tail Can**	**23.80**	**322**	↑P	**P**	**17 50 56.5**	**+0.2**
	baz=24,SNR=9.5						
318A	**Bisbee**	**23.86**	**320**	↑P	**P**	**17 50 57.2**	**+0.3**
	baz=24,SNR=7.6						
BNM	**Barren Site**	**23.99**	**330**	*e*P	**P**	**17 50 58.9**	**+0.9**
LPM	**Los Pinos Moun**	**24.12**	**330**	*e*P	**P**	**17 51 00.2**	**+1.0**
LENM	**Lemitar**	**24.18**	**329**	*e*P	**P**	**17 51 01.2**	**+1.5**
218A	**Dragoon**	**24.26**	**321**	↑P	**P**	**17 51 01.0**	**+0.5**
	baz=24						
119A	**Ashpeak Ranch,**	**24.38**	**323**	↑P	**P**	**17 51 01.5**	**-0.1**
	baz=24						
LAZ	**Ladron**	**24.45**	**329**	*e*P	**P**	**17 51 03.6**	**+1.4**
ANMO	**Albuquerque**	**24.56**	**331**	*e*P	**P**	**17 51 03.4**	**+0.2**
	5.7nm,0.7s,mb4.2						
217A	**Green Valley**	**24.61**	**319**	↓P	**P**	**17 51 04.5**	**+0.9**
	baz=25						
ATAH	**Atahualpa**	**24.92**	**146**	LR	LR	17 59 02.1	
	comp=Z,76nm,20.6s,MS3.2,baz=293,slow=32						
OLIL	**Olney**	**24.97**	**8**	*e*P	**P**	**17 51 04.0**	**-2.9**
	20nm,0.5s,mb4.9						
X19A	**St. Johns**	**25.59**	**326**	↓P	**P**	**17 51 13.0**	**+0.4**
	baz=26						
SDCO	**Great Sand Dun**	**26.50**	**336**	*e*P	**P**	**17 51 20.8**	**+0.1**
	3.9m,1.1s,mb3.9						
X16A	**Lo Mia Camp, P**	**26.80**	**323**	↓P	**P**	**17 51 24.4**	**+0.9**
	baz=27						
Y15A	**Casa Rosa Ranc**	**27.02**	**321**	↑P	**P**	**17 51 26.4**	**+1.0**
	baz=27						
MVCO	**Mesa Verde**	**27.35**	**331**	↑P	**P**	**17 51 28.4**	**-0.1**
	baz=27						
MVCO	**Mesa Verde**	**27.35**	**331**	*e*P	**P**	**17 51 28.0**	**-0.5**
	13nm,0.6s,mb4.5						
S19A	**Haney Farm, M**	**28.09**	**331**	↑P	**P**	**17 51 35.5**	**+0.5**
	baz=28						
PV01	**Paradox Valley**	**28.13**	**332**	*e*P	**P**	**17 51 36.4**	**+1.0**
V14A	**Boquillas Ranc**	**28.63**	**323**	↑P	**P**	**17 51 40.7**	**+0.8**
	baz=29						
U15A	**North Rim**	**28.72**	**325**	↑P	**P**	**17 51 41.0**	**+0.4**
	baz=29						
W13A	**Hualapai Mount**	**28.73**	**321**	↓P	**P**	**17 51 41.8**	**+1.0**
	baz=29						
BC3	**Big Chuckw Mtn**	**28.81**	**317**	↓P	**P**	**17 51 42.4**	**+0.9**
	baz=29						
T15A	**Red Dirt Ranch**	**29.20**	**326**	↑P	**P**	**17 51 45.7**	**+0.8**
	baz=29						
U14A	**Mt Trumbull**	**29.22**	**324**	↑P	**P**	**17 51 45.5**	**+0.4**
	baz=29						
V13A	**Grand Canyon W**	**29.30**	**322**	↓P	**P**	**17 51 46.4**	**+0.6**
	baz=29						
Q18A	**Rafter H Ranch**	**29.64**	**331**	↑P	**P**	**17 51 48.2**	**-0.6**
	baz=30						
R16A	**Teasdale**	**29.66**	**328**	↓P	**P**	**17 51 49.2**	**+0.2**
	baz=30						
U13A	**Pakoon Wash**	**29.67**	**323**	↑P	**P**	**17 51 49.6**	**+0.5**
	baz=30						
Q16A	**Castle Valley**	**29.99**	**330**	↓P	**P**	**17 51 52.4**	**+0.5**
	baz=30						
P17A	**Butcher Ranch,**	**30.22**	**331**	↑P	**P**	**17 51 54.0**	**+0.1**
	baz=30						
ARUT	**Antelope Range**	**30.33**	**325**	*e*P	**P**	**17 51 56.3**	**+1.4**
ARUT				*e*		17 52 06.3	
O17A	**Robinson Place**	**30.79**	**332**	↑P	**P**	**17 51 59.4**	**+0.4**
	baz=31						
N18A	**Larsen Ranch,**	**30.95**	**334**	↑P	**P**	**17 52 00.2**	**-0.2**
	baz=31						
P15A	**Leamington**	**31.04**	**329**	↑P	**P**	**17 52 02.1**	**+0.9**
	baz=31						

Q14A	**Sevier Lake (B**	**31.12**	**327**	↓P	**P**	**17 52 02.4**	**+0.5**
	baz=31						
P14A	**Drum Mountains**	**31.46**	**328**	↑P	**P**	**17 52 05.9**	**+1.0**
	baz=32						
P13A	**Bates Ranch, G**	**31.85**	**327**	↓P	**P**	**17 52 09.1**	**+0.8**
	baz=32,SNR=9.5						
R11A	**Troy Canyon, C**	**31.93**	**324**	↑P	**P**	**17 52 10.2**	**+1.2**
	baz=32						
S10A	**Tonopah Range,**	**32.23**	**322**	↓P	**P**	**17 52 12.4**	**+0.7**
	baz=32						
HWUT	**Hardware Ranch**	**32.29**	**332**	*e*P	**P**	**17 52 13.2**	**+1.0**
	6.1nm,0.9s,mb4.4						
PDAR	**Pinedale Array**	**32.39**	**336**	P	**P**	**17 52 12.2**	**-0.8**
	0.5nm,0.6s,mb3.5,baz=148,slow=8.7,SNR=4.2						
PDAR				PcP	PcP	17 54 58.4	-2.0
	0.6nm,0.6s,baz=149,slow=6.9,SNR=3.9						
N14A	**Grayback Hills**	**32.47**	**330**	↑P	**P**	**17 52 14.0**	**+0.3**
	baz=32						
L16A	**Fish Haven**	**32.56**	**333**	↑P	**P**	**17 52 14.0**	**-0.5**
	baz=33						
Q10A	**Clear Creek Ra**	**32.72**	**324**	↑P	**P**	**17 52 16.8**	**+0.8**
	baz=33						
R09A	**Tonopah**	**32.73**	**322**	↑P	**P**	**17 52 16.7**	**+0.7**
	baz=33						
O12A	**Currie**	**32.83**	**327**	↓P	**P**	**17 52 17.5**	**+0.6**
	baz=33,SNR=9.9						
N13A	**Wendover, West**	**32.98**	**329**	↑P	**P**	**17 52 18.6**	**+0.4**
	baz=33						
L15A	**Malad City**	**32.98**	**332**	↑P	**P**	**17 52 18.4**	**+0.2**
	baz=33						
M14A	**Sheep Mountain**	**33.05**	**330**	↓P	**P**	**17 52 19.4**	**+0.6**
	baz=33						
O11A	**Cowboy Ranch,**	**33.21**	**326**	↑P	**P**	**17 52 20.5**	**+0.3**
	baz=33						
M13A	**Montello**	**33.34**	**329**	↑P	**P**	**17 52 21.7**	**+0.4**
	baz=33,SNR=6.1						
L14A	**Malta**	**33.40**	**331**	↑P	**P**	**17 52 22.1**	**+0.2**
	baz=33,SNR=10						
REDW	**Red Top Meadow**	**33.41**	**335**	*e*P	**P**	**17 52 22.0**	**0.0**
	18nm,1.1s,mb4.9						
K15A	**Arbon**	**33.59**	**332**	↓P	**P**	**17 52 23.5**	**0.0**
	baz=34,SNR=5.3						
NVAR	**Mina Array Bea**	**33.59**	**321**	P	**P**	**17 52 24.6**	**+1.0**
	3.3nm,0.7s,mb4.4,baz=136,slow=8.6,SNR=12						
NVAR				PcP	PcP	17 55 02.9	-1.0
	1.1nm,0.8s,baz=132,slow=2.6,SNR=4.1						
M12A	**Wells**	**33.76**	**329**	↑P	**P**	**17 52 25.1**	**+0.1**
	baz=34,SNR=10						
K14A	**Jones Ranch, D**	**33.77**	**332**	↓P	**P**	**17 52 25.1**	**0.0**
	baz=34						
L13A	**Double Diamond**	**33.78**	**330**	↑P	**P**	**17 52 25.3**	**+0.2**
	baz=34						
J15A	**Blackfoot**	**34.11**	**333**	↑P	**P**	**17 52 27.8**	**-0.3**
	baz=34						
M11A	**Holland Ranch,**	**34.22**	**328**	↑P	**P**	**17 52 29.7**	**+0.7**
	baz=34						
J14A	**Carey**	**34.53**	**332**	↑P	**P**	**17 52 31.5**	**-0.2**
	baz=35,SNR=9.0						
M10A	**I.L. Ranch, Tu**	**34.67**	**327**	↑P	**P**	**17 52 33.8**	**+0.9**
	baz=35						
L11A	**Cat Creek Ranc**	**34.73**	**329**	↓P	**P**	**17 52 33.9**	**+0.4**
	baz=35						
N09A	**Rock Creek Ran**	**34.74**	**325**	↑P	**P**	**17 52 33.7**	**+0.2**
	baz=35						
J13A	**Cove Ranch, Pi**	**34.89**	**332**	↓P	**P**	**17 52 34.4**	**-0.4**
	baz=35						
I14A	**Mackay**	**34.98**	**333**	↑P	**P**	**17 52 35.5**	**-0.1**
	baz=35,SNR=6.6						
L10A	**Juniper Basin**	**35.03**	**328**	↑P	**P**	**17 52 36.0**	**-0.1**
	baz=35,SNR=5.3						
F18A	**Big Timber**	**35.12**	**339**	↓P	**P**	**17 52 34.7**	**-2.0**
	baz=35						
HLID	**Hailey**	**35.13**	**332**

C11A	Tepee Creek (N baz=39,SNR=8.9	39.27	334	⇓P		P	17 53 11.2	-0.7
D09A	Jones Farm, Ri baz=40	39.58	332	⇓P		P	17 53 14.3	-0.2
B11A	Sandpoint baz=40	39.78	335	⇓P		P	17 53 15.6	-0.6
HOOD	Mount Hood Mea 26nm,0.9s,mb5.0	39.99	327	*e*P		P	17 53 18.8	+0.8
OD2	Odessa Site #2	40.00	332	*e*P		P	17 53 16.8	-1.2
A11A	Hall Mountain, baz=40	40.19	335	⇓P		P	17 53 19.2	-0.4
C08A	Higginbotham F baz=40	40.45	332	⇓P		P	17 53 21.8	+0.1
E06A	Yakima baz=40	40.48	329	⇓P		P	17 53 22.2	+0.2
B09A	Rice baz=40	40.52	333	⇑P		P	17 53 22.0	-0.3
C07A	Waterville baz=41	40.85	331	⇓P		P	17 53 25.5	+0.5
B08A	Colville Reser baz=41	41.00	332	⇑P		P	17 53 26.0	-0.3
A09A	Danville baz=41	41.13	334	⇑P		P	17 53 26.7	-0.6
A08A	Turner Farm, O baz=41	41.41	333	⇓P		P	17 53 28.7	-1.0
A07A	Ashnola River, baz=42	41.98	332	⇑P		P	17 53 34.1	-0.2
YKA	Yellowknife Ar 4.6nm,0.8s,mb4.5,baz=146,slow=7.7,SNR=7.2	51.04	347	P		P	17 54 42.5	-2.7
DLBC	Dease Lake	52.63	336	*e*P		P	17 54 57.6	+0.5
BPAW	Bear Paw Mtn. 9.1nm,1.3s,mb4.7	64.15	335	*e*P		P	17 56 15.8	-1.7
PPT	Papeete 88nm,26.2s	64.67	243	*e*LR		LR	18 15 22.4	
PPT	Papeete comp=Z,46nm,21.8s,MS3.6,baz=142,slow=28	64.67	243	LR		LR	18 15 27.5	
COLD	Coldfoot	65.11	339	P		P	17 56 23.7	0.0
SGMF	Saint Gilles	79.53	43	*e*P		P	17 57 45.1	-5.1
GRR	Gorron 9.5nm,0.8s,mb4.5	80.62	42	*e*P		P	17 57 50.8	-5.3
FLN	La Foliniere 3.3nm,0.4s,mb4.3	80.80	42	*e*P		P	17 57 51.9	-5.1
LDF	La Druitiere 6.7nm,0.8s,mb4.3	81.07	42	*e*P		P	17 57 53.2	-5.3
TCF	Toulx Ste Croi 2.6nm,0.6s,mb4.1	83.09	44	*e*P		P	17 58 03.1	-6.0
AVF	Avril sur Loir 2.7nm,0.7s,mb4.2	83.74	43	*e*P		P	17 58 07.5	-5.0
AVF	Avril sur Loir 1.4nm,0.7s,mb4.2	83.74	43	*e*P		P	17 58 07.5	-5.0
SSF	Saint Saulge 7.5nm,0.9s,mb4.5	83.78	43	*e*P		P	17 58 07.7	-5.0
SSF	Saint Saulge 3.8nm,0.9s,mb4.5	83.78	43	*e*P		P	17 58 07.7	-5.0
LOR	Lormes	83.97	43	*e*P		P	17 58 08.4	-5.2
SMF	Signal de Mont 3.6nm,0.6s,mb4.4	84.10	44	*e*P		P	17 58 08.6	-5.7
SMF	Signal de Mont 1.8nm,0.6s,mb4.4	84.10	44	*e*P		P	17 58 08.6	-5.7
ARCES	ARCESS Array B comp=Z,78nm,20.4s,MS4.1,baz=181,slow=35	86.27	18	LR		LR	18 35 45.6	
CN2	Changchun	113.05	331	*e*PKP		PKiKP	18 04 17.3	-3.5
SONM	Songino Array 0.5nm,0.7s,baz=330,slow=5.0,SNR=3.3	116.31	346	PKP		PKPdf	18 04 26.6	-0.4
HHC	Hu-ho-hao-te	121.21	339	*e*PKP		PKPdf	18 04 32.1	-4.5
HHC				PP		PP	18 06 06.5	+0.8
HHC				PKS			18 08 07.8	
HHC				PP		PP		
	comp=Z,109nm,5.4s							
HHC				LR		LR		
	comp=N,121nm,19.0s,MS4.6							
HHC				LR		LR		
	comp=E,96nm,22.3s,MS4.6							
HHC				LR		LR		
	comp=Z,76nm,20.0s,MS4.3							
WMQ	Urumqi	122.53	0	PKP		PKPdf	18 04 34.5	-4.6
NJ2	Nanjing	125.44	327	*e*PKP		PKPdf	18 04 41.8	-3.2
LZH	Lanzhou	127.99	343	*e*PKP		PKPdf	18 04 45.0	-4.8
LZH				LR		LR		
	comp=N,123nm,18.0s							
LZH				LR		LR		
	comp=Z,177nm,20.0s,MS4.7							
CD2	Chengdu	132.84	341	*e*PKP		PKPdf	18 04 53.9	-5.2
GYA	Guiyang	135.85	335	*e*PDIF		Pdif	18 02 04.8	-3.0
GYA				PKP		PKPdf	18 05 02.0	-2.9
GYA				PP		PP	18 07 44.2	+2.3
GYA				PKS			18 08 36.9	
GYA				PP		PP		
	comp=Z,60nm,8.2s							
GYA				LR		LR		
	comp=N,110nm,22.6s,MS4.6							
GYA				LR		LR		
	comp=E,90nm,23.4s,MS4.6							
GYA				LR		LR		
	comp=Z,80nm,21.8s,MS4.4							
CHTO	Chiang Mai	145.65	341	*e*PKPdf		PKPdf	18 05 19.6	-3.1
CMAR	Chiang Mai Arr comp=Z,11nm,0.8s,baz=336,slow=3.3,SNR=64	145.99	341	PKPbc		PKPbc	18 05 21.8	-2.1

IDC 11 17:51:01.3±3.8, 496S×14921E, h0km, mb3.3/2, mb1 3.6/2, mb1mx3.3/14, mbtmp3.4/2, Error ellipse: s-maj=145.6km s-min=46.5km az=112.0, Bismarck Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	Warramunga Arr 0.4nm,0.4s,baz=49,slow=11,SNR=5.0	20.77	223	P	P	17 55 45.1	+1.1
ASAR	Alice Springs 0.6nm,0.3s,baz=51,slow=9.4,SNR=19	23.74	217	P	P	17 56 15.2	-0.3
TORD	Torodi Ar. Bea 0.2nm,0.7s,baz=63,slow=2.7,SNR=2.5	146.93	286	PKPbc	PKPbc	18 10 45.8	-1.1

*VIE **11** 17:56:47.3±0.6, 44.12N×1365E, h10km, mb2.2/2, ML2.2/3, Error ellipse: s-maj=5.8km s-min=3.9km az=118.0*
*ROM **11** 17:56:47.4±0.4, 4407N×1355E, h33km±2km, Md2.4/11, Ml2.4/6, Error ellipse: s-maj=6.3km s-min=3.1km az=18.0*
*CSEM **11** 17:56:47.1±0.1, 4407N×1355E, h30km, ML3.2/6, Error ellipse: s-maj=3.0km s-min=2.1km az=129.0*
*ISCJB **11** 17:56:48.1±0.7, 4407N±004×1354E±006, h32km±5km, Error ellipse: s-maj=8.7km s-min=5.4km az=42.6*

ISC 11 17:56:48.4±0.7, 4406N±004×1355E±006, h30km±5km, n15, σ0§67/26, 3C, Adriatic Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AOI	Ancona	0.51	175	Pg	Pb	17 56 58.6	-0.3
AOI				Sg	Sb	17 57 07.3	+1.2
	207nm,0.3s						
PESA	Pesaro	0.52	257	Pg	Pb	17 56 58.8	-0.3
PESA				Sg	Sb	17 57 07.1	+0.6
FSSB	Fossombrone	0.67	237	Pg	Pb	17 57 00.7	-0.8
FSSB				Sg	Sb	17 57 10.4	0.0
	381nm,0.4s						
ARVD	Arcevia	0.71	218	Pg	Pb	17 57 01.2	-1.0
ARVD				Sg	Sb	17 57 12.0	+0.3
	56nm,0.5s						
PIEI	Pieia	0.90	235	Pg	Pn	17 57 04.1	-0.9
PIEI				Sg	Sn	17 57 16.8	-0.1
	113nm,0.2s						
SNTG	Esanatoglia	0.91	209	Pg	Pn	17 57 04.4	-0.8
SNTG				Sg	Sn	17 57 18.2	+0.9
	33nm,0.3s						
NVLJ	Novalja	1.08	61	*e*Pg	Pn	17 57 07.5	0.0
NVLJ				Sg	Sn	17 57 21.9	+0.5
NVLJ	Novalja	1.08	61	*e*Pg	Pn	17 57 07.4	-0.1
NVLJ				Sg	Sn	17 57 21.8	+0.4
MURB	Monte Urbino	1.09	223	Pg	Pn	17 57 07.9	+0.3
MURB				Sg	Sn	17 57 22.7	+1.1
	119nm,0.3s						
BADI	Badiali	1.09	240	Pg	Pn	17 57 07.7	+0.1
CESI	CESI - Serrava	1.15	204	Pg	Pn	17 57 07.4	-1.0
CESI				Sg	Sn	17 57 22.9	-0.3
	13nm,0.3s						
SFI	Santa Sofia	1.24	264	Pg	Pn	17 57 10.1	+0.5
	9.0nm,0.2s						
NRCA	Norcia	1.26	195	Pg	Pn	17 57 09.3	-0.7
	7.0nm,0.1s						
OBKA	Obir	2.55	16	⇑*i*Pn	Pn	17 57 27.5	-0.2
OBKA				⇑*i*Sg	Sn	17 58 09.3	+11
	3.9nm,0.2s						
ABTA	Abfaltersbach	2.79	345	⇑*i*Pn	Pn	17 57 31.9	+0.9

IDC 11 18:27:37.4±2.3, 333S×10044E, h0km, mb3.9/7, mb1 4.0/7, mb1mx3.8/18, mbtmp3.9/7, Error ellipse: s-maj=84.3km s-min=19.2km az=58.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CMAR	Chiang Mai Arr 1.2nm,0.7s,baz=178,slow=10,SNR=9.2	21.70	356	P	P	18 32 29.9	-0.2
WRA	Warramunga Arr 0.4nm,0.3s,baz=310,slow=9.1,SNR=3.9	36.95	119	P	P	18 34 48.1	-0.5
ASAR	Alice Springs 0.6nm,0.4s,baz=300,slow=7.4,SNR=12	38.12	125	P	P	18 34 58.5	+0.1
KSRS	Korea Array 1.7nm,1.0s,baz=224,slow=9.9,SNR=5.1	47.94	30	P	P	18 36 17.2	-0.6
SONM	Songino Array 3.0nm,0.7s,baz=189,slow=9.0,SNR=24	51.22	5	P	P	18 36 43.3	+0.8
MKAR	Makanchi Array 2.1nm,0.7s,baz=149,slow=8.5,SNR=11	52.42	344	P	P	18 36 51.6	+0.1
ZALV	Zalesovo Beam 4.0nm,1.0s,baz=162,slow=5.8,SNR=12	58.55	349	P	P	18 37 34.8	-0.7
TXAR	Lajitas Array 1.1nm,0.6s,baz=288,slow=0.8,SNR=15	145.47	39	PKPbc	PKPbc	18 47 18.3	+0.1

*TRN **11** 18:48:53.7, 1952N×6373W, h5km, M3.8(RSPR)*
*NEIC **11** 18:48:56.3, 1972N×6356W, h52km, MD3.9(RSPR), After RSPR.*

RSPR 11 18:48:56.3, 1972N×6356W, h52km±7km, MD3.9/14, MD3.9/14, 14C-5D, Leeward Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ABV	Anegada	1.23	217	⇑*e*P	Pn	18 49 16.1	-1.1
ABV	Anegada	1.23	217	⇑*e*P	Pn	18 49 16.7	-0.4
ABV				*e*S	Sn	18 49 32.5	-0.1
TBVI	Tortola	1.64	218	⇑*e*P	Pn	18 49 21.4	-1.3
TBVI				*e*S	Sn	18 49 41.6	-1.0
STVI	Saint Thomas	1.90	224	⇑*e*P	Pn	18 49 25.2	-1.0
STVI				*e*S	Sn	18 49 48.0	-1.0
CDVI	St. Croix	2.27	210	⇑*e*P	Pn	18 49 30.8	-0.5
CDVI				*e*S	Sn	18 49 57.6	-0.5
CDVI	St. Croix	2.27	210	⇑*e*P	Pn	18 49 30.8	-0.5
CDVI				*e*S	Sn	18 49 57.1	-1.0
MTP	Monte Pirata	2.48	230	⇑*e*P	Pn	18 49 33.2	-1.1
MTP				*e*S	Sn	18 50 03.3	-0.1
MTP	Monte Pirata	2.48	230	⇑*e*P	Pn	18 49 33.2	-1.1
MTP				*e*S	Sn	18 50 03.0	-0.4
CBYP	Canovanas	2.61	237	⇓*e*P	Pn	18 49 34.9	-1.1
CBYP				*e*S	Sn	18 50 05.8	-0.7
HUMP	Col San Antoni	2.68	234	⇑*e*P	Pn	18 49 36.3	-0.7
HUMP				*e*S	Sn	18 50 07.7	-0.4
SJG	San Juan	2.93	237	⇓*e*P	Pn	18 49 40.0	-0.4
SJG	San Juan	2.93	237	⇓*e*P	Pn	18 49 40.0	-0.3
SJG				*e*S	Sn	18 50 13.7	-0.6
SJG	San Juan	2.93	237	⇓*e*P	Pn	18 49 40.4	0.0
SJG				*e*S	Sn	18 50 13.7	-0.6
SJG				*e*S	Sn	18 50 13.7	-0.6
SJG	San Juan	2.93	237	⇓*e*P	Pn	18 49 40.0	-0.4
SJG				*e*S	Sn	18 50 13.7	-0.6
CELP	Cerrillos	3.29	241	⇑*i*P	Pn	18 49 45.1	-0.3
CELP				*e*S	Sn	18 50 22.6	-0.7
CELP	Cerrillos	3.29	241	⇑*i*P	Pn	18 49 45.8	+0.4
CELP				*e*S	Sn	18 50 22.6	-0.7
AOPR	Arecibo Observ	3.31	246	⇑*e*P	Pn	18 49 45.2	-0.5
AOPR				*e*S	Sn	18 50 23.6	-0.2
OBIP	Obispado Ponce	3.33	240	⇑*e*P	Pn	18 49 45.6	-0.3
OBIP				*e*S	Sn	18 50 24.0	-0.3
ICM	Isla Caja Muer	3.34	237	⇑*e*P	Pn	18 49 45.8	-0.3
ICM				*e*S	Sn	18 50 24.4	-0.1
AGPR	Aguadilla, PR	3.58	250	*e*S	Sn	18 50 29.6	-0.8
AGPR	Aguadilla, PR	3.58	250	*e*S	Sn	18 50 29.6	-0.8
GBPR	Guanica, Bosqu	3.59	242	*e*S	Sn	18 50 30.6	0.0
GBPR	Guanica, Bosqu	3.59	242	*e*S	Sn	18 50 30.6	0.0
CRPR	Cabo Rojo, PR	3.77	244	⇑*e*P	Pn	18 49 52.0	+0.1
CRPR				*e*S	Sn	18 50 34.9	-0.1

*ISCJB **11** 19:10:12.7±0.4, 3593N±002×356W±003, h7km±3km, Error ellipse: s-maj=4.4km s-min=2.8km az=172.7*
*SFS **11** 19:10:13.0, 3584N×355W, h0km, ML2.8*
*MDD **11** 19:10:13.9±0.3, 3585N×354W, h0km, mbLg2.8/21, Error ellipse: s-maj=2.9km s-min=2.6km az=43.0, PRIMO*
*NEIC **11** 19:10:13.7, 3584N×355W, h0km, MN2.8(MDD), After MDD.*
*INMG **11** 19:10:14.0±1.1, 3585N×353W, h0km±3km, ML2.5, Error ellipse: s-maj=2.4km s-min=1.9km az=74.0*
*CSEM **11** 19:10:14.6±0.1, 3578N×340W, h12km, ML3.2/14, Error ellipse: s-maj=3.7km s-min=2.8km az=93.0*
*CNRM **11** 19:10:16.7, 3582N×336W, h17km, MD3.5*

ISC 11 19:10:13.4±0.4, 3590N±002×355W±003, h3km±3km, n76, σ1§28/124, 3C-1D, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
EALB	Alboran 100nm,0.1s,SNR=9.5	0.42	84	Pg	Pg	19 10 21.5	0.0
EALB				Lg		19 10 27.4	
	983nm,0.2s,SNR=13						
EALB	Alboran 100nm,0.1s,SNR=9.5	0.42	84	Pg	Pg	19 10 21.5	-0.1
MPAL	Palemas	0.74	206	*i*P	Pg	19 10 30.0	+2.4
MPAL				*i*S	Sg	19 10 40.0	+2.8
EMEL	Melilla 805nm,0.2s,SNR=18	0.77	141	⇑Pg	Pg	19 10 27.5	-0.7
EMEL				Lg		19 10 36.6	
	4μm,0.2s,SNR=7.9						
EMLI	Melilla 805nm,0.2s,SNR=18	0.77	140	Pg	Pg	19 10 27.5	-0.7
EGUA	Guajares 34nm,0.1s,SNR=18	0.94	359	⇓Pg	Pg	19 10 32.2	+0.8
EGUA				Lg		19 10 45.1	
	324nm,0.3s,SNR=7.9						
TOU	Touzarine	0.94	190	*i*P	Pg	19 10 32.5	+0.9
TOU				*i*S	Sg	19 10 45.0	+1.2
EMAL	Malaga-Limoner 7.8nm,0.2s,SNR=7.9	1.12	321	Pg	Pg	19 10 38.5	+3.6
EMAL				Lg		19 10 56.7	
	96nm,0.2s,SNR=7.9						
ZAI	Zaio	1.13	144	*i*P	Pg	19 10 33.5	-1.7
ZAI				*i*S	Sg	19 10 47.0	-2.9
EBER	Berja 5.9nm,0.2s,SNR=22	1.14	28	Pg	Pg	19 10 35.1	-0.1
EBER				Lg		19 10 50.8	
	174nm,0.4s,SNR=7.9						
EBER	Berja 5.9nm,0.2s,SNR=22	1.14	28	Pg	Pg	19 10 35.1	-0.1
ERON	Agron 16nm,0.2s,SNR=7.9	1.14	350	Pg	Pg	19 10 35.4	+0.1
ERON				Lg		19 10 51.4	
	89nm,0.2s,SNR=7.9						
EMIJ	Mijas 8.8nm,0.1s,SNR=18	1.19	304	⇑Pg	Pg	19 10 35.9	-0.4
EMIJ				Lg		19 10 52.3	
	99nm,0.3s,SNR=7.9						
EQUE	Quentar 8.9nm,0.2s,SNR=12	1.31	4	Pg	Pg	19 10 39.0	+0.4
EQUE				Lg		19 10 56.2	
	82nm,0.3s,SNR=18						
ELOJ	Sierra Loja 11nm,0.2s,SNR=16	1.34	339	Pg	Pg	19 10 39.5	+0.3
ELOJ				Lg		19 10 59.0	
	48nm,0.4s,SNR=8.7						
ECOG	Cogollos-Vega 19nm,0.3s,SNR=7.9	1.38	360	Pg	Pg	19 10 39.9	0.0
ECOG				Lg		19 10 59.8	
	39nm,0.3s,SNR=7.9						
ECEU	Ceuta 4.8nm,0.2s,SNR=7.0	1.48	271	Pg	Pg	19 10 40.2	-1.7
ECEU				Sn	Sn	19 10 58.7	-2.1
	17nm,0.2s,SNR=5.2						
ECEU				Lg		19 11 01.5	
	15nm,0.1s,SNR=7.9						
DKH	Dar Kharkhour	1.53	255	*i*P	Pn	19 10 43.0	+1.5
DKH				*i*S	Sn	19 11 03.0	+1.1
ENIJ	Nijar 14nm,0.3s,SNR=7.9	1.53	45	Pg	Pg	19 10 42.3	-0.4
ENIJ				Lg		19 11 02.8	
	32nm,0.4s,SNR=7.9						
EJIF	Jimena Fronter 5.5nm,0.2s,SNR=7.9	1.65	290	Pg	Pg	19 10 42.8	-2.2
EJIF				Lg		19 11 04.1	
	11nm,0.2s,SNR=7.9						
EJIF	Jimena Fronter	1.65	290	Pg	Pg	19 10 42.8	-2.2
EJIF				Lg		19 11 04.1	
ELUQ	Luque 3.8nm,0.2s,SNR=7.9	1.76	341	Pg	Pg	19 10 47.3	+0.1
ELUQ				Lg		19 11 12.0	
	19nm,0.2s,SNR=7.9						
LIJA	Lijar	1.80	305	*i*P	Pn	19 10 49.0	+3.7
LIJA				*e*S	Sn	19 11 11.0	+2.3
TZK	Tazeka	1.88	196	*i*P	Pn	19 10 47.0	+0.7
TZK				*i*S	Sn	19 11 09.0	-1.5
EQES	Quesada 8.0nm,0.2s,SNR=36	1.94	11	Pg	Pg	19 10 49.4	-1.2
EQES				Lg		19 11 14.8	
	104nm,0.3s,SNR=5.4						
EQES	Quesada 8.0nm,0.2s,SNR=36	1.94	11	Pg	Pg	19 10 49.4	-1.3
EHUE	Huescar 2.5nm,0.2s,SNR=7.9	2.06	22	Pg	Pg	19 10 50.8	-2.2
EHUE				Lg		19 11 18.9	
	14nm,0.3s,SNR=7.9						
EHUE	Huescar	2.06	22	Pg	Pg	19 10 50.8	-2.2
EHUE				Lg		19 11 18.9	
ESPR	Espera 3.0nm,0.2s,SNR=13	2.10	298	Pg	Pg	19 10 51.4	-2.2
ESPR				Lg		19 11 21.0	
	23nm,0.4s,SNR=7.9						
RSA	Sarsar	2.12	242	*e*P	Pn	19 10 52.5	+2.8
RSA				*i*S	Sn	19 11 17.5	+1.0
EBAN	Banos Encina 2.2nm,0.2s,SNR=7.9	2.27	355	Pg	Pg	19 10 56.3	-0.7
EBAN				Lg		19 11 24.9	
	28nm,0.4s,SNR=7.9						
EADA	Adamuz 0.6nm,0.1s,SNR=7.9	2.41	340	Pn	Pn	19 10 54.9	+1.2
EADA				Pg	Pg	19 10 58.4	-1.2
	12nm,0.3s,SNR=7.9						
EADA				Sn	Sn	19 11 24.4	+0.7
	5.1nm,0.2s,SNR=7.9						
EADA				Lg		19 11 29.6	
	22nm,0.3s,SNR=7.9						
EADA	Adamuz 0.6nm,0.1s,SNR=7.9	2.41	340	Pn	Pn	19 10 54.9	+1.2
EADA	Adamuz 12nm,0.3s,SNR=7.9	2.41	340	Pg	Pg	19 10 58.4	-1.3
EADA				Sn	Sn	19 11 24.4	+0.7
	5.1nm,0.2s,SNR=7.9						
ECAB	El Cabril 2.4nm,0.2s,SNR=7.9	2.64	326	Pg	Pg	19 11 00.1	-3.9
ECAB				Lg		19 11 38.6	
	44nm,0.5s,SNR=7.9						
ECAB	El Cabril	2.64	326	Pn	Pn	19 10 56.5	-0.4
ECAB	El Cabril	2.64	326	Pg	Pg	19 11 00.2	-3.8
ECAB	El Cabril	2.64	326	Pn	Pn	19 10 56.5	-0.4
ECAB				Pg	Pg	19 11 00.1	-3.9
ECAB				Pg	Pg	19 11 00.7	-3.3
ECAB				Lg		19 11 38.6	
MIF	Mishlifen	2.84	210	*i*P	Pn	19 11 01.0	+1.4
MIF				*i*S	Sn	19 11 32.0	-2.3
EVIA	Vianos 1.4nm,0.3s,SNR=4.0	2.86	17	Pn	Pn	19 11 01.9	+1.9
EVIA				Pg	Pg	19 11 07.7	-0.7
	12nm,0.4s,SNR=7.9						
CZD	Col de Zad	3.11	204	*i*P	Pn	19 11 03.0	-0.3
CZD				*i*S	Sn	19 11 38.0	-2.9
EMIN	Mina Concepcio 3.1nm,0.1s,SNR=40	3.12	308	Pn	Pn	19 11 03.9	+0.4
EMIN				Sn	Sn	19 11 41.2	-0.1
	2.6nm,0.2s,SNR=7.9						
EMIN	Mina Concepcio 3.1nm,0.1s,SNR=40	3.12	308	Pn	Pn	19 11 03.9	+0.4
EMIN				Sn	Sn	19 11 41.2	-0.1
	2.6nm,0.2s,SNR=7.9						
ETOB	Tobarra 2.2nm,0.2s,SNR=14	3.18	30	Pn	Pn	19 11 05.9	+1.7
ETOB				Sn	Sn	19 11 42.0	-0.6
	12nm,0.6s,SNR=5.0						
ETOB	Tobarra 2.2nm,0.2s,SNR=14	3.18	30	Pn	Pn	19 11 05.9	+1.7
ETOB				Sn	Sn	19 11 42.0	-0.6
	12nm,0.6s,SNR=5.0						
EGRO	El Granado 5.5nm,0.1s,SNR=18	3.56	299	Pn	Pn	19 11 10.1	+0.6
EGRO				Sn	Sn	19 11 51.7	-0.3
	5.4nm,0.2s,SNR=7.9						
EGRO	El Granado 5.5nm,0.1s,SNR=18	3.56	299	Pn	Pn	19 11 10.1	+0.6
EGRO				Sn	Sn	19 11 51.7	-0.3
	5.4nm,0.2s,SNR=7.9						
PBAR	Barrancos	3.60	310	*e*Pn	Pn	19 11 10.7	+0.6
PBAR				*e*Sn	Sn	19 11 52.4	-0.6
PBAR				A		19 12 17.9	
	4.6nm,0.3s						
PBAR	Barrancos	3.60	310	*e*Pn	Pn	19 11 10.7	+0.6
PBAR				*e*Sn	Sn	19 11 52.4	-0.6
	4.6nm,0.3s						
PVAQ	Vaqueiros	3.67	295	*e*Pn	Pn	19 11 11.3	+0.3
PVAQ				*e*Sn	Sn	19 11 53.9	-0.9
PVAQ				A		19 11 56.4	
	8.1nm,0.2s						
PVAQ	Vaqueiros	3.67	295	⇑Pn	Pn	19 11 11.3	+0.3
PVAQ				Sn	Sn	19 11 53.9	-0.9
	8.1nm,0.2s						
PBDV	Barranco-do-Ve	3.77	292	*e*Pn	Pn	19 11 12.7	+0.3
PBDV				*e*Sn	Sn	19 11 56.2	-1.1
PBDV				A		19 12 04.1	
	6.0nm,0.4s						
PBDV	Barranco-do-Ve	3.77	292	*e*Pn	Pn	19 11 12.7	+0.3
PBDV				*e*Sn	Sn	19 11 56.2	-1.1
	6.0nm,0.4s						
ESDC	Sonseca Array 3.6nm,0.2s,baz=176,slow=12,SNR=5.6	3.79	355	Pn	Pn	19 11 14.4	+1.8
ESDC				Lg		19 12 12.9	
	2.7nm,0.2s,baz=172,slow=28,SNR=7.9						
ESDC	Sonseca Array 3.6nm,0.2s,SNR=5.6	3.79	355	Pn	Pn	19 11 14.4	+1.8
KIB	El Ksiba	3.90	213	*i*P	Pn	19 11 16.0	+1.8
KIB				*i*S	Sn	19 11 58.0	-2.4
ZFT	Errachidia	3.91	190	*e*P	Pn	19 11 14.0	-0.3
ZFT				*i*S	Sn	19 11 57.0	-3.6
EBAD	Badajoz 2.5nm,0.2s,SNR=7.9	3.97	317	Pn	Pn	19 11 16.1	+0.9
EBAD				Sn	Sn	19 12 01.3	-0.9
	6.1nm,0.4s,SNR=7.9						
EBAD	Badajoz 2.5nm,0.2s,SNR=7.9	3.97	317	Pn	Pn	19 11 16.0	+0.9
EBAD				Sn	Sn	19 12 01.3	-0.9
	6.1nm,0.4s,SNR=7.9						
PBEJ	Beja	4.06	303	*e*Pn	Pn	19 11 17.3	+1.0
PBEJ				*e*Sn	Sn	19 12 04.6	+0.3
PBEJ				A		19 12 06.5	
	3.0nm,0.3s						
PBEJ	Beja	4.06	303	*e*Pn	Pn	19 11 17.3	+1.0
PBEJ				*e*Sn	Sn	19 12 04.6	+0.3
	3.0nm,0.3s						
MORF	Marmelete	4.34	290	*e*Pn	Pn	19 11 20.7	+0.5
MORF				*e*Sn	Sn	19 12 10.6	-0.6
MORF				A		19 12 20.3	
	5.2nm,0.2s						
MORF	Marmelete	4.34	290	*e*Pn	Pn	19 11 20.7	+0.5
MORF				*e*Sn	Sn	19 12 10.6	-0.6
	5.2nm,0.2s						
PFVI	Vila

PMRV	**Marv??o**	**4.66 320**	*e*Pn	**Pn**	**19 11 25.6**	**+1.0**
PMRV			*e*Sn	**Sn**	**19 12 17.3**	**-1.9**
	5.7nm,0.6s					
GUD	**Guadarrama**	**4.76 354**	Pn	**Pn**	**19 11 27.1**	**+1.1**
	0.2nm,0.2s,SNR=7.9					
GUD			Sn	**Sn**	**19 12 18.4**	**-3.3**
	2.3nm,0.4s,SNR=7.9					
GUD			Lg		19 12 44.4	
	10nm,0.7s,SNR=7.9					
GUD	**Guadarrama**	**4.76 354**	Pn	**Pn**	**19 11 27.1**	**+1.1**
	0.2nm,0.2s,SNR=7.9					
GUD			Sn	**Sn**	**19 12 18.4**	**-3.3**
	2.3nm,0.4s,SNR=7.9					
PCBR	**Castelo Branco**	**5.01 323**	*e*Pn	**Pn**	**19 11 30.8**	**+1.3**
PCBR			*e*Sn	**Sn**	**19 12 27.0**	**-0.9**
MVO	**Moncorvo**	**5.92 334**	*e*Pn	**Pn**	**19 11 44.3**	**+2.3**
MVO			*e*Sn	**Sn**	**19 12 49.0**	**-1.3**
MVO			A		19 13 36.1	
	5.4nm,0.4s					

IDC 11 19:24:11.0±3.8,233S×10025E,h0km,mb3.4/5,mb1 3.6/5, mb1mx3.4/18,mbtmp3.4/5,MS2.9/1,Ms1 2.9/1, ms1mx2.5/17,Error ellipse: s-maj=163.7km s-min=22.8km az=57.0,Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**20.69**	**356**	P	P	19 28 54.2	+1.4
	0.5nm,0.8s,baz=194,slow=9.5,SNR=4.1						
WRA	**Warramunga Arr**	**37.62**	**120**	P	P	19 31 27.8	-0.1
	0.2nm,0.3s,baz=296,slow=10.0,SNR=3.1						
ASAR	**Alice Springs**	**38.86**	**126**	P	P	19 31 38.4	+0.1
	0.7nm,0.6s,baz=299,slow=7.8,SNR=10.0						
KSRS	**Korea Array**	**47.17**	**30**	LR	LR	19 56 48.3	
	comp=Z,12nm,18.9s,baz=195,slow=42						
MKAR	**Makanchi Array**	**51.41**	**344**	P	P	19 33 18.5	+0.9
	0.3nm,0.3s,baz=148,slow=8.1,SNR=2.9						
ZALV	**Zalesovo Beam**	**57.53**	**349**	P	P	19 34 00.4	-1.6
	0.3nm,0.4s,baz=160,slow=4.6,SNR=3.5						

IDC 11 19:46:49.1±1.0,696S×15580E,h57km±5km,mb3.9/10, mb1 4.0/11,mb1mx4.0/17,mbtmp4.0/11,MS3.3/7, Ms1 3.3/7,ms1mx3.2/17,Error ellipse: s-maj=26.6km s-min=15.2km az=98.0

ISCJB 11 19:46:52.7±1.7,7.1S±0.1×15597E±0.10,h114km±18km, mb4.0/10,Error ellipse: s-maj=21.6km s-min=15.5km az=161.0

NEIC 11 19:46:54.2±1.4,7.12S×15598E,h115km±13km,mb4.4/2, Error ellipse: s-maj=18.5km s-min=12.3km az=172.0

ISC 11 19:46:54.2±1.5,71S±01×15598E±010,h113km±15km, h55km±2.0km:pP-P,n21,σ0§83/17,mb4.0/10,Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**4.55**	**120**	P	**Pn**	**19 48 00.5**	**-0.4**
	9.0nm,0.3s,baz=188,slow=14,SNR=2.9						
HNR				LR	LR	19 49 49.2	
	comp=Z,287nm,18.4s,baz=104,slow=38						
PMG	**Port Moresby**	**9.02**	**255**	*e*P	**Pn**	**19 49 03.1**	**+1.5**
	44nm,0.7s						
COEN	**Coen**	**14.29**	**241**	*e*P	**Pn**	**19 50 10.3**	**-1.2**
	2.7nm,0.9s						
COEN				*e*		19 50 28.8	
CTA	**Charters Tower**	**15.97**	**215**	LR	LR	19 54 22.4	
	comp=Z,104nm,21.9s,baz=56,slow=28						
GUMO	**Guam**	**23.35**	**332**	LR	LR	19 58 58.1	
	comp=Z,58nm,18.6s,baz=116,slow=32						
KAKA	**Kakadu**	**23.83**	**255**	*e*P	**P**	**19 51 55.6**	**-1.5**
WB2	**Warramunga Arr**	**24.54**	**237**	*e*P	**P**	**19 52 03.7**	**+0.2**
WRA	**Warramunga Arr**	**24.55**	**237**	P	**P**	**19 52 03.9**	**+0.2**
	6.4nm,0.7s,mb4.2,baz=61,slow=9.6,SNR=31						
WRA				pP		19 52 18.9	
	4.8nm,0.7s,baz=63,slow=9.3,SNR=8.1						
WRA				P	LR	20 01 35.6	
	comp=Z,83nm,18.8s,baz=60,slow=36						
ASAR	**Alice Springs**	**26.82**	**230**	P	**P**	**19 52 23.6**	**-0.5**
	0.5nm,0.3s,mb3.5,baz=60,slow=9.8,SNR=17						
ASAR				pP	pP	19 52 38.5	-10
	1.2nm,0.5s,baz=59,slow=9.6,SNR=6.4						
STKA	**Stephens Creek**	**28.04**	**207**	P	**P**	**19 52 35.9**	**+1.0**
	2.3nm,0.9s,mb3.7,baz=87,slow=18,SNR=2.4						
STKA				pP	pP	19 52 49.8	-10
	2.5nm,0.8s,baz=350,slow=16,SNR=2.1						
STKA				LR	LR	20 02 18.9	
	comp=Z,128nm,19.7s,baz=206,slow=33						
STKA	**Stephens Creek**	**28.04**	**207**	P	**P**	**19 52 35.9**	**+1.0**
STKA				*e*P		19 52 38.3	
STKA				pP	pP	19 52 49.8	-10
STKA				LR	LR	20 02 18.9	
FITZ	**Fitzroy Crossi**	**31.50**	**247**	P	**P**	**19 53 05.1**	**-0.5**
	3.3nm,0.8s,mb4.1,baz=108,slow=13,SNR=7.0						
FITZ				pP	pP	19 53 18.4	-12
	2.6nm,0.7s,baz=95,slow=8.8,SNR=3.1						
KSRS	**Korea Array**	**51.52**	**331**	P	**P**	**19 55 48.5**	**0.0**
	1.0nm,0.5s,mb4.1,baz=156,slow=8.2,SNR=3.9						
KSRS				LR	LR	20 13 57.1	
	comp=Z,28nm,18.8s,baz=133,slow=32						
PETK	**Petropavlovsk-**	**60.02**	**1**	LR	LR	20 19 08.2	
	comp=Z,28nm,20.2s,baz=252,slow=33						
CMAR	**Chiang Mai Arr**	**61.72**	**295**	P	**P**	**19 57 01.0**	**-0.1**
	2.5nm,1.0s,mb4.2,baz=113,slow=5.0,SNR=11						
CMAR				pP	pP	19 57 15.5	-13
	2.3nm,0.9s,baz=113,slow=5.5,SNR=8.7						
SONM	**Songino Array**	**69.98**	**327**	P	**P**	**19 57 54.4**	**+1.0**
	2.9nm,0.7s,mb4.2,baz=143,slow=6.3,SNR=22						
SONM				pP	pP	19 58 08.6	-13
	1.1nm,0.7s,baz=145,slow=6.7,SNR=5.0						
MKAR	**Makanchi Array**	**84.15**	**318**	P	**P**	**19 59 12.8**	**0.0**
	1.8nm,0.6s,mb4.1,baz=103,slow=5.5,SNR=12						
MKAR				pP	pP	19 59 29.0	-13
	1.9nm,0.7s,baz=103,slow=6.4,SNR=3.5						
MKAR	**Makanchi Array**	**84.15**	**318**	P	**P**	**19 59 12.8**	**0.0**
MKAR				pP	pP	19 59 29.0	-13
MAW	**Mawson**	**84.65**	**203**	P	**P**	**19 59 16.0**	**+1.1**
	1.9nm,0.8s,mb4.1,baz=117,slow=6.9,SNR=4.4						
ZALV	**Zalesovo Beam**	**84.84**	**326**	P	**P**	**19 59 15.2**	**-0.8**
	1.2nm,0.4s,mb4.2,baz=119,slow=5.4,SNR=6.4						
TORD	**Torodi Ar. Bea**	**154.00**	**285**	PKPbc	PKPbc	20 06 41.1	-0.5
	0.2nm,0.4s,baz=49,slow=1.3,SNR=7.9						

ISCJB 11 19:50:46.1±0.8,2591S±003×709W±0.2,h50km±12km, mb4.2/3,Error ellipse: s-maj=25.9km s-min=4.9km az=4.6

GUC 11 19:50:46.3±0.5,2591S×7066W,h48km±322km,MD4.2, ML4.1

NEIC 11 19:50:46.3,2591S×7066W,h48km,MD4.2(GUC),After GUC.

IDC 11 19:50:51.1±2.7,2578S×7034W,h48km±19km,mb4.1/3, mb1 3.8/8,mb1mx3.7/19,mbtmp3.8/8,ML3.9/4,MS2.9/2, Ms1 2.9/2,ms1mx2.5/24,Error ellipse: s-maj=43.1km s-min=16.3km az=92.0

ISC 11 19:50:47.6±0.7,2592S±003×707W±02,h37km±13km,n19, σ0§94/25,mb4.2/3,Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CPN1	**Cerro Paranal**	**1.31**	**11**	*i* P	**Pn**	**19 51 09.4**	**0.0**
CPN1				*i* S	**Sn**	**19 51 26.7**	**+1.1**
CPN1				AML	AML	19 51 29.5	
	comp=E,11μm,0.4s						
ANCH	**Antofagasta**	**2.24**	**6**	*i* P	**Pn**	**19 51 21.1**	**-1.0**
ANCH				*i* S	**Sn**	**19 51 47.8**	**-0.8**
ANCH				AML	AML	19 51 56.5	
	comp=N,1μm,0.5s						
ANCH	**Antofagasta**	**2.24**	**6**	*i* P	**Pn**	**19 51 21.1**	**-1.0**
ANCH				*i* S	**Sn**	**19 51 47.8**	**-0.8**
VACH	**Vallenar**	**2.65**	**181**	*i* P	**Pn**	**19 51 27.2**	**-0.6**
VACH				*i* S	**Sn**	**19 51 58.4**	**-0.3**
VACH				AML	AML	19 52 15.2	
	comp=E,2μm,0.2s						
VACH	**Vallenar**	**2.65**	**181**	*i* P	**Pn**	**19 51 27.2**	**-0.6**
VACH				*i* S	**Sn**	**19 51 58.4**	**-0.3**
LCO	**Las Campanas**	**3.08**	**180**	*e*P	**Pn**	**19 51 34.3**	**+0.6**
LVC	**Limon Verde**	**3.67**	**27**	P	**Pn**	**19 51 43.3**	**+1.5**
	comp=E,6.3nm,0.3s,baz=211,slow=8.0,SNR=62						
LVC				Lg		19 52 35.4	
	comp=E,146nm,0.3s,baz=53,slow=20,SNR=8.5						
LVC				LR	LR	19 53 17.2	
	comp=E,198nm,20.1s,baz=231,slow=43						
LVC	**Limon Verde**	**3.67**	**27**	P	**Pn**	**19 51 43.3**	**+1.5**
LVC				Lg		19 52 35.4	
LVC				LR	LR	19 53 17.2	
TLL	**Tololo Astrono**	**4.24**	**181**	*e*P	**Pn**	**19 51 49.9**	**+0.3**
TLL				*i* S	**Sn**	**19 52 37.6**	**-0.2**
CFAA	**Coronel Fontan**	**6.06**	**160**	P	**Pn**	**19 52 18.4**	**+3.8**
	comp=E,0.7nm,0.3s,baz=340,slow=13,SNR=19						
CFAA				S	**Sn**	**19 53 27.4**	**+4.6**
	comp=E,0.4nm,0.3s,baz=8.6,slow=14,SNR=3.6						
LPAZ	**La Paz**	**9.87**	**14**	P	**Pn**	**19 53 07.5**	**+0.5**
	comp=E,0.4nm,0.3s,baz=211,slow=4.4,SNR=7.9						
LPAZ				LR	LR	19 57 17.2	
	comp=E,57nm,21.0s,baz=67,slow=40						
CPUP	**Villa Florida**	**12.01**	**95**	P	**Pn**	**19 53 37.2**	**+1.0**
	comp=E,0.2nm,0.3s,baz=238,slow=13,SNR=2.2						
SIV	**San Ignacio**	**13.34**	**44**	P	**Pn**	**19 53 51.8**	**-2.7**
	comp=E,0.4nm,0.3s,baz=244,slow=11,SNR=6.5						
SIV				S	**Sn**	**19 56 17.5**	**-4.0**
	comp=E,0.1nm,0.3s,baz=219,slow=16,SNR=2.2						
TRQA	**Tornquist**	**14.17**	**151**	*e*P	**Pn**	**19 54 05.2**	**-0.4**
	comp=E,40nm,1.7s						
BDFB	**Brasilia**	**23.50**	**69**	P	**P**	**19 55 53.4**	**-0.9**
	comp=E,3.2nm,0.8s,mb3.8,baz=232,slow=19,SNR=4.9						
BDFB				pP		19 56 05.3	
	comp=E,3.9nm,0.7s,baz=242,slow=17,SNR=4.7						
DBIC	**Dimbokro**	**71.57**	**73**	P	**P**	**20 02 05.8**	**+0.4**
	comp=E,2.7nm,0.8s,mb4.3,baz=198,slow=6.1,SNR=5.5						
TORD	**Torodi Ar. Bea**	**80.37**	**70**	P	**P**	**20 02 56.1**	**+0.5**
	comp=E,3.7nm,0.6s,mb4.5,baz=263,slow=5.2,SNR=71						
TORD				pP	pP	20 03 09.6	+2.7
	comp=E,2.8nm,0.6s,baz=263,slow=5.4,SNR=9.9						
ZALV	**Zalesovo Beam**	**146.62**	**26**	PKPbc	PKPbc	20 10 25.9	+1.1
	comp=E,2.3nm,0.5s,baz=312,slow=3.6,SNR=12						
MKAR	**Makanchi Array**	**150.12**	**39**	PKPbc	PKPbc	20 10 34.9	+0.7
	comp=E,1.0nm,0.6s,baz=294,slow=2.8,SNR=6.4						

IDC 11 20:08:46.8±13.0,4957S×16442E,h0km,mb3.8/3, mb1 4.0/4,mb1mx3.8/13,mbtmp3.9/4,ML3.2/1,MS3.5/2, Ms1 3.5/2,ms1mx3.3/17,Error ellipse: s-maj=266.1km s-min=33.4km az=156.0

NEIC 11 20:08:49.6±3.8,4965S×16404E,h10km,Error ellipse: s-maj=73.5km s-min=11.4km az=161.0

ISC 11 20:08:53.8±2.1,491S±03×1639E±02,h10km,n15, σ1§20/16,mb3.8/3,Auckland Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WHZ	**Wether Hill Ro**	**4.25**	**42**	P	**Pn**	**20 09 57.7**	**-0.9**
WHZ				S	**Sn**	**20 10 48.1**	**-0.1**
DCZ	**Deep Cove**	**4.28**	**33**	P	**Pn**	**20 09 58.9**	**0.0**
MLZ	**Mavora Lakes**	**4.79**	**39**	P	**Pn**	**20 10 06.4**	**+0.6**
TUZ	**Tuapeka**	**5.03**	**53**	P	**Pn**	**20 10 08.8**	**-0.4**
EAZ	**Earnscleugh**	**5.38**	**46**	P	**Pn**	**20 10 14.1**	**+0.1**
WKZ	**Wanaka**	**5.56**	**41**	P	**Pn**	**20 10 18.3**	**+1.8**
JCZ	**Jackson Bay**	**6.07**	**36**	P	**Pn**	**20 10 25.5**	**+2.0**
ODZ	**Otahua Downs**	**6.17**	**51**	P	**Pn**	**20 10 23.7**	**-1.2**
FOZ	**Fox Glacier**	**6.87**	**38**	P	**Pn**	**20 10 36.1**	**+1.6**
RPZ	**Rata Peaks**	**7.34**	**45**	Pn	**Pn**	**20 10 36.6**	**-4.4**
	0.3nm,0.3s,baz=62,slow=9.3,SNR=2.6						
RPZ				Sn	**Sn**	**20 12 02.7**	**-1.6**
	1.8nm,0.3s,baz=18,slow=15,SNR=6.7						
URZ	**Urewera**	**14.46**	**46**	LR	LR	20 17 59.7	
	comp=Z,180nm,21.6s,baz=36,slow=38						
STKA	**Stephens Creek**	**24.02**	**308**	P	**P**	**20 14 09.8**	**+1.2**
	3.5nm,1.0s,mb3.7,baz=124,slow=15,SNR=2.8						
STKA				LR	LR	20 22 13.2	
	comp=Z,143nm,19.0s,baz=25,slow=33						
STKA	**Stephens Creek**	**24.02**	**308**	P	**P**	**20 14 09.8**	**+1.2**
STKA				LR	LR	20 22 13.2	
ASAR	**Alice Springs**	**34.64**	**306**	P	**P**	**20 15 42.4**	**-0.8**
	1.5nm,0.8s,mb4.0,baz=140,slow=7.7,SNR=20						
WRA	**Warramunga Arr**	**37.50**	**310**	P	**P**	**20 16 05.7**	**-1.9**
	0.9nm,1.0s,mb3.6,baz=146,slow=7.9,SNR=4.8						

IDC 11 20:27:45.2±2.1,223S×9986E,h0km,mb3.8/7,mb1 3.9/7, mb1mx3.7/18,mbtmp3.8/7,Error ellipse: s-maj=77.0km s-min=20.3km az=59.0,Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**20.57**	**358**	P	P	20 32 25.6	-0.3
	1.0nm,0.7s,baz=192,slow=10,SNR=8.3						
WRA	**Warramunga Arr**	**38.00**	**120**	P	P	20 35 05.4	0.0
	1.5nm,0.8s,baz=295,slow=9.8,SNR=6.8						
ASAR	**Alice Springs**	**39.23**	**126**	P	P	20 35 15.7	+0.1
	0.2nm,0.4s,baz=301,slow=7.8,SNR=5.6						
KSRS	**Korea Array**	**47.29**	**31**	P	P	20 36 19.9	-0.7
	0.8nm,0.6s,baz=213,slow=6.9,SNR=3.7						
SONM	**Songino Array**	**50.18**	**6**	P	P	20 36 43.4	+0.8
	2.5nm,0.7s,baz=187,slow=8.6,SNR=26						
SONM				PcP	PcP	20 38 01.2	-0.7
	0.3nm,0.6s,baz=204,slow=3.2,SNR=2.2						
MKAR	**Makanchi Array**	**51.21**	**345**	P	P	20 36 50.8	+0.4
	1.7nm,0.6s,baz=161,slow=8.9,SNR=13						
ZALV	**Zalesovo Beam**	**57.37**	**350**	P	P	20 37 34.6	-0.5
	0.6nm,0.4s,baz=181,slow=7.3,SNR=6.5						
TXAR	**Lajitas Array**	**144.97**	**37**	PKP	PKPdf	20 47 25.0	-0.3
	1.2nm,0.6s,baz=338,slow=1.0,SNR=15						

BJI 11 20:38:28.7,432S×10092E,h25km,mB5.7,mb5.6,Ms5.6, Msz5.5

SZGRF 11 20:38:30.8,425S×10164E,h27km,mb5.3,MS5.0, Southern Sumatera, Indonesia

ISCJB 11 20:38:32.2±0.1,394S±003×10095E±002,h25km, mb5.3/149,MS5.3/131,Error ellipse: s-maj=4.0km s-min=2.6km az=29.3

MOS 11 20:38:33.6±1.3,380S×10103E,h33km,mb5.6/48, MS5.2/42,Error ellipse: s-maj=9.3km s-min=4.6km az=114.8

DJA 11 20:38:33.2±0.4,4 S±3×101E±,h30km,mB6.1/19, Mjma5.4/12,MLv5.8/14,Mw(mB)5.8/19,Mwp5.2/22

IDC 11 20:38:34.1±0.5,387S×10108E,h26km±2km,mb5.0/26, mb1 5.0/27,mb1mx5.0/28,mbtmp5.0/27,ML4.8/1,MS5.0/18, Ms1 5.0/18,ms1mx4.8/29,Error ellipse: s-maj=12.9km s-min=8.0km az=38.0

GCMT 11 20:38:35.3±0.2,413S×10056E,h30km,MW5.4/69, Moment Tensor Solution. s69,c124; s67,c116; Duration: 1§2 Moment tensor: Scale 10^17^Nm; Mrr1.09±.03; Mθθ-0.58±.02; Mϕϕ-0.50±.03; Mrθ1.02±.04; Mθϕ0.76±.02; Mϕr-0.71±.04; Best double couple: M₀1.72600×10^17^ NP1:ϕs323.00000°,δ23.00000°, λ105.00000°. NP2:ϕs127.00000°,δ68.00000°,λ84.00000°. Principal axes: T 1.6280, Plg66.0000°, Azm26.0000°; N 0.1920, Plg6.0000°, Azm129.0000°; P -1.8240, Plg23.0000°, Azm221.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.

NEIC 11 20:38:35.3±0.1,390S×10098E,h35km,mb5.3/44, MS5.3/85,MW5.3 Error ellipse: s-maj=6.2km s-min=4.0km az=215.0,Moment Tensor Solution. s25 Moment tensor: Scale 10^17^Nm; Mrr1.04; Mθθ-0.73; Mϕϕ-0.30; Mrθ0.79; Mθϕ0.40; Mϕr-0.38; Best double couple: M₀1.30000×10^17^ NP1:ϕs118.00000°,δ66.00000°,λ88.00000°. NP2: ϕs304.00000°,δ25.00000°,λ95.00000°. Principal axes: T 1.3700, Plg69.0000°, Azm22.0000°; N -0.0600, Plg2.0000°, Azm118.0000°; P -1.3000, Plg20.0000°, Azm209.0000°;

ISC 11 20:38:34.2±0.1,396S±003×10091E±002,h27km, h27km±.9km:pP-P,n647,σ1§04/531,mb5.4/148,MS5.3/131, 88C-52D,Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSI	**Kapahiang**	**1.71**	**80**	P	**Pn**	**20 39 02.5**	**+0.4**
	0.0nm,0.0s						
KSI	**Kapahiang**	**1.71**	**80**	P	**Pn**	**20 39 02.0**	**-0.1**
PDSI	**Padang**	**3.06**	**352**	P	**Pn**	**20 39 19.5**	**-1.4**
	0.0nm,0.0s						
PDSI	**Padang**	**3.06**	**352**	P	**Pn**	**20 39 20.2**	**-0.7**
PPI	**Padang Panjang**	**3.52**	**352**	P	**Pn**	**20 39 26.7**	**-0.5**
	0.0nm,0.0s						
PPI	**Padang Panjang**	**3.52**	**352**	P	**Pn**	**20 39 27.0**	**-0.2**
JMBI	**JAMBI**	**3.58**	**50**	P	**Pn**	**20 39 29.1**	**+1.2**
	0.0nm,0.0s						
RGRI	**Rengat**	**3.86**	**22**	P	**Pn**	**20 39 32.8**	**+1.0**
	0.0nm,0.0s						
RGRI	**Rengat**	**3.86**	**22**	P	**Pn**	**20 39 32.7**	**+0.9**
KLI	**Kotabumi**	**4.03**	**103**	P	**Pn**	**20 39 34.8**	**+0.6**
	0.0nm,0.0s						
KLI	**Kotabumi**	**4.03**	**103**	P	**Pn**	**20 39 35.2**	**+1.0**
PPBI	**Pangkal Pinang**	**5.51**	**71**	P	**Pn**	**20 39 55.3**	**+0.7**
	0.0nm,0.0s						
PPBI	**Pangkal Pinang**	**5.51**	**71**	P	**Pn**	**20 39 55.9**	**+1.3**
	336nm,1.0s,8μm3.5nm						
SBJI	**Serang**	**5.62**	**113**	P	**Pn**	**20 39 56.0**	**0.0**
	0.0nm,0.0s						
SBJI	**Serang**	**5.62**	**113**	P	**Pn**	**20 39 56.4**	**+0.4**
	881nm,1.1s,5.7nm						
TNG	**Tangerang**	**6.12**	**111**	P	**Pn**	**20 40 03.6**	**+0.7**
	0.0nm,0.0s						
TNG	**Tangerang**	**6.12**	**111**	P	**Pn**	**20 40 04.0**	**+1.1**
	3μm,1.0s						
DBJI	**Dramaga**	**6.36**	**114**	P	**Pn**	**20 40 06.1**	**0.0**
	0.0nm,0.0s						
DBJI	**Dramaga**	**6.36**	**114**	P	**Pn**	**20 40 06.3**	**+0.2**
	1μm,1.1s,4.9nm						
SKJI	**Sukabumi**	**6.38**	**119**	P	**Pn**	**20 40 04.9**	**-1.6**
	0.0nm,0.0s						
SKJI	**Sukabumi**	**6.38**	**119**	P	**Pn**	**20 40 05.4**	**-1.1**
	1μm,0.7s,5.2nm						
CBJI	**Citeko**	**6.40**	**113**	P	**Pn**	**20 40 09.1**	**+2.4**
	0.0nm,0.0s						
CBJI	**Citeko**	**6.40**	**113**	P	**Pn**	**20 40 09.4**	**+2.7**
	4μm,1.2s,12nm						
KGM	**Kluang**	**6.41**	**22**	⇑P	**Pn**	**20 40 08.3**	**+1.5**
MYKOM	**Kota Tinggi**	**6.42**	**27**	⇑P	**Pn**	**20 40 08.7**	**+1.6**
TPI	**Tanjungpandan**	**6.83**	**80**	P	**Pn**	**20 40 13.2**	**+0.5**
	0.0nm,0.0s						
TPI	**Tanjungpandan**	**6.83**	**80**	P	**Pn**	**20 40 14.1**	**+1.4**
	204nm,1.1s,3μm1.3nm						
FRIM	**Kepong**	**7.19**	**6**	⇑P	**Pn**	**20 40 18.4**	**+0.8**
LEM	**Lembang**	**7.26**	**113**	P	**Pn**	**20 40 19.7**	**+1.2**
	0.0nm,0.0s						
LEM	**Lembang**	**7.26**	**113**	P	**Pn**	**20 40 19.6**	**+1.1**
	1μm,1.0s,3.3nm						
JCJI	**Jatiwangi**	**7.75**	**109**	P	**Pn**	**20 40 25.5**	**+0.3**
	0.0nm,0.0s						
JCJI	**Jatiwangi**	**7.75**	**109**	P	**Pn**	**20 40 26.5**	**+1.3**
	716nm,1.2s,8μm2.2nm						
XMIS	**Christmas Isla**	**8.00**	**144**	*e*P	**Pn**	**20 40 22.0**	**-6.7**
XMIS				*e*S	**Sn**	**20 41 42.7**	**-16**
IPM	**Ipoh**	**8.39**	**1**	⇑P	**Pn**	**20 40 36.2**	**+2.1**
IPM	**Ipoh**	**8.39**	**1**	P	**Pn**	**20 40 36.3**	**+2.3**
	223nm,1.3s,3μm0.8nm						
COCO	**West Island**	**9.12**	**206**	⇑P	**Pn**	**20 40 41.6**	**-2.5**
	SNR=13						
COCO	**West Island**	**9.12**	**206**	P	**Pn**	**20 40 39.7**	**-4.3**
	564nm,1.2s,4μm1.4nm						
COCO	**West Island**	**9.12**	**206**	*e*Pn	**Pn**	**20 40 38.9**	**-5.1**
	385nm,0.9s						
KULM	**Kulim**	**9.20**	**358**	⇑P	**Pn**	**20 40 46.2**	**+1.0**
BJII	**Banjamegara**	**9.37**	**111**	P	**Pn**	**20 40 47.6**	**0.0**
	0.0nm,0.0s						
BJII	**Banjamegara**	**9.37**	**111**	P	**Pn**	**20 40 47.8**	**+0.2**
KTGM	**Kuala Trenggan**	**9.49**	**14**	⇓P	**Pn**	**20 40 50.8**	**+1.6**
PBKI	**Pangkalan Bun**	**10.81**	**84**	P	**Pn**	**20 41 08.0**	**+0.7**
	0.0nm,0.0s						
PBKI	**Pangkalan Bun**	**10.81**	**84**	P	**Pn**	**20 41 11.0**	**+3.7**
	557nm,1.1s,5μm						
KSM	**Kuching**	**10.83**	**60**	⇓P	**Pn**	**20 41 13.0**	**+5.4**
KSM	**Kuching**	**10.83**	**60**	*e*Pn	**Pn**	**20 41 09.2**	**+1.7**
BSI	**Banda Aceh**	**10.94**	**329**	P	**Pn**	**20 41 07.2**	**-1.9**
	0.0nm,0.0s						
BSI	**Banda Aceh**	**10.94**	**329**	P	**Pn**	**20 41 07.6**	**-1.5**
	248nm,0.7s,2μm						
SJI	**Sawahan**	**11.43**	**110**	P	**Pn**	**20 41 15.2**	**-0.5**
	0.0nm,0.0s						
SJI	**Sawahan**	**11.43**	**110**	P	**Pn**	**20 41 15.5**	**-0.2**
KRKI	**Karangkates**	**12.21**	**110**	P	**Pn**	**20 41 24.8**	**-1.6**
	0.0nm,0.0s						
KRKI	**Karangkates**	**12.21**	**110**	P	**Pn**	**20 41 29.4**	**+3.0**
SBUM	**Sibu**	**12.97**	**61**	⇓P	**Pn**	**20 41 41.2**	**+4.3**
SBUM	**Sibu**	**12.97**	**61**	P	**Pn**	**20 41 40.5**	**+3.6**
PLKI	**Palangkaraya**	**13.13**	**83**	P	**Pn**	**20 41 40.6**	**+1.6**
	0.0nm,0.0s						
PLKI	**Palangkaraya**	**13.13**	**83**	P	**Pn**	**20 41 41.3**	**+2.3**
	1μm,1.0s,8μm						
BTM	**Bintulu**	**14.09**	**60**	⇑P	**Pn**	**20 41 56.9**	**+4.7**
KHKI	**Kahang-Kahang**	**15.25**	**107**	P	**Pn**	**20 42 07.4**	**-0.4**
	0.0nm,0.0s						
KKM	**Kota Kinabalu**	**18.23**	**57**	⇓P	**Pn**	**20 42 46.9**	**+1.4**
KKM	**Kota Kinabalu**	**18.23**	**57**	⇑*e*Pn	**Pn**	**20 42 45.0**	**-0.5**
KAPI	**Kappang**	**18.81**	**94**	P	**Pn**	**20 42 50.0**	**-2.5**
	985nm,0.9s,SNR=22						
KAPI	**Kappang**	**18.81**	**94**	⇓P	**Pn**	**20 42 47.6**	**-4.9**
	SNR=23						
KAPI	**Kappang**	**18.81**	**94**	P	**Pn**	**20 42 49.8**	**-2.8**
	3.2nm,0.3s,baz=272,slow=11,SNR=43						
KAPI	**Kappang**	**18.81**	**94**	⇑*e*P	**Pn**	**20 42 49.5**	**-3.0**
	241nm,1.1s						
TSM	**Tawau**	**18.83**	**64**	⇑P	**Pn**	**20 42 53.8**	**+1.1**
PCI	**Palu**	**19.15**	**81**	P	**Pn**	**20 42 56.2**	**-0.4**
	0.0nm,0.0s						
KDM	**Kudat**	**19.22**	**56**	⇑P	**Pn**	**20 42 58.2**	**+0.7**
NST	**Nakhon Sawan**	**19.52**	**358**	P	**Pn**	**20 43 00.0**	**-1.0**
MYLDM	**Lahad Datu**	**19.78**	**63**	⇓P	**Pn**	**20 43 04.7**

FITZ epP pP 20 44 30.1 -0.7
FITZ eS **S** **20 49 08.0 +2.3**
FITZ Fitzroy Crossi 27.98 122 P P 20 44 22.4 -0.5
comp=Z,63nm,1.0s,mb5.2,baz=301,slow=7.5,SNR=57
FITZ LR LR 20 55 43.5
comp=Z,2μm,21.6s,MS4.6,baz=138,slow=37
BWNR Bhubaneshwar 28.31 329 *eP* **P 20 44 25.7 0.0**
BWNR *eS* **S** **20 49 11.2 +0.5**
KMI Kunming 28.97 3 ⇑P **P 20 44 32.6 +1.1**
KMI *SP sP 20 44 41.5 -1.3
KMI 20 45 28.5
KMI PPP 20 45 40.8
KMI 20 47 42.9
KMI S **S** **20 49 23.7 +2.8**
KMI 20 55 11.3
KMI pmax pmax
comp=Z,39nm,1.1s,mb5.0
KMI MLR MLR
comp=Z,8μm,15.9s,MS5.4
KMI Kunming 28.97 3 ⇑P **P 20 44 32.6 +1.1**
comp=Z,39nm,1.1s,mb5.0
KMI pP pP 20 44 38.5 -1.0
KMI sP sP 20 44 41.5 -1.3
KMI PP PP 20 45 28.5 -8.8
KMI PPP 20 45 40.8
KMI PcP PcP 20 47 42.9 +2.8
KMI S **S** **20 49 23.7 +2.8**
KMI sS sS 20 49 33.5 -0.6
KMI SS SS 20 50 53.9 -31
KMI SSS 20 51 15.1
KMI ScS ScS 20 55 11.3 -2.6
KMI LR LR
comp=Z,8μm,15.9s,MS5.4
CAL Calcutta 29.07 336 *eP* **P 20 44 39.0 +6.5**
CAL *eS* **S** **20 49 31.3 +8.7**
HKC Hong Kong Obse 29.15 26 P P 20 44 36.0 +2.8
SHL Shillong 30.63 344 ⇑*iP* **P 20 44 47.0 +0.7**
SHL *eS* **S** **20 49 45.0 -2.1**
HYB Hyderabad 30.63 315 *i* P **P 20 44 47.0 +0.6**
HYB *eS* **S** **20 49 48.0 +0.7**
HYB Hyderabad 30.63 315 *eP* **P 20 44 47.0 +0.6**
HYB *eS* **S** **20 49 48.0 +0.7**
GYA Guiyang 30.75 10 ⇓*iP* **P 20 44 47.0 -0.3**
GYA AP pP 20 44 52.7 -2.6
GYA XP sP 20 44 56.9 -1.7
GYA PP PP 20 45 53.0 -4.1
GYA PPP 20 46 07.9
GYA SCP ScP 20 51 26.8 +1.1
GYA SS SS 20 51 37.6 -23
GYA SSS 20 51 59.2
GYA AMB AMB
comp=Z,180nm,0.9s,mb5.9
GYA AMB AMB
comp=Z,360nm,4.7s
GYA LR LR
comp=N,4μm,18.6s,MS5.6
GYA LR LR
comp=E,11μm,18.4s,MS5.6
GYA LR LR
comp=Z,5μm,15.6s,MS5.3
BOK Bokaro 31.24 333 *eP* **P 20 44 52.9 +1.2**
BOK AMb AMB 20 44 57.8
comp=Z,87nm,1.0s,mb5.5
BOK *eS* **S** **20 49 54.2 -2.4**
MUN Mundaring 31.35 154 *eP* **P 20 44 59.1 +6.5**
KLBR Kellerberrin 31.72 152 *eP* **P 20 45 01.6 +5.8**
comp=Z,29nm,1.3s,mb5.0
KAKA Kakadu 32.35 108 *eP* **P 20 44 56.8 -4.8**
comp=Z,52nm,0.8s,mb5.4
KAKA *epP* pP 20 45 04.5 -5.1
NWAO Narrogin (SRO) 32.61 154 P **P 20 45 04.3 +0.7**
comp=Z,9.6nm,1.1s,mb4.7,baz=323,slow=14,SNR=4.8
NWAO LR LR 20 57 46.0
comp=Z,4μm,20.3s,MS5.1,baz=330,slow=35
NWAO Narrogin (SRO) 32.61 154 P **P 20 45 02.7 -0.9**
NWAO *e* pP 20 45 10.1 -1.5
NWAO pmax pmax
comp=Z,36nm,1.2s
NWAO Narrogin (SRO) 32.61 154 P **P 20 45 02.7 -0.9**
comp=Z,36nm,1.2s,mb5.2
NWAO *e* pP 20 45 10.1 -1.5
GOA Goa 33.06 306 ⇓*eP* **P 20 45 05.2 -2.5**
GOA *ex* x 20 50 18.1
ODAN Odare 33.31 338 *eP* **P 20 45 10.6 +0.7**
comp=Z,317nm,0.8s,mb6.3
QZH Quanzhou 33.48 30 P **P 20 45 10.9 -0.4**
QZH PP PP 20 46 29.3 +1.9
QZH S **S** **20 50 35.5 +4.0**
QZH LR LR
comp=N,8μm,17.0s,MS5.6
QZH LR LR
comp=E,6μm,14.0s,MS5.6
QZH LR LR
comp=Z,6μm,14.8s,MS5.4
TAPN Taplejung 33.64 338 *eP* **P 20 45 13.9 +1.2**
comp=Z,709nm,1.0s
RAMN Ramite 33.70 337 *eP* **P 20 45 14.0 +0.8**
comp=Z,205nm,0.7s,mb6.1
KAD Karad 33.81 309 *eP* **P 20 45 12.7 -1.6**
JBP Jabalpur 33.83 324 *eP* **P 20 45 15.3 +0.9**
JBP *eS* **S** **20 50 36.1 -0.9**
NACB Ninganchiao 34.46 35 *eP* **P 20 45 19.4 -0.5**
comp=Z,143nm,0.8s,mb6.0
JIRN Jiri 34.50 337 *eP* **P 20 45 21.1 +1.0**
comp=Z,422nm,0.8s,mb6.4
PKI Pulchoki 34.74 335 *eP* **P 20 45 22.7 +0.5**
comp=Z,61nm,0.7s,mb5.7
LSA Lhasa 34.76 345 P **P 20 45 23.8 +1.5**
CD2 Chengdu 34.78 4 ⇑*iP* **P 20 45 21.8 -0.7**
CD2 AP pP 20 45 33.7 +3.1
CD2 XP sP 20 45 37.7 +3.9
CD2 PP PP 20 46 40.6 -1.2
CD2 PCP PcP 20 47 54.2 -1.6
CD2 S **S** **20 50 50.5 -1.0**
CD2 XS sS 20 51 07.3 +2.5
CD2 PCS PcS 20 51 40.0 -2.4
CD2 SS SS 20 53 06.2 -17
CD2 SCS ScS 20 55 38.2 -4.7
CD2 AMB AMB
comp=Z,180nm,0.9s,mb6.0
CD2 AMB AMB
comp=Z,680nm,3.8s
CD2 LR LR
comp=N,9μm,18.0s,MS5.8
CD2 LR LR
comp=E,14μm,19.8s,MS5.8
CD2 LR LR
comp=Z,4μm,22.2s,MS5.1
POO Poona 34.79 311 *eP* **P 20 45 23.2 +0.4**
POO AMb AMB 20 45 38.3
comp=Z,30nm,0.9s,mb5.2
GUN Gumba 34.84 336 *eP* **P 20 45 24.0 +0.9**
comp=Z,275nm,0.7s,mb6.3
DMN Daman 34.90 335 *eP* **P 20 45 23.9 +0.3**
comp=Z,107nm,0.8s,mb5.8
KKN Kakani 34.98 335 *eP* **P 20 45 24.9 +0.6**
comp=Z,187nm,0.9s,mb6.0
GKN Gorkha 35.44 335 *eP* **P 20 45 28.6 +0.3**
comp=Z,179nm,0.9s,mb6.0
BHPL Bhopal 35.45 321 *eP* **P 20 45 28.6 +0.2**
BHPL AMb AMB 20 45 40.1
comp=Z,29nm,1.1s,mb5.1
KOLN Koldanda 35.69 333 *eP* **P 20 45 30.6 +0.2**
comp=Z,153nm,0.7s,mb6.0
DANN Dangsing 36.12 334 *eP* **P 20 45 34.5 +0.4**
comp=Z,238nm,0.9s,mb6.1
WRA Warramunga Arr 36.24 119 P **P 20 45 34.3 -1.0**
comp=Z,50nm,0.9s,mb5.4,baz=290,slow=10,SNR=118
WRA S **S** **20 51 13.7 -0.5**
comp=Z,18nm,1.0s,baz=293,slow=16,SNR=67
WRA LR LR 21 01 34.4
comp=Z,2μm,21.5s,MS4.9,baz=300,slow=38
WRA Warramunga Arr 36.24 119 P **P 20 45 34.3 -0.9**
WRA S **S** **20 51 13.7 -0.5**
WB2 Warramunga Arr 36.25 119 *eP* **P 20 45 34.0 -1.3**
WB2 *eS* **S** **20 51 13.6 -0.8**
WHN Wuhan 36.64 20 ⇑P **P 20 45 38.3 -0.2**
WHN PP PP 20 47 05.7 +3.4
WHN LR LR
comp=N,9μm,13.8s,MS5.8
WHN LR LR
comp=E,5μm,12.2s,MS5.8
WHN LR LR
comp=Z,16μm,14.4s,MS5.9
FORT Forrest 36.97 139 *eP* **P 20 45 44.8 +3.5**
comp=Z,41nm,0.9s,mb5.3
ASAR Alice Springs 37.38 125 P **P 20 45 44.7 -0.2**
comp=Z,41nm,1.0s,mb5.2,baz=300,slow=7.9,SNR=163
ASAR S **S** **20 51 32.8 +1.2**
comp=Z,3.7nm,0.9s,baz=296,slow=14,SNR=5.2
XAN Xi'an 38.55 11 P **P 20 45 53.3 -1.3**
XAN AP pP 20 46 00.6 -2.0
XAN XP sP 20 46 01.9 -4.0
XAN S **S** **20 51 45.9 -3.0**
XAN AMB AMB
comp=Z,282nm,1.1s,mb5.9
XAN AMB AMB
comp=Z,543nm,7.1s
XAN LR LR
comp=E,7μm,19.9s
XAN LR LR
comp=Z,11μm,14.3s
PTH Pithoragarh 38.78 331 *eP* **P 20 45 56.4 -0.3**
AJM Ajmer 39.52 321 *eP* **P 20 46 02.4 -0.4**
AJM *i* x x 20 47 37.9
NDI New Delhi 39.66 326 *eP* **P 20 46 02.5 -1.5**
NJ2 Nanjing 39.67 24 *eP* **P 20 46 04.6 +0.6**
NJ2 AP pP 20 46 10.5 -1.6
NJ2 XP sP 20 46 13.5 -1.9
NJ2 PP PP 20 47 40.3 +4.8
NJ2 S **S** **20 52 08.0 +2.1**
NJ2 AMB AMB
comp=Z,30nm,0.8s,mb5.1
NJ2 AMB AMB
comp=Z,210nm,9.5s
NJ2 LR LR
comp=N,2μm,19.2s,MS5.0
NJ2 LR LR
comp=E,1μm,19.0s,MS5.0
NJ2 LR LR
comp=Z,1μm,19.1s,MS4.7
SSE Sheshan 39.87 28 P **P 20 46 07.9 +2.2**
SSE AP pP 20 46 14.1 +0.3
SSE PP PP 20 47 41.0 +3.3
SSE S **S** **20 52 15.2 +6.3**
SSE sS sS 20 52 26.0 +3.8
SSE LR LR
comp=Z,3μm,15.2s,MS5.2
SSE Sheshan 39.87 28 P **P 20 46 07.9 +2.2**
comp=Z,69nm,0.9s,mb5.4
SSE pP pP 20 46 14.1 +0.3
SSE PP PP 20 47 41.0 +3.3
SSE S **S** **20 52 15.2 +6.3**
SSE sS sS 20 52 26.0 +3.8
SSE LR LR
comp=Z,3μm,15.2s,MS5.2
LZH Lanzhou 39.93 4 ⇑P **P 20 46 06.7 +0.6**
LZH AP pP 20 46 16.5 +2.3
LZH XP sP 20 46 20.6 +3.1
LZH PP PP 20 47 43.5 +5.2
LZH S **S** **20 52 12.0 +2.3**
LZH XS sS 20 52 27.2 +4.2
LZH SS SS 20 55 03.3 -3.9
LZH AMB AMB
comp=Z,381nm,1.3s,mb6.0
LZH AMB AMB
comp=Z,993nm,5.4s
LZH LR LR
comp=N,10μm,13.2s
LZH LR LR
comp=Z,13μm,16.5s,MS5.8
LZH Lanzhou 39.93 4 ⇑P **P 20 46 06.7 +0.6**
LZH *PP pP 20 46 16.5 +2.3
LZH *SP sP 20 46 20.6 +3.1
LZH 20 47 43.5
LZH S **S** **20 52 12.0 +2.3**
LZH *SS sS 20 52 27.2 +4.2
LZH SS SS 20 55 03.3 -3.9
LZH pmax pmax
comp=Z,381nm,1.3s,mb6.0
LZH MLR MLR
comp=Z,13μm,16.5s,MS5.8
LZH Lanzhou 39.93 4 ⇑P **P 20 46 06.7 +0.6**
comp=Z,381nm,1.3s,mb6.0
LZH pP pP 20 46 16.5 +2.3
LZH sP sP 20 46 20.6 +3.1
LZH PP PP 20 47 43.5 +5.2
LZH S **S** **20 52 12.0 +2.3**
LZH sS sS 20 52 27.2 +4.2
LZH SS SS 20 55 03.3 -3.9
LZH LR LR
comp=Z,13μm,16.5s,MS5.8
DDI Dehra Dun 40.50 329 ⇑*iP* **P 20 46 08.3 -2.6**
DDI *eS* **S** **20 52 16.0 -2.4**
BHJ Bhuj 40.76 313 *eP* **P 20 46 14.5 +1.2**
BHJ AMb AMB 20 46 26.1
comp=Z,52nm,1.8s,mb4.9
SMLA Simla 41.60 329 *i* P **P 20 46 20.4 +0.4**
SMLA *ex* x 20 46 22.4
comp=Z,153nm,0.8s
SMLA *i* S **S** **20 52 34.8 +0.1**
TIA Tai'an 42.75 19 P **P 20 46 30.0 +0.8**
TIA S **S** **20 52 57.0 +5.5**
TIA LR LR
comp=N,3μm,15.0s,MS5.5
TIA LR LR
comp=E,4μm,15.0s,MS5.5
COEN Coen 42.84 106 ⇓*eP* **P 20 46 27.9 -2.5**
comp=E,16nm,0.9s,mb4.7
GTA Gaotai 43.17 359 ⇑P **P 20 46 33.0 +0.4**
GTA AP pP 20 46 40.3 -0.5
GTA XP sP 20 46 43.5 -0.5
GTA PP PP 20 48 15.3 +2.0
GTA PCP PcP 20 48 20.3 -1.6
GTA SCP ScP 20 52 12.0 +0.5
GTA S **S** **20 52 55.3 -2.3**
GTA SCS ScS 20 56 28.1 -3.2
GTA AMB AMB
comp=Z,83nm,2.0s,mb5.1
GTA AMB AMB
comp=Z,905nm,7.2s
GTA LR LR
comp=N,4μm,15.6s,MS5.6
GTA LR LR
comp=E,3μm,15.9s,MS5.6
GTA LR LR
comp=Z,7μm,15.6s,MS5.7
BTO Baotou 45.13 10 *eP* **P 20 46 47.4 -0.9**
BTO AMB AMB
comp=Z,26nm,1.9s,mb4.7
HHC Hu-ho-hao-te 45.65 11 ⇑*iP* **P 20 46 53.4 +1.0**
HHC AP pP 20 46 59.4 -1.2
HHC XP sP 20 47 03.5 -0.4
HHC PCP PcP 20 48 30.6 +0.2
HHC PP PP 20 48 41.7 +2.0
HHC SCP ScP 20 52 19.4 -2.3
HHC S **S** **20 53 35.4 +1.8**
HHC XS sS 20 53 46.9 -0.2
HHC SCS ScS 20 56 47.3 +0.3
HHC AMB AMB
comp=Z,138nm,1.1s,mb5.8
HHC AMB AMB
comp=Z,720nm,5.6s
HHC LR LR
comp=N,7μm,15.0s,MS5.8
HHC LR LR
comp=E,3μm,13.8s,MS5.8
HHC LR LR
comp=Z,6μm,13.3s,MS5.7
BJI Beijing 45.98 16 P **P 20 46 54.8 -0.3**
BJI PP PP 20 48 40.0 -3.2
BJI S **S** **20 53 40.3 +1.9**
BJI AMB AMB
comp=Z,159nm,1.1s,mb5.9
BJI AMB AMB
comp=Z,802nm,4.1s
BJI LR LR
comp=N,2μm,19.1s,MS5.6
BJI LR LR
comp=E,6μm,20.6s,MS5.6
BJI LR LR
comp=Z,3μm,22.5s,MS5.2
BJI Beijing 45.98 16 P **P 20 46 54.8 -0.3**
comp=Z,159nm,1.1s,mb5.9
BJI PP PP 20 48 40.0 -3.2
BJI S **S** **20 53 40.3 +1.9**
BJI SS SS 20 57 13.3 +10
BJI LR LR
comp=Z,3μm,22.5s,MS5.2
PMG Port Moresby 46.22 99*c iP* **P 20 46 55.7 -1.7**
PMG Port Moresby 46.22 99 *eP* **P 20 46 55.7 -1.7**
comp=Z,57nm,0.9s,mb5.5
DL2 Dalian 46.75 22 P **P 20 47 00.4 -0.8**
DL2 PP PP 20 48 53.2 +1.8
DL2 S **S** **20 53 49.8 +0.3**
DL2 AMB AMB
comp=Z,30nm,1.3s,mb5.1
DL2 AMB AMB
comp=Z,390nm,3.8s
DL2 LR LR
comp=N,2μm,17.1s,MS5.2
DL2 LR LR
comp=E,970nm,15.0s,MS5.2
DL2 LR LR
comp=Z,2μm,17.8s,MS5.1
CTA Charters Tower 46.96 114 ⇑*iP* **P 20 47 02.7 -0.4**
comp=Z,80nm,1.0s,mb5.6
CTA *i* S **S** **20 53 50.8 -2.3**
CTA Charters Tower 46.96 114 S **S** **20 53 52.2 -0.9**
comp=Z,0.9nm,0.3s,baz=187,slow=23,SNR=10
CTA LR LR 21 08 45.5
comp=Z,2μm,21.8s,MS4.9,baz=284,slow=39
CTA Charters Tower 46.96 114 ⇑*iP* **P 20 47 02.7 -0.4**
CTA *i* S **S** **20 53 50.8 -2.3**
CTA pmax pmax
comp=Z,80nm,1.0s
CTAO Charters Tower 46.96 114 *eP* **P 20 47 02.7 -0.4**
CTAO pmax pmax
comp=Z,170nm,1.1s,mb5.9
CTAO MLR MLR
comp=Z,1μm,20.0s,MS4.9
CTAO Charters Tower 46.96 114 *eP* **P 20 47 02.7 -0.4**
comp=Z,170nm,1.1s,mb5.9
CTAO LR LR
comp=Z,1μm,20.0s,MS4.9
GUMO Guam 46.98 67 PFAKE 20 47 10.0 +6.7
GUMO LR LR
comp=Z,630nm,19.0s,MS4.6
STKA Stephens Creek 47.18 131 *eP* **P 20 47 03.0 -1.6**
comp=Z,38nm,0.9s,mb5.3
STKA *i* S **S** **20 53 54.7 -1.2**
STKA Stephens Creek 47.18 131 P **P 20 47 05.2 +0.6**
comp=Z,39nm,0.9s,mb5.3,baz=300,slow=6.8,SNR=33
STKA LR LR 21 08 19.9
comp=Z,4μm,21.9s,MS5.3,baz=298,slow=38
INCN Inchon 47.67 28 PFAKE 20 47 20.0 +12
LR LR
comp=Z,2μm,21.0s,MS5.0
KSRS Korea Array 48.26 29 P **P 20 47 12.3 -0.5**
comp=Z,62nm,0.9s,mb5.6,baz=218,slow=8.2,SNR=136
KSRS PcP PcP 20 48 40.0 +0.4
comp=Z,8.4nm,0.9s,baz=223,slow=3.4,SNR=4.4
KSRS LR LR 21 09 10.7
comp=Z,992nm,19.0s,MS4.8,baz=110,slow=38
KBL Kabul 48.65 325 *eP* **P 20 47 14.9 -1.1**
KBL pmax pmax
comp=Z,21nm,0.8s,mb5.2
KBL Kabul 48.65 325 *eP* **P 20 47 14.9 -1.1**
comp=Z,21nm,0.8s,mb5.2
KSH Kashi 48.99 334 P **P 20 47 19.1 +0.7**
KSH *eAP pP 20 47 25.1 -1.6
KSH *eXP sP 20 47 28.1 -1.8
KSH *ePCP PcP 20 48 44.0 +1.7
KSH *ePP PP 20 49 12.2 0.0
KSH PPP 20 50 06.1
KSH *eSCP ScP 20 52 36.3 +0.6
KSH *ePCS PcS 20 52 38.8 +0.3
KSH S **S** **20 54 19.8 -1.4**
KSH *eSCS ScS 20 57 08.0 -1.0
KSH *eSS SS 20 57 45.5 -7.0
KSH AMB AMB
comp=Z,13nm,1.2s,mb4.8
KSH AMB AMB
comp=Z,3μm,3.5s
KSH LR LR
comp=N,4μm,7.6s
KSH LR LR
comp=E,5μm,12.2s
KSH LR LR
comp=Z,9μm,18.8s
WMQ Urumqi 49.03 347 ⇑P **P 20 47 19.7 +1.0**
WMQ AP pP 20 47 32.2 +5.2
WMQ PCP PcP 20 48 43.7 +1.4
WMQ PP PP 20 49 13.7 +1.2
WMQ PPP 20 50 08.7
WMQ SCP ScP 20 52 33.2 -2.6
WMQ S **S** **20 54 20.2 -1.5**
WMQ XS sS 20 54 40.7 +5.5
WMQ SCS ScS 20 57 04.7 -4.4
WMQ SS SS 20 57 46.5 -6.6
WMQ AMB AMB
comp=Z,161nm,1.1s,mb6.0
WMQ AMB AMB
comp=Z,883nm,5.7s
WMQ LR LR
comp=N,1μm,16.8s,MS5.2
WMQ LR LR
comp=E,2μm,21.0s,MS5.2
WMQ LR LR
comp=Z,1μm,16.8s,MS5.0
SMDO Samad 49.70 305 ⇓P **P 20 47 25.7 +1.5**
SNR=12
BIDO Bidbid 49.85 305 ⇓P **P 20 47 27.3 +2.0**
SNR=8.9
SNY Shenyang 50.03 22 ⇑P **P 20 47 25.3 -1.1**
SNY PP PP 20 49 22.6 +1.0
SNY S **S** **20 54 31.0 -4.7**
SNY AMB AMB
comp=Z,44nm,1.1s,mb5.4
SNY LR LR
comp=N,2μm,16.5s,MS5.1
SNY LR LR
comp=E,703nm,16.8s,MS5.1
SNY LR LR
comp=Z,1μm,22.8s
BSY Bisya 50.26 304 ⇑P **P 20 47 30.5 +2.0**
SNR=19
CBIJ Chichi jima 50.41 50 LR LR 21 07 07.3
comp=Z,651nm,21.1s,MS4.6,baz=71,slow=34
HOQ Hoqain 50.54 305 ⇓P **P 20 47 32.4 +1.8**
SNR=8.3
WHFO Wadi Hawf 51.31 297 ⇓P **P 20 47 37.6 +1.1**
SNR=7.5
ABTO Aybut 51.54 296 ⇓P **P 20 47 39.6 +1.4**
SNR=5.5
SONM Songino Array 51.80 5 P **P 20 47 39.7 +0.1**
comp=Z,92nm,0.8s,mb5.8,baz=187,slow=7.5,SNR=471
SONM PcP PcP 20 48 52.8 +0.4
comp=Z,15nm,0.8s,baz=179,slow=3.1,SNR=2.7
SONM ScP ScP 20 52 47.6 -0.1
comp=Z,1.8nm,1.0s,baz=164,slow=5.7,SNR=3.2
SONM Songino Array 51.80 5 P **P 20 47 39.7 +0.1**
SONM 20 48 52.8
UCH Uchtor 51.85 335 P **P 20 47 40.9 +0.9**
SNR=26

UCH	**Uchtor**	**51.85**	**335**	*e*P		**P**	**20 47 40.5**	**+0.5**		
	comp=Z,68nm,1.3s,mb5.4									
TKM2	**Tokmak 2**	**51.98**	**337**	*e*P		**P**	**20 47 41.1**	**+0.1**		
TKM2				pmax	pmax					
	comp=Z,65nm,0.7s,mb5.7									
TKM2	**Tokmak 2**	**51.98**	**337**	P		**P**	**20 47 41.2**	**+0.1**		
	SNR=99									
TKM2	**Tokmak 2**	**51.98**	**337**	*e*P		**P**	**20 47 41.1**	**+0.1**		
	comp=Z,65nm,0.7s,mb5.7									
KBK	**Karagaybulak**	**52.02**	**336**	P		**P**	**20 47 41.8**	**+0.4**		
	SNR=24									
AML	**Almayashu**	**52.12**	**334**	P		**P**	**20 47 42.8**	**+0.7**		
	SNR=19									
AML	**Almayashu**	**52.12**	**334**	*e*P		**P**	**20 47 42.3**	**+0.2**		
	comp=Z,27nm,0.7s,mb5.3									
AML				LR	LR					
	comp=Z,1μm,21.0s,MS4.8									
AAK	**Ala-Archa**	**52.19**	**335**	P		**P**	**20 47 43.2**	**+0.7**		
	SNR=15									
FRU	**Bishkek**	**52.31**	**336**⇑	*i*P		**P**	**20 47 43.0**	**-0.5**		
FRU				*i*		pP	20 47 50.0	-1.7		
FRU				*i*			20 55 08.0			
FRU				pmax	pmax					
	comp=Z,144nm,2.0s,mb5.6									
FRU				MLR	MLR					
	comp=Z,2μm,20.0s,MS5.2									
CHMS	**Chumysh**	**52.39**	**336**	P		**P**	**20 47 44.6**	**+0.6**		
	SNR=21									
CN2	**Changchun**	**52.43**	**22**	*e*P		**P**	**20 47 43.4**	**-0.9**		
CN2				*e*XP		sP	20 47 52.3	-3.5		
CN2				PP		PP	20 49 43.7	+0.3		
CN2				*e*S		**S**	**20 55 08.1**	**-0.7**		
CN2				SS		SS	20 58 45.1	-2.1		
CN2				AMB	AMB					
	comp=Z,10.0nm,1.2s,mb4.6									
CN2				AMB	AMB					
	comp=Z,500nm,14.0s									
CN2				LR	LR					
	comp=N,3μm,16.0s,MS5.6									
CN2				LR	LR					
	comp=E,2μm,16.0s,MS5.6									
CN2				LR	LR					
	comp=Z,4μm,16.0s,MS5.5									
EKS2	**Erkin-Say**	**52.52**	**335**	P		**P**	**20 47 45.0**	**0.0**		
	SNR=99									
EKS2	**Erkin-Say**	**52.52**	**335**	*e*P		**P**	**20 47 44.9**	**-0.1**		
	comp=Z,61nm,0.8s,mb5.6									
EKS2				LR	LR					
	comp=Z,2μm,22.0s,MS5.1									
TOO	**Toolangi**	**52.68**	**135**	*e*P		**P**	**20 47 48.1**	**+1.8**		
USP	**Ospenovka**	**52.72**	**336**	P		**P**	**20 47 46.0**	**-0.5**		
	SNR=35									
MK31	**Makanchi Array**	**53.15**	**344**	P		**P**	**20 47 49.3**	**-0.3**		
MK31				pmax	pmax					
	comp=Z,55nm,0.8s,mb5.5									
MK31	**Makanchi Array**	**53.15**	**344**	*i* P		**P**	**20 47 49.3**	**-0.3**		
MKAR	**Makanchi Array**	**53.15**	**344**	P		**P**	**20 47 49.0**	**-0.6**		
	comp=Z,92nm,0.8s,mb5.8,baz=148,slow=6.8,SNR=311									
MAJO	**Matsushiro**	**53.24**	**38**	*e*P		**P**	**20 47 48.3**	**-2.2**		
MAJO				pmax	pmax					
	comp=Z,63nm,0.9s,mb5.5									
MAJO	**Matsushiro**	**53.24**	**38**	*e*P		**P**	**20 47 48.3**	**-2.1**		
	comp=Z,63nm,0.9s,mb5.5									
MAT	**Matsushiro**	**53.24**	**38**	P		**P**	**20 47 48.5**	**-2.0**		
MAT				S		**S**	**20 55 23.0**	**+2.8**		
MJAR	**Matsushiro Arr**	**53.24**	**38**	P		**P**	**20 47 48.8**	**-1.7**		
	comp=Z,43nm,0.9s,mb5.4,baz=219,slow=7.5,SNR=101									
MJAR				pP		pP	20 47 56.4	-2.5		
	comp=Z,39nm,0.9s,baz=213,slow=7.0,SNR=17									
MJAR				PcP		PcP	20 48 59.1	+1.0		
	comp=Z,8.2nm,0.8s,baz=201,slow=4.7,SNR=2.5									
ZAK	**Zakamensk**	**54.17**	**2**	*e*P		**P**	**20 47 56.4**	**-0.6**		
ZAK				*e*			20 49 01.3			
ZAK				*e*			20 51 04.8			
ZAK				pmax	pmax					
	comp=Z,21nm,1.1s,mb5.0									
CAN	**Canberra**	**54.23**	**131**	*e*P		**P**	**20 47 58.2**	**+0.4**		
KK31	**Karatay Array**	**54.30**	**333**	*i* P		**P**	**20 47 57.4**	**-0.7**		
KK31				pmax	pmax					
	comp=Z,22nm,1.0s,mb5.0									
OPO	**Ambohidratompo**	**54.43**	**250**	P		**P**	**20 48 01.0**	**+1.4**		
	comp=Z,4.1nm,1.1s,mb4.3,baz=61,slow=13,SNR=2.9									
ABPO	**Ambohimpanom**	**54.46**	**250**	PFAKE			20 48 10.0	+10		
ABPO				LR	LR					
	comp=Z,2μm,21.0s,MS5.2									
ARMA	**Armidale**	**54.53**	**125**⇑	*i*P		**P**	**20 48 01.4**	**+1.3**		
VLA	**Vladivostok**	**54.58**	**28**	*e*P		**P**	**20 47 59.6**	**-0.6**		
VLA				pmax	pmax					
	comp=Z,76nm,0.9s,mb5.7									
VLA				MLR	MLR					
	comp=Z,1μm,17.0s,MS5.0									
MDJ	**Mudanjiang**	**54.76**	**25**	P		**P**	**20 48 00.6**	**-0.8**		
MDJ				S		**S**	**20 55 39.8**	**-0.6**		
MDJ				SS		SS	20 59 23.6	-0.3		
MDJ				AMB	AMB					
	comp=Z,49nm,1.3s,mb5.4									
MDJ				AMB	AMB					
	comp=Z,390nm,8.6s									
MDJ				LR	LR					
	comp=N,3μm,20.7s,MS5.5									
MDJ				LR	LR					
	comp=E,3μm,19.5s,MS5.5									
MDJ				LR	LR					
	comp=Z,3μm,20.7s,MS5.3									
MOY	**Mondy**	**55.41**	**0**	*e*P		**P**	**20 48 06.6**	**+0.6**		
MOY				pmax	pmax					
	comp=Z,114nm,2.9s,mb5.4									
TLY	**Talaya**	**55.48**	**2**⇑	P		**P**	**20 48 07.7**	**+1.2**		
	SNR=16									
TLY	**Talaya**	**55.48**	**2***c*	*i*P		**P**	**20 48 07.1**	**+0.6**		
TLY				*e*S		**S**	**20 56 01.3**	**+12**		
TLY				pmax	pmax					
	comp=Z,80nm,1.4s,mb5.6									
TLY				MLR	MLR					
	comp=Z,6μm,16.0s,MS5.8									
TLY	**Talaya**	**55.48**	**2**⇑	*i*P		**P**	**20 48 06.3**	**-0.2**		
IRK	**Irkutsk**	**56.07**	**2**⇑	*i*P		**P**	**20 48 10.8**	**+0.1**		
IRK				pmax	pmax					
	comp=Z,12nm,2.1s,mb4.6									
CIT	**Chita**	**56.80**	**9**	*e*P		**P**	**20 48 16.6**	**+0.7**		
CIT				*e*		pP	20 48 24.3	0.0		
CIT				pmax	pmax					
	comp=Z,203nm,2.5s,mb5.7									
ABKT	**Ailbek**	**57.53**	**320**	P		**P**	**20 48 20.1**	**-1.3**		
	comp=Z,210nm,0.9s,mb6.2,SNR=17									
KURK	**Kurchatov**	**57.73**	**343**⇑	P		**P**	**20 48 23.8**	**+1.3**		
	SNR=45									
KURK	**Kurchatov**	**57.73**	**343**	*e*P		**P**	**20 48 21.8**	**-0.7**		
KURK				LR	LR					
	comp=Z,3μm,20.0s,MS5.4									
HNR	**Honiara**	**58.83**	**99**	PFAKE			20 48 40.0	+9.1		
HNR				LR	LR					
	comp=Z,1μm,21.0s,MS4.9									
ZAA0	**Zalesovo Array**	**59.25**	**349**	*e*P		**P**	**20 48 32.0**	**-1.1**		
ZALV	**Zalesovo Beam**	**59.25**	**349**	P		**P**	**20 48 31.9**	**-1.1**		
	comp=Z,152nm,0.8s,mb6.1,baz=174,slow=4.8,SNR=387									
ZALV				S		**S**	**20 56 38.2**	**-1.1**		
	comp=Z,0.4nm,0.3s,baz=153,slow=9.7,SNR=4.2									
ZALV				LR	LR		21 16 49.4			
	comp=Z,1μm,21.6s,MS5.0,baz=165,slow=39									
ZALV	**Zalesovo Beam**	**59.25**	**349**	P		**P**	**20 48 31.9**	**-1.2**		
ZALV				S		**S**	**20 56 38.2**	**-1.1**		
ZALV	**Zalesovo Beam**	**59.25**	**349**	P		**P**	**20 48 31.9**	**-1.1**		
ZALV				S		**S**	**20 56 38.2**	**-1.1**		
ZALV				LR	LR		21 16 49.4			
KLR	**Kul'dur**	**59.36**	**23**⇑	*i*P		**P**	**20 48 29.0**	**-4.9**		
KLR				*e*			20 50 44.5			
KLR				*e*S		**S**	**20 56 38.0**	**-2.8**		
KLR				pmax	pmax					
	comp=E,120nm,1.8s									
KLR				pmax	pmax					
	comp=Z,290nm,1.8s,mb6.0									
KLR				MLR	MLR					
	comp=E,2μm,14.0s									
KLR				MLR	MLR					
	comp=Z,3μm,14.0s,MS5.6									
ERM	**Erimo**	**59.70**	**35**	PFAKE			20 48 50.0	+14		
ERM				LR	LR					
	comp=Z,859nm,22.0s,MS4.8									
HABR	**Khabarovsk**	**60.12**	**26**	*e*P		**P**	**20 48 36.3**	**-2.8**		
HABR				*e*		pP	20 48 46.0	-1.5		
HABR				*e*			20 49 21.5			
HABR				*e*			20 50 48.9			
HABR				*e*S		**S**	**20 56 46.4**	**-4.2**		
HABR				*e*			20 57 03.7			
HABR				*e*			20 58 24.6			
HABR				*e*			21 00 45.4			
KRAR	**Krasnoyarsk**	**60.13**	**355***c*	*i*P		**P**	**20 48 38.7**	**-0.4**		
KRAR				pmax	pmax					
	comp=Z,131nm,1.1s,mb5.9									
NVS	**Novosibirsk**	**60.41**	**348**⇑	*i*P		**P**	**20 48 39.0**	**-2.0**		
NVS				*e*		pP	20 48 47.4	-2.0		
NVS				*e*			20 49 31.9			
NVS				*e*			20 50 52.8			
NVS				*i* S		**S**	**20 56 50.6**	**-3.6**		
NVS				pmax	pmax					
	comp=Z,104nm,1.8s,mb5.6									
NVS				pmax	pmax					
	comp=N,92nm,1.7s									
NVS				pmax	pmax					
	comp=E,36nm,1.5s									
NVS				pmax	pmax					
	comp=Z,17nm,1.5s,mb4.8									
NVS				pmax	pmax					
	comp=N,14nm,1.4s									
NVS				pmax	pmax					
	comp=E,33nm,2.0s									
NVS				smax						
	comp=N,52nm,1.9s									
NVS				smax						
	comp=E,38nm,1.6s									
ASAJ	**Asahikawa**	**60.72**	**33**	LR	LR		21 17 33.7			
	comp=E,884nm,20.2s,MS4.9,baz=68,slow=39									
VOSK	**Vostochnaya**	**61.88**	**340**	P		**P**	**20 48 49.5**	**-1.5**		
VOSK				pmax	pmax					
	comp=Z,55nm,1.2s,mb5.6									
BVA0	**Borovoye Array**	**62.33**	**340**	*i* P		**P**	**20 48 52.7**	**-1.3**		
BVA0				pmax	pmax					
	comp=Z,13nm,1.4s,mb4.9									
BRVK	**Borovoye**	**62.39**	**340**⇑	P		**P**	**20 48 55.4**	**+1.0**		
	SNR=17									
BRVK	**Borovoye**	**62.39**	**340**⇑	*i*P		**P**	**20 48 53.1**	**-1.3**		
BRVK				LR	LR					
	comp=Z,2μm,21.0s,MS5.3									
BOD	**Bodaibo**	**62.48**	**8**	*e*P		**P**	**20 48 54.2**	**-0.7**		
BOD				pmax	pmax					
	comp=Z,79nm,1.1s,mb5.8									
CASY	**Casey**	**62.57**	**176**	*e*P		**P**	**20 49 01.5**	**+6.1**		
CASY				LR	LR					
	comp=Z,2μm,19.0s,MS5.3									
YSS	**Yuzh-Sakhalins**	**62.67**	**31***c*	*i*P		**P**	**20 48 54.5**	**-1.9**		
YSS				*e*		pP	20 49 02.0	-2.9		
YSS				*e*S		**S**	**20 57 18.0**	**-5.2**		
YSS				*e*PS			20 57 33.0			
YSS				pmax	pmax					
	comp=Z,140μm,1.0s									
YSS	**Yuzh-Sakhalins**	**62.67**	**31**	*e*P		**P**	**20 48 55.4**	**-1.0**		
KMBO	**Kilima Mbogo**	**63.65**	**271**	P		**P**	**20 49 04.3**	**+0.7**		
	comp=Z,5.5nm,1.0s,mb4.6,baz=25,slow=8.2,SNR=3.6									
KMBO				pP		pP	20 49 12.7	+0.7		
	comp=Z,6.0nm,1.0s,baz=60,slow=8.3,SNR=9.8									
KMBO				LR	LR		21 15 19.6			
	comp=Z,1μm,18.4s,MS5.1,baz=94,slow=35									
KMBO	**Kilima Mbogo**	**63.65**	**271**	*e*P		**P**	**20 49 04.3**	**+0.7**		
KMBO				pmax	pmax					
	comp=Z,791nm,1.5s									
KMBO				MLR	MLR					
	comp=Z,1μm,19.0s									
KMBO	**Kilima Mbogo**	**63.65**	**271**	*e*P		**P**	**20 49 04.3**	**+0.7**		
	comp=Z,791nm,1.5s,mb6.5									
KMBO				LR	LR					
	comp=Z,1μm,19.0s,MS5.1									
CLNS	**Chul'man**	**63.66**	**14**	*e*P		**P**	**20 49 01.8**	**-1.0**		
CLNS				*e**PP		pP	20 49 10.1	-1.2		
CLNS				*e*			20 49 34.4			
CLNS				*e*			20 51 21.5			
CLNS				*e*S		**S**	**20 57 37.4**	**+2.2**		
CLNS				*e*			20 58 45.9			
CLNS				pmax	pmax					
	comp=Z,51nm,0.8s,mb5.6									
CLNS				pmax	pmax					
	comp=E,27nm,0.9s									
CLNS				pmax	pmax					
	comp=N,27nm,0.8s									
CLNS				pmax	pmax					
	comp=Z,7.0nm,0.8s,mb4.7									
CLNS				smax						
	comp=N,274nm,14.8s									
CLNS				smax						
	comp=E,159nm,14.4s									
CLNS				MLR	MLR					
	comp=Z,5μm,16.0s,MS5.8									
CLNS				MLR	MLR					
	comp=N,3μm,16.0s,MS5.7									
CLNS				MLR	MLR					
	comp=E,2μm,15.0s,MS5.7									
AB31	**Akbulak array**	**63.79**	**331**	*i* P		**P**	**20 49 02.6**	**-1.2**		
AB31				pmax	pmax					
	comp=Z,47nm,0.8s,mb5.6									
AB31	**Akbulak array**	**63.79**	**331**⇑	*e*P		**P**	**20 49 02.6**	**-1.2**		
DZM	**Mont Dzumac**	**65.86**	**112**	*e*P		**P**	**20 49 17.2**	**-0.6**		
MAK	**Makhachkala**	**67.05**	**320***d*	*i*P		**P**	**20 49 23.1**	**-1.9**		
MAK				*e*			20 49 50.3			
MAK				*e*PPP			20 53 38.1			
MAK				*i* S		S	20 58 14.5	-2.7		
MAK				pmax	pmax					
	comp=Z,111nm,0.9s,mb5.9									
HAKT	**HAKKARI**	**67.19**	**314**⇓	*i*P		**P**	**20 49 26.1**	**+0.1**		
GNI	**Garni**	**67.57**	**316**⇓	P		**P**	**20 49 30.2**	**+1.8**		
	SNR=6.1									
GNI	**Garni**	**67.57**	**316***c*	*i*P		**P**	**20 49 28.0**	**-0.4**		
GNI				pmax	pmax					
	comp=Z,22nm,1.0s									
GNI	**Garni**	**67.57**	**316**⇑	*i*P		**P**	**20 49 28.1**	**-0.3**		
GNI				LR	LR					
	comp=Z,661nm,19.0s,MS4.9									
DGRG	**David-gareji**	**67.72**	**318**	P		**P**	**20 49 30.3**	**+0.9**		
DRV	**Dumont d'Urvil**	**68.20**	**164**	P		**P**	**20 49 38.0**	**+6.1**		
DRV				S		S	20 58 27.0	-3.2		
DRV				SS		SS	21 02 51.0	-2.3		
DRV				L			21 06 00.0			
DRV				R			21 10 00.0			
MTA	**Mtatsminda**	**68.22**	**318**	P		**P**	**20 49 32.6**	**+0.1**		
TBLG	**Delisi**	**68.28**	**318**	P		**P**	**20 49 33.0**	**+0.2**		
MAW	**Mawson**	**68.62**	**195**	P		**P**	**20 49 35.2**	**+0.7**		
	comp=Z,2.8nm,0.7s,mb4.3,baz=77,slow=9.3,SNR=4.4									
MAW				LR	LR		21 12 54.8			
	comp=Z,2μm,21.7s,MS5.3,baz=41,slow=30									
SVE	**Sverdlovsk**	**68.83**	**338**⇓	*e*P		**P**	**20 49 35.7**	**-0.3**		
SVE				*e*			20 52 10.2			
SVE				*e*S		S	20 58 39.5	+1.5		
SVE				*e*SS		SS	21 03 05.6	+2.0		
SVE				pmax	pmax					
	comp=Z,117nm,1.1s,mb5.7									
SVE				MLR	MLR					
	comp=Z,3μm,21.0s,MS5.4									
MARD	**Mardin**	**69.23**	**312**⇑	*i*P		**P**	**20 49 39.8**	**+0.9**		
ARU	**Arti**	**69.36**	**336***c*	*i*P		**P**	**20 49 38.5**	**-0.7**		
ARU				*e*			20 50 00.7			
ARU				*e*			20 52 10.0			
ARU				*e*S		S	20 58 45.7	+1.4		
ARU				*e*SS		SS	21 03 12.2	+0.4		
ARU				pmax	pmax					
	comp=Z,74nm,1.7s,mb5.3									
ARU				MLR	MLR					
	comp=Z,1μm,18.0s,MS5.3									
YAK	**Yakutsk**	**69.41**	**14**	*e*P		**P**	**20 49 37.0**	**-2.4**		
YAK				*e*			20 58 48.1			
YAK				pmax	pmax					
	comp=Z,167nm,0.9s,mb6.0									
YAK				pmax	pmax					
	comp=E,30nm,1.0s									
YAK				pmax	pmax					
	comp=N,42nm,1.1s									
YAK				MLR	MLR					
	comp=Z,5μm,16.0s,MS5.8									
YAK				MLR	MLR					
	comp=N,2μm,16.0s,MS5.7									
YAK				MLR	MLR					
	comp=E,2μm,14.0s,MS5.7									
ONI	**Oni**	**69.51**	**318**	P		**P**	**20 49 41.2**	**+0.7**		
ERZM	**Erzurum**	**69.81**	**315**⇑	P		**P**	**20 49 44.0**	**+1.6**		
DAGI	**Agillar**	**69.91**	**316**⇓	*i*P		**P**	**20 49 43.5**	**+0.5**		
DDEM	**Demirkent**	**69.94**	**316**⇓	*i*P		**P**	**20 49 43.5**	**+0.3**		
DBAD	**Bademkaya**	**70.03**	**316**⇓	*i*P		**P**	**20 49 44.2**	**+0.5**		
KOPT	**Kop Dagi**	**70.47**	**315**⇓	*i*P		**P**	**20 49 49.0**	**+2.5**		
KIV	**Kislovodsk**	**70.61**	**319**	⇓P		**P**	**20 49 48.4**	**+1.2**		
	SNR=15									
KIV	**Kislovodsk**	**70.61**	**319***c*	*i*P		**P**	**20 49 47.0**	**-0.2**		
KIV				pmax	pmax					
	comp=Z,34nm,1.0s,mb5.2									
KIV	**Kislovodsk**	**70.61**	**319**⇓	*i*P		**P**	**20 49 47.4**	**+0.2**		
KIV	**Kislovodsk**	**70.61**	**319**	⇓P		**P**	**20 49 47.4**	**+0.2**		
KIV				LR	LR					
	comp=Z,597nm,20.0s,MS4.8									
ELZG	**Elazig**	**70.98**	**313**⇓	*i*P		**P**	**20 49 50.5**	**+0.9**		
GZT	**Gaziantep**	**71.63**	**311**⇓	*i*P		**P**	**20 49 54.6**	**+1.1**		
AKCD	**Akcadag**	**71.69**	**312**⇓	*i*P		**P**	**20 49 54.4**	**+0.5**		
SKR	**Severo-Kuril's**	**71.99**	**33**	*e*P		**P**	**20 49 54.5**	**-0.9**		
SKR				*e*			20 50 06.0			
SKR				pmax	pmax					
	comp=Z,220nm,1.0s,mb6.0									
BHL	**Bhannes**	**71.99**	**307**	*e*P		**P**	**20 49 56.6**	**+0.8**		
YAYL	**Yayladag**	**72.30**	**310**⇓	*i*P		**P**	**20 49 58.3**	**+0.7**		
LSZ	**Lusaka**	**72.31**	**255**	*e*P		**P**	**20 49 56.6**	**-1.4**		
LSZ				pmax	pmax					
	comp=Z,23nm,1.1s,mb5.0									
LSZ	**Lusaka**	**72.31**	**255**	*e*P		**P**	**20 49 56.6**	**-1.4**		
	comp=Z,23nm,1.1s,mb5.0									
YURE	**YUREGIR**	**72.92**	**310**⇑	*i*P		**P**	**20 50 02.0**	**+0.7**		
MEST	**Erdemli**	**73.98**	**310**⇓	*i*P		**P**	**20 50 07.4**	**-0.1**		
PETK	**Petropavlovsk-**	**74.06**	**32**	P		**P**	**20 50 06.6**	**-1.0**		
	comp=Z,18nm,0.9s,mb5.0,baz=204,slow=3.7,SNR=17									
PETK				LR	LR		21 28 15.7			
	comp=Z,514nm,18.3s,MS4.8,baz=136,slow=40									
CSS	**Prodhromos**	**74.14**	**308**	*e*P		**P**	**20 50 08.0**	**-0.5**		
	comp=Z,27nm,0.9s,mb5.2									
CSS				LR	LR					
	comp=Z,2μm,21.0s,MS5.3									
ANN	**Anapa**	**74.40**	**319**	*e*P		**P**	**20 50 07.6**	**-2.2**		
ANN				*e*S		S	20 59 38.5	-4.2		
ANN				pmax	pmax					
	comp=Z,42nm,1.3s,mb5.2									
ANN				MLR	MLR					
	comp=E,740nm,18.0s									
ANN				MLR	MLR					
	comp=Z,697nm,18.0s,MS5.0									
VRHR	**Novokhopersk**	**74.45**	**326**	*e*P		**P**	**20 50 08.9**	**-1.0**		
VRHR				*e**PP		pP	20 50 17.0	-1.5		
VRHR				*e**SP		sP	20 50 21.3	-0.4		
VRHR				pmax	pmax					
	comp=Z,60nm,0.6s,mb5.7									
VRHR				pmax	pmax					
	comp=N,10.0nm,0.8s									
VRHR				pmax	pmax					
	comp=E,9.0nm,0.4s									
PET	**Petropavlovsk**	**74.52**	**32**⇓	*i*P		**P**	**20 50 09.7**	**-0.6**		
PET				*e*			20 53 01.3			
PET				*e*S		S	20 59 42.0	-1.7		
PET				*e*PS			21 00 17.8			
PET				pmax	pmax					
	comp=Z,69nm,0.9s,mb5.6									
PET				pmax	pmax					
	comp=Z,300nm,16.4s									
PET				pmax	pmax					
	comp=Z,100nm,19.0s									
PET				MLR	MLR					
	comp=Z,1μm,20.0s,MS5.2									
PET	**Petropavlovsk**	**74.52**	**32**	*e*P		**P**	**20 50 09.0**	**-1.3**		
CDAG	**Cicekdag**	**74.74**	**313**	*i* P		**P**	**20 50 11.2**	**-0.7**		
LBTB	**Lobatse**	**75.03**	**245**	*e*P		**P**	**20 50 13.5**	**-0.4**		
LBTB				pmax	pmax					
	comp=Z,24nm,1.3s,mb5.0									
LBTB	**Lobatse**	**75.03**	**245**	*e*P		**P**	**20 50 13.5**	**-0.4**		
	comp=Z,24nm,1.3s,mb5.0									
BR131	**Keskin Array S**	**75.31**	**313**	*e*P		**P**	**20 50 13.9**	**-1.3**		
	comp=Z,10nm,0.7s,mb4.9									
BR131				LR	LR					
	comp=Z,747nm,20.0s,MS5.0									
BOSA	**Boshof**	**75.52**	**242**	P		**P**	**20 50 16.3**	**-0.4**		
	comp=Z,4.5nm,0.8s,mb4.5,baz=103,slow=10.0,SNR=6.4									
BOSA				LR	LR		21 17 37.4			
	comp=Z,1μm,20.5s,MS5.3,baz=81,slow=31									
BOSA	**Boshof**	**75.52**	**242**	*e*P		**P**	**20 50 16.2**	**-0.4**		
BOSA				pmax	pmax					
	comp=Z,41nm,1.2s,mb5.2									
BOSA				MLR	MLR					
	comp=Z,1μm,20.0s,MS5.3									
BOSA	**Boshof**	**75.52**	**242**	*e*P		**P**	**20 50 16.2**	**-0.4**		
	comp=Z,41nm,1.2s,mb5.2									
BOSA				LR	LR					
	comp=Z,1μm,20.0s,MS5.3									
ILGA	**Ilgaz**	**75.67**	**314**⇓	*i*P		**P**	**20 50 17.0**	**-0.2**		
VSR	**Storozhevoye**	**75.90**	**325**	*e*P		**P**	**20 50 17.4**	**-0.8**		
VSR				*e**PP		pP	20 50 24.8	-2.1		
VSR				*e**SP		sP	20 50 29.3	-0.7		
VSR				*e*S		S	20 59 53.8	-5.3		
VSR				pmax	pmax					
	comp=Z,10.0nm,0.9s,mb4.8									
VSR				pmax	pmax					
	comp=N,3.0nm,0.6s									
VSR				pmax	pmax					
	comp=E,20nm,0.9s									
VSR				smax						
	comp=N,240nm,4.2s									
VSR				smax						
	comp=Z,120nm,3.7s									
VSR				smax						
	comp=E,200nm,4.6s									
VSR				MLR	MLR					
	comp=Z,240nm,20.0s,MS4.5									
VSR				MLR	MLR					
	comp=N,450nm,24.0s									
VSR				MLR	MLR					
	comp=E,370nm,16.0s									
ANTO	**Ankara**	**75.98**	**313**	*e*P		**P**	**20 50 18.3

KIS *e* 20 55 42.0
KIS MLR MLR
comp=Z,400nm,17.0s,MS4.8
KIS MLR MLR
comp=Z,500nm,16.0s
SBA Scott Base 81.17 169 *e*P **P 20 50 47.5 +0.6**
SBA pmax pmax
comp=Z,20nm,1.0s,mb5.0
SBA Scott Base 81.17 169 *e*P **P 20 50 47.5 +0.6**
comp=Z,20nm,1.0s,mb5.0
VAM Vamos 81.51 307 *e*P **P 20 50 51.9 +2.4**
VAM Vamos 81.51 307 *e*P **P 20 50 51.9 +2.4**
AKASG Malin Array Be 81.58 322 P **P 20 50 48.5 -1.0**
comp=Z,6.5nm,0.8s,mb4.6,baz=92,slow=4.7,SNR=14
AKASG Malin Array Be 81.58 322 *i* P **P 20 50 48.5 -1.0**
AKASG pmax pmax
comp=Z,7.0nm,0.8s
VRI Vrincioaia 81.90 317⇓ *i* P **P 20 50 51.5 +0.2**
VRI Vrincioaia 81.90 317⇓ P **P 20 50 51.5 +0.2**
PLOR Plostina 81.95 317⇓ *i* P **P 20 50 52.5 +0.9**
MLR Muntele Rosu 82.34 317 P **P 20 50 54.5 +0.8**
comp=Z,16nm,0.9s,mb4.9,baz=83,slow=2.0,SNR=23
MLR Muntele Rosu 82.34 317⇓ *i* P **P 20 50 53.5 -0.2**
MLR Muntele Rosu 82.34 317⇓ P **P 20 50 53.5 -0.2**
TSUM Tsumeb 82.42 251 P **P 20 50 59.0 +4.4**
comp=Z,18nm,1.1s,mb4.9
PLD Plovdiv 82.47 313 P **P 20 50 54.0 -0.4**
DID Didima 82.66 308 P **P 20 50 54.3 -1.2**
VLI Veliai 82.75 308 *e*P **P 20 51 05.5 +9.5**
VLI Veliai 82.75 308 *e*P **P 20 51 05.5 +9.5**
VOIR 82.95 317⇑ *i*P **P 20 50 56.8 0.0**
VOIR 82.95 317⇑ P **P 20 50 56.8 0.0**
VLX Vlachokerasia 83.31 308 P **P 20 50 58.7 -0.2**
BURAR Bucovina Array 83.33 319⇓ *i*P **P 20 51 00.4 +1.7**
BURAR Bucovina Array 83.33 319⇓ P **P 20 51 00.4 +1.7**
BUR08 Bucovina Ar. S 83.34 319 *e*P **P 20 50 59.7 +0.9**
MNK Minsk 83.48 326 *e*P **P 20 51 00.0 +0.7**
KNT Kendrikon 83.60 312 P **P 20 50 59.6 -0.7**
ITM Ithomi 83.63 308 *e*P **P 20 50 55.9 -4.6**
ITM Ithomi 83.63 308 *e*P **P 20 50 55.9 -4.6**
VTS Vitosha 83.65 313⇓ *i*P **P 20 50 59.8 -0.7**
LIT Litokhoron 83.71 311 P **P 20 50 58.7 -2.2**
PUL Pulkovo 83.77 331 *e*P **P 20 51 00.2 -0.5**
VAY Valandovo 83.88 312 *e*P **P 20 50 59.0 -2.7**
THL Klokotos Trika 83.98 310 P **P 20 51 01.9 -0.3**
THL Klokotos Trika 83.98 310 *e*P **P 20 51 02.1 -0.1**
THL Klokotos Trika 83.98 310 *e*P **P 20 51 02.1 -0.1**
EVR Evrytania 84.02 310 *e*P **P 20 51 02.4 -0.1**
EVR Evrytania 84.02 310 *e*P **P 20 51 02.4 -0.1**
STIP Stip 84.23 312 *e*P **P 20 51 05.8 +2.4**
JOF Joensuu 84.37 334 *e*p **P 20 51 02.5 -1.2**
comp=Z,15nm,0.8s,mb5.2
JOF Joensuu 84.37 334 *e*P **P 20 51 02.5 -1.2**
JOF pmax pmax
comp=Z,15nm,0.8s,mb5.2
BMR Baia Mare 84.47 318⇓ *i*P **P 20 51 05.9 +1.3**
BMR Baia Mare 84.47 318⇓ P **P 20 51 05.9 +1.4**
GZR Gura Zlata 84.50 316⇑ *i*P **P 20 51 05.7 +0.9**
DRGR 84.82 318⇑ *i*P **P 20 51 07.6 +1.3**
DRGR 84.82 318⇑ P **P 20 51 07.5 +1.2**
SKO Skopje 84.83 313 *e*P **P 20 51 04.7 -1.8**
KRUS Krusevo 84.86 312 *e*P **P 20 51 05.3 -1.4**
LKD Levkas 84.88 309 P **P 20 51 06.9 +0.1**
OHR Ohrid 85.16 312 *e*P **P 20 51 04.3 -3.8**
APA Apatity 85.23 339⇑ *e*P **P 20 51 12.0 +4.0**
APA *e*S S 21 01 42.0 +5.8
APA pmax pmax
comp=Z,31nm,1.0s,mb5.4
APA MLR MLR
comp=Z,2μm,18.0s,MS5.6
IGT Igoumenitsa 85.25 310 P **P 20 51 08.8 +0.1**
BZS Buzias 85.34 316⇑ *i*P **P 20 51 08.3 -0.7**
BZS Buzias 85.34 316⇑ P **P 20 51 08.3 -0.7**
KWP Kalwaria 85.39 320 *e*P **P 20 51 09.5 +0.4**
KWP Kalwaria 85.39 320⇑ *i*P **P 20 51 09.5 +0.4**
KWP Kalwaria 85.39 320⇑ P **P 20 51 09.5 +0.4**
KWP LR LR
comp=Z,669nm,19.0s,MS5.0
UZH Uzhgorod 85.46 319 *e*P **P 20 51 11.0 +1.5**
UZH *e* 20 51 25.0
UZH *e*S S 21 01 44.0 +4.9
UZH *e* 21 02 53.0
KOLS Kolonicke sedl 85.53 320 *e*P **P 20 51 10.5 +0.7**
KEK Kerkira 85.69 310 *e*P **P 20 51 10.1 -0.8**
KEK Kerkira 85.69 310 *e*P **P 20 51 10.1 -0.8**
SUW Suwalki 86.00 325 *e*P **P 20 51 11.8 -0.3**
SUW Suwalki 86.00 325 *e*P **P 20 51 11.3 -0.8**
SUW pmax pmax
comp=Z,129nm,1.1s,mb6.1
SUW Suwalki 86.00 325 *e*P **P 20 51 11.3 -0.8**
comp=Z,129nm,1.1s,mb6.1
CRVS Cervenica-Dubn 86.05 319 *e*P **P 20 51 12.7 +0.3**
STHS Stebnicka Huta 86.28 320 *e*P **P 20 51 14.0 +0.4**
STHS pmax pmax
comp=Z,12nm,0.9s,mb5.1
STHS Stebnicka Huta 86.28 320 *e*P **P 20 51 14.0 +0.4**
comp=Z,12nm,0.9s,mb5.1
KAF Kangasniemi 86.33 333 *e*p **P 20 51 13.2 -0.3**
comp=Z,17nm,0.7s,mb5.4,baz=99,slow=4.4
KAF Kangasniemi 86.33 333 *e*P **P 20 51 13.2 -0.3**
KAF pmax pmax
comp=Z,17nm,0.7s,mb5.4
AFI Afiamalu 86.45 104 PFAKE 20 51 30.0 +15
AFI LR LR
comp=Z,587nm,22.0s,MS4.9
PSZ Piszkesteto 86.91 318⇑ *e*P **P 20 51 17.0 +0.3**
PSZ Piszkesteto 86.91 318⇓ *i*P **P 20 51 17.1 +0.4**
PSZ Piszkesteto 86.91 318⇓ P **P 20 51 17.1 +0.4**
OJC Ojcow 87.34 321 *e*P **P 20 51 18.2 -0.5**
OJC *e*S S 21 01 45.3 -12
OJC L 21 36 57.5
comp=Z,0.6nm,20.7s
BUD Budapest 87.42 318⇑ *e*P **P 20 51 18.2 -1.0**
PKSM Moragy 87.49 316⇑ *i*P **P 20 51 19.3 -0.2**
VYHS Vyhne 87.69 319 *e*P **P 20 51 20.3 -0.2**
KOLL Kolacno 87.99 319 *e*P **P 20 51 22.0 +0.1**
KEV Kevo 88.17 340 *e*P **P 20 51 21.7 -0.6**
comp=Z,18nm,0.8s,mb5.4
KEV LR LR
comp=Z,2μm,19.0s,MS5.5
OKC Ostrava-Krasne 88.34 320 *e*P **P 20 51 24.2 +0.7**
OKC *e*S S 21 02 06.5 -0.4
OKC AMS AMS 21 38 20.0
comp=Z,600nm,17.3s
OKC Ostrava-Krasne 88.34 320 *e*P **P 20 51 24.2 +0.7**
OKC *e*S S 21 02 06.5 -0.4
ADK Adak 88.40 38 PFAKE 20 51 30.0 +6.3
ADK LR LR
comp=Z,351nm,19.0s,MS4.8
ARCES ARCESS Array B 88.62 340 P **P 20 51 24.9 +0.6**
comp=Z,28nm,0.8s,mb5.6,baz=97,slow=4.9,SNR=30
ARCES pP pP 20 51 32.5 -0.6
comp=Z,30nm,0.8s,baz=108,slow=4.0,SNR=9.5
ARCES LR LR 21 35 08.1
comp=Z,2μm,20.9s,MS5.5,baz=290,slow=38
ARCES ARCESS Array B 88.62 340 P **P 20 51 24.9 +0.5**
ARCES *PP pP 20 51 32.5 -0.6
ARCES ARCESS Array B 88.62 340 P **P 20 51 24.9 +0.6**
ARCES pP pP 20 51 32.5 -0.6
ARCES LR LR 21 35 08.1
MODS Modra-Piesok 88.71 318 *e*P **P 20 51 25.1 -0.1**
MODS pmax pmax
comp=Z,7.0nm,1.2s,mb4.9
MODS Modra-Piesok 88.71 318 *e*P **P 20 51 25.0 -0.2**
MODS Modra-Piesok 88.71 318 *e*P **P 20 51 25.1 -0.1**
comp=Z,7.0nm,1.2s,mb4.9
MORC Moravsky Berou 88.72 320⇑ *i*P **P 20 51 25.6 +0.3**
MORC Moravsky Berou 88.72 320⇑ P **P 20 51 25.6 +0.3**
CUC Castrocucco 88.77 310 PFAKE 20 51 40.0 +14
CUC LR LR
comp=Z,770nm,20.0s,MS5.1
ZST Bratislava 88.80 318 *e*P **P 20 51 24.7 -1.0**
comp=Z,10nm,0.8s,mb5.2
ZST LR LR
comp=Z,100nm,18.6s,MS4.3
SOP Sopron 89.10 318⇑ *e*P **P 20 51 26.8 -0.3**
KOGS Kog 89.17 316 *e*P **P 20 51 27.7 +0.2**
VRAC Vranov 89.27 319 P **P 20 51 28.3 +0.4**
comp=Z,0.9nm,0.3s,mb4.5,baz=112,slow=4.8,SNR=4.4
GKP Gorka Klasztor 89.36 323 *e*P **P 20 51 28.4 +0.1**
GCIS Gornji Cirnik 89.53 316 *e*P **P 20 51 29.5 +0.3**
DPC Dobruska-Polom 89.57 320 *e*P **P 20 51 30.2 +1.0**
DPC *e*S S 21 02 19.8 +1.3
DPC AMS AMS 21 40 10.0
comp=Z,600nm,24.5s
CONA Conrad Observa 89.59 318⇑ *i*P **P 20 51 29.5 +0.1**
comp=Z,7.0nm,1.1s,mb4.9
CSNA Conrad Observa 89.60 318⇓ *i*P **P 20 51 29.5 +0.1**
comp=Z,6.9nm,1.1s,mb4.9
VAE Valguarnera 89.61 307 P **P 20 51 30.5 +0.7**
comp=Z,12nm,0.9s,mb5.2,baz=5.8,slow=12,SNR=3.8
KSP Ksiaz 89.64 321 *e*P **P 20 51 30.4 +0.8**
KSP Ksiaz 89.64 321 *e*P **P 20 51 30.2 +0.6**
KSP *e*pP pP 20 51 36.5 -1.8
KSP *e*S S 21 02 20.5 +1.3
KSP LR LR
comp=Z,1μm,23.4s,MS5.2
ARSA Arzberg 89.75 317⇑ *i*P **P 20 51 30.5 +0.3**
comp=Z,15nm,1.1s,mb5.2
BOJS Bojanci 89.75 315 *e*P **P 20 51 30.4 +0.2**
UPC Upice 89.78 321 *e*P **P 20 51 30.9 +0.7**
PERS Pernice 89.96 317 *e*P **P 20 51 31.6 +0.4**
TREC Trest 89.99 319 *e*P **P 20 51 31.2 0.0**
TREC *e*S S 21 02 23.8 +1.4
TREC AMS AMS 21 38 20.0
comp=Z,900nm,23.5s
SOKA Soboth 90.03 317⇑ *i*PcP PcP 20 51 32.2 -0.5
LJU Ljubljana 90.31 316 *e*P **P 20 51 33.4 +0.6**
SNAA Sanae 90.57 198 *e*P **P 20 51 33.6 +0.1**
SNAA *e* pP 20 51 43.0 +0.7
SNAA *e* 20 51 48.5
SNAA Sanae 90.57 198 *e*P **P 20 51 32.4 -1.1**
MOA Molln 90.66 318⇑ *i*P **P 20 51 34.4 0.0**
comp=Z,5.9nm,1.0s,mb4.9
PRU Pruhonice 90.67 320 *e*P **P 20 51 34.3 -0.1**
PRU *e*S S 21 02 27.6 -1.1
PRU AMS AMS 21 43 00.0
comp=Z,600nm,13.6s
PVCC Panska Ves 90.70 320 *e*P **P 20 51 35.5 +1.0**
PVCC AMS AMS 21 41 00.0
comp=Z,800nm,15.6s
BRG Berggiesshubel 91.13 321 *e*P **P 20 51 36.7 +0.2**
BRG *e* pP 20 51 44.6 -0.7
BRG S S 21 02 31.0 -1.9
BRG pmax pmax
comp=Z,8.0nm,1.2s,mb4.9
BRG MLR MLR
comp=Z,650nm,27.3s,MS4.9
BRG Berggiesshubel 91.13 321 *e*P **P 20 51 36.9 +0.4**
comp=Z,14nm,1.2s,mb5.2
BRG *e*pP pP 20 51 44.8 -0.5
BRG Berggiesshubel 91.13 321 *e*P **P 20 51 36.7 +0.2**
comp=Z,14nm,1.2s,mb5.2
BRG *e* pP 20 51 44.6 -0.7
comp=Z,15nm,1.1s
BRG S S 21 02 31.0 -1.9
BRG
comp=N,568nm,24.8s
BRG
comp=E,658nm,29.3s
BRG
comp=Z,1μm,27.3s
BRG Berggiesshubel 91.13 321 *e*P **P 20 51 36.7 +0.2**
comp=Z,8.2nm,1.2s,mb4.9
BRG *e* pP 20 51 44.6 -0.7
BRG S S 21 02 31.0 -1.9
BRG LR LR
comp=Z,650nm,27.3s,MS4.9
KHC Kasperske Hory 91.22 319 *e*P **P 20 51 37.5 +0.5**
KHC *e*pP pP 20 51 50.0 +4.3
KHC *e*S S 21 02 33.9 +0.1
KHC AMS AMS 21 39 10.0
comp=Z,1μm,18.2s
RUE Ruedersdorf 91.36 322 *e*P **P 20 51 38.0 +0.4**
comp=Z,31nm,1.2s,mb5.5
FBE Freiberg 91.50 321 *e*P **P 20 51 38.9 +0.6**
comp=Z,178nm,2.7s,mb5.9
RJOB Jochberg 91.64 318 *e*S S 21 02 36.6 -1.0
WET Wettzell 91.68 319 *e*P **P 20 51 39.3 +0.2**
WET *e**PP pP 20 51 47.3 -0.6
WET *e*S S 21 02 39.9 +2.0
WET pmax pmax
comp=Z,12nm,1.1s,mb5.1
WET Wettzell 91.68 319 *e*P **P 20 51 39.3 +0.2**
comp=Z,12nm,1.1s,mb5.1
WET *e*pP pP 20 51 47.3 -0.6
WET *e*S S 21 02 39.9 +2.0
CLL Collm 91.75 321 *i* P **P 20 51 39.4 0.0**
CLL *e**PP pP 20 51 49.0 +0.8
CLL *e*S S 21 02 31.0 -7.5
CLL pmax pmax
comp=Z,13nm,1.4s,mb5.1
CLL MLR MLR
comp=Z,700nm,19.3s,MS5.1
CLL Collm 91.75 321 *e*P **P 20 51 39.5 +0.1**
comp=Z,13nm,1.4s,mb5.1
CLL *e*S S 21 02 39.9 +1.4
CLL Collm 91.75 321 *i* P **P 20 51 39.4 0.0**
comp=Z,13nm,1.4s,mb5.1
CLL *e*pP pP 20 51 49.0 +0.8
CLL *e*sP sP 20 51 55.0 +3.7
CLL *e*x x 20 54 54.0
CLL *e*PPP 20 57 06.0
CLL *e*PPPP 20 58 54.0
CLL *e*S S 21 02 31.0 -7.5
CLL *e*PS PS 21 03 46.0 -5.4
CLL *e*x x 21 05 17.0
CLL *e*(SS) 21 08 31.0
CLL *e*SSS 21 12 41.0
CLL *e*SSSS 21 15 56.0
CLL LmH 21 39 00.0
comp=N,800nm,20.7s
CLL LmH 21 39 00.0
comp=E,200nm,19.0s
CLL LmV 21 42 00.0
comp=Z,700nm,19.3s
CLL Collm 91.75 321 *i* P **P 20 51 39.4 0.0**
comp=Z,13nm,1.4s,mb5.1
CLL *e*pP pP 20 51 49.0 +0.8
CLL *e*S S 21 02 31.0 -7.5
CLL LR LR
comp=Z,700nm,19.3s,MS5.1
HFS Hagfors 92.02 330 P **P 20 51 40.3 -0.1**
comp=Z,12nm,0.8s,mb5.3,baz=112,slow=6.6,SNR=8.5
NKC Novy Kostel 92.03 320 *e*P **P 20 51 41.3 +0.6**
NKC *e*S S 21 02 49.5 +8.4
NKC AMS AMS 21 40 10.0
comp=Z,800nm,19.9s
NKC Novy Kostel 92.03 320 *e*P **P 20 51 41.3 +0.6**
NKC *e*S S 21 02 49.5 +8.4
TANN Tannenbergstha 92.03 320 *e*P **P 20 51 41.0 +0.3**
comp=Z,12nm,1.6s,mb5.0
TANN *e*S S 21 02 45.4 +4.3
WERN Wernitzgruen 92.08 320 *e*P **P 20 51 41.4 +0.5**
comp=Z,11nm,1.4s,mb5.0
GUNZ Gunzen 92.11 320 *e*P **P 20 51 41.4 +0.3**
comp=Z,10.0nm,1.1s,mb5.1
GUNZ *e*pP pP 20 51 49.2 -0.7
WERD Werda 92.14 320 *e*P **P 20 51 41.6 +0.4**
comp=Z,15nm,1.5s,mb5.1
ROTZ Rotzenmuhle 92.16 320 *e*P **P 20 51 42.0 +0.7**
comp=Z,12nm,1.2s,mb5.1
ROTZ *e*S S 21 02 46.5 +4.3
VNA2 Neumayer--Watz 92.19 198 *e*P **P 20 51 41.2 +0.1**
VNA2 *e* pP 20 51 50.6 +0.8
VNA2 *e* 20 51 55.5
MANZ Manzenberg 92.23 320 *e*P **P 20 51 42.5 +0.8**
comp=Z,16nm,1.1s,mb5.3
MANZ *e*pP pP 20 51 50.2 -0.2
MANZ *e*S S 21 02 48.7 +5.8
WTTA Wattenberg 92.39 317⇑ *i*P **P 20 51 41.9 -0.6**
comp=Z,11nm,1.2s,mb5.0
VNA1 Neumayer--Stat 92.55 198 *e*P **P 20 51 52.3 +10**
VNA1 *e* 20 51 57.1
MOX Moxa 92.59 320 *e*(P) **P 20 51 51.6 +8.3**
comp=Z,23nm,1.6s,mb5.4
MOX
comp=Z,400nm,21.0s
MOX Moxa 92.59 320 *e*P **P 20 51 51.6 +8.3**
MOX pmax pmax
comp=Z,23nm,1.6s,mb5.4
MOX MLR MLR
comp=Z,400nm,21.0s,MS4.8
MOX Moxa 92.59 320 *e*P **P 20 51 43.1 -0.2**
comp=Z,6.0nm,1.0s,mb5.0
MOX *e*S S 21 02 49.8 +3.8
FUR Furstenfeldbru 92.68 318 *e*S S 21 02 48.7 +1.8
MOTA Moosalm 92.76 317⇑ *i*P **P 20 51 43.5 -0.6**
comp=Z,13nm,1.4s,mb5.2
GRA1 Grafenberg Arr 92.79 319 *e*P **P 20 51 44.4 +0.2**
comp=Z,10.0nm,1.0s,mb5.2
GRA1 *e*pP pP 20 51 52.4 -0.6
GRA1 *e*S S 21 02 53.1 +5.2
GRA1 *e*SS SS 21 09 07.1 +5.8
GRA1 LR LR
comp=Z,500nm,20.4s,MS5.0
GRF Grafenberg Arr 92.79 319 *e*P **P 20 51 44.4 +0.2**
GRF *e**PP pP 20 51 52.4 -0.6
GRF *e*S S 21 02 53.1 +5.2
GRF *e*SS SS 21 09 07.1 +5.8
GRF pmax pmax
comp=Z,10.0nm,1.0s,mb5.2
GRF MLR MLR
comp=Z,500nm,20.4s,MS5.0
GRF Grafenberg Arr 92.79 319 *e*P **P 20 51 44.4 +0.2**
comp=Z,10.0nm,1.0s,mb5.2
GRF *e*pP pP 20 51 52.4 -0.6
GRF *e*S S 21 02 53.1 +5.2
GRF *e*SS SS 21 09 07.1 +5.8
GRF *e*L 21 43 03.0
comp=Z,500nm,20.4s
NB2 NORSAR Subarra 93.29 331 P **P 20 51 45.4 -0.9**
comp=Z,14nm,1.1s,mb5.3,baz=94,slow=4.6
NOA NORSAR Array B 93.29 331 P **P 20 51 46.0 -0.3**
comp=Z,6.3nm,0.9s,mb5.0,baz=94,slow=4.6,SNR=8.3
NOA PP PP 20 55 31.1 +0.9
comp=Z,2.4nm,0.8s,baz=78,slow=8.5,SNR=3.6
NOA LR LR 21 38 56.3
comp=Z,697nm,19.5s,MS5.1,baz=50,slow=39
NOA NORSAR Array B 93.29 331 P **P 20 51 46.0 -0.3**
NOA 20 55 31.1
NOA NORSAR Array B 93.29 331 P **P 20 51 46.0 -0.3**
NOA PP PP 20 55 31.1 +0.9
NOA LR LR 21 38 56.3
BSEG Bad Segeberg 93.53 324 *e*P **P 20 51 46.6 -0.9**
BSEG *e*S S 21 02 56.5 +2.3
BSEG pmax pmax
comp=Z,57nm,1.8s,mb5.7
BSEG Bad Segeberg 93.53 324 *e*P **P 20 51 46.6 -0.9**
comp=Z,57nm,1.8s,mb5.7
BSEG *e*S S 21 02 56.5 +2.3
KEST Kesra 93.56 305 P **P 20 51 48.1 -0.1**
comp=Z,1.4nm,0.8s,mb4.4,baz=302,slow=5.2,SNR=6.2
KEST LR LR 21 34 06.1
comp=Z,375nm,20.4s,MS4.8,baz=14,slow=36
DAVOX Davos/Dischmat 93.57 316 P **P 20 51 48.3 +0.4**
comp=Z,2.3nm,0.8s,mb4.7,baz=21,slow=11,SNR=3.3
DAVA Damuels 93.58 317⇑ *i*PcP PcP 20 51 48.3 -0.2
comp=Z,6.6nm,0.8s
UBBA Unterbreizbach 93.62 321 *e*S S 21 02 57.6 +2.5
DAVOS Davos 93.63 317 P **P 20 51 48.3 +0.1**
KBS Kingsbay 93.66 349 PFAKE 20 52 00.0 +12
KBS LR LR
comp=Z,2μm,22.0s,MS5.5
STU Stuttgart 94.09 318 *e*S S 21 03 04.2 +4.9
TNS Taunus Mts 94.60 320 *e*P **P 20 51 52.4 -0.1**
TNS *e*S S 21 03 07.5 +3.8
TNS pmax pmax
comp=Z,9.0nm,1.2s,mb5.1
TNS Taunus Mts 94.60 320 *e*P **P 20 51 52.4 -0.1**
comp=Z,9.0nm,1.2s,mb5.1
TNS *e*S S 21 03 07.5 +3.8
BFO Black Forest 94.65 318 *e*S S 21 03 07.5 +3.2
BFO Black Forest 94.65 318 PFAKE 20 52 00.0 +7.2
BFO LR LR
comp=Z,477nm,21.0s,MS4.9
BUG Bochum--Univer 95.35 321 *e*P **P 20 51 55.6 -0.3**
comp=Z,6.0nm,0.7s,mb5.1
BUG *e*S S 21 03 14.2 +4.0
BNI Bardonecchia 95.78 315 PFAKE 20 52 10.0 +12
BNI LR LR
comp=Z,1μm,21.0s,MS5.3
WLF Walferdange 96.08 319 *e*S S 21 03 19.7 +3.1
TORD Torodi Ar. Bea 99.86 283 P Pdif 20 52 16.6 +0.4
comp=Z,0.2nm,0.5s,baz=82,slow=5.3,SNR=4.6
TORD PKiKP PKiKP 20 56 44.6 -1.0
comp=Z,0.8nm,0.9s,baz=108,slow=4.7,SNR=2.9
TORD PKKPbc PKKPbc 21 08 37.6 +0.7
comp=Z,0.4nm,0.8s,baz=261,slow=3.0,SNR=5.1
TORD LR LR 21 32 27.1
comp=Z,754nm,21.9s,MS5.2,baz=95,slow=32
BPAW Bear Paw Mtn. 101.41 25 *e*Pdif Pdif 20 52 21.5 -1.6
comp=Z,8.0nm,0.9s
KDAK Kodiak Island 102.11 32 PFAKE 20 52 40.0 +14
KDAK LR LR
comp=Z,352nm,20.0s,MS4.9
COLA College 102.50 24 PFAKE 20 52 40.0 +12
COLA LR LR
comp=Z,625nm,20.0s,MS5.1
ESLA Sonseca Array 103.97 310 PFAKE 20 52 50.0 +16
ESLA LR LR
comp=Z,2μm,19.0s,MS5.7
DBIC Dimbokro 106.09 276 PFAKE 20 57 10.0 +13
DBIC LR LR
comp=Z,642nm,20.0s,MS5.2
TBI Tubuai 106.31 116 *e*S Sdif 21 04 36.8 -5.6
comp=Z,447nm,28.0s
TBI Tubuai 106.31 116 *e*PS PS 21 06 23.4 -5.8
comp=Z,222nm,29.0s
TBI *e*SS SS 21 12 06.3 -5.2
comp=Z,659nm,27.2s
TBI Tubuai 106.31 116 *e*LR LR 21 27 51.3
comp=Z,2μm,23.0s
PPT Papeete 107.29 110 *e*PP PP 20 57 05.5 -12
comp=Z,86nm,26.8s
PPT *e*S Sdif 21 04 46.7 -3.8
comp=Z,810nm,26.5s
PPT Papeete 107.29 110 *e*PS PS 21 06 33.6 -5.9
comp=Z,219nm,27.2s
PPT *e*SS SS 21 12 19.9 -5.2
comp=Z,298nm,24.0s
PPT Papeete 107.29 110 *e*LR LR 21 28 17.8
comp=Z,664nm,22.5s
YKA Yellowknife Ar 115.97 17 PKP PKPdf 20 57 13.8 -0.5
comp=Z,3.5nm,0.8s,baz=316,slow=2.0,SNR=3.6
RKT Rikitea 119.23 119 *e*PS PS 21 08 26.3 -4.8
comp=Z,286nm,27.2s
RKT *e*SS SS 21 14 58.5 -4.2
comp=Z,341nm,26.8s
RKT Rikitea 119.23 119 *e*LR LR 21 33 51.6
comp=Z,1μm,26.5s
HDW Hoodsport 122.42 34 P PKPdf 20 57 28.6 +1.5
GNW Green Mountain 122.59 34 *e*PKPdf PKPdf 20 57 28.2 +0.7
JCW Jim Creek 122.72 33 P PKPdf 20 57 28.2 +0.6
EDM Edmonton 123.41 24 PKIKP PKPdf 20 57 28.9 +0.1
FMW Mount Fremont 123.60 34 P PKPdf 20 57 29.9 +0.5
ETW Entiat 123.93 33 *e*PKPdf PKPdf 20 57 29.4 -0.6
TBM Table Mountain 124.05 33 P PKPdf 20 57 31.0 +0.8
EPH Ephrata 124.48 32 P PKPdf 20 57 31.4 +0.3
OD2 Odessa Site #2 124.92 32 P PKPdf 20 57 32.2 +0.2
RSW Rattlesnake Hi 125.07 33 *e*PKPdf PKPdf 20 57 32.9 +0.6
HAWA Hanford 125.10 33 *e*PKPdf PKPdf 20 57 32.6 +0.3
HAWA LR LR
comp=Z,639nm,19.0s,MS5.3
CROR Criterion Ridg 125.12 35 P PKPdf 20 57 33.2 +0.8
NEW Newport 125.18 30 *e*PKIKP PKPdf 20 57 32.9 +0.5
HUMO Hull Mountain 125.26 39 *e*PKPdf PKPdf 20 57 32.9 +0.2
HUMO *e* 20 57 41.2
HUMO LR LR
comp=Z,543nm,19.0s,MS5.2
BUOR Burton Butte 125.88 39 P PKPdf 20 57 35.0 +1.1
FFC Flin Flon 126.09 16 *e*PKIKP PKPdf 20 57 32.4 -1.5
FFC MLR MLR
comp=Z,1μm,21.0s,MS5.5
LNOR Lincton Mounta 126.11 33 *e*PKIKP PKPdf 20 57 34.0 -0.2
LHEM Herd Peak 126.25 39 P PKPdf 20 57 35.4 +0.8
HOPS Hopland 127.04 43 PFAKE 20 57 50.0 +14
HOPS LR LR
comp=Z,514nm,19.0s,MS5.2
BMO Blue Mountains 127.28 34 *e*PKIKP PKPdf 20 57 36.2 -0.3
BMO MLR MLR
comp=Z,468nm,19.0s,MS5.2
MOD Modoc 127.30 38 *e*PKPdf PKPdf 20 57 37.3 +0.7
MOD *e* 20 57 45.5
NSHM Saint Helena R 127.59 43 *e*PKPdf PKPdf 20 57 37.9 +0.6
MSO Missoula 127.74 30 *e*PKPdf PKPdf 20 57 36.9 -0.5
WVOR Wild Horse Val 128.00 37 *e*PKIKP PKPdf 20 57 38.9 +0.9
CHMT Chamberlain Mo 128.02 29 *e*PKPdf PKPdf 20 57 37.6 -0.3
CHMT *e* 20 57 45.9
EGMT Eagleton 128.82 26 *e*PKPdf PKPdf 20 57 40.1 +0.8
EGMT LR LR
comp=Z,718nm,22.0s,MS5.3

HRY	**Holter Researc**	**128.85**	**29**	PKPdf	PKPdf	20 57 39.2	-0.2	
CMB	**Columbia Colle**	**129.34**	**42**	PFAKE		20 57 50.0	+9.3	
CMB				LR	LR			
	comp=Z,436nm,20.0s,MS5.1							
DLMT	**Dillon**	**129.43**	**30**	*e*PKPdf	PKPdf	20 57 41.1	+0.6	
MCMT	**McKenzie Canyo**	**129.68**	**31**	*e*PKPdf	PKPdf	20 57 42.5	+1.4	
HLID	**Hailey**	**129.71**	**33**	PFAKE		20 57 50.0	+8.8	
HLID				LR	LR			
	comp=Z,913nm,19.0s,MS5.5							
BMN	**Battle Mountai**	**130.04**	**38**	PFAKE		20 57 50.0	+8.1	
BMN				LR	LR			
	comp=Z,671nm,20.0s,MS5.3							
QLMT	**Earthquake Lak**	**130.39**	**30**	*e*PKPdf	PKPdf	20 57 44.0	+1.6	
NVAR	**Mina Array Bea**	**130.51**	**41**	PKP	PKPdf	20 57 43.7	+0.8	
	comp=Z,6.4nm,0.8s,baz=251,slow=2.6,SNR=28							
NVAR				pPKP	pPKPdf	20 57 52.0	+0.2	
	comp=Z,7.8nm,1.0s,baz=236,slow=1.3,SNR=11							
NVAR				PP	PP	21 00 02.0	+5.1	
	comp=Z,1.5nm,0.9s,baz=290,slow=6.2,SNR=3.7							
NVAR				SKPbc	SKPbc	21 01 05.5	+0.8	
	comp=Z,4.2nm,0.9s,baz=274,slow=4.3,SNR=9.1							
NVAR	**Mina Array Bea**	**130.51**	**41**	PKP	PKPdf	20 57 43.7	+0.8	
NVAR				pPKP	pPKPdf	20 57 52.0	+0.2	
NVAR				PP	PP	21 00 02.0	+5.1	
NVAR				SKPbc	SKPbc	21 01 05.5	+0.8	
DGMT	**Dagmar**	**130.73**	**22**	PFAKE		20 57 50.0	+7.0	
DGMT				LR	LR			
	comp=Z,723nm,20.0s,MS5.4							
YMR	**Madison River**	**130.74**	**30**	*e*PKPdf	PKPdf	20 57 44.7	+1.6	
MTUM	**Tungsten Hills**	**130.93**	**42**	*e*PKPdf	PKPdf	20 57 45.3	+1.6	
YFT	**Old Faithful**	**130.96**	**30**	*e*PKPdf	PKPdf	20 57 46.7	+3.1	
ELK	**Elko**	**131.05**	**36**	*e*PKIKP	PKPdf	20 57 45.8	+2.0	
ELK				MLR	MLR			
	comp=Z,691nm,20.0s							
LKWY	**Lake**	**131.09**	**30**	PFAKE		20 58 00.0	+16	
LKWY				LR	LR			
	comp=Z,917nm,21.0s,MS5.5							
RLMT	**Red Lodge**	**131.23**	**28**	*e*PKPdf	PKPdf	20 57 45.9	+1.9	
LAO	**LASA Array**	**131.38**	**25**	*e*PKPdf	PKPdf	20 57 46.3	+2.0	
LAO				LR	LR			
	comp=Z,749nm,21.0s,MS5.4							
REDW	**Red Top Meadow**	**131.73**	**31**	*e*PKPdf	PKPdf	20 57 45.7	+0.7	
ULM	**Lac du Bonnet**	**131.75**	**14**	PKP	PKPdf	20 57 44.9	0.0	
	comp=Z,10nm,0.8s,baz=326,slow=3.6,SNR=12							
ULM				pPKP	pPKPdf	20 57 53.8	0.0	
	comp=Z,14nm,0.8s,baz=331,slow=1.6,SNR=9.6							
ULM	**Lac du Bonnet**	**131.75**	**14**	*e*PKPdf	PKPdf	20 57 44.6	-0.2	
ULM				*e*		20 57 53.7		
HVU	**Hansel Valley**	**131.79**	**34**	*e*PKIKP	PKPdf	20 57 46.4	+1.2	
ISA	**Isabella**	**131.89**	**44**	PFAKE		20 58 00.0	+14	
ISA				LR	LR			
	comp=Z,340nm,19.0s,MS5.1							
AHID	**Auburn Hatcher**	**132.02**	**32**	PFAKE		20 58 00.0	+14	
AHID				LR	LR			
	comp=Z,657nm,20.0s,MS5.3							
DAC	**Darwin (Calif)**	**132.17**	**43**	PFAKE		20 58 00.0	+14	
DAC				LR	LR			
	comp=Z,352nm,22.0s,MS5.0							
BGU	**Big Grassy Mou**	**132.22**	**35**	*e*PKPdf	PKPdf	20 57 48.0	+1.9	
HWUT	**Hardware Ranch**	**132.58**	**33**	*e*PKPdf	PKPdf	20 57 46.1	-0.5	
HWUT				LR	LR			
	comp=Z,533nm,19.0s,MS5.3							
BW06	**Boulder Array**	**132.82**	**31**	PFAKE		20 58 00.0	+13	
BW06				LR	LR			
	comp=Z,513nm,22.0s,MS5.2							
PDAR	**Pinedale Array**	**132.82**	**31**	PKhKP		20 57 39.5		
	comp=Z,1.4nm,0.8s,baz=101,slow=1.5,SNR=5.4							
PDAR				PKP	PKPdf	20 57 47.1	0.0	
	comp=Z,2.5nm,0.8s,baz=191,slow=0.5,SNR=12							
PDAR				pPKP	pPKPdf	20 57 56.5	+0.4	
	comp=Z,2.6nm,0.8s,baz=238,slow=2.8,SNR=7.2							
PDAR				SKPbc	SKPbc	21 01 12.6	-0.3	
	comp=Z,2.4nm,1.0s,baz=317,slow=6.1,SNR=4.3							
PDAR	**Pinedale Array**	**132.82**	**31**	PKP	PKPdf	20 57 47.1	0.0	
PDAR				pPKP	pPKPdf	20 57 56.5	+0.4	
PDAR				SKPbc	SKPbc	21 01 12.6	-0.3	
DUG	**Dugway**	**132.82**	**35**	*e*PKIKP	PKPdf	20 57 48.3	+1.1	
DUG				MLR	MLR			
	comp=Z,651nm,22.0s,MS5.3							
GSC	**Goldstone**	**133.24**	**43**	*e*PKIKP	PKPdf	20 57 49.1	+1.0	
GSC				MLR	MLR			
	comp=Z,430nm,19.0s,MS5.2							
AGMN	**Agassiz Refuge**	**133.55**	**15**	*e*PKPdf	PKPdf	20 57 48.0	-0.3	
AGMN				LR	LR			
	comp=Z,1μm,20.0s,MS5.6							
MSU	**Marysvale**	**134.29**	**37**	*e*PKIKP	PKPdf	20 57 50.9	+0.9	
PFO	**Pinyon Flat Ob**	**134.39**	**45**	*e*PKIKP	PKPdf	20 57 51.2	+0.9	
LDFC	**Landfair**	**134.51**	**43**	*e*PKPdf	PKPdf	20 57 50.8	+0.3	
RWWY	**Rawlins**	**134.79**	**30**	*e*PKPdf	PKPdf	20 57 50.3	-0.6	
SRU	**San Rafael**	**134.86**	**35**	*e*PKIKP	PKPdf	20 57 51.8	+0.7	
EYMN	**Ely**	**134.90**	**12**	PFAKE		20 58 00.0	+9.2	
EYMN				LR	LR			
	comp=Z,1μm,19.0s,MS5.6							
PHWY	**Pilot Hill**	**135.94**	**29**	*e*PKPdf	PKPdf	20 57 52.0	-1.0	
PV10	**Paradox Valley**	**136.21**	**35**	*e*PKPdf	PKPdf	20 57 54.3	+0.7	
PV01	**Paradox Valley**	**136.64**	**34**	*e*PKPdf	PKPdf	20 57 55.5	+1.1	
WUAZ	**Wupatki**	**136.70**	**39**	*e*PKPdf	PKPdf	20 57 56.2	+1.6	
ISCO	**Idaho Springs**	**137.01**	**30**	PFAKE		20 58 10.0	+15	
ISCO				LR	LR			
	comp=Z,701nm,22.0s,MS5.3							
COWI	**Conover**	**137.12**	**10**	PFAKE		20 58 10.0	+15	
COWI				LR	LR			
	comp=Z,1μm,21.0s,MS5.5							
MVCO	**Mesa Verde**	**137.32**	**35**	*e*PKPdf	PKPdf	20 57 56.4	+0.7	
ECSD	**EROS,Sioux Fal**	**137.47**	**19**	*e*PKPdf	PKPdf	20 57 55.5	-0.3	
ECSD				LR	LR			
	comp=Z,1μm,21.0s,MS5.5							
SDCO	**Great Sand Dun**	**138.60**	**32**	*e*PKPdf	PKPdf	20 57 58.3	+0.2	
GLMI	**Grayling**	**139.02**	**6**	PFAKE		20 58 10.0	+11	
GLMI				LR	LR			
	comp=Z,1μm,21.0s,MS5.5							
LBNH	**Lisbon**	**139.40**	**352**	PFAKE		20 58 10.0	+11	
LBNH				LR	LR			
	comp=Z,862nm,20.0s,MS5.5							
JFWS	**Jewell Farm**	**139.96**	**13**	PFAKE		20 58 10.0	+10	
JFWS				LR	LR			
	comp=Z,658nm,20.0s,MS5.4							
LAZ	**Ladron**	**140.05**	**37**	*e*PKPdf	PKPdf	20 58 00.3	-0.4	
ANMO	**Albuquerque**	**140.08**	**36**	*e*PKIKP	PKPdf	20 57 55.5	-5.3	
ANMO				MLR	MLR			
	comp=Z,850nm,20.0s							
LPM	**Los Pinos Moun**	**140.42**	**37**	*e*PKPdf	PKPdf	20 58 02.3	+0.8	
BNM	**Barren Site**	**140.53**	**37**	*e*PKPpre		20 57 57.9		
CBKS	**Cedar Bluff**	**140.55**	**26**	PFAKE		20 58 10.0	+8.5	
CBKS				LR	LR			
	comp=Z,857nm,20.0s,MS5.5							
HRV	**Adam Dziewonsk**	**141.04**	**351**	PFAKE		20 58 10.0	+10.7	
HRV				LR	LR			
	comp=Z,1μm,21.0s,MS5.6							
KSU1	**Kansas State U**	**141.57**	**22**	*e*PKPdf	PKPdf	20 58 03.9	+0.6	
KSU1				LR	LR			
	comp=Z,714nm,19.0s,MS5.5							
BINY	**Binghamton**	**141.83**	**356**	PFAKE		20 58 20.0	+16	
BINY				LR	LR			
	comp=Z,1μm,19.0s,MS5.8							
ERPA	**Erie**	**142.00**	**1**	PFAKE		20 58 20.0	+16	
ERPA				LR	LR			
	comp=Z,1μm,22.0s,MS5.5							
HDIL	**Hopedale**	**142.43**	**13**	PFAKE		20 58 20.0	+15	
HDIL				LR	LR			
	comp=Z,1μm,19.0s,MS5.6							
AMTX	**Amarillo**	**142.78**	**31**	PFAKE		20 58 20.0	+14	
AMTX				LR	LR			
	comp=Z,1μm,22.0s,MS5.6							
CPUP	**Villa Florida**	**143.25**	**214**	PKP	PKPdf	20 58 04.3	-2.4	
	comp=Z,0.5nm,0.4s,baz=28,slow=6.0,SNR=3.8							
CPUP	**Villa Florida**	**143.25**	**214**	*e*PKPpre	PKPdf	20 58 03.5	-3.3	
BDFB	**Brasilia**	**143.60**	**237**	PKP	PKPdf	20 58 09.0	+1.4	
	comp=Z,2.6nm,0.7s,baz=10,slow=11,SNR=3.7							
BDFB	**Brasilia**	**143.60**	**237**	PKP	LR	20 58 09.0	+1.4	
BDFB				LR	LR			
	comp=Z,749nm,19.0s,MS5.5							
ACSO	**Alum Creek Sta**	**143.72**	**5**	PFAKE		20 58 20.0	+13	
ACSO				LR	LR			
	comp=Z,1μm,22.0s,MS5.6							
CCM	**Cathedral Cave**	**144.30**	**17**	*e*PKIKP	PKPdf	20 58 04.8	-3.4	
CCM				MLR	MLR			
	comp=Z,972nm,22.0s,MS5.5							
OLIL	**Olney**	**144.43**	**12**	*e*PKPpre		20 58 05.8		
FVM	**French Village**	**144.59**	**16**	*e*PKIKP	PKPdf	20 58 06.1	-2.6	
SDMD	**Soldier's Deli**	**144.66**	**357**	*e*PKPpre		20 58 06.6		
SIUC	**Southern Illin**	**145.15**	**14**	*e*PKPdf	PKPdf	20 58 08.6	-1.1	
USIN	**University of**	**145.26**	**12**	*e*PKPdf	PKPdf	20 58 08.7	-1.2	
USIN				*e*		20 58 16.2		
WCI	**Wyandotte Cave**	**145.27**	**10**	*e*PKIKP	PKPdf	20 58 07.9	-2.0	
TXAR	**Lajitas Array**	**145.66**	**40**	PKPbc	PKPbc	20 58 11.3	+0.2	
	comp=Z,98nm,0.9s,baz=281,slow=1.9,SNR=365							
TXAR				pPKPbc	pPKPbc	20 58 20.0	0.0	
	comp=Z,56nm,0.8s,baz=332,slow=1.5,SNR=16							
CBN	**Corbin**	**145.88**	**358**	PFAKE		20 58 20.0	+9.0	
CBN				LR	LR			
	comp=Z,1μm,19.0s,MS5.7							
LCO	**Las Campanas**	**146.24**	**193**	*e*PKPbc	PKPbc	20 58 19.7	+6.8	
URVA	**University of**	**146.52**	**358**	*e*PKPdf	PKPdf	20 58 12.9	+0.8	
UTMT	**University of**	**146.54**	**14**	*e*PKPdf	PKPdf	20 58 13.1	+1.0	
GNAR	**Gosnell**	**146.59**	**16**	*e*PKPdf	PKPdf	20 58 13.5	+1.2	
MIAR	**Mount Ida**	**146.73**	**22**	*e*PKP2	PKPab	20 58 13.2	-2.1	
HALT	**Halls**	**146.83**	**15**	*e*PKPbc	PKPbc	20 58 13.9	-0.5	
ELN	**Prospectdale**	**146.86**	**2**	*e*PKPdf	PKPdf	20 58 12.5	-0.2	
BLA	**Blacksburg**	**146.89**	**2**	PFAKE		20 58 20.0	+7.3	
BLA				LR	LR			
	comp=Z,1μm,20.0s,MS5.6							
UALR	**University of**	**146.97**	**20**	*e*PKPbc	PKPbc	20 58 14.3	-0.6	
WVT	**Waverly**	**146.99**	**13**	*e*PKP2	PKPab	20 58 14.0	-2.3	
JCT	**Junction City**	**147.16**	**34**	*e*PKP2	PKPbc	20 58 13.3	-2.2	
JCT				MLR	MLR			
	comp=Z,745nm,19.0s,MS5.5							
OXF	**Oxford**	**148.13**	**16**	*e*PKP2	PKPbc	20 58 16.9	-1.1	
TKL	**Tuckaleechee C**	**148.17**	**7**	PKPbc	PKPbc	20 58 16.4	-1.7	
	comp=Z,46nm,0.8s,baz=75,slow=1.5,SNR=21							
TKL				pPKPbc	pPKPbc	20 58 25.3	-1.7	
	comp=Z,42nm,0.9s,baz=191,slow=13,SNR=9.9							
TKL	**Tuckaleechee C**	**148.17**	**7**	*e*PKPbc	PKPbc	20 58 16.4	-1.7	
SWET	**Sewanee**	**148.26**	**11**	*e*PKPbc	PKPbc	20 58 17.0	-1.4	
CPCT	**Cooper Cave**	**148.27**	**8**	*e*PKPbc	PKPbc	20 58 17.5	-0.9	
BBSR	**BB Station**	**148.69**	**336**	PFAKE		20 58 30.0	+14	
BBSR				LR	LR			
	comp=Z,395nm,20.0s,MS5.2							
NATX	**Nacogdoches**	**148.72**	**26**	*e*PKPbc	PKPbc	20 58 19.5	-0.1	
CNNC	**Cliffs of the**	**148.86**	**358**	*e*PKPbc	PKPbc	20 58 19.7	-0.2	
CNNC				LR	LR			
	comp=Z,839nm,21.0s,MS5.5							
HKT	**Hockley**	**149.68**	**30**	*e*PKP2	PKPbc	20 58 22.4	+0.3	
HKT				MLR	MLR			
	comp=Z,986nm,19.0s,MS5.6							
JSC	**Jenkinsville**	**149.77**	**4**	*e*PKP2	PKPbc	20 58 22.1	-0.1	
VBMS	**Vicksburg**	**149.92**	**20**	*e*PKPbc	PKPbc	20 58 22.6	0.0	
LRAL	**Lakeview Retre**	**150.15**	**13**	*e*PKPbc	PKPbc	20 58 21.9	-1.2	
GOGA	**Godfrey**	**150.42**	**7**	*e*PKIKP	PKPbc	20 58 22.3	-1.5	
GOGA				MLR	MLR			
	comp=Z,956nm,19.0s,MS5.6							
KVTX	**Kingsville**	**150.47**	**36**	*e*PKPbc	PKPbc	20 58 25.0	+0.9	
LVC	**Limon Verde**	**151.78**	**200**	*e*PKPab	PKPab	20 58 35.7	-0.3	
BRAL	**Brewton**	**152.07**	**15**	*e*PKPbc	PKPbc	20 58 28.3	+0.6	
BRAL				LR	LR			
	comp=Z,1μm,20.0s,MS5.7							
DWPF	**Disney**	**155.88**	**5**	PFAKE		20 58 40.0	+13	
DWPF				LR	LR			
	comp=Z,874nm,20.0s,MS5.6							
LPAZ	**La Paz**	**157.15**	**208**	PKP	PKPdf	20 58 29.9	+1.4	
	comp=Z,0.7nm,0.9s,baz=243,slow=4.5,SNR=2.6							
LPAZ	**La Paz**	**157.15**	**208**	PKP	PKPdf	20 58 29.9	+1.4	
GRGR	**Grenville**	**160.94**	**296**	PFAKE		20 58 40.0	+7.0	
GRGR				LR	LR			
	comp=Z,453nm,20.0s							
JTS	**JuntasAbangare**	**171.44**	**42**	PFAKE		20 58 50.0	+8.7	
JTS				LR	LR			
	comp=Z,352nm,22.0s							
BCIP	**Isla Barro Col**	**174.78**	**8**	PFAKE		20 58 50.0	+7.3	
BCIP				LR	LR			
	comp=Z,625nm,19.0s							
OTAV	**Otavalo**	**176.25**	**190**	*e*PKPdf	PKPdf	20 58 42.6	-0.5	

IDC 11 21:35:16.4±5.4, 475S×13225E, h0km, mb3.7/1, mb1 3.9/3, mb1mx3.6/13, mbtmp3.7/3, ML3.8/2, Error ellipse: s-maj=359.4km s-min=30.2km az=74.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h m s		ISC
WRA	**Warramunga Arr**	**15.24**	**172**	Pn	Pn	21 38 51.3		-1.8
	0.3nm,0.3s,baz=351,slow=13,SNR=5.6							
WRA				Sn	Sn	21 41 34.2		-8.5
	0.2nm,0.3s,baz=352,slow=19,SNR=3.4							
ASAR	**Alice Springs**	**18.88**	**175**	P	Pn	21 39 39.1		+0.2
	0.5nm,0.3s,baz=352,slow=9.3,SNR=20							
MKAR	**Makanchi Array**	**67.62**	**325**	P	P	21 46 15.2		+0.1
	0.5nm,0.5s,baz=115,slow=8.1,SNR=7.4							

IDC 11 21:57:09.5±1.7, 3281S×17865W, h0km, mb4.3/4, mb1 4.4/5, mb1mx4.1/18, mbtmp4.3/5, ML4.1/1, MS3.7/1, Ms1 3.7/1, ms1mx2.4/32, Error ellipse: s-maj=44.6km s-min=28.9km az=47.0, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h m s		ISC
URZ	**Urewera**	**6.44**	**211**	Pn	Pn	21 58 43.8		-1.8
	3.7nm,0.3s,baz=285,slow=7.9,SNR=12							
URZ				Sn	Sn	21 59 54.4		-5.5
	8.3nm,0.3s,baz=281,slow=22,SNR=10.0							
STKA	**Stephens Creek**	**33.47**	**261**	LR	LR	22 16 23.9		
	comp=Z,127nm,18.5s,baz=207,slow=34							
CTA	**Charters Tower**	**33.73**	**283**	P	P	22 03 54.1		+1.4
	3.2nm,0.6s,baz=110,slow=9.7,SNR=5.8							
ASAR	**Alice Springs**	**42.49**	**270**	P	P	22 05 06.3		-0.4
	2.9nm,0.8s,baz=111,slow=7.6,SNR=32							
WRA	**Warramunga Arr**	**43.70**	**275**	P	P	22 05 16.1		-0.4
	4.2nm,0.7s,baz=116,slow=7.6,SNR=13							
QSPA	**South Pole Qui**	**57.31**	**180**	P	P	22 06 58.9		+0.3
	1.5nm,0.6s,baz=3.2,slow=4.6,SNR=5.2							
SNAA	**Sanae**	**75.77**	**179**	*e*	P	22 09 03.7		+7.0
SNAA				*e*		22 09 16.3		
VNA3	**Neumayer Olymp**	**75.94**	**176**	*e*	P	22 09 06.8		+9.1
VNA3				*e*		22 09 19.3		
VNA2	**Neumayer--Watz**	**76.37**	**177**	*e*	P	22 09 07.7		+7.6
	baz=170,slow=4.8							
VNA2				*e*		22 09 19.9		
NOA	**NORSAR Array B**	**151.03**	**350**	PKPbc	PKPbc	22 17 02.3		-1.3
	1.2nm,0.5s,baz=14,slow=4.1,SNR=4.2							
TORD	**Torodi Ar. Bea**	**160.43**	**181**	PKPab	PKPab	22 17 53.7		+1.2
	0.8nm,0.9s,baz=192,slow=2.7,SNR=4.6							

JMA 11 21:59:07.2±0.6, 4436N×14781E, h103km, M3.5, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h m s		ISC
NEM2	**Nemuro 2**	**1.80**	**237**	P	Pn	21 59 37.7		+0.5
NEM2				*e*S	Sn	22 00 01.1		+1.0
JRA	**Rausu**	**1.98**	**259**	P	Pn	21 59 39.7		+0.1
JNK	**Nakash**	**2.36**	**252**	P	Pn	21 59 45.0		+0.5
JAK	**Akkeshi**	**2.64**	**240**	P	Pn	21 59 48.3		+0.1
JAK				*e*S	Sn	22 00 19.7		+0.1
JAR	**Ashorobuto**	**3.11**	**251**	P	Pn	21 59 55.3		+0.9
JCH	**Churui**	**3.68**	**243**	P	Pn	22 00 02.1		+0.1
JCH				*e*S	Sn	22 00 43.9		-0.5
JNBK	**Urakawa-nobuka**	**4.24**	**242**	P	Pn	22 00 08.8		-0.7
JOT	**Ohata**	**5.79**	**241**	P	Pn	22 00 29.6		-1.0
JOT				*e*S	Sn	22 01 31.2		-4.4
JANG	**Nango**	**6.13**	**232**	P	Pn	22 00 34.7		-0.5
JANG				*e*S	Sn	22 01 39.1		-4.8

*ISCJB **11** 22:18:51.2±1.2, 5623N±003×153.16W±0.05, h6km±7km, mb4.7/68, MS4.0/21, Error ellipse: s-maj=4.8km s-min=4.5km az=138.7*

*IDC **11** 22:18:51.6±0.7, 5620N×153.03W, h0km, mb4.4/19, mb1 4.6/20, mb1mx4.5/24, mbtmp4.4/20, ML4.5/1, MS3.9/19, Ms1 3.9/19, ms1mx3.7/44, Error ellipse: s-maj=24.4km s-min=11.8km az=16.0*

*MOS **11** 22:18:53.2±0.8, 5625N×153.20W, h20km, mb4.9/34, MS4.0/10, Error ellipse: s-maj=12.5km s-min=5.1km az=88.5*

*BJI **11** 22:18:54.3, 5651N×153.50W, h23km, mB4.9, mb4.9, Ms4.8, Ms2.4*

*GCMT **11** 22:18:54.6±0.5, 5584N×152.95W, h26km±1km, MW4.9/64, Moment Tensor Solution. s11,c15; s64,c92; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}0.28±.14; $M_{\theta\theta}$-1.37±.15; $M_{\phi\phi}$ 1.09±.14; $M_{r\theta}$0.81±.24; $M_{\theta\phi}$1.99±.09; $M_{\phi r}$-0.33±.23; Best double couple: M_o2.46800×10^{16} NP1:ϕ_s345.00000°, δ76.00000°, λ-171.00000°. NP2: ϕ_s253.00000°, δ81.00000°, λ-14.00000°. Principal axes:*

T 2.2060, Plg4.0000°, Azm300.0000°; N 0.5250, Plg73.0000°, Azm42.0000°; P -2.7300, Plg16.0000°, Azm209.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.

*NEIC **11** 22:18:54.6, 5600N×153.00W, h23km, mb4.7/23, ML4.3(AEIC), After AEIC.*

ISC 11 22:18:55.5±1.1, 5620N±003×15317W±005, h24km±7km, h25km±4.3km; pP-P, n203, σ0s82/205, mb4.7/68, MS4.0/21, 18C-4D, Kodiak Island region

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h m s		ISC
OHAK	**Old Harbor**	**1.03**	**356**	P	**Pn**	**22 19 14.5**		**+0.1**
OHAK				S	**Sb**	**22 19 30.3**		**+2.6**
KDAK	**Kodiak Island**	**1.62**	**11**	Pn	**Pn**	**22 19 22.5**		**-0.1**
	131nm,0.3s,baz=197,slow=7.3,SNR=1361							
KDAK				Sn	**Sn**	**22 19 43.3**		**+0.6**
	247nm,0.3s,baz=14,slow=21,SNR=90							
KDAK				LR	LR	22 19 44.9		
	comp=Z,1μm,18.6s,baz=195,slow=33							
KDAK	**Kodiak Island**	**1.62**	**11**	P	**Pn**	**22 19 22.5**		**-0.1**
KDAK						22 19 43.3		
KDAK				pmax	pmax			
	comp=Z,131nm,0.3s							
KDAK				smax				
	comp=N,247nm,0.3s							
KDAK				MLR	MLR			
	comp=Z,1μm,18.6s							
KDAK	**Kodiak Island**	**1.62**	**11**	*e*Pn	**Pn**	**22 19 22.6**		**0.0**
KDAK				Sn	**Sn**	**22 19 42.3**		**-0.4**
CHGN	**Chignik**	**2.93**	**274**	P	**Pn**	**22 19 39.4**		**-1.1**
SDPT	**Sand Point**	**4.21**	**261**	P	**Pn**	**22 19 56.7**		**-1.4**
SDPT				*e*Pn	**Pn**	**22 19 56.8**		**-1.3**
SDPT				Sn	**Sn**	**22 20 42.3**		**-4.2**
SEW	**Seward**	**4.39**	**25**	P	**Pn**	**22 19 58.5**		**-2.0**
SEW				S	**Sn**	**22 20 50.4**		**-0.3**
SLKM	**Skilak Lake**	**4.59**	**19**	*e*P	**Pn**	**22 20 02.9**		**-0.4**
SVW2	**Sparrevohn**	**5.08**	**347**	P	**Pn**	**22 20 11.0**		**+1.1**
SVW2				*e*Pn	**Pn**	**22 20 11.2**		**+1.2**
SVW2				Sn	**Sn**	**22 21 08.3**		**+0.6**
FIB	**Fire Island**	**5.22**	**16**	*e*P	**Pn**	**22 20 11.8**		**-0.2**
RC01	**Rabbit Creek A**	**5.22**	**19**	*e*Pn	**Pn**	**22 20 11.1**		**-0.9**
RC01				Sn	**Sn**	**22 21 10.3**		**-1.1**
PMR	**Palmer**	**5.80**	**19**	*e*P	**Pn**	**22 20 21.2**		**+1.3**
FALS	**False Pass**	**5.97**	**261**	P	**Pn**	**22 20 20.8**		**-1.4**
SML	**Sawmill**	**6.16**	**22**	P	**Pn**	**22 20 24.2**		**-0.6**
PPLA	**Purkeypile**	**6.74**	**4**	*e*Pn	**Pn**	**22 20 33.8**		**+1.1**
TT01	**Tatalina**	**6.89**	**349**	P	**Pn**	**22 20 35.1**		**+0.4**
TRF	**Thorofare Moun**	**7.42**	**10**	P	**Pn**	**22 20 42.5**		**+0.4**
KTH	**Kantishna Hill**	**7.47**	**8**	*e*Pn	**Pn**	**22 20 44.0**		**+1.2**
CHUM	**Lake Minchumin**	**7.72**	**3**	*e*Pn	**Pn**	**22 20 47.0**		**+0.8**
	comp=Z,3.0nm,0.5s							
PAX	**Paxson**	**7.83**	**27**	P	**Pn**	**22 20 46.8**		**-1.0**
MCK	**McKinley**	**7.85**	**14**	P	**Pn**	**22 20 48.3**		**+0.3**
BPAW	**Bear Paw Mtn.**	**8.01**	**7**	P	**Pn**	**22 20 49.6**		**-0.5**
UNV	**Unalaska Valle**	**8.02**	**258**	*e*Pn	**Pn**	**22 20 50.3**		**0.0**
PNL	**Peninsula**	**8.11**	**59**	P	**Pn**	**22 20 49.5**		**-2.0**
MENT	**Mentasta**	**8.28**	**31**	*e*Pn	**Pn**	**22 20 54.5**		**+0.6**
COLA	**College**	**9.09**	**15**	P	**Pn**	**22 21 05.6**		**+0.7**
COLA	**College**	**9.09**	**15**	Pn	**Pn**	**22 21 06.5**		**+1.5**
IL1	**Eielson Array**	**9.14**	**17**	P	**Pn**	**22 21 05.2**		**-0.4**
ILB	**Eielson Array**	**9.14**	**17**	P	**Pn**	**22 21 05.2**		**-0.4**
IM3	**Indian Mountai**	**9.83**	**359**	P	**Pn**	**22 21 15.6**		**+0.5**
SKAG	**Skagway**	**10.05**	**64**	*e*Pn	**Pn**	**22 21 16.4**		**-1.8**
	comp=Z,65nm,0.4s							
DAWY	**Dawson**	**10.44**	**35**	*e*Pn	**Pn**	**22 21 23.4**		**-0.1**
COLD	**Coldfoot**	**11.16**	**6**	*e*Pn	**Pn**	**22 21 33.0**		**-0.3**
	comp=Z,8.0nm,0.6s

TXAR **Lajitas Array** 43.85 107 P **P** 22 26 59.0 -0.6
comp=Z,2.4nm,1.0s,mb3.9,baz=305,slow=4.4,SNR=8.8
TXAR LR LR 22 44 00.7
comp=Z,176nm,18.1s,MS4.0,baz=260,slow=34
TXAR Lajitas Array 43.85 107 P **P** **22 26 59.0 -0.6**
TXAR pmax pmax
comp=Z,2.0nm,1.0s
TXAR MLR MLR
comp=Z,176nm,18.1s
KLR Kul'dur 43.90 294 *eP* **P** **22 26 54.7 -5.1**
KLR pmax pmax
comp=Z,78nm,1.8s,mb5.1
DAG Danmarks Havn 44.22 14⇑*iP* **P** **22 27 02.1 +0.1**
DAG pmax pmax
comp=Z,8.0nm,0.4s,mb4.8
DAG Danmarks Havn 44.22 14⇑*iP* **P** **22 27 02.1 +0.1**
comp=Z,8.5nm,0.4s,mb4.8
JCT Junction City 45.06 102 *eP* **P** **22 27 10.0 +0.8**
JCT pmax pmax
comp=Z,11nm,0.9s,mb4.7
JCT Junction City 45.06 102 *eP* **P** **22 27 10.0 +0.8**
comp=Z,11nm,0.9s,mb4.7
MIAR Mount Ida 45.45 92 *eP* **P** **22 27 12.1 -0.2**
MIAR *e**PP pP 22 27 21.5 +2.0
BOD Bodaibo 46.71 313 *eP* **P** **22 27 21.5 -0.4**
BOD pmax pmax
comp=Z,16nm,1.1s,mb4.9
BOD pmax pmax
comp=Z,12nm,0.9s,mb4.8
MJAR Matsushiro Arr 49.03 277 P **P** **22 27 39.9 -0.3**
comp=Z,3.4nm,0.7s,mb4.5,baz=34,slow=6.3,SNR=10
MJAR Matsushiro Arr 49.03 277 P **P** **22 27 39.9 -0.3**
MJAR pmax pmax
comp=Z,3.0nm,0.7s
MAJO Matsushiro 49.03 277 *eP* **P** **22 27 40.5 +0.3**
MAT Matsushiro 49.03 277 P **P** **22 27 39.3 -0.9**
CN2 Changchun 50.76 292 *eP* **P** **22 27 52.5 -0.7**
CN2 AMB AMB
comp=Z,20nm,1.3s,mb4.9
BORG Borgarnes 53.91 23 LR LR 22 50 35.1
comp=Z,215nm,21.8s,MS4.2,baz=341,slow=35
CBIJ Chichi jima 53.91 266 LR LR 22 48 52.8
comp=Z,109nm,20.6s,MS3.9,baz=178,slow=33
KSRS Korea Array 54.01 285 P **P** **22 28 17.6 +0.2**
comp=Z,6.0nm,0.7s,mb4.6,baz=47,slow=6.6,SNR=21
KSRS LR LR 22 52 34.9
comp=Z,46nm,19.0s,MS3.6,baz=256,slow=37
KSRS Korea Array 54.01 285 P **P** **22 28 17.6 +0.2**
KSRS pmax pmax
comp=Z,6.0nm,0.7s,mb4.6
KSRS MLR MLR
comp=Z,46nm,19.0s,MS3.6
ARCES ARCESS Array B 54.57 1 P **P** **22 28 20.8 -0.2**
comp=Z,6.3nm,0.8s,mb4.7,baz=5.2,slow=7.7,SNR=12
ARCES LR LR 22 54 45.2
comp=Z,100nm,18.4s,MS3.9,baz=360,slow=40
ARCES ARCESS Array B 54.57 1 P **P** **22 28 20.8 -0.2**
ARCES pmax pmax
comp=Z,6.0nm,0.8s
ARCES MLR MLR
comp=Z,100nm,18.4s
ARCES ARCESS Array B 54.57 1 P **P** **22 28 20.8 -0.2**
ARCES LR LR 22 54 45.2
KRAR Krasnoyarsk 56.04 322 *eP* **P** **22 28 31.2 -0.6**
KRAR pmax pmax
comp=Z,12nm,0.8s,mb5.0
SONM Songino Array 57.01 308 P **P** **22 28 39.6 +0.8**
comp=Z,10nm,1.0s,mb4.8,baz=51,slow=5.8,SNR=43
SONM PcP PcP 22 29 34.4 +0.8
comp=Z,3.9nm,0.8s,baz=36,slow=2.1,SNR=5.2
SONM LR LR 22 53 29.4
comp=Z,287nm,22.0s,MS4.3,baz=29,slow=36
SONM Songino Array 57.01 308 P **P** **22 28 39.6 +0.8**
SONM 22 29 34.4
SONM pmax pmax
comp=Z,10.0nm,1.0s
SONM pmax pmax
comp=Z,4.0nm,0.8s
SONM MLR MLR
comp=Z,287nm,22.0s
ZAA0 Zalesovo Array 60.42 325 *eP* **P** **22 29 02.8 +0.4**
ZALV Zalesovo Beam 60.42 325 P **P** **22 29 02.6 +0.2**
comp=Z,4.8nm,0.7s,mb4.6,baz=33,slow=7.1,SNR=26
ZALV LR LR 22 57 42.1
comp=Z,98nm,19.1s,MS4.0,baz=27,slow=38
ZALV Zalesovo Beam 60.42 325 P **P** **22 29 02.6 +0.2**
ZALV pmax pmax
comp=Z,5.0nm,0.7s,mb4.7
ZALV MLR MLR
comp=Z,98nm,19.1s,MS4.0
JOF Joensuu 61.17 358 *ep* **P** **22 29 06.9 -0.5**
comp=Z,5.0nm,0.7s,mb4.8
NB2 NORSAR Subarra 62.46 8 P **P** **22 29 15.9 -0.2**
comp=Z,0.8nm,0.5s,mb4.1,baz=350,slow=6.9
NOA NORSAR Array B 62.46 8 P **P** **22 29 16.3 +0.3**
comp=Z,2.9nm,0.8s,mb4.5,baz=351,slow=6.4,SNR=6.2
NOA NORSAR Array B 62.46 8 P **P** **22 29 16.3 +0.2**
NOA pmax pmax
comp=Z,3.0nm,0.8s
KLMR Klimovskoe 62.87 353 *eP* **P** **22 29 18.4 -0.4**
KLMR pmax pmax
comp=Z,25nm,1.4s,mb5.2
SVE Sverdlovsk 64.07 340 *eP* **P** **22 29 26.8 0.0**
SVE pmax pmax
comp=Z,12nm,0.9s,mb4.9
ARU Arti 64.83 341*c iP* **P** **22 29 30.9 -0.8**
ARU *e* 22 31 58.0
ARU *e*S **S** **22 38 10.0 -0.8**
ARU *e*SS SS 22 42 17.5 -3.7
ARU pmax pmax
comp=Z,20nm,1.7s,mb4.9
ARU Arti 64.83 341 *eP* **P** **22 29 31.3 -0.4**
comp=Z,13nm,1.4s,mb4.8
KURK Kurchatov 65.15 327 *eP* **P** **22 29 33.6 -0.3**
KURK pmax pmax
comp=Z,6.0nm,1.2s,mb4.5
KURK Kurchatov 65.15 327 *eP* **P** **22 29 33.7 -0.2**
comp=Z,6.4nm,0.9s,mb4.7
XAN Xi'an 66.54 296 P **P** **22 29 42.3 -0.9**
XAN AP pP 22 29 51.4 +0.7
XAN AMB AMB
comp=Z,10.0nm,1.6s,mb4.6
XAN AMB AMB
comp=Z,42nm,4.3s
XAN LR LR
comp=Z,199nm,25.2s,MS4.2
GTA Gaotai 66.57 306 *eP* **P** **22 29 43.8 +0.5**
GTA AP pP 22 29 48.2 -2.6
GTA XP sP 22 29 51.5 -2.1
GTA AMB AMB
comp=Z,6.0nm,1.0s,mb4.6
GTA AMB AMB
comp=Z,78nm,7.8s
GTA LR LR
comp=N,269nm,18.3s,MS4.6
GTA LR LR
comp=E,230nm,19.2s,MS4.6
GTA LR LR
comp=Z,353nm,16.8s,MS4.7
MKAR Makanchi Array 67.37 322 P **P** **22 29 48.0 -0.2**
comp=Z,2.3nm,0.9s,mb4.2,baz=50,slow=6.5,SNR=8.4
MKAR LR LR 23 01 27.9
comp=Z,126nm,19.2s,MS4.2,baz=177,slow=38
MKAR Makanchi Array 67.37 322 P **P** **22 29 48.0 -0.2**
MKAR pmax pmax
comp=Z,2.0nm,0.9s
MKAR MLR MLR
comp=Z,126nm,19.2s
LZH Lanzhou 67.39 301 *eP* **P** **22 29 49.0 +0.5**
LZH AP pP 22 29 54.2 -1.8
LZH XP sP 22 29 57.5 -1.4
LZH AMB AMB
comp=Z,18nm,1.3s,mb4.9
LZH AMB AMB
comp=Z,69nm,4.5s
LZH Lanzhou 67.39 301 *eP* **P** **22 29 49.0 +0.5**
LZH *PP pP 22 29 54.2 -1.8
LZH *SP sP 22 29 57.5 -1.4
LZH pmax pmax
comp=Z,18nm,1.3s,mb4.9
LZH Lanzhou 67.39 301 *eP* **P** **22 29 49.0 +0.5**
comp=Z,18nm,1.3s,mb4.9
LZH pP pP 22 29 54.2 -1.8
LZH sP sP 22 29 57.5 -1.4
OBN Obninsk 68.77 354 P **P** **22 29 56.0 -0.9**
OBN *i* *PP pP 22 30 06.9 +2.5
OBN *e* 22 34 09.3
OBN *e* 22 39 31.5
OBN pmax pmax
comp=Z,8.0nm,1.0s,mb4.6
OBN MLR MLR
comp=Z,100nm,17.0s,MS4.1
AFI Afiamalu 71.56 199 LR LR 22 54 45.8
comp=Z,108nm,21.1s,MS4.1,baz=60,slow=30
CLL Collm 72.25 9 *eP* **P** **22 30 18.0 -0.2**
BAIF Baives 72.46 15 *eP* **P** **22 30 19.5 +0.1**
VSR Storozhevoye 72.47 352 *eP* **P** **22 30 17.8 -1.7**
VSR *e**SP sP 22 30 29.1 -0.8
VSR pmax pmax
comp=Z,4.0nm,1.3s,mb4.2
VSR pmax pmax
comp=N,2.0nm,0.7s
VSR pmax pmax
comp=E,10.0nm,1.6s
GIVF Givet 72.50 15 *eP* **P** **22 30 19.7 0.0**
BRG Berggiesshubel 72.77 9 *eP* **P** **22 30 20.8 -0.4**
BRG pmax pmax
comp=Z,5.0nm,1.2s,mb4.3
BRG Berggiesshubel 72.77 9 *eP* **P** **22 30 20.8 -0.5**
comp=Z,7.8nm,1.2s,mb4.5
MOX Moxa 72.78 10 *e*(P) **P** **22 30 21.7 +0.4**
SGMF Saint Gilles 73.06 20 *eP* **P** **22 30 23.0 -0.1**
PVCC Panska Ves 73.16 8 *eP* **P** **22 30 23.9 +0.3**
GRR Gorron 73.25 19 *eP* **P** **22 30 23.9 -0.3**
QUIF Quistinic 73.27 21 *eP* **P** **22 30 24.2 -0.1**
UPC Upice 73.29 7 *eP* **P** **22 30 24.8 +0.5**
AKASG Malin Array Be 73.45 358 P **P** **22 30 24.4 -0.9**
comp=Z,5.1nm,0.8s,mb4.5,baz=3.5,slow=5.9,SNR=15
AKASG Malin Array Be 73.45 358 *iP* **P** **22 30 24.3 -1.0**
AKASG pmax pmax
comp=Z,5.0nm,0.8s
OKC Ostrava-Krasne 74.09 6 *eP* **P** **22 30 28.9 -0.2**
MEZF Maizieres J'vi 74.10 15 *eP* **P** **22 30 29.5 +0.4**
KHC Kasperske Hory 74.46 9 *eP* **P** **22 30 31.2 0.0**
KHC *ep*P pP 22 30 36.5 -2.3
KWP Kalwaria 74.49 3⇑*iP* **P** **22 30 31.2 -0.2**
CDF Champ du Feu 74.49 13 *eP* **P** **22 30 31.5 +0.1**
STHS Stebnicka Huta 74.66 4 *eP* **P** **22 30 33.2 +0.8**
STHS *e* 22 30 43.5
STHS pmax pmax
comp=Z,5.0nm,0.8s,mb4.5
STHS Stebnicka Huta 74.66 4 *eP* **P** **22 30 33.2 +0.8**
comp=Z,5.1nm,0.8s,mb4.5
STHS *e* 22 30 43.5
GERES GERESS Array B 74.76 9 P **P** **22 30 33.2 +0.3**
comp=Z,1.6nm,0.8s,mb4.0,baz=356,slow=5.3,SNR=14
GERES GERESS Array B 74.76 9 P **P** **22 30 33.2 +0.2**
GERES pmax pmax
comp=Z,2.0nm,0.8s
GERES GERESS Array B 74.76 9 P **P** **22 30 33.2 +0.3**
HAU Haudompre 74.77 14 *eP* **P** **22 30 33.0 0.0**
comp=Z,7.1nm,0.9s,mb4.3
HAU Haudompre 74.77 14 *eP* **P** **22 30 33.0 0.0**
HAU pmax pmax
comp=Z,4.0nm,0.9s,mb4.3
HAU Haudompre 74.77 14 *eP* **P** **22 30 33.0 0.0**
comp=Z,3.5nm,0.9s,mb4.3
HINF Hinteralfeld 75.02 14 *eP* **P** **22 30 34.5 0.0**
MFF Saint Martin d 75.10 19 *eP* **P** **22 30 34.9 -0.1**
comp=Z,24nm,1.2s,mb4.7
MFF Saint Martin d 75.10 19 *eP* **P** **22 30 34.9 -0.1**
MFF pmax pmax
comp=Z,12nm,1.2s,mb4.7
MFF Saint Martin d 75.10 19 *eP* **P** **22 30 34.9 -0.1**
comp=Z,12nm,1.2s,mb4.7
LOR Lormes 75.12 16 *eP* **P** **22 30 35.1 0.0**
SSF Saint Saulge 75.27 16⇑*iP* **P** **22 30 35.9 -0.1**
comp=Z,4.9nm,0.6s,mb4.3
SSF Saint Saulge 75.27 16⇑*iP* **P** **22 30 35.9 -0.1**
SSF pmax pmax
comp=Z,2.0nm,0.6s,mb4.2
SSF Saint Saulge 75.27 16⇑*iP* **P** **22 30 35.9 -0.1**
comp=Z,2.5nm,0.6s,mb4.3
KOLL Kolacno 75.36 6 *eP* **P** **22 30 36.5 +0.1**
VYHS Vyhne 75.47 5 *eP* **P** **22 30 35.0 -2.1**
MODS Modra-Piesok 75.50 7 *eP* **P** **22 30 35.5 -1.7**
AVF Avril sur Loir 75.51 16⇑*iP* **P** **22 30 37.0 -0.3**
comp=Z,6.6nm,0.6s,mb4.4
AVF Avril sur Loir 75.51 16⇑*iP* **P** **22 30 37.0 -0.3**
AVF pmax pmax
comp=Z,3.0nm,0.6s,mb4.4
AVF Avril sur Loir 75.51 16⇑*iP* **P** **22 30 37.0 -0.3**
comp=Z,3.3nm,0.6s,mb4.4
BGF Bois d'Agland 75.66 17 *eP* **P** **22 30 37.9 -0.3**
comp=Z,31nm,1.2s,mb4.8
BGF Bois d'Agland 75.66 17 *eP* **P** **22 30 37.9 -0.3**
BGF pmax pmax
comp=Z,15nm,1.2s,mb4.8
BGF Bois d'Agland 75.66 17 *eP* **P** **22 30 37.9 -0.3**
comp=Z,15nm,1.2s,mb4.8
ZST Bratislava 75.66 7 *eP* **P** **22 30 39.2 +1.0**
ZST pmax pmax
comp=Z,5.0nm,0.8s,mb4.5
ZST MLR MLR
comp=Z,100nm,17.0s,MS4.2
ZST Bratislava 75.66 7 *eP* **P** **22 30 39.2 +1.0**
comp=Z,4.8nm,0.8s,mb4.5
ZST LR LR
comp=Z,100nm,17.0s,MS4.2
SMF Signal de Mont 75.73 16 *eP* **P** **22 30 38.3 -0.3**
CONA Conrad Observa 75.84 8⇑*iP* **P** **22 30 39.8 +0.6**
comp=Z,4.6nm,1.0s,mb4.3
CSNA Conrad Observa 75.84 8⇑*iP* **P** **22 30 39.7 +0.5**
comp=Z,4.9nm,1.1s,mb4.3
HNR Honiara 76.00 228 LR LR 23 02 45.7
comp=Z,60nm,18.9s,MS3.9,baz=359,slow=35
PSZ Piszkesteto 76.09 5⇑*iP* **P** **22 30 34.1 -6.5**
FETA Feichten 76.27 11⇓*iP* **P** **22 30 42.6 +0.9**
comp=Z,5.9nm,1.0s,mb4.5
KBA Koelnbreinsper 76.48 9⇑*iP* **P** **22 30 43.6 +0.7**
comp=Z,11nm,1.3s,mb4.6
BURAR Bucovina Array 76.55 1⇓*iP* **P** **22 30 43.6 +0.4**
RJF Les Rejaudoux 76.65 18 *eP* **P** **22 30 43.6 -0.2**
LFF La Frestale 76.87 19 *eP* **P** **22 30 45.0 -0.1**
OBKA Obir 77.15 9⇑*iP* **P** **22 30 46.8 +0.1**
comp=Z,9.8nm,0.8s,mb4.8
PLOR Plostina 78.33 0⇓*iP* **P** **22 30 53.9 +0.7**
BZS Buzias 78.47 4⇑*iP* **P** **22 30 53.8 -0.2**
ETSF Etsaut 78.60 20 *eP* **P** **22 30 55.2 +0.4**
MTLF Montolieu 78.68 18 *eP* **P** **22 30 55.1 -0.1**
GZR Gura Zlata 78.73 3⇑*iP* **P** **22 30 55.8 +0.4**
VOIR 78.73 1⇑*iP* **P** **22 31 04.4 +9.0**
KIV Kislovodsk 79.33 348 *eP* **P** **22 30 58.0 -0.7**
KIV pmax pmax
comp=Z,7.0nm,0.8s,mb4.6
KIV Kislovodsk 79.33 348⇓*iP* **P** **22 30 58.9 +0.2**
ESDC Sonseca Array 80.98 24 P **P** **22 31 08.0 +0.3**
comp=Z,1.0nm,0.6s,mb3.9,baz=335,slow=5.5,SNR=7.6
TAPN Taplejung 82.13 308 *eP* **P** **22 31 14.5 +0.5**
comp=Z,20nm,0.8s,mb5.1
GUN Gumba 82.43 310 *eP* **P** **22 31 16.3 +0.7**
comp=Z,39nm,1.0s,mb5.3
JIRN Jiri 82.52 310 *eP* **P** **22 31 17.0 +1.0**
comp=Z,67nm,1.1s,mb5.6
ODAN Odare 82.69 308 *eP* **P** **22 31 17.4 +0.5**
comp=Z,20nm,1.0s,mb5.1
KKN Kakani 82.79 310 *eP* **P** **22 31 17.8 +0.3**
GNI Garni 82.83 346 *eP* **P** **22 31 18.0 +0.6**
GNI pmax pmax
comp=Z,6.0nm,1.3s
GKN Gorkha 82.88 311 *eP* **P** **22 31 18.1 +0.2**
comp=Z,32nm,1.1s,mb5.3
PKI Pulchoki 82.93 310 *eP* **P** **22 31 18.5 +0.3**
comp=Z,24nm,0.9s,mb5.2
DANN Dangsing 82.94 312 *eP* **P** **22 31 18.9 +0.7**
comp=Z,64nm,0.9s,mb5.6
RAMN Ramite 82.96 309 *eP* **P** **22 31 18.4 +0.1**
comp=Z,50nm,0.9s,mb5.5
DMN Daman 83.03 310 *eP* **P** **22 31 19.1 +0.4**
comp=Z,26nm,1.0s,mb5.2
KOLN Koldanda 83.52 312 *eP* **P** **22 31 21.2 0.0**
comp=Z,15nm,0.9s,mb5.1
CMAR Chiang Mai Arr 84.38 295 P **P** **22 31 25.2 -0.5**
comp=Z,4.8nm,0.9s,mb4.6,baz=13,slow=5.3,SNR=30
CMAR LR LR 23 14 10.8
comp=Z,68nm,18.9s,MS4.0,baz=271,slow=39
CMAR Chiang Mai Arr 84.38 295 P **P** **22 31 25.2 -0.5**
CMAR pmax pmax
comp=Z,5.0nm,0.9s
CMAR MLR MLR
comp=Z,68nm,19.0s

IDC ***11*** *22:32:32.1±3.0, 570N×12709E, h28km±20km, mb4.3/15, mb1 4.4/16, mb1mx4.2/23, mbtmp4.3/16, ML4.0/1, MS3.3/3, Ms1 3.4/3, ms1mx2.7/31, Error ellipse: s-maj=26.2km s-min=11.5km az=77.0*
BJI ***11*** *22:32:32.5, 560N×12700E, h33km, mB4.8, mb4.5, Ms4.1, Ms2.0*
ISCJB ***11*** *22:32:34.1±0.9, 557N±005×12704E±008, h65km±6km, mb4.6/32, Error ellipse: s-maj=13.8km s-min=7.4km az=165.7*
DJA ***11*** *22:32:35, 542N×12736E, h10km, Mw5.2/4*
NEIC ***11*** *22:32:35.6±1.6, 560N×12698E, h60km±13km, mb4.7/3, Error ellipse: s-maj=21.9km s-min=6.8km az=76.0*
ISC 11 22:32:36.0±0.8, 558N±005×12704E±008, h65km±6km, n72, σ1§18/77, mb4.7/32, 7C-5D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MATI	**Mati**	**1.56**	**330**	*e*P	**Pn**	**22 32 58.8**	**-2.9**
MATI				*e*S	**Sn**	**22 33 21.5**	**+0.8**
DAV	**Davao City (W)**	**2.07**	**316**	Pn	**Pn**	**22 33 08.1**	**-0.4**
	513nm,0.3s,baz=138,slow=0.9,SNR=72						
DAV				Sn	**Sn**	**22 33 36.5**	**+3.4**
	178nm,0.3s,baz=88,slow=15,SNR=5.8						
DAV	**Davao City (W)**	**2.07**	**316**	Pn	**Pn**	**22 33 08.1**	**-0.4**
DAV				Sn	**Sn**	**22 33 36.5**	**+3.4**
GSPH	**General Santos**	**2.14**	**284**‖	*e*P	**Pn**	**22 33 05.2**	**-4.2**
KCP	**Kidapawan**	**2.40**	**306**‖	*e*P	**Pn**	**22 33 11.5**	**-1.5**
KCP				*i* S	**Sn**	**22 33 42.5**	**+1.3**
BIPH	**Bislig**	**2.67**	**345**⇑	*i*P	**Pn**	**22 33 14.4**	**-2.3**
BIPH				*i* S	**Sn**	**22 33 53.9**	**+6.1**
BUKP	**Musuan**	**3.01**	**319**	*e*P	**Pn**	**22 33 19.8**	**-1.5**
CTBH	**Cotabato--PC H**	**3.22**	**301**‖	*e*P	**Pn**	**22 33 22.8**	**-1.3**
BUTP	**Butuan**	**3.65**	**337**	*e*P	**Pn**	**22 33 30.0**	**0.0**
CGP	**Cagayan de Oro**	**3.68**	**321**‖	*e*P	**Pn**	**22 33 31.1**	**+0.6**
CGP				*e*S	**Sn**	**22 34 16.5**	**+3.8**
PAGZ	**Pagadian**	**4.27**	**302**	*e*P	**Pn**	**22 33 37.9**	**-0.7**
DCPH	**Dipolog City**	**4.72**	**309**‖	*e*P	**Pn**	**22 33 48.0**	**+3.3**
DCPH				*e*S	**Sn**	**22 34 18.9**	**-19**
MSLP	**Maasin**	**5.01**	**335**	*e*P	**Pn**	**22 33 47.1**	**-1.6**
TBP	**Tagbilaran**	**5.15**	**323**‖	*e*P	**Pn**	**22 33 50.2**	**-0.4**
PLP	**Palo**	**5.91**	**340**‖	*e*P	**Pn**	**22 34 02.4**	**+1.3**
OCLP	**Ormoc**	**5.94**	**336**	*e*P	**Pn**	**22 34 01.5**	**0.0**
BESP	**Borongan**	**6.18**	**345**	*e*P	**Pn**	**22 34 09.4**	**+4.6**
GUIM	**Jordan**	**6.67**	**319**	*e*P	**Pn**	**22 34 11.6**	**+0.1**
RCP	**Roxas**	**7.30**	**325**⇑	*e*P	**Pn**	**22 34 21.1**	**+1.0**
CUYO	**Cuyo Island**	**7.93**	**312**	*e*P	**Pn**	**22 34 29.6**	**+1.0**
OTRP	**Odiongan**	**8.36**	**324**	*e*P	**Pn**	**22 34 35.7**	**+1.1**
PVCP	**Virac**	**8.45**	**341**	*e*P	**Pn**	**22 34 40.9**	**+5.0**
SJMP	**San Jose**	**8.99**	**320**	*e*P	**Pn**	**22 34 39.3**	**-3.9**
LUBP	**Lubang**	**10.51**	**321**	*e*P	**Pn**	**22 35 06.3**	**+2.4**
SCZP	**Santa Cruz**	**12.31**	**326**	*e*P	**Pn**	**22 35 34.1**	**+5.5**
KAPI	**Kappang**	**12.79**	**215**	Pn	**Pn**	**22 35 33.0**	**-2.2**
	0.8nm,0.3s,baz=39,slow=12,SNR=4.7						
KAPI				LR	LR	22 41 10.3	
	comp=Z,189nm,18.9s,baz=270,slow=40						
KAPI	**Kappang**	**12.79**	**215**	*e*Pn	**Pn**	**22 35 33.1**	**-2.0**
	9.7nm,0.8s						
KAPI				LR	LR	22 41 10.3	
BATI	**Baumata**	**16.04**	**192**	Pn	**Pn**	**22 36 20.0**	**+2.3**
	3.7nm,0.3s,baz=226,slow=6.0,SNR=5.7						
KAKA	**Kakadu**	**18.95**	**164**	*e*P	**Pn**	**22 36 49.0**	**-4.3**
	12nm,0.5s						
GUMO	**Guam**	**19.29**	**64**	LR	LR	22 43 35.3	
	comp=Z,45nm,18.4s,baz=266,slow=35						
FITZ	**Fitzroy Crossi**	**23.57**	**183**	P	**P**	**22 37 42.0**	**+1.1**
	5.4nm,0.6s,mb4.2,baz=5.7,slow=16,SNR=12						
CBIJ	**Chichi jima**	**25.81**	**32**	P	**P**	**22 37 59.6**	**-1.6**
	53nm,0.5s,mb5.4,baz=294,slow=6.3,SNR=7.0						
WRA	**Warramunga Arr**	**26.36**	**164**	P	**P**	**22 38 07.2**	**+0.9**
	7.5nm,0.6s,mb4.4,baz=343,slow=11,SNR=24						
ASAR	**Alice Springs**	**29.83**	**167**	P	**P**	**22 38 37.5**	**+0.2**
	2.4nm,0.6s,mb4.1,baz=355,slow=8.0,SNR=21						
ASAR				ScP	ScP	22 45 21.1	+5.1
	0.6nm,0.7s,baz=2.9,slow=1.9,SNR=4.8						
CMAR	**Chiang Mai Arr**	**30.25**	**297**	P	**P**	**22 38 41.1**	**+0.1**
	0.7nm,0.4s,mb3.8,baz=120,slow=7.5,SNR=7.7						
CMAR				ScP	ScP	22 45 21.2	+3.7
	0.7nm,0.3s,baz=91,slow=1.0,SNR=6.4						
CMAR				LR	LR	22 51 07.7	
	comp=Z,66nm,19.4s,baz=100,slow=37						
XAN	**Xi'an**	**32.92**	**332**	P	**P**	**22 39 06.1**	**+1.8**
XAN				AP	pP	22 39 13.6	-6.5
XAN				AMB	AMB		
	comp=Z,17nm,0.8s,mb5.0						
XAN				AMB	AMB		
	comp=Z,89nm,7.1s						
BJI	**Beijing**	**35.67**	**346**	P	**P**	**22 39 29.8**	**+1.8**
BJI				AMB	AMB		
	comp=Z,27nm,0.6s,mb5.3						
FORT	**Forrest**	**36.17**	**179**	*e*P	**P**	**22 39 32.4**	**+0.1**
	comp=Z,10nm,0.7s,mb4.9						
LZH	**Lanzhou**	**37.09**	**328**	*e*P	**P**	**22 39 42.0**	**+1.9**
LZH				pP	pP	22 39 46.5	-10
LZH				sP	sP	22 39 49.1	-15
MUN	**Mundaring**	**38.75**	**195**	*e*P	**P**	**22 39 54.0**	**-0.2**
NWAO	**Narrogin (SRO)**	**39.41**	**193**	P	**P**	**22 40 01.2**	**+1.6**
	comp=Z,2.6nm,0.5s,mb4.2,baz=38,slow=7.9,SNR=5.2						
STKA	**Stephens Creek**	**39.75**	**160**	*e*P	**P**	**22 40 02.6**	**+0.1**
	comp=Z,8.0nm,0.6s,mb4.6						
STKA	**Stephens Creek**	**39.75**	**160**	P	**P**	**22 40 03.0**	**+0.5**
	comp=Z,8.7nm,0.6s,mb4.7,baz=337,slow=8.0,SNR=14						
GTA	**Gaotai**	**41.69**	**328**	*e*P	**P**	**22 40 18.9**	**+0.5**
GTA				AMB	AMB		
	comp=Z,2.0nm,0.6s,mb3.9						
GTA				AMB	AMB		
	comp=Z,137nm,7.5s						
GTA				LR	LR		
	comp=N,261nm,16.2s						
GTA				LR	LR		
	comp=E,282nm,16.2s						
GTA				LR	LR		
	comp=Z,259nm,17.1s						
TAPN	**Taplejung**	**43.20**	**305**	*e*P	**P**	**22 40 30.3**	**-0.6**
	comp=Z,4.7nm,0.5s,mb4.5						
ODAN	**Odare**	**43.27**	**304**	*e*P	**P**	**22 40 31.5**	**0.0**
	comp=Z,16nm,0.8s,mb4.8						
RAMN	**Ramite**	**43.96**	**303**	*e*P	**P**	**22 40 37.2**	**+0.2**
	comp=Z,19nm,0.9s,mb4.8						
JIRN	**Jiri**	**44.56**	**304**	*e*P	**P**	**22 40 42.1**	**+0.3**
	comp=Z,20nm,0.8s,mb5.0						
GUN	**Gumba**	**44.91**	**304**	*e*P	**P**	**22 40 44.3**	**-0.3**
	comp=Z,14nm,0.5s,mb5.0						
KKN	**Kakani**	**45.36**	**304**	*e*P	**P**	**22 40 47.9**	**-0.3**
	comp=Z,10nm,0.8s,mb4.7						
DMN	**Daman**	**45.44**	**304**	*e*P	**P**	**22 40 48.5**	**-0.3**
	comp=Z,11nm,0.8s,mb4.8						
SONM	**Songino Array**	**45.66**	**341**	P	**P**	**22 40 50.6**	**+0.5**
	comp=Z,2.3nm,0.8s,mb4.1,baz=154,slow=9.3,SNR=16						
SONM				PcP	PcP	22 42 27.5	+0.2
	comp=Z,1.1nm,0.8s,baz=177,slow=2.4,SNR=3.8						
GKN	**Gorkha**	**45.97**	**304**	*e*P	**P**	**22 40 52.1**	**-0.9**
KOLN	**Koldanda**	**46.75**	**303**	*e*P	**P**	**22 40 57.6**	**-1.5**
	comp=Z,20nm,0.7s,mb5.2						
DANN	**Dangsing**	**46.82**	**304**	*e*P	**P**	**22 40 58.3**	**-1.3**
	comp=Z,23nm,0.6s,mb5.2						
SMLA	**Simla**	**53.14**	**305**	*i* P	**P**	**22 41 47.2**	**-0.4**
PETK	**Petropavlovsk-**	**53.61**	**22**	P	**P**	**22 41 50.3**	**-0.3**
	comp=Z,3.3nm,0.9s,mb4.3,baz=197,slow=2.2,SNR=3.6						
MKAR	**Makanchi Array**	**56.23**	**324**	P	**P**	**22 42 09.8**	**+0.2**
	comp=Z,3.7nm,0.6s,mb4.6,baz=115,slow=7.4,SNR=49						
MKAR				PcP	PcP	22 43 07.9	+1.3
	comp=Z,1.5nm,0.5s,baz=120,slow=5.2,SNR=2.4						
ZALV	**Zalesovo Beam**	**59.09**	**332**	P	**P**	**22 42 28.4**	**-1.1**
	comp=Z,2.5nm,0.7s,mb4.4,baz=98,slow=4.9,SNR=9.3						
KURK	**Kurchatov**	**60.36**	**327**	P	**P**	**22 42 38.0**	**-0.3**
	comp=Z,5.7nm,0.6s,mb4.8,baz=123,slow=6.7,SNR=13						
BVAR	**Borovoye Array**	**65.95**	**326**	P	**P**	**22 43 15.4**	**+0.1**
	comp=Z,3.1nm,0.5s,mb4.6,baz=127,slow=9.4,SNR=15						
AKTK	**Aktyubinsk**	**72.41**	**321**	P	**P**	**22 43 55.5**	**+0.2**
AKTO	**Aktyubinsk**	**72.41**	**321**	P	**P**	**22 43 55.5**	**+0.2**
	comp=Z,6.5nm,0.6s,mb4.7,baz=103,slow=8.0,SNR=29						
MIB	**Mutribah**	**78.32**	**299**	*e*P	**P**	**22 44 28.4**	**-1.3**
	baz=299						
MIB				AMb	AMB	22 44 32.4	
	comp=Z,14nm,0.7s,mb5.0,baz=299						
NAY	**Al-Naaiem**	**78.40**	**299**	*e*P	**P**	**22 44 28.7**	**-1.5**
	baz=299						
NAY				AMb	AMB	22 44 32.0	
	comp=Z,5.0nm,0.6s,mb4.6,baz=299						
RST	**Umm Al-Ruwaisa**	**78.61**	**299**	*e*P	**P**	**22 44 29.5**	**-1.9**
	baz=299						
RST				AMb	AMB	22 44 33.3	
	comp=Z,10.0nm,0.7s,mb4.8,baz=299						

KIV	Kislovodsk	82.09	313	⇑*iP*	P	22 44 51.6	+1.9
ARCES	ARCESS Array B	88.83	340	P	P	22 45 22.1	-0.5
	comp=Z,2.9nm,0.6s,mb4.8,baz=76,slow=7.6,SNR=6.5						
AKASG	Malin Array Be	90.66	321	P	P	22 45 30.2	-1.4
	comp=Z,2.2nm,0.7s,mb4.6,baz=69,slow=4.7,SNR=6.7						
MLR	Muntele Rosu	93.78	316	⇑*iP*	P	22 45 46.1	0.0
BURAR	Bucovina Array	93.83	318	⇑*iP*	P	22 45 48.3	+2.0
TORD	Torodi Ar. Bea	122.62	289	PKP	PKPdf	22 51 25.6	+0.2
	comp=Z,0.7nm,0.7s,baz=61,slow=1.8,SNR=8.3						

ISCJB ***11*** *22:41:43.8±0.6, 3476N±004×2320E±005, h10km, Error ellipse: s-maj=7.2km s-min=4.4km az=144.0*
HLW ***11*** *22:41:47.2, 35.13N×2375E, h33km, Mb3.4*
NEIC ***11*** *22:41:49.0, 3504N×2333E, h10km, ML3.0(ATH), After ATH.*
CSEM ***11*** *22:41:50.7±0.3, 3523N×2354E, h15km, ML3.0, Error ellipse: s-maj=7.0km s-min=2.0km az=37.0*
THE ***11*** *22:41:51.2, 35.16N×2349E, h17km±4km, Error ellipse: s-maj=5.1km s-min=1.1km az=255.0*

ISC 11 22:41:45.7±0.6**, 3481N**±004×**2328E**±005**, h10**km**, n61,** σ1º**09/67, 2C-2D, Crete**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
VAM	Vamos	0.96	51	*e*PB		Pb		22 42 05.0	+0.5
VAM	Vamos	0.96	51	*e*PB		Pb		22 42 05.0	+0.5
SIVA	Sivas	1.27	80	P		Pn		22 42 10.3	+0.8
SIVA				S		Sb		22 42 25.9	-0.3
SIVA	Sivas	1.27	80	P		Pn		22 42 11.3	+1.8
IDI	Anoyia	1.41	70	P		Pn		22 42 12.2	+0.9
LAST	Lasithi	1.84	78	P		Pn		22 42 18.7	+1.4
LAST	Lasithi	1.84	78	P		Pn		22 42 18.8	+1.5
VLI	Veliai	1.93	352	*e*PB		Pn		22 42 19.5	+0.9
VLI	Veliai	1.93	352	*e*PB		Pn		22 42 19.5	+0.9
NPS	Neapolis	1.97	76	*e*PN		Pg		22 42 24.5	+1.1
NPS	Neapolis	1.97	76	P		Pn		22 42 21.4	+2.3
NPS	Neapolis	1.97	76	*e*PN		Pg		22 42 24.5	+1.1
THR6	Thira Island,	2.32	48	P		Pn		22 42 23.2	-0.7
THR5	Thira Island,	2.33	46	P		Pn		22 42 22.9	-1.1
THR3	Thira Island,	2.35	47	P		Pn		22 42 23.3	-1.1
SANT	Santorini	2.36	48	P		Pn		22 42 23.5	-1.0
SANT	Santorini	2.36	48	*e*Pn		Pn		22 42 23.6	-1.0
THR1	Thera Island	2.36	48	P		Pn		22 42 23.5	-1.0
THR4	Thira Island,	2.39	46	P		Pn		22 42 23.9	-0.9
ZKR	Zakros	2.43	82	P		Pn		22 42 27.2	+1.7
ITM	Ithomi	2.61	336	*e*PN		Pg		22 42 36.5	+0.8
ITM	Ithomi	2.61	336	*e*PN		Pg		22 42 36.5	+0.8
VLX	Vlachokerasia	2.66	344	P		Pn		22 42 30.1	+1.5
DID	Didima	2.69	359	P		Pn		22 42 28.5	-0.6
APE	Apeiranthos	2.90	38	P		Pn		22 42 30.1	-1.9
APE	Apeiranthos	2.90	38	P		Pn		22 42 30.9	-1.1
ATH	Athens Observa	3.18	6	*e*PB		Pn		22 42 34.8	-0.9
ATH	Athens Observa	3.18	6	*e*PB		Pn		22 42 34.8	-0.9
LTK	Loutraki	3.22	356	P		Pn		22 42 35.9	-0.4
KARP	Karpathos	3.26	76	*e*PN		Pn		22 42 37.0	+0.1
KARP	Karpathos	3.26	76	*e*PN		Pn		22 42 37.0	+0.1
PTL	Penteli	3.27	8	*e*PB		Pn		22 42 35.8	-1.2
PTL	Penteli	3.27	8	P		Pn		22 42 36.5	-0.5
PTL	Penteli	3.27	8	*e*PB		Pn		22 42 35.8	-1.2
SLUM		3.68	153	⇓P		Pn		22 42 43.8	+1.2
SLUM				S		Sn		22 43 25.2	-0.9
LKR	Lokris	3.84	357	P		Pn		22 42 44.4	-0.5
LKR	Lokris	3.84	357	P		Pn		22 42 45.1	+0.2
VLS	Valsamata	4.00	328	P		Pn		22 42 46.2	-0.9
ARG	Arkhangelos	4.20	69	P		Pn		22 42 51.4	+1.7
EVR	Evrytania	4.27	344	*e*PN		Pn		22 42 51.4	+0.7
EVR	Evrytania	4.27	344	P		Pn		22 42 52.5	+1.8
EVR	Evrytania	4.27	344	*e*PN		Pn		22 42 51.4	+0.7
NEO	Neokhori	4.49	359	P		Pn		22 42 55.0	+1.2
TURN	Turunc	4.79	63	*i* P		Pn		22 42 53.5	-4.3
TURN	Turunc	4.79	63	*i* P		Pn		22 42 53.5	-4.4
HMAT	Matruh	4.90	138	⇑*eP*		Pn		22 42 58.9	-0.5
HMAT				S		Sn		22 43 51.6	-4.5
JAN	Janina	5.21	339	*e*PB		Pg		22 43 32.0	+6.4
JAN	Janina	5.21	339	*e*PB		Pg		22 43 32.0	+6.4
AKAS	Kas	5.35	73	*i* P		Pn		22 43 05.2	-0.4
AKAS	Kas	5.35	73	*i* P		Pn		22 43 05.2	-0.4
AKAS				*i* S		Sn		22 44 01.7	-5.6
PLG	Polygyros	5.56	1	P		Pn		22 43 09.1	+0.7
KEK	Kerkira	5.63	331	*e*PN		Pg		22 43 32.7	-0.8
KEK	Kerkira	5.63	331	*e*PN		Pg		22 43 32.7	-0.8
GOLH	Golhisar	5.64	63	*i* P		Pn		22 43 09.2	-0.3
GOLH	Golhisar	5.64	63	*i* P		Pn		22 43 09.2	-0.3
GOLH				*i* S		Sn		22 44 09.0	-5.3
BIA	Bitola	6.39	347	*eP*		Pn		22 43 11.2	-8.7
TIR	Tirane	7.06	339	P		Pn		22 43 29.0	-0.1
AWBH		8.05	142	⇓P		Pn		22 43 42.8	+0.2
HFRF	Wahat Farafira	8.77	149	⇑P		Pn		22 43 53.1	+0.6
AMAG	Maghara	9.34	114	P		Pn		22 43 57.9	-2.4
AMAG				S		Sn		22 45 32.5	-13
RSH		9.58	111	P		Pn		22 44 00.7	-2.9

IDC ***11*** *22:42:09.0±0.5, 1764N×4649W, h0km, mb4.3/19, mb1 4.5/19, mb1mx4.4/24, mbtmp4.3/19, MS4.1/29, Ms1 4.1/29, ms1mx4.0/34, Error ellipse: s-maj=17.6km s-min=12.8km az=126.0*
MOS ***11*** *22:42:09.5±0.8, 1771N×4649W, h10km, mb5.2/49, MS4.3/8, Error ellipse: s-maj=10.2km s-min=4.8km az=49.7*
ISCJB ***11*** *22:42:09.7±0.3, 1773N±006×4648W±002, h10km, mb4.9/111, MS4.2/38, Error ellipse: s-maj=9.0km s-min=2.8km az=173.2*
SZGRF ***11*** *22:42:10.2, 1703N×4675W, h33km, mb5.1, Northern Mid-Atlantic Ridge*
BJI ***11*** *22:42:10.0, 1760N×4650W, h10km, mB5.5, Ms5.1, Msz4.8*
GCMT ***11*** *22:42:11.1±0.3, 1774N×4640W, h12km, MW4.9/74, Moment Tensor Solution. s20,c22; s74,c105; Duration: 0 Moment tensor: Scale 10^16 Nm; Mrr-2.49±.07; Mθθ0.17±.08; Mϕϕ2.32±.07; Mrθ-0.84±.29; Mrϕ0.34±.07; Mθϕ-0.49±.26; Best double couple: Mo2.60700×10^16 NP1:ϕs175.00000°, δ40.00000°, λ-113.00000°. NP2: ϕs24.00000°, δ54.00000°, λ-72.00000°. Principal axes: T 2.4510, Plg7.0000°, Azm101.0000°; N 0.3080, Plg14.0000°, Azm193.0000°; P -2.7630, Plg74.0000°, Azm345.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
NEIC ***11*** *22:42:11.1±0.2, 1761N×4648W, h10km, mb5.1/58 Error ellipse: s-maj=6.2km s-min=3.2km az=167.0*

ISC 11 22:42:11.6±0.3**, 1768N**±006×**4646W**±002**, h10**km**, n469,** σ0º**59/445, mb4.9/111, MS4.2/38, 101C-107D, Northern Mid-Atlantic Ridge**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
SDV	Santo Domingo	25.07	253	P		P		22 47 36.5	-0.1
	2.8nm,0.3s,mb4.2,baz=199,slow=22,SNR=8.1								
SDV				LR		LR	LR	22 56 23.4	
	comp=Z,264nm,20.6s,MS3.7,baz=129,slow=34								
SDV	Santo Domingo	25.07	253	*e*P		P		22 47 36.9	+0.4
	15nm,1.7s,mb4.2								
BBTS	Babate	28.88	92	LR		LR		22 56 20.1	
	comp=Z,1μm,21.3s,MS4.4,baz=341,slow=29								
ROSC	El Rosal	30.10	248	LR		LR		23 00 27.4	
	comp=Z,130nm,18.1s,baz=17,slow=36								
BDFB	Brasilia	33.15	183	P		P		22 48 48.3	-0.1
	0.9nm,0.4s,mb4.1,baz=339,slow=23,SNR=4.1								
BDFB				LR		LR		23 01 28.9	
	comp=Z,121nm,19.0s,baz=190,slow=35								
PKME	Peaks-Kenny Pk	33.46	330	*e*P		P		22 48 51.3	+0.5
OTAV	Otavalo	35.92	245	*e*P		P		22 49 12.4	-0.1
	30nm,2.2s,mb4.8								
TKL	Tuckaleechee C	37.56	306	LR		LR		23 02 02.8	
	comp=Z,308nm,19.8s,MS4.1,baz=86,slow=32								
SADO	Sadowa	38.42	322	LR		LR		23 01 55.4	
	comp=Z,208nm,20.7s,MS3.9,baz=265,slow=31								
EVO	Evora	39.39	50	*e*P		P		22 49 43.1	+1.6
	46nm,1.4s,mb4.7								
EVO				*e*MLR		MLR			
	comp=Z,614nm,20.5s,MS4.1								
TEIG	Tepich	39.56	281	LR		LR		23 03 22.1	
	comp=Z,326nm,22.0s,MS4.1,baz=111,slow=32								
LPAZ	La Paz	39.94	214	P		P		22 49 46.0	-0.3
	comp=Z,3.5nm,0.9s,mb4.1,baz=22,slow=8.5,SNR=16								
LPAZ				LR		LR		23 05 41.1	
	comp=Z,140nm,18.0s,MS3.9,baz=116,slow=35								
LPAZ	La Paz	39.94	214	P		P		22 49 46.0	-0.4
				LR		LR		23 05 41.1	
WVT	Waverly	40.85	305	*e*P		P		22 49 53.8	+0.1
DBIC	Dimbokro	42.02	100	LR		LR		23 03 53.4	
	comp=Z,486nm,21.4s,MS4.3,baz=284,slow=31								
NNA	Nana	42.06	228	LR		LR		23 07 30.1	
	comp=Z,192nm,20.3s,MS4.0,baz=11,slow=36								
ESDC	Sonseca Array	42.74	50	P		P		22 50 08.4	-0.8
	comp=Z,1.3nm,0.8s,mb3.7,baz=250,slow=7.5,SNR=5.1								
ESDC				LR		LR		23 04 14.7	
	comp=Z,242nm,18.9s,MS4.1,baz=250,slow=31								
CCM	Cathedral Cave	43.99	307	*e*P		P		22 50 18.7	-0.6
CCM				pmax		pmax			
	comp=Z,72nm,2.1s,mb5.0								
CCM	Cathedral Cave	43.99	307	*e*P		P		22 50 18.7	-0.5
	comp=Z,72nm,2.1s,mb5.0								
CPUP	Villa Florida	45.01	194	P		P		22 50 26.0	-1.4
	comp=Z,6.1nm,0.7s,mb4.5,baz=359,slow=7.1,SNR=22								
CPUP				LR		LR		23 09 39.7	
	comp=Z,140nm,18.1s,MS3.9,baz=345,slow=37								
CPUP	Villa Florida	45.01	194	P		P		22 50 26.0	-1.4
CPUP				LR		LR		23 09 39.7	
LVC	Limon Verde	45.67	210	P		P		22 50 31.5	-1.3
	comp=Z,8.6nm,0.9s,mb4.7,baz=51,slow=6.7,SNR=6.1								
LVC				LR		LR		23 09 11.8	
	comp=Z,222nm,21.4s,MS4.1,baz=20,slow=36								
LVC	Limon Verde	45.67	210	*e*P		P		22 50 31.4	-1.4
	comp=Z,40nm,1.6s,mb5.1								
SJPF	Ste Jean	45.80	46	*e*P		P		22 50 33.9	+0.3
CMIG	Matias Romero	46.11	277	LR		LR		23 08 49.3	
	comp=Z,148nm,21.1s,MS3.9,baz=101,slow=35								
ETSF	Etsaut	46.19	47	*e*P		P		22 50 37.3	+0.6
QUIF	Quistinic	46.36	40	*e*P		P		22 50 37.6	-0.3
ROSF	Rostrenen	46.47	39	*e*P		P		22 50 38.5	-0.3
	comp=Z,61nm,1.3s,mb5.1								
ROSF	Rostrenen	46.47	39	*e*P		P		22 50 38.5	-0.3
ROSF				pmax		pmax			
	comp=Z,31nm,1.3s,mb5.1								
ROSF	Rostrenen	46.47	39	*e*P		P		22 50 38.5	-0.3
	comp=Z,31nm,1.3s,mb5.1								
TOA0	Torodi Ar. Sit	46.55	88	*e*P		P		22 50 39.4	-0.5
TORD	Torodi Ar. Bea	46.55	88	P		P		22 50 38.0	-1.9
	comp=Z,3.4nm,1.1s,mb4.2,baz=290,slow=7.0,SNR=11								
TORD				LR		LR		23 07 47.0	
	comp=Z,636nm,19.8s,MS4.6,baz=275,slow=33								
TORD	Torodi Ar. Bea	46.55	88	P		P		22 50 38.0	-1.9
TORD				LR		LR		23 07 47.0	
EPF	Esparros	46.86	47	*e*P		P		22 50 42.0	+0.1
	comp=Z,112nm,1.8s,mb5.2								
EPF	Esparros	46.86	47	*e*P		P		22 50 42.0	+0.1
EPF				pmax		pmax			
	comp=Z,56nm,1.8s,mb5.2								
EPF	Esparros	46.86	47	*e*P		P		22 50 42.0	+0.1
	comp=Z,56nm,1.8s,mb5.2								
SGMF	Saint Gilles	46.87	39	*e*P		P		22 50 41.8	-0.2
MFF	Saint Martin d	47.73	42	*e*P		P		22 50 48.7	+0.1
	comp=Z,75nm,1.4s,mb5.2								
MFF	Saint Martin d	47.73	42	*e*P		P		22 50 48.7	+0.1
MFF				pmax		pmax			
	comp=Z,38nm,1.4s,mb5.2								
MFF	Saint Martin d	47.73	42	*e*P		P		22 50 48.7	+0.1
	comp=Z,38nm,1.4s,mb5.2								
LFF	La Frestale	47.73	45	*e*P		P		22 50 49.7	+1.0
	comp=Z,89nm,1.6s,mb5.2								
LFF	La Frestale	47.73	45	*e*P		P		22 50 49.7	+1.0
LFF				pmax		pmax			
	comp=Z,44nm,1.6s,mb5.2								
LFF	La Frestale	47.73	45	*e*P		P		22 50 49.7	+1.0
	comp=Z,44nm,1.6s,mb5.2								
GRR	Gorron	47.96	40	*e*P		P		22 50 50.0	-0.4
	comp=Z,80nm,1.7s,mb5.2								
GRR	Gorron	47.96	40	*e*P		P		22 50 50.0	-0.4
GRR				pmax		pmax			
	comp=Z,40nm,1.7s,mb5.2								
GRR	Gorron	47.96	40	*e*P		P		22 50 50.0	-0.4
	comp=Z,40nm,1.7s,mb5.2								
MTLF	Montolieu	48.26	47	*e*P		P		22 50 53.8	+1.0
FLN	La Foliniere	48.34	40	*e*P		P		22 50 53.0	-0.3
FLN				*e*MLR		MLR			
	comp=Z,282nm,21.8s,MS3.9								
FLN	La Foliniere	48.34	40	*e*P		P		22 50 53.0	-0.3
FLN				LR		LR			
	comp=Z,280nm,21.8s,MS4.2								
RJF	Les Rejaudoux	48.37	45	*e*P		P		22 50 54.5	+0.8
RJF				*e*MLR		MLR			
	comp=Z,302nm,19.8s,MS4.0								
RJF	Les Rejaudoux	48.37	45	*e*P		P		22 50 54.5	+0.8
RJF				LR		LR			
	comp=Z,300nm,19.8s,MS4.3								
LDF	La Druitiere	48.49	40	*e*P		P		22 50 54.0	-0.5
CAF	Calviac	48.62	45	*e*P		P		22 50 55.3	-0.3
	comp=Z,27nm,1.3s,mb4.8								
TAM	Tamanrasset	48.84	75	*e*P		P		22 50 59.4	+1.8
TCF	Toulx Ste Croi	49.15	44	*e*P		P		22 50 59.6	0.0
	comp=Z,64nm,1.4s,mb5.2								
LASF	Ste Croix	49.61	47	*e*P		P		22 51 03.6	+0.4
BGF	Bois d'Agland	49.65	43	*e*P		P		22 51 03.3	-0.2
	comp=Z,95nm,1.6s,mb5.3								
BGF	Bois d'Agland	49.65	43	*e*P		P		22 51 03.3	-0.2
BGF				pmax		pmax			
	comp=Z,47nm,1.6s,mb5.3								
BGF	Bois d'Agland	49.65	43	*e*P		P		22 51 03.3	-0.2
	comp=Z,48nm,1.6s,mb5.3								
HYF	Humbligny	49.75	42	*e*P		P		22 51 04.3	+0.1
JCT	Junction City	49.93	295	*e*P		P		22 51 04.7	-1.2
JCT				pmax		pmax			
	comp=Z,44nm,1.8s,mb5.2								
JCT	Junction City	49.93	295	*e*P		P		22 51 04.7	-1.1
	comp=Z,44nm,1.8s,mb5.2								
AVF	Avril sur Loir	50.06	43	*e*P		P		22 51 06.3	-0.2
	comp=Z,42nm,1.3s,mb5.0								
AVF	Avril sur Loir	50.06	43	*e*P		P		22 51 06.3	-0.2
AVF				pmax		pmax			
	comp=Z,21nm,1.3s,mb5.0								
AVF	Avril sur Loir	50.06	43	*e*P		P		22 51 06.3	-0.2
	comp=Z,21nm,1.3s,mb5.0								
SSF	Saint Saulge	50.24	43	*e*P		P		22 51 07.4	-0.5
	comp=Z,24nm,1.2s,mb4.8								
SSF	Saint Saulge	50.24	43	*e*P		P		22 51 07.4	-0.5
SSF				pmax		pmax			
	comp=Z,12nm,1.2s,mb4.8								
SSF	Saint Saulge	50.24	43	*e*P		P		22 51 07.4	-0.5
	comp=Z,12nm,1.2s,mb4.8								
SMF	Signal de Mont	50.33	44	*e*P		P		22 51 08.4	-0.2
	comp=Z,87nm,1.7s,mb5.2								
SMF	Signal de Mont	50.33	44	*e*P		P		22 51 08.4	-0.2
SMF				pmax		pmax			
	comp=Z,44nm,1.7s,mb5.2								
SMF	Signal de Mont	50.33	44	*e*P		P		22 51 08.4	-0.2
	comp=Z,44nm,1.7s,mb5.2								
VIVF	Saint-Julien-l	50.38	46	*e*P		P		22 51 09.5	+0.5
	comp=Z,39nm,1.4s,mb5.0								
VIVF	Saint-Julien-l	50.38	46	*e*P		P		22 51 09.5	+0.5
VIVF				pmax		pmax			
	comp=Z,19nm,1.4s,mb4.9								
VIVF	Saint-Julien-l	50.38	46	*e*P		P		22 51 09.5	+0.5
	comp=Z,19nm,1.4s,mb4.9								
LOR	Lormes	50.53	43	*e*P		P		22 51 09.7	-0.4
	comp=Z,20nm,1.1s,mb4.6								
LOR				*e*MLR		MLR			
	comp=Z,212nm,19.8s,MS3.9								
LOR	Lormes	50.53	43	*e*P		P		22 51 09.7	-0.4
LOR				pmax		pmax			
	comp=Z,10.0nm,1.1s,mb4.7								
LOR				MLR		MLR			
	comp=Z,210nm,19.8s,MS4.2								
LOR	Lormes	50.53	43	*e*P		P		22 51 09.7	-0.4
	comp=Z,9.8nm,1.1s,mb4.7								
LOR				LR		LR			
	comp=Z,210nm,19.8s,MS4.2								
ULM	Lac du Bonnet	50.98	321	P		P		22 51 11.4	-2.1
	comp=Z,4.9nm,0.8s,mb4.5,baz=95,slow=5.1,SNR=6.0								
ULM				LR		LR		23 09 40.8	
	comp=Z,230nm,20.3s,MS4.2,baz=79,slow=32								
BAIF	Baives	51.66	39	*e*P		P		22 51 18.0	-0.6
	comp=Z,14nm,1.0s,mb4.5								
BAIF	Baives	51.66	39	*e*P		P		22 51 18.0	-0.6
BAIF				pmax		pmax			
	comp=Z,7.0nm,1.0s,mb4.5								
BAIF	Baives	51.66	39	*e*P		P		22 51 18.0	-0.6
	comp=Z,6.9nm,1.0s,mb4.5								
MEZF	Maizieres J'vi	51.68	42	*e*P		P		22 51 18.5	-0.2
	comp=Z,59nm,1.0s,mb5.2								
MEZF	Maizieres J'vi	51.68	42	*e*P		P		22 51 18.5	-0.2
	comp=Z,59nm,1.0s,mb5.5								
MBDF	Montbardon	51.79	47	*e*P		P		22 51 20.5	+0.9
	comp=Z,54nm,1.3s,mb5.0								
MBDF	Montbardon	51.79	47	*e*P		P		22 51 20.5	+0.9
MBDF				pmax		pmax			
	comp=Z,27nm,1.3s,mb5.0								
MBDF	Montbardon	51.79	47	*e*P		P		22 51 20.5	+0.9
	comp=Z,27nm,1.3s,mb5.0								
CABF	La Chapelle	51.80	44	*e*P		P		22 51 19.9	+0.2
	comp=Z,12nm,0.8s,mb4.6								
CABF	La Chapelle	51.80	44	*e*P		P		22 51 19.9	+0.2
CABF				pmax		pmax			
	comp=Z,6.0nm,0.8s,mb4.6								
CABF	La Chapelle	51.80	44	*e*P		P		22 51 19.9	+0.2
	comp=Z,5.9nm,0.8s,mb4.6								
BNI	Bardonecchia	51.81	46	*e*P		P		22 51 21.3	+1.6
BNI				pmax		pmax			
	comp=Z,28nm,1.4s,mb5.0								
BNI	Bardonecchia	51.81	46	*e*P		P		22 51 21.3	+1.5
	comp=Z,28nm,1.4s,mb5.0								
DOU	Dourbes	51.91	40	P		P		22 51 20.4	0.0
	comp=Z,7.2nm,1.8s,mb4.3								
LPL	La Plagne	51.96	46	*e*P		P		22 51 21.7	+0.9
	comp=Z,23nm,1.4s,mb4.6								
LPL	La Plagne	51.96	46	*e*P		P		22 51 21.7	+0.9
LPL				pmax		pmax			
	comp=Z,11nm,1.4s,mb4.6								
LPL	La Plagne	51.96	46	*e*P		P		22 51 21.7	+0.9
	comp=Z,11nm,1.4s,mb4.6								
LPG	La Plagne	51.96	46	*e*P		P		22 51 21.9	+1.0
	comp=Z,52nm,1.6s,mb4.9								
LPG	La Plagne	51.96	46	*e*P		P		22 51 21.9	+1.0
LPG				pmax		pmax			
	comp=Z,26nm,1.6s,mb4.9								
LPG	La Plagne	51.96	46	*e*P		P		22 51 21.9	+1.0
	comp=Z,26nm,1.6s,mb4.9								
UCC	Uccle	52.01	39	P		P		22 51 21.2	+0.1
GIVF	Givet	52.05	40	*e*P		P		22 51 20.8	-0.7
KEST	Kesra	52.31	58	P		P		22 51 23.5	-0.2
	comp=Z,1.3nm,0.6s,mb4.0,baz=286,slow=3.6,SNR=4.9								
KEST				LR		LR		23 12 58.4	
	comp=Z,111nm,18.1s,MS3.9,baz=277,slow=35								
HAU	Haudompre	52.36	42	*e*P		P		22 51 23.0	-0.8
	comp=Z,11nm,0.8s,mb4.5								
HAU				*e*MLR		MLR			
	comp=Z,180nm,21.5s,MS3.8								
HAU	Haudompre	52.36	42	*e*P		P		22 51 23.0	-0.8
HAU				pmax		pmax			
	comp=Z,5.0nm,0.8s,mb4.5								
HAU				MLR		MLR			
	comp=Z,180nm,21.5s,MS4.1								
HAU	Haudompre	52.36	42	*e*P		P		22 51 23.0	-0.8
	comp=Z,5.3nm,0.8s,mb4.5								
HAU				LR		LR			
	comp=Z,180nm,21.5s,MS4.1								
BCLA	Clavier	52.45	39	P		P		22 51 24.4	0.0
	comp=Z,16nm,2.0s,mb4.6								
HINF	Hinteralfeld	52.63	43	*e*P		P		22 51 25.0	-0.8
WLF	Walferdange	52.73	40	P		P		22 51 27.1	+0.6
	comp=Z,13nm,2.3s,mb4.5								
WLF	Walferdange	52.73	40	*e*P		P		22 51 27.1	+0.6
	comp=Z,49nm,2.0s,mb5.1								
MEM	Membach	52.93	39	P		P		22 51 28.4	+0.4
	comp=Z,15nm,1.7s,mb4.6								
CDF	Champ du Feu	53.07	42	*e*P		P		22 51 28.4	-0.7
TXAR	Lajitas Array	53.27	294	P		P		22 51 30.5	-0.4
	comp=Z,1.7nm,0.9s,mb4.0,baz=113,slow=9.6,SNR=9.9								
TXAR				LR		LR		23 11 27.6	
	comp=Z,253nm,21.8s,MS4.2,baz=5.0,slow=33								
CFAA	Coronel Fontan	53.28	203	LR		LR		23 14 46.8	
	comp=Z,20nm,20.6s,baz=168,slow=37								
BFO	Black Forest	53.73	43	*e*P		P		22 51 34.2	+0.3
BFO				pmax		pmax			
	comp=Z,43nm,1.8s,mb5.1								
BFO	Black Forest	53.73	43	*e*P		P		22 51 34.2	+0.3
	comp=Z,43nm,1.8s,mb5.1								
GDL2	Guadalupe Moun	53.88	297	*e*P		P		22 51 35.2	-0.1
TNS	Taunus Mts	54.31	40	*e*P		P		22 51 38.6	+0.5
TNS				pmax		pmax			
	comp=Z,12nm,1.0s,mb4.8								
TNS	Taunus Mts	54.31	40	*e*P		P		22 51 38.6	+0.5
	comp=Z,12nm,1.0s,mb4.8								
DAVOS	Davos	54.33	45	P		P		22 51 39.4	+1.1
DAVOX	Davos/Dischmat	54.38	45	P		P		22 51 39.4	+0.7
	com

comp=Z,40nm,1.7s,mb5.2
CLL MLR MLR
comp=Z,200nm,17.3s,MS4.3
CLL Collm 57.38 40 *e*P **P 22 52 00.3 +0.2**
comp=Z,40nm,1.7s,mb5.2
CLL Collm 57.38 40⇓*i*P **P 22 52 00.0 -0.1**
comp=Z,40nm,1.7s,mb5.2
CLL *i* x x 22 52 07.7
CLL *e*(PcP) PcP 22 52 56.0 +2.0
CLL *e*PP PP 22 54 09.0 +1.7
CLL Collm 57.38 40⇓*i*P **P 22 52 00.0 -0.1**
comp=Z,40nm,1.7s,mb5.2
CLL *i* 22 52 07.7
CLL LR LR
comp=Z,200nm,17.3s,MS4.3
LJU Ljubljana 57.41 46 *e*P **P 22 52 00.6 +0.1**
OBKA Obir 57.49 46⇓*i*P **P 22 52 00.7 -0.3**
comp=Z,16nm,0.8s,mb5.1
PV01 Paradox Valley 57.50 304 P **P 22 52 00.9 -0.3**
MOA Molln 57.51 44⇓*i*P **P 22 52 00.5 -0.6**
comp=Z,24nm,1.8s,mb4.9
T19A Beclabito 57.82 303⇑P **P 22 52 03.6 +0.1**
baz=58,SNR=5.8
BRG Berggiesshubel 57.87 41 *e*P **P 22 52 03.8 +0.3**
BRG pmax pmax
comp=Z,32nm,2.0s,mb5.0
BRG Berggiesshubel 57.87 41 *e*P **P 22 52 04.0 +0.5**
comp=Z,53nm,2.0s,mb5.2
BRG Berggiesshubel 57.87 41 *e*P **P 22 52 03.8 +0.2**
comp=Z,53nm,2.0s,mb5.2
PERS Pernice 57.90 46 *e*P **P 22 52 03.3 -0.5**
S19A Harvey Farm, M 57.93 304⇓P **P 22 52 04.4 +0.1**
baz=58
Y19A Nutrioso 57.99 299⇓P **P 22 52 05.4 +0.7**
baz=58
X19A St. Johns 58.01 300⇑P **P 22 52 05.4 +0.5**
baz=58
219A White Tail Can 58.03 297⇑P **P 22 52 05.4 +0.4**
baz=58,SNR=8.1
O19A Miners Draw (B 58.04 307⇓P **P 22 52 04.8 -0.1**
baz=58
119A Ashpeak Ranch, 58.05 298⇑P **P 22 52 06.1 +0.9**
baz=58
PRU Pruhonice 58.07 42 *e*P **P 22 52 05.4 +0.4**
PRU AMS AMS 23 16 00.0
comp=Z,400nm,19.8s
DOBS Dobrina 58.07 46 *e*P **P 22 52 04.8 -0.3**
Q19A Hogan Spring (58.08 305⇓P **P 22 52 05.2 0.0**
baz=58
PVCC Panska Ves 58.19 41 *e*P **P 22 52 06.2 +0.4**
PVCC AMS AMS 23 14 20.0
ARSA Arzberg 58.26 45⇓*i*P **P 22 52 05.6 -0.7**
comp=Z,22nm,1.4s,mb5.0
U18A Rough Rock, Ch 58.49 302⇓P **P 22 52 08.6 +0.4**
baz=58
N18A Larsen Ranch, 58.50 308⇑P **P 22 52 07.6 -0.6**
baz=58
T18A Mexican Hat 58.51 303⇑P **P 22 52 08.3 0.0**
baz=58,SNR=9.6
PDAR Pinedale Array 58.54 310 P **P 22 52 07.8 -0.6**
comp=Z,2.3nm,0.9s,mb4.2,baz=94,slow=7.9,SNR=14
PDAR LR LR 23 14 46.0
comp=Z,224nm,20.9s,MS4.3,baz=103,slow=33
BW06 Boulder Array 58.54 310⇑P **P 22 52 08.0 -0.5**
baz=58
BW06 Boulder Array 58.54 310 *e*P **P 22 52 07.9 -0.5**
comp=Z,22nm,1.6s,mb4.9
R18A Canyonlands Na 58.55 305⇑P **P 22 52 08.5 0.0**
baz=58,SNR=7.5
TREC Trest 58.55 43 *e*P **P 22 52 08.4 0.0**
TREC AMS AMS 23 14 40.0
comp=Z,300nm,18.9s
X18A Snowflake 58.56 300⇑P **P 22 52 09.2 +0.5**
baz=58
RLMT Red Lodge 58.56 312⇓P **P 22 52 08.0 -0.5**
baz=58
RLMT Red Lodge 58.56 312 P **P 22 52 06.6 -1.9**
comp=Z,22nm,2.1s,mb4.8
CSNA Conrad Observa 58.58 44⇓*i*P **P 22 52 08.2 -0.4**
comp=Z,18nm,1.8s,mb4.8
CONA Conrad Observa 58.58 44⇓*i*P **P 22 52 08.4 -0.2**
comp=Z,15nm,1.5s,mb4.8
S18A Hurst Farm, Bl 58.61 304⇓P **P 22 52 09.2 +0.2**
baz=58,SNR=5.8
118A Homack Ranch, 58.61 298⇑P **P 22 52 09.7 +0.6**
baz=58
318A Bisbee 58.68 296⇑P **P 22 52 10.5 +0.9**
baz=59
218A Dragoon 58.70 297⇓P **P 22 52 10.6 +0.9**
baz=59
Q18A Rafter H Ranch 58.76 305⇓P **P 22 52 10.0 0.0**
baz=59,SNR=7.2
P18A Preston Nutter 58.87 306⇑P **P 22 52 10.8 +0.1**
baz=59
F18A Big Timber 58.96 313⇑P **P 22 52 10.6 -0.6**
baz=59,SNR=6.1
SRU San Rafael 59.07 305 *e*P **P 22 52 12.6 +0.5**
SRU pmax pmax
comp=Z,29nm,2.3s,mb4.9
SRU San Rafael 59.07 305⇓P **P 22 52 12.1 0.0**
baz=59
SRU San Rafael 59.07 305 *e*P **P 22 52 12.6 +0.5**
comp=Z,29nm,2.3s,mb4.9
UPC Upice 59.09 41 *e*P **P 22 52 11.8 -0.3**
E18A Harlowton 59.17 314⇑P **P 22 52 11.9 -0.8**
baz=59
R17A Hanksville Air 59.19 305⇓P **P 22 52 12.7 -0.3**
baz=59
NOA NORSAR Array B 59.21 29 P **P 22 52 12.4 -0.4**
comp=Z,7.5nm,1.1s,mb4.6,baz=248,slow=7.1,SNR=4.1
NOA LR LR 23 13 49.8
comp=Z,79nm,18.8s,MS3.9,baz=255,slow=32
P17A Butcher Ranch, 59.24 306⇓P **P 22 52 13.3 -0.1**
baz=59
EGMT Eagleton 59.25 316⇓P **P 22 52 12.6 -0.6**
baz=59
T17A Navajo Res., N 59.25 303⇓P **P 22 52 13.9 +0.5**
baz=59,SNR=12
S17A Black Ridge (B 59.25 304⇑P **P 22 52 13.8 +0.3**
baz=59,SNR=9.4
DPC Dobruska-Polom 59.26 42 *e*P **P 22 52 13.3 0.0**
DPC AMS AMS 23 16 40.0
comp=Z,400nm,14.1s
117A Oracle 59.27 298⇓P **P 22 52 14.1 +0.5**
baz=59
VRAC Vranov 59.27 43⇑*i*P **P 22 52 13.8 +0.4**
O17A Robinson Place 59.27 307⇓P **P 22 52 13.9 +0.4**
baz=59
TUC Tucson 59.31 297 *e*P **P 22 52 14.4 +0.4**
TUC pmax pmax
comp=Z,9.0nm,1.3s,mb4.6
TUC Tucson 59.31 297 *e*P **P 22 52 14.4 +0.4**
comp=Z,8.6nm,1.3s,mb4.6
Y17A Roosevelt 59.31 299⇓P **P 22 52 14.3 +0.3**
baz=59,SNR=5.3
KSP Ksiaz 59.32 41 *e*P **P 22 52 14.3 +0.6**
217A Green Valley 59.36 297⇑P **P 22 52 14.7 +0.4**
baz=59
LOHW Long Hollow 59.37 311 *e*P **P 22 52 13.6 -0.6**
comp=Z,40nm,1.8s,mb5.2
I17A Pilgram Creek 59.38 311⇓P **P 22 52 13.8 -0.4**
baz=59
N17A Moffit Pass 59.38 307⇑P **P 22 52 14.2 -0.1**
baz=59
ZST Bratislava 59.45 44 *e*P **P 22 52 14.2 -0.4**
comp=Z,7.0nm,0.9s,mb4.7
ZST LR LR
comp=Z,100nm,17.0s,MS4.0
MOOW Moose Ponds 59.48 311 *e*P **P 22 52 14.6 -0.4**
U16A Tuba City 59.51 302⇓P **P 22 52 15.6 +0.4**
baz=59,SNR=5.9
REDW Red Top Meadow 59.53 310 *e*P **P 22 52 15.1 -0.2**
comp=Z,35nm,1.8s,mb5.1
LPIG La Paz 59.56 288 LR LR 23 16 29.7
comp=Z,183nm,19.1s,MS4.2,baz=297,slow=35
MODS Modra-Piesok 59.59 44 *e*P **P 22 52 14.6 -1.0**
MODS pmax pmax
comp=Z,14nm,1.6s,mb4.7
MODS Modra-Piesok 59.59 44 *e*P **P 22 52 14.5 -1.1**
MODS Modra-Piesok 59.59 44 *e*P **P 22 52 14.6 -1.0**
comp=Z,14nm,1.6s,mb4.7
TPAW Teton Pass 59.61 310 *e*P **P 22 52 15.6 -0.3**
comp=Z,35nm,1.7s,mb5.1
IMW Indian Meadow 59.63 311 *e*P **P 22 52 15.8 -0.2**
WUAZ Wupatki 59.71 301⇓P **P 22 52 17.7 +1.1**
baz=60
WUAZ Wupatki 59.71 301 *e*P **P 22 52 17.8 +1.1**
comp=Z,15nm,1.0s,mb5.0
X16A Lo Mia Camp, P 59.79 300⇓P **P 22 52 18.0 +0.8**
baz=60
R16A Teasdale 59.80 304⇑P **P 22 52 17.3 +0.1**
baz=60
Y16A Circle Bar Ran 59.84 299⇓P **P 22 52 17.7 +0.1**
baz=60
W16A Flagstaff 59.85 301⇓P **P 22 52 18.5 +0.9**
baz=60
RRI2 Red Ridge 59.87 310 *e*P **P 22 52 17.6 0.0**
comp=Z,29nm,1.7s,mb5.0
S16A Weppner Ranch, 59.88 304⇓P **P 22 52 18.3 +0.5**
baz=60
H16A Russell Place, 59.92 312⇓P **P 22 52 18.1 +0.1**
baz=60
MORC Moravsky Berou 59.95 42 *e*P **P 22 52 18.1 +0.1**
MORC pmax pmax
comp=Z,23nm,1.4s,mb5.0
MORC Moravsky Berou 59.95 42⇑*i*P **P 22 52 09.8 -8.2**
MORC Moravsky Berou 59.95 42 *e*P **P 22 52 18.1 +0.1**
comp=Z,23nm,1.4s,mb5.0
HWUT Hardware Ranch 59.96 308 *e*P **P 22 52 17.9 -0.4**
comp=Z,15nm,1.2s,mb4.9
M16A Huntsville 59.99 308⇑P **P 22 52 18.5 0.0**
baz=60
K16A Soda Springs 60.04 310⇓P **P 22 52 18.7 -0.1**
baz=60
J16A Bone 60.08 310⇓P **P 22 52 18.7 -0.3**
baz=60
PKSM Moragy 60.27 46⇑*i*P **P 22 52 20.4 +0.1**
D16A Dana Ranch, Ca 60.34 314⇑P **P 22 52 20.2 -0.6**
baz=60
OKC Ostrava-Krasne 60.34 42 *e*P **P 22 52 20.8 0.0**
OKC AMS AMS 23 16 40.0
MSU Marysvale 60.35 305 *e*P **P 22 52 21.2 +0.2**
KOLL Kolacno 60.35 44 *e*P **P 22 52 20.0 -0.8**
G16A Moss Hill, Enn 60.35 312⇓P **P 22 52 20.1 -0.8**
baz=60
V15A Kaibab Nationa 60.36 302⇑P **P 22 52 22.1 +1.0**
baz=60,SNR=9.2
E16A East Helena 60.38 314⇑P **P 22 52 20.4 -0.6**
baz=60,SNR=6.0
U15A North Rim 60.44 302⇑P **P 22 52 22.4 +0.7**
baz=60,SNR=8.4
X15A Humboldt 60.45 300⇑P **P 22 52 22.3 +0.6**
baz=60,SNR=5.5
W15A Williams 60.45 301⇑P **P 22 52 22.9 +1.1**
baz=60
T15A Red Dirt Ranch 60.51 303⇓P **P 22 52 22.2 +0.1**
baz=60
115A Sonoran Desert 60.51 298⇓P **P 22 52 22.2 0.0**
baz=60
C16A Fuhringer Ranc 60.55 315⇓P **P 22 52 21.6 -0.6**
baz=60
A16A West Butte Ran 60.58 317⇑P **P 22 52 22.4 0.0**
baz=60
L15A Malad City 60.59 309⇓P **P 22 52 22.2 -0.4**
baz=60,SNR=6.6
B16A M & M Farms, S 60.59 316⇑P **P 22 52 22.1 -0.3**
baz=60
SPUT South Promonto 60.61 308 *e*P **P 22 52 22.8 +0.1**
M15A Larsen Ranch, 60.61 308⇓P **P 22 52 21.9 -0.8**
baz=60,SNR=9.6
VYHS Vyhne 60.63 44 *e*P **P 22 52 22.1 -0.6**
N15A Stansbury Isla 60.65 307⇓P **P 22 52 22.8 -0.2**
baz=61
J15A Blackfoot 60.69 310⇑P **P 22 52 22.9 -0.3**
baz=61
G15A Dillon 60.83 312⇓P **P 22 52 23.9 -0.3**
baz=61
DUG Dugway 60.86 307 *e*P **P 22 52 24.5 0.0**
DUG pmax pmax
comp=Z,49nm,2.1s,mb5.3
DUG Dugway 60.86 307⇓P **P 22 52 24.5 0.0**
baz=61
DUG Dugway 60.86 307 *e*P **P 22 52 24.5 0.0**
comp=Z,49nm,2.1s,mb5.3
X14A Yava 60.99 300⇑P **P 22 52 25.9 +0.5**
baz=61
D15A Lincoln 61.00 314⇑P **P 22 52 24.5 -0.7**
baz=61
BGU Big Grassy Mou 61.04 307 *e*P **P 22 52 25.4 -0.3**
P14A Drum Mountains 61.05 306⇓P **P 22 52 25.6 -0.1**
baz=61,SNR=6.3
214A Organ Pipe Nat 61.05 297⇓P **P 22 52 26.5 +0.6**
baz=61
Y14A Wickenburg 61.10 299⇑P **P 22 52 26.5 +0.3**
baz=61
W14A Seligman 61.12 301⇑P **P 22 52 27.2 +0.9**
baz=61,SNR=6.3
V14A Boquillas Ranc 61.12 301⇑P **P 22 52 27.3 +0.9**
baz=61
C15A Salmond Ranch, 61.12 315⇓P **P 22 52 25.6 -0.5**
baz=61
B15A Bradely Ranch, 61.15 316⇑P **P 22 52 25.7 -0.6**
baz=61
N14A Grayback Hills 61.16 307⇓P **P 22 52 26.0 -0.5**
baz=61,SNR=14
U14A Mt Trumbull 61.16 302⇑P **P 22 52 27.2 +0.6**
baz=61,SNR=5.1
Q14A Sevier Lake (B 61.21 305⇑P **P 22 52 26.9 +0.1**
baz=61,SNR=6.2
PSZ Piszkesteto 61.28 45 *e*P **P 22 52 27.6 +0.5**
M14A Sheep Mountain 61.29 308⇑P **P 22 52 26.4 -0.9**
baz=61,SNR=6.4
A15A Johnson Ranch, 61.33 317⇓P **P 22 52 26.9 -0.6**
baz=61
OJC Ojcow 61.45 42 *e*P **P 22 52 28.6 +0.3**
J14A Carey 61.47 310⇑P **P 22 52 28.8 +0.2**
baz=61
CHMT Chamberlain Mo 61.49 314 *e*P **P 22 52 27.7 -0.9**
D14A Greenough 61.67 314⇑P **P 22 52 29.4 -0.5**
baz=62
S13A Holt Ranch, En 61.68 304⇓P **P 22 52 30.5 +0.4**
baz=62
NIE Niedzica 61.70 43 *e*P **P 22 52 31.3 +1.4**
T13A Saint George 61.73 303⇑P **P 22 52 30.9 +0.5**
baz=62
R13A O'Grain Ranch, 61.76 304⇑P **P 22 52 31.4 +0.8**
baz=62
X13A Yucca 61.76 300⇓P **P 22 52 31.5 +0.8**
baz=62,SNR=8.2
A14A Double T Ranch 61.78 317⇑P **P 22 52 29.9 -0.5**
baz=62
W13A Hualapai Mount 61.78 301⇓P **P 22 52 31.6 +0.8**
baz=62
P13A Bates Ranch, G 61.78 306⇑P **P 22 52 31.0 +0.3**
baz=62,SNR=12
Q13A Wheeler Ranch, 61.79 305⇓P **P 22 52 31.0 +0.3**
baz=62
U13A Pakoon Wash 61.79 302⇓P **P 22 52 31.2 +0.3**
baz=62
V13A Grand Canyon W 61.83 302⇓P **P 22 52 31.8 +0.7**
baz=62,SNR=5.9
M13A Montello 61.90 308⇑P **P 22 52 31.5 0.0**
baz=62
I13A Wildhorse Cree 61.93 311⇓P **P 22 52 31.4 -0.2**
baz=62
J13A Cove Ranch, Pi 61.95 310⇓P **P 22 52 31.6 -0.2**
baz=62
PDMCI Parker Dam,Lak 62.03 300⇓P **P 22 52 32.8 +0.3**
baz=62
H13A Challis 62.05 311⇑P **P 22 52 32.2 -0.2**
baz=62
SKO Skopje 62.05 51 *e*P **P 22 52 35.8 +3.3**
G13A Cobalt 62.06 312⇓P **P 22 52 31.9 -0.6**
baz=62
HLID Hailey 62.13 310⇓P **P 22 52 32.7 -0.3**
baz=62
HLID Hailey 62.13 310 *e*P **P 22 52 32.6 -0.4**
comp=Z,37nm,2.2s,mb5.1
F13A Darby 62.16 313⇑P **P 22 52 33.4 +0.3**
baz=62
U12A Valley of Fire 62.26 302⇑P **P 22 52 34.1 +0.2**
baz=62
PLCA Paso Flores 62.28 201 P **P 22 52 30.9 -2.9**
comp=Z,1.6nm,0.7s,mb4.2,baz=340,slow=8.3,SNR=3.3
PLCA LR LR 23 20 04.2
comp=Z,168nm,20.9s,MS4.2,baz=13,slow=37
BZS Buzias 62.30 47⇓*i*P **P 22 52 34.3 +0.2**
STHS Stebnicka Huta 62.30 43 *e*P **P 22 52 34.9 +0.9**
STHS pmax pmax
comp=Z,6.0nm,1.4s,mb4.5
STHS Stebnicka Huta 62.30 43 *e*P **P 22 52 34.9 +0.9**
comp=Z,6.0nm,1.4s,mb4.5
D13A Huson 62.33 314⇑P **P 22 52 33.4 -0.8**
baz=62
O12A Currie 62.34 307⇓P **P 22 52 34.7 +0.2**
baz=62,SNR=7.7
CRVS Cervenica-Dubn 62.40 44 *e*P **P 22 52 33.9 -0.8**
Q12A Willow Creek R 62.42 305⇑P **P 22 52 35.4 +0.4**
baz=62
C13A Hot Springs 62.44 315⇓P **P 22 52 34.9 -0.1**
baz=62
S12A Delamar Landin 62.47 304⇑P **P 22 52 35.9 +0.6**
baz=62
M12A Wells 62.47 308⇓P **P 22 52 34.9 -0.4**
baz=62,SNR=5.1
H12A Diamond D Ranc 62.48 311⇓P **P 22 52 35.4 +0.1**
baz=62
L12A House Creek Ra 62.55 309⇑P **P 22 52 35.8 0.0**
baz=62
N12A Clover Valley, 62.56 307⇑P **P 22 52 35.3 -0.6**
baz=62,SNR=5.5
STIP Stip 62.61 52 *e*P **P 22 52 36.3 +0.1**
J12A Stokes Ranch, 62.62 310⇓P **P 22 52 35.7 -0.5**
baz=63,SNR=6.1
I12A Atlanta 62.66 311⇑P **P 22 52 36.2 -0.3**
baz=63
ELK Elko 62.71 307 *e*P **P 22 52 36.8 -0.1**
T11A Corn Creek, Al 62.77 303⇓P **P 22 52 38.1 +0.7**
baz=63,SNR=5.9
LDFC Landfair 62.78 301 *e*P **P 22 52 39.1 +1.6**
F12A Elk City 62.81 313⇑P **P 22 52 36.5 -1.0**
baz=63,SNR=6.7
IRM Iron Mountain 62.87 300⇓P **P 22 52 38.9 +0.8**
baz=63
UZH Uzhgorod 62.93 44 *e*P **P 22 52 38.0 -0.2**
UZH *e*S **S 23 01 06.0 -2.2**
KOLS Kolonicke sedl 62.94 44 *e*P **P 22 52 38.1 -0.2**
R11A Troy Canyon, C 63.02 304⇑P **P 22 52 39.2 +0.2**
baz=63,SNR=6.8
O11A Cowboy Ranch, 63.04 306⇓P **P 22 52 39.1 0.0**
baz=63,SNR=6.7
E12A Beaver Dam Sad 63.05 314⇑P **P 22 52 38.8 -0.3**
baz=63
Q11A Duckwater 63.06 305⇑P **P 22 52 39.5 +0.2**
baz=63
L11A Cat Creek Ranc 63.10 309⇑P **P 22 52 39.5 +0.1**
baz=63
M11A Holland Ranch, 63.13 308⇑P **P 22 52 39.8 +0.1**
baz=63
BC3 Big Chuckw Mtn 63.16 299⇓P **P 22 52 40.6 +0.5**
baz=63
MFID Camas Ranch 63.16 310⇑P **P 22 52 39.6 -0.2**
baz=63
B12A Libby 63.17 316⇑P **P 22 52 39.8 0.0**
baz=63
GMRC Granite Mounta 63.25 300⇓P **P 22 52 40.7 +0.1**
baz=63,SNR=8.2
K11A Parker Ranch, 63.30 309⇓P **P 22 52 40.5 -0.3**
baz=63
F11A Grangeville 63.44 313⇑P **P 22 52 41.4 -0.3**
baz=63
E11A Bogner Ranch, 63.49 313⇑P **P 22 52 41.3 -0.7**
baz=63
G11A Walters Elk Ra 63.51 312⇑P **P 22 52 42.0 -0.2**
baz=63
BELC Belle Mtn. 63.58 300⇑P **P 22 52 44.0 +1.1**
baz=64
C11A Tepee Creek (N 63.58 315⇓P **P 22 52 42.3 -0.3**
baz=64
TPNV Topopah Spring 63.61 303⇑P **P 22 52 43.4 +0.4**
baz=64
TPNV Topopah Spring 63.61 303 *e*P **P 22 52 43.9 +0.9**
L10A Juniper Basin 63.63 309⇑P **P 22 52 42.7 -0.3**
baz=64,SNR=8.7
P10A Eureka 63.67 306⇑P **P 22 52 43.7 +0.4**
baz=64
B11A Sandpoint 63.69 316⇑P **P 22 52 43.0 -0.3**
baz=64
M10A I.L. Ranch, Tu 63.69 308⇑P **P 22 52 43.2 -0.2**
baz=64
A11A Hall Mountain, 63.71 316⇑P **P 22 52 43.9 +0.5**
baz=64,SNR=5.4
S10A Tonopah Range, 63.84 304⇓P **P 22 52 44.9 +0.5**
baz=64,SNR=8.9
PFO Pinyon Flat Ob 63.99 299⇓P **P 22 52 45.9 +0.4**
baz=64
S09A Goldfield 64.34 304⇑P **P 22 52 48.0 +0.2**
baz=64
YKA Yellowknife Ar 64.40 331 P **P 22 52 45.8 -1.8**
comp=Z,7.5nm,0.8s,mb4.8,baz=97,slow=8.0,SNR=8.8
YKA LR LR 23 19 20.8
comp=Z,71nm,18.3s,MS3.9,baz=120,slow=35
YKA Yellowknife Ar 64.40 331 *i*P **P 22 52 45.7 -1.9**
YKA pmax pmax
comp=Z,8.0nm,0.9s
YKA Yellowknife Ar 64.40 331 P **P 22 52 45.8 -1.9**
YKA LR LR 23 19 20.8
A10A Northport 64.50 316⇑P **P 22 52 48.9 +0.3**
baz=64
K09A Rome 64.55 309⇓P **P 22 52 48.6 -0.4**
baz=64,SNR=7.4
G09A Cove 64.57 312⇓P **P 22 52 49.6 +0.5**
baz=64
MPMC Manual Prospec 64.66 302⇑P **P 22 52 49.9 0.0**
baz=65
E09A Wood Farm, Sta 64.84 314⇓P **P 22 52 50.2 -0.6**
baz=65
BURAR Bucovina Array 64.84 45⇓*i*P **P 22 52 50.6 -0.3**
B09A Rice 64.87 316⇑P **P 22 52 50.1 -0.9**
baz=65,SNR=5.8
N08A GE Springer Mi 64.91 307⇑P **P 22 52 51.2 -0.3**
baz=65,SNR=6.1
BFSC Mount Baldy St 64.94 300⇓P **P 22 52 52.3 +0.6**
baz=65
C09A Chrisman Ranch 64.94 315⇑P **P 22 52 51.2 -0.3**
baz=65
D09A Jones Farm, Ri 64.95 314⇓P **P 22 52 51.1 -0.5**
baz=65
L08A Fields 65.02 309⇓P **P 22 52 51.9 -0.2**
baz=65
J08A Circle Bar Ran 65.09 310⇓P **P 22 52 52.7 +0.2**
baz=65
NVAR Mina Array Bea 65.15 305 P **P 22 52 52.1 -1.0**
comp=Z,0.6nm,0.8s,mb3.7,baz=80,slow=6.3,SNR=4.8
EDW2 Edwards Air Fo 65.16 301⇑P **P 22 52 53.6 +0.5**
baz=65
A09A Danville 65.17 316⇓P **P 22 52 53.0 +0.1**
baz=65
ALE Alert 65.18 358 P **P 22 52 51.6 -0.9**
comp=Z,120nm,1.0s,mb5.9,SNR=6.2
H08A Prairie City 65.21 311⇑P **P 22 52 53.1 -0.2**
baz=65
F08A Pendleton 65.27 313⇑P **P 22 52 53.7 0.0**
baz=65
MLR Muntele Rosu 65.34 48⇓*i*P **P 22 52 54.6 +0.5**
D08A Wollman Farm, 65.37 314⇓P **P 22 52 53.9 -0.4**
baz=65
C08A Higginbotham F 65.46 315⇓P **P 22 52 54.2 -0.7**
baz=65
ISA Isabella 65.48 302 *e*P **P 22 52 55.7 +0.4**
ISA pmax pmax
comp=Z,26nm,1.9s,mb4.9
ISA Isabella 65.48 302 *e*P **P 22 52 55.7 +0.5**
comp=Z,26nm,1.9s,mb4.9
O07A Toulon 65.50 307⇓P **P 22 52 55.2 -0.1**
baz=65,SNR=8.2
N07B Gerlach 65.55 307⇑P **P 22 52 55.2 -0.4**
baz=66,SNR=6.1
A08A Turner Farm, O 65.62 316⇑P **P 22 52 56.0 +0.1**
baz=66
M07A Soldier Meadow 65.67 308⇑P **P 22 52 56.7 +0.4**
baz=66
K07A Rock Creek Ran 65.67 309⇑P **P 22 52 56.5 +0.1**
baz=66
L07A Adell 65.77 309⇓P **P 22 52 56.7 -0.2**
baz=66
HAWA Hanford 65.80 313 *e*P **P 22 52 57.6 +0.6**
comp=Z,48nm,1.9s,mb5.2
I07A Izee 65.82 311⇓P **P 22 52 57.1 -0.2**
baz=66
HELL Mitchell Peak 65.85 303⇓P **P 22 52 57.8 +0.3**
baz=66,SNR=5.7
H07A Lands Inn, Kim 65.85 311⇓P **P 22 52 56.8 -0.7**
baz=66
KCC Kaiser Creek 66.03 304⇑P **P 22 52 58.8 +0.1**
baz=66
WAKR Walker 66.04 305 *e*P **P 22 53 00.3 +1.5**
R06C Coleville 66.05 305⇑P **P 22 52 58.9 +0.1**
baz=66
C07A Waterville 66.15 315⇓P **P 22 52 58.5 -0.8**
baz=66
B07A Winthrop 66.18 316⇑P **P 22 52 58.8 -0.7**

baz=66,SNR=5.2
N06A Buffalo Meadow 66.20 307 ⇓P **P 22 52 59.6 -0.1**
baz=66
J06A Christmas Vall 66.32 310 ⇓P **P 22 53 00.5 0.0**
baz=66
A07A Ashnola River, 66.36 316 ⇓P **P 22 52 59.9 -0.8**
baz=66,SNR=8.5
H06A Lindquist Farm 66.39 312 ⇑P **P 22 53 00.8 -0.2**
baz=66
K06A Valley Falls 66.41 310 ⇓P **P 22 53 00.6 -0.5**
baz=66
KAF Kangasniemi 66.47 29 *ep* **P 22 52 59.5 -1.6**
comp=Z,5.2nm,0.8s,mb4.6
KAF Kangasniemi 66.47 29 *eP* **P 22 52 59.5 -1.6**
KAF pmax pmax
comp=Z,5.0nm,0.8s,mb4.6
G06A Carlson Farm, 66.59 312 ⇓P **P 22 53 02.0 -0.2**
baz=66
PKM Peak Mountain 66.65 301 ⇑P **P 22 53 02.8 0.0**
baz=67
F06A Goldendale 66.68 313 ⇑P **P 22 53 02.4 -0.3**
baz=67
D06A Cle Elum 66.69 314 ⇓P **P 22 53 02.5 -0.2**
baz=67
E06A Yakima 66.79 314 ⇓P **P 22 53 03.2 -0.3**
baz=67
L05A Lakeview 66.88 309 ⇑P **P 22 53 04.4 +0.3**
baz=67,SNR=6.4
K05A Summer Lake 66.88 309 ⇓P **P 22 53 04.0 -0.1**
baz=67
J05A Fort Rock 67.11 310 ⇓P **P 22 53 05.8 +0.3**
baz=67
F05A White Salmon 67.15 313 ⇑P **P 22 53 05.7 0.0**
baz=67
ARCES ARCESS Array B 67.27 21 P **P 22 53 05.7 -0.3**
comp=Z,8.4nm,0.9s,mb4.8,baz=268,slow=5.4,SNR=6.0
ARCES LR LR 23 17 11.8
comp=Z,139nm,18.7s,MS4.2,baz=208,slow=31
KIS Kishinev 67.30 46 *eP* **P 22 53 07.0 +0.3**
AKASG Malin Array Be 67.49 42 P **P 22 53 07.3 -0.5**
comp=Z,5.0nm,0.8s,mb4.6,baz=269,slow=6.1,SNR=9.1
AKASG Malin Array Be 67.49 42 *i* P **P 22 53 07.3 -0.5**
AKASG pmax pmax
comp=Z,5.0nm,0.8s
JOF Joensuu 68.85 29 *ep* **P 22 53 14.8 -1.3**
comp=Z,3.7nm,0.8s,mb4.4
JOF Joensuu 68.85 29 *eP* **P 22 53 14.8 -1.3**
JOF pmax pmax
comp=Z,4.0nm,0.8s,mb4.4
BR131 Keskin Array S 71.42 53 *eP* **P 22 53 32.8 +0.4**
comp=Z,8.2nm,1.0s,mb4.6
BR131 *e*PcP PcP 22 53 51.5 -0.4
OBN Obninsk 71.72 37 ⇑*iP* **P 22 53 34.3 +0.5**
OBN *i* 22 53 41.9
OBN 22 53 55.0
OBN pmax pmax
comp=Z,25nm,1.4s,mb5.0
DLBC Dease Lake 71.76 327 LR LR 23 21 56.4
comp=Z,215nm,20.4s,MS4.4,baz=86,slow=33
DLBC Dease Lake 71.76 327 *eP* **P 22 53 34.8 +0.8**
ANN Anapa 73.49 48 *eP* **P 22 53 49.8 +5.2**
ANN *e*S S 23 03 20.3 +6.0
ANN pmax pmax
comp=Z,64nm,1.5s,mb5.3
VSR Storozhevoye 73.71 41 *eP* **P 22 53 45.3 -0.4**
VSR pmax pmax
comp=Z,5.0nm,0.9s,mb4.4
VSR pmax pmax
comp=N,2.0nm,1.2s
VSR pmax pmax
comp=E,10.0nm,1.1s
DAWY Dawson 75.54 333 *eP* **P 22 53 55.9 -0.2**
KIV Kislovodsk 77.34 48 *eP* **P 22 54 07.3 +0.6**
KIV pmax pmax
comp=Z,29nm,1.6s,mb5.0
KIV Kislovodsk 77.34 48 *eP* **P 22 54 07.6 +0.8**
comp=Z,32nm,1.4s,mb5.1
COLA College 78.90 335 *eP* **P 22 54 14.4 -0.5**
MCK McKinley 79.70 334 *eP* **P 22 54 19.3 -0.1**
GNI Garni 79.71 51 ⇑*iP* **P 22 54 19.5 -0.4**
GNI pmax pmax
comp=Z,37nm,1.6s
GNI Garni 79.71 51 *eP* **P 22 54 19.9 0.0**
comp=Z,34nm,1.6s,mb5.0
LSZ Lusaka 80.53 109 *eP* **P 22 54 25.9 +1.3**
LSZ pmax pmax
comp=Z,33nm,1.6s,mb5.0
LSZ Lusaka 80.53 109 *eP* **P 22 54 25.9 +1.2**
comp=Z,33nm,1.6s,mb5.0
IMA2 Indian Mountai 80.77 337 *eP* **P 22 54 25.7 +0.6**
BOSA Boshof 83.16 123 LR LR 23 22 39.5
comp=Z,130nm,20.0s,MS4.3,baz=333,slow=29
ARU Arti 83.47 33 *eP* **P 22 54 40.4 +1.0**
ARU *e* 22 57 51.4
ARU S S 23 04 58.1 -2.8
KMBO Kilima Mbogo 84.35 93 LR LR 23 31 27.1
comp=Z,262nm,18.1s,MS4.7,baz=305,slow=35
KMBO Kilima Mbogo 84.35 93 *i* P **P 22 54 49.9 +5.2**
KMBO pmax pmax
comp=Z,1.0nm,0.5s
SVE Sverdlovsk 84.37 32 *eP* **P 22 54 44.7 +0.7**
SVE pmax pmax
comp=Z,22nm,1.5s,mb5.1
RST Umm Al-Ruwaisa 84.39 61 *eP* **P 22 54 44.2 -0.4**
baz=61
RST AMb AMB 22 54 47.0
comp=Z,22nm,1.3s,mb5.1,baz=61
MIB Mutribah 84.58 61 *eP* **P 22 54 45.5 -0.1**
baz=61
MIB AMb AMB 22 54 48.7
comp=Z,27nm,1.6s,mb5.1,baz=61
NAY Al-Naaiem 84.67 61 *eP* **P 22 54 45.8 -0.3**
baz=61
NAY AMb AMB 22 54 48.4
comp=Z,13nm,1.4s,mb4.9,baz=61
AKTK Aktyubinsk 85.43 38 P **P 22 54 49.2 -0.3**
AKTO Aktyubinsk 85.43 38 P **P 22 54 49.2 -0.3**
comp=Z,3.4nm,0.9s,mb4.5,baz=287,slow=5.6,SNR=8.2
ZALV Zalesovo Beam 97.37 27 LR LR 23 39 42.6
comp=Z,94nm,18.3s,MS4.3,baz=354,slow=36
WMQ Urumqi 105.81 33 PDIF Pdif 22 56 20.3 -2.5
WMQ PP PP 23 00 46.8 +1.7
WMQ PPP 23 03 02.8
WMQ S Sdif 23 08 12.0 -8.1
WMQ SS SS 23 15 42.6 -1.2
WMQ LR LR
comp=N,89nm,23.0s,MS4.4
WMQ LR LR
comp=E,80nm,21.8s,MS4.4
WMQ LR LR
comp=Z,109nm,21.8s,MS4.4
MDJ Mudanjiang 117.90 3 PKP PKPdf 23 00 57.3 -1.4
MDJ PP PP 23 02 10.8 -0.4
MDJ PP PP
comp=Z,112nm,5.6s
HHC Hu-ho-hao-te 118.29 19 *e*PKP PKPdf 23 01 00.0 +0.4
HHC PP PP 23 02 20.1 +6.0
HHC PKS 23 04 35.3
HHC SKS SKSdf 23 08 11.7 -0.2
HHC SKKS SKKSac 23 09 12.8 -3.3
HHC SS SS 23 18 34.3 +5.1
HHC PP PP
comp=Z,94nm,6.3s
HHC LR LR
comp=N,152nm,22.0s,MS4.8
HHC LR LR
comp=E,162nm,19.0s,MS4.8
HHC LR LR
comp=Z,167nm,21.4s,MS4.6
CN2 Changchun 118.37 7 *e*PKP PKPdf 23 01 01.2 +1.6
LZH Lanzhou 119.59 27 *e*PKP PKPdf 23 01 04.5 +2.3
LZH XPKP 23 01 09.0
LZH PP PP 23 02 30.6 +7.3
LZH SKS SKSdf 23 08 14.0 -0.6
LZH SKKS SKKSac 23 09 21.7 -3.2
LZH *e*SS SS 23 18 49.5 +3.1
LZH PP PP
comp=Z,189nm,7.8s
LZH LR LR
comp=E,203nm,18.2s
LZH LR LR
comp=Z,327nm,20.1s,MS5.0
CD2 Chengdu 123.84 31 *e*PKP PKPdf 23 01 08.7 -1.8
CD2 PP PP 23 02 56.2 +3.8
CD2 PKS 23 04 44.1
CD2 SKS SKSdf 23 08 15.5 -7.4
CD2 SKKS SKKSac 23 09 44.5 -8.2
CD2 SS SS 23 19 39.6 -1.3
CD2 PP PP
comp=Z,120nm,10.2s
CD2 LR LR
comp=N,210nm,16.8s
CD2 LR LR
comp=Z,180nm,18.8s,MS4.8
KMI Kunming 127.94 36 PKP PKPdf 23 01 16.0 -2.5
NJ2 Nanjing 128.59 16 *e*PKP PKPdf 23 01 15.7 -3.9
GYA Guiyang 128.94 31 PDIF Pdif 22 58 04.8 -0.9
GYA PKP PKPdf 23 01 20.4 0.0
GYA PP PP 23 03 30.0 +3.7
GYA PKS 23 04 55.9
GYA PPP 23 06 15.7
GYA SKS SKSdf 23 08 27.9 -4.6
GYA SKKS SKKSac 23 10 19.9 -5.2
GYA SS SS 23 20 44.2 -0.6
GYA LR LR
comp=N,230nm,22.6s,MS4.9
GYA LR LR
comp=E,160nm,21.4s,MS4.9
GYA LR LR
comp=Z,140nm,22.6s,MS4.6
ASAR Alice Springs 174.04 183 PKP PKPdf 23 02 20.4 -1.8
comp=Z,1.3nm,1.0s,baz=204,slow=0.6,SNR=7.7
ASAR PKPab PKPab 23 03 50.4 -2.6
comp=Z,0.5nm,0.7s,baz=174,slow=4.7,SNR=3.6
WRA Warramunga Arr 177.63 198 PKP PKPdf 23 02 21.7 -1.5
comp=Z,3.2nm,1.1s,baz=246,slow=1.1,SNR=9.0

*ISCJB **11** 22:49:19.8±0.6,2390N±003×12263E±002,h27km±5km, Error ellipse: s-maj=5.1km s-min=2.6km az=163.2*
*JMA **11** 22:49:19.9±0.2,2408N×12259E,h57km±4km,M2.1*
*TAP **11** 22:49:20.9,2391N×12249E,h18km,ML2.9,D*

ISC 11 22:49:19.9±0.5,2392N±003×12263E±002,h23km±5km, n34,σ0°66/67,Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op		h m s	ISC
YOJ	**Yonaguni jima**	**0.65**	**32**	P		**22 49 32.1**	**-0.4**
YOJ				*e*S		**22 49 41.0**	**0.0**
HWA	**Hwalien**	**0.94**	**274**	*i* P		**22 49 37.4**	**-0.1**
	baz=274						
HWA				*i* S		**22 49 48.6**	**-0.9**
	baz=274						
ENA	**Nanau**	**0.96**	**302**	*i* P		**22 49 38.1**	**+0.3**
	baz=307						
ENA				*i* S		**22 49 50.1**	**0.0**
	baz=307						
TWD	**Chiawan**	**0.96**	**280**	*i* P		**22 49 37.3**	**-0.5**
	baz=281						
TWD				*i* S		**22 49 49.6**	**-0.6**
	baz=281						
TWC	**Suao**	**0.99**	**314**	P		**22 49 38.6**	**+0.2**
	baz=319						
TWC				S		**22 49 51.6**	**+0.5**
	baz=319						
HATJ	**Hateruma jima**	**1.08**	**82**	P		**22 49 39.5**	**-0.1**
HATJ				*e*S		**22 49 53.8**	**+0.2**
IRIF	**Iriomote-Funau**	**1.09**	**67**	P		**22 49 39.0**	**-0.7**
IRIF				*e*S		**22 49 53.3**	**-0.4**
ESL	**Shilin**	**1.10**	**265**	P		**22 49 39.1**	**-0.8**
	baz=264						
ESL				S		**22 49 53.6**	**-0.6**
	baz=264						
TWE	**Neicheng**	**1.19**	**313**	*eP*		**22 49 41.9**	**+0.8**
	baz=317						
TWE				*e*S		**22 49 56.9**	**+0.3**
	baz=317						
TWB1	**Santiao Chiao**	**1.24**	**332**	*eP*		**22 49 42.8**	**+1.0**
	baz=337						
TWB1				*e*S		**22 49 59.0**	**+1.2**
	baz=337						
NNS	**Nan Shan**	**1.26**	**295**	*eP*		**22 49 41.6**	**-0.5**
	baz=297						
NNS				*e*S		**22 49 57.2**	**-1.1**
	baz=297						
EHY	**Hungye**	**1.27**	**252**	*eP*		**22 49 42.2**	**0.0**
	baz=249						
EHY				*e*S		**22 49 57.9**	**-0.6**
	baz=249						
WHF	**Hehuan Shan**	**1.27**	**281**	P		**22 49 42.3**	**+0.1**
	baz=281						
WHF				S		**22 49 57.9**	**-0.7**
	baz=281						
JKRS	**Kuro-shima**	**1.30**	**75**	P		**22 49 42.5**	**-0.1**
JKRS				*e*S		**22 49 59.8**	**+0.6**
TWF1	**Yuli**	**1.35**	**246**	*eP*		**22 49 43.7**	**+0.4**
	baz=243						
TWF1				*e*S		**22 50 00.4**	**0.0**
	baz=243						
CHKT	**Chengkung**	**1.42**	**235**	*eP*		**22 49 43.8**	**-0.4**
	baz=232						
CHKT				*e*S		**22 50 00.3**	**-1.9**
	baz=232						
JIJ	**Ishigaki jima**	**1.45**	**72**	P		**22 49 43.9**	**-0.8**
JIJ				*e*S		**22 50 01.3**	**-1.7**
SMLT	**Sun Moon Lake**	**1.59**	**269**	*eP*		**22 49 47.4**	**+0.8**
	baz=269						
SMLT				*e*S		**22 50 06.5**	**+0.1**
	baz=269						
YUS	**Yu-Shan**	**1.60**	**255**	*eP*		**22 49 47.6**	**+0.9**
	baz=253						
YUS				*e*S		**22 50 06.9**	**+0.3**
	baz=253						
ELDTW	**Lidau**	**1.65**	**244**	*eP*		**22 49 47.3**	**-0.1**
	baz=242						
ELDTW				*e*S		**22 50 07.4**	**-0.5**
	baz=242						
NSTT	**Nanjuang**	**1.65**	**296**	*eP*		**22 49 48.1**	**+0.6**
	baz=297						
NSTT				*e*S		**22 50 07.8**	**-0.2**
	baz=297						
ALS	**Alishan**	**1.72**	**257**	*eP*		**22 49 49.9**	**+1.5**
	baz=255						
ALS				*e*S		**22 50 09.7**	**-0.1**
	baz=255						
TWG	**Pinlang**	**1.80**	**233**	*eP*		**22 49 49.6**	**+0.1**
	baz=230						
TWG				*e*S		**22 50 10.9**	**-0.8**
	baz=230						
TCU	**Taichung**	**1.80**	**278**	*eP*		**22 49 49.8**	**+0.3**
	baz=278						
TCU				*e*S		**22 50 11.0**	**-0.7**
	baz=278						
CHN5	**Tsauling**	**1.82**	**260**	*eP*		**22 49 50.0**	**+0.2**
	baz=259						
CHN5				*e*S		**22 50 11.5**	**-0.6**
	baz=259						
STYT	**Tauyuan**	**1.88**	**247**	*eP*		**22 49 51.9**	**+1.3**
	baz=245						
STYT				*e*S		**22 50 13.2**	**-0.3**
	baz=245						
CHN2	**Minshiung**	**2.01**	**260**	*eP*		**22 49 52.9**	**+0.5**
	baz=258						
CHN2				*e*S		**22 50 16.5**	**-0.4**
	baz=258						
JTJ	**Tarama**	**2.02**	**69**	P		**22 49 52.0**	**-0.5**
JTJ				*e*S		**22 50 17.0**	**-0.1**
ECL	**Taimali**	**2.03**	**230**	*eP*		**22 49 52.5**	**-0.1**
	baz=227						
CHN1	**Nanshi**	**2.06**	**250**	*eP*		**22 49 53.8**	**+0.7**
	baz=248						
CHN1				*e*S		**22 50 18.3**	**+0.2**
	baz=248						
TWK	**Hsinying**	**2.07**	**252**	*eP*		**22 49 54.0**	**+0.8**
	baz=250						
TWK				*e*S		**22 50 18.2**	**-0.1**
	baz=250						
LAY	**Lan-yu**	**2.12**	**208**	*eP*		**22 49 55.0**	**+1.1**
	baz=205						
LAY				*e*S		**22 50 20.4**	**+0.9**
	baz=205						
SSD	**Sandimen**	**2.18**	**238**	*eP*		**22 49 55.3**	**+0.7**
	baz=235						
SSD				*e*S		**22 50 20.9**	**0.0**
	baz=235						
EAST	**Anshuo**	**2.24**	**227**	*eP*		**22 49 55.8**	**+0.2**
	baz=224						
EAST				*e*S		**22 50 22.7**	**+0.2**
	baz=224						

*NIED **11** 23:13:00,3260N×14130E,h29km,Mw4.3 Best double couple: M0 3.17000×10^15 NP1:φs=270.00000°,δ57.00000°, λ-132.00000°. NP2:φs=149.00000°,δ51.00000°, λ-44.00000°.*
*IDC **11** 23:13:21.6±0.6,3235N×14139E,h0km,mb4.1/12, mb1 4.2/15,mb1mx4.2/22,mbtmp4.0/15,ML3.7/3,MS3.5/5, Ms1 3.5/5,ms1mx2.9/28,Error ellipse: s-maj=20.0km s-min=13.9km az=50.0*
*MOS **11** 23:13:24.4±0.8,3231N×14127E,h33km,mb4.3/10,Error ellipse: s-maj=31.4km s-min=12.2km az=120.5*
*ISCJB **11** 23:13:26.4±1.2,3251N±006×14133E±009,h42km±10km, mb4.0/13,MS3.6/2,Error ellipse: s-maj=12.4km s-min=9.7km az=168.6*
*NEIC **11** 23:13:26.9±0.4,3234N×14129E,h35km,MG3.8(JMA), Error ellipse: s-maj=15.9km s-min=9.2km az=56.0*
*JMA **11** 23:13:27.7±0.5,3262N×14129E,h43km,M3.8*

ISC 11 23:13:26.6±1.9,3244N±004×14136E±008,h35km±14km, n50,σ1°97/51,mb4.0/13,MS3.6/2,Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op		h m s	ISC
JHJ2	**Mitsune**	**1.47**	**298**	P		**Pn**	**23 13 50.9**	**+0.3**
JHJ2				*e*S		**Sn**	**23 14 08.8**	**+0.2**
JHJ	**Hachijo jima 2**	**1.50**	**298**	Pn		**Pn**	**23 13 51.0**	**0.0**
	109nm,0.3s,baz=185,slow=12,SNR=27						
JHJ				Sn		**Sn**	**23 14 12.9**	**+3.6**
	124nm,0.3s,baz=63,slow=21,SNR=8.5						
BSO1	**Boso 1**	**2.23**	**352**	P		**Pn**	**23 14 00.5**	**-0.7**
BSO1				*e*S		**Sn**	**23 14 27.9**	**+0.3**
BSO3	**Boso 3**	**2.46**	**343**	P		**Pn**	**23 14 02.8**	**-1.6**
JKO	**Kozu shima**	**2.56**	**314**	P		**Pn**	**23 14 07.9**	**+2.3**
JKO				*e*S		**Sn**	**23 14 35.3**	**-0.2**
BSO4	**Boso 4**	**2.69**	**342**	P		**Pn**	**23 14 07.3**	**-0.1**
BSO4				*e*S		**Sn**	**23 14 37.1**	**-1.6**
JOD2	**Odawara 2**	**3.40**	**327**	P		**Pn**	**23 14 16.8**	**-0.4**
JOD2				*e*S		**Sn**	**23 14 54.8**	**-1.4**
JHU	**Hanno**	**3.82**	**334**	P		**Pn**	**23 14 21.9**	**-1.1**
JHU				*e*S		**Sn**	**23 15 04.0**	**-2.7**
MJAR	**Matsushiro Arr**	**4.85**	**328**	Pn		**Pn**	**23 14 38.1**	**+0.9**
	3.1nm,0.3s,baz=152,slow=13,SNR=19						
MJAR				LR		LR	23 16 23.9	
	comp=Z,167nm,20.9s,baz=115,slow=37						
MJAR	**Matsushiro Arr**	**4.85**	**328**	P		**Pn**	**23 14 38.1**	**+0.9**
MJAR				pmax		pmax		
	comp=Z,3.0nm,0.3s						
MJAR				MLR		MLR		
	comp=Z,167nm,20.9s						
MAJO	**Matsushiro**	**4.86**	**328**	Pn		**Pn**	**23 14 38.4**	**+1.2**
MAJO				Sn		**Sn**	**23 15 32.5**	**+0.3**
MAT	**Matsushiro**	**4.86**	**328**	P		**Pn**	**23 14 38.0**	**+0.8**
MAT				*e*S		**Sn**	**23 15 31.0**	**-1.2**
CBIJ	**Chichi jima**	**5.37**	**172**	Pn		**Pn**	**23 14 43.1**	**-1.2**
	comp=Z,8.2nm,0.3s,baz=296,slow=20,SNR=6.9						
CBIJ				Sn		**Sn**	**23 15 43.1**	**-1.8**
	comp=Z,16nm,0.3s,baz=307,slow=21,SNR=4.1						
KSRS	**Korea Array**	**12.11**	**298**	Pn		**Pn**	**23 16 17.4**	**+0.8**
	comp=Z,0.3nm,0.3s,baz=105,slow=13,SNR=2.7						
KSRS				LR		LR	23 20 50.5	
	comp=Z,276nm,20.5s,baz=268,slow=37						
JOW	**Kunigami**	**12.68**	**247**	LR		LR	23 21 04.4	
	comp=Z,198nm,18.8s,baz=137,slow=37						
SONM	**Songino Array**	**30.54**	**311**	P		**P**	**23 19 38.6**	**+2.0**
	comp=Z,1.4nm,0.8s,mb3.9,baz=113,slow=8.6,SNR=10						
SONM				LR		LR	23 32 29.5	
	comp=Z,217nm,18.0s,MS3.9,baz=158,slow=38						
SONM	**Songino Array**	**30.54**	**311**	P		**P**	**23 19 38.6**	**+2.0**
SONM				pmax		pmax		
	comp=Z,1.0nm,0.8s						
SONM				MLR		MLR		
	comp=Z,217nm,18.0s						
ZAK	**Zakamensk**	**33.26**	**314**	*eP*		**P**	**23 20 05.0**	**+4.5**
ZAK				pmax		pmax		
	comp=Z,3.0nm,1.6s,mb4.0						
CMAR	**Chiang Mai Arr**	**40.49**	**260**	LR		LR	23 40 04.3	
	comp=Z,42nm,18.8s,MS3.3,baz=342,slow=40						
ZALV	**Zalesovo Beam**	**45.08**	**316**	P		**P**	**23 21 39.2**	**+0.1**
	comp=Z,0.3nm,0.3s,mb3.6,baz=74,slow=11,SNR=3.3						
ZALV				PcP		PcP	23 23 19.1	-0.2
	comp=Z,0.6nm,0.5s,baz=114,slow=6.5,SNR=3.2						
ZALV	**Zalesovo Beam**	**45.08**	**316**	P		**P**	**23 21 39.2**	**+0.1**
ZALV							23 23 19.1	
ZALV				pmax		pmax		
	comp=Z,1.0nm,0.5s,mb3.9						
ZALV	**Zalesovo Beam**	**45.08**	**316**	P		**P**	**23 21 39.2**	**+0.1**
ZALV				PcP		PcP	23 23 19.1	-0.2
MKAR	**Makanchi Array**	**46.65**	**306**	P		**P**	**23 21 52.5**	**+0.9**
	comp=Z,3.1nm,0.7s,mb4.3,baz=88,slow=9.8,SNR=12						
MKAR	**Makanchi Array**	**46.65**	**306**	P		**P**	**23 21 52.5**	**+0.9**
MKAR				pmax		pmax		
	comp=Z,3.0nm,0.7s						
KURK	**Kurchatov**	**48.84**	**311**	P		**P**	**23 22 08.7**	**+0.2**
	comp=Z,1.1nm,0.6s,mb4.1,baz=90,slow=7.6,SNR=2.9						
KURK	**Kurchatov**	**48.84**	**311**	P		**P**	**23 22 08.7**	**+0.3**
KURK				pmax		pmax		
	comp=Z,1.0nm,0.6s,mb4.0						
WRA	**Warramunga Arr**	**52.51**	**188**	P		**P**	**23 22 35.7**	**-0.7**
	comp=Z,3.8nm,0.9s,mb4.3,baz=7.2,slow=7.8,SNR=12						
WRA	**Warramunga Arr**	**52.51**	**188**	P		**P**	**23 22 35.7**	**-0.7**
WRA				pmax		pmax		
	comp=Z,4.0nm,0.9s						
ASAR	**Alice Springs**	**56.24**	**188**	P		**P**	**23 23 03.0**	**-0.4**
	comp=Z,0.6nm,0.7s,mb3.8,baz=15,slow=13,SNR=8.5						
ASAR	**Alice Springs**	**56.24**	**188**	P		**P**	**23 23 03.1**	**-0.4**
ASAR				pmax		pmax		
	comp=Z,1.0nm,0.7s						
YKA	**Yellowknife Ar**	**67.82**	**29**	P		**P**	**23 24 20.9**	**+0.1**
	comp=Z,2.5nm,0.8s,mb4.3,baz=307,slow=6.1,SNR=3.5						
YKA	**Yellowknife Ar**	**67.82**	**29**	P		**P**	**23 24 20.9**	**+0.1**
YKA				pmax		pmax		
	comp=Z,3.0nm,0.9s						
NVAR	**Mina Array Bea**	**77.80**	**52**	P		**P**	**23 25 22.0**	**+1.5**
	comp=Z,2.5nm,0.7s,mb4.3,baz=289,slow=5.9,SNR=20						
AKASG	**Malin Array Be**	**77.92**	**323**	P		**P**	**23 25 20.4**	**-0.4**
	comp=Z,0.8nm,0.4s,mb4.0,baz=45,slow=6.3,SNR=5.7						
AKASG	**Malin Array Be**	**77.92**	**323**	P		**P**	**23 25 20.4**	**-0.5**
AKASG				pmax		pmax		
	comp=Z,1.0nm,0.4s						
AKASG	**Malin Array Be**	**77.92**	**323**	P		**P**	**23 25 20.4**	**-0.4**
NB2	**NORSAR Subarra**	**78.41**	**338**	P		**P**	**23 25 23.6**	**+0.2**
	comp=Z,0.9nm,0.7s,mb3.8,baz=46,slow=5.9						
NOA	**NORSAR Array B**	**78.41**	**338**	P		**P**	**23 25 23.6**	**+0.3**
	comp=Z,1.2nm,0.7s,mb3.9,baz=44,slow=5.7,SNR=4.0						
NOA	**NORSAR Array B**	**78.41**	**338**	P		**P**	**23 25 23.7**	**+0.3**
NOA				pmax		pmax		
	comp=Z,1.0nm,0.7s						
PDAR	**Pinedale Array**	**80.93**	**45**	P		**P**	**23 25 38.8**	**+1.4**
	comp=Z,0.5nm,0.7s,mb3.6,baz=307,slow=5.4,SNR=4.1						
CLL	**Collm**	**85.06**	**330**	*eP*		**P**	**23 25 58.0**	**-0.6**
CLL				*i* PcP		PcP	23 26 03.8	+2.0
CLL				*i* pP		pP	23 26 09.1	-0.5
TXAR	**Lajitas Array**	**92.95**	**52**	P		**P**	**23 26 37.6**	**+1.1**
	comp=Z,0.9nm,0.7s,mb4.3,baz=310,slow=2.5,SNR=9.5						
TXAR	**Lajitas Array**	**92.95**	**52**	P		**P**	**23 26 37.7**	**+1.1**
TXAR				pmax		pmax		
	comp=Z,1.0nm,0.7s						
TORD	**Torodi Ar. Bea**	**120.48**	**313**	PKP		PKPdf	23 32 14.2	-1.0
	comp=Z,0.6nm,1.1s,baz=350,slow=1.3,SNR=4.3						
LPAZ	**La Paz**	**148.83**	**66**	PKPbc		PKPbc	23 33 12.3	+1.2
	comp=Z,1.3nm,0.6s,baz=0.2,slow=4.2,SNR=6.7						
LPAZ	**La Paz**	**148.83**	**66**	PKP2		PKPab	23 33 12.3	-2.7
LPAZ				pmax		pmax		
	comp=Z,1.0nm,0.6s						
LPAZ	**La Paz**	**148.83**	**66**	PKPbc		PKPbc	23 33 12.3	+1.2
PLCA	**Paso Flores**	**153.18**	**117**	PKPab		PKPab	23 33 34.0	+1.5
	comp=Z,1.4nm,0.8s,baz=225,slow=8.6,SNR=3.1						
PLCA	**Paso Flores**	**153.18**	**117**	PKP2		PKPab	23 33 34.0	+1.5
PLCA				pmax		pmax		
	comp=Z,1.0nm,0.8s						
PLCA	**Paso Flores**	**153.18**	**117**	PKPab		PKPab	23 33 34.0	+1.5

*JMA **11** 23:30:39.9±0.3,2251N×12265E,h86km,M2.8*

TAP 11 23:30:39.4,2240N×12238E,h54km,ML3.1,D,Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op		h m s	ISC
LAY	**Lan-yu**	**0.84**	**245**	*i* P		Pn	23 30 54.8	-0.4
	baz=245						
LAY				*e*S		Sn	23 31 06.4	-0.3
	baz=245						
CHKT	**Chengkung**	**1.16**	**307**	P		Pn	23 30 58.9	-0.5
	baz=313						
CHKT				S		Sn	23 31 13.4	-0.9
	baz=313						

TWG	**Pinlang**	**1.28**	**289**	P	Pn	23 31 01.1	+0.2
	baz=293						
TWG				S	Sn	23 31 17.4	+0.5
	baz=293						
ECL	**Taimali**	**1.33**	**279**	P	Pn	23 31 02.4	+0.8
	baz=268						
ECL				S	Sn	23 31 19.1	+0.9
	baz=268						
EAST	**Anshuo**	**1.41**	**270**	*e*P	Pn	23 31 03.5	+0.7
	baz=260						
EAST				*e*S	Sn	23 31 22.1	+1.8
	baz=260						
EHY	**Hungye**	**1.47**	**319**	P	Pn	23 31 03.6	+0.1
	baz=327						
EHY				S	Sn	23 31 21.9	+0.2
	baz=327						
ELDTW	**Lidau**	**1.48**	**302**	*e*P	Pn	23 31 04.0	+0.3
	baz=302						
ELDTW				*e*S	Sn	23 31 22.0	0.0
	baz=302						
SCZT	**Fangliau**	**1.62**	**269**	*e*P	Pn	23 31 06.6	+0.9
	baz=261						
SCZT				*e*S	Sn	23 31 26.8	+1.4
	baz=261						
ESL	**Shilin**	**1.65**	**329**	*e*P	Pn	23 31 06.3	+0.3
	baz=333						
ESL				*e*S	Sn	23 31 26.6	+0.4
	baz=333						
STYT	**Tauyuan**	**1.68**	**297**	*e*P	Pn	23 31 06.7	+0.3
	baz=297						
STYT				*e*S	Sn	23 31 27.3	+0.6
	baz=297						
YUS	**Yu-Shan**	**1.70**	**310**	*e*P	Pn	23 31 07.0	+0.3
	baz=318						
YUS				*e*S	Sn	23 31 27.8	+0.4
	baz=318						
ALS	**Alishan**	**1.82**	**308**	*e*P	Pn	23 31 08.7	+0.4
	baz=315						
ALS				*e*S	Sn	23 31 30.7	+0.4
	baz=315						
CHN1	**Nanshi**	**1.88**	**295**	*e*P	Pn	23 31 11.7	+2.7
	baz=282						
CHN1				*e*S	Sn	23 31 37.1	+5.5
	baz=282						
TWK	**Hsinying**	**1.94**	**297**	*e*P	Pn	23 31 10.9	+0.9
	baz=282						
TWK				*e*S	Sn	23 31 34.2	+0.9
	baz=282						
CHN5	**Tsauling**	**1.97**	**308**	*e*P	Pn	23 31 12.8	+2.5
	baz=314						
CHN5				*e*S	Sn	23 31 37.6	+3.8
	baz=314						
SMLT	**Sun Moon Lake**	**2.01**	**318**	*e*P	Pn	23 31 11.4	+0.6
	baz=323						
SMLT				*e*S	Sn	23 31 35.5	+0.7
	baz=323						
WHF	**Hehuan Shan**	**2.02**	**330**	*e*P	Pn	23 31 11.5	+0.6
	baz=338						
WHF				*e*S	Sn	23 31 35.7	+0.7
	baz=338						
HATJ	**Hateruma jima**	**2.11**	**38**	P	Pn	23 31 10.7	-1.5
HATJ				*e*S	Sn	23 31 33.9	-3.4
NNS	**Nan Shan**	**2.23**	**336**	*e*P	Pn	23 31 14.6	+0.7
	baz=343						
NNS				*e*S	Sn	23 31 40.9	+0.7
	baz=343						
TWC	**Suao**	**2.25**	**348**	*e*P	Pn	23 31 15.1	+0.9
	baz=347						
TWC				*e*S	Sn	23 31 41.5	+0.6
	baz=347						
IRIF	**Iriomote-Funau**	**2.29**	**33**	P	Pn	23 31 13.4	-1.4
IRIF				*e*S	Sn	23 31 39.0	-2.8
JKRS	**Kuro-shima**	**2.37**	**39**	P	Pn	23 31 14.5	-1.3
JKRS				S	Sn	23 31 40.4	-3.2
JIJ	**Ishigaki jima**	**2.54**	**39**	P	Pn	23 31 16.3	-1.9
JIJ				S	Sn	23 31 43.6	-4.3
JTJ	**Tarama**	**3.09**	**43**	P	Pn	23 31 24.0	-1.6
JTJ				S	Sn	23 31 57.4	-3.9

*ISCJB **11** 23:56:44.6±1.2,542N×0.1×1614W×0.1,h43km±8km, mb4.1/7, Error ellipse: s-maj=19.7km s-min=6.2km az=154.5*

*NEIC **11** 23:56:44.9,5432N×16150W,h13km, ML3.6(AEIC), ML3.9(PMR), After AEIC.*

*IDC **11** 23:56:49.9±1.9,5583N×16240W,h0km, mb4.0/8, mb1 4.1/9, mb1mx3.9/24, mbtmp4.0/9, ML3.4/1, MS3.4/1, Ms1 3.4/1, ms1mx2.5/34, Error ellipse: s-maj=50.2km s-min=20.2km az=179.0*

ISC 11 23:56:46.4±1.1, 543N±01×16145W±010, h40km±7km, n24, σ0§69/28, mb4.1/7, 3C-1D, Alaska Peninsula

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SDPT	**Sand Point**	**1.24**	**27**	*e*Pn	**Pn**	**23 57 06.9**	**-0.2**
SDPT				*e*Sn	**Sn**	**23 57 22.9**	**+0.4**
FALS	**False Pass**	**1.30**	**299**	P	**Pn**	**23 57 06.8**	**-1.1**
FALS				S	**Sn**	**23 57 23.8**	**-0.2**
AKUT	**Akutan**	**2.54**	**269**	*e*Pn	**Pn**	**23 57 25.5**	**+0.5**
AKLV	**Akutan Long Va**	**2.65**	**270**	P	**Pn**	**23 57 26.7**	**+0.2**
AKGG	**Akutan Green G**	**2.67**	**271**	P	**Pn**	**23 57 27.1**	**+0.4**
CHGN	**Chignik**	**2.69**	**39**	P	**Pn**	**23 57 27.9**	**+0.8**
UNV	**Unalaska Valle**	**3.01**	**264**	*e*Pn	**Pn**	**23 57 31.3**	**-0.1**
UNV				*e*Sn	**Sn**	**23 58 06.4**	**+0.3**
OKCD	**Okmok Cone D**	**4.03**	**261**	P	**Pn**	**23 57 45.2**	**-0.3**
OHAK	**Old Harbor**	**5.49**	**54**	P	**Pn**	**23 58 04.8**	**-0.7**
KDAK	**Kodiak Island**	**6.10**	**51**	Pn	**Pn**	**23 58 14.0**	**+0.1**
	1.1nm,0.3s,baz=271,slow=12,SNR=8.0						
KDAK				Sn	**Sn**	**23 59 19.1**	**-3.1**
	1.0nm,0.3s,baz=346,slow=22,SNR=3.3						
KDAK	**Kodiak Island**	**6.10**	**51**	P	**Pn**	**23 58 13.9**	**0.0**
SVW2	**Sparrevohn**	**7.55**	**22**	*e*Pn	**Pn**	**23 58 34.9**	**+1.2**
PETK	**Petropavlovsk-**	**23.99**	**284**	P	**P**	**00 01 56.0**	**-0.9**
	3.5nm,0.4s,mb4.1,baz=78,slow=13,SNR=5.1						
SONM	**Songino Array**	**54.30**	**304**	P	**P**	**00 06 08.4**	**+0.2**
	1.0nm,0.7s,mb3.9,baz=51,slow=6.5,SNR=7.1						
ARCES	**ARCESS Array B**	**56.42**	**357**	P	**P**	**00 06 22.3**	**-0.8**
	5.7nm,0.9s,mb4.6,baz=16,slow=9.2,SNR=3.7						
ARCES	**ARCESS Array B**	**56.42**	**357**	P	**P**	**00 06 22.3**	**-0.8**
NOA	**NORSAR Array B**	**64.91**	**4**	P	**P**	**00 07 21.0**	**0.0**
	1.4nm,0.8s,mb4.1,baz=333,slow=5.1,SNR=3.5						
MKAR	**Makanchi Array**	**65.80**	**318**	P	**P**	**00 07 26.2**	**-0.8**
	0.4nm,0.4s,mb3.8,baz=42,slow=7.3,SNR=3.2						
AKASG	**Malin Array Be**	**75.04**	**353**	P	**P**	**00 08 22.7**	**-0.6**
	3.0nm,0.5s,mb4.5,baz=7.7,slow=5.8,SNR=11						
KWP	**Kalwaria**	**76.43**	**357**	⇑*i*P	**P**	**00 08 31.8**	**+0.6**
GERES	**GERESS Array B**	**77.20**	**3**	P	**P**	**00 08 36.4**	**+0.8**
	0.7nm,0.7s,mb3.7,baz=354,slow=5.0,SNR=6.5						
BURAR	**Bucovina Array**	**78.35**	**355**	⇑*i*P	**P**	**00 08 42.3**	**+0.3**
BZS	**Buzias**	**80.47**	**358**	⇓*i*P	**P**	**00 08 53.9**	**+0.3**
GZR	**Gura Zlata**	**80.67**	**357**	⇑*i*P	**P**	**00 08 55.3**	**+0.7**

CASC 11 23:58:40.3±2.6, 1344N×9090W, h32km±30km, MD4.0, 2C-1D, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PCG	**Pacaya**	**0.99**	**17**	*e*P	Pn	23 58 58.0	+0.1
PCG				*e*S	Sn	23 59 11.9	+1.2
FUG	**Fuego 3**	**1.00**	**3**	*e*P	Pn	23 58 58.0	0.0
FUG				*e*S	Sn	23 59 12.8	+1.8
FG6		**1.11**	**1**⇑	*e*P	Pn	23 58 59.9	+0.3
FG6				*e*S	Sn	23 59 14.8	+1.0
JAT	**Jato**	**1.12**	**321**	*e*P	Pn	23 59 00.5	+0.7
JAT				*e*S	Sn	23 59 08.4	-5.7
NBG	**Las Nubes**	**1.26**	**25**⇓	*e*P	Pn	23 59 03.0	+1.4
NBG				*e*S	Sn	23 59 20.1	+2.7
SNJE	**San Jose**	**1.33**	**71**	*e*P	x	23 59 01.8	
SNJE				*e*P	x	23 59 01.9	
RBDL	**Robledal**	**1.36**	**61**⇑	*e*P	x	23 59 02.6	
RBDL				*e*S	x	23 59 21.1	
BOQS	**Boqueron**	**1.60**	**79**	*e*S	x	23 59 28.5	
LFRS	**El Faro**	**1.80**	**84**	*e*P	x	23 59 09.1	
LFRS				*e*P	x	23 59 09.1	
LFRS				*e*S	x	23 59 30.3	
SNVI	**San Vicente**	**2.02**	**85**	*e*P	x	23 59 12.2	
SNVI				*e*P	x	23 59 12.3	
SNVI				*e*P	x	23 59 13.0	
SNVI				*e*S	x	23 59 37.7	
SNVI				*e*S	x	23 59 37.8	
SNVI				*e*S	x	23 59 38.8	

*BJI **12** 00:31:26.6,372S×100.45E, h35km, mB5.9, mb5.7, Ms5.9, Msz5.7*

*IDC **12** 00:31:26.9±0.4, 327S×100.47E, h0km, mb5.2/20, mb1 5.3/20, mb1mx5.3/20, mbtmp5.2/20, MS5.2/21, Ms1 5.2/21, ms1mx5.0/31, Error ellipse: s-maj=14.6km s-min=12.4km az=59.0*

*SZGRF **12** 00:31:27.3, 4.49S×100.29E, h26km, mb5.7, MS5.3, Southwest of Sumatera, Indonesia*

*MOS **12** 00:31:29.5±1.2, 3.14S×100.57E, h25km, mb5.9/70, MS5.4/66, Error ellipse: s-maj=8.1km s-min=4.3km az=115.0*

*NEIC **12** 00:31:29.1±0.1, 3.29S×100.51E, h15km, mb5.6/69, ME5.8, MS5.5/164, MW5.6, Error ellipse: s-maj=4.8km s-min=3.3km az=46.0, Moment Tensor Solution. s36 Moment tensor: Scale 10^17^Nm; Mrr 2.30; Mθθ -2.01; Mφφ -0.29; Mrθ 1.66; Mθφ 0.93; Mφr -0.65; Best double couple: Ms 3.00000×10^17^ NP1:φs 112.00000°, δ64.00000°, λ89.00000°. NP2:φs 295.00000°, δ27.00000°, λ93.00000°. Principal axes: T 2.9000, Plg 71.0000°, Azm 19.0000°; N 0.1100, Plg 1.0000°, Azm 112.0000°; P -3.0100, Plg 18.0000°, Azm 203.0000°; Depth from synthetics of broadband displacement seismograms. Energy computed from CMT mechanism.*

NEIC Felt [III] at Bengkulu, Sumatra.

*ISCJB **12** 00:31:29.1±0.1, 331S±002×10044E±002, h26km, mb5.6/171, MS5.5/216 Error ellipse: s-maj=3.5km s-min=2.4km az=24.4*

*DJA **12** 00:31:31.8±1.0, 3S±3×100E±, h31km±8km, mb5.5/35, mB6.1/28, MLv5.8/5, Mw(mB)5.7/28, Mwp5.4/25*

*GCMT **12** 00:31:32.2±0.2, 3.57S×100.13E, h15km, MW5.8/86, Moment Tensor Solution. s86,c151; s82,c172; Duration: 2§1 Moment tensor: Scale 10^17^Nm; Mrr 1.65±.04; Mθθ -0.80±.03; Mφφ -0.85±.04; Mrθ 3.50±.10; Mθφ 0.78±.02; Mφr -3.42±.11; Best double couple: Ms 5.15700×10^17^ NP1:φs 317.00000°, δ9.00000°, λ93.00000°. NP2:φs 134.00000°, δ81.00000°, λ90.00000°. Principal axes: T 5.1800, Plg 54.0000°, Azm 44.0000°; N -0.0420, Plg 0.0000°, Azm 135.0000°; P -5.1350, Plg 36.0000°, Azm 225.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*

ISC 12 00:31:31.1±0.1, 334S±002×10041E±002, h28km, h28km±6km: pP-P, n844, σ1§00/687, mb5.6/171, MS5.5/216, 122C-40D, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KSI	**Kapahiang**	**2.20**	**98**	P	**Pn**	**00 32 05.5**	**-0.4**
	0.0nm,0.0s						
KSI	**Kapahiang**	**2.20**	**98**	P	**Pn**	**00 32 05.8**	**-0.1**
PDSI	**Padang**	**2.41**	**1**	P	**Pn**	**00 32 08.2**	**-0.6**
	0.0nm,0.0s						
PPI	**Padang Panjang**	**2.86**	**360**	P	**Pn**	**00 32 14.9**	**-0.1**
	0.0nm,0.0s						
PPI	**Padang Panjang**	**2.86**	**360**	P	**Pn**	**00 32 15.2**	**+0.2**
RGRI	**Rengat**	**3.54**	**33**	P	**Pn**	**00 32 25.4**	**+1.1**
	0.0nm,0.0s						
JMBI	**JAMBI**	**3.65**	**62**	P	**Pn**	**00 32 27.4**	**+1.6**
	0.0nm,0.0s						
KLI	**Kotabumi**	**4.69**	**109**	P	**Pn**	**00 32 41.6**	**+1.5**
	0.0nm,0.0s						
KLI	**Kotabumi**	**4.69**	**109**	P	**Pn**	**00 32 41.3**	**+1.2**
DSRI	**Dabo**	**5.04**	**56**	P	**Pn**	**00 32 46.4**	**+1.4**
	2µm,1.2s,8.4nm						
PPBI	**Pangkal Pinang**	**5.84**	**79**	P	**Pn**	**00 32 56.5**	**+0.6**
	0.0nm,0.0s						
PPBI	**Pangkal Pinang**	**5.84**	**79**	P	**Pn**	**00 32 56.6**	**+0.7**
KGM	**Kluang**	**6.06**	**29**	⇑P	**Pn**	**00 33 00.4**	**+1.5**
SBJI	**Serang**	**6.34**	**116**	P	**Pn**	**00 33 02.6**	**-0.1**
	0.0nm,0.0s						
SBJI	**Serang**	**6.34**	**116**	P	**Pn**	**00 33 03.6**	**+0.9**
FRIM	**Kepong**	**6.64**	**11**	⇓P	**Pn**	**00 33 07.7**	**+0.7**
TSI	**Tuntungan**	**7.04**	**345**	P	**Pn**	**00 33 13.0**	**+0.6**
	0.0nm,0.0s						
TSI	**Tuntungan**	**7.04**	**345**	P	**Pn**	**00 33 13.7**	**+1.3**
TPI	**Tanjungpandan**	**7.26**	**86**	P	**Pn**	**00 33 16.6**	**+1.2**
	0.0nm,0.0s						
TPI	**Tanjungpandan**	**7.26**	**86**	P	**Pn**	**00 33 16.5**	**+1.1**
	125nm,0.9s,4µm3.5nm						
IPM	**Ipoh**	**7.79**	**5**	P	**Pn**	**00 33 24.3**	**+1.6**
	390nm,0.9s,5µm1.2nm						
JCJI	**Jatiwangi**	**8.44**	**112**	P	**Pn**	**00 33 32.7**	**+1.1**
	0.0nm,0.0s						
JCJI	**Jatiwangi**	**8.44**	**112**	P	**Pn**	**00 33 33.4**	**+1.8**
KULM	**Kulim**	**8.57**	**2**	⇑P	**Pn**	**00 33 33.2**	**-0.3**
XMIS	**Christmas Isla**	**8.80**	**144**	*e*Pn	**Pn**	**00 33 43.1**	**+6.6**
KTGM	**Kuala Trenggan**	**9.03**	**18**	⇓P	**Pn**	**00 33 40.9**	**+1.2**
COCO	**West Island**	**9.48**	**202**	P	**Pn**	**00 33 42.8**	**-3.1**
	423nm,1.2s,4µm						
COCO	**West Island**	**9.48**	**202**	⇓*e*Pn	**Pn**	**00 33 42.0**	**-3.8**
	1µm,1.1s						
BJII	**Banjamegara**	**10.07**	**114**	P	**Pn**	**00 33 54.0**	**-0.1**
	0.0nm,0.0s						
BJII	**Banjamegara**	**10.07**	**114**	P	**Pn**	**00 33 54.8**	**+0.7**
BSI	**Banda Aceh**	**10.15**	**330**	P	**Pn**	**00 33 52.2**	**-3.0**
	0.0nm,0.0s						
BSI	**Banda Aceh**	**10.15**	**330**	P	**Pn**	**00 33 53.5**	**-1.7**
	153nm,0.8s,2µm						
KSM	**Kuching**	**10.99**	**64**	⇓P	**Pn**	**00 34 08.8**	**+2.2**
KSM	**Kuching**	**10.99**	**64**	P	**Pn**	**00 34 07.9**	**+1.3**
	166nm,1.4s,3µm						
KSM	**Kuching**	**10.99**	**64**⇑	*e*Pn	**Pn**	**00 34 06.9**	**+0.2**
	248nm,1.3s						
KSM				*e*Sn	**Sn**	**00 36 11.1**	**+2.3**
PBKI	**Pangkalan Bun**	**11.26**	**87**	P	**Pn**	**00 34 11.9**	**+1.5**
	0.0nm,0.0s						
PBKI	**Pangkalan Bun**	**11.26**	**87**	P	**Pn**	**00 34 13.4**	**+3.0**
	515nm,1.2s,10µm						
STKI	**Sintang**	**11.57**	**73**	P	**Pn**	**00 34 17.5**	**+2.9**
SJI	**Sawahan**	**12.12**	**112**	P	**Pn**	**00 34 21.1**	**-1.0**
	0.0nm,0.0s						
SJI	**Sawahan**	**12.12**	**112**	P	**Pn**	**00 34 21.8**	**-0.3**
KRKI	**Karangkates**	**12.90**	**112**	P	**Pn**	**00 34 34.8**	**+2.0**
SBUM	**Sibu**	**13.13**	**64**	⇓P	**Pn**	**00 34 39.9**	**+3.9**
SBUM	**Sibu**	**13.13**	**64**	P	**Pn**	**00 34 39.2**	**+3.2**
PLKI	**Palangkaraya**	**13.57**	**86**	P	**Pn**	**00 34 43.9**	**+2.0**
KMMI	**Kalianget**	**14.00**	**106**	P	**Pn**	**00 34 47.6**	**-0.1**
	0.0nm,0.0s						
KMMI	**Kalianget**	**14.00**	**106**	P	**Pn**	**00 34 47.9**	**+0.2**
BTM	**Bintulu**	**14.24**	**63**	⇓P	**Pn**	**00 34 55.9**	**+4.9**
BBKI	**Banjar Baru**	**14.41**	**91**	P	**Pn**	**00 34 54.2**	**+0.8**
	0.0nm,0.0s						
BBKI	**Banjar Baru**	**14.41**	**91**	P	**Pn**	**00 34 55.4**	**+2.0**
	957nm,1.2s						
IGBI	**Denpasar**	**15.63**	**111**	P	**Pn**	**00 35 05.1**	**-4.5**
	0.0nm,0.0s						
DNP	**Denpasar**	**15.64**	**110**	P	**Pn**	**00 35 05.6**	**-4.2**
	0.0nm,0.0s						
KHKI	**Kahang-Kahang**	**15.92**	**109**	P	**Pn**	**00 35 10.8**	**-2.6**
	0.0nm,0.0s						
KHKI	**Kahang-Kahang**	**15.92**	**109**	P	**Pn**	**00 35 11.0**	**-2.4**
MTNI	**Mataram**	**16.53**	**109**	P	**Pn**	**00 35 15.3**	**-5.9**
	0.0nm,0.0s						
MTNI	**Mataram**	**16.53**	**109**	P	**Pn**	**00 35 15.9**	**-5.3**
SMKI	**Samarinda**	**17.03**	**81**	P	**Pn**	**00 35 29.8**	**+2.3**
KKM	**Kota Kinabalu**	**18.33**	**59**	⇑P	**Pn**	**00 35 44.0**	**+0.4**
KKM	**Kota Kinabalu**	**18.33**	**59**	P	**Pn**	**00 35 43.6**	**0.0**
	366nm,1.4s,7µm						
KKM	**Kota Kinabalu**	**18.33**	**59**⇑	*i*Pn	**Pn**	**00 35 43.2**	**-0.3**
	485nm,1.1s						
KKM				*e*Sn	**Sn**	**00 39 08.9**	**+1.2**
NST	**Nakhon Sawan**	**18.89**	**359**	P	**Pn**	**00 35 45.5**	**-4.8**
	48nm,0.9s						
TSM	**Tawau**	**19.03**	**67**	⇑P	**Pn**	**00 35 52.8**	**+0.7**
KDM	**Kudat**	**19.30**	**58**	⇓P	**Pn**	**00 35 55.4**	**+0.1**
KAPI	**Kappang**	**19.36**	**96**	P	**Pn**	**00 35 53.4**	**-2.7**
	4µm,1.2s						
KAPI	**Kappang**	**19.36**	**96**	⇑P	**Pn**	**00 35 53.5**	**-2.5**
	SNR=84						
KAPI	**Kappang**	**19.36**	**96**	P	**Pn**	**00 35 53.2**	**-2.9**
	851nm,1.3s						
KAPI	**Kappang**	**19.36**	**96**⇑	*i*P	**Pn**	**00 35 52.2**	**-3.8**
KAPI				*e*S	**Sn**	**00 39 25.7**	**-6.9**
KAPI				PcP	PcP	00 40 19.5	+3.0
PCI	**Palu**	**19.56**	**83**	P	**Pn**	**00 35 57.4**	**-1.1**
	0.0nm,0.0s						
PCI	**Palu**	**19.56**	**83**	P	**Pn**	**00 35 57.5**	**-1.0**
	630nm,1.6s						
MYLDM	**Lahad Datu**	**19.96**	**65**	⇑P	**Pn**	**00 36 02.8**	**-0.3**
MYLDM	**Lahad Datu**	**19.96**	**65**	P	**Pn**	**00 36 02.7**	**-0.4**
BDT	**Bhumibol Dam**	**20.50**	**356**	P	**P**	**00 36 05.5**	**-1.6**
	42nm,0.8s						
CM31	**Chiang Mai Arr**	**21.71**	**356**	*e*P	**P**	**00 36 18.3**	**-1.8**
	24nm,0.7s,mb4.7						
CM31				*e*S	**S**	**00 40 33.4**	**+14**
CM31				LR	LR		
	comp=Z,9µm,20.0s,MS5.2						
CMAR	**Chiang Mai Arr**	**21.71**	**356**	P	**P**	**00 36 18.1**	**-2.0**
	comp=Z,41nm,0.9s,mb4.9,baz=185,slow=9.0,SNR=99						
CMAR				PcP	PcP	00 40 22.2	+1.5
	comp=Z,7.5nm,0.9s,baz=207,slow=3.7,SNR=5.5						
CMAR				LR	LR	00 46 24.8	
	comp=Z,13µm,19.3s,MS5.3,baz=6.5,slow=42						
CMAR	**Chiang Mai Arr**	**21.71**	**356**	P	**P**	**00 36 18.2**	**-1.9**
CMAR						00 40 22.2	
CMAR				pmax	pmax		
	comp=Z,41nm,0.9s						
CMAR				pmax	pmax		
	comp=Z,8.0nm,0.9s						
CMAR				MLR	MLR		
	comp=Z,13µm,19.3s						
CHG	**Chiang Mai**	**22.06**	**356**	⇑P	**P**	**00 36 21.4**	**-2.5**
	comp=Z,106nm,1.0s,mb5.2						
CHG				S	**S**	**00 40 30.0**	**+4.0**
CHTO	**Chiang Mai**	**22.06**	**356**	⇑P	**P**	**00 36 22.0**	**-1.9**
	SNR=69						
CHTO	**Chiang Mai**	**22.06**	**356**⇑	*i*P	**P**	**00 36 20.7**	**-3.2**
CHTO				*e*S	**S**	**00 40 28.3**	**+2.3**
CHTO				pmax	pmax		
	comp=Z,316nm,1.7s,mb5.5						
CHTO				MLR	MLR		
	comp=Z,14µm,19.0s,MS5.4						
CHTO	**Chiang Mai**	**22.06**	**356**⇑	*i*P	**P**	**00 36 20.6**	**-3.3**
	comp=Z,316nm,1.7s,mb5.5						
CHTO				*e*S	**S**	**00 40 28.3**	**+2.3**
CHTO				LR	LR		
	comp=Z,14µm,19.0s,MS5.4						
KDI	**Kendari**	**22.18**	**92**	P	**P**	**00 36 24.1**	**-1.2**
	comp=Z,0.0nm,0.0s						
KDI	**Kendari**	**22.18**	**92**	P	**P**	**00 36 24.6**	**-0.7**
	comp=Z,266nm,1.6s,comp=Z,9µm,mb5.4						
BBSI	**Bau Bau**	**22.20**	**96**	P	**P**	**00 36 24.5**	**-1.0**
	comp=Z,330nm,1.1s,comp=Z,4µm,mb5.7						
PALK	**Pallekele**	**22.31**	**298**	⇑P	**P**	**00 36 34.5**	**+7.8**
	SNR=9.0						
PALK	**Pallekele**	**22.31**	**298**	P	**P**	**00 36 24.4**	**-2.3**
	comp=Z,60nm,2.0s,comp=Z,2µm,mb4.7						
PALK	**Pallekele**	**22.31**	**298**	*e*P	**P**	**00 36 29.2**	**+2.5**
	comp=Z,128nm,1.2s,mb5.2						
PALK				PcP	PcP	00 40 20.2	-1.9
PALK				*e*S	**S**	**00 40 31.8**	**+0.7**
PALK				LR	LR		
	comp=Z,8µm,20.0s,MS5.2						
PPR	**Puerto Princes**	**22.43**	**54**	⇓*e*P	**P**	**00 36 34.0**	**+6.1**
CHRT	**Chiangrai**	**23.07**	**358**	⇓P	**P**	**00 36 33.5**	**-1.2**
	comp=Z,1µm,1.0s,mb6.2						
BATI	**Baumata**	**24.07**	**108**	P	**P**	**00 36 41.4**	**-3.0**
	comp=Z,0.0nm,0.0s						
BATI	**Baumata**	**24.07**	**108**	P	**P**	**00 36 41.0**	**-3.3**
	comp=Z,105nm,0.8s,mb5.3,baz=150,slow=1.2,SNR=18						
BATI				S	**S**	**00 40 53.6**	**-6.8**
	comp=Z,100nm,0.8s,baz=62,slow=19,SNR=7.6						
BATI	**Baumata**	**24.07**	**108**	P	**P**	**00 36 42.0**	**-2.4**
QIZ	**Qiongzhong**	**24.09**	**22**	P	**P**	**00 36 43.8**	**-0.7**
QIZ				AP		00 36 52.5	
QIZ				S	**S**	**00 40 59.9**	**-0.6**
QIZ				XS	sS	00 41 14.7	+0.9
QIZ				AMB	AMB		
	comp=Z,209nm,1.8s,mb5.3						
QIZ				AMB	AMB		
	comp=Z,2µm,7.2s						
QIZ				LR	LR		
	comp=N,11µm,15.2s						
QIZ				LR	LR		
	comp=Z,14µm,14.9s,MS5.6						
QIZ	**Qiongzhong**	**24.09**	**22**	*e*P	**P**	**00 36 41.4**	**-3.1**
QIZ				*e*S	**S**	**00 41 11.7**	**+11**
QIZ				LR	LR		
	comp=Z,6µm,20.0s,MS5.0						
MDRS	**Chennai**	**25.82**	**310**⇑	*e*P	**P**	**00 37 01.0**	**+0.7**
MDRS				AMb	AMB	00 37 12.8	
	comp=Z,223nm,1.9s,mb5.4						
MDRS				*e*S	**S**	**00 41 30.0**	**+1.7**
MBWA	**Marble Bar**	**25.83**	**135**	⇑P	**P**	**00 37 05.7**	**+5.4**
	SNR=5.8						
MBWA	**Marble Bar**	**25.83**	**135**	P	**P**	**00 37 01.2**	**+0.9**
	comp=Z,90nm,1.4s,mb5.1						
MBWA	**Marble Bar**	**25.83**	**135**	*e*P	**P**	**00 37 00.3**	**0.0**
	comp=Z,145nm,1.4s,mb5.3						
MBWA				*e*PcP	PcP	00 40 30.2	+0.6
MBWA				*e*S	**S**	**00 41 31.3**	**+3.0**
MBWA				LR	LR		
	comp=Z,9µm,21.0s,MS5.3						
TRD	**Trivandrum**	**26.18**	**297**	*e*P	**P**	**00 37 01.8**	**-1.7**
TRD				AMb	AMB	00 37 17.9	
	comp=Z,170nm,1.5s,mb5.4						
TRD				*e*S	**S**	**00 41 35.6**	**+1.5**
RCP	**Roxas**	**26.70**	**56**⇑	*e*P	**P**	**00 37 08.4**	**+0.2**
TBP	**Tagbilaran**	**26.71**	**61**	*e*P	**P**	**00 37 07.7**	**-0.7**
VIS	**Vishakhapatnam**	**26.86**	**322**	*i* P	**P**	**00 37 10.4**	**+0.8**
VIS				*ex*	x	00 37 47.7	
	comp=Z,174nm,1.5s						
VIS				*i* x	x	00 41 42.2	
DAV	**Davao City (W)**	**27.17**	**68**	P	**P**	**00 37 12.5**	**0.0**
	comp=Z,176nm,0.3s,mb6.0,baz=278,slow=8.7,SNR=12						
DAV	**Davao City (W)**	**27.17**	**68**⇑	*i*P	**P**	**00 37 10.5**	**-2.0**
LBMI	**Labuha**	**27.21**	**85**	P	**P**	**00 37 11.5**	**-1.4**
	comp=Z,0.0nm,0.0s						
LBMI	**Labuha**	**27.21**	**85**	P	**P**	**00 37 12.2**	**-0.7**
	comp=Z,559nm,1.3s,comp=Z,6µm,mb5.9						
BWNR	**Bhubaneshwar**	**27.52

FITZ *i* S **S** **00 42 11.2 -3.2**
FITZ Fitzroy Crossi 28.74 123 P **P** **00 37 26.0 -0.5**
comp=Z,30nm,0.9s,mb5.0,baz=301,slow=9.5,SNR=34
FITZ S **S** **00 42 09.8 -4.6**
comp=Z,3.0nm,1.0s,baz=352,slow=19,SNR=1.8
FITZ Fitzroy Crossi 28.74 123 P **P** **00 37 26.0 -0.5**
comp=Z,159nm,1.2s,comp=Z,2µm,mb5.6
HKC Hong Kong Obse 28.82 27 *i* P **P** **00 37 26.0 -1.1**
HKC Hong Kong Obse 28.82 27 *eP* **P** **00 37 26.0 -1.1**
HYB Hyderabad 29.84 314 *eP* **P** **00 37 36.0 -0.2**
HYB *eS* **S** **00 42 34.0 +2.3**
HYB Hyderabad 29.84 314 *i* P **P** **00 37 36.0 -0.2**
HYB *eS* **S** **00 42 34.0 +2.3**
HYB LR LR 00 50 20.0
comp=Z,7.1nm,20.0s
HYB Hyderabad 29.84 314 *eP* **P** **00 37 36.0 -0.2**
HYB *eS* **S** **00 42 34.0 +2.3**
HYB *e* 00 50 20.0
GYA Guiyang 30.23 11⇑ *iP* **P** **00 37 38.9 -0.7**
GYA AP pP 00 37 49.3 +1.6
GYA XP sP 00 37 53.9 +2.8
GYA PPP 00 38 55.8
GYA S **S** **00 42 39.9 +2.3**
GYA XS sS 00 42 53.6 +2.6
GYA SS SS 00 44 18.5 -29
GYA SCS ScS 00 48 15.9 -0.8
GYA AMB AMB
comp=Z,100nm,1.1s,mb5.5
GYA AMB AMB
comp=Z,680nm,5.6s
GYA LR LR
comp=N,11µm,16.1s,MS5.8
GYA LR LR
comp=E,14µm,15.2s,MS5.8
GYA LR LR
comp=Z,13µm,15.0s,MS5.7
BOK Bokaro 30.45 333 *eP* **P** **00 37 43.1 +1.5**
BOK AMb AMB 00 37 52.0
comp=Z,268nm,1.7s,mb5.7
SWI Sorong 30.93 86 P **P** **00 37 43.6 -2.4**
comp=Z,0.0nm,0.0s
SWI Sorong 30.93 86 P **P** **00 37 43.9 -2.1**
comp=Z,228nm,1.6s,comp=Z,3µm,mb5.8
NGP Nagpur 32.10 320⇑ *iP* **P** **00 37 53.9 -2.2**
NGP *ex* x 00 43 04.4
MUN Mundaring 32.13 154 *eP* **P** **00 37 57.2 +0.9**
MUN *eS* **S** **00 43 07.6 +0.4**
GOA Goa 32.28 306⇓ *eP* **P** **00 37 55.5 -2.4**
GOA *ex* x 00 43 03.7
KLBR Kellerberrin 32.50 152 *eP* **P** **00 37 59.3 -0.3**
comp=Z,36nm,1.2s,mb5.2
ODAN Odare 32.55 338 *eP* **P** **00 38 00.9 +0.9**
TAPN Taplejung 32.88 339 *eP* **P** **00 38 04.2 +1.3**
comp=Z,370nm,1.0s,mb6.3
RAMN Ramite 32.93 337 *eP* **P** **00 38 04.7 +1.3**
KAKA Kakadu 33.02 108⇑ *iP* **P** **00 37 59.4 -4.9**
comp=Z,103nm,1.2s,mb5.6
KAKA Kakadu 33.02 108 P **P** **00 38 00.4 -3.9**
comp=Z,109nm,1.1s,comp=Z,814nm,mb5.7
KAD Karad 33.03 309 *eP* **P** **00 38 03.0 -1.3**
JBP Jabalpur 33.03 324 *eP* **P** **00 38 04.4 +0.1**
JBP *ex* x 00 43 20.6
AKL Akola 33.12 317 *eP* **P** **00 38 04.7 -0.4**
QZH Quanzhou 33.20 31⇑ *iP* **P** **00 38 05.5 -0.2**
QZH PP PP 00 39 18.7 -2.5
QZH S **S** **00 43 32.2 +8.2**
QZH AMB AMB
comp=Z,940nm,1.7s,mb6.4
QZH LR LR
comp=N,16µm,13.3s,MS6.0
QZH LR LR
comp=E,10µm,12.7s,MS6.0
QZH LR LR
comp=Z,18µm,18.5s
NWAO Narrogin (SRO) 33.39 154 P **P** **00 38 06.8 -0.5**
comp=Z,12nm,1.0s,mb4.8,baz=312,slow=11,SNR=3.7
NWAO LR LR 00 51 06.3
comp=Z,10µm,20.1s,MS5.5,baz=333,slow=35
NWAO Narrogin (SRO) 33.39 154 P **P** **00 38 06.8 -0.5**
NWAO pmax pmax
comp=Z,12nm,1.0s
NWAO MLR MLR
comp=Z,10µm,20.1s
JIRN Jiri 33.73 337 *eP* **P** **00 38 11.5 +1.2**
PKI Pulchoki 33.96 336 *eP* **P** **00 38 13.0 +0.7**
PKIN Phulchoki 33.97 336 *eP* **P** **00 38 12.8 +0.4**
POO Poona 34.01 311 *eP* **P** **00 38 12.8 0.0**
POO AMb AMB 00 38 24.3
comp=Z,94nm,2.2s,mb5.3
GUN Gumba 34.08 337 *eP* **P** **00 38 14.6 +1.3**
comp=Z,193nm,0.4s,mb6.4
DMN Daman 34.12 335 *eP* **P** **00 38 14.5 +0.8**
CD2 Chengdu 34.21 5⇑ *iP* **P** **00 38 13.3 -1.1**
CD2 AP pP 00 38 22.1 -0.5
CD2 XP sP 00 38 26.8 +0.9
CD2 PP PP 00 39 29.1 -3.2
CD2 PCP PcP 00 40 49.4 -1.5
CD2 S **S** **00 43 37.8 -1.6**
CD2 PCS PcS 00 44 33.5 -3.7
CD2 SCS ScS 00 48 31.0 -5.6
CD2 AMB AMB
comp=Z,60nm,0.6s,mb5.7
CD2 AMB AMB
comp=Z,860nm,4.5s
CD2 LR LR
comp=N,9µm,16.8s
CD2 LR LR
comp=E,14µm,22.8s
CD2 LR LR
comp=Z,12µm,18.0s,MS5.7
KKN Kakani 34.21 336 *eP* **P** **00 38 15.1 +0.6**
comp=Z,243nm,0.9s,mb6.1
NACB Ninganchiao 34.25 36 *eP* **P** **00 38 15.0 +0.2**
comp=Z,35nm,0.6s,mb5.5
NACB *e*PP PP 00 39 39.6 +6.8
NACB *e*PcP PcP 00 40 48.0 -3.3
NACB *eS* **S** **00 43 46.9 +6.6**
YHNB Yeheng 34.50 35 *eP* **P** **00 38 17.8 +0.7**
comp=Z,124nm,1.3s,mb5.7
YHNB *e*PP PP 00 39 35.9 +0.3
YHNB *e*PcP PcP 00 40 55.3 +3.4
YHNB *eS* **S** **00 43 53.5 +9.3**
YHNB LR LR
comp=Z,4µm,22.0s,MS5.1
BHPL Bhopal 34.65 321 *eP* **P** **00 38 17.7 -0.7**
GKN Gorkha 34.66 335 *eP* **P** **00 38 19.0 +0.6**
TATO Taipei 34.80 35 *eP* **P** **00 38 17.9 -1.8**
TATO *e*PP PP 00 39 42.7 +3.7
TATO *eS* **S** **00 43 55.2 +6.4**
TATO LR LR
comp=Z,3µm,19.0s,MS5.1
KOLN Koldanda 34.91 333 *eP* **P** **00 38 21.4 +0.8**
comp=Z,188nm,0.9s,mb6.0
BOM Bombay 35.01 310 *ex* x 00 38 31.4
comp=Z,124nm,1.5s
BOM *ex* x 00 46 08.2
DANN Dangsing 35.34 334 *eP* **P** **00 38 25.0 +0.7**
WHN Wuhan 36.23 21 ⇑P **P** **00 38 31.7 -0.1**
WHN AMB AMB
comp=Z,224nm,0.9s,mb6.1
WHN AMB AMB
comp=Z,2µm,9.4s
WHN LR LR
comp=N,32µm,14.2s,MS6.3
WHN LR LR
comp=E,6µm,13.4s,MS6.3
WHN LR LR
comp=Z,45µm,14.7s,MS6.4
WRA Warramunga Arr 36.98 119 P **P** **00 38 37.6 -0.8**
comp=Z,64nm,1.1s,mb5.4,baz=294,slow=10,SNR=74
WRA S **S** **00 44 19.9 -2.4**
comp=Z,28nm,0.9s,baz=294,slow=16,SNR=17
WRA Warramunga Arr 36.98 119 P **P** **00 38 37.6 -0.8**
WRA S **S** **00 44 19.9 -2.4**
WRA pmax pmax
comp=Z,64nm,1.1s
WRA smax
comp=N,28nm,0.9s
WRAB Tennant Creek 36.98 119⇑ *iP* **P** **00 38 37.5 -1.0**
WRAB *eS* **S** **00 44 13.7 -8.7**
WRAB pmax pmax
comp=Z,56nm,0.8s,mb5.5
WRAB MLR MLR
comp=Z,8µm,21.0s,MS5.5
WRAB Tennant Creek 36.98 119 P **P** **00 38 37.7 -0.8**
comp=Z,91nm,1.2s,comp=Z,2µm,mb5.5
WRAB Tennant Creek 36.98 119⇑ *iP* **P** **00 38 37.5 -0.9**
comp=Z,56nm,0.8s,mb5.5
WRAB *eS* **S** **00 44 13.7 -8.7**
WRAB LR LR
comp=Z,8µm,21.0s,MS5.5
WB2 Warramunga Arr 36.99 119⇑ *iP* **P** **00 38 37.6 -0.9**
WB2 *eS* **S** **00 44 09.9 -13**
FORT Forrest 37.76 139 *eP* **P** **00 38 45.3 +0.4**
comp=Z,57nm,0.8s,mb5.4
PTH Pithoragarh 38.00 331 *eP* **P** **00 38 47.0 +0.1**
PTH *ex* x 00 39 21.5
XAN Xi'an 38.03 12 P **P** **00 38 46.2 -0.9**
XAN AP pP 00 38 53.9 -1.4
XAN XP sP 00 38 56.9 -1.8
XAN PP PP 00 40 14.7 +0.3
XAN PPP 00 40 38.2
XAN S **S** **00 44 34.3 -3.7**
XAN SS SS 00 47 18.2 -7.7
XAN AMB AMB
comp=Z,376nm,0.9s,mb6.1
XAN AMB AMB
comp=Z,946nm,7.4s
XAN LR LR
comp=E,10µm,16.9s
XAN LR LR
comp=Z,17µm,15.6s,MS6.0
ASAR Alice Springs 38.15 125 P **P** **00 38 48.0 -0.3**
comp=Z,99nm,1.0s,mb5.5,baz=298,slow=7.9,SNR=238
ASAR S **S** **00 44 38.9 -1.1**
comp=Z,5.0nm,1.0s,baz=300,slow=15,SNR=5.9
ASAR Alice Springs 38.15 125 P **P** **00 38 48.0 -0.3**
ASAR S **S** **00 44 38.9 -1.1**
ASAR pmax pmax
comp=Z,99nm,1.0s
ASAR smax
comp=N,5.0nm,1.0s
NDI New Delhi 38.86 327 *eP* **P** **00 38 54.0 -0.2**
NDI *ex* x 00 45 03.0
NJ2 Nanjing 39.32 25 *eP* **P** **00 38 58.6 +0.7**
NJ2 AP pP 00 39 08.4 +2.2
NJ2 XP sP 00 39 12.4 +2.9
NJ2 PP PP 00 40 33.2 +4.7
NJ2 S **S** **00 45 00.0 +2.6**
NJ2 XS sS 00 45 18.0 +7.0
NJ2 AMB AMB
comp=Z,30nm,0.8s,mb5.1
NJ2 AMB AMB
comp=Z,280nm,8.1s
NJ2 LR LR
comp=N,5µm,16.6s
NJ2 LR LR
comp=E,12µm,22.1s
NJ2 LR LR
comp=Z,7µm,15.6s,MS5.6
LZH Lanzhou 39.35 4⇑ *iP* **P** **00 38 58.5 +0.4**
LZH AP pP 00 39 08.3 +1.9
LZH XP sP 00 39 12.4 +2.7
LZH PP PP 00 40 33.6 +4.8
LZH S **S** **00 44 57.6 -0.2**
LZH XS sS 00 45 14.0 +2.7
LZH AMB AMB
comp=Z,339nm,1.4s,mb5.9
LZH AMB AMB
comp=Z,1µm,6.2s
LZH LR LR
comp=E,12µm,13.5s
LZH LR LR
comp=Z,13µm,16.3s,MS5.9
LZH Lanzhou 39.35 4⇑ *iP* **P** **00 38 58.5 +0.4**
LZH *PP pP 00 39 08.3 +1.9
LZH 00 40 33.6
LZH S **S** **00 44 57.6 -0.2**
LZH *SS sS 00 45 14.0 +2.7
LZH SS SS 00 47 45.0 -7.3
LZH pmax pmax
comp=Z,339nm,1.4s,mb5.9
LZH MLR MLR
comp=Z,13µm,16.3s,MS5.9
LZH Lanzhou 39.35 4⇑ *iP* **P** **00 38 58.5 +0.4**
comp=Z,339nm,1.4s,mb5.9
LZH pP pP 00 39 08.3 +1.9
LZH sP sP 00 39 12.4 +2.7
LZH PP PP 00 40 33.6 +4.8
LZH S **S** **00 44 57.6 -0.2**
LZH sS sS 00 45 14.0 +2.7
LZH SS SS 00 47 45.0 -7.3
LZH LR LR
comp=Z,13µm,16.3s,MS5.9
SSE Sheshan 39.56 29 P **P** **00 39 00.6 +0.6**
SSE AP pP 00 39 09.3 +1.1
SSE S **S** **00 45 01.0 -0.1**
SSE sS sS 00 45 16.0 +1.4
SSE XS sS 00 45 16.0 +1.4
SSE AMB AMB
comp=Z,91nm,1.0s,mb5.5
SSE AMB AMB
comp=Z,901nm,9.5s
SSE LR LR
comp=N,10µm,14.6s,MS5.8
SSE LR LR
comp=E,2µm,14.6s,MS5.8
SSE LR LR
comp=Z,11µm,14.6s,MS5.8
SSE Sheshan 39.56 29 P **P** **00 39 00.6 +0.6**
comp=Z,91nm,1.0s,mb5.5
SSE pP pP 00 39 09.3 +1.1
SSE S **S** **00 45 01.0 -0.1**
SSE sS sS 00 45 16.0 +1.4
SSE LR LR
comp=Z,11µm,14.6s,MS5.8
DDI Dehra Dun 39.71 329⇑ *iP* **P** **00 38 58.5 -2.7**
DDI *eS* **S** **00 45 03.5 +0.2**
BHJ Bhuj 39.97 313 *eP* **P** **00 39 03.4 -0.1**
BHJ AMb AMB 00 39 15.8
comp=Z,131nm,1.8s,mb5.3
JOW Kunigami 40.30 40 LR LR 00 54 12.2
comp=Z,2µm,21.9s,MS4.9,baz=139,slow=34
SMLA Simla 40.81 329 *i* P **P** **00 39 10.4 +0.1**
SMLA *ex* x 00 39 13.0
comp=Z,70nm,0.9s
SMLA *i* x x 00 45 14.8
BHK Bhakra 41.43 328 *ex* x 00 46 05.2
TIA Tai'an 42.33 20 ⇑P **P** **00 39 21.6 -1.1**
TIA S **S** **00 45 37.0 -5.2**
TIA XS sS 00 45 59.0 +3.2
TIA AMB AMB
comp=Z,374nm,7.0s
TIA LR LR
comp=N,8µm,13.0s,MS5.8
TIA LR LR
comp=E,3µm,13.0s,MS5.8
TIY Taiyuan 42.34 14 P **P** **00 39 23.3 +0.5**
TIY S **S** **00 45 44.0 +1.7**
TIY AMB AMB
comp=Z,1µm,4.2s
TIY LR LR
comp=N,11µm,14.4s,MS6.0
TIY LR LR
comp=E,6µm,13.4s,MS6.0
TIY LR LR
comp=Z,10µm,14.5s,MS5.8
GTA Gaotai 42.54 359⇑ *iP* **P** **00 39 24.5 +0.1**
GTA AP pP 00 39 34.3 +1.6
GTA XP sP 00 39 38.1 +2.1
GTA S **S** **00 45 42.3 -2.8**
GTA SCS ScS 00 49 21.3 -2.9
GTA AMB AMB
comp=Z,115nm,1.9s,mb5.3
GTA AMB AMB
comp=Z,1µm,7.5s
GTA LR LR
comp=N,6µm,15.6s,MS5.9
GTA LR LR
comp=E,10µm,17.1s,MS5.9
GTA LR LR
comp=Z,6µm,15.9s,MS5.6
THN Thein Dam 42.59 329 *eP* **P** **00 39 23.1 -1.8**
COEN Coen 43.50 107 P **P** **00 39 30.4 -2.1**
comp=Z,35nm,1.5s,comp=Z,551nm,mb4.9
COEN Coen 43.50 107⇑ *iP* **P** **00 39 30.3 -2.2**
comp=Z,142nm,1.5s,mb5.5
COEN *eS* **S** **00 45 41.9 -18**
BTO Baotou 44.61 10 *eP* **P** **00 39 40.5 -0.5**
BTO AMB AMB
comp=Z,67nm,1.7s,mb5.2
MSEY Mahe Island 44.83 267 *eP* **P** **00 39 47.3 +4.0**
MSEY *e*ScP ScP 00 45 20.0 +4.3
MSEY *eS* **S** **00 46 27.8 +8.3**
MSEY LR LR
comp=Z,4µm,19.0s,MS5.3
HHC Hu-ho-hao-te 45.14 12⇑ *iP* **P** **00 39 46.3 +1.0**
HHC AP pP 00 39 56.3 +2.7
HHC XP sP 00 40 00.4 +3.5
HHC PCP PcP 00 41 26.8 +1.4
HHC PP PP 00 41 31.8 +0.6
HHC SCP ScP 00 45 15.5 -0.9
HHC PCS PcS 00 45 19.3 +0.2
HHC S **S** **00 46 25.8 +2.7**
HHC XS sS 00 46 40.0 +3.2
HHC SS SS 00 49 37.4 -9.0
HHC AMB AMB
comp=Z,269nm,1.3s,mb5.9
HHC AMB AMB
comp=Z,2µm,5.3s
HHC LR LR
comp=N,7µm,14.2s,MS5.7
HHC LR LR
comp=E,3µm,14.7s,MS5.7
HHC LR LR
comp=Z,9µm,15.7s,MS5.8
BJT Baijiatuau 45.51 17⇑ *iP* **P** **00 39 48.2 0.0**
BJT *e* 00 41 27.1
BJT *eS* **S** **00 46 36.8 +8.4**
BJT pmax pmax
comp=Z,164nm,0.7s
BJT MLR MLR
comp=Z,12µm,19.0s
BJT Baijiatuau 45.51 17⇑ *iP* **P** **00 39 48.2 0.0**
comp=Z,164nm,0.7s,mb6.1
BJT *e*PcP PcP 00 41 27.1 +0.3
BJT *eS* **S** **00 46 36.8 +8.4**
BJT LR LR
comp=Z,12µm,19.0s,MS5.8
BJI Beijing 45.53 17 P **P** **00 39 48.0 -0.4**
BJI AP pP 00 39 58.2 +1.5
BJI XP sP 00 40 02.0 +2.0
BJI S **S** **00 46 30.2 +1.5**
BJI XS sS 00 46 45.3 +2.8
BJI AMB AMB
comp=Z,258nm,1.3s,mb6.0
BJI AMB AMB
comp=Z,2µm,3.0s
BJI LR LR
comp=N,17µm,16.6s,MS6.1
BJI LR LR
comp=E,10µm,17.9s,MS6.1
BJI LR LR
comp=Z,12µm,17.0s,MS5.9
BJI Beijing 45.53 17 P **P** **00 39 48.0 -0.4**
comp=Z,258nm,1.3s,mb6.0
BJI pP pP 00 39 58.2 +1.5
BJI sP sP 00 40 02.0 +2.0
BJI S **S** **00 46 30.2 +1.5**
BJI sS sS 00 46 45.3 +2.8
BJI SS SS 00 49 54.7 +1.5
BJI LR LR
comp=Z,12µm,17.0s,MS5.9
DL2 Dalian 46.38 23⇑ *iP* **P** **00 39 54.6 -0.4**
DL2 S **S** **00 46 41.0 +0.1**
DL2 AMB AMB
comp=Z,60nm,1.4s,mb5.3
DL2 AMB AMB
comp=Z,650nm,4.7s
DL2 LR LR
comp=N,5µm,15.5s,MS5.6
DL2 LR LR
comp=E,2µm,14.0s,MS5.6
DL2 LR LR
comp=Z,6µm,15.2s,MS5.7
PMG Port Moresby 46.82 100 P **P** **00 39 58.2 -0.7**
comp=Z,140nm,1.4s,comp=Z,2µm,mb5.7
PMG Port Moresby 46.82 100⇑ *iP* **P** **00 39 57.0 -1.9**
PMG *e*PcP PcP 00 41 32.5 +0.6
PMG *eS* **S** **00 46 52.6 +4.6**
PMG LR LR
comp=Z,3µm,21.0s,MS5.2
GUMO Guam 47.21 68 P **P** **00 39 59.5 -2.5**
comp=Z,148nm,1.4s,mb5.7
GUMO Guam 47.21 68 P **P** **00 39 58.3 -3.6**
GUMO *e*PcP PcP 00 41 28.9 -4.4
GUMO LR LR
comp=Z,974nm,20.0s,MS4.8
INCN Inchon 47.36 29 *eP* **P** **00 40 01.5 -1.3**
comp=Z,39nm,0.8s,mb5.4
INCN *e* 00 41 56.8
INCN *eS* **S** **00 47 00.0 +4.9**
INCN LR LR
comp=Z,3µm,19.0s,MS5.3
CTA Charters Tower 47.67 114⇑ *iP* **P** **00 40 04.8 -0.7**
comp=Z,52nm,0.9s,mb5.6
CTA Charters Tower 47.67 114⇑ *iP* **P** **00 40 04.8 -0.7**
CTA pmax pmax
comp=Z,52nm,0.9s
CTAO Charters Tower 47.67 114 P **P** **00 40 05.2 -0.3**
comp=Z,113nm,1.1s,comp=Z,2µm,mb5.8
CTAO Charters Tower 47.67 114 *eP* **P** **00 40 05.0 -0.5**
CTAO *e* pP 00 40 13.8 0.0
CTAO *e* 00 40 19.3
CTAO *e*PP PP 00 42 02.1 +4.8
CTAO *eS* **S** **00 46 55.9 -4.2**
CTAO LR LR
comp=Z,4µm,20.0s,MS5.3
KBL Kabul 47.85 325⇑ *iP* **P** **00 40 05.8 -0.9**
KBL *e* 00 41 35.3
KBL *e* 00 41 59.4
KBL pmax pmax
comp=Z,32nm,0.9s,mb5.3
KBL Kabul 47.85 325⇑ *iP* **P** **00 40 05.8 -0.8**
comp=Z,32nm,0.9s,mb5.4
KBL *e*PcP PcP 00 41 35.2 +0.1
KBL *e*PP PP 00 41 59.4 +0.7
KBL *eS* **S** **00 46 48.8 -13**
STKA Stephens Creek 47.96 131⇑ *iP* **P** **00 40 07.1 -0.5**
comp=Z,77nm,1.1s,mb5.7
STKA *i* S **S** **00 47 03.0 -0.9**
STKA Stephens Creek 47.96 131 P **P** **00 40 08.4 +0.8**
comp=Z,33nm,0.9s,mb5.4,baz=312,slow=8.7,SNR=32
STKA S **S** **00 47 05.4 +1.5**
comp=Z,1.5nm,0.7s,baz=219,slow=19,SNR=2.2
STKA LR LR 01 01 20.2
comp=Z,5µm,21.7s,MS5.4,baz=300,slow=37
STKA Stephens Creek 47.96 131⇑ *eP* **P** **00 40 07.8 +0.2**
STKA *e*PcP PcP 00 41 33.6 -2.0
STKA *i* S **S** **00 47 03.0 -0.9**
STKA *eS* **S** **00 47 03.8 -0.1**
KSRS Korea Array 47.97 30 P **P** **00 40 07.0 -0.5**
comp=Z,137nm,1.1s,mb5.9,baz=220,slow=7.7,SNR=167
KSRS LR LR 01 02 38.6
comp=Z,3µm,18.5s,MS5.3,baz=107,slow=39
KSRS Korea Array 47.97 30 P **P** **00 40 07.0 -0.5**
KSRS pmax pmax
comp=Z,137nm,1.1s,mb5.9
KSRS MLR MLR
comp=Z,3µm,18.5s,MS5.3
KSH Kashi 48.21 335⇑ *iP* **P** **00 40 09.9 +0.6**
KSH *e*AP pP 00 40 19.2 +1.5
KSH *e*PCP PcP 00 41 38.9 +2.6
KSH *e*PP PP 00 42 02.0 0.0
KSH *e*PPP 00 42 51.2
KSH *e*PCS PcS 00 45 28.0 -4.0
KSH *e*SCP ScP 00 45 29.1 -0.1
KSH S **S** **00 47 03.6 -3.4**
KSH *e*SCS ScS 00 49 50.3 -10
KSH AMB AMB
comp=Z,40nm,1.6s,mb5.2
KSH LR LR
comp=N,7µm,13.5s,MS5.9
KSH LR LR
comp=E,5µm,13.9s,MS5.9
KSH LR LR
comp=Z,22µm,19.4s
WMQ Urumqi 48.32 348⇑ *iP* **P** **00 40 11.0 +0.9**
WMQ AP pP 00 40 21.0 +2.5
WMQ XP sP 00 40 25.5 +3.7
WMQ PCP PcP 00 41 39.2 +2.6
WMQ PPP 00 42 54.4
WMQ SCP ScP 00 45 29.0 -0.6
WMQ S **S** **00 47 07.0 -1.4**
WMQ XS sS 00 47 23.5 +1.3

WMQ SCS ScS 00 49 58.5 -2.6
WMQ SS SS 00 50 31.2 -7.2
WMQ AMB AMB
comp=Z,216nm,1.3s,mb6.0
WMQ AMB AMB
comp=Z,595nm,8.8s
WMQ LR LR
comp=N,2μm,20.0s,MS5.4
WMQ LR LR
comp=E,3μm,22.4s,MS5.1
WMQ LR LR
comp=Z,3μm,22.4s,MS5.1
JMDO Jabal Madar 48.58 304 ⇓P **P 00 40 16.8 +4.3**
SNR=7.1
SMDO Samad 48.93 305 ⇑P **P 00 40 19.4 +4.2**
SNR=9.4
BIDO Bidbid 49.08 305 ⇑P **P 00 40 20.4 +4.1**
SNR=13
BSY Bisya 49.50 304 ⇑P **P 00 40 23.7 +4.2**
SNR=29
SNY Shenyang 49.65 23 ⇑P **P 00 40 19.0 -1.3**
SNY S **S 00 47 32.8 +5.6**
SNY AMB AMB
comp=Z,90nm,1.2s,mb5.7
SNY AMB AMB
comp=Z,1μm,3.7s
SNY LR LR
comp=N,2μm,20.8s
SNY LR LR
comp=Z,2μm,24.5s,MS4.9
HOQ Hoqain 49.77 305 ⇓P **P 00 40 25.8 +4.2**
SNR=7.0
RBK Rabkut 50.05 296 ⇓P **P 00 40 28.9 +5.1**
SNR=7.7
CBIJ Chichi jima 50.40 50 LR LR 01 00 04.0
comp=Z,606nm,21.3s,MS4.6,baz=199,slow=34
WHFO Wadi Hawf 50.59 296 ⇑P **P 00 40 32.8 +4.9**
SNR=6.0
ABTO Aybut 50.82 295 ⇓P **P 00 40 34.7 +5.0**
SNR=8.1
UCH Uchtor 51.08 335 P **P 00 40 32.2 +1.1**
SNR=32
UCH Uchtor 51.08 335 ⇑*i*P **P 00 40 31.9 +0.8**
comp=Z,179nm,1.4s,mb5.8
UCH *e*PcP PP 00 42 38.2 +10
UCH *e*S **S 00 47 49.2 +2.2**
UCH LR LR
comp=Z,3μm,21.0s,MS5.3
TKM2 Tokmak 2 51.22 337 ⇑*i*P **P 00 40 32.8 +0.7**
TKM2 *e*S **S 00 47 43.2 -5.7**
TKM2 pmax pmax
comp=Z,183nm,1.2s,mb5.9
TKM2 MLR MLR
comp=Z,4μm,20.0s,MS5.5
TKM2 Tokmak 2 51.22 337 P **P 00 40 32.9 +0.7**
SNR=60
TKM2 Tokmak 2 51.22 337 ⇑*i*P **P 00 40 32.8 +0.6**
comp=Z,183nm,1.2s,mb5.9
TKM2 *e*PP PP 00 42 41.4 +12
TKM2 *e*S **S 00 47 43.2 -5.8**
TKM2 LR LR
comp=Z,4μm,20.0s,MS5.5
SONA0 Songino Array 51.23 5 *e*P **P 00 40 31.6 -0.6**
SONA0 *e*PcP PcP 00 41 50.0 +2.8
SONA0 *e*PP PP 00 42 29.9 +0.6
SONA0 *e*ScP ScP 00 46 00.3 +18
SONA0 *e*S **S 00 47 58.5 +10**
SONM Songino Array 51.23 5 P **P 00 40 33.0 +0.8**
comp=Z,135nm,0.6s,mb6.0,baz=189,slow=8.1,SNR=400
SONM PcP PcP 00 41 47.7 +0.6
comp=Z,20nm,0.6s,baz=194,slow=2.7,SNR=4.8
SONM Songino Array 51.23 5 P **P 00 40 33.0 +0.8**
SONM 00 41 47.7
SONM pmax pmax
comp=Z,135nm,0.6s
SONM pmax pmax
comp=Z,21nm,0.6s
KBK Karagaybulak 51.25 336 P **P 00 40 33.6 +1.2**
SNR=51
HATD Hatta, Dubai 51.29 306 ⇓P **P 00 40 37.0 +3.9**
SNR=8.6
AML Almayashu 51.34 335 P **P 00 40 34.0 +0.8**
SNR=31
AML Almayashu 51.34 335 ⇑*i*P **P 00 40 34.0 +0.8**
comp=Z,287nm,1.6s,mb6.0
AML *e*PP PP 00 42 37.0 +6.5
AML *e*S **S 00 47 48.6 -2.1**
AML LR LR
comp=Z,3μm,20.0s,MS5.3
AAK Ala-Archa 51.42 336 P **P 00 40 34.4 +0.7**
SNR=16
FRU Bishkek 51.53 336 ⇑*i*P **P 00 40 35.0 +0.5**
FRU *i* 00 40 40.0
FRU *i* 00 47 53.0
FRU pmax pmax
comp=Z,490nm,2.4s,mb6.0
FRU MLR MLR
comp=Z,4μm,20.0s,MS5.5
CHMS Chumysh 51.62 336 P **P 00 40 35.3 +0.2**
SNR=23
EKS2 Erkin-Say 51.74 335 P **P 00 40 37.0 +0.9**
SNR=39
EKS2 Erkin-Say 51.74 335 ⇑*i*P **P 00 40 36.8 +0.7**
comp=Z,106nm,1.0s,mb5.7
EKS2 *e*PP PP 00 42 39.0 +5.0
EKS2 *e*S **S 00 47 52.5 -3.8**
EKS2 LR LR
comp=Z,3μm,20.0s,MS5.3
USP Ospenovka 51.94 336 P **P 00 40 37.7 +0.2**
SNR=72
JHJ Hachijo jima 2 51.96 43 LR LR 01 02 17.4
comp=Z,2μm,19.5s,MS5.1,baz=54,slow=36
CN2 Changchun 52.05 23 ⇑P **P 00 40 37.2 -1.1**
CN2 *e*XP sP 00 40 51.1 +1.0
CN2 PP PP 00 42 36.5 -0.3
CN2 *e*S **S 00 47 59.3 -1.1**
CN2 SS SS 00 51 33.9 -4.1
CN2 AMB AMB
comp=Z,30nm,1.3s,mb5.1
CN2 AMB AMB
comp=Z,800nm,10.0s
CN2 LR LR
comp=N,4μm,17.0s,MS5.7
CN2 LR LR
comp=E,4μm,17.0s,MS5.7
CN2 LR LR
comp=Z,8μm,15.0s,MS5.8
MK31 Makanchi Array 52.42 344 *i* P **P 00 40 41.0 -0.1**
MK31 pmax pmax
comp=Z,126nm,1.0s,mb5.8
MK31 Makanchi Array 52.42 344 ⇑*i*P **P 00 40 41.0 0.0**
MK31 *e*pP pP 00 40 48.7 -0.8
MK31 *e*PP PP 00 42 40.4 +0.3
MK31 *e*S **S 00 48 07.6 +2.2**
MKAR Makanchi Array 52.42 344 P **P 00 40 41.1 +0.1**
comp=Z,45nm,0.7s,mb5.5,baz=146,slow=7.2,SNR=161
MKAR LR LR 01 07 49.5
comp=Z,2μm,19.9s,MS5.1,baz=357,slow=42
MKAR Makanchi Array 52.42 344 P **P 00 40 41.1 +0.1**
MKAR pmax pmax
comp=Z,45nm,0.7s
MKAR MLR MLR
comp=Z,2μm,20.0s
MAJO Matsushiro 53.06 38 ⇑*i*P **P 00 40 44.3 -1.7**
MAJO *e* 00 41 54.7
MAJO *e*S **S 00 48 15.8 +1.3**
MAJO pmax pmax
comp=Z,147nm,1.3s,mb5.8
MAJO MLR MLR
comp=Z,2μm,20.0s,MS5.2
MAJO Matsushiro 53.06 38 ⇑*i*P **P 00 40 44.3 -1.7**
comp=Z,147nm,1.3s,mb5.8
MAJO *e*PcP PcP 00 41 54.7 +0.4
MAJO *e*S **S 00 48 15.8 +1.3**
MAJO LR LR
comp=Z,2μm,20.0s,MS5.2
MAT Matsushiro 53.06 38 P **P 00 40 44.4 -1.6**
MAT S **S 00 48 22.0 +7.5**
MJAR Matsushiro Arr 53.06 38 P **P 00 40 44.3 -1.7**
comp=Z,59nm,1.1s,mb5.4,baz=220,slow=7.7,SNR=80
MJAR PcP PcP 00 41 54.8 +0.5
comp=Z,3.5nm,0.9s,baz=230,slow=5.6,SNR=4.4
MJAR Matsushiro Arr 53.06 38 P **P 00 40 44.3 -1.7**
MJAR 00 41 54.8
MJAR pmax pmax
comp=Z,59nm,1.1s
MJAR pmax pmax
comp=Z,4.0nm,0.9s
KK31 Karatay Array 53.52 333 P **P 00 40 48.4 -0.9**
KK31 pmax pmax
comp=Z,163nm,1.9s,mb5.6
ZAK Zakamensk 53.57 2 ⇓*i*P **P 00 40 49.0 -0.4**
ZAK *e* 00 50 30.2
ZAK pmax pmax
comp=Z,39nm,1.6s,mb5.1
OPO Ambohidratompo 54.17 250 P **P 00 40 55.8 +1.3**
comp=Z,6.7nm,0.9s,mb4.6,baz=80,slow=5.7,SNR=7.3
ABPO Ambohimpanom 54.21 249 *e*P **P 00 40 56.3 +1.5**
comp=Z,238nm,2.1s,mb5.8
ABPO *e*pP pP 00 41 03.7 +0.4
ABPO *e*PP PP 00 43 08.8 +12
ABPO *e*S **S 00 48 19.4 -11**
ABPO LR LR
comp=Z,3μm,21.0s,MS5.3
VLA Vladivostok 54.27 28 *i* P **P 00 40 54.3 -0.4**
VLA *e*S **S 00 48 30.0 -0.7**
VLA MLR MLR
comp=Z,5μm,16.5s,MS5.7
VLA Vladivostok 54.27 28 *i* P **P 00 40 53.7 -1.0**
MDJ Mudanjiang 54.41 25 P **P 00 40 55.6 -0.1**
MDJ AP pP 00 41 04.0 -0.2
MDJ PP PP 00 42 58.6 +0.5
MDJ SCP ScP 00 45 54.9 -1.0
MDJ S **S 00 48 35.7 +3.2**
MDJ XS sS 00 48 47.7 +1.2
MDJ SS SS 00 52 16.1 +0.8
MDJ AMB AMB
comp=Z,73nm,1.1s,mb5.5
MDJ AMB AMB
comp=Z,789nm,6.8s
MDJ LR LR
comp=N,6μm,12.8s,MS6.0
MDJ LR LR
comp=E,5μm,13.4s,MS6.0
MDJ LR LR
comp=Z,8μm,14.7s,MS5.9
MDJ Mudanjiang 54.41 25 ⇑*i*P **P 00 40 55.4 -0.4**
comp=Z,106nm,1.1s,mb5.7
MDJ *e*pP pP 00 41 04.0 -0.3
MDJ *e*PP PP 00 42 55.4 -2.7
MDJ *e*S **S 00 48 32.4 -0.1**
MDJ LR LR
comp=Z,4μm,20.0s,MS5.5
MOY Mondy 54.80 0 *e*P **P 00 40 58.5 +0.1**
MOY pmax pmax
comp=Z,205nm,2.7s,mb5.7
TLY Talaya 54.88 2 ⇑P **P 00 40 57.6 -1.4**
SNR=26
TLY Talaya 54.88 2 *e*P **P 00 40 59.7 +0.7**
TLY *e*S **S 00 48 50.7 +12**
TLY *e*PS 00 48 58.2
TLY pmax pmax
comp=Z,135nm,1.6s,mb5.7
TLY MLR MLR
comp=Z,5μm,16.0s,MS5.7
TLY Talaya 54.88 2 ⇑*i*P **P 00 40 58.6 -0.4**
HIA Hailar 55.02 15 ⇑*i*P **P 00 40 59.0 -1.0**
HIA *e**PP pP 00 41 08.1 -0.4
HIA *e*S **S 00 48 46.6 +6.2**
HIA pmax pmax
comp=Z,146nm,1.3s
HIA MLR MLR
comp=Z,8μm,19.0s
HIA Hailar 55.02 15 ⇑*i*P **P 00 40 59.0 -1.0**
comp=Z,146nm,1.3s,mb5.8
HIA *e*pP pP 00 41 08.1 -0.4
HIA *e*PP PP 00 42 42.1 -21
HIA *e*ScP ScP 00 45 52.5 -5.8
HIA *e*S **S 00 48 46.6 +6.2**
HIA LR LR
comp=Z,8μm,19.0s,MS5.8
CAN Canberra 55.02 132 *e*P **P 00 41 01.5 +1.1**
comp=Z,155nm,1.3s,mb5.9
CAN *e*pP pP 00 41 08.4 -0.4
CAN *e*S **S 00 48 50.5 +9.4**
ARMA Armidale 55.30 125 *e*P **P 00 41 04.0 +1.5**
IRK Irkutsk 55.47 3 *e*P **P 00 41 03.6 +0.4**
IRK pmax pmax
comp=Z,250nm,2.1s,mb5.9
CIT Chita 56.27 10 *e*P **P 00 41 09.8 +0.8**
CIT *e* pP 00 41 17.1 -0.4
CIT pmax pmax
comp=Z,519nm,1.9s,mb6.2
ABKT Ailbek 56.73 320 P **P 00 41 12.3 -0.3**
comp=Z,360nm,1.0s,mb6.4,SNR=22
VAN Vannovskaya 56.75 320 P **P 00 41 12.3 -0.4**
VAN S **S 00 49 02.1 -1.9**
KURK Kurchatov 57.00 344 ⇑P **P 00 41 14.6 +0.4**
SNR=92
KURK Kurchatov 57.00 344*c* *i*P **P 00 41 14.1 -0.1**
KURK pmax pmax
comp=Z,252nm,1.4s,mb6.1
TAU Tasmania Unive 57.30 140 *e*P **P 00 41 20.7 +4.2**
TAU *e*S **S 00 49 11.7 +0.6**
ZAA0 Zalesovo Array 58.55 349 ⇑*i*P **P 00 41 24.6 -0.5**
ZAA0 *e*PcP PcP 00 42 17.2 +2.0
ZAA0 *e*PP PP 00 43 34.9 +0.1
ZAA0 *e*S **S 00 49 19.6 -7.4**
ZALV Zalesovo Beam 58.55 349 P **P 00 41 24.6 -0.4**
comp=Z,118nm,0.9s,mb5.9,baz=177,slow=5.1,SNR=191
ZALV S **S 00 49 27.6 +0.6**
comp=Z,0.4nm,0.4s,baz=142,slow=12,SNR=3.0
ZALV LR LR 01 09 22.8
comp=Z,2μm,19.9s,MS5.2,baz=168,slow=39
ZALV Zalesovo Beam 58.55 349 P **P 00 41 24.6 -0.4**
ZALV S **S 00 49 27.6 +0.6**
ZALV pmax pmax
comp=Z,118nm,1.0s,mb5.9
ZALV MLR MLR
comp=Z,2μm,20.0s,MS5.1
KLR Kul'dur 58.99 23 ⇓*i*P **P 00 41 23.2 -4.9**
KLR *e*S **S 00 49 30.0 -2.8**
KLR pmax pmax
comp=N,64nm,1.8s
KLR pmax pmax
comp=E,64nm,1.8s
KLR pmax pmax
comp=Z,640nm,1.8s,mb6.3
KLR pmax pmax
comp=Z,1μm,7.0s
KLR MLR MLR
comp=E,4μm,15.0s
KLR MLR MLR
comp=Z,7μm,15.0s,MS5.9
HNR Honiara 59.42 99 ⇑*i*P **P 00 41 30.0 -1.8**
HNR *e**PP pP 00 41 39.9 -0.5
HNR *e*S **S 00 49 38.9 -0.8**
HNR pmax pmax
comp=Z,483nm,1.0s,mb6.5
HNR MLR MLR
comp=Z,1μm,20.0s,MS5.0
HNR Honiara 59.42 99 ⇑*i*P **P 00 41 30.0 -1.9**
comp=Z,483nm,1.0s,mb6.5
HNR *e*pP pP 00 41 39.9 -0.5
HNR *e*sP sP 00 41 44.5 +0.8
HNR *e*S **S 00 49 38.9 -0.8**
HNR LR LR
comp=Z,1μm,20.0s,MS5.0
KRAR Krasnoyarsk 59.47 355 ⇑*i*P **P 00 41 31.3 -0.1**
KRAR pmax pmax
comp=Z,295nm,1.6s,mb6.1
ERM Erimo 59.49 36 *e*P **P 00 41 25.3 -6.5**
ERM *e*S **S 00 49 45.3 +5.7**
ERM MLR MLR
comp=Z,2μm,20.0s,MS5.2
NVS Novosibirsk 59.70 349 ⇑*i*P **P 00 41 31.4 -1.6**
NVS *e* 00 42 17.8
NVS *e* 00 43 41.2
NVS *i*S **S 00 49 40.4 -1.5**
NVS *e*SS SS 00 53 42.4 +4.3
NVS pmax pmax
comp=N,176nm,1.6s
NVS pmax pmax
comp=E,86nm,1.6s
NVS pmax pmax
comp=Z,184nm,1.6s,mb5.9
NVS pmax pmax
comp=N,45nm,1.9s
NVS pmax pmax
comp=Z,56nm,1.9s,mb5.3
NVS pmax pmax
comp=E,33nm,1.7s
NVS smax
comp=N,85nm,1.9s
NVS smax
comp=E,80nm,2.4s
HABR Khabarovsk 59.78 26 *e*P **P 00 41 30.7 -2.9**
HABR *e* pP 00 41 40.5 -1.7
HABR *e*S **S 00 49 39.5 -3.6**
HABR *e* 00 49 56.6
HABR *e* 00 51 17.3
HABR *e* 00 53 35.7
KBD Kabd 59.95 306 *e*P **P 00 41 34.9 -0.3**
baz=306
KBD AMb AMB 00 41 45.3
comp=Z,109nm,1.6s,mb5.6,baz=306
UMR Umm Al-Rimmam 60.08 307 *e*P **P 00 41 35.6 -0.5**
baz=307
UMR AMb AMB 00 41 46.1
comp=Z,185nm,1.7s,mb5.8,baz=307
NAY Al-Naaiem 60.34 306 *e*P **P 00 41 37.4 -0.5**
baz=306
NAY AMb AMB 00 41 46.8
comp=Z,62nm,1.8s,mb5.3,baz=306
MIB Mutribah 60.48 307 *e*P **P 00 41 38.8 0.0**
baz=307
MIB AMb AMB 00 41 48.8
comp=Z,204nm,1.8s,mb5.8,baz=307
RST Umm Al-Ruwaisa 60.63 307 *e*P **P 00 41 39.0 -0.9**
baz=306
RST AMb AMB 00 41 48.7
comp=Z,121nm,1.8s,mb5.7,baz=306
VOSK Vostochnaya 61.12 340 P **P 00 41 41.5 -1.2**
VOSK pmax pmax
comp=Z,172nm,1.7s,mb5.9
BVA0 Borovoye Array 61.57 340 P **P 00 41 44.8 -1.0**
BVA0 pmax pmax
comp=Z,7.0nm,1.1s,mb4.7
BRVK Borovoye 61.64 340 ⇑P **P 00 41 46.3 +0.1**
SNR=40
BRVK Borovoye 61.64 340 ⇑*i*P **P 00 41 45.4 -0.8**
BOD Bodaibo 61.94 8 *e*P **P 00 41 47.5 -0.6**
BOD pmax pmax
comp=Z,118nm,1.4s,mb5.8
YSS Yuzh-Sakhalins 62.40 31 ⇑*i*P **P 00 41 50.5 -1.0**
YSS *e* 00 41 56.2
YSS *e* 00 42 26.0
YSS *e*S **S 00 50 28.0 +11**
YSS *e*SS SS 00 54 22.0 +1.2
YSS pmax pmax
comp=Z,230nm,1.0s,mb6.3
YSS MLR MLR
comp=Z,2μm,16.0s,MS5.5
YSS Yuzh-Sakhalins 62.40 31 ⇑*i*P **P 00 41 51.3 -0.2**
AB31 Akbulak array 63.00 331 *i* P **P 00 41 54.2 -1.2**
AB31 pmax pmax
comp=Z,105nm,0.7s,mb6.1
KMBO Kilima Mbogo 63.14 270 ⇓P **P 00 42 03.9 +6.9**
SNR=12
KMBO Kilima Mbogo 63.14 270 P **P 00 41 58.9 +1.8**
comp=Z,3.2nm,0.8s,mb4.5,baz=62,slow=11,SNR=11
KMBO LR LR 01 08 04.7
comp=Z,2μm,18.4s,MS5.3,baz=313,slow=35
CLNS Chul'man 63.19 15 *e*P **P 00 41 56.2 -0.3**
CLNS *e**PP pP 00 42 01.6 -3.5
CLNS *e* 00 42 30.1
CLNS *e* 00 44 16.0
CLNS *e*PPP 00 45 44.7
CLNS *e*S **S 00 50 28.5 +2.4**
CLNS *e* 00 51 37.0
CLNS *e*SSS 00 57 11.2
CLNS pmax pmax
comp=Z,64nm,1.2s,mb5.6
CLNS pmax pmax
comp=E,36nm,1.2s
CLNS pmax pmax
comp=N,46nm,1.3s
CLNS pmax pmax
comp=N,13nm,1.1s
CLNS pmax pmax
comp=Z,11nm,1.0s,mb4.9
CLNS pmax pmax
comp=E,11nm,1.0s
CLNS smax
comp=N,489nm,13.0s
CLNS smax
comp=E,275nm,13.4s
CLNS MLR MLR
comp=E,5μm,16.0s,MS6.0
CLNS MLR MLR
comp=Z,6μm,13.0s,MS6.0
CLNS MLR MLR
comp=N,5μm,14.0s,MS6.0
CASY Casey 63.22 175 *e*P **P 00 41 56.1 -0.5**
MIR Mirnyy 63.31 183 ⇓*i*P **P 00 42 05.0 +7.8**
MIR *i* 00 42 40.0
MIR *e*S **S 00 50 28.0 +0.7**
MIR *e*PS 00 50 50.0
MIR pmax pmax
comp=Z,200nm,1.8s,mb6.0
BHD Baghdad 64.17 309 *ex* x 00 42 07.0
BHD *ex* x 00 50 43.0
AKTO Aktyubinsk 64.72 332 P **P 00 42 05.7 -1.0**
AKTO pmax pmax
comp=Z,20nm,1.4s,mb5.0
MAK Makhachkala 66.25 320*c* *i*P **P 00 42 16.5 -0.3**
MAK *i* 00 42 45.0
MAK *e*PPP 00 46 28.2
MAK *i*S S 00 51 02.7 -1.7
MAK *e* 00 52 12.5
MAK pmax pmax
comp=Z,239nm,1.8s,mb5.9
MSL Mosul 66.36 312 *ex* x 00 42 18.0
MSL *ex* x 00 51 04.0
HAKT HAKKARI 66.39 314 *i* P **P 00 42 17.9 +0.1**
DZM Mont Dzumac 66.56 113 ⇑*e*P **P 00 42 19.3 +0.1**
comp=Z,52nm,1.2s,mb5.4
DZM *e*pP pP 00 42 27.8 -0.1
DZM *e*PP PP 00 44 46.2 +0.2
GNI Garni 66.77 316 ⇓P **P 00 42 21.7 +1.5**
SNR=38
GNI Garni 66.77 316*c* *i*P **P 00 42 20.4 +0.2**
GNI pmax pmax
comp=Z,59nm,1.4s
GNI Garni 66.77 316 ⇑*i*P **P 00 42 20.5 +0.3**
DGRG David-gareji 66.93 318 P **P 00 42 22.0 +0.9**
MTA Mtatsminda 67.42 318 P **P 00 42 24.4 +0.1**
TBLG Delisi 67.48 318 P **P 00 42 24.8 +0.2**
SVE Sverdlovsk 68.07 338 ⇓*e*P **P 00 42 27.7 -0.3**
SVE *e* 00 45 01.9
SVE *e*S S 00 51 19.8 -5.9
SVE *e* 00 52 27.4
SVE *e*SS SS 00 55 45.7 -2.9
SVE pmax pmax
comp=Z,186nm,1.4s,mb5.9
SVE MLR MLR
comp=Z,4μm,21.0s,MS5.6
MARD Mardin 68.44 312 *i* P **P 00 42 31.1 +0.4**
ARU Arti 68.59 337*c* *i*P **P 00 42 30.3 -1.0**
ARU *e* 00 42 56.6
ARU *e*PPP 00 46 43.2
ARU *e*S S 00 51 31.6 -0.3
ARU *e*SS SS 00 55 55.7 -1.0
ARU pmax pmax
comp=Z,138nm,1.7s,mb5.6
ARU MLR MLR
comp=Z,3μm,21.0s,MS5.5
ARU Arti 68.59 337 ⇑*i*P **P 00 42 30.7 -0.6**
ONI Oni 68.71 318 P **P 00 42 33.0 +0.6**
YAK Yakutsk 68.93 14*c* *i*P **P 00 42 32.1 -1.2**
YAK *e**PP pP 00 42 38.7 -3.3
YAK *e* 00 42 54.7
YAK *e* 00 44 59.9
YAK *e*PPP 00 46 43.6
YAK *e*S S 00 51 34.7 -1.1
YAK *e* 00 52 26.6
YAK *e*SS SS 00 56 02.6 +0.9
YAK pmax pmax
comp=Z,278nm,1.2s,mb6.1
YAK pmax pmax
comp=N,106nm,1.2s
YAK pmax pmax
comp=E,105nm,1.5s
YAK pmax pmax
comp=Z,678nm,3.8s

YAK pmax pmax
comp=E,260nm,3.0s
YAK pmax pmax
comp=N,945nm,3.8s
YAK smax
comp=N,347nm,10.5s
YAK smax
comp=E,69nm,9.2s
YAK MLR MLR
comp=Z,10µm,17.0s,MS6.1
YAK MLR MLR
comp=N,8µm,20.0s,MS6.0
YAK MLR MLR
comp=E,5µm,23.0s,MS6.0
DRV Dumont d'Urvil 68.93 164 P **P** **00 42 37.0 +3.7**
DRV S S 00 51 44.0 +8.3
DRV SS SS 00 56 04.0 +2.6
DRV L 00 59 00.0
DRV R 01 03 00.0
MAW Mawson 69.10 194 *e*P **P** **00 42 35.4 +1.1**
comp=E,17nm,1.5s,mb4.8
MAW Mawson 69.10 194 P **P** **00 42 35.3 +1.0**
comp=E,8.2nm,0.9s,mb4.7,baz=16,slow=8.0,SNR=12
MAW LR LR 01 09 44.7
comp=E,2µm,18.9s,MS5.4,baz=40,slow=33
MAW PKP2ab 01 10 46.0
comp=E,5.0nm,0.8s,baz=259,slow=5.7,SNR=7.9
DAGI Agillar 69.11 316 *i*P **P** **00 42 34.6 -0.3**
ARTV Artvin 69.15 316 *i*P **P** **00 42 35.3 +0.2**
DDEM Demirkent 69.15 316 *i*P **P** **00 42 35.3 +0.2**
DBAD Bademkaya 69.24 316 *i*P **P** **00 42 36.4 +0.7**
KOPT Kop Dagi 69.68 315 *i*P **P** **00 42 39.9 +1.5**
ASF Jabal al Asfar 69.70 306 LR LR 01 13 26.9
comp=E,2µm,19.4s,MS5.5,baz=139,slow=36
KIV Kislovodsk 69.82 319⇑ P **P** **00 42 40.2 +1.0**
SNR=38
KIV Kislovodsk 69.82 319*c* *i*P **P** **00 42 39.0 -0.2**
KIV pmax pmax
comp=Z,99nm,1.6s,mb5.5
ELZG Elazig 70.19 313 *i*P **P** **00 42 42.3 +0.7**
ATAB Bozova 70.34 312 *i*P **P** **00 42 43.3 +0.7**
MACK Trabzon 70.55 316 *i*P **P** **00 42 43.8 +0.1**
GZT Gaziantep 70.84 311 *i*P **P** **00 42 46.3 +0.6**
AKCD Akcadag 70.90 312 *i*P **P** **00 42 46.0 0.0**
HWQ Hawqa 71.10 308 *e*P **P** **00 42 47.9 +0.7**
BHL Bhannes 71.22 307 *e*P **P** **00 42 48.7 +0.7**
YAYL Yayladag 71.52 310 *i*P **P** **00 42 50.0 +0.3**
COBT Iskenderun 71.56 310 *i*P **P** **00 42 50.9 +0.9**
GRSN GIRESUNGRSN 71.59 315 *i*P **P** **00 42 49.6 -0.5**
SKR Severo-Kuril's 71.75 34 *e*P **P** **00 42 50.0 -0.8**
SKR *e* 00 43 07.0
SKR *e* 00 52 05.0
SKR pmax pmax
comp=Z,220nm,1.0s,mb6.0
ANDN Andirin 71.83 311 *i*P **P** **00 42 52.1 +0.5**
LSZ Lusaka 71.98 255 P **P** **00 42 60.0 +7.1**
SNR=8.2
LSZ Lusaka 71.98 255 LR LR 01 12 32.3
comp=Z,2µm,18.1s,MS5.5,baz=87,slow=34
LSZ Lusaka 71.98 255 *e*P **P** **00 42 53.8 +0.9**
LSZ *e**PP pP 00 43 01.7 +0.1
LSZ *e*S S 00 52 06.0 -7.1
LSZ pmax pmax
comp=Z,63nm,1.6s,mb5.3
LSZ MLR MLR
comp=Z,2µm,20.0s,MS5.3
LSZ Lusaka 71.98 255 *e*P **P** **00 42 53.8 +0.9**
comp=Z,63nm,1.6s,mb5.3
LSZ *e*pP pP 00 43 01.7 +0.1
LSZ *e*S S 00 52 06.0 -7.0
LSZ LR LR
comp=Z,2µm,20.0s,MS5.3
YURE YUREGIR 72.13 310 *i*P **P** **00 42 54.2 +0.8**
MEST Erdemli 73.19 310 *i*P **P** **00 42 59.1 -0.6**
CSS Prodhromos 73.36 308 *e*P **P** **00 43 00.5 -0.3**
comp=Z,210nm,1.6s,mb5.8
CSS *e*pP pP 00 43 08.9 -0.6
CSS PP PP 00 45 44.0 -0.6
CSS *e*S S 00 52 51.1 +23
ANN Anapa 73.60 319 *e*P **P** **00 43 01.6 -0.3**
ANN *e* 00 43 22.0
ANN *e* 00 45 47.5
ANN *e*PPP 00 47 30.2
ANN *e*S S 00 52 31.5 +1.0
ANN *e*SS SS 00 57 15.6 +1.5
ANN pmax pmax
comp=Z,34nm,1.1s,mb5.2
PEA0B Petropavlovsk- 73.80 32 *e*P **P** **00 42 58.1 -4.8**
PEA0B *e*PP PP 00 45 51.7 +3.9
PEA0B *e*S S 00 52 35.6 +3.2
PETK Petropavlovsk- 73.80 32 P **P** **00 43 02.2 -0.7**
comp=Z,18nm,0.8s,mb5.1,baz=208,slow=1.9,SNR=14
PETK LR LR 01 17 03.7
comp=Z,840nm,20.2s,MS5.0,baz=250,slow=37
CDAG Cicekdag 73.95 313 *i*P **P** **00 43 03.5 -0.6**
CTKT Corum 73.97 314 *i*P **P** **00 43 03.9 -0.3**
PET Petropavlovsk 74.26 32 *e*P **P** **00 43 04.7 -0.9**
PET *e* pP 00 43 13.4 -1.0
PET *e* 00 45 52.5
PET *e*PS 00 53 28.0
PET pmax pmax
comp=Z,125nm,1.1s,mb5.8
PET pmax pmax
comp=Z,500nm,10.0s
PET pmax pmax
comp=Z,600nm,18.8s
PET MLR MLR
comp=Z,2µm,21.0s,MS5.4
PET MLR MLR
comp=Z,2µm,17.0s
PET Petropavlovsk 74.26 32⇑ *i*P **P** **00 43 05.0 -0.6**
BR131 Keskin Array S 74.52 313⇑ *i*P **P** **00 43 06.0 -1.5**
comp=Z,12nm,0.7s,mb4.9
BR131 *e*PP PP 00 45 59.1 +4.8
BR131 *e*S S 00 52 51.4 +10
BR131 LR LR
comp=Z,1µm,21.0s,MS5.2
LBTB Lobatse 74.83 245 LR LR 01 11 40.4
comp=Z,2µm,19.1s,MS5.4,baz=97,slow=32
ILGA Ilgaz 74.88 314 *i*P **P** **00 43 09.9 +0.4**
VSR Storozhevoye 75.10 325 *e*P **P** **00 43 09.9 -0.6**
VSR *e**PP pP 00 43 17.8 -1.5
VSR pmax pmax
comp=Z,20nm,1.1s,mb5.0
VSR pmax pmax
comp=N,3.0nm,0.6s
VSR pmax pmax
comp=E,30nm,1.1s
ANTO Ankara 75.19 313⇓ P **P** **00 43 13.1 +1.8**
SNR=14
ANTO Ankara 75.19 313⇑ *e*P **P** **00 43 10.4 -0.9**
ANTO *e*S SKSac 00 53 33.3 +14
ANTO pmax pmax
comp=Z,146nm,1.5s,mb5.7
ANTO MLR MLR
comp=Z,1µm,18.8s,MS5.3
ANTO Ankara 75.19 313⇓ *i*P **P** **00 43 10.4 -0.9**
ANTO Ankara 75.19 313⇑ *e*P **P** **00 43 10.4 -0.9**
comp=Z,146nm,1.5s,mb5.7
ANTO *e*S SKSac 00 53 33.3 +14
ANTO LR LR
comp=Z,1µm,18.8s,MS5.3
VOR Voronezh 75.30 326 *e*P **P** **00 43 10.0 -1.7**
VOR pmax pmax
comp=Z,350nm,1.8s,mb6.0
BOSA Boshof 75.37 241 P **P** **00 43 12.8 +0.1**
comp=Z,9.5nm,0.8s,mb4.8,baz=95,slow=5.8,SNR=16
BOSA LR LR 01 11 49.9
comp=Z,1µm,18.7s,MS5.3,baz=96,slow=32
BOSA Boshof 75.37 241 P **P** **00 43 12.8 +0.1**
BOSA LR LR 01 11 49.9
SIM Simferopol' 75.86 318*c* *e*P **P** **00 43 14.8 -0.2**
SIM *e*S S 00 52 51.0 -4.8
SIM pmax pmax
comp=Z,39nm,1.3s,mb5.2
SNZO South Karori 76.02 132 *e*P **P** **00 43 10.9 -5.1**
SNZO *e*S S 00 52 57.6 -0.1
SNZO LR LR
comp=Z,5µm,22.0s,MS5.8
TKTP Tekketepe 76.53 310 *i*P **P** **00 43 18.1 -0.9**
AKAS Kas 76.62 308 *i*P **P** **00 43 24.5 +4.9**
SEY Seymchan 76.71 22⇑ *i*P **P** **00 43 19.3 -0.2**
GOLH Golhisar 76.91 309 *i*P **P** **00 43 20.2 -0.9**
BORA Eskisehir 76.92 312 *i*P **P** **00 43 20.3 -0.9**

TIXI Tiksi 77.11 9 *e*P **P** **00 43 20.0 -1.5**
TIXI *e*S S 00 53 01.6 -6.8
TIXI pmax pmax
comp=Z,186nm,1.6s,mb5.8
TIXI Tiksi 77.11 9⇑ *i*P **P** **00 43 20.0 -1.5**
ARG Arkhangelos 77.78 308 P **P** **00 43 26.2 +0.1**
ARG Arkhangelos 77.78 308 P **P** **00 43 26.2 +0.1**
ULDT Uludag 77.96 312 *i*P **P** **00 43 32.5 +5.5**
MANT Manisa 77.98 310 *i*P **P** **00 43 26.9 -0.3**
OBN Obninsk 78.14 328*c* *i*P **P** **00 43 27.3 -0.3**
OBN *e* pP 00 43 35.3 -1.1
OBN *e* 00 46 21.2
OBN *e*S S 00 53 19.9 -0.3
OBN pmax pmax
comp=Z,189nm,1.4s,mb5.8
OBN MLR MLR
comp=Z,1µm,19.0s,MS5.2
OBN Obninsk 78.14 328⇑ *i*P **P** **00 43 27.4 -0.2**
AYDN Tasoluk 78.31 309 *i*P **P** **00 43 29.4 +0.4**
KARP Karpathos 78.39 307 P **P** **00 43 30.0 +0.5**
KARP Karpathos 78.39 307 P **P** **00 43 30.0 +0.5**
FUNA Funafuti 78.43 98 PFAKE 00 43 40.0 +10
FUNA LR LR
comp=Z,4µm,19.0s,MS5.8
BDRM Kayabasi 78.51 309 *i*P **P** **00 43 35.3 +5.2**
KDAG Bornova 78.95 310 *i*P **P** **00 43 34.6 +2.2**
BALY Balya 78.99 311 *i*P **P** **00 43 32.3 -0.4**
SMG Samos 79.12 309 P **P** **00 43 40.0 +6.6**
SMG Samos 79.12 309 P **P** **00 43 40.0 +6.6**
KLMR Klimovskoe 79.20 334 *e*P **P** **00 43 33.0 -0.4**
KLMR pmax pmax
comp=Z,237nm,1.4s,mb5.9
SUR Sutherland 79.43 238 *e*P **P** **00 43 37.1 +1.8**
SUR *e*PcP PcP 00 43 44.2 +0.9
SUR *e*S S 00 53 34.5 -0.5
SUR LR LR
comp=Z,2µm,20.0s,MS5.5
URLA Izmir 79.45 310 *i*P **P** **00 43 34.3 -1.0**
PSN Preselentsi 79.56 315 *e*P **P** **00 43 35.4 -0.3**
NPS Neapolis 79.57 307 P **P** **00 43 36.7 +0.7**
NPS Neapolis 79.57 307 P **P** **00 43 36.7 +0.7**
TIRR Tirgusor 79.60 316⇑ *e*P **P** **00 43 35.3 -0.6**
TIRR *e* pP 00 43 43.2 -1.5
TIRR 00 46 36.5
TIRR pmax pmax
comp=Z,17nm,1.0s,mb4.9
TIRR Tirgusor 79.60 316⇑ *e*P **P** **00 43 35.3 -0.5**
comp=Z,17nm,1.0s,mb4.9
TIRR *e*PcP PcP 00 43 43.2 -0.5
TIRR PP PP 00 46 36.5 -0.3
SANT Santorini 79.92 308 P **P** **00 43 36.9 -0.9**
THR1 Thera Island 79.92 308 P **P** **00 43 36.5 -1.3**
THR3 Thira Island, 79.97 308 P **P** **00 43 36.0 -0.1**
HARR Harsova 79.99 316 P **P** **00 43 39.0 +1.0**
KIS Kishinev 80.00 319 *e*P **P** **00 43 37.0 -1.0**
KIS *i* pP 00 43 45.0 -1.8
KIS *e* 00 53 33.0
KIS *e* 00 54 24.0
KIS MLR MLR
comp=Z,400nm,15.0s,MS4.9
KIS MLR MLR
comp=Z,500nm,16.0s
APE Apeiranthos 80.00 308 *e*P **P** **00 43 37.2 -1.1**
VAM Vamos 80.73 307 P **P** **00 43 43.6 +1.4**
VAM Vamos 80.73 307 P **P** **00 43 43.6 +1.4**
AKASG Malin Array Be 80.79 322 P **P** **00 43 40.8 -1.4**
comp=Z,4.3nm,0.9s,mb4.4,baz=91,slow=4.4,SNR=33
AKASG PP PP 00 46 50.9 +4.4
comp=Z,1.3nm,0.6s,baz=96,slow=6.1,SNR=4.2
AKASG LR LR 01 24 10.4
comp=Z,1µm,21.4s,MS5.3,baz=100,slow=39
AKASG Malin Array Be 80.79 322 P **P** **00 43 40.8 -1.3**
AKASG 00 46 50.9
AKASG pmax pmax
comp=Z,4.0nm,0.9s
AKASG pmax pmax
comp=Z,1.0nm,0.6s
AKASG MLR MLR
comp=Z,1µm,21.4s
AKBB Malin Array Si 80.79 322 *e*P **P** **00 43 41.0 -1.1**
AKBB *e* pP 00 43 49.1 -1.9
AKBB *e*S S 00 54 00.2 +12
IAS Iasi 80.88 319 P pP 00 43 50.8 -0.8
SZH Strazhica 81.04 315 *e*P **P** **00 43 43.2 -0.5**
KDZ Kurdzhali 81.06 313 *e*P **P** **00 43 42.3 -1.5**
VRI Vrincioaia 81.11 317⇑ *i*P **P** **00 43 44.5 +0.5**
VRI Vrincioaia 81.11 317 P **P** **00 43 44.7 +0.8**
RAO Raoul Island 81.11 119 *e*P **P** **00 43 35.3 -9.1**
RAO *e* 00 46 45.8
RAO MLR MLR
comp=Z,2µm,22.0s,MS5.5
PLOR Plostina 81.15 317 P **P** **00 43 45.4 +1.2**
PLOR Plostina 81.15 317⇑ *i*P **P** **00 43 45.1 +0.9**
ZIMR 81.53 315⇓ *i*P **P** **00 43 45.9 -0.4**
ZIMR 81.53 315⇓ P **P** **00 43 45.9 -0.4**
MLR Muntele Rosu 81.55 317⇑ *i*P **P** **00 43 46.7 +0.4**
MLR Muntele Rosu 81.55 317 P **P** **00 43 47.2 +0.9**
RZN Rozhen 81.58 313 *e*P **P** **00 43 45.9 -0.7**
PLD Plovdiv 81.67 313 P **P** **00 43 46.9 -0.2**
PLD Plovdiv 81.67 313 *e*P **P** **00 43 46.8 -0.3**
SBA Scott Base 81.87 169 *e*P **P** **00 43 48.2 +0.7**
SBA *e* 00 43 54.2
SBA *e**PP pP 00 43 57.1 +0.8
SBA pmax pmax
comp=Z,120nm,1.7s,mb5.5
SBA MLR MLR
comp=Z,1µm,19.0s,MS5.3
SBA Scott Base 81.87 169 *e*P **P** **00 43 48.2 +0.8**
comp=Z,120nm,1.7s,mb5.5
SBA *e*PcP PcP 00 43 54.2 +1.2
SBA *e*pP pP 00 43 57.1 +0.8
SBA *e*S S 00 53 46.5 -12
SBA LR LR
comp=Z,1µm,19.0s,MS5.3
DID Didima 81.88 308 P **P** **00 43 46.4 -1.9**
VLI Veliai 81.98 308 P pP 00 43 58.8 +1.2
VLI Veliai 81.98 308 P pP 00 43 58.8 +1.2
TSUM Tsumeb 82.14 251 *e*P **P** **00 43 50.9 +0.9**
comp=Z,32nm,1.5s,mb5.0
TSUM *e*PcP PcP 00 43 56.3 +0.9
TSUM *e*PP PP 00 46 50.9 -7.5
TSUM *e*S S 00 54 04.0 +0.3
TSUM LR LR
comp=Z,2µm,20.0s,MS5.5
VOIR 82.15 317⇓ *i*P **P** **00 43 49.7 +0.2**
VOIR 82.15 317⇓ P **P** **00 43 49.7 +0.2**
PGB Panagyurishte 82.16 314 *e*P **P** **00 43 49.3 -0.3**
LKR Lokris 82.28 310 P **P** **00 43 49.1 -1.2**
MMB Musomiste 82.28 313 *e*P **P** **00 43 43.5 -6.8**
BURAR Bucovina Array 82.53 319⇓ *i*P **P** **00 43 52.7 +1.3**
BUR08 Bucovina Ar. S 82.55 319 *e*P **P** **00 43 52.4 +0.9**
BUR08 epP pP 00 44 00.1 -0.3
BUR08 ePP PP 00 47 04.7 +3.6
BUR08 eS S 00 54 22.5 +16
MNK Minsk 82.68 326 *e*P **P** **00 43 48.0 -4.0**
KKB Krupnik 82.81 313 *e*P **P** **00 43 53.2 +0.2**
KNT Kendrikon 82.81 312 P **P** **00 43 52.8 -0.3**
ITM Ithomi 82.85 308 P **P** **00 43 53.2 -0.2**
ITM Ithomi 82.85 308 P **P** **00 43 53.2 -0.2**
VTS Vitosha 82.86 313 *e*P **P** **00 43 53.2 -0.1**
VTS Vitosha 82.86 313⇑ *i*P **P** **00 43 52.9 -0.4**
VTS Vitosha 82.86 313 P **P** **00 43 53.4 +0.1**
VAY Valandovo 83.09 312 *e*P **P** **00 43 51.6 -2.9**
THL Klokotos Trika 83.19 310 P **P** **00 44 01.0 +6.0**
THL Klokotos Trika 83.19 310 P **P** **00 44 01.0 +6.0**
EVR Evrytania 83.24 310 P **P** **00 43 55.3 0.0**
EVR Evrytania 83.24 310 P **P** **00 43 55.3 0.0**
RLS Riolos of Patr 83.36 309 P **P** **00 43 56.6 +0.6**
RLS Riolos of Patr 83.36 309 P **P** **00 43 56.6 +0.6**
STIP Stip 83.44 312 *e*P **P** **00 43 52.5 -3.7**
BMR Baia Mare 83.68 319⇑ *i*P pP 00 44 06.3 +0.1
BMR Baia Mare 83.68 319⇑ P pP 00 44 06.3 +0.1
GZR Gura Zlata 83.71 316⇑ *i*P pP 00 44 06.1 -0.3
GZR Gura Zlata 83.71 316 P **P** **00 43 58.3 +0.8**
DRGR 84.02 318⇓ *i*P **P** **00 44 00.4 +1.3**
DRGR 84.02 318 P **P** **00 43 59.7 +0.6**
SKO Skopje 84.04 313 *e*P **P** **00 43 55.1 -4.2**
LVZ Lovozero 84.17 340 *e*P **P** **00 43 55.6 -3.8**
LVZ *e* 00 47 18.3
LVZ *e*S S 00 54 14.6 -7.8
LVZ MLR MLR
comp=Z,3µm,21.0s,MS5.7

LVZ Lovozero 84.17 340 *e*P **P** **00 43 55.6 -3.9**
LVZ *e*PP PP 00 47 18.3 +4.4
LVZ *e*S S 00 54 14.6 -7.8
LVZ LR LR
comp=Z,3µm,21.0s,MS5.7
VSU Vasula 84.36 330 *e*P **P** **00 44 01.7 +1.1**
OHR Ohrid 84.37 312 *e*P **P** **00 43 55.0 -6.1**
APA Apatity 84.48 339⇓ *i*P **P** **00 44 03.6 +2.6**
APA *i* S S 00 54 32.0 +6.5
APA *i* 01 00 04.0
APA pmax pmax
comp=Z,160nm,1.5s,mb5.9
APA MLR MLR
comp=Z,3µm,22.0s,MS5.6
BZS Buzias 84.55 316⇑ *i*P **P** **00 44 02.0 +0.2**
BZS Buzias 84.55 316 P **P** **00 44 01.8 -0.1**
KWP Kalwaria 84.59 320 *e*P **P** **00 44 02.5 +0.6**
KWP Kalwaria 84.59 320⇓ *i*P **P** **00 44 00.5 -1.4**
KWP Kalwaria 84.59 320 *e*P **P** **00 44 02.5 +0.6**
UZH Uzhgorod 84.66 319 *e*P **P** **00 44 02.0 -0.3**
UZH *e* pP 00 44 10.7 -0.5
UZH *e*S S 00 54 26.0 -2.0
MIDW Midway 84.72 61 *e*P **P** **00 44 03.6 +0.5**
MIDW *e*S S 00 54 37.9 +8.4
KOLS Kolonicke sedl 84.73 320 *e*P **P** **00 44 03.1 +0.4**
KOLS *e* pP 00 44 11.9 +0.3
KOLS Kolonicke sedl 84.73 320 *e*P **P** **00 44 03.0 +0.3**
KOLS epP pP 00 44 11.9 +0.3
KOLS *e* 00 44 22.1
KOLS Kolonicke sedl 84.73 320 *e*P **P** **00 44 03.1 +0.4**
KOLS *e* pP 00 44 11.9 +0.3
KOLS *e* 00 44 22.1
KEK Kerkira 84.90 310 P **P** **00 44 00.1 -3.7**
KEK Kerkira 84.90 310 P **P** **00 44 00.1 -3.7**
TIR Tirane 85.10 312 *e*P **P** **00 43 59.6 -5.1**
TIR *e* 00 47 28.5
TIR MLR MLR
comp=Z,1µm,20.0s,MS5.2
TIR Tirane 85.10 312 *e*P **P** **00 43 59.6 -5.1**
TIR *e*PP PP 00 47 28.5 +6.3
TIR *e*S S 00 54 43.2 +10
TIR LR LR
comp=Z,1µm,20.0s,MS5.2
SUW Suwalki 85.21 325 *e*P **P** **00 44 04.8 -0.2**
SUW Suwalki 85.21 325 *e*P **P** **00 44 04.8 -0.1**
CRVS Cervenica-Dubn 85.25 319 *e*P **P** **00 44 07.0 +1.7**
CRVS *e* 00 44 27.0
DIVS Divibare 85.43 315 P **P** **00 44 05.9 -0.4**
STHS Stebnicka Huta 85.48 320 *e*P **P** **00 44 06.6 +0.2**
STHS *e* pP 00 44 14.9 -0.4
STHS pmax pmax
comp=Z,22nm,1.1s,mb5.2
STHS Stebnicka Huta 85.48 320 *e*P **P** **00 44 06.6 +0.2**
comp=Z,22nm,1.1s,mb5.2
STHS *e* pP 00 44 14.9 -0.4
STHS *e* 00 44 29.4
KAF Kangasniemi 85.55 333 *e*p pP 00 44 14.9 -0.5
comp=Z,16nm,0.6s
KAF Kangasniemi 85.55 333 *e*P pP 00 44 14.9 -0.5
KAF pmax pmax
comp=Z,16nm,0.6s,mb5.4
NIE Niedzica 86.08 320 *e*P **P** **00 44 10.1 +0.7**
NIE *e* pP 00 44 17.6 -0.7
PSZ Piszkesteto 86.11 318 P **P** **00 44 10.6 +1.0**
PSZ Piszkesteto 86.11 318 *e*PcP PcP 00 44 09.8 -2.4
PSZ Piszkesteto 86.11 318⇑ *i*P **P** **00 44 07.2 -2.4**
PKS6 Bocsa 86.12 317⇓ *e*P **P** **00 44 09.1 -0.6**
NVL N'lazarevskaya 86.40 199 P **P** **00 44 14.2 +3.6**
NVL S S 00 54 40.1 -4.3
NVL pmax pmax
comp=Z,43nm,1.4s,mb5.5
PKS7 Kunszentmiklos 86.46 317 *e*P **P** **00 44 11.9 +0.5**
PENC Penc 86.50 318⇓ *e*P **P** **00 44 12.3 +0.8**
OJC Ojcow 86.54 321 *e*P **P** **00 44 11.7 0.0**
OJC *e*S S 00 54 40.4 -6.1
OJC L 01 30 22.8
comp=Z,1.1nm,21.8s
OJC Ojcow 86.54 321 *e*P **P** **00 44 11.7 0.0**
OJC *e*S S 00 54 40.4 -6.1
BUD Budapest 86.62 318⇑ *e*P **P** **00 44 12.3 +0.2**
PKSM Moragy 86.69 316⇑ *i*P **P** **00 44 12.7 +0.2**
PKSM Moragy 86.69 316 *e*P **P** **00 44 12.5 0.0**
VYHS Vyhne 86.90 319 *e*P **P** **00 44 13.1 -0.3**
VYHS *e*S S 00 54 55.5 +5.5
RHK3 Tenkes 86.92 316⇓ *e*P **P** **00 44 13.6 0.0**
PKSG 87.03 318⇓ *e*P **P** **00 44 14.6 +0.5**
AFI Afiamalu 87.09 104 PFAKE 00 44 20.0 +4.9
AFI LR LR
comp=Z,850nm,22.0s,MS5.1
KOLL Kolacno 87.19 319 *e*P **P** **00 44 14.7 -0.2**
KOLL epP pP 00 44 23.3 -0.5
KEV Kevo 87.42 340 PFAKE 00 44 30.0 +14
KEV LR LR
comp=Z,3µm,20.0s,MS5.6
OKC Ostrava-Krasne 87.54 320 *e*P **P** **00 44 17.1 +0.6**
OKC epP pP 00 44 24.5 -0.9
OKC *e*S S 00 54 54.9 -1.2
OKC AMS AMS 01 30 50.0
comp=Z,900nm,21.9s
OKC Ostrava-Krasne 87.54 320 *e*P **P** **00 44 17.1 +0.6**
OKC *e* pP 00 44 24.5 -0.9
OKC *e*SKS 00 54 54.9
CEL Celeste 87.74 308 PFAKE 00 44 30.0 +12
CEL LR LR
comp=Z,47µm,21.0s,MS6.9
ARCES ARCESS Array B 87.86 340 P **P** **00 44 18.0 +0.4**
comp=Z,60nm,1.2s,mb5.7,baz=75,slow=5.1,SNR=12
ARCES LR LR 01 28 10.2
comp=Z,3µm,20.0s,MS5.7,baz=106,slow=39
ARCES ARCESS Array B 87.86 340 P **P** **00 44 18.0 +0.4**
ARCES LR LR 01 28 10.2
MODS Modra-Piesok 87.91 319 *e*P **P** **00 44 18.5 +0.2**
MODS *e* pP 00 44 26.3 -0.9
MODS *e*S S 00 54 59.2 -0.5
MODS pmax pmax
comp=Z,42nm,1.5s,mb5.5
MODS Modra-Piesok 87.91 319 *e*P **P** **00 44 18.5 +0.2**
comp=Z,42nm,1.5s,mb5.4
MODS *e* pP 00 44 26.3 -0.9
MODS *e*S S 00 54 59.2 -0.5
MORC Moravsky Berou 87.92 320⇓ *i*P **P** **00 44 17.2 -1.1**
MORC Moravsky Berou 87.92 320 *e*P **P** **00 44 18.5 +0.2**
MORC *e* pP 00 44 26.2 -1.0
CUC Castrocucco 87.98 310 *e*P **P** **00 44 18.5 -0.3**
comp=Z,79nm,1.5s,mb5.7
CUC epP pP 00 44 26.6 -1.2
CUC *e*PP PP 00 47 48.4 +2.9
CUC *e*S S 00 54 55.4 -5.4
CUC LR LR
comp=Z,2µm,20.0s,MS5.5
ZST Bratislava 88.00 318 *e*P **P** **00 44 19.3 +0.5**
ZST *e* pP 00 44 26.7 -1.0
ZST pmax pmax
comp=Z,23nm,1.1s,mb5.3
ZST Bratislava 88.00 318 *e*P **P** **00 44 19.3 +0.5**
ZST epP pP 00 44 26.7 -1.0
ZST Bratislava 88.00 318 *e*P **P** **00 44 19.3 +0.5**
comp=Z,23nm,1.1s,mb5.3
ZST *e* pP 00 44 26.7 -1.0
ZST LR LR
comp=Z,100nm,20.7s,MS4.2
ADK Adak 88.22 38 PFAKE 00 44 30.0 +10
ADK LR LR
comp=Z,1µm,20.0s,MS5.3
GKP Gorka Klasztor 88.56 323 *e*P **P** **00 44 22.0 +0.7**
GKP Gorka Klasztor 88.56 323 *e*P **P** **00 44 22.0 +0.7**
DPC Dobruska-Polom 88.77 320 *e*P **P** **00 44 23.1 +0.8**
DPC epP pP 00 44 30.7 -0.6
DPC *e*S S 00 55 05.5 -2.3
DPC AMS AMS 01 33 40.0
comp=Z,1µm,19.6s
CONA Conrad Observa 88.80 318⇑ *i*P **P** **00 44 22.6 +0.1**
comp=Z,23nm,1.8s,mb5.2
CSNA Conrad Observa 88.80 318⇑ *i*P **P** **00 44 22.6 +0.1**
comp=Z,23nm,1.8s,mb5.2
KSP Ksiaz 88.84 321⇑ *e*P **P** **00 44 23.4 +0.7**
KSP *e**PP pP 00 44 30.9 -0.7
KSP *e*S S 00 55 09.0 +0.5
KSP MLR MLR
comp=Z,2µm,23.7s,MS5.6
ARSA Arzberg 88.95 317⇑ *i*P **P** **00 44 23.7 +0.4**
comp=Z,63nm,1.7s,mb5.7

BOJS Bojanci 88.96 316 *e*P **P** 00 44 23.8 +0.4
BOJS *i* 00 44 29.0
BOJS *e*SKSac SKSac 00 55 07.5 +16
BOJS *e*S S 00 55 22.5 +13
UPC Upice 88.98 321 *e*P **P** 00 44 23.7 +0.4
UPC *e*pP pP 00 44 31.7 -0.6
PERS Pernice 89.17 317 *i* P **P** 00 44 24.8 +0.5
PERS *i* pP 00 44 31.6 -1.7
TREC Trest 89.19 319 *e*P **P** 00 44 25.1 +0.8
TREC *e*pP pP 00 44 32.0 -1.3
TREC *e*S S 00 55 06.9 -4.9
TREC AMS AMS 01 30 50.0
comp=Z,1μm,16.5s
SOKA Soboth 89.23 317 ⇓*i*P **P** 00 44 25.1 +0.5
LJU Ljubljana 89.52 316 *i* P **P** 00 44 26.2 +0.2
LJU *i* pP 00 44 33.5 -1.4
LJU *e* 00 55 14.7
LJU Ljubljana 89.52 316 *i* P **P** 00 44 26.2 +0.3
LJU *i* pP 00 44 33.5 -1.4
LJU *e*SKSac SKSac 00 55 14.7 +20
LJU *e*S S 00 55 28.3 +13
OBKA Obir 89.55 316 ⇑*i*PcP PcP 00 44 26.7 -0.8
comp=Z,47nm,1.6s
JAVS Javornik 89.83 316 *e*P **P** 00 44 26.8 -0.6
PRU Pruhonice 89.87 320 *e*P **P** 00 44 27.6 +0.1
PRU *e* pP 00 44 35.7 -0.7
PRU *e* 00 55 16.1
PRU MLR MLR
comp=Z,1μm,19.5s,MS5.3
PRU smax
comp=N,14nm,1.0s
PRU Pruhonice 89.87 320 *e*P **P** 00 44 27.6 +0.1
PRU *e*pP pP 00 44 35.7 -0.7
PRU *e*S S 00 55 16.1 -2.0
PRU AMS AMS 01 32 20.0
comp=N,1μm,19.5s
PRU Pruhonice 89.87 320 *e*P **P** 00 44 27.6 +0.1
comp=N,14nm,1.0s,mb5.2
PRU *e* pP 00 44 35.7 -0.7
PRU *e*SKS 00 55 16.1
PRU LR LR
comp=Z,1μm,19.5s,MS5.3
PVCC Panska Ves 89.90 320 *e*P **P** 00 44 28.8 +1.1
PVCC *e*pP pP 00 44 36.1 -0.5
PVCC AMS AMS 01 35 10.0
comp=Z,1μm,16.5s
VOY Vojsko 89.95 316 *e*P **P** 00 44 28.7 +0.7
VOY *e* pP 00 44 36.4 -0.5
VOY *e* 00 44 52.8
VOY *e* 00 45 11.7
TRI Trieste 90.02 316 PFAKE 00 44 40.0 +12
TRI LR LR
comp=Z,833nm,20.0s,MS5.2
MYKA Terra Mystica 90.18 317 ⇓*i*PcP PcP 00 44 29.6 -0.6
comp=Z,150nm,1.5s
GEC2 GERESS Array S 90.32 319 *e*P **P** 00 44 30.3 +0.7
GEC2 *e* 00 48 06.1
GEC2 *e*S S 00 55 24.1 +1.8
GEC2 pmax pmax
comp=Z,103nm,1.4s,mb6.0
GEC2 GERESS Array S 90.32 319 *e*P **P** 00 44 30.3 +0.7
comp=Z,103nm,1.4s,mb6.0
GEC2 *e*PP PP 00 48 06.1 +2.2
GEC2 *e*S S 00 55 24.1 +1.8
GERES GERESS Array B 90.32 319 P **P** 00 44 29.6 0.0
comp=Z,9.3nm,1.1s,mb5.0,baz=93,slow=2.0,SNR=42
GERES GERESS Array B 90.32 319 P **P** 00 44 29.6 0.0
GERES pmax pmax
comp=Z,9.0nm,1.1s
BRG Berggiesshubel 90.33 321 *e*P **P** 00 44 30.0 +0.4
BRG *i* pP 00 44 37.7 -0.9
BRG 00 48 08.7
BRG S S 00 55 23.0 +0.7
BRG pmax pmax
comp=Z,25nm,1.5s,mb5.3
BRG pmax pmax
comp=Z,33nm,1.3s,mb5.5
BRG pmax pmax
comp=Z,27nm,2.1s,mb5.2
BRG MLR MLR
comp=N,388nm,15.8s,MS5.1
BRG MLR MLR
comp=E,570nm,20.7s,MS5.1
BRG MLR MLR
comp=Z,664nm,20.0s,MS5.1
BRG Berggiesshubel 90.33 321 *e*P **P** 00 44 29.9 +0.3
comp=Z,55nm,1.3s,mb5.7
BRG *e*S S 00 55 23.6 +1.3
BRG Berggiesshubel 90.33 321 *e*P **P** 00 44 30.0 +0.3
comp=Z,42nm,1.5s,mb5.5
BRG *i* pP 00 44 37.7 -0.9
comp=Z,55nm,1.3s
BRG PP PP 00 48 08.7 +4.7
comp=Z,45nm,2.1s
BRG S S 00 55 23.0 +0.7
BRG
comp=N,648nm,15.8s
BRG
comp=E,952nm,20.7s
BRG
comp=Z,1μm,20.0s
BRG Berggiesshubel 90.33 321 *e*P **P** 00 44 30.0 +0.3
comp=Z,25nm,1.5s,mb5.3
BRG *i* pP 00 44 37.7 -0.9
BRG PP PP 00 48 08.7 +4.7
BRG S S 00 55 23.0 +0.7
BRG LR LR
comp=Z,660nm,20.0s,MS5.1
KBA Koelnbreinsper 90.42 317 ⇑*i*P **P** 00 44 30.0 -0.2
comp=Z,20nm,1.5s,mb5.2
KHC Kasperske Hory 90.42 319 *e*P **P** 00 44 30.8 +0.7
KHC *e*pP pP 00 44 37.9 -1.1
KHC *e*S S 00 55 21.6 -1.6
KHC AMS AMS 01 31 30.0
comp=Z,1μm,17.0s
RUE Ruedersdorf 90.56 322 *e*P **P** 00 44 31.4 +0.7
comp=Z,136nm,1.3s,mb6.1
RUE *e*pP pP 00 44 39.5 -0.2
RJOB Jochberg 90.84 318 *e*P **P** 00 44 31.8 -0.3
comp=Z,46nm,1.6s,mb5.6
RJOB *e*PP PP 00 48 14.3 +6.2
RJOB *e*S S 00 55 26.3 -0.8
WET Wettzell 90.88 319 *e*P **P** 00 44 32.8 +0.6
WET *e**PP pP 00 44 40.3 -0.9
WET *e*S S 00 55 29.9 +2.4
WET pmax pmax
comp=Z,54nm,1.3s,mb5.7
WET Wettzell 90.88 319 *e*P **P** 00 44 32.8 +0.6
comp=Z,54nm,1.3s,mb5.7
WET *e*pP pP 00 44 40.3 -0.9
WET *e*S S 00 55 29.9 +2.4
CLL Collm 90.95 321 ⇑*i*P **P** 00 44 32.7 +0.2
CLL *i **PP pP 00 44 40.4 -1.1
CLL *i *SP sP 00 44 44.4 -0.3
CLL *e*S S 00 55 22.0 -6.0
CLL pmax pmax
comp=Z,28nm,1.5s,mb5.4
CLL MLR MLR
comp=Z,1μm,20.8s,MS5.3
CLL Collm 90.95 321 *e*P **P** 00 44 32.7 +0.2
comp=Z,41nm,1.5s,mb5.5
CLL *e*S S 00 55 29.5 +1.5
CLL Collm 90.95 321 ⇑*i*P **P** 00 44 32.7 +0.2
comp=Z,28nm,1.5s,mb5.4
CLL *i* sP sP 00 44 40.4 -4.3
comp=Z,41nm,1.5s
CLL *i* x x 00 44 44.4
CLL *e*PP PP 00 48 06.0 -2.9
CLL *e*S S 00 55 22.0 -6.0
comp=N,900nm,23.5s
CLL *e*S S 00 55 22.0 -6.0
comp=E,300nm,20.4s
CLL *e*PS PS 00 56 41.0 +1.6
CLL *ex* x 00 57 39.0
CLL *e*SS SS 01 01 25.0 -6.5
CLL *e*SSS 01 05 30.0
CLL *e*SSSS 01 08 21.0
CLL LmH 01 31 00.0
CLL LmH 01 31 00.0
comp=N,1μm,21.8s
CLL LmH 01 31 00.0
comp=E,600nm,21.8s
CLL LmV 01 32 00.0
comp=Z,1μm,20.8s
CLL Collm 90.95 321 ⇑*i*P **P** 00 44 32.7 +0.2
comp=Z,28nm,1.5s,mb5.4
CLL *i* pP pP 00 44 40.4 -1.1
CLL *i* sP sP 00 44 44.4 -0.3
CLL *e*S S 00 55 22.0 -6.0
CLL LR LR
comp=Z,1μm,20.8s,MS5.3
SNAA Sanae 91.00 198 *e*P **P** 00 44 33.7 +1.3
SNAA *e* pP 00 44 41.5 +0.2
SNAA Sanae 91.00 198 *e*P **P** 00 44 33.2 +0.8
SNAA *e*pP pP 00 44 41.9 +0.5
SNAA *e*PP PP 00 48 06.8 -1.8
NKC Novy Kostel 91.23 320 *e*P **P** 00 44 34.4 +0.5
NKC *e*pP pP 00 44 42.3 -0.5
NKC *e*S S 00 55 30.4 -0.2
NKC AMS AMS 01 29 00.0
comp=Z,1μm,24.8s
NKC Novy Kostel 91.23 320 *e*P **P** 00 44 34.4 +0.5
NKC *e* pP 00 44 42.3 -0.5
NKC *e*SKS 00 55 30.4
TANN Tannenbergstha 91.24 320 *e*P **P** 00 44 33.8 -0.1
comp=Z,45nm,1.6s,mb5.5
TANN *e*pP pP 00 44 41.8 -1.0
TANN *e*S S 00 55 31.8 +1.2
ROTZ Rotzenmuhle 91.36 320 *e*P **P** 00 44 35.0 +0.6
comp=Z,44nm,1.4s,mb5.6
ROTZ *e*PP PP 00 48 24.6 +12
ROTZ *e*S S 00 55 34.4 +2.6
MANZ Manzenberg 91.44 320 *e*P **P** 00 44 35.8 +1.0
comp=Z,75nm,1.4s,mb5.8
MANZ *e*PP PP 00 48 18.8 +6.1
MANZ *e*S S 00 55 35.9 +3.4
WTTA Wattenberg 91.59 317 ⇑*i*P **P** 00 44 35.5 -0.1
comp=Z,54nm,1.7s,mb5.6
MOX Moxa 91.79 320 *e*P **P** 00 44 37.4 +1.0
comp=Z,45nm,1.6s,mb5.5
MOX
comp=Z,900nm,22.0s
MOX Moxa 91.79 320 *e*P **P** 00 44 37.4 +1.0
MOX pmax pmax
comp=Z,45nm,1.6s,mb5.5
MOX MLR MLR
comp=Z,900nm,22.0s,MS5.2
MOX Moxa 91.79 320 *e*P **P** 00 44 36.4 0.0
comp=Z,33nm,1.4s,mb5.5
MOX *e*PP PP 00 48 21.7 +6.2
MOX *e*S S 00 55 36.9 +1.3
FUR Furstenfeldbru 91.88 318 *e*P **P** 00 44 36.8 -0.1
FUR *e**PP pP 00 44 44.5 -1.4
FUR *e*S S 00 55 35.7 -0.9
FUR pmax pmax
comp=Z,42nm,1.4s,mb5.6
FUR Furstenfeldbru 91.88 318 *e*P **P** 00 44 36.8 -0.1
comp=Z,42nm,1.4s,mb5.6
FUR *e*pP pP 00 44 44.5 -1.4
FUR *e*S S 00 55 35.7 -0.9
MOTA Moosalm 91.96 317 ⇓*i*P **P** 00 44 37.0 -0.2
comp=Z,40nm,1.4s,mb5.6
GRA1 Grafenberg Arr 91.99 319 *e*P **P** 00 44 38.2 +0.8
comp=Z,58nm,1.4s,mb5.7
GRA1 *e*pP pP 00 44 45.8 -0.5
GRA1 *e*PP PP 00 48 29.8 +13
GRA1 *e*S S 00 55 41.1 +3.6
GRA1 LR LR
comp=Z,1μm,18.6s,MS5.3
GRF Grafenberg Arr 91.99 319 *e*P **P** 00 44 38.2 +0.8
GRF *e**PP pP 00 44 45.8 -0.5
GRF *e*S S 00 55 41.1 +3.6
GRF pmax pmax
comp=Z,58nm,1.4s,mb5.7
GRF MLR MLR
comp=Z,1μm,18.6s,MS5.3
GRF Grafenberg Arr 91.99 319 *e*P **P** 00 44 38.2 +0.8
comp=Z,58nm,1.4s,mb5.7
GRF *e*pP pP 00 44 45.8 -0.5
GRF *e*PP PP 00 48 29.8 +13
GRF *e*S S 00 55 41.1 +3.6
GRF *e*L 01 34 18.0
comp=Z,1μm,18.6s
SPB4 Spitsbergen Ar 92.02 348 *e*P **P** 00 44 37.0 +0.1
SPB4 *e*PP PP 00 48 29.4 +13
RETA Reutte 92.20 317 ⇑*i*P **P** 00 44 38.3 -0.1
comp=Z,47nm,1.8s,mb5.5
FETA Feichten 92.20 317 ⇓*i*PcP PcP 00 44 38.7 -0.5
comp=Z,27nm,1.2s
NSS Namsos 92.32 334 *e*P **P** 00 44 45.1 +6.6
VLC Villacollemand 92.32 314 PFAKE 00 44 50.0 +11
VLC LR LR
comp=Z,887nm,20.0s,MS5.2
NB2 NORSAR Subarra 92.50 331 P **P** 00 44 38.8 -0.7
comp=Z,37nm,1.2s,mb5.7,baz=94,slow=4.6
NOA NORSAR Array B 92.50 331 P **P** 00 44 38.8 -0.7
comp=Z,7.7nm,1.1s,mb5.0,baz=94,slow=4.6,SNR=4.5
NOA LR LR 01 31 53.5
comp=Z,1μm,21.1s,MS5.3,baz=85,slow=39
VNA2 Neumayer--Watz 92.62 198 *e*P pP 00 44 48.8 0.0
CLZ Clausthal 92.62 322 *e*P **P** 00 44 41.2 +1.0
CLZ *e*S S 00 55 42.4 -0.7
CLZ pmax pmax
comp=Z,38nm,1.4s,mb5.6
CLZ Clausthal 92.62 322 *e*P **P** 00 44 41.2 +1.0
comp=Z,38nm,1.4s,mb5.6
CLZ *e*S S 00 55 42.4 -0.7
BSEG Bad Segeberg 92.73 324 *e*S S 00 55 44.6 +0.7
DAVA Damuels 92.79 317 ⇑*i*PcP PcP 00 44 41.6 -0.2
comp=Z,53nm,1.6s
KEST Kesra 92.79 305 P **P** 00 44 42.4 +0.9
comp=Z,5.4nm,1.2s,mb4.9,baz=189,slow=3.8,SNR=8.1
KEST LR LR 01 29 13.0
comp=Z,645nm,18.5s,MS5.1,baz=191,slow=37
UBBA Unterbreizbach 92.82 321 *e*P **P** 00 44 40.9 -0.3
comp=Z,52nm,1.8s,mb5.7
UBBA *e*PP PP 00 48 35.3 +12
UBBA *e*S S 00 55 45.9 +1.0
VSL Villasalto 92.90 309 PFAKE 00 44 50.0 +8.2
VSL LR LR
comp=Z,593nm,21.0s,MS5.0
KBS Kingsbay 92.96 349 *e*PP PP 00 48 24.8 +0.8
KBS AMS AMS 01 35 55.4
comp=Z,2μm,17.3s,MS5.7
KBS Kingsbay 92.96 349 PFAKE 00 44 50.0 +8.7
KBS LR LR
comp=Z,2μm,20.0s,MS5.6
VNA1 Neumayer--Stat 92.98 198 *e*P pP 00 44 51.5 +1.0
TUE Stuetta 93.13 316 PFAKE 00 44 50.0 +7.3
TUE LR LR
comp=Z,1μm,19.0s,MS5.3
KONO Kongsberg 93.27 329 AMS AMS 01 39 17.5
comp=Z,1μm,17.9s,MS5.4
PGF Pioggiola 93.27 312 *e*P **P** 00 44 41.6 -1.9
comp=Z,56nm,1.2s,mb5.6
PGF Pioggiola 93.27 312 *e*P **P** 00 44 41.6 -1.9
PGF pmax pmax
comp=Z,28nm,1.2s,mb5.6
PGF Pioggiola 93.27 312 *e*P **P** 00 44 41.6 -1.9
comp=Z,28nm,1.2s,mb5.6
STU Stuttgart 93.29 319 *e*P **P** 00 44 43.5 +0.1
comp=Z,46nm,1.8s,mb5.6
STU *e*PP PP 00 48 36.9 +10
STU *e*S S 00 55 50.1 +1.0
TNS Taunus Mts 93.80 320 *e*P **P** 00 44 45.8 +0.1
TNS *e*S S 00 55 54.4 +0.9
TNS pmax pmax
comp=Z,47nm,1.6s,mb5.7
TNS Taunus Mts 93.80 320 *e*P **P** 00 44 45.8 +0.1
comp=Z,47nm,1.6s,mb5.7
TNS *e*S S 00 55 54.4 +0.9
BFO Black Forest 93.86 318 *e*S S 00 55 56.3 +2.2
BFO Black Forest 93.86 318 PFAKE 00 45 00.0 +14
BFO LR LR
comp=Z,711nm,19.0s,MS5.2
BUG Bochum--Univer 94.55 321 *e*S S 00 56 02.3 +2.3
CDF Champ du Feu 94.56 318 *e*P **P** 00 44 49.0 -0.2
LPL La Plagne 94.94 315 *e*P **P** 00 44 50.8 -0.3
BNI Bardonecchia 94.98 315 PFAKE 00 45 00.0 +8.7
BNI LR LR
comp=Z,1μm,22.0s,MS5.3
HAU Haudompre 95.18 318 *e*P **P** 00 44 51.6 -0.5
comp=Z,70nm,1.6s,mb5.5
HAU Haudompre 95.18 318 *e*P **P** 00 44 51.6 -0.5
HAU pmax pmax
comp=Z,35nm,1.6s,mb5.5
HAU Haudompre 95.18 318 *e*P **P** 00 44 51.6 -0.5
comp=Z,35nm,1.6s,mb5.5
WLF Walferdange 95.28 319 *e*P **P** 00 44 52.9 +0.4
comp=Z,49nm,2.0s,mb5.6
WLF *e*PP PP 00 48 52.4 +10
WLF *e*S S 00 56 08.8 +2.3
WLF Walferdange 95.28 319 PFAKE 00 45 00.0 +7.5
WLF LR LR
comp=Z,1μm,19.0s,MS5.5
CABF La Chapelle 95.38 316 *e*P **P** 00 44 53.0 0.0
comp=Z,65nm,1.7s,mb5.5
CABF La Chapelle 95.38 316 *e*P **P** 00 44 53.0 0.0
CABF pmax pmax
comp=Z,33nm,1.7s,mb5.5
CABF La Chapelle 95.38 316 *e*P **P** 00 44 53.0 0.0
comp=Z,33nm,1.7s,mb5.5
MEZF Maizieres J'vi 96.04 318 *e*P **P** 00 44 55.7 -0.3
comp=Z,84nm,1.7s,mb5.6
MEZF Maizieres J'vi 96.04 318 *e*P **P** 00 44 55.7 -0.3
comp=Z,84nm,1.7s,mb5.9
BAIF Baives 96.53 320 *e*P **P** 00 44 58.0 -0.2
LOR Lormes 96.89 317 *e*P **P** 00 44 59.4 -0.5
comp=Z,49nm,1.5s,mb5.4
LOR Lormes 96.89 317 *e*P **P** 00 44 59.4 -0.5
LOR pmax pmax
comp=Z,25nm,1.5s,mb5.4
LOR Lormes 96.89 317 *e*P **P** 00 44 59.4 -0.5
comp=Z,25nm,1.5s,mb5.4
SMF Signal de Mont 96.93 316 *e*P **P** 00 44 59.4 -0.7
SSF Saint Saulge 97.14 317 *e*P **P** 00 45 00.7 -0.3
comp=Z,20nm,1.4s,mb5.1
SSF Saint Saulge 97.14 317 *e*P **P** 00 45 00.7 -0.3
SSF pmax pmax
comp=Z,10.0nm,1.4s,mb5.0
SSF Saint Saulge 97.14 317 *e*P **P** 00 45 00.7 -0.3
comp=Z,10nm,1.4s,mb5.1
BGF Bois d'Agland 97.62 316 *e*P **P** 00 45 03.1 -0.1
RAR Rarotonga 97.94 112 PFAKE 00 45 10.0 +4.8
RAR LR LR
comp=Z,1μm,21.0s,MS5.5
TCF Toulx Ste Croi 98.07 316 *e*P **P** 00 45 03.1 -2.1
TOA0 Torodi Ar. Sit 99.23 283 *e*P **P** 00 45 12.2 +1.1
TOA0 *e*PP PP 00 49 27.3 +13
TOA0 *e*S S 00 56 45.9 +4.3
TORD Torodi Ar. Bea 99.23 283 P **P** 00 45 11.2 +0.1
comp=Z,1.2nm,1.3s,mb4.3,baz=112,slow=1.6,SNR=2.6
TORD LR LR 01 25 41.3
comp=Z,963nm,21.4s,MS5.3,baz=70,slow=33
DAG Danmarks Havn 99.67 348 ⇑*i*P Pdif 00 45 10.9 -1.3
DAG pmax pmax
comp=Z,9.0nm,1.1s,mb5.1
DAG Danmarks Havn 99.67 348 ⇑*i*P Pdif 00 45 10.9 -1.3
comp=Z,8.9nm,1.1s
FLN La Foliniere 99.68 319 *e*P Pdif 00 45 11.8 -0.4
comp=Z,46nm,1.5s
FLN La Foliniere 99.68 319 *e*P Pdif 00 45 11.8 -0.4
FLN pmax pmax
comp=Z,23nm,1.5s,mb5.4
FLN La Foliniere 99.68 319 *e*P Pdif 00 45 11.8 -0.4
comp=Z,23nm,1.5s
ESK Eskdalemuir 100.47 326 PFAKE 00 45 30.0 +14
ESK LR LR
comp=Z,964nm,21.0s,MS5.3
KDAK Kodiak Island 101.85 32 PFAKE 00 45 30.0 +8.1
KDAK LR LR
comp=Z,445nm,20.0s,MS5.0
MCK McKinley 102.04 25 *e*P Pdif 00 45 22.1 -0.6
MCK pmax pmax
comp=Z,40nm,1.5s
MCK McKinley 102.04 25 *e*Pdif Pdif 00 45 22.1 -0.6
comp=Z,40nm,1.5s
COLA College 102.14 24 *e*Pdif Pdif 00 45 13.9 -9.2
COLA *e*PP PP 00 49 20.9 -14
COLA LR LR
comp=Z,1μm,19.0s,MS5.5
PMR Palmer 102.58 27 PFAKE 00 45 30.0 +4.9
PMR LR LR
comp=Z,1μm,20.0s,MS5.5
ESLA Sonseca Array 103.18 310 PFAKE 00 45 40.0 +12
ESLA LR LR
comp=Z,4μm,21.0s,MS5.9
PAB San Pablo 103.49 310 PFAKE 00 45 40.0 +11
PAB LR LR
comp=Z,606nm,20.0s,MS5.1
SFS San Fernando 105.33 307 PFAKE 00 50 00.0 +8.2
SFS LR LR
comp=Z,1μm,19.0s,MS5.5
DBIC Dimbokro 105.53 276 *e*PKiKP PKiKP 00 50 04.5 +12
DBIC LR LR
comp=Z,1μm,20.0s,MS5.5
MTE Manteigas 105.80 311 PFAKE 00 50 00.0 +7.5
MTE LR LR
comp=Z,795nm,20.0s,MS5.3
RTC Rabat Centre 106.16 304 PFAKE 00 50 00.0 +6.6
RTC LR LR
comp=Z,965nm,19.0s,MS5.4
TBI Tubuai 107.04 116 *e*S Sdif 00 57 40.6 -4.6
comp=Z,730nm,29.2s
TBI Tubuai 107.04 116 *e*PS PS 00 59 32.1 -1.4
comp=Z,304nm,27.8s
TBI *e*SS SS 01 05 21.8 +3.7
comp=Z,909nm,27.2s
TBI Tubuai 107.04 116 *e*LR LR 01 21 16.1
comp=Z,2μm,22.8s
PPT Papeete 107.98 110 *e*PP PP 00 50 07.9 -11
comp=Z,128nm,25.8s
PPT *e*S Sdif 00 57 40.9 -12
comp=Z,904nm,25.0s
PPT Papeete 107.98 110 *e*LR LR 01 21 43.9
comp=Z,2μm,24.2s
PPT Papeete 107.98 110 *e*PP PP 00 50 07.9 -11
PPT *e*S Sdif 00 57 40.9 -12
SIT Sitka 110.83 29 PFAKE 00 50 10.0 +8.6
SIT LR LR
comp=Z,2μm,21.0s,MS5.6
PMSA Palmer Station 111.09 187 PFAKE 00 50 10.0 +8.3
PMSA LR LR
comp=Z,1μm,22.0s,MS5.5
WRAK Wrangell Islan 112.57 29 PFAKE 00 50 20.0 +15
WRAK LR LR
comp=Z,1μm,22.0s,MS5.5
SFJD Kangerlussuaq 113.36 348 PFAKE 00 50 20.0 +14
SFJD LR LR
comp=Z,2μm,20.0s,MS5.8
YKA Yellowknife Ar 115.52 17 PKP PKPdf 00 50 10.9 +0.7
comp=Z,3.8nm,0.9s,baz=348,slow=2.7,SNR=3.8
YKA Yellowknife Ar 115.52 17 PKIKP PKPdf 00 50 10.9 +0.7
YKA pmax pmax
comp=Z,4.0nm,0.9s
RKT Rikitea 119.97 119 *e*PP PP 00 51 46.4 +2.2
comp=Z,112nm,27.8s
RKT Rikitea 119.97 119 *e*PS PS 01 01 36.4 +1.8
comp=Z,433nm,30.2s
RKT *e*SS SS 01 08 15.0 +6.0
comp=Z,819nm,27.8s
RKT Rikitea 119.97 119 *e*LR LR 01 27 15.4
comp=Z,2μm,26.0s
CMLA Cha da Macela 119.97 312 *e*SP SP 01 02 21.9 +52
CMLA *e*SKK 01 07 40.3
CMLA Cha da Macela 119.97 312 *e*LQ 01 21 39.9
NLWA Neilton Lookou 121.88 34 PFAKE 00 50 30.0 +7.1
NLWA LR LR
comp=Z,1μm,19.0s,MS5.5
EFI East Falkland 122.21 196 PFAKE 00 50 30.0 +6.6
EFI LR LR
comp=Z,922nm,20.0s,MS5.4
JCW Jim Creek 122.46 32 P PKPdf 00 50 24.8 +0.8
EDM Edmonton 123.05 23 *e*PKIKP PKPdf 00 50 24.4 -0.6
ERK Elk Rock 123.36 34 P PKPdf 00 50 26.8 +1.0
TDL Tradedollar La 123.41 34 P PKPdf 00 50 26.8 +0.9
ETW Entiat 123.68 32 *e*PKPdf PKPdf 00 50 26.2 -0.1
COR Corvallis 123.79 36 PFAKE 00 50 40.0 +13
COR LR LR
comp=Z,813nm,19.0s,MS5.4
EBG Ellensburg 123.98 33 P PKPdf 00 50 28.4 +1.4
EPH Ephrata 124.22 32 P PKPdf 00 50 28.3 +0.9
ODD2 Odessa Site #2 124.66 31 *e*PKPdf PKPdf 00 50 27.7 -0.5
RSW Rattlesnake Hi 124.83 33 *e*PKPdf PKPdf 00 50 28.4 -0.2
HAWA Hanford 124.86 33 *e*PKPdf PKPdf 00 50 29.0 +0.3
HAWA LR LR
comp=Z,1μm,21.0s,MS5.6
NEW Newport 124.89 30 *e*PKIKP PKPdf 00 50 28.3 -0.4
NEW *e* 00 52 15.2

NEW					MLR	MLR		
	comp=Z,1µm,20.0s							
HUMO	**Hull Mountain**	**125.09**	**38**	*e*PKPdf	PKPdf	00 50 29.9	+0.7	
HUMO				*ep*PKPdf	pPKPdf	00 50 38.0	-0.4	
HUMO				*e*PP	PP	00 52 14.9	-3.1	
HUMO				LR	LR			
	comp=Z,968nm,19.0s,MS5.5							
VIPM	**Ingram Point**	**125.40**	**35**	PKIKP	PKPdf	00 50 31.0	+1.2	
FFC	**Flin Flon**	**125.64**	**16**	PFAKE		00 50 40.0	+10	
FFC				LR	LR			
	comp=Z,2µm,20.0s,MS5.7							
YBH	**Yreka Blue Hor**	**125.72**	**39**	PFAKE		00 50 40.0	+10	
YBH				LR	LR			
	comp=Z,961nm,19.0s,MS5.5							
LNOR	**Lincton Mounta**	**125.86**	**33**	*e*PKIKP	PKPdf	00 50 30.7	+0.1	
WDC	**Whiskeytown Da**	**126.45**	**40**	PFAKE		00 50 40.0	+8.1	
WDC				LR	LR			
	comp=Z,1µm,21.0s,MS5.6							
HOPS	**Hopland**	**126.93**	**42**	PFAKE		00 50 40.0	+7.1	
HOPS				LR	LR			
	comp=Z,912nm,20.0s,MS5.5							
BMO	**Blue Mountains**	**127.04**	**33**	*e*PKPdf	PKPdf	00 50 31.9	-1.0	
BMO				*e*PP	PP	00 52 29.7	-1.0	
BMO				LR	LR			
	comp=Z,963nm,19.0s,MS5.5							
LBCM	**Butte Creek Ri**	**127.07**	**39**	P	PKPdf	00 50 33.8	+0.7	
MOD	**Modoc**	**127.12**	**38**	*e*PKPdf	PKPdf	00 50 33.7	+0.6	
MOD				*ep*PKPdf	pPKPdf	00 50 42.6	+0.3	
MOD				*e*PP	PP	00 52 29.0	-2.4	
MOD				LR	LR			
	comp=Z,849nm,20.0s,MS5.4							
MSO	**Missoula**	**127.45**	**29**	*e*PKPdf	PKPdf	00 50 33.5	-0.2	
MSO				*e*PP	PP	00 52 34.1	+0.8	
MSO				LR	LR			
	comp=Z,1µm,19.0s,MS5.6							
NSHM	**Saint Helena R**	**127.48**	**42**	*e*PKPdf	PKPdf	00 50 34.1	+0.1	
MCCM	**Marconi Confer**	**127.49**	**43**	PFAKE		00 50 40.0	+6.0	
MCCM				LR	LR			
	comp=Z,820nm,19.0s,MS5.4							
CHMT	**Chamberlain Mo**	**127.72**	**29**	*e*PKPdf	PKPdf	00 50 34.3	+0.2	
CHMT				*e*PP	PP	00 52 34.6	-0.4	
OHCM	**Honcut**	**127.80**	**41**	*e*PKPdf	PKPdf	00 50 34.4	-0.2	
WVOR	**Wild Horse Val**	**127.80**	**36**	*e*PKIKP	PKPdf	00 50 34.8	+0.4	
WVOR				MLR	MLR			
	comp=Z,1µm,19.0s,MS5.5							
EGMT	**Eagleton**	**128.49**	**26**	*e*PKPdf	PKPdf	00 50 34.9	-0.7	
EGMT				*e*PP	PP	00 52 37.9	-2.1	
EGMT				LR	LR			
	comp=Z,995nm,19.0s,MS5.5							
HRY	**Holter Researc**	**128.54**	**28**	*e*PKPdf	PKPdf	00 50 35.6	-0.1	
DLMT	**Dillon**	**129.15**	**30**	*e*PKPdf	PKPdf	00 50 37.4	+0.5	
DLMT				*e*PP	PP	00 52 43.3	-1.1	
CMB	**Columbia Colle**	**129.22**	**42**	*e*PKIKP	PKPdf	00 50 36.9	-0.4	
CMB				*e*		00 52 40.9		
CMB				MLR	MLR			
	comp=Z,921nm,20.0s,MS5.5							
MCMT	**McKenzie Canyo**	**129.40**	**30**	*e*PKPdf	PKPdf	00 50 38.2	+0.8	
MCMT				*ep*PKPdf	pPKPdf	00 50 46.2	-0.4	
MCMT				*e*PP	PP	00 52 44.2	-1.9	
HLID	**Hailey**	**129.46**	**33**	PFAKE		00 50 50.0	+12	
HLID				LR	LR			
	comp=Z,1µm,21.0s,MS5.5							
BMN	**Battle Mountai**	**129.86**	**37**	PFAKE		00 50 50.0	+12	
BMN				LR	LR			
	comp=Z,692nm,20.0s,MS5.3							
QLMT	**Earthquake Lak**	**130.10**	**29**	*e*PKPdf	PKPdf	00 50 38.2	-0.5	
QLMT				*e*PP	PP	00 52 50.4	-0.3	
DGMT	**Dagmar**	**130.34**	**21**	*e*PKPdf	PKPdf	00 50 39.7	+0.6	
DGMT				*e*PP	PP	00 52 50.7	-1.2	
DGMT				LR	LR			
	comp=Z,1µm,20.0s,MS5.6							
NVAR	**Mina Array Bea**	**130.37**	**40**	PKP	PKPdf	00 50 39.7	+0.3	
	comp=Z,5.4nm,0.9s,baz=285,slow=2.1,SNR=11							
NVAR				SKPbc	SKPbc	00 54 02.9	+1.9	
	comp=Z,5.6nm,1.0s,baz=270,slow=4.5,SNR=7.9							
YMR	**Madison River**	**130.45**	**29**	PFAKE		00 50 50.0	+11	
YMR				LR	LR			
	comp=Z,2µm,19.0s,MS5.8							
YFT	**Old Faithful**	**130.67**	**29**	*e*PKPdf	PKPdf	00 50 40.2	+0.4	
YFT				*ep*PKPdf	pPKPdf	00 50 50.2	+1.2	
YFT				*e*PP	PP	00 52 53.7	-0.7	
YFT				*e*SKP		00 53 59.3		
LKWY	**Lake**	**130.80**	**29**	PFAKE		00 50 50.0	+10	
LKWY				LR	LR			
	comp=Z,2µm,20.0s,MS5.8							
MTUM	**Tungsten Hills**	**130.80**	**41**	*e*PKPdf	PKPdf	00 50 41.9	+1.6	
MTUM				*e*SKP		00 54 02.8		
ELK	**Elko**	**130.84**	**36**	PFAKE		00 50 50.0	+10	
ELK				LR	LR			
	comp=Z,1µm,21.0s,MS5.5							
RLMT	**Red Lodge**	**130.92**	**28**	*e*PKPdf	PKPdf	00 50 39.3	-1.0	
RLMT				*e*PP	PP	00 52 55.1	-0.8	
RLMT				LR	LR			
	comp=Z,1µm,21.0s,MS5.7							
LAO	**LASA Array**	**131.02**	**24**	*e*PKPdf	PKPdf	00 50 41.6	+1.2	
LAO				*ep*PKPdf	pPKPdf	00 50 49.9	+0.3	
LAO				*e*PP	PP	00 52 54.5	-1.9	
LAO				*e*SKPbc	SKPbc	00 54 02.5	-0.6	
LAO				*e*SKPdf	SKPdf	00 54 16.5	+2.5	
LAO				LR	LR			
	comp=Z,1µm,21.0s,MS5.7							
RRI2	**Red Ridge**	**131.23**	**31**	*e*PKPdf	PKPdf	00 50 40.6	-0.3	
RRI2				*e*PP	PP	00 52 57.7	-0.3	
TPH	**Tonopah**	**131.26**	**40**	PFAKE		00 50 50.0	+8.8	
TPH				LR	LR			
	comp=Z,769nm,19.0s,MS5.4							
ULM	**Lac du Bonnet**	**131.27**	**14**	PKP	PKPdf	00 50 40.6	-0.1	
	comp=Z,9.9nm,0.8s,baz=360,slow=3.0,SNR=12							
REDW	**Red Top Meadow**	**131.45**	**30**	*e*PKPdf	PKPdf	00 50 41.8	+0.5	
REDW				*e*PP	PP	00 52 59.3	-0.2	
HVU	**Hansel Valley**	**131.56**	**33**	*e*PKIKP	PKPdf	00 50 42.1	+0.5	
HVU				*e*		00 50 50.6		
HVU				*e*		00 52 59.9		
HVU	**Hansel Valley**	**131.56**	**33**	*e*PKPdf	PKPdf	00 50 42.1	+0.5	
HVU				*ep*PKPdf	pPKPdf	00 50 50.6	-0.2	
HVU				*e*PP	PP	00 52 59.9	-0.3	
HVU				*e*SKP		00 54 04.0		
AHID	**Auburn Hatcher**	**131.75**	**31**	PFAKE		00 50 50.0	+8.1	
AHID				LR	LR			
	comp=Z,1µm,19.0s,MS5.6							
ISA	**Isabella**	**131.79**	**43**	PFAKE		00 50 50.0	+7.8	
ISA				LR	LR			
	comp=Z,866nm,20.0s,MS5.5							
BGU	**Big Grassy Mou**	**131.99**	**34**	*e*PKPdf	PKPdf	00 50 42.8	+0.3	
BGU				*ep*PKPdf	pPKPdf	00 50 51.7	+0.1	
BGU				*e*PP	PP	00 52 56.7	-6.4	
BGU				*e*SKP		00 54 02.0		
DAC	**Darwin (Calif)**	**132.05**	**42**	PFAKE		00 50 50.0	+7.3	
DAC				LR	LR			
	comp=Z,858nm,19.0s,MS5.5							
SNCC	**San Nicolas Is**	**132.31**	**47**	PFAKE		00 50 50.0	+6.7	
SNCC				LR	LR			
	comp=Z,1µm,19.0s,MS5.5							
HWUT	**Hardware Ranch**	**132.33**	**32**	*e*PKPdf	PKPdf	00 50 42.4	-0.6	
HWUT				*ep*PKPdf	pPKPdf	00 50 51.5	-0.7	
HWUT				*e*PP	PP	00 53 04.3	-0.9	
HWUT				*e*SKP		00 54 08.4		
HWUT				LR	LR			
	comp=Z,1µm,20.0s,MS5.6							
BW06	**Boulder Array**	**132.53**	**30**	PFAKE		00 50 50.0	+6.6	
BW06				LR	LR			
	comp=Z,1µm,19.0s,MS5.6							
PDAR	**Pinedale Array**	**132.53**	**30**	PKP	PKPdf	00 50 42.2	-1.2	
	comp=Z,1.9nm,0.9s,baz=53,slow=0.7,SNR=7.2							
PDAR				PP	PP	00 53 04.5	-1.9	
	comp=Z,2.7nm,1.1s,baz=267,slow=3.0,SNR=4.7							
TPNV	**Topopah Spring**	**132.55**	**40**	PFAKE		00 50 50.0	+6.4	
TPNV				LR	LR			
	comp=Z,1µm,19.0s,MS5.6							
DUG	**Dugway**	**132.60**	**35**	*e*PKIKP	PKPdf	00 50 43.6	0.0	
DUG				*e*		00 53 06.2		
DUG				MLR	MLR			
	comp=Z,966nm,20.0s,MS5.5							
DUG	**Dugway**	**132.60**	**35**	*e*PKPdf	PKPdf	00 50 43.6	-0.1	
DUG				*e*PP	PP	00 53 06.2	-0.9	
DUG				*e*SKP		00 54 07.3		
DUG				LR	LR			
	comp=Z,966nm,20.0s,MS5.5							
MWC	**Mount Wilson**	**132.85**	**45**	PFAKE		00 50 50.0	+5.7	
MWC				LR	LR			
	comp=Z,885nm,20.0s,MS5.5							
AGMN	**Agassiz Refuge**	**133.08**	**15**	PFAKE		00 50 50.0	+5.7	
AGMN				LR	LR			
	comp=Z,1µm,21.0s,MS5.6							
JLU	**Jordanelle**	**133.09**	**33**	*e*PKPdf	PKPdf	00 50 44.7	+0.2	
JLU				*ep*PKPdf	pPKPdf	00 50 54.0	+0.3	
JLU				*e*PP	PP	00 53 07.1	-3.0	
GSC	**Goldstone**	**133.13**	**43**	PFAKE		00 50 50.0	+5.2	
GSC				LR	LR			
	comp=Z,746nm,19.0s,MS5.4							
NLU	**North Lily Min**	**133.18**	**34**	*e*PKPdf	PKPdf	00 50 44.7	0.0	
NLU				*e*PP	PP	00 53 06.8	-3.9	
NLU				*e*SKP		00 54 10.7		
DAU	**Daniels Canyon**	**133.33**	**33**	*e*PKIKP	PKPdf	00 50 44.0	-1.0	
DAU				*e*		00 53 11.1		
MPU	**Maple Canyon**	**133.39**	**34**	*e*PKPdf	PKPdf	00 50 44.9	-0.2	
MPU				*ep*PKPdf	pPKPdf	00 50 53.9	-0.4	
MPU				LR	LR			
	comp=Z,3µm,21.0s,MS5.9							
MVU	**Marysvale**	**134.08**	**36**	PFAKE		00 51 00.0	+14	
MVU				LR	LR			
	comp=Z,1µm,21.0s,MS5.6							
MSU	**Marysvale**	**134.09**	**36**	*e*PKPdf	PKPdf	00 50 47.5	+1.0	
MSU				*e*SKP		00 54 13.2		
TMUT	**Trail Mountain**	**134.12**	**35**	*e*PKPdf	PKPdf	00 50 47.6	+1.1	
PFO	**Pinyon Flat Ob**	**134.30**	**44**	*e*PKIKP	PKPdf	00 50 47.5	+0.5	
PFO				*e*		00 53 17.7		
PFO				MLR	MLR			
	comp=Z,690nm,20.0s,MS5.4							
PFO	**Pinyon Flat Ob**	**134.30**	**44**	*e*PKPdf	PKPdf	00 50 47.5	+0.4	
PFO				*e*PP	PP	00 53 17.7	-0.6	
PFO				*e*SKPbc	SKPbc	00 54 14.7	-0.2	
PFO				LR	LR			
	comp=Z,690nm,20.0s,MS5.4							
LDFC	**Landfair**	**134.39**	**42**	*e*PKPdf	PKPdf	00 50 46.5	-0.6	
LDFC				*ep*PKPdf	pPKPdf	00 50 55.6	-0.7	
LDFC				*e*PP	PP	00 53 17.2	-1.6	
EYMN	**Ely**	**134.39**	**11**	PFAKE		00 51 00.0	+13	
EYMN				LR	LR			
	comp=Z,2µm,21.0s,MS5.8							
RWWY	**Rawlins**	**134.50**	**29**	*e*PKPdf	PKPdf	00 50 47.3	+0.2	
RWWY				*e*PP	PP	00 53 19.2	+0.3	
RWWY				*e*SKP		00 54 14.2		
BAR	**Barrett**	**134.65**	**46**	PFAKE		00 51 00.0	+12	
BAR				LR	LR			
	comp=Z,622nm,21.0s,MS5.3							
PLCA	**Paso Flores**	**135.37**	**190**	PKP	PKPdf	00 50 47.1	-1.7	
	comp=Z,1.9nm,1.0s,baz=158,slow=5.4,SNR=2.5							
PLCA	**Paso Flores**	**135.37**	**190**	PKP	PKPdf	00 50 47.1	-1.7	
PLCA				*e*PKPdf	PKPdf	00 50 51.4	+2.6	
PLCA				*e*PP	PP	00 53 32.3	+8.5	
PLCA				LR	LR			
	comp=Z,1µm,20.0s,MS5.6							
PHWY	**Pilot Hill**	**135.63**	**28**	*e*PKPdf	PKPdf	00 50 48.3	-0.9	
PHWY				*e*PP	PP	00 53 23.8	-2.3	
PHWY				*e*SKP		00 54 17.0		
TRQA	**Tornquist**	**135.69**	**200**	PFAKE		00 51 00.0	+10	
TRQA				LR	LR			
	comp=Z,944nm,19.0s,MS5.5							
GLA	**Glamis**	**135.75**	**44**	*e*PKIKP	PKPdf	00 50 47.8	-1.9	
PV10	**Paradox Valley**	**135.98**	**34**	*e*PKPdf	PKPdf	00 50 51.0	+0.9	
PV10				*e*PP	PP	00 53 27.4	-1.0	
PV10				*e*SKP		00 54 21.3		
PV01	**Paradox Valley**	**136.41**	**34**	*e*PKPdf	PKPdf	00 50 50.1	-0.7	
PV01				*e*PP	PP	00 53 27.5	-3.6	
PV01				*e*SKP		00 54 21.4		
WUAZ	**Wupatki**	**136.53**	**39**	PFAKE		00 51 00.0	+8.9	
WUAZ				LR	LR			
	comp=Z,913nm,19.0s,MS5.5							
COWI	**Conover**	**136.60**	**10**	PFAKE		00 51 00.0	+9.1	
COWI				LR	LR			
	comp=Z,1µm,20.0s,MS5.7							
ISCO	**Idaho Springs**	**136.72**	**30**	PFAKE		00 51 00.0	+8.7	
ISCO				LR	LR			
	comp=Z,1µm,21.0s,MS5.6							
ECSD	**EROS,Sioux Fal**	**137.04**	**18**	*e*PKPdf	PKPdf	00 50 50.0	-1.8	
ECSD				*e*PP	PP	00 53 32.0	-2.6	
ECSD				*e*SKP		00 54 22.0		
ECSD				LR	LR			
	comp=Z,2µm,20.0s,MS5.8							
MVCO	**Mesa Verde**	**137.10**	**35**	*e*PKPdf	PKPdf	00 50 52.9	+0.8	
PKME	**Peaks-Kenny Pk**	**137.28**	**349**	PFAKE		00 51 00.0	+7.8	
PKME				LR	LR			
	comp=Z,1µm,19.0s,MS5.7							
OGNE	**Ogallala**	**137.46**	**25**	PFAKE		00 51 00.0	+7.3	
OGNE				LR	LR			
	comp=Z,2µm,21.0s,MS5.8							
SDCO	**Great Sand Dun**	**138.34**	**31**	PFAKE		00 51 00.0	+5.6	
SDCO				LR	LR			
	comp=Z,1µm,22.0s,MS5.6							
GLMI	**Grayling**	**138.45**	**5**	PFAKE		00 51 00.0	+5.6	
GLMI				LR	LR			
	comp=Z,2µm,19.0s,MS5.9							
LONY	**Lake Ozonia**	**138.65**	**355**	PFAKE		00 51 00.0	+5.3	
LONY				LR	LR			
	comp=Z,2µm,22.0s,MS5.8							
LBNH	**Lisbon**	**138.71**	**352**	PFAKE		00 51 00.0	+5.1	
LBNH				LR	LR			
	comp=Z,2µm,19.0s,MS5.8							
TUC	**Tucson**	**138.93**	**42**	*e*PKHKP		00 50 47.8		
TUC				*e*		00 53 45.0		
TUC				MLR	MLR			
	comp=Z,1µm,21.0s,MS5.6							
TUC	**Tucson**	**138.93**	**42**	*e*PKP		00 50 47.8		
TUC				*e*PP	PP	00 53 45.0	-2.2	
TUC				*e*SKP		00 54 27.2		
TUC				LR	LR			
	comp=Z,1µm,21.0s,MS5.6							
MDV	**Middlebury**	**139.12**	**353**	*e*PKPdf	PKPdf	00 50 55.6	0.0	
NCB	**Newcomb**	**139.26**	**354**	PFAKE		00 51 10.0	+14	
NCB				LR	LR			
	comp=Z,2µm,19.0s,MS5.8							
JFWS	**Jewell Farm**	**139.47**	**12**	PFAKE		00 51 10.0	+14	
JFWS				LR	LR			
	comp=Z,2µm,21.0s,MS5.8							
SCIA	**State Center**	**139.71**	**16**	PFAKE		00 51 10.0	+13	
SCIA				LR	LR			
	comp=Z,1µm,21.0s,MS5.7							
LAZ	**Ladron**	**139.86**	**36**	*e*PKPdf	PKPdf	00 50 57.7	+0.4	
ANMO	**Albuquerque**	**139.87**	**35**	*e*PKP	PKPdf	00 50 49.7	-7.6	
ANMO				*e*SKP		00 54 29.2		
ANMO				LR	LR			
	comp=Z,1µm,20.0s,MS5.7							
LENM	**Lemitar**	**140.12**	**36**	*e*PKPdf	PKPdf	00 50 57.0	-0.7	
CBKS	**Cedar Bluff**	**140.21**	**25**	PFAKE		00 51 10.0	+12	
CBKS				LR	LR			
	comp=Z,2µm,20.0s,MS5.8							
LPM	**Los Pinos Moun**	**140.22**	**36**	*e*PKPdf	PKPdf	00 50 57.8	-0.1	
BNM	**Barren Site**	**140.34**	**36**	*e*PKPdf	PKPdf	00 50 54.0	-4.2	
BNM				*e*PP	PP	00 53 54.9	-0.7	
HRV	**Adam Dziewonsk**	**140.35**	**351**	PFAKE		00 51 10.0	+12	
HRV				LR	LR			
	comp=Z,2µm,19.0s,MS5.8							
WES	**Weston**	**140.43**	**350**	PFAKE		00 51 10.0	+12	
WES				LR	LR			
	comp=Z,1µm,21.0s,MS5.7							
BINY	**Binghamton**	**141.18**	**356**	PFAKE		00 51 10.0	+11	
BINY				LR	LR			
	comp=Z,1µm,20.0s,MS5.7							
KSU1	**Kansas State U**	**141.18**	**21**	*e*PKPdf	PKPdf	00 50 55.4	-4.2	
KSU1				LR	LR			
	comp=Z,1µm,20.0s,MS5.7							
ERPA	**Erie**	**141.39**	**0**	PFAKE		00 51 10.0	+10	
ERPA				LR	LR			
	comp=Z,2µm,20.0s,MS5.8							
HDIL	**Hopedale**	**141.93**	**12**	PFAKE		00 51 10.0	+9.2	
HDIL				LR	LR			
	comp=Z,2µm,20.0s,MS5.8							
AMTX	**Amarillo**	**142.51**	**31**	PFAKE		00 51 10.0	+8.0	
AMTX				LR	LR			
	comp=Z,2µm,21.0s,MS5.7							
SSPA	**Standing Stone**	**142.84**	**358**	PFAKE		00 51 10.0	+7.6	
SSPA				LR	LR			
	comp=Z,1µm,20.0s,MS5.6							
ACSO	**Alum Creek Sta**	**143.15**	**4**	*e*PKPdf	PKPdf	00 50 58.5	-4.5	
ACSO				LR	LR			
	comp=Z,2µm,21.0s,MS5.8							
CPUP	**Villa Florida**	**143.48**	**215**	PKP	PKPdf	00 51 01.4	-2.5	
	comp=Z,2.7nm,0.7s,baz=85,slow=2.6,SNR=10							
CPUP	**Villa Florida**	**143.48**	**215**	PKIKP	PKPdf	00 51 01.5	-2.5	
CPUP				pmax	pmax			
	comp=Z,3.0nm,0.7s							
BDFB	**Brasilia**	**143.50**	**238**	PKP	PKPdf	00 51 04.9	+0.6	
	comp=Z,2.4nm,0.9s,baz=132,slow=16,SNR=3.3							
BDFB	**Brasilia**	**143.50**	**238**	PKP	PKPdf	00 51 04.9	+0.6	
BDFB				LR	LR			
	comp=Z,910nm,19.0s,MS5.6							
CCM	**Cathedral Cave**	**143.84**	**16**	*e*PKIKP	PKPdf	00 51 00.8	-3.5	
CCM				MLR	MLR			
	comp=Z,1µm,19.0s,MS5.7							
MCWV	**Mont Chateau**	**143.85**	**0**	*e*PKPdf	PKPdf	00 51 01.9	-2.3	
MCWV				*e*PP	PP	00 54 15.0	-1.0	
MCWV				LR	LR			
	comp=Z,2µm,20.0s,MS5.9							
OLIL	**Olney**	**143.93**	**11**	*e*PKPdf	PKPdf	00 51 01.4	-3.0	
FVM	**French Village**	**144.12**	**15**	*e*PKIKP	PKPdf	00 51 01.6	-3.2	
SIUC	**Southern Illin**	**144.67**	**13**	*e*PKPdf	PKPdf	00 51 03.0	-1.8	
WCI	**Wyandotte Cave**	**144.74**	**9**	*e*PKIKP	PKPdf	00 51 04.0	-1.8	
WCI				*e*		00 54 17.5		
WCI				MLR	MLR			
	comp=Z,2µm,20.0s,MS5.8							
USIN	**University of**	**144.75**	**11**	*e*PKPdf	PKPdf	00 51 04.2	-1.7	
CBN	**Corbin**	**145.24**	**357**	*e*PKP	PKPdf	00 51 06.0	-0.7	
CBN				LR	LR			
	comp=Z,2µm,20.0s,MS5.9							
TXAR	**Lajitas Array**	**145.50**	**39**	PKPbc	PKPbc	00 51 07.5	0.0	
	comp=Z,108nm,0.7s,baz=290,slow=0.9,SNR=448							
TXAR	**Lajitas Array**	**145.50**	**39**	PKIKP	PKPdf	00 51 07.5	+0.1	
TXAR				pmax	pmax			
	comp=Z,108nm,0.7s							
PARMO	**Parma**	**145.54**	**15**	*e*PKP	PKPdf	00 51 07.0	-0.3	
URVA	**University of**	**145.88**	**357**	*e*PKP	PKPdf	00 51 08.1	+0.3	
GLAT	**Glass**	**146.03**	**14**	*e*PKPdf	PKPdf	00 51 08.5	+0.3	
UTMT	**University of**	**146.06**	**13**	*e*PKPdf	PKPdf	00 51 08.1	-0.1	
GNAR	**Gosnell**	**146.13**	**15**	*e*PKPdf	PKPdf	00 51 09.2	+0.9	
ELN	**Prospectdale**	**146.26**	**2**	*e*PKPdf	PKPdf	00 51 08.4	-0.1	
BLA	**Blacksburg**	**146.28**	**1**	*e*PKP2	PKPab	00 51 08.8	-1.5	
BLA				MLR	MLR			
	comp=Z,1µm,19.0s,MS5.8							
MIAR	**Mount Ida**	**146.34**	**21**	*e*PKP2	PKPab	00 51 08.9	-1.7	
MIAR				*e*		00 54 31.3		
MIAR				MLR	MLR			
	comp=Z,1µm,21.0s,MS5.7							
HBAR	**Harrisburg**	**146.35**	**16**	*e*PKPdf	PKPdf	00 51 07.1	-1.6	
HALT	**Halls**	**146.36**	**14**	*e*PKPdf	PKPdf	00 51 09.4	+0.8	
WVT	**Waverly**	**146.50**	**12**	*e*PKP2	PKPab	00 51 08.9	-2.3	
WVT				MLR	MLR			
	comp=Z,1µm,21.0s,MS5.6							
UALR	**University of**	**146.55**	**19**	*e*PKPdf	PKPdf	00 51 09.1	0.0	
LCO	**Las Campanas**	**146.72**	**194**	*e*PKPbc	PKPbc	00 51 11.8	+0.6	
LCO				LR	LR			
	comp=Z,1µm,20.0s,MS5.7							
TZTN	**Tazewell**	**146.76**	**6**	*e*PKPdf	PKPdf	00 51 09.6	+0.2	
TZTN				LR	LR			
	comp=Z,3µm,21.0s,MS6.0							
JCT	**Junction City**	**146.93**	**33**	*e*PKPdf	PKPdf	00 51 10.4	+0.6	
JCT				*e*PKPab	PKPab	00 51 13.0	-0.1	
JCT				LR	LR			
	comp=Z,1µm,19.0s,MS5.6							
TKL	**Tuckaleechee C**	**147.61**	**6**	*e*PKPdf	PKPdf	00 51 11.3	+0.5	
TKL				*e*PKPbc	PKPbc	00 51 13.7	+0.3	
OXF	**Oxford**	**147.67**	**15**	*e*PKIKP	PKPdf	00 51 11.0	+0.1	
OXF				*e*		00 51 14.1		
OXF				MLR	MLR			
	comp=Z,2µm,22.0s,MS5.8							
CPCT	**Cooper Cave**	**147.72**	**8**	*e*PKPdf	PKPdf	00 51 11.2	+0.2	
CPCT				*e*PKPbc	PKPbc	00 51 13.7	-0.1	
CPCT				*e*PKPab	PKPab	00 51 15.8	-0.3	
SWET	**Sewanee**	**147.74**	**10**	*e*PKPdf	PKPdf	00 51 10.8	-0.2	
SWET				*e*PKPbc	PKPbc	00 51 13.8	0.0	
SWET				*e*PKPab	PKPab	00 51 15.7	-0.3	
BBSR	**BB Station**	**147.91**	**336**	PFAKE		00 51 20.0	+8.6	
BBSR				LR	LR			
	comp=Z,934nm,21.0s,MS5.5							
CNNC	**Cliffs of the**	**148.22**	**357**	PFAKE		00 51 20.0	+8.2	
CNNC				LR	LR			
	comp=Z,1µm,20.0s,MS5.7							
NATX	**Nacogdoches**	**148.37**	**25**	*e*PKPdf	PKPdf	00 51 12.7	+0.5	
NATX				*e*PKPbc	PKPbc	00 51 15.8	+0.2	
NATX				*e*PKPab	PKPab	00 51 18.5	-0.2	
NATX				LR	LR			
	comp=Z,2µm,20.0s,MS5.8							
JSC	**Jenkinsville**	**149.18**	**3**	*e*PKIKP	PKPdf	00 51 14.5	+1.1	
JSC				*e*		00 51 17.8		
JSC				*e*		00 51 21.9		
HKT	**Hockley**	**149.39**	**28**	*e*PKIKP	PKPdf	00 51 15.0	+1.1	
HKT				*e*		00 51 18.6		
HKT				MLR	MLR			
	comp=Z,1µm,19.0s,MS5.8							
VBMS	**Vicksburg**	**149.50**	**18**	*e*PKPdf	PKPdf	00 51 14.1	+0.2	
VBMS				*e*PKPbc	PKPbc	00 51 18.8	+0.4	
VBMS				LR	LR			
	comp=Z,1µm,19.0s,MS5.8							
LRAL	**Lakeview Retre**	**149.66**	**12**

mb1 3.9/11,mb1mx3.6/21,mbtmp3.8/11,Error ellipse: s-maj=27.1km s-min=10.8km az=70.0

ISC 12 00:44:54.8±1.0,003N±005×12227E±007,h205km±11km, n44,σ0§82/43,mb4.3/18,1C,Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAPI	**Kappang**	**5.61**	**207**	P	**Pn**	**00 46 16.0**	**-1.2**
	5.7nm,0.3s,baz=24,slow=4.5,SNR=38						
DAV	**Davao City (W)**	**7.73**	**25**	P	**Pn**	**00 46 45.2**	**+0.6**
	115nm,0.3s,baz=213,slow=3.6,SNR=3.2						
KKM	**Kota Kinabalu**	**8.50**	**315**	*e*Pn	**Pn**	**00 46 55.1**	**+0.5**
KAKA	**Kakadu**	**16.19**	**142**	*e*P	**P**	**00 48 29.0**	**-1.6**
	7.3nm,0.4s						
FITZ	**Fitzroy Crossi**	**18.32**	**170**	⇑*i*P	**P**	**00 48 54.5**	**+0.6**
	17nm,0.5s						
FITZ	**Fitzroy Crossi**	**18.32**	**170**	P	**P**	**00 48 54.7**	**+0.9**
	1.8nm,0.3s,baz=0.4,slow=8.5,SNR=52						
FITZ	**Fitzroy Crossi**	**18.32**	**170**	*e*P	**P**	**00 48 54.4**	**+0.5**
	31nm,1.1s						
MBWA	**Marble Bar**	**21.21**	**187**	*e*P	**P**	**00 49 25.1**	**+0.4**
	4.7nm,0.5s,mb4.3						
QIZ	**Qiongzhong**	**22.48**	**328**	*e*P	**P**	**00 49 33.5**	**-3.6**
WRAB	**Tennant Creek**	**23.10**	**150**	*e*P	**P**	**00 49 42.5**	**-0.2**
	5.6nm,0.8s,mb4.2						
WRA	**Warramunga Arr**	**23.10**	**150**	P	**P**	**00 49 42.4**	**-0.3**
	11nm,0.3s,mb4.4,baz=325,slow=11,SNR=18						
WB2	**Warramunga Arr**	**23.11**	**150**	*e*P	**P**	**00 49 42.3**	**-0.5**
GUMO	**Guam**	**26.12**	**58**	*e*P	**P**	**00 50 09.2**	**-1.0**
	89nm,1.4s,mb5.2						
ASAR	**Alice Springs**	**26.12**	**155**	P	**P**	**00 50 10.7**	**+0.6**
	1.9nm,0.5s,mb4.0,baz=344,slow=14,SNR=23						
PMG	**Port Moresby**	**26.49**	**111**	P	**P**	**00 50 13.9**	**+0.5**
COCO	**West Island**	**28.02**	**243**	P	**P**	**00 50 27.5**	**+0.4**
CMAR	**Chiang Mai Arr**	**29.34**	**310**	P	**P**	**00 50 40.3**	**+1.6**
	0.5nm,0.3s,mb3.5,baz=131,slow=7.6,SNR=4.1						
CHTO	**Chiang Mai**	**29.55**	**311**	P	**P**	**00 50 39.8**	**-0.7**
CTAO	**Charters Tower**	**30.84**	**132**	*e*P	**P**	**00 50 51.5**	**-0.5**
	21nm,1.5s,mb4.5						
FORT	**Forrest**	**31.13**	**170**	*e*P	**P**	**00 50 54.9**	**+0.6**
	15nm,0.6s,mb4.8						
KLBR	**Kellerberrin**	**31.74**	**187**	*e*P	**P**	**00 51 00.0**	**+0.3**
	4.5nm,0.4s,mb4.3						
ENH	**Enshi**	**32.44**	**339**	P	**P**	**00 51 06.3**	**+0.6**
NWAO	**Narrogin (SRO)**	**33.13**	**188**	P	**P**	**00 51 12.8**	**+1.1**
	9.3nm,1.0s,mb4.3,baz=13,slow=8.5,SNR=3.6						
NWAO	**Narrogin (SRO)**	**33.13**	**188**	*e*P	**P**	**00 51 13.1**	**+1.4**
	3.9nm,0.7s,mb4.0						
STKA	**Stephens Creek**	**36.62**	**152**	*e*P	**P**	**00 51 42.4**	**+0.8**
	3.2nm,0.4s,mb4.2						
STKA	**Stephens Creek**	**36.62**	**152**	P	**P**	**00 51 42.3**	**+0.7**
	7.6nm,0.7s,mb4.3,baz=317,slow=8.1,SNR=10						
STKA	**Stephens Creek**	**36.62**	**152**	*e*P	**P**	**00 51 42.3**	**+0.6**
	8.9nm,0.8s,mb4.3						
HNR	**Honiara**	**38.66**	**105**	*e*P	**P**	**00 51 59.1**	**+0.1**
	64nm,0.6s,mb5.3						
BJT	**Baijiatuan**	**40.18**	**353**	*e*P	**P**	**00 52 11.4**	**+0.3**
PALK	**Pallekele**	**42.08**	**281**	*e*P	**P**	**00 52 24.3**	**-2.6**
	22nm,1.3s,mb4.4						
TAU	**Tasmania Unive**	**48.30**	**155**	P	**P**	**00 53 15.7**	**+0.3**
SONM	**Songino Array**	**49.57**	**346**	P	**P**	**00 53 25.7**	**+0.7**
	0.5nm,0.6s,baz=165,slow=10,SNR=3.6						
MK31	**Makanchi Array**	**58.20**	**329**	*e*P	**P**	**00 54 28.0**	**+0.6**
MKAR	**Makanchi Array**	**58.20**	**329**	P	**P**	**00 54 27.6**	**+0.2**
	1.2nm,0.5s,mb3.8,baz=127,slow=8.6,SNR=10						
TKM2	**Tokmak 2**	**59.71**	**322**	*e*P	**P**	**00 54 37.8**	**-0.1**
KBL	**Kabul**	**60.37**	**310**	*e*P	**P**	**00 54 42.7**	**+0.2**
	2.9nm,0.9s,mb3.9						
EKS2	**Erkin-Say**	**60.71**	**321**	*e*P	**P**	**00 54 44.7**	**0.0**
	2.1nm,0.9s,mb3.8						
KURK	**Kurchatov**	**62.59**	**330**	P	**P**	**00 54 56.8**	**-0.2**
	1.3nm,0.6s,mb3.7,baz=138,slow=5.8,SNR=8.0						
KURK	**Kurchatov**	**62.59**	**330**	*e*P	**P**	**00 54 56.6**	**-0.4**
KURK				*e*PcP	PcP	00 55 34.0	-0.1
RAO	**Raoul Island**	**63.95**	**123**	*e*P	**P**	**00 55 06.7**	**+0.2**
GNI	**Garni**	**80.45**	**311**	*e*P	**P**	**00 56 42.3**	**-1.7**
KIV	**Kislovodsk**	**82.48**	**314**	*e*P	**P**	**00 56 54.1**	**-0.4**
PMR	**Palmer**	**89.30**	**29**	*e*P	**P**	**00 57 26.8**	**-0.7**
	5.6nm,0.5s,mb4.7						
SNAA	**Sanae**	**100.52**	**195**	Pdif	Pdif	00 58 18.7	-0.1

IDC 12 00:45:34.7±2.5,348S×10022E,h0km,mb3.9/8,mb1 4.0/8, mb1mx3.8/20,mbtmp3.9/8,Error ellipse: s-maj=106.1km s-min=19.2km az=55.0,Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**21.84**	**357**	P	P	00 50 28.1	-0.9
	0.6nm,0.4s,baz=186,slow=9.1,SNR=4.2						
WRA	**Warramunga Arr**	**37.07**	**119**	P	P	00 52 45.6	-1.3
	0.7nm,0.4s,baz=307,slow=8.6,SNR=3.1						
ASAR	**Alice Springs**	**38.22**	**125**	P	P	00 52 57.3	+0.7
	1.1nm,0.4s,baz=300,slow=7.6,SNR=5.7						
SONM	**Songino Array**	**51.39**	**5**	P	P	00 54 41.9	+0.7
	1.5nm,0.5s,baz=188,slow=9.4,SNR=11						
MKAR	**Makanchi Array**	**52.51**	**345**	P	P	00 54 50.0	+0.4
	2.2nm,0.6s,baz=158,slow=9.0,SNR=13						
KURK	**Kurchatov**	**57.08**	**344**	P	P	00 55 22.2	-0.5
	0.8nm,0.6s,baz=171,slow=6.8,SNR=4.7						
ZALV	**Zalesovo Beam**	**58.65**	**349**	P	P	00 55 33.2	-0.5
	3.7nm,1.0s,baz=163,slow=5.7,SNR=6.3						
BVAR	**Borovoye Array**	**61.64**	**340**	P	P	00 55 53.3	-0.9
	0.6nm,0.4s,baz=136,slow=11,SNR=4.2						
TXAR	**Lajitas Array**	**145.72**	**39**	PKPbc	PKPbc	01 05 17.1	+0.7
	1.1nm,0.5s,baz=296,slow=0.5,SNR=12						

ISCJB 12 00:51:16.0±0.2,49353N±0010×678E±001,h0km,Error ellipse: s-maj=1.4km s-min=1.4km az=13.1
NEIC 12 00:51:17.8,4937N×681E,h1km,ML3.0(STR), ML3.0(SZGRF),ML3.5(LDG),After STR.
STR 12 00:51:17.8±0.2,4937N×681E,h1km,Ml3.0,Error ellipse: s-maj=0.0km s-min=0.0km az=0.0
BNS 12 00:51:17.3±0.7,4930N×690E,h1km,ML2.5
BGR 12 00:51:18.5±0.2,4939N×681E,h1km,ML3.0/7,Error ellipse: s-maj=2.2km s-min=2.2km az=126.0
CSEM 12 00:51:18.5±0.0,4938N×685E,h1km,ML3.5/33,Ms3.5, Error ellipse: s-maj=0.7km s-min=0.6km az=151.0
PRU 12 00:51:18.2,4933N×684E,h0km
LDG 12 00:51:18.5±0.1,4937N×686E,h1km,Md3.2/3,Ml3.5/34, Error ellipse: s-maj=0.9km s-min=0.9km az=162.0, Suspected Mining induced.
VIE 12 00:51:22.2±0.3,4933N×713E,h11km±1km,mb2.7/8, ML2.6/9,Ms3.5/1,Error ellipse: s-maj=2.0km s-min=1.6km az=82.0

ISC 12 00:51:17.1±0.1,49370N±0009×676E±001,h0km,n181, σ1§23/388,14C-11D,Germany

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RUP	**Ruppelstein**	**0.39**	**30**	*e*Pg	**Pg**	**00 51 25.5**	**+1.0**
	SNR=67						
RUP	**Ruppelstein**	**0.39**	**30**	Pg	**Pg**	**00 51 25.5**	**+1.0**
	SNR=67						
RUP				Sg	**Sg**	**00 51 29.5**	**0.0**
RUP	**Ruppelstein**	**0.39**	**30**	Pg	**Pg**	**00 51 25.4**	**+0.9**
RUP				Sg	**Sg**	**00 51 29.5**	**0.0**
WLF	**Walferdange**	**0.49**	**307**	*e*Pg	**Pg**	**00 51 29.0**	**+2.4**
	SNR=18						
WLF				*e*Sg	**Sg**	**00 51 34.7**	**+1.7**
	SNR=12						
WLF	**Walferdange**	**0.49**	**307**	P	**Pg**	**00 51 29.2**	**+2.6**
WLF	**Walferdange**	**0.49**	**307**	*e*P	**Pg**	**00 51 29.3**	**+2.7**
WLF				*e*S	**Sg**	**00 51 36.6**	**+3.6**
ABH	**Alteburg**	**0.72**	**45**	*e*Pg	**Pg**	**00 51 31.4**	**+0.4**
	SNR=15						
ABH	**Alteburg**	**0.72**	**45**	Pg	**Pg**	**00 51 31.4**	**+0.4**
	SNR=15						
ABH				Sg	**Sg**	**00 51 40.8**	**+0.4**
ABH	**Alteburg**	**0.72**	**45**	Pg	**Pg**	**00 51 31.3**	**+0.3**
ABH				Sg	**Sg**	**00 51 40.8**	**+0.4**
LANF	**Langenberg**	**0.79**	**119**	Pg	**Pg**	**00 51 32.4**	**+0.2**
LANF				Sg	**Sg**	**00 51 43.7**	**+1.3**
LANF	**Langenberg**	**0.79**	**119**	*e*Pg	**Pg**	**00 51 32.5**	**+0.3**
	SNR=34						
LANF	**Langenberg**	**0.79**	**119**	Pg	**Pg**	**00 51 32.5**	**+0.3**
	SNR=34						
LANF				Sg	**Sg**	**00 51 43.7**	**+1.3**
KTD	**Kalmit**	**0.87**	**93**	*e*Pg	**Pg**	**00 51 33.8**	**+0.1**
	SNR=31						
KTD	**Kalmit**	**0.87**	**93**	Pg	**Pg**	**00 51 33.8**	**+0.1**
	SNR=31						
KTD				Sg	**Sg**	**00 51 45.9**	**+1.0**
KTD	**Kalmit**	**0.87**	**93**	Pg	**Pg**	**00 51 33.7**	**0.0**
KTD				Sg	**Sg**	**00 51 45.9**	**+1.0**
BGG	**Burgeitz**	**0.92**	**24**	*e*Pg	**Pg**	**00 51 35.0**	**+0.3**
HILG	**Hillesheim**	**0.93**	**357**	*e*Pg	**Pg**	**00 51 36.1**	**+1.3**
CDF	**Champ du Feu**	**1.02**	**160**	*e*Pn	**Pn**	**00 51 37.9**	**-0.7**
	SNR=1.0						
CDF				*e*Sn	**Sn**	**00 51 52.1**	**-1.4**
	199nm,0.3s,SNR=1.0						
CDF	**Champ du Feu**	**1.02**	**160**	*e*Pn	**Pn**	**00 51 37.9**	**-0.7**
	SNR=1.0						
CDF				*e*Sn	**Sn**	**00 51 52.1**	**-1.4**
	99nm,0.3s,SNR=1.0						
CDF	**Champ du Feu**	**1.02**	**160**	*e*Pg	**Pg**	**00 51 37.0**	**+0.4**
CDF				*e*Pn	**Pn**	**00 51 37.9**	**-0.7**
CDF				*e*Sn	**Sn**	**00 51 52.1**	**-1.4**
STR	**Strasbourg**	**1.03**	**139**	Pg	**Pg**	**00 51 37.0**	**+0.2**
STR				Sg	**Sg**	**00 51 51.0**	**+0.9**
STR	**Strasbourg**	**1.03**	**139**	*e*Pg	**Pg**	**00 51 38.7**	**+1.9**
	SNR=3.2						
RFYF	**Reffroy**	**1.13**	**229**	*e*Pg	**Pg**	**00 51 40.9**	**+2.2**
	baz=48						
RFYF				*e*Sg	**Sg**	**00 51 56.1**	**+2.9**
	396nm,0.3s						
RFYF	**Reffroy**	**1.13**	**229**	*e*Pg	**Pg**	**00 51 40.9**	**+2.2**
RFYF				*e*Sg	**Sg**	**00 51 56.1**	**+2.9**
	198nm,0.3s						
ECH	**Echery**	**1.18**	**167**	Pg	**Pg**	**00 51 40.3**	**+0.5**
ECH				Sg	**Sg**	**00 51 56.6**	**+1.5**
ECH	**Echery**	**1.18**	**167**	*e*Pn	**Pn**	**00 51 40.3**	**-0.6**
	SNR=7.5						
ECH				*e*Pg	**Pg**	**00 51 41.2**	**+1.4**
	SNR=12						
ECH	**Echery**	**1.18**	**167**	Pg	**Pg**	**00 51 41.2**	**+1.4**
	SNR=12						
ECH				Sg	**Sg**	**00 51 56.6**	**+1.5**
ECH	**Echery**	**1.18**	**167**	*e*P	**Pg**	**00 51 40.7**	**+0.9**
ECH				*e*S	**Sg**	**00 51 56.6**	**+1.5**
STB	**Steinbach**	**1.23**	**2**	*e*Pg	**Pg**	**00 51 41.2**	**+0.5**
STB				*e*Sg	**Sg**	**00 51 58.6**	**+2.1**
	44nm,0.7s						
KOE	**Koeppel**	**1.23**	**30**	*e*Pg	**Pg**	**00 51 40.5**	**-0.1**
THEF	**They Montfort**	**1.25**	**204**	Pg	**Pg**	**00 51 42.1**	**+1.0**
THEF				Sg	**Sg**	**00 51 59.5**	**+2.2**
THEF	**They Montfort**	**1.25**	**204**	*e*Pn	**Pn**	**00 51 42.1**	**+0.2**
	SNR=9.8						
THEF				*e*Pg	**Pg**	**00 51 42.9**	**+1.8**
	SNR=4.1						
THEF	**They Montfort**	**1.25**	**204**	Pg	**Pg**	**00 51 42.9**	**+1.8**
	SNR=4.1						
THEF				Sg	**Sg**	**00 51 59.5**	**+2.2**
MEM	**Membach**	**1.33**	**339**	P	**Pg**	**00 51 42.9**	**+0.2**
MEM	**Membach**	**1.33**	**339**	P	**Pg**	**00 51 42.8**	**+0.1**
DREG	**Dreilaegerbach**	**1.34**	**345**	*e*Pg	**Pg**	**00 51 42.4**	**-0.4**
LIBD	**Limburg**	**1.34**	**155**	*e*Pg	**Pg**	**00 51 44.1**	**+1.3**
	SNR=11						
LIBD	**Limburg**	**1.34**	**155**	Pg	**Pg**	**00 51 44.1**	**+1.3**
	SNR=11						
LIBD				Sg	**Sg**	**00 52 01.2**	**+1.0**
LIBD	**Limburg**	**1.34**	**155**	Pg	**Pg**	**00 51 42.9**	**+0.1**
LIBD				Sg	**Sg**	**00 52 01.2**	**+1.0**
TOD	**Tromm**	**1.35**	**79**	*e*Pn	**Pn**	**00 51 41.8**	**-1.4**
	SNR=3.6						
TOD				*e*Pg	**Pg**	**00 51 43.0**	**0.0**
	SNR=9.7						
TOD	**Tromm**	**1.35**	**79**	Pg	**Pg**	**00 51 43.0**	**0.0**
	SNR=9.7						
TOD				Sg	**Sg**	**00 52 00.6**	**0.0**
TOD	**Tromm**	**1.35**	**79**	Pg	**Pg**	**00 51 41.8**	**-1.2**
TOD				Sg	**Sg**	**00 52 00.6**	**0.0**
TNS	**Taunus Mts**	**1.39**	**51**	*e*Pn	**Pn**	**00 51 42.5**	**-1.2**
	SNR=6.3						
TNS				*e*Sg	**Sg**	**00 52 01.6**	**-0.1**
	SNR=5.0						
TNS	**Taunus Mts**	**1.39**	**51**	*e*Pg	**Pg**	**00 51 42.5**	**-1.2**
TNS				*e*Sg	**Sg**	**00 52 00.6**	**-1.1**
HAU	**Haudompre**	**1.39**	**191**	*e*Pg	**Pg**	**00 51 44.7**	**+0.9**
HAU				*e*Sg	**Sg**	**00 52 03.2**	**+1.4**
	226nm,0.3s,SNR=1.0						
HAU	**Haudompre**	**1.39**	**191**	*e*Pg	**Pg**	**00 51 44.7**	**+0.9**
HAU				*e*Sg	**Sg**	**00 52 03.2**	**+1.4**
	113nm,0.3s,SNR=1.0						
HAU	**Haudompre**	**1.39**	**191**	*e*Pn	**Pn**	**00 51 43.3**	**-0.4**
HAU				*e*Pg	**Pg**	**00 51 44.7**	**+0.9**
HAU				*e*Sg	**Sg**	**00 52 03.2**	**+1.4**
BCLA	**Clavier**	**1.41**	**319**	P	**Pn**	**00 51 44.6**	**+0.5**
BCLA	**Clavier**	**1.41**	**319**	P	**Pn**	**00 51 44.5**	**+0.5**
MEZF	**Maizieres J'vi**	**1.42**	**233**	*e*Pg	**Pg**	**00 51 45.7**	**+1.3**
	baz=51,SNR=1.0						
MEZF				*e*Sg	**Sg**	**00 52 05.5**	**+2.7**
	170nm,0.5s						
MEZF	**Maizieres J'vi**	**1.42**	**233**	*e*Pg	**Pg**	**00 51 45.7**	**+1.3**
	SNR=1.0						
MEZF				*e*Sg	**Sg**	**00 52 05.5**	**+2.7**
	85nm,0.5s						
MEZF	**Maizieres J'vi**	**1.42**	**233**	*e*Pn	**Pn**	**00 51 44.3**	**+0.1**
MEZF				*e*Pg	**Pg**	**00 51 45.7**	**+1.3**
MEZF				*e*Sg	**Sg**	**00 52 05.5**	**+2.7**
GIVF	**Givet**	**1.46**	**301**	*e*Pg	**Pg**	**00 51 46.5**	**+1.5**
	SNR=1.0						
GIVF				*e*Sn	**Sn**	**00 52 04.0**	**-0.4**
GIVF				*e*Sg	**Sg**	**00 52 06.1**	**+2.3**
	231nm,0.7s,SNR=1.0						
GIVF	**Givet**	**1.46**	**301**	*e*Pg	**Pg**	**00 51 46.5**	**+1.5**
	SNR=1.0						
GIVF				*e*Sn	**Sn**	**00 52 04.0**	**-0.4**
GIVF				*e*Sg	**Sg**	**00 52 06.1**	**+2.3**
	115nm,0.7s,SNR=1.0						
GIVF	**Givet**	**1.46**	**301**	*e*Pn	**Pn**	**00 51 44.8**	**+0.2**
GIVF				*e*Pg	**Pg**	**00 51 46.5**	**+1.5**
GIVF				*e*Sn	**Sn**	**00 52 04.0**	**-0.4**
GIVF				*e*Sg	**Sg**	**00 52 06.1**	**+2.3**
BFO	**Black Forest**	**1.47**	**135**	*e*Pn	**Pn**	**00 51 44.2**	**-0.6**
	SNR=7.1						
BFO				*e*Pg	**Pg**	**00 51 45.7**	**+0.5**
	SNR=6.2						
BFO				*e*Sg	**Sg**	**00 52 05.8**	**+1.6**
BFO	**Black Forest**	**1.47**	**135**	*e*Pg	**Pg**	**00 51 44.0**	**-1.2**
BFO				*e*Pn	**Pn**	**00 51 44.2**	**-0.6**
BFO				*e*S	**Sg**	**00 52 03.0**	**-1.3**
BFO				*e*Sg	**Sg**	**00 52 05.8**	**+1.6**
HGN	**Heimansgroeve**	**1.50**	**339**	*e*Pg	**Pg**	**00 51 45.9**	**+0.2**
HGN				*e*Sg	**Sg**	**00 52 05.9**	**+0.8**
HGN	**Heimansgroeve**	**1.50**	**339**	*e*Rg		00 52 32.3	
MOF	**Molkenrain**	**1.54**	**171**	Pg	**Pg**	**00 51 47.2**	**+0.6**
MOF				Sg	**Sg**	**00 52 07.2**	**+0.7**
MOF	**Molkenrain**	**1.54**	**171**	*e*Pn	**Pn**	**00 51 45.1**	**-0.7**
	SNR=1.8						
MOF				*e*Pg	**Pg**	**00 51 47.4**	**+0.8**
	SNR=32						
MOF	**Molkenrain**	**1.54**	**171**	Pg	**Pg**	**00 51 47.4**	**+0.8**
	SNR=32						
MOF				Sg	**Sg**	**00 52 07.2**	**+0.7**
HINF	**Hinteralfeld**	**1.56**	**178**	*e*Pg	**Pg**	**00 51 47.5**	**+0.6**
	SNR=1.0						
HINF				*e*Sn	**Sn**	**00 52 05.2**	**-1.6**
	SNR=1.0						
HINF				*e*Sg	**Sg**	**00 52 07.8**	**+0.8**
	201nm,0.2s,SNR=1.0						
HINF	**Hinteralfeld**	**1.56**	**178**	*e*Pg	**Pg**	**00 51 47.5**	**+0.6**
	SNR=1.0						
HINF				*e*Sn	**Sn**	**00 52 05.2**	**-1.6**
	SNR=1.0						
HINF				*e*Sg	**Sg**	**00 52 07.8**	**+0.8**
	101nm,0.2s,SNR=1.0						
HINF	**Hinteralfeld**	**1.56**	**178**	*e*Pn	**Pn**	**00 51 45.8**	**-0.2**
HINF				*e*Pg	**Pg**	**00 51 47.5**	**+0.6**
HINF				*e*Sn	**Sn**	**00 52 05.2**	**-1.6**
HINF				*e*Sg	**Sg**	**00 52 07.8**	**+0.8**
DOU	**Dourbes**	**1.58**	**298**	P	**Pn**	**00 51 47.3**	**+0.9**
BEBN	**Eben Emael**	**1.59**	**334**	P	**Pn**	**00 51 47.9**	**+1.4**
BEBN	**Eben Emael**	**1.59**	**334**	P	**Pn**	**00 51 47.8**	**+1.3**
SFTF	**Sexfontaines**	**1.63**	**225**	*e*Pn	**Pn**	**00 51 47.5**	**+0.5**
	baz=52						
SFTF				*e*Sn	**Sn**	**00 52 07.6**	**-1.1**
SFTF				*e*Sg	**Sg**	**00 52 11.6**	**+2.2**
	48nm,0.2s						
SFTF	**Sexfontaines**	**1.63**	**225**	*e*Pn	**Pn**	**00 51 47.5**	**+0.5**
SFTF				*e*Sn	**Sn**	**00 52 07.6**	**-1.1**
SFTF				*e*Sg	**Sg**	**00 52 11.6**	**+2.2**
	24nm,0.2s						
HOBG	**Hohbusch**	**1.66**	**13**	*e*Pg	**Pg**	**00 51 47.7**	**-1.2**
FELD	**Feldberg im Sc**	**1.71**	**151**	*e*Pn	**Pn**	**00 51 47.6**	**-0.5**
	SNR=4.0						
FELD				*e*Pg	**Pg**	**00 51 50.6**	**+0.8**
	SNR=21						
FELD	**Feldberg im Sc**	**1.71**	**151**	Pg	**Pg**	**00 51 50.6**	**+0.8**
	SNR=21						
FELD				Sg	**Sg**	**00 52 12.4**	**+0.5**
FELD	**Feldberg im Sc**	**1.71**	**151**	Pg	**Pg**	**00 51 49.4**	**-0.4**
FELD				Sg	**Sg**	**00 52 12.4**	**+0.5**
STU	**Stuttgart**	**1.71**	**110**	*e*Pg	**Pg**	**00 51 47.3**	**-2.5**
STU				*e*Sg	**Sg**	**00 52 09.5**	**-2.4**
STU	**Stuttgart**	**1.71**	**110**	*e*Pg	**Pg**	**00 51 47.3**	**-2.5**
STU				*e*Sg	**Sg**	**00 52 09.5**	**-2.5**
BAIF	**Baives**	**1.79**	**294**	*e*Pg	**Pg**	**00 51 53.1**	**+1.6**
BAIF				*e*Sn	**Sn**	**00 52 11.9**	**-0.9**
	SNR=1.0						
BAIF				*e*Sg	**Sg**	**00 52 16.6**	**+1.8**
	100nm,0.6s,SNR=1.0						
BAIF	**Baives**	**1.79**	**294**	*e*Pg	**Pg**	**00 51 53.1**	**+1.6**
BAIF				*e*Sn	**Sn**	**00 52 11.9**	**-0.9**
	SNR=1.0						
BAIF				*e*Sg	**Sg**	**00 52 16.6**	**+1.8**
	50nm,0.6s,SNR=1.0						
BAIF	**Baives**	**1.79**	**294**	*e*Pn	**Pn**	**00 51 50.1**	**+0.8**
BAIF				*e*Pg	**Pg**	**00 51 53.1**	**+1.6**
BAIF				*e*Sn	**Sn**	**00 52 11.9**	**-0.9**
BAIF				*e*Sg	**Sg**	**00 52 16.6**	**+1.8**
SPAK	**Spaichingen-Ko**	**1.84**	**133**	*e*Pg	**Pg**	**00 51 52.8**	**+0.4**
	SNR=6.1						
SPAK	**Spaichingen-Ko**	**1.84**	**133**	Pg	**Pg**	**00 51 52.8**	**+0.3**
	SNR=6.1						
SPAK				Sg	**Sg**	**00 52 18.2**	**+1.8**
SPAK	**Spaichingen-Ko**	**1.84**	**133**	Pg	**Pg**	**00 51 51.9**	**-0.6**
SPAK				Sg	**Sg**	**00 52 18.2**	**+1.8**
SNF	**Seneffe**	**1.96**	**306**	P	**Pn**	**00 51 53.8**	**+2.1**
SNF	**Seneffe**	**1.96**	**306**	P	**Pn**	**00 51 53.7**	**+2.1**
BBS	**Basel-Blauen**	**1.97**	**165**	Pg	**Pg**	**00 51 54.7**	**-0.2**
BBS				Sg	**Sg**	**00 52 21.7**	**+1.3**
LOMF	**Lomont**	**2.02**	**179**	Pg	**Pg**	**00 51 56.0**	**+0.2**
LOMF				Sg	**Sg**	**00 52 23.0**	**+1.0**
LOMF	**Lomont**	**2.02**	**179**	*e*Pg	**Pg**	**00 51 56.4**	**+0.6**
	SNR=5.3						
LOMF	**Lomont**	**2.02**	**179**	Pg	**Pg**	**00 51 56.4**	**+0.6**
	SNR=5.3						
LOMF				Sg	**Sg**	**00 52 23.0**	**+1.0**
BUG	**Bochum--Univer**	**2.10**	**9**	*e*Sg	**Sg**	**00 52 23.8**	**-0.7**
	SNR=2.6						
WTSB	**Winterswijk**	**2.60**	**1**	*e*Pg	**Pg**	**00 52 07.9**	**+1.0**
WTSB				*e*Sg	**Sg**	**00 52 39.6**	**-1.0**
CABF	**La Chapelle**	**2.80**	**190**	*e*Pg	**Pg**	**00 52 12.1**	**+1.4**
	SNR=1.0						
CABF				*e*Sg	**Sg**	**00 52 46.5**	**-0.4**
	82nm,0.6s,SNR=1.0						
CABF	**La Chapelle**	**2.80**	**190**	*e*Pg	**Pg**	**00 52 12.1**	**+1.4**
	SNR=1.0						
CABF				*e*Sg	**Sg**	**00 52 46.5**	**-0.4**
	41nm,0.6s,SNR=1.0						
CABF	**La Chapelle**	**2.80**	**190**	*e*Pn	**Pn**	**00 52 03.6**	**+0.5**
CABF				*e*Pg	**Pg**	**00 52 12.1**	**+1.4**
CABF				*e*Sg	**Sg**	**00 52 46.5**	**-0.4**
LOR	**Lormes**	**2.86**	**224**	*e*Pn	**Pn**	**00 52 03.8**	**-0.1**
	baz=52,SNR=1.0						
LOR				*e*Sn	**Sn**	**00 52 37.5**	**-1.5**
	baz=39,SNR=1.0						
LOR				*e*Sg	**Sg**	**00 52 50.2**	**+1.3**
	38nm,0.3s						
LOR	**Lormes**	**2.86**	**224**	*e*Pn	**Pn**	**00 52 03.8**	**-0.1**
	SNR=1.0						
LOR				*e*Sn	**Sn**	**00 52 37.5**	**-1.5**
	SNR=1.0						
LOR				*e*Sg	**Sg**	**00 52 50.2**	**+1.3**
	19nm,0.3s						
GRA1	**Grafenberg Arr**	**2.92**	**82**	Sg	**Sg**	**00 52 50.3**	**-0.7**
GRF	**Grafenberg Arr**	**2.92**	**82**	*e*Sg	**Sg**	**00 52 50.3**	**-0.7**
DAVA	**Damuels**	**2.95**	**134**	⇓*i*Pn	**Pn**	**00 52 06.5**	**+1.4**
DAVA				⇑*i*Pg	**Pg**	**00 52 14.8**	**+1.3**
DAVA				⇓*i*Sn	**Sn**	**00 52 40.8**	**-0.3**
DAVA				⇓*i*Sg	**Sg**	**00 52 53.2**	**+1.5**
	31nm,0.6s						
SSF	**Saint Saulge**	**3.17**	**225**	*e*Pn	**Pn**	**00 52 08.1**	**-0.1**
	SNR=1.0						
SSF				*e*Sn	**

TANN	**Tannenbergstha**	**3.83**	**72**	*e*Sg	**Sg**	**00 53 17.4**	**-2.7**
BGF	**Bois d'Agland**	**3.85**	**225**	*e*Pn	**Pn**	**00 52 17.4**	**-0.1**
	SNR=1.0							
BGF				*e*Sn	**Sn**	**00 53 01.9**	**-1.6**
BGF				*e*Sg	**Sg**	**00 53 22.1**	**+1.3**
	124nm,0.4s,SNR=1.0							
BGF	**Bois d'Agland**	**3.85**	**225**	*e*Pn	**Pn**	**00 52 17.4**	**-0.1**
	SNR=1.0							
BGF				*e*Sn	**Sn**	**00 53 01.9**	**-1.6**
BGF				*e*Sg	**Sg**	**00 53 22.1**	**+1.3**
	62nm,0.4s,SNR=1.0							
LPL	**La Plagne**	**3.85**	**180**	*e*Pg	**Pg**	**00 52 30.1**	**-0.9**
LPL				*e*Sg	**Sg**	**00 53 19.6**	**-1.3**
	9.1nm,0.4s,SNR=1.0							
LPL	**La Plagne**	**3.85**	**180**	*e*Pg	**Pg**	**00 52 30.1**	**-0.9**
LPL				*e*Sg	**Sg**	**00 53 19.6**	**-1.3**
	4.6nm,0.4s,SNR=1.0							
LPL	**La Plagne**	**3.85**	**180**	*e*Pn	**Pn**	**00 52 18.5**	**+0.9**
LPL				*e*Pg	**Pg**	**00 52 30.1**	**-0.9**
LPL				*e*Sg	**Sg**	**00 53 19.6**	**-1.3**
LPG	**La Plagne**	**3.87**	**180**	*e*Pg	**Pg**	**00 52 30.5**	**-0.8**
LPG				*e*Sn	**Sn**	**00 53 01.4**	**-2.6**
LPG				*e*Sg	**Sg**	**00 53 20.1**	**-1.4**
	18nm,0.7s							
LPG	**La Plagne**	**3.87**	**180**	*e*Pg	**Pg**	**00 52 30.5**	**-0.8**
LPG				*e*Sn	**Sn**	**00 53 01.4**	**-2.6**
LPG				*e*Sg	**Sg**	**00 53 20.1**	**-1.4**
	9.2nm,0.7s							
LPG	**La Plagne**	**3.87**	**180**	*e*Pn	**Pn**	**00 52 18.3**	**+0.4**
LPG				*e*Pg	**Pg**	**00 52 30.5**	**-0.8**
LPG				*e*Sn	**Sn**	**00 53 01.4**	**-2.6**
LPG				*e*Sg	**Sg**	**00 53 20.1**	**-1.4**
WET	**Wettzell**	**4.01**	**91**	*e*Pn	**Pn**	**00 52 20.1**	**+0.3**
	SNR=5.7							
WET				*e*Sg	**Sg**	**00 53 25.7**	**-0.3**
	SNR=2.9							
WET	**Wettzell**	**4.01**	**91**	*e*Pn	**Pn**	**00 52 19.9**	**+0.1**
WET				Sg	**Sg**	**00 53 25.7**	**-0.3**
	SNR=2.9							
RJOB	**Jochberg**	**4.33**	**110**	*e*Pn	**Pn**	**00 52 25.4**	**+1.3**
TCF	**Toulx Ste Croi**	**4.35**	**227**	*e*Pn	**Pn**	**00 52 24.9**	**+0.5**
	SNR=1.0							
TCF				*e*Sg	**Sg**	**00 53 35.2**	**-1.5**
	28nm,0.6s,SNR=1.0							
TCF	**Toulx Ste Croi**	**4.35**	**227**	*e*Pn	**Pn**	**00 52 24.9**	**+0.5**
	SNR=1.0							
TCF				*e*Sg	**Sg**	**00 53 35.2**	**-1.5**
	14nm,0.6s,SNR=1.0							
CLL	**Collm**	**4.44**	**62**	*e*Pg	**Pg**	**00 52 41.0**	**-1.2**
CLL				*e*Sg	**Sg**	**00 53 38.0**	**-1.8**
	comp=Z,13nm,1.1s							
KHC	**Kasperske Hory**	**4.47**	**90**	*e*PN	**Pn**	**00 52 26.1**	**0.0**
KHC				*e*SN	**Sn**	**00 53 16.1**	**-2.7**
KHC				*e*SG	**Sg**	**00 53 39.2**	**-1.5**
ORIF	**Oris-en-Rattie**	**4.49**	**188**	*e*Pg	**Pg**	**00 52 41.4**	**-1.8**
	SNR=1.0							
ORIF				*e*Sg	**Sg**	**00 53 40.3**	**-1.1**
	comp=Z,23nm,0.6s							
ORIF	**Oris-en-Rattie**	**4.49**	**188**	*e*Pg	**Pg**	**00 52 41.4**	**-1.8**
	SNR=1.0							
ORIF				*e*Sg	**Sg**	**00 53 40.3**	**-1.1**
	comp=Z,11nm,0.6s							
ORIF	**Oris-en-Rattie**	**4.49**	**188**	*e*Pn	**Pn**	**00 52 25.6**	**-0.8**
ORIF				*e*Pg	**Pg**	**00 52 41.4**	**-1.8**
ORIF				*e*Sg	**Sg**	**00 53 40.3**	**-1.1**
GEC2	**GERESS Array S**	**4.59**	**94**	*e*Pn	**Pn**	**00 52 28.1**	**+0.4**
	SNR=32							
GEC2	**GERESS Array S**	**4.59**	**94**	*e*Pn	**Pn**	**00 52 28.0**	**+0.3**
LDF	**La Druitiere**	**4.60**	**263**	*e*Pg	**Pg**	**00 52 44.9**	**-0.3**
LDF				*e*Sn	**Sn**	**00 53 19.1**	**-2.8**
LDF				*e*Sg	**Sg**	**00 53 44.7**	**-0.1**
	comp=Z,16nm,0.4s,SNR=1.0							
LDF	**La Druitiere**	**4.60**	**263**	*e*Pg	**Pg**	**00 52 44.9**	**-0.3**
LDF				*e*Sn	**Sn**	**00 53 19.1**	**-2.8**
LDF				*e*Sg	**Sg**	**00 53 44.7**	**-0.1**
	comp=Z,7.8nm,0.4s,SNR=1.0							
LDF	**La Druitiere**	**4.60**	**263**	*e*Pn	**Pn**	**00 52 28.3**	**+0.5**
LDF				*e*Pg	**Pg**	**00 52 44.9**	**-0.3**
LDF				*e*Sn	**Sn**	**00 53 19.1**	**-2.8**
LDF				*e*Sg	**Sg**	**00 53 44.7**	**-0.1**
MBDF	**Montbardon**	**4.64**	**180**	*e*Pn	**Pn**	**00 52 27.8**	**-0.7**
MBDF				*e*Sg	**Sg**	**00 53 44.8**	**-1.5**
	comp=Z,13nm,0.8s							
MBDF	**Montbardon**	**4.64**	**180**	*e*Pn	**Pn**	**00 52 27.8**	**-0.7**
MBDF				*e*Sg	**Sg**	**00 53 44.8**	**-1.5**
	comp=Z,6.7nm,0.8s							
ABTA	**Abfaltersbach**	**4.66**	**122**	⇓*i*Pn	**Pn**	**00 52 29.0**	**+0.3**
ABTA				⇓*i*Pg	**Pg**	**00 52 46.6**	**+0.2**
ABTA				⇓*i*Sg	**Sg**	**00 53 48.5**	**+1.6**
	comp=Z,7.8nm,0.9s							
VIVF	**Saint-Julien-l**	**4.74**	**198**	*e*Pg	**Pg**	**00 52 46.5**	**-1.3**
	SNR=1.0							
VIVF				*e*Sn	**Sn**	**00 53 21.6**	**-3.6**
	SNR=1.0							
VIVF				*e*Sg	**Sg**	**00 53 47.8**	**-1.3**
	comp=Z,14nm,0.5s,SNR=1.0							
VIVF	**Saint-Julien-l**	**4.74**	**198**	*e*Pg	**Pg**	**00 52 46.5**	**-1.3**
	SNR=1.0							
VIVF				*e*Sn	**Sn**	**00 53 21.6**	**-3.6**
	SNR=1.0							
VIVF				*e*Sg	**Sg**	**00 53 47.8**	**-1.3**
	comp=Z,7.2nm,0.5s,SNR=1.0							
VIVF	**Saint-Julien-l**	**4.74**	**198**	*e*Pn	**Pn**	**00 52 28.9**	**-0.8**
VIVF				*e*Pg	**Pg**	**00 52 46.5**	**-1.3**
VIVF				*e*Sn	**Sn**	**00 53 21.6**	**-3.6**
VIVF				*e*Sg	**Sg**	**00 53 47.8**	**-1.3**
FLN	**La Foliniere**	**4.80**	**265**	*e*Pn	**Pn**	**00 52 30.8**	**+0.2**
	baz=87,SNR=1.0							
FLN	**La Foliniere**	**4.80**	**265**	*e*Pg	**Pg**	**00 52 49.0**	**-0.1**
	baz=84,SNR=1.0							
FLN				*e*Sn	**Sn**	**00 53 23.7**	**-3.1**
	SNR=1.0							
FLN				*e*Sg	**Sg**	**00 53 50.7**	**-0.5**
	comp=Z,18nm,0.4s							
FLN	**La Foliniere**	**4.80**	**265**	*e*Pg	**Pg**	**00 52 49.0**	**-0.1**
	SNR=1.0							
FLN				*e*Sn	**Sn**	**00 53 23.7**	**-3.1**
	SNR=1.0							
FLN				*e*Sg	**Sg**	**00 53 50.7**	**-0.5**
	comp=Z,9.1nm,0.4s							
FLN	**La Foliniere**	**4.80**	**265**	*e*Pn	**Pn**	**00 52 30.8**	**+0.2**
FLN				*e*Pg	**Pg**	**00 52 49.0**	**-0.1**
FLN				*e*Sn	**Sn**	**00 53 23.7**	**-3.1**
FLN				*e*Sg	**Sg**	**00 53 50.7**	**-0.5**
BRG	**Berggiesshubel**	**4.86**	**69**	PG	**Pg**	**00 52 46.4**	**-3.8**
BRG				SG	**Sg**	**00 53 51.8**	**-1.3**
	comp=Z,8.7nm,0.9s							
KBA	**Koelnbreinsper**	**4.96**	**115**	⇓*i*Pn	**Pn**	**00 52 33.3**	**+0.5**
KBA				⇑*i*Sn	**Sn**	**00 53 29.1**	**-1.7**
PRU	**Pruhonice**	**5.09**	**80**	*e*SG	**Sg**	**00 53 59.5**	**-1.0**
	comp=Z,14nm,1.0s							
GRR	**Gorron**	**5.12**	**262**	*e*Pn	**Pn**	**00 52 35.4**	**+0.4**
	SNR=1.0							
GRR				*e*Sn	**Sn**	**00 53 30.7**	**-4.1**
	SNR=1.0							
GRR				*e*Sg	**Sg**	**00 54 00.8**	**-0.8**
	comp=Z,12nm,0.5s							
GRR	**Gorron**	**5.12**	**262**	*e*Pn	**Pn**	**00 52 35.4**	**+0.4**
	SNR=1.0							
GRR				*e*Sn	**Sn**	**00 53 30.7**	**-4.1**
	SNR=1.0							
GRR				*e*Sg	**Sg**	**00 54 00.8**	**-0.8**
	comp=Z,6.2nm,0.5s							
MOA	**Molln**	**5.21**	**104**	⇑*i*Pn	**Pn**	**00 52 36.7**	**+0.5**
MOA				⇑*i*Sn	**Sn**	**00 53 34.6**	**-2.2**
MOA				⇑*i*Sg	**Sg**	**00 54 06.5**	**+2.2**
	comp=Z,3.0nm,0.4s							
MFF	**Saint Martin d**	**5.40**	**242**	*e*Pn	**Pn**	**00 52 38.7**	**-0.1**
MFF				*e*Sg	**Sg**	**00 54 09.6**	**-0.9**
	comp=Z,21nm,0.6s							
MFF	**Saint Martin d**	**5.40**	**242**	*e*Pn	**Pn**	**00 52 38.7**	**-0.1**
MFF				*e*Sg	**Sg**	**00 54 09.6**	**-0.9**
	comp=Z,10nm,0.6s							
RJF	**Les Rejaudoux**	**5.41**	**223**	*e*Sn	**Sn**	**00 53 38.2**	**-3.6**
RJF				*e*Sg	**Sg**	**00 54 10.0**	**-0.7**
	comp=Z,16nm,0.6s							
RJF	**Les Rejaudoux**	**5.41**	**223**	*e*Sn	**Sn**	**00 53 38.2**	**-3.6**
RJF				*e*Sg	**Sg**	**00 54 10.0**	**-0.7**
	comp=Z,7.8nm,0.6s							
CAF	**Calviac**	**5.48**	**218**	*e*Pn	**Pn**	**00 52 40.0**	**+0.1**
	SNR=1.0							
CAF				*e*Sn	**Sn**	**00 53 40.2**	**-3.4**
CAF				*e*Sg	**Sg**	**00 54 11.4**	**-1.6**
	comp=Z,12nm,0.5s							
CAF	**Calviac**	**5.48**	**218**	*e*Pn	**Pn**	**00 52 40.0**	**+0.1**
	SNR=1.0							
CAF				*e*Sn	**Sn**	**00 53 40.2**	**-3.4**
CAF				*e*Sg	**Sg**	**00 54 11.4**	**-1.6**
	comp=Z,6.1nm,0.5s							
LASF	**Ste Croix**	**5.66**	**202**	*e*Sg	**Sg**	**00 54 17.1**	**-1.7**
	comp=Z,19nm,0.7s							
LASF	**Ste Croix**	**5.66**	**202**	*e*Sg	**Sg**	**00 54 17.1**	**-1.7**
	comp=Z,9.4nm,0.7s							
LFF	**La Frestale**	**6.04**	**225**	*e*Sg	**Sg**	**00 54 29.6**	**-1.4**
	comp=Z,35nm,0.6s							
LFF	**La Frestale**	**6.04**	**225**	*e*Sg	**Sg**	**00 54 29.6**	**-1.4**
	comp=Z,18nm,0.6s							
CSNA	**Conrad Observa**	**6.20**	**100**	⇑*i*Pn	**Pn**	**00 52 50.2**	**+0.4**
CSNA				⇑*i*Sg	**Sg**	**00 54 38.3**	**+2.2**
	comp=Z,4.5nm,0.7s							
CONA	**Conrad Observa**	**6.20**	**100**	⇓*i*Pn	**Pn**	**00 52 50.2**	**+0.4**
SGMF	**Saint Gilles**	**6.26**	**263**	*e*Pn	**Pn**	**00 52 50.4**	**-0.2**
SGMF				*e*Sn	**Sn**	**00 53 59.0**	**-3.7**
SGMF				*e*Sg	**Sg**	**00 54 36.2**	**-1.7**
	comp=Z,15nm,0.6s							
SGMF	**Saint Gilles**	**6.26**	**263**	*e*Pn	**Pn**	**00 52 50.4**	**-0.2**
SGMF				*e*Sn	**Sn**	**00 53 59.0**	**-3.7**
SGMF				*e*Sg	**Sg**	**00 54 36.2**	**-1.7**
	comp=Z,7.3nm,0.6s							
VRAC	**Vranov**	**6.43**	**87**	*e*Sg	**Sg**	**00 54 40.4**	**-3.0**
ROSF	**Rostrenen**	**6.70**	**265**	*e*Pn	**Pn**	**00 52 56.7**	**0.0**
ROSF				*e*Sn	**Sn**	**00 54 08.2**	**-5.5**
ROSF				*e*Sg	**Sg**	**00 54 50.6**	**-1.7**
	comp=Z,6.7nm,0.5s							
ROSF	**Rostrenen**	**6.70**	**265**	*e*Pn	**Pn**	**00 52 56.7**	**0.0**
ROSF				*e*Sn	**Sn**	**00 54 08.2**	**-5.5**
ROSF				*e*Sg	**Sg**	**00 54 50.6**	**-1.7**
	comp=Z,3.3nm,0.5s							
QUIF	**Quistinic**	**6.74**	**261**	*e*Pn	**Pn**	**00 52 57.1**	**-0.1**
QUIF				*e*Sg	**Sg**	**00 54 51.7**	**-1.7**
	comp=Z,6.7nm,0.5s							
QUIF	**Quistinic**	**6.74**	**261**	*e*Pn	**Pn**	**00 52 57.1**	**-0.1**
QUIF				*e*Sg	**Sg**	**00 54 51.7**	**-1.7**
	comp=Z,3.3nm,0.5s							
ETSF	**Etsaut**	**8.23**	**221**	*e*Sg	**Sg**	**00 55 37.7**	**-3.4**
	comp=Z,9.1nm,0.7s							

IDC ***12*** *01:00:45.1±2.3,* **349S×10024E, h0**km**, mb4.0**/7**, mb1 4.1**/7**, mb1mx3.9**/19**, mbtmp4.0**/7**, Error ellipse: s-maj=84.0km s-min=19.2km az=58.0, Southern Sumatera**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**21.84**	**357**	P	P	01 05 39.5	+0.1
	1.1nm,0.3s,baz=187,slow=9.1,SNR=8.4						
WRA	**Warramunga Arr**	**37.06**	**119**	P	P	01 07 57.0	-0.1
	0.4nm,0.5s,baz=299,slow=10,SNR=3.2						
ASAR	**Alice Springs**	**38.20**	**125**	P	P	01 08 06.7	-0.2
	1.1nm,0.6s,baz=299,slow=7.9,SNR=12						
KSRS	**Korea Array**	**48.18**	**30**	P	P	01 09 26.8	-0.5
	0.6nm,0.3s,baz=221,slow=9.2,SNR=4.9						
SONM	**Songino Array**	**51.39**	**5**	P	P	01 09 51.9	+0.3
	3.8nm,0.6s,baz=188,slow=9.4,SNR=23						
MKAR	**Makanchi Array**	**52.51**	**345**	P	P	01 10 00.1	+0.1
	2.5nm,0.7s,baz=147,slow=8.1,SNR=14						
ZALV	**Zalesovo Beam**	**58.66**	**349**	P	P	01 10 43.4	-0.7
	2.1nm,0.7s,baz=159,slow=4.6,SNR=11						
TXAR	**Lajitas Array**	**145.72**	**39**	PKPbc	PKPbc	01 20 26.9	+0.2
	1.3nm,0.6s,baz=274,slow=1.1,SNR=13						

IDC ***12*** *01:34:13.5±2.8, 429S×152.48E, h0km, mb4.1/4, mb1 4.2/4, mb1mx3.8/16, mbtmp4.1/4, Error ellipse: s-maj=126.1km s-min=24.5km az=120.0*

ISCJB ***12*** *01:34:16.3±1.4, 4.3S±02×1526E±03, h33km, mb4.0/8, Error ellipse: s-maj=45.3km s-min=20.3km az=34.9*

NEIC ***12*** *01:34:25.3±1.0, 4.37S×152.46E, h100km, mb4.1/4, Error ellipse: s-maj=35.2km s-min=15.5km az=126.0*

ISC 12 01:34:18.4±1.3, 44S±02×1526E±03, h35km, n11, σ0s53/10, mb4.0/8, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KAKA	**Kakadu**	**21.60**	**246**	*e*P	**P**	**01 39 04.6**	**-0.9**
	6.4nm,0.5s,mb4.3						
WRAB	**Tennant Creek**	**23.57**	**228**	*e*P	**P**	**01 39 26.3**	**+0.2**
	3.4nm,0.6s,mb4.0						
WB2	**Warramunga Arr**	**23.57**	**228**	*e*P	**P**	**01 39 26.8**	**+0.6**
WRA	**Warramunga Arr**	**23.58**	**228**	P	**P**	**01 39 27.0**	**+0.8**
	3.4nm,0.4s,mb4.2,baz=54,slow=10,SNR=4.9						
ASAR	**Alice Springs**	**26.33**	**222**	P	**P**	**01 39 51.4**	**+0.2**
	0.4nm,0.4s,mb3.3,baz=55,slow=8.6,SNR=11						
FITZ	**Fitzroy Crossi**	**29.71**	**241**	P	**P**	**01 40 21.2**	**-0.2**
	0.9nm,0.3s,mb4.0,baz=54,slow=9.6,SNR=10						
MBWA	**Marble Bar**	**36.03**	**240**	*e*P	**P**	**01 41 16.4**	**-0.3**
	2.3nm,0.6s,mb4.3						
PETK	**Petropavlovsk-**	**57.47**	**4**	P	**P**	**01 44 04.0**	**+0.3**
	1.2nm,0.4s,mb4.3,baz=148,slow=6.6,SNR=6.3						
PETK	**Petropavlovsk-**	**57.47**	**4**	P	**P**	**01 44 04.0**	**+0.3**
QSPA	**South Pole Qui**	**85.54**	**180**	*e*P	**P**	**01 46 51.7**	**-0.7**
	1.1nm,0.7s,mb4.2						
TORD	**Torodi Ar. Bea**	**150.04**	**289**	PKPbc	PKPbc	01 54 04.8	-1.6
	0.5nm,0.4s,baz=73,slow=2.1,SNR=22						

ISCJB ***12*** *01:41:12.0±1.3, 11.14N±007×6047W±008, h50km±6km, Error ellipse: s-maj=14.3km s-min=9.1km az=33.3*

TRN ***12*** *01:41:13.5, 11.30N×6051W, h27km, MD2.7*

FUNV ***12*** *01:41:13.2, 11.15N×6037W, h36km, MW3.1*

ISC 12 01:41:12.9±1.2, 1115N±006×6046W±008, h41km±7km, n13, σ0s96/21, 3C, Windward Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TOSP	**Speyside**	**0.17**	**333**	⇑*i*P	**Pn**	**01 41 19.5**	**-0.6**
TOSP	**Speyside**	**0.17**	**333**	*e*	**Pn**	**01 41 21.7**	**+1.6**
TOSP				*e*S	**Sn**	**01 41 22.9**	**-2.2**
BOT	**Bacolet**	**0.26**	**274**	⇑*i*P	**Pn**	**01 41 21.0**	**+0.1**
BOT	**Bacolet**	**0.26**	**274**	*e*	**Pn**	**01 41 21.8**	**+1.0**
BOT				*e*S	**Sn**	**01 41 26.9**	**+0.6**
TPR	**Prospect**	**0.32**	**277**	⇑*i*P	**Pn**	**01 41 21.7**	**+0.3**
TPR	**Prospect**	**0.32**	**277**	*e*	**Pn**	**01 41 22.5**	**+1.1**
TPR				*e*S	**Sn**	**01 41 27.9**	**+0.5**
GUIV	**Guiria**	**1.80**	**254**	*e*P	**Pn**	**01 41 42.4**	**+0.9**
GUIV				*e*S	**Sn**	**01 42 03.4**	**+0.1**
SVB	**Belmont**	**2.25**	**340**	*e*P	**Pn**	**01 41 48.5**	**+0.9**
SVB				*e*S	**Sn**	**01 42 13.6**	**-0.6**
ITEV	**Isla Los Testi**	**2.63**	**275**	*e*P	**Pn**	**01 41 53.5**	**+0.6**
ITEV				*e*S	**Sn**	**01 42 23.1**	**-0.5**
GUNV	**Guanoco**	**2.63**	**248**	*e*P	**Pn**	**01 41 54.3**	**+1.4**
GUNV				*e*S	**Sn**	**01 42 23.8**	**+0.1**
CRUV	**Carupano**	**2.77**	**260**	*e*P	**Pn**	**01 41 54.7**	**-0.1**
CRUV				*e*S	**Sn**	**01 42 25.5**	**-1.6**
PCRV	**Puerto La Cruz**	**4.22**	**257**	*e*P	**Pn**	**01 42 13.9**	**-0.8**
LUEV	**Luepa**	**5.37**	**191**	*e*P	**Pn**	**01 42 29.1**	**-1.4**

IDC ***12*** *01:43:22.8±0.7, 1576S×17309W, h0km, mb4.4/9, mb1 4.6/10, mb1mx4.3/21, mbtmp4.4/10, ML2.6/1, MS3.9/7, Ms1 3.9/7, ms1mx3.6/32, Error ellipse: s-maj=38.4km s-min=15.5km az=144.0*

BJI ***12*** *01:43:24.7, 1481S×173.11W, h10km, mB5.2, mb5.0, Ms4.9, Msz4.6*

NEIC ***12*** *01:43:25.0±0.4, 1565S×17320W, h10km, mb4.5/15, Error ellipse: s-maj=23.8km s-min=7.1km az=144.0*

ISCJB ***12*** *01:43:27.2±0.3, 157S±01×17324W±008, h33km, mb4.5/30, MS4.1/8, Error ellipse: s-maj=18.3km s-min=6.8km az=149.0*

ISC 12 01:43:29.1±0.3, 157S±01×17324W±008, h35km, (h10km±3.9km:pP-P), n251, σ0s41/243, mb4.5/30, MS4.1/8, 101C-94D, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**2.31**	**38**	Pn	**Pn**	**01 44 01.1**	**-3.5**
	98nm,0.3s,baz=207,slow=1.4,SNR=56						
AFI				Sn	**Sn**	**01 44 24.6**	**-7.1**
	240nm,0.3s,baz=34,slow=22,SNR=6.4						
AFI	**Afiamalu**	**2.31**	**38**	*e*Pn	**Pn**	**01 44 00.6**	**-4.0**
RAR	**Rarotonga**	**13.89**	**115**	Pn	**Pn**	**01 46 34.4**	**-9.0**
	1.9nm,0.3s,baz=109,slow=6.2,SNR=4.2						
RAR				Sn	Sn	01 48 53.5	-23
	0.9nm,0.3s,baz=282,slow=19,SNR=3.0						
RAR				LR	LR	01 50 34.1	
	comp=Z,170nm,21.6s,baz=279,slow=31						
PPT	**Papeete**	**22.74**	**98**	LR	LR	01 53 57.7	
	comp=Z,282nm,20.7s,MS3.7,baz=108,slow=28						

URZ	**Urewera**	**23.99**	**199**	P	**P**	**01 48 40.3**	**-0.1**
	20nm,0.5s,mb4.8,baz=35,slow=3.3,SNR=16							
HNR	**Honiara**	**26.89**	**280**	LR	LR	01 58 26.5		
	comp=Z,327nm,20.1s,MS3.9,baz=320,slow=33							
STKA	**Stephens Creek**	**44.00**	**240**	P	**P**	**01 51 33.0**	**-0.3**
	7.1nm,0.8s,mb4.5,baz=73,slow=11,SNR=7.4							
STKA				LR	LR	02 06 46.3		
	comp=Z,169nm,18.5s,MS4.0,baz=23,slow=32							
STKA	**Stephens Creek**	**44.00**	**240**	*e*P	**P**	**01 51 33.7**	**+0.4**
WB2	**Warramunga Arr**	**49.90**	**257**	*e*P	**P**	**01 52 19.9**	**+0.3**
WRAB	**Tennant Creek**	**49.91**	**257**	*e*P	**P**	**01 52 20.3**	**+0.7**
	8.3nm,1.2s,mb4.6							
WRA	**Warramunga Arr**	**49.91**	**257**	P	**P**	**01 52 19.6**	**-0.1**
	4.1nm,1.0s,mb4.4,baz=91,slow=7.5,SNR=7.9							
WRA				LR	LR	02 10 18.1		
	comp=Z,95nm,19.1s,MS3.8,baz=220,slow=32							
WRA	**Warramunga Arr**	**49.91**	**257**	P	**P**	**01 52 19.6**	**-0.1**
WRA				LR	LR	02 10 18.1		
ASAR	**Alice Springs**	**50.15**	**252**	P	**P**	**01 52 21.4**	**0.0**
	3.3nm,0.6s,mb4.5,baz=84,slow=8.8,SNR=25							
FITZ	**Fitzroy Crossi**	**58.29**	**258**	P	**P**	**01 53 20.9**	**+0.1**
	0.9nm,0.8s,mb3.9,baz=105,slow=16,SNR=3.9							
FITZ				LR	LR	02 17 39.5		
	comp=Z,93nm,18.2s,MS3.9,baz=125,slow=35							
FITZ	**Fitzroy Crossi**	**58.29**	**258**	P	**P**	**01 53 20.9**	**+0.1**
FITZ				LR	LR	02 17 39.5		
MJAR	**Matsushiro Arr**	**69.29**	**320**	LR	LR	02 20 40.9		
	comp=Z,134nm,18.9s,MS4.2,baz=345,slow=32							
PACP	**Pacheco Peak**	**71.73**	**42**	⇓P	**P**	**01 54 47.9**	**+0.1**
	baz=72							
T06C	**Millerton Lake**	**72.75**	**42**	⇑P	**P**	**01 54 53.8**	**0.0**
	baz=73							
CMB	**Columbia Colle**	**72.92**	**41**	⇓P	**P**	**01 54 54.9**	**+0.1**
	baz=73							
ORV	**Oroville**	**73.14**	**39**	⇑P	**P**	**01 54 56.1**	**0.0**
	baz=73							
WDC	**Whiskeytown Da**	**73.15**	**38**	⇓P	**P**	**01 54 56.5**	**+0.4**
	baz=73							
P05C	**Yuba Gap, Truc**	**73.54**	**40**	⇑P	**P**	**01 54 58.8**	**+0.4**
	baz=74							
MPMC	**Manual Prospec**	**73.67**	**44**	⇓P	**P**	**01 54 59.3**	**0.0**
	baz=74							
YBH	**Yreka Blue Hor**	**73.78**	**37**	⇓P	**P**	**01 55 00.1**	**+0.3**
	baz=74							
R06C	**Coleville**	**73.80**	**41**	⇓P	**P**	**01 55 00.4**	**+0.4**
	baz=74							
BEKR	**Beckwourth**	**74.03**	**40**	⇓P	**P**	**01 55 01.7**	**+0.4**
	baz=74							
WCN	**Washoe City**	**74.07**	**40**	⇓P	**P**	**01 55 01.8**	**+0.3**
	baz=74							
HUMO	**Hull Mountain**	**74.19**	**36**	⇓P	**P**	**01 55 02.6**	**+0.4**
	baz=74							
IRM	**Iron Mountain**	**74.25**	**47**	⇓P	**P**	**01 55 02.7**	**-0.1**
	baz=74							
NVAR	**Mina Array Bea**	**74.48**	**42**	P	**P**	**01 55 03.6**	**-0.4**
	2.3nm,0.9s,mb4.1,baz=226,slow=9.9,SNR=14							
L04A	**Klamath Falls**	**74.53**	**37**	⇑P	**P**	**01 55 04.6**	**+0.4**
	baz=74							
O06A	**Flanigan**	**74.53**	**40**	⇑P	**P**	**01 55 04.7**	**+0.4**
	baz=74							
I02A	**Mapleton**	**74.60**	**35**	⇓P	**P**	**01 55 05.1**	**+0.6**
	baz=74							
S09A	**Goldfield**	**74.78**	**43**	⇓P	**P**	**01 55 05.1**	**-0.6**
	baz=75							
N06A	**Buffalo Meadow**	**74.88**	**39**	⇓P	**P**	**01 55 06.5**	**+0.3**
	baz=75							
Q08A	**Gabbs**	**74.96**	**42**	⇑P	**P**	**01 55 06.6**	**-0.2**
	baz=75							
TPH	**Tonopah**	**74.98**	**43**	*e*P	**P**	**01 55 07.0**	**+0.1**
	6.1nm,0.9s,mb4.5							
PDMCI	**Parker Dam,Lak**	**75.04**	**47**	⇓P	**P**	**01 55 07.3**	**0.0**
	baz=75							
L05A	**Lakeview**	**75.07**	**38**	⇑P	**P**	**01 55 07.6**	**+0.3**
	baz=75							
J04A	**Umpqua Nationa**	**75.07**	**36**	⇑P	**P**	**01 55 07.8**	**+0.6**
	baz=75							
O07A	**Toulon**	**75.12**	**40**	⇓P	**P**	**01 55 08.3**	**+0.7**
	baz=75							
**R09A

baz=77
R12A **Pony Springs,** 76.84 44 ⇑P P 01 55 17.4 -0.1
baz=77
218A **Dragoon** 76.88 51 ⇓P P 01 55 18.3 +0.4
baz=77
S13A **Holt Ranch, En** 76.94 45 ⇓P P 01 55 18.1 +0.1
baz=77,SNR=5.8
H06A **Lindquist Farm** 77.00 36 ⇓P P 01 55 18.2 0.0
baz=77
X16A **Lo Mia Camp, P** 77.03 48 ⇑P P 01 55 19.0 +0.4
baz=77
I07A **Izee** 77.08 37 ⇑P P 01 55 18.9 +0.2
baz=77
O11A **Cowboy Ranch,** 77.13 42 ⇓P P 01 55 19.4 +0.3
baz=77
G06A **Carlson Farm,** 77.15 35 ⇑P P 01 55 19.4 +0.4
baz=77
319A **Douglas** 77.18 52 ⇑P P 01 55 19.6 0.0
baz=77
V15A **Kaibab Nationa** 77.20 47 ⇑P P 01 55 19.5 -0.1
baz=77
J08A **Circle Bar Ran** 77.25 38 ⇓P P 01 55 20.1 +0.5
baz=77
118A **Homack Ranch,** 77.25 51 ⇓P P 01 55 19.8 -0.1
baz=77
P12A **McGill** 77.26 42 ⇑P P 01 55 19.6 -0.2
baz=77
K09A **Rome** 77.30 39 ⇓P P 01 55 20.2 +0.2
baz=77
M10A **I.L. Ranch, Tu** 77.35 40 ⇑P P 01 55 20.1 -0.2
baz=77
H07A **Lands Inn, Kim** 77.35 36 ⇑P P 01 55 20.3 +0.1
baz=77
E05A **Randle** 77.37 34 ⇓P P 01 55 20.3 +0.1
baz=77
F06A **Goldendale** 77.40 35 ⇓P P 01 55 20.3 -0.1
baz=77
U15A **North Rim** 77.42 46 ⇑P P 01 55 20.6 -0.2
baz=77
219A **White Tail Can** 77.48 51 ⇑P P 01 55 21.4 +0.2
baz=78
Q13A **Wheeler Ranch,** 77.56 43 ⇓P P 01 55 21.3 -0.2
baz=78,SNR=5.1
WUAZ **Wupatki** 77.61 47 ⇑P P 01 55 22.1 +0.2
baz=78
D05A **Enumclaw** 77.65 33 ⇓P P 01 55 21.6 -0.1
baz=78
T15A **Red Dirt Ranch** 77.66 46 ⇑P P 01 55 21.9 -0.2
baz=78,SNR=7.1
J09A **Fry Pan Ranch,** 77.66 38 ⇑P P 01 55 22.3 +0.3
baz=78
L10A **Juniper Basin** 77.71 40 ⇑P P 01 55 22.5 +0.2
baz=78
ELK **Elko** 77.74 41 *eP* P 01 55 21.9 -0.5
1.0nm,0.7s,mb3.9
Y18A **Canyon Day Jun** 77.74 50 ⇓P P 01 55 22.8 +0.2
baz=78
E06A **Yakima** 77.77 34 ⇑P P 01 55 22.5 0.0
baz=78
O12A **Currie** 77.79 42 ⇑P P 01 55 22.7 0.0
baz=78
H08A **Prairie City** 77.82 37 ⇑P P 01 55 22.7 -0.1
baz=78
P13A **Bates Ranch, G** 77.83 43 ⇓P P 01 55 23.3 +0.3
baz=78
K10A **MacKenzie Ranc** 77.86 39 ⇑P P 01 55 23.1 0.0
baz=78
N12A **Clover Valley,** 77.92 41 ⇓P P 01 55 23.8 +0.3
baz=78
Q14A **Sevier Lake (B** 78.07 44 ⇑P P 01 55 24.3 0.0
baz=78,SNR=7.8
U16A **Tuba City** 78.09 47 ⇓P P 01 55 24.5 -0.1
baz=78
G08A **Pilot Rock** 78.12 36 ⇓P P 01 55 24.3 -0.1
baz=78,SNR=6.6
C05A **Tolt Reservoir** 78.13 33 ⇑P P 01 55 24.6 +0.1
baz=78
L11A **Cat Creek Ranc** 78.20 40 ⇓P P 01 55 25.5 +0.5
baz=78
T16A **Glen Canyon Da** 78.25 46 ⇑P P 01 55 25.9 +0.6
baz=78
K11A **Parker Ranch,** 78.37 39 ⇑P P 01 55 26.2 +0.3
baz=78
E07A **Sunnyside** 78.39 34 ⇓P P 01 55 26.7 +0.7
baz=78
Y19A **Nutrioso** 78.39 50 ⇓P P 01 55 27.1 +0.8
baz=78
N13A **Wendover, West** 78.45 42 ⇓P P 01 55 27.0 +0.6
baz=78
P14A **Drum Mountains** 78.52 43 ⇓P P 01 55 26.7 -0.2
baz=78,SNR=6.1
F08A **Pendleton** 78.53 36 ⇓P P 01 55 26.7 0.0
baz=78
S16A **Weppner Ranch,** 78.56 45 ⇑P P 01 55 27.1 +0.1
baz=78
MSU **Marysvale** 78.56 44 *eP* P 01 55 27.4 +0.4
X19A **St. Johns** 78.59 49 ⇓P P 01 55 27.5 +0.2
baz=79
L12A **House Creek Ra** 78.64 40 ⇓P P 01 55 27.8 +0.3
baz=79
U17A **Shonto** 78.65 47 ⇑P P 01 55 27.8 +0.2
baz=79
I10A **Payette** 78.65 38 ⇑P P 01 55 27.7 +0.2
baz=79
V18A **Ganado** 78.73 48 ⇓P P 01 55 28.3 +0.2
baz=79
T17A **Navajo Res., N** 78.74 46 ⇓P P 01 55 28.4 +0.3
baz=79
G09A **Cove** 78.78 36 ⇑P P 01 55 28.3 +0.2
baz=79
BMO **Blue Mountains** 78.80 37 *eP* P 01 55 27.7 -0.5
13nm,1.5s,mb4.6
MFID **Camas Ranch** 78.85 39 ⇑P P 01 55 28.4 -0.1
baz=79
R16A **Teasdale** 78.92 45 ⇑P P 01 55 29.6 +0.6
baz=79
H10A **Noah's Angus R** 78.98 37 ⇓P P 01 55 28.8 -0.4
baz=79,SNR=5.7
DUG **Dugway** 79.00 43 ⇑P P 01 55 29.4 0.0
baz=79
DUG **Dugway** 79.00 43 *eP* P 01 55 29.4 -0.1
S17A **Black Ridge (B** 79.06 46 ⇓P P 01 55 29.7 -0.2
baz=79
N14A **Grayback Hills** 79.11 42 ⇓P P 01 55 30.2 +0.2
baz=79
U18A **Rough Rock, Ch** 79.12 47 ⇓P P 01 55 29.9 -0.3
baz=79
G10A **Bishop Farm, J** 79.17 37 ⇑P P 01 55 30.5 +0.2
baz=79
J12A **Stokes Ranch,** 79.20 39 ⇓P P 01 55 30.5 0.0
baz=79
D08A **Wollman Farm,** 79.20 34 ⇑P P 01 55 30.6 +0.2
baz=79
L13A **Double Diamond** 79.28 41 ⇓P P 01 55 31.0 +0.1
baz=79
E09A **Wood Farm, Sta** 79.31 35 ⇑P P 01 55 30.8 -0.1
baz=79
M14A **Sheep Mountain** 79.35 41 ⇓P P 01 55 31.5 +0.2
baz=79
B07A **Winthrop** 79.43 33 ⇑P P 01 55 31.4 -0.1
baz=79
Q16A **Castle Valley** 79.44 45 ⇓P P 01 55 32.0 +0.1
baz=79
T18A **Mexican Hat** 79.46 47 ⇑P P 01 55 31.9 -0.2
baz=79,SNR=12
H11A **Donnelly** 79.47 38 ⇑P P 01 55 32.0 +0.1
baz=79
I12A **Atlanta** 79.48 39 ⇑P P 01 55 32.4 +0.4
baz=79
K13A **Stover Farm, H** 79.50 40 ⇓P P 01 55 32.3 +0.2
baz=79
F10A **Beach Ranch, E** 79.50 36 ⇑P P 01 55 31.3 -0.8
baz=79
R17A **Hanksville Air** 79.51 45 ⇑P P 01 55 31.7 -0.5
baz=80,SNR=6.7
D09A **Jones Farm, Ri** 79.54 35 ⇑P P 01 55 32.2 0.0
baz=80
C08A **Higginbotham F** 79.58 34 ⇓P P 01 55 32.4 0.0
baz=80
A07A **Ashnola River,** 79.66 32 ⇓P P 01 55 32.7 -0.1
baz=80
G11A **Walters Elk Ra** 79.72 37 ⇑P P 01 55 33.0 -0.3
baz=80
B08A **Colville Reser** 79.78 33 ⇑P P 01 55 33.1 -0.4
baz=80
HLID **Hailey** 79.79 39 ⇓P P 01 55 33.5 -0.1
baz=80,SNR=6.4
HLID **Hailey** 79.79 39 *eP* P 01 55 33.5 -0.1

J13A **Cove Ranch, Pi** 79.85 39 ⇓P P 01 55 34.0 0.0
baz=80
M15A **Larsen Ranch,** 79.90 42 ⇓P P 01 55 34.0 -0.3
baz=80
T19A **Beclabito** 79.91 47 ⇑P P 01 55 34.4 -0.1
baz=80
SRU **San Rafael** 79.98 45 ⇓P P 01 55 34.5 -0.3
baz=80
SRU **San Rafael** 79.98 45 *eP* P 01 55 35.0 +0.2
R18A **Canyonlands Na** 80.05 45 ⇑P P 01 55 34.9 -0.3
baz=80,SNR=5.4
H12A **Diamond D Ranc** 80.07 38 ⇑P P 01 55 35.0 -0.1
baz=80
I13A **Wildhorse Cree** 80.17 39 ⇑P P 01 55 35.5 -0.1
baz=80
A08A **Turner Farm, O** 80.17 33 ⇑P P 01 55 35.5 -0.1
baz=80
J14A **Carey** 80.21 40 ⇓P P 01 55 35.9 0.0
baz=80,SNR=5.5
L15A **Malad City** 80.22 41 ⇑P P 01 55 35.9 -0.2
baz=80
Q18A **Rafter H Ranch** 80.24 45 ⇑P P 01 55 36.2 0.0
baz=80
S19A **Harvey Farm, M** 80.27 46 ⇓P P 01 55 36.5 +0.1
baz=80
E11A **Bogner Ranch,** 80.30 36 ⇑P P 01 55 35.7 -0.6
baz=80
M16A **Huntsville** 80.35 42 ⇑P P 01 55 36.5 -0.3
baz=80
O17A **Robinson Place** 80.37 44 ⇓P P 01 55 37.1 +0.2
baz=80
H13A **Challis** 80.44 38 ⇑P P 01 55 36.7 -0.4
baz=80
B09A **Rice** 80.44 34 ⇑P P 01 55 36.6 -0.5
baz=80
F12A **Elk City** 80.51 37 ⇑P P 01 55 37.2 -0.3
baz=80,SNR=7.4
A09A **Danville** 80.55 33 ⇓P P 01 55 37.4 -0.2
baz=80
D11A **Klaveano Farm,** 80.63 35 ⇑P P 01 55 37.8 -0.3
baz=81
TXAR **Lajitas Array** 80.67 56 P P 01 55 37.9 -0.8
2.0nm,1.1s,mb4.0,baz=218,slow=7.9,SNR=11
TXAR **Lajitas Array** 80.67 56 P P 01 55 37.9 -0.9
E12A **Beaver Dam Sad** 80.70 36 ⇑P P 01 55 38.0 -0.5
baz=81
G13A **Cobalt** 80.74 38 ⇑P P 01 55 38.7 0.0
baz=81
Q19A **Hogan Spring (** 80.76 45 ⇓P P 01 55 39.0 0.0
baz=81
L16A **Fish Haven** 80.84 42 ⇑P P 01 55 39.4 +0.1
baz=81
NEW **Newport** 80.90 34 *eP* P 01 55 38.2 -1.3
1.5nm,0.6s,mb4.1
ANMO **Albuquerque** 80.90 50 *eP* P 01 55 39.8 0.0
J15A **Blackfoot** 80.92 40 ⇓P P 01 55 40.1 +0.3
baz=81
H14A **Leadore** 81.00 39 ⇑P P 01 55 40.7 +0.6
baz=81
F13A **Darby** 81.06 37 ⇓P P 01 55 40.4 0.0
baz=81
C11A **Tepee Creek (N** 81.13 35 ⇓P P 01 55 40.5 -0.3
baz=81,SNR=5.5
J16A **Bone** 81.37 41 ⇑P P 01 55 42.5 +0.3
baz=81
MCK **McKinley** 81.43 11 *eP* P 01 55 40.2 -1.8
5.6nm,0.9s,mb4.5
H15A **Lima** 81.43 39 ⇓P P 01 55 42.8 +0.4
baz=81
CN2 **Changchun** 81.44 320 *eP* P 01 55 42.7 +0.2
E13A **Victor** 81.51 37 ⇓P P 01 55 42.3 -0.5
baz=81
RRI2 **Red Ridge** 81.59 41 *eP* P 01 55 43.5 +0.2
13nm,1.4s,mb4.7
D13A **Huson** 81.71 36 ⇓P P 01 55 43.3 -0.5
baz=82
G15A **Dillon** 81.82 39 ⇑P P 01 55 44.9 +0.5
baz=82
REDW **Red Top Meadow** 81.89 41 *eP* P 01 55 43.9 -1.0
8.8nm,1.6s,mb4.4
TPAW **Teton Pass** 81.89 41 *eP* P 01 55 44.8 -0.1
1.6nm,0.6s,mb4.1
E14A **Clinton** 81.89 37 ⇓P P 01 55 44.8 0.0
baz=82
C13A **Hot Springs** 81.97 36 ⇓P P 01 55 44.7 -0.5
baz=82
IMW **Indian Meadow** 82.11 40 *eP* P 01 55 46.8 +0.8
LOHW **Long Hollow** 82.17 41 *eP* P 01 55 46.1 -0.3
3.3nm,1.2s,mb4.1
D14A **Greenough** 82.25 37 ⇑P P 01 55 46.2 -0.5
baz=82
G16A **Moss Hill, Enn** 82.26 39 ⇓P P 01 55 46.9 +0.1
baz=82
H16A **Russell Place,** 82.33 39 ⇓P P 01 55 47.5 +0.4
baz=82
BW06 **Boulder Array** 82.42 42 ⇓P P 01 55 47.5 -0.2
baz=82
BW06 **Boulder Array** 82.42 42 *eP* P 01 55 46.8 -0.8
2.5nm,0.9s,mb4.1
PDAR **Pinedale Array** 82.42 42 P P 01 55 46.8 -0.8
1.6nm,0.9s,mb4.0,baz=205,slow=3.1,SNR=11
COLA **College** 82.67 11 *eP* P 01 55 47.1 -1.3
4.8nm,0.8s,mb4.6
D15A **Lincoln** 82.80 37 ⇓P P 01 55 49.5 0.0
baz=83
SDCO **Great Sand Dun** 82.83 48 *eP* P 01 55 50.3 +0.4
20nm,2.3s,mb4.8
C15A **Salmond Ranch,** 83.14 36 ⇓P P 01 55 51.0 -0.3
baz=83
D16A **Dana Ranch, Ca** 83.35 37 ⇑P P 01 55 52.7 +0.2
baz=83
C16A **Fuhringer Ranc** 83.64 37 ⇓P P 01 55 53.5 -0.4
baz=84
A15A **Johnson Ranch,** 83.71 35 ⇓P P 01 55 53.8 -0.4
baz=84
RLMT **Red Lodge** 83.76 40 ⇓P P 01 55 54.0 -0.5
baz=84
F18A **Big Timber** 83.87 39 ⇑P P 01 55 54.6 -0.5
baz=84
E18A **Harlowton** 84.08 38 ⇑P P 01 55 56.1 0.0
baz=84
C17A **Wharram Farm,** 84.12 37 ⇑P P 01 55 56.1 -0.3
baz=84
A16A **West Butte Ran** 84.33 36 ⇑P P 01 55 57.1 -0.3
baz=84
BJI **Beijing** 85.81 313 P P 01 56 04.5 -0.5
BJI AMB AMB
comp=Z,7.0nm,0.4s,mb5.2
GYA **Guiyang** 88.33 298 P P 01 56 18.9 +1.3
GYA AMB AMB
comp=Z,10.0nm,1.0s,mb5.0
HHC **Hu-ho-hao-te** 89.37 313 *eP* P 01 56 21.2 -0.9
HHC AP pP 01 56 26.1 -7.1
HHC XP sP 01 56 28.5 -8.7
HHC PP PP 01 59 53.8 +0.2
HHC SKS 02 06 48.3
HHC S S 02 07 07.7 -2.0
HHC XS sS 02 07 16.1 -12
HHC SS SS 02 13 04.4 -1.1
HHC AMB AMB
comp=Z,11nm,1.1s,mb5.1
HHC AMB AMB
comp=Z,344nm,6.8s
HHC LR LR
comp=N,111nm,19.9s,MS4.5
HHC LR LR
comp=E,162nm,20.8s,MS4.5
HHC LR LR
comp=Z,135nm,19.0s,MS4.4
KMI **Kunming** 91.31 296 P P 01 56 33.3 +1.8
KMI AMB AMB
comp=Z,10.0nm,0.6s,mb5.3
CD2 **Chengdu** 92.12 301 *eP* P 01 56 34.2 -0.9
CD2 AP pP 01 56 39.1 -7.2
CD2 XP sP 01 56 42.0 -8.3
CD2 AMB AMB
comp=Z,10.0nm,0.8s,mb5.2
CD2 AMB AMB
comp=Z,30nm,5.8s
CMAR **Chiang Mai Arr** 92.86 288 P P 01 56 38.1 -0.7
comp=Z,0.8nm,0.3s,mb4.6,baz=86,slow=7.3,SNR=3.6
VNA2 **Neumayer--Watz** 93.00 175 *eP* P 01 56 37.5 -1.0
baz=176,slow=2.3
LZH **Lanzhou** 93.55 306 *eP* P 01 56 41.5 -0.1
LZH AP pP 01 56 44.7 -8.1
LZH XP sP 01 56 46.2 -11
LZH *e*PP PP 02 00 28.3 +1.5
LZH AMB AMB
comp=Z,16nm,1.4s,mb5.3
LZH AMB AMB
comp=Z,55nm,8.6s
LZH LR LR
comp=N,154nm,17.2s
LZH LR LR
comp=Z,203nm,19.7s,MS4.6
MDRS **Chennai** 109.10 279 *ex* x 02 01 59.0
MDRS *ex* x 02 06 59.0
DPC **Dobruska-Polom** 144.62 349 *e*PKP PKPdf 02 03 01.9 0.0
DPC *ex* x 02 03 20.2
PRU **Pruhonice** 145.26 351 *e*PKP PKPdf 02 03 03.2 +0.2
PRU *ex* x 02 03 21.7
KHC **Kasperske Hory** 146.24 352 *e*PKP PKPdf 02 03 07.2 +2.5
KHC *ex* x 02 03 25.0
TORD **Torodi Ar. Bea** 174.46 117 PKP PKPdf 02 03 33.5 -2.6
comp=Z,1.0nm,1.0s,baz=282,slow=1.9,SNR=3.7
TORD PKPab PKPab 02 05 05.7 -3.3
comp=Z,1.0nm,1.0s,baz=270,slow=3.5,SNR=3.8
TORD **Torodi Ar. Bea** 174.46 117 PKP PKPdf 02 03 33.5 -2.6
TORD PKPab PKPab 02 05 05.7 -3.3

IDC ***12*** *01:59:39.3±2.1, 723N×9193E, h0km, mb3.8/6, mb1 4.0/7, mb1mx3.7/21, mbtmp3.9/7, ML4.6/1, Error ellipse: s-maj=74.7km s-min=21.1km az=62.0*
ISCJB ***12*** *01:59:43.3±3.7, 73N±02×920E±02, h39km±33km, mb3.9/7, Error ellipse: s-maj=32.4km s-min=17.9km az=137.7*
NEIC ***12*** *01:59:43.6±0.9, 726N×9191E, h30km, mb4.1/2, Error ellipse: s-maj=23.7km s-min=11.6km az=75.0*

ISC 12 01:59:46.0±2.5, 73N±02×920E±02, h46km±22km, n12, σ0§53/13, mb3.9/7, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**12.95**	**31**	Pn	**Pn**	**02 02 48.4**	**+0.9**
	0.9nm,0.3s,baz=230,slow=14,SNR=22						
CHTO	**Chiang Mai**	**13.25**	**30**	*e*Pn	**Pn**	**02 02 50.7**	**-0.9**
VIS	**Vishakhapatnam**	**13.37**	**321**	*e*P	**Pn**	**02 02 53.1**	**-0.1**
VIS				*e*S	**Sn**	**02 05 09.4**	**-11**
MKAR	**Makanchi Array**	**40.20**	**350**	P	**P**	**02 07 18.1**	**+0.3**
	1.2nm,0.5s,mb3.9,baz=170,slow=8.3,SNR=8.5						
SONM	**Songino Array**	**42.18**	**14**	P	**P**	**02 07 33.8**	**-0.3**
	1.1nm,0.8s,mb3.6,baz=203,slow=8.9,SNR=5.5						
KURK	**Kurchatov**	**44.66**	**348**	P	**P**	**02 07 54.3**	**+0.2**
	2.6nm,0.6s,mb4.3,baz=175,slow=7.3,SNR=13						
KURK	**Kurchatov**	**44.66**	**348**	*e*P	**P**	**02 07 53.9**	**-0.2**
	1.4nm,0.4s,mb4.1						
ZALV	**Zalesovo Beam**	**46.85**	**354**	P	**P**	**02 08 11.3**	**0.0**
	0.6nm,0.4s,mb3.9,baz=163,slow=7.5,SNR=4.5						
ZALV	**Zalesovo Beam**	**46.85**	**354**	P	**P**	**02 08 11.3**	**0.0**
WRA	**Warramunga Arr**	**49.67**	**124**	P	**P**	**02 08 32.9**	**-0.7**
	0.6nm,0.5s,mb3.9,baz=301,slow=8.6,SNR=3.7						
WRAB	**Tennant Creek**	**49.68**	**124**	*e*P	**P**	**02 08 33.6**	**0.0**
	1.2nm,0.7s,mb4.0						
ASAR	**Alice Springs**	**51.20**	**128**	P	**P**	**02 08 45.8**	**+0.7**
	0.4nm,0.8s,mb3.4,baz=316,slow=7.5,SNR=4.8						

MAN 12 02:01:34, 917N×12545E, h10km, mb4.5, ML3.4, MS3.3, 2C-2D, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CGP	**Cagayan de Oro**	**1.03**	**227⇑**	*e*P	Pg	02 01 53.4	-0.4
CGP				*i* S	Sg	02 02 09.2	+1.9
BIPH	**Bislig**	**1.33**	**137⇓**	*i* P	Pn	02 01 52.5	-6.2
BIPH				*e*S	Sb	02 02 12.2	-5.9
TBP	**Tagbilaran**	**1.65**	**288**	*e*P	Pg	02 02 03.7	+0.6
TBP				*e*S	Sn	02 02 24.9	+0.6
PLP	**Palo**	**2.04**	**347⇓**	*e*P	Pn	02 02 09.4	+1.0
PLP				*e*S	Sn	02 02 35.7	+1.8
DCPH	**Dipolog City**	**2.15**	**255⇑**	*e*P	Pn	02 02 11.1	+1.1
DCPH				*e*S	Sn	02 02 39.7	+3.0

ISCJB ***12*** *02:18:08.7±5.6, 116S±02×1662E±03, h67km±42km, mb3.9/7, Error ellipse: s-maj=49.8km s-min=26.3km az=25.2*
NEIC ***12*** *02:18:08.8±0.9, 1160S×16630E, mb3.9/3, Error ellipse: s-maj=20.3km s-min=16.0km az=153.0*
IDC ***12*** *02:18:08.9±1.6, 1157S×16633E, h59km±8km, mb3.9/5, mb1 4.0/6, mb1mx3.8/18, mbtmp4.0/6, MS3.3/2, Ms1 3.3/2, ms1mx3.0/34, Error ellipse: s-maj=34.8km s-min=27.2km az=96.0*

ISC 12 02:18:10.8±4.8, 116S±02×1662E±03, h72km±36km, h59km±1.0km: pP-P, n11, σ0§63/10, mb3.9/7, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**6.49**	**288**	P	**Pn**	**02 19 43.9**	**+0.2**
	40nm,0.3s,baz=198,slow=6.5,SNR=5.5						
HNR				LR	LR	02 21 31.8	
	comp=Z,109nm,18.3s,baz=340,slow=31						
CTAO	**Charters Tower**	**20.96**	**244**	*e*P	**P**	**02 22 47.0**	**-1.0**
	4.0nm,0.8s						
COEN	**Coen**	**22.57**	**261**	*e*P	**P**	**02 23 04.9**	**-0.3**
	4.3nm,1.2s,mb3.6						
STKA	**Stephens Creek**	**30.38**	**224**	LR	LR	02 34 08.6	
	comp=Z,115nm,19.5s,baz=24,slow=32						
WRA	**Warramunga Arr**	**31.72**	**251**	P	**P**	**02 24 28.6**	**+0.6**
	0.3nm,0.3s,mb3.5,baz=80,slow=9.0,SNR=5.0						
WRA				pP	pP	02 24 43.6	-1.7
	1.3nm,0.6s,baz=82,slow=9.0,SNR=4.7						
WRA				PcP	PcP	02 27 17.8	-0.4
	1.0nm,0.9s,baz=78,slow=3.1,SNR=5.3						
ASAR	**Alice Springs**	**32.96**	**244**	P	**P**	**02 24 39.2**	**+0.4**
	1.2nm,0.7s,mb3.8,baz=75,slow=9.5,SNR=19						
ASAR				pP	pP	02 24 53.8	-2.3
	2.7nm,0.8s,baz=75,slow=9.7,SNR=13						
ASAR				PcP	PcP	02 27 21.6	0.0
	0.8nm,0.7s,baz=90,slow=3.0,SNR=6.0						
QSPA	**South Pole Qui**	**78.46**	**180**	P	**P**	**02 30 03.7**	**+0.4**
	3.7nm,0.9s,mb4.1,baz=24,slow=3.0,SNR=10.0						
SONM	**Songino Array**	**79.33**	**324**	P	**P**	**02 30 09.5**	**+1.0**
	0.3nm,0.4s,mb3.5,baz=125,slow=6.2,SNR=3.1						
SONM				pP	pP	02 30 25.4	-2.7
	0.7nm,0.4s,baz=126,slow=7.3,SNR=1.8						
COLA	**College**	**83.63**	**18**	*e*P	**P**	**02 30 30.4**	**-0.5**
	3.1nm,0.8s,mb4.2						
MKAR	**Makanchi Array**	**94.18**	**317**	P	**P**	**02 31 20.9**	**-0.7**
	2.4nm,0.8s,mb4.6,baz=95,slow=6.5,SNR=7.0						
MKAR	**Makanchi Array**	**94.18**	**317**	P	**P**	**02 31 20.9**	**-0.8**

CSEM ***12*** *02:20:17.5±0.2, 37.39N×3770E, h2km, MD3.1, Error ellipse: s-maj=7.5km s-min=3.6km az=159.0*
ISCJB ***12*** *02:20:18.6±0.7, 37.44N±0.06×3770E±0.05, h4km±8km, Error ellipse: s-maj=11.4km s-min=4.9km az=158.9*
DDA ***12*** *02:20:18.1, 37.43N×3773E, h5km±1km, Md3.1*

ISC 12 02:20:19.1±0.7, 3742N±007×3770E±004, h1km±10km, n9, σ1§11/16, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GZT	**Gaziantep**	**0.13**	**240**	*i* P	**Pg**	**02 20 20.9**	**-0.5**
GZT				*i* S	**Sg**	**02 20 23.9**	**+0.8**
GAZ	**Gaziantep**	**0.46**	**238**	*e*PG	**Pg**	**02 20 26.1**	**-1.8**
GAZ				*e*SG	**Sg**	**02 20 34.9**	**+1.1**
ATAB	**Bozova**	**0.48**	**84**	*i* P	**Pg**	**02 20 27.7**	**-0.5**
ATAB				*i* S	**Sg**	**02 20 35.0**	**+0.7**
ATAB	**Bozova**	**0.48**	**84**	*i* P	**Pg**	**02 20 27.7**	**-0.5**
ATAB				*i* S	**Sg**	**02 20 35.0**	**+0.7**
KMRS	**Kahramanmaras**	**0.64**	**278**	*e*PG	**Pg**	**02 20 30.6**	**-0.8**
URFA	**Urfa**	**0.89**	**88**	*e*PN	**Pn**	**02 20 35.6**	**-3.1**
AKCD	**Akcadag**	**0.89**	**11**	*i* P	**Pg**	**02 20 37.2**	**+1.0**
AKCD				*i* S	**Sg**	**02 20 51.8**	**+4.0**
ANDN	**Andirin**	**1.09**	**279**	*i* P	**Pg**	**02 20 40.1**	**+0.1**
ANDN				*i* S	**Sg**	**02 20 52.9**	**-1.2**
COBT	**Iskenderun**	**1.46**	**233**	*i* P	**Pn**	**02 20 46.7**	**+0.1**
COBT				*i* S	**Sb**	**02 21 07.6**	**+1.4**

IDC 12 02:40:32.7±1.4, 083N×12473E, h0km, mb3.9/4, mb1 4.1/4, mb1mx3.7/17, mbtmp3.9/4, Error ellipse: s-maj=168.3km s-min=20.4km az=64.0, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**22.69**	**156**	P	P	02 45 35.1	-1.0

5.9nm,0.7s,baz=333,slow=11,SNR=9.8
ASAR Alice Springs 25.93 160 P P 02 46 07.3 +0.5
1.2nm,0.5s,baz=340,slow=7.6,SNR=22
MKAR Makanchi Array 58.84 327 P P 02 50 33.1 0.0
0.4nm,0.4s,baz=114,slow=8.4,SNR=3.2
KURK Kurchatov 63.14 329 P P 02 51 01.6 -0.7
0.6nm,0.7s,baz=127,slow=6.3,SNR=3.6
TORD Torodi Ar. Bea 121.85 286 PKP PKPdf 02 59 31.0 +1.0
0.2nm,0.7s,baz=110,slow=1.3,SNR=2.6

IGQ 12 02:42:56.3, 288S×7949W, h10km±4km, Mb4.0, Ms3.8, Error ellipse: s-maj=16.0km s-min=3.0km az=45.0, Near coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IGUA	**Igualata**	**1.62**	**32**	P	Pn	02 43 26.6	+1.7
ARRY	**Arrayan**	**1.71**	**37**	P	Pn	02 43 27.9	+1.8
ARRY	**Arrayan**	**1.71**	**37**	S	Sn	02 43 50.3	+2.3
PATA	**Patacocha**	**1.72**	**38**	P	Pn	02 43 28.9	+2.6
ULBA	**Ulba**	**1.78**	**37**	P	Pn	02 43 30.6	+3.4
ULBA	**Ulba**	**1.78**	**37**	S	Sn	02 43 53.9	+4.0
RUN5	**Runtun**	**1.80**	**36**	P	Pn	02 43 29.9	+2.5
RUN5	**Runtun**	**1.80**	**36**	S	Sn	02 43 54.0	+3.7
PISA	**Pisayambo**	**2.11**	**31**	P	Pn	02 43 34.7	+2.9
PISA	**Pisayambo**	**2.11**	**31**	S	Sn	02 44 02.0	+3.9
CAMI	**Rancho Maria**	**2.40**	**24**	P	Pn	02 43 38.2	+2.6
TAMB	**Tambo**	**2.44**	**27**	P	Pn	02 43 39.6	+3.4
VC1	**Cotopaxi 1**	**2.47**	**26**	P	Pn	02 43 39.9	+3.3
VC1	**Cotopaxi 1**	**2.47**	**26**	S	Sn	02 44 11.5	+4.6
ANTI	**Antisana**	**2.75**	**29**	P	Pn	02 43 44.2	+3.6
JUA2	**San Juan 2**	**2.79**	**18**	P	Pn	02 43 42.0	+0.9
TERV	**Terraza Guagua**	**2.83**	**18**	P	Pn	02 43 43.8	+2.2
GGP	**Refugio Guagua**	**2.83**	**18**	P	Pn	02 43 43.4	+1.8
PINO	**Pino**	**2.84**	**18**	P	Pn	02 43 42.6	+0.8

IDC 12 02:48:48.7±17.0, 2129S×17425W, h0km, mb4.2/5, mb1 4.3/5, mb1mx4.0/19, mbtmp4.2/5, Error ellipse: s-maj=329.9km s-min=157.5km az=81.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**36.91**	**265**	P	P	02 56 00.1	+0.6
	3.8nm,0.6s,baz=100,slow=9.9,SNR=7.7						
STKA	**Stephens Creek**	**40.63**	**246**	P	P	02 56 30.8	+0.2
	1.0nm,0.4s,baz=96,slow=10,SNR=4.3						
ASAR	**Alice Springs**	**47.76**	**257**	P	P	02 57 27.2	-0.6
	1.9nm,0.7s,baz=95,slow=6.9,SNR=24						
WRA	**Warramunga Arr**	**47.96**	**262**	P	P	02 57 28.5	-1.0
	2.0nm,0.7s,baz=100,slow=8.5,SNR=7.9						
FITZ	**Fitzroy Crossi**	**56.40**	**262**	P	P	02 58 32.9	+0.6
	0.8nm,0.4s,baz=103,slow=7.0,SNR=7.7						

MAN 12 02:50:16, 1160N×12451E, h31km, mb4.0, ML2.8, MS2.5, 2C-1D, Leyte

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLP	**Palo**	**0.63**	**133**↑	*eP*	Pb	02 50 29.4	+0.9
PLP				*eS*	Sb	02 50 39.4	+2.3
LLP	**Lapu-Lapu**	**1.38**	**203**↓	*iP*	Pn	02 50 39.1	-0.1
LLP				*eS*	Sn	02 50 54.1	-2.2
RCP	**Roxas**	**1.73**	**269**↑	*eP*	Pn	02 50 44.8	+0.8
RCP				*eS*	Sn	02 51 05.9	+0.9
TBP	**Tagbilaran**	**2.00**	**199**	*eP*	Pn	02 50 49.8	+2.1

IDC **12** *02:58:21.9±2.0, 675S×14805E, h0km, mb4.4/4, mb1 4.5/5, mb1mx4.1/15, mbtmp4.3/5, ML4.1/1, Error ellipse: s-maj=62.5km s-min=23.8km az=106.0*
ISCJB **12** *02:58:29.5±2.8, 68S±02×1480E±03, h76km±25km, mb4.1/7, Error ellipse: s-maj=50.2km s-min=22.2km az=17.7*
NEIC **12** *02:58:30.4±2.4, 688S×14822E, h80km±19km, mb4.1/5, Error ellipse: s-maj=37.2km s-min=16.8km az=104.0*
ISC 12 02:58:30.5±2.7, 68S±02×1480E±03, h70km±24km, n15, σ1§01/14, mb4.1/7, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**2.69**	**198**	*ePn*	**Pn**	**02 59 11.9**	**+0.4**
COEN	**Coen**	**8.52**	**213**	*ePn*	**Pn**	**03 00 26.6**	**-4.5**
WRAB	**Tennant Creek**	**18.57**	**224**	*eP*	**Pn**	**03 02 42.0**	**-0.9**
	3.5nm,0.6s						
WB2	**Warramunga Arr**	**18.57**	**224**	*eP*	**Pn**	**03 02 41.9**	**-1.1**
WRA	**Warramunga Arr**	**18.58**	**224**	P	**Pn**	**03 02 42.6**	**-0.4**
	0.6nm,0.3s,baz=49,slow=12,SNR=15						
ASAR	**Alice Springs**	**21.52**	**217**	P	**P**	**03 03 15.2**	**+1.2**
	9.8nm,0.7s,mb4.2,baz=53,slow=9.4,SNR=123						
FITZ	**Fitzroy Crossi**	**24.49**	**241**	*eP*	**P**	**03 03 43.8**	**+0.5**
	8.9nm,0.3s,mb4.6						
FITZ	**Fitzroy Crossi**	**24.49**	**241**	P	**P**	**03 03 44.0**	**+0.7**
	7.7nm,0.5s,mb4.3,baz=61,slow=9.7,SNR=47						
STKA	**Stephens Creek**	**25.63**	**193**	P	**P**	**03 03 53.5**	**0.0**
	7.5nm,1.0s,mb4.1,baz=17,slow=11,SNR=4.5						
STKA	**Stephens Creek**	**25.63**	**193**	P	**P**	**03 03 53.5**	**0.0**
FORT	**Forrest**	**30.27**	**216**	*eP*	**P**	**03 04 36.5**	**+1.5**
	1.2nm,0.6s,mb3.7						
MJAR	**Matsushiro Arr**	**44.10**	**349**	P	**P**	**03 06 31.7**	**-0.1**
	2.8nm,0.8s,mb4.0,baz=178,slow=8.7,SNR=6.2						
CASY	**Casey**	**64.73**	**196**	*eP*	**P**	**03 08 58.1**	**-2.8**
	6.4nm,0.9s,mb4.5						
KURK	**Kurchatov**	**82.45**	**323**	*eP*	**P**	**03 10 45.3**	**+0.1**
	1.9nm,0.7s,mb4.0						
TORD	**Torodi Ar. Bea**	**146.24**	**283**	PKPbc	PKPbc	03 18 03.5	-0.5
	0.8nm,0.6s,baz=87,slow=3.8,SNR=14						

IDC **12** *03:00:05.0±3.3, 681S×14806E, h36km±22km, mb4.2/9, mb1 4.4/10, mb1mx4.2/16, mbtmp4.3/10, ML4.6/1, MS3.6/7, Ms1 3.6/7, ms1mx3.3/22, Error ellipse: s-maj=43.5km s-min=15.9km az=103.0*
ISCJB **12** *03:00:08.0±1.9, 678S±009×1478E±02, h74km±18km, mb4.4/14, Error ellipse: s-maj=27.1km s-min=13.2km az=15.7*
NEIC **12** *03:00:10.2±1.6, 680S×14780E, h81km±14km, mb4.6/8, Error ellipse: s-maj=19.3km s-min=11.2km az=102.0*
ISC 12 03:00:09.6±1.7, 677S±009×1477E±02, h70km±17km, n35, σ0§74/27, mb4.4/14, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**2.68**	**192**	*ePn*	**Pn**	**03 00 50.3**	**-0.1**
COEN	**Coen**	**8.43**	**212**	*ePn*	**Pn**	**03 02 09.1**	**0.0**
	3.6nm,0.8s						
CTA	**Charters Tower**	**13.31**	**186**	Pn	**Pn**	**03 03 16.3**	**+0.7**
	0.3nm,0.3s,baz=1.5,slow=12,SNR=4.2						
CTA				LR	LR	03 06 53.0	
	comp=Z,219nm,19.1s,baz=46,slow=31						
CTAO	**Charters Tower**	**13.31**	**186**	*eP*	**Pn**	**03 03 16.6**	**+1.0**
	4.2nm,0.6s						
KAKA	**Kakadu**	**16.18**	**247**	*eP*	**Pn**	**03 03 52.4**	**-0.4**
	8.7nm,0.4s						
WRAB	**Tennant Creek**	**18.44**	**224**	*eP*	**Pn**	**03 04 20.1**	**-0.3**
WB2	**Warramunga Arr**	**18.44**	**223**	*eP*	**Pn**	**03 04 20.1**	**-0.4**
WRA	**Warramunga Arr**	**18.45**	**224**	P	**Pn**	**03 04 20.7**	**+0.1**
	2.2nm,0.3s,baz=52,slow=10,SNR=15						
WRA				ScP	ScP	03 12 19.6	+2.1
	0.1nm,0.3s,baz=41,slow=2.6,SNR=5.1						
GUMO	**Guam**	**20.43**	**352**	LR	LR	03 11 10.8	
	comp=Z,129nm,20.0s,baz=182,slow=32						
ASAR	**Alice Springs**	**21.42**	**217**	P	**P**	**03 04 53.0**	**+1.0**
	27nm,0.7s,mb4.7,baz=52,slow=9.2,SNR=43						
ASAR				ScP	ScP	03 12 29.2	+4.9
	0.8nm,0.8s,baz=57,slow=4.1,SNR=6.3						
FITZ	**Fitzroy Crossi**	**24.30**	**240**	*eP*	**P**	**03 05 21.1**	**+0.3**
	36nm,0.3s,mb5.2						
FITZ	**Fitzroy Crossi**	**24.30**	**240**	P	**P**	**03 05 21.5**	**+0.7**
	20nm,0.3s,mb4.9,baz=57,slow=10,SNR=67						
STKA	**Stephens Creek**	**25.62**	**192**	*eP*	**P**	**03 05 31.9**	**-0.7**
	12nm,1.0s,mb4.3						
STKA	**Stephens Creek**	**25.62**	**192**	P	**P**	**03 05 31.9**	**-0.7**
	11nm,0.7s,mb4.4,baz=347,slow=8.5,SNR=8.2						
STKA				LR	LR	03 16 53.5	
	comp=Z,275nm,18.5s,baz=31,slow=39						
STKA	**Stephens Creek**	**25.62**	**192**	*eP*	**P**	**03 05 32.0**	**-0.7**
	34nm,1.2s,mb4.7						
FORT	**Forrest**	**30.18**	**215**	*eP*	**P**	**03 06 13.3**	**0.0**
	12nm,0.6s,mb4.7						
FORT	**Forrest**	**30.18**	**215**	*eP*	**P**	**03 06 13.0**	**-0.3**
	1.6nm,0.5s,mb3.9						
CBIJ	**Chichi jima**	**34.09**	**351**	LR	LR	03 19 07.3	
	comp=Z,61nm,21.0s,baz=148,slow=33						
KLBR	**Kellerberrin**	**37.33**	**225**	*eP*	**P**	**03 07 15.3**	**0.0**
	11nm,0.5s,mb5.0						
JOW	**Kunigami**	**38.36**	**331**	LR	LR	03 20 14.7	
	comp=Z,114nm,19.9s,baz=70,slow=31						
NWAO	**Narrogin (SRO)**	**38.46**	**223**	P	**P**	**03 07 24.9**	**0.0**
	5.0nm,0.6s,mb4.5,baz=68,slow=11,SNR=5.0						
JHJ	**Hachijo jima 2**	**40.38**	**350**	LR	LR	03 21 10.9	
	comp=Z,130nm,22.0s,baz=150,slow=31						
MJAR	**Matsushiro Arr**	**44.00**	**349**	P	**P**	**03 08 08.9**	**-1.3**
	7.0nm,0.9s,mb4.4,baz=170,slow=8.5,SNR=10						
MAJO	**Matsushiro**	**44.00**	**349**	*eP*	**P**	**03 08 10.1**	**-0.1**
	15nm,0.8s,mb4.8						
MAT	**Matsushiro**	**44.00**	**349**	P	**P**	**03 08 09.4**	**-0.8**
KSRS	**Korea Array**	**47.73**	**339**	LR	LR	03 25 38.4	
	comp=Z,48nm,20.0s,baz=145,slow=32						
PETK	**Petropavlovsk-**	**60.25**	**7**	P	**P**	**03 10 11.2**	**+0.8**
	2.2nm,0.5s,mb4.4,baz=149,slow=6.4,SNR=5.1						
CASY	**Casey**	**64.71**	**196**	*eP*	**P**	**03 10 39.1**	**-0.9**
	2.7nm,0.4s,mb4.4						
SONM	**Songino Array**	**65.43**	**331**	P	**P**	**03 10 47.4**	**+2.4**
	1.8nm,1.0s,mb3.9,baz=145,slow=5.1,SNR=4.4						
MKAR	**Makanchi Array**	**78.55**	**320**	P	**P**	**03 12 02.9**	**-0.6**
	0.4nm,0.2s,mb3.8,baz=92,slow=10,SNR=2.9						
ZALV	**Zalesovo Beam**	**80.05**	**328**	P	**P**	**03 12 11.6**	**+0.1**
	0.6nm,0.5s,mb3.7,baz=104,slow=4.6,SNR=2.6						
TKM2	**Tokmak 2**	**81.70**	**315**	*eP*	**P**	**03 12 21.4**	**+0.8**
	0.9nm,0.6s,mb3.8						
TOA0	**Torodi Ar. Sit**	**145.98**	**283**	*e*PKPbc	PKPbc	03 19 40.5	-2.0
TORD	**Torodi Ar. Bea**	**145.98**	**283**	PKPbc	PKPbc	03 19 40.5	-2.0
	2.9nm,0.5s,baz=86,slow=3.2,SNR=36						
BDFB	**Brasilia**	**152.81**	**145**	PKPbc	PKPbc	03 19 57.6	-2.1
	1.5nm,0.5s,baz=194,slow=25,SNR=5.8						

IDC **12** *03:00:42.7±4.0, 344S×10030E, h0km, mb4.1/5, mb1 4.2/5, mb1mx3.9/18, mbtmp4.1/5, Error ellipse: s-maj=165.6km s-min=21.9km az=55.0*
ISCJB **12** *03:00:45.5±1.2, 34S±02×1003E±02, h33km, mb4.2/6, Error ellipse: s-maj=32.7km s-min=15.2km az=145.1*
NEIC **12** *03:00:47.9±0.9, 343S×10028E, h35km, mb4.4/1, Error ellipse: s-maj=28.8km s-min=11.8km az=55.0*
ISC 12 03:00:48.0±1.2, 34S±02×1003E±02, h35km, n9, σ0§54/8, mb4.2/6, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KKM	**Kota Kinabalu**	**18.47**	**59**	*eP*	**Pn**	**03 05 01.4**	**+0.1**
MBWA	**Marble Bar**	**25.85**	**135**	*eP*	**P**	**03 06 17.3**	**+0.9**
	8.1nm,0.8s,mb4.3						
WRA	**Warramunga Arr**	**37.03**	**119**	P	**P**	**03 07 53.8**	**-1.0**
	0.7nm,0.4s,mb3.9,baz=300,slow=10,SNR=3.4						
ASAR	**Alice Springs**	**38.19**	**125**	P	**P**	**03 08 04.4**	**-0.1**
	1.5nm,0.4s,mb4.0,baz=308,slow=8.0,SNR=4.4						
SONM	**Songino Array**	**51.32**	**5**	P	**P**	**03 09 49.1**	**+0.4**
	2.0nm,0.6s,mb4.3,baz=187,slow=9.7,SNR=14						
MK31	**Makanchi Array**	**52.47**	**344**	*eP*	**P**	**03 09 57.3**	**+0.1**
MKAR	**Makanchi Array**	**52.47**	**344**	P	**P**	**03 09 57.4**	**+0.2**
	2.0nm,0.5s,mb4.3,baz=144,slow=8.1,SNR=7.8						
ZALV	**Zalesovo Beam**	**58.61**	**349**	P	**P**	**03 10 40.6**	**-0.6**
	2.0nm,0.8s,mb4.2,baz=181,slow=5.9,SNR=6.9						
TXAR	**Lajitas Array**	**145.63**	**39**	PKPbc	PKPbc	03 20 24.4	+0.8
	1.4nm,0.5s,baz=230,slow=0.7,SNR=25						

ISCJB **12** *03:02:36.5±0.8, 39.16N±002×2420E±002, h11km±6km, Error ellipse: s-maj=2.9km s-min=2.3km az=17.6*
CSEM **12** *03:02:36.2±0.0, 39.14N×24.16E, h10km, ML4.2/4, Error ellipse: s-maj=1.0km s-min=0.8km az=33.0*
NEIC **12** *03:02:37.7, 39.15N×24.17E, h40km, MD3.9(ATH), After ATH.*
THE **12** *03:02:37.4, 39.15N×24.18E, h11km±1km, ML4.2/4, Error ellipse: s-maj=1.3km s-min=0.6km az=232.0*
ATH **12** *03:02:37.7, 39.15N×24.17E, h40km±5km, MD3.9/16, ML3.9*
SOF **12** *03:02:39.8, 3955N×2422E, h2km, MD3.1*
SKO **12** *03:02:46.0, 3991N×2394E, h0km*
BEO **12** *03:02:59.3±9.1, 4024N×2376E*
ISC 12 03:02:37.4±0.6, 3915N±002×2417E±002, h10km±4km, n175, σ1§00/194, 12C-11D, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AOS	**Alonnisos**	**0.22**	**276**	P	**Pg**	**03 02 41.7**	**-0.3**
XOR	**Xorichti**	**0.79**	**286**	P	**Pg**	**03 02 52.4**	**-0.2**
LKR	**Lokris**	**1.04**	**242**	*eP*	**Pg**	**03 02 56.8**	**-0.5**
LKR				*eS*	**Sg**	**03 03 11.1**	**+0.3**
LKR	**Lokris**	**1.04**	**242**	*eP*	**Pg**	**03 02 56.8**	**-0.5**
LKR				*eS*	**Sg**	**03 03 11.1**	**+0.3**
LIA	**Limnos Island**	**1.09**	**46**	P	**Pb**	**03 02 57.3**	**-0.9**
LIA				S	**Sg**	**03 03 12.6**	**+0.2**
LIA	**Limnos Island**	**1.09**	**46**	*eP*	**Pb**	**03 02 57.6**	**-0.6**
LIA				*eS*	**Sg**	**03 03 12.8**	**+0.4**
LIA	**Limnos Island**	**1.09**	**46**	*eP*	**Pb**	**03 02 57.6**	**-0.6**
LIA				*eS*	**Sg**	**03 03 12.8**	**+0.4**
PTL	**Penteli**	**1.12**	**192**	P	**Pb**	**03 02 58.2**	**-0.6**
OUR	**Ouranopolis**	**1.19**	**353**	P	**Pb**	**03 02 59.1**	**-1.0**
ATH	**Athens Observa**	**1.23**	**197**	*eP*	**Pn**	**03 02 59.7**	**-0.8**
ATH	**Athens Observa**	**1.23**	**197**	*eP*	**Pn**	**03 02 59.7**	**-0.8**
PLG	**Polygyros**	**1.34**	**336**	P	**Pn**	**03 03 01.0**	**-1.2**
PLG	**Polygyros**	**1.34**	**336**	*eP*	**Pn**	**03 03 01.1**	**-1.1**
PLG				*eS*	**Sb**	**03 03 17.9**	**-2.0**
PLG	**Polygyros**	**1.34**	**336**	*eP*	**Pn**	**03 03 01.1**	**-1.1**
PLG				*eS*	**Sb**	**03 03 17.9**	**-2.0**
KVR	**Kavouri**	**1.35**	**193**	*eP*	**Pn**	**03 03 01.0**	**-1.3**
KVR	**Kavouri**	**1.35**	**193**	*eP*	**Pn**	**03 03 01.0**	**-1.3**
AGG	**Agios Georgios**	**1.43**	**266**	P	**Pn**	**03 03 02.5**	**-0.9**
AGG				S	**Sn**	**03 03 22.4**	**+0.1**
LTK	**Loutraki**	**1.46**	**220**	P	**Pn**	**03 03 02.9**	**-0.9**
NAIG	**Nisos Aigina**	**1.48**	**201**	*eP*	**Pn**	**03 03 03.0**	**-1.1**
NAIG	**Nisos Aigina**	**1.48**	**201**	*eP*	**Pn**	**03 03 03.0**	**-1.1**
LIT	**Litokhoron**	**1.61**	**307**	P	**Pn**	**03 03 05.0**	**-0.8**
PRK	**Paraskevi**	**1.64**	**86**	*eP*	**Pn**	**03 03 05.7**	**-0.5**
PRK	**Paraskevi**	**1.64**	**86**	*eP*	**Pn**	**03 03 05.7**	**-0.5**
CHOS	**Chios island**	**1.66**	**117**	P	**Pn**	**03 03 06.0**	**-0.5**
CHOS				S	**Sn**	**03 03 27.2**	**-0.6**
HORT	**Hortiatis**	**1.67**	**331**	P	**Pn**	**03 03 06.0**	**-0.6**
HORT				S	**Sn**	**03 03 27.8**	**-0.2**
GADA	**Gvkgeada**	**1.69**	**52**	*e*PN	**Pn**	**03 03 05.8**	**-1.2**
THL	**Klokotos Trika**	**1.72**	**285**	P	**Pn**	**03 03 06.4**	**-0.9**
THL				*eS*	**Sn**	**03 03 27.9**	**-1.4**
THL	**Klokotos Trika**	**1.72**	**285**	*eP*	**Pn**	**03 03 06.7**	**-0.6**
THL				*eS*	**Sn**	**03 03 27.9**	**-1.4**
THE	**Thessaloniki**	**1.75**	**328**	P	**Pn**	**03 03 07.4**	**-0.3**
THE				S	**Sn**	**03 03 29.5**	**-0.5**
SOH	**Sokhos**	**1.79**	**340**	P	**Pn**	**03 03 07.8**	**-0.4**
DID	**Didima**	**1.79**	**204**	P	**Pn**	**03 03 06.8**	**-1.5**
EZN	**Ezine**	**1.80**	**67**	*e*PN	**Pn**	**03 03 06.7**	**-1.7**
EVR	**Evrytania**	**1.85**	**264**	*eP*	**Pn**	**03 03 09.1**	**0.0**
EVR	**Evrytania**	**1.85**	**264**	*eP*	**Pn**	**03 03 09.1**	**0.0**
AYVA	**Ayvalik**	**1.97**	**85**	*i*P	**Pn**	**03 03 10.4**	**-0.3**
URLA	**Izmir**	**2.06**	**112**	*i*P	**Pn**	**03 03 11.7**	**-0.3**
KZN	**Kozani**	**2.18**	**303**	*eP*	**Pn**	**03 03 13.7**	**+0.1**
KZN	**Kozani**	**2.18**	**303**	*eP*	**Pn**	**03 03 13.7**	**+0.1**
ENEZ	**Enez**	**2.20**	**43**	*e*PN	**Pn**	**03 03 12.0**	**-2.0**
NVR	**Nevrokopi**	**2.21**	**354**	*eP*	**Pn**	**03 03 13.6**	**-0.5**
NVR	**Nevrokopi**	**2.21**	**354**	*eP*	**Pn**	**03 03 13.6**	**-0.5**
KNT	**Kendrikon**	**2.23**	**335**	P	**Pn**	**03 03 14.2**	**-0.2**
RDO	**Rodhopi**	**2.26**	**27**	*eP*	**Pn**	**03 03 13.7**	**-1.0**
RDO	**Rodhopi**	**2.26**	**27**	*eP*	**Pn**	**03 03 13.7**	**-1.0**
GRG	**Griva**	**2.26**	**324**	P	**Pn**	**03 03 14.6**	**-0.1**
VLX	**Vlachokerasia**	**2.26**	**219**	P	**Pn**	**03 03 14.6**	**-0.2**
ALN	**Alexandroupoli**	**2.27**	**39**	P	**Pn**	**03 03 13.6**	**-1.2**
APE	**Apeiranthos**	**2.34**	**152**↑	*i*P	**Pn**	**03 03 15.0**	**-0.8**
APE	**Apeiranthos**	**2.34**	**152**	*eP*	**Pn**	**03 03 15.2**	**-0.6**
APE	**Apeiranthos**	**2.34**	**152**	*eP*	**Pn**	**03 03 15.2**	**-0.6**
LPK	**Lapseki**	**2.34**	**5**	*e*PN	**Pn**	**03 03 14.9**	**-1.0**
BLCB	**Balcova**	**2.37**	**108**	*e*PN	**Pn**	**03 03 15.9**	**-0.4**
RLS	**Riolos of Patr**	**2.38**	**244**	*eP*	**Pn**	**03 03 16.9**	**+0.5**
RLS	**Riolos of Patr**	**2.38**	**244**	*eP*	**Pn**	**03 03 16.9**	**+0.5**
MMB	**Musomiste**	**2.46**	**352**	*i*P	**Pn**	**03 03 16.5**	**-1.0**
VAY	**Valandovo**	**2.49**	**331**	*e*Pn	**Pn**	**03 03 16.9**	**-1.1**
VAY	**Valandovo**	**2.49**	**331**	*e*Pn	**Pn**	**03 03 16.8**	**-1.1**
VAY	**Valandovo**	**2.49**	**331**	P	**Pn**	**03 03 17.0**	**-0.9**
IZM	**Izmir**	**2.53**	**106**	*e*PN	**Pn**	**03 03 17.9**	**-0.6**
KDAG	**Bornova**	**2.54**	**106**	*i*P	**Pn**	**03 03 18.6**	**0.0**
KDAG	**Bornova**	**2.54**	**106**	*i*P	**Pn**	**03 03 18.5**	**0.0**
SMG	**Samos**	**2.54**	**124**	*eP*	**Pn**	**03 03 18.6**	**0.0**
SMG	**Samos**	**2.54**	**124**	*eP*	**Pn**	**03 03 18.6**	**0.0**
RZN	**Rozhen**	**2.57**	**9**	*i*P	**Pn**	**03 03 18.9**	**-0.1**
VLI	**Veliai**	**2.61**	**202**	*eP*	**Pn**	**03 03 18.5**	**-1.1**
VLI	**Veliai**	**2.61**	**202**	*eP*	**Pn**	**03 03 18.5**	**-1.1**
JAN	**Janina**	**2.62**	**282**	*eP*	**Pn**	**03 03 20.9**	**+1.2**
JAN	**Janina**	**2.62**	**282**	*eP*	**Pn**	**03 03 20.9**	**+1.2**
ITM	**Ithomi**	**2.64**	**223**	*eP*	**Pn**	**03 03 21.0**	**+1.0**
ITM	**Ithomi**	**2.64**	**223**	*eP*	**Pn**	**03 03 21.0**	**+1.0**
KDZ	**Kurdzhali**	**2.68**	**21**	*i*P	**Pn**	**03 03 19.6**	**-0.9**
FNA	**Florina**	**2.70**	**308**	P	**Pn**	**03 03 21.1**	**+0.4**
BALY	**Balya**	**2.74**	**76**	*i*P	**Pn**	**03 03 21.2**	**-0.2**
LKD	**Levkas**	**2.78**	**262**	P	**Pn**	**03 03 24.3**	**+2.4**
RKY	**Sarkoy-Tekirda**	**2.78**	**55**	*e*PN	**Pn**	**03 03 21.2**	**-0.7**
GCAM	**G?zelcaml?**	**2.81**	**120**	*i*P	**Pn**	**03 03 22.2**	**-0.1**
KKB	**Krupnik**	**2.84**	**343**	*i*P	**Pn**	**03 03 22.6**	**-0.1**
AKHS	**Akhisar**	**2.85**	**94**	*i*P	**Pn**	**03 03 23.3**	**+0.3**
AKS	**Akhisar**	**2.85**	**94**	*e*PN	**Pn**	**03 03 22.9**	**0.0**
THR4	**Thira Island,**	**2.85**	**160**	P	**Pn**	**03 03 22.4**	**-0.5**
BIA	**Bitola**	**2.87**	**312**	*e*Pn	**Pn**	**03 03 25.8**	**+2.6**
BIA				*e*Sg	**Sn**	**03 03 57.0**	**-0.7**
BIA	**Bitola**	**2.87**	**312**	*e*Pn	**Pn**	**03 03 25.7**	**+2.5**
BIA				*e*Sg	**Sn**	**03 03 57.0**	**-0.7**
THR5	**Thira Island,**	**2.88**	**161**	P	**Pn**	**03 03 23.1**	**-0.2**
MFT	**Murefte**	**2.90**	**55**	*e*PN	**Pn**	**03 03 22.7**	**-0.8**
BALB	**Balikesir**	**2.92**	**79**	*e*PN	**Pn**	**03 03 23.5**	**-0.3**
THR6	**Thira Island,**	**2.95**	**160**	P	**Pn**	**03 03 24.0**	**-0.3**
PYL	**PYLOS**	**2.95**	**221**	P	**Pn**	**03 03 25.3**	**+1.0**
SANT	**Santorini**	**2.96**	**159**	P	**Pn**	**03 03 23.7**	**-0.6**
SANT	**Santorini**	**2.96**	**159**	P	**Pn**	**03 03 25.0**	**+0.7**
THR1	**Thera Island**	**2.96**	**159**	P	**Pn**	**03 03 23.8**	**-0.5**
STIP	**Stip**	**2.96**	**330**	*e*Pn	**Pn**	**03 03 24.1**	**-0.2**
VLS	**Valsamata**	**2.96**	**252**	*eP*	**Pn**	**03 03 25.5**	**+1.1**
VLS	**Valsamata**	**2.96**	**252**	*eP*	**Pn**	**03 03 25.5**	**+1.1**
PLD	**Plovdiv**	**2.98**	**8**	P	**Pn**	**03 03 25.2**	**+0.5**
IGT	**Igoumenitsa**	**3.00**	**279**	P	**Pn**	**03 03 25.2**	**+2.1**
MRMT	**Marmara Adasi**	**3.01**	**60**	*e*PN	**Pn**	**03 03 25.2**	**+0.1**
EDC	**Edincik**	**3.09**	**66**	*e*PN	**Pn**	**03 03 26.9**	**+0.7**
BNT	**Bandirma**	**3.13**	**66**	*e*PN	**Pn**	**03 03 27.4**	**+0.6**
KRUS	**Krusevo**	**3.15**	**316**	*e*Pn	**Pn**	**03 03 27.9**	**+0.9**
KRUS	**Krusevo**	**3.15**	**316**	*e*Pn	**Pn**	**03 03 27.8**	**+0.9**
TKR	**Tekirdag**	**3.17**	**53**	*e*PN	**Pn**	**03 03 26.4**	**-0.9**
OHR	**Ohrid**	**3.24**	**308**	*e*Pn	**Pn**	**03 03 30.4**	**+2.2**
OHR				*e*Sg	**Sn**	**03 04 11.9**	**+5.0**
BDRM	**Kayabasi**	**3.32**	**128**	*i*P	**Pn**	**03 03 30.9**	**+1.6**
EDRB	**Edirne**	**3.34**	**35**	*e*PN	**Pn**	**03 03 27.3**	**-2.3**
CRLT	**Corlu**	**3.38**	**53**	*e*PN	**Pn**	**03 03 29.2**	**-0.9**
MLSB	**Milas**	**3.39**	**122**	*e*PN	**Pn**	**03 03 28.0**	**-2.3**
PGB	**Panagyurishte**	**3.40**	**0**	*i*P	**Pn**	**03 03 30.6**	**+0.2**
KEK	**Kerkira**	**3.43**	**281**	*eP*	**Pn**	**03 03 32.8**	**+2.0**
KEK	**Kerkira**	**3.43**	**281**	*eP*	**Pn**	**03 03 32.8**	**+2.0**
DST	**Dursunbey**	**3.49**	**81**	*e*PN	**Pn**	**03 03 32.0**	**+0.4**
MANT	**Manisa**	**3.49**	**99**	*i*P	**Pn**	**03 03 32.5**	**+0.8**
VTS	**Vitosha**	**3.52**	**348**

PPM				*i* S		Sn	03 33 06.9	-2.1
PPM	**Popocatepetl**	**1.52**	**49**	*i* P		Pn	03 32 49.7	-0.7
PPM				*i* S		Sn	03 33 06.9	-2.1
PBVM	**Pinon**	**1.54**	**28**	*e*P		Pn	03 32 48.9	-1.8
PBVM				*i* S		Sn	03 33 07.9	-1.6
IIO	**Organos**	**1.84**	**35**	*e*P		Pn	03 32 53.2	-1.7
UTMO	**Huajuapan**	**1.96**	**97**	*i* P		Pn	03 32 56.6	+0.2
UTMO				*i* S		Sn	03 33 18.5	-1.3
MOIG	**Morelia**	**2.04**	**322**	*i* P		Pn	03 32 56.4	-1.1
MOIG				*i* S		Sn	03 33 19.9	-1.9
DEIG	**Demacu**	**2.34**	**19**	*i* P		Pn	03 32 59.1	-2.6
PNIG	**Pinotepa**	**2.35**	**135**	*i* P		Pn	03 33 01.2	-0.6
PNIG				*i* S		Sn	03 33 27.2	-2.2
TPIG	**Tehuac#an**	**2.38**	**81**	*i* P		Pn	03 33 02.0	-0.3
TPIG				*i* S		Sn	03 33 27.2	-3.1
VHO	**Vista Hermosa**	**3.13**	**108**	*e*P		Pn	03 33 12.6	0.0
VHO				*i* S		Sn	03 33 47.0	-1.7
VHO	**Vista Hermosa**	**3.13**	**108**	*i* P		Pn	03 33 13.6	+1.0
VHO				*i* S		Sn	03 33 47.0	-1.7
OXX	**Oaxaca**	**3.14**	**108**	*i* P		Pn	03 33 12.2	-0.5
OXX				*i* S		Sn	03 33 45.1	-3.8
MMIG	**Aquila**	**3.33**	**274**	*e*P		Pn	03 33 13.2	-2.2
MMIG				*i* S		Sn	03 33 54.4	+0.7
LVIG	**Laguna Verde**	**3.63**	**63**	*e*P		Pn	03 33 20.6	+1.1
COLM	**Colima**	**3.81**	**287**	*e*P		Pn	03 33 20.8	-1.0
COLM				*i* S		Sn	03 34 03.3	-2.1
EZ5V		**3.82**	**292**	*i* P		Pn	03 33 22.4	+0.4
EZ5V				*i* S		Sn	03 34 06.2	+0.5
SFJM	**Santa Fe**	**3.85**	**309**	*i* P		Pn	03 33 20.8	-1.7
R15V		**4.07**	**286**	*e*P		Pn	03 33 25.4	-0.1
R15V				*i* S		Sn	03 34 09.5	-2.4
CMIG	**Matias Romero**	**4.83**	**101**	*e*P		Pn	03 33 35.5	-0.4
CMIG				*i* S		Sn	03 34 29.5	-1.2
CMIG	**Matias Romero**	**4.83**	**101**	*e*P		Pn	03 33 35.5	-0.4
CMIG				*i* S		Sn	03 34 25.2	-5.4
ANIG	**Ahuacatlan**	**5.31**	**305**	*e*P		Pn	03 33 41.9	-0.6
ZAIG	**Zacatecas**	**5.32**	**332**	*i* P		Pn	03 33 41.3	-1.3
TGIG		**6.55**	**100**	*i* P		Pn	03 34 00.1	+0.6
TGIG				*i* S		Sn	03 35 12.3	-0.5
LNIG	**Linares**	**6.80**	**3**	*e*P		Pn	03 34 02.3	-0.5
LNIG				*i* S		Sn	03 35 18.9	0.0
CCIG	**Comitan**	**7.58**	**102**	*i* P		Pn	03 34 13.3	-0.3
BNM	**Barren Site**	**17.12**	**341**	*e*P		Pn	03 36 21.1	-0.4
LPM	**Los Pinos Moun**	**17.27**	**341**	*e*P		Pn	03 36 22.9	-0.5
TUC	**Tucson** 1.5nm,0.8s	**17.27**	**327**	*e*P		Pn	03 36 24.8	+1.4
ANMO	**Albuquerque** 3.8nm,1.0s	**17.81**	**342**	*e*P		Pn	03 36 28.7	-1.4
WUAZ	**Wupatki** 7.1nm,0.8s	**20.16**	**332**	*e*P		P	03 36 56.2	+0.1
SDCO	**Great Sand Dun** 1.2nm,0.7s	**20.21**	**347**	*e*P		P	03 36 55.9	-0.7
PV01	**Paradox Valley**	**21.39**	**341**	*e*P		P	03 37 08.6	-0.7
ARUT	**Antelope Range**	**22.97**	**331**	*e*P		P	03 37 25.0	-1.1
ARUT				*e*pP		pP	03 37 38.2	+0.8
MSU	**Marysvale**	**23.03**	**335**	*e*P		P	03 37 26.2	-0.5
DUG	**Dugway** 2.0nm,0.8s	**24.72**	**336**	*e*P		P	03 37 42.8	+0.3
HWUT	**Hardware Ranch** 2.7nm,0.8s	**25.51**	**339**	*e*P		P	03 37 49.5	-0.1
BW06	**Boulder Array** 1.1nm,0.6s	**25.96**	**344**	*e*P		P	03 37 53.7	0.0
TPAW	**Teton Pass** 4.6nm,1.1s	**27.02**	**342**	*e*P		P	03 38 04.6	+1.3
LOHW	**Long Hollow** 1.5nm,0.7s	**27.03**	**343**	*e*P		P	03 38 03.5	+0.1
MOOW	**Moose Ponds** 1.2nm,0.9s	**27.19**	**343**	*e*P		P	03 38 05.8	+1.0

CSEM **12** *03:41:38.1±0.1, 3915N×2416E, h10km, ML3.4/4, Error ellipse: s-maj=1.8km s-min=1.5km az=97.0*
THE **12** *03:41:38.9, 3913N×2418E, h9km±1km, ML3.4/4, Error ellipse: s-maj=1.2km s-min=0.6km az=27.0*
ISCJB **12** *03:41:38.6±0.9, 3913N×002×2418E±003, h13km±6km, Error ellipse: s-maj=4.5km s-min=3.8km az=38.0*
ATH **12** *03:41:39.0, 3914N×2416E, h35km±2km, MD3.6/10, ML3.4*
NEIC **12** *03:41:39.0, 3914N×2416E, h35km, ML3.4(ATH), After ATH.*
SOF **12** *03:41:40.6, 3940N×2430E, h10km, MD2.8*

ISC 12 03:41:38.9±0.8, 3913N×003×2417E±003, h13km±6km, n53, σ0§62/67, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AOS	**Alonnisos**	**0.23**	**279**	P	**Pg**	**03 41 43.5**	**-0.3**
XOR	**Xorichti**	**0.80**	**287**	P	**Pg**	**03 41 54.4**	**+0.1**
LKR	**Lokris**	**1.03**	**243**	P	**Pb**	**03 41 58.0**	**-0.6**
LKR	**Lokris**	**1.03**	**243**	*e*Pn	**Pn**	**03 41 58.2**	**-0.8**
LKR				*e*Sn	**Sn**	**03 42 12.3**	**-1.1**
LKR	**Lokris**	**1.03**	**243**	*e*PN	**Pn**	**03 41 58.2**	**-0.8**
LKR				*e*SN	**Sn**	**03 42 12.3**	**-1.1**
LIA	**Limnos Island**	**1.09**	**45**	P	**Pb**	**03 41 59.4**	**-0.2**
LIA				S	**Sb**	**03 42 14.7**	**-0.9**
LIA	**Limnos Island**	**1.09**	**45**	*e*Pn	**Pn**	**03 41 59.6**	**-0.3**
LIA				*e*Sn	**Sn**	**03 42 14.3**	**-0.5**
LIA	**Limnos Island**	**1.09**	**45**	*e*PN	**Pn**	**03 41 59.6**	**-0.3**
LIA				*e*SN	**Sn**	**03 42 14.3**	**-0.5**
OUR	**Ouranopolis**	**1.21**	**353**	P	**Pn**	**03 42 01.1**	**-0.4**
ATH	**Athens Observa**	**1.21**	**197**	*e*Pn	**Pn**	**03 42 01.2**	**-0.3**
ATH	**Athens Observa**	**1.21**	**197**	*e*PN	**Pn**	**03 42 01.2**	**-0.3**
KVR	**Kavouri**	**1.34**	**194**	*e*Pn	**Pn**	**03 42 03.0**	**-0.3**
KVR				*e*Sn	**Sn**	**03 42 20.0**	**-1.0**
KVR	**Kavouri**	**1.34**	**194**	*e*PN	**Pn**	**03 42 03.0**	**-0.3**
KVR				*e*SN	**Sn**	**03 42 20.0**	**-1.0**
PLG	**Polygyros**	**1.36**	**336**	P	**Pn**	**03 42 02.8**	**-0.7**
PLG	**Polygyros**	**1.36**	**336**	*e*Pn	**Pn**	**03 42 03.0**	**-0.5**
PLG				*e*Sn	**Sn**	**03 42 19.7**	**-1.7**
PLG	**Polygyros**	**1.36**	**336**	*e*PN	**Pn**	**03 42 03.0**	**-0.5**
PLG				*e*SN	**Sn**	**03 42 19.7**	**-1.7**
AGG	**Agios Georgios**	**1.44**	**266**	P	**Pn**	**03 42 04.3**	**-0.3**
AGG				S	**Sn**	**03 42 24.0**	**+0.7**
LTK	**Loutraki**	**1.46**	**221**	P	**Pn**	**03 42 04.9**	**0.0**
NAIG	**Nisos Aigina**	**1.47**	**202**	*e*Pn	**Pn**	**03 42 05.2**	**+0.1**
NAIG	**Nisos Aigina**	**1.47**	**202**	*e*PN	**Pn**	**03 42 05.2**	**+0.1**
LIT	**Litokhoron**	**1.62**	**307**	P	**Pn**	**03 42 06.8**	**-0.3**
PRK	**Paraskevi**	**1.64**	**85**	*e*Pn	**Pn**	**03 42 07.4**	**+0.1**
PRK	**Paraskevi**	**1.64**	**85**	*e*PN	**Pn**	**03 42 07.4**	**+0.1**
CHOS	**Chios island**	**1.65**	**116**	P	**Pn**	**03 42 07.8**	**+0.3**
CHOS				S	**Sn**	**03 42 28.8**	**+0.2**
HORT	**Hortiatis**	**1.68**	**331**	P	**Pn**	**03 42 08.2**	**+0.3**
HORT				S	**Sn**	**03 42 29.8**	**+0.5**
THL	**Klokotos Trika**	**1.73**	**285**	P	**Pn**	**03 42 08.5**	**-0.1**
THL				S	**Sn**	**03 42 32.0**	**+1.5**
THL	**Klokotos Trika**	**1.73**	**285**	*e*Pb	**Pn**	**03 42 08.6**	**0.0**
THL				S	**Sn**	**03 42 32.0**	**+1.5**
THL	**Klokotos Trika**	**1.73**	**285**	*e*PB	**Pn**	**03 42 08.6**	**0.0**
DID	**Didima**	**1.78**	**205**	P	**Pn**	**03 42 08.8**	**-0.6**
SOH	**Sokhos**	**1.80**	**340**	P	**Pn**	**03 42 09.7**	**+0.1**
EVR	**Evrytania**	**1.85**	**264**	*e*Pb	**Pn**	**03 42 11.1**	**+0.8**
EVR	**Evrytania**	**1.85**	**264**	*e*PB	**Pn**	**03 42 11.1**	**+0.8**
NVR	**Nevrokopi**	**2.23**	**354**	*e*Pn	**Pn**	**03 42 15.5**	**+0.1**
NVR	**Nevrokopi**	**2.23**	**354**	*e*PN	**Pn**	**03 42 15.5**	**+0.1**
KNT	**Kendrikon**	**2.25**	**335**	P	**Pn**	**03 42 16.2**	**+0.4**
RDO	**Rodhopi**	**2.27**	**27**	*e*Pn	**Pn**	**03 42 15.9**	**-0.1**
RDO	**Rodhopi**	**2.27**	**27**	*e*PN	**Pn**	**03 42 15.9**	**-0.1**
GRG	**Griva**	**2.27**	**324**	P	**Pn**	**03 42 16.6**	**+0.5**
ALN	**Alexandroupoli**	**2.27**	**39**	P	**Pn**	**03 42 15.9**	**-0.2**
APE	**Apeiranthos**	**2.32**	**152**	P	**Pn**	**03 42 16.9**	**+0.1**
APE	**Apeiranthos**	**2.32**	**152**	*e*Pn	**Pn**	**03 42 17.1**	**+0.3**
APE	**Apeiranthos**	**2.32**	**152**	*e*PN	**Pn**	**03 42 17.1**	**+0.3**
RLS	**Riolos of Patr**	**2.38**	**244**	*e*Pb	**Pn**	**03 42 18.5**	**+1.0**
RLS	**Riolos of Patr**	**2.38**	**244**	*e*PB	**Pn**	**03 42 18.5**	**+1.0**
MMB	**Musomiste**	**2.48**	**352**	P	**Pn**	**03 42 18.8**	**-0.1**
SMG	**Samos**	**2.53**	**123**	*e*Pn	**Pn**	**03 42 20.6**	**+0.9**
SMG	**Samos**	**2.53**	**123**	*e*PN	**Pn**	**03 42 20.6**	**+0.9**
RZN	**Rozhen**	**2.58**	**9**	P	**Pn**	**03 42 20.6**	**+0.2**
VLI	**Veliai**	**2.60**	**202**	*e*Pn	**Pn**	**03 42 20.7**	**+0.1**
VLI	**Veliai**	**2.60**	**202**	*e*PN	**Pn**	**03 42 20.7**	**+0.1**
KDZ	**Kurdzhali**	**2.69**	**20**	P	**Pn**	**03 42 21.1**	**-0.7**
KKB	**Krupnik**	**2.85**	**343**	P	**Pn**	**03 42 23.9**	**-0.2**
PYL	**PYLOS**	**2.94**	**221**	P	**Pn**	**03 42 26.7**	**+1.4**

MEX 12 04:11:08.7±0.8, 1520N×9215W, h159km±13km, MD4.1, Mexico-Guatemala border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THIG		**0.31**	**202**	*i* P	Pn	04 11 28.2	-2.2
THIG				*i* S	Sn	04 11 45.5	-1.4
CCIG	**Comitan**	**1.08**	**0**	*i* P	Pn	04 11 34.1	-1.0
CCIG				*i* S	Sn	04 11 53.8	-1.5
TGIG		**1.83**	**329**	*i* P	Pn	04 11 41.3	-1.2
TGIG				*i* S	Sn	04 12 06.2	-2.3
CMIG	**Matias Romero**	**3.24**	**306**	*i* P	Pn	04 11 59.3	-0.1
CMIG				*i* S	Sn	04 12 36.9	-1.8

CSEM **12** *05:03:09.9±0.1, 4078N×2333E, h8km, ML3.2/4, Error ellipse: s-maj=4.1km s-min=3.0km az=69.0*
ISCJB **12** *05:03:10.6±0.7, 4084N±003×2333E±005, h6km±6km, Error ellipse: s-maj=7.0km s-min=5.1km az=175.6*
THE **12** *05:03:11.1, 4080N×2333E, h7km, ML3.2/4, Error ellipse: s-maj=0.9km s-min=0.4km az=56.0*
SKO **12** *05:03:12.7, 4088N×2329E, h7km*
BEO **12** *05:03:16.3±1.4, 4099N×2345E, ML1.9/2*

ISC 12 05:03:11.3±0.7, 4081N±003×2333E±005, h3km±7km, n14, σ0§66/22, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SOH	**Sokhos**	**0.03**	**52**	P	**Pg**	**05 03 12.4**	**+0.3**
SOH				S	**Sg**	**05 03 13.3**	**+0.7**
HORT	**Hortiatis**	**0.27**	**220**	P	**Pg**	**05 03 16.4**	**-0.1**
HORT				S	**Sg**	**05 03 20.5**	**+0.5**
THE	**Thessaloniki**	**0.33**	**238**	P	**Pg**	**05 03 17.4**	**-0.2**
THE				S	**Sg**	**05 03 21.9**	**+0.1**
PLG	**Polygyros**	**0.44**	**168**	P	**Pg**	**05 03 19.2**	**-0.6**
KNT	**Kendrikon**	**0.48**	**318**	P	**Pg**	**05 03 20.2**	**-0.4**
OUR	**Ouranopolis**	**0.69**	**133**	P	**Pg**	**05 03 23.8**	**-0.7**
GRG	**Griva**	**0.72**	**282**	P	**Pg**	**05 03 24.6**	**-0.5**
GRG				S	**Sg**	**05 03 35.3**	**+0.9**
VAY	**Valandovo**	**0.77**	**312**	*e*Pg	**Pg**	**05 03 25.5**	**-0.6**
VAY				*e*Sg	**Sg**	**05 03 35.3**	**-0.8**
VAY	**Valandovo**	**0.77**	**312**	*e*Pg	**Pg**	**05 03 25.4**	**-0.7**
VAY	**Valandovo**	**0.77**	**312**	P	**Pg**	**05 03 25.7**	**-0.4**
VAY				*e*Sg	**Sg**	**05 03 35.3**	**-0.8**
KRUS	**Krusevo**	**1.67**	**290**	*e*Pn	**Pn**	**05 03 41.5**	**+0.1**
KRUS	**Krusevo**	**1.67**	**290**	*e*Pn	**Pn**	**05 03 41.4**	**0.0**
VTS	**Vitosha**	**1.79**	**357**	*e*Pn	**Pn**	**05 03 44.8**	**+1.8**
VTS				*e*Sg	**Sg**	**05 04 07.9**	**-0.8**
BARS	**Barje**	**2.31**	**331**	*e*Pn	**Pn**	**05 03 54.9**	**+4.7**
BARS				*e*Sg	**Sg**	**05 04 25.7**	**+0.3**

IDC 12 05:14:43.9±4.6, 374S×10042E, h0km, mb3.6/5, mb1 3.8/5, mb1mx3.6/18, mbtmp3.6/5, Error ellipse: s-maj=180.0km s-min=24.1km az=59.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr** 0.6nm,0.3s,baz=189,slow=8.9,SNR=5.5	**22.10**	**356**	P	P	05 19 41.4	+0.5
WRA	**Warramunga Arr** 0.2nm,0.3s,baz=304,slow=9.1,SNR=2.3	**36.77**	**119**	P	P	05 21 52.8	-0.8
ASAR	**Alice Springs** 0.2nm,0.3s,baz=302,slow=7.9,SNR=4.1	**37.91**	**125**	P	P	05 22 04.0	+0.8
SONM	**Songino Array** 0.5nm,0.5s,baz=190,slow=7.2,SNR=3.3	**51.62**	**5**	P	P	05 23 52.1	0.0
ZALV	**Zalesovo Beam** 0.7nm,0.3s,baz=160,slow=5.7,SNR=3.9	**58.94**	**349**	P	P	05 24 44.7	-0.1
TXAR	**Lajitas Array** 0.4nm,0.4s,baz=264,slow=0.4,SNR=14	**145.79**	**39**	PKPbc	PKPbc	05 34 24.9	-0.9

ISK **12** *05:32:47.8, 3793N×3386E, h5km, MD3.7*
DDA **12** *05:32:48.3, 3791N×3387E, h5km±1km, Md3.3*
ISCJB **12** *05:32:49.5±0.3, 3793N±002×3388E±003, h10km, Error ellipse: s-maj=3.3km s-min=2.6km az=143.2*
CSEM **12** *05:32:49.4±0.0, 3793N×3385E, h10km, MD3.7, Error ellipse: s-maj=1.2km s-min=0.9km az=41.0*

ISC 12 05:32:50.1±0.3, 3791N±002×3388E±003, h10km, n46, σ1§14/62, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSTP	**Nigde**	**0.19**	**78**	*i* P	**Pg**	**05 32 53.2**	**-0.9**
BSTP				*i* S	**Sg**	**05 32 56.7**	**-0.1**
NIG	**Nigde**	**0.61**	**71**	PG	**Pg**	**05 33 01.0**	**-1.0**
NIG				*e*SG	**Sg**	**05 33 10.5**	**+0.5**
GULE	**Gulek**	**0.95**	**131**	*i* P	Px	05 32 53.6	
GULE				*i* S	Sx	05 33 07.6	
KARA	**Karaisali**	**1.14**	**124**	*e*PN	**Pn**	**05 33 10.2**	**-1.9**
KARA				*e*SN	**Sn**	**05 33 27.6**	**-0.2**
MERS	**Mersin**	**1.16**	**154**	*e*PN	**Pn**	**05 33 11.3**	**-1.1**
MERS				*e*SN	**Sn**	**05 33 29.5**	**+1.2**
KONT	**Konya--Tatoy**	**1.20**	**272**	*e*PN	**Pn**	**05 33 11.9**	**-1.0**
LADK	**Ladik-KONYA**	**1.23**	**284**	*e*PN	**Pn**	**05 33 11.8**	**-1.5**
MEST	**Erdemli**	**1.34**	**171**	*i* P	**Pg**	**05 33 14.8**	**-1.0**
MEST				*i* S	**Sg**	**05 33 33.1**	**-0.2**
HDAB	**Hadim**	**1.46**	**230**	*e*PN	**Pn**	**05 33 15.6**	**-0.8**
KAMT	**Kaman**	**1.46**	**355**	*e*PN	**Pn**	**05 33 15.7**	**-0.8**
KOZT	**Kozan**	**1.61**	**105**	*e*PN	**Pn**	**05 33 19.2**	**+0.7**
IKL	**Isikli**	**1.68**	**185**	*e*PN	**Pn**	**05 33 19.7**	**+0.2**
CEYT	**Ceyhan**	**1.74**	**121**	*e*PN	**Pn**	**05 33 20.9**	**+0.5**
CDAG	**Cicekdag**	**1.75**	**13**	*i* P	**Pn**	**05 33 20.5**	**-0.1**
CDAG				*i* S	**Sg**	**05 33 47.9**	**+1.5**
YURE	**YUREGIR**	**1.77**	**127**	*i* P	**Pg**	**05 33 22.9**	**-1.2**
YURE				*i* S	**Sg**	**05 33 48.6**	**+1.6**
BNN	**Bunyan**	**1.81**	**58**	*e*PN	**Pn**	**05 33 20.7**	**-0.6**
KIZT	**Kizilcal**	**1.84**	**302**	*e*PN	**Pn**	**05 33 21.6**	**-0.1**
ANDN	**Andirin**	**1.98**	**99**	*i* P	**Pn**	**05 33 25.2**	**+1.5**
ANDN				*i* S	**Sn**	**05 33 49.3**	**+0.6**
YOZ	**Yozgat**	**2.06**	**33**	*e*PN	**Pn**	**05 33 24.5**	**-0.3**
ANTO	**Ankara**	**2.13**	**337**	*e*PN	**Pn**	**05 33 25.6**	**-0.1**
PINB	**Pinarbasi**	**2.13**	**68**	*i* P	**Pg**	**05 33 27.8**	**-3.2**
PINB				*i* S	**Sg**	**05 33 57.6**	**-0.9**
CORM	**Corum**	**2.34**	**14**	*e*PN	**Pn**	**05 33 29.4**	**+0.8**
SARI	**SarD1z-Kayseri**	**2.35**	**70**	*e*PN	**Pn**	**05 33 25.3**	**-3.5**
COBT	**Iskenderun**	**2.35**	**125**	*i* P	**Pg**	**05 33 31.1**	**-4.2**
COBT				*i* S	**Sg**	**05 34 05.0**	**-0.7**
EREN	**Erenkoy**	**2.39**	**174**	*e*PN	**Pn**	**05 33 30.1**	**+0.9**
KMRS	**Kahramanmaras**	**2.43**	**99**	*e*PN	**Pn**	**05 33 30.7**	**+0.9**
ELDT	**Eldivan**	**2.60**	**352**	*i* P	**Pg**	**05 33 37.4**	**-2.5**
ELDT				*i* S	**Sg**	**05 34 14.8**	**+1.2**
LFK	**Lefkose**	**2.64**	**186**	*e*PN	**Pn**	**05 33 33.7**	**+0.9**
SHUT	**Suhut-Afyon**	**2.69**	**285**	*e*PN	**Pn**	**05 33 34.0**	**+0.6**
CANT	**Cankiri**	**2.70**	**356**	*e*PN	**Pn**	**05 33 33.9**	**+0.4**
GAZ	**Gaziantep**	**2.75**	**105**	*e*PN	**Pn**	**05 33 35.1**	**+0.9**
CTKT	**Corum**	**2.80**	**14**	*i* P	**Pg**	**05 33 40.2**	**-3.5**
CTKT				*i* S	**Sg**	**05 34 15.9**	**-4.1**
TKTP	**Tekketepe**	**2.81**	**274**	*e*P	**Pg**	**05 33 39.8**	**-4.2**
TKTP				*i* S	**Sg**	**05 34 24.6**	**+4.2**
TOS	**Tosya**	**3.12**	**2**	*e*PN	**Pn**	**05 33 39.9**	**+0.6**
ILGA	**Ilgaz**	**3.14**	**358**	*e*P	**Pg**	**05 33 45.4**	**-4.8**
ILGA				*i* S	**Sg**	**05 34 30.2**	**-0.7**
SVSK	**Karacayir**	**3.15**	**50**	*e*PN	**Pn**	**05 33 40.6**	**+0.8**
ALT	**Altintas**	**3.17**	**292**	*e*PN	**Pn**	**05 33 40.4**	**+0.5**
AKCD	**Akcadag**	**3.21**	**82**	*i* P	**Pg**	**05 33 48.9**	**-2.8**
AKCD				*i* S	**Sg**	**05 34 31.4**	**-1.9**
MDU	**Mudurnu**	**3.28**	**322**	*e*PN	**Pn**	**05 33 42.3**	**+0.7**
ATAB	**Bozova**	**3.53**	**96**	*i* P	**Pn**	**05 33 49.9**	**+4.9**
ATAB				*i* S	**Sn**	**05 34 33.4**	**+6.6**
KVT	**Kavak**	**3.58**	**27**	*e*PN	**Pn**	**05 33 46.6**	**+0.9**
MYA	**Malataya**	**3.61**	**82**	*e*PN	**Pn**	**05 33 47.5**	**+1.4**
BALT	**Daday**	**3.64**	**354**	*i* P	**Pg**	**05 33 57.8**	**-2.0**
BALT				*i* S	**Sg**	**05 34 47.9**	**+1.0**
RSDY	**Resadiye-TOKAT**	**3.66**	**46**	*e*PN	**Pn**	**05 33 47.8**	**+1.1**
URFA	**Urfa**	**3.95**	**95**	*e*PN	**Pn**	**05 33 52.2**	**+1.4**
PTK	**Pertek**	**4.44**	**76**	*e*PN	**Pn**	**05 33 59.3**	**+1.8**

BJI **12** *05:32:46.5, 275S×9997E, h15km, mB4.7, mb4.7, Ms4.1, Msz4.0*
IDC **12** *05:32:53.6±0.8, 169S×9970E, h0km, mb4.6/17, mb1 4.7/17, mb1mx4.5/24, mbtmp4.6/17, MS3.8/6, Ms1 3.8/6, ms1mx3.4/20, Error ellipse: s-maj=32.3km s-min=11.9km az=59.0*
MOS **12** *05:32:57.2±1.3, 167S×9974E, h33km, mb4.8/20, Error ellipse: s-maj=17.9km s-min=8.0km az=101.8*
DJA **12** *05:32:58.8±0.6, 2S±4×99E±, h30km, mB5.2/4, Mjma4.2/9, MLv4.8/10, Mw(mB)5.0/4, Mwp3.9/4*
NEIC **12** *05:32:58.4±0.5, 179S×9962E, h35km, mb4.6/8, Error ellipse: s-maj=16.9km s-min=7.2km az=51.0*
ISCJB **12** *05:32:59.6±1.0, 181S±005×9956E±007, h63km±8km, mb4.7/41, Error ellipse: s-maj=13.1km s-min=5.4km az=146.7*

ISC 12 05:33:01.6±0.8, 180S±005×9960E±006, h62km±7km, h13km±7.1km: pP-P, n124, σ0§97/115, mb4.7/41, 12C-5D, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PDSI	**Padang** 0.0nm,0.0s	**1.23**	**44**	P	**Pn**	**05 33 21.3**	**-1.5**
PDSI	**Padang**	**1.23**	**44**	P	**Pn**	**05 33 21.1**	**-1.7**
PPI	**Padang Panjang** 0.0nm,0.0s	**1.55**	**31**	P	**Pn**	**05 33 26.0**	**-1.1**
PPI	**Padang Panjang**	**1.55**	**31**	P	**Pn**	**05 33 26.2**	**-0.9**
KRJI	**Kerinci** 0.0nm,0.0s	**1.89**	**99**	P	**Pn**	**05 33 31.0**	**-0.6**
KRJI	**Kerinci**	**1.89**	**99**	P	**Pn**	**05 33 31.4**	**-0.2**
RGRI	**Rengat** 0.0nm,0.0s	**3.09**	**62**	P	**Pn**	**05 33 48.3**	**+0.3**
RGRI	**Rengat**	**3.09**	**62**	P	**Pn**	**05 33 48.5**	**+0.5**
KSI	**Kapahiang** 0.0nm,0.0s	**3.51**	**122**	P	**Pn**	**05 33 52.7**	**-1.1**
KSI	**Kapahiang**	**3.51**	**122**	P	**Pn**	**05 33 55.3**	**+1.5**
DSRI	**Dabo** 0.0nm,0.0s	**5.15**	**75**	P	**Pn**	**05 34 16.0**	**-0.2**
DSRI	**Dabo**	**5.15**	**75**	P	**Pn**	**05 34 16.3**	**+0.1**
KGM	**Kluang**	**5.31**	**44**	⇑P	**Pn**	**05 34 18.8**	**+0.4**
TSI	**Tuntungan** 0.0nm,0.0s	**5.36**	**349**	P	**Pn**	**05 34 16.4**	**-2.8**
TSI	**Tuntungan** 175nm,1.1s,3μm0.8nm	**5.36**	**349**	P	**Pn**	**05 34 16.1**	**-3.1**
FRIM	**Kepong**	**5.40**	**22**	⇓P	**Pn**	**05 34 19.5**	**-0.1**
MYKOM	**Kota Tinggi**	**5.55**	**50**	⇑P	**Pn**	**05 34 22.1**	**+0.4**
MYKOM	**Kota Tinggi**	**5.55**	**50**	P	**Pn**	**05 34 21.9**	**+0.2**
KLI	**Kotabumi** 0.0nm,0.0s	**6.07**	**120**	P	**Pn**	**05 34 27.5**	**-1.3**
KLI	**Kotabumi**	**6.07**	**120**	P	**Pn**	**05 34 28.2**	**-0.6**
IPM	**Ipoh**	**6.40**	**13**	⇑P	**Pn**	**05 34 33.3**	**0.0**
IPM	**Ipoh** 48nm,0.8s,498nm0.2nm	**6.40**	**13**	P	**Pn**	**05 34 33.2**	**-0.1**
PPBI	**Pangkal Pinang** 0.0nm,0.0s	**6.54**	**93**	P	**Pn**	**05 34 37.6**	**+2.3**
BLSI	**Bandar Lampung** 0.0nm,0.0s	**6.66**	**122**	P	**Pn**	**05 34 37.1**	**+0.2**
KTGM	**Kuala Trenggan**	**7.91**	**26**	⇓P	**Pn**	**05 34 54.0**	**-0.1**
BSI	**Banda Aceh** 0.0nm,0.0s	**8.42**	**329**	P	**Pn**	**05 34 55.7**	**-5.4**
DBJI	**Dramaga** 0.0nm,0.0s	**8.55**	**124**	P	**Pn**	**05 35 01.9**	**-0.9**
DBJI	**Dramaga** 70nm,0.6s,0.3nm	**8.55**	**124**	P	**Pn**	**05 35 04.9**	**+2.1**
CBJI	**Citeko** 0.0nm,0.0s	**8.56**	**123**	P	**Pn**	**05 35 03.6**	**+0.6**
CBJI	**Citeko**	**8.56**	**123**	P	**Pn**	**05 35 03.4**	**+0.4**
LEM	**Lembang** 0.0nm,0.0s	**9.43**	**122**	P	**Pn**	**05 35 13.3**	**-1.5**
BJII	**Banjamegara** 0.0nm,0.0s	**11.48**	**119**	P	**Pn**	**05 35 44.7**	**+1.9**
SBUM	**Sibu**	**13.30**	**72**	⇑P	**Pn**	**05 36 08.3**	**+0.5**
KHKI	**Kahang-Kahang** 0.0nm,0.0s	**17.22**	**113**	P	**Pn**	**05 36 59.5**	**+1.4**
KKM	**Kota Kinabalu**	**18.33**	**65**	⇑P	**Pn**	**05 37 12.9**	**+1.2**
KKM	**Kota Kinabalu**	**18.33**	**65**	*e*Pn	**Pn**	**05 37 12.1**	**+0.4**
TSM	**Tawau**	**19.24**	**72**	⇑P	**Pn**	**05 37 22.2**	**-0.3**
KDM	**Kudat**	**19.26**	**63**	⇑P	**Pn**	**05 37 23.2**	**+0.4**
MYLDM	**Lahad Datu**	**20.11**	**70**	⇑P	**P**	**05 37 32.7**	**+2.1**
CMAR	**Chiang Mai Arr** 6.5nm,0.7s,baz=185,slow=9.8,SNR=19	**20.14**	**358**	P	**P**	**05 37 28.3**	**-2.5**
CMAR	comp=Z,222nm,18.5s,baz=190,slow=40			LR	LR	05 46 20.3	
CMAR	**Chiang Mai Arr**	**20.14**	**358**	⇑*

comp=Z,61nm,18.6s
UCH Uchtor 49.35 335 *e*P P 05 41 45.9 +1.2
comp=Z,2.5nm,0.8s,mb4.3
TKM2 Tokmak 2 49.49 337 *e*P P 05 41 45.8 0.0
TKM2 pmax pmax
comp=Z,9.0nm,0.8s,mb4.8
TKM2 Tokmak 2 49.49 337 *e*P P 05 41 45.8 0.0
comp=Z,8.5nm,0.8s,mb4.8
STKA Stephens Creek 49.58 132 *e*P P 05 41 47.2 +0.5
comp=Z,7.1nm,0.8s,mb4.8
STKA Stephens Creek 49.58 132 P P 05 41 46.8 0.0
comp=Z,7.7nm,0.7s,mb4.9,baz=322,slow=8.9,SNR=16
STKA LR LR 06 04 45.7
comp=Z,113nm,19.5s,baz=321,slow=39
SONM Songino Array 49.78 6 P P 05 41 48.5 +0.6
comp=Z,8.2nm,0.8s,mb4.8,baz=186,slow=8.4,SNR=38
SONM PcP PcP 05 43 07.9 -0.1
comp=Z,1.9nm,0.7s,baz=226,slow=4.6,SNR=3.5
SONM Songino Array 49.78 6 P P 05 41 48.5 +0.6
SONM 05 43 07.9
SONM pmax pmax
comp=Z,8.0nm,0.8s
SONM pmax pmax
comp=Z,2.0nm,0.7s
EKS2 Erkin-Say 50.01 335 *e*P P 05 41 50.0 +0.3
comp=Z,9.1nm,0.8s,mb4.9
MK31 Makanchi Array 50.73 345 *e*P P 05 41 55.6 +0.5
MKAR Makanchi Array 50.73 345 P P 05 41 55.3 +0.2
comp=Z,8.1nm,0.6s,mb4.8,baz=149,slow=7.8,SNR=32
MKAR Makanchi Array 50.73 345 P P 05 41 55.3 +0.2
MKAR pmax pmax
comp=Z,8.0nm,0.6s
ZAK Zakamensk 52.07 3 *e*P P 05 42 04.9 -0.2
ZAK pmax pmax
comp=Z,3.0nm,1.0s,mb4.2
MJAR Matsushiro Arr 52.37 39 P P 05 42 06.2 -1.3
comp=Z,3.9nm,0.6s,mb4.5,baz=220,slow=7.5,SNR=14
MJAR Matsushiro Arr 52.37 39 P P 05 42 06.3 -1.3
MJAR pmax pmax
comp=Z,4.0nm,0.6s
TLY Talaya 53.39 3⇓ *e*P P 05 42 16.0 +1.2
TLY pmax pmax
comp=Z,6.0nm,0.7s,mb4.6
HIA Hailar 53.76 16 *i*P P 05 42 18.5 +1.0
KURK Kurchatov 55.30 344 P P 05 42 27.3 -1.4
comp=Z,6.9nm,0.8s,mb4.8,baz=168,slow=7.2,SNR=14
KURK Kurchatov 55.30 344⇑ *i*P P 05 42 28.7 0.0
KURK pmax pmax
comp=Z,8.0nm,0.6s,mb4.9
ZAA0 Zalesovo Array 56.90 350 *e*P P 05 42 40.2 +0.2
ZALV Zalesovo Beam 56.90 350 P P 05 42 39.6 -0.4
comp=Z,25nm,0.8s,mb5.3,baz=178,slow=5.8,SNR=69
ZALV Zalesovo Beam 56.90 350 P P 05 42 39.6 -0.4
ZALV pmax pmax
comp=Z,25nm,0.8s,mb5.3
NVS Novosibirsk 58.04 349 *i*P P 05 42 46.9 -1.1
BVAR Borovoye Array 59.86 340 P P 05 42 59.9 -0.8
comp=Z,4.1nm,0.6s,mb4.6,baz=143,slow=8.2,SNR=15
BVAR Borovoye Array 59.86 340 P P 05 42 59.9 -0.8
BVAR pmax pmax
comp=Z,4.0nm,0.6s
YSS Yuzh-Sakhalins 61.52 32⇓ *e*P P 05 43 12.9 +0.8
YSS pmax pmax
comp=Z,42nm,1.3s,mb5.4
AKTK Aktyubinsk 62.99 332 P P 05 43 20.6 -1.3
AKTO Aktyubinsk 62.99 332 P P 05 43 20.6 -1.3
comp=Z,2.2nm,0.8s,mb4.4,baz=115,slow=16,SNR=5.3
AKTO Aktyubinsk 62.99 332 P P 05 43 20.6 -1.2
AKTO pmax pmax
comp=Z,2.0nm,0.8s,mb4.3
ARU Arti 66.86 337*c* *i*P P 05 43 46.5 -0.4
ARU *e* 05 46 10.3
ARU *e*S S 05 52 39.6 +4.8
ARU *e*SS SS 05 56 49.7 -4.4
ARU pmax pmax
comp=Z,14nm,2.5s,mb4.5
YAK Yakutsk 67.65 15 *e*P P 05 43 50.2 -1.5
YAK pmax pmax
comp=Z,28nm,0.9s,mb5.3
KIV Kislovodsk 68.13 319⇓ *e*P P 05 43 55.5 +0.3
KIV pmax pmax
comp=Z,12nm,1.2s,mb4.8
MAW Mawson 70.38 194 LR LR 06 09 11.8
comp=Z,75nm,21.2s,baz=64,slow=31
BR131 Keskin Array S 72.89 313 *e*P P 05 44 23.0 -1.3
comp=Z,1.5nm,0.8s,mb4.0
PETK Petropavlovsk- 72.93 32 P P 05 44 23.3 -0.9
comp=Z,5.6nm,0.7s,mb4.6,baz=236,slow=3.3,SNR=6.2
PETK Petropavlovsk- 72.93 32 P P 05 44 23.3 -0.9
PETK pmax pmax
comp=Z,6.0nm,0.7s,mb4.6
VSR Storozhevoye 73.38 325 *e*P P 05 44 25.7 -1.2
VSR pmax pmax
comp=Z,3.0nm,0.5s,mb4.5
VSR pmax pmax
comp=N,2.0nm,0.3s
VSR pmax pmax
comp=E,2.0nm,0.4s
BOSA Boshof 75.40 241 LR LR 06 12 44.4
comp=E,58nm,19.2s,baz=337,slow=32
OBN Obninsk 76.41 328⇑ *e*P P 05 44 44.7 +0.4
OBN pmax pmax
comp=Z,6.0nm,0.8s,mb4.6
BUR08 Bucovina Ar. S 80.86 319 *e*P P 05 45 09.8 +0.9
ARCES ARCESS Array B 86.15 340 P P 05 45 37.4 +1.8
comp=Z,3.0nm,0.8s,mb4.6,baz=123,slow=6.6,SNR=3.4
ARCES ARCESS Array B 86.15 340 P P 05 45 37.4 +1.8
ARCES pmax pmax
comp=Z,3.0nm,0.8s
TORD Torodi Ar. Bea 98.10 283 LR LR 06 25 05.4
comp=Z,67nm,20.1s,baz=305,slow=32
NVAR Mina Array Bea 129.70 39 PKP PKPdf 05 52 05.2 +0.9
comp=Z,0.5nm,0.8s,baz=260,slow=1.8,SNR=3.6
PDAR Pinedale Array 131.59 29 PKP PKPdf 05 52 08.6 +0.9
comp=Z,0.3nm,0.6s,baz=178,slow=2.7,SNR=3.2
BDFB Brasilia 143.59 240 PKP PKPdf 05 52 33.0 +2.6
comp=Z,0.7nm,0.5s,baz=151,slow=13,SNR=3.3
BDFB Brasilia 143.59 240 PKIKP PKPdf 05 52 33.0 +2.5
BDFB pmax pmax
comp=Z,1.0nm,0.5s
CPUP Villa Florida 144.24 217 PKP PKPdf 05 52 33.5 +2.1
comp=Z,0.4nm,0.5s,baz=45,slow=5.7,SNR=2.6
TXAR Lajitas Array 144.78 37 PKP PKPdf 05 52 32.5 +0.3
comp=Z,8.5nm,0.6s,baz=271,slow=0.9,SNR=141
TXAR Lajitas Array 144.78 37 PKIKP PKPdf 05 52 32.5 +0.3
TXAR pmax pmax
comp=Z,9.0nm,0.6s

*ROM **12** 05:37:11.3±0.3, 42.35N×16.85E, h10km, Md2.8/11, Ml2.8/6, Error ellipse: s-maj=4.8km s-min=2.5km az=174.0*
*ISCJB **12** 05:37:12.9±0.6, 42.32N±0.003×169.9E±0.005, h10km±5km, Error ellipse: s-maj=7.2km s-min=4.0km az=44.2*
*CSEM **12** 05:37:12.9±0.2, 42.33N×16.64E, h12km, MD2.8/11, Error ellipse: s-maj=5.3km s-min=2.5km az=139.0*
ISC 12 05:37:13.7±0.6, 4230N±004×1671E±005, h13km±5km, n20, σ1§10/30, Adriatic Sea

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
							h m s	ISC
FGMS	**Monte Sant'Ang**	**0.81**	**224**		Pg	**Pg**	**05 37 29.0**	**-0.5**
FGMS					Sg	**Sg**	**05 37 42.0**	**+1.9**
	150nm,0.3s							
MS1	**Monte Sant'Ang**	**0.82**	**224**	*e*Pg		**Pg**	**05 37 29.6**	**0.0**
MS1				*e*Sg		**Sg**	**05 37 41.9**	**+1.5**
MSAG	**Monte S. Angel**	**0.83**	**226**		Pg	**Pg**	**05 37 29.1**	**-0.8**
MSAG					Sg	**Sg**	**05 37 42.0**	**+1.2**
SGRT	**San Giovanni R**	**0.90**	**233**		Pg	**Pg**	**05 37 30.1**	**-1.0**
SGRT					Sg	**Sg**	**05 37 43.8**	**+0.9**
	218nm,0.6s							
STON	**Ston**	**0.93**	**51**	*e*Pg		**Pg**	**05 37 30.7**	**-1.0**
STON					Sg	**Sg**	**05 37 44.8**	**+1.0**
RGNG	**Rignano Grg**	**1.04**	**234**		Pg	**Pg**	**05 37 33.0**	**-0.8**
RGNG					Sg	**Sg**	**05 37 48.2**	**+0.8**
BAI	**Bari**	**1.20**	**174**	*e*Pn		**Pn**	**05 37 35.9**	**-0.2**
TREB	**Trebinje**	**1.28**	**70**	*e*Pn		**Pn**	**05 37 37.3**	**-0.1**
TREB				*e*Sn		**Sn**	**05 37 55.1**	**+0.7**
MRVN	**Minervino Murg**	**1.29**	**197**	Pg		**Pg**	**05 37 37.6**	**-1.0**
	60nm,0.5s							
AMUR	**Altamura**	**1.39**	**183**	Pg		**Pg**	**05 37 37.5**	**-2.9**
	102nm,0.6s							
SG1	**Sgolgore (BA)**	**1.46**	**181**	*e*Pn		**Pn**	**05 37 35.4**	**-4.3**
SG1				*e*Sn		**Sn**	**05 38 00.0**	**+1.4**
NOCI	**Noci**	**1.53**	**170**	Pn		**Pn**	**05 37 39.7**	**-1.0**
	85nm,0.3s							
PE1	**Pezze di Greco**	**1.58**	**160**	*e*Pn		**Pn**	**05 37 40.5**	**-1.0**
LTRZ	**Laterza**	**1.69**	**177**	Pn		**Pn**	**05 37 42.1**	**-0.9**
	63nm,0.5s							
MIGL	**Miglionico**	**1.70**	**187**	Pn		**Pn**	**05 37 42.5**	**-0.6**
	219nm,0.6s							
MOCO	**Biccari - m.te**	**2.12**	**245**	Pn		**Pn**	**05 37 40.4**	**-8.4**
SIRI	**Monte Sirino -**	**2.21**	**197**	Pn		**Pn**	**05 37 49.9**	**-0.1**
NVLJ	**Novalja**	**2.63**	**330**	*e*Pn		**Pn**	**05 37 54.9**	**-1.0**
NVLJ				*e*Sn		**Sn**	**05 38 27.1**	**-0.6**
NRCA	**Norcia**	**2.71**	**283**	Pn		**Pn**	**05 37 56.6**	**-0.4**
DIVS	**Divibare**	**3.00**	**52**	*e*Pn		**Pn**	**05 38 03.0**	**+2.0**
DIVS				*e*Sn		**Sn**	**05 38 39.3**	**+2.5**

*IDC **12** 05:40:15.1±2.9, 528S×148.86E, h0km, mb4.4/4, mb1 4.6/4, mb1mx4.1/15, mbtmp4.5/4, Error ellipse: s-maj=65.6km s-min=44.1km az=100.0*
*NEIC **12** 05:40:24.7±12.0, 535S×148.47E, h63km±45km, mb3.8/2, Error ellipse: s-maj=140.7km s-min=28.5km az=210.0*
ISC 12 05:40:23.2±2.5, 54S±01×148.4E±03, h35km, n13, σ1§32/14, mb4.3/4, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
							h m s	ISC
PMG	**Port Moresby**	**4.16**	**197**	*e*Pn		**Pn**	**05 41 26.6**	**+2.4**
PMG				*e*Sn		**Sn**	**05 42 11.2**	**-0.5**
COEN	**Coen**	**9.93**	**211**	*e*Pn		**Pn**	**05 42 46.1**	**+2.6**
COEN				*e*Sn		**Sn**	**05 44 27.8**	**-6.0**
KAKA	**Kakadu**	**17.34**	**244**	*e*P		**Pn**	**05 44 23.7**	**+1.1**
	4.4nm,0.6s							
WRAB	**Tennant Creek**	**19.88**	**222**	*e*P		**Pn**	**05 44 52.2**	**-1.2**
	5.1nm,1.0s							
WB2	**Warramunga Arr**	**19.88**	**222**	*e*P		**Pn**	**05 44 52.4**	**-1.0**
WRA	**Warramunga Arr**	**19.89**	**222**	P		**Pn**	**05 44 52.5**	**-1.1**
	17nm,0.5s,baz=48,slow=11,SNR=25							
ASAR	**Alice Springs**	**22.90**	**216**	P		**P**	**05 45 23.6**	**-0.5**
	7.1nm,0.6s,mb4.3,baz=52,slow=9.2,SNR=89							
FITZ	**Fitzroy Crossi**	**25.56**	**238**	*e*P		**P**	**05 45 50.5**	**+1.5**
	8.8nm,0.4s,mb4.6							
FITZ	**Fitzroy Crossi**	**25.56**	**238**	P		**P**	**05 45 50.5**	**+1.5**
	5.0nm,0.4s,mb4.4,baz=64,slow=10,SNR=31							
STKA	**Stephens Creek**	**27.09**	**193**	P		**P**	**05 46 02.5**	**-0.3**
	0.7nm,0.3s,mb3.6,baz=12,slow=14,SNR=3.0							
STKA	**Stephens Creek**	**27.09**	**193**	P		**P**	**05 46 02.5**	**-0.3**
KLBR	**Kellerberrin**	**38.76**	**224**	*e*P		**P**	**05 47 43.0**	**-1.4**
	5.7nm,0.4s,mb4.7							
TORD	**Torodi Ar. Bea**	**146.28**	**286**	PKPbc		PKPbc	05 59 59.4	-1.8
	0.2nm,0.4s,baz=54,slow=3.1,SNR=5.8							

IDC 12 05:56:52.5±8.9, 2109S×6715W, h192km±62km, mb3.4/2, mb1 3.7/3, mb1mx3.3/14, mbtmp3.4/3, Error ellipse: s-maj=98.0km s-min=31.8km az=18.0, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
							h m s	ISC
LPAZ	**La Paz**	**4.87**	**349**	P		Pn	05 58 05.6	+0.5
	5.6nm,0.3s,baz=153,slow=8.2,SNR=178							
LPAZ				S		Sn	05 59 03.8	+1.6
	baz=341,slow=25,SNR=1.3							
TORD	**Torodi Ar. Bea**	**75.67**	**70**	P		P	06 08 17.2	+0.1
	1.5nm,0.4s,baz=254,slow=5.5,SNR=46							
NVAR	**Mina Array Bea**	**76.20**	**321**	P		P	06 08 20.0	+0.3
	0.2nm,0.6s,baz=141,slow=7.8,SNR=2.6							
MKAR	**Makanchi Array**	**144.33**	**37**	PKP		PKPdf	06 16 05.1	-0.5
	0.8nm,0.4s,baz=327,slow=2.4,SNR=7.3							

*ISCJB **12** 06:37:07.3±0.4, 835S±0.10×113.53E±0.04, h163km±3km, mb3.7/8, Error ellipse: s-maj=16.8km s-min=4.5km az=15.9*
*DJA **12** 06:37:08, 851S×113.52E, h147km, MLv4.3/11*
*IDC **12** 06:37:10.0±3.1, 828S×113.63E, h171km±30km, mb3.4/7, mb1 3.6/8, mb1mx3.4/18, mbtmp3.4/8, Error ellipse: s-maj=60.7km s-min=11.3km az=50.0*
*NEIC **12** 06:37:09.7±2.8, 861S×113.23E, h181km±36km, mb3.6/1, Error ellipse: s-maj=40.7km s-min=8.8km az=219.0*
ISC 12 06:37:08.2±0.4, 845S±009×11350E±004, h156km±3km, n42, σ0§94/44, mb3.7/8, Jawa

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
							h m s	ISC
KRKI	**Karangkates**	**1.08**	**285**	P		**Pn**	**06 37 34.5**	**+0.3**
	0.0nm,0.0s							
KRKI	**Karangkates**	**1.08**	**285**	P		**Pn**	**06 37 34.3**	**+0.1**
KRKI	**Karangkates**	**1.08**	**285**	S		**Sn**	**06 37 53.9**	**-0.2**
NBBI	**Negara**	**1.11**	**86**	P		**Pn**	**06 37 35.0**	**+0.5**
	0.0nm,0.0s							
NBBI	**Negara**	**1.11**	**86**	P		**Pn**	**06 37 34.6**	**+0.1**
NBBI	**Negara**	**1.11**	**86**	S		**Sn**	**06 37 54.4**	**-0.2**
KMMI	**Kalianget**	**1.46**	**18**	P		**Pn**	**06 37 39.6**	**+1.7**
	0.0nm,0.0s							
KMMI	**Kalianget**	**1.46**	**18**	P		**Pn**	**06 37 39.3**	**+1.4**
IGBI	**Denpasar**	**1.67**	**103**	P		**Pn**	**06 37 39.6**	**-0.4**
	0.0nm,0.0s							
IGBI	**Denpasar**	**1.67**	**103**	P		**Pn**	**06 37 39.9**	**-0.1**
IGBI	**Denpasar**	**1.67**	**103**	S		**Sn**	**06 38 04.0**	**-0.4**
DNP	**Denpasar**	**1.71**	**98**	P		**Pn**	**06 37 41.4**	**+1.0**
	0.0nm,0.0s							
DNP	**Denpasar**	**1.71**	**98**	P		**Pn**	**06 37 41.5**	**+1.1**
DNP	**Denpasar**	**1.71**	**98**	S		**Sn**	**06 38 05.1**	**-0.1**
SJI	**Sawahan**	**1.86**	**292**	P		**Pn**	**06 37 42.7**	**+0.6**
	0.0nm,0.0s							
SJI	**Sawahan**	**1.86**	**292**	P		**Pn**	**06 37 43.0**	**+0.9**
SJI	**Sawahan**	**1.86**	**292**	S		**Sn**	**06 38 09.2**	**+1.1**
KHKI	**Kahang-Kahang**	**2.09**	**88**	P		**Pn**	**06 37 44.8**	**+0.1**
	0.0nm,0.0s							
KHKI	**Kahang-Kahang**	**2.09**	**88**	P		**Pn**	**06 37 44.6**	**-0.1**
KHKI	**Kahang-Kahang**	**2.09**	**88**	S		**Sn**	**06 38 12.2**	**-0.6**
MTNI	**Mataram**	**2.65**	**94**	P		**Pn**	**06 37 51.2**	**-0.3**
	0.0nm,0.0s							
MTNI	**Mataram**	**2.65**	**94**	P		**Pn**	**06 37 51.1**	**-0.4**
MTNI	**Mataram**	**2.65**	**94**	S		**Sn**	**06 38 23.2**	**-1.6**
UGM	**Wanagama**	**2.99**	**280**	P		**Pn**	**06 37 55.6**	**-0.2**
UGM	**Wanagama**	**2.99**	**280**	S		**Sn**	**06 38 29.6**	**-3.0**
SMRI	**Semarang**	**3.33**	**294**	P		**Pn**	**06 38 00.4**	**+0.3**
SMRI	**Semarang**	**3.33**	**294**	S		**Sn**	**06 38 41.0**	**+0.7**
BJII	**Banjamegara**	**3.92**	**286**	P		**Pn**	**06 38 08.5**	**+1.0**
	0.0nm,0.0s							
XMIS	**Christmas Isla**	**8.00**	**255**	*e*Pn		**Pn**	**06 38 58.9**	**-2.7**
XMIS				*e*Sn		**Sn**	**06 40 15.2**	**-16**
KSI	**Kapahiang**	**11.84**	**293**	P		**Pn**	**06 39 51.2**	**-1.2**
	0.0nm,0.0s							
FITZ	**Fitzroy Crossi**	**15.21**	**130**	P		**Pn**	**06 40 37.0**	**+2.0**
	1.2nm,0.3s,baz=324,slow=9.4,SNR=30							
FITZ				S		**S**	**06 43 14.9**	**-10**
	0.2nm,0.3s,baz=73,slow=22,SNR=6.4							
WRA	**Warramunga Arr**	**23.18**	**122**	P		**P**	**06 42 00.7**	**-0.4**
	1.1nm,0.6s,mb3.5,baz=295,slow=12,SNR=5.0							
WRA				PcP		PcP	06 45 44.0	-0.8
	0.3nm,0.4s,baz=315,slow=2.1,SNR=3.0							
WRA				S		**S**	**06 46 01.2**	**+0.1**
	0.3nm,0.6s,baz=202,slow=8.9,SNR=2.8							
WRAB	**Tennant Creek**	**23.18**	**122**	*e*P		**P**	**06 42 01.8**	**+0.6**
	0.7nm,0.4s,mb3.4							
WB2	**Warramunga Arr**	**23.19**	**122**	*e*P		**P**	**06 42 01.6**	**+0.4**
ASAR	**Alice Springs**	**24.71**	**130**	P		**P**	**06 42 15.1**	**0.0**
	1.1nm,0.4s,mb3.8,baz=303,slow=8.5,SNR=23							
ASAR				PcP		PcP	06 45 48.5	+0.4
	0.6nm,0.6s,baz=315,slow=1.6,SNR=7.6							
CMAR	**Chiang Mai Arr**	**30.35**	**332**	P		**P**	**06 43 05.7**	**+0.3**
	0.8nm,0.4s,mb3.9,baz=169,slow=8.4,SNR=4.5							
STKA	**Stephens Creek**	**35.00**	**136**	P		**P**	**06 43 47.0**	**+1.2**
	3.2nm,0.3s,mb4.4,baz=305,slow=7.2,SNR=11							
SONM	**Songino Array**	**56.39**	**354**	P		**P**	**06 46 33.0**	**-0.1**
	0.3nm,0.4s,mb3.5,baz=163,slow=8.5,SNR=3.6							
MKAR	**Makanchi Array**	**61.62**	**336**	P		**P**	**06 47 08.3**	**-0.8**
	0.5nm,0.4s,mb3.7,baz=140,slow=7.3,SNR=4.2							
MKAR	**Makanchi Array**	**61.62**	**336**	P		**P**	**06 47 08.3**	**-0.8**
KURK	**Kurchatov**	**66.22**	**337**	P		**P**	**06 47 37.7**	**-1.4**
	0.3nm,0.5s,mb3.4,baz=144,slow=6.9,SNR=2.4							
CPUP	**Villa Florida**	**144.30**	**194**	PKP		PKPdf	06 56 26.3	-0.1
	1.9nm,0.5s,baz=182,slow=1.0,SNR=6.9							

MEX 12 06:44:40.8±0.6, 1410N×9309W, h20km±126km, MD3.7, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
							h m s	ISC
THIG		**1.14**	**45**	*i*P		Pn	06 44 58.4	-3.2
THIG				*i*S		Sb	06 45 11.9	-4.2
CCIG	**Comitan**	**2.36**	**23**	*i*P		Pn	06 45 17.5	-0.9
CCIG				*i*S		Sn	06 45 44.4	-2.4
TGIG		**2.67**	**359**	*i*P		Pn	06 45 20.1	-2.5
TGIG				*i*S		Sn	06 45 50.7	-3.7

*ISCJB **12** 06:46:01.8±0.5, 24.74N±0.05×122.48E±0.02, h17km±7km, Error ellipse: s-maj=8.0km s-min=3.2km az=6.8*
*JMA **12** 06:46:02.5±0.2, 24.79N×122.54E, h23km, M2.2*
*TAP **12** 06:46:03.1, 24.70N×122.29E, h4km±1km, ML3.0, D*
ISC 12 06:46:01.5±0.5, 2472N±005×12248E±002, h13km±4km, n17, σ0§65/30, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
							h m s	ISC
TWB1	**Santiao Chiao**	**0.53**	**303**	*i*P		**Pg**	**06 46 12.6**	**+0.7**
	baz=318							
TWB1				S		**Sg**	**06 46 19.2**	**+0.2**
	baz=318							
YOJ	**Yonaguni jima**	**0.55**	**118**	P		**Pg**	**06 46 13.1**	**+0.9**
YOJ				S		**Sg**	**06 46 20.5**	**+1.0**
TWC	**Suao**	**0.58**	**259**	P		**Pg**	**06 46 12.6**	**-0.3**
	baz=256							
TWC				*e*S		**Sg**	**06 46 19.4**	**-1.2**
	baz=256							
NWF	**Wu-fen Shan**	**0.72**	**299**	*i*P		**Pg**	**06 46 15.9**	**+0.4**
	baz=308							
NWF				*e*S		**Sg**	**06 46 25.4**	**+0.3**
	baz=308							
ENA	**Nanau**	**0.73**	**247**	P		**Pg**	**06 46 15.2**	**-0.5**
	baz=241							
ENA				*e*S		**Sg**	**06 46 25.1**	**-0.2**
	baz=241							
TWE	**Neicheng**	**0.74**	**270**	*e*P		**Pg**	**06 46 15.6**	**-0.3**
	baz=271							
TWE				*e*S		**Sg**	**06 46 24.4**	**-1.1**
	baz=271							
TWD	**Chiawan**	**1.02**	**232**	*e*P		**Pb**	**06 46 20.9**	**-0.2**
	baz=225							
TWD				*e*S		**Sb**	**06 46 34.8**	**+0.2**
	baz=225							
NNS	**Nan Shan**	**1.04**	**255**	*e*P		**Pb**	**06 46 20.8**	**-0.6**
	baz=252							
IRIF	**Iriomote-Funau**	**1.20**	**108**	P		**Pn**	**06 46 23.4**	**-0.6**
IRIF				*e*S		**Sb**	**06 46 39.6**	**0.0**
WHF	**Hehuan Shan**	**1.25**	**243**	*e*P		**Pn**	**06 46 25.1**	**+0.5**
	baz=239							
WHF				*e*S		**Sb**	**06 46 40.3**	**-0.6**
	baz=239							
TWT	**Tachien**	**1.27**	**249**	*e*P		**Pn**	**06 46 25.6**	**+0.5**
	baz=246							
NSTT	**Nanjuang**	**1.35**	**267**	*e*P		**Pn**	**06 46 26.7**	**+0.7**
	baz=266							
HATJ	**Hateruma jima**	**1.38**	**118**	*e*S		**Sn**	**06 46 44.4**	**-0.1**
JKRS	**Kuro-shima**	**1.47**	**109**	P		**Pn**	**06 46 27.8**	**0.0**
JKRS				S		**Sn**	**06 46 46.1**	**-0.9**
JIJ	**Ishigaki jima**	**1.56**	**103**	P		**Pn**	**06 46 28.4**	**-0.5**
JIJ				*e*S		**Sn**	**06 46 47.8**	**-1.2**
SMLT	**Sun Moon Lake**	**1.66**	**240**	*e*P		**Pn**	**06 46 30.8**	**+0.4**
	baz=237							
SMLT				*e*S		**Sn**	**06 46 52.1**	**+0.5**
	baz=237							
ALS	**Alishan**	**1.94**	**232**	*e*P		**Pn**	**06 46 35.6**	**+1.3**
	baz=228							
ALS				*e*S		**Sn**	**06 46 59.3**	**+0.7**
	baz=228							

*IDC **12** 06:48:57.6±2.0, 21.39S×169.46E, h0km, mb4.2/6, mb1 4.5/6, mb1mx4.2/15, mbtmp4.3/6, MS3.4/8, Ms1 3.4/8, ms1mx3.2/18, Error ellipse: s-maj=85.0km s-min=29.9km az=156.0*
*ISCJB **12** 06:49:01.3±1.6, 215S±05×169.3E±02, h33km, mb4.2/7, MS3.5/6, Error ellipse: s-maj=69.6km s-min=19.7km az=158.0*
ISC 12 06:49:03.3±1.6, 215S±04×1694E±02, h35km, n15, σ1§15/9, mb4.2/7, MS3.5/6, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
							h m s	ISC
DZM	**Mont Dzumac**	**2.76**	**258**	*e*P		**Pn**	**06 49 43.0**	**-2.0**
DZM				AMP			06 50 27.2	
	comp=Z,623nm,1.1s							
HNR	**Honiara**	**15.04**	**322**	LR		LR	06 57 24.4	
	comp=Z,32nm,18.4s,baz=168,slow=34							
URZ	**Urewera**	**17.98**	**160**	LR		LR	06 58 59.2	
	comp=Z,138nm,18.6s,baz=154,slow=33							
CTA	**Charters Tower**	**21.64**	**270**	*e*P		**P**	**06 53 52.0**	**+1.4**
	comp=Z,11nm,0.9s,mb4.3							
CTA	**Charters Tower**	**21.64**	**270**	P		**P**	**06 53 52.0**	**+1.4**
	comp=Z,13nm,0.8s,mb4.4,baz=96,slow=11,SNR=14							
CTA				LR		LR	07 01 27.2	
	comp=Z,92nm,21.1s,MS3.2,baz=230,slow=34							
STKA	**Stephens Creek**	**26.79**	**242**	P		**P**	**06 54 41.4**	**+1.4**
	comp=Z,5.0nm,0.8s,mb4.1,baz=88,slow=7.4,SNR=5.7							
STKA				LR		LR	07 04 37.5	
	comp=Z,97nm,20.3s,MS3.4,baz=37,slow=35							
WRA	**Warramunga Arr**	**32.74**	**266**	P		**P**	**06 55 31.9**	**-1.0**
	comp=Z,0.7nm,0.4s,mb3.9,baz=96,slow=9.3,SNR=6.1							
WRA				LR		LR	07 08 55.9	
	comp=Z,95nm,18.3s,MS3.5,baz=90,slow=36							
ASAR	**Alice Springs**	**32.75**	**259**	P		**P**	**06 55 32.5**	**-0.4**
	comp=Z,4.6nm,0.8s,mb4.4,baz=84,slow=9.0,SNR=40							
PPT	**Papeete**	**38.83**	**92**	*e*LR		LR	07 07 13.5	
	comp=Z,45nm,23.8s							
FITZ	**Fitzroy Crossi**	**41.17**	**267**	*e*P		**P**	**06 56 44.8**	**+0.2**
	comp=Z,9.6nm,0.8s,mb4.5							
BATI	**Baumata**	**45.21**	**277**	LR		LR	07 16 07.2	
	comp=Z,121nm,19.2s,MS3.9,baz=130,slow=36							
KSRS	**Korea Array**	**70.44**	**326**	LR		LR	07 27 51.7	
	comp=Z,16nm,22.0s,MS3.2,baz=120,slow=33							
PETK	**Petropavlovsk-**	**75.00**	**353**	LR		LR	07 31 34.7	
	comp=Z,42nm,18.1s,MS3.8,baz=250,slow=34							
CMAR	**Chiang Mai Arr**	**79.54**	**295**	P		**P**	**07 01 08.1**	**+1.1**
	comp=Z,0.7nm,0.3s,mb4.0,baz=148,slow=3.6,SNR=6.1							
NVAR	**Mina Array Bea**	**90.22**	**48**	P		**P**	**07 01 59.4**	**-0.9**
	comp=Z,0.9nm,0.9s,mb4.1,baz=236,slow=6.4,SNR=5.1							

*MOS **12** 07:06:16.3±1.5, 5529N×11269E, h10km, mb4.4/1, Error ellipse: s-maj=15.6km s-min=11.0km az=74.4*
BYKL 12 07:06:16.5±0.2, 5521N×11270E, h15km±8km, 2C-1D, Lake Baykal region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
							h m s	ISC
UKT	**Uakit**	**0

comp=N,1μm,0.2s
YOA Smax
comp=N,2μm,0.3s
KMO Kumora 1.09 309 *e*PG Pg 07 06 36.0 -1.5
KMO *e* 07 06 49.7
KMO pmax pmax
comp=Z,918nm,0.3s
KMO smax
comp=E,834nm,0.6s
KMO Kumora 1.09 309 ⇑ *i*Pg Pg 07 06 36.2 -1.3
KMO *e*Sg Sg 07 06 51.0 -0.7
KMO Pmax
comp=E,920nm,0.3s
KMO Smax
comp=E,829nm,0.9s
NIZ Nizh Angarsk 1.89 289 *e*PN Pn 07 06 49.4 +1.3
NIZ *e* 07 07 15.0
NIZ smax
comp=E,484nm,0.3s
NIZ Nizh Angarsk 1.89 289 *e*Pg Pg 07 06 49.4 -3.2
NIZ *e* 07 06 56.7
NIZ *e*Sg Sg 07 07 15.1 -2.0
NIZ Pmax
comp=E,57nm,0.3s
NIZ Smax
comp=E,487nm,0.4s
NLYR Nelyaty 2.12 52 *e*PN Pn 07 06 54.0 +2.6
NLYR *e* 07 07 21.0
NLYR pmax pmax
comp=Z,124nm,0.7s
NLYR smax
comp=E,516nm,1.2s
NLYR Nelyaty 2.12 52 *e*Pg Pg 07 06 54.3 -2.9
NLYR *e* 07 06 56.7
NLYR *e*Sg Sg 07 07 22.4 -2.4
NLYR max
comp=E,101nm,0.4s
NLYR Smax
comp=E,516nm,1.2s
SYVR Suvo 2.21 227 *e*PN Pn 07 06 55.7 +3.1
SYVR *e* 07 07 25.7
SYVR pmax pmax
comp=Z,91nm,0.7s
SYVR smax
comp=N,578nm,0.8s
SYVR Suvo 2.21 227 *e*Pg Pg 07 06 55.5 -3.4
SYVR *e* 07 07 00.2
SYVR *e*Sg Sg 07 07 25.8 -1.9
SYVR max
comp=N,62nm,0.4s
SYVR Smax
comp=N,571nm,0.8s
BOD Bodaibo 2.71 15 *e*PN Pn 07 07 01.5 +2.0
BOD *e* 07 07 05.4
BOD *e* 07 07 38.6
BOD pmax pmax
comp=Z,39nm,0.8s
BOD smax
comp=E,199nm,0.7s
BOD Bodaibo 2.71 15 *e*Pg Pg 07 07 04.0 -4.5
BOD *e*Sg Sg 07 07 39.0 -4.6
BOD Pmax
comp=E,25nm,0.2s
BOD Smax
comp=E,200nm,0.9s
CIT Chita 3.23 171 *e*PN Pn 07 07 12.8 +6.1
CIT *e* 07 07 54.9
CIT pmax pmax
comp=Z,46nm,0.2s
CIT smax
comp=E,406nm,0.3s
OGRR Ongureny 3.37 244 *e*PN Pn 07 07 09.1 +0.6
OGRR *e* 07 07 16.4
OGRR *e* 07 07 59.7
OGRR pmax pmax
comp=Z,37nm,0.9s
OGRR smax
comp=E,169nm,2.2s
OGRR Ongureny 3.37 244 *e*Pn Pn 07 07 09.3 +0.8
OGRR *e*Pg Pg 07 07 15.8 -5.2
OGRR *e*Sg Sg 07 08 00.0 -4.6
OGRR Pmax
comp=E,28nm,0.4s
OGRR Smax
comp=E,149nm,0.4s
CRS Chara 3.55 59 *e*PN Pn 07 07 19.6 +8.6
CRS *e* 07 08 06.7
CRS pmax pmax
comp=Z,48nm,1.0s
CRS smax
comp=E,157nm,1.0s
CRS Chara 3.55 59 *e*Pn Pn 07 07 12.0 +1.0
CRS *e*Pg Pg 07 07 19.5 -5.0
CRS *e*Sg Sg 07 08 06.8 -3.7
CRS Pmax
comp=E,47nm,1.2s
CRS Smax
comp=E,166nm,1.1s
TRTB Turuntaevo 4.24 227 *e*Pn Pn 07 07 21.5 +1.0
TRTB *e*Pg Pg 07 07 33.0 -4.6
TRTB *e*Sg Sg 07 08 29.7 -2.8
TRTB Pmax
comp=E,20nm,0.5s
TRTB Smax
comp=E,92nm,0.8s
TUP Tupik 4.27 98 *e*PN Pn 07 07 20.9 0.0
TUP *e* 07 07 32.6
TUP *e*S Sn 07 08 11.0 +0.7
TUP *e* 07 08 28.0
TUP pmax pmax
comp=Z,31nm,0.8s
TUP smax
comp=N,315nm,0.9s
TUP Tupik 4.27 98 *e*Pn Pn 07 07 20.8 -0.1
TUP *e*Pg Pg 07 07 32.6 -5.6
TUP *e*Sg Sg 07 08 28.0 -5.4
TUP Pmax
comp=N,31nm,0.8s
TUP Smax
comp=N,316nm,0.7s
TRG Tyrgan 4.48 239 *e*Sg Sg 07 08 35.3 -4.9
TRG Smax
comp=N,70nm,0.5s
UUDB Ulan-Yde 4.50 224 *e*Pg Pg 07 07 37.4 -5.2
UUDB *e*Sg Sg 07 08 36.3 -4.5
UUDB Pmax
comp=N,30nm,0.9s
UUDB Smax
comp=N,126nm,1.0s
FFNB Fofonovo 4.75 231 *e*Pn Pn 07 07 27.9 +0.5
FFNB *e*Pg Pg 07 07 41.2 -6.1
FFNB *e*Sg Sg 07 08 43.1 -5.6
FFNB Pmax
comp=N,38nm,0.6s
FFNB Smax
comp=N,177nm,0.7s
KPC Khapcheranga 5.52 182 *e*PN Pg 07 07 56.4 -5.7
KPC *e* 07 09 07.9
KPC pmax pmax
comp=Z,9.0nm,0.4s
KPC smax
comp=E,161nm,1.1s
KPC Khapcheranga 5.52 182 *e*Pg Pg 07 07 55.1 -7.0
KPC *e*Sg Sg 07 09 07.6 -5.9
KPC Pmax
comp=E,6.0nm,0.2s
KPC Smax
comp=E,161nm,1.0s
TLY Talaya 6.46 241 *e*PG Pg 07 08 13.9 -6.2
TLY *e* 07 09 34.0
TLY pmax pmax
comp=Z,5.0nm,0.8s
TLY smax
comp=N,49nm,1.0s
TLY Talaya 6.46 241 *e*Sg Sg 07 09 36.0 -7.7
TLY Smax
comp=N,32nm,1.0s
MOY Mondy 7.84 248 *e*PN Pn 07 08 13.3 +3.5
MOY *e* 07 08 38.8
MOY pmax pmax
comp=Z,1.0nm,0.1s
ORL Orlik 8.07 256 *e*Pn Pn 07 08 14.7 +1.6
ORL *e*Sg Sn 07 10 25.7 +42
ORL Smax
comp=Z,81nm,1.7s

TDJR Todzha 10.21 261 *e*Sg Sn 07 11 31.4 +55

IDC 12 07:51:37.4±7.3, 062S×10278E, h0km, mb3.4/2, mb1 3.6/2, mb1mx3.4/16, mbtmp3.4/2, Error ellipse: s-maj=321.4km s-min=107.3km az=50.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**36.37**	**124**	P	P	07 58 44.1	+0.5
	0.2nm,0.4s,baz=299,slow=10,SNR=2.5						
ASAR	**Alice Springs**	**37.90**	**130**	P	P	07 58 55.9	-0.6
	0.3nm,0.4s,baz=302,slow=7.9,SNR=5.9						
TXAR	**Lajitas Array**	**141.90**	**39**	PKP	PKPdf	08 11 11.7	-0.3
	0.2nm,0.5s,baz=318,slow=1.2,SNR=6.8						

IDC 12 07:53:47.4±1.6, 686S×15578E, h0km, mb4.0/4, mb1 4.1/4, mb1mx3.8/16, mbtmp4.0/4, MS3.6/2, Ms1 3.6/2, ms1mx2.7/23, Error ellipse: s-maj=51.7km s-min=32.3km az=99.0
NEIC 12 07:53:49.5±1.1, 704S×15580E, h10km, mb4.5/1, Error ellipse: s-maj=26.8km s-min=13.5km az=182.0
ISCJB 12 07:53:50.9±1.2, 7.1S±02×15576E±009, h33km, mb4.1/5, Error ellipse: s-maj=28.2km s-min=13.4km az=4.3
ISC 12 07:53:53.1±1.2, 71S±02×15578E±010, h35km, n11, σ1§23/9, mb4.1/5, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**4.74**	**120**	Pn	**Pn**	**07 55 01.2**	**-0.9**
PMG	**Port Moresby**	**8.84**	**254**	Pn	**Pn**	**07 55 58.8**	**+0.4**
	15nm,0.4s						
COEN	**Coen**	**14.14**	**240**	*e*Pn	**Pn**	**07 57 09.1**	**-2.0**
CTA	**Charters Tower**	**15.88**	**215**	LR	LR	08 01 37.9	
	comp=Z,60nm,19.2s,baz=236,slow=29						
KAKA	**Kakadu**	**23.65**	**255**	P	**P**	**07 58 58.9**	**-2.7**
	13nm,0.9s,mb4.4						
WRA	**Warramunga Arr**	**24.41**	**236**	P	**P**	**07 59 09.3**	**+0.8**
	1.6nm,0.5s,mb3.7,baz=59,slow=9.5,SNR=8.6						
ASAR	**Alice Springs**	**26.70**	**229**	P	**P**	**07 59 30.0**	**+0.8**
	0.5nm,0.4s,baz=58,slow=9.7,SNR=14						
FITZ	**Fitzroy Crossi**	**31.33**	**247**	*e*P	**P**	**08 00 11.3**	**+0.8**
	4.0nm,0.4s,mb4.6						
SONM	**Songino Array**	**69.84**	**327**	P	**P**	**08 04 60.0**	**-0.1**
	0.4nm,0.4s,mb3.7,baz=136,slow=5.6,SNR=4.9						
QSPA	**South Pole Qui**	**82.89**	**180**	P	**P**	**08 06 15.1**	**+1.5**
	1.6nm,0.6s,mb4.2,baz=312,slow=1.6,SNR=16						
TORD	**Torodi Ar. Bea**	**153.80**	**285**	PKPbc	PKPbc	08 13 48.0	-1.7
	0.3nm,0.4s,baz=40,slow=2.1,SNR=6.3						
TORD				PKPab	PKPab	08 14 01.7	-1.0
	0.5nm,0.5s,baz=72,slow=3.8,SNR=6.3						

IDC 12 08:23:11.6±0.6, 1726S×17236W, h0km, mb4.5/13, mb1 4.7/13, mb1mx4.6/19, mbtmp4.5/13, MS4.1/22, Ms1 4.1/22, ms1mx4.0/26, Error ellipse: s-maj=23.3km s-min=16.1km az=139.0
ISCJB 12 08:23:15.3±0.3, 1715S±006×17255W±007, h34km, mb4.8/38, MS4.2/31, Error ellipse: s-maj=10.7km s-min=7.0km az=45.0
MOS 12 08:23:16.9±2.2, 1713S×17274W, h33km, mb5.0/18, Error ellipse: s-maj=15.0km s-min=11.7km az=148.0
NEIC 12 08:23:16.7±0.3, 1711S×17255W, h35km, mb4.9/20, Error ellipse: s-maj=11.7km s-min=6.5km az=141.0
BJI 12 08:23:16.7, 1710S×17250W, h35km, mB5.3, mb5.0, Ms5.0, Msz4.7
GCMT 12 08:23:16.7±0.2, 1709S×17188W, h12km, MW4.9/68, Moment Tensor Solution. s31,c35; s68,c101; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr-2.79±.08; Mθθ0.16±.09; Mϕϕ2.63±.07; Mrθ0.92±.30; Mϕθ0.80±.07; Mϕr-0.36±.25; Best double couple: M☉2.99000×10¹⁶ NP1:ϕs214.00000°, δ47.00000°, λ-65.00000°. NP2: ϕs359.00000°, δ49.00000°, λ-114.00000°. Principal axes: T 2.8690, Plg1.0000°, Azm106.0000°; N 0.2420, Plg18.0000°, Azm16.0000°; P -3.1110, Plg72.0000°, Azm199.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.
SZGRF 12 08:23:17.5, 1740S×17150W, h35km, Tonga Islands region
DJA 12 08:23:20, 1855S×17313W, h10km, Mw5.8/5
ISC 12 08:23:15.8±3.7, 1717S±007×17251W±007, h27km±25km, h36km±2.5km:pP-P, n165, σ0§98/92, mb4.8/38, MS4.2/31, 6C-4D, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**3.32**	**12**	Pn	**Pn**	**08 24 00.4**	**-5.6**
	10.0nm,0.3s,baz=307,slow=5.3,SNR=18						
AFI				Sn	**Sn**	**08 24 35.5**	**-9.1**
	64nm,0.3s,baz=16,slow=24,SNR=11						
AFI				LR	LR	08 25 16.0	
	comp=Z,862nm,21.8s,baz=323,slow=37						
AFI	**Afiamalu**	**3.32**	**12**	*e*Pn	**Pn**	**08 23 59.5**	**-6.5**
AFI				*e*Sn	**Sn**	**08 24 33.9**	**-11**
RAR	**Rarotonga**	**12.69**	**110**	Pn	**Pn**	**08 26 04.9**	**-10**
	9.7nm,0.3s,baz=262,slow=7.2,SNR=16						
RAR	**Rarotonga**	**12.69**	**110**	*e*Pn	**Pn**	**08 26 04.9**	**-10**
DZM	**Mont Dzumac**	**20.41**	**253**	*e*P	**P**	**08 27 51.0**	**+0.1**
DZM	**Mont Dzumac**	**20.41**	**253**	*e*P	**P**	**08 27 50.6**	**-0.3**
PPT	**Papeete**	**21.89**	**94**	*e*LQ		08 32 11.4	
	547nm,25.8s						
PPT				*e*LR	LR	08 33 02.3	
	2μm,25.8s,baz=264						
PPT	**Papeete**	**21.89**	**94**	LR	LR	08 33 43.0	
	comp=Z,947nm,20.3s,MS4.2,baz=244,slow=29						
TBI	**Tubuai**	**22.47**	**110**	*e*LQ		08 32 14.4	
	461nm,25.5s						
TBI				*e*LR	LR	08 33 10.5	
	2μm,28.0s,baz=283						
URZ	**Urewera**	**22.90**	**201**	P	**P**	**08 28 18.1**	**+0.6**
	93nm,0.6s,mb5.4,baz=8.9,slow=3.9,SNR=42						
URZ				S	**S**	**08 32 21.8**	**-4.0**
	15nm,1.0s,baz=275,slow=11,SNR=3.7						
SNZO	**South Karori**	**26.45**	**202**	*e*P	**P**	**08 28 50.0**	**-0.5**
	97nm,1.2s,mb5.2						
HNR	**Honiara**	**27.86**	**282**	LR	LR	08 38 28.9	
	comp=Z,2μm,21.7s,MS4.6,baz=113,slow=33						
RPZ	**Rata Peaks**	**29.90**	**204**	P	**P**	**08 29 25.8**	**+4.5**
	27nm,0.5s,mb5.2,baz=71,slow=1.1,SNR=12						
RPZ				LR	LR	08 40 49.4	
	comp=Z,209nm,18.9s,MS3.8,baz=156,slow=35						
RKT	**Rikitea**	**35.67**	**106**	*e*LR	LR	08 39 13.5	
	1μm,28.5s,baz=277						
CTA	**Charters Tower**	**39.11**	**259**	*e*P	**P**	**08 30 39.9**	**-1.3**
	16nm,0.7s,mb4.9						
CTA	**Charters Tower**	**39.11**	**259**	*e*P	**P**	**08 30 39.9**	**-1.3**
CTA				pmax	pmax		
	comp=Z,16nm,0.7s						
CTAO	**Charters Tower**	**39.11**	**259**	*e*P	**P**	**08 30 38.9**	**-2.3**
CTAO				pmax	pmax		
	comp=Z,19nm,0.7s,mb4.9						
CTAO	**Charters Tower**	**39.11**	**259**	*e*P	**P**	**08 30 38.9**	**-2.3**
	comp=Z,19nm,0.7s,mb4.9						
PMG	**Port Moresby**	**39.94**	**276**	*e*P	**P**	**08 30 48.7**	**+0.6**
PMG				pmax	pmax		
	comp=Z,15nm,0.7s						
PMG	**Port Moresby**	**39.94**	**276**	*e*P	**P**	**08 30 48.7**	**+0.6**
	comp=Z,15nm,0.7s,mb4.8						
TAU	**Tasmania Unive**	**42.63**	**224**	P	**P**	**08 31 09.8**	**-0.1**
TAU				pmax	pmax		
	comp=Z,132nm,1.6s,mb5.4						
TAU	**Tasmania Unive**	**42.63**	**224**	P	**P**	**08 31 09.8**	**0.0**
	comp=Z,132nm,1.6s,mb5.4						
COEN	**Coen**	**42.74**	**268**	*e*P	**P**	**08 31 11.0**	**-0.1**
	comp=Z,4.8nm,0.8s,mb4.3						
STKA	**Stephens Creek**	**43.92**	**242**	*e*P	**P**	**08 31 20.6**	**+0.1**
	comp=Z,10nm,0.7s,mb4.7						
STKA	**Stephens Creek**	**43.92**	**242**	P	**P**	**08 31 21.0**	**+0.5**
	comp=Z,13nm,0.7s,mb4.8,baz=66,slow=8.2,SNR=24						
STKA				LR	LR	08 49 09.3	
	comp=Z,318nm,18.7s,MS4.3,baz=281,slow=35						
WB2	**Warramunga Arr**	**50.28**	**258**	*e*P	**P**	**08 32 09.0**	**-1.3**
WRAB	**Tennant Creek**	**50.28**	**258**	*e*P	**P**	**08 32 09.1**	**-1.2**
WRAB				pmax	pmax		
	comp=Z,11nm,0.7s,mb5.0						
WRAB	**Tennant Creek**	**50.28**	**258**	*e*P	**P**	**08 32 09.1**	**-1.2**
	comp=Z,11nm,0.7s,mb5.0						
WRA	**Warramunga Arr**	**50.29**	**258**	P	**P**	**08 32 09.9**	**-0.5**
	comp=Z,12nm,0.7s,mb5.0,baz=94,slow=7.9,SNR=128						

WRA LR LR 08 51 48.4
comp=Z,389nm,21.7s,MS4.4,baz=85,slow=34
ASAR Alice Springs 50.40 253 P **P** **08 32 10.8 -0.3**
comp=Z,72nm,0.7s,mb5.8,baz=89,slow=8.8,SNR=603
ASAR S **S** **08 39 22.8 -0.3**
comp=Z,0.6nm,0.8s,baz=86,slow=16,SNR=4.4
ASAR Alice Springs 50.40 253 P **P** **08 32 10.9 -0.2**
ASAR S **S** **08 39 22.8 -0.3**
ASAR pmax pmax
comp=Z,72nm,0.7s
ASAR smax
comp=N,1.0nm,0.8s
KAKA Kakadu 53.23 267 *e*P **P** **08 32 30.4 -2.0**
comp=N,17nm,0.6s,mb5.2
FORT Forrest 55.40 244 *e*P **P** **08 32 47.6 -0.4**
comp=N,23nm,0.7s,mb5.3
FITZ Fitzroy Crossi 58.69 259 *e*P **P** **08 33 12.0 +0.5**
comp=N,4.5nm,0.6s,mb4.7
FITZ Fitzroy Crossi 58.69 259 LR LR 08 56 05.2
comp=N,324nm,21.9s,MS4.4,baz=100,slow=34
SBA Scott Base 61.57 185 *e*P **P** **08 33 31.6 +1.4**
SBA pmax pmax
comp=Z,4.0nm,0.7s,mb4.7
SBA Scott Base 61.57 185 *e*P **P** **08 33 31.6 +1.4**
comp=Z,4.4nm,0.7s,mb4.7
MBWA Marble Bar 63.70 255 *e*P **P** **08 33 45.6 +0.2**
KLBR Kellerberrin 64.18 243 *e*P **P** **08 33 49.3 +0.9**
comp=Z,27nm,0.7s,mb5.4
NWAO Narrogin (SRO) 64.51 241 LR LR 08 56 52.2
comp=Z,226nm,21.8s,MS4.3,baz=256,slow=31
NWAO Narrogin (SRO) 64.51 241 *e*P **P** **08 33 51.3 +0.8**
MUN Mundaring 65.46 242 *e*P **P** **08 33 58.3 +1.6**
CASY Casey 69.17 205 *e*P **P** **08 34 18.8 -0.8**
MJAR Matsushiro Arr 70.83 320 P **P** **08 34 31.0 +0.8**
comp=Z,3.5nm,0.9s,mb4.3,baz=164,slow=6.3,SNR=7.3
MJAR LR LR 08 59 48.7
comp=Z,100nm,21.9s,MS4.0,baz=95,slow=31
MAJO Matsushiro 70.83 320 *e*P **P** **08 34 29.5 -0.7**
MAT Matsushiro 70.83 320 P **P** **08 34 32.0 +1.8**
MAT eS S 08 43 35.6 -8.1
JOW Kunigami 72.21 306 LR LR 09 00 42.9
comp=Z,104nm,19.2s,MS4.1,baz=120,slow=31
PFO Pinyon Flat Ob 73.51 46 P **P** **08 34 47.5 +1.2**
comp=Z,2.9nm,0.7s,mb4.3,baz=339,slow=1.5,SNR=3.7
PFO Pinyon Flat Ob 73.51 46 P **P** **08 34 47.5 +1.2**
PFO pmax pmax
comp=Z,3.0nm,0.7s,mb4.3
CMB Columbia Colle 73.53 41 P **P** **08 34 45.3 -1.1**
KKM Kota Kinabalu 74.06 282 *e*P **P** **08 34 49.2 -0.8**
PETK Petropavlovsk- 74.57 342 P **P** **08 34 52.9 +0.9**
comp=Z,5.3nm,0.9s,mb4.5,baz=110,slow=9.1,SNR=10
PETK LR LR 09 00 41.6
comp=Z,45nm,21.4s,MS3.7,baz=340,slow=30
NVAR Mina Array Bea 75.08 41 P **P** **08 34 55.7 +0.3**
comp=Z,1.7nm,0.8s,mb4.0,baz=225,slow=9.6,SNR=9.4
NVAR Mina Array Bea 75.08 41 P **P** **08 34 55.7 +0.3**
KSRS Korea Array 78.01 315 P **P** **08 35 15.2 +3.2**
comp=Z,5.8nm,0.9s,mb4.5,baz=124,slow=6.2,SNR=10
KSRS LR LR 09 03 32.8
comp=Z,82nm,21.9s,MS4.0,baz=314,slow=31
KSM Kuching 78.19 275 *e*P **P** **08 35 16.1 +2.5**
MSU Marysvale 79.09 44 *e*P **P** **08 35 19.8 +1.9**
TXAR Lajitas Array 80.89 56 P **P** **08 35 27.9 0.0**
comp=Z,1.6nm,1.0s,mb3.9,baz=218,slow=7.9,SNR=11
TXAR LR LR 09 03 08.3
comp=Z,123nm,21.6s,MS4.2,baz=305,slow=30
TXAR Lajitas Array 80.89 56 P **P** **08 35 27.9 0.0**
TXAR LR LR 09 03 08.3
PV10 Paradox Valley 81.13 45 *e*P **P** **08 35 27.2 -1.7**
ANMO Albuquerque 81.29 49 *e*P **P** **08 35 29.7 -0.2**
ANMO pmax pmax
comp=Z,2.0nm,1.0s
ANMO Albuquerque 81.29 49 *e*P **P** **08 35 29.7 -0.2**
comp=Z,2.0nm,1.0s,mb4.0
PV01 Paradox Valley 81.33 46 P **P** **08 35 30.3 +0.3**
NJ2 Nanjing 81.90 307 *e*P **P** **08 35 33.1 -0.1**
NJ2 AMB AMB
comp=Z,20nm,0.5s,mb5.3
MCK McKinley 82.70 10 *e*P **P** **08 35 35.2 -1.4**
CN2 Changchun 82.98 320 *e*P **P** **08 35 39.2 +0.7**
PDAR Pinedale Array 83.02 41 P **P** **08 35 38.6 -0.1**
comp=Z,1.0nm,0.8s,mb3.9,baz=217,slow=3.3,SNR=6.0
PDAR LR LR 09 03 00.6
comp=Z,99nm,21.1s,MS4.2,baz=250,slow=29
SDCO Great Sand Dun 83.27 47 *e*P **P** **08 35 39.4 -0.8**
comp=Z,1.1nm,0.8s,mb3.9
HRY Holter Researc 83.73 37 *e*P **P** **08 35 42.3 0.0**
COLA College 83.94 10 *e*P **P** **08 35 42.5 -0.4**
COLA pmax pmax
comp=Z,17nm,1.2s,mb5.0
COLA College 83.94 10 *e*P **P** **08 35 42.5 -0.5**
comp=Z,17nm,1.2s,mb5.1
QIZ Qiongzhong 84.35 292 P **P** **08 35 45.4 -0.7**
QIZ S S 08 46 08.4 -2.4
QIZ LR LR
comp=Z,282nm,20.4s,MS4.6
WHN Wuhan 84.78 304 ‖P **P** **08 35 51.2 +3.1**
WHN AMB AMB
comp=Z,35nm,0.5s,mb5.8
DAWY Dawson 84.92 14 *e*P **P** **08 35 47.4 -0.5**
DAWY *e* 08 35 57.6
MAW Mawson 86.39 198 P **P** **08 35 56.2 +0.8**
comp=Z,4.2nm,0.7s,mb4.8,baz=157,slow=5.8,SNR=9.2
MAW LR LR 09 15 29.2
comp=Z,98nm,18.7s,MS4.2,baz=253,slow=36
MAW Mawson 86.39 198 P **P** **08 35 56.2 +0.8**
MAW pmax pmax
comp=Z,4.0nm,0.7s
MAW MLR MLR
comp=Z,98nm,18.7s
MAW Mawson 86.39 198 *e*P **P** **08 35 55.7 +0.3**
comp=Z,3.7nm,0.6s,mb4.8
BJI Beijing 87.30 313 P **P** **08 36 00.1 -0.1**
BJI S S 08 46 38.9 +0.1
BJI SS SS 08 52 24.6 +0.6
BJI AMB AMB
comp=Z,6.0nm,0.6s,mb5.0
BJI AMB AMB
comp=Z,80nm,3.9s
BJI LR LR
comp=N,142nm,6.2s
BJI LR LR
comp=E,221nm,5.7s
BJI LR LR
comp=Z,73nm,29.3s,MS3.9
BJI Beijing 87.30 313 P **P** **08 36 00.1 -0.1**
comp=Z,6.0nm,0.6s,mb5.0
BJI S S 08 46 38.9 +0.1
BJI SS SS 08 52 24.6 +0.6
BJI LR LR
comp=Z,70nm,29.3s,MS3.9
PLCA Paso Flores 87.70 132 P **P** **08 36 01.4 -1.0**
comp=Z,0.9nm,0.8s,mb4.0,baz=216,slow=14,SNR=2.9
PLCA LR LR 09 05 36.5
comp=Z,206nm,19.7s,MS4.5,baz=191,slow=29
PLCA Paso Flores 87.70 132 P **P** **08 36 02.2 -0.1**
PLCA pmax pmax
comp=Z,5.0nm,1.0s
PLCA Paso Flores 87.70 132 P **P** **08 36 02.2 -0.2**
comp=Z,4.7nm,1.0s,mb4.7
GYA Guiyang 89.62 298 P **P** **08 36 12.5 +0.9**
GYA AP pP 08 36 22.4 +2.2
GYA XP sP 08 36 25.9 +2.6
GYA PP PP 08 39 44.7 +0.9
GYA SKS 08 46 37.2
GYA S S 08 46 57.8 -3.6
GYA PS PS 08 48 11.2 +1.1
GYA SS SS 08 52 58.0 -0.4
GYA AMB AMB
comp=Z,10.0nm,0.9s,mb5.2
GYA AMB AMB
comp=Z,350nm,3.8s
GYA LR LR
comp=N,570nm,21.1s,MS5.1
GYA LR LR
comp=E,430nm,20.2s,MS5.1
GYA LR LR
comp=Z,380nm,22.0s,MS4.8
XAN Xi'an 90.35 306 P **P** **08 36 14.4 -0.4**
XAN AMB AMB
comp=Z,1.0nm,0.6s,mb4.3
HHC Hu-ho-hao-te 90.85 313 *e*P **P** **08 36 17.0 +0.1**
HHC AP pP 08 36 30.5 +4.9
HHC XP sP 08 36 35.9 +7.2
HHC PP PP 08 39 55.6 +2.4

HHC				SKS		08 46 43.4	
HHC				S	S	08 47 08.0	-4.1
HHC				XS	sS	08 47 29.2	+2.7
HHC				SS	SS	08 53 14.6	-1.0
HHC				AMB	AMB		
	comp=Z,15nm,1.1s,mb5.2						
HHC				AMB	AMB		
	comp=Z,152nm,5.3s						
HHC				LR	LR		
	comp=N,174nm,19.3s,MS4.7						
HHC				LR	LR		
	comp=E,164nm,18.9s,MS4.7						
HHC				LR	LR		
	comp=Z,127nm,19.3s,MS4.4						
EFI	**East Falkland**	**90.96**	**145**	P	**P**	**08 36 21.6**	**+4.2**
VNA3	**Neumayer Olymp**	**91.03**	**175**	*e*P	**P**	**08 36 18.1**	**+0.8**
VNA3				*e*		08 36 29.2	
SYO	**Syowa Base**	**91.04**	**191**⇑	*e*P	**P**	**08 36 15.6**	**-1.8**
SNAA	**Sanae**	**91.10**	**177**	*e*P	**P**	**08 36 17.4**	**-0.3**
SNAA				*e*	pP	08 36 27.4	+1.1
SNAA				*e*		08 36 32.7	
SNAA	**Sanae**	**91.10**	**177**	*e*P	**P**	**08 36 17.0**	**-0.7**
SNAA				pmax	pmax		
	comp=Z,2.0nm,0.6s						
SNAA	**Sanae**	**91.10**	**177**	*e*P	**P**	**08 36 17.0**	**-0.7**
	comp=Z,2.4nm,0.6s,mb4.7						
YKA	**Yellowknife Ar**	**91.38**	**23**	P	**P**	**08 36 17.6**	**-1.3**
	comp=Z,0.6nm,0.7s,mb4.0,baz=224,slow=6.0,SNR=3.3						
YKA				LR	LR	09 08 55.2	
	comp=Z,38nm,21.1s,MS3.8,baz=180,slow=30						
VNA2	**Neumayer--Watz**	**91.53**	**175**	*e*P	**P**	**08 36 20.4**	**+0.7**
VNA2				*e*		08 36 31.9	
KMI	**Kunming**	**92.55**	**295**	P	**P**	**08 36 25.7**	**+0.5**
KMI				AMB	AMB		
	comp=Z,6.0nm,0.5s,mb5.3						
KMI				AMB	AMB		
	comp=Z,179nm,8.9s						
CD2	**Chengdu**	**93.45**	**301**	*e*P	**P**	**08 36 29.2**	**0.0**
CD2				AP	pP	08 36 39.9	+2.0
CD2				XP	sP	08 36 44.2	+3.2
CD2				PP	PP	08 40 16.8	+2.8
CD2				SKS		08 46 59.6	
CD2				S	S	08 47 32.7	-3.2
CD2				XS	sS	08 47 50.4	0.0
CD2				SS	SS	08 53 54.7	+1.2
CD2				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb5.3						
CD2				AMB	AMB		
	comp=Z,40nm,6.2s						
CD2				LR	LR		
	comp=N,180nm,16.2s,MS4.8						
CD2				LR	LR		
	comp=E,210nm,16.8s,MS4.8						
CD2				LR	LR		
	comp=Z,200nm,14.8s,MS4.7						
CMAR	**Chiang Mai Arr**	**93.97**	**288**	LR	LR	09 12 50.0	
	comp=Z,80nm,20.4s,MS4.2,baz=281,slow=32						
ULM	**Lac du Bonnet**	**94.77**	**39**	LR	LR	09 11 54.2	
	comp=Z,162nm,19.9s,MS4.5,baz=250,slow=31						
SONM	**Songino Array**	**96.72**	**318**	LR	LR	09 13 18.5	
	comp=Z,84nm,21.3s,MS4.2,baz=55,slow=31						
LPAZ	**La Paz**	**98.41**	**110**	LR	LR	09 11 26.6	
	comp=Z,68nm,21.9s,MS4.1,baz=277,slow=30						
ROSC	**El Rosal**	**99.22**	**88**	LR	LR	09 11 43.1	
	comp=Z,63nm,18.7s,MS4.1,baz=196,slow=29						
WMQ	**Urumqi**	**108.67**	**311**	PDIF	Pdif	08 37 37.8	+0.8
WMQ				PP	PP	08 42 12.3	+3.6
WMQ				S	Sdif	08 49 39.8	-3.9
WMQ				LR	LR		
	comp=N,59nm,25.0s						
WMQ				LR	LR		
	comp=Z,49nm,23.5s,MS4.0						
MKAR	**Makanchi Array**	**112.67**	**314**	PKiKP	PKiKP	08 41 50.2	+0.4
	comp=Z,0.2nm,0.3s,baz=11,slow=0.7,SNR=3.7						
MKAR	**Makanchi Array**	**112.67**	**314**	*i* PKiKP	PKiKP	08 41 50.2	+0.3
MKAR	**Makanchi Array**	**112.67**	**314**	PKPdf	PKiKP	08 41 50.2	+0.4
KURK	**Kurchatov**	**115.02**	**318**	*i* PKiKP	PKiKP	08 41 53.6	-0.6
BOSA	**Boshof**	**131.35**	**201**	PKP	PKPdf	08 42 27.9	+1.6
	comp=Z,5.7nm,1.1s,baz=127,slow=7.6,SNR=3.6						
BOSA	**Boshof**	**131.35**	**201**	PKIKP	PKPdf	08 42 27.9	+1.6
BOSA				pmax	pmax		
	comp=Z,6.0nm,1.1s						
OBN	**Obninsk**	**136.07**	**336**	*e*PKIKP	PKPdf	08 42 38.4	+4.1
OBN				pmax	pmax		
	comp=Z,4.0nm,0.8s						
KIV	**Kislovodsk**	**140.10**	**320**	*e*PKIKP	PKPdf	08 42 40.2	-1.8
KIV				pmax	pmax		
	comp=Z,2.0nm,0.9s						
LVV	**L'vov**	**144.80**	**341**	*e*PKIKP	PKPdf	08 42 50.3	+0.1
CLZ	**Clausthal**	**145.33**	**357**	*e*PKPbc	PKPbc	08 42 51.7	+0.8
KMBO	**Kilima Mbogo**	**145.48**	**241**	PKPbc	PKPbc	08 42 55.5	+2.9
	comp=Z,11nm,1.0s,baz=60,slow=4.2,SNR=19						
KMBO	**Kilima Mbogo**	**145.48**	**241**	*e*PKPdf	PKPdf	08 42 54.6	+2.1
CLL	**Collm**	**145.66**	**354**	*e*PKP2	PKPab	08 42 53.0	+0.8
CLL				pmax	pmax		
	comp=Z,9.0nm,1.0s						
CLL	**Collm**	**145.66**	**354**	*e*PKPbc	PKPbc	08 42 53.4	+1.5
CLL	**Collm**	**145.66**	**354**	*e*(PKPbc)	PKPbc	08 42 53.0	+1.1
	comp=Z,9.0nm,1.0s						
CLL				*ex*	x	08 43 16.0	
BRG	**Berggiesshubel**	**145.98**	**353**	*e*PKP2	PKPab	08 42 54.0	+0.6
BRG				pmax	pmax		
	comp=Z,4.0nm,1.0s						
BRG	**Berggiesshubel**	**145.98**	**353**	*e*PKPbc	PKPbc	08 42 53.9	+1.0
BRG	**Berggiesshubel**	**145.98**	**353**	*e*PKP	PKPdf	08 42 54.0	+1.8
	comp=Z,6.5nm,1.0s						
FBE	**Freiberg**	**146.00**	**353**	*e*PKPbc	PKPbc	08 42 54.2	+1.2
UPC	**Upice**	**146.04**	**350**	*e*PKP	PKPdf	08 42 53.9	+1.6
DPC	**Dobruska-Polom**	**146.15**	**350**	*e*PKP	PKPab	08 42 55.0	+0.9
DPC				*ep*PKP	pPKPdf	08 43 02.6	+1.2
DPC				*ex*	x	08 43 14.2	
UZH	**Uzhgorod**	**146.38**	**342**	*e*PKP2	PKPab	08 42 56.0	+1.0
UZH				*e*		08 49 51.0	
MOX	**Moxa**	**146.44**	**355**	*e*PKP	PKPab	08 42 55.1	-0.1
	comp=Z,27nm,1.8s						
MOX	**Moxa**	**146.44**	**355**	*e*PKP2	PKPab	08 42 55.1	-0.1
MOX				pmax	pmax		
	comp=Z,27nm,1.8s						
MOX	**Moxa**	**146.44**	**355**	*e*PKPbc	PKPbc	08 42 54.7	+0.4
MORC	**Moravsky Berou**	**146.47**	**348**⇓	*i*P	PKPab	08 42 55.8	+0.4
WERD	**Werda**	**146.58**	**354**	*e*PKPbc	PKPbc	08 42 55.7	+1.0
TANN	**Tannenbergstha**	**146.60**	**354**	*e*PKPbc	PKPbc	08 42 55.7	+0.9
GUNZ	**Gunzen**	**146.66**	**354**	*e*PKPbc	PKPbc	08 42 56.3	+1.4
WERN	**Wernitzgruen**	**146.73**	**354**	*e*PKPbc	PKPbc	08 42 55.9	+0.7
PRU	**Pruhonice**	**146.77**	**352**	*e*PKP	PKPab	08 42 56.3	-0.2
MANZ	**Manzenberg**	**147.05**	**355**	*e*PKPbc	PKPbc	08 42 57.3	+1.2
VYHS	**Vyhne**	**147.41**	**346**	*e*PKP	PKPab	08 42 58.6	-0.5
GRF	**Grafenberg Arr**	**147.42**	**355**	*e*PKPbc	PKPbc	08 42 58.0	+0.9
ROSF	**Rostrenen**	**147.69**	**13**	*e*PKP1	PKPbc	08 42 58.3	+0.4
KHC	**Kasperske Hory**	**147.74**	**352**	*e*PKP	PKPab	08 42 59.5	-0.8
KHC				*ep*PKP	pPKPdf	08 43 09.8	+5.7
MLR	**Muntele Rosu**	**147.82**	**335**⇑	*i*P	PKPab	08 43 00.7	-0.1
FLN	**La Foliniere**	**147.83**	**10**	*e*PKP1	PKPbc	08 42 59.0	+0.7
	comp=Z,31nm,0.9s						
FLN				*e*MLR	MLR		
	comp=Z,79nm,22.2s,MS4.2						
MODS	**Modra-Piesok**	**147.87**	**348**	*e*PKP	PKPdf	08 42 54.6	-0.8
MODS				*e*		08 43 00.4	
SGMF	**Saint Gilles**	**147.93**	**13**	*e*PKP1	PKPbc	08 42 59.0	+0.5
	comp=Z,24nm,0.9s						
GEC2	**GERESS Array S**	**148.00**	**352**	*e*PKPbc	PKPbc	08 42 59.7	+1.0
LDF	**La Druitiere**	**148.05**	**10**	*e*PKP1	PKPbc	08 42 59.5	+0.6
	comp=Z,24nm,0.9s						
BR131	**Keskin Array S**	**148.06**	**320**	*e*PKPbc	PKPbc	08 42 59.7	+0.5
GRR	**Gorron**	**148.12**	**11**	*e*PKP1	PKPbc	08 42 59.8	+0.7
	comp=Z,22nm,0.7s						
VOIR		**148.22**	**336**⇓	*i*P	PKPab	08 43 01.4	-1.0
CONA	**Conrad Observa**	**148.56**	**349**⇑	*i*PKiKP	PKiKP	08 43 00.3	-1.4
	comp=Z,7.4nm,0.9s						
CSNA	**Conrad Observa**	**148.56**	**349**⇑	*i*PKiKP	PKiKP	08 43 00.7	-1.0
	comp=Z,6.6nm,0.9s						
CDF	**Champ du Feu**	**148.84**	**0**	*e*PKP1	PKPbc	08 43 02.0	+1.1
BFO	**Black Forest**	**148.91**	**359**	*e*PKPbc	PKPbc	08 43 02.2	+1.1
BFO	**Black Forest**	**148.91**	**359**	*e*PKPdf	PKPdf	08 42 58.7	+1.5
HAU	**Haudompre**	**149.23**	**1**	*e*PKP1	PKPbc	08 43 03.2	+1.3
HAU				*e*MLR	MLR		
	comp=Z,65nm,18.2s,MS4.2						
WTTA	**Wattenberg**	**149.79**	**354**⇓	*i*PKiKP	PKiKP	08 43 04.2	-0.1
	comp=Z,7.6nm,0.5s						
LOR	**Lormes**	**149.84**	**5**	*e*PKP1	PKPbc	08 43 04.7	+1.3
LOR				*e*MLR	MLR		
	comp=Z,75nm,19.5s,MS4.2						
MFF	**Saint Martin d**	**149.98**	**11**	*e*PKP1	PKPbc	08 43 04.7	+0.9
SSF	**Saint Saulge**	**150.01**	**5**	*e*PKP1	PKPbc	08 43 05.1	+1.2
	comp=Z,24nm,1.0s						
FETA	**Feichten**	**150.11**	**356**⇑	*i*PKiKP	PKiKP	08 43 03.9	-1.1
	comp=Z,6.6nm,1.2s						
ABTA	**Abfaltersbach**	**150.21**	**353**⇑	*i*PKiKP	PKiKP	08 43 05.1	-0.1
	comp=Z,6.5nm,0.7s						
AVF	**Avril sur Loir**	**150.26**	**6**	*e*PKP1	PKPbc	08 43 05.3	+0.8
	comp=Z,22nm,1.1s						
BGF	**Bois d'Agland**	**150.44**	**6**	*e*PKP1	PKPbc	08 43 06.1	+1.2
CABF	**La Chapelle**	**150.62**	**2**	*e*PKP1	PKPbc	08 43 07.1	+1.7
TCF	**Toulx Ste Croi**	**150.64**	**7**	*e*PKP1	PKPbc	08 43 06.1	+0.7
	comp=Z,14nm,1.0s						
RJF	**Les Rejaudoux**	**151.51**	**9**	*e*PKP1	PKPbc	08 43 08.3	+0.8
RJF				*e*MLR	MLR		
	comp=Z,71nm,19.2s,MS4.2						
LFF	**La Frestale**	**151.74**	**10**	*e*PKP1	PKPbc	08 43 08.8	+0.8
TORD	**Torodi Ar. Bea**	**173.13**	**125**	PKP	PKPdf	08 43 22.6	-1.0
	comp=Z,1.0nm,0.9s,baz=299,slow=1.3,SNR=3.9						
TORD				PKPab	PKPab	08 44 48.7	-2.2
	comp=Z,0.8nm,0.6s,baz=259,slow=3.7,SNR=6.6						

ISCJB ***12*** *08:45:22.7±0.5, 2453N±003×12255E±002, h5km±4km, Error ellipse: s-maj=5.0km s-min=2.6km az=5.7*
TAP ***12*** *08:45:24.0, 2454N×12239E, h4km, ML3.3, D*
JMA ***12*** *08:45:24.3±0.1, 2448N×12257E, h19km±1km, M2.6*

ISC 12 08:45:22.7±0.4, 2452N±003×12255E±002, h3km±4km, n34, σ0°79/59, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
YOJ	**Yonaguni jima**	**0.42**	**97**	P		**Pg**	**08 45 32.4**	**+1.5**
YOJ					*eS*	**Sg**	**08 45 38.1**	**+1.7**
TWC	**Suao**	**0.65**	**278**	P		**Pg**	**08 45 34.7**	**-0.4**
	baz=278							
TWC					*eS*	**Sg**	**08 45 43.0**	**-0.5**
	baz=278							
TWB1	**Santiao Chiao**	**0.71**	**314**	P		**Pg**	**08 45 37.3**	**+1.0**
	baz=322							
TWB1					*eS*	**Sg**	**08 45 46.5**	**+0.9**
	baz=322							
ENA	**Nanau**	**0.74**	**263**	P		**Pg**	**08 45 36.9**	**-0.1**
	baz=259							
ENA					*eS*	**Sg**	**08 45 46.8**	**+0.1**
	baz=259							
ILA	**Ilan**	**0.77**	**289**	*e*P		**Pg**	**08 45 36.8**	**-0.7**
	baz=291							
TWE	**Neicheng**	**0.83**	**284**	*i* P		**Pg**	**08 45 38.4**	**-0.3**
	baz=285							
TWE					*eS*	**Sg**	**08 45 48.9**	**-0.5**
	baz=285							
NWF	**Wu-fen Shan**	**0.89**	**308**	*e*P		**Pg**	**08 45 40.3**	**+0.4**
	baz=313							
NWF					*eS*	**Sg**	**08 45 52.2**	**+0.8**
	baz=313							
TWD	**Chiawan**	**0.97**	**244**	*e*P		**Pg**	**08 45 41.9**	**+0.5**
	baz=238							
TWD					*eS*	**Sg**	**08 45 54.9**	**+0.8**
	baz=238							
TWA	**Mucha**	**0.99**	**298**	*e*P		**Pg**	**08 45 41.5**	**-0.3**
	baz=300							
TWA					*eS*	**Sg**	**08 45 54.8**	**0.0**
	baz=300							
NNS	**Nan Shan**	**1.08**	**266**	P		**Pg**	**08 45 43.1**	**-0.2**
	baz=264							
NNS					*eS*	**Sg**	**08 45 56.8**	**-0.6**
	baz=264							
IRIF	**Iriomote-Funau**	**1.09**	**99**	P		**Pg**	**08 45 43.8**	**+0.1**
IRIF					*eS*	**Sg**	**08 45 57.5**	**-0.3**
TWY	**Chenhua**	**1.15**	**311**	*e*P		**Pg**	**08 45 44.1**	**-0.7**
	baz=315							
TWY					*eS*	**Sg**	**08 45 59.7**	**+0.1**
	baz=315							
PCYT	**Pengchaiyu**	**1.19**	**339**	*e*P		**Pg**	**08 45 46.6**	**+1.0**
	baz=345							
WHF	**Hehuan Shan**	**1.23**	**253**	*i* P		**Pg**	**08 45 46.0**	**-0.4**
	baz=249							
WHF					*eS*	**Sg**	**08 46 02.5**	**+0.2**
	baz=249							
HATJ	**Hateruma jima**	**1.23**	**112**	*e*S		**Sg**	**08 46 01.1**	**-1.3**
ESL	**Shilin**	**1.24**	**236**	*e*P		**Pg**	**08 45 46.1**	**-0.3**
	baz=230							
TWT	**Tachien**	**1.28**	**258**	*e*P		**Pg**	**08 45 46.9**	**-0.4**
	baz=255							
TWT					*eS*	**Sg**	**08 46 03.3**	**-0.7**
	baz=255							
JKRS	**Kuro-shima**	**1.36**	**101**	P		**Pn**	**08 45 47.8**	**-0.9**
JKRS					*eS*	**Sg**	**08 46 05.7**	**-0.7**
NSTT	**Nanjuang**	**1.42**	**275**	*e*P		**Pn**	**08 45 49.0**	**-0.4**
	baz=274							
NSTT					*eS*	**Sg**	**08 46 06.5**	**-1.8**
	baz=274							
JIJ	**Ishigaki jima**	**1.46**	**96**	P		**Pn**	**08 45 49.1**	**-0.9**
JIJ					*eS*	**Sb**	**08 46 07.4**	**-2.2**
EHY	**Hungye**	**1.51**	**228**	*e*P		**Pn**	**08 45 51.0**	**+0.3**
	baz=223							
EHY					*eS*	**Sn**	**08 46 10.4**	**-0.5**
	baz=223							
TWF1	**Yuli**	**1.63**	**225**	*e*P		**Pn**	**08 45 51.4**	**-1.0**
	baz=220							
TWF1					*eS*	**Sn**	**08 46 13.6**	**-0.3**
	baz=220							
NSY	**Sanyi**	**1.63**	**267**	*e*P		**Pn**	**08 45 51.9**	**-0.6**
	baz=265							
NSY					*eS*	**Sn**	**08 46 12.6**	**-1.4**
	baz=265							
SMLT	**Sun Moon Lake**	**1.63**	**248**	P		**Pn**	**08 45 53.0**	**+0.5**
	baz=244							
SMLT					*eS*	**Sn**	**08 46 14.2**	**+0.2**
	baz=244							
YUS	**Yu-Shan**	**1.78**	**235**	*e*P		**Pn**	**08 45 55.1**	**+0.6**
	baz=231							
YUS					*eS*	**Sn**	**08 46 17.4**	**-0.3**
	baz=231							
ALS	**Alishan**	**1.89**	**238**	*e*P		**Pn**	**08 45 56.6**	**+0.7**
	baz=234							
ALS					*eS*	**Sn**	**08 46 20.5**	**+0.3**
	baz=234							
STYT	**Tauyuan**	**2.12**	**231**	*e*P		**Pn**	**08 45 59.2**	**0.0**
	baz=227							
STYT					*eS*	**Sn**	**08 46 26.5**	**+0.3**
	baz=227							
TWK	**Hsinying**	**2.26**	**237**	*e*P		**Pn**	**08 46 02.5**	**+1.4**
	baz=234							
CHN1	**Nanshi**	**2.28**	**235**	*e*P		**Pn**	**08 46 01.6**	**+0.3**
	baz=231							
CHN1					*eS*	**Sn**	**08 46 30.0**	**0.0**
	baz=231							
SGST	**Jiashian**	**2.30**	**232**	*e*P		**Pn**	**08 46 01.7**	**+0.1**
	baz=228							
SGST					*eS*	**Sn**	**08 46 30.4**	**0.0**
	baz=228							
ECL	**Taimali**	**2.41**	**218**	*e*P		**Pn**	**08 46 04.4**	**+1.3**
	baz=214							
SSD	**Sandimen**	**2.49**	**225**	*e*P		**Pn**	**08 46 05.1**	**+0.9**
	baz=222							
EAST	**Anshuo**	**2.64**	**217**	*e*P		**Pn**	**08 46 07.6**	**+1.4**
	baz=213							
SCZT	**Fangliau**	**2.77**	**220**	*e*P		**Pn**	**08 46 09.2**	**+1.1**
	baz=217							

IDC 12 08:47:34.1±8.6, 1184S×16625E, h0km, mb3.8/3, mb1 3.9/3, mb1mx3.6/16, mbtmp3.8/3, MS2.8/1, Ms1 2.8/1, ms1mx2.6/18, Error ellipse: s-maj=260.6km s-min=53.8km az=125.0, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**6.64**	**291**	LR	LR		08 51 28.6	
	comp=Z,80nm,21.7s,baz=111,slow=35							
WRA	**Warramunga Arr**	**31.69**	**251**	P		P	08 53 59.6	0.0
	0.3nm,0.6s,baz=84,slow=9.1,SNR=2.5							
ASAR	**Alice Springs**	**32.89**	**245**	P		P	08 54 10.3	+0.2
	0.5nm,0.6s,baz=68,slow=9.8,SNR=7.6							
MKAR	**Makanchi Array**	**94.43**	**317**	P		P	09 00 56.0	-0.1
	1.3nm,0.7s,baz=93,slow=6.3,SNR=6.4							

KRSC 12 08:59:02.0±0.3, 5612N×16415E, h5km±5km, ML3.5, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
KBTR	**Krutoberegovo**	**0.75**	**277**	*e*P		Pg	08 59 17.4	+1.0
KBTR					*eS*	Sg	08 59 27.6	+1.5
SRKR	**Sorokina**	**1.74**	**289**	*e*P		Pn	08 59 33.0	+0.2
ZLN	**Zelenaya**	**1.88**	**268**	*e*P		Pn	08 59 35.7	+1.0
KLY	**Klyuchi**	**1.96**	**277**	*e*P		Pn	08 59 35.1	-0.8
KLY					*eS*	Sn	09 00 00.0	-0.8
KRSR	**Krestovskiy**	**2.01**	**274**	*e*P		Pn	08 59 37.0	+0.5
BZMR	**Bezymyannaya**	**2.06**	**266**	*e*P		Pn	08 59 38.3	+1.1
KIRR	**Kirishev**	**2.14**	**267**	*e*P		Pn	08 59 39.1	+0.8
KPT	**Kopyto**	**2.21**	**268**	*e*P		Pn	08 59 39.8	+0.5
KMNR	**Kamenistaya**	**2.23**	**262**	*e*P		Pn	08 59 41.2	+1.6
KMNR					*eS*	Sn	09 00 10.7	+3.3
KOZ	**Kozyrevsk**	**2.40**	**270**	*e*P		Pn	08 59 42.9	+1.1
KOZ					S	Sn	09 00 13.8	+2.3
TUMR	**Tumrok**	**2.42**	**251**	*e*P		Pn	08 59 43.9	+1.8
TUMR					S	Sn	09 00 15.4	+3.4
SRDR	**Sredinnyy**	**2.48**	**276**	*e*S		Sn	09 00 17.2	+3.5
NLC	**Nalytchevo**	**4.06**	**225**	*e*P		Pn	09 00 06.1	+1.4
NLC					*eS*	Sn	09 00 53.2	+0.6
AVH	**Avacha**	**4.25**	**230**	*e*P		Pn	09 00 09.5	+2.2
AVH					*eS*	Sn	09 00 58.6	+1.5
PET	**Petropavlovsk**	**4.46**	**228**	P		Pn	09 00 13.0	+2.9
RUS	**Russkaya**	**4.96**	**224**	*e*P		Pn	09 00 18.6	+1.6
RUS					S	Sn	09 01 15.7	+1.1

CASC 12 08:59:21.7±2.2, 1406N×9156W, h52km±20km, MD4.0, 1D, Guatemala

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
JAT	**Jato**	**0.27**	**343**⇓	*e*P		Pn	08 59 32.4	+1.7
JAT					*eS*	Sn	08 59 37.3	+0.1
FUG	**Fuego 3**	**0.79**	**61**	*e*P		Pn	08 59 36.9	+0.2
FG6		**0.82**	**53**	*e*P		Pn	08 59 37.6	+0.5
PCG	**Pacaya**	**0.98**	**70**	*e*P		Pn	08 59 39.8	+0.6
PCG					*eS*	Sn	08 59 52.4	+0.4
NBG	**Las Nubes**	**1.28**	**66**	*e*P		Pn	08 59 44.7	+1.4
NBG					*eS*	Sn	09 00 03.2	+3.8
RBDL	**Robledal**	**1.81**	**88**	*e*P		x	08 59 50.4	
SBLS	**San Blas**	**1.89**	**96**	*e*P		x	08 59 52.1	
SBLS					*eS*	x	09 00 16.5	
SNJE	**San Jose**	**1.90**	**96**	*e*P		x	08 59 52.0	
SNJE					*eS*	x	09 00 15.9	
LBRS	**Las Brisas**	**2.46**	**97**	*e*P		x	08 59 59.3	
LFRS	**El Faro**	**2.46**	**100**	*e*P		x	08 59 59.6	

ISCJB ***12*** *09:05:16.0±0.6, 3853N±003×2307E±007, h2km, 8km, Error ellipse: s-maj=9.6km s-min=4.2km az=174.9*
CSEM ***12*** *09:05:15.7±0.2, 3856N×2295E, h15km, ML2.9/1, Error ellipse: s-maj=6.1km s-min=2.8km az=58.0*
ATH ***12*** *09:05:16.0, 3850N×2298E, h5km±2km, MD3.0/6, ML2.8*
THE ***12*** *09:05:16.4, 3852N×2301E, h9km±1km, ML2.9/1, Error ellipse: s-maj=1.5km s-min=0.4km az=293.0*
NEIC ***12*** *09:05:16.0, 3850N×2298E, h5km, ML2.8(ATH), ML3.0(THE), After ATH.*

ISC 12 09:05:16.3±0.5, 3853N±003×2307E±007, h8km±7km, n23, σ0°79/33, 2C, Greece

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
LKR	**Lokris**	**0.13**	**336**	P		**Pg**	**09 05 19.2**	**-0.1**
LKR				S		**Sg**	**09 05 21.6**	**+0.3**
LKR	**Lokris**	**0.13**	**336**⇑	*i* Pg		**Pg**	**09 05 19.1**	**-0.2**
LKR				*e*Sg		**Sg**	**09 05 21.6**	**+0.3**
LKR	**Lokris**	**0.13**	**336**⇑	*i* PG		**Pg**	**09 05 19.1**	**-0.2**
LKR				*e*SG		**Sg**	**09 05 21.6**	**+0.3**
LTK	**Loutraki**	**0.51**	**189**	P		**Pg**	**09 05 25.9**	**-0.8**
LTK				S		**Sg**	**09 05 33.6**	**+0.7**
ATH	**Athens Observa**	**0.76**	**137**	*e*Pb		**Pb**	**09 05 31.2**	**-0.5**
ATH				*e*Sb		**Sb**	**09 05 41.8**	**-0.3**
ATH	**Athens Observa**	**0.76**	**137**	*e*PB		**Pb**	**09 05 31.2**	**-0.5**
ATH				*e*SB		**Sb**	**09 05 41.8**	**-0.3**
AGG	**Agios Georgios**	**0.76**	**311**	P		**Pg**	**09 05 30.0**	**-0.9**
AGG				S		**Sg**	**09 05 41.0**	**+0.2**
NEO	**Neokhori**	**0.79**	**9**	*e*Pg		**Pg**	**09 05 31.2**	**-0.3**
NEO				*e*Sb		**Sb**	**09 05 43.8**	**+0.8**
NEO	**Neokhori**	**0.79**	**9**	*e*PG		**Pg**	**09 05 31.2**	**-0.3**
NEO				*e*SB		**Sb**	**09 05 43.8**	**+0.8**
PTL	**Penteli**	**0.79**	**127**	*e*Pb		**Pb**	**09 05 31.0**	**-1.2**
PTL	**Penteli**	**0.79**	**127**	*e*PB		**Pb**	**09 05 31.0**	**-1.2**
NAIG	**Nisos Aigina**	**0.84**	**157**	*e*Pb		**Pb**	**09 05 33.0**	**-0.1**
NAIG	**Nisos Aigina**	**0.84**	**157**	*e*PB		**Pb**	**09 05 33.0**	**-0.1**
XOR	**Xorichti**	**0.84**	**7**	P		**Pg**	**09 05 32.5**	**0.0**
KVR	**Kavouri**	**0.89**	**142**	*e*Pb		**Pb**	**09 05 34.0**	**0.0**
KVR	**Kavouri**	**0.89**	**142**	*e*PB		**Pb**	**09 05 34.0**	**0.0**
AOS	**Alonnisos**	**0.90**	**44**	P		**Pg**	**09 05 34.2**	**+0.6**
DID	**Didima**	**1.03**	**173**	P		**Pg**	**09 05 35.5**	**-0.6**
DID				S		**Sg**	**09 05 50.9**	**+1.4**
ITM	**Ithomi**	**1.62**	**214**	*e*Pb		**Pb**	**09 05 45.5**	**-1.0**
ITM	**Ithomi**	**1.62**	**214**	*e*PB		**Pb**	**09 05 45.5**	**-1.0**
VLI	**Veliai**	**1.81**	**183**	*e*Pn		**Pn**	**09 05 50.0**	**+2.3**
VLI	**

134nm,1.3s,3µm0.5nm
DBJI Dramaga 5.52 127 P **Pn** 09 30 37.2 -1.6
134nm,1.3s,3µm0.5nm
CBJI Citeko 5.53 126 P **Pn** 09 30 40.5 +1.6
0.0nm,0.0s
CBJI Citeko 5.53 126 P **Pn** 09 30 43.6 +4.7
612nm,1.1s,1.9nm
CBJI Citeko 5.53 126 P **Pn** 09 30 40.4 +1.5
612nm,1.1s
LEM Lembang 6.38 125 P **Pn** 09 30 51.4 +0.9
0.0nm,0.0s
LEM Lembang 6.38 125 P **Pn** 09 30 52.5 +2.0
117nm,1.0s,0.4nm
LEM Lembang 6.38 125 P **Pn** 09 30 50.2 -0.3
117nm,1.0s,0.4nm
IPM Ipoh 7.72 350 P **Pn** 09 31 09.4 +0.5
21nm,0.7s,274nm0.1nm
SJI Sawahan 10.41 116 P **Pn** 09 31 45.5 -0.1
0.0nm,0.0s
SJI Sawahan 10.41 116 P **Pn** 09 31 47.6 +2.0
COCO West Island 10.48 211 Pn **Pn** 09 31 47.1 +0.7
80nm,1.1s
SMKI Samarinda 15.11 80 P **Pn** 09 32 48.9 +0.7
191nm,0.4s
KDI Kendari 20.25 93 P **P** 09 33 52.2 +4.0
0.0nm,0.0s
CMAR Chiang Mai Arr 21.76 351 P **P** 09 34 04.8 +0.5
1.3nm,0.6s,mb3.4,baz=184,slow=9.4,SNR=7.3
CMAR LR LR 09 42 59.6
comp=Z,83nm,18.2s,baz=180,slow=38
BATI Baumata 22.29 109 LR LR 09 46 02.4
comp=Z,143nm,18.6s,baz=306,slow=46
FITZ Fitzroy Crossi 27.22 125 P **P** 09 34 53.4 -2.2
3.0nm,0.9s,mb3.8,baz=330,slow=8.1,SNR=2.0
FITZ LR LR 09 45 47.3
comp=Z,53nm,19.6s,baz=80,slow=37
NWAO Narrogin (SRO) 32.71 156 LR LR 09 46 39.3
comp=Z,129nm,20.6s,baz=254,slow=32
NWAO Narrogin (SRO) 32.71 156 *e*P **P** 09 35 35.6 -8.4
40nm,1.7s,mb5.0
WRA Warramunga Arr 35.38 121 P **P** 09 36 05.2 -2.1
1.8nm,0.8s,mb4.0,baz=295,slow=9.6,SNR=14
WRA LR LR 09 53 18.4
comp=Z,40nm,19.3s,baz=155,slow=41
WRAB Tennant Creek 35.39 121 *e*P **P** 09 36 04.6 -2.7
4.4nm,0.8s,mb4.3
WB2 Warramunga Arr 35.39 121 *e*P **P** 09 36 03.8 -3.6
ASAR Alice Springs 36.67 127 P **P** 09 36 17.2 -1.1
3.7nm,0.6s,mb4.5,baz=297,slow=7.9,SNR=69
STKA Stephens Creek 46.62 132 P **P** 09 37 38.9 -0.5
3.5nm,0.7s,mb4.2,baz=291,slow=2.6,SNR=2.4
STKA Stephens Creek 46.62 132 *e*P **P** 09 37 38.5 -1.0
3.8nm,0.8s,mb4.2
SONM Songino Array 50.93 4 P **P** 09 38 14.3 +2.2
3.2nm,0.8s,mb4.4,baz=180,slow=9.2,SNR=15
MJAR Matsushiro Arr 51.76 37 P **P** 09 38 18.2 -0.4
0.6nm,0.5s,mb3.9,baz=219,slow=6.2,SNR=3.8
TKM2 Tokmak 2 51.86 335 *e*P **P** 09 38 19.9 +0.7
4.7nm,0.8s,mb4.6
EKS2 Erkin-Say 52.44 334 *e*P **P** 09 38 24.6 +1.2
7.1nm,0.8s,mb4.8
MKAR Makanchi Array 52.82 343 P **P** 09 38 26.5 +0.4
3.0nm,0.7s,mb4.4,baz=147,slow=6.8,SNR=5.6
KURK Kurchatov 57.41 342 P **P** 09 38 59.0 -0.1
3.2nm,0.8s,mb4.4,baz=150,slow=6.8,SNR=2.4
KURK Kurchatov 57.41 342 P **P** 09 38 59.0 -0.1
ZALV Zalesovo Beam 58.78 348 P **P** 09 39 08.7 +0.1
2.7nm,0.6s,mb4.5,baz=174,slow=6.2,SNR=4.0
BVAR Borovoye Array 62.11 339 P **P** 09 39 31.0 -0.3
1.6nm,0.5s,mb4.3,baz=132,slow=6.0,SNR=2.4
AKTK Aktyubinsk 65.52 331 P **P** 09 39 53.9 +0.1
AKTO Aktyubinsk 65.52 331 P **P** 09 39 53.9 +0.1
1.6nm,0.7s,mb4.0,baz=94,slow=13,SNR=3.5
ASF Jabal al Asfar 71.17 305 P **P** 09 40 32.5 +3.0
1.3nm,0.7s,mb3.8,baz=5.9,slow=2.4,SNR=5.8
RPZ Rata Peaks 72.49 135 LR LR 10 11 34.5
comp=Z,40nm,19.9s,baz=229,slow=35
BR131 Keskin Array S 75.84 312 *e*P **P** 09 40 57.6 +0.8
1.5nm,0.6s,mb3.9
SAO San Andreas Ge 127.71 45 *e*PKPdf PKPdf 09 48 16.8 +1.1
TXAR Lajitas Array 144.14 41 PKP PKPdf 09 48 46.3 +0.1
0.5nm,0.8s,baz=354,slow=7.6,SNR=3.8
CPUP Villa Florida 144.68 213 PKP PKPdf 09 48 48.4 +1.1
2.3nm,0.7s,baz=75,slow=5.0,SNR=6.3

NNC 12 09:34:15.7±2.9**,5395N**×**8691E,h0**km**,mb4.0,mpv3.5,**
7C-4D,Error ellipse: s-maj=22.3km s-min=16.1km
az=55.0,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
KURK	**Kurchatov**	**6.03**	**241**	⇑	Pn		Pn	09 35 45.9	0.0
	11nm,1.0s								
KURK				⇓	Sn		Sn	09 36 58.2	+2.7
	3.0nm,0.7s								
KURK				⇑	Lg			09 37 29.3	
	9.2nm,0.7s								
KURBB	**Kurchatov Arra**	**6.13**	**240**	⇑	Pn		Pn	09 35 47.5	+0.1
	1.9nm,0.6s,baz=54,slow=14								
KURBB				⇑	Sn		Sn	09 36 58.6	+0.6
	1.6nm,0.6s								
KURBB				⇓	Lg			09 37 30.4	
	3.0nm,0.7s,baz=60,slow=33								
MK31	**Makanchi Array**	**7.75**	**204**	⇑	Pn		Pn	09 36 12.5	+2.9
	0.9nm,0.5s,baz=30,slow=14,SNR=14								
MK31				⇑	Sn		Sn	09 37 44.4	+6.5
	2.7nm,0.7s,baz=24,slow=26,SNR=5.7								
MK31				⇑	Lg			09 38 18.7	
	7.5nm,0.9s,baz=155,slow=7.0,SNR=5.5								
VOSK	**Vostochnaya**	**9.61**	**269**	⇓	Pn		Pn	09 36 34.5	-0.6
	2.9nm,0.6s								
VOSK				⇓	Sn		Sn	09 38 21.8	-1.9
	4.2nm,0.7s								

IDC ***12*** *09:41:31.3*±*0.7,1351N*×*9226W,h0km,mb4.1/13,*
mb1 4.3/15,mb1mx4.2/24,mbtmp4.1/15,ML4.4/2,MS3.6/8,
Ms1 3.6/8,ms1mx3.2/27,Error ellipse: s-maj=27.6km
s-min=12.5km az=61.0
BJI ***12*** *09:41:32.2,1340N*×*9270W,h13km,mB5.2,Ms5.0,Msz4.7*
CASC ***12*** *09:41:32.2*±*2.8,1345N*×*9261W,h90km*±*125km,MD4.1,*
ML3.7,mb4.7(NEIC)
ISCJB ***12*** *09:41:34.8*±*1.7,1355N*±*004*×*9235W*±*004,h29km*±*12km,*
mb4.4/34,MS3.8/10,Error ellipse: s-maj=7.2km
s-min=4.6km az=38.7
NEIC ***12*** *09:41:34.2,1337N*×*9268W,h13km,mb4.7/23,*
MD4.6(MEX),After MEX.
MEX ***12*** *09:41:34.8*±*1.3,1341N*×*9278W,h16km*±*95km,MD4.6*
ISC 12 09:41:35.0±1.9**,1362N**±004×**9236W**±003**,h12**km±12km**,**
h33km±3.3km**:pP-P,n337,**σ0°**82**/334**,mb4.4**/34**,MS3.8**/10**,**
109C-101D,Off coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
JAT	**Jato**	**0.99**	**45**	*e*P			**Pb**	**09 41 56.3**	**+2.3**
THIG		**1.28**	**4**	*i*P			**Pn**	**09 41 57.5**	**-1.3**
THIG				*i*S			**Sb**	**09 42 16.7**	**+1.1**
FUG	**Fuego 3**	**1.69**	**61**	*e*P			**Pn**	**09 42 04.5**	**+0.2**
FG6		**1.71**	**57**	*e*P			**Pn**	**09 42 05.4**	**+0.7**
FG6				*e*S			**Sn**	**09 42 30.0**	**+3.5**
NBG	**Las Nubes**	**2.18**	**63**	*e*P			**Pn**	**09 42 13.6**	**+2.5**
RBDL	**Robledal**	**2.64**	**79**	⇓*e*P			x	09 42 17.3	
RBDL				*e*S			x	09 42 53.3	
CCIG	**Comitan**	**2.66**	**5**	*e*P			**Pn**	**09 42 19.7**	**+2.0**
CCIG				*i*S			**Sn**	**09 42 52.0**	**+2.1**
CCIG	**Comitan**	**2.66**	**5**	*e*P			**Pn**	**09 42 19.7**	**+2.0**
CCIG				*i*S			**Sn**	**09 42 53.9**	**+4.1**
SBLS	**San Blas**	**2.67**	**85**	⇑*e*P			x	09 42 16.6	
SBLS				*e*S			x	09 42 50.6	
SNJE	**San Jose**	**2.69**	**84**	⇑*e*P			x	09 42 17.2	
MTO2	**Montecristo 2**	**3.01**	**75**	⇑*e*P			x	09 42 22.4	
SNET	**Serv Nac Est T**	**3.04**	**88**	*e*P			x	09 42 21.2	
SNET				*e*S			x	09 43 00.7	
LFRS	**El Faro**	**3.21**	**90**	⇓*e*P			x	09 42 25.4	
LFRS				*e*S			x	09 43 08.3	
LBRS	**Las Brisas**	**3.23**	**87**	⇑*e*P			x	09 42 25.2	
TGIG		**3.23**	**347**	*e*P			**Pn**	**09 42 24.2**	**-1.3**
TGIG				*i*S			**Sn**	**09 43 03.4**	**-0.5**
HUIG	**Huatulco**	**4.21**	**301**	*i*P			**Pn**	**09 42 32.6**	**-6.4**
HUIG				*i*S			**Sn**	**09 43 16.6**	**-12**
HUIG	**Huatulco**	**4.21**	**301**	*i*P			**Pn**	**09 42 34.6**	**-4.5**
HUIG				*i*S			**Sn**	**09 43 15.2**	**-13**
CMIG	**Matias Romero**	**4.22**	**325**	Pn			**Pn**	**09 42 36.3**	**-2.9**
	10nm,0.3s,baz=134,slow=11,SNR=108								
CMIG					Sn		**Sn**	**09 43 25.3**	**-3.3**
	12nm,0.3s,baz=104,slow=18,SNR=5.9								
CMIG	**Matias Romero**	**4.22**	**325**	Pn			**Pn**	**09 42 36.3**	**-2.9**
CMIG					Sn		**Sn**	**09 43 25.3**	**-3.3**
CNCH	**Conchagua**	**4.42**	**94**	*e*P			x	09 42 41.4	
CNCH				*e*S			x	09 43 36.1	
CNCH				AML			x	09 43 37.8	
	comp=Z,169nm,0.5s								
TGUH	**Tegucigalpa,Un**	**4.96**	**84**	*e*Pn			**Pn**	**09 42 49.8**	**+0.4**
VHO	**Vista Hermosa**	**5.44**	**310**	*e*P			**Pn**	**09 42 51.2**	**-4.8**
VHO				*i*S			**Sn**	**09 43 51.1**	**-7.4**
VHO	**Vista Hermosa**	**5.44**	**310**	*e*P			**Pn**	**09 42 53.7**	**-2.2**
VHO				*i*S			**Sn**	**09 43 51.1**	**-7.4**
MIRN	**Miramar**	**5.63**	**101**	*e*P			**Pn**	**09 42 56.1**	**-2.4**
CSAN		**5.96**	**103**	*e*P			**Pn**	**09 43 02.2**	**-1.0**
PNIG	**Pinotepa**	**6.22**	**297**	*e*P			**Pn**	**09 43 00.7**	**-5.9**
PNIG				*i*S			**Sn**	**09 44 07.5**	**-10**
PNIG	**Pinotepa**	**6.22**	**297**	*i*P			**Pn**	**09 43 01.7**	**-4.9**
PNIG				*i*S			**Sn**	**09 44 07.3**	**-10**
TPIG	**Tehuac#an**	**6.78**	**315**	*i*P			**Pn**	**09 43 10.7**	**-3.7**
TPIG				*i*S			**Sn**	**09 44 24.8**	**-6.7**
TEIG	**Tepich**	**7.64**	**30**	Pn			**Pn**	**09 43 26.2**	**-0.1**
	comp=Z,5.1nm,0.3s,baz=251,slow=7.0,SNR=24								
TEIG					Sn		**Sn**	**09 44 52.4**	**-0.5**
	comp=Z,0.9nm,0.3s,baz=90,slow=20,SNR=4.2								
TEIG	**Tepich**	**7.64**	**30**	*e*Pn			**Pn**	**09 43 27.2**	**+0.9**
	comp=Z,36nm,0.6s								
TEIG				*e*Sn			**Sn**	**09 44 56.9**	**+4.0**
JTS	**JuntasAbangare**	**7.97**	**114**	Pn			**Pn**	**09 43 32.5**	**+1.8**
	comp=Z,1.7nm,0.3s,baz=345,slow=22,SNR=6.6								
JTS					Sn		**Sn**	**09 45 02.8**	**+2.0**
	comp=Z,1.2nm,0.3s,baz=342,slow=20,SNR=2.7								
JTS	**JuntasAbangare**	**7.97**	**114**	*e*Pn			**Pn**	**09 43 30.0**	**-0.6**
	comp=Z,14nm,0.8s								
PPM	**Popocatepetl**	**8.09**	**313**	*i*P			**Pn**	**09 43 28.8**	**-3.6**
PPM				*i*S			**Sn**	**09 44 57.5**	**-6.4**
PPM	**Popocatepetl**	**8.09**	**313**	*i*P			**Pn**	**09 43 31.8**	**-0.6**
PPM				*i*S			**Sn**	**09 45 18.0**	**+14**
PLIG	**Platanillo**	**8.35**	**306**	*i*P			**Pn**	**09 43 34.9**	**-1.0**
PLIG	**Platanillo**	**8.35**	**306**	*i*P			**Pn**	**09 43 35.8**	**-0.1**
MZVM		**8.61**	**311**	*i*P			**Pn**	**09 43 39.9**	**+0.4**
MOIG	**Morelia**	**10.38**	**307**	*i*P			**Pn**	**09 44 00.8**	**-3.0**
JCT	**Junction City**	**18.13**	**339**	*e*Pn			**Pn**	**09 45 47.5**	**+0.7**
TXAR	**Lajitas Array**	**18.83**	**328**	P			**Pn**	**09 45 55.6**	**+0.3**
	comp=Z,0.2nm,0.3s,baz=152,slow=11,SNR=30								
OTAV	**Otavalo**	**19.14**	**133**	*e*P			**Pn**	**09 46 00.8**	**+1.6**
	comp=Z,1.3nm,0.8s								
ROSC	**El Rosal**	**19.80**	**114**	P			**Pn**	**09 46 09.3**	**+2.3**
	baz=102,slow=23,SNR=5.1								
LRAL	**Lakeview Retre**	**19.94**	**13**	*e*Pn			**Pn**	**09 46 06.7**	**-1.9**
MIAR	**Mount Ida**	**20.86**	**357**	*e*P			**P**	**09 46 15.8**	**-1.1**
GOGA	**Godfrey**	**21.30**	**21**	*e*P			**P**	**09 46 20.7**	**-1.0**
	comp=Z,14nm,0.9s,mb4.3								
GDL2	**Guadalupe Moun**	**21.52**	**331**	*e*P			**P**	**09 46 24.1**	**+0.1**
SDV	**Santo Domingo**	**21.82**	**100**	P			**P**	**09 46 25.6**	**-1.7**
	comp=Z,3.5nm,0.3s,mb4.3,baz=185,slow=22,SNR=4.0								
SDV	**Santo Domingo**	**21.82**	**100**	*e*P			**P**	**09 46 25.7**	**-1.7**
	comp=Z,18nm,1.0s,mb4.5								
SWET	**Sewanee**	**22.27**	**14**	*e*P			**P**	**09 46 30.8**	**-1.3**
WVT	**Waverly**	**22.78**	**10**	*e*P			**P**	**09 46 35.3**	**-2.1**
AMTX	**Amarillo**	**22.79**	**340**	*e*P			**P**	**09 46 36.1**	**-1.3**
CPCT	**Cooper Cave**	**22.86**	**17**	*e*P			**P**	**09 46 36.9**	**-1.4**
LHS	**Liberty Hill**	**23.25**	**25**	*e*P			**P**	**09 46 44.1**	**+1.7**
TKL	**Tuckaleechee C**	**23.27**	**18**	P			**P**	**09 46 41.5**	**-1.1**
	comp=Z,9.6nm,0.5s,mb4.5,baz=189,slow=9.3,SNR=24								
TKL					LR		LR	09 57 12.7	
	comp=Z,198nm,20.6s,MS3.5,baz=7.9,slow=40								
TKL	**Tuckaleechee C**	**23.27**	**18**	*e*P			**P**	**09 46 41.0**	**-1.5**
319A	**Douglas**	**23.54**	**321**	⇑P			**P**	**09 46 45.3**	**-0.1**
	baz=24,SNR=8.8								
219A	**White Tail Can**	**23.97**	**323**	⇑P			**P**	**09 46 49.3**	**-0.1**
	baz=24,SNR=18								
318A	**Bisbee**	**24.02**	**320**	⇑P			**P**	**09 46 49.9**	**+0.1**
	baz=24,SNR=11								
TZTN	**Tazewell**	**24.16**	**18**	*e*P			**P**	**09 46 49.4**	**-1.6**
	comp=Z,20nm,0.8s,mb4.6								
SIUC	**Southern Illin**	**24.16**	**6**	*e*P			**P**	**09 46 49.6**	**-1.5**
BNM	**Barren Site**	**24.20**	**330**	*e*P			**P**	**09 46 51.8**	**+0.4**
LPM	**Los Pinos Moun**	**24.33**	**330**	*e*P			**P**	**09 46 51.7**	**-0.9**
CCM	**Cathedral Cave**	**24.36**	**2**	*e*P			**P**	**09 46 51.4**	**-1.4**
119A	**Ashpeak Ranch,**	**24.55**	**324**	⇑P			**P**	**09 46 54.6**	**-0.1**
	baz=25,SNR=6.0								
USIN	**University of**	**24.61**	**9**	*e*P			**P**	**09 46 53.6**	**-1.5**
	comp=Z,24nm,0.8s,mb4.8								
USIN				*e*pP				09 47 02.9	
LAZ	**Ladron**	**24.65**	**330**	*e*P			**P**	**09 46 56.1**	**+0.6**
ATAH	**Atahualpa**	**24.74**	**145**	P			**P**	**09 46 56.3**	**-0.2**
	comp=Z,4.6nm,0.9s,mb4.0,baz=315,slow=9.0,SNR=3.9								
ATAH					LR		LR	09 54 30.3	
	comp=Z,76nm,21.4s,MS3.2,baz=242,slow=32								
217A	**Green Valley**	**24.76**	**320**	⇑P			**P**	**09 46 56.7**	**+0.1**
	baz=25,SNR=6.3								
ANMO	**Albuquerque**	**24.77**	**331**	P			**P**	**09 46 56.9**	**+0.3**
	comp=Z,3.4nm,0.5s,mb4.1,baz=147,slow=9.8,SNR=20								
ANMO	**Albuquerque**	**24.77**	**331**	*e*P			**P**	**09 46 57.0**	**+0.4**
118A	**Homack Ranch,**	**24.84**	**323**	⇓P			**P**	**09 46 57.8**	**+0.5**
	baz=25								
WCI	**Wyandotte Cave**	**25.10**	**11**	*e*P			**P**	**09 46 57.9**	**-1.6**
TUC	**Tucson**	**25.10**	**321**	*e*P			**P**	**09 46 58.9**	**-0.8**
TUC				*e*pP			pP	09 47 10.1	+6.7
CNNC	**Cliffs of the**	**25.18**	**29**	*e*P			**P**	**09 46 52.3**	**-8.1**
Z18A	**Geronimo**	**25.20**	**323**	⇓P			**P**	**09 47 00.9**	**+0.3**
	baz=25								
117A	**Oracle**	**25.26**	**321**	⇑P			**P**	**09 47 01.1**	**0.0**
	baz=25								
OLIL	**Olney**	**25.30**	**8**	*e*P			**P**	**09 46 59.6**	**-1.8**
	comp=Z,25nm,0.6s,mb4.9								
Y19A	**Nutrioso**	**25.40**	**326**	⇑P			**P**	**09 47 03.1**	**+0.7**
	baz=25								
Z17A	**San Carlos Hig**	**25.61**	**323**	⇑P			**P**	**09 47 04.4**	**+0.1**
	baz=26								
KSU1	**Kansas State U**	**25.66**	**352**	*e*P			**P**	**09 47 02.9**	**-1.8**
	comp=Z,16nm,0.8s,mb4.6								
ELN	**Prospectdale**	**25.70**	**22**	*e*P			**P**	**09 47 03.8**	**-1.2**
Y18A	**Canyon Day Jun**	**25.70**	**324**	⇑P			**P**	**09 47 05.2**	**0.0**
	baz=26,SNR=6.9								
X19A	**St. Johns**	**25.78**	**326**	⇑P			**P**	**09 47 06.2**	**+0.4**
	baz=26								
116A	**Eloy**	**25.84**	**320**	⇓P			**P**	**09 47 05.6**	**-0.8**
	baz=26								
BLO	**Bloomington**	**25.97**	**10**	*e*P			**P**	**09 47 05.8**	**-1.7**
	comp=Z,15nm,0.8s,mb4.6								
BLO				*e*pP			pP	09 47 14.1	+2.9
214A	**Organ Pipe Nat**	**26.16**	**318**	⇓P			**P**	**09 47 08.9**	**-0.4**
	baz=26								
Z16A	**Peralta Trail,**	**26.21**	**322**	⇓P			**P**	**09 47 09.2**	**-0.5**
	baz=26								
X18A	**Snowflake**	**26.21**	**326**	⇑P			**P**	**09 47 09.7**	**-0.1**
	baz=26								
W19A	**Sanders**	**26.35**	**327**	⇑P			**P**	**09 47 11.0**	**0.0**
	baz=26								
X17A	**Forest Lakes**	**26.55**	**324**	⇑P			**P**	**09 47 12.9**	**+0.1**
	baz=27								
Y16A	**Circle Bar Ran**	**26.61**	**323**	⇑P			**P**	**09 47 13.7**	**+0.3**
	baz=27								
SDCO	**Great Sand Dun**	**26.73**	**336**	*e*P			**P**	**09 47 15.2**	**+0.8**
	comp=Z,14nm,1.5s,mb4.3								
X16A	**Lo Mia Camp, P**	**26.97**	**323**	⇓P			**P**	**09 47 16.8**	**+0.1**
	baz=27,SNR=5.9								
V18A	**Ganado**	**27.09**	**327**	⇓P			**P**	**09 47 17.7**	**0.0**
	baz=27								
Z14A	**Wintersburg**	**27.16**	**320**	⇑P			**P**	**09 47 18.3**	**0.0**
	baz=27								
Y15A	**Casa Rosa Ranc**	**27.18**	**322**	⇓P			**P**	**09 47 18.3**	**-0.2**
	baz=27								
113A	**Mohawk Valley,**	**27.30**	**318**	⇑P			**P**	**09 47 19.7**	**+0.1**
	baz=27								
X15A	**Humboldt**	**27.49**	**323**	⇑P			**P**	**09 47 21.2**	**-0.1**
	baz=28								
T19A	**Beclabito**	**27.51**	**330**	⇑P			**P**	**09 47 22.1**	**+0.7**
	baz=28								
W16A	**Flagstaff**	**27.51**	**324**	⇑P			**P**	**09 47 21.5**	**+0.1**
	baz=28								
MVCO	**Mesa Verde**	**27.56**	**331**	⇑P			**P**	**09 47 21.8**	**-0.1**
	baz=28,SNR=6.5								
MVCO	**Mesa Verde**	**27.56**	**331**	*e*P			**P**	**09 47 22.6**	**+0.7**
	comp=Z,21nm,1.1s,mb4.7								
Y14A	**Wickenburg**	**27.57**	**321**	⇑P			**P**	**09 47 21.9**	**-0.1**
	baz=28								
WUAZ	**Wupatki**	**27.73**	**325**	⇓P			**P**	**09 47 23.4**	**+0.1**
	baz=28,SNR=5.5								
WUAZ	**Wupatki**	**27.73**	**325**	*e*P			**P**	**09 47 23.9**	**+0.5**
	comp=Z,54nm,2.3s,mb4.8								
X14A	**Yava**	**27.86**	**322**	⇑P			**P**	**09 47 24.8**	**+0.2**
	baz=28								
W15A	**Williams**	**27.99**	**324**	⇑P			**P**	**09 47 26.0**	**+0.2**
	baz=28								
Y13A	**Salome**	**28.01**	**320**	⇓P			**P**	**09 47 25.2**	**-0.7**
	baz=28,SNR=5.8								
U16A	**Tuba City**	**28.05**	**326**	⇓P			**P**	**09 47 26.7**	**+0.4**
	baz=28								
T18A	**Mexican Hat**	**28.16**	**329**	⇓P			**P**	**09 47 27.5**	**+0.3**
	baz=28								
MCWV	**Mont Chateau**	**28.18**	**21**	*e*P			**P**	**09 47 22.7**	**-4.7**
PV01	**Paradox Valley**	**28.35**	**332**	*e*P			**P**	**09 47 29.7**	**+0.9**
V15A	**Kaibab Nationa**	**28.39**	**325**	⇑P			**P**	**09 47 29.6**	**+0.3**
	baz=28,SNR=5.5								
Y12C	**Blythe**	**28.41**	**319**	⇑P			**P**	**09 47 29.4**	**-0.1**
	baz=28								
W14A	**Seligman**	**28.49**	**323**	⇑P			**P**	**09 47 30.6**	**+0.4**
	baz=28								
X13A	**Yucca**	**28.52**	**321**	⇑P			**P**	**09 47 30.6**	**+0.1**
	baz=28,SNR=5.5								
T17A	**Navajo Res., N**	**28.53**	**328**	⇓P			**P**	**09 47 30.7**	**+0.2**
	baz=28								
S18A	**Hurst Farm, Bl**	**28.66**	**330**	⇑P			**P**	**09 47 31.7**	**0.0**
	baz=29								
V14A	**Boquillas Ranc**	**28.80**	**323**	⇑P			**P**	**09 47 33.3**	**+0.4**
	baz=29								
T16A	**Glen Canyon Da**	**28.88**	**327**	⇑P			**P**	**09 47 33.9**	**+0.2**
	baz=29								
W13A	**Hualapai Mount**	**28.89**	**321**	⇓P			**P**	**09 47 33.8**	**+0.1**
	baz=29								
U15A	**North Rim**	**28.90**	**325**	⇓P			**P**	**09 47 34.2**	**+0.4**
	baz=29								
BC3	**Big Chuckw Mtn**	**28.95**	**317**	⇓P			**P**	**09 47 34.2**	**-0.2**
	baz=29,SNR=7.7								
S17A	**Black Ridge (B**	**29.02**	**329**	⇓P			**P**	**09 47 35.0**	**+0.2**
	baz=29								
IRM	**Iron Mountain**	**29.07**	**319**	⇓P			**P**	**09 47 35.5**	**+0.1**
	baz=29								
Q19A	**Hogan Spring (**	**29.33**	**332**	⇓P			**P**	**09 47 37.5**	**-0.1**
	baz=29								
U14A	**Mt Trumbull**	**29.39**	**324**	⇑P			**P**	**09 47 38.6**	**+0.4**
	baz=29								
V13A	**Grand Canyon W**	**29.46**	**323**	⇑P			**P**	**09 47 38.7**	**-0.1**
	baz=30,SNR=5.5								
S16A	**Weppner Ranch,**	**29.49**	**328**	⇑P			**P**	**09 47 39.3**	**+0.3**
	baz=30								
BELC	**Belle Mtn.**	**29.52**	**317**	⇑P			**P**	**09 47 39.7**	**+0.3**
	baz=30								
R17A	**Hanksville Air**	**29.58**	**330**	⇑P			**P**	**09 47 40.1**	**+0.2**
	baz=30								
PFO	**Pinyon Flat Ob**	**29.59**	**316**	⇑P			**P**	**09 47 40.5**	**+0.5**
	baz=30								
GMRC	**Granite Mounta**	**29.79**	**319**	⇓P			**P**	**09 47 41.9**	**+0.2**
	baz=30								
T14A	**Hurricane**	**29.80**	**325**	⇑P			**P**	**09 47 42.3**	**+0.5**
	baz=30								
U13A	**Pakon Wash**	**29.84**	**323**	⇓P			**P**	**09 47 42.5**	**+0.3**
	baz=30,SNR=6.5								
Q18A	**Rafter H Ranch**	**29.85**	**331**	⇓P			**P**	**09 47 43.0**	**+0.8**
	baz=30								
S15A	**Panguitch**	**29.85**	**327**	⇑P			**P**	**09 47 42.7**	**+0.5**
	baz=30,SNR=5.1								
R16A	**Teasdale**	**29.86**	**329**	⇑P			**P**	**09 47 42.6**	**+0.3**
	baz=30								
V12A	**Nelson**	**29.90**	**321**	⇑P			**P**	**09 47 42.6**	**-0.1**
	baz=30,SNR=5.8								
SRU	**San Rafael**	**30.04**	**331**	⇑P			**P**	**09 47 43.7**	**-0.2**
	baz=30								
MURC	**Murrieta**	**30.09**	**316**	⇑P			**P**	**09 47 44.9**	**+0.5**
	baz=30								
U12A	**Valley of Fire**	**30.18**	**323**	⇓P			**P**	**09 47 45.6**	**+0.4**
	baz=30								
Q16A	**Castle Valley**	**30.20**	**330**	⇑P			**P**	**09 47 45.5**	**+0.2**
	baz=30,SNR=5.5								
T13A	**Saint George**	**30.23**	**324**	⇓P			**P**	**09 47 46.0**	**+0.4**
	baz=30								
ECSD	**EROS,Sioux Fal**	**30.23**	**354**	*e*P			**P**	**09 47 43.2**	**-2.3**
	comp=Z,56nm,2.3s,mb4.9								
HEC	**Hector,Ludlow**	**30.25**	**318**	⇑P			**P**	**09 47 46.5**	**+0.7**
	baz=30								
V11A	**Goodsprings**	**30.32**	**321**	⇑P			**P**	**09 47 46.9**	**+0.4**

baz=33
M13A **Montello** 33.54 330 ⇓P P 09 48 15.0 +0.4
baz=34,SNR=6.4
N12A **Clover Valley,** 33.60 328 ⇓P P 09 48 15.5 +0.3
baz=34
L14A **Malta** 33.61 331 ⇓P P 09 48 15.2 -0.1
baz=34,SNR=8.6
ELK **Elko** 33.62 328 *e*P P 09 48 16.2 +0.9
REDW **Red Top Meadow** 33.64 335 *e*P P 09 48 15.7 +0.2
SNOW **Snow King Moun** 33.68 336 *e*P P 09 48 16.4 +0.5
KCC **Kaiser Creek** 33.69 319 ⇑P P 09 48 15.7 -0.3
baz=34,SNR=5.5
LOHW **Long Hollow** 33.75 336 *e*P P 09 48 16.6 +0.2
comp=Z,9.1nm,0.9s,mb4.7
NVAR **Mina Array Bea** 33.75 322 P P 09 48 17.2 +0.7
comp=Z,5.8nm,0.8s,mb4.6,baz=138,slow=8.5,SNR=44
NVAR PcP PcP 09 50 54.5 -1.4
comp=Z,1.2nm,0.8s,baz=146,slow=4.3,SNR=3.5
TPAW **Teton Pass** 33.79 335 *e*P P 09 48 16.8 +0.1
comp=Z,12nm,1.2s,mb4.7
K15A **Arbon** 33.80 333 ⇑P P 09 48 16.9 0.0
baz=34
Q08A **Gabbs** 33.81 323 ⇓P P 09 48 17.4 +0.4
baz=34
RRI2 **Red Ridge** 33.82 335 *e*P P 09 48 17.6 +0.5
comp=Z,10nm,1.1s,mb4.7
J16A **Bone** 33.88 334 ⇓P P 09 48 17.3 -0.3
baz=34
MOOW **Moose Ponds** 33.92 336 *e*P P 09 48 18.2 +0.3
comp=Z,4.5nm,1.0s,mb4.3
N11A **Elko Archery C** 33.93 327 ⇑P P 09 48 18.2 +0.1
baz=34
M12A **Wells** 33.95 329 ⇓P P 09 48 18.6 +0.4
baz=34,SNR=5.4
DCID1 **Drake Creek** 33.97 335 *e*P P 09 48 19.1 +0.8
DCID1 *e*pP pP 09 48 27.0 +5.0
K14A **Jones Ranch, D** 33.98 332 ⇑P P 09 48 18.5 0.0
baz=34
L13A **Double Diamond** 33.99 331 ⇑P P 09 48 18.8 +0.3
baz=34
I17A **Pilgram Creek** 33.99 336 *e*P P 09 48 19.1 +0.5
baz=34,SNR=5.7
IMW **Indian Meadow** 34.12 336 *e*P P 09 48 19.9 +0.3
comp=Z,4.6nm,0.7s,mb4.5
V03C **Hunter Liggett** 34.19 316 ⇓P P 09 48 21.2 +0.8
baz=34
I16A **Newdale** 34.32 335 ⇑P P 09 48 21.8 +0.4
baz=34
J15A **Blackfoot** 34.33 334 ⇓P P 09 48 21.6 +0.1
baz=34
M11A **Holland Ranch,** 34.41 328 ⇓P P 09 48 22.1 -0.1
baz=34
RLMT **Red Lodge** 34.53 339 ⇓P P 09 48 23.0 -0.2
baz=34
RLMT **Red Lodge** 34.53 339 *e*P P 09 48 23.2 0.0
L12A **House Creek Ra** 34.55 330 ⇓P P 09 48 23.7 +0.3
baz=34
J14A **Carey** 34.75 332 ⇑P P 09 48 25.1 0.0
baz=35
K12A **Draper Farm, C** 34.86 330 ⇓P P 09 48 26.3 +0.2
baz=35
M10A **I.L. Ranch, Tu** 34.86 327 ⇑P P 09 48 26.7 +0.5
baz=35
H16A **Russell Place,** 34.91 336 ⇑P P 09 48 27.0 +0.5
baz=35
N09A **Rock Creek Ran** 34.92 326 ⇑P P 09 48 27.2 +0.6
baz=35
L11A **Cat Creek Ranc** 34.93 329 ⇑P P 09 48 27.0 +0.3
baz=35,SNR=6.8
QLMT **Earthquake Lak** 35.09 336 *e*P P 09 48 28.8 +0.8
J13A **Cove Ranch, Pi** 35.10 332 ⇑P P 09 48 28.3 +0.1
baz=35
I14A **Mackay** 35.20 333 ⇓P P 09 48 29.7 +0.7
baz=35
N08A **GE Springer Mi** 35.21 325 ⇓P P 09 48 29.7 +0.6
baz=35
O07A **Toulon** 35.21 324 ⇑P P 09 48 29.7 +0.5
baz=35
L10A **Juniper Basin** 35.23 328 ⇓P P 09 48 29.8 +0.5
baz=35
R04C **Big Horse Ranc** 35.27 319 ⇓P P 09 48 30.1 +0.4
baz=35
M09A **Marrel Ranch,** 35.27 326 ⇑P P 09 48 30.4 +0.7
baz=35
HLID **Hailey** 35.34 332 ⇓P P 09 48 30.1 -0.1
baz=35,SNR=6.4
HLID **Hailey** 35.34 332 *e*P P 09 48 30.3 +0.1
comp=Z,38nm,2.3s,mb4.9
F18A **Big Timber** 35.37 339 ⇓P P 09 48 30.6 +0.2
baz=35
H15A **Lima** 35.41 335 ⇓P P 09 48 30.9 +0.1
baz=35,SNR=7.6
I13A **Wildhorse Cree** 35.48 333 ⇓P P 09 48 32.0 +0.6
baz=36
G16A **Moss Hill, Enn** 35.57 336 ⇑P P 09 48 32.5 +0.3
baz=36
MCMT **McKenzie Canyo** 35.66 335 *e*P P 09 48 34.1 +1.1
H14A **Leadore** 35.71 334 ⇑P P 09 48 33.7 +0.3
baz=36,SNR=9.5
G15A **Dillon** 35.79 335 ⇓P P 09 48 34.4 +0.3
baz=36,SNR=8.5
SAC **San Andreas** 35.84 317 *e*P P 09 48 31.7 -2.9
DLMT **Dillon** 36.00 335 *e*P P 09 48 36.8 +0.9
comp=Z,12nm,1.1s,mb4.7
E18A **Harlowton** 36.01 339 ⇓P P 09 48 35.9 0.0
baz=36
H13A **Challis** 36.05 333 ⇑P P 09 48 36.5 +0.2
baz=36,SNR=6.8
N06A **Buffalo Meadow** 36.15 324 ⇑P P 09 48 37.2 0.0
baz=36,SNR=7.8
E17A **Martinsdale** 36.25 338 ⇓P P 09 48 37.7 -0.3
baz=36
L08A **Fields** 36.29 327 ⇑P P 09 48 38.6 +0.3
baz=36
H12A **Diamond D Ranc** 36.31 332 ⇓P P 09 48 38.7 +0.2
baz=36,SNR=6.3
LRM **Limekiln Ridge** 36.32 336 *e*P P 09 48 39.0 +0.5
K09A **Rome** 36.32 328 ⇑P P 09 48 38.6 0.0
baz=36,SNR=6.9
I11A **Placerville** 36.33 331 ⇓P P 09 48 38.8 +0.1
baz=36,SNR=14
F15A **Butte** 36.35 336 ⇓P P 09 48 38.8 -0.1
baz=36,SNR=5.1
G13A **Cobalt** 36.46 334 ⇓P P 09 48 39.2 -0.6
baz=36
E16A **East Helena** 36.61 337 ⇑P P 09 48 40.9 -0.1
baz=37,SNR=6.8
O04C **Chester** 36.61 322 ⇑P P 09 48 41.8 +0.6
baz=37
WVOR **Wild Horse Val** 36.61 327 *e*P P 09 48 40.7 -0.5
comp=Z,7.2nm,1.2s,mb4.4
ULM **Lac du Bonnet** 36.64 356 P P 09 48 38.7 -2.6
comp=Z,1.6nm,0.5s,mb4.1,baz=181,slow=10,SNR=5.9
ULM PcP PcP 09 51 02.0 -2.1
comp=Z,2.4nm,0.7s,baz=225,slow=4.6,SNR=3.4
ULM LR LR 10 05 20.5
comp=Z,89nm,18.7s,MS3.6,baz=196,slow=39
F14A **Wisdom** 36.68 335 ⇑P P 09 48 41.6 0.0
baz=37
L07A **Adell** 36.71 326 ⇑P P 09 48 42.0 0.0
baz=37,SNR=5.9
K08A **Mann Creek Ran** 36.74 327 ⇓P P 09 48 42.3 +0.1
baz=37
J09A **Fry Pan Ranch,** 36.80 329 ⇓P P 09 48 42.8 +0.1
baz=37,SNR=9.2
M06C **Likely Place G** 36.82 324 ⇓P P 09 48 43.0 +0.1
baz=37
HRY **Holter Researc** 36.82 337 *e*P P 09 48 43.0 +0.1
E15A **Deer Lodge** 36.89 336 ⇓P P 09 48 43.1 -0.3
baz=37
H11A **Donnelly** 36.96 332 ⇑P P 09 48 43.8 -0.2
baz=37,SNR=5.9
K07A **Rock Creek Ran** 37.12 326 ⇓P P 09 48 45.4 0.0
baz=37,SNR=6.3
MOD **Modoc** 37.17 325 ⇓P P 09 48 45.3 -0.6
baz=37
MOD **Modoc** 37.17 325 *e*P P 09 48 45.6 -0.3
J08A **Circle Bar Ran** 37.17 328 ⇓P P 09 48 46.1 +0.2
baz=37,SNR=34
H10A **Noah's Angus R** 37.21 331 ⇓P P 09 48 45.9 -0.3
baz=37
C17A **Wharram Farm,** 37.22 339 ⇑P P 09 48 45.9 -0.3
baz=37,SNR=5.9
EGMT **Eagleton** 37.23 341 ⇓P P 09 48 45.9 -0.4
baz=37
I09A **Lost Marbles R** 37.24 329 ⇑P P 09 48 46.4 -0.1
baz=37,SNR=33
D15A **Lincoln** 37.36 337 ⇑P P 09 48 46.0 -1.4
baz=37
F12A **Elk City** 37.43 333 ⇓P P 09 48 47.9 -0.1
baz=37,SNR=11
E13A **Victor** 37.52 335 ⇓P P 09 48 48.1 -0.7
baz=38,SNR=6.4
L05A **Lakeview** 37.56 324 ⇑P P 09 48 48.9 -0.3
baz=38
G11A **Walters Elk Ra** 37.60 332 ⇑P P 09 48 48.9 -0.6
baz=38,SNR=6.0
C16A **Fuhringer Ranc** 37.71 339 ⇓P P 09 48 49.8 -0.6
baz=38,SNR=9.2
D14A **Greenough** 37.77 336 ⇓P P 09 48 50.3 -0.6
baz=38
G10A **Bishop Farm, J** 37.92 331 ⇑P P 09 48 51.6 -0.6
baz=38
C15A **Salmond Ranch,** 38.00 338 ⇑P P 09 48 52.3 -0.5
baz=38
E12A **Beaver Dam Sad** 38.08 334 ⇑P P 09 48 53.1 -0.4
baz=38
D13A **Huson** 38.16 335 ⇓P P 09 48 53.7 -0.5
baz=38
LPAZ **La Paz** 38.16 140 P P 09 48 52.3 -2.3
comp=Z,0.8nm,0.7s,mb3.6,baz=325,slow=8.9,SNR=5.3
I07A **Izee** 38.21 328 ⇓P P 09 48 54.2 -0.5
baz=38
G09A **Cove** 38.22 331 ⇑P P 09 48 54.0 -0.7
baz=38
B16A **M & M Farms, S** 38.22 339 ⇓P P 09 48 54.3 -0.3
baz=38
E11A **Bogner Ranch,** 38.31 333 ⇓P P 09 48 54.6 -0.9
baz=38
F10A **Beach Ranch, E** 38.48 332 ⇓P P 09 48 56.0 -0.8
baz=38,SNR=8.2
D12A **Red Ives Fores** 38.49 335 ⇑P P 09 48 55.8 -1.2
baz=38
H07A **Lands Inn, Kim** 38.60 328 ⇑P P 09 48 57.7 -0.2
baz=39
A16A **West Butte Ran** 38.64 340 ⇓P P 09 48 57.8 -0.4
baz=39
G08A **Pilot Rock** 38.80 330 ⇑P P 09 48 58.9 -0.7
baz=39
J04A **Umpqua Nationa** 39.05 325 ⇑P P 09 49 01.4 -0.4
baz=39
A15A **Johnson Ranch,** 39.06 339 ⇓P P 09 49 01.0 -0.7
baz=39
B13A **Whitefish** 39.20 337 ⇓P P 09 49 02.1 -0.8
baz=39
A14A **Double T Ranch** 39.30 338 ⇓P P 09 49 03.6 -0.1
baz=39
C11A **Tepee Creek (N** 39.49 335 ⇑P P 09 49 04.7 -0.6
baz=39
I04A **Tendick Farm,** 39.58 325 ⇑P P 09 49 05.4 -0.7
baz=40
A13A **Flathead Natio** 39.64 337 ⇑P P 09 49 05.8 -0.7
baz=40
H04A **Detroit Lake** 40.03 327 ⇑P P 09 49 09.1 -0.9
baz=40
HOOD **Mount Hood Mea** 40.18 328 *e*P P 09 49 12.0 +0.9
comp=Z,29nm,1.1s,mb4.9
OD2 **Odessa Site #2** 40.22 332 *e*P P 09 49 10.3 -1.1
G03A **Yamhill** 41.04 326 ⇓P P 09 49 17.9 -0.3
baz=41
LON **Longmire** 41.23 329 *e*P P 09 49 22.2 +2.4
comp=Z,54nm,2.6s,mb4.7
A09A **Danville** 41.35 334 ⇑P P 09 49 20.2 -0.5
baz=41
SIV **San Ignacio** 42.69 133 P P 09 49 29.3 -2.7
comp=Z,1.0nm,0.7s,mb3.6,baz=326,slow=10,SNR=5.0
SIV PcP PcP 09 51 21.6 -2.3
comp=Z,0.6nm,0.7s,baz=228,slow=4.2,SNR=3.8
EDM **Edmonton** 42.88 342 *e*P P 09 49 32.3 -0.8
YKA **Yellowknife Ar** 51.32 347 P P 09 50 37.9 -0.9
comp=Z,5.1nm,0.7s,mb4.5,baz=152,slow=7.7,SNR=18
YKA LR LR 10 13 11.7
comp=Z,30nm,19.2s,MS3.3,baz=90,slow=37
YKA **Yellowknife Ar** 51.32 347 P P 09 50 37.9 -0.9
YKA LR LR 10 13 11.7
CPUP **Villa Florida** 52.32 139 P P 09 50 43.8 -3.1
comp=Z,1.5nm,0.7s,mb4.0,baz=37,slow=5.1,SNR=2.9
CPUP **Villa Florida** 52.32 139 *e*P P 09 50 43.8 -3.1
comp=Z,6.0nm,0.7s,mb4.6
DLBC **Dease Lake** 52.86 336 *e*P P 09 50 51.4 +1.0
PLCA **Paso Flores** 57.73 160 P P 09 51 23.0 -2.7
comp=Z,9.9nm,0.8s,mb3.9,baz=351,slow=5.8,SNR=3.0
TRF **Thorofare Moun** 63.83 335 *e*P P 09 52 04.9 -2.1
comp=Z,3.0nm,0.6s,mb4.5
PPT **Papeete** 64.41 243 LR LR 10 12 18.3
comp=Z,82nm,18.8s,MS3.9,baz=75,slow=29
RAR **Rarotonga** 74.68 243 LR LR 10 19 21.9
comp=Z,62nm,18.4s,MS3.9,baz=94,slow=30
NOA **NORSAR Array B** 84.65 28 LR LR 10 36 22.4
comp=Z,19nm,18.5s,MS3.5,baz=310,slow=39
TORD **Torodi Ar. Bea** 90.81 76 P P 09 54 35.4 -3.6
comp=Z,0.5nm,1.0s,mb3.8,baz=281,slow=4.1,SNR=3.4
TORD LR LR 10 30 16.4
comp=Z,53nm,19.3s,MS4.0,baz=190,slow=32
CN2 **Changchun** 113.25 331 *e*P PKiKP 10 00 07.7 -5.2
BJI **Beijing** 120.39 335 PKP PKPdf 10 00 25.6 -1.1
HHC **Hu-ho-hao-te** 121.45 339 *e*PKP PKPdf 10 00 27.6 -1.1
HHC PKS 10 04 03.5
HHC SKKS SKKSac 10 08 54.9 -4.8
HHC PP PP
comp=Z,104nm,7.2s
HHC LR LR
comp=N,209nm,20.2s,MS4.8
HHC LR LR
comp=E,144nm,20.8s,MS4.8
HHC LR LR
comp=Z,115nm,19.6s,MS4.5
LZH **Lanzhou** 128.25 343 *e*PKP PKPdf 10 00 38.6 -3.3
LZH LR LR
comp=N,129nm,18.2s
LZH LR LR
comp=Z,185nm,20.5s,MS4.8
CD2 **Chengdu** 133.09 341 *e*PKP PKPdf 10 00 49.2 -2.0
CD2 PP PP 10 03 18.2 +2.4
CD2 PKS 10 04 24.2
CD2 SKS SKSdf 10 07 52.4 -10
CD2 PP PP
comp=Z,80nm,9.6s
CD2 LR LR
comp=N,130nm,21.2s
CD2 LR LR
comp=Z,100nm,14.8s
WRA **Warramunga Arr** 134.96 255 PKP PKPdf 10 00 51.8 -3.1
comp=Z,0.9nm,0.7s,baz=89,slow=2.2,SNR=7.5
ASAR **Alice Springs** 135.21 250 PKP PKPdf 10 00 51.0 -4.4
comp=Z,0.9nm,0.9s,baz=128,slow=3.0,SNR=5.2
GYA **Guiyang** 136.08 335 *e*PDIF Pdif 09 57 57.8 -2.6
GYA PKP PKPdf 10 00 55.2 -1.7
GYA PP PP 10 03 37.6 +2.7
GYA PP PP
comp=Z,90nm,8.9s
KMI **Kunming** 138.78 339 PKP PKPdf 10 01 01.8 -0.1
CHTO **Chiang Mai** 145.90 341 *e*P PKPdf 10 01 11.9 -2.8
CMAR **Chiang Mai Arr** 146.24 340 PKPbc PKPbc 10 01 14.3 -1.9
comp=Z,1.9nm,0.4s,baz=346,slow=3.9,SNR=17

NEIC ***12*** *09:48:52.7±15.0, 684S×12862E, h78km±46km, mb3.9/1, Error ellipse: s-maj=187.1km s-min=24.8km az=180.0*
ISCJB ***12*** *09:49:00.3±3.0, 74S±02×12886E±009, h141km±32km, mb3.7/1, Error ellipse: s-maj=33.1km s-min=10.6km az=17.2*
IDC ***12*** *09:49:05.0±8.3, 7.49S×128 64E, h170km±88km, mb3.5/1, mb1 3.5/5, mb1mx3.3/16, mbtmp3.4/5, Error ellipse: s-maj=83.8km s-min=24.4km az=39.0*
ISC 12 09:49:01.1±2.7, 74S±02×12887E±009, h129km±27km, n9, σ1§35/11, mb3.7/1, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
BATI	**Baumata**	**5.86**	**241**	P		**Pn**	**09 50 27.0**	**+1.2**
	22nm,0.3s,baz=142,slow=2.2,SNR=18			S				
BATI						**Sn**	**09 51 31.9**	**+0.1**
	9.7nm,0.3s,baz=40,slow=24,SNR=6.3							
KAKA	**Kakadu**	**6.35**	**147**	*e*Pn		**Pn**	**09 50 31.6**	**-0.8**
	24nm,0.3s							
KAKA					*e*Sn	**Sn**	**09 51 42.6**	**-1.1**
FITZ	**Fitzroy Crossi**	**11.11**	**196**	P		**Pn**	**09 51 35.0**	**-1.2**
	0.8nm,0.3s,baz=34,slow=11,SNR=34							
FITZ				S		Sx	09 53 30.6	
	1.1nm,0.3s,baz=94,slow=19,SNR=4.1							
WRAB	**Tennant Creek**	**13.56**	**157**	*e*Pn		**Pn**	**09 52 07.4**	**-0.8**
	2.3nm,0.7s							
WRAB					*e*Sn	Sx	09 54 31.4	
WRA	**Warramunga Arr**	**13.56**	**158**	P		**Pn**	**09 52 10.4**	**+2.0**
	0.4nm,0.3s,baz=327,slow=13,SNR=13							
WRA				S		Sx	09 54 31.7	
	1.2nm,0.3s,baz=332,slow=21,SNR=9.2							
WB2	**Warramunga Art**	**13.57**	**157**	*e*Pn		**Pn**	**09 52 09.9**	**+1.5**
WB2					*e*Sn	Sx	09 54 31.3	
MBWA	**Marble Bar**	**16.30**	**212**	*e*Pn		**Pn**	**09 52 40.9**	**-1.7**
	8.9nm,1.1s							
MBWA					*e*Sn	Sx	09 55 31.6	
ASAR	**Alice Springs**	**16.89**	**164**	P		**Pn**	**09 52 52.4**	**+2.5**
	0.5nm,0.3s,baz=340,slow=10,SNR=26							
ASAR				S		Sx	09 55 53.8	
	0.3nm,0.3s,baz=341,slow=25,SNR=4.1							
MKAR	**Makanchi Array**	**67.94**	**327**	P		**P**	**09 59 45.1**	**-0.8**
	0.9nm,0.6s,mb3.7,baz=130,slow=7.1,SNR=5.8							

IDC ***12*** *10:04:58.7±7.7, 6.92S×129 44E, h123km±80km, mb3.4/2, mb1 3.7/6, mb1mx3.4/17, mbtmp3.6/6, Error ellipse: s-maj=66.1km s-min=26.6km az=35.0*
ISCJB ***12*** *10:05:01.7±2.0, 7.3S±0.1×12941E±009, h185km±20km, mb3.8/3, Error ellipse: s-maj=23.1km s-min=11.1km az=31.9*
NEIC ***12*** *10:05:02.7±2.6, 7.26S×129 45E, h177km±29km, mb4.3/3, Error ellipse: s-maj=27.8km s-min=21.5km az=93.0*
ISC 12 10:05:00.5±1.8, 71S±01×12948E±009, h152km±18km, n11, σ0§84/15, mb3.8/3, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**6.25**	**152**	*e*Pn		**Pn**	**10 06 31.0**	**+0.3**
	53nm,0.4s							
KAKA					*e*Sn	**Sn**	**10 07 38.0**	**-3.3**
BATI	**Baumata**	**6.50**	**242**	P		**Pn**	**10 06 34.3**	**+0.3**
	0.3nm,0.3s,baz=135,slow=2.9,SNR=1.6							
BATI				S		**Sn**	**10 07 47.2**	**-0.1**
	9.8nm,0.3s,baz=42,slow=19,SNR=8.6							
FITZ	**Fitzroy Crossi**	**11.52**	**199**	P		**Pn**	**10 07 40.9**	**+0.3**
	0.8nm,0.3s,baz=23,slow=16,SNR=23							
WRAB	**Tennant Creek**	**13.56**	**160**	*e*Pn		**Pn**	**10 08 07.1**	**+0.2**
	2.5nm,0.4s							
WRA	**Warramunga Arr**	**13.57**	**160**	P		**Pn**	**10 08 07.4**	**+0.5**
	0.5nm,0.3s,baz=338,slow=13,SNR=37							
WRA				S		**Sn**	**10 10 32.3**	**-5.0**
	1.6nm,0.3s,baz=331,slow=22,SNR=9.8							
WB2	**Warramunga Art**	**13.57**	**160**	*e*Pn		**Pn**	**10 08 07.2**	**+0.2**
ASAR	**Alice Springs**	**16.97**	**166**	P		**Pn**	**10 08 52.8**	**+3.9**
	0.7nm,0.3s,baz=346,slow=12,SNR=61							
ASAR				S		**S**	**10 11 58.4**	**+0.7**
	0.5nm,0.3s,baz=353,slow=27,SNR=8.1							
NWAO	**Narrogin (SRO)**	**28.06**	**202**	*e*P		**P**	**10 10 36.0**	**-1.8**
	2.9nm,0.6s,mb4.2							
MKAR	**Makanchi Array**	**68.06**	**327**	P		**P**	**10 15 43.5**	**-0.2**
	0.5nm,0.3s,mb3.6,baz=131,slow=6.7,SNR=7.0							
MKAR	**Makanchi Array**	**68.06**	**327**	P		**P**	**10 15 43.5**	**-0.2**
KURK	**Kurchatov**	**72.37**	**329**	P		**P**	**10 16 10.0**	**+0.2**
	0.3nm,0.3s,mb3.5,baz=127,slow=5.7,SNR=2.5							

CASC 12 10:33:00.2±4.6, 1263N×8840W, h20km±15km, MD4.0, ML3.1, 4C-6D, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
CNCH	**Conchagua**	**0.85**	**41**	⇓*e*P		x	10 33 16.6	
CNCH					*e*S	x	10 33 28.0	
CNCH					AML	x	10 33 33.5	
	comp=Z,2µm,0.2s							
CAHU	**Cacacuatique**	**1.15**	**9**	*e*P		x	10 33 21.0	
CAHU					*e*S	x	10 33 36.4	
LFRS	**El Faro**	**1.18**	**327**	⇑*i*P		x	10 33 21.8	
LFRS					*e*S	x	10 33 37.8	
LBRS	**Las Brisas**	**1.26**	**330**	*e*P		x	10 33 23.3	
LBRS					*e*S	x	10 33 38.8	
LFU	**La Fuente**	**1.31**	**328**	*e*P		x	10 33 24.0	
LFU					*e*S	x	10 33 40.2	
SNET	**Serv Nac Est T**	**1.32**	**322**	*e*P		x	10 33 22.8	
SNET					*e*S	x	10 33 40.8	
TEL3	**Telica 3**	**1.52**	**92**	*e*P		Pn	10 33 26.3	0.0
MIRN	**Miramar**	**1.66**	**96**	⇓*e*P		Pn	10 33 28.1	-0.1
MIRN					*e*S	Sn	10 33 50.0	+1.0
SBLS	**San Blas**	**1.69**	**315**	*e*P		x	10 33 29.4	
SBLS					*e*S	x	10 33 50.4	
SNJE	**San Jose**	**1.70**	**316**	*e*P		x	10 33 29.3	
SNJE					*e*S	x	10 33 51.3	
TGUH	**Tegucigalpa,Un**	**1.79**	**38**	*e*P		Pn	10 33 29.9	-0.1
TGUH				⇓*i*P			10 33 30.0	
COPN	**Copaltepe**	**1.82**	**104**	*e*P		Pn	10 33 30.3	-0.1
COPN				⇓*e*P			10 33 30.4	
COPN					*e*S	Sn	10 33 52.7	-0.3
MOMN	**Momotombo**	**1.83**	**97**	⇓*e*P		Pn	10 33 30.8	+0.2
MOMN					*e*S	Sn	10 33 53.9	+0.8
RBDL	**Robledal**	**1.93**	**320**	*e*P		x	10 33 32.9	
CSAN		**1.98**	**103**	⇑*e*P		Pn	10 33 33.0	+0.3
CSAN					*e*S	Sn	10 33 57.2	+0.3
APYN	**Apoyeque**	**2.04**	**101**	⇓*e*P		Pn	10 33 33.7	+0.3
APYN					*e*S	Sn	10 33 57.6	-0.8
XAVN	**Gruta Xavier**	**2.08**	**103**	*e*P		Pn	10 33 34.1	+0.1
TISN	**Laguna Tiscapa**	**2.14**	**103**	*e*P		Pn	10 33 34.9	+0.1
CRUN	**El Crucero**	**2.15**	**107**	*e*P		Pn	10 33 36.3	+1.3
CRUN					*e*S	Sn	10 34 01.3	+0.2
MGAN	**Managua**	**2.16**	**103**	*e*P		Pn	10 33 35.2	+0.1
MGAN					*e*S	Sn	10 34 00.3	-0.9
MGAN					AML	AML	10 34 05.0	
	comp=E,415nm,0.2s							
HUEN		**2.20**	**97**	⇓*e*P		Pn	10 33 35.5	-0.1
HUEN					*e*S	Sn	10 34 00.7	-1.5
TICN	**Ticuantepe**	**2.20**	**105**	*e*P		Pn	10 33 36.3	+0.6
WILN	**Americas 2**	**2.21**	**102**	*e*P		Pn	10 33 35.9	+0.1
APON	**Apoyo**	**2.39**	**107**	*e*P		Pn	10 33 38.7	+0.4
APON					*e*S	Sn	10 34 08.7	+1.7
JCR	**Jicaral**	**4.25**	**130**	*e*P		Pn	10 34 05.6	+1.7
BUS	**Buena Vista**	**5.49**	**123**	⇑*e*P		Pn	10 34 24.5	+3.7
BUS					*e*S	Sn	10 35 27.0	+3.5

IDC ***12*** *10:52:52.4±3.0, 1383N×9221W, h0km, mb3.6/5, mb1 3.9/8, mb1mx3.7/22, mbtmp3.5/8, ML3.4/2, MS3.4/1, Ms1 3.4/1, ms1mx2.4/30, Error ellipse: s-maj=52.5km s-min=36.3km az=4.0*
MEX ***12*** *10:52:55.5±1.5, 1343N×9254W, h17km±54km, MD3.9*
NEIC ***12*** *10:52:56.4, 1350N×9260W, h13km, mb4.1/1, MD3.9(MEX), After MEX.*
ISC 12 10:52:51.1±2.4, 1354N±008×925W±01, h1km±14km, n18, σ1§21/22, mb3.8/6, Off coast of Chipas

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
THIG		**1.38**	**10**	*e*P		**Pn**	**10 53 17.4**	**-0.3**
THIG				*i* S		**Sg**	**10 53 35.5**	**-0.2**
CCIG	**Comitan**	**2.75**	**7**	*i* P		**Pn**	**10 53 39.3**	**+2.8**
CCIG				*i* S		**Sn**	**10 54 11.6**	**+1.2**
CCIG	**Comitan**	**2.75**	**7**	*e*P		**Pn**	**10 53 39.4**	**+2.9**
CCIG				*i* S		**Sn**	**10 54 11.6**	**+1.2**
TGIG		**3.28**	**350**	*e*P		**Pn**	**10 53 44.7**	**+0.9**
TGIG				*i* S		**Sn**	**10 54 23.5**	**+0.1**
CMIG	**Matias Romero**	**4.21**	**327**	Pn		**Pn**	**10 53 55.8**	**-0.8**
	1.2nm,0.3s,baz=136,slow=11,SNR=17							
CMIG					Sn	**Sn**	**10 54 45.0**	**-1.5**
	1.5nm,0.3s,baz=109,slow=14,SNR=5.7							
TEIG	**Tepich**	**7.79**	**31**	Pn		**Pn**	**10 54 40.8**	**-4.9**
	0.6nm,0.3s,baz=62,slow=3.9,SNR=1.6							
TEIG	**Tepich**	**7.79**	**31**	Pn		**Pn**	**10 54 40.8**	**-4.9**
TXAR	**Lajitas Array**	**18.82**	**328**	P		**Pn**	**10 57 13.8**	**+1.0**
	0.0nm,0.3s,baz=142,slow=12,SNR=4.6							
SWET	**Sewanee**	**22.39**	**14**	*e*P		**P**	**10 57 49.1**	**-1.9**
AMTX	**Amarillo**	**22.82**	**340**	*e*P		**P**	**10 57 55.4**	**-0.2**
	4.7nm,0.6s,mb4.2							
TKL	**Tuckaleechee C**	**23.39**	**18**	P		**P**	**10 58 00.2**	**-1.4**
	1.9nm,0.5s,mb3.9,baz=186,slow=9.6,SNR=5.6							
TKL				LR	LR	LR	11 08 53.7	
	comp=Z,84nm,18.7s,baz=271,slow=42							
TKL	**Tuckaleechee C**	**23.39**	**18**	P		**P**	**10 58 00.2**	**-1.4**
TKL				LR		LR	11 08 53.7	
ANMO	**Albuquerque**	**24.77**	**332**	P		**P**	**10 58 15.9**	**+1.4**
	0.6nm,0.6s,mb3.5,baz=180,slow=2.0,SNR=4.0							
PDAR	**Pinedale Array**	**32.64**	**336**	P		**P**	**10 59 23.6**	**-1.0**
	0.5nm,0.9s,mb3.4,baz=146,slow=8.4,SNR=3.7							
NVAR	**Mina Array Bea**	**33.72**	**322**	P		**P**	**10 59 36.2**	**+2.0**
	1.2nm,0.9s,mb3.8,baz=122,slow=8.6,SNR=7.4							
NVAR	**Mina Array Bea**	**33.72**	**322**	P		**P**	**10 59 36.2**	**+2.0**
YKA	**Yellowknife Ar**	**51.36**	**347**	P		**P**	**11 01 56.6**	**-0.5**
	0.8nm,0.7s,mb3.8,baz=151,slow=7.7,SNR=3.2							

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**146.26**	**340**	PKPbc	PKPbc	11 12 33.5	-0.9
	0.5nm,0.5s,baz=27,slow=4.7,SNR=4.6						

RSPR ***12*** *11:08:40.4, 1852N×6386W, h50km±8km, MD2.7/4, MD2.7/4*

TRN 12 11:08:39.4, 1846N×6395W, h35km, M3.8(RSPR), 1C-3D, Leeward Islands

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
ABV	**Anegada**	**0.45**	**306⇑**	eP	Pb	11 08 50.6	+1.2
ABV				eS	Sb	11 08 59.3	+3.0
TBVI	**Tortola**	**0.64**	**266⇓**	eP	Pn	11 08 53.5	+1.6
TBVI				eS	Sn	11 09 03.5	+2.7
STVI	**Saint Thomas**	**0.96**	**264⇓**	eP	Pn	11 08 58.0	+1.5
STVI				eS	Sn	11 09 11.5	+2.6
MTP	**Monte Pirata**	**1.57**	**257⇓**	eP	Pn	11 09 06.4	+1.6

IDC ***12*** *11:08:49.4±1.6, 5362N×16497W, h0km, mb3.8/5, mb1 4.1/6, mb1mx3.7/23, mbtmp3.8/6, ML3.6/1, MS3.1/1, Ms1 3.1/1, ms1mx2.3/37, Error ellipse: s-maj=47.8km s-min=22.8km az=7.0*

ISCJB ***12*** *11:08:53.5±2.1, 5358N±008×16467W±007, h33km±19km, mb3.7/5, Error ellipse: s-maj=12.8km s-min=6.3km az=10.6*

NEIC ***12*** *11:08:54.2, 5358N×16470W, h16km, ML3.7(AEIC), ML3.9(PMR), After AEIC.*

ISC 12 11:08:55.0±1.7**, 5364N**±009×**16478W**±008**, h35**km±12km**, n19, σ0.74**/22**, mb3.7**/5**, Unimak Island region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
AKA	**Akutan**	**0.77**	**311**	P	**Pn**	**11 09 09.2**	**-0.2**
AKA				S	**Sb**	**11 09 20.3**	**0.0**
AKUT	**Akutan**	**0.77**	**311**	eP	**Pn**	**11 09 08.8**	**-0.6**
AKUT				P		11 09 09.1	
AKUT				S	**Sb**	**11 09 20.3**	**0.0**
AKLV	**Akutan Long Va**	**0.87**	**308**	P	**Pn**	**11 09 10.3**	**-0.5**
AKLV				S	**Sb**	**11 09 23.4**	**+0.2**
AKGG	**Akutan Green G**	**0.91**	**309**	P	**Pn**	**11 09 11.1**	**-0.2**
AKGG				S	**Sn**	**11 09 24.5**	**+1.3**
UNV	**Unalaska Valle**	**1.05**	**282**	P	**Pn**	**11 09 12.1**	**-1.1**
FALS	**False Pass**	**1.46**	**33**	P	**Pn**	**11 09 18.0**	**-0.8**
OKCD	**Okmok Cone D**	**2.00**	**265**	P	**Pn**	**11 09 27.1**	**+0.9**
OKCE	**Okmok Cone E**	**2.03**	**265**	P	**Pn**	**11 09 27.1**	**+0.4**
NIKO	**Nikolski**	**2.54**	**256**	P	**Pn**	**11 09 33.9**	**+0.3**
SDPT	**Sand Point**	**3.04**	**54**	P	**Pn**	**11 09 40.7**	**+0.2**
SDPT				eP		11 09 41.2	
CHGN	**Chignik**	**4.54**	**51**	eP	**Pn**	**11 10 01.4**	**+0.3**
KDAK	**Kodiak Island**	**8.04**	**54**	Pn	**Pn**	**11 10 48.6**	**-0.5**
	0.7nm,0.3s,baz=208,slow=4.0,SNR=20						
BBB	**Bella Bella**	**22.01**	**79**	LR	LR	11 21 13.2	
	comp=Z,47nm,18.3s,baz=199,slow=34						
PETK	**Petropavlovsk-**	**22.23**	**284**	P	**P**	**11 13 46.8**	**-1.5**
	1.3nm,0.5s,mb3.6,baz=84,slow=16,SNR=9.2						
YKA	**Yellowknife Ar**	**27.30**	**51**	P	**P**	**11 14 37.5**	**+1.6**
	0.7nm,0.7s,mb3.3,baz=273,slow=9.0,SNR=5.5						
NVAR	**Mina Array Bea**	**34.98**	**97**	P	**P**	**11 15 44.0**	**+0.3**
	0.3nm,0.6s,mb3.4,baz=309,slow=8.5,SNR=4.8						
NVAR	**Mina Array Bea**	**34.98**	**97**	P	**P**	**11 15 44.0**	**+0.3**
TXAR	**Lajitas Array**	**50.00**	**94**	P	**P**	**11 17 46.1**	**+0.4**
	1.1nm,0.6s,mb4.1,baz=297,slow=5.1,SNR=20						
AKASG	**Malin Array Be**	**75.37**	**351**	P	**P**	**11 20 33.3**	**-1.1**
	0.8nm,0.4s,mb4.0,baz=12,slow=6.1,SNR=5.2						

IDC ***12*** *11:13:08.9±1.9, 1357N×9205W, h0km, mb3.7/3, mb1 4.1/6, mb1mx3.8/21, mbtmp3.8/6, ML3.5/3, Error ellipse: s-maj=49.0km s-min=33.8km az=60.0*

ISCJB ***12*** *11:13:13.7±1.6, 1383N±007×9224W±006, h27km±9km, mb3.7/3, Error ellipse: s-maj=12.8km s-min=7.3km az=32.4*

MEX ***12*** *11:13:14.7±0.9, 1376N×9237W, h12km, MD4.4*

NEIC ***12*** *11:13:17.0, 1381N×9242W, h20km, MD4.4(MEX), After MEX.*

CASC ***12*** *11:13:18.0±2.7, 1402N×9205W, h46km±35km, MD4.1*

ISC 12 11:13:14.5±1.6**, 1388N**±006×**9220W**±005**, h17**km±8km**, n23, σ0.99**/27**, mb3.7**/3**, 2C-2D, Off coast of Chiapas**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
JAT	**Jato**	**0.70**	**51⇑**	eP	**Pg**	**11 13 30.0**	**+1.6**
JAT				eS	**Sg**	**11 13 37.0**	**-0.7**
THIG		**1.03**	**357**	i P	**Pb**	**11 13 32.3**	**-1.5**
THIG				i S	**Sb**	**11 13 47.2**	**+0.2**
FUG	**Fuego 3**	**1.44**	**67⇓**	eP	**Pn**	**11 13 39.0**	**-0.8**
FG6		**1.45**	**62⇓**	eP	**Pn**	**11 13 39.6**	**-0.4**
FG6				eS	**Sn**	**11 13 54.4**	**-4.2**
PCG	**Pacaya**	**1.63**	**71**	eP	**Pn**	**11 13 42.2**	**-0.2**
NBG	**Las Nubes**	**1.94**	**68⇑**	eP	**Pn**	**11 13 47.7**	**+1.1**
NBG				eS	**Sn**	**11 14 11.1**	**+0.5**
CCIG	**Comitan**	**2.39**	**2**	eP	**Pn**	**11 13 54.1**	**+1.2**
CCIG				i S	**Sn**	**11 14 22.3**	**+0.4**
CCIG	**Comitan**	**2.39**	**2**	eP	**Pn**	**11 13 54.5**	**+1.6**
CCIG				i S	**Sn**	**11 14 22.9**	**+1.0**
SBLS	**San Blas**	**2.51**	**91**	eP	x	11 13 54.8	
SBLS				eS	x	11 14 23.4	
SNJE	**San Jose**	**2.52**	**90**	eP	x	11 13 54.1	
TGIG		**3.02**	**343**	i P	**Pn**	**11 14 01.0**	**-0.5**
TGIG				i S	**Sn**	**11 14 36.5**	**-0.8**
CMIG	**Matias Romero**	**4.11**	**321**	Pn	**Pn**	**11 14 16.3**	**-0.2**
	1.2nm,0.3s,baz=155,slow=12,SNR=25						
CMIG				Sn	**Sn**	**11 15 09.0**	**+4.7**
	4.9nm,0.3s,baz=82,slow=20,SNR=4.8						
TEIG	**Tepich**	**7.35**	**30**	Pn	**Pn**	**11 15 00.5**	**-0.5**
	3.6nm,0.3s,baz=212,slow=2.1,SNR=27						
TEIG	**Tepich**	**7.35**	**30**	ePn	**Pn**	**11 15 00.1**	**-1.0**
TEIG				Pn	**Pn**	**11 15 00.5**	**-0.5**
JTS	**JuntasAbangare**	**7.94**	**116**	Pn	**Pn**	**11 15 08.5**	**-0.7**
	22nm,1.2s						
TXAR	**Lajitas Array**	**18.69**	**327**	P	**Pn**	**11 17 32.3**	**-0.1**
	0.0nm,0.3s,baz=149,slow=9.0,SNR=10.0						
ANMO	**Albuquerque**	**24.62**	**331**	P	**P**	**11 18 35.4**	**+1.5**
	1.0nm,0.7s,mb3.4,baz=146,slow=12,SNR=5.4						
ANMO	**Albuquerque**	**24.62**	**331**	P	**P**	**11 18 35.4**	**+1.5**
NVAR	**Mina Array Bea**	**33.64**	**321**	P	**P**	**11 19 55.8**	**+1.4**
	0.5nm,0.6s,mb3.6,baz=115,slow=8.9,SNR=5.1						
YKA	**Yellowknife Ar**	**51.10**	**347**	P	**P**	**11 22 14.1**	**-1.8**
	1.3nm,0.8s,mb3.9,baz=151,slow=7.5,SNR=3.6						
WRA	**Warramunga Arr**	**135.17**	**256**	PKP	PKPdf	11 32 29.6	-4.4
	0.3nm,0.7s,baz=117,slow=1.8,SNR=4.6						
ASAR	**Alice Springs**	**135.44**	**250**	PKP	PKPdf	11 32 31.2	-3.1
	0.1nm,0.3s,baz=220,slow=39,SNR=3.0						
CMAR	**Chiang Mai Arr**	**146.04**	**341**	PKPbc	PKPbc	11 32 52.5	-1.9
	1.3nm,0.7s,baz=330,slow=3.5,SNR=8.6						

BJI ***12*** *11:33:24.8, 6.19S×146.85E, h48km, mB5.0, mb5.0, Ms4.7, Msz4.3*

ISCJB ***12*** *11:33:31.1±1.0, 574S±004×14609E±005, h51km±9km, mb5.0/71, MS4.0/21, Error ellipse: s-maj=7.8km s-min=6.0km az=168.9*

MOS ***12*** *11:33:31.9±1.0, 564S×146.10E, h58km, mb5.0/12, Error ellipse: s-maj=11.6km s-min=7.3km az=102.9*

IDC ***12*** *11:33:34.0±2.2, 576S×146.10E, h61km±19km, mb4.6/18, mb1 4.7/22, mb1mx4.7/24, mbtmp4.6/22, MS3.9/14, Ms1 3.9/14, ms1mx3.9/18, Error ellipse: s-maj=13.3km s-min=8.6km az=103.0*

GCMT ***12*** *11:33:33.6±0.3, 573S×14621E, h48km±1km, MW5.0/52, Moment Tensor Solution. s34,c41; s52,c70; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}3.01±.18; $M_{\theta\theta}$-2.44±.12; $M_{\phi\phi}$-0.57±.17; $M_{r\theta}$-0.74±.11; $M_{\theta\phi}$2.28±.11; $M_{\phi r}$-0.16±.15; Best double couple: $M_0$3.59400×10^{16} NP1:ϕ_s138.00000°, δ42.00000°, λ110.00000°. NP2: ϕ_s291.00000°, δ51.00000°, λ72.00000°. Principal axes: T 3.1800, Plg76.0000°, Azm141.0000°; N 0.8290, Plg14.0000°, Azm302.0000°; P -4.0090, Plg4.0000°, Azm33.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

NEIC ***12*** *11:33:33.6±1.0, 569S×14607E, h58km±9km, mb5.0/22 Error ellipse: s-maj=7.2km s-min=6.2km az=70.0*

NEIC Felt at Kainantu and Madang.

DJA ***12*** *11:33:40, 603S×14609E, h103km, Mw5.1/7*

ISC 12 11:33:33.7±0.8**, 576S**±003×**14608E**±004**, h58**km±8km**, h58**km±3.1km**:pP-P, n148, σ1.07**/141**, mb5.0**/71**, MS4.0**/21**, 3C-7D, Eastern New Guinea region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.78**	**164c**	iP	**Pn**	**11 34 29.9**	**+0.5**
PMG	**Port Moresby**	**3.78**	**164**	ePn	**Pn**	**11 34 29.2**	**-0.2**
COEN	**Coen**	**8.63**	**199**	ePn	**Pn**	**11 35 37.1**	**+1.1**
	2µm,1.6s						
COEN				eSn	**Sn**	**11 37 12.2**	**+0.2**
HNR	**Honiara**	**14.22**	**106**	P	**Pn**	**11 36 51.9**	**-0.2**
	3.1nm,0.3s,baz=44,slow=8.1,SNR=2.4						
CTA	**Charters Tower**	**14.24**	**179**	eP	**Pn**	**11 36 54.4**	**+2.0**
	38nm,0.8s						
CTA	**Charters Tower**	**14.24**	**179**	P	**Pn**	**11 36 53.2**	**+0.8**
	3.4nm,0.3s,baz=356,slow=14,SNR=44						
CTA				S	**Sn**	**11 39 27.6**	**-1.5**
	1.3nm,0.3s,baz=271,slow=18,SNR=3.8						
CTA	**Charters Tower**	**14.24**	**179**	eP	**Pn**	**11 36 54.4**	**+2.0**
CTA				pmax	pmax		
	comp=Z,38nm,0.8s						
CTAO	**Charters Tower**	**14.24**	**179**	eP	**Pn**	**11 36 55.0**	**+2.6**
KAKA	**Kakadu**	**15.13**	**242**	eP	**Pn**	**11 37 02.3**	**-1.7**
	comp=Z,50nm,0.6s						
WRAB	**Tennant Creek**	**18.13**	**218⇓**	eP	**Pn**	**11 37 41.7**	**+0.2**
WRAB	**Tennant Creek**	**18.13**	**218**	ePn	**Pn**	**11 37 40.8**	**-0.7**
	comp=Z,63nm,1.0s						
WB2	**Warramunga Arr**	**18.14**	**218**	ePn	**Pn**	**11 37 41.3**	**-0.3**
WRA	**Warramunga Arr**	**18.14**	**218**	P	**Pn**	**11 37 41.6**	**-0.1**
	comp=Z,1.3nm,0.3s,baz=42,slow=12,SNR=180						
WRA				S	**S**	**11 41 05.2**	**-1.1**
	comp=Z,0.1nm,0.3s,baz=43,slow=25,SNR=6.6						
WRA				PcP	PcP	11 42 13.7	+0.8
	comp=Z,0.8nm,0.3s,baz=22,slow=1.6,SNR=13						
WRA				LR	LR	11 45 40.9	
	comp=Z,772nm,18.2s,baz=45,slow=40						
WRA	**Warramunga Arr**	**18.14**	**218**	P	**Pn**	**11 37 41.6**	**-0.1**
WRA				S	**S**	**11 41 05.2**	**-1.1**
GUMO	**Guam**	**19.26**	**356**	P	**Pn**	**11 37 53.5**	**-1.6**
	comp=Z,1.8nm,0.3s,baz=138,slow=7.8,SNR=5.1						
GUMO				LR	LR	11 44 34.4	
	comp=Z,202nm,19.5s,baz=171,slow=34						
GUMO	**Guam**	**19.26**	**356**	eP	**Pn**	**11 37 54.7**	**-0.4**
GUMO				pmax	pmax		
	comp=Z,94nm,1.1s						
GUMO	**Guam**	**19.26**	**356**	ePn	**Pn**	**11 37 54.7**	**-0.4**
	comp=Z,94nm,1.1s						
ASAR	**Alice Springs**	**21.32**	**212**	P	**P**	**11 38 16.3**	**+0.4**
	comp=Z,28nm,0.9s,mb4.6,baz=43,slow=9.0,SNR=128						
ASAR				S	**S**	**11 42 09.0**	**-0.6**
	comp=Z,3.0nm,0.9s,baz=32,slow=25,SNR=4.5						
BATI	**Baumata**	**22.63**	**257**	P	**P**	**11 38 30.1**	**+0.1**
	comp=Z,89nm,0.8s,mb5.2,baz=70,slow=2.4,SNR=12						
FITZ	**Fitzroy Crossi**	**23.43**	**237**	eP	**P**	**11 38 38.3**	**+0.3**
	comp=Z,41nm,0.6s,mb5.0						
FITZ	**Fitzroy Crossi**	**23.43**	**237**	P	**P**	**11 38 37.7**	**-0.2**
	comp=Z,22nm,0.6s,mb4.8,baz=55,slow=13,SNR=64						
FITZ				LR	LR	11 48 38.6	
	comp=Z,582nm,20.7s,MS4.0,baz=59,slow=39						
DAV	**Davao City (W)**	**24.11**	**302**	LR	LR	11 46 51.9	
	comp=Z,242nm,21.9s,MS3.6,baz=139,slow=33						
ARMA	**Armidale**	**25.08**	**169**	eP	**P**	**11 38 54.7**	**+1.8**
STKA	**Stephens Creek**	**26.32**	**189**	eP	**P**	**11 39 04.7**	**+0.6**
	comp=Z,43nm,0.9s,mb5.0						
STKA	**Stephens Creek**	**26.32**	**189**	P	**P**	**11 39 05.0**	**+0.9**
	comp=Z,54nm,0.8s,mb5.1,baz=356,slow=8.1,SNR=42						
STKA				LR	LR	11 50 41.2	
	comp=Z,572nm,21.4s,MS4.1,baz=19,slow=39						
MBWA	**Marble Bar**	**29.77**	**237**	eP	**P**	**11 39 35.0**	**-0.1**
	comp=Z,5.0nm,0.7s,mb4.3						
FORT	**Forrest**	**30.11**	**212**	eP	**P**	**11 39 38.2**	**+0.3**
	comp=Z,19nm,0.7s,mb4.9						
TOO	**Toolangi**	**31.67**	**181**	eP	**P**	**11 39 53.1**	**+1.5**
KSM	**Kuching**	**36.44**	**280**	eP	**P**	**11 40 34.0**	**+0.6**
KLBR	**Kellerberrin**	**36.93**	**222**	eP	**P**	**11 40 37.3**	**+0.1**
	comp=Z,23nm,1.1s,mb4.9						
NWAO	**Narrogin (SRO)**	**38.10**	**221**	P	**P**	**11 40 47.4**	**+0.3**
	comp=Z,26nm,1.3s,mb4.8,baz=51,slow=11,SNR=4.0						
NWAO	**Narrogin (SRO)**	**38.10**	**221**	P	**P**	**11 40 47.3**	**+0.2**
NWAO				pmax	pmax		
	comp=Z,17nm,1.3s						
NWAO	**Narrogin (SRO)**	**38.10**	**221**	P	**P**	**11 40 47.3**	**+0.2**
	comp=Z,17nm,1.3s,mb4.6						
YHNB	**Yeheng**	**38.65**	**322**	eP	**P**	**11 40 51.5**	**-0.3**
	comp=Z,56nm,1.0s,mb5.2						
AFI	**Afiamalu**	**42.24**	**104**	P	**P**	**11 41 20.4**	**-1.3**
	comp=Z,41nm,0.9s,mb5.1,baz=64,slow=19,SNR=4.9						
AFI				LR	LR	11 55 38.5	
	comp=Z,147nm,19.7s,MS3.9,baz=286,slow=31						
MJAR	**Matsushiro Arr**	**42.72**	**351**	P	**P**	**11 41 24.1**	**-1.1**
	comp=Z,4.3nm,0.9s,mb4.2,baz=177,slow=7.1,SNR=9.9						
MJAR				LR	LR	11 57 23.9	
	comp=Z,67nm,21.9s,MS3.5,baz=165,slow=34						
MAJO	**Matsushiro**	**42.72**	**351**	eP	**P**	**11 41 23.1**	**-2.1**
MAT	**Matsushiro**	**42.72**	**351**	P	**P**	**11 41 24.0**	**-1.2**
MAT				eS	**S**	**11 47 41.4**	**-3.3**
URZ	**Urewera**	**42.89**	**143**	P	**P**	**11 41 24.7**	**-1.9**
	comp=Z,9.4nm,0.6s,mb4.7,baz=144,slow=1.8,SNR=8.0						
QIZ	**Qiongzhong**	**43.37**	**305**	P	**P**	**11 41 30.2**	**-0.5**
QIZ				S	**S**	**11 47 57.5**	**+2.7**
QIZ				LR	LR		
	comp=Z,291nm,22.8s,MS4.1						
SSE	**Sheshan**	**43.70**	**328**	P	**P**	**11 41 33.8**	**+0.7**
SSE				AP	pP	11 41 48.8	+0.8
SSE				S	**S**	**11 48 01.8**	**+2.6**
SSE				AMB	AMB		
	comp=Z,31nm,0.8s,mb5.1						
SSE				AMB	AMB		
	comp=Z,84nm,3.8s						
SSE				LR	LR		
	comp=N,80nm,20.0s,MS3.7						
SSE				LR	LR		
	comp=E,50nm,20.0s,MS3.7						
SSE				LR	LR		
	comp=Z,123nm,20.0s,MS3.8						
RPZ	**Rata Peaks**	**43.72**	**154**	P	**P**	**11 41 33.8**	**+0.6**
	comp=Z,14nm,0.6s,mb4.9,baz=285,slow=5.6,SNR=11						
NJ2	**Nanjing**	**45.68**	**327**	eP	**P**	**11 41 50.0**	**+1.1**
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.5s,mb5.0						
KSRS	**Korea Array**	**46.21**	**340**	P	**P**	**11 41 53.0**	**0.0**
	comp=Z,44nm,1.2s,mb5.3,baz=157,slow=9.3,SNR=33						
KSRS				LR	LR	11 59 16.0	
	comp=Z,206nm,19.7s,MS4.1,baz=151,slow=33						
KS15	**Wonju Array Si**	**46.21**	**340**	eP	**P**	**11 41 54.1**	**+1.1**
WHN	**Wuhan**	**47.18**	**322**	⇓P	**P**	**11 42 01.8**	**+1.1**
WHN				AP	pP	11 42 13.0	-2.8
WHN				AMB	AMB		
	comp=Z,28nm,0.7s,mb5.3						
GYA	**Guiyang**	**49.84**	**312**	P	**P**	**11 42 22.8**	**+1.5**
GYA				AP	pP	11 42 39.4	+3.0
GYA				PCP	PcP	11 43 43.2	+1.9
GYA				PP	PP	11 44 19.5	+2.9
GYA				S	**S**	**11 49 28.7**	**+1.6**
GYA				XS	sS	11 49 54.3	+1.6
GYA				SS	SS	11 52 58.0	-2.6
GYA				AMB	AMB		
	comp=Z,10.0nm,0.9s,mb4.8						
GYA				AMB	AMB		
	comp=Z,90nm,4.9s						
GYA				LR	LR		
	comp=N,470nm,18.6s,MS4.6						
GYA				LR	LR		
	comp=E,330nm,19.4s,MS4.6						
GYA				LR	LR		
	comp=Z,480nm,18.7s,MS4.5						
NANT	**Nan**	**50.94**	**300**	⇓P	**P**	**11 42 27.5**	**-2.2**
	comp=Z,115nm,1.0s,mb5.8						
KMI	**Kunming**	**52.13**	**308**	P	**P**	**11 42 41.3**	**+2.8**
KMI				AMB	AMB		
	comp=Z,9.0nm,0.7s,mb4.8						
MDJ	**Mudanjiang**	**52.29**	**345**	P	**P**	**11 42 38.9**	**-0.4**
MDJ				AMB	AMB		
	comp=Z,6.0nm,0.9s,mb4.5						
MDJ				AMB	AMB		
	comp=Z,35nm,3.6s						
CMAR	**Chiang Mai Arr**	**52.33**	**298**	P	**P**	**11 42 41.1**	**+1.1**
	comp=Z,12nm,0.8s,mb4.8,baz=124,slow=5.8,SNR=59						
CMAR				LR	LR	12 06 28.9	
	comp=Z,33nm,19.8s,MS3.4,baz=135,slow=38						
CMAR	**Chiang Mai Arr**	**52.33**	**298**	i P	**P**	**11 42 41.2**	**+1.1**
CMAR				pmax	pmax		
	comp=Z,12nm,0.8s						
CHG	**Chiang Mai**	**52.47**	**299**	⇑P	**P**	**11 42 41.8**	**+0.7**
	comp=Z,13nm,1.0s,mb4.8						
CHTO	**Chiang Mai**	**52.47**	**299**	eP	**P**	**11 42 42.2**	**+1.1**
CHTO				pmax	pmax		
	comp=Z,13nm,1.0s,mb4.8						
CHTO	**Chiang Mai**	**52.47**	**299**	eP	**P**	**11 42 42.2**	**+1.1**
	comp=Z,13nm,1.0s,mb4.8						
CN2	**Changchun**	**52.74**	**341**	eP	**P**	**11 42 45.3**	**+2.7**
CN2				eS	**S**	**11 50 07.6**	**+1.2**
CN2				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.9						
CN2				AMB	AMB		
	comp=Z,200nm,3.0s						
XAN	**Xi'an**	**52.92**	**321**	P	**P**	**11 42 43.5**	**-0.7**
XAN				AP	pP	11 42 55.0	-4.5
XAN				AMB	AMB		
	comp=Z,12nm,1.1s,mb4.7						
XAN				LR	LR		
	comp=N,18nm,19.7s						
XAN				LR	LR		
	comp=E,55nm,29.5s						
XAN				LR	LR		
	comp=Z,109nm,35.6s						
BJI	**Beijing**	**53.25**	**331**	P	**P**	**11 42 47.9**	**+1.4**
BJI				S	**S**	**11 50 17.8**	**+4.2**
BJI				AMB	AMB		
	comp=Z,16nm,0.4s,mb5.3						
BJI				AMB	AMB		
	comp=Z,88nm,3.6s						
BJI				LR	LR		
	comp=N,158nm,16.1s,MS4.3						
BJI				LR	LR		
	comp=E,160nm,15.0s,MS4.3						
BJI				LR	LR		
	comp=Z,120nm,21.8s						
CD2	**Chengdu**	**54.45**	**315**	eP	**P**	**11 42 56.5**	**+1.0**
CD2				AP	pP	11 43 12.4	+1.6
CD2				XP	sP	11 43 18.5	+1.1
CD2				PP	PP	11 45 00.7	+2.5
CD2				S	**S**	**11 50 29.0**	**-1.2**
CD2				XS	sS	11 50 55.0	-1.1
CD2				AMB	AMB		
	comp=Z,20nm,0.6s,mb5.2						
CD2				AMB	AMB		
	comp=Z,60nm,4.2s						
CD2				LR	LR		
	comp=N,210nm,12.8s,MS4.5						
CD2				LR	LR		
	comp=E,180nm,16.2s,MS4.5						
CD2				LR	LR		
	comp=Z,180nm,14.8s,MS4.3						
RAR	**Rarotonga**	**54.57**	**112**	LR	LR	12 05 02.9	
	comp=Z,84nm,18.1s,MS3.9,baz=76,slow=35						
HHC	**Hu-ho-hao-te**	**56.15**	**329**	eP	**P**	**11 43 10.0**	**+2.5**
HHC				AP	pP	11 43 25.9	+3.0
HHC				PCP	PcP	11 44 06.3	+1.5
HHC				PP	PP	11 45 17.5	+4.3
HHC				SCP	ScP	11 47 58.1	-1.2
HHC				S	**S**	**11 50 54.9**	**+2.4**
HHC				XS	sS	11 51 21.4	+2.9
HHC				SCS	ScS	11 52 51.1	-0.6
HHC				SS	SS	11 54 44.1	+4.2
HHC				AMB	AMB		
	comp=Z,13nm,1.0s,mb4.9						
HHC				AMB	AMB		
	comp=Z,150nm,6.4s						
HHC				LR	LR		
	comp=N,161nm,14.1s,MS4.5						
HHC				LR	LR		
	comp=E,256nm,14.5s,MS4.5						
HHC				LR	LR		
	comp=Z,124nm,14.3s,MS4.1						
KLR	**Kul'dur**	**56.17**	**349**	eP	**P**	**11 43 03.2**	**-4.2**
LZH	**Lanzhou**	**57.44**	**320**	eP	**P**	**11 43 17.1**	**+0.4**
LZH				AP	pP	11 43 33.0	+0.9
LZH				XP	sP	11 43 39.2	+0.5
LZH				ePP	PP	11 45 26.7	+1.9
LZH				eS	**S**	**11 51 08.0**	**-1.6**
LZH				eSS	SS	11 55 01.5	+1.2
LZH				AMB	AMB		
	comp=Z,26nm,1.4s,mb5.1						
LZH				AMB	AMB		
	comp=Z,93nm,7.6s						
LZH				LR	LR		
	comp=N,415nm,16.2s						
LZH				LR	LR		
	comp=Z,603nm,18.7s,MS4.7						
LZH	**Lanzhou**	**57.44**	**320**	eP	**P**	**11 43 17.1**	**+0.4**
LZH				pP	pP	11 43 33.0	+0.9
LZH				sP	sP	11 43 39.2	+0.5
LZH				ePP	PP	11 45 26.7	+1.9
LZH				eS	**S**	**11 51 08.0**	**-1.6**
LZH				sS	sS	11 51 30.8	-4.9
LZH				eSS	SS	11 55 01.5	+1.2
HIA	**Hailar**	**59.41**	**340**	eP	**P**	**11 43 30.1**	**-0.1**
HIA				pmax	pmax		
	comp=Z,19nm,1.1s						
HIA	**Hailar**	**59.41**	**340**	eP	**P**	**11 43 30.1**	**0.0**
	comp=Z,19nm,1.1s,mb5.0						
PETK	**Petropavlovsk-**	**59.46**	**8**	P	**P**	**11 43 31.1**	**+0.7**
	comp=Z,12nm,0.8s,mb5.0,baz=163,slow=6.9,SNR=13						
PETK				S	**S**	**11 51 35.7**	**+0.3**
	comp=Z,2.7nm,0.9s,baz=214,slow=15,SNR=5.3						
PETK				LR	LR	12 04 26.4	
	comp=Z,155nm,21.2s,MS4.1,baz=177,slow=31						
GTA	**Gaotai**	**61.98**	**321**	P	**P**	**11 43 48.2**	**+0.4**
GTA				AP	pP	11 44 05.1	+1.6
GTA				XP	sP	11 44 11.4	+1.4
GTA				PP	PP	11 46 09.2	+4.3
GTA				S	**S**	**11 52 07.5**	**-0.5**
GTA				XS	sS	11 52 35.0	+0.7
GTA				SS	SS	11 56 13.3	+1.8
GTA				AMB	AMB		
	comp=Z,13nm,1.2s,mb4.9						
GTA				AMB	AMB		
	comp=Z,109nm,6.0s						
GTA				LR	LR		
	comp=N,84nm,12.6s,MS4.3						
GTA				LR	LR		
	comp=E,113nm,12.6s,MS4.3						
GTA				LR	LR		
	comp=Z,117nm,13.8s,MS4.2						
LSA	**Lhasa**	**63.37**	**307**	eP	**P**	**11 43 58.5**	**+1.2**
LSA				pmax	pmax		
	comp=Z,17nm,1.0s,mb5.1						
LSA	**Lhasa**	**63.37**	**307**	eP	**P**	**11 43 58.5**	**+1.2**
	comp=Z,17nm,1.0s,mb5.1						
SONM	**Songino Array**	**63.75**	**331**	P	**P**	**11 43 59.4**	**0.0**
	comp=Z,4.1nm,0.8s,mb4.5,baz=153,slow=6.7,SNR=21						
SONM				LR	LR	12 11 54.3	
	comp=Z,152nm,19.4s,MS4.2,baz=258,slow=36						
PPT	**Papeete**	**63.84**	**107**	eLR	LR	12 03 14.1	
	comp=Z,111nm,28.8s						
TIAR	**Tiarei**	**64.06**	**107**	eP	**P**	**11 44 02.9**	**+0.8**
	comp=Z,360nm,0.9s						
TBI	**Tubuai**	**64.30**	**113**	eP	**P**	**11 44 04.7**	**+1.1**
	comp=Z,211nm,1.2s,mb6.0						
CASY	**Casey**	**65.25**	**195**	eP	**P**	**11 44 09.3**	**+0.4**
TAPN	**Taplejung**	**65.26**	**303**	eP	**P**	**11 44 10.3**	**+0.6**
	comp=Z,74nm,1.3s,mb5.5						
ODAN	**Odare**	**65.35**	**303**	eP	**P**	**11 44 10.8**	**+0.5**
	comp=Z,52nm,1.0s,mb5.5						
PMOR	**Pomariorio Ree**	**65.39**	**104**	eP	**P**	**11 44 11.9**	**+1.1**
	comp=Z,46nm,1.0s,mb5.5						
BOK	**Bokaro**	**65.61**	**299**	eP	**P**	**11 44 11.0**	**-1.1**
BOK				AMb	AMB	11 44 42.3	
	comp=Z,14nm,1.1s,mb4.9						
VAH	**Vaihoa**	**65.65**	**104**	eP	**P**	**11 44 12.9**	**+0.4**
	comp=Z,54nm,1.0s,mb5.5						
RAMN	**Ramite**	**66.04**	**303**	eP	**P**	**11 44 15.3**	**+0.5**
VIS	**Vishakhapatnam**	**66.17**	**292**	ex	x	11 44 28.4	
VIS				AMb	AMB	11 44 29.5	
	comp=Z,24nm,1.0s,mb5.2						
JIRN	**Jiri**	**66.63**	**303**	eP	**P**	**11 44 19.1**	**+0.6**
	comp=Z,19nm,0.6s,mb5.3						
GUN	**Gumba**	**66.97**	**303**	eP	**P**	**11 44 21.4**	**+0.7**
	comp=Z,56nm,0.8s,mb5.7						
ZAK	**Zakamensk**	**67.00**	**332⇓**	iP	**P**	**11 44 19.9**	**-0.5**
ZAK				pmax	pmax		
	comp=Z,13nm,1.4s,mb4.8						
PKI	**Pulchoki**	**67.25**	**303**	eP	**P**	**11 44 23.0**	**+0.5**
PKI	**Pulchoki**	**67.25**	**303**	eP	**P**	**11 44 23.2**	**+0.7**
PKIN	**Phulchoki**	**67.26**	**303**	eP	**P**	**11 44 23.2**	**+0.6**
KKN	**Kakani**	**67.43**	**303**	eP	**P**	**11 44 23.9**	**+0.3**
	comp=Z,45nm,0.8s,mb5.5						
DMN	**Daman**	**67.52**	**303**	eP	**P**	**11 44 24.8**	**+0.6**
	comp=Z,67nm,0.9s,mb5.7						
GKN	**Gorkha**	**68.04**	**303**	eP	**P**	**11 44 27.7**	**+0.2**
	comp=Z,55nm,0.9s,mb5.6						
BOD	**Bodaibo**	**68.47**	**342**	eP	**P**	**11 44 28.5**	**-1.0**

BOD pmax pmax
comp=Z,9.0nm,1.2s,mb4.7
KOLN Koldanda 68.83 303 *eP* **P 11 44 32.6 +0.2**
comp=Z,39nm,0.8s,mb5.4
DANN Dangsing 68.88 303 *eP* **P 11 44 32.8 +0.1**
comp=Z,37nm,0.8s,mb5.4
MOY Mondy 68.93 332 *eP* **P 11 44 32.5 0.0**
KOD Kodaikanal 70.15 283 *eP* **P 11 44 40.2 -0.7**
KOD AMb AMB 11 44 42.9
comp=Z,34nm,2.0s,mb4.9
NGP Nagpur 70.93 295 *eP* **P 11 44 42.8 -2.6**
NGP AMb AMB 11 44 55.7
comp=Z,16nm,0.3s,mb5.4
WMQ Urumqi 72.02 320⇑ *iP* **P 11 44 51.6 +0.1**
WMQ AP pP 11 45 06.1 -1.4
WMQ PCP PcP 11 45 10.6 +0.8
WMQ XP sP 11 45 12.1 -1.8
WMQ PP PP 11 47 33.6 +1.4
WMQ PPP 11 49 16.6
WMQ S S 11 54 07.6 -1.2
WMQ AMB AMB
comp=Z,16nm,1.2s,mb4.8
WMQ AMB AMB
comp=Z,99nm,4.6s
WMQ LR LR
comp=N,40nm,24.3s,MS3.7
WMQ LR LR
comp=E,26nm,25.4s,MS3.7
WMQ LR LR
comp=Z,37nm,19.5s
AKL Akola 72.68 294 *eP* **P 11 44 55.6 -0.3**
AKL AMb AMB 11 44 56.6
comp=Z,69nm,1.4s,mb5.4
SBA Scott Base 72.87 176 *eP* **P 11 44 55.6 -0.4**
SBA pmax pmax
comp=Z,8.0nm,1.0s,mb4.6
SBA Scott Base 72.87 176 *eP* **P 11 44 55.5 -0.4**
comp=Z,8.2nm,1.0s,mb4.6
BHPL Bhopal 72.91 296 *eP* **P 11 44 55.5 -1.7**
BHPL AMb AMB 11 44 58.0
comp=Z,18nm,0.8s,mb5.1
KAD Karad 74.58 290 *eP* **P 11 45 05.6 -1.6**
KAD *eP* 11 45 06.9
KAD AMb AMB 11 45 08.0
comp=Z,26nm,0.7s,mb5.3
POO Poona 75.13 291 *eP* **P 11 45 08.8 -1.5**
POO *eP* 11 45 09.5
POO AMb AMB 11 45 11.2
comp=Z,31nm,0.7s,mb5.4
SMLA Simla 75.19 304 *eP* **P 11 45 09.6 -0.8**
SMLA AMb AMB 11 45 13.0
comp=Z,21nm,2.5s,mb4.6
AJM Ajmer 76.13 299 *ex* x 11 44 10.5
AJM AMb AMB 11 44 12.1
comp=Z,29nm,0.5s,mb5.5
MK31 Makanchi Array 76.73 321 *eP* **P 11 45 18.4 -0.4**
MKAR Makanchi Array 76.73 321 P **P 11 45 18.6 -0.3**
comp=Z,4.4nm,0.7s,mb4.5,baz=106,slow=6.6,SNR=22
RKT Rikitea 77.61 112 *eP* **P 11 45 24.7 +0.4**
comp=Z,134nm,1.5s,mb5.7
RKT Rikitea 77.61 112 *eP* **P 11 45 24.7 +0.4**
RKT pmax pmax
comp=Z,134nm,1.5s,mb5.7
TIXI Tiksi 78.08 355 *i* P **P 11 45 24.7 -1.2**
TIXI pmax pmax
comp=Z,10.0nm,0.9s,mb4.8
ZALV Zalesovo Beam 78.32 328 P **P 11 45 25.8 -1.8**
comp=Z,2.8nm,0.7s,mb4.3,baz=105,slow=5.6,SNR=11
ZALV LR LR 12 20 17.3
comp=Z,49nm,18.1s,MS3.9,baz=238,slow=36
NVS Novosibirsk 79.55 328 *eP* **P 11 45 31.9 -2.4**
TKM2 Tokmak 2 79.83 315 *eP* **P 11 45 35.7 -0.4**
BHJ Bhuj 79.89 295 *ex* x 11 44 15.9
BHJ AMb AMB 11 44 19.9
comp=Z,15nm,0.2s,mb5.7
UCH Uchtor 80.39 314 *eP* **P 11 45 39.3 +0.2**
KURK Kurchatov 80.47 323⇓ *eP* **P 11 45 38.9 -0.4**
KURK pmax pmax
comp=Z,10.0nm,1.2s,mb4.6
KURK Kurchatov 80.47 323 *eP* **P 11 45 37.8 -1.5**
comp=Z,7.8nm,1.0s,mb4.6
AML Almayashu 80.95 314 *eP* **P 11 45 42.4 +0.3**
EKS2 Erkin-Say 81.04 315 *eP* **P 11 45 42.9 +0.3**
MAW Mawson 82.12 203 *eP* **P 11 45 48.3 +0.5**
comp=Z,6.8nm,0.7s,mb4.7
MAW Mawson 82.12 203 P **P 11 45 48.3 +0.5**
comp=Z,7.6nm,0.7s,mb4.7,baz=81,slow=8.0,SNR=18
MAW Mawson 82.12 203 *eP* **P 11 45 48.3 +0.5**
MAW pmax pmax
comp=Z,7.0nm,0.7s
RC01 Rabbit Creek A 82.91 26 *eP* **P 11 45 48.9 -3.0**
comp=Z,54nm,1.4s,mb5.4
QSPA South Pole Qui 84.21 180 P **P 11 45 58.5 +0.1**
comp=Z,6.4nm,0.5s,mb5.0,baz=327,slow=1.1,SNR=95
COLA College 85.28 23 *d iP* **P 11 46 02.5 -1.4**
BRVK Borovoye 86.11 324 *eP* **P 11 46 05.7 -2.6**
BRVK pmax pmax
comp=Z,8.0nm,1.0s,mb4.9
BRVK Borovoye 86.11 324 *eP* **P 11 46 05.7 -2.6**
comp=Z,7.8nm,1.0s,mb4.9
SYO Syowa Base 90.50 200⇓ *eP* **P 11 46 27.6 -1.3**
NVAR Mina Array Bea 97.94 52 P **P 11 47 03.8 +0.2**
comp=Z,1.3nm,0.9s,mb4.5,baz=250,slow=6.1,SNR=4.6
YKA Yellowknife Ar 99.38 28 LR LR 12 29 14.3
comp=Z,43nm,21.1s,MS3.9,baz=90,slow=34
PLCA Paso Flores 122.82 147 PKP PKPdf 11 52 24.2 +0.6
comp=Z,8.2nm,0.7s,baz=225,slow=2.5,SNR=27
PLCA Paso Flores 122.82 147 PKP PKPdf 11 52 24.2 +0.6
TSUM Tsumeb 123.56 243 *e*PKPdf PKPdf 11 52 25.7 +0.1
TRQA Tornquist 129.19 151 *e*PKPdf PKPdf 11 52 34.6 -1.3
CFAA Coronel Fontan 130.48 141 PKP PKPdf 11 52 38.0 -0.5
LVC Limon Verde 135.65 131 PKP PKPdf 11 52 49.2 +0.7
comp=Z,4.3nm,0.8s,baz=282,slow=2.7,SNR=3.1
LPAZ La Paz 139.68 123 PKhKP 11 52 47.5
comp=Z,3.4nm,1.0s,baz=184,slow=1.2,SNR=10
CPUP Villa Florida 140.85 146 PKhKP 11 52 48.1
comp=Z,1.0nm,0.5s,baz=250,slow=5.0,SNR=4.8
CPUP PKP PKPdf 11 52 58.5 +0.5
comp=Z,5.5nm,0.6s,baz=251,slow=1.4,SNR=16
CPUP Villa Florida 140.85 146 PKIKP PKPdf 11 52 58.5 +0.6
SDV Santo Domingo 143.46 83 *e*PKPdf PKPdf 11 52 59.4 -3.5
TORD Torodi Ar. Bea 144.15 284 PKP PKPdf 11 53 02.2 -1.9
comp=Z,18nm,0.8s,baz=72,slow=3.5,SNR=84
SIV San Ignacio 145.51 129 PKPbc PKPbc 11 53 06.5 -0.1
KIC Kosan Boka 150.98 273 *e*PKIKP PKPbc 11 53 21.4 +0.2
DBIC Dimbokro 151.10 273 PKPbc PKPbc 11 53 21.2 -0.3
comp=Z,11nm,0.6s,baz=90,slow=3.9,SNR=21
TIC Toumodi 151.26 273 *e*PKIKP PKPbc 11 53 21.8 0.0
LIC Lamto 151.27 272 *e*PKIKP PKPbc 11 53 21.8 -0.1
BDFB Brasilia 154.56 147 PKPbc PKPbc 11 53 29.3 +0.2
comp=Z,9.6nm,0.8s,baz=159,slow=4.5,SNR=21

*NOU **12** 11:35:48.8±0.3,2059S×16938E,h10km*
*ISCJB **12** 11:35:49.4±0.5,2141S±008×16948E±006,h10km, mb4.5/19,MS4.0/7,Error ellipse: s-maj=12.3km s-min=7.9km az=164.3*
*IDC **12** 11:35:49.3±0.9,2145S×16949E,h0km,mb4.5/12, mb1 4.6/13,mb1mx4.5/19,mbtmp4.5/13,ML3.5/1,MS4.0/9, Ms1 4.0/9,ms1mx3.7/22,Error ellipse: s-maj=29.7km s-min=19.6km az=153.0*
*BJI **12** 11:35:50.6,2069S×16991E,h10km,mB5.0,mb4.6*
*NEIC **12** 11:35:50.8±0.3,2150S×16947E,h10km,mb4.7/8, Error ellipse: s-maj=11.5km s-min=8.4km az=166.0*
*LDG **12** 11:35:51.3±0.2,2108S×16947E,h10km,Mb5.0/4,Error ellipse: s-maj=23.2km s-min=5.3km az=155.0*
ISC 12 11:35:50.9±0.5,2146S±008×16948E±006,h10km, (h17km±2.0km:pP-P),n78,σ0s80/32,mb4.5/19,MS4.0/7,1D, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LASL	**Noumea**	**2.83**	**254**	*eP*	**Pn**	**11 36 36.0**	**-0.3**
DZM	**Mont Dzumac**	**2.88**	**257**	*eP*	**Pn**	**11 36 36.0**	**-0.9**
DZM	**Mont Dzumac**	**2.88**	**257**	*e*Pn	**Pn**	**11 36 35.8**	**-1.2**
NOUC	**Port Laguerre**	**3.02**	**257**	*eP*	**Pn**	**11 36 38.9**	**+0.1**
NOUC				*eS*	**Sn**	**11 37 15.9**	**+0.9**
URZ	**Urewera**	**18.00**	**160**	P	**Pn**	**11 40 00.4**	**-0.8**
	0.2nm,0.3s,baz=350,slow=22,SNR=1.5						
URZ				LR	LR	11 46 04.0	
	comp=Z,138nm,18.8s,baz=119,slow=34						
AFI	**Afiamalu**	**19.36**	**70**	LR	LR	11 46 14.6	
	comp=Z,384nm,20.8s,baz=124,slow=32						
AFI	**Afiamalu**	**19.36**	**70**	P	**Pn**	**11 40 12.1**	**-5.9**
	49nm,1.1s						
CTA	**Charters Tower**	**21.75**	**269**	P	**P**	**11 40 42.6**	**-0.2**
	9.9nm,0.8s,mb4.3,baz=95,slow=10,SNR=2.8						
CTA				LR	LR	11 48 29.6	
	comp=Z,583nm,19.9s,MS4.0,baz=83,slow=35						
CTAO	**Charters Tower**	**21.75**	**269**	*eP*	**P**	**11 40 44.5**	**+1.7**
	16nm,0.9s,mb4.5						
PMG	**Port Moresby**	**24.58**	**296**	*eP*	**P**	**11 41 09.8**	**-1.5**
	23nm,0.9s,mb4.7						
STKA	**Stephens Creek**	**26.92**	**241**	*eP*	**P**	**11 41 28.6**	**-3.8**
	10nm,1.0s,mb4.3						
WRA	**Warramunga Arr**	**32.86**	**266**	P	**P**	**11 42 24.7**	**-0.5**
	2.4nm,0.7s,mb4.2,baz=34,slow=1.4,SNR=3.4						
WRA				LR	LR	11 56 04.6	
	comp=Z,456nm,18.1s,MS4.2,baz=105,slow=37						
ASAR	**Alice Springs**	**32.87**	**259**	P	**P**	**11 42 25.4**	**+0.1**
	5.7nm,0.8s,mb4.6,baz=89,slow=10,SNR=8.0						
TBI	**Tubuai**	**37.92**	**101**	*e*LR	LR	11 53 16.4	
	177nm,26.5s						
PPT	**Papeete**	**38.72**	**92**	*e*LR	LR	11 53 43.3	
	233nm,26.8s						
PPT	**Papeete**	**38.72**	**92**	LR	LR	11 54 14.7	
	comp=Z,12nm,21.4s,MS2.7,baz=269,slow=29						
FITZ	**Fitzroy Crossi**	**41.29**	**267**	P	**P**	**11 43 37.5**	**+0.6**
	11nm,0.7s,mb4.6,baz=130,slow=10,SNR=6.7						
FITZ				LR	LR	12 00 59.5	
	comp=Z,338nm,18.9s,MS4.2,baz=299,slow=37						
BATI	**Baumata**	**45.32**	**277**	LR	LR	12 03 09.3	
	comp=Z,245nm,19.8s,MS4.1,baz=116,slow=36						
MBWA	**Marble Bar**	**46.18**	**261**	*eP*	**P**	**11 44 15.7**	**-0.5**
	8.0nm,0.8s,mb4.7						
NWAO	**Narrogin (SRO)**	**47.43**	**245**	P	**P**	**11 44 24.8**	**-1.0**
	3.4nm,0.7s,mb4.4,baz=100,slow=11,SNR=3.3						
NWAO				LR	LR	12 03 23.6	
	comp=Z,561nm,21.3s,MS4.5,baz=209,slow=35						
RKT	**Rikitea**	**51.16**	**103**	*e*LR	LR	11 59 33.9	
	93nm,28.0s						
MJAR	**Matsushiro Arr**	**64.81**	**332**	P	**P**	**11 46 29.8**	**-0.1**
	4.2nm,0.7s,mb4.6,baz=168,slow=7.5,SNR=11						
MAT	**Matsushiro**	**64.81**	**332**	P	**P**	**11 46 29.6**	**-0.3**
KSRS	**Korea Array**	**70.45**	**326**	P	**P**	**11 47 04.8**	**-0.8**
	2.0nm,1.0s,mb4.0,baz=152,slow=6.4,SNR=4.3						
PETK	**Petropavlovsk-**	**74.95**	**353**	P	**P**	**11 47 30.6**	**-1.3**
	6.2nm,0.8s,mb4.6,baz=152,slow=4.2,SNR=5.2						
MAW	**Mawson**	**76.47**	**202**	*eP*	**P**	**11 47 40.7**	**+0.1**
	3.7nm,0.8s,mb4.4						
CMAR	**Chiang Mai Arr**	**79.61**	**295**	P	**P**	**11 48 00.4**	**+1.5**
	5.9nm,1.0s,mb4.5,baz=135,slow=4.3,SNR=17						
XAN	**Xi'an**	**79.77**	**313**	P	**P**	**11 48 00.4**	**+1.0**
XAN				AP	pP	11 48 07.5	+4.8
XAN				AMB	AMB		
	comp=Z,7.0nm,1.1s,mb4.5						
XAN				AMB	AMB		
	comp=Z,92nm,5.4s						
CHTO	**Chiang Mai**	**79.77**	**295**	*eP*	**P**	**11 47 60.0**	**+0.2**
	comp=Z,10nm,1.1s,mb4.7						
VNA3	**Neumayer Olymp**	**87.55**	**180**	*e*Pdiff	**P**	**11 48 38.9**	**+0.1**
VNA3				*e*	pP	11 48 42.9	+0.8
VNA3				*e*		11 48 45.6	
VNA2	**Neumayer--Watz**	**87.84**	**181**	*e*Pdiff	**P**	**11 48 40.9**	**+0.7**
	baz=194,slow=3.6						
VNA2				*e*	pP	11 48 45.7	+2.2
VNA2				*e*		11 48 48.4	
VNA1	**Neumayer--Stat**	**88.13**	**181**	*e*Pdiff	**P**	**11 48 42.3**	**+0.8**
VNA1				*e*	pP	11 48 47.3	+2.4
YBH	**Yreka Blue Hor**	**88.73**	**44**	P	**P**	**11 48 44.6**	**-0.1**
	comp=Z,1.3nm,0.5s,mb4.5,baz=174,slow=3.6,SNR=8.4						
SONM	**Songino Array**	**89.12**	**323**	P	**P**	**11 48 47.3**	**+0.9**
	comp=Z,2.6nm,1.0s,mb4.5,baz=135,slow=5.4,SNR=9.7						
NVAR	**Mina Array Bea**	**90.10**	**48**	P	**P**	**11 48 52.0**	**+0.7**
	comp=Z,2.7nm,0.7s,mb4.7,baz=226,slow=8.4,SNR=18						
NVAR	**Mina Array Bea**	**90.10**	**48**	P	**P**	**11 48 52.0**	**+0.7**
WVOR	**Wild Horse Val**	**91.72**	**45**	*eP*	**P**	**11 48 58.8**	**+0.1**
	comp=Z,5.4nm,1.2s,mb4.8						
PDAR	**Pinedale Array**	**97.95**	**47**	LR	LR	12 25 08.1	
	comp=Z,148nm,21.8s,MS4.4,baz=264,slow=30						
ARCES	**ARCESS Array B**	**127.26**	**345**	PKP	PKPdf	11 54 55.0	0.0
	comp=Z,3.9nm,0.7s,baz=66,slow=3.0,SNR=9.2						
NOA	**NORSAR Array B**	**137.63**	**344**	PKP	PKPdf	11 55 15.3	+0.5
	comp=Z,0.7nm,0.6s,baz=29,slow=2.0,SNR=2.5						
VYHS	**Vyhne**	**144.25**	**326**	*e*PKP	PKPdf	11 55 26.4	-0.7
DPC	**Dobruska-Polom**	**144.26**	**330**	*e*SKP		11 55 25.7	
UPC	**Upice**	**144.29**	**331**	*e*PKP	PKPdf	11 55 26.0	-1.1
UPC				*ep*PKP	pPKPdf	11 55 30.5	0.0
PVCC	**Panska Ves**	**144.92**	**332**	*e*PKP	PKPdf	11 55 27.7	-0.5
BRG	**Berggiesshubel**	**144.94**	**333**	*e*PKP	PKPdf	11 55 27.6	-0.6
	comp=Z,24nm,1.1s						
CLL	**Collm**	**145.00**	**334**⇓	*i*PKPRdf		11 55 27.8	
	comp=Z,23nm,1.2s						
CLL				*ex*	x	11 58 18.0	
MODS	**Modra-Piesok**	**145.13**	**327**	*e*PKP	PKPdf	11 55 29.2	+0.6
PRU	**Pruhonice**	**145.33**	**331**	*e*PKP	PKPdf	11 55 28.8	-0.1
TREC	**Trest**	**145.38**	**330**	*e*PKP	PKPdf	11 55 29.0	0.0
NKC	**Novy Kostel**	**146.05**	**333**	*e*PKP	PKPdf	11 55 31.3	+1.2
NKC				*ep*PKP	pPKPdf	11 55 35.6	+2.0
KHC	**Kasperske Hory**	**146.38**	**331**	*e*PKP	PKPdf	11 55 32.3	+1.6
KHC				*ep*PKP	pPKPdf	11 55 36.1	+2.0
WLF	**Walferdange**	**148.90**	**339**	*e*PKPbc	PKPbc	11 55 38.5	-0.3
GIVF	**Givet**	**148.95**	**341**	*e*PKP1	PKPbc	11 55 38.5	-0.4
	comp=Z,40nm,0.9s						
BAIF	**Baives**	**149.17**	**341**	*e*PKP1	PKPbc	11 55 39.3	-0.2
CDF	**Champ du Feu**	**149.56**	**336**	*e*PKP1	PKPbc	11 55 40.0	-0.5
	comp=Z,14nm,0.8s						
HINF	**Hinteralfeld**	**150.21**	**336**	*e*PKP1	PKPbc	11 55 41.5	-0.6
HAU	**Haudompre**	**150.24**	**337**	*e*PKP1	PKPbc	11 55 41.7	-0.5
	comp=Z,29nm,1.0s						
TUE	**Stuetta**	**150.26**	**332**	*e*PKPbc	PKPbc	11 55 42.2	-0.1
MEZF	**Maizieres J'vi**	**150.27**	**339**	*e*PKP1	PKPbc	11 55 42.3	+0.1
CABF	**La Chapelle**	**151.50**	**336**	*e*PKP1	PKPbc	11 55 45.1	-0.1
	comp=Z,13nm,0.7s						
FLN	**La Foliniere**	**151.59**	**346**	*e*PKP1	PKPbc	11 55 44.5	-0.8
	comp=Z,34nm,0.8s						
LDF	**La Drutiere**	**151.67**	**345**	*e*PKP1	PKPbc	11 55 44.6	-0.9
	comp=Z,9.8nm,0.6s						
LOR	**Lormes**	**151.74**	**339**	*e*PKP1	PKPbc	11 55 45.1	-0.6
	comp=Z,13nm,0.7s						
GRR	**Gorron**	**152.03**	**346**	*e*PKP1	PKPbc	11 55 45.6	-0.7
	comp=Z,13nm,0.8s						
SSF	**Saint Saulge**	**152.04**	**339**	*e*PKP1	PKPbc	11 55 45.9	-0.5
	comp=Z,16nm,0.9s						
LPG	**La Plagne**	**152.15**	**333**	*e*PKP1	PKPbc	11 55 46.8	+0.1
	comp=Z,11nm,0.6s						
SGMF	**Saint Gilles**	**152.51**	**348**	*e*PKP1	PKPbc	11 55 46.5	-0.9
	comp=Z,19nm,0.8s						
ROSF	**Rostrenen**	**152.56**	**349**	*e*PKP1	PKPbc	11 55 46.4	-1.1
	comp=Z,12nm,0.8s						
MBDF	**Montbardon**	**152.75**	**332**	*e*PKP1	PKPbc	11 55 48.1	0.0
QUIF	**Quistinic**	**152.94**	**349**	*e*PKP1	PKPbc	11 55 47.3	-1.1
	comp=Z,10nm,0.8s						
ORIF	**Oris-en-Rattie**	**152.97**	**334**	*e*PKP1	PKPbc	11 55 48.1	-0.5
	comp=Z,17nm,0.9s						
TCF	**Toulx Ste Croi**	**153.14**	**340**	*e*PKP1	PKPbc	11 55 48.3	-0.6
	comp=Z,12nm,0.9s						
VIVF	**Saint-Julien-l**	**153.51**	**335**	*e*PKP1	PKPbc	11 55 49.2	-0.5
MFF	**Saint Martin d**	**153.53**	**344**	*e*PKP1	PKPbc	11 55 49.0	-0.7
FRF	**La Foret Royal**	**153.73**	**331**	*e*PKP1	PKPbc	11 55 49.4	-0.9
SMRF	**Simiane la Rot**	**153.87**	**333**	*e*PKP1	PKPbc	11 55 50.4	-0.1
	comp=Z,23nm,1.1s						
LASF	**Ste Croix**	**154.48**	**335**	*e*PKP1	PKPbc	11 55 51.6	-0.3
TORD	**Torodi Ar. Bea**	**165.71**	**237**	PKP	PKPdf	11 55 57.0	+0.1
	comp=Z,0.8nm,0.8s,baz=111,slow=1.5,SNR=2.2						

MAN 12 11:57:22,1030N×12588E,h6km,mb4.4,ML3.3,MS3.1, 1C-3D,Leyte

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SCPH	**Surigao**	**0.65**	**217**⇓	*eP*	Pg	11 57 35.5	+1.1
SCPH				*eS*	Sg	11 57 48.3	+5.4
PLP	**Palo**	**1.23**	**314**⇓	*eP*	Pg	11 57 45.3	-0.3
PLP				*eS*	Sg	11 58 02.9	+1.3
TBP	**Tagbilaran**	**2.08**	**253**	*eP*	Pn	11 57 59.1	+1.6
TBP				*eS*	Sn	11 58 25.5	+1.8
DCPH	**Dipolog City**	**3.02**	**236**⇑	*eP*	Pn	11 58 11.6	+1.1
DCPH				*eS*	Sn	11 58 51.8	+4.8
RCP	**Roxas**	**3.32**	**292**⇓	*eP*	Pn	11 58 16.6	+2.0

*VIE **12** 13:04:15.9±0.6,4660N×668E,h10km,mb2.4/2,ML2.8/2, Error ellipse: s-maj=6.8km s-min=2.0km az=131.0*
*ISCJB **12** 13:04:16.3±0.2,46486N±0010×696E±002,h12km±1km, Error ellipse: s-maj=2.3km s-min=1.6km az=179.0*
*LDG **12** 13:04:17.8±0.0,4646N×709E,h10km,Md3.0/2,Ml3.1/26, Error ellipse: s-maj=1.0km s-min=0.7km az=93.0*
*ZUR **12** 13:04:17.8, 4648N×7.12E,h10km±1km,ML2.7/12*
*GEN **12** 13:04:17.3,4650N×7.07E,h16km,ML2.0*
*CSEM **12** 13:04:17.7±0.0,4646N×7.11E,h15km,ML3.0/25,Error ellipse: s-maj=0.9km s-min=0.6km az=94.0*
*NEIC **12** 13:04:17.7,4647N×7.11E,h11km,ML2.5(ZUR),After ZUR.*
*STR **12** 13:04:18.6±0.6,4652N×7.13E,h10km,Ml2.7,Error ellipse: s-maj=0.0km s-min=0.0km az=0.0*
ISC 12 13:04:17.3±0.2,46469N±0009×702E±002,h16km±1km, n119,σ1s08/274,15C-2D,Switzerland

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AIGLE	**Aigle**	**0.14**	**201**	*i* Sg	**Sg**	**13 04 21.6**	**-2.0**
	7µm,0.3s						
AIGLE	**Aigle**	**0.14**	**201**⇑	*i*Pg	**Sg**	**13 04 24.2**	**+0.6**
	7µm,0.3s						
AIGLE	**Aigle**	**0.14**	**201**⇑	*i*Pg	**Pg**	**13 04 21.4**	**+0.3**
AIGLE				*e*Sg	**Sg**	**13 04 24.2**	**+0.6**
SENIN	**Lac Senin/Sane**	**0.22**	**119**	*e*Pg	**Pg**	**13 04 21.4**	**-0.9**
	3µm,0.2s						
SENIN	**Lac Senin/Sane**	**0.22**	**119**	*e*Pg	**Pg**	**13 04 21.7**	**-0.6**
SENIN				*e*Sg	**Sg**	**13 04 24.7**	**-1.0**
GRYON	**Gryon**	**0.23**	**164**⇑	*i*Pg	**Pg**	**13 04 22.4**	**0.0**
	477nm,0.5s						
GRYON				*e*Sg	**Sg**	**13 04 26.4**	**+0.5**
	477nm,0.5s						
GRYON	**Gryon**	**0.23**	**164**⇑	*i*Pg	**Pg**	**13 04 22.4**	**0.0**
	477nm,0.5s						
GRYON				*e*Sg	**Sg**	**13 04 26.1**	**+0.2**
TORNY	**Torny/Romont**	**0.31**	**352**⇑	*i*Pg	**Pg**	**13 04 24.5**	**+0.7**
	4µm,0.3s						
TORNY				*i* Sg	**Sg**	**13 04 29.5**	**+1.3**
	4µm,0.3s						
SALAN	**Lac Salanfe**	**0.33**	**186**⇑	*i*Pg	**Pg**	**13 04 24.6**	**+0.5**
	330nm,0.3s						
SALAN				*e*Sg	**Sg**	**13 04 29.4**	**+0.7**
SALAN	**Lac Salanfe**	**0.33**	**186**	*i* Pg	**Pg**	**13 04 24.5**	**+0.4**
SALAN				*e*Sg	**Sg**	**13 04 29.4**	**+0.7**
EMV	**Vieux Emosson**	**0.41**	**192**⇑	*i*Pg	**Pg**	**13 04 33.4**	**+7.7**
	852nm,0.3s						
EMV	**Vieux Emosson**	**0.41**	**192**⇑	*e*Pg	**Pg**	**13 04 26.2**	**+0.5**
EMV				*e*Sg	**Sg**	**13 04 32.2**	**+0.9**
LKBD	**Leukerbad**	**0.43**	**101**	*e*Pg	**Pg**	**13 04 25.1**	**-0.8**
	317nm,0.4s						
LKBD	**Leukerbad**	**0.43**	**101**	*i* Pg	**Pg**	**13 04 25.2**	**-0.7**
LKBD				*e*Sg	**Sg**	**13 04 31.1**	**-0.6**
WIMIS	**Wimmis**	**0.46**	**64**	*e*Pg	**Pg**	**13 04 25.7**	**-0.8**
	665nm,0.5s						
WIMIS	**Wimmis**	**0.46**	**64**	*e*Pg	**Pg**	**13 04 25.8**	**-0.7**
WIMIS				*e*Sg	**Sg**	**13 04 32.1**	**-0.6**
DIX	**Grande Dixence**	**0.47**	**145**⇑	*i*Pg	**Pg**	**13 04 26.3**	**-0.4**
	388nm,0.3s						
DIX				*e*Sg	**Sg**	**13 04 26.9**	**-6.1**
	388nm,0.3s						
DIX	**Grande Dixence**	**0.47**	**145**⇑	*i*Pg	**Pg**	**13 04 26.8**	**+0.1**
CABF	**La Chapelle**	**0.66**	**283**	*e*Pn	**Pn**	**13 04 32.5**	**+0.6**
CABF				*e*Sg	**Sg**	**13 04 41.1**	**+2.1**
	SNR=1.0						
CABF				*e*Sn	**Sg**	**13 04 42.7**	**+3.7**
	32nm,0.2s						
CABF	**La Chapelle**	**0.66**	**283**	*e*Pn	**Pn**	**13 04 32.5**	**+0.6**
CABF				*e*Sg	**Sg**	**13 04 41.1**	**+2.1**
	SNR=1.0						
CABF				*e*Sn	**Sg**	**13 04 42.7**	**+3.7**
	16nm,0.2s						
CABF	**La Chapelle**	**0.66**	**283**	*e*Pg	**Pg**	**13 04 31.6**	**+1.4**
CABF				*e*Pn	**Pn**	**13 04 32.5**	**+0.6**
CABF				*e*Sg	**Sg**	**13 04 41.1**	**+2.1**
CABF				*e*Sn	**Sg**	**13 04 42.7**	**+3.7**
LOMF	**Lomont**	**0.89**	**351**	Pg	**Pg**	**13 04 35.1**	**+0.5**
LOMF				Sg	**Sg**	**13 04 47.4**	**+1.1**
BOURR	**Bourrignon**	**0.94**	**9**⇑	*i*Pg	**Pg**	**13 04 35.7**	**+0.3**
	415nm,0.7s						
LPL	**La Plagne**	**0.97**	**192**	*e*Pg	**Pg**	**13 04 36.7**	**+0.6**
LPL				*e*Sg	**Sg**	**13 04 49.6**	**+0.7**
	68nm,0.3s,SNR=1.0						
LPL	**La Plagne**	**0.97**	**192**	*e*Pg	**Pg**	**13 04 36.7**	**+0.6**
LPL				*e*Sg	**Sg**	**13 04 49.6**	**+0.7**
	34nm,0.3s,SNR=1.0						
LPL	**La Plagne**	**0.97**	**192**	*e*Pn	**Pn**	**13 04 35.8**	**-0.4**
LPL				*e*Pg	**Pg**	**13 04 36.7**	**+0.6**
LPL				*e*Sg	**Sg**	**13 04 49.6**	**+0.7**
LPG	**La Plagne**	**0.99**	**191**	*e*Pg	**Pg**	**13 04 37.0**	**+0.6**
	SNR=1.0						
LPG				*e*Sg	**Sg**	**13 04 50.2**	**+0.8**
	84nm,0.3s,SNR=1.0						
LPG	**La Plagne**	**0.99**	**191**	*e*Pg	**Pg**	**13 04 37.0**	**+0.6**
	SNR=1.0						
LPG				*e*Sg	**Sg**	**13 04 50.2**	**+0.8**
	42nm,0.3s,SNR=1.0						
LSD	**Lago del Serru**	**1.01**	**176**	P	**Pb**	**13 04 36.7**	**+0.4**
LSD				S	**Sb**	**13 04 49.8**	**+0.4**
BSB	**Basel-Blauen**	**1.05**	**18**	Pg	**Pg**	**13 04 37.5**	**-0.1**
BBS				Sg	**Sg**	**13 04 51.0**	**-0.3**
SULZ	**Cheisacher**	**1.29**	**35**⇑	*i*Pn	**Pn**	**13 04 41.1**	**+0.5**
	280nm,0.5s						
RSP	**Reno Superiore**	**1.33**	**173**	P	**Pn**	**13 04 41.2**	**+0.1**
RSP				S	**Sn**	**13 04 56.2**	**-2.2**
HINF	**Hinteralfeld**	**1.35**	**355**	*e*Pg	**Pg**	**13 04 43.4**	**+0.1**
HINF				*e*Sg	**Sg**	**13 05 00.7**	**-0.3**
	102nm,0.2s						
HINF	**Hinteralfeld**	**1.35**	**355**	*e*Pg	**Pg**	**13

MBDF	**Montbardon**	**1.75**	**186**	*e*Pg	**Pg**	**13 04 50.6**	**-0.3**
MBDF				*e*Sn	**Sn**	**13 05 06.9**	**-1.9**
	SNR=1.0						
MBDF				*e*Sg	**Sg**	**13 05 13.7**	**+0.1**
	27nm,0.4s,SNR=1.0						
MBDF	**Montbardon**	**1.75**	**186**	*e*Pg	**Pg**	**13 04 50.6**	**-0.3**
MBDF				*e*Sn	**Sn**	**13 05 06.9**	**-1.9**
	SNR=1.0						
MBDF				*e*Sg	**Sg**	**13 05 13.7**	**+0.1**
	14nm,0.4s,SNR=1.0						
MBDF	**Montbardon**	**1.75**	**186**	*e*Pn	**Pn**	**13 04 46.3**	**-0.6**
MBDF				*e*Pg	**Pg**	**13 04 50.6**	**-0.3**
MBDF				*e*Sn	**Sn**	**13 05 06.9**	**-1.9**
MBDF				*e*Sg	**Sg**	**13 05 13.7**	**+0.1**
THEF	**They Montfort**	**1.90**	**339**	Pg	**Pg**	**13 04 53.3**	**-0.3**
CDF	**Champ du Feu**	**1.95**	**5**	*e*Pg	**Pg**	**13 04 54.2**	**-0.5**
CDF				*e*Sn	**Sn**	**13 05 11.8**	**-2.0**
CDF				*e*Sg	**Sg**	**13 05 18.9**	**-1.2**
	25nm,0.3s,SNR=1.0						
CDF	**Champ du Feu**	**1.95**	**5**	*e*Pg	**Pg**	**13 04 54.2**	**-0.5**
CDF				*e*Sn	**Sn**	**13 05 11.8**	**-2.0**
CDF				*e*Sg	**Sg**	**13 05 18.9**	**-1.2**
	12nm,0.3s,SNR=1.0						
CDF	**Champ du Feu**	**1.95**	**5**	*e*Pn	**Pn**	**13 04 50.1**	**+0.5**
CDF				*e*Pg	**Pg**	**13 04 54.2**	**-0.5**
CDF				*e*Sn	**Sn**	**13 05 11.8**	**-2.0**
CDF				*e*Sg	**Sg**	**13 05 18.9**	**-1.2**
PZZ	**Stroppo**	**1.96**	**178**	P	**Pn**	**13 04 49.5**	**-0.3**
BFO	**Black Forest**	**2.06**	**25**	*e*Pn	**Pn**	**13 04 50.9**	**-0.3**
BFO				*e*Pn	**Pn**	**13 04 51.7**	**+0.6**
BFO				*e*Pg	**Pg**	**13 04 56.2**	**-0.6**
BFO				*e*Sn	**Sn**	**13 05 19.1**	**+2.6**
BFO				*e*Sn	**Sn**	**13 05 22.2**	**+5.7**
DAVA	**Damuels**	**2.12**	**66**	⇓*i*Pn	**Pn**	**13 04 54.2**	**+2.2**
DAVA				⇓*i*Sn	**Sn**	**13 05 23.4**	**+5.5**
DAVA	**Damuels**	**2.12**	**66**	Pn	**Pn**	**13 04 54.2**	**+2.2**
DAVA				Sn	**Sn**	**13 05 23.4**	**+5.4**
SFTF	**Sexfontaines**	**2.20**	**323**	*e*P	**Pn**	**13 04 55.3**	**+2.3**
	baz=140						
SFTF	**Sexfontaines**	**2.20**	**323**	*e*Pg	**Pg**	**13 04 59.2**	**-0.2**
	baz=138						
SFTF				*e*Sn	**Sn**	**13 05 18.7**	**-1.2**
SFTF				*e*Sg	**Sg**	**13 05 27.9**	**-0.1**
	29nm,0.2s						
SFTF	**Sexfontaines**	**2.20**	**323**	*e*Pg	**Pg**	**13 04 59.2**	**-0.2**
SFTF				*e*Sn	**Sn**	**13 05 18.7**	**-1.2**
SFTF				*e*Sg	**Sg**	**13 05 27.9**	**-0.1**
	14nm,0.2s						
SFTF	**Sexfontaines**	**2.20**	**323**	*e*P	**Pn**	**13 04 55.3**	**+2.3**
SFTF				*e*Pg	**Pg**	**13 04 59.2**	**-0.2**
SFTF				*e*Sn	**Sn**	**13 05 18.7**	**-1.2**
SFTF				*e*Sg	**Sg**	**13 05 27.9**	**-0.1**
SMF	**Signal de Mont**	**2.20**	**276**	*e*Pg	**Pg**	**13 05 00.1**	**+0.6**
SMF				*e*Sn	**Sn**	**13 05 19.2**	**-0.7**
SMF				*e*Sg	**Sg**	**13 05 29.0**	**+0.9**
	9.9nm,0.2s						
SMF	**Signal de Mont**	**2.20**	**276**	*e*Pg	**Pg**	**13 05 00.1**	**+0.6**
SMF				*e*Sn	**Sn**	**13 05 19.2**	**-0.7**
SMF				*e*Sg	**Sg**	**13 05 29.0**	**+0.9**
	4.9nm,0.2s						
SMF	**Signal de Mont**	**2.20**	**276**	*e*P	**Pn**	**13 04 55.2**	**+2.1**
SMF				*e*Pg	**Pg**	**13 05 00.1**	**+0.6**
SMF				*e*Sn	**Sn**	**13 05 19.2**	**-0.7**
SMF				*e*Sg	**Sg**	**13 05 29.0**	**+0.9**
VIVF	**Saint-Julien-l**	**2.31**	**226**	*e*Pg	**Pg**	**13 05 01.1**	**-0.4**
	SNR=1.0						
VIVF				*e*Sn	**Sn**	**13 05 21.6**	**-0.9**
	SNR=1.0						
VIVF				*e*Sg	**Sg**	**13 05 31.6**	**+0.2**
	24nm,0.3s,SNR=1.0						
VIVF	**Saint-Julien-l**	**2.31**	**226**	*e*Pg	**Pg**	**13 05 01.1**	**-0.4**
	SNR=1.0						
VIVF				*e*Sn	**Sn**	**13 05 21.6**	**-0.9**
	SNR=1.0						
VIVF				*e*Sg	**Sg**	**13 05 31.6**	**+0.2**
	12nm,0.3s,SNR=1.0						
VIVF	**Saint-Julien-l**	**2.31**	**226**	*e*P	**Pn**	**13 04 56.5**	**+2.0**
VIVF				*e*Pg	**Pg**	**13 05 01.1**	**-0.4**
VIVF				*e*Sn	**Sn**	**13 05 21.6**	**-0.9**
VIVF				*e*Sg	**Sg**	**13 05 31.6**	**+0.2**
LOR	**Lormes**	**2.31**	**291**	*e*Pn	**Pn**	**13 04 55.6**	**+1.0**
	baz=117,SNR=1.0						
LOR	**Lormes**	**2.31**	**291**	*e*P	**Pn**	**13 04 57.0**	**+2.4**
LOR	**Lormes**	**2.31**	**291**	*e*Pg	**Pg**	**13 05 01.9**	**+0.3**
	baz=112						
LOR				*e*Sn	**Sn**	**13 05 22.0**	**-0.7**
LOR				*e*Sg	**Sg**	**13 05 32.2**	**+0.6**
	18nm,0.2s,SNR=1.0						
LOR	**Lormes**	**2.31**	**291**	*e*P	**Pn**	**13 04 57.0**	**+2.4**
LOR	**Lormes**	**2.31**	**291**	*e*Pg	**Pg**	**13 05 01.9**	**+0.3**
LOR				*e*Sn	**Sn**	**13 05 22.0**	**-0.7**
LOR				*e*Sg	**Sg**	**13 05 32.2**	**+0.6**
	8.9nm,0.2s,SNR=1.0						
LOR	**Lormes**	**2.31**	**291**	*e*Pn	**Pn**	**13 04 55.6**	**+1.0**
LOR				*e*P		13 04 57.0	
LOR				*e*Pg	**Pg**	**13 05 01.9**	**+0.3**
LOR				*e*Sn	**Sn**	**13 05 22.0**	**-0.7**
LOR				*e*Sg	**Sg**	**13 05 32.2**	**+0.6**
RFYF	**Reffroy**	**2.40**	**335**	*e*Pg	**Pg**	**13 05 02.5**	**-0.8**
	baz=145						
RFYF				*e*Sn	**Sn**	**13 05 23.4**	**-1.5**
RFYF				*e*Sg	**Sg**	**13 05 33.8**	**-0.7**
	42nm,0.2s						
RFYF	**Reffroy**	**2.40**	**335**	*e*Pg	**Pg**	**13 05 02.5**	**-0.8**
RFYF				*e*Sn	**Sn**	**13 05 23.4**	**-1.5**
RFYF				*e*Sg	**Sg**	**13 05 33.8**	**-0.7**
	21nm,0.2s						
RFYF	**Reffroy**	**2.40**	**335**	*e*P	**Pn**	**13 04 58.1**	**+2.3**
RFYF				*e*Pg	**Pg**	**13 05 02.5**	**-0.8**
RFYF				*e*Sn	**Sn**	**13 05 23.4**	**-1.5**
RFYF				*e*Sg	**Sg**	**13 05 33.8**	**-0.7**
MEZF	**Maizieres J'vi**	**2.43**	**327**	*e*P	**Pn**	**13 04 58.8**	**+2.5**
	baz=146						
MEZF				*e*Sn	**Sn**	**13 05 24.2**	**-1.4**
MEZF				*e*Sg	**Sg**	**13 05 35.6**	**+0.1**
	46nm,0.4s,SNR=1.0						
MEZF	**Maizieres J'vi**	**2.43**	**327**	*e*P	**Pn**	**13 04 58.8**	**+2.5**
MEZF				*e*Sn	**Sn**	**13 05 24.2**	**-1.4**
MEZF				*e*Sg	**Sg**	**13 05 35.6**	**+0.1**
	23nm,0.4s,SNR=1.0						
SSF	**Saint Saulge**	**2.49**	**285**	*e*Pg	**Pg**	**13 05 04.8**	**-0.2**
	SNR=1.0						
SSF				*e*Sn	**Sn**	**13 05 25.9**	**-1.1**
SSF				*e*Sg	**Sg**	**13 05 37.3**	**+0.1**
	12nm,0.4s,SNR=1.0						
SSF	**Saint Saulge**	**2.49**	**285**	*e*Pg	**Pg**	**13 05 04.8**	**-0.2**
	SNR=1.0						
SSF				*e*Sn	**Sn**	**13 05 25.9**	**-1.1**
SSF				*e*Sg	**Sg**	**13 05 37.3**	**+0.1**
	5.8nm,0.4s,SNR=1.0						
SSF	**Saint Saulge**	**2.49**	**285**	*e*Pn	**Pn**	**13 04 58.2**	**+1.2**
SSF				*e*Pg	**Pg**	**13 05 04.8**	**-0.2**
SSF				*e*Sn	**Sn**	**13 05 25.9**	**-1.1**
SSF				*e*Sg	**Sg**	**13 05 37.3**	**+0.1**
AVF	**Avril sur Loir**	**2.55**	**279**	*e*Pg	**Pg**	**13 05 05.9**	**-0.2**
	SNR=1.0						
AVF				*e*Sn	**Sn**	**13 05 27.4**	**-1.1**
	SNR=1.0						
AVF				*e*Sg	**Sg**	**13 05 39.1**	**-0.1**
	6.1nm,0.3s,SNR=1.0						
AVF	**Avril sur Loir**	**2.55**	**279**	*e*Pg	**Pg**	**13 05 05.9**	**-0.2**
	SNR=1.0						
AVF				*e*Sn	**Sn**	**13 05 27.4**	**-1.1**
	SNR=1.0						
AVF				*e*Sg	**Sg**	**13 05 39.1**	**-0.1**
	3.0nm,0.3s,SNR=1.0						
AVF	**Avril sur Loir**	**2.55**	**279**	*e*P	**Pn**	**13 05 00.0**	**+2.2**
AVF				*e*Pg	**Pg**	**13 05 05.9**	**-0.2**
AVF				*e*Sn	**Sn**	**13 05 27.4**	**-1.1**
AVF				*e*Sg	**Sg**	**13 05 39.1**	**-0.1**
FETA	**Feichten**	**2.61**	**76**	⇓*i*Pn	**Pn**	**13 05 01.5**	**+2.9**
FETA				⇓*i*Sn	**Sn**	**13 05 36.5**	**+6.6**
SBF	**Sospel**	**2.62**	**173**	*e*Pg	**Pg**	**13 05 06.1**	**-1.4**
SBF				*e*Sn	**Sn**	**13 05 27.9**	**-2.4**
	15nm,0.3s						
SBF	**Sospel**	**2.62**	**173**	*e*Pg	**Pg**	**13 05 06.1**	**-1.4**
SBF				*e*Sn	**Sn**	**13 05 27.9**	**-2.4**
	7.7nm,0.3s						
SMRF	**Simiane la Rot**	**2.69**	**203**	*e*Pg	**Pg**	**13 05 08.5**	**-0.4**
	SNR=1.0						
SMRF				*e*Sg	**Sg**	**13 05 43.2**	**-0.6**
	5.2nm,0.4s,SNR=1.0						
SMRF	**Simiane la Rot**	**2.69**	**203**	*e*Pg	**Pg**	**13 05 08.5**	**-0.4**
	SNR=1.0						
SMRF				*e*Sg	**Sg**	**13 05 43.2**	**-0.6**
	2.6nm,0.4s,SNR=1.0						
SMRF	**Simiane la Rot**	**2.69**	**203**	*e*P	**Pn**	**13 05 02.4**	**+2.6**
SMRF				*e*Pg	**Pg**	**13 05 08.5**	**-0.4**
SMRF				*e*Sg	**Sg**	**13 05 43.2**	**-0.6**
BGF	**Bois d'Agland**	**2.89**	**273**	*e*P	**Pn**	**13 05 04.5**	**+2.0**
BGF				*e*Sg	**Sg**	**13 05 49.9**	**0.0**
	20nm,0.4s						
BGF	**Bois d'Agland**	**2.89**	**273**	*e*P	**Pn**	**13 05 04.5**	**+2.0**
BGF				*e*Sg	**Sg**	**13 05 49.9**	**0.0**
	9.8nm,0.4s						
FRF	**La Foret Royal**	**2.92**	**185**	*e*Pg	**Pg**	**13 05 11.8**	**-1.4**
	SNR=1.0						
FRF				*e*Sg	**Sg**	**13 05 49.8**	**-1.2**
	6.1nm,0.3s						
FRF	**La Foret Royal**	**2.92**	**185**	*e*Pg	**Pg**	**13 05 11.8**	**-1.4**
	SNR=1.0						
FRF				*e*Sg	**Sg**	**13 05 49.8**	**-1.2**
	3.0nm,0.3s						
FRF	**La Foret Royal**	**2.92**	**185**	*e*Pn	**Pn**	**13 05 02.5**	**-0.4**
FRF				*e*Pg	**Pg**	**13 05 11.8**	**-1.4**
FRF				*e*Sg	**Sg**	**13 05 49.8**	**-1.2**
HYF	**Humbligny**	**3.11**	**286**	*e*P	**Pn**	**13 05 08.1**	**+2.5**
LMR	**La Mourre**	**3.16**	**187**	*e*Pn	**Pn**	**13 05 05.4**	**-0.8**
LMR				*e*Sn	**Sn**	**13 05 41.0**	**-2.4**
	3.0nm,0.2s,SNR=1.0						
LMR	**La Mourre**	**3.16**	**187**	*e*Pn	**Pn**	**13 05 05.4**	**-0.8**
LMR				*e*Sn	**Sn**	**13 05 41.0**	**-2.4**
	1.5nm,0.2s,SNR=1.0						
LASF	**Ste Croix**	**3.27**	**224**	*e*Pg	**Pg**	**13 05 19.3**	**-0.7**
	SNR=1.0						
LASF				*e*Sn	**Sn**	**13 05 44.7**	**-1.7**
	SNR=1.0						
LASF				*e*Sg	**Sg**	**13 06 00.3**	**-2.1**
	13nm,0.5s						
LASF	**Ste Croix**	**3.27**	**224**	*e*Pg	**Pg**	**13 05 19.3**	**-0.7**
	SNR=1.0						
LASF				*e*Sn	**Sn**	**13 05 44.7**	**-1.7**
	SNR=1.0						
LASF				*e*Sg	**Sg**	**13 06 00.3**	**-2.1**
	6.4nm,0.5s						
LASF	**Ste Croix**	**3.27**	**224**	*e*Pn	**Pn**	**13 05 08.7**	**+0.9**
LASF				*e*Pg	**Pg**	**13 05 19.3**	**-0.7**
LASF				*e*Sn	**Sn**	**13 05 44.7**	**-1.7**
LASF				*e*Sg	**Sg**	**13 06 00.3**	**-2.1**
TCF	**Toulx Ste Croi**	**3.34**	**269**	*e*Pg	**Pg**	**13 05 20.3**	**-0.9**
BAIF	**Baives**	**4.05**	**333**	*e*Sg	**Sg**	**13 06 25.7**	**-1.7**
	4.4nm,0.2s						
BAIF	**Baives**	**4.05**	**333**	*e*Sg	**Sg**	**13 06 25.7**	**-1.7**
	2.2nm,0.2s						
MTLF	**Montolieu**	**4.63**	**229**	*e*Pn	**Pn**	**13 05 26.4**	**0.0**
MTLF				*e*Sg	**Sg**	**13 06 44.6**	**-1.2**
	4.3nm,0.4s,SNR=1.0						
MTLF	**Montolieu**	**4.63**	**229**	*e*Pn	**Pn**	**13 05 26.4**	**0.0**
MTLF				*e*Sg	**Sg**	**13 06 44.6**	**-1.2**
	2.2nm,0.4s,SNR=1.0						
MFF	**Saint Martin d**	**4.95**	**274**	*e*Pn	**Pn**	**13 05 32.1**	**+1.3**
	SNR=1.0						
MFF				*e*Sg	**Sg**	**13 06 54.1**	**-1.9**
	3.4nm,0.4s						
MFF	**Saint Martin d**	**4.95**	**274**	*e*Pn	**Pn**	**13 05 32.1**	**+1.3**
	SNR=1.0						
MFF				*e*Sg	**Sg**	**13 06 54.1**	**-1.9**
	1.7nm,0.4s						
FLN	**La Foliniere**	**5.57**	**297**	*e*Pn	**Pn**	**13 05 38.9**	**-0.4**
GRR	**Gorron**	**5.68**	**293**	*e*Pn	**Pn**	**13 05 40.6**	**-0.3**

IDC 12 13:34:51.1±14.0, 144N×12536E, h322km±195km, mb3.2/4, mb1 3.4/5, mb1mx3.1/17, mbtmp3.2/5, Error ellipse: s-maj=159.9km s-min=17.8km az=79.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**19.42**	**179**	P	P	13 38 54.7	+0.1
	0.5nm,0.3s,baz=6.9,slow=13,SNR=28						
WRA	**Warramunga Arr**	**23.00**	**158**	P	P	13 39 28.7	+0.1
	2.5nm,0.3s,baz=336,slow=10,SNR=11						
ASAR	**Alice Springs**	**26.30**	**162**	P	P	13 39 57.9	-0.3
	0.5nm,0.4s,baz=343,slow=7.5,SNR=14						
KSRS	**Korea Array**	**35.91**	**3**	P	P	13 41 21.3	-0.3
	0.4nm,0.3s,baz=179,slow=7.5,SNR=3.6						
STKA	**Stephens Creek**	**36.54**	**156**	P	P	13 41 27.0	+0.1
	1.7nm,0.7s,baz=324,slow=10.0,SNR=4.2						

IDC 12 13:35:05.4±1.6, 4.30S×102.20E, h0km, mb4.3/13, mb1 4.4/13, mb1mx4.2/22, mbtmp4.4/13, Error ellipse: s-maj=72.2km s-min=13.0km az=52.0
ISCJB 12 13:35:08.3±0.4, 4.57S±005×102.05E±006, h33km, mb4.7/32, MS3.8/2, Error ellipse: s-maj=9.4km s-min=6.6km az=142.6
NEIC 12 13:35:10.7±0.4, 4.31S×102.26E, h35km, mb4.6/8, Error ellipse: s-maj=18.0km s-min=6.3km az=52.0
NEIC Felt [III] at Bengkulu and Mukomuko.
BJI 12 13:35:10.6, 4.30S×102.30E, h35km, mB5.1, mb4.8, Ms4.6, Msz4.5
DJA 12 13:35:18.0±1.4, 4.5±8×102E±10, h32km±10km, mB5.0/2, Mjma3.8/9, MLv4.6/9, Mw(mB)4.9/2, Mwp3.8/3

ISC 12 13:35:10.8±0.4, 452S±005×10213E±006, h35km, n62, σ1§26/64, mb4.7/32, MS3.8/2, 1D, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KSI	**Kapahiang**	**0.98**	**28**	P	**Pn**	**13 35 29.9**	**+1.9**
KSI	**Kapahiang**	**0.98**	**28**	S	**Sn**	**13 35 39.9**	**-0.8**
KLI	**Kotabumi**	**2.73**	**97**	P	**Pn**	**13 35 55.5**	**+3.3**
	0.0nm,0.0s						
KLI	**Kotabumi**	**2.73**	**97**	P	**Pn**	**13 35 58.3**	**+6.1**
PDSI	**Padang**	**3.96**	**335**	P	**Pn**	**13 36 13.0**	**+4.0**
	0.0nm,0.0s						
PDSI	**Padang**	**3.96**	**335**	P	**Pn**	**13 36 13.5**	**+4.5**
RGRI	**Rengat**	**4.15**	**3**	P	**Pn**	**13 36 14.2**	**+2.5**
	0.0nm,0.0s						
RGRI	**Rengat**	**4.15**	**3**	P	**Pn**	**13 36 14.1**	**+2.4**
SBJI	**Serang**	**4.28**	**112**	P	**Pn**	**13 36 20.2**	**+6.7**
	0.0nm,0.0s						
SBJI	**Serang**	**4.28**	**112**	P	**Pn**	**13 36 20.5**	**+7.0**
PPI	**Padang Panjang**	**4.40**	**337**	P	**Pn**	**13 36 18.5**	**+3.5**
	0.0nm,0.0s						
PPI	**Padang Panjang**	**4.40**	**337**	P	**Pn**	**13 36 20.4**	**+5.4**
PPBI	**Pangkal Pinang**	**4.63**	**60**	P	**Pn**	**13 36 17.8**	**-0.5**
	0.0nm,0.0s						
PPBI	**Pangkal Pinang**	**4.63**	**60**	P	**Pn**	**13 36 24.1**	**+5.8**
DBJI	**Dramaga**	**5.02**	**114**	P	**Pn**	**13 36 28.4**	**+4.8**
	0.0nm,0.0s						
DBJI	**Dramaga**	**5.02**	**114**	P	**Pn**	**13 36 30.6**	**+7.0**
CBJI	**Citeko**	**5.06**	**112**	P	**Pn**	**13 36 31.8**	**+7.6**
	0.0nm,0.0s						
CBJI	**Citeko**	**5.06**	**112**	P	**Pn**	**13 36 34.4**	**+10**
LEM	**Lembang**	**5.92**	**113**	P	**Pn**	**13 36 42.5**	**+6.5**
	0.0nm,0.0s						
LEM	**Lembang**	**5.92**	**113**	P	**Pn**	**13 36 44.5**	**+8.5**
	85nm,1.1s,1μm0.3nm						
MYKOM	**Kota Tinggi**	**6.50**	**15**	P	**Pn**	**13 36 46.6**	**+2.6**
SJI	**Sawahan**	**10.10**	**109**	P	**Pn**	**13 37 37.1**	**+3.8**
	0.0nm,0.0s						
SJI	**Sawahan**	**10.10**	**109**	P	**Pn**	**13 37 38.2**	**+4.9**
BATI	**Baumata**	**22.08**	**106**	P	**P**	**13 40 01.2**	**-1.7**
	6.5nm,0.3s,mb4.5,baz=66,slow=6.0,SNR=3.7						
CMAR	**Chiang Mai Arr**	**23.05**	**352**	P	**P**	**13 40 11.5**	**-1.7**
	2.9nm,0.5s,mb4.0,baz=184,slow=8.8,SNR=21						
QIZ	**Qiongzhong**	**24.60**	**18**	*e*P	**P**	**13 40 26.9**	**-1.0**
	33nm,1.2s,mb4.7						
FITZ	**Fitzroy Crossi**	**26.66**	**122**	P	**P**	**13 40 47.0**	**+0.4**
	3.3nm,0.8s,mb3.9,baz=335,slow=4.4,SNR=6.6						
ODAN	**Odare**	**34.30**	**336**	*e*P	**P**	**13 41 54.1**	**+0.1**
	13nm,0.5s,mb5.1						
TAPN	**Taplejung**	**34.61**	**337**	*e*P	**P**	**13 41 57.0**	**+0.3**
RAMN	**Ramite**	**34.71**	**335**	*e*P	**P**	**13 41 58.2**	**+0.7**
	9.5nm,0.4s,mb5.1						
WRA	**Warramunga Arr**	**34.90**	**119**	P	**P**	**13 41 59.4**	**+0.1**
	1.3nm,0.7s,mb4.0,baz=300,slow=4.2,SNR=5.2						
WRA				S	**S**	**13 47 22.0**	**-6.6**
	0.5nm,0.8s,baz=291,slow=16,SNR=3.1						
WRAB	**Tennant Creek**	**34.91**	**119**	*e*P	**P**	**13 41 58.5**	**-0.8**
	2.6nm,0.5s,mb4.4						
WB2	**Warramunga Arr**	**34.91**	**119**	*e*P	**P**	**13 41 58.8**	**-0.6**
JIRN	**Jiri**	**35.50**	**335**	*e*P	**P**	**13 42 04.6**	**+0.3**
	14nm,0.3s,mb5.3						
GUN	**Gumba**	**35.85**	**335**	*e*P	**P**	**13 42 07.7**	**+0.4**
	46nm,0.4s,mb5.8						
KKN	**Kakani**	**36.01**	**334**	*e*P	**P**	**13 42 08.6**	**0.0**
	14nm,0.3s,mb5.4						
ASAR	**Alice Springs**	**36.06**	**125**	P	**P**	**13 42 09.8**	**+0.6**
	0.9nm,0.5s,mb4.0,baz=295,slow=7.9,SNR=22						
ASAR				S	**S**	**13 47 41.7**	**-4.6**
	0.3nm,0.7s,baz=303,slow=14,SNR=4.4						
GKN	**Gorkha**	**36.47**	**333**	*e*P	**P**	**13 42 12.6**	**0.0**
	15nm,0.3s,mb5.4						
KOLN	**Koldanda**	**36.75**	**332**	*e*P	**P**	**13 42 15.2**	**+0.2**
	17nm,0.7s,mb5.0						
DANN	**Dangsing**	**37.17**	**333**	*e*P	**P**	**13 42 18.8**	**+0.3**
	42nm,0.5s,mb5.5						
CTA	**Charters Tower**	**45.62**	**114**	P	**P**	**13 43 27.2**	**-0.8**
	1.8nm,0.7s,mb4.1,baz=242,slow=6.7,SNR=3.6						
STKA	**Stephens Creek**	**45.89**	**131**	P	**P**	**13 43 31.6**	**+1.5**
	2.4nm,0.5s,mb4.4,baz=44,slow=12,SNR=7.6						
STKA	**Stephens Creek**	**45.89**	**131**	*e*P	**P**	**13 43 31.0**	**+0.9**
	2.4nm,0.5s,mb4.4						
HHC	**Hu-ho-hao-te**	**45.97**	**10**	*e*P	**P**	**13 43 33.1**	**+2.6**
HHC				AP	pP	13 43 43.0	+2.2
HHC				XP	sP	13 43 46.8	+1.8
HHC				PCP	PcP	13 45 09.0	+2.1
HHC				PP	PP	13 45 21.6	+2.9
HHC				SCP	ScP	13 48 59.4	+1.9
HHC				S	**S**	**13 50 15.9**	**+2.9**
HHC				XS	sS	13 50 31.9	+1.8
HHC				SCS	ScS	13 53 23.3	-0.3
HHC				AMB	AMB		
	comp=Z,24nm,1.1s,mb5.0						
HHC				AMB	AMB		
	comp=Z,109nm,6.9s						
HHC				LR	LR		
	comp=N,137nm,13.3s,MS4.3						
HHC				LR	LR		
	comp=E,211nm,13.3s,MS4.3						
HHC				LR	LR		
	comp=Z,111nm,14.5s,MS3.9						
WMQ	**Urumqi**	**49.85**	**346**	⇓*i*P	**P**	**13 44 00.0**	**-0.4**
WMQ				AP	pP	13 44 10.0	-0.9
WMQ				XP	sP	13 44 14.5	-0.6
WMQ				PCP	PcP	13 45 20.5	-0.2
WMQ				PP	PP	13 45 55.5	0.0
WMQ				PPP		13 46 51.0	
WMQ				AMB	AMB		
	comp=Z,12nm,0.9s,mb4.9						
WMQ				AMB	AMB		
	comp=Z,209nm,5.1s						
WMQ				LR	LR		
	comp=N,23nm,13.1s,MS3.5						
WMQ				LR	LR		
	comp=E,21nm,14.0s,MS3.5						
SONM	**Songino Array**	**52.27**	**4**	P	**P**	**13 44 17.4**	**-1.2**
	comp=E,1.6nm,0.5s,mb4.2,baz=184,slow=9.2,SNR=14						
TKM2	**Tokmak 2**	**52.98**	**336**	*e*P	**P**	**13 44 23.6**	**-0.4**
	comp=E,5.9nm,0.7s,mb4.6						
EKS2	**Erkin-Say**	**53.54**	**334**	*e*P	**P**	**13 44 27.7**	**-0.3**
	comp=E,5.6nm,0.8s,mb4.5						
MK31	**Makanchi Array**	**54.03**	**343**	*e*P	**P**	**13 44 30.0**	**-1.5**
MKAR	**Makanchi Array**	**54.03**	**343**	P	**P**	**13 44 30.3**	**-1.2**
	comp=E,4.8nm,0.7s,mb4.6,baz=146,slow=8.6,SNR=32						
KURK	**Kurchatov**	**58.62**	**343**	P	**P**	**13 45 02.1**	**-2.1**
	comp=E,3.5nm,0.9s,mb4.4,baz=162,slow=6.8,SNR=15						
KURK	**Kurchatov**	**58.62**	**343**	*e*P	**P**	**13 45 02.5**	**-1.7**
	comp=E,4.6nm,0.9s,mb4.5						
ZALV	**Zalesovo Beam**	**60.04**	**348**	P	**P**	**13 45 11.8**	**-2.1**
	comp=E,3.2nm,0.4s,mb4.8,baz=160,slow=4.9,SNR=26						
ZALV	**Zalesovo Beam**	**60.04**	**348**	P	**P**	**13 45 11.8**	**-2.1**
NAY	**Al-Naaiem**	**62.42**	**306**	*e*P	**P**	**13 45 31.8**	**+1.2**
	baz=306						
NAY				AMb	AMB	13 45 32.7	
	comp=Z,6.0nm,0.5s,mb5.0,baz=306						
MIB	**Mutribah**	**62.56**	**307**	*e*P	**P**	**13 45 32.8**	**+1.3**
	baz=307						
MIB				AMb	AMB	13 45 33.9	
	comp=Z,7.0nm,0.6s,mb5.0,baz=307						
RST	**Umm Al-Ruwaisa**	**62.72**	**306**	*e*P	**P**	**13 45 33.5**	**+1.0**
	baz=306						
RST				AMb	AMB	13 45 34.5	
	comp=Z,14nm,0.6s,mb5.3,baz=306						
BVAR	**Borovoye Array**	**63.28**	**339**	P	**P**	**13 45 34.0**	**-1.8**
	comp=Z,2.9nm,0.5s,mb4.6,baz=141,slow=9.6,SNR=14						
ARU	**Arti**	**70.36**	**336**	*e*P	**P**	**13 46 18.9**	**-1.9**
	comp=Z,1.5nm,0.5s,mb4.2						
LBTB	**Lobatse**	**75.91**	**245**	*e*P	**P**	**13 46 56.4**	**+2.0**
	comp=Z,9.2nm,0.4s,mb5.1						
ARCES	**ARCESS Array B**	**89.56**	**340**	P	**P**	**13

TURN				*i* S	**Sn**	13 52 44.0	-7.0
MLSB	**Milas**	**2.14**	**16**	*e*PN	**Pn**	13 52 25.1	-0.8
MLSB				*e*SN	**Sn**	13 52 51.1	-1.5
YER	**Yerkesik**	**2.15**	**28**	*e*PN	**Pn**	13 52 26.5	+0.5
YER				*e*SN	**Sn**	13 52 52.6	-0.2
VAM	**Vamos**	**2.32**	**275**	*e*Pn	**Pn**	13 52 30.0	+1.7
VAM	**Vamos**	**2.32**	**275**	*e*PN	**Pn**	13 52 30.0	+1.7
AKAS	**Kas**	**2.32**	**64**	*i* P	**Pn**	13 52 29.2	+0.8
AKAS				*i* S	**Sn**	13 53 03.5	+6.4
GCAM	**G?zelcaml?**	**2.46**	**4**	*i* P	**Pn**	13 52 30.4	+0.1
GCAM				*i* S	**Sn**	13 52 58.6	-1.9
AYDN	**Tasoluk**	**2.51**	**16**	*i* P	**Pn**	13 52 32.6	+1.6
AYDN				*i* S	**Sn**	13 53 01.8	0.0
GOLH	**Golhisar**	**2.86**	**45**	*i* P	**Pn**	13 52 37.8	+2.0
GOLH				*i* S	**Sn**	13 53 09.0	-1.4
DENT	**Denizli**	**2.98**	**32**	*e*PN	**Pn**	13 52 37.8	+0.3
URLA	**Izmir**	**3.13**	**354**	*i* P	**Pn**	13 52 39.4	-0.2
URLA				*i* S	**Sn**	13 53 16.1	-1.1
IZM	**Izmir**	**3.16**	**3**	*e*PN	**Pn**	13 52 39.1	-0.7
KDAG	**Bornova**	**3.16**	**3**	*i* P	**Pn**	13 52 41.3	+1.3
KDAG				*i* S	**Sn**	13 53 18.5	+0.6
CHOS	**Chios island**	**3.23**	**346**	P	**Pn**	13 52 40.9	-0.1
KYTH	**Kithira**	**3.41**	**289**	*e*Pn	**Pn**	13 52 44.5	+1.2
KYTH	**Kithira**	**3.41**	**289**	*e*PN	**Pn**	13 52 44.5	+1.2
KULA	**Kula-Manisa**	**3.52**	**21**	*e*PN	**Pn**	13 52 45.0	+0.1
VLI	**Veliai**	**3.63**	**295**	*e*Pn	**Pn**	13 52 47.7	+1.3
VLI	**Veliai**	**3.63**	**295**	*e*PN	**Pn**	13 52 47.7	+1.3
KHL	**Karahalli**	**3.67**	**32**	*e*PN	**Pn**	13 52 46.4	-0.6
DID	**Didima**	**3.80**	**308**	P	**Pn**	13 52 49.8	+1.0
SHUT	**Suhut-Afyon**	**4.35**	**39**	*e*PN	**Pn**	13 52 56.4	+0.1
ITM	**Ithomi**	**4.55**	**297**	*e*Pn	**Pn**	13 53 01.1	+2.0
ITM	**Ithomi**	**4.55**	**297**	*e*PN	**Pn**	13 53 01.1	+2.0
BR131	**Keskin Array S**	**6.90**	**48**	*e*Pn	**Pn**	13 53 30.3	-1.1
	0.8nm,0.4s						
ASF	**Jabal al Asfar**	**8.78**	**108**	P	**Pn**	13 53 57.0	-0.1
	0.1nm,0.3s,baz=48,slow=13,SNR=1.9						
ASF				S	**Sn**	13 55 36.2	-0.1
	0.1nm,0.3s,baz=0.6,slow=18,SNR=2.1						
AKASG	**Malin Array Be**	**15.53**	**5**	P	**Pn**	13 55 33.6	+4.5
	0.8nm,0.3s,baz=195,slow=11,SNR=2.2						
TORD	**Torodi Ar. Bea**	**31.73**	**232**	P	**P**	13 58 12.9	-1.6
	0.4nm,0.4s,mb3.6,baz=33,slow=8.9,SNR=10						
MKAR	**Makanchi Array**	**42.45**	**57**	P	**P**	13 59 45.0	-0.2
	0.8nm,0.6s,mb3.6,baz=272,slow=7.9,SNR=4.6						
MKAR	**Makanchi Array**	**42.45**	**57**	P	**P**	13 59 45.0	-0.2
SONM	**Songino Array**	**58.25**	**51**	P	**P**	14 01 45.3	+0.6
	0.4nm,0.6s,mb3.6,baz=287,slow=7.6,SNR=2.7						

NEIC ***12*** *13:58:36.6±3.4, 3265S×17674W, h35km, mb4.5/2, Error ellipse: s-maj=62.4km s-min=14.5km az=101.0*
ISCJB ***12*** *13:58:38.8±2.4, 3276S±0.10×1777W±0.04, h10km, mb4.7/5, MS4.2/5, Error ellipse: s-maj=45.1km s-min=9.2km az=14.4*
IDC ***12*** *13:58:41.3±1.1, 3261S×17803W, h0km, mb4.8/4, mb1 4.7/5, mb1mx4.2/18, mbtmp4.7/5, ML4.1/1, MS4.0/6, Ms1 4.0/6, ms1mx3.6/22, Error ellipse: s-maj=34.0km s-min=28.2km az=134.0*

ISC 12 13:58:42.1±2.6, 3266S±0.10×1780W±0.04, h10km, n24, σ0ᵍ65/15, mb4.7/5, MS4.2/5, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**3.39**	**1**	Pn	**Pn**	**13 59 27.8**	**-7.3**
PUZ	**Puketiti**	**6.22**	**209**	P	**Pn**	**14 00 13.8**	**-0.2**
PUZ				S	**Sn**	**14 01 25.6**	**+0.4**
URZ	**Urewera**	**6.88**	**214**	Pn	**Pn**	**14 00 23.3**	**+0.2**
	3.2nm,0.3s,baz=12,slow=19,SNR=17						
URZ				Sn	**Sn**	**14 01 41.2**	**-0.2**
	7.8nm,0.3s,baz=115,slow=18,SNR=8.6						
URZ	**Urewera**	**6.88**	**214**	P	**Pn**	**14 00 22.8**	**-0.3**
OUZ	**Omahuta**	**7.46**	**248**	P	**Pn**	**14 00 35.5**	**+4.5**
RAR	**Rarotonga**	**19.79**	**59**	LR	LR	14 08 19.1	
	comp=Z,150nm,20.9s,baz=125,slow=29						
STKA	**Stephens Creek**	**34.06**	**260**	LR	LR	14 18 21.3	
	comp=Z,421nm,18.6s,MS4.2,baz=148,slow=35						
STKA	**Stephens Creek**	**34.06**	**260**	P	**P**	**14 05 25.6**	**-1.0**
	7.2nm,1.3s,mb4.4						
CTA	**Charters Tower**	**34.25**	**282**	P	**P**	**14 05 30.2**	**+1.9**
	15nm,1.2s,mb4.8,baz=80,slow=11,SNR=4.7						
CTAO	**Charters Tower**	**34.25**	**282**	*e*P	**P**	**14 05 26.7**	**-1.7**
	3.2nm,0.6s,mb4.4						
ASAR	**Alice Springs**	**43.06**	**269**	P	**P**	**14 06 42.4**	**+0.1**
	4.8nm,0.8s,mb4.3,baz=110,slow=6.9,SNR=22						
WB2	**Warramunga Arr**	**44.25**	**274**	*e*P	**P**	**14 06 52.3**	**+0.4**
WRAB	**Tennant Creek**	**44.25**	**274**	*e*P	**P**	**14 06 51.9**	**0.0**
WRA	**Warramunga Arr**	**44.26**	**274**	P	**P**	**14 06 52.0**	**0.0**
	3.5nm,0.3s,mb4.5,baz=113,slow=8.0,SNR=27						
WRA				LR	LR	14 23 25.2	
	comp=Z,163nm,19.1s,MS4.0,baz=125,slow=34						
FITZ	**Fitzroy Crossi**	**52.42**	**272**	LR	LR	14 29 46.8	
	comp=Z,197nm,18.6s,MS4.2,baz=287,slow=36						
BATI	**Baumata**	**57.99**	**279**	LR	LR	14 33 12.4	
	comp=Z,228nm,19.0s,MS4.3,baz=118,slow=36						
CBIJ	**Chichi jima**	**70.48**	**323**	P	**P**	**14 09 57.1**	**+0.2**
	32nm,0.6s,mb5.4,baz=274,slow=20,SNR=2.7						
CMIG	**Matias Romero**	**93.42**	**72**	LR	LR	14 48 23.0	
	comp=Z,64nm,18.3s,MS4.1,baz=189,slow=32						
MKAR	**Makanchi Array**	**119.23**	**309**	PKP	PKPdf	14 17 32.0	+0.9
	0.2nm,0.2s,baz=112,slow=2.2,SNR=3.3						
KURK	**Kurchatov**	**122.61**	**313**	PKP	PKPdf	14 17 38.1	+0.6
	1.5nm,0.9s,baz=98,slow=2.1,SNR=7.4						
BVAR	**Borovoye Array**	**128.02**	**315**	PKP	PKPdf	14 17 48.0	+0.2
	0.8nm,0.7s,baz=98,slow=3.3,SNR=5.8						
NOA	**NORSAR Array B**	**150.98**	**351**	PKPbc	PKPbc	14 18 34.8	+0.5
	2.6nm,1.0s,baz=13,slow=4.1,SNR=4.0						
AKASG	**Malin Array Be**	**153.08**	**320**	PKPbc	PKPbc	14 18 39.8	+0.3
	2.3nm,0.8s,baz=63,slow=1.6,SNR=7.6						
TORD	**Torodi Ar. Bea**	**160.58**	**179**	PKP	PKPdf	14 18 42.8	0.0
	0.4nm,1.0s,baz=166,slow=2.4,SNR=3.0						
TORD				PKPab	PKPab	14 19 26.2	+2.2
	0.7nm,0.7s,baz=189,slow=4.4,SNR=3.6						

IDC ***12*** *14:01:56.5±6.4, 354N×123.14E, h542km±91km, mb3.1/6, mb1 3.2/6, mb1mx2.9/18, mbtmp3.1/6, Error ellipse: s-maj=136.9km s-min=19.2km az=67.0*
ISCJB ***12*** *14:02:01.4±1.5, 22N±02×1209E±03, h636km±26km, mb3.6/7, Error ellipse: s-maj=55.9km s-min=14.9km az=144.8*
NEIC ***12*** *14:02:02.7±1.4, 209N×12076E, h625km±23km, mb4.2/2, Error ellipse: s-maj=53.0km s-min=14.5km az=56.0*

ISC 12 14:02:02.8±1.4, 21N±02×1208E±03, h626km±23km, n12, σ0ᵍ98/12, mb3.7/7, Celebes Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KKM	**Kota Kinabalu**	**6.00**	**311**	*e*P	**P**	**14 03 45.7**	**+0.3**
KSM	**Kuching**	**10.45**	**267**	*e*P	**P**	**14 04 26.3**	**-0.3**
WRAB	**Tennant Creek**	**25.62**	**149**	*e*P	**P**	**14 06 44.5**	**-0.8**
	6.3nm,0.6s,mb4.4						
WRA	**Warramunga Arr**	**25.62**	**149**	P	**P**	**14 06 44.4**	**-0.9**
	1.6nm,0.3s,mb4.1,baz=336,slow=9.6,SNR=16						
WRA	**Warramunga Arr**	**25.62**	**149**	P	**P**	**14 06 44.4**	**-0.9**
WB2	**Warramunga Arr**	**25.63**	**149**	*e*P	**P**	**14 06 44.3**	**-1.1**
ASAR	**Alice Springs**	**28.61**	**154**	P	**P**	**14 07 13.1**	**+1.8**
	0.7nm,0.3s,mb3.7,baz=335,slow=8.3,SNR=9.2						
STKA	**Stephens Creek**	**39.13**	**151**	P	**P**	**14 08 39.8**	**+1.1**
	1.4nm,0.3s,mb3.9,baz=338,slow=10,SNR=6.0						
STKA	**Stephens Creek**	**39.13**	**151**	*e*P	**P**	**14 08 40.4**	**+1.7**
	4.6nm,1.0s,mb4.0						
SONM	**Songino Array**	**47.24**	**347**	P	**P**	**14 09 34.9**	**-6.2**
	0.8nm,0.7s,mb3.4,baz=154,slow=8.9,SNR=4.6						
MKAR	**Makanchi Array**	**55.68**	**329**	P	**P**	**14 10 42.1**	**+0.5**
	1.0nm,0.4s,mb3.4,baz=116,slow=8.7,SNR=9.8						
MKAR				PcP	PcP	14 11 32.9	+1.5
	0.2nm,0.2s,baz=104,slow=6.1,SNR=2.6						
KURK	**Kurchatov**	**60.07**	**331**	P	**P**	**14 11 10.4**	**-0.7**
	0.9nm,0.5s,mb3.3,baz=133,slow=6.9,SNR=6.4						

NEIC ***12*** *14:02:41.2, 1673N×9898W, h16km, MD3.5(MEX), After MEX.*

MEX 12 14:02:41.0±0.4, 1671N×9899W, h16km±6km, MD3.5, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PNIG	**Pinotepa**	**0.89**	**111**	*i* P	Pb	14 02 55.0	-2.9
PNIG				*i* S	Sb	14 03 05.8	-3.8
ACX	**Acapulco**	**0.90**	**280**	*i* P	Pb	14 02 54.8	-3.4
ACX				*i* S	Sb	14 03 06.3	-3.7
CAIG	**El Cayaco**	**1.27**	**286**	*i* P	Pn	14 03 00.4	-3.6
CAIG				*i* S	Sb	14 03 15.9	-4.6
UTMO	**Huajuapan**	**1.59**	**45**	*i* P	Pn	14 03 05.7	-2.8
UTMO				*i* S	Sn	14 03 23.2	-5.4
PPM	**Popocatepetl**	**2.37**	**8**	*e*P	Pn	14 03 16.9	-2.3
PPM				*i* S	Sn	14 03 44.0	-3.9
PPM	**Popocatepetl**	**2.37**	**8**	*e*P	Pn	14 03 17.9	-1.3
PPM				*i* S	Sn	14 03 45.4	-2.5

NEIC ***12*** *14:09:07.0±0.9, 623S×14874E, h35km, mb4.1/3, Error ellipse: s-maj=19.7km s-min=12.1km az=101.0*
ISCJB ***12*** *14:09:07.5±3.0, 63S±0.1×1487E±0.2, h55km±24km, mb4.2/7, MS3.7/3, Error ellipse: s-maj=27.0km s-min=21.0km az=4.4*
IDC ***12*** *14:09:11.1±6.8, 637S×14876E, h72km±61km, mb3.8/5, mb1 3.9/7, mb1mx3.6/17, mbtmp3.8/7, ML3.9/1, MS3.8/3, Ms1 3.8/3, ms1mx3.0/25, Error ellipse: s-maj=46.1km s-min=27.3km az=103.0*

ISC 12 14:09:09.1±2.7, 63S±01×1487E±02, h52km±23km, n20, σ0ᵍ97/16, mb4.2/7, MS3.7/3, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**3.44**	**206**	*e*Pn	**Pn**	**14 10 00.4**	**+0.2**
PMG				*e*Sn	**Sn**	**14 10 41.4**	**+1.6**
CTA	**Charters Tower**	**13.92**	**189**	P	**Pn**	**14 12 23.3**	**-0.3**
	baz=31,slow=12,SNR=3.6						
KAKA	**Kakadu**	**17.23**	**247**	*e*Pn	**Pn**	**14 13 06.3**	**+0.1**
WRAB	**Tennant Creek**	**19.43**	**224**	*e*P	**Pn**	**14 13 31.2**	**-1.7**
	4.6nm,0.6s						
WB2	**Warramunga Arr**	**19.43**	**224**	*e*P	**Pn**	**14 13 30.1**	**-2.9**
WRA	**Warramunga Arr**	**19.44**	**224**	P	**Pn**	**14 13 31.7**	**-1.3**
	0.4nm,0.3s,baz=50,slow=11,SNR=13						
GUMO	**Guam**	**20.11**	**349**	LR	LR	14 19 30.0	
	comp=Z,80nm,22.0s,MS3.0,baz=271,slow=31						
ASAR	**Alice Springs**	**22.36**	**218**	P	**P**	**14 14 03.0**	**0.0**
	3.4nm,0.8s,mb3.8,baz=49,slow=10.0,SNR=36						
FITZ	**Fitzroy Crossi**	**25.35**	**240**	P	**P**	**14 14 32.5**	**+1.0**
	2.6nm,0.4s,mb4.1,baz=68,slow=10,SNR=7.0						
STKA	**Stephens Creek**	**26.30**	**194**	P	**P**	**14 14 40.5**	**+0.6**
	3.6nm,0.9s,mb3.9,baz=345,slow=11,SNR=4.0						
STKA	**Stephens Creek**	**26.30**	**194**	*e*P	**P**	**14 14 40.2**	**+0.2**
	4.9nm,0.9s,mb4.0						
CBIJ	**Chichi jima**	**33.78**	**350**	LR	LR	14 26 54.8	
	comp=Z,77nm,20.2s,MS3.4,baz=164,slow=31						
KSM	**Kuching**	**39.07**	**280**	*e*P	**P**	**14 16 31.8**	**+0.3**
NWAO	**Narrogin (SRO)**	**39.45**	**224**	P	**P**	**14 16 34.9**	**+0.5**
	8.0nm,1.1s,mb4.4						
RPZ	**Rata Peaks**	**42.15**	**156**	LR	LR	14 32 08.9	
	comp=Z,1μm,19.5s,MS4.7,baz=282,slow=33						
COCO	**West Island**	**51.43**	**259**	*e*P	**P**	**14 18 10.2**	**+0.7**
	24nm,0.6s,mb5.3						
PETK	**Petropavlovsk-**	**59.66**	**6**	P	**P**	**14 19 08.4**	**+0.6**
	1.9nm,0.9s,mb4.1,baz=160,slow=6.2,SNR=5.7						
QSPA	**South Pole Qui**	**83.68**	**180**	P	**P**	**14 21 31.2**	**-0.6**
	1.2nm,0.8s,mb4.0,baz=158,slow=0.4,SNR=8.0						
TORD	**Torodi Ar. Bea**	**146.77**	**284**	PKPbc	PKPbc	14 28 45.2	-1.3
	0.6nm,0.4s,baz=67,slow=3.4,SNR=16						
TORD	**Torodi Ar. Bea**	**146.77**	**284**	PKPbc	PKPbc	14 28 45.2	-1.3

NOU ***12*** *14:18:56.2±64.0, 2222S×16655E, h4km, MD1.2, ML3.7*
ISCJB ***12*** *14:19:06.5±1.0, 2209S±0.06×16634E±0.06, h10km, Error ellipse: s-maj=9.7km s-min=6.6km az=30.7*

ISC 12 14:19:06.0±2.4, 2207S±008×16633E±007, h13km±11km, n6, σ0ᵍ25/11, New Caledonia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
NOUC	**Port Laguerre**	**0.04**	**224**	*e*P	**Pg**	**14 19 08.5**	**+0.2**
NOUC				AMP		14 19 10.0	
	comp=Z,20μm,1.7s						
NOUC				*e*S	**Sg**	**14 19 10.1**	**+0.1**
DZM	**Mont Dzumac**	**0.10**	**89**	*e*P	**Pg**	**14 19 08.8**	**-0.2**
DZM				*e*S	**Sg**	**14 19 11.2**	**0.0**
DZM				AMP		14 19 13.2	
	comp=Z,29μm,3.5s						
NORM	**Noumea**	**0.21**	**138**	*e*P	**Pg**	**14 19 10.3**	**-0.3**
NORM				*e*S	**Sg**	**14 19 13.4**	**-0.3**
NORM				AMP		14 19 14.3	
	comp=Z,52μm,0.2s						
LASL	**Noumea**	**0.25**	**129**	*e*S	**Sg**	**14 19 14.6**	**-0.2**
LASL				AMP		14 19 15.8	
	comp=Z,5μm,0.4s						
ONTRN	**Noumea**	**0.26**	**154**	*e*P	**Pg**	**14 19 11.4**	**0.0**
ONTRN				*e*S	**Sg**	**14 19 15.2**	**0.0**
ONTRN				AMP		14 19 16.5	
	comp=Z,20μm,1.9s						
PLUM	**Mont Dore**	**0.35**	**125**	*e*P	**Pg**	**14 19 13.0**	**0.0**
PLUM				*e*S	**Sg**	**14 19 18.4**	**+0.6**
PLUM				AMP		14 19 21.2	
	comp=Z,6μm,5.1s						

ATH ***12*** *14:36:07.8, 3724N×2163E, h15km±2km, MD3.4/3*
NEIC ***12*** *14:36:07.8, 3724N×2163E, h15km, MD3.4(ATH), After ATH.*
ISCJB ***12*** *14:36:08.3±0.6, 3733N±004×2171E±006, h10km, Error ellipse: s-maj=7.4km s-min=4.7km az=149.0*
CSEM ***12*** *14:36:08.3±0.2, 3728N×2172E, h10km, MD3.4, Error ellipse: s-maj=8.9km s-min=4.4km az=44.0*
THE ***12*** *14:36:09.1, 3734N×2175E, h2km±30km, Error ellipse: s-maj=30.4km s-min=0.8km az=167.0*

ISC 12 14:36:09.3±0.6, 3732N±004×2175E±005, h10km, n13, σ1ᵍ07/21, 2C, Southern Greece

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ITM	**Ithomi**	**0.20**	**135**	*i* Pb	**Pg**	**14 36 13.2**	**-0.2**
ITM				*e*Sb	**Sg**	**14 36 17.0**	**+0.8**
ITM	**Ithomi**	**0.20**	**135**	*i* PB	**Pg**	**14 36 13.2**	**-0.2**
ITM				*e*SB	**Sg**	**14 36 17.0**	**+0.8**
PYL	**PYLOS**	**0.42**	**181**	P	**Pg**	**14 36 16.9**	**-0.6**
PYL				S	**Sg**	**14 36 24.2**	**+1.1**
VLX	**Vlachokerasia**	**0.50**	**84**	P	**Pg**	**14 36 19.1**	**0.0**
RLS	**Riolos of Patr**	**0.77**	**343**	*e*Pn	**Pn**	**14 36 23.5**	**-2.7**
RLS				*e*Sn	**Sg**	**14 36 35.3**	**+1.0**
RLS	**Riolos of Patr**	**0.77**	**343**	*e*PN	**Pn**	**14 36 23.5**	**-2.7**
RLS				*e*SN	**Sg**	**14 36 35.3**	**+1.0**
VLI	**Veliai**	**1.12**	**122**	*e*Pn	**Pn**	**14 36 30.0**	**-1.0**
VLI	**Veliai**	**1.12**	**122**	*e*PN	**Pn**	**14 36 30.0**	**-1.0**
DID	**Didima**	**1.20**	**81**	P	**Pb**	**14 36 31.4**	**-0.7**
DID				S	**Sb**	**14 36 48.6**	**+1.0**
VLS	**Valsamata**	**1.26**	**313**	P	**Pn**	**14 36 32.1**	**-0.8**
VLS				S	**Sb**	**14 36 50.8**	**+1.4**
VLS	**Valsamata**	**1.26**	**313**	*e*Pn	**Pn**	**14 36 31.6**	**-1.3**
VLS	**Valsamata**	**1.26**	**313**	*e*PN	**Pn**	**14 36 31.6**	**-1.3**

TEH ***12*** *14:39:52.0, 3167N×5609E, h3km, ML3.5*
THR ***12*** *14:40:35.7±0.5, 3162N×5596E, h14km±7km, ML3.5*
CSEM ***12*** *14:40:35.4±0.1, 3163N×5601E, h16km, ML3.5, Error ellipse: s-maj=2.8km s-min=2.1km az=7.0*
ISCJB ***12*** *14:40:36.0±0.4, 3172N±004×5605E±003, h10km, Error ellipse: s-maj=6.1km s-min=3.9km az=171.0*

ISC 12 14:40:37.3±0.4, 3168N±005×5606E±003, h10km, n35, σ0ᵍ85/40, Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
IBAF	**Bafgh**	**0.43**	**258**	*e*Pg	**Pg**	**14 40 42.6**	**-3.0**
IBAF				*e*		14 40 48.4	
IMEH	**Mehriz**	**1.27**	**257**	*e*Pg	**Pn**	**14 40 57.9**	**-3.1**
IMEH				*e*		14 41 20.5	
ICHK	**Chekchek**	**1.51**	**292**	*e*Pn	**Pn**	**14 41 02.6**	**-1.8**
ICHK				*e*		14 41 26.1	
KRBR	**Kerman**	**1.79**	**160**	*e*Pg	**Pn**	**14 41 08.1**	**-0.2**
KRBR				AML	AML	14 41 34.3	
	comp=E,582nm,0.1s						
ISAD	**Sadrabad**	**2.03**	**277**	*e*Pn	**Pn**	**14 41 11.5**	**-0.1**
ISAD				*e*Sn	**Sn**	**14 41 38.4**	**+1.4**
ISAD				*e*		14 41 41.9	
ITEG	**Tejag**	**2.58**	**61**	*e*Pn	**Pn**	**14 41 18.3**	**-0.8**
ITEG				*e*Sn	**Sn**	**14 41 50.0**	**-0.6**
ITEG				*e*		14 41 59.3	
IKOO	**Kooshah**	**2.61**	**73**	*e*Pn	**Pn**	**14 41 18.9**	**-0.6**
IKOO				*e*		14 41 19.5	
IKOO				*e*Sn	**Sn**	**14 41 50.8**	**-0.5**
NASN	**Na'in**	**2.97**	**293**	*e*Pn	**Pn**	**14 41 24.3**	**-0.1**
NASN				*e*Sg	**Sg**	**14 42 07.2**	**-5.5**
NASN				AML	AML	14 42 10.5	
	comp=N,123nm,0.5s						
NASN	**Na'in**	**2.97**	**293**	*e*Pn	**Pn**	**14 41 24.3**	**-0.2**
	SNR=52						
NASN				*e*Sg	**Sg**	**14 42 07.2**	**-5.6**
	SNR=90						
IPAR	**Pars**	**3.17**	**236**	*e*Pn	**Pn**	**14 41 29.9**	**+2.7**
IPAR				*e*		14 42 30.8	
IDAH	**Dahanechah**	**3.40**	**71**	*e*Pn	**Pn**	**14 41 30.4**	**+0.1**
IDAH				*e*		14 41 40.8	
IMON	**Monand**	**3.41**	**63**	*e*Pn	**Pn**	**14 41 30.3**	**-0.1**
IMON				*e*		14 42 32.6	
ISRV	**Sarvestan**	**3.42**	**229**	*e*Pn	**Pn**	**14 41 30.9**	**+0.3**
IMOK	**Mouk**	**3.90**	**229**	*e*Pn	**Pn**	**14 41 37.3**	**+0.1**
IMOK				*e*		14 42 52.0	
ISFB	**Sefidab**	**4.17**	**311**	*e*Pn	**Pn**	**14 41 40.3**	**-0.6**
ISFB				*e*		14 42 53.5	
IANJ	**Anjilo**	**4.18**	**335**	*e*Pn	**Pn**	**14 41 40.5**	**-0.6**
IANJ				*e*		14 42 57.9	
ILAS	**Lasjerd**	**4.51**	**326**	*e*Pn	**Pn**	**14 41 45.6**	**0.0**
ILAS				*e*		14 43 08.2	
ZHSF	**Zahedan**	**4.56**	**116**	*e*Pn	**Pn**	**14 41 47.4**	**+1.1**
ISHM	**Shahmirzad**	**4.72**	**332**	*e*Pn	**Pn**	**14 41 48.1**	**-0.4**
ISHM				*e*		14 42 12.7	
IFIR	**Firoozkooh**	**4.82**	**326**	*e*Pn	**Pn**	**14 41 49.6**	**-0.3**
IFIR				*e*		14 42 47.5	
IVRN	**Varamin**	**4.91**	**314**	*e*Pn	**Pn**	**14 41 50.9**	**-0.2**
IVRN				*e*		14 41 53.6	
IKIA	**Kiasar**	**4.93**	**337**	*e*Pn	**Pn**	**14 41 51.4**	**0.0**
IKIA				*e*		14 42 12.6	
IDMV	**Damavand**	**5.14**	**320**	*e*Pn	**Pn**	**14 41 54.6**	**+0.4**
IDMV				*e*		14 41 55.7	
IGLO	**Ghaloghah**	**5.16**	**340**	*e*Pn	**Pn**	**14 41 54.2**	**-0.3**
IGLO				*e*		14 43 37.1	
IMOG	**Moghan**	**5.19**	**31**	*e*Pn	**Pn**	**14 41 55.4**	**+0.4**
IMOG				*e*		14 41 55.9	
DAMV	**Damavand**	**5.21**	**320**	*e*Pn	**Pn**	**14 41 55.6**	**+0.4**
DAMV				AML	AML	14 43 30.4	
	comp=E,25nm,0.5s						
IPAY	**Payeh**	**5.35**	**26**	*e*Pn	**Pn**	**14 41 58.2**	**+1.1**
IPAY				*e*		14 42 03.0	
IAKL	**Akhelmad**	**5.40**	**24**	*e*Pn	**Pn**	**14 41 57.4**	**-0.4**
IAKL				*e*		14 42 26.2	
IKRD	**Kardeh**	**5.48**	**21**	*e*Pn	**Pn**	**14 42 04.2**	**+5.3**
IKRD				*e*		14 42 05.3	
IAFJ	**Afjeh**	**5.52**	**320**	*e*Pn	**Pn**	**14 41 59.7**	**+0.2**
IAFJ				*e*		14 42 01.1	
IMYA	**Miami**	**5.74**	**35**	*e*Pn	**Pn**	**14 42 03.0**	**+0.5**
IMYA				*e*		14 42 05.5	
ASAO	**Ashtian**	**5.81**	**301**	*e*Pn	**Pn**	**14 42 03.4**	**-0.1**
MRVT	**Maraveh tapeh**	**5.97**	**0**	*e*Pn	**Pn**	**14 42 06.5**	**+0.8**
IEMG	**Emamgholi**	**6.11**	**20**	*e*Pn	**Pn**	**14 42 08.8**	**+1.2**
IEMG				*e*		14 42 27.4	
IRAZ	**Razeghan**	**6.32**	**308**	*e*Pn	**Pn**	**14 42 11.3**	**+0.8**
IRAZ				*e*		14 44 19.5	

IDC ***12*** *14:43:04.7±0.5, 3300S×17830W, h0km, mb4.6/15, mb1 4.8/17, mb1mx4.7/19, mbtmp4.6/17, ML4.7/1, MS4.7/22, Ms1 4.7/22, ms1mx4.6/28, Error ellipse: s-maj=17.6km s-min=16.6km az=141.0*
BJI ***12*** *14:43:07.6, 3320S×17820W, h35km, mB5.2, mb5.0, Ms5.1, Msz4.6*
ISCJB ***12*** *14:43:08.6±0.3, 3318S±004×17843W±006, h33km, mb4.8/34, MS4.7/26, Error ellipse: s-maj=8.0km s-min=5.4km az=23.6*
MOS ***12*** *14:43:08.9±1.9, 3282S×17831W, h33km, mb5.2/9, MS4.8/5, Error ellipse: s-maj=12.2km s-min=11.0km az=81.0*
GCMT ***12*** *14:43:09.6±0.2, 3305S×17786W, h17km, MW5.3/81, Moment Tensor Solution. s59,c87; s81,c145; Duration: 1ŝ1 Moment tensor: Scale 10¹⁷Nm; Mr0.57±.02; Mθθ-0.04±.01; Mϕϕ-0.53±.01; Mrθ0.27±.04; Mrϕ-0.14±.01; Mθϕ0.80±.05; Best double couple: M₀1.02000×10¹⁷ NP1:φs192.00000°, δ17.00000°, λ84.00000°. NP2: φs18.00000°, δ73.00000°, λ92.00000°. Principal axes: T 1.0210, Plg62.0000°, Azm291.0000°; N -0.0010, Plg2.0000°, Azm198.0000°; P -1.0190, Plg28.0000°, Azm107.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
NEIC ***12*** *14:43:09.6±0.3, 3321S×17822W, h35km, mb5.1/21 Error ellipse: s-maj=10.5km s-min=6.2km az=129.0*
*D

CTA **Charters Tower 34.02 283** *e*P **P** **14 49 52.5 +1.4**
comp=Z,17nm,0.5s,mb5.2
CTA **Charters Tower 34.02 283** P **P** **14 49 51.9 +0.9**
comp=Z,14nm,0.5s,mb5.2,baz=119,slow=10,SNR=40
CTA S **S** **14 55 11.7 -2.5**
comp=Z,0.9nm,0.3s,baz=255,slow=17,SNR=2.3
CTA LR LR 15 01 58.8
comp=Z,1µm,18.2s,MS4.6,baz=112,slow=33
CTA Charters Tower 34.02 283 *e*P **P** **14 49 52.5 +1.4**
CTA pmax pmax
comp=Z,17nm,0.5s
CTAO Charters Tower 34.02 283 *e*P **P** **14 49 51.8 +0.7**
CTAO pmax pmax
comp=Z,18nm,0.5s,mb5.3
CTAO Charters Tower 34.02 283 *e*P **P** **14 49 51.8 +0.7**
comp=Z,18nm,0.5s,mb5.2
RKT Rikitea 39.32 87 *e*S **S** **14 56 28.1 -6.9**
comp=Z,332nm,26.0s
RKT *e*LQ 14 59 01.8
comp=Z,305nm,25.0s
RKT *e*LR LR 15 00 52.3
comp=Z,2µm,21.2s,baz=248
PMG Port Moresby 39.56 299 *e*P **P** **14 50 37.2 -1.1**
PMG pmax pmax
comp=Z,24nm,1.3s
PMG Port Moresby 39.56 299 *e*P **P** **14 50 37.2 -1.1**
comp=Z,24nm,1.3s,mb4.8
COEN Coen 39.79 289 *e*P **P** **14 50 40.1 -0.1**
comp=Z,5.9nm,0.6s,mb4.5
ASAR Alice Springs 42.72 270 P **P** **14 51 03.6 -0.5**
comp=Z,13nm,0.5s,mb4.9,baz=110,slow=8.0,SNR=209
ASAR S **S** **14 57 24.3 -1.2**
comp=Z,2.3nm,1.0s,baz=110,slow=16,SNR=7.1
WB2 Warramunga Arr 43.94 275 *e*P **P** **14 51 13.0 -1.1**
WRAB Tennant Creek 43.95 275 *e*P **P** **14 51 13.1 -1.0**
WRAB pmax pmax
comp=Z,25nm,0.6s,mb5.1
WRAB Tennant Creek 43.95 275 *e*P **P** **14 51 13.1 -1.1**
comp=Z,25nm,0.6s,mb5.1
WRA Warramunga Arr 43.95 275 P **P** **14 51 13.7 -0.5**
comp=Z,19nm,0.4s,mb5.2,baz=114,slow=7.7,SNR=187
WRA S **S** **14 57 41.3 -2.4**
comp=Z,3.5nm,1.1s,baz=115,slow=13,SNR=2.7
WRA LR LR 15 09 46.3
comp=Z,939nm,18.5s,MS4.7,baz=125,slow=36
WRA Warramunga Arr 43.95 275 P **P** **14 51 13.7 -0.5**
WRA S **S** **14 57 41.3 -2.4**
FORT Forrest 45.10 258 *e*P **P** **14 51 23.0 -0.2**
comp=Z,16nm,0.4s,mb5.2
SBA Scott Base 45.30 184 *e*P **P** **14 51 27.8 +3.6**
SBA pmax pmax
comp=Z,26nm,1.2s,mb4.9
SBA Scott Base 45.30 184 *e*P **P** **14 51 27.8 +3.6**
comp=Z,26nm,1.2s,mb4.9
KAKA Kakadu 49.15 282 *e*P **P** **14 51 50.6 -4.3**
comp=Z,13nm,0.5s,mb5.2
FITZ Fitzroy Crossi 52.09 272 *e*P **P** **14 52 16.3 -0.8**
comp=Z,12nm,0.6s,mb5.0
FITZ Fitzroy Crossi 52.09 272 LR LR 15 14 30.6
comp=Z,1µm,18.1s,MS4.9,baz=116,slow=36
CASY Casey 52.59 209 *e*P **P** **14 52 21.3 +1.1**
NWAO Narrogin (SRO) 53.18 251 LR LR 15 15 15.1
comp=Z,886nm,18.2s,MS4.8,baz=256,slow=36
NWAO Narrogin (SRO) 53.18 251 P **P** **14 52 26.1 +1.1**
NWAO pmax pmax
comp=Z,1.0nm,0.6s
NWAO Narrogin (SRO) 53.18 251 P **P** **14 52 26.1 +1.1**
comp=Z,1.0nm,0.6s,mb5.1
KLBR Kellerberrin 53.21 253 *e*P **P** **14 52 24.2 -1.0**
comp=Z,16nm,1.1s,mb4.9
MBWA Marble Bar 55.66 266 *e*P **P** **14 52 42.0 -1.2**
comp=Z,2.9nm,0.5s,mb4.6
QSPA South Pole Qui 56.99 180 P **P** **14 52 54.2 +2.3**
comp=Z,12nm,1.0s,mb4.9,baz=49,slow=1.8,SNR=22
QSPA LR LR 15 12 50.1
comp=Z,584nm,19.6s,MS4.7,baz=36,slow=31
GUMO Guam 58.22 317 LR LR 15 15 37.0
comp=Z,292nm,18.6s,MS4.4,baz=272,slow=34
GUMO Guam 58.22 317 *e*P **P** **14 53 01.1 -0.1**
GUMO pmax pmax
comp=Z,186nm,1.7s,mb5.8
GUMO Guam 58.22 317 *e*P **P** **14 53 01.1 -0.1**
comp=Z,186nm,1.7s,mb5.8
MIR Mirnyy 59.56 208⇑ *i*P **P** **14 53 12.5 +2.6**
MIR *i* 14 54 05.0
MIR *i*S **S** **15 01 23.0 +5.9**
MIR *e* 15 03 03.0
MIR pmax pmax
comp=Z,100nm,1.5s,mb5.6
MIR MLR MLR
comp=Z,2µm,18.0s,MS5.2
DAV Davao City (W) 66.51 296 LR LR 15 22 39.4
comp=Z,224nm,19.0s,MS4.4,baz=100,slow=36
MAW Mawson 69.65 201 *e*P **P** **14 54 17.8 +2.0**
comp=Z,13nm,1.2s,mb4.7
MAW Mawson 69.65 201 P **P** **14 54 17.0 +1.2**
comp=Z,12nm,1.1s,mb4.8,baz=119,slow=7.8,SNR=12
MAW LR 15 23 38.2
comp=Z,1µm,20.0s,MS5.2,baz=115,slow=35
MAW Mawson 69.65 201 *e*P **P** **14 54 15.4 -0.4**
MAW pmax pmax
comp=Z,25nm,1.2s
MAW Mawson 69.65 201 *e*P **P** **14 54 15.4 -0.4**
comp=Z,25nm,1.2s,mb5.0
CBIJ Chichi jima 70.65 323 LR LR 15 22 57.6
comp=Z,262nm,18.5s,MS4.5,baz=154,slow=34
SYO Syowa Base 74.39 193⇓ *e*P **P** **14 54 43.3 -0.8**
SNAA Sanae 75.45 179 *e*P **P** **14 54 50.3 +0.1**
SNAA *e* pP 14 55 01.9 +0.8
SNAA Sanae 75.45 179 *e*P **P** **14 54 50.0 -0.2**
SNAA pmax pmax
comp=Z,21nm,1.0s
SNAA Sanae 75.45 179 *e*P **P** **14 54 50.0 -0.2**
comp=Z,21nm,1.0s,mb5.0
VNA3 Neumayer Olymp 75.61 176 *e*P **P** **14 54 51.3 +0.2**
VNA3 *e* pP 14 55 03.4 +1.3
VNA2 Neumayer--Watz 76.04 177 *e*P **P** **14 54 54.7 +1.1**
VNA2 *e* pP 14 55 06.5 +2.0
VNA1 Neumayer--Stat 76.27 177 *e*P pP 14 55 07.9 +2.1
MJAR Matsushiro Arr 80.30 326 P **P** **14 55 16.5 -1.0**
comp=Z,1.6nm,0.9s,mb3.9,baz=134,slow=3.5,SNR=3.3
MJAR LR LR 15 25 04.4
comp=Z,234nm,20.6s,MS4.5,baz=65,slow=31
MJAR Matsushiro Arr 80.30 326 P **P** **14 55 16.5 -1.0**
MJAR LR LR 15 25 04.4
PLCA Paso Flores 80.89 133 P **P** **14 55 20.4 -0.5**
comp=Z,9.2nm,1.0s,mb4.7,baz=239,slow=5.8,SNR=12
PLCA LR LR 15 24 46.0
comp=Z,670nm,18.3s,MS5.0,baz=222,slow=31
QIZ Qiongzhong 85.88 296 P **P** **14 55 46.1 -0.6**
QIZ PP PP 14 59 06.2 -0.8
QIZ S S 15 06 20.1 +2.3
QIZ LR LR
comp=Z,278nm,33.5s,MS4.4
KSRS Korea Array 86.22 320 P **P** **14 55 48.0 0.0**
comp=Z,1.6nm,0.9s,mb4.2,baz=132,slow=5.0,SNR=3.7
KSRS LR LR 15 32 58.0
comp=Z,207nm,18.2s,MS4.6,baz=128,slow=35
TRQA Tornquist 87.74 135 *e*P **P** **14 55 54.5 -1.2**
comp=Z,5.4nm,1.2s,mb4.7
NJ2 Nanjing 87.78 311 *e*P **P** **14 55 56.2 +0.5**
NJ2 AMB AMB
comp=Z,20nm,0.5s,mb5.6
PET Petropavlovsk 88.10 346 *e*P **P** **14 55 55.6 -1.1**
PET *e*S S 15 06 34.6 -3.1
PET *e*PS 15 07 39.1
PETK Petropavlovsk- 88.37 346 P **P** **14 55 58.2 +0.3**
comp=Z,8.0nm,0.9s,mb4.9,baz=141,slow=9.6,SNR=5.0
PETK LR LR 15 28 11.0
comp=Z,351nm,21.7s,MS4.7,baz=151,slow=31
PETK Petropavlovsk- 88.37 346 P **P** **14 55 58.2 +0.3**
PETK LR LR 15 28 11.1
WHN Wuhan 89.73 307⇓ P **P** **14 56 05.9 +0.9**
LDFC Landfair 90.09 47 *e*P **P** **14 56 06.9 +0.4**
comp=Z,24nm,1.1s,mb5.4
NVAR Mina Array Bea 90.45 43 P **P** **14 56 08.4 +0.3**
comp=Z,3.3nm,1.0s,mb4.6,baz=221,slow=8.3,SNR=12
CN2 Changchun 92.12 323 *e*P **P** **14 56 15.9 +0.2**
CN2 AMB AMB
comp=Z,10.0nm,1.0s,mb5.1
WVOR Wild Horse Val 93.02 40 *e*P **P** **14 56 19.6 -0.3**
WVOR pmax pmax
comp=Z,10.0nm,1.2s,mb5.1
WVOR Wild Horse Val 93.02 40 *e*P **P** **14 56 19.6 -0.3**
comp=Z,10nm,1.2s,mb5.1
CMAR Chiang Mai Arr 94.00 289 P **P** **14 56 26.4 +1.4**
comp=Z,0.4nm,0.8s,mb3.9,baz=124,slow=1.6,SNR=3.2
CMAR PP PP 15 00 10.8 -0.8
comp=Z,2.2nm,1.0s,baz=138,slow=6.7,SNR=9.0
CMAR LR LR 15 37 40.4
comp=Z,94nm,18.6s,MS4.3,baz=125,slow=35
CMAR Chiang Mai Arr 94.00 289 P **P** **14 56 26.4 +1.4**
CMAR 15 00 10.9
TXAR Lajitas Array 94.12 58 P **P** **14 56 27.2 +1.9**
comp=Z,1.1nm,1.1s,mb4.2,baz=193,slow=5.1,SNR=6.3
TXAR LR LR 15 34 29.3
comp=Z,716nm,18.3s,MS5.2,baz=240,slow=33
LPAZ La Paz 97.31 115 P **P** **14 56 41.5 +1.2**
comp=Z,0.5nm,0.5s,mb4.2,baz=48,slow=8.3,SNR=3.6
LPAZ LR LR 15 32 37.9
comp=Z,152nm,20.2s,MS4.5,baz=160,slow=31
LPAZ La Paz 97.31 115 P **P** **14 56 41.5 +1.2**
LPAZ LR LR 15 32 37.9
PDAR Pinedale Array 98.32 44 P **P** **14 56 43.2 -0.8**
comp=Z,0.3nm,0.8s,mb3.9,baz=98,slow=11,SNR=2.4
PDAR LR LR 15 35 28.5
comp=Z,369nm,19.6s,MS4.9,baz=252,slow=32
CPUP Villa Florida 98.53 129 LR LR 15 36 03.4
comp=Z,639nm,19.1s,MS5.1,baz=217,slow=32
MKAR Makanchi Array 119.26 309 PKP PKPdf 15 01 53.9 -1.4
comp=Z,2.8nm,0.9s,baz=130,slow=0.8,SNR=7.9
MKAR Makanchi Array 119.26 309 PKP PKPdf 15 01 53.9 -1.4
ZALV Zalesovo Beam 119.84 317 PKP PKPdf 15 01 55.1 -1.2
comp=Z,1.3nm,0.5s,baz=113,slow=1.5,SNR=7.6
NVS Novosibirsk 120.97 318 *e*PKIKP PKPdf 15 01 56.1 -2.3
KURK Kurchatov 122.68 313 PKP PKPdf 15 02 00.9 -0.9
comp=Z,1.6nm,0.3s,baz=109,slow=2.0,SNR=13
KURK Kurchatov 122.68 313⇑ *i*PKIKP PKPdf 15 02 01.1 -0.7
KURK MLR MLR
comp=Z,100nm,15.0s,MS4.6
KURK Kurchatov 122.68 313 *e*PKPdf PKPdf 15 02 00.7 -1.1
KURK PKP PKPdf 15 02 00.9 -0.9
UCH Uchtor 123.20 302 *e*PKPdf PKPdf 15 02 01.8 -1.3
AML Almayashu 123.76 302 *e*PKPdf PKPdf 15 02 04.0 -0.2
EKS2 Erkin-Say 123.85 302 *e*PKPdf PKPdf 15 02 02.3 -2.1
KBL Kabul 124.96 292 *e*PKIKP PKPdf 15 02 07.0 +0.3
BVAR Borovoye Array 128.10 314 PKP PKPdf 15 02 11.9 -0.3
comp=Z,4.2nm,0.8s,baz=106,slow=3.2,SNR=17
BRVK Borovoye 128.17 314 *e*PKIKP PKPdf 15 02 10.6 -1.6
ARU Arti 134.96 319 *i* PKIKP PKPdf 15 02 25.6 +0.6
ARU 15 04 55.5
ARU Arti 134.96 319 *e*PKPdf PKPdf 15 02 25.2 +0.2
AKTK Aktyubinsk 135.66 310 PKP PKPdf 15 02 26.2 -0.3
AKTO Aktyubinsk 135.66 310 PKP PKPdf 15 02 26.2 -0.3
comp=Z,1.4nm,0.6s,baz=253,slow=18,SNR=3.8
ARCES ARCESS Array B 141.17 347 PKhKP 15 02 31.2
comp=Z,12nm,1.0s,baz=32,slow=4.8,SNR=4.1
ARCES ARCESS Array B 141.17 347 PKP 15 02 31.2
KLMR Klimovskoe 142.99 330 *e*PKIKP PKPdf 15 02 35.1 -4.4
JOF Joensuu 144.81 337 *ep* PKPdf 15 02 40.9 -1.7
comp=Z,16nm,1.2s
JOF Joensuu 144.81 337 *e*PKIKP PKPdf 15 02 40.9 -1.7
JOF pmax pmax
comp=Z,16nm,1.2s
GNI Garni 144.97 294 PKP PKPdf 15 02 41.8 -1.8
comp=Z,4.2nm,0.4s,baz=323,slow=23,SNR=2.1
GNI Garni 144.97 294⇓ *i*PKIKP PKPdf 15 02 44.0 +0.4
GNI MLR MLR
comp=Z,100nm,15.0s
MOS Moscow 146.36 323 *e*PKP2 PKPbc 15 02 44.8 -2.0
MOS pmax pmax
comp=Z,172nm,1.3s
KIV Kislovodsk 146.43 301 *i* PKP2 PKPbc 15 02 46.0 -1.4
KIV pmax pmax
comp=Z,11nm,0.8s
KIV Kislovodsk 146.43 301 *e*PKPbc PKPbc 15 02 48.3 +0.9
KAF Kangasniemi 146.99 339 *ep* PKPdf 15 02 47.4 +1.0
comp=Z,14nm,0.8s
KAF Kangasniemi 146.99 339 *e*PKP2 PKPbc 15 02 47.4 -1.0
KAF pmax pmax
comp=Z,14nm,0.8s
OBN Obninsk 147.18 323⇓ *i*PKP2 PKPbc 15 02 47.6 -1.6
OBN pmax pmax
comp=Z,42nm,1.2s
OBN MLR MLR
comp=Z,100nm,18.0s,MS4.6
OBN Obninsk 147.18 323 *e*PKPdf PKPdf 15 02 47.8 +0.9
VSR Storozhevoye 147.28 315 *e*PKP2 PKPbc 15 02 48.9 -0.7
VSR pmax pmax
comp=Z,9.0nm,1.0s
VSR pmax pmax
comp=N,9.0nm,0.8s
VSR pmax pmax
comp=E,3.0nm,0.4s
MARD Mardin 147.90 289 *i* P PKPbc 15 02 51.1 -0.7
SOC Sochi 148.60 301⇓ *i*PKP2 PKPbc 15 02 53.5 +0.1
SOC *e*PPP 15 09 39.8
SOC *e*SSS 15 31 10.6
SOC pmax pmax
comp=Z,22nm,0.8s
GZT Gaziantep 150.46 288 *i* P PKPdf 15 02 51.4 -1.4
NB2 NORSAR Subarra151.39 350 PKP PKPbc 15 02 58.9 -0.6
comp=Z,10nm,0.9s,baz=15,slow=3.3
NOA NORSAR Array B151.39 350 PKPbc PKPbc 15 02 59.9 +0.3
comp=Z,5.2nm,1.0s,baz=22,slow=4.3,SNR=18
NAO01 NORSAR Array S151.62 350 *e*PKPbc PKPbc 15 02 59.9 -0.2
MNK Minsk 151.76 327 *e*PKIKP PKPdf 15 02 56.0 +1.8
LIC Lamto 152.53 166 *e*PKP2 PKPbc 15 03 03.2 -0.4
comp=Z,63nm,1.3s
GULE Gulek 152.68 288 *i* P PKPdf 15 02 50.2 -6.0
DBIC Dimbokro 152.99 166 PKPbc PKPbc 15 03 04.2 -0.5
comp=Z,4.9nm,0.9s,baz=151,slow=1.4,SNR=3.5
AKASG Malin Array Be 153.21 319 PKPbc PKPbc 15 03 03.9 0.0
comp=Z,4.9nm,0.8s,baz=64,slow=2.0,SNR=10.0
AKASG Malin Array Be 153.21 319 PKPbc PKPbc 15 03 03.9 0.0
BR131 Keskin Array S 153.51 294 *e*PKPbc PKPbc 15 03 04.7 -0.3
ANTO Ankara 154.14 294 *e*PKIKP PKPbc 15 03 07.0 +0.6
CMLA Cha da Macela 157.44 70 *e*LR LR 15 56 33.9
DPC Dobruska-Polom 159.66 332 *e*PKPab PKPab 15 03 43.6 +0.1
CLL Collm 160.02 339 *i* PKP2 PKPab 15 03 44.1 -0.9
CLL pmax pmax
comp=Z,27nm,1.5s
CLL Collm 160.02 339 *e*PKPab PKPab 15 03 44.1 -0.9
CLL Collm 160.02 339 *i* PKPab PKPab 15 03 44.1 -0.9
comp=Z,27nm,1.5s
BRG Berggiesshubel 160.09 337 *e*PKP2 PKPab 15 03 43.0 -2.4
BRG pmax pmax
comp=Z,12nm,1.3s
BRG Berggiesshubel 160.09 337 *e*PKPab PKPab 15 03 45.7 +0.3
BRG Berggiesshubel 160.09 337 *e*PKP PKPab 15 03 43.0 -2.4
comp=Z,20nm,1.3s
TORD Torodi Ar. Bea 160.11 180 PKP PKPdf 15 03 03.7 -2.8
comp=Z,0.8nm,0.9s,baz=222,slow=4.8,SNR=4.3
TORD PKPab PKPab 15 03 45.9 -0.3
comp=Z,4.2nm,1.0s,baz=184,slow=3.0,SNR=7.7
TORD Torodi Ar. Bea 160.11 180 PKP PKPdf 15 03 03.7 -2.8
TORD PKPab PKPab 15 03 45.9 -0.3
FBE Freiberg 160.25 338 *e*PKPab PKPab 15 03 45.4 -0.6
IBBN Ibbenburen 160.32 349 *e*PKPab PKPab 15 03 45.8 -0.5
VRAC Vranov 160.36 330 PKPab PKPab 15 03 46.3 -0.3
comp=Z,3.5nm,0.6s,baz=46,slow=14,SNR=3.5
NEUB Neuenburg 160.46 341 *e*PKPab PKPab 15 03 47.2 +0.2
TANN Tannenbergstha 160.97 338 *e*PKPab PKPab 15 03 49.9 +0.7
WERD Werda 160.99 339 *e*PKPab PKPab 15 03 48.8 -0.5
MOX Moxa 161.01 340 *e*PKP PKPab 15 03 49.0 -0.4
MOX
comp=Z,300nm,18.0s
GUNZ Gunzen 161.05 339 *e*PKPab PKPab 15 03 49.2 -0.4
WERN Wernitzgruen 161.10 338 *e*PKPab PKPab 15 03 49.5 -0.3
NKC Novy Kostel 161.10 338 *e*PKPab PKPab 15 03 50.6 +0.7
NKC Novy Kostel 161.13 338 *e*PKPab PKPab 15 03 49.4 -0.5
MANZ Manzenberg 161.45 338 *e*PKPab PKPab 15 03 51.3 0.0
ROTZ Rotzenmuhle 161.61 338 *e*PKPab PKPab 15 03 51.1 -0.9
KHC Kasperske Hory 161.69 334 *e*PKPab PKPab 15 03 51.8 -0.6
GEC2 GERESS Array S 161.88 334 *e*PKPab PKPab 15 03 52.5 -0.7
WET Wettzell 161.93 336 *e*PKPab PKPab 15 03 53.5 +0.1
GRF Grafenberg Arr 161.98 340 *e*PKPab PKPab 15 03 53.2 -0.4
TNS Taunus Mts 162.19 346 *e*PKPab PKPab 15 03 53.9 -0.6
GIVF Givet 162.88 353 *e*PKP2 PKPab 15 03 56.7 -0.8
BAIF Baives 162.97 354 *e*PKP2 PKPab 15 03 57.3 -0.6
RJOB Jochberg 163.14 333 *e*PKPab PKPab 15 03 58.7 -0.1
BFO Black Forest 164.00 344 *e*PKPab PKPab 15 04 01.7 -0.8
CDF Champ du Feu 164.15 346 *e*PKP2 PKPab 15 04 00.7 -2.5
DAVOS Davos 164.96 338 PKP2 PKPab 15 04 06.9 +0.1
DAVOX Davos/Dischmat 164.98 338 PKPab PKPab 15 04 06.9 0.0
comp=Z,5.3nm,0.8s,baz=340,slow=6.4,SNR=3.3
LOR Lormes 165.78 354 *e*PKP2 PKPab 15 04 09.6 -0.7
SSF Saint Saulge 166.01 355 *e*PKP2 PKPab 15 04 10.4 -1.0
AVF Avril sur Loir 166.29 355 *e*PKP2 PKPab 15 04 11.7 -0.9
SMF Signal de Mont 166.39 353 *e*PKP2 PKPab 15 04 12.4 -0.7
comp=Z,45nm,1.3s
TCF Toulx Ste Croi 166.85 358 *e*PKP2 PKPab 15 04 14.5 -0.6
LPG La Plagne 167.03 344 *e*PKP2 PKPab 15 04 15.9 0.0
comp=Z,23nm,1.1s
SMRF Simiane la Rot 168.74 345 *e*PKP2 PKPab 15 04 22.1 -1.4
comp=Z,73nm,1.6s
FRF La Foret Royal 168.87 341 *e*PKP2 PKPab 15 04 20.8 -3.3
comp=Z,62nm,1.4s

IDC ***12*** *14:48:39.8±0.9, 3286S×17824W, h0km, mb4.4/6, mb1 4.6/7, mb1mx4.2/18, mbtmp4.4/7, ML4.5/1, Error ellipse: s-maj=32.8km s-min=23.2km az=39.0*
ISCJB ***12*** *14:48:44.2±0.9, 3307S±009×1785W±0.1, h33km, mb4.3/8, Error ellipse: s-maj=17.6km s-min=12.7km az=14.4*
NEIC ***12*** *14:48:45.9±0.8, 3313S×17850W, h35km, mb4.5/3, Error ellipse: s-maj=19.9km s-min=16.7km az=79.0*

ISC 12 14:48:46.0±0.9, 3300S±009×1785W±0.1, h35km, n21, σ0 96/16, mb4.3/8, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera**	**6.36 213**		Pn	**Pn**	**14 50 16.2**	**-0.9**
	9.0nm,0.3s,baz=114,slow=14,SNR=6.7						
URZ				Sn	**Sn**	**14 51 28.9**	**+0.4**
	11nm,0.3s,baz=165,slow=20,SNR=6.5						
RPZ	**Rata Peaks**	**13.47 214**		Pn	**Pn**	**14 51 50.1**	**-4.4**
	0.9nm,0.3s,baz=16,slow=19,SNR=3.6						
RPZ				Sn	**Sn**	**14 54 09.2**	**-14**
	0.7nm,0.3s,baz=2.2,slow=15,SNR=2.3						
CTA	**Charters Tower**	**33.90 283**		P	**P**	**14 55 27.8**	**+2.2**
	6.8nm,0.6s,mb4.8,baz=355,slow=21,SNR=10						
CTAO	**Charters Tower**	**33.90 283**		*e*P	**P**	**14 55 27.3**	**+1.6**
	7.8nm,0.7s,mb4.8						
ASAR	**Alice Springs**	**42.63 270**		P	**P**	**14 56 38.9**	**-0.2**
	3.7nm,0.7s,mb4.2,baz=112,slow=8.0,SNR=13						
WB2	**Warramunga Arr**	**43.84 275**		*e*P	**P**	**14 56 48.4**	**-0.4**
WRAB	**Tennant Creek**	**43.85 275**		*e*P	**P**	**14 56 47.9**	**-1.0**
WRA	**Warramunga Arr**	**43.85 275**		P	**P**	**14 56 49.0**	**+0.1**
	3.7nm,0.3s,mb4.5,baz=112,slow=8.2,SNR=11						
CASY	**Casey**	**52.66 209**		*e*P	**P**	**14 57 55.3**	**-1.0**
	5.6nm,0.9s,mb4.5						
QSPA	**South Pole Qui**	**57.12 180**		P	**P**	**14 58 30.0**	**+1.7**
	3.2nm,1.0s,mb4.3,baz=342,slow=2.1,SNR=4.3						
MAW	**Mawson**	**69.74 201**		P	**P**	**14 59 53.0**	**+1.1**
	1.6nm,0.6s,mb4.1,baz=135,slow=4.3,SNR=3.6						
SNAA	**Sanae**	**75.58 179**		*e*P	**P**	**15 00 26.2**	**-0.3**
	4.2nm,1.2s,mb4.2						
PLCA	**Paso Flores**	**81.04 133**		P	**P**	**15 00 56.7**	**-0.6**
	2.0nm,0.9s,mb4.1,baz=273,slow=3.3,SNR=4.9						
PLCA	**Paso Flores**	**81.04 133**		P	**P**	**15 00 56.7**	**-0.6**
MKAR	**Makanchi Array**	**119.11 309**		PKP	PKPdf	15 07 29.9	-0.8
	0.8nm,0.7s,baz=113,slow=3.3,SNR=2.6						
ZALV	**Zalesovo Beam**	**119.68 317**		PKP	PKPdf	15 07 30.5	-1.1
	4.3nm,0.3s,baz=194,slow=3.0,SNR=2.5						
KURK	**Kurchatov**	**122.52 313**		PKP	PKPdf	15 07 36.8	-0.4
	0.7nm,0.3s,baz=111,slow=1.6,SNR=4.8						
BVAR	**Borovoye Array**	**127.95 314**		PKP	PKPdf	15 07 48.0	+0.6
	0.6nm,0.4s,baz=85,slow=3.1,SNR=4.7						
AKASG	**Malin Array Be**	**153.06 319**		PKPbc	PKPbc	15 08 38.0	-1.2
	0.7nm,0.5s,baz=63,slow=2.5,SNR=5.2						
AKASG	**Malin Array Be**	**153.06 319**		PKPbc	PKPbc	15 08 38.0	-1.2
TORD	**Torodi Ar. Bea**	**160.24 181**		PKPab	PKPab	15 09 20.5	-1.9
	0.7nm,0.8s,baz=145,slow=3.0,SNR=2.8						

IDC ***12*** *14:50:24.1±0.7, 3298S×17828W, h0km, mb4.4/8, mb1 4.6/10, mb1mx4.3/20, mbtmp4.5/10, ML3.4/2, Error ellipse: s-maj=22.2km s-min=21.6km az=165.0*
ISCJB ***12*** *14:50:28.3±0.7, 3316S±008×1785W±0.1, h33km, mb4.3/12, Error ellipse: s-maj=15.9km s-min=10.9km az=24.4*
NEIC ***12*** *14:50:29.2±0.5, 3293S×17831W, h35km, mb4.6/6, Error ellipse: s-maj=13.8km s-min=11.6km az=109.0*

ISC 12 14:50:30.1±0.7, 3309S±008×1785W±0.1, h35km, n28, σ0 87/22, mb4.3/12, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera**	**6.29 214**		Pn	**Pn**	**14 52 00.8**	**+0.4**
	6.5nm,0.3s,baz=311,slow=20,SNR=7.9						
URZ				Sn	**Sn**	**14 53 09.9**	**-1.1**
	22nm,0.3s,baz=158,slow=22,SNR=12						
RPZ	**Rata Peaks**	**13.41 215**		Pn	**Pn**	**14 53 27.8**	**-10**
	0.8nm,0.3s,baz=44,slow=8.4,SNR=2.8						
RPZ				Sn	**Sn**	**14 55 52.5**	**-13**
	1.0nm,0.3s,baz=335,slow=7.5,SNR=4.3						
AFI	**Afiamalu**	**20.04 19**		P	**P**	**14 54 58.9**	**-1.3**
	0.8nm,0.3s,baz=45,slow=15,SNR=2.5						
AFI	**Afiamalu**	**20.04 19**		*e*P	**P**	**14 54 56.4**	**-3.8**
	28nm,0.9s						
CTA	**Charters Tower**	**33.95 283**		P	**P**	**14 57 11.9**	**+1.7**
	4.3nm,0.5s,mb4.6,baz=113,slow=10,SNR=6.3						
CTAO	**Charters Tower**	**33.95 283**		*e*P	**P**	**14 57 10.8**	**+0.6**
	5.3nm,0.6s,mb4.7						
ASAR	**Alice Springs**	**42.65 270**		P	**P**	**14 58 23.9**	**+0.5**
	5.2nm,0.8s,mb4.3,baz=112,slow=8.0,SNR=10						
WB2	**Warramunga Arr**	**43.87 275**		*e*P	**P**	**14 58 33.3**	**0.0**
WRAB	**Tennant Creek**	**43.88 275**		*e*P	**P**	**14 58 32.4**	**-0.9**
	4.3nm,0.4s,mb4.5						
WRA	**Warramunga Arr**	**43.88 275**		P	**P**	**14 58 33.5**	**+0.1**
	3.2nm,0.3s,mb4.5,baz=116,slow=6.5,SNR=24						
SBA	**Scott Base**	**45.33 184**		*e*P	**P**	**14 58 47.3**	**+3.1**
	4.9nm,1.0s,mb4.3						
FITZ	**Fitzroy Crossi**	**52.02 272**		P	**P**	**14 59 36.0**	**-0.4**
	2.9nm,0.8s,mb4.3,baz=144,slow=13,SNR=8.3						
CASY	**Casey**	**52.59 209**		*e*P	**P**	**14 59 39.8**	**-0.1**
	12nm,1.2s,mb4.7						
QSPA	**South Pole Qui**	**57.03 180**		P	**P**	**15 00 12.9**	**+1.0**
	4.2nm,1.0s,mb4.4,baz=276,slow=4.6,SNR=2.6						
MAW	**Mawson**	**69.66 201**		P	**P**	**15 01 36.2**	**+0.7**
	4.1nm,0.9s,mb4.3,baz=150,slow=6.1,SNR=4.7						
MAW	**Mawson**	**69.66 201**		*e*P	**P**	**15 01 36.0**	**+0.5**
	8.8nm,1.1s,mb4.6						
SNAA	**Sanae**	**75.48 179**		*e*P	**P**	**15 02 09.3**	**-0.8**
	0.2nm,0.4s,mb3.4						
PLCA	**Paso Flores**	**80.96 133**		P	**P**	**15 02 40.4**	**-0.6**
	5.9nm,1.1s,mb4.4,baz=209,slow=3.3,SNR=5.5						
PLCA	**Paso Flores**	**80.96 133**		P	**P**	**15 02 40.4**	**-0.6**
NVAR	**Mina Array Bea**	**90.47 43**		P	**P**	**15 03 27.9**	**-0.1**
	0.3nm,0.7s,mb4.1,baz=219,slow=7.9,SNR=5.4						
MKAR	**Makanchi Array**	**119.18 309**		PKP	PKPdf	15 09 13.9	-1.1
	0.3nm,0.2s,baz=123,slow=0.8,SNR=3.3						
ZALV	**Zalesovo Beam**	**119.76 317**		PKP	PKPdf	15 09 13.7	-2.2
	0.4nm,0.3s,baz=48,slow=2.1,SNR=2.8						
KURK	**Kurchatov**	**122.60 313**		PKP	PKPdf	15 09 20.3	-1.1
	2.1nm,0.8s,baz=105,slow=2.0,SNR=6.0						
BVAR	**Borovoye Array**	**128.03 314**		PKP	PKPdf	15 09 31.6	-0.1
	1.5nm,0.7s,baz=129,slow=2.1,SNR=5.7						
JOF	**Joensuu**	**144.75 337**		*ep*	PKPdf	15 09 59.9	-2.4
	4.2nm,0.8s						
NOA	**NORSAR Array B**	**151.34 350**		PKPbc	PKPbc	15 10 18.5	-0.7
	2.9nm,0.9s,baz=14,slow=4.1,SNR=4.0						
AKASG	**Malin Array Be**	**153.14 319**		PKPbc	PKPbc	15 10 22.1	-1.4
	0.5nm,0.4s,baz=66,slow=2.1,SNR=5.2						
TORD	**Torodi Ar. Bea**	**160.15 180**		PKPab	PKPab	15 11 06.2	+0.1
	1.8nm,1.0s,baz=194,slow=1.9,SNR=4.6						

IDC 12 15:47:25.4±5.1, 1352S×7606W, h109km±42km, mb3.2/2, mb1 3.4/3, mb1mx3.2/15, mbtmp3.2/3, Error ellipse: s-maj=93.3km s-min=29.3km az=31.0, Near coast of Peru

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LPAZ	**La Paz**	**8.15 111**		P

ISCJB ***12*** *15:57:31.4±0.6,3648N±004×71.1E±0.1,h208km±11km, Error ellipse: s-maj=17.1km s-min=6.5km az=171.5*

ISC 12 15:57:32.2±0.6,3648N±004×711E±01,h200km±11km,n20, σ0992/26,3C-1D,Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time h m s	Res ISC
				Op	ISC		
CEP	**Cherat**	**2.74**	**165**	⇑P	**Pn**	**15 58 19.8**	**+1.0**
CEP				S	**Sn**	**15 58 55.0**	**-0.2**
CHCP	**Chirah Chowk**	**3.34**	**147**	P	**Pn**	**15 58 27.6**	**+1.7**
THW	**Thamme Wali**	**3.72**	**171**	P	**Pn**	**15 58 31.1**	**+0.6**
SARP	**Sargodha**	**4.74**	**163**	⇑P	**Pn**	**15 58 44.3**	**+1.0**
SARP				S	**Sn**	**15 59 38.0**	**-1.3**
AML	**Almayashu**	**6.00**	**19**	P	**Pn**	**15 58 59.1**	**-0.1**
	SNR=53						
UCH	**Uchtor**	**6.33**	**24**	P	**Pn**	**15 59 03.7**	**+0.2**
	SNR=16						
EKS2	**Erkin-Say**	**6.51**	**18**	P	**Pn**	**15 59 05.6**	**-0.4**
	SNR=14						
KK31	**Karatay Array**	**6.63**	**356**	P	**Pn**	**15 59 05.8**	**-1.6**
	1.4nm,0.2s,baz=178,slow=12,SNR=46						
KK31				⇑S	**Sn**	**16 00 17.4**	**-5.5**
	1.7nm,0.4s,baz=178,slow=20,SNR=5.8						
AAK	**Ala-Archa**	**6.69**	**22**	P	**Pn**	**15 59 08.3**	**+0.1**
	SNR=10.0						
KBK	**Karagaybulak**	**6.85**	**25**	P	**Pn**	**15 59 10.9**	**+0.6**
	SNR=7.0						
USP	**Ospenovka**	**7.27**	**20**	P	**Pn**	**15 59 15.3**	**-0.5**
	SNR=7.9						
TKM2	**Tokmak 2**	**7.31**	**27**	⇓P	**Pn**	**15 59 16.2**	**-0.2**
	12nm,0.6s						
TKM2	**Tokmak 2**	**7.31**	**27**	P	**Pn**	**15 59 16.6**	**+0.2**
	SNR=15						
SMLA	**Simla**	**7.37**	**135**	*i* P	**Pn**	**15 59 15.8**	**-1.4**
SMLA				*i* S	**Sn**	**16 00 37.4**	**-3.2**
SMLA				*i* S	**Sn**	**16 00 37.8**	**-2.8**
SMLA				*ex*	x	16 00 39.4	
	comp=N,195nm,0.3s						
SMLA				*ex*	x	16 00 42.8	
	comp=E,228nm,0.3s						
MKAR	**Makanchi Array**	**13.27**	**36**	Pn	**Pn**	**16 00 34.0**	**+1.2**
	comp=E,0.0nm,0.3s,baz=232,slow=16,SNR=3.0						
AB31	**Akbulak array**	**15.12**	**331**	P	**Pn**	**16 00 55.9**	**+0.2**
	comp=E,0.7nm,0.7s,baz=149,slow=13,SNR=14						
AB31				S	**S**	**16 03 43.2**	**-0.2**
	comp=E,0.2nm,0.4s						
BVAR	**Borovoye Array**	**16.55**	**359**	P	**Pn**	**16 01 13.5**	**+0.7**
	comp=E,0.2nm,0.3s,baz=162,slow=11,SNR=4.8						
AKTO	**Aktyubinsk**	**16.82**	**330**	P	**Pn**	**16 01 15.1**	**-1.0**
	comp=E,0.1nm,0.3s,baz=146,slow=11,SNR=4.3						
ZALV	**Zalesovo Beam**	**19.91**	**24**	P	**P**	**16 01 53.2**	**+5.0**
	comp=E,0.5nm,0.3s,baz=221,slow=11,SNR=2.8						
ASAR	**Alice Springs**	**84.20**	**125**	P	**P**	**16 09 41.1**	**0.0**
	comp=E,0.2nm,0.6s,baz=312,slow=5.2,SNR=5.4						

ISCJB ***12*** *15:59:11.4±0.2, 4235N±002×653W±002,h10km, Error ellipse: s-maj=2.9km s-min=1.6km az=136.9*
IGIL ***12*** *15:59:14.1, 4252N×662W,h16km, ML3.2*
LDG ***12*** *15:59:14.3±0.1, 4242N×669W,h5km, Ml3.3/9, Error ellipse: s-maj=1.8km s-min=1.3km az=125.0*
CSEM ***12*** *15:59:14.5±0.1, 4239N×663W,h10km, ML3.5/36, Error ellipse: s-maj=2.6km s-min=1.5km az=125.0*
NEIC ***12*** *15:59:15.4, 4244N×671W,h20km, MN3.1(MDD), After MDD.*
NEIC Felt [III] in the Benuza area.
INMG ***12*** *15:59:15.3±1.2, 4244N×673W,h23km±3km, MD3.1, ML3.3, Error ellipse: s-maj=2.3km s-min=1.8km az=100.0*
MDD ***12*** *15:59:15.3±0.2, 4243N×672W,h21km±1km, mbLg3.1/44, Error ellipse: s-maj=2.8km s-min=2.3km az=144.0, PRIMO*
MDD EMS: III INTENSIDAD MIMA.

ISC 12 15:59:13.8±0.3,4235N±001×661W±002,h17km±2km,n166, σ1832/299,4D,Spain

Code	Station Name	Δ°	AZ°	Phase	ID	Time h m s	Res ISC
				Op	ISC		
ERUA	**La Rua**	**0.40**	**276**	⇓Pg	**Pg**	**15 59 22.1**	**+0.1**
	212nm,0.1s,SNR=18						
ECAL	**Calabor**	**0.42**	**193**	⇓Pg	**Pg**	**15 59 25.0**	**+2.6**
	75nm,0.1s,SNR=18						
ECAL				Lg		15 59 31.7	
	2μm,0.2s,SNR=7.9						
ECAL	**Calabor**	**0.42**	**193**	Pg	**Pg**	**15 59 25.0**	**+2.6**
	75nm,0.1s,SNR=18						
PBRG	**Braganca**	**0.56**	**190**	*e*Pg	**Pg**	**15 59 27.1**	**+2.3**
PBRG				*e*Sg	**Sg**	**15 59 35.5**	**+3.2**
PBRG				A		15 59 37.2	
	1μm,0.2s						
PBRG	**Braganca**	**0.56**	**190**	*e*Pg	**Pg**	**15 59 27.1**	**+2.3**
PBRG				*e*Sg	**Sg**	**15 59 35.5**	**+3.2**
	1μm,0.2s						
EPON	**Pontenova**	**1.05**	**338**	⇓Pg	**Pg**	**15 59 32.3**	**-1.8**
	3.4nm,0.1s,SNR=18						
EPON				Lg		15 59 44.8	
	633nm,0.2s,SNR=7.9						
EPON	**Pontenova**	**1.05**	**338**	Pg	**Pg**	**15 59 32.3**	**-1.8**
	3.4nm,0.1s,SNR=18						
ELOB	**Lobios**	**1.19**	**246**	Pn	**Pn**	**15 59 34.7**	**-0.8**
	4.0nm,0.1s,SNR=190						
ELOB				Pg	**Pg**	**15 59 36.0**	**-0.7**
	48nm,0.1s,SNR=7.9						
ELOB				Lg		15 59 51.4	
	371nm,0.2s,SNR=55						
ELOB	**Lobios**	**1.19**	**246**	Pn	**Pn**	**15 59 34.8**	**-0.7**
ELOB	**Lobios**	**1.19**	**246**	Pg	**Pg**	**15 59 36.0**	**-0.7**
	48nm,0.1s,SNR=7.9						
ELOB	**Lobios**	**1.19**	**246**	Pn	**Pn**	**15 59 34.8**	**-0.8**
ELOB				Pg	**Pg**	**15 59 36.0**	**-0.6**
ELOB				Lg		15 59 51.4	
MVO	**Moncorvo**	**1.23**	**195**	*e*P	**Pn**	**15 59 36.8**	**+0.7**
MVO				*e*S	**Sb**	**15 59 55.0**	**+3.0**
MVO				A		15 59 55.8	
	1μm,0.4s						
PCAB	**Cabril**	**1.24**	**239**	*e*P	**Pn**	**15 59 35.6**	**-0.6**
PCAB				*e*S	**Sb**	**15 59 51.5**	**-0.8**
PCAB				A		15 59 54.4	
	531nm,0.2s						
PCAB	**Cabril**	**1.24**	**239**	*e*P	**Pn**	**15 59 35.6**	**-0.6**
PCAB				*e*S	**Sb**	**15 59 51.5**	**-0.8**
	531nm,0.2s						
PVRL	**Vila Real**	**1.36**	**218**	*e*P	**Pn**	**15 59 38.9**	**+1.0**
PVRL				*e*S	**Sn**	**15 59 56.9**	**+1.4**
PVRL				A		15 59 58.6	
	390nm,0.5s						
PVRL	**Vila Real**	**1.36**	**218**	*e*P	**Pn**	**15 59 38.9**	**+1.0**
PVRL				*e*S	**Sn**	**15 59 56.9**	**+1.4**
	390nm,0.5s						
EARI	**Arriondas**	**1.40**	**47**	Pn	**Pn**	**15 59 39.3**	**+0.9**
	13nm,0.1s,SNR=94						
EARI				Pg	**Pg**	**15 59 41.4**	**+0.7**
	24nm,0.3s,SNR=7.9						
EARI				Lg		15 59 58.9	
	46nm,0.2s,SNR=5.5						
EARI	**Arriondas**	**1.40**	**47**	Pg	**Pg**	**15 59 39.3**	**-1.4**
	13nm,0.1s,SNR=94						
STS	**Santiago**	**1.53**	**291**	Pg	**Pg**	**15 59 41.2**	**-2.0**
	8.9nm,0.1s,SNR=13						
STS				Lg		15 59 59.5	
	110nm,0.2s,SNR=12						
EMAZ	**Mazaricos**	**1.85**	**290**	Pn	**Pn**	**15 59 43.2**	**-1.4**
	1.6nm,0.1s,SNR=12						
EMAZ				Pg	**Pg**	**15 59 47.1**	**-2.1**
	9.8nm,0.1s,SNR=32						
EMAZ				Lg		16 00 09.0	
	188nm,0.2s,SNR=5.0						
EMAZ	**Mazaricos**	**1.85**	**290**	Pn	**Pn**	**15 59 43.2**	**-1.4**
	1.6nm,0.1s,SNR=12						
EMAZ	**Mazaricos**	**1.85**	**290**	Pg	**Pg**	**15 59 47.1**	**-2.1**
	9.8nm,0.1s,SNR=32						
PVIS	**Viseu**	**1.90**	**211**	*e*Pn	**Pn**	**15 59 46.0**	**+0.7**
PVIS	**Viseu**	**1.90**	**211**	*e*Pg	**Pg**	**15 59 51.5**	**+1.2**
PVIS				*e*Sg	**Sg**	**16 00 14.8**	**-0.2**
PVIS				A		16 00 17.9	
	166nm,0.1s						
PVIS	**Viseu**	**1.90**	**211**	Pn	**Pn**	**15 59 46.0**	**+0.7**
PVIS				Pg	**Pg**	**15 59 51.5**	**+1.2**
PVIS				Lg		16 00 14.8	
	83nm,0.1s						
PVIS	**Viseu**	**1.90**	**211**	*e*Pg	**Pg**	**15 59 51.5**	**+1.2**
PVIS				*e*Sg	**Sg**	**16 00 14.8**	**-0.2**
	166nm,0.1s						
PTO	**Porto**	**1.92**	**232**	*e*Sg	**Sg**	**16 00 14.6**	**-1.1**
PTO				A		16 00 18.1	
	140nm,0.3s						
PTO	**Porto**	**1.92**	**232**	*e*Sg	**Sg**	**16 00 14.6**	**-1.1**
	140nm,0.3s						
MTE	**Manteigas**	**2.08**	**200**	*e*Pn	**Pn**	**15 59 48.6**	**+0.9**
MTE				*e*Sn	**Sn**	**16 00 12.8**	**-0.4**
MTE				*e*Sg	**Sg**	**16 00 20.6**	**+0.1**
MTE				A		16 00 28.2	
	230nm,0.4s						
MTE	**Manteigas**	**2.08**	**200**	Pn	**Pn**	**15 59 48.6**	**+0.9**
MTE				Sn	**Sn**	**16 00 12.8**	**-0.4**
MTE				Lg		16 00 20.6	
	115nm,0.4s						
MTE	**Manteigas**	**2.08**	**200**	*e*Pn	**Pn**	**15 59 48.6**	**+0.9**
MTE				*e*Sn	**Sn**	**16 00 12.8**	**-0.4**
MTE				*e*S	**Sn**	**16 00 20.4**	**+7.2**
MTE				*e*Sg	**Sg**	**16 00 20.6**	**+0.1**
	230nm,0.4s						
MTE	**Manteigas**	**2.08**	**200**	*e*Pn	**Pn**	**15 59 51.0**	**+3.3**
MTE				*e*S	**Sn**	**16 00 20.4**	**+7.2**
EPLA	**Plasencia**	**2.32**	**170**	Pn	**Pn**	**15 59 52.6**	**+1.5**
	10nm,0.2s,SNR=28						
EPLA				Pg	**Pg**	**15 59 58.4**	**+0.1**
	28nm,0.2s,SNR=7.9						
EPLA				Lg		16 00 28.7	
	66nm,0.3s,SNR=9.7						
EPLA	**Plasencia**	**2.32**	**170**	Pn	**Pn**	**15 59 52.6**	**+1.5**
EPLA				Pg	**Pg**	**15 59 58.4**	**+0.1**
EPLA				Lg		16 00 28.4	
ELAN	**Lanestosa**	**2.50**	**68**	⇓Pn	**Pn**	**15 59 55.1**	**+1.6**
	4.2nm,0.2s,SNR=18						
ELAN				Pg	**Pg**	**16 00 00.5**	**-1.1**
	11nm,0.3s,SNR=7.9						
ELAN				Sn	**Sn**	**16 00 23.6**	**+0.1**
	18nm,0.2s,SNR=7.9						
ELAN				Lg		16 00 33.5	
	50nm,0.2s,SNR=5.0						
ELAN	**Lanestosa**	**2.50**	**68**	Pn	**Pn**	**15 59 55.1**	**+1.6**
	4.2nm,0.2s,SNR=18						
ELAN	**Lanestosa**	**2.50**	**68**	Pg	**Pg**	**16 00 00.5**	**-1.1**
	11nm,0.3s,SNR=7.9						
ELAN				Sn	**Sn**	**16 00 23.6**	**+0.1**
	18nm,0.2s,SNR=7.9						
ELAN				Lg		16 00 33.5	
	50nm,0.2s,SNR=5.0						
GUD	**Guadarrama**	**2.51**	**132**	Pn	**Pn**	**15 59 55.6**	**+1.8**
	1.4nm,0.1s,SNR=8.3						
GUD				Pg	**Pg**	**16 00 00.7**	**-1.2**
	33nm,0.3s,SNR=7.9						
GUD				Lg		16 00 36.4	
	56nm,0.3s,SNR=16						
GUD	**Guadarrama**	**2.51**	**132**	Pg	**Pg**	**16 00 02.9**	**+0.9**
	33nm,0.3s,SNR=7.9						
GUD	**Guadarrama**	**2.51**	**132**	Pn	**Pn**	**15 59 55.6**	**+1.8**
GUD				Pg	**Pg**	**16 00 02.9**	**+0.9**
GUD				Lg		16 00 36.4	
PCBR	**Castelo Branco**	**2.60**	**195**	*e*Pn	**Pn**	**15 59 55.8**	**+0.9**
PCBR				*e*Sn	**Sn**	**16 00 26.5**	**+0.5**
PCBR				*e*Sg	**Sg**	**16 00 36.8**	**-0.4**
PCBR				A		16 00 41.8	
	78nm,0.3s						
PCBR	**Castelo Branco**	**2.60**	**195**	*e*Pn	**Pn**	**15 59 55.8**	**+0.9**
PCBR				*e*Sn	**Sn**	**16 00 26.5**	**+0.5**
PCBR				*e*Sg	**Sg**	**16 00 36.8**	**-0.4**
	78nm,0.3s						
PMRV	**Marv??o**	**2.98**	**192**	*e*Pn	**Pn**	**16 00 00.9**	**+0.7**
PMRV				*e*Sg	**Sg**	**16 00 49.6**	**0.0**
PMRV				A		16 00 51.1	
	129nm,0.4s						
PMRV	**Marv??o**	**2.98**	**192**	*e*Pn	**Pn**	**16 00 00.9**	**+0.7**
PMRV				*e*Sg	**Sg**	**16 00 49.6**	**0.0**
	129nm,0.4s						
ECRI	**Cripan**	**3.04**	**84**	Pn	**Pn**	**16 00 02.5**	**+1.5**
	2.6nm,0.2s,SNR=7.9						
ECRI				Pg	**Pg**	**16 00 09.2**	**-2.9**
	5.9nm,0.3s,SNR=7.9						
ECRI				Lg		16 00 50.7	
	37nm,0.3s,SNR=7.9						
PTOM	**Tomar**	**3.06**	**207**	*e*Sg	**Sg**	**16 00 51.9**	**0.0**
PTOM				A		16 00 54.6	
	96nm,0.6s						
PTOM	**Tomar**	**3.06**	**207**	*e*Sg	**Sg**	**16 00 51.9**	**0.0**
	96nm,0.6s						
PAB	**San Pablo**	**3.29**	**148**	*e*Pn	**Pn**	**16 00 04.6**	**+0.2**
PAB	**San Pablo**	**3.29**	**148**	*e*Pn	**Pn**	**16 00 04.6**	**+0.3**
ESDC	**Sonseca Array**	**3.34**	**142**	Pn	**Pn**	**16 00 06.4**	**+1.3**
	2.1nm,0.3s,baz=324,slow=12,SNR=14						
ESDC				Pg	**Pg**	**16 00 17.3**	**-0.5**
	baz=320,slow=18,SNR=7.9						
ESDC				Sn	**Sn**	**16 00 44.8**	**+0.4**
	baz=306,slow=12,SNR=7.9						
ESDC				Lg		16 01 01.1	
	7.0nm,0.1s,baz=322,slow=29,SNR=7.9						
ESDC	**Sonseca Array**	**3.34**	**142**	Pn	**Pn**	**16 00 06.4**	**+1.3**
	2.1nm,0.3s,SNR=14						
ESDC	**Sonseca Array**	**3.34**	**142**	Pg	**Pg**	**16 00 17.5**	**-0.3**
	SNR=7.9						
ESDC				Sn	**Sn**	**16 00 44.8**	**+0.4**
	SNR=7.9						
ESDC	**Sonseca Array**	**3.34**	**142**	Pn	**Pn**	**16 00 06.4**	**+1.3**
ESDC				Pg	**Pg**	**16 00 17.5**	**-0.3**
ESDC				Sn	**Sn**	**16 00 44.8**	**+0.4**
ESDC				Lg		16 01 01.1	
ALMR	**Almeirim**	**3.53**	**206**	*e*P	**Pn**	**16 00 08.6**	**+0.9**
ALMR				*e*S	**Sn**	**16 00 48.6**	**-0.4**
ALMR				*e*S	**Sn**	**16 00 48.6**	**-0.4**
ALMR				AML	AML	16 00 51.0	
	comp=N,50nm,0.6s						
ALMR	**Almeirim**	**3.53**	**206**	*e*P	**Pn**	**16 00 08.6**	**+0.9**
ALMR				*e*S	**Sn**	**16 00 48.6**	**-0.4**
PESTR	**Estremoz**	**3.56**	**192**	*e*Pn	**Pn**	**16 00 08.8**	**+0.6**
PESTR				*e*Sn	**Sn**	**16 00 49.7**	**-0.1**
PESTR				*e*Sg	**Sg**	**16 01 07.1**	**-1.1**
PESTR				A		16 01 11.6	
	comp=N,44nm,0.8s						
PESTR	**Estremoz**	**3.56**	**192**	*e*Pn	**Pn**	**16 00 08.8**	**+0.6**
PESTR				*e*Sn	**Sn**	**16 00 49.7**	**-0.1**
PESTR				*e*Sg	**Sg**	**16 01 07.1**	**-1.1**
	comp=N,44nm,0.8s						
EBAD	**Badajoz**	**3.61**	**185**	Pn	**Pn**	**16 00 10.1**	**+1.2**
	comp=N,2.1nm,0.2s,SNR=7.9						
EBAD				Sn	**Sn**	**16 00 50.9**	**-0.1**
	comp=N,6.7nm,0.1s,SNR=7.9						
EBAD				Lg		16 01 08.0	
	comp=N,50nm,0.3s,SNR=7.9						
EBAD	**Badajoz**	**3.61**	**185**	Pn	**Pn**	**16 00 10.1**	**+1.3**
	comp=N,2.1nm,0.2s,SNR=7.9						
EBAD				Sn	**Sn**	**16 00 50.8**	**-0.2**
	comp=N,6.7nm,0.1s,SNR=7.9						
EARA	**Aranguren**	**3.74**	**82**	Pn	**Pn**	**16 00 12.1**	**+1.5**
	comp=N,1.8nm,0.1s,SNR=7.9						
EARA				Sn	**Sn**	**16 00 53.7**	**-0.4**
	comp=N,7.6nm,0.2s,SNR=7.9						
EARA				Lg		16 01 12.3	
	comp=N,18nm,0.3s,SNR=7.9						
EARA	**Aranguren**	**3.74**	**82**	Pn	**Pn**	**16 00 12.1**	**+1.5**
	comp=N,1.8nm,0.1s,SNR=7.9						
EARA				Sn	**Sn**	**16 00 53.7**	**-0.4**
	comp=N,7.6nm,0.2s,SNR=7.9						
IUSE	**Utxeti**	**3.78**	**79**	Pn	**Pn**	**16 00 12.6**	**+1.5**
	comp=N,1.5nm,0.1s,SNR=7.9						
IUSE				Sn	**Sn**	**16 00 54.1**	**-1.1**
	comp=N,1.9nm,0.2s,SNR=7.9						
IUSE	**Utxeti**	**3.78**	**79**	Pn	**Pn**	**16 00 12.6**	**+1.5**
	comp=N,1.5nm,0.1s,SNR=7.9						
IUNC	**Unciti**	**3.79**	**82**	Pn	**Pn**	**16 00 13.4**	**+2.0**
	comp=N,0.7nm,0.1s,SNR=7.9						
IUNC				Sn	**Sn**	**16 00 54.8**	**-0.8**
	comp=N,5.9nm,0.2s,SNR=7.9						
IUNC				Lg		16 01 12.3	
	comp=N,21nm,0.3s,SNR=7.9						
IUNC	**Unciti**	**3.79**	**82**	Pn	**Pn**	**16 00 13.4**	**+2.0**
	comp=N,0.7nm,0.1s,SNR=7.9						
IUNC				Sn	**Sn**	**16 00 54.8**	**-0.8**
	comp=N,5.9nm,0.2s,SNR=7.9						
IZUN	**Zunzarren**	**3.84**	**81**	Pn	**Pn**	**16 00 13.9**	**+2.0**
	comp=N,1.8nm,0.1s,SNR=7.9						
IZUN				Sn	**Sn**	**16 00 55.6**	**-1.0**
	comp=N,1.9nm,0.2s,SNR=7.9						
IZUN				Lg		16 01 15.6	
	comp=N,7.9nm,0.3s,SNR=7.9						
IZUN	**Zunzarren**	**3.84**	**81**	Pn	**Pn**	**16 00 13.9**	**+2.0**
	comp=N,1.8nm,0.1s,SNR=7.9						
IZUN				Sn	**Sn**	**16 00 55.6**	**-1.0**
	comp=N,1.9nm,0.2s,SNR=7.9						
EALK	**Alkurruntz**	**3.85**	**75**	Pn	**Pn**	**16 00 13.8**	**+1.7**
	comp=N,1.1nm,0.3s,SNR=4.6						
EALK				Sn	**Sn**	**16 00 56.6**	**-0.4**
	comp=N,4.8nm,0.3s,SNR=5.0						
EALK				Lg		16 01 14.0	
	comp=N,26nm,0.3s,SNR=5.0						
EALK	**Alkurruntz**	**3.85**	**75**	Pn	**Pn**	**16 00 13.8**	**+1.6**
	comp=N,1.1nm,0.3s,SNR=4.6						
EALK				Sn	**Sn**	**16 00 56.6**	**-0.4**
	comp=N,4.8nm,0.3s,SNR=5.0						
IPRE	**Itoiz**	**3.90**	**82**	Pn	**Pn**	**16 00 15.2**	**+2.4**
	comp=N,0.3nm,0.1s,SNR=7.9						
IPRE				Sn	**Sn**	**16 00 56.4**	**-1.9**
	comp=N,0.6nm,0.1s,SNR=7.9						
IPRE				Lg		16 01 18.2	
	comp=N,3.0nm,0.3s,SNR=7.9						
IPRE	**Itoiz**	**3.90**	**82**	Pn	**Pn**	**16 00 15.2**	**+2.3**
	comp=N,0.3nm,0.1s,SNR=7.9						
EORO	**Oroz-Betelu**	**3.95**	**80**	Pn	**Pn**	**16 00 14.5**	**+1.0**
	comp=N,0.9nm,0.3s,SNR=7.5						
EORO				Sn	**Sn**	**16 00 58.1**	**-1.2**
	comp=N,1.5nm,0.3s,SNR=7.9						
EORO				Lg		16 01 19.0	
	comp=N,11nm,0.3s,SNR=7.9						
EORO	**Oroz-Betelu**	**3.95**	**80**	Pn	**Pn**	**16 00 14.5**	**+1.0**
	comp=N,0.9nm,0.3s,SNR=7.5						
EVO	**Evora**	**3.96**	**196**	*e*Pn	**Pn**	**16 00 15.0**	**+1.3**
EVO				*e*Sn	**Sn**	**16 00 58.5**	**-1.3**
EVO				*e*Sg	**Sg**	**16 01 19.8**	**-1.3**
	comp=N,56nm,0.3s						
EVO	**Evora**	**3.96**	**196**	*e*Pn	**Pn**	**16 00 14.5**	**+0.8**
EVO				*e*Sg	**Sg**	**16 01 20.2**	**-0.9**
EVO				A		16 01 32.5	
	comp=N,42nm,0.6s						
EVO	**Evora**	**3.96**	**196**	*e*Pn	**Pn**	**16 00 14.5**	**+0.8**
EVO				*e*Sg	**Sg**	**16 01 20.2**	**-0.9**
	comp=N,42nm,0.6s						
EVOP	**Sao Brissos**	**3.99**	**197**	*e*Pn	**Pn**	**16 00 15.0**	**+0.9**
EVOP				*e*Sn	**Sn**	**16 00 58.5**	**-2.0**
EVOP				*e*Sg	**Sg**	**16 01 19.8**	**-2.1**
	comp=N,28nm,0.3s						
SJPF	**Ste Jean**	**4.04**	**77**	*e*Pn	**Pn**	**16 00 16.0**	**+1.3**
SJPF				*e*Sn	**Sn**	**16 01 00.8**	**-0.7**
SJPF				*e*Sg	**Sg**	**16 01 23.2**	**-0.1**
	comp=N,22nm,0.4s						
SJPF	**Ste Jean**	**4.04**	**77**	*e*Pn	**Pn**	**16 00 16.0**	**+1.3**
SJPF				*e*Sn	**Sn**	**16 01 00.8**	**-0.7**
SJPF				*e*Sg	**Sg**	**16 01 23.2**	**-0.1**
	comp=N,11nm,0.4s						
MOE	**Montemor**	**4.05**	**200**	*e*Sg	**Sg**	**16 01 22.8**	**-1.0**
PBAR	**Barrancos**	**4.19**	**185**	*e*Pn	**Pn**	**16 00 17.9**	**+1.1**
PBAR				*e*Sn	**Sn**	**16 01 04.9**	**-0.3**
PBAR				*e*Sg	**Sg**	**16 01 26.4**	**-1.8**
PBAR				A		16 01 32.1	
	comp=N,50nm,0.6s						
PBAR	**Barrancos**	**4.19**	**185**	*e*Pn	**Pn**	**16 00 17.9**	**+1.1**
PBAR				*e*Sn	**Sn**	**16 01 04.9**	**-0.3**
PBAR				*e*Sg	**Sg**	**16 01 26.4**	**-1.8**
	comp=N,50nm,0.6s						
ECAB	**El Cabril**	**4.37**	**168**	Pn	**Pn**	**16 00 20.6**	**+1.3**
	comp=N,3.1nm,0.1s,SNR=22						
ECAB				Sn	**Sn**	**16 01 08.7**	**-1.1**
	comp=N,4.9nm,0.2s,SNR=7.9						
ECAB				Lg		16 01 31.9	
	comp=N,49nm,0.4s,SNR=5.0						
ECAB	**El Cabril**	**4.37**	**168**	Pn	**Pn**	**16 00 20.6**	**+1.3**
	comp=N,3.1nm,0.1s,SNR=22						
ECAB				Sn	**Sn**	**16 01 08.7**	**-1.0**
	comp=N,4.9nm,0.2s,SNR=7.9						
ECAB	**El Cabril**	**4.37**	**168**	Pn	**Pn**	**16 00 20.6**	**+1.3**
ECAB				Sn	**Sn**	**16 01 08.7**	**-1.1**
ECAB				Lg		16 01 33.0	
PBEJ	**Beja**	**4.43**	**193**	*e*Pn	**Pn**	**16 00 20.7**	**+0.6**
PBEJ				*e*Sg	**Sg**	**16 01 35.1**	**-0.8**
PBEJ				A		16 01 39.1	
	comp=N,21nm,0.5s						
PBEJ	**Beja**	**4.43**	**193**	*e*Pn	**Pn**	**16 00 20.7**	**+0.6**
PBEJ				*e*Sg	**Sg**	**16 01 35.1**	**-0.8**
	comp=N,21nm,0.5s						
EADA	**Adamuz**	**4.46**	**159**	Pn	**Pn**	**16 00 21.5**	**+1.0**
	comp=N,2.9nm,0.3s,SNR=7.9						
EADA				Sn	**Sn**	**16 01 10.6**	**-1.4**
	comp=N,1.4nm,0.2s,SNR=7.9						
EADA				Lg		16 01 35.4	
	comp=N,13nm,0.3s,SNR=7.9						
EADA	**Adamuz**	**4.46**	**159**	Pn	**Pn**	**16 00 21.5**	**+1.0**
	comp=N,2.9nm,0.3s,SNR=7.9						
EADA				Sn	**Sn**	**16 01 10.6**	**-1.4**
	comp=N,1.4nm,0.2s,SNR=7.9						
ETSF	**Etsaut**	**4.50**	**81**	*e*Pn	**Pn**	**16 00 22.7**	**+1.7**
ETSF				*e*Sn	**Sn**	**16 01 11.0**	**-1.8**
ETSF				*e*Sg	**Sg**	**16 01 37.2**	**-0.9**
	comp=N,18nm,0.5s						
ETSF	**Etsaut**	**4.50**	**81**	*e*Pn	**Pn**	**16 00 22.7**	**+1.7**
ETSF				*e*Sn	**Sn**	**16 01 11.0**	**-1.8**
ETSF				*e*Sg	**Sg**	**16 01 37.2**	**-0.9**
	comp=N,9.2nm,0.5s						
EMIN	**Mina Concepcio**	**4.58**	**181**	Pn	**Pn**	**16 00 23.2**	**+1.0**
	comp=N,0.4nm,0.2s,SNR=6.0						
EMIN				Lg		16 01 38.0	
	comp=N,9.0nm,0.3s,SNR=5.0						
EMIN	**Mina Concepcio**	**4.58**	**181**	Pn	**Pn**	**16 00 23.2**	**+1.0**
	comp=N,0.4nm,0.2s,SNR=6.0						
ESAC	**San

PTEO					A			16 02 01.3	
	comp=N,33nm,0.7s								
PTEO	**Sao Teotonio**	**5.07**	**199**		*e*Sg	**Sg**		**16 01 54.8**	**-1.7**
	comp=N,33nm,0.7s								
EPF	**Esparros**	**5.17**	**80**		*e*Pn	**Pn**		**16 00 32.4**	**+2.2**
EPF					*e*Sn	**Sn**		**16 01 27.3**	**-2.0**
EPF					*e*Sg	**Sg**		**16 01 58.1**	**-1.4**
	comp=N,8.2nm,0.4s								
EPF	**Esparros**	**5.17**	**80**		*e*Pn	**Pn**		**16 00 32.4**	**+2.2**
EPF					*e*Sn	**Sn**		**16 01 27.3**	**-2.0**
EPF					*e*Sg	**Sg**		**16 01 58.1**	**-1.4**
	comp=N,4.1nm,0.4s								
PBDV	**Barranco-do-Ve**	**5.21**	**192**		*e*Sn	**Sn**		**16 01 30.3**	**-0.1**
PBDV					*e*Sg	**Sg**		**16 01 57.5**	**-3.3**
PBDV					A			16 02 08.5	
	comp=N,38nm,0.7s								
PBDV	**Barranco-do-Ve**	**5.21**	**192**		*e*Sn	**Sn**		**16 01 30.3**	**-0.1**
PBDV					*e*Sg	**Sg**		**16 01 57.5**	**-3.3**
	comp=N,38nm,0.7s								
MORF	**Marmelete**	**5.28**	**198**		*e*Pn	**Pn**		**16 00 32.1**	**+0.3**
MORF					*e*Sn	**Sn**		**16 01 30.1**	**-2.1**
MORF					A			16 02 14.7	
	comp=N,12nm,0.7s								
MORF	**Marmelete**	**5.28**	**198**		*e*Pn	**Pn**		**16 00 32.1**	**+0.3**
MORF					*e*Sn	**Sn**		**16 01 30.1**	**-2.1**
	comp=N,12nm,0.7s								
EQES	**Quesada**	**5.29**	**148**		Pn	**Pn**		**16 00 34.2**	**+2.3**
	comp=N,1.2nm,0.2s,SNR=7.9								
EQES					Lg			16 02 01.4	
	comp=N,4.7nm,0.4s,SNR=7.9								
EQES	**Quesada**	**5.29**	**148**		Pn	**Pn**		**16 00 34.2**	**+2.2**
	comp=N,1.2nm,0.2s,SNR=7.9								
ETOB	**Tobarra**	**5.35**	**132**		Pn	**Pn**		**16 00 33.8**	**+1.1**
	comp=N,2.0nm,0.2s,SNR=14								
ETOB					Sn	**Sn**		**16 01 31.4**	**-2.4**
	comp=N,1.3nm,0.2s,SNR=7.9								
ETOB					Lg			16 02 07.0	
	comp=N,20nm,0.4s,SNR=5.0								
ETOB	**Tobarra**	**5.35**	**132**		Pn	**Pn**		**16 00 33.8**	**+1.1**
	comp=N,2.0nm,0.2s,SNR=14								
ERTA	**Horta de San J**	**5.38**	**103**		Pn	**Pn**		**16 00 34.5**	**+1.3**
	comp=N,2.0nm,0.3s,SNR=7.9								
ERTA					Sn	**Sn**		**16 01 32.7**	**-2.1**
	comp=N,1.6nm,0.2s,SNR=7.9								
ERTA					Lg			16 02 05.1	
	comp=N,11nm,0.2s,SNR=7.9								
ERTA	**Horta de San J**	**5.38**	**103**		Pn	**Pn**		**16 00 34.5**	**+1.3**
	comp=N,2.0nm,0.3s,SNR=7.9								
ERTA					Sn	**Sn**		**16 01 32.7**	**-2.0**
	comp=N,1.6nm,0.2s,SNR=7.9								
EHUE	**Huescar**	**5.48**	**145**		Pn	**Pn**		**16 00 36.3**	**+1.8**
	comp=N,0.5nm,0.1s,SNR=7.9								
EHUE					Sn	**Sn**		**16 01 36.6**	**-0.5**
	comp=N,0.6nm,0.2s,SNR=7.9								
EHUE					Lg			16 02 09.3	
	comp=N,0.7nm,0.2s,SNR=7.9								
EHUE	**Huescar**	**5.48**	**145**		Pn	**Pn**		**16 00 36.3**	**+1.8**
	comp=N,0.5nm,0.1s,SNR=7.9								
EHUE					Sn	**Sn**		**16 01 36.6**	**-0.5**
	comp=N,0.6nm,0.2s,SNR=7.9								
PFVI	**Vila Bisbo**	**5.49**	**199**		*e*Sn	**Sn**		**16 01 35.4**	**-1.9**
PFVI					*e*Sg	**Sg**		**16 02 08.4**	**-1.5**
PFVI					A			16 02 19.1	
	comp=N,18nm,0.6s								
PFVI	**Vila Bisbo**	**5.49**	**199**		*e*Sn	**Sn**		**16 01 35.4**	**-1.9**
PFVI					*e*Sg	**Sg**		**16 02 08.4**	**-1.5**
	comp=N,18nm,0.6s								
ESPR	**Espera**	**5.51**	**174**		Pn	**Pn**		**16 00 37.7**	**+2.7**
	comp=N,0.7nm,0.2s,SNR=4.0								
ESPR					Sn	**Sn**		**16 01 35.9**	**-1.9**
	comp=N,6.9nm,0.2s,SNR=7.9								
ESPR					Lg			16 02 07.6	
	comp=N,14nm,0.3s,SNR=7.9								
ESPR	**Espera**	**5.51**	**174**		Pn	**Pn**		**16 00 37.7**	**+2.8**
	comp=N,0.7nm,0.2s,SNR=4.0								
ESPR					Sn	**Sn**		**16 01 35.9**	**-1.9**
	comp=N,6.9nm,0.2s,SNR=7.9								
ESPR	**Espera**	**5.51**	**174**		Pn	**Pn**		**16 00 37.7**	**+2.7**
ESPR					Sn	**Sn**		**16 01 35.9**	**-1.9**
ESPR					Lg			16 02 09.4	
EQUE	**Quentar**	**5.69**	**154**		Pn	**Pn**		**16 00 40.0**	**+2.6**
	comp=N,1.4nm,0.3s,SNR=7.9								
EQUE					Sn	**Sn**		**16 01 40.3**	**-2.0**
	comp=N,1.6nm,0.2s,SNR=7.9								
EQUE					Lg			16 02 16.7	
	comp=N,2.9nm,0.4s,SNR=7.9								
EQUE	**Quentar**	**5.69**	**154**		Pn	**Pn**		**16 00 40.0**	**+2.6**
	comp=N,1.4nm,0.3s,SNR=7.9								
EQUE					Sn	**Sn**		**16 01 40.3**	**-2.0**
	comp=N,1.6nm,0.2s,SNR=7.9								
EPOB	**Poblet**	**5.83**	**97**		Pn	**Pn**		**16 00 41.1**	**+1.8**
	comp=N,1.9nm,0.3s,SNR=7.9								
EPOB					Sn	**Sn**		**16 01 43.2**	**-2.4**
	comp=N,1.0nm,0.2s,SNR=7.9								
EPOB					Lg			16 02 15.9	
	comp=N,6.1nm,0.4s,SNR=7.9								
EPOB	**Poblet**	**5.83**	**97**		Pn	**Pn**		**16 00 41.1**	**+1.8**
	comp=N,1.9nm,0.3s,SNR=7.9								
EPOB					Sn	**Sn**		**16 01 43.2**	**-2.4**
	comp=N,1.0nm,0.2s,SNR=7.9								
LFF	**La Frestale**	**5.92**	**62**	*e*Pn		**Pn**		**16 00 41.0**	**+0.4**
EMIJ	**Mijas**	**5.95**	**166**	Pn		**Pn**		**16 00 42.6**	**+1.6**
	comp=N,1.8nm,0.2s,SNR=8.4								
EJIF	**Jimena Fronter**	**5.96**	**171**	Pn		**Pn**		**16 00 43.6**	**+2.5**
	comp=N,2.1nm,0.3s,SNR=7.9								
EJIF	**Jimena Fronter**	**5.96**	**171**	Pn		**Pn**		**16 00 43.6**	**+2.5**
EJIF				Lg				16 02 29.0	
EGUA	**Guajares**	**5.99**	**156**	Pn		**Pn**		**16 00 44.7**	**+3.1**
	comp=N,4.1nm,0.4s,SNR=7.9								
EGUA	**Guajares**	**5.99**	**156**	Pn		**Pn**		**16 00 44.7**	**+3.1**
EGUA				Lg				16 02 29.2	
QUIF	**Quistinic**	**6.07**	**22**	*e*Pn		**Pn**		**16 00 42.1**	**-0.5**
QUIF				*e*Sn		**Sn**		**16 01 45.0**	**-6.6**
	comp=N,3.4nm,0.3s								
QUIF	**Quistinic**	**6.07**	**22**	*e*Pn		**Pn**		**16 00 42.1**	**-0.5**
QUIF				*e*Sn		**Sn**		**16 01 45.0**	**-6.6**
	comp=N,1.7nm,0.3s								
EBER	**Berja**	**6.16**	**151**	Pn		**Pn**		**16 00 46.9**	**+3.0**
	comp=N,1.5nm,0.4s,SNR=6.0								
EBER				Lg				16 02 29.7	
	comp=N,0.9nm,0.2s,SNR=7.9								
EBER	**Berja**	**6.16**	**151**	Pn		**Pn**		**16 00 46.9**	**+3.1**
	comp=N,1.5nm,0.4s,SNR=6.0								
MFF	**Saint Martin d**	**6.28**	**45**	*e*Pn		**Pn**		**16 00 45.1**	**-0.3**
ROSF	**Rostrenen**	**6.43**	**20**	*e*Pn		**Pn**		**16 00 46.6**	**-0.9**
ROSF				*e*Sn		**Sn**		**16 01 55.5**	**-4.9**
	comp=N,4.1nm,0.4s								
ROSF	**Rostrenen**	**6.43**	**20**	*e*Pn		**Pn**		**16 00 46.6**	**-0.9**
ROSF				*e*Sn		**Sn**		**16 01 55.5**	**-4.9**
	comp=N,2.0nm,0.4s								
SGMF	**Saint Gilles**	**6.55**	**24**	*e*Pn		**Pn**		**16 00 48.6**	**-0.6**
MTLF	**Montolieu**	**6.56**	**78**	*e*Pn		**Pn**		**16 00 50.0**	**+0.6**
RJF	**Les Rejaudoux**	**6.57**	**61**	*e*Pn		**Pn**		**16 00 49.5**	**0.0**
RJF				*e*Sn		**Sn**		**16 01 59.4**	**-4.6**
	comp=N,6.9nm,0.3s								
RJF	**Les Rejaudoux**	**6.57**	**61**	*e*Pn		**Pn**		**16 00 49.5**	**0.0**
RJF				*e*Sn		**Sn**		**16 01 59.4**	**-4.6**
	comp=N,3.5nm,0.3s								
CAF	**Calviac**	**6.80**	**65**	*e*Pn		**Pn**		**16 00 51.8**	**-0.8**
CAF				*e*Sn		**Sn**		**16 02 04.2**	**-5.3**
	comp=N,4.5nm,0.3s								
CAF	**Calviac**	**6.80**	**65**	*e*Pn		**Pn**		**16 00 51.8**	**-0.8**
CAF				*e*Sn		**Sn**		**16 02 04.2**	**-5.3**
	comp=N,2.2nm,0.3s								
GRR	**Gorron**	**7.26**	**32**	*e*Pn		**Pn**		**16 00 58.3**	**-0.7**
GRR				*e*Sn		**Sn**		**16 02 16.6**	**-4.4**
	comp=N,2.9nm,0.3s								
GRR	**Gorron**	**7.26**	**32**	*e*Pn		**Pn**		**16 00 58.3**	**-0.7**
GRR				*e*Sn		**Sn**		**16 02 16.6**	**-4.4**
	comp=N,1.5nm,0.3s								
TCF	**Toulx Ste Croi**	**7.45**	**55**	*e*Pn		**Pn**		**16 01 00.8**	**-0.7**
FLN	**La Foliniere**	**7.71**	**32**	*e*Pn		**Pn**		**16 01 04.3**	**-0.9**
LDF	**La Druitiere**	**7.72**	**34**	*e*Pn		**Pn**		**16 01 04.4**	**-0.9**
LASF	**Ste Croix**	**7.84**	**74**	*e*Pn		**Pn**		**16 01 07.2**	**+0.3**
BGF	**Bois d'Agland**	**7.96**	**55**	*e*Pn		**Pn**		**16 01 08.2**	**-0.4**
AVF	**Avril sur Loir**	**8.38**	**55**	*e*Pn		**Pn**		**16 01 12.6**	**-1.7**
VIVF	**Saint-Julien-l**	**8.56**	**69**	*e*Pn		**Pn**		**16 01 17.1**	**+0.3**
SSF	**Saint Saulge**	**8.60**	**53**	*e*Pn		**Pn**		**16 01 16.9**	**-0.4**
SMF	**Signal de Mont**	**8.61**	**57**	*e*Pn		**Pn**		**16 01 16.7**	**-0.8**
LOR	**Lormes**	**8.91**	**53**	*e*Pn		**Pn**		**16 01 21.1**	**-0.5**
	baz=236								
BAIF	**Baives**	**10.74**	**40**	*e*Pn		**Pn**		**16 01 45.0**	**-1.6**

*IDC **12** 16:04:20.4±12.0, 1721S×16893E, h0km, mb4.0/5, mb1 4.2/5, mb1mx3.9/16, mbtmp4.0/5, MS3.2/1, Ms1 3.2/1, ms1mx2.5/29, Error ellipse: s-maj=212.8km s-min=104.5km az=65.0*

*NEIC **12** 16:04:20.3±5.9, 1727S×16954E, h35km, mb4.1/5, Error ellipse: s-maj=95.5km s-min=24.3km az=78.0*

ISC 12 16:04:35.6±4.6, 178S±01×1677E±06, h35km, n12, σ0$77/14, mb4.0/7, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**4.44**	**196**	*e*P	**Pn**	**16 05 40.5**	**0.0**
DZM				*e*S	**Sn**	**16 06 30.8**	**-0.1**
DZM	**Mont Dzumac**	**4.44**	**196**	*e*Pn	**Pn**	**16 05 40.5**	**0.0**
DZM				*e*Sn	**Sn**	**16 06 30.5**	**-0.5**
CTA	**Charters Tower**	**20.44**	**260**	P	**P**	**16 09 13.4**	**+3.2**
	3.7nm,0.7s,baz=177,slow=17,SNR=2.7						
CTA				LR	LR	16 16 13.9	
	comp=Z,68nm,21.5s,baz=230,slow=33						
CTAO	**Charters Tower**	**20.44**	**260**	*e*P	**P**	**16 09 16.1**	**+5.9**
	8.3nm,1.0s						
PMG	**Port Moresby**	**21.64**	**290**	*e*P	**P**	**16 09 22.5**	**-0.6**
	9.4nm,1.1s,mb4.1						
STKA	**Stephens Creek**	**27.47**	**234**	P	**P**	**16 10 19.8**	**+1.2**
	1.7nm,0.6s,mb3.8,baz=56,slow=11,SNR=5.8						
STKA	**Stephens Creek**	**27.47**	**234**	*e*P	**P**	**16 10 19.2**	**+0.6**
	1.8nm,0.6s,mb3.8						
WRAB	**Tennant Creek**	**31.63**	**261**	P	**P**	**16 10 55.4**	**-0.2**
	0.8nm,0.7s,mb3.7						
WRA	**Warramunga Arr**	**31.64**	**261**	P	**P**	**16 10 55.2**	**-0.5**
	0.4nm,0.6s,mb3.5,baz=82,slow=6.4,SNR=3.4						
ASAR	**Alice Springs**	**32.12**	**254**	P	**P**	**16 11 00.3**	**+0.4**
	2.6nm,0.6s,mb4.3,baz=80,slow=8.9,SNR=68						
FITZ	**Fitzroy Crossi**	**39.98**	**263**	P	**P**	**16 12 08.1**	**+0.9**
	3.6nm,0.7s,mb4.2,baz=112,slow=9.5,SNR=8.0						
MBWA	**Marble Bar**	**45.25**	**258**	*e*P	**P**	**16 12 48.8**	**-1.1**
	14nm,1.1s,mb4.7						

MAN 12 16:41:59, 971N×12607E, h20km, mb4.3, ML3.1, MS2.9, 1C-3D, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SCPH	**Surigao**	**0.57**	**277**	⇓*e*P	Pb	16 42 11.4	+1.1
SCPH				*e*S	Sb	16 42 22.2	+4.0
BIPH	**Bislig**	**1.54**	**169**	⇑*e*P	Pn	16 42 21.8	-3.6
BIPH				*e*S	Sn	16 42 46.3	+1.5
PLP	**Palo**	**1.80**	**324**	⇓*e*P	Pn	16 42 30.1	+1.2
PLP				*e*S	Sn	16 42 52.4	+1.2
TBP	**Tagbilaran**	**2.17**	**270**	*e*P	Pn	16 42 35.6	+1.5
TBP				*e*S	Sn	16 43 04.2	+3.7
DCPH	**Dipolog City**	**2.91**	**248**	⇓*e*P	Pn	16 42 45.2	+1.0
DCPH				*e*S	Sn	16 43 20.7	+2.2

*ISCJB **12** 16:47:22.1±0.8, 186S±01×1778W±0.1, h621km±16km, mb4.0/13, Error ellipse: s-maj=24.4km s-min=13.5km az=146.9*

*IDC **12** 16:47:22.4±1.3, 1863S×17770W, h606km±20km, mb3.3/9, mb1 3.6/10, mb1mx3.3/21, mbtmp3.4/10, Error ellipse: s-maj=20.5km s-min=13.2km az=144.0*

*NEIC **12** 16:47:23.1±1.1, 1853S×17778W, h620km±18km, mb4.1/7, Error ellipse: s-maj=21.9km s-min=14.2km az=151.0*

ISC 12 16:47:22.7±0.8, 185S±01×1778W±01, h610km±15km, n22, σ1$00/24, mb4.0/13, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**7.36**	**52**	P	**P**	**16 49 17.5**	**+1.0**
	8.4nm,0.3s,baz=63,slow=2.3,SNR=22						
AFI				S	**S**	**16 50 48.9**	**-0.7**
	0.6nm,0.3s,baz=42,slow=23,SNR=2.7						
AFI	**Afiamalu**	**7.36**	**52**	P	**P**	**16 49 17.5**	**+1.0**
AFI				S	**S**	**16 50 48.9**	**-0.7**
URZ	**Urewera**	**20.18**	**192**	P	**P**	**16 51 15.2**	**-2.2**
	6.2nm,0.3s,baz=290,slow=2.6,SNR=18						
RPZ	**Rata Peaks**	**26.84**	**198**	P	**P**	**16 52 16.1**	**-0.1**
	4.2nm,0.4s,mb4.4,baz=34,slow=13,SNR=3.3						
ARMA	**Armidale**	**30.16**	**241**	*e*P	**P**	**16 52 47.0**	**+1.7**
CNB	**Canberra Magne**	**33.54**	**233**	*e*P	**P**	**16 53 15.3**	**+1.5**
CTA	**Charters Tower**	**33.94**	**261**	P	**P**	**16 53 17.9**	**+0.6**
	1.6nm,0.3s,mb4.1,baz=68,slow=8.8,SNR=3.8						
CTAO	**Charters Tower**	**33.94**	**261**	*e*P	**P**	**16 53 17.5**	**+0.2**
	3.1nm,0.6s,mb4.1						
PMG	**Port Moresby**	**35.15**	**280**	*e*P	**P**	**16 53 26.0**	**-1.4**
	9.8nm,1.1s,mb4.3						
STKA	**Stephens Creek**	**38.87**	**242**	*e*P	**P**	**16 53 58.5**	**+1.0**
	2.5nm,0.9s,mb3.7						
STKA	**Stephens Creek**	**38.87**	**242**	P	**P**	**16 53 58.5**	**+1.1**
	3.4nm,0.6s,mb4.0,baz=75,slow=10,SNR=11						
STKA	**Stephens Creek**	**38.87**	**242**	*e*P	**P**	**16 53 57.8**	**+0.3**
	2.7nm,0.5s,mb4.0						
WRAB	**Tennant Creek**	**45.10**	**260**	*e*P	**P**	**16 54 45.9**	**-0.5**
	3.5nm,0.4s,mb4.2						
WRA	**Warramunga Arr**	**45.11**	**260**	P	**P**	**16 54 46.3**	**-0.1**
	3.2nm,0.4s,mb4.2,baz=96,slow=7.6,SNR=35						
ASAR	**Alice Springs**	**45.20**	**255**	P	**P**	**16 54 47.3**	**+0.2**
	4.9nm,0.7s,mb4.2,baz=86,slow=8.2,SNR=110						
FORT	**Forrest**	**50.29**	**245**	*e*P	**P**	**16 55 24.0**	**-0.8**
	2.5nm,0.3s,mb4.1						
MBWA	**Marble Bar**	**58.51**	**256**	*e*P	**P**	**16 56 19.1**	**-3.2**
	11nm,1.1s,mb3.9						
KLBR	**Kellerberrin**	**59.10**	**244**	*e*P	**P**	**16 56 25.6**	**-0.5**
	25nm,1.5s,mb4.1						
MUN	**Mundaring**	**60.38**	**243**	*e*P	**P**	**16 56 34.9**	**+0.3**
QSPA	**South Pole Qui**	**71.55**	**180**	P	**P**	**16 57 43.2**	**+0.4**
	1.4nm,0.6s,mb3.7,baz=28,slow=2.5,SNR=9.8						
TXAR	**Lajitas Array**	**85.81**	**57**	P	**P**	**16 58 59.8**	**+0.6**
	1.3nm,0.8s,mb3.6,baz=221,slow=6.6,SNR=14						
PDAR	**Pinedale Array**	**87.38**	**43**	P	**P**	**16 59 06.1**	**0.0**
	0.3nm,0.5s,mb3.2,baz=218,slow=5.6,SNR=3.0						

CASC 12 17:03:34.7±2.0, 1325N×9037W, h17km±10km, MD4.0, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RTR	**El Retiro**	**0.96**	**47**	*e*P	x	17 03 52.7	
RTR				*e*S	x	17 04 05.8	
SNJE	**San Jose**	**0.97**	**50**	*e*P	x	17 03 52.8	
SNJE				*e*S	x	17 04 06.1	
RBDL	**Robledal**	**1.09**	**38**	*e*P	x	17 03 54.9	
RBDL				*e*S	x	17 04 10.2	
PCG	**Pacaya**	**1.16**	**349**	*e*P	Pn	17 03 55.8	-0.4
FUG	**Fuego 3**	**1.28**	**339**	*e*P	Pn	17 03 57.2	-0.6
FUG				*e*S	Sb	17 04 13.9	-0.6
LFRS	**El Faro**	**1.33**	**73**	*e*P	x	17 03 58.4	
LFRS				*e*S	x	17 04 14.5	
NBG	**Las Nubes**	**1.33**	**1**	*e*P	Pn	17 04 00.1	+1.6
NBG				*e*S	Sn	17 04 17.5	+1.6
LBRS	**Las Brisas**	**1.38**	**69**	*e*P	x	17 03 58.6	
LBRS				*e*S	x	17 04 18.6	
FG6		**1.40**	**339**	*e*P	Pn	17 03 59.3	-0.1
MTO2	**Montecristo 2**	**1.51**	**40**	*e*P	x	17 04 01.7	
MTO2				*e*S	x	17 04 21.9	
JAT	**Jato**	**1.63**	**311**	*e*P	Pn	17 04 01.9	-0.6
CAHU	**Cacacuatique**	**2.17**	**76**	*e*P	x	17 04 09.5	
CNCH	**Conchagua**	**2.47**	**89**	*e*P	x	17 04 15.0	
CNCH				*e*S	x	17 04 49.8	

*CSEM **12** 17:06:00.6±0.1, 3631N×28.15E, h72km, mb3.9/7, Ms3.0, Error ellipse: s-maj=1.4km s-min=1.2km az=53.0*

*ATH **12** 17:06:00.7, 3634N×2813E, h72km±2km*

*ISCJB **12** 17:06:01.2±0.2, 3627N±002×2805E±003, h75km±3km, mb3.8/7, Error ellipse: s-maj=3.8km s-min=2.8km az=138.8*

*ISK **12** 17:06:01.4, 3635N×2795E, h66km, MD3.6*

*DDA **12** 17:06:01.8, 3644N×2805E, h7km±5km, Md3.4*

*NEIC **12** 17:06:04.0, 3639N×2776E, h10km, mb3.7/9, ML3.6(ATH), After ATH.*

*HLW **12** 17:06:05.7, 3585N×2816E, h16km, Mb4.4*

*THE **12** 17:06:05.8, 3646N×2786E, h27km±21km, ML4.3/2, Error ellipse: s-maj=21.8km s-min=1.1km az=126.0*

*GII **12** 17:06:09.9±0.0, 3583N×2851E, h20km, ML3.4/4*

ISC 12 17:06:02.6±0.2, 3630N±002×2801E±003, h68km±4km, n157, σ0$93/179, mb3.8/7, 19C-14D, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ARG	**Arkhangelos**	**0.12**	**131**	⇑*i*P	**Pn**	**17 06 12.6**	**0.0**
ARG				*e*S	**Sn**	**17 06 19.6**	**-0.3**
ARG	**Arkhangelos**	**0.12**	**131**	⇑*i*P	**Pn**	**17 06 12.6**	**0.0**
ARG				*e*S	**Sn**	**17 06 19.6**	**-0.3**
TURN	**Turunc**	**0.75**	**39**	*i* P	**Pn**	**17 06 14.9**	**-3.0**
TURN				*i* S	**Sn**	**17 06 22.3**	**-6.8**
NISR	**Nisiros**	**0.78**	**294**	*e*P	**Pn**	**17 06 18.0**	**-0.2**
NISR	**Nisiros**	**0.78**	**294**	*e*P	**Pn**	**17 06 18.0**	**-0.2**
YER	**Yerkesik**	**0.87**	**14**	PG	**Pn**	**17 06 18.5**	**-0.8**
YER				SG	**Sn**	**17 06 31.0**	**-0.7**
BDRM	**Kayabasi**	**0.89**	**329**	*i* P	**Pn**	**17 06 18.8**	**-0.8**
MLSB	**Milas**	**1.02**	**349**	PG	**Pn**	**17 06 20.1**	**-1.0**
MLSB				*e*SG	**Sn**	**17 06 33.0**	**-2.0**
KARP	**Karpathos**	**1.02**	**223**	*e*P	**Pn**	**17 06 22.0**	**+0.8**
KARP				*e*S	**Sn**	**17 06 36.0**	**+1.0**
KARP	**Karpathos**	**1.02**	**223**	*e*P	**Pn**	**17 06 22.0**	**+0.8**
KARP				*e*S	**Sn**	**17 06 36.0**	**+1.0**
KSL	**Kastellorizon**	**1.28**	**96**	*e*P	**Pn**	**17 06 22.5**	**-2.0**
KSL	**Kastellorizon**	**1.28**	**96**	*e*P	**Pn**	**17 06 22.5**	**-2.0**
AKAS	**Kas**	**1.29**	**92**	*i* P	**Pn**	**17 06 25.5**	**+0.8**
AYDN	**Tasoluk**	**1.37**	**356**	*i* P	**Pn**	**17 06 25.6**	**-0.1**
AYDN	**Tasoluk**	**1.37**	**356**	*i* P	**Pn**	**17 06 25.6**	**-0.1**
GCAM	**G?zelcaml?**	**1.54**	**336**	*i* P	**Pn**	**17 06 27.5**	**-0.4**
GOLH	**Golhisar**	**1.56**	**52**	*i* P	**Pn**	**17 06 29.7**	**+1.5**
DENT	**Denizli**	**1.67**	**29**	*e*PN	**Pn**	**17 06 29.4**	**-0.3**
SMG	**Samos**	**1.70**	**327**	*e*P	**Pn**	**17 06 29.6**	**-0.5**
SMG	**Samos**	**1.70**	**327**	*e*P	**Pn**	**17 06 29.6**	**-0.5**
SANT	**Santorini**	**2.06**	**273**	*e*Pn	**Pn**	**17 06 35.2**	**+0.2**
SANT	**Santorini**	**2.06**	**273**	P	**Pn**	**17 06 35.6**	**+0.6**
SANT				*e*Sn	**Sn**	**17 06 56.9**	**-2.8**
SANT	**Santorini**	**2.06**	**273**	*e*Pn	**Pn**	**17 06 35.1**	**+0.1**
SANT				*e*Sn	**Sn**	**17 06 56.9**	**-2.8**
THR1	**Thera Island**	**2.06**	**273**	P	**Pn**	**17 06 35.5**	**+0.5**
THR3	**Thira Island,**	**2.11**	**274**	P	**Pn**	**17 06 36.3**	**+0.6**
THR6	**Thira Island,**	**2.11**	**272**	P	**Pn**	**17 06 36.4**	**+0.7**
APE	**Apeiranthos**	**2.14**	**292**	P	**Pn**	**17 06 36.4**	**+0.4**
APE				S	**Sn**	**17 06 59.8**	**-1.8**
APE	**Apeiranthos**	**2.14**	**292**	⇑*i*P	**Pn**	**17 06 36.5**	**+0.5**
APE				S	**Sn**	**17 06 59.8**	**-1.8**
APE	**Apeiranthos**	**2.14**	**292**	⇑*i*P	**Pn**	**17 06 36.5**	**+0.5**
THR5	**Thira Island,**	**2.15**	**274**	P	**Pn**	**17 06 37.1**	**+0.9**
IZM	**Izmir**	**2.18**	**344**	*e*PN	**Pn**	**17 06 35.9**	**-0.7**
KDAG	**Bornova**	**2.19**	**344**	*i* P	**Pn**	**17 06 36.1**	**-0.5**
NPS	**Neapolis**	**2.21**	**243**	⇓*i*P	**Pn**	**17 06 37.7**	**+0.7**
NPS	**Neapolis**	**2.21**	**243**	⇓*i*P	**Pn**	**17 06 37.7**	**+0.7**
ANTB	**Antalya**	**2.21**	**73**	*e*PN	**Pn**	**17 06 37.9**	**+0.9**
BLCB	**Balcova**	**2.23**	**340**	*e*PN	**Pn**	**17 06 36.5**	**-0.7**
KULA	**Kula-Manisa**	**2.27**	**13**	*e*PN	**Pn**	**17 06 37.0**	**-0.8**
URLA	**Izmir**	**2.35**	**332**	*i* P	**Pn**	**17 06 38.3**	**-0.6**
KHL	**Karahalli**	**2.36**	**30**	*e*PN	**Pn**	**17 06 39.0**	**+0.1**
BCUM	**Bucak**	**2.37**	**60**	*e*PN	**Pn**	**17 06 39.9**	**+0.7**
TKTP	**Tekketepe**	**2.54**	**46**	*i* P	**Pn**	**17 06 42.1**	**+0.7**
AKHS	**Akhisar**	**2.58**	**357**	*i* P	**Pn**	**17 06 41.5**	**-0.6**
AKS	**Akhisar**	**2.58**	**357**	*e*PN	**Pn**	**17 06 41.0**	**-1.1**
CHOS	**Chios island**	**2.61**	**324**	P	**Pn**	**17 06 42.2**	**-0.2**
IDI	**Anoyia**	**2.73**	**249**	P	**Pn**	**17 06 44.8**	**+0.7**
DEMI	**Demirci**	**2.80**	**11**	*i* P	**Pn**	**17 06 45.1**	**+0.1**
GDZ	**Gediz**	**3.02**	**22**	*i* P	**Pn**	**17 06 48.2**	**+0.2**
GDZ	**Gediz**	**3.02**	**22**	*i* P	**Pn**	**17 06 48.2**	**+0.2**
SHUT	**Suhut-Afyon**	**3.03**	**41**	*e*PN	**Pn**	**17 06 48

ORIF	**Oris-en-Rattie**	**18.84**	**304**	*e*P	**Pn**	17 10 18.1	**0.0**
ORIF				*e*MLR	MLR		
	comp=Z,75nm,17.0s						
CABF	**La Chapelle**	**19.34**	**309**	*e*P	**Pn**	17 10 22.3	**-1.7**
	comp=Z,5.9nm,0.6s						
CABF	**La Chapelle**	**19.34**	**309**	*e*P	**Pn**	17 10 22.3	**-1.7**
	comp=Z,3.0nm,0.6s						
HINF	**Hinteralfeld**	**19.41**	**313**	*e*P	**Pn**	17 10 23.9	**-0.9**
CDF	**Champ du Feu**	**19.46**	**315**	*e*P	**Pn**	17 10 24.9	**-0.5**
	comp=Z,9.9nm,0.7s						
CDF	**Champ du Feu**	**19.46**	**315**	*e*P	**Pn**	17 10 24.9	**-0.5**
	comp=Z,4.9nm,0.7s						
VIVF	**Saint-Julien-l**	**19.63**	**303**	*e*P	**Pn**	17 10 25.7	**-1.8**
HAU	**Haudompre**	**19.80**	**313**	*e*P	**Pn**	17 10 28.4	**-1.0**
	comp=Z,6.3nm,0.3s						
HAU				*e*MLR	MLR		
	comp=Z,70nm,17.0s						
HAU	**Haudompre**	**19.80**	**313**	*e*P	**Pn**	17 10 28.4	**-1.0**
	comp=Z,3.2nm,0.3s						
SMF	**Signal de Mont**	**20.78**	**307**	*e*P	**P**	17 10 37.5	**-0.4**
	comp=Z,4.1nm,0.5s						
SMF	**Signal de Mont**	**20.78**	**307**	*e*P	**P**	17 10 37.5	**-0.4**
	comp=Z,2.0nm,0.5s						
LOR	**Lormes**	**21.00**	**309**	*e*P	**P**	17 10 40.7	**+0.4**
	comp=Z,2.4nm,0.5s,mb3.5						
LOR				*e*MLR	MLR		
	comp=Z,95nm,17.8s						
LOR	**Lormes**	**21.00**	**309**	*e*P	**P**	17 10 40.7	**+0.4**
	comp=Z,1.2nm,0.5s,mb3.5						
LOR				LR	LR		
	comp=Z,100nm,17.8s						
AVF	**Avril sur Loir**	**21.14**	**307**	*e*P	**P**	17 10 42.4	**+0.6**
	comp=Z,3.2nm,0.5s,mb3.6						
AVF	**Avril sur Loir**	**21.14**	**307**	*e*P	**P**	17 10 42.4	**+0.6**
	comp=Z,1.6nm,0.5s,mb3.6						
SSF	**Saint Saulge**	**21.14**	**308**	*e*P	**P**	17 10 42.3	**+0.5**
	comp=Z,4.2nm,0.5s,mb3.8						
SSF	**Saint Saulge**	**21.14**	**308**	*e*P	**P**	17 10 42.3	**+0.5**
	comp=Z,2.1nm,0.5s,mb3.8						
MFF	**Saint Martin d**	**23.37**	**305**	*e*P	**P**	17 11 04.4	**-0.6**
	comp=Z,3.8nm,0.5s,mb3.6						
MFF	**Saint Martin d**	**23.37**	**305**	*e*P	**P**	17 11 04.4	**-0.6**
	comp=Z,1.9nm,0.5s,mb3.6						
LDF	**La Druitiere**	**23.98**	**310**	*e*P	**P**	17 11 09.8	**-0.8**
	comp=Z,5.0nm,0.3s,mb4.0						
LDF	**La Druitiere**	**23.98**	**310**	*e*P	**P**	17 11 09.8	**-0.8**
	comp=Z,2.5nm,0.3s,mb4.0						
FLN	**La Foliniere**	**24.26**	**310**	*e*P	**P**	17 11 12.3	**-0.8**
	comp=Z,3.6nm,0.2s,mb4.0						
FLN				*e*MLR	MLR		
	comp=Z,133nm,17.2s						
FLN	**La Foliniere**	**24.26**	**310**	*e*P	**P**	17 11 12.3	**-0.8**
	comp=Z,1.8nm,0.2s,mb4.0						
GRR	**Gorron**	**24.37**	**309**	*e*P	**P**	17 11 13.2	**-0.9**
	comp=Z,7.6nm,0.4s,mb4.1						
GRR	**Gorron**	**24.37**	**309**	*e*P	**P**	17 11 13.2	**-0.9**
	comp=Z,3.8nm,0.4s,mb4.1						
ROSF	**Rostrenen**	**25.89**	**307**	*e*P	**P**	17 11 27.9	**0.0**

ISCJB ***12*** *17:21:06.6±1.3,2191S×0.10×1794W±0.1,h550km±21km, mb4.1/18, Error ellipse: s-maj=18.7km s-min=12.5km az=36.1*

IDC ***12*** *17:21:08.0±2.3,2200S×17930W,h557km±25km,mb3.4/8, mb1 3.5/10,mb1mx3.3/18,mbtmp3.4/10, Error ellipse: s-maj=23.4km s-min=16.0km az=128.0*

NEIC ***12*** *17:21:08.0±1.1,2201S×17929W,h563km±13km,mb4.2/12, Error ellipse: s-maj=15.0km s-min=10.7km az=133.0*

ISC 12 17:21:06.8±1.3,220S±01×1793W±01,h546km±21km,n34, σ1♀14/29,mb4.1/18,1C,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**10.72**	**43**	P	**P**	**17 23 34.3**	**+2.0**
	1.3nm,0.3s,baz=152,slow=18,SNR=3.1						
AFI				S	**S**	**17 25 29.8**	**-1.9**
	0.6nm,0.3s,baz=331,slow=23,SNR=2.3						
URZ	**Urewera**	**16.55**	**190**	P	**P**	**17 24 30.0**	**-1.4**
	0.5nm,0.3s,baz=104,slow=20,SNR=3.4						
URZ				S	**S**	**17 27 09.9**	**-8.4**
	0.4nm,0.3s,baz=86,slow=22,SNR=5.6						
CNB	**Canberra Magne**	**30.43**	**237**	*e*P	**P**	**17 26 37.1**	**+2.0**
CTA	**Charters Tower**	**32.18**	**267**	*e*P	**P**	**17 26 51.1**	**+0.8**
	2.6nm,0.4s,mb4.1						
CTAO	**Charters Tower**	**32.18**	**267**	*e*P	**P**	**17 26 50.6**	**+0.3**
	4.1nm,0.6s,mb4.1						
TOO	**Toolangi**	**34.08**	**235**	*e*P	**P**	**17 27 07.4**	**+1.3**
PMG	**Port Moresby**	**34.54**	**286**	*e*P	**P**	**17 27 09.3**	**-1.0**
	5.9nm,0.8s,mb4.2						
STKA	**Stephens Creek**	**36.09**	**246**	P	**P**	**17 27 23.4**	**+0.6**
	4.4nm,0.5s,mb4.2,baz=88,slow=9.7,SNR=20						
STKA	**Stephens Creek**	**36.09**	**246**	*e*P	**P**	**17 27 22.9**	**0.0**
	2.9nm,0.4s,mb4.2						
STKA				*e*P		17 27 23.2	
ASAR	**Alice Springs**	**43.04**	**258**	P	**P**	**17 28 18.9**	**+0.1**
	4.5nm,0.6s,mb4.2,baz=99,slow=8.2,SNR=105						
ASAR				PcP	PcP	17 29 56.4	-0.2
	1.3nm,0.6s,baz=109,slow=3.9,SNR=10						
WRAB	**Tennant Creek**	**43.23**	**264**	*e*P	**P**	**17 28 19.5**	**-0.8**
	4.9nm,0.8s,mb4.1						
WRA	**Warramunga Arr**	**43.23**	**264**	P	**P**	**17 28 20.0**	**-0.4**
	1.6nm,0.3s,mb4.0,baz=99,slow=7.4,SNR=22						
KAKA	**Kakadu**	**46.83**	**273**	*e*P	**P**	**17 28 44.8**	**-3.2**
	3.3nm,0.3s,mb4.3						
POHA	**Pohakuloa**	**47.51**	**31**	P	**P**	**17 28 48.5**	**-4.4**
	109nm,1.1s,mb5.3						
FORT	**Forrest**	**47.63**	**248**	*e*P	**P**	**17 28 53.3**	**-0.5**
	10nm,0.6s,mb4.5						
FITZ	**Fitzroy Crossi**	**51.66**	**264**	*e*P	**P**	**17 29 23.8**	**+0.2**
	2.6nm,0.4s,mb3.9						
FITZ	**Fitzroy Crossi**	**51.66**	**264**	P	**P**	**17 29 23.8**	**+0.2**
	1.3nm,0.3s,mb3.7,baz=60,slow=17,SNR=17						
SBA	**Scott Base**	**56.35**	**184**	P	**P**	**17 29 59.0**	**+3.4**
	2.1nm,0.9s,mb3.4						
MBWA	**Marble Bar**	**56.38**	**259**	*e*P	**P**	**17 29 55.5**	**-1.3**
	7.8nm,0.4s,mb4.3						
CASY	**Casey**	**62.14**	**205**	P	**P**	**17 30 33.8**	**-0.7**
	4.6nm,0.8s,mb4.0						
KKM	**Kota Kinabalu**	**68.99**	**286**	*e*P	**P**	**17 31 17.8**	**-0.4**
MJAR	**Matsushiro Arr**	**70.68**	**325**	P	**P**	**17 31 28.0**	**+0.2**
	1.0nm,0.6s,mb3.5,baz=168,slow=6.5,SNR=3.2						
KSM	**Kuching**	**72.44**	**279**	*e*P	**P**	**17 31 38.1**	**-0.5**
PETK	**Petropavlovsk-**	**77.37**	**346**	P	**P**	**17 32 06.2**	**+1.0**
	3.4nm,0.8s,mb3.8,baz=121,slow=4.4,SNR=8.9						
MAW	**Mawson**	**79.80**	**200**	P	**P**	**17 32 18.5**	**+0.4**
	1.2nm,0.5s,mb3.5,baz=90,slow=10,SNR=4.1						
SNAA	**Sanae**	**86.59**	**179**	*e*P	**P**	**17 32 51.4**	**-0.5**
	7.7nm,1.4s,mb4.1						
CMAR	**Chiang Mai Arr**	**89.48**	**290**	P	**P**	**17 33 08.0**	**+1.6**
	1.8nm,0.8s,mb3.9,baz=131,slow=3.2,SNR=12						
BVAR	**Borovoye Array**	**119.41**	**319**	PKP	PKPdf	17 38 53.2	-0.9
	1.0nm,0.4s,baz=114,slow=2.8,SNR=8.8						
ARCES	**ARCESS Array B**	**130.12**	**349**	PKP	PKPdf	17 39 13.7	-0.4
	6.9nm,0.9s,baz=0.0,slow=1.3,SNR=4.1						
AKASG	**Malin Array Be**	**143.67**	**329**	PKP	PKPdf	17 39 37.5	-2.0
	1.6nm,0.3s,baz=44,slow=4.1,SNR=8.1						
AKASG	**Malin Array Be**	**143.67**	**329**	PKP	PKPdf	17 39 37.5	-2.0
MLR	**Muntele Rosu**	**148.75**	**325**	PKPbc	PKPbc	17 39 52.4	-0.4
	1.5nm,0.6s,baz=101,slow=8.5,SNR=3.0						
CLL	**Collm**	**149.17**	**345**	⇑P	PKPbc	17 39 53.9	+0.3
	comp=Z,10.0nm,1.4s						
CLL				*e*PKPab	PKPab	17 40 02.0	+1.7
TORD	**Torodi Ar. Bea**	**171.19**	**186**	PKPab	PKPab	17 41 37.1	+0.2
	comp=Z,0.3nm,0.6s,baz=189,slow=6.0,SNR=2.6						

IDC 12 17:29:07.0±9.5,585S×12905E,h259km±99km,mb2.8/1, mb1 3.2/5,mb1mx2.9/16,mbtmp3.0/5,Error ellipse: s-maj=112.2km s-min=25.2km az=52.0,Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BATI	**Baumata**	**6.87**	**231**	P	Pn	17 30 46.1	-0.1
	2.5nm,0.3s,baz=278,slow=22,SNR=3.9						
BATI				S	S	17 31 57.7	-8.1
	5.9nm,0.3s,baz=39,slow=3.9,SNR=9.3						
FITZ	**Fitzroy Crossi**	**12.62**	**195**	P	Pn	17 31 58.0	0.0
	0.1nm,0.3s,baz=18,slow=12,SNR=6.2						
FITZ				S	S	17 34 11.7	-6.8
	0.1nm,0.3s,baz=297,slow=20,SNR=2.1						
WRA	**Warramunga Arr**	**14.92**	**160**	P	Pn	17 32 25.8	-0.1
	0.3nm,0.3s,baz=340,slow=11,SNR=5.2						
WRA				S	S	17 35 02.8	-7.4
	0.1nm,0.3s,baz=339,slow=21,SNR=2.6						
ASAR	**Alice Springs**	**18.32**	**166**	P	P	17 33 02.5	0.0
	0.6nm,0.3s,baz=346,slow=12,SNR=63						
ASAR				S	S	17 36 10.9	-7.2
	0.1nm,0.3s,baz=343,slow=19,SNR=12						
MKAR	**Makanchi Array**	**66.76**	**327**	P	P	17 39 30.7	+0.2
	0.2nm,0.3s,baz=110,slow=7.8,SNR=2.2						

IDC ***12*** *17:30:31.1±3.1,636N×12768E,h0km,mb3.6/4,mb1 3.7/4, mb1mx3.4/17,mbtmp3.6/4, Error ellipse: s-maj=285.0km s-min=22.0km az=68.0*

ISCJB ***12*** *17:30:33.8±1.3,64N±02×1277E±02,h33km,mb3.5/4, Error ellipse: s-maj=31.6km s-min=19.7km az=140.0*

ISC 12 17:30:36.5±1.3,63N±02×1276E±02,h35km,n5,σ1♀50/5, mb3.5/4,1C,Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GSPH	**General Santos**	**2.67**	**265**	*e*P	**Pn**	**17 31 17.0**	**0.0**
WRA	**Warramunga Arr**	**26.93**	**166**	P	**P**	**17 36 13.0**	**-1.7**
	0.4nm,0.6s,mb3.1,baz=346,slow=9.6,SNR=4.2						
ASAR	**Alice Springs**	**30.44**	**169**	P	**P**	**17 36 47.6**	**+1.7**
	0.1nm,0.4s,mb2.9,baz=348,slow=7.9,SNR=4.4						
MKAR	**Makanchi Array**	**55.97**	**324**	P	**P**	**17 40 11.2**	**-0.1**
	0.6nm,0.4s,mb4.0,baz=117,slow=7.6,SNR=9.6						
BVAR	**Borovoye Array**	**65.66**	**326**	P	**P**	**17 41 17.3**	**+0.1**
	0.5nm,0.4s,mb3.9,baz=132,slow=6.0,SNR=3.9						

ISCJB ***12*** *18:06:25.6±0.4,4380N±003×105.14W±0.005,h0km,mb3.9/2, Error ellipse: s-maj=5.6km s-min=3.8km az=168.7*

NEIC ***12*** *18:06:27.7±0.5,4379N×105.17W,h0km,ML3.2, Error ellipse: s-maj=6.0km s-min=5.7km az=80.0, Suspected Mining explosion.*

NEIC 60 km [40 miles] SSE of Gillette.

IDC ***12*** *18:06:32.4±2.4,4407N×10574W,h23km±18km,mb3.7/2, mb1 3.7/8,mb1mx3.5/25,mbtmp3.5/8,ML3.4/6, Error ellipse: s-maj=22.7km s-min=8.8km az=143.0*

ISC 12 18:06:27.5±0.4,4381N±003×10511W±005,h0km,n78, σ0♀84/80,mb3.9/2,12C-21D,Wyoming

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PHWY	**Pilot Hill**	**2.52**	**186**	*e*Pn	**Pn**	**18 07 09.8**	**+0.2**
RWWY	**Rawlins**	**2.62**	**217**	*e*Pn	**Pn**	**18 07 11.8**	**+0.8**
LAO	**LASA Array**	**2.98**	**345**	*e*Pn	**Pn**	**18 07 16.5**	**+0.4**
BW06	**Boulder Array**	**3.41**	**254**	*e*Pn	**Pn**	**18 07 21.5**	**-0.4**
PDAR	**Pinedale Array**	**3.41**	**254**	Pn	**Pn**	**18 07 22.3**	**+0.4**
	3.7nm,0.3s,baz=70,slow=16,SNR=43						
PDAR				Lg		18 08 08.4	
	12nm,0.3s,baz=65,slow=35,SNR=13						
OGNE	**Ogallala**	**3.66**	**140**	Pn	**Pn**	**18 07 23.8**	**-1.5**
LKWY	**Lake**	**3.88**	**283**	*e*Pn	**Pn**	**18 07 28.6**	**+0.2**
F18A	**Big Timber**	**3.89**	**304**	⇓P	**Pn**	**18 07 29.0**	**+0.5**
	baz=3.9,SNR=28						
F18A				⇓S	**Sn**	**18 08 14.3**	**-0.5**
	baz=3.9						
LOHW	**Long Hollow**	**3.99**	**269**	*e*Pn	**Pn**	**18 07 29.9**	**0.0**
ISCO	**Idaho Springs**	**4.02**	**186**	*e*Pn	**Pn**	**18 07 31.1**	**+0.8**
MOOW	**Moose Ponds**	**4.08**	**271**	*e*Pn	**Pn**	**18 07 31.5**	**+0.4**
YNR	**Norris Junctio**	**4.10**	**285**	*e*Pn	**Pn**	**18 07 29.1**	**-2.3**
SNOW	**Snow King Moun**	**4.12**	**267**	*e*Pn	**Pn**	**18 07 35.3**	**+3.8**
YFT	**Old Faithful**	**4.17**	**281**	Pn	**Pn**	**18 07 29.1**	**-3.3**
REDW	**Red Top Meadow**	**4.20**	**266**	*e*Pn	**Pn**	**18 07 31.7**	**-1.0**
IMW	**Indian Meadow**	**4.22**	**273**	*e*Pn	**Pn**	**18 07 33.0**	**0.0**
TPAW	**Teton Pass**	**4.25**	**268**	*e*Pn	**Pn**	**18 07 34.0**	**+0.5**
YMR	**Madison River**	**4.30**	**284**	*e*Pn	**Pn**	**18 07 34.5**	**+0.4**
E18A	**Harlowton**	**4.38**	**311**	⇑P	**Pn**	**18 07 35.4**	**+0.3**
	baz=4.4,SNR=12						
N18A	**Larsen Ranch,**	**4.41**	**232**	⇓P	**Pn**	**18 07 35.4**	**-0.2**
	baz=4.4,SNR=9.8						
AHID	**Auburn Hatcher**	**4.50**	**259**	*e*Pn	**Pn**	**18 07 35.1**	**-1.7**
H16A	**Russell Place,**	**4.50**	**284**	⇓P	**Pn**	**18 07 36.7**	**-0.1**
	baz=4.5						
RRI2	**Red Ridge**	**4.54**	**266**	*e*Pn	**Pn**	**18 07 37.4**	**+0.1**
O19A	**Miners Draw (B**	**4.61**	**222**	⇓P	**Pn**	**18 07 38.2**	**-0.2**
	baz=4.6						
QLMT	**Earthquake Lak**	**4.65**	**285**	*e*Pn	**Pn**	**18 07 46.8**	**+7.9**
DGMT	**Dagmar**	**4.71**	**7**	⇓Sb	**Sb**	**18 08 53.6**	**+5.7**
	baz=4.7						
E17A	**Martinsdale**	**4.86**	**305**	⇓P	**Pn**	**18 07 42.2**	**+0.5**
	baz=4.9,SNR=15						
E17A				⇓S	**Sn**	**18 08 40.2**	**+1.6**
	baz=4.9						
L16A	**Fish Haven**	**4.98**	**251**	⇑Sb	**Sb**	**18 08 58.1**	**+2.2**
	baz=5.0						
G16A	**Moss Hill, Enn**	**5.00**	**289**	⇓P	**Pn**	**18 07 43.3**	**-0.3**
	baz=5.0						
EGMT	**Eagleton**	**5.32**	**324**	*e*Pn	**Pn**	**18 07 48.1**	**+0.1**
	26nm,0.6s						
C17A	**Wharram Farm,**	**5.50**	**316**	⇓P	**Pn**	**18 07 50.7**	**+0.1**
	baz=5.5,SNR=7.4						
O17A	**Ronson Place**	**5.54**	**231**	⇓P	**Pn**	**18 07 51.6**	**+0.5**
	baz=5.5,SNR=10						
D16A	**Dana Ranch, Ca**	**5.56**	**308**	⇓P	**Pn**	**18 07 51.1**	**-0.3**
	baz=5.6						
HRY	**Holter Researc**	**5.56**	**304**	*e*Pn	**Pn**	**18 07 51.8**	**+0.4**
DLMT	**Dillon**	**5.57**	**289**	*e*Pn	**Pn**	**18 07 51.0**	**-0.5**
	4.5nm,0.4s						
F15A	**Butte**	**5.63**	**294**	⇓P	**Pn**	**18 07 52.1**	**-0.3**
	baz=5.6						
MCMT	**McKenzie Canyo**	**5.65**	**283**	*e*Pn	**Pn**	**18 07 53.3**	**+0.7**
P18A	**Preston Nutter**	**5.68**	**224**	⇓P	**Pn**	**18 07 53.0**	**0.0**
	baz=5.7						
DAU	**Daniels Canyon**	**5.69**	**236**	*e*Pn	**Pn**	**18 07 54.0**	**+0.8**
JLU	**Jordanelle**	**5.70**	**238**	*e*Pn	**Pn**	**18 07 50.1**	**-3.2**
E15A	**Deer Lodge**	**5.94**	**299**	⇑P	**Pn**	**18 07 56.4**	**-0.1**
	baz=5.9						
HVU	**Hansel Valley**	**6.00**	**253**	*e*Pn	**Pn**	**18 08 00.5**	**+3.1**
	7.1nm,0.6s						
Q18A	**Rafter H Ranch**	**6.03**	**220**	⇓P	**Pn**	**18 07 57.5**	**-0.4**
	baz=6.0						
P17A	**Butcher Ranch,**	**6.05**	**226**	⇓P	**Pn**	**18 07 58.0**	**-0.1**
	baz=6.0						
SDCO	**Great Sand Dun**	**6.07**	**183**	*e*Pn	**Pn**	**18 07 58.8**	**+0.4**
	1.1nm,0.4s						
C16A	**Fuhringer Ranc**	**6.12**	**313**	⇓P	**Pn**	**18 07 58.6**	**-0.5**
	baz=6.1						
D15A	**Lincoln**	**6.14**	**304**	⇑P	**Pn**	**18 07 59.7**	**+0.4**
	baz=6.1						
ECSD	**EROS,Sioux Fal**	**6.15**	**88**	*e*Pn	**Pn**	**18 08 01.4**	**+1.9**
	6.8nm,0.4s						
SRU	**San Rafael**	**6.21**	**223**	*e*Pn	**Pn**	**18 07 59.4**	**-1.0**
	12nm,0.6s						
N15A	**Stansbury Isla**	**6.22**	**245**	⇓P	**Pn**	**18 08 00.7**	**+0.3**
	baz=6.2						
PV01	**Paradox Valley**	**6.25**	**206**	*e*Pn	**Pn**	**18 08 00.6**	**-0.2**
B16A	**M & M Farms, S**	**6.50**	**317**	⇓P	**Pn**	**18 08 04.2**	**-0.1**
	baz=6.5						
R18A	**Canyonlands Na**	**6.51**	**215**	⇑P	**Pn**	**18 08 04.1**	**-0.4**
	baz=6.5						
CHMT	**Chamberlain Mo**	**6.52**	**301**	*e*Pn	**Pn**	**18 08 04.6**	**0.0**
BGU	**Big Grassy Mou**	**6.54**	**247**	Pn	**Pn**	**18 08 04.4**	**-0.4**
Q16A	**Castle Valley**	**6.68**	**225**	⇑P	**Pn**	**18 08 06.6**	**-0.3**
	baz=6.7						
D14A	**Greenough**	**6.75**	**302**	⇑P	**Pn**	**18 08 07.5**	**-0.2**
	baz=6.7						
HLID	**Hailey**	**6.75**	**271**	*e*Pn	**Pn**	**18 08 09.4**	**+1.6**
DUG	**Dugway**	**6.78**	**240**	*e*Pn	**Pn**	**18 08 06.8**	**-1.4**
	3.5nm,0.6s						
A16A	**West Butte Ran**	**6.82**	**321**	⇑P	**Pn**	**18 08 08.3**	**-0.5**
	baz=6.8						
R17A	**Hanksville Air**	**6.85**	**220**	⇑P	**Pn**	**18 08 08.4**	**-0.7**
	baz=6.8						
B15A	**Bradely Ranch,**	**6.87**	**314**	⇑P	**Pn**	**18 08 09.0**	**-0.3**
	baz=6.9						
B14A	**Marquette Ranc**	**7.28**	**312**	⇑P	**Pn**	**18 08 14.5**	**-0.4**
	baz=7.3						
MSU	**Marysvale**	**7.51**	**228**	*e*Pn	**Pn**	**18 08 18.4**	**+0.2**
S17A	**Black Ridge (B**	**7.53**	**217**	⇓P	**Pn**	**18 08 18.1**	**-0.3**
	baz=7.5						
A14A	**Double T Ranch**	**7.72**	**315**	⇓P	**Pn**	**18 08 20.4**	**-0.7**
	baz=7.7						
Q14A	**Sevier Lake (B**	**7.80**	**235**	⇑P	**Pn**	**18 08 21.9**	**-0.3**
	baz=7.8						
ELK	**Elko**	**8.11**	**251**	Pn	**Pn**	**18 08 26.7**	**+0.2**
	0.3nm,0.3s,baz=67,slow=16,SNR=4.9						
ELK				Lg		18 10 42.1	
	0.1nm,0.3s,baz=90,slow=20,SNR=2.1						
ELK	**Elko**	**8.11**	**251**	Pn	**Pn**	**18 08 26.7**	**+0.2**
ELK				Lg		18 10 42.1	
ARUT	**Antelope Range**	**8.72**	**229**	*e*Pn	**Pn**	**18 08 35.3**	**+0.5**
ULM	**Lac du Bonnet**	**9.01**	**41**	Pn	**Pn**	**18 08 39.9**	**+1.2**
	1.9nm,0.3s,baz=234,slow=11,SNR=14						
ULM				Lg		18 11 14.6	
	0.6nm,0.3s,baz=150,slow=20,SNR=2.4						
ULM	**Lac du Bonnet**	**9.01**	**41**	Pn	**Pn**	**18 08 39.9**	**+1.2**
ULM				Lg		18 11 14.6	
NVAR	**Mina Array Bea**	**11.31**	**246**	Pn	**Pn**	**18 09 11.3**	**+1.1**
	0.1nm,0.3s,baz=56,slow=12,SNR=6.5						
NVAR				Lg		18 12 24.9	
	0.4nm,0.3s,baz=64,slow=36,SNR=8.4						
NVAR	**Mina Array Bea**	**11.31**	**246**	Pn	**Pn**	**18 09 11.3**	**+1.1**
NVAR				Lg		18 12 24.9	
TXAR	**Lajitas Array**	**14.49**	**175**	Pn	**Pn**	**18 10 01.9**	**+8.2**
	0.0nm,0.3s,baz=356,slow=11,SNR=3.2						
TXAR				Lg		18 14 16.9	
	0.1nm,0.3s,baz=360,slow=24,SNR=5.0						
YKA	**Yellowknife Ar**	**19.52**	**347**	P	**Pn**	**18 10 55.6**	**-1.6**
	0.1nm,0.3s,baz=162,slow=13,SNR=3.2						
ZALV	**Zalesovo Beam**	**82.25**	**354**	P	**P**	**18 18 49.7**	**-0.6**
	0.5nm,0.4s,mb4.0,baz=15,slow=6.0,SNR=2.3						
MKAR	**Makanchi Array**	**89.55**	**355**	P	**P**	**18 19 27.0**	**+0.5**
	0.4nm,0.7s,mb3.7,baz=343,slow=4.7,SNR=2.6						

IDC 12 18:12:30.4±4.5,556S×10606E,h0km,mb3.5/3,mb1 3.7/3, mb1mx3.4/18,mbtmp3.5/3,Error ellipse: s-maj=247.2km s-min=29.1km az=51.0,Jawa

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**30.99**	**120**	P	P	18 18 50.0	+0.2
	0.7nm,0.7s,baz=293,slow=10,SNR=3.4						
ASAR	**Alice Springs**	**32.29**	**127**	P	P	18 19 01.1	0.0
	0.5nm,0.6s,baz=301,slow=8.5,SNR=13						
MKAR	**Makanchi Array**	**56.22**	**341**	P	P	18 22 12.3	0.0
	0.3nm,0.6s,baz=151,slow=6.3,SNR=4.4						

ISCJB ***12*** *18:12:36.9±1.4,3931N±005×2008E±007,h4km±9km, Error ellipse: s-maj=9.4km s-min=7.4km az=145.6*

THE ***12*** *18:12:37.5,3941N×2002E,h11km±1km,ML2.8/3, Error ellipse: s-maj=3.4km s-min=0.6km az=322.0*

ATH ***12*** *18:12:38.5,3929N×2028E,h25km±3km,MD3.2/4*

NEIC ***12*** *18:12:38.5,3929N×2028E,h25km,MD3.2(ATH), After ATH.*

CSEM ***12*** *18:12:38.3±0.1,3925N×2026E,h2km,ML2.8/3, Error ellipse: s-maj=3.6km s-min=3.2km az=76.0*

ISC 12 18:12:38.6±1.0,3926N±005×2024E±006,h2km±10km,n16, σ1♀02/24,Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
IGT	**Igoumenitsa**	**0.28**	**15**	P	**Pg**	**18 12 42.9**	**-1.1**
IGT				S	**Sg**	**18 12 47.2**	**-0.5**
KEK	**Kerkira**	**0.57**	**323**	*e*Pn	**Pg**	**18 12 49.3**	**-0.2**
KEK				*e*Sn	**Sg**	**18 12 58.8**	**+2.0**
KEK	**Kerkira**	**0.57**	**323**	*e*PN	**Pg**	**18 12 49.3**	**-0.2**
KEK				*e*SN	**Sg**	**18 12 58.8**	**+2.0**
JAN	**Janina**	**0.62**	**50**	*e*Pn	**Pg**	**18 12 49.4**	**-1.0**
JAN				*e*Sn	**Sg**	**18 12 58.7**	**+0.3**
JAN	**Janina**	**0.62**	**50**	*e*PN	**Pg**	**18 12 49.4**	**-1.0**
JAN				*e*SN	**Sg**	**18 12 58.7**	**+0.3**
VLS	**Valsamata**	**1.11**	**166**	P	**Pg**	**18 13 00.7**	**+0.8**
VLS	**Valsamata**	**1.11**	**166**	*e*Pn	**Pn**	**18 13 00.8**	**-0.4**
VLS	**Valsamata**	**1.11**	**166**	*e*PN	**Pn**	**18 13 00.8**	**-0.4**
EVR	**Evrytania**	**1.27**	**105**	*e*Pn	**Pn**	**18 13 02.0**	**-1.3**
EVR	**Evrytania**	**1.27**	**105**	*e*PN	**Pn**	**18 13 02.0**	**-1.3**
THL	**Klokotos Trika**	**1.41**	**77**	P	**Pn**	**18 13 04.4**	**-0.8**
THL				S	**Sg**	**18 13 24.9**	**+1.1**
THL	**Klokotos Trika**	**1.41**	**77**	*e*Pn	**Pn**	**18 13 04.6**	**-0.6**
THL				S	**Sg**	**18 13 24.9**	**+1.1**
THL	**Klokotos Trika**	**1.41**	**77**	*e*PN	**Pn**	**18 13 04.6**	**-0.6**
RLS	**Riolos of Patr**	**1.54**	**141**	*e*Pn	**Pn**	**18 13 06.4**	**-0.6

	0.6nm,0.3s,baz=62,slow=15,SNR=3.0							
RPZ				Sn	Sn	18 40 30.4	-11	
	1.0nm,0.3s,baz=354,slow=18,SNR=6.4							
DZM	Mont Dzumac	17.16	305	ePn	Pn	18 39 06.0	+5.1	
FUNA	Funafuti	24.40	355	P	P	18 40 09.3	-10	
PPT	Papeete	30.21	67	eS	S	18 46 07.2	-1.1	
	34nm,25.8s							
PPT				eLR	LR	18 48 56.7		
	151nm,21.0s							
PPT	Papeete	30.21	67	LR	LR	18 51 53.9		
	comp=Z,207nm,18.6s,MS3.8,baz=239,slow=34							
STKA	Stephens Creek	33.54	261	LR	LR	18 54 37.1		
	comp=Z,174nm,20.6s,MS3.8,baz=26,slow=35							
CTA	Charters Tower	33.85	283	P	P	18 41 45.0	+1.9	
	5.2nm,0.6s,mb4.7,baz=120,slow=10,SNR=16							
CTA	Charters Tower	33.85	283	P	P	18 41 45.0	+1.9	
CTAO	Charters Tower	33.85	283	eP	P	18 41 45.0	+1.9	
	5.0nm,0.6s,mb4.6							
PMG	Port Moresby	39.36	299	P	P	18 42 21.2	-8.9	
	11nm,1.1s,mb4.5							
RKT	Rikitea	39.44	87	eLR	LR	18 53 00.4		
	181nm,23.5s							
ASAR	Alice Springs	42.59	270	P	P	18 42 56.8	+0.2	
	4.9nm,0.7s,mb4.3,baz=108,slow=7.4,SNR=89							
ASAR				S	S	18 49 17.2	+0.2	
	2.0nm,1.2s,baz=119,slow=15,SNR=4.4							
WRAB	Tennant Creek	43.80	275	eP	P	18 43 06.5	+0.1	
	6.3nm,0.7s,mb4.5							
WRA	Warramunga Arr	43.81	275	P	P	18 43 06.6	+0.1	
	3.8nm,0.4s,mb4.4,baz=115,slow=7.6,SNR=22							
WRA				S	S	18 49 34.2	-0.8	
	0.9nm,1.0s,baz=116,slow=13,SNR=2.7							
WRA				LR	LR	18 58 46.1		
	comp=Z,92nm,21.1s,MS3.7,baz=105,slow=32							
WRA	Warramunga Arr	43.81	275	P	P	18 43 06.6	+0.1	
WRA				S	S	18 49 34.2	-0.8	
WRA				LR	LR	18 58 46.1		
SBA	Scott Base	45.46	184	eP	P	18 43 20.8	+1.9	
	6.4nm,1.3s,mb4.3							
FITZ	Fitzroy Crossi	51.95	272	P	P	18 44 09.5	0.0	
	1.5nm,0.6s,mb4.1,baz=112,slow=7.0,SNR=5.0							
FITZ				LR	LR	19 06 57.3		
	comp=Z,127nm,18.1s,MS4.0,baz=306,slow=37							
CASY	Casey	52.68	209	P	P	18 44 14.2	-0.1	
	7.0nm,0.9s,mb4.6							
QSPA	South Pole Qui	57.16	180	P	P	18 44 47.4	+0.9	
	3.6nm,1.0s,mb4.3,baz=14,slow=5.3,SNR=5.7							
QSPA	South Pole Qui	57.16	180	P	P	18 44 47.4	+0.9	
BATI	Baumata	57.57	279	LR	LR	19 07 14.2		
	comp=Z,94nm,18.5s,MS3.9,baz=231,slow=34							
MAW	Mawson	69.76	201	P	P	18 46 10.8	+0.9	
	0.9nm,0.5s,mb4.0,baz=111,slow=6.5,SNR=4.4							
SYO	Syowa Base	74.53	193⇑	eP	P	18 46 37.0	-1.4	
SNAA	Sanae	75.62	179	e	pP	18 46 54.6	-0.9	
SNAA	Sanae	75.62	179	eP	P	18 46 45.3	+0.7	
	5.4nm,1.1s,mb4.4							
VNA3	Neumayer Olymp	75.79	176	e	pP	18 46 56.4	-0.1	
VNA2	Neumayer--Watz	76.22	177	e	pP	18 46 59.0	0.0	
	baz=172,slow=2.7							
VNA1	Neumayer--Stat	76.45	177	e	pP	18 47 00.6	+0.3	
PLCA	Paso Flores	81.10	133	LR	LR	19 17 15.7		
	comp=Z,79nm,18.1s,MS4.1,baz=1.7,slow=31							
KSRS	Korea Array	86.00	320	LR	LR	19 25 45.8		
	comp=Z,24nm,18.5s,MS3.6,baz=86,slow=35							
ISA	Isabella	88.43	45	eP	P	18 47 52.4	+0.2	
	3.7nm,0.8s,mb4.7							
NVAR	Mina Array Bea	90.42	43	P	P	18 48 00.5	-0.9	
	0.6nm,0.9s,mb3.9,baz=211,slow=5.1,SNR=4.1							
NNA	Nana	93.15	106	LR	LR	19 22 12.6		
	comp=Z,73nm,18.1s,MS4.2,baz=332,slow=30							
TXAR	Lajitas Array	94.14	58	LR	LR	19 23 00.9		
	comp=Z,72nm,18.6s,MS4.2,baz=70,slow=31							
CPUP	Villa Florida	98.74	129	LR	LR	19 28 04.0		
	comp=Z,69nm,18.8s,MS4.2,baz=41,slow=32							
MKAR	Makanchi Array	119.05	309	PKP	PKPdf	18 53 47.5	-0.9	
	0.6nm,0.8s,baz=72,slow=2.3,SNR=3.2							
ZALV	Zalesovo Beam	119.62	318	PKP	PKPdf	18 53 48.2	-1.1	
	0.5nm,0.3s,baz=38,slow=2.6,SNR=2.4							
ARCES	ARCESS Array B	140.98	347	PKP	PKPdf	18 54 29.5	+0.4	
	2.3nm,0.7s,baz=35,slow=4.9,SNR=2.5							
JOF	Joensuu	144.60	337	ep	PKPdf	18 54 33.5	-2.2	
	0.6nm,0.4s							
KAF	Kangasniemi	146.78	339	ep	PKPdf	18 54 41.4	+1.9	
	1.1nm,0.4s							
NB2	NORSAR Subarra	151.20	350	PKP	PKPbc	18 54 52.4	-0.2	
	comp=Z,1.3nm,0.7s,baz=18,slow=2.6							
NOA	NORSAR Array B	151.20	350	PKPbc	PKPbc	18 54 52.1	-0.5	
	comp=Z,1.6nm,0.7s,baz=15,slow=4.1,SNR=7.8							
NOA				PKPab	PKPab	18 54 59.3	-1.2	
	comp=Z,1.6nm,0.8s,baz=18,slow=4.2,SNR=3.8							
AKASG	Malin Array Be	153.00	319	PKPbc	PKPbc	18 54 55.7	-1.2	
	comp=Z,0.3nm,0.4s,baz=65,slow=2.9,SNR=4.5							
AKASG	Malin Array Be	153.00	319	PKPbc	PKPbc	18 54 55.7	-1.2	
TORD	Torodi Ar. Bea	160.28	181	PKPab	PKPab	18 55 40.0	-0.4	
	comp=Z,0.6nm,0.9s,baz=190,slow=4.3,SNR=3.6							

*NEIC **12** 19:10:42.2±0.8,5037N×1879E,h5km,ML2.8(CLL),Error ellipse: s-maj=12.6km s-min=5.8km az=196.0*
*PRU **12** 19:10:42.6,5037N×1881E,h0km*
*CSEM **12** 19:10:42.0±0.2,5038N×1890E,h1km±2km,ML2.8,Error ellipse: s-maj=8.3km s-min=2.3km az=24.0*

WAR 12 19:10:41.7,5036N×1893E,ML2.7,Mining Induced, Poland

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
OJC	Ojcow	0.58	104	ePg		Pg	19 10 53.0	+0.3
OJC				eSg		Sg	19 11 01.4	+1.2
OKC	Ostrava-Krasne	0.73	224	ePG		Pg	19 10 55.6	0.0
OKC				eSG		Sg	19 11 04.1	-0.9
	32nm,0.5s							
MORC	Moravsky Berou	1.07	237	ePg		Pg	19 11 00.4	-1.7
MORC				eSg		Sg	19 11 14.7	-1.2
MORC	Moravsky Berou	1.07	237	ePg		Pg	19 11 00.4	-1.7
MORC				eSg		Sg	19 11 14.7	-1.2
NIE	Niedzica	1.30	136	ePg		Pg	19 11 07.1	+0.5
NIE				eSg		Sg	19 11 25.1	+1.6
DPC	Dobruska-Polom	1.67	271	ePG		Pg	19 11 11.1	-2.6
DPC				eSG		Sg	19 11 33.6	-1.7
	19nm,0.4s							
KSP	Ksiaz	1.75	287	ePn		Pn	19 11 12.5	-0.7
KSP				ePg		Pg	19 11 14.3	-0.8
KSP				eSn		Sn	19 11 35.9	-0.2
KSP				eSg		Sg	19 11 38.0	+0.2
KSP	Ksiaz	1.75	287	ePg		Pg	19 11 13.6	-1.5
KSP				eSg		Sg	19 11 37.6	-0.2
KSP	Ksiaz	1.75	287	ePn		Pn	19 11 12.3	-0.9
KSP				ePg		Pg	19 11 13.6	-1.5
KSP				eSg		Sg	19 11 37.6	-0.2
STHS	Stebnicka Huta	1.77	121	ePN		Pn	19 11 15.6	+2.1
STHS				eSN		Sn	19 11 40.1	+3.3
KOLL	Kolacno	1.82	191	ePN		Pn	19 11 14.5	+0.3
KOLL				eSN		Sn	19 11 38.6	+0.7
VRAC	Vranov	1.84	236	ePn		Pn	19 11 13.8	-0.7
VRAC				eSg		Sg	19 11 39.4	-1.4
VYHS	Vyhne	1.87	182	ePN		Pn	19 11 13.9	-1.0
VYHS				eSN		Sn	19 11 37.1	-2.1
CRVS	Cervenica-Dubn	2.20	131	ePN		Pn	19 11 23.0	+3.5
MODS	Modra-Piesok	2.26	209	ePN		Pn	19 11 23.3	+3.0
PSZ	Piszkesteto	2.53	165	eP		Pn	19 11 28.9	+5.0
PSZ	Piszkesteto	2.53	165	eP		Pn	19 11 28.9	+5.0
PVCC	Panska Ves	2.79	275	ePG		Pg	19 11 31.9	-3.3
PRU	Pruhonice	2.84	264	ePN		Pn	19 11 26.8	-1.5
PRU				ePG		Pg	19 11 32.7	-3.5
PRU				eSG		Sg	19 12 10.0	-3.0
	24nm,1.3s							
BRG	Berggiesshubel	3.22	281	PG		Pg	19 11 41.9	-1.4
BRG				SG		Sg	19 12 20.4	-4.5
	4.8nm,0.3s							
KHC	Kasperske Hory	3.68	253	ePN		Pn	19 11 38.9	-0.9
KHC				ePG		Pg	19 11 47.0	-5.2
KHC				eSG		Sg	19 12 37.4	-2.5
	7.3nm,0.4s							
CLL	Collm	3.87	286	ePg		Pg	19 11 55.0	-0.9
CLL				eSg		Sg	19 12 46.0	-0.1
	comp=Z,18nm,1.2s							

IDC 12 19:20:40.6±70.0,2079S×17631E,h0km,mb3.6/3, mb1 3.8/3,mb1mx3.6/15,mbtmp3.6/3,Error ellipse: s-maj=1220.0km s-min=153.4km az=81.0,South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
STKA	Stephens Creek	32.88	243	P		P	19 27 15.9	-0.5
	2.0nm,0.8s,baz=96,slow=12,SNR=3.6							
ASAR	Alice Springs	39.25	258	P		P	19 28 11.4	+0.3
	0.4nm,0.7s,baz=89,slow=9.4,SNR=4.3							
WRA	Warramunga Arr	39.27	264	P		P	19 28 11.3	0.0
	0.4nm,0.8s,baz=95,slow=8.4,SNR=3.8							

*NEIC **12** 19:29:46.8,2904S×6999W,h139km,MG3.8(GUC),After GUC.*

GUC 12 19:29:46.8±0.8,2904S×6999W,h139km±11km,ML3.8, 5C-1D,Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
LCO	Las Campanas	0.62	272	ePn		Pn	19 30 08.6	+1.0
LCO				eSn		Sn	19 30 24.7	+1.4
VACH	Vallenar	0.82	304⇓	iP		Pn	19 30 10.7	+1.7
VACH				iS		Sn	19 30 27.8	+2.0
TLL	Tololo Astrono	1.33	212⇑	iP		Pn	19 30 14.7	+1.0
TLL				iS		Sn	19 30 35.6	+1.4
CPCH	Copiapo	1.70	349⇑	iP		Pn	19 30 18.1	+0.3
CPCH				iS		Sn	19 30 41.7	+0.2
CPCH				AML		AML	19 30 45.8	
	comp=E,3µm,0.1s							
CPCH	Copiapo	1.70	349⇑	iP		Pn	19 30 18.1	+0.3
CPCH				iS		Sn	19 30 41.7	+0.2
OVCH	Ovalle	1.89	214⇑	iP		Pn	19 30 20.4	+0.5
OVCH				iS		Sn	19 30 45.7	+0.4
OVCH				AML		AML	19 30 48.2	
	comp=N,469nm,0.3s							
OVCH	Ovalle	1.89	214⇑	iP		Pn	19 30 20.4	+0.5
OVCH				iS		Sn	19 30 45.7	+0.4
CHNG	Los Chungos	3.12	204	eP		Pn	19 30 35.8	+0.5
CHNG				iS		Sn	19 31 12.4	-0.4
FCH	Farellones	4.28	183	eP		Pn	19 30 50.8	+0.4
FCH				iS		Sn	19 31 40.5	+0.5
FCH				AML		AML	19 31 52.0	
	comp=N,24nm,0.7s							

*ISCJB **12** 19:43:41.7±0.5,4128N±003×4397E±004,h10km,Error ellipse: s-maj=4.3km s-min=3.2km az=37.2*
*TIF **12** 19:43:41.5,4121N×4401E,h12km±1km*
*MOS **12** 19:43:42.3±1.3,4115N×4419E,h4km,mb4.0/1,Error ellipse: s-maj=26.5km s-min=6.9km az=88.0*
*DDA **12** 19:43:47.7,4102N×4365E,h15km,Md3.2*
*CSEM **12** 19:43:47.7,4102N×4365E,h15km,MD3.2,After ERD*

ISC 12 19:43:41.3±0.6,4120N±003×4397E±004,h1km±5km,n23, σ1§05/38,1C-2D,Turkey-Georgia-Armenia border region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
TBLG	Delisi	0.79	47	P		Pg	19 43 56.6	+0.2
TBLG				S		Sg	19 44 07.8	+1.2
MTA	Mtatsminda	0.80	51	ePG		Pg	19 43 56.5	-0.1
MTA	Mtatsminda	0.80	51	P		Pg	19 43 56.5	0.0
MTA				S		Sg	19 44 07.7	+0.8
GOR	Gori	0.80	8	P		Pn	19 43 57.3	-2.4
GOR				S		Sg	19 44 08.8	+1.9
DIGO	Kars	0.90	210	iP		Pg	19 43 58.8	+0.3
DGRG	David-gareji	1.09	76	P		Pn	19 44 02.6	-1.1
DGRG				S		Sn	19 44 19.3	-0.1
GNI	Garni	1.20	150	diPG		Pg	19 44 04.6	+0.3
ONI	Oni	1.44	345	P		Pn	19 44 08.2	-0.3
ONI				S		Sb	19 44 29.3	+1.6
ARTV	Artvin	1.54	270	iP		Pn	19 44 10.3	+0.4
ARTV				iS		Sn	19 44 29.8	-0.7
DAGI	Agillar	1.56	266	iP		Pn	19 44 10.4	+0.3
ZEI	Tsey	1.57	358	ePN		Pg	19 44 11.1	-0.4
ZEI				eS		Sg	19 44 32.3	+0.4
LACR	Lac	1.65	8⇓	iPN		Pg	19 44 12.4	-0.5
LACR				iS		Sg	19 44 33.7	-0.5
DYDN	Diyadin	1.66	187	iP		Pg	19 44 13.3	+0.1
DDEM	Demirkent	1.71	260	iP		Pn	19 44 13.2	+1.0
DBAD	Bademkaya	1.73	265	iP		Pn	19 44 13.2	+0.7
DBOC	Borcka	1.74	276	iP		Pn	19 44 13.7	+1.0
DBOC				iS		Sn	19 44 34.2	-1.3
KORR	Kora	1.89	2	ePN		Pg	19 44 16.7	-0.9
VLKR	Vladikavkaz	1.92	16	ePN		Pg	19 44 17.2	-1.0
VLKR				eS		Sg	19 44 42.2	-0.9
ARNR	Ardon	2.01	7	ePN		Pg	19 44 18.6	-1.2
LSNR	Lesken	2.08	357	ePN		Pg	19 44 20.1	-1.1
LSNR				eS		Sg	19 44 46.4	-1.7
KMSR	Komsomolskaya	2.19	6	ePN		Pg	19 44 23.8	+0.6
KMSR				eS		Sg	19 44 52.2	+0.6
KUBR	Kubataba	2.63	351⇑	ePN		Pg	19 44 30.2	-1.6
KUBR				iS		Sg	19 45 08.5	+2.5
KUBR				iS		Sg	19 45 10.1	+4.1
KUBR				pmax		pmax		
	comp=Z,13nm,0.6s							
KUBR				smax				
	comp=N,30nm,0.8s							
KUBR				smax				
	comp=E,22nm,0.7s							
KIV	Kislovodsk	2.92	341	iPN		Pn	19 44 31.2	+2.4
KIV				iS		Sg	19 45 16.0	+1.0

MAN 12 20:05:15,952N×12526E,h15km,mb4.4,ML3.3,MS3.2, 2C-3D,Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
SCPH	Surigao	0.35	40⇓	eP		Pg	20 05 22.6	+0.5
SCPH				eS		Sg	20 05 28.8	+1.8
TBP	Tagbilaran	1.39	277	eP		Pn	20 05 39.6	-0.3
LLP	Lapu-Lapu	1.50	302⇑	eP		Pn	20 05 40.8	-0.7
LLP				eS		Sn	20 06 00.9	0.0
PLP	Palo	1.66	350⇓	eP		Pn	20 05 43.6	0.0
PLP				eS		Sn	20 06 05.7	+1.0
BIPH	Bislig	1.71	141⇑	eP		Pn	20 05 43.6	-0.6
BIPH				eS		Sn	20 06 06.5	+0.6
DCPH	Dipolog City	2.10	244⇓	eP		Pn	20 05 49.9	+0.2
DCPH				eS		Sn	20 06 16.6	+1.0

MAN 12 20:07:27,950N×12531E,h17km,mb4.4,ML3.3,MS3.1, 1C-4D,Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
SCPH	Surigao	0.33	32⇓	eP		Pg	20 07 35.8	+1.8
SCPH				eS		Sg	20 07 41.8	+3.1
TBP	Tagbilaran	1.44	278	eP		Pn	20 07 52.8	+0.5
TBP				eS		Sn	20 08 08.8	-2.1
LLP	Lapu-Lapu	1.55	302⇑	eP		Pn	20 07 54.0	+0.2
LLP				eS		Sn	20 08 12.4	-1.3
BIPH	Bislig	1.67	141⇓	eP		Pn	20 07 57.8	+2.3
BIPH				iS		Sn	20 08 22.3	+5.7
PLP	Palo	1.69	349⇓	iP		Pn	20 07 57.1	+1.4
PLP				eS		Sn	20 08 18.4	+1.5
DCPH	Dipolog City	2.14	245⇓	eP		Pn	20 08 03.0	+1.1
DCPH				eS		Sn	20 08 29.8	+1.7

*IDC **12** 20:09:49.3±2.1,602N×12701E,h0km,mb3.9/7,mb1 4.0/7, mb1mx3.8/19,mbtmp3.9/7,Error ellipse: s-maj=265.9km s-min=16.6km az=67.0*
*ISCJB **12** 20:09:51.0±0.7,635N±008×12776E±009,h33km,mb4.0/8, Error ellipse: s-maj=15.7km s-min=7.5km az=137.0*
*NEIC **12** 20:09:50.7±1.7,599N×12699E,h10km,mb4.4/1,Error ellipse: s-maj=202.0km s-min=10.0km az=67.0*

ISC 12 20:09:51.3±4.5,632N±009×12771E±009,h19km±29km, n13,σ0§86/14,mb4.0/8,1C-1D,Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
BIPH	Bislig	2.29	324⇑	iP		Pn	20 10 28.2	+0.2
BIPH				iS		Sn	20 10 52.6	-3.1
KCP	Kidapawan	2.69	285⇓	eP		Pn	20 10 34.7	+1.1
KCP				eS		Sn	20 11 06.2	+0.6
GSPH	General Santos	2.75	265	eP		Pn	20 10 32.9	-1.5
WRAB	Tennant Creek	26.89	166	eP		P	20 15 30.4	-0.8
	7.8nm,1.0s,mb4.2							
WRA	Warramunga Arr	26.90	166	P		P	20 15 31.0	-0.2
	2.3nm,0.4s,mb4.0,baz=347,slow=10,SNR=11							
ASAR	Alice Springs	30.41	169	P		P	20 16 02.7	+0.2
	1.4nm,0.6s,mb3.9,baz=343,slow=6.9,SNR=25							
ASAR				PcP		PcP	20 19 02.9	+0.7
	1.3nm,0.5s,baz=348,slow=2.6,SNR=18							
STKA	Stephens Creek	40.22	162	P		P	20 17 27.2	+0.4
	2.1nm,0.7s,mb4.0,baz=346,slow=8.4,SNR=6.4							
STKA	Stephens Creek	40.22	162	P		P	20 17 27.2	+0.4
MKAR	Makanchi Array	56.03	324	P		P	20 19 28.7	-0.1
	0.3nm,0.3s,mb3.8,baz=110,slow=6.7,SNR=4.9							
ZALV	Zalesovo Beam	58.76	332	P		P	20 19 48.6	+0.7
	0.9nm,0.3s,mb4.2,baz=245,slow=21,SNR=2.5							
KURK	Kurchatov	60.12	326	P		P	20 19 57.9	+0.5
	0.8nm,0.6s,mb3.9,baz=126,slow=7.3,SNR=4.9							
BVAR	Borovoye Array	65.71	326	P		P	20 20 34.7	+0.1
	0.7nm,0.6s,mb3.9,baz=117,slow=9.0,SNR=4.8							
TORD	Torodi Ar. Bea	123.00	290	PKP		PKPdf	20 28 46.8	-0.7
	0.3nm,0.7s,baz=93,slow=2.0,SNR=4.5							

*ISCJB **12** 20:14:16.8±0.5,5154N±003×769E±003,h0km,Error ellipse: s-maj=4.4km s-min=2.9km az=162.9*
*NEIC **12** 20:14:17.1,5170N×782E,h1km,ML2.7(LDG),After LDG.*
*LDG **12** 20:14:17.1±0.1,5170N×782E,h1km,ML2.7/8,Error ellipse: s-maj=2.7km s-min=2.1km az=54.0,Suspected Mining induced.*
*BUG **12** 20:14:17.5,5165N×770E,h1km,ML2.1*
*CSEM **12** 20:14:17.8±0.1,5169N×770E,h1km,ML2.7/8,Error ellipse: s-maj=2.2km s-min=1.6km az=174.0*
*BNS **12** 20:14:18.5±0.5,5166N×769E,h1km,ML2.2*
*BGR **12** 20:14:19.0±0.4,5161N×772E,h1km,ML2.2/5,Error ellipse: s-maj=5.6km s-min=4.4km az=151.0*

ISC 12 20:14:17.7±0.5,5162N±003×767E±004,h0km,n52, σ1§06/78,Germany

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
BUG	Bochum--Univer	0.31	235	ePg		Pg	20 14 24.9	+1.3
BUG				Sg		Sg	20 14 30.3	+2.8
WTSB	Winterswijk	0.64	303	ePg		Pg	20 14 31.4	+1.4
HOBG	Hohbusch	0.67	199	ePg		Pg	20 14 32.0	+1.5
IBBN	Ibbenburen	0.69	4	ePg		Pg	20 14 32.1	+1.2
	SNR=4.8							
IBBN	Ibbenburen	0.69	4	Pg		Pg	20 14 32.1	+1.2
	SNR=4.8							
RODG	Roetgen-Dahlhe	1.05	244	ePg		Pg	20 14 38.7	+1.0
STB	Steinbach	1.15	207	ePg		Pg	20 14 41.0	+1.3
STB				eSg		Sg	20 14 56.8	+2.2
	52nm,0.3s							
KOE	Koeppel	1.20	178	ePg		Pg	20 14 41.0	+0.5
DREG	Dreilaegerbach	1.32	224	ePg		Pg	20 14 42.6	-0.4
HGN	Heimansgroeve	1.39	233	ePg		Pg	20 14 43.7	-0.6
HGN				eSg		Sg	20 15 03.2	+0.9
BGG	Burgeitz	1.43	189	ePg		Pg	20 14 44.8	-0.3
MEM	Membach	1.46	227	P		Pn	20 14 44.7	-0.5
MEM	Membach	1.46	227	P		Pn	20 14 44.6	-0.6
TNS	Taunus Mts	1.48	160	ePg		Pg	20 14 46.1	+0.1
	SNR=7.0							
TNS				eSg		Sg	20 15 05.9	+0.6
	SNR=4.3							
UBBA	Unterbreizbach	1.67	118	ePg		Pg	20 14 49.6	-0.1
	SNR=3.9							
CLZ	Clausthal	1.69	81	ePg		Pg	20 14 49.7	-0.5
	SNR=7.7							
BCLA	Clavier	1.92	232	P		Pn	20 14 51.3	-0.2
WLF	Walferdange	2.18	207	ePg		Pg	20 14 59.4	-0.1
	SNR=4.4							
WLF	Walferdange	2.18	207	P		Pn	20 14 55.9	+0.7
WLF	Walferdange	2.18	207	Pg		Pg	20 14 59.4	-0.1
	SNR=4.4							
GIVF	Givet	2.36	231	ePg		Pg	20 15 02.8	-0.1
GIVF				eSg		Sg	20 15 34.2	+0.8
	12nm,0.3s							
GIVF	Givet	2.36	231	ePg		Pg	20 15 02.8	-0.1
GIVF				eSg		Sg	20 15 34.2	+0.8
	5.8nm,0.3s							
GIVF	Givet	2.36	231	ePn		Pn	20 14 56.6	-1.0
GIVF				ePg		Pg	20 15 02.8	-0.1
GIVF				eSg		Sg	20 15 34.2	+0.8
DOU	Dourbes	2.48	233	P		Pn	20 14 59.2	0.0
DOU	Dourbes	2.48	233	P		Pn	20 14 59.1	-0.1
MOX	Moxa	2.67	110	ePn		Pn	20 15 02.4	+0.5
MOX				ePg		Pg	20 15 09.2	+0.4
MOX				eSg		Sg	20 15 43.8	+0.4
BAIF	Baives	2.69	236	eP		Pn	20 15 03.8	+1.6
BAIF	Baives	2.69	236	ePg		Pg	20 15 09.3	0.0
BAIF				eSg		Sg	20 15 45.6	+1.4
	5.9nm,0.3s							
BAIF	Baives	2.69	236	eP		Pn	20 15 03.8	+1.6
BAIF	Baives	2.69	236	ePg		Pg	20 15 09.3	0.0
BAIF				eSg		Sg	20 15 45.6	+1.4
	3.0nm,0.3s							
BAIF	Baives	2.69	236	ePn		Pn	20 15 01.3	-0.9
BAIF				eP			20 15 03.8	
BAIF				ePg		Pg	20 15 09.3	0.0
BAIF				eSg		Sg	20 15 45.6	+1.4
GUNZ	Gunzen	3.20	111	ePn		Pn	20 15 09.6	+0.4
	SNR=2.1							
CDF	Champ du Feu	3.22	185	ePn		Pn	20 15 08.4	-1.0
CDF				eSg		Sg	20 16 01.6	+0.5
	9.5nm,0.5s							
CDF	Champ du Feu	3.22	185	ePn		Pn	20 15 08.4	-1.0
CDF				eSg		Sg	20 16 01.6	+0.5
	4.8nm,0.5s							
BFO	Black Forest	3.32	172	ePn		Pn	20 15 10.5	-0.3
	SNR=3.7							
BFO	Black Forest	3.32	172	ePn		Pn	20 15 09.2	-1.7
CLL	Collm	3.35	93	eSg		Sg	20 16 08.0	+2.8
MEZF	Maizieres J'vi	3.55	209	eSg		Sg	20 16 12.1	+0.5
	3.9nm,0.4s							
MEZF	Maizieres J'vi	3.55	209	eSg		Sg	20 16 12.1	+0.5
	2.0nm,0.4s							
SFTF	Sexfontaines	3.82	207	ePn		Pn	20 15 16.4	-1.2
SFTF				eSg		Sg	20

comp=Z,71nm,21.5s,baz=95,slow=34
NB2 NORSAR Subarra151.22 350 PKP PKPbc 20 43 26.8 -0.8
comp=Z,0.9nm,0.7s,baz=20,slow=2.7
NOA NORSAR Array B 151.22 350 PKPbc PKPbc 20 43 27.3 -0.3
comp=Z,1.7nm,0.7s,baz=15,slow=4.2,SNR=6.0
TORD Torodi Ar. Bea 160.28 180 PKPab PKPab 20 44 15.2 -0.2
comp=Z,0.4nm,0.8s,baz=169,slow=3.9,SNR=2.5

IDC 12 20:23:42.6±6.8, 5001S×10857E, h0km, mb3.6/3, mb1 3.8/3, mb1mx3.6/14, mbtmp3.6/3, MS3.1/2, Ms1 3.1/2, ms1mx2.7/26, Error ellipse: s-maj=313.5km s-min=26.8km az=113.0, Southeast Indian Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NWAO	**Narrogin (SRO)**	**18.23**	**24**	LR	LR	20 32 53.3	
	comp=Z,52nm,18.1s,baz=266,slow=30						
ASAR	**Alice Springs**	**32.90**	**46**	P	P	20 30 18.8	+0.4
	0.6nm,0.6s,baz=207,slow=9.7,SNR=9.2						
WRA	**Warramunga Arr**	**36.33**	**44**	P	P	20 30 47.6	-0.4
	0.6nm,0.6s,baz=209,slow=8.1,SNR=4.0						
QSPA	**South Pole Qui**	**40.13**	**180**	P	P	20 31 19.8	+0.4
	1.2nm,0.9s,baz=333,slow=7.2,SNR=3.2						
QSPA				LR	LR	20 46 20.8	
	comp=Z,36nm,21.2s,baz=14,slow=34						
NVAR	**Mina Array Bea**	**145.02**	**91**	PKPbc	PKPbc	20 43 20.3	-0.3
	1.4nm,0.6s,baz=220,slow=5.0,SNR=6.4						
TXAR	**Lajitas Array**	**148.10**	**118**	PKPbc	PKPbc	20 43 29.2	-0.7
	0.1nm,0.3s,baz=202,slow=6.8,SNR=3.9						

*BJI **12** 20:47:08.8, 6.15N×12564E, h19km, mB4.9, mb4.6, Ms4.0, Msz3.9*
*ISCJB **12** 20:47:13.9±0.6, 579N±004×12542E±005, h78km±4km, mb4.6/51, Error ellipse: s-maj=8.5km s-min=6.2km az=170.3*
*MOS **12** 20:47:13.1±1.6, 581N×12532E, h70km, mb4.7/24, Error ellipse: s-maj=16.4km s-min=8.9km az=109.5*
*NEIC **12** 20:47:16.1±0.9, 579N×12538E, h84km±8km, mb4.5/20, Error ellipse: s-maj=10.0km s-min=6.4km az=74.0*
*IDC **12** 20:47:16.6±1.1, 578N×12519E, h85km±9km, mb4.1/16, mb1 4.1/18, mb1mx4.1/22, mbtmp4.1/18, MS3.3/12, Ms1 3.4/12, ms1mx3.2/26, Error ellipse: s-maj=20.1km s-min=9.9km az=84.0*
*DJA **12** 20:47:18, 571N×12520E, h10km, Mw5.0/6*
*MAN **12** 20:47:19, 6.14N×12503E, h21km, mb4.8, ML3.7, MS3.7*
ISC 12 20:47:15.3±0.6, 581N±004×12543E±005, h74km±4km, n118, σ1§05/116, mb4.6/51, 6C-4D, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GSPH	**General Santos**	**0.55**	**300**	⇑*eP*	**Pn**	**20 47 25.1**	**-3.8**
GSPH				*i* S	**Sn**	**20 47 33.9**	**-5.1**
KCP	**Kidapawan**	**1.24**	**344**	⇑*eP*	**Pn**	**20 47 36.6**	**-0.4**
KCP				*i* S	**Sn**	**20 47 53.6**	**+1.4**
DAV	**Davao City (W)**	**1.26**	**7**	P	**Pn**	**20 47 38.0**	**+0.7**
	368nm,0.3s,baz=212,slow=1.7,SNR=52						
DAV				S	**Sn**	**20 47 57.9**	**+5.1**
	768nm,0.3s,baz=352,slow=23,SNR=18						
DMPH	**Davao City--Mi**	**1.27**	**4**	⇑*eP*	**Pn**	**20 47 38.4**	**+1.0**
DMPH				*i* S	**Sn**	**20 47 52.8**	**-0.1**
CTBH	**Cotabato--PC H**	**1.83**	**320**	⇑*eP*	**Pn**	**20 47 43.0**	**-1.8**
BIPH	**Bislig**	**2.54**	**21**	⇓*eP*	**Pn**	**20 47 53.8**	**-0.4**
BIPH				*i* S	**Sn**	**20 48 30.4**	**+6.4**
ZMPH	**Zamboanga City**	**3.53**	**289**	⇓*iP*	**Pn**	**20 48 07.1**	**-0.8**
ZMPH				*i* S	**Sn**	**20 48 36.8**	**-12**
ZMPH	**Zamboanga City**	**3.53**	**289**	⇓*iP*	**Pn**	**20 48 07.1**	**-0.8**
ZMPH				*i* S	**Sn**	**20 48 36.8**	**-12**
SCPH	**Surigao**	**3.95**	**1**	⇑*eP*	**Pn**	**20 48 16.5**	**+3.0**
TBP	**Tagbilaran**	**4.16**	**338**	*eP*	**Pn**	**20 48 15.6**	**-0.8**
KKM	**Kota Kinabalu**	**9.17**	**272**	*eP*	**Pn**	**20 49 25.6**	**+0.7**
KAPI	**Kappang**	**12.15**	**208**	P	**Pn**	**20 50 06.0**	**+0.4**
	0.8nm,0.3s,baz=122,slow=6.2,SNR=5.9						
KAPI				LR	LR	20 54 56.9	
	comp=Z,86nm,21.2s,baz=36,slow=38						
KSM	**Kuching**	**15.69**	**255**	*eP*n	**Pn**	**20 50 56.6**	**+4.5**
BATI	**Baumata**	**16.01**	**186**	P	**Pn**	**20 50 56.9**	**+0.9**
	3.6nm,0.3s,baz=247,slow=1.5,SNR=5.8						
KAKA	**Kakadu**	**19.67**	**159**	*eP*	**Pn**	**20 51 36.7**	**-3.9**
	12nm,0.7s						
GUMO	**Guam**	**20.65**	**67**	LR	LR	20 58 47.1	
	comp=Z,56nm,20.6s,baz=235,slow=33						
GUMO	**Guam**	**20.65**	**67**	*eP*	**P**	**20 51 51.8**	**+2.7**
GUMO				pmax	pmax		
	comp=Z,26nm,0.9s						
GUMO	**Guam**	**20.65**	**67**	*eP*	**P**	**20 51 51.8**	**+2.6**
	comp=Z,26nm,0.9s						
JOW	**Kunigami**	**21.08**	**7**	P	**P**	**20 51 54.1**	**+0.5**
	comp=Z,70nm,0.7s,mb5.1,baz=209,slow=8.6,SNR=20						
JOW				LR	LR	20 59 32.9	
	comp=Z,101nm,21.8s,baz=95,slow=35						
FITZ	**Fitzroy Crossi**	**23.76**	**180**	*eP*	**P**	**20 52 21.5**	**+0.4**
	comp=Z,6.8nm,0.6s,mb4.2						
FITZ	**Fitzroy Crossi**	**23.76**	**180**	P	**P**	**20 52 21.7**	**+0.6**
	comp=Z,2.4nm,0.5s,mb3.8,baz=345,slow=8.8,SNR=12						
FITZ				PcP	PcP	20 56 03.3	+0.1
	comp=Z,1.7nm,0.5s,baz=337,slow=7.7,SNR=4.8						
COEN	**Coen**	**26.38**	**138**	*eP*	**P**	**20 52 45.9**	**+1.0**
	comp=Z,2.7nm,0.7s,mb3.8						
CBIJ	**Chichi jima**	**26.51**	**35**	P	**P**	**20 52 44.1**	**-1.9**
	comp=Z,47nm,0.5s,mb5.3,baz=270,slow=13,SNR=5.5						
CBIJ				LR	LR	21 01 47.4	
	comp=Z,15nm,21.1s,baz=139,slow=33						
NST	**Nakhon Sawan**	**26.68**	**294**	P	**P**	**20 52 47.0**	**-0.7**
WRAB	**Tennant Creek**	**27.04**	**161**	*eP*	**P**	**20 52 50.5**	**-0.3**
WRAB				pmax	pmax		
	comp=Z,8.0nm,0.8s,mb4.3						
WRAB	**Tennant Creek**	**27.04**	**161**	*eP*	**P**	**20 52 50.5**	**-0.3**
	comp=Z,8.3nm,0.8s,mb4.3						
WRA	**Warramunga Arr**	**27.05**	**161**	P	**P**	**20 52 49.0**	**-1.9**
	comp=Z,1.3nm,0.4s,mb3.9,baz=331,slow=11,SNR=9.3						
WRA				PcP	PcP	20 56 10.6	0.0
	comp=Z,1.5nm,0.8s,baz=331,slow=2.7,SNR=5.9						
WRA	**Warramunga Arr**	**27.05**	**161**	P	**P**	**20 52 49.0**	**-1.9**
WRA						20 56 10.6	
WRA				pmax	pmax		
	comp=Z,1.0nm,0.4s						
WRA				pmax	pmax		
	comp=Z,2.0nm,0.8s						
WB2	**Warramunga Arr**	**27.05**	**161**	*eP*	**P**	**20 52 49.7**	**-1.2**
NANT	**Nan**	**27.34**	**300**	⇓P	**P**	**20 52 52.0**	**-1.6**
	comp=Z,131nm,0.7s,mb5.6						
CM31	**Chiang Mai Arr**	**28.73**	**298**	*eP*	**P**	**20 53 07.0**	**+1.1**
CMAR	**Chiang Mai Arr**	**28.73**	**298**	P	**P**	**20 53 06.5**	**+0.5**
	comp=Z,3.7nm,0.7s,mb4.1,baz=114,slow=6.9,SNR=27						
CMAR				LR	LR	21 05 29.7	
	comp=Z,38nm,18.4s,baz=225,slow=38						
CMAR	**Chiang Mai Arr**	**28.73**	**298**	P	**P**	**20 53 06.5**	**+0.5**
CMAR				pmax	pmax		
	comp=Z,4.0nm,0.7s						
CMAR				MLR	MLR		
	comp=Z,38nm,18.4s						
ASAR	**Alice Springs**	**30.44**	**165**	P	**P**	**20 53 21.2**	**+0.3**
	comp=Z,0.8nm,0.3s,mb3.8,baz=344,slow=7.0,SNR=27						
ASAR				PcP	PcP	20 56 18.4	-0.6
	comp=Z,2.2nm,0.7s,baz=341,slow=1.9,SNR=13						
ASAR				ScP	ScP	20 59 53.6	-1.6
	comp=Z,0.9nm,0.9s,baz=347,slow=1.9,SNR=6.0						
ASAR	**Alice Springs**	**30.44**	**165**	P	**P**	**20 53 21.3**	**+0.3**
ASAR						20 56 18.5	
ASAR						20 59 53.6	
ASAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ASAR				pmax	pmax		
	comp=Z,2.0nm,0.7s						
ASAR				pmax	pmax		
	comp=N,1.0nm,0.9s						
KSRS	**Korea Array**	**31.58**	**4**	P	**P**	**20 53 31.6**	**+0.7**
	comp=N,4.6nm,0.7s,mb4.3,baz=183,slow=10,SNR=15						
KSRS				PcP	PcP	20 56 22.6	+0.7
	comp=N,3.3nm,0.7s,baz=191,slow=2.3,SNR=8.2						
KSRS				LR	LR	21 05 31.0	
	comp=N,56nm,21.6s,baz=303,slow=35						
KSRS	**Korea Array**	**31.58**	**4**	P	**P**	**20 53 31.6**	**+0.7**
KSRS						20 56 22.6	
KSRS				pmax	pmax		
	comp=Z,5.0nm,0.7s,mb4.3						
KSRS				pmax	pmax		
	comp=Z,3.0nm,0.7s,mb4.1						
KSRS				MLR	MLR		
	comp=Z,57nm,21.6s						
XAN	**Xi'an**	**31.99**	**334**	P	**P**	**20 53 34.3**	**-0.2**
XAN				AMB	AMB		
	comp=Z,24nm,0.8s,mb5.0						
XAN				AMB	AMB		
	comp=Z,45nm,4.8s						
CD2	**Chengdu**	**32.21**	**323**	*eP*	**P**	**20 53 37.6**	**+1.1**
CD2				AMB	AMB		
	comp=Z,10.0nm,0.5s,mb4.8						
MJAR	**Matsushiro Arr**	**32.75**	**19**	P	**P**	**20 53 40.0**	**-1.2**
	comp=Z,2.7nm,0.8s,mb4.2,baz=193,slow=9.4,SNR=8.3						
MJAR				LR	LR	21 06 58.5	
	comp=Z,40nm,19.3s,baz=230,slow=36						
MJAR	**Matsushiro Arr**	**32.75**	**19**	P	**P**	**20 53 40.0**	**-1.2**
MJAR				pmax	pmax		
	comp=Z,3.0nm,0.8s						
MJAR				MLR	MLR		
	comp=Z,40nm,19.3s						
MJAR	**Matsushiro Arr**	**32.75**	**19**	P	**P**	**20 53 40.0**	**-1.2**
MJAR				LR	LR	21 06 58.5	
LZH	**Lanzhou**	**36.07**	**330**	*eP*	**P**	**20 54 10.5**	**+0.7**
LZH				AP	pP	20 54 15.3	-12
LZH				XP	sP	20 54 17.6	-19
LZH				AMB	AMB		
	comp=Z,22nm,1.3s,mb4.9						
LZH				AMB	AMB		
	comp=Z,105nm,5.0s						
SHL	**Shillong**	**37.62**	**305**	*eP*	**P**	**20 54 24.0**	**+0.8**
MDJ	**Mudanjiang**	**38.83**	**5**	P	**P**	**20 54 33.7**	**+0.7**
MDJ				AMB	AMB		
	comp=Z,14nm,0.9s,mb4.8						
MDJ				AMB	AMB		
	comp=Z,102nm,4.6s						
MDJ	**Mudanjiang**	**38.83**	**5**	*eP*	**P**	**20 54 33.5**	**+0.5**
	comp=Z,13nm,0.9s,mb4.8						
LSA	**Lhasa**	**40.11**	**310**	P	**P**	**20 54 45.8**	**+1.9**
LSA	**Lhasa**	**40.11**	**310**	*eP*	**P**	**20 54 45.5**	**+1.6**
LSA				pmax	pmax		
	comp=Z,4.0nm,0.6s,mb4.4						
LSA	**Lhasa**	**40.11**	**310**	*eP*	**P**	**20 54 45.5**	**+1.5**
	comp=Z,4.0nm,0.6s,mb4.4						
STKA	**Stephens Creek**	**40.52**	**159**	*eP*	**P**	**20 54 47.9**	**+0.6**
	comp=Z,5.6nm,0.7s,mb4.5						
STKA	**Stephens Creek**	**40.52**	**159**	P	**P**	**20 54 47.7**	**+0.4**
	comp=Z,2.1nm,0.5s,mb4.2,baz=335,slow=8.9,SNR=8.5						
STKA				PcP	PcP	20 56 48.5	0.0
	comp=Z,2.2nm,0.5s,baz=323,slow=5.8,SNR=3.3						
STKA				LR	LR	21 10 01.2	
	comp=Z,92nm,20.8s,baz=25,slow=34						
STKA	**Stephens Creek**	**40.52**	**159**	*eP*	**P**	**20 54 47.7**	**+0.4**
	comp=Z,11nm,0.9s,mb4.7						
GTA	**Gaotai**	**40.66**	**329**	*eP*	**P**	**20 54 49.3**	**+1.0**
GTA				AP	pP	20 54 54.5	-12
GTA				XP	sP	20 54 57.9	-17
GTA				AMB	AMB		
	comp=Z,6.0nm,1.2s,mb4.3						
ASAJ	**Asahikawa**	**41.02**	**19**	P	**P**	**20 54 53.0**	**+1.7**
	comp=Z,9.8nm,0.7s,mb4.8,baz=251,slow=25,SNR=5.8						
ASAJ				LR	LR	21 12 50.9	
	comp=Z,39nm,18.2s,baz=353,slow=37						
ASAJ	**Asahikawa**	**41.02**	**19**	P	**P**	**20 54 53.0**	**+1.7**
ASAJ				pmax	pmax		
	comp=Z,10.0nm,0.7s						
ASAJ				MLR	MLR		
	comp=Z,39nm,18.2s						
TAPN	**Taplejung**	**41.76**	**305**	*eP*	**P**	**20 54 57.7**	**+0.1**
	comp=Z,7.6nm,0.5s,mb4.7						
ODAN	**Odare**	**41.83**	**304**	*eP*	**P**	**20 54 58.5**	**+0.4**
	comp=Z,16nm,0.7s,mb4.9						
RAMN	**Ramite**	**42.51**	**304**	*eP*	**P**	**20 55 04.5**	**+0.8**
	comp=Z,22nm,0.8s,mb4.9						
JIRN	**Jiri**	**43.12**	**305**	*eP*	**P**	**20 55 09.5**	**+0.9**
	comp=Z,27nm,0.8s,mb5.0						
GUN	**Gumba**	**43.47**	**305**	*eP*	**P**	**20 55 12.0**	**+0.6**
	comp=Z,34nm,0.6s,mb5.2						
HIA	**Hailar**	**43.57**	**355**	P	**P**	**20 55 11.1**	**-0.8**
HIA				pmax	pmax		
	comp=Z,6.0nm,0.9s						
HIA	**Hailar**	**43.57**	**355**	P	**P**	**20 55 11.1**	**-0.8**
	comp=Z,6.3nm,0.9s,mb4.3						
KKN	**Kakani**	**43.91**	**305**	*eP*	**P**	**20 55 15.3**	**+0.3**
DMN	**Daman**	**43.99**	**304**	*eP*	**P**	**20 55 16.2**	**+0.6**
	comp=Z,16nm,0.9s,mb4.8						
GKN	**Gorkha**	**44.52**	**305**	*eP*	**P**	**20 55 20.1**	**+0.2**
	comp=Z,6.2nm,0.6s,mb4.5						
SONM	**Songino Array**	**44.93**	**342**	P	**P**	**20 55 22.4**	**-0.3**
	comp=Z,1.3nm,0.7s,mb3.8,baz=155,slow=7.6,SNR=11						
SONM				PcP	PcP	20 57 02.8	-0.2
	comp=Z,1.1nm,0.9s,baz=159,slow=3.6,SNR=3.5						
SONM				LR	LR	21 15 06.5	
	comp=Z,76nm,18.8s,baz=336,slow=37						
SONM	**Songino Array**	**44.93**	**342**	P	**P**	**20 55 22.4**	**-0.3**
SONM						20 57 02.8	
SONM				pmax	pmax		
	comp=Z,1.0nm,0.7s						
SONM				pmax	pmax		
	comp=Z,1.0nm,1.0s						
SONM				MLR	MLR		
	comp=Z,76nm,18.8s						
KOLN	**Koldanda**	**45.29**	**304**	*eP*	**P**	**20 55 26.0**	**0.0**
	comp=Z,22nm,0.6s,mb5.0						
DANN	**Dangsing**	**45.37**	**305**	*eP*	**P**	**20 55 26.9**	**+0.3**
	comp=Z,25nm,0.6s,mb5.1						
PETK	**Petropavlovsk-**	**54.03**	**23**	P	**P**	**20 56 33.1**	**+1.2**
	comp=Z,6.7nm,0.6s,mb4.9,baz=204,slow=2.5,SNR=10						
PETK	**Petropavlovsk-**	**54.03**	**23**	P	**P**	**20 56 33.1**	**+1.2**
PETK				pmax	pmax		
	comp=Z,7.0nm,0.6s,mb4.9						
MKAR	**Makanchi Array**	**55.12**	**325**	P	**P**	**20 56 39.9**	**-0.1**
	comp=Z,2.6nm,0.6s,mb4.5,baz=123,slow=8.2,SNR=24						
MKAR				PcP	PcP	20 57 39.0	-1.5
	comp=Z,1.8nm,0.7s,baz=109,slow=3.5,SNR=6.1						
MKAR	**Makanchi Array**	**55.12**	**325**	P	**P**	**20 56 39.9**	**0.0**
MKAR						20 57 39.0	
MKAR				pmax	pmax		
	comp=Z,3.0nm,0.6s						
MKAR				pmax	pmax		
	comp=Z,2.0nm,0.7s						
MKAR	**Makanchi Array**	**55.12**	**325**	P	**P**	**20 56 39.9**	**-0.1**
MKAR				PcP	PcP	20 57 39.0	-1.5
YAK	**Yakutsk**	**56.19**	**2**	*eP*	**P**	**20 56 46.6**	**-0.7**
YAK				pmax	pmax		
	comp=Z,38nm,0.9s,mb5.4						
TKM2	**Tokmak 2**	**57.34**	**318**	*eP*	**P**	**20 56 55.2**	**-0.6**
TKM2				pmax	pmax		
	comp=Z,3.0nm,0.7s,mb4.4						
TKM2	**Tokmak 2**	**57.34**	**318**	*eP*	**P**	**20 56 55.2**	**-0.7**
	comp=Z,2.9nm,0.7s,mb4.4						
UCH	**Uchtor**	**57.78**	**317**	*eP*	**P**	**20 56 59.8**	**+0.9**
	comp=Z,4.7nm,0.8s,mb4.6						
ZALV	**Zalesovo Beam**	**58.16**	**333**	P	**P**	**20 56 59.4**	**-1.9**
	comp=Z,1.4nm,0.5s,mb4.2,baz=132,slow=7.0,SNR=8.5						
ZALV				LR	LR	21 24 28.5	
	comp=Z,36nm,18.5s,baz=270,slow=38						
ZALV	**Zalesovo Beam**	**58.16**	**333**	P	**P**	**20 56 59.4**	**-2.0**
ZALV				pmax	pmax		
	comp=Z,1.0nm,0.5s,mb4.1						
ZALV				MLR	MLR		
	comp=Z,36nm,18.5s						
ZALV	**Zalesovo Beam**	**58.16**	**333**	P	**P**	**20 56 59.4**	**-1.9**
ZALV				LR	LR	21 24 28.4	
AML	**Almayashu**	**58.30**	**317**	*eP*	**P**	**20 57 03.1**	**+0.5**
	comp=Z,4.6nm,0.8s,mb4.6						
EKS2	**Erkin-Say**	**58.45**	**317**	*eP*	**P**	**20 57 04.3**	**+0.7**
	comp=Z,5.2nm,1.1s,mb4.5						
KBL	**Kabul**	**59.24**	**307**	*eP*	**P**	**20 57 09.1**	**-0.2**
KBL				pmax	pmax		
	comp=Z,6.0nm,0.7s,mb4.7						
KBL	**Kabul**	**59.24**	**307**	*eP*	**P**	**20 57 09.1**	**-0.1**
	comp=Z,6.2nm,0.7s,mb4.8						
KURK	**Kurchatov**	**59.30**	**327**	P	**P**	**20 57 08.6**	**-0.7**
	comp=Z,4.3nm,0.6s,mb4.6,baz=123,slow=6.9,SNR=41						
KURK	**Kurchatov**	**59.30**	**327**	⇑*eP*	**P**	**20 57 08.5**	**-0.9**
KURK				pmax	pmax		
	comp=Z,6.0nm,0.6s,mb4.8						
KURK	**Kurchatov**	**59.30**	**327**	*eP*	**P**	**20 57 07.9**	**-1.4**
	comp=Z,7.6nm,0.7s,mb4.8						
BVAR	**Borovoye Array**	**64.88**	**327**	P	**P**	**20 57 45.6**	**-1.1**
	comp=Z,1.6nm,0.7s,mb4.0,baz=137,slow=8.8,SNR=13						
BVAR	**Borovoye Array**	**64.88**	**327**	P	**P**	**20 57 45.6**	**-1.1**
BVAR				pmax	pmax		
	comp=Z,2.0nm,0.7s						
BRVK	**Borovoye**	**64.95**	**327**	*eP*	**P**	**20 57 45.9**	**-1.2**
BRVK				pmax	pmax		
	comp=Z,5.0nm,0.7s,mb4.5						
BRVK	**Borovoye**	**64.95**	**327**	*eP*	**P**	**20 57 45.9**	**-1.3**
	comp=Z,4.5nm,0.7s,mb4.4						
UNV	**Unalaska Valle**	**72.47**	**35**	P	**P**	**20 58 33.5**	**-0.4**
	comp=Z,9.1nm,0.8s,mb4.7						
ARU	**Arti**	**72.50**	**328**	*eP*	**P**	**20 58 31.9**	**-2.1**
ARU				pmax	pmax		
	comp=Z,4.0nm,0.7s,mb4.4						
ARU	**Arti**	**72.50**	**328**	*eP*	**P**	**20 58 31.9**	**-2.1**
	comp=Z,3.6nm,0.7s,mb4.3						
GNI	**Garni**	**79.17**	**310**	*i* P	**P**	**20 59 14.5**	**+2.1**
GNI				pmax	pmax		
	comp=Z,8.0nm,2.0s						
KIV	**Kislovodsk**	**80.78**	**313**	*eP*	**P**	**20 59 22.0**	**+1.0**
KIV				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.2						
KIV	**Kislovodsk**	**80.78**	**313**	*eP*	**P**	**20 59 20.1**	**-0.9**
	comp=Z,6.0nm,0.9s,mb4.4						
MCK	**McKinley**	**82.89**	**27**	*eP*	**P**	**20 59 32.0**	**+0.3**
MCK				pmax	pmax		
	comp=Z,34nm,1.2s,mb5.0						
MCK	**McKinley**	**82.89**	**27**	*eP*	**P**	**20 59 32.0**	**+0.3**
	comp=Z,34nm,1.2s,mb5.0						
OBN	**Obninsk**	**84.63**	**325**	P	**P**	**20 59 39.8**	**-0.9**
OBN				pmax	pmax		
	comp=Z,3.0nm,0.5s,mb4.5						
MAW	**Mawson**	**85.25**	**200**	P	**P**	**20 59 42.0**	**-1.5**
	comp=Z,0.6nm,0.5s,mb3.8,baz=63,slow=2.9,SNR=3.8						
MAW	**Mawson**	**85.25**	**200**	P	**P**	**20 59 42.0**	**-1.5**
MAW				pmax	pmax		
	comp=Z,1.0nm,0.5s						
ARCES	**ARCESS Array B**	**88.06**	**340**	P	**P**	**20 59 56.0**	**-1.2**
	comp=Z,3.4nm,0.8s,mb4.4,baz=52,slow=7.9,SNR=3.8						
ARCES	**ARCESS Array B**	**88.06**	**340**	P	**P**	**20 59 56.0**	**-1.2**
ARCES				pmax	pmax		
	comp=Z,3.0nm,0.8s						
NOA	**NORSAR Array B**	**96.36**	**333**	P	**P**	**21 00 33.2**	**-2.6**
	comp=Z,1.1nm,0.8s,mb4.4,baz=68,slow=4.6,SNR=4.3						
NOA				LR	LR	21 46 15.5	
	comp=Z,56nm,18.4s,baz=30,slow=37						
NOA	**NORSAR Array B**	**96.36**	**333**	P	**P**	**21 00 33.2**	**-2.6**
NOA				pmax	pmax		
	comp=Z,1.0nm,0.8s						
NOA				MLR	MLR		
	comp=Z,56nm,18.4s						
NOA	**NORSAR Array B**	**96.36**	**333**	P	**P**	**21 00 33.2**	**-2.6**
NOA				LR	LR	21 46 15.5	
YKA	**Yellowknife Ar**	**98.15**	**24**	P	**P**	**21 00 43.6**	**-0.2**
	comp=Z,0.6nm,0.7s,mb4.3,baz=305,slow=4.7,SNR=3.7						
YKA	**Yellowknife Ar**	**98.15**	**24**	P	**P**	**21 00 43.6**	**-0.2**
YKA				pmax	pmax		
	comp=Z,1.0nm,0.7s						
TORD	**Torodi Ar. Bea**	**121.03**	**289**	PKP	PKPdf	21 05 59.0	-1.5
	comp=Z,1.2nm,0.6s,baz=63,slow=1.5,SNR=30						
TXAR	**Lajitas Array**	**121.32**	**51**	PKP	PKPdf	21 06 01.3	+0.6
	comp=Z,0.5nm,0.6s,baz=202,slow=1.4,SNR=9.3						
TXAR	**Lajitas Array**	**121.32**	**51**	PKIKP	PKPdf	21 06 01.3	+0.6
TXAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
HKT	**Hockley**	**126.81**	**46**	*e*PKIKP	PKPdf	21 06 14.0	+2.8
PLCA	**Paso Flores**	**142.39**	**160**	PKP	PKPdf	21 06 41.1	+1.2
	comp=Z,1.3nm,0.6s,baz=210,slow=3.9,SNR=4.8						
PLCA	**Paso Flores**	**142.39**	**160**	PKIKP	PKPdf	21 06 41.1	+1.2
PLCA				pmax	pmax		
	comp=Z,1.0nm,0.6s						
LPAZ	**La Paz**	**163.12**	**129**	PKP	PKPdf	21 07 12.1	+1.8
	comp=Z,0.7nm,0.6s,baz=209,slow=2.1,SNR=4.7						
LPAZ				PKPab	PKPab	21 08 02.9	+2.4
	comp=Z,1.3nm,0.9s,baz=159,slow=5.4,SNR=4.1						
LPAZ	**La Paz**	**163.12**	**129**	PKIKP	PKPdf	21 07 12.1	+1.8
LPAZ				pmax	pmax		
	comp=Z,1.0nm,0.6s						
LPAZ				pmax	pmax		
	comp=Z,1.0nm,1.0s						

KRSC 12 20:52:12.3±0.8, 5375N×16072E, h35km±35km, ML3.6, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NLC	**Nalytchevo**	**1.01**	**235**	*eP*	**Pn**	**20 52 31.1**	**+1.2**
NLC				*e*S	**Sn**	**20 52 44.9**	**+2.1**
AVH	**Avacha**	**1.28**	**248**	*eP*	**Pn**	**20 52 35.4**	**+1.8**
AVH				*e*S	**Sn**	**20 52 52.2**	**+2.7**
PET	**Petropavlovsk**	**1.44**	**240**	*eP*	**Pn**	**20 52 37.1**	**+1.3**
PET				*e*S	**Sn**	**20 52 54.7**	**+1.3**
TUMR	**Tumrok**	**1.57**	**348**	*eP*	**Pn**	**20 52 39.0**	**+1.4**
TUMR				*e*S	**Sn**	**20 52 58.2**	**+1.5**
GNL	**Ganaly**	**1.65**	**269**	*eP*	**Pn**	**20 52 39.8**	**+1.1**
RUS	**Russkaya**	**1.87**	**226**	*eP*	**Pn**	**20 52 42.9**	**+1.1**
RUS				*e*S	**Sn**	**20 53 05.0**	**+0.8**
GRL	**Gorelyy**	**2.00**	**234**	*eP*	**Pn**	**20 52 45.8**	**+2.3**
GRL				*e*S	**Sn**	**20 53 10.2**	**+3.0**
KIRR	**Kirishev**	**2.22**	**354**	*eP*	**Pn**	**20 52 49.1**	**+2.6**
KOZ	**Kozyrevsk**	**2.36**	**348**	*eP*	**Pn**	**20 52 50.2**	**+1.7**
KOZ				*e*S	**Sn**	**20 53 18.1**	**+1.8**
KLY	**Klyuchi**	**2.57**	**359**	*e*S	**Sn**	**20 53 23.7**	**+2.4**
KBTR	**Krutoberegovo**	**2.74**	**25**	*eP*	**Pn**

comp=Z,863nm,1.1s
CHTO Chiang Mai 10.22 37 *e*Pn **Pn 21 35 42.6 +1.1**
comp=Z,863nm,1.1s
NANT Nan 11.32 43 ⇓P **Pn 21 35 57.0 +0.4**
comp=Z,138nm,1.0s
VIS Vishakhapatnam 11.37 309 *i* P **Pn 21 35 56.6 -0.7**
VIS *i* S **Sn 21 37 50.1 -13**
KKTK Khon Kaen 11.49 59 P **Pn 21 36 02.0 +3.0**
comp=Z,586nm,0.5s
CHRT Chiangrai 11.54 36 ⇓P **Pn 21 36 01.0 +1.4**
comp=Z,163nm,0.8s
BWNR Bhubaneshwar 11.59 327 *e*P **Pn 21 35 58.7 -1.6**
BWNR *ex* x 21 37 53.3
PALK Pallekele 12.16 255 *e*P **Pn 21 36 11.8 +3.7**
PALK pmax pmax
comp=Z,36nm,0.8s
PALK Pallekele 12.16 255 *e*Pn **Pn 21 36 11.8 +3.7**
comp=Z,36nm,0.8s
MDRS Chennai 12.27 283 *e*P **Pn 21 36 09.8 +0.1**
MDRS *ex* x 21 36 29.0
MDRS *ex* x 21 38 02.0
IMP Imphal 14.14 5 *e*P **Pn 21 36 36.0 +0.9**
IMP *ex* x 21 38 02.0
BOK Bokaro 14.54 335 *e*P **Pn 21 36 39.6 -1.0**
BOK AMb AMB 21 36 52.7
comp=Z,22nm,1.5s
BOK *ex* x 21 39 07.1
SHL Shillong 14.87 358 *e*P **Pn 21 36 43.0 -2.0**
SHL *ex* x 21 39 16.0
HYB Hyderabad 15.15 298 *i* P **Pn 21 36 55.0 +6.3**
HYB Hyderabad 15.15 298 *e*P **Pn 21 36 55.0 +6.3**
ODAN Odare 16.86 344 *e*P **Pn 21 37 11.7 +1.2**
RAMN Ramite 17.17 342 *e*P **Pn 21 37 15.4 +0.9**
TAPN Taplejung 17.24 345 *e*P **Pn 21 37 15.9 +0.6**
LATR Latur 17.29 298 *ex* **Pn 21 37 20.2 +4.2**
KMI Kunming 17.36 33 P **Pn 21 37 18.3 +1.4**
KMI AP pP 21 37 27.1 -0.1
KMI AMB AMB
comp=Z,11nm,1.0s
KMI AMB AMB
comp=Z,71nm,3.5s
KMI LR LR
comp=N,383nm,18.5s
KMI LR LR
comp=E,307nm,19.4s
KMI LR LR
comp=Z,305nm,24.8s
JIRN Jiri 17.96 341 *e*P **Pn 21 37 24.9 +0.7**
comp=Z,16nm,0.6s
PKI Pulchoki 18.14 339 *e*P **Pn 21 37 26.4 0.0**
PKI Pulchoki 18.14 339 *e*P **Pn 21 37 26.9 +0.5**
PKIN Phulchoki 18.15 339 *e*P **Pn 21 37 26.9 +0.4**
DMN Daman 18.28 339 *e*P **Pn 21 37 28.2 +0.1**
GUN Gumba 18.29 341 *e*P **Pn 21 37 29.1 +0.8**
QIZ Qiongzhong 18.68 61 P **Pn 21 37 28.5 -4.6**
QIZ S **S 21 40 49.1 -14**
QIZ LR LR
comp=N,308nm,18.1s
QIZ LR LR
comp=Z,329nm,23.7s
GKN Gorkha 18.81 338 *e*P **Pn 21 37 34.5 0.0**
GOA Goa 18.86 287 ⇓*i*x **Pn 21 37 38.3 +3.1**
GOA *ex* x 21 40 43.6
KAD Karad 19.00 292 *e*P **Pn 21 37 36.1 -0.9**
KAD AMb AMB 21 37 52.1
comp=Z,57nm,1.2s
KOLN Koldanda 19.01 335 *e*P **Pn 21 37 36.8 -0.1**
comp=Z,16nm,0.7s
LSA Lhasa 19.02 356 P **Pn 21 37 36.6 -0.4**
LSA AP pP 21 37 43.9 -1.5
LSA S **S 21 40 57.7 -12**
LSA XS sS 21 41 18.5 -6.4
LSA LR LR
comp=N,200nm,27.5s
LSA LR LR
comp=E,410nm,29.1s
LSA LR LR
comp=Z,340nm,26.0s
LSA Lhasa 19.02 356 *e*P **Pn 21 37 36.9 -0.1**
LSA pmax pmax
comp=Z,26nm,0.8s
LSA Lhasa 19.02 356 *e*P **Pn 21 37 36.9 -0.2**
comp=Z,26nm,0.8s
BHPL Bhopal 19.11 313 *e*P **Pn 21 37 36.0 -2.3**
BHPL AMb AMB 21 37 52.1
comp=Z,88nm,1.3s
DANN Dangsing 19.46 336 *e*P **Pn 21 37 41.9 -0.4**
comp=Z,28nm,0.5s
POO Poona 19.70 296 *e*P **Pn 21 37 46.1 +0.8**
POO AMb AMB 21 37 58.0
comp=Z,88nm,0.7s
KSM Kuching 19.86 116 *e*P **Pn 21 37 45.2 -2.0**
GYA Guiyang 20.63 38 ⇓*i*P **P 21 37 53.1 -0.7**
GYA S **S 21 41 41.7 -0.8**
GYA AMB AMB
comp=Z,10.0nm,0.6s
GYA AMB AMB
comp=Z,130nm,6.2s
GYA LR LR
comp=N,180nm,10.5s
GYA LR LR
comp=E,120nm,7.4s
GYA LR LR
comp=Z,550nm,6.5s
CD2 Chengdu 22.71 26 ⇑*i*P **P 21 38 13.7 -2.2**
CD2 AP 21 38 22.9
CD2 XP sP 21 38 27.0 -3.0
CD2 PP 21 38 43.2
CD2 S **S 21 42 16.1 -6.2**
CD2 XS sS 21 42 31.1 -7.1
CD2 SS 21 43 00.1
CD2 AMB AMB
comp=Z,60nm,0.7s,mb5.1
CD2 AMB AMB
comp=Z,150nm,4.8s
CD2 LR LR
comp=N,830nm,13.2s
CD2 LR LR
comp=E,710nm,20.4s
CD2 LR LR
comp=Z,220nm,12.0s,MS3.8
DDI Dehra Dun 23.78 328 *e*P **P 21 38 26.2 -0.5**
SMLA Simla 24.89 327 *i* P **P 21 38 37.4 +0.7**
SMLA *ex* x 21 38 40.6
comp=Z,62nm,0.5s
SMLA *i* x x 21 43 14.1
LZH Lanzhou 27.34 20 *e*P **P 21 38 58.0 -0.9**
LZH AP pP 21 39 07.9 -1.2
LZH XP sP 21 39 13.0 -0.4
LZH *e*PP 21 39 46.1
LZH *e*S **S 21 43 35.0 -1.3**
LZH *e*SS 21 44 53.7
LZH AMB AMB
comp=Z,16nm,1.3s,mb4.4
LZH AMB AMB
comp=Z,72nm,4.5s
LZH LR LR
comp=E,239nm,12.6s
LZH LR LR
comp=Z,472nm,15.4s,MS4.2
LZH Lanzhou 27.34 20 *e*P **P 21 38 58.0 -0.9**
LZH *SP sP 21 39 13.0 -0.4
LZH *e* 21 39 46.1
LZH *e*S **S 21 43 35.0 -1.3**
LZH *e*SS 21 44 53.7
LZH Lanzhou 27.34 20 *e*P **P 21 38 58.0 -0.9**
LZH pP pP 21 39 07.9 -1.2
LZH sP sP 21 39 13.0 -0.4
LZH *e*PP 21 39 46.1
LZH *e*S **S 21 43 35.0 -1.3**
LZH sS sS 21 43 50.5 -2.7
LZH *e*SS 21 44 53.7
XAN Xi'an 27.71 30 P **P 21 38 59.5 -2.7**
XAN PP 21 39 47.9
XAN AMB AMB
comp=Z,7.0nm,1.0s,mb4.2
XAN AMB AMB
comp=Z,31nm,4.5s
XAN LR LR
comp=N,154nm,22.0s,MS3.8
XAN LR LR
comp=E,196nm,22.0s,MS3.8
XAN LR LR
comp=Z,253nm,22.9s,MS3.7
GTA Gaotai 29.38 12 P **P 21 39 17.3 +0.2**
GTA AP pP 21 39 24.7 -2.6
GTA XP sP 21 39 28.5 -3.1
GTA AMB AMB
comp=Z,15nm,0.8s,mb4.8
KBL Kabul 32.04 322 *e*P **P 21 39 42.1 +1.5**
KBL pmax pmax
comp=Z,16nm,1.1s,mb4.8
KBL Kabul 32.04 322 *e*P **P 21 39 42.1 +1.6**
comp=Z,16nm,1.1s,mb4.8
NJ2 Nanjing 32.32 45 *e*P **P 21 39 43.3 +0.2**
NJ2 AMB AMB
comp=Z,10.0nm,0.7s,mb4.8
TKM2 Tokmak 2 35.40 338 *e*P **P 21 40 11.9 +2.3**
TKM2 pmax pmax
comp=Z,4.0nm,0.7s,mb4.5
TKM2 Tokmak 2 35.40 338 *e*P **P 21 40 11.9 +2.3**
comp=Z,4.1nm,0.7s,mb4.5
AML Almayashu 35.46 336 *e*P **P 21 40 12.1 +1.9**
comp=Z,13nm,0.8s,mb4.9
EKS2 Erkin-Say 35.87 336 *e*P **P 21 40 15.7 +2.0**
comp=Z,3.0nm,0.9s,mb4.2
MKAR Makanchi Array 37.08 348 P **P 21 40 23.8 -0.2**
comp=Z,2.3nm,0.6s,mb4.2,baz=170,slow=8.1,SNR=16
MKAR Makanchi Array 37.08 348 *i* P **P 21 40 23.7 -0.2**
MKAR pmax pmax
comp=Z,2.0nm,0.6s
BATI Baumata 37.24 123 P **P 21 40 23.3 -2.5**
comp=Z,13nm,0.4s,mb5.1,baz=333,slow=3.6,SNR=4.5
KK31 Karatay Array 37.60 333 *i* P **P 21 40 29.2 +0.7**
KK31 pmax pmax
comp=Z,5.0nm,0.5s,mb4.5
SONM Songino Array 38.87 15 P **P 21 40 38.8 -0.3**
comp=Z,2.9nm,0.6s,mb4.2,baz=200,slow=8.1,SNR=27
SONM PcP PcP 21 42 49.7 +0.1
comp=Z,1.3nm,0.6s,baz=195,slow=3.5,SNR=3.5
SONM ScP ScP 21 46 33.4 -1.9
comp=Z,2.1nm,1.0s,baz=194,slow=2.8,SNR=8.5
SONM LR LR 21 58 27.3
comp=Z,130nm,21.5s,MS3.7,baz=200,slow=39
SONM Songino Array 38.87 15 P **P 21 40 38.8 -0.3**
SONM 21 42 49.7
SONM 21 46 33.4
SONM pmax pmax
comp=Z,3.0nm,0.6s
SONM pmax pmax
comp=Z,1.0nm,0.6s
SONM pmax pmax
comp=N,2.0nm,1.0s
SONM MLR MLR
comp=Z,130nm,21.5s
ZAK Zakamensk 40.61 11 *e*P **P 21 40 53.6 +0.1**
ZAK *e* 21 42 56.5
ZAK pmax pmax
comp=Z,6.0nm,1.6s,mb4.0
KSRS Korea Array 41.51 44 P **P 21 40 59.9 -1.3**
comp=Z,3.0nm,0.5s,mb4.2,baz=240,slow=8.5,SNR=9.4
KSRS LR LR 21 58 54.8
comp=Z,116nm,19.7s,MS3.8,baz=235,slow=37
KSRS Korea Array 41.51 44 P **P 21 40 59.9 -1.2**
KSRS pmax pmax
comp=Z,3.0nm,0.5s,mb4.2
KSRS MLR MLR
comp=Z,116nm,19.7s,MS3.8
KURK Kurchatov 41.57 347 *i* P **P 21 41 01.0 -0.4**
KURK pmax pmax
comp=Z,7.0nm,1.7s,mb4.0
KURK MLR MLR
comp=Z,100nm,19.0s,MS3.7
TLY Talaya 41.92 10 *e*P pP 21 41 16.0 +1.3
TLY *e* 21 42 46.6
TLY pmax pmax
comp=Z,13nm,0.9s,mb4.6
TLY MLR MLR
comp=Z,91nm,18.0s,MS3.7
FITZ Fitzroy Crossi 43.39 131 *e*P **P 21 41 16.3 -0.3**
comp=Z,9.1nm,0.6s,mb4.7
CN2 Changchun 43.61 35 *e*P **P 21 41 17.0 -1.1**
CN2 AMB AMB
comp=Z,20nm,1.0s,mb4.8
ZAA0 Zalesovo Array 43.64 353 *e*P **P 21 41 19.2 +1.0**
ZAA0 *e*pP pP 21 41 28.2 -0.4
ZALV Zalesovo Beam 43.64 353 P **P 21 41 17.8 -0.4**
comp=Z,1.0nm,0.3s,mb4.0,baz=173,slow=8.4,SNR=8.8
ZALV LR LR 22 03 03.7
comp=Z,65nm,21.3s,MS3.5,baz=198,slow=41
ZALV Zalesovo Beam 43.64 353 P **P 21 41 17.8 -0.3**
ZALV pmax pmax
comp=Z,1.0nm,0.3s,mb4.0
ZALV MLR MLR
comp=Z,65nm,21.3s,MS3.5
ZALV Zalesovo Beam 43.64 353 P **P 21 41 17.8 -0.4**
ZALV LR LR 22 03 03.6
NVS Novosibirsk 44.71 352 *e*P pP 21 41 34.4 -2.8
VOSK Vostochnaya 45.44 342 P **P 21 41 33.8 +1.2**
VOSK pmax pmax
comp=Z,12nm,0.7s,mb4.8
RDF Al-Radifah 45.76 300 *e*P **P 21 41 35.3 -0.2**
baz=300
RDF AMb AMB 21 41 38.1
comp=Z,15nm,0.6s,mb5.1,baz=300
BVA0 Borovoye Array 45.89 342 *i* P **P 21 41 36.6 +0.5**
BVA0 pmax pmax
comp=Z,2.0nm,1.0s,mb4.0
KAKA Kakadu 45.91 119 *e*P **P 21 41 33.8 -3.0**
comp=Z,8.0nm,0.4s,mb5.0
BRVK Borovoye 45.95 341 *e*P **P 21 41 37.3 +0.8**
BRVK pmax pmax
comp=Z,14nm,0.8s,mb4.9
BRVK Borovoye 45.95 341 *e*P **P 21 41 37.3 +0.8**
comp=Z,14nm,0.8s,mb4.9
NAY Al-Naaiem 46.10 300 *e*P **P 21 41 38.1 -0.1**
baz=300
NAY AMb AMB 21 41 39.8
comp=Z,9.0nm,0.9s,mb4.7,baz=300
RST Umm Al-Ruwaisa 46.37 301 *e*P **P 21 41 40.1 -0.2**
baz=300
RST AMb AMB 21 41 54.1
comp=Z,16nm,1.1s,mb4.9,baz=300
AB31 Akbulak array 47.07 331 P **P 21 41 46.3 +0.9**
AB31 pmax pmax
comp=Z,6.0nm,0.6s,mb4.7
MUN Mundaring 48.04 153 *e*P **P 21 41 53.6 +0.4**
KLBR Kellerberrin 48.44 151 *e*P **P 21 41 56.7 +0.5**
comp=Z,13nm,1.1s,mb4.9
MJAR Matsushiro Arr 48.55 50 P **P 21 41 55.6 -1.5**
comp=Z,0.9nm,0.5s,mb4.1,baz=242,slow=7.8,SNR=5.3
MJAR LR LR 22 03 25.3
comp=Z,85nm,20.7s,MS3.7,baz=280,slow=37
AKTK Aktyubinsk 48.78 331 P **P 21 41 59.3 +0.6**
AKTO Aktyubinsk 48.78 331 P **P 21 41 59.3 +0.6**
comp=Z,1.9nm,0.8s,mb4.2,baz=134,slow=10,SNR=5.9
AKTO Aktyubinsk 48.78 331 *i* P **P 21 42 02.3 +3.6**
AKTO pmax pmax
comp=Z,2.0nm,0.8s,mb4.2
BOD Bodaibo 49.88 15 *e*P **P 21 42 06.3 -0.6**
BOD pmax pmax
comp=Z,14nm,1.1s,mb4.9
WRA Warramunga Arr 51.15 126 P **P 21 42 16.8 -0.3**
comp=Z,21nm,0.5s,mb5.3,baz=305,slow=8.7,SNR=84
WRA S **S 21 49 27.4 -5.6**
comp=Z,1.8nm,0.8s,baz=296,slow=16,SNR=6.5
WRA Warramunga Arr 51.15 126 P **P 21 42 16.8 -0.3**
WRA S **S 21 49 27.4 -5.6**
WRA pmax pmax
comp=Z,21nm,0.5s
WRA smax
comp=N,2.0nm,0.8s
WRAB Tennant Creek 51.15 126 *e*P **P 21 42 16.9 -0.2**
WRAB pmax pmax
comp=Z,26nm,0.6s,mb5.3
WRAB Tennant Creek 51.15 126 *e*P **P 21 42 16.9 -0.2**
comp=Z,26nm,0.6s,mb5.3
WB2 Warramunga Arr 51.16 126 *e*P **P 21 42 17.0 -0.2**
GUMO Guam 51.17 81 LR LR 22 00 56.1
comp=Z,38nm,20.3s,MS3.4,baz=355,slow=32
GNI Garni 51.40 313 *e*P **P 21 42 20.6 +1.9**
GNI pmax pmax
comp=Z,29nm,1.1s
GNI Garni 51.40 313 *e*P **P 21 42 20.6 +2.0**
comp=Z,29nm,1.1s,mb5.1
GNI *e*pP pP 21 42 30.1 +0.7
SVE Sverdlovsk 52.27 338 *e*P **P 21 42 25.9 +1.0**
SVE *e*S **S 21 49 35.6 -12**
SVE pmax pmax
comp=Z,27nm,1.2s,mb5.0
ARU Arti 52.75 337 ⇓*e*P **P 21 42 28.8 +0.4**
ARU pmax pmax
comp=Z,12nm,2.4s,mb4.4
ARU Arti 52.75 337 *e*P **P 21 42 28.4 0.0**
comp=Z,19nm,1.1s,mb4.9
ARU *e*pP pP 21 42 36.9 -2.2
ARU *e*sP sP 21 42 40.6 -2.8
ASAR Alice Springs 52.89 131 P **P 21 42 29.9 -0.1**
comp=Z,15nm,0.5s,mb5.2,baz=305,slow=6.8,SNR=240
ASAR S **S 21 49 50.2 -6.6**
comp=Z,2.4nm,0.8s,baz=297,slow=13,SNR=15
ASAR Alice Springs 52.89 131 P **P 21 42 29.9 -0.1**
ASAR S **S 21 49 50.3 -6.5**
ASAR pmax pmax
comp=Z,15nm,0.5s
ASAR smax
comp=N,2.0nm,0.8s
FORT Forrest 53.47 142 *e*P **P 21 42 34.7 +0.6**
comp=N,15nm,0.5s,mb5.2
KIV Kislovodsk 54.23 317 ⇑*e*P **P 21 42 40.7 +1.2**
KIV pmax pmax
comp=Z,23nm,1.4s,mb4.9
KIV MLR MLR
comp=Z,100nm,21.0s,MS3.9
KIV Kislovodsk 54.23 317 *e*P **P 21 42 40.8 +1.3**
comp=Z,32nm,0.9s,mb5.2
KIV *e*pP pP 21 42 49.3 -0.9
KIV *e*sP sP 21 42 53.3 -1.2
ASAJ Asahikawa 54.43 43 P **P 21 42 41.0 0.0**
comp=Z,9.9nm,0.8s,mb4.8,baz=105,slow=7.9,SNR=4.3
ASAJ Asahikawa 54.43 43 P **P 21 42 41.0 0.0**
ASAJ pmax pmax
comp=Z,10.0nm,0.8s
YSS Yuzh-Sakhalins 55.63 40 ⇓*e*P **P 21 42 49.9 +0.3**
YSS pmax pmax
comp=Z,37nm,2.0s,mb5.1
PMG Port Moresby 57.87 108 ⇑*e*P **P 21 43 06.8 +0.8**
VSR Storozhevoye 59.24 324 *e*P **P 21 43 14.5 -0.5**
VSR pmax pmax
comp=N,5.0nm,0.8s
VSR pmax pmax
comp=Z,2.0nm,0.8s,mb4.2
VSR pmax pmax
comp=E,10.0nm,1.0s
BR131 Keskin Array S 59.45 310 *e*P **P 21 43 16.0 -0.6**
comp=E,2.2nm,0.7s,mb4.3
BR131 *e* pP 21 43 27.8 +0.3
CTA Charters Tower 61.04 120 *e*P **P 21 43 28.1 +0.3**
comp=E,4.5nm,0.6s,mb4.8
CTA Charters Tower 61.04 120 *e*P **P 21 43 28.1 +0.3**
CTA pmax pmax
comp=Z,5.0nm,0.6s
MOS Moscow 61.92 328 *e*P **P 21 43 41.5 +8.4**
MOS pmax pmax
comp=Z,42nm,0.7s,mb5.7
OBN Obninsk 62.22 327 ⇑*e*P **P 21 43 35.6 +0.4**
OBN pmax pmax
comp=Z,8.0nm,0.5s,mb5.1
STKA Stephens Creek 63.14 134 *e*P **P 21 43 42.7 +1.0**
comp=Z,5.0nm,0.6s,mb4.8
STKA Stephens Creek 63.14 134 P **P 21 43 42.8 +1.1**
comp=Z,6.1nm,0.6s,mb4.9,baz=304,slow=7.9,SNR=23
STKA LR LR 22 12 21.3
comp=Z,84nm,20.2s,MS3.9,baz=342,slow=37
TIXI Tiksi 64.87 12 *e*P **P 21 43 51.3 -1.1**
TIXI *e* 21 46 21.5
TIXI pmax pmax
comp=Z,9.0nm,0.6s,mb5.0
TIXI Tiksi 64.87 12 *e*P **P 21 43 51.5 -0.9**
comp=Z,43nm,1.0s,mb5.4
TIXI *e* pP 21 44 03.5 +0.2
AKASG Malin Array Be 65.03 321 P **P 21 43 53.2 -0.6**
comp=Z,0.5nm,0.3s,mb4.0,baz=92,slow=4.8,SNR=5.5
AKASG Malin Array Be 65.03 321 P **P 21 43 53.2 -0.6**
AKASG pmax pmax
comp=Z,1.0nm,0.3s
AKASG Malin Array Be 65.03 321 P **P 21 43 53.2 -0.6**
PETK Petropavlovsk- 66.72 37 P **P 21 44 02.7 -2.0**
comp=Z,4.9nm,0.9s,mb4.5,baz=276,slow=3.9,SNR=4.3
PETK LR LR 22 17 00.6
comp=Z,49nm,18.6s,MS3.8,baz=256,slow=39
PETK Petropavlovsk- 66.72 37 P **P 21 44 02.7 -1.9**
PETK pmax pmax
comp=Z,5.0nm,0.9s,mb4.5
PETK MLR MLR
comp=Z,49nm,18.6s,MS3.8
PETK Petropavlovsk- 66.72 37 P **P 21 44 02.7 -2.0**
PETK LR LR 22 17 00.6
JOF Joensuu 67.69 334 *ep* **P 21 44 11.7 +1.1**
comp=Z,2.5nm,0.5s,mb4.5
LSZ Lusaka 68.73 249 *e*P **P 21 44 20.2 +2.2**
LSZ pmax pmax
comp=Z,5.0nm,1.1s,mb4.4
LSZ Lusaka 68.73 249 *e*P **P 21 44 20.2 +2.2**
comp=Z,5.4nm,1.1s,mb4.4
LSZ *e* pP 21 44 32.5 +3.4
OJC Ojcow 70.86 320 *e*P **P 21 44 30.6 +0.1**
ARCES ARCESS Array B 72.15 340 P **P 21 44 38.8 +0.8**
comp=Z,3.5nm,0.8s,mb4.3,baz=80,slow=10.0,SNR=4.4
ARCES LR LR 22 17 32.8
comp=Z,56nm,21.6s,MS3.8,baz=339,slow=37
ARCES ARCESS Array B 72.15 340 P **P 21 44 38.8 +0.9**
ARCES pmax pmax
comp=Z,4.0nm,0.8s
ARCES MLR MLR
comp=Z,56nm,21.6s
ARCES ARCESS Array B 72.15 340 P **P 21 44 38.8 +0.8**
ARCES LR LR 22 17 32.8
DPC Dobruska-Polom 73.09 319 *e*P pP 21 45 01.1 +6.1
LBTB Lobatse 74.20 240 P **P 21 44 53.4 +2.5**
comp=Z,4.9nm,0.6s,mb4.6,baz=77,slow=6.6,SNR=11
LBTB Lobatse 74.20 240 P **P 21 44 53.4 +2.6**
LBTB pmax pmax
comp=Z,5.0nm,0.6s,mb4.6
PRU Pruhonice 74.22 319 *e*P pP 21 45 07.9 +6.3
BRG Berggiesshubel 74.64 320 *e*P **P 21 44 49.1 -3.8**
BRG *e* 21 45 10.5
BRG pmax pmax
comp=Z,3.0nm,0.9s,mb4.2
BRG Berggiesshubel 74.64 320 *e*P **P 21 44 49.1 -3.8**
comp=Z,5.2nm,0.9s,mb4.5
BRG *e* 21 45 10.4
comp=Z,3.8nm,0.8s
CLL Collm 75.24 320 *e*PcP PcP 21 45 10.0 +0.3
BOSA Boshof 75.73 237 P **P 21 45 01.9 +2.3**
comp=Z,5.9nm,0.8s,mb4.6,baz=45,slow=6.5,SNR=12
BOSA LR LR 22 14 40.8
comp=Z,104nm,18.1s,MS4.2,baz=239,slow=33
BOSA Boshof 75.73 237 P **P 21 45 01.9 +2.3**
BOSA pmax pmax
comp=Z,6.0nm,0.8s,mb4.6
BOSA MLR MLR
comp=Z,105nm,18.1s,MS4.2
NB2 NORSAR Subarra 76.57 330 P **P 21 45 02.8 -0.9**
comp=Z,1.1nm,0.8s,mb3.8,baz=95,slow=5.6
NOA NORSAR Array B 76.57 330 P **P 21 45 02.6 -1.1**
comp=Z,1.8nm,0.8s,mb4.0,baz=92,slow=5.7,SNR=4.6
NOA NORSAR Array B 76.57 330 P **P 21 45 02.6 -1.1**
NOA pmax pmax
comp=Z,2.0nm,0.8s
PGF Pioggiola 78.16 311 *e*P **P 21 45 12.0 -1.0**
comp=Z,15nm,1.0s,mb4.5
PGF Pioggiola 78.16 311 *e*P **P 21 45 12.0 -1.0**
PGF pmax pmax
comp=Z,7.0nm,1.0s,mb4.5
PGF Pioggiola 78.16 311 *e*P **P 21 45 12.0 -1.0**
comp=Z,7.3nm,1.0s,mb4.6
KEST Kesra 78.38 304 P **P 21 45 15.0 +0.6**
comp=Z,2.8nm,0.9s,mb4.2,baz=351,slow=5.8,SNR=7.4
CDF Champ du Feu 79.00 317 *e*P **P 21 45 16.6 -1.0**
comp=Z,7.9nm,0.9s,mb4.3
CDF Champ du Feu 79.00 317 *e*P **P 21 45 16.6 -1.0**
CDF pmax pmax
comp=Z,4.0nm,0.9s,mb4.3
CDF Champ du Feu 79.00 317 *e*P **P 21 45 16.6 -1.0**
comp=Z,4.0nm,0.9s,mb4.3
SBF Sospel 79.21 313 *e*P **P 21 45 17.9 -0.9**
HINF Hinteralfeld 79.32 317 *e*P **P 21 45 18.3 -1.0**
LPG La Plagne 79.57 315 *e*P **P 21 45 20.4 -0.3**
comp=Z,19nm,0.8s,mb4.8
LPG La Plagne 79.57 315 *e*P **P 21 45 20.4 -0.3**
LPG pmax pmax
comp=Z,10.0nm,0.8s,mb4.8
LPG La Plagne 79.57 315 *e*P **P 21 45 20.4 -0.3**
comp=Z,9.6nm,0.8s,mb4.8

LPL La Plagne 79.58 315 eP P 21 45 20.4 -0.4
comp=Z,20nm,0.6s,mb4.9
LPL La Plagne 79.58 315 eP P 21 45 20.4 -0.4
LPL pmax pmax
comp=Z,10.0nm,0.6s,mb4.9
LPL La Plagne 79.58 315 eP P 21 45 20.4 -0.4
comp=Z,10nm,0.6s,mb4.9
MBDF Montbardon 79.61 314 eP P 21 45 19.7 -1.3
comp=Z,6.3nm,0.6s,mb4.4
MBDF Montbardon 79.61 314 eP P 21 45 19.7 -1.3
MBDF pmax pmax
comp=Z,3.0nm,0.6s,mb4.4
MBDF Montbardon 79.61 314 eP P 21 45 19.7 -1.3
comp=Z,3.2nm,0.6s,mb4.4
HAU Haudompre 79.65 317 eP P 21 45 20.1 -1.0
comp=Z,16nm,0.9s,mb4.7
HAU Haudompre 79.65 317 eP P 21 45 20.1 -1.0
HAU pmax pmax
comp=Z,8.0nm,0.9s,mb4.7
HAU Haudompre 79.65 317 eP P 21 45 20.1 -1.0
comp=Z,7.9nm,0.9s,mb4.6
CABF La Chapelle 79.94 316 eP P 21 45 22.1 -0.6
ORIF Oris-en-Rattie 80.23 314 eP P 21 45 23.9 -0.4
comp=Z,12nm,1.0s,mb4.5
ORIF Oris-en-Rattie 80.23 314 eP P 21 45 23.9 -0.4
ORIF pmax pmax
comp=Z,6.0nm,1.0s,mb4.5
ORIF Oris-en-Rattie 80.23 314 eP P 21 45 23.9 -0.4
comp=Z,5.8nm,1.0s,mb4.5
MEZF Maizieres J'vi 80.47 318 eP P 21 45 24.7 -0.8
SMRF Simiane la Rot 80.54 313 eP P 21 45 24.9 -1.1
SUR Sutherland 80.61 235 P P 21 45 28.2 +1.7
comp=Z,9.0nm,0.9s,mb4.7,baz=126,slow=8.7,SNR=4.4
BAIF Baives 80.87 319 eP P 21 45 27.1 -0.6
comp=Z,9.2nm,1.0s,mb4.4
BAIF Baives 80.87 319 eP P 21 45 27.1 -0.6
BAIF pmax pmax
comp=Z,5.0nm,1.0s,mb4.4
BAIF Baives 80.87 319 eP P 21 45 27.1 -0.6
comp=Z,4.6nm,1.0s,mb4.4
MAW Mawson 80.91 191 eP P 21 45 29.6 +2.3
comp=Z,5.0nm,0.7s,mb4.5
MAW Mawson 80.91 191 P P 21 45 28.4 +1.1
comp=Z,5.4nm,0.6s,mb4.6,baz=23,slow=5.6,SNR=21
MAW LR LR 22 16 21.9
comp=Z,55nm,18.0s,MS4.0,baz=240,slow=32
MAW Mawson 80.91 191 eP P 21 45 29.6 +2.3
MAW pmax pmax
comp=Z,5.0nm,0.7s
VIVF Saint-Julien-l 81.09 314 eP P 21 45 28.4 -0.5
comp=Z,8.3nm,0.8s,mb4.4
VIVF Saint-Julien-l 81.09 314 eP P 21 45 28.4 -0.5
VIVF pmax pmax
comp=Z,4.0nm,0.8s,mb4.4
VIVF Saint-Julien-l 81.09 314 eP P 21 45 28.4 -0.5
comp=Z,4.2nm,0.8s,mb4.4
LOR Lormes 81.39 316 eP P 21 45 29.6 -0.9
comp=Z,15nm,0.9s,mb4.6
LOR Lormes 81.39 316 eP P 21 45 29.6 -0.9
LOR pmax pmax
comp=Z,8.0nm,0.9s,mb4.7
LOR Lormes 81.39 316 eP P 21 45 29.6 -0.9
comp=Z,7.6nm,0.9s,mb4.6
SMF Signal de Mont 81.47 316 eP P 21 45 29.9 -1.0
SSF Saint Saulge 81.66 316 eP P 21 45 31.0 -0.9
AVF Avril sur Loir 81.79 316 eP P 21 45 31.6 -1.0
comp=Z,14nm,1.2s,mb4.5
AVF Avril sur Loir 81.79 316 eP P 21 45 31.6 -1.0
AVF pmax pmax
comp=Z,7.0nm,1.2s,mb4.5
AVF Avril sur Loir 81.79 316 eP P 21 45 31.6 -1.0
comp=Z,7.0nm,1.2s,mb4.5
BGF Bois d'Agland 82.17 316 eP P 21 45 33.3 -1.3
comp=Z,13nm,0.9s,mb4.5
BGF Bois d'Agland 82.17 316 eP P 21 45 33.3 -1.3
BGF pmax pmax
comp=Z,6.0nm,0.9s,mb4.5
BGF Bois d'Agland 82.17 316 eP P 21 45 33.3 -1.3
comp=Z,6.4nm,0.9s,mb4.5
TCF Toulx Ste Croi 82.64 316 eP P 21 45 36.5 -0.5
comp=Z,9.5nm,1.0s,mb4.5
TCF Toulx Ste Croi 82.64 316 eP P 21 45 36.5 -0.5
TCF pmax pmax
comp=Z,5.0nm,1.0s,mb4.5
TCF Toulx Ste Croi 82.64 316 eP P 21 45 36.5 -0.5
comp=Z,4.8nm,1.0s,mb4.5
CAF Calviac 82.92 314 eP P 21 45 37.3 -1.2
MTLF Montolieu 83.03 313 eP P 21 45 38.7 -0.4
comp=Z,7.5nm,0.8s,mb4.5
MTLF Montolieu 83.03 313 eP P 21 45 38.7 -0.4
MTLF pmax pmax
comp=Z,4.0nm,0.8s,mb4.5
MTLF Montolieu 83.03 313 eP P 21 45 38.7 -0.4
comp=Z,3.8nm,0.8s,mb4.5
TAM Tamanrasset 83.23 292 eP P 21 45 42.3 +1.7
TAM e pP 21 45 54.9 +3.0
RJF Les Rejaudoux 83.25 315 eP P 21 45 39.1 -1.1
LDF La Druitiere 83.87 318 eP P 21 45 42.4 -0.9
FLN La Foliniere 84.08 318 eP P 21 45 43.5 -0.9
comp=Z,24nm,1.2s,mb4.9
FLN La Foliniere 84.08 318 eP P 21 45 43.5 -0.9
FLN pmax pmax
comp=Z,12nm,1.2s,mb4.9
FLN La Foliniere 84.08 318 eP P 21 45 43.5 -0.9
comp=Z,12nm,1.2s,mb4.9
MFF Saint Martin d 84.20 316 eP P 21 45 44.2 -0.9
GRR Gorron 84.39 318 eP P 21 45 45.4 -0.6
SGMF Saint Gilles 85.53 318 eP P 21 45 50.7 -1.0
SYO Syowa Base 87.57 197⇑ eP P 21 46 01.8 +0.7
ESDC Sonseca Array 88.24 310 P P 21 46 05.5 +0.4
comp=Z,0.7nm,0.6s,mb4.1,baz=54,slow=4.4,SNR=6.7
TORD Torodi Ar. Bea 88.44 283 P P 21 46 07.3 +0.8
comp=Z,2.2nm,0.8s,mb4.4,baz=81,slow=4.5,SNR=14
TORD LR LR 22 22 25.1
comp=Z,69nm,18.3s,MS4.1,baz=75,slow=33
TORD Torodi Ar. Bea 88.44 283 P P 21 46 07.3 +0.8
TORD LR LR 22 22 25.1
RPZ Rata Peaks 89.10 135 LR LR 22 28 41.9
comp=Z,104nm,19.6s,MS4.3,baz=130,slow=37
URZ Urewera 92.28 128 LR LR 22 26 10.1
comp=Z,86nm,22.0s,MS4.2,baz=138,slow=34
DBIC Dimbokro 96.00 278 LR LR 22 33 03.6
comp=Z,57nm,18.8s,MS4.1,baz=235,slow=37
PDAR Pinedale Array 123.14 19 PKP PKPdf 21 52 10.8 +0.4
comp=Z,1.7nm,0.6s,baz=154,slow=1.0,SNR=14
NVAR Mina Array Bea 123.33 29 PKP PKPdf 21 52 12.5 +1.6
comp=Z,2.2nm,0.5s,baz=299,slow=1.8,SNR=15
NVAR Mina Array Bea 123.33 29 PKP PKPdf 21 52 12.5 +1.6
TXAR Lajitas Array 137.30 21 PKP PKPdf 21 52 38.1 +0.4
comp=Z,1.2nm,0.5s,baz=174,slow=0.3,SNR=17
TXAR PP PP 21 55 28.9 +7.7
comp=Z,0.3nm,0.7s,baz=11,slow=2.6,SNR=3.5
TXAR SKPab 21 56 07.6
comp=Z,3.2nm,1.0s,baz=270,slow=1.3,SNR=14
TXAR Lajitas Array 137.30 21 PKIKP PKPdf 21 52 38.1 +0.5
TXAR 21 55 29.0
TXAR pmax pmax
comp=Z,1.0nm,0.5s
TXAR pmax pmax
comp=N,3.0nm,1.0s
TXAR Lajitas Array 137.30 21 PKP PKPdf 21 52 38.1 +0.4
TXAR PP PP 21 55 28.9 +7.7
TXAR SKPab 21 56 07.6
PLCA Paso Flores 146.50 204 PKPbc PKPbc 21 52 56.4 +1.4
comp=N,9.7nm,0.9s,baz=172,slow=1.9,SNR=20
PLCA Paso Flores 146.50 204 PKP2 PKPab 21 52 56.4 +0.4
PLCA pmax pmax
comp=Z,10.0nm,0.9s
CPUP Villa Florida 147.55 237 PKPbc PKPbc 21 52 58.8 +0.4
comp=Z,4.6nm,0.7s,baz=72,slow=5.4,SNR=11
CPUP Villa Florida 147.55 237 PKP2 PKPbc 21 52 58.8 +0.3
CPUP pmax pmax
comp=Z,5.0nm,0.7s
CMIG Matias Romero 151.49 15 PKPbc PKPbc 21 53 08.7 +0.2
comp=Z,8.0nm,0.6s,baz=341,slow=4.3,SNR=8.3
SIV San Ignacio 153.79 255 PKPbc PKPbc 21 53 13.3 -0.3
comp=Z,0.7nm,0.7s,baz=104,slow=4.2,SNR=4.5
SIV PKPab PKPab 21 53 27.1 +0.5
comp=Z,0.7nm,0.6s,baz=112,slow=6.8,SNR=7.4
LPAZ La Paz 160.38 251 PKP PKPdf 21 53 15.3 +1.3
comp=Z,0.6nm,0.5s,baz=174,slow=5.4,SNR=4.5
LPAZ PKPab PKPab 21 53 56.9 +1.9
comp=Z,0.4nm,0.4s,baz=153,slow=6.5,SNR=2.0
LPAZ La Paz 160.38 251 PKP PKPdf 21 53 15.3 +1.3
LPAZ PKPab PKPab 21 53 56.9 +1.9

*IDC **12** 21:54:02.2±1.5, 52.50N×169.56W, h0km, mb3.7/4, mb1 4.1/6, mb1mx3.7/23, mbtmp3.9/6, ML3.9/2, Error ellipse: s-maj=63.4km s-min=20.3km az=173.0*
*ISCJB **12** 21:54:05.6±2.1, 52.4N±02.0×169.5W±0.1, h30km±13km, mb3.6/4, Error ellipse: s-maj=27.3km s-min=10.1km az=156.5*
*NEIC **12** 21:54:10.7, 52.54N×169.32W, h27km, ML3.5(AEIC), After AEIC.*

ISC 12 21:54:06.9±2.6, 52.4N±01×169.4W±02, h21km±18km, n12, σ0.9 90/14, mb3.6/4, Fox Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
NIKO	**Nikolski**	**0.65**	**29**	P		**Pb**		**21 54 19.3**	**-0.2**
NIKO				S		**Sb**		**21 54 27.1**	**-1.0**
OKCD	**Okmok Cone D**	**1.28**	**36**	P		**Pn**		**21 54 30.3**	**+0.8**
UNV	**Unalaska Valle**	**2.25**	**49**	P		**Pn**		**21 54 43.1**	**+0.2**
UNV				S		**Sn**		**21 55 09.7**	**-0.3**
AKGG	**Akutan Green G**	**2.71**	**47**	P		**Pn**		**21 54 50.5**	**+1.4**
ADK	**Adak**	**4.53**	**266**	P		**Pn**		**21 55 14.7**	**+0.6**
SPIA	**Saint Paul Isl**	**4.81**	**354**	P		**Pn**		**21 55 18.7**	**+0.9**
KDAK	**Kodiak Island**	**11.01**	**54**	Pn		**Pn**		**21 56 42.8**	**-0.2**
	0.4nm,0.3s,baz=243,slow=6.8,SNR=4.6								
PETK	**Petropavlovsk-**	**19.85**	**285**	P		**Pn**		**21 58 33.7**	**-4.0**
	0.8nm,0.3s,baz=85,slow=14,SNR=15								
YKA	**Yellowknife Ar**	**30.22**	**49**	P		**P**		**22 00 15.8**	**+0.4**
	0.9nm,0.9s,mb3.5,baz=270,slow=8.0,SNR=3.0								
PDAR	**Pinedale Array**	**40.40**	**79**	P		**P**		**22 01 43.2**	**+0.1**
	0.8nm,0.6s,mb3.6,baz=298,slow=6.3,SNR=5.9								
TXAR	**Lajitas Array**	**52.75**	**89**	P		**P**		**22 03 19.3**	**-0.7**
	0.4nm,0.6s,mb3.5,baz=293,slow=4.8,SNR=5.1								
CMAR	**Chiang Mai Arr**	**76.60**	**283**	P		**P**		**22 05 53.3**	**-2.5**
	1.0nm,0.8s,mb3.8,baz=23,slow=7.2,SNR=8.1								

*IDC **12** 22:03:54.4±3.4, 36.5S×100.49E, h0km, mb3.7/6, mb1 3.8/6, mb1mx3.7/18, mbtmp3.7/6, Error ellipse: s-maj=137.7km s-min=20.2km az=57.0*
*ISCJB **12** 22:03:57.0±1.2, 36.5S±01×100.5E±02, h33km, mb3.7/7, Error ellipse: s-maj=30.0km s-min=15.2km az=145.8*
*NEIC **12** 22:03:59.1±0.9, 36.8S×100.42E, h35km, mb4.1/1, Error ellipse: s-maj=23.3km s-min=12.0km az=56.0*

ISC 12 22:03:59.1±1.2, 37S±01×100.4E±02, h35km, n9, σ0.5 57/8, mb3.7/7, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
KSM	**Kuching**	**11.14**	**63**	eP		n	**Pn**	**22 06 36.1**	**+0.1**
CMAR	**Chiang Mai Arr**	**22.05**	**356**	P		**P**		**22 08 50.2**	**-0.7**
	0.7nm,0.6s,mb3.3,baz=183,slow=9.6,SNR=6.3								
WRA	**Warramunga Arr**	**36.81**	**119**	P		**P**		**22 11 02.9**	**-1.1**
	0.3nm,0.4s,mb3.5,baz=295,slow=8.9,SNR=2.4								
ASAR	**Alice Springs**	**37.95**	**125**	P		**P**		**22 11 14.0**	**+0.4**
	0.6nm,0.5s,mb3.6,baz=302,slow=7.3,SNR=3.7								
STKA	**Stephens Creek**	**47.74**	**131**	eP		**P**		**22 12 33.1**	**+0.3**
	1.9nm,1.0s,mb4.1								
SONM	**Songino Array**	**51.57**	**5**	P		**P**		**22 13 02.5**	**+0.8**
	1.7nm,0.9s,mb4.0,baz=187,slow=8.1,SNR=10								
MKAR	**Makanchi Array**	**52.75**	**344**	P		**P**		**22 13 10.3**	**-0.1**
	0.3nm,0.3s,mb3.7,baz=158,slow=9.2,SNR=4.5								
ZALV	**Zalesovo Beam**	**58.89**	**349**	P		**P**		**22 13 54.5**	**+0.2**
	0.5nm,0.4s,mb3.9,baz=165,slow=6.2,SNR=7.3								
TXAR	**Lajitas Array**	**145.76**	**39**	PKPbc		PKPbc		22 23 36.3	+1.2
	1.0nm,0.8s,baz=325,slow=1.5,SNR=11								

JMA 12 22:04:11.1±0.3, 43.93N×147.70E, h0km, M3.8, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
NEM2	**Nemuro 2**	**1.53**	**249**	P			Pn	22 04 39.7	+0.1
NEM2				S			Sb	22 05 00.7	+0.5
JRA	**Rausu**	**1.86**	**271**	P			Pn	22 04 44.6	+0.4
JRA				S			Sn	22 05 09.2	+0.8
JNK	**Nakash**	**2.19**	**262**	P			Pn	22 04 49.3	+0.6
JNK				S			Sn	22 05 16.7	+0.3
JAK	**Akkeshi**	**2.38**	**248**	P			Pn	22 04 51.9	+0.6
JAK				S			Sn	22 05 21.9	+0.8
JAR	**Ashorobuto**	**2.92**	**259**	P			Pn	22 05 00.4	+1.6
JAR				S			Sn	22 05 36.6	+2.0
JOB	**Onbets**	**3.00**	**251**	P			Pn	22 05 01.2	+1.4
JOB				S			Sn	22 05 37.6	+1.2
JCH	**Churui**	**3.43**	**249**	P			Pn	22 05 07.6	+1.8
JCH				S			Sn	22 05 48.5	+1.4
JNBK	**Urakawa-nobuka**	**3.98**	**247**	P			Pn	22 05 15.0	+1.7

*NEIC **12** 22:11:31.3, 17.28N×94.60W, h148km, MD4.2(MEX), After MEX.*

MEX 12 22:11:31.9±0.6, 17.28N×94.61W, h143km±7km, MD4.2, 1D, Chiapas

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
TUIG	**Tuzandepetl**	**0.77**	**13**	⇓iP			Pn	22 11 52.2	-1.9
TUIG				i S			Sn	22 12 09.4	-1.7
TGIG		**1.50**	**109**	i P			Pn	22 11 59.7	-1.3
TGIG				i S			Sn	22 12 21.0	-2.1
SCX	**San Cristobal**	**1.96**	**106**	i P			Pn	22 12 05.4	-0.8
SCX				i S			Sn	22 12 29.7	-2.7
OXX	**Oaxaca**	**2.03**	**265**	i P			Pn	22 12 05.9	-1.1
OXX				i S			Sn	22 12 32.5	-1.3
OXX	**Oaxaca**	**2.03**	**265**	i P			Pn	22 12 05.9	-1.1
OXX				i S			Sn	22 12 33.9	+0.1
VHO	**Vista Hermosa**	**2.04**	**265**	i P			Pn	22 12 06.2	-0.9
VHO				i S			Sn	22 12 33.0	-1.1
VHO	**Vista Hermosa**	**2.04**	**265**	i P			Pn	22 12 06.2	-0.9
VHO				i S			Sn	22 12 34.3	+0.2
HUIG	**Huatulco**	**2.08**	**224**	i P			Pn	22 12 04.6	-3.0
HUIG				i S			Sn	22 12 33.3	-1.6
CCIG	**Comitan**	**2.56**	**112**	i P			Pn	22 12 12.6	-0.8
CCIG				i S			Sn	22 12 44.6	-0.9
TPIG	**Tehuac#an**	**2.86**	**294**	i P			Pn	22 12 16.4	-0.7
TPIG				i S			Sn	22 12 51.0	-1.1
UTMO	**Huajuapan**	**3.10**	**281**	i P			Pn	22 12 19.0	-1.2
UTMO				i S			Sn	22 12 55.2	-2.4
THIG		**3.26**	**136**	i P			Pn	22 12 26.6	+4.3
THIG				i S			Sn	22 13 04.4	+3.1
PNIG	**Pinotepa**	**3.48**	**256**	i P			Pn	22 12 22.0	-3.3
PNIG				i S			Sn	22 13 04.1	-1.9
PPM	**Popocatepetl**	**4.22**	**296**	eP			Pn	22 12 33.7	-1.1
PPM				i P				22 12 33.8	
PPM				i S			Sn	22 13 20.8	-2.9
PPM	**Popocatepetl**	**4.22**	**296**	i P			Pn	22 12 33.8	-1.0
PPM				i S			Sn	22 13 20.8	-2.9
PLIG	**Platanillo**	**4.79**	**284**	i P			Pn	22 12 41.8	-0.6
PLIG				i S			Sn	22 13 35.6	-1.8
PLIG	**Platanillo**	**4.79**	**284**	i P			Pn	22 12 41.8	-0.6
PLIG				i S			Sn	22 13 32.9	-4.5
ACX	**Acapulco**	**5.10**	**266**	eP			Pn	22 12 46.7	+0.2
ACX				i S			Sn	22 13 42.9	-1.7
CAIG	**El Cayaco**	**5.42**	**268**	i P			Pn	22 12 47.1	-3.7
CAIG				i S			Sn	22 13 49.6	-2.6
CAIG	**El Cayaco**	**5.42**	**268**	i P			Pn	22 12 47.1	-3.7
CAIG				i S			Sn	22 13 51.6	-0.7
ZIIG	**Zihuatanejo**	**6.55**	**274**	i P			Pn	22 13 04.3	-1.7
ZIIG				i S			Sn	22 14 15.6	-4.0

*NEIC **12** 22:14:22.0, 33.14S×72.01W, h15km, ML3.5(GUC), After GUC.*

GUC 12 22:14:22.0±0.7, 33.14S×72.01W, h15km±8km, MD4.0, ML3.5, 10C-8D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
IHA	**Instituto Hidr**	**0.33**	**69**	⇓iP			Pg	22 14 29.0	+0.2
IHA				i S			Sg	22 14 34.4	+0.9
ROCH	**El Roble**	**0.86**	**79**	⇓iP			Pb	22 14 37.7	-0.9
ROCH				i S			Sb	22 14 49.3	-0.6
LNV	**Longovilo**	**0.95**	**148**	⇓iP			Pb	22 14 38.9	-1.3
LNV				i S			Sb	22 14 51.7	-0.9
TACH	**Talagante**	**1.03**	**120**	⇑iP			Pb	22 14 40.3	-1.3
TACH				i S			Sb	22 14 53.5	-1.4
RCDM	**Rinconada Maip**	**1.07**	**109**	⇑iP			Pb	22 14 40.5	-1.6
RCDM				i S			Sb	22 14 54.4	-1.5
RCDM					AML		AML	22 14 59.0	
	comp=N,1μm,0.2s								
RCDM	**Rinconada Maip**	**1.07**	**109**	⇑iP			Pb	22 14 40.5	-1.6
RCDM				i S			Sb	22 14 54.4	-1.5
PEL	**Peldehue**	**1.11**	**90**	⇑iP			Pb	22 14 42.0	-0.9
PEL				i S			Sb	22 14 56.4	-0.8
PEL					AML		AML	22 15 01.1	
	comp=N,4μm,0.5s								
SAN	**Santiago**	**1.17**	**106**	eP			Pn	22 14 43.1	-0.7
SAN					AML		AML	22 15 05.6	
	comp=N,2μm,0.9s								
ANTU	**Antumapu**	**1.23**	**111**	⇑iP			Pn	22 14 43.6	-1.0
ANTU				i S			Sb	22 14 59.6	-0.9
ANTU					AML		AML	22 15 07.7	
	comp=N,2μm,0.5s								
ANTU	**Antumapu**	**1.23**	**111**	⇑iP			Pn	22 14 43.6	-1.0
ANTU				i S			Sb	22 14 59.6	-0.9
CLCH	**Cerro Calan**	**1.26**	**102**	⇓iP			Pn	22 14 44.1	-1.0
CLCH				i S			Sb	22 15 00.7	-0.8
CLCH					AML		AML	22 15 05.1	
	comp=E,2μm,0.3s								
JACH	**Jahuel**	**1.28**	**69**	⇑iP			Pn	22 14 44.1	-1.2
JACH				i S			Sb	22 15 01.2	-0.8
FSR	**Penalolen**	**1.29**	**105**	eP			Pn	22 14 44.9	-0.5
FSR				eS			Sb	22 15 02.1	-0.1
FSR					AML		AML	22 15 07.2	
	comp=N,521nm,0.8s								
FSR	**Penalolen**	**1.29**	**105**	eP			Pn	22 14 44.9	-0.5
FSR				eS			Sb	22 15 02.1	-0.1
CHNG	**Los Chungos**	**1.33**	**19**	⇑iP			Pn	22 14 43.5	-2.5
CHNG				i S			Sn	22 15 01.2	-2.2
PCH	**Pirque**	**1.34**	**111**	⇑iP			Pn	22 14 45.3	-0.9
PCH				i S			Sn	22 15 03.2	-0.4
CHCH	**Chadas Angostu**	**1.38**	**125**	eP			Pn	22 14 46.0	-0.7
FCH	**Farellones**	**1.45**	**98**	⇓iP			Pn	22 14 47.6	-0.2
FCH				i S			Sn	22 15 07.3	+0.8
FCH					AML		AML	22 15 11.6	
	comp=E,2μm,0.3s								
SJCH	**San Jose de Ma**	**1.47**	**110**	⇓iP			Pn	22 14 47.4	-0.6
SJCH				eS			Sn	22 15 06.8	-0.1
SJCH					AML		AML	22 15 08.1	
	comp=N,920nm,0.6s								
SJCH	**San Jose de Ma**	**1.47**	**110**	⇓iP			Pn	22 14 47.4	-0.6
SJCH				eS			Sn	22 15 06.8	-0.1
CACH	**El Canelo**	**1.53**	**130**	⇓iP			Pn	22 14 48.9	+0.2
CACH				i S			Sn	22 15 09.9	+1.6
LMEL	**Las Melosas**	**1.67**	**115**	eP			Pn	22 14 50.6	-0.1
LMEL				i S			Sn	22 15 12.5	+0.8
LMEL					AML		AML	22 15 18.1	
	comp=N,2μm,0.6s								
LMEL	**Las Melosas**	**1.67**	**115**	eP			Pn	22 14 50.6	-0.1
LMEL				i S			Sn	22 15 12.5	+0.8
CICH	**Cipreses**	**1.77**	**132**	⇑iP			Pn	22 14 52.0	-0.1
CICH				i S			Sn	22 15 14.7	+0.3

IDC 12 22:18:32.0±45.0, 1559S×17270W, h0km, mb4.3/3, mb1 4.5/3, mb1mx3.9/18, mbtmp4.3/3, Error ellipse: s-maj=876.9km s-min=178.9km az=79.0, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**44.52**	**240**	P			P	22 26 46.2	+0.7
	1.7nm,0.4s,baz=107,slow=7.7,SNR=9.4								
WRA	**Warramunga Arr**	**50.45**	**257**	P			P	22 27 31.2	-0.7
	0.6nm,0.4s,baz=98,slow=7.3,SNR=5.0								
ASAR	**Alice Springs**	**50.69**	**252**	P			P	22 27 33.5	-0.2
	7.1nm,0.5s,baz=87,slow=8.1,SNR=114								

*NEIC **12** 22:28:19.7, 33.16S×72.03W, h29km, ML2.8(GUC), After GUC.*

GUC 12 22:28:19.7±0.6, 3316S×7203W, h29km±25km, MD3.6, ML2.8, 3C-4D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
LNV	**Longovilo**	**0.95**	**147**	⇓iP			Pn	22 28 36.6	-0.4
LNV				i S			Sn	22 28 49.5	-0.1
TACH	**Talagante**	**1.04**	**119**	⇑iP			Pn	22 28 38.0	-0.3
TACH				i S			Sn	22 28 51.8	-0.1
RCDM	**Rinconada Maip**	**1.07**	**108**	eP			Pn	22 28 38.3	-0.5
RCDM				eS			Sn	22 28 52.8	0.0
RCDM					AML		AML	22 28 57.6	
	comp=E,271nm,0.5s								
RCDM	**Rinconada Maip**	**1.07**	**108**	eP			Pn	22 28 38.3	-0.5
RCDM				eS			Sn	22 28 52.8	0.0
PEL	**Peldehue**	**1.13**	**90**	⇑iP			Pn	22 28 39.7	+0.2
PEL				i S			Sn	22 28 54.9	+0.9
PEL					AML		AML	22 28 56.9	
	comp=N,470nm,0.3s								
ANTU	**Antumapu**	**1.24**	**110**	eP			Pn	22 28 41.6	+0.6
ANTU				eS			Sn	22 28 57.7	+0.9
ANTU					AML		AML	22 29 01.4	
	comp=E,222nm,0.2s								
ANTU	**Antumapu**	**1.24**	**110**	eP			Pn	22 28 41.6	+0.6
ANTU				eS			Sn	22 28 57.7	+0.9
CLCH	**Cerro Calan**	**1.27**	**101**	⇑iP			Pn	22 28 42.2	+0.7
CLCH				i S			Sn	22 28 59.1	+1.6
CLCH					AML		AML	22 29 00.4	
	comp=N,339nm,0.7s								
JACH	**Jahuel**	**1.30**	**69**	eP			Pn	22 28 42.1	+0.2
JACH				i S			Sn	22 28 59.5	+1.3
PCH	**Pirque**	**1.35**	**110**	⇓iP			Pn	22 28 43.2	+0.6
PCH				eS			Sn	22 29 00.9	+1.4
CHCH	**Chadas Angostu**	**1.38**	**124**	⇓iP			Pn	22 28 43.8	+0.7
CHCH				i S			Sn	22 29 01.4	+1.1
FCH	**Farellones**	**1.47**	**97**	⇓iP			Pn	22 28 45.1	+0.9
FCH				i S			Sn	22 29 05.0	+2.7
FCH					AML		AML	22 29 08.7	
	comp=E,240nm,0.3s								
CACH	**El Canelo**	**1.53**	**129**	eP			Pn	22 28 46.8	+1.8
CACH				eS			Sn	22 29 07.4	+3.5
LMEL	**Las Melosas**	**1.67**	**115**	eP			Pn	22 28 48.4	+1.4
LMEL				i S			Sn	22 29 10.3	+2.8
LMEL					AML		AML	22 29 17.5	
	comp=N,277nm,0.2s								
LMEL	**Las Melosas**	**1.67**	**115**	eP			Pn	22 28 48.4	+1.4
LMEL				i S			Sn	22 29 10.3	+2.8
CICH	**Cipreses**	**1.77**	**131**	eP			Pn	22 28 49.9	+1.6

KRSC 12 22:54:34.0±0.9, 5405N×16027E, h74km±74km, ML3.6, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
NLC	**Nalytchevo**	**1.04**	**212**	eP			Pn	22 54 54.9	+1.8
NLC				i S			Sn	22 55 10.1	+2.7
AVH	**Avacha**	**1.20**	**230**	eP			Pn	22 54 57.3	+2.1
AVH				i S			Sn	22 55 14.1	+3.0
TUMR	**Tumrok**	**1.24**	**357**	eP			Pn	22 54 57.8	+2.2
TUMR				i S			Sn	22 55 14.8	+2.9
PET	**Petropavlovsk**	**1.41**	**224**	eP			Pn	22 54 59.8	+1.9
PET				eS			Sn	22 55 18.4	+2.6
GNL	**Ganaly**	**1.42**	**256**	eP			Pn	22 55 00.0	+2.0
GNL				i S			Sn	22 55 19.1	+3.0
BZMR	**Bezymyannaya**	**1.89**	**4**	eP			Pn	22 55 06.7	+2.5
BZMR				i S

ISC 12 22:57:37.4±1.0, 3307S±003×7206W±006, h5km±5km, n31, σ0§85/51, 13C-6D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ROCH	**El Roble**	**0.89**	**84**	⇑*iP*	**Pg**	**22 57 56.0**	**+1.5**
LNV	**Longovilo**	**1.04**	**149**	⇓*iP*	**Pg**	**22 57 57.4**	**0.0**
LNV				*i* S	**Sg**	**22 58 09.6**	**-1.3**
TACH	**Talagante**	**1.11**	**122**	⇑*iP*	**Pg**	**22 57 58.8**	**+0.1**
TACH				*i* S	**Sg**	**22 58 12.3**	**-0.8**
RCDM	**Rinconada Maip**	**1.13**	**112**	⇑*iP*	**Pg**	**22 57 59.0**	**-0.2**
RCDM				*i* S	**Sg**	**22 58 13.6**	**-0.3**
RCDM				AML	AML	22 58 18.5	
	comp=N,3μm,0.2s						
RCDM	**Rinconada Maip**	**1.13**	**112**	*eP*	**Pg**	**22 57 59.0**	**-0.2**
RCDM				*i* S	**Sg**	**22 58 13.6**	**-0.3**
PEL	**Peldehue**	**1.16**	**94**	⇑*iP*	**Pg**	**22 58 00.5**	**+0.9**
PEL				*i* S	**Sg**	**22 58 15.4**	**+0.7**
PEL				AML	AML	22 58 17.8	
	comp=N,7μm,0.6s						
SAN	**Santiago**	**1.23**	**109**	*eP*	**Pg**	**22 58 01.1**	**-0.1**
SAN				*i* S	**Sg**	**22 58 17.0**	**-0.2**
SAN				AML	AML	22 58 20.3	
	comp=N,3μm,0.5s						
SAN	**Santiago**	**1.23**	**109**	*eP*	**Pg**	**22 58 01.1**	**-0.1**
SAN				*i* S	**Sg**	**22 58 17.0**	**-0.2**
CHNG	**Los Chungos**	**1.27**	**22**	⇑*iP*	**Pg**	**22 58 02.0**	**+0.2**
CHNG				*i* S	**Sg**	**22 58 18.2**	**-0.1**
JACH	**Jahuel**	**1.29**	**73**	⇓*iP*	**Pn**	**22 58 02.5**	**+0.4**
ANTU	**Antumapu**	**1.30**	**113**	⇑*iP*	**Pn**	**22 58 02.1**	**0.0**
ANTU				*i* S	**Sg**	**22 58 18.5**	**-0.6**
ANTU				AML	AML	22 58 22.3	
	comp=E,3μm,0.3s						
ANTU	**Antumapu**	**1.30**	**113**	⇑*iP*	**Pn**	**22 58 02.1**	**0.0**
ANTU				*i* S	**Sg**	**22 58 18.5**	**-0.6**
FSR	**Penalolen**	**1.35**	**108**	*eP*	**Pn**	**22 58 03.3**	**+0.5**
FSR				*eS*	**Sb**	**22 58 20.5**	**-0.2**
FSR				AML	AML	22 58 27.8	
	comp=E,1μm,0.4s						
FSR	**Penalolen**	**1.35**	**108**	*eP*	**Pn**	**22 58 03.3**	**+0.5**
FSR				*eS*	**Sb**	**22 58 20.5**	**-0.2**
PCH	**Pirque**	**1.41**	**114**	⇑*iP*	**Pn**	**22 58 03.8**	**+0.1**
PCH				*i* S	**Sb**	**22 58 21.4**	**-1.0**
CHCH	**Chadas Angostu**	**1.46**	**127**	⇑*iP*	**Pn**	**22 58 04.2**	**-0.1**
SJCH	**San Jose de Ma**	**1.54**	**112**	⇑*iP*	**Pn**	**22 58 05.8**	**+0.4**
SJCH				*i* S	**Sn**	**22 58 25.3**	**-0.5**
SJCH				AML	AML	22 58 29.4	
	comp=N,2μm,0.3s						
SJCH	**San Jose de Ma**	**1.54**	**112**	⇑*iP*	**Pn**	**22 58 05.8**	**+0.4**
SJCH				*i* S	**Sn**	**22 58 25.3**	**-0.5**
CACH	**El Canelo**	**1.61**	**131**	⇓*iP*	**Pn**	**22 58 07.1**	**+0.7**
CACH				*i* S	**Sn**	**22 58 28.2**	**+0.7**
LMEL	**Las Melosas**	**1.74**	**117**	⇓*iP*	**Pn**	**22 58 09.0**	**+0.8**
LMEL				*i* S	**Sn**	**22 58 30.9**	**+0.1**
LMEL				AML	AML	22 58 36.7	
	comp=N,3μm,0.5s						
LMEL	**Las Melosas**	**1.74**	**117**	⇓*iP*	**Pn**	**22 58 09.0**	**+0.8**
LMEL				*i* S	**Sn**	**22 58 30.9**	**+0.1**
SFDO	**San Fernando**	**1.77**	**151**	⇑*iP*	**Pn**	**22 58 08.6**	**-0.1**
CICH	**Cipreses**	**1.85**	**133**	⇓*iP*	**Pn**	**22 58 10.4**	**+0.6**
CFAA	**Coronel Fontan**	**3.55**	**67**	Pn	**Pn**	**22 58 38.1**	**+5.0**
	comp=N,2.7nm,0.3s,baz=239,slow=14,SNR=68						
CFAA				Sn	**Sn**	**22 59 25.7**	**+10**
	comp=N,3.2nm,0.3s,baz=5.2,slow=19,SNR=4.2						
CFAA	**Coronel Fontan**	**3.55**	**67**	Pn	**Pn**	**22 58 38.1**	**+5.0**
CFAA				Sn	**Sn**	**22 59 25.7**	**+10**
PLCA	**Paso Flores**	**7.75**	**171**	Pn	**Pn**	**22 59 31.4**	**+0.6**
	comp=N,0.4nm,0.3s,baz=339,slow=14,SNR=7.9						
LVC	**Limon Verde**	**10.78**	**16**	Pn	**Pn**	**23 00 10.4**	**-2.0**
	comp=N,0.1nm,0.3s,baz=198,slow=13,SNR=1.8						
LVC				LR	LR	23 04 18.3	
	comp=N,61nm,20.9s,baz=43,slow=38						
CPUP	**Villa Florida**	**14.45**	**66**	Pn	**Pn**	**23 01 05.7**	**+3.1**
	comp=N,0.4nm,0.3s,baz=234,slow=8.7,SNR=3.1						
CPUP				LR	LR	23 06 58.0	
	comp=N,67nm,20.5s,baz=243,slow=38						
LPAZ	**La Paz**	**17.08**	**13**	P	**Pn**	**23 01 33.5**	**-3.4**
	comp=N,0.1nm,0.3s,baz=247,slow=8.7,SNR=2.2						
SIV	**San Ignacio**	**19.70**	**33**	P	**Pn**	**23 02 06.7**	**-2.3**
	comp=N,0.1nm,0.3s,baz=214,slow=11,SNR=5.1						
TORD	**Torodi Ar. Bea**	**83.91**	**70**	P	**P**	**23 10 08.3**	**-0.3**
	comp=N,1.1nm,0.8s,baz=250,slow=4.9,SNR=10						

*NEIC **12** 23:30:40.9, 40.17N×1954E, h17km, MD3.6(ATH), After ATH.*
*ATH **12** 23:30:40.9, 40.17N×1954E, h17km±3km, MD3.6/4*
*THE **12** 23:30:43.8, 4004N×1968E, h2km±3km, ML2.9/1, Error ellipse: s-maj=3.3km s-min=1.0km az=172.0*
*CSEM **12** 23:30:44.9±0.2, 4013N×1990E, h8km, MD3.6, Error ellipse: s-maj=3.7km s-min=3.2km az=107.0*
*ISCJB **12** 23:30:44.5±0.6, 4004N±003×1979E±006, h10km, Error ellipse: s-maj=6.2km s-min=4.5km az=5.5*
*SKO **12** 23:30:45.4, 4005N×1978E, h13km*

ISC 12 23:30:45.0±0.8, 4005N±003×1980E±006, h9km±6km, n29, σ1§03/39, Albania

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KEK	**Kerkira**	**0.34**	**179**	*eP*n	**Pg**	**23 30 50.9**	**-0.7**
KEK				*eS*n	**Sg**	**23 30 58.3**	**+2.2**
KEK	**Kerkira**	**0.34**	**179**	*eP*N	**Pg**	**23 30 50.9**	**-0.7**
KEK				*eS*N	**Sg**	**23 30 58.3**	**+2.2**
IGT	**Igoumenitsa**	**0.66**	**141**	P	**Pg**	**23 30 56.8**	**-1.0**
IGT				S	**Sg**	**23 31 07.0**	**+0.6**
JAN	**Janina**	**0.90**	**115**	*eP*n	**Pn**	**23 31 01.9**	**-2.0**
JAN				*eS*n	**Sn**	**23 31 17.6**	**+0.6**
JAN	**Janina**	**0.90**	**115**	*eP*N	**Pn**	**23 31 01.9**	**-2.0**
JAN				*eS*N	**Sn**	**23 31 17.6**	**+0.6**
MEV	**Metsovon**	**1.13**	**103**	P	**Pg**	**23 31 07.0**	**+0.2**
TIR	**Tirane**	**1.30**	**2**	P	**Pn**	**23 31 08.0**	**-1.3**
OHR	**Ohrid**	**1.31**	**35**	*eP*n	**Pn**	**23 31 09.4**	**-0.1**
OHR				*eS*g	**Sg**	**23 31 27.2**	**+0.1**
OHR	**Ohrid**	**1.31**	**35**	*eP*n	**Pn**	**23 31 09.3**	**-0.2**
OHR				*eS*g	**Sg**	**23 31 27.1**	**0.0**
BIA	**Bitola**	**1.52**	**50**	P	**Pn**	**23 31 11.6**	**-0.7**
BIA				S	**Sn**	**23 31 34.0**	**+1.8**
BIA	**Bitola**	**1.52**	**50**	*eP*n	**Pn**	**23 31 11.2**	**-1.1**
BIA				*eS*g	**Sg**	**23 31 34.0**	**+0.2**
BIA	**Bitola**	**1.52**	**50**	*eP*n	**Pn**	**23 31 11.2**	**-1.1**
BIA				*eS*g	**Sg**	**23 31 33.9**	**+0.2**
KZN	**Kozani**	**1.54**	**80**	*eP*n	**Pn**	**23 31 12.2**	**-0.4**
KZN	**Kozani**	**1.54**	**80**	*eP*N	**Pn**	**23 31 12.2**	**-0.4**
THL	**Klokotos Trika**	**1.78**	**105**	P	**Pn**	**23 31 16.2**	**+0.3**
THL	**Klokotos Trika**	**1.78**	**105**	*eP*n	**Pn**	**23 31 16.5**	**+0.6**
THL	**Klokotos Trika**	**1.78**	**105**	*eP*N	**Pn**	**23 31 16.5**	**+0.6**
EVR	**Evrytania**	**1.93**	**125**	*eP*n	**Pn**	**23 31 18.9**	**+0.9**
EVR	**Evrytania**	**1.93**	**125**	*eP*N	**Pn**	**23 31 18.9**	**+0.9**
PE1	**Pezze di Greco**	**1.96**	**293**	*eP*n	**Pn**	**23 31 18.8**	**+0.4**
VLS	**Valsamata**	**1.97**	**161**	P	**Pn**	**23 31 17.8**	**-0.8**
VLS	**Valsamata**	**1.97**	**161**	*eP*b	**Pb**	**23 31 18.1**	**-2.9**
VLS	**Valsamata**	**1.97**	**161**	*eP*B	**Pb**	**23 31 18.1**	**-2.9**
LIT	**Litokhoron**	**2.07**	**88**	P	**Pn**	**23 31 20.2**	**+0.3**
RLS	**Riolos of Patr**	**2.38**	**146**	*eP*n	**Pn**	**23 31 24.1**	**-0.1**
RLS	**Riolos of Patr**	**2.38**	**146**	*eP*N	**Pn**	**23 31 24.1**	**-0.1**
VAY	**Valandovo**	**2.46**	**58**	*eP*n	**Pn**	**23 31 25.3**	**-0.1**
VAY	**Valandovo**	**2.46**	**58**	*eP*n	**Pn**	**23 31 25.2**	**-0.1**
SG1	**Sgolgore (BA)**	**2.50**	**289**	*eP*n	**Pn**	**23 31 27.5**	**+1.6**

*ISCJB **12** 23:37:51.4±1.0, 14.1N±02×1210E±03, h195km±6km, mb3.7/8, Error ellipse: s-maj=48.0km s-min=18.0km az=153.0*
*IDC **12** 23:37:57.9±5.3, 1401N×12069E, h244km±53km, mb3.4/8, mb1 3.6/8, mb1mx3.4/18, mbtmp3.4/8, Error ellipse: s-maj=40.9km s-min=12.7km az=63.0*

ISC 12 23:37:52.6±0.9, 141N±02×1209E±03, h191km±6km, n11, σ0§62/10, mb3.8/8, 1C, Luzon

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NBP	**Mount Natib**	**0.77**	**327**	⇑*iP*	**Pn**	**23 38 20.9**	**+0.9**
NBP				*i* S	**Sn**	**23 38 40.6**	**-0.7**
CMAR	**Chiang Mai Arr**	**21.47**	**285**	P	**P**	**23 42 26.4**	**0.0**
	1.3nm,0.5s,mb3.6,baz=95,slow=8.4,SNR=9.6						
SONM	**Songino Array**	**35.72**	**343**	P	**P**	**23 44 33.7**	**+0.9**
	1.3nm,0.6s,mb3.8,baz=164,slow=9.8,SNR=14						
WRA	**Warramunga Arr**	**36.33**	**158**	P	**P**	**23 44 38.2**	**-0.1**
	1.1nm,0.5s,mb3.7,baz=329,slow=10,SNR=5.5						
ASAR	**Alice Springs**	**39.64**	**161**	P	**P**	**23 45 06.1**	**+0.2**
	0.6nm,0.4s,mb3.6,baz=338,slow=7.0,SNR=12						
MKAR	**Makanchi Array**	**45.80**	**323**	P	**P**	**23 45 55.9**	**+0.7**
	1.7nm,0.7s,mb3.8,baz=128,slow=9.5,SNR=7.3						
MKAR				PcP	PcP	23 47 27.9	-1.5
	0.5nm,0.6s,baz=126,slow=2.5,SNR=3.3						
ZALV	**Zalesovo Beam**	**48.78**	**332**	P	**P**	**23 46 17.7**	**-0.3**
	1.6nm,0.4s,mb4.0,baz=128,slow=7.4,SNR=9.2						
ARCES	**ARCESS Array B**	**78.77**	**339**	P	**P**	**23 49 33.1**	**-0.5**
	9.2nm,1.2s,mb4.3,baz=86,slow=6.2,SNR=10						
NOA	**NORSAR Array B**	**86.98**	**333**	P	**P**	**23 50 14.9**	**-1.0**
	1.9nm,1.0s,mb3.9,baz=66,slow=5.2,SNR=3.1						
TORD	**Torodi Ar. Bea**	**113.94**	**291**	PKiKP	PKiKP	23 56 08.3	-1.4
	0.5nm,0.8s,baz=79,slow=2.8,SNR=4.4						
TXAR	**Lajitas Array**	**119.09**	**44**	PKP	PKPdf	23 56 19.4	+0.1
	0.1nm,0.4s,baz=232,slow=0.6,SNR=6.3						

*ISCJB **12** 23:42:10.2±0.4, 3369S±008×5716E±0.10, h10km, mb4.5/24, MS3.7/9, Error ellipse: s-maj=11.8km s-min=11.0km az=5.0*
*IDC **12** 23:42:10.9±0.6, 3380S×5710E, h0km, mb4.2/13, mb1 4.3/14, mb1mx4.2/23, mbtmp4.2/14, ML4.2/1, MS3.7/9, Ms1 3.7/9, ms1mx3.5/22, Error ellipse: s-maj=21.9km s-min=15.9km az=32.0*
*NEIC **12** 23:42:12.6±0.5, 3378S×5699E, h10km, mb4.6/3, Error ellipse: s-maj=16.0km s-min=12.0km az=223.0*

ISC 12 23:42:12.3±0.4, 3370S±008×5712E±010, h10km, n36, σ1§04/30, mb4.5/24, MS3.7/9, Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OPO	**Ambohidratompo**	**17.49**	**327**	P	**Pn**	**23 46 17.2**	**+0.8**
	0.7nm,0.3s,baz=128,slow=16,SNR=14						
BOSA	**Boshof**	**27.67**	**272**	P	**P**	**23 48 01.1**	**+0.6**
	3.8nm,0.8s,mb4.0,baz=107,slow=7.2,SNR=6.3						
LBTB	**Lobatse**	**28.72**	**279**	P	**P**	**23 48 07.0**	**-2.8**
	2.5nm,0.8s,mb4.0,baz=41,slow=2.1,SNR=3.7						
LBTB				LR	LR	23 57 07.1	
	comp=Z,58nm,18.5s,MS3.2,baz=292,slow=31						
LSZ	**Lusaka**	**31.92**	**298**	P	**P**	**23 48 37.1**	**-1.0**
	0.5nm,0.4s,mb3.7,baz=114,slow=7.0,SNR=3.7						
MAW	**Mawson**	**34.11**	**176**	*eP*	**P**	**23 48 56.4**	**-0.4**
	3.9nm,0.6s,mb4.5						
MAW				*e*		23 49 04.4	
MAW	**Mawson**	**34.11**	**176**	P	**P**	**23 48 56.4**	**-0.3**
	4.5nm,0.6s,mb4.6,baz=355,slow=9.7,SNR=17						
MAW				LR	LR	23 59 35.1	
	comp=Z,65nm,18.1s,MS3.4,baz=60,slow=31						
TSUM	**Tsumeb**	**37.98**	**282**	P	**P**	**23 49 31.5**	**+1.0**
	0.0nm,1.0s,mb4.1,baz=135,slow=8.6,SNR=4.0						
SNAA	**Sanae**	**49.01**	**201**	*eP*	**P**	**23 50 57.5**	**-1.2**
	9.0nm,1.0s,mb4.8						
QSPA	**South Pole Qui**	**56.48**	**180**	P	**P**	**23 51 53.6**	**-0.2**
	6.0nm,0.6s,mb4.8,baz=256,slow=2.4,SNR=46						
SBA	**Scott Base**	**61.29**	**167**	*eP*	**P**	**23 52 29.8**	**+2.5**
	6.2nm,1.1s,mb4.7						
CMAR	**Chiang Mai Arr**	**65.42**	**44**	P	**P**	**23 52 55.5**	**+0.2**
	3.0nm,0.8s,mb4.3,baz=221,slow=6.1,SNR=4.0						
CMAR				LR	LR	00 17 37.1	
	comp=Z,48nm,18.3s,MS3.7,baz=204,slow=32						
KOLN	**Koldanda**	**66.09**	**26**	*eP*	**P**	**23 52 59.6**	**+0.1**
	7.3nm,0.6s,mb4.9						
RAMN	**Ramite**	**66.49**	**29**	*eP*	**P**	**23 53 02.4**	**+0.3**
	16nm,0.7s,mb5.2						
DMN	**Daman**	**66.50**	**27**	*eP*	**P**	**23 53 02.1**	**0.0**
	11nm,0.7s,mb5.0						
PKI	**Pulchoki**	**66.58**	**27**	*eP*	**P**	**23 53 02.3**	**-0.3**
DANN	**Dangsing**	**66.68**	**25**	*eP*	**P**	**23 53 02.7**	**-0.5**
	15nm,0.8s,mb5.1						
GKN	**Gorkha**	**66.68**	**26**	*eP*	**P**	**23 53 02.7**	**-0.6**
	17nm,0.8s,mb5.1						
ASAR	**Alice Springs**	**66.72**	**104**	P	**P**	**23 53 03.5**	**-0.3**
	1.9nm,0.9s,mb4.1,baz=236,slow=6.5,SNR=16						
KKN	**Kakani**	**66.73**	**27**	*eP*	**P**	**23 53 03.8**	**+0.2**
ODAN	**Odare**	**66.73**	**29**	*eP*	**P**	**23 53 03.7**	**+0.1**
	16nm,0.7s,mb5.1						
JIRN	**Jiri**	**66.96**	**28**	*eP*	**P**	**23 53 04.2**	**-0.9**
GUN	**Gunba**	**67.07**	**28**	*eP*	**P**	**23 53 04.2**	**-1.5**
	18nm,0.8s,mb5.2						
TAPN	**Taplejung**	**67.30**	**29**	*eP*	**P**	**23 53 05.4**	**-1.8**
	9.6nm,0.7s,mb4.9						
WRA	**Warramunga Arr**	**68.85**	**100**	P	**P**	**23 53 17.1**	**-0.2**
	3.3nm,0.8s,mb4.3,baz=236,slow=5.5,SNR=14						
STKA	**Stephens Creek**	**68.99**	**115**	P	**P**	**23 53 18.6**	**+0.6**
	2.6nm,0.8s,mb4.2,baz=251,slow=7.9,SNR=4.0						
TORD	**Torodi Ar. Bea**	**70.36**	**302**	P	**P**	**23 53 26.4**	**-0.2**
	0.3nm,0.6s,mb3.4,baz=132,slow=6.5,SNR=4.1						
TORD				LR	LR	00 22 19.6	
	comp=Z,49nm,19.7s,MS3.8,baz=355,slow=34						
MKAR	**Makanchi Array**	**83.27**	**17**	P	**P**	**23 54 41.2**	**+2.6**
	0.7nm,0.6s,mb3.9,baz=214,slow=3.4,SNR=3.7						
AKASG	**Malin Array Be**	**87.57**	**343**	P	**P**	**23 55 01.1**	**+1.1**
	0.4nm,0.5s,mb4.0,baz=166,slow=3.8,SNR=4.8						
ZALV	**Zalesovo Beam**	**90.52**	**16**	LR	LR	00 30 29.3	
	comp=Z,31nm,20.3s,MS3.7,baz=218,slow=32						
PLCA	**Paso Flores**	**91.62**	**217**	LR	LR	00 28 44.3	
	comp=Z,49nm,18.3s,MS4.0,baz=200,slow=30						
SONM	**Songino Array**	**92.39**	**31**	P	**P**	**23 55 24.5**	**+1.9**
	0.3nm,0.7s,mb3.7,baz=254,slow=4.1,SNR=2.7						
SONM				LR	LR	00 35 34.3	
	comp=Z,67nm,18.1s,MS4.1,baz=316,slow=35						
SONM	**Songino Array**	**92.39**	**31**	P	**P**	**23 55 24.5**	**+1.9**
SONM				LR	LR	00 35 34.3	
BDFB	**Brasilia**	**93.54**	**249**	LR	LR	00 31 53.6	
	comp=Z,31nm,19.0s,MS3.8,baz=10,slow=32						
CPUP	**Villa Florida**	**93.79**	**235**	LR	LR	00 33 56.3	
	comp=Z,24nm,18.6s,MS3.7,baz=259,slow=33						
BPAW	**Bear Paw Mtn.**	**145.00**	**21**	*e*PKPbc	PKPdf	00 01 49.9	+1.0
YKA	**Yellowknife Ar**	**150.71**	**352**	PKPbc	PKPbc	00 02 04.2	+0.4
	1.9nm,0.8s,baz=16,slow=2.1,SNR=7.5						

*IDC **13** 00:27:55.0±2.5, 2815N×5730E, h0km, mb3.9/7, mb1 3.9/8, mb1mx3.6/28, mbtmp3.9/8, ML3.7/1, Error ellipse: s-maj=60.3km s-min=21.9km az=151.0*
*ISCJB **13** 00:27:56.9±1.4, 2839N±004×5737E±007, h13km±9km, mb3.7/7, Error ellipse: s-maj=10.9km s-min=7.3km az=14.1*
*THR **13** 00:28:00.4±0.3, 2842N×5726E, h14km±3km, ML3.5*
*CSEM **13** 00:28:00.3±0.1, 2843N×5726E, h35km, ML3.5, Error ellipse: s-maj=3.1km s-min=2.0km az=116.0*
*NEIC **13** 00:28:00.7, 2843N×5722E, h14km, ML3.5(THR), After THR.*

ISC 13 00:27:57.4±1.6, 2836N±004×5746E±007, h2km±10km, n32, σ0§93/35, mb3.7/7, 1C, Southern Iran

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BNDS	**Bandar-Abbas**	**1.49**	**230**	*eP*g	**Pg**	**00 28 26.2**	**+0.2**
BNDS				*eS*g	**Sg**	**00 28 45.2**	**-0.1**
BNDS				AML	AML	00 28 52.0	
	comp=N,606nm,0.5s						
BNDS	**Bandar-Abbas**	**1.49**	**230**	*eP*g	**Pg**	**00 28 26.2**	**+0.2**
	SNR=90						
BNDS				*eS*g	**Sg**	**00 28 45.0**	**-0.3**
BNDS	**Bandar-Abbas**	**1.49**	**230**	*eP*g	**Pg**	**00 28 26.0**	**0.0**
BNDS				*eS*g	**Sg**	**00 28 45.0**	**-0.3**
KRBR	**Kerman**	**1.73**	**339**	*eP*g	**Pg**	**00 28 30.2**	**-0.4**
KRBR				AML	AML	00 29 03.3	
	comp=E,582nm,0.3s						
KRBR				AML	AML	00 29 04.0	
	comp=N,763nm,0.3s						
KRBR	**Kerman**	**1.73**	**339**	*eP*g	**Pg**	**00 28 30.0**	**-0.5**
BANOM	**Banah**	**2.64**	**203**	⇑P	**Pn**	**00 28 41.8**	**+0.8**
	SNR=41						
ZHSF	**Zahedan**	**3.16**	**66**	*eP*n	**Pn**	**00 28 53.8**	**+5.7**
ZHSF	**Zahedan**	**3.16**	**66**	*eP*n	**Pn**	**00 28 54.0**	**+5.9**
GHIR	**Ghir-Karzin**	**3.95**	**270**	*eP*n	**Pn**	**00 29 00.2**	**+1.3**
GHIR				AML	AML	00 29 52.2	
	comp=N,71nm,0.5s						
GHIR	**Ghir-Karzin**	**3.95**	**270**	*eP*n	**Pn**	**00 29 00.0**	**+1.1**
FAQ	**Al Faqa, Dubai**	**3.97**	**205**	P	**Pn**	**00 28 59.9**	**+0.6**
	SNR=15						
ASUD	**Al Ashush, Dub**	**4.18**	**208**	P	**Pn**	**00 29 03.3**	**+1.1**
	SNR=21						
BIDO	**Bidbid**	**4.86**	**173**	P	**Pn**	**00 29 10.2**	**-1.2**
	SNR=7.8						
BIDO	**Bidbid**	**4.86**	**173**	P	**Pn**	**00 29 10.2**	**-1.2**
	SNR=7.8						
WBK	**Wadi Bani Khal**	**5.89**	**166**	P	**Pn**	**00 29 25.1**	**-0.5**
	SNR=6.5						
KBD	**Kabd**	**8.61**	**278**	*eP*	**Pn**	**00 30 03.1**	**+0.1**
UMR	**Umm Al-Rimmam**	**8.62**	**280**	*eP*	**Pn**	**00 30 03.2**	**+0.1**
	baz=281						
UMR				AML	AML	00 31 36.1	
	comp=Z,9.0nm,0.3s,baz=281						
RDF	**Al-Radifah**	**8.73**	**276**	*eP*	**Pn**	**00 30 04.3**	**-0.3**
	baz=277						
RDF				AML	AML	00 31 39.2	
	comp=Z,15nm,0.6s,baz=277						
NAY	**Al-Naaiem**	**9.01**	**278**	*eP*	**Pn**	**00 30 08.4**	**-0.1**
	baz=279						
NAY				AML	AML	00 31 47.6	
	comp=Z,7.0nm,0.5s,baz=279						
RST	**Umm Al-Ruwaisa**	**9.24**	**280**	*eP*	**Pn**	**00 30 11.3**	**-0.3**
	baz=280						
RST				AML	AML	00 31 52.1	
	comp=Z,7.0nm,0.4s,baz=280						
ASF	**Jabal al Asfar**	**18.16**	**287**	P	**Pn**	**00 32 07.0**	**-3.7**
	comp=Z,0.2nm,0.3s,baz=203,slow=2.3,SNR=9.8						
AKTK	**Aktyubinsk**	**22.05**	**1**	P	**P**	**00 32 54.5**	**+1.3**
AKTK	**Aktyubinsk**	**22.05**	**1**	P	**P**	**00 32 54.5**	**+1.3**
AKTO	**Aktyubinsk**	**22.05**	**1**	P	**P**	**00 32 54.5**	**+1.3**
	comp=Z,1.8nm,0.4s,mb3.8,baz=182,slow=6.1,SNR=8.5						
BVAR	**Borovoye Array**	**26.43**	**18**	P	**P**	**00 33 35.8**	**+0.5**
	comp=Z,0.9nm,0.6s,mb3.5,baz=193,slow=6.1,SNR=5.1						
MKAR	**Makanchi Array**	**26.76**	**40**	P	**P**	**00 33 39.1**	**+0.8**
	comp=Z,0.8nm,0.9s,mb3.2,baz=226,slow=9.5,SNR=3.0						
KURK	**Kurchatov**	**27.47**	**30**	P	**P**	**00 33 43.7**	**-1.0**
	comp=Z,0.2nm,0.4s,mb3.0,baz=231,slow=8.5,SNR=4.1						
ZALV	**Zalesovo Beam**	**32.45**	**30**	P	**P**	**00 34 28.2**	**-0.5**
	comp=Z,2.3nm,0.3s,mb4.5,baz=233,slow=9.2,SNR=9.4						
HFS	**Hagfors**	**43.31**	**330**	P	**P**	**00 35 58.7**	**-1.6**
	comp=Z,3.4nm,0.9s,mb4.1,baz=131,slow=11,SNR=4.6						
SPB4	**Spitsbergen Ar**	**53.18**	**350**	*eP*	**P**	**00 37 16.3**	**0.0**
SPB4	**Spitsbergen Ar**	**53.18**	**350**	*eP*	**P**	**00 37 16.3**	**0.0**
TORD	**Torodi Ar. Bea**	**53.86**	**266**	P	**P**	**00 37 19.3**	**-2.9**
	comp=Z,0.6nm,0.6s,mb3.7,baz=59,slow=7.3,SNR=15						

MOS 13 00:32:19.4±1.6, 4253N×4837E, h18km, mb3.8/1, 1C-1D, Error ellipse: s-maj=24.3km s-min=18.5km az=82.2, Caspian Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DRN	**Derbent**	**0.50**	**184**	*eP*G	Pg	00 32 31.0	+1.6
DRN				*i* S	Sg	00 32 40.5	+4.4
URKR	**Urkarakh**	**0.66**	**237**	*i* PG	Pg	00 32 32.0	-0.3
URKR				*eS*	Sb	00 32 44.0	+2.9
MAK	**Makhachkala**	**0.77**	**304**	⇑*i*PG	Pg	00 32 35.9	+1.4
MAK				*i*		00 32 47.4	
MAK				pmax	pmax		
	comp=Z,19nm,0.1s						
MAK				smax			
	comp=N,173nm,0.4s						
MAK				smax			
	comp=E,263nm,0.5s						
KSMR	**Kasumkent**	**0.94**	**191**	*i* PG	Pg	00 32 37.0	-0.7
KSMR				*i* S	Sb	00 32 53.0	+3.7
KMKR	**Kumukh**	**1.02**	**248**	⇓*i*PG	Pg	00 32 40.0	+0.7
KMKR				*eS*	Sb	00 32 56.0	+4.3
KMKR				pmax	pmax		
	comp=Z,28nm,0.2s						
DBC	**Dubki**	**1.24**	**294**	*eP*G	Pg	00 32 40.0	-3.3
DBC				*i* S	Sb	00 32 57.5	-0.3

*IDC **13** 01:07:05.2±0.5, 136N×12579E, h0km, mb4.7/19, mb1 4.7/20, mb1mx4.7/22, mbtmp4.6/20, ML4.7/1, MS3.8/10, Ms1 3.8/10, ms1mx3.6/25, Error ellipse: s-maj=23.0km s-min=11.1km az=80.0*
*MOS **13** 01:07:08.6±1.4, 142N×12590E, h33km, mb4.9/37, MS4.0/5, Error ellipse: s-maj=14.1km s-min=6.3km az=115.0*
*ISCJB **13** 01:07:10.5±0.5, 140N±003×12606E±004, h51km±5km, mb4.8/77, MS4.1/24, Error ellipse: s-maj=7.4km s-min=4.2km az=162.4*
*BJI **13** 01:07:11.3, 136N×12600E, h59km, mB5.0, mb4.9, Ms4.4, Msz4.1*
*NEIC **13** 01:07:11.8±1.1, 137N×12604E, h47km±10km, mb4.8/28, Error ellipse: s-maj=10.3km s

FITZ eS S 01 15 09.4 -0.1
FITZ Fitzroy Crossi 19.35 181 P Pn 01 11 32.5 -2.7
1.7nm,0.3s,baz=11,slow=11,SNR=35
FITZ Fitzroy Crossi 19.35 181 P Pn 01 11 33.9 -1.3
42nm,1.0s
GUMO Guam 22.19 56 P P 01 12 04.7 +0.5
60nm,0.8s,mb5.1,baz=181,slow=22,SNR=3.4
GUMO Guam 22.19 56 P P 01 12 04.7 +0.5
GUMO pmax pmax
comp=Z,60nm,0.8s,mb5.1
MYKOM **Kota Tinggi 22.25 271** P P 01 12 06.4 +1.4
WRAB Tennant Creek 22.66 160 eP P 01 12 08.2 -1.0
WRAB pmax pmax
comp=Z,147nm,0.9s,mb5.4
WRAB Tennant Creek 22.66 160 P P 01 12 09.6 +0.4
comp=Z,190nm,1.0s,comp=Z,2µm,mb5.5
WRAB Tennant Creek 22.66 160 eP P 01 12 08.2 -0.9
comp=Z,147nm,0.9s,mb5.4
WRA Warramunga Arr 22.66 160 P P 01 12 08.1 -1.2
comp=Z,24nm,0.4s,mb4.9,baz=334,slow=11,SNR=51
WRA S S 01 16 11.3 -2.2
comp=Z,3.8nm,0.8s,baz=344,slow=17,SNR=5.7
WRA Warramunga Arr 22.66 160 P P 01 12 08.1 -1.1
WRA S S 01 16 11.3 -2.2
WRA pmax pmax
comp=Z,24nm,0.4s
WRA smax
comp=N,4.0nm,0.9s
COEN Coen 22.76 133 P P 01 12 15.1 +4.8
comp=N,15nm,1.0s,mb4.4
COEN Coen 22.76 133 eP P 01 12 10.1 -0.2
comp=N,8.2nm,0.7s,mb4.3
MBWA Marble Bar 23.24 195 eP P 01 12 13.4 -1.7
comp=N,91nm,1.5s,mb5.0
PMG Port Moresby 23.54 117 eP P 01 12 18.0 -0.1
PMG pmax pmax
comp=Z,13nm,0.8s
PMG Port Moresby 23.54 117 P P 01 12 25.2 +7.1
comp=Z,20nm,0.9s,mb4.6
PMG Port Moresby 23.54 117 eP P 01 12 18.0 0.0
comp=Z,12nm,0.8s,mb4.4
YHNB Yeheng 23.61 349 eP P 01 12 16.2 -2.4
comp=Z,48nm,0.9s,mb4.9
QIZ Qiongzhong 23.71 319 P P 01 12 20.1 +0.6
QIZ AP 01 12 34.7
QIZ S S 01 16 33.5 +3.0
QIZ LR LR
comp=N,537nm,13.4s
QIZ LR LR
comp=Z,629nm,20.3s
QIZ Qiongzhong 23.71 319 eP P 01 12 20.4 +0.9
comp=Z,14nm,0.6s,mb4.6
JOW Kunigami 25.41 5 P P 01 12 35.8 +0.9
comp=Z,40nm,0.5s,mb5.2,baz=201,slow=8.2,SNR=15
ASAR Alice Springs 26.01 164 P P 01 12 40.6 +0.2
ASAR comp=Z,17nm,0.4s,mb5.0,baz=346,slow=12,SNR=57
ASAR PP 01 13 14.8
comp=Z,11nm,0.7s,baz=340,slow=9.8,SNR=5.2
ASAR S S 01 17 06.1 -1.1
comp=Z,1.0nm,0.7s,baz=352,slow=24,SNR=2.9
ASAR Alice Springs 26.01 164 P P 01 12 40.6 +0.2
ASAR S S 01 17 06.1 -1.1
ASAR pmax pmax
comp=Z,17nm,0.4s
ASAR pmax pmax
comp=Z,11nm,0.7s
ASAR smax
comp=N,1.0nm,0.7s
SNG Songkhla 26.05 284 P pP 01 12 54.0 -1.3
comp=N,160nm,0.7s
CTA Charters Tower 29.07 138 P P 01 13 10.0 +2.2
comp=N,3.2nm,0.4s,mb4.4,baz=317,slow=12,SNR=5.3
CTA Charters Tower 29.07 138 P P 01 13 10.0 +2.2
CTA pmax pmax
comp=Z,3.0nm,0.4s
CTA Charters Tower 29.07 138 P P 01 13 10.0 +2.2
CBIJ Chichi jima 29.88 30 LR LR 01 24 25.6
comp=Z,134nm,18.1s,MS3.6,baz=250,slow=35
SSE Sheshan 29.93 352 eP P 01 13 14.0 -1.3
SSE S S 01 18 11.2 +2.4
SSE SCS ScS 01 23 45.8 -3.9
SSE AMB AMB
comp=Z,30nm,0.7s,mb5.1
SSE AMB AMB
comp=Z,45nm,3.5s
SSE LR LR
comp=N,176nm,32.9s,MS3.7
SSE LR LR
comp=E,253nm,32.9s,MS3.7
SSE LR LR
comp=Z,232nm,24.5s
NANT Nan 30.34 306 ⇑P P 01 13 17.0 -2.1
comp=Z,88nm,0.8s,mb5.5
GYA Guiyang 31.17 325 P P 01 13 26.5 +0.1
GYA AP pP 01 13 42.6 +1.7
GYA XP sP 01 13 50.4 +2.6
GYA PP PP 01 14 33.8 -3.9
GYA S S 01 18 29.1 +0.7
GYA XS sS 01 18 56.7 +3.6
GYA SCP ScP 01 19 56.5 -2.0
GYA PCS PcS 01 20 05.4 +0.8
GYA AMB AMB
comp=Z,10.0nm,0.7s,mb4.8
GYA AMB AMB
comp=Z,130nm,5.2s
GYA LR LR
comp=N,490nm,17.2s,MS4.3
GYA LR LR
comp=E,440nm,18.6s,MS4.3
GYA LR LR
comp=Z,400nm,16.4s,MS4.2
NJ2 Nanjing 31.28 348 eP P 01 13 30.5 +3.3
NJ2 AMB AMB
comp=Z,30nm,0.8s,mb5.2
CMAR Chiang Mai Arr 31.60 304 P P 01 13 26.9 -3.4
comp=Z,1.2nm,0.5s,mb4.0,baz=122,slow=14,SNR=5.3
CMAR Chiang Mai Arr 31.60 304 P P 01 13 26.9 -3.3
CMAR pmax pmax
comp=Z,1.0nm,0.5s
CHTO Chiang Mai 31.77 305 eP P 01 13 32.0 +0.3
CHTO pmax pmax
comp=Z,2.0nm,0.6s,mb4.1
CHTO Chiang Mai 31.77 305 eP P 01 13 32.0 +0.2
comp=Z,2.4nm,0.6s,mb4.2
FORT Forrest 32.02 177 eP P 01 13 33.7 0.0
comp=Z,31nm,0.7s,mb5.2
KMI Kunming 32.66 318 P P 01 13 41.4 +2.0
KMI AP pP 01 13 57.7 +3.7
KMI XP sP 01 14 05.5 +4.6
KMI PP PP 01 14 53.5 -0.7
KMI S S 01 18 52.6 +1.1
KMI SSS 01 21 20.9
KMI AMB AMB
comp=Z,9.0nm,0.9s,mb4.7
KMI LR LR
comp=N,290nm,19.7s,MS4.2
KMI LR LR
comp=E,316nm,15.5s,MS4.2
KMI LR LR
comp=Z,503nm,19.7s,MS4.2
KMI Kunming 32.66 318 P P 01 13 41.4 +2.0
KMI pP pP 01 13 57.7 +3.7
KMI sP sP 01 14 05.5 +4.6
KMI PP PP 01 14 53.5 -0.7
KMI S S 01 18 52.6 +1.1
KMI sS sS 01 19 21.1 +4.8
KMI SS SS 01 20 55.4 -19
KMI SSS 01 21 20.9
KLBR Kellerberrin 33.72 193 eP P 01 13 48.5 -0.1
comp=Z,12nm,0.6s,mb5.0
MUN Mundaring 34.46 195 eP P 01 13 56.9 +1.9
NWAO Narrogin (SRO) 35.12 193 P P 01 14 01.3 +0.6
comp=Z,3.3nm,0.3s,mb4.7,baz=16,slow=8.8,SNR=8.6
NWAO Narrogin (SRO) 35.12 193 P P 01 14 01.3 +0.6
NWAO pmax pmax
comp=Z,3.0nm,0.3s
KSRS Korea Array 35.95 2 P P 01 14 08.9 +1.1
comp=Z,5.4nm,0.6s,mb4.6,baz=187,slow=9.5,SNR=12
KSRS LR LR 01 31 19.4
comp=Z,56nm,18.1s,MS3.4,baz=192,slow=40
KSRS Korea Array 35.95 2 P P 01 14 08.9 +1.2
KSRS pmax pmax
comp=Z,5.0nm,0.6s,mb4.6
KSRS MLR MLR
comp=Z,56nm,18.1s,MS3.4
STKA Stephens Creek 36.18 157 eP P 01 14 10.3 +0.6
comp=Z,12nm,0.8s,mb4.9
STKA Stephens Creek 36.18 157 P P 01 14 10.9 +1.2
comp=Z,14nm,0.8s,mb5.0,baz=332,slow=8.4,SNR=24
STKA Stephens Creek 36.18 157 eP P 01 14 10.5 +0.8
comp=Z,5.8nm,0.8s,mb4.6
CD2 Chengdu 36.21 326 ⇑iP P 01 14 09.2 -0.9
CD2 AP pP 01 14 23.6 -1.2
CD2 XP sP 01 14 31.3 -0.4
CD2 PP PP 01 15 32.6 -0.8
CD2 S S 01 19 42.8 -3.5
CD2 XS sS 01 20 08.2 -3.0
CD2 SS SS 01 22 08.0 -18
CD2 AMB AMB
comp=Z,20nm,0.5s,mb5.3
CD2 AMB AMB
comp=Z,150nm,5.3s
CD2 LR LR
comp=N,450nm,15.6s,MS4.6
CD2 LR LR
comp=E,520nm,13.2s,MS4.6
CD2 LR LR
comp=Z,460nm,21.6s
XAN Xi'an 36.26 335 P P 01 14 08.7 -1.8
XAN PP PP 01 15 39.2 +5.2
XAN AMB AMB
comp=Z,16nm,0.9s,mb5.0
XAN AMB AMB
comp=Z,66nm,5.4s
XAN LR LR
comp=E,221nm,23.3s
XAN LR LR
comp=Z,362nm,21.2s,MS4.1
MJAR Matsushiro Arr 36.75 16 P P 01 14 14.8 +0.3
comp=Z,5.6nm,0.9s,mb4.4,baz=191,slow=9.8,SNR=7.9
MJAR Matsushiro Arr 36.75 16 P P 01 14 14.8 +0.2
MJAR pmax pmax
comp=Z,6.0nm,0.9s
DL2 Dalian 37.58 354 P P 01 14 20.4 -1.2
DL2 AMB AMB
comp=Z,20nm,0.6s,mb5.0
BJT Baijiatuau 39.52 348 eP P 01 14 37.3 -0.5
BJT pmax pmax
comp=Z,13nm,0.8s
BJT Baijiatuau 39.52 348 eP P 01 14 37.3 -0.6
comp=Z,13nm,0.8s,mb4.7
BJI Beijing 39.54 348 P P 01 14 39.8 +1.8
BJI AP pP 01 14 55.2 +2.3
BJI XP sP 01 15 02.5 +2.8
BJI S S 01 20 41.0 +4.7
BJI AMB AMB
comp=Z,15nm,0.4s,mb5.1
BJI LR LR
comp=N,182nm,13.8s,MS4.2
BJI LR LR
comp=E,186nm,12.1s,MS4.2
BJI LR LR
comp=Z,179nm,22.7s
ARMA Armidale 39.88 145 eP P 01 14 43.2 +2.2
LZH Lanzhou 40.24 332 eP P 01 14 43.5 -0.4
LZH AP pP 01 15 01.0 +2.2
LZH PP PP 01 16 23.4 +5.9
LZH AMB AMB
comp=Z,25nm,1.0s,mb4.9
LZH AMB AMB
comp=Z,121nm,5.7s
LZH LR LR
comp=N,314nm,14.8s
LZH LR LR
comp=Z,306nm,16.9s,MS4.2
SNY Shenyang 40.34 357 ⇑P P 01 14 45.5 +0.9
SNY S S 01 20 38.6 -10
SNY AMB AMB
comp=Z,30nm,0.7s,mb5.1
SNY AMB AMB
comp=Z,48nm,3.5s
SNY LR LR
comp=N,214nm,22.7s,MS4.1
SNY LR LR
comp=E,229nm,25.5s,MS4.1
SNY LR LR
comp=Z,248nm,20.4s
SHL Shillong 40.82 309 eP P 01 14 47.0 -1.8
HHC Hu-ho-hao-te 41.45 343 eP P 01 14 58.1 +4.4
HHC AP pP 01 15 13.5 +4.8
HHC PP PP 01 16 38.1 +7.6
HHC PCP PcP 01 16 53.1 +2.4
HHC SCP ScP 01 20 38.0 +2.0
HHC S S 01 21 10.8 +6.0
HHC SCS ScS 01 24 54.4 +2.2
HHC AMB AMB
comp=Z,13nm,1.0s,mb4.5
HHC AMB AMB
comp=Z,67nm,6.7s
HHC LR LR
comp=N,207nm,20.6s,MS4.5
HHC LR LR
comp=E,595nm,22.1s,MS4.5
HHC LR LR
comp=Z,313nm,19.9s,MS4.2
CN2 Changchun 42.26 359 eP P 01 15 00.9 +0.6
CN2 eAP pP 01 15 16.3 +1.0
CN2 eS S 01 21 18.6 +2.0
TOO Toolangi 42.70 157 eP P 01 15 06.9 +2.9
MDJ Mudanjiang 43.18 4 P P 01 15 10.0 +2.3
MDJ AP pP 01 15 24.9 +2.1
MDJ XP sP 01 15 32.4 +2.9
MDJ PP PP 01 16 53.2 +4.2
MDJ S S 01 21 34.8 +4.7
MDJ XS sS 01 22 00.7 +5.2
MDJ AMB AMB
comp=Z,18nm,0.9s,mb4.8
MDJ AMB AMB
comp=Z,97nm,6.0s
MDJ LR LR
comp=N,159nm,19.7s
MDJ LR LR
comp=E,203nm,28.9s
MDJ LR LR
comp=Z,211nm,19.7s,MS4.0
MDJ Mudanjiang 43.18 4 eP P 01 15 09.9 +2.2
comp=Z,10nm,0.6s,mb4.7
LSA Lhasa 43.57 314 P P 01 15 11.6 +0.5
LSA Lhasa 43.57 314 eP P 01 15 12.1 +1.0
GTA Gaotai 44.82 331 eP P 01 15 20.6 -0.4
GTA AMB AMB
comp=Z,4.0nm,0.6s,mb4.4
GTA AMB AMB
comp=Z,93nm,7.2s
GTA LR LR
comp=N,199nm,19.5s,MS4.2
GTA LR LR
comp=E,248nm,20.1s,MS4.2
GTA LR LR
comp=Z,313nm,18.0s,MS4.3
HIA Hailar 48.03 354 ⇑eP P 01 15 47.1 +1.1
SONM Songino Array 49.34 343 P P 01 15 55.8 -0.3
comp=Z,2.4nm,0.7s,mb4.4,baz=154,slow=7.9,SNR=16
SONM LR LR 01 38 24.5
comp=Z,83nm,18.5s,MS3.8,baz=155,slow=38
SONM Songino Array 49.34 343 P P 01 15 55.8 -0.2
SONM pmax pmax
comp=Z,2.0nm,0.7s
SONM MLR MLR
comp=Z,83nm,18.5s
ZAK Zakamensk 52.55 342 eP P 01 16 18.0 -2.1
ZAK pmax pmax
comp=Z,2.0nm,1.5s,mb3.8
TLY Talaya 53.58 343 eP P 01 16 32.6 +5.0
TLY eS S 01 23 59.6 +3.0
TLY pmax pmax
comp=Z,8.0nm,0.7s,mb4.8
TLY MLR MLR
comp=Z,226nm,31.0s,MS4.0
WMQ Urumqi 54.31 326 ⇑P P 01 16 33.9 +0.7
WMQ AP pP 01 16 49.9 +1.2
WMQ XP sP 01 16 56.9 +1.5
WMQ PCP PcP 01 17 36.9 +0.3
WMQ PP PP 01 18 38.4 +2.7
WMQ PPP 01 19 49.9
WMQ SCP ScP 01 21 28.4 -1.7
WMQ PCS PcS 01 21 35.1 -0.9
WMQ S S 01 24 06.1 -0.7
WMQ PS 01 24 25.9
WMQ AMB AMB
comp=Z,17nm,0.7s,mb5.1
WMQ AMB AMB
comp=Z,87nm,3.7s
WMQ LR LR
comp=N,296nm,23.5s,MS4.4
WMQ LR LR
comp=E,237nm,25.8s,MS4.4
WMQ LR LR
comp=Z,329nm,23.4s,MS4.3
BOD Bodaibo 57.10 352 eP P 01 16 53.6 +0.7
BOD pmax pmax
comp=Z,22nm,0.9s,mb5.2
PETK Petropavlovsk- 57.84 22 P P 01 16 59.4 +1.2
comp=Z,4.9nm,0.6s,mb4.7,baz=192,slow=5.2,SNR=5.5
PETK Petropavlovsk- 57.84 22 P P 01 16 59.4 +1.2
PETK pmax pmax
comp=Z,5.0nm,0.6s,mb4.7
MK31 Makanchi Array 59.15 326 P P 01 17 06.3 -1.1
MK31 pmax pmax
comp=Z,5.0nm,0.4s,mb4.9
MKAR Makanchi Array 59.15 326 P P 01 17 06.6 -0.8
comp=Z,4.0nm,0.4s,mb4.8,baz=120,slow=8.2,SNR=91
MKAR Makanchi Array 59.15 326 P P 01 17 06.6 -0.8
MKAR pmax pmax
comp=Z,4.0nm,0.4s
MKAR Makanchi Array 59.15 326 P P 01 17 06.6 -0.8
YAK Yakutsk 60.57 2 eP P 01 17 19.3 +2.4
YAK e pP 01 17 37.0 +4.3
YAK pmax pmax
comp=Z,53nm,1.0s,mb5.6
YAK pmax pmax
comp=N,17nm,1.4s
YAK pmax pmax
comp=E,9.0nm,1.3s
TKM2 Tokmak 2 61.11 320 eP P 01 17 20.4 -0.5
TKM2 pmax pmax
comp=Z,5.0nm,0.6s,mb4.8
TKM2 Tokmak 2 61.11 320 eP P 01 17 20.4 -0.5
comp=Z,4.5nm,0.6s,mb4.8
UCH Uchtor 61.50 319 eP P 01 17 23.5 -0.1
comp=Z,5.1nm,0.6s,mb4.8
EKS2 Erkin-Say 62.18 319 eP P 01 17 27.9 -0.3
comp=Z,6.6nm,0.8s,mb4.8
ZALV Zalesovo Beam 62.41 334 P P 01 17 27.9 -1.5
comp=Z,2.3nm,0.4s,mb4.7,baz=135,slow=7.0,SNR=13
ZALV LR LR 01 47 22.3
comp=Z,70nm,19.7s,MS3.8,baz=98,slow=39
ZALV Zalesovo Beam 62.41 334 P P 01 17 28.0 -1.4
ZALV pmax pmax
comp=Z,2.0nm,0.4s,mb4.6
ZALV MLR MLR
comp=Z,70nm,19.7s,MS3.8
ZALV Zalesovo Beam 62.41 334 P P 01 17 27.9 -1.5
ZALV LR LR 01 47 22.3
KBL Kabul 62.48 309 eP P 01 17 29.0 -1.3
KBL pmax pmax
comp=Z,7.0nm,0.7s,mb4.9
KBL Kabul 62.48 309 eP P 01 17 29.0 -1.4
comp=Z,6.7nm,0.7s,mb4.9
KURK Kurchatov 63.40 328 eP P 01 17 35.3 -0.8
KURK pmax pmax
comp=Z,16nm,0.6s,mb5.3
KURK Kurchatov 63.40 328 eP P 01 17 35.2 -0.8
comp=Z,16nm,0.6s,mb5.3
NVS Novosibirsk 63.70 334 eP P 01 17 35.2 -2.8
NVS eS S 01 26 03.0 -4.9
NVS pmax pmax
comp=Z,10.0nm,0.8s,mb4.9
NVS pmax pmax
comp=N,6.0nm,0.7s
NVS pmax pmax
comp=E,5.0nm,0.6s
NVS smax
comp=E,30nm,2.5s
SEY Seymchan 64.46 13 iP P 01 17 46.5 +3.7
KK31 Karatay Array 64.54 318 iP P 01 17 42.5 -1.3
KK31 pmax pmax
comp=Z,2.0nm,0.5s,mb4.4
VOSK Vostochnaya 68.50 328 P P 01 18 08.3 -0.5
VOSK pmax pmax
comp=Z,5.0nm,0.7s,mb4.5
BVA0 Borovoye Array 68.96 328 iP P 01 18 11.9 +0.2
BVA0 pmax pmax
comp=Z,2.0nm,1.3s,mb3.9
BRVK Borovoye 69.03 328 eP P 01 18 11.3 -0.8
BRVK pmax pmax
comp=Z,8.0nm,0.6s,mb4.8
BRVK Borovoye 69.03 328 eP P 01 18 11.3 -0.8
comp=Z,7.9nm,0.6s,mb4.8
TIXI Tiksi 70.20 1 ⇓eP P 01 18 19.3 +0.3
TIXI pmax pmax
comp=Z,4.0nm,0.4s,mb4.7
TIXI MLR MLR
comp=Z,200nm,25.0s,MS4.3
TIXI Tiksi 70.20 1 eP P 01 18 19.6 +0.6
comp=Z,7.1nm,0.4s,mb5.0
AB31 Akbulak array 73.58 321 iP P 01 18 38.4 -1.3
AB31 pmax pmax
comp=Z,2.0nm,0.4s,mb4.4
AKTO Aktyubinsk 75.12 322 iP P 01 18 47.8 -0.8
AKTO pmax pmax
comp=Z,5.0nm,1.4s,mb4.2
SVE Sverdlovsk 75.64 329 eP P 01 18 49.9 -1.5
SVE pmax pmax
comp=Z,18nm,0.9s,mb5.0
ARU Arti 76.59 328 c iP P 01 18 54.4 -2.5
ARU e 01 19 05.2
ARU ePPP 01 23 33.8
ARU eS S 01 28 41.2 +2.6
ARU pmax pmax
comp=Z,16nm,2.5s,mb4.5
ARU Arti 76.59 328 eP P 01 18 56.1 -0.8
comp=Z,6.7nm,0.6s,mb4.8
UMR Umm Al-Rimmam 79.23 300 eP P 01 19 10.9 -1.2
baz=300
UMR AMb AMB 01 19 16.8
comp=Z,20nm,0.7s,mb5.2,baz=300
RDF Al-Radifah 79.32 299 AMb AMB 01 19 28.5
comp=Z,22nm,1.2s,mb5.0,baz=299
NAY Al-Naaiem 79.61 299 eP P 01 19 12.5 -1.7
baz=299
RST Umm Al-Ruwaisa 79.85 300 eP P 01 19 13.6 -1.9
baz=300
RST AMb AMB 01 19 19.9
comp=Z,23nm,0.6s,mb5.3,baz=300
MAW Mawson 81.33 200 eP P 01 19 24.1 +1.5
comp=Z,4.4nm,0.9s,mb4.4
MAW Mawson 81.33 200 P P 01 19 22.1 -0.5
comp=Z,6.1nm,1.1s,mb4.5,baz=69,slow=5.7,SNR=7.7
MAW LR LR 01 53 09.3
comp=Z,66nm,19.7s,MS4.0,baz=245,slow=34
GNI Garni 82.51 310 eP P 01 19 30.2 +0.8
GNI pmax pmax
comp=Z,5.0nm,0.8s
GNI Garni 82.51 310 eP P 01 19 30.2 +0.8
comp=Z,5.4nm,0.8s,mb4.6
KIV Kislovodsk 84.31 314 iP P 01 19 39.3 +0.8
KIV MLR MLR
comp=Z,100nm,18.0s,MS4.2
PPT Papeete 84.99 108 LR LR 01 53 52.9
comp=Z,102nm,18.8s,MS4.2,baz=254,slow=33
VRHR Novokhopersk 85.47 321 eP P 01 19 44.2 0.0
VRHR pmax pmax
comp=Z,10.0nm,0.5s,mb5.2
VRHR pmax pmax
comp=N,5.0nm,0.4s
VRHR pmax pmax
comp=E,10.0nm,0.9s
COLD Coldfoot 86.30 23 eP P 01 19 51.3 +3.3
comp=E,4.7nm,0.6s,mb4.9
VSR Storozhevoye 87.02 321 eP P 01 19 51.2 -0.6
VSR pmax pmax
comp=Z,5.0nm,0.6s,mb4.9
VSR pmax pmax
comp=N,1.0nm,0.4s
VSR pmax pmax
comp=E,4.0nm,0.6s
KLMR Klimovskoe 87.15 331 eP P 01 19 50.7 -1.5
KLMR pmax pmax
comp=Z,16nm,0.6s,mb5.4
ANN Anapa 88.10 315 eP P 01 19 56.3 -0.8
ANN pmax pmax
comp=Z,19nm,0.7s,mb5.4
OBN Obninsk 88.62 325 ⇓iP P 01 19 58.9 -0.5
OBN eS SKSac 01 30 20.1 -3.5
OBN ePS 01 31 56.3
OBN pmax pmax

	comp=Z,7.0nm,0.6s,mb5.2						
KMBO	**Kilima Mbogo**	**88.88**	**269**	P	**P**	**01 20 01.9**	**+0.4**
	comp=Z,4.4nm,0.9s,mb4.8,baz=55,slow=11,SNR=8.3						
KMBO	**Kilima Mbogo**	**88.88**	**269**	*i* P	**P**	**01 20 03.4**	**+1.9**
KMBO				pmax	pmax		
	comp=Z,4.0nm,0.9s						
KMBO	**Kilima Mbogo**	**88.88**	**269**	*e*P	**P**	**01 20 02.6**	**+1.1**
	comp=Z,14nm,1.0s,mb5.2						
JOF	**Joensuu**	**90.98**	**333**	*e*p	**P**	**01 20 10.3**	**+0.1**
	comp=Z,1.6nm,0.3s,mb4.8						
BR131	**Keskin Array S**	**91.04**	**310**	*e*P	**P**	**01 20 12.3**	**+1.3**
	comp=Z,2.5nm,0.8s,mb4.6						
QSPA	**South Pole Qui**	**91.29**	**180**	P	**P**	**01 20 10.5**	**-0.8**
	comp=Z,0.6nm,0.3s,mb4.4,baz=275,slow=3.5,SNR=2.6						
ARCES	**ARCESS Array B**	**92.44**	**340**	P	**P**	**01 20 16.3**	**-0.6**
	comp=Z,3.3nm,0.8s,mb4.7,baz=87,slow=7.3,SNR=4.1						
ARCES				LR	LR	02 07 09.8	
	comp=Z,78nm,18.0s,MS4.2,baz=245,slow=39						
AKASG	**Malin Array Be**	**93.32**	**321**	P	**P**	**01 20 20.7**	**-0.6**
	comp=Z,0.8nm,0.5s,mb4.4,baz=69,slow=4.0,SNR=4.9						
AKASG				LR	LR	02 05 02.6	
	comp=Z,78nm,20.8s,MS4.1,baz=245,slow=37						
AKASG	**Malin Array Be**	**93.32**	**321**	*i* P	**P**	**01 20 24.3**	**+3.0**
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.5s						
KAF	**Kangasniemi**	**93.39**	**332**	*e*p	**P**	**01 20 22.1**	**+0.7**
	comp=Z,1.5nm,0.4s,mb4.8						
KAF	**Kangasniemi**	**93.39**	**332**	*e*P	**P**	**01 20 22.1**	**+0.7**
KAF				pmax	pmax		
	comp=Z,2.0nm,0.4s,mb4.9						
PLOR	**Plostina**	**95.61**	**316**↑	*i*P	**P**	**01 20 33.1**	**+1.2**
BURAR	**Bucovina Array**	**96.33**	**318**↓	*i*P	**P**	**01 20 35.5**	**+0.3**
BUR08	**Bucovina Ar. S**	**96.34**	**318**	*e*P	**P**	**01 20 35.4**	**+0.2**
KWP	**Kalwaria**	**97.62**	**320**↑	*i*P	**P**	**01 20 41.9**	**+1.0**
UZH	**Uzhgorod**	**98.08**	**319**	*e*P	**P**	**01 20 43.5**	**+0.5**
UZH				*i*	pP	01 20 59.0	-0.7
DRGR		**98.16**	**318**↓	*i*P	**P**	**01 20 43.8**	**+0.4**
BOSA	**Boshof**	**100.18**	**241**	LR	LR	02 02 39.4	
	comp=Z,94nm,21.4s,MS4.3,baz=112,slow=33						
NB2	**NORSAR Subarra100.61**	**333**		P	Pdif	01 20 57.3	+3.2
	comp=Z,1.9nm,0.9s,baz=67,slow=4.6						
TOA0	**Torodi Ar. Sit**	**123.02**	**287**	*e*PKPdf	PKPdf	01 26 05.8	+2.2
TORD	**Torodi Ar. Bea**	**123.02**	**287**	PKP	PKPdf	01 26 04.5	+0.9
	comp=Z,2.3nm,0.8s,baz=79,slow=1.5,SNR=14						
TORD				PKKPbc	PKKPbc	01 35 57.6	+2.6
	comp=Z,0.6nm,0.8s,baz=264,slow=2.7,SNR=5.2						
TXAR	**Lajitas Array**	**123.52**	**53**	PKP	PKPdf	01 26 06.5	+2.2
	comp=Z,0.6nm,1.1s,baz=229,slow=5.5,SNR=3.4						
TXAR	**Lajitas Array**	**123.52**	**53**	PKIKP	PKPdf	01 26 06.5	+2.2
TXAR				pmax	pmax		
	comp=Z,1.0nm,1.1s						
TXAR	**Lajitas Array**	**123.52**	**53**	PKP	PKPdf	01 26 06.5	+2.2
LPAZ	**La Paz**	**159.59**	**137**	PKP	PKPdf	01 27 06.5	+0.6
	comp=Z,0.3nm,0.4s,baz=353,slow=20,SNR=2.5						

IDC ***13*** *01:09:35.9±6.6, 3598S×17782E, h211km±34km, mb3.8/3, mb1 3.9/4, mb1mx3.7/16, mbtmp3.7/4, Error ellipse: s-maj=98.3km s-min=22.2km az=47.0*

ISCJB ***13*** *01:09:37.4±1.4, 3625.0S×1775.1E±0.2, h226km±12km, mb3.9/3, Error ellipse: s-maj=30.2km s-min=21.9km az=40.3*

NEIC ***13*** *01:09:38.5, 36.12S×177.78E, h212km, MG4.3(WEL), After WEL.*

ISC 13 01:09:38.5±1.4, 3625.0±2.0×1775.0E±0.2, h219km±13km, n18, σ0.9/97/20, mb4.0/3, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**1.50**	**154**	P	**Pn**	**01 10 13.4**		**-0.5**
MXZ				S	**S**	**01 10 40.2**		**-1.5**
PUZ	**Puketiti**	**1.96**	**162**	P	**Pn**	**01 10 17.8**		**-0.2**
URZ	**Urewera**	**2.07**	**188**	P	**Pn**	**01 10 19.9**		**+0.9**
	7.5nm,0.3s,baz=350,slow=2.8,SNR=5.7							
URZ				S	**S**	**01 10 52.5**		**+1.6**
	19nm,0.3s,baz=85,slow=23,SNR=12							
URZ	**Urewera**	**2.07**	**188**	P	**Pn**	**01 10 20.2**		**+1.2**
MWZ	**Matawai**	**2.12**	**179**	P	**Pn**	**01 10 20.4**		**+0.8**
MWZ				S	**S**	**01 10 52.7**		**+0.8**
KNZ	**Kokohu**	**2.81**	**177**	P	**Pn**	**01 10 27.0**		**+0.1**
WNVZ	**Wahianoa**	**3.45**	**205**	P	**Pn**	**01 10 36.0**		**+1.7**
TSZ	**Takapari Road**	**4.03**	**197**	P	**Pn**	**01 10 41.1**		**-0.1**
MRZ	**Mangatainoka R**	**4.69**	**198**	P	**Pn**	**01 10 48.6**		**-0.7**
KIW	**Kapiti Island**	**5.06**	**203**	P	**Pn**	**01 10 53.4**		**-0.6**
CAW	**Cannon Point**	**5.24**	**200**	P	**Pn**	**01 10 55.1**		**-1.2**
TCW	**Tory Channel**	**5.59**	**206**	P	**Pn**	**01 10 59.4**		**-1.3**
THZ	**Tophouse**	**6.59**	**211**	P	**Pn**	**01 11 13.4**		**-0.1**
KHZ	**Kahutara**	**6.91**	**205**	P	**Pn**	**01 11 16.0**		**-1.5**
ASAR	**Alice Springs**	**39.47**	**276**	P	**P**	**01 16 48.0**		**+0.4**
	3.4nm,0.6s,mb4.0,baz=119,slow=7.9,SNR=8.8							
WRA	**Warramunga Arr**	**41.01**	**281**	P	**P**	**01 17 00.3**		**-0.1**
	3.8nm,0.6s,mb4.0,baz=120,slow=7.8,SNR=4.7							
QSPA	**South Pole Qui**	**53.91**	**180**	P	**P**	**01 18 39.9**		**+1.3**
	2.3nm,0.7s,mb3.8,baz=30,slow=0.9,SNR=8.2							
TORD	**Torodi Ar. Bea**	**156.72**	**190**	PKPab	PKPab	01 29 35.4		**-2.8**
	0.6nm,0.6s,baz=168,slow=4.6,SNR=9.0							

ISCJB ***13*** *01:34:59.5±1.5, 562S±006×799W±0.1, h98km±13km, mb3.8/13, Error ellipse: s-maj=24.8km s-min=8.3km az=164.3*

NEIC ***13*** *01:34:59.6, 567S×8005W, h76km, mb4.4/6, After LIM.*

NEIC Felt [IV] at Chulucanas. Also felt at Chiclayo.

IDC ***13*** *01:34:59.6±0.6, 555S×7991W, h79km±5km, mb3.6/12, mb1 3.8/14, mb1mx3.8/19, mbtmp3.7/14, MS3.3/4, Ms1 3.3/4, ms1mx2.9/27, Error ellipse: s-maj=22.5km s-min=6.5km az=53.0*

BJI ***13*** *01:35:05.0, 570S×8010W, h33km, mB5.3, Ms5.2, Msz4.7*

ISC 13 01:35:01.5±1.0, 562S±006×798W±01, h99km±9km, h82km±1.3km: pP-P, n46, σ1.9/05/35, mb3.8/13, Northern Peru

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
ATAH	**Atahualpa**	**1.95**	**135**	P	**Pn**	**01 35 35.4**		**+1.9**
	651nm,0.3s,baz=334,slow=7.9,SNR=2175							
ATAH				S	**Sn**	**01 36 01.2**		**+3.4**
	780nm,0.3s,baz=188,slow=21,SNR=18							
ATAH				LR	LR	01 36 39.0		
	comp=Z,373nm,18.6s,baz=324,slow=46							
OTAV	**Otavalo**	**5.97**	**13**	*e*Pn	**Pn**	**01 36 27.4**		**-0.1**
NNA	**Nana**	**6.96**	**155**	P	**Pn**	**01 36 39.5**		**-1.5**
	31nm,0.3s,baz=321,slow=10,SNR=62							
NNA				S	**Sn**	**01 37 57.5**		**-1.2**
	18nm,0.3s,baz=148,slow=17,SNR=4.3							
NNA	**Nana**	**6.96**	**155**	*e*Pn	**Pn**	**01 36 40.1**		**-0.9**
	80nm,0.4s							
NNA				Sn	**Sn**	**01 37 57.1**		**-1.6**
ARE	**Arequipa**	**13.50**	**144**	*e*P	**Pn**	**01 38 08.0**		**-1.0**
LPAZ	**La Paz**	**15.59**	**134**	P	**Pn**	**01 38 35.9**		**+0.1**
	0.4nm,0.3s,baz=331,slow=12,SNR=18							
LPAZ				S	**S**	**01 41 35.9**		**-1.1**
	0.1nm,0.3s,baz=329,slow=11,SNR=2.7							
LPAZ	**La Paz**	**15.59**	**134**	*e*Pn	**Pn**	**01 38 36.4**		**+0.6**
	49nm,1.5s							
SDV	**Santo Domingo**	**17.06**	**32**	P	**Pn**	**01 38 53.2**		**-0.8**
	0.6nm,0.3s,baz=262,slow=13,SNR=6.9							
SDV				LR	LR	01 46 05.2		
	comp=Z,80nm,21.4s,baz=177,slow=39							
SDV	**Santo Domingo**	**17.06**	**32**	*e*Pn	**Pn**	**01 38 53.0**		**-1.0**
	12nm,0.8s							
LVC	**Limon Verde**	**19.89**	**149**	P	**Pn**	**01 39 27.3**		**-0.4**
	20nm,0.9s,baz=309,slow=8.8,SNR=11							
LVC	**Limon Verde**	**19.89**	**149**	*e*P	**Pn**	**01 39 26.4**		**-1.3**
	25nm,0.9s							
SIV	**San Ignacio**	**21.05**	**121**	P	**P**	**01 39 38.2**		**+0.5**
	4.5nm,0.7s,mb3.9,baz=301,slow=9.5,SNR=26							
SIV				S	**S**	**01 43 32.1**		**+5.4**
	3.0nm,0.8s,baz=220,slow=21,SNR=4.1							
CFAA	**Coronel Fontan**	**28.02**	**159**	P	**P**	**01 40 44.6**		**+1.3**
	0.6nm,0.7s,mb3.2,baz=335,slow=5.5,SNR=3.7							
CPUP	**Villa Florida**	**29.73**	**136**	P	**P**	**01 40 59.5**		**+0.9**
	1.4nm,0.7s,mb3.7,baz=257,slow=7.7,SNR=3.0							
CPUP				LR	LR	01 52 44.3		
	comp=Z,46nm,20.9s,baz=122,slow=36							
PLCA	**Paso Flores**	**35.93**	**168**	P	**P**	**01 41 53.5**		**+1.2**
	4.9nm,0.9s,mb4.4,baz=336,slow=1.1,SNR=7.4							
PLCA	**Paso Flores**	**35.93**	**168**	*e*P	**P**	**01 41 53.2**		**+0.9**
	6.2nm,1.2s,mb4.4							
TXAR	**Lajitas Array**	**41.65**	**328**	P	**P**	**01 42 40.4**		**+0.2**
	0.3nm,0.6s,mb3.2,baz=154,slow=7.7,SNR=5.4							
TXAR	**Lajitas Array**	**41.65**	**328**	P	**P**	**01 42 40.4**		**+0.2**
PDAR	**Pinedale Array**	**55.23**	**334**	P	**P**	**01 44 22.1**		**-2.1**
	0.3nm,0.5s,mb3.6,baz=117,slow=5.2,SNR=3.7							
PDAR				pP	pP	01 44 43.4		-5.0
	2.0nm,0.8s,baz=126,slow=8.7,SNR=12							
PDAR				LR	LR	02 07 53.1		
	comp=Z,95nm,19.6s,baz=299,slow=36							
RRI2	**Red Ridge**	**56.48**	**333**	*e*P	**P**	**01 44 34.0**		**+0.8**
	5.0nm,1.3s,mb4.4							
NVAR	**Mina Array Bea**	**56.54**	**324**	P	**P**	**01 44 33.4**		**-0.2**
	0.3nm,0.4s,mb3.6,baz=230,slow=25,SNR=3.5							
NVAR				pP	pP	01 44 54.2		-3.8
	2.1nm,0.8s,baz=144,slow=7.3,SNR=10							
NVAR	**Mina Array Bea**	**56.54**	**324**	P	**P**	**01 44 33.4**		**-0.3**
NVAR				pP	pP	01 44 54.2		-3.8
ULM	**Lac du Bonnet**	**57.36**	**348**	P	**P**	**01 44 38.3**		**-0.9**
	1.7nm,0.7s,mb4.2,baz=171,slow=6.7,SNR=4.5							
ULM				pP	pP	01 44 58.3		-5.4
	6.8nm,0.8s,baz=170,slow=6.0,SNR=7.2							
YKA	**Yellowknife Ar**	**72.95**	**344**	pP	pP	01 46 39.1		-6.0
	0.9nm,0.6s,baz=139,slow=6.5,SNR=6.2							
DBIC	**Dimbokro**	**75.77**	**82**	pP	pP	01 46 59.5		-3.3
	3.0nm,0.6s,baz=204,slow=12,SNR=2.1							
VNA1	**Neumayer--Stat**	**78.65**	**161**	*e*P	**P**	**01 46 52.4**		**+0.2**
VNA1				*e*		01 46 56.6		
VNA2	**Neumayer--Watz**	**79.00**	**161**	*e*P	**P**	**01 46 53.0**		**-1.1**
VNA2				*e*		01 46 57.3		
VNA2				*e*		01 47 03.5		
SNAA	**Sanae**	**80.60**	**162**	*e*P	**P**	**01 47 02.9**		**+0.2**
SNAA				*e*		01 47 06.8		
SNAA	**Sanae**	**80.60**	**162**	*e*P	**P**	**01 47 02.9**		**+0.2**
	3.5nm,1.0s,mb4.1							
SNAA				epP	pP	01 47 23.5		-5.0
ESDC	**Sonseca Array**	**82.75**	**49**	P	**P**	**01 47 15.8**		**+1.1**
	0.4nm,0.6s,mb3.5,baz=276,slow=4.6,SNR=4.3							
ESDC				pP	pP	01 47 37.3		-3.3
	0.5nm,0.6s,baz=258,slow=4.3,SNR=3.9							
TORD	**Torodi Ar. Bea**	**83.02**	**76**	P	**P**	**01 47 16.8**		**+0.3**
	0.6nm,0.7s,mb3.5,baz=281,slow=5.4,SNR=12							
TORD				pP	pP	01 47 38.8		-3.7
	1.5nm,0.6s,baz=290,slow=5.4,SNR=8.5							
QSPA	**South Pole Qui**	**84.47**	**180**	P	**P**	**01 47 23.9**		**+1.2**
	3.4nm,0.9s,mb4.2,baz=167,slow=2.9,SNR=7.3							
ZALV	**Zalesovo Beam**	**130.22**	**12**	PKP	PKPdf	01 54 00.5		+0.5
	0.7nm,0.5s,baz=318,slow=1.9,SNR=3.1							
ZALV				pPKP	pPKPdf	01 54 22.4		-5.0
	0.4nm,0.3s,baz=321,slow=1.9,SNR=2.3							
ZALV				sPKP		01 54 31.1		
	1.2nm,0.7s,baz=299,slow=1.5,SNR=2.3							
ZALV	**Zalesovo Beam**	**130.22**	**12**	PKP	PKPdf	01 54 00.5		+0.5
ZALV				pPKP	pPKPdf	01 54 22.4		-5.0
ZALV				sPKP		01 54 31.1		
ASAR	**Alice Springs**	**136.09**	**227**	PKP	PKPdf	01 54 12.2		+0.3
	0.4nm,0.3s,baz=124,slow=1.9,SNR=4.4							
ASAR	**Alice Springs**	**136.09**	**227**	PKP	PKPdf	01 54 12.2		+0.3
MKAR	**Makanchi Array**	**136.16**	**18**	pPKP	pPKPdf	01 54 33.7		-5.1
	0.2nm,0.3s,baz=35,slow=4.4,SNR=2.1							
WRA	**Warramunga Arr**	**137.91**	**232**	PKP	PKPdf	01 54 17.0		+1.6
	0.4nm,0.5s,baz=118,slow=1.9,SNR=2.7							
WMQ	**Urumqi**	**140.39**	**14**	*e*PKP	PKPdf	01 54 32.5		+13
BJI	**Beijing**	**142.84**	**340**	PKP	PKPdf	01 54 36.2		+12
BJI				LR	LR			
	comp=N,170nm,19.2s							
BJI				LR	LR			
	comp=E,177nm,15.1s							
BJI				LR	LR			
	comp=Z,76nm,17.8s							
HHC	**Hu-ho-hao-te**	**143.48**	**345**	*e*PKP	PKPdf	01 54 36.8		+12
HHC				APKP		01 54 47.6		
HHC				XPKP		01 54 52.5		
HHC				PKS		01 58 12.3		
HHC				SKS	SKSdf	02 01 41.1		+15
HHC				PP	PP			
	comp=Z,108nm,6.4s							
HHC				LR	LR			
	comp=N,90nm,21.7s							
HHC				LR	LR			
	comp=E,146nm,21.5s							
HHC				LR	LR			
	comp=Z,109nm,20.8s							
NJ2	**Nanjing**	**148.45**	**329**	*e*PKP	PKPdf	01 54 43.6		+10
LZH	**Lanzhou**	**149.50**	**354**	*e*PKP	PKPdf	01 54 44.5		+9.4
LZH				APKP		01 54 54.5		
LZH				XPKP		01 54 58.5		
LZH				PKP2	PKPab	01 55 02.3		+18
LZH				LR	LR			
	comp=N,245nm,19.6s							
LZH				LR	LR			
	comp=Z,358nm,20.5s							
CD2	**Chengdu**	**154.62**	**353**	*e*PKP	PKPdf	01 54 53.1		+10
GYA	**Guiyang**	**158.38**	**344**	*e*PKP	PKPdf	01 54 58.9		+11
GYA				PKP2	PKPab	01 55 40.2		+18
GYA				PP	PP			
	comp=Z,40nm,7.9s							
KMI	**Kunming**	**160.46**	**353**	PKP	PKPdf	01 55 00.9		+11

NEIC ***13*** *01:38:01.1, 3308S×7295W, h25km±2km, MD3.5, ML3.0, 2C-1D, Off coast of central Chile*

GUC 13 01:38:01.1±0.6, 3308S×7295W, h25km±2km, MD3.5, ML3.0, 2C-1D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
LNV	**Longovilo**	**1.56**	**125**	*e*P	Pn		01 38 27.8	+0.6
LNV				*i* S	Sn		01 38 47.7	+1.1
TACH	**Talagante**	**1.78**	**109**↑	*i*P	Pn		01 38 31.3	+1.0
TACH				*i* S	Sn		01 38 53.9	+1.8
RCDM	**Rinconada Maip**	**1.84**	**104**	*e*P	Pn		01 38 32.0	+0.9
RCDM				*e*S	Sn		01 38 55.8	+2.1
RCDM				AML	AML		01 38 58.2	
	comp=E,319nm,0.1s							
RCDM	**Rinconada Maip**	**1.84**	**104**	*e*P	Pn		01 38 32.0	+0.9
RCDM				*e*S	Sn		01 38 55.8	+2.1
PEL	**Peldehue**	**1.90**	**93**↓	*i*P	Pn		01 38 33.2	+1.3
PEL				*i* S	Sn		01 38 58.0	+2.9
PEL				AML	AML		01 38 59.1	
	comp=E,227nm,0.5s							
CLCH	**Cerro Calan**	**2.05**	**100**	*e*P	Pn		01 38 35.5	+1.5
CLCH				*i* S	Sn		01 39 01.6	+2.9
CLCH				AML	AML		01 39 03.1	
	comp=E,88nm,0.2s							
PCH	**Pirque**	**2.11**	**106**	*e*P	Pn		01 38 35.9	+1.0
PCH				*e*S	Sn		01 39 03.4	+3.2
CACH	**El Canelo**	**2.22**	**119**	*e*P	Pn		01 38 38.8	+2.5
CACH				*i* S	Sn		01 39 07.0	+4.1
SFDO	**San Fernando**	**2.23**	**134**	*e*P	Pn		01 38 37.9	+1.5
SFDO				*i* S	Sn		01 39 05.4	+2.3
FCH	**Farellones**	**2.25**	**97**↑	*i*P	Pn		01 38 38.6	+2.0
FCH				*i* S	Sn		01 39 06.9	+3.3
FCH				AML	AML		01 39 10.6	
	comp=E,73nm,0.4s							
LMEL	**Las Melosas**	**2.42**	**109**	*e*P	Pn		01 38 40.8	+1.7
LMEL				*i* S	Sn		01 39 10.9	+3.0
LMEL				AML	AML		01 39 13.7	
	comp=N,324nm,0.2s							
LMEL	**Las Melosas**	**2.42**	**109**	*e*P	Pn		01 38 40.8	+1.7
LMEL				*i* S	Sn		01 39 10.9	+3.0
CICH	**Cipreses**	**2.45**	**121**	*e*P	Pn		01 38 41.2	+1.8
CICH				*i* S	Sn		01 39 11.4	+2.9

ISCJB ***13*** *02:02:01.7±0.5, 684N±005×7301W±006, h170km±5km, mb3.4/10, Error ellipse: s-maj=11.6km s-min=7.0km az=33.6*

IDC ***13*** *02:02:02.5±0.5, 677N×7301W, h163km±5km, mb3.2/10, mb1 3.5/13, mb1mx3.4/22, mbtmp3.3/13, MS2.5/1, Ms1 2.5/1, ms1mx2.3/16, Error ellipse: s-maj=11.5km s-min=7.3km az=119.0*

NEIC ***13*** *02:02:02.7±0.4, 679N×7302W, mb3.9/1, Error ellipse: s-maj=13.2km s-min=9.3km az=69.0*

FUNV ***13*** *02:02:04.1, 690N×7309W, h166km, MW4.0*

ISC 13 02:02:02.9±0.5, 683N±005×7301W±006, h164km±5km, h170km±3.3km: pP-P, n28, σ0.9/89/33, mb3.4/10, 4C-1D, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
CAPV	**Capacho**	**1.23**	**34**↑	*e*P	**Pn**		**02 02 32.1**	**+1.1**
CAPV				*e*S	**Sn**		**02 02 52.1**	**-0.5**
ROSC	**El Rosal**	**2.37**	**214**	P	**Pn**		**02 02 43.8**	**+0.7**
	48nm,0.3s,baz=111,slow=23,SNR=88							
ROSC				S	**Sn**		**02 03 13.3**	**-0.9**
	89nm,0.3s,baz=109,slow=17,SNR=10							
ROSC	**El Rosal**	**2.37**	**214**	*e*Pn	**Pn**		**02 02 43.7**	**+0.6**
ROSC				S	**Sn**		**02 03 13.3**	**-0.9**
SOCV	**Socops**	**2.57**	**56**↑	*e*P	**Pn**		**02 02 46.7**	**+1.2**
SOCV				*e*S	**Sn**		**02 03 17.7**	**-0.9**
VIGV	**El Vigia**	**2.57**	**39**↑	*i*P	**Pn**		**02 02 46.4**	**+0.8**
VIGV				*e*S	**Sn**		**02 03 17.2**	**-1.4**
SDV	**Santo Domingo**	**3.11**	**49**	P	**Pn**		**02 02 53.6**	**+1.4**
	7.4nm,0.3s,baz=252,slow=6.7,SNR=35							
SDV				S	**Sn**		**02 03 31.0**	**+0.5**
	31nm,0.3s,baz=49,slow=20,SNR=31							
SDV	**Santo Domingo**	**3.11**	**49**	*e*Pn	**Pn**		**02 02 53.4**	**+1.2**
SDV				*e*Sn	**Sn**		**02 03 29.9**	**-0.6**
ELOV	**Elorza**	**3.50**	**87**↓	*e*P	**Pn**		**02 02 58.1**	**+1.0**
VIRV	**Villa del Rosa**	**3.69**	**9**↑	*i*P	**Pn**		**02 02 58.9**	**-0.7**
VIRV				*e*S	**Sn**		**02 03 39.5**	**-4.3**
TEPV	**Terepaima**	**4.89**	**50**	*e*P	**Pn**		**02 03 14.6**	**-0.5**
JTS	**JuntasAbangare**	**12.30**	**287**	LR	LR		02 09 38.6	
	comp=Z,26nm,21.2s,baz=255,slow=37							
TEIG	**Tepich**	**19.91**	**313**	P	**P**		**02 06 21.8**	**-0.1**
	0.4nm,0.3s,baz=138,slow=18,SNR=3.2							
TEIG	**Tepich**	**19.91**	**313**	*e*P	**P**		**02 06 21.6**	**-0.4**
	2.6nm,0.6s							
LPAZ	**La Paz**	**23.47**	**168**	P	**P**		**02 06 57.9**	**+0.1**
	0.6nm,0.6s,mb3.2,baz=0.0,slow=17,SNR=4.2							
LPAZ				pP			02 07 30.4	
	1.3nm,0.8s,baz=342,slow=10,SNR=3.8							
LPAZ	**La Paz**	**23.47**	**168**	P	**P**		**02 06 57.9**	**+0.1**
LPAZ				pP			02 07 30.4	
SIV	**San Ignacio**	**25.57**	**153**	P	**P**		**02 07 15.6**	**-1.2**
	0.2nm,0.3s,mb3.2,baz=306,slow=14,SNR=4.1							
SIV				pP	pP		02 07 51.0	+0.3
	1.0nm,0.8s,baz=314,slow=11,SNR=4.1							
BDFB	**Brasilia**	**33.34**	**132**	P	**P**		**02 08 26.4**	**+0.9**
	0.8nm,0.5s,mb3.8,baz=272,slow=27,SNR=5.0							
TXAR	**Lajitas Array**	**36.54**	**312**	P	**P**		**02 08 53.7**	**+0.9**
	0.6nm,0.6s,mb3.4,baz=128,slow=8.5,SNR=10.0							
TXAR				pP	pP		02 09 29.3	+1.4
	0.1nm,0.5s,baz=128,slow=7.3,SNR=1.4							
TXAR	**Lajitas Array**	**36.54**	**312**	P	**P**		**02 08 53.7**	**+0.9**
TXAR				pP	pP		02 09 29.3	+1.4
ULM	**Lac du Bonnet**	**47.31**	**340**	P	**P**		**02 10 19.8**	**0.0**
	2.1nm,0.5s,mb4.0,baz=127,slow=8.1,SNR=7.8							
PLCA	**Paso Flores**	**47.38**	**177**	P	**P**		**02 10 19.7**	**-0.7**
	0.5nm,0.5s,mb3.4,baz=350,slow=6.1,SNR=2.5							
PDAR	**Pinedale Array**	**48.13**	**324**	P	**P**		**02 10 27.4**	**+1.1**
	0.5nm,0.5s,mb3.4,baz=134,slow=12,SNR=5.1							
NVAR	**Mina Array Bea**	**51.55**	**315**	P	**P**		**02 10 50.9**	**-1.3**
	0.1nm,0.4s,mb2.8,baz=134,slow=6.4,SNR=3.6							
YKA	**Yellowknife Ar**	**63.29**	**340**	P	**P**		**02 12 14.2**	**+0.4**
	1.1nm,0.6s,mb3.9,baz=132,slow=6.5,SNR=16							
YKA				pP	pP		02 12 53.2	+0.7
	0.3nm,0.5s,baz=136,slow=6.8,SNR=2.5							
YKA	**Yellowknife Ar**	**63.29**	**340**	P	**P**		**02 12 14.2**	**+0.3**
YKA				pP	pP		02 12 53.2	+0.7
TORD	**Torodi Ar. Bea**	**73.62**	**78**	P	**P**		**02 13 17.9**	**-1.0**
	0.3nm,0.7s,mb3.1,baz=282,slow=7.1,SNR=3.8							
ASAR	**Alice Springs**	**149.21**	**234**	PKPbc	PKPbc		02 21 30.8	-2.0
	0.9nm,0.6s,baz=114,slow=2.4,SNR=7.2							
WRA	**Warramunga Arr**	**150.44**	**241**	PKPbc	PKPbc		02 21 35.5	-0.4
	0.5nm,0.3s,baz=105,slow=3.1,SNR=2.8							
WRA				pPKPbc	pPKPbc		02 22 16.3	-2.5
	0.4nm,0.4s,baz=107,slow=2.2,SNR=1.5							

IDC ***13*** *02:02:60.0±0.7, 1032N×14577E, h0km, mb4.1/11, mb1 4.3/12, mb1mx4.2/19, mbtmp4.1/12, MS3.1/3, Ms1 3.1/3, ms1mx2.7/30, Error ellipse: s-maj=28.4km s-min=15.9km az=82.0*

NEIC ***13*** *02:03:01.1±0.5, 1033N×14578E, h10km, mb3.9/1, Error ellipse: s-maj=21.3km s-min=9.4km az=83.0*

ISCJB ***13*** *02:03:02.6±0.7, 1030N±008×1457E±0.2, h33km, mb4.1/11, Error ellipse: s-maj=27.9km s-min=10.6km az=173.8*

ISC 13 02:03:04.7±0.7, 1026N±008×1458E±02, h35km, n22, σ0.95/19, mb4.1/11, South of Mariana Islands

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

OJC eSg Sg 02 21 34.2 +1.2
OKC Ostrava-Krasne 0.72 248 ePG Pg 02 21 33.4 -0.1
OKC eSG Sg 02 21 43.2 +0.4
20nm,0.4s
NIE Niedzica 1.01 133 ePg Pg 02 21 39.9 +0.9
NIE eSg Sg 02 21 54.8 +2.8
MORC Moravsky Berou 1.11 253 ePg Pg 02 21 40.4 -0.5
MORC eSg Sg 02 21 55.7 +0.5
STHS Stebnicka Huta 1.51 117 ePN Pn 02 21 49.2 +1.3
STHS eSN Sn 02 22 12.6 +4.4
KOLL Kolacno 1.61 199 ePN Pn 02 21 50.2 +0.8
KOLL eSN Sn 02 22 11.5 +0.7
KOLL Kolacno 1.61 199 ePn Pn 02 21 50.3 +0.8
KOLL eSn Sn 02 22 11.5 +0.7
VYHS Vyhne 1.63 188 ePN Pn 02 21 48.8 -0.8
VYHS eSN Sn 02 22 10.4 -0.9
VYHS Vyhne 1.63 188 ePn Pn 02 21 48.9 -0.7
VYHS eSn Sn 02 22 10.4 -0.9
DPC Dobruska-Polom 1.85 279 ePG Pg 02 21 51.7 -3.5
DPC eSG Sg 02 22 15.8 -3.3
14nm,0.6s
CRVS Cervenica-Dubn 1.92 128 ePN Pn 02 21 55.5 +2.0
CRVS eSN Sn 02 22 22.0 +3.7
KSP Ksiaz 1.99 293 ePg Pg 02 21 55.9 -1.8
KSP eSg Sg 02 22 22.1 -1.4
UPC Upice 2.07 282 ePG Pg 02 21 55.8 -3.6
UPC eSG Sg 02 22 22.2 -4.0
MODS Modra-Piesok 2.14 216 eSN Sn 02 22 24.8 +1.0
KWP Kalwaria 2.33 100 Pn Pn 02 21 59.0 -2.2
PRU Pruhonice 2.99 269 eSG Sg 02 22 51.4 -4.4
5.1nm,0.5s
BRG Berggiesshubel 3.43 285 SG Sg 02 23 07.7 -2.2
2.5nm,0.5s
KHC Kasperske Hory 3.77 257 eSG Sg 02 23 17.4 -3.4
5.7nm,0.7s
CLL Collm 4.11 289 eSg Sg 02 23 33.0 +1.5

IDC ***13*** *02:22:39.2±0.6, 54°38S×159°08E, h0km, mb4.8/13, mb1 4.9/14, mb1mx4.8/18, mbtmp4.8/14, ML5.0/1, MS4.9/19, Ms1 4.9/19, ms1mx4.9/20, Error ellipse: s-maj=27.2km s-min=14.8km az=67.0*

ISCJB ***13*** *02:22:41.7±0.3, 54°31S±004°×159°18E±007, h26km, mb5.4/41, MS5.1/178, Error ellipse: s-maj=6.6km s-min=4.9km az=37.7*

BJI ***13*** *02:22:41.4, 54°40S×159°00E, h26km, mB5.7, mb5.5, Ms5.2, Msz5.0*

GCMT ***13*** *02:22:43.4±0.1, 54°42S×158°66E, h32km, MW5.4/90, Moment Tensor Solution. s90,c161; s85,c154; Duration: 1s2 Moment tensor: Scale 10^17 Nm; Mrr 1.03±.03; Mθθ 0.37±.02; Mϕϕ -1.39±.02; Mrθ 0.70±.03; Mθϕ 0.27±.02; Mϕr 0.66±.03; Best double couple: M0 1.59800×10^17 NP1:ϕs143.00000°, δ41.00000°, λ40.00000°. NP2:ϕs21.00000°, δ65.00000°, λ124.00000°. Principal axes: T 1.6350, Plg56.0000°, Azm336.0000°; N -0.0690, Plg30.0000°, Azm185.0000°; P -1.5610, Plg13.0000°, Azm87.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

MOS ***13*** *02:22:43.5±2.2, 54°35S×158°78E, h25km, mb5.6/20, MS5.0/29 Error ellipse: s-maj=23.6km s-min=8.4km az=105.5*

NEIC ***13*** *02:22:43.4±0.2, 54°37S×159°03E, mb5.4/31, MS5.1/156, MW5.4, Error ellipse: s-maj=6.9km s-min=5.3km az=124.0, Moment Tensor Solution. s15 Moment tensor: Scale 10^17 Nm; Mrr 1.27; Mθθ -0.23; Mϕϕ -1.04; Mrθ -0.91; Mθϕ -0.68; Mrϕ 0.28; Best double couple: M0 1.60000×10^17 NP1:ϕs5.00000°, δ47.00000°, λ49.00000°. NP2: ϕs237.00000°, δ57.00000°, λ125.00000°. Principal axes: T 1.8100, Plg60.0000°, Azm203.0000°; N -0.3600, Plg28.0000°, Azm35.0000°; P -1.4500, Plg5.0000°, Azm302.0000°;*

DJA ***13*** *02:22:44, 53°96S×160°42E, h10km, Mw5.7/19*

ISC 13 02:22:43.7±0.3, 54°36S±004°×159°18E±007, h28km, h28km±.8km: pP-P, n501, σ1s06/132, mb5.4/41, MS5.1/178, 25C-21D, Macquarie Island region

Code	Station Name	Δ°	AZ°	Phase	ID	Time h m s	Res ISC
MCQ	**Macquarie Isla**	**0.19**	**223**	*e*P	**Pb**	**02 22 47.5**	**-2.0**
WHZ	**Wether Hill Ro**	**10.17**	**37**	P	**Pn**	**02 25 07.8**	**+0.1**
DCZ	**Deep Cove**	**10.26**	**33**	P	**Pn**	**02 25 13.0**	**+4.0**
MLZ	**Mavora Lakes**	**10.72**	**36**	P	**Pn**	**02 25 15.7**	**+0.4**
TUZ	**Tuapeka**	**10.75**	**43**	P	**Pn**	**02 25 17.0**	**+1.4**
TUZ				S	**Sn**	**02 27 12.4**	**-2.5**
EAZ	**Earnscleugh**	**11.23**	**40**	P	**Pn**	**02 25 22.3**	**+0.1**
WKZ	**Wanaka**	**11.47**	**38**	P	**Pn**	**02 25 27.1**	**+1.6**
ODZ	**Otahua Downs**	**11.90**	**43**	P	**Pn**	**02 25 31.1**	**-0.3**
LBZ	**Lake Benmore**	**12.28**	**40**	P	**Pn**	**02 25 36.5**	**0.0**
RPZ	**Rata Peaks**	**13.18**	**41**	Pn	**Pn**	**02 25 49.0**	**+0.1**
	8.7nm,0.3s,baz=233,slow=1.7,SNR=19						
RPZ				Sn	**Sn**	**02 28 10.9**	**-3.4**
	1.6nm,0.3s,baz=77,slow=16,SNR=2.5						
RPZ				LR	LR	02 30 16.3	
	comp=Z,5μm,18.9s,baz=194,slow=35						
MQZ	**McQueen's Vall**	**13.82**	**45**	P	**Pn**	**02 25 58.7**	**+1.1**
TAU	**Tasmania Unive**	**13.86**	**321**	*e*P	**Pn**	**02 25 55.7**	**-2.4**
TAU				*e*		02 28 21.1	
TAU				pmax	pmax		
	comp=Z,88nm,0.5s						
TAU	**Tasmania Unive**	**13.86**	**321**	*e*Pn	**Pn**	**02 25 55.7**	**-2.4**
	comp=Z,88nm,0.5s						
TAU				*e*Sn	**Sn**	**02 28 21.1**	**-10**
DRV	**Dumont d'Urvil**	**15.43**	**209**	P	**Pn**	**02 26 29.0**	**+10**
DRV				S	**Sn**	**02 29 23.0**	**+14**
DRV				R		02 30 00.0	
SNZO	**South Karori**	**16.66**	**45**	*e*Pn	**Pn**	**02 26 34.0**	**-1.0**
	comp=Z,147nm,1.3s						
TOO	**Toolangi**	**19.24**	**325**	*e*P	**Pn**	**02 27 06.6**	**-0.1**
TOO				*e*S	**Sn**	**02 30 50.0**	**+8.6**
URZ	**Urewera**	**20.22**	**45**	P	**P**	**02 27 19.9**	**+3.5**
	comp=Z,43nm,1.1s,baz=258,slow=7.9,SNR=7.0						
URZ				LR	LR	02 35 27.9	
	comp=Z,4μm,18.6s,MS4.8,baz=217,slow=38						
URZ	**Urewera**	**20.22**	**45**	P	**P**	**02 27 19.9**	**+3.5**
URZ				LR	LR	02 35 27.9	
CNB	**Canberra Magne**	**20.24**	**336**	*e*P	**P**	**02 27 18.1**	**+1.6**
CAN	**Canberra**	**20.32**	**335**	*e*P	**P**	**02 27 17.0**	**-0.4**
CAN				*e*Sn	**S**	**02 31 06.2**	**+2.5**
SBA	**Scott Base**	**23.75**	**176**	*e*P	**P**	**02 27 54.8**	**+1.6**
SBA				pmax	pmax		
	comp=Z,189nm,1.7s,mb5.2						
SBA				MLR	MLR		
	comp=Z,4μm,19.0s,MS4.9						
SBA	**Scott Base**	**23.75**	**176**	*e*P	**P**	**02 27 54.8**	**+1.5**
	comp=Z,189nm,1.7s,mb5.2						
SBA				LR	LR		
	comp=Z,4μm,19.0s,MS4.9						
ARMA	**Armidale**	**24.54**	**344**	*e*P	**P**	**02 28 02.5**	**+1.7**
STKA	**Stephens Creek**	**25.74**	**324**	*e*P	**P**	**02 28 12.2**	**+0.5**
	comp=Z,23nm,1.0s,mb4.7						
STKA	**Stephens Creek**	**25.74**	**324**	P	**P**	**02 28 12.3**	**+0.6**
	comp=Z,20nm,0.9s,mb4.7,baz=151,slow=9.5,SNR=24						
STKA				LR	LR	02 36 44.5	
	comp=Z,5μm,19.4s,MS5.0,baz=152,slow=33						
CASY	**Casey**	**26.11**	**224**	*e*P	**P**	**02 28 19.9**	**+5.2**
CASY				*e*S	**S**	**02 32 47.8**	**+3.7**
CASY	**Casey**	**26.11**	**224**	*e*P	**P**	**02 28 14.9**	**+0.2**
	comp=Z,123nm,1.3s,mb5.3						
CASY				*e*S	**S**	**02 32 47.8**	**+3.7**
CASY				LR	LR		
	comp=Z,2μm,22.0s,MS4.5						
FORT	**Forrest**	**32.42**	**304**	*e*P	**P**	**02 29 10.8**	**-0.4**
	comp=Z,42nm,0.8s,mb5.3						
MIR	**Mirnyy**	**33.10**	**222**	⇓*i*P	**P**	**02 29 17.0**	**+0.3**
MIR				*i*	pP	02 29 24.5	-0.3
MIR				*i*		02 30 23.0	
MIR				*e*S	**S**	**02 34 38.0**	**+4.4**
MIR				pmax	pmax		
	comp=Z,100nm,1.8s,mb5.4						
MIR				MLR	MLR		
	comp=Z,2μm,17.0s,MS4.9						
CTA	**Charters Tower**	**35.61**	**339**	*e*P	**P**	**02 29 39.4**	**+0.6**
	comp=Z,34nm,1.2s,mb5.2						
CTA				*e*pP	pP	02 29 47.2	+0.2
CTA	**Charters Tower**	**35.61**	**339**	LR	LR	02 42 19.1	
	comp=Z,3μm,20.4s,MS5.0,baz=174,slow=33						
CTA	**Charters Tower**	**35.61**	**339**	*e*P	**P**	**02 29 39.4**	**+0.6**
CTA				*e**PP	pP	02 29 47.2	+0.2
CTA				pmax	pmax		
	comp=Z,34nm,1.2s						
CTAO	**Charters Tower**	**35.61**	**339**	*e*P	**P**	**02 29 38.9**	**+0.1**
CTAO				*e**PP	pP	02 29 47.5	+0.5
CTAO				pmax	pmax		
	comp=Z,74nm,1.1s,mb5.5						
CTAO				MLR	MLR		
	comp=Z,3μm,20.0s,MS5.0						
CTAO	**Charters Tower**	**35.61**	**339**	*e*P	**P**	**02 29 38.9**	**+0.1**
	comp=Z,74nm,1.1s,mb5.5						
CTAO				*e*pP	pP	02 29 47.5	+0.5
CTAO				LR	LR		
	comp=Z,3μm,20.0s,MS5.0						
QSPA	**South Pole Qui**	**35.75**	**180**	P	**P**	**02 29 40.6**	**+1.0**
	comp=Z,5.3nm,0.7s,mb4.6,baz=17,slow=3.0,SNR=36						
QSPA				PcP	PcP	02 32 06.5	-0.2
	comp=Z,5.1nm,0.8s,baz=295,slow=6.0,SNR=6.2						
ASAR	**Alice Springs**	**36.01**	**318**	P	**P**	**02 29 42.0**	**-0.2**
	comp=Z,31nm,0.8s,mb5.3,baz=157,slow=8.6,SNR=199						
ASAR				PcP	PcP	02 32 07.0	-1.3
	comp=Z,5.3nm,0.6s,baz=141,slow=3.9,SNR=8.2						
ASAR	**Alice Springs**	**36.01**	**318**	P	**P**	**02 29 42.1**	**-0.2**
ASAR						02 32 07.1	
ASAR				pmax	pmax		
	comp=Z,31nm,0.8s						
ASAR				pmax	pmax		
	comp=Z,5.0nm,0.6s						
NWAO	**Narrogin (SRO)**	**36.41**	**289**	P	**P**	**02 29 44.5**	**-1.1**
	comp=Z,12nm,0.5s,mb5.1,baz=131,slow=6.1,SNR=24						
NWAO				LR	LR	02 41 34.3	
	comp=Z,3μm,18.2s,MS5.1,baz=84,slow=31						
NWAO	**Narrogin (SRO)**	**36.41**	**289**	*e*P	**P**	**02 29 44.3**	**-1.3**
NWAO				*e*		02 31 08.2	
NWAO				*e*		02 32 16.9	
NWAO				pmax	pmax		
	comp=Z,7.0nm,0.5s						
NWAO				MLR	MLR		
	comp=Z,2μm,20.0s						
NWAO	**Narrogin (SRO)**	**36.41**	**289**	*e*P	**P**	**02 29 44.3**	**-1.3**
	comp=Z,7.3nm,0.5s,mb4.9						
NWAO				*e*PP	PP	02 31 08.2	-0.4
NWAO				*e*PcP	PcP	02 32 16.9	+7.5
NWAO				LR	LR		
	comp=Z,2μm,20.0s,MS5.0						
KLBR	**Kellerberrin**	**37.14**	**291**	*e*P	**P**	**02 29 51.0**	**-0.8**
	comp=Z,64nm,1.3s,mb5.3						
KLBR				*e*pP	pP	02 29 57.8	-2.2
KLBR				*e*PCP	PcP	02 32 19.0	+7.4
MUN	**Mundaring**	**37.69**	**289**	*e*P	**P**	**02 29 55.8**	**-0.7**
MUN				*e*pP	pP	02 30 02.6	-2.1
WRA	**Warramunga Arr**	**39.23**	**321**	P	**P**	**02 30 08.5**	**-1.1**
	comp=Z,27nm,0.8s,mb5.0,baz=157,slow=7.2,SNR=87						
WRA				PcP	PcP	02 32 16.8	-1.5
	comp=Z,4.0nm,0.7s,baz=157,slow=2.8,SNR=7.3						
WRA				LR	LR	02 45 55.6	
	comp=Z,8μm,18.4s,MS5.6,baz=160,slow=36						
WRA	**Warramunga Arr**	**39.23**	**321**	P	**P**	**02 30 08.5**	**-1.0**
WRA						02 32 16.8	
WRA				pmax	pmax		
	comp=Z,27nm,0.8s						
WRA				pmax	pmax		
	comp=Z,4.0nm,0.7s						
WRA				MLR	MLR		
	comp=Z,8μm,18.4s						
WRAB	**Tennant Creek**	**39.24**	**321**	*e*P	**P**	**02 30 08.2**	**-1.4**
WRAB				pmax	pmax		
	comp=Z,147nm,1.4s,mb5.5						
WRAB				MLR	MLR		
	comp=Z,9μm,20.0s,MS5.6						
WRAB	**Tennant Creek**	**39.24**	**321**	*e*P	**P**	**02 30 08.2**	**-1.4**
	comp=Z,147nm,1.4s,mb5.5						
WRAB				LR	LR		
	comp=Z,9μm,20.0s,MS5.6						
COEN	**Coen**	**42.22**	**337**	*e*P	**P**	**02 30 34.1**	**-0.2**
	comp=Z,33nm,1.0s,mb4.9						
COEN				*e*pP	pP	02 30 42.4	-0.1
MAW	**Mawson**	**43.59**	**214**	*e*P	**P**	**02 30 45.0**	**+0.2**
	comp=Z,5.1nm,1.5s						
MAW				*e*pP	pP	02 30 52.1	-1.0
MAW				*e*PCP	PcP	02 32 32.0	+0.2
MAW				*e*S	**S**	**02 37 16.2**	**+4.3**
MAW	**Mawson**	**43.59**	**214**	P	**P**	**02 30 45.0**	**+0.3**
	comp=Z,2.9nm,0.7s,baz=126,slow=9.8,SNR=7.4						
MAW				PcP	PcP	02 32 31.9	+0.1
	comp=Z,5.7nm,0.8s,baz=130,slow=6.0,SNR=4.4						
MAW				LR	LR	02 47 55.8	
	comp=Z,1μm,19.6s,MS4.8,baz=115,slow=35						
MAW	**Mawson**	**43.59**	**214**	P	**P**	**02 30 45.0**	**+0.2**
MAW						02 32 31.9	
MAW				pmax	pmax		
	comp=Z,3.0nm,0.7s						
MAW				pmax	pmax		
	comp=Z,6.0nm,0.8s						
MAW				MLR	MLR		
	comp=Z,1μm,19.6s						
MAW	**Mawson**	**43.59**	**214**	*e*P	**P**	**02 30 45.0**	**+0.2**
	comp=Z,5.1nm,1.5s						
MAW				*e*pP	pP	02 30 52.1	-1.0
MAW				*e*PcP	PcP	02 32 32.0	+0.2
MAW				*e*S	**S**	**02 37 16.2**	**+4.3**
MAW				LR	LR		
	comp=Z,2μm,22.0s,MS5.0						
FITZ	**Fitzroy Crossi**	**44.41**	**311**	*e*P	**P**	**02 30 51.6**	**-0.3**
	comp=Z,41nm,1.1s,mb5.1						
FITZ				*e*pP	pP	02 30 58.8	-1.4
FITZ				*e*S	**S**	**02 37 27.1**	**+2.4**
FITZ	**Fitzroy Crossi**	**44.41**	**311**	P	**P**	**02 30 52.1**	**+0.2**
	comp=Z,18nm,0.7s,mb5.0,baz=163,slow=12,SNR=9.8						
FITZ				PcP	PcP	02 32 34.7	-0.6
	comp=Z,6.1nm,0.8s,baz=180,slow=5.1,SNR=3.7						
FITZ				LR	LR	02 48 00.6	
	comp=Z,2μm,20.3s,MS4.9,baz=149,slow=34						
MBWA	**Marble Bar**	**44.53**	**302**	*e*P	**P**	**02 30 51.9**	**-1.0**
	comp=Z,49nm,0.9s,mb5.3						
MBWA				*e*pP	pP	02 30 59.3	-1.9
MBWA				LR	LR		
	comp=Z,2μm,19.0s,MS5.1						
HNR	**Honiara**	**44.81**	**1**	PFAKE		02 31 10.0	+15
HNR				LR	LR		
	comp=Z,2μm,19.0s,MS5.0						
RAR	**Rarotonga**	**45.29**	**60**	PFAKE		02 31 10.0	+11
RAR				LR	LR		
	comp=Z,2μm,19.0s,MS5.1						
PMG	**Port Moresby**	**45.85**	**343**	*e*P	**P**	**02 31 04.0**	**+0.6**
PMG				*e**PP	pP	02 31 12.1	+0.4
PMG				pmax	pmax		
	comp=Z,56nm,1.0s						
PMG				MLR	MLR		
	comp=Z,2μm,19.0s						
PMG	**Port Moresby**	**45.85**	**343**	*e*P	**P**	**02 31 04.0**	**+0.6**
	comp=Z,56nm,1.0s,mb5.4						
PMG				*e*pP	pP	02 31 12.1	+0.4
PMG				LR	LR		
	comp=Z,2μm,19.0s,MS5.2						
AFI	**Afiamalu**	**46.33**	**41**	PFAKE		02 31 20.0	+13
AFI				LR	LR		
	comp=Z,950nm,22.0s,MS4.7						
KAKA	**Kakadu**	**46.58**	**323**	*e*P	**P**	**02 31 06.4**	**-2.7**
	comp=Z,40nm,0.9s,mb5.3						
FUNA	**Funafuti**	**48.45**	**27**	PFAKE		02 31 40.0	+16
FUNA				LR	LR		
	comp=Z,3μm,19.0s,MS5.2						
TBI	**Tubuai**	**49.05**	**72**	*e*S	**S**	**02 38 28.7**	**-2.4**
	comp=Z,963nm,29.0s						
TBI				*e*SS	SS	02 42 04.1	+2.1
	comp=Z,504nm,34.8s						
TBI				eLR	LR	02 45 44.4	
	comp=Z,2μm,26.8s,baz=211						
SYO	**Syowa Base**	**49.29**	**204**	⇓*e*P	**P**	**02 31 34.6**	**+5.2**
BATI	**Baumata**	**52.29**	**314**	P	**P**	**02 31 53.5**	**+0.8**
	comp=Z,12nm,0.3s,mb5.2,baz=348,slow=11,SNR=4.5						
BATI				LR	LR	02 52 43.7	
	comp=Z,2μm,20.1s,MS5.2,baz=275,slow=34						
NVL	**N'lazarevskaya**	**53.01**	**193**	P	**P**	**02 31 54.2**	**-3.1**
NVL				pmax	pmax		
	comp=Z,97nm,2.2s,mb5.3						
NVL				MLR	MLR		
	comp=N,2μm,19.0s,MS5.2						
NVL				MLR	MLR		
	comp=E,645nm,19.0s,MS5.2						
NVL				MLR	MLR		
	comp=Z,3μm,19.0s,MS5.4						
SNAA	**Sanae**	**53.63**	**187**	*e*P	**P**	**02 32 01.3**	**-0.6**
SNAA				*e*	pP	02 32 08.1	-2.2
SNAA				*e*		02 32 11.6	
SNAA	**Sanae**	**53.63**	**187**	*e*P	**P**	**02 32 01.1**	**-0.8**
SNAA				*e**PP	pP	02 32 08.5	-1.8
SNAA				pmax	pmax		
	comp=Z,67nm,1.1s						
SNAA	**Sanae**	**53.63**	**187**	*e*P	**P**	**02 32 01.1**	**-0.8**
	comp=Z,67nm,1.1s,mb5.5						
SNAA				*e*pP	pP	02 32 08.5	-1.8
PPT	**Papeete**	**53.65**	**67**	*e*S	**S**	**02 39 31.6**	**-3.0**
	comp=Z,2μm,27.8s						
PPT				*e*SS	SS	02 43 17.0	+1.8
	comp=Z,642nm,26.2s						
PPT				*e*LQ		02 45 30.4	
	comp=Z,948nm,26.5s						
PPT				*e*LR	LR	02 47 50.1	
	comp=Z,3μm,23.0s,baz=214						
PPT	**Papeete**	**53.65**	**67**	LR	LR	02 51 13.5	
	comp=Z,2μm,18.1s,MS5.1,baz=241,slow=32						
VNA3	**Neumayer Olymp**	**54.45**	**184**	*e*P	**P**	**02 32 07.5**	**-0.3**
VNA3				*e*	pP	02 32 14.4	-1.9
VNA3				*e*		02 32 17.6	
VNA2	**Neumayer--Watz**	**54.65**	**185**	*e*P	**P**	**02 32 09.1**	**-0.2**
VNA2				*e*	pP	02 32 16.1	-1.7
VNA2				*e*		02 32 19.1	
VNA1	**Neumayer--Stat**	**54.97**	**185**	*e*P	**P**	**02 32 11.8**	**+0.2**
VNA1				*e*	pP	02 32 18.8	-1.3
VNA1				*e*	pP	02 32 21.7	+1.6
RKT	**Rikitea**	**57.52**	**85**	*e*S	**S**	**02 40 19.7**	**-6.5**
	comp=Z,1μm,32.8s						
RKT				*e*SS	SS	02 44 10.4	-5.5
	comp=Z,434nm,29.0s						
RKT				*e*LR	LR	02 49 23.1	
	comp=Z,3μm,29.2s,baz=208						
KAPI	**Kappang**	**58.61**	**312**	P	**P**	**02 32 37.8**	**-0.4**
	comp=Z,175nm,1.2s,mb6.0,SNR=5.6						
KAPI	**Kappang**	**58.61**	**312**	P	**P**	**02 32 37.5**	**-0.7**
	comp=Z,7.8nm,0.7s,mb4.9,baz=169,slow=4.7,SNR=6.6						
KAPI	**Kappang**	**58.61**	**312**	*e*P	**P**	**02 32 37.0**	**-1.2**
	comp=Z,45nm,1.1s,mb5.4						
KAPI				*e*pP	pP	02 32 45.7	-1.0
KAPI				LR	LR		
	comp=Z,1μm,20.0s,MS5.0						
COCO	**West Island**	**64.17**	**286**	PFAKE		02 33 30.0	+14
COCO				LR	LR		
	comp=Z,667nm,20.0s,MS4.8						
TAOE	**Nuku Hiva Isla**	**65.97**	**71**	eLR	LR	02 53 26.0	
	comp=Z,5μm,23.3s						
TSM	**Tawau**	**67.78**	**315**	⇑P	**P**	**02 33 39.0**	**+0.1**
SBUM	**Sibu**	**68.61**	**308**	⇓P	**P**	**02 33 44.6**	**+0.5**
KSM	**Kuching**	**68.64**	**306**	⇓P	**P**	**02 33 44.3**	**-0.1**
KSM	**Kuching**	**68.64**	**306**	*e*P	**P**	**02 33 43.5**	**-0.8**
KSM				*e*pP	pP	02 33 51.4	-1.6
GUMO	**Guam**	**68.77**	**345**	LR	LR	03 00 20.1	
	comp=Z,203nm,19.9s,MS4.4,baz=138,slow=33						
GUMO	**Guam**	**68.77**	**345**	PFAKE		02 34 00.0	+15
GUMO				LR	LR		
	comp=Z,234nm,19.0s,MS4.4						
BTM	**Bintulu**	**68.88**	**310**	⇓P	**P**	**02 33 46.4**	**+0.6**
EFI	**East Falkland**	**69.86**	**156**	PFAKE		02 34 00.0	+8.6
EFI				LR	LR		
	comp=Z,899nm,22.0s,MS5.0						
KKM	**Kota Kinabalu**	**70.05**	**314**	⇓P	**P**	**02 33 53.7**	**+0.6**
KKM	**Kota Kinabalu**	**70.05**	**314**	*e*P	**P**	**02 33 52.8**	**-0.3**
KKM				*e*pP	pP	02 34 00.1	-1.6
KDM	**Kudat**	**70.58**	**315**	⇓P	**P**	**02 33 56.9**	**+0.7**
MYKOM	**Kota Tinggi**	**72.08**	**300**	⇑P	**P**	**02 34 06.2**	**+0.8**
KGM	**Kluang**	**72.55**	**300**	⇑P	**P**	**02 34 09.0**	**+0.8**
KTGM	**Kuala Trenggan**	**75.48**	**301**	⇓P	**P**	**02 34 26.2**	**+0.9**
IPM	**Ipoh**	**75.82**	**299**	⇓P	**P**	**02 34 27.5**	**+0.3**
PLCA	**Paso Flores**	**76.14**	**143**	P	**P**	**02 34 29.4**	**+0.6**
	comp=Z,0.8nm,0.7s,baz=164,slow=13,SNR=3.7						
PLCA				LR	LR	03 01 15.2	
	comp=Z,616nm,18.2s,MS5.0,baz=191,slow=30						
PLCA	**Paso Flores**	**76.14**	**143**	*e*P	**P**	**02 34 29.8**	**+1.0**
PLCA				*e**PP	pP	02 34 37.2	-0.3
PLCA				pmax	pmax		
	comp=Z,34nm,1.6s						
PLCA				MLR	MLR		
	comp=Z,780nm,22.0s						
PLCA	**Paso Flores**	**76.14**	**143**	*e*P	**P**	**02 34 29.8**	**+1.0**
	comp=Z,34nm,1.6s,mb5.0						
PLCA				*e*pP	pP	02 34 37.2	-0.3
PLCA				LR	LR		
	comp=Z,780nm,22.0s,MS5.0						
KULM	**Kulim**	**76.70**	**299**	⇓P	**P**	**02 34 32.0**	**-0.2**
SNG	**Songkhla**	**78.33**	**300**	P	**P**	**02 34 40.0**	**-1.3**
	comp=Z,320nm,1.0s,mb6.2						
TRQA	**Tornquist**	**81.38**	**148**	*e*P	**P**	**02 34 57.2**	**-0.4**
	comp=Z,53nm,1.5s,mb5.2						
TRQA				*e*pP	pP	02 35 06.1	-0.4
TRQA				LR	LR		
	comp=Z,529nm,20.0s,MS4.9						
QIZ	**Qiongzhong**	**84.37**	**314**	PFAKE		02 35 20.0	+6.8
QIZ				LR	LR		
	comp=Z,652nm,21.0s,MS5.0						
JOW	**Kunigami**	**85.14**	**333**	LR	LR	03 10 30.9	
	comp=Z,623nm,21.4s,MS5.0,baz=133,slow=34						
YHNB	**Yeheng**	**85.17**	**326**	PFAKE		02 35 30.0	+13
YHNB				LR	LR		
	comp=Z,757nm,20.0s,MS5.1						
SUR	**Sutherland**	**86.45**	**214**	*e*P	**P**	**02 35 23.2**	**-0.4**
	comp=Z,152nm,1.4s,mb6.0						
SUR				*e*pP	pP	02 35 32.1	-0.3
SUR				LR	LR		
	comp=Z,625nm,20.0s,MS5.0						
LCO	**Las Campanas**	**86.51**	**138**	PFAKE		02 35 40.0	+16
LCO				LR	LR		
	comp=Z,416nm,19.0s,MS4.9						
ABPO	**Ambohimpanom**	**86.81**	**242**	*e*P	**P**	**02 35 26.7**	**+1.2**
	comp=Z,144nm,1.3s,mb6.0						
ABPO				*e*pP	pP	02 35 34.7	+0.3
ABPO				LR	LR		
	comp=Z,711nm,19.0s,MS5.1						
BDT	**Bhumibol Dam**	**87.75**	**304**	P	**P**	**02 35 29.5**	**-0.4**
	comp=Z,29nm,1.0s,mb5.5						
BOSA	**Boshof**	**88.32**	**219**	P	**P**	**02 35 31.9**	**-0.8**
	comp=Z,5.4nm,0.6s,mb5.0,baz=146,slow=6.0,SNR=24						
BOSA				LR	LR	03 09 52.3	
	comp=Z,732nm,18.8s,MS5.1,baz=150,slow=32						
BOSA	**Boshof**	**88.32**	**219**	*e*P	**P**	**02 35 31.7**	**-0.9**
BOSA				*e**PP	pP	02 35 39.8	-1.8
BOSA				pmax	pmax		
	comp=Z,64nm,1.3s,mb5.7						
BOSA				MLR	MLR		
	comp=Z,910nm,20.0s,MS5.2						
BOSA	**Boshof**	**88.32**	**219**	*e*P	**P**	**02 35 31.7**	**-1.0**
	comp=Z,64nm,1.3s,mb5.7						
BOSA				*e*pP	pP	02 35 39.8	-1.8
BOSA				LR	LR		
	comp=Z,910nm,20.0s,MS5.2						
CM31	**Chiang Mai Arr**	**

comp=E,145nm,24.7s,MS4.6
SSE LR LR
comp=Z,364nm,22.7s,MS4.8
SSE Sheshan 91.20 328 ⇑P **P 02 35 46.1 +0.4**
comp=Z,25nm,0.9s,mb5.5
SSE pP pP 02 35 55.6 +0.9
SSE sP sP 02 35 59.8 +2.0
SSE S S 02 46 42.3 +0.4
SSE sS sS 02 46 57.2 +0.5
SSE LR LR
comp=Z,360nm,22.7s,MS4.8
LBTB Lobatse 91.44 221 *e*P **P 02 35 47.2 -0.1**
LBTB *e**PP pP 02 35 54.4 -1.8
LBTB pmax pmax
comp=Z,73nm,1.9s,mb5.7
LBTB MLR MLR
comp=Z,462nm,19.0s,MS4.9
LBTB Lobatse 91.44 221 *e*P **P 02 35 47.2 0.0**
comp=Z,73nm,1.9s,mb5.7
LBTB *ep*P pP 02 35 54.4 -1.8
LBTB LR LR
comp=Z,462nm,19.0s,MS4.9
GYA Guiyang 92.29 315 P **P 02 35 49.8 -1.1**
GYA AP pP 02 36 02.7 +2.9
GYA PP PP 02 39 34.4 +2.3
GYA SKS 02 46 22.8
GYA S S 02 46 52.6 +0.7
GYA PS PS 02 48 08.4 +2.3
GYA SS SS 02 53 07.0 +3.5
GYA AMB AMB
comp=Z,30nm,0.9s,mb5.6
GYA AMB AMB
comp=Z,220nm,7.3s
GYA LR LR
comp=N,840nm,23.5s,MS5.2
GYA LR LR
comp=E,750nm,22.9s,MS5.2
GYA LR LR
comp=Z,690nm,22.2s,MS5.0
MJAR Matsushiro Arr 92.32 343 P **P 02 35 51.2 +0.4**
comp=Z,2.6nm,0.6s,mb4.7,baz=170,slow=5.7,SNR=6.2
MJAR LR LR 03 16 29.9
comp=Z,257nm,20.4s,MS4.7,baz=190,slow=35
MJAR Matsushiro Arr 92.32 343 P **P 02 35 51.2 +0.4**
MJAR pmax pmax
comp=Z,3.0nm,0.6s
MJAR MLR MLR
comp=Z,257nm,20.4s
MJAR Matsushiro Arr 92.32 343 P **P 02 35 51.2 +0.4**
MJAR LR LR 03 16 29.9
MAJO Matsushiro 92.32 343 PFAKE 02 36 00.0 +9.2
MAJO LR LR
comp=Z,436nm,21.0s,MS4.9
MAT Matsushiro 92.32 343 P **P 02 35 51.0 +0.2**
MAT *e*S S 02 46 52.0 +0.3
KMI Kunming 92.81 311 P **P 02 35 55.6 +2.3**
KMI AP pP 02 36 03.1 +0.8
KMI XP sP 02 36 07.1 +1.7
KMI PP PP 02 39 39.3 +3.1
KMI PPP 02 41 46.2
KMI SKS 02 46 25.9
KMI S S 02 46 56.9 +0.3
KMI XS sS 02 47 10.7 -0.7
KMI PS PS 02 48 16.4 +4.5
KMI SS SS 02 53 14.1 +3.2
KMI SSS 02 56 56.2
KMI AMB AMB
comp=Z,15nm,1.5s,mb5.2
KMI AMB AMB
comp=Z,186nm,4.2s
KMI LR LR
comp=N,322nm,21.5s,MS5.0
KMI LR LR
comp=E,459nm,16.7s,MS5.0
KMI LR LR
comp=Z,508nm,20.5s,MS5.0
KMI Kunming 92.81 311 P **P 02 35 55.6 +2.3**
KMI *PP pP 02 36 03.1 +0.8
KMI *SP sP 02 36 07.1 +1.7
KMI 02 39 39.3
KMI PPP 02 41 46.2
KMI 02 46 25.9
KMI S S 02 46 56.9 +0.3
KMI PS PS 02 48 16.4 +4.5
KMI SS SS 02 53 14.1 +3.2
KMI SSS 02 56 56.2
KMI pmax pmax
comp=Z,15nm,1.5s,mb5.2
KMI MLR MLR
comp=Z,510nm,20.5s,MS5.0
KMI Kunming 92.81 311 P **P 02 35 55.6 +2.3**
comp=Z,15nm,1.5s,mb5.2
KMI pP pP 02 36 03.1 +0.8
KMI sP sP 02 36 07.1 +1.7
KMI PP PP 02 39 39.3 +3.1
KMI PPP 02 41 46.2
KMI SKS 02 46 25.9
KMI S S 02 46 56.9 +0.3
KMI sS sS 02 47 10.7 -0.7
KMI PS PS 02 48 16.4 +4.5
KMI SS SS 02 53 14.1 +3.2
KMI SSS 02 56 56.2
KMI LR LR
comp=Z,510nm,20.5s,MS5.0
NJ2 Nanjing 92.83 327 *e*P **P 02 35 53.7 +0.5**
NJ2 AMB AMB
comp=Z,120nm,0.6s,mb6.5
LVC Limon Verde 92.94 136 PFAKE 02 36 10.0 +16
LVC LR LR
comp=Z,743nm,21.0s,MS5.1
CPUP Villa Florida 93.70 148 LR LR 03 13 18.2
comp=Z,650nm,19.4s,MS5.1,baz=182,slow=32
CPUP Villa Florida 93.70 148 *e*P **P 02 35 57.8 +0.1**
CPUP *e**PP pP 02 36 06.2 -0.4
CPUP pmax pmax
comp=Z,53nm,1.0s
CPUP Villa Florida 93.70 148 *e*P **P 02 35 57.8 +0.1**
comp=Z,52nm,1.0s,mb5.9
CPUP *ep*P pP 02 36 06.2 -0.4
MSEY Mahe Island 94.16 256 PFAKE 02 36 10.0 +10
MSEY LR LR
comp=Z,720nm,20.0s,MS5.1
KSRS Korea Array 95.33 336 LR LR 03 17 59.3
comp=Z,372nm,20.8s,MS4.8,baz=168,slow=35
INCN Inchon 95.67 335 PFAKE 02 36 20.0 +14
INCN LR LR
comp=Z,461nm,19.0s,MS5.0
ERM Erimo 96.98 348 PFAKE 02 36 20.0 +8.0
ERM LR LR
comp=Z,356nm,21.0s,MS4.8
CD2 Chengdu 97.41 314 *e*P **P 02 36 16.2 +2.0**
CD2 AP pP 02 36 24.2 +1.1
CD2 XP sP 02 36 27.4 +1.1
CD2 PP PP 02 40 16.7 +4.8
CD2 SKS 02 46 50.7
CD2 S S 02 47 36.2 -0.1
CD2 XS sS 02 47 49.8 -1.4
CD2 SS SS 02 54 20.1 +3.9
CD2 AMB AMB
comp=Z,40nm,0.9s,mb5.8
CD2 AMB AMB
comp=Z,150nm,8.2s
CD2 LR LR
comp=N,520nm,20.4s,MS5.2
CD2 LR LR
comp=E,530nm,18.0s,MS5.2
CD2 LR LR
comp=Z,540nm,22.8s,MS5.0
XAN Xi'an 98.11 320 P **P 02 36 16.3 -1.0**
XAN AP pP 02 36 31.4 +5.2
XAN PP PP 02 40 15.5 -1.7
XAN PPP 02 42 11.0
XAN S S 02 47 31.8 -10
XAN AMB AMB
comp=Z,9.0nm,1.1s,mb5.2
XAN AMB AMB
comp=Z,36nm,4.5s
XAN LR LR
comp=N,164nm,18.9s,MS4.8
XAN LR LR
comp=E,248nm,17.8s,MS4.8
XAN LR LR
comp=Z,582nm,22.3s,MS5.0
NNA Nana 98.79 125 PFAKE 02 36 30.0 +9.1
NNA LR LR
comp=Z,713nm,20.0s,MS5.2
LPAZ La Paz 98.92 134 LR LR 03 10 33.6
comp=Z,347nm,21.9s,MS4.8,baz=181,slow=29
LPAZ La Paz 98.92 134 PFAKE 02 36 30.0 +8.5
LPAZ LR LR
comp=Z,462nm,22.0s,MS4.9
LSZ Lusaka 99.10 228 *e*P **P 02 36 19.0 -3.3**
LSZ *e**PP pP 02 36 30.2 -1.1
LSZ pmax pmax
comp=Z,17nm,1.8s,mb5.3
LSZ MLR MLR
comp=Z,1μm,20.0s,MS5.4
LSZ Lusaka 99.10 228 *e*P **P 02 36 19.0 -3.3**
comp=Z,17nm,1.8s,mb5.3
LSZ *ep*P pP 02 36 30.2 -1.0
LSZ LR LR
comp=Z,1μm,20.0s,MS5.4
TSUM Tsumeb 99.69 217 PFAKE 02 36 40.0 +15
TSUM LR LR
comp=Z,772nm,20.0s,MS5.2
BJT Baijiatuau 100.99 328 PFAKE 02 36 40.0 +9.3
BJT LR LR
comp=Z,551nm,22.0s,MS5.0
BJI Beijing 101.01 328 P Pdif 02 36 32.1 +1.3
BJI S Sdif 02 48 11.4 +3.9
BJI AMB AMB
comp=Z,7.0nm,0.6s
BJI AMB AMB
comp=Z,85nm,5.3s
BJI LR LR
comp=N,347nm,23.7s,MS4.9
BJI LR LR
comp=E,318nm,25.8s,MS4.9
BJI LR LR
comp=Z,445nm,24.1s,MS4.9
BJI Beijing 101.01 328 P Pdif 02 36 32.1 +1.3
comp=Z,7.0nm,0.6s
BJI S Sdif 02 48 11.4 +3.9
BJI SS SS 02 55 12.1 +5.7
BJI LR LR
comp=Z,450nm,24.1s,MS4.9
PAYG Puerto Ayora 101.29 107 PFAKE 02 36 40.0 +7.9
PAYG LR LR
comp=Z,704nm,19.0s,MS5.2
MDJ Mudanjiang 101.77 339 P Pdif 02 36 35.6 +1.4
MDJ PP PP 02 40 42.9 -2.0
MDJ S Sdif 02 48 08.8 -5.1
MDJ SS SS 02 55 21.9 +5.0
MDJ AMB AMB
comp=Z,7.0nm,2.3s
MDJ AMB AMB
comp=Z,118nm,6.0s
MDJ LR LR
comp=N,239nm,20.6s,MS4.8
MDJ LR LR
comp=E,140nm,17.5s,MS4.8
MDJ LR LR
comp=Z,316nm,20.6s,MS4.8
MDJ Mudanjiang 101.77 339 PFAKE 02 36 40.0 +5.8
MDJ LR LR
comp=Z,347nm,21.0s,MS4.8
LZH Lanzhou 101.88 317 *e*P Pdif 02 36 36.1 +1.4
LZH AP 02 36 46.5
LZH XP 02 36 49.8
LZH PP PP 02 40 51.1 +5.3
LZH AMB AMB
comp=Z,21nm,1.5s
LZH AMB AMB
comp=Z,108nm,5.2s
LZH LR LR
comp=N,218nm,14.2s
LZH LR LR
comp=Z,813nm,16.5s,MS5.3
LZH Lanzhou 101.88 317 *e*P Pdif 02 36 36.1 +1.4
comp=Z,21nm,1.5s
LZH pP 02 36 46.5
LZH sP 02 36 49.8
LZH PP PP 02 40 51.1 +5.3
LZH LR LR
comp=Z,810nm,16.5s,MS5.3
YSS Yuzh-Sakhalins 101.89 349 P Pdif 02 36 36.0 +1.3
YSS MLR MLR
comp=Z,500nm,19.0s,MS5.0
CN2 Changchun 101.93 336 *e*P Pdif 02 36 35.5 +0.6
CN2 *e*AP 02 36 43.5
CN2 *ep*P PP 02 40 50.8 +4.7
LSA Lhasa 102.07 304 PFAKE 02 36 50.0 +14
LSA LR LR
comp=Z,306nm,21.0s,MS4.8
BDFB Brasilia 106.52 153 PFAKE 02 41 20.0 +14
BDFB LR LR
comp=Z,316nm,20.0s,MS4.9
KMBO Kilima Mbogo 107.07 243 PFAKE 02 41 20.0 +13
KMBO LR LR
comp=Z,351nm,19.0s,MS4.9
HIA Hailar 108.45 334 PFAKE 02 41 20.0 +12
HIA LR LR
comp=Z,399nm,21.0s,MS5.0
OTAV Otavalo 108.46 117 PFAKE 02 41 20.0 +10
OTAV LR LR
comp=Z,335nm,20.0s,MS4.9
SNCC San Nicolas Is 111.61 63 PFAKE 02 41 30.0 +15
SNCC LR LR
comp=Z,406nm,19.0s,MS5.0
BAR Barrett 112.67 65 PFAKE 02 41 30.0 +13
BAR LR LR
comp=Z,541nm,20.0s,MS5.1
MWC Mount Wilson 113.13 63 PFAKE 02 41 30.0 +12
MWC LR LR
comp=Z,627nm,19.0s,MS5.2
JTS JuntasAbangare 113.28 105 PFAKE 02 41 30.0 +11
JTS LR LR
comp=Z,330nm,19.0s,MS5.0
SAO San Andreas Ge 113.36 59 PFAKE 02 41 30.0 +12
SAO LR LR
comp=Z,571nm,20.0s,MS5.2
PFO Pinyon Flat Ob 113.50 65 PFAKE 02 41 30.0 +11
PFO LR LR
comp=Z,719nm,20.0s,MS5.3
GLA Glamis 113.94 66 PFAKE 02 41 30.0 +11
GLA LR LR
comp=Z,748nm,20.0s,MS5.3
ISA Isabella 114.03 62 PFAKE 02 41 30.0 +11
ISA LR LR
comp=Z,607nm,21.0s,MS5.2
ZAK Zakamensk 114.38 324 *e*PKIKP PKiKP 02 41 21.6 +1.9
ZAK *e* 02 42 14.8
ZAK pmax pmax
comp=Z,2.0nm,1.6s
GSC Goldstone 114.62 63 PFAKE 02 41 30.0 +9.4
GSC LR LR
comp=Z,726nm,20.0s,MS5.3
CMB Columbia Colle 114.88 59 PFAKE 02 41 30.0 +9.0
CMB LR LR
comp=Z,458nm,19.0s,MS5.1
DAC Darwin (Calif) 114.95 62 PFAKE 02 41 30.0 +8.8
DAC LR LR
comp=Z,819nm,21.0s,MS5.3
TGUH Tegucigalpa,Un 115.00 101 PFAKE 02 41 30.0 +8.0
TGUH LR LR
comp=Z,217nm,19.0s,MS4.8
WMQ Urumqi 115.14 311 PKP PKiKP 02 41 21.2 -0.2
WMQ XPKP 02 41 35.7
WMQ PP PP 02 42 26.0 +3.6
WMQ PPP 02 44 12.2
WMQ PP PP
comp=Z,260nm,4.1s
WMQ LR LR
comp=N,224nm,27.5s,MS4.7
WMQ LR LR
comp=E,173nm,31.0s,MS4.7
WMQ LR LR
comp=Z,212nm,22.4s
BCIP Isla Barro Col 115.20 111 PFAKE 02 41 30.0 +7.6
BCIP LR LR
comp=Z,453nm,21.0s,MS5.1
TLY Talaya 115.36 325 PFAKE 02 41 30.0 +8.5
TLY LR LR
comp=Z,260nm,20.0s,MS4.8
TUC Tucson 115.57 70 PFAKE 02 41 30.0 +7.4
TUC LR LR
comp=Z,1μm,19.0s,MS5.5
WDC Whiskeytown Da 115.78 56 PFAKE 02 41 30.0 +7.3
WDC LR LR
comp=Z,398nm,19.0s,MS5.0
TPNV Topopah Spring 116.17 63 PFAKE 02 41 40.0 +16
TPNV LR LR
comp=Z,679nm,20.0s,MS5.3
NVAR Mina Array Bea 116.23 60 PKP PKPdf 02 41 25.9 +2.3
comp=Z,0.2nm,0.5s,baz=216,slow=4.5,SNR=2.8
NVAR PKKPab PKKPab 02 51 56.9 +1.3
comp=Z,0.7nm,1.0s,baz=55,slow=3.6,SNR=4.3
NVAR Mina Array Bea 116.23 60 PKP PKPdf 02 41 25.9 +2.3
NVAR PKKPab PKKPab 02 51 56.9 +1.3
TPH Tonopah 116.52 61 PFAKE 02 41 40.0 +16
TPH LR LR
comp=Z,303nm,20.0s,MS4.9
YBH Yreka Blue Hor 116.58 55 PFAKE 02 41 40.0 +16
YBH LR LR
comp=Z,307nm,19.0s,MS4.9
KBL Kabul 117.31 292 *e*PKIKP PKPdf 02 41 26.0 +0.2
MOD Modoc 117.87 56 PFAKE 02 41 40.0 +13
MOD LR LR
comp=Z,604nm,19.0s,MS5.2
BMN Battle Mountai 118.29 59 PFAKE 02 41 40.0 +12
BMN LR LR
comp=Z,384nm,19.0s,MS5.0
WVOR Wild Horse Val 119.09 57 PFAKE 02 41 40.0 +11
WVOR LR LR
comp=Z,356nm,19.0s,MS5.0
KVTX Kingsville 119.29 83 PFAKE 02 41 40.0 +10
KVTX LR LR
comp=Z,1μm,19.0s,MS5.5
TEIG Tepich 119.30 96 PFAKE 02 41 40.0 +10
TEIG LR LR
comp=Z,451nm,19.0s,MS5.1
MVU Marysvale 119.44 64 PFAKE 02 41 40.0 +10
MVU LR LR
comp=Z,536nm,19.0s,MS5.2
MSU Marysvale 119.47 64 *e*PKIKP PKPdf 02 41 29.5 -0.4
MSU *e* 02 41 40.1
ELK Elko 119.53 61 PFAKE 02 41 40.0 +10
ELK LR LR
comp=Z,654nm,19.0s,MS5.3
SDV Santo Domingo 119.84 120 PFAKE 02 41 40.0 +8.6
SDV LR LR
comp=Z,245nm,22.0s,MS4.8
MKAR Makanchi Array 119.86 310 PKP PKPdf 02 41 29.1 -1.2
comp=Z,1.0nm,0.6s,baz=191,slow=1.2,SNR=7.0
MKAR Makanchi Array 119.86 310 PKIKP PKPdf 02 41 29.2 -1.1
MKAR pmax pmax
comp=Z,1.0nm,0.6s
ANMO Albuquerque 119.93 71 PFAKE 02 41 40.0 +9.1
ANMO LR LR
comp=Z,1μm,20.0s,MS5.6
TKM2 Tokmak 2 120.14 302 *e*PKIKP PKPdf 02 41 30.0 -1.0
TKM2 *e* 02 41 38.3
TKM2 *e* 02 42 54.5
TKM2 MLR MLR
comp=Z,339nm,20.0s,MS5.0
UCH Uchtor 120.17 301 *e*PKPdf PKPdf 02 41 31.1 0.0
UCH *ep*PKPdf pPKPdf 02 41 40.0 -0.3
UCH LR LR
comp=Z,238nm,20.0s,MS4.8
NLWA Neilton Lookou 120.34 50 PFAKE 02 41 40.0 +8.8
NLWA LR LR
comp=Z,639nm,19.0s,MS5.3
DUG Dugway 120.38 63 *e*PKIKP PKPdf 02 41 31.9 +0.4
MVCO Mesa Verde 120.48 68 PFAKE 02 41 40.0 +8.2
MVCO LR LR
comp=Z,615nm,19.0s,MS5.3
AML Almayashu 120.50 301 *e*PKPdf PKPdf 02 41 31.6 -0.1
AML *ep*PKPdf pPKPdf 02 41 40.6 -0.3
AML LR LR
comp=Z,382nm,22.0s,MS5.0
EKS2 Erkin-Say 120.85 301 *e*PKPdf PKPdf 02 41 32.5 +0.1
EKS2 *ep*PKPdf pPKPdf 02 41 40.9 -0.6
EKS2 LR LR
comp=Z,432nm,21.0s,MS5.1
MPU Maple Canyon 120.86 63 PFAKE 02 41 40.0 +7.5
MPU LR LR
comp=Z,1μm,19.0s,MS5.5
BMO Blue Mountains 121.53 56 PFAKE 02 41 50.0 +16
BMO LR LR
comp=Z,324nm,19.0s,MS5.0
RSW Rattlesnake Hi 121.57 53 *e*PKPdf PKPdf 02 41 34.1 +0.5
RSW *ep*PKPdf pPKPdf 02 41 42.5 -0.3
HAWA Hanford 121.59 53 PFAKE 02 41 50.0 +16
HAWA LR LR
comp=Z,379nm,20.0s,MS5.0
HLID Hailey 122.02 59 PFAKE 02 41 50.0 +15
HLID LR LR
comp=Z,476nm,20.0s,MS5.1
HWUT Hardware Ranch 122.05 62 PFAKE 02 41 50.0 +15
HWUT LR LR
comp=Z,647nm,20.0s,MS5.3
HKT Hockley 122.28 83 PFAKE 02 41 50.0 +14
HKT LR LR
comp=Z,440nm,19.0s,MS5.1
SDCO Great Sand Dun 122.50 69 PFAKE 02 41 50.0 +14
SDCO LR LR
comp=Z,754nm,20.0s,MS5.3
AMTX Amarillo 122.55 74 PFAKE 02 41 50.0 +14
AMTX LR LR
comp=Z,734nm,20.0s,MS5.3
PMR Palmer 122.59 26 PFAKE 02 41 50.0 +15
PMR LR LR
comp=Z,390nm,20.0s,MS5.1
KRAR Krasnoyarsk 122.60 322 *i* PKIKP PKPdf 02 41 34.9 -0.4
KRAR MLR MLR
comp=Z,400nm,20.0s,MS5.1
AHID Auburn Hatcher 123.12 62 PFAKE 02 41 50.0 +13
AHID LR LR
comp=Z,462nm,20.0s,MS5.1
SIT Sitka 123.12 36 PFAKE 02 41 50.0 +14
SIT LR LR
comp=Z,448nm,19.0s,MS5.1
TPAW Teton Pass 123.72 61 *e*PKPdf PKPdf 02 41 38.3 +0.4
ISCO Idaho Springs 123.91 68 PFAKE 02 41 50.0 +12
ISCO LR LR
comp=Z,733nm,21.0s,MS5.3
BW06 Boulder Array 123.92 63 *e*PKPdf PKPdf 02 41 39.1 +0.8
BW06 LR LR
comp=Z,669nm,20.0s,MS5.3
PDAR Pinedale Array 123.92 63 PKP PKPdf 02 41 39.0 +0.8
comp=Z,0.2nm,0.5s,baz=204,slow=2.0,SNR=3.2
PDAR PKKPbc PKKPbc 02 51 31.8 +8.5
comp=Z,0.6nm,0.9s,baz=35,slow=5.4,SNR=5.0
LOHW Long Hollow 123.98 61 *e*PKPdf PKPdf 02 41 38.8 +0.4
MOOW Moose Ponds 124.01 61 *e*PKPdf PKPdf 02 41 39.2 +0.8
NEW Newport 124.08 53 *e*PKIKP PKPdf 02 41 38.1 -0.3
ZALV Zalesovo Beam 124.11 317 PKP PKPdf 02 41 36.3 -2.0
comp=Z,0.4nm,0.3s,baz=116,slow=3.4,SNR=3.1
NATX Nacogdoches 124.30 82 PFAKE 02 41 50.0 +11
NATX LR LR
comp=Z,555nm,20.0s,MS5.2
KURK Kurchatov 124.39 311 PKP PKPdf 02 41 36.9 -2.0
comp=Z,3.1nm,0.2s,baz=125,slow=1.5,SNR=5.1
KURK Kurchatov 124.39 311 PKIKP PKPdf 02 41 36.9 -2.0
KURK pmax pmax
comp=Z,3.0nm,0.2s
KURK Kurchatov 124.39 311 *e*PKPdf PKPdf 02 41 37.4 -1.5
KURK *ep*PKPdf pPKPdf 02 41 46.9 -1.1
KURK *e*PP PP 02 43 25.6 -0.3
KURK LR LR
comp=Z,375nm,22.0s,MS5.0
MCK McKinley 124.43 25 *e*PKIKP PKPdf 02 41 37.9 -0.7
YMR Madison River 124.54 60 PFAKE 02 41 50.0 +11
YMR LR LR
comp=Z,604nm,20.0s,MS5.3
MSO Missoula 124.58 56 PFAKE 02 41 50.0 +11
MSO LR LR
comp=Z,275nm,19.0s,MS4.9
LKWY Lake 124.76 60 PFAKE 02 41 50.0 +10
LKWY LR LR
comp=Z,691nm,19.0s,MS5.3
CHMT Chamberlain Mo 124.98 57 *e*PKPdf PKPdf 02 41 41.5 +1.4
CHMT *ep*PKPdf pPKPdf 02 41 52.3 +3.0
NVS Novosibirsk 125.39 317 *e*PKIKP PKPdf 02 41 47.4 +6.7
COLA College 125.64 25 *i* PKIKP PKPdf 02 41 40.2 -0.6
COLA College 125.64 25 PFAKE 02 41 50.0 +9.2
COLA LR LR
comp=Z,387nm,20.0s,MS5.1
RLMT Red Lodge 125.72 61 PFAKE 02 41 50.0 +8.4
RLMT LR LR
comp=Z,444nm,19.0s,MS5.2
CBKS Cedar Bluff 126.44 72 PFAKE 02 42 00.0 +17
CBKS LR LR
comp=Z,566nm,20.0s,MS5.2

OGNE Ogallala 126.66 69 PFAKE 02 42 00.0 +16
OGNE LR LR
comp=Z,461nm,19.0s,MS5.2
MIAR Mount Ida 126.94 81 PFAKE 02 42 00.0 +16
MIAR LR LR
comp=Z,457nm,21.0s,MS5.1
VBMS Vicksburg 127.04 85 PFAKE 02 42 00.0 +15
VBMS LR LR
comp=Z,192nm,19.0s,MS4.8
GRGR Grenville 127.04 127 PFAKE 02 42 00.0 +15
GRGR LR LR
comp=Z,445nm,22.0s,MS5.1
DAWY Dawson 127.24 29 *e*PKPdf PKPdf 02 41 44.1 +0.2
DAWY *ep*PKPdf pPKPdf 02 41 52.9 -0.2
EGAK Eagle 127.30 28 PFAKE 02 42 00.0 +16
EGAK LR LR
comp=Z,349nm,20.0s,MS5.0
TIXI Tiksi 127.52 348 ⇑*i*PKIKP PKPdf 02 41 47.6 +3.3
TIXI MLR MLR
comp=Z,200nm,26.0s,MS4.7
TIXI Tiksi 127.52 348 PFAKE 02 42 00.0 +16
TIXI LR LR
comp=Z,275nm,20.0s,MS4.9
BRAL Brewton 128.19 89 PFAKE 02 42 00.0 +13
BRAL LR LR
comp=Z,334nm,20.0s,MS5.0
LAO LASA Array 128.35 61 PFAKE 02 42 00.0 +13
LAO LR LR
comp=Z,558nm,19.0s,MS5.3
KSU1 Kansas State U 128.40 74 *e*PKPdf PKPdf 02 41 46.6 -0.4
KSU1 *ep*PKPdf pPKPdf 02 41 55.4 -0.7
KSU1 LR LR
comp=Z,732nm,20.0s,MS5.4
DWPF Disney 129.33 96 PFAKE 02 42 00.0 +11
DWPF LR LR
comp=Z,433nm,20.0s,MS5.1
OXF Oxford 129.33 84 PFAKE 02 42 00.0 +11
OXF LR LR
comp=Z,328nm,20.0s,MS5.0
LRAL Lakeview Retre 129.68 87 PFAKE 02 42 00.0 +10
LRAL LR LR
comp=Z,268nm,21.0s,MS4.9
BVAR Borovoye Array 129.69 308 PKP PKPdf 02 41 48.9 -0.1
comp=Z,1.5nm,0.5s,baz=146,slow=2.9,SNR=7.4
BVAR Borovoye Array 129.69 308 PKIKP PKPdf 02 41 48.9 0.0
BVAR pmax pmax
comp=Z,2.0nm,0.5s
BRVK Borovoye 129.77 308 *e*PKIKP PKPdf 02 41 49.1 0.0
BRVK MLR MLR
comp=Z,624nm,20.0s,MS5.3
SJG San Juan 129.93 118 PFAKE 02 42 00.0 +9.5
SJG LR LR
comp=Z,391nm,19.0s,MS5.1
DBIC Dimbokro 130.73 201 PFAKE 02 42 00.0 +7.8
DBIC LR LR
comp=Z,521nm,20.0s,MS5.2
CCM Cathedral Cave 130.73 79 PFAKE 02 42 00.0 +8.6
CCM LR LR
comp=Z,468nm,20.0s,MS5.2
WVT Waverly 131.38 83 *e*PKIKP PKPdf 02 41 52.2 -0.5
WVT MLR MLR
comp=Z,286nm,20.0s,MS5.0
GOGA Godfrey 132.02 89 PFAKE 02 42 10.0 +16
GOGA LR LR
comp=Z,394nm,20.0s,MS5.1
SCIA State Center 132.20 74 PFAKE 02 42 10.0 +16
SCIA LR LR
comp=Z,723nm,20.0s,MS5.4
HDIL Hopedale 133.53 78 PFAKE 02 42 10.0 +13
HDIL LR LR
comp=Z,868nm,19.0s,MS5.5
WCI Wyandotte Cave 133.71 82 *e*PKIKP PKPdf 02 41 55.2 -1.9
WCI *e* 02 42 04.7
WCI MLR MLR
comp=Z,404nm,20.0s,MS5.1
NHSC New Hope 133.72 92 PFAKE 02 42 10.0 +13
NHSC LR LR
comp=Z,311nm,20.0s,MS5.0
AKTK Aktyubinsk 134.09 299 PKP PKPdf 02 41 58.4 +1.0
AKTO Aktyubinsk 134.09 299 PKP PKPdf 02 41 58.4 +1.0
comp=Z,0.9nm,0.6s,baz=180,slow=2.0,SNR=5.1
AKTO Aktyubinsk 134.09 299 PKIKP PKPdf 02 41 58.4 +1.1
AKTO pmax pmax
comp=Z,1.0nm,0.6s
TZTN Tazewell 134.16 86 PFAKE 02 42 10.0 +12
TZTN LR LR
comp=Z,423nm,22.0s,MS5.1
YKA Yellowknife Ar 134.44 40 PKP PKPdf 02 41 58.2 +0.6
comp=Z,0.4nm,0.7s,baz=234,slow=2.8,SNR=4.9
YKA Yellowknife Ar 134.44 40 PKP PKPdf 02 41 58.2 +0.6
JFWS Jewell Farm 134.52 75 PFAKE 02 42 10.0 +12
JFWS LR LR
comp=Z,590nm,21.0s,MS5.3
GNI Garni 134.94 280 *i* PKIKP PKPdf 02 42 00.7 +1.4
GNI MLR MLR
comp=Z,300nm,19.0s
GNI Garni 134.94 280 PFAKE 02 42 10.0 +11
GNI LR LR
comp=Z,335nm,22.0s,MS5.0
TOA0 Torodi Ar. Sit 135.23 212 *e*PKPdf PKPdf 02 41 58.8 -1.8
TOA0 *ep*PKPdf pPKPdf 02 42 09.1 -0.7
TORD Torodi Ar. Bea 135.23 212 PKhKP 02 41 48.3
comp=Z,0.8nm,0.8s,baz=73,slow=0.3,SNR=8.8
TORD PKP PKPdf 02 41 59.1 -1.5
comp=Z,2.3nm,0.7s,baz=148,slow=1.7,SNR=12
TORD Torodi Ar. Bea 135.23 212 PKP PKPdf 02 41 59.1 -1.5
FFC Flin Flon 135.45 55 PFAKE 02 42 10.0 +10
FFC LR LR
comp=Z,313nm,20.0s,MS5.0
ULM Lac du Bonnet 135.94 63 *e*PKPdf PKPdf 02 42 00.7 -0.1
ULM LR LR
comp=Z,465nm,19.0s,MS5.2
CNNC Cliffs of the 136.57 92 PFAKE 02 42 10.0 +7.5
CNNC LR LR
comp=Z,293nm,20.0s,MS5.0
COWI Conover 137.12 72 PFAKE 02 42 20.0 +17
COWI LR LR
comp=Z,1μm,19.0s,MS5.6
ARU Arti 137.23 306 *i* PKIKP PKPdf 02 42 05.7 +2.7
ARU MLR MLR
comp=Z,383nm,21.0s,MS5.1
ARU Arti 137.23 306 *e*PKPdf PKPdf 02 42 02.4 -0.6
ARU *ep*PKPdf pPKPdf 02 42 10.6 -1.5
ARU LR LR
comp=Z,448nm,22.0s,MS5.2
KIV Kislovodsk 138.54 283 ⇑*i*PKIKP PKPdf 02 42 05.6 -0.2
KIV *i* 02 44 57.9
KIV *e*SS SS 03 03 04.8 -4.5
KIV pmax pmax
comp=Z,13nm,1.7s
KIV MLR MLR
comp=Z,200nm,18.0s,MS4.9
KIV Kislovodsk 138.54 283 *e*PKPdf PKPdf 02 42 05.6 -0.2
KIV LR LR
comp=Z,269nm,20.0s,MS5.0
CBN Corbin 138.90 89 PFAKE 02 42 20.0 +13
CBN LR LR
comp=Z,392nm,19.0s,MS5.2
GLMI Grayling 138.90 76 PFAKE 02 42 20.0 +14
GLMI LR LR
comp=Z,813nm,19.0s,MS5.5
ERPA Erie 139.90 83 PFAKE 02 42 20.0 +12
ERPA LR LR
comp=Z,407nm,20.0s,MS5.2
SSPA Standing Stone 140.19 86 PFAKE 02 42 20.0 +11
SSPA LR LR
comp=Z,399nm,19.0s,MS5.2
BR131 Keskin Array S 141.12 271 *e*PKPdf PKPdf 02 42 10.7 0.0
BR131 LR LR
comp=Z,321nm,19.0s,MS5.1
ANTO Ankara 141.71 270 PFAKE 02 42 20.0 +8.3
ANTO LR LR
comp=Z,255nm,19.0s,MS5.0
ANN Anapa 142.06 280 *i* PKIKP PKPdf 02 42 20.0 +7.8
ANN *e* 02 49 22.0
ANN pmax pmax
comp=Z,38nm,1.8s
BINY Binghamton 142.28 86 PFAKE 02 42 20.0 +7.3
BINY LR LR
comp=Z,399nm,20.0s,MS5.2
TAM Tamanrasset 142.78 223 *e*PKPdf PKPdf 02 42 10.9 -3.3
TAM *ep*PKPdf pPKPdf 02 42 18.7 -4.7
LONY Lake Ozonia 144.56 83 PFAKE 02 42 30.0 +13
LONY LR LR
comp=Z,658nm,19.0s,MS5.4
CHOS Chios island 144.67 263 P PKPdf 02 42 13.8 -3.2
PRK Paraskevi 145.12 264 P PKPbc 02 42 16.4 -0.9
WES Weston 145.12 89 PFAKE 02 42 30.0 +13
WES LR LR
comp=Z,1μm,21.0s,MS5.7
DID Didima 145.70 259 P PKPdf 02 42 16.7 -2.1
VLX Vlachokerasia 146.09 258 P PKPdf 02 42 19.2 -0.3
LIA Limnos Island 146.18 264 P PKPdf 02 42 19.6 +0.1
ALN Alexandroupoli 146.32 266 P PKPdf 02 42 19.6 -0.1
PRD Provadia 146.95 270 P PKPdf 02 42 21.6 +0.9
TIRR Tirgusor 147.10 273 ⇑*i*P PKPdf 02 42 22.4 +1.5
TIRR Tirgusor 147.10 273 *e*PKPbc PKPbc 02 42 21.5 -1.6
TIRR *e* 02 42 30.9
KDZ Kurdzhali 147.16 267 P PKPdf 02 42 21.6 +0.5
AGG Agios Georgios 147.25 260 P PKPdf 02 42 19.5 -1.9
TLCR 147.28 275 ⇓*i*P PKPdf 02 42 22.8 +1.6
TLCR 147.28 275 P PKPdf 02 42 22.9 +1.7
MOS Moscow 147.34 297 *e*PKIKP PKPdf 02 42 20.4 -0.5
MOS *i* 02 42 30.2
MOS pmax pmax
comp=Z,54nm,1.1s
PLG Polygyros 147.50 263 P PKPdf 02 42 22.7 +1.0
HARR Harsova 147.51 273 ⇓*i*P PKPbc 02 42 23.7 -0.6
HARR Harsova 147.51 273 P PKPbc 02 42 23.9 -0.4
OBN Obninsk 147.66 295 ⇑*i*PKP2 PKPbc 02 42 23.6 -0.7
OBN *e* 02 45 52.3
OBN pmax pmax
comp=Z,123nm,1.7s
OBN Obninsk 147.66 295 *e*PKPbc PKPbc 02 42 23.8 -0.5
OBN *ep*PKPdf pPKPdf 02 42 32.2 +1.6
OBN LR LR
comp=Z,197nm,20.0s,MS4.9
THL Klokotos Trika 147.79 260 P PKPdf 02 42 23.7 +1.4
HORT Hortiatis 147.84 263 P PKPdf 02 42 20.3 -2.0
SZH Strazhica 147.85 269 P PKPdf 02 42 22.8 +0.6
PLD Plovdiv 147.86 267 P PKPbc 02 42 25.0 -0.3
PKME Peaks-Kenny Pk 148.01 86 PFAKE 02 42 30.0 +7.6
PKME LR LR
comp=Z,696nm,21.0s,MS5.4
KLMR Klimovskoe 148.08 306 *e*PKP2 PKPbc 02 42 24.6 -0.7
MMB Musomiste 148.11 265 P PKPdf 02 42 23.4 +0.7
KNT Kendrikon 148.32 264 P PKPbc 02 42 25.1 -1.4
ZIMR 148.41 269 ⇑*i*P PKPbc 02 42 25.9 -0.8
ZIMR 148.41 269 ⇑P PKPbc 02 42 25.9 -0.8
GRG Griva 148.48 263 P PKPdf 02 42 21.9 -1.4
VAY Valandovo 148.61 264 P PKPdf 02 42 25.3 +1.8
VAY Valandovo 148.61 264 *e*PKP PKPdf 02 42 24.6 +1.0
KKB Krupnik 148.66 265 P PKPbc 02 42 27.1 -0.3
VRI Vrincioaia 148.88 274 ⇑*i*P PKPbc 02 42 28.0 +0.2
VRI Vrincioaia 148.88 274 P PKPbc 02 42 27.3 -0.5
PLOR Plostina 148.91 274 PKP2 PKPbc 02 42 27.6 -0.3
PLOR Plostina 148.91 274 ⇑*i*P PKPbc 02 42 27.4 -0.5
FNA Florina 148.96 262 P PKPdf 02 42 25.3 +1.2
VTS Vitosha 149.03 266 P PKPbc 02 42 28.9 +0.6
VTS Vitosha 149.03 266 ⇑*i*P PKPbc 02 42 27.5 -0.8
VTS Vitosha 149.03 266 P PKPbc 02 42 27.8 -0.5
MLR Muntele Rosu 149.13 273 ⇓*i*P PKPbc 02 42 28.0 -0.4
MLR Muntele Rosu 149.13 273 P PKPbc 02 42 28.4 0.0
BIA Bitola 149.15 262 P PKPdf 02 42 27.0 +2.6
WDD Wield Dalam 149.40 247 PFAKE 02 42 40.0 +15
WDD LR LR
comp=Z,403nm,22.0s,MS5.2
KRUS Krusevo 149.41 262 *e*PKP PKPdf 02 42 25.8 +1.0
KRUS *e*PKP PKPbc 02 42 28.8 -0.5
OHR Ohrid 149.51 262 P PKPbc 02 42 29.6 +0.1
VOIR 149.62 272 ⇑*i*P PKPbc 02 42 28.5 -1.2
VOIR 149.62 272 P PKPbc 02 42 28.9 -0.7
SKO Skopje 149.68 263 *e*PKP PKPbc 02 42 29.5 -0.5
AKASG Malin Array Be 149.86 284 PKPbc PKPbc 02 42 28.7 -1.4
comp=Z,7.2nm,0.5s,baz=92,slow=2.6,SNR=10
AKASG Malin Array Be 149.86 284 PKHKP PKPbc 02 42 28.7 -1.3
AKASG pmax pmax
comp=Z,7.0nm,0.5s
AKASG Malin Array Be 149.86 284 PKPbc PKPbc 02 42 28.7 -1.4
AKBB Malin Array Si 149.86 284 *e*PKHKP PKPbc 02 42 28.6 -1.4
AKBB *e* PKPab 02 42 37.3 +1.6
TIR Tirane 150.20 261 PKHKP PKPbc 02 42 30.9 -0.3
TIR MLR MLR
comp=Z,317nm,19.0s,MS5.1
BURAR Bucovina Array 150.69 276 ⇑*i*P PKPbc 02 42 32.5 +0.4
BURAR Bucovina Array 150.69 276 ⇑P PKPbc 02 42 32.5 +0.4
BUR08 Bucovina Ar. S 150.71 276 *e*PKPbc PKPbc 02 42 32.0 -0.2
GZR Gura Zlata 150.93 270 PKIKP PKPab 02 42 38.8 -1.5
CUC Castrocucco 151.62 255 *e*PKPbc PKPbc 02 42 32.5 -2.0
CUC *ep*PKPdf pPKPdf 02 42 40.9 +3.4
CUC LR LR
comp=Z,355nm,21.0s,MS5.2
APA Apatity 151.65 319 ⇓*e*PKIKP PKPbc 02 42 32.0 -1.8
APA pmax pmax
comp=Z,43nm,1.3s
DRGR 151.72 273 ⇑*i*P PKPbc 02 42 34.1 -0.5
DRGR 151.72 273 P PKPbc 02 42 34.0 -0.6
BZS Buzias 151.73 270 ⇑*i*P PKPbc 02 42 34.0 -0.6
BZS Buzias 151.73 270 P PKPbc 02 42 34.0 -0.7
DIVS Divibare 151.81 266 P PKPbc 02 42 34.0 -0.9
KEST Kesra 152.02 241 PKPbc PKPbc 02 42 36.1 +0.5
comp=Z,3.4nm,0.8s,baz=189,slow=2.0,SNR=27
MNK Minsk 152.14 290 *e*PKIKP PKPdf 02 42 30.0 +1.4
JOF Joensuu 152.29 309 *ep* PKPbc 02 42 34.4 -0.9
comp=Z,4.8nm,0.5s
JOF Joensuu 152.29 309 *ep* PKPab 02 42 43.3 -2.2
comp=Z,6.0nm,0.6s
JOF Joensuu 152.29 309 *e*PKIKP PKPbc 02 42 34.4 -0.9
JOF pmax pmax
comp=Z,5.0nm,0.5s
JOF Joensuu 152.29 309 *eP* PKPab 02 42 43.3 -2.2
LVV L'vov 152.44 279 *e*PKIKP PKPbc 02 42 35.7 -0.4
UZH Uzhgorod 152.89 276 ⇓*i*PKIKP PKPbc 02 42 36.0 -1.1
UZH *i* 02 42 45.0
KBS Kingsbay 152.96 347 PFAKE 02 42 40.0 +11
KBS LR LR
comp=Z,310nm,19.0s,MS5.1
KOLS Kolonicke sedl 153.05 276 *e*PKIKP PKPbc 02 42 37.4 -0.1
KOLS *e* 02 42 45.8
KOLS Kolonicke sedl 153.05 276 *e*PKP PKPbc 02 42 37.4 -0.1
KOLS *e* 02 42 45.8
KOLS *e* 02 42 54.8
KWP Kalwaria 153.12 278 ⇓*i*P PKPbc 02 42 37.2 -0.4
KWP Kalwaria 153.12 278 *e*PKPbc PKPbc 02 42 37.0 -0.6
KWP *e*PKPab PKPab 02 42 46.4 -3.0
CRVS Cervenica-Dubn 153.50 276 *e*PKIKP PKPbc 02 42 39.3 +0.8
CRVS *e* 02 42 46.1
CRVS Cervenica-Dubn 153.50 276 *e*PKP PKPbc 02 42 39.3 +0.8
CRVS *e* 02 42 46.1
CRVS *e* 02 42 58.1
PKSM Moragy 153.79 268 ⇓*i*P PKPbc 02 42 38.8 -0.4
PKSM Moragy 153.79 268 P PKPbc 02 42 39.1 0.0
STHS Stebnicka Huta 153.87 277 *e*PKP PKPab 02 42 47.9 -4.7
STHS *e* 02 59.8
STHS *e* 02 43 10.2
STHS *e* 02 46 20.1
PSZ Piszkesteto 153.94 273 PKIKP PKPbc 02 42 40.7 +1.2
PSZ Piszkesteto 153.94 273 *ep*PKP pPKPdf 02 42 39.4 -1.2
PSZ Piszkesteto 153.94 273 *e*PKPbc PKPbc 02 42 39.6 +0.1
PSZ LR LR
comp=Z,275nm,21.0s,MS5.0
ARCES ARCESS Array B 154.31 324 PKPbc PKPbc 02 42 39.1 -0.4
comp=Z,3.8nm,0.6s,baz=106,slow=2.6,SNR=13
ARCES PKPab PKPab 02 42 53.2 -0.7
comp=Z,5.2nm,0.9s,baz=54,slow=6.1,SNR=4.0
ARCES ARCESS Array B 154.31 324 PKP2 PKPab 02 42 53.2 -0.7
ARCES pmax pmax
comp=Z,5.0nm,0.9s
ARCES ARCESS Array B 154.31 324 PKPbc PKPbc 02 42 39.1 -0.4
ARCES PKPab PKPab 02 42 53.2 -0.7
KAF Kangasniemi 154.53 307 *ep* PKPab 02 42 54.2 -0.8
comp=Z,6.3nm,0.6s
KAF Kangasniemi 154.53 307 *ep* pPKPab 02 43 02.4 -1.6
comp=Z,10nm,0.8s
KAF Kangasniemi 154.53 307 *e*PKP2 PKPab 02 42 54.2 -0.8
KAF pmax pmax
comp=Z,6.0nm,0.6s
VSL Villasalto 154.83 246 PFAKE 02 42 40.0 +7.0
VSL LR LR
comp=Z,416nm,19.0s,MS5.3
VYHS Vyhne 154.84 273 *e*PKP PKPab 02 42 53.1 -3.7
VYHS *e* 02 43 03.7
OJC Ojcow 155.06 277 *e*PKPdf PKPdf 02 42 33.2 +0.3
OJC *e*PKPbc PKPdf 02 42 40.9 +8.0
OJC *ep*PKPdf pPKPdf 02 42 43.4 +1.3
OJC *ep*PKPbc pPKPbc 02 42 50.5 -0.4
OJC *e*PKPab PKPab 02 42 56.8 -0.9
OJC *ep*PKPab pPKPab 02 43 04.9 -1.7
OJC Ojcow 155.06 277 *e*PKIKP PKPdf 02 42 40.9 +8.0
OJC *e* 02 42 43.4
OJC *e* 02 42 50.5
CRES Cresnjev 155.44 265 *i* PKPab PKPab 02 42 57.7 -1.7
CRES *i* pPKPab pPKPab 02 43 06.3 -2.1
MODS Modra-Piesok 155.70 271 *e*PKP pPKPab 02 43 07.2 -2.2
ZST Bratislava 155.71 271 *e*PKP pPKPab 02 43 07.2 -2.3
OKC Ostrava-Krasne 155.86 275 *e*PKPab PKPab 02 43 00.0 -1.1
OKC *ep*PKP pPKPab 02 43 07.9 -2.1
LJU Ljubljana 156.11 264 *e*PKPab PKPab 02 43 00.1 -2.1
LJU *i* pPKPab pPKPab 02 43 09.1 -2.1
MORC Moravsky Berou 156.19 275 *e*PKIKP PKPdf 02 42 34.2 -0.2
MORC *e* 02 42 43.1
MORC *e* 02 43 00.3
MORC Moravsky Berou 156.19 275 ⇓*i*P PKPab 02 43 01.3 -1.2
JAVS Javornik 156.29 263 *e*PKPab PKPab 02 43 00.6 -2.4
JAVS *i* pPKPab pPKPab 02 43 09.5 -2.5
TRI Trieste 156.36 263 PFAKE 02 42 50.0 +15
TRI LR LR
comp=Z,428nm,22.0s,MS5.2
VRAC Vranov 156.53 273 ⇑*i*P pPKPab 02 43 11.2 -1.7
CORF Corte 156.90 251 PKP pPKPab 02 43 13.0 -1.7
DPC Dobruska-Polom 157.14 275 *e*PKPab PKPab 02 43 06.4 -0.2
DPC *ep*PKP pPKPab 02 43 13.5 -2.0
TREC Trest 157.17 272 *e*PKPab PKPab 02 43 05.1 -1.6
TREC *ep*PKP pPKPab 02 43 13.7 -2.0
KSP Ksiaz 157.36 276 *e*PKP2 PKPab 02 43 06.9 -0.6
RTC Rabat Centre 157.38 211 PFAKE 02 42 50.0 +13
RTC LR LR
comp=Z,553nm,20.0s,MS5.4
UPC Upice 157.39 275 *e*PKPab PKPab 02 43 07.3 -0.3
UPC *ep*PKP pPKPab 02 43 15.3 -1.3
VLC Villacollemand 157.40 256 PFAKE 02 42 50.0 +14
VLC LR LR
comp=Z,319nm,20.0s,MS5.2
PRU Pruhonice 158.03 273 *e*PKPab PKPab 02 43 10.3 -0.1
PRU *ep*PKP pPKPab 02 43 16.9 -2.5
KHC Kasperske Hory 158.22 270 *e*PKPab PKPab 02 43 09.6 -1.7
KHC *ep*PKP pPKPab 02 43 17.5 -2.7
PVCC Panska Ves 158.24 274 *e*PKPab PKPab 02 43 11.5 +0.2
PVCC *ep*PKP pPKPab 02 43 18.8 -1.5
WTTA Wattenberg 158.44 264 ⇓*i*PKPab PKPab 02 43 12.5 +0.2
comp=Z,34nm,1.1s
WET Wettzell 158.63 270 *e*PKPab PKPab 02 43 11.7 -1.4
BRG Berggiesshubel 158.74 275 *e*PKIKP PKPdf 02 42 45.4 +7.8
BRG *e* 02 49 43.5
BRG pmax pmax
comp=Z,3.0nm,1.1s
BRG pmax pmax
comp=Z,18nm,1.4s
BRG pmax pmax
comp=Z,5.0nm,1.3s
BRG Berggiesshubel 158.74 275 *e*PKPab PKPab 02 43 13.1 -0.4
BRG Berggiesshubel 158.74 275 *e*PKP PKPdf 02 42 45.4 +7.8
comp=Z,4.7nm,1.1s
BRG *i* 02 43 20.7
comp=Z,30nm,1.4s
BRG *e* 02 49 43.5
comp=Z,8.3nm,1.3s
MOTA Moosalm 158.79 264 ⇓*i*PKPab PKPab 02 43 12.5 -1.3
comp=Z,31nm,1.2s
FETA Feichten 158.84 263 ⇓*i*PKPab PKPab 02 43 13.3 -0.8
comp=Z,44nm,1.2s
SAOF Saorge 158.88 252 PKP PKPab 02 43 11.5 -2.8
AUTN L'Aution 158.96 252 PKP PKPab 02 43 12.6 -2.0
MVIF Mont Vial 159.05 252 PKP PKPab 02 43 12.8 -2.2
TOUF Mont Tournerai 159.07 252 PKP PKPab 02 43 12.2 -2.9
FRF La Foret Royal 159.11 250 *e*PKP2 PKPab 02 43 14.0 -1.3
ROTZ Rotzenmuhle 159.30 271 *e*PKPab PKPab 02 43 15.3 -0.7
ROTZ *ep*PKPab pPKPab 02 43 23.0 -1.9
TUE Stuetta 159.34 260 PFAKE 02 42 50.0 +12
TUE LR LR
comp=Z,429nm,20.0s,MS5.3
NKC Novy Kostel 159.36 272 *e*PKPab PKPab 02 43 15.0 -1.2
NKC *ep*PKP pPKPab 02 43 23.6 -1.5
SFS San Fernando 159.45 215 PFAKE 02 42 50.0 +11
SFS LR LR
comp=Z,2μm,21.0s,MS5.8
MANZ Manzenberg 159.45 271 *e*PKPab PKPab 02 43 16.6 0.0
CLL Collm 159.45 275 *e*PKIKP PKPdf 02 42 39.0 +0.6
CLL *e* 02 43 15.0
CLL *e* 02 46 56.0
CLL pmax pmax
comp=Z,57nm,2.4s
CLL pmax pmax
comp=Z,289nm,3.5s
CLL MLR MLR
comp=Z,400nm,21.0s,MS5.2
CLL Collm 159.45 275 *e*PKPab PKPab 02 43 15.3 -1.3
CLL Collm 159.45 275 *e*PKPdf PKPdf 02 42 39.0 +0.6
CLL *e*(PKPab) PKPab 02 43 15.0 -1.6
comp=Z,57nm,2.4s
CLL *i* pPKPab pPKPab 02 43 23.0 -2.5
comp=Z,29nm,1.2s
CLL *ex* x 02 44 08.0
CLL *e*PP PP 02 46 56.0 -2.8
comp=Z,289nm,3.5s
CLL *ex* x 02 54 37.0
CLL *e*PSKS 02 57 28.0
CLL *e*PPS 03 00 36.0
CLL *ex* x 03 02 10.0
CLL *e*(SS) 03 08 00.0
CLL *ex* x 03 17 35.0
MBDF Montbardon 159.79 253 *e*PKP2 PKPab 02 43 17.9 -0.3
comp=Z,6.7nm,0.7s
GRA1 Grafenberg Arr 159.84 270 *e*PKPdf PKPdf 02 42 34.8 -4.1
GRA1 *e*PKPab PKPab 02 43 17.3 -1.0
GRA1 *e*PP PP 02 46 57.7 -3.2
GRA1 LR LR
comp=Z,500nm,18.9s,MS5.4
GRF Grafenberg Arr 159.84 270 *e*PKPdf PKPdf 02 42 34.8 -4.1
GRF *e*PKPab PKPab 02 43 17.3 -1.0
GRF *e*PP PP 02 46 57.7 -3.2
GRF *e*L 04 05 08.5
comp=Z,506nm,18.9s
MOX Moxa 160.01 273 *e*PKP PKPab 02 43 18.1 -0.9
comp=Z,33nm,1.4s
MOX pmax pmax
comp=Z,200nm,19.0s
MOX Moxa 160.01 273 *e*PKP2 PKPab 02 43 18.1 -0.9
MOX pmax pmax
comp=Z,33nm,1.4s
MOX MLR MLR
comp=Z,200nm,19.0s
BNI Bardonecchia 160.04 254 *e*PKP2 PKPab 02 43 25.5 +6.2
BNI MLR MLR
comp=Z,995nm,19.0s
LPG La Plagne 160.27 255 *e*PKP2 PKPab 02 43 18.9 -1.4
LPL La Plagne 160.29 255 *e*PKP2 PKPab 02 43 18.9 -1.5
ORIF Oris-en-Rattie 160.40 252 *e*PKP2 PKPab 02 43 20.1 -0.8
ORIF *e*MLR MLR
comp=Z,443nm,19.8s
STU Stuttgart 160.61 266 *e*PKPab PKPab 02 43 20.6 -1.1
STU *ep*PKPab pPKPab 02 43 28.3 -2.4
BFO Black Forest 160.90 264 *e*PKPab PKPab 02 43 21.7 -1.3
BFO Black Forest 160.90 264 PFAKE 02 42 50.0 +10
BFO LR LR
comp=Z,426nm,19.0s
LASF Ste Croix 160.97 247 *e*PKP2 PKPab 02 43 22.9 -0.5
UBBA Unterbreizbach 161.02 272 *e*PKPab PKPab 02 43 23.0 -0.4
VIVF Saint-Julien-l 161.03 250 *e*PKP2 PKPab 02 43 22.7 -0.9
CLZ Clausthal 161.18 275 *e*PKPab PKPab 02 43 23.0 -1.1
LOMF Lomont 161.27 259 PKP PKPab 02 43 23.2 -1.4
PBAR Barrancos 161.27 216 *e*PKPab PKPab 02 43 33.4 +8.6
CABF La Chapelle 161.29 257 *e*PKP2 PKPab 02 43 23.6 -1.1
MTLF Montolieu 161.35 243 *e*PKP2 PKPab 02 43 24.4 -0.6
MOF Molkenrain 161.36 261 PKP PKPab 02 43 22.8 -2.2
ESDC Sonseca Array 161.42 225 PKPab PKPab 02 43 22.9 -2.5
comp=Z,0.7nm,0.7s,baz=154,slow=2.5,SNR=3.7
ESLA Sonseca Array 161.42 225 *e*PKPdf PKPdf 02 42 41.0 0.0
ESLA *e*PKPab PKPab 02 43 25.7 +0.3
ESLA LR LR
comp=Z,2μm,21.0s
PAB San Pablo 161.47 224 PFAKE 02 42 50.0 +9.0
PAB LR LR
comp=Z,492nm,20.0s
HINF Hinteralfeld 161.50 261 *e*PKP2 PKPab 02 43 23.5 -2.1
ECH Echery 161.53 262 PKP PKPab 02 43 22.1 -3.6
CDF Champ du Feu 161.56 263 *e*PKP2 PKPab 02 43 23.9 -1.9
comp=Z,6.0nm,0.8s
TNS Taunus Mts 161.69 269 *e*PKPab PKPab 02 43 25.5 -0.9
TNS *ep*PKPab pPKPab 02 43 33.2 -2.1

NOA	**NORSAR Array B**	**161.77**	**304**	PKPab	PKPab	02 43 25.4	-1.0
	comp=Z,1.1nm,0.6s,baz=80,slow=4.4,SNR=6.9						
NOA	**NORSAR Array B**	**161.77**	**304**	PKP2	PKPab	02 43 25.4	-1.0
NOA				pmax	pmax		
	comp=Z,1.0nm,0.6s						
HAU	**Haudompre**	**161.89**	**261**	*e*PKP2	PKPab	02 43 25.4	-1.9
HAU				*e*MLR	MLR		
	comp=Z,382nm,19.0s						
EVO	**Evora**	**161.92**	**214**	⇑*i*PKIKP	PKPdf	02 42 42.8	+1.3
EVO	comp=Z,23nm,1.3s						
	comp=Z,522nm,20.8s			*e*MLR	MLR		
LBL	**Lubilhac**	**162.05**	**249**	PKP	PKPab	02 43 23.4	-4.7
EPF	**Esparros**	**162.09**	**239**	*e*PKP2	PKPab	02 43 28.0	-0.3
ETSF	**Etsaut**	**162.44**	**238**	*e*PKP2	PKPab	02 43 29.7	-0.1
CAF	**Calviac**	**162.50**	**247**	*e*PKP2	PKPab	02 43 29.8	-0.2
PMRV	**Marv??o**	**162.52**	**217**	*e*PKPab	pPKPab	02 43 38.4	-0.7
SMF	**Signal de Mont**	**162.58**	**254**	*e*PKP2	PKPab	02 43 28.8	-1.6
	comp=Z,5.9nm,0.7s						
WLF	**Walferdange**	**162.79**	**265**	PKPab	PKPab	02 43 30.9	-0.3
WLF				APKPab		02 43 38.1	
WLF	**Walferdange**	**162.79**	**265**	*e*PKPab	PKPab	02 43 29.3	-1.9
WLF	**Walferdange**	**162.79**	**265**	PFAKE		02 42 50.0	+8.0
WLF				LR	LR		
	comp=Z,553nm,19.0s						
MEZF	**Maizieres J'vi**	**162.89**	**261**	*e*PKP2	PKPab	02 43 30.3	-1.4
PCBR	**Castelo Branco**	**162.91**	**217**	*e*PKPab	pPKPab	02 43 39.8	-1.1
LOR	**Lormes**	**162.92**	**256**	⇑*i*PKP2	PKPab	02 43 30.5	-1.4
	comp=Z,6.4nm,0.7s						
LOR				*e*MLR	MLR		
	comp=Z,566nm,20.5s						
SJPF	**Ste Jean**	**162.93**	**237**	*e*PKP2	PKPab	02 43 32.1	+0.1
AVF	**Avril sur Loir**	**162.94**	**254**	*e*PKP2	PKPab	02 43 29.8	-2.1
	comp=Z,4.6nm,0.8s						
SSF	**Saint Saulge**	**163.01**	**255**	⇑*i*PKP2	PKPab	02 43 30.9	-1.3
RJF	**Les Rejaudoux**	**163.04**	**247**	*e*PKP2	PKPab	02 43 31.9	-0.5
RJF				*e*MLR	MLR		
	comp=Z,682nm,20.0s						
BGF	**Bois d'Agland**	**163.09**	**252**	*e*PKP2	PKPab	02 43 31.7	-0.9
LFF	**La Frestale**	**163.21**	**245**	*e*PKP2	PKPab	02 43 32.7	-0.5
MEM	**Membach**	**163.28**	**268**	APKPab	pPKPab	02 43 43.8	+1.5
TCF	**Toulx Ste Croi**	**163.28**	**251**	*e*PKP2	PKPab	02 43 32.8	-0.6
MTE	**Manteigas**	**163.43**	**218**	PFAKE		02 42 50.0	+7.0
MTE				LR	LR		
	comp=Z,751nm,20.0s						
BCLA	**Clavier**	**163.61**	**267**	PKPab	PKPab	02 43 33.2	-1.6
BCLA				APKPab		02 43 41.7	
HYF	**Humbligny**	**163.61**	**254**	*e*PKP2	PKPab	02 43 34.0	-0.9
GIVF	**Givet**	**163.76**	**265**	*e*PKP2	PKPab	02 43 33.9	-1.6
DOU	**Dourbes**	**163.89**	**265**	PKPab	PKPab	02 43 35.9	-0.1
DOU				APKPab		02 43 43.6	
MVO	**Moncorvo**	**163.91**	**221**	*e*PKPab	pPKPab	02 43 44.7	-0.5
BAIF	**Baives**	**164.10**	**265**	*e*PKP2	PKPab	02 43 35.6	-1.4
SNF	**Seneffe**	**164.24**	**266**	APKPab	pPKPab	02 43 44.9	-1.7
UCC	**Uccle**	**164.31**	**267**	PKPab	PKPab	02 43 36.6	-1.2
UCC				APKPab		02 43 44.6	
MFF	**Saint Martin d**	**164.76**	**248**	*e*PKP2	PKPab	02 43 39.2	-0.7
LDF	**La Druitiere**	**165.89**	**254**	*e*PKP2	PKPab	02 43 43.6	-1.3
FLN	**La Foliniere**	**166.18**	**254**	*e*PKP2	PKPab	02 43 44.8	-1.4
FLN				*e*MLR	MLR		
	comp=Z,522nm,22.2s						
GRR	**Gorron**	**166.19**	**253**	*e*PKP2	PKPab	02 43 45.2	-1.0
QUIF	**Quistinic**	**167.19**	**247**	*e*PKP2	PKPab	02 43 49.6	-1.0
ROSF	**Rostrenen**	**167.50**	**248**	*e*PKP2	PKPab	02 43 50.5	-1.5

ISK ***13*** *02:37:25.8,3653N×3648E,h12km,MD3.1*
CSEM ***13*** *02:37:25.7±0.2,3655N×3644E,h10km,MD3.3,Error ellipse: s-maj=5.0km s-min=3.3km az=134.0*
ISCJB ***13*** *02:37:26.4±0.6,3656N±004×3645E±004,h5km±6km, Error ellipse: s-maj=6.9km s-min=5.0km az=135.9*
DDA ***13*** *02:37:26.1,3659N×3642E,h8km±4km, Md3.3*

ISC 13 02:37:26.8±0.6,3656N±003×3645E±004,h5km±6km,n15, σ0s88/22,Jordan - Syria region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
COBT	**Iskenderun**	**0.16**	**254**	*i* P	**Pg**	**02 37 29.4**	**-0.6**
COBT				*i* S	**Sg**	**02 37 32.5**	**+0.3**
HTY	**Hatay**	**0.51**	**210**	*e*PG	**Pg**	**02 37 36.0**	**-0.6**
YAYL	**Yayladag**	**0.59**	**208**	*i* P	**Pg**	**02 37 38.0**	**-0.2**
YAYL				*i* S	**Sg**	**02 37 47.3**	**+1.4**
CEYT	**Ceyhan**	**0.72**	**309**	*e*PG	**Pg**	**02 37 41.0**	**+0.5**
CEYT				*e*SG	**Sg**	**02 37 52.1**	**+2.2**
GAZ	**Gaziantep**	**0.86**	**45**	*e*PG	**Pg**	**02 37 43.1**	**-0.3**
GAZ				*e*SG	**Sg**	**02 37 55.9**	**+1.3**
KMRS	**Kahramanmaras**	**1.01**	**21**	*e*PG	**Pg**	**02 37 45.2**	**-1.0**
ANDN	**Andirin**	**1.02**	**355**	*i* P	**Pg**	**02 37 46.1**	**-0.2**
ANDN				*i* S	**Sg**	**02 37 59.6**	**+0.1**
KOZT	**Kozan**	**1.04**	**332**	*e*PG	**Pg**	**02 37 46.0**	**-0.8**
GZT	**Gaziantep**	**1.19**	**48**	*i* P	**Pg**	**02 37 49.3**	**-0.4**
GZT				*i* S	**Sg**	**02 38 04.5**	**-0.7**
KARA	**Karaisali**	**1.32**	**302**	*e*PN	**Pn**	**02 37 50.3**	**-1.5**
GULE	**Gulek**	**1.52**	**299**	*i* P	Px	02 37 40.6	
GULE				*i* S	Sx	02 38 01.6	
MERS	**Mersin**	**1.58**	**282**	*e*PN	**Pn**	**02 37 54.6**	**-0.8**
ATAB	**Bozova**	**1.73**	**58**	*i* P	**Pn**	**02 37 58.9**	**+1.3**
ATAB				*i* S	**Sn**	**02 38 20.7**	**+0.7**
AKCD	**Akcadag**	**2.09**	**34**	*i* P	**Pn**	**02 38 01.8**	**-0.7**
AKCD				*i* S	**Sn**	**02 38 29.6**	**+0.8**
URFA	**Urfa**	**2.09**	**65**	*e*PN	**Pn**	**02 38 02.3**	**-0.2**

DJA 13 02:51:28.4±0.8,2S±6×120E±,h17km±11km,Mjma3.4/5, MLv4.0/5,Mwp4.0/1,Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PCI	**Palu**	**0.77**	**342**	P	Pb	02 51 42.7	-0.7
KAPI	**Kappang**	**3.37**	**186**	P	Pn	02 52 19.6	-0.7
KDI	**Kendari**	**3.42**	**132**	P	Pn	02 52 21.4	+0.4
BBKI	**Banjar Baru**	**5.54**	**251**	P	Pn	02 52 50.5	+0.4

ISCJB ***13*** *02:56:40.2±1.3,3845N±005×4040E±008,h8km±12km, Error ellipse: s-maj=11.3km s-min=7.4km az=149.1*
ISK ***13*** *02:56:40.6,3844N×4035E,h10km,MD2.9*
DDA ***13*** *02:56:40.9,3838N×4040E,h7km±7km,Md3.2*
CSEM ***13*** *02:56:41.0±0.2,3837N×4032E,h15km,MD2.9,Error ellipse: s-maj=5.4km s-min=3.7km az=150.0*

ISC 13 02:56:40.4±1.0,3845N±006×4042E±005,h5km±12km,n8, σ0s74/12,Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DIYA	**Diyarbakir**	**0.58**	**204**	*i* P	**Pg**	**02 56 51.8**	**+0.3**
DIYA				*i* S	**Sg**	**02 57 00.5**	**+1.5**
BEST	**Besiri**	**0.87**	**130**	*i* P	**Pg**	**02 56 57.1**	**0.0**
BEST				*i* S	**Sg**	**02 57 08.6**	**+0.2**
SVRC	**Sivrice-ELAZID**	**0.88**	**266**	*e*PG	**Pg**	**02 56 56.9**	**-0.4**
SVRC				*e*SG	**Sg**	**02 57 09.2**	**+0.5**
PTK	**Pertek**	**0.92**	**299**	*e*PG	**Pg**	**02 56 57.3**	**-0.7**
MARD	**Mardin**	**1.17**	**166**	*i* P	**Pg**	**02 57 02.0**	**-0.8**
MARD				*i* S	**Sg**	**02 57 17.3**	**-0.7**
MYA	**Malataya**	**1.58**	**266**	*e*PN	**Pn**	**02 57 08.3**	**-0.6**
URFA	**Urfa**	**1.62**	**232**	*e*PN	**Pn**	**02 57 09.2**	**-0.4**
EZM	**Erzurum**	**1.62**	**26**	*e*PN	**Pn**	**02 57 11.0**	**+1.3**

IDC ***13*** *03:11:14.4±0.7,2.17N×9276E,h0km,mb4.0/12, mb1 4.2/13,mb1mx4.0/25,mbtmp4.0/13,ML4.4/1,MS3.3/1, Ms1 3.3/1,ms1mx3.0/27,Error ellipse: s-maj=22.2km s-min=15.7km az=60.0*
NEIC ***13*** *03:11:15.7±0.3,2.25N×9281E,h10km,mb4.2/1,Error ellipse: s-maj=10.1km s-min=7.7km az=49.0*
NEIC Felt [II] at Gunungsitoli, Nias.
ISCJB ***13*** *03:11:17.2±0.5,2.24N±008×9282E±006,h33km,mb4.0/14, Error ellipse: s-maj=11.8km s-min=6.8km az=29.3*
DJA ***13*** *03:12:02.4±0.9,2.2N±6×96E±,h30km,mB5.6/4,Mjma3.5/6, MLv4.5/6,Mw(mB)5.4/4,Mwp4.6/5*

ISC 13 03:11:16.6±4.2,223N±008×9278E±007,h13km±27km,n39, σ0s73/37,mb4.0/14,Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BSI	**Banda Aceh**	**4.11**	**38**	P	**Sn**	**03 12 57.3**	**-10**
BSI	**Banda Aceh**	**4.11**	**38**	P	**Sn**	**03 12 57.3**	**-10**
GSI	**Gunungsitoli**	**4.88**	**101**	P	**Pn**	**03 12 29.6**	**-0.1**
GSI	**Gunungsitoli**	**4.88**	**101**	P	**Pn**	**03 12 29.8**	**+0.1**
GSI	**Gunungsitoli**	**4.88**	**101**	P	**Pn**	**03 12 29.6**	**-0.1**
TSI	**Tuntungan**	**5.92**	**78**	P	**Pn**	**03 12 44.8**	**+0.8**
PPI	**Padang Panjang**	**8.07**	**109**	P	**Pn**	**03 13 14.0**	**+0.4**
PPI	**Padang Panjang**	**8.07**	**109**	P	**Pn**	**03 13 14.2**	**+0.6**
PPI	**Padang Panjang**	**8.07**	**109**	P	**Pn**	**03 13 14.0**	**+0.4**
	136nm,0.7s,1μm						
PDSI	**Padang**	**8.29**	**112**	P	**Pn**	**03 13 16.4**	**-0.2**
	86nm,1.0s,2μm0.6nm						
PDSI	**Padang**	**8.29**	**112**	P	**Pn**	**03 13 16.3**	**-0.3**
	86nm,1.0s,2μm0.6nm						
PDSI	**Padang**	**8.29**	**112**	P	**Pn**	**03 13 16.4**	**-0.2**
	86nm,1.0s,2μm						
IPM	**Ipoh**	**8.53**	**75**	P	**Pn**	**03 13 19.1**	**-0.8**
	50nm,0.6s,446nm						
IPM	**Ipoh**	**8.53**	**75**	P	**Pn**	**03 13 19.5**	**-0.4**
	50nm,0.6s,446nm0.2nm						
IPM	**Ipoh**	**8.53**	**75**	P	**Pn**	**03 13 19.1**	**-0.8**
	50nm,0.6s						
KSI	**Kapahiang**	**11.42**	**121**	P	**Pn**	**03 14 00.2**	**+0.7**
	222nm,0.4s,1.5nm						
PALK	**Pallekele**	**13.03**	**293**	P	**Sn**	**03 16 34.8**	**-12**
PALK	**Pallekele**	**13.03**	**293**	*e*Pn	**Pn**	**03 14 21.5**	**-0.1**
	15nm,0.6s						
MDRS	**Chennai**	**16.43**	**312**	*ex*	x	03 15 19.0	
MDRS				*ex*	x	03 18 25.0	
MDRS				*ex*	x	03 23 29.0	
CMAR	**Chiang Mai Arr**	**17.22**	**20**	P	**Pn**	**03 15 16.2**	**-0.8**
	0.5nm,0.3s,baz=223,slow=12,SNR=4.4						
VIS	**Vishakhapatnam**	**17.98**	**330**	*i* P	**Pn**	**03 15 26.0**	**-0.3**
VIS				*ex*	x	03 15 34.8	
	comp=Z,16nm,0.6s						
VIS				*i* S	**Sn**	**03 18 27.5**	**-19**
SBUM	**Sibu**	**19.43**	**89**	P	**Pn**	**03 15 43.7**	**-0.4**
SJI	**Sawahan**	**21.37**	**118**	P	**P**	**03 16 11.2**	**+7.2**
LSA	**Lhasa**	**27.36**	**357**	*e*P	**P**	**03 17 02.3**	**+0.8**
	comp=Z,5.0nm,1.1s,mb4.0						
FITZ	**Fitzroy Crossi**	**38.15**	**123**	P	**P**	**03 18 35.2**	**-0.6**
	comp=Z,2.9nm,0.7s,mb4.1,baz=236,slow=5.7,SNR=6.6						
MKAR	**Makanchi Array**	**45.32**	**350**	P	**P**	**03 19 33.6**	**-0.5**
	comp=Z,0.8nm,0.4s,mb3.9,baz=162,slow=8.5,SNR=8.1						
WRA	**Warramunga Arr**	**46.35**	**120**	P	**P**	**03 19 42.4**	**-0.3**
	comp=Z,3.3nm,0.7s,mb4.4,baz=299,slow=8.8,SNR=6.0						
SONM	**Songino Array**	**46.93**	**13**	P	**P**	**03 19 49.1**	**+2.3**
	comp=Z,1.3nm,0.6s,mb4.0,baz=194,slow=8.5,SNR=10						
ASAR	**Alice Springs**	**47.57**	**125**	P	**P**	**03 19 52.3**	**+0.1**
	comp=Z,1.2nm,0.8s,mb4.0,baz=306,slow=7.7,SNR=10						
KURK	**Kurchatov**	**49.78**	**348**	P	**P**	**03 20 07.7**	**-1.1**
	comp=Z,0.3nm,0.3s,mb3.8,baz=167,slow=6.9,SNR=3.7						
ZALV	**Zalesovo Beam**	**51.97**	**354**	P	**P**	**03 20 24.4**	**-0.7**
	comp=Z,1.4nm,0.4s,mb4.3,baz=167,slow=6.6,SNR=7.5						
BVAR	**Borovoye Array**	**53.92**	**343**	P	**P**	**03 20 41.1**	**+1.4**
	comp=Z,0.4nm,0.5s,mb3.6,baz=141,slow=4.8,SNR=2.9						
STKA	**Stephens Creek**	**57.35**	**130**	P	**P**	**03 21 04.2**	**-0.6**
	comp=Z,2.5nm,0.6s,mb4.4,baz=296,slow=8.5,SNR=7.3						
LSZ	**Lusaka**	**66.19**	**252**	P	**P**	**03 22 04.4**	**-0.2**
	comp=Z,0.4nm,0.3s,mb3.9,baz=97,slow=5.1,SNR=3.8						
LBTB	**Lobatse**	**70.41**	**243**	P	**P**	**03 22 31.4**	**+0.5**
	comp=Z,4.7nm,0.7s,mb4.5,baz=60,slow=5.0,SNR=5.4						
BOSA	**Boshof**	**71.49**	**239**	P	**P**	**03 22 37.2**	**-0.1**
	comp=Z,1.4nm,0.7s,mb4.0,baz=83,slow=5.1,SNR=4.4						
GERES	**GERESS Array B**	**81.14**	**319**	P	**P**	**03 23 32.0**	**+0.2**
	comp=Z,0.2nm,0.5s,mb3.3,baz=101,slow=3.1,SNR=4.0						
TXAR	**Lajitas Array**	**144.89**	**25**	PKP	PKPdf	03 30 52.9	-1.3
	comp=Z,0.2nm,0.6s,baz=329,slow=0.4,SNR=3.8						
TXAR	**Lajitas Array**	**144.89**	**25**	PKP	PKPdf	03 30 52.9	-1.3

NEIC ***13*** *03:27:57.1,1603N×9851W,h0km,MD3.8(MEX),After MEX.*

MEX 13 03:27:58.3±0.7,1601N×9849W,h18km±44km,MD3.8, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PNIG	**Pinotepa**	**0.52**	**42**	*i* P	Pg	03 28 06.9	-1.8
PNIG				*i* S	Sg	03 28 13.6	-2.1
ACX	**Acapulco**	**1.61**	**302**	*i* P	Pn	03 28 22.0	-3.9
ACX				*i* S	Sn	03 28 42.1	-4.2
UTMO	**Huajuapan**	**1.93**	**20**	*i* P	Pn	03 28 27.8	-2.5
UTMO				*i* S	Sn	03 28 50.2	-3.9
VHO	**Vista Hermosa**	**1.99**	**58**	*i* P	Pn	03 28 28.9	-2.2
VHO				*i* S	Sn	03 28 51.8	-3.8
CAIG	**El Cayaco**	**1.99**	**302**	*e*P	Pn	03 28 29.5	-1.7
CAIG				*e*S	Sn	03 28 51.9	-3.8
PPM	**Popocatepetl**	**3.05**	**358**	*e*P	Pn	03 28 44.4	-1.2
PPM				*i* S	Sn	03 29 17.1	-4.6
PPM	**Popocatepetl**	**3.05**	**358**	*e*P	Pn	03 28 44.4	-1.2
PPM				*i* S	Sn	03 29 20.5	-1.2
MZVM		**3.24**	**348**	*i* P	Pn	03 28 46.7	-1.6
MZVM				*i* S	Sn	03 29 23.4	-3.1

IDC 13 03:51:50.8±10.0,1839S×17809W,h500km±118km, mb3.5/6,mb1 3.6/6,mb1mx3.3/18,mbtmp3.5/6,Error ellipse: s-maj=56.6km s-min=25.4km az=16.0,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera**	**20.24**	**191**	P	P	03 55 51.0	-0.4
	5.5nm,0.4s,baz=329,slow=2.0,SNR=13						
CTA	**Charters Tower**	**33.67**	**261**	P	P	03 57 49.3	-0.4
	2.7nm,0.5s,baz=102,slow=9.3,SNR=5.9						
STKA	**Stephens Creek**	**38.67**	**242**	P	P	03 58 32.4	+1.4
	2.4nm,0.5s,baz=75,slow=11,SNR=10						
WRA	**Warramunga Arr**	**44.85**	**260**	P	P	03 59 19.3	-0.8
	1.6nm,0.3s,baz=97,slow=7.5,SNR=15						
ASAR	**Alice Springs**	**44.96**	**255**	P	P	03 59 20.8	0.0
	17nm,0.6s,baz=89,slow=8.2,SNR=301						
NVAR	**Mina Array Bea**	**79.55**	**44**	P	P	04 03 06.4	+1.0
	0.3nm,0.5s,baz=229,slow=9.0,SNR=3.2						
GERES	**GERESS Array B**	**148.15**	**345**	PKPbc	PKPbc	04 10 39.1	-0.7
	0.9nm,0.7s,baz=27,slow=3.3,SNR=10						

ISCJB ***13*** *03:54:46.1±5.1,114S±0.1×1656E±0.1,h24km±34km, mb4.4/9,MS3.7/5,Error ellipse: s-maj=27.5km s-min=12.9km az=40.7*
NEIC ***13*** *03:54:49.2±1.0,1132S×16562E,h35km,mb4.5/2,Error ellipse: s-maj=24.7km s-min=14.9km az=85.0*
IDC ***13*** *03:54:52.4±8.3,1134S×16549E,h56km±61km,mb4.2/9, mb1 4.3/10,mb1mx4.1/18,mbtmp4.2/10,ML4.3/1,MS3.7/6, Ms1 3.7/6,ms1mx3.3/26,Error ellipse: s-maj=55.0km s-min=23.4km az=90.0*

ISC 13 03:54:49.5±2.4,113S±01×1657E±01,h38km±17km,n18, σ0s81/14,mb4.4/9,MS3.7/5,Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**5.93**	**288**	P	**Pn**	**03 56 14.6**	**-0.2**
	8.9nm,0.3s,baz=244,slow=3.6,SNR=6.1						
HNR				S	**Sn**	**03 57 21.8**	**+0.3**
	14nm,0.3s,baz=185,slow=11,SNR=2.6						
HNR				LR	LR	03 58 23.6	
	comp=Z,428nm,21.6s,baz=333,slow=37						
DZM	**Mont Dzumac**	**10.70**	**176**	*e*Pn	**Pn**	**03 57 20.1**	**-0.1**
CTA	**Charters Tower**	**20.59**	**243**	P	**P**	**03 59 26.6**	**+1.2**
	20nm,0.9s,baz=70,slow=11,SNR=14						
CTA				LR	LR	04 06 05.3	
	comp=Z,184nm,20.7s,MS3.4,baz=53,slow=33						
AFI	**Afiamalu**	**22.17**	**99**	LR	LR	04 06 35.7	
	comp=Z,202nm,18.1s,MS3.6,baz=307,slow=32						
STKA	**Stephens Creek**	**30.17**	**224**	P	**P**	**04 00 56.8**	**+0.6**
	5.3nm,0.8s,mb4.3,baz=23,slow=8.2,SNR=9.7						
STKA				LR	LR	04 12 40.0	
	comp=Z,121nm,18.1s,MS3.6,baz=22,slow=36						
STKA	**Stephens Creek**	**30.17**	**224**	*e*P	**P**	**04 00 56.6**	**+0.5**
	5.4nm,0.8s,mb4.3						
STKA				LR	LR	04 12 40.0	
WRAB	**Tennant Creek**	**31.29**	**250**	*e*P	**P**	**04 01 05.3**	**-0.8**
	15nm,1.4s,mb4.6						
WRA	**Warramunga Arr**	**31.30**	**250**	P	**P**	**04 01 05.4**	**-0.9**
	11nm,0.9s,mb4.7,baz=80,slow=9.1,SNR=35						
ASAR	**Alice Springs**	**32.58**	**244**	P	**P**	**04 01 16.3**	**-1.2**
	2.1nm,0.8s,mb4.1,baz=75,slow=9.3,SNR=9.4						
PPT	**Papeete**	**43.71**	**104**	*e*LR	LR	04 15 17.0	
	79nm,24.0s						
KAPI	**Kappang**	**45.83**	**274**	LR	LR	04 20 27.2	
	comp=Z,62nm,19.8s,MS3.6,baz=267,slow=34						
NWAO	**Narrogin (SRO)**	**49.23**	**236**	LR	LR	04 24 48.9	
	comp=Z,268nm,19.2s,MS4.3,baz=63,slow=37						
CMAR	**Chiang Mai Arr**	**72.15**	**294**	P	**P**	**04 06 11.0**	**+0.2**
	1.8nm,0.3s,mb4.5,baz=117,slow=4.9,SNR=8.4						
SONM	**Songino Array**	**78.85**	**324**	P	**P**	**04 06 49.5**	**+0.9**
	1.4nm,1.0s,mb3.8,baz=128,slow=5.4,SNR=6.1						
MAW	**Mawson**	**84.42**	**202**	P	**P**	**04 07 18.6**	**+0.9**
	4.4nm,1.0s,mb4.5,baz=153,slow=2.3,SNR=5.5						
MKAR	**Makanchi Array**	**93.67**	**317**	P	**P**	**04 08 02.5**	**+0.4**
	1.4nm,0.9s,mb4.4,baz=117,slow=6.9,SNR=6.5						
ZALV	**Zalesovo Beam**	**93.74**	**324**	P	**P**	**04 08 00.8**	**-1.4**
	0.3nm,0.3s,mb4.2,baz=96,slow=4.5,SNR=4.8						
KEST	**Kesra**	**147.59**	**322**	PKPbc	PKPbc	04 14 30.7	+0.5
	1.4nm,0.9s,baz=315,slow=1.4,SNR=2.8						

IDC ***13*** *03:58:21.3±0.4,489N×8254W,h0km,mb4.6/19, mb1 4.8/24,mb1mx4.8/27,mbtmp4.7/24,ML4.1/5,MS4.6/20, Ms1 4.6/20,ms1mx4.4/26,Error ellipse: s-maj=20.6km s-min=9.8km az=58.0*
BJI ***13*** *03:58:21.9,490N×8260W,h10km,mB5.5,Ms5.4,Msz4.9*
ISCJB ***13*** *03:58:21.3±1.1,5.10N±003×8252W±002,h3km±6km, mb5.1/195,MS4.6/27,Error ellipse: s-maj=4.9km s-min=3.1km az=25.0*
NEIC ***13*** *03:58:22.9±0.2,492N×8257W,h10km,mb5.2/168,MW5.5, Error ellipse: s-maj=4.8km s-min=2.9km az=219.0, Moment Tensor Solution. s16 Moment Tensor: Scale 10^{17}Nm; M_{rr}0.72; $M_{\theta\theta}$0.14; $M_{\phi\phi}$-0.85; $M_{r\theta}$-0.11; $M_{\theta\phi}$2.31; $M_{\phi r}$0.26; Best double couple: M_o2.50000×10^{17} NP1: ϕ_s186.00000°,δ89.00000°,λ-174.00000°. NP2: ϕ_s96.00000°,δ84.00000°,λ-1.00000°. Principal axes: T 2.0100, Plg3.0000°, Azm320.0000°; N 0.7300, Plg84.0000°, Azm191.0000°; P -2.7400, Plg4.0000°, Azm51.0000°;*
GCMT ***13*** *03:58:22.9±0.1,4.88N×8258W,h20km,MW5.4/99, Moment Tensor Solution. s75,c134; s99,c186; Duration: 1s2 Moment tensor: Scale 10^{17}Nm; M_{rr}-0.01±.02; $M_{\theta\theta}$0.16±.02; $M_{\phi\phi}$-0.15±.03; $M_{r\theta}$0.30±.04; $M_{\theta\phi}$1.54±.02; $M_{\phi r}$0.26±.04; Best double couple: M_o1.59600×10^{17} NP1:ϕ_s2.00000°,δ80.00000°, λ171.00000°. NP2:ϕ_s94.00000°,δ81.00000°,λ10.00000°. Principal axes: T 1.6500, Plg14.0000°, Azm318.0000°; N -0.1070, Plg76.0000°, Azm136.0000°; P -1.5430, Plg0.0000°, Azm228.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
CASC ***13*** *03:58:24.3±2.0,504N×8271W,h20km±26km,MD4.4, ML3.8,mb5.2(NEIC)*
MOS ***13*** *03:58:27.0±0.9,537N×8252W,h32km,mb5.3/77,MS4.9/5, Error ellipse: s-maj=7.6km s-min=4.7km az=103.9*
SZGRF ***13*** *03:58:35.3,736N×8258W,h33km,mb5.1,MS4.7,South of Panama*

ISC 13 03:58:23.5±1.2,503N±003×8252W±002,h8km±7km,n883, σ0s85/823,mb5.1/195,MS4.6/27,191C-155D,South of Panama

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ACR	**Cerro Adams**	**3.66**	**350**	⇓*e*P	**Pn**	**03 59 18.1**	**-2.3**
BAR1		**4.26**	**349**	*e*P	**Pn**	**03 59 27.2**	**-1.4**
BAR1				*e*S	**Sn**	**04 00 17.9**	**-0.8**
BUS	**Buena Vista**	**4.66**	**345**	*e*P	**Pn**	**03 59 32.8**	**-1.5**
BUS				*e*S	**Sn**	**04 00 28.0**	**-0.6**
PINA	**Piqa, Costa Ab**	**4.85**	**30**	⇓*e*P	**Pn**	**03 59 38.4**	**+1.5**
BCIP	**Isla Barro Col**	**4.90**	**33**	⇓*e*P	**Pn**	**03 59 38.4**	**+0.9**
BCIP	**Isla Barro Col**	**4.90**	**33**	*e*Pn	**Pn**	**03 59 38.2**	**+0.7**
	503nm,0.5s						
UPIG		**4.93**	**37**	⇓*i*P	**Pn**	**03 59 38.5**	**+0.6**
UPIG				*e*S	**Sn**	**04 00 35.4**	**+0.3**
URSC	**Urasca**	**4.93**	**345**	⇑*e*P	**Pn**	**03 59 36.5**	**-1.4**
LIO	**Limon**	**4.97**	**354**	⇓*e*P	**Pn**	**03 59 38.4**	**-0.1**
SJS	**Escuela Geolog**	**5.11**	**343**	⇓*e*P	**Pn**	**03 59 39.3**	**-1.1**
SJS				*e*S	**Sn**	**04 00 37.8**	**-1.8**
PRS1	**Puriscal**	**5.23**	**340**	⇓*i*P	**Pn**	**03 59 39.0**	**-3.1**
CGA2	**Cerro Gallo 2**	**5.32**	**339**	⇓*e*P	**Pn**	**03 59 41.7**	**-1.5**
CGA2				*e*S	**Sn**	**04 00 43.8**	**-0.9**
JCR	**Jicaral**	**5.43**	**332**	⇑*e*P	**Pn**	**03 59 42.2**	**-2.7**
UPD1	**Univ de Panama**	**5.68**	**52**	⇑*i*P	**Pn**	**03 59 52.2**	**+4.0**
JTS	**JuntasAbangare**	**5.75**	**335**	Pn	**Pn**	**03 59 47.9**	**-1.4**
	302nm,0.3s,baz=146,slow=7.0,SNR=74						
JTS				Sn

48nm,1.0s
OXX Oaxaca 18.36 312 *i* P **Pn** **04 02 40.0 +1.3**
VHO Vista Hermosa 18.36 312 *i* P **Pn** **04 02 40.2 +1.5**
PNIG Pinotepa 19.02 308 *i* P **Pn** **04 02 46.1 -0.7**
AGPR Aguadilla, PR 20.12 47 *eP* **P** **04 02 59.6 +1.5**
SJG San Juan 20.62 50 *eP* **P** **04 03 04.9 +1.4**
SJG pmax pmax
comp=Z,362nm,1.1s
SJG San Juan 20.62 50 *eP* **P** **04 03 04.9 +1.4**
comp=Z,362nm,1.1s
PPM Popocatepetl 21.01 313 *i* P **P** **04 03 10.2 +2.5**
MTP Monte Pirata 21.07 51 *eP* **P** **04 03 07.9 -0.4**
CAIG El Cayaco 21.09 306 *i* P **P** **04 03 07.6 -1.0**
PLIG Platanillo 21.25 310 *i* P **P** **04 03 11.5 +1.2**
IIO Organos 21.41 314 *i* P **P** **04 03 14.0 +1.9**
PBVM Pinon 21.58 313 *i* P **P** **04 03 14.0 +0.1**
PTVM Pico Tres Padr 21.70 313 *i* P **P** **04 03 16.9 +1.7**
ZIIG Zihuatanejo 22.36 306 *i* P **P** **04 03 19.9 -2.3**
DWPF Disney 22.98 2 *eP* **P** **04 03 29.9 +1.2**
comp=Z,247nm,1.1s,mb5.5
MOIG Morelia 23.29 310 *i* P **P** **04 03 32.9 +0.8**
ARE Arequipa 23.98 153 *eP* **P** **04 03 38.0 -0.7**
LPAZ La Paz 25.52 146 P **P** **04 03 51.4 -1.4**
comp=Z,10nm,0.7s,mb4.5,baz=338,slow=11,SNR=49
LPAZ LR LR 04 15 01.9
comp=Z,2µm,19.7s,MS4.7,baz=298,slow=39
LPAZ La Paz 25.52 146 *eP* **P** **04 03 51.5 -1.3**
LPAZ pmax pmax
comp=Z,16nm,0.8s
LPAZ La Paz 25.52 146 *eP* **P** **04 03 51.5 -1.3**
comp=Z,16nm,0.8s,mb4.6
BRAL Brewton 26.19 351 *eP* **P** **04 03 59.8 +1.0**
comp=Z,222nm,1.3s,mb5.5
ZAIG Zacatecas 26.19 314 *i* P **P** **04 03 59.5 +0.7**
KVTX Kingsville 26.75 328 *eP* **P** **04 04 03.2 -0.6**
comp=Z,182nm,1.4s,mb5.4
HKT Hockley 27.79 335 *eP* **P** **04 04 12.3 -0.9**
HKT pmax pmax
comp=Z,53nm,1.3s,mb5.0
HKT Hockley 27.79 335 *eP* **P** **04 04 12.3 -0.9**
comp=Z,53nm,1.3s,mb5.0
NHSC New Hope 28.02 4 *eP* **P** **04 04 15.6 +0.4**
comp=Z,79nm,1.0s,mb5.3
LRAL Lakeview Retre 28.17 352 *eP* **P** **04 04 16.1 -0.5**
comp=Z,50nm,0.9s,mb5.2
GOGA Godfrey 28.25 358 *eP* **P** **04 04 16.9 -0.3**
GOGA pmax pmax
comp=Z,37nm,1.3s,mb4.8
GOGA Godfrey 28.25 358 *eP* **P** **04 04 16.9 -0.4**
comp=Z,37nm,1.3s,mb4.8
NATX Nacogdoches 28.93 338 *eP* **P** **04 04 22.5 -0.7**
comp=Z,126nm,1.4s,mb5.5
JSC Jenkinsville 29.13 2 *eP* **P** **04 04 25.2 +0.2**
SIV San Ignacio 29.78 135 P **P** **04 04 29.1 -1.9**
comp=Z,12nm,1.0s,mb4.6,baz=305,slow=9.3,SNR=31
OXF Oxford 30.02 349 *eP* **P** **04 04 31.6 -1.3**
OXF pmax pmax
comp=Z,126nm,1.1s,mb5.6
OXF Oxford 30.02 349 *eP* **P** **04 04 31.6 -1.3**
comp=Z,126nm,1.1s,mb5.6
JCT Junction City 30.10 329 *eP* **P** **04 04 33.4 -0.3**
JCT pmax pmax
comp=Z,24nm,1.0s,mb4.9
JCT Junction City 30.10 329 *eP* **P** **04 04 33.4 -0.3**
comp=Z,24nm,1.0s,mb4.9
SWET Sewanee 30.20 354 *eP* **P** **04 04 33.5 -1.1**
CPCT Cooper Cave 30.33 357 *eP* **P** **04 04 35.3 -0.4**
CNNC Cliffs of the 30.36 8 *eP* **P** **04 04 36.0 0.0**
comp=Z,34nm,1.0s,mb5.0
TKL Tuckaleechee C 30.50 358 *eP* **P** **04 04 36.9 -0.2**
LVC Limon Verde 30.53 155 P **P** **04 04 36.3 -1.2**
comp=Z,10nm,1.1s,mb4.6,baz=332,slow=7.2,SNR=4.9
LVC Limon Verde 30.53 155 *eP* **P** **04 04 36.3 -1.2**
comp=Z,35nm,1.5s,mb5.0
UALR University of 30.96 344 *eP* **P** **04 04 39.9 -1.3**
comp=Z,39nm,1.1s,mb5.2
MIAR Mount Ida 31.10 342 *eP* **P** **04 04 40.9 -1.6**
MIAR pmax pmax
comp=Z,40nm,1.3s,mb5.1
MIAR Mount Ida 31.10 342 *eP* **P** **04 04 40.9 -1.6**
comp=Z,40nm,1.3s,mb5.1
HBAR Harrisburg 31.29 347 *eP* **P** **04 04 43.8 -0.4**
WVT Waverly 31.33 352 *eP* **P** **04 04 42.7 -1.8**
WVT pmax pmax
comp=Z,51nm,1.0s,mb5.3
WVT Waverly 31.33 352 *eP* **P** **04 04 42.7 -1.7**
comp=Z,51nm,1.0s,mb5.3
HALT Halls 31.36 349 *eP* **P** **04 04 43.9 -0.9**
TZTN Tazewell 31.38 358 *eP* **P** **04 04 44.7 -0.2**
comp=Z,42nm,1.1s,mb5.2
TXAR Lajitas Array 31.38 323 P **P** **04 04 45.0 0.0**
comp=Z,7.4nm,1.1s,mb4.5,baz=145,slow=8.9,SNR=38
TXAR LR LR 04 18 36.2
comp=Z,443nm,19.5s,MS4.1,baz=185,slow=39
GNAR Gosnell 31.55 348 *eP* **P** **04 04 45.8 -0.6**
comp=Z,µm,1.2s
UTMT University of 31.70 350 *eP* **P** **04 04 47.1 -0.7**
comp=Z,265nm,1.0s,mb6.0
BLA Blacksburg 32.09 3 *eP* **P** **04 04 51.7 +0.6**
BLA pmax pmax
comp=Z,50nm,1.0s,mb5.3
BLA Blacksburg 32.09 3 *eP* **P** **04 04 51.7 +0.6**
comp=Z,50nm,1.0s,mb5.3
ELN Prospectdale 32.09 3 *eP* **P** **04 04 51.6 +0.5**
PARMO Parma 32.17 349 *eP* **P** **04 04 51.3 -0.6**
URVA University of 32.71 7 *eP* **P** **04 04 56.8 +0.3**
SIUC Southern Illin 33.10 350 *eP* **P** **04 04 59.0 -1.0**
comp=Z,119nm,1.1s,mb5.7
USIN University of 33.12 353 *eP* **P** **04 04 59.3 -0.8**
comp=Z,162nm,1.2s,mb5.8
WCI Wyandotte Cave 33.22 355 *eP* **P** **04 04 59.6 -1.4**
WCI *e* 04 07 44.7
WCI pmax pmax
comp=Z,138nm,1.4s,mb5.7
WCI Wyandotte Cave 33.22 355 *eP* **P** **04 04 59.6 -1.5**
comp=Z,138nm,1.4s,mb5.7
WCI *e*PcP PcP 04 07 44.6 +1.0
CBN Corbin 33.35 7 *eP* **P** **04 05 03.0 +0.8**
comp=Z,36nm,0.9s,mb5.3
FVM French Village 33.58 349 *eP* **P** **04 05 02.2 -2.0**
FVM pmax pmax
comp=Z,84nm,1.4s,mb5.5
FVM French Village 33.58 349 *eP* **P** **04 05 02.1 -2.0**
comp=Z,84nm,1.4s,mb5.5
CCM Cathedral Cave 33.82 348 *eP* **P** **04 05 04.4 -1.9**
CCM pmax pmax
comp=Z,108nm,1.2s,mb5.7
CCM Cathedral Cave 33.82 348 *eP* **P** **04 05 04.4 -1.9**
comp=Z,108nm,1.2s,mb5.7
OLIL Olney 33.93 352 *eP* **P** **04 05 05.5 -1.7**
comp=Z,179nm,1.3s,mb5.8
SLM Saint Louis 34.18 349 *eP* **P** **04 05 08.1 -1.3**
SLM pmax pmax
comp=Z,63nm,0.8s,mb5.6
SLM Saint Louis 34.18 349 *eP* **P** **04 05 08.1 -1.2**
comp=Z,62nm,0.8s,mb5.6
BLO Bloomington 34.18 354 *eP* **P** **04 05 08.3 -1.1**
BLO pmax pmax
comp=Z,36nm,0.8s,mb5.3
BLO Bloomington 34.18 354 *eP* **P** **04 05 08.3 -1.1**
comp=Z,36nm,0.8s,mb5.4
MCWV Mont Chateau 34.56 4 *eP* **P** **04 05 12.2 -0.4**
comp=Z,40nm,1.1s,mb5.3
AMTX Amarillo 34.59 332 *eP* **P** **04 05 12.7 -0.3**
comp=Z,23nm,1.0s,mb5.1
SDMD Soldier's Deli 34.61 8 *eP* **P** **04 05 13.7 +0.6**
comp=Z,45nm,1.0s,mb5.3
ACSO Alum Creek Sta 35.05 359 *eP* **P** **04 05 16.0 -0.9**
comp=Z,26nm,0.8s,mb5.2
SSPA Standing Stone 35.69 6 *eP* **P** **04 05 22.7 +0.3**
comp=Z,56nm,1.1s,mb5.4
HDIL Hopedale 35.89 351 *eP* **P** **04 05 22.7 -1.4**
comp=Z,55nm,0.9s,mb5.5
KSU1 Kansas State U 36.24 341 *eP* **P** **04 05 26.2 -1.0**
comp=Z,127nm,1.3s,mb5.7
319A Douglas 36.30 319 ⇑P **P** **04 05 28.7 +0.9**
baz=36,SNR=15
BNM Barren Site 36.60 325 *eP* **P** **04 05 31.3 +1.0**
BNM *e*PP PP 04 06 55.9 +2.2
219A White Tail Can 36.69 320 P **P** **04 05 32.0 +0.9**
baz=37,SNR=56
LPM Los Pinos Moun 36.72 326 *eP* **P** **04 05 32.2 +0.9**
318A Bisbee 36.80 319 ⇑P **P** **04 05 32.6 +0.5**
baz=37,SNR=32
LENM Lemitar 36.81 325 *eP* **P** **04 05 32.8 +0.7**
LAZ Ladron 37.08 325 *eP* **P** **04 05 35.3 +0.9**
LAZ *e*PP PP 04 06 57.8 -1.1
CBKS Cedar Bluff 37.08 337 *eP* **P** **04 05 33.9 -0.4**
CBKS pmax pmax
comp=Z,87nm,1.2s,mb5.5
CBKS Cedar Bluff 37.08 337 *eP* **P** **04 05 33.9 -0.4**
comp=Z,87nm,1.2s,mb5.5
ANMO Albuquerque 37.10 326 *eP* **P** **04 05 35.1 +0.6**
ANMO pmax pmax
comp=Z,104nm,1.3s
ANMO Albuquerque 37.10 326 *eP* **P** **04 05 35.1 +0.6**
comp=Z,104nm,1.3s,mb5.5
218A Dragoon 37.18 319 ⇓P **P** **04 05 36.0 +0.7**
baz=37,SNR=18
119A Ashpeak Ranch, 37.23 321 ⇓P **P** **04 05 36.7 +1.0**
baz=37,SNR=31
BINY Binghamton 37.47 8 *eP* **P** **04 05 37.4 -0.1**
comp=Z,84nm,1.2s,mb5.5
217A Green Valley 37.56 319 ⇑P **P** **04 05 39.1 +0.6**
baz=38,SNR=39
Z19A T-Link Ranch, 37.56 322 ⇓P **P** **04 05 39.4 +0.9**
baz=38,SNR=7.5
118A Homack Ranch, 37.57 320 ⇓P **P** **04 05 39.1 +0.6**
baz=38,SNR=50
TUC Tucson 37.88 319 *eP* **P** **04 05 41.4 +0.2**
TUC pmax pmax
comp=Z,39nm,1.4s,mb4.9
TUC Tucson 37.88 319 *eP* **P** **04 05 41.4 +0.2**
comp=Z,39nm,1.4s,mb5.0
Z18A Geronimo 37.90 321 ⇑P **P** **04 05 42.2 +0.8**
baz=38,SNR=9.4
SCIA State Center 37.94 347 *eP* **P** **04 05 40.0 -1.6**
comp=Z,28nm,0.8s,mb5.0
Y19A Nutrioso 38.01 323 ⇑P **P** **04 05 43.6 +1.4**
baz=38,SNR=30
117A Oracle 38.02 320 ⇑P **P** **04 05 42.8 +0.5**
baz=38,SNR=63
216A Three Points, 38.12 318 ⇓P **P** **04 05 43.7 +0.5**
baz=38,SNR=11
Z17A San Carlos Hig 38.31 321 ⇑P **P** **04 05 45.5 +0.6**
baz=38,SNR=28
JFWS Jewell Farm 38.34 351 *eP* **P** **04 05 42.7 -2.2**
JFWS *e* 04 07 13.0
JFWS pmax pmax
comp=Z,26nm,1.0s,mb4.9
JFWS Jewell Farm 38.34 351 *eP* **P** **04 05 42.7 -2.2**
comp=Z,26nm,1.0s,mb4.9
JFWS *e*PP PP 04 07 13.0 +0.3
X19A St. Johns 38.35 323 ⇑P **P** **04 05 46.4 +1.2**
baz=38,SNR=55
Y18A Canyon Day Jun 38.36 322 ⇓P **P** **04 05 46.1 +0.9**
baz=38,SNR=68
116A Eloy 38.64 319 ⇑P **P** **04 05 48.1 +0.6**
baz=39,SNR=22
SDCO Great Sand Dun 38.73 330 ⇑*i*P **P** **04 05 49.4 +1.2**
comp=Z,111nm,1.3s,mb5.4
SDCO *e*PP PP 04 07 15.5 -1.4
Y17A Roosevelt 38.81 321 P **P** **04 05 49.7 +0.7**
baz=39,SNR=19
X18A Snowflake 38.82 323 ⇓P **P** **04 05 50.2 +1.2**
baz=39,SNR=49
W19A Sanders 38.88 324 ⇑P **P** **04 05 51.0 +1.4**
baz=39,SNR=6.3
CFAA Coronel Fontan 38.89 160 P **P** **04 05 47.5 -2.2**
comp=Z,0.4nm,0.8s,baz=314,slow=7.5,SNR=7.3
Z16A Peralta Trail, 38.95 320 ⇑P **P** **04 05 50.8 +0.6**
baz=39
ACCN Adirondack Com 38.99 10 *eP* **P** **04 05 50.5 +0.1**
comp=Z,40nm,1.0s,mb5.1
214A Organ Pipe Nat 39.01 317 ⇓P **P** **04 05 51.3 +0.6**
baz=39,SNR=14
115A Sonoran Desert 39.07 318 ⇑P **P** **04 05 52.0 +0.8**
baz=39,SNR=7.8
W18A Petrified Fore 39.09 324 ⇑P **P** **04 05 52.8 +1.4**
baz=39,SNR=21
V19A Window Rock 39.10 325 ⇓P **P** **04 05 52.8 +1.3**
baz=39,SNR=9.1
X17A Forest Lakes 39.21 322 ⇓P **P** **04 05 53.8 +1.5**
baz=39,SNR=15
Y16A Circle Bar Ran 39.33 321 P **P** **04 05 54.5 +1.1**
baz=40,SNR=74
Z15A Gila River Ind 39.39 319 ⇓P **P** **04 05 54.4 +0.5**
baz=40
CPUP Villa Florida 39.60 143 P **P** **04 05 52.3 -3.4**
comp=Z,4.5nm,0.8s,mb4.2,baz=312,slow=10,SNR=9.5
CPUP LR LR 04 23 32.3
comp=Z,1µm,20.0s,MS4.7,baz=301,slow=38
CPUP Villa Florida 39.60 143 *eP* **P** **04 05 51.9 -3.8**
CPUP pmax pmax
comp=Z,26nm,1.0s
CPUP Villa Florida 39.60 143 *eP* **P** **04 05 51.9 -3.8**
comp=Z,26nm,1.0s,mb4.9
V18A Ganado 39.62 324 ⇑P **P** **04 05 56.5 +0.8**
baz=40,SNR=22
W17A Winslow 39.65 323 ⇑P **P** **04 05 56.9 +0.9**
baz=40,SNR=5.6
X16A Lo Mia Camp, P 39.66 321 P **P** **04 05 57.1 +1.1**
baz=40,SNR=56
MDV Middlebury 39.67 11 *eP* **P** **04 05 56.4 +0.4**
OGNE Ogallala 39.81 337 *eP* **P** **04 05 57.5 +0.2**
comp=Z,258nm,1.6s,mb5.7
BDFB Brasilia 39.86 122 P **P** **04 05 56.0 -2.1**
comp=Z,2.0nm,1.0s,baz=265,slow=16,SNR=4.9
BDFB LR LR 04 22 54.5
comp=Z,814nm,18.7s,MS4.6,baz=110,slow=37
MVCO Mesa Verde 39.88 327 ⇓P **P** **04 05 58.9 +1.1**
baz=40,SNR=46
MVCO Mesa Verde 39.88 327 ⇑*i*P **P** **04 05 58.5 +0.7**
comp=Z,198nm,1.4s,mb5.7
T19A Beclabito 39.89 326 ⇑P **P** **04 05 58.7 +0.8**
baz=40,SNR=31
Y15A Casa Rosa Ranc 39.92 320 ⇑P **P** **04 05 58.8 +0.5**
baz=40,SNR=26
Z14A Wintersburg 39.95 319 ⇑P **P** **04 05 59.2 +0.6**
baz=40,SNR=14
LONY Lake Ozonia 40.04 9 *eP* **P** **04 05 58.4 -0.7**
comp=Z,50nm,1.3s,mb5.1
U18A Rough Rock, Ch 40.08 325 ⇑P **P** **04 06 00.2 +0.7**
baz=40,SNR=7.7
113A Mohawk Valley, 40.14 317 ⇑P **P** **04 06 00.4 +0.3**
baz=40,SNR=22
W16A Flagstaff 40.16 322 ⇓P **P** **04 06 01.5 +1.2**
baz=40,SNR=17
X15A Humboldt 40.20 321 ⇓P **P** **04 06 01.4 +0.8**
baz=40,SNR=51
WUAZ Wupatki 40.34 323 P **P** **04 06 03.1 +1.3**
baz=40,SNR=24
WUAZ Wupatki 40.34 323 ⇑*i*P **P** **04 06 03.0 +1.2**
comp=Z,132nm,1.2s,mb5.5
Y14A Wickenburg 40.35 319 ⇓P **P** **04 06 02.4 +0.5**
baz=40,SNR=16
ISCO Idaho Springs 40.40 332 ⇑*i*P **P** **04 06 02.9 +0.7**
ISCO pmax pmax
comp=Z,27nm,1.1s,mb4.9
ISCO Idaho Springs 40.40 332 ⇑*i*P **P** **04 06 02.9 +0.7**
comp=Z,27nm,1.1s,mb4.9
FRNY Flat Rock 40.41 10 *eP* **P** **04 06 01.7 -0.5**
comp=Z,66nm,1.4s,mb5.2
ECSD EROS,Sioux Fal 40.50 344 *eP* **P** **04 06 00.9 -2.0**
comp=Z,65nm,1.4s,mb5.1
112A Yuma 40.55 316 ⇑P **P** **04 06 03.9 +0.4**
baz=41
T18A Mexican Hat 40.58 326 ⇓P **P** **04 06 04.1 +0.3**
baz=41,SNR=21
PV01 Paradox Valley 40.59 328 *eP* **P** **04 06 04.8 +1.0**
X14A Yava 40.61 320 ⇓P **P** **04 06 04.8 +0.9**
baz=41,SNR=40
S19A Harvey Farm, M 40.61 327 P **P** **04 06 04.6 +0.7**
baz=41,SNR=30
U16A Tuba City 40.62 323 ⇑P **P** **04 06 05.1 +1.0**
baz=41,SNR=30
U17A Shonto 40.66 324 ⇓P **P** **04 06 05.4 +1.0**
baz=41,SNR=19
W15A Williams 40.67 321 P **P** **04 06 06.0 +1.5**
baz=41,SNR=19
Y13A Salome 40.81 319 ⇓P **P** **04 06 06.3 +0.7**
baz=41,SNR=22
T17A Navajo Res., N 41.01 325 ⇑P **P** **04 06 08.4 +1.2**
baz=41,SNR=47
PV10 Paradox Valley 41.02 328 *eP* **P** **04 06 07.6 +0.3**
GLA Glamis 41.02 317 *eP* **P** **04 06 07.7 +0.3**
GLA pmax pmax
comp=Z,46nm,1.3s,mb5.0
GLA Glamis 41.02 317 ⇓P **P** **04 06 07.9 +0.5**
baz=41,SNR=5.6
GLA Glamis 41.02 317 *eP* **P** **04 06 07.7 +0.3**
comp=Z,46nm,1.3s,mb5.0
V15A Kaibab Nationa 41.03 322 ⇑P **P** **04 06 09.0 +1.6**
baz=41,SNR=91
S18A Hurst Farm, Bl 41.04 326 P **P** **04 06 08.2 +0.7**
baz=41,SNR=20
W14A Seligman 41.20 321 ⇑P **P** **04 06 10.0 +1.2**
baz=41,SNR=31
Y12C Blythe 41.23 318 ⇑P **P** **04 06 09.6 +0.4**
baz=41,SNR=7.4
X13A Yucca 41.29 319 ⇓P **P** **04 06 10.0 +0.4**
baz=41,SNR=19
PDMCI Parker Dam,Lak 41.31 319 P **P** **04 06 10.3 +0.5**
baz=42,SNR=5.8
T16A Glen Canyon Da 41.41 324 ⇓P **P** **04 06 11.7 +1.1**
baz=42,SNR=26
S17A Black Ridge (B 41.46 325 ⇑P **P** **04 06 11.6 +0.6**
baz=42,SNR=26
V14A Boquillas Ranc 41.48 321 P **P** **04 06 12.7 +1.5**
baz=42,SNR=75
R18A Canyonlands Na 41.49 327 P **P** **04 06 11.2 +0.1**
baz=42,SNR=24
U15A North Rim 41.50 323 P **P** **04 06 12.8 +1.5**
baz=42,SNR=85
PHWY Pilot Hill 41.54 334 *eP* **P** **04 06 12.1 +0.5**
comp=Z,53nm,1.5s,mb5.0
Q19A Hogan Spring (41.56 328 ⇑P **P** **04 06 12.2 +0.4**
baz=42,SNR=32
W13A Hualapai Mount 41.64 320 ⇑P **P** **04 06 13.5 +1.0**
baz=42,SNR=19
BC3 Big Chuckw Mtn 41.80 317 P **P** **04 06 14.4 +0.5**
baz=42,SNR=11
IRM Iron Mountain 41.89 318 P **P** **04 06 15.0 +0.4**
baz=42,SNR=13
P19A Cripple Cowboy 41.92 329 ⇑P **P** **04 06 14.9 +0.2**
baz=42
T15A Red Dirt Ranch 41.95 323 ⇑P **P** **04 06 16.1 +1.2**
baz=42,SNR=38
R17A Hanksville Air 41.96 326 ⇓P **P** **04 06 15.5 +0.5**
baz=42,SNR=42
S16A Weppner Ranch, 41.97 325 P **P** **04 06 16.0 +0.8**
baz=42,SNR=57
U14A Mt Trumbull 42.04 322 P **P** **04 06 17.0 +1.3**
baz=42,SNR=32
Q18A Rafter H Ranch 42.13 327 ⇑P **P** **04 06 16.9 +0.4**
baz=42,SNR=56
V13A Grand Canyon W 42.17 321 ⇓P **P** **04 06 17.6 +0.8**
baz=42,SNR=40
R16A Teasdale 42.30 326 ⇓P **P** **04 06 18.7 +0.9**
baz=42,SNR=32
SRU San Rafael 42.35 327 ⇑*i*P **P** **04 06 18.5 +0.3**
SRU pmax pmax
comp=Z,59nm,1.2s,mb5.1
SRU San Rafael 42.35 327 ⇑P **P** **04 06 18.7 +0.5**
baz=42,SNR=48
SRU San Rafael 42.35 327 ⇑*i*P **P** **04 06 18.5 +0.3**
comp=Z,59nm,1.2s,mb5.1
BELC Belle Mtn. 42.37 317 ⇑P **P** **04 06 18.9 +0.4**
baz=42,SNR=16
S15A Panguitch 42.38 324 ⇑P **P** **04 06 19.5 +1.0**
baz=42,SNR=15
W12A Cal Nev Ari 42.40 320 ⇓P **P** **04 06 19.0 +0.4**
baz=42
T14A Hurricane 42.40 323 ⇑P **P** **04 06 19.8 +1.1**
baz=43,SNR=33
LDFC Landfair 42.42 319 *eP* **P** **04 06 19.9 +1.1**
comp=Z,53nm,1.3s,mb5.0
PFO Pinyon Flat Ob 42.46 316 P **P** **04 06 19.9 +0.7**
comp=Z,97nm,1.4s,mb5.2,SNR=7.1
PFO Pinyon Flat Ob 42.46 316 P **P** **04 06 19.7 +0.5**
comp=Z,10.0nm,1.0s,mb4.4,baz=128,slow=6.4,SNR=12
PFO Pinyon Flat Ob 42.46 316 ⇑*i*P **P** **04 06 19.5 +0.3**
PFO pmax pmax
comp=Z,57nm,1.6s,mb5.0
PFO Pinyon Flat Ob 42.46 316 ⇓P **P** **04 06 19.6 +0.4**
baz=43,SNR=6.3
PFO Pinyon Flat Ob 42.46 316 ⇑*i*P **P** **04 06 19.5 +0.3**
comp=Z,57nm,1.6s,mb5.0
O19A Miners Draw (B 42.49 330 ⇓P **P** **04 06 19.6 +0.3**
baz=43,SNR=16
109C Camp Elliot, M 42.51 315 ⇑P **P** **04 06 19.8 +0.2**
baz=43
U13A Pakoon Wash 42.52 321 P **P** **04 06 20.8 +1.1**
baz=43,SNR=44
Q16A Castle Valley 42.57 326 ⇓P **P** **04 06 20.5 +0.6**
baz=43,SNR=17
P18A Preston Nutter 42.58 328 ⇑P **P** **04 06 20.9 +0.8**
baz=43,SNR=22
GMRC Granite Mounta 42.60 318 P **P** **04 06 20.8 +0.5**
baz=43,SNR=9.4
RWWY Rawlins 42.64 332 ⇑*i*P **P** **04 06 21.2 +0.7**
comp=Z,88nm,1.1s,mb5.4
V12A Nelson 42.65 320 ⇑P **P** **04 06 21.2 +0.6**
baz=43,SNR=35
P17A Butcher Ranch, 42.73 327 ⇑P **P** **04 06 21.7 +0.4**
baz=43,SNR=14
MSU Marysvale 42.85 325 *eP* **P** **04 06 22.7 +0.4**
TMUT Trail Mountain 42.85 327 *eP* **P** **04 06 23.1 +0.8**
T13A Saint George 42.87 322 P **P** **04 06 23.6 +1.1**
baz=43,SNR=32
U12A Valley of Fire 42.89 321 ⇓P **P** **04 06 23.3 +0.7**
baz=43
CCUT Cedar City 42.89 323 ⇑*i*P **P** **04 06 23.9 +1.3**
S14A Cedar City 42.91 324 P **P** **04 06 23.9 +1.1**
baz=43,SNR=20
O18A Roosevelt 42.92 329 P **P** **04 06 23.9 +1.1**
baz=43,SNR=29
N19A John Jarvie Ra 42.97 330 P **P** **04 06 23.3 +0.1**
baz=43,SNR=21
MURC Murrieta 42.97 316 P **P** **04 06 23.7 +0.4**
baz=43,SNR=7.1
HEC Hector,Ludlow 43.08 318 ⇓P **P** **04 06 24.7 +0.5**
baz=43
V11A Goodsprings 43.09 320 P **P** **04 06 24.9 +0.6**
baz=43,SNR=15
ARUT Antelope Range 43.09 323 *eP* **P** **04 06 25.3 +1.0**
BBRC Big Bear Sol-O 43.15 317 ⇑P **P** **04 06 25.4 +0.6**
baz=43
TUQ Turquoise Moun 43.16 319 ⇓P **P** **04 06 25.4 +0.5**
baz=43
T12A Moapa 43.18 321 ⇑P **P** **04 06 25.9 +0.9**
baz=43,SNR=7.4
R14A James Farms, M 43.19 324 ⇑P **P** **04 06 25.6 +0.6**
baz=43,SNR=6.2
S13A Holt Ranch, En 43.21 323 ⇑P **P** **04 06 26.0 +0.8**
baz=43,SNR=83
O17A Robinson Place 43.25 328 P **P** **04 06 26.4 +0.9**
baz=43,SNR=27
N18A Larsen Ranch, 43.28 330 ⇑P **P** **04 06 26.1 +0.5**
baz=44,SNR=21
Q15A Fillmore 43.30 326 ⇑P **P** **04 06 26.6 +0.7**
baz=44,SNR=21
P16A Fountain Green 43.32 327 ⇓P **P** **04 06 26.9 +0.8**
baz=44,SNR=7.7
U11A Corn Creek 43.41 320 ⇓P **P** **04 06 27.7 +0.8**
baz=44
EYMN Ely 43.44 351 *eP* **P** **04 06 25.0 -1.9**
comp=Z,20nm,1.0s,mb4.8
RRX Edison Barstow 43.55 318 ⇑P **P** **04 06 28.3 +0.2**
baz=44
MPU Maple Canyon 43.60 327 ⇑*i*P **P** **04 06 28.5 +0.2**
comp=Z,30nm,1.1s,mb4.9
P15A Leamington 43.64 326 ⇓P **P** **04 06 29.2 +0.5**
baz=44
O16A Springville 43.66 327 ⇑P **P** **04 06 29.4 +0.6**
baz=44,SNR=16
R13A O'Grain Ranch, 43.66 323 P **P** **04 06 30.5 +1.6**
baz=44,SNR=31
GSC Goldstone 43.67 318 *eP* **P** **04 06 29.0 +0.1**
GSC pmax pmax
comp=Z,75nm,1.5s,mb5.2
GSC Goldstone 43.67 318 ⇓P **P** **04 06 29.4 +0.5**
baz=44,SNR=10
GSC Goldstone 43.67 318 *eP* **P** **04 06 29.0 0.0**
comp=Z,75nm,1.5s,mb5.2
SHOC Shoshone 43.67 319 P **P** **04 06 29.5 +0.5**
baz=44,SNR=8.2
DAU Daniels Canyon 43.68 328 *eP* **P** **04 06 29.3 +0.3**
NLU North Lily Min 43.79 327 *eP* **P** **04 06 29.7 -0.2**
Q14A Sevier Lake (B 43.80 325 ⇑P **P** **04 06 31.0 +1.0**
baz=44,SNR=51
T11A Corn Creek, Al 43.82 321 ⇑P **P** **04 06 30.9 +0.7**
baz=44,SNR=28
S12A Delamar Landin 43.82 322 ⇑P **P** **04 06 30.8 +0.7**
baz=44,SNR=17
N17A Moffit Pass 43.84 329 ⇓P **P** **04 06 31.1 +0.8**
baz=44,SNR=14
MWC Mount Wilson 43.91 316 *eP* **P** **04 06 31.3 +0.4**
MWC pmax pmax
comp=Z,53nm,1.4s,mb5.1
MWC Mount Wilson 43.91 316 *eP* **P** **04 06 31.3 +0.4**
comp=Z,53nm,1.4s,mb5.1

JLU **Jordanelle** 43.92 328 *eP* P 04 06 31.2 +0.3
U10A **Ash Meadows, A** 44.02 320 ⇑P P 04 06 32.7 +0.9
baz=44,SNR=12
P14A **Drum Mountains** 44.09 326 P P 04 06 33.4 +1.1
baz=44,SNR=53
DECC **Green Verdugo** 44.11 316 ⇓P P 04 06 33.0 +0.4
baz=44
N16A **Rees Ranch, Co** 44.12 328 ⇑P P 04 06 33.3 +0.9
baz=44,SNR=8.0
R12A **Pony Springs,** 44.14 323 ⇑P P 04 06 33.9 +1.2
baz=44,SNR=26
Q13A **Wheeler Ranch,** 44.21 324 ⇑P P 04 06 34.1 +0.9
baz=44,SNR=36
EDW2 **Edwards Air Fo** 44.22 317 P P 04 06 33.5 +0.1
baz=44,SNR=15
O15A **The Old Anders** 44.24 327 ⇑P P 04 06 34.2 +0.8
baz=44,SNR=20
TPNV **Topopah Spring** 44.28 320 ⇑*i*P P 04 06 34.8 +0.9
TPNV pmax pmax
comp=Z,59nm,1.4s,mb5.1
TPNV **Topopah Spring** 44.28 320 P P 04 06 34.9 +1.0
baz=44,SNR=25
TPNV **Topopah Spring** 44.28 320 ⇑*i*P P 04 06 34.8 +0.9
comp=Z,58nm,1.4s,mb5.1
NOQ **North Oquirrh** 44.31 327 *eP* P 04 06 34.3 +0.3
comp=Z,108nm,1.3s,mb5.4
DUG **Dugway** 44.37 326 ⇑*i*P P 04 06 34.8 +0.3
DUG pmax pmax
comp=Z,39nm,1.4s,mb4.9
DUG **Dugway** 44.37 326 ⇑P P 04 06 34.8 +0.4
baz=44,SNR=22
DUG **Dugway** 44.37 326 ⇑*i*P P 04 06 34.8 +0.3
comp=Z,39nm,1.4s,mb5.0
FURC **Furnace Creek,** 44.39 319 ⇑P P 04 06 35.3 +0.5
baz=44,SNR=8.1
S11A **Rachel** 44.40 322 ⇑P P 04 06 36.0 +1.2
baz=44,SNR=26
M16A **Huntsville** 44.52 328 ⇑P P 04 06 35.9 +0.2
baz=45,SNR=9.8
P13A **Bates Ranch, G** 44.54 325 ⇓P P 04 06 36.9 +1.0
baz=45,SNR=35
MPMC **Manual Prospec** 44.56 319 ⇑P P 04 06 36.2 +0.1
baz=45,SNR=14
PDAR **Pinedale Array** 44.57 332 P P 04 06 36.0 -0.1
comp=Z,9.5nm,1.0s,mb4.6,baz=134,slow=8.5,SNR=59
PDAR LR LR 04 27 12.5
comp=Z,633nm,18.1s,MS4.6,baz=14,slow=39
BW06 **Boulder Array** 44.57 332 P P 04 06 36.0 -0.1
baz=45,SNR=28
BW06 **Boulder Array** 44.57 332 *eP* P 04 06 35.4 -0.7
comp=Z,50nm,1.5s,mb5.1
AGMN **Agassiz Refuge** 44.59 347 *eP* P 04 06 34.0 -2.1
comp=Z,20nm,1.1s,mb4.9
AGMN *ePP* PP 04 08 18.5 -1.7
N15A **Stansbury Isla** 44.69 327 P P 04 06 37.4 +0.3
baz=45,SNR=18
HWUT **Hardware Ranch** 44.70 329 ⇑*i*P P 04 06 37.1 -0.1
comp=Z,61nm,1.1s,mb5.3
HWUT *ePP* PP 04 08 20.9 -0.6
Q12A **Willow Creek R** 44.74 324 P P 04 06 38.2 +0.7
baz=45,SNR=24
R11A **Troy Canyon, C** 44.74 322 P P 04 06 38.4 +0.9
baz=45,SNR=58
L16A **Fish Haven** 44.93 329 ⇓P P 04 06 38.8 -0.2
baz=45,SNR=7.2
ARVC **Arvin** 44.93 317 ⇓P P 04 06 39.2 +0.1
baz=45,SNR=9.9
SPUT **South Promonto** 44.95 328 ⇑*i*P P 04 06 39.4 +0.2
O13A **Hicks Ranch, I** 44.97 326 ⇓P P 04 06 40.2 +0.9
baz=45,SNR=8.2
ISA **Isabella** 44.99 317 *eP* P 04 06 39.5 0.0
ISA pmax pmax
comp=Z,60nm,1.8s,mb5.1
ISA **Isabella** 44.99 317 ⇑P P 04 06 39.9 +0.4
baz=45,SNR=11
ISA **Isabella** 44.99 317 *eP* P 04 06 39.5 0.0
comp=Z,60nm,1.8s,mb5.1
BGU **Big Grassy Mou** 44.99 327 ⇑*i*P P 04 06 39.7 +0.2
N14A **Grayback Hills** 45.03 327 P P 04 06 40.2 +0.5
baz=45,SNR=68
GRAC **Grapevine Rang** 45.03 320 ⇓P P 04 06 40.6 +0.7
baz=45,SNR=29
M15A **Larsen Ranch,** 45.06 328 P P 04 06 40.2 +0.2
baz=45,SNR=32
P12A **McGill** 45.07 324 P P 04 06 41.0 +0.9
baz=45,SNR=24
S10A **Tonopah Range,** 45.10 321 ⇓P P 04 06 41.1 +0.7
baz=45,SNR=68
Q11A **Duckwater** 45.10 323 ⇓P P 04 06 41.0 +0.7
baz=45,SNR=30
R10A **Warm Springs** 45.14 322 ⇓P P 04 06 41.7 +1.0
baz=45,SNR=31
CWC **Cottonwood Cre** 45.17 319 ⇓P P 04 06 41.3 +0.3
baz=45,SNR=5.8
AHID **Auburn Hatcher** 45.32 330 *eP* P 04 06 41.9 -0.2
comp=Z,30nm,1.4s,mb4.9
S09A **Goldfield** 45.37 321 ⇑P P 04 06 42.6 0.0
baz=46,SNR=40
L15A **Malad City** 45.41 329 P P 04 06 42.6 -0.2
baz=46,SNR=37
HVU **Hansel Valley** 45.46 328 *eP* P 04 06 43.0 -0.2
HVU pmax pmax
comp=Z,104nm,1.8s,mb5.4
HVU **Hansel Valley** 45.46 328 *eP* P 04 06 43.0 -0.2
comp=Z,104nm,1.8s,mb5.4
PKM **Peak Mountain** 45.49 316 ⇑P P 04 06 43.8 +0.2
baz=46,SNR=8.2
O12A **Currie** 45.50 325 ⇓P P 04 06 44.1 +0.6
baz=46,SNR=33
VES **Vestal, Richgr** 45.50 317 P P 04 06 44.0 +0.4
baz=46,SNR=16
Q10A **Clear Creek Ra** 45.54 322 ⇑P P 04 06 44.6 +0.7
baz=46,SNR=41
M14A **Sheep Mountain** 45.57 327 ⇓P P 04 06 44.1 0.0
baz=46,SNR=33
TPH **Tonopah** 45.58 321 ⇑*i*P P 04 06 44.5 +0.3
TPH pmax pmax
comp=Z,87nm,1.4s,mb5.5
TPH **Tonopah** 45.58 321 ⇑*i*P P 04 06 44.5 +0.3
comp=Z,87nm,1.4s,mb5.5
N13A **Wendover, West** 45.59 326 ⇑P P 04 06 44.8 +0.6
baz=46,SNR=32
R09A **Tonopah** 45.59 321 ⇑P P 04 06 44.7 +0.4
baz=46,SNR=54
K16A **Soda Springs** 45.61 330 ⇑P P 04 06 44.4 +0.1
baz=46,SNR=11
P11A **Circle Ranch,** 45.61 324 ⇓P P 04 06 45.0 +0.6
baz=46
TIN **Tinemaha** 45.62 319 ⇓P P 04 06 45.2 +0.6
baz=46
REDW **Red Top Meadow** 45.64 331 ⇑*i*P P 04 06 44.4 -0.2
comp=Z,134nm,1.5s,mb5.7
SNOW **Snow King Moun** 45.67 331 *eP* P 04 06 44.9 0.0
comp=Z,68nm,1.4s,mb5.4
LOHW **Long Hollow** 45.71 331 *eP* P 04 06 44.9 -0.2
comp=Z,37nm,1.5s,mb5.1
LOHW *ePP* PP 04 08 30.9 -1.3
TPAW **Teton Pass** 45.79 331 *eP* P 04 06 45.2 -0.6
comp=Z,55nm,1.2s,mb5.4
SMMC **Simmler** 45.84 316 ⇓P P 04 06 46.6 +0.3
baz=46,SNR=8.2
RRI2 **Red Ridge** 45.86 331 ⇑*i*P P 04 06 46.4 +0.1
comp=Z,107nm,1.6s,mb5.5
MOOW **Moose Ponds** 45.88 331 *eP* P 04 06 46.3 -0.2
comp=Z,20nm,1.3s,mb4.9
MOOW *ePP* PP 04 08 35.7 +1.6
L14A **Malta** 45.88 328 P P 04 06 46.4 -0.1
baz=46,SNR=26
M13A **Montello** 45.91 327 P P 04 06 46.8 0.0
baz=46,SNR=14
HELL **Mitchell Peak** 45.93 318 P P 04 06 47.2 +0.2
baz=46,SNR=23
I17A **Pilgram Creek** 45.93 332 ⇓P P 04 06 47.5 +0.6
baz=46,SNR=14
O11A **Cowboy Ranch,** 45.93 324 ⇓P P 04 06 47.5 +0.5
baz=46,SNR=14
J16A **Bone** 45.95 330 P P 04 06 47.3 +0.3
baz=46,SNR=38
K15A **Arbon** 45.98 329 P P 04 06 47.2 0.0
baz=46,SNR=15
MTUM **Tungsten Hills** 46.01 319 *eP* P 04 06 47.9 +0.3
N12A **Clover Valley,** 46.05 326 ⇓P P 04 06 48.1 +0.2
baz=46,SNR=32
P10A **Eureka** 46.08 323 ⇑P P 04 06 48.8 +0.7
baz=46,SNR=13
IMW **Indian Meadow** 46.09 331 *eP* P 04 06 48.1 0.0
comp=Z,12nm,1.0s,mb4.8
ELK **Elko** 46.10 325 ⇑*i*P P 04 06 48.4 +0.2
ELK *e* 04 08 38.6
ELK pmax pmax
comp=Z,76nm,1.6s
ELK **Elko** 46.10 325 ⇑*i*P P 04 06 48.4 +0.2
comp=Z,76nm,1.6s,mb5.4
ELK *ePP* PP 04 08 38.5 +2.2
K14A **Jones Ranch, D** 46.21 329 ⇑P P 04 06 48.6 -0.5
baz=46,SNR=45
RLMT **Red Lodge** 46.26 334 ⇑P P 04 06 49.5 +0.1
baz=46,SNR=20
RLMT **Red Lodge** 46.26 334 ⇑*i*P P 04 06 49.3 -0.1
comp=Z,36nm,1.2s,mb5.2
LAO **LASA Array** 46.28 337 ⇑*i*P P 04 06 49.1 -0.4
comp=Z,145nm,1.4s,mb5.7
L13A **Double Diamond** 46.30 328 P P 04 06 49.3 -0.5
baz=46,SNR=15
R08A **Mina** 46.30 321 ⇑P P 04 06 50.6 +0.7
baz=46,SNR=7.2
LKWY **Lake** 46.34 332 *eP* P 04 06 51.2 +1.1
LKWY pmax pmax
comp=Z,11nm,1.0s,mb4.7
LKWY **Lake** 46.34 332 *eP* P 04 06 51.2 +1.1
comp=Z,12nm,1.0s,mb4.8
MLAC **Mammoth Lakes** 46.35 319 ⇓P P 04 06 50.9 +0.6
baz=46,SNR=6.5
M12A **Wells** 46.36 326 ⇓P P 04 06 49.9 -0.4
baz=46,SNR=11
N11A **Elko Archery C** 46.43 325 ⇓P P 04 06 51.2 +0.4
baz=47
P09A **Austin** 46.44 323 ⇑P P 04 06 51.5 +0.5
baz=47,SNR=5.3
ULM **Lac du Bonnet** 46.45 348 P P 04 06 49.0 -1.7
comp=Z,11nm,0.6s,mb4.9,baz=165,slow=8.0,SNR=15
ULM **Lac du Bonnet** 46.45 348 ⇑*i*P P 04 06 48.3 -2.4
comp=Z,28nm,1.1s,mb5.1
J15A **Blackfoot** 46.45 330 P P 04 06 51.2 +0.3
baz=47,SNR=38
YFT **Old Faithful** 46.46 332 *eP* P 04 06 52.0 +1.0
NVAR **Mina Array Bea** 46.48 321 P P 04 06 51.9 +0.7
comp=Z,24nm,0.9s,mb5.1,baz=135,slow=6.9,SNR=125
NVAR **Mina Array Bea** 46.48 321 P P 04 06 51.9 +0.7
KCC **Kaiser Creek** 46.49 319 ⇓P P 04 06 50.9 -0.4
baz=47,SNR=7.9
Q08A **Gabbs** 46.50 321 P P 04 06 51.8 +0.3
baz=47,SNR=30
O10A **Cortez Mining,** 46.53 324 ⇑P P 04 06 52.0 +0.4
baz=47,SNR=16
YMR **Madison River** 46.68 332 ⇑*i*P P 04 06 53.5 +0.7
comp=Z,88nm,1.4s,mb5.5
K13A **Stover Farm, H** 46.76 328 ⇑P P 04 06 53.0 -0.4
baz=47,SNR=11
N10A **Dunphy** 46.81 324 ⇑P P 04 06 54.0 +0.2
baz=47
H16A **Russell Place,** 46.84 332 P P 04 06 54.8 +0.8
baz=47,SNR=17
PLCA **Paso Flores** 46.85 168 P P 04 06 51.4 -2.7
comp=Z,5.6nm,1.0s,mb4.5,baz=347,slow=6.5,SNR=11
PLCA **Paso Flores** 46.85 168 *eP* P 04 06 50.4 -3.6
PLCA pmax pmax
comp=Z,29nm,1.6s
PLCA **Paso Flores** 46.85 168 *eP* P 04 06 50.4 -3.7
comp=Z,29nm,1.6s,mb5.0
M11A **Holland Ranch,** 46.86 326 ⇓P P 04 06 54.2 0.0
baz=47,SNR=9.3
I15A **Monteview** 46.91 330 ⇓P P 04 06 55.3 +0.7
baz=47,SNR=6.1
L12A **House Creek Ra** 46.91 327 P P 04 06 54.6 0.0
baz=47,SNR=22
TRQA **Tornquist** 46.93 158 *eP* P 04 06 51.3 -3.4
comp=Z,24nm,1.4s,mb4.9
J14A **Carey** 46.94 329 P P 04 06 55.2 +0.4
baz=47,SNR=39
GCMT **Greycliff** 46.96 334 *eP* P 04 06 54.6 -0.3
QLMT **Earthquake Lak** 47.02 332 *eP* P 04 06 56.4 +1.0
BMN **Battle Mountai** 47.04 324 ⇑*i*P P 04 06 55.5 -0.2
BMN pmax pmax
comp=Z,116nm,1.4s,mb5.6
BMN **Battle Mountai** 47.04 324 ⇑*i*P P 04 06 55.5 -0.1
comp=Z,116nm,1.4s,mb5.6
DGMT **Dagmar** 47.07 340 ⇑P P 04 06 55.9 +0.2
baz=47,SNR=14
DGMT **Dagmar** 47.07 340 ⇑*i*P P 04 06 55.8 0.0
comp=Z,142nm,1.3s,mb5.7
F18A **Big Timber** 47.07 334 ⇓P P 04 06 55.9 +0.1
baz=47,SNR=40
P08A **Rose Valley** 47.10 322 ⇓P P 04 06 56.5 +0.4
baz=47
S05C **Merced** 47.17 318 ⇓P P 04 06 56.2 -0.5
baz=47
K12A **Draper Farm, C** 47.19 327 ⇑P P 04 06 56.7 0.0
baz=47,SNR=15
R06C **Coleville** 47.26 320 ⇓P P 04 06 58.0 +0.6
baz=47,SNR=24
J13A **Cove Ranch, Pi** 47.33 329 ⇑P P 04 06 57.7 -0.1
baz=48,SNR=18
L11A **Cat Creek Ranc** 47.33 326 ⇑P P 04 06 57.6 -0.3
baz=48,SNR=18
I14A **Mackay** 47.34 330 ⇓P P 04 06 58.4 +0.5
baz=48,SNR=19
M10A **I.L. Ranch, Tu** 47.35 325 ⇑P P 04 06 57.8 -0.2
baz=48,SNR=9.9
H15A **Lima** 47.44 331 ⇑P P 04 06 59.7 +1.0
baz=48,SNR=28
N09A **Rock Creek Ran** 47.49 324 ⇓P P 04 06 58.8 -0.3
baz=48,SNR=20
G16A **Moss Hill, Enn** 47.49 332 ⇓P P 04 06 59.5 +0.4
baz=48,SNR=28
P07A **Fallon** 47.51 322 ⇓P P 04 06 59.6 +0.3
baz=48
O08A **Rochester Mine** 47.51 323 ⇓P P 04 06 59.4 +0.1
baz=48,SNR=19
HLID **Hailey** 47.57 329 P P 04 07 00.0 +0.3
baz=48,SNR=21
HLID **Hailey** 47.57 329 ⇑*i*P P 04 06 59.7 -0.1
comp=Z,45nm,1.6s,mb5.2
CMB **Columbia Colle** 47.59 319 ⇓P P 04 06 59.4 -0.5
baz=48
I13A **Wildhorse Cree** 47.67 329 ⇑P P 04 07 00.7 +0.2
baz=48,SNR=37
L10A **Juniper Basin** 47.67 326 ⇓P P 04 07 00.2 -0.3
baz=48,SNR=14
E18A **Harlowton** 47.68 335 ⇑P P 04 07 00.5 0.0
baz=48,SNR=14
MCMT **McKenzie Canyo** 47.69 331 *eP* P 04 07 00.9 +0.3
J12A **Stokes Ranch,** 47.71 328 ⇓P P 04 07 00.5 -0.3
baz=48,SNR=30
G15A **Dillon** 47.77 331 ⇑P P 04 07 01.5 +0.3
baz=48,SNR=15
H14A **Leadore** 47.79 330 ⇑P P 04 07 01.4 0.0
baz=48,SNR=30
N08A **GE Springer Mi** 47.80 323 ⇓P P 04 07 01.3 -0.2
baz=48
M09A **Marrel Ranch,** 47.80 324 ⇑P P 04 07 01.3 -0.3
baz=48
O07A **Toulon** 47.87 322 ⇑P P 04 07 01.7 -0.4
baz=48,SNR=18
K11A **Parker Ranch,** 47.89 327 ⇑P P 04 07 02.0 -0.2
baz=48,SNR=27
WCN **Washoe City** 47.91 321 ⇓P P 04 07 02.7 +0.3
baz=48,SNR=9.4
PAHR **Pah Rah Range** 47.91 321 ⇑*i*P P 04 07 02.4 0.0
comp=Z,49nm,1.6s,mb5.3
DLMT **Dillon** 47.97 332 *eP* P 04 07 03.0 +0.2
comp=Z,47nm,1.6s,mb5.3
E17A **Martinsdale** 48.00 334 ⇑P P 04 07 02.9 -0.2
baz=48,SNR=23
R04C **Big Horse Ranc** 48.07 319 ⇑P P 04 07 04.1 +0.4
baz=48,SNR=14
I12A **Atlanta** 48.11 328 ⇓P P 04 07 04.0 +0.1
baz=48
H13A **Challis** 48.20 330 ⇑P P 04 07 04.1 -0.4
baz=48,SNR=15
MFID **Camas Ranch** 48.21 328 ⇑P P 04 07 04.8 +0.1
baz=48,SNR=26
P06A **Stead Airport,** 48.22 321 ⇑P P 04 07 04.9 +0.1
baz=48
F15A **Butte** 48.27 332 ⇑P P 04 07 05.1 0.0
baz=48,SNR=6.7
G14A **Jackson** 48.29 331 ⇓P P 04 07 05.1 -0.2
baz=48,SNR=13
N07B **Gerlach** 48.30 323 ⇓P P 04 07 04.5 -0.9
baz=48
L09A **Wilkinson Ranc** 48.31 325 ⇓P P 04 07 05.1 -0.4
baz=48,SNR=11
K10A **MacKenzie Ranc** 48.35 326 ⇓P P 04 07 05.6 -0.2
baz=48,SNR=23
M08A **Happy Creek Ra** 48.36 324 ⇑P P 04 07 05.3 -0.6
baz=48,SNR=19
E16A **East Helena** 48.42 333 ⇓P P 04 07 06.2 -0.1
baz=49,SNR=21
P05C **Yuba Gap, Truc** 48.45 320 ⇓P P 04 07 06.9 +0.4
baz=49,SNR=12
O06A **Flanigan** 48.46 322 ⇑P P 04 07 06.7 +0.1
baz=49,SNR=16
JRSC **Jasper Ridge** 48.48 317 ⇓P P 04 07 05.7 -1.2
baz=49
H12A **Diamond D Ranc** 48.49 329 ⇓P P 04 07 06.7 -0.1
baz=49,SNR=12
G13A **Cobalt** 48.56 330 P P 04 07 07.1 -0.3
baz=49,SNR=8.9
BEKR **Beckwourth** 48.61 321 ⇑P P 04 07 07.6 -0.2
baz=49,SNR=13
I11A **Placerville** 48.62 328 P P 04 07 07.7 -0.1
baz=49,SNR=18
HRY **Holter Researc** 48.63 333 *eP* P 04 07 07.8 -0.1
F14A **Wisdom** 48.67 331 ⇓P P 04 07 07.9 -0.2
baz=49,SNR=9.2
J10A **Berg Farm, Mel** 48.73 327 ⇑P P 04 07 08.3 -0.3
baz=49
D16A **Dana Ranch, Ca** 48.75 334 ⇓P P 04 07 08.9 +0.1
baz=49,SNR=24
EGMT **Eagleton** 48.76 336 ⇑P P 04 07 08.9 +0.1
baz=49,SNR=13
EGMT **Eagleton** 48.76 336 *eP* P 04 07 08.8 -0.1
comp=Z,71nm,1.4s,mb5.5
E15A **Deer Lodge** 48.78 333 ⇓P P 04 07 08.8 -0.2
baz=49,SNR=18
K09A **Rome** 48.78 326 P P 04 07 09.4 +0.3
baz=49,SNR=148
M07A **Soldier Meadow** 48.79 323 ⇑P P 04 07 08.5 -0.7
baz=49,SNR=10.0
N06A **Buffalo Meadow** 48.81 322 P P 04 07 08.9 -0.4
baz=49,SNR=25
L08A **Fields** 48.81 325 P P 04 07 09.1 -0.2
baz=49,SNR=29
C17A **Wharram Farm,** 48.87 335 ⇓P P 04 07 09.6 -0.1
baz=49,SNR=45
O05C **Quincy** 49.02 321 P P 04 07 11.4 +0.4
baz=49,SNR=9.6
OHCM **Honcut** 49.03 320 *eP* P 04 07 10.6 -0.4
F13A **Darby** 49.11 331 ⇓P P 04 07 11.1 -0.4
baz=49,SNR=18
WVOR **Wild Horse Val** 49.13 325 ⇑*i*P P 04 07 11.4 -0.4
WVOR pmax pmax
comp=Z,182nm,1.4s,mb5.9
WVOR **Wild Horse Val** 49.13 325 ⇑*i*P P 04 07 11.4 -0.4
comp=Z,182nm,1.4s,mb5.9
ORV **Oroville** 49.16 320 ⇑P P 04 07 12.0 0.0
baz=49,SNR=50
E14A **Clinton** 49.17 332 P P 04 07 11.8 -0.1
baz=49,SNR=15
D15A **Lincoln** 49.19 333 ⇓P P 04 07 11.8 -0.3
baz=49,SNR=8.8
I10A **Payette** 49.19 328 ⇑P P 04 07 11.9 -0.3
baz=49
H11A **Donnelly** 49.19 329 ⇓P P 04 07 11.5 -0.7
baz=49,SNR=23
J09A **Fry Pan Ranch,** 49.22 326 P P 04 07 12.3 -0.1
baz=49,SNR=40
K08A **Mann Creek Ran** 49.23 325 ⇓P P 04 07 12.5 0.0
baz=49,SNR=29
L07A **Adell** 49.28 324 P P 04 07 12.7 -0.2
baz=49,SNR=22
O04C **Chester** 49.33 321 P P 04 07 13.4 +0.1
baz=50,SNR=23
C16A **Fuhringer Ranc** 49.42 334 ⇓P P 04 07 13.7 -0.2
baz=50,SNR=24
CHMT **Chamberlain Mo** 49.42 333 *eP* P 04 07 13.3 -0.7
M06C **Likely Place G** 49.47 322 ⇓P P 04 07 13.8 -0.6
baz=50,SNR=6.1
H10A **Noah's Angus R** 49.50 328 ⇑P P 04 07 13.1 -1.4
baz=50,SNR=10
E13A **Victor** 49.52 331 P P 04 07 14.2 -0.4
baz=50,SNR=27
F12A **Elk City** 49.54 330 ⇓P P 04 07 14.4 -0.4
baz=50,SNR=34
I09A **Lost Marbles R** 49.62 327 ⇓P P 04 07 14.8 -0.7
baz=50,SNR=17
J08A **Circle Bar Ran** 49.62 326 P P 04 07 15.1 -0.5
baz=50,SNR=22
K07A **Rock Creek Ran** 49.64 325 P P 04 07 15.2 -0.4
baz=50,SNR=17
D14A **Greenough** 49.66 333 P P 04 07 14.9 -0.8
baz=50,SNR=6.4
MSO **Missoula** 49.68 332 ⇑*i*P P 04 07 15.5 -0.4
comp=Z,28nm,1.3s,mb5.1
C15A **Salmond Ranch,** 49.78 334 ⇓P P 04 07 16.4 -0.2
baz=50,SNR=19
MOD **Modoc** 49.78 323 ⇓P P 04 07 15.7 -1.0
baz=50,SNR=8.7
MOD **Modoc** 49.78 323 *eP* P 04 07 15.9 -0.9
comp=Z,12nm,1.2s,mb4.8
LBCM **Butte Creek Ri** 49.79 321 P P 04 07 16.3 -0.5
G11A **Walters Elk Ra** 49.80 329 ⇑P P 04 07 15.7 -1.1
baz=50,SNR=15
B16A **M & M Farms, S** 49.88 335 ⇓P P 04 07 16.9 -0.4
baz=50
BMO **Blue Mountains** 49.97 328 *eP* P 04 07 16.3 -1.8
comp=Z,22nm,0.6s,mb5.4
I08A **Drewsey** 50.03 326 ⇑P P 04 07 17.7 -0.9
baz=50,SNR=7.5
H09A **Durkee** 50.03 328 ⇓P P 04 07 17.7 -0.9
baz=50
F11A **Grangeville** 50.08 330 ⇓P P 04 07 17.8 -1.1
baz=50,SNR=12
J07A **Hines** 50.11 325 ⇑P P 04 07 18.2 -1.0
baz=50,SNR=10
D13A **Huson** 50.12 332 ⇑P P 04 07 18.9 -0.3
baz=50,SNR=14
E12A **Beaver Dam Sad** 50.16 331 ⇓P P 04 07 18.7 -0.9
baz=50,SNR=20
B15A **Bradely Ranch,** 50.17 334 ⇑P P 04 07 18.9 -0.6
baz=50,SNR=32
G10A **Bishop Farm, J** 50.17 329 ⇓P P 04 07 18.6 -1.0
baz=50,SNR=12
A16A **West Butte Ran** 50.25 335 P P 04 07 19.9 -0.2
baz=50,SNR=14
K06A **Valley Falls** 50.29 324 ⇓P P 04 07 19.7 -0.9
baz=50,SNR=8.3
E11A **Bogner Ranch,** 50.44 330 P P 04 07 20.4 -1.2
baz=51,SNR=14
H08A **Prairie City** 50.48 327 ⇓P P 04 07 21.1 -0.9
baz=51,SNR=14
G09A **Cove** 50.50 328 ⇑P P 04 07 21.0 -1.2
baz=51,SNR=14
J06A **Christmas Vall** 50.51 325 ⇑P P 04 07 21.1 -1.2
baz=51,SNR=14
B14A **Marquette Ranc** 50.51 334 ⇑P P 04 07 22.1 0.0
baz=51,SNR=15
M03C **McCloud** 50.52 322 ⇓P P 04 07 21.2 -1.2
baz=51,SNR=7.2
KIPM **Iron Peak** 50.58 319 *eP* P 04 07 22.7 -0.2
C13A **Hot Springs** 50.60 332 ⇓P P 04 07 22.5 -0.3
baz=51,SNR=15
K05A **Summer Lake** 50.62 324 ⇓P P 04 07 22.2 -0.9
baz=51,SNR=6.8
M04C **Macdoel** 50.64 322 ⇓P P 04 07 22.6 -0.7
baz=51,SNR=15
I07A **Izee** 50.66 326 ⇓P P 04 07 22.6 -0.8
baz=51,SNR=20
F10A **Beach Ranch, E** 50.69 329 ⇓P P 04 07 22.7 -0.8
baz=51,SNR=10.0
A15A **Johnson Ranch,** 50.75 335 ⇓P P 04 07 23.6 -0.4
baz=51,SNR=35
F09A **S2 Ranch, Elgi** 50.86 328 ⇓P P 04 07 24.3 -0.5
baz=51,SNR=17
L04A **Klamath Falls** 50.90 323 ⇑P P 04 07 24.5 -0.7
baz=51,SNR=16
I06A **Prineville** 50.97 325 ⇓P P 04 07 25.3 -0.5
baz=51,SNR=14
D11A **Klaveano Farm,** 50.98 331 P P 04 07 25.0 -0.8
baz=51,SNR=11
N02C **Big Bar** 51.01 320 ⇓P P 04 07 25.3 -0.8
baz=51,SNR=5.7
H07A **Lands Inn, Kim** 51.02 326 ⇑P P 04 07 25.3 -0.8
baz=51,SNR=11
C12B **Naegeli Ranch,** 51.04 332 ⇑P P 04 07 26.1 0.0
baz=51,SNR=12
B13A **Whitefish** 51.06 333 ⇑P P 04 07 26.3 0.0
baz=51,SNR=17
G08A **Pilot Rock** 51.14 327 ⇑P P 04 07 26.1 -0.9
baz=51,SNR=38
YBH **Yreka Blue Hor** 51.14 322 P P 04 07 25.2 -1.8
comp=Z,12nm,1.0s,mb4.8,baz=145,slow=5.0,SNR=16
YBH **Yreka Blue Hor** 51.14 322 *eP* P 04 07 25.2 -1.9
YBH pmax pmax

comp=Z,16nm,1.1s
YBH Yreka Blue Hor 51.14 322 ⇑P P 04 07 25.1 -1.9
baz=51,SNR=7.7
YBH Yreka Blue Hor 51.14 322 eP P 04 07 25.2 -1.9
comp=Z,16nm,1.1s,mb4.9
J05A Fort Rock 51.16 324 ⇓P P 04 07 25.9 -1.3
baz=51,SNR=14
LNOR Lincton Mounta 51.16 328 eP P 04 07 26.1 -1.0
F08A Pendleton 51.37 328 ⇑P P 04 07 27.7 -1.0
baz=52,SNR=24
A13A Flathead Natio 51.45 334 ⇓P P 04 07 29.3 +0.1
baz=52
D10A Wagner Farm, O 51.45 330 ⇑P P 04 07 28.1 -1.1
baz=52
C11A Tepee Creek (N 51.50 331 ⇓P P 04 07 29.1 -0.6
baz=52
G07A Ruggs Ranch, H 51.51 327 ⇑P P 04 07 29.0 -0.7
baz=52
E09A Wood Farm, Sta 51.52 329 P P 04 07 29.2 -0.6
baz=52,SNR=38
H06A Lindquist Farm 51.53 326 ⇑P P 04 07 29.4 -0.6
baz=52,SNR=25
VIPM Ingram Point 51.55 326 P P 04 07 30.4 +0.3
B12A Libby 51.64 332 ⇓P P 04 07 30.7 0.0
baz=52,SNR=6.8
J04A Umpqua Nationa 51.65 324 ⇓P P 04 07 30.5 -0.4
baz=52,SNR=15
I05A Bend 51.71 325 ⇓P P 04 07 31.5 +0.2
baz=52,SNR=17
KRMB Red Mountain 51.77 321 eP P 04 07 31.2 -0.6
D09A Jones Farm, Ri 51.97 329 ⇑P P 04 07 32.4 -0.7
baz=52,SNR=9.3
E08A Dider Farm, El 51.98 329 ⇑P P 04 07 32.0 -1.2
baz=52,SNR=9.9
H05A Madras 51.98 325 ⇓P P 04 07 33.3 0.0
baz=52
FFC Flin Flon 51.99 346 P P 04 07 32.3 -0.8
comp=Z,163nm,1.2s,mb5.8,SNR=9.7
FFC Flin Flon 51.99 346 eP P 04 07 32.3 -0.8
FFC pmax pmax
comp=Z,60nm,1.4s,mb5.3
FFC Flin Flon 51.99 346 eP P 04 07 32.3 -0.8
comp=Z,60nm,1.4s,mb5.3
G06A Carlson Farm, 52.02 326 ⇓P P 04 07 33.6 +0.1
baz=52,SNR=33
F07A Phinny Hill Vi 52.05 327 ⇓P P 04 07 33.8 0.0
baz=52,SNR=8.8
I04A Tendick Farm, 52.15 324 ⇓P P 04 07 32.6 -1.9
baz=52,SNR=7.6
HAWA Hanford 52.16 328 ⇑iP P 04 07 33.9 -0.7
comp=Z,54nm,1.5s,mb5.3
IRO Indian Ridge 52.18 324 P P 04 07 34.3 -0.5
RSW Rattlesnake Hi 52.19 328 P P 04 07 34.8 0.0
K02A Glendale 52.20 322 ⇓P P 04 07 33.6 -1.3
baz=52,SNR=7.8
NEW Newport 52.21 331 eP P 04 07 34.3 -0.6
NEW pmax pmax
comp=Z,8.0nm,1.1s
NEW Newport 52.21 331 eP P 04 07 34.3 -0.7
comp=Z,8.2nm,1.1s,mb4.6
D08A Wollman Farm, 52.28 329 ⇑P P 04 07 34.9 -0.6
baz=52,SNR=6.3
A11A Hall Mountain, 52.35 332 ⇓P P 04 07 36.0 +0.1
baz=52,SNR=13
OD2 Odessa Site #2 52.40 330 eP P 04 07 36.0 -0.4
G05A Wamic 52.40 326 ⇓P P 04 07 37.0 +0.6
baz=53,SNR=14
F06A Goldendale 52.43 327 ⇓P P 04 07 37.1 +0.5
baz=53,SNR=26
E07A Sunnyside 52.44 328 ⇓P P 04 07 36.3 -0.3
baz=53,SNR=6.6
VFP Flag Point 52.53 326 P P 04 07 37.7 +0.4
H04A Detroit Lake 52.55 325 ⇑P P 04 07 36.6 -0.9
baz=53,SNR=7.5
J02A Umpqua 52.59 323 ⇑P P 04 07 37.2 -0.6
baz=53,SNR=5.2
HOOD Mount Hood Mea 52.63 326 eP P 04 07 38.4 +0.3
comp=Z,70nm,1.1s,mb5.5
I03A Eugene 52.76 324 ⇓P P 04 07 37.7 -1.4
baz=53,SNR=7.5
B09A Rice 52.82 331 ⇑P P 04 07 38.8 -0.6
baz=53,SNR=24
C08A Higginbotham F 52.83 330 ⇑P P 04 07 38.8 -0.7
baz=53
F05A White Salmon 52.87 327 ⇓P P 04 07 40.0 +0.1
baz=53,SNR=20
E06A Yakima 53.02 327 ⇑P P 04 07 41.0 0.0
baz=53,SNR=20
G04A Mulino 53.03 325 ⇓P P 04 07 40.4 -0.6
baz=53,SNR=8.7
I02A Mapleton 53.11 323 ⇑P P 04 07 41.4 -0.3
baz=53
COR Corvallis 53.13 324 eP P 04 07 41.3 -0.5
COR pmax pmax
comp=Z,9.0nm,0.7s,mb4.8
COR Corvallis 53.13 324 eP P 04 07 41.2 -0.6
comp=Z,8.7nm,0.7s,mb4.8
H03A Soap Creek Ran 53.18 324 ⇑P P 04 07 41.7 -0.5
baz=53,SNR=9.7
C07A Waterville 53.28 329 ⇑P P 04 07 42.5 -0.4
baz=53,SNR=18
B08A Colville Reser 53.35 330 ⇓P P 04 07 42.5 -0.9
baz=54,SNR=7.3
ETW Entiat 53.36 329 eP P 04 07 43.2 -0.3
D06A Cle Elum 53.37 328 ⇓P P 04 07 43.2 -0.3
baz=54,SNR=7.4
A09A Danville 53.41 331 ⇑P P 04 07 43.4 -0.3
baz=54,SNR=24
F04A Amboy 53.43 326 ⇓P P 04 07 43.3 -0.7
baz=54,SNR=7.1
E05A Randle 53.45 327 ⇓P P 04 07 43.6 -0.6
baz=54
G03A Yamhill 53.55 325 ⇑P P 04 07 45.0 +0.2
baz=54
LON Longmire 53.60 327 eP P 04 07 44.4 -0.8
LON pmax pmax
comp=Z,18nm,1.1s,mb4.9
LON Longmire 53.60 327 eP P 04 07 44.4 -0.8
comp=Z,18nm,1.1s,mb4.9
A08A Turner Farm, O 53.73 331 ⇓P P 04 07 45.8 -0.3
baz=54,SNR=31
B07A Winthrop 53.81 330 ⇓P P 04 07 45.9 -0.9
baz=54
D05A Enumclaw 53.97 328 ⇑P P 04 07 47.5 -0.4
baz=54,SNR=14
BMW Boistfort Moun 54.21 326 eP P 04 07 49.0 -0.7
EDM Edmonton 54.27 338 ⇑iP P 04 07 49.0 -1.0
A07A Ashnola River, 54.33 330 ⇓P P 04 07 50.8 +0.3
baz=54,SNR=31
FCC Fort Churchill 54.34 353 eP P 04 07 49.7 -0.7
FCC pmax pmax
comp=Z,34nm,1.1s,mb5.2
FCC Fort Churchill 54.34 353 eP P 04 07 49.7 -0.7
comp=Z,34nm,1.1s,mb5.2
E03A Lebam 54.44 326 ⇑P P 04 07 51.1 -0.3
baz=55,SNR=5.2
RPW Rockport 54.51 329 eP P 04 07 51.0 -0.9
B06A Marblemount 54.54 329 ⇑P P 04 07 51.3 -0.7
baz=55,SNR=6.1
JCW Jim Creek 54.57 329 eP P 04 07 51.0 -1.3
GNW Green Mountain 54.65 328 ⇑iP P 04 07 51.5 -1.3
comp=Z,42nm,1.2s,mb5.3
B05A Bryant 54.70 329 ⇑P P 04 07 51.8 -1.4
baz=55,SNR=6.4
C04A Brinnon 54.82 328 ⇑P P 04 07 53.3 -0.8
baz=55,SNR=5.8
NLWA Neilton Lookou 55.11 327 ⇑P P 04 07 56.2 0.0
baz=55,SNR=7.8
NLWA Neilton Lookou 55.11 327 eP P 04 07 55.7 -0.4
comp=Z,104nm,1.7s,mb5.6
A05A Maple Falls 55.16 329 ⇓P P 04 07 55.7 -0.8
baz=55,SNR=11
A04A Legoe Bay, Lum 55.30 329 ⇑P P 04 07 57.2 -0.4
baz=56,SNR=9.9
B04A Port Angeles 55.31 328 ⇑P P 04 07 57.7 +0.1
baz=56,SNR=11
PGC Sidney 55.65 328 eP P 04 07 59.8 -0.3
comp=Z,161nm,1.7s,mb5.8
RKT Rikitea 58.34 239 eS S 04 16 17.6 -5.1
comp=Z,304nm,30.5s
RKT eLR LR 04 25 27.5
comp=Z,1μm,29.0s
YKA Yellowknife Ar 62.03 344 P P 04 08 43.1 -1.0
comp=Z,7.0nm,0.9s,mb4.8,baz=138,slow=6.8,SNR=29
YKA LR LR 04 35 24.8
comp=Z,156nm,21.9s,MS4.1,baz=125,slow=36
DLBC Dease Lake 64.66 335 ⇑iP P 04 09 01.9 +0.3

SFJD Kangerlussuaq 65.64 13 LR LR 04 37 51.0
comp=Z,537nm,18.3s,MS4.8,baz=196,slow=36
PPT Papeete 69.86 249 eS S 04 18 40.1 -5.8
comp=Z,521nm,28.2s
PPT eLQ 04 27 54.5
comp=Z,809nm,27.8s
PPT eLR LR 04 30 59.1
comp=Z,620nm,29.2s
PPT Papeete 69.86 249 LR LR 04 32 57.7
comp=Z,199nm,20.5s,MS4.3,baz=206,slow=30
TBI Tubuai 71.08 243 eS S 04 18 53.4 -6.5
comp=Z,396nm,28.5s
TBI eLQ 04 28 20.9
comp=Z,689nm,32.8s
TBI eLR LR 04 31 48.1
comp=Z,2μm,28.2s,baz=74
DAWY Dawson 71.48 337 eP P 04 09 43.6 -0.8
SUMG Summit 72.62 13 eP P 04 09 50.6 -0.6
comp=Z,12nm,1.0s,mb4.8
BORG Borgarnes 73.47 23 LR LR 04 36 38.8
comp=Z,680nm,22.0s,MS4.9,baz=300,slow=31
MORF Marmelete 74.14 53 eP P 04 10 01.7 +0.9
comp=Z,65nm,1.3s,mb5.4
EVO Evora 74.77 52 eP P 04 10 03.1 -1.3
comp=Z,52nm,1.2s,mb5.0
EVO eMLR MLR
comp=Z,369nm,21.8s,MS4.3
STS Santiago 74.86 47 P P 04 10 06.6 +1.7
STS pmax pmax
comp=Z,11nm,0.8s,mb4.8
STS Santiago 74.86 47 P P 04 10 06.5 +1.7
comp=Z,11nm,0.8s,mb4.8
PVIS Viseu 75.09 49 eP P 04 10 06.1 -0.1
comp=Z,52nm,1.3s,mb5.3
EGRO El Granado 75.09 53 P P 04 10 08.9 +2.5
comp=Z,37nm,1.3s,mb5.2
ELOB Lobios 75.09 48 P P 04 10 09.3 +3.0
comp=Z,44nm,1.9s,mb5.1
PESTR Estremoz 75.13 51 eP P 04 10 06.6 +0.1
comp=Z,67nm,1.3s,mb5.4
COLA College 75.15 336 i P P 04 10 05.4 -0.7
COLA College 75.15 336 eP P 04 10 05.4 -0.7
comp=Z,42nm,1.8s,mb5.1
MCK McKinley 75.20 335 eP P
MCK pmax pmax
comp=Z,30nm,1.3s,mb5.1
MCK McKinley 75.20 335 eP P 04 10 05.9 -0.5
comp=Z,30nm,1.3s,mb5.1
PVRL Vila Real 75.28 49 eP P 04 10 09.8 +2.4
comp=Z,38nm,1.2s,mb5.2
PCBR Castelo Branco 75.31 50 eP P 04 10 07.3 -0.3
comp=Z,39nm,1.2s,mb5.2
MTE Manteigas 75.32 50 eP P 04 10 09.2 +1.6
comp=Z,36nm,1.4s,mb5.1
MTE Manteigas 75.32 50 eP P 04 10 06.9 -0.7
comp=Z,19nm,1.0s,mb5.0
PMRV Marv??o 75.34 51 eP P 04 10 07.5 -0.2
comp=Z,33nm,1.2s,mb5.1
PBAR Barrancos 75.50 52 eP P 04 10 08.6 -0.1
comp=Z,39nm,1.5s,mb5.1
EBAD Badajoz 75.57 51 P P 04 10 13.1 +4.0
comp=Z,23nm,1.7s,mb4.8
MVO Moncorvo 75.79 49 eP P 04 10 10.1 -0.2
comp=Z,37nm,1.2s,mb5.2
ERUA La Rua 75.83 48 P P 04 10 10.5 0.0
ERUA pmax pmax
comp=Z,6.0nm,0.8s,mb4.6
ERUA La Rua 75.83 48 P P 04 10 10.5 0.0
comp=Z,6.0nm,0.8s,mb4.6
KTH Kantishna Hill 75.99 335 eP P 04 10 10.5 -0.4
comp=Z,13nm,0.9s,mb4.9
PBRG Braganca 76.07 48 eP P 04 10 12.1 +0.3
comp=Z,42nm,1.5s,mb5.2
ECAL Calabor 76.08 48 P P 04 10 11.2 -0.7
comp=Z,42nm,1.3s,mb5.2
BPAW Bear Paw Mtn. 76.18 335 eP P 04 10 10.6 -1.4
comp=Z,35nm,1.4s,mb5.1
ESPR Espera 76.33 53 P P 04 10 15.4 +2.0
comp=Z,75nm,2.3s,mb5.2
PPLA Purkeypile 76.35 334 eP P 04 10 12.4 -0.6
comp=Z,63nm,1.4s,mb5.3
EPLA Plasencia 76.40 50 P P 04 10 15.9 +2.1
EPLA pmax pmax
comp=Z,14nm,0.9s,mb4.9
EPLA Plasencia 76.40 50 P P 04 10 15.8 +2.1
comp=Z,14nm,0.9s,mb4.9
ECAB El Cabril 76.76 52 P P 04 10 16.5 +0.6
comp=Z,9.7nm,0.8s,mb4.8
COLD Coldfoot 76.85 338 eP P 04 10 16.1 +0.3
comp=Z,19nm,1.1s,mb4.9
TIC Toumodi 77.05 84 eP P 04 10 19.0 +1.1
comp=Z,197nm,1.6s,mb5.8
LIC Lamto 77.06 85 eP P 04 10 18.5 +0.5
comp=Z,41nm,1.1s,mb5.0
LIC eMLR MLR
comp=Z,381nm,22.8s,MS4.4
LIC Lamto 77.06 85 eP P 04 10 18.4 +0.4
comp=Z,50nm,1.1s,mb5.4
LIC Lamto 77.06 85 eP P 04 10 18.5 +0.5
comp=Z,21nm,1.1s,mb5.0
DBIC Dimbokro 77.21 84 P P 04 10 18.5 -0.4
comp=Z,5.6nm,0.8s,mb4.5,baz=191,slow=3.9,SNR=4.4
KIC Kean Boka 77.34 85 eP P 04 10 20.0 +0.4
comp=Z,116nm,1.3s,mb5.6
EADA Adamuz 77.43 52 P P 04 10 20.1 +0.4
comp=Z,68nm,1.8s,mb5.3
ELUQ Luque 77.64 53 P P 04 10 23.2 +2.4
ELUQ pmax pmax
comp=Z,12nm,1.0s,mb4.8
ELUQ Luque 77.64 53 P P 04 10 23.2 +2.4
comp=Z,12nm,1.0s,mb4.8
PAB San Pablo 77.69 51 eP P 04 10 20.7 -0.4
PAB pmax pmax
comp=Z,24nm,1.4s,mb4.9
PAB San Pablo 77.69 51 eP P 04 10 20.7 -0.4
comp=Z,24nm,1.4s,mb4.9
ELOJ Sierra Loja 77.71 53 P P 04 10 22.1 +0.9
ELOJ pmax pmax
comp=Z,10.0nm,0.9s,mb4.8
ELOJ Sierra Loja 77.71 53 P P 04 10 22.1 +0.9
comp=Z,10nm,0.9s,mb4.8
GUD Guadarrama 77.92 50 P P 04 10 21.4 -0.9
GUD pmax pmax
comp=Z,27nm,1.4s,mb5.0
GUD Guadarrama 77.92 50 P P 04 10 21.4 -0.9
comp=Z,26nm,1.4s,mb5.0
ERON Agron 77.98 53 P P 04 10 23.0 +0.3
ESDC Sonseca Array 78.00 51 P P 04 10 22.7 -0.1
comp=Z,6.2nm,0.8s,mb4.6,baz=270,slow=5.1,SNR=25
ESDC LR LR 04 37 56.2
comp=Z,176nm,21.6s,MS4.3,baz=300,slow=30
ESDC Sonseca Array 78.00 51 P P 04 10 22.3 -0.5
comp=Z,9.3nm,0.9s,mb4.7
ESLA Sonseca Array 78.00 51 eP P 04 10 22.6 -0.1
comp=Z,13nm,1.4s,mb4.7
ECOG Cogollos-Vega 78.18 53 P P 04 10 24.2 +0.4
ECOG pmax pmax
comp=Z,6.0nm,0.7s,mb4.6
ECOG Cogollos-Vega 78.18 53 P P 04 10 24.2 +0.4
comp=Z,5.8nm,0.7s,mb4.6
EQES Quesada 78.60 53 P P 04 10 26.2 +0.1
comp=Z,444nm,3.9s
EBER Berja 78.71 54 P P 04 10 29.3 +2.5
comp=Z,128nm,2.3s,mb5.5
EHUE Huescar 78.98 53 P P 04 10 28.6 +0.4
EHUE pmax pmax
comp=Z,25nm,1.1s,mb5.1
EHUE Huescar 78.98 53 P P 04 10 28.6 +0.4
comp=Z,25nm,1.1s,mb5.1
EVIA Vianos 79.08 52 P P 04 10 30.1 +1.3
EVIA pmax pmax
comp=Z,15nm,1.0s,mb4.9
EVIA Vianos 79.08 52 P P 04 10 30.1 +1.3
comp=Z,14nm,1.0s,mb4.9
ESK Eskdalemuir 79.80 35 eP P 04 10 31.0 -1.3
ESK pmax pmax
comp=Z,14nm,0.9s,mb4.9
ESK Eskdalemuir 79.80 35 eP P 04 10 31.0 -1.4
comp=Z,14nm,0.9s,mb4.9
SJPF Ste Jean 80.23 47 eP P 04 10 35.2 +0.3
comp=Z,33nm,0.8s,mb5.0
SJPF Ste Jean 80.23 47 eP P 04 10 35.2 +0.3
SJPF pmax pmax
comp=Z,17nm,0.8s,mb5.0
SJPF Ste Jean 80.23 47 eP P 04 10 35.2 +0.3
comp=Z,16nm,0.8s,mb5.0
GRR Gorron 80.72 42 eP P 04 10 37.0 -0.4
comp=Z,51nm,1.1s,mb5.1

GRR Gorron 80.72 42 eP P 04 10 37.0 -0.4
GRR pmax pmax
comp=Z,25nm,1.1s,mb5.1
GRR Gorron 80.72 42 eP P 04 10 37.0 -0.4
comp=Z,25nm,1.1s,mb5.1
FLN La Foliniere 80.99 42 eP P 04 10 38.6 -0.3
comp=Z,64nm,1.3s,mb5.1
FLN eMLR MLR
comp=Z,536nm,22.5s,MS4.5
FLN La Foliniere 80.99 42 eP P 04 10 38.6 -0.3
FLN pmax pmax
comp=Z,32nm,1.3s,mb5.1
FLN La Foliniere 80.99 42 eP P 04 10 38.6 -0.3
comp=Z,32nm,1.3s,mb5.1
MFF Saint Martin d 81.13 44 eP P 04 10 39.1 -0.5
comp=Z,21nm,0.9s,mb4.8
MFF Saint Martin d 81.13 44 eP P 04 10 39.1 -0.5
MFF pmax pmax
comp=Z,11nm,0.9s,mb4.8
MFF Saint Martin d 81.13 44 eP P 04 10 39.1 -0.5
comp=Z,11nm,0.9s,mb4.8
LDF La Druitiere 81.22 42 eP P 04 10 39.6 -0.5
comp=Z,86nm,1.5s,mb5.2
LDF La Druitiere 81.22 42 eP P 04 10 39.6 -0.5
LDF pmax pmax
comp=Z,43nm,1.5s,mb5.2
LDF La Druitiere 81.22 42 eP P 04 10 39.6 -0.5
comp=Z,43nm,1.5s,mb5.2
RJF Les Rejaudoux 82.26 45 eP P 04 10 45.1 -0.5
comp=Z,41nm,1.3s,mb4.9
RJF eMLR MLR
comp=Z,354nm,19.0s,MS4.5
RJF Les Rejaudoux 82.26 45 eP P 04 10 45.1 -0.5
RJF pmax pmax
comp=Z,21nm,1.3s,mb4.9
RJF Les Rejaudoux 82.26 45 eP P 04 10 45.1 -0.5
comp=Z,20nm,1.3s,mb4.9
TCF Toulx Ste Croi 82.75 44 eP P 04 10 47.4 -0.8
comp=Z,24nm,1.1s,mb4.8
TCF Toulx Ste Croi 82.75 44 eP P 04 10 47.4 -0.8
TCF pmax pmax
comp=Z,12nm,1.1s,mb4.8
TCF Toulx Ste Croi 82.75 44 eP P 04 10 47.4 -0.8
comp=Z,12nm,1.1s,mb4.8
MENF Mencas 82.76 40 eP P 04 10 50.5 +2.4
TOA0 Torodi Ar. Sit 83.25 77 eP P 04 10 50.4 -1.0
TORD Torodi Ar. Bea 83.25 77 P P 04 10 50.5 -0.9
comp=Z,1.2nm,0.5s,mb4.2,baz=286,slow=4.8,SNR=30
TORD LR LR 04 44 41.4
comp=Z,207nm,21.6s,MS4.5,baz=255,slow=33
PYM Petit Puy Mans 83.31 45 eP P 04 10 52.7 +1.6
PLDF La Plantade 83.73 44 eP P 04 10 53.5 +0.2
DOU Dourbes 84.32 40 P P 04 10 55.6 -0.5
VIVF Saint-Julien-l 84.50 46 eP P 04 10 57.5 +0.3
comp=Z,41nm,1.2s,mb5.1
VIVF Saint-Julien-l 84.50 46 eP P 04 10 57.5 +0.3
VIVF pmax pmax
comp=Z,21nm,1.2s,mb5.1
VIVF Saint-Julien-l 84.50 46 eP P 04 10 57.5 +0.3
comp=Z,21nm,1.2s,mb5.1
HGN Heimansgroeve 85.16 40 eP P 04 11 00.8 +0.4
comp=Z,22nm,1.6s,mb5.0
MEM Membach 85.21 40 P P 04 10 59.6 -1.1
comp=Z,11nm,1.5s,mb4.8
THEF They Montfort 85.29 42 eP P 04 11 00.7 -0.4
WLF Walferdange 85.34 41 P P 04 11 00.4 -1.0
comp=Z,17nm,1.6s,mb4.9
WLF Walferdange 85.34 41 eP P 04 11 01.0 -0.3
WLF pmax pmax
comp=Z,15nm,0.9s,mb5.1
WLF Walferdange 85.34 41 eP P 04 11 00.4 -0.9
comp=Z,46nm,1.6s,mb5.4
WLF Walferdange 85.34 41 eP P 04 11 01.0 -0.3
comp=Z,14nm,0.9s,mb5.1
CABF La Chapelle 85.42 44 eP P 04 11 01.4 -0.4
comp=Z,46nm,1.1s,mb5.2
CABF La Chapelle 85.42 44 eP P 04 11 01.4 -0.4
CABF pmax pmax
comp=Z,23nm,1.1s,mb5.2
CABF La Chapelle 85.42 44 eP P 04 11 01.4 -0.4
comp=Z,23nm,1.1s,mb5.2
WTSB Winterswijk 85.66 38 eP P 04 11 01.7 -1.1
comp=Z,43nm,1.6s,mb5.4
HINF Hinteralfeld 85.89 43 eP P 04 11 03.0 -1.1
comp=Z,37nm,1.4s,mb5.1
HINF Hinteralfeld 85.89 43 eP P 04 11 03.0 -1.1
HINF pmax pmax
comp=Z,18nm,1.4s,mb5.1
HINF Hinteralfeld 85.89 43 eP P 04 11 03.0 -1.1
comp=Z,18nm,1.4s,mb5.1
BNI Bardonecchia 85.91 45 eP P 04 11 03.9 -0.4
BNI pmax pmax
comp=Z,11nm,1.1s,mb5.0
BNI Bardonecchia 85.91 45 eP P 04 11 03.9 -0.3
comp=Z,11nm,1.1s,mb5.0
LPL La Plagne 85.92 45 eP P 04 11 04.7 +0.4
comp=Z,17nm,0.9s,mb5.0
LPL La Plagne 85.92 45 eP P 04 11 04.7 +0.4
LPL pmax pmax
comp=Z,8.0nm,0.9s,mb5.0
LPL La Plagne 85.92 45 eP P 04 11 04.7 +0.4
comp=Z,8.3nm,0.9s,mb5.0
RUP Ruppelstein 85.93 41 eP P 04 11 04.4 +0.1
LPG La Plagne 85.94 45 eP P 04 11 05.0 +0.6
comp=Z,28nm,1.0s,mb5.1
LPG La Plagne 85.94 45 eP P 04 11 05.0 +0.6
LPG pmax pmax
comp=Z,14nm,1.0s,mb5.2
LPG La Plagne 85.94 45 eP P 04 11 05.0 +0.6
comp=Z,14nm,1.0s,mb5.2
BUG Bochum--Univer 85.97 39 eP P 04 11 03.5 -0.9
comp=Z,28nm,1.1s,mb5.4
ECH Echery 86.07 42 eP P 04 11 04.8 -0.2
ECH Echery 86.07 42 eP P 04 11 04.3 -0.7
MOF Molkenrain 86.08 42 eP P 04 11 05.7 +0.7
CDF Champ du Feu 86.14 42 eP P 04 11 04.6 -0.7
comp=Z,66nm,1.5s,mb5.3
CDF Champ du Feu 86.14 42 eP P 04 11 04.6 -0.7
CDF pmax pmax
comp=Z,33nm,1.5s,mb5.3
CDF Champ du Feu 86.14 42 eP P 04 11 04.6 -0.7
comp=Z,33nm,1.5s,mb5.3
IBBN Ibbenburen 86.23 38 eP P 04 11 05.3 -0.4
comp=Z,24nm,1.3s,mb5.3
ABH Alteburg 86.24 40 eP P 04 11 05.9 +0.1
TAM Tamanrasset 86.28 68 eP P 04 11 06.4 -0.2
LANF Langenberg 86.46 41 eP P 04 11 08.1 +1.2
FELD Feldberg im Sc 86.66 42 eP P 04 11 07.4 -0.5
MUD Monsted U'grnd 86.78 34 iP P 04 11 08.2 -0.1
MUD pmax pmax
comp=Z,12nm,1.0s,mb5.1
MUD Monsted U'grnd 86.78 34 iP P 04 11 08.2 -0.1
comp=Z,12nm,1.0s,mb5.1
TNS Taunus Mts 86.79 40 eP P 04 11 08.0 -0.5
TNS pmax pmax
comp=Z,15nm,1.3s,mb5.1
TNS Taunus Mts 86.79 40 eP P 04 11 08.0 -0.5
comp=Z,15nm,1.3s,mb5.1
BFO Black Forest 86.85 42 eP P 04 11 07.3 -1.5
BFO pmax pmax
comp=Z,7.0nm,1.4s,mb4.7
BFO Black Forest 86.85 42 eP P 04 11 07.3 -1.5
comp=Z,7.5nm,1.4s,mb4.7
STU Stuttgart 87.39 41 eP P 04 11 11.6 +0.2
comp=Z,37nm,1.6s,mb5.4
NOA NORSAR Array B 87.45 29 P P 04 11 11.5 +0.1
comp=Z,5.2nm,1.1s,mb4.7,baz=274,slow=4.5,SNR=9.5
NOA LR LR 04 44 36.7
comp=Z,158nm,19.1s,MS4.4,baz=280,slow=32
BSEG Bad Segeberg 87.65 36 eP P 04 11 11.8 -0.7
BSEG pmax pmax
comp=Z,48nm,1.8s,mb5.4
BSEG Bad Segeberg 87.65 36 eP P 04 11 11.8 -0.7
comp=Z,48nm,1.8s,mb5.4
TUE Stuetta 87.68 44 eP P 04 11 12.9 0.0
comp=Z,15nm,1.0s,mb5.2
UBBA Unterbreizbach 87.73 39 eP P 04 11 13.2 +0.2
comp=Z,32nm,2.1s,mb5.2
CLZ Clausthal 87.87 38 eP P 04 11 13.1 -0.6
CLZ pmax pmax
comp=Z,15nm,1.2s,mb5.1
CLZ Clausthal 87.87 38 eP P 04 11 13.1 -0.6
comp=Z,15nm,1.2s,mb5.1
KEST Kesra 88.61 54 P P 04 11 17.6 0.0
comp=Z,1.7nm,1.1s,mb4.3,baz=197,slow=11,SNR=2.7
GRA1 Grafenberg Arr 88.62 40 eP P 04 11 17.2 -0.1
comp=Z,17nm,1.4s,mb5.2

GRF	**Grafenberg Arr**	**88.62**	**40**	*e*P		**P**	**04 11 17.2**	**-0.1**
	comp=Z,17nm,1.4s,mb5.2								
GRF				*e*L			04 44 35.9		
	comp=Z,299nm,21.8s								
MOX	**Moxa**	**88.77**	**39**	*e*P		**P**	**04 11 18.2**	**+0.2**
	comp=Z,9.0nm,1.1s,mb5.0								
MOX	**Moxa**	**88.77**	**39**	*e*P		**P**	**04 11 18.2**	**+0.2**
MOX					pmax	pmax			
	comp=Z,9.0nm,1.1s,mb5.0								
MOX	**Moxa**	**88.77**	**39**	*e*P		**P**	**04 11 17.8**	**-0.2**
	comp=Z,6.0nm,1.1s,mb4.8								
TANN	**Tannenbergstha**	**89.34**	**40**	*e*P		**P**	**04 11 20.7**	**+0.1**
	comp=Z,10.0nm,1.3s,mb5.0								
NKC	**Novy Kostel**	**89.35**	**40**	*e*P		**P**	**04 11 19.0**	**-1.7**
CLL	**Collm**	**89.56**	**39**	*e*P		**P**	**04 11 22.0**	**+0.3**
CLL				*e*S		S	04 22 04.0	-8.9
CLL					pmax	pmax			
	comp=Z,9.0nm,1.4s,mb4.9								
CLL					MLR	MLR			
	comp=Z,400nm,24.1s,MS4.8								
CLL	**Collm**	**89.56**	**39**	*e*P		**P**	**04 11 21.2**	**-0.5**
	comp=Z,8.0nm,1.2s,mb4.9								
CLL	**Collm**	**89.56**	**39**	*e*P		**P**	**04 11 22.0**	**+0.3**
	comp=Z,9.0nm,1.4s,mb4.9								
CLL				*e*sP		sP	04 11 26.0	+0.9
CLL				*e*SKKSac		SKKSac	04 22 04.0	-1.0
CLL				*e*(SP)			04 23 10.0		
CLL				*e*SS		SS	04 28 25.0	+17
CLL	**Collm**	**89.56**	**39**	*e*P		**P**	**04 11 22.0**	**+0.3**
	comp=Z,9.0nm,1.4s,mb4.9								
CLL					S	S	04 22 04.0	-8.9
WET	**Wettzell**	**89.76**	**41**	*e*P		**P**	**04 11 22.4**	**-0.2**
WET					pmax	pmax			
	comp=Z,7.0nm,1.2s,mb4.9								
WET	**Wettzell**	**89.76**	**41**	*e*P		**P**	**04 11 22.4**	**-0.2**
	comp=Z,7.0nm,1.2s,mb4.9								
BRG	**Berggiesshubel**	**90.21**	**39**	*e*P		**P**	**04 11 24.7**	**0.0**
BRG					pmax	pmax			
	comp=Z,3.0nm,1.2s,mb4.5								
BRG	**Berggiesshubel**	**90.21**	**39**	*e*P		**P**	**04 11 24.7**	**0.0**
	comp=Z,4.3nm,1.2s,mb4.7								
KHC	**Kasperske Hory**	**90.22**	**41**	*e*P		**P**	**04 11 24.6**	**-0.2**
KHC					AMS	AMS	04 43 10.0		
	comp=Z,500nm,20.5s								
GERES	**GERESS Array B**	**90.34**	**41**	P		**P**	**04 11 25.6**	**+0.2**
	comp=Z,2.2nm,1.0s,mb4.4,baz=282,slow=2.6,SNR=8.2								
GERES					LR	LR	04 44 48.1		
	comp=Z,324nm,21.4s,MS4.7,baz=283,slow=31								
PVCC	**Panska Ves**	**90.66**	**39**		AMS	AMS	04 44 00.0		
	comp=Z,600nm,24.8s								
PRU	**Pruhonice**	**90.72**	**40**	*e*P		**P**	**04 11 26.9**	**-0.2**
PRU					AMS	AMS	04 44 20.0		
	comp=Z,600nm,17.9s								
TREC	**Trest**	**91.43**	**40**	AMS		AMS	04 44 30.0		
	comp=Z,500nm,22.5s								
SNAA	**Sanae**	**91.50**	**162**	*e*P		**P**	**04 11 28.1**	**-2.1**
SNAA					pmax	pmax			
	comp=Z,1.0nm,0.6s								
SNAA	**Sanae**	**91.50**	**162**	*e*P		**P**	**04 11 28.1**	**-2.1**
	comp=Z,1.4nm,0.6s,mb4.5								
ARCES	**ARCESS Array B**	**91.54**	**20**	LR		LR	04 47 16.2		
	comp=Z,238nm,21.3s,MS4.6,baz=100,slow=32								
UPC	**Upice**	**91.57**	**39**	*e*P		**P**	**04 11 31.2**	**+0.2**
DPC	**Dobruska-Polom**	**91.79**	**39**	*e*P		**P**	**04 11 31.8**	**-0.2**
DPC					AMS	AMS	04 44 50.0		
	comp=Z,600nm,23.3s								
MORC	**Moravsky Berou**	**92.67**	**40**	*e*P		**P**	**04 11 35.2**	**-0.9**
MORC					pmax	pmax			
	comp=Z,7.0nm,1.3s,mb4.9								
MORC	**Moravsky Berou**	**92.67**	**40**	*e*P		**P**	**04 11 35.2**	**-0.9**
	comp=Z,7.2nm,1.3s,mb4.9								
AKASG	**Malin Array Be**	**99.64**	**37**	LR		LR	04 53 40.2		
	comp=Z,206nm,19.8s,MS4.6,baz=315,slow=33								
OBN	**Obninsk**	**101.94**	**31⇑**	*e*P		Pdif	04 12 14.8	-3.1
OBN				*e*S		SKSac	04 22 56.5	-1.4
OBN					pmax	pmax			
	comp=Z,8.0nm,1.2s								
KIV	**Kislovodsk**	**110.77**	**39⇑**	*e*P		Pdif	04 12 52.2	-4.9
KIV				*e*S		SKSac	04 23 31.2	-6.2
KIV					pmax	pmax			
	comp=Z,6.0nm,0.7s								
BVAR	**Borovoye Array**	**117.80**	**18**	PKP		PKPdf	04 17 11.5	+0.9
	comp=Z,0.5nm,0.4s,baz=197,slow=4.6,SNR=3.9								
ZALV	**Zalesovo Beam**	**120.28**	**9**	PKP		PKPdf	04 17 15.6	+0.3
	comp=Z,0.9nm,0.4s,baz=242,slow=3.2,SNR=3.9								
KURK	**Kurchatov**	**122.15**	**14**	PKP		PKPdf	04 17 19.4	+0.3
	comp=Z,2.1nm,0.7s,baz=335,slow=2.4,SNR=9.0								
KURK	**Kurchatov**	**122.15**	**14**	*e*PKPdf		PKPdf	04 17 17.6	-1.4
MDJ	**Mudanjiang**	**122.80**	**333**	PKP		PKPdf	04 17 13.3	-7.2
MDJ				XPKP			04 17 23.5		
MDJ					PP	PP			
	comp=Z,97nm,6.0s								
MDJ					LR	LR			
	comp=N,131nm,33.1s,MS4.7								
MDJ					LR	LR			
	comp=E,271nm,31.6s,MS4.7								
MDJ					LR	LR			
	comp=Z,149nm,24.1s								
CN2	**Changchun**	**125.24**	**335**	*e*PDIF		Pdif	04 13 56.0	-5.4
CN2					PP	PP	04 19 12.4	-1.5
CN2					PP	PP			
	comp=Z,300nm,6.0s								
MK31	**Makanchi Array**	**126.67**	**13**	*e*PKIKP		PKPdf	04 17 27.7	-0.1
MKAR	**Makanchi Array**	**126.67**	**13**	PKP		PKPdf	04 17 28.3	+0.5
	comp=Z,0.9nm,0.5s,baz=2.9,slow=2.4,SNR=8.6								
MKAR	**Makanchi Array**	**126.67**	**13**	*i* PKIKP		PKPdf	04 17 29.2	+1.4
MKAR					pmax	pmax			
	comp=Z,1.0nm,0.5s								
SONM	**Songino Array**	**126.78**	**353**	PKP		PKPdf	04 17 26.6	-1.4
	comp=Z,1.3nm,0.8s,baz=175,slow=0.4,SNR=7.0								
SONM	**Songino Array**	**126.78**	**353**	PKP		PKPdf	04 17 26.6	-1.4
EKS2	**Erkin-Say**	**127.88**	**22**	*e*PKPdf		PKPdf	04 17 30.4	+0.1
AML	**Almayashu**	**128.31**	**22**	*e*PKPdf		PKPdf	04 17 31.4	+0.3
TKM2	**Tokmak 2**	**128.31**	**20**	*e*PKIKP		PKPdf	04 17 31.1	0.0
UCH	**Uchtor**	**128.53**	**22**	*e*PKPdf		PKPdf	04 17 32.5	+1.0
KSRS	**Korea Array**	**129.10**	**329**	PKP		PKPdf	04 17 32.6	-0.2
	comp=Z,2.7nm,0.9s,baz=352,slow=1.1,SNR=6.5								
WMQ	**Urumqi**	**130.58**	**9**	PKP		PKPdf	04 17 29.0	-6.4
WMQ				XPKP			04 17 36.3		
WMQ					PP	PP	04 19 49.0	+0.3
WMQ					PPP		04 22 37.0		
WMQ					PP	PP			
	comp=Z,173nm,5.5s								
WMQ					LR	LR			
	comp=N,214nm,29.5s,MS4.8								
WMQ					LR	LR			
	comp=E,194nm,32.8s,MS4.8								
WMQ					LR	LR			
	comp=Z,240nm,28.1s,MS4.7								
STKA	**Stephens Creek**	**130.86**	**232**	PKP		PKPdf	04 17 36.9	+0.6
	comp=Z,3.5nm,0.8s,baz=118,slow=9.4,SNR=6.0								
STKA	**Stephens Creek**	**130.86**	**232**	*e*PKPdf		PKPdf	04 17 36.5	+0.2
BJI	**Beijing**	**131.96**	**341**	PKP		PKPdf	04 17 36.3	-1.8
BJI				SS		SS	04 37 34.8	+1.0
BJI				LR		LR			
	comp=N,228nm,20.2s,MS5.1								
BJI				LR		LR			
	comp=E,235nm,15.6s,MS5.1								
BJI				LR		LR			
	comp=Z,261nm,30.7s								
BJI	**Beijing**	**131.96**	**341**	PKP		PKPdf	04 17 36.2	-1.9
BJI				SS		SS	04 37 34.7	+0.9
HHC	**Hu-ho-hao-te**	**132.55**	**345**	*e*PKP		PKPdf	04 17 39.3	+0.1
HHC				PP		PP	04 20 07.0	+5.5
HHC				PKS			04 21 13.9		
HHC				SKS		SKSdf	04 24 49.5	-1.7
HHC				SKKS		SKKSac	04 26 58.3	-1.1
HHC				PP		PP			
	comp=Z,127nm,6.4s								
HHC				LR		LR			
	comp=N,247nm,23.9s,MS5.2								
HHC				LR		LR			
	comp=E,529nm,21.7s,MS5.2								
HHC				LR		LR			
	comp=Z,221nm,21.1s,MS4.8								
NJ2	**Nanjing**	**137.88**	**333**	*e*PKP		PKPdf	04 17 44.5	-4.9
LZH	**Lanzhou**	**138.67**	**352**	*e*PKP		PKPdf	04 17 45.0	-5.7
LZH				XPKP			04 17 56.5		
LZH				LR		LR			
	comp=N,144nm,15.2s								
LZH				LR		LR			
	comp=Z,244nm,18.1s,MS5.0								
ASAR	**Alice Springs**	**140.33**	**239**	PKhKP			04 17 43.3		
	comp=Z,1.0nm,0.8s,baz=111,slow=2.7,SNR=7.2								
ASAR					PKP	PKPdf	04 17 53.8	-0.2	
	comp=Z,2.2nm,0.9s,baz=116,slow=2.1,SNR=8.1								
ASAR	**Alice Springs**	**140.33**	**239**	PKIKP		PKPdf	04 17 53.8	-0.3	
WRAB	**Tennant Creek**	**141.20**	**244**	*i* PKIKP		PKPdf	04 17 54.5	-1.2	
WRAB	**Tennant Creek**	**141.20**	**244**	*e*PKPpre			04 17 51.4		
WRA	**Warramunga Arr**	**141.20**	**244**	PKhKP			04 17 47.4		
	comp=Z,3.2nm,1.0s,baz=102,slow=2.6,SNR=5.1								
WRA					PKP	PKPdf	04 17 55.2	-0.5	
	comp=Z,4.1nm,0.8s,baz=107,slow=1.9,SNR=10								
WRA	**Warramunga Arr**	**141.20**	**244**	PKP		PKPdf	04 17 55.2	-0.6	
FORT	**Forrest**	**141.49**	**225**	*e*PKP		PKPdf	04 17 52.2	-3.8	
	comp=Z,6.6nm,0.8s								
CD2	**Chengdu**	**143.76**	**351**	*e*PKP		PKPdf	04 17 57.0	-3.0	
CD2				APKP			04 18 02.0		
CD2				XPKP			04 18 06.8		
CD2				PP		PP	04 21 14.3	+3.3	
CD2				PKS			04 21 31.3		
CD2				SKS		SKSdf	04 25 01.3	-9.1	
CD2				SKKS		SKKSac	04 27 59.3	-6.7	
CD2				SS		SS	04 39 51.9	-1.4	
CD2				PP		PP			
	comp=Z,160nm,9.6s								
CD2				LR		LR			
	comp=N,280nm,22.8s,MS5.2								
CD2				LR		LR			
	comp=E,330nm,24.0s,MS5.2								
CD2				LR		LR			
	comp=Z,260nm,25.2s,MS4.9								
DANN	**Dangsing**	**144.28**	**21**	*e*P		PKPdf	04 17 57.9	-3.1	
	comp=Z,58nm,0.8s								
KAKA	**Kakadu**	**144.66**	**255**	*e*PKP		PKPdf	04 17 56.4	-5.6	
	comp=Z,16nm,0.7s								
KOLN	**Koldanda**	**144.75**	**22**	*e*P		PKPdf	04 17 58.8	-3.0	
	comp=Z,21nm,0.8s								
GKN	**Gorkha**	**144.90**	**20**	*e*P		PKPdf	04 18 00.0	-2.1	
	comp=Z,80nm,0.9s								
LSA	**Lhasa**	**144.94**	**10**	*e*PKP		PKPdf	04 17 55.6	-6.5	
KKN	**Kakani**	**145.31**	**19**	*e*P		PKPbc	04 18 01.3	-1.2	
	comp=Z,90nm,0.7s								
GUN	**Gumba**	**145.39**	**18**	*e*P		PKPbc	04 18 01.7	-1.1	
	comp=Z,149nm,1.0s								
DMN	**Daman**	**145.42**	**20**	*e*P		PKPbc	04 18 01.6	-1.3	
	comp=Z,116nm,1.0s								
PKIN	**Pulchoki**	**145.55**	**19**	*e*P		PKPdf	04 18 01.1	-2.1	
	comp=Z,37nm,0.9s								
PKI	**Pulchoki**	**145.56**	**19**	*e*P		PKPdf	04 18 01.5	-1.7	
	comp=Z,68nm,1.1s								
JIRN	**Jiri**	**145.72**	**18**	*e*P		PKPdf	04 18 03.1	-0.4	
	comp=Z,100nm,1.3s								
TAPN	**Taplejung**	**146.45**	**16**	*e*P		PKPdf	04 18 05.4	+0.6	
	comp=Z,38nm,0.8s								
RAMN	**Ramite**	**146.51**	**18**	*e*P		PKPdf	04 18 03.3	-1.6	
	comp=Z,56nm,1.1s								
NWAO	**Narrogin (SRO)**	**146.68**	**211**	PKPbc		PKPdf	04 18 03.6	-1.3	
	comp=Z,7.1nm,0.8s,baz=161,slow=4.1,SNR=3.3								
KLBR	**Kellerberrin**	**147.44**	**213**	*e*PKP		PKPdf	04 18 05.5	-0.8	
	comp=Z,30nm,1.3s								
GYA	**Guiyang**	**147.46**	**345**	PKP		PKPdf	04 18 05.8	-0.7	
GYA				PKP2		PKPab	04 18 11.9	+1.1	
GYA				PP		PP	04 21 36.3	+3.2	
GYA				PKS			04 21 38.0		
GYA				PPP			04 24 55.8		
GYA				SKKS		SKKSac	04 28 24.6	-2.5	
GYA				SS		SS	04 40 36.0	+0.3	
GYA				PP		PP			
	comp=Z,130nm,8.4s								
GYA				LR		LR			
	comp=N,340nm,22.5s,MS5.2								
GYA				LR		LR			
	comp=E,250nm,21.9s,MS5.2								
GYA				LR		LR			
	comp=Z,390nm,22.2s,MS5.1								
MUN	**Mundaring**	**147.96**	**211**	*e*PKP		PKPdf	04 18 06.0	-1.1	
FITZ	**Fitzroy Crossi**	**149.57**	**242**	*e*PKP		PKPdf	04 18 10.5	+0.4	
	comp=Z,13nm,0.9s								
FITZ	**Fitzroy Crossi**	**149.57**	**242**	PKPbc		PKPbc	04 18 13.0	-1.7	
	comp=Z,8.1nm,0.9s,baz=128,slow=3.9,SNR=12								
KMI	**Kunming**	**149.59**	**351**	PKIKP		PKPdf	04 18 07.9	-2.1	
KMI							04 18 12.6		
KMI							04 21 49.1		
KMI				PPP			04 25 11.8		
KMI				SS		SS	04 40 59.0	-0.5	
KMI				SSS			04 46 41.7		
KMI	**Kunming**	**149.59**	**351**	PKP		PKPdf	04 18 07.9	-2.1	
KMI				sPKP			04 18 12.6		
KMI				PKS			04 21 41.4		
KMI				PP		PP	04 21 49.1	+3.6	
KMI				PPP			04 25 11.8		
KMI				SKKS		SKKSac	04 28 35.9	-3.1	
KMI				SS		SS	04 40 59.0	-0.5	
KMI				SSS			04 46 41.7		
HYB	**Hyderabad**	**150.90**	**40**	*i* PKP		PKPab	04 18 23.0	-2.0	
CMAR	**Chiang Mai Arr**	**156.62**	**356**	PKP		PKPdf	04 18 20.8	+0.4	
	comp=Z,1.0nm,0.3s,baz=285,slow=1.6,SNR=5.5								
CMAR					PKPab	PKPab	04 18 49.5	+0.6	
	comp=Z,1.1nm,0.4s,baz=347,slow=4.9,SNR=4.6								

*ISCJB **13** 04:14:37.7±4.3,5.1S±0.1×1518E±02,h32km±30km, mb4.2/13,MS3.5/5,Error ellipse: s-maj=30.4km s-min=11.7km az=36.5*
*NEIC **13** 04:14:40.6±0.5,5.15S×151.98E,mb4.6/3,Error ellipse: s-maj=17.8km s-min=9.2km az=123.0*
*IDC **13** 04:14:41.1±1.1,5.14S×151.90E,h48km±7km,mb4.0/12, mb1 4.2/12,mb1mx4.1/18,mbtmp4.0/12,MS3.6/7, Ms1 3.6/7,ms1mx3.3/22,Error ellipse: s-maj=26.6km s-min=12.2km az=120.0*

ISC 13 04:14:42.8±2.3,52S±01×1518E±02,h62km±18km,n29, σ0§87/23,mb4.2/12,New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
PMG	**Port Moresby**	**6.21**	**227**	*e*Pn		**Pn**	**04 16 12.7**	**+0.8**
	83nm,0.9s							
PMG				*e*Sn		**Sn**	**04 17 20.7**	**-1.0**
CTA	**Charters Tower**	**15.77**	**199**	LR		LR	04 23 45.5	
	comp=Z,251nm,20.6s,baz=47,slow=34							
GUMO	**Guam**	**19.85**	**340**	LR		LR	04 25 08.3	
	comp=Z,170nm,22.0s,baz=264,slow=32							
KAKA	**Kakadu**	**20.49**	**247**	*e*P		**P**	**04 19 14.7**	**-1.2**
	25nm,0.6s							
WRAB	**Tennant Creek**	**22.42**	**228**	*e*P		**P**	**04 19 37.7**	**+1.2**
	20nm,0.9s,mb4.5							
WRA	**Warramunga Arr**	**22.43**	**228**	P		**P**	**04 19 37.1**	**+0.4**
	8.3nm,0.7s,mb4.3,baz=51,slow=9.7,SNR=34							
WRA				pP			04 19 49.5	
	18nm,0.9s,baz=51,slow=9.6,SNR=15							
WRA				PcP		PcP	04 23 30.2	+0.7
	1.6nm,0.9s,baz=35,slow=1.5,SNR=5.6							
WRA				S		**S**	**04 23 39.6**	**+0.4**
	2.0nm,1.0s,baz=56,slow=17,SNR=6.2							
WRA				ScP		ScP	04 27 04.3	+2.3
	0.8nm,0.9s,baz=57,slow=4.6,SNR=3.8							
WRA				LR		LR	04 28 43.8	
	comp=Z,88nm,19.1s,baz=55,slow=37							
ASAR	**Alice Springs**	**25.19**	**221**	P		**P**	**04 20 03.0**	**+0.2**
	2.9nm,0.4s,mb4.2,baz=56,slow=9.0,SNR=32							
ASAR				pP			04 20 15.6	-2.2
	24nm,0.9s,baz=55,slow=8.5,SNR=27							
ASAR				S		**S**	**04 24 30.6**	**+6.8**
	0.6nm,0.7s,baz=45,slow=16,SNR=3.3							
ASAR				ScP		ScP	04 27 11.7	+2.3
	0.9nm,1.0s,baz=70,slow=2.2,SNR=4.9							
STKA	**Stephens Creek**	**28.23**	**199**	P		**P**	**04 20 29.4**	**-0.6**
	1.4nm,0.9s,mb3.6,baz=48,slow=14,SNR=2.3							
STKA				LR		LR	04 31 07.0	
	comp=Z,162nm,18.8s,baz=24,slow=35							
STKA	**Stephens Creek**	**28.23**	**199**	P		**P**	**04 20 29.4**	**-0.6**
STKA				LR		LR	04 31 07.0	
FITZ	**Fitzroy Crossi**	**28.58**	**241**	*e*P		**P**	**04 20 33.3**	**0.0**
	14nm,1.1s,mb4.6							
FITZ	**Fitzroy Crossi**	**28.58**	**241**	P		**P**	**04 20 33.7**	**+0.4**
	5.8nm,0.8s,mb4.3,baz=60,slow=9.9,SNR=11							
FITZ				LR		LR	04 33 44.9	
	comp=Z,80nm,18.6s,baz=256,slow=40							
FITZ	**Fitzroy Crossi**	**28.58**	**241**	*e*P		**P**	**04 20 33.7**	**+0.5**
	48nm,1.1s,mb5.1							
DAV	**Davao City (W)**	**28.81**	**295**	LR		LR	04 31 45.6	
	comp=Z,81nm,18.5s,baz=272,slow=35							
MJAR	**Matsushiro Arr**	**43.38**	**344**	LR		LR	04 37 39.5	
	comp=Z,99nm,21.4s,baz=335,slow=32							
CMAR	**Chiang Mai Arr**	**57.09**	**296**	P		**P**	**04 24 25.7**	**+2.4**
	1.4nm,0.7s,mb4.1,baz=120,slow=5.2,SNR=6.7							
CMAR				pP		pP	04 24 37.8	-1.8
	1.0nm,0.4s,baz=106,slow=5.2,SNR=1.9							
SONM	**Songino Array**	**66.08**	**328**	P		**P**	**04 25 23.6**	**+0.3**
	1.5nm,0.5s,mb4.2,baz=163,slow=4.5,SNR=6.7							
MKAR	**Makanchi Array**	**79.92**	**319**	P		**P**	**04 26 45.0**	**-0.2**
	1.1nm,0.7s,mb3.9,baz=99,slow=5.5,SNR=6.8							
ZALV	**Zalesovo Beam**	**80.88**	**327**	P		**P**	**04 26 49.2**	**-1.0**
	2.4nm,0.7s,mb4.2,baz=97,slow=5.1,SNR=6.3							
ZALV	**Zalesovo Beam**	**80.88**	**327**	P		**P**	**04 26 49.2**	**-1.0**
KURK	**Kurchatov**	**83.42**	**322**	P		**P**	**04 27 03.2**	**-0.3**
	1.8nm,0.8s,mb4.1,baz=108,slow=4.3,SNR=5.4							
KURK	**Kurchatov**	**83.42**	**322**	P		**P**	**04 27 03.2**	**-0.3**
BVAR	**Borovoye Array**	**88.91**	**323**	P		**P**	**04 27 29.4**	**-1.0**
	1.2nm,0.7s,mb4.3,baz=106,slow=4.8,SNR=4.1							
NVAR	**Mina Array Bea**	**93.12**	**52**	P		**P**	**04 27 50.4**	**0.0**
	1.9nm,0.7s,mb4.6,baz=251,slow=7.4,SNR=14							
NVAR	**Mina Array Bea**	**93.12**	**52**	P		**P**	**04 27 50.4**	**0.0**
PDAR	**Pinedale Array**	**99.86**	**48**	P		Pdif	04 28 20.0	-0.5
	0.7nm,0.8s,baz=251,slow=2.7,SNR=5.5							
GERES	**GERESS Array B**	**123.81**	**328**	PKP		PKPdf	04 33 34.2	+0.3
	0.7nm,0.6s,baz=90,slow=1.3,SNR=6.2							
LPAZ	**La Paz**	**135.15**	**119**	PKP		PKPdf	04 33 57.0	+0.7
	1.0nm,0.8s,baz=192,slow=2.1,SNR=6.4							
TORD	**Torodi Ar. Bea**	**149.43**	**287**	PKPbc		PKPbc	04 34 25.7	-0.4
	12nm,0.9s,baz=66,slow=2.2,SNR=50							
BDFB	**Brasilia**	**151.53**	**137**	PKPbc		PKPbc	04 34 29.6	-1.4
	1.6nm,0.8s,baz=69,slow=24,SNR=3.9							

DJA 13 04:15:12,885S×11300E,h34km,MLv3.8/7,Jawa

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
KRKI	**Karangkates**	**0.88**	**322**	P		Pn	04 15 28.0	+0.1
KRKI	**Karangkates**	**0.88**	**322**	S		Sn	04 15 41.3	+1.8
SJI	**Sawahan**	**1.65**	**312**	P		Pn	04 15 38.4	-0.2
SJI	**Sawahan**	**1.65**	**312**	S		Sn	04 15 59.5	+0.9
NBBI	**Negara**	**1.67**	**74**	P		Pn	04 15 39.8	+0.9
NBBI	**Negara**	**1.67**	**74**	S		Sn	04 15 59.0	-0.1
KMMI	**Kalianget**	**2.03**	**28**	P		Pn	04 15 46.2	+2.4
IGBI	**Denpasar**	**2.12**	**89**	P		Pn	04 15 46.2	+1.1
IGBI	**Denpasar**	**2.12**	**89**	S		Sn	04 16 08.3	-1.9
DNP	**Denpasar**	**2.19**	**86**	P		Sn	04 16 11.5	-0.5
KHKI	**Kahang-Kahang**	**2.62**	**80**	P		Pn	04 15 52.4	+0.4

*NEIC **13** 04:35:32.4±9.1,3572N×2.15E,h10km,MG3.9(MDD), Error ellipse: s-maj=104.0km s-min=16.6km az=138.0*
*ISCJB **13** 04:35:40.8±0.6,3633N±005×145E±005,h12km±7km, Error ellipse: s-maj=10.0km s-min=6.0km az=148.0*
*CRAAG **13** 04:35:40.9,3625N×140E,Ml3.4*
*CSEM **13** 04:35:40.6±0.1,3626N×138E,h8km,mb3.8/6,Error ellipse: s-maj=3.5km s-min=2.3km az=49.0*
*MDD **13** 04:35:41.6±2.2,3609N×172E,h32km±81km,mb3.8/10, Error ellipse: s-maj=44.6km s-min=10.4km az=142.0, PRIMO*

ISC 13 04:35:41.3±0.6,3631N±006×150E±006,h10km±8km,n33, σ1§21/55,Northern Algeria

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
EBNR	**Beni Rached**	**0.03**	**123**	P		**Pg**	**04 35 44.0**	**+0.8**
ECHA	**Ech Chlef**	**0.19**	**214**	P		**Pg**	**04 35 43.9**	**-1.4**
ECHF	**Ech Chlef**	**0.20**	**220**	P		**Pg**	**04 35 43.9**	**-1.6**
EANR	**'Ain N'Sour**	**0.48**	**222**	P		**Pg**	**04 35 49.5**	**-1.2**
ETRT	**Tiaret**	**0.93**	**190**	P		**Pg**	**04 35 58.7**	**-0.5**
EMHD	**Djebel Mahouad**	**1.18**	**95**	P		**Pb**	**04 36 04.0**	**+0.2**
EIBI	**Ibiza**	**2.72**	**357**	P		**Pn**	**04 36 25.1**	**+0.1**
	14nm,0.5s,SNR=7.9							
EIBI				S		**Sn**	**04 36 56.9**	**-1.0**
	11nm,0.2s,SNR=7.9							
EIBI	**Ibiza**	**2.72**	**357**	P		**Pn**	**04 36 25.1**	**+0.2**
	14nm,0.5s,SNR=7.9							
EIBI	**Ibiza**	**2.72**	**357**	P		**Pn**	**04 36 24.8**	**-0.2**
EIBI				S		**Sn**	**04 36 55.8**	**-2.0**
ETOB	**Tobarra**	**3.36**	**315**	P		**Pn**	**04 36 35.5**	**+1.7**
	0.7nm,0.1s,SNR=23							
ETOB				S		**Sn**	**04 37 14.2**	**+0.5**
	2.2nm,0.2s							
ETOB	**Tobarra**	**3.36**	**315**	P		**Pn**	**04 36 35.5**	**+1.7**
	0.7nm,0.1s,SNR=23							
ETOB				S		**Sn**	**04 37 14.2**	**+0.4**
	2.2nm,0.2s							
ETOB	**Tobarra**	**3.36**	**315**	P		**Pn**	**04 36 35.

TKM2 ⇑S Sn 04 43 32.8 +1.3
3.0nm,1.1s
AB31 Akbulak array 14.86 330 P Pn 04 43 56.4 +0.6
0.3nm,0.3s,baz=143,slow=12,SNR=18
AB31 ⇓S Sn 04 46 40.3 -0.3
0.4nm,0.6s

IDC ***13*** *04:43:02.8±1.3, 3126N×14175E, h0km, mb3.7/4, mb1 3.8/5, mb1mx3.6/19, mbtmp3.5/5, ML3.4/1, Error ellipse: s-maj=49.7km s-min=25.0km az=76.0*
ISCJB ***13*** *04:43:05.8±1.0, 313N±01×1417E±03, h33km, mb3.7/4, Error ellipse: s-maj=38.3km s-min=12.3km az=165.1*
JMA ***13*** *04:43:10.9±0.6, 3202N×14258E, h99km, M3.1*
ISC 13 04:43:07.8±1.0, 313N±01×1418E±03, h35km, n8, σ0s84/8, mb3.7/4, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
BSO1	**Boso 1**	**3.41**	**348**	P		**Pn**	**04 43 56.8**	**-1.7**
JOD2	**Odawara 2**	**4.56**	**331**	P		**Pn**	**04 44 15.7**	**+1.4**
JRY	**Ryogami san**	**5.29**	**333**	P		**Pn**	**04 44 24.5**	**+0.1**
MJAR	**Matsushiro Arr**	**6.02**	**331**	Pn		**Pn**	**04 44 34.6**	**+0.2**
	1.0nm,0.3s,baz=157,slow=11,SNR=5.7							
MKAR	**Makanchi Array**	**47.63**	**307**	P		**P**	**04 51 39.8**	**-0.6**
	0.2nm,0.3s,mb3.7,baz=78,slow=9.8,SNR=2.1							
WRA	**Warramunga Arr**	**51.46**	**189**	P		**P**	**04 52 09.5**	**-0.3**
	0.7nm,0.3s,mb4.0,baz=7.2,slow=7.7,SNR=8.9							
ASAR	**Alice Springs**	**55.19**	**189**	P		**P**	**04 52 37.1**	**0.0**
	0.3nm,0.6s,mb3.5,baz=10,slow=6.6,SNR=6.2							
TXAR	**Lajitas Array**	**93.32**	**53**	P		**P**	**04 56 20.1**	**+0.7**
	0.1nm,0.6s,mb3.4,baz=270,slow=1.8,SNR=2.5							

IDC 13 05:43:05.6±26.0, 1719S×17257W, h0km, mb4.5/4, mb1 4.6/4, mb1mx4.0/19, mbtmp4.5/4, Error ellipse: s-maj=487.4km s-min=156.8km az=73.0, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**39.06**	**259**	P		P	05 50 35.0	+0.4
	2.0nm,0.4s,baz=83,slow=8.1,SNR=4.6							
STKA	**Stephens Creek**	**43.87**	**242**	P		P	05 51 14.5	+0.5
	1.6nm,0.3s,baz=93,slow=9.1,SNR=8.2							
WRA	**Warramunga Arr**	**50.24**	**258**	P		P	05 52 03.4	-0.5
	3.5nm,0.4s,baz=97,slow=8.0,SNR=34							
ASAR	**Alice Springs**	**50.34**	**253**	P		P	05 52 04.3	-0.3
	7.1nm,0.8s,baz=88,slow=7.9,SNR=80							
KAKA	**Kakadu**	**53.18**	**267**	*e*P		P	05 52 25.4	-0.6
	5.7nm,0.5s							
FITZ	**Fitzroy Crossi**	**58.64**	**259**	*e*P		P	05 53 05.6	+0.5
	1.9nm,0.3s							

ISCJB ***13*** *05:44:16.8±0.3, 4607N±001×727E±003, h11km±3km, Error ellipse: s-maj=3.0km s-min=2.0km az=6.8*
ROM ***13*** *05:44:17.5±0.2, 4604N×728E, h8km±3km, Md2.2/10, Ml2.1/2, Error ellipse: s-maj=4.4km s-min=2.2km az=156.0*
CSEM ***13*** *05:44:17.9±0.0, 4607N×730E, h8km, ML2.5/15, Error ellipse: s-maj=1.0km s-min=0.6km az=98.0*
ZUR ***13*** *05:44:18.1, 4608N×730E, h3km±1km, ML1.8/10*
LDG ***13*** *05:44:18.0±0.1, 4608N×729E, h3km, Md2.5/2, Ml2.5/16, Error ellipse: s-maj=1.1km s-min=0.6km az=95.0*
NEIC ***13*** *05:44:18.1, 46.10N×730E, h3km, ML1.8(ZUR), ML2.3(STR), ML2.5(LDG), After ZUR.*
GEN ***13*** *05:44:18.2, 4605N×729E, h4km, ML2.0*
STR ***13*** *05:44:20.6±0.8, 46.17N×720E, h10km, Ml2.3, Error ellipse: s-maj=0.0km s-min=0.0km az=0.0*
ISC 13 05:44:17.7±0.3, 4607N±001×727E±002, h11km±3km, n70, σ0s98/135, 4C-5D, Switzerland

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
DIX	**Grande Dixence**	**0.10**	**85**	⇓*i*P		**Pg**	**05 44 20.5**	**+0.2**
	5μm,0.2s							
DIX				⇓*i*Sg		**Sg**	**05 44 21.8**	**-0.4**
	5μm,0.2s							
GRYON	**Gryon**	**0.21**	**328**	⇑*i*Pg		**Pg**	**05 44 22.5**	**+0.3**
	116nm,0.2s							
GRYON				*e*Sg		**Sg**	**05 44 25.4**	**+0.2**
	116nm,0.2s							
SALAN	**Lac Salanfe**	**0.22**	**289**	⇑*i*Pg		**Pg**	**05 44 23.0**	**+0.6**
	161nm,0.3s							
SALAN				*i* Sg		**Sg**	**05 44 26.2**	**+0.7**
	161nm,0.3s							
EMV	**Vieux Emosson**	**0.26**	**268**	⇓*i*Pg		**Pg**	**05 44 23.8**	**+0.8**
	593nm,0.4s							
EMV				*i* Sg		**Sg**	**05 44 27.3**	**+0.7**
	593nm,0.4s							
SENIN	**Lac Senin/Sane**	**0.29**	**4**	⇑*i*Pg		**Pg**	**05 44 23.8**	**+0.2**
	419nm,0.3s							
SENIN				*i* Sg		**Sg**	**05 44 27.8**	**+0.2**
	419nm,0.3s							
MRGE	**Morge**	**0.34**	**206**	Pg		**Pg**	**05 44 24.9**	**+0.5**
MRGE				Sg		**Sg**	**05 44 29.4**	**+0.5**
	146nm,0.1s							
AIGLE	**Aigle**	**0.35**	**321**	⇑*i*Pg		**Pg**	**05 44 25.1**	**+0.4**
	134nm,0.3s							
LKBD2	**Leukerbad 2**	**0.40**	**40**	⇓*i*Pg		**Pg**	**05 44 25.6**	**0.0**
	40nm,0.1s							
LKBD	**Leukerbad**	**0.40**	**38**	⇓*i*Pg		**Pg**	**05 44 25.7**	**+0.1**
	36nm,0.3s							
MMK	**Mattmark**	**0.48**	**92**	*e*Sg		**Sg**	**05 44 30.3**	**-3.2**
	268nm,0.3s							
MMK	**Mattmark**	**0.48**	**92**	Pg		**Pg**	**05 44 27.4**	**+0.3**
MMK				Sg		**Sg**	**05 44 32.8**	**-0.7**
OG01	**Vacheresse**	**0.48**	**302**	Pg		**Pg**	**05 44 28.1**	**+0.9**
OG01				Sg		**Sg**	**05 44 34.8**	**+1.2**
LSD	**Lago del Serru**	**0.62**	**189**	Pg		**Pg**	**05 44 30.1**	**+0.4**
LSD				Sg		**Sg**	**05 44 37.5**	**-0.4**
WIMIS	**Wimmis**	**0.64**	**22**	*i* Pg		**Pg**	**05 44 32.8**	**+2.6**
	40nm,0.6s							
TRAV	**Traversella**	**0.65**	**149**	Pg		**Pg**	**05 44 30.1**	**-0.2**
	96nm,0.2s							
ORO	**Oropa**	**0.67**	**132**	Pg		**Pg**	**05 44 30.3**	**-0.3**
	34nm,0.1s							
LPL	**La Plagne**	**0.67**	**214**	*e*Pg		**Pg**	**05 44 31.0**	**+0.3**
	SNR=1.0							
LPL				*e*Sg		**Sg**	**05 44 40.2**	**+0.7**
	14nm,0.3s,SNR=1.0							
LPL	**La Plagne**	**0.67**	**214**	*e*Pg		**Pg**	**05 44 31.0**	**+0.3**
	SNR=1.0							
LPL				*e*Sg		**Sg**	**05 44 40.2**	**+0.7**
	7.2nm,0.3s,SNR=1.0							
LPG	**La Plagne**	**0.68**	**213**	*e*Pg		**Pg**	**05 44 31.3**	**+0.4**
	SNR=1.0							
LPG				*e*Sg		**Sg**	**05 44 40.5**	**+0.7**
	20nm,0.2s,SNR=1.0							
LPG	**La Plagne**	**0.68**	**213**	*e*Pg		**Pg**	**05 44 31.3**	**+0.4**
	SNR=1.0							
LPG				*e*Sg		**Sg**	**05 44 40.5**	**+0.7**
	10nm,0.2s,SNR=1.0							
GIMEL	**St. Georges /**	**0.84**	**304**	*e*Pg		**Pg**	**05 44 35.0**	**+1.1**
	58nm,0.3s							
RSP	**Reno Superiore**	**0.92**	**180**	Pg		**Pg**	**05 44 35.4**	**-0.1**
RSP				Sg		**Sg**	**05 44 46.7**	**-0.8**
CABF	**La Chapelle**	**0.98**	**304**	*e*Pn		**Pn**	**05 44 37.4**	**-0.1**
	SNR=1.0							
CABF				*e*Sg		**Sg**	**05 44 49.5**	**+0.1**
CABF				*e*Sn		**Sn**	**05 44 51.0**	**-0.4**
	9.2nm,0.3s,SNR=1.0							
CABF	**La Chapelle**	**0.98**	**304**	*e*Pn		**Pn**	**05 44 37.4**	**-0.1**
	SNR=1.0							
CABF				*e*Sg		**Sg**	**05 44 49.5**	**+0.1**
CABF				*e*Sn		**Sn**	**05 44 51.0**	**-0.4**
	4.6nm,0.3s,SNR=1.0							
VAI	**Varese**	**1.06**	**101**	Pg		**Pg**	**05 44 37.6**	**-0.6**
BNI	**Bardonecchia**	**1.10**	**202**	*e*P		**Pb**	**05 44 42.7**	**+3.9**
BNI	**Bardonecchia**	**1.10**	**202**	*e*P		**Pb**	**05 44 42.7**	**+3.9**
OG05	**Jujurieux**	**1.26**	**269**	Pg		**Pg**	**05 44 44.0**	**+2.0**
OG05				Sg		**Sg**	**05 44 59.7**	**+1.3**
LOMF	**Lomont**	**1.32**	**347**	Pg		**Pg**	**05 44 44.3**	**+1.3**
LOMF				Sg		**Sg**	**05 45 00.7**	**+0.6**
MBDF	**Montbardon**	**1.39**	**195**	*e*Pg		**Pg**	**05 44 44.5**	**+0.1**
	SNR=1.0							
MBDF				*e*Sn		**Sn**	**05 45 00.9**	**-0.5**
	SNR=1.0							
MBDF				*e*Sg		**Sg**	**05 45 03.0**	**+0.6**
	16nm,0.6s,SNR=1.0							
MBDF	**Montbardon**	**1.39**	**195**	*e*Pg		**Pg**	**05 44 44.5**	**+0.1**
	SNR=1.0							
MBDF				*e*Sn		**Sn**	**05 45 00.9**	**-0.5**
	7.9nm,0.6s,SNR=1.0							
BBS	**Basel-Blauen**	**1.40**	**7**	Pg		**Pg**	**05 44 45.7**	**+1.0**
BBS				Sg		**Sg**	**05 45 03.6**	**+0.7**
ORIF	**Oris-en-Rattie**	**1.51**	**221**	*e*Pg		**Pg**	**05 44 46.6**	**-0.2**
	SNR=1.0							
ORIF				*e*Sn		**Sn**	**05 45 03.9**	**-0.6**
	SNR=1.0							
ORIF				*e*Sg		**Sg**	**05 45 06.5**	**+0.1**
	12nm,0.4s,SNR=1.0							
ORIF	**Oris-en-Rattie**	**1.51**	**221**	*e*Pg		**Pg**	**05 44 46.6**	**-0.2**
	SNR=1.0							
ORIF				*e*Sn		**Sn**	**05 45 03.9**	**-0.6**
	SNR=1.0							
ORIF				*e*Sg		**Sg**	**05 45 06.5**	**+0.1**
	6.0nm,0.4s,SNR=1.0							
PZZ	**Stroppo**	**1.57**	**184**	Pg		**Pg**	**05 44 47.5**	**-0.3**
HINF	**Hinteralfeld**	**1.77**	**351**	*e*Pg		**Pg**	**05 44 51.3**	**-0.4**
HINF				*e*Sg		**Sg**	**05 45 13.6**	**-1.0**
	17nm,0.2s							
HINF	**Hinteralfeld**	**1.77**	**351**	*e*Pg		**Pg**	**05 44 51.3**	**-0.4**
HINF				*e*Sg		**Sg**	**05 45 13.6**	**-1.0**
	8.4nm,0.2s							
HINF	**Hinteralfeld**	**1.77**	**351**	*e*P		**Pn**	**05 44 49.9**	**+1.6**
HINF				*e*Pg		**Pg**	**05 44 51.3**	**-0.4**
HINF				*e*Sg		**Sg**	**05 45 13.6**	**-1.0**
MOF	**Molkenrain**	**1.78**	**357**	Pg		**Pg**	**05 44 53.5**	**+1.6**
FELD	**Feldberg im Sc**	**1.87**	**15**	Pg		**Pg**	**05 44 53.7**	**0.0**
FELD				Sg		**Sg**	**05 45 17.9**	**-0.1**
HAU	**Haudompre**	**2.04**	**342**	*e*Pg		**Pg**	**05 44 56.1**	**-0.7**
HAU				*e*Sg		**Sg**	**05 45 22.1**	**-1.0**
	27nm,0.3s,SNR=1.0							
HAU	**Haudompre**	**2.04**	**342**	*e*Pg		**Pg**	**05 44 56.1**	**-0.7**
HAU				*e*Sg		**Sg**	**05 45 22.1**	**-1.0**
	13nm,0.3s,SNR=1.0							
HAU	**Haudompre**	**2.04**	**342**	*e*Pn		**Pn**	**05 44 51.7**	**-0.3**
HAU				*e*Pg		**Pg**	**05 44 56.1**	**-0.7**
HAU				*e*Sg		**Sg**	**05 45 22.1**	**-1.0**
ECH	**Echery**	**2.15**	**358**	Pg		**Pg**	**05 45 00.1**	**+1.2**
VIVF	**Saint-Julien-l**	**2.20**	**237**	*e*Pg		**Pg**	**05 44 59.2**	**-0.6**
VIVF				*e*Sg		**Sg**	**05 45 28.2**	**-0.1**
	5.0nm,0.3s,SNR=1.0							
VIVF	**Saint-Julien-l**	**2.20**	**237**	*e*Pg		**Pg**	**05 44 59.2**	**-0.6**
VIVF				*e*Sg		**Sg**	**05 45 28.2**	**-0.1**
	2.5nm,0.3s,SNR=1.0							
VIVF	**Saint-Julien-l**	**2.20**	**237**	*e*P		**Pn**	**05 44 56.1**	**+1.9**
VIVF				*e*Pg		**Pg**	**05 44 59.2**	**-0.6**
VIVF				*e*Sg		**Sg**	**05 45 28.2**	**-0.1**
THEF	**They Montfort**	**2.33**	**338**	Pg		**Pg**	**05 45 02.9**	**+0.6**
CDF	**Champ du Feu**	**2.34**	**0**	*e*Pg		**Pg**	**05 45 01.0**	**-1.6**
CDF				*e*Sg		**Sg**	**05 45 31.7**	**-1.3**
	4.1nm,0.3s,SNR=1.0							
CDF	**Champ du Feu**	**2.34**	**0**	*e*Pg		**Pg**	**05 45 01.0**	**-1.6**
CDF				*e*Sg		**Sg**	**05 45 31.7**	**-1.3**
	2.0nm,0.3s,SNR=1.0							
CDF	**Champ du Feu**	**2.34**	**0**	*e*Pn		**Pn**	**05 44 55.6**	**-0.6**
CDF				*e*Pg		**Pg**	**05 45 01.0**	**-1.6**
CDF				*e*Sg		**Sg**	**05 45 31.7**	**-1.3**
SMRF	**Simiane la Rot**	**2.42**	**210**	*e*Pg		**Pg**	**05 45 03.2**	**-0.8**
SMRF				*e*Sg		**Sg**	**05 45 34.6**	**-0.7**
	0.9nm,0.3s							
SMRF	**Simiane la Rot**	**2.42**	**210**	*e*Pg		**Pg**	**05 45 03.2**	**-0.8**
SMRF				*e*Sg		**Sg**	**05 45 34.6**	**-0.7**
	0.4nm,0.3s							
SMF	**Signal de Mont**	**2.44**	**285**	*e*P		**Pn**	**05 45 00.0**	**+2.4**
SMF				*e*Sg		**Sg**	**05 45 35.1**	**-1.1**
	4.9nm,0.2s							
SMF	**Signal de Mont**	**2.44**	**285**	*e*P		**Pn**	**05 45 00.0**	**+2.4**
SMF				*e*Sg		**Sg**	**05 45 35.1**	**-1.1**
	2.5nm,0.2s							
FRF	**La Foret Royal**	**2.55**	**190**	*e*Pg		**Pg**	**05 45 05.5**	**-1.1**
	SNR=1.0							
FRF				*e*Sg		**Sg**	**05 45 38.7**	**-0.9**
	5.1nm,0.6s,SNR=1.0							
FRF	**La Foret Royal**	**2.55**	**190**	*e*Pg		**Pg**	**05 45 05.5**	**-1.1**
	SNR=1.0							
FRF				*e*Sg		**Sg**	**05 45 38.7**	**-0.9**
	2.5nm,0.6s,SNR=1.0							
SFTF	**Sexfontaines**	**2.62**	**325**	*e*Pg		**Pg**	**05 45 06.8**	**-1.2**
SFTF				*e*Sg		**Sg**	**05 45 40.4**	**-1.6**
	4.0nm,0.2s							
SFTF	**Sexfontaines**	**2.62**	**325**	*e*Pg		**Pg**	**05 45 06.8**	**-1.2**
SFTF				*e*Sg		**Sg**	**05 45 40.4**	**-1.6**
	2.0nm,0.2s							
LOR	**Lormes**	**2.64**	**298**	*e*Pg		**Pg**	**05 45 06.8**	**-1.5**
LOR				*e*Sg		**Sg**	**05 45 41.2**	**-1.2**
	3.6nm,0.3s,SNR=1.0							
LOR	**Lormes**	**2.64**	**298**	*e*Pg		**Pg**	**05 45 06.8**	**-1.5**
LOR				*e*Sg		**Sg**	**05 45 41.2**	**-1.2**
	1.8nm,0.3s,SNR=1.0							
LOR	**Lormes**	**2.64**	**298**	*e*Pn		**Pn**	**05 44 59.3**	**-0.9**
LOR				*e*Pg		**Pg**	**05 45 06.8**	**-1.5**
LOR				*e*Sg		**Sg**	**05 45 41.2**	**-1.2**
SSF	**Saint Saulge**	**2.78**	**292**	*e*Pg		**Pg**	**05 45 09.4**	**-1.6**
SSF				*e*Sg		**Sg**	**05 45 46.3**	**-0.7**
	3.4nm,0.4s,SNR=1.0							
SSF	**Saint Saulge**	**2.78**	**292**	*e*Pg		**Pg**	**05 45 09.4**	**-1.6**
SSF				*e*Sg		**Sg**	**05 45 46.3**	**-0.7**
	1.7nm,0.4s,SNR=1.0							
AVF	**Avril sur Loir**	**2.81**	**286**	*e*P		**Pn**	**05 45 04.2**	**+1.7**
	SNR=1.0							
AVF				*e*Sg		**Sg**	**05 45 46.3**	**-1.5**
	1.4nm,0.2s							
AVF	**Avril sur Loir**	**2.81**	**286**	*e*P		**Pn**	**05 45 04.2**	**+1.7**
	SNR=1.0							
AVF				*e*Sg		**Sg**	**05 45 46.3**	**-1.5**
	0.7nm,0.2s							
MEZF	**Maizieres J'vi**	**2.86**	**329**	*e*Pg		**Pg**	**05 45 11.0**	**-1.6**
MEZF				*e*Sg		**Sg**	**05 45 48.2**	**-1.5**
	3.5nm,0.3s							
MEZF	**Maizieres J'vi**	**2.86**	**329**	*e*Pg		**Pg**	**05 45 11.0**	**-1.6**
MEZF				*e*Sg		**Sg**	**05 45 48.2**	**-1.5**
	1.8nm,0.3s							
CAF	**Calviac**	**3.84**	**254**	*e*Pn		**Pn**	**05 45 17.1**	**+0.4**
CAF				*e*Pg		**Pg**	**05 45 29.5**	**-1.7**
BAIF	**Baives**	**4.49**	**334**	*e*P		**Pn**	**05 45 28.4**	**+2.8**
	SNR=1.0							

NEIC ***13*** *05:53:31.9, 4653N×7513W, h11km, MD3.5(LDO), MN3.2(OTT), After LDO.*
NEIC Felt at l'Ascension, Mont-Laurier and Riviere-Rouge.
OTT 13 05:53:32.9±0.1, 4648N×7510W, h18km, MN3.2/30, 1D, Southern Quebec

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
TRQ	**Mont Tremblant**	**0.46**	**124**	P		Pg	05 53 41.4	-0.8
TRQ				SG		Sg	05 53 47.3	-1.2
TRQ				Trac			05 53 48.2	
	comp=Z,186nm,0.1s							
TRQ	**Mont Tremblant**	**0.46**	**124**	P		Pg	05 53 41.3	-0.9
TRQ				S		Sg	05 53 47.9	-0.6
GRQ	**Grand Remous**	**0.54**	**284**	P		Pg	05 53 41.4	-2.2
GRQ				S		Sg	05 53 48.0	-2.9
GAC	**Glen Almond**	**0.82**	**199**	PG		Pg	05 53 47.0	-1.9
GAC				PG		Pg	05 53 47.0	-1.9
GAC				SG		Sg	05 53 57.9	-1.8
GAC				SG		Sg	05 53 58.1	-1.7
GAC				Trac			05 53 58.4	
	comp=Z,129nm,0.1s							
GAC				Trac			05 53 59.5	
	comp=Z,58nm,0.1s							
GAC	**Glen Almond**	**0.82**	**199**	P		Pb	05 53 47.0	-1.6
GAC				S		Sb	05 53 57.7	-1.6
MRHQ	**Morin Heights**	**0.86**	**134**	PG		Pg	05 53 47.5	-2.1
MRHQ				SG		Sg	05 53 59.5	-1.4
MRHQ				Trac			05 54 00.4	
	comp=Z,48nm,0.1s							
MRHQ	**Morin Heights**	**0.86**	**134**	P		Pb	05 53 47.6	-1.6
MRHQ				S		Sb	05 53 59.5	-0.8
ALFO	**Alfred**	**0.87**	**170**	⇓PG		Pg	05 53 48.1	-1.6
ALFO				SG		Sg	05 54 00.1	-1.1
ALFO				Trac			05 54 03.2	
	comp=Z,62nm,0.1s							
ORHO	**Orleans, Herit**	**1.07**	**197**	PN		Pn	05 53 51.9	-1.1
ORHO				SN		Sn	05 54 05.7	-1.6
ORHO				Trac			05 54 09.9	
	comp=Z,986nm,0.2s							
OTT	**Ottawa**	**1.17**	**202**	PN		Pn	05 53 53.1	-1.2
OTT				PN		Pn	05 53 53.1	-1.1
OTT				SN		Sn	05 54 08.2	-1.5
OTT				SN		Sn	05 54 09.4	-0.4
OTT				Trac			05 54 13.2	
	comp=Z,72nm,0.1s							
OTT				Trac			05 54 14.2	
	comp=Z,73nm,0.1s							
OTT	**Ottawa**	**1.17**	**202**	P		Pn	05 53 53.0	-1.3
OTT				S		Sb	05 54 08.2	-1.1
MNT	**Montreal**	**1.42**	**133**	PN		Pn	05 53 57.1	-0.6
MNT				SN		Sn	05 54 15.9	-0.1
MNT				Trac			05 54 22.4	
	comp=Z,53nm,0.1s							
MNT	**Montreal**	**1.42**	**133**	P		Pn	05 53 57.2	-0.6
MNT				S		Sn	05 54 17.3	+1.3
WBO	**Williamsburg**	**1.49**	**185**	PN		Pn	05 53 58.5	-0.1
WBO				SN		Sn	05 54 17.3	-0.3
WBO				Trac			05 54 20.8	
	comp=Z,136nm,0.2s							
WBO	**Williamsburg**	**1.49**	**185**	P		Pn	05 53 58.5	-0.2
WBO				S		Sn	05 54 19.1	+1.5
DPQ	**Saint Jean**	**1.62**	**82**	PN		Pn	05 53 59.6	-0.8
DPQ				SN		Sn	05 54 20.3	-0.5
DPQ				Trac			05 54 23.7	
	comp=Z,168nm,0.1s							
DPQ	**Saint Jean**	**1.62**	**82**	P		Pn	05 53 59.5	-0.9
DPQ				S		Sn	05 54 22.2	+1.4
CRLO	**Chalk River**	**1.64**	**255**	PN		Pn	05 53 59.9	-0.9
CRLO				SN		Sn	05 54 20.5	-0.9
CRLO				Trac			05 54 23.2	
	comp=Z,51nm,0.1s							
CRLO	**Chalk River**	**1.64**	**255**	P		Pn	05 53 59.7	-1.0
CRLO				S		Sn	05 54 21.9	+0.5
PEMO	**Pembroke**	**1.69**	**242**	PN		Pn	05 54 00.7	-0.8
PEMO				SN		Sn	05 54 22.0	-0.7
PEMO				Trac			05 54 25.3	
	comp=Z,79nm,0.1s							
PEMO	**Pembroke**	**1.69**	**242**	P		Pn	05 54 01.0	-0.5
PEMO				S		Sn	05 54 23.8	+1.1
LATQ	**La Tuque**	**1.83**	**60**	PN		Pn	05 54 02.9	-0.4
LATQ				SN		Sn	05 54 25.8	-0.3
LATQ				Trac			05 54 40.3	
	comp=Z,137nm,0.1s							
MPPO	**Murphy's Point**	**1.90**	**206**	PN		Pn	05 54 04.1	-0.1
MPPO				SN		Sn	05 54 26.7	-1.0
MPPO				Trac			05 54 35.1	
	comp=Z,60nm,0.1s							
MPPO	**Murphy's Point**	**1.90**	**206**	P		Pn	05 54 04.5	+0.2
MPPO				S		Sn	05 54 29.4	+1.7
LONY	**Lake Ozonia**	**1.90**	**169**	PN		Pn	05 54 04.5	+0.2
LONY				SN		Sn	05 54 26.9	-0.9
LONY	**Lake Ozonia**	**1.90**	**169**	*e*Pn		Pn	05 54 04.5	+0.2
LONY				*e*Sn		Sn	05 54 29.5	+1.8
PTN	**Potsdam (NY)**	**1.91**	**177**	PN		Pn	05 54 04.7	+0.2
PTN				SN		Sn	05 54 27.8	-0.3
PTN	**Potsdam (NY)**	**1.91**	**177**	P		Pn	05 54 05.0	+0.5
PTN				S		Sn	05 54 30.0	+1.9
FRNY	**Flat Rock**	**1.96**	**147**	PN		Pn	05 54 05.3	+0.1
FRNY				SN		Sn	05 54 28.9	-0.3
FRNY	**Flat Rock**	**1.96**	**147**	*e*Pn		Pn	05 54 05.7	+0.6
FRNY				*e*Sn		Sn	05 54 31.7	+2.4
PLVO	**Plevna**	**2.00**	**224**	PN		Pn	05 54 04.8	-0.8
PLVO				SN		Sn	05 54 30.4	+0.3
PLVO	**Plevna**	**2.00**	**224**	P		Pn	05 54 05.2	-0.4
PLVO				S		Sn	05 54 31.4	+1.3
ALGO	**Algonquin Park**	**2.11**	**257**	PN		Pn	05 54 06.4	-0.9
ALGO				Trac			05 54 38.4	
	comp=Z,248nm,0.1s							
VLDQ	**Val d'Or**	**2.29**	**316**	PN		Pn	05 54 11.2	+1.6
VLDQ				SN		Sn	05 54 39.6	+2.4
VLDQ				Trac			05 54 49.0	
	comp=Z,20nm,0.1s							
VLDQ	**Val d'Or**	**2.29**	**316**	P		Pn	05 54 11.1	+1.5
VLDQ				S		Sn	05 54 42.0	+4.7
MOQ	**Mont Orford**	**2.31**	**119**	PN		Pn	05 54 09.0	-1.0
MOQ				SN		Sn	05 54 36.9	-0.9
MOQ				Trac			05 54 45.8	
	comp=Z,32nm,0.2s							
MOQ	**Mont Orford**	**2.31**	**119**	P		Pn	05 54 09.6	-0.4
MOQ				S		Sn	05 54 39.9	+2.1
KGNO	**Kingston**	**2.46**	**204**	PN		Pn	05 54 11.4	-0.6
KGNO				SN		Sn	05 54 40.1	-1.5
KGNO				Trac			05 54 50.2	
	comp=Z,20nm,0.1s							
BANO	**Bancroft**	**2.46**	**235**	PN		Pn	05 54 11.6	-0.4
BANO				Trac			05 54 51.2	
	comp=Z,29nm,0.1s							
BANO	**Bancroft**	**2.46**	**235**	P		Pn	05 54 11.6	-0.4
BANO				S		Sn	05 54 42.4	+0.9
NCB	**Newcomb**	**2.59**	**166**	PN		Pn	05 54 14.1	+0.3
NCB	**Newcomb**	**2.59**	**166**	*e*Pn		Pn	05 54 14.6	+0.9
BELQ	**Belleterre**	**2.62**	**292**	PN		Pn	05 54 12.6	-1.7
BELQ				SN		Sn	05 54 44.0	-1.5
BELQ				Trac			05 54 51.1	
	comp=Z,19nm,0.1s							
DELO	**Deloro Mine**	**2.64**	**223**	PN		Pn	05 54 14.3	-0.3
DELO				Trac			05 54 57.7	
	comp=Z,23nm,0.1s							
DELO	**Deloro Mine**	**2.64**	**223**	P		Pn	05 54 14.6	0.0
DELO			

IDC ***13*** *06:15:35.1±1.8, 1477N×12407E, h0km, mb3.4/4, mb1 3.6/4, mb1mx3.4/19, mbtmp3.4/4, Error ellipse: s-maj=214.4km s-min=23.0km az=69.0*
MAN ***13*** *06:15:36, 1501N×12404E, h17km, mb4.4, ML3.2, MS3.1*
ISCJB ***13*** *06:15:38.3±1.6, 1492N±0.10×12401E±0.09, h34km±18km, mb3.5/4, Error ellipse: s-maj=19.7km s-min=8.2km az=40.2*

ISC 13 06:15:39.9±3.6, 1487N±007×12399E±007, h35km±29km, n11, σ1°46/15, mb3.5/4, 1C-1D, Luzon

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PVCP	**Virac**	**1.28**	**173**	*eP*	**Pn**	**06 15 59.9**	**-1.4**
PVCP				*eS*	**Sn**	**06 16 16.2**	**-1.1**
PVCP	**Virac**	**1.28**	**173**	*iP*	**Pn**	**06 15 60.0**	**-1.4**
PVCP				*iS*	**Sn**	**06 16 17.2**	**-0.1**
GQP	**Guinayangan**	**1.78**	**237**	*eP*	**Pn**	**06 16 08.8**	**+0.6**
GQP				*iS*	**Sn**	**06 16 32.6**	**+3.0**
POLP	**Polilio Island**	**1.99**	**266**	*eP*	**Pn**	**06 16 14.3**	**+3.2**
POLP				*eS*	**Sn**	**06 16 34.2**	**-0.7**
CNP	**Catarman**	**2.44**	**164**	*eP*	**Pn**	**06 16 18.8**	**+1.5**
BALP	**Baler**	**2.48**	**291**	*eP*	**Pn**	**06 16 16.5**	**-1.5**
BALP				*eS*	**Sn**	**06 16 45.3**	**-1.7**
SONM	**Songino Array**	**35.95**	**340**	P	**P**	**06 22 38.3**	**+1.2**
	0.6nm,0.7s,mb3.6,baz=155,slow=8.8,SNR=3.6						
WRA	**Warramunga Arr**	**36.06**	**163**	P	**P**	**06 22 36.4**	**-2.0**
	0.2nm,0.3s,mb3.5,baz=342,slow=8.4,SNR=3.0						
ASAR	**Alice Springs**	**39.51**	**166**	P	**P**	**06 23 07.3**	**-0.1**
	0.4nm,0.5s,mb3.4,baz=352,slow=8.3,SNR=10						
KURK	**Kurchatov**	**51.04**	**324**	P	**P**	**06 24 40.2**	**+1.6**
	0.3nm,0.5s,mb3.5,baz=120,slow=7.7,SNR=3.3						
PPT	**Papeete**	**91.10**	**108**	*e*LR	LR	06 29 22.0	
	74nm,26.0s						

IDC 13 06:18:26.4±0.9, 1965N×12062E, h0km, mb3.8/7, mb1 3.9/7, mb1mx3.8/18, mbtmp3.8/7, 1D, Error ellipse: s-maj=70.1km s-min=17.5km az=66.0, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SIPP	**Brgy, Tapao**	**1.72**	**185**	*iP*	Pn	06 18 56.5	-1.2
SIPP				*iS*	Sn	06 19 18.7	-1.6
SONM	**Songino Array**	**30.40**	**341**	P	P	06 24 41.2	+1.0
	0.1nm,0.3s,baz=121,slow=5.6,SNR=2.1						
MKAR	**Makanchi Array**	**41.34**	**320**	P	P	06 26 13.8	-0.1
	0.7nm,0.7s,baz=108,slow=9.6,SNR=6.3						
WRA	**Warramunga Arr**	**41.50**	**160**	P	P	06 26 15.7	-0.5
	0.6nm,0.3s,baz=334,slow=10,SNR=11						
ZALV	**Zalesovo Beam**	**43.83**	**330**	P	P	06 26 33.5	-0.6
	0.8nm,0.5s,baz=104,slow=6.1,SNR=3.4						
ASAR	**Alice Springs**	**44.95**	**163**	P	P	06 26 43.9	+0.5
	0.6nm,0.4s,baz=343,slow=7.3,SNR=13						
KURK	**Kurchatov**	**45.31**	**323**	P	P	06 26 46.0	0.0
	2.1nm,0.7s,baz=123,slow=7.8,SNR=12						
YKA	**Yellowknife Ar**	**87.34**	**22**	P	P	06 31 14.8	-0.2
	0.4nm,0.7s,baz=306,slow=4.6,SNR=3.3						

IDC 13 06:18:36.1±1.0, 1953N×12043E, h0km, mb4.0/7, mb1 4.1/7, mb1mx3.9/19, mbtmp4.0/7, MS2.8/1, Ms1 2.8/1, ms1mx2.0/21, Error ellipse: s-maj=73.3km s-min=18.5km az=65.0, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KAPI	**Kappang**	**24.40**	**182**	LR	LR	06 34 23.2	
	comp=Z,19nm,19.1s,baz=353,slow=39						
SONM	**Songino Array**	**30.45**	**341**	P	P	06 24 50.4	+0.1
	0.7nm,0.9s,baz=154,slow=8.3,SNR=3.6						
MKAR	**Makanchi Array**	**41.31**	**320**	P	P	06 26 23.7	+0.4
	2.2nm,0.7s,baz=112,slow=9.5,SNR=14						
WRA	**Warramunga Arr**	**41.53**	**160**	P	P	06 26 24.5	-0.9
	0.7nm,0.5s,baz=341,slow=8.7,SNR=4.6						
ZALV	**Zalesovo Beam**	**43.84**	**330**	P	P	06 26 42.9	-0.9
	2.2nm,0.7s,baz=121,slow=8.5,SNR=7.1						
ASAR	**Alice Springs**	**44.90**	**162**	P	P	06 26 53.1	+0.5
	0.8nm,0.6s,baz=345,slow=7.0,SNR=10.0						
KURK	**Kurchatov**	**45.30**	**323**	P	P	06 26 55.6	+0.2
	7.0nm,0.8s,baz=125,slow=7.6,SNR=24						
YKA	**Yellowknife Ar**	**87.52**	**22**	P	P	06 31 25.8	+0.3
	1.0nm,0.9s,baz=318,slow=4.2,SNR=5.3						

ISCJB ***13*** *06:29:27.1±0.7, 3807N±005×35.18E±006, h3km±10km, Error ellipse: s-maj=9.7km s-min=6.5km az=30.6*
ISK ***13*** *06:29:27.4, 3803N×3516E, h5km, MD3.0*
CSEM ***13*** *06:29:27.4, 3803N×3516E, h5km, MD3.0, After ISK*

ISC 13 06:29:27.6±0.7, 3807N±005×3518E±006, h6km±9km, n13, σ0°87/14, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NIG	**Nigde**	**0.45**	**275**	*e*PG	**Pg**	**06 29 36.6**	**+0.2**
NIG				*e*SG	**Sg**	**06 29 43.1**	**+0.9**
AVNT	**Avonos**	**0.75**	**340**	*i*P	**Pg**	**06 29 41.0**	**-1.1**
KOZT	**Kozan**	**0.78**	**139**	*e*PG	**Pg**	**06 29 43.5**	**+0.9**
KOZT				*e*SG	**Sg**	**06 29 53.2**	**+0.5**
KARA	**Karaisali**	**0.81**	**187**	*e*PG	**Pg**	**06 29 41.9**	**-1.4**
GULE	**Gulek**	**0.85**	**202**	*i*P	Px	06 29 28.1	
BNN	**Bunyan**	**0.94**	**34**	*e*PG	**Pg**	**06 29 46.3**	**+0.7**
ANDN	**Andirin**	**1.04**	**118**	*i*P	**Pg**	**06 29 46.7**	**-1.0**
CEYT	**Ceyhan**	**1.15**	**157**	*e*PN	**Pn**	**06 29 49.7**	**-0.5**
MERS	**Mersin**	**1.31**	**204**	*e*PN	**Pn**	**06 29 52.3**	**-0.2**
KMRS	**Kahramanmaras**	**1.48**	**112**	*e*PN	**Pn**	**06 29 55.4**	**+0.7**
GAZ	**Gaziantep**	**1.85**	**118**	*e*PN	**Pn**	**06 30 00.7**	**+0.8**
GAZ	**Gaziantep**	**1.85**	**118**	*e*Pn	**Pn**	**06 30 00.6**	**+0.8**
DARE	**Darende-Malaty**	**2.24**	**66**	*e*PN	**Pn**	**06 30 01.6**	**-3.7**

NEIC 13 06:49:12.5, 3839S×17584E, h154km, MG4.0(WEL), After WEL., North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WPVZ	**Whakapapa**	**0.85**	**196**	P	Pn	06 49 36.7	+0.3
FWVZ	**Far West T-bar**	**0.89**	**194**	P	Pn	06 49 37.1	+0.4
FWVZ				S	Sn	06 49 56.5	+1.1
BKZ	**Black Stump Fm**	**0.93**	**147**	P	Pn	06 49 37.1	+0.1
BKZ				S	Sn	06 49 55.0	-0.8
WNVZ	**Wahianoa**	**0.96**	**191**	P	Pn	06 49 37.6	+0.4
URZ	**Urewera**	**1.01**	**83**	P	Pn	06 49 37.4	-0.3
MOVZ	**Moawhango**	**1.02**	**184**	P	Pn	06 49 37.5	-0.2
MOVZ				S	Sn	06 49 56.1	-1.1
VRZ	**Vera Road**	**1.12**	**229**	P	Pn	06 49 38.7	+0.1
MWZ	**Matawai**	**1.33**	**88**	P	Pn	06 49 40.7	+0.1
MKAZ	**Moumakai**	**1.38**	**337**	P	Pn	06 49 41.0	-0.2
WAZ	**Wanganui**	**1.52**	**206**	P	Pn	06 49 42.7	+0.2
KNZ	**Kokohu**	**1.57**	**114**	P	Pn	06 49 43.4	+0.4
TSZ	**Takapari Road**	**1.67**	**177**	P	Pn	06 49 43.7	-0.4
PUZ	**Puketiti**	**1.93**	**61**	P	Pn	06 49 46.9	-0.1
MXZ	**Matakaoa Point**	**2.12**	**68**	P	Pn	06 49 49.4	+0.2
MRZ	**Mangatainoka R**	**2.28**	**185**	P	Pn	06 49 49.5	-1.6
KIW	**Kapiti Island**	**2.57**	**196**	P	Pn	06 49 52.5	-2.1
MTW	**Mount Morrison**	**2.78**	**185**	P	Pn	06 49 54.8	-2.4
CAW	**Cannon Point**	**2.78**	**192**	P	Pn	06 49 55.0	-2.2
MRW	**Makara Radio**	**2.97**	**197**	P	Pn	06 49 57.0	-2.5
PAWZ	**Paruwai Farm**	**3.01**	**186**	P	Pn	06 49 57.5	-2.5
WEL	**Wellington**	**3.01**	**196**	P	Pn	06 49 57.5	-2.5
SNZO	**South Karori**	**3.04**	**196**	P	Pn	06 49 57.6	-2.9
MSWZ	**Moikau Station**	**3.06**	**188**	*e*P	Pn	06 49 57.9	-2.7
TCW	**Tory Channel**	**3.07**	**203**	P	Pn	06 49 58.2	-2.6
BHW	**Baring Head**	**3.11**	**194**	P	Pn	06 49 58.4	-2.9
NNZ	**Nelson**	**3.40**	**213**	P	Pn	06 50 02.0	-3.0
QRZ	**Quartz Range**	**3.53**	**225**	P	Pn	06 50 03.3	-3.4
BSWZ	**Blackbirch Sta**	**3.65**	**204**	P	Pn	06 50 05.3	-2.9
THZ	**Tophouse**	**4.05**	**213**	P	Pn	06 50 10.5	-2.9
KHZ	**Kahutara**	**4.39**	**203**	P	Pn	06 50 14.4	-3.4
MQZ	**McQueen's Vall**	**5.83**	**203**	P	Pn	06 50 31.3	-5.6

IDC 13 06:50:30.6±5.2, 2388N×9572E, h0km, mb3.7/3, mb1 4.0/3, mb1mx3.5/21, mbtmp3.7/3, Error ellipse: s-maj=521.8km s-min=27.1km az=59.0, Myanmar

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MKAR	**Makanchi Array**	**25.28**	**338**	P	P	06 55 58.6	+0.1
	0.6nm,0.5s,baz=146,slow=11,SNR=6.6						
WRA	**Warramunga Arr**	**57.56**	**136**	P	P	07 00 22.4	+0.1
	0.9nm,0.6s,baz=323,slow=7.5,SNR=5.5						
ASAR	**Alice Springs**	**60.06**	**139**	P	P	07 00 39.5	0.0
	0.6nm,0.5s,baz=321,slow=7.0,SNR=13						

NEIC 13 07:18:51.9, 3784S×17624E, h206km, MG4.5(WEL), After WEL., North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TGRZ	**Tauranga**	**0.11**	**8**	P	Pn	07 19 18.9	+0.1
TGRZ				S	Sn	07 19 40.6	+0.9
TAZ	**Tarawera**	**0.45**	**152**	P	Pn	07 19 20.3	+0.9
TOZ	**Tahuroa Road**	**0.59**	**280**	P	Pn	07 19 19.8	-0.2
URZ	**Urewera**	**0.81**	**122**	P	Pn	07 19 20.7	-0.3
MKAZ	**Moumakai**	**1.12**	**310**	P	Pn	07 19 22.6	-0.5
MWZ	**Matawai**	**1.13**	**116**	P	Pn	07 19 23.3	+0.2
MWZ				S	Sn	07 19 46.9	-0.5
RITZ	**Rihia Road**	**1.18**	**195**	*e*P	Pn	07 19 24.1	+0.7
HIZ	**Hauiti**	**1.28**	**238**	P	Pn	07 19 24.2	-0.1
BKZ	**Black Stump Fm**	**1.34**	**172**	P	Pn	07 19 24.8	+0.1
OTAZ	**Otara**	**1.37**	**310**	P	Pn	07 19 23.8	-1.2
WTVZ	**West Tongariro**	**1.37**	**202**	P	Pn	07 19 25.3	+0.3
WPVZ	**Whakapapa**	**1.47**	**202**	P	Pn	07 19 26.1	+0.3
TUVZ	**Tukino**	**1.50**	**198**	P	Pn	07 19 26.4	+0.4
FWVZ	**Far West T-bar**	**1.51**	**201**	P	Pn	07 19 26.8	+0.6
WNVZ	**Wahianoa**	**1.57**	**199**	P	Pn	07 19 26.9	+0.2
PUZ	**Puketiti**	**1.61**	**99**	P	Pn	07 19 27.2	+0.1
MOVZ	**Moawhango**	**1.61**	**194**	P	Pn	07 19 26.7	-0.3
KNZ	**Kokohu**	**1.63**	**137**	P	Pn	07 19 27.9	+0.7
MXZ	**Matakaoa Point**	**1.66**	**81**	P	Pn	07 19 27.9	+0.4
VRZ	**Vera Road**	**1.73**	**222**	P	Pn	07 19 28.7	+0.5
RAEZ	**Rainy Point**	**2.05**	**224**	P	Pn	07 19 31.8	+0.6
WAZ	**Wanganui**	**2.15**	**207**	P	Pn	07 19 32.1	-0.2
NEZ	**North Egmont**	**2.21**	**229**	P	Pn	07 19 33.8	+0.9
TSZ	**Takapari Road**	**2.23**	**186**	P	Pn	07 19 32.5	-0.6
WCZ	**Waipu Caves**	**2.43**	**321**	P	Pn	07 19 34.5	-0.9
MRZ	**Mangatainoka R**	**2.87**	**190**	P	Pn	07 19 38.5	-1.7
KIW	**Kapiti Island**	**3.19**	**198**	P	Pn	07 19 41.8	-2.2
MTW	**Mount Morrison**	**3.36**	**190**	P	Pn	07 19 43.7	-2.3
CAW	**Cannon Point**	**3.39**	**195**	P	Pn	07 19 44.2	-2.1
MRW	**Makara Radio**	**3.59**	**199**	P	Pn	07 19 46.4	-2.3
PAWZ	**Paruwai Farm**	**3.59**	**190**	P	Pn	07 19 46.6	-2.2
WEL	**Wellington**	**3.62**	**198**	P	Pn	07 19 46.8	-2.4
MSWZ	**Moikau Station**	**3.65**	**192**	P	Pn	07 19 46.9	-2.6
SNZO	**South Karori**	**3.66**	**198**	P	Pn	07 19 46.9	-2.7
TCW	**Tory Channel**	**3.69**	**204**	P	Pn	07 19 47.5	-2.5
BHW	**Baring Head**	**3.72**	**196**	P	Pn	07 19 47.5	-2.8
NNZ	**Nelson**	**4.03**	**212**	P	Pn	07 19 51.3	-2.9
QRZ	**Quartz Range**	**4.14**	**223**	P	Pn	07 19 52.4	-3.2
BSWZ	**Blackbirch Sta**	**4.28**	**204**	P	Pn	07 19 54.7	-2.5
THZ	**Tophouse**	**4.69**	**212**	P	Pn	07 19 59.4	-2.9
KHZ	**Kahutara**	**5.02**	**203**	P	Pn	07 20 03.5	-3.1
DSZ	**Denniston Nort**	**5.19**	**220**	P	Pn	07 20 06.9	-1.8
LTZ	**Lake Taylor**	**5.79**	**210**	*e*P	Pn	07 20 12.9	-3.6
MQZ	**McQueen's Vall**	**6.46**	**204**	P	Pn	07 20 20.5	-4.6
WVZ	**Waitaha Valley**	**6.71**	**217**	P	Pn	07 20 24.3	-3.9
RPZ	**Rata Peaks**	**7.07**	**212**	P	Pn	07 20 28.8	-4.1
LBZ	**Lake Benmore**	**7.98**	**213**	P	Pn	07 20 40.0	-4.7
ODZ	**Otahua Downs**	**8.33**	**208**	P	Pn	07 20 45.8	-3.5
TUZ	**Tuapeka**	**9.48**	**209**	P	Pn	07 21 01.1	-3.1

IDC ***13*** *07:31:15.3±1.1, 2539N×6655E, h0km, mb3.9/12, mb1 4.0/12, mb1mx3.9/25, mbtmp3.9/12, MS3.3/8, Ms1 3.3/8, ms1mx3.0/38, Error ellipse: s-maj=25.0km s-min=22.5km az=50.0*
NEIC ***13*** *07:31:16.9±0.7, 2543N×6656E, h10km, mb4.0/3, Error ellipse: s-maj=13.9km s-min=11.2km az=105.0*
MOS ***13*** *07:31:16.9±0.9, 2547N×6649E, h22km, mb4.1/10, Error ellipse: s-maj=28.4km s-min=10.9km az=83.1*
ISCJB ***13*** *07:31:21.9±1.2, 2562N±005×6708E±006, h56km±12km, mb3.8/12, MS3.2/8, Error ellipse: s-maj=9.1km s-min=7.6km az=154.3*

ISC 13 07:31:22.6±1.1, 2555N±005×6697E±006, h48km±11km, n58, σ1°22/58, mb3.9/12, MS3.2/8, 1C-1D, Pakistan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BHJ	**Bhuj**	**3.35**	**133**	*e*P	**Pn**	**07 32 12.0**	**-0.5**
BHJ				*e*S	**Sn**	**07 32 50.6**	**-0.4**
BHJ				AML	AML	07 32 54.7	
	comp=E,235nm,0.9s						
BHJ				AML	AML	07 32 55.4	
	comp=N,360nm,0.9s						
JASL	**Jaisalmer**	**3.79**	**68**	*e*P	**Pn**	**07 32 19.8**	**+1.3**
BHV	**Bhavnagar**	**6.07**	**128**	*e*x	x	07 33 23.0	
AJM	**Ajmer**	**6.96**	**81**	*e*S	**Sn**	**07 34 19.3**	**-0.7**
SARP	**Sargodha**	**8.08**	**37**	P	**Pn**	**07 33 18.1**	**+0.8**
SARP				S	**Sn**	**07 34 48.0**	**+0.7**
KHET	**Khetri**	**8.28**	**70**	*e*P	**Pn**	**07 33 20.6**	**+0.5**
KHET				*e*S	**Sn**	**07 34 51.9**	**-0.4**
KHET				AML	AML	07 35 00.7	
	comp=E,17nm,0.3s						
KHET				AML	AML	07 35 00.8	
	comp=N,14nm,0.2s						
THW	**Thamme Wali**	**8.33**	**29**	P	**Pn**	**07 33 20.8**	**0.0**
BOM	**Bombay**	**8.55**	**140**	*e*P	**Pn**	**07 33 19.1**	**-4.8**
BOM				*e*x	x	07 33 20.6	
	comp=Z,46nm,0.4s						
BOM				*e*x	x	07 34 21.4	
KBL	**Kabul**	**9.14**	**11**	*e*P	**Pn**	**07 33 32.4**	**+0.6**
KBL				*e*		07 35 11.5	
KBL				pmax	pmax		
	comp=Z,7.0nm,0.8s						
KBL	**Kabul**	**9.14**	**11**	*e*Pn	**Pn**	**07 33 32.4**	**+0.6**
	comp=Z,6.8nm,0.8s						
KBL				*e*Sn	**Sn**	**07 35 11.5**	**-1.7**
CEP	**Cherat**	**9.29**	**26**	*i*P	**Pn**	**07 33 34.5**	**+0.6**
CEP				S	**Sn**	**07 35 08.0**	**-9.1**
SONA	**Sohna**	**9.42**	**71**	*e*S	**Sn**	**07 35 19.6**	**-0.6**
SONA				AML	AML	07 35 24.1	
	comp=N,26nm,0.5s						
POO	**Poona**	**9.46**	**136**	*e*x	x	07 33 26.0	
AYAN	**Aya Nagar**	**9.52**	**70**	*e*P	**Pn**	**07 33 37.5**	**+0.5**
AYAN				*e*S	**Sn**	**07 35 21.3**	**-1.3**
NDI	**New Delhi**	**9.65**	**69**	*e*P	**Pn**	**07 33 38.0**	**-0.8**
CHCP	**Chirah Chowk**	**9.76**	**33**	P	**Pn**	**07 33 40.3**	**0.0**
AGRA	**Agra**	**9.98**	**78**	*e*S	**Sn**	**07 35 30.4**	**-3.6**
AGRA				AML	AML	07 36 46.0	
	comp=E,51nm,0.0s						
AGRA				AML	AML	07 36 47.4	
	comp=N,50nm,0.2s						
SMLA	**Simla**	**10.56**	**56**	*i*P	**Pn**	**07 33 52.9**	**+1.6**
SMLA				*i*S	**Sn**	**07 35 45.4**	**-2.8**
SMLA				*e*x	x	07 35 54.3	
	comp=N,157nm,0.4s						
SMLA				*e*x	x	07 35 55.4	
	comp=E,124nm,0.3s						
SDNR	**Sundarnagar**	**10.60**	**54**	*e*P	**Pn**	**07 33 52.6**	**+0.8**
SDNR				*e*x	x	07 35 49.6	
DDI	**Dehra Dun**	**10.89**	**62**	*e*x	x	07 35 45.5	
KALG	**Kalgarh**	**11.17**	**67**	*e*S	**Sn**	**07 35 59.6**	**-3.6**
AML	**Almayashu**	**17.44**	**17**	*e*Pn	**Pn**	**07 35 22.2**	**-0.2**
RDF	**Al-Radifah**	**17.59**	**285**	*e*P	**Pn**	**07 35 17.1**	**-7.3**
	baz=285						
RDF				AMb	AMB	07 35 23.8	
	comp=Z,27nm,0.8s,baz=285						
MIB	**Mutribah**	**17.89**	**288**	*e*P	**Pn**	**07 35 21.6**	**-6.4**
	baz=289						
MIB				AMb	AMB	07 35 37.0	
	comp=Z,26nm,0.7s,baz=289						
NAY	**Al-Naaiem**	**17.90**	**286**	*e*P	**Pn**	**07 35 22.1**	**-6.0**
	baz=287						
NAY				AMb	AMB	07 35 27.1	
	comp=Z,22nm,0.9s,baz=287						
EKS2	**Erkin-Say**	**17.96**	**16**	*e*Pn	**Pn**	**07 35 29.6**	**+0.9**
	comp=Z,17nm,1.5s						
TKM2	**Tokmak 2**	**18.72**	**20**	*e*P	**Pn**	**07 35 37.9**	**0.0**
TKM2				pmax	pmax		
	comp=Z,3.0nm,0.7s						
TKM2	**Tokmak 2**	**18.72**	**20**	*e*P	**Pn**	**07 35 37.9**	**0.0**
	comp=Z,2.6nm,0.7s						
MKAR	**Makanchi Array**	**24.46**	**26**	P	**P**	**07 36 38.4**	**+1.5**
	comp=Z,1.6nm,0.7s,mb3.6,baz=206,slow=8.0,SNR=8.5						
MKAR	**Makanchi Array**	**24.46**	**26**	P	**P**	**07 36 38.4**	**+1.5**
MKAR				pmax	pmax		
	comp=Z,2.0nm,0.7s						
AKTK	**Aktyubinsk**	**25.79**	**347**	P	**P**	**07 36 47.0**	**-1.9**
AKTK				LR	LR	07 47 28.2	
AKTO	**Aktyubinsk**	**25.79**	**347**	P	**P**	**07 36 47.0**	**-1.9**
	comp=Z,1.5nm,0.5s,mb3.8,baz=210,slow=2.4,SNR=3.9						
AKTO				LR	LR	07 47 28.2	
	comp=Z,49nm,18.4s,MS3.1,baz=156,slow=38						
AKTO	**Aktyubinsk**	**25.79**	**347**	P	**P**	**07 36 47.0**	**-1.9**
AKTO				pmax	pmax		
	comp=Z,2.0nm,0.5s,mb3.9						
AKTO				MLR	MLR		
	comp=Z,49nm,18.4s,MS3.1						
KURK	**Kurchatov**	**26.68**	**17**	P	**P**	**07 36 57.6**	**+0.7**
	comp=Z,1.6nm,0.7s,mb3.7,baz=209,slow=8.9,SNR=5.3						
KURK				LR	LR	07 49 38.0	
	comp=Z,54nm,19.3s,MS3.1,baz=245,slow=41						
KURK	**Kurchatov**	**26.68**	**17**	P	**P**	**07 36 57.6**	**+0.7**
KURK				pmax	pmax		
	comp=Z,2.0nm,0.7s,mb3.8						
KURK				MLR	MLR		
	comp=Z,54nm,19.3s,MS3.1						
BVAR	**Borovoye Array**	**27.56**	**4**	P	**P**	**07 37 06.5**	**+1.7**
	comp=Z,2.3nm,0.8s,mb3.9,baz=190,slow=14,SNR=4.6						
BVAR	**Borovoye Array**	**27.56**	**4**	P	**P**	**07 37 06.5**	**+1.7**
BVAR				pmax	pmax		
	comp=Z,2.0nm,0.8s						
BRVK	**Borovoye**	**27.58**	**4**	*e*P	**P**	**07 37 06.1**	**+1.1**
BRVK				pmax	pmax		
	comp=Z,4.0nm,0.7s,mb4.2						
BRVK	**Borovoye**	**27.58**	**4**	*e*P	**P**	**07 37 06.1**	**+1.1**
	comp=Z,3.8nm,0.7s,mb4.1						
MMAI	**Mount Meron Ar**	**28.44**	**293**	LR	LR	07 49 37.0	
	comp=Z,22nm,19.9s,MS2.8,baz=115,slow=39						
EIL	**Elat**	**28.62**	**286**	LR	LR	07 51 13.1	
	comp=Z,46nm,18.9s,MS3.1,baz=286,slow=42						
CMAR	**Chiang Mai Arr**	**30.42**	**97**	LR	LR	07 50 40.2	
	comp=Z,78nm,21.2s,MS3.3,baz=270,slow=38						
ZALV	**Zalesovo Beam**	**31.32**	**20**	P	**P**	**07 37 39.5**	**+1.4**
	comp=Z,1.2nm,0.4s,mb4.0,baz=235,slow=8.6,SNR=3.8						
ZALV				LR	LR	07 51 57.2	
	comp=Z,47nm,18.9s,MS3.2,baz=355,slow=39						
ZALV	**Zalesovo Beam**	**31.32**	**20**	P	**P**	**07 37 39.5**	**+1.4**
ZALV				pmax	pmax		
	comp=Z,1.0nm,0.4s,mb4.0						
ZALV				MLR	MLR		
	comp=Z,47nm,18.9s,MS3.2						
SONM	**Songino Array**	**38.08**	**44**	P	**P**	**07 38 39.4**	**+2.8**
	comp=Z,0.7nm,0.7s,mb3.5,baz=241,slow=8.1,SNR=4.2						
SONM	**Songino Array**	**38.08**	**44**	P	**P**	**07 38 39.4**	**+2.8**
SONM				pmax	pmax		
	comp=Z,1.0nm,0.7s						
AKASG	**Malin Array Be**	**38.25**	**321**	P	**P**	**07 38 36.3**	**-1.7**
	comp=Z,1.1nm,0.5s,mb3.9,baz=121,slow=6.7,SNR=4.4						
AKASG	**Malin Array Be**	**38.25**	**321**	P	**P**	**07 38 36.3**	**-1.7**
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.5s						
ARCES	**ARCESS Array B**	**50.23**	**342**	P	**P**	**07 40 13.0**	**-0.5**
	comp=Z,1.7nm,0.5s,mb4.3,baz=145,slow=7.0,SNR=15						
ARCES				LR	LR	08 01 39.6	
	comp=Z,48nm,19.5s,MS3.5,baz=246,slow=36						
ARCES	**ARCESS Array B**	**50.23**	**342**	P	**P**	**07 40 13.0**	**-0.5**
ARCES				pmax	pmax		
	comp=Z,2.0nm,0.5s						
ARCES				MLR	MLR		
	comp=Z,48nm,19.5s						
NB2	**NORSAR Subarra**	**51.53**	**329**	P	**P**	**07 40 21.5**	**-1.8**
	comp=Z,1.2nm,0.6s,mb4.0,baz=108,slow=7.4						
NOA	**NORSAR Array B**	**51.53**	**329**	P	**P**	**07 40 21.5**	**-1.8**
	comp=Z,1.0nm,0.6s,mb3.9,baz=108,slow=7.5,SNR=3.9						
NOA	**NORSAR Array B**	**51.53**	**329**	P	**P**	**07 40 21.5**	**-1.8**
NOA				pmax	pmax		
	comp=Z,1.0nm,0.6s						
TORD	**Torodi Ar. Bea**	**62.29**	**272**	P	**P**	**07 41 37.5**	**-2.7**
	comp=Z,0.8nm,0.6s,mb4.0,baz=73,slow=4.7,SNR=8.7						
BOSA	**Boshof**	**67.14**	**219**	LR	LR	08 12 01.8	
	comp=Z,22nm,19.5s,MS3.4,baz=315,slow=37						
WRA	**Warramunga Arr**	**79.54**	**118**	P	**P**	**07 43 25.8**	**+1.0**
	comp=Z,0.1nm,0.5s,baz=294,slow=7.9,SNR=2.9						
WRA	**Warramunga Arr**	**79.54**	**118**	P	**P**	**07 43 25.8**	**+1.0**
ASAR	**Alice Springs**	**81.18**	**121**	P	**P**	**07 43 34.3**	**+0.8**
	comp=Z,0.4nm,0.8s,mb3.4,baz=307,slow=5.2,SNR=3.8						

ISCJB ***13*** *07:39:05.8±1.4, 5636N±003×15291W±005, h2km±8km, mb4.3/36, MS3.9/9, Error ellipse: s-maj=5.9km s-min=3.8km az=136.7*
BJI ***13*** *07:39:05.1, 5620N×15280W, h10km, mB4.9, mb4.8, Ms4.4, Msz4.0*
IDC ***13*** *07:39:07.5±0.7, 5636N×15295W, h0km, mb4.1/22

H06A	**Lindquist Farm**	**23.49**	**106**	⇑P		**P**	**07 44 16.8**	**-1.7**
	baz=23							
E09A	**Wood Farm, Sta**	**23.55**	**100**	⇑P		**P**	**07 44 18.2**	**-1.0**
	baz=23							
HUMO	**Hull Mountain**	**23.57**	**113**	⇑P		**P**	**07 44 18.5**	**-0.9**
	baz=23							
HUMO	**Hull Mountain**	**23.57**	**113**	*e*P		**P**	**07 44 19.3**	**-0.1**
LNOR	**Lincton Mounta**	**23.87**	**101**	*e*P		**P**	**07 44 23.0**	**+0.9**
J05A	**Fort Rock**	**23.99**	**109**	⇑P		**P**	**07 44 22.5**	**-0.7**
	baz=24,SNR=8.6							
H07A	**Lands Inn, Kim**	**23.99**	**105**	⇓P		**P**	**07 44 22.4**	**-0.8**
	baz=24,SNR=8.7							
D11A	**Klaveano Farm,**	**24.23**	**97**	⇑P		**P**	**07 44 24.6**	**-0.7**
	baz=24,SNR=5.6							
YBH	**Yreka Blue Hor**	**24.33**	**114**	P		**P**	**07 44 27.7**	**+1.3**
	2.9nm,0.7s,mb3.8,baz=6.4,slow=7.7,SNR=9.4							
YBH				LR	LR		07 53 27.2	
	comp=Z,198nm,18.3s,MS3.6,baz=302,slow=35							
YBH	**Yreka Blue Hor**	**24.33**	**114**	⇑P		**P**	**07 44 25.5**	**-0.9**
	baz=24							
YBH	**Yreka Blue Hor**	**24.33**	**114**	P		**P**	**07 44 27.3**	**+0.9**
	28nm,1.8s,mb4.4							
I07A	**Izee**	**24.36**	**106**	⇓P		**P**	**07 44 26.5**	**-0.1**
	baz=24							
F10A	**Beach Ranch, E**	**24.38**	**100**	⇓P		**P**	**07 44 26.4**	**-0.4**
	baz=24							
M02C	**Callahan**	**24.51**	**115**	⇓P		**P**	**07 44 28.0**	**0.0**
	baz=24							
G09A	**Cove**	**24.52**	**102**	⇓P		**P**	**07 44 28.3**	**+0.3**
	baz=24							
K05A	**Summer Lake**	**24.56**	**110**	⇓P		**P**	**07 44 28.3**	**-0.1**
	baz=24							
J06A	**Christmas Vall**	**24.58**	**108**	⇓P		**P**	**07 44 28.1**	**-0.6**
	baz=24,SNR=7.4							
M04C	**Macdoel**	**24.74**	**113**	⇓P		**P**	**07 44 29.9**	**-0.2**
	baz=25							
K06A	**Valley Falls**	**24.84**	**109**	⇓P		**P**	**07 44 31.2**	**+0.2**
	baz=25,SNR=5.3							
G10A	**Bishop Farm, J**	**24.87**	**101**	⇓P		**P**	**07 44 29.9**	**-1.3**
	baz=25,SNR=9.0							
L05A	**Lakeview**	**25.07**	**111**	⇓P		**P**	**07 44 34.1**	**+1.0**
	baz=25,SNR=6.1							
G11A	**Walters Elk Ra**	**25.27**	**100**	⇑P		**P**	**07 44 33.4**	**-1.4**
	baz=25							
WDC	**Whiskeytown Da**	**25.27**	**116**	*e*P		**P**	**07 44 36.6**	**+1.7**
	20nm,1.4s,mb4.5							
J08A	**Circle Bar Ran**	**25.40**	**106**	⇑P		**P**	**07 44 34.9**	**-1.2**
	baz=25							
K07A	**Rock Creek Ran**	**25.45**	**108**	⇑P		**P**	**07 44 36.6**	**0.0**
	baz=25,SNR=7.4							
H10A	**Noah's Angus R**	**25.52**	**102**	⇑P		**P**	**07 44 38.0**	**+0.8**
	baz=25,SNR=6.0							
F12A	**Elk City**	**25.60**	**98**	⇓P		**P**	**07 44 36.4**	**-1.5**
	baz=26							
H11A	**Donnelly**	**25.85**	**101**	⇓P		**P**	**07 44 39.0**	**-1.1**
	baz=26							
L07A	**Adell**	**25.87**	**109**	⇑P		**P**	**07 44 38.8**	**-1.6**
	baz=26							
WVOR	**Wild Horse Val**	**25.95**	**108**	*e*P		**P**	**07 44 41.8**	**+0.7**
	11nm,1.0s,mb4.3							
F13A	**Darby**	**26.09**	**97**	⇑P		**P**	**07 44 40.7**	**-1.6**
	baz=26							
O04C	**Chester**	**26.20**	**114**	⇓P		**P**	**07 44 45.2**	**+1.8**
	baz=26							
K09A	**Rome**	**26.25**	**106**	⇑P		**P**	**07 44 45.3**	**+1.5**
	baz=26							
L08A	**Fields**	**26.28**	**108**	⇑P		**P**	**07 44 45.6**	**+1.5**
	baz=26,SNR=6.0							
I11A	**Placerville**	**26.39**	**102**	⇓P		**P**	**07 44 45.9**	**+0.8**
	baz=26							
M07A	**Soldier Meadow**	**26.41**	**110**	⇑P		**P**	**07 44 43.9**	**-1.4**
	baz=26,SNR=6.8							
M07A				⇓P		pP	07 44 46.4	-2.5
	baz=26							
ORV	**Oroville**	**26.57**	**116**	⇑P		**P**	**07 44 46.1**	**-0.6**
	baz=26							
G13A	**Cobalt**	**26.58**	**98**	⇑P		**P**	**07 44 47.7**	**+1.0**
	baz=26							
H12A	**Diamond D Ranc**	**26.58**	**100**	⇑P		**P**	**07 44 47.6**	**+0.9**
	baz=26							
F14A	**Wisdom**	**26.61**	**96**	⇑P		**P**	**07 44 48.1**	**+1.2**
	baz=26							
E15A	**Deer Lodge**	**26.64**	**95**	⇓P		**P**	**07 44 48.9**	**+1.6**
	baz=26							
K10A	**MacKenzie Ranc**	**26.66**	**105**	⇑P		**P**	**07 44 48.9**	**+1.4**
	baz=26							
M08A	**Happy Creek Ra**	**26.78**	**109**	⇑P		**P**	**07 44 50.4**	**+1.8**
	baz=27							
BEKR	**Beckwourth**	**26.91**	**114**	⇑P		**P**	**07 44 51.2**	**+1.4**
	baz=27							
N07B	**Gerlach**	**26.95**	**111**	⇑P		**P**	**07 44 51.9**	**+1.7**
	baz=27							
O06A	**Flanigan**	**26.96**	**113**	⇓P		**P**	**07 44 52.1**	**+1.9**
	baz=27							
K11A	**Parker Ranch,**	**27.11**	**104**	⇓P		**P**	**07 44 52.9**	**+1.3**
	baz=27							
J12A	**Stokes Ranch,**	**27.30**	**102**	⇑P		**P**	**07 44 54.6**	**+1.4**
	baz=27							
DLMT	**Dillon**	**27.31**	**96**	*e*P		**P**	**07 44 54.3**	**+1.0**
L10A	**Juniper Basin**	**27.36**	**106**	⇑P		**P**	**07 44 55.4**	**+1.7**
	baz=27							
N08A	**GE Springer Mi**	**27.39**	**110**	⇑P		**P**	**07 44 55.5**	**+1.4**
	baz=27							
O07A	**Toulon**	**27.46**	**112**	⇑P		**P**	**07 44 52.9**	**-1.7**
	baz=27,SNR=6.1							
N09A	**Rock Creek Ran**	**27.66**	**109**	⇓P		**P**	**07 44 56.3**	**-0.1**
	baz=28							
L11A	**Cat Creek Ranc**	**27.68**	**105**	⇑P		**P**	**07 44 55.2**	**-1.4**
	baz=28							
H15A	**Lima**	**27.75**	**98**	⇑P		**P**	**07 44 56.5**	**-0.8**
	baz=28							
G16A	**Moss Hill, Enn**	**27.84**	**96**	⇑P		**P**	**07 44 57.0**	**-1.0**
	baz=28							
PETK	**Petropavlovsk-**	**28.23**	**285**	LR		LR	07 54 49.8	
	comp=Z,74nm,19.0s,MS3.3,baz=171,slow=33							
ELK	**Elko**	**28.95**	**106**	P		**P**	**07 45 09.0**	**+1.0**
	1.1nm,0.6s,mb3.8,baz=303,slow=12,SNR=6.5							
NVAR	**Mina Array Bea**	**29.05**	**113**	P		**P**	**07 45 09.7**	**+0.9**
	2.1nm,0.8s,mb3.9,baz=300,slow=9.2,SNR=14							
R11A	**Troy Canyon, C**	**30.51**	**110**	⇓P		**P**	**07 45 21.5**	**-0.3**
	baz=30,SNR=6.1							
P13A	**Bates Ranch, G**	**30.53**	**107**	⇓P		**P**	**07 45 20.0**	**-1.9**
	baz=30,SNR=5.3							
PDAR	**Pinedale Array**	**30.66**	**98**	P		**P**	**07 45 23.8**	**+0.7**
	1.2nm,0.8s,mb3.8,baz=316,slow=4.5,SNR=5.9							
TPNV	**Topopah Spring**	**31.23**	**113**	*e*P		**P**	**07 45 29.4**	**+1.2**
	21nm,1.7s,mb4.7							
T11A	**Corn Creek, Al**	**31.54**	**111**	⇑P		**P**	**07 45 30.3**	**-0.6**
	baz=31,SNR=7.7							
MSU	**Marysvale**	**32.20**	**106**	*e*P		**P**	**07 45 37.5**	**+0.9**
SRU	**San Rafael**	**32.65**	**104**	⇓P		**P**	**07 45 39.2**	**-1.5**
	baz=32,SNR=5.6							
SRU	**San Rafael**	**32.65**	**104**	*e*P		**P**	**07 45 42.6**	**+2.0**
R17A	**Hanksville Air**	**33.05**	**105**	⇓P		**P**	**07 45 42.6**	**-1.6**
	baz=33							
U14A	**Mt Trumbull**	**33.22**	**110**	⇑P		**P**	**07 45 44.3**	**-1.3**
	baz=33							
R18A	**Canyonlands Na**	**33.52**	**104**	⇑P		**P**	**07 45 46.9**	**-1.3**
	baz=33							
ULM	**Lac du Bonnet**	**33.76**	**76**	P		**P**	**07 45 51.2**	**+1.0**
	2.8nm,0.9s,mb4.2,baz=293,slow=13,SNR=3.0							
ULM				LR		LR	07 59 33.9	
	comp=Z,202nm,18.6s,MS3.9,baz=241,slow=36							
ULM	**Lac du Bonnet**	**33.76**	**76**	P		**P**	**07 45 51.2**	**+1.0**
ULM				LR		LR	07 59 33.9	
V14A	**Boquillas Ranc**	**33.86**	**111**	⇑P		**P**	**07 45 49.9**	**-1.3**
	baz=34							
PV01	**Paradox Valley**	**34.42**	**103**	*e*P		**P**	**07 45 56.8**	**+0.8**
AGMN	**Agassiz Refuge**	**34.85**	**79**	*e*P		**P**	**07 46 00.4**	**+0.7**
	14nm,1.3s,mb4.7							
X14A	**Yava**	**34.87**	**112**	⇓P		**P**	**07 45 58.1**	**-1.9**
	baz=35							
X17A	**Forest Lakes**	**36.06**	**110**	⇓P		**P**	**07 46 07.1**	**-3.1**
	baz=36,SNR=6.4							
EYMN	**Ely**	**37.43**	**76**	*e*P		**P**	**07 46 22.5**	**+0.8**
117A	**Oracle**	**37.47**	**111**	⇓P		**P**	**07 46 20.8**	**-1.4**
	baz=37							
HDIL	**Hopedale**	**43.40**	**83**	*e*P		**P**	**07 47 10.9**	**-0.3**
	5.7nm,0.6s,mb4.5							
TXAR	**Lajitas Array**	**43.74**	**107**	P		**P**	**07 47 14.2**	**+0.1**
	1.1nm,0.9s,mb3.6,baz=307,slow=6.3,SNR=13							
TXAR				LR		LR	08 06 31.7	
	comp=Z,81nm,19.2s,MS3.6,baz=270,slow=38							
SFJD	**Kangerlussuaq**	**44.19**	**33**	LR		LR	08 07 07.5	
	comp=Z,306nm,18.8s,MS4.2,baz=292,slow=38							
JCT	**Junction City**	**44.93**	**102**	*e*P		**P**	**07 47 23.8**	**+0.3**
	6.6nm,0.9s,mb4.5							
OXF	**Oxford**	**47.64**	**89**	*e*P		**P**	**07 47 43.8**	**-1.0**
	16nm,1.4s,mb4.8							
MJAR	**Matsushiro Arr**	**49.17**	**277**	P		**P**	**07 47 58.0**	**+1.5**
	0.8nm,0.6s,mb4.0,baz=51,slow=9.7,SNR=3.3							
ARCES	**ARCESS Array B**	**54.44**	**1**	P		**P**	**07 48 35.0**	**-0.4**
	2.8nm,0.5s,mb4.4,baz=9.8,slow=7.7,SNR=13							
SONM	**Songino Array**	**57.05**	**308**	P		**P**	**07 48 55.0**	**+0.6**
	2.6nm,0.6s,mb4.4,baz=49,slow=6.2,SNR=21							
SONM				LR		LR	08 14 56.3	
	comp=Z,142nm,18.4s,MS4.1,baz=180,slow=38							
BJI	**Beijing**	**58.32**	**296**	P		**P**	**07 49 03.0**	**-0.5**
BJI				S		**S**	**07 57 05.0**	**-0.4**
BJI				AMB		AMB		
	comp=Z,17nm,0.5s,mb5.3							
BJI				AMB		AMB		
	comp=Z,99nm,5.0s							
BJI				LR		LR		
	comp=N,111nm,11.9s							
BJI				LR		LR		
	comp=E,86nm,18.6s							
BJI				LR		LR		
	comp=Z,56nm,22.5s							
HHC	**Hu-ho-hao-te**	**59.98**	**299**	*e*P		**P**	**07 49 15.8**	**+0.8**
HHC				AP		pP	07 49 20.4	+1.5
HHC				XP		sP	07 49 23.8	+3.4
HHC				PCP		PcP	07 50 02.3	+1.3
HHC				PP		PP	07 51 29.3	+2.4
HHC				SCP		ScP	07 54 01.0	-0.6
HHC				S		**S**	**07 57 25.5**	**-1.4**
HHC				XS		sS	07 57 32.6	-0.8
HHC				SCS		ScS	07 59 03.4	-1.6
HHC				SS		SS	08 01 22.0	-0.7
HHC				AMB		AMB		
	comp=Z,13nm,1.1s,mb4.9							
HHC				AMB		AMB		
	comp=Z,88nm,5.3s							
HHC				LR		LR		
	comp=N,87nm,15.2s,MS4.3							
HHC				LR		LR		
	comp=E,142nm,14.3s,MS4.3							
HHC				LR		LR		
	comp=Z,104nm,16.9s,MS4.0							
ZAA0	**Zalesovo Array**	**60.40**	**325**	*e*P		**P**	**07 49 18.1**	**+0.4**
ZALV	**Zalesovo Beam**	**60.40**	**325**	P		**P**	**07 49 17.5**	**-0.1**
	comp=Z,3.4nm,0.7s,mb4.5,baz=38,slow=7.3,SNR=13							
ZALV				LR		LR	08 16 17.1	
	comp=Z,74nm,18.5s,MS3.9,baz=158,slow=37							
NB2	**NORSAR Subarra**	**62.31**	**9**	P		**P**	**07 49 30.1**	**-0.4**
	comp=Z,1.0nm,0.7s,mb4.0,baz=350,slow=6.9							
NOA	**NORSAR Array B**	**62.31**	**9**	P		**P**	**07 49 30.8**	**+0.3**
	comp=Z,1.2nm,0.8s,mb4.1,baz=351,slow=6.7,SNR=5.3							
HFS	**Hagfors**	**63.40**	**7**	P		**P**	**07 49 38.2**	**+0.4**
	comp=Z,2.0nm,0.8s,mb4.3,baz=85,slow=3.1,SNR=6.1							
KURK	**Kurchatov**	**65.13**	**327**	P		**P**	**07 49 50.3**	**+1.1**
	comp=Z,0.8nm,0.5s,mb4.0,baz=29,slow=6.6,SNR=3.6							
BVAR	**Borovoye Array**	**65.36**	**333**	P		**P**	**07 49 50.1**	**-0.6**
	comp=Z,1.9nm,0.6s,mb4.3,baz=30,slow=6.3,SNR=11							
EKA	**Eskdalemuir Ar**	**66.01**	**18**	P		**P**	**07 49 54.3**	**-0.5**
	comp=Z,1.1nm,0.9s,mb3.9,baz=327,slow=4.5,SNR=3.8							
MK31	**Makanchi Array**	**67.37**	**322**	P		**P**	**07 50 02.5**	**-1.2**
MKAR	**Makanchi Array**	**67.37**	**322**	P		**P**	**07 50 03.1**	**-0.5**
	comp=Z,1.3nm,0.5s,mb4.2,baz=44,slow=6.9,SNR=7.3							
LZH	**Lanzhou**	**67.45**	**301**	*e*P		**P**	**07 50 05.0**	**+0.7**
LZH				AP		pP	07 50 11.5	+3.2
LZH				XP		sP	07 50 13.4	+3.6
LZH				AMB		AMB		
	comp=Z,36nm,1.6s,mb5.2							
LZH				AMB		AMB		
	comp=Z,150nm,5.6s							
WMQ	**Urumqi**	**67.98**	**317**	*e*P		**P**	**07 50 10.0**	**+2.5**
WMQ				AMB		AMB		
	comp=Z,2.0nm,1.1s,mb4.1							
WMQ				AMB		AMB		
	comp=Z,17nm,4.7s							
AKTO	**Aktyubinsk**	**70.56**	**340**	P		**P**	**07 50 23.9**	**+0.4**
	comp=Z,1.2nm,0.5s,mb4.1,baz=3.6,slow=8.3,SNR=4.4							
CD2	**Chengdu**	**71.70**	**298**	*e*P		**P**	**07 50 31.4**	**+0.7**
CD2				AMB		AMB		
	comp=Z,10.0nm,0.8s,mb4.8							
AKASG	**Malin Array Be**	**73.33**	**359**	P		**P**	**07 50 39.5**	**-0.5**
	comp=Z,1.3nm,0.6s,mb4.0,baz=0.1,slow=5.7,SNR=6.8							
EKS2	**Erkin-Say**	**73.82**	**326**	*e*P		**P**	**07 50 43.8**	**+0.8**
	comp=Z,2.1nm,0.8s,mb4.1							
GYA	**Guiyang**	**73.89**	**293**	P		**P**	**07 50 44.3**	**+0.6**
GYA				AMB		AMB		
	comp=Z,10.0nm,1.0s,mb4.7							
GERES	**GERESS Array B**	**74.61**	**9**	P		**P**	**07 50 48.5**	**+1.0**
	comp=Z,0.5nm,0.6s,mb3.6,baz=333,slow=1.8,SNR=3.6							
ESDC	**Sonseca Array**	**80.81**	**24**	P		**P**	**07 51 23.9**	**+1.7**
	comp=Z,0.9nm,0.6s,mb3.9,baz=339,slow=4.6,SNR=5.5							
CMAR	**Chiang Mai Arr**	**84.46**	**295**	P		**P**	**07 51 41.4**	**-0.2**
	comp=Z,0.6nm,0.3s,mb4.2,baz=6.9,slow=5.9,SNR=3.4							
CMAR				LR		LR	08 35 25.4	
	comp=Z,41nm,18.8s,MS3.8,baz=175,slow=40							

JMA 13 08:04:36.7±0.5, 3716N×13527E, h396km, M3.5, Sea of Japan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JNG	**Nsakai**	**2.39**	**107**	P	Pn	08 05 36.1	+1.2
JKN2	**Miekihoku**	**3.03**	**164**	P	Pn	08 05 40.0	+0.1
JFT	**Otama**	**4.05**	**83**	P	Pn	08 05 49.9	+0.9
JYT	**Yasato**	**4.07**	**102**	P	Pn	08 05 49.3	+0.2
JHO	**Hitachi**	**4.28**	**96**	P	Pn	08 05 50.9	-0.3
JHO				S	S	08 06 47.2	-4.5
JFK	**Kawauchi**	**4.47**	**86**	P	Pn	08 05 53.1	0.0
BSO4	**Boso 4**	**4.64**	**116**	P	Pn	08 05 56.0	+1.2
JMK	**Ichinoseki**	**5.03**	**67**	S	S	08 07 03.9	-1.4

IDC 13 08:14:39.6±0.9, 2184S×6834W, h108km±16km, mb3.2/1, mb1 2.9/4, mb1mx2.8/17, mbtmp2.8/4, Error ellipse: s-maj=54.3km s-min=21.5km az=108.0, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LVC	**Limon Verde**	**0.94**	**214**	P	Pn	08 15 00.6	+0.5
	23nm,0.3s,baz=15,slow=8.1,SNR=278						
LVC				S	Sn	08 15 16.6	+1.1
	57nm,0.3s,baz=101,slow=23,SNR=101						
LPAZ	**La Paz**	**5.52**	**2**	P	Pn	08 15 59.4	-0.2
	0.5nm,0.3s,baz=208,slow=8.1,SNR=15						
SIV	**San Ignacio**	**9.00**	**51**	P	Pn	08 16 46.7	-0.1
	0.1nm,0.3s,baz=246,slow=14,SNR=4.4						
CFAA	**Coronel Fontan**	**9.73**	**179**	P	Pn	08 16 54.7	-1.9
	0.1nm,0.3s,baz=4.4,slow=11,SNR=10						
TORD	**Torodi Ar. Bea**	**76.97**	**70**	P	P	08 26 21.5	+0.7
	0.2nm,0.3s,baz=250,slow=5.6,SNR=5.1						
MKAR	**Makanchi Array**	**145.59**	**37**	PKPbc	PKPbc	08 34 04.5	-0.9
	0.2nm,0.3s,baz=313,slow=4.4,SNR=2.4						

*ISCJB **13** 08:16:06.8±0.6, 1775S±005×6971W±006, h161km±8km, mb3.6/3, Error ellipse: s-maj=10.3km s-min=7.8km az=146.8*
*IDC **13** 08:16:07.9±1.1, 1771S×6972W, h140km±10km, mb3.6/3, mb1 3.7/8, mb1mx3.4/21, mbtmp3.5/8, Error ellipse: s-maj=18.0km s-min=10.1km az=101.0*
*NEIC **13** 08:16:08.7±0.8, 1772S×6953W, h148km±9km, Error ellipse: s-maj=15.0km s-min=12.6km az=80.0*

ISC 13 08:16:07.9±0.6, 1776S±005×6969W±007, h154km±8km, n15, σ1§35/17, mb3.6/3, 1D, Peru-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LPAZ	**La Paz**	**2.09**	**46**	P	Pn	**08 16 45.5**	**+1.2**
	22nm,0.3s,baz=224,slow=7.3,SNR=474						
LPAZ				S	Sn	**08 17 12.2**	**-0.1**
	5.0nm,0.3s,baz=26,slow=17,SNR=8.3						
ARE	**Arequipa**	**2.15**	**306**	⇓*i*P	Pn	**08 16 46.0**	**+0.9**
ARE				*i* S	Sn	**08 17 13.7**	**0.0**
LVC	**Limon Verde**	**4.88**	**172**	P	Pn	**08 17 22.0**	**+2.1**
	16nm,0.3s,baz=306,slow=5.1,SNR=5.6						
LVC				S	Sn	**08 18 16.1**	**+0.1**
	15nm,0.3s,baz=308,slow=23,SNR=11						
SIV	**San Ignacio**	**8.43**	**79**	P	Pn	**08 18 04.8**	**-2.4**
	1.9nm,0.3s,baz=263,slow=14,SNR=27						
NNA	**Nana**	**8.98**	**309**	P	Pn	**08 18 13.0**	**-1.5**
	4.1nm,0.3s,baz=138,slow=11,SNR=6.4						
NNA				S	Sn	**08 19 50.5**	**-3.8**
	2.5nm,0.3s,baz=330,slow=14,SNR=4.4						
NNA	**Nana**	**8.98**	**309**	P	Pn	**08 18 13.0**	**-1.5**
NNA				S	Sn	**08 19 50.5**	**-3.8**

LCO	**Las Campanas**	**11.24**	**185**	*e*Pn		**Pn**	**08 18 41.6**	**-2.5**
CFAA	**Coronel Fontan**	**13.85**	**175**	P		**Pn**	**08 19 17.6**	**-0.2**
	0.1nm,0.3s,baz=348,slow=13,SNR=9.8							
CPUP	**Villa Florida**	**14.28**	**129**	P		**Pn**	**08 19 22.6**	**-0.5**
	0.1nm,0.3s,baz=292,slow=13,SNR=2.8							
PLCA	**Paso Flores**	**22.91**	**182**	P		**P**	**08 21 01.9**	**+3.5**
	2.9nm,0.7s,mb3.8,baz=358,slow=12,SNR=12							
TORD	**Torodi Ar. Bea**	**76.83**	**71**	P		**P**	**08 27 43.5**	**+0.2**
	2.5nm,0.7s,mb3.9,baz=258,slow=5.1,SNR=12							
YKA	**Yellowknife Ar**	**87.43**	**341**	P		**P**	**08 28 39.1**	**+1.8**
	0.2nm,0.5s,mb3.2,baz=135,slow=4.7,SNR=4.6							
ASAR	**Alice Springs**	**132.82**	**210**	PKP		PKPdf	08 35 07.5	+2.1
	0.3nm,0.8s,baz=122,slow=1.5,SNR=4.6							
WRA	**Warramunga Arr**	**135.73**	**213**	PKP		PKPdf	08 35 13.2	+2.2
	0.4nm,0.5s,baz=147,slow=1.9,SNR=8.6							
SONM	**Songino Array**	**149.83**	**5**	PKPbc		PKPbc	08 35 42.2	+2.5
	0.5nm,0.6s,baz=1.2,slow=4.1,SNR=3.5							

*ISCJB **13** 08:40:24.5±0.5, 4933N±003×685E±005, h0km, Error ellipse: s-maj=4.5km s-min=4.0km az=161.7*
*BGR **13** 08:40:25.5±0.5, 4934N×683E, h1km, ML1.7, Error ellipse: s-maj=8.9km s-min=5.6km az=35.0*
*LDG **13** 08:40:26.2±0.1, 4935N×688E, h1km, Md2.2/1, Ml2.5/5, Error ellipse: s-maj=2.8km s-min=1.7km az=101.0, Suspected Mining induced.*
*CSEM **13** 08:40:26.4±0.1, 4935N×686E, h1km, ML2.5/4, Error ellipse: s-maj=2.5km s-min=2.4km az=133.0*

ISC 13 08:40:25.4±0.5, 4933N±003×684E±005, h0km, n15, σ1§04/24, Germany

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WLF	**Walferdange**	**0.56**	**307**	*e*Pg	**Pg**	**08 40 37.2**	**+1.1**
WLF				*e*Sg	**Sg**	**08 40 42.8**	**-0.5**
CDF	**Champ du Feu**	**0.96**	**162**	*e*Pn	**Pn**	**08 40 44.6**	**-1.5**
CDF				*e*Sn	**Sn**	**08 40 58.9**	**-1.6**
	9.0nm,0.2s						
CDF	**Champ du Feu**	**0.96**	**162**	*e*Pn	**Pn**	**08 40 44.6**	**-1.5**
CDF				*e*Sn	**Sn**	**08 40 58.9**	**-1.6**
	4.5nm,0.2s						
RFYF	**Reffroy**	**1.14**	**233**	*e*Pg	**Pg**	**08 40 48.3**	**+1.0**
RFYF				*e*Sg	**Sg**	**08 41 04.2**	**+2.1**
	11nm,0.3s						
RFYF	**Reffroy**	**1.14**	**233**	*e*Pg	**Pg**	**08 40 48.3**	**+1.0**
RFYF				*e*Sg	**Sg**	**08 41 04.2**	**+2.1**
	5.3nm,0.3s						
HAU	**Haudompre**	**1.37**	**194**	*e*Pn	**Pn**	**08 40 51.3**	**-0.4**
HAU				*e*Sg	**Sg**	**08 41 09.9**	**+0.7**
	8.1nm,0.3s						
HAU	**Haudompre**	**1.37**	**194**	*e*Pn	**Pn**	**08 40 51.3**	**-0.4**
HAU				*e*Sg	**Sg**	**08 41 09.9**	**+0.7**
	4.1nm,0.3s						
TNS	**Taunus Mts**	**1.37**	**49**	*e*Pg	**Pg**	**08 40 51.6**	**-0.1**
TNS				*e*Sg	**Sg**	**08 41 10.4**	**+1.0**
BFO	**Black Forest**	**1.40**	**135**	*e*Pg	**Pg**	**08 40 53.3**	**+1.0**
BFO				*e*Sg	**Sg**	**08 41 11.1**	**+0.7**
HINF	**Hinteralfeld**	**1.52**	**180**	*e*Sg	**Sg**	**08 41 14.1**	**+0.1**
	9.6nm,0.3s						
HINF	**Hinteralfeld**	**1.52**	**180**	*e*Sg	**Sg**	**08 41 14.1**	**+0.1**
	4.8nm,0.3s						
GIVF	**Givet**	**1.52**	**301**	*e*Pn	**Pn**	**08 40 52.9**	**-0.9**
BAIF	**Baives**	**1.86**	**294**	*e*Pg	**Pg**	**08 41 01.0**	**0.0**
LOR	**Lormes**	**2.87**	**225**	*e*Pn	**Pn**	**08 41 11.6**	**-0.7**
SSF	**Saint Saulge**	**3.18**	**226**	*e*Pn	**Pn**	**08 41 14.9**	**-1.8**

*TIF **13** 08:43:56.1, 4127N×44.11E, h14km±1km*
*CSEM **13** 08:43:57.1, 4132N×4424E, h10km, mb3.8, After OBN*
*MOS **13** 08:43:57.8±0.3, 4132N×4424E, h10km, mb3.8/1, Error ellipse: s-maj=56.8km s-min=12.9km az=85.7*

ISC 13 08:43:56.5±2.1, 4127N±007×4402E±008, h2km±12km, n10, σ0§88/20, Western Caucasus

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TBLG	**Delisi**	**0.71**	**49**	Pg	**Pg**	**08 44 09.7**	**-0.3**
TBLG				Sg	**Sg**	**08 44 19.5**	**+0.3**
MTA	**Mtatsminda**	**0.72**	**54**	P	**Pg**	**08 44 09.8**	**-0.4**
MTA				S	**Sg**	**08 44 19.4**	**-0.1**
GOR	**Gori**	**0.72**	**5**	P	**Pg**	**08 44 10.8**	**+0.6**
GOR				S	**Sg**	**08 44 21.1**	**+1.6**
DGRG	**David-gareji**	**1.03**	**79**	P	**Pg**	**08

NBG	**Las Nubes**	**1.62**	**60**	*e*P	Pn	09 31 34.4	+2.1
RBDL	**Robledal**	**2.08**	**80**	*e*P	x	09 31 38.6	
RBDL				*e*S	x	09 32 06.0	
SBLS	**San Blas**	**2.11**	**88**‖	*e*P	x	09 31 38.9	
SBLS				*e*S	x	09 32 05.8	
SNJE	**San Jose**	**2.13**	**87**	*e*P	x	09 31 39.0	
SNJE				*e*S	x	09 32 05.2	
LFRS	**El Faro**	**2.66**	**93**	*e*P	x	09 31 46.7	
LFRS				*e*S	x	09 32 18.7	
LBRS	**Las Brisas**	**2.67**	**90**	*e*P	x	09 31 47.1	

MAN 13 09:34:13, 970N×12645E, h8km, mb4.2, ML3.1, MS2.8, 2D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SCPH	**Surigao**	**0.95**	**275**‖	*e*P	Pg	09 34 31.4	+0.1
SCPH				*e*S	Sg	09 34 47.8	+4.2
BUTP	**Butuan**	**1.09**	**229**	*e*P	Pg	09 34 32.7	-1.3
BUTP				*e*S	Sg	09 34 50.0	+1.9
MSLP	**Maasin**	**1.62**	**286**	*e*P	Pn	09 34 44.6	+2.6
MSLP				*e*S	Sn	09 35 07.5	+4.4
PLP	**Palo**	**2.06**	**315**‖	*e*P	Pn	09 34 48.7	+0.8
PLP				*e*S	Sn	09 35 14.8	+1.2
BESP	**Borongan**	**2.14**	**332**	*e*P	Pn	09 34 50.6	+1.5
BESP				*e*S	Sn	09 35 17.0	+1.2
BUKP	**Musuan**	**2.27**	**217**	*e*P	Pn	09 34 52.0	+1.3
BUKP				*e*S	Sn	09 35 21.6	+2.7
TBP	**Tagbilaran**	**2.55**	**270**	*e*P	Pn	09 34 56.0	+1.3
TBP				*e*S	Sn	09 35 29.9	+4.0

IDC ***13*** *09:42:41.2±1.1, 0.74S×132.80E, h0km, mb4.1/6, mb1 4.2/8, mb1mx4.0/19, mbtmp4.1/8, ML4.0/2, Error ellipse: s-maj=54.9km s-min=13.0km az=76.0*

NEIC ***13*** *09:42:42.4±0.8, 0.69S×132.99E, h10km, mb3.9/4, Error ellipse: s-maj=30.3km s-min=11.1km az=73.0*

ISCJB ***13*** *09:42:46.7±1.1, 0.78S±0.07S×133.18E±0.06, h65km±11km, mb3.9/6, Error ellipse: s-maj=11.6km s-min=10.1km az=14.9*

DJA ***13*** *09:43:08.7±0.6, 1.5S±0.5×132.5E±, h20km, mb5.0/1, mB5.7/2, Mjma3.3/3, MLv4.2/3, Mw(mB)5.4/2*

ISC 13 09:42:47.0±1.2, 071S±008×133.19E±0.06, h48km±13km, n25, σ1ᵍ00/30, mb4.0/6, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SWI	**Sorong**	**1.94**	**265**	P	**Pn**	**09 43 16.3**	**-1.2**
SWI	**Sorong**	**1.94**	**265**	S	**Sn**	**09 43 41.6**	**+1.0**
SWI	**Sorong**	**1.94**	**265**	P	**Pn**	**09 43 16.3**	**-1.2**
SWI	**Sorong**	**1.94**	**265**	S	**Sn**	**09 43 41.6**	**+1.0**
BAKI	**Biak**	**2.96**	**99**	P	**Pn**	**09 43 31.9**	**+0.4**
AAI	**Ambon**	**5.80**	**239**	P	**Pn**	**09 44 11.4**	**+0.8**
AAI	**Ambon**	**5.80**	**239**	S	**Sn**	**09 45 15.8**	**-0.1**
AAI	**Ambon**	**5.80**	**239**	P	**Pn**	**09 44 11.3**	**+0.7**
AAI	**Ambon**	**5.80**	**239**	S	**Sn**	**09 45 19.1**	**+3.2**
AAI	**Ambon**	**5.80**	**239**	P	**Pn**	**09 44 11.4**	**+0.8**
	163nm,0.8s,1μm						
KAKA	**Kakadu**	**11.95**	**184**	*e*P	**Pn**	**09 45 31.1**	**-3.7**
	11nm,0.4s						
KAKA				*e*S	**Sn**	**09 47 39.6**	**-7.2**
FITZ	**Fitzroy Crossi**	**18.81**	**203**	*e*P	**Pn**	**09 47 01.9**	**-1.8**
	2.6nm,0.3s						
FITZ				*e*S	**S**	**09 50 20.0**	**-14**
FITZ	**Fitzroy Crossi**	**18.81**	**203**	P	**Pn**	**09 47 02.1**	**-1.6**
	0.2nm,0.3s,baz=36,slow=13,SNR=5.9						
FITZ				S	**S**	**09 50 23.2**	**-11**
	0.1nm,0.3s,baz=347,slow=18,SNR=4.4						
WRAB	**Tennant Creek**	**19.14**	**177**	*e*Pn	**Pn**	**09 47 07.0**	**-0.6**
	2.2nm,0.3s						
WRA	**Warramunga Arr**	**19.15**	**177**	P	**Pn**	**09 47 07.8**	**+0.1**
	0.7nm,0.3s,baz=354,slow=11,SNR=58						
WRA				S	**S**	**09 50 31.3**	**-10**
	0.2nm,0.3s,baz=355,slow=23,SNR=6.1						
WB2	**Warramunga Arr**	**19.15**	**177**	*e*Pn	**Pn**	**09 47 07.2**	**-0.6**
ASAR	**Alice Springs**	**22.84**	**178**	P	**P**	**09 47 47.1**	**+1.1**
	6.3nm,0.9s,mb4.1,baz=357,slow=12,SNR=82						
ASAR				S	**S**	**09 51 56.1**	**+3.9**
	0.2nm,0.6s,baz=328,slow=15,SNR=3.9						
CTA	**Charters Tower**	**23.12**	**147**	*e*P	**P**	**09 47 48.4**	**-0.7**
	3.9nm,0.8s,mb3.9						
CTA	**Charters Tower**	**23.12**	**147**	P	**P**	**09 47 51.0**	**+1.9**
	3.9nm,0.8s,mb3.9,baz=339,slow=7.3,SNR=4.5						
CTAO	**Charters Tower**	**23.12**	**147**	*e*P	**P**	**09 47 51.4**	**+2.2**
	1.5nm,0.5s,mb3.7						
STKA	**Stephens Creek**	**32.01**	**166**	P	**P**	**09 49 09.8**	**+1.0**
	1.7nm,0.6s,mb4.1,baz=355,slow=7.9,SNR=4.3						
STKA	**Stephens Creek**	**32.01**	**166**	P	**P**	**09 49 09.8**	**+1.0**
MKAR	**Makanchi Array**	**64.89**	**324**	P	**P**	**09 53 21.4**	**+0.1**
	1.0nm,0.4s,mb4.2,baz=114,slow=8.0,SNR=11						
KURK	**Kurchatov**	**68.96**	**326**	P	**P**	**09 53 46.5**	**-0.6**
	2.2nm,0.8s,mb4.2,baz=123,slow=5.8,SNR=12						
BVAR	**Borovoye Array**	**74.55**	**326**	P	**P**	**09 54 20.5**	**-0.1**
	1.3nm,0.6s,mb4.0,baz=137,slow=7.4,SNR=6.4						

ISCJB ***13*** *10:12:06.7±0.4, 4.83S±0.05×152.73E±0.05, h51km, mb4.7/34, MS3.7/21, Error ellipse: s-maj=8.4km s-min=6.3km az=143.1*

IDC ***13*** *10:12:07.5±0.7, 4.79S×152.95E, h50km±5km, mb4.1/11, mb1 4.3/12, mb1mx4.2/18, mbtmp4.2/12, MS3.7/18, Ms1 3.7/18, ms1mx3.5/27, Error ellipse: s-maj=19.9km s-min=12.5km az=109.0*

MOS ***13*** *10:12:09.2±0.8, 4.82S×152.76E, h78km, mb4.6/6, Error ellipse: s-maj=13.7km s-min=11.2km az=67.9*

NEIC ***13*** *10:12:12.9±1.4, 5.00S×152.75E, h98km±12km, mb4.8/12, Error ellipse: s-maj=11.9km s-min=9.7km az=174.0*

BJI ***13*** *10:12:18.4, 5.51S×151.93E, h140km, mB4.9, mb4.7*

DJA ***13*** *10:12:36, 5.83S×152.30E, h295km, mb4.8/8*

ISC 13 10:12:09.1±0.4, 492S±005×15261E±005, h53km, h53km±2.3km:pP-P, n70, σ1ᵍ31/68, mb4.7/34, MS3.7/21, 1C-2D, New British region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**7.01**	**230**	*e*Pn	**Pn**	**10 13 53.7**	**+4.6**
PMG				*e*Sn	**Sn**	**10 14 59.6**	**-8.0**
HNR	**Honiara**	**8.55**	**122**	P	**Pn**	**10 14 11.7**	**+1.4**
	5.0nm,0.3s,baz=227,slow=9.5,SNR=2.8						
HNR				S	**Sn**	**10 15 46.5**	**+1.1**
	2.2nm,0.3s,baz=194,slow=9.1,SNR=2.1						
HNR	**Honiara**	**8.55**	**122**	P	**Pn**	**10 14 11.7**	**+1.4**
HNR				S	**Sn**	**10 15 46.5**	**+1.2**
HNR				pmax	pmax		
	comp=Z,5.0nm,0.3s						
HNR				smax			
	comp=N,2.0nm,0.3s						
COEN	**Coen**	**12.93**	**225**	*e*Pn	**Pn**	**10 15 14.6**	**+4.5**
	comp=N,9.4nm,0.8s						
CTA	**Charters Tower**	**16.30**	**202**	*e*P	**Pn**	**10 15 56.0**	**+1.5**
	comp=N,7.8nm,0.9s						
CTA	**Charters Tower**	**16.30**	**202**	P	**Pn**	**10 15 56.8**	**+2.3**
	comp=N,0.4nm,0.3s,baz=34,slow=12,SNR=5.9						
CTA	**Charters Tower**	**16.30**	**202**	*e*P	**Pn**	**10 15 56.0**	**+1.5**
CTA				pmax	pmax		
	comp=Z,8.0nm,0.9s						
CTAO	**Charters Tower**	**16.30**	**202**	*e*P	**Pn**	**10 15 56.4**	**+1.9**
GUMO	**Guam**	**19.93**	**337**	*e*P	pP	10 16 51.6	+3.0
EIDS	**Eidsvold**	**20.39**	**184**	*e*P	**P**	**10 16 46.0**	**+4.4**
	comp=Z,56nm,0.8s						
KAKA	**Kakadu**	**21.37**	**247**	*e*P	**P**	**10 16 50.7**	**-1.6**
	comp=Z,36nm,0.4s,mb5.1						
KAKA				*e*S	**S**	**10 20 45.5**	**-1.2**
DZM	**Mont Dzumac**	**21.68**	**143**	*e*P	**P**	**10 16 53.7**	**-1.9**
WRAB	**Tennant Creek**	**23.21**	**228**	*e*P	**P**	**10 17 12.3**	**+0.5**
WRAB				pmax	pmax		
	comp=Z,68nm,0.7s,mb5.2						
WRAB	**Tennant Creek**	**23.21**	**228**	*e*P	**P**	**10 17 12.3**	**+0.5**
	comp=Z,68nm,0.7s,mb5.2						
WRA	**Warramunga Arr**	**23.23**	**228**	P	**P**	**10 17 12.1**	**+0.2**
	comp=Z,64nm,0.7s,mb5.1,baz=54,slow=9.8,SNR=181						
WRA				S	**S**	**10 21 24.2**	**+4.3**
	comp=Z,3.6nm,1.0s,baz=52,slow=17,SNR=8.0						
WRA				LR	LR	10 27 06.2	
	comp=Z,137nm,18.0s,MS3.5,baz=55,slow=38						
WRA	**Warramunga Arr**	**23.23**	**228**	P	**P**	**10 17 12.1**	**+0.2**
WRA				S	**S**	**10 21 24.2**	**+4.3**
WRA				pmax	pmax		
	comp=Z,64nm,0.7s						
WRA				smax			
	comp=N,4.0nm,1.0s						
WRA				MLR	MLR		
	comp=Z,137nm,18.0s						
ARMA	**Armidale**	**25.38**	**182**	*e*P	**P**	**10 17 30.9**	**-0.6**
ASAR	**Alice Springs**	**25.93**	**222**	P	**P**	**10 17 36.7**	**+0.1**
	comp=Z,3.9nm,0.4s,mb4.3,baz=55,slow=9.3,SNR=42						
ASAR				S	**S**	**10 22 12.7**	**+9.4**
	comp=Z,0.8nm,0.8s,baz=36,slow=17,SNR=2.9						
STKA	**Stephens Creek**	**28.74**	**200**	*e*P	**P**	**10 18 00.5**	**-1.1**
	comp=Z,6.1nm,0.8s,mb4.4						
STKA	**Stephens Creek**	**28.74**	**200**	P	**P**	**10 18 00.9**	**-0.6**
	comp=Z,7.5nm,0.8s,mb4.5,baz=356,slow=8.1,SNR=15						
STKA				LR	LR	10 29 30.2	
	comp=Z,188nm,20.6s,MS3.7,baz=25,slow=36						
BATI	**Baumata**	**29.16**	**258**	P	**P**	**10 18 07.4**	**+1.8**
	comp=Z,18nm,0.7s,mb4.9,baz=234,slow=2.7,SNR=3.9						
FITZ	**Fitzroy Crossi**	**29.44**	**241**	*e*P	**P**	**10 18 08.0**	**0.0**
	comp=Z,34nm,0.7s,mb5.2						
FITZ	**Fitzroy Crossi**	**29.44**	**241**	P	**P**	**10 18 08.1**	**+0.2**
	comp=Z,18nm,0.6s,mb5.0,baz=81,slow=8.5,SNR=61						
FITZ				LR	LR	10 31 18.9	
	comp=Z,137nm,18.4s,MS3.6,baz=68,slow=39						
CBIJ	**Chichi jima**	**33.38**	**343**	LR	LR	10 31 01.4	
	comp=Z,74nm,18.6s,MS3.4,baz=90,slow=34						
FORT	**Forrest**	**34.58**	**219**	*e*P	**P**	**10 18 52.6**	**-0.3**
	comp=Z,24nm,0.9s,mb5.1						
MBWA	**Marble Bar**	**35.75**	**240**	*e*P	**P**	**10 19 03.5**	**+0.4**
	comp=Z,19nm,0.6s,mb5.2						
AFI	**Afiamalu**	**36.20**	**107**	LR	LR	10 31 05.6	
	comp=Z,88nm,20.6s,MS3.5,baz=301,slow=32						
JOW	**Kunigami**	**39.38**	**325**	LR	LR	10 33 03.3	
	comp=Z,61nm,18.2s,MS3.5,baz=87,slow=32						
RPZ	**Rata Peaks**	**41.93**	**160**	P	**P**	**10 19 53.5**	**-1.0**
	comp=Z,15nm,0.8s,mb4.7,baz=342,slow=15,SNR=5.3						
RPZ				LR	LR	10 34 40.0	
	comp=Z,394nm,18.9s,MS4.3,baz=331,slow=32						
KLBR	**Kellerberrin**	**42.09**	**227**	*e*P	**P**	**10 19 54.9**	**-1.1**
	comp=Z,3.7nm,0.5s,mb4.3						
MJAR	**Matsushiro Arr**	**43.39**	**343**	LR	LR	10 36 39.0	
	comp=Z,72nm,20.1s,MS3.6,baz=90,slow=34						
KSRS	**Korea Array**	**48.02**	**333**	P	**P**	**10 20 41.5**	**-1.4**
	comp=Z,1.4nm,0.7s,mb4.1,baz=158,slow=8.9,SNR=4.3						
KSRS				pP	pP	10 20 56.0	-1.1
	comp=Z,5.8nm,1.1s,baz=154,slow=10.0,SNR=6.0						
KSRS				LR	LR	10 40 41.0	
	comp=Z,27nm,18.2s,MS3.3,baz=269,slow=36						
KSRS	**Korea Array**	**48.02**	**333**	P	**P**	**10 20 41.6**	**-1.4**
KSRS				*PP	pP	10 20 56.0	-1.1
KSRS				pmax	pmax		
	comp=Z,1.0nm,0.7s,mb4.0						
KSRS				pmax	pmax		
	comp=Z,6.0nm,1.1s,mb4.5						
KSRS				MLR	MLR		
	comp=Z,27nm,18.2s,MS3.3						
NJ2	**Nanjing**	**48.82**	**321**	*e*P	**P**	**10 20 52.1**	**+2.9**
NJ2				AMB	AMB		
	comp=Z,30nm,0.9s,mb5.3						
RAR	**Rarotonga**	**48.90**	**114**	LR	LR	10 36 35.1	
	comp=Z,83nm,20.3s,MS3.7,baz=319,slow=30						
ASAJ	**Asahikawa**	**49.64**	**351**	LR	LR	10 39 25.0	
	comp=Z,46nm,19.3s,MS3.5,baz=102,slow=33						
GYA	**Guiyang**	**54.31**	**308**	P	**P**	**10 21 32.8**	**+2.4**
GYA				AP	pP	10 22 05.9	+21
GYA				XP	sP	10 22 21.4	+31
GYA				PCP	PcP	10 22 36.5	+2.5
GYA				PP	PP	10 23 39.3	+6.4
GYA				SCP	ScP	10 26 21.8	-6.2
GYA				PCS	PcS	10 26 34.3	+0.7
GYA				S	**S**	**10 28 57.3**	**-7.4**
GYA				XS	sS	10 29 54.0	+25
GYA				SCS	ScS	10 31 04.8	-11
GYA				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb4.7						
GYA				AMB	AMB		
	comp=Z,90nm,5.2s						
BJI	**Beijing**	**55.89**	**327**	P	**P**	**10 21 45.3**	**+3.8**
BJI				PP	PP	10 23 50.8	+4.1
BJI				S	**S**	**10 29 23.4**	**-1.9**
BJI				AMB	AMB		
	comp=Z,11nm,0.5s,mb5.1						
BJI				AMB	AMB		
	comp=Z,120nm,6.6s						
BJI				LR	LR		
	comp=N,114nm,23.9s,MS4.2						
BJI				LR	LR		
	comp=E,223nm,24.6s,MS4.2						
BJI				LR	LR		
	comp=Z,68nm,29.4s,MS3.6						
XAN	**Xi'an**	**56.58**	**317**	P	**P**	**10 21 45.8**	**-0.7**
XAN				PP	PP	10 23 56.4	+3.4
XAN				S	**S**	**10 29 28.3**	**-6.4**
XAN				SS	SS	10 33 19.0	-4.1
XAN				AMB	AMB		
	comp=Z,2.0nm,0.7s,mb4.3						
XAN				LR	LR		
	comp=N,52nm,38.3s						
XAN				LR	LR		
	comp=E,44nm,49.3s						
XAN				LR	LR		
	comp=Z,59nm,37.5s,MS3.4						
KMI	**Kunming**	**56.90**	**304**	P	**P**	**10 21 50.4**	**+1.4**
KMI				AMB	AMB		
	comp=Z,6.0nm,1.5s,mb4.4						
CMAR	**Chiang Mai Arr**	**57.76**	**295**	P	**P**	**10 21 56.5**	**+1.3**
	comp=Z,3.3nm,0.7s,mb4.5,baz=111,slow=5.2,SNR=17						
CMAR				pP	pP	10 22 09.9	+0.3
	comp=Z,0.9nm,0.6s,baz=110,slow=4.4,SNR=1.7						
CMAR				LR	LR	10 45 36.6	
	comp=Z,22nm,20.2s,MS3.3,baz=115,slow=35						
PETK	**Petropavlovsk-**	**57.97**	**4**	LR	LR	10 41 44.0	
	comp=Z,67nm,21.2s,MS3.7,baz=354,slow=31						
CD2	**Chengdu**	**58.67**	**311**	*e*P	**P**	**10 22 01.5**	**+0.2**
CD2				AP	pP	10 22 34.8	+19
CD2				XP	sP	10 22 50.5	+29
CD2				PP	PP	10 24 15.0	+3.3
CD2				S	**S**	**10 29 52.6**	**-10**
CD2				XS	sS	10 30 50.5	+24
CD2				SS	SS	10 33 49.3	-6.8
CD2				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb5.0						
CD2				AMB	AMB		
	comp=Z,30nm,4.2s						
HHC	**Hu-ho-hao-te**	**59.03**	**324**	*e*P	**P**	**10 22 08.1**	**+4.5**
HHC				AP	pP	10 22 42.0	+24
HHC				XP	sP	10 22 57.3	+33
HHC				PP	PP	10 24 21.5	+6.8
HHC				SCP	ScP	10 26 41.3	-7.1
HHC				PCS	PcS	10 26 56.8	+2.9
HHC				S	**S**	**10 30 01.6**	**-5.0**
HHC				XS	sS	10 31 00.5	+30
HHC				SCS	ScS	10 31 40.5	-8.7
HHC				SS	SS	10 34 00.8	-0.6
HHC				AMB	AMB		
	comp=Z,14nm,1.1s,mb4.9						
HHC				AMB	AMB		
	comp=Z,128nm,6.4s						
HHC				LR	LR		
	comp=N,173nm,14.7s,MS4.5						
HHC				LR	LR		
	comp=E,161nm,12.8s,MS4.5						
HHC				LR	LR		
	comp=Z,151nm,14.6s,MS4.2						
LZH	**Lanzhou**	**61.18**	**316**	*e*P	**P**	**10 22 20.0**	**+1.5**
LZH				AP	pP	10 22 55.5	+22
LZH				XP	sP	10 23 08.9	+30
LZH				AMB	AMB		
	comp=Z,15nm,1.0s,mb5.1						
LZH				AMB	AMB		
	comp=Z,65nm,4.2s						
GTA	**Gaotai**	**65.61**	**317**	P	**P**	**10 22 48.4**	**+0.7**
GTA				AP	pP	10 23 21.9	+19
GTA				XP	sP	10 23 37.8	+29
GTA				AMB	AMB		
	comp=Z,3.0nm,0.8s,mb4.4						
SONM	**Songino Array**	**66.32**	**328**	P	**P**	**10 22 52.6**	**+0.6**
	comp=Z,0.5nm,0.6s,mb3.7,baz=148,slow=6.3,SNR=3.9						
SONM				pP	pP	10 23 05.6	-1.2
	comp=Z,1.3nm,0.7s,baz=131,slow=5.9,SNR=4.8						
SONM				LR	LR	10 52 03.9	
	comp=Z,47nm,19.3s,MS3.7,baz=34,slow=36						
SONM	**Songino Array**	**66.32**	**328**	P	**P**	**10 22 52.6**	**+0.6**
SONM				pmax	pmax		
	comp=Z,1.0nm,0.6s						
SONM				pmax	pmax		
	comp=Z,1.0nm,0.7s						
SONM				MLR	MLR		
	comp=Z,47nm,19.3s						
ZAK	**Zakamensk**	**69.50**	**329**	*e*P	**P**	**10 23 11.2**	**-0.7**
ZAK				pmax	pmax		
	comp=Z,3.0nm,1.3s,mb4.1						
MIR	**Mirnyy**	**73.75**	**201**↑	*i*P	**P**	**10 23 37.5**	**+0.2**
MIR				pmax	pmax		
	comp=Z,100nm,1.0s,mb5.7						
WMQ	**Urumqi**	**75.70**	**317**	*e*P	**P**	**10 23 50.5**	**+1.5**
WMQ				PcP	PcP	10 24 03.0	+1.5
WMQ				AP	pP	10 24 25.5	+22
WMQ				XP	sP	10 24 40.5	+31
WMQ				AMB	AMB		
	comp=Z,26nm,1.1s,mb5.1						
WMQ				AMB	AMB		
	comp=Z,70nm,4.7s						
TIXI	**Tiksi**	**77.99**	**353**	*e*P	**P**	**10 24 05.1**	**+3.8**
TIXI				pmax	pmax		
	comp=Z,5.0nm,1.3s,mb4.3						
MKAR	**Makanchi Array**	**80.29**	**319**	P	**P**	**10 24 13.8**	**-0.5**
	comp=Z,0.4nm,0.3s,mb3.9,baz=101,slow=6.5,SNR=7.2						
MKAR				pP	pP	10 24 28.6	-0.9
	comp=Z,0.4nm,0.3s,baz=95,slow=6.1,SNR=2.0						
ZALV	**Zalesovo Beam**	**81.15**	**326**	P	**P**	**10 24 16.7**	**-2.1**
	comp=Z,2.4nm,0.6s,mb4.3,baz=103,slow=5.6,SNR=8.8						
ZALV				LR	LR	10 58 38.7	
	comp=Z,34nm,19.0s,MS3.7,baz=99,slow=34						
NVS	**Novosibirsk**	**82.33**	**327**	*e*P	**P**	**10 24 22.9**	**-2.1**
KURK	**Kurchatov**	**83.75**	**322**	*e*P	**P**	**10 24 30.4**	**-2.0**
KURK				pmax	pmax		
	comp=Z,4.0nm,1.3s,mb4.4						
UCH	**Uchtor**	**84.51**	**313**	*e*P	**P**	**10 24 37.7**	**+1.1**
	comp=Z,6.4nm,1.1s,mb4.7						
EKS2	**Erkin-Say**	**85.13**	**313**	*e*P	**P**	**10 24 40.3**	**+0.7**
	comp=Z,6.5nm,1.1s,mb4.7						
MAW	**Mawson**	**85.39**	**203**	LR	LR	10 58 16.6	
	comp=Z,82nm,20.2s,MS4.1,baz=244,slow=32						
MAW	**Mawson**	**85.39**	**203**	*e*P	**P**	**10 24 39.9**	**-0.5**
MAW				pmax	pmax		
	comp=Z,13nm,1.0s						
MAW	**Mawson**	**85.39**	**203**	*e*P	**P**	**10 24 39.9**	**-0.6**
	comp=Z,13nm,1.0s,mb5.0						
YBH	**Yreka Blue Hor**	**89.27**	**48**	LR	LR	10 56 00.9	
	comp=Z,115nm,20.8s,MS4.3,baz=260,slow=30						
NVAR	**Mina Array Bea**	**92.31**	**52**	P	**P**	**10 25 11.8**	**-2.0**
	comp=Z,0.3nm,0.8s,mb3.7,baz=251,slow=2.8,SNR=3.1						
NVAR				pP	pP	10 25 28.0	-1.2
	comp=Z,0.2nm,0.5s,baz=238,slow=5.2,SNR=1.7						
NVAR	**Mina Array Bea**	**92.31**	**52**	P	**P**	**10 25 11.8**	**-2.0**
NVAR				pP	pP	10 25 28.0	-1.2
SYO	**Syowa Base**	**93.49**	**199**‖	*e*P	**P**	**10 25 12.0**	**-6.7**
SYO	**Syowa Base**	**93.49**	**199**‖	*e*P	**P**	**10 25 16.0**	**-2.7**
PDAR	**Pinedale Array**	**99.07**	**48**	LR	LR	11 02 46.2	
	comp=Z,93nm,21.6s,MS4.2,baz=264,slow=31						
TORD	**Torodi Ar. Bea**	**150.16**	**288**	PKPbc	PKPbc	10 31 53.8	-1.4
	comp=Z,14nm,0.8s,baz=72,slow=2.3,SNR=68						
TORD				PKPab	PKPab	10 32 01.3	0.0
	comp=Z,4.2nm,0.8s,baz=54,slow=3.7,SNR=6.5						
TORD				pPKPbc	pPKPbc	10 32 09.1	-1.9
	comp=Z,5.0nm,0.8s,baz=79,slow=2.7,SNR=6.6						
BDFB	**Brasilia**	**151.12**	**135**	PKPbc	PKPbc	10 31 56.1	-1.2
	comp=Z,1.7nm,0.5s,baz=134,slow=15,SNR=4.8						
BDFB				pPKPbc	pPKPbc	10 32 11.8	-1.4
	comp=Z,1.6nm,0.5s,baz=52,slow=23,SNR=2.8						
BDFB	**Brasilia**	**151.12**	**135**	PKIKP	PKPbc	10 31 56.1	-1.3
BDFB				pmax	pmax		
	comp=Z,2.0nm,0.5s						
BDFB				pmax	pmax		
	comp=Z,2.0nm,0.5s						

NEIC ***13*** *11:03:31.6±1.6, 6.98S×129.65E, h68km±16km, mb4.3/2, Error ellipse: s-maj=16.1km s-min=12.2km az=67.0*

IDC ***13*** *11:03:32.2±4.3, 6.92S×129.78E, h75km±37km, mb3.8/7, mb1 4.1/11, mb1mx3.9/18, mbtmp4.0/11, ML4.7/4, MS3.5/2, Ms1 3.4/2, ms1mx2.8/19, Error ellipse: s-maj=46.4km s-min=17.0km az=65.0*

ISCJB ***13*** *11:03:33.8±1.1, 7.18S±0.05×129.64E±0.06, h105km±12km, mb3.9/8, Error ellipse: s-maj=11.2km s-min=8.2km az=153.1*

DJA ***13*** *11:03:37.0±0.5, 7.5S±6×130E±, h115km±28km, mB5.3/3, MLv5.0/3, Mw(mB)5.1/3, Mwp3.6/2*

ISC 13 11:03:34.9±1.0, 718S±006×12966E±006, h98km±11km, n24, σ1ᵍ26/33, mb3.9/8, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**6.14**	**154**	*e*P	**Pn**	**11 05 03.5**	**+0.3**
	98nm,0.2s						
KAKA				*e*S	**Sn**	**11 06 10.3**	**-1.8**
KAKA	**Kakadu**	**6.14**	**154**	P	**Pn**	**11 05 03.8**	**+0.6**
	121nm,0.6s,8μm1.6nm						
SWI	**Sorong**	**6.47**	**14**	P	**Pn**	**11 05 08.9**	**+1.2**
BATI	**Baumata**	**6.65**	**243**	P	**Pn**	**11 05 12.5**	**+2.4**
	26nm,0.3s,baz=73,slow=2.5,SNR=25						
BATI				S	**Sn**	**11 06 23.8**	**-0.7**
	25nm,0.3s,baz=116,slow=22,SNR=16						
BATI	**Baumata**	**6.65**	**243**	P	**Pn**	**11 05 13.3**	**+3.2**
	74nm,0.7s,994nm0.3nm						
BATI	**Baumata**	**6.65**	**243**	S	**Sn**	**11 06 23.0**	**-1.5**
	74nm,0.7s,994nm0.3nm						
FITZ	**Fitzroy Crossi**	**11.55**	**199**	*e*P	**Pn**	**11 06 16.5**	**-0.2**
	7.1nm,0.3s						
FITZ				*e*S	**Sn**	**11 08 15.6**	**-8.1**
FITZ	**Fitzroy Crossi**	**11.55**	**199**	P	**Pn**	**11 06 16.6**	**-0.1**
	2.0nm,0.3s,baz=27,slow=11,SNR=47						
FITZ				S	**Sn**	**11 08 16.5**	**-7.1**
	6.8nm,0.3s,baz=85,slow=22,SNR=14						
FITZ	**Fitzroy Crossi**	**11.55**	**199**	P	**Pn**	**11 06 17.1**	**+0.4**
WRAB	**Tennant Creek**	**13.47**	**161**	*e*Pn	**Pn**	**11 06 41.4**	**-0

s-min=12.0km az=176.0
SZGRF ***13*** *11:06:39.5,5059N×177.24W,h22km,mb4.7,Andreanof Islands, Aleutian Islands, United States*
ISC 13 11:06:35.8±0.2,**5023N**±004×**17766W**±003,**h19**km,
h19km±1.4km;**pP-P,n619,**σ**70**/608,**mb4.8**/138,**MS3.8**/16,
126C-125D,Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
ADK	**Adak**	**1.76**	**20**	P		**Pn**	**11 07 04.3**	**-1.0**
AMKA	**Amchitka**	**2.24**	**302**	*e*P		**Pn**	**11 07 11.3**	**-0.6**
SMY	**Shemya**	**5.72**	**299**	*e*P		**Pn**	**11 08 02.3**	**+2.6**
OKCD	**Okmok Cone D**	**6.73**	**58**	P		**Pn**	**11 08 14.2**	**+0.7**
UNV	**Unalaska Valle**	**7.77**	**58**	P		**Pn**	**11 08 28.2**	**+0.5**
AKGG	**Akutan Green G**	**8.19**	**57**	P		**Pn**	**11 08 34.4**	**+0.9**
SPIA	**Saint Paul Isl**	**8.23**	**29**	P		**Pn**	**11 08 36.0**	**+2.0**
AKUT	**Akutan**	**8.28**	**57**	*e*P		**Pn**	**11 08 35.9**	**+1.1**
FALS	**False Pass**	**9.83**	**56**	*e*Pn		**Pn**	**11 08 56.3**	**+0.3**
SDPT	**Sand Point**	**11.58**	**57**	*e*P		**Pn**	**11 09 18.5**	**-1.5**
	72nm,0.3s							
CHGN	**Chignik**	**13.00**	**55**	*e*P		**Pn**	**11 09 37.0**	**-2.3**
GAMB	**Gambell**	**13.95**	**11**	*e*Pn		**Pn**	**11 09 54.1**	**+1.9**
PEA0B	**Petropavlovsk-**	**15.53**	**290**	*e*Pn		**Pn**	**11 10 15.8**	**+2.3**
PETK	**Petropavlovsk-**	**15.53**	**290**	Pn		**Pn**	**11 10 17.6**	**+4.1**
	0.4nm,0.3s,baz=93,slow=19,SNR=12							
PETK				Sn		**Sn**	**11 13 01.9**	**-3.1**
	0.2nm,0.3s,baz=246,slow=6.9,SNR=2.6							
SVW2	**Sparrevohn**	**16.44**	**40**	*e*P		**Pn**	**11 10 25.5**	**+0.3**
KDAK	**Kodiak Island**	**16.49**	**53**	Pn		**Pn**	**11 10 21.6**	**-4.2**
	3.7nm,0.3s,baz=158,slow=22,SNR=39							
KDAK				Sn		**Sn**	**11 13 28.6**	**+0.5**
	3.2nm,0.3s,baz=330,slow=23,SNR=15							
KDAK	**Kodiak Island**	**16.49**	**53**	*e*P		**Pn**	**11 10 26.9**	**+1.1**
	48nm,0.5s							
KDAK				Sn		**Sn**	**11 13 28.6**	**+0.5**
PPLA	**Purkeypile**	**18.75**	**38**	*e*P		**Pn**	**11 10 59.1**	**+5.4**
	33nm,0.7s							
SEW	**Seward**	**18.75**	**47**	*e*P		**Pn**	**11 10 51.0**	**-2.8**
CHUM	**Lake Minchumin**	**19.22**	**35**	*e*P		**Pn**	**11 11 00.4**	**+1.0**
	18nm,0.7s							
PMR	**Palmer**	**19.43**	**43**	*e*P		**Pn**	**11 10 59.2**	**-2.8**
PMR				pmax		pmax		
	comp=Z,13nm,1.3s							
PMR	**Palmer**	**19.43**	**43**	*e*P		**Pn**	**11 10 59.2**	**-2.8**
	comp=Z,13nm,1.3s							
KTH	**Kantishna Hill**	**19.57**	**37**	*e*P		**Pn**	**11 11 02.8**	**-0.9**
	comp=Z,121nm,1.1s							
TRF	**Thorofare Moun**	**19.77**	**38**	*e*P		**Pn**	**11 11 03.8**	**-2.2**
	comp=Z,35nm,0.9s							
BPAW	**Bear Paw Mtn.**	**19.83**	**36**	*e*P		**Pn**	**11 11 08.0**	**+1.2**
	comp=Z,43nm,0.9s							
IMA2	**Indian Mountai**	**20.08**	**29**	*e*P		**P**	**11 11 04.5**	**-3.3**
MCK	**McKinley**	**20.44**	**38**	*e*P		**P**	**11 11 11.9**	**+0.2**
SEY	**Seymchan**	**20.59**	**319**	*e*P		**P**	**11 11 13.8**	**+0.5**
COLA	**College**	**21.40**	**36**	*e*P		**P**	**11 11 22.1**	**+0.1**
COLA				pmax		pmax		
	comp=Z,20nm,0.8s,mb4.5							
COLA	**College**	**21.40**	**36**	*e*P		**P**	**11 11 22.1**	**+0.1**
	comp=Z,20nm,0.8s,mb4.5							
DAWY	**Dawson**	**24.47**	**41**	*e*P		**P**	**11 11 54.0**	**+0.8**
SKAG	**Skagway**	**25.64**	**53**	*e*P		**P**	**11 12 04.9**	**+1.0**
	comp=Z,28nm,1.3s,mb4.6							
ASAJ	**Asahikawa**	**27.45**	**273**	LR		LR	11 22 01.4	
	comp=Z,55nm,19.3s,baz=23,slow=34							
HABR	**Khabarovsk**	**30.45**	**285**	*e*P		**P**	**11 12 46.0**	**-1.0**
HABR				*e*			11 12 59.2	
HABR				*e*			11 13 44.1	
HABR				*e*			11 15 42.9	
HABR				*e*S		**S**	**11 17 45.4**	**-1.5**
HABR				*e*			11 18 01.6	
HABR				*e*			11 19 23.8	
HABR				*e*			11 23 20.4	
MJAR	**Matsushiro Arr**	**34.35**	**264**	LR		LR	11 25 28.5	
	comp=Z,93nm,19.6s,MS3.5,baz=75,slow=33							
A05A	**Maple Falls**	**35.32**	**70**	⇓P		**P**	**11 13 29.6**	**+0.1**
	baz=35							
GNW	**Green Mountain**	**35.46**	**73**	*e*P		**P**	**11 13 32.1**	**+1.4**
	comp=Z,6.0nm,0.8s,mb4.6							
YKW3	**Yellowknife Ar**	**35.49**	**45**	*e*P		**P**	**11 13 31.7**	**+0.9**
YKA	**Yellowknife Ar**	**35.51**	**45**	P		**P**	**11 13 31.4**	**+0.5**
	comp=Z,7.9nm,0.7s,mb4.8,baz=279,slow=7.7,SNR=43							
YKA				PcP		PcP	11 15 58.5	-1.2
	comp=Z,0.9nm,0.8s,baz=284,slow=2.4,SNR=3.9							
YKA				LR		LR	11 28 16.0	
	comp=Z,58nm,20.0s,MS3.3,baz=145,slow=36							
YKA	**Yellowknife Ar**	**35.51**	**45**	P		**P**	**11 13 31.4**	**+0.5**
YKA							11 15 58.5	
YKA				pmax		pmax		
	comp=Z,8.0nm,0.7s							
YKA				pmax		pmax		
	comp=Z,1.0nm,0.8s							
YKA				MLR		MLR		
	comp=Z,58nm,20.0s							
B05A	**Bryant**	**35.61**	**71**	⇓P		**P**	**11 13 32.5**	**+0.5**
	baz=35,SNR=5.3							
C05A	**Tolt Reservoir**	**36.10**	**72**	⇓P		**P**	**11 13 35.9**	**-0.2**
	baz=36							
A07A	**Ashnola River,**	**36.32**	**69**	⇑P		**P**	**11 13 38.5**	**+0.4**
	baz=36,SNR=7.7							
F04A	**Amboy**	**36.44**	**75**	⇑P		**P**	**11 13 39.7**	**+0.7**
	baz=36							
LON	**Longmire**	**36.44**	**73**	*e*P		**P**	**11 13 39.8**	**+0.7**
LON				pmax		pmax		
	comp=Z,5.0nm,0.9s,mb4.4							
LON	**Longmire**	**36.44**	**73**	*e*P		**P**	**11 13 39.8**	**+0.7**
	comp=Z,4.5nm,0.9s,mb4.4							
B07A	**Winthrop**	**36.73**	**70**	⇓P		**P**	**11 13 41.9**	**+0.4**
	baz=36,SNR=6.6							
D06A	**Cle Elum**	**36.84**	**72**	⇑P		**P**	**11 13 42.7**	**+0.3**
	baz=37							
J02A	**Umpqua**	**36.95**	**79**	⇓P		**P**	**11 13 44.0**	**+0.6**
	baz=37							
ETW	**Entiat**	**36.97**	**71**	*e*P		**P**	**11 13 44.3**	**+0.7**
A08A	**Turner Farm, O**	**37.03**	**69**	⇓P		**P**	**11 13 44.4**	**+0.4**
	baz=37,SNR=6.8							
F05A	**White Salmon**	**37.05**	**74**	⇑P		**P**	**11 13 44.7**	**+0.4**
	baz=37							
B08A	**Colville Reser**	**37.24**	**70**	⇓P		**P**	**11 13 45.8**	**-0.1**
	baz=37,SNR=9.3							
D07A	**Quincy**	**37.37**	**72**	⇑P		**P**	**11 13 47.1**	**+0.1**
	baz=37							
A09A	**Danville**	**37.43**	**68**	⇓P		**P**	**11 13 47.9**	**+0.4**
	baz=37,SNR=6.4							
G05A	**Wamic**	**37.44**	**75**	⇓P		**P**	**11 13 47.8**	**+0.2**
	baz=37							
I04A	**Tendick Farm,**	**37.46**	**78**	⇑P		**P**	**11 13 48.1**	**+0.3**
	baz=37,SNR=8.4							
L02A	**Cave Junction**	**37.55**	**81**	⇑P		**P**	**11 13 49.0**	**+0.4**
	baz=37							
H05A	**Madras**	**37.79**	**76**	⇑P		**P**	**11 13 51.0**	**+0.5**
	baz=38,SNR=5.6							
G06A	**Carlson Farm,**	**37.87**	**75**	⇓P		**P**	**11 13 51.8**	**+0.6**
	baz=38							
B09A	**Rice**	**37.93**	**69**	⇓P		**P**	**11 13 51.9**	**+0.3**
	baz=38							
RSW	**Rattlesnake Hi**	**37.97**	**73**	*e*P		**P**	**11 13 52.6**	**+0.6**
F07A	**Phinny Hill Vi**	**37.99**	**74**	⇑P		**P**	**11 13 52.8**	**+0.5**
	baz=38							
I05A	**Bend**	**38.00**	**77**	⇑P		**P**	**11 13 53.1**	**+0.8**
	baz=38,SNR=5.6							
HAWA	**Hanford**	**38.00**	**73**	*e*P		**P**	**11 13 52.7**	**+0.4**
	comp=Z,11nm,0.8s,mb4.6							
OD2	**Odessa Site #2**	**38.05**	**71**	*e*P		**P**	**11 13 52.6**	**-0.1**
D08A	**Wollman Farm,**	**38.07**	**71**	⇓P		**P**	**11 13 52.4**	**-0.5**
	baz=38,SNR=5.2							
C09A	**Chrisman Ranch**	**38.13**	**70**	⇑P		**P**	**11 13 53.2**	**-0.2**
	baz=38							
E08A	**Dider Farm, El**	**38.25**	**72**	⇑P		**P**	**11 13 54.4**	**0.0**
	baz=38							
H06A	**Lindquist Farm**	**38.30**	**75**	⇑P		**P**	**11 13 55.1**	**+0.3**
	baz=38							
YBH	**Yreka Blue Hor**	**38.34**	**81**	⇓P		**P**	**11 13 56.0**	**+0.8**
	baz=38,SNR=10.0							
YBH	**Yreka Blue Hor**	**38.34**	**81**	*e*P		**P**	**11 13 56.8**	**+1.6**
M02C	**Callahan**	**38.43**	**82**	⇓P		**P**	**11 13 56.7**	**+0.8**
	baz=38							
N02C	**Big Bar**	**38.45**	**83**	⇑P		**P**	**11 13 56.9**	**+0.8**
	baz=38,SNR=8.7							
J05A	**Fort Rock**	**38.46**	**78**	⇑P		**P**	**11 13 57.2**	**+1.0**
	baz=38,SNR=9.5							
CN2	**Changchun**	**38.49**	**283**	*e*P		**P**	**11 13 55.9**	**-0.6**
NEW	**Newport**	**38.61**	**69**	*e*P		**P**	**11 13 57.5**	**+0.1**
L04A	**Klamath Falls**	**38.62**	**80**	⇓P		**P**	**11 13 58.3**	**+0.7**
	baz=38,SNR=7.7							
C10A	**Spilker Farm,**	**38.70**	**70**	⇓P		**P**	**11 13 58.3**	**+0.1**
	baz=38							
EDM	**Edmonton**	**38.75**	**60**	*e*P		**P**	**11 13 59.0**	**+0.5**
A11A	**Hall Mountain,**	**38.76**	**67**	⇓P		**P**	**11 13 59.1**	**+0.4**
	baz=39,SNR=7.0							
E09A	**Wood Farm, Sta**	**38.80**	**72**	⇑P		**P**	**11 13 59.0**	**0.0**
	baz=39							
M04C	**Macdoel**	**38.86**	**80**	⇓P		**P**	**11 14 00.1**	**+0.5**
	baz=39,SNR=14							
G08A	**Pilot Rock**	**38.88**	**74**	P		**P**	**11 13 59.8**	**+0.1**
	baz=39,SNR=5.3							
M03C	**McCloud**	**38.95**	**81**	⇓P		**P**	**11 14 00.8**	**+0.5**
	baz=39,SNR=5.1							
K05A	**Summer Lake**	**38.96**	**79**	⇓P		**P**	**11 14 01.5**	**+1.1**
	baz=39,SNR=10							
WDC	**Whiskeytown Da**	**39.06**	**83**	⇑P		**P**	**11 14 01.5**	**+0.2**
	baz=39,SNR=5.2							
WDC	**Whiskeytown Da**	**39.06**	**83**	*e*P		**P**	**11 14 02.5**	**+1.2**
D10A	**Wagner Farm, O**	**39.07**	**71**	⇑P		**P**	**11 14 00.3**	**-1.0**
	baz=39							
I07A	**Izee**	**39.14**	**76**	⇓P		**P**	**11 14 02.1**	**+0.2**
	baz=39,SNR=9.2							
J06A	**Christmas Vall**	**39.16**	**77**	⇑P		**P**	**11 14 02.4**	**+0.3**
	baz=39,SNR=9.2							
A12A	**Yaak River Ran**	**39.19**	**67**	⇑P		**P**	**11 14 02.4**	**+0.1**
	baz=39,SNR=5.6							
BOD	**Bodaibo**	**39.25**	**308**	*e*P		**P**	**11 14 01.2**	**-1.5**
BOD				pmax		pmax		
	comp=Z,7.0nm,1.8s,mb4.1							
F09A	**S2 Ranch, Elgi**	**39.32**	**73**	⇓P		**P**	**11 14 03.7**	**+0.3**
	baz=39							
K06A	**Valley Falls**	**39.33**	**78**	⇑P		**P**	**11 14 03.3**	**-0.2**
	baz=39,SNR=7.6							
L05A	**Lakeview**	**39.36**	**79**	⇓P		**P**	**11 14 04.0**	**+0.3**
	baz=39,SNR=9.5							
HIA	**Hailar**	**39.40**	**294**	*e*P		**P**	**11 14 03.9**	**-0.1**
H08A	**Prairie City**	**39.44**	**75**	⇑P		**P**	**11 14 04.3**	**-0.1**
	baz=39							
G09A	**Cove**	**39.61**	**73**	⇑P		**P**	**11 14 05.6**	**-0.2**
	baz=39							
J07A	**Hines**	**39.62**	**77**	⇑P		**P**	**11 14 07.0**	**+1.1**
	baz=40,SNR=7.0							
MOD	**Modoc**	**39.77**	**79**	⇑P		**P**	**11 14 08.0**	**+0.8**
	baz=40,SNR=13							
MOD	**Modoc**	**39.77**	**79**	*e*P		**P**	**11 14 08.2**	**+1.0**
I08A	**Drewsey**	**39.81**	**76**	⇑P		**P**	**11 14 07.7**	**+0.2**
	baz=40,SNR=7.2							
C12B	**Naegeli Ranch,**	**39.85**	**69**	⇑P		**P**	**11 14 06.7**	**-1.1**
	baz=40,SNR=7.2							
A13A	**Flathead Natio**	**39.92**	**67**	⇓P		**P**	**11 14 08.4**	**0.0**
	baz=40							
G10A	**Bishop Farm, J**	**40.01**	**73**	⇓P		**P**	**11 14 09.2**	**0.0**
	baz=40,SNR=9.2							
K07A	**Rock Creek Ran**	**40.02**	**78**	⇓P		**P**	**11 14 09.9**	**+0.7**
	baz=40,SNR=14							
M06C	**Likely Place G**	**40.03**	**80**	⇑P		**P**	**11 14 10.0**	**+0.6**
	baz=40,SNR=6.0							
E11A	**Bogner Ranch,**	**40.05**	**71**	⇓P		**P**	**11 14 08.5**	**-0.9**
	baz=40							
BMO	**Blue Mountains**	**40.12**	**74**	*e*P		**P**	**11 14 10.3**	**+0.3**
	comp=Z,3.1nm,0.8s,mb4.1							
O04C	**Chester**	**40.13**	**82**	⇓P		**P**	**11 14 10.7**	**+0.5**
	baz=40,SNR=9.1							
B13A	**Whitefish**	**40.15**	**67**	⇓P		**P**	**11 14 10.3**	**+0.1**
	baz=40							
J08A	**Circle Bar Ran**	**40.15**	**76**	⇓P		**P**	**11 14 10.8**	**+0.4**
	baz=40,SNR=11							
BSMT	**Basso Peak**	**40.20**	**68**	*e*P		**P**	**11 14 10.8**	**+0.2**
ORV	**Oroville**	**40.30**	**83**	⇓P		**P**	**11 14 11.6**	**0.0**
	baz=40,SNR=8.7							
L07A	**Adell**	**40.31**	**79**	P		**P**	**11 14 12.7**	**+1.0**
	baz=40,SNR=11							
KSRS	**Korea Array**	**40.40**	**273**	P		**P**	**11 14 13.1**	**+0.6**
	comp=Z,3.4nm,0.8s,mb4.1,baz=52,slow=8.8,SNR=9.8							
KSRS	**Korea Array**	**40.40**	**273**	P		**P**	**11 14 13.1**	**+0.6**
KSRS				pmax		pmax		
	comp=Z,3.0nm,0.8s,mb4.1							
C13A	**Hot Springs**	**40.41**	**68**	⇓P		**P**	**11 14 11.7**	**-0.6**
	baz=40							
E12A	**Beaver Dam Sad**	**40.41**	**71**	P		**P**	**11 14 12.1**	**-0.4**
	baz=40,SNR=6.6							
OHCM	**Honcut**	**40.43**	**83**	*e*P		**P**	**11 14 12.9**	**+0.2**
O05C	**Quincy**	**40.44**	**82**	⇑P		**P**	**11 14 13.3**	**+0.6**
	baz=40,SNR=15							
K08A	**Mann Creek Ran**	**40.47**	**77**	⇓P		**P**	**11 14 13.4**	**+0.4**
	baz=40,SNR=9.4							
A14A	**Double T Ranch**	**40.49**	**66**	P		**P**	**11 14 13.3**	**+0.3**
	baz=40,SNR=21							
WVOR	**Wild Horse Val**	**40.53**	**78**	*e*P		**P**	**11 14 14.1**	**+0.6**
WVOR				pmax		pmax		
	comp=Z,11nm,0.9s,mb4.5							
WVOR	**Wild Horse Val**	**40.53**	**78**	*e*P		**P**	**11 14 14.1**	**+0.6**
	comp=Z,11nm,0.9s,mb4.5							
H10A	**Noah's Angus R**	**40.59**	**74**	⇓P		**P**	**11 14 13.7**	**-0.3**
	baz=40,SNR=7.9							
J09A	**Fry Pan Ranch,**	**40.60**	**76**	⇓P		**P**	**11 14 14.4**	**+0.3**
	baz=40,SNR=13							
N06A	**Buffalo Meadow**	**40.69**	**81**	P		**P**	**11 14 15.8**	**+1.0**
	baz=40,SNR=13							
M07A	**Soldier Meadow**	**40.76**	**79**	P		**P**	**11 14 16.6**	**+1.2**
	baz=41,SNR=29							
L08A	**Fields**	**40.85**	**78**	⇑P		**P**	**11 14 16.4**	**+0.3**
	baz=41,SNR=13							
BEKR	**Beckwourth**	**40.85**	**82**	P		**P**	**11 14 16.9**	**+0.7**
	baz=41,SNR=7.2							
C14A	**Swan Lake**	**40.86**	**68**	⇓P		**P**	**11 14 15.9**	**-0.2**
	baz=41							
B14A	**Marquette Ranc**	**40.86**	**67**	⇑P		**P**	**11 14 16.2**	**+0.1**
	baz=41,SNR=20							
A15A	**Johnson Ranch,**	**40.89**	**66**	P		**P**	**11 14 15.9**	**-0.5**
	baz=41,SNR=9.3							
F12A	**Elk City**	**40.92**	**71**	⇓P		**P**	**11 14 16.4**	**-0.2**
	baz=41,SNR=7.2							
H11A	**Donnelly**	**40.99**	**73**	⇑P		**P**	**11 14 17.2**	**0.0**
	baz=41							
P05C	**Yuba Gap, Truc**	**41.01**	**83**	P		**P**	**11 14 18.3**	**+0.8**
	baz=41,SNR=7.2							
O06A	**Flanigan**	**41.02**	**81**	⇑P		**P**	**11 14 18.2**	**+0.6**
	baz=41,SNR=9.3							
MSO	**Missoula**	**41.19**	**69**	*e*P		**P**	**11 14 18.8**	**0.0**
	comp=Z,4.7nm,0.8s,mb4.2							
G12A	**Big Creek, Yel**	**41.19**	**72**	⇓P		**P**	**11 14 19.1**	**+0.2**
	baz=41							
N07B	**Gerlach**	**41.22**	**80**	⇑P		**P**	**11 14 19.5**	**+0.4**
	baz=41,SNR=15							
M08A	**Happy Creek Ra**	**41.23**	**79**	⇓P		**P**	**11 14 20.1**	**+0.9**
	baz=41,SNR=7.0							
E13A	**Victor**	**41.23**	**70**	⇑P		**P**	**11 14 19.0**	**-0.2**
	baz=41							
LAVA	**Lava Cap Winer**	**41.24**	**84**	P		**P**	**11 14 20.0**	**+0.6**
	baz=41,SNR=7.6							
P06A	**Stead Airport,**	**41.25**	**82**	⇑P		**P**	**11 14 20.3**	**+0.8**
	baz=41							
B15A	**Bradely Ranch,**	**41.30**	**67**	P		**P**	**11 14 19.5**	**-0.3**
	baz=41,SNR=18							
D14A	**Greenough**	**41.33**	**69**	⇓P		**P**	**11 14 19.3**	**-0.7**
	baz=41,SNR=15							
L09A	**Wilkinson Ranc**	**41.36**	**78**	⇑P		**P**	**11 14 19.8**	**-0.6**
	baz=41							
R04C	**Big Horse Ranc**	**41.40**	**84**	⇑P		**P**	**11 14 20.9**	**+0.2**
	baz=41							
I11A	**Placerville**	**41.43**	**74**	⇓P		**P**	**11 14 20.8**	**0.0**
	baz=41,SNR=5.3							
K10A	**MacKenzie Ranc**	**41.45**	**76**	⇑P		**P**	**11 14 20.5**	**-0.6**
	baz=41,SNR=10							
F13A	**Darby**	**41.47**	**71**	P		**P**	**11 14 21.1**	**-0.1**
	baz=41,SNR=7.5							
C15A	**Salmond Ranch,**	**41.53**	**67**	⇓P		**P**	**11 14 21.4**	**-0.3**
	baz=41,SNR=8.5							
WCN	**Washoe City**	**41.55**	**82**	⇓P		**P**	**11 14 21.2**	**-0.7**
	baz=41,SNR=6.5							
PAHR	**Pah Rah Range**	**41.56**	**82**	*e*P		**P**	**11 14 23.1**	**+1.1**
CHMT	**Chamberlain Mo**	**41.56**	**69**	*e*P		**P**	**11 14 21.5**	**-0.4**
A16A	**West Butte Ran**	**41.57**	**65**	⇑P		**P**	**11 14 20.3**	**-1.6**
	baz=41,SNR=14							
O07A	**Toulon**	**41.62**	**81**	⇓P		**P**	**11 14 23.5**	**+1.0**
	baz=42,SNR=8.5							
E14A	**Clinton**	**41.66**	**70**	⇓P		**P**	**11 14 22.5**	**-0.2**
	baz=42,SNR=8.4							
N08A	**GE Springer Mi**	**41.75**	**79**	⇓P		**P**	**11 14 23.1**	**-0.5**
	baz=42,SNR=9.3							
B16A	**M & M Farms, S**	**41.76**	**66**	⇑P		**P**	**11 14 22.7**	**-0.7**
	baz=42,SNR=6.3							
CMB	**Columbia Colle**	**41.88**	**84**	*e*P		**P**	**11 14 25.2**	**+0.5**
CMB				pmax		pmax		
	comp=Z,8.0nm,0.9s,mb4.3							
CMB	**Columbia Colle**	**41.88**	**84**	⇑P		**P**	**11 14 25.1**	**+0.4**
	baz=42,SNR=8.0							
CMB	**Columbia Colle**	**41.88**	**84**	*e*P		**P**	**11 14 25.2**	**+0.6**
	comp=Z,8.4nm,0.9s,mb4.4							
D15A	**Lincoln**	**41.94**	**68**	⇑P		**P**	**11 14 24.5**	**-0.5**
	baz=42,SNR=12							
K11A	**Parker Ranch,**	**41.98**	**76**	⇓P		**P**	**11 14 25.5**	**+0.1**
	baz=42,SNR=5.7							
O08A	**Rochester Mine**	**42.01**	**80**	⇑P		**P**	**11 14 25.4**	**-0.3**
	baz=42,SNR=12							
C16A	**Fuhringer Ranc**	**42.03**	**67**	⇓P		**P**	**11 14 25.1**	**-0.6**
	baz=42,SNR=12							
F14A	**Wisdom**	**42.04**	**70**	⇑P		**P**	**11 14 25.4**	**-0.4**
	baz=42,SNR=7.1							
L10A	**Juniper Basin**	**42.08**	**77**	⇓P		**P**	**11 14 26.1**	**-0.2**
	baz=42,SNR=6.6							
N09A	**Rock Creek Ran**	**42.09**	**79**	⇓P		**P**	**11 14 26.8**	**+0.5**
	baz=42,SNR=6.0							
H13A	**Challis**	**42.13**	**72**	⇑P		**P**	**11 14 26.2**	**-0.5**
	baz=42							
E15A	**Deer Lodge**	**42.17**	**69**	P		**P**	**11 14 26.4**	**-0.4**
	baz=42,SNR=7.5							
R06C	**Coleville**	**42.20**	**83**	⇑P		**P**	**11 14 27.7**	**+0.5**
	baz=42,SNR=7.6							
G14A	**Jackson**	**42.27**	**71**	⇓P		**P**	**11 14 27.6**	**-0.1**
	baz=42							
J12A	**Stokes Ranch,**	**42.30**	**74**	⇑P		**P**	**11 14 28.3**	**+0.3**
	baz=42,SNR=6.1							
S05C	**Merced**	**42.33**	**85**	⇑P		**P**	**11 14 28.8**	**+0.5**
	baz=42							
M10A	**I.L. Ranch, Tu**	**42.34**	**77**	⇓P		**P**	**11 14 28.7**	**+0.3**
	baz=42,SNR=6.4							
L11A	**Cat Creek Ranc**	**42.48**	**76**	⇑P		**P**	**11 14 29.0**	**-0.5**
	baz=42,SNR=9.7							
HRY	**Holter Researc**	**42.51**	**68**	*e*P		**P**	**11 14 29.6**	**0.0**
D16A	**Dana Ranch, Ca**	**42.52**	**68**	⇓P		**P**	**11 14 28.9**	**-0.9**
	baz=42							
V03C	**Hunter Liggett**	**42.55**	**87**	⇓P		**P**	**11 14 29.9**	**-0.2**
	baz=42							
F15A	**Butte**	**42.55**	**70**	⇓P		**P**	**11 14 29.2**	**-0.8**
	baz=42							
I13A	**Wildhorse Cree**	**42.56**	**73**	⇑P		**P**	**11 14 29.4**	**-0.7**
	baz=42,SNR=6.5							
HLID	**Hailey**	**42.56**	**74**	⇑P		**P**	**11 14 30.1**	**-0.1**
	baz=42,SNR=7.6							
U04C	**Hernandez Rese**	**42.63**	**87**	⇑P		**P**	**11 14 31.1**	**+0.4**
	baz=42							
C17A	**Wharram Farm,**	**42.69**	**67**	P		**P**	**11 14 30.2**	**-0.9**
	baz=42,SNR=9.2							
E16A	**East Helena**	**42.69**	**68**	⇓P		**P**	**11 14 30.8**	**-0.4**
	baz=42,SNR=5.7							
K12A	**Draper Farm, C**	**42.76**	**75**	⇑P		**P**	**11 14 31.9**	**+0.2**
	baz=43,SNR=5.3							
J13A	**Cove Ranch, Pi**	**42.80**	**74**	⇓P		**P**	**11 14 32.1**	**+0.1**
	baz=43,SNR=5.1							
N10A	**Dunphy**	**42.81**	**78**	⇑P		**P**	**11 14 32.5**	**+0.3**
	baz=43							
MCMT	**McKenzie Canyo**	**42.86**	**71**	*e*P		**P**	**11 14 32.3**	**-0.2**
M11A	**Holland Ranch,**	**42.86**	**77**	⇓P		**P**	**11 14 32.9**	**+0.4**
	baz=43,SNR=6.6							
G15A	**Dillon**	**42.90**	**71**	⇑P		**P**	**11 14 32.3**	**-0.6**
	baz=43,SNR=9.4							
T06C	**Millerton Lake**	**42.93**	**85**	⇑P		**P**	**11 14 33.0**	**-0.1**
	baz=43,SNR=11							
L12A	**House Creek Ra**	**42.95**	**76**	P		**P**	**11 14 33.9**	**+0.6**
	baz=43,SNR=12							
I14A	**Mackay**	**42.96**	**73**	⇓P		**P**	**11 14 32.8**	**-0.6**
	baz=43,SNR=6.4							
Q08A	**Gabbs**	**42.97**	**82**	⇑P		**P**	**11 14 33.4**	**-0.1**
	baz=43,SNR=12							
NVAR	**Mina Array Bea**	**42.98**	**82**	P		**P**	**11 14 34.2**	**+0.7**
	comp=Z,4.7nm,0.8s,mb4.3,baz=288,slow=8.4,SNR=31							
NVAR				PcP		PcP	11 16 24.3	+0.6
	comp=Z,

N14A Grayback Hills 44.81 76 ⇑P P 11 14 48.3 0.0
baz=45,SNR=5.7
Q12A Willow Creek R 44.83 79 ⇑P P 11 14 48.5 +0.1
baz=45,SNR=11
RLMT Red Lodge 44.86 69 ⇑P P 11 14 48.6 0.0
baz=45,SNR=16
RLMT Red Lodge 44.86 69 *e*P P 11 14 48.7 +0.1
comp=Z,8.7nm,0.5s,mb4.8
BGU Big Grassy Mou 44.87 76 *e*P P 11 14 49.1 +0.4
MPMC Manual Prospec 44.92 85 ⇓P P 11 14 49.3 +0.1
baz=45,SNR=8.0
M15A Larsen Ranch, 44.93 75 ⇓P P 11 14 49.4 +0.2
baz=45,SNR=6.1
S11A Rachel 45.07 82 ⇓P P 11 14 50.3 0.0
baz=45,SNR=7.5
FURC Furnace Creek, 45.07 84 ⇓P P 11 14 50.3 -0.1
baz=45,SNR=11
P13A Bates Ranch, G 45.10 78 ⇓P P 11 14 50.6 +0.1
baz=45,SNR=8.8
TPNV Topopah Spring 45.17 83 *e*P P 11 14 51.2 0.0
TPNV pmax pmax
comp=Z,15nm,0.7s,mb4.9
TPNV Topopah Spring 45.17 83 P P 11 14 51.7 +0.5
baz=45,SNR=24
TPNV Topopah Spring 45.17 83 *e*P P 11 14 51.2 0.0
comp=Z,14nm,0.7s,mb4.9
N15A Stansbury Isla 45.21 76 ⇑P P 11 14 51.7 +0.3
baz=45,SNR=9.1
L16A Fish Haven 45.24 74 ⇑P P 11 14 51.8 +0.1
baz=45,SNR=5.8
Q13A Wheeler Ranch, 45.39 79 ⇓P P 11 14 52.7 -0.2
baz=45,SNR=14
R12A Pony Springs, 45.39 80 ⇓P P 11 14 52.8 0.0
baz=45,SNR=5.3
DUG Dugway 45.42 77 *e*P P 11 14 53.4 +0.3
DUG pmax pmax
comp=Z,12nm,1.1s,mb4.6
DUG Dugway 45.42 77 ⇓P P 11 14 53.1 0.0
baz=45,SNR=15
DUG Dugway 45.42 77 *e*P P 11 14 53.4 +0.2
comp=Z,12nm,1.1s,mb4.6
M16A Huntsville 45.52 75 ⇓P P 11 14 53.9 0.0
baz=45,SNR=15
P14A Drum Mountains 45.61 78 ⇑P P 11 14 54.4 -0.2
baz=45,SNR=15
T11A Corn Creek, Al 45.65 82 P P 11 14 55.4 +0.4
baz=46,SNR=20
S12A Delamar Landin 45.66 81 ⇑P P 11 14 55.2 +0.1
baz=46,SNR=15
SHOC Shoshone 45.79 84 ⇓P P 11 14 56.3 +0.2
baz=46,SNR=6.3
GSC Goldstone 45.83 85 *e*P P 11 14 56.5 +0.1
GSC pmax pmax
comp=Z,11nm,0.9s,mb4.8
GSC Goldstone 45.83 85 ⇑P P 11 14 56.2 -0.1
baz=46,SNR=8.4
GSC Goldstone 45.83 85 *e*P P 11 14 56.5 +0.1
comp=Z,11nm,0.9s,mb4.8
LAO LASA Array 45.83 65 *e*P P 11 14 56.0 -0.2
comp=Z,12nm,0.9s,mb4.8
Q14A Sevier Lake (B 45.84 78 ⇑P P 11 14 56.5 +0.1
baz=46,SNR=14
R13A O'Grain Ranch, 45.88 80 ⇓P P 11 14 56.1 -0.7
baz=46,SNR=6.7
BW06 Boulder Array 45.97 72 ⇓P P 11 14 57.1 -0.3
baz=46,SNR=15
PDAR Pinedale Array 45.97 72 P P 11 14 57.2 -0.2
comp=Z,7.4nm,0.8s,mb4.7,baz=309,slow=3.5,SNR=56
NLU North Lily Min 46.02 77 *e*P P 11 14 57.9 0.0
JLU Jordanelle 46.04 75 *e*P P 11 14 58.3 +0.3
DGMT Dagmar 46.07 62 P P 11 14 57.7 -0.4
baz=46,SNR=6.5
DGMT Dagmar 46.07 62 *e*P P 11 14 57.3 -0.8
comp=Z,9.7nm,0.6s,mb4.9
N17A Moffit Pass 46.22 75 ⇑P P 11 14 59.4 0.0
baz=46
O16A Springville 46.23 76 ⇑P P 11 14 59.5 -0.1
baz=46,SNR=6.1
DAU Daniels Canyon 46.27 76 *e*P P 11 15 00.5 +0.7
T12A Moapa 46.28 82 ⇓P P 11 15 00.3 +0.3
baz=46
S13A Holt Ranch, En 46.31 80 ⇓P P 11 15 00.4 +0.3
baz=46,SNR=10
TUQ Turquoise Moun 46.31 84 ⇑P P 11 15 00.4 +0.2
baz=46
BJI Beijing 46.34 284 P P 11 14 59.0 -1.3
BJI AMB AMB
comp=Z,16nm,0.6s,mb5.1
BJI AMB AMB
comp=Z,139nm,3.9s
BJI LR LR
comp=N,148nm,15.2s,MS4.2
BJI LR LR
comp=E,152nm,15.3s,MS4.2
BJI LR LR
comp=Z,43nm,17.0s,MS3.5
V11A Goodsprings 46.37 83 ⇑P P 11 15 01.1 +0.4
baz=46
Q15A Fillmore 46.39 78 ⇓P P 11 15 00.8 0.0
baz=46,SNR=6.3
ARUT Antelope Range 46.45 80 *e*P P 11 15 01.4 +0.2
U12A Valley of Fire 46.58 82 ⇓P P 11 15 02.4 +0.2
baz=46
T13A Saint George 46.62 81 ⇑P P 11 15 02.8 +0.2
baz=46,SNR=8.8
S14A Cedar City 46.64 80 ⇑P P 11 15 02.8 +0.1
baz=46
CCUT Cedar City 46.64 80 *e*P P 11 15 02.5 -0.2
MSU Marysvale 46.81 78 *e*P P 11 15 04.6 +0.5
GMRC Granite Mounta 46.89 85 ⇑P P 11 15 03.6 -1.1
baz=47
U13A Pakoon Wash 46.95 82 P P 11 15 05.8 +0.6
baz=47,SNR=15
T14A Hurricane 47.11 80 P P 11 15 06.8 +0.4
baz=47,SNR=14
O18A Roosevelt 47.13 75 ⇓P P 11 15 05.8 -0.7
baz=47
BELC Belle Mtn. 47.16 86 ⇓P P 11 15 05.5 -1.4
baz=47
109C Camp Elliot, M 47.16 88 ⇑P P 11 15 05.3 -1.6
baz=47
Q16A Castle Valley 47.20 77 ⇓P P 11 15 07.0 -0.1
baz=47,SNR=6.9
V13A Grand Canyon W 47.29 82 ⇑P P 11 15 07.0 -0.8
baz=47,SNR=9.1
TLY Talaya 47.30 304 *e*P P 11 15 08.5 +0.8
TLY pmax pmax
comp=Z,7.0nm,0.9s,mb4.6
P18A Preston Nutter 47.36 76 ⇑P P 11 15 08.4 +0.1
baz=47,SNR=6.1
R16A Teasdale 47.38 78 ⇑P P 11 15 08.8 +0.3
baz=47,SNR=15
U14A Mt Trumbull 47.45 81 ⇓P P 11 15 08.9 -0.2
baz=47
SRU San Rafael 47.49 77 *e*P P 11 15 09.6 +0.3
SRU pmax pmax
comp=Z,6.0nm,0.6s,mb4.7
SRU San Rafael 47.49 77 ⇑P P 11 15 09.6 +0.2
baz=47,SNR=6.2
SRU San Rafael 47.49 77 *e*P P 11 15 09.6 +0.2
comp=Z,5.9nm,0.6s,mb4.7
GUMO Guam 47.58 233 LR LR 11 35 29.9
comp=Z,37nm,18.7s,MS3.4,baz=90,slow=36
T15A Red Dirt Ranch 47.58 80 ⇑P P 11 15 10.1 0.0
baz=47,SNR=12
S16A Weppner Ranch, 47.65 79 ⇑P P 11 15 11.3 +0.7
baz=48,SNR=10
O19A Miners Draw (B 47.66 74 ⇓P P 11 15 10.4 -0.3
baz=48,SNR=15
Q18A Rafter H Ranch 47.74 76 ⇓P P 11 15 10.4 -0.9
baz=48,SNR=6.8
R17A Hanksville Air 47.79 77 ⇓P P 11 15 11.2 -0.5
baz=48,SNR=12
SONM Songino Array 47.82 298 P P 11 15 12.6 +0.8
comp=Z,4.0nm,1.0s,mb4.4,baz=52,slow=8.5,SNR=15
SONM PcP PcP 11 16 40.2 -0.1
comp=Z,3.3nm,0.7s,baz=60,slow=3.0,SNR=7.3
SONM LR LR 11 35 20.1
comp=Z,57nm,18.2s,MS3.6,baz=175,slow=36
SONM Songino Array 47.82 298 P P 11 15 12.6 +0.8
SONM 11 16 40.2
SONM pmax pmax
comp=Z,4.0nm,1.0s
SONM pmax pmax
comp=Z,3.0nm,0.7s
SONM MLR MLR
comp=Z,57nm,18.3s
W13A Hualapai Mount 47.82 83 ⇑P P 11 15 11.8 -0.2
baz=48,SNR=5.9
V14A Boquillas Ranc 47.98 82 ⇓P P 11 15 13.3 +0.1
baz=48,SNR=7.1
U15A North Rim 48.00 81 P P 11 15 14.1 +0.7
baz=48,SNR=19
P19A Cripple Cowboy 48.14 75 ⇑P P 11 15 14.1 -0.3
baz=48
PDMCI Parker Dam,Lak 48.16 84 ⇑P P 11 15 14.4 -0.2
baz=48
X13A Yucca 48.17 84 ⇑P P 11 15 13.7 -1.0
baz=48
ZAK Zakamensk 48.17 302 ⇑*i*P P 11 15 14.7 +0.2
ZAK pmax pmax
comp=Z,9.0nm,1.1s,mb4.7
S17A Black Ridge (B 48.20 78 P P 11 15 15.0 +0.1
baz=48,SNR=15
Y12C Blythe 48.27 85 ⇑P P 11 15 15.3 -0.1
baz=48
R18A Canyonlands Na 48.32 77 ⇓P P 11 15 14.6 -1.1
baz=48,SNR=6.0
Q19A Hogan Spring (48.37 76 ⇑P P 11 15 14.9 -1.3
baz=48,SNR=8.9
V15A Kaibab Nationa 48.46 81 ⇑P P 11 15 16.8 -0.1
baz=48,SNR=10
GLA Glamis 48.52 86 ⇓P P 11 15 16.9 -0.5
baz=48
T17A Navajo Res., N 48.59 79 ⇓P P 11 15 16.7 -1.2
baz=48,SNR=6.4
Y13A Salome 48.67 84 ⇓P P 11 15 17.6 -1.0
baz=48
S18A Hurst Farm, Bl 48.68 78 ⇑P P 11 15 17.5 -1.0
baz=48,SNR=10
HHC Hu-ho-hao-te 48.71 288 *e*P P 11 15 19.4 +0.6
HHC AP pP 11 15 24.0 -0.7
HHC XP sP 11 15 27.5 +0.4
HHC PCP PcP 11 16 45.4 +1.7
HHC PP PP 11 17 12.6 +0.9
HHC SCP ScP 11 20 37.5 +0.1
HHC S **S** **11 22 20.0 -0.2**
HHC XS sS 11 22 27.4 -2.6
HHC SCS ScS 11 25 08.8 -1.2
HHC SS SS 11 25 45.3 -4.8
HHC AMB AMB
comp=Z,19nm,1.0s,mb5.1
HHC AMB AMB
comp=Z,93nm,6.9s
HHC LR LR
comp=N,155nm,13.6s,MS4.3
HHC LR LR
comp=E,149nm,12.2s,MS4.3
HHC LR LR
comp=Z,125nm,12.8s,MS4.1
W15A Williams 48.80 82 ⇓P P 11 15 18.6 -0.9
baz=49
X14A Yava 48.85 83 ⇓P P 11 15 19.7 -0.2
baz=49,SNR=7.1
PV10 Paradox Valley 48.86 76 *e*P P 11 15 20.5 +0.6
U16A Tuba City 48.92 80 ⇓P P 11 15 19.7 -0.7
baz=49
U17A Shonto 48.93 79 ⇓P P 11 15 19.5 -1.0
baz=49
T18A Mexican Hat 49.09 78 P P 11 15 20.9 -0.8
baz=49,SNR=12
S19A Harvey Farm, M 49.18 77 ⇓P P 11 15 21.7 -0.7
baz=49,SNR=10.0
X15A Humboldt 49.26 83 ⇑P P 11 15 22.9 -0.2
baz=49
PV01 Paradox Valley 49.30 76 *e*P P 11 15 23.0 -0.3
W16A Flagstaff 49.32 81 ⇑P P 11 15 23.4 -0.1
baz=49
Y15A Casa Rosa Ranc 49.53 83 ⇓P P 11 15 25.2 0.0
baz=49
U18A Rough Rock, Ch 49.54 79 ⇓P P 11 15 25.3 +0.1
baz=49
NJ2 Nanjing 49.59 274 *e*P P 11 15 28.6 +3.0
NJ2 AMB AMB
comp=Z,110nm,1.2s,mb5.8
ULM Lac du Bonnet 49.71 56 P P 11 15 25.2 -1.1
comp=Z,5.4nm,0.6s,mb4.7,baz=302,slow=6.8,SNR=16
ULM Lac du Bonnet 49.71 56 P P 11 15 25.2 -1.1
X16A Lo Mia Camp, P 49.81 82 ⇑P P 11 15 27.3 +0.1
baz=50
T19A Beclabito 49.82 78 P P 11 15 27.0 -0.2
baz=50,SNR=14
MVCO Mesa Verde 49.91 77 ⇑P P 11 15 27.3 -0.6
baz=50
MVCO Mesa Verde 49.91 77 *e*P P 11 15 27.4 -0.6
comp=Z,6.4nm,0.8s,mb4.7
V18A Ganado 49.94 80 ⇑P P 11 15 28.2 -0.1
baz=50,SNR=6.2
Y16A Circle Bar Ran 50.13 83 ⇓P P 11 15 30.0 +0.3
baz=50
KRAR Krasnoyarsk 50.39 313 *e*P P 11 15 31.2 -0.1
KRAR pmax pmax
comp=Z,29nm,1.0s,mb5.3
115A Sonoran Desert 50.41 84 ⇑P P 11 15 31.9 +0.1
baz=50
214A Organ Pipe Nat 50.52 85 ⇑P P 11 15 32.5 -0.2
baz=50
Y17A Roosevelt 50.65 82 ⇑P P 11 15 33.2 -0.4
baz=50,SNR=5.4
X18A Snowflake 50.68 81 ⇓P P 11 15 33.8 -0.1
baz=50,SNR=5.7
AGMN Agassiz Refuge 50.82 59 *e*P P 11 15 33.4 -1.2
comp=Z,18nm,1.3s,mb4.8
Y18A Canyon Day Jun 51.11 82 ⇓P P 11 15 37.0 -0.1
baz=51,SNR=7.1
Z17A San Carlos Hig 51.14 82 ⇑P P 11 15 36.4 -0.9
baz=51
X19A St. Johns 51.16 81 ⇓P P 11 15 37.0 -0.5
baz=51
SDCO Great Sand Dun 51.45 75 *e*P P 11 15 39.4 -0.2
comp=Z,4.1nm,1.0s,mb4.3
SPITS Spitsbergen Ar 51.57 356 P P 11 15 39.7 -0.3
comp=Z,7.6nm,0.6s,mb4.8,baz=40,slow=7.9,SNR=10
SPITS Spitsbergen Ar 51.57 356 P P 11 15 39.7 -0.2
SPITS pmax pmax
comp=Z,8.0nm,0.6s
TUC Tucson 51.59 84 *e*P P 11 15 40.6 -0.1
TUC pmax pmax
comp=Z,5.0nm,0.8s,mb4.5
TUC Tucson 51.59 84 *e*P P 11 15 40.6 -0.1
comp=Z,4.9nm,0.8s,mb4.5
118A Homack Ranch, 51.89 83 ⇑P P 11 15 42.5 -0.5
baz=52,SNR=6.7
119A Ashpeak Ranch, 52.23 82 ⇓P P 11 15 45.0 -0.5
baz=52
218A Dragoon 52.28 83 ⇓P P 11 15 45.3 -0.5
baz=52,SNR=6.7
LAZ Ladron 52.54 79 *e*P P 11 15 48.4 +0.7
ANMO Albuquerque 52.62 78‖*e*P P 11 15 48.1 -0.2
318A Bisbee 52.67 84 ⇑P P 11 15 48.8 +0.1
baz=52
219A White Tail Can 52.76 83 ⇓P P 11 15 49.1 -0.4
baz=53
BNM Barren Site 53.03 79 *e*P P 11 15 51.0 -0.3
319A Douglas 53.16 83 ⇓P P 11 15 52.1 -0.3
baz=53
XAN Xi'an 54.60 282 P P 11 16 02.4 -0.5
XAN AP pP 11 16 07.9 -1.0
XAN AMB AMB
comp=Z,2.0nm,0.6s,mb4.3
XAN AMB AMB
comp=Z,9.0nm,14.7s
ZALV Zalesovo Beam 55.35 315 P P 11 16 06.9 -1.1
comp=Z,1.4nm,0.5s,mb4.2,baz=50,slow=7.7,SNR=6.5
ZALV PcP PcP 11 17 08.0 -0.3
comp=Z,1.4nm,0.6s,baz=45,slow=4.4,SNR=3.8
ZALV Zalesovo Beam 55.35 315 P P 11 16 06.9 -1.1
ZALV 11 17 08.0
ZALV pmax pmax
comp=Z,1.0nm,0.5s,mb4.1
ZALV pmax pmax
comp=Z,1.0nm,0.6s,mb4.0
ZALV Zalesovo Beam 55.35 315 P P 11 16 06.9 -1.1
ZALV PcP PcP 11 17 08.0 -0.3
NVS Novosibirsk 55.50 316 *e*P P 11 16 07.3 -1.7
SCIA State Center 56.19 63 *e*P P 11 16 13.2 -0.9
comp=Z,26nm,0.8s,mb5.3
LZH Lanzhou 56.41 288 *e*P P 11 16 15.5 -0.4
LZH AP pP 11 16 23.0 +1.1
LZH XP sP 11 16 25.0 +0.8
LZH AMB AMB
comp=Z,17nm,1.0s,mb5.0
LZH AMB AMB
comp=Z,83nm,4.2s
SFJD Kangerlussuaq 56.44 22 P P 11 16 15.8 +0.2
SFJD pmax pmax
comp=Z,13nm,0.5s,mb5.2
GTA Gaotai 56.67 293 P P 11 16 18.0 +0.3
GTA AP pP 11 16 22.8 -0.9
GTA XP sP 11 16 25.6 -0.4
GTA AMB AMB
comp=Z,8.0nm,1.0s,mb4.7
JFWS Jewell Farm 57.22 61 *e*P P 11 16 19.6 -1.9
JFWS pmax pmax
comp=Z,22nm,0.6s,mb5.4
JFWS Jewell Farm 57.22 61 *e*P P 11 16 19.6 -1.9
comp=Z,22nm,0.6s,mb5.4
TXAR Lajitas Array 58.11 81 P P 11 16 27.2 -0.7
comp=Z,5.6nm,0.8s,mb4.7,baz=300,slow=5.1,SNR=59
TXAR PcP PcP 11 17 18.8 -0.7
comp=Z,3.5nm,0.8s,baz=290,slow=3.0,SNR=6.5
TXAR LR LR 11 42 38.9
comp=Z,59nm,18.0s,MS3.7,baz=180,slow=37
TXAR Lajitas Array 58.11 81 P P 11 16 27.2 -0.8
TXAR 11 17 18.8
TXAR pmax pmax
comp=Z,6.0nm,0.8s
TXAR pmax pmax
comp=Z,4.0nm,0.8s
TXAR MLR MLR
comp=Z,59nm,18.0s
TXAR Lajitas Array 58.11 81 P P 11 16 27.2 -0.7
TXAR PcP PcP 11 17 18.8 -0.7
TXAR LR LR 11 42 38.9
HDIL Hopedale 59.31 62 *e*P P 11 16 34.8 -1.3
comp=Z,37nm,0.8s,mb5.5
ARCES ARCESS Array B 59.34 351 P P 11 16 35.9 -0.1
comp=Z,8.1nm,0.5s,mb5.0,baz=27,slow=8.2,SNR=43
ARCES ARCESS Array B 59.34 351 P P 11 16 35.9 0.0
ARCES pmax pmax
comp=Z,8.0nm,0.5s
CD2 Chengdu 59.93 283 *e*P P 11 16 41.9 +1.4
CD2 AP pP 11 16 46.5 -0.1
CD2 XP sP 11 16 48.9 0.0
CD2 PP PP 11 18 55.8 +3.3
CD2 S **S** **11 24 51.1 -0.5**
CD2 XS sS 11 24 58.8 -2.8
CD2 SS SS 11 28 48.3 +0.6
CD2 AMB AMB
comp=Z,10.0nm,0.9s,mb4.8
CD2 AMB AMB
comp=Z,80nm,6.8s
CD2 LR LR
comp=N,160nm,16.2s
CD2 LR LR
comp=Z,150nm,14.8s,MS4.3
KURK Kurchatov 60.34 315 P P 11 16 43.3 +0.2
comp=Z,6.5nm,0.7s,mb4.8,baz=44,slow=6.7,SNR=27
KURK Kurchatov 60.34 315⇑*e*P P 11 16 42.4 -0.7
KURK pmax pmax
comp=Z,6.0nm,0.5s,mb4.9
KURK Kurchatov 60.34 315 *e*P P 11 16 42.7 -0.4
comp=Z,5.0nm,0.6s,mb4.7
WMQ Urumqi 60.58 304 *e*P P 11 16 46.6 +1.8
WMQ AP pP 11 16 51.1 +0.2
WMQ XP sP 11 16 53.6 +0.4
WMQ PCP PcP 11 17 30.6 +1.5
WMQ AMB AMB
comp=Z,23nm,0.7s,mb5.4
WMQ AMB AMB
comp=Z,58nm,4.3s
GYA Guiyang 61.18 278 P P 11 16 50.8 +1.7
GYA PCP PcP 11 17 33.8 +2.0
GYA PP PP 11 19 08.3 +4.6
GYA SCP ScP 11 21 33.9 +1.8
GYA S **S** **11 25 09.4 +1.7**
GYA PS 11 25 25.0
GYA SS SS 11 29 09.6 +2.2
GYA AMB AMB
comp=Z,10.0nm,0.9s,mb5.0
GYA AMB AMB
comp=Z,90nm,4.9s
GYA LR LR
comp=N,440nm,18.5s,MS4.8
GYA LR LR
comp=E,450nm,19.9s,MS4.8
GYA LR LR
comp=Z,490nm,18.2s,MS4.7
MK31 Makanchi Array 61.32 310 *i*P P 11 16 48.6 -1.2
MK31 pmax pmax
comp=Z,4.0nm,0.6s,mb4.7
MK31 Makanchi Array 61.32 310 *e*P P 11 16 49.2 -0.6
MKAR Makanchi Array 61.32 310 P P 11 16 49.1 -0.7
comp=Z,3.5nm,0.7s,mb4.6,baz=52,slow=7.0,SNR=23
MKAR LR LR 11 42 45.7
comp=Z,42nm,18.4s,MS3.6,baz=223,slow=35
VOSK Vostochnaya 62.22 320 P P 11 16 55.9 +0.2
VOSK pmax pmax
comp=Z,13nm,0.7s,mb5.2
BVA0 Borovoye Array 62.23 321 *i*P P 11 16 55.6 -0.2
BVA0 pmax pmax
comp=Z,4.0nm,0.6s,mb4.7
BVAR Borovoye Array 62.23 321 P P 11 16 55.9 +0.1
comp=Z,20nm,0.5s,mb5.5,baz=50,slow=7.2,SNR=97
BVAR Borovoye Array 62.23 321 P P 11 16 55.9 +0.1
BVAR pmax pmax
comp=Z,20nm,0.5s
BRVK Borovoye 62.25 321 *e*P P 11 16 56.1 +0.1
BRVK pmax pmax
comp=Z,30nm,0.6s,mb5.6
BRVK Borovoye 62.25 321 *e*P P 11 16 56.1 +0.2
comp=Z,30nm,0.6s,mb5.6
HNR Honiara 62.54 205 LR LR 11 37 44.3
comp=Z,51nm,20.4s,MS3.7,baz=96,slow=30
SVE Sverdlovsk 62.95 328‖*e*P P 11 17 01.6 +1.0
SVE pmax pmax
comp=Z,20nm,0.9s,mb5.2
ALLY Alegheny Colle 63.60 56 *e*P P 11 17 05.3 +0.1
comp=Z,76nm,0.8s,mb5.8
ARU Arti 63.96 329*d i*P P 11 17 07.3 +0.1
ARU *e*S **S** **11 25 43.3 +1.5**
ARU *e*SS SS 11 29 42.7 -6.7
ARU pmax pmax
comp=Z,14nm,0.6s,mb5.2
ARU Arti 63.96 329 *e*P P 11 17 07.2 -0.1
comp=Z,10nm,0.6s,mb5.0
KMI Kunming 64.61 279 P P 11 17 14.8 +2.8
KMI AMB AMB
comp=Z,8.0nm,1.7s,mb4.5
JOF Joensuu 64.89 346 *ep* P 11 17 11.7 -1.5
comp=Z,22nm,0.7s,mb5.3
JOF Joensuu 64.89 346 *e*P P 11 17 11.7 -1.5
JOF pmax pmax
comp=Z,22nm,0.7s,mb5.3
MCWV Mont Chateau 65.17 57 *e*P P 11 17 14.9 -0.5
comp=Z,13nm,1.0s,mb4.9
KLMR Klimovskoe 65.30 341 *e*P P 11 17 15.1 -0.8
KLMR pmax pmax
comp=Z,39nm,1.6s,mb5.2
TZTN Tazewell 65.33 62 *e*P P 11 17 16.1 -0.4
comp=Z,13nm,1.1s,mb4.9
SSPA Standing Stone 65.52 55 *e*P P 11 17 17.1 -0.6
comp=Z,26nm,0.8s,mb5.3
KAF Kangasniemi 66.39 348 *ep* P 11 17 21.2 -1.7
comp=Z,16nm,0.7s,mb5.2,baz=13,slow=5.8
KAF Kangasniemi 66.39 348 *e*P P 11 17 21.2 -1.7
KAF pmax pmax
comp=Z,16nm,0.7s,mb5.2
ELN Prospectdale 66.41 60 *e*P P 11 17 22.8 -0.7
BLA Blacksburg 66.61 60 *e*P P 11 17 24.2 -0.5
BLA pmax pmax
comp=Z,17nm,0.6s,mb5.2
BLA Blacksburg 66.61 60 *e*P P 11 17 24.2 -0.5
comp=Z,17nm,0.6s,mb5.2
PMG Port Moresby 66.83 218⇑*e*P P 11 17 23.3 -3.0
FINES FINESS Array B 67.06 348 *e*P P 11 17 26.0 -1.2
TKM2 Tokmak 2 67.41 310 *e*P P 11 17 30.1 +0.4
TKM2 pmax pmax
comp=Z,3.0nm,0.8s,mb4.4
TKM2 Tokmak 2 67.41 310 *e*P P 11 17 30.1 +0.4
comp=Z,3.3nm,0.8s,mb4.4
JSC Jenkinsville 68.25 62 *e*P P 11 17 34.6 -0.6
EKS2 Erkin-Say 68.49 311 *e*P P 11 17 37.1 +0.6
comp=Z,7.5nm,0.6s,mb4.9
LSA Lhasa 68.52 291 P P 11 17 38.0 +1.1
LSA AMB AMB
comp=Z,10.0nm,0.7s,mb4.8
NOA NORSAR Array B 68.85 355 P P 11 17 38.4 -0.1
comp=Z,11nm,0.8s,mb4.9,baz=6.4,slow=6.4,SNR=32

NOA LR LR 11 45 03.3
comp=Z,40nm,20.4s,MS3.6,baz=235,slow=34
AML Almayashu 68.93 311 *e*P **P** **11 17 40.4 +1.2**
comp=Z,3.9nm,0.6s,mb4.5
AKTK Aktyubinsk 69.04 326 P **P** **11 17 40.0 +0.2**
AKTO Aktyubinsk 69.04 326 P **P** **11 17 40.0 +0.2**
comp=Z,24nm,0.7s,mb5.3,baz=46,slow=6.2,SNR=65
AKTO Aktyubinsk 69.04 326 P **P** **11 17 40.1 +0.3**
AKTO pmax pmax
comp=Z,24nm,0.7s,mb5.2
AB31 Akbulak array 69.29 324 *e*P **P** **11 17 41.1 -0.3**
AB31 pmax pmax
comp=Z,4.0nm,0.5s,mb4.6
HFS Hagfors 69.61 354 P **P** **11 17 42.9 -0.3**
comp=Z,19nm,0.7s,mb5.1,baz=28,slow=3.5,SNR=47
HFS Hagfors 69.61 354 P **P** **11 17 42.9 -0.2**
HFS pmax pmax
comp=Z,19nm,0.7s
KONO Kongsberg 70.32 356⇑ *e*P **P** **11 17 47.9 +0.4**
SHL Shillong 71.07 287 *e*P **P** **11 17 54.0 +1.3**
OBN Obninsk 71.20 340⇑ *i*P **P** **11 17 52.9 0.0**
OBN *e**PP pP 11 18 07.5 +8.4
OBN *eS S 11 26 57.9 -11
OBN *eSS SS 11 31 49.0 +7.8
OBN pmax pmax
comp=Z,70nm,1.5s,mb5.4
OBN Obninsk 71.20 340 *e*P **P** **11 17 53.1 +0.2**
comp=Z,13nm,0.6s,mb5.0
CMAR Chiang Mai Arr 71.86 277 P **P** **11 17 57.0 -0.6**
comp=Z,2.4nm,0.7s,mb4.2,baz=27,slow=6.4,SNR=13
CMAR LR LR 11 52 31.9
comp=Z,26nm,18.7s,MS3.5,baz=248,slow=38
CMAR Chiang Mai Arr 71.86 277⇑ *e*P **P** **11 17 57.0 -0.5**
TAPN Taplejung 72.29 291 *e*P **P** **11 18 00.6 +0.6**
comp=Z,48nm,0.9s,mb5.4
ODAN Odare 72.85 291 *e*P **P** **11 18 04.0 +0.7**
comp=Z,11nm,0.5s,mb5.1
GUN Gumba 72.97 293 *e*P **P** **11 18 04.8 +0.8**
comp=Z,34nm,0.6s,mb5.5
JIRN Jiri 72.97 293 *e*P **P** **11 18 04.9 +0.9**
comp=Z,25nm,0.6s,mb5.3
RAMN Ramite 73.25 292 *e*P **P** **11 18 06.1 +0.4**
comp=Z,51nm,0.6s,mb5.6
KKN Kakani 73.41 293 *e*P **P** **11 18 07.1 +0.5**
comp=Z,20nm,0.6s,mb5.2
GKN Gorkha 73.63 294 *e*P **P** **11 18 08.2 +0.3**
comp=Z,15nm,0.6s,mb5.1
DMN Daman 73.65 293 *e*P **P** **11 18 08.4 +0.4**
DANN Dangsing 73.88 295 *e*P **P** **11 18 09.8 +0.4**
comp=Z,36nm,0.9s,mb5.3
KOLN Koldanda 74.41 295 *e*P **P** **11 18 12.3 -0.2**
EKA Eskdalemuir Ar 74.70 3 P **P** **11 18 13.8 +0.1**
comp=Z,4.8nm,0.7s,mb4.5,baz=0.3,slow=5.2,SNR=13
EKA Eskdalemuir Ar 74.70 3 P **P** **11 18 13.9 +0.2**
EKA pmax pmax
comp=Z,5.0nm,0.7s
BSEG Bad Segeberg 75.99 355 *e*P **P** **11 18 21.8 +0.7**
BSEG pmax pmax
comp=Z,22nm,1.1s,mb5.0
BSEG Bad Segeberg 75.99 355 *e*P **P** **11 18 21.8 +0.7**
comp=Z,22nm,1.1s,mb5.0
AKASG Malin Array Be 76.86 343 P **P** **11 18 25.7 -0.4**
comp=Z,4.8nm,0.6s,mb4.6,baz=15,slow=5.6,SNR=16
AKASG Malin Array Be 76.86 343 *i* P **P** **11 18 25.7 -0.4**
AKASG pmax pmax
comp=Z,5.0nm,0.6s
AKASG Malin Array Be 76.86 343 P **P** **11 18 25.7 -0.4**
AKBB Malin Array Si 76.86 343 *e*P **P** **11 18 26.0 -0.1**
CTA Charters Tower 76.93 215 LR LR 11 48 19.5
comp=Z,48nm,21.0s,MS3.8,baz=233,slow=32
KBL Kabul 77.12 309 *e*P **P** **11 18 27.2 -0.7**
KBL pmax pmax
comp=Z,6.0nm,0.9s,mb4.5
KBL Kabul 77.12 309 *e*P **P** **11 18 27.2 -0.7**
comp=Z,6.2nm,0.9s,mb4.5
IBBN Ibbenburen 77.73 357 *e*P **P** **11 18 31.2 +0.2**
CLZ Clausthal 78.07 355 *e*P **P** **11 18 33.4 +0.5**
CLZ pmax pmax
comp=Z,6.0nm,0.7s,mb4.6
CLZ Clausthal 78.07 355 *e*P **P** **11 18 33.4 +0.5**
comp=Z,6.0nm,0.7s,mb4.6
CLL Collm 78.43 353 *e*P **P** **11 18 36.0 +1.1**
CLL *i* (sPcP) 11 18 49.1
NEUB Neuenburg 78.62 354 *e*P **P** **11 18 36.1 +0.2**
BRG Berggiesshubel 78.79 353 *e*P **P** **11 18 36.4 -0.4**
BRG pmax pmax
comp=Z,3.0nm,1.2s,mb4.1
BRG Berggiesshubel 78.79 353 *e*P **P** **11 18 36.4 -0.4**
comp=Z,9.0nm,1.6s,mb4.5
FBE Freiberg 78.79 353 *e*P **P** **11 18 37.4 +0.6**
BATI Baumata 78.83 239 LR LR 11 49 03.0
comp=Z,61nm,20.1s,MS3.9,baz=152,slow=32
DPC Dobruska-Polom 79.09 351 *e*P **P** **11 18 37.5 -1.0**
DPC *ex* x 11 18 53.3
MOX Moxa 79.19 354 *e*P **P** **11 18 39.4 +0.4**
MOX Moxa 79.19 354 *e*P **P** **11 18 39.2 +0.2**
comp=Z,21nm,1.9s,mb4.7
WERD Werda 79.34 354 *e*P **P** **11 18 39.3 -0.6**
TANN Tannenbergstha 79.36 353 *e*P **P** **11 18 39.2 -0.8**
comp=Z,5.0nm,1.2s,mb4.3
STHS Stebnicka Huta 79.42 348 *e*P **P** **11 18 40.8 +0.5**
STHS pmax pmax
comp=Z,7.0nm,1.3s,mb4.4
STHS Stebnicka Huta 79.42 348 *e*P **P** **11 18 40.8 +0.5**
comp=Z,7.3nm,1.3s,mb4.5
MEM Memban 79.49 358 P **P** **11 18 41.1 +0.4**
comp=Z,9.5nm,1.5s,mb4.5
WERN Wernitzgruen 79.49 353 *e*P **P** **11 18 40.6 -0.1**
NKC Novy Kostel 79.54 353 *e*P **P** **11 18 41.3 +0.3**
NKC Novy Kostel 79.54 353 *e*pP pP 11 18 46.9 -0.3
PRU Pruhonice 79.61 352 *e*P **P** **11 18 39.5 -1.9**
PRU *ex* x 11 18 55.7
BCLA Clavier 79.69 358 P **P** **11 18 42.2 +0.4**
MANZ Manzenberg 79.81 354 *e*P **P** **11 18 42.4 0.0**
KIV Kislovodsk 79.82 332 *e*P **P** **11 18 43.6 +1.0**
KIV pmax pmax
comp=Z,21nm,1.7s,mb4.8
KIV MLR MLR
comp=Z,100nm,21.0s,MS4.1
GIVF Givet 80.02 358 *e*P **P** **11 18 43.4 -0.2**
DOU Dourbes 80.03 359 P **P** **11 18 43.9 +0.3**
BAIF Baives 80.08 359 *e*P **P** **11 18 44.0 +0.1**
comp=Z,11nm,0.8s,mb4.5
BAIF Baives 80.08 359 *e*P **P** **11 18 44.0 +0.1**
BAIF pmax pmax
comp=Z,5.0nm,0.8s,mb4.5
BAIF Baives 80.08 359 *e*P **P** **11 18 44.0 +0.1**
comp=Z,5.4nm,0.8s,mb4.5
VRAC Vranov 80.09 351 P **P** **11 18 44.0 0.0**
comp=Z,2.8nm,0.6s,mb4.4,baz=342,slow=19,SNR=4.3
VRAC Vranov 80.09 351 P **P** **11 18 44.0 +0.1**
VRAC pmax pmax
comp=Z,3.0nm,0.6s
GRA1 Grafenberg Arr 80.17 354 *e*P **P** **11 18 44.6 +0.2**
comp=Z,7.0nm,0.7s,mb4.7
GRA1 *epP pP 11 18 51.0 +0.4
GRF Grafenberg Arr 80.17 354 *e*P **P** **11 18 44.6 +0.2**
GRF *e*PP pP 11 18 51.0 +0.4
GRF pmax pmax
comp=Z,7.0nm,0.7s,mb4.7
GRF Grafenberg Arr 80.17 354 *e*P **P** **11 18 44.6 +0.2**
GRF *e*PP pP 11 18 51.0 +0.4
GRF pmax pmax
comp=Z,7.0nm,0.7s,mb4.7
GRF Grafenberg Arr 80.17 354 *e*P **P** **11 18 44.6 +0.2**
comp=Z,7.0nm,0.7s,mb4.7
GRF *epP pP 11 18 51.0 +0.4
KHC Kasperske Hory 80.55 353 *e*P **P** **11 18 46.8 +0.4**
KHC *ex* x 11 19 01.3
WET Wettzell 80.59 353 *e*P **P** **11 18 46.1 -0.6**
WET pmax pmax
comp=Z,2.0nm,0.9s,mb4.0
WET Wettzell 80.59 353 *e*P **P** **11 18 46.1 -0.6**
comp=Z,2.0nm,0.9s,mb4.0
GEC2 GERESS Array S 80.82 352 *e*P **P** **11 18 47.8 -0.1**
GEC2 pmax pmax
comp=Z,4.0nm,0.9s,mb4.3
GEC2 GERESS Array S 80.82 352 *e*P **P** **11 18 47.8 -0.1**
comp=Z,4.0nm,0.9s,mb4.3
FLN La Foliniere 81.36 2 *e*P **P** **11 18 49.7 -1.0**
LDF La Druitiere 81.53 2 *e*P **P** **11 18 51.2 -0.5**
comp=Z,21nm,0.9s,mb4.8
LDF La Druitiere 81.53 2 *e*P **P** **11 18 51.2 -0.5**
LDF pmax pmax
comp=Z,10.0nm,0.9s,mb4.8
LDF La Druitiere 81.53 2 *e*P **P** **11 18 51.2 -0.5**
comp=Z,10nm,0.9s,mb4.8
MEZF Maizieres J'vi 81.62 358 *e*P **P** **11 18 52.2 +0.1**
comp=Z,13nm,0.9s,mb4.6
MEZF Maizieres J'vi 81.62 358 *e*P **P** **11 18 52.2 +0.1**
comp=Z,13nm,0.9s,mb4.9
CDF Champ du Feu 81.64 357 *e*P **P** **11 18 51.8 -0.5**
comp=Z,7.2nm,0.8s,mb4.3
CDF Champ du Feu 81.64 357 *e*P **P** **11 18 51.8 -0.5**
CDF pmax pmax
comp=Z,4.0nm,0.8s,mb4.4
CDF Champ du Feu 81.64 357 *e*P **P** **11 18 51.8 -0.5**
comp=Z,3.6nm,0.8s,mb4.3
BFO Black Forest 81.68 356 *e*P **P** **11 18 52.4 -0.1**
BFO pmax pmax
comp=Z,7.0nm,1.2s,mb4.5
BFO Black Forest 81.68 356 *e*P **P** **11 18 52.4 -0.1**
comp=Z,7.0nm,1.2s,mb4.5
ROSF Rostrenen 81.69 4 *e*P **P** **11 18 52.3 -0.2**
WRA Warramunga Arr 81.70 225 P **P** **11 18 51.5 -1.3**
comp=Z,1.3nm,0.7s,mb3.9,baz=35,slow=6.1,SNR=8.6
WRA Warramunga Arr 81.70 225 P **P** **11 18 51.5 -1.3**
WRA pmax pmax
comp=Z,1.0nm,0.7s
GRR Gorron 81.72 2 *e*P **P** **11 18 52.4 -0.3**
comp=Z,45nm,1.2s,mb5.0
GRR Gorron 81.72 2 *e*P **P** **11 18 52.4 -0.3**
GRR pmax pmax
comp=Z,23nm,1.2s,mb5.0
GRR Gorron 81.72 2 *e*P **P** **11 18 52.4 -0.3**
comp=Z,22nm,1.2s,mb5.0
DRGR 81.76 346⇑ *i*P **P** **11 18 53.4 +0.5**
SGMF Saint Gilles 81.80 3 *e*P **P** **11 18 52.9 -0.2**
comp=Z,27nm,0.9s,mb4.9
SGMF Saint Gilles 81.80 3 *e*P **P** **11 18 52.9 -0.2**
SGMF pmax pmax
comp=Z,13nm,0.9s,mb4.9
SGMF Saint Gilles 81.80 3 *e*P **P** **11 18 52.9 -0.2**
comp=Z,13nm,0.9s,mb4.9
HAU Haudompre 82.08 357 *e*P **P** **11 18 54.2 -0.4**
comp=Z,4.7nm,0.7s,mb4.2
HAU Haudompre 82.08 357 *e*P **P** **11 18 54.2 -0.4**
HAU pmax pmax
comp=Z,2.0nm,0.7s,mb4.2
HAU Haudompre 82.08 357 *e*P **P** **11 18 54.2 -0.4**
comp=Z,2.3nm,0.7s,mb4.2
QUIF Quistinic 82.12 4 *e*P **P** **11 18 54.6 -0.2**
HINF Hinteralfeld 82.25 357 *e*P **P** **11 18 54.8 -0.7**
MLR Muntele Rosu 82.48 343 P **P** **11 18 58.4 +1.7**
comp=Z,6.8nm,0.8s,mb4.6,baz=121,slow=6.9,SNR=5.4
MLR Muntele Rosu 82.48 343 P **P** **11 18 58.4 +1.7**
MLR pmax pmax
comp=Z,7.0nm,0.8s
MLR Muntele Rosu 82.48 343⇓ *i*P **P** **11 18 58.5 +1.8**
VOIR 82.69 344⇓ *i*P **P** **11 18 59.1 +1.3**
LOR Lormes 82.87 359 *e*P **P** **11 18 58.5 -0.2**
comp=Z,9.8nm,0.8s,mb4.6
LOR Lormes 82.87 359 *e*P **P** **11 18 58.5 -0.2**
LOR pmax pmax
comp=Z,5.0nm,0.8s,mb4.6
LOR Lormes 82.87 359 *e*P **P** **11 18 58.5 -0.2**
comp=Z,4.9nm,0.8s,mb4.6
BZS Buzias 83.08 347⇓ *i*P **P** **11 19 00.0 +0.2**
SSF Saint Saulge 83.08 359 *e*P **P** **11 18 59.6 -0.2**
comp=Z,16nm,0.8s,mb4.8
SSF Saint Saulge 83.08 359 *e*P **P** **11 18 59.6 -0.2**
SSF pmax pmax
comp=Z,8.0nm,0.8s,mb4.8
SSF Saint Saulge 83.08 359 *e*P **P** **11 18 59.6 -0.2**
comp=Z,8.1nm,0.8s,mb4.8
DAVOS Davos 83.09 355 P **P** **11 19 00.6 +0.7**
GZR Guva Zlata 83.12 346⇑ *i*P **P** **11 19 00.5 +0.5**
DAVOX Davos/Dischmat 83.15 355 P **P** **11 19 00.6 +0.4**
comp=Z,5.4nm,0.8s,mb4.7,baz=13,slow=16,SNR=5.2
DAVOX Davos/Dischmat 83.15 355 P **P** **11 19 00.6 +0.4**
AVF Avril sur Loir 83.36 359 *e*P **P** **11 19 00.9 -0.3**
comp=Z,11nm,0.9s,mb4.6
AVF Avril sur Loir 83.36 359 *e*P **P** **11 19 00.9 -0.3**
AVF pmax pmax
comp=Z,6.0nm,0.9s,mb4.6
AVF Avril sur Loir 83.36 359 *e*P **P** **11 19 00.9 -0.3**
comp=Z,5.7nm,0.9s,mb4.6
CABF La Chapelle 83.48 357 *e*P **P** **11 19 01.9 0.0**
SMF Signal de Mont 83.50 359 *e*P **P** **11 19 01.7 -0.3**
comp=Z,30nm,1.1s,mb5.0
SMF Signal de Mont 83.50 359 *e*P **P** **11 19 01.7 -0.3**
SMF pmax pmax
comp=Z,15nm,1.1s,mb4.9
SMF Signal de Mont 83.50 359 *e*P **P** **11 19 01.7 -0.3**
comp=Z,15nm,1.1s,mb4.9
MFF Saint Martin d 83.52 2 *e*P **P** **11 19 01.9 -0.2**
comp=Z,32nm,1.1s,mb5.1
MFF Saint Martin d 83.52 2 *e*P **P** **11 19 01.9 -0.2**
MFF pmax pmax
comp=Z,16nm,1.1s,mb5.1
MFF Saint Martin d 83.52 2 *e*P **P** **11 19 01.9 -0.2**
comp=Z,16nm,1.1s,mb5.1
BGF Bois d'Agland 83.59 360 *e*P **P** **11 19 01.8 -0.6**
TCF Toulx Ste Croi 83.86 0 *e*P **P** **11 19 03.6 -0.2**
FITZ Fitzroy Crossi 84.34 233 P **P** **11 19 06.4 -0.1**
comp=Z,4.4nm,0.6s,mb4.8,baz=28,slow=5.5,SNR=21
LPL La Plagne 84.56 357 *e*P **P** **11 19 08.2 +0.8**
comp=Z,8.9nm,1.0s,mb4.6
LPL La Plagne 84.56 357 *e*P **P** **11 19 08.2 +0.8**
LPL pmax pmax
comp=Z,4.0nm,1.0s,mb4.5
LPL La Plagne 84.56 357 *e*P **P** **11 19 08.2 +0.8**
comp=Z,4.4nm,1.0s,mb4.5
LPG La Plagne 84.58 357 *e*P **P** **11 19 08.5 +1.0**
comp=Z,12nm,0.9s,mb4.7
LPG La Plagne 84.58 357 *e*P **P** **11 19 08.5 +1.0**
LPG pmax pmax
comp=Z,6.0nm,0.9s,mb4.7
LPG La Plagne 84.58 357 *e*P **P** **11 19 08.5 +1.0**
comp=Z,5.8nm,0.9s,mb4.7
RJF Les Rejaudoux 84.84 1 *e*P **P** **11 19 08.2 -0.6**
comp=Z,41nm,1.4s,mb5.1
RJF Les Rejaudoux 84.84 1 *e*P **P** **11 19 08.2 -0.6**
RJF pmax pmax
comp=Z,21nm,1.4s,mb5.1
RJF Les Rejaudoux 84.84 1 *e*P **P** **11 19 08.2 -0.6**
comp=Z,21nm,1.4s,mb5.1
BNI Bardonecchia 85.02 357 *e*P **P** **11 19 11.0 +1.3**
BNI pmax pmax
comp=Z,16nm,0.9s,mb5.2
BNI Bardonecchia 85.02 357 *e*P **P** **11 19 11.0 +1.2**
comp=Z,16nm,0.9s,mb5.2
ASAR Alice Springs 85.14 224 P **P** **11 19 09.8 -0.6**
comp=Z,1.1nm,0.7s,mb4.1,baz=28,slow=5.3,SNR=11
ASAR Alice Springs 85.14 224 P **P** **11 19 09.9 -0.5**
ASAR pmax pmax
comp=Z,1.0nm,0.7s
ORIF Oris-en-Rattie 85.18 357 *e*P **P** **11 19 10.9 +0.4**
comp=Z,13nm,0.9s,mb4.8
ORIF Oris-en-Rattie 85.18 357 *e*P **P** **11 19 10.9 +0.4**
ORIF pmax pmax
comp=Z,7.0nm,0.9s,mb4.8
ORIF Oris-en-Rattie 85.18 357 *e*P **P** **11 19 10.9 +0.4**
comp=Z,6.7nm,0.9s,mb4.8
LFF La Frestale 85.20 1 *e*P **P** **11 19 10.5 -0.1**
CAF Calviac 85.22 0 *e*P **P** **11 19 10.7 0.0**
comp=Z,19nm,1.0s,mb4.9
CAF Calviac 85.22 0 *e*P **P** **11 19 10.7 0.0**
CAF pmax pmax
comp=Z,10.0nm,1.0s,mb4.9
CAF Calviac 85.22 0 *e*P **P** **11 19 10.7 0.0**
comp=Z,9.7nm,1.0s,mb4.9
VIVF Saint-Julien-l 85.27 358 *e*P **P** **11 19 11.0 0.0**
comp=Z,32nm,1.4s,mb5.0
VIVF Saint-Julien-l 85.27 358 *e*P **P** **11 19 11.0 0.0**
VIVF pmax pmax
comp=Z,16nm,1.4s,mb5.0
VIVF Saint-Julien-l 85.27 358 *e*P **P** **11 19 11.0 0.0**
comp=Z,16nm,1.4s,mb5.0
MBDF Montbardon 85.34 357 *e*P **P** **11 19 11.8 +0.4**
comp=Z,9.3nm,0.6s,mb4.8
MBDF Montbardon 85.34 357 *e*P **P** **11 19 11.8 +0.4**
MBDF pmax pmax
comp=Z,5.0nm,0.6s,mb4.8
MBDF Montbardon 85.34 357 *e*P **P** **11 19 11.8 +0.4**
comp=Z,4.7nm,0.6s,mb4.8
SMRF Simiane la Rot 86.13 358 *e*P **P** **11 19 15.1 -0.2**
SBF Sospel 86.18 356 *e*P **P** **11 19 15.0 -0.5**
BR131 Keskin Array S 86.29 336 *e*P **P** **11 19 16.1 0.0**
comp=Z,2.7nm,0.7s,mb4.6
MTLF Montolieu 86.81 0 *e*P **P** **11 19 17.9 -0.7**
SJPF Ste Jean 86.98 3 *e*P **P** **11 19 19.1 -0.4**
EPF Esparros 87.10 1 *e*P **P** **11 19 19.4 -0.7**
STKA Stephens Creek 89.36 214 P **P** **11 19 29.0 -1.7**
comp=Z,4.6nm,0.6s,mb5.0,baz=332,slow=6.6,SNR=13
ESDC Sonseca Array 90.30 5 P **P** **11 19 34.5 -0.7**
comp=Z,1.4nm,0.6s,mb4.5,baz=356,slow=3.8,SNR=11
MIB Mutribah 90.90 322 *e*P **P** **11 19 36.3 -1.9**
baz=322
MIB AMb AMB 11 19 38.0
comp=Z,12nm,0.7s,mb5.3,baz=322
NAY Al-Naaiem 91.43 322 *e*P **P** **11 19 38.6 -2.1**
baz=322
NAY AMb AMB 11 19 41.6
comp=Z,4.0nm,1.4s,mb4.6,baz=322
RDF Al-Radifah 91.59 322 *e*P **P** **11 19 39.8 -1.6**
baz=321
RDF AMb AMB 11 19 43.7
comp=Z,13nm,1.8s,mb5.0,baz=321
TORD Torodi Ar. Bea 116.89 1 PKP PKPdf 11 25 17.6 -1.7
comp=Z,0.8nm,0.5s,baz=346,slow=2.3,SNR=11
KMBO Kilima Mbogo 122.79 317 PKP PKPdf 11 25 31.1 +0.5
comp=Z,1.3nm,0.6s,baz=202,slow=23,SNR=4.1
KMBO Kilima Mbogo 122.79 317 PKIKP PKPdf 11 25 31.2 +0.5
KMBO pmax pmax
comp=Z,1.0nm,0.6s
DBIC Dimbokro 122.99 9 PKP PKPdf 11 25 29.9 -1.2
comp=Z,1.2nm,0.4s,baz=44,slow=5.9,SNR=6.4
DBIC Dimbokro 122.99 9 PKIKP PKPdf 11 25 29.9 -1.2
DBIC pmax pmax
comp=Z,1.0nm,0.4s
PLCA Paso Flores 129.93 109 PKP PKPdf 11 25 42.1 -1.3
comp=Z,2.5nm,0.8s,baz=290,slow=0.8,SNR=6.0
PLCA Paso Flores 129.93 109 PKIKP PKPdf 11 25 42.1 -1.3
PLCA pmax pmax
comp=Z,3.0nm,0.8s
MAW Mawson 146.01 217 *e*P PKPdf 11 26 11.9 0.0
comp=Z,5.4nm,0.9s
MAW Mawson 146.01 217 PKPbc PKPbc 11 26 12.2 -0.6
comp=Z,4.4nm,0.7s,baz=98,slow=3.9,SNR=14
MAW Mawson 146.01 217 PKP2 PKPab 11 26 12.2 -1.2
MAW pmax pmax
comp=Z,4.0nm,0.7s
BOSA Boshof 152.28 313 PKPbc PKPbc 11 26 29.6 -0.5
comp=Z,12nm,0.6s,baz=17,slow=2.4,SNR=51
BOSA PKPab PKPab 11 26 43.2 +3.3
comp=Z,3.9nm,0.5s,baz=13,slow=3.1,SNR=3.0
BOSA Boshof 152.28 313 PKIKP PKPbc 11 26 29.6 -0.4
BOSA 11 26 43.2
BOSA pmax pmax
comp=Z,12nm,0.6s
BOSA pmax pmax
comp=Z,4.0nm,0.5s

IDC ***13*** *11:27:60.0±1.2, 462N×12672E, h0km, mb3.7/5, mb1 3.8/6, mb1mx3.7/18, mbtmp3.8/6, Error ellipse: s-maj=124.1km s-min=16.2km az=68.0*
ISCJB ***13*** *11:28:04.8±2.6, 478N±009×1270E±03, h52km±27km, mb3.7/6, Error ellipse: s-maj=44.2km s-min=12.3km az=166.9*
NEIC ***13*** *11:28:05.2±2.6, 484N×127.13E, h39km±27km, mb3.7/1, Error ellipse: s-maj=42.8km s-min=10.4km az=77.0*
ISC 13 11:28:05.2±3.1,**48N**±01×**1271E**±03,**h37**km±32km,**n11,**
σ0§**67**/11,**mb3.7/6,Talaud Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**2.71**	**325**	Pn		**Pn**		**11 28 46.1**	**-0.1**
	39nm,0.3s,baz=246,slow=23,SNR=2.3								
DAV				Sn		**Sn**		**11 29 17.9**	**+0.1**
	116nm,0.3s,baz=72,slow=9.6,SNR=3.6								
DAV				Lg				11 29 29.7	
	69nm,0.3s,baz=86,slow=23,SNR=2.9								
KAPI	**Kappang**	**12.25**	**217**	Pn		**Pn**		**11 30 57.3**	**0.0**
WRAB	**Tennant Creek**	**25.61**	**164**	*e*P		**P**		**11 33 32.1**	**+0.9**
	0.7nm,0.3s,mb3.7								
WRA	**Warramunga Arr**	**25.62**	**164**	P		**P**		**11 33 30.3**	**-1.0**
	1.6nm,0.8s,mb3.6,baz=343,slow=10,SNR=16								
WB2	**Warramunga Arr**	**25.62**	**164**	*e*P		**P**		**11 33 32.5**	**+1.2**
ASAR	**Alice Springs**	**29.09**	**167**	P		**P**		**11 34 01.2**	**-1.1**
	0.2nm,0.5s,mb3.1,baz=348,slow=8.0,SNR=7.2								
STKA	**Stephens Creek**	**39.02**	**160**	P		**P**		**11 35 28.4**	**+0.1**
	1.2nm,0.5s,mb3.9,baz=354,slow=9.2,SNR=3.9								
STKA	**Stephens Creek**	**39.02**	**160**	P		**P**		**11 35 28.4**	**+0.1**
SONM	**Songino Array**	**46.39**	**341**	P		**P**		**11 36 27.9**	**0.0**
	0.7nm,0.5s,mb3.8,baz=156,slow=8.7,SNR=6.1								
MKAR	**Makanchi Array**	**56.89**	**325**	P		**P**		**11 37 46.4**	**0.0**
	0.6nm,0.5s,mb3.9,baz=120,slow=8.1,SNR=9.5								
PPT	**Papeete**	**85.07**	**108**	*e*LR		LR		11 41 24.7	
	55nm,23.8s								

ISCJB ***13*** *11:42:57.0±1.0, 2988N±004×3623E±007, h0km, Error ellipse: s-maj=8.4km s-min=5.8km az=177.5*
CSEM ***13*** *11:42:56.1, 3025N×3620E, h14km, ML2.9, After SNSN*
SGS ***13*** *11:42:56.1, 3025N×3620E, h14km,*
GII ***13*** *11:43:44.6±0.0, 2981N×3627E, h0km, ML2.0/3, EXPLOSION*
ISC 13 11:42:57.0±1.0,**2988N**±004×**3626E**±007,**h0km,n16,**
σ0§**70**/20,**Western Arabian Peninsula**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
AQBJ	**Aqaba**	**1.06**	**262**	Pg		**Pg**		**11 43 17.2**	**-0.3**
HRFI	**Mount Harif**	**1.08**	**279**	Pg		**Pg**		**11 43 17.4**	**-0.3**
ZFRI	**Zfri**	**1.16**	**306**	Pg		**Pg**		**11 43 19.2**	**0.0**
EIL	**Elat**	**1.16**	**260**	Pg		**Pg**		**11 43 18.7**	**-0.6**
MBRI	**Mt Berech**	**1.18**	**266**	Pg		**Pg**		**11 43 19.0**	**-0.6**
MBRI				Sg		**Sg**		**11 43 36.1**	**+1.2**
PRNI	**Paran**	**1.19**	**294**	Pg		**Pg**		**11 43 19.4**	**-0.4**
HQLS		**1.20**	**241**	P		**Pg**		**11 43 18.9**	**-1.1**
HQLS				S		**Sg**		**11 43 35.8**	**+0.4**
JLOS		**1.32**	**211**	P		**Pg**		**11 43 21.7**	**-0.8**
JLOS		**1.32**	**211**	P		**Pg**		**11 43 21.7**	**-0.7**
JLOS				S		**Sg**		**11 43 40.5**	**+0.9**
KRMI	**Paran Flat**	**1.35**	**280**	Pn		**Pn**		**11 43 22.3**	**-0.9**
KRMI				Sn		**Sn**		**11 43 42.1**	**+0.2**
RMNI	**Mount Ramon**	**1.48**	**299**	Pn		**Pn**		**11 43 24.7**	**-0.3**
MZDA	**Masada**	**1.62**	**332**	Pn		**Pn**		**11 43 27.8**	**+0.9**
TBKS	**Tabuk**	**1.67**	**172**	P		**Pn**		**11 43 28.1**	**+0.5**
BDAS	**Al Bad'**	**1.77**	**215**	S		**Sn**		**11 43 52.5**	**+0.5**
BDAS	**Al Bad'**	**1.77**	**215**	P		**Pn**		**11 43 28.3**	**-0.5**
DSI	**Dead Sea**	**1.85**	**336**	Pn		**Pn**		**11 43 31.3**	**+1.3**

IDC ***13*** *12:20:02.2±3.0, 979N×12686E, h0km, mb3.5/4, mb1 3.6/4, mb1mx3.5/19, mbtmp3.5/4, MS3.0/3, Ms1 3.0/3, ms1mx2.5/29, Error ellipse: s-maj=170.0km s-min=28.9km az=69.0*
ISCJB ***13*** *12:20:05.1±0.8, 946N±004×12672E±006, h10km, mb3.3/4, Error ellipse: s-maj=8.0km s-min=5.1km az=169.1*
MAN ***13*** *12:20:07, 963N×12655E, h1km, mb4.6, ML3.5, MS3.4*
ISC 13 12:20:05.4±0.8,**953N**±003×**1270E**±005,**h10**km,**n19,**
σ1§**60**/27,**mb3.3**/4,**1C-2D,Mindanao**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
BUTP	**Butuan**	**1.20**	**242**	*e*P		**Pb**		**12 20 28.4**	**+0.1**
BUTP				*e*S		**Sb**		**12 20 46.1**	**+2.3**
SCPH	**Surigao**	**1.22**	**282**⇓	*e*P		**Pn**		**12 20 27.3**	**-1.2**
SCPH				*e*S		**Sb**		**12 20 42.7**	**-1.6**
BIPH	**Bislig**	**1.38**	**194**	*e*P		**Pn**		**12 20 31.4**	**+0.7**
BIPH				*i* S		**Sb**		**12 20 47.7**	**-1.3**
MSLP	**Maasin**	**1.91**	**289**	*e*P		**Pn**		**12 20 39.2**	**+1.2**
MSLP				*e*S		**Sg**		**12 21 04.9**	**-1.9**
BUKP	**Musuan**	**2.30**	**225**	*e*P		**Pn**		**12 20 47.5**	**+4.1**
BUKP				*e*S		**Sg**		**12 21 19.2**	**-0.3**
PLP	**Palo**	**2.34**	**314**⇓	*e*P		**Pn**		**12 20 44.2**	**+0.1**
PLP				*e*S		**Sn**		**12 21 09.2**	**-3.7**
BESP	**Borongan**	**2.40**	**329**	*e*P		**Pg**		**12 20 49.4**	**-2.1**
BESP				*e*S		**Sg**		**12 21 17.8**	**-4.9**
OCLP	**Ormoc**	**2.55**	**307**	*e*P		**Pn**		**12 20 48.3**	**+1.4**
MATI	**Mati**	**2.60**	**190**	*e*P		**Pg**		**12 20 52.6**	**-2.8**
DAV	**Davao City (W)**	**2.68**	**204**	Pn		**Pg**		**12 20 54.6**	**-2.3**
	22nm,0.3s,baz=9.5,slow=12,SNR=1.6								
DAV				Sn		**Sg**		**12 21 31.8**	**+0.1**
	44nm,0.3s,baz=18,slow=17,SNR=2.8								
DAV				LR		LR		12 22 01.7	
	comp=Z,189nm,18.1s,baz=333,slow=40								
TBP	**Tagbilaran**	**2.80**	**274**	*e*P		**Pn**		**12 20 51.9**	**+1.6**
TBP				*e*S		**Sn**		**12 21 26.4**	**+2.2**
PAGZ	**Pagadian**	**3.68**	**243**	*e*P		**Pn**		**12 21 05.9**	**+3.5**

RCP	**Roxas**	**4.38**	**298**↑	*e*P		**Pn**	**12 21 14.3**	**+2.3**
PVCP	**Virac**	**4.75**	**329**	*e*P		**Pn**	**12 21 20.1**	**+3.0**
GUMO	**Guam**	**18.25**	**76**	LR		LR	12 31 11.5	
	comp=Z,24nm,18.3s,baz=271,slow=37							
FITZ	**Fitzroy Crossi**	**27.48**	**182**	P		**P**	**12 25 53.2**	**+1.2**
	0.9nm,0.5s,mb3.5,baz=16,slow=13,SNR=6.4							
WRA	**Warramunga Arr**	**30.24**	**166**	P		**P**	**12 26 16.5**	**0.0**
	0.2nm,0.6s,mb3.0,baz=345,slow=9.2,SNR=2.1							
ASAR	**Alice Springs**	**33.74**	**168**	P		**P**	**12 26 47.3**	**+0.1**
	0.4nm,1.0s,mb3.3,baz=344,slow=7.4,SNR=4.4							
MKAR	**Makanchi Array**	**52.87**	**323**	P		**P**	**12 29 19.0**	**-2.4**
	0.3nm,0.6s,mb3.4,baz=129,slow=6.2,SNR=3.1							

MAN 13 12:24:05,967N×12668E,h16km,mb4.4,ML3.3,MS3.1, 1C-2D,Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SCPH	**Surigao**	**1.18**	**275**↓	*e*P	Pn	12 24 25.2	-1.7
SCPH				*e*S	Sb	12 24 41.5	-0.5
BUTP	**Butuan**	**1.26**	**236**	*e*P	Pn	12 24 27.6	-0.4
BUTP				*e*S	Sb	12 24 43.6	-0.7
BIPH	**Bislig**	**1.51**	**192**↑	*i*P	Pn	12 24 29.4	-2.0
BIPH				*i*S	Sn	12 24 45.8	-5.1
MSLP	**Maasin**	**1.85**	**284**	*e*P	Pn	12 24 36.5	+0.4
MSLP				*e*S	Sn	12 25 03.2	+4.1
PLP	**Palo**	**2.23**	**312**↓	*e*P	Pn	12 24 41.8	+0.4
PLP				*e*S	Sn	12 25 10.0	+1.3
BESP	**Borongan**	**2.27**	**328**	*e*P	Pn	12 24 42.1	+0.2
BESP				*e*S	Sn	12 25 10.7	+1.1
BUKP	**Musuan**	**2.40**	**222**	*e*P	Pn	12 24 44.5	+0.9
BUKP				*e*S	Sn	12 25 16.3	+3.7
MATI	**Mati**	**2.74**	**189**	*e*P	Pn	12 24 48.3	0.0
TBP	**Tagbilaran**	**2.78**	**271**	*e*P	Pn	12 24 49.8	+0.9
TBP				*e*S	Sn	12 25 23.7	+1.6
PVCP	**Virac**	**4.62**	**328**	*e*P	Pn	12 25 16.5	+2.4

MAN 13 13:03:38,977N×12659E,h57km,mb4.4,ML3.2,MS3.1, 1C-1D,Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SCPH	**Surigao**	**1.08**	**271**↑	*e*P	Pn	13 03 59.5	+2.4
SCPH				*e*S	Sn	13 04 11.9	+0.7
BUTP	**Butuan**	**1.24**	**230**	*e*P	Pn	13 04 00.1	+0.9
BUTP				*e*S	Sn	13 04 18.0	+3.0
MSLP	**Maasin**	**1.74**	**282**	*e*P	Pn	13 04 11.4	+5.4
MSLP				*e*S	Sn	13 04 37.6	+11
PLP	**Palo**	**2.10**	**311**↓	*e*P	Pn	13 04 16.3	+5.4
PLP				*e*S	Sn	13 04 40.5	+4.6
OCLP	**Ormoc**	**2.33**	**303**	*e*P	Pn	13 04 15.9	+2.0
BUKP	**Musuan**	**2.41**	**219**	*e*P	Pn	13 04 20.3	+5.3
TBP	**Tagbilaran**	**2.69**	**269**	*e*P	Pn	13 04 24.1	+5.3
TBP				*e*S	Sn	13 04 56.1	+5.8
MATI	**Mati**	**2.83**	**187**	*e*P	Pn	13 04 22.7	+1.9
MATI				*e*S	Sn	13 04 56.0	+2.4
PAGZ	**Pagadian**	**3.70**	**239**	*e*P	Pn	13 04 34.8	+2.0

IDC ***13*** *13:15:56.3±0.7,273S×14030E,h0km,mb4.4/13, mb1 4.5/16,mb1mx4.5/19,mbtmp4.5/16,ML5.0/2,MS3.7/12, Ms1 3.7/12,ms1mx3.4/33,Error ellipse: s-maj=21.6km s-min=13.9km az=85.0*

MOS ***13*** *13:15:59.1±0.8,271S×14032E,h33km,mb4.7/19,Error ellipse: s-maj=13.7km s-min=7.8km az=114.5*

ISCJB ***13*** *13:15:59.3±0.3,274S±003S×14036E±006,h33km, mb4.8/49,MS3.8/13,Error ellipse: s-maj=8.2km s-min=4.4km az=172.6*

DJA ***13*** *13:16:00.1±0.4,3S±4×141E±,h10km,mB5.3/5,Mjma4.9/2, MLv5.5/2,Mw(mB)5.1/5,Mwp4.5/5*

BJI ***13*** *13:16:01.5,280S×14020E,h35km,mB5.0,mb4.8,Ms4.6, Msz4.4*

NEIC ***13*** *13:16:01.6±1.3,277S×14024E,h35km±12km,mb5.0/29, Error ellipse: s-maj=8.2km s-min=5.7km az=56.0*

NEIC Felt [IV] at Sentani, [III] at Jayapura and [II] at Nabire.

ISC 13 13:16:01.8±0.3,279S±003×14027E±006,h35km, (h44km±1.3km:pP-P),n136,σ1§02/124,mb4.8/48,MS3.8/13, 2C-1D,Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MMPI	**Merauke**	**5.64**	**179**	P	**Pn**	**13 17 24.1**	**+0.9**
SWI	**Sorong**	**9.21**	**282**	P	**Pn**	**13 18 15.4**	**+3.2**
	44nm,0.8s,527nm						
PMG	**Port Moresby**	**9.49**	**134**	*e*P	**Pn**	**13 18 18.2**	**+2.1**
COEN	**Coen**	**11.46**	**166**	P	**Pn**	**13 18 44.4**	**+1.3**
	10.0nm,1.0s						
COEN	**Coen**	**11.46**	**166**	*e*Pn	**Pn**	**13 18 43.8**	**+0.7**
	8.0nm,0.8s						
AAI	**Ambon**	**12.09**	**265**	P	**Pn**	**13 18 58.0**	**+6.3**
	48nm,0.8s						
KAKA	**Kakadu**	**12.54**	**218**	*e*P	**Pn**	**13 18 54.7**	**-3.1**
	27nm,0.6s						
KAKA				*e*		13 18 57.4	
KAKA				*e*S	**Sn**	**13 21 11.3**	**-5.0**
KAKA	**Kakadu**	**12.54**	**218**	P	**Pn**	**13 18 55.3**	**-2.5**
LBMI	**Labuha**	**12.94**	**279**	P	**Pn**	**13 19 08.5**	**+5.1**
	65nm,0.9s,691nm						
GUMO	**Guam**	**16.90**	**16**	LR	LR	13 25 59.9	
	comp=Z,173nm,18.3s,baz=219,slow=36						
GUMO	**Guam**	**16.90**	**16**	*e*P	**Pn**	**13 19 51.9**	**-3.9**
GUMO				pmax	pmax		
	comp=Z,111nm,1.3s						
GUMO	**Guam**	**16.90**	**16**	*e*Pn	**Pn**	**13 19 51.9**	**-3.9**
	comp=Z,111nm,1.3s						
KDI	**Kendari**	**17.66**	**266**	P	**Pn**	**13 20 08.5**	**+3.3**
	comp=Z,22nm,1.9s						
WRAB	**Tennant Creek**	**17.99**	**198**	*c i*P	**Pn**	**13 20 09.8**	**+0.5**
WRAB	**Tennant Creek**	**17.99**	**198**	P	**Pn**	**13 20 09.8**	**+0.5**
	comp=Z,62nm,0.9s						
WRAB	**Tennant Creek**	**17.99**	**198**	*e*P	**Pn**	**13 20 09.3**	**+0.1**
WB2	**Warramunga Arr**	**18.00**	**198**	*e*Pn	**Pn**	**13 20 09.1**	**-0.3**
WB2				*e*Sn	**Sn**	**13 23 28.0**	**-1.2**
WRA	**Warramunga Arr**	**18.00**	**198**	P	**Pn**	**13 20 09.5**	**+0.1**
	comp=Z,5.1nm,0.3s,baz=24,slow=12,SNR=144						
WRA				S	**S**	**13 23 23.5**	**-11**
	comp=Z,0.9nm,0.3s,baz=21,slow=22,SNR=4.8						
WRA				LR	LR	13 28 30.9	
	comp=Z,278nm,18.6s,baz=30,slow=42						
WRA	**Warramunga Arr**	**18.00**	**198**	*i* P	**Pn**	**13 20 09.5**	**+0.1**
WRA				pmax	pmax		
	comp=Z,25nm,0.6s						
BATI	**Baumata**	**18.06**	**245**	P	**Pn**	**13 20 11.0**	**+0.8**
	comp=Z,5.5nm,0.3s,baz=243,slow=0.9,SNR=14						
BATI	**Baumata**	**18.06**	**245**	P	**Pn**	**13 20 12.4**	**+2.2**
	comp=Z,88nm,1.2s,comp=Z,912nm						
CTA	**Charters Tower**	**18.16**	**162**	*e*P	**Pn**	**13 20 13.9**	**+2.6**
	comp=Z,2.3nm,0.6s						
CTA	**Charters Tower**	**18.16**	**162**	P	**Pn**	**13 20 10.1**	**-1.2**
	comp=Z,0.1nm,0.3s,baz=358,slow=13,SNR=1.6						
CTA	**Charters Tower**	**18.16**	**162**	P	**Pn**	**13 20 10.1**	**-1.2**
KAPI	**Kappang**	**20.59**	**263**	P	**P**	**13 20 38.8**	**+0.8**
	comp=Z,3.8nm,0.6s,baz=90,slow=6.1,SNR=5.5						
KAPI	**Kappang**	**20.59**	**263**	P	**P**	**13 20 45.9**	**+7.9**
	comp=Z,22nm,1.3s						
KAPI	**Kappang**	**20.59**	**263**	*e*Pn	**P**	**13 20 38.2**	**+0.2**
	comp=Z,24nm,1.2s						
HNR	**Honiara**	**20.64**	**109**	P	**P**	**13 20 38.0**	**-0.6**
	comp=Z,19nm,0.4s,baz=220,slow=6.1,SNR=3.8						
HNR	**Honiara**	**20.64**	**109**	P	**P**	**13 20 38.0**	**-0.6**
HNR				pmax	pmax		
	comp=Z,19nm,0.4s						
FITZ	**Fitzroy Crossi**	**20.91**	**222**	*e*P	**P**	**13 20 41.6**	**+0.2**
	comp=Z,58nm,0.8s						
FITZ				*e*S	**S**	**13 24 27.7**	**-5.1**
FITZ	**Fitzroy Crossi**	**20.91**	**222**	P	**P**	**13 20 41.6**	**+0.2**
	comp=Z,45nm,0.9s,baz=45,slow=12,SNR=67						
FITZ				S	**S**	**13 24 30.7**	**-2.0**
	comp=Z,18nm,0.8s,baz=220,slow=23,SNR=9.8						
FITZ				LR	LR	13 29 45.1	
	comp=Z,304nm,20.7s,MS3.7,baz=34,slow=40						
FITZ	**Fitzroy Crossi**	**20.91**	**222**	P	**P**	**13 20 42.0**	**+0.6**
	comp=Z,144nm,1.1s,comp=Z,1μm						
ASAR	**Alice Springs**	**21.64**	**196**	P	**P**	**13 20 49.4**	**0.0**
	comp=Z,29nm,0.8s,mb4.8,baz=29,slow=9.7,SNR=106						
ASAR				S	**S**	**13 24 44.9**	**-2.2**
	comp=Z,2.4nm,0.9s,baz=16,slow=19,SNR=5.8						
ASAR	**Alice Springs**	**21.64**	**196**	P	**P**	**13 20 49.4**	**+0.1**
ASAR				S	**S**	**13 24 44.9**	**-2.2**
ASAR				pmax	pmax		
	comp=Z,29nm,0.8s						
ASAR				smax			
	comp=N,2.0nm,0.9s						
MYLDM	**Lahad Datu**	**23.14**	**290**	P	**P**	**13 21 07.3**	**+1.9**
KKM	**Kota Kinabalu**	**25.57**	**290**	*e*Pn	**P**	**13 21 28.4**	**+0.6**
MBWA	**Marble Bar**	**27.07**	**226**	*e*P	**P**	**13 21 41.2**	**-0.2**
	comp=N,16nm,0.7s,mb4.7						
STKA	**Stephens Creek**	**28.96**	**178**	*e*P	**P**	**13 21 58.1**	**+0.1**
	comp=N,2.1nm,0.4s,mb4.2						
STKA	**Stephens Creek**	**28.96**	**178**	P	**P**	**13 21 57.6**	**-0.4**
	comp=N,3.0nm,0.5s,mb4.3,baz=343,slow=9.7,SNR=11						
STKA				LR	LR	13 35 27.1	
	comp=N,545nm,18.5s,MS4.2,baz=128,slow=40						
STKA	**Stephens Creek**	**28.96**	**178**	*e*P	**P**	**13 21 57.7**	**-0.3**
	comp=N,9.6nm,1.0s,mb4.5						
CBIJ	**Chichi jima**	**29.77**	**3**	LR	LR	13 33 47.5	
	comp=N,46nm,18.6s,MS3.1,baz=145,slow=36						
FORT	**Forrest**	**30.13**	**201**	*e*P	**P**	**13 22 09.5**	**+1.0**
	comp=N,15nm,0.8s,mb4.8						
KSM	**Kuching**	**30.25**	**278**	*e*P	**P**	**13 22 08.4**	**-1.4**
JOW	**Kunigami**	**31.65**	**339**	LR	LR	13 33 17.6	
	comp=N,98nm,20.2s,MS3.5,baz=135,slow=33						
NACB	**Ninganchiao**	**32.38**	**327**	*e*P	**P**	**13 22 29.4**	**+1.1**
	comp=N,180nm,0.9s,mb5.9						
CNB	**Canberra Magne**	**33.44**	**166**	*e*P	**P**	**13 22 38.8**	**+1.3**
KLBR	**Kellerberrin**	**35.65**	**214**	*e*P	**P**	**13 22 57.6**	**+1.0**
	comp=N,22nm,1.3s,mb4.9						
NWAO	**Narrogin (SRO)**	**36.94**	**213**	P	**P**	**13 23 07.2**	**-0.5**
	comp=N,9.0nm,0.9s,mb4.6,baz=73,slow=6.3,SNR=4.0						
NWAO	**Narrogin (SRO)**	**36.94**	**213**	P	**P**	**13 23 07.2**	**-0.5**
NWAO				pmax	pmax		
	comp=Z,9.0nm,1.0s						
QIZ	**Qiongzhong**	**36.95**	**307**	*e*P	**P**	**13 23 08.1**	**+0.1**
QIZ				S	**S**	**13 28 46.9**	**-4.2**
MJAR	**Matsushiro Arr**	**39.18**	**357**	LR	LR	13 37 48.3	
	comp=Z,67nm,20.0s,MS3.5,baz=160,slow=34						
NJ2	**Nanjing**	**40.18**	**331**	*e*P	**P**	**13 23 35.8**	**+1.0**
NJ2				AMB	AMB		
	comp=Z,20nm,0.5s,mb5.1						
WHN	**Wuhan**	**41.36**	**325**	P	**P**	**13 23 50.3**	**+5.7**
KSRS	**Korea Array**	**41.65**	**345**	P	**P**	**13 23 47.4**	**+0.5**
	comp=Z,0.4nm,0.5s,baz=163,slow=9.9,SNR=3.2						
KSRS				LR	LR	13 39 16.8	
	comp=Z,64nm,20.0s,MS3.5,baz=22,slow=34						
GYA	**Guiyang**	**43.59**	**314**	P	**P**	**13 24 04.9**	**+2.1**
GYA				AP	pP	13 24 15.8	+2.6
GYA				XP	sP	13 24 21.9	+4.6
GYA				PP	PP	13 25 46.8	+2.1
GYA				PCP	PcP	13 25 52.0	+1.9
GYA				SCP	ScP	13 29 38.4	-0.8
GYA				PCS	PcS	13 29 42.8	-0.2
GYA				S	**S**	**13 30 30.5**	**+0.5**
GYA				XS	sS	13 30 50.8	+3.8
GYA				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.6						
GYA				AMB	AMB		
	comp=Z,60nm,4.6s						
GYA				LR	LR		
	comp=N,480nm,18.8s,MS4.5						
GYA				LR	LR		
	comp=E,430nm,19.4s,MS4.5						
GYA				LR	LR		
	comp=Z,440nm,18.0s,MS4.4						
KMI	**Kunming**	**45.76**	**310**	P	**P**	**13 24 20.9**	**+0.7**
KMI				AMB	AMB		
	comp=Z,10.0nm,1.1s,mb4.7						
KMI	**Kunming**	**45.76**	**310**	P	**P**	**13 24 20.9**	**+0.7**
	comp=Z,10.0nm,1.1s,mb4.7						
CM31	**Chiang Mai Arr**	**45.83**	**299**	*e*P	**P**	**13 24 20.1**	**-0.7**
	comp=Z,20nm,1.1s,mb5.0						
CMAR	**Chiang Mai Arr**	**45.83**	**299**	P	**P**	**13 24 20.2**	**-0.6**
	comp=Z,9.8nm,1.0s,mb4.7,baz=120,slow=6.2,SNR=50						
CMAR				PcP	PcP	13 25 58.6	+0.7
	comp=Z,2.1nm,1.0s,baz=150,slow=1.8,SNR=5.0						
CMAR	**Chiang Mai Arr**	**45.83**	**299**	P	**P**	**13 24 20.3**	**-0.5**
CMAR						13 25 58.7	
CMAR				pmax	pmax		
	comp=Z,10.0nm,1.0s						
CMAR				pmax	pmax		
	comp=Z,2.0nm,1.0s						
CHTO	**Chiang Mai**	**45.97**	**300**	*e*P	**P**	**13 24 21.5**	**-0.4**
CHTO				pmax	pmax		
	comp=Z,9.0nm,1.0s,mb4.7						
CHTO	**Chiang Mai**	**45.97**	**300**	*e*P	**P**	**13 24 21.5**	**-0.5**
	comp=Z,9.4nm,1.0s,mb4.7						
XAN	**Xi'an**	**47.05**	**324**	P	**P**	**13 24 28.8**	**-1.3**
XAN				AP	pP	13 24 39.6	-1.0
XAN				AMB	AMB		
	comp=Z,5.0nm,0.9s,mb4.4						
XAN				AMB	AMB		
	comp=Z,40nm,4.5s						
BJI	**Beijing**	**48.01**	**335**	P	**P**	**13 24 38.9**	**+1.4**
BJI				AMB	AMB		
	comp=Z,11nm,0.7s,mb5.0						
BJI				AMB	AMB		
	comp=Z,98nm,6.1s						
BJI				LR	LR		
	comp=N,107nm,17.2s,MS4.2						
BJI				LR	LR		
	comp=E,167nm,14.9s,MS4.2						
BJI				LR	LR		
	comp=Z,62nm,20.6s						
BJI	**Beijing**	**48.01**	**335**	P	**P**	**13 24 38.9**	**+1.4**
	comp=Z,11nm,0.7s,mb5.0						
BJI				S	S	13 31 13.0	-20
BJI				SS	SS	13 35 08.1	+5.4
BJI				LR	LR		
	comp=Z,60nm,20.6s,MS3.6						
CD2	**Chengdu**	**48.30**	**317**	*e*P	**P**	**13 24 41.3**	**+1.4**
CD2				AP	pP	13 24 53.6	+3.3
CD2				XP	sP	13 24 59.3	+4.8
CD2				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.9						
CD2				AMB	AMB		
	comp=Z,20nm,4.8s						
HHC	**Hu-ho-hao-te**	**50.72**	**332**	*e*P	**P**	**13 25 00.1**	**+1.9**
HHC				AP	pP	13 25 12.8	+4.1
HHC				XP	sP	13 25 17.5	+4.7
HHC				PCP	PcP	13 26 16.5	+1.4
HHC				PP	PP	13 26 57.4	+2.8
HHC				SCP	ScP	13 30 07.9	-0.9
HHC				S	**S**	**13 32 12.3**	**+1.0**
HHC				XS	sS	13 32 33.0	+4.5
HHC				SCS	ScS	13 34 45.0	-1.4
HHC				SS	SS	13 35 44.4	-1.8
HHC				AMB	AMB		
	comp=Z,25nm,1.0s,mb5.1						
HHC				AMB	AMB		
	comp=Z,137nm,4.7s						
HHC				LR	LR		
	comp=N,201nm,12.6s,MS4.5						
HHC				LR	LR		
	comp=E,196nm,14.6s,MS4.5						
HHC				LR	LR		
	comp=Z,133nm,15.1s,MS4.1						
LZH	**Lanzhou**	**51.49**	**322**	*e*P	**P**	**13 25 03.8**	**-0.3**
LZH				AP	pP	13 25 16.0	+1.4
LZH				XP	sP	13 25 21.5	+2.8
LZH				AMB	AMB		
	comp=Z,25nm,1.0s,mb5.1						
LZH				AMB	AMB		
	comp=Z,140nm,4.1s						
LZH	**Lanzhou**	**51.49**	**322**	*e*P	**P**	**13 25 03.8**	**-0.3**
	comp=Z,25nm,1.0s,mb5.1						
LZH				pP	pP	13 25 16.0	+1.4
LZH				sP	sP	13 25 21.5	+2.8
GTA	**Gaotai**	**56.07**	**323**	P	**P**	**13 25 37.6**	**+0.1**
GTA				AP	pP	13 25 49.4	+1.3
GTA				XP	sP	13 25 55.8	+3.6
GTA				AMB	AMB		
	comp=Z,9.0nm,1.0s,mb4.8						
PETK	**Petropavlovsk-**	**57.59**	**12**	P	**P**	**13 25 47.5**	**-0.5**
	comp=Z,6.4nm,1.1s,mb4.6,baz=165,slow=7.2,SNR=4.3						
PETK				LR	LR	13 46 23.5	
	comp=Z,42nm,22.0s,MS3.5,baz=22,slow=32						
SONM	**Songino Array**	**58.47**	**334**	P	**P**	**13 25 53.8**	**-0.5**
	comp=Z,0.5nm,0.6s,mb3.8,baz=154,slow=7.1,SNR=4.7						
SONM				LR	LR	13 51 55.8	
	comp=Z,78nm,18.5s,MS3.9,baz=0.5,slow=37						
SONM	**Songino Array**	**58.47**	**334**	P	**P**	**13 25 53.8**	**-0.5**
SONM				pmax	pmax		
	comp=Z,1.0nm,0.6s						
SONM				MLR	MLR		
	comp=Z,78nm,18.5s						
TAPN	**Taplejung**	**58.80**	**304**	*e*P	**P**	**13 25 56.9**	**-0.1**
	comp=Z,9.2nm,0.6s,mb5.0						
ODAN	**Odare**	**58.88**	**304**	*e*P	**P**	**13 25 56.8**	**-0.8**
	comp=Z,23nm,0.7s,mb5.3						
RAMN	**Ramite**	**59.57**	**303**	*e*P	**P**	**13 26 02.4**	**0.0**
	comp=Z,18nm,0.8s,mb5.2						
JIRN	**Jiri**	**60.17**	**304**	*e*P	**P**	**13 26 06.6**	**+0.1**
	comp=Z,8.5nm,0.6s,mb5.0						
GUN	**Gumba**	**60.52**	**304**	*e*P	**P**	**13 26 09.0**	**+0.2**
	comp=Z,15nm,0.6s,mb5.3						
PKI	**Pulchoki**	**60.78**	**304**	*e*P	**P**	**13 26 10.4**	**-0.3**
KKN	**Kakani**	**60.97**	**304**	*e*P	**P**	**13 26 11.4**	**-0.5**
	comp=Z,24nm,0.8s,mb5.3						
KKN	**Kakani**	**60.97**	**304**	*e*P	**P**	**13 26 11.4**	**-0.5**
KKN				pmax	pmax		
	comp=Z,24nm,0.8s,mb5.4						
DMN	**Daman**	**61.05**	**304**	*e*P	**P**	**13 26 12.6**	**+0.1**
	comp=Z,30nm,0.9s,mb5.4						
GKN	**Gorkha**	**61.58**	**304**	*e*P	**P**	**13 26 15.9**	**-0.1**
	comp=Z,40nm,0.8s,mb5.6						
ZAK	**Zakamensk**	**61.73**	**334**	*e*P	**P**	**13 26 15.7**	**-0.9**
ZAK				pmax	pmax		
	comp=Z,3.0nm,1.3s,mb4.3						
KOLN	**Koldanda**	**62.36**	**303**	*e*P	**P**	**13 26 21.2**	**-0.1**
	comp=Z,19nm,0.9s,mb5.2						
DANN	**Dangsing**	**62.42**	**304**	*e*P	**P**	**13 26 21.7**	**0.0**
	comp=Z,29nm,0.8s,mb5.5						
WMQ	**Urumqi**	**66.05**	**321**	*e*P	**P**	**13 26 46.3**	**+1.1**
WMQ				AP	pP	13 26 59.5	+3.6
WMQ				XP	sP	13 27 04.8	+4.8
WMQ				PCP	PcP	13 27 16.3	+0.8
WMQ				AMB	AMB		
	comp=Z,32nm,0.7s,mb5.5						
WMQ				AMB	AMB		
	comp=Z,82nm,4.3s						
MK31	**Makanchi Array**	**70.81**	**322**	*i* P	**P**	**13 27 14.3**	**-0.6**
MK31				pmax	pmax		
	comp=Z,2.0nm,0.5s,mb4.3						
MK31	**Makanchi Array**	**70.81**	**322**	*e*P	**P**	**13 27 14.6**	**-0.3**
MKAR	**Makanchi Array**	**70.81**	**322**	P	**P**	**13 27 14.5**	**-0.3**
	comp=Z,4.2nm,0.5s,mb4.6,baz=100,slow=8.1,SNR=45						
MKAR	**Makanchi Array**	**70.81**	**322**	*i* P	**P**	**13 27 14.5**	**-0.4**
MKAR				pmax	pmax		
	comp=Z,4.0nm,0.5s						
MKAR	**Makanchi Array**	**70.81**	**322**	P	**P**	**13 27 14.5**	**-0.4**
ZAA0	**Zalesovo Array**	**72.79**	**329**	*e*P	**P**	**13 27 25.1**	**-1.6**
ZALV	**Zalesovo Beam**	**72.79**	**329**	P	**P**	**13 27 24.9**	**-1.7**
	comp=Z,1.5nm,0.5s,mb4.2,baz=117,slow=7.2,SNR=8.4						
ZALV	**Zalesovo Beam**	**72.79**	**329**	P	**P**	**13 27 25.0**	**-1.6**
ZALV				pmax	pmax		
	comp=Z,2.0nm,0.5s,mb4.3						
TKM2	**Tokmak 2**	**73.68**	**316**	*e*P	**P**	**13 27 31.7**	**-0.4**
TKM2				pmax	pmax		
	comp=Z,3.0nm,0.5s,mb4.5						
TKM2	**Tokmak 2**	**73.68**	**316**	P	**P**	**13 27 32.0**	**-0.1**
	SNR=9.2						
TKM2	**Tokmak 2**	**73.68**	**316**	*e*P	**P**	**13 27 31.7**	**-0.4**
	comp=Z,3.1nm,0.5s,mb4.5						
UCH	**Uchtor**	**74.20**	**315**	P	**P**	**13 27 36.0**	**+0.8**
	SNR=13						
UCH	**Uchtor**	**74.20**	**315**	*e*P	**P**	**13 27 35.6**	**+0.4**
	comp=Z,9.7nm,1.0s,mb4.7						
USP	**Ospenovka**	**74.55**	**316**	P	**P**	**13 27 37.1**	**-0.1**
	SNR=9.4						
KURK	**Kurchatov**	**74.68**	**325**	*e*P	**P**	**13 27 37.0**	**-0.8**
KURK				pmax	pmax		
	comp=Z,6.0nm,1.0s,mb4.5						
KURK	**Kurchatov**	**74.68**	**325**	*e*P	**P**	**13 27 37.0**	**-0.8**
	comp=Z,6.1nm,1.0s,mb4.5						
AML	**Almayashu**	**74.75**	**315**	P	**P**	**13 27 39.2**	**+0.8**
	SNR=17						
AML	**Almayashu**	**74.75**	**315**	*e*P	**P**	**13 27 38.9**	**+0.5**
	comp=Z,14nm,1.0s,mb4.9						
EKS2	**Erkin-Say**	**74.86**	**316**	P	**P**	**13 27 39.2**	**+0.2**
	SNR=8.3						
EKS2	**Erkin-Say**	**74.86**	**316**	*e*P	**P**	**13 27 38.9**	**-0.1**
	comp=Z,4.8nm,0.8s,mb4.5						
KBL	**Kabul**	**76.23**	**306**	*e*P	**P**	**13 27 45.5**	**-1.5**
KBL				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.4						
KBL	**Kabul**	**76.23**	**306**	*e*P	**P**	**13 27 45.5**	**-1.5**
	comp=Z,4.3nm,0.8s,mb4.4						
KK31	**Karatay Array**	**77.28**	**315**	*i* P	**P**	**13 27 51.6**	**-1.2**
KK31				pmax	pmax		
	comp=Z,1.0nm,0.5s,mb4.0						
BVA0	**Borovoye Array**	**80.27**	**325**	*i* P	**P**	**13 28 08.1**	**-0.9**
BVA0				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb3.9						
BRVK	**Borovoye**	**80.34**	**325**	*e*P	**P**	**13 28 08.3**	**-1.1**
MAW	**Mawson**	**82.63**	**202**	P	**P**	**13 28 20.9**	**-0.3**
	comp=Z,4.2nm,1.1s,mb4.4,baz=99,slow=6.9,SNR=5.5						
MAW	**Mawson**	**82.63**	**202**	P	**P**	**13 28 20.9**	**-0.3**
MAW				pmax	pmax		
	comp=Z,4.0nm,1.1s						
AB31	**Akbulak array**	**85.79**	**320**	*i* P	**P**	**13 28 36.1**	**-1.5**
AB31				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.5						
ARU	**Arti**	**87.72**	**327**	*d i*P	**P**	**13 28 45.0**	**-1.9**
ARU				*e*		13 32 09.7	
ARU				*e*S	S	13 39 09.4	-17
ARU				pmax	pmax		
	comp=Z,6.0nm,1.2s,mb4.7						
DAWY	**Dawson**	**88.27**	**26**	*e*P	**P**	**13 28 50.4**	**+1.1**
YBH	**Yreka Blue Hor**	**97.09**	**48**	LR	LR	14 03 48.2	
	comp=Z,95nm,21.4s,MS4.2,baz=340,slow=30						
KIV	**Kislovodsk**	**97.39**	**314**	*e*P	**P**	**13 29 31.6**	**-0

eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHO	**Hitachi**	**0.36**	**279**	⇓P	**Pn**	**13 34 28.3**	**+0.3**
JHO				S	**Sn**	**13 34 34.3**	**-0.2**
ONAJ	**Iwakimizuishiy**	**0.57**	**343**	⇑P	**Pn**	**13 34 30.7**	**0.0**
ONAJ				S	**Sn**	**13 34 38.8**	**-0.3**
JYT	**Yasato**	**0.73**	**244**	⇓P	**Pn**	**13 34 32.6**	**-0.2**
JYT				*e*S	**Sn**	**13 34 41.7**	**-1.2**
JFK	**Kawauchi**	**0.82**	**352**	⇑P	**Pn**	**13 34 33.8**	**-0.1**
JFK				S	**Sn**	**13 34 44.3**	**-0.6**
JFT	**Otama**	**1.10**	**331**	⇑P	**Pn**	**13 34 38.6**	**+0.8**
JFT				S	**Sn**	**13 34 52.1**	**+0.2**
JAG	**Ashikaga**	**1.26**	**265**	⇓P	**Pn**	**13 34 39.8**	**-0.2**
JAG				*e*S	**Sn**	**13 34 54.5**	**-1.2**
JMM	**Marumori**	**1.32**	**353**	⇑P	**Pn**	**13 34 41.0**	**+0.2**
JMM				S	**Sn**	**13 34 57.2**	**0.0**
JFY	**Yanaizu**	**1.35**	**310**	⇑P	**Pn**	**13 34 41.5**	**+0.3**
JFY				S	**Sn**	**13 34 58.5**	**+0.6**
JKT	**Katashina**	**1.43**	**279**	⇓P	**Pn**	**13 34 42.6**	**+0.3**
JKT				S	**Sn**	**13 34 59.7**	**-0.2**
MJAR	**Matsushiro Arr** 18nm,0.3s,baz=85,slow=14,SNR=262	**2.26**	**271**	Pg	**Pn**	**13 34 53.0**	**-0.6**
MJAR				Lg		13 35 20.3	
MAJO	**Matsushiro** 9.9nm,0.3s,baz=278,slow=8.1,SNR=8.0	**2.26**	**271**	⇓*i*Pn	**Pn**	**13 34 54.5**	**+0.9**
MAT	**Matsushiro**	**2.26**	**271**	P	**Pn**	**13 34 54.5**	**+0.9**
MAT				S	**Sn**	**13 35 21.4**	**+1.2**
JHJ	**Hachijo jima 2** 7.4nm,0.3s,baz=230,slow=17,SNR=2.7	**3.57**	**197**	Pn	**Pn**	**13 35 11.5**	**-0.2**
JHJ				Sn	**Sn**	**13 35 53.4**	**+0.7**
ASAJ	**Asahikawa** 18nm,0.3s,baz=245,slow=17,SNR=4.8	**7.65**	**9**	Pn	**Pn**	**13 36 07.5**	**-0.1**
ASAJ	0.7nm,0.3s,baz=216,slow=32,SNR=10			Sn	**Sn**	**13 37 32.9**	**-0.1**
SONM	**Songino Array** 0.3nm,0.3s,baz=146,slow=29,SNR=2.7	**27.79**	**305**	P	**P**	**13 40 02.9**	**-0.5**
ZALV	**Zalesovo Beam** 0.6nm,0.6s,mb3.4,baz=111,slow=8.5,SNR=3.2	**42.00**	**313**	P	**P**	**13 42 04.3**	**-1.1**
MKAR	**Makanchi Array** 0.5nm,0.3s,mb3.6,baz=98,slow=6.0,SNR=3.3	**44.10**	**302**	P	**P**	**13 42 23.0**	**+0.5**
WRA	**Warramunga Arr** 0.2nm,0.2s,mb3.4,baz=93,slow=8.7,SNR=2.7	**56.54**	**188**	P	**P**	**13 43 56.7**	**0.0**
	0.8nm,1.2s,mb3.6,baz=6.3,slow=8.4,SNR=4.2						

BJI ***13*** *13:45:33.8, 5.14S×101 83E, h31km, mB5.3, mb4.8*
IDC ***13*** *13:45:36.2± 1.2, 440S×101 56E, h0km, mb4.3/13, mb1 4.4/13, mb1mx4.2/23, mbtmp4.3/13, Error ellipse: s-maj=41.3km s-min=14.6km az=52.0*
ISCJB ***13*** *13:45:41.3± 2.0, 45S±01×1015E±0.1, h58km±14km, mb4.5/28, Error ellipse: s-maj=27.3km s-min=9.3km az=42.6*
NEIC ***13*** *13:45:41.0± 0.6, 443S×101 48E, h35km, mb4.4/8, Error ellipse: s-maj=18.1km s-min=8.1km az=52.0*
DJA ***13*** *13:45:46, 394S×101 32E, h10km, MLv4.5/7*
ISC 13 13:45:42.3±1.9**, 45S**±01×**1015E**±0.1**, h46**km±14km**, n47,** σ**0s97/42, mb4.5**/28**, Southern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSI	**Kapahiang**	**1.36**	**52**	P	**Pn**	**13 46 05.9**	**+1.1**
KLI	**Kotabumi**	**3.35**	**97**	P	Px	13 46 43.9	
PDSI	**Padang**	**3.71**	**343**	P	**Pn**	**13 46 35.5**	**-1.5**
PPI	**Padang Panjang**	**4.16**	**344**	P	**Pn**	**13 46 42.7**	**-0.6**
RGRI	**Rengat**	**4.19**	**11**	P	**Pn**	**13 46 46.9**	**+3.2**
DBJI	**Dramaga** 76nm,0.9s,0.3nm	**5.60**	**112**	P	**Pn**	**13 47 12.1**	**+9.1**
LEM	**Lembang** 84nm,1.0s,0.2nm	**6.50**	**111**	P	Px	13 47 31.8	
BSI	**Banda Aceh**	**11.70**	**328**	P	**Pn**	**13 48 23.2**	**-3.5**
KKM	**Kota Kinabalu**	**18.02**	**55**	*e*Pn	**Pn**	**13 49 50.1**	**+0.6**
BATI	**Baumata** 6.6nm,0.5s,mb4.3,baz=309,slow=3.8,SNR=3.6	**22.68**	**106**	P	**P**	**13 50 38.8**	**-1.2**
CM31	**Chiang Mai Arr** 4.9nm,0.6s,mb4.1	**22.94**	**354**	*e*P	**P**	**13 50 40.7**	**-2.0**
CMAR	**Chiang Mai Arr** 8.3nm,0.8s,mb4.2,baz=186,slow=8.5,SNR=46	**22.94**	**354**	P	**P**	**13 50 41.7**	**-1.0**
CMAR	0.3nm,0.4s,baz=200,slow=2.4,SNR=4.0			PcP	PcP	13 54 33.3	+1.4
CHTO	**Chiang Mai** 4.2nm,0.9s,mb3.9	**23.29**	**354**	*e*P	**P**	**13 50 45.5**	**-0.9**
FITZ	**Fitzroy Crossi** 4.4nm,1.0s,mb3.9	**27.20**	**122**	*e*P	**P**	**13 51 22.2**	**+0.3**
FITZ	**Fitzroy Crossi** 2.7nm,0.9s,mb3.8,baz=256,slow=6.8,SNR=6.1	**27.20**	**122**	P	**P**	**13 51 21.6**	**-0.3**
ODAN	**Odare**	**34.03**	**337**	*e*P	**P**	**13 52 23.1**	**+1.1**
TAPN	**Taplejung** 22nm,0.9s,mb5.1	**34.35**	**338**	*e*P	**P**	**13 52 25.7**	**+0.9**
RAMN	**Ramite** 9.9nm,0.7s,mb4.9	**34.42**	**336**	*e*P	**P**	**13 52 26.7**	**+1.2**
JIRN	**Jiri** 23nm,0.7s,mb5.2	**35.22**	**336**	*e*P	**P**	**13 52 33.6**	**+1.3**
WRA	**Warramunga Arr** 1.9nm,0.7s,mb4.1,baz=306,slow=9.2,SNR=21	**35.46**	**118**	P	**P**	**13 52 34.8**	**+0.3**
WRAB	**Tennant Creek** 6.7nm,1.0s,mb4.5	**35.46**	**118**	*e*P	**P**	**13 52 34.5**	**-0.1**
GUN	**Gumba** 13nm,0.4s,mb5.2	**35.57**	**336**	*e*P	**P**	**13 52 36.5**	**+1.2**
DMN	**Daman**	**35.63**	**335**	*e*P	**P**	**13 52 36.4**	**+0.6**
KKN	**Kakani** 12nm,0.6s,mb5.0	**35.71**	**335**	*e*P	**P**	**13 52 36.8**	**+0.3**
GKN	**Gorkha**	**36.17**	**334**	*e*P	**P**	**13 52 41.2**	**+0.7**
KOLN	**Koldanda** 8.0nm,0.7s,mb4.8	**36.43**	**333**	*e*P	**P**	**13 52 43.4**	**+0.7**
ASAR	**Alice Springs** 0.6nm,0.6s,mb3.6,baz=295,slow=7.8,SNR=10	**36.59**	**125**	P	**P**	**13 52 44.4**	**+0.3**
DANN	**Dangsing** 17nm,0.4s,mb5.2	**36.86**	**333**	*e*P	**P**	**13 52 47.0**	**+0.7**
XAN	**Xi'an**	**38.95**	**10**	P	**P**	**13 53 03.6**	**-0.3**
XAN	comp=Z,8.0nm,0.8s,mb4.5			AMB	AMB		
STKA	**Stephens Creek** comp=Z,3.0nm,1.2s,mb4.1	**46.38**	**131**	*e*P	**P**	**13 54 12.4**	**+8.1**
STKA	**Stephens Creek** comp=Z,21nm,1.6s,mb4.8	**46.38**	**131**	*e*P	**P**	**13 54 08.6**	**+4.3**
KSRS	**Korea Array** comp=Z,2.6nm,0.9s,mb4.3,baz=210,slow=7.0,SNR=7.1	**48.43**	**28**	P	**P**	**13 54 20.6**	**+0.6**
SONM	**Songino Array** comp=Z,8.2nm,0.8s,mb4.7,baz=185,slow=9.1,SNR=51	**52.28**	**4**	P	**P**	**13 54 50.3**	**+1.3**
TKM2	**Tokmak 2** comp=Z,5.2nm,0.8s,mb4.5	**52.70**	**336**	*e*P	**P**	**13 54 52.4**	**+0.2**
AML	**Almayashu** comp=Z,2.4nm,0.8s,mb4.2	**52.85**	**334**	*e*P	**P**	**13 54 52.2**	**-1.1**
EKS2	**Erkin-Say** comp=Z,5.4nm,0.8s,mb4.5	**53.24**	**335**	*e*P	**P**	**13 54 56.1**	**-0.1**
MJAR	**Matsushiro Arr** comp=Z,2.3nm,0.7s,mb4.2,baz=220,slow=7.9,SNR=9.9	**53.29**	**37**	P	**P**	**13 54 54.6**	**-2.0**
MK31	**Makanchi Array** comp=Z,4.0nm,0.7s,mb4.5,baz=147,slow=8.2,SNR=41	**53.82**	**344**	*e*P	**P**	**13 55 00.3**	**-0.1**
MKAR	**Makanchi Array** comp=Z,4.2nm,0.8s,mb4.3,baz=162,slow=6.3,SNR=12	**53.82**	**344**	P	**P**	**13 55 00.0**	**-0.3**
KURK	**Kurchatov** comp=Z,2.4nm,0.8s,mb4.3,baz=162,slow=6.3,SNR=12	**58.41**	**343**	P	**P**	**13 55 31.9**	**-1.2**
ZAA0	**Zalesovo Array**	**59.88**	**349**	*e*P	**P**	**13 55 42.6**	**-0.5**
ZALV	**Zalesovo Beam** comp=Z,5.2nm,0.7s,mb4.7,baz=172,slow=4.5,SNR=22	**59.88**	**349**	P	**P**	**13 55 42.9**	**-0.3**
ASAJ	**Asahikawa** comp=Z,8.1nm,0.8s,mb4.9,baz=238,slow=2.9,SNR=5.7	**60.83**	**33**	P	**P**	**13 55 49.5**	**-0.4**
BVAR	**Borovoye Array** comp=Z,2.6nm,0.6s,mb4.5,baz=148,slow=8.6,SNR=14	**63.03**	**339**	P	**P**	**13 56 03.7**	**-0.8**
BDFB	**Brasilia** comp=Z,1.8nm,0.5s,baz=43,slow=24,SNR=4.8	**143.81**	**236**	PKP	PKPdf	14 05 14.9	+1.4
TXAR	**Lajitas Array** comp=Z,2.8nm,0.6s,baz=312,slow=1.2,SNR=40	**145.66**	**41**	PKPbc	PKPbc	14 05 18.0	+1.3
TKL	**Tuckaleechee C** comp=Z,3.4nm,0.6s,baz=140,slow=3.5,SNR=5.1	**148.60**	**8**	PKPbc	PKPbc	14 05 24.2	-0.6

IDC ***13*** *13:52:01.1± 0.8, 434S×101 61E, h0km, mb4.2/14, mb1 4.3/14, mb1mx4.2/21, mbtmp4.3/14, Error ellipse: s-maj=26.2km s-min=13.6km az=53.0*
BJI ***13*** *13:52:01.4, 492S×101 67E, h45km, mB5.1, mb4.8*
NEIC ***13*** *13:52:03.9± 0.5, 468S×101 28E, h35km, mb4.4/8, Error ellipse: s-maj=16.3km s-min=9.8km az=65.0*
ISCJB ***13*** *13:52:05.4± 1.8, 435S± 0.9×101 64E± 0.8, h46km± 14km, mb4.5/30, Error ellipse: s-maj=17.4km s-min=8.7km az=37.1*
DJA ***13*** *13:52:06, 465S×100 65E, h56km, MLv4.7/8*
ISC 13 13:52:07.7±1.9**, 434S**±010×**10167E**±010**, h48**km±16km**, n49,** σ**0s83/43, mb4.5**/30**, Southern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSI	**Kapahiang**	**1.15**	**53**	P	**Sn**	**13 52 40.4**	**-1.6**
PDSI	**Padang**	**3.61**	**340**	P	**Pn**	**13 52 59.9**	**-1.3**
RGRI	**Rengat**	**4.02**	**10**	P	**Pn**	**13 53 12.6**	**+5.8**
PPI	**Padang Panjang**	**4.06**	**342**	P	**Pn**	**13 53 07.3**	**-0.1**
DBJI	**Dramaga** 62nm,1.0s,0.3nm	**5.51**	**114**	P	**Pn**	**13 53 34.5**	**+7.2**
CLJI	**Cilicap** 2μm,0.6s,4.9nm	**8.04**	**115**	P	**Pn**	**13 54 10.4**	**+8.5**
BSI	**Banda Aceh** 39nm,0.8s	**11.66**	**327**	P	**Pn**	**13 54 48.4**	**-3.2**
KKM	**Kota Kinabalu**	**17.82**	**55**	*e*P	**Pn**	**13 56 12.7**	**+0.4**
BATI	**Baumata** 10nm,0.5s,mb4.5,baz=342,slow=0.7,SNR=4.3	**22.57**	**106**	P	**P**	**13 57 03.3**	**-0.8**
CM31	**Chiang Mai Arr** 16nm,1.0s,mb4.4	**22.81**	**353**	*e*P	**P**	**13 57 05.9**	**-0.6**
CMAR	**Chiang Mai Arr** 7.5nm,0.7s,mb4.2,baz=185,slow=8.5,SNR=44	**22.81**	**353**	P	**P**	**13 57 06.1**	**-0.4**
CHTO	**Chiang Mai** 3.6nm,0.8s,mb3.9	**23.16**	**353**	*e*P	**P**	**13 57 09.8**	**-0.4**
FITZ	**Fitzroy Crossi** 2.9nm,0.5s,mb4.1	**27.14**	**122**	*e*P	**P**	**13 57 46.7**	**+0.1**
FITZ	**Fitzroy Crossi** 3.3nm,0.9s,mb3.9,baz=248,slow=5.8,SNR=4.9	**27.14**	**122**	P	**P**	**13 57 46.1**	**-0.5**
ODAN	**Odare** 16nm,0.8s,mb5.0	**33.95**	**337**	*e*P	**P**	**13 58 47.3**	**+0.7**
TAPN	**Taplejung** 25nm,0.9s,mb5.1	**34.27**	**338**	*e*P	**P**	**13 58 50.1**	**+0.8**
RAMN	**Ramite** 9.4nm,0.7s,mb4.8	**34.35**	**336**	*e*P	**P**	**13 58 50.7**	**+0.7**
JIRN	**Jiri** 20nm,0.7s,mb5.2	**35.15**	**336**	*e*P	**P**	**13 58 57.5**	**+0.6**
WRA	**Warramunga Arr** 2.0nm,0.7s,mb4.2,baz=306,slow=9.1,SNR=18	**35.39**	**119**	P	**P**	**13 58 59.1**	**-0.1**
WRAB	**Tennant Creek** 6.2nm,1.0s,mb4.5	**35.40**	**119**	*e*P	**P**	**13 58 58.9**	**-0.4**
GUN	**Gumba** 20nm,0.7s,mb5.1	**35.49**	**335**	*e*P	**P**	**13 59 00.8**	**+0.9**
DMN	**Daman**	**35.56**	**334**	*e*P	**P**	**13 59 00.6**	**+0.2**
KKN	**Kakani** 17nm,0.9s,mb5.0	**35.64**	**335**	*e*P	**P**	**13 59 00.5**	**-0.6**
GKN	**Gorkha** 20nm,1.0s,mb5.0	**36.10**	**334**	*e*P	**P**	**13 59 04.8**	**-0.3**
KOLN	**Koldanda** 8.7nm,0.6s,mb4.8	**36.37**	**332**	*e*P	**P**	**13 59 07.7**	**+0.3**
ASAR	**Alice Springs** 0.6nm,0.6s,mb3.6,baz=296,slow=8.0,SNR=11	**36.55**	**125**	P	**P**	**13 59 09.2**	**+0.2**
DANN	**Dangsing** 12nm,0.5s,mb5.0	**36.79**	**333**	*e*P	**P**	**13 59 11.2**	**+0.2**
XAN	**Xi'an**	**38.78**	**10**	P	**P**	**13 59 28.0**	**+0.3**
XAN	comp=Z,8.0nm,0.7s,mb4.6			AMB	AMB		
XAN	comp=Z,60nm,5.9s			AMB	AMB		
STKA	**Stephens Creek** comp=Z,1.8nm,0.8s,mb4.0,baz=299,slow=10,SNR=2.6	**46.36**	**131**	P	**P**	**14 00 30.3**	**+1.0**
STKA	**Stephens Creek** comp=Z,4.1nm,0.9s,mb4.4	**46.36**	**131**	*e*P	**P**	**14 00 24.9**	**-4.5**
KSRS	**Korea Array** comp=Z,3.4nm,0.9s,mb4.4,baz=219,slow=8.3,SNR=8.6	**48.23**	**28**	P	**P**	**14 00 45.0**	**+1.4**
SONM	**Songino Array** comp=Z,8.6nm,0.8s,mb4.7,baz=185,slow=9.1,SNR=43	**52.12**	**4**	P	**P**	**14 01 14.6**	**+1.6**
TKM2	**Tokmak 2** comp=Z,4.2nm,0.8s,mb4.4	**52.63**	**336**	*e*P	**P**	**14 01 16.9**	**0.0**
AML	**Almayashu** comp=Z,2.4nm,0.7s,mb4.2	**52.78**	**334**	*e*P	**P**	**14 01 18.0**	**0.0**
MJAR	**Matsushiro Arr** comp=Z,2.3nm,0.8s,mb4.3,baz=220,slow=7.0,SNR=11	**53.08**	**37**	P	**P**	**14 01 20.5**	**+0.1**
EKS2	**Erkin-Say** comp=Z,6.5nm,0.8s,mb4.6	**53.18**	**334**	*e*P	**P**	**14 01 19.7**	**-1.2**
MK31	**Makanchi Array**	**53.72**	**344**	*e*P	**P**	**14 01 24.8**	**0.0**
MKAR	**Makanchi Array** comp=Z,3.4nm,0.7s,mb4.4,baz=146,slow=7.9,SNR=37	**53.72**	**344**	P	**P**	**14 01 24.6**	**-0.2**
OPO	**Ambohidratompo** comp=Z,0.9nm,0.3s,mb4.3,baz=125,slow=16,SNR=4.7	**55.02**	**250**	P	**P**	**14 01 35.6**	**+0.8**
KURK	**Kurchatov** comp=Z,2.1nm,0.8s,mb4.2,baz=162,slow=6.4,SNR=9.5	**58.31**	**343**	P	**P**	**14 01 56.6**	**-0.9**
ZAA0	**Zalesovo Array**	**59.77**	**349**	*e*P	**P**	**14 02 05.7**	**-1.9**
ZALV	**Zalesovo Beam** comp=Z,4.5nm,0.7s,mb4.6,baz=174,slow=4.5,SNR=22	**59.77**	**349**	P	**P**	**14 02 07.1**	**-0.4**
BVAR	**Borovoye Array** comp=Z,2.0nm,0.6s,mb4.5,baz=143,slow=8.9,SNR=15	**62.94**	**339**	P	**P**	**14 02 27.9**	**-1.2**
TXAR	**Lajitas Array** comp=Z,4.0nm,0.8s,baz=297,slow=1.3,SNR=34	**145.45**	**41**	PKPbc	PKPbc	14 11 42.0	+0.8
TXAR	**Lajitas Array**	**145.45**	**41**	PKPbc	PKPbc	14 11 42.0	+0.8
MIAR	**Mount Ida**	**146.78**	**23**	*e*PKPbc	PKPbc	14 11 45.4	+0.4
JCT	**Junction City**	**147.04**	**36**	*e*PKPbc	PKPbc	14 11 46.5	+0.6
WVT	**Waverly**	**147.18**	**14**	*e*PKPbc	PKPbc	14 11 45.6	-0.4
TKL	**Tuckaleechee C** comp=Z,4.4nm,0.6s,baz=161,slow=4.9,SNR=7.8	**148.43**	**8**	PKPbc	PKPbc	14 11 48.4	-1.1

BJI ***13*** *14:01:47.5, 238S×99 64E, h39km, mB5.0, mb4.7, Ms4.5, Msz4.3*
IDC ***13*** *14:01:47.1± 0.6, 184S×99 63E, h0km, mb4.6/25, mb1 4.7/25, mb1mx4.6/29, mbtmp4.6/25, MS4.0/12, Ms1 4.0/12, ms1mx3.8/31, Error ellipse: s-maj=22.3km s-min=10.0km az=50.0*
ISCJB ***13*** *14:01:49.9± 0.3, 193S± 004×9936E± 003, h30km, mb4.9/79, MS4.1/26, Error ellipse: s-maj=6.2km s-min=3.6km az=34.6*
DJA ***13*** *14:01:49.6± 0.6, 2S± 4×99E± 1, h10km, mB5.3/12, Mjma4.6/8, MLv5.3/8, Mw(mB)5.2/12, Mwp4.2/9*
MOS ***13*** *14:01:51.0± 1.1, 170S×9961E, h33km, mb5.0/41, MS4.0/10, Error ellipse: s-maj=12.8km s-min=6.2km az=103.3*
NEIC ***13*** *14:01:52.5± 0.3, 189S×9952E, h35km, mb4.9/33, MS4.2/1, Error ellipse: s-maj=9.1km s-min=5.4km az=49.0*
NEIC Felt [III] in the Kepulauan Mentawai.
ISC 13 14:01:52.3±0.3**, 191S**±004×**9936E**±003**, h32**km**, h32**km±1.2km**:pP-P, n208,** σ**1s22**/205**, mb4.8**/79**, MS4.1**/26**, 16C-6D, Southern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PDSI	**Padang**	**1.48**	**48**	P	**Pn**	**14 02 15.5**	**-1.3**
PPI	**Padang Panjang**	**1.78**	**36**	P	**Pn**	**14 02 20.8**	**-0.1**
RGRI	**Rengat**	**3.35**	**62**	P	**Pn**	**14 02 43.5**	**+1.0**
KSI	**Kapahiang**	**3.67**	**118**	P	**Pn**	**14 02 47.6**	**+0.8**
JMBI	**JAMBI**	**4.29**	**86**	P	**Pn**	**14 02 55.8**	**+0.4**
TSI	**Tuntungan** 401nm,1.2s	**5.43**	**352**	P	**Pn**	**14 03 11.1**	**0.0**
KGM	**Kluang**	**5.56**	**45**	⇓P	**Pn**	**14 03 14.0**	**+1.1**
KLI	**Kotabumi** 144nm,0.8s,3μm1.5nm	**6.22**	**118**	P	**Pn**	**14 03 22.1**	**+0.1**
IPM	**Ipoh**	**6.56**	**15**	⇓P	**Pn**	**14 03 27.9**	**+1.3**
IPM	**Ipoh** 132nm,0.9s,1μm0.7nm	**6.56**	**15**	P	**Pn**	**14 03 27.0**	**+0.3**
PPBI	**Pangkal Pinang** 31nm,0.9s,2μm0.4nm	**6.78**	**92**	P	**Pn**	**14 03 30.9**	**+1.3**
KULM	**Kulim**	**7.27**	**10**	⇑P	**Pn**	**14 03 36.5**	**+0.1**
SBJI	**Serang**	**7.94**	**122**	P	**Pn**	**14 03 56.3**	**+11**
KTGM	**Kuala Trenggan**	**8.12**	**28**	⇑P	**Pn**	**14 03 49.1**	**+1.0**
TPI	**Tanjungpandan** 34nm,0.8s	**8.33**	**96**	P	**Pn**	**14 03 52.3**	**+1.3**
BSI	**Banda Aceh** 62nm,1.1s	**8.40**	**331**	P	**Pn**	**14 03 51.9**	**0.0**
DBJI	**Dramaga** 108nm,0.8s	**8.69**	**122**	P	**Pn**	**14 03 56.0**	**+0.1**
CBJI	**Citeko** 462nm,0.8s,5μm	**8.71**	**121**	P	**Pn**	**14 03 58.3**	**+2.1**
SNG	**Songkhla** 740nm,1.0s	**9.11**	**8**	P	**Pn**	**14 03 59.0**	**-2.7**
LEM	**Lembang** 82nm,0.9s,1μm	**9.57**	**121**	P	**Pn**	**14 04 09.7**	**+1.7**
KSM	**Kuching**	**11.45**	**73**	⇓P	**Pn**	**14 04 35.7**	**+1.9**
KSM	**Kuching** 16nm,0.9s	**11.45**	**73**	P	**Pn**	**14 04 35.1**	**+1.3**
KSM	**Kuching**	**11.45**	**73**	*e*Pn	**Pn**	**14 04 33.8**	**+0.1**
KSM				*e*Sn	**Sn**	**14 06 41.6**	**+0.9**
BJII	**Banjamegara**	**11.64**	**118**	P	**Pn**	**14 04 34.9**	**-1.4**
STKI	**Sintang** 46nm,1.2s,4μm	**12.28**	**81**	P	**Pn**	**14 04 50.0**	**+5.0**
PBKI	**Pangkalan Bun**	**12.33**	**94**	P	**Pn**	**14 04 53.9**	**+8.2**
SBUM	**Sibu**	**13.57**	**71**	⇑P	**Pn**	**14 05 04.8**	**+2.1**
SBUM	**Sibu**	**13.57**	**71**	P	**Pn**	**14 05 04.5**	**+1.8**
SJI	**Sawahan**	**13.65**	**116**	P	**Pn**	**14 05 05.9**	**+2.1**
PLKI	**Palangkaraya**	**14.58**	**91**	P	**Pn**	**14 05 22.9**	**+6.4**
BTM	**Bintulu**	**14.63**	**70**	⇑P	**Pn**	**14 05 20.3**	**+3.1**
BBKI	**Banjar Baru**	**15.54**	**96**	P	**Pn**	**14 05 36.3**	**+7.0**
SMKI	**Samarinda** 74nm,1.3s,781nm	**17.91**	**86**	P	**Pn**	**14 06 00.2**	**+1.1**
KKM	**Kota Kinabalu**	**18.59**	**65**	⇑P	**Pn**	**14 06 06.4**	**-1.1**
KKM	**Kota Kinabalu**	**18.59**	**65**	P	**Pn**	**14 06 07.5**	**0.0**
	74nm,0.8s,474nm						
KKM	**Kota Kinabalu**	**18.59**	**65**	*e*Pn	**Pn**	**14 06 05.2**	**-2.4**
TSM	**Tawau**	**19.50**	**72**	⇑P	**Pn**	**14 06 17.3**	**-1.2**
KDM	**Kudat**	**19.52**	**63**	⇑P	**Pn**	**14 06 16.9**	**-1.8**
CM31	**Chiang Mai Arr** 49nm,1.2s	**20.24**	**359**	*e*P	**P**	**14 06 22.3**	**-2.7**
CMAR	**Chiang Mai Arr** 15nm,0.9s,baz=187,slow=10,SNR=20	**20.24**	**359**	P	**P**	**14 06 22.0**	**-3.0**
CMAR	0.2nm,0.4s,baz=230,slow=4.0,SNR=4.5			PcP	PcP	14 10 39.0	+0.5
CMAR	comp=Z,698nm,19.2s,MS4.0,baz=186,slow=39			LR	LR	14 14 57.6	
CMAR	**Chiang Mai Arr**	**20.24**	**359**	P	**P**	**14 06 22.0**	**-3.0**
CMAR						14 10 39.1	
CMAR	comp=Z,15nm,0.9s			pmax	pmax		
CMAR	comp=Z,699nm,19.2s			MLR	MLR		
MYLDM	**Lahad Datu**	**20.38**	**70**	⇑P	**P**	**14 06 27.4**	**+0.8**
MYLDM	**Lahad Datu**	**20.38**	**70**	P	**P**	**14 06 27.1**	**+0.5**
KAPI	**Kappang** comp=Z,12nm,0.9s,baz=291,slow=9.5,SNR=3.7	**20.59**	**99**	P	**P**	**14 06 24.7**	**-4.1**
KAPI	**Kappang** comp=Z,62nm,1.0s,comp=Z,416nm	**20.59**	**99**	P	**P**	**14 06 26.5**	**-2.3**
KAPI	**Kappang**	**20.59**	**99**	*e*P	**P**	**14 06 26.1**	**-2.8**
CHG	**Chiang Mai** comp=Z,20nm,0.9s	**20.60**	**359**	⇑P	**P**	**14 06 30.5**	**+1.6**
CHTO	**Chiang Mai**	**20.60**	**359**	*e*P	**P**	**14 06 26.8**	**-2.1**
NANT	**Nan** comp=Z,128nm,1.0s	**20.62**	**4**	⇑P	**P**	**14 06 26.0**	**-3.1**
QIZ	**Qiongzhong**	**23.22**	**26**	P	**P**	**14 06 55.8**	**-1.1**
QIZ				AP		14 07 05.1	
QIZ				XP	sP	14 07 09.0	-0.6
QIZ				S	**S**	**14 11 06.3**	**-0.4**
QIZ				XS	sS	14 11 21.4	-0.4
QIZ	comp=Z,44nm,1.1s,mb4.8			AMB	AMB		
QIZ	comp=N,398nm,18.5s			LR	LR		
QIZ	comp=Z,536nm,18.1s,MS4.0			LR	LR		
QIZ	**Qiongzhong** comp=Z,39nm,0.9s,mb4.8	**23.22**	**26**	*e*P	**P**	**14 06 55.6**	**-1.3**
KDI	**Kendari** comp=Z,62nm,1.0s,mb5.0	**23.32**	**96**	P	**P**	**14 06 57.8**	**-0.2**
BATI	**Baumata** comp=Z,9.6nm,0.5s,mb4.6,baz=17,slow=5.4,SNR=4.0	**25.52**	**110**	P	**P**	**14 07 14.7**	**-3.5**
MNI	**Manado** comp=Z,182nm,0.9s,mb5.6	**25.70**	**83**	P	**P**	**14 07 20.7**	**+0.8**
KMI	**Kunming**	**27.07**	**7**	P	**P**	**14 07 32.8**	**+0.7**
KMI				AP	pP	14 07 41.5	+0.2
KMI				XP	sP	14 07 45.9	+0.7
KMI				PP		14 08 22.1	
KMI				PPP		14 08 34.4	
KMI				S	**S**	**14 12 08.9**	**+0.7**
KMI				XS	sS	14 12 22.8	-0.6
KMI				SS		14 13 23.9	
KMI				SSS		14 13 41.8	
KMI	comp=Z,9.0nm,1.0s,mb4.2			AMB	AMB		
KMI	comp=N,395nm,11.8s,MS4.4			LR	LR		
KMI	comp=E,453nm,12.3s,MS4.4			LR	LR		
KMI	comp=Z,365nm,14.4s,MS4.1			LR	LR		
KMI	**Kunming**	**27.07**	**7**	P	**P**	**14 07 32.8**	**+0.7**
KMI				*PP	pP	14 07 41.5	+0.2
KMI				*SP	sP	14 07 45.9	+0.7
KMI						14 08 22.1	
KMI				S	**S**	**14 12 08.9**	**+0.7**
KMI				*SS	sS	14 12 22.7	-0.7
KMI	comp=Z,9.0nm,1.0s,mb4.2			pmax	pmax		
KMI	comp=Z,370nm,14.4s,MS4.1			MLR	MLR		
KMI	**Kunming** comp=Z,9.0nm,1.0s,mb4.2	**27.07**	**7**	P	**P**	**14 07 32.8**	**+0.7**
KMI				pP	pP	14 07 41.5	+0.2
KMI				sP	sP	14 07 45.9	+0.7
KMI				PP		14 08 22.1	
KMI				PPP		14 08 34.4	
KMI				S	**S**	**14 12 08.9**	**+0.7**
KMI				sS	sS	14 12 22.7	-0.7
KMI				SS		14 13 23.9	
KMI				SSS		14 13 41.8	
KMI	comp=Z,370nm,14.4s,MS4.1			LR	LR		
MBWA	**Marble Bar** comp=Z,5.2nm,0.9s,mb4.2	**27.57**	**135**	*e*P	**P**	**14 07 32.8**	**-3.9**
LBMI	**Labuha** comp=Z,69nm,0.9s,comp=Z,725nm,mb5.3	**28.16**	**88**	P	**P**	**14 07 41.9**	**-0.2**
SHL	**Shillong**	**28.26**	**346**	*e*P	**P**	**14 07 45.0**	**+2.3**
FITZ	**Fitzroy Crossi** comp=Z,8.0nm,0.6s,mb4.6	**30.39**	**124**	*e*P	**P**	**14 08 00.4**	**-1.4**
FITZ	**Fitzroy Crossi** comp=Z,3.0nm,0.8s,mb4.1

LZH AP pP 14 09 14.8 -2.3
LZH AMB AMB
comp=Z,29nm,1.6s,mb4.8
LZH AMB AMB
comp=Z,110nm,4.0s
LZH LR LR
comp=E,379nm,14.3s
LZH LR LR
comp=Z,410nm,15.4s,MS4.3
LZH Lanzhou 38.03 6 *eP* **P 14 09 07.4 -0.3**
comp=Z,29nm,1.6s,mb4.8
LZH pP pP 14 09 14.8 -2.3
LZH sP sP 14 09 17.0 -3.9
LZH LR LR
comp=Z,410nm,15.4s,MS4.3
NJ2 Nanjing 38.51 27 *eP* **P 14 09 11.9 +0.2**
NJ2 AMB AMB
comp=Z,60nm,0.6s,mb5.5
WRA Warramunga Arr 38.59 120 P **P 14 09 11.1 -1.6**
comp=Z,21nm,0.8s,mb4.9,baz=296,slow=9.5,SNR=111
WRA S **S 14 15 01.6 -5.5**
comp=Z,1.3nm,1.0s,baz=293,slow=16,SNR=5.0
WRA Warramunga Arr 38.59 120 P **P 14 09 11.1 -1.6**
WRA S **S 14 15 01.6 -5.5**
WRA pmax pmax
comp=Z,21nm,0.8s
WRA smax
comp=N,1.0nm,1.0s
WRAB Tennant Creek 38.60 120 *eP* **P 14 09 11.4 -1.3**
WRAB pmax pmax
comp=Z,26nm,0.9s,mb5.0
WRAB Tennant Creek 38.60 120 *eP* **P 14 09 11.4 -1.3**
comp=Z,26nm,0.9s,mb5.0
FORT Forrest 39.52 139 *eP* **P 14 09 26.3 +6.0**
comp=Z,15nm,0.7s,mb4.8
ASAR Alice Springs 39.82 126 P **P 14 09 22.3 -0.6**
comp=Z,7.0nm,0.7s,mb4.5,baz=299,slow=7.6,SNR=105
ASAR PcP PcP 14 11 29.2 +0.5
comp=Z,1.5nm,0.8s,baz=297,slow=6.1,SNR=3.4
ASAR S **S 14 15 22.1 -3.4**
comp=Z,1.7nm,0.9s,baz=297,slow=14,SNR=10
ASAR Alice Springs 39.82 126 P **P 14 09 22.3 -0.6**
ASAR 14 11 29.2
ASAR S **S 14 15 22.1 -3.4**
ASAR pmax pmax
comp=Z,7.0nm,0.7s
ASAR pmax pmax
comp=Z,2.0nm,0.8s
ASAR smax
comp=N,2.0nm,0.9s
JOW Kunigami 39.93 42 P **P 14 09 21.9 -1.9**
comp=N,8.4nm,0.7s,mb4.6,baz=214,slow=7.3,SNR=5.0
GTA Gaotai 41.12 1 P **P 14 09 33.3 -0.1**
GTA AP pP 14 09 43.0 +0.2
GTA XP sP 14 09 46.9 +0.3
GTA PP PP 14 11 14.9 +6.2
GTA S **S 14 15 46.6 +2.2**
GTA XS sS 14 16 02.1 +2.2
GTA SS SS 14 18 46.3 -1.6
GTA AMB AMB
comp=Z,16nm,1.3s,mb4.5
GTA AMB AMB
comp=Z,97nm,6.3s
GTA LR LR
comp=N,221nm,17.5s,MS4.2
GTA LR LR
comp=E,196nm,15.6s,MS4.2
GTA LR LR
comp=Z,293nm,15.9s,MS4.2
HHC Hu-ho-hao-te 43.99 13 *eP* **P 14 09 58.9 +2.2**
HHC AP pP 14 10 08.8 +2.6
HHC XP sP 14 10 12.5 +2.5
HHC PP PP 14 11 43.3 +3.7
HHC SCP ScP 14 15 31.3 -0.4
HHC S **S 14 16 30.8 +4.2**
HHC XS sS 14 16 45.1 +2.9
HHC SS SS 14 19 39.8 -4.5
HHC SCS ScS 14 19 51.8 -1.5
HHC AMB AMB
comp=Z,12nm,1.1s,mb4.5
HHC AMB AMB
comp=Z,126nm,6.3s
HHC LR LR
comp=N,568nm,14.6s,MS4.7
HHC LR LR
comp=E,298nm,14.1s,MS4.7
HHC LR LR
comp=Z,465nm,15.1s,MS4.5
BJI Beijing 44.50 18 P **P 14 10 01.0 +0.2**
BJI S **S 14 16 35.8 +1.8**
BJI AMB AMB
comp=Z,14nm,0.9s,mb4.7
BJI AMB AMB
comp=Z,172nm,3.5s
BJI LR LR
comp=N,216nm,16.9s,MS4.3
BJI LR LR
comp=E,182nm,16.9s,MS4.3
BJI LR LR
comp=Z,296nm,18.4s,MS4.2
BJI Beijing 44.50 18 P **P 14 10 01.0 +0.2**
comp=Z,14nm,0.9s,mb4.7
BJI S **S 14 16 35.8 +1.8**
BJI SS SS 14 19 57.6 +3.3
BJI LR LR
comp=Z,300nm,18.4s,MS4.2
WMQ Urumqi 46.71 348⇑ *iP* **P 14 10 19.6 +1.4**
WMQ AP pP 14 10 29.6 +1.8
WMQ XP sP 14 10 34.1 +2.5
WMQ PCP PcP 14 11 54.6 +3.2
WMQ PP PP 14 12 08.6 +0.2
WMQ PPP 14 12 53.6
WMQ SCP ScP 14 15 44.1 +1.2
WMQ S **S 14 17 04.3 -1.5**
WMQ AMB AMB
comp=Z,37nm,0.9s,mb5.3
WMQ AMB AMB
comp=Z,117nm,7.2s
WMQ LR LR
comp=N,99nm,27.5s
WMQ LR LR
comp=E,90nm,19.0s
WMQ LR LR
comp=Z,113nm,24.6s,MS3.7
KSRS Korea Array 47.27 31 P **P 14 10 20.2 -2.5**
comp=Z,8.8nm,0.9s,mb4.7,baz=224,slow=9.0,SNR=21
KSRS LR LR 14 30 44.5
comp=Z,134nm,19.2s,MS3.9,baz=356,slow=37
KSRS Korea Array 47.27 31 P **P 14 10 20.3 -2.4**
KSRS pmax pmax
comp=Z,9.0nm,0.9s,mb4.7
KSRS MLR MLR
comp=Z,134nm,19.2s,MS3.9
GUMO Guam 47.68 70 LR LR 14 30 44.9
comp=Z,51nm,19.8s,MS3.5,baz=104,slow=37
CTA Charters Tower 49.22 115 *eP* **P 14 10 37.1 -0.9**
comp=Z,8.9nm,0.9s,mb4.8
CTA Charters Tower 49.22 115 *eP* **P 14 10 37.1 -0.9**
CTA pmax pmax
comp=Z,9.0nm,0.9s
CTAO Charters Tower 49.22 115 *eP* **P 14 10 37.4 -0.6**
CTAO pmax pmax
comp=Z,18nm,1.0s,mb5.1
CTAO Charters Tower 49.22 115 *eP* **P 14 10 37.4 -0.6**
comp=Z,18nm,1.0s,mb5.1
UCH Uchtor 49.35 336 P **P 14 10 40.0 +1.4**
SNR=12
UCH Uchtor 49.35 336 *eP* **P 14 10 39.0 +0.4**
comp=Z,6.9nm,0.9s,mb4.7
TKM2 Tokmak 2 49.50 337 *eP* **P 14 10 40.3 +0.5**
TKM2 pmax pmax
comp=Z,17nm,0.9s,mb5.1
TKM2 Tokmak 2 49.50 337 P **P 14 10 40.7 +1.0**
SNR=24
TKM2 Tokmak 2 49.50 337 *eP* **P 14 10 40.3 +0.5**
comp=Z,17nm,0.9s,mb5.1
KBK Karagaybulak 49.53 336 P **P 14 10 42.0 +2.0**
SNR=8.1
AML Almayashu 49.61 335 P **P 14 10 41.6 +1.0**
SNR=11
AML Almayashu 49.61 335 *eP* **P 14 10 41.3 +0.7**
comp=Z,5.8nm,0.6s,mb4.8
STKA Stephens Creek 49.69 131 *eP* **P 14 10 41.7 +0.2**
comp=Z,14nm,0.8s,mb5.0
STKA Stephens Creek 49.69 131 P **P 14 10 41.5 0.0**
comp=Z,15nm,0.7s,mb5.1,baz=309,slow=7.8,SNR=37
STKA LR LR 14 33 08.3
comp=Z,203nm,20.6s,MS4.1,baz=116,slow=38
SONM Songino Array 49.92 6 P **P 14 10 42.6 -0.3**
comp=Z,17nm,0.8s,mb5.1,baz=187,slow=8.1,SNR=92
SONM PcP PcP 14 12 02.8 -0.1
comp=Z,4.3nm,0.8s,baz=185,slow=5.3,SNR=4.4
SONM LR LR 14 34 40.0
comp=Z,368nm,19.0s,MS4.4,baz=189,slow=40
SONM Songino Array 49.92 6 P **P 14 10 42.6 -0.3**
SONM 14 12 02.8
SONM pmax pmax
comp=Z,17nm,0.8s
SONM pmax pmax
comp=Z,4.0nm,0.8s
SONM MLR MLR
comp=Z,368nm,19.0s
EKS2 Erkin-Say 50.01 335 P **P 14 10 44.9 +1.2**
SNR=11
EKS2 Erkin-Say 50.01 335 *eP* **P 14 10 44.8 +1.1**
comp=Z,17nm,0.8s,mb5.1
USP Ospenovka 50.22 336 P **P 14 10 46.4 +1.1**
SNR=6.1
MK31 Makanchi Array 50.77 345 *i* P **P 14 10 49.4 0.0**
MK31 pmax pmax
comp=Z,18nm,0.8s,mb5.0
MK31 Makanchi Array 50.77 345 *eP* **P 14 10 49.8 +0.4**
MKAR Makanchi Array 50.77 345 P **P 14 10 49.7 +0.3**
comp=Z,17nm,0.8s,mb5.0,baz=152,slow=7.7,SNR=135
MKAR Makanchi Array 50.77 345 P **P 14 10 49.7 +0.3**
MKAR pmax pmax
comp=Z,17nm,0.8s
MKAR Makanchi Array 50.77 345 P **P 14 10 49.7 +0.3**
CN2 Changchun 51.16 24 *eP* **P 14 10 49.1 -3.3**
CN2 *e*AP pP 14 10 58.9 -3.1
CN2 *e*S **S 14 18 03.9 -4.5**
CN2 AMB AMB
comp=Z,10.0nm,1.0s,mb4.7
CN2 AMB AMB
comp=Z,200nm,5.0s
CN2 LR LR
comp=N,400nm,17.0s,MS4.6
CN2 LR LR
comp=E,200nm,17.0s,MS4.6
CN2 LR LR
comp=Z,500nm,17.0s,MS4.6
ZAK Zakamensk 52.20 3 *eP* **P 14 11 00.0 +0.1**
ZAK *e* 14 12 11.5
ZAK pmax pmax
comp=Z,6.0nm,1.0s,mb4.5
MAJO Matsushiro 52.61 39 *eP* **P 14 11 01.7 -1.6**
MAT Matsushiro 52.61 39 P **P 14 11 01.0 -2.3**
MAT *e*S **S 14 18 22.0 -6.6**
MJAR Matsushiro Arr 52.61 39 P **P 14 11 01.2 -2.1**
comp=Z,10nm,0.9s,mb4.8,baz=223,slow=7.4,SNR=28
MJAR Matsushiro Arr 52.61 39 P **P 14 11 01.2 -2.1**
MJAR pmax pmax
comp=Z,10.0nm,0.9s
TLY Talaya 53.52 3 *eP* **P 14 11 10.0 +0.4**
TLY *e*S **S 14 18 39.8 -0.5**
TLY pmax pmax
comp=Z,12nm,0.9s,mb4.8
TLY MLR MLR
comp=Z,131nm,14.0s,MS4.1
TLY Talaya 53.52 3 *eP* **P 14 11 10.3 +0.7**
comp=Z,11nm,0.8s,mb4.8
MDJ Mudanjiang 53.59 27 P **P 14 11 09.9 -0.5**
MDJ AP pP 14 11 20.0 0.0
MDJ XP sP 14 11 23.8 0.0
MDJ PP PP 14 13 11.9 +0.5
MDJ S **S 14 18 43.5 +1.8**
MDJ XS sS 14 18 59.1 +1.5
MDJ AMB AMB
comp=Z,10.0nm,0.9s,mb4.8
MDJ AMB AMB
comp=Z,153nm,5.0s
MDJ LR LR
comp=N,357nm,17.4s
MDJ LR LR
comp=E,139nm,7.7s
MDJ LR LR
comp=Z,315nm,17.4s,MS4.4
HIA Hailar 53.94 16 *eP* **P 14 11 09.8 -3.0**
IRK Irkutsk 54.11 4 *eP* **P 14 11 13.8 -0.2**
IRK *e* pP 14 11 23.1 -0.6
IRK pmax pmax
comp=Z,25nm,1.5s,mb4.9
KURK Kurchatov 55.34 344 P **P 14 11 22.6 -0.4**
comp=Z,12nm,0.8s,mb4.9,baz=166,slow=7.2,SNR=52
KURK LR LR 14 40 04.2
comp=Z,82nm,18.5s,MS3.8,baz=155,slow=42
KURK Kurchatov 55.34 344 P **P 14 11 22.6 -0.4**
KURK pmax pmax
comp=Z,12nm,0.9s,mb4.9
KURK MLR MLR
comp=Z,82nm,18.5s,MS3.8
KURK Kurchatov 55.34 344 *eP* **P 14 11 22.3 -0.7**
ZAA0 Zalesovo Array 56.97 350 *eP* **P 14 11 34.6 +0.1**
ZALV Zalesovo Beam 56.97 350 P **P 14 11 34.5 0.0**
comp=Z,45nm,0.8s,mb5.5,baz=176,slow=5.5,SNR=178
ZALV Zalesovo Beam 56.97 350 P **P 14 11 34.5 0.0**
ZALV pmax pmax
comp=Z,45nm,0.8s,mb5.5
KRAR Krasnoyarsk 57.97 356 *eP* **P 14 11 40.6 -1.0**
KRAR pmax pmax
comp=Z,20nm,1.3s,mb5.0
NVS Novosibirsk 58.10 349 *eP* **P 14 11 41.1 -1.4**
NVS *e*S **S 14 19 38.1 -3.3**
NVS pmax pmax
comp=Z,27nm,1.0s,mb5.2
NVS pmax pmax
comp=N,23nm,1.3s
NVS pmax pmax
comp=E,16nm,1.2s
NVS smax
comp=N,17nm,1.9s
BVA0 Borovoye Array 59.88 340 *i* P **P 14 11 53.4 -1.5**
BVA0 pmax pmax
comp=Z,2.0nm,0.9s,mb4.2
BVAR Borovoye Array 59.88 340 P **P 14 11 54.1 -0.8**
comp=Z,6.2nm,0.8s,mb4.7,baz=140,slow=7.8,SNR=31
BVAR LR LR 14 42 30.1
comp=Z,119nm,18.2s,MS4.1,baz=148,slow=41
BVAR Borovoye Array 59.88 340 P **P 14 11 54.1 -0.8**
BVAR pmax pmax
comp=Z,6.0nm,0.8s
BVAR MLR MLR
comp=Z,119nm,18.2s
ASAJ Asahikawa 59.90 35 P **P 14 11 54.0 -1.2**
comp=Z,11nm,0.8s,mb4.9,baz=115,slow=30,SNR=6.7
ASAJ Asahikawa 59.90 35 P **P 14 11 54.1 -1.1**
ASAJ pmax pmax
comp=Z,11nm,0.8s
BRVK Borovoye 59.95 340 *eP* **P 14 11 54.6 -0.7**
BOD Bodaibo 60.69 9 *eP* **P 14 11 59.7 -0.6**
BOD pmax pmax
comp=Z,20nm,0.9s,mb5.2
AB31 Akbulak array 61.26 332 *i* P **P 14 12 03.0 -1.3**
AB31 pmax pmax
comp=Z,16nm,0.9s,mb5.2
YSS Yuzh-Sakhalins 61.75 32 *eP* **P 14 12 06.0 -1.7**
YSS pmax pmax
comp=Z,50nm,0.9s,mb5.6
KMBO Kilima Mbogo 62.09 270 LR LR 14 34 01.4
comp=Z,152nm,19.4s,MS4.2,baz=91,slow=31
KMBO Kilima Mbogo 62.09 270 *eP* pP 14 12 21.6 +1.1
KMBO Kilima Mbogo 62.09 270 *epP* pP 14 12 21.6 +1.2
AKTK Aktyubinsk 62.97 332 P **P 14 12 14.1 -1.7**
AKTO Aktyubinsk 62.97 332 P **P 14 12 14.1 -1.7**
comp=Z,4.0nm,0.8s,mb4.6,baz=138,slow=6.3,SNR=11
AKTO Aktyubinsk 62.97 332 P **P 14 12 14.1 -1.7**
AKTO pmax pmax
comp=Z,4.0nm,0.8s,mb4.6
GNI Garni 65.02 316⇑ *eP* **P 14 12 30.2 +0.7**
GNI pmax pmax
comp=Z,7.0nm,1.3s
SVE Sverdlovsk 66.36 338⇓ *eP* **P 14 12 37.5 -0.3**
SVE pmax pmax
comp=Z,27nm,1.0s,mb5.2
ARU Arti 66.87 337 *c iP* **P 14 12 40.3 -0.8**
ARU *e* 14 15 05.3
ARU *e*S S 14 21 30.4 -1.2
ARU pmax pmax
comp=Z,17nm,1.2s,mb5.0
ARU Arti 66.87 337 *eP* **P 14 12 39.8 -1.3**
comp=Z,13nm,1.0s,mb4.9
ARU *epP* pP 14 12 48.0 -2.9
YAK Yakutsk 67.82 15 *eP* **P 14 12 45.4 -1.5**
YAK *e* 14 12 51.8
YAK pmax pmax
comp=Z,36nm,0.8s,mb5.5
YAK pmax pmax
comp=E,14nm,1.2s
YAK pmax pmax
comp=N,10.0nm,1.0s
KIV Kislovodsk 68.06 319⇑ *eP* **P 14 12 49.1 +0.3**
KIV *e* 14 15 22.0
KIV *e*S S 14 21 51.1 +4.8
KIV pmax pmax
comp=Z,9.0nm,1.0s,mb4.8
KIV MLR MLR
comp=Z,100nm,18.0s,MS4.1
MAW Mawson 70.21 194 LR LR 14 36 31.1
comp=Z,156nm,21.8s,MS4.2,baz=55,slow=30
VRHR Novokhopersk 71.89 326 *eP* **P 14 13 12.4 +0.2**
VRHR *e**PP pP 14 13 19.9 -2.3
VRHR pmax pmax
comp=Z,8.0nm,0.4s,mb5.0
VRHR pmax pmax
comp=N,20nm,0.8s
VRHR pmax pmax
comp=E,10.0nm,0.6s
BR131 Keskin Array S 72.79 313 *eP* **P 14 13 17.0 -0.8**
comp=E,1.0nm,0.6s,mb3.9
PETK Petropavlovsk- 73.15 32 P **P 14 13 19.1 -0.6**
comp=E,5.0nm,0.6s,mb4.6,baz=173,slow=1.6,SNR=11
PETK LR LR 14 51 19.7
comp=E,43nm,18.1s,MS3.8,baz=95,slow=41
VSR Storozhevoye 73.34 325 *eP* **P 14 13 20.1 -0.7**
VSR *e**PP pP 14 13 30.2 -0.6
VSR pmax pmax
comp=Z,5.0nm,0.7s,mb4.5
VSR pmax pmax
comp=N,3.0nm,0.4s
VSR pmax pmax
comp=E,10.0nm,1.0s
SEY Seymchan 75.78 22⇑ *eP* **P 14 13 33.8 -1.0**
TIXI Tiksi 75.87 9 *eP* **P 14 13 37.1 +2.0**
TIXI pmax pmax
comp=Z,7.0nm,1.3s,mb4.4
OBN Obninsk 76.38 328⇑ *eP* **P 14 13 37.7 -0.6**
OBN *e* 14 16 28.7
OBN *e*S S 14 23 13.2 -8.1
OBN pmax pmax
comp=Z,19nm,1.2s,mb4.9
OBN MLR MLR
comp=Z,100nm,17.0s,MS4.2
AKASG Malin Array Be 79.02 322 P **P 14 13 52.5 -0.7**
comp=Z,0.6nm,0.3s,mb3.9,baz=104,slow=4.0,SNR=4.7
AKASG Malin Array Be 79.02 322 P **P 14 13 52.5 -0.7**
AKASG pmax pmax
comp=Z,1.0nm,0.4s
MLR Muntele Rosu 79.80 317 P **P 14 13 57.5 0.0**
comp=Z,9.9nm,0.9s,mb4.7,baz=139,slow=19,SNR=6.2
MLR Muntele Rosu 79.80 317 P **P 14 13 57.5 0.0**
MLR pmax pmax
comp=Z,10.0nm,0.9s
KOLS Kolonicke sedl 82.97 320 *eP* **P 14 14 15.1 +0.9**
STHS Stebnicka Huta 83.72 320 *eP* **P 14 14 18.7 +0.6**
STHS pmax pmax
comp=Z,3.0nm,0.8s,mb4.5
STHS Stebnicka Huta 83.72 320 *eP* **P 14 14 18.7 +0.6**
comp=Z,3.2nm,0.8s,mb4.5
MODS Modra-Piesok 86.15 319 *eP* **P 14 14 30.0 -0.4**
ARCES ARCESS Array B 86.17 340 P **P 14 14 30.5 +0.5**
comp=Z,5.3nm,0.8s,mb4.8,baz=67,slow=6.7,SNR=9.2
ARCES ARCESS Array B 86.17 340 P **P 14 14 30.5 +0.5**
ARCES pmax pmax
comp=Z,5.0nm,0.8s
ARCES ARCESS Array B 86.17 340 P **P 14 14 30.5 +0.5**
GERES GERESS Array B 88.56 319 P **P 14 14 42.5 +0.5**
comp=Z,0.7nm,0.6s,mb4.1,baz=104,slow=3.2,SNR=8.0
GERES GERESS Array B 88.56 319 P **P 14 14 42.5 +0.5**
GERES pmax pmax
comp=Z,1.0nm,0.6s
BRG Berggiesshubel 88.57 321 *eP* **P 14 14 51.4 +9.5**
comp=Z,2.7nm,1.0s,mb4.5
BRG *i* 14 14 55.9
comp=Z,3.7nm,0.7s
CLL Collm 89.19 321⇓ *iP* **P 14 14 45.5 +0.6**
CLL *e**PP pP 14 14 54.0 -1.1
CLL *e**SP sP 14 14 58.0 -0.7
CLL pmax pmax
comp=Z,5.0nm,1.2s,mb4.7
CLL Collm 89.19 321⇓ *iP* **P 14 14 45.5 +0.6**
comp=Z,5.0nm,1.2s,mb4.7
CLL *epP* pP 14 14 54.0 -1.1
CLL *es*P sP 14 14 58.0 -0.7
NOA NORSAR Array B 90.75 331 LR LR 15 01 56.8
comp=Z,79nm,18.0s,MS4.2,baz=340,slow=40
DAVOX Davos/Dischmat 91.02 317 P **P 14 14 54.0 +0.4**
comp=Z,3.2nm,0.8s,mb4.7,baz=84,slow=4.3,SNR=4.1
DAVOS Davos 91.08 317 P **P 14 14 54.0 +0.2**
KEST Kesra 91.11 306 P **P 14 14 54.9 +0.7**
comp=Z,0.5nm,0.7s,mb4.0,baz=316,slow=7.4,SNR=3.9
SNAA Sanae 92.03 198 *e*PP PP 14 18 32.9 -4.4
TOA0 Torodi Ar. Sit 97.89 283 *e*PP PP 14 19 21.0 -3.6
NVAR Mina Array Bea 129.94 39 PKP PKPdf 14 20 58.1 -1.0
comp=Z,0.6nm,0.5s,baz=270,slow=1.5,SNR=4.5
ULM Lac du Bonnet 130.13 13 PKP PKPdf 14 20 58.9 -0.3
comp=Z,1.9nm,0.6s,baz=76,slow=4.5,SNR=3.2
ULM Lac du Bonnet 130.13 13 PKP PKPdf 14 20 58.9 -0.3
PDAR Pinedale Array 131.81 29 PKP PKPdf 14 21 02.3 -0.3
comp=Z,0.3nm,0.7s,baz=116,slow=2.1,SNR=3.2
GLMI Grayling 137.12 4 *e*PP PP 14 23 58.0 +2.6
BDFB Brasilia 143.33 240 *e*PP PP 14 24 36.8 +1.4
CPUP Villa Florida 144.01 217 PKP PKPdf 14 21 27.1 +1.7
comp=Z,2.3nm,0.8s,baz=180,slow=1.0,SNR=2.5
CPUP Villa Florida 144.01 217 PKIKP PKPdf 14 21 27.2 +1.7
CPUP pmax pmax
comp=Z,2.0nm,0.8s
CFAA Coronel Fontan 144.65 198 PKP PKPdf 14 21 25.8 -0.6
comp=Z,0.5nm,0.6s,baz=133,slow=3.4,SNR=8.9
TXAR Lajitas Array 145.02 37 PKP PKPdf 14 21 27.0 -0.1
comp=Z,15nm,0.7s,baz=278,slow=1.2,SNR=181
TXAR Lajitas Array 145.02 37 PKIKP PKPdf 14 21 27.0 -0.1
TXAR pmax pmax
comp=Z,15nm,0.7s
WVT Waverly 145.31 10 *e*PKIKP PKPdf 14 21 26.4 -1.0
MIAR Mount Ida 145.36 19 *e*PKIKP PKPdf 14 21 27.0 -0.6
UALR University of 145.53 17 *e*PKPdf PKPdf 14 21 27.3 -0.5
TKL Tuckaleechee C 146.30 5 *e*PKP2 PKPab 14 21 28.8 -2.2

NEIC 13 14:02:47.2, 3671S×17708E, h5km, ML4.0 (WEL), **After WEL., Off east coast of North Island**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WIZ	**White Island**	**0.82**	**174**	P	Pg	14 03 02.5	-0.5
WIZ				S	Sg	14 03 12.3	-1.3
KUZ	**Kuaotunu**	**1.09**	**268**	P	Pg	14 03 07.3	-0.9
KUZ				S	Sg	14 03 22.7	+0.4
URZ	**Urewera**	**1.55**	**179**	P	Pn	14 03 13.5	-1.9
MKAZ	**Moumakai**	**1.58**	**255**	P	Pn	14 03 15.0	-0.9
MKAZ				S	Sn	14 03 37.5	+0.7
TOZ	**Tahuroa Road**	**1.62**	**231**	P	Pn	14 03 15.1	-1.3
PUZ	**Puketiti**	**1.65**	**146**	P	Pn	14 03 16.6	-0.2
MWZ	**Matawai**	**1.66**	**168**	P	Pn	14 03 14.6	-2.4

ISCJB ***13*** *14:07:10.7±1.0, 1520S±008×751W±0.1, h68km±11km, mb4.0/8, Error ellipse: s-maj=21.5km s-min=7.2km az=143.7*

NEIC ***13*** *14:07:10.3±0.8, 1518S×75.15W, h35km, mb3.9/1, ML4.5(LIM), Error ellipse: s-maj=20.2km s-min=8.7km az=57.0*

NEIC Felt [III] at Nazca and Palpa.

IDC ***13*** *14:07:11.5±0.6, 1523S×75.17W, h56km±5km, mb3.9/8, mb1 4.1/12, mb1mx3.9/18, mbtmp4.0/12, MS2.9/5, Ms1 2.9/5, ms1mx2.8/24, Error ellipse: s-maj=20.3km s-min=9.6km az=53.0*

ISC 13 14:07:12.4±0.9, 1519S±009×751W±01, h68km±9km, h61km±2.6km: pP-P, n27, σ0.92/28, mb4.0/8, Near coast of Peru

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NNA	**Nana**	**3.63**	**331**	P	**Pn**	**14 08 04.4**	**-1.9**
	43nm,0.3s,baz=139,slow=9.4,SNR=33						
NNA				S	**Sn**	**14 08 48.5**	**+0.6**

166nm,0.3s,baz=222,slow=19,SNR=5.2
NNA Nana 3.63 331 P **Pn** 14 08 04.4 **-1.9**
NNA S **Sn** 14 08 48.5 **+0.6**
ARE Arequipa 3.65 111 *eP* **Pn** 14 08 06.0 **-0.5**
ARE *eS* **Sn** 14 08 53.0 **+4.7**
LPAZ La Paz 6.75 100 P **Pn** 14 08 49.8 **+0.9**
1.4nm,0.3s,baz=285,slow=12,SNR=38
LPAZ S **Sn** 14 10 12.3 **+7.9**
baz=198,slow=19,SNR=2.0
ATAH Atahualpa 8.78 338 P **Pn** 14 09 17.2 **+0.6**
0.5nm,0.3s,baz=114,slow=20,SNR=2.5
ATAH S **Sn** 14 10 46.6 **-7.5**
2.0nm,0.3s,baz=144,slow=13,SNR=2.6
ATAH LR LR 14 12 55.7
comp=Z,86nm,18.6s,baz=14,slow=40
LVC Limon Verde 9.39 143 P **Pn** 14 09 26.0 **+1.0**
1.6nm,0.3s,baz=310,slow=11,SNR=15
LVC S **Sn** 14 11 05.6 **-3.5**
2.1nm,0.3s,baz=94,slow=20,SNR=2.9
LVC LR LR 14 12 35.7
comp=Z,87nm,19.4s,baz=47,slow=34
LVC Limon Verde 9.39 143 P **Pn** 14 09 26.0 **+1.0**
LVC S **Sn** 14 11 05.6 **-3.4**
LVC LR LR 14 12 35.7
SIV San Ignacio 13.49 95 P **Pn** 14 10 15.6 **-5.3**
0.2nm,0.3s,baz=266,slow=16,SNR=4.0
OTAV Otavalo 15.70 347 *ePn* **Pn** 14 10 48.5 **-1.1**
6.1nm,0.8s
OTAV *eSn* **Sn** 14 13 34.8 **-7.9**
CFAA Coronel Fontan 17.48 160 P **Pn** 14 11 11.9 **+0.2**
0.0nm,0.3s,baz=302,slow=6.4,SNR=3.6
CFAA LR LR 14 16 43.0
comp=Z,10nm,20.2s,baz=127,slow=33
CPUP Villa Florida 19.91 127 P **Pn** 14 11 40.0 **-0.9**
0.5nm,0.3s,baz=248,slow=12,SNR=2.7
CPUP LR LR 14 20 23.5
comp=Z,44nm,19.9s,baz=185,slow=40
SDV Santo Domingo 24.32 11 P **P** 14 12 25.4 **+1.5**
2.8nm,0.5s,mb3.9,baz=243,slow=8.7,SNR=5.7
PLCA Paso Flores 25.75 172 P **P** 14 12 36.8 **+0.2**
1.5nm,0.6s,mb3.6,baz=339,slow=13,SNR=8.0
PLCA pP pP 14 12 51.3 -1.4
2.8nm,0.9s,baz=345,slow=12,SNR=3.7
BDFB Brasilia 26.06 95 P **P** 14 12 39.4 **-0.4**
0.9nm,0.4s,mb3.5,baz=238,slow=24,SNR=3.0
JTS JuntasAbangare 27.15 338 LR LR 14 24 00.8
comp=Z,49nm,19.1s,baz=281,slow=37
TXAR Lajitas Array 52.18 328 P **P** 14 16 17.4 **+1.0**
1.2nm,0.7s,mb4.0,baz=152,slow=8.6,SNR=15
ULM Lac du Bonnet 67.69 346 P **P** 14 18 01.7 **-0.6**
4.5nm,0.7s,mb4.4,baz=158,slow=4.9,SNR=8.4
ULM Lac du Bonnet 67.69 346 P **P** 14 18 01.7 **-0.6**
DBIC Dimbokro 72.85 78 P **P** 14 18 33.9 **-0.8**
4.1nm,0.8s,mb4.3,baz=171,slow=1.0,SNR=3.7
TORD Torodi Ar. Bea 80.98 74 P **P** 14 19 20.5 **+0.2**
3.0nm,0.8s,mb4.2,baz=263,slow=5.5,SNR=19
TORD pP pP 14 19 38.1 -0.6
1.3nm,0.6s,baz=265,slow=4.3,SNR=3.2
YKA Yellowknife Ar 83.40 343 P **P** 14 19 31.9 **0.0**
1.6nm,0.8s,mb3.9,baz=136,slow=4.9,SNR=7.6
YKA pP pP 14 19 47.3 -3.1
0.6nm,0.6s,baz=125,slow=4.0,SNR=3.2
ASAR Alice Springs 132.12 217 PKP PKPdf 14 26 19.9 +0.6
0.2nm,0.6s,baz=139,slow=2.0,SNR=3.4
ASAR pPKP pPKPdf 14 26 36.2 -2.6
1.2nm,1.1s,baz=166,slow=2.5,SNR=4.8
WRA Warramunga Arr 134.68 220 PKP PKPdf 14 26 25.9 +1.7
0.3nm,0.6s,baz=158,slow=2.1,SNR=5.0
WRA pPKP pPKPdf 14 26 40.3 -3.3
1.1nm,0.8s,baz=134,slow=1.8,SNR=8.1
ZALV Zalesovo Beam 138.24 18 PKP PKPdf 14 26 31.2 +1.5
2.2nm,0.8s,baz=329,slow=2.6,SNR=9.2
ZALV pPKP pPKPdf 14 26 45.7 -3.5
1.2nm,0.6s,baz=284,slow=2.4,SNR=3.3
KURK Kurchatov 138.69 25 PKP PKPdf 14 26 32.2 +1.6
1.2nm,1.1s,baz=304,slow=2.8,SNR=4.6
MKAR Makanchi Array 143.26 26 PKP PKPdf 14 26 41.2 +2.2
0.2nm,0.2s,baz=294,slow=3.9,SNR=3.2
SONM Songino Array 147.43 358 PKPbc PKPbc 14 26 49.6 +1.0
2.7nm,0.7s,baz=320,slow=1.4,SNR=19
SONM pPKPbc pPKPbc 14 27 04.3 -3.6
1.0nm,0.5s,baz=313,slow=2.1,SNR=4.5

*IDC **13** 14:31:42.4±3.9, 3261N×8383E, h0km, mb3.5/3, mb1 3.7/6, mb1mx3.5/21, mbtmp3.5/6, ML3.6/3, Error ellipse: s-maj=168.3km s-min=21.8km az=69.0*
*NEIC **13** 14:31:42.2±1.4, 3225N×8276E, h35km, mb3.4/1, Error ellipse: s-maj=35.2km s-min=12.7km az=56.0*
*ISCJB **13** 14:31:44.3±0.7, 3262N±009×8367E±010, h33km, mb3.5/3, Error ellipse: s-maj=13.6km s-min=11.1km az=36.2*
ISC 13 14:31:46.6±0.7, 3263N±009×8376E±010, h35km, n13, σ0§93/13, mb3.5/3, Xizang

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
CHCP	**Chirah Chowk**	**8.86**	**280**	P		**Pn**	**14 33 52.2**	**+0.1**
CEP	**Cherat**	**10.00**	**280**	P		**Pn**	**14 34 07.1**	**-0.6**
THW	**Thamme Wali**	**10.12**	**274**	P		**Pn**	**14 34 09.8**	**+0.3**
UCH	**Uchtor**	**12.07**	**325**	*e*Pn		**Pn**	**14 34 28.9**	**-7.1**
	1.0nm,0.7s							
AML	**Almayashu**	**12.40**	**323**	*e*Pn		**Pn**	**14 34 35.3**	**-5.3**
	1.2nm,0.7s							
MK31	**Makanchi Array**	**14.19**	**356**	Pn		**Pn**	**14 35 05.7**	**+0.7**
MKAR	**Makanchi Array**	**14.19**	**356**	Pn		**Pn**	**14 35 04.6**	**-0.4**
	0.1nm,0.3s,baz=178,slow=14,SNR=2.8							
KURK	**Kurchatov**	**18.47**	**350**	P		**Pn**	**14 35 59.0**	**-0.5**
	0.1nm,0.3s,baz=174,slow=11,SNR=8.2							
KURK	**Kurchatov**	**18.47**	**350**	*e*P		**Pn**	**14 35 57.2**	**-2.4**
	2.7nm,1.0s							
CMAR	**Chiang Mai Arr**	**19.63**	**132**	P		**Pn**	**14 36 12.1**	**-1.7**
	0.1nm,0.3s,baz=311,slow=10,SNR=12							
ZALV	**Zalesovo Beam**	**21.33**	**2**	P		**P**	**14 36 30.9**	**+0.7**
	1.0nm,0.6s,mb3.4,baz=186,slow=12,SNR=5.4							
WRA	**Warramunga Arr**	**71.21**	**130**	P		**P**	**14 43 03.0**	**+0.8**
	0.9nm,1.0s,mb3.7,baz=324,slow=6.1,SNR=10							
ASAR	**Alice Springs**	**73.64**	**133**	P		**P**	**14 43 17.8**	**+1.2**
	0.4nm,0.8s,mb3.4,baz=334,slow=6.2,SNR=4.6							

NEIC 13 14:31:55.7, 3669S×17711E, h12km, ML4.2(WEL), After WEL., Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
WIZ	**White Island**	**0.84**	**176**	P		Pg	14 32 10.4	-1.5
WIZ				S		Sg	14 32 20.2	-2.7
KUZ	**Kuaotunu**	**1.12**	**267**	P		Pb	14 32 15.5	-1.5
KUZ				S		Sb	14 32 31.5	0.0
TGRZ	**Tauranga**	**1.24**	**213**	P		Pn	14 32 16.9	-1.9
URZ	**Urewera**	**1.57**	**180**	P		Pn	14 32 21.2	-2.1
TOZ	**Tahuroa Road**	**1.65**	**231**	P		Pn	14 32 23.6	-0.9
PUZ	**Puketiti**	**1.66**	**147**	P		Pn	14 32 24.3	-0.3
OTAZ	**Otara**	**1.77**	**261**	P		Pn	14 32 25.8	-0.4
WCZ	**Waipu Caves**	**2.36**	**288**	P		Pn	14 32 34.3	+0.1
HIZ	**Hauiti**	**2.55**	**224**	P		Pn	14 32 36.3	-0.6

MEX 13 14:41:51.1±0.6, 1632N×9901W, h16km±13km, MD3.5, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
PNIG	**Pinotepa**	**0.85**	**85**	*i* P		Pb	14 42 04.7	-2.8
PNIG				*i* S		Sb	14 42 14.5	-4.1
ACX	**Acapulco**	**1.03**	**302**	*i* P		Pb	14 42 06.8	-3.8
ACX				*i* S		Sb	14 42 19.3	-4.6
UTMO	**Huajuapan**	**1.89**	**37**	*e*P		Pn	14 42 19.4	-3.4
UTMO				*i* S		Sn	14 42 42.8	-3.5
PPM	**Popocatepetl**	**2.76**	**7**	*e*P		Pn	14 42 34.5	-0.1
PPM				*i* S		Sn	14 43 06.4	-1.3

MAN 13 14:54:42, 956N×12676E, h17km, mb4.5, ML3.4, MS3.3, 3D, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
BUTP	**Butuan**	**1.27**	**242**	*e*P		Pn	14 55 04.5	-0.5
BUTP				*e*S		Sb	14 55 23.0	+1.5
SCPH	**Surigao**	**1.27**	**280**	ǁ *e*P		Pn	14 55 03.8	-1.2
SCPH				*e*S		Sb	14 55 19.6	-2.0
MSLP	**Maasin**	**1.96**	**287**	*e*P		Pn	14 55 16.1	+1.6
MSLP				*e*S		Sn	14 55 40.2	+1.5
CGP	**Cagayan de Oro**	**2.32**	**242**	ǁ *e*P		Pn	14 55 20.7	+1.3
CGP				*e*S		Sn	14 55 47.8	+0.2
PLP	**Palo**	**2.37**	**312**	ǁ *e*P		Pn	14 55 20.9	+0.8
PLP				*e*S		Sn	14 55 45.9	-2.9
BUKP	**Musuan**	**2.37**	**225**	*e*P		Pn	14 55 24.2	+4.1
BUKP				*e*S		Sn	14 55 55.3	+6.5
BESP	**Borongan**	**2.41**	**327**	*e*P		Pn	14 55 21.4	+0.7
BESP				*e*S		Sn	14 55 51.6	+1.8
OCLP	**Ormoc**	**2.58**	**305**	*e*P		Pn	14 55 25.4	+2.3
MATI	**Mati**	**2.65**	**191**	*e*P		Pn	14 55 26.1	+2.2
MATI				*e*S		Sn	14 55 57.3	+1.7
LLP	**Lapu-Lapu**	**2.85**	**285**	*e*P		Pn	14 55 28.6	+1.8
LLP				*e*S		Sn	14 56 03.3	+2.5
TBP	**Tagbilaran**	**2.86**	**273**	*e*P		Pn	14 55 28.0	+1.1
TBP				*e*S		Sn	14 56 01.4	+0.4
PVCP	**Virac**	**4.75**	**328**	*e*P		Pn	14 55 54.9	+2.0

*ISCJB **13** 14:56:25.3±1.3, 1379N±006×9235W±003, h23km±9km, mb3.7/5, Error ellipse: s-maj=9.6km s-min=5.3km az=13.2*
*IDC **13** 14:56:25.3±1.2, 1399N×9223W, h0km, mb3.9/5, mb1 4.1/8, mb1mx3.8/24, mbtmp3.9/8, ML3.8/3, MS3.3/1, Ms1 3.3/1, ms1mx2.4/38, Error ellipse: s-maj=49.6km s-min=20.6km az=58.0*
*MEX **13** 14:56:26.4±0.5, 1370N×9235W, h10km±70km, MD4.1*
*NEIC **13** 14:56:26.4, 1370N×9235W, h10km, MD4.1(MEX), After MEX.*
*CASC **13** 14:56:27.3±2.5, 1398N×9229W, h53km±48km, MD4.2*
ISC 13 14:56:26.3±1.2, 1384N±005×9229W±003, h15km±7km, n33, σ1§08/38, mb3.7/5, 1C-3D, Off coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
JAT	**Jato**	**0.79**	**53**	ǁ *e*P		**Pg**	**14 56 42.9**	**+1.2**
JAT				*e*S		**Sg**	**14 56 51.6**	**-0.6**
THIG		**1.06**	**1**	*i* P		**Pb**	**14 56 45.4**	**-1.0**
THIG				*i* S		**Sb**	**14 57 00.4**	**+0.2**
FUG	**Fuego 3**	**1.53**	**67**	ǁ *e*P		**Pn**	**14 56 51.8**	**-1.3**
FG6		**1.54**	**62**	ǁ *e*P		**Pn**	**14 56 52.3**	**-1.0**
FG6				*e*S		**Sn**	**14 57 11.9**	**-1.2**
PCG	**Pacaya**	**1.72**	**71**	*e*P		**Pn**	**14 56 55.3**	**-0.4**
PCG				*e*S		**Sn**	**14 57 17.7**	**+0.2**
NBG	**Las Nubes**	**2.03**	**68**	§ *e*P		**Pn**	**14 57 00.4**	**+0.5**
CCIG	**Comitan**	**2.43**	**3**	*i* P		**Pn**	**14 57 06.0**	**+0.4**
CCIG				*i* S		**Sn**	**14 57 36.4**	**+1.4**
RBDL	**Robledal**	**2.54**	**84**	*e*P		x	14 57 06.1	
RBDL				*e*S		x	14 57 36.0	
RTR	**El Retiro**	**2.57**	**88**	*e*P		x	14 57 06.4	
RTR				*e*S		x	14 57 38.9	
SNJE	**San Jose**	**2.61**	**89**	*e*P		x	14 57 06.9	
SNJE				*e*S		x	14 57 38.4	
MTO2	**Montecristo 2**	**2.90**	**79**	*e*P		x	14 57 10.4	
SCX	**San Cristobal**	**2.90**	**353**	*e*P		**Pn**	**14 57 12.0**	**+0.1**
SCX				*i* S		**Sn**	**14 57 47.5**	**+0.9**
TGIG		**3.03**	**345**	*i* P		**Pn**	**14 57 13.3**	**-0.4**
TGIG				*i* S		**Sn**	**14 57 50.5**	**+0.6**
LFRS	**El Faro**	**3.15**	**94**	*e*P		x	14 57 14.0	
CMIG	**Matias Romero**	**4.09**	**323**	Pn		**Pn**	**14 57 28.1**	**-0.1**
	2.6nm,0.3s,baz=142,slow=10,SNR=19							
CMIG				Sn		**Sn**	**14 58 14.1**	**-1.8**
	5.8nm,0.3s,baz=88,slow=16,SNR=4.6							
CNCH	**Conchagua**	**4.37**	**97**	*e*P		x	14 57 34.5	
VHO	**Vista Hermosa**	**5.36**	**307**	*e*P		**Pn**	**14 57 45.7**	**0.0**
VHO				*i* S		**Sn**	**14 58 46.4**	**-0.8**
PNIG	**Pinotepa**	**6.18**	**295**	*e*P		**Pn**	**14 57 57.0**	**-0.1**
PNIG				*i* S		**Sn**	**14 59 04.2**	**-3.4**
UTMO	**Huajuapan**	**6.62**	**308**	*i* P		**Pn**	**14 58 03.2**	**0.0**
UTMO				*i* S		**Sn**	**14 59 16.6**	**-1.9**
TEIG	**Tepich**	**7.42**	**31**	Pn		**Pn**	**14 58 14.3**	**+0.2**
	7.3nm,0.3s,baz=225,slow=1.9,SNR=27							
TEIG	**Tepich**	**7.42**	**31**	*e*Pn		**Pn**	**14 58 14.0**	**-0.1**
	20nm,0.4s							
JTS	**JuntasAbangare**	**8.00**	**115**	Pn		**Pn**	**14 58 16.9**	**-5.1**
	47nm,1.7s							
PPM	**Popocatepetl**	**8.00**	**311**	*e*P		**Pn**	**14 58 29.1**	**+7.0**
PPM				*i* S		**Sn**	**14 59 54.3**	**+2.0**
TXAR	**Lajitas Array**	**18.68**	**327**	P		**Pn**	**15 00 44.4**	**+0.1**
	0.1nm,0.3s,baz=165,slow=8.1,SNR=11							
TXAR	**Lajitas Array**	**18.68**	**327**	P		**Pn**	**15 00 44.4**	**+0.1**
BNM	**Barren Site**	**24.04**	**330**	*e*P		**P**	**15 01 40.1**	**-0.7**
ANMO	**Albuquerque**	**24.61**	**331**	P		**P**	**15 01 47.1**	**+1.1**
	1.2nm,0.6s,mb3.6,baz=163,slow=8.8,SNR=5.0							
ELK	**Elko**	**33.47**	**328**	P		**P**	**15 03 06.5**	**+1.5**
	0.3nm,0.3s,mb3.6,baz=142,slow=18,SNR=3.1							
NVAR	**Mina Array Bea**	**33.62**	**322**	P		**P**	**15 03 08.1**	**+1.8**
	0.2nm,0.3s,mb3.5,baz=133,slow=9.2,SNR=5.5							
LVC	**Limon Verde**	**42.86**	**147**	P		**P**	**15 04 26.9**	**+2.8**
	2.7nm,0.4s,mb4.3,baz=276,slow=12,SNR=12							
LVC	**Limon Verde**	**42.86**	**147**	P		**P**	**15 04 26.9**	**+2.8**
YKA	**Yellowknife Ar**	**51.12**	**347**	P		**P**	**15 05 26.8**	**-1.4**
	0.5nm,0.6s,mb3.6,baz=144,slow=7.3,SNR=4.5							
CMAR	**Chiang Mai Arr**	**146.05**	**341**	PKPbc		PKPbc	15 16 06.0	-0.5
	1.6nm,0.7s,baz=336,slow=3.4,SNR=17							

*ISCJB **13** 15:03:12.3±3.4, 230S±03×1797E±02, h444km±41km, mb3.7/9, Error ellipse: s-maj=45.6km s-min=15.4km az=155.5*
*NEIC **13** 15:03:14.7±2.3, 2291S×17971E, h459km±29km, mb4.2/6, Error ellipse: s-maj=37.5km s-min=13.3km az=158.0*
*IDC **13** 15:03:20.4±3.0, 2296S×17959E, h523km±25km, mb3.2/6, mb1 3.4/6, mb1mx3.2/16, mbtmp3.2/6, Error ellipse: s-maj=98.2km s-min=19.7km az=159.0*
ISC 13 15:03:14.5±2.6, 229S±03×1797E±02, h455km±33km, n15, σ0§82/16, mb3.8/9, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
AFI	**Afiamalu**	**12.07**	**44**	*e*P		**P**	**15 05 54.1**	**-0.1**
	24nm,1.1s							
AFI				*e*S		**S**	**15 08 12.2**	**+6.2**
CTA	**Charters Tower**	**31.19**	**269**	P		**P**	**15 08 56.9**	**+1.9**
	5.7nm,0.4s,mb4.4,baz=94,slow=11,SNR=13							
CTA	**Charters Tower**	**31.19**	**269**	P		**P**	**15 08 56.9**	**+1.9**
CTAO	**Charters Tower**	**31.19**	**269**	*e*P		**P**	**15 08 56.7**	**+1.7**
	5.4nm,0.4s,mb4.3							
CTAO				*e*			15 10 07.1	
PMG	**Port Moresby**	**33.89**	**288**	*e*P		**P**	**15 09 16.6**	**-1.7**
	17nm,1.3s,mb4.3							
STKA	**Stephens Creek**	**34.83**	**247**	P		**P**	**15 09 26.4**	**+0.5**
	1.7nm,0.7s,mb3.6,baz=66,slow=12,SNR=3.6							
STKA	**Stephens Creek**	**34.83**	**247**	*e*P		**P**	**15 09 26.0**	**+0.2**
	1.3nm,0.6s,mb3.5							
ASAR	**Alice Springs**	**41.91**	**260**	P		**P**	**15 10 24.0**	**+0.1**
	1.0nm,0.5s,mb3.5,baz=96,slow=7.4,SNR=33							
ASAR				ScP		ScP	15 15 07.7	-8.2
	0.4nm,0.6s,baz=103,slow=4.6,SNR=5.6							
WB2	**Warramunga Arr**	**42.17**	**265**	*e*P		**P**	**15 10 25.9**	**-0.1**
WRAB	**Tennant Creek**	**42.18**	**265**	*e*P		**P**	**15 10 25.7**	**-0.4**
	1.8nm,0.3s,mb4.0							
WRA	**Warramunga Arr**	**42.18**	**265**	P		**P**	**15 10 26.2**	**+0.1**
	1.6nm,0.3s,mb3.9,baz=96,slow=8.4,SNR=108							
WRA				ScP		ScP	15 15 10.4	-6.7
	0.4nm,0.7s,baz=92,slow=3.4,SNR=3.2							
KHU	**Kahuku**	**48.34**	**32**	*e*P		**P**	**15 11 19.9**	**+6.4**
CASY	**Casey**	**60.88**	**206**	*e*P		**P**	**15 12 40.7**	**-0.6**
	5.7nm,0.9s,mb4.0							
NVAR	**Mina Array Bea**	**84.25**	**44**	P		**P**	**15 14 58.0**	**+0.9**
	0.3nm,0.7s,mb2.9,baz=238,slow=5.2,SNR=2.8							
TXAR	**Lajitas Array**	**90.16**	**58**	P		**P**	**15 15 25.0**	**-0.4**
	0.5nm,0.7s,mb3.4,baz=212,slow=5.5,SNR=6.5							

*BJI **13** 15:15:16.3, 6180N×15170W, h92km, mB4.9, mb4.7*
*ISCJB **13** 15:15:17.7±0.3, 6184N±002×15178W±006, h110km±2km, mb4.2/26, Error ellipse: s-maj=5.0km s-min=3.7km az=155.7*
*MOS **13** 15:15:17.4±1.4, 6189N×15189W, h103km, mb4.4/4, Error ellipse: s-maj=16.3km s-min=8.8km az=103.0*
*IDC **13** 15:15:19.9±0.9, 6207N×15188W, h101km±8km, mb3.7/15, mb1 3.9/17, mb1mx3.9/22, mbtmp3.8/17, MS2.7/1, Ms1 2.7/1, ms1mx2.4/33, Error ellipse: s-maj=24.1km s-min=11.7km az=23.0*
*NEIC **13** 15:15:20.4, 6183N×15172W, h93km, mb5.2/3, After AEIC.*
NEIC Felt at Anchorage, Chugiak, Palmer, Talkeetna and Willow.
ISC 13 15:15:19.0±0.3, 6184N±002×15177W±006, h103km±2km, h102km±2.3km; pP-P, n88, σ1§01/104, mb4.2/26, 3C-1D, Southern Alaska

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
SKT	**Skwentna**	**0.18**	**38**	P		**Pn**	**15 15 33.7**	**+0.3**
SKT				S		**Sn**	**15 15 44.3**	**+0.1**
FIB	**Fire Island**	**1.02**	**131**	P		**Pn**	**15 15 40.5**	**+0.8**
FIB				S		**Sn**	**15 15 56.8**	**+1.5**
PPLA	**Purkeypile**	**1.08**	**350**	P		**Pn**	**15 15 41.0**	**+0.5**
PPLA				S		**Sn**	**15 15 56.8**	**+0.1**
RC01	**Rabbit Creek A**	**1.23**	**127**	P		**Pn**	**15 15 41.8**	**-0.3**
RC01				S		**Sn**	**15 16 00.1**	**+0.6**
PMR	**Palmer**	**1.28**	**100**	*e*P		**Pn**	**15 15 42.3**	**-0.4**
PMR				P			15 15 42.5	
SLKM	**Skilak Lake**	**1.53**	**150**	P		**Pn**	**15 15 45.9**	**+0.3**
SML	**Sawmill**	**1.63**	**89**	P		**Pn**	**15 15 46.9**	**0.0**
TRF	**Thorofare Moun**	**1.76**	**22**	P		**Pn**	**15 15 49.3**	**+0.8**
TRF				S		**Sn**	**15 16 12.3**	**+1.3**
KTH	**Kantishna Hill**	**1.77**	**12**	P		**Pn**	**15 15 49.2**	**+0.6**
KTH				S		**Sn**	**15 16 11.5**	**+0.3**
SVW2	**Sparrevohn**	**1.97**	**250**	*e*P		**Pn**	**15 15 50.6**	**-0.6**
SVW2				P			15 15 51.0	
CHUM	**Lake Minchumin**	**2.07**	**353**	ǁ *i*Pn		**Pn**	**15 15 52.5**	**+0.1**
CHUM				*e*Sn		**Sn**	**15 16 16.1**	**-2.0**
SEW	**Seward**	**2.07**	**146**	P		**Pn**	**15 15 52.3**	**-0.2**
SEW				S		**Sn**	**15 16 16.1**	**-2.1**
TT01	**Tatalina**	**2.25**	**300**	P		**Pn**	**15 15 54.4**	**-0.4**
BPAW	**Bear Paw Mtn.**	**2.30**	**9**	P		**Pn**	**15 15 55.4**	**0.0**
BPAW				S		**Sn**	**15 16 22.3**	**-1.1**
MCK	**McKinley**	**2.31**	**33**	P		**Pn**	**15 15 56.1**	**+0.6**
AUL	**Augustine Lava**	**2.59**	**199**	P		**Pn**	**15 16 00.1**	**+0.8**
PAX	**Paxson**	**3.15**	**66**	P		**Pn**	**15 16 07.4**	**+0.8**
EYAK	**Cordova Ski Ar**	**3.19**	**111**	P		**Pn**	**15 16 06.1**	**-1.1**
COLA	**College**	**3.52**	**286**	*i* P		**Pn**	**15 16 11.8**	**+0.2**
COLA	**College**	**3.52**	**28**	P		**Pn**	**15 16 11.4**	**-0.2**
MID	**Middleton Isla**	**3.60**	**130**	*e*P		**Pn**	**15 16 12.5**	**-0.2**
ILB	**Eielson Array**	**3.68**	**35**	P		**Pn**	**15 16 13.5**	**-0.2**
IL1	**Eielson Array**	**3.68**	**35**	P		**Pn**	**15 16 13.4**	**-0.3**
GCSA	**Galena City Sc**	**3.72**	**324**	P		**Pn**	**15 16 14.5**	**+0.2**
MENT	**Mentasta**	**3.91**	**70**	*e*P		**Pn**	**15 16 17.0**	**+0.2**
DOT	**Dot Lake**	**3.98**	**59**	P		**Pn**	**15 16 18.2**	**+0.4**
KDAK	**Kodiak Island**	**4.09**	**186**	P		**Pn**	**15 16 17.3**	**-1.9**
	3.2nm,0.3s,baz=33,slow=4.2,SNR=44							
KDAK				S		**Sn**	**15 16 58.7**	**-7.3**
	18nm,0.3s,baz=29,slow=12,SNR=7.1							
KDAK	**Kodiak Island**	**4.09**	**186**	*e*Pn		**Pn**	**15 16 20.2**	**+1.0**
IM3	**Indian Mountai**	**4.26**	**349**	P		**Pn**	**15 16 21.7**	**+0.2**
IMA2	**Indian Mountai**	**4.33**	**350**	*e*P		**Pn**	**15 16 22.6**	**+0.1**
OHAK	**Old Harbor**	**4.69**	**190**	*e*Pn		**Pn**	**15 16 26.0**	**-1.4**
COLD	**Coldfoot**	**5.46**	**6**	*e*Pn		**Pn**	**15 16 38.0**	**+0.3**
	83nm,0.9s							
COLD				*e*Sn		**Sn**	**15 17 38.7**	**-0.4**
DAWY	**Dawson**	**6.07**	**63**	*e*Pn		**Pn**	**15 16 46.4**	**+0.3**
PNL	**Peninsula**	**6.44**	**104**	*e*Pn		**Pn**	**15 16 51.3**	**+0.2**
PNL				*e*Sn		**Sn**	**15 18 00.4**	**-2.6**
CHGN	**Chignik**	**6.52**	**215**	*e*P		**Pn**	**15 16 52.2**	**0.0**
HYT	**Haines Junctio**	**6.94**	**92**	*e*Pn		**Pn**	**15 16 57.8**	**0.0**
HYT				*e*Sn		**Sn**	**15 18 14.0**	**-1.1**
SDPT	**Sand Point**	**7.93**	**219**	*e*P		**Pn**	**15 17 11.1**	**-0.2**
SKAG	**Skagway**	**8.42**	**99**	*e*P		**Pn**	**15 17 17.9**	**0.0**
SIT	**Sitka**	**9.63**	**112**	*e*P		**Pn**	**15 17 33.9**	**-0.5**
SIT				pmax		pmax		
	comp=Z,25nm,0.5s							
SIT	**Sitka**	**9.63**	**112**	*e*P		**Pn**	**15 17 33.9**	**-0.5**
	comp=Z,25nm,0.5s							
DLBC	**Dease Lake**	**11.34**	**98**	P		**Pn**	**15 17 58.1**	**+0.7**
	comp=Z,0.5nm,0.3s,baz=348,slow=11,SNR=7.0							
DLBC				S		**Sn**	**15 19 57.9**	**-4.1**
	comp=Z,0.4nm,0.3s,baz=76,slow=21,SNR=2.6							
DLBC				LR		LR	15 22 13.3	
	comp=Z,36nm,20.2s,baz=46,slow=36							
DLBC	**Dease Lake**	**11.34**	**98**	*e*Pn		**Pn**	**15 17 57.5**	**0.0**
CRAG	**Craig**	**11.59**	**115**	*e*P		**Pn**	**15 18 01.1**	**+0.3**
	comp=Z,77nm,1.4s							
YKW3	**Yellowknife Ar**	**17.20**	**71**	*e*Pn		**Pn**	**15 19 11.6**	**-0.7**
YKA	**Yellowknife Ar**	**17.22**	**71**	P		**Pn**	**15 19 13.2**	**+0.6**
	comp=Z,1.1nm,0.3s,baz=282,slow=12,SNR=38							
YKA				ScP		ScP	15 27 15.4	+0.7
	comp=Z,0.1nm,0.3s,baz=262,slow=2.1,SNR=4.4							
YKA	**Yellowknife Ar**	**17.22**	**71**	P		**Pn**	**15 19 13.2**	**+0.6**
YKA				ScP		ScP	15 27 15.4	+0.7
SMY	**Shemya**	**20.34**	**259**	*e*P		**P**	**15 19 47.1**	**+0.4**
SMY				pmax		pmax		
	comp=Z,258nm,1.3s							
SMY	**Shemya**	**20.34**	**259**	*e*P		**P**	**15 19 47.1**	**+0.4**
	comp=Z,258nm,1.3s							
EDM	**Edmonton**	**22.05**	**95**	*e*P		**P**	**15 20 03.3**	**-1.6**
PETK	**Petropavlovsk-**	**27.86**	**275**	P		**P**	**15 20 57.9**	**-0.5**
	comp=Z,0.8nm,0.4s,mb3.6,baz=74,slow=11,SNR=5.5						

MKAR	**Makanchi Array**	**63.37**	**322**	P		**P**	**15 25 36.2**	**-0.5**
	comp=Z,1.5nm,0.5s,mb4.2,baz=46,slow=7.3,SNR=13							
MKAR	**Makanchi Array**	**63.37**	**322**	P		**P**	**15 25 36.2**	**-0.5**
GTA	**Gaotai**	**63.87**	**305**	*e*P		**P**	**15 25 40.8**	**+0.7**
GTA				AP		pP	15 26 05.5	-0.1
GTA				XP		sP	15 26 15.3	-1.6
GTA				AMB	AMB			
	comp=Z,8.0nm,0.8s,mb4.6							
WMQ	**Urumqi**	**64.35**	**316**	P		**P**	**15 25 48.0**	**+4.8**
XAN	**Xi'an**	**64.74**	**295**	P		**P**	**15 25 45.3**	**-0.6**
XAN				AMB	AMB			
	comp=Z,1.0nm,0.7s,mb3.8							
LZH	**Lanzhou**	**65.12**	**300**	*e*P		**P**	**15 25 49.0**	**+0.6**
LZH				XP		sP	15 26 28.1	+3.0
LZH				AMB	AMB			
	comp=Z,13nm,1.0s,mb4.7							
LZH				AMB	AMB			
	comp=Z,54nm,4.2s							
LZH	**Lanzhou**	**65.12**	**300**	*e*P		**P**	**15 25 49.0**	**+0.6**
	comp=Z,13nm,1.0s,mb4.7							
LZH				pP		pP	15 26 02.5	-11
LZH				sP		sP	15 26 28.1	+3.0
AKASG	**Malin Array Be**	**67.81**	**359**	P		**P**	**15 26 04.6**	**-0.7**
	comp=Z,1.2nm,0.4s,mb4.1,baz=358,slow=5.9,SNR=8.6							
AKASG	**Malin Array Be**	**67.81**	**359**	P		**P**	**15 26 04.6**	**-0.7**
GERES	**GERESS Array B**	**69.06**	**10**	P		**P**	**15 26 13.3**	**+0.3**
	comp=Z,0.5nm,0.6s,mb3.5,baz=318,slow=3.8,SNR=3.7							
CD2	**Chengdu**	**69.63**	**297**	*e*P		**P**	**15 26 15.6**	**-1.3**
CD2				AP		pP	15 26 43.3	+0.6
CD2				XP		sP	15 26 55.6	+1.7
CD2				AMB	AMB			
	comp=Z,10.0nm,0.9s,mb4.7							
CD2				AMB	AMB			
	comp=Z,30nm,5.2s							
GYA	**Guiyang**	**72.25**	**293**	P		**P**	**15 26 35.8**	**+3.0**
GYA				AMB	AMB			
	comp=Z,10.0nm,0.8s,mb4.7							
KIV	**Kislovodsk**	**73.92**	**349**⇑	*e*P		**P**	**15 26 42.1**	**-0.2**
KIV				*e*			15 29 23.5	
KIV				*e*S		S	15 36 08.3	+2.8
KIV				pmax	pmax			
	comp=Z,7.0nm,1.3s,mb4.2							
CMAR	**Chiang Mai Arr**	**82.63**	**295**	P		**P**	**15 27 30.1**	**-0.5**
	comp=Z,1.3nm,0.9s,mb3.8,baz=5.1,slow=5.7,SNR=9.7							

IDC ***13*** *15:39:19.3±3.8, 322S×10104E, h0km, mb3.6/6, mb1 3.7/6, mb1mx3.5/19, mbtmp3.6/6, Error ellipse: s-maj=173.6km s-min=20.6km az=53.0*

ISCJB ***13*** *15:39:22.1±3.1, 32S±06×101.1E±08, h33km, mb3.7/7, Error ellipse: s-maj=136.4km s-min=14.7km az=143.5*

NEIC ***13*** *15:39:23.9±1.8, 327S×10100E, h35km, mb3.7/1, Error ellipse: s-maj=81.6km s-min=10.5km az=53.0*

ISC 13 15:39:24.6±3.1, 32S±06×1011E±08, h35km, n9, σ0§30/8, mb3.7/7, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**36.43**	**120**	P	**P**	**15 46 26.2**	**-0.1**
	0.4nm,0.4s,mb3.7,baz=304,slow=8.9,SNR=11						
WRAB	**Tennant Creek**	**36.43**	**120**	*e*P	**P**	**15 46 26.4**	**+0.1**
	0.4nm,0.4s,mb3.7						
WB2	**Warramunga Arr**	**36.44**	**120**	*e*P	**P**	**15 46 25.8**	**-0.6**
ASAR	**Alice Springs**	**37.65**	**126**	P	**P**	**15 46 37.2**	**+0.6**
	0.3nm,0.5s,mb3.2,baz=302,slow=8.4,SNR=6.0						
SONM	**Songino Array**	**51.01**	**5**	P	**P**	**15 48 23.2**	**+0.2**
	0.2nm,0.5s,mb3.3,baz=184,slow=10,SNR=3.4						
MKAR	**Makanchi Array**	**52.46**	**344**	P	**P**	**15 48 33.9**	**0.0**
	0.4nm,0.5s,mb3.6,baz=167,slow=8.6,SNR=3.8						
KURK	**Kurchatov**	**57.05**	**343**	P	**P**	**15 49 07.0**	**-0.1**
	0.6nm,0.2s,mb4.2,baz=161,slow=7.7,SNR=1.6						
ZALV	**Zalesovo Beam**	**58.53**	**349**	P	**P**	**15 49 17.2**	**-0.1**
	0.7nm,0.4s,mb4.1,baz=171,slow=3.8,SNR=4.9						
TXAR	**Lajitas Array**	**144.91**	**40**	PKPbc	PKPdf	15 58 57.9	-0.9
	0.2nm,0.6s,baz=313,slow=1.8,SNR=3.0						

IDC ***13*** *15:51:59.4±2.8, 2222N×12239E, h0km, mb3.6/6, mb1 3.6/6, mb1mx3.5/21, mbtmp3.6/6, Error ellipse: s-maj=241.2km s-min=18.9km az=63.0*

NEIC ***13*** *15:52:06.2±0.8, 2161N×12105E, h35km, MG3.5(JMA), Error ellipse: s-maj=28.5km s-min=13.4km az=81.0*

ISCJB ***13*** *15:52:09.4±0.5, 2192N±003×12138E±002, h76km±3km, mb3.5/6, Error ellipse: s-maj=4.7km s-min=3.8km az=162.9*

TAP ***13*** *15:52:11.0, 2198N×12130E, h63km±1km, ML3.8, D*

JMA ***13*** *15:52:11.3±0.3, 2185N×12164E, h93km, M3.5*

ISC 13 15:52:10.4±0.5, 2192N±003×12135E±002, h71km±4km, n65, σ0§91/112, mb3.5/6, 3C-1D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LAY	**Lan-yu**	**0.22**	**58**⇓	*i*P	**Pn**	**15 52 21.2**	**0.0**
	baz=75						
LAY				S	**Sn**	**15 52 30.1**	**+1.0**
	baz=75						
TWK1	**Hengchun**	**0.51**	**273**	P	**Pn**	**15 52 23.2**	**-0.1**
	baz=265						
TWK1				*e*S	**Sn**	**15 52 32.6**	**-0.2**
	baz=265						
HEN	**Hengchun**	**0.57**	**279**	*i* P	**Pn**	**15 52 24.1**	**+0.1**
	baz=272						
HEN				S	**Sn**	**15 52 34.0**	**0.0**
	baz=272						
TAW	**Tawu**	**0.60**	**316**	P	**Pn**	**15 52 23.7**	**-0.6**
	baz=314						
TAW				S	**Sn**	**15 52 33.4**	**-1.3**
	baz=314						
EAST	**Anshuo**	**0.65**	**315**⇑	*i*P	**Pn**	**15 52 24.4**	**-0.5**
	baz=313						
EAST				S	**Sn**	**15 52 34.4**	**-1.1**
	baz=313						
ECL	**Taimali**	**0.77**	**332**	*i* P	**Pn**	**15 52 25.3**	**-0.9**
	baz=332						
ECL				S	**Sn**	**15 52 36.3**	**-1.5**
	baz=332						
SCZT	**Fangliau**	**0.81**	**304**⇑	*i*P	**Pn**	**15 52 26.5**	**-0.2**
	baz=301						
SCZT				*e*S	**Sn**	**15 52 38.1**	**-0.6**
	baz=301						
TTN	**Taitung**	**0.85**	**347**	*e*P	**Pn**	**15 52 27.3**	**+0.1**
	baz=349						
TTN				*e*S	**Sn**	**15 52 41.6**	**+2.1**
	baz=349						
TWG	**Pinlang**	**0.93**	**344**	*i* P	**Pn**	**15 52 27.4**	**-0.7**
	baz=345						
TWG				*e*S	**Sn**	**15 52 39.8**	**-1.5**
	baz=345						
TWP	**Hsiaoliuchiu**	**1.01**	**295**	*e*P	**Pn**	**15 52 29.8**	**+0.7**
	baz=292						
TWP				*e*S	**Sn**	**15 52 45.8**	**+2.8**
	baz=292						
SSD	**Sandimen**	**1.06**	**321**⇑	*i*P	**Pn**	**15 52 29.5**	**-0.2**
	baz=320						
SSD				*e*S	**Sn**	**15 52 43.5**	**-0.5**
	baz=320						
KAU	**Kaohsiung**	**1.16**	**304**	*e*P	**Pn**	**15 52 31.5**	**+0.5**
	baz=302						
CHKT	**Chengkung**	**1.17**	**1**	P	**Pn**	**15 52 31.2**	**0.0**
	baz=2.0						
CHKT				*e*S	**Sn**	**15 52 47.0**	**+0.4**
	baz=2.0						
TWM1	**Shoushan**	**1.24**	**317**	P	**Pn**	**15 52 33.0**	**+1.0**
	baz=315						
TWM1				*e*S	**Sn**	**15 52 47.9**	**-0.3**
	baz=315						
ELDTW	**Lidau**	**1.30**	**346**	P	**Pn**	**15 52 32.5**	**-0.3**
	baz=347						
STYT	**Tauyuan**	**1.35**	**336**	*i* P	**Pn**	**15 52 33.9**	**+0.4**
	baz=336						
STYT				*e*S	**Sn**	**15 52 51.2**	**+0.4**
	baz=336						
SGST	**Jiashian**	**1.36**	**329**	P	**Pn**	**15 52 33.6**	**+0.1**
	baz=328						
SGST				*e*S	**Sn**	**15 52 50.9**	**+0.1**
	baz=328						
TWF1	**Yuli**	**1.43**	**358**	*e*P	**Pn**	**15 52 35.3**	**+0.8**
	baz=359						
CHN3	**Shinhua**	**1.47**	**322**	*e*P	**Pn**	**15 52 35.7**	**+0.7**
	baz=321						
CHN3				*e*S	**Sn**	**15 52 53.4**	**-0.1**
	baz=321						
CHN1	**Nanshi**	**1.47**	**329**	*i* P	**Pn**	**15 52 35.1**	**+0.1**
	baz=329						
CHN1				*e*S	**Sn**	**15 52 53.2**	**-0.3**
	baz=329						
WTP	**Ta-pu**	**1.48**	**333**	P	**Pn**	**15 52 35.3**	**+0.1**
	baz=333						
WTP				*e*S	**Sn**	**15 52 54.1**	**+0.2**
	baz=333						
TAI1	**Yung-k'ang**	**1.52**	**317**	*e*P	**Pn**	**15 52 36.1**	**+0.4**
	baz=316						
TAI1				*e*S	**Sn**	**15 52 54.4**	**-0.4**
	baz=316						
TWK	**Hsinying**	**1.56**	**329**	P	**Pn**	**15 52 36.2**	**0.0**
	baz=329						
TWK				*e*S	**Sn**	**15 52 55.4**	**-0.2**
	baz=329						
EHY	**Hungye**	**1.58**	**359**	*e*P	**Pn**	**15 52 36.9**	**+0.5**
EHY				S	**Sn**	**15 52 56.0**	**-0.1**
YUS	**Yu-Shan**	**1.60**	**347**	*e*P	**Pn**	**15 52 38.1**	**+1.3**
	baz=347						
YUS				*e*S	**Sn**	**15 52 58.5**	**+1.7**
	baz=347						
SCLT	**Jiali**	**1.64**	**320**	P	**Pn**	**15 52 37.5**	**+0.2**
	baz=319						
SCLT				*e*S	**Sn**	**15 52 57.4**	**-0.3**
	baz=319						
ALS	**Alishan**	**1.66**	**342**	P	**Pn**	**15 52 38.3**	**+0.7**
	baz=343						
ALS				*e*S	**Sn**	**15 52 59.3**	**+1.3**
	baz=343						
CHN8	**Yiju**	**1.77**	**324**	*e*P	**Pn**	**15 52 38.7**	**-0.2**
	baz=323						
CHN8				S	**Sn**	**15 53 00.1**	**-0.5**
	baz=323						
CHN5	**Tsauling**	**1.78**	**340**	P	**Pn**	**15 52 39.2**	**0.0**
	baz=340						
CHN5				*e*S	**Sn**	**15 53 00.8**	**-0.1**
	baz=340						
CHN2	**Minshiung**	**1.80**	**333**	*e*P	**Pn**	**15 52 38.8**	**-0.6**
	baz=333						
CHN2				*e*S	**Sn**	**15 53 00.9**	**-0.3**
	baz=333						
ESL	**Shilin**	**1.89**	**2**	*e*P	**Pn**	**15 52 41.7**	**+1.1**
	baz=3.0						
ESL				*e*S	**Sn**	**15 53 01.9**	**-1.5**
	baz=3.0						
WGK	**Gukeng**	**1.90**	**338**	*e*P	**Pn**	**15 52 41.5**	**+0.7**
	baz=338						
WGK				*e*S	**Sn**	**15 53 04.4**	**+0.5**
	baz=338						
SMLT	**Sun Moon Lake**	**2.00**	**348**	P	**Pn**	**15 52 42.4**	**+0.4**
	baz=348						
SMLT				S	**Sn**	**15 53 06.7**	**+0.6**
	baz=348						
WSF	**Szhu**	**2.00**	**329**	P	**Pn**	**15 52 41.5**	**-0.6**
	baz=328						
WSF				S	**Sn**	**15 53 05.2**	**-1.0**
	baz=328						
WNT	**Mingjian**	**2.04**	**343**	*e*S	**Sn**	**15 53 06.9**	**-0.3**
	baz=343						
TWD	**Chiawan**	**2.16**	**6**	*e*P	**Pn**	**15 52 45.9**	**+1.6**
	baz=7.0						
TWD				*e*S	**Sn**	**15 53 10.7**	**+0.6**
	baz=7.0						
WTCT	**Ta-ch'eng**	**2.17**	**333**	*e*S	**Sn**	**15 53 09.8**	**-0.5**
	baz=333						
WHF	**Hehuan Shan**	**2.22**	**358**	*e*P	**Pn**	**15 52 46.5**	**+1.5**
	baz=359						
WHF				*e*S	**Sn**	**15 53 11.1**	**-0.3**
	baz=359						
NACB	**Ninganchiao**	**2.25**	**6**	*e*Pn	**Pn**	**15 52 45.2**	**-0.3**
NACB				*e*Sn	**Sn**	**15 53 10.6**	**-1.8**
TCU	**Taichung**	**2.30**	**345**	*e*P	**Pn**	**15 52 46.9**	**+0.7**
	baz=345						
TCU				*e*S	**Sn**	**15 53 13.0**	**-0.5**
	baz=345						
PNG	**Penghu**	**2.33**	**315**	*e*P	**Pn**	**15 52 45.3**	**-1.2**
	baz=314						
PNG				*e*S	**Sn**	**15 53 11.5**	**-2.7**
	baz=314						
NNS	**Nan Shan**	**2.51**	**0**	*e*P	**Pn**	**15 52 51.4**	**+2.4**
	baz=1.0						
NNS				*e*S	**Sn**	**15 53 19.9**	**+1.4**
	baz=1.0						
ENA	**Nanau**	**2.52**	**8**	*e*P	**Pn**	**15 52 49.3**	**+0.2**
	baz=9.0						
ENA				*e*S	**Sn**	**15 53 19.3**	**+0.5**
	baz=9.0						
NSY	**Sanyi**	**2.54**	**348**	*e*S	**Sn**	**15 53 19.2**	**-0.2**
	baz=348						
TWC	**Suao**	**2.72**	**10**	*e*P	**Pn**	**15 52 53.5**	**+1.7**
	baz=10.0						
TWC				S	**Sn**	**15 53 24.1**	**+0.5**
	baz=10.0						
NSTT	**Nanjuang**	**2.72**	**353**	*e*P	**Pn**	**15 52 52.6**	**+0.8**
	baz=353						
NSTT				*e*S	**Sn**	**15 53 22.7**	**-0.9**
	baz=353						
YHNB	**Yeheng**	**2.74**	**1**	*e*Pn	**Pn**	**15 52 52.8**	**+0.7**
YHNB				*e*Sn	**Sn**	**15 53 23.1**	**-0.9**
TWE	**Neicheng**	**2.80**	**6**	*e*P	**Pn**	**15 52 54.5**	**+1.6**
	baz=6.0						
TWE				*e*S	**Sn**	**15 53 25.1**	**-0.6**
	baz=6.0						
YOJ	**Yonaguni jima**	**2.96**	**31**	S	**Sn**	**15 53 30.6**	**+1.2**
HATJ	**Hateruma jima**	**3.10**	**46**	P	**Pn**	**15 52 57.3**	**+0.2**
HATJ				S	**Sn**	**15 53 32.0**	**-1.1**
IRIF	**Iriomote-Funau**	**3.25**	**42**	P	**Pn**	**15 52 59.5**	**+0.4**
IRIF				S	**Sn**	**15 53 36.2**	**-0.4**
JKRS	**Kuro-shima**	**3.37**	**46**	P	**Pn**	**15 53 01.1**	**+0.5**
JKRS				S	**Sn**	**15 53 38.8**	**-0.6**
JIJ	**Ishigaki jima**	**3.54**	**46**	P	**Pn**	**15 53 02.8**	**-0.2**
JIJ				S	**Sn**	**15 53 42.0**	**-1.6**
JTJ	**Tarama**	**4.10**	**48**	P	**Pn**	**15 53 10.9**	**+0.2**
JTJ				S	**Sn**	**15 53 56.1**	**-1.3**
JMJ	**Miyako jima 2**	**4.63**	**51**	*e*S	**Sn**	**15 54 09.3**	**-1.0**
JOGS	**Gusukube**	**4.68**	**52**	*e*S	**Sn**	**15 54 11.1**	**-0.4**
MK31	**Makanchi Array**	**40.09**	**318**	*e*P	**P**	**15 59 36.4**	**-2.5**
MKAR	**Makanchi Array**	**40.09**	**318**	P	**P**	**15 59 40.2**	**+1.3**
	0.3nm,0.4s,mb3.5,baz=108,slow=7.8,SNR=5.5						
MKAR	**Makanchi Array**	**40.09**	**318**	P	**P**	**15 59 40.2**	**+1.3**
ZALV	**Zalesovo Beam**	**42.23**	**328**	P	**P**	**15 59 56.1**	**-0.3**
	1.5nm,0.5s,mb4.0,baz=122,slow=8.2,SNR=8.0						
WRA	**Warramunga Arr**	**43.50**	**162**	P	**P**	**16 00 04.2**	**-2.8**
	0.2nm,0.7s,mb3.0,baz=344,slow=9.0,SNR=3.8						
KURK	**Kurchatov**	**43.94**	**322**	P	**P**	**16 00 10.8**	**+0.6**
	1.0nm,0.6s,mb3.7,baz=113,slow=8.3,SNR=7.3						
KURK	**Kurchatov**	**43.94**	**322**	P	**P**	**16 00 10.8**	**+0.6**
ASAR	**Alice Springs**	**46.93**	**164**	P	**P**	**16 00 32.6**	**-1.5**
	0.1nm,0.4s,mb2.9,baz=345,slow=7.3,SNR=3.8						
BVAR	**Borovoye Array**	**49.53**	**322**	P	**P**	**16 00 54.3**	**+0.5**
	0.5nm,0.4s,mb3.8,baz=114,slow=8.6,SNR=5.1						

ISCJB ***13*** *16:52:57.3±1.0, 39S±01×1014E±02, h26km, mb4.0/10, MS2.9/3, Error ellipse: s-maj=28.4km s-min=11.2km az=143.4*

IDC ***13*** *16:52:59.3±1.9, 400S×10139E, h24km±4km, mb3.9/8, mb1 4.0/8, mb1mx3.8/16, mbtmp3.9/8, MS3.0/3, Ms1 3.1/3, ms1mx2.9/22, Error ellipse: s-maj=77.7km s-min=12.8km az=55.0*

NEIC ***13*** *16:53:01.0±0.9, 388S×10155E, h35km, mb4.0/2, Error ellipse: s-maj=25.9km s-min=10.4km az=53.0*

ISC 13 16:52:59.9±1.0, 39S±01×1015E±02, h27km, h27km±.9km:pP-P, n19, σ0§72/16, mb4.0/10, MS2.9/3, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KKM	**Kota Kinabalu**	**17.70**	**56**	Pn	**Pn**	**16 57 04.4**	**-0.2**
CMAR	**Chiang Mai Arr**	**22.35**	**354**	P	**P**	**16 57 55.2**	**-0.6**
	3.2nm,0.8s,mb3.8,baz=184,slow=8.5,SNR=23						
CMAR				LR	LR	17 08 23.9	
	comp=Z,48nm,19.6s,MS2.9,baz=140,slow=41						
CHTO	**Chiang Mai**	**22.70**	**354**	*e*P	**P**	**16 57 58.8**	**-0.8**
	1.4nm,0.3s,mb3.9						
FITZ	**Fitzroy Crossi**	**27.53**	**123**	P	**P**	**16 58 44.0**	**-0.5**
	1.7nm,1.1s,mb3.6,baz=305,slow=12,SNR=3.0						
FITZ				pP	pP	16 58 52.1	-0.4
	1.6nm,0.6s,baz=257,slow=14,SNR=3.1						
WRA	**Warramunga Arr**	**35.76**	**119**	P	**P**	**16 59 56.3**	**-0.6**
	1.0nm,0.5s,mb4.0,baz=302,slow=8.9,SNR=20						
WRA				pP	pP	17 00 04.5	-0.5
	1.0nm,0.5s,baz=297,slow=11,SNR=8.8						
WRA				LR	LR	17 14 35.8	
	comp=Z,32nm,19.2s,MS3.1,baz=90,slow=36						
WRA	**Warramunga Arr**	**35.76**	**119**	P	**P**	**16 59 56.3**	**-0.6**
WRA				pP	pP	17 00 04.5	-0.5
WRA				LR	LR	17 14 35.8	
WRAB	**Tennant Creek**	**35.77**	**119**	*e*P	**P**	**16 59 57.7**	**+0.8**
ASAR	**Alice Springs**	**36.94**	**125**	P	**P**	**17 00 06.9**	**0.0**
	0.7nm,0.5s,mb3.8,baz=299,slow=7.6,SNR=14						
ASAR				pP	pP	17 00 14.3	-0.7
	1.3nm,0.6s,baz=296,slow=8.2,SNR=5.6						
ASAR				pPcP		17 02 35.3	
	0.2nm,0.3s,baz=304,slow=2.6,SNR=5.1						
STKA	**Stephens Creek**	**46.78**	**131**	pP		17 01 35.5	-0.1
	3.8nm,1.0s,baz=304,slow=6.6,SNR=3.2						
KSRS	**Korea Array**	**47.91**	**29**	P	**P**	**17 01 36.2**	**+0.3**
	2.1nm,0.9s,mb4.1,baz=225,slow=8.7,SNR=5.1						
KSRS				LR	LR	17 22 33.6	
	comp=Z,11nm,21.6s,MS2.8,baz=320,slow=37						
SONM	**Songino Array**	**51.68**	**4**	P	**P**	**17 02 06.7**	**+2.3**
	2.6nm,0.8s,mb4.2,baz=186,slow=8.8,SNR=19						
MK31	**Makanchi Array**	**53.24**	**344**	*e*P	**P**	**17 02 16.3**	**+0.3**
MKAR	**Makanchi Array**	**53.24**	**344**	P	**P**	**17 02 16.3**	**+0.3**
	3.4nm,0.7s,mb4.4,baz=146,slow=8.3,SNR=29						
MKAR				pP	pP	17 02 23.8	-0.7
	1.5nm,0.6s,baz=149,slow=7.9,SNR=5.2						
MKAR	**Makanchi Array**	**53.24**	**344**	P	**P**	**17 02 16.3**	**+0.3**
MKAR				pP	pP	17 02 23.8	-0.7
KURK	**Kurchatov**	**57.83**	**343**	*e*P	**P**	**17 02 48.3**	**-0.7**
	1.7nm,0.9s,mb4.1						
ZAA0	**Zalesovo Array**	**59.30**	**349**	*e*P	**P**	**17 02 59.0**	**-0.1**
ZALV	**Zalesovo Beam**	**59.30**	**349**	P	**P**	**17 02 58.9**	**-0.2**
	1.5nm,0.4s,mb4.3,baz=176,slow=5.8,SNR=12						
ZALV				pP	pP	17 03 06.5	-1.1
	2.6nm,0.7s,baz=176,slow=4.5,SNR=5.2						
TXAR	**Lajitas Array**	**145.22**	**41**	PKPbc	PKPbc	17 12 36.5	+1.1
	0.9nm,0.5s,baz=232,slow=1.0,SNR=16						
TXAR				pPKPbc	pPKPbc	17 12 43.9	-0.6
	1.5nm,0.7s,baz=318,slow=1.7,SNR=10.0						
TXAR	**Lajitas Array**	**145.22**	**41**	PKPbc	PKPbc	17 12 36.5	+1.1
TXAR				pPKPbc	pPKPbc	17 12 43.9	-0.5

GII ***13*** *17:01:34.9±0.4, 3208N×3549E, h1km, ML3.2/9, Mw2.8/5*

ISCJB ***13*** *17:01:35.5±0.6, 3205N±002×3556E±006, h2km±5km, Error ellipse: s-maj=8.9km s-min=3.2km az=6.6*

CSEM ***13*** *17:01:35.9±0.1, 3203N×3554E, h8km, ML4.0, Error ellipse: s-maj=4.4km s-min=2.0km az=93.0*

HLW ***13*** *17:01:35.9, 3241N×3505E, h33km, Mb4.0*

GRAL ***13*** *17:01:36.6±0.7, 3201N×3555E, h0km±12km, MD3.6*

ISC 13 17:01:36.1±0.6, 3206N±002×3556E±006, h3km±5km, n31, σ0§77/41, 1C, Dead Sea region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HMDT	**Nahal Hemdat**	**0.20**	**352**	Pg	**Pg**	**17 01 39.7**	**-0.2**
HMDT				Sg	**Sg**	**17 01 43.4**	**+0.9**
MMLI	**Mount Malkishu**	**0.40**	**343**	Pg	**Pg**	**17 01 43.2**	**-0.5**
MMLI				Sg	**Sg**	**17 01 49.8**	**+0.9**
SLTI	**Sal'it**	**0.47**	**293**	Pg	**Pg**	**17 01 44.2**	**-1.0**
SLTI				Sg	**Sg**	**17 01 51.6**	**+0.3**
DSI	**Dead Sea**	**0.51**	**197**	Pg	**Pg**	**17 01 46.0**	**+0.1**
DSI				Sg	**Sg**	**17 01 54.1**	**+1.6**
HRSH	**Kfar Ka'horesh**	**0.68**	**340**	P	**Sg**	**17 02 04.4**	**+6.4**
OFRI	**'Ofer**	**0.74**	**319**	Pg	**Pg**	**17 01 49.5**	**-0.9**
OFRI				Sg	**Sg**	**17 02 01.3**	**+1.3**
MZDA	**Masada**	**0.77**	**193**	Pg	**Pg**	**17 01 51.2**	**+0.5**
YTIR	**Yattir**	**0.79**	**209**	Pg	**Pg**	**17 01 51.3**	**+0.1**
KSHT	**Keshet**	**0.94**	**13**	Pg	**Pg**	**17 01 54.3**	**+0.1**
MMA0B	**Mount Meron ar**	**0.96**	**352**	Pg	**Pg**	**17 01 53.7**	**-0.9**
HNTI	**Hanita**	**1.07**	**343**	Pg	**Pg**	**17 01 56.0**	**-0.7**
KSDI	**Kefar Szold**	**1.13**	**4**	Pg	**Pg**	**17 01 57.3**	**-0.5**
HRI	**Mount Hermon**	**1.21**	**7**	Pg	**Pg**	**17 01 58.5**	**-0.9**
RTMI	**Retamim**	**1.25**	**217**	Pg	**Pg**	**17 01 59.4**	**-0.6**
RCY	**Rachaya**	**1.44**	**9**	*e*P	**Pn**	**17 02 02.8**	**-0.3**
RCY				*e*S	**Sb**	**17 02 22.8**	**+0.5**
ZFRI	**Zfri**	**1.54**	**192**	Pn	**Pn**	**17 02 04.2**	**-0.2**
RMNI	**Mount Ramon**	**1.61**	**205**	Pn	**Pn**	**17 02 05.7**	**+0.4**
PRNI	**Paran**	**1.77**	**196**	Pn	**Pn**	**17 02 07.9**	**+0.4**
PRNI				Sn	**Sn**	**17 02 31.8**	**+1.3**
BHL	**Bhannes**	**1.84**	**2**	*e*P	**Pn**	**17 02 08.9**	**+0.4**
BHL				*e*S	**Sn**	**17 02 32.7**	**+0.4**
RSH		**1.91**	**236**	P	**Pn**	**17 02 04.4**	**-5.1**
KRMI	**Paran Flat**	**2.06**	**200**	Pn	**Pn**	**17 02 11.8**	**+0.2**
HRFI	**Mount Harif**	**2.06**	**193**	Pn	**Pn**	**17 02 11.1**	**-0.5**
HWQ	**Hawqa**	**2.24**	**8**	*e*P	**Pn**	**17 02 14.7**	**+0.7**
MBRI	**Mt Berech**	**2.32**	**194**	Pn	**Pn**	**17 02 15.3**	**+0.1**
EIL	**Elat**	**2.44**	**193**	Pn	**Pn**	**17 02 16.8**	**0.0**
AMAG	**Maghara**	**2.46**	**236**	P	**Pn**	**17 02 12.3**	**-4.7**
HNKL	**Nakhl**	**2.52**	**213**	P	**Pn**	**17 02 15.7**	**-2.2**
HNKL				S	**Sn**	**17 02 45.4**	**-3.6**
HBST	**Basata**	**2.92**	**194**⇑	P	**Pn**	**17 02 23.8**	**+0.4**
HBST				S	**Sn**	**17 02 58.4**	**-0.5**
HKAT	**Jabal Katrina**	**3.77**	**201**	P	**Pn**	**17 02 35.0**	**-0.2**
GLL	**Jalalah**	**4.13**	**234**	P	**Pn**	**17 02 35.5**	**-4.6**
HSAF	**As Saff**	**4.22**	**236**	P	**Pn**	**17 02 36.1**	**-5.1**

MAN 13 17:08:25, 1864N×12075E, h69km, mb4.6, ML3.4, MS3.3, 1C-2D, Luzon

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PIP	**Pasuquin**	**0.33**	**202**⇑	*i*P	Pn	17 08 40.1	+3.8
PIP				*e*S	Sn	17 08 48.6	+4.0
SIPP	**Brgy, Tapao**	**0.76**	**201**⇓	*e*P	Pn	17 08 44.0	+3.4
SIPP				*i* S	Sn	17 08 58.5	+6.5
ABRA	**Dolores**	**0.98**	**182**	*e*P	Pn	17 08 45.5	+2.3
ABRA				*e*S	Sn	17 08 58.9	+2.1
SGCP	**Mt.

ISC 13 17:45:51.7±1.4,**2121S**±003×**16929E**±002,**h22**km,±9km,
h38km,±2.0km:**pP-P,n1125,**σ**0**s81/614,**mb5.7**/139,
MS5.9/165,**166C-156D,Southeast of Loyalty Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**2.79**	**251**	*e*Pn	**Pn**	**17 46 32.1**	**-2.8**
DZM				*e*Sn	**Sn**	**17 47 07.3**	**-0.5**
NOUC	**Port Laguerre**	**2.92**	**252**	*e*P	**Pn**	**17 46 35.3**	**-1.4**
NOUC				*e*S	**Sn**	**17 47 11.0**	**-0.2**
RAO	**Raoul Island**	**14.07**	**127**	P	**Pn**	**17 49 09.6**	**-0.1**
HNR	**Honiara**	**14.76**	**321**	Pn	**Pn**	**17 49 18.6**	**-0.6**
	4.2nm,0.3s,baz=208,slow=4.4,SNR=48						
HNR				LR	LR	17 53 41.1	
	comp=Z,32μm,20.6s,baz=11,slow=32						
HNR	**Honiara**	**14.76**	**321**⇑	*e*P	**Pn**	**17 49 18.2**	**-1.0**
HNR				pmax	pmax		
	comp=Z,1μm,1.0s						
HNR	**Honiara**	**14.76**	**321**⇑	*e*Pn	**Pn**	**17 49 18.2**	**-1.1**
	comp=Z,1μm,1.0s						
FUNA	**Funafuti**	**15.82**	**39**	*e*Pn	**Pn**	**17 49 33.6**	**+0.5**
	comp=Z,2μm,1.7s						
URZ	**Urewera**	**18.29**	**160**	P	**Pn**	**17 50 05.2**	**+1.3**
	comp=Z,3.9nm,0.3s,baz=357,slow=6.0,SNR=35						
URZ				LR	LR	17 55 33.3	
	comp=Z,22μm,20.3s,baz=342,slow=32						
ARMA	**Armidale**	**18.34**	**236**	*e*P	**Pn**	**17 50 07.4**	**+2.8**
ARMA				*e*S	**Sn**	**17 53 31.7**	**+2.8**
AFI	**Afiamalu**	**19.44**	**71**	P	**Pn**	**17 50 17.3**	**-0.7**
	comp=Z,0.6nm,0.3s,baz=267,slow=3.4,SNR=31						
AFI				LR	LR	17 55 36.9	
	comp=Z,16μm,19.9s,baz=242,slow=30						
AFI	**Afiamalu**	**19.44**	**71**⇑	*e*P	**Pn**	**17 50 17.2**	**-0.9**
AFI				pmax	pmax		
	comp=Z,870nm,1.2s						
AFI	**Afiamalu**	**19.44**	**71**⇑	*e*P	**Pn**	**17 50 17.2**	**-0.9**
	comp=Z,874nm,1.2s						
SNZO	**South Karori**	**20.56**	**168**⇓	*e*P	**P**	**17 50 28.9**	**+0.2**
	comp=Z,1μm,1.4s						
CTA	**Charters Tower**	**21.59**	**269**	*e*P	**P**	**17 50 40.7**	**+0.7**
	comp=Z,245nm,1.4s,mb5.4						
CTA				*e*S	**S**	**17 54 44.5**	**+6.2**
CTA	**Charters Tower**	**21.59**	**269**	P	**P**	**17 50 40.8**	**+0.7**
	comp=Z,106nm,0.7s,mb5.4,baz=92,slow=12,SNR=44						
CTA				LR	LR	17 58 13.2	
	comp=Z,82μm,21.3s,MS6.1,baz=92,slow=35						
CTA	**Charters Tower**	**21.59**	**269**	*e*P	**P**	**17 50 40.7**	**+0.7**
CTA				*e*S	**S**	**17 54 44.5**	**+6.2**
CTA				pmax	pmax		
	comp=Z,245nm,1.4s						
CTAO	**Charters Tower**	**21.59**	**269**	*e*P	**P**	**17 50 40.3**	**+0.3**
	comp=Z,951nm,1.4s,mb6.0						
CTAO				LR	LR		
	comp=Z,80μm,20.0s,MS6.1						
CNB	**Canberra Magne**	**22.43**	**227**	*e*P	**P**	**17 50 50.7**	**+1.8**
CNB				*e*S	**S**	**17 55 04.2**	**+10**
RPZ	**Rata Peaks**	**22.50**	**177**	P	**P**	**17 50 51.0**	**+1.5**
	comp=Z,133nm,1.0s,mb5.3,baz=300,slow=0.9,SNR=13						
RPZ				LR	LR	17 57 46.5	
	comp=Z,19μm,20.6s,MS5.5,baz=346,slow=32						
CAN	**Canberra**	**22.68**	**227**⇓	*e*P	**P**	**17 50 52.3**	**+0.7**
PMG	**Port Moresby**	**24.32**	**295**	*e*P	**P**	**17 51 06.2**	**-1.7**
PMG				pmax	pmax		
	comp=Z,220nm,1.0s						
PMG	**Port Moresby**	**24.32**	**295**	*e*P	**P**	**17 51 06.2**	**-1.7**
	comp=Z,216nm,1.0s,mb5.5						
COEN	**Coen**	**25.89**	**282**	*e*P	**P**	**17 51 20.9**	**-1.3**
	comp=Z,196nm,1.6s,mb5.4						
TOO	**Toolangi**	**26.27**	**226**	*e*P	**P**	**17 51 26.3**	**+0.9**
STKA	**Stephens Creek**	**26.89**	**241**	*e*P	**P**	**17 51 31.2**	**+0.2**
	comp=Z,162nm,1.6s,mb5.3						
STKA				*e*S	**S**	**17 56 06.5**	**-0.1**
STKA	**Stephens Creek**	**26.89**	**241**	P	**P**	**17 51 31.4**	**+0.3**
	comp=Z,87nm,0.7s,mb5.4,baz=78,slow=10,SNR=56						
STKA				LR	LR	18 01 42.9	
	comp=Z,90μm,18.2s,MS6.4,baz=69,slow=36						
MOO	**Moorlands**	**28.15**	**216**	*e*P	**P**	**17 51 43.0**	**+0.8**
MOO				*e*S	**S**	**17 56 29.9**	**+3.7**
TAU	**Tasmania Unive**	**28.39**	**215**	*e*P	**P**	**17 51 44.2**	**-0.1**
TAU				pmax	pmax		
	comp=Z,140nm,1.1s,mb5.5						
TAU	**Tasmania Unive**	**28.39**	**215**	*e*P	**P**	**17 51 44.2**	**-0.1**
	comp=Z,135nm,1.1s,mb5.5						
RAR	**Rarotonga**	**28.82**	**96**	LR	LR	18 01 09.5	
	comp=Z,15μm,19.4s,MS5.6,baz=260,slow=32						
ADE	**Adelaide**	**30.13**	**236**	P	**P**	**17 52 02.0**	**+2.1**
WB2	**Warramunga Ar**	**32.70**	**266**	*e*P	**P**	**17 52 18.2**	**-4.4**
WRAB	**Tennant Creek**	**32.70**	**266**	P	**P**	**17 52 21.0**	**-1.7**
	comp=Z,528nm,1.2s,mb6.3,SNR=16						
WRAB	**Tennant Creek**	**32.70**	**266**	P	**P**	**17 52 19.4**	**-3.3**
WRAB				pmax	pmax		
	comp=Z,150nm,1.2s,mb5.8						
WRAB	**Tennant Creek**	**32.70**	**266**	*e*P	**P**	**17 52 19.2**	**-3.4**
	comp=Z,152nm,1.3s,mb5.8						
WRA	**Warramunga Arr**	**32.71**	**266**	P	**P**	**17 52 20.7**	**-2.1**
	comp=Z,17nm,0.7s,mb5.1,baz=90,slow=8.1,SNR=68						
WRA				PcP	PcP	17 55 09.0	+0.8
	comp=Z,7.6nm,0.9s,baz=96,slow=2.3,SNR=4.0						
WRA				S	**S**	**17 57 34.4**	**-3.8**
	comp=Z,2.0nm,0.9s,baz=100,slow=14,SNR=2.9						
WRA				LR	LR	18 05 48.7	
	comp=Z,60μm,18.2s,MS6.3,baz=95,slow=37						
WRA	**Warramunga Arr**	**32.71**	**266**	P	**P**	**17 52 20.7**	**-2.1**
WRA						17 55 09.0	
WRA				S	**S**	**17 57 34.4**	**-3.8**
ASAR	**Alice Springs**	**32.75**	**259**	P	**P**	**17 52 21.7**	**-1.4**
	comp=Z,40nm,0.6s,mb5.5,baz=86,slow=8.3,SNR=207						
ASAR				PcP	PcP	17 55 09.2	+0.9
	comp=Z,13nm,0.9s,baz=99,slow=2.9,SNR=5.1						
ASAR				S	**S**	**17 57 39.3**	**+0.5**
	comp=Z,3.8nm,1.0s,baz=78,slow=18,SNR=3.7						
ASAR				P3KPbc		18 23 44.2	
	comp=Z,1.3nm,0.7s,baz=294,slow=3.7,SNR=7.4						
ASAR	**Alice Springs**	**32.75**	**259**	P	**P**	**17 52 21.7**	**-1.4**
ASAR						17 55 09.2	
ASAR				S	**S**	**17 57 39.3**	**+0.5**
ASAR	**Alice Springs**	**32.75**	**259**	P	**P**	**17 52 21.7**	**-1.4**
ASAR				PcP	PcP	17 55 09.2	+0.9
ASAR				S	**S**	**17 57 39.3**	**+0.5**
ASAR				*e*		18 23 44.2	
KAKA	**Kakadu**	**36.17**	**277**	*e*P	**P**	**17 52 49.0**	**-3.8**
	comp=Z,208nm,1.5s,mb5.8						
FORT	**Forrest**	**38.09**	**247**	*e*P	**P**	**17 53 08.2**	**-0.7**
	comp=Z,95nm,0.7s,mb5.6						
FORT				*e*S	**S**	**17 59 00.9**	**+0.2**
TBI	**Tubuai**	**38.14**	**101**	*e*S	**S**	**17 59 01.5**	**-0.1**
	comp=Z,8μm,27.5s						
TBI				*e*LQ		18 01 50.2	
	comp=Z,59μm,28.2s						
TBI				*e*LR	LR	18 03 28.6	
	comp=Z,38μm,27.5s,baz=267						
PPT	**Papeete**	**38.89**	**92**	*e*S	**S**	**17 59 10.2**	**-2.8**
	comp=Z,9μm,24.2s						
PPT				*e*LQ		18 02 14.6	
	comp=Z,58μm,29.2s						
PPT				*e*LR	LR	18 03 49.9	
	comp=Z,59μm,28.0s,baz=255						
PPT	**Papeete**	**38.89**	**92**	LR	LR	18 05 26.0	
	comp=Z,13μm,21.7s,MS5.7,baz=256,slow=30						
XMAS	**Kiritimati**	**39.91**	**59**	P	**P**	**17 53 19.4**	**-5.0**
	comp=Z,63nm,1.0s,mb5.3						
PMOR	**Pomariorio Ree**	**41.07**	**89**	*e*P	**P**	**17 53 35.7**	**+1.8**
	comp=Z,241nm,1.1s,mb5.7						
FITZ	**Fitzroy Crossi**	**41.13**	**266**	*e*P	**P**	**17 53 33.6**	**-0.8**
	comp=Z,204nm,0.7s,mb5.9						
FITZ				*e*PP	PP	17 55 21.9	+12
FITZ				*e*S	**S**	**17 59 39.0**	**-7.6**
FITZ	**Fitzroy Crossi**	**41.13**	**266**	LR	LR	18 10 53.2	
	comp=Z,40μm,18.8s,MS6.3,baz=285,slow=37						
VAH	**Vaihoa**	**41.25**	**89**	*e*P	**P**	**17 53 36.8**	**+1.4**
	comp=Z,234nm,1.2s,mb5.7						
GUMO	**Guam**	**42.08**	**323**	LR	LR	18 09 04.2	
	comp=Z,11μm,19.3s,MS5.8,baz=138,slow=33						
GUMO	**Guam**	**42.08**	**323**	*e*P	**P**	**17 53 41.7**	**-0.4**
GUMO				*e*		17 55 21.8	
GUMO				pmax	pmax		
	comp=Z,872nm,1.6s,mb6.1						
GUMO				MLR	MLR		
	comp=Z,11μm,19.0s,MS5.8						
GUMO	**Guam**	**42.08**	**323**	*e*P	**P**	**17 53 41.7**	**-0.4**
	comp=Z,872nm,1.6s,mb6.1						
GUMO				*e*PP	PP	17 55 21.8	+1.9
GUMO				LR	LR		
	comp=Z,11μm,19.0s,MS5.8						
MBWA	**Marble Bar**	**46.05**	**261**	*e*P	**P**	**17 54 13.0**	**-1.1**
	comp=Z,307nm,1.2s,mb6.1						
MBWA				*e*ScP	ScP	17 59 35.0	-7.3
MBWA				LR	LR		
	comp=Z,56μm,19.0s,MS6.5						
KLBR	**Kellerberrin**	**46.94**	**246**	*e*P	**P**	**17 54 19.2**	**-1.7**
	comp=Z,106nm,0.6s,mb6.0						
NWAO	**Narrogin (SRO)**	**47.38**	**244**	*e*P	**P**	**17 54 22.9**	**-1.4**
NWAO				pmax	pmax		
	comp=Z,52nm,0.6s						
NWAO				MLR	MLR		
	comp=Z,56μm,21.0s						
NWAO	**Narrogin (SRO)**	**47.38**	**244**	*e*P	**P**	**17 54 22.9**	**-1.5**
	comp=Z,52nm,0.6s,mb5.6						
NWAO				LR	LR		
	comp=Z,56μm,21.0s,MS6.5						
MUN	**Mundaring**	**48.25**	**246**	*e*P	**P**	**17 54 30.3**	**-0.8**
MUN				*e*		17 56 27.0	
MUN				*e*S	**S**	**18 01 39.1**	**+9.4**
DRV	**Dumont d'Urvil**	**49.15**	**195**	P	**P**	**17 54 39.0**	**+1.6**
DRV				S	**S**	**18 01 46.0**	**+4.7**
DRV				L		18 06 00.0	
DRV				R		18 09 00.0	
TAOE	**Nuku Hiva Isla**	**50.15**	**84**	*e*S	**S**	**18 01 57.6**	**+0.9**
	comp=Z,35μm,25.1s						
TAOE				*e*SS	SS	18 05 19.2	-11
	comp=Z,11μm,26.5s						
TAOE				*e*LQ		18 06 56.5	
	comp=Z,47μm,25.5s						
TAOE				*e*LR	LR	18 09 06.1	
	comp=Z,148μm,27.6s,baz=252						
TAOE	**Nuku Hiva Isla**	**50.15**	**84**	*e*P	**P**	**17 54 44.5**	**-1.3**
KAPI	**Kappang**	**50.62**	**281**	P	**P**	**17 54 48.1**	**-1.3**
	comp=Z,452nm,2.4s,mb6.0,SNR=13						
KAPI	**Kappang**	**50.62**	**281**	P	**P**	**17 54 48.9**	**-0.5**
	SNR=15						
KAPI	**Kappang**	**50.62**	**281**	*e*P	**P**	**17 54 46.8**	**-2.6**
	comp=Z,169nm,1.4s,mb5.8						
KAPI				LR	LR		
	comp=Z,8μm,22.0s,MS5.7						
MIDW	**Midway**	**50.79**	**15**	PFAKE		17 55 00.0	+10
MIDW				LR	LR		
	comp=Z,8μm,21.0s,MS5.7						
DAV	**Davao City (W)**	**51.29**	**298**⇑	*e*P	**P**	**17 54 53.7**	**-0.6**
RKT	**Rikitea**	**51.39**	**103**	*e*S	**S**	**18 02 11.9**	**-1.8**
	comp=Z,12μm,29.8s						
RKT				*e*SS	SS	18 05 47.5	-2.1
	comp=Z,4μm,28.0s						
RKT				*e*LQ		18 07 22.4	
	comp=Z,10μm,26.2s						
RKT				*e*LR	LR	18 09 32.1	
	comp=Z,20μm,30.8s,baz=257						
KIP	**Kipapa**	**53.05**	**39**	PFAKE		17 55 20.0	+13
KIP				LR	LR		
	comp=Z,8μm,20.0s,MS5.8						
CBIJ	**Chichi jima**	**54.72**	**330**	LR	LR	18 15 33.9	
	comp=Z,6μm,20.8s,MS5.7,baz=324,slow=33						
RCP	**Roxas**	**56.13**	**301**⇑	*e*P	**P**	**17 55 29.8**	**0.0**
MYLDM	**Lahad Datu**	**56.27**	**292**	⇑P	**P**	**17 55 33.5**	**+2.6**
TSM	**Tawau**	**56.39**	**291**	⇓P	**P**	**17 55 32.6**	**+0.9**
CUYO	**Cuyo Island**	**57.12**	**299**	*e*P	**P**	**17 55 36.8**	**-0.1**
OTRP	**Odiongan**	**57.17**	**301**	*e*P	**P**	**17 55 36.5**	**-0.7**
AUQP	**San Andres**	**57.21**	**303**	*e*P	**P**	**17 55 36.7**	**-0.8**
SJMP	**San Jose**	**57.95**	**301**	*e*P	**P**	**17 55 43.8**	**+1.1**
CASY	**Casey**	**58.35**	**204**	*e*P	**P**	**17 55 43.7**	**-1.1**
CASY				*e*S	**S**	**18 03 39.0**	**-6.9**
CASY	**Casey**	**58.35**	**204**	*e*P	**P**	**17 55 43.7**	**-1.1**
CASY				*e*S	**S**	**18 03 39.0**	**-6.9**
CASY				LR	LR		
	comp=Z,5μm,19.0s,MS5.7						
PPR	**Puerto Princes**	**58.43**	**297**	*i* P	**P**	**17 55 45.8**	**-0.2**
BUSP	**Coron**	**58.43**	**300**	*e*P	**P**	**17 55 45.6**	**-0.5**
POLP	**Polillo Island**	**58.61**	**304**	*e*P	**P**	**17 55 46.5**	**-0.9**
ENPP	**El Nido**	**58.62**	**299**	*e*P	**P**	**17 55 47.0**	**-0.4**
KKM	**Kota Kinabalu**	**58.68**	**291**	⇓P	**P**	**17 55 48.9**	**+1.0**
KKM	**Kota Kinabalu**	**58.68**	**291**	*e*P	**P**	**17 55 46.2**	**-1.6**
KKM				LR	LR		
	comp=Z,5μm,22.0s,MS5.6						
BATP	**Bataraza**	**58.69**	**295**	*e*P	**P**	**17 55 47.4**	**-0.6**
LUBP	**Lubang**	**59.37**	**301**	*e*P	**P**	**17 55 50.7**	**-1.9**
BALP	**Baler**	**59.49**	**304**	*e*P	**P**	**17 55 54.0**	**+0.6**
PALP	**Palanan**	**59.64**	**306**	*e*P	**P**	**17 55 54.0**	**-0.5**
CAUP	**Cauayan**	**60.03**	**305**	*e*P	**P**	**17 55 58.5**	**+1.4**
SBUM	**Sibu**	**60.56**	**286**	⇑P	**P**	**17 56 02.5**	**+1.6**
SCZP	**Santa Cruz**	**60.81**	**303**	*e*P	**P**	**17 56 03.8**	**+1.3**
ABRA	**Dolores**	**61.30**	**305**	*e*P	**P**	**17 56 04.3**	**-1.4**
KSM	**Kuching**	**61.87**	**284**	⇓P	**P**	**17 56 10.0**	**+0.2**
KSM	**Kuching**	**61.87**	**284**	*e*P	**P**	**17 56 08.0**	**-1.8**
JOW	**Kunigami**	**62.12**	**318**	P	**P**	**17 56 11.4**	**+0.3**
	comp=Z,70nm,0.9s,mb5.8,baz=127,slow=7.0						
JOW				LR	LR	18 19 19.6	
	comp=Z,5μm,20.1s,MS5.6,baz=144,slow=32						
MJAR	**Matsushiro Arr**	**64.51**	**333**	P	**P**	**17 56 26.0**	**-0.7**
	comp=Z,24nm,0.8s,mb5.2,baz=168,slow=7.2,SNR=37						
MJAR				PKP2bc		18 25 18.6	
	comp=Z,9.1nm,1.4s,baz=295,slow=3.7,SNR=9.0						
MJAR	**Matsushiro Arr**	**64.51**	**333**	P	**P**	**17 56 26.0**	**-0.7**
MJAR				⇑*e*		18 25 18.6	
MAJO	**Matsushiro**	**64.51**	**333**	*e*P	**P**	**17 56 26.1**	**-0.6**
MAJO				pmax	pmax		
	comp=Z,58nm,0.9s,mb5.6						
MAJO	**Matsushiro**	**64.51**	**333**	*e*P	**P**	**17 56 26.1**	**-0.6**
	comp=Z,58nm,0.9s,mb5.6						
MAT	**Matsushiro**	**64.51**	**333**	P	**P**	**17 56 25.4**	**-1.3**
MAT				S	**S**	**18 04 59.0**	**-5.7**
NACB	**Ninganchiao**	**64.71**	**312**	P	**P**	**17 56 26.2**	**-2.2**
	comp=Z,525nm,1.1s,mb6.5						
YHNB	**Yeheng**	**65.18**	**312**	*e*P	**P**	**17 56 31.1**	**-0.2**
	comp=Z,230nm,1.3s,mb6.0						
MIR	**Mirnyy**	**65.28**	**205**κ	*i*P	**P**	**17 56 31.0**	**-0.4**
MIR				*i*		17 57 00.0	
MIR				*i*		17 58 52.0	
MIR				*i* S	S	18 05 16.0	+2.5
MIR				*i* PS		18 05 32.0	
MIR				*i*		18 06 28.0	
MIR				*i* SS	SS	18 09 30.0	+3.9
MIR				pmax	pmax		
	comp=Z,400nm,1.2s,mb6.3						
MIR				pmax	pmax		
	comp=Z,2μm,6.0s						
MIR				MLR	MLR		
	comp=Z,15μm,16.0s,MS6.3						
TATO	**Taipei**	**65.30**	**312**	*e*P	**P**	**17 56 32.1**	**-0.1**
	comp=Z,274nm,1.2s,mb6.2						
QZH	**Quanzhou**	**67.31**	**310**⇑	*i*P	**P**	**17 56 47.8**	**+2.8**
QZH				S	S	18 05 44.1	+4.8
QZH				AMB	AMB		
	comp=Z,4μm,4.0s						
QZH				LR	LR		
	comp=N,3μm,13.5s,MS5.8						
QZH				LR	LR		
	comp=E,2μm,10.3s,MS5.8						
QZH				LR	LR		
	comp=Z,7μm,23.7s						
ERM	**Erimo**	**67.39**	**339**	PFAKE		17 57 00.0	+15
ERM				LR	LR		
	comp=Z,10μm,21.0s,MS6.0						
YUK	**Yuzh-Kuril'sk**	**68.38**	**342**	*e*P	**P**	**17 56 52.8**	**+1.5**
YUK				*e*		17 57 24.2	
YUK				MLR	MLR		
	comp=E,5μm,16.3s,MS6.0						
YUK				MLR	MLR		
	comp=Z,9μm,18.0s,MS6.0						
YUK				MLR	MLR		
	comp=N,6μm,17.0s,MS6.0						
KGM	**Kluang**	**68.46**	**281**	⇑P	**P**	**17 56 53.3**	**+0.8**
ASAJ	**Asahikawa**	**69.45**	**340**	P	**P**	**17 56 58.0**	**0.0**
	comp=N,147nm,1.0s,mb5.9,baz=239,slow=12,SNR=19						
ASAJ				LR	LR	18 24 02.8	
	comp=N,12μm,21.1s,MS6.1,baz=172,slow=33						
COCO	**West Island**	**69.48**	**264**	PFAKE		17 57 10.0	+11
COCO				LR	LR		
	comp=Z,5μm,21.0s,MS5.8						
SSE	**Sheshan**	**69.53**	**317**	⇑P	**P**	**17 56 58.6**	**-0.2**
SSE				AP	pP	17 57 10.4	+4.4
SSE				PCP	PcP	17 57 22.1	+0.2
SSE				S	S	18 06 03.8	-1.7
SSE				XS	sS	18 06 25.4	+8.1
SSE				AMB	AMB		
	comp=Z,26nm,0.7s,mb5.3						
SSE				AMB	AMB		
	comp=Z,546nm,4.1s						
SSE				LR	LR		
	comp=N,2μm,22.1s,MS5.4						
SSE				LR	LR		
	comp=E,822nm,22.0s,MS5.4						
SSE				LR	LR		
	comp=Z,3μm,20.4s,MS5.5						
SSE	**Sheshan**	**69.53**	**317**	⇑P	**P**	**17 56 58.6**	**-0.2**
	comp=Z,26nm,0.7s,mb5.3						
SSE				pP	pP	17 57 10.4	+4.4
SSE				PcP	PcP	17 57 22.1	+0.2
SSE				S	S	18 06 03.7	-1.8
SSE				sS	sS	18 06 25.4	+8.1
SSE				LR	LR		
	comp=Z,3μm,20.4s,MS5.5						
KTGM	**Kuala Trenggan**	**69.98**	**284**	⇓P	**P**	**17 57 04.7**	**+2.8**
GZH	**Guangzhou**	**70.07**	**306**	P	**P**	**17 57 05.8**	**+3.5**
GZH				S	S	18 06 17.9	+5.8
GZH				LR	LR		
	comp=N,2μm,20.0s,MS5.5						
GZH				LR	LR		
	comp=E,2μm,21.3s,MS5.5						
GZH				LR	LR		
	comp=Z,4μm,23.8s,MS5.6						
KSRS	**Korea Array**	**70.15**	**326**	P	**P**	**17 57 02.6**	**+0.1**
	comp=Z,22nm,1.0s,mb5.0,baz=142,slow=6.2,SNR=29						
KSRS				PKP2bc		18 25 02.7	
	comp=Z,4.4nm,1.1s,baz=335,slow=3.6,SNR=8.7						
KSRS				LR	LR	18 27 29.9	
	comp=Z,4μm,18.6s,MS5.7,baz=144,slow=36						
QIZ	**Qiongzhong**	**70.60**	**300**	P	**P**	**17 57 06.0**	**+0.4**
QIZ				AP	pP	17 57 16.5	+3.7
QIZ				S	S	18 06 16.8	-1.7
QIZ				XS	sS	18 06 35.8	+5.5
QIZ				SS	SS	18 10 49.0	-1.6
QIZ				AMB	AMB		
	comp=Z,42nm,0.9s,mb5.4						
QIZ				AMB	AMB		
	comp=Z,2μm,11.9s						
QIZ				LR	LR		
	comp=N,2μm,18.8s,MS5.6						
QIZ				LR	LR		
	comp=E,2μm,17.5s,MS5.6						
QIZ				LR	LR		
	comp=Z,4μm,37.0s						
QIZ	**Qiongzhong**	**70.60**	**300**	*e*P	**P**	**17 57 06.2**	**+0.6**
	comp=Z,49nm,0.9s,mb5.4						
INCN	**Inchon**	**70.85**	**325**	⇓P	**P**	**17 57 08.6**	**+1.9**
	SNR=8.4						
INCN	**Inchon**	**70.85**	**325**	*e*P	**P**	**17 57 07.1**	**+0.3**
	comp=Z,223nm,1.3s,mb5.9						
INCN				LR	LR		
	comp=Z,4μm,19.0s,MS5.7						
IPM	**Ipoh**	**71.54**	**282**	⇑P	**P**	**17 57 11.6**	**+0.1**
NJ2	**Nanjing**	**71.65**	**316**	*e*P	**P**	**17 57 11.8**	**+0.1**
NJ2				AP	pP	17 57 24.8	+5.9
NJ2				XP	sP	17 57 29.8	+8.2
NJ2				PP	PP	17 59 53.0	+1.8
NJ2				S	S	18 06 26.0	-4.2
NJ2				XS	sS	18 06 48.0	+5.9
NJ2				AMB	AMB		
	comp=Z,20nm,0.5s,mb5.3						
NJ2				AMB	AMB		
	comp=Z,1μm,4.8s						
NJ2				LR	LR		
	comp=N,640nm,13.8s,MS5.5						
NJ2				LR	LR		
	comp=E,2μm,16.6s,MS5.5						
NJ2				LR	LR		
	comp=Z,23μm,17.2s,MS6.5						
YSS	**Yuzh-Sakhalins**	**71.95**	**341**κ	*i*P	**P**	**17 57 12.3**	**-0.8**
YSS				*e**PP	pP	17 57 26.0	+5.7
YSS				*e*		17 57 31.0	
YSS				*i* S	S	18 06 37.0	+4.1
YSS				*e*PS		18 07 06.0	
YSS				*e*PPS		18 07 18.0	
YSS				pmax	pmax		
	comp=E,100nm,1.0s						
YSS				pmax	pmax		
	comp=Z,460nm,1.0s,mb6.4						
YSS				pmax	pmax		
	comp=Z,2μm,4.0s						
YSS				smax			
	comp=N,6μm,13.0s						
YSS				MLR	MLR		
	comp=N,4μm,18.0s,MS5.9						
YSS				MLR	MLR		
	comp=E,3μm,18.0s,MS5.9						
YSS				MLR	MLR		
	comp=Z,6μm,18.0s,MS5.9						
YSS	**Yuzh-Sakhalins**	**71.95**	**341**	*e*P	**P**	**17 57 13.9**	**+0.8**
	comp=Z,479nm,1.4s,mb6.2						
KULM	**Kulim**	**72.21**	**283**	⇓P	**P**	**17 57 16.2**	**+0.6**
SKR	**Severo-Kuril's**	**72.51**	**351**	*e*P	sP	17 57 28.0	+1.8
SKR				*e*PPP		18 01 50.0	
SKR				*e*S	S	18 06 48.0	+8.8
SKR				*e*		18 07 26.0	
SKR				pmax	pmax		
	comp=Z,4μm,4.0s						
SKR				smax			
	comp=N,5μm,14.0s						
SKR				smax			
	comp=E,11μm,14.0s						
SKR				MLR	MLR		
	comp=N,6μm,16.0s,MS6.1						
SKR				MLR	MLR		
	comp=E,7μm,16.0s,MS6.1						
SKR				MLR	MLR		
	comp=Z,7μm,16.0s,MS6.0						
VLA	**Vladivostok**	**72.67**	**332***d*	*i*P	**P**	**17 57 20.3**	**+2.8**
VLA				*e**SP	sP	17 57 34.4	+7.0
VLA				*e*S	S	18 06 41.0	-0.4
VLA				pmax	pmax		
	comp=Z,325nm,2.7s,mb5.8						
VLA				MLR	MLR		
	comp=Z,2μm,15.4s,MS5.5						
VLA	**Vladivostok**	**72.67**	**332**	*e*P	**P**	**17 57 19.4**	**+1.9**
SNG	**Songkhla**	**73.02**	**285**	P	**P**	**17 57 21.0**	**+0.7**
	comp=Z,340nm,0.8s,mb6.3						
WHN	**Wuhan**	**73.70**	**313**	⇑P	**P**	**17 57 24.1**	**+0.1**
WHN				AP	pP	17 57 31.8	+0.6
WHN				XP	sP	17 57 38.3	+4.5
WHN				S	S	18 06 54

DL2 LR LR
comp=N,3μm,16.4s
DL2 LR LR
comp=Z,2μm,21.4s,MS5.3
PEA0B Petropavlovsk- 74.68 353 *e*P **P 17 57 30.5 +1.4**
PETK Petropavlovsk- 74.68 353 P **P 17 57 29.8 +0.6**
comp=Z,72nm,0.9s,mb5.6,baz=145,slow=7.8,SNR=24
PETK LR LR 18 25 05.6
comp=Z,5μm,20.5s,MS5.8,baz=161,slow=32
MDJ Mudanjiang 74.87 332 P **P 17 57 30.5 +0.1**
MDJ AP pP 17 57 42.5 +4.9
MDJ PCP PcP 17 57 43.8 -0.5
MDJ XP sP 17 57 47.3 +7.0
MDJ S S 18 07 07.3 +1.2
MDJ SS SS 18 11 54.8 -0.3
MDJ AMB AMB
comp=Z,92nm,2.3s,mb5.3
MDJ AMB AMB
comp=Z,1μm,4.6s
MDJ LR LR
comp=N,4μm,23.6s,MS5.7
MDJ LR LR
comp=E,3μm,22.1s,MS5.7
MDJ LR LR
comp=Z,6μm,22.1s,MS5.8
MDJ Mudanjiang 74.87 332 *e*P **P 17 57 30.5 +0.1**
comp=Z,160nm,1.5s,mb5.7
MDJ LR LR
comp=Z,7μm,22.0s,MS5.9
KKTK Khon Kaen 75.10 294 **P 17 57 33.0 +0.6**
comp=Z,401nm,0.7s,mb6.5
TIA Tai'an 75.44 319 *e*P **P 17 57 33.4 -0.5**
TIA AP pP 17 57 46.5 +5.4
TIA S S 18 07 14.0 +1.1
TIA AMB AMB
comp=Z,61nm,1.2s,mb5.4
TIA AMB AMB
comp=Z,694nm,5.0s
TIA LR LR
comp=N,1μm,15.0s,MS5.5
TIA LR LR
comp=E,890nm,17.0s,MS5.5
SNY Shenyang 75.64 326 ⇑P **P 17 57 36.8 +1.9**
SNY S S 18 07 17.3 +2.5
SNY AMB AMB
comp=Z,92nm,2.5s,mb5.3
SNY AMB AMB
comp=Z,1μm,6.2s
SNY LR LR
comp=N,2μm,20.2s,MS5.6
SNY LR LR
comp=E,2μm,20.5s,MS5.6
SNY LR LR
comp=Z,3μm,18.2s,MS5.6
HABR Khabarovsk 75.82 337 ⇓*i*P **P 17 57 35.9 +0.1**
HABR *e* 17 57 44.9
HABR *e* 17 57 49.0
HABR *e*S S 18 07 16.9 +0.3
HABR *e* 18 07 45.6
HABR *e* 18 12 08.6
HABR *e* 18 15 32.8
HABR pmax pmax
comp=Z,416nm,2.8s,mb5.9
HABR MLR MLR
comp=Z,3μm,20.1s,MS5.6
CN2 Changchun 76.16 329 *e*P **P 17 57 37.4 -0.4**
CN2 PCP PcP 17 57 49.5 -0.3
CN2 *e*XP sP 17 57 55.8 +8.1
CN2 *e*PP PP 18 00 30.9 +1.6
CN2 *e*S S 18 07 17.9 -2.6
CN2 *e*SS SS 18 12 16.1 +1.4
CN2 AMB AMB
comp=Z,10.0nm,1.0s,mb4.7
CN2 AMB AMB
comp=Z,200nm,5.0s
CN2 LR LR
comp=N,3μm,18.0s,MS5.8
CN2 LR LR
comp=E,3μm,18.0s,MS5.8
MAW Mawson 76.64 202 ⇓*i*P **P 17 57 40.3 0.0**
comp=E,48nm,1.2s,mb5.3
MAW *e*S S 18 07 28.7 +3.4
MAW Mawson 76.64 202 P **P 17 57 40.3 -0.1**
comp=E,34nm,0.9s,mb5.3,baz=112,slow=8.0,SNR=56
MAW LR LR 18 27 17.9
comp=E,6μm,18.8s,MS5.9,baz=98,slow=32
MAW Mawson 76.64 202 ⇓*i*P **P 17 57 40.3 0.0**
MAW *e*S S 18 07 28.7 +3.4
MAW pmax pmax
comp=Z,48nm,1.2s
MAW MLR MLR
comp=Z,9μm,20.0s
MAW Mawson 76.64 202 ⇓*i*P **P 17 57 40.3 0.0**
comp=E,48nm,1.2s,mb5.3
MAW *e*S S 18 07 28.7 +3.4
MAW LR LR
comp=Z,9μm,20.0s,MS6.1
GYA Guiyang 76.98 305 ⇓*i*P **P 17 57 41.9 -1.0**
GYA AP pP 17 57 54.3 +4.2
GYA XP sP 17 57 59.4 +6.6
GYA PP PP 18 00 37.5 +0.9
GYA PPP 18 02 25.3
GYA S S 18 07 31.0 +0.7
GYA SKS 18 07 45.9
GYA SS SS 18 12 28.3 +0.4
GYA SSS 18 15 43.6
GYA AMB AMB
comp=Z,80nm,1.0s,mb5.6
GYA AMB AMB
comp=Z,970nm,4.2s
GYA LR LR
comp=N,2μm,19.5s,MS5.6
GYA LR LR
comp=E,2μm,23.4s,MS5.6
GYA LR LR
comp=Z,2μm,24.3s,MS5.3
NST Nakhon Sawan 77.10 293 **P 17 57 44.0 +0.2**
UNV Unalaska Valle 77.61 14 *e*P **P 17 57 44.4 -1.4**
comp=Z,51nm,0.8s,mb5.5
NANT Nan 78.03 296 ⇓P **P 17 57 47.0 -1.9**
comp=Z,672nm,1.0s,mb6.5
BJT Baijiatuan 78.48 321 *e*P **P 17 57 51.1 +0.2**
BJT *e* 18 00 50.8
BJT pmax pmax
comp=Z,42nm,0.5s
BJT MLR MLR
comp=Z,3μm,20.0s
BJT Baijiatuan 78.48 321 *e*P **P 17 57 51.0 +0.1**
comp=Z,42nm,0.5s,mb5.6
BJT *e*PP PP 18 00 50.8 +1.9
BJT LR LR
comp=Z,3μm,20.0s,MS5.6
BJI Beijing 78.49 321 P **P 17 57 51.6 +0.6**
BJI S S 18 07 49.8 +3.8
BJI SS SS 18 12 50.5 +0.4
BJI AMB AMB
comp=Z,95nm,2.0s,mb5.4
BJI AMB AMB
comp=Z,3μm,3.7s
BJI LR LR
comp=N,2μm,21.4s,MS5.6
BJI LR LR
comp=E,2μm,22.9s,MS5.6
BJI LR LR
comp=Z,3μm,37.0s
BJI Beijing 78.49 321 P **P 17 57 51.6 +0.6**
comp=Z,95nm,2.0s,mb5.4
BJI S S 18 07 49.7 +3.7
BJI SS SS 18 12 50.5 +0.4
BJI LR LR
comp=Z,3μm,37.0s,MS5.3
BDT Bhumibol Dam 78.77 293 P **P 17 57 53.0 0.0**
comp=Z,18nm,1.0s,mb5.0
CHRT Chiangrai 79.28 296 ⇑P **P 17 57 57.5 +1.7**
comp=Z,684nm,0.9s,mb6.6
TIY Taiyuan 79.31 317 P **P 17 57 58.3 +2.8**
TIY AMB AMB
comp=Z,2μm,6.8s
TIY LR LR
comp=N,2μm,14.7s,MS5.7
TIY LR LR
comp=E,1μm,14.4s,MS5.7
TIY LR LR
comp=Z,3μm,20.4s
KMI Kunming 79.35 302 P **P 17 57 57.5 +1.4**
KMI PCP PcP 17 58 04.9 +0.7
KMI AP pP 17 58 08.9 +5.6
KMI XP sP 17 58 13.6 +7.6
KMI PP PP 18 00 55.5 -1.0
KMI PPP 18 02 45.8
KMI S S 18 07 51.6 -4.2
KMI SKS 18 08 03.8
KMI XS sS 18 08 13.8 +6.0
KMI PS 18 08 41.5
KMI SS SS 18 12 59.8 -3.8
KMI SSS 18 16 23.1
KMI AMB AMB
comp=Z,177nm,1.1s,mb5.9
KMI AMB AMB
comp=Z,2μm,3.1s
KMI LR LR
comp=N,2μm,16.8s,MS5.7
KMI LR LR
comp=E,2μm,19.0s,MS5.7
KMI LR LR
comp=Z,3μm,22.0s,MS5.6
KMI Kunming 79.35 302 P **P 17 57 57.5 +1.4**
comp=Z,177nm,1.1s,mb5.9
KMI PcP PcP 17 58 04.9 +0.7
KMI pP pP 17 58 08.9 +5.6
KMI sP sP 17 58 13.6 +7.6
KMI PP PP 18 00 55.5 -1.0
KMI PPP 18 02 45.8
KMI S S 18 07 51.6 -4.2
KMI SKS 18 08 03.8
KMI sS sS 18 08 13.7 +5.9
KMI PS 18 08 41.5
KMI SS SS 18 12 59.7 -3.9
KMI SSS 18 16 23.1
KMI LR LR
comp=Z,3μm,22.0s,MS5.6
CM31 Chiang Mai Arr 79.36 295 PFAKE 17 58 10.0 +14
CM31 LR LR
comp=Z,2μm,19.0s,MS5.5
CMAR Chiang Mai Arr 79.36 295 P **P 17 57 57.2 +1.0**
comp=Z,28nm,0.9s,mb5.2,baz=134,slow=4.2,SNR=104
CMAR PKKPbc PKKPbc 18 16 42.7 -3.4
comp=Z,1.5nm,1.0s,baz=296,slow=3.4,SNR=5.7
CMAR PKPPKP 18 24 51.1
comp=Z,1.4nm,1.1s,baz=319,slow=2.6,SNR=5.3
CMAR LR LR 18 33 54.8
comp=Z,2μm,20.8s,MS5.3,baz=105,slow=36
CMAR Chiang Mai Arr 79.36 295 *i* P **P 17 57 57.2 +1.0**
CMAR pmax pmax
comp=Z,28nm,0.9s
XAN Xi'an 79.47 313 P **P 17 57 56.8 +0.3**
XAN AP pP 17 58 07.0 +3.2
XAN XP sP 17 58 13.0 +6.6
XAN S S 18 07 58.5 +1.8
XAN XS sS 18 08 16.4 +7.7
XAN SS SS 18 12 59.8 -5.3
XAN AMB AMB
comp=Z,74nm,1.5s,mb5.4
XAN AMB AMB
comp=Z,1μm,4.5s
XAN LR LR
comp=E,2μm,17.5s
XAN LR LR
comp=Z,5μm,17.5s,MS5.9
CHG Chiang Mai 79.52 295 ⇓P **P 17 57 59.0 +1.9**
comp=Z,75nm,0.8s,mb5.7
CHTO Chiang Mai 79.52 295 P **P 17 57 58.3 +1.2**
SNR=39
CHTO Chiang Mai 79.52 295 *e*P **P 17 57 57.5 +0.4**
CHTO pmax pmax
comp=Z,53nm,0.9s,mb5.5
CHTO MLR MLR
comp=Z,3μm,22.0s,MS5.5
CHTO Chiang Mai 79.52 295 *e*P **P 17 57 57.5 +0.4**
comp=Z,53nm,0.9s,mb5.5
CHTO LR LR
comp=Z,3μm,22.0s,MS5.5
CD2 Chengdu 81.47 308 ⇓*i*P **P 17 58 07.8 +0.5**
CD2 PP PP 18 01 16.1 +2.2
CD2 S S 18 08 18.8 +1.0
CD2 SKS 18 08 24.3
CD2 SS SS 18 13 38.6 +3.5
CD2 AMB AMB
comp=Z,110nm,1.4s,mb5.6
CD2 AMB AMB
comp=Z,1μm,5.2s
CD2 LR LR
comp=N,4μm,16.8s,MS5.9
CD2 LR LR
comp=E,3μm,19.8s,MS5.9
CD2 LR LR
comp=Z,3μm,20.2s,MS5.6
HHC Hu-ho-hao-te 81.74 320 ⇑P **P 17 58 09.6 +1.1**
HHC AP pP 17 58 22.9 +7.1
HHC XP sP 17 58 27.8 +9.4
HHC PP PP 18 01 21.5 +5.5
HHC S S 18 08 22.8 +2.6
HHC AMB AMB
comp=Z,71nm,1.8s,mb5.3
HHC AMB AMB
comp=Z,2μm,7.5s
HHC LR LR
comp=N,2μm,18.0s,MS5.7
HHC LR LR
comp=E,2μm,17.3s,MS5.7
HHC LR LR
comp=Z,3μm,17.5s,MS5.7
BTO Baotou 82.54 319 *e*P **P 17 58 14.6 +1.9**
HIA Hailar 82.83 330 *e*P **P 17 58 13.6 -0.4**
HIA pmax pmax
comp=Z,83nm,1.5s
HIA MLR MLR
comp=Z,4μm,20.0s
HIA Hailar 82.83 330 *e*P **P 17 58 13.6 -0.4**
comp=Z,83nm,1.5s,mb5.5
HIA LR LR
comp=Z,4μm,20.0s,MS5.7
SYO Syowa Base 83.07 196 ⇑*e*P **P 17 58 12.4 -2.7**
SYO Syowa Base 83.07 196 ⇓*i*PcP PcP 17 58 16.2 -3.5
LZH Lanzhou 84.08 312 *e*P **P 17 58 21.6 +0.8**
LZH AP pP 17 58 31.4 +3.3
LZH XP sP 17 58 37.0 +6.3
LZH PP PP 18 01 38.0 +2.7
LZH S S 18 08 44.0 -0.2
LZH XS sS 18 09 02.0 +5.8
LZH SS SS 18 14 17.0 +3.4
LZH AMB AMB
comp=Z,280nm,1.4s,mb6.2
LZH AMB AMB
comp=Z,1μm,4.0s
LZH LR LR
comp=E,3μm,16.2s
LZH LR LR
comp=Z,5μm,18.3s,MS6.0
LZH Lanzhou 84.08 312 *e*P **P 17 58 21.6 +0.8**
LZH *PP pP 17 58 31.4 +3.3
LZH 18 01 38.0
LZH S S 18 08 44.0 -0.2
LZH SS SS 18 14 17.0 +3.4
LZH pmax pmax
comp=Z,280nm,1.4s,mb6.2
LZH MLR MLR
comp=Z,5μm,18.3s,MS6.0
LZH Lanzhou 84.08 312 *e*P **P 17 58 21.6 +0.8**
comp=Z,280nm,1.4s,mb6.2
LZH pP pP 17 58 31.4 +3.3
LZH sP sP 17 58 37.0 +6.3
LZH PP PP 18 01 38.0 +2.7
LZH S S 18 08 44.0 -0.2
LZH sS sS 18 09 02.0 +5.8
LZH SS SS 18 14 17.0 +3.4
LZH SS SS 18 14 17.0 +3.4
LZH LR LR
comp=Z,5μm,18.3s,MS6.0
OHAK Old Harbor 84.18 19 *e*P **P 17 58 21.2 +0.4**
comp=Z,171nm,1.3s,mb6.0
OHAK LR LR
comp=Z,6μm,18.0s,MS6.0
KDAK Kodiak Island 84.86 19 LR LR 18 36 46.4
comp=Z,6μm,18.0s,MS6.0,baz=117,slow=36
KDAK Kodiak Island 84.86 19 *e*P **P 17 58 23.2 -1.0**
comp=Z,45nm,1.1s,mb5.5
KDAK LR LR
comp=Z,1μm,20.0s,MS5.3
SEY Seymchan 84.91 352 ⇑*e*P **P 17 58 25.7 +1.4**
PMSA Palmer Station 85.06 160 *e*P **P 17 58 24.9 -0.5**
comp=Z,209nm,1.3s,mb6.1
CLNS Chul'man 86.22 337 *e*P **P 17 58 33.6 +2.6**
CLNS *e* 18 01 58.9
CLNS *e*PPP 18 03 54.1
CLNS *e*S S 18 08 58.3 -6.1
CLNS pmax pmax
comp=Z,258nm,1.5s,mb6.2
CLNS pmax pmax
comp=N,172nm,1.6s
CLNS pmax pmax
comp=E,37nm,1.1s
CLNS pmax pmax
comp=Z,31nm,1.6s,mb5.3
CLNS pmax pmax
comp=E,13nm,1.4s
CLNS pmax pmax
comp=N,43nm,1.4s
CLNS smax
comp=E,2μm,11.8s
CLNS smax
comp=N,549nm,13.2s
IMP Imphal 86.30 298 *e*P **P 17 58 31.0 -1.2**
MCCM Marconi Confer 86.76 47 ⇑P **P 17 58 35.5 +1.3**
baz=87
SVW2 Sparrevohn 86.76 16 *e*P **P 17 58 35.4 +1.9**
JRSC Jasper Ridge 86.83 48 ⇑P **P 17 58 35.9 +1.4**
baz=87
V03C Hunter Liggett 86.86 49 ⇑P **P 17 58 35.5 +0.8**
baz=87,SNR=9.6
NVL N'lazarevskaya 86.92 187 *d i*P **P 17 58 34.2 -0.3**
NVL *e**PP pP 17 58 44.8 +3.0
NVL *e*S S 18 08 59.9 -11
NVL pmax pmax
comp=Z,110nm,1.4s,mb5.9
MAIT Maitri 86.93 187 *e*P **P 17 58 33.4 -1.1**
HOPS Hopland 87.06 46 ⇑P **P 17 58 36.8 +1.3**
baz=87,SNR=6.4
HOPS Hopland 87.06 46 *e*P **P 17 58 35.1 -0.4**
comp=Z,281nm,1.9s,mb6.2
HOPS LR LR
comp=Z,6μm,19.0s,MS6.0
KCPM Cahto Peak 87.07 45 *e*P **P 17 58 35.1 -0.4**
SAO San Andreas Ge 87.07 49 P **P 17 58 36.1 +0.4**
SAO pmax pmax
comp=Z,140nm,1.5s,mb6.0
SAO San Andreas Ge 87.07 49 *e*P **P 17 58 35.0 -0.7**
comp=Z,137nm,1.5s,mb6.0
NSHM Saint Helena R 87.14 47 *e*P **P 17 58 37.1 +1.2**
O01C Eel River Cons 87.14 45 ⇑P **P 17 58 37.5 +1.6**
baz=87,SNR=8.3
CVS Carmenet Viney 87.15 47 ⇑P **P 17 58 37.3 +1.3**
baz=87,SNR=8.2
KIPM Iron Peak 87.20 45 *e*P **P 17 58 36.7 +0.5**
SNAA Sanae 87.21 182 *e*P **P 17 58 34.8 -1.0**
SNAA *e* 17 58 36.8
SNAA *e* pP 17 58 39.9 -3.3
SNAA *e* 17 58 46.1
SNAA Sanae 87.21 182 *e*P **P 17 58 34.7 -1.1**
SNAA pmax pmax
comp=Z,200nm,1.1s
SNAA Sanae 87.21 182 *e*P **P 17 58 33.9 -1.9**
comp=Z,203nm,1.1s,mb6.3
PACP Pacheco Peak 87.30 49 P **P 17 58 37.3 +0.5**
baz=88,SNR=13
PKD Parkfield 87.32 50 ⇑P **P 17 58 37.2 +0.3**
baz=88,SNR=24
PKM Peak Mountain 87.34 51 ⇓P **P 17 58 37.7 +0.7**
baz=88,SNR=17
U04C Hernandez Rese 87.35 49 ⇓P **P 17 58 37.9 +0.9**
baz=88,SNR=7.2
JCC Jacoby Creek 87.35 44 ⇓P **P 17 58 38.1 +1.2**
baz=88
SMMC Simmler 87.41 51 ⇑P **P 17 58 38.0 +0.7**
baz=88,SNR=11
PTRM Twissleman Ran 87.42 50 *e*P **P 17 58 37.7 +0.3**
MNRC McLaughlin Nat 87.42 47 ⇓P **P 17 58 37.6 +0.3**
baz=88,SNR=16
CIT Chita 87.60 329 *e*P **P 17 58 38.0 +0.2**
CIT *e* 17 58 41.4
GASB Alder Springs 87.63 46 ⇓P **P 17 58 38.9 +0.6**
baz=88,SNR=25
KRMB Red Mountain 87.79 44 *e*P **P 17 58 40.5 +1.5**
VNA3 Neumayer Olymp 87.80 180 *e*P **P 17 58 37.6 -1.1**
VNA3 *e* 17 58 39.5
VNA3 *e* pP 17 58 42.6 -3.4
VNA3 *e* 17 58 50.8
VNA3 *e* 18 09 13.0
M01C Crescent City 87.82 43 ⇑P **P 17 58 40.1 +1.0**
baz=88,SNR=5.1
N02C Big Bar 87.83 45 ⇑P **P 17 58 39.8 +0.6**
baz=88,SNR=12
OSI Osito Adit 88.01 52 P **P 17 58 40.5 +0.3**
comp=Z,753nm,2.3s,mb6.5
VNA2 Neumayer--Watz 88.09 181 *e*P **P 17 58 39.7 -0.4**
baz=172,slow=3.5
VNA2 *e* 17 58 41.4
VNA2 *e* 17 58 44.4
VNA2 *e* 17 58 52.1
VNA2 *e* 18 09 14.7
S05C Merced 88.14 49 ⇑P **P 17 58 41.0 +0.2**
baz=88
R04C Big Horse Ranc 88.15 48 ⇑P **P 17 58 41.8 +1.0**
baz=88
ARVC Arvin 88.17 51 ⇓P **P 17 58 40.5 -0.5**
baz=88
WDC Whiskeytown Da 88.21 45 P **P 17 58 41.4 +0.4**
WDC pmax pmax
comp=Z,140nm,1.5s,mb6.0
WDC Whiskeytown Da 88.21 45 ⇑P **P 17 58 40.6 -0.4**
baz=88,SNR=18
WDC Whiskeytown Da 88.21 45 *e*P **P 17 58 40.6 -0.4**
comp=Z,143nm,1.6s,mb6.0
OHCM Honcut 88.30 47 *e*P **P 17 58 40.7 -0.7**
VES Vestal, Richgr 88.31 50 ⇑P **P 17 58 41.0 -0.6**
baz=89,SNR=6.7
SHL Shillong 88.32 298 ⇓*i*P **P 17 58 44.0 +2.1**
SHL *i* x x 18 09 12.5
MWC Mount Wilson 88.32 52 *e*P **P 17 58 43.0 +1.3**
MWC pmax pmax
comp=Z,240nm,1.7s,mb6.2
MWC Mount Wilson 88.32 52 *e*P **P 17 58 41.5 -0.2**
comp=Z,239nm,1.8s,mb6.1
VNA1 Neumayer--Stat 88.38 181 *e*P **P 17 58 40.8 -0.6**
VNA1 *e* 17 58 42.9
VNA1 *e* pP 17 58 45.6 -3.2
VNA1 *e* 17 58 53.4
VNA1 *e* 18 09 23.2
ORV Oroville 88.39 46 ⇓P **P 17 58 41.4 -0.5**
baz=89,SNR=52
M02C Callahan 88.41 44 ⇓P **P 17 58 42.0 +0.1**
baz=89,SNR=33
T06C Millerton Lake 88.41 49 ⇓P **P 17 58 41.3 -0.7**
baz=89,SNR=45
CMB Columbia Colle 88.42 48 *e*P **P 17 58 41.4 -0.7**
CMB pmax pmax
comp=Z,68nm,1.2s,mb5.8
CMB MLR MLR
comp=Z,5μm,20.0s,MS6.0
CMB Columbia Colle 88.42 48 ⇓P **P 17 58 41.0 -1.1**
baz=89,SNR=38
CMB Columbia Colle 88.42 48 *e*P **P 17 58 41.4 -0.7**
comp=Z,68nm,1.2s,mb5.8
CMB LR LR
comp=Z,5μm,20.0s,MS6.0
GTA Gaotai 88.51 313 P **P 17 58 42.3 -0.2**
GTA AP pP 17 58 55.0 +5.2
GTA XP sP 17 59 00.8 +8.4
GTA SKS 18 09 09.4
GTA S S 18 09 24.4 -2.8
GTA XS sS 18 09 45.0 +5.6
LZH SS SS 18 14 17.0 +3.4
LZH LR LR
comp=Z,5μm,18.3s,MS6.0
OHAK Old Harbor 84.18 19 *e*P **P 17 58 21.2 +0.4**
comp=Z,171nm,1.3s,mb6.0
OHAK LR LR
comp=Z,6μm,18.0s,MS6.0
KDAK Kodiak Island 84.86 19 LR LR 18 36 46.4
comp=Z,6μm,18.0s,MS6.0,baz=117,slow=36
KDAK Kodiak Island 84.86 19 *e*P **P 17 58 23.2 -1.0**
comp=Z,45nm,1.1s,mb5.5
KDAK LR LR
comp=Z,1μm,20.0s,MS5.3
SEY Seymchan 84.91 352 ⇑*e*P **P 17 58 25.7 +1.4**
PMSA Palmer Station 85.06 160 *e*P **P 17 58 24.9 -0.5**
comp=Z,209nm,1.3s,mb6.1
CLNS Chul'man 86.22 337 *e*P **P 17 58 33.6 +2.6**
CLNS *e* 18 01 58.9
CLNS *e*PPP 18 03 54.1
CLNS *e*S S 18 08 58.3 -6.1
CLNS pmax pmax
comp=Z,258nm,1.5s,mb6.2
CLNS pmax pmax
comp=N,172nm,1.6s
CLNS pmax pmax
comp=E,37nm,1.1s
CLNS pmax pmax
comp=Z,31nm,1.6s,mb5.3
CLNS pmax pmax
comp=E,13nm,1.4s
CLNS pmax pmax
comp=N,43nm,1.4s
CLNS smax
comp=E,2μm,11.8s
CLNS smax
comp=N,549nm,13.2s
IMP Imphal 86.30 298 *e*P **P 17 58 31.0 -1.2**
MCCM Marconi Confer 86.76 47 ⇑P **P 17 58 35.5 +1.3**
baz=87
SVW2 Sparrevohn 86.76 16 *e*P **P 17 58 35.4 +1.9**
JRSC Jasper Ridge 86.83 48 ⇑P **P 17 58 35.9 +1.4**
baz=87
V03C Hunter Liggett 86.86 49 ⇑P **P 17 58 35.5 +0.8**
baz=87,SNR=9.6
NVL N'lazarevskaya 86.92 187 *d i*P **P 17 58 34.2 -0.3**
NVL *e**PP pP 17 58 44.8 +3.0
NVL *e*S S 18 08 59.9 -11
NVL pmax pmax
comp=Z,110nm,1.4s,mb5.9
MAIT Maitri 86.93 187 *e*P **P 17 58 33.4 -1.1**
HOPS Hopland 87.06 46 ⇑P **P 17 58 36.8 +1.3**
baz=87,SNR=6.4
HOPS Hopland 87.06 46 *e*P **P 17 58 35.1 -0.4**
comp=Z,281nm,1.9s,mb6.2
HOPS LR LR
comp=Z,6μm,19.0s,MS6.0
KCPM Cahto Peak 87.07 45 *e*P **P 17 58 35.1 -0.4**
SAO San Andreas Ge 87.07 49 P **P 17 58 36.1 +0.4**
SAO pmax pmax
comp=Z,140nm,1.5s,mb6.0
SAO San Andreas Ge 87.07 49 *e*P **P 17 58 35.0 -0.7**
comp=Z,137nm,1.5s,mb6.0
NSHM Saint Helena R 87.14 47 *e*P **P 17 58 37.1 +1.2**
O01C Eel River Cons 87.14 45 ⇑P **P 17 58 37.5 +1.6**
baz=87,SNR=8.3
CVS Carmenet Viney 87.15 47 ⇑P **P 17 58 37.3 +1.3**
baz=87,SNR=8.2
KIPM Iron Peak 87.20 45 *e*P **P 17 58 36.7 +0.5**
SNAA Sanae 87.21 182 *e*P **P 17 58 34.8 -1.0**
SNAA *e* 17 58 36.8
SNAA *e* pP 17 58 39.9 -3.3
SNAA *e* 17 58 46.1
SNAA Sanae 87.21 182 *e*P **P 17 58 34.7 -1.1**
SNAA pmax pmax
comp=Z,200nm,1.1s
SNAA Sanae 87.21 182 *e*P **P 17 58 33.9 -1.9**
comp=Z,203nm,1.1s,mb6.3
PACP Pacheco Peak 87.30 49 P **P 17 58 37.3 +0.5**
baz=88,SNR=13
PKD Parkfield 87.32 50 ⇑P **P 17 58 37.2 +0.3**
baz=88,SNR=24
PKM Peak Mountain 87.34 51 ⇓P **P 17 58 37.7 +0.7**
baz=88,SNR=17
U04C Hernandez Rese 87.35 49 ⇓P **P 17 58 37.9 +0.9**
baz=88,SNR=7.2
JCC Jacoby Creek 87.35 44 ⇓P **P 17 58 38.1 +1.2**
baz=88
SMMC Simmler 87.41 51 ⇑P **P 17 58 38.0 +0.7**
baz=88,SNR=11
PTRM Twissleman Ran 87.42 50 *e*P **P 17 58 37.7 +0.3**
MNRC McLaughlin Nat 87.42 47 ⇓P **P 17 58 37.6 +0.3**
baz=88,SNR=16
CIT Chita 87.60 329 *e*P **P 17 58 38.0 +0.2**
CIT *e* 17 58 41.4
GASB Alder Springs 87.63 46 ⇓P **P 17 58 38.9 +0.6**
baz=88,SNR=25
KRMB Red Mountain 87.79 44 *e*P **P 17 58 40.5 +1.5**
VNA3 Neumayer Olymp 87.80 180 *e*P **P 17 58 37.6 -1.1**
VNA3 *e* 17 58 39.5
VNA3 *e* pP 17 58 42.6 -3.4
VNA3 *e* 17 58 50.8
VNA3 *e* 18 09 13.0
M01C Crescent City 87.82 43 ⇑P **P 17 58 40.1 +1.0**
baz=88,SNR=5.1
N02C Big Bar 87.83 45 ⇑P **P 17 58 39.8 +0.6**
baz=88,SNR=12
OSI Osito Adit 88.01 52 P **P 17 58 40.5 +0.3**
comp=Z,753nm,2.3s,mb6.5
VNA2 Neumayer--Watz 88.09 181 *e*P **P 17 58 39.7 -0.4**
baz=172,slow=3.5
VNA2 *e* 17 58 41.4
VNA2 *e* 17 58 44.4
VNA2 *e* 17 58 52.1
VNA2 *e* 18 09 14.7
S05C Merced 88.14 49 ⇑P **P 17 58 41.0 +0.2**
baz=88
R04C Big Horse Ranc 88.15 48 ⇑P **P 17 58 41.8 +1.0**
baz=88
ARVC Arvin 88.17 51 ⇓P **P 17 58 40.5 -0.5**
baz=88
WDC Whiskeytown Da 88.21 45 P **P 17 58 41.4 +0.4**
WDC pmax pmax
comp=Z,140nm,1.5s,mb6.0
WDC Whiskeytown Da 88.21 45 ⇑P **P 17 58 40.6 -0.4**
baz=88,SNR=18
WDC Whiskeytown Da 88.21 45 *e*P **P 17 58 40.6 -0.4**
comp=Z,143nm,1.6s,mb6.0
OHCM Honcut 88.30 47 *e*P **P 17 58 40.7 -0.7**
VES Vestal, Richgr 88.31 50 ⇑P **P 17 58 41.0 -0.6**
baz=89,SNR=6.7
SHL Shillong 88.32 298 ⇓*i*P **P 17 58 44.0 +2.1**
SHL *i* x x 18 09 12.5
MWC Mount Wilson 88.32 52 *e*P **P 17 58 43.0 +1.3**
MWC pmax pmax
comp=Z,240nm,1.7s,mb6.2
MWC Mount Wilson 88.32 52 *e*P **P 17 58 41.5 -0.2**
comp=Z,239nm,1.8s,mb6.1
VNA1 Neumayer--Stat 88.38 181 *e*P **P 17 58 40.8 -0.6**
VNA1 *e* 17 58 42.9
VNA1 *e* pP 17 58 45.6 -3.2
VNA1 *e* 17 58 53.4
VNA1 *e* 18 09 23.2
ORV Oroville 88.39 46 ⇓P **P 17 58 41.4 -0.5**
baz=89,SNR=52
M02C Callahan 88.41 44 ⇓P **P 17 58 42.0 +0.1**
baz=89,SNR=33
T06C Millerton Lake 88.41 49 ⇓P **P 17 58 41.3 -0.7**
baz=89,SNR=45
CMB Columbia Colle 88.42 48 *e*P **P 17 58 41.4 -0.7**
CMB pmax pmax
comp=Z,68nm,1.2s,mb5.8
CMB MLR MLR
comp=Z,5μm,20.0s,MS6.0
CMB Columbia Colle 88.42 48 ⇓P **P 17 58 41.0 -1.1**
baz=89,SNR=38
CMB Columbia Colle 88.42 48 *e*P **P 17 58 41.4 -0.7**
comp=Z,68nm,1.2s,mb5.8
CMB LR LR
comp=Z,5μm,20.0s,MS6.0
GTA Gaotai 88.51 313 P **P 17 58 42.3 -0.2**
GTA AP pP 17 58 55.0 +5.2
GTA XP sP 17 59 00.8 +8.4
GTA SKS 18 09 09.4
GTA S S 18 09 24.4 -2.8
GTA XS sS 18 09 45.0 +5.6

GTA SS SS 18 15 16.3 -2.2
GTA AMB AMB
comp=Z,12nm,1.4s,mb5.0
GTA AMB AMB
comp=Z,1µm,4.8s
GTA LR LR
comp=N,3µm,16.8s,MS5.9
GTA LR LR
comp=E,2µm,18.9s,MS5.9
GTA LR LR
comp=Z,3µm,19.8s,MS5.7
LAVA Lava Cap Winer 88.53 47 ⇓P **P 17 58 42.2 -0.4**
baz=89,SNR=12
BFSC Mount Baldy St 88.63 52 ⇑P **P 17 58 42.9 -0.2**
baz=89,SNR=8.3
EDW2 Edwards Air Fo 88.67 52 ⇓P **P 17 58 42.7 -0.6**
baz=89,SNR=18
YBH Yreka Blue Hor 88.67 44 P **P 17 58 43.4 +0.3**
comp=Z,18nm,1.1s,mb5.3,baz=162,slow=1.4,SNR=18
YBH LR LR 18 30 53.8
comp=Z,5µm,20.4s,MS5.9,baz=241,slow=30
YBH Yreka Blue Hor 88.67 44 P **P 17 58 43.9 +0.7**
YBH pmax pmax
comp=Z,250nm,1.9s
YBH Yreka Blue Hor 88.67 44 ⇑P **P 17 58 43.2 +0.1**
baz=89,SNR=23
YBH Yreka Blue Hor 88.67 44 *e*P **P 17 58 43.1 -0.1**
comp=Z,245nm,2.0s,mb6.2
ISA Isabella 88.67 51 P **P 17 58 43.4 0.0**
ISA pmax pmax
comp=Z,130nm,1.4s,mb6.1
ISA Isabella 88.67 51 ⇓P **P 17 58 43.1 -0.3**
baz=89,SNR=34
ISA Isabella 88.67 51 *e*P **P 17 58 42.7 -0.6**
comp=Z,132nm,1.4s,mb6.1
MURC Murrieta 88.68 53 ⇓P **P 17 58 42.8 -0.6**
baz=89,SNR=7.5
K02A Glendale 88.69 43 ⇑P **P 17 58 43.5 +0.3**
baz=89,SNR=8.6
HELL Mitchell Peak 88.75 50 P **P 17 58 43.0 -0.6**
baz=89,SNR=33
YAK Yakutsk 88.75 343 *e*P **P 17 58 42.4 -0.6**
YAK *e* 17 58 45.5
YAK *e**PP pP 17 58 55.5 +5.1
YAK *e* 18 02 10.7
YAK *e*S SKSac 18 09 07.9 -2.8
YAK *e* 18 09 30.2
YAK *e*SS SS 18 15 22.5 +1.4
YAK pmax pmax
comp=Z,91nm,1.1s,mb6.0
YAK pmax pmax
comp=N,20nm,1.2s
YAK pmax pmax
comp=E,11nm,1.0s
YAK pmax pmax
comp=N,174nm,3.0s
YAK pmax pmax
comp=Z,538nm,3.0s
YAK pmax pmax
comp=E,241nm,3.0s
YAK smax
comp=E,344nm,3.2s
YAK smax
comp=N,723nm,4.2s
YAK MLR MLR
comp=E,3µm,14.0s,MS6.0
YAK MLR MLR
comp=N,4µm,18.0s,MS6.0
YAK MLR MLR
comp=Z,5µm,19.0s,MS5.9
SONM Songino Array 88.81 323 P **P 17 58 44.0 +0.3**
comp=Z,28nm,1.0s,mb5.6,baz=129,slow=3.5,SNR=54
SONM PKKPbc PKKPbc 18 16 23.3 -2.0
comp=Z,2.5nm,1.1s,baz=334,slow=1.1,SNR=6.9
SONM PKPPKP 18 24 29.1
comp=Z,1.3nm,1.0s,baz=288,slow=1.3,SNR=5.4
SONM LR LR 18 36 15.2
comp=Z,3µm,21.0s,MS5.7,baz=126,slow=34
M03C McCloud 88.83 45 ⇓P **P 17 58 44.1 +0.2**
baz=89,SNR=8.9
KCC Kaiser Creek 88.84 49 ⇑P **P 17 58 43.6 -0.4**
baz=89,SNR=26
J02A Umpqua 88.94 42 ⇓P **P 17 58 43.4 -1.1**
baz=89,SNR=7.8
HUMO Hull Mountain 88.95 43 ⇑P **P 17 58 44.6 +0.2**
baz=89,SNR=24
HUMO Hull Mountain 88.95 43 *e*P **P 17 58 44.1 -0.4**
comp=Z,47nm,1.1s,mb5.7
HUMO LR LR
comp=Z,6µm,19.0s,MS6.0
MONP Monument Peak 88.95 54 ⇓P **P 17 58 44.8 +0.1**
baz=89,SNR=11
O05C Quincy 88.98 46 ⇑P **P 17 58 44.3 -0.4**
baz=89,SNR=28
O04C Chester 89.05 46 ⇓P **P 17 58 45.0 +0.1**
baz=89,SNR=6.4
DVTC Desert V Tower 89.09 54 ⇓P **P 17 58 45.9 +0.5**
baz=89,SNR=5.9
I02A Mapleton 89.11 42 ⇓P **P 17 58 44.9 -0.3**
baz=89
LBCM Butte Creek Ri 89.12 45 P **P 17 58 45.2 -0.1**
LRMC Laurel Mountai 89.16 51 ⇓P **P 17 58 45.3 -0.4**
baz=89,SNR=48
PFO Pinyon Flat Ob 89.24 53 P **P 17 58 47.0 +0.9**
comp=Z,215nm,1.3s,mb6.3,SNR=7.6
PFO Pinyon Flat Ob 89.24 53 P **P 17 58 47.5 +1.4**
comp=Z,32nm,1.1s,mb5.6,baz=258,slow=1.8,SNR=11
PFO LR LR 18 30 36.6
comp=Z,3µm,19.9s,MS5.8,baz=247,slow=30
PFO Pinyon Flat Ob 89.24 53 P **P 17 58 46.4 +0.3**
PFO pmax pmax
comp=Z,350nm,2.1s,mb6.3
PFO Pinyon Flat Ob 89.24 53 ⇓P **P 17 58 46.0 -0.1**
baz=90,SNR=10
PFO Pinyon Flat Ob 89.24 53 *e*P **P 17 58 45.8 -0.3**
comp=Z,351nm,2.1s,mb6.3
M04C Macdoel 89.26 44 ⇓P **P 17 58 45.0 -1.0**
baz=90,SNR=9.5
R06C Coleville 89.30 48 ⇓P **P 17 58 45.4 -0.9**
baz=90,SNR=47
BEKR Beckwourth 89.32 46 P **P 17 58 46.2 0.0**
baz=90,SNR=35
MLAC Mammoth Lakes 89.32 49 ⇑P **P 17 58 45.6 -0.7**
baz=90,SNR=8.2
MTUM Tungsten Hills 89.38 49 *e*P **P 17 58 47.0 +0.3**
L04A Klamath Falls 89.42 44 ⇓P **P 17 58 46.5 -0.2**
baz=90,SNR=7.4
I03A Eugene 89.44 42 ⇓P **P 17 58 46.1 -0.6**
baz=90
SWSC Sam W. Stewart 89.45 54 ⇑P **P 17 58 46.1 -0.9**
baz=90,SNR=11
WCN Washoe City 89.46 47 ⇓P **P 17 58 46.6 -0.3**
baz=90,SNR=10
P06A Stead Airport, 89.54 47 ⇑P **P 17 58 47.3 0.0**
baz=90,SNR=6.3
MPOR Mary's Peak 89.54 41 P **P 17 58 47.8 +0.6**
MPMC Manual Prospec 89.57 51 ⇑P **P 17 58 47.5 0.0**
baz=90,SNR=59
DAC Darwin (Calif) 89.59 51 PFAKE 17 59 00.0 +12
DAC LR LR
comp=Z,4µm,19.0s,MS5.9
GSC Goldstone 89.73 52 P **P 17 58 48.5 +0.2**
GSC pmax pmax
comp=Z,130nm,1.6s,mb6.0
GSC Goldstone 89.73 52 ⇓P **P 17 58 48.0 -0.3**
baz=90,SNR=12
GSC Goldstone 89.73 52 *e*P **P 17 58 48.2 -0.1**
comp=Z,128nm,1.6s,mb6.0
COR Corvallis 89.73 41 *e*P **P 17 58 48.7 +0.6**
COR pmax pmax
comp=Z,23nm,0.9s,mb5.5
COR MLR MLR
comp=Z,4µm,19.0s,MS5.8
COR Corvallis 89.73 41 *e*P **P 17 58 48.7 +0.6**
comp=Z,23nm,0.9s,mb5.5
COR LR LR
comp=Z,4µm,19.0s,MS5.8
BELC Belle Mtn. 89.75 53 ⇓P **P 17 58 48.3 -0.1**
baz=90,SNR=48
HEBO Mount Hebo 89.78 41 *e*P **P 17 58 49.9 +1.6**
comp=Z,311nm,1.7s,mb6.4
H03A Soap Creek Ran 89.79 41 ⇑P **P 17 58 48.2 -0.1**
baz=90,SNR=11
O06A Flanigan 89.82 46 P **P 17 58 48.7 +0.1**
baz=90,SNR=51
HEC Hector,Ludlow 89.87 52 ⇓P **P 17 58 48.7 -0.3**
baz=90,SNR=29

M06C Likely Place G 89.88 45 ⇓P **P 17 58 49.2 +0.3**
baz=90,SNR=10
I04A Tendick Farm, 89.89 42 ⇑P **P 17 58 48.5 -0.4**
baz=90,SNR=13
PAHR Pah Rah Range 89.90 47 *e*P **P 17 58 48.7 -0.3**
comp=Z,94nm,1.3s,mb6.0
BC3 Big Chuckw Mtn 90.02 54 ⇓P **P 17 58 49.5 -0.2**
baz=90,SNR=24
KTH Kantishna Hill 90.03 17 *e*P **P 17 58 48.0 -1.0**
comp=Z,24nm,1.3s,mb5.4
L05A Lakeview 90.05 44 ⇓P **P 17 58 50.2 +0.6**
baz=90,SNR=24
NVAR Mina Array Bea 90.06 48 P **P 17 58 49.7 -0.1**
comp=Z,30nm,0.9s,mb5.6,baz=227,slow=7.8,SNR=63
NVAR PKKPbc PKKPbc 18 16 23.5 +1.9
comp=Z,0.7nm,0.8s,baz=193,slow=2.9,SNR=3.6
NVAR PKPPKP 18 24 35.9
comp=Z,0.8nm,0.9s,baz=75,slow=3.5,SNR=4.7
NVAR Mina Array Bea 90.06 48 P **P 17 58 49.7 -0.1**
NVAR PKKPbc PKKPbc 18 16 23.5 +1.9
NVAR P'P' 18 24 35.9
GRAC Grapevine Rang 90.07 50 ⇓P **P 17 58 49.9 0.0**
baz=90,SNR=6.8
CAL Calcutta 90.09 294 *e*P **P 17 58 50.4 +0.1**
CAL *e*S SKSac 18 09 15.1 -5.2
N06A Buffalo Meadow 90.09 46 ⇑P **P 17 58 49.7 -0.2**
baz=90,SNR=48
IRO Indian Ridge 90.09 42 P **P 17 58 49.8 0.0**
TRF Thorofare Moun 90.11 17 *e*P **P 17 58 50.7 +1.3**
comp=Z,17nm,1.0s,mb5.3
KMOR Kings Mountain 90.16 40 P **P 17 58 50.7 +0.7**
R08A Mina 90.16 49 ⇓P **P 17 58 50.0 -0.3**
baz=90,SNR=18
FURC Furnace Creek, 90.20 51 ⇓P **P 17 58 50.4 -0.1**
baz=90,SNR=17
LPIG La Paz 90.22 64 P **P 17 58 52.5 +1.7**
comp=Z,16nm,0.3s,mb5.8,baz=4.6,slow=6.9,SNR=5.2
LPIG LR LR 18 29 40.5
comp=Z,6µm,21.9s,MS6.0,baz=241,slow=29
GLA Glamis 90.23 55 P **P 17 58 51.6 +0.9**
GLA pmax pmax
comp=Z,190nm,1.2s,mb6.3
GLA Glamis 90.23 55 ⇑P **P 17 58 50.5 -0.2**
baz=90,SNR=24
GLA Glamis 90.23 55 *e*P **P 17 58 51.1 +0.4**
comp=Z,186nm,1.3s,mb6.3
FRIS Frissel Point 90.29 42 P **P 17 58 50.9 +0.2**
MOD Modoc 90.32 45 ⇑P **P 17 58 50.5 -0.4**
baz=91,SNR=30
MOD Modoc 90.32 45 *e*P **P 17 58 50.5 -0.4**
comp=Z,146nm,1.6s,mb6.1
K05A Summer Lake 90.33 44 ⇑P **P 17 58 50.7 -0.3**
baz=91,SNR=28
GMRC Granite Mounta 90.34 53 ⇑P **P 17 58 50.8 -0.4**
baz=91,SNR=28
SHOC Shoshone 90.38 51 ⇑P **P 17 58 51.2 -0.1**
baz=91,SNR=20
J05A Fort Rock 90.39 43 ⇓P **P 17 58 51.2 0.0**
baz=91,SNR=50
TUQ Turquoise Moun 90.43 52 ⇑P **P 17 58 50.8 -0.8**
baz=91,SNR=26
IRM Iron Mountain 90.46 53 ⇓P **P 17 58 51.5 -0.2**
baz=91,SNR=40
O07A Toulon 90.46 47 ⇑P **P 17 58 51.1 -0.5**
baz=91,SNR=32
H04A Detroit Lake 90.47 42 ⇑P **P 17 58 50.8 -0.7**
baz=91,SNR=8.0
S09A Goldfield 90.50 49 ⇓P **P 17 58 51.3 -0.5**
baz=91,SNR=44
Q08A Gabbs 90.52 48 P **P 17 58 51.9 0.0**
baz=91,SNR=42
G04A Mulino 90.55 41 ⇑P **P 17 58 51.8 -0.1**
baz=91
U10A Ash Meadows, A 90.57 51 ⇓P **P 17 58 51.9 -0.3**
baz=91,SNR=36
E03A Lebam 90.58 39 ⇓P **P 17 58 51.6 -0.4**
baz=91,SNR=12
LSA Lhasa 90.60 302 P **P 17 58 53.0 +0.5**
LSA Lhasa 90.60 302 *e*P **P 17 58 52.9 +0.4**
LSA pmax pmax
comp=Z,38nm,0.9s,mb5.7
LSA Lhasa 90.60 302 *e*P **P 17 58 52.9 +0.4**
comp=Z,38nm,0.9s,mb5.7
TPH Tonopah 90.66 49 P **P 17 58 53.0 +0.4**
TPH pmax pmax
comp=Z,200nm,1.7s,mb6.2
TPH Tonopah 90.66 49 *e*P **P 17 58 52.5 -0.1**
comp=Z,204nm,1.7s,mb6.2
N07B Gerlach 90.68 46 ⇓P **P 17 58 52.3 -0.4**
baz=91,SNR=39
MCK McKinley 90.71 17 *e*P **P 17 58 52.9 +0.7**
BMW Boistfort Moun 90.74 40 P **P 17 58 54.7 +2.0**
BMW Boistfort Moun 90.74 40 *e*P **P 17 58 52.9 +0.2**
Y12C Blythe 90.76 54 ⇑P **P 17 58 53.0 -0.2**
baz=91,SNR=19
K06A Valley Falls 90.78 44 ⇓P **P 17 58 52.7 -0.4**
baz=91,SNR=29
OOW Octopus West 90.82 38 P **P 17 58 54.1 +1.0**
M07A Soldier Meadow 90.83 46 ⇓P **P 17 58 53.0 -0.3**
baz=91,SNR=28
NLWA Neilton Lookou 90.83 39 ⇓P **P 17 58 53.0 -0.1**
baz=91,SNR=7.6
NLWA Neilton Lookou 90.83 39 *e*P **P 17 58 53.1 0.0**
comp=Z,66nm,1.4s,mb5.8
R09A Tonopah 90.84 49 P **P 17 58 53.5 +0.1**
baz=91,SNR=14
TPNV Topopah Spring 90.86 51 *e*P **P 17 58 53.0 -0.5**
TPNV *e* 18 02 34.3
TPNV pmax pmax
comp=Z,85nm,1.2s,mb6.0
TPNV Topopah Spring 90.86 51 ⇑P **P 17 58 53.2 -0.3**
baz=91,SNR=63
TPNV Topopah Spring 90.86 51 *e*P **P 17 58 53.0 -0.5**
comp=Z,85nm,1.2s,mb6.0
TPNV *e*PP PP 18 02 34.3 +4.4
LDFC Landfair 90.88 53 *e*P **P 17 58 54.1 +0.4**
comp=Z,200nm,1.3s,mb6.3
113A Mohawk Valley, 90.92 55 ⇓P **P 17 58 53.9 -0.1**
baz=91,SNR=29
V11A Goodsprings 90.97 52 ⇑P **P 17 58 54.4 +0.3**
baz=91,SNR=15
O08A Rochester Mine 91.01 47 ⇓P **P 17 58 54.2 0.0**
baz=91,SNR=46
L07A Adell 91.01 45 ⇑P **P 17 58 54.2 +0.1**
baz=91,SNR=29
Q09A Carvers 91.03 49 ⇓P **P 17 58 54.8 +0.5**
baz=91,SNR=6.6
S10A Tonopah Range, 91.04 50 ⇑P **P 17 58 54.1 -0.2**
baz=91,SNR=79
H05A Madras 91.05 42 ⇓P **P 17 58 54.2 -0.1**
baz=91,SNR=6.4
J06A Christmas Vall 91.06 44 ⇑P **P 17 58 53.7 -0.7**
baz=91,SNR=37
BOD Bodaibo 91.11 334 *e*P **P 17 58 54.7 +0.5**
BOD pmax pmax
comp=Z,56nm,2.1s,mb5.5
HOOD Mount Hood Mea 91.12 41 *e*P **P 17 58 55.2 +0.7**
comp=Z,36nm,0.9s,mb5.7
OSD Olympics--Snow 91.15 38 P **P 17 58 55.4 +0.8**
N08A GE Springer Mi 91.25 46 P **P 17 58 55.1 -0.1**
baz=92,SNR=35
PDMCI Parker Dam,Lak 91.28 54 ⇓P **P 17 58 55.3 -0.2**
baz=92,SNR=22
Y13A Salome 91.31 54 ⇓P **P 17 58 55.7 0.0**
baz=92,SNR=6.3
214A Organ Pipe Nat 91.32 56 ⇑P **P 17 58 56.0 +0.2**
baz=92,SNR=17
V12A Nelson 91.35 52 ⇑P **P 17 58 55.8 0.0**
baz=92,SNR=10
I06A Prineville 91.36 43 ⇑P **P 17 58 55.6 -0.1**
baz=92,SNR=5.4
B04A Port Angeles 91.38 38 ⇑P **P 17 58 55.9 +0.2**
baz=92,SNR=11
K07A Rock Creek Ran 91.39 44 ⇓P **P 17 58 55.7 -0.2**
baz=92,SNR=50
M08A Happy Creek Ra 91.39 46 ⇓P **P 17 58 55.7 -0.2**
baz=92,SNR=14
R10A Warm Springs 91.40 49 ⇓P **P 17 58 56.3 +0.2**
baz=92,SNR=41
F05A White Salmon 91.51 41 ⇑P **P 17 58 56.3 0.0**
baz=92,SNR=9.4
C04A Brinnon 91.52 39 ⇑P **P 17 58 56.6 +0.3**
baz=92,SNR=7.2
S11A Rachel 91.52 50 P **P 17 58 56.6 +0.1**
baz=92,SNR=14
GNW Green Mountain 91.53 39 *e*P **P 17 58 56.2 -0.2**
comp=Z,46nm,1.2s,mb5.7

WRAK Wrangell Islan 91.55 28 *e*P **P 17 58 56.6 +0.4**
comp=Z,28nm,0.8s,mb5.7
Q10A Clear Creek Ra 91.57 49 P **P 17 58 57.2 +0.5**
baz=92,SNR=16
X13A Yucca 91.63 53 P **P 17 58 57.3 +0.1**
baz=92,SNR=36
H06A Lindquist Farm 91.65 42 P **P 17 58 56.7 -0.3**
baz=92,SNR=54
E05A Randle 91.66 40 ⇑P **P 17 58 56.1 -0.9**
baz=92,SNR=20
J07A Hines 91.66 44 ⇑P **P 17 58 56.3 -0.8**
baz=92,SNR=13
WVOR Wild Horse Val 91.67 45 P **P 17 58 57.4 +0.2**
WVOR pmax pmax
comp=Z,50nm,1.2s,mb5.7
WVOR Wild Horse Val 91.67 45 *e*P **P 17 58 57.0 -0.1**
comp=Z,50nm,1.2s,mb5.7
N09A Rock Creek Ran 91.69 47 ⇓P **P 17 58 56.6 -0.7**
baz=92,SNR=9.8
G06A Carlson Farm, 91.70 42 ⇑P **P 17 58 56.4 -0.8**
baz=92,SNR=9.8
BMN Battle Mountai 91.71 47 *e*P **P 17 58 57.2 -0.2**
BMN pmax pmax
comp=Z,44nm,1.1s,mb5.7
BMN MLR MLR
comp=Z,4µm,19.0s,MS5.8
BMN Battle Mountai 91.71 47 *e*P **P 17 58 57.1 -0.3**
comp=Z,44nm,1.1s,mb5.7
BMN LR LR
comp=Z,4µm,19.0s,MS5.8
PGC Sidney 91.71 38 *e*P **P 17 58 56.3 -0.9**
comp=Z,106nm,1.3s,mb6.0
LON Longmire 91.72 40 P **P 17 58 58.3 +1.0**
LON pmax pmax
comp=Z,27nm,1.3s,mb5.4
LON Longmire 91.72 40 *e*P **P 17 58 55.5 -1.8**
comp=Z,27nm,1.3s,mb5.4
T11A Corn Creek, Al 91.72 51 P **P 17 58 57.7 +0.2**
baz=92,SNR=55
L08A Fields 91.75 45 P **P 17 58 57.8 +0.3**
baz=92,SNR=36
Z14A Wintersburg 91.79 55 ⇓P **P 17 58 58.0 0.0**
baz=92,SNR=16
W13A Hualapai Mount 91.80 53 ⇓P **P 17 58 57.9 -0.1**
baz=92,SNR=34
D05A Enumclaw 91.83 39 ⇑P **P 17 58 58.1 +0.3**
baz=92,SNR=6.5
F06A Goldendale 91.87 41 ⇑P **P 17 58 58.1 +0.1**
baz=92,SNR=10
I07A Izee 91.87 43 ⇓P **P 17 58 57.7 -0.4**
baz=92,SNR=34
U12A Valley of Fire 91.88 52 ⇓P **P 17 58 58.7 +0.4**
baz=92,SNR=11
COLA College 91.90 17 *e*P **P 17 58 58.4 +0.7**
COLA pmax pmax
comp=Z,18nm,0.8s,mb5.5
COLA MLR MLR
comp=Z,3µm,19.0s,MS5.8
COLA College 91.90 17 *e*P **P 17 58 58.4 +0.8**
comp=Z,18nm,0.8s,mb5.5
COLA LR LR
comp=Z,3µm,19.0s,MS5.8
ZAK Zakamensk 91.91 324 *e*P **P 17 58 57.7 -0.4**
ZAK *e* 18 09 31.8
ZAK pmax pmax
comp=Z,46nm,1.5s,mb5.6
R11A Troy Canyon, C 91.94 49 ⇓P **P 17 58 58.1 -0.4**
baz=92,SNR=21
Y14A Wickenburg 91.98 54 ⇑P **P 17 58 58.9 0.0**
baz=92,SNR=15
M09A Marrel Ranch, 92.00 46 ⇓P **P 17 58 58.8 +0.1**
baz=92,SNR=11
V13A Grand Canyon W 92.04 52 P **P 17 58 59.1 +0.1**
baz=92,SNR=47
115A Sonoran Desert 92.08 56 ⇓P **P 17 58 58.8 -0.5**
baz=92,SNR=11
Q11A Duckwater 92.10 49 P **P 17 58 59.9 +0.6**
baz=92,SNR=23
E06A Yakima 92.12 40 ⇓P **P 17 58 59.3 +0.1**
baz=92,SNR=11
O10A Cortez Mining, 92.14 47 ⇑P **P 17 58 59.6 +0.2**
baz=92,SNR=8.3
S12A Delamar Landin 92.15 50 ⇓P **P 17 58 59.9 +0.4**
baz=92,SNR=71
A04A Legoe Bay, Lum 92.17 38 ⇓P **P 17 58 58.0 -1.3**
baz=92,SNR=12
J08A Circle Bar Ran 92.20 44 ⇑P **P 17 58 59.0 -0.6**
baz=92,SNR=24
SKAG Skagway 92.20 25 *e*P **P 17 59 00.3 +1.1**
comp=Z,52nm,1.4s,mb5.7
SKAG LR LR
comp=Z,6µm,18.0s,MS6.1
C05A Tolt Reservoir 92.26 39 ⇑P **P 17 58 59.1 -0.6**
baz=92,SNR=6.4
X14A Yava 92.29 54 ⇑P **P 17 59 00.4 +0.2**
baz=92,SNR=43
U13A Pakoon Wash 92.29 52 ⇑P **P 17 58 59.8 -0.3**
baz=92,SNR=19
B05A Bryant 92.30 39 ⇑P **P 17 58 59.9 0.0**
baz=93,SNR=8.2
JCW Jim Creek 92.36 39 *e*P **P 17 59 00.9 +0.7**
IRK Irkutsk 92.37 326 *e*P **P 17 59 01.7 +1.6**
IRK pmax pmax
comp=Z,104nm,3.0s
Z15A Gila River Ind 92.37 55 ⇓P **P 17 59 00.2 -0.5**
baz=93,SNR=6.5
I08A Drewsey 92.39 44 ⇓P **P 17 59 00.2 -0.2**
baz=93,SNR=6.3
K09A Rome 92.39 45 P **P 17 59 00.4 -0.1**
baz=93,SNR=30
216A Three Points, 92.39 57 ⇓P **P 17 59 00.8 0.0**
baz=93,SNR=11
TLY Talaya 92.40 325 P **P 17 59 03.4 +3.1**
comp=Z,141nm,0.9s,mb6.3,SNR=9.6
TLY Talaya 92.40 325 ⇑P **P 17 59 01.2 +0.9**
SNR=13
TLY Talaya 92.40 325 *e*P **P 17 59 00.3 0.0**
TLY pmax pmax
comp=Z,92nm,2.5s,mb5.7
TLY Talaya 92.40 325 *e*P **P 17 59 00.1 -0.2**
comp=Z,45nm,1.3s,mb5.6
116A Eloy 92.42 56 ⇑P **P 17 59 00.9 0.0**
baz=93,SNR=18
W14A Seligman 92.44 53 ⇓P **P 17 59 01.0 +0.1**
baz=93,SNR=36
TAPN Taplejung 92.45 298 *e*P **P 17 59 00.4 -0.8**
comp=Z,133nm,1.2s,mb6.1
Y15A Casa Rosa Ranc 92.50 55 P **P 17 59 01.4 +0.2**
baz=93,SNR=55
ODAN Odare 92.53 298 *e*P **P 17 59 01.7 +0.2**
comp=Z,132nm,0.9s,mb6.4
T13A Saint George 92.58 51 ⇑P **P 17 59 01.7 +0.1**
baz=93,SNR=30
V14A Boquillas Ranc 92.60 53 P **P 17 59 02.0 +0.3**
baz=93,SNR=48
H08A Prairie City 92.60 43 ⇑P **P 17 59 01.1 -0.4**
baz=93,SNR=6.9
R12A Pony Springs, 92.62 50 ⇑P **P 17 59 01.2 -0.5**
baz=93,SNR=26
O11A Cowboy Ranch, 92.65 48 ⇑P **P 17 59 01.4 -0.4**
baz=93,SNR=17
M10A I.L. Ranch, Tu 92.66 46 ⇑P **P 17 59 01.4 -0.3**
baz=93,SNR=23
J09A Fry Pan Ranch, 92.66 44 P **P 17 59 01.6 -0.1**
baz=93,SNR=28
RPW Rockport 92.73 39 *e*P **P 17 59 03.1 +1.2**
Q12A Willow Creek R 92.77 49 ⇑P **P 17 59 02.1 -0.2**
baz=93,SNR=9.0
G08A Pilot Rock 92.78 42 ⇑P **P 17 59 01.9 -0.3**
baz=93,SNR=22
X15A Humboldt 92.79 54 P **P 17 59 03.0 +0.5**
baz=93,SNR=58
217A Green Valley 92.81 57 ⇓P **P 17 59 03.1 +0.4**
baz=93,SNR=25
S13A Holt Ranch, En 92.85 51 ⇑P **P 17 59 03.0 +0.3**
baz=93,SNR=22
U14A Mt Trumbull 92.87 52 P **P 17 59 03.2 +0.3**
baz=93,SNR=54
P12A McGill 92.90 49 ⇓P **P 17 59 03.5 +0.6**
baz=93,SNR=10
RSW Rattlesnake Hi 92.90 41 *e*P **P 17 59 03.9 +1.1**
HAWA Hanford 92.93 41 *e*P **P 17 59 03.6 +0.7**
comp=Z,36nm,1.3s,mb5.6
L10A Juniper Basin 92.94 46 ⇑P **P 17 59 03.1 +0.1**
baz=93,SNR=22
Z16A Peralta Trail, 92.95 55 ⇓P **P 17 59 03.5 +0.2**
baz=93,SNR=7.9
I09A Lost Marbles R 92.95 44 ⇓P **P 17 59 02.6 -0.4**

baz=93,SNR=6.9
R13A O'Grain Ranch, 93.02 50 ⇑P **P** 17 59 03.8 +0.2
baz=93,SNR=13
ETW Entiat 93.02 40 *e*P **P** 17 59 03.3 0.0
TUC Tucson 93.04 57 P **P** 17 59 04.1 +0.3
TUC pmax pmax
comp=Z,46nm,1.2s,mb5.8
TUC Tucson 93.04 57 *e*P **P** 17 59 04.0 +0.2
comp=Z,46nm,1.3s,mb5.8
W15A Williams 93.04 53 ⇓P **P** 17 59 04.5 +0.8
baz=93,SNR=14
A06A Chilliwack 93.07 38 ⇑P **P** 17 59 03.8 +0.3
baz=93
M11A Holland Ranch, 93.12 47 ⇓P **P** 17 59 04.3 +0.4
baz=93,SNR=12
Y16A Circle Bar Ran 93.12 55 P **P** 17 59 04.6 +0.5
baz=93,SNR=60
COLD Coldfoot 93.16 15 *e*P **P** 17 59 04.1 +0.7
comp=Z,20nm,1.2s,mb5.4
117A Oracle 93.18 56 ⇑P **P** 17 59 04.4 0.0
baz=93,SNR=38
CCUT Cedar City 93.20 51 *e*P **P** 17 59 04.9 +0.6
T14A Hurricane 93.20 51 ⇑P **P** 17 59 04.6 +0.2
baz=93,SNR=10
ELK Elko 93.20 47 *e*P **P** 17 59 04.0 -0.3
ELK pmax pmax
comp=Z,16nm,1.0s
ELK MLR MLR
comp=Z,5μm,20.0s
ELK Elko 93.20 47 *e*P **P** 17 59 04.0 -0.3
comp=Z,16nm,1.0s,mb5.4
ELK LR LR
comp=Z,5μm,20.0s,MS5.9
RAMN Ramite 93.22 298 *e*P **P** 17 59 04.8 +0.1
comp=Z,418nm,1.9s,mb6.5
ARUT Antelope Range 93.24 51 P **P** 17 59 06.3 +1.8
ARUT Antelope Range 93.24 51 *e*P **P** 17 59 04.7 +0.2
H09A Durkee 93.31 43 ⇓P **P** 17 59 05.2 +0.5
baz=94,SNR=5.4
318A Bisbee 93.32 58 ⇓P **P** 17 59 05.5 +0.4
baz=94,SNR=14
O12A Currie 93.34 48 ⇑P **P** 17 59 05.2 +0.2
baz=94,SNR=12
X16A Lo Mia Camp, P 93.36 54 ⇑P **P** 17 59 05.4 +0.2
baz=94,SNR=42
V15A Kaibab Nationa 93.37 53 ⇓P **P** 17 59 05.5 +0.3
baz=94,SNR=34
N12A Clover Valley, 93.39 47 ⇑P **P** 17 59 05.3 +0.2
baz=94,SNR=17
LNOR Lincton Mounta 93.46 42 P **P** 17 59 06.7 +1.3
LNOR Lincton Mounta 93.46 42 P **P** 17 59 05.3 -0.1
L11A Cat Creek Ranc 93.46 46 ⇓P **P** 17 59 05.4 -0.1
baz=94,SNR=11
218A Dragoon 93.49 57 P **P** 17 59 06.3 +0.5
baz=94,SNR=16
G09A Cove 93.51 43 ⇓P **P** 17 59 05.2 -0.4
baz=94,SNR=6.8
P13A Bates Ranch, G 93.52 49 ⇓P **P** 17 59 05.2 -0.6
baz=94,SNR=18
U15A North Rim 93.53 52 ⇓P **P** 17 59 06.4 +0.5
baz=94,SNR=51
Y17A Roosevelt 93.53 55 ⇓P **P** 17 59 05.7 -0.3
baz=94,SNR=19
K11A Parker Ranch, 93.54 45 ⇓P **P** 17 59 05.2 -0.5
baz=94,SNR=7.2
B07A Winthrop 93.55 39 ⇑P **P** 17 59 06.1 +0.4
baz=94
W16A Flagstaff 93.56 54 ⇓P **P** 17 59 06.3 +0.2
baz=94,SNR=22
BMO Blue Mountains 93.62 43 PFAKE 17 59 20.0 +14
BMO LR LR
comp=Z,5μm,20.0s,MS6.0
Z17A San Carlos Hig 93.67 56 ⇓P **P** 17 59 07.3 +0.7
baz=94,SNR=6.0
T15A Red Dirt Ranch 93.69 52 ⇓P **P** 17 59 07.1 +0.4
baz=94,SNR=14
M12A Wells 93.71 47 ⇓P **P** 17 59 06.6 0.0
baz=94,SNR=10
DLBC Dease Lake 93.75 27 *e*P **P** 17 59 05.7 -0.7
MDRS Chennai 93.76 282 ⇓ *i*P **P** 17 59 08.0 +0.5
MDRS *ex* x 18 03 03.0
MDRS *ex* x 18 04 52.0
118A Homack Ranch, 93.80 57 ⇑P **P** 17 59 07.7 +0.4
baz=94,SNR=18
DAWY Dawson 93.81 20 *e*P **P** 17 59 06.0 -0.5
X17A Forest Lakes 93.81 55 ⇑P **P** 17 59 07.9 +0.6
baz=94,SNR=7.4
JIRN Jiri 93.82 298 *e*P **P** 17 59 07.8 +0.3
comp=Z,77nm,0.9s,mb6.1
E09A Wood Farm, Sta 93.84 41 ⇑P **P** 17 59 06.8 -0.3
baz=94,SNR=5.9
Q14A Sevier Lake (B 93.85 50 ⇓P **P** 17 59 06.8 -0.5
baz=94,SNR=16
WUAZ Wupatki 93.85 53 P **P** 17 59 08.1 +0.7
baz=94,SNR=32
WUAZ Wupatki 93.85 53 *e*P **P** 17 59 07.6 +0.2
comp=Z,60nm,1.1s,mb5.9
319A Douglas 93.86 58 ⇓P **P** 17 59 08.0 +0.4
baz=94,SNR=11
H10A Noah's Angus R 93.86 43 ⇑P **P** 17 59 06.4 -0.9
baz=94,SNR=12
OD2 Odessa Site #2 93.89 40 *e*P **P** 17 59 08.3 +1.0
Z18A Geronimo 93.92 56 ⇑P **P** 17 59 07.3 -0.5
baz=94,SNR=7.4
G10A Bishop Farm, J 93.93 43 ⇓P **P** 17 59 06.5 -1.1
baz=94,SNR=11
MFID Camas Ranch 93.95 45 ⇓P **P** 17 59 06.7 -1.0
baz=94,SNR=8.0
B08A Colville Reser 93.97 39 ⇑P **P** 17 59 06.6 -1.0
baz=94
D09A Jones Farm, Ri 93.99 41 ⇓P **P** 17 59 06.7 -1.0
baz=94,SNR=5.1
219A White Tail Can 94.11 57 ⇓P **P** 17 59 08.3 -0.4
baz=94,SNR=12
F10A Beach Ranch, E 94.17 42 ⇓P **P** 17 59 07.8 -0.8
baz=94,SNR=8.2
GUN Gumba 94.17 298 *e*P **P** 17 59 09.2 +0.1
comp=Z,90nm,0.9s,mb6.2
Y18A Canyon Day Jun 94.19 56 ⇓P **P** 17 59 08.6 -0.4
baz=94,SNR=38
M13A Montello 94.20 47 ⇑P **P** 17 59 08.4 -0.5
baz=94,SNR=8.8
P14A Drum Mountains 94.24 49 ⇓P **P** 17 59 08.9 -0.2
baz=94,SNR=8.5
U16A Tuba City 94.27 53 ⇓P **P** 17 59 09.6 +0.3
baz=94,SNR=23
A08A Turner Farm, O 94.28 39 ⇑P **P** 17 59 09.1 0.0
baz=94,SNR=5.5
J12A Stokes Ranch, 94.36 45 ⇓P **P** 17 59 09.4 -0.2
baz=95,SNR=12
119A Ashpeak Ranch, 94.37 57 ⇑P **P** 17 59 09.5 -0.4
baz=95,SNR=9.6
H11A Donnelly 94.39 44 ⇓P **P** 17 59 09.1 -0.5
baz=95
PKI Pulchoki 94.43 298 *e*P **P** 17 59 10.1 -0.2
comp=Z,158nm,1.1s,mb6.3
MSU Marysvale 94.44 50 P **P** 17 59 10.9 +0.8
MSU Marysvale 94.44 50 *e*P **P** 17 59 10.6 +0.6
PKIN Phulchoki 94.44 298 *e*P **P** 17 59 10.1 -0.2
comp=Z,73nm,0.9s,mb6.1
G11A Walters Elk Ra 94.52 43 ⇑P **P** 17 59 09.5 -0.7
baz=95,SNR=21
X18A Snowflake 94.54 55 ⇑P **P** 17 59 10.9 +0.3
baz=95,SNR=9.8
S16A Weppner Ranch, 94.55 51 ⇓P **P** 17 59 09.7 -0.9
baz=95,SNR=5.0
I12A Atlanta 94.57 45 ⇑P **P** 17 59 09.7 -0.8
baz=95,SNR=7.8
Z19A T-Link Ranch, 94.60 56 ⇑P **P** 17 59 11.1 +0.1
baz=95,SNR=5.3
KKN Kakani 94.62 298 *e*P **P** 17 59 10.8 -0.3
comp=Z,74nm,0.9s,mb6.1
DUG Dugway 94.66 49 P **P** 17 59 12.3 +1.3
DUG pmax pmax
comp=Z,22nm,1.3s,mb5.4
DUG Dugway 94.66 49 ⇓P **P** 17 59 10.3 -0.8
baz=95,SNR=6.1
DUG Dugway 94.66 49 *e*P **P** 17 59 10.7 -0.3
comp=Z,22nm,1.4s,mb5.4
DMN Daman 94.70 298 *e*P **P** 17 59 11.5 0.0
comp=Z,156nm,0.9s,mb6.4
F11A Grangeville 94.80 43 ⇑P **P** 17 59 10.6 -0.9
baz=95
M14A Sheep Mountain 94.82 47 ⇑P **P** 17 59 11.0 -0.7
baz=95,SNR=8.7
T17A Navajo Res., N 94.85 52 ⇓P **P** 17 59 11.1 -0.8
baz=95,SNR=8.2
R16A Teasdale 94.85 51 ⇑P **P** 17 59 12.0 0.0
baz=95,SNR=10
Y19A Nutrioso 94.86 56 ⇓P **P** 17 59 10.9 -1.2
baz=95,SNR=6.9
HLID Hailey 94.95 45 ⇑P **P** 17 59 12.3 0.0
baz=95,SNR=13
HLID Hailey 94.95 45 *e*P **P** 17 59 12.1 -0.2
comp=Z,13nm,1.3s,mb5.2
V18A Ganado 95.00 54 ⇑P **P** 17 59 12.0 -0.7
baz=95,SNR=6.9
G12A Big Creek, Yel 95.01 43 ⇓P **P** 17 59 11.9 -0.5
baz=95
X19A St. Johns 95.01 55 ⇓P **P** 17 59 13.7 +0.9
baz=95,SNR=8.3
J13A Cove Ranch, Pi 95.04 45 ⇑P **P** 17 59 12.7 0.0
baz=95,SNR=8.0
H12A Diamond D Ranc 95.07 44 ⇑P **P** 17 59 11.7 -1.1
baz=95,SNR=19
S17A Black Ridge (B 95.10 52 ⇓P **P** 17 59 12.5 -0.6
baz=95
D11A Klaveano Farm, 95.19 41 ⇑P **P** 17 59 12.1 -1.1
baz=96
GKN Gorkha 95.23 298 *e*P **P** 17 59 13.1 -0.8
comp=Z,72nm,0.9s,mb6.1
F12A Elk City 95.32 43 ⇓P **P** 17 59 12.7 -1.1
baz=96,SNR=11
U18A Rough Rock, Ch 95.32 53 ⇓P **P** 17 59 13.1 -1.0
baz=96,SNR=7.5
Q16A Castle Valley 95.32 50 ⇓P **P** 17 59 12.6 -1.5
baz=96,SNR=12
HVU Hansel Valley 95.32 47 P **P** 17 59 13.2 -0.8
K14A Jones Ranch, D 95.36 46 ⇑P **P** 17 59 14.1 0.0
baz=96
J14A Carey 95.44 46 ⇓P **P** 17 59 14.2 -0.3
baz=96
TMUT Trail Mountain 95.44 50 *e*P **P** 17 59 16.7 +2.0
R17A Hanksville Air 95.46 51 ⇑P **P** 17 59 14.7 0.0
baz=96,SNR=11
H13A Challis 95.47 44 ⇑P **P** 17 59 13.6 -1.0
baz=96,SNR=7.5
C11A Tepee Creek (N 95.58 41 ⇓P **P** 17 59 14.7 -0.3
baz=96
T18A Mexican Hat 95.59 52 ⇑P **P** 17 59 14.3 -1.0
baz=96,SNR=20
O16A Springville 95.59 49 ⇑P **P** 17 59 14.8 -0.4
baz=96,SNR=6.3
G13A Cobalt 95.70 44 ⇑P **P** 17 59 15.1 -0.5
baz=96
S18A Hurst Farm, Bl 95.71 52 ⇓P **P** 17 59 15.2 -0.7
baz=96
I14A Mackay 95.73 45 ⇑P **P** 17 59 15.1 -0.8
baz=96,SNR=11
JLU Jordanelle 95.78 49 *e*P **P** 17 59 17.0 +0.9
D12A Red Ives Fores 95.80 42 ⇓P **P** 17 59 16.0 0.0
baz=96
DAU Daniels Canyon 95.84 49 P **P** 17 59 18.6 +2.2
DAU Daniels Canyon 95.84 49 *e*P **P** 17 59 17.2 +0.8
SRU San Rafael 95.86 50 P **P** 17 59 18.0 +1.5
SRU pmax pmax
comp=Z,23nm,1.4s,mb5.4
SRU San Rafael 95.86 50 ⇑P **P** 17 59 15.7 -0.9
baz=96,SNR=9.8
SRU San Rafael 95.86 50 *e*P **P** 17 59 16.3 -0.3
comp=Z,23nm,1.4s,mb5.4
F13A Darby 95.92 43 ⇓P **P** 17 59 15.8 -0.8
baz=96,SNR=7.3
KOLN Koldanda 96.00 297 *e*P **P** 17 59 16.6 -0.8
comp=Z,51nm,0.9s,mb5.9
R18A Canyonlands Na 96.05 51 ⇓P **P** 17 59 17.6 +0.2
baz=96,SNR=11
DANN Dangsing 96.07 298 *e*P **P** 17 59 17.0 -0.8
comp=Z,78nm,0.9s,mb6.2
HWUT Hardware Ranch 96.09 48 P **P** 17 59 17.2 -0.3
comp=Z,53nm,2.0s,mb5.6
HWUT LR LR
comp=Z,3μm,19.0s,MS5.7
O17A Robinson Place 96.12 49 ⇑P **P** 17 59 17.9 +0.2
baz=96,SNR=24
Q18A Rafter H Ranch 96.14 51 ⇑P **P** 17 59 17.8 0.0
baz=96,SNR=5.6
P18A Preston Nutter 96.26 50 ⇓P **P** 17 59 17.5 -0.8
baz=96,SNR=5.4
E13A Victor 96.28 43 ⇓P **P** 17 59 17.8 -0.5
baz=96
EFI East Falkland 96.44 153 PFAKE 17 59 30.0 +11
EFI LR LR
comp=Z,4μm,19.0s,MS5.9
MCMT McKenzie Canyo 96.49 44 *e*P **P** 17 59 19.9 +0.6
H15A Lima 96.54 45 ⇑P **P** 17 59 18.8 -0.7
baz=97,SNR=7.6
PV10 Paradox Valley 96.67 52 P **P** 17 59 20.5 +0.3
TIXI Tiksi 96.67 348 *e*P **P** 17 59 19.5 +0.1
TIXI *e*S SKSac 18 09 48.5 -5.9
TIXI *e* 18 10 39.0
TIXI *e* 18 12 03.5
TIXI pmax pmax
comp=Z,24nm,1.1s,mb5.5
TIXI MLR MLR
comp=Z,4μm,19.0s,MS5.9
TIXI Tiksi 96.67 348 *e*P **P** 17 59 17.5 -2.0
comp=Z,26nm,1.2s,mb5.5
Q19A Hogan Spring (96.72 51 ⇑P **P** 17 59 20.7 +0.3
baz=97,SNR=9.1
HYB Hyderabad 96.80 286 *i* P **P** 17 59 21.0 -0.3
HYB *e*PP PP 18 03 20.0 +3.3
HYB *e*S S 18 10 32.0 -10
HYB Hyderabad 96.80 286 *e*P **P** 17 59 21.0 -0.3
HYB *e*S SKSac 18 09 56.0 -1.4
AHID Auburn Hatcher 96.85 47 PFAKE 17 59 30.0 +9.1
AHID LR LR
comp=Z,2μm,19.0s,MS5.6
G15A Dillon 96.86 44 ⇓P **P** 17 59 21.1 +0.2
baz=97
DLMT Dillon 96.86 44 *e*P **P** 17 59 19.9 -1.0
comp=Z,11nm,1.2s,mb5.2
PV01 Paradox Valley 96.92 52 *e*P **P** 17 59 20.7 -0.6
RRI2 Red Ridge 96.93 46 *e*P **P** 17 59 21.7 +0.5
comp=Z,22nm,1.4s,mb5.4
BNM Barren Site 96.96 56 *e*P **P** 17 59 22.2 +0.5
PLCA Paso Flores 97.04 139 P **P** 17 59 23.1 +1.1
comp=Z,8.2nm,1.0s,mb5.1,baz=228,slow=4.4,SNR=8.1
PLCA Paso Flores 97.04 139 *e*P **P** 17 59 23.1 +1.1
PLCA pmax pmax
comp=Z,14nm,1.2s
PLCA MLR MLR
comp=Z,2μm,20.0s
PLCA Paso Flores 97.04 139 *e*P **P** 17 59 23.1 +1.0
comp=Z,14nm,1.2s,mb5.3
PLCA LR LR
comp=Z,2μm,20.0s,MS5.5
REDW Red Top Meadow 97.25 46 *e*P **P** 17 59 23.3 +0.6
comp=Z,14nm,1.3s,mb5.2
ANMO Albuquerque 97.37 56 *e*P **P** 17 59 23.0 -0.5
ANMO pmax pmax
comp=Z,6.0nm,1.0s
ANMO MLR MLR
comp=Z,3μm,20.0s
ANMO Albuquerque 97.37 56 *e*P **P** 17 59 23.0 -0.5
comp=Z,5.5nm,1.0s,mb4.9
ANMO LR LR
comp=Z,3μm,20.0s,MS5.8
IMW Indian Meadow 97.39 46 *e*P **P** 17 59 23.1 -0.2
comp=Z,11nm,1.2s,mb5.2
QLMT Earthquake Lak 97.42 45 *e*P **P** 17 59 25.1 +1.6
NGP Nagpur 97.62 290 *e*P **P** 17 59 22.1 -2.9
NGP *ex* x 17 59 34.1
comp=Z,50nm,1.9s
NGP *e*S SKSac 18 09 59.0 -2.5
TXAR Lajitas Array 97.66 62 P **P** 17 59 24.9 0.0
comp=Z,7.4nm,1.1s,mb5.1,baz=235,slow=4.4,SNR=28
TXAR PP PP 18 03 22.2 -0.9
comp=Z,3.0nm,1.2s,baz=238,slow=4.0,SNR=3.6
TXAR PKKPbc PKKPbc 18 16 01.9 +0.7
comp=Z,1.4nm,1.0s,baz=136,slow=1.6,SNR=7.0
TXAR LR LR 18 35 06.9
comp=Z,5μm,20.9s,MS6.0,baz=355,slow=30
TXAR Lajitas Array 97.66 62 P **P** 17 59 25.0 +0.1
TXAR 18 03 22.3
C15A Salmond Ranch, 97.80 42 ⇓P **P** 17 59 25.1 0.0
baz=98
BW06 Boulder Array 97.91 47 ⇑P **P** 17 59 25.6 -0.1
baz=98
BW06 Boulder Array 97.91 47 PFAKE 17 59 40.0 +14
BW06 LR LR
comp=Z,2μm,19.0s,MS5.6
PDAR Pinedale Array 97.91 47 P **P** 17 59 26.2 +0.5
comp=Z,3.1nm,1.0s,mb4.8,baz=205,slow=3.1,SNR=10
PDAR PP PP 18 03 23.6 -1.1
comp=Z,1.0nm,1.1s,baz=274,slow=5.7,SNR=3.8
PDAR PKKPbc PKKPbc 18 15 59.5 -1.6
comp=Z,1.6nm,0.9s,baz=92,slow=4.5,SNR=8.5
PDAR LR LR 18 39 45.4
comp=Z,2μm,18.2s,MS5.6,baz=253,slow=33
LKWY Lake 98.00 45 PFAKE 17 59 40.0 +14
LKWY LR LR
comp=Z,6μm,20.0s,MS6.1
B15A Bradely Ranch, 98.03 41 ⇓P **P** 17 59 26.4 +0.2
baz=98
C16A Fuhringer Ranc 98.34 42 ⇑P **P** 17 59 27.0 -0.6
baz=99
WMQ Urumqi 98.59 314 P **P** 17 59 28.6 -0.2
WMQ PP PP 18 03 31.6 +1.7
WMQ PPP 18 05 40.1
WMQ SKS 18 10 04.8
WMQ S S 18 10 53.1 -3.5
WMQ PS PS 18 12 24.4 -0.2
WMQ SS SS 18 17 41.9 -0.7
WMQ AMB AMB
comp=Z,23nm,1.4s,mb5.5
WMQ AMB AMB
comp=Z,466nm,3.9s
WMQ LR LR
comp=N,1μm,21.1s,MS5.6
WMQ LR LR
comp=E,2μm,20.0s,MS5.6
WMQ LR LR
comp=Z,2μm,21.0s,MS5.6
A16A West Butte Ran 98.87 41 ⇓P **P** 17 59 28.8 -1.0
baz=99
SDCO Great Sand Dun 99.06 53 *e*P **P** 17 59 28.8 -2.1
PAYG Puerto Ayora 99.47 94 PFAKE 17 59 40.0 +6.5
PAYG LR LR
comp=Z,4μm,22.0s,MS5.9
KRAR Krasnoyarsk 100.05 326 *e*P Pdif 17 59 35.9 +0.7
KRAR pmax pmax
comp=Z,6.0nm,1.3s
GOA Goa 100.44 283 ⇓ *e*P Pdif 17 59 36.0 -1.0
GOA AMb AMB 18 02 32.5
comp=Z,51nm,0.6s
GOA *i* S SKSac 18 10 11.3 -4.4
AMTX Amarillo 101.05 57 PFAKE 17 59 50.0 +10
AMTX LR LR
comp=Z,3μm,22.0s,MS5.7
DDI Dehra Dun 101.42 298 *e*P Pdif 17 59 40.7 -0.6
LAO LASA Array 101.48 44 PFAKE 17 59 50.0 +8.4
LAO LR LR
comp=Z,6μm,20.0s,MS6.1
KVTX Kingsville 101.89 65 PFAKE 18 00 00.0 +17
KVTX LR LR
comp=Z,3μm,21.0s,MS5.8
MK31 Makanchi Array 103.16 315 *e*P Pdif 17 59 49.7 +0.6
MK31 *e* 18 04 03.1
MKAR Makanchi Array 103.16 315 Pdiff Pdif 17 59 50.4 +1.3
comp=Z,2.7nm,0.9s,baz=99,slow=6.2,SNR=14
MKAR PP PP 18 04 04.5 +0.1
comp=Z,4.8nm,0.9s,baz=111,slow=9.6,SNR=7.0
MKAR PKKPbc PKKPbc 18 15 45.0 -1.0
comp=Z,2.7nm,1.0s,baz=294,slow=3.3,SNR=7.3
MKAR PKPPKP 18 24 04.5
comp=Z,1.5nm,1.1s,baz=228,slow=1.7,SNR=4.6
MKAR Makanchi Array 103.16 315 P Pdif 17 59 50.4 +1.3
MKAR 18 04 04.5
LCO Las Campanas 103.61 129 PFAKE 18 00 00.0 +8.9
LCO LR LR
comp=Z,4μm,20.0s,MS5.9
CBKS Cedar Bluff 103.70 54 PFAKE 18 00 00.0 +8.5
CBKS LR LR
comp=Z,3μm,21.0s,MS5.8
ZAA0 Zalesovo Array 103.70 323 *e*Pdif Pdif 17 59 48.4 -3.1
ZAA0 *e*PKPdf PKiKP 18 04 06.3 -3.0
ZALV Zalesovo Beam 103.70 323 Pdiff Pdif 17 59 51.7 +0.2
comp=Z,1.3nm,0.8s,baz=123,slow=5.5,SNR=5.4
ZALV PP PP 18 04 06.2 -2.0
comp=Z,0.6nm,0.4s,baz=90,slow=7.4,SNR=3.9
ZALV PKKPbc PKKPbc 18 15 43.3 -1.3
comp=Z,1.3nm,0.8s,baz=343,slow=4.6,SNR=6.2
ZALV Zalesovo Beam 103.70 323 P Pdif 17 59 51.7 +0.2
ZALV 18 04 06.3
ZALV Zalesovo Beam 103.70 323 Pdif Pdif 17 59 51.7 +0.2
ZALV PP PP 18 04 06.2 -2.0
ZALV PKKPbc PKKPbc 18 15 43.3 -1.3
HKT Hockley 104.33 63 PFAKE 18 00 10.0 +16
HKT LR LR
comp=Z,4μm,20.0s,MS6.0
NVS Novosibirsk 104.84 323 *e*P Pdif 18 00 00.4 +3.8
NVS *e* 18 11 20.8
NVS pmax pmax
comp=Z,66nm,3.4s
NVS pmax pmax
comp=N,10.0nm,2.2s
KSU1 Kansas State U 106.13 54 PFAKE 18 04 30.0 +16
KSU1 LR LR
comp=Z,3μm,20.0s,MS5.9
FFC Flin Flon 106.31 37 PFAKE 18 04 30.0 +16
FFC LR LR
comp=Z,3μm,22.0s,MS5.8
KURK Kurchatov 106.53 318 Pdiff Pdif 18 00 05.4 +1.3
comp=Z,0.5nm,0.4s,baz=110,slow=3.4,SNR=5.1
KURK PP PP 18 04 25.6 -3.8
comp=Z,1.9nm,0.3s,baz=117,slow=1.8,SNR=6.7
KURK PKKPbc PKKPbc 18 15 34.8 -1.1
comp=Z,0.8nm,0.3s,baz=290,slow=3.5,SNR=5.7
KURK Kurchatov 106.53 318 Pdif Pdif 18 00 05.4 +1.3
KURK PP PP 18 04 25.6 -3.8
KURK PKKPbc PKKPbc 18 15 34.8 -1.1
KURK LR LR
comp=Z,3μm,21.0s,MS5.8
TKM2 Tokmak 2 106.75 310 PKPdf PKiKP 18 04 16.1 +0.8
ECSD EROS,Sioux Fal 107.22 49 PFAKE 18 04 30.0 +14
ECSD LR LR
comp=Z,3μm,19.0s,MS5.8
UCH Uchtor 107.37 309 *e*Pdif Pdif 18 00 08.0 +0.2
comp=Z,11nm,1.7s
UCH *e*PKPdf PKiKP 18 04 10.7 -5.8
AML Almayashu 107.94 309 PFAKE 18 04 30.0 +12
AML LR LR
comp=Z,3μm,19.0s,MS5.8
EKS2 Erkin-Say 108.00 309 PFAKE 18 04 30.0 +12
EKS2 LR LR
comp=Z,3μm,20.0s,MS5.9
JTS JuntasAbangare 108.25 86 PFAKE 18 04 30.0 +11
JTS LR LR
comp=Z,2μm,21.0s,MS5.7
LVC Limon Verde 108.47 124 PFAKE 18 04 30.0 +11
LVC LR LR
comp=Z,2μm,20.0s,MS5.6
ULM Lac du Bonnet 109.04 43 PKiKP PKiKP 18 04 17.4 -1.9
comp=Z,4.4nm,0.9s,baz=237,slow=2.4,SNR=4.2
KBL Kabul 109.88 300 *e*PKPdf PKiKP 18 04 20.9 -0.5
CCM Cathedral Cave 109.99 56 PFAKE 18 04 30.0 +8.5
CCM LR LR
comp=Z,3μm,20.0s,MS5.9
ABPO Ambohimpanom 110.62 239 PFAKE 18 04 30.0 +6.7
ABPO LR LR
comp=Z,10μm,20.0s,MS6.4
OTAV Otavalo 110.79 98 PFAKE 18 04 40.0 +16
OTAV LR LR
comp=Z,1μm,21.0s,MS5.4
BRAL Brewton 111.93 64 PFAKE 18 04 40.0 +15
BRAL LR LR
comp=Z,3μm,21.0s,MS5.9
HDIL Hopedale 111.94 54 PFAKE 18 04 40.0 +15
HDIL LR LR
comp=Z,4μm,20.0s,MS6.0
BVAR Borovoye Array 111.95 320 Pdiff Pdif 18 00 30.1 +1.9
comp=Z,0.6nm,0.6s,baz=122,slow=7.2,SNR=4.5
BVAR PKiKP PKiKP 18 04 24.0 -0.7
comp=Z,1.7nm,0.5s,baz=162,slow=2.0,SNR=7.0
BVAR PP PP 18 05 06.0 -2.5
comp=Z,4.6nm,0.9s,baz=106,slow=5.3,SNR=5.0
BVAR PKKPbc PKKPbc 18 15 16.4 -2.1
comp=Z,2.4nm,0.9s,baz=321,slow=3.8,SNR=8.0
BVAR Borovoye Array 111.95 320 P Pdif 18 00 30.1 +2.0
BVAR 18 04 24.0
BVAR 18 05 06.0
BRVK Borovoye 112.02 320 ⇑ *e*PKIKP PKiKP 18 04 24.2 -0.7
BRVK MLR MLR
comp=Z,5μm,19.0s,MS6.1
LRAL Lakeview Retre 112.39 62 PFAKE 18 04 40.0 +14
LRAL LR LR
comp=Z,3μm,20.0s,MS5.9
LPAZ La Paz 112.47 119 Pdiff Pdif 18 00 37.9 +7.4

comp=Z,0.9nm,0.8s,baz=193,slow=2.2,SNR=4.1
LPAZ PKKPbc PKKPbc 18 15 15.0 -0.8
comp=Z,0.7nm,0.6s,baz=173,slow=3.5,SNR=3.8
LPAZ La Paz 112.47 119 Pdif Pdif 18 00 37.9 +7.4
LPAZ PKKPbc PKKPbc 18 15 15.0 -0.8
LPAZ LR LR
comp=Z,2µm,20.0s,MS5.7
BCIP Isla Barro Col 112.65 89 PFAKE 18 04 40.0 +13
BCIP LR LR
comp=Z,2µm,22.0s,MS5.6
COWI Conover 112.86 48 *e*PKPdf PKiKP 18 04 24.5 -2.2
CPUP Villa Florida 114.61 134 *e*PKIKP PKiKP 18 04 29.2 -1.6
GOGA Godfrey 115.37 62 PFAKE 18 04 40.0 +8.1
GOGA LR LR
comp=Z,2µm,20.0s,MS5.8
TKL Tuckaleechee C 115.47 60 *e*PKIKP PKPdf 18 04 30.2 -1.8
GLMI Grayling 115.89 49 PFAKE 18 04 40.0 +7.4
GLMI LR LR
comp=Z,4µm,20.0s,MS6.0
DWPF Disney 116.14 68 PFAKE 18 04 40.0 +6.4
DWPF LR LR
comp=Z,2µm,20.0s,MS5.6
ACSO Alum Creek Sta 116.67 55 *e*PKPdf PKPdf 18 04 31.6 -2.6
BSY Bisya 117.53 285 ⇑P PKPdf 18 04 36.4 0.0
SNR=6.3
SVE Sverdlovsk 117.67 324 *i* PKIKP PKPdf 18 04 36.0 +0.4
SVE *e*PS PS 18 15 38.7 +4.9
SVE pmax pmax
comp=Z,16nm,1.6s
ELN Prospectdale 118.09 58 *e*PKPdf PKPdf 18 04 35.8 -1.2
SIV San Ignacio 118.30 123 PKKPbc PKKPbc 18 14 58.3 +2.6
comp=Z,0.6nm,0.3s,baz=75,slow=12,SNR=5.6
BLA Blacksburg 118.35 58 *e*PKIKP PKPdf 18 04 34.5 -3.0
ARU Arti 118.85 324 *i* PKIKP PKPdf 18 04 37.3 -0.6
ARU 18 05 59.0
ARU SP SP 18 15 39.1 -1.7
ARU PS PS 18 15 51.2 +6.8
ARU SS SS 18 22 09.1 -5.7
ARU MLR MLR
comp=Z,3µm,19.0s,MS6.0
ARU Arti 118.85 324 *e*PKPdf PKPdf 18 04 36.7 -1.2
ARU LR LR
comp=Z,3µm,19.0s,MS6.0
HATD Hatta, Dubai 118.92 287 ⇓P PKPdf 18 04 39.4 +0.4
SNR=7.3
MCWV Mont Chateau 119.02 56 PFAKE 18 04 50.0 +11
MCWV LR LR
comp=Z,4µm,19.0s,MS6.0
ERPA Erie 119.07 53 PFAKE 18 04 50.0 +11
ERPA LR LR
comp=Z,3µm,19.0s,MS5.9
AKTK Aktyubinsk 119.54 317 PKP PKPdf 18 04 39.2 -0.2
AKTK PKKPbc PKKPbc 18 14 50.7 -1.2
AKTO Aktyubinsk 119.54 317 PKP PKPdf 18 04 39.2 -0.2
comp=Z,8.3nm,1.0s,baz=186,slow=0.5,SNR=15
AKTO PKKPbc PKKPbc 18 14 50.7 -1.2
comp=Z,2.8nm,0.8s,baz=312,slow=4.0,SNR=5.2
URVA University of 120.67 58 *e*PKPdf PKPdf 18 04 40.6 -1.4
CBN Corbin 120.84 57 PFAKE 18 04 50.0 +7.7
CBN LR LR
comp=Z,4µm,21.0s,MS6.1
SDV Santo Domingo 121.15 92 *e*PKPdf PKPdf 18 04 41.7 -1.9
KBS Kingsbay 121.28 355 *e*PP PP 18 06 17.2 +4.3
KBS *i* 18 22 03.6
KBS AMS AMS 18 54 38.8
comp=Z,2µm,20.6s,MS5.8
KBS Kingsbay 121.28 355 PFAKE 18 04 50.0 +8.0
KBS LR LR
comp=Z,3µm,21.0s,MS5.9
SDMD Soldier's Deli 121.32 56 *e*PKPdf PKPdf 18 04 41.2 -2.0
SPITS Spitsbergen Ar 121.55 354 PKP PKPdf 18 04 41.4 -1.1
comp=Z,14nm,0.8s,baz=346,slow=6.5,SNR=9.5
BINY Binghamton 122.05 53 PFAKE 18 05 00.0 +16
BINY LR LR
comp=Z,4µm,20.0s,MS6.0
LBTB Lobatse 122.08 219 *e*PKIKP PKPdf 18 04 44.5 -0.7
LBTB MLR MLR
comp=Z,5µm,19.0s,MS6.2
LONY Lake Ozonia 123.03 50 PFAKE 18 05 00.0 +14
LONY LR LR
comp=Z,4µm,19.0s,MS6.1
NCB Newcomb 123.31 51 *e*PKPdf PKPdf 18 04 45.3 -1.6
PAL Palisades 123.60 54 *e*PKIKP PKPdf 18 04 45.5 -2.0
ACCN Adirondack Com 123.74 51 *e*PKPdf PKPdf 18 04 45.7 -2.0
MDV Middlebury 124.07 51 *e*PKPdf PKPdf 18 04 47.2 -1.1
DAG Danmarks Havn 124.25 2⇑ *i* PKIKP PKPdf 18 04 46.1 -1.7
DAG pmax pmax
comp=Z,6.0nm,0.5s
DAG Danmarks Havn 124.25 2⇑ *i* P PKPdf 18 04 46.1 -1.7
comp=Z,6.3nm,0.5s
BJO Bjornoya 124.32 351 AMS AMS 19 04 19.3
comp=Z,2µm,18.6s,MS5.8
QUA2 Belchertown 124.74 53 *e*PKPdf PKPdf 18 04 48.2 -1.5
LBNH Lisbon 124.95 50 PFAKE 18 05 00.0 +10
LBNH LR LR
comp=Z,5µm,19.0s,MS6.2
HRV Adam Dziewonsk 125.32 52 PFAKE 18 05 00.0 +9.2
HRV LR LR
comp=Z,4µm,19.0s,MS6.0
BRYW Bryant College 125.36 53 *e*PKPdf PKPdf 18 04 49.6 -1.3
APA Apatity 126.10 341 ⇓*i*PKIKP PKPdf 18 04 51.4 -0.1
APA *i* SS SS 18 23 52.0 +5.9
APA pmax pmax
comp=Z,56nm,1.3s
APA MLR MLR
comp=Z,6µm,22.0s,MS6.2
SUMG Summit 126.28 10 *e*PKPdf PKPdf 18 04 50.8 -0.9
KEV Kevo 126.44 345 PFAKE 18 05 00.0 +7.9
KEV LR LR
comp=Z,2µm,20.0s,MS5.9
PKME Peaks-Kenny Pk 126.73 49 *e*PKPdf PKPdf 18 04 51.9 -1.5
ARCES ARCESS Array B 126.97 345 PKP PKPdf 18 04 52.4 -0.7
comp=Z,5.9nm,0.5s,baz=68,slow=1.2,SNR=30
ARCES ARCESS Array B 126.97 345 PKP PKPdf 18 04 52.4 -0.7
ARE0 ARCESS Array S 126.97 345 *e*PKPdf PKPdf 18 04 52.1 -1.1
UMR Umm Al-Rimmam 127.03 292 *e*P PKPdf 18 04 53.3 -1.1
baz=292
UMR AMb AMB 18 05 04.6
comp=Z,86nm,2.2s,baz=292
RDF Al-Radifah 127.11 291 *e*P PKPdf 18 04 53.9 -0.7
baz=291
RDF AMb AMB 18 05 04.9
comp=Z,125nm,1.8s,baz=291
MAK Makhachkala 127.23 308 *d* *i*P Pdif 18 01 34.6 -1.5
MAK *i* 18 06 54.0
MAK *i* PPP 18 09 42.7
MAK *e* 18 12 02.8
MAK *e*SP SP 18 16 51.8 -4.1
MAK pmax pmax
comp=Z,188nm,1.3s
KLMR Klimovskoe 127.29 332 *e*PKIKP PKPdf 18 04 52.6 -1.3
KLMR 18 06 51.0
LSZ Lusaka 127.35 230 P PKPdf 18 04 56.6 +1.1
SNR=9.0
LSZ Lusaka 127.35 230 *e*PKPdf PKPdf 18 04 55.5 0.0
LSZ LR LR
comp=Z,6µm,21.0s,MS6.2
NAY Al-Naaiem 127.41 291 *e*P PKPdf 18 04 53.7 -1.5
baz=291
NAY AMb AMB 18 05 00.7
comp=Z,27nm,1.4s,baz=291
RST Umm Al-Ruwaisa 127.65 291 *e*P PKPdf 18 04 54.5 -1.1
baz=292
RST AMb AMB 18 05 01.1
comp=Z,74nm,1.3s,baz=292
SFJD Kangerlussuaq 127.73 19 *i* P PKPdf 18 04 53.5 -1.1
comp=Z,18nm,1.0s
SFJD
comp=Z,2µm,18.0s
SFJ Sondre 127.73 19 *i* P PKPdf 18 04 53.5 -1.1
SFJ LR LR
comp=Z,2µm,18.0s,MS5.9
SJG San Juan 127.92 83 *e*PKIKP PKPdf 18 04 54.5 -1.9
KMBO Kilima Mbogo 128.15 251 P PKPdf 18 04 58.2 +1.1
SNR=13
KMBO Kilima Mbogo 128.15 251 PKP PKPdf 18 04 58.2 +1.1
comp=Z,14nm,1.0s,baz=23,slow=3.6,SNR=21
KMBO Kilima Mbogo 128.15 251 *e*PKPdf PKPdf 18 04 57.7 +0.6
KMBO LR LR
comp=Z,5µm,20.0s,MS6.2
BDFB Brasilia 128.22 132 PKP PKPdf 18 04 56.8 -0.3
comp=Z,8.9nm,1.0s,baz=295,slow=2.1,SNR=13
BDFB Brasilia 128.22 132 PKP PKPdf 18 04 56.8 -0.3
BDFB LR LR
comp=Z,2µm,20.0s,MS5.8

DGRG David-gareji 128.94 307 P PKPdf 18 05 00.4 +2.7
MTA Mtatsminda 129.35 307 P PKPdf 18 05 00.6 +2.1
TBLG Delisi 129.39 307 P PKPdf 18 05 00.9 +2.3
GNI Garni 129.54 305 PKP PKPdf 18 04 59.0 +0.1
comp=Z,2.3nm,0.5s,baz=7.1,slow=16,SNR=3.6
GNI Garni 129.54 305 *e*PKPdf PKPdf 18 04 59.5 +0.7
GNI LR LR
comp=Z,2µm,22.0s,MS5.7
GOF Gofitskoye 130.15 312 *e*PKIKP PKPdf 18 05 04.0 +4.1
GOF pmax pmax
comp=Z,20nm,1.3s
ONI Oni 130.24 308 P PKPdf 18 04 57.5 -2.6
MOS Moscow 130.34 326 *e*PKIKP PKPdf 18 04 59.6 -0.3
MOS MLR MLR
comp=Z,3µm,19.0s,MS6.0
KIV Kislovodsk 130.59 310 *i* PKIKP PKPdf 18 05 00.1 -0.7
KIV Kislovodsk 130.59 310 *e*PKP PKPdf 18 05 00.2 -0.6
KIV LR LR
comp=Z,2µm,19.0s,MS5.9
BBSR BB Station 130.99 65 PFAKE 18 05 10.0 +8.1
BBSR LR LR
comp=Z,2µm,19.0s,MS5.7
VSR Storozhevoye 131.13 320 *i* PKIKP PKPdf 18 05 02.5 +1.0
VSR pmax pmax
comp=Z,6.0nm,1.3s
VSR pmax pmax
comp=N,6.0nm,1.1s
VSR pmax pmax
comp=E,3.0nm,1.1s
VSR MLR MLR
comp=Z,770nm,16.0s,MS5.5
VSR MLR MLR
comp=N,780nm,15.0s,MS5.7
VSR MLR MLR
comp=E,920nm,16.0s,MS5.7
OBN Obninsk 131.15 326⇓ *i* PKIKP PKPdf 18 05 01.0 -0.5
OBN *e* 18 07 17.6
OBN *e* 18 12 12.0
OBN pmax pmax
comp=Z,39nm,1.5s
OBN Obninsk 131.15 326⇑ *e*PKP PKPdf 18 05 01.0 -0.5
TSUM Tsumeb 131.22 217 *e*PKPdf PKPdf 18 05 04.9 +2.1
SOC Sochi 132.77 310 *i* PKIKP PKPdf 18 05 05.2 +0.3
SOC *e* 18 07 28.6
SOC *e*SSS 18 30 02.8
SOC pmax pmax
comp=Z,34nm,1.3s
BBGH Gun Hill 132.79 92 PFAKE 18 05 20.0 +14
BBGH LR LR
comp=Z,6µm,22.0s,MS6.2
ANN Anapa 134.09 312 *i* PKIKP PKPdf 18 05 05.0 -2.3
ANN *e* 18 07 36.8
ANN *e*PPP 18 10 33.3
ANN *e* 18 12 13.2
ANN *e*SP SP 18 17 56.9 +2.0
ANN *e*SSS 18 30 26.1
ANN pmax pmax
comp=Z,128nm,1.3s
NSS Namsos 134.15 347 *e* PP 18 07 46.8 +9.1
NSS AMS AMS 19 04 27.1
comp=Z,2µm,21.8s,MS5.8
MNK Minsk 135.87 329 *e*PKIKP PKPdf 18 05 10.0 -0.4
MNK *e* 18 07 52.0
MNK *e*SS SS 18 25 50.0 +3.8
MNK MLR MLR
comp=N,3µm,20.0s,MS6.4
MNK MLR MLR
comp=E,7µm,20.0s,MS6.4
MNK MLR MLR
comp=Z,6µm,20.0s,MS6.3
SIM Simferopol' 136.32 314 *e*PKIKP PKPdf 18 05 15.0 +3.5
SIM pmax pmax
comp=Z,700nm,11.0s
HWQ Hawqa 137.05 298 *e*P PKPdf 18 05 14.2 +1.0
AKASG Malin Array Be 137.10 323 PKP PKPdf 18 05 11.9 -0.9
comp=Z,2.3nm,0.7s,baz=78,slow=2.0,SNR=7.3
AKASG PP PP 18 08 02.8 +6.0
comp=Z,2.1nm,0.8s,baz=44,slow=5.9,SNR=4.3
AKASG SKPbc SKPbc 18 08 45.5 +0.9
comp=Z,4.9nm,0.9s,baz=56,slow=2.6,SNR=6.5
AKASG Malin Array Be 137.10 323 PKIKP PKPdf 18 05 11.9 -0.9
AKASG 18 08 02.8
AKASG Malin Array Be 137.10 323 PKP PKPdf 18 05 11.9 -0.9
AKASG PP PP 18 08 02.8 +6.0
AKASG SKPbc SKPbc 18 08 45.5 +0.9
KIEV Kiev 137.11 323 *e*PKIKP PKPdf 18 05 12.0 -0.8
BHL Bhannes 137.33 297 *e*P PKPdf 18 05 10.5 -3.2
NB2 NORSAR Subarra 137.34 344 PKPdf PKPdf 18 05 11.6 -1.3
comp=Z,8.8nm,1.1s,baz=31,slow=1.9
NB2 NORSAR Subarra 137.34 344 PKPdf PKPdf 18 05 11.6 -1.3
baz=31,slow=1.9
NOA NORSAR Array B 137.34 344 PKP PKPdf 18 05 13.3 +0.4
comp=Z,5.3nm,1.0s,baz=34,slow=1.9,SNR=8.1
NOA PP PP 18 07 54.3 -3.5
comp=Z,3.1nm,1.0s,baz=34,slow=5.5,SNR=3.0
NOA SKPbc SKPbc 18 08 45.9 +0.9
comp=Z,3.3nm,0.9s,baz=16,slow=4.6,SNR=5.4
NOA PKKP 18 14 46.7
comp=Z,1.1nm,0.8s,baz=214,slow=2.1,SNR=3.6
NOA NORSAR Array B 137.34 344 PKP PKPdf 18 05 13.3 +0.4
NOA PP PP 18 07 54.3 -3.5
NOA SKPbc SKPbc 18 08 45.9 +0.9
NOA PKKP 18 14 46.7
HFS Hagfors 137.44 342 PKP PKPdf 18 05 12.1 -1.0
comp=Z,2.4nm,0.5s,baz=66,slow=5.0,SNR=6.2
HFS SKPbc SKPbc 18 08 47.0 +1.7
comp=Z,7.4nm,0.9s,baz=116,slow=3.4,SNR=5.0
NAO01 NORSAR Array S 137.59 344 PFAKE 18 05 20.0 +6.6
NAO01 LR LR
comp=Z,3µm,19.0s,MS6.1
BR131 Keskin Array S 138.03 306 *e*PKPdf PKPdf 18 05 15.6 +0.7
BR131 LR LR
comp=Z,2µm,19.0s,MS5.9
ANTO Ankara 138.63 307⇓ *i*P PKPdf 18 05 16.4 +0.5
ANTO Ankara 138.63 307 *e*PKPdf PKPdf 18 05 16.4 +0.5
ANTO P 18 05 19.9
ANTO LR LR
comp=Z,3µm,20.0s,MS6.0
KONO Kongsberg 138.95 344 *e*PP PP 18 08 14.3 +6.5
KONO *e*SS SS 18 26 26.1 +4.1
KONO AMS AMS 19 08 25.6
comp=Z,3µm,20.0s,MS6.0
KIS Kishinev 139.01 318 *e*PKP PKPdf 18 05 19.0 +2.6
KIS Kishinev 139.01 318 *e*PP PP 18 08 20.0 +11
CSS Prodhromos 139.12 299 *e*PKPdf PKPdf 18 05 17.7 +0.7
CSS LR LR
comp=Z,4µm,19.0s,MS6.2
BER Bergen 139.25 348 AMS AMS 19 04 58.0
comp=Z,1µm,21.2s,MS5.7
LVV L'vov 140.41 325 *i* PKIKP PKPdf 18 05 21.3 +2.4
LVV *e* 18 08 26.3
LVV *e*PPP 18 11 29.9
LVV *e*SS SS 18 26 47.3 +7.1
LVV MLR MLR
comp=N,1µm,19.0s,MS5.7
LVV MLR MLR
comp=E,500nm,19.0s,MS5.7
LVV MLR MLR
comp=Z,2µm,19.0s,MS5.9
KWP Kalwaria 141.23 325 *e*PKIKP PKPdf 18 05 19.7 -0.6
KWP MLR MLR
comp=Z,3µm,19.0s,MS6.0
MLR Muntele Rosu 141.46 318 PKP PKPdf 18 05 21.2 +0.3
comp=Z,8.3nm,0.9s
MLR Muntele Rosu 141.46 318⇑ *i*P PKPdf 18 05 23.2 +2.3
MLR Muntele Rosu 141.46 318⇑P PKPdf 18 05 23.2 +2.3
COP Copenhagen 141.47 339 *e*PKIKP PKPdf 18 05 21.4 +0.8
COP pmax pmax
comp=Z,7.0nm,0.8s
COP MLR MLR
comp=Z,770nm,18.0s,MS5.5
COP Copenhagen 141.47 339 *i* P PKPdf 18 05 21.4 +0.8
comp=Z,7.0nm,0.8s
COP *i* 18 26 41.8
COP
comp=Z,760nm,18.0s
COP Copenhagen 141.47 339 *e*P PKPdf 18 05 21.4 +0.8
COP *i* 18 26 41.8
COP LR LR
comp=Z,770nm,18.0s,MS5.5
MUD Monsted U'grnd 141.84 342 *e*PKIKP PKPdf 18 05 22.3 +1.1
MUD *e* 18 27 06.5
MUD
comp=Z,10.0nm,1.0s
MUD MLR MLR

comp=Z,3µm,21.0s,MS6.1
MUD Monsted U'grnd 141.84 342 *i* P PKPdf 18 05 22.3 +1.1
comp=Z,9.5nm,1.0s
MUD *i* 18 22 31.7
MUD *e* 18 27 06.5
MUD
comp=Z,3µm,21.0s
MUD Monsted U'grnd 141.84 342 *e*P PKPdf 18 05 22.3 +1.1
MUD *i* 18 22 31.7
MUD *e* 18 27 06.5
KOLS Kolonicke sedl 141.86 324 *e*PKP PKPdf 18 05 19.6 -1.9
KOLS *e*PP PP 18 08 19.5 -6.6
UZH Uzhgorod 142.02 324 *i* PKIKP PKPdf 18 05 19.3 -2.5
UZH *e* 18 08 34.0
UZH *e*SS SS 18 27 00.0 +1.1
UZH MLR MLR
comp=Z,770nm,19.5s,MS5.5
VOIR 142.04 318⇓ *i*P PKPdf 18 05 21.7 -0.2
VOIR 142.04 318⇓P PKPdf 18 05 21.7 -0.2
STHS Stebnicka Huta 142.13 326 *e*PKP PKPdf 18 05 20.6 -1.4
STHS *e*PP PP 18 08 22.7 -5.0
STHS Stebnicka Huta 142.13 326 *e*PKP PKPdf 18 05 20.6 -1.4
STHS *e*PP PP 18 08 22.7 -5.0
CRVS Cervenica-Dubn 142.31 325 *e*PKP PKPdf 18 05 20.8 -1.5
OJC Ojcow 142.38 328 *e*PKPdf PKPdf 18 05 22.8 +0.4
OJC *e*pPKPdf pPKPdf 18 05 25.4 -4.5
OJC *e*PP PP 18 08 32.7 +3.5
OJC *e*SKSdf SKSdf 18 12 30.9 +0.1
OJC *e*SS SS 18 27 04.4 +1.6
OJC L 19 08 41.3
comp=Z,3.3nm,22.6s
SZH Strazhica 142.42 314 P PKPdf 18 05 16.4 -6.3
NIE Niedzica 142.61 326 *e*PKPdf PKPdf 18 05 23.0 +0.2
DRGR 142.79 321⇑ *i*P PKPdf 18 05 21.5 -1.7
DRGR 142.79 321 P PKPdf 18 05 23.4 +0.2
ARG Arkhangelos 143.07 302 *e*P PKPdf 18 05 25.0 +0.9
ALN Alexandroupoli 143.25 311 P PKPdf 18 05 20.5 -3.7
KDZ Kurdzhali 143.41 312 P PKPdf 18 05 21.2 -3.3
OKC Ostrava-Krasne 143.44 328 *e*PKP PKPdf 18 05 25.0 +0.7
OKC *ex* x 18 27 18.7
OKC AMS AMS 19 07 30.0
comp=Z,3µm,25.1s
OKC Ostrava-Krasne 143.44 328 *e*PKP PKPdf 18 05 25.0 +0.7
OKC *e* 18 27 18.7
GZR Gura Zlata 143.47 319⇑ *i*P PKPdf 18 05 22.5 -2.0
GZR Gura Zlata 143.47 319 P PKPdf 18 05 22.3 -2.2
RDO Rodhopi 143.52 311 *e*P PKPdf 18 05 23.0 -1.7
RDO Rodhopi 143.52 311 *e*P PKPdf 18 05 23.0 -1.7
BSEG Bad Segeberg 143.61 339 *e*PKPbc PKPdf 18 05 21.0 -3.4
BSEG *e*PP PP 18 08 39.3 +3.0
KSP Ksiaz 143.63 331 *e*P PKPdf 18 05 22.5 -2.1
KSP Ksiaz 143.63 331 *e*PKP PKPdf 18 05 21.8 -2.8
KSP *e*SS SS 18 27 23.0 +5.9
KSP LR LR
comp=Z,8µm,21.4s,MS6.4
PRK Paraskevi 143.65 308 P PKPdf 18 05 21.1 -3.9
PRK Paraskevi 143.65 308 *e*P PKPdf 18 05 22.5 -2.5
PRK Paraskevi 143.65 308 *e*P PKPdf 18 05 22.5 -2.5
SMG Samos 143.69 305 *e*P PKPdf 18 05 22.0 -3.1
SMG Samos 143.69 305 *e*P PKPdf 18 05 22.0 -3.1
PLD Plovdiv 143.72 313 P PKPdf 18 05 25.9 +0.9
PSZ Piszkesteto 143.74 325⇑ *e*PKP PKPdf 18 05 22.6 -2.3
PSZ Piszkesteto 143.74 325⇑ *i*P PKPdf 18 05 23.1 -1.8
PSZ Piszkesteto 143.74 325 *e*PKPpre 18 05 22.0
PSZ P 18 05 26.6
MORC Moravsky Berou 143.77 329 *e*PKIKP PKPdf 18 05 22.6 -2.2
KSB Sheil Bridge 143.83 355 *e*P PKPdf 18 05 21.2 -3.5
PGB Panagyurishte 143.90 314 P PKPdf 18 05 23.5 -1.8
VYHS Vyhne 143.95 326 *e*PKP PKPdf 18 05 22.9 -2.3
VYHS *e*SS SS 18 27 20.6 -0.5
DPC Dobruska-Polom 143.96 330 *e*PKP PKPdf 18 05 22.5 -2.7
DPC *ex* x 18 27 24.4
DPC AMS AMS 19 10 20.0
comp=Z,3µm,18.6s
KARP Karpathos 143.98 302 *e*P PKPdf 18 05 24.0 -1.7
KARP Karpathos 143.98 302 *e*P PKPdf 18 05 24.0 -1.7
UPC Upice 143.99 331 *e*PKP PKPdf 18 05 22.9 -2.3
BZS Buzias 144.05 320⇑ *i*P PKPdf 18 05 23.0 -2.5
BZS Buzias 144.05 320 P PKPdf 18 05 23.2 -2.2
CHOS Chios island 144.08 307 P PKPdf 18 05 22.4 -3.4
KOLL Kolacno 144.12 327 *e*PKP PKPdf 18 05 23.8 -1.7
LIA Limnos Island 144.22 310 P PKPdf 18 05 22.5 -3.5
LOS Limnos 144.28 310 P PKPdf 18 05 23.8 -2.3
BUD Budapest 144.47 325⇑ *e*PKP PKPdf 18 05 26.1 0.0
VTS Vitosha 144.52 315 P PKPdf 18 05 24.9 -1.5
VTS Vitosha 144.52 315⇑ *i*P PKPdf 18 05 25.8 -0.6
VTS Vitosha 144.52 315 P PKPdf 18 05 25.4 -0.9
VRAC Vranov 144.54 329 PKP PKPdf 18 05 24.5 -1.8
comp=Z,21nm,0.9s,baz=63,slow=3.8,SNR=19
VRAC Vranov 144.54 329⇑ *i*P PKPdf 18 05 24.9 -1.3
VRAC Vranov 144.54 329 P PKPdf 18 05 25.4 -0.9
MMB Musomiste 144.60 313 P PKPdf 18 05 24.8 -1.8
EBH Black Hill 144.60 353 *e*P PKPdf 18 05 24.5 -1.6
PVCC Panska Ves 144.62 332 *e*PKP PKPdf 18 05 25.0 -1.3
PVCC AMS AMS 19 08 10.0
comp=Z,5µm,21.8s
BRG Berggiesshubel 144.64 333 *i* PKIKP PKPdf 18 05 24.9 -1.4
BRG *i* 18 05 28.3
BRG *i* 18 05 38.3
BRG pmax pmax
comp=Z,16nm,1.1s
BRG pmax pmax
comp=Z,174nm,1.6s
BRG pmax pmax
comp=Z,53nm,1.1s
BRG pmax pmax
comp=N,61nm,1.2s
BRG pmax pmax
comp=Z,16nm,1.3s
BRG MLR MLR
comp=N,639nm,18.1s
BRG MLR MLR
comp=E,689nm,26.9s
BRG MLR MLR
comp=Z,1µm,23.8s
BRG Berggiesshubel 144.64 333 *e*PKPbc PKPdf 18 05 24.3 -2.0
BRG Berggiesshubel 144.64 333 *i* PKP PKPdf 18 05 24.9 -1.5
comp=Z,26nm,1.1s
BRG *i* 18 05 28.3
comp=Z,291nm,1.6s
BRG *i* 18 05 38.3
comp=Z,89nm,1.1s
BRG *i* sP 18 05 45.8
comp=Z,103nm,1.2s
BRG *i* 18 09 07.9
comp=Z,27nm,1.3s
BRG
comp=N,1µm,18.1s
BRG
comp=E,1µm,26.9s
BRG
comp=Z,2µm,23.8s
BRG Berggiesshubel 144.64 333 *i* PKP PKPdf 18 05 24.9 -1.5
BRG *i* 18 05 28.3
BRG *i* 18 05 38.3
BRG *i* sP 18 05 45.8
BRG *i* 18 09 07.9
BRG LR LR
comp=Z,1µm,23.8s,MS5.6
CLL Collm 144.71 334 *e*PKIKP PKPdf 18 05 25.0 -1.4
CLL *i* 18 05 27.9
CLL pmax pmax
comp=Z,49nm,0.9s
CLL pmax pmax
comp=Z,487nm,2.0s
CLL MLR MLR
comp=Z,2µm,23.4s,MS5.9
CLL Collm 144.71 334 *e*PKPbc PKPdf 18 05 24.2 -2.2
CLL Collm 144.71 334 *e*PKPdf PKPdf 18 05 25.0 -1.4
comp=Z,49nm,0.9s
CLL *i* PKiKP PKiKP 18 05 28.2 -2.0
comp=Z,487nm,2.0s
CLL *i* x x 18 05 33.2
CLL *i* pPKPdf pPKPdf 18 05 38.5 +4.5
CLL *e*sPKiKP 18 05 44.0
CLL *i* PP PP 18 08 43.1 +0.1
CLL *i* PKSbc 18 09 07.5
comp=Z,26nm,1.2s
CLL *e*PPP 18 11 58.0
CLL *e*PKKSbc 18 17 09.0
CLL *e*pPKKSbc 18 17 17.0
CLL *e*PSKS 18 19 09.0
CLL *ex* x 18 22 30.0

CLL eSS SS 18 27 23.0 -6.3
CLL ePSPS 18 28 48.0
CLL eSSS 18 32 56.0
CLL Collm 144.71 334 ePKP PKPdf 18 05 25.0 -1.4
CLL i PKP PKPdf 18 05 27.9 +1.5
CLL i pPKP pPKPdf 18 05 38.5 +4.5
CLL LR LR
comp=Z,2µm,23.4s,MS5.9
EAB Aberfoyle 144.75 354 eP PKPdf 18 05 25.0 -1.4
ESY Stoneypath 144.81 352⇑ eP PKPdf 18 05 23.1 -3.4
MODS Modra-Piesok 144.83 327 ePKP PKPdf 18 05 26.0 -0.7
MODS ePP PP 18 08 50.5 +6.6
MODS eSS SS 18 27 36.5 +5.4
ZKR Zakros 144.83 301 P PKPdf 18 05 26.4 -0.8
FBE Freiberg 144.85 333 ePKPbc PKPdf 18 05 25.8 -0.9
APE Apeiranthos 144.87 305 eP PKPdf 18 05 24.0 -3.2
APE Apeiranthos 144.87 305⇑ iPKIKP PKPdf 18 05 24.7 -2.5
APE Apeiranthos 144.87 305⇑ iP PKPdf 18 05 24.6 -2.6
APE Apeiranthos 144.87 305 eP PKPdf 18 05 24.0 -3.2
EDI Edinburgh 144.88 353 eP PKPdf 18 05 23.6 -3.0
EDI AMb AMB 18 05 34.0
comp=Z,144nm,1.9s
KKB Krupnik 144.92 314 P PKPdf 18 05 25.9 -1.2
OUR Ouranopolis 144.92 311 P PKPdf 18 05 25.7 -1.5
EAU Auchinoon 144.99 353⇑ eP PKPdf 18 05 25.1 -1.6
EBL Broad Law 145.01 352 eP PKPbc 18 05 24.9 -1.2
PRU Pruhonice 145.03 331 ePKP PKPdf 18 05 25.7 -1.3
PRU ex x 18 27 48.6
PRU AMS AMS 19 08 50.0
comp=Z,4µm,22.5s
ZST Bratislava 145.03 327 ePKP PKPdf 18 05 26.5 -0.6
ZST eSS SS 18 27 41.1 +7.7
ZST Bratislava 145.03 327 ePKP PKPdf 18 05 26.5 -0.6
ZST eSS SS 18 27 41.2 +7.8
ZST LR LR
comp=Z,500nm,20.7s,MS5.3
TREC Trest 145.08 330 ePKP PKPdf 18 05 26.4 -0.7
TREC ex x 18 27 48.2
TREC AMS AMS 19 07 10.0
comp=Z,4µm,25.9s
PGBU Glenifferbraes 145.13 354 eP PKPbc 18 05 24.9 -1.6
PGBU AMb AMB 18 05 31.3
comp=Z,453nm,1.5s
SOH Sokhos 145.17 312 P PKPbc 18 05 25.3 -1.9
XSO Sourhope Farm 145.18 352 eP PKPbc 18 05 24.0 -2.7
PCA1 Carrot 145.22 354 eP PKPbc 18 05 25.5 -1.3
NPS Neapolis 145.28 302 eP PKPbc 18 05 28.5 +0.8
PLG Polygyros 145.28 311 P PKPbc 18 05 24.9 -2.7
PLG Polygyros 145.28 311 eP PKPbc 18 05 26.5 -1.1
PLG Polygyros 145.28 311 eP PKPbc 18 05 26.5 -1.1
CLZ Clausthal 145.30 337 ePKPbc PKPbc 18 05 26.7 -0.5
KNT Kendrikon 145.34 313 P PKPbc 18 05 28.7 +1.0
LAST Lasithi 145.41 302 P PKPbc 18 05 26.3 -1.8
HORT Hortiatis 145.43 312 P PKPbc 18 05 27.8 -0.2
PKSM Moragy 145.44 323⇑ iP PKPdf 18 05 27.5 -0.4
PKSM Moragy 145.44 323 P PKPdf 18 05 27.4 -0.4
EKA Eskdalemuir Ar 145.45 352 PKPbc PKPbc 18 05 26.1 -1.4
comp=Z,69nm,0.8s,baz=354,slow=2.4,SNR=110
ESK Eskdalemuir 145.47 352 eP PKPdf 18 05 26.1 -1.5
ESK AMb AMB 18 05 32.4
comp=Z,308nm,1.6s
ESK Eskdalemuir 145.47 352 ePKPdf PKPdf 18 05 26.3 -1.3
ESK LR LR
comp=Z,2µm,21.0s,MS5.9
VAY Valandovo 145.50 313 P PKPdf 18 05 26.3 -1.8
VAY Valandovo 145.50 313 ePKP PKPdf 18 05 26.4 -1.7
THE Thessaloniki 145.51 312 P PKPdf 18 05 27.7 -0.5
STP Stip 145.60 314 ePKP PKPdf 18 05 26.6 -1.7
ECK Cauldkaine Hil 145.60 352⇑ eP PKPdf 18 05 26.7 -1.1
TANN Tannenbergstha 145.61 334 ePKPbc PKPbc 18 05 27.8 -0.4
TANN ePP PP 18 08 50.0 +1.6
WERD Werda 145.65 334 ePKPbc PKPbc 18 05 28.2 -0.2
GUNZ Gunzen 145.70 334 ePKPbc PKPbc 18 05 27.7 -0.8
WERN Wernitzgruen 145.74 333 ePKPbc PKPbc 18 05 28.4 -0.3
NKC Novy Kostel 145.75 333 ePKP PKPdf 18 05 28.3 0.0
NKC ex x 18 27 43.8
NKC AMS AMS 19 12 40.0
comp=Z,3µm,19.1s
NKC Novy Kostel 145.75 333 ePKP PKPdf 18 05 28.3 0.0
NKC e 18 27 43.8
GRG Griva 145.77 313 P PKPdf 18 05 25.5 -3.1
MOX Moxa 145.78 335 ePKP PKPdf 18 05 28.1 -0.2
MOX e 18 05 32.5
comp=Z,503nm,2.1s
MOX
comp=Z,2µm,21.0s
MOX Moxa 145.78 335 ePKPbc PKPbc 18 05 28.2 -0.6
MOX ePP PP 18 08 54.2 +4.9
XAL Allendale 145.79 351⇑ eP PKPdf 18 05 27.3 -0.8
IBBN Ibbenburen 145.82 340 ePKPbc PKPbc 18 05 28.0 -0.8
PTL Penteli 145.82 307 eP PKPdf 18 05 27.5 -1.3
PTL Penteli 145.82 307 eP PKPdf 18 05 27.5 -1.3
CONA Conrad Observa 145.83 328 i PKPab PKPab 18 05 29.2 -0.3
comp=Z,194nm,1.2s,SNR=54
CSNA Conrad Observa 145.83 328⇑ iPKPab PKPab 18 05 28.6 -0.8
comp=Z,175nm,1.2s
DIVS Divibare 145.84 319 P PKPdf 18 05 25.3 -3.3
ATH Athens Observa 145.96 307 eP PKPdf 18 05 28.0 -1.0
KVR Kavouri 145.97 307 eP PKPdf 18 05 28.0 -1.0
KVR Kavouri 145.97 307 eP PKPdf 18 05 28.0 -1.0
SKO Skopje 145.97 315 P PKPbc 18 05 31.2 +1.5
SKO Skopje 145.97 315 ePKP PKPdf 18 05 26.6 -2.3
GCD Castle Douglas 146.01 353 eP PKPdf 18 05 27.8 -0.7
LIT Litokhoron 146.06 311 P PKPdf 18 05 28.5 -0.6
KHC Kasperske Hory 146.08 331 ePKP PKPdf 18 05 27.9 -1.0
KHC ex x 18 27 52.6
KHC AMS AMS 19 09 00.0
comp=Z,4µm,27.7s
MANZ Manzenberg 146.08 333 ePKPbc PKPbc 18 05 29.4 -0.3
GAL1 Galloway 146.09 354⇑ eP PKPdf 18 05 28.1 -0.6
GAL1 AMb AMB 18 05 34.6
comp=Z,535nm,1.4s
NAIG Nisos Aigina 146.20 307 eP PKPdf 18 05 27.0 -2.4
NAIG Nisos Aigina 146.20 307 eP PKPdf 18 05 27.0 -2.4
ROTZ Rotzenmuhle 146.21 333 ePKPbc PKPbc 18 05 29.5 -0.6
ROTZ ePP PP 18 08 54.7 +2.8
GEC2 GERESS Array S 146.23 331 ePKPbc PKPbc 18 05 29.7 -0.5
LKR Lokris 146.25 309 P PKPdf 18 05 29.8 +0.3
UBBA Unterbreizbach 146.27 336 ePKPbc PKPbc 18 05 29.5 -0.7
VAM Vamos 146.36 302 eP PKPdf 18 05 30.0 +0.2
KRUS Krusevo 146.37 314 ePKP PKPdf 18 05 28.1 -1.5
WET Wettzell 146.38 332 ePKPbc PKPbc 18 05 29.7 -0.9
WET ePP PP 18 08 55.8 +2.8
WTSB Winterswijk 146.42 340 i PKP PKPdf 18 05 30.4 +1.1
comp=Z,332nm,3.5s
ARSA Arzberg 146.46 327⇑ iPKPab PKPab 18 05 31.7 -0.1
comp=Z,113nm,2.4s,SNR=22
DID Didima 146.47 306 P PKPdf 18 05 28.7 -1.2
BIA Bitola 146.48 313 ePKP PKPdf 18 05 27.6 -2.2
KZN Kozani 146.48 312 eP PKPdf 18 05 30.0 +0.2
LTK Loutraki 146.50 308 P PKPdf 18 05 31.1 +1.2
FNA Florina 146.54 313 P PKPdf 18 05 29.8 -0.1
HPK Haverah Park 146.57 350 eP PKPdf 18 05 30.8 +1.3
HPK AMb AMB 18 05 37.5
comp=Z,510nm,1.6s
AGG Agios Georgios 146.60 310 P PKPdf 18 05 26.7 -3.4
KOGS Kog 146.60 325 ePKPbc PKPbc 18 05 33.1 +1.7
THL Klokotos Trika 146.61 311 P PKPdf 18 05 27.4 -2.7
GIM North Isle of 146.63 353 eP PKPdf 18 05 30.1 +0.5
MOA Molln 146.67 329⇑ iPKPab PKPab 18 05 31.8 -0.9
comp=Z,81nm,1.6s,SNR=20
GRA1 Grafenberg Arr 146.68 334 ePKPbc PKPbc 18 05 31.0 -0.5
GRA1 ePP PP 18 08 58.3 +3.6
GRA1 eSS SS 18 28 04.9 +13
GRA1 LR LR
comp=Z,2µm,19.3s,MS6.0
GRF Grafenberg Arr 146.68 334 ePKP2 PKPab 18 05 31.0 -1.6
GRF e 18 08 58.3
GRF MLR MLR
comp=Z,2µm,19.3s,MS6.0
GRF Grafenberg Arr 146.68 334 ePKP2 PKPab 18 05 31.0 -1.6
GRF e 18 08 58.3
GRF MLR MLR
comp=Z,2µm,19.3s,MS6.0
GRF Grafenberg Arr 146.68 334 ePKPbc PKPbc 18 05 31.0 -0.5
GRF ePP PP 18 08 58.3 +3.6
GRF eSS SS 18 28 04.9 +13
GRF eL 19 19 42.4
comp=Z,2µm,19.3s
LDU Leeds Universi 146.71 350 eP PKPbc 18 05 31.8 +0.3
BUG Bochum--Univer 146.72 339 ePKPbc PKPbc 18 05 30.4 -1.1
BUG ePP PP 18 08 58.6 +3.9

OHR Ohrid 146.79 314 P PKPbc 18 05 32.4 +0.3
OHR Ohrid 146.79 314 ePKP PKPdf 18 05 28.7 -1.6
GMM Mts of Mourne 146.82 355 eP PKPbc 18 05 31.7 0.0
VLI Veliai 146.95 305 eP PKPdf 18 05 30.0 -0.7
VLI Veliai 146.95 305 eP PKPdf 18 05 30.0 -0.7
LHO Holmfirth 147.01 350 eP PKPdf 18 05 29.0 -1.3
EVR Evrytania 147.01 310 eP PKPdf 18 05 30.0 -0.8
KYTH Kithira 147.01 304 eP PKPbc 18 05 32.5 -0.4
AWI1 Witton 147.07 346 eP PKPdf 18 05 30.3 -0.1
PERS Pernice 147.07 326 ePKPbc PKPbc 18 05 33.7 +1.0
SISC Sisak 147.15 324 P PKPbc 18 05 32.8 -0.2
VLX Vlachokerasia 147.16 307 P PKPbc 18 05 35.0 +1.7
DMUB Kingscourt 147.23 356⇑ iP PKPbc 18 05 33.0 +0.1
KBI1 Birley Grange 147.24 350 eP PKPdf 18 05 30.9 +0.3
TIR Tirane 147.30 315 P PKPbc 18 05 34.0 +0.5
TNS Taunus Mts 147.33 337 ePKPbc PKPbc 18 05 31.9 -1.4
JAN Janina 147.39 311 eP PKPdf 18 05 31.5 +0.1
RJOB Jochberg 147.45 330 ePKPbc PKPdf 18 05 30.3 -0.9
RJOB ePP PP 18 09 03.3 +4.0
STNC Stoke 147.50 350 eP PKPbc 18 05 34.0 +0.3
STNC AMb AMB 18 05 40.7
comp=Z,381nm,1.4s
KWE Weaver Farm 147.52 350 eP PKPbc 18 05 33.0 -0.8
ITM Ithomi 147.56 307 eP PKPbc 18 05 34.5 +0.1
KBA Koelnbreinsper 147.66 329⇓ iPKPdf PKPdf 18 05 31.3 -0.3
comp=Z,71nm,0.9s,SNR=11
CWF Charnwood Fore 147.70 349 eP PKPdf 18 05 30.7 -0.8
CWF AMb AMB 18 05 41.6
comp=Z,151nm,2.4s
TOD Tromm 147.70 336 PKP2 PKPbc 18 05 33.3 -1.1
HGN Heimansgroeve 147.73 340 ePKP PKPbc 18 05 35.1 +0.7
comp=Z,180nm,2.8s
HGN Heimansgroeve 147.73 340 ePP PP 18 09 01.9 +1.3
BOJS Bojanci 147.74 325 ePKPbc PKPbc 18 05 33.6 -1.0
BOJS e 18 07 49.5
BOJS eSS SS 18 28 15.0 +11
LJU Ljubljana 147.77 326 ePKPbc PKPbc 18 05 33.2 -1.4
LJU e 18 07 48.8
LJU e 18 09 21.8
LJU e 18 15 28.4
LJU eSS SS 18 28 16.4 +12
LJU e 18 29 37.1
BEBN Eben Emael 147.78 340 PKPab PKPab 18 05 36.1 -0.8
PYL PYLOS 147.80 306 P PKPdf 18 05 31.7 -0.5
DLF Lyons Farm 147.80 355⇑ iP PKPbc 18 05 34.3 -0.2
IGT Igoumenitsa 147.81 312 P PKPbc 18 05 34.5 -0.5
FUR Furstenfeldbru 147.82 332 ePKPbc PKPbc 18 05 33.7 -1.0
SBD1 Bryn Du 147.84 352 eP PKPdf 18 05 32.3 +0.6
MEM Membach 147.84 340 PKPbc PKPbc 18 05 33.9 -0.8
DSB Dublin 147.84 355 ePKPbc PKPbc 18 05 33.8 -0.8
STON Ston 147.90 319 P PKPdf 18 05 32.7 +0.6
LKD Levkas 147.93 310 P PKPdf 18 05 33.5 +1.2
ABH Alteburg 147.94 338 PKP PKPdf 18 05 32.8 +0.9
KEK Kerkira 148.10 312 eP PKPbc 18 05 35.5 -0.3
VOY Vojsko 148.11 327 ePKPbc PKPdf 18 05 32.5 +0.1
VOY e 18 05 35.7
VOY e 18 05 47.3
JAVS Javornik 148.11 326 ePKP PKPdf 18 05 29.2 -3.1
HLM1 Long Mynd 148.16 351 eP PKPdf 18 05 33.1 +0.8
UCC Uccle 148.18 342 PKPbc PKPbc 18 05 34.9 -0.7
VLS Valsamata 148.18 309 eP PKPbc 18 05 35.0 -1.0
KTD Kalmit 148.21 336 PKP2 PKPbc 18 05 35.6 -0.1
STU Stuttgart 148.22 335 ePKPbc PKPbc 18 05 35.1 -0.7
STU Stuttgart 148.22 335 ePKPbc PKPbc 18 05 35.5 -0.3
BCLA Clavier 148.23 340 PKPbc PKPbc 18 05 34.7 -1.0
RUP Ruppelstein 148.26 338 PKIKP PKPbc 18 05 34.1 -1.7
ABTA Abfaltersbach 148.29 329⇑ iPKPdf PKPdf 18 05 32.5 -0.2
comp=Z,62nm,1.1s,SNR=11
SNF Seneffe 148.46 342 PKPbc PKPbc 18 05 35.2 -1.2
SNF PKPab PKPab 18 05 39.3 -0.4
MOTA Moosalm 148.51 331⇑ iPKPdf PKPdf 18 05 32.1 -0.9
comp=Z,77nm,1.2s,SNR=8.2
NVLJ Novalja 148.55 324 P PKPdf 18 05 30.6 -2.5
LANF Langenberg 148.59 336 PKP PKPbc 18 05 35.0 -1.7
WLF Walferdange 148.60 339 PKPbc PKPbc 18 05 36.5 -0.3
WLF Walferdange 148.60 339 ePKPbc PKPbc 18 05 36.4 -0.3
WLF ePP PP 18 09 09.5 +3.7
WLF Walferdange 148.60 339 ePKPbc PKPbc 18 05 36.2 -0.5
HTR Trewern Hill 148.65 351 eP PKPdf 18 05 33.6 +0.6
GIVF Givet 148.66 341 ePKIKP PKPdf 18 05 33.1 0.0
MCH1 Michaelchurch 148.69 351 eP PKPbc 18 05 35.4 -1.4
MCH1 AMb AMB 18 05 41.8
comp=Z,219nm,2.5s
DOU Dourbes 148.73 341 PKPbc PKPbc 18 05 35.8 -1.2
TFO1 Folkestone 148.74 346 eP PKPdf 18 05 33.0 -0.2
TFO1 AMb AMB 18 05 42.5
comp=Z,236nm,2.9s
BAIF Baives 148.88 341 ePKIKP PKPdf 18 05 34.1 +0.6
comp=Z,235nm,1.5s
BFO Black Forest 148.92 335 ePKPbc PKPbc 18 05 36.1 -1.5
BFO ePP PP 18 09 10.2 +2.4
BFO Black Forest 148.92 335 ePKPbc PKPbc 18 05 36.1 -1.5
BFO ePP PP 18 09 10.2 +2.4
BFO LR LR
comp=Z,2µm,20.0s,MS5.8
SPAK Spaichingen-Ko 148.92 334 PKP PKPdf 18 05 35.2 +1.6
FETA Feichten 148.93 331 i PKPbc PKPdf 18 05 34.3 +0.6
comp=Z,82nm,1.3s,SNR=19
STR Strasbourg 148.93 336 PKP PKPdf 18 05 35.4 +1.8
SWN1 Swindon 148.96 349 eP PKPbc 18 05 37.4 -0.1
SWN1 AMb AMB 18 05 47.3
comp=Z,540nm,2.1s
MENF Mencas 149.00 344 PKP PKPdf 18 05 34.3 +0.6
HGH Gray Hill 149.00 350 eP PKPdf 18 05 33.4 -0.3
WOL Wolverton 149.05 348 eP PKPbc 18 05 35.9 -1.9
WOL AMb AMB 18 05 46.5
comp=Z,479nm,1.6s
DAVA Damuels 149.10 332⇑ iPKPdf PKPdf 18 05 34.2 +0.2
comp=Z,99nm,1.6s,SNR=12
CDF Champ du Feu 149.26 336 ePKIKP PKPdf 18 05 34.1 0.0
comp=Z,114nm,0.9s
LIBD Limburg 149.35 336 PKHKP 18 05 35.6
FELD Feldberg im Sc 149.42 335 PKP PKPdf 18 05 35.2 +0.8
ECH Echery 149.47 336 PKP PKPdf 18 05 35.2 +0.7
ECH Echery 149.47 336 ePKPbc PKPdf 18 05 34.5 0.0
DAVOS Davos 149.48 332 PKP2 PKPbc 18 05 39.2 +0.2
DAVOX Davos/Dischmat 149.49 332 PKPbc PKPbc 18 05 39.2 +0.1
comp=Z,12nm,0.5s,baz=276,slow=2.8,SNR=18
HEX Exmoor 149.71 351 eP PKPdf 18 05 33.9 -0.9
MOF Molkenrain 149.78 336 PKP PKPdf 18 05 36.1 +1.1
THEF They Montfort 149.89 337 PKP PKPdf 18 05 35.2 +0.1
HINF Hinteralfeld 149.91 336 ePKIKP PKPdf 18 05 34.3 -0.9
HAU Haudompre 149.94 337 ePKIKP PKPdf 18 05 34.4 -0.8
comp=Z,189nm,1.2s
HAU eMLR MLR
comp=Z,3µm,21.0s,MS5.8
HAU Haudompre 149.94 337 ePKPdf PKPdf 18 05 34.4 -0.8
HAU LR LR
comp=Z,3µm,21.0s,MS6.0
BBS Basel-Blauen 149.94 335 PKHKP PKPdf 18 05 35.6 +0.3
TUE Stuetta 149.96 332 ePKPbc PKPdf 18 05 36.4 +1.1
MEZF Maizieres J'vi 149.97 339 ePKIKP PKPdf 18 05 35.1 -0.2
comp=Z,465nm,1.5s
LOMF Lomont 150.31 336 PKP PKPdf 18 05 35.2 -0.6
CUC Castrocucco 150.65 316 ePKPbc PKPbc 18 05 40.3 -1.8
CUC LR LR
comp=Z,3µm,22.0s,MS6.1
CCA1 Carnmenellis 150.76 353 eP PKPdf 18 05 36.1 -0.3
ASCN Ascension 150.82 173 ePKPdf PKPdf 18 05 36.1 -1.6
ASCN ePKPbc PKPbc 18 05 44.1 +0.8
ASCN LR LR
comp=Z,3µm,20.0s,MS6.0
CPZ Penzance 150.83 353 eP PKPdf 18 05 37.3 +0.7
OG01 Vacheresse 151.20 335 PKP PKPbc 18 05 40.0 -3.2
CABF La Chapelle 151.20 336 ePKIKP PKPdf 18 05 38.0 +0.8
FLN La Foliniere 151.31 346 ePKIKP PKPdf 18 05 37.4 +0.1
comp=Z,254nm,1.2s
FLN eMLR MLR
comp=Z,4µm,21.8s,MS5.8
FLN La Foliniere 151.31 346 ePKPdf PKPdf 18 05 37.4 +0.1
FLN LR LR
comp=Z,4µm,21.8s,MS6.2
LDF La Druitiere 151.38 345 ePKIKP PKPdf 18 05 37.4 -0.1
comp=Z,125nm,1.1s
LOR Lormes 151.44 339 ePKIKP PKPdf 18 05 38.0 +0.4
comp=Z,278nm,1.4s
LOR eMLR MLR
comp=Z,3µm,19.8s,MS5.8
LOR Lormes 151.44 339 ePKPdf PKPdf 18 05 38.0 +0.4
LOR LR LR
comp=Z,3µm,19.8s,MS6.1
CEL Celeste 151.47 312 PFAKE 18 05 50.0 +12

CEL LR LR
comp=Z,41µm,19.0s,MS7.2
SSF Saint Saulge 151.74 339 ePKIKP PKPdf 18 05 37.7 -0.4
comp=Z,328nm,1.5s
GRR Gorron 151.75 346 ePKIKP PKPdf 18 05 38.4 +0.4
comp=Z,128nm,1.1s
LPL La Plagne 151.84 333 ePKIKP PKPdf 18 05 38.5 +0.2
comp=Z,100nm,1.0s
LPG La Plagne 151.84 333 ePKIKP PKPdf 18 05 38.6 +0.3
comp=Z,153nm,1.1s
SMF Signal de Mont 151.99 338 ePKIKP PKPdf 18 05 38.5 +0.1
AVF Avril sur Loir 152.03 339 ePKIKP PKPdf 18 05 38.4 -0.1
comp=Z,301nm,1.4s
SGMF Saint Gilles 152.23 348 ePKIKP PKPdf 18 05 38.2 -0.5
comp=Z,258nm,1.2s
BNI Bardonecchia 152.23 333 ePKIKP PKPdf 18 05 39.1 +0.2
BNI MLR MLR
comp=Z,3µm,20.0s,MS6.1
ROSF Rostrenen 152.28 349 ePKIKP PKPdf 18 05 38.2 -0.6
comp=Z,175nm,1.2s
BGF Bois d'Agland 152.40 340 ePKIKP PKPdf 18 05 38.3 -0.8
comp=Z,266nm,1.5s
MBDF Montbardon 152.45 332 ePKIKP PKPdf 18 05 39.5 +0.3
PLDF La Plantade 152.65 338 PKP PKPdf 18 05 38.9 -0.6
QUIF Quistinic 152.66 349 ePKIKP PKPdf 18 05 39.1 -0.3
comp=Z,170nm,1.4s
ORIF Oris-en-Rattie 152.68 334 ePKIKP PKPdf 18 05 39.8 +0.3
comp=Z,70nm,0.8s
ORIF eMLR MLR
comp=Z,4µm,21.2s,MS5.9
SAOF Saorge 152.68 330 PKP PKPdf 18 05 40.9 +1.3
AUTN L'Aution 152.74 331 PKP PKPdf 18 05 41.7 +2.1
AGO Saint Agoulin 152.75 339 PKP PKPdf 18 05 39.5 -0.1
TOUF Mont Tournerai 152.80 331 PKP PKPdf 18 05 41.0 +1.3
SBF Sospel 152.83 330 ePKIKP PKPdf 18 05 39.7 -0.1
comp=Z,168nm,1.1s
TCF Toulx Ste Croi 152.85 340 ePKIKP PKPdf 18 05 38.9 -0.8
comp=Z,192nm,1.4s
LUCF Luceram 152.85 331 PKP PKPdf 18 05 41.2 +1.4
SSB Saint Sauveur 152.91 336 PKP PKPdf 18 05 40.0 +0.2
SSB Saint Sauveur 152.91 336 ePKPbc PKPdf 18 05 40.0 +0.2
MVIF Mont Vial 152.94 331 PKP PKPdf 18 05 41.3 +1.4
PGF Pioggiola 153.05 327 ePKIKP PKPdf 18 05 40.1 -0.1
comp=Z,108nm,0.9s
PYM Petit Puy Mans 153.06 339 PKP PKPdf 18 05 39.1 -0.9
CORF Corte 153.15 326 PKP PKPbc 18 05 46.3 -1.4
CALN Calern 153.17 331 PKP PKPdf 18 05 43.4 +3.1
OG26 St.-Nazaire-De 153.19 334 PKP PKPdf 18 05 40.8 +0.5
OCF Saint Nazaire 153.19 334 PKP PKPdf 18 05 40.8 +0.5
VIVF Saint-Julien-l 153.21 335 ePKIKP PKPdf 18 05 39.9 -0.4
MFF Saint Martin d 153.24 344 ePKIKP PKPdf 18 05 39.8 -0.5
comp=Z,147nm,1.4s
FRF La Foret Royal 153.43 331 ePKIKP PKPdf 18 05 40.4 -0.3
SMRF Simiane-la Rot 153.57 333 ePKIKP PKPdf 18 05 41.0 +0.2
comp=Z,36nm,0.9s
LMR La Mourre 153.67 331 ePKIKP PKPdf 18 05 40.7 -0.3
comp=Z,124nm,1.3s
RJF Les Rejaudoux 153.94 340 ePKIKP PKPdf 18 05 40.8 -0.5
RJF eMLR MLR
comp=Z,4µm,22.5s,MS5.8
RJF Les Rejaudoux 153.94 340 ePKPdf PKPdf 18 05 40.8 -0.5
RJF LR LR
comp=Z,4µm,22.5s,MS6.1
CAF Calviac 154.10 339 ePKIKP PKPdf 18 05 41.0 -0.6
LASF Ste Croix 154.18 335 ePKIKP PKPdf 18 05 41.1 -0.6
LFF La Frestale 154.51 341 ePKIKP PKPdf 18 05 41.6 -0.5
MTLF Montolieu 155.43 337 ePKIKP PKPdf 18 05 42.6 -0.9
EPF Esparros 156.35 339 ePKIKP PKPdf 18 05 44.3 -0.4
ETSF Etsaut 156.76 341 ePKIKP PKPdf 18 05 45.0 -0.2
comp=Z,52nm,1.4s
LARF Larrau 156.76 342 PKP PKPdf 18 05 45.9 +0.7
SJPF Ste Jean 156.76 342 ePKIKP PKPdf 18 05 44.8 -0.4
CMLA Cha da Macela 159.10 35 eLQ 18 52 01.7
CMLA i LR LR 19 00 05.1
CMLA Cha da Macela 159.10 35 PFAKE 18 06 00.0 +12
CMLA LR LR
comp=Z,3µm,19.0s,MS6.2
PBRG Braganca 159.19 352 ePKPab PKPab 18 06 24.8 -0.3
PCAB Cabril 159.43 354 ePKPdf PKPdf 18 05 49.5 +1.0
PCAB Cabril 159.43 354 ePKPab PKPab 18 06 25.7 -0.5
PVRL Vila Real 159.83 353 ePKPab PKPab 18 06 27.7 -0.2
MVO Moncorvo 159.86 352 ePKPdf PKPdf 18 05 50.2 +1.2
MVO Moncorvo 159.86 352 ePKPab PKPab 18 06 27.4 -0.6
MVO eLR LR 19 09 18.0
comp=Z,3µm,22.0s
PVIS Viseu 160.40 354 ePKPdf PKPdf 18 05 50.9 +1.2
PVIS Viseu 160.40 354 ePKPab PKPab 18 06 30.0 -0.4
MTE Manteigas 160.68 353 ePKPdf PKPdf 18 05 49.5 -0.5
MTE Manteigas 160.68 353 ePKPab PKPab 18 06 31.5 -0.1
MTE eLR LR 19 11 53.3
comp=Z,2µm,20.0s
MTE Manteigas 160.68 353 ePKPdf PKPdf 18 05 48.8 -1.1
MTE ePKPab PKPab 18 06 30.3 -1.3
ESDC Sonseca Array 160.71 344 PKP PKPdf 18 05 50.6 +0.6
comp=Z,4.2nm,1.0s,baz=5.1,slow=3.4,SNR=13
ESDC PKPab PKPab 18 06 31.7 -0.1
comp=Z,11nm,0.9s,baz=19,slow=3.3,SNR=21
ESLA Sonseca Array 160.71 344 PFAKE 18 06 00.0 +10
ESLA LR LR
comp=Z,20µm,21.0s
PAB San Pablo 160.93 345 ePKIKP PKPdf 18 05 50.4 +0.1
PAB e 18 06 31.3
PAB MLR MLR
comp=Z,3µm,22.0s
PCBR Castelo Branco 161.22 352 ePKPdf PKPdf 18 05 50.1 -0.5
PCBR Castelo Branco 161.22 352 ePKPab PKPab 18 06 33.5 -0.5
PTOM Tomar 161.54 354 ePKPdf PKPdf 18 05 51.5 +0.6
PTOM Tomar 161.54 354 ePKPab PKPab 18 06 34.8 -0.6
PMRV Marv??o 161.62 352 ePKPdf PKPdf 18 05 51.5 +0.5
PMRV Marv??o 161.62 352 ePKPab PKPab 18 06 35.8 0.0
PMRV eLR LR 19 09 29.1
comp=Z,3µm,20.0s
PESTR Estremoz 162.19 352 ePKPab PKPab 18 06 37.9 -0.4
PESTR eLR LR 19 08 39.2
comp=Z,3µm,20.0s
EVO Evora 162.58 353 ePKIKP PKPdf 18 05 50.6 -1.4
comp=Z,110nm,1.6s
EVO eMLR MLR
comp=Z,5µm,20.0s
EVO Evora 162.58 353 ePKPdf PKPdf 18 05 52.0 0.0
EVO Evora 162.58 353 ePKPab PKPab 18 06 39.1 -0.9
PBAR Barrancos 162.79 350 ePKPdf PKPdf 18 05 52.9 +0.7
PBAR Barrancos 162.79 350 ePKPab PKPab 18 06 40.9 0.0
PBAR eLR LR 19 09 11.2
comp=Z,4µm,20.0s
PBEJ Beja 163.06 352 ePKPdf PKPdf 18 05 52.3 -0.2
PBEJ Beja 163.06 352 ePKPab PKPab 18 06 42.1 0.0
PTEO Sao Teotonio 163.62 354 ePKPab PKPab 18 06 47.8 +3.0
PVAQ Vaqueiros 163.65 352 ePKPab PKPab 18 06 44.6 -0.1
PVAQ eLR LR 19 10 07.7
comp=Z,3µm,20.0s
PBDV Barranco-do-Ve 163.84 352 ePKPdf PKPdf 18 05 53.5 +0.2
PBDV Barranco-do-Ve 163.84 352 ePKPab PKPab 18 06 45.6 +0.1
PBDV eLR LR 19 10 18.9
comp=Z,4µm,20.0s
MORF Marmelete 163.86 354 ePKPab PKPab 18 06 46.6 +1.0
MORF eLR LR 19 09 57.0
comp=Z,2µm,20.0s
PFVI Vila Bisbo 164.04 355 ePKPab PKPab 18 06 48.1 +1.6
PFVI eLR LR 19 10 02.5
comp=Z,3µm,18.0s
LIC Lamto 164.12 201 ePKIKP PKPdf 18 05 53.6 -0.6
comp=Z,89nm,1.4s
LIC eMLR MLR
comp=Z,5µm,20.5s
LIC Lamto 164.12 201 ePKIKP PKPdf 18 05 54.5 +0.3
comp=Z,190nm,1.0s
LIC Lamto 164.12 201 ePKPdf PKPdf 18 05 53.6 -0.6
LIC LR LR
comp=Z,3µm,20.5s
KIC Kosan Boka 164.15 202 ePKIKP PKPdf 18 05 54.1 -0.2
comp=Z,264nm,1.2s
DBIC Dimbokro 164.48 202 PKP PKPdf 18 05 54.4 -0.2
comp=Z,13nm,1.1s,baz=176,slow=5.0,SNR=5.1
DBIC PKPab PKPab 18 06 49.3 +0.3
comp=Z,41nm,1.0s,baz=138,slow=4.7,SNR=14
DBIC Dimbokro 164.48 202 PKP PKPdf 18 05 54.4 -0.2
DBIC PKPab PKPab 18 06 49.3 +0.3
DBIC LR LR
comp=Z,6µm,20.0s
TIC Toumodi 164.51 202 ePKIKP PKPdf 18 05 54.8 +0.2
comp=Z,251nm,1.1s
TAM Tamanrasset 164.86 279 ePKIKP PKPdf 18 05 53.3 -1.3
TAM e 18 06 50.7

TOA0	**Torodi Ar. Sit**	**165.70**	**238**	*e*PKPdf	PKPdf	18 05 53.8	-1.7
TOA0				*e*PKPab	PKPab	18 06 54.4	-0.1
TORD	**Torodi Ar. Bea**	**165.70**	**238**	PKP	PKPdf	18 05 54.8	-0.7
	comp=Z,10nm,1.1s,baz=13,slow=1.0,SNR=20						
TORD				PKPab	PKPab	18 06 54.9	+0.3
	comp=Z,7.1nm,1.0s,baz=113,slow=1.1,SNR=4.9						

MAN 13 17:53:25,964N×12665E,h1km,mb5.0,ML3.9,MS4.0, 1C-3D,Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SCPH	**Surigao**	**1.16**	**277**	⇓*eP*	Pg	17 53 46.8	-0.4
BUTP	**Butuan**	**1.22**	**237**	*eP*	Pg	17 53 48.1	-0.3
BUTP				*eS*	Sg	17 54 06.6	+2.4
BIPH	**Bislig**	**1.48**	**191**	⇑*iP*	Pn	17 53 51.2	-1.5
MSLP	**Maasin**	**1.83**	**286**	*eP*	Pn	17 53 58.1	+0.4
MSLP				*eS*	Sn	17 54 28.1	+6.6
PLP	**Palo**	**2.24**	**313**	⇓*eP*	Pn	17 54 04.2	+1.0
PLP				*eS*	Sn	17 54 32.8	+1.3
CGP	**Cagayan de Oro**	**2.27**	**239**	⇓*eP*	Pn	17 54 05.3	+1.7
CGP				*i* S	Sn	17 54 36.7	+4.5
BESP	**Borongan**	**2.28**	**329**	*eP*	Pn	17 54 00.5	-3.3
BUKP	**Musuan**	**2.35**	**222**	*eP*	Pn	17 54 07.0	+2.1
BUKP				*eS*	Sn	17 54 42.7	+8.3
OCLP	**Ormoc**	**2.45**	**305**	*eP*	Pn	17 54 09.6	+3.4
OCLP				*eS*	Sn	17 54 52.9	+16
MATI	**Mati**	**2.71**	**188**	*eP*	Pn	17 54 11.0	+1.3
LLP	**Lapu-Lapu**	**2.73**	**284**	*eP*	Pn	17 54 11.9	+1.9
LLP				*eS*	Sn	17 54 51.4	+7.7
TBP	**Tagbilaran**	**2.75**	**271**	*eP*	Pn	17 54 11.5	+1.2
TBP				*eS*	Sn	17 54 47.4	+3.1
CNP	**Catarman**	**3.46**	**326**	*eP*	Pn	17 54 20.7	+0.7
CNP				*eS*	Sn	17 55 04.5	+2.9
PAGZ	**Pagadian**	**3.69**	**241**	*eP*	Pn	17 54 28.8	+5.5
PAGZ				*eS*	Sn	17 55 12.9	+5.5
GUIM	**Jordan**	**4.12**	**284**	*eP*	Pn	17 54 31.9	+2.7
PVCP	**Virac**	**4.63**	**328**	*eP*	Pn	17 54 38.4	+2.3
PVCP				*eS*	Sn	17 55 33.4	+2.9
PVCP	**Virac**	**4.63**	**328**	*eP*	Pn	17 54 39.0	+2.9
PVCP				*eS*	Sn	17 55 30.7	+0.2

IGQ 13 17:56:32.5,209S×7983W,h35km±2km,Mb4.1,Ms3.9, 4C-10D,Error ellipse: s-maj=3.7km s-min=1.3km az=103.8,Near coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PORT	**Chimborazo Vol**	**1.23**	**59**	P	Pn	17 56 56.2	+2.9
IGUA	**Igualata**	**1.34**	**63**	P	Pn	17 56 57.4	+2.6
IGUA	**Igualata**	**1.34**	**63**	S	Sn	17 57 15.3	+4.1
CHIS	**Cerro-Chispas-**	**1.37**	**319**	⇓P	Pn	17 56 57.0	+1.9
CHIS	**Cerro-Chispas-**	**1.37**	**319**	⇓S	Sn	17 57 15.4	+3.4
BIL2	**Estacion Bilba**	**1.48**	**65**	P	Pn	17 56 59.3	+2.7
BIL2	**Estacion Bilba**	**1.48**	**65**	S	Sn	17 57 18.5	+3.8
ARRY	**Arrayan**	**1.50**	**67**	⇓P	Pn	17 56 59.0	+2.1
ARRY	**Arrayan**	**1.50**	**67**	⇓S	Sn	17 57 16.7	+1.5
JUI6	**Juive**	**1.52**	**64**	⇑P	Pn	17 57 00.1	+2.9
JUI6	**Juive**	**1.52**	**64**	⇑S	Sn	17 57 19.7	+3.9
PATA	**Patacocha**	**1.52**	**67**	⇓P	Pn	17 56 59.9	+2.7
PATA	**Patacocha**	**1.52**	**67**	⇓S	Sn	17 57 19.3	+3.6
RETU	**Refugio**	**1.53**	**65**	⇓P	Pn	17 57 01.6	+4.2
RUN5	**Runtun**	**1.56**	**64**	P	Pn	17 57 00.5	+2.7
RUN5	**Runtun**	**1.56**	**64**	S	Sn	17 57 20.8	+3.9
ULBA	**Ulba**	**1.56**	**66**	P	Pn	17 57 00.6	+2.7
ULBA	**Ulba**	**1.56**	**66**	S	Sn	17 57 20.5	+3.6
PISA	**Pisayambo**	**1.78**	**55**	⇓P	Pn	17 57 03.8	+3.0
PISA	**Pisayambo**	**1.78**	**55**	⇓S	Sn	17 57 26.2	+4.1
JAMA	**Jama**	**1.86**	**348**	P	Pn	17 57 04.3	+2.5
CAMI	**Rancho Maria**	**1.94**	**43**	P	Pn	17 57 06.0	+3.0
TAMB	**Tambo**	**2.02**	**47**	⇑P	Pn	17 57 06.9	+2.8
VC1	**Cotopaxi 1**	**2.03**	**45**	P	Pn	17 57 07.1	+2.8
VC1	**Cotopaxi 1**	**2.03**	**45**	S	Sn	17 57 34.6	+6.1
JUA2	**San Juan 2**	**2.23**	**33**	P	Pn	17 57 09.5	+2.4
JUA2	**San Juan 2**	**2.23**	**33**	S	Sn	17 57 38.5	+5.0
TERV	**Terraza Guagua**	**2.27**	**33**	P	Pn	17 57 10.1	+2.6
PINO	**Pino**	**2.28**	**33**	⇓P	Pn	17 57 10.0	+2.3
YANA	**Yana**	**2.33**	**33**	P	Pn	17 57 10.5	+2.1
YANA	**Yana**	**2.33**	**33**	S	Sn	17 57 40.1	+4.2
ANTI	**Antisana**	**2.34**	**46**	⇑P	Pn	17 57 10.9	+2.4
COTA	**Cotacachi**	**2.84**	**32**	P	Pn	17 57 17.7	+2.3

*IDC **13** 17:57:00.2±1.9,2119S×16927E,h0km,mb4.0/6, mb1 4.2/6,mb1mx4.0/15,mbtmp4.0/6,Error ellipse: s-maj=93.1km s-min=26.1km az=154.0*
*NEIC **13** 17:57:01.6±1.3,2117S×16926E,h10km,mb4.4/2,Error ellipse: s-maj=68.4km s-min=18.5km az=154.0*
*ISCJB **13** 17:57:04.1±1.7,213S±05×169.1E±03,h33km,mb4.0/7, Error ellipse: s-maj=78.3km s-min=24.4km az=154.3*

ISC 13 17:57:05.9±1.7,212S±05×1692E±03,h35km,n11,σ0s87/8, mb4.0/7,Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**26.78**	**241**	P	**P**	**18 02 43.6**	**+0.9**
	3.0nm,0.7s,mb3.9,baz=52,slow=9.7,SNR=6.1						
STKA	**Stephens Creek**	**26.78**	**241**	P	**P**	**18 02 43.4**	**+0.7**
	3.0nm,0.7s,mb3.9						
WRA	**Warramunga Arr**	**32.60**	**266**	P	**P**	**18 03 33.1**	**-1.4**
	0.9nm,1.0s,mb3.6,baz=98,slow=8.0,SNR=5.7						
ASAR	**Alice Springs**	**32.64**	**259**	P	**P**	**18 03 34.5**	**-0.3**
	2.2nm,0.7s,mb4.2,baz=86,slow=9.4,SNR=22						
FITZ	**Fitzroy Crossi**	**41.03**	**267**	P	**P**	**18 04 46.4**	**+0.3**
	1.7nm,0.5s,mb3.9,baz=100,slow=12,SNR=9.5						
MBWA	**Marble Bar**	**45.95**	**261**	P	**P**	**18 05 25.3**	**-0.5**
	7.8nm,0.8s,mb4.7						
CMAR	**Chiang Mai Arr**	**79.27**	**295**	P	**P**	**18 09 09.7**	**+1.5**
	0.6nm,0.7s,mb3.6,baz=135,slow=4.5,SNR=4.7						
SYO	**Syowa Base**	**83.01**	**196**	*e*SH		18 08 38.0	
NVAR	**Mina Array Bea**	**90.16**	**49**	P	**P**	**18 10 02.1**	**-0.5**
	0.8nm,0.7s,mb4.2,baz=228,slow=8.0,SNR=4.5						
ARCES	**ARCESS Array B**	**126.97**	**345**	PKP	PKPdf	18 16 05.0	-0.5
	4.1nm,1.0s,baz=36,slow=2.3,SNR=3.6						
EKA	**Eskdalemuir Ar**	**145.47**	**352**	PKPbc	PKPbc	18 16 38.5	-1.4
	2.7nm,0.7s,baz=349,slow=2.2,SNR=11						

IDC 13 18:00:14.5±3.3,2148S×16953E,h0km,mb3.6/3, mb1 3.8/3,mb1mx3.6/14,mbtmp3.6/3,Error ellipse: s-maj=127.8km s-min=40.8km az=143.0,Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**26.96**	**242**	P	P	18 05 58.6	+0.8
	1.7nm,0.8s,baz=80,slow=12,SNR=3.3						
WRA	**Warramunga Arr**	**32.92**	**266**	P	P	18 06 50.5	-0.2
	0.4nm,0.8s,baz=102,slow=7.7,SNR=4.1						
ASAR	**Alice Springs**	**32.92**	**259**	P	P	18 06 50.1	-0.6
	1.0nm,0.8s,baz=86,slow=9.2,SNR=9.3						
EKA	**Eskdalemuir Ar**	**145.75**	**353**	PKPbc	PKPbc	18 19 54.4	-0.7
	1.9nm,0.5s,baz=357,slow=2.5,SNR=13						

*NIED **13** 18:07:00,3540N×13320E,h17km,Mw4.3 Best double couple: M0 3.35000×10^15 NP1:φs127.00000°,δ61.00000°, λ-42.00000°. NP2:φs241.00000°,δ54.00000°, λ-144.00000°.*
*ISCJB **13** 18:07:42.8±0.6,3542N±004×13320E±004,h12km±4km, mb3.3/2,Error ellipse: s-maj=6.1km s-min=4.8km az=156.3*
*IDC **13** 18:07:42.2±1.5,3531N×13315E,h0km,mb3.3/2, mb1 3.4/4,mb1mx3.3/22,mbtmp3.2/4,ML2.9/2,MS3.4/1, Ms1 3.4/1,ms1mx3.1/21,Error ellipse: s-maj=31.3km s-min=20.8km az=1.0*
*JMA **13** 18:07:43.0,3543N×13320E,h11km±1km,M3.7 Broadband fault plane solution: P waves. NP1: φs353.00000°,δ70.00000°,λ-10.00000°. NP2:φs86.00000°, δ80.00000°,λ-160.00000°. Principal axes: T Plg7.0000°, Azm218.0000°; N Plg68.0000°, Azm111.0000°; P Plg21.0000°, Azm311.0000°;*
JMA Felt IV J1.
*NEIC **13** 18:07:43.0,3543N×13320E,h11km,MG3.7(JMA),After JMA.*
NEIC Recorded [4 JMA] in Shimane and [2 JMA] in Okayama and Tottori Prefectures.

ISC 13 18:07:43.2±0.6,3543N±003×13321E±003,h3km±6km,n12, σ0s76/20,mb3.3/2,3C-2D,Western Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JNM	**Ikuma**	**0.16**	**296**	⇓P	**Pg**	**18 07 46.6**	**+0.3**
JNM				S	**Sg**	**18 07 49.4**	**+0.9**
JHS	**Saijyo**	**0.43**	**190**	⇑P	**Pg**	**18 07 51.6**	**+0.1**
JHS				S	**Sg**	**18 07 57.7**	**+0.6**
JKR	**Kurayoshi**	**0.50**	**95**	⇓P	**Pg**	**18 07 52.8**	**0.0**
JKR				S	**Sg**	**18 07 59.7**	**+0.3**
SAI	**Saigo**	**0.78**	**8**	P	**Pg**	**18 07 57.8**	**-0.4**
JJG	**Jouge**	**0.79**	**183**	⇑P	**Pg**	**18 07 58.0**	**-0.2**
JJG				S	**Sg**	**18 08 08.6**	**+0.2**
JGT	**Gotsu**	**0.82**	**241**	⇑P	**Pg**	**18 07 58.3**	**-0.6**
JGT				S	**Sg**	**18 08 09.2**	**-0.3**
MAJO	**Matsushiro**	**4.20**	**73**	*e*Pn	**Pn**	**18 08 48.2**	**+0.1**
MAJO				*e*Sn	**Sn**	**18 09 38.6**	**+0.9**
MAJO				*e*Sg	**Sg**	**18 09 56.7**	**-1.5**
MAT	**Matsushiro**	**4.20**	**73**	P	**Pn**	**18 08 48.7**	**+0.6**
MAT				S	**Sn**	**18 09 37.5**	**-0.2**
MJAR	**Matsushiro Arr**	**4.21**	**73**	Pn	**Pn**	**18 08 49.4**	**+1.2**
	0.6nm,0.3s,baz=260,slow=23,SNR=15						
MJAR				Lg		18 09 59.0	
	1.2nm,0.3s,baz=230,slow=32,SNR=5.7						
KSRS	**Korea Array**	**4.72**	**297**	Pn	**Pn**	**18 08 53.8**	**-1.4**
	0.5nm,0.3s,baz=114,slow=15,SNR=7.3						
KSRS				LR	LR	18 10 42.0	
	comp=Z,397nm,20.4s,baz=180,slow=38						
SONM	**Songino Array**	**23.43**	**310**	P	**P**	**18 12 54.3**	**+0.8**
	0.7nm,0.9s,mb3.1,baz=114,slow=7.0,SNR=3.0						
WRA	**Warramunga Arr**	**55.07**	**179**	P	**P**	**18 17 14.8**	**-1.5**
	0.4nm,0.9s,mb3.5,baz=358,slow=7.8,SNR=4.7						

*ISCJB **13** 18:15:15.6±0.4,547S±006×15170E±007,h37km, mb4.6/22,Error ellipse: s-maj=10.1km s-min=7.0km az=30.6*
*IDC **13** 18:15:17.2±0.7,547S×15164E,h33km±4km,mb4.4/14, mb1 4.6/16,mb1mx4.5/20,mbtmp4.5/16,ML4.0/2,MS5.0/1, Ms1 5.0/1,ms1mx3.6/24,Error ellipse: s-maj=19.4km s-min=14.5km az=106.0*
*NEIC **13** 18:15:17.6±1.4,549S×15162E,h39km±13km,mb4.7/13, Error ellipse: s-maj=9.7km s-min=7.8km az=128.0*
*DJA **13** 18:15:24,560S×15150E,h71km,mb5.0/8*

ISC 13 18:15:17.8±0.4,549S±006×15163E±007,h39km, h39km±4km:pP-P,n48,σ0s95/45,mb4.6/22,1C,New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**5.89**	**228**	*e*Pn	**Pn**	**18 16 45.8**	**+3.2**
	139nm,0.9s						
PMG				*e*Sn	**Sn**	**18 17 52.6**	**+3.6**
HNR	**Honiara**	**9.13**	**116**	Pn	**Pn**	**18 17 26.4**	**-0.6**
	10nm,0.3s,baz=157,slow=23,SNR=5.9						
CTA	**Charters Tower**	**15.42**	**199**	*e*P	**Pn**	**18 18 59.8**	**+7.2**
	6.6nm,0.7s						
CTA	**Charters Tower**	**15.42**	**199**	Pn	**Pn**	**18 18 52.3**	**-0.3**
	0.1nm,0.3s,baz=51,slow=19,SNR=3.0						
CTA	**Charters Tower**	**15.42**	**199**	Pn	**Pn**	**18 18 52.3**	**-0.3**
CTA				*e*P		18 18 59.8	
CTAO	**Charters Tower**	**15.42**	**199**	Pn	**Pn**	**18 18 52.8**	**+0.2**
	38nm,1.4s						
GUMO	**Guam**	**20.11**	**341**	P	**P**	**18 19 49.0**	**+0.6**
	109nm,1.1s,baz=155,slow=8.6,SNR=5.8						
KAKA	**Kakadu**	**20.25**	**248**	*e*P	**P**	**18 19 48.2**	**-1.7**
	25nm,0.6s						
KAKA	**Kakadu**	**20.25**	**248**	*e*P	**P**	**18 19 47.8**	**-2.2**
	56nm,0.7s						
KAKA				*e*S	**S**	**18 23 34.5**	**-0.7**
DZM	**Mont Dzumac**	**21.84**	**140**	*e*P	**P**	**18 20 06.7**	**-0.4**
WRAB	**Tennant Creek**	**22.10**	**228**	*e*P	**P**	**18 20 10.1**	**+0.3**
	52nm,0.6s,mb5.1						
WB2	**Warramunga Arr**	**22.11**	**228**	*e*P	**P**	**18 20 09.8**	**-0.1**
WRA	**Warramunga Arr**	**22.11**	**228**	P	**P**	**18 20 10.5**	**+0.5**
	62nm,0.8s,mb5.1,baz=52,slow=9.9,SNR=196						
WRA				PcP	PcP	18 24 05.8	-0.8
	1.2nm,1.0s,baz=47,slow=2.2,SNR=3.1						
WRA				ScP	ScP	18 27 41.8	+0.6
	0.7nm,0.8s,baz=50,slow=2.9,SNR=4.7						
ASAR	**Alice Springs**	**24.86**	**222**	P	**P**	**18 20 37.6**	**+0.8**
	46nm,0.7s,mb5.1,baz=56,slow=8.9,SNR=224						
ASAR				PcP	PcP	18 24 12.9	+0.5
	1.4nm,0.9s,baz=27,slow=2.2,SNR=3.7						
ASAR				ScP	ScP	18 27 49.3	+0.8
	0.4nm,0.8s,baz=46,slow=3.0,SNR=3.6						
STKA	**Stephens Creek**	**27.88**	**198**	*e*P	**P**	**18 21 04.4**	**+0.4**
	5.0nm,0.8s,mb4.2						
STKA	**Stephens Creek**	**27.88**	**198**	P	**P**	**18 21 04.2**	**+0.2**
	6.4nm,0.9s,mb4.2,baz=35,slow=12,SNR=8.5						
STKA	**Stephens Creek**	**27.88**	**198**	*e*P	**P**	**18 21 03.8**	**-0.2**
	7.5nm,0.9s,mb4.3						
BATI	**Baumata**	**28.08**	**259**	P	**P**	**18 21 05.8**	**-0.3**
	24nm,0.8s,mb4.9,baz=126,slow=8.1,SNR=6.1						
FITZ	**Fitzroy Crossi**	**28.30**	**242**	⇑*iP*	**P**	**18 21 08.0**	**0.0**
	33nm,0.6s,mb5.1						
FITZ	**Fitzroy Crossi**	**28.30**	**242**	P	**P**	**18 21 08.0**	**0.0**
	18nm,0.7s,mb4.8,baz=75,slow=8.6,SNR=30						
FORT	**Forrest**	**33.52**	**219**	*e*P	**P**	**18 21 53.9**	**+0.1**
	21nm,0.7s,mb5.2						
MBWA	**Marble Bar**	**34.61**	**240**	*e*P	**P**	**18 22 03.2**	**-0.2**
KLBR	**Kellerberrin**	**40.98**	**226**	*e*P	**P**	**18 22 56.5**	**-0.6**
	11nm,0.8s,mb4.5						
NWAO	**Narrogin (SRO)**	**42.07**	**225**	P	**P**	**18 23 02.5**	**-3.5**
MUN	**Mundaring**	**42.31**	**227**	*e*P	**P**	**18 23 07.3**	**-0.6**
MJAR	**Matsushiro Arr**	**43.66**	**344**	P	**P**	**18 23 18.3**	**-0.5**
	1.4nm,0.9s,mb3.7,baz=165,slow=9.5,SNR=4.4						
CMAR	**Chiang Mai Arr**	**57.12**	**296**	P	**P**	**18 25 02.2**	**+1.3**
	2.0nm,0.8s,mb4.2,baz=108,slow=5.1,SNR=17						
CHTO	**Chiang Mai**	**57.24**	**296**	P	**P**	**18 25 00.6**	**-1.1**
	15nm,1.7s,mb4.8						
SONM	**Songino Array**	**66.29**	**329**	P	**P**	**18 26 02.9**	**+0.8**
	1.5nm,0.5s,mb4.3,baz=138,slow=6.1,SNR=13						
LSA	**Lhasa**	**67.67**	**305**	*e*P	**P**	**18 26 11.7**	**+0.4**
	8.1nm,1.3s,mb4.6						
MK31	**Makanchi Array**	**80.08**	**319**	P	**P**	**18 27 23.9**	**+0.4**
MKAR	**Makanchi Array**	**80.08**	**319**	P	**P**	**18 27 23.2**	**-0.3**
	1.0nm,0.8s,mb3.8,baz=101,slow=7.5,SNR=10						
MKAR				pP	pP	18 27 34.6	-0.9
	1.5nm,0.9s,baz=101,slow=6.3,SNR=6.7						
ZALV	**Zalesovo Beam**	**81.08**	**327**	P	**P**	**18 27 27.1**	**-1.6**
	1.7nm,0.4s,mb4.3,baz=117,slow=4.8,SNR=11						
ZALV				pP	pP	18 27 38.4	-2.3
	2.4nm,0.8s,baz=108,slow=4.8,SNR=5.5						
TKM2	**Tokmak 2**	**83.57**	**314**	P	**P**	**18 27 40.6**	**-1.4**
KURK	**Kurchatov**	**83.59**	**322**	*e*P	**P**	**18 27 40.2**	**-1.7**
	3.5nm,1.0s,mb4.4						
KURK				*e*	pP	18 27 52.1	-1.8
UCH	**Uchtor**	**84.19**	**313**	*e*P	**P**	**18 27 45.7**	**+0.4**
	2.5nm,1.1s,mb4.3						
UCH				*e*	pP	18 27 56.9	-0.3
MAW	**Mawson**	**84.48**	**203**	P	**P**	**18 27 46.7**	**+0.4**
	2.8nm,0.8s,mb4.4,baz=83,slow=4.0,SNR=6.6						
MAW	**Mawson**	**84.48**	**203**	*e*P	**P**	**18 27 46.5**	**+0.3**
	7.4nm,1.1s,mb4.7						
AML	**Almayashu**	**84.76**	**313**	*e*P	**P**	**18 27 48.9**	**+0.7**
	9.2nm,0.9s,mb4.9						
AML				*e*	pP	18 28 00.1	0.0
EKS2	**Erkin-Say**	**84.82**	**314**	*e*P	**P**	**18 27 48.1**	**-0.3**
	6.2nm,1.0s,mb4.7						
EKS2				*e*	pP	18 27 59.5	-0.8
BRVK	**Borovoye**	**89.16**	**323**	P	**P**	**18 28 10.5**	**+1.3**
YBH	**Yreka Blue Hor**	**90.39**	**48**	P	**P**	**18 28 16.2**	**+0.9**
	2.1nm,0.8s,mb4.5,baz=257,slow=4.5,SNR=5.2						
NVAR	**Mina Array Bea**	**93.43**	**52**	P	**P**	**18 28 30.9**	**+1.5**
	3.8nm,0.9s,mb4.8,baz=256,slow=6.2,SNR=13						
PDAR	**Pinedale Array**	**100.18**	**48**	P	Pdif	18 28 59.6	0.0
	0.6nm,0.7s,baz=325,slow=1.4,SNR=4.5						
PDAR				pP		18 29 11.1	
	0.8nm,0.9s,baz=284,slow=3.6,SNR=4.1						
LPAZ	**La Paz**	**135.11**	**120**	PKP	PKPdf	18 34 35.1	+1.1
	0.9nm,0.9s,baz=350,slow=10,SNR=4.8						
TOA0	**Torodi Ar. Sit**	**149.40**	**287**	*e*PKPbc	PKPbc	18 35 02.6	-1.1
TOA0				*e*		18 35 14.3	
TORD	**Torodi Ar. Bea**	**149.40**	**287**	PKPbc	PKPbc	18 35 03.0	-0.7
	3.5nm,0.6s,baz=94,slow=2.5,SNR=57						
TORD				pPKPbc	pPKPbc	18 35 14.7	-1.5
	8.0nm,0.6s,baz=74,slow=2.9,SNR=20						
BDFB	**Brasilia**	**151.38**	**137**	PKPbc	PKPbc	18 35 07.3	-1.1
	2.8nm,0.7s,baz=317,slow=13,SNR=7.2						

*IDC **13** 18:38:37.1±2.0,2094S×169.16E,h0km,mb4.0/5, mb1 4.3/5,mb1mx3.9/15,mbtmp4.0/5,Error ellipse: s-maj=106.3km s-min=30.2km az=157.0*
*NEIC **13** 18:38:39.1±0.8,2075S×16898E,h10km,mb4.1/1,Error ellipse: s-maj=42.8km s-min=13.8km az=164.0*
*ISCJB **13** 18:38:41.3±0.9,211S±03×1690E±0.1,h33km,mb3.9/6, Error ellipse: s-maj=45.0km s-min=10.5km az=160.9*

ISC 13 18:38:43.5±0.9,211S±03×1690E±01,h35km,n11, σ0s73/11,mb3.9/6,Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**2.53**	**247**	*e*Pn	**Pn**	**18 39 22.0**	**0.0**
DZM				*e*Sn	**Sn**	**18 39 50.7**	**-0.8**
STKA	**Stephens Creek**	**26.66**	**241**	*e*P	**P**	**18 44 19.7**	**+0.6**
	2.0nm,0.7s,mb3.8						
STKA	**Stephens Creek**	**26.66**	**241**	P	**P**	**18 44 19.9**	**+0.7**
	2.4nm,0.6s,mb3.9,baz=95,slow=8.7,SNR=5.3						
RAR	**Rarotonga**	**29.14**	**96**	P	**P**	**18 44 41.5**	**+0.1**
WRAB	**Tennant Creek**	**32.39**	**266**	P	**P**	**18 45 09.5**	**-0.6**
	2.8nm,1.1s,mb4.0						
WRA	**Warramunga Arr**	**32.40**	**266**	P	**P**	**18 45 10.2**	**0.0**
	0.7nm,0.8s,mb3.5,baz=97,slow=7.9,SNR=10						
ASAR	**Alice Springs**	**32.46**	**259**	P	**P**	**18 45 11.3**	**+0.6**
	1.6nm,0.6s,mb4.0,baz=84,slow=9.1,SNR=38						
FITZ	**Fitzroy Crossi**	**40.82**	**266**	*e*P	**P**	**18 46 23.2**	**+1.2**
	4.7nm,0.6s,mb4.3						
FITZ	**Fitzroy Crossi**	**40.82**	**266**	P	**P**	**18 46 23.2**	**+1.3**
	2.8nm,0.6s,mb4.0,baz=119,slow=9.2,SNR=14						
NVAR	**Mina Array Bea**	**90.23**	**49**	P	**P**	**18 51 39.3**	**-1.2**
	0.8nm,0.8s,mb4.1,baz=231,slow=9.7,SNR=4.5						
NOA	**NORSAR Array B**	**137.16**	**344**	PKP	PKPdf	18 57 59.6	-2.8
	0.8nm,0.7s,baz=47,slow=1.6,SNR=3.6						

IDC 13 18:41:16.6±2.6,352N×12834E,h0km,mb3.4/3,mb1 3.6/3, mb1mx3.3/17,mbtmp3.4/3,MS4.2/1,Ms1 4.2/1, ms1mx2.8/20,Error ellipse: s-maj=206.8km s-min=24.3km az=68.0,North of Halmahera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JOW	**Kunigami**	**23.18**	**360**	LR	LR	18 54 40.5	
	comp=Z,560nm,18.9s,baz=35,slow=35						
WRA	**Warramunga Arr**	**24.05**	**166**	P	P	18 46 34.1	+0.5
	1.1nm,0.8s,baz=346,slow=9.6,SNR=6.8						
ASAR	**Alice Springs**	**27.56**	**169**	P	P	18 47 04.6	-0.8
	0.2nm,0.5s,baz=350,slow=7.3,SNR=4.7						
MKAR	**Makanchi Array**	**58.65**	**325**	P	P	18 51 16.1	+0.4
	0.3nm,0.4s,baz=110,slow=8.3,SNR=11						

IDC 13 18:49:37.8±3.5,471S×15213E,h0km,mb3.3/3,mb1 3.5/3, mb1mx3.3/16,mbtmp3.3/3,Error ellipse: s-maj=131.8km s-min=46.7km az=122.0,New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**23.01**	**227**	P	P	18 54 43.9	-0.6
	0.3nm,0.5s,baz=54,slow=10.0,SNR=5.4						
ASAR	**Alice Springs**	**25.77**	**221**	P	P	18 55 11.1	+0.6
	0.1nm,0.3s,baz=50,slow=8.8,SNR=3.3						
FITZ	**Fitzroy Crossi**	**29.12**	**241**	P	P	18 55 40.4	-0.2
	0.6nm,0.6s,baz=47,slow=9.6,SNR=4.0						
TORD	**Torodi Ar. Bea**	**149.65**	**288**	PKPbc	PKPbc	19 09 30.2	-0.3
	0.2nm,0.4s,baz=88,slow=2.2,SNR=7.3						

IDC 13 18:54:17.8±36.0,2059S×17023E,h0km,mb4.0/4, mb1 4.2/4,mb1mx3.9/14,mbtmp4.0/4,Error ellipse: s-maj=627.3km s-min=106.3km az=81.0,Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**27.95**	**240**	P	P	19 00 10.2	+0.2
	1.6nm,0.6s,baz=91,slow=9.8,SNR=5.5						
WRA	**Warramunga Arr**	**33.63**	**265**	P	P	19 00 59.7	-0.5
	0.7nm,0.8s,baz=96,slow=8.1,SNR=13						
ASAR	**Alice Springs**	**33.73**	**258**	P	P	19 01 00.6	-0.6
	2.0nm,0.7s,baz=84,slow=9.2,SNR=27						
FITZ	**Fitzroy Crossi**	**42.05**	**265**	*e*P	P	19 02 12.4	+1.0
	4.0nm,0.7s						
FITZ	**Fitzroy Crossi**	**42.05**	**265**	P	P	19 02 12.2	+0.8
	3.6nm,0.9s,baz=100,slow=11,SNR=13						

**IDC 13 19:00:05.2±39.0,2097S×16970E,h0km,mb3.6/4, mb1 3.8/4,mb1mx3.6/15,mbtmp3.6/4,Error ellipse: s-maj=670.2km s-min=116.2km az

mb4.6/32,MS4.6/7,Error ellipse: s-maj=13.8km s-min=5.9km az=157.3

NEIC ***13*** *19:39:55.3±0.3,2134S×16925E,h10km,mb4.9/11,Error ellipse: s-maj=16.3km s-min=7.5km az=158.0*

NOU ***13*** *19:39:55.2±1.7,2503S×16548E,h10km,MD3.2,ML3.3*

LDG ***13*** *19:39:55.2±0.5,2154S×16906E,h10km,Mb4.4/1,Error ellipse: s-maj=47.0km s-min=7.6km az=163.0*

BJI ***13*** *19:39:59.7,2180S×16984E,h77km,mB5.1,mb4.6,Ms5.0,Msz4.8*

ISC 13 19:39:55.6±3.0,2146S±008×16926E±005,h9km±18km, h68km±4.6km:pP-P,n112,σ1§01/69,mb4.6/32,MS4.6/7, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
NORM	**Noumea**	**2.69**	**253**	*eP*		**Pn**	**19 40 39.3**	**+0.1**
NORM				*eS*		**Sn**	**19 41 13.3**	**+1.4**
NORM				AMP			19 41 18.0	
	comp=Z,259nm,0.3s							
ONTRN	**Noumea**	**2.74**	**252**	*eP*		**Pn**	**19 40 40.1**	**+0.3**
ONTRN				*eS*		**Sn**	**19 41 10.8**	**-2.3**
ONTRN				AMP			19 41 20.4	
	comp=Z,434nm,0.4s							
NOUC	**Port Laguerre**	**2.82**	**256**	*eP*		**Pn**	**19 40 40.8**	**-0.2**
NOUC				AMP			19 40 51.5	
	comp=Z,99nm,0.5s							
NOUC				*eS*		**Sn**	**19 41 15.5**	**+0.4**
HNR	**Honiara**	**14.94**	**322**	Pn		**Pn**	**19 43 28.0**	**+0.8**
	comp=Z,74nm,1.0s							
AFI	**Afiamalu**	**19.55**	**71**	LR		LR	19 50 40.4	
	comp=Z,543nm,19.1s,baz=228,slow=33							
AFI	**Afiamalu**	**19.55**	**71**	*eP*		**Pn**	**19 44 25.7**	**+0.6**
CTA	**Charters Tower**	**21.55**	**269**	*eP*		**P**	**19 44 47.2**	**+1.7**
	comp=Z,10nm,0.7s,mb4.4							
CTA	**Charters Tower**	**21.55**	**269**	P		**P**	**19 44 45.8**	**+0.3**
	comp=Z,15nm,0.7s,mb4.5,baz=97,slow=11,SNR=14							
CTAO	**Charters Tower**	**21.55**	**269**	*eP*		**P**	**19 44 46.5**	**+1.0**
PMG	**Port Moresby**	**24.40**	**296**	P		**P**	**19 45 13.2**	**-1.4**
STKA	**Stephens Creek**	**26.74**	**241**	*eP*		**P**	**19 45 37.1**	**+1.4**
	comp=Z,7.6nm,0.6s,mb4.4							
STKA	**Stephens Creek**	**26.74**	**241**	P		**P**	**19 45 37.5**	**+1.8**
	comp=Z,9.7nm,0.6s,mb4.5,baz=94,slow=11,SNR=29							
STKA				LR		LR	19 56 39.7	
	comp=Z,705nm,18.5s,MS4.2,baz=26,slow=38							
STKA	**Stephens Creek**	**26.74**	**241**	*eP*		**P**	**19 45 36.9**	**+1.2**
	comp=Z,66nm,1.8s,mb4.9							
WB2	**Warramunga Arr**	**32.65**	**266**	*eP*		**P**	**19 46 26.0**	**-2.3**
WRAB	**Tennant Creek**	**32.66**	**266**	*eP*		**P**	**19 46 25.8**	**-2.5**
	comp=Z,3.0nm,0.6s,mb4.4							
WRA	**Warramunga Arr**	**32.66**	**266**	P		**P**	**19 46 27.1**	**-1.2**
	comp=Z,2.6nm,0.5s,mb4.4,baz=95,slow=8.1,SNR=52							
WRA				LR		LR	19 59 40.4	
	comp=Z,645nm,18.6s,MS4.3,baz=200,slow=36							
ASAR	**Alice Springs**	**32.68**	**259**	P		**P**	**19 46 27.9**	**-0.5**
	comp=Z,9.8nm,0.6s,mb4.9,baz=83,slow=9.3,SNR=126							
FORT	**Forrest**	**37.97**	**247**	*eP*		**P**	**19 47 13.8**	**-0.1**
	comp=Z,12nm,0.6s,mb4.8							
FITZ	**Fitzroy Crossi**	**41.09**	**267**	*eP*		**P**	**19 47 39.7**	**-0.4**
	comp=Z,27nm,0.6s,mb5.1							
FITZ	**Fitzroy Crossi**	**41.09**	**267**	P		**P**	**19 47 39.8**	**-0.3**
	comp=Z,14nm,0.6s,mb4.8,baz=121,slow=8.9,SNR=90							
FITZ	**Fitzroy Crossi**	**41.09**	**267**	*eP*		**P**	**19 47 40.0**	**-0.1**
	comp=Z,28nm,0.6s,mb5.1							
MBWA	**Marble Bar**	**45.98**	**261**	*eP*		**P**	**19 48 19.1**	**-0.5**
KLBR	**Kellerberrin**	**46.81**	**246**	*eP*		**P**	**19 48 25.2**	**-0.7**
	comp=Z,11nm,0.5s,mb5.0							
NWAO	**Narrogin (SRO)**	**47.25**	**245**	P		**P**	**19 48 29.5**	**+0.2**
	comp=Z,9.1nm,0.6s,mb4.9,baz=100,slow=5.4,SNR=16							
NWAO	**Narrogin (SRO)**	**47.25**	**245**	*eP*		**P**	**19 48 29.2**	**-0.2**
MJAR	**Matsushiro Arr**	**64.72**	**333**	P		**P**	**19 50 31.7**	**-2.5**
	comp=Z,1.1nm,0.5s,mb4.1,baz=176,slow=8.3,SNR=11							
MAJO	**Matsushiro**	**64.72**	**333**	*eP*		**P**	**19 50 29.8**	**-4.4**
MAT	**Matsushiro**	**64.72**	**333**	P		**P**	**19 50 32.4**	**-1.8**
ASAJ	**Asahikawa**	**69.68**	**340**	P		**P**	**19 51 05.5**	**-0.1**
	comp=Z,24nm,1.2s,mb5.0,baz=214,slow=7.3,SNR=6.5							
NJ2	**Nanjing**	**71.81**	**316**	*eP*		**P**	**19 51 19.8**	**+1.0**
YSS	**Yuzh-Sakhalins**	**72.17**	**341**	P		**P**	**19 51 20.2**	**-0.4**
	comp=Z,76nm,1.4s,mb5.4							
PETK	**Petropavlovsk-**	**74.93**	**353**	P		**P**	**19 51 35.8**	**-0.9**
	comp=Z,10nm,1.1s,mb4.7,baz=135,slow=5.7,SNR=7.1							
MDJ	**Mudanjiang**	**75.08**	**332**	P		**P**	**19 51 39.4**	**+1.7**
MDJ				AMB		AMB		
	comp=Z,9.0nm,2.1s,mb4.3							
MDJ				AMB		AMB		
	comp=Z,207nm,5.9s							
MAW	**Mawson**	**76.40**	**202**	P		**P**	**19 51 46.3**	**+1.2**
	comp=Z,1.7nm,0.6s,mb4.1,baz=97,slow=7.9,SNR=6.3							
MAW	**Mawson**	**76.40**	**202**	*eP*		**P**	**19 51 46.0**	**+0.9**
	comp=Z,9.6nm,1.4s,mb4.5							
GYA	**Guiyang**	**77.10**	**305**	*eP*		**P**	**19 51 50.1**	**+0.4**
GYA				AP		pP	19 52 12.3	+20
GYA				XP		sP	19 52 20.0	+26
GYA				PP		PP	19 54 45.8	+2.2
GYA				S		S	20 01 31.6	-7.5
GYA				SKS			20 01 51.0	
GYA				PS			20 02 23.5	
GYA				SS		SS	20 06 34.3	-2.7
GYA				AMB		AMB		
	comp=Z,10.0nm,1.0s,mb4.7							
GYA				AMB		AMB		
	comp=Z,90nm,5.2s							
GYA				LR		LR		
	comp=N,520nm,18.5s,MS5.0							
GYA				LR		LR		
	comp=E,460nm,19.4s,MS5.0							
GYA				LR		LR		
	comp=Z,430nm,18.3s,MS4.8							
BJI	**Beijing**	**78.67**	**321**	P		**P**	**19 51 59.3**	**+1.2**
BJI				S		S	20 01 50.5	-4.9
BJI				AMB		AMB		
	comp=Z,8.0nm,0.5s,mb4.9							
BJI				AMB		AMB		
	comp=Z,339nm,7.3s							
BJI				LR		LR		
	comp=N,243nm,20.3s,MS4.7							
BJI				LR		LR		
	comp=E,267nm,21.7s,MS4.7							
BJI				LR		LR		
	comp=Z,200nm,22.1s,MS4.4							
BJI	**Beijing**	**78.67**	**321**	P		**P**	**19 51 59.2**	**+1.1**
BJI				S		S	20 01 50.5	-4.9
CMAR	**Chiang Mai Arr**	**79.44**	**295**	P		**P**	**19 52 03.0**	**+0.2**
	comp=Z,2.2nm,0.6s,mb4.2,baz=134,slow=4.2,SNR=24							
KMI	**Kunming**	**79.46**	**302**	P		**P**	**19 52 03.3**	**+0.5**
KMI				AMB		AMB		
	comp=Z,6.0nm,1.5s,mb4.3							
CHTO	**Chiang Mai**	**79.59**	**295**	*eP*		**P**	**19 52 04.0**	**+0.4**
	comp=Z,6.6nm,1.0s,mb4.5							
XAN	**Xi'an**	**79.62**	**313**	P		**P**	**19 52 03.9**	**+0.4**
XAN				AP		pP	19 52 21.4	+15
XAN				XP		sP	19 52 30.1	+23
XAN				AMB		AMB		
	comp=Z,1.0nm,0.6s,mb3.9							
XAN				AMB		AMB		
	comp=Z,17nm,13.6s							
CD2	**Chengdu**	**81.60**	**308**	*eP*		**P**	**19 52 15.0**	**+0.8**
CD2				AP		pP	19 52 35.9	+19
CD2				XP		sP	19 52 44.3	+26
CD2				PP		PP	19 55 25.6	+4.6
CD2				S		S	20 02 21.0	-5.7
CD2				XS		sS	20 02 56.3	+25
CD2				SS		SS	20 07 43.4	-1.0
CD2				AMB		AMB		
	comp=Z,10.0nm,0.8s,mb4.8							
CD2				AMB		AMB		
	comp=Z,40nm,6.8s							
CD2				LR		LR		
	comp=N,160nm,16.2s,MS4.7							
CD2				LR		LR		
	comp=E,200nm,18.2s,MS4.7							
CD2				LR		LR		
	comp=Z,180nm,14.8s,MS4.6							
HHC	**Hu-ho-hao-te**	**81.91**	**320**	*eP*		**P**	**19 52 17.3**	**+1.7**
HHC				AP		pP	19 52 37.6	+19
HHC				XP		sP	19 52 46.1	+27
HHC				PP		PP	19 55 28.3	+4.9
HHC				S		S	20 02 23.3	-6.2
HHC				XS		sS	20 02 58.4	+24
HHC				SS		SS	20 07 46.8	-1.8
HHC				AMB		AMB		
	comp=Z,13nm,1.1s,mb4.8							
HHC				AMB		AMB		
	comp=Z,147nm,7.9s							
HHC				LR		LR		
	comp=N,402nm,19.2s,MS4.9							
HHC				LR		LR		
	comp=E,232nm,18.6s,MS4.9							
HHC				LR		LR		
	comp=Z,470nm,19.6s,MS4.9							
LZH	**Lanzhou**	**84.22**	**312**	*eP*		**P**	**19 52 29.5**	**+1.8**
LZH				AP		pP	19 52 50.5	+20
LZH				XP		sP	19 53 01.0	+29
LZH				SKS			20 02 43.0	
LZH				*eS*		S	20 02 48.1	-5.1
LZH				AMB		AMB		
	comp=Z,43nm,1.6s,mb5.3							
LZH				AMB		AMB		
	comp=Z,90nm,4.0s							
LZH				LR		LR		
	comp=E,188nm,12.6s							
LZH				LR		LR		
	comp=Z,334nm,17.6s,MS4.8							
LZH	**Lanzhou**	**84.22**	**312**	*eP*		**P**	**19 52 29.5**	**+1.8**
LZH				pP		pP	19 52 50.5	+20
LZH				sP		sP	19 53 01.0	+29
LZH				SKS			20 02 43.0	
LZH				*eS*		S	20 02 48.1	-5.1
LZH				sS		sS	20 03 16.0	+18
LZH				SS		SS	20 08 18.0	-5.1
SNAA	**Sanae**	**86.96**	**182**	*eP*		**P**	**19 52 40.9**	**+0.1**
SNAA				*e*		pP	19 52 42.7	-1.0
SNAA				*e*			19 52 53.0	
SNAA	**Sanae**	**86.96**	**182**	*eP*		**P**	**19 52 40.8**	**0.0**
VNA3	**Neumayer Olymp**	**87.55**	**180**	*eP*		**P**	**19 52 43.5**	**-0.1**
VNA3				*e*		pP	19 52 45.0	-1.6
VNA3				*e*			19 52 55.9	
VNA2	**Neumayer--Watz**	**87.84**	**181**	*eP*		**P**	**19 52 45.6**	**+0.6**
	baz=194,slow=3.2							
VNA2				*e*		pP	19 52 46.8	-1.2
VNA2				*e*			19 52 57.6	
VNA2				*e*			19 53 05.6	
VNA1	**Neumayer--Stat**	**88.13**	**181**	*eP*		**P**	**19 52 46.9**	**+0.5**
VNA1				*e*		pP	19 52 48.5	-0.9
VNA1				*e*			19 52 59.1	
WDC	**Whiskeytown Da**	**88.40**	**45**	*eP*		**P**	**19 52 48.9**	**+0.8**
CMB	**Columbia Colle**	**88.61**	**48**	*eP*		**P**	**19 52 47.9**	**-1.2**
	comp=Z,13nm,1.5s,mb5.0							
ISA	**Isabella**	**88.86**	**51**	*eP*		**P**	**19 52 49.3**	**-1.1**
	comp=Z,20nm,1.6s,mb5.2							
YBH	**Yreka Blue Hor**	**88.87**	**44**	*eP*		**P**	**19 52 52.0**	**+1.7**
SONM	**Songino Array**	**89.00**	**323**	P		**P**	**19 52 51.3**	**+0.6**
	comp=Z,1.7nm,0.9s,mb4.4,baz=110,slow=4.1,SNR=9.8							
WAKR	**Walker**	**89.49**	**48**	*eP*		**P**	**19 52 53.1**	**-0.2**
MTUM	**Tungsten Hills**	**89.57**	**49**	*eP*		**P**	**19 52 53.0**	**-0.7**
NVAR	**Mina Array Bea**	**90.25**	**48**	P		**P**	**19 52 55.7**	**-1.2**
	comp=Z,2.4nm,0.6s,mb4.7,baz=226,slow=8.3,SNR=17							
NVAR	**Mina Array Bea**	**90.25**	**48**	P		**P**	**19 52 55.7**	**-1.2**
LSA	**Lhasa**	**90.70**	**302**	*eP*		**P**	**19 52 59.6**	**+0.4**
	comp=Z,4.3nm,1.2s,mb4.7							
TPH	**Tonopah**	**90.84**	**49**	P		**P**	**19 52 59.6**	**0.0**
TPNV	**Topopah Spring**	**91.04**	**51**	*eP*		**P**	**19 52 59.6**	**-0.9**
TXAR	**Lajitas Array**	**97.80**	**62**	P		**P**	**19 53 31.6**	**-0.2**
	comp=Z,0.2nm,0.6s,mb3.8,baz=229,slow=3.5,SNR=3.5							
PDAR	**Pinedale Array**	**98.10**	**47**	P		**P**	**19 53 31.9**	**-0.8**
	comp=Z,0.2nm,0.4s,mb4.0,baz=194,slow=18,SNR=3.8							
WMQ	**Urumqi**	**98.75**	**314**	P		**P**	**19 53 36.0**	**+0.4**
WMQ				AP		pP	19 53 57.9	+19
WMQ				XP		sP	19 54 05.0	+25
WMQ				PP		PP	19 57 40.5	+3.3
WMQ				PPP			19 59 48.5	
WMQ				AMB		AMB		
	comp=Z,3.0nm,1.0s,mb4.8							
WMQ				AMB		AMB		
	comp=Z,11nm,3.9s							
SDCO	**Great Sand Dun**	**99.23**	**53**	*e*Pdif		**P**	**19 53 45.1**	**+7.1**
ARCES	**ARCESS Array B**	**127.20**	**345**	PKP		PKPdf	19 58 58.4	-1.4
	comp=Z,1.2nm,0.5s,baz=76,slow=1.5,SNR=12							
DPC	**Dobruska-Polom**	**144.16**	**330**	*e*PKP		PKPdf	19 59 29.7	-2.0
DPC				*ex*		x	19 59 41.9	
PVCC	**Panska Ves**	**144.83**	**332**	*e*PKP		PKPdf	19 59 31.9	-1.0
BRG	**Berggiesshubel**	**144.85**	**333**	*e*PKP		PKPdf	19 59 31.1	-1.9
	comp=Z,7.0nm,1.1s							
CLL	**Collm**	**144.92**	**334**	*e*PKPdf		PKPdf	19 59 31.0	-2.0
	comp=Z,3.0nm,0.6s							
CLL				*i* (PKiKP)			19 59 33.5	
	comp=Z,7.0nm,0.8s							
CLL				*i* x		x	19 59 37.8	
CLL	**Collm**	**144.92**	**334**	*e*PKP		PKPdf	19 59 31.0	-2.0
CLL				*i* PKP		PKPdf	19 59 33.5	+0.5
PRU	**Pruhonice**	**145.23**	**331**	*e*PKP		PKPdf	19 59 33.2	-0.4
ESK	**Eskdalemuir**	**145.72**	**352**	*e*PKPdf		PKPdf	19 59 32.5	-1.8
NKC	**Novy Kostel**	**145.96**	**333**	*e*PKP		PKPdf	19 59 36.4	+1.5
MOX	**Moxa**	**145.99**	**334**	*e*PKP		PKPdf	19 59 39.7	+4.8
	comp=Z,42nm,2.2s							
MOX	**Moxa**	**145.99**	**334**	*e*PKP		PKPdf	19 59 39.8	+4.9
	comp=Z,42nm,2.2s							
KHC	**Kasperske Hory**	**146.28**	**331**	*e*PKP		PKPdf	19 59 36.9	+1.5
GERES	**GERESS Array B**	**146.43**	**330**	PKPbc		PKPbc	19 59 36.2	-0.8
	baz=35,slow=3.6							
GRA1	**Grafenberg Arr**	**146.89**	**334**	*e*PKPbc		PKPbc	19 59 37.4	-0.9
GRF	**Grafenberg Arr**	**146.89**	**334**	*e*PKPbc		PKPbc	19 59 37.4	-0.9
GIVF	**Givet**	**148.88**	**340**	*e*PKP1		PKPbc	19 59 43.1	-0.6
BAIF	**Baives**	**149.11**	**341**	*e*PKP1		PKPbc	19 59 43.7	-0.5
	comp=Z,4.9nm,0.7s							
BFO	**Black Forest**	**149.13**	**335**	*e*PKPdf		PKPdf	19 59 38.6	-1.6
CDF	**Champ du Feu**	**149.48**	**336**	*e*PKP1		PKPbc	19 59 44.6	-0.6
	comp=Z,8.5nm,0.8s							
HINF	**Hinteralfeld**	**150.13**	**336**	*e*PKP1		PKPbc	19 59 45.9	-0.9
	comp=Z,5.6nm,0.7s							
HAU	**Haudompre**	**150.16**	**337**	*e*PKP1		PKPbc	19 59 46.3	-0.6
	comp=Z,4.1nm,0.6s							
MEZF	**Maizieres J'vi**	**150.20**	**339**	*e*PKP1		PKPbc	19 59 46.8	-0.2
	comp=Z,21nm,0.9s							
CABF	**La Chapelle**	**151.42**	**335**	*e*PKP1		PKPbc	19 59 49.3	-0.6
FLN	**La Foliniere**	**151.55**	**346**	*e*PKP1		PKPbc	19 59 49.1	-1.0
	comp=Z,9.0nm,0.6s							
LDF	**La Druitiere**	**151.62**	**345**	*e*PKP1		PKPbc	19 59 49.2	-1.1
	comp=Z,8.3nm,0.7s							
LOR	**Lormes**	**151.67**	**339**	*e*PKP1		PKPbc	19 59 49.3	-1.1
	comp=Z,2.7nm,0.5s							
SSF	**Saint Saulge**	**151.97**	**339**	*e*PKP1		PKPbc	19 59 50.6	-0.5
GRR	**Gorron**	**151.99**	**346**	*e*PKP1		PKPbc	19 59 50.2	-0.9
	comp=Z,8.5nm,0.6s							
LPL	**La Plagne**	**152.05**	**333**	*e*PKP1		PKPbc	19 59 51.3	-0.1
	comp=Z,7.1nm,0.7s							
LPG	**La Plagne**	**152.06**	**333**	*e*PKP1		PKPbc	19 59 51.5	+0.1
AVF	**Avril sur Loir**	**152.26**	**339**	*e*PKP1		PKPbc	19 59 51.5	-0.3
SGMF	**Saint Gilles**	**152.47**	**348**	*e*PKP1		PKPbc	19 59 51.2	-1.0
ROSF	**Rostrenen**	**152.52**	**349**	*e*PKP1		PKPbc	19 59 51.0	-1.3
	comp=Z,9.1nm,0.6s							
BGF	**Bois d'Agland**	**152.63**	**339**	*e*PKP1		PKPbc	19 59 51.9	-0.7
	comp=Z,3.6nm,0.8s							
MBDF	**Montbardon**	**152.66**	**332**	*e*PKP1		PKPbc	19 59 52.2	-0.6
	comp=Z,5.3nm,0.8s							
ORIF	**Oris-en-Rattie**	**152.89**	**334**	*e*PKP1		PKPbc	19 59 52.3	-1.0
	comp=Z,5.5nm,0.6s							
QUIF	**Quistinic**	**152.91**	**349**	*e*PKP1		PKPbc	19 59 51.8	-1.4
VIVF	**Saint-Julien-l**	**153.43**	**335**	*e*PKP1		PKPbc	19 59 53.9	-0.6
FRF	**La Foret Royal**	**153.63**	**331**	*e*PKP1		PKPbc	19 59 54.0	-1.0
SMRF	**Simiane la Rot**	**153.78**	**333**	*e*PKP1		PKPbc	19 59 55.0	-0.2
LMR	**La Mourre**	**153.87**	**331**	*e*PKP1		PKPbc	19 59 55.7	+0.2
LASF	**Ste Croix**	**154.40**	**335**	*e*PKP1		PKPbc	19 59 55.7	-0.9
MTLF	**Montolieu**	**155.65**	**337**	*e*PKP1		PKPdf	19 59 58.5	+8.5
ESDC	**Sonseca Array**	**160.94**	**344**	PKPab		PKPab	20 00 36.7	-2.3
	comp=Z,0.5nm,0.6s,baz=11,slow=4.1,SNR=6.1							
TORD	**Torodi Ar. Bea**	**165.54**	**237**	PKP		PKPdf	20 00 02.5	+0.9
	comp=Z,0.5nm,0.9s,baz=23,slow=1.7,SNR=3.0							
TORD				PKPab		PKPab	20 00 59.5	-0.6
	comp=Z,0.2nm,0.7s,baz=79,slow=3.8,SNR=4.3							

IDC 13 19:47:23.0±2.6,841S×11162E,h0km,mb3.5/4,mb1 3.6/4, mb1mx3.4/15,mbtmp3.5/4,Error ellipse: s-maj=158.6km s-min=25.7km az=51.0,Jawa

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
WRA	**Warramunga Arr**	**24.79**	**120**	P		P	19 52 47.6	+0.7
	0.2nm,0.4s,baz=294,slow=12,SNR=4.8							
ASAR	**Alice Springs**	**26.18**	**128**	P		P	19 52 59.0	-0.4
	0.4nm,0.6s,baz=300,slow=8.5,SNR=5.1							
STKA	**Stephens Creek**	**36.34**	**134**	P		P	19 54 28.6	-0.2
	0.8nm,0.6s,baz=310,slow=7.9,SNR=2.8							
MKAR	**Makanchi Array**	**60.85**	**337**	P		P	19 57 37.2	+0.1
	0.2nm,0.5s,baz=149,slow=7.5,SNR=6.5							

MAN ***13*** *19:49:14,1463N×11876E,h32km,mb4.3,ML3.2,MS3.0*

ISCJB ***13*** *19:49:15.2±2.2,1461N±004×11884E±005,h31km±22km, mb3.8/2,Error ellipse: s-maj=8.7km s-min=6.8km az=165.2*

IDC ***13*** *19:49:23.7±6.5,1576N×11825E,h0km,mb3.7/3, mb1 3.8/4,mb1mx3.6/18,mbtmp3.7/4,ML3.6/1,MS4.2/1, Ms1 4.2/1,ms1mx2.8/35,Error ellipse: s-maj=126.4km s-min=36.0km az=162.0*

ISC 13 19:49:15.4±2.5,1461N±004×11887E±006,h20km±23km, n19,σ1§07/24,mb3.8/2,1C-2D,Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
NBP	**Mount Natib**	**1.50**	**85**	*e*P		**Pn**	**19 49 50.4**	**+9.2**
NBP				*e*S		**Sn**	**19 50 00.3**	**+0.2**
SCZP	**Santa Cruz**	**1.54**	**41**	*e*P		**Pn**	**19 49 39.6**	**-2.0**
LUBP	**Lubang**	**1.59**	**123**	*e*P		**Pn**	**19 49 42.1**	**-0.3**
LUBP				*e*S		**Sn**	**19 50 02.2**	**-0.2**
BOLP	**Bolinao**	**2.03**	**30**	*e*P		**Pn**	**19 49 47.0**	**-1.4**
QVPH	**Quezon City--P**	**2.12**	**89**	*e*P		**Pn**	**19 49 50.4**	**+0.7**
QVPH				*e*S		**Sn**	**19 50 16.2**	**+0.8**
PCPH	**Palayan**	**2.35**	**66**	*i*P		**Pn**	**19 49 52.1**	**-0.7**
PCPH				*e*S		**Sn**	**19 50 20.1**	**-1.1**
BUSP	**Coron**	**2.89**	**153**	*e*P		**Pn**	**19 50 00.3**	**-0.1**
BUSP				*e*S		**Sn**	**19 50 32.9**	**-1.6**
POLP	**Polilio Island**	**2.97**	**87**	*e*P		**Pn**	**19 50 03.2**	**+1.8**
SJMP	**San Jose**	**3.05**	**134**	*e*P		**Pn**	**19 50 04.0**	**+1.4**
SJMP				*e*S		**Sn**	**19 50 38.5**	**0.0**
ENPP	**El Nido**	**3.42**	**171**	*e*P		**Pn**	**19 50 07.0**	**-0.7**
ABRA	**Dolores**	**3.50**	**30**	*e*P		**Pn**	**19 50 08.9**	**+0.2**
OTRP	**Odiongan**	**3.79**	**126**	*e*P		**Pn**	**19 50 16.0**	**+3.4**
CUYO	**Cuyo Island**	**4.28**	**150**	*e*P		**Pn**	**19 50 19.1**	**-0.3**
GUIM	**Jordan**	**5.37**	**137**	*e*P		**Pn**	**19 50 38.2**	**+3.8**
CMAR	**Chiang Mai Arr**	**19.48**	**284**	P		**Pn**	**19 53 42.3**	**-0.2**
	0.1nm,0.3s,baz=97,slow=10.0,SNR=4.2							
KSRS	**Korea Array**	**24.14**	**18**	P		**P**	**19 54 30.4**	**+0.4**
	2.1nm,1.0s,mb3.5,baz=194,slow=9.7,SNR=4.5							
BATI	**Baumata**	**25.11**	**169**	LR		LR	20 06 26.3	
	comp=Z,463nm,19.3s,baz=314,slow=39							
MJAR	**Matsushiro Arr**	**27.84**	**35**	P		**P**	**19 55 10.6**	**+7.0**
	0.5nm,0.7s,baz=236,slow=8.9,SNR=4.1							
SONM	**Songino Array**	**34.71**	**345**	P		**P**	**19 56 05.5**	**+1.7**
	1.6nm,0.8s,mb4.0,baz=160,slow=9.3,SNR=12							

ISCJB ***13*** *19:52:50.2±1.7,60S±01×1278E±02,h388km±17km, mb3.3/2,Error ellipse: s-maj=26.4km s-min=16.1km az=148.3*

IDC ***13*** *19:52:55.0±2.7,634S×12742E,h426km±30km,mb2.9/2, mb1 3.0/6,mb1mx2.8/15,mbtmp2.8/6,Error ellipse: s-maj=44.9km s-min=14.1km az=64.0*

ISC 13 19:52:53.5±2.0,63S±01×1276E±02,h405km±23km,n7, σ0§91/10,mb3.3/2,Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
BATI	**Baumata**	**5.54**	**225**	P		**Pn**	**19 54 21.6**	**+0.2**
	3.1nm,0.3s,baz=43,slow=2.4,SNR=8.5							
BATI				S		**S**	**19 55 32.5**	**-0.5**
	2.8nm,0.3s,baz=289,slow=15,SNR=13							
KAKA	**Kakadu**	**7.95**	**144**	*eP*		**P**	**19 54 46.9**	**-1.3**
	3.4nm,0.6s							
FITZ	**Fitzroy Crossi**	**11.91**	**189**	P		**P**	**19 55 32.8**	**+0.7**
	0.1nm,0.3s,baz=21,slow=15,SNR=4.7							
WRA	**Warramunga Arr**	**15.06**	**155**	P		**P**	**19 56 07.2**	**+0.7**
	0.6nm,0.3s,baz=334,slow=11,SNR=41							
WRA				S		**S**	**19 58 45.3**	**-0.9**
	0.2nm,0.3s,baz=331,slow=17,SNR=6.2							
ASAR	**Alice Springs**	**18.31**	**161**	P		**P**	**19 56 41.8**	**+0.7**
	0.4nm,0.3s,baz=347,slow=13,SNR=20							
ASAR				S		**S**	**19 59 48.9**	**-0.4**
	0.0nm,0.3s,baz=343,slow=20,SNR=7.3							
STKA	**Stephens Creek**	**28.61**	**155**	P		**P**	**19 58 16.6**	**+1.8**
	0.6nm,0.3s,mb3.4,baz=323,slow=12,SNR=3.3							
MKAR	**Makanchi Array**	**66.36**	**328**	P		**P**	**20 02 59.4**	**-0.9**
	0.3nm,0.5s,mb3.2,baz=128,slow=7.4,SNR=

az=161.2

ISC 13 20:10:42.3±4.7, 30N±02×1260E±06, h62km±43km, n7, σ0§61/8, mb3.7/5, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**20.92**	**181**	*e*P	**P**	**20 15 20.1**	**+0.2**
	4.7nm,1.2s						
FITZ	**Fitzroy Crossi**	**20.92**	**181**	P	**P**	**20 15 20.2**	**+0.3**
	0.7nm,0.5s,baz=22,slow=13,SNR=7.5						
WRA	**Warramunga Arr**	**24.18**	**161**	P	**P**	**20 15 52.5**	**-0.6**
	1.4nm,0.3s,mb3.8,baz=337,slow=10,SNR=36						
WRA				S	**S**	**20 20 07.3**	**+0.2**
	0.2nm,0.5s,baz=333,slow=15,SNR=5.9						
ASAR	**Alice Springs**	**27.55**	**164**	P	**P**	**20 16 23.9**	**+0.4**
	0.5nm,0.3s,mb3.7,baz=345,slow=12,SNR=7.8						
STKA	**Stephens Creek**	**37.67**	**158**	P	**P**	**20 17 51.6**	**-0.1**
	2.2nm,0.9s,mb3.9,baz=331,slow=10,SNR=3.3						
SONM	**Songino Array**	**47.80**	**342**	P	**P**	**20 19 14.1**	**+0.6**
	0.4nm,0.8s,mb3.5,baz=158,slow=9.3,SNR=3.6						
MKAR	**Makanchi Array**	**57.78**	**326**	P	**P**	**20 20 26.5**	**-0.6**
	0.2nm,0.3s,mb3.6,baz=111,slow=6.8,SNR=3.7						

ISCJB 13 20:12:57.3±1.6, 191S±03×1777W±02, h527km±17km, mb3.7/13, Error ellipse: s-maj=50.9km s-min=14.0km az=153.3

NEIC 13 20:12:57.4±1.8, 1924S×17752W, h528km±19km, mb4.2/6, Error ellipse: s-maj=48.5km s-min=14.8km az=154.0

IDC 13 20:13:02.6±4.9, 1911S×17765W, h578km±56km, mb3.2/11, mb1 3.4/11, mb1mx3.3/19, mbtmp3.2/11, Error ellipse: s-maj=43.9km s-min=22.1km az=151.0

ISC 13 20:12:58.3±1.5, 190S±03×1777W±02, h522km±16km, n22, σ0§98/22, mb3.7/13, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**7.60**	**49**	P	**P**	**20 14 51.8**	**+0.5**
	6.0nm,0.3s,baz=95,slow=1.3,SNR=5.2						
AFI				S	**S**	**20 16 24.1**	**+0.3**
	3.4nm,0.3s,baz=232,slow=22,SNR=3.4						
AFI	**Afiamalu**	**7.60**	**49**	*e*P	**P**	**20 14 50.5**	**-0.8**
	14nm,0.4s						
AFI				*e*S	**S**	**20 16 18.1**	**-5.8**
CTA	**Charters Tower**	**33.97**	**262**	P	**P**	**20 18 59.4**	**+1.0**
	6.8nm,1.0s,mb4.1,baz=85,slow=13,SNR=4.6						
CTAO	**Charters Tower**	**33.97**	**262**	P	**P**	**20 18 58.8**	**+0.5**
	7.3nm,0.8s,mb4.3						
STKA	**Stephens Creek**	**38.73**	**243**	*e*P	**P**	**20 19 38.4**	**+0.9**
	3.6nm,1.1s,mb3.8						
STKA	**Stephens Creek**	**38.73**	**243**	P	**P**	**20 19 38.5**	**+1.0**
	1.5nm,0.5s,mb3.8,baz=90,slow=8.7,SNR=5.4						
WRAB	**Tennant Creek**	**45.12**	**261**	*e*P	**P**	**20 20 25.4**	**-2.7**
	5.5nm,1.0s,mb4.0						
WRA	**Warramunga Arr**	**45.13**	**261**	P	**P**	**20 20 27.9**	**-0.3**
	1.7nm,0.4s,mb4.0,baz=97,slow=7.5,SNR=42						
WRA				PcP	PcP	20 21 56.4	-1.3
	0.7nm,0.8s,baz=93,slow=3.4,SNR=3.7						
ASAR	**Alice Springs**	**45.18**	**255**	P	**P**	**20 20 28.9**	**+0.4**
	2.5nm,0.4s,mb4.1,baz=87,slow=8.5,SNR=38						
ASAR				PcP	PcP	20 21 56.4	-1.5
	0.8nm,0.7s,baz=102,slow=3.8,SNR=5.4						
KAKA	**Kakadu**	**48.27**	**270**	*e*P	**P**	**20 20 50.1**	**-1.9**
	19nm,1.5s,mb4.4						
FITZ	**Fitzroy Crossi**	**53.54**	**261**	*e*P	**P**	**20 21 30.2**	**-0.1**
	2.9nm,0.4s,mb4.0						
FITZ	**Fitzroy Crossi**	**53.54**	**261**	P	**P**	**20 21 30.0**	**-0.3**
	1.4nm,0.5s,mb3.6,baz=117,slow=6.7,SNR=16						
BATI	**Baumata**	**57.22**	**270**	P	**P**	**20 21 57.5**	**+1.4**
	6.8nm,0.6s,mb4.0,baz=119,slow=12,SNR=4.3						
MJAR	**Matsushiro Arr**	**59.21**	**323**	P	**P**	**20 23 12.5**	**0.0**
	0.7nm,0.5s,mb3.5,baz=150,slow=6.2,SNR=5.7						
KKM	**Kota Kinabalu**	**69.69**	**284**	*e*P	**P**	**20 23 15.9**	**-0.1**
NVAR	**Mina Array Bea**	**79.74**	**43**	P	**P**	**20 24 11.7**	**-0.2**
	0.2nm,0.5s,mb2.7,baz=225,slow=8.9,SNR=3.6						
TXAR	**Lajitas Array**	**86.00**	**57**	P	**P**	**20 24 43.9**	**+0.4**
	0.4nm,0.6s,mb3.2,baz=206,slow=5.7,SNR=6.4						
PDAR	**Pinedale Array**	**87.67**	**43**	P	**P**	**20 24 50.6**	**-0.5**
	0.2nm,0.5s,mb3.1,baz=255,slow=3.5,SNR=2.6						
PAF	**Port-aux-Franc**	**89.31**	**217**	*e*P	**P**	**20 24 54.8**	**-3.9**
CMAR	**Chiang Mai Arr**	**89.91**	**289**	P	**P**	**20 25 03.2**	**+1.1**
	1.0nm,0.8s,mb3.7,baz=109,slow=3.7,SNR=6.4						
MKAR	**Makanchi Array**	**110.40**	**314**	PKiKP	PKiKP	20 30 28.3	-2.6
	0.2nm,0.2s,baz=236,slow=1.9,SNR=1.8						
GERES	**GERESS Array B**	**148.85**	**345**	PKPbc	PKPbc	20 31 45.6	-1.3
	0.6nm,0.7s,baz=33,slow=2.3,SNR=5.4						

BJI 13 20:20:20.2, 474S×144.71E, h99km, mB5.3, mb4.8

ISCJB 13 20:20:21.5±1.2, 456S±004×144.26E±005, h82km±11km, mb4.8/56, Error ellipse: s-maj=8.5km s-min=5.9km az=2.6

MOS 13 20:20:22.8±1.0, 455S×144.30E, h98km, mb4.7/21, Error ellipse: s-maj=11.3km s-min=6.7km az=106.7

NEIC 13 20:20:24.6±0.2, 458S×144.23E, mb4.7/20, Error ellipse: s-maj=6.9km s-min=4.5km az=81.0

IDC 13 20:20:25.1±0.6, 458S×144.25E, h101km±5km, mb4.5/18, mb1 4.4/21, mb1mx4.4/23, mbtmp4.5/21, MS3.9/5, Ms1 3.9/5, ms1mx3.5/31, Error ellipse: s-maj=15.0km s-min=9.6km az=77.0

DJA 13 20:20:26, 469S×144.31E, h107km, Mw5.3/13

ISC 13 20:20:24.2±1.1, 460S±004×14425E±005, h92km±10km, h101km±1.3km: pP-P, n152, σ0§94/138, mb4.8/56, 4C-1D, Near north coast of New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.58**	**149**	*e*P	**Pn**	**20 21 44.7**	**-0.1**
PMG				*e*		20 22 43.3	
PMG				pmax	pmax		
	comp=Z,460nm,1.0s						
PMG	**Port Moresby**	**5.58**	**149**	*e*Pn	**Pn**	**20 21 44.7**	**-0.1**
	comp=Z,460nm,1.0s						
PMG				*e*Sn	**Sn**	**20 22 43.3**	**-4.2**
COEN	**Coen**	**9.36**	**186**	*e*Pn	**Pn**	**20 22 38.6**	**+2.4**
	comp=Z,27nm,0.8s						
KAKA	**Kakadu**	**14.18**	**235**	*e*P	**Pn**	**20 23 39.3**	**-1.6**
	comp=Z,41nm,0.6s						
KAKA				*e*S	**Sn**	**20 26 07.5**	**-10**
KAKA	**Kakadu**	**14.18**	**235**	*e*Pn	**Pn**	**20 23 37.8**	**-3.2**
	comp=Z,7.8nm,0.6s						
CTA	**Charters Tower**	**15.52**	**173**	P	**Pn**	**20 23 58.6**	**+0.7**
	comp=Z,0.4nm,0.3s,baz=319,slow=22,SNR=1.8						
CTAO	**Charters Tower**	**15.52**	**173**	*e*P	**Pn**	**20 23 59.0**	**+1.1**
CTAO				pmax	pmax		
	comp=Z,26nm,1.1s						
CTAO	**Charters Tower**	**15.52**	**173**	*e*Pn	**Pn**	**20 23 59.0**	**+1.1**
	comp=Z,26nm,1.1s						
HNR	**Honiara**	**16.30**	**108**	P	**Pn**	**20 24 06.5**	**-1.2**
	comp=Z,6.6nm,0.3s,baz=212,slow=2.4,SNR=21						
HNR	**Honiara**	**16.30**	**108**	P	**Pn**	**20 24 06.5**	**-1.2**
HNR				pmax	pmax		
	comp=Z,9.0nm,0.3s						
HNR	**Honiara**	**16.30**	**108**	*e*Pn	**Pn**	**20 24 06.9**	**-0.9**
	comp=Z,332nm,0.8s						
WRAB	**Tennant Creek**	**18.04**	**212**	*e*P	**Pn**	**20 24 27.9**	**-1.1**
WRAB				pmax	pmax		
	comp=Z,45nm,0.9s						
WRAB	**Tennant Creek**	**18.04**	**212**	*e*P	**Pn**	**20 24 27.9**	**-1.1**
	comp=Z,45nm,0.9s						
WB2	**Warramunga Arr**	**18.04**	**211**	*e*P	**Pn**	**20 24 28.4**	**-0.7**
WRA	**Warramunga Arr**	**18.05**	**212**	P	**Pn**	**20 24 28.2**	**-0.9**
	comp=Z,0.9nm,0.3s,baz=35,slow=12,SNR=41						
WRA				S	**S**	**20 27 43.8**	**-6.8**
	comp=Z,0.1nm,0.3s,baz=27,slow=23,SNR=2.5						
WRA	**Warramunga Arr**	**18.05**	**212**	P	**Pn**	**20 24 28.2**	**-0.9**
WRA				S	**S**	**20 27 43.8**	**-6.8**
WRA				pmax	pmax		
	comp=Z,1.0nm,0.3s						
BATI	**Baumata**	**21.16**	**254**	P	**P**	**20 25 03.0**	**+0.8**
	comp=Z,92nm,0.9s,mb5.1,baz=187,slow=0.9,SNR=17						
BATI				S	**S**	**20 28 50.8**	**-1.7**
	comp=Z,11nm,0.8s,baz=315,slow=19,SNR=3.3						
ASAR	**Alice Springs**	**21.42**	**207**	P	**P**	**20 25 04.8**	**-0.2**
	comp=Z,5.6nm,0.8s,mb4.0,baz=37,slow=8.3,SNR=41						
ASAR				S	**S**	**20 28 54.5**	**-3.0**
	comp=Z,4.2nm,1.0s,baz=30,slow=19,SNR=4.1						
ASAR	**Alice Springs**	**21.42**	**207**	P	**P**	**20 25 04.8**	**-0.1**
ASAR				S	**S**	**20 28 54.5**	**-3.0**
ASAR				pmax	pmax		
	comp=Z,6.0nm,0.8s						
ASAR				smax			
	comp=N,4.0nm,1.0s						
FITZ	**Fitzroy Crossi**	**22.61**	**232**	*e*P	**P**	**20 25 16.3**	**-1.3**
	comp=N,57nm,0.9s,mb4.9						
FITZ	**Fitzroy Crossi**	**22.61**	**232**	P	**P**	**20 25 15.9**	**-1.7**
	comp=N,29nm,0.8s,mb4.7,baz=64,slow=11,SNR=77						
FITZ				S	**S**	**20 29 22.9**	**+4.1**
	comp=N,2.7nm,0.8s,baz=115,slow=11,SNR=1.7						
FITZ	**Fitzroy Crossi**	**22.61**	**232**	*e*P	**P**	**20 25 16.0**	**-1.6**
	comp=N,1.4nm,0.6s						
KAPI	**Kappang**	**24.42**	**268**	*e*P	**P**	**20 25 33.2**	**-1.3**
	comp=N,36nm,0.9s,mb4.7						
ARMA	**Armidale**	**26.61**	**166**	*e*P	**P**	**20 25 55.5**	**+1.4**
ARMA	**Armidale**	**26.61**	**166**	*e*P	**P**	**20 25 54.3**	**+0.2**
	comp=N,0.4nm,0.9s						
STKA	**Stephens Creek**	**27.25**	**185**	*e*P	**P**	**20 26 00.0**	**+0.2**
	comp=N,3.5nm,0.6s,mb4.1						
STKA	**Stephens Creek**	**27.25**	**185**	P	**P**	**20 26 00.1**	**+0.3**
	comp=N,4.2nm,0.7s,mb4.1,baz=352,slow=8.4,SNR=17						
STKA	**Stephens Creek**	**27.25**	**185**	*e*P	**P**	**20 25 59.2**	**-0.6**
	comp=N,11nm,1.0s,mb4.3						
MBWA	**Marble Bar**	**28.94**	**233**	*e*P	**P**	**20 26 14.7**	**-0.4**
	comp=N,20nm,1.2s,mb4.6						
FORT	**Forrest**	**30.18**	**209**	*e*P	**P**	**20 26 26.4**	**+0.5**
	comp=N,7.6nm,0.4s,mb4.7						
CAN	**Canberra**	**30.88**	**172**	*e*P	**P**	**20 26 32.5**	**+0.5**
CNB	**Canberra Magne**	**30.93**	**172**	*e*P	**P**	**20 26 33.1**	**+0.7**
CBIJ	**Chichi jima**	**31.57**	**356**	P	**P**	**20 26 37.0**	**-1.1**
	comp=N,22nm,0.5s,mb5.2,baz=289,slow=22,SNR=5.0						
TOO	**Toolangi**	**32.83**	**178**	*e*P	**P**	**20 26 50.6**	**+1.5**
JOW	**Kunigami**	**34.86**	**335**	P	**P**	**20 27 07.5**	**+0.7**
	comp=N,29nm,0.8s,mb5.1,baz=164,slow=8.8,SNR=8.6						
NACB	**Ninganchiao**	**36.13**	**323**	*e*P	**P**	**20 27 17.4**	**-0.3**
	comp=N,405nm,1.3s						
KLBR	**Kellerberrin**	**36.60**	**220**	*e*P	**P**	**20 27 21.7**	**+0.1**
	comp=N,21nm,0.8s,mb5.1						
YHNB	**Yeheng**	**36.63**	**324**	*e*P	**P**	**20 27 22.7**	**+0.7**
NWAO	**Narrogin (SRO)**	**37.82**	**219**	*e*P	**P**	**20 27 32.4**	**+0.5**
NWAO				pmax	pmax		
	comp=Z,9.0nm,0.8s						
NWAO	**Narrogin (SRO)**	**37.82**	**219**	*e*P	**P**	**20 27 32.4**	**+0.4**
	comp=Z,8.9nm,0.8s,mb4.7						
MUN	**Mundaring**	**37.84**	**221**	*e*P	**P**	**20 27 32.4**	**+0.2**
TAU	**Tasmania Unive**	**38.24**	**176**	P	**P**	**20 27 35.7**	**+0.4**
MJAR	**Matsushiro Arr**	**41.32**	**353**	P	**P**	**20 27 59.5**	**-1.4**
	comp=Z,2.2nm,0.6s,mb4.2,baz=177,slow=6.8,SNR=15						
MJAR				LR	LR	20 43 00.9	
	comp=Z,148nm,18.1s,baz=330,slow=33						
MJAR	**Matsushiro Arr**	**41.32**	**353**	P	**P**	**20 27 59.5**	**-1.4**
MJAR				pmax	pmax		
	comp=Z,2.0nm,0.6s						
MJAR				MLR	MLR		
	comp=Z,148nm,18.1s						
MAJO	**Matsushiro**	**41.32**	**353**	*e*P	**P**	**20 27 59.8**	**-1.1**
MAJO				*e**PP	pP	20 28 26.2	+3.7
MAJO				*e**SP	sP	20 28 36.4	+3.4
MAT	**Matsushiro**	**41.32**	**353**	P	**P**	**20 27 59.1**	**-1.8**
NJ2	**Nanjing**	**43.73**	**328**	*e*P	**P**	**20 28 21.0**	**+0.4**
AFI	**Afiamalu**	**44.30**	**105**	P	**P**	**20 28 24.5**	**-0.9**
	comp=Z,6.8nm,0.2s,mb4.9,baz=73,slow=20,SNR=2.8						
AFI	**Afiamalu**	**44.30**	**105**	P	**P**	**20 28 24.5**	**-0.9**
AFI				pmax	pmax		
	comp=Z,7.0nm,0.3s,mb4.9						
KSRS	**Korea Array**	**44.52**	**341**	P	**P**	**20 28 26.8**	**0.0**
	comp=Z,13nm,0.9s,mb4.7,baz=159,slow=9.5,SNR=29						
KSRS				pP	pP	20 28 50.5	+1.9
	comp=Z,9.4nm,0.9s,baz=163,slow=9.3,SNR=6.8						
KSRS				LR	LR	20 43 43.8	
	comp=Z,98nm,21.8s,baz=90,slow=31						
KSRS	**Korea Array**	**44.52**	**341**	P	**P**	**20 28 26.8**	**+0.1**
KSRS				*PP	pP	20 28 50.5	+1.9
KSRS				pmax	pmax		
	comp=Z,13nm,0.9s,mb4.7						
KSRS				pmax	pmax		
	comp=Z,9.0nm,0.9s,mb4.5						
KSRS				MLR	MLR		
	comp=Z,98nm,21.8s						
URZ	**Urewera**	**44.90**	**143**	P	**P**	**20 28 30.8**	**+1.0**
	comp=Z,10nm,0.4s,mb4.9,baz=8.6,slow=5.2,SNR=12						
URZ				LR	LR	20 46 29.7	
	comp=Z,247nm,19.2s,baz=313,slow=35						
WHN	**Wuhan**	**45.15**	**323**	⇑P	**P**	**20 28 33.5**	**+1.6**
WHN				AP	pP	20 28 58.0	+4.2
WHN				XP	sP	20 29 07.3	+3.1
RPZ	**Rata Peaks**	**45.57**	**153**	P	**P**	**20 28 35.6**	**+0.6**
	comp=Z,92nm,0.9s,mb5.5,baz=239,slow=0.0,SNR=23						
GYA	**Guiyang**	**47.72**	**312**	P	**P**	**20 28 52.3**	**+0.2**
GYA				AP	pP	20 29 18.1	+4.0
GYA				XP	sP	20 29 28.3	+3.8
GYA				PP	PP	20 30 45.9	+1.3
GYA				SCP	ScP	20 34 03.8	-2.4
GYA				PCS	PcS	20 34 15.3	-0.5
GYA				S	**S**	**20 35 40.1**	**-1.5**
GYA				SS	SS	20 39 04.6	-6.7
GYA				AMB	AMB		
	comp=Z,10.0nm,0.9s,mb4.7						
GYA				AMB	AMB		
	comp=Z,100nm,5.1s						
GYA				LR	LR		
	comp=N,530nm,17.6s						
GYA				LR	LR		
	comp=E,520nm,18.0s						
GYA				LR	LR		
	comp=Z,490nm,17.0s						
NANT	**Nan**	**48.79**	**300**	P	**P**	**20 28 59.0**	**-1.4**
KMI	**Kunming**	**49.99**	**308**	P	**P**	**20 29 11.0**	**+1.6**
KMI				AMB	AMB		
	comp=Z,7.0nm,1.0s,mb4.5						
CHRT	**Chiangrai**	**50.02**	**301**	⇑P	**P**	**20 29 11.0**	**+1.3**
CM31	**Chiang Mai Arr**	**50.18**	**299**	*e*P	**P**	**20 29 11.4**	**+0.4**
	comp=Z,3.9nm,0.6s,mb4.5						
CM31				*ep*P	pP	20 29 34.9	+1.6
CMAR	**Chiang Mai Arr**	**50.18**	**299**	P	**P**	**20 29 11.3**	**+0.3**
	comp=Z,4.2nm,0.6s,mb4.5,baz=124,slow=6.2,SNR=38						
CMAR				pP	pP	20 29 35.6	+2.3
	comp=Z,12nm,1.1s,baz=118,slow=5.8,SNR=8.4						
CMAR				LR	LR	20 48 59.6	
	comp=Z,70nm,19.5s,baz=308,slow=34						
CMAR	**Chiang Mai Arr**	**50.18**	**299**	P	**P**	**20 29 11.4**	**+0.4**
CMAR				*PP	pP	20 29 35.6	+2.3
CMAR				pmax	pmax		
	comp=Z,4.0nm,0.6s						
CMAR				pmax	pmax		
	comp=Z,12nm,1.1s						
CMAR				MLR	MLR		
	comp=Z,70nm,19.5s						
CHTO	**Chiang Mai**	**50.32**	**299**	*e*P	**P**	**20 29 12.3**	**+0.3**
CHTO				*e**PP	pP	20 29 35.1	+0.8
CHTO				*e**SP	sP	20 29 45.2	+0.6
CHTO				pmax	pmax		
	comp=Z,5.0nm,1.0s,mb4.4						
CHTO	**Chiang Mai**	**50.32**	**299**	*e*P	**P**	**20 29 12.3**	**+0.2**
	comp=Z,4.5nm,1.0s,mb4.3						
CHTO				*ep*P	pP	20 29 35.1	+0.8
CHTO				*es*P	sP	20 29 45.2	+0.6
MDJ	**Mudanjiang**	**50.73**	**346**	P	**P**	**20 29 15.8**	**+1.1**
MDJ				AMB	AMB		
	comp=Z,8.0nm,1.2s,mb4.6						
MDJ				AMB	AMB		
	comp=Z,202nm,6.0s						
XAN	**Xi'an**	**50.88**	**322**	P	**P**	**20 29 15.8**	**-0.2**
XAN				AMB	AMB		
	comp=Z,15nm,1.2s,mb4.9						
XAN				AMB	AMB		
	comp=Z,116nm,8.3s						
BJT	**Baijiatuan**	**51.37**	**332**	*e*P	**P**	**20 29 19.1**	**-0.4**
BJT				*e**PP	pP	20 29 43.6	+1.7
BJI	**Beijing**	**51.38**	**332**	P	**P**	**20 29 19.4**	**-0.2**
BJI				AMB	AMB		
	comp=Z,17nm,0.9s,mb5.1						
CD2	**Chengdu**	**52.35**	**315**	⇑*i*P	**P**	**20 29 27.5**	**+0.5**
CD2				AP	pP	20 29 50.8	+1.4
CD2				XP	sP	20 30 02.0	+2.3
CD2				PP	PP	20 31 28.5	+1.8
CD2				S	**S**	**20 36 44.9**	**-1.0**
CD2				XS	sS	20 37 24.9	+0.6
CD2				SS	SS	20 40 21.5	-3.6
CD2				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.9						
CD2				AMB	AMB		
	comp=Z,30nm,5.2s						
CD2				LR	LR		
	comp=N,180nm,16.2s						
CD2				LR	LR		
	comp=Z,200nm,18.2s						
HHC	**Hu-ho-hao-te**	**54.23**	**330**	*e*P	**P**	**20 29 43.5**	**+2.9**
HHC				AP	pP	20 30 07.4	+4.3
HHC				XP	sP	20 30 18.3	+4.9
HHC				PCP	PcP	20 30 46.1	+2.2
HHC				PP	PP	20 31 47.6	+4.2
HHC				SCP	ScP	20 34 34.4	+0.5
HHC				S	**S**	**20 37 12.9**	**+1.8**
HHC				XS	sS	20 37 54.8	+5.2
HHC				SCS	ScS	20 39 20.3	-0.9
HHC				SS	SS	20 40 57.0	+2.6
HHC				AMB	AMB		
	comp=Z,9.0nm,1.0s,mb4.8						
HHC				AMB	AMB		
	comp=Z,306nm,5.1s						
HHC				LR	LR		
	comp=N,217nm,18.4s						
HHC				LR	LR		
	comp=E,202nm,15.3s						
HHC				LR	LR		
	comp=Z,197nm,16.7s						
LZH	**Lanzhou**	**55.38**	**320**	*e*P	**P**	**20 29 50.1**	**+1.1**
LZH				AP	pP	20 30 14.5	+2.9
LZH				XP	sP	20 30 23.0	+1.1
LZH				PCP	PcP	20 30 51.0	+2.6
LZH				AMB	AMB		
	comp=Z,25nm,1.0s,mb5.2						
LZH				AMB	AMB		
	comp=Z,230nm,5.7s						
LZH				LR	LR		
	comp=E,141nm,13.8s						
LZH				LR	LR		
	comp=Z,248nm,15.8s						
HIA	**Hailar**	**57.73**	**341**	*e*P	**P**	**20 30 04.7**	**-0.7**
HIA				*e**PP	pP	20 30 30.2	+2.0
HIA				*e**SP	sP	20 30 40.1	+1.8
HIA				pmax	pmax		
	comp=Z,7.0nm,0.8s						
HIA	**Hailar**	**57.73**	**341**	*e*P	**P**	**20 30 04.7**	**-0.7**
	comp=Z,6.7nm,0.8s,mb4.7						
HIA				*ep*P	pP	20 30 30.2	+2.0
HIA				*es*P	sP	20 30 40.1	+1.8
PETK	**Petropavlovsk-**	**58.61**	**9**	P	**P**	**20 30 11.6**	**+0.1**
	comp=Z,5.8nm,0.8s,mb4.7,baz=162,slow=6.5,SNR=13						
PETK	**Petropavlovsk-**	**58.61**	**9**	P	**P**	**20 30 11.6**	**+0.2**
PETK				pmax	pmax		
	comp=Z,6.0nm,0.8s,mb4.7						
GTA	**Gaotai**	**59.93**	**321**	*e*P	**P**	**20 30 21.6**	**+0.7**
GTA				AP	pP	20 30 45.9	+2.1
GTA				XP	sP	20 30 56.3	+2.4
GTA				AMB	AMB		
	comp=Z,7.0nm,0.8s,mb4.7						
LSA	**Lhasa**	**61.22**	**307**	P	**P**	**20 30 30.8**	**+1.0**
LSA	**Lhasa**	**61.22**	**307**	*e*P	**P**	**20 30 31.2**	**+1.4**
LSA				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.6						
LSA	**Lhasa**	**61.22**	**307**	*e*P	**P**	**20 30 31.2**	**+1.3**
	comp=Z,5.3nm,0.8s,mb4.6						
SONM	**Songino Array**	**61.88**	**332**	P	**P**	**20 30 34.4**	**+0.6**
	comp=Z,1.8nm,0.7s,mb4.2,baz=158,slow=6.5,SNR=18						
SONM				pP	pP	20 30 59.7	+2.8
	comp=Z,1.7nm,0.7s,baz=131,slow=6.8,SNR=4.6						
SONM	**Songino Array**	**61.88**	**332**	P	**P**	**20 30 34.4**	**+0.5**
SONM				*PP	pP	20 30 59.7	+2.8
SONM				pmax	pmax		
	comp=Z,2.0nm,0.7s						
SONM				pmax	pmax		
	comp=Z,2.0nm,0.7s						
TAPN	**Taplejung**	**63.10**	**304**	*e*P	**P**	**20 30 42.7**	**+0.2**
ODAN	**Odare**	**63.19**	**303**	*e*P	**P**	**20 30 43.6**	**+0.5**
	comp=Z,24nm,0.7s,mb5.2						
RAMN	**Ramite**	**63.89**	**303**	*e*P	**P**	**20 30 48.1**	**+0.5**
	comp=Z,14nm,0.5s,mb5.0						
JIRN	**Jiri**	**64.47**	**303**	*e*P	**P**	**20 30 52.0**	**+0.5**
	comp=Z,10.0nm,0.6s,mb4.8						
GUN	**Gumba**	**64.82**	**304**	*e*P	**P**	**20 30 54.2**	**+0.5**
	comp=Z,35nm,0.7s,mb5.3						
PKI	**Pulchoki**	**65.09**	**303**	*e*P	**P**	**20 30 55.6**	**+0.1**
	comp=Z,19nm,0.8s,mb5.0						
ZAK	**Zakamensk**	**65.13**	**332**	*e*P	**P**	**20 30 55.1**	**-0.1**
ZAK				*e*	pP	20 31 17.7	-0.7
ZAK				pmax	pmax		
	comp=Z,11nm,0.9s,mb4.7						
KKN	**Kakani**	**65.28**	**303**	*e*P	**P**	**20 30 57.1**	**+0.4**
	comp=Z,37nm,0.7s,mb5.3						
DMN	**Daman**	**65.36**	**303**	*e*P	**P**	**20 30 57.6**	**+0.4**
	comp=Z,36nm,0.7s,mb5.3						
TLY	**Talaya**	**65.87**	**334**	*e*P	**P**	**20 31 00.0**	**0.0**
TLY				*e*	pP	20 31 25.8	+2.6
TLY				pmax	pmax		
	comp=Z,9.0nm,1.3s,mb4.4						
GKN	**Gorkha**	**65.88**	**303**	*e*P	**P**	**20 31 00.7**	**+0.1**
	comp=Z,34nm,0.6s,mb5.3						
CASY	**Casey**	**65.90**	**194**	*e*P	**P**	**20 30 59.9**	**-0.1**
KOLN	**Koldanda**	**66.67**	**303**	*e*P	**P**	**20 31 05.8**	**+0.2**
	comp=Z,29nm,0.6s,mb5.3						
DANN	**Dangsing**	**66.73**	**303**	*e*P	**P**	**20 31 06.0**	**0.0**
	comp=Z,40nm,0.6s,mb5.4						
MK31	**Makanchi Array**	**74.69**	**321**	*e*P	**P**	**20 31 53.7**	**-0.2**
MK31				*e**PP	pP	20 32 19.9	+2.3
MKAR	**Makanchi Array**	**74.69**	**321**	P	**P**	**20 31 53.8**	**-0.2**
	comp=Z,9.4nm,0.7s,mb4.6,baz=105,slow=7.3,SNR=65						
MKAR				pP	pP	20 32 19.5	+1.8
	comp=Z,11nm,0.8s,baz=105,slow=7.6,SNR=10						
MKAR	**Makanchi Array**	**74.69**	**321**	P	**P**	**20 31 53.8**	**-0.1**
MKAR				*PP	pP	20 32 19.5	+1.9
MKAR				pmax	pmax		
	comp=Z,9.0nm,0.7s						
MKAR

BRVK	**Borovoye**	**84.11**	**324**	*e*P		**P**	**20 32 44.9**	**0.0**
BRVK				*e**PP		pP	20 33 10.3	+1.2
BRVK				*e**SP		sP	20 33 22.9	+3.9
BRVK				pmax	pmax			
	comp=Z,25nm,0.8s,mb5.1							
BRVK	**Borovoye**	**84.11**	**324**	*e*P		**P**	**20 32 44.9**	**0.0**
	comp=Z,25nm,0.8s,mb5.1							
BRVK				*e*pP		pP	20 33 10.3	+1.2
BRVK				*e*SP		sP	20 33 22.9	+4.0
COLA	**College**	**84.95**	**23**	*e*P		**P**	**20 32 47.9**	**-1.0**
HYT	**Haines Junctio**	**88.28**	**29**	*e*P		**P**	**20 33 05.4**	**+0.2**
SYO	**Syowa Base**	**90.95**	**200**‖	*e*P		**P**	**20 33 15.0**	**-2.6**
ARU	**Arti**	**91.41**	**326**	*d i*P		**P**	**20 33 16.6**	**-3.3**
ARU							20 36 55.3	
ARU				S		S	20 43 39.2	-32
ARU				SS		SS	20 50 11.4	-7.7
ARU				pmax	pmax			
	comp=Z,15nm,2.5s,mb4.7							
ARU	**Arti**	**91.41**	**326**	P		**P**	**20 33 17.3**	**-2.6**
	comp=Z,3.7nm,0.6s,mb4.7							
NVAR	**Mina Array Bea**	**98.67**	**52**	P		**P**	**20 33 53.1**	**-0.3**
	comp=Z,0.2nm,0.3s,mb4.1,baz=249,slow=6.6,SNR=3.9							
BMO	**Blue Mountains**	**99.21**	**45**	*e*P		**P**	**20 33 55.7**	**0.0**
BMO				pmax	pmax			
	comp=Z,2.0nm,0.9s,mb4.7							
BMO	**Blue Mountains**	**99.21**	**45**	*e*P		**P**	**20 33 55.7**	**-0.1**
	comp=Z,2.5nm,0.9s,mb4.7							
SNAA	**Sanae**	**100.91**	**190**	*e*P		Pdif	20 34 01.6	-1.5
PDAR	**Pinedale Array**	**104.99**	**47**	Pdiff		Pdif	20 34 21.4	+0.2
	comp=Z,0.5nm,0.9s,baz=222,slow=1.2,SNR=3.4							
GRF	**Grafenberg Arr**	**120.16**	**327**	*e*SKS		SKSdf	20 46 11.6	+3.3
CMIG	**Matias Romero**	**120.82**	**73**	PKP		PKPdf	20 39 06.0	-0.8
	comp=Z,2.3nm,1.0s,baz=177,slow=7.8,SNR=3.9							
CMIG	**Matias Romero**	**120.82**	**73**	PKP		PKPdf	20 39 06.0	-0.8
PLCA	**Paso Flores**	**124.76**	**148**	PKP		PKPdf	20 39 14.1	+0.4
	comp=Z,1.8nm,0.7s,baz=223,slow=3.1,SNR=7.0							
PLCA	**Paso Flores**	**124.76**	**148**	PKIKP		PKPdf	20 39 14.1	+0.4
PLCA				pmax	pmax			
	comp=Z,2.0nm,0.7s							
ROSC	**El Rosal**	**141.55**	**88**	PKP		PKPdf	20 39 45.3	-0.6
	comp=Z,5.0nm,0.6s,baz=82,slow=21,SNR=2.7							
LPAZ	**La Paz**	**141.83**	**124**	PKhKP			20 39 42.1	
	comp=Z,4.0nm,0.7s,baz=193,slow=2.2,SNR=20							
LPAZ	**La Paz**	**141.83**	**124**	PKIKP			20 39 42.1	
LPAZ				pmax	pmax			
	comp=Z,4.0nm,0.7s							
LPAZ	**La Paz**	**141.83**	**124**	*e*PKPdf			20 39 41.9	
TOA0	**Torodi Ar. Sit**	**142.09**	**285**	*e*PKPdf			20 39 40.2	
TORD	**Torodi Ar. Bea**	**142.09**	**285**	PKhKP			20 39 40.7	
	comp=Z,1.4nm,0.7s,baz=84,slow=3.1,SNR=13							
CPUP	**Villa Florida**	**142.82**	**147**	PKhKP			20 39 43.5	
	comp=Z,2.1nm,0.6s,baz=209,slow=1.5,SNR=7.9							
CPUP	**Villa Florida**	**142.82**	**147**	PKIKP			20 39 43.5	
CPUP				pmax	pmax			
	comp=Z,2.0nm,0.6s							
CPUP	**Villa Florida**	**142.82**	**147**	*e*PKPdf			20 39 43.1	
SDV	**Santo Domingo**	**145.11**	**81**	*e*PKPdf		PKPdf	20 39 51.1	-1.0
SDV				*e*SKP			20 43 20.7	
KIC	**Kosan Boka**	**149.09**	**275**	*e*PKP1		PKPbc	20 40 02.9	-0.1
	comp=Z,54nm,0.8s							
DBIC	**Dimbokro**	**149.19**	**275**	PKPbc		PKPbc	20 40 03.2	-0.1
	comp=Z,8.0nm,0.6s,baz=95,slow=2.2,SNR=17							
DBIC	**Dimbokro**	**149.19**	**275**	PKP2		PKPab	20 40 03.2	-4.8
DBIC				pmax	pmax			
	comp=Z,8.0nm,0.6s							
DBIC	**Dimbokro**	**149.19**	**275**	*e*PKPbc		PKPbc	20 40 02.4	-0.9
TIC	**Toumodi**	**149.36**	**275**	*e*PKP1		PKPbc	20 40 03.6	-0.1
	comp=Z,267nm,1.6s							
LIC	**Lamto**	**149.38**	**274**	*e*PKP1		PKPbc	20 40 03.6	-0.1
	comp=Z,65nm,0.8s							
BDFB	**Brasilia**	**156.50**	**149**	PKPab		PKPab	20 40 38.4	0.0
	comp=Z,1.8nm,0.6s,baz=126,slow=25,SNR=5.0							
BDFB	**Brasilia**	**156.50**	**149**	PKP2		PKPab	20 40 38.4	0.0
BDFB				pmax	pmax			
	comp=Z,2.0nm,0.6s							

*ISCJB **13** 20:26:26.1±3.6,214S±0.1×169.36E±007,h3^{km}±22^{km}, mb4.4/18, Error ellipse: s-maj=24.2km s-min=8.6km az=163.0*
*LDG **13** 20:26:26.3±0.4,2226S×169.19E,h10^{km},Mb4.5/1, Error ellipse: s-maj=50.6km s-min=3.4km az=177.0*
*NEIC **13** 20:26:27.4±7.0,2152S×169.39E,h3^{km}±42^{km}, mb4.8/8, Error ellipse: s-maj=16.6km s-min=12.5km az=172.0*
*IDC **13** 20:26:27.9±0.9,2132S×169.32E,h0^{km}, mb4.3/13, mb1 4.4/13,mb1mx4.4/17,mbtmp4.3/13, Error ellipse: s-maj=35.2km s-min=18.1km az=151.0*

ISC 13 20:26:27.5±4.1,215S±01×16938E±007,h2^{km}±25^{km},n47, σ1§09/30,mb4.4/18,Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LASL	**Noumea**	**2.74**	**254**	*e*P	**Pn**	**20 27 15.6**	**+3.0**
DZM	**Mont Dzumac**	**2.79**	**257**	*e*Pn	**Pn**	**20 27 13.0**	**-0.3**
DZM				*e*Sn	**Sn**	**20 27 49.4**	**+1.8**
NOUC	**Port Laguerre**	**2.93**	**257**	*e*P	**Pn**	**20 27 14.6**	**-0.5**
NOUC				*e*S	**Sn**	**20 27 49.0**	**-1.8**
HNR	**Honiara**	**15.04**	**321**	Pn	**Pn**	**20 30 07.9**	**+6.6**
CTA	**Charters Tower**	**21.67**	**270**	P	**P**	**20 31 19.5**	**-0.1**
	11nm,0.9s,mb4.3,baz=71,slow=23,SNR=4.1						
CTAO	**Charters Tower**	**21.67**	**270**	P	**P**	**20 31 19.6**	**-0.1**
	42nm,1.4s,mb4.7						
STKA	**Stephens Creek**	**26.83**	**242**	P	**P**	**20 32 11.5**	**+2.1**
	5.5nm,0.7s,mb4.2,baz=86,slow=10,SNR=7.5						
STKA	**Stephens Creek**	**26.83**	**242**	*e*P	**P**	**20 32 10.7**	**+1.3**
	7.9nm,0.8s,mb4.3						
STKA	**Stephens Creek**	**26.83**	**242**	*e*	**P**	**20 32 11.4**	**+2.0**
RAR	**Rarotonga**	**28.71**	**95**	P	**P**	**20 32 25.5**	**-0.8**
	48nm,1.1s,mb5.1						
WRA	**Warramunga Arr**	**32.77**	**266**	P	**P**	**20 33 01.0**	**-1.3**
	1.8nm,0.9s,mb4.0,baz=100,slow=8.5,SNR=3.2						
ASAR	**Alice Springs**	**32.78**	**259**	P	**P**	**20 33 02.2**	**-0.1**
	4.4nm,0.7s,mb4.5,baz=85,slow=9.4,SNR=9.2						
FITZ	**Fitzroy Crossi**	**41.20**	**267**	P	**P**	**20 34 14.3**	**+0.3**
	8.4nm,0.8s,mb4.4,baz=158,slow=9.3,SNR=6.6						
MBWA	**Marble Bar**	**46.09**	**261**	*e*P	**P**	**20 34 53.4**	**0.0**
	17nm,1.1s,mb4.9						
NWAO	**Narrogin (SRO)**	**47.34**	**245**	*e*P	**P**	**20 35 02.5**	**-0.5**
	7.3nm,0.9s,mb4.6						
CASY	**Casey**	**58.13**	**204**	P	**P**	**20 36 20.1**	**-2.3**
	13nm,1.2s,mb4.8						
KSM	**Kuching**	**62.02**	**284**	P	**P**	**20 36 50.1**	**+0.3**
MJAR	**Matsushiro Arr**	**64.80**	**333**	P	**P**	**20 37 07.0**	**-0.7**
	0.6nm,0.7s,mb3.7,baz=173,slow=10,SNR=4.1						
PETK	**Petropavlovsk-**	**74.97**	**353**	P	**P**	**20 38 09.9**	**-0.1**
	5.0nm,0.9s,mb4.4,baz=133,slow=8.0,SNR=3.5						
MAW	**Mawson**	**76.41**	**202**	P	**P**	**20 38 19.6**	**+1.4**
	1.0nm,0.7s,mb3.9,baz=61,slow=4.8,SNR=3.6						
MAW	**Mawson**	**76.41**	**202**	P	**P**	**20 38 17.6**	**-0.6**
	2.6nm,0.9s,mb4.2						
CMAR	**Chiang Mai Arr**	**79.55**	**295**	P	**P**	**20 38 38.0**	**+1.5**
	1.3nm,0.9s,mb3.8,baz=139,slow=4.2,SNR=8.0						
CHTO	**Chiang Mai**	**79.71**	**295**	*e*P	**P**	**20 38 35.5**	**-1.9**
SNAA	**Sanae**	**86.93**	**182**	*e*P	**P**	**20 39 14.6**	**+0.9**
	7.8nm,1.0s,mb4.9						
YBH	**Yreka Blue Hor**	**88.82**	**44**	P	**P**	**20 39 23.7**	**+0.6**
	1.6nm,0.9s,mb4.3,baz=220,slow=7.9,SNR=2.8						
SONM	**Songino Array**	**89.09**	**323**	P	**P**	**20 39 24.3**	**+0.1**
	0.8nm,1.0s,mb4.0,baz=120,slow=3.3,SNR=4.5						
NVAR	**Mina Array Bea**	**90.18**	**48**	P	**P**	**20 39 30.3**	**+0.7**
	3.0nm,0.7s,mb4.7,baz=224,slow=8.4,SNR=20						
TXAR	**Lajitas Array**	**97.72**	**62**	P	**P**	**20 40 04.9**	**+0.4**
	0.4nm,0.9s,mb4.0,baz=224,slow=6.3,SNR=2.3						
ARCES	**ARCESS Array B**	**127.27**	**345**	PKP	PKPdf	20 45 31.4	-1.7
	4.0nm,0.9s,baz=1.7,slow=4.0,SNR=6.2						
BRG	**Berggiesshubel**	**144.93**	**333**	*e*PKP	PKPdf	20 46 05.1	-1.1
	3.8nm,0.8s						
CLL	**Collm**	**145.00**	**334**	*e*PKPdf	PKPdf	20 46 05.0	-1.3
CLL				*e*(PKiKP)		20 46 11.0	
CDF	**Champ du Feu**	**149.55**	**336**	*e*PKP1	PKPbc	20 46 17.4	-1.1
HAU	**Haudompre**	**150.23**	**337**	*e*PKP1	PKPbc	20 46 19.1	-1.1
	2.3nm,0.5s						
MEZF	**Maizieres J'vi**	**150.27**	**339**	*e*PKP1	PKPbc	20 46 19.7	-0.5
	17nm,1.1s						
CABF	**La Chapelle**	**151.49**	**335**	*e*PKP1	PKPbc	20 46 22.5	-0.7
	7.1nm,0.7s						
FLN	**La Foliniere**	**151.61**	**346**	*e*PKP1	PKPbc	20 46 22.0	-1.4
	18nm,0.9s						
LDF	**La Druitiere**	**151.68**	**345**	*e*PKP1	PKPbc	20 46 22.0	-1.5
	20nm,1.1s						
LOR	**Lormes**	**151.74**	**339**	*e*PKP1	PKPbc	20 46 22.6	-1.1
	4.4nm,0.8s						
SSF	**Saint Saulge**	**152.04**	**339**	*e*PKP1	PKPbc	20 46 23.4	-1.0
	4.3nm,0.8s						
GRR	**Gorron**	**152.04**	**346**	*e*PKP1	PKPbc	20 46 22.4	-2.0
LPL	**La Plagne**	**152.13**	**333**	*e*PKP1	PKPbc	20 46 24.0	-0.7
LPG	**La Plagne**	**152.14**	**333**	*e*PKP1	PKPbc	20 46 24.3	-0.4
	4.4nm,0.6s						
SMF	**Signal de Mont**	**152.29**	**338**	*e*PKP1	PKPbc	20 46 23.7	-1.3
SGMF	**Saint Gilles**	**152.52**	**348**	*e*PKP1	PKPbc	20 46 24.0	-1.4
ORIF	**Oris-en-Rattie**	**152.97**	**334**	*e*PKP1	PKPbc	20 46 25.4	-1.1
	5.0nm,0.7s						
LMR	**La Mourre**	**153.96**	**331**	*e*PKP1	PKPbc	20 46 27.3	-1.5
	14nm,1.1s						
ESDC	**Sonseca Array**	**161.00**	**344**	PKPab	PKPab	20 47 12.0	-0.4
	0.3nm,0.7s,baz=26,slow=3.8,SNR=4.9						

*IDC **13** 20:28:42.6±2.7,5468N×16162W,h0^{km},mb3.8/9, mb1 3.9/10,mb1mx3.7/23,mbtmp3.8/10,ML3.7/1,MS3.8/1, Ms1 3.7/1,ms1mx2.8/46,Error ellipse: s-maj=83.4km s-min=20.8km az=170.0*
*NEIC **13** 20:28:45.8,5442N×16150W,h6^{km},ML3.5(AEIC), ML3.7(PMR), After AEIC.*
*ISCJB **13** 20:28:46.6±1.6,544N±02×1613W±0.1,h52^{km}±10^{km}, mb3.6/9, Error ellipse: s-maj=26.6km s-min=8.0km az=163.1*

ISC 13 20:28:48.0±1.5,544N±01×1614W±01,h48^{km}±10^{km},n18, σ0§95/20,mb3.6/9,Alaska Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SDPT	**Sand Point**	**1.07**	**28**	P	**Pn**	**20 29 05.6**	**-0.9**
SDPT				S	**Sn**	**20 29 20.7**	**+0.5**
FALS	**False Pass**	**1.28**	**291**	P	**Pn**	**20 29 07.8**	**-1.5**
FALS				S	**Sn**	**20 29 25.7**	**+0.4**
CHGN	**Chignik**	**2.53**	**40**	*e*P	**Pn**	**20 29 28.0**	**+1.5**
AKUT	**Akutan**	**2.60**	**266**	*e*P	**Pn**	**20 29 28.9**	**+1.4**
OHAK	**Old Harbor**	**5.35**	**55**	*e*P	**Pn**	**20 30 03.8**	**-1.3**
KDAK	**Kodiak Island**	**5.96**	**52**	Pn	**Pn**	**20 30 12.6**	**-0.8**
	1.9nm,0.3s,baz=231,slow=5.5,SNR=12						
KDAK				Sn	**Sn**	**20 31 15.2**	**-5.1**
	baz=261,slow=19,SNR=2.8						
SVW2	**Sparrevohn**	**7.38**	**22**	*e*P	**Pn**	**20 30 33.6**	**+0.7**
PETK	**Petropavlovsk-**	**24.00**	**284**	P	**P**	**20 33 57.0**	**-0.9**
	3.4nm,0.8s,mb3.9,baz=86,slow=14,SNR=6.9						
YKA	**Yellowknife Ar**	**25.24**	**52**	P	**P**	**20 34 08.7**	**-0.2**
	1.3nm,0.7s,mb3.6,baz=131,slow=51,SNR=4.0						
ULM	**Lac du Bonnet**	**38.94**	**68**	P	**P**	**20 36 09.9**	**+1.1**
	2.0nm,0.9s,mb3.8,baz=299,slow=10,SNR=3.0						
ULM				LR	LR	20 51 34.5	
	comp=Z,115nm,19.3s,baz=222,slow=35						
TXAR	**Lajitas Array**	**48.07**	**97**	PcP	PcP	20 38 48.9	-0.8
	0.8nm,1.0s,baz=263,slow=2.1,SNR=4.6						
SONM	**Songino Array**	**54.26**	**304**	P	**P**	**20 38 09.0**	**+0.3**
	0.5nm,0.9s,mb3.4,baz=43,slow=11,SNR=3.0						
NOA	**NORSAR Array B**	**64.74**	**4**	P	**P**	**20 39 20.6**	**-0.1**
	1.7nm,0.9s,mb4.1,baz=356,slow=6.6,SNR=2.9						
MKAR	**Makanchi Array**	**65.72**	**318**	P	**P**	**20 39 26.0**	**-1.2**
	0.1nm,0.4s,mb3.2,baz=26,slow=10,SNR=2.6						
AKASG	**Malin Array Be**	**74.88**	**353**	P	**P**	**20 40 22.3**	**-0.8**
	0.8nm,0.5s,mb3.9,baz=357,slow=3.8,SNR=6.0						
AKASG	**Malin Array Be**	**74.88**	**353**	P	**P**	**20 40 22.3**	**-0.8**
CMAR	**Chiang Mai Arr**	**80.69**	**289**	P	**P**	**20 40 56.4**	**+0.5**
	0.3nm,0.8s,mb3.3,baz=356,slow=4.9,SNR=4.2						
ESDC	**Sonseca Array**	**84.29**	**17**	P	**P**	**20 41 15.5**	**+1.2**
	0.2nm,0.5s,mb3.5,baz=339,slow=6.1,SNR=3.1						

MAN 13 20:35:02,1569N×11973E,h38^{km},mb3.6,ML2.4,MS1.9, 1D,Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SCZP	**Santa Cruz**	**0.20**	**64**	*e*P	Pn	20 35 10.7	+1.6
SCZP				*e*S	Sn	20 35 17.0	+3.0
BOLP	**Bolinao**	**0.71**	**15**	*e*P	Pn	20 35 16.7	+1.1
BOLP				*e*S	Sn	20 35 27.6	+2.3
PCPH	**Palayan**	**1.33**	**95**‖	*e*P	Pn	20 35 23.4	-0.7
BALP	**Baler**	**1.78**	**88**	*e*P	Pn	20 35 31.6	+1.3
BALP				*e*S	Sn	20 35 53.1	+1.3

*ISCJB **13** 20:44:14.2±0.9,3914N±004×2423E±006,h4^{km}±7^{km}, Error ellipse: s-maj=8.3km s-min=7.1km az=143.9*
*THE **13** 20:44:15.8,3913N×2418E,h8^{km}±1^{km},ML2.7/2, Error ellipse: s-maj=1.1km s-min=0.8km az=291.0*
*CSEM **13** 20:44:15.2±0.1,3916N×2416E,h12^{km}, ML2.7/2, Error ellipse: s-maj=2.9km s-min=2.4km az=79.0*
*ATH **13** 20:44:35.8,3808N×2379E,h4^{km},MD2.8/4*

ISC 13 20:44:14.9±0.9,3915N±005×2422E±006,h8^{km}±6^{km},n19, σ0§48/23,Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AOS	**Alonnisos**	**0.27**	**275**	P	**Pg**	**20 44 20.4**	**+0.2**
XOR	**Xorichti**	**0.83**	**286**	P	**Pg**	**20 44 31.3**	**+0.4**
LKR	**Lokris**	**1.08**	**243**	P	**Pg**	**20 44 35.4**	**-0.2**
LKR				S	**Sg**	**20 44 50.0**	**+0.5**
PTL	**Penteli**	**1.13**	**195**	*e*Pg	**Pg**	**20 44 37.0**	**+0.4**
PTL	**Penteli**	**1.13**	**195**	*e*PG	**Pg**	**20 44 37.0**	**+0.4**
OUR	**Ouranopolis**	**1.20**	**351**	P	**Pb**	**20 44 37.8**	**-0.1**
ATH	**Athens Observa**	**1.24**	**199**	*e*Pg	**Pg**	**20 44 37.5**	**-1.1**
ATH	**Athens Observa**	**1.24**	**199**	*e*PG	**Pg**	**20 44 37.5**	**-1.1**
KVR	**Kavouri**	**1.36**	**195**	*e*Pg	**Pg**	**20 44 41.0**	**-0.1**
KVR	**Kavouri**	**1.36**	**195**	*e*PG	**Pg**	**20 44 41.0**	**-0.1**
AGG	**Agios Georgios**	**1.48**	**266**	P	**Pn**	**20 44 41.2**	**-0.6**
AGG				S	**Sn**	**20 45 01.5**	**+0.2**
LTK	**Loutraki**	**1.49**	**222**	P	**Pn**	**20 44 41.6**	**-0.4**
LTK				S	**Sn**	**20 45 01.9**	**+0.3**
NAIG	**Nisos Aigina**	**1.50**	**203**	*e*Pg	**Pg**	**20 44 44.0**	**+0.3**
NAIG	**Nisos Aigina**	**1.50**	**203**	*e*PG	**Pg**	**20 44 44.0**	**+0.3**
CHOS	**Chios island**	**1.62**	**117**	P	**Pn**	**20 44 44.7**	**+1.0**
LIT	**Litokhoron**	**1.64**	**306**	P	**Pn**	**20 44 43.7**	**-0.4**
THL	**Klokotos Trika**	**1.76**	**284**	P	**Pn**	**20 44 45.4**	**-0.3**
THL				S	**Sn**	**20 45 08.7**	**+0.4**
DID	**Didima**	**1.81**	**206**	P	**Pn**	**20 44 45.7**	**-0.7**
APE	**Apeiranthos**	**2.31**	**153**	P	**Pn**	**20 44 53.5**	**+0.2**

MAN 13 21:02:22,911N×12532E,h23^{km},mb3.9,ML2.6,MS2.3, 2C,Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BUTP	**Butuan**	**0.33**	**116**	*e*P	Pb	21 02 31.8	+2.4
BUTP				*e*S	Sb	21 02 39.2	+4.9
SCPH	**Surigao**	**0.69**	**14**‖	*e*P	Pb	21 02 36.2	+0.9
SCPH				*e*S	Sb	21 02 46.7	+2.3
CGP	**Cagayan de Oro**	**0.90**	**224**	‖ *i*P	Pb	21 02 38.1	-0.8
CGP				*i* S	Sb	21 02 49.4	-1.2
MSLP	**Maasin**	**1.11**	**336**	*e*P	Pn	21 02 42.5	+0.3
MSLP				*e*S	Sb	21 02 57.3	+0.7
BUKP	**Musuan**	**1.25**	**192**	*e*P	Pn	21 02 44.0	-0.1
BUKP				*e*S	Sn	21 03 01.6	+1.3
TBP	**Tagbilaran**	**1.55**	**292**	*e*P	Pn	21 02 48.5	+0.3
TBP				*e*S	Sn	21 03 08.5	+0.9

*NEIC **13** 21:04:21.6,2412S×6907W,h73^{km},MG3.7(GUC), After GUC.*

GUC 13 21:04:21.6±0.7,2412S×6907W,h73^{km}±20^{km},MD4.0, ML3.7,1C,Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CEN1	**Los Morros**	**1.27**	**305**	*e*P	Pn	21 04 44.1	+0.5
CEN1				*i* S	Sn	21 05 01.3	+1.1
CEN1				AML	AML	21 05 07.1	
	comp=E,1μm,0.5s						
ANCH	**Antofagasta**	**1.30**	**289**	*e*P	Pn	21 04 44.8	+0.7
ANCH				*i* S	Sn	21 05 02.0	+1.0
ANCH				AML	AML	21 05 03.3	
	comp=N,4μm,0.5s						
ANCH	**Antofagasta**	**1.30**	**289**	*e*P	Pn	21 04 44.8	+0.7
ANCH				*i* S	Sn	21 05 02.0	+1.0
CPN1	**Cerro Paranal**	**1.32**	**247**	‖ *i*P	Pn	21 04 45.2	+0.9
CPN1				*i* S	Sn	21 05 03.7	+2.3
CPN1				AML	AML	21 05 10.1	
	comp=E,2μm,1.0s						
SPCH	**San Pedro de A**	**1.45**	**34**	*e*P	Pn	21 04 47.2	+1.2
SPCH				*i* S	Sn	21 05 06.4	+2.1
SPCH				AML	AML	21 05 09.2	
	comp=E,2μm,0.2s						
SPCH	**San Pedro de A**	**1.45**	**34**	*e*P	Pn	21 04 47.2	+1.2
SPCH				*i* S	Sn	21 05 06.4	+2.1
LVC	**Limon Verde**	**1.51**	**5**	*e*Pn	Pn	21 04 47.1	+0.3
LCO	**Las Campanas**	**5.08**	**196**	*e*Pn	Pn	21 05 34.0	-1.3
	comp=E,26nm,0.4s						

*ATH **13** 21:07:50.9,3597N×2740E,h6^{km}±2^{km},MD4.0/11*
*HLW **13** 21:07:50.8,3602N×2775E,h33^{km},Mb3.9*
*NEIC **13** 21:07:50.9,3597N×2740E,h6^{km},mb3.8/10,MD4.0(ATH), After ATH.*
*ISCJB **13** 21:07:51.4±0.2,3574N±002×2764E±002,h39^{km}±4^{km}, mb4.0/14,Error ellipse: s-maj=3.8km s-min=2.5km az=33.4*
*GII **13** 21:07:52.2±0.0,3565N×2786E,h0^{km},mb4.1/4,ML3.8/6*
*ISK **13** 21:07:52.6,3599N×2748E,h13^{km},ML3.6*
*THE **13** 21:07:52.5,3583N×2761E,h13^{km}±4^{km},Error ellipse: s-maj=5.9km s-min=0.9km az=94.0*
*CSEM **13** 21:07:52.3±0.1,3581N×2756E,h30^{km},mb4.0/3,Error ellipse: s-maj=2.3km s-min=1.7km az=143.0*
*MOS **13** 21:07:53.0±1.1,3604N×2747E,h33^{km},mb4.2/9,Error ellipse: s-maj=11.0km s-min=6.7km az=42.3*
*DDA **13** 21:07:55.0,3618N×2775E,h5^{km}±9^{km},Md3.5*
*IDC **13** 21:07:55.4±2.9,3601N×2736E,h42^{km}±32^{km},mb3.7/8, mb1 3.8/10,mb1mx3.6/23,mbtmp3.8/10,ML3.7/2,MS3.0/1, Ms1 3.0/1,ms1mx2.2/37,Error ellipse: s-maj=30.1km s-min=17.7km az=151.0*

ISC 13 21:07:51.6±0.6,3580N±002×2760E±002,h20^{km}±4^{km}, n169,σ1§20/186,mb4.0/14,7C-3D,Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KARP	**Karpathos**	**0.43**	**235**	*e*Pb	**Pg**	**21 07 59.8**	**-0.8**
KARP	**Karpathos**	**0.43**	**235**	*e*PB	**Pg**	**21 07 59.8**	**-0.8**
ARG	**Arkhangelos**	**0.60**	**45**	*e*Pb	**Pb**	**21 08 03.2**	**-0.3**
ARG	**Arkhangelos**	**0.60**	**45**	*e*PB	**Pb**	**21 08 03.2**	**-0.3**
BDRM	**Kayabasi**	**1.27**	**354**	‖ *i*P	**Pn**	**21 08 14.0**	**-0.3**
BDRM				*i* P		21 08 31.9	
BODT	**Bodrum**	**1.28**	**350**	*e*PG	**Pn**	**21 08 13.8**	**-0.7**
BODT				*e*SG	**Sn**	**21 08 29.0**	**-2.1**
ZKR	**Zakros**	**1.32**	**239**	P	**Pn**	**21 08 15.3**	**+0.4**
ZKR				S	**Sn**	**21 08 33.0**	**+1.1**
TURN	**Turunc**	**1.35**	**37**	*i* P	**Pn**	**21 08 11.8**	**-3.5**
TURN				*i* S	**Sn**	**21 08 26.6**	**-5.1**
YER	**Yerkesik**	**1.45**	**22**	*e*PN	**Pn**	**21 08 17.5**	**+0.8**
MLSB	**Milas**	**1.50**	**5**	*e*PN	**Pn**	**21 08 17.3**	**-0.2**
MLSB				*e*SN	**Sn**	**21 08 35.4**	**-1.1**
AKAS	**Kas**	**1.69**	**74**	*i* P	**Pg**	**21 08 22.2**	**-1.9**
AKAS				*i* S	**Sg**	**21 08 46.5**	**+0.5**
NPS	**Neapolis**	**1.71**	**252**	*e*Pb	**Pn**	**21 08 20.5**	**+0.3**
NPS	**Neapolis**	**1.71**	**252**	*e*PB	**Pn**	**21 08 20.5**	**+0.3**
THR1	**Thera Island**	**1.82**	**289**	P	**Pn**	**21 08 21.9**	**0.0**
LAST	**Lasithi**	**1.84**	**251**	P	**Pn**	**21 08 22.7**	**+0.6**
LAST				S	**Sn**	**21 08 46.2**	**+1.3**
THR6	**Thira Island,**	**1.87**	**288**	P	**Pn**	**21 08 22.7**	**+0.2**
AYDN	**Tasoluk**	**1.88**	**7**‖	*i*P	**Pn**	**21 08 23.4**	**+0.8**
AYDN				*i* S	**Sn**	**21 08 44.3**	**-1.4**
THR3	**Thira Island,**	**1.88**	**290**	P	**Pn**	**21 08 22.8**	**+0.1**
THR4	**Thira Island,**	**1.90**	**291**	P	**Pn**	**21 08 23.0**	**+0.1**
GCAM	**G?zelcaml?**	**1.92**	**351**	*i* P	**Pn**	**21 08 23.6**	**+0.4**
SMG	**Samos**	**2.00**	**342**	*e*Pn	**Pn**	**21 08 24.5**	**+0.1**
SMG	**Samos**	**2.00**	**342**	*e*PN	**Pn**	**21 08 24.5**	**+0.1**
ELL	**Elmali**	**2.10**	**62**	*e*PN	**Pn**	**21 08 28.4**	**+2.7**
APE	**Apeiranthos**	**2.10**	**308**	*e*Pg	**Pn**	**21 08 25.4**	**-0.2**
APE	**Apeiranthos**	**2.10**	**308**	*e*PG	**Pn**	**21 08 25.4**	**-0.2**
GOLH	**Golhisar**	**2.14**	**47**‖	*i*P	**Pg**	**21 08 29.8**	**-2.9

comp=Z,0.8nm,0.3s,baz=272,slow=11,SNR=5.3

VAE	**Valguarnera**	**10.73**	**283**	P		**Pn**	**21 10 23.9**	**-0.2**
VAE				S		**Sn**	**21 12 22.7**	**-0.9**
GNI	**Garni**	**14.20**	**67**	LR		LR	21 17 53.1	
	comp=Z,60nm,20.9s,baz=176,slow=42							
PGF	**Pioggiola**	**15.91**	**301**	*eP*		**Pn**	**21 11 29.3**	**-5.0**
	comp=Z,32nm,1.1s							
PGF	**Pioggiola**	**15.91**	**301**	*eP*		**Pn**	**21 11 29.3**	**-5.0**
PGF				pmax		pmax		
	comp=Z,16nm,1.1s							
PGF	**Pioggiola**	**15.91**	**301**	*eP*		**Pn**	**21 11 29.3**	**-5.0**
	comp=Z,16nm,1.1s							
GERES	**GERESS Array B**	**16.57**	**326**	P		**Pn**	**21 11 46.1**	**+3.4**
	baz=143,slow=13							
MBDF	**Montbardon**	**18.19**	**306**	*eP*		**Pn**	**21 12 02.8**	**-0.1**
	comp=Z,7.4nm,0.8s							
MBDF	**Montbardon**	**18.19**	**306**	*eP*		**Pn**	**21 12 02.8**	**-0.1**
MBDF				pmax		pmax		
	comp=Z,4.0nm,0.8s							
MBDF	**Montbardon**	**18.19**	**306**	*eP*		**Pn**	**21 12 02.8**	**-0.1**
	comp=Z,3.7nm,0.8s							
LPG	**La Plagne**	**18.50**	**308**	*eP*		**Pn**	**21 12 07.5**	**+0.8**
	comp=Z,4.5nm,0.6s							
LPG	**La Plagne**	**18.50**	**308**	*eP*		**Pn**	**21 12 07.5**	**+0.8**
LPG				pmax		pmax		
	comp=Z,2.0nm,0.6s							
LPG	**La Plagne**	**18.50**	**308**	*eP*		**Pn**	**21 12 07.5**	**+0.8**
	comp=Z,2.2nm,0.6s							
LPL	**La Plagne**	**18.52**	**308**	*eP*		**Pn**	**21 12 07.3**	**+0.3**
	comp=Z,3.1nm,0.3s							
LPL	**La Plagne**	**18.52**	**308**	*eP*		**Pn**	**21 12 07.3**	**+0.3**
	comp=Z,1.5nm,0.3s							
ORIF	**Oris-en-Rattie**	**18.85**	**306**	*eP*		**Pn**	**21 12 10.0**	**-0.9**
CABF	**La Chapelle**	**19.40**	**310**	*eP*		**Pn**	**21 12 15.6**	**-1.9**
	comp=Z,6.0nm,0.6s							
CABF	**La Chapelle**	**19.40**	**310**	*eP*		**Pn**	**21 12 15.6**	**-1.9**
CABF				pmax		pmax		
	comp=Z,3.0nm,0.6s							
CABF	**La Chapelle**	**19.40**	**310**	*eP*		**Pn**	**21 12 15.6**	**-1.9**
	comp=Z,3.0nm,0.6s							
HINF	**Hinteralfeld**	**19.51**	**314**	*eP*		**Pn**	**21 12 17.4**	**-1.4**
CDF	**Champ du Feu**	**19.58**	**316**	*eP*		**Pn**	**21 12 18.1**	**-1.5**
	comp=Z,3.9nm,0.7s							
CDF	**Champ du Feu**	**19.58**	**316**	*eP*		**Pn**	**21 12 18.1**	**-1.5**
CDF				pmax		pmax		
	comp=Z,2.0nm,0.7s							
CDF	**Champ du Feu**	**19.58**	**316**	*eP*		**Pn**	**21 12 18.1**	**-1.5**
	comp=Z,2.0nm,0.7s							
VIVF	**Saint-Julien-I**	**19.63**	**304**	*eP*		**Pn**	**21 12 17.9**	**-2.4**
	comp=Z,6.7nm,0.7s							
VIVF	**Saint-Julien-I**	**19.63**	**304**	*eP*		**Pn**	**21 12 17.9**	**-2.4**
VIVF				pmax		pmax		
	comp=Z,3.0nm,0.7s							
VIVF	**Saint-Julien-I**	**19.63**	**304**	*eP*		**Pn**	**21 12 17.9**	**-2.4**
	comp=Z,3.3nm,0.7s							
HAU	**Haudompre**	**19.90**	**314**	*eP*		**Pn**	**21 12 21.7**	**-1.7**
SMF	**Signal de Mont**	**20.82**	**309**	*eP*		**P**	**21 12 29.7**	**-2.1**
	comp=Z,5.1nm,0.5s							
SMF	**Signal de Mont**	**20.82**	**309**	*eP*		**P**	**21 12 29.7**	**-2.1**
SMF				pmax		pmax		
	comp=Z,3.0nm,0.5s							
SMF	**Signal de Mont**	**20.82**	**309**	*eP*		**P**	**21 12 29.7**	**-2.1**
	comp=Z,2.5nm,0.5s							
MEZF	**Maizieres J'vi**	**20.90**	**314**	*eP*		**P**	**21 12 32.4**	**-0.2**
LOR	**Lormes**	**21.06**	**310**	*eP*		**P**	**21 12 33.5**	**-0.8**
AVF	**Avril sur Loir**	**21.19**	**309**	*eP*		**P**	**21 12 34.4**	**-1.3**
SSF	**Saint Saulge**	**21.20**	**309**	*eP*		**P**	**21 12 34.3**	**-1.5**
	comp=Z,9.8nm,0.6s,mb4.0							
SSF	**Saint Saulge**	**21.20**	**309**	*eP*		**P**	**21 12 34.3**	**-1.5**
SSF				pmax		pmax		
	comp=Z,5.0nm,0.6s,mb4.0							
SSF	**Saint Saulge**	**21.20**	**309**	*eP*		**P**	**21 12 34.3**	**-1.5**
	comp=Z,4.9nm,0.6s,mb4.0							
BGF	**Bois d'Agland**	**21.42**	**308**	*eP*		**P**	**21 12 36.7**	**-1.6**
	comp=Z,9.4nm,0.8s,mb3.9							
BGF	**Bois d'Agland**	**21.42**	**308**	*eP*		**P**	**21 12 36.7**	**-1.6**
BGF				pmax		pmax		
	comp=Z,5.0nm,0.8s,mb3.9							
BGF	**Bois d'Agland**	**21.42**	**308**	*eP*		**P**	**21 12 36.7**	**-1.6**
	comp=Z,4.7nm,0.8s,mb3.9							
BAIF	**Baives**	**22.16**	**317**	*eP*		**P**	**21 12 45.7**	**-0.4**
MFF	**Saint Martin d**	**23.39**	**306**	*eP*		**P**	**21 12 57.4**	**-1.7**
LDF	**La Druitiere**	**24.04**	**311**	*eP*		**P**	**21 13 03.7**	**-1.5**
FLN	**La Foliniere**	**24.33**	**311**	*eP*		**P**	**21 13 06.3**	**-1.5**
GRR	**Gorron**	**24.43**	**310**	*eP*		**P**	**21 13 07.0**	**-1.7**
ESDC	**Sonseca Array**	**25.19**	**288**	P		**P**	**21 13 14.1**	**-1.7**
	comp=Z,0.6nm,0.6s,mb3.3,baz=81,slow=9.6,SNR=6.1							
SGMF	**Saint Gilles**	**25.45**	**309**	*eP*		**P**	**21 13 16.6**	**-1.5**
QUIF	**Quistinic**	**25.74**	**308**	*eP*		**P**	**21 13 19.6**	**-1.1**
HFS	**Hagfors**	**25.96**	**344**	P		**P**	**21 13 21.2**	**-1.4**
	comp=Z,1.6nm,0.8s,mb3.6,baz=178,slow=39,SNR=3.0							
HFS	**Hagfors**	**25.96**	**344**	P		**P**	**21 13 21.2**	**-1.3**
HFS				pmax		pmax		
	comp=Z,2.0nm,0.8s							
AKTK	**Aktyubinsk**	**26.36**	**47**	P		**P**	**21 13 27.0**	**+0.7**
	comp=Z,3.0nm,0.8s,mb3.9							
AKTK	**Aktyubinsk**	**26.36**	**47**	P		**P**	**21 13 27.0**	**+0.7**
AKTO	**Aktyubinsk**	**26.36**	**47**	P		**P**	**21 13 27.0**	**+0.7**
	comp=Z,3.3nm,0.8s,mb3.9,baz=254,slow=7.8,SNR=15							
AKTO	**Aktyubinsk**	**26.36**	**47**	P		**P**	**21 13 27.0**	**+0.7**
AKTO				pmax		pmax		
	comp=Z,3.0nm,0.8s,mb3.9							
TOA0	**Torodi Ar. Sit**	**32.44**	**233**	*eP*		**P**	**21 14 21.7**	**+1.2**
TOA0	**Torodi Ar. Sit**	**32.44**	**233**	*eP*		**P**	**21 14 21.7**	**+1.1**
TORD	**Torodi Ar. Bea**	**32.44**	**233**	P		**P**	**21 14 21.2**	**+0.7**
	comp=Z,1.9nm,0.4s,mb4.2,baz=35,slow=8.6,SNR=35							
ARCES	**ARCESS Array B**	**33.81**	**359**	P		**P**	**21 14 31.0**	**-1.0**
	comp=Z,3.1nm,0.9s,mb4.2,baz=8.5,slow=2.5,SNR=3.5							
ARCES	**ARCESS Array B**	**33.81**	**359**	P		**P**	**21 14 31.0**	**-1.0**
ARCES				pmax		pmax		
	comp=Z,3.0nm,0.9s							
MKAR	**Makanchi Array**	**41.76**	**57**	P		**P**	**21 15 40.7**	**+1.3**
	comp=Z,1.9nm,0.6s,mb3.9,baz=281,slow=6.0,SNR=13							
MKAR	**Makanchi Array**	**41.76**	**57**	P		**P**	**21 15 40.7**	**+1.3**
MKAR				pmax		pmax		
	comp=Z,2.0nm,0.6s							
MKAR	**Makanchi Array**	**41.76**	**57**	P		**P**	**21 15 40.7**	**+1.3**
ZALV	**Zalesovo Beam**	**43.13**	**47**	P		**P**	**21 15 51.0**	**+0.6**
	comp=Z,1.5nm,0.6s,mb3.9,baz=264,slow=9.3,SNR=8.8							
ZALV	**Zalesovo Beam**	**43.13**	**47**	P		**P**	**21 15 51.0**	**+0.6**
ZALV				pmax		pmax		
	comp=Z,2.0nm,0.6s,mb4.0							
DANN	**Dangsing**	**47.62**	**82**	*eP*		**P**	**21 16 28.6**	**+2.2**
	comp=Z,51nm,0.7s							
KOLN	**Koldanda**	**47.73**	**83**	*eP*		**P**	**21 16 28.5**	**+1.3**
	comp=Z,7.0nm,0.5s,mb5.0							
GKN	**Gorkha**	**48.47**	**82**	*eP*		**P**	**21 16 34.3**	**+1.4**
	comp=Z,13nm,0.7s							
DMN	**Daman**	**49.01**	**83**	*eP*		**P**	**21 16 38.7**	**+1.6**
	comp=Z,14nm,0.8s							
KKN	**Kakani**	**49.07**	**82**	*eP*		**P**	**21 16 38.8**	**+1.2**
	comp=Z,7.9nm,0.6s,mb5.0							
PKI	**Pulchoki**	**49.27**	**82**	*eP*		**P**	**21 16 40.5**	**+1.4**
GUN	**Gumba**	**49.50**	**82**	*eP*		**P**	**21 16 42.7**	**+1.8**
JIRN	**Jiri**	**49.86**	**82**	*eP*		**P**	**21 16 45.4**	**+1.8**
LSA	**Lhasa**	**52.98**	**77**	*eP*		**P**	**21 17 09.2**	**+2.2**
LSA				pmax		pmax		
	comp=Z,2.0nm,0.8s,mb4.1							
LSA	**Lhasa**	**52.98**	**77**	*eP*		**P**	**21 17 09.2**	**+2.2**
	comp=Z,2.0nm,0.8s,mb4.1							
LSA	**Lhasa**	**52.98**	**77**	*eP*		**P**	**21 17 09.2**	**+2.2**
	comp=Z,2.0nm,0.8s,mb4.1							
SONM	**Songino Array**	**57.54**	**52**	P		**P**	**21 17 41.4**	**+1.8**
	comp=Z,0.3nm,0.7s,mb3.4,baz=298,slow=9.3,SNR=3.5							

IDC ***13*** *21:14:11.0±2.0, 2098S×16900E, h0km, mb3.9/4, mb1 4.1/4, mb1mx3.8/14, mbtmp3.9/4, MS3.2/1, Ms1 3.2/1, ms1mx2.9/15, Error ellipse: s-maj=117.2km s-min=28.1km az=153.0*

NEIC ***13*** *21:14:11.3±1.3, 2110S×16914E, h10km, mb4.2/1, Error ellipse: s-maj=81.5km s-min=20.5km az=156.0*

ISCJB ***13*** *21:14:14.7±1.8, 2095±06×1689E±03, h33km, mb3.8/5, Error ellipse: s-maj=95.2km s-min=25.7km az=156.0*

ISC 13 21:14:16.6±1.8, 2095±06×1689E±03, h35km, n8, σ0§76/5, mb3.8/5, Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**14.30**	**322**	LR		LR	LR	21 21 36.0	
	comp=Z,97nm,19.8s,baz=191,slow=31								
STKA	**Stephens Creek**	**26.71**	**240**	P			**P**	**21 19 52.4**	**-0.3**
	1.4nm,0.7s,mb3.6,baz=85,slow=11,SNR=5.0								
WRA	**Warramunga Arr**	**32.36**	**265**	P			**P**	**21 20 42.3**	**-0.6**
	0.4nm,0.5s,mb3.5,baz=97,slow=8.5,SNR=5.1								

ASAR	**Alice Springs**	**32.44**	**259**	P		**P**	**21 20 44.6**	**+1.0**
	1.4nm,0.8s,mb3.9,baz=84,slow=8.8,SNR=16							
FITZ	**Fitzroy Crossi**	**40.78**	**266**	*eP*		**P**	**21 21 54.6**	**-0.1**
	4.3nm,0.8s,mb4.1							
NVAR	**Mina Array Bea**	**90.15**	**49**	P		**P**	**21 27 13.2**	**0.0**
	0.4nm,0.8s,mb3.8,baz=223,slow=6.0,SNR=2.9							
BRYW	**Bryant College**	**125.49**	**53**	*ePKPdf*		PKPdf	21 33 10.9	-3.1
EKA	**Eskdalemuir Ar**	**145.11**	**352**	PKPbc		PKPbc	21 33 49.2	-0.2
	1.5nm,0.8s,baz=10.0,slow=2.8,SNR=3.9							

IDC ***13*** *21:49:30.0±2.3, 2145S×16943E, h0km, mb3.8/4, mb1 4.1/4, mb1mx3.8/14, mbtmp3.8/4, MS3.2/6, Ms1 3.2/6, ms1mx3.0/24, Error ellipse: s-maj=129.0km s-min=33.5km az=156.0*

ISCJB ***13*** *21:49:36.4±3.6, 212S±03×169.1E±02, h50km±28km, mb3.8/4, MS3.2/4, Error ellipse: s-maj=45.1km s-min=27.1km az=163.3*

ISC 13 21:49:36.4±3.9, 213S±03×1692E±02, h36km±32km, n13, σ0§44/9, mb3.8/4, MS3.3/4, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
NOUC	**Port Laguerre**	**2.81**	**253**	*eP*			**Pn**	**21 50 19.3**	**+0.5**
NOUC				*eS*			**Sn**	**21 50 50.8**	**-0.7**
HNR	**Honiara**	**14.79**	**322**	LR		LR	LR	21 58 07.6	
	comp=Z,46nm,18.9s,baz=197,slow=34								
AFI	**Afiamalu**	**19.55**	**71**	LR		LR		21 59 47.5	
	comp=Z,57nm,20.7s,baz=273,slow=32								
CTA	**Charters Tower**	**21.50**	**269**	LR		LR		22 01 31.3	
	comp=Z,82nm,18.1s,MS3.2,baz=233,slow=33								
STKA	**Stephens Creek**	**26.77**	**241**	P			**P**	**21 55 13.3**	**+0.5**
	1.1nm,0.6s,mb3.5,baz=77,slow=10,SNR=3.2								
STKA				LR		LR		22 04 32.3	
	comp=Z,64nm,18.6s,MS3.2,baz=207,slow=34								
WRA	**Warramunga Arr**	**32.62**	**266**	P			**P**	**21 56 05.4**	**+0.6**
	1.0nm,0.9s,mb3.8,baz=101,slow=8.0,SNR=3.5								
ASAR	**Alice Springs**	**32.65**	**259**	P			**P**	**21 56 05.1**	**0.0**
	1.5nm,0.8s,mb4.0,baz=88,slow=8.8,SNR=17								
PPT	**Papeete**	**38.97**	**92**	LR		LR		22 08 22.4	
	comp=Z,62nm,21.9s,MS3.4,baz=29,slow=29								
FITZ	**Fitzroy Crossi**	**41.04**	**267**	LR		LR		22 13 21.4	
	comp=Z,36nm,19.1s,MS3.2,baz=69,slow=35								
SNAA	**Sanae**	**87.11**	**183**	*e*			**P**	**22 02 17.8**	**-0.2**
SNAA				*e*				22 02 21.2	
VNA3	**Neumayer Olymp**	**87.69**	**180**	*e*			**P**	**22 02 20.7**	**-0.2**
VNA3				*e*				22 02 24.0	
VNA2	**Neumayer--Watz**	**87.99**	**181**	*e*			**P**	**22 02 22.4**	**+0.2**
	baz=188,slow=3.8								
VNA2				*e*				22 02 25.6	
NVAR	**Mina Array Bea**	**90.19**	**49**	P			**P**	**22 02 32.5**	**-0.6**
	0.6nm,0.8s,mb4.0,baz=219,slow=8.9,SNR=3.8								

ISCJB ***13*** *22:04:23.2±0.7, 134N±0.1×1447E±02, h156km±8km, mb3.8/8, Error ellipse: s-maj=38.6km s-min=16.4km az=178.0*

NEIC ***13*** *22:04:24.7±0.8, 1344N×14463E, h152km±8km, mb4.1/2, Error ellipse: s-maj=24.0km s-min=12.2km az=89.0*

IDC ***13*** *22:04:24.3±0.4, 1342N×14449E, h141km±7km, mb3.5/8, mb1 3.7/8, mb1mx3.6/19, mbtmp3.5/8, Error ellipse: s-maj=31.4km s-min=13.7km az=83.0*

ISC 13 22:04:24.4±0.7, 134N±01×1448E±02, h153km±6km, n16, σ0§51/14, mb3.8/8, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**0.19**	**38**	P			**Pn**	**22 04 45.4**	**+0.3**
	1µm,0.3s,baz=186,slow=1.2,SNR=1113								
GUMO				S			**Sn**	**22 05 00.5**	**-0.3**
	1µm,0.3s,baz=52,slow=22,SNR=34								
MJAR	**Matsushiro Arr**	**23.74**	**347**	P			**P**	**22 09 23.5**	**+0.9**
	1.3nm,0.8s,mb3.5,baz=171,slow=7.8,SNR=5.4								
WRA	**Warramunga Arr**	**34.72**	**197**	P			**P**	**22 10 59.8**	**-0.1**
	2.4nm,0.7s,mb3.9,baz=18,slow=9.6,SNR=8.5								
FITZ	**Fitzroy Crossi**	**36.57**	**212**	*eP*			**P**	**22 11 15.5**	**-0.3**
	6.4nm,0.9s,mb4.2								
FITZ	**Fitzroy Crossi**	**36.57**	**212**	P			**P**	**22 11 15.6**	**-0.1**
	4.1nm,0.8s,mb4.1,baz=29,slow=9.4,SNR=9.1								
ASAR	**Alice Springs**	**38.37**	**196**	P			**P**	**22 11 31.1**	**+0.3**
	1.4nm,0.6s,mb3.8,baz=20,slow=11,SNR=28								
CMAR	**Chiang Mai Arr**	**44.24**	**283**	P			**P**	**22 12 18.2**	**-0.6**
	2.5nm,0.6s,mb4.0,baz=82,slow=6.4,SNR=21								
STKA	**Stephens Creek**	**45.16**	**184**	*eP*			**P**	**22 12 26.3**	**+0.5**
	1.6nm,0.5s,mb3.9								
STKA	**Stephens Creek**	**45.16**	**184**	P			**P**	**22 12 26.4**	**+0.5**
	2.1nm,0.5s,mb4.0,baz=340,slow=9.1,SNR=9.7								
SONM	**Songino Array**	**46.79**	**325**	P			**P**	**22 12 38.7**	**+0.3**
	0.3nm,0.7s,mb3.0,baz=119,slow=8.4,SNR=3.0								
SONM				ScP		ScP	ScP	22 17 48.2	-0.4
	0.5nm,0.7s,baz=145,slow=3.5,SNR=4.8								
MKAR	**Makanchi Array**	**61.52**	**316**	P			**P**	**22 14 24.9**	**-0.2**
	0.3nm,0.3s,mb3.7,baz=91,slow=8.7,SNR=2.6								
EDM	**Edmonton**	**86.34**	**36**	*eP*			**P**	**22 16 48.2**	**-0.9**
QLMT	**Earthquake Lak**	**90.18**	**44**	*eP*			**P**	**22 17 00.5**	**-7.0**
TORD	**Torodi Ar. Bea**	**134.85**	**304**	PKP		PKPdf		22 23 26.5	+0.4
	0.4nm,1.1s,baz=50,slow=1.9,SNR=5.8								
LPAZ	**La Paz**	**148.11**	**99**	PKPbc		PKPbc		22 23 56.2	+3.2
	0.9nm,0.7s,baz=328,slow=3.3,SNR=4.2								
LPAZ	**La Paz**	**148.11**	**99**	PKPbc		PKPbc		22 23 56.2	+3.2

ISCJB ***13*** *22:05:10.8±1.0, 3562N±0.10×2697E±007, h18km±11km, Error ellipse: s-maj=17.5km s-min=7.6km az=158.1*

CSEM ***13*** *22:05:10.8±0.2, 3555N×2701E, h24km±1km, MD3.5, Error ellipse: s-maj=8.4km s-min=4.3km az=164.0*

NEIC ***13*** *22:05:10.0, 3551N×2704E, h30km, MD3.5(ATH), After ATH.*

ATH ***13*** *22:05:10.0, 3551N×2704E, h30km±2km, MD3.5/5*

ISC 13 22:05:10.9±1.1, 356N±01×2696E±008, h16km±9km, n12, σ0§58/17, 2D, Crete

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KARP	**Karpathos**	**0.18**	**118**	*i*P			**Pg**	**22 05 15.4**	**0.0**
KARP	**Karpathos**	**0.18**	**118**	*i*PB			**Pg**	**22 05 15.4**	**0.0**
ARG	**Arkhangelos**	**1.11**	**58**	*e*Pn			**Pn**	**22 05 31.1**	**-0.6**
ARG				*e*Sn			**Sn**	**22 05 47.0**	**+0.4**
ARG	**Arkhangelos**	**1.11**	**58**	*e*PN			**Pn**	**22 05 31.1**	**-0.6**
ARG				*e*SN			**Sn**	**22 05 47.0**	**+0.4**
NPS	**Neapolis**	**1.16**	**252**	*e*Pn			**Pn**	**22 05 32.3**	**-0.1**
NPS				*e*Sn			**Sn**	**22 05 47.4**	**-0.5**
NPS	**Neapolis**	**1.16**	**252**	*e*PN			**Pn**	**22 05 32.3**	**-0.1**
NPS				*e*SN			**Sn**	**22 05 47.4**	**-0.5**
BDRM	**Kayabasi**	**1.48**	**15**	*i* P			**Pn**	**22 05 36.8**	**0.0**
TURN	**Turunc**	**1.81**	**47**	*i* P			**Pn**	**22 05 37.1**	**-4.2**
TURN				*i* S			**Sn**	**22 05 58.2**	**-5.8**
APE	**Apeiranthos**	**1.84**	**322**	*e*Pb			**Pb**	**22 05 43.9**	**-0.2**
APE	**Apeiranthos**	**1.84**	**322**	*e*PB			**Pb**	**22 05 43.9**	**-0.2**
VAM	**Vamos**	**2.27**	**265**	*e*Pn			**Pn**	**22 05 48.8**	**+1.2**
VAM	**Vamos**	**2.27**	**265**	*e*PN			**Pn**	**22 05 48.8**	**+1.2**

IDC ***13*** *22:16:28.7±1.8, 5435S×15932E, h0km, mb4.2/6, mb1 4.4/6, mb1mx4.2/13, mbtmp4.2/6, MS3.5/5, Ms1 3.6/5, ms1mx3.3/13, Error ellipse: s-maj=78.4km s-min=24.6km az=66.0*

NEIC ***13*** *22:16:28.9±1.0, 5427S×15975E, h10km, mb4.5/1, Error ellipse: s-maj=21.9km s-min=13.9km az=134.0*

ISCJB ***13*** *22:16:30.1±2.0, 543S±0.1×1594E±02, h19km±16km, mb4.2/6, MS3.5/5, Error ellipse: s-maj=24.5km s-min=14.3km az=136.9*

ISC 13 22:16:31.7±1.8, 543S±01×1593E±02, h15km±13km, n15, σ0§67/12, mb4.3/6, MS3.5/5, 1C, Macquarie Island region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
MCQ	**Macquarie Isla**	**0.29**	**221**	*i*Pg			**Pg**	**22 16 37.7**	**0.0**
RPZ	**Rata Peaks**	**13.08**	**41**	Pn			**Pn**	**22 19 30.4**	**-6.4**
	4.9nm,0.3s,baz=179,slow=5.4,SNR=9.2								
RPZ				Sn			**Sn**	**22 22 01.6**	**-0.2**
	0.4nm,0.3s,baz=217,slow=20,SNR=1.9								
URZ	**Urewera**	**20.12**	**44**	LR		LR		22 27 11.4	
	comp=Z,50nm,19.2s,MS2.9,baz=278,slow=32								
STKA	**Stephens Creek**	**25.71**	**323**	P			**P**	**22 22 02.5**	**+1.4**
	3.4nm,0.9s,baz=155,slow=6.8,SNR=5.6								
STKA				LR		LR		22 31 57.0	
	comp=Z,80nm,18.4s,MS3.3,baz=205,slow=36								
STKA	**Stephens Creek**	**25.71**	**323**	P			**P**	**22 22 02.5**	**+1.4**
STKA				LR		LR		22 31 57.0	
QSPA	**South Pole Qui**	**35.83**	**180**	P			**P**	**22 23 30.0**	**+0.1**
	0.3nm,0.3s,mb3.8,baz=76,slow=0.5,SNR=4.3								

ASAR	**Alice Springs**	**35.99**	**318**	P		**P**	**22 23 32.3**	**+0.5**
	5.7nm,0.9s,mb4.5,baz=156,slow=8.4,SNR=38							
ASAR				PcP		PcP	22 25 57.0	-1.2
	0.9nm,0.7s,baz=146,slow=3.5,SNR=5.9							
ASAR				ScP		ScP	22 29 44.7	+1.2
	0.6nm,0.9s,baz=141,slow=6.0,SNR=3.4							
NWAO	**Narrogin (SRO)**	**36.44**	**289**	P		**P**	**22 23 34.6**	**-0.9**
	2.7nm,0.6s,mb4.4,baz=148,slow=9.5,SNR=4.0							
WRA	**Warramunga Arr**	**39.21**	**321**	P		**P**	**22 23 58.3**	**-0.7**
	5.5nm,0.9s,mb4.3,baz=157,slow=7.2,SNR=13							
WRA				LR		LR	22 40 03.0	
	comp=Z,140nm,20.6s,MS3.8,baz=150,slow=36							
FITZ	**Fitzroy Crossi**	**44.40**	**311**	*eP*		**P**	**22 24 41.0**	**-0.5**
	5.6nm,0.8s,mb4.3							
PPT	**Papeete**	**53.56**	**67**	LR		LR	22 43 24.9	
	comp=Z,79nm,21.5s,MS3.7,baz=216,slow=30							
CMAR	**Chiang Mai Arr**	**88.82**	**304**	P		**P**	**22 29 25.3**	**+0.5**
	0.6nm,0.3s,mb4.3,baz=162,slow=4.4,SNR=5.2							
CMAR				LR		LR	23 08 58.4	
	comp=Z,28nm,18.5s,MS3.7,baz=86,slow=35							
CMAR	**Chiang Mai Arr**	**88.82**	**304**	P		**P**	**22 29 25.3**	**+0.5**
CMAR				LR		LR	23 08 58.4	
TORD	**Torodi Ar. Bea**	**135.33**	**212**	PKP		PKPdf	22 35 48.5	-2.3
	0.7nm,0.8s,baz=164,slow=3.9,SNR=3.0							
AKASG	**Malin Array Be**	**149.89**	**284**	PKPbc		PKPbc	22 36 19.2	-0.9
	0.5nm,0.4s,baz=96,slow=2.5,SNR=6.7							

JMA ***13*** *22:25:34.4±0.8, 4565N×15157E, h30km, M4.3*

IDC ***13*** *22:25:38.7±2.1, 4668N×15105E, h0km, mb3.7/4, mb1 3.9/4, mb1mx3.6/18, mbtmp3.7/4, Error ellipse: s-maj=84.9km s-min=28.5km az=78.0*

MOS ***13*** *22:25:43.3±1.9, 4658N×14996E, h33km, mb4.0/3, Error ellipse: s-maj=73.8km s-min=37.9km az=68.9*

ISC 13 22:25:36.7±1.3, 453N±01×1515E±02, h35km, n24, σ1§27/22, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**2.59**	**270**	PN			**Pn**	**22 26 14.0**	**-2.1**
KUR				*e*S			**Sn**	**22 26 45.0**	**-1.3**
KUR				smax					
	comp=N,270nm,0.5s								
KUR				smax					
	comp=E,150nm,0.5s								
NEM2	**Nemuro 2**	**4.58**	**247**	P			**Pn**	**22 26 43.1**	**-0.3**
NEM2				*e*S			**Sn**	**22 27 34.2**	**-1.1**
JRA	**Rausu**	**4.77**	**256**	P			**Pn**	**22 26 47.9**	**+1.8**
JNK	**Nakash**	**5.17**	**253**	P			**Pn**	**22 26 52.8**	**+1.3**
JAK	**Akkeshi**	**5.43**	**247**	P			**Pn**	**22 26 54.7**	**-0.4**
JTKR	**Abashiri--Toko**	**5.60**	**259**	P			**Pn**	**22 26 59.4**	**+2.0**
JAR	**Ashorobuto**	**5.92**	**253**	P			**Pn**	**22 27 03.4**	**+1.6**
JOB	**Onbets**	**6.04**	**249**	P			**Pn**	**22 27 04.2**	**+0.8**
JKK2	**Kamakawa 2**	**6.43**	**260**	P			**Pn**	**22 27 11.3**	**+2.4**
JCH	**Churui**	**6.47**	**248**	P			**Pn**	**22 27 09.5**	**0.0**
JBT2	**Biratori 2**	**7.07**	**252**	P			**Pn**	**22 27 18.0**	**+0.4**
JNB	**Noboribetsu**	**8.09**	**253**	P			**Pn**	**22 27 33.5**	**+1.9**
JKB	**Kayabe**	**8.35**	**250**	P			**Pn**	**22 27 34.8**	**-0.3**
JANG	**Nango**	**8.85**	**240**	P			**Pn**	**22 27 40.7**	**-1.3

IMO	**Isla Mona**	**1.08**	**131**	*e*P	**Pn**	**23 39 21.5**	**+0.3**
IMO				*e*S	**Sn**	**23 39 38.7**	**+0.1**
STDO	**Santo Domingo**	**1.17**	**251**	*e*P	**Pn**	**23 39 21.5**	**-0.5**
STDO				*e*S	**Sn**	**23 39 37.8**	**-2.3**
AGPR	**Aguadilla, PR**	**1.61**	**103**	*e*P	**Pn**	**23 39 28.5**	**+1.6**
AGPR				*e*S	**Sn**	**23 39 47.7**	**-1.2**
MPR	**Mayaguez**	**1.66**	**112**	*e*Pn	**Pn**	**23 39 28.6**	**+1.1**
MPR				*e*Sn	**Sn**	**23 39 50.3**	**+0.3**
LSP	**Las Mesas**	**1.72**	**112**	*e*P	**Pn**	**23 39 29.5**	**+1.2**
LSP				*e*S	**Sn**	**23 39 50.6**	**-0.6**
CRPR	**Cabo Rojo, PR**	**1.77**	**117**	*e*P	**Pn**	**23 39 29.5**	**+0.6**
CRPR				*e*S	**Sn**	**23 39 52.5**	**+0.1**
AOPR	**Arecibo Observ**	**1.97**	**104**	*e*P	**Pn**	**23 39 32.0**	**+0.7**
AOPR				*e*S	**Sn**	**23 39 56.1**	**-0.5**
GBPR	**Guanica, Bosqu**	**1.98**	**115**	*e*P	**Pn**	**23 39 32.4**	**+1.0**
GBPR	**Guanica, Bosqu**	**1.98**	**115**	*e*S	**Sn**	**23 39 57.3**	**+0.4**
OBIP	**Obispado Ponce**	**2.19**	**111**	*e*P	**Pn**	**23 39 34.7**	**+0.6**
OBIP				*e*S	**Sn**	**23 40 02.3**	**+0.6**
CELP	**Cerrillos**	**2.21**	**110**	*e*P	**Pn**	**23 39 35.1**	**+0.8**
CELP				*e*S	**Sn**	**23 40 02.6**	**+0.7**
ICM	**Isla Caja Muer**	**2.33**	**113**	*e*P	**Pn**	**23 39 35.9**	**+0.1**
ICM				*e*S	**Sn**	**23 40 04.3**	**-0.3**
SJG	**San Juan**	**2.58**	**106**	*e*P	**Pn**	**23 39 39.4**	**+0.3**
SJG				*e*S	**Sn**	**23 40 10.4**	**-0.1**
SJG	**San Juan**	**2.58**	**106**	*e*P	**Pn**	**23 39 39.8**	**+0.7**
SJG				*e*S	**Sn**	**23 40 09.9**	**-0.6**
CBYP	**Canovanas**	**2.81**	**101**	*e*P	**Pn**	**23 39 42.0**	**-0.1**
CBYP				*e*S	**Sn**	**23 40 15.0**	**-0.9**
CPD	**Cerro la Pandu**	**2.82**	**106**	*e*P	**Pn**	**23 39 42.1**	**0.0**
CPD				*e*S	**Sn**	**23 40 15.4**	**-0.6**
HUMP	**Col San Antoni**	**2.85**	**103**	*e*P	**Pn**	**23 39 42.5**	**0.0**
HUMP				*e*S	**Sn**	**23 40 16.1**	**-0.7**
MTP	**Monte Pirata**	**3.14**	**103**	*e*P	**Pn**	**23 39 45.9**	**-0.4**
MTP				*e*S	**Sn**	**23 40 23.1**	**-0.3**
STVI	**Saint Thomas**	**3.65**	**97**	*e*P	**Pn**	**23 39 53.3**	**+0.2**
STVI				*e*S	**Sn**	**23 40 34.8**	**-0.7**
CDVI	**St. Croix**	**3.95**	**105**	*e*S	**Sn**	**23 40 43.4**	**+0.7**
TBVI	**Tortola**	**3.96**	**95**	*e*P	**Pn**	**23 39 57.0**	**-0.2**
TBVI				*e*S	**Sn**	**23 40 41.0**	**-1.9**
ABV	**Anegada**	**4.20**	**91**	*e*P	**Pn**	**23 40 00.4**	**0.0**
ABV	**Anegada**	**4.20**	**91**	*e*S	**Sn**	**23 40 48.1**	**-0.6**
SDV	**Santo Domingo**	**10.05**	**191**	*e*Pn	**Pn**	**23 41 18.5**	**-0.9**

*IDC **13** 23:54:32.3±1.9, 21.15S×169.14E, h0km, mb4.3/7, mb1 4.6/7, mb1mx4.3/15, mbtmp4.3/7, MS3.5/7, Ms1 3.4/7, ms1mx3.1/27, Error ellipse: s-maj=73.7km s-min=26.2km az=151.0*

*NEIC **13** 23:54:34.9±1.0, 2099S×16896E, h10km, mb4.1/1, Error ellipse: s-maj=36.6km s-min=15.3km az=143.0*

*ISCJB **13** 23:54:35.2±0.7, 21.3S±0.2×169.19E±0.09, h33km, mb4.2/7, MS3.6/4, Error ellipse: s-maj=23.4km s-min=10.5km az=165.1*

ISC 13 23:54:36.9±0.7, 213S±0.2×16922E±0.09, h35km, n39, σ1§21/20, mb4.2/7, MS3.6/4, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**2.68**	**254**	*e*Pn	**Pn**	**23 55 16.1**	**-1.4**
NOUC	**Port Laguerre**	**2.81**	**254**	*e*P	**Pn**	**23 55 17.1**	**-2.3**
NOUC				*e*S	**Sn**	**23 55 53.5**	**+1.4**
HNR	**Honiara**	**14.82**	**322**	LR	LR	00 02 20.9	
	comp=Z,60nm,19.7s,baz=152,slow=32						
URZ	**Urewera**	**18.19**	**160**	LR	LR	00 04 28.2	
	comp=Z,64nm,21.6s,baz=135,slow=32						
AFI	**Afiamalu**	**19.55**	**71**	LR	LR	00 05 06.0	
	comp=Z,106nm,19.8s,baz=323,slow=32						
CTA	**Charters Tower**	**21.52**	**269**	*e*P	**P**	**23 59 23.8**	**+0.8**
	7.7nm,0.8s,mb4.2						
CTA	**Charters Tower**	**21.52**	**269**	P	**P**	**23 59 23.9**	**+0.9**
	11nm,0.8s,mb4.3,baz=109,slow=13,SNR=7.2						
CTA				LR	LR	00 07 12.8	
	comp=Z,148nm,18.4s,MS3.4,baz=51,slow=36						
CNB	**Canberra Magne**	**22.29**	**227**	*e*P	**P**	**23 59 34.7**	**+3.6**
TOO	**Toolangi**	**26.13**	**227**	*e*P	**P**	**00 00 09.8**	**+2.1**
STKA	**Stephens Creek**	**26.76**	**241**	*e*P	**P**	**00 00 14.5**	**+1.0**
STKA	**Stephens Creek**	**26.76**	**241**	P	**P**	**00 00 14.7**	**+1.2**
	5.7nm,0.7s,mb4.2,baz=93,slow=7.4,SNR=12						
STKA				LR	LR	00 10 16.0	
	comp=Z,89nm,21.5s,MS3.3,baz=208,slow=35						
WRA	**Warramunga Arr**	**32.63**	**266**	P	**P**	**00 01 04.1**	**-1.5**
	0.9nm,0.6s,mb3.9,baz=96,slow=8.3,SNR=5.0						
WRA				LR	LR	00 14 28.3	
	comp=Z,126nm,18.6s,MS3.6,baz=95,slow=37						
WRA	**Warramunga Arr**	**32.63**	**266**	P	**P**	**00 01 04.1**	**-1.5**
WRA				LR	LR	00 14 28.3	
ASAR	**Alice Springs**	**32.66**	**259**	P	**P**	**00 01 05.3**	**-0.5**
	5.5nm,0.8s,mb4.6,baz=84,slow=9.2,SNR=46						
TBI	**Tubuai**	**38.18**	**101**	*e*LR	LR	00 12 15.3	
	172nm,30.8s						
PPT	**Papeete**	**38.96**	**92**	*e*LR	LR	00 12 51.2	
	170nm,26.8s						
PPT	**Papeete**	**38.96**	**92**	LR	LR	00 13 56.2	
	comp=Z,185nm,20.5s,MS3.9,baz=11,slow=30						
FITZ	**Fitzroy Crossi**	**41.06**	**267**	*e*P	**P**	**00 02 16.9**	**-0.4**
KLBR	**Kellerberrin**	**46.82**	**246**	*e*P	**P**	**00 03 02.7**	**-0.8**
CMAR	**Chiang Mai Arr**	**79.35**	**295**	P	**P**	**00 06 40.9**	**+1.3**
	1.2nm,0.4s,mb4.2,baz=138,slow=4.9,SNR=12						
SNAA	**Sanae**	**87.07**	**183**	*e*	**P**	**00 07 17.8**	**-0.7**
SNAA				*e*		00 07 25.0	
VNA3	**Neumayer Olymp**	**87.66**	**180**	*e*	**P**	**00 07 20.7**	**-0.7**
VNA3				*e*		00 07 27.8	
VNA2	**Neumayer--Watz**	**87.96**	**181**	*e*	**P**	**00 07 22.5**	**-0.3**
	baz=174,slow=4.2						
VNA2				*e*		00 07 29.4	
SONM	**Songino Arrey**	**88.88**	**323**	P	**P**	**00 07 26.9**	**-0.4**
	0.8nm,0.8s,mb4.1,baz=104,slow=4.6,SNR=4.3						
NVAR	**Mina Array Bea**	**90.20**	**49**	P	**P**	**00 07 35.1**	**+1.3**
	0.7nm,0.6s,mb4.2,baz=226,slow=8.3,SNR=5.6						
BRG	**Berggiesshubel**	**144.73**	**333**	*e*P	PKPdf	00 14 10.6	+0.9
	8.2nm,1.1s						
GERES	**GERESS Array B**	**146.31**	**330**	PKPbc	PKPbc	00 14 13.0	-0.7
	baz=44,slow=3.0						
GRA1	**Grafenberg Arr**	**146.76**	**334**	*e*PKP	PKPdf	00 14 16.4	+3.1
GRF	**Grafenberg Arr**	**146.76**	**334**	*e*PKP	PKPdf	00 14 16.4	+3.1
CABF	**La Chapelle**	**151.29**	**335**	*e*PKP1	PKPbc	00 14 31.7	+5.0
	6.8nm,0.8s						
LOR	**Lormes**	**151.54**	**339**	*e*PKP1	PKPbc	00 14 31.6	+4.4
SSF	**Saint Saulge**	**151.84**	**339**	*e*PKP1	PKPbc	00 14 33.2	+5.3
	18nm,1.4s						
LPL	**La Plagne**	**151.93**	**333**	*e*PKP1	PKPbc	00 14 33.3	+5.2
LPG	**La Plagne**	**151.93**	**333**	*e*PKP1	PKPbc	00 14 33.3	+5.1
	6.2nm,0.9s						
SBF	**Sospel**	**152.91**	**330**	*e*PKP1	PKPbc	00 14 34.0	+3.6
TCF	**Toulx Ste Croi**	**152.95**	**340**	*e*PKP1	PKPbc	00 14 34.7	+4.3
	5.3nm,0.9s						
PGF	**Pioggiola**	**153.12**	**326**	*e*PKP1	PKPbc	00 14 35.0	+4.1
FRF	**La Foret Royal**	**153.51**	**331**	*e*PKP1	PKPbc	00 14 35.9	+4.2
SMRF	**Simiane la Rot**	**153.66**	**333**	*e*PKP1	PKPbc	00 14 36.9	+4.9
	5.7nm,0.9s						

*CSEM **13** 23:57:50.8, 4107N×4083E, h7km, MD2.7, After ERD*

DDA 13 23:57:50.8, 4107N×4083E, h7km±2km, Md2.7, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DBAD	**Bademkaya**	**0.66**	**94**	*i* P	Pg	23 58 03.7	+0.3
DBAD				*i* S	Sg	23 58 13.4	+1.4
DAGI	**Agillar**	**0.82**	**89**	*i* P	Pg	23 58 06.4	-0.2
DAGI				*i* S	Sg	23 58 18.2	+0.9
ARTV	**Artvin**	**0.84**	**81**	*i* P	Pg	23 58 07.5	+0.6
ARTV				*i* S	Sg	23 58 20.7	+2.8
ELZG	**Elazig**	**2.93**	**210**	*i* P	Pg	23 58 51.5	+4.6
ELZG				*i* S	Sn	23 59 08.0	-5.2
AKCD	**Akcadag**	**3.56**	**220**	*i* P	Pg	23 58 55.5	-3.4
AKCD				*i* S	Sn	23 59 14.0	-15

*MOS **14** 00:19:42.9±1.4, 4740N×15260E, h83km, mb4.0/5, Error ellipse: s-maj=21.1km s-min=12.1km az=66.9*

*ISCJB **14** 00:19:43.6±1.2, 474N±0.1×1527E±0.2, h99km±10km, mb3.8/8, Error ellipse: s-maj=25.4km s-min=8.1km az=138.1*

*IDC **14** 00:19:44.6±2.7, 4736N×15271E, h96km±24km, mb3.5/9, mb1 3.7/12, mb1mx3.6/23, mbtmp3.5/12, MS2.6/1, Ms1 2.6/1, ms1mx1.8/33, Error ellipse: s-maj=32.4km s-min=16.1km az=159.0*

*NEIC **14** 00:19:44.5±0.9, 4736N×15274E, h93km±8km, mb3.8/1, Error ellipse: s-maj=14.1km s-min=6.8km az=141.0*

*ISC **14** 00:19:44.9±1.1, 473N±0.1×1527E±0.2, h94km±9km, n35, σ0§54/32, mb3.8/8, Kuril Islands*

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KUR	**Kuril'sk**	**3.95**	**240**	PN	**Pn**	**00 20 32.0**	**-11**
KUR				*e*S	**Sn**	**00 21 23.0**	**-5.4**
KUR				smax			
	comp=N,230nm,0.5s						
KUR				smax			
	comp=E,110nm,0.5s						
SKR	**Severo-Kuril's**	**4.04**	**33**	*e*PN	**Pn**	**00 20 44.0**	**-0.4**
SKR				*e*S	**Sn**	**00 21 31.9**	**+1.3**
SKR				pmax	pmax		
	comp=Z,80nm,0.5s						
SKR				smax			
	comp=N,100nm,0.4s						
SKR				smax			
	comp=E,130nm,0.4s						
SKR				smax			
	comp=Z,80nm,0.6s						
PETK	**Petropavlovsk-**	**6.62**	**27**	P	**Pn**	**00 21 18.4**	**-0.9**
	comp=Z,0.3nm,0.3s,baz=202,slow=9.0,SNR=4.6						
YSS	**Yuzh-Sakhalins**	**6.79**	**270**	*e*PN	**Pn**	**00 21 28.5**	**+6.8**
YSS	**Yuzh-Sakhalins**	**6.79**	**270**	*e*Pn	**Pn**	**00 21 21.9**	**+0.2**
ASAJ	**Asahikawa**	**7.76**	**249**	P	**Pn**	**00 21 34.2**	**-0.7**
	comp=Z,1.3nm,0.3s,baz=87,slow=15,SNR=7.9						
ASAJ				LR	LR	00 24 19.5	
	comp=Z,42nm,21.9s,baz=155,slow=35						
ASAJ	**Asahikawa**	**7.76**	**249**	PN	**Pn**	**00 21 34.2**	**-0.7**
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ASAJ				MLR	MLR		
	comp=Z,42nm,22.0s						
ERM	**Erimo**	**8.62**	**235**	*e*PN	**Pn**	**00 21 41.6**	**-5.1**
MAJO	**Matsushiro**	**15.21**	**230**	*e*P	**Pn**	**00 23 14.6**	**+0.2**
MAJO				pmax	pmax		
	comp=Z,3.0nm,0.4s						
MAJO	**Matsushiro**	**15.21**	**230**	*e*Pn	**Pn**	**00 23 14.6**	**+0.1**
	comp=Z,2.7nm,0.4s						
MJAR	**Matsushiro Arr**	**15.21**	**230**	P	**Pn**	**00 23 14.7**	**+0.3**
	comp=Z,0.5nm,0.3s,baz=45,slow=8.8,SNR=6.5						
MJAR	**Matsushiro Arr**	**15.21**	**230**	P	**Pn**	**00 23 14.7**	**+0.3**
MJAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
KSRS	**Korea Array**	**20.71**	**251**	P	**P**	**00 24 18.2**	**+0.8**
	comp=Z,1.8nm,0.6s,baz=54,slow=10,SNR=3.9						
KSRS	**Korea Array**	**20.71**	**251**	P	**P**	**00 24 18.2**	**+0.8**
KSRS				pmax	pmax		
	comp=Z,2.0nm,0.6s						
HIA	**Hailar**	**21.91**	**287**	*e*P	**P**	**00 24 36.9**	**+6.8**
ZALV	**Zalesovo Beam**	**42.04**	**305**	PcP	PcP	00 29 18.6	-1.1
	comp=Z,0.5nm,0.4s,baz=62,slow=3.5,SNR=5.3						
MKAR	**Makanchi Array**	**46.42**	**297**	PcP	PcP	00 29 33.4	-1.5
	comp=Z,0.5nm,0.5s,baz=41,slow=4.6,SNR=3.5						
KURK	**Kurchatov**	**46.80**	**303**	P	**P**	**00 28 04.6**	**0.0**
	comp=Z,0.4nm,0.5s,mb3.4,baz=69,slow=8.9,SNR=3.6						
KURK	**Kurchatov**	**46.80**	**303**	P	**P**	**00 28 04.6**	**0.0**
BVAR	**Borovoye Array**	**50.27**	**309**	P	**P**	**00 28 31.1**	**0.0**
	comp=Z,0.3nm,0.3s,mb3.7,baz=68,slow=7.2,SNR=4.1						
BVAR				PcP	PcP	00 29 47.3	-1.3
	comp=Z,0.7nm,0.5s,baz=64,slow=3.4,SNR=4.2						
BVAR	**Borovoye Array**	**50.27**	**309**	P	**P**	**00 28 31.1**	**0.0**
BVAR						00 29 47.3	
BVAR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
CMAR	**Chiang Mai Arr**	**52.23**	**256**	P	**P**	**00 28 46.4**	**+0.1**
	comp=Z,0.6nm,0.5s,mb3.9,baz=27,slow=8.9,SNR=4.5						
CMAR	**Chiang Mai Arr**	**52.23**	**256**	*i* P	**P**	**00 28 47.2**	**+1.0**
CMAR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
JOF	**Joensuu**	**60.69**	**333**	*ep*	**P**	**00 29 45.6**	**0.0**
NVAR	**Mina Array Bea**	**62.42**	**62**	P	**P**	**00 29 57.6**	**-0.1**
	comp=Z,0.7nm,0.7s,mb3.8,baz=265,slow=6.8,SNR=4.3						
PDAR	**Pinedale Array**	**64.64**	**54**	P	**P**	**00 30 12.1**	**-0.1**
	comp=Z,0.5nm,0.5s,mb3.6,baz=307,slow=1.4,SNR=5.1						
NOA	**NORSAR Array B**	**67.58**	**341**	P	**P**	**00 30 30.5**	**-0.2**
	comp=Z,0.9nm,0.8s,mb3.7,baz=28,slow=6.3,SNR=5.3						
NOA	**NORSAR Array B**	**67.58**	**341**	P	**P**	**00 30 30.5**	**-0.2**
NOA				pmax	pmax		
	comp=Z,1.0nm,0.8s						
AKASG	**Malin Array Be**	**70.90**	**326**	P	**P**	**00 30 50.8**	**-0.6**
	comp=Z,0.6nm,0.3s,mb3.9,baz=32,slow=5.5,SNR=3.4						
AKASG	**Malin Array Be**	**70.90**	**326**	P	**P**	**00 30 50.8**	**-0.6**
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.3s						
TXAR	**Lajitas Array**	**77.46**	**60**	P	**P**	**00 31 29.8**	**-0.1**
	comp=Z,2.0nm,0.5s,mb4.1,baz=295,slow=4.7,SNR=39						
TXAR	**Lajitas Array**	**77.46**	**60**	P	**P**	**00 31 29.8**	**0.0**
TXAR				pmax	pmax		
	comp=Z,2.0nm,0.5s						
TORD	**Torodi Ar. Bea**	**114.45**	**329**	PKP	PKiKP	00 38 12.2	-1.7
	comp=Z,0.1nm,0.3s,baz=6.7,slow=1.9,SNR=8.6						
CPUP	**Villa Florida**	**148.42**	**59**	PKPbc	PKPbc	00 39 18.7	-1.5
	comp=Z,0.6nm,0.5s,baz=72,slow=3.2,SNR=3.5						
CPUP	**Villa Florida**	**148.42**	**59**	PKiKP	PKPbc	00 39 18.7	-1.5
CPUP				pmax	pmax		
	comp=Z,1.0nm,0.5s						

*ISCJB **14** 00:41:52.1±1.2, 1385N±0.09×9177W±0.06, h60km±19km, Error ellipse: s-maj=15.5km s-min=7.0km az=23.5*

*CASC **14** 00:41:54.4±2.7, 1395N×9155W, h27km±15km, MD4.0*

*MEX **14** 00:41:55.7±0.6, 1382N×9196W, h47km±28km, MD4.2*

*NEIC **14** 00:41:56.0, 1390N×9169W, h15km, MD4.1(MEX), After MEX.*

ISC 14 00:41:52.9±1.3, 1383N±0.09×9174W±0.05, h47km±35km, n19, σ0§97/24, 1C-3D, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JAT	**Jato**	**0.50**	**12**	*e*P	**Pn**	**00 42 04.8**	**+0.9**
FUG	**Fuego 3**	**1.07**	**55**	*e*P	**Pn**	**00 42 10.5**	**-1.0**
FG6		**1.10**	**49**	*e*P	**Pn**	**00 42 11.2**	**-0.8**
THIG		**1.19**	**335**	*i* P	**Pn**	**00 42 13.4**	**+0.2**
THIG				*i* S	**Sn**	**00 42 27.2**	**-0.9**
PCG	**Pacaya**	**1.23**	**63**	*e*P	**Pn**	**00 42 13.5**	**-0.2**
PCG				*e*S	**Sn**	**00 42 27.7**	**-1.5**
NBG	**Las Nubes**	**1.55**	**61**	*e*P	**Pn**	**00 42 18.6**	**+0.6**
NBG				*e*S	**Sn**	**00 42 37.6**	**+0.7**
RBDL	**Robledal**	**2.01**	**82**	*e*P	x	00 42 24.0	
SBLS	**San Blas**	**2.06**	**89**	*e*P	x	00 42 24.5	
SBLS				*e*S	x	00 42 48.8	
SNJE	**San Jose**	**2.07**	**89**	*e*P	x	00 42 24.9	
BOQS	**Boqueron**	**2.39**	**92**	*e*P	x	00 42 29.5	
CCIG	**Comitan**	**2.47**	**351**	*i* P	**Pn**	**00 42 32.1**	**+1.5**
CCIG				*i* S	**Sn**	**00 43 00.0**	**+0.4**
LFRS	**El Faro**	**2.61**	**94**	*e*P	x	00 42 32.7	
SCX	**San Cristobal**	**3.02**	**343**	*e*P	**Pn**	**00 42 40.2**	**+2.0**
SCX				*i* S	**Sn**	**00 43 13.7**	**+0.6**
SCX	**San Cristobal**	**3.02**	**343**	*e*P	**Pn**	**00 42 40.2**	**+2.0**
SCX				*i* S	**Sn**	**00 43 12.0**	**-1.1**
TGIG		**3.22**	**336**	*i* P	**Pn**	**00 42 40.3**	**-0.7**
TGIG				*i* S	**Sn**	**00 43 18.4**	**+0.3**
TGUH	**Tegucigalpa,Un**	**4.34**	**86**	*e*Pn	**Pn**	**00 43 00.4**	**+4.0**
VHO	**Vista Hermosa**	**5.79**	**304**	*e*P	**Pn**	**00 43 16.6**	**+0.3**
VHO				*i* S	**Sn**	**00 44 20.1**	**-1.4**
VHO	**Vista Hermosa**	**5.79**	**304**	*e*P	**Pn**	**00 43 20.6**	**+4.3**
VHO				*i* S	**Sn**	**00 44 25.2**	**+3.7**
UTMO	**Huajuapan**	**7.06**	**305**	*e*P	**Pn**	**00 43 33.7**	**0.0**
UTMO				*i* S	**Sn**	**00 44 51.8**	**-0.9**

*ISCJB **14** 00:43:39.9±4.1, 314S±0.1×1788W±0.1, h35km±33km, mb4.4/12, Error ellipse: s-maj=23.9km s-min=17.5km az=138.8*

*NEIC **14** 00:43:40.3±0.7, 3120S×17868W, h35km, mb4.4/6, Error ellipse: s-maj=18.8km s-min=16.0km az=41.0*

*IDC **14** 00:43:42.8±5.7, 3131S×17881W, h53km±48km, mb4.1/7, mb1 4.4/8, mb1mx4.1/17, mbtmp4.2/8, ML4.3/1, MS3.2/2, Ms1 3.2/2, ms1mx2.7/28, Error ellipse: s-maj=31.5km s-min=21.5km az=34.0*

ISC 14 00:43:42.0±3.5, 313S±0.1×1788W±0.1, h40km±28km, n27, σ0§68/21, mb4.4/12, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera**	**7.69**	**205**	P	**Pn**	**00 45 31.1**	**-0.3**
	4.9nm,0.3s,baz=295,slow=2.3,SNR=45						
URZ				S	**Sn**	**00 46 57.5**	**+0.2**
	21nm,0.3s,baz=139,slow=22,SNR=11						
RPZ	**Rata Peaks**	**14.74**	**210**	P	**Pn**	**00 47 01.8**	**-5.9**
	1.5nm,0.3s,baz=263,slow=17,SNR=5.0						
RPZ				S	**Sn**	**00 49 35.9**	**-14**
	1.3nm,0.3s,baz=314,slow=23,SNR=4.5						
AFI	**Afiamalu**	**18.49**	**22**	LR	LR	00 53 17.9	
	comp=Z,36nm,20.2s,baz=72,slow=31						
PPT	**Papeete**	**29.80**	**70**	LR	LR	00 57 38.7	
	comp=Z,100nm,20.9s,baz=235,slow=28						
CTA	**Charters Tower**	**33.30**	**281**	*e*P	**P**	**00 50 19.5**	**+3.6**
	4.3nm,0.9s,mb4.4						
STKA	**Stephens Creek**	**33.62**	**258**	*e*P	**P**	**00 50 20.1**	**+1.4**
	2.4nm,1.0s,mb4.1						
STKA	**Stephens Creek**	**33.62**	**258**	P	**P**	**00 50 20.0**	**+1.3**
	1.0nm,0.4s,mb4.1,baz=137,slow=11,SNR=5.5						
ASAR	**Alice Springs**	**42.39**	**268**	P	**P**	**00 51 32.1**	**-0.6**
	4.8nm,0.8s,mb4.2,baz=103,slow=7.2,SNR=29						
WRAB	**Tennant Creek**	**43.46**	**274**	*e*P	**P**	**00 51 40.9**	**-0.5**
	7.3nm,0.9s,mb4.4						
WRA	**Warramunga Arr**	**43.47**	**274**	P	**P**	**00 51 41.0**	**-0.4**
	3.2nm,0.3s,mb4.5,baz=112,slow=7.8,SNR=16						
FITZ	**Fitzroy Crossi**	**51.69**	**271**	*e*P	**P**	**00 52 45.0**	**-0.3**
	4.4nm,0.6s,mb4.6						
CASY	**Casey**	**54.01**	**208**	*e*P	**P**	**00 52 57.3**	**-4.4**
	6.1nm,0.8s,mb4.6						
QSPA	**South Pole Qui**	**58.78**	**180**	P	**P**	**00 53 36.2**	**+0.7**
	5.2nm,0.5s,mb4.8,baz=18,slow=1.9,SNR=21						
SNAA	**Sanae**	**77.25**	**179**	*e*	**P**	**00 55 30.7**	**-0.8**
SNAA				*e*		00 55 33.0	
SNAA	**Sanae**	**77.25**	**179**	*e*P	**P**	**00 55 30.9**	**-0.6**
	2.8nm,0.9s,mb4.2						
VNA3	**Neumayer Olymp**	**77.43**	**176**	*e*	**P**	**00 55 31.8**	**-0.7**
VNA3				*e*		00 55 34.4	
VNA2	**Neumayer--Watz**	**77.85**	**177**	*e*	**P**	**00 55 34.4**	**-0.5**
	baz=188,slow=5.0						
VNA2				*e*		00 55 36.8	
VNA1	**Neumayer--Stat**	**78.09**	**177**	*e*	**P**	**00 55 36.6**	**+0.4**
VNA1				*e*		00 55 38.7	
PLCA	**Paso Flores**	**82.37**	**133**	P	**P**	**00 56 00.3**	**+0.5**
	2.3nm,0.6s,mb4.3,baz=227,slow=8.7,SNR=8.6						
NVAR	**Mina Array Bea**	**89.38**	**43**	P	**P**	**00 56 34.6**	**+0.4**
	1.7nm,0.8s,mb4.4,baz=224,slow=7.9,SNR=7.9						
TXAR	**Lajitas Array**	**93.46**	**58**	P	**P**	**00 56 53.2**	**-0.2**
	0.5nm,0.8s,mb4.0,baz=245,slow=3.7,SNR=4.6						
KURK	**Kurchatov**	**121.20**	**314**	PKP	PKPdf	01 02 26.9	-3.1
	0.2nm,0.5s,baz=110,slow=1.8,SNR=2.9						
ARCES	**ARCESS Array B**	**139.34**	**347**	PKhKP		01 02 53.4	
	2.8nm,1.0s,baz=67,slow=1.1,SNR=7.1						
NOA	**NORSAR Array B**	**149.56**	**350**	PKPbc	PKPbc	01 03 25.1	-1.1
	0.8nm,0.6s,baz=22,slow=2.7,SNR=5.4						
AKASG	**Malin Array Be**	**151.61**	**321**	PKPbc	PKPbc	01 03 29.1	-2.4
	0.5nm,0.4s,baz=47,slow=2.9,SNR=5.4						
TORD	**Torodi Ar. Bea**	**161.90**	**182**	PKP	PKPdf	01 03 37.9	-1.6
	0.5nm,0.9s,baz=135,slow=1.2,SNR=3.5						
TORD				PKPab	PKPab	01 04 23.2	-2.0
	1.5nm,1.0s,baz=163,slow=4.4,SNR=12						
TORD	**Torodi Ar. Bea**	**161.90**	**182**	PKP	PKPdf	01 03 37.9	-1.6
TORD				PKPab	PKPab	01 04 23.2	-2.0

*BJI **14** 00:46:52.6, 2178N×9338E, h43km, mB4.8, mb4.5*

*LDG **14** 00:46:54.5±0.1, 2211N×9336E, h33km, Mb4.6/29, Error ellipse: s-maj=8.3km s-min=5.4km az=40.0*

*ISCJB **14** 00:46:55.7±0.6, 2214N±0.006×9344E±0.005, h43km±5km, mb4.5/67, MS3.3/4, Error ellipse: s-maj=12.3km s-min=4.1km az=39.3*

*IDC **14** 00:46:58.4±0.6, 2218N×9354E, h56km±5km, mb4.1/14, mb1 4.2/15, mb1mx4.1/22, mbtmp4.1/15, MS3.3/5, Ms1 3.4/5, ms1mx3.0/36, Error ellipse: s-maj=26.1km s-min=10.5km az=51.0*

*NEIC **14** 00:46:59.2±0.2, 2221N×9356E, mb4.5/24, Error ellipse: s-maj=10.8km s-min=3.9km az=45.0*

*SZGRF **14** 00:47:02.5, 2263N×9253E, h33km, mb4.8, India-Bangladesh border region*

ISC 14 00:46:58.4±0.5, 2211N±0.006×9341E±0.005, h50km±4km, h60km±2.9km?pP-P, n153, σ0§81/150, mb4.5/67, MS3.3/4, 4C-11D, Myanmar-India border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CHG	**Chiang Mai**	**6.14**	**121**

KURK Kurchatov 30.81 342 P **P** **00 53 07.5 -1.8**
comp=Z,5.2nm,0.7s,mb4.5,baz=156,slow=8.3,SNR=44
KURK PcP PcP 00 56 04.4 -1.1
comp=Z,0.8nm,0.6s,baz=163,slow=2.4,SNR=3.9
JOW Kunigami 32.01 74 LR LR 01 05 46.9
comp=Z,24nm,20.4s,MS2.9,baz=245,slow=35
ZALV Zalesovo Beam 32.45 351 P **P** **00 53 22.9 -0.7**
comp=Z,1.5nm,0.4s,mb4.2,baz=170,slow=8.5,SNR=11
ZALV pP pP 00 53 37.3 +0.7
comp=Z,3.2nm,0.7s,baz=177,slow=8.4,SNR=6.4
KSRS Korea Array 33.41 55 LR LR 01 08 35.6
comp=Z,25nm,18.1s,MS3.0,baz=240,slow=39
MJAR Matsushiro Arr 41.25 59 LR LR 01 14 11.4
comp=Z,79nm,18.4s,MS3.6,baz=20,slow=40
RDF Al-Radifah 41.74 289 *eP* **P** **00 54 43.2 +0.4**
baz=289
RDF AMb AMB 00 54 44.4
comp=Z,36nm,0.6s,mb5.2,baz=289
MIB Mutribah 41.91 290 *eP* **P** **00 54 45.1 +0.9**
baz=290
MIB AMb AMB 00 54 46.3
comp=Z,47nm,0.8s,mb5.2,baz=290
NAY Al-Naaiem 42.00 290 *eP* **P** **00 54 45.5 +0.5**
baz=289
NAY AMb AMB 00 54 46.5
comp=Z,20nm,0.6s,mb4.9,baz=289
RST Umm Al-Ruwaisa 42.21 290 *eP* **P** **00 54 47.0 +0.4**
baz=289
RST AMb AMB 00 54 48.0
comp=Z,62nm,0.5s,mb5.5,baz=289
ARU Arti 42.78 332 *eP* **P** **00 54 50.9 0.0**
comp=Z,6.0nm,0.8s,mb4.4
AKASG Malin Array Be 56.93 317 P **P** **00 56 37.5 -0.9**
comp=Z,3.4nm,0.6s,mb4.6,baz=85,slow=6.3,SNR=13
WRA Warramunga Arr 57.84 133 P **P** **00 56 44.2 -1.0**
comp=Z,1.2nm,0.5s,mb4.2,baz=322,slow=7.5,SNR=3.8
JOF Joensuu 57.90 331 *ep* **P** **00 56 44.5 -0.5**
comp=Z,13nm,0.5s,mb5.2
PLOR Plostina 58.44 311 *i*P **P** **00 56 50.3 +1.2**
MLR Muntele Rosu 58.94 311 *i*P **P** **00 56 54.2 +1.7**
MLR Muntele Rosu 58.94 311 P **P** **00 56 54.2 +1.7**
KAF Kangasniemi 60.00 330 *ep* **P** **00 56 58.4 -1.2**
comp=Z,3.7nm,0.5s,mb4.7,baz=99,slow=6.9
ASAR Alice Springs 60.18 137 P **P** **00 57 01.3 -0.1**
comp=Z,1.8nm,0.5s,mb4.3,baz=318,slow=6.9,SNR=14
ASAR pP pP 00 57 14.6 -0.8
comp=Z,1.8nm,0.7s,baz=319,slow=7.0,SNR=4.9
VTS Vitosha 61.03 307 *i*P **P** **00 57 07.7 +0.7**
VTS Vitosha 61.03 307 P **P** **00 57 07.7 +0.7**
KWP Kalwaria 61.08 315 *i*P **P** **00 57 07.6 +0.4**
KWP Kalwaria 61.08 315 P **P** **00 57 07.6 +0.4**
DRGR 61.15 312 *i*P **P** **00 57 08.5 +0.8**
DRGR 61.15 312 P **P** **00 57 08.5 +0.8**
KEV Kevo 61.31 339 *ep* **P** **00 57 10.6 +2.2**
ARCES ARCESS Array B 61.77 338 P **P** **00 57 10.7 -0.7**
comp=Z,3.1nm,0.6s,mb4.6,baz=81,slow=7.9,SNR=14
PKSM Moragy 63.99 312 *i*P **P** **00 57 26.5 -0.2**
PKSM Moragy 63.99 312 P **P** **00 57 26.5 -0.2**
MORC Moravsky Berou 64.42 316 *i*P **P** **00 57 29.5 +0.1**
MORC Moravsky Berou 64.42 316 P **P** **00 57 29.5 +0.1**
VRAC Vranov 65.08 315 *i*P **P** **00 57 34.2 +0.5**
BRG Berggiesshubel 66.61 317 *eP* **P** **00 57 43.6 +0.1**
comp=Z,6.0nm,1.1s,mb4.5
BRG Berggiesshubel 66.61 317 *i* P **P** **00 57 43.6 +0.1**
comp=Z,4.7nm,0.6s,mb4.7
FBE Freiberg 66.98 317 *eP* **P** **00 57 46.2 +0.4**
comp=Z,13nm,1.2s,mb4.8
GEC2 GERESS Array S 67.02 315 *eP* **P** **00 57 46.3 +0.1**
comp=Z,6.0nm,0.7s,mb4.7
GERES GERESS Array B 67.02 315 P **P** **00 57 46.3 +0.2**
comp=Z,4.4nm,0.6s,mb4.7,baz=72,slow=6.3,SNR=56
GERES LR LR 01 29 21.5
comp=Z,48nm,19.3s,MS3.7,baz=14,slow=38
NB2 NORSAR Subarra 67.16 328 P **P** **00 57 45.5 -1.3**
comp=Z,3.7nm,0.6s,mb4.6,baz=85,slow=6.5
NOA NORSAR Array B 67.16 328 P **P** **00 57 45.6 -1.2**
comp=Z,4.9nm,0.7s,mb4.7,baz=86,slow=6.3,SNR=21
NOA pP pP 00 58 02.1 +1.1
comp=Z,1.0nm,0.6s,baz=86,slow=6.2,SNR=3.0
WET Wettzell 67.52 315 *eP* **P** **00 57 49.3 0.0**
comp=Z,4.0nm,0.9s,mb4.5
TANN Tannenbergstha 67.61 317 *eP* **P** **00 57 50.0 +0.2**
comp=Z,2.0nm,0.7s,mb4.3
WERN Wernitzgruen 67.68 317 *eP* **P** **00 57 50.3 0.0**
comp=Z,6.0nm,1.2s,mb4.5
GUNZ Gunzen 67.70 317 *eP* **P** **00 57 50.4 0.0**
comp=Z,53nm,3.0s
WERD Werda 67.70 317 *eP* **P** **00 57 50.3 -0.1**
comp=Z,6.0nm,1.0s,mb4.6
ROTZ Rotzenmuhle 67.86 316 *eP* **P** **00 57 52.2 +0.7**
comp=Z,6.0nm,0.8s,mb4.7
MANZ Manzenberg 67.89 316 *eP* **P** **00 57 51.8 +0.2**
comp=Z,3.0nm,1.4s,mb4.1
MOX Moxa 68.11 317 *eP* **P** **00 57 52.9 -0.1**
comp=Z,2.0nm,0.8s,mb4.2
BSEG Bad Segeberg 68.42 321 *eP* **P** **00 57 55.2 +0.3**
comp=Z,9.0nm,0.8s,mb4.8
GRF Grafenberg Arr 68.50 316 *eP* **P** **00 57 56.0 +0.5**
comp=Z,4.0nm,0.8s,mb4.4
CLZ Clausthal 68.70 319 *eP* **P** **00 57 56.7 0.0**
comp=Z,8.0nm,1.0s,mb4.6
STU Stuttgart 69.97 316 *eP* **P** **00 58 04.7 +0.1**
comp=Z,8.0nm,0.9s,mb4.7
TNS Taunus Mts 70.18 317 *eP* **P** **00 58 05.9 +0.1**
comp=Z,5.0nm,1.0s,mb4.4
IBBN Ibbenburen 70.21 319 *eP* **P** **00 58 07.0 +1.0**
comp=Z,17nm,1.4s,mb4.8
STKA Stephens Creek 70.77 138 P **P** **00 58 08.6 -1.0**
comp=Z,2.0nm,0.7s,mb4.2,baz=352,slow=7.1,SNR=4.2
STKA Stephens Creek 70.77 138 P **P** **00 58 08.6 -1.1**
CDF Champ du Feu 71.29 315 *eP* **P** **00 58 12.1 -0.5**
comp=Z,7.3nm,0.8s,mb4.4
CDF Champ du Feu 71.29 315 *eP* **P** **00 58 12.1 -0.5**
comp=Z,3.7nm,0.8s,mb4.4
PGF Pioggiola 71.40 309 *eP* **P** **00 58 13.1 -0.3**
comp=Z,25nm,0.7s,mb4.9
PGF Pioggiola 71.40 309 *eP* **P** **00 58 13.1 -0.3**
comp=Z,12nm,0.7s,mb5.0
HINF Hinteralfeld 71.70 315 *eP* **P** **00 58 14.4 -0.7**
WLF Walferdange 71.74 317 *eP* **P** **00 58 15.8 +0.5**
comp=Z,14nm,1.0s,mb4.8
HAU Haudompre 71.99 315 *eP* **P** **00 58 16.2 -0.6**
comp=Z,7.2nm,0.7s,mb4.4
HAU Haudompre 71.99 315 *eP* **P** **00 58 16.2 -0.6**
comp=Z,3.6nm,0.7s,mb4.4
SBF Sospel 72.21 311 *eP* **P** **00 58 18.0 -0.3**
LPG La Plagne 72.30 313 *eP* **P** **00 58 18.9 +0.2**
comp=Z,9.6nm,0.8s,mb4.5
LPG La Plagne 72.30 313 *eP* **P** **00 58 18.9 +0.2**
comp=Z,4.8nm,0.8s,mb4.5
LPL La Plagne 72.31 313 *eP* **P** **00 58 18.8 0.0**
comp=Z,8.3nm,0.6s,mb4.5
LPL La Plagne 72.31 313 *eP* **P** **00 58 18.8 0.0**
comp=Z,4.2nm,0.6s,mb4.5
MBDF Montbardon 72.47 312 *eP* **P** **00 58 19.9 +0.1**
comp=Z,4.7nm,0.7s,mb4.2
MBDF Montbardon 72.47 312 *eP* **P** **00 58 19.9 +0.1**
comp=Z,2.3nm,0.7s,mb4.2
GIVF Givet 72.48 318 *eP* **P** **00 58 20.0 +0.3**
CABF La Chapelle 72.48 314 *eP* **P** **00 58 19.3 -0.5**
MEZF Maizieres J'vi 72.71 316 *eP* **P** **00 58 20.8 -0.3**
comp=Z,35nm,1.1s,mb4.9
MEZF Maizieres J'vi 72.71 316 *eP* **P** **00 58 20.8 -0.3**
comp=Z,35nm,1.1s,mb5.2
KEST Kesra 72.81 302 P **P** **00 58 20.9 -1.1**
comp=Z,1.3nm,0.5s,mb4.1,baz=33,slow=9.2,SNR=6.6
FRF La Foret Royal 72.84 311 *eP* **P** **00 58 21.5 -0.5**
comp=Z,11nm,0.8s,mb4.5
FRF La Foret Royal 72.84 311 *eP* **P** **00 58 21.5 -0.5**
comp=Z,5.3nm,0.8s,mb4.5
BAIF Baives 72.88 318 *eP* **P** **00 58 21.7 -0.4**
comp=Z,9.8nm,1.0s,mb4.4
BAIF Baives 72.88 318 *eP* **P** **00 58 21.7 -0.4**
comp=Z,4.9nm,1.0s,mb4.4
LMR La Mourre 72.99 310 *eP* **P** **00 58 22.4 -0.5**
comp=Z,15nm,0.9s,mb4.6
LMR La Mourre 72.99 310 *eP* **P** **00 58 22.4 -0.5**
comp=Z,7.7nm,0.9s,mb4.6
SMRF Simiane la Rot 73.49 311 *eP* **P** **00 58 25.2 -0.6**
LOR Lormes 73.80 315 *eP* **P** **00 58 26.7 -0.9**
comp=Z,3.3nm,0.8s,mb4.0
LOR Lormes 73.80 315 *eP* **P** **00 58 26.7 -0.9**
comp=Z,1.6nm,0.8s,mb4.0
VIVF Saint-Julien-l 73.88 312 *eP* **P** **00 58 27.6 -0.5**
comp=Z,5.1nm,0.8s,mb4.2
VIVF Saint-Julien-l 73.88 312 *eP* **P** **00 58 27.6 -0.5**
comp=Z,2.5nm,0.8s,mb4.2
SMF Signal de Mont 73.97 314 *eP* **P** **00 58 27.9 -0.7**
comp=Z,17nm,0.9s,mb4.7
SMF Signal de Mont 73.97 314 *eP* **P** **00 58 27.9 -0.7**
comp=Z,8.4nm,0.9s,mb4.7
SSF Saint Saulge 74.09 315 *eP* **P** **00 58 28.7 -0.6**
comp=Z,13nm,0.9s,mb4.6
SSF Saint Saulge 74.09 315 *eP* **P** **00 58 28.7 -0.6**
comp=Z,6.7nm,0.9s,mb4.6
AVF Avril sur Loir 74.26 314 *eP* **P** **00 58 29.6 -0.7**
comp=Z,5.2nm,0.6s,mb4.4
AVF Avril sur Loir 74.26 314 *eP* **P** **00 58 29.6 -0.7**
comp=Z,2.6nm,0.6s,mb4.3
HYF Humbligny 74.60 315 *eP* **P** **00 58 32.3 +0.1**
LASF Ste Croix 74.65 312 *eP* **P** **00 58 32.5 -0.1**
comp=Z,16nm,1.0s,mb4.6
BGF Bois d'Agland 74.66 314 *eP* **P** **00 58 32.0 -0.6**
comp=Z,6.8nm,0.7s,mb4.4
BGF Bois d'Agland 74.66 314 *eP* **P** **00 58 32.0 -0.6**
comp=Z,3.4nm,0.7s,mb4.4
TCF Toulx Ste Croi 75.16 314 *eP* **P** **00 58 35.3 -0.2**
comp=Z,15nm,0.8s,mb4.7
TCF Toulx Ste Croi 75.16 314 *eP* **P** **00 58 35.3 -0.2**
comp=Z,7.5nm,0.8s,mb4.7
CAF Calviac 75.64 313 *eP* **P** **00 58 38.3 0.0**
comp=Z,5.0nm,0.7s,mb4.2
RJF Les Rejaudoux 75.91 313 *eP* **P** **00 58 39.9 +0.1**
comp=Z,8.4nm,0.7s,mb4.5
LDF La Druitiere 76.00 317 *eP* **P** **00 58 39.5 -0.7**
comp=Z,8.5nm,0.8s,mb4.4
LDF La Druitiere 76.00 317 *eP* **P** **00 58 39.5 -0.7**
comp=Z,4.3nm,0.8s,mb4.4
MTLF Montolieu 76.00 311 *eP* **P** **00 58 40.1 -0.3**
comp=Z,5.8nm,0.8s,mb4.3
GRR Gorron 76.53 317 *eP* **P** **00 58 42.6 -0.6**
LFF La Frestale 76.54 313 *eP* **P** **00 58 43.5 +0.1**
comp=Z,11nm,0.7s,mb4.6
MFF Saint Martin d 76.62 315 *eP* **P** **00 58 43.3 -0.5**
SGMF Saint Gilles 77.64 317 *eP* **P** **00 58 49.1 -0.4**
comp=Z,4.6nm,0.6s,mb4.3
ROSF Rostrenen 78.07 317 *eP* **P** **00 58 51.5 -0.4**
comp=Z,12nm,0.8s,mb4.6
ETSF Etsaut 78.07 311 *eP* **P** **00 58 52.0 0.0**
comp=Z,7.1nm,0.8s,mb4.3
ESDC Sonseca Array 81.60 309 P **P** **00 59 11.0 -0.1**
comp=Z,1.0nm,0.8s,mb3.8,baz=44,slow=5.1,SNR=8.9
TORD Torodi Ar Bea 86.70 283 P **P** **00 59 38.3 +0.8**
comp=Z,1.5nm,0.8s,mb4.4,baz=63,slow=4.5,SNR=40
TXAR Lajitas Array 126.27 19 PKP PKPdf 01 05 55.3 -0.7
comp=Z,0.3nm,0.6s,baz=171,slow=1.1,SNR=4.6
TXAR pPKP pPKPdf 01 06 10.4 -0.8
comp=Z,0.3nm,0.5s,baz=291,slow=1.0,SNR=4.6
SDV Santo Domingo 145.45 331 PKPbc PKPbc 01 06 30.7 -1.1
comp=Z,5.7nm,0.8s,baz=25,slow=5.0,SNR=9.3
SDV pPKPbc pPKPbc 01 06 48.0 +1.2
comp=Z,4.8nm,0.7s,baz=62,slow=7.1,SNR=3.6
SDV Santo Domingo 145.45 331 ePKPbc PKPbc 01 06 31.0 -0.8
SDV pPKPbc pPKPbc 01 06 48.0 +1.2
ROSC El Rosal 150.63 334 PKPbc PKPbc 01 06 46.3 +0.5
comp=Z,4.9nm,0.5s,baz=98,slow=9.8,SNR=5.0
CPUP Villa Florida 153.02 255 PKPbc PKPbc 01 06 50.0 -0.9
comp=Z,2.3nm,0.6s,baz=64,slow=1.8,SNR=13
CPUP pPKPbc pPKPbc 01 07 06.3 +0.3
comp=Z,1.3nm,0.6s,baz=68,slow=3.8,SNR=2.4

IDC ***14*** *00:50:28.0± 1.0, 150N×125±46E, h0km, mb3.9/6, mb1 4.1/6, mb1mx3.9/16, mbtmp4.0/6, Error ellipse: s-maj=138.7km s-min=17.2km az=67.0*
ISCJB ***14*** *00:50:28.9± 0.8, 26N±02×1277E±04, h33km, mb4.2/7, Error ellipse: s-maj=54.8km s-min=14.9km az=162.5*
NEIC ***14*** *00:50:31.6± 0.8, 248N×12785E, h35km, mb4.3/2, Error ellipse: s-maj=57.4km s-min=13.8km az=73.0*
ISC 14 00:50:31.1±0.8, 25N±01×1278E±04, h35km, n9, σ0°52/9, mb4.2/7, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
WRAB	**Tennant Creek**	**23.23**	**164**	*eP*		**P**		**00 55 35.4**	**0.0**
	3.3nm,0.4s,mb4.1								
WRA	**Warramunga Arr**	**23.23**	**164**	P		**P**		**00 55 35.3**	**-0.1**
	6.7nm,0.7s,mb4.2,baz=334,slow=11,SNR=16								
ASAR	**Alice Springs**	**26.70**	**168**	P		**P**		**00 56 06.8**	**-0.4**
	1.0nm,0.5s,mb3.6,baz=345,slow=7.0,SNR=10								
ASAR				PcP		PcP		00 59 29.7	-0.7
	0.7nm,0.5s,baz=352,slow=2.3,SNR=6.0								
STKA	**Stephens Creek**	**36.63**	**160**	*eP*		**P**		**00 57 34.9**	**+0.6**
	5.6nm,0.8s,mb4.5								
STKA	**Stephens Creek**	**36.63**	**160**	P		**P**		**00 57 35.0**	**+0.6**
	6.9nm,0.8s,mb4.6,baz=340,slow=7.8,SNR=13								
SONM	**Songino Array**	**48.78**	**341**	P		**P**		**00 59 16.3**	**+3.8**
	0.3nm,0.5s,baz=147,slow=8.6,SNR=2.8								
MKAR	**Makanchi Array**	**59.15**	**325**	P		**P**		**01 00 28.4**	**-0.1**
	0.6nm,0.5s,mb3.9,baz=132,slow=8.3,SNR=4.4								
KURK	**Kurchatov**	**63.33**	**327**	P		**P**		**01 00 56.4**	**-0.2**
	0.7nm,0.9s,mb3.8,baz=128,slow=6.2,SNR=4.5								
UNV	**Unalaska Valle**	**73.78**	**34**	*eP*		**P**		**01 02 01.6**	**-0.2**
	48nm,1.3s,mb5.3								

NOU ***14*** *01:05:29.0± 2.0, 2508S×164±95E, h10km, MD3.2, ML4.1*
ISCJB ***14*** *01:05:31.7± 0.4, 2121S±007×16922E±005, h10km, mb4.6/29, MS4.1/7, Error ellipse: s-maj=10.5km s-min=5.2km az=155.4*
LDG ***14*** *01:05:32.1± 0.3, 2138S×16896E, h10km, Mb5.2/2, Error ellipse: s-maj=28.1km s-min=4.5km az=158.0*
BJI ***14*** *01:05:34.7, 2120S×16920E, h35km, mB5.3, mb4.8*
SZGRF ***14*** *01:05:34.5, 2395S×165.10E, h33km, New Caledonia*
IDC ***14*** *01:05:36.9±7.0, 2120S×169.17E, h33km±51km, mb4.3/14, mb1 4.4/16, mb1mx4.4/19, mbtmp4.3/16, ML3.6/2, MS4.1/9, Ms1 4.0/9, ms1mx3.8/22, Error ellipse: s-maj=24.4km s-min=16.8km az=142.0*
NEIC ***14*** *01:05:36.7± 1.8, 2124S×16921E, h36km±14km, mb4.8/19, Error ellipse: s-maj=13.3km s-min=10.0km az=145.0*
ISC 14 01:05:33.3±0.4, 2125S±007×16922E±005, h10km, n113, σ1°9°02/54, mb4.6/29, MS4.1/7, 2D, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**2.71**	**252**	*ePn*		**Pn**		**01 06 15.7**	**-1.2**
NORM	**Noumea**	**2.72**	**249**	*eP*		**Pn**		**01 06 15.9**	**-1.1**
NORM				*eS*		**Sn**		**01 06 51.8**	**+1.8**
NORM				AMP				01 06 53.6	
	comp=Z,1μm,6.5s								
ONTRN	**Noumea**	**2.78**	**247**	*eP*		**Pn**		**01 06 17.1**	**-0.7**
ONTRN				AMP				01 06 21.5	
	comp=Z,1μm,1.7s								
ONTRN				*eS*		**Sn**		**01 06 51.1**	**-0.2**
NOUC	**Port Laguerre**	**2.84**	**252**	*eP*		**Pn**		**01 06 17.5**	**-1.2**
NOUC				*eS*		**Sn**		**01 06 53.6**	**+0.7**
NOUC				AMP				01 07 20.0	
	comp=Z,254nm,8.6s								
HNR	**Honiara**	**14.76**	**321**	Pn		**Pn**		**01 09 03.2**	**+1.1**
	comp=Z,1.8nm,0.3s,baz=208,slow=5.1,SNR=7.3								
ARMA	**Armidale**	**18.26**	**236**	*eP*		**Pn**		**01 09 53.2**	**+6.4**
URZ	**Urewera**	**18.27**	**160**	LR		LR		01 15 51.1	
	comp=Z,198nm,20.3s,baz=206,slow=34								
AFI	**Afiamalu**	**19.52**	**71**	P		**Pn**		**01 10 02.3**	**+0.1**
	comp=Z,1.4nm,0.3s,baz=239,slow=10,SNR=6.8								
AFI				LR		LR		01 15 48.4	
	comp=Z,416nm,21.7s,baz=258,slow=31								
CTA	**Charters Tower**	**21.52**	**269**	*eP*		**P**		**01 10 24.1**	**+1.5**
	comp=Z,11nm,0.9s,mb4.3								
CTA	**Charters Tower**	**21.52**	**269**	P		**P**		**01 10 23.9**	**+1.3**
	comp=Z,14nm,0.9s,mb4.4,baz=98,slow=14,SNR=7.8								
CTAO	**Charters Tower**	**21.52**	**269**	*eP*		**P**		**01 10 23.8**	**+1.2**
	comp=Z,25nm,1.1s,mb4.5								
CNB	**Canberra Magne**	**22.35**	**227**	*eP*		**P**		**01 10 34.3**	**+2.9**
RPZ	**Rata Peaks**	**22.46**	**177**	LR		LR		01 17 02.2	
	comp=Z,139nm,20.9s,MS3.4,baz=298,slow=30								
PMG	**Port Moresby**	**24.28**	**296**	*eP*		**P**		**01 10 49.4**	**-1.4**
	comp=Z,27nm,1.0s,mb4.6								
COEN	**Coen**	**25.84**	**282**	*eP*		**P**		**01 11 05.5**	**+0.4**
	comp=Z,5.6nm,0.8s,mb4.2								
TOO	**Toolangi**	**26.19**	**226**	*eP*		**P**		**01 11 10.5**	**+2.4**
STKA	**Stephens Creek**	**26.81**	**241**	*eP*		**P**		**01 11 14.7**	**+1.0**
	comp=Z,7.1nm,0.9s,mb4.2								
STKA	**Stephens Creek**	**26.81**	**241**	P		**P**		**01 11 14.7**	**+1.0**
	comp=Z,9.1nm,0.8s,mb4.3,baz=61,slow=8.4,SNR=12								
STKA				LR		LR		01 21 23.7	
	comp=Z,766nm,18.3s,MS4.3,baz=35,slow=35								
RAR	**Rarotonga**	**28.88**	**96**	LR		LR		01 20 17.4	
	comp=Z,256nm,20.7s,MS3.8,baz=270,slow=30								
WRAB	**Tennant Creek**	**32.63**	**266**	*eP*		**P**		**01 12 04.1**	**-1.4**
	comp=Z,6.9nm,1.0s,mb4.5								
WRA	**Warramunga Arr**	**32.64**	**266**	P		**P**		**01 12 03.6**	**-1.9**
	comp=Z,3.2nm,0.9s,mb4.2,baz=96,slow=9.2,SNR=7.6								
WRA				LR		LR		01 24 48.6	
	comp=Z,620nm,19.9s,MS4.3,baz=65,slow=35								
ASAR	**Alice Springs**	**32.68**	**259**	P		**P**		**01 12 05.2**	**-0.7**
	comp=Z,5.9nm,0.7s,mb4.6,baz=82,slow=9.3,SNR=60								
ASAR				PcP		PcP		01 14 51.2	-0.5
	comp=Z,2.1nm,0.8s,baz=117,slow=3.1,SNR=7.9								
PPT	**Papeete**	**38.96**	**92**	*eS*		**S**		**01 19 00.9**	**+2.2**
	comp=Z,112nm,26.2s								
PPT				*e*LQ				01 22 06.0	
	comp=Z,722nm,28.2s								
PPT				*e*LR		LR		01 23 34.0	
	comp=Z,418nm,28.5s								
FITZ	**Fitzroy Crossi**	**41.06**	**267**	*eP*		**P**		**01 13 16.9**	**-0.4**
	comp=Z,20nm,0.8s,mb4.8								
FITZ	**Fitzroy Crossi**	**41.06**	**267**	P		**P**		**01 13 16.9**	**-0.4**
	comp=Z,12nm,0.8s,mb4.6,baz=103,slow=8.2,SNR=26								
MBWA	**Marble Bar**	**45.98**	**261**	*eP*		**P**		**01 13 56.7**	**-0.2**
	comp=Z,22nm,0.9s,mb5.1								
KLBR	**Kellerberrin**	**46.86**	**246**	*eP*		**P**		**01 14 02.7**	**-1.0**
	comp=Z,23nm,0.9s,mb5.1								
NWAO	**Narrogin (SRO)**	**47.30**	**244**	LR		LR		01 33 24.6	
	comp=Z,663nm,20.3s,MS4.6,baz=271,slow=35								
CASY	**Casey**	**58.29**	**204**	*eP*		**P**		**01 15 27.5**	**-0.3**
CASY	**Casey**	**58.29**	**204**	*eP*		**P**		**01 15 27.5**	**-0.3**
	comp=Z,18nm,1.1s,mb5.0								
MJAR	**Matsushiro Arr**	**64.52**	**333**	P		**P**		**01 16 09.6**	**-0.7**
	comp=Z,4.1nm,1.0s,mb4.4,baz=173,slow=7.4,SNR=9.0								
MAJO	**Matsushiro**	**64.52**	**333**	*eP*		**P**		**01 16 09.9**	**-0.4**
	comp=Z,7.2nm,0.8s,mb4.8								
QSPA	**South Pole Qui**	**68.81**	**180**	*eP*		**P**		**01 16 37.7**	**+0.5**
	comp=Z,28nm,1.1s,mb5.1								
KSRS	**Korea Array**	**70.15**	**326**	P		**P**		**01 16 46.0**	**-0.1**
	comp=Z,0.6nm,0.3s,mb4.0,baz=231,slow=26,SNR=4.0								
PETK	**Petropavlovsk-**	**74.72**	**353**	P		**P**		**01 17 13.6**	**+0.7**
	comp=Z,5.7nm,0.8s,mb4.5,baz=130,slow=5.7,SNR=6.2								
PETK				LR		LR		01 47 03.8	
	comp=Z,109nm,19.2s,MS4.2,baz=357,slow=33								
CN2	**Changchun**	**76.16**	**329**	*eP*		**P**		**01 17 20.5**	**-0.9**
CN2				AMB		AMB			
	comp=Z,10.0nm,0.8s,mb4.8								
MAW	**Mawson**	**76.57**	**202**	*eP*		**P**		**01 17 24.4**	**+0.9**
	comp=Z,4.7nm,0.9s,mb4.4								
MAW	**Mawson**	**76.57**	**202**	P		**P**		**01 17 24.4**	**+0.9**
	comp=Z,5.1nm,0.8s,mb4.5,baz=108,slow=7.8,SNR=12								
MAW				LR		LR		01 47 01.4	
	comp=Z,84nm,18.1s,MS4.1,baz=244,slow=32								
CMAR	**Chiang Mai Arr**	**79.31**	**295**	P		**P**		**01 17 40.9**	**+1.3**
	comp=Z,1.9nm,0.4s,mb4.4,baz=138,slow=4.1,SNR=18								
KMI	**Kunming**	**79.32**	**302**	P		**P**		**01 17 40.8**	**+1.3**
KMI				AP		pP		01 17 52.5	+10
KMI				AMB		AMB			
	comp=Z,20nm,1.0s,mb5.0								
KMI	**Kunming**	**79.32**	**302**	P		**P**		**01 17 40.8**	**+1.3**
	comp=Z,20nm,1.0s,mb5.0								
KMI				pP		pP		01 17 52.5	+10
CHTO	**Chiang Mai**	**79.47**	**295**	*eP*		**P**		**01 17 41.1**	**+0.7**
	comp=Z,9.6nm,1.1s,mb4.6								
LZH	**Lanzhou**	**84.06**	**312**	*eP*		**P**		**01 18 06.0**	**+1.7**
LZH				AP		pP		01 18 13.3	+5.7
LZH				XP		sP		01 18 16.0	+7.2
LZH				AMB		AMB			
	comp=Z,29nm,1.6s,mb5.2								
LZH				AMB		AMB			
	comp=Z,125nm,4.2s								
LZH	**Lanzhou**	**84.06**	**312**	*eP*		**P**		**01 18 06.0**	**+1.7**
	comp=Z,29nm,1.6s,mb5.2								
LZH				pP		pP		01 18 13.2	+5.6
LZH				sP		sP		01 18 16.0	+7.2
SNAA	**Sanae**	**87.16**	**183**	*e*		**P**		**01 18 17.9**	**-1.3**
SNAA	**Sanae**	**87.16**	**183**	*eP*		**P**		**01 18 18.4**	**-0.8**
	comp=Z,22nm,1.1s,mb5.3								
VNA3	**Neumayer Olymp**	**87.75**	**180**	*e*		**P**		**01 18 21.2**	**-0.8**
VNA3				*e*				01 18 29.3	
VNA2	**Neumayer--Watz**	**88.04**	**181**	*e*		**P**		**01 18 23.2**	**-0.2**
	baz=186,slow=4.7								
VNA2				*e*				01 18 31.0	
VNA1	**Neumayer--Stat**	**88.33**	**181**	*e*		**P**		**01 18 24.6**	**-0.2**
YBH	**Yreka Blue Hor**	**88.75**	**44**	P		**P**		**01 18 27.7**	**+0.5**
	comp=Z,0.4nm,0.3s,mb4.2,baz=217,slow=10,SNR=2.8								
SONM	**Songino Array**	**88.81**	**323**	P		**P**		**01 18 27.3**	**0.0**
	comp=Z,2.7nm,0.9s,mb4.6,baz=138,slow=3.6,SNR=9.1								
NVAR	**Mina Array Bea**	**90.14**	**49**	P		**P**		**01 18 33.5**	**-0.3**
	comp=Z,2.0nm,0.8s,mb4.5,baz=225,slow=8.4,SNR=10								
TPNV	**Topopah Spring**	**90.94**	**51**	*eP*		**P**		**01 18 36.9**	**-0.6**
	comp=Z,2.4nm,0.6s,mb4.7								
ELK	**Elko**	**93.29**	**47**	*eP*		**P**		**01 18 47.9**	**-0.4**
	comp=Z,1.1nm,0.5s,mb4.5								
TXAR	**Lajitas Array**	**97.74**	**62**	P		**P**		**01 19 08.5**	**-0.4**
	comp=Z,0.6nm,1.0s,mb4.1,baz=203,slow=8.8,SNR=4.4								
ARCES	**ARCESS Array B**	**127.00**	**345**	PKP		PKPdf		01 24 35.9	-0.9
	comp=Z,5.4nm,1.0s,baz=29,slow=2.8,SNR=4.3								
VYHS	**Vyhne**	**143.95**	**326**	*e*PKP		PKPdf		01 25 09.4	+0.5
DPC	**Dobruska-Polom**	**143.96**	**330**	*e*PKP		PKPdf		01 25 05.9	-2.9
DPC				*ep*PKP		pPKPdf		01 25 16.8	+4.5
UPC	**Upice**	**144.00**	**331**	*e*PKP		PKPdf		01 25 03.5	-5.4
UPC				*ep*PKP		pPKPdf		01 25 17.3	+5.0
KOLL	**Kolacno**	**144.12**	**326**	*e*PKP		PKPdf		01 25 07.2	-1.9
PVCC	**Panska Ves**	**144.63**	**332**	*e*PKP		PKPdf		01 25 08.1	-1.9
PVCC				*ep*PKP		pPKPd

comp=Z,0.4nm,0.6s,baz=28,slow=3.3,SNR=6.9
DBIC Dimbokro 164.41 202 PKPab PKPab 01 26 32.3 0.0
comp=Z,7.0nm,1.1s,baz=67,slow=7.6,SNR=3.0
TORD Torodi Ar. Bea 165.62 238 PKP PKPdf 01 25 38.7 -0.4
comp=Z,0.5nm,0.9s,baz=107,slow=1.5,SNR=3.3
TORD PKPab PKPab 01 26 36.5 -1.3
comp=Z,0.6nm,1.0s,baz=122,slow=4.1,SNR=3.3

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*NNC **14** 01:05:33.4±5.1,3763N×7547E,h0km,mb4.8,mpv4.8, Error ellipse: s-maj=44.3km s-min=27.1km az=11.0*
*BJI **14** 01:05:33.7,3774N×7615E,h21km,mB4.7,mb4.8,ML4.8, Ms4.0,Msz3.7*
*LDG **14** 01:05:34.9±0.4,3733N×7599E,h100km,Mb4.2/10, Error ellipse: s-maj=18.2km s-min=5.2km az=158.0*
*ISCJB **14** 01:05:37.2±0.3,3747N±002×7595E±004,h107km±4km, mb4.2/36, Error ellipse: s-maj=4.9km s-min=2.8km az=165.8*
*MOS **14** 01:05:38.8±0.9,3759N×7585E,h115km,mb4.2/23, Error ellipse: s-maj=9.2km s-min=5.3km az=109.1*
*IDC **14** 01:05:40.7±0.7,3757N×7591E,h119km±5km,mb3.8/18, mb1 4.0/22,mb1mx4.0/26,mbtmp3.9/22,MS2.7/3, Ms1 2.7/3,ms1mx2.3/40, Error ellipse: s-maj=14.3km s-min=8.7km az=27.0*
*NEIC **14** 01:05:40.3±0.2,3761N×7593E,mb4.3/17, Error ellipse: s-maj=4.7km s-min=3.9km az=222.0*

ISC 14 01:05:38.5±0.3,3747N±002×7599E±004,h104km±3km, h120km±2.2km;pP-P,n189,σ1s20/211,mb4.2/36,9C-14D, Tajikistan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
KSH	**Kashi**	**2.04**	**360**	⇓*i*Pn	Smax	**Pn**	**01 06 01.0**	**-11**
KSH	comp=N,63μm,0.4s							
KSH	comp=E,76μm,0.6s				Smax			
SRNI	**Srinagar**	**3.49**	**196**	*ex*		x	01 06 05.0	
SRNI				*eS*		**Sn**	**01 07 14.5**	**+3.1**
CHCP	**Chirah Chowk**	**4.41**	**211**	⇓P		**Pn**	**01 06 47.0**	**+3.8**
UCH	**Uchtor**	**4.88**	**347**	P		**Pn**	**01 06 50.5**	**+1.0**
	SNR=342							
UCH	**Uchtor**	**4.88**	**347**	⇓*i*Pn		**Pn**	**01 06 50.2**	**+0.7**
UCH				*eSn*		**Sn**	**01 07 41.2**	**-3.6**
CEP	**Cherat**	**4.93**	**224**	⇓P		**Pn**	**01 06 52.7**	**+2.5**
CEP				S		**Sn**	**01 07 45.0**	**-1.1**
AML	**Almayashu**	**4.97**	**340**	P		**Pn**	**01 06 51.5**	**+0.7**
	SNR=168							
AML	**Almayashu**	**4.97**	**340**	*e*Pn		**Pn**	**01 06 50.9**	**+0.1**
THN	**Thein Dam**	**5.03**	**183**	*eP*		**Pn**	**01 06 53.4**	**+1.7**
THN				*eS*		**Sn**	**01 07 48.8**	**+0.2**
KBK	**Karagaybulak**	**5.24**	**352**	P		**Pn**	**01 06 55.5**	**+1.2**
	SNR=147							
AAK	**Ala-Archa**	**5.28**	**348**	P		**Pn**	**01 06 56.0**	**+1.1**
	SNR=92							
TKM2	**Tokmak 2**	**5.45**	**357**	⇓Pn		**Pn**	**01 06 58.5**	**+1.3**
TKM2	comp=E,72nm,0.5s				⇓Sn	**Sn**	**01 07 59.2**	**+0.6**
TKM2	comp=E,178nm,0.9s				⇑Lg		01 08 26.8	
TKM2	comp=E,105nm,0.6s							
TKM2	**Tokmak 2**	**5.45**	**357**	⇓*i*PN		**Pn**	**01 06 58.3**	**+1.1**
TKM2	comp=E,99nm,0.5s				pmax	pmax		
TKM2	**Tokmak 2**	**5.45**	**357**	P		**Pn**	**01 06 58.4**	**+1.2**
	SNR=119							
TKM2	**Tokmak 2**	**5.45**	**357**	⇓*i*Pn		**Pn**	**01 06 58.3**	**+1.1**
	comp=E,99nm,0.5s							
EKS2	**Erkin-Say**	**5.45**	**343**	P		**Pn**	**01 06 58.4**	**+1.2**
	SNR=44							
EKS2	**Erkin-Say**	**5.45**	**343**	*e*Pn		**Pn**	**01 06 58.0**	**+0.8**
EKS2	comp=E,86nm,0.6s							
FRU	**Bishkek**	**5.46**	**349**	⇓*i*PN		**Pn**	**01 06 58.0**	**+0.7**
FRU				*i* S		**Sn**	**01 07 59.5**	**+0.8**
FRU	comp=N,570nm,1.8s				smax			
PONG	**Pong**	**5.51**	**180**	*eP*		**Pn**	**01 07 00.0**	**+1.9**
PONG				*eS*		**Sn**	**01 08 00.0**	**-0.1**
CHMS	**Chumysh**	**5.60**	**351**	P		**Pn**	**01 07 00.1**	**+0.9**
	SNR=55							
KNDC	**Almaty**	**5.79**	**7**	⇓Pn		**Pn**	**01 07 03.1**	**+1.3**
KNDC	comp=N,20nm,0.4s				⇑Pg	**Pn**	**01 07 12.9**	**+11**
KNDC	comp=N,124nm,0.5s				⇑Sn	**Sn**	**01 08 10.4**	**+3.7**
KNDC	comp=N,364nm,1.1s				⇑Lg		01 08 31.5	
	comp=N,348nm,0.8s							
THW	**Thamme Wali**	**5.82**	**218**	P		**Pn**	**01 07 04.1**	**+1.8**
USP	**Ospenovka**	**5.90**	**349**	P		**Pn**	**01 07 04.1**	**+0.8**
	SNR=30							
SDNR	**Sundarnagar**	**6.01**	**172**	*eP*		**Pn**	**01 07 06.0**	**+1.0**
SDNR				*eS*		**Sn**	**01 08 07.6**	**-4.8**
SARP	**Sargodha**	**6.17**	**207**	⇓P		**Pn**	**01 07 09.3**	**+2.2**
KBL	**Kabul**	**6.34**	**245**	*e*Pn		**Pn**	**01 07 09.8**	**+0.4**
KBL	comp=Z,176nm,0.4s				pmax	pmax		
KBL	**Kabul**	**6.34**	**245**	*e*Pn		**Pn**	**01 07 09.8**	**+0.4**
KBL	comp=Z,176nm,0.4s							
				eS		**Sn**	**01 08 18.0**	**-2.4**
SMLA	**Simla**	**6.40**	**171**	*i* P		**Pn**	**01 07 12.5**	**+2.2**
SMLA				*i* S		**Sn**	**01 08 18.4**	**-3.5**
KK31	**Karatay Array**	**7.01**	**325**	Pn		**Pn**	**01 07 17.6**	**-0.8**
KK31	comp=Z,12nm,0.2s,baz=128,slow=13,SNR=1239				⇑Sn	**Sn**	**01 08 32.7**	**-3.7**
	comp=Z,43nm,0.4s,baz=133,slow=22,SNR=9.5							
KK31	**Karatay Array**	**7.01**	**325**	PN		**Pn**	**01 07 17.5**	**-0.9**
KK31	comp=Z,54nm,0.3s				pmax	pmax		
DDI	**Dehra Dun**	**7.34**	**166**	*eP*		**Pn**	**01 07 21.7**	**-1.2**
DDI				*eS*		**Sn**	**01 08 39.5**	**-5.1**
JOSI	**Joshimath**	**7.51**	**156**	*eP*		**Pn**	**01 07 27.6**	**+2.3**
JOSI				*eS*		**Sn**	**01 08 44.6**	**-4.2**
KALG	**Kalgarh**	**8.28**	**163**	*eS*		**Sn**	**01 08 59.8**	**-7.6**
KALG	comp=E,728nm,0.6s				AML	AML	01 09 04.2	
KALG	comp=N,6.5nm,0.2s				AML	AML	01 09 05.0	
PTH	**Pithoragarh**	**8.65**	**155**	*eP*		**Pn**	**01 07 42.0**	**+1.2**
PTH				*ex*		x	01 09 13.0	
LGTI	**Lohaghat**	**8.76**	**155**	*ex*		x	01 07 36.5	
NDI	**New Delhi**	**8.83**	**173**	*eP*		**Pn**	**01 07 42.5**	**-0.7**
NDI				*eS*		**Sn**	**01 09 12.5**	**-8.4**
AYAN	**Aya Nagar**	**9.02**	**174**	*eP*		**Pn**	**01 07 46.0**	**+0.2**
AYAN				*eS*		**Sn**	**01 09 17.1**	**-8.4**
AYAN	comp=Z,293nm,0.4s				AML	AML	01 09 21.0	
AYAN	**Aya Nagar**	**9.02**	**174**	*eP*		**Pn**	**01 07 46.5**	**+0.7**
AYAN				*eS*		**Sn**	**01 09 17.6**	**-7.9**
AYAN	comp=Z,294nm,0.4s				AML	AML	01 09 21.2	
SONA	**Sohna**	**9.24**	**174**	*eP*		**Pn**	**01 07 49.8**	**+0.9**
SONA				*eS*		**Sn**	**01 09 24.0**	**-7.0**
SONA	comp=E,336nm,0.2s				AML	AML	01 09 27.3	
SONA	comp=N,247nm,0.2s				AML	AML	01 09 29.2	
KHET	**Khetri**	**9.38**	**181**	*eP*		**Pn**	**01 07 50.2**	**-0.5**
KHET				*eS*		**Sn**	**01 09 26.4**	**-7.8**
KHET	comp=N,296nm,0.3s				AML	AML	01 09 28.7	
KHET	comp=E,363nm,0.6s				AML	AML	01 09 34.2	
AGRA	**Agra**	**10.35**	**170**	*eS*		**Sn**	**01 09 47.8**	**-10**
MK31	**Makanchi Array**	**10.42**	**25**	Pn		**Pn**	**01 08 03.8**	**-0.9**
	comp=E,4.0nm,0.4s,baz=206,slow=12,SNR=41							
MK31	**Makanchi Array**	**10.42**	**25**	P		**Pn**	**01 08 03.8**	**-0.9**
MK31	comp=Z,7.0nm,0.4s				pmax	pmax		
MK31	**Makanchi Array**	**10.42**	**25**	*e*Pn		**Pn**	**01 08 03.5**	**-1.1**
MKAR	**Makanchi Array**	**10.42**	**25**	P		**Pn**	**01 08 04.1**	**-0.6**
MKAR	comp=Z,4.4nm,0.3s,baz=197,slow=14,SNR=34				LR	LR	01 12 29.9	
	comp=Z,32nm,20.4s,baz=182,slow=40							
MKAR	**Makanchi Array**	**10.42**	**25**	P		**Pn**	**01 08 04.1**	**-0.6**
MKAR	comp=Z,4.0nm,0.3s				pmax	pmax		
MKAR	comp=Z,32nm,20.4s				MLR	MLR		
MKAR	**Makanchi Array**	**10.42**	**25**	P		**Pn**	**01 08 04.1**	**-0.6**
MKAR					LR	LR	01 12 29.9	
WMQ	**Urumqi**	**10.92**	**51**	P		**Pn**	**01 08 09.5**	**-1.9**
WMQ					S	**Sn**	**01 10 05.5**	**-6.0**
AJM	**Ajmer**	**11.02**	**186**	*eP*		**Pn**	**01 08 11.8**	**-1.2**
AJM				*eS*		**Sn**	**01 10 06.0**	**-8.2**
DANN	**Dangsing**	**11.19**	**142**	*eP*		**Pn**	**01 08 13.7**	**-1.6**
	comp=Z,167nm,0.4s							
KOLN	**Koldanda**	**11.60**	**144**	*eP*		**Pn**	**01 08 19.4**	**-1.4**
	comp=Z,76nm,0.3s							
GKN	**Gorkha**	**11.92**	**140**	*eP*		**Pn**	**01 08 23.3**	**-1.6**
	comp=Z,114nm,0.3s							
KKN	**Kakani**	**12.42**	**138**	*eP*		**Pn**	**01 08 29.7**	**-1.9**
	comp=Z,113nm,0.5s							
DMN	**Daman**	**12.48**	**139**	*eP*		**Pn**	**01 08 31.0**	**-1.3**
	comp=Z,91nm,0.5s							
GUN	**Gumba**	**12.65**	**136**	*eP*		**Pn**	**01 08 33.1**	**-1.5**
	comp=Z,104nm,0.4s							
PKIN	**Phulchoki**	**12.66**	**139**	*eP*		**Pn**	**01 08 32.8**	**-1.9**
	comp=Z,76nm,0.4s							
PKI	**Pulchoki**	**12.67**	**138**	*eP*		**Pn**	**01 08 33.4**	**-1.4**
	comp=Z,104nm,0.4s							
JIRN	**Jiri**	**13.02**	**136**	*eP*		**Pn**	**01 08 38.3**	**-1.2**
	comp=Z,230nm,0.4s							
KURBB	**Kurchatov Arra**	**13.27**	**7**	⇓Pn		**Pn**	**01 08 40.2**	**-2.4**
	comp=Z,5.5nm,0.6s							
KURK	**Kurchatov**	**13.37**	**7**	⇑Pn		**Pn**	**01 08 41.3**	**-2.5**
	comp=Z,48nm,0.6s							
KURK	**Kurchatov**	**13.37**	**7**	P		**Pn**	**01 08 39.9**	**-4.0**
	comp=Z,0.4nm,0.3s,baz=191,slow=12,SNR=22							
KURK	**Kurchatov**	**13.37**	**7**	*e*Pn		**Pn**	**01 08 41.5**	**-2.4**
KURK				*eP*			01 08 49.6	
RAMN	**Ramite**	**13.80**	**136**	*eP*		**Pn**	**01 08 47.4**	**-2.2**
	comp=Z,69nm,0.3s							
TAPN	**Taplejung**	**14.13**	**132**	*eP*		**Pn**	**01 08 52.1**	**-1.7**
	comp=Z,61nm,0.4s							
BHPL	**Bhopal**	**14.24**	**175**	*ex*		x	01 11 21.2	
ODAN	**Odare**	**14.31**	**134**	*eP*		**Pn**	**01 08 53.5**	**-2.7**
	comp=Z,156nm,0.6s							
JBP	**Jabalpur**	**14.67**	**165**	*eP*		**Pn**	**01 09 00.3**	**-0.5**
LSA	**Lhasa**	**14.81**	**117**	P		**Pn**	**01 09 06.4**	**+3.8**
LSA	**Lhasa**	**14.81**	**117**	*eP*		**Pn**	**01 09 06.0**	**+3.4**
LSA	comp=Z,12nm,0.6s				pmax	pmax		
LSA	**Lhasa**	**14.81**	**117**	*eP*		**Pn**	**01 09 06.0**	**+3.4**
	comp=Z,12nm,0.6s							
BHJ	**Bhuj**	**15.18**	**203**	*ex*		x	01 11 46.3	
VOSK	**Vostochnaya**	**15.65**	**349**	⇓Pn		**Pn**	**01 09 11.8**	**-1.1**
	comp=Z,13nm,0.7s							
VOSK	**Vostochnaya**	**15.65**	**349**	P		**Pn**	**01 09 13.5**	**+0.6**
VOSK	comp=Z,14nm,0.6s				pmax	pmax		
BVA0	**Borovoye Array**	**16.03**	**348**	Pn		**Pn**	**01 09 16.3**	**-1.4**
	comp=Z,2.2nm,0.6s,baz=233,slow=41,SNR=102							
BVA0	**Borovoye Array**	**16.03**	**348**	P		**Pn**	**01 09 16.2**	**-1.5**
BVA0	comp=Z,11nm,1.6s				pmax	pmax		
BVAR	**Borovoye Array**	**16.03**	**348**	P		**Pn**	**01 09 16.2**	**-1.5**
	comp=Z,1.3nm,0.3s,baz=153,slow=12,SNR=45							
BVAR	comp=Z,48nm,18.4s,baz=163,slow=40				LR	LR	01 16 11.3	
BVAR	**Borovoye Array**	**16.03**	**348**	P		**Pn**	**01 09 16.2**	**-1.5**
BVAR	comp=Z,1.0nm,0.3s				pmax	pmax		
BVAR	comp=Z,48nm,18.4s				MLR	MLR		
BOK	**Bokaro**	**16.06**	**145**	*eP*		**Pn**	**01 09 16.9**	**-1.3**
BOK				*ex*		x	01 12 00.9	
BRVK	**Borovoye**	**16.08**	**347**	P		**Pn**	**01 09 17.4**	**-0.9**
BRVK	comp=Z,27nm,0.6s				pmax	pmax		
BRVK	**Borovoye**	**16.08**	**347**	*eP*		**Pn**	**01 09 17.9**	**-0.4**
	comp=Z,31nm,0.6s							
AB31	**Akbulak array**	**16.54**	**320**	⇓Pn		**Pn**	**01 09 22.7**	**-1.2**
	comp=Z,7.3nm,0.5s,baz=123,slow=14,SNR=16							
AB31					⇑Sn	**Sn**	**01 12 17.9**	**-9.4**
	comp=Z,1.2nm,0.4s,baz=119,slow=25,SNR=4.1							
AB31	**Akbulak array**	**16.54**	**320**	*eP*		**Pn**	**01 09 24.8**	**+0.9**
AB31							01 12 13.9	
AB31	comp=Z,6.0nm,0.3s				pmax	pmax		
AB31	comp=N,1.0nm,0.3s				smax			
ZAA0	**Zalesovo Array**	**17.57**	**17**	*eP*		**Pn**	**01 09 34.5**	**-1.9**
ZALV	**Zalesovo Beam**	**17.57**	**17**	P		**Pn**	**01 09 35.5**	**-0.9**
	comp=N,10nm,0.3s,baz=205,slow=10,SNR=90							
ZALV					LR	LR	01 17 18.5	
	comp=N,19nm,18.4s,baz=324,slow=40							
ZALV	**Zalesovo Beam**	**17.57**	**17**	P		**Pn**	**01 09 35.6**	**-0.8**
ZALV	comp=Z,10.0nm,0.3s				pmax	pmax		
ZALV	comp=Z,19nm,18.4s				MLR	MLR		
SHL	**Shillong**	**17.98**	**127**	*eP*		**Pn**	**01 09 42.0**	**+0.3**
AKTK	**Aktyubinsk**	**18.25**	**321**	P		**P**	**01 09 43.9**	**+0.3**
AKTK				S		**S**	**01 13 05.3**	**-1.4**
AKTO	**Aktyubinsk**	**18.25**	**321**	⇑Pn		**Pn**	**01 09 43.6**	**-1.1**
AKTO	comp=Z,1.1nm,0.5s							
	comp=Z,0.6nm,0.7s				⇑Sn	**Sn**	**01 13 04.8**	**-3.5**
AKTO	**Aktyubinsk**	**18.25**	**321**	P		**P**	**01 09 43.9**	**+0.3**
	comp=Z,2.9nm,0.3s,baz=113,slow=8.3,SNR=25							
AKTO					S	**S**	**01 13 05.3**	**-1.4**
	comp=Z,0.2nm,0.3s,baz=311,slow=20,SNR=4.2							
AKTO	**Aktyubinsk**	**18.25**	**321**	P		**P**	**01 09 43.9**	**+0.4**
AKTO					S	**S**	**01 13 05.3**	**-1.4**
AKTO	comp=Z,3.0nm,0.3s				pmax	pmax		
GTA	**Gaotai**	**18.76**	**77**	P		**P**	**01 09 52.4**	**+3.2**
GTA					AMB	AMB		
	comp=Z,40nm,0.8s							
POO	**Poona**	**18.97**	**186**	*ex*		x	01 13 15.0	
LATR	**Latur**	**18.99**	**178**	*ex*		x	01 10 00.0	
IMP	**Imphal**	**19.86**	**124**	*eP*		**P**	**01 10 02.0**	**+0.7**
HYB	**Hyderabad**	**20.11**	**173**	*i* P		**P**	**01 10 05.5**	**+1.5**
HYB				*eS*		**S**	**01 13 36.0**	**-8.2**
HYB	**Hyderabad**	**20.11**	**173**	*eP*		**P**	**01 10 05.5**	**+1.5**
HYB				*eS*		**S**	**01 13 36.0**	**-8.2**
KAD	**Karad**	**20.15**	**185**	*eP*		**P**	**01 10 06.2**	**+1.7**
VIS	**Vishakhapatnam**	**20.71**	**160**	*eP*		**P**	**01 10 11.8**	**+1.4**
VIS				*eS*		**S**	**01 13 54.2**	**-1.8**
ARU	**Arti**	**22.27**	**334**	*eP*		**P**	**01 10 27.7**	**+1.0**
ARU	comp=Z,12nm,1.7s,mb4.0				pmax	pmax		
ARU	**Arti**	**22.27**	**334**	*eP*		**P**	**01 10 27.0**	**+0.3**
	comp=Z,22nm,0.8s,mb4.5							
LZH	**Lanzhou**	**22.33**	**85**	*eP*		**P**	**01 10 30.0**	**+2.4**
LZH					AP		01 10 37.5	
LZH	comp=Z,35nm,1.5s,mb4.5				AMB	AMB		
LZH	comp=Z,170nm,5.5s				AMB	AMB		
LZH	**Lanzhou**	**22.33**	**85**	*eP*		**P**	**01 10 30.0**	**+2.4**
	comp=Z,35nm,1.5s,mb4.5							
LZH					pP		01 10 37.5	
LZH					sP	sP	01 11 41.3	+41
ZAK	**Zakamensk**	**23.36**	**48**	*eP*		**P**	**01 10 38.3**	**+0.9**
ZAK				*e*			01 11 04.0	
ZAK	comp=Z,6.0nm,1.0s,mb3.9				pmax	pmax		
CD2	**Chengdu**	**23.84**	**98**	P		**P**	**01 10 50.8**	**+8.9**
CD2					AP		01 10 55.0	
CD2					XP	sP	01 10 57.8	-19
CD2					S	**S**	**01 15 02.8**	**+13**
CD2					XS	sS	01 15 09.5	-20
CD2	comp=Z,10.0nm,0.8s,mb4.2				AMB	AMB		
CD2	comp=Z,40nm,5.2s				AMB	AMB		
CD2	comp=N,100nm,12.0s				LR	LR		
CD2	comp=E,190nm,10.8s				LR	LR		
CD2	comp=Z,90nm,9.6s				LR	LR		
GNI	**Garni**	**24.43**	**286**	P		**P**	**01 10 48.0**	**+0.7**
	comp=Z,3.4nm,0.7s,mb3.8,baz=49,slow=23,SNR=3.5							
GNI	**Garni**	**24.43**	**286**	P		**P**	**01 10 48.0**	**+0.7**
GNI	comp=Z,3.0nm,0.7s				pmax	pmax		
SONM	**Songino Array**	**24.50**	**55**	P		**P**	**01 10 49.7**	**+1.9**
	comp=Z,7.9nm,0.5s,mb4.3,baz=253,slow=9.2,SNR=89							
SONM					pP		01 11 12.7	
	comp=Z,4.0nm,0.6s,baz=257,slow=10.0,SNR=4.3							
SONM	**Songino Array**	**24.50**	**55**	P		**P**	**01 10 49.7**	**+1.9**
SONM					*PP		01 11 12.7	
SONM	comp=Z,8.0nm,0.5s				pmax	pmax		
SONM					pmax	pmax		
	comp=Z,4.0nm,0.6s							
CHTO	**Chiang Mai**	**27.36**	**126**	*eP*		**P**	**01 11 15.9**	**+2.0**
CHTO	comp=Z,2.0nm,0.7s,mb3.8				pmax	pmax		
CHTO	**Chiang Mai**	**27.36**	**126**	*eP*		**P**	**01 11 15.9**	**+2.1**
	comp=Z,2.5nm,0.7s,mb3.9							
CMAR	**Chiang Mai Arr**	**27.62**	**127**	P		**P**	**01 11 19.1**	**+2.8**
	comp=Z,2.1nm,0.6s,mb3.8,baz=305,slow=12,SNR=11							
CMAR	**Chiang Mai Arr**	**27.62**	**127**	*i* P		**P**	**01 11 20.5**	**+4.3**
CMAR	comp=Z,2.0nm,0.6s				pmax	pmax		
BR131	**Keskin Array S**	**32.95**	**287**	*eP*		**P**	**01 12 03.9**	**+0.9**
	comp=Z,0.5nm,0.3s,mb3.8							
AKASG	**Malin Array Be**	**35.50**	**307**	P		**P**	**01 12 24.4**	**-0.4**
	comp=Z,1.2nm,0.4s,mb4.1,baz=79,slow=8.3,SNR=6.4							
AKASG					pP	pP	01 12 51.3	+2.9
	comp=Z,1.0nm,0.4s,baz=80,slow=8.0,SNR=2.8							
AKASG	**Malin Array Be**	**35.50**	**307**	*i* P		**P**	**01 12 24.5**	**-0.4**
AKASG	comp=Z,1.0nm,0.4s				pmax	pmax		
JOF	**Joensuu**	**37.10**	**328**	*ep*		**P**	**01 12 38.3**	**0.0**
	comp=Z,4.4nm,0.4s,mb4.7							
JOF	**Joensuu**	**37.10**	**328**	*eP*		**P**	**01 12 38.3**	**0.0**
JOF	comp=Z,4.0nm,0.4s,mb4.7				pmax	pmax		
FINES	**FINESS Array B**	**38.97**	**324**	*eP*		**P**	**01 12 53.1**	**-0.9**
KAF	**Kangasniemi**	**39.04**	**325**	*ep*		**P**	**01 12 54.7**	**+0.1**
	comp=Z,2.3nm,0.6s,mb4.2,baz=105,slow=8.4							
KAF	**Kangasniemi**	**39.04**	**325**	*eP*		**P**	**01 12 54.7**	**+0.1**
KAF	comp=Z,2.0nm,0.6s,mb4.1				pmax	pmax		
KSRS	**Korea Array**	**40.78**	**74**	P		**P**	**01 13 11.2**	**+1.8**
	comp=Z,1.4nm,0.7s,mb3.9,baz=288,slow=8.5,SNR=2.6							
KSRS	**Korea Array**	**40.78**	**74**	P		**P**	**01 13 11.2**	**+1.8**
KSRS	comp=Z,1.0nm,0.7s,mb3.8				pmax	pmax		
KEV	**Kevo**	**41.44**	**337**	*ep*		**P**	**01 13 20.5**	**+6.2**
ARCES	**ARCESS Array B**	**41.83**	**336**	P		**P**	**01 13 18.1**	**+0.6**
	comp=Z,0.9nm,0.3s,mb4.0,baz=109,slow=8.8,SNR=14							
ARCES					pP	pP	01 13 45.6	+4.1
	comp=Z,5.0nm,0.9s,baz=113,slow=9.3,SNR=1.9							
ARCES	**ARCESS Array B**	**41.83**	**336**	P		**P**	**01 13 18.1**	**+0.6**
ARCES					*PP	pP	01 13 45.6	+4.1
ARCES	comp=Z,1.0nm,0.3s				pmax	pmax		
ARCES	comp=Z,5.0nm,0.9s				pmax	pmax		
JOW	**Kunigami**	**45.02**	**88**	P		**P**	**01 13 44.8**	**+1.1**
	comp=Z,9.5nm,0.4s,mb4.9,baz=321,slow=4.4,SNR=12							
BRG	**Berggiesshubel**	**45.17**	**308**	*e*(P)		pP	01 14 12.3	+3.4
	comp=Z,14nm,1.9s							
GERES	**GERESS Array B**	**45.63**	**305**	P		**P**	**01 13 49.2**	**+1.0**
	comp=Z,0.3nm,0.7s,mb3.1,baz=48,slow=9.3,SNR=3.9							
GERES					pP	pP	01 14 16.3	+3.7
	comp=Z,1.0nm,0.8s,baz=76,slow=7.0,SNR=4.2							
NB2	**NORSAR Subarra**	**46.03**	**322**	P		**P**	**01 13 50.4**	**-0.8**
	comp=Z,1.7nm,0.5s,mb4.0,baz=90,slow=7.9							
NOA	**NORSAR Array B**	**46.03**	**322**	P		**P**	**01 13 50.9**	**-0.2**
	comp=Z,1.7nm,0.5s,mb4.0,baz=92,slow=7.6,SNR=12							
NOA					pP	pP	01 14 19.6	+4.1
	comp=Z,5.0nm,0.9s,baz=91,slow=7.7,SNR=5.2							
NOA	**NORSAR Array B**	**46.03**	**322**	P		**P**	**01 13 50.9**	**-0.3**
NOA					*PP	pP	01 14 19.6	+4.0
NOA	comp=Z,2.0nm,0.5s				pmax	pmax		
NOA	comp=Z,5.0nm,0.9s				pmax	pmax		
NOA	**NORSAR Array B**	**46.03**	**322**	P		**P**	**01 13 50.9**	**-0.3**
NOA					pP	pP	01 14 19.6	+4.1
NAO01	**NORSAR Array S**	**46.19**	**322**	*eP*		**P**	**01 13 52.0**	**-0.4**
KKM	**Kota Kinabalu**	**48.13**	**120**	*eP*		**P**	**01 14 09.9**	**+1.8**
MJAR	**Matsushiro Arr**	**48.87**	**71**	P		**P**	**01 14 14.1**	**+0.6**
	comp=Z,2.6nm,0.6s,mb4.3,baz=288,slow=9.2,SNR=10							
MJAR	**Matsushiro Arr**	**48.87**	**71**	P		**P**	**01 14 14.1**	**+0.6**
MJAR	comp=Z,3.0nm,0.6s				pmax	pmax		
MJAR	**Matsushiro Arr**	**48.87**	**71**	P		**P**	**01 14 14.1**	**+0.6**
CDF	**Champ du Feu**	**49.89**	**306**	*eP*		**P**	**01 14 20.9**	**-0.2**
PGF	**Pioggiola**	**50.36**	**298**	*eP*		**P**	**01 14 24.7**	**0.0**
LPG	**La Plagne**	**51.02**	**302**	*eP*		**P**	**01 14 29.9**	**+0.3**
LPL	**La Plagne**	**51.03**	**302**	*eP*		**P**	**01 14 29.8**	**+0.1**
	comp=Z,3.0nm,0.6s,mb4.2							
LPL	**La Plagne**	**51.03**	**302**	*eP*		**P**	**01 14 29.8**	**+0.1**
LPL	comp=Z,2.0nm,0.6s,mb4.3				pmax	pmax		
LPL	**La Plagne**	**51.03**	**302**	*eP*		**P**	**01 14 29.8**	**+0.1**
	comp=Z,1.5nm,0.6s,mb4.2							
CABF	**La Chapelle**	**51.15**	**304**	*eP*		**P**	**01 14 30.4**	**-0.2**
MBDF	**Montbardon**	**51.24**	**301**	*eP*		**P**	**01 14 30.9**	**-0.4**
	comp=Z,6.3nm,1.0s,mb4.3							
MBDF	**Montbardon**	**51.24**	**301**	*eP*		**P**	**01 14 30.9**	**-0.4**
MBDF	comp=Z,3.0nm,1.0s,mb4.3				pmax	pmax		
MBDF	**Montbardon**	**51.24**	**301**	*eP*		**P**	**01 14 30.9**	**-0.4**
	comp=Z,3.2nm,1.0s,mb4.3							
MEZF	**Maizieres J'vi**	**51.30**	**306**	*eP*		**P**	**01 14 31.6**	**-0.1**
	comp=Z,3.9nm,0.7s,mb4.2							
MEZF	**Maizieres J'vi**	**51.30**	**306**	*eP*		**P**	**01 14 31.6**	**-0.1**
	comp=Z,3.9nm,0.7s,mb4.5							
FRF	**La Foret Royal**	**51.68**	**300**	*eP*		**P**	**01 14 33.8**	**-0.8**
	comp=Z,4.3nm,0.8s,mb4.2							
FRF	**La Foret Royal**	**51.68**	**300**	*eP*		**P**	**01 14 33.8**	**-0.8**
FRF	comp=Z,2.0nm,0.8s,mb4.2				pmax	pmax		
FRF	**La Foret Royal**	**51.68**	**300**	*eP

comp=Z,3.0nm,0.5s,mb4.4,baz=345,slow=5.7,SNR=12
YKA Yellowknife Ar 80.01 5 P P 01 17 35.8 -0.1
YKA pmax pmax
comp=Z,3.0nm,0.5s
ASAR Alice Springs 81.62 128 P P 01 17 45.7 +0.7
comp=Z,6.4nm,0.7s,mb4.6,baz=318,slow=5.3,SNR=55
ASAR Alice Springs 81.62 128 P P 01 17 45.7 +0.7
ASAR pmax pmax
comp=Z,6.0nm,0.7s
FORT Forrest 83.55 137 *e*P **P 01 17 55.8 +1.0**
comp=Z,19nm,0.6s,mb5.1
STKA Stephens Creek 92.22 129 P **P 01 18 36.9 +0.4**
comp=Z,0.7nm,0.4s,mb4.2,baz=311,slow=10,SNR=3.3
VNA2 Neumayer--Watz 122.82 203 *e* PKPdf 01 24 22.1 +1.1
baz=17,slow=2.3
VNA3 Neumayer Olymp 123.62 203 *e* PKPdf 01 24 23.3 +0.8

*NIED **14** 01:06:00, 46.90N×141.80E, h11km, Mw3.7 Best double couple: M≈4.32000×10^14 NP1:φ≈179.00000°, δ70.00000°, λ81.00000°. NP2:φ≈24.00000°, δ22.00000°, λ114.00000°.*
*ISCJB **14** 01:06:42.8±0.4, 46.83N±0.003×141.74E±0.05, h10km, mb4.3/3, Error ellipse: s-maj=4.8km s-min=3.8km az=151.1*
*MOS **14** 01:06:43.5±0.5, 47.09N×141.72E, h10km, mb4.7/2, Error ellipse: s-maj=54.5km s-min=31.7km az=17.5*
MOS Felt (III) at Nevel'sk.
*JMA **14** 01:06:43.9±0.5, 46.85N×141.81E, h16km, M3.7*
*SKHL **14** 01:06:44.5±0.3, 46.80N×141.80E, h10km, mb3.9/1*

ISC 14 01:06:44.3±0.4, 4677N±003×14178E±005, h10km, n16, σ1§21/26, mb4.3/2, 2D, Sakhalin Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YSS	**Yuzh-Sakhalins**	**0.69**	**75**	⇓*e*PN	**Pg**	**01 06 58.2**	**+0.5**
YSS				*e*S	**Sg**	**01 07 08.0**	**+1.3**
YSS				smax			
	comp=E,3μm,0.5s						
YSS	**Yuzh-Sakhalins**	**0.69**	**75**	⇓*i*Pg	**Pg**	**01 06 58.2**	**+0.5**
YSS				*e*Sg	**Sg**	**01 07 08.0**	**+1.3**
YSS				A		01 07 09.7	
	comp=E,3μm,0.5s						
YSS				AMS	AMS	01 07 24.0	
	comp=E,1μm,7.0s						
YSS				AMS	AMS	01 07 24.0	
	comp=E,1μm,7.0s						
JWK2	**Keihoku**	**1.46**	**177**	P	**Pn**	**01 07 10.8**	**+0.1**
JWK2				*e*S	**Sn**	**01 07 30.7**	**+0.8**
JRR	**Rishiri**	**1.67**	**192**	P	**Pn**	**01 07 14.2**	**+0.6**
JSE	**Soyaes**	**1.90**	**163**	P	**Pn**	**01 07 16.3**	**-0.5**
JSE				*e*S	**Sn**	**01 07 39.9**	**-0.8**
UGL	**Uglegorsk**	**2.31**	**5**	*e*S	**Sn**	**01 07 50.0**	**-0.9**
UGL				A		01 07 58.6	
	comp=E,231nm,0.5s						
ASAJ	**Asahikawa**	**2.72**	**168**	P	**Pn**	**01 07 28.6**	**+0.6**
JKK2	**Kamakawa 2**	**2.98**	**166**	P	**Pn**	**01 07 32.3**	**+0.7**
JTKR	**Abashiri--Toko**	**3.18**	**151**	P	**Pn**	**01 07 33.3**	**-1.0**
JTKR				*e*S	**Sn**	**01 08 09.7**	**-2.6**
TEY	**Ternei**	**4.01**	**246**	*e*P	**Pn**	**01 07 48.0**	**+2.2**
TEY				*e*Pg	**Pg**	**01 08 03.0**	**+1.8**
TEY				*e*S	**Sn**	**01 08 32.0**	**-0.8**
TEY				*e*Sg	**Sg**	**01 08 59.5**	**+6.4**
HABR	**Khabarovsk**	**4.86**	**293**	*e*PN	**Pn**	**01 07 56.2**	**-1.2**
HABR				*e*		01 08 51.9	
GRNR	**Gornyy**	**5.34**	**320**	*e*Pg	**Pg**	**01 08 26.0**	**-0.6**
GRNR				AMB	AMB	01 08 29.0	
	comp=E,5.0nm,0.3s						
GRNR				*e*S	**Sn**	**01 09 03.0**	**-2.6**
GRNR				*e*Sg	**Sg**	**01 09 39.0**	**+3.3**
GRNR				A		01 09 40.0	
	comp=E,20nm,0.5s						
GRNR				A		01 09 40.0	
	comp=E,23nm,0.5s						
EKMR	**Ekimchan**	**8.49**	**321**	*e*Pg	Pn	01 09 30.0	+43
EKMR				*e*S	**Sn**	**01 10 27.0**	**+4.0**
PET	**Petropavlovsk**	**12.53**	**54**	*e*P	**Pn**	**01 09 42.6**	**+0.1**
KRAR	**Krasnoyarsk**	**31.27**	**305**	*e*P	**P**	**01 13 04.1**	**+0.1**
KRAR				pmax	pmax		
	comp=Z,6.0nm,1.0s,mb4.4						
KURK	**Kurchatov**	**40.72**	**300**	*e*P	**P**	**01 14 23.7**	**-1.1**
KURK				pmax	pmax		
	comp=Z,6.0nm,1.0s,mb4.2						

*IDC **14** 01:13:57.0±0.7, 9.03S×158.44E, h0km, mb4.2/14, mb1 4.4/15, mb1mx4.4/18, mbtmp4.2/15, ML4.1/1, MS4.1/9, Ms1 4.0/9, ms1mx3.7/25, Error ellipse: s-maj=18.6km s-min=16.8km az=179.0*
*ISCJB **14** 01:13:59.2±0.3, 9.02S±0.07×158.32E±0.05, h25km, mb4.5/29, MS4.1/9, Error ellipse: s-maj=9.8km s-min=7.1km az=176.7*
*BJI **14** 01:14:00.5, 9.49S×158.50E, h28km, mB5.3, mb4.8*
*NEIC **14** 01:14:00.3±0.4, 9.03S×158.44E, mb4.7/16, Error ellipse: s-maj=12.2km s-min=8.4km az=137.0*
*DJA **14** 01:14:04, 982S×158.80E, h10km, mb4.9/10*

ISC 14 01:14:01.1±0.3, 904S±007×15836E±005, h27km, h27km±.7km: pP-P, n78, σ1§12/44, mb4.5/29, MS4.1/9, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**1.62**	**104**	Pn	**Pn**	**01 14 24.9**	**-3.0**
	1μm,0.3s,baz=213,slow=3.6,SNR=91						
HNR				Sn	**Sn**	**01 14 48.4**	**+0.5**
	3μm,0.3s,baz=116,slow=22,SNR=30						
HNR				LR	LR	01 14 51.9	
	comp=Z,2μm,19.3s,baz=34,slow=36						
HNR	**Honiara**	**1.62**	**104**	Pn	**Pn**	**01 14 24.9**	**-3.0**
HNR				Sn	**Sn**	**01 14 48.4**	**+0.5**
HNR				LR	LR	01 14 51.9	
PMG	**Port Moresby**	**11.06**	**267**	*e*Pn	**Pn**	**01 16 44.5**	**+6.8**
	48nm,1.1s						
CTA	**Charters Tower**	**16.05**	**225**	*e*P	**Pn**	**01 17 44.7**	**-0.4**
	11nm,1.2s						
CTA				*e*		01 17 51.9	
CTA	**Charters Tower**	**16.05**	**225**	Pn	**Pn**	**01 17 43.8**	**-1.2**
	0.5nm,0.3s,baz=56,slow=12,SNR=5.1						
CTAO	**Charters Tower**	**16.05**	**225**	*e*P	**Pn**	**01 17 44.8**	**-0.3**
	84nm,1.4s						
WRAB	**Tennant Creek**	**25.61**	**242**	*e*P	**P**	**01 19 29.2**	**+0.8**
	15nm,0.8s,mb4.6						
WRA	**Warramunga Arr**	**25.62**	**242**	P	**P**	**01 19 29.4**	**+0.8**
	8.1nm,0.8s,mb4.3,baz=68,slow=9.8,SNR=17						
WRA				PcP	PcP	01 23 07.4	+8.2
	3.5nm,0.8s,baz=62,slow=2.1,SNR=8.6						
KAKA	**Kakadu**	**25.70**	**260**	*e*P	**P**	**01 19 28.3**	**-1.1**
	8.7nm,0.6s,mb4.5						
KAKA				*e*	pP	01 19 34.6	-2.6
ASAR	**Alice Springs**	**27.54**	**235**	P	**P**	**01 19 46.1**	**+0.3**
	3.4nm,0.9s,mb4.0,baz=63,slow=9.2,SNR=17						
ASAR				PcP	PcP	01 23 12.8	+9.1
	2.3nm,0.8s,baz=61,slow=1.9,SNR=8.0						
STKA	**Stephens Creek**	**27.55**	**212**	*e*P	**P**	**01 19 48.4**	**+2.6**
	6.2nm,0.6s,mb4.4						
STKA	**Stephens Creek**	**27.55**	**212**	P	**P**	**01 19 48.0**	**+2.2**
	7.7nm,0.8s,mb4.4,baz=30,slow=12,SNR=13						
STKA				LR	LR	01 30 30.7	
	comp=Z,301nm,20.3s,MS3.9,baz=32,slow=36						
STKA	**Stephens Creek**	**27.55**	**212**	*e*P	**P**	**01 19 48.6**	**+2.8**
	19nm,1.0s,mb4.7						
AFI	**Afiamalu**	**29.65**	**102**	LR	LR	01 30 03.7	
	comp=Z,430nm,18.1s,MS4.1,baz=284,slow=33						
FITZ	**Fitzroy Crossi**	**33.01**	**251**	*e*P	**P**	**01 20 34.4**	**+0.1**
	4.3nm,0.7s,mb4.5						
FITZ				*e*	pP	01 20 41.5	-0.7
FORT	**Forrest**	**35.56**	**228**	*e*P	**P**	**01 20 54.5**	**-1.8**
	2.6nm,0.8s,mb4.2						
RPZ	**Rata Peaks**	**36.28**	**164**	LR	LR	01 32 54.4	
	comp=Z,843nm,19.3s,MS4.5,baz=227,slow=31						
KAPI	**Kappang**	**38.51**	**273**	P	**P**	**01 21 20.1**	**-1.4**
	4.6nm,0.8s,mb4.2,baz=110,slow=8.4,SNR=2.5						
KAPI				LR	LR	01 37 48.9	
	comp=Z,93nm,18.3s,MS3.6,baz=115,slow=37						
MBWA	**Marble Bar**	**39.08**	**248**	*e*P	**P**	**01 21 27.1**	**+0.8**
	16nm,1.0s,mb4.7						
MJAR	**Matsushiro Arr**	**49.13**	**338**	P	**P**	**01 22 46.6**	**0.0**
	1.8nm,1.0s,mb4.0,baz=191,slow=12,SNR=2.6						
PPT	**Papeete**	**51.24**	**105**	*e*S	**S**	**01 30 24.9**	**+4.5**
	86nm,29.0s						
PPT				*e*LR	LR	01 37 57.2	
	352nm,23.2s						
PPT	**Papeete**	**51.24**	**105**	LR	LR	01 39 51.2	
	comp=Z,241nm,18.6s,MS4.2,baz=264,slow=30						
TBI	**Tubuai**	**51.82**	**113**	*e*LR	LR	01 38 15.7	
	350nm,25.5s						
KSRS	**Korea Array**	**54.32**	**330**	P	**P**	**01 23 26.1**	**+0.8**
	2.6nm,1.0s,mb4.1,baz=146,slow=9.1,SNR=5.8						
CN2	**Changchun**	**60.47**	**333**	*e*P	**P**	**01 24 09.4**	**+0.8**
CN2				AMB	AMB		
	comp=Z,20nm,0.9s,mb5.2						
TAOE	**Nuku Hiva Isla**	**60.68**	**95**	*e*LR	LR	01 42 16.8	
	comp=Z,775nm,22.8s						
CMAR	**Chiang Mai Arr**	**64.66**	**295**	P	**P**	**01 24 38.5**	**+1.4**
	comp=Z,0.8nm,0.3s,mb4.2,baz=105,slow=4.6,SNR=8.0						
CHTO	**Chiang Mai**	**64.78**	**296**	*e*P	**P**	**01 24 37.6**	**-0.3**
	comp=Z,22nm,1.5s,mb5.0						
RKT	**Rikitea**	**65.10**	**111**	*e*LR	LR	01 44 22.0	
	comp=Z,228nm,30.8s						
CASY	**Casey**	**65.73**	**199**	*e*P	**P**	**01 24 42.6**	**-0.5**
	comp=Z,6.2nm,1.0s,mb4.6						
SONM	**Songino Array**	**72.86**	**326**	P	**P**	**01 25 28.7**	**+1.2**
	comp=Z,7.9nm,1.0s,mb4.6,baz=128,slow=4.6,SNR=29						
TAPN	**Taplejung**	**77.30**	**301**	*e*P	pP	01 26 02.4	+0.2
	comp=Z,29nm,1.2s						
ODAN	**Odare**	**77.43**	**300**	*e*P	pP	01 26 02.9	0.0
	comp=Z,37nm,0.9s						
JIRN	**Jiri**	**78.68**	**301**	*e*P	pP	01 26 10.4	+0.6
	comp=Z,13nm,0.6s						
GUN	**Gumba**	**79.02**	**301**	*e*P	pP	01 26 12.1	+0.4
	comp=Z,21nm,0.8s						
PKI	**Pulchoki**	**79.32**	**300**	*e*P	pP	01 26 12.9	-0.5
	comp=Z,13nm,0.7s						
KKN	**Kakani**	**79.49**	**300**	*e*P	pP	01 26 13.9	-0.4
	comp=Z,15nm,0.7s						
DMN	**Daman**	**79.59**	**300**	*e*P	pP	01 26 14.7	-0.1
	comp=Z,31nm,0.8s						
GKN	**Gorkha**	**80.10**	**301**	*e*P	pP	01 26 17.5	-0.1
	comp=Z,32nm,0.9s						
SEW	**Seward**	**80.31**	**24**	*e*P	**P**	**01 26 07.2**	**-2.2**
KOLN	**Koldanda**	**80.92**	**300**	*e*P	pP	01 26 21.4	-0.6
	comp=Z,27nm,0.8s						
DANN	**Dangsing**	**80.94**	**301**	*e*P	pP	01 26 21.8	-0.3
	comp=Z,26nm,0.9s						
QSPA	**South Pole Qui**	**80.95**	**180**	*e*P	**P**	**01 26 13.2**	**+0.5**
	comp=Z,14nm,1.0s,mb4.9						
QSPA				*e*pP	pP	01 26 20.9	-0.3
MCK	**McKinley**	**82.73**	**21**	*e*P	**P**	**01 26 21.5**	**-0.7**
	comp=Z,41nm,1.0s,mb5.4						
MCK				*e*pP	pP	01 26 29.8	-0.9
COLA	**College**	**83.80**	**20**	*e*P	**P**	**01 26 26.8**	**-0.9**
	comp=Z,21nm,0.8s,mb5.3						
COLA				*e*pP	pP	01 26 34.9	-1.4
MAW	**Mawson**	**83.80**	**203**	P	**P**	**01 26 28.1**	**+0.3**
	comp=Z,4.3nm,0.9s,mb4.6,baz=79,slow=3.8,SNR=7.8						
HYT	**Haines Junctio**	**85.69**	**26**	*e*P	**P**	**01 26 36.5**	**-0.8**
HYT				*e*pP	pP	01 26 45.6	-0.3
MK31	**Makanchi Array**	**87.13**	**318**	*e*P	**P**	**01 26 44.3**	**-0.4**
MK31				*e*pP	pP	01 26 52.5	-0.8
MKAR	**Makanchi Array**	**87.13**	**318**	P	**P**	**01 26 44.6**	**-0.1**
	comp=Z,1.1nm,0.7s,mb4.2,baz=102,slow=5.3,SNR=6.1						
MKAR				LR	LR	02 07 20.2	
	comp=Z,56nm,19.4s,MS4.0,baz=236,slow=37						
ZALV	**Zalesovo Beam**	**87.73**	**325**	P	**P**	**01 26 47.0**	**-0.4**
	comp=Z,0.4nm,0.3s,mb4.1,baz=86,slow=4.6,SNR=3.6						
ZALV				LR	LR	02 04 00.6	
	comp=Z,53nm,18.3s,MS4.0,baz=71,slow=34						
NVAR	**Mina Array Bea**	**90.38**	**51**	P	**P**	**01 27 01.9**	**+1.6**
	comp=Z,0.5nm,0.6s,mb4.0,baz=251,slow=4.5,SNR=4.7						
KURK	**Kurchatov**	**90.49**	**321**	P	**P**	**01 27 02.9**	**+2.4**
	comp=Z,0.7nm,0.9s,mb4.0,baz=112,slow=4.1,SNR=3.5						
KURK				LR	LR	02 08 09.7	
	comp=Z,52nm,18.7s,MS4.0,baz=80,slow=36						
KURK	**Kurchatov**	**90.49**	**321**	*e*P	**P**	**01 26 58.5**	**-2.0**
KURK				LR	LR	02 08 09.7	
BMO	**Blue Mountains**	**92.31**	**45**	*e*P	**P**	**01 27 09.9**	**+0.8**
	comp=Z,8.9nm,1.7s,mb4.8						
BMO				*e*pP	pP	01 27 17.6	-0.1
KBL	**Kabul**	**94.49**	**304**	*e*P	**P**	**01 27 19.0**	**-0.4**
	comp=Z,2.2nm,1.0s,mb4.5						
BVAR	**Borovoye Array**	**95.92**	**323**	P	**P**	**01 27 24.3**	**-1.1**
	comp=Z,0.8nm,0.8s,mb4.2,baz=36,slow=7.6,SNR=4.8						
BVAR				LR	LR	02 11 40.2	
	comp=Z,104nm,18.1s,MS4.3,baz=203,slow=36						
PDAR	**Pinedale Array**	**97.59**	**48**	P	**P**	**01 27 35.6**	**+2.3**
	comp=Z,0.3nm,0.8s,mb3.9,baz=101,slow=4.9,SNR=3.3						
SNAA	**Sanae**	**98.50**	**186**	*e*P	**P**	**01 27 35.9**	**-0.9**
	comp=Z,5.1nm,1.3s,mb4.9						
KOLS	**Kolonicke sedl**	**125.91**	**326**	*e*PKP	PKPdf	01 33 00.9	+0.2
GERES	**GERESS Array B**	**130.50**	**330**	PKP	PKPdf	01 33 08.5	-0.9
	comp=Z,0.3nm,0.7s,baz=2.3,slow=4.9,SNR=2.6						
GERES	**GERESS Array B**	**130.50**	**330**	PKP	PKPdf	01 33 08.5	-1.0
BDFB	**Brasilia**	**144.18**	**133**	PKP	PKPdf	01 33 33.2	-2.4
	comp=Z,1.3nm,0.6s,baz=142,slow=26,SNR=3.7						
PBRG	**Braganca**	**144.81**	**341**	*e*PKP	PKPdf	01 33 41.8	+5.9
PCAB	**Cabril**	**145.31**	**342**	*e*PKP	PKPdf	01 33 45.0	+8.2
MVO	**Moncorvo**	**145.48**	**340**	*e*PKP	PKPdf	01 33 45.7	+8.6
PVRL	**Vila Real**	**145.60**	**341**	*e*PKP	PKPdf	01 33 45.8	+8.5
ESDC	**Sonseca Array**	**145.64**	**335**	PKPbc	PKPbc	01 33 37.5	-0.2
	comp=Z,2.2nm,1.0s,baz=10,slow=3.7,SNR=11						
PTO	**Porto**	**146.00**	**342**	*e*PKP	PKPdf	01 33 47.6	+10
PVIS	**Viseu**	**146.17**	**341**	*e*PKP	PKPdf	01 33 45.8	+7.5
MTE	**Manteigas**	**146.34**	**340**	*e*PKP	PKPdf	01 33 48.6	+10
PCBR	**Castelo Branco**	**146.82**	**340**	*e*PKP	PKPdf	01 33 49.3	+10
PMRV	**Marv??o**	**147.16**	**339**	*e*PKP	PKPdf	01 33 49.5	+9.5
PTOM	**Tomar**	**147.33**	**341**	*e*PKP	PKPdf	01 33 50.4	+10
EVO	**Evora**	**148.18**	**339**	*e*PKP	PKPdf	01 33 56.5	+15
PTEO	**Sao Teotonio**	**149.31**	**340**	*e*PKP	PKPdf	01 33 57.0	+13
PFVI	**Vila Bisbo**	**149.71**	**339**	*e*PKP	PKPdf	01 33 58.4	+14
TAM	**Tamanrasset**	**150.58**	**301**	*e*PKPbc	PKPbc	01 33 51.9	+0.5
TORD	**Torodi Ar. Bea**	**156.74**	**282**	PKPab	PKPab	01 34 23.1	-1.4
	comp=Z,1.1nm,1.0s,baz=42,slow=1.6,SNR=4.5						

*IDC **14** 01:35:31.5±0.8, 336N×127.43E, h0km, mb4.0/11, mb1 4.1/11, mb1mx4.0/20, mbtmp4.1/11, Error ellipse: s-maj=71.3km s-min=14.5km az=73.0*
*ISCJB **14** 01:35:34.5±0.6, 332N±0.10×127.2E±0.02, h33km, mb4.5/22, Error ellipse: s-maj=27.7km s-min=8.1km az=154.4*
*NEIC **14** 01:35:36.9±0.4, 322N×127.10E, h35km, mb4.2/4, Error ellipse: s-maj=30.2km s-min=6.2km az=68.0*

ISC 14 01:35:36.6±0.6, 329N±010×1272E±02, h35km, n25, σ0§55/25, mb4.5/22, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**21.31**	**184**	P	**P**	**01 40 20.7**	**+0.2**
	1.1nm,0.6s,baz=343,slow=11,SNR=5.6						
WRAB	**Tennant Creek**	**24.11**	**163**	*e*P	**P**	**01 40 49.1**	**-0.2**
	2.9nm,0.6s,mb3.9						
WRA	**Warramunga Arr**	**24.12**	**163**	P	**P**	**01 40 48.8**	**-0.5**
	3.4nm,0.6s,mb3.9,baz=342,slow=10,SNR=10						
WB2	**Warramunga Arr**	**24.12**	**163**	*e*P	**P**	**01 40 48.9**	**-0.4**
ASAR	**Alice Springs**	**27.57**	**167**	P	**P**	**01 41 20.9**	**+0.4**
	0.7nm,0.3s,mb3.8,baz=341,slow=6.3,SNR=5.4						
CHTO	**Chiang Mai**	**31.67**	**301**	*e*P	**P**	**01 41 56.3**	**-0.7**
	1.9nm,0.6s,mb4.1						
KSRS	**Korea Array**	**34.01**	**1**	P	**P**	**01 42 15.6**	**-1.5**
	0.7nm,0.3s,mb4.0,baz=179,slow=10,SNR=4.7						
STKA	**Stephens Creek**	**37.55**	**160**	P	**P**	**01 42 48.1**	**+0.6**
	1.6nm,0.6s,mb3.9,baz=333,slow=10.0,SNR=4.5						
TAPN	**Taplejung**	**44.68**	**306**	*e*P	**P**	**01 43 46.5**	**+0.2**
	5.9nm,0.6s,mb4.6						
ODAN	**Odare**	**44.73**	**306**	*e*P	**P**	**01 43 46.9**	**+0.1**
	11nm,0.8s,mb4.7						
JIRN	**Jiri**	**46.03**	**306**	*e*P	**P**	**01 43 57.1**	**0.0**
	7.9nm,0.5s,mb4.9						
GUN	**Gumba**	**46.38**	**306**	*e*P	**P**	**01 44 00.1**	**+0.2**
	16nm,0.6s,mb5.1						
DMN	**Daman**	**46.89**	**305**	*e*P	**P**	**01 44 03.7**	**-0.1**
	8.5nm,0.7s,mb4.8						
GKN	**Gorkha**	**47.43**	**306**	*e*P	**P**	**01 44 07.4**	**-0.6**
	3.8nm,0.3s,mb4.8						
SONM	**Songino Array**	**47.87**	**341**	P	**P**	**01 44 12.1**	**+1.0**
	1.4nm,0.9s,mb4.0,baz=150,slow=8.3,SNR=6.3						
SONM				PcP	PcP	01 45 41.1	+1.8
	0.8nm,0.7s,baz=157,slow=3.8,SNR=5.6						
KOLN	**Koldanda**	**48.18**	**305**	*e*P	**P**	**01 44 13.4**	**-0.5**
	18nm,0.6s,mb5.3						
DANN	**Dangsing**	**48.27**	**306**	*e*P	**P**	**01 44 14.7**	**+0.1**
	32nm,0.6s,mb5.5						
MK31	**Makanchi Array**	**58.20**	**325**	*e*P	**P**	**01 45 27.4**	**+0.1**
MKAR	**Makanchi Array**	**58.20**	**325**	P	**P**	**01 45 27.7**	**+0.5**
	1.4nm,0.5s,mb4.2,baz=119,slow=7.7,SNR=18						
ZALV	**Zalesovo Beam**	**61.20**	**333**	P	**P**	**01 45 48.2**	**+0.5**
	1.0nm,0.6s,mb4.1,baz=132,slow=6.1,SNR=5.1						
KBL	**Kabul**	**62.18**	**308**	*e*P	**P**	**01 45 54.1**	**-0.7**
	1.3nm,0.6s,mb4.2						
KURK	**Kurchatov**	**62.38**	**327**	P	**P**	**01 45 56.2**	**+0.5**
	2.9nm,0.7s,mb4.5,baz=128,slow=6.3,SNR=20						
BVAR	**Borovoye Array**	**67.96**	**327**	P	**P**	**01 46 32.8**	**+0.8**
	1.9nm,0.7s,mb4.2,baz=132,slow=9.3,SNR=8.5						
ARU	**Arti**	**75.57**	**328**	*e*P	**P**	**01 47 17.8**	**+0.2**
	4.2nm,0.8s,mb4.4						
ARCES	**ARCESS Array B**	**91.03**	**340**	P	**P**	**01 48 36.6**	**-0.3**
	6.5nm,1.1s,mb4.9,baz=82,slow=6.5,SNR=7.0						

*IDC **14** 01:56:48.5±1.5, 39.00N×71.79E, h0km, mb3.7/3, mb1 3.8/8, mb1mx3.6/25, mbtmp3.8/8, ML3.4/5, MS3.3/3, Ms1 3.3/3, ms1mx2.8/27, Error ellipse: s-maj=26.8km s-min=17.4km az=152.0*
*NNC **14** 01:56:52.5±2.6, 39.50N×71.54E, h0km, mb4.0, mpv4.0, Error ellipse: s-maj=22.4km s-min=12.9km az=21.0*
*BJI **14** 01:56:52.4, 39.26N×71.78E, h25km, mb4.0, ML3.7*
*MOS **14** 01:56:55.3±1.1, 39.46N×71.53E, h46km, mb4.4/4, Error ellipse: s-maj=16.2km s-min=7.8km az=69.2*
*ISCJB **14** 01:56:55.6±0.5, 39.37N±003×7151E±006, h60km±8km, mb3.9/9, MS3.4/2, Error ellipse: s-maj=7.7km s-min=4.5km az=17.6*
*NEIC **14** 01:56:57.1±0.8, 39.41N×71.63E, h56km±9km, mb4.3/2, Error ellipse: s-maj=11.7km s-min=7.7km az=137.0*

ISC 14 01:56:57.4±0.5, 3940N±003×7147E±005, h55km±7km, n62, σ1§09/74, mb3.9/9, MS3.4/2, 13C-7D, Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**3.21**	**31**	P	**Pn**	**01 57 45.4**	**+0.1**
	SNR=80						
AML	**Almayashu**	**3.21**	**31**	*e*Pn	**Pn**	**01 57 44.2**	**-1.1**
AML				*e*Sn	**Sn**	**01 58 22.8**	**+0.5**
UCH	**Uchtor**	**3.65**	**38**	P	**Pn**	**01 57 51.2**	**-0.1**
	SNR=84						
UCH	**Uchtor**	**3.65**	**38**	*e*Pn	**Pn**	**01 57 50.0**	**-1.3**
UCH				*e*Sn	**Sn**	**01 58 35.4**	**+2.3**
EKS2	**Erkin-Say**	**3.70**	**27**	P	**Pn**	**01 57 53.3**	**+1.3**
	SNR=20						
EKS2	**Erkin-Say**	**3.70**	**27**	*e*Pn	**Pn**	**01 57 51.8**	**-0.1**
EKS2				*e*Sn	**Sn**	**01 58 36.4**	**+2.1**
KK31	**Karatay Array**	**3.77**	**349**	Pn	**Pn**	**01 57 54.1**	**+1.1**
	15nm,0.5s,baz=175,slow=13,SNR=253						
KK31				⇓Sn	**Sn**	**01 58 40.7**	**+4.6**
	9.2nm,0.3s						
KK31				⇓Lg		01 58 52.5	
	46nm,0.7s,baz=179,slow=29,SNR=5.1						
AAK	**Ala-Archa**	**3.96**	**34**	P	**Pn**	**01 57 55.9**	**+0.4**
	SNR=24						
FRU	**Bishkek**	**4.18**	**34**	*e*PN	**Pn**	**01 57 58.5**	**0.0**
FRU				*i* S	**Sn**	**01 58 51.0**	**+5.0**
FRU				pmax	pmax		
	comp=Z,110nm,1.9s						
FRU				smax			
	comp=N,800nm,2.1s						
KBK	**Karagaybulak**	**4.19**	**38**	P	**Pn**	**01 57 59.2**	**+0.5**
	SNR=14						
CHMS	**Chumysh**	**4.37**	**33**	P	**Pn**	**01 58 01.1**	**0.0**
	SNR=18						
USP	**Ospenovka**	**4.49**	**30**	P	**Pn**	**01 58 02.4**	**-0.4**
	SNR=17						
TKM2	**Tokmak 2**	**4.70**	**40**	⇑Pn	**Pn**	**01 58 04.7**	**-1.0**
	comp=N,16nm,0.8s						
TKM2				⇑Pg	**Pn**	**01 58 16.8**	**+11**
	comp=N,37nm,1.1s						
TKM2				⇑Sn	**Sn**	**01 58 60.0**	**+1.1**
	comp=N,37nm,0.9s						
TKM2				⇑Lg		01 59 16.6	
	comp=N,40nm,0.8s						
TKM2	**Tokmak 2**	**4.70**	**40**	P	**Pn**	**01 58 04.8**	**-0.8**
	SNR=11						
TKM2	**Tokmak 2**	**4.70**	**40**	*e*Pn	**Pn**	**01 58 04.3**	**-1.4**
KBL	**Kabul**	**5.22**	**203**	*e*PN	**Pn**	**01 58 13.8**	**+1.0**
KBL				pmax	pmax		
	comp=Z,8.0nm,0.5s						
KBL	**Kabul**	**5.22**	**203**	*e*Pn	**Pn**	**01 58 13.8**	**+0.9**
	comp=Z,8.3nm,0.5s						
KBL				*e*Sn	**Sn**	**01 59 11.7**	**0.0**
CEP	**Cherat**	**5.57**	**176**	P	**Pn**	**01 58 17.2**	**-0.5**
CEP				S	**Sn**	**01 59 31.0**	**+11**
KNDC	**Almaty**	**5.63**	**46**	⇑Pn	**Pn**	**01 58 13.1**	**-5.3**
	comp=Z,22nm,0.8s						
KNDC				⇑Lg		01 59 45.8	
	comp=Z,103nm,0.7s						
CHCP	**Chirah Chowk**	**5.91**	**165**	⇑P	**Pn**	**01 58 22.8**	**+0.6**
THW	**Thamme Wali**	**6.59**	**178**	⇓P	**Pn**	**01 58 32.0**	**+0.4**
SARP	**Sargodha**	**

BOD	**Bodaibo**	**32.91**	**42**	*e*P		**P**	**02 03 24.8**	**-1.2**
BOD				pmax	pmax			
	comp=Z,4.0nm,1.0s,mb4.3							
TIXI	**Tiksi**	**42.96**	**23**	*e*P		**P**	**02 04 50.3**	**-0.1**
TIXI				pmax	pmax			
	comp=Z,5.0nm,1.3s,mb4.1							
CDF	**Champ du Feu**	**45.88**	**303**	*e*P		**P**	**02 05 15.1**	**+1.0**
LPG	**La Plagne**	**46.99**	**300**	*e*P		**P**	**02 05 24.5**	**+1.7**
	comp=Z,4.6nm,0.8s,mb4.1							
LPG	**La Plagne**	**46.99**	**300**	*e*P		**P**	**02 05 24.5**	**+1.7**
LPG				pmax	pmax			
	comp=Z,2.0nm,0.8s,mb4.1							
LPG	**La Plagne**	**46.99**	**300**	*e*P		**P**	**02 05 24.5**	**+1.7**
	comp=Z,2.3nm,0.8s,mb4.2							
LPL	**La Plagne**	**47.00**	**300**	*e*P		**P**	**02 05 24.5**	**+1.7**
	comp=Z,11nm,1.1s,mb4.4							
LPL	**La Plagne**	**47.00**	**300**	*e*P		**P**	**02 05 24.5**	**+1.7**
LPL				pmax	pmax			
	comp=Z,6.0nm,1.1s,mb4.4							
LPL	**La Plagne**	**47.00**	**300**	*e*P		**P**	**02 05 24.5**	**+1.7**
	comp=Z,5.5nm,1.1s,mb4.4							
MBDF	**Montbardon**	**47.20**	**299**	*e*P		**P**	**02 05 25.5**	**+1.1**
ORIF	**Oris-en-Rattie**	**47.75**	**299**	*e*P		**P**	**02 05 29.5**	**+0.8**
MJAR	**Matsushiro Arr**	**51.60**	**71**	P		**P**	**02 05 55.6**	**-2.4**
	comp=Z,0.6nm,0.4s,mb3.8,baz=284,slow=11,SNR=4.9							
MJAR	**Matsushiro Arr**	**51.60**	**71**	*e*P		**P**	**02 05 57.4**	**-0.7**
MJAR				pmax	pmax			
	comp=Z,1.0nm,0.4s							
TORD	**Torodi Ar. Bea**	**66.18**	**268**	P		**P**	**02 07 39.9**	**+0.4**
	comp=Z,0.4nm,0.5s,mb3.7,baz=55,slow=3.3,SNR=15							
TORD				LR	LR		02 44 05.1	
	comp=Z,57nm,18.1s,MS3.8,baz=110,slow=43							

CASC ***14*** *02:02:34.0±2.5, 661N×8250W, h2km±315km, MD4.4, mb4.0(NEIC)*
ISCJB ***14*** *02:02:35.1±0.7, 646N×006◦-8263W◦007, h33km, mb3.8/12, Error ellipse: s-maj=12.3km s-min=5.9km az=142.0*
IDC ***14*** *02:02:35.3±3.5, 705N×8236W, h0km, mb3.7/5, mb1 4.0/6, mb1mx3.7/20, mbtmp3.7/6, ML2.7/1, MS3.1/5, Ms1 3.2/5, ms1mx2.9/32, Error ellipse: s-maj=119.1km s-min=29.1km az=32.0*
NEIC ***14*** *02:02:40.5±1.8, 690N×8252W, h41km±14km, mb4.0/9, Error ellipse: s-maj=28.9km s-min=10.0km az=207.0*
ISC 14 02:02:37.4±0.7, 649N±007×8261W±007, h35km, n39, σ1§17/41, mb3.8/12, 5C-1D, South of Panama

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
ACR	**Cerro Adams**	**2.22**	**346**	*e*P		**Pn**	**02 03 09.8**	**-1.9**
ACR				*e*S		**Sn**	**02 03 38.0**	**0.0**
BAR1		**2.82**	**346**	*e*P		**Pn**	**02 03 19.0**	**-1.0**
BAR1				*e*S		**Sn**	**02 03 54.3**	**+1.4**
BUS	**Buena Vista**	**3.25**	**340⇑**	*e*P		**Pn**	**02 03 25.1**	**-0.8**
BUS				*e*S		**Sn**	**02 04 06.8**	**+3.3**
URSC	**Urasca**	**3.52**	**341⇑**	*e*P		**Pn**	**02 03 28.9**	**-0.7**
URSC				*e*S		**Sn**	**02 04 12.0**	**+1.9**
SJS	**Escuela Geolog**	**3.72**	**337**	*e*P		**Pn**	**02 03 32.0**	**-0.3**
BCIP	**Isla Barro Col**	**3.82**	**46**	*e*Pn		**Pn**	**02 03 33.0**	**-0.8**
PRS1	**Puriscal**	**3.86**	**334**	*e*P		**Pn**	**02 03 32.0**	**-2.3**
PRS1				*e*S		**Sn**	**02 04 18.5**	**0.0**
CGA2	**Cerro Gallo 2**	**3.96**	**332**	*e*P		**Pn**	**02 03 34.5**	**-1.2**
CGA2				*e*S		**Sn**	**02 04 21.4**	**+0.6**
JCR	**Jicaral**	**4.16**	**324⇓**	*e*P		**Pn**	**02 03 36.3**	**-2.1**
JTS	**JuntasAbangare**	**4.43**	**329**	Pn		**Pn**	**02 03 40.9**	**-1.3**
	89nm,0.3s,baz=89,slow=16,SNR=44							
JTS				Sn		**Sn**	**02 04 32.1**	**-0.5**
	25nm,0.3s,baz=306,slow=22,SNR=8.4							
JTS				LR		LR	02 05 37.4	
	comp=Z,217nm,18.4s,baz=99,slow=44							
FORC	**Fortuna**	**4.45**	**333⇑**	*e*P		**Pn**	**02 03 42.1**	**-0.3**
FORC				*e*S		**Sn**	**02 04 37.1**	**+4.0**
VCR	**Vista de Mar**	**4.69**	**321**	*e*P		**Pn**	**02 03 44.2**	**-1.6**
2RIO	**Dos Rios de Up**	**4.78**	**327⇑**	*e*P		**Pn**	**02 03 54.0**	**+7.1**
CUI	**Cuipilapa**	**4.87**	**329⇑**	*e*P		**Pn**	**02 03 47.8**	**-0.3**
CUI				*e*S		**Sn**	**02 04 44.1**	**+0.8**
ROSC	**El Rosal**	**8.39**	**101**	Pn		**Pn**	**02 04 38.7**	**+2.0**
	1.9nm,0.3s,baz=289,slow=23,SNR=4.9							
ROSC				LR		LR	02 07 47.4	
	comp=Z,49nm,20.4s,baz=253,slow=38							
ROSC	**El Rosal**	**8.39**	**101**	*e*Pn		**Pn**	**02 04 40.3**	**+3.7**
ROSC				LR		LR	02 07 47.4	
CNCH	**Conchagua**	**8.48**	**323**	*e*P		x	02 04 39.1	
LFRS	**El Faro**	**9.52**	**319**	*e*P		x	02 04 53.3	
SBLS	**San Blas**	**10.05**	**317**	*e*P		x	02 05 02.6	
SNJE	**San Jose**	**10.06**	**317**	*e*P		x	02 05 03.4	
LAPE	**La Pedrera**	**11.00**	**84**	*e*P		Px	02 03 50.4	
SDV	**Santo Domingo**	**12.10**	**78**	Pn		**Pn**	**02 05 27.7**	**+0.3**
	0.4nm,0.3s,baz=290,slow=10,SNR=12							
ATAH	**Atahualpa**	**14.04**	**163**	LR		LR	02 10 38.2	
	comp=Z,172nm,20.8s,baz=281,slow=33							
CMIG	**Matias Romero**	**15.97**	**312**	Pn		**Pn**	**02 06 22.1**	**+2.6**
	1.1nm,0.3s,baz=92,slow=8.1,SNR=17							
CMIG				LR		LR	02 11 31.3	
	comp=Z,69nm,19.7s,baz=250,slow=34							
LPAZ	**La Paz**	**26.78**	**148**	LR		LR	02 18 19.4	
	comp=Z,68nm,20.5s,baz=292,slow=35							
TXAR	**Lajitas Array**	**30.18**	**321**	P		**P**	**02 08 45.3**	**+0.8**
	0.2nm,0.7s,mb3.0,baz=143,slow=14,SNR=3.3							
ANMO	**Albuquerque**	**35.85**	**325**	P		**P**	**02 09 35.0**	**+1.1**
	0.3nm,0.4s,mb3.6,baz=106,slow=7.4,SNR=3.7							
ANMO	**Albuquerque**	**35.85**	**325**	*e*P		**P**	**02 09 34.0**	**+0.1**
	1.2nm,0.7s,mb3.9							
SDCO	**Great Sand Dun**	**37.43**	**330**	*e*P		**P**	**02 09 48.6**	**+1.3**
	3.0nm,1.2s,mb4.0							
DUG	**Dugway**	**43.12**	**326**	*e*P		**P**	**02 10 34.7**	**+0.3**
	1.0nm,0.7s,mb3.6							
PDAR	**Pinedale Array**	**43.26**	**331**	P		**P**	**02 10 35.8**	**+0.3**
	0.5nm,0.7s,mb3.4,baz=138,slow=9.3,SNR=4.8							
HWUT	**Hardware Ranch**	**43.42**	**328**	*e*P		**P**	**02 10 37.8**	**+1.0**
	3.4nm,0.8s,mb4.1							
TPAW	**Teton Pass**	**44.48**	**330**	*e*P		**P**	**02 10 46.0**	**+0.7**
	2.2nm,0.9s,mb3.9							
ELK	**Elko**	**44.86**	**324**	*e*P		**P**	**02 10 49.4**	**+1.0**
	1.6nm,0.7s,mb4.0							
ULM	**Lac du Bonnet**	**45.01**	**348**	P		**P**	**02 10 47.4**	**-2.0**
	3.0nm,0.7s,mb4.2,baz=155,slow=6.6,SNR=6.0							
ULM	**Lac du Bonnet**	**45.01**	**348**	*e*P		**P**	**02 10 47.4**	**-2.0**
	3.1nm,0.8s,mb4.2							
NVAR	**Mina Array Bea**	**45.31**	**320**	P		**P**	**02 10 52.5**	**+0.6**
	1.1nm,0.8s,mb3.7,baz=124,slow=7.3,SNR=7.3							
HLID	**Hailey**	**46.30**	**328**	*e*P		**P**	**02 10 59.8**	**+0.2**
	1.3nm,0.7s,mb4.0							
WVOR	**Wild Horse Val**	**47.90**	**324**	*e*P		**P**	**02 11 12.4**	**+0.2**
	4.0nm,0.9s,mb4.5							

BJI ***14*** *02:10:59.4, 1122S×16635E, h170km, mB4.9, mb4.6*
IDC ***14*** *02:11:01.4±0.8, 1069S×16609E, h144km±6km, mb4.4/15, mb1 4.5/16, mb1mx4.3/22, mbtmp4.4/16, Error ellipse: s-maj=13.7km s-min=12.3km az=178.0*
ISCJB ***14*** *02:11:04.6±1.0, 1076S±005×16595E±004, h186km±10km, mb4.5/54, Error ellipse: s-maj=7.9km s-min=6.5km az=157.7*
NEIC ***14*** *02:11:04.1±0.9, 1070S×16598E, h171km±8km, mb4.6/40, Error ellipse: s-maj=6.2km s-min=4.2km az=152.0*
DJA ***14*** *02:11:05, 1067S×166.10E, h187km, mb4.9/7*
ISC 14 02:11:04.8±1.0, 1073S±005×16600E±004, h175km±9km, h164km±4.2km; pP-P, n359, σ0◦54/317, mb4.5/54, 110C-92D, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
HNR	**Honiara**	**6.09**	**282**	P		**Pn**	**02 12 31.6**	**-1.3**
	6.8nm,0.3s,baz=179,slow=3.6,SNR=12							
HNR				S		**Sn**	**02 13 42.2**	**-0.1**
	1.6nm,0.3s,baz=315,slow=17,SNR=2.1							
HNR	**Honiara**	**6.09**	**282**	*e*Pn		**Pn**	**02 12 31.8**	**-1.1**
	129nm,0.7s							
DZM	**Mont Dzumac**	**11.28**	**178**	*e*Pn		**Pn**	**02 13 40.6**	**-0.5**
NOUC	**Port Laguerre**	**11.31**	**179**	*e*P		**Pn**	**02 13 42.9**	**+1.5**
PLUM	**Mont Dore**	**11.49**	**177**	*e*P		**Pn**	**02 13 44.5**	**+0.7**
CTA	**Charters Tower**	**21.16**	**242**	*e*P		**P**	**02 15 37.1**	**+0.7**
	18nm,0.8s,mb4.5							
CTA				*e*pP			02 16 02.3	
CTA				*e*PCP		PcP	02 19 35.3	+0.2
CTA	**Charters Tower**	**21.16**	**242**	P		**P**	**02 15 37.1**	**+0.7**
	22nm,0.7s,mb4.6,baz=73,slow=11,SNR=26							
CTAO	**Charters Tower**	**21.16**	**242**	*e*P		**P**	**02 15 37.1**	**+0.7**
	23nm,0.8s,mb4.6							
CTAO				*e*pP			02 16 02.0	
AFI	**Afiamalu**	**21.94**	**101**	P		**P**	**02 15 43.5**	**-1.2**
	16nm,0.8s,mb4.5,baz=267,slow=4.9,SNR=5.2							
AFI	**Afiamalu**	**21.94**	**101**	*e*P		**P**	**02 15 43.7**	**-1.0**
	60nm,1.3s,mb4.9							
COEN	**Coen**	**22.52**	**259**	*e*P		**P**	**02 15 50.4**	**+0.4**
	3.3nm,0.7s,mb3.9							
ARMA	**Armidale**	**23.71**	**212**	*e*P		**P**	**02 16 02.1**	**+1.3**
ARMA				*e*PCP		PcP	02 19 56.3	+16
URZ	**Urewera**	**29.16**	**162**	P		**P**	**02 16 49.7**	**+0.2**
	15nm,0.3s,mb5.2,baz=334,slow=2.9,SNR=23							
STKA	**Stephens Creek**	**30.84**	**223**	*e*P		**P**	**02 17 04.9**	**+0.5**
	14nm,0.6s,mb4.9							
STKA				*e*PCP		PcP	02 19 57.6	+0.4
STKA	**Stephens Creek**	**30.84**	**223**	P		**P**	**02 17 04.9**	**+0.5**
	19nm,0.8s,mb4.9,baz=45,slow=8.8,SNR=32							
STKA				PcP		PcP	02 19 57.7	+0.5
	6.3nm,0.9s,baz=34,slow=4.7,SNR=5.4							
SNZO	**South Karori**	**31.41**	**167**	*e*P		**P**	**02 17 09.9**	**+0.6**
	39nm,0.6s,mb5.3							
WRAB	**Tennant Creek**	**31.81**	**249**	*e*P		**P**	**02 17 12.3**	**-0.8**
	13nm,0.8s,mb4.7							
WRAB				*e*PcP		PcP	02 20 00.3	+0.2
WB2	**Warramunga Arr**	**31.81**	**249**	*e*P		**P**	**02 17 13.2**	**+0.1**
WRA	**Warramunga Arr**	**31.82**	**249**	P		**P**	**02 17 13.0**	**-0.2**
	9.3nm,0.5s,mb4.7,baz=79,slow=9.0,SNR=34							
WRA				PcP		PcP	02 20 00.3	+0.2
	4.6nm,0.6s,baz=75,slow=3.1,SNR=16							
WRA				ScP		ScP	02 23 31.1	+3.9
	2.0nm,0.8s,baz=87,slow=3.6,SNR=7.2							
KAKA	**Kakadu**	**32.90**	**263**	*e*P		**P**	**02 17 20.0**	**-2.7**
	13nm,0.6s,mb4.8							
KAKA				*e*PCP		PcP	02 20 01.3	-1.9
ASAR	**Alice Springs**	**33.15**	**243**	P		**P**	**02 17 24.1**	**-0.7**
	9.8nm,0.8s,mb4.6,baz=63,slow=10,SNR=129							
ASAR				PcP		PcP	02 20 03.6	-0.1
	5.8nm,0.6s,baz=74,slow=2.6,SNR=27							
ASAR				ScP		ScP	02 23 36.3	+4.6
	1.4nm,0.9s,baz=77,slow=3.7,SNR=7.3							
RPZ	**Rata Peaks**	**33.15**	**173**	P		**P**	**02 17 24.1**	**-0.3**
	38nm,0.7s,mb5.2,baz=24,slow=19,SNR=9.8							
FITZ	**Fitzroy Crossi**	**39.70**	**255**	*e*P		**P**	**02 18 20.1**	**-0.2**
	31nm,0.7s,mb5.0							
FITZ				*e*PCP		PcP	02 20 24.5	+1.0
FORT	**Forrest**	**40.42**	**235**	*e*P		**P**	**02 18 26.2**	**+0.1**
	44nm,0.8s,mb5.1							
MBWA	**Marble Bar**	**45.53**	**251**	*e*P		**P**	**02 19 07.7**	**+0.5**
	28nm,1.1s,mb4.8							
KLBR	**Kellerberrin**	**49.08**	**237**	*e*P		**P**	**02 19 34.0**	**-0.5**
	16nm,1.1s,mb4.6							
NWAO	**Narrogin (SRO)**	**49.84**	**236**	*e*P		**P**	**02 19 39.9**	**-0.3**
	19nm,0.8s,mb4.8							
MUN	**Mundaring**	**50.45**	**237**	*e*P		**P**	**02 19 44.8**	**-0.1**
MDJ	**Mudanjiang**	**64.19**	**332**	P		**P**	**02 21 22.4**	**+1.7**
MDJ				AMB		AMB		
	comp=Z,144nm,5.2s							
CASY	**Casey**	**66.76**	**201**	*e*P		**P**	**02 21 37.1**	**+0.2**
GYA	**Guiyang**	**68.45**	**304**	P		**P**	**02 21 48.9**	**+0.7**
GYA				AP		pP	02 22 30.4	+0.6
GYA				XP		sP	02 22 48.6	0.0
GYA				PP		PP	02 24 25.3	+3.5
GYA				SCP			02 25 59.6	
GYA				PCS			02 26 17.0	
GYA				S		S	02 30 36.3	+0.3
GYA				SKS			02 31 28.6	
GYA				AMB		AMB		
	comp=Z,10.0nm,1.0s,mb4.5							
XAN	**Xi'an**	**70.09**	**312**	P		**P**	**02 21 58.4**	**+0.2**
XAN				AP		pP	02 22 37.8	-2.1
XAN				AMB		AMB		
	comp=Z,2.0nm,0.7s,mb4.0							
HHC	**Hu-ho-hao-te**	**71.75**	**319**	*e*P		**P**	**02 22 09.5**	**+1.5**
HHC				PCP		PcP	02 22 28.0	+2.0
HHC				AP		pP	02 22 51.6	+1.6
HHC				XP		sP	02 23 11.3	+2.6
HHC				PP		PP	02 24 53.6	+3.7
HHC				S		S	02 31 14.4	+0.5
HHC				SCS		ScS	02 31 55.1	-2.0
HHC				XS		sS	02 32 28.6	+1.9
HHC				SS		SS	02 35 56.3	+2.4
HHC				AMB		AMB		
	comp=Z,17nm,1.0s,mb4.7							
HHC				AMB		AMB		
	comp=Z,92nm,8.0s							
HHC				LR		LR		
	comp=N,159nm,18.1s							
HHC				LR		LR		
	comp=E,192nm,17.1s							
HHC				LR		LR		
	comp=Z,137nm,17.8s							
CMAR	**Chiang Mai Arr**	**72.21**	**293**	P		**P**	**02 22 12.3**	**+1.1**
	comp=Z,3.4nm,0.6s,mb4.3,baz=119,slow=4.2,SNR=22							
CMAR				pP		pP	02 22 45.2	-8.0
	comp=Z,1.9nm,0.3s,baz=102,slow=13,SNR=4.7							
CHTO	**Chiang Mai**	**72.32**	**294**	*e*P		**P**	**02 22 12.0**	**+0.2**
CD2	**Chengdu**	**72.61**	**307**	*e*P		**P**	**02 22 14.6**	**+1.3**
CD2				AP		pP	02 22 56.8	+1.4
CD2				XP		sP	02 23 15.8	+1.8
CD2				PP		PP	02 25 00.4	+3.0
CD2				XS		sS	02 32 37.1	+0.1
CD2				SS		SS	02 36 08.8	+1.4
CD2				AMB		AMB		
	comp=Z,10.0nm,0.9s,mb4.5							
CD2				AMB		AMB		
	comp=Z,40nm,7.2s							
LZH	**Lanzhou**	**74.73**	**312**	*e*P		**P**	**02 22 25.0**	**-0.6**
LZH				XP		sP	02 23 26.5	+0.1
LZH				AMB		AMB		
	comp=Z,25nm,1.0s,mb4.8							
LZH				AMB		AMB		
	comp=Z,140nm,5.6s							
LZH	**Lanzhou**	**74.73**	**312**	*e*P		**P**	**02 22 25.0**	**-0.6**
	comp=Z,25nm,1.0s,mb4.8							
LZH				pP		pP	02 23 03.0	-4.8
LZH				sP		sP	02 23 26.5	+0.1
SONM	**Songino Array**	**78.56**	**324**	P		**P**	**02 22 47.4**	**+0.6**
	comp=Z,1.3nm,0.5s,mb3.8,baz=143,slow=5.5,SNR=8.2							
SONM				pP		pP	02 23 22.3	-7.1
	comp=Z,1.1nm,0.9s,baz=143,slow=7.0,SNR=2.7							
GTA	**Gaotai**	**79.02**	**314**	*e*P		**P**	**02 22 50.3**	**+0.8**
GTA				AP		pP	02 23 30.0	-2.2
GTA				XP		sP	02 23 46.6	-4.1
GTA				AMB		AMB		
	comp=Z,7.0nm,1.2s,mb4.2							
MCK	**McKinley**	**81.77**	**19**	*e*P		**P**	**02 23 02.9**	**-0.7**
	comp=Z,12nm,1.1s,mb4.4							
KIPM	**Iron Peak**	**82.28**	**47**	*e*P		**P**	**02 23 07.2**	**+0.4**
HOPS	**Hopland**	**82.29**	**48**	⇓P		**P**	**02 23 06.7**	**-0.2**
	baz=82							
V03C	**Hunter Liggett**	**82.67**	**51**	⇑P		**P**	**02 23 09.5**	**+0.6**
	baz=83							
MNRC	**McLaughlin Nat**	**82.71**	**48**	⇓P		**P**	**02 23 09.5**	**+0.4**
	baz=83							
N02C	**Big Bar**	**82.76**	**46**	⇓P		**P**	**02 23 09.0**	**-0.3**
	baz=83							
GASB	**Alder Springs**	**82.77**	**47**	⇑P		**P**	**02 23 09.5**	**+0.1**
	baz=83							
COLA	**College**	**82.91**	**18**	*e*P		**P**	**02 23 08.3**	**-1.2**
	comp=Z,12nm,0.8s,mb4.7							
PACP	**Pacheco Peak**	**82.95**	**50**	⇓P		**P**	**02 23 10.4**	**+0.1**
	baz=83							
PKD	**Parkfield**	**83.17**	**52**	⇓P		**P**	**02 23 11.6**	**+0.1**
	baz=83							
WDC	**Whiskeytown Da**	**83.22**	**47**	⇓P		**P**	**02 23 11.7**	**+0.1**
	baz=83							
M02C	**Callahan**	**83.28**	**46**	⇑P		**P**	**02 23 12.8**	**+0.9**
	baz=83,SNR=5.7							
BSC	**Santa Cruz Isl**	**83.28**	**54**	⇑P		**P**	**02 23 11.8**	**-0.3**
	baz=83							
YBH	**Yreka Blue Hor**	**83.50**	**46**	⇓P		**P**	**02 23 13.6**	**+0.6**
	baz=84,SNR=9.0							
YBH	**Yreka Blue Hor**	**83.50**	**46**	*e*P		**P**	**02 23 13.7**	**+0.6**
	comp=Z,7.0nm,0.8s,mb4.4							
I02A	**Mapleton**	**83.55**	**43**	⇓P		**P**	**02 23 13.9**	**+0.7**
	baz=84							
OHCM	**Honcut**	**83.56**	**48**	*e*P		**P**	**02 23 12.0**	**-1.4**
ORV	**Oroville**	**83.62**	**48**	⇑P		**P**	**02 23 13.0**	**-0.7**
	baz=84,SNR=8.1							
HUMO	**Hull Mountain**	**83.64**	**45**	⇓P		**P**	**02 23 14.1**	**+0.4**
	baz=84,SNR=8.4							
HUMO	**Hull Mountain**	**83.64**	**45**	*e*P		**P**	**02 23 14.3**	**+0.6**
	comp=Z,12nm,1.0s,mb4.6							
M03C	**McCloud**	**83.76**	**46**	⇓P		**P**	**02 23 14.7**	**+0.4**
	baz=84,SNR=7.5							
LAVA	**Lava Cap Winer**	**83.92**	**49**	⇑P		**P**	**02 23 14.7**	**-0.6**
	baz=84							
CMB	**Columbia Colle**	**83.95**	**50**	⇓P		**P**	**02 23 15.1**	**-0.3**
	baz=84,SNR=10							
CMB	**Columbia Colle**	**83.95**	**50**	*e*P		**P**	**02 23 15.0**	**-0.5**
	comp=Z,5.5nm,0.9s,mb4.3							
HYT	**Haines Junctio**	**84.00**	**24**	*e*P		**P**	**02 23 14.9**	**-0.2**
M04C	**Macdoel**	**84.13**	**46**	⇓P		**P**	**02 23 16.7**	**+0.4**
	baz=84,SNR=5.1							
T06C	**Millerton Lake**	**84.14**	**51**	⇑P		**P**	**02 23 16.2**	**-0.2**
	baz=84,SNR=11							
H03A	**Soap Creek Ran**	**84.15**	**43**	⇓P		**P**	**02 23 16.2**	**-0.1**
	baz=84							
O04C	**Chester**	**84.18**	**47**	⇓P		**P**	**02 23 16.8**	**+0.3**
	baz=84,SNR=7.2							
O05C	**Quincy**	**84.18**	**48**	⇑P		**P**	**02 23 16.5**	**-0.1**
	baz=84,SNR=5.4							
VES	**Vestal, Richgr**	**84.27**	**52**	⇑P		**P**	**02 23 16.6**	**-0.5**
	baz=84							
RCTC	**Rector, Farmer**	**84.29**	**52**	⇓P		**P**	**02 23 16.9**	**-0.3**
	baz=84							
G03A	**Yamhill**	**84.39**	**42**	⇑P		**P**	**02 23 17.3**	**-0.1**
	baz=84							
I04A	**Tendick Farm,**	**84.43**	**44**	⇓P		**P**	**02 23 17.7**	**0.0**
	baz=84							
J04A	**Umpqua Nationa**	**84.44**	**44**	⇓P		**P**	**02 23 18.2**	**+0.4**
	baz=84							
KCC	**Kaiser Creek**	**84.54**	**51**	⇑P		**P**	**02 23 18.6**	**+0.2**
	baz=85,SNR=5.8							
BEKR	**Beckwourth**	**84.56**	**48**	⇓P		**P**	**02 23 18.6**	**+0.2**
	baz=85,SNR=12							
HELL	**Mitchell Peak**	**84.57**	**51**	⇓P		**P**	**02 23 18.4**	**-0.2**
	baz=85,SNR=15							
MWC	**Mount Wilson**	**84.60**	**54**	*e*P		**P**	**02 23 19.2**	**+0.4**
E03A	**Lebam**	**84.65**	**41**	⇑P		**P**	**02 23 19.1**	**+0.4**
	baz=85,SNR=6.0							
ISA	**Isabella**	**84.69**	**52**	⇓P		**P**	**02 23 19.2**	**0.0**
	baz=85							
ISA	**Isabella**	**84.69**	**52**	*e*P		**P**	**02 23 19.7**	**+0.5**
R06C	**Coleville**	**84.81**	**49**	⇓P		**P**	**02 23 20.0**	**+0.3**
	baz=85,SNR=6.6							
WAKR	**Walker**	**84.81**	**49**	*e*P		**P**	**02 23 20.3**	**+0.6**
WCN	**Washoe City**	**84.82**	**49**	⇓P		**P**	**02 23 20.2**	**+0.4**
	baz=85							
EDW2	**Edwards Air Fo**	**84.84**	**53**	⇑P		**P**	**02 23 19.9**	**-0.1**
	baz=85,SNR=8.2							
M06C	**Likely Place G**	**84.90**	**47**	⇓P		**P**	**02 23 19.8**	**-0.3**
	baz=85							
BFSC	**Mount Baldy St**	**84.92**	**54**	⇑P		**P**	**02 23 20.0**	**-0.4**
	baz=85							
O06A	**Flanigan**	**85.04**	**48**	P		**P**	**02 23 21.1**	**+0.3**
	baz=85,SNR=7.1							
J05A	**Fort Rock**	**85.06**	**44**	P		**P**	**02 23 21.5**	**+0.7**
	baz=85,SNR=14							
MAW	**Mawson**	**85.10**	**202**	*e*P		**P**	**02 23 21.2**	**+0.6**
	comp=Z,7.8nm,1.0s,mb4.4							
MAW	**Mawson**	**85.10**	**202**	P		**P**	**02 23 21.3**	**+0.6**
	comp=Z,7.5nm,0.7s,mb4.5,baz=103,slow=5.3,SNR=18							
MURC	**Murrieta**	**85.11**	**55**	⇓P		**P**	**02 23 21.1**	**-0.2**
	baz=85							
K05A	**Summer Lake**	**85.11**	**45**	P		**P**	**02 23 21.8**	**+0.7**
	baz=85,SNR=7.8							
MTUM	**Tungsten Hills**	**85.12**	**51**	*e*P		**P**	**02 23 21.5**	**+0.2**
F04A	**Amboy**	**85.17**	**42**	⇓P		**P**	**02 23 21.6**	**+0.3**
	baz=85							
DAWY	**Dawson**	**85.18**	**21**	*e*P		**P**	**02 23 20.8**	**-0.1**
N06A	**Buffalo Meadow**	**85.22**	**47**	P		**P**	**02 23 22.0**	**+0.3**
	baz=85,SNR=5.1							
CWC	**Cottonwood Cre**	**85.22**	**52**	⇑P		**P**	**02 23 22.2**	**+0.3**
	baz=85							
B04A	**Port Angeles**	**85.25**	**39**	⇓P		**P**	**02 23 22.2**	**+0.5**
	baz=85							
LRMC	**Laurel Mountai**	**85.25**	**53**	⇓P		**P**	**02 23 21.7**	**-0.3**
	baz=85							
MOD	**Modoc**	**85.25**	**46**	P		**P**	**02 23 22.2**	**+0.3**
	baz=85,SNR=6.5							
I05A	**Bend**	**85.33**	**44**	⇓P		**P**	**02 23 21.7**	**-0.4**
	baz=85							
GNW	**Green Mountain**	**85.49**	**40**	*e*P		**P**	**02 23 23.4**	**+0.5**
	comp=Z,5.8nm,0.8s,mb4.4							
H05A	**Madras**

E07A	Sunnyside	87.06	42	⇑P		P	02 23 30.5	0.0	
	baz=87								
I08A	Drewsey	87.09	44	⇑P		P	02 23 30.6	-0.2	
	baz=87								
ETW	Entiat	87.09	41	*e*P		P	02 23 30.6	-0.1	
R10A	Warm Springs	87.10	50	⇑P		P	02 23 30.9	-0.1	
	baz=87								
V11A	Goodsprings	87.11	53	⇑P		P	02 23 30.9	-0.2	
	baz=87								
RSW	Rattlesnake Hi	87.18	42	*e*P		P	02 23 31.4	+0.3	
H08A	Prairie City	87.21	44	⇓P		P	02 23 30.7	-0.6	
	baz=87								
HAWA	Hanford	87.22	42	*e*P		P	02 23 31.6	+0.2	
G08A	Pilot Rock	87.25	43	⇑P		P	02 23 31.7	+0.2	
	baz=87,SNR=10								
Y12C	Blythe	87.30	55	⇓P		P	02 23 31.9	-0.2	
	baz=87								
K09A	Rome	87.32	46	⇑P		P	02 23 32.1	+0.2	
	baz=87,SNR=7.0								
J09A	Fry Pan Ranch,	87.49	45	⇑P		P	02 23 32.9	+0.2	
	baz=88,SNR=14								
SHPR	Sheep Range	87.50	52	*e*P		P	02 23 33.8	+0.9	
B07A	Winthrop	87.51	40	⇑P		P	02 23 32.5	-0.2	
	baz=88,SNR=5.2								
V12A	Nelson	87.54	53	⇑P		P	02 23 32.4	-0.8	
	baz=88								
E08A	Dider Farm, El	87.56	42	⇑P		P	02 23 32.8	-0.2	
	baz=88								
T11A	Corn Creek, Al	87.65	52	⇑P		P	02 23 33.0	-0.6	
	baz=88								
R11A	Troy Canyon, C	87.66	50	⇑P		P	02 23 33.3	-0.3	
	baz=88,SNR=5.4								
I09A	Lost Marbles R	87.68	45	⇓P		P	02 23 33.0	-0.6	
	baz=88								
Q11A	Duckwater	87.74	50	⇑P		P	02 23 33.5	-0.5	
	baz=88								
D08A	Wollman Farm,	87.83	41	⇑P		P	02 23 33.6	-0.6	
	baz=88								
Y13A	Salome	87.87	55	⇓P		P	02 23 34.8	+0.1	
	baz=88								
H09A	Durkee	87.94	44	⇓P		P	02 23 34.1	-0.7	
	baz=88								
K10A	MacKenzie Ranc	87.94	46	⇑P		P	02 23 34.1	-0.7	
	baz=88								
B08A	Colville Reser	87.97	40	⇑P		P	02 23 34.1	-0.7	
	baz=88								
C08A	Higginbotham F	87.97	41	⇓P		P	02 23 34.5	-0.4	
	baz=88								
L10A	Juniper Basin	88.03	47	⇓P		P	02 23 35.0	-0.3	
	baz=88								
S12A	Delamar Landin	88.03	51	⇑P		P	02 23 35.8	+0.4	
	baz=88,SNR=5.5								
G09A	Cove	88.04	43	⇓P		P	02 23 35.4	+0.1	
	baz=88								
X13A	Yucca	88.06	54	⇑P		P	02 23 35.4	-0.3	
	baz=88,SNR=5.3								
OD2	Odessa Site #2	88.06	41	*e*P		P	02 23 35.4	0.0	
W13A	Hualapai Mount	88.14	54	⇑P		P	02 23 35.2	-0.8	
	baz=88,SNR=5.9								
E09A	Wood Farm, Sta	88.17	42	⇓P		P	02 23 35.7	-0.1	
	baz=88								
A08A	Turner Farm, O	88.20	40	⇓P		P	02 23 35.6	-0.3	
	baz=88								
BMO	Blue Mountains	88.24	44	*e*P		P	02 23 35.7	-0.5	
	comp=Z,0.8nm,0.6s,mb3.7								
V13A	Grand Canyon W	88.25	53	⇓P		P	02 23 35.9	-0.6	
	baz=88,SNR=9.6								
214A	Organ Pipe Nat	88.25	57	⇑P		P	02 23 36.9	+0.3	
	baz=88,SNR=5.2								
M11A	Holland Ranch,	88.34	47	⇑P		P	02 23 37.0	+0.3	
	baz=88								
R12A	Pony Springs,	88.40	51	⇓P		P	02 23 36.3	-0.8	
	baz=88								
U13A	Pakoon Wash	88.41	53	⇑P		P	02 23 36.6	-0.7	
	baz=88,SNR=5.8								
G10A	Bishop Farm, J	88.49	43	⇑P		P	02 23 36.9	-0.5	
	baz=89,SNR=9.4								
H10A	Noah's Angus R	88.54	44	⇓P		P	02 23 37.0	-0.6	
	baz=89,SNR=5.3								
ELK	Elko	88.56	48	*e*P		P	02 23 37.6	-0.2	
T13A	Saint George	88.61	52	⇓P		P	02 23 37.7	-0.4	
	baz=89,SNR=11								
F10A	Beach Ranch, E	88.61	43	⇓P		P	02 23 37.7	-0.3	
	baz=89								
N12A	Clover Valley,	88.73	48	⇓P		P	02 23 39.1	+0.4	
	baz=89,SNR=5.9								
S13A	Holt Ranch, En	88.78	52	P		P	02 23 39.9	+1.0	
	baz=89,SNR=5.2								
X14A	Yava	88.79	55	⇑P		P	02 23 39.4	+0.3	
	baz=89,SNR=9.9								
O12A	Currie	88.80	49	⇑P		P	02 23 39.1	+0.2	
	baz=89,SNR=6.7								
W14A	Seligman	88.81	54	⇑P		P	02 23 39.5	+0.4	
	baz=89,SNR=6.7								
R13A	O'Grain Ranch,	88.85	51	⇓P		P	02 23 39.4	+0.1	
	baz=89,SNR=7.4								
MFID	Camas Ranch	88.85	46	⇑P		P	02 23 38.1	-1.0	
	baz=89								
V14A	Boquillas Ranc	88.89	54	⇑P		P	02 23 38.7	-0.8	
	baz=89,SNR=9.3								
D10A	Wagner Farm, O	88.90	42	⇑P		P	02 23 38.3	-1.0	
	baz=89								
M12A	Wells	88.97	48	⇑P		P	02 23 38.7	-1.0	
	baz=89								
U14A	Mt Trumbull	89.02	53	⇓P		P	02 23 40.2	+0.1	
	baz=89,SNR=14								
WMQ	Urumqi	89.05	315	P		P	02 23 39.6	-0.4	
WMQ				AP		pP	02 24 22.1	-1.6	
WMQ				XP		sP	02 24 40.3	-1.7	
WMQ				PP		PP	02 27 14.6	+1.9	
WMQ				AMB		AMB			
	comp=Z,12nm,0.5s,mb5.1								
WMQ				AMB		AMB			
	comp=Z,221nm,5.4s								
WMQ				LR		LR			
	comp=N,5.0nm,17.0s								
WMQ				LR		LR			
	comp=E,51nm,16.8s								
WMQ				LR		LR			
	comp=Z,21nm,15.0s								
G11A	Walters Elk Ra	89.10	44	⇓P		P	02 23 40.1	-0.1	
	baz=89,SNR=9.1								
Y15A	Casa Rosa Ranc	89.11	55	⇑P		P	02 23 40.9	+0.3	
	baz=89,SNR=13								
P13A	Bates Ranch, G	89.13	50	⇓P		P	02 23 40.6	0.0	
	baz=89,SNR=13								
ARUT	Antelope Range	89.16	51	*e*P		P	02 23 40.9	+0.2	
CCUT	Cedar City	89.16	52	*e*P		P	02 23 41.2	+0.5	
X15A	Humboldt	89.31	55	⇓P		P	02 23 41.7	+0.2	
	baz=89,SNR=13								
J12A	Stokes Ranch,	89.32	46	⇑P		P	02 23 42.0	+0.7	
	baz=89,SNR=12								
O13A	Hicks Ranch, I	89.33	49	⇑P		P	02 23 41.6	+0.2	
	baz=89								
NEW	Newport	89.35	41	*e*P		P	02 23 40.8	-0.5	
	comp=Z,1.8nm,0.7s,mb4.1								
216A	Three Points,	89.39	57	⇑P		P	02 23 41.2	-0.7	
	baz=89,SNR=5.8								
E11A	Bogner Ranch,	89.40	43	⇑P		P	02 23 41.0	-0.6	
	baz=90,SNR=5.5								
I12A	Atlanta	89.44	45	⇓P		P	02 23 42.2	+0.3	
	baz=90,SNR=7.2								
M13A	Montello	89.50	48	⇑P		P	02 23 42.2	0.0	
	baz=90,SNR=9.9								
D11A	Klaveano Farm,	89.51	42	⇑P		P	02 23 41.7	-0.5	
	baz=90								
Q14A	Sevier Lake (B	89.57	50	⇑P		P	02 23 42.9	+0.3	
	baz=90,SNR=20								
G12A	Big Creek, Yel	89.66	44	⇑P		P	02 23 42.7	-0.2	
	baz=90								
V15A	Kaibab Nationa	89.67	54	⇓P		P	02 23 43.7	+0.6	
	baz=90,SNR=10								
U15A	North Rim	89.72	53	⇑P		P	02 23 44.3	+0.9	
	baz=90,SNR=15								
C11A	Tepee Creek (N	89.78	41	⇓P		P	02 23 43.5	+0.1	
	baz=90,SNR=7.6								
T15A	Red Dirt Ranch	89.79	52	⇑P		P	02 23 44.2	+0.5	
	baz=90,SNR=6.9								
Y16A	Circle Bar Ran	89.79	56	⇑P		P	02 23 44.3	+0.6	
	baz=90,SNR=8.1								
H12A	Diamond D Ranc	89.83	45	⇑P		P	02 23 43.4	-0.3	
	baz=90,SNR=5.2								
E12A	Beaver Dam Sad	89.84	43	⇓P		P	02 23 42.7	-0.9	
	baz=90,SNR=8.1								
217A	Green Valley	89.87	58	⇑P		P	02 23 44.8	+0.6	
	baz=90,SNR=7.4								
P14A	Drum Mountains	89.88	50	⇓P		P	02 23 44.1	+0.1	
	baz=90,SNR=9.4								
F12A	Elk City	89.88	43	⇑P		P	02 23 43.5	-0.4	
	baz=90,SNR=12								
HLID	Hailey	89.89	46	⇓P		P	02 23 44.5	+0.5	
	baz=90,SNR=7.7								
HLID	Hailey	89.89	46	*e*P		P	02 23 44.3	+0.3	
	comp=Z,3.0nm,1.0s,mb4.2								
X16A	Lo Mia Camp, P	89.94	55	⇑P		P	02 23 44.4	0.0	
	baz=90,SNR=11								
TUC	Tucson	90.01	57	*e*P		P	02 23 45.3	+0.5	
	comp=Z,1.5nm,0.7s,mb4.0								
A11A	Hall Mountain,	90.03	40	⇑P		P	02 23 44.4	-0.1	
	baz=90,SNR=7.9								
117A	Oracle	90.11	57	⇓P		P	02 23 44.8	-0.4	
	baz=90,SNR=8.0								
M14A	Sheep Mountain	90.13	48	⇑P		P	02 23 45.3	+0.1	
	baz=90,SNR=11								
D12A	Red Ives Fores	90.16	42	⇓P		P	02 23 45.0	-0.1	
	baz=90								
I13A	Wildhorse Cree	90.18	45	⇓P		P	02 23 45.2	-0.1	
	baz=90,SNR=12								
DUG	Dugway	90.21	49	*e*P		P	02 23 45.0	-0.6	
	comp=Z,2.2nm,0.7s,mb4.2								
BGU	Big Grassy Mou	90.22	48	*e*P		P	02 23 44.3	-1.3	
WUAZ	Wupatki	90.24	54	⇑P		P	02 23 45.9	+0.1	
	baz=90,SNR=5.5								
WUAZ	Wupatki	90.24	54	*e*P		P	02 23 46.8	+0.9	
	comp=Z,7.5nm,0.9s,mb4.6								
H13A	Challis	90.25	45	⇑P		P	02 23 45.8	+0.1	
	baz=90,SNR=8.1								
Y17A	Roosevelt	90.26	56	⇑P		P	02 23 46.0	0.0	
	baz=90,SNR=5.3								
MSU	Marysvale	90.30	51	*e*P		P	02 23 46.7	+0.7	
L14A	Malta	90.34	47	⇓P		P	02 23 46.3	+0.2	
	baz=90,SNR=9.2								
G13A	Cobalt	90.40	44	⇓P		P	02 23 46.1	-0.2	
	baz=90,SNR=13								
X17A	Forest Lakes	90.44	55	⇑P		P	02 23 47.5	+0.7	
	baz=90,SNR=7.2								
J14A	Carey	90.46	46	⇑P		P	02 23 47.3	+0.7	
	baz=90								
318A	Bisbee	90.48	58	⇓P		P	02 23 46.4	-0.6	
	baz=90,SNR=5.3								
F13A	Darby	90.51	44	P		P	02 23 46.5	-0.3	
	baz=91,SNR=21								
218A	Dragoon	90.55	58	⇑P		P	02 23 47.6	+0.2	
	baz=91,SNR=5.7								
HVU	Hansel Valley	90.61	48	*e*P		P	02 23 48.4	+1.0	
I14A	Mackay	90.65	45	⇑P		P	02 23 48.1	+0.6	
	baz=91,SNR=7.5								
NLU	North Lily Min	90.70	50	*e*P		P	02 23 48.6	+0.8	
BSMT	Bassoo Peak	90.74	41	*e*P		P	02 23 48.1	+0.3	
E13A	Victor	90.77	43	⇑P		P	02 23 47.5	-0.5	
	baz=91,SNR=6.7								
R16A	Teasdale	90.77	51	⇓P		P	02 23 48.1	-0.1	
	baz=91								
C13A	Hot Springs	90.83	42	⇑P		P	02 23 47.7	-0.5	
	baz=91								
H14A	Leadore	90.88	45	⇓P		P	02 23 48.5	0.0	
	baz=91,SNR=14								
L15A	Malad City	90.95	48	⇑P		P	02 23 48.6	-0.3	
	baz=91								
G14A	Jackson	90.97	44	⇓P		P	02 23 48.9	-0.1	
	baz=91,SNR=5.2								
T17A	Navajo Res., N	91.02	53	⇑P		P	02 23 49.7	+0.3	
	baz=91,SNR=6.3								
F14A	Wisdom	91.17	44	⇑P		P	02 23 49.9	0.0	
	baz=91								
O16A	Springville	91.19	49	⇑P		P	02 23 49.7	-0.4	
	baz=91								
219A	White Tail Can	91.21	58	⇑P		P	02 23 50.5	+0.1	
	baz=91,SNR=8.4								
E14A	Clinton	91.23	43	P		P	02 23 50.2	+0.1	
	baz=91,SNR=7.5								
MCMT	McKenzie Canyo	91.29	45	*e*P		P	02 23 50.8	+0.4	
JLU	Jordanelle	91.32	49	*e*P		P	02 23 51.0	+0.4	
H15A	Lima	91.38	45	P		P	02 23 51.6	+0.8	
	baz=91,SNR=12								
C14A	Swan Lake	91.40	42	⇑P		P	02 23 50.0	-0.9	
	baz=92								
HWUT	Hardware Ranch	91.46	48	*e*P		P	02 23 51.0	-0.3	
	comp=Z,1.4nm,0.7s,mb4.1								
CHMT	Chamberlain Mo	91.52	43	*e*P		P	02 23 50.8	-0.6	
DLMT	Dillon	91.59	44	*e*P		P	02 23 52.0	+0.2	
	comp=Z,13nm,1.1s,mb4.9								
G15A	Dillon	91.62	44	⇑P		P	02 23 51.7	-0.3	
	baz=92,SNR=8.5								
K16A	Soda Springs	91.72	47	⇓P		P	02 23 53.0	+0.5	
	baz=92,SNR=5.1								
F15A	Butte	91.77	44	P		P	02 23 52.9	+0.3	
	baz=92,SNR=9.0								
T18A	Mexican Hat	91.77	53	⇓P		P	02 23 53.0	+0.1	
	baz=92								
LRM	Limekiln Ridge	91.80	44	*e*P		P	02 23 53.2	+0.5	
E15A	Deer Lodge	91.81	43	⇓P		P	02 23 52.0	-0.8	
	baz=92,SNR=5.6								
B14A	Marquette Ranc	91.85	41	⇑P		P	02 23 52.4	-0.6	
	baz=92,SNR=6.4								
RRI2	Red Ridge	92.02	46	*e*P		P	02 23 54.7	+0.9	
G16A	Moss Hill, Enn	92.10	44	⇓P		P	02 23 53.6	-0.6	
	baz=92,SNR=7.3								
C15A	Salmond Ranch,	92.15	42	⇓P		P	02 23 53.4	-0.9	
	baz=92,SNR=13								
SYO	Syowa Base	92.15	197	⇑*e*P		P	02 23 52.0	-2.0	
SYO	Syowa Base	92.15	197	⇑*e*pP		pP	02 24 38.0	+0.3	
QLMT	Earthquake Lak	92.27	45	*e*P		P	02 23 56.1	+1.1	
B15A	Bradely Ranch,	92.30	41	⇓P		P	02 23 54.3	-0.7	
	baz=92								
TPAW	Teton Pass	92.31	46	*e*P		P	02 23 55.3	0.0	
	comp=Z,1.6nm,0.6s,mb4.2								
A15A	Johnson Ranch,	92.35	41	⇑P		P	02 23 54.8	-0.4	
	baz=92								
H16A	Russell Place,	92.37	45	⇓P		P	02 23 55.7	+0.3	
	baz=92,SNR=6.6								
IMW	Indian Meadow	92.41	46	*e*P		P	02 23 55.9	+0.2	
	comp=Z,2.2nm,0.8s,mb4.2								
HRY	Holter Researc	92.42	43	*e*P		P	02 23 56.2	+0.6	
C16A	Fuhringer Ranc	92.72	42	⇑P		P	02 23 56.3	-0.7	
	baz=93								
MVCO	Mesa Verde	92.86	53	*e*P		P	02 23 57.9	-0.1	
	comp=Z,1.5nm,0.7s,mb4.2								
BW06	Boulder Array	93.16	47	*e*P		P	02 23 58.4	-0.8	
	comp=Z,1.8nm,0.9s,mb4.2								
PDAR	Pinedale Array	93.16	47	P		P	02 23 59.1	0.0	
	comp=Z,1.6nm,0.9s,mb4.2,baz=266,slow=0.9,SNR=12								
C17A	Wharram Farm,	93.33	42	⇑P		P	02 23 59.4	-0.4	
	baz=93								
ZALV	Zalesovo Beam	93.45	324	P		P	02 23 59.7	-0.4	
	comp=Z,2.2nm,0.7s,mb4.4,baz=108,slow=4.8,SNR=10								
ZALV				pP		pP	02 24 38.5	-5.4	
	comp=Z,0.9nm,0.6s,baz=98,slow=3.3,SNR=2.5								
ZALV	Zalesovo Beam	93.45	324	P		P	02 23 59.7	-0.5	
ZALV				pP		pP	02 24 38.5	-5.4	
MK31	Makanchi Array	93.46	317	*e*P		P	02 24 00.3	-0.1	
MKAR	Makanchi Array	93.46	317	P		P	02 24 00.4	-0.1	
	comp=Z,4.0nm,0.6s,mb4.7,baz=90,slow=6.4,SNR=27								
MKAR				pP		pP	02 24 38.6	-5.5	
	comp=Z,1.1nm,0.6s,baz=103,slow=5.5,SNR=2.6								
MKAR				PKKPbc		PKKPbc	02 41 04.3	-3.6	
	comp=Z,1.4nm,0.7s,baz=298,slow=2.6,SNR=7.1								
MKAR	Makanchi Array	93.46	317	P		P	02 24 00.4	0.0	
MKAR				pP		pP	02 24 38.6	-5.5	
MKAR				PKKPbc		PKKPbc	02 41 04.3	-3.6	
GCMT	Greycliff	93.69	44	*e*P		P	02 24 01.4	-0.1	
ANMO	Albuquerque	94.07	55	P		P	02 24 04.4	+0.9	
	comp=Z,0.8nm,0.6s,mb4.0,baz=251,slow=2.2,SNR=3.8								
ANMO	Albuquerque	94.07	55	*e*P		P	02 24 03.7	+0.2	
	comp=Z,1.7nm,0.8s,mb4.2								
TXAR	Lajitas Array	95.47	61	P		P	02 24 09.2	-0.8	
	comp=Z,0.5nm,0.6s,mb3.9,baz=222,slow=6.7,SNR=8.2								
TXAR				PP		PP	02 28 02.5	-0.9	
	comp=Z,1.2nm,1.2s,baz=230,slow=9.7,SNR=4.5								
TXAR				PKKPbc		PKKPbc	02 41 02.3	+0.5	
	comp=Z,0.3nm,0.6s,baz=93,slow=4.2,SNR=6.6								
SNAA	Sanae	97.44	184	*e*P		P	02 24 17.2	-0.9	
SNAA				*e*			02 24 21.4		
SNAA	Sanae	97.44	184	*e*P		P	02 24 16.9	-1.2	
	comp=Z,3.9nm,0.8s,mb4.8								
VNA3	Neumayer Olymp	98.16	181	*e*P		P	02 24 20.5	-0.8	
VNA3				*e*			02 24 25.1		
VNA3				*e*			02 24 31.7		
VNA2	Neumayer--Watz	98.41	182	*e*P		P	02 24 21.9	-0.6	
	baz=184,slow=4.3								
VNA2				*e*			02 24 26.2		
VNA2				*e*			02 24 34.0		
VNA1	Neumayer--Stat	98.71	182	*e*P		P	02 24 23.4	-0.4	
VNA1				*e*			02 24 27.9		
PLCA	Paso Flores	106.94	138	PKKPbc		PKKPbc	02 40 22.3	-6.9	
	comp=Z,0.6nm,0.3s,baz=260,slow=11,SNR=5.9								
ARCES	ARCESS Array B	116.09	346	PKP		PKPdf	02 29 25.8	-0.6	
	comp=Z,1.2nm,0.3s,baz=70,slow=1.9,SNR=46								
ARCES				PKKPbc		PKKPbc	02 39 56.9	-3.1	
	comp=Z,1.9nm,0.7s,baz=339,slow=3.0,SNR=5.0								
JOF	Joensuu	118.74	338	*e*p		PKPdf	02 29 29.9	-1.8	
LPAZ	La Paz	120.10	116	PKP		PKPdf	02 29 36.8	+1.1	
	comp=Z,1.0nm,0.8s,baz=229,slow=4.1,SNR=6.3								
KAF	Kangasniemi	121.04	339	*e*p		PKPdf	02 29 34.2	-1.9	
CPUP	Villa Florida	124.05	132	PKP		PKPdf	02 29 42.5	-0.5	
	comp=Z,3.0nm,0.7s,baz=209,slow=1.3,SNR=6.8								
SDV	Santo Domingo	124.23	87	*e*PKPdf		PKPdf	02 29 42.9	-0.8	
NB2	NORSAR Subarra	126.47	345	PKPdf		PKPdf	02 29 46.1	-0.5	
	comp=Z,0.9nm,0.7s,baz=34,slow=1.9								
NOA	NORSAR Array B	126.47	345	PKP		PKPdf	02 29 46.2	-0.4	
	comp=Z,1.0nm,0.6s,baz=32,slow=1.9,SNR=4.7								
NOA	NORSAR Array B	126.47	345	PKP		PKPdf	02 29 46.2	-0.4	
LSZ	Lusaka	130.86	239	*e*PKPdf		PKPdf	02 29 56.9	+0.6	
GERES	GERESS Array B	135.53	334	PKP		PKPdf	02 30 04.6	+0.5	
	comp=Z,0.8nm,0.7s,baz=70,slow=1.6,SNR=8.4								
BDFB	Brasilia	137.33	127	PKP		PKPdf	02 30 08.7	+0.3	
	comp=Z,2.3nm,0.9s,baz=150,slow=18,SNR=4.6								
LPL	La Plagne	141.06	337	⇑*i*PKP1		PKPdf	02 30 10.3	-4.0	
LPG	La Plagne	141.06	337	⇑*i*PKP1		PKPdf	02 30 10.2	-4.2	
	comp=Z,2.5nm,0.7s								
ORIF	Oris-en-Rattie	141.89	337	*e*PKP1		PKPdf	02 30 11.0	-4.9	
	comp=Z,7.2nm,0.7s								
MFF	Saint Martin d	142.36	344	*e*PKP1		PKPdf	02 30 11.7	-4.9	
	comp=Z,7.8nm,0.8s								
FRF	La Foret Royal	142.71	335	⇑*i*PKP1		PKPdf	02 30 13.0	-4.4	
	comp=Z,7.1nm,0.8s								
LMR	La Mourre	142.95	335	⇑*i*PKP1		PKPdf	02 30 13.6	-4.2	
	comp=Z,4.4nm,0.6s								
RJF	Les Rejaudoux	143.07	342	*e*PKP1		PKPdf	02 30 14.9	-3.0	
CAF	Calviac	143.23	341	*e*PKP1		PKPdf	02 30 15.6	-2.6	
LASF	Ste Croix	143.36	338	⇑*i*PKP1		PKPdf	02 30 16.1	-2.4	
	comp=Z,15nm,1.0s								
LFF	La Frestale	143.63	342	⇑*i*PKP1		PKPdf	02 30 15.9	-3.0	
	comp=Z,14nm,0.8s								
MTLF	Montolieu	144.59	339	⇑*i*PKP1		PKPdf	02 30 20.2	-0.5	
	comp=Z,23nm,0.8s								
EPF	Esparros	145.48	341	⇑*i*PKP1		PKPbc	02 30 22.5	-0.1	
SJPF	Ste Jean	145.88	343	*e*PKP1		PKPbc	02 30 22.2	-1.6	
	comp=Z,7.3nm,0.8s								
ETSF	Etsaut	145.88	342	⇑*i*PKP1		PKPbc	02 30 22.5	-1.3	
	comp=Z,20nm,0.9s								
KEST	Kesra	147.31	323	PKPbc		PKPbc	02 30 28.8	+0.6	
	comp=Z,2.6nm,0.7s,baz=244,slow=4.5,SNR=12								
PBRG	Braganca	148.40	350	*e*PKPbc		PKPbc	02 30 30.6	-0.2	
PCAB	Cabril	148.70	351	*e*PKPbc		PKPbc	02 30 31.4	-0.2	
MVO	Moncorvo	149.07	350	*e*PKPbc		PKPbc	02 30 32.6	+0.1	
PTO	Porto	149.34	352	*e*PKPbc		PKPbc	02 30 33.2	0.0	
PVIS	Viseu	149.65	351	*e*PKPbc		PKPbc	02 30 34.5	+0.5	
ESDC	Sonseca Array	149.83	344	PKPbc		PKPbc	02 30 34.5	+0.1	
	comp=Z,1.2nm,0.5s,baz=16,slow=3.1,SNR=18								
ESDC				PKPab		PKPab	02 30 40.4	+0.1	
	comp=Z,1.3nm,0.5s,baz=11,slow=3.7,SNR=14								
ESDC	Sonseca Array	149.83	344	PKP		PKPdf	02 30 34.0	+4.5	
PAB	San Pablo	150.05	345	*e*PKPbc		PKPbc	02 30 34.6	-0.3	
PCBR	Castelo Branco	150.44	350	*e*PKPbc		PKPbc	02 30 35.8	-0.1	
PTOM	Tomar	150.81	351	*e*PKPbc		PKPbc	02 30 36.7	-0.1	
EVO	Evora	151.80	350	*e*PKPbc		PKPbc	02 30 38.9	-0.2	
TOA0	Torodi Ar. Sit	164.45	280	*e*PKPab		PKPab	02 31 43.6	-0.5	
TORD	Torodi Ar. Bea	164.45	280	PKP		PKPdf	02 30 48.2	-0.2	
	comp=Z,1.1nm,0.7s,baz=60,slow=1.1,SNR=9.4								
TORD				PKPab		PKPab	02 31 43.7	-0.4	
	comp=Z,2.0nm,1.0s,baz=80,slow=4.6,SNR=5.9								
TORD	Torodi Ar. Bea	164.45	280	PKP

comp=Z,1.6nm,0.8s,mb4.5
TXAR Lajitas Array 97.73 62 P **P 03 06 31.6 -0.8**
comp=Z,0.2nm,0.8s,mb3.7,baz=250,slow=1.8,SNR=2.9
ARCES ARCESS Array B 127.04 345 PKP PKPdf 03 11 58.2 -2.1
comp=Z,1.3nm,0.7s,baz=82,slow=1.7,SNR=6.8
KOLS Kolonicke sedl 141.90 324 *e*PKP PKiKP 03 12 33.1 +1.6
BRG Berggiesshubel 144.70 333 *e*P PKPdf 03 12 32.0 -1.5
comp=Z,3.5nm,0.9s
CLL Collm 144.76 334 *i* PKPdf PKPdf 03 12 32.1 -1.5
comp=Z,3.0nm,0.8s
GERES GERESS Array B 146.28 330 PKPbc PKPbc 03 12 36.9 -0.5
comp=Z,1.1nm,0.7s,baz=29,slow=3.0,SNR=14
CDF Champ du Feu 149.32 336 *e*PKP1 PKPbc 03 12 46.5 +0.8
HINF Hinteralfeld 149.97 336 *e*PKP1 PKPbc 03 12 47.3 0.0
CABF La Chapelle 151.26 335 *e*PKP1 PKPbc 03 12 51.1 +0.7
comp=Z,12nm,1.0s
SSF Saint Saulge 151.81 339 *e*PKP1 PKPbc 03 12 52.4 +0.8
SMF Signal de Mont 152.06 338 *e*PKP1 PKPbc 03 12 53.8 +1.6
AVF Avril sur Loir 152.09 339 *e*PKP1 PKPbc 03 12 53.7 +1.4
comp=Z,15nm,1.1s
TCF Toulx Ste Croi 152.91 340 *e*PKP1 PKPbc 03 12 55.8 +1.7
ESDC Sonseca Array 160.78 344 PKPab PKPab 03 13 38.7 -0.5
comp=Z,0.6nm,0.7s,baz=5.3,slow=4.6,SNR=5.3
TORD Torodi Ar. Bea 165.62 238 PKPab PKPab 03 14 00.9 -0.3
comp=Z,0.2nm,0.6s,baz=92,slow=4.2,SNR=2.4

*ISCJB **14** 02:56:60.0±0.6, 4569N±003×2666E±004, h79km±5km, Error ellipse: s-maj=5.6km s-min=4.3km az=10.4*
*CSEM **14** 02:56:59.8±0.2, 4566N×2663E, h70km±3km, MD3.3/3, Error ellipse: s-maj=4.9km s-min=3.3km az=17.0*
*BUC **14** 02:57:00.2±0.9, 4569N×2668E, h77km±11km, MD3.3/3, Error ellipse: s-maj=8.3km s-min=5.8km az=28.0*
*NEIC **14** 02:57:00.7, 4569N×2665E, h74km, MG2.6(BUC), After BUC.*
*MOS **14** 02:57:00.8±0.8, 4565N×2660E, h59km, mb4.2/1, Error ellipse: s-maj=19.1km s-min=13.8km az=30.9*
ISC 14 02:57:00.4±0.6,**4569N**±003×**2670E**±004,**h78**km±6km,**n30,** σ0**s79**/49,**4C-13D,Romania**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PLOR	**Plostina**	**0.16**	**347**	*i*P	**Pn**	**02 57 11.8**	**0.0**
PLOR				*i* S	**Sn**	**02 57 19.9**	**-0.3**
VRI	**Vrincioaia**	**0.17**	**6**	⇓P	**Pn**	**02 57 12.1**	**+0.2**
VRI				S	**Sn**	**02 57 20.0**	**-0.3**
VRI	**Vrincioaia**	**0.17**	**6**	⇓*i*P	**Pn**	**02 57 12.1**	**+0.2**
VRI				*i* S	**Sn**	**02 57 19.8**	**-0.5**
VRI	**Vrincioaia**	**0.17**	**6**	P	**Pn**	**02 57 12.2**	**+0.3**
VRI				S	**Sn**	**02 57 20.8**	**+0.5**
VRI	**Vrincioaia**	**0.17**	**6**	P	**Pn**	**02 57 12.2**	**+0.4**
VRI				S	**Sn**	**02 57 20.8**	**+0.6**
MLR	**Muntele Rosu**	**0.57**	**249**	⇓P	**Pn**	**02 57 15.0**	**+0.4**
MLR				S	**Sn**	**02 57 24.8**	**-0.2**
MLR	**Muntele Rosu**	**0.57**	**249**	⇓*i*P	**Pn**	**02 57 14.9**	**+0.3**
MLR				*i* S	**Sn**	**02 57 24.8**	**-0.2**
MLR	**Muntele Rosu**	**0.57**	**249**	P	**Pn**	**02 57 14.9**	**+0.4**
ISR	**Istrita**	**0.59**	**191**	⇓P	**Pn**	**02 57 15.9**	**+1.2**
ISR				*i* S	**Sn**	**02 57 25.0**	**-0.3**
TESR		**0.82**	**358**	⇓*i*P	**Pn**	**02 57 17.4**	**+0.2**
TESR				*i* S	**Sn**	**02 57 28.9**	**-0.8**
CFR	**Carcaliu**	**1.14**	**117**	⇑*i*P	**Pn**	**02 57 21.3**	**+0.3**
CFR				*i* S	**Sn**	**02 57 35.8**	**-0.6**
VOIR		**1.19**	**258**	⇓*i*P	**Pn**	**02 57 21.6**	**0.0**
VOIR				*i* S	**Sn**	**02 57 37.1**	**-0.4**
VOIR		**1.19**	**258**	P	**Pn**	**02 57 21.7**	**+0.1**
HARR	**Harsova**	**1.33**	**139**	P	**Pn**	**02 57 24.3**	**+0.9**
HARR	**Harsova**	**1.33**	**139**	⇓*i*P	**Pn**	**02 57 24.2**	**+0.8**
BUC1	**Bucharest**	**1.43**	**200**	*i* S	**Sn**	**02 57 43.5**	**+0.5**
TLCR		**1.57**	**108**	⇓*i*P	**Pn**	**02 57 27.4**	**+0.8**
TLCR				*i* S	**Sn**	**02 57 47.1**	**+0.8**
TLCR		**1.57**	**108**	P	**Pn**	**02 57 28.3**	**+1.8**
CVD	**Cernavoda**	**1.67**	**145**	⇑*i*P	**Pn**	**02 57 27.4**	**-0.5**
CVD				*i* S	**Sn**	**02 57 48.3**	**-0.4**
TIRR	**Tirgusor**	**1.73**	**135**	⇓P	**Pn**	**02 57 29.5**	**+0.8**
TIRR				S	**Sn**	**02 57 49.6**	**-0.5**
TIRR	**Tirgusor**	**1.73**	**135**	⇓*i*P	**Pn**	**02 57 29.5**	**+0.8**
TIRR				*i* S	**Sn**	**02 57 49.7**	**-0.4**
MSAB	**Monastry St. A**	**1.79**	**153**	⇓*i*P	**Pn**	**02 57 30.6**	**+1.2**
MSAB	**Monastry St. A**	**1.79**	**153**	S	**Sn**	**02 57 51.6**	**+0.1**
KIS	**Kishinev**	**1.96**	**48**	*i* S	**Sn**	**02 57 56.1**	**+0.6**
ZIMR		**2.25**	**206**	*i* S	**Sn**	**02 58 01.1**	**-1.3**
GZR	**Gura Zlata**	**2.77**	**265**	⇑*i*P	**Pn**	**02 57 43.1**	**+0.5**
GZR				*i* S	**Sn**	**02 58 15.2**	**+0.2**
DRGR		**2.98**	**293**	⇑*i*P	**Pn**	**02 57 45.1**	**-0.2**
DRGR				*i* S	**Sn**	**02 58 19.4**	**-0.6**
VTS	**Vitosha**	**3.99**	**220**	*i* S	**Sn**	**02 58 44.2**	**-0.5**
SEV	**Sevastopol'**	**5.06**	**101**	*e*P	**Pn**	**02 58 14.2**	**+0.5**
SEV				*e*S	**Sn**	**02 59 08.5**	**-2.4**
SUDU	**Sudak**	**5.91**	**95**	*e*P	**Pn**	**02 58 29.4**	**+4.1**
SUDU				*e*S	**Sn**	**02 59 29.4**	**-2.2**

*IDC **14** 03:08:11.5±2.0, 2162S×16942E, h0km, mb4.1/7, mb1 4.4/7, mb1mx4.2/14, mbtmp4.1/7, MS3.8/4, Ms1 3.8/4, ms1mx3.1/28, Error ellipse: s-maj=67.9km s-min=27.7km az=144.0*
*ISCJB **14** 03:08:12.4±3.0, 215S±0.1×16927E±007, h11km±19km, mb4.2/10, MS3.7/3, Error ellipse: s-maj=24.9km s-min=8.9km az=167.2*
*NEIC **14** 03:08:16.6±0.9, 2173S×16931E, h35km, mb4.3/4, Error ellipse: s-maj=31.0km s-min=15.6km az=161.0*
ISC 14 03:08:13.2±3.7,**216S**±01×**16928E**±006,**h6**km±23km,**n24,** σ0**s80**/21,**mb4.2**/10,**MS3.7**/3,**Southeast of Loyalty Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**2.67**	**260**	*e*Pn	**Pn**	**03 08 56.5**	**-0.2**
DZM				*e*Sn	**Sn**	**03 09 29.5**	**+0.1**
ONTRN	**Noumea**	**2.71**	**255**	*e*P	**Pn**	**03 08 57.8**	**+0.5**
ONTRN				*e*S	**Sn**	**03 09 29.5**	**-0.9**
NOUC	**Port Laguerre**	**2.80**	**259**	*e*P	**Pn**	**03 08 57.9**	**-0.7**
NOUC				*e*S	**Sn**	**03 09 33.3**	**+0.6**
AFI	**Afiamalu**	**19.59**	**70**	LR	LR	03 18 47.4	
	comp=Z,183nm,20.7s,baz=260,slow=33						
CTA	**Charters Tower**	**21.57**	**270**	LR	LR	03 20 31.0	
	comp=Z,175nm,21.5s,MS3.4,baz=52,slow=34						
CTAO	**Charters Tower**	**21.57**	**270**	*e*P	**P**	**03 13 04.5**	**+0.9**
	7.1nm,0.9s,mb4.1						
STKA	**Stephens Creek**	**26.68**	**242**	*e*P	**P**	**03 13 54.7**	**+1.6**
	2.9nm,0.9s,mb3.8						
STKA	**Stephens Creek**	**26.68**	**242**	P	**P**	**03 13 55.2**	**+2.1**
	2.7nm,0.8s,mb3.8,baz=74,slow=10,SNR=6.8						
STKA				LR	LR	03 24 47.8	
	comp=Z,302nm,18.4s,MS3.9,baz=26,slow=37						
ASAR	**Alice Springs**	**32.66**	**260**	P	**P**	**03 14 45.6**	**-0.6**
	2.8nm,0.8s,mb4.3,baz=84,slow=9.2,SNR=30						
WRA	**Warramunga Arr**	**32.67**	**266**	P	**P**	**03 14 45.7**	**-0.6**
	2.0nm,1.0s,mb4.0,baz=96,slow=8.7,SNR=4.2						
WRA				LR	LR	03 28 16.2	
	comp=Z,230nm,19.1s,MS3.9,baz=95,slow=37						
FITZ	**Fitzroy Crossi**	**41.09**	**267**	*e*P	**P**	**03 15 56.9**	**-1.2**
	8.8nm,0.8s,mb4.4						
MJAR	**Matsushiro Arr**	**64.86**	**333**	P	**P**	**03 18 53.4**	**+0.3**
	1.8nm,1.0s,mb4.0,baz=162,slow=7.6,SNR=4.1						
CMAR	**Chiang Mai Arr**	**79.51**	**295**	P	**P**	**03 20 21.0**	**-0.2**
	1.2nm,0.3s,mb4.3,baz=104,slow=4.6,SNR=4.6						
SNAA	**Sanae**	**86.81**	**182**	*e*	**P**	**03 20 58.0**	**-0.1**
SNAA				*e*		03 21 03.0	
SNAA	**Sanae**	**86.81**	**182**	*e*P	**P**	**03 20 57.4**	**-0.6**
	2.9nm,0.9s,mb4.5						
VNA3	**Neumayer Olymp**	**87.39**	**180**	*e*	**P**	**03 21 00.7**	**-0.2**
VNA3				*e*		03 21 05.5	
VNA2	**Neumayer--Watz**	**87.69**	**181**	*e*	**P**	**03 21 02.8**	**+0.5**
	baz=172,slow=3.9						
VNA2				*e*		03 21 07.4	
VNA2				*e*		03 21 15.3	
VNA1	**Neumayer--Stat**	**87.98**	**181**	*e*	**P**	**03 21 04.0**	**+0.3**
VNA1				*e*		03 21 09.0	
SONM	**Songino Array**	**89.13**	**323**	P	**P**	**03 21 10.8**	**+1.5**
	1.1nm,1.1s,mb4.1,baz=108,slow=4.8,SNR=4.3						
NVAR	**Mina Array Bea**	**90.34**	**48**	P	**P**	**03 21 14.1**	**-1.2**
	1.1nm,0.7s,mb4.3,baz=220,slow=7.8,SNR=4.6						
BRG	**Berggiesshubel**	**144.99**	**333**	*e*P	PKPdf	03 27 48.8	-2.4
	4.3nm,1.3s						
GERES	**GERESS Array B**	**146.57**	**330**	PKPbc	PKPbc	03 27 53.1	-2.3
	0.9nm,0.6s,baz=345,slow=2.3,SNR=4.0						
GRA1	**Grafenberg Arr**	**147.03**	**334**	*e*PKP	PKPdf	03 27 56.8	+2.1
GRF	**Grafenberg Arr**	**147.03**	**334**	*e*PKP	PKPdf	03 27 56.8	+2.1

*ISCJB **14** 03:24:07.8±0.5, 3207N±002×3550E±006, h3km±4km, Error ellipse: s-maj=8.6km s-min=3.0km az=10.0*
*CSEM **14** 03:24:07.4±0.1, 3207N×3549E, h8km, ML3.3, Error ellipse: s-maj=4.3km s-min=1.9km az=111.0*
*GII **14** 03:24:07.5±0.3, 3209N×3548E, h5km±1km, ML2.6/7, Mw2.4/6*
*HLW **14** 03:24:07.3, 3242N×3556E, h30km, Mb3.3*
ISC 14 03:24:08.4±0.5,**3207N**±002×**3551E**±006,**h4**km±4km,**n26,** σ0**s74**/40,**Dead Sea region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HMDT	**Nahal Hemdat**	**0.18**	**4**	Pg	**Pg**	**03 24 11.6**	**-0.4**
HMDT				Sg	**Sg**	**03 24 15.7**	**+1.3**
MMLI	**Mount Malkishu**	**0.37**	**348**	Pg	**Pg**	**03 24 15.2**	**-0.4**
MMLI				Sg	**Sg**	**03 24 21.3**	**+0.8**
SLTI	**Sal'it**	**0.43**	**293**	Pg	**Pg**	**03 24 16.1**	**-0.7**
SLTI				Sg	**Sg**	**03 24 23.5**	**+1.1**
DSI	**Dead Sea**	**0.51**	**193**	Pg	**Pg**	**03 24 17.9**	**-0.4**
DSI				Sg	**Sg**	**03 24 25.3**	**+0.4**
OFRI	**'Ofer**	**0.71**	**321**	Pg	**Pg**	**03 24 21.2**	**-0.8**
MZDA	**Masada**	**0.77**	**190**	Pg	**Pg**	**03 24 23.1**	**-0.1**
MZDA				Sg	**Sg**	**03 24 34.7**	**+1.5**
YTIR	**Yattir**	**0.78**	**206**	Pg	**Pg**	**03 24 23.4**	**0.0**
KSHT	**Keshet**	**0.94**	**15**	Pg	**Pg**	**03 24 25.9**	**-0.6**
MMA0B	**Mount Meron ar**	**0.94**	**354**	Pg	**Pg**	**03 24 26.1**	**-0.5**
MMA0B				Sg	**Sg**	**03 24 39.5**	**+0.6**
KSDI	**Kefar Szold**	**1.12**	**6**	Pg	**Pg**	**03 24 29.4**	**-0.6**
KSDI				Sg	**Sg**	**03 24 45.1**	**+0.5**
HRI	**Mount Hermon**	**1.21**	**9**	Pg	**Pg**	**03 24 30.5**	**-1.0**
RTMI	**Retamim**	**1.23**	**215**	Pg	**Pg**	**03 24 31.2**	**-0.9**
RTMI				Sg	**Sg**	**03 24 48.8**	**+0.7**
RCY	**Rachaya**	**1.43**	**10**	*e*P	**Pn**	**03 24 34.5**	**-0.7**
ZFRI	**Zfri**	**1.54**	**191**	Pn	**Pn**	**03 24 36.2**	**-0.4**
ZFRI				Sn	**Sn**	**03 24 57.5**	**+0.4**
RMNI	**Mount Ramon**	**1.60**	**204**	Pn	**Pn**	**03 24 37.2**	**-0.3**
PRNI	**Paran**	**1.77**	**194**	Pn	**Pn**	**03 24 39.4**	**-0.4**
PRNI				Sn	**Sn**	**03 25 03.5**	**+0.8**
BHL	**Bhannes**	**1.83**	**4**	*e*P	**Pn**	**03 24 41.6**	**+1.0**
KRMI	**Paran Flat**	**2.06**	**199**	Pn	**Pn**	**03 24 43.7**	**-0.1**
KRMI				Sn	**Sn**	**03 25 10.2**	**+0.2**
HRFI	**Mount Harif**	**2.07**	**191**	Pn	**Pn**	**03 24 43.7**	**-0.2**
HRFI				Sn	**Sn**	**03 25 10.9**	**+0.8**
HWQ	**Hawqa**	**2.23**	**9**	*e*P	**Pn**	**03 24 48.0**	**+1.9**
MBRI	**Mt Berech**	**2.33**	**193**	Pn	**Pn**	**03 24 47.2**	**-0.3**
MBRI				Sn	**Sn**	**03 25 17.0**	**+0.5**
AMAG	**Maghara**	**2.43**	**235**	P	**Pn**	**03 24 47.4**	**-1.5**
HNKL	**Nakhl**	**2.51**	**212**	P	**Pn**	**03 24 49.5**	**-0.5**
HNKL				S	**Sn**	**03 25 20.4**	**-0.6**
SUZ		**3.20**	**227**	P	**Pn**	**03 24 58.6**	**-0.9**
HKAT	**Jabal Katrina**	**3.77**	**201**	P	**Pn**	**03 25 07.7**	**+0.3**
TR2		**3.99**	**203**	P	**Pn**	**03 25 10.1**	**-0.2**

*CASC **14** 03:34:48.6±1.8, 7.18N×82.44W, h0km±16km, MD4.4, mb4.4(NEIC)*
*IDC **14** 03:34:49.5±0.9, 7.73N×81.97W, h0km, mb4.0/9, mb1 4.4/10, mb1mx4.1/19, mbtmp4.1/10, ML4.9/2, MS3.5/8, Ms1 3.5/8, ms1mx3.2/28, Error ellipse: s-maj=36.7km s-min=16.7km az=49.0*
*ISCJB **14** 03:34:50.7±1.5, 756N±006×82.17W±003, h14km±8km, mb4.4/48, MS3.6/6, Error ellipse: s-maj=9.7km s-min=4.5km az=15.7*
*BJI **14** 03:34:51.9, 760N×8220W, h10km, mB5.5, Ms5.0, Msz4.7*
*NEIC **14** 03:34:52.0±0.3, 758N×8224W, h10km, mb4.4/40, MD4.4(CASC), Error ellipse: s-maj=9.3km s-min=4.7km az=214.0*
ISC 14 03:34:53.6±1.6,**759N**±006×**8220W**±003,**h19**km±9km,**n250,** σ0**s81**/239,**mb4.4**/48,**MS3.6**/6,**77C-69D,South of Panama**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ACR	**Cerro Adams**	**1.43**	**318**	⇑*e*P	**Pn**	**03 35 16.9**	**-1.6**
ACR				*e*S	**Sn**	**03 35 41.2**	**+4.4**
ACR	**Cerro Adams**	**1.43**	**318**	⇑*e*P	**Pn**	**03 35 16.9**	**-1.6**
BAR1		**1.98**	**326**	⇓*i*P	**Pn**	**03 35 26.4**	**+0.3**
BAR1				*e*S	**Sn**	**03 35 56.4**	**+6.0**
BUS	**Buena Vista**	**2.49**	**322**	⇑*i*P	**Pn**	**03 35 33.4**	**+0.3**
BUS	**Buena Vista**	**2.49**	**322**	⇑*i*P	**Pn**	**03 35 33.4**	**+0.3**
LIO	**Limon**	**2.54**	**341**	*e*P	**Pn**	**03 35 36.8**	**+3.0**
LIO	**Limon**	**2.54**	**341**	⇑*e*P	**Pn**	**03 35 36.8**	**+3.0**
URSC	**Urasca**	**2.72**	**325**	⇑*e*P	**Pn**	**03 35 37.0**	**+0.6**
URSC	**Urasca**	**2.72**	**325**	⇑*e*P	**Pn**	**03 35 36.4**	**+0.1**
LCR2	**La Lucha 2**	**2.79**	**320**	*e*P	**Pn**	**03 35 36.7**	**-0.5**
BCIP	**Isla Barro Col**	**2.81**	**56**	*e*Pn	**Pn**	**03 36 38.9**	**+1.3**
BCIP				*e*Sn	**Sn**	**03 36 11.6**	**+0.6**
BCIP				*e*Sg	**Sg**	**03 36 24.2**	**+0.2**
SJS	**Escuela Geolog**	**2.97**	**322**	⇓*i*P	**Pn**	**03 35 40.6**	**+0.8**
SJS	**Escuela Geolog**	**2.97**	**322**	⇓*i*P	**Pn**	**03 35 40.5**	**+0.8**
PRS1	**Puriscal**	**3.17**	**319**	⇑*e*P	**Pn**	**03 35 41.0**	**-1.5**
PRS1	**Puriscal**	**3.17**	**319**	⇑*e*P	**Pn**	**03 35 41.0**	**-1.5**
CGA2	**Cerro Gallo 2**	**3.29**	**317**	⇑*e*P	**Pn**	**03 35 43.2**	**-1.0**
CGA2	**Cerro Gallo 2**	**3.29**	**317**	⇑*e*P	**Pn**	**03 35 43.3**	**-0.9**
JCR	**Jicaral**	**3.65**	**308**	*e*P	**Pn**	**03 35 46.5**	**-2.6**
JCR	**Jicaral**	**3.65**	**308**	⇑*e*P	**Pn**	**03 35 46.7**	**-2.5**
FORC	**Fortuna**	**3.76**	**320**	*i* P	**Pn**	**03 35 51.1**	**+0.5**
JTS	**JuntasAbangare**	**3.82**	**315**	Pn	**Pn**	**03 35 50.3**	**-1.2**
	255nm,0.3s,baz=276,slow=22,SNR=263						
JTS				Sn	**Sn**	**03 36 38.4**	**+2.5**
	baz=278,slow=20,SNR=2.1						
JTS	**JuntasAbangare**	**3.82**	**315**	*e*Pn	**Pn**	**03 35 50.0**	**-1.5**
VCR	**Vista de Mar**	**4.23**	**307**	⇑*e*P	**Pn**	**03 35 54.5**	**-2.6**
VCR	**Vista de Mar**	**4.23**	**307**	⇑*e*P	**Pn**	**03 35 54.5**	**-2.5**
CUI	**Cuipilapa**	**4.24**	**316**	*i* P	**Pn**	**03 35 56.3**	**-1.0**
CONN	**Concepcion**	**5.20**	**320**	*e*P	**Pn**	**03 36 10.4**	**0.0**
MGAN	**Managua**	**6.04**	**319**	*e*P	**Pn**	**03 36 22.2**	**+0.3**
CSAN		**6.18**	**318**	*e*P	**Pn**	**03 36 24.2**	**+0.4**
COPN	**Copaltepe**	**6.29**	**317**	*e*P	**Pn**	**03 36 25.6**	**+0.2**
MIRN	**Miramar**	**6.56**	**318**	⇓*e*P	**Pn**	**03 36 29.2**	**+0.1**
TEL3	**Telica 3**	**6.74**	**318**	*e*P	**Pn**	**03 36 32.4**	**+0.8**
CNCH	**Conchagua**	**7.92**	**316**	*e*P	x	03 36 47.5	
TGUH	**Tegucigalpa,Un**	**8.13**	**323**	*e*Pn	**Pn**	**03 36 51.5**	**+0.8**
OTAV	**Otavalo**	**8.20**	**153**	*e*Pn	**Pn**	**03 36 42.2**	**-9.5**
ROSC	**El Rosal**	**8.28**	**109**	Pn	**Pn**	**03 36 52.5**	**-0.2**
	0.7nm,0.3s,baz=91,slow=12,SNR=5.0						
ROSC				Sn	**Sn**	**03 38 26.1**	**+0.3**
	0.9nm,0.3s,baz=96,slow=22,SNR=3.8						
LFRS	**El Faro**	**9.03**	**312**	*e*P	x	03 37 02.2	
LFRS				*e*S	x	03 38 48.0	
LBRS	**Las Brisas**	**9.09**	**313**	*e*P	x	03 37 04.4	
BOQS	**Boqueron**	**9.26**	**312**	*e*P	x	03 37 07.7	
BOQS				*e*S	x	03 38 53.5	
SBLS	**San Blas**	**9.58**	**311**	*e*P	x	03 37 12.5	
SBLS				*e*S	x	03 39 02.6	
SNJE	**San Jose**	**9.59**	**311**	⇓*e*P	x	03 37 11.9	
SNJE				*e*P	x	03 37 12.5	
RBDL	**Robledal**	**9.80**	**312**	*e*P	x	03 37 14.9	
LAPE	**La Pedrera**	**10.53**	**89**	*i* P	Px	03 35 59.9	
SDV	**Santo Domingo**	**11.52**	**83**	Pn	**Pn**	**03 37 36.6**	**-0.5**
	0.5nm,0.3s,baz=317,slow=9.3,SNR=4.8						
SDV				Sn	**Sn**	**03 39 42.0**	**-3.3**
	2.8nm,0.3s,baz=57,slow=14,SNR=9.0						
TEIG	**Tepich**	**13.87**	**335**	Pn	**Pn**	**03 38 18.8**	**+9.4**
	1.5nm,0.3s,baz=120,slow=12,SNR=10						
TEIG				LR	LR	03 43 45.6	
	comp=Z,234nm,18.1s,baz=158,slow=39						
ATAH	**Atahualpa**	**14.98**	**165**	LR	LR	03 43 03.7	
	comp=Z,290nm,21.9s,baz=207,slow=32						
CMIG	**Matias Romero**	**15.57**	**309**	Pn	**Pn**	**03 38 31.3**	**-0.9**
	1.2nm,0.3s,baz=103,slow=6.1,SNR=12						
CMIG				LR	LR	03 44 23.3	
	comp=Z,131nm,20.8s,baz=129,slow=37						
AOPR	**Arecibo Observ**	**18.44**	**53**	*e*P	**Pn**	**03 39 10.3**	**+2.0**
MTP	**Monte Pirata**	**19.28**	**56**	*e*P	**Pn**	**03 39 20.5**	**+2.1**
HKT	**Hockley**	**25.67**	**332**	*e*P	**P**	**03 40 21.8**	**-0.6**
	5.7nm,1.0s,mb4.1						
LRAL	**Lakeview Retre**	**25.71**	**351**	*e*P	**P**	**03 40 23.5**	**+0.8**
LPAZ	**La Paz**	**27.51**	**150**	P	**P**	**03 40 39.8**	**+0.6**
	0.9nm,0.8s,mb3.5,baz=152,slow=2.0,SNR=3.7						
LPAZ				LR	LR	03 51 59.9	
	comp=Z,114nm,20.1s,MS3.4,baz=119,slow=38						
LPAZ	**La Paz**	**27.51**	**150**	*e*P	**P**	**03 40 39.0**	**-0.1**
	9.0nm,1.6s,mb4.2						
SWET	**Sewanee**	**27.71**	**353**	*e*P	**P**	**03 40 41.0**	**+0.3**
TKL	**Tuckaleechee C**	**27.97**	**357**	LR	LR	03 52 23.2	
	comp=Z,67nm,19.6s,MS3.2,baz=18,slow=38						
JCT	**Junction City**	**28.12**	**326**	*e*P	**P**	**03 40 44.9**	**+0.4**
UALR	**University of**	**28.62**	**342**	*e*P	**P**	**03 40 48.4**	**-0.5**
	12nm,0.8s,mb4.7						
MIAR	**Mount Ida**	**28.80**	**340**	*e*P	**P**	**03 40 50.2**	**-0.3**
WVT	**Waverly**	**28.87**	**351**	*e*P	**P**	**03 40 50.6**	**-0.5**
	4.6nm,0.6s,mb4.4						
TXAR	**Lajitas Array**	**29.60**	**320**	P	**P**	**03 40 56.7**	**-0.9**
	0.7nm,0.7s,mb3.5,baz=132,slow=9.3,SNR=12						
TXAR				PcP	PcP	03 44 00.2	-2.1
	0.2nm,0.5s,baz=140,slow=5.8,SNR=4.1						
USIN	**University of**	**30.64**	**351**	*e*P	**P**	**03 41 06.3**	**-0.4**
	15nm,0.6s,mb5.0						
WCI	**Wyandotte Cave**	**30.73**	**354**	*e*P	**P**	**03 41 07.6**	**+0.1**
	9.1nm,0.8s,mb4.7						
CCM	**Cathedral Cave**	**31.41**	**346**	*e*P	**P**	**03 41 13.0**	**-0.5**
	12nm,0.8s,mb4.8						
OLIL	**Olney**	**31.46**	**351**	*e*P	**P**	**03 41 13.8**	**-0.2**
	35nm,1.2s,mb5.1						
HDIL	**Hopedale**	**33.43**	**350**	*e*P	**P**	**03 41 30.5**	**-0.8**
	13nm,0.7s,mb5.0						
319A	**Douglas**	**34.62**	**317**	⇓P	**P**	**03 41 42.3**	**+0.6**
	baz=35,SNR=8.0						
BNM	**Barren Site**	**34.73**	**323**	*e*P	**P**	**03 41 43.3**	**+0.7**
CBKS	**Cedar Bluff**	**34.88**	**336**	*e*P	**P**	**03 41 43.7**	**-0.1**
	9.6nm,0.5s,mb5.0						
219A	**White Tail Can**	**34.99**	**318**	⇑P	**P**	**03 41 45.3**	**+0.5**
	baz=35,SNR=8.8						
318A	**Bisbee**	**35.14**	**316**	⇑P	**P**	**03 41 46.7**	**+0.5**
	baz=35,SNR=6.1						
ANMO	**Albuquerque**	**35.19**	**324**	*e*P	**P**	**03 41 47.0**	**+0.5**
	3.7nm,0.9s,mb4.3						
LAZ	**Ladron**	**35.21**	**323**	*e*P	**P**	**03 41 47.9**	**+1.2**
119A	**Ashpeak Ranch,**	**35.49**	**319**	⇓P	**P**	**03 41 49.6**	**+0.4**
	baz=36,SNR=5.4						
SCIA	**State Center**	**35.54**	**346**	*e*P	**P**	**03 41 48.1**	**-1.4**
	7.5nm,0.6s,mb4.8						
JFWS	**Jewell Farm**	**35.89**	**350**	*e*P	**P**	**03 41 51.4**	**-1.0**
	6.8nm,0.5s,mb4.8						
217A	**Green Valley**	**35.91**	**316**	⇑P	**P**	**03 41 53.3**	**+0.5**
	baz=36,SNR=8.0						
TUC	**Tucson**	**36.20**	**317**	*e*P	**P**	**03 41 55.6**	**+0.2**
	4.0nm,1.0s,mb4.3						
Y19A	**Nutrioso**	**36.22**	**320**	⇓P	**P**	**03 41 56.3**	**+0.8**
	baz=36,SNR=8.5						
117A	**Oracle**	**36.33**	**317**	⇓P	**P**	**03 41 56.9**	**+0.5**
	baz=36,SNR=9.5						
X19A	**St. Johns**	**36.55**	**321**	⇑P	**P**	**03 41 58.9**	**+0.7**
	baz=37,SNR=13						
Y18A	**Canyon Day Jun**	**36.60**	**319**	⇓P	**P**	**03 41 59.6**	**+0.9**
	baz=37,SNR=6.3						
SDCO	**Great Sand Dun**	**36.70**	**328**	*e*P	**P**	**03 42 00.1**	**+0.6**
	4.1nm,1.0s,mb4.2						
116A	**Eloy**	**36.98**	**316**	⇓P	**P**	**03 42 02.7**	**+0.8**
	baz=37,SNR=6.3						
X18A	**Snowflake**	**37.03**	**320**	⇑P	**P**	**03 42 03.1**	**+0.8**
	baz=37,SNR=12						
W18A	**Petrified Fore**	**37.27**	**321**	⇑P	**P**	**03 42 05.1**	**+0.7**
	baz=37,SNR=7.7						
115A	**Sonoran Desert**	**37.42**	**316**	⇓P	**P**	**03 42 05.9**	**+0.2**
	baz=38						
Y16A	**Circle Bar Ran**	**37.61**	**318**	⇑P	**P**	**03 42 08.0**	**+0.7**
	baz=38,SNR=8.8						
V18A	**Ganado**	**37.78**	**322**	⇑P	**P**	**03 42 09.0**	**+0.3**
	baz=38						
X16A	**Lo Mia Camp, P**	**37.91**	**

DUG	Dugway	42.45	325	⇑P	P	03 42 47.7	+0.4	
	baz=42							
DUG	Dugway	42.45	325	*e*P	P	03 42 47.7	+0.3	
	7.7nm,1.4s,mb4.1							
BW06	Boulder Array	42.51	330	⇑P	P	03 42 47.7	-0.1	
	baz=43							
BW06	Boulder Array	42.51	330	*e*P	P	03 42 47.3	-0.5	
	6.7nm,1.5s,mb4.2							
PDAR	Pinedale Array	42.51	330	P	P	03 42 47.6	-0.2	
	0.9nm,0.5s,mb3.7,baz=124,slow=10,SNR=11							
PDAR				PcP	PcP	03 44 37.7	-2.7	
	0.4nm,0.6s,baz=164,slow=2.6,SNR=3.6							
TPNV	Topopah Spring	42.56	318	⇑P	P	03 42 47.9	-0.4	
	baz=43							
P13A	Bates Ranch, G	42.67	323	⇑P	P	03 42 49.6	+0.5	
	baz=43,SNR=7.0							
HWUT	Hardware Ranch	42.72	327	*e*P	P	03 42 49.8	+0.3	
	8.3nm,1.1s,mb4.4							
Q12A	Willow Creek R	42.91	322	⇑P	P	03 42 50.5	-0.6	
	baz=43							
R11A	Troy Canyon, C	42.95	321	⇓P	P	03 42 51.8	+0.3	
	baz=43,SNR=5.3							
N14A	Grayback Hills	43.10	325	⇑P	P	03 42 52.7	+0.1	
	baz=43,SNR=5.7							
S10A	Tonopah Range,	43.35	319	⇑P	P	03 42 55.2	+0.6	
	baz=43,SNR=7.7							
L15A	Malad City	43.44	327	⇑P	P	03 42 55.3	0.0	
	baz=44							
HVU	Hansel Valley	43.49	326	*e*P	P	03 42 56.3	+0.5	
	5.7nm,0.9s,mb4.3							
SNOW	Snow King Moun	43.62	330	*e*P	P	03 42 56.7	-0.1	
	3.5nm,0.6s,mb4.3							
M14A	Sheep Mountain	43.62	326	P	P	03 42 57.0	+0.2	
	baz=44,SNR=12							
O12A	Currie	43.62	323	⇓P	P	03 42 57.4	+0.5	
	baz=44,SNR=8.0							
S09A	Goldfield	43.64	319	⇑P	P	03 42 56.9	-0.1	
	baz=44							
LOHW	Long Hollow	43.65	330	*e*P	P	03 42 56.7	-0.3	
	3.4nm,1.0s,mb4.0							
TPAW	Teton Pass	43.74	330	*e*P	P	03 42 57.8	+0.1	
	2.0nm,0.7s,mb4.0							
RRI2	Red Ridge	43.82	329	*e*P	P	03 42 58.1	-0.3	
	2.3nm,0.7s,mb4.0							
MOOW	Moose Ponds	43.82	330	*e*P	P	03 42 58.1	-0.3	
	1.6nm,0.8s,mb3.8							
L14A	Malta	43.92	326	⇑P	P	03 42 59.0	-0.3	
	baz=44,SNR=10.0							
IMW	Indian Meadow	44.03	330	*e*P	P	03 43 00.1	0.0	
	2.0nm,0.6s,mb4.0							
ULM	Lac du Bonnet	44.03	347	P	P	03 42 58.2	-1.8	
	7.5nm,0.5s,mb4.7,baz=156,slow=6.9,SNR=24							
ULM	Lac du Bonnet	44.03	347	*e*P	P	03 42 57.9	-2.1	
	16nm,1.0s,mb4.7							
O11A	Cowboy Ranch,	44.08	323	⇓P	P	03 43 00.5	-0.1	
	baz=44							
RLMT	Red Lodge	44.14	332	⇑P	P	03 43 00.4	-0.5	
	baz=44							
ELK	Elko	44.22	324	*e*P	P	03 43 02.3	+0.7	
	3.4nm,0.8s,mb4.1							
K14A	Jones Ranch, D	44.23	327	⇓P	P	03 43 01.7	0.0	
	baz=44,SNR=15							
L13A	Double Diamond	44.35	326	⇑P	P	03 43 03.0	+0.3	
	baz=44							
J15A	Blackfoot	44.43	328	⇑P	P	03 43 03.8	+0.5	
	baz=44							
NVAR	Mina Array Bea	44.74	319	P	P	03 43 06.8	+0.9	
	2.9nm,0.6s,mb4.3,baz=129,slow=6.9,SNR=30							
NVAR				PcP	PcP	03 44 46.2	-1.8	
	0.6nm,0.7s,baz=133,slow=3.8,SNR=4.6							
Q08A	Gabbs	44.74	320	⇑P	P	03 43 06.1	+0.2	
	baz=45							
DGMT	Dagmar	44.79	339	⇑P	P	03 43 05.8	-0.2	
	baz=45,SNR=5.2							
DGMT	Dagmar	44.79	339	*e*P	P	03 43 05.7	-0.4	
	8.5nm,0.8s,mb4.6							
K13A	Stover Farm, H	44.80	326	⇑P	P	03 43 06.2	0.0	
	baz=45							
F18A	Big Timber	44.94	333	⇑P	P	03 43 07.2	-0.1	
	baz=45							
J14A	Carey	44.95	328	⇑P	P	03 43 07.8	+0.4	
	baz=45,SNR=8.5							
L12A	House Creek Ra	44.98	325	⇓P	P	03 43 07.6	-0.1	
	baz=45							
BMN	Battle Mountai	45.21	322	*e*P	P	03 43 10.2	+0.6	
	12nm,1.0s,mb4.7							
K12A	Draper Farm, C	45.24	326	⇓P	P	03 43 10.1	+0.3	
	baz=45,SNR=7.7							
J13A	Cove Ranch, Pi	45.35	327	⇓P	P	03 43 10.1	-0.5	
	baz=45							
H15A	Lima	45.40	329	⇑P	P	03 43 10.3	-0.6	
	baz=46,SNR=9.1							
G16A	Moss Hill, Enn	45.42	331	⇑P	P	03 43 10.5	-0.6	
	baz=46							
L11A	Cat Creek Ranc	45.42	325	⇑P	P	03 43 10.4	-0.8	
	baz=46,SNR=9.6							
HLID	Hailey	45.59	327	⇓P	P	03 43 12.2	-0.3	
	baz=46,SNR=9.2							
HLID	Hailey	45.59	327	*e*P	P	03 43 12.6	+0.1	
	3.0nm,0.8s,mb4.3							
MCMT	McKenzie Canyo	45.65	330	*e*P	P	03 43 14.2	+1.3	
N09A	Rock Creek Ran	45.65	322	⇑P	P	03 43 12.5	-0.6	
	baz=46							
I13A	Wildhorse Cree	45.67	328	⇓P	P	03 43 12.8	-0.4	
	baz=46,SNR=11							
J12A	Stokes Ranch,	45.75	326	⇓P	P	03 43 13.6	-0.2	
	baz=46,SNR=7.9							
H14A	Leadore	45.76	329	⇓P	P	03 43 13.6	-0.3	
	baz=46							
L10A	Juniper Basin	45.77	324	⇓P	P	03 43 14.1	+0.1	
	baz=46							
K11A	Parker Ranch,	45.96	325	P	P	03 43 15.7	+0.2	
	baz=46,SNR=10.0							
O07A	Toulon	46.09	321	⇓P	P	03 43 16.1	-0.4	
	baz=46							
K10A	MacKenzie Ranc	46.44	325	⇓P	P	03 43 19.0	-0.2	
	baz=46,SNR=9.0							
H12A	Diamond D Ranc	46.49	328	⇓P	P	03 43 19.4	-0.2	
	baz=47,SNR=5.7							
D16A	Dana Ranch, Ca	46.62	333	⇓P	P	03 43 20.1	-0.4	
	baz=47							
I11A	Placerville	46.66	326	⇑P	P	03 43 20.5	-0.4	
	baz=47							
E15A	Deer Lodge	46.69	331	⇓P	P	03 43 20.6	-0.6	
	baz=47							
O06A	Flanigan	46.69	320	⇑P	P	03 43 20.8	-0.4	
	baz=47,SNR=6.0							
C17A	Wharram Farm,	46.72	334	⇓P	P	03 43 21.1	-0.3	
	baz=47							
BEKR	Beckwourth	46.87	319	⇓P	P	03 43 22.1	-0.6	
	baz=47							
K09A	Rome	46.89	324	⇑P	P	03 43 22.6	-0.1	
	baz=47,SNR=12							
L08A	Fields	46.94	323	⇓P	P	03 43 22.4	-0.7	
	baz=47,SNR=6.5							
M07A	Soldier Meadow	46.97	322	⇓P	P	03 43 22.6	-0.8	
	baz=47							
N06A	Buffalo Meadow	47.02	321	⇑P	P	03 43 22.7	-1.1	
	baz=47							
F13A	Darby	47.07	329	⇓P	P	03 43 23.2	-0.9	
	baz=47							
E14A	Clinton	47.09	331	⇑P	P	03 43 23.8	-0.5	
	baz=47							
H11A	Donnelly	47.21	327	⇑P	P	03 43 24.3	-0.9	
	baz=47,SNR=5.0							
WVOR	Wild Horse Val	47.26	323	*e*P	P	03 43 25.7	0.0	
	17nm,1.2s,mb4.9							
O05C	Quincy	47.28	319	⇓P	P	03 43 25.7	-0.1	
	baz=47							
J09A	Fry Pan Ranch,	47.30	325	⇓P	P	03 43 25.3	-0.7	
	baz=47,SNR=7.9							
K08A	Mann Creek Ran	47.35	324	⇓P	P	03 43 25.9	-0.4	
	baz=47,SNR=8.1							
L07A	Adell	47.44	322	⇓P	P	03 43 26.5	-0.6	
	baz=48,SNR=7.5							
F12A	Elk City	47.52	329	⇓P	P	03 43 27.1	-0.5	
	baz=48,SNR=7.9							
H10A	Noah's Angus R	47.53	327	⇓P	P	03 43 26.6	-1.2	
	baz=48,SNR=6.9							
I09A	Lost Marbles R	47.69	325	⇓P	P	03 43 28.4	-0.6	
	baz=48,SNR=6.1							
BMO	Blue Mountains	48.00	327	*e*P	P	03 43 29.6	-1.8	
	3.7nm,1.2s,mb4.3							
F11A	Grangeville	48.07	328	⇑P	P	03 43 31.1	-0.8	
	baz=48,SNR=7.3							
E12A	Beaver Dam Sad	48.12	329	⇑P	P	03 43 31.5	-0.8	
	baz=48							
E11A	Bogner Ranch,	48.41	329	⇑P	P	03 43 33.3	-1.2	
	baz=48							
D12A	Red Ives Fores	48.45	330	⇑P	P	03 43 33.5	-1.3	
	baz=48							
G09A	Cove	48.53	327	⇑P	P	03 43 34.6	-0.9	
	baz=49,SNR=6.3							
F10A	Beach Ranch, E	48.69	328	⇓P	P	03 43 35.7	-1.0	
	baz=49							
D11A	Klaveano Farm,	48.94	329	⇑P	P	03 43 36.7	-1.9	
	baz=49							
LNOR	Lincton Mounta	49.19	327	*e*P	P	03 43 40.4	0.0	
G08A	Pilot Rock	49.19	326	⇑P	P	03 43 38.2	-2.3	
	baz=49							
PLCA	Paso Flores	49.27	168	P	P	03 43 41.2	+0.1	
	1.6nm,0.9s,mb4.0,baz=314,slow=11,SNR=3.0							
PLCA	Paso Flores	49.27	168	P	P	03 43 41.2	+0.1	
F08A	Pendleton	49.41	327	⇑P	P	03 43 40.0	-2.2	
	baz=50,SNR=7.4							
E09A	Wood Farm, Sta	49.52	328	⇑P	P	03 43 42.6	-0.5	
	baz=50,SNR=7.8							
FFC	Flin Flon	49.61	345	*e*P	P	03 43 42.5	-1.1	
	4.7nm,1.0s,mb4.5							
NEW	Newport	50.15	330	*e*P	P	03 43 46.2	-1.5	
	2.9nm,1.0s,mb4.3							
FCC	Fort Churchill	51.86	352	*e*P	P	03 43 58.5	-1.9	
	24nm,1.2s,mb5.0							
EDM	Edmonton	52.05	337	*e*P	P	03 44 00.7	-1.3	
YKA	Yellowknife Ar	59.68	343	P	P	03 44 55.4	-1.0	
	4.6nm,0.7s,mb4.6,baz=146,slow=6.7,SNR=6.4							
YKA	Yellowknife Ar	59.68	343	P	P	03 44 55.4	-1.1	
BBTS	Babate	64.63	77	LR	LR	04 09 58.2		
	comp=Z,42nm,18.6s,MS3.7,baz=258,slow=33							
PMSA	Palmer Station	73.43	172	*e*P	P	03 46 25.5	+1.3	
	83nm,1.4s,mb5.5							
ESDC	Sonseca Array	76.14	51	P	P	03 46 39.1	-1.5	
	0.7nm,0.7s,mb3.7,baz=264,slow=5.6,SNR=7.9							
TOA0	Torodi Ar. Sit	82.39	78	*e*P	P	03 47 15.7	+0.5	
TORD	Torodi Ar. Bea	82.39	78	P	P	03 47 11.7	-3.5	
	0.4nm,0.8s,mb3.4,baz=259,slow=6.1,SNR=4.5							
TKM2	Tokmak 2	125.81	20	*e*PKPdf	PKPdf	03 53 54.5	0.0	
HHC	Hu-ho-hao-te	130.16	346	*e*PKP	PKPdf	03 54 03.9	+1.1	
HHC				PKS		03 57 39.5		
HHC				PP	PP			
	comp=Z,66nm,5.9s							
HHC				LR	LR			
	comp=N,102nm,18.7s,MS4.7							
HHC				LR	LR			
	comp=E,115nm,21.6s,MS4.7							
HHC				LR	LR			
	comp=Z,100nm,20.4s,MS4.5							
PMG	Port Moresby	131.18	264	*e*PKPdf	PKPdf	03 54 05.7	+0.3	
CD2	Chengdu	141.30	352	*e*PKP	PKPdf	03 54 24.0	+0.2	
CD2				AMB	AMB			
	comp=Z,40nm,6.8s							
WRAB	Tennant Creek	142.54	247	*e*PKPdf	PKPdf	03 54 25.8	-0.5	

SZGRF ***14*** *03:36:13.8, 22.17S×17828W, h33km, South of Fiji Islands*
BJI ***14*** *03:37:13.1, 21.25S×179.36W, h534km, mB4.7, mb4.4*
ISCJB ***14*** *03:37:19.6±1.0, 2051S±008×17896W±007, h583km±11km, mb4.2/46, Error ellipse: s-maj=14.4km s-min=7.3km az=149.4*
IDC ***14*** *03:37:20.8±1.7, 2050S×17875W, h588km±20km, mb3.6/13, mb1 3.8/15, mb1mx3.7/19, mbtmp3.6/15, Error ellipse: s-maj=19.3km s-min=11.3km az=150.0*
NEIC ***14*** *03:37:21.1±0.8, 2049S×17888W, h591km±9km, mb4.3/31, Error ellipse: s-maj=13.8km s-min=6.5km az=153.0*

ISC 14 03:37:21.3±1.3, 2056S±009×17893W±007, h590km±15km, n389,σ0 56/294, mb4.2/46, 114C-100D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
AFI	Afiamalu	9.51	47	P		P	03 39 33.2	-1.9
	6.8nm,0.3s,baz=355,slow=4.7,SNR=9.4							
AFI				S		S	03 41 19.5	-5.3
	5.6nm,0.3s,baz=102,slow=22,SNR=3.6							
AFI	Afiamalu	9.51	47	*e*Pn		P	03 39 32.5	-2.6
URZ	Urewera	17.97	190	P		P	03 40 56.7	-0.2
	2.0nm,0.3s,baz=291,slow=8.9,SNR=3.5							
CTA	Charters Tower	32.61	265	*e*P		P	03 43 07.6	+1.7
	5.6nm,0.3s,mb4.7							
CTA	Charters Tower	32.61	265	P		P	03 43 07.6	+1.7
	6.5nm,0.3s,mb4.7,baz=88,slow=11,SNR=19							
STKA	Stephens Creek	36.98	244	*e*P		P	03 43 43.3	+1.3
	5.0nm,1.8s,mb3.7							
STKA	Stephens Creek	36.98	244	P		P	03 43 43.5	+1.5
	2.2nm,0.6s,mb3.9,baz=91,slow=8.8,SNR=7.2							
ASAR	Alice Springs	43.66	257	P		P	03 44 36.2	+1.0
	4.2nm,0.6s,mb4.1,baz=93,slow=8.0,SNR=45							
ASAR				S		S	03 50 21.9	-1.3
	0.6nm,0.4s,baz=95,slow=16,SNR=13							
WRA	Warramunga Arr	43.73	262	P		P	03 44 36.2	+0.4
	2.1nm,0.8s,mb4.2,baz=96,slow=7.5,SNR=41							
FITZ	Fitzroy Crossi	52.15	263	P		P	03 45 39.7	+1.3
	2.0nm,0.8s,mb3.5,baz=82,slow=10,SNR=3.7							
MJAR	Matsushiro Arr	69.74	324	P		P	03 47 32.4	-0.7
	3.0nm,0.6s,mb3.9,baz=156,slow=6.1,SNR=15							
MAJO	Matsushiro	69.74	324	*e*P		P	03 47 32.5	-0.5
	4.7nm,0.6s,mb4.1							
PETK	Petropavlovsk-	76.10	346	P		P	03 48 08.6	-0.4
	6.5nm,0.6s,mb4.2,baz=130,slow=5.6,SNR=9.6							
KSRS	Korea Array	76.35	319	P		P	03 48 11.9	+1.1
	1.0nm,0.7s,mb3.4,baz=124,slow=5.8,SNR=5.1							
O01C	Eel River Cons	79.24	40	⇓P		P	03 48 27.3	+1.1
	baz=79,SNR=5.2							
MNRC	McLaughlin Nat	79.30	41	⇑P		P	03 48 26.9	+0.3
	baz=79							
GASB	Alder Springs	79.61	41	⇑P		P	03 48 29.2	+1.1
	baz=80							
T06C	Millerton Lake	79.94	44	⇑P		P	03 48 30.1	+0.1
	baz=80,SNR=6.3							
N02C	Big Bar	79.97	40	⇓P		P	03 48 30.5	+0.5
	baz=80							
ISA	Isabella	80.00	46	⇓P		P	03 48 30.5	+0.1
	baz=80							
MDJ	Mudanjiang	80.06	325	P		P	03 48 30.8	+0.4
MDJ				AMB		AMB		
	comp=Z,6.0nm,1.1s,mb3.8							
MDJ				AMB		AMB		
	comp=Z,103nm,4.6s							
CMB	Columbia Colle	80.10	43	⇑P		P	03 48 30.6	-0.2
	baz=80,SNR=7.3							
CMB	Columbia Colle	80.10	43	*e*P		P	03 48 29.9	-0.8
	comp=Z,5.7nm,1.0s,mb3.9							
WDC	Whiskeytown Da	80.28	40	⇓P		P	03 48 31.7	+0.1
	baz=80,SNR=7.2							
WDC	Whiskeytown Da	80.28	40	*e*P		P	03 48 31.9	+0.3
	comp=Z,11nm,1.1s,mb4.1							
ORV	Oroville	80.29	41	⇓P		P	03 48 31.7	0.0
	baz=80,SNR=5.1							
KCC	Kaiser Creek	80.38	44	⇑P		P	03 48 32.5	+0.3
	baz=80,SNR=5.5							
M02C	Callahan	80.59	39	⇑P		P	03 48 34.0	+0.8
	baz=81,SNR=10							
CWC	Cottonwood Cre	80.70	46	⇓P		P	03 48 34.3	+0.4
	baz=81,SNR=5.5							
MLAC	Mammoth Lakes	80.87	44	⇓P		P	03 48 34.9	+0.1
	baz=81							
YBH	Yreka Blue Hor	80.88	39	P		P	03 48 35.3	+0.6
	baz=81,SNR=11							
YBH	Yreka Blue Hor	80.88	39	*e*P		P	03 48 34.8	0.0
	comp=Z,15nm,1.3s,mb4.3							
MPMC	Manual Prospec	80.88	46	⇑P		P	03 48 35.0	+0.1
	baz=81							
O05C	Quincy	80.90	41	⇑P		P	03 48 35.2	+0.3
	baz=81,SNR=5.4							
GSC	Goldstone	80.94	47	*e*P		P	03 48 35.4	+0.3
M03C	McCloud	80.95	40	⇑P		P	03 48 35.7	+0.7
	baz=81,SNR=6.3							
R06C	Coleville	80.98	43	P		P	03 48 35.8	+0.5
	baz=81,SNR=5.3							
O04C	Chester	81.00	41	⇑P		P	03 48 35.3	-0.1
	baz=81,SNR=7.4							
HEC	Hector,Ludlow	81.01	48	⇑P		P	03 48 35.5	0.0
	baz=81							
K02A	Glendale	81.07	38	⇓P		P	03 48 35.9	+0.3
	baz=81							
WCN	Washoe City	81.23	42	⇑P		P	03 48 36.9	+0.3
	baz=81,SNR=5.8							
HUMO	Hull Mountain	81.28	38	⇑P		P	03 48 37.3	+0.6
	baz=81,SNR=5.8							
HUMO	Hull Mountain	81.28	38	*e*P		P	03 48 36.9	+0.2
	comp=Z,11nm,1.1s,mb4.2							
M04C	Macdoel	81.43	39	P		P	03 48 37.8	+0.3
	baz=82,SNR=6.5							
GMRC	Granite Mounta	81.45	48	⇓P		P	03 48 37.9	+0.1
	baz=82							
IRM	Iron Mountain	81.48	49	⇑P		P	03 48 38.0	+0.1
	baz=82							
GRAC	Grapevine Rang	81.48	45	P		P	03 48 38.2	+0.3
	baz=82,SNR=9.7							
TUQ	Turquoise Moun	81.61	47	⇓P		P	03 48 39.0	+0.3
	baz=82							
SHOC	Shoshone	81.62	47	⇑P		P	03 48 38.6	0.0
	baz=82							
L04A	Klamath Falls	81.63	39	⇓P		P	03 48 38.7	+0.1
	baz=82							
NVAR	Mina Array Bea	81.67	44	P		P	03 48 39.0	+0.2
	comp=Z,4.3nm,0.6s,mb4.1,baz=222,slow=8.8,SNR=32							
O06A	Flanigan	81.69	42	⇑P		P	03 48 39.0	+0.1
	baz=82,SNR=14							
R08A	Mina	81.75	44	⇑P		P	03 48 39.6	+0.4
	baz=82							
U10A	Ash Meadows, A	81.86	46	⇑P		P	03 48 40.2	+0.3
	baz=82							
M06C	Likely Place G	81.90	41	⇑P		P	03 48 40.1	+0.1
	baz=82,SNR=9.6							
S09A	Goldfield	81.98	45	⇑P		P	03 48 40.0	-0.4
	baz=82							
LDFC	Landfair	81.99	48	*e*P		P	03 48 41.1	+0.6
N06A	Buffalo Meadow	82.03	41	⇑P		P	03 48 40.2	-0.4
	baz=82,SNR=8.5							
Q08A	Gabbs	82.15	44	⇓P		P	03 48 40.9	-0.3
	baz=82							
J04A	Umpqua Nationa	82.16	38	⇑P		P	03 48 41.7	+0.5
	baz=82,SNR=9.4							
TPH	Tonopah	82.17	45	*e*P		P	03 48 41.8	+0.4
	comp=Z,7.3nm,0.8s,mb4.3							
L05A	Lakeview	82.19	40	⇓P		P	03 48 42.0	+0.6
	baz=82,SNR=7.1							
TPNV	Topopah Spring	82.21	46	⇑P		P	03 48 41.6	0.0
	baz=82,SNR=8.8							
TPNV	Topopah Spring	82.21	46	*e*P		P	03 48 41.8	+0.2
	comp=Z,6.7nm,0.8s,mb4.2							
Y13A	Salome	82.23	50	⇑P		P	03 48 42.3	+0.5
	baz=82,SNR=7.3							
PDMCI	Parker Dam,Lak	82.26	49	⇑P		P	03 48 42.3	+0.4
	baz=82							
W12A	Cal Nev Ari	82.27	48	⇑P		P	03 48 42.4	+0.4
	baz=82							
O07A	Toulon	82.28	42	⇓P		P	03 48 41.9	-0.1
	baz=82,SNR=16							
I04A	Tendick Farm,	82.32	38	⇓P		P	03 48 41.8	-0.2
	baz=82							
R09A	Tonopah	82.36	44	⇑P		P	03 48 42.1	-0.3
	baz=82,SNR=8.9							
H03A	Soap Creek Ran	82.37	36	⇑P		P	03 48 42.7	+0.5
	baz=82							
MOD	Modoc	82.42	40	⇑P		P	03 48 42.6	+0.1
	baz=82,SNR=13							
MOD	Modoc	82.42	40	*e*P		P	03 48 42.8	+0.2
	comp=Z,8.7nm,0.6s,mb4.5							
S10A	Tonopah Range,	82.50	45	⇓P		P	03 48 43.1	0.0
	baz=83,SNR=26							
P08A	Dixie Valley	82.52	43	⇓P		P	03 48 43.8	+0.7
	baz=83							
K05A	Summer Lake	82.56	39	⇑P		P	03 48 43.8	+0.6
	baz=83,SNR=17							
N07B	Gerlach	82.58	42	⇑P		P	03 48 43.7	+0.3
	baz=83,SNR=6.0							
Q09A	Carvers	82.62	44	⇑P		P	03 48 43.6	0.0
	baz=83							
X13A	Yucca	82.63	49	⇑P		P	03 48 44.1	+0.3
	baz=83,SNR=5.2							
Z14A	Wintersburg	82.64	50	⇓P		P	03 48 44.0	+0.1
	baz=83,SNR=6.2							
J05A	Fort Rock	82.69	38	⇓P		P	03 48 44.4	+0.6
	baz=83,SNR=29							
G03A	Yamhill	82.78	36	⇑P		P	03 48 44.4	+0.1
	baz=83							
M07A	Soldier Meadow	82.81	41	⇑P		P	03 48 44.7	+0.2
	baz=83,SNR=5.3							
O08A	Rochester Mine	82.81	42	⇓P		P	03 48 44.7	+0.2
	baz=83,SNR=8.8							
115A	Sonoran Desert	82.83	51	⇓P		P	03 48 45.1	+0.3
	baz=83							
W13A	Hualapai Mount	82.86	49	⇓P		P	03 48 45.0	+0.1
	baz=83,SNR=5.2							
Y14A	Wickenburg	82.89	50	⇓P		P	03 48 45.1	0.0
	baz=83,SNR=5.5							
R10A	Warm Springs	82.90	45	⇓P		P	03 48 45.2	+0.2
	baz=83,SNR=9.5							
S11A	Rachel	82.92	46	⇓P		P	03 48 45.1	-0.1
	baz=83							
K06A	Valley Falls	82.98	39	⇑P		P	03 48 45.5	+0.1
	baz=83,SNR=15							
F03A	Seaside	83.01	35	⇑P		P	03 48 45.7	+0.3
	baz=83							
T11A	Corn Creek, Al	83.06	46	⇑P		P	03 48 45.9	0.0
	baz=83,SNR=9.0							
L07A	Adell	83.07	40	⇓P		P	03 48 46.2	+0.4
	baz=83,SNR=12							
N08A	GE Springer Mi	83.10	42	P		P	03 48 46.1	+0.1
	baz=83,SNR=9.2							
116A	Eloy	83.15	52	⇓P		P	03 48 47.0	+0.6
	baz=83							
V13A	Grand Canyon W	83.17	48	⇓P		P	03 48 46.6	+0.1
	baz=83,SNR=5.1							
I05A	Bend	83.20	38	⇓P		P	03 48 47.0	+0.6
	baz=83							
X14A	Yava	83.24	49	⇑P		P	03 48 46.9	+0.1
	baz=83,SNR=7.0							
J06A	Christmas Vall	83.31	39	⇓P		P	03 48 46.9	-0.1
	baz=83,SNR=8.7							
M08A	Happy Creek Ra	83.33	41

Q12A	Willow Creek R	84.27	45	⇓P		P	03 48 51.8	0.0
	baz=84								
O11A	Cowboy Ranch,	84.32	43	⇓P		P	03 48 52.4	+0.4
	baz=84								
Y17A	Roosevelt	84.33	51	⇑P		P	03 48 51.8	-0.4
	baz=84								
J08A	Circle Bar Ran	84.36	40	⇓P		P	03 48 51.8	-0.4
	baz=84,SNR=8.1								
E05A	Randle	84.38	36	⇓P		P	03 48 52.0	-0.1
	baz=84								
B04A	Port Angeles	84.38	34	⇓P		P	03 48 52.5	+0.4
	baz=84								
319A	Douglas	84.38	54	⇓P		P	03 48 53.1	+0.5
	baz=84,SNR=6.4								
V15A	Kaibab Nationa	84.42	49	⇑P		P	03 48 52.6	0.0
	baz=84								
H07A	Lands Inn, Kim	84.44	38	⇓P		P	03 48 52.4	-0.1
	baz=85								
K09A	Rome	84.44	40	P		P	03 48 52.7	+0.2
	baz=85,SNR=6.5								
P12A	McGill	84.45	44	⇓P		P	03 48 52.8	+0.2
	baz=85								
118A	Homack Ranch,	84.46	52	⇓P		P	03 48 53.2	+0.3
	baz=84								
M10A	I.L. Ranch, Tu	84.52	42	P		P	03 48 53.7	+0.7
	baz=85,SNR=5.1								
U15A	North Rim	84.65	48	P		P	03 48 54.4	+0.7
	baz=85,SNR=14								
X17A	Forest Lakes	84.67	50	⇑P		P	03 48 54.3	+0.4
	baz=85								
219A	White Tail Can	84.69	53	⇑P		P	03 48 54.4	+0.4
	baz=85,SNR=5.5								
Q13A	Wheeler Ranch,	84.76	45	⇑P		P	03 48 54.2	0.0
	baz=85								
G07A	Ruggs Ranch, H	84.77	38	⇓P		P	03 48 54.2	+0.1
	baz=85								
J09A	Fry Pan Ranch,	84.79	40	P		P	03 48 54.7	+0.5
	baz=85,SNR=10								
L10A	Juniper Basin	84.86	42	⇑P		P	03 48 54.2	-0.4
	baz=85,SNR=7.0								
T15A	Red Dirt Ranch	84.88	47	P		P	03 48 55.1	+0.3
	baz=85,SNR=5.4								
H08A	Prairie City	84.92	39	⇑P		P	03 48 54.5	-0.3
	baz=85								
ELK	Elko	84.92	43	*e*P		P	03 48 54.6	-0.3
	comp=Z,1.8nm,0.8s,mb3.8								
Y18A	Canyon Day Jun	84.96	51	⇑P		P	03 48 55.4	+0.1
	baz=85,SNR=7.4								
O12A	Currie	84.98	44	⇓P		P	03 48 54.4	-0.9
	baz=85								
K10A	MacKenzie Ranc	85.00	41	P		P	03 48 55.8	+0.5
	baz=85,SNR=5.5								
P13A	Bates Ranch, G	85.03	45	⇓P		P	03 48 55.7	+0.2
	baz=85								
N12A	Clover Valley,	85.10	43	⇑P		P	03 48 56.1	+0.3
	baz=85								
I09A	Lost Marbles R	85.15	39	⇓P		P	03 48 56.0	+0.1
	baz=85								
G08A	Pilot Rock	85.19	38	⇑P		P	03 48 56.1	0.0
	baz=85,SNR=14								
B05A	Bryant	85.25	34	⇓P		P	03 48 56.6	+0.3
	baz=85								
D06A	Cle Elum	85.26	36	⇑P		P	03 48 56.5	+0.1
	baz=85								
Q14A	Sevier Lake (B	85.28	45	P		P	03 48 57.1	+0.4
	baz=85,SNR=5.7								
U16A	Tuba City	85.32	49	⇓P		P	03 48 57.2	+0.2
	baz=85								
L11A	Cat Creek Ranc	85.36	42	⇓P		P	03 48 56.9	-0.1
	baz=86,SNR=5.7								
M12A	Wells	85.48	43	⇓P		P	03 48 57.8	+0.2
	baz=86								
K11A	Parker Ranch,	85.52	41	⇑P		P	03 48 58.0	+0.3
	baz=86								
H09A	Durkee	85.59	39	P		P	03 48 58.1	+0.1
	baz=86,SNR=10								
F08A	Pendleton	85.59	37	⇑P		P	03 48 58.1	+0.1
	baz=86,SNR=5.8								
Y19A	Nutrioso	85.62	51	⇓P		P	03 48 58.7	+0.3
	baz=86,SNR=7.0								
I10A	Payette	85.77	40	⇑P		P	03 48 59.7	+0.8
	baz=86								
MSU	Marysvale	85.77	46	*e*P		P	03 48 59.4	+0.3
ETW	Entiat	85.79	35	P		P	03 48 59.0	+0.1
G09A	Cove	85.87	38	⇑P		P	03 48 58.9	-0.5
	baz=86,SNR=6.8								
Q15A	Fillmore	85.88	46	⇑P		P	03 48 59.4	-0.1
	baz=86								
BMO	Blue Mountains	85.90	39	*e*P		P	03 48 59.3	-0.2
GYA	Guiyang	85.92	300	P		P	03 48 58.6	-1.4
GYA				AP		pP	03 50 58.3	-8.3
GYA				XP		sP	03 51 52.8	-13
GYA				PP		PP	03 52 31.4	0.0
GYA				SKS			03 58 31.9	
GYA				S		S	03 58 46.3	+1.0
GYA				AMB		AMB		
	comp=Z,10.0nm,1.0s,mb4.4								
M13A	Montello	85.93	43	⇑P		P	03 48 60.0	+0.3
	baz=86								
T17A	Navajo Res., N	85.97	48	⇑P		P	03 49 00.0	0.0
	baz=86								
C07A	Waterville	85.99	35	⇑P		P	03 48 59.2	-0.6
	baz=86,SNR=5.3								
MFID	Camas Ranch	85.99	41	⇓P		P	03 49 00.2	+0.2
	baz=86								
F09A	S2 Ranch, Elgi	86.04	38	⇓P		P	03 49 00.4	+0.2
	baz=86								
A06A	Chilliwack	86.08	34	⇑P		P	03 49 00.3	0.0
	baz=86								
H10A	Noah's Angus R	86.09	39	P		P	03 49 00.1	-0.3
	baz=86,SNR=13								
I11A	Placerville	86.19	40	⇑P		P	03 49 00.3	-0.6
	baz=86,SNR=8.4								
D08A	Wollman Farm,	86.24	36	P		P	03 49 01.1	0.0
	baz=86,SNR=6.9								
G10A	Bishop Farm, J	86.26	39	⇓P		P	03 49 00.6	-0.6
	baz=86,SNR=11								
J12A	Stokes Ranch,	86.35	41	⇑P		P	03 49 01.9	+0.2
	baz=86,SNR=6.2								
E09A	Wood Farm, Sta	86.36	37	⇑P		P	03 49 00.9	-0.7
	baz=86,SNR=5.0								
B07A	Winthrop	86.42	35	⇑P		P	03 49 01.6	-0.3
	baz=87,SNR=5.4								
OD2	Odessa Site #2	86.55	36	P		P	03 49 02.5	0.0
F10A	Beach Ranch, E	86.58	38	⇑P		P	03 49 02.0	-0.7
	baz=87,SNR=19								
D09A	Jones Farm, Ri	86.59	37	⇓P		P	03 49 02.4	-0.3
	baz=87,SNR=10.0								
H11A	Donnelly	86.59	40	⇑P		P	03 49 02.5	-0.2
	baz=87,SNR=15								
C08A	Higginbotham F	86.60	36	⇑P		P	03 49 02.0	-0.7
	baz=87,SNR=5.5								
I12A	Atlanta	86.62	41	P		P	03 49 03.3	+0.3
	baz=87,SNR=9.6								
A07A	Ashnola River,	86.63	34	⇑P		P	03 49 02.8	0.0
	baz=87								
K13A	Stover Farm, H	86.66	42	⇓P		P	03 49 03.2	0.0
	baz=87								
T18A	Mexican Hat	86.68	48	P		P	03 49 03.6	+0.2
	baz=87,SNR=11								
TRF	Thorofare Moun	86.69	12	*e*P		P	03 49 01.1	-1.7
	comp=Z,15nm,0.8s,mb4.8								
R17A	Hanksville Air	86.73	47	⇑P		P	03 49 03.3	-0.3
	baz=87								
B08A	Colville Reser	86.78	35	P		P	03 49 03.0	-0.5
	baz=87,SNR=11								
G11A	Walters Elk Ra	86.82	39	P		P	03 49 03.6	-0.2
	baz=87,SNR=25								
HLID	Hailey	86.94	41	P		P	03 49 04.8	+0.4
	baz=87,SNR=9.3								
HLID	Hailey	86.94	41	*e*P		P	03 49 04.5	+0.1
	comp=Z,5.3nm,0.9s,mb4.3								
J13A	Cove Ranch, Pi	87.00	41	P		P	03 49 05.1	+0.3
	baz=87,SNR=11								
C09A	Chrisman Ranch	87.03	36	⇓P		P	03 49 04.6	-0.1
	baz=87								
F11A	Grangeville	87.16	38	⇓P		P	03 49 04.0	-1.4
	baz=87,SNR=7.6								
A08A	Turner Farm, O	87.16	35	⇓P		P	03 49 05.1	-0.2
	baz=87,SNR=9.3								
D10A	Wagner Farm, O	87.16	37	⇓P		P	03 49 04.6	-0.7
	baz=87								
K14A	Jones Ranch, D	87.18	42	⇑P		P	03 49 05.8	+0.2
	baz=87								
SRU	San Rafael	87.19	46	⇓P		P	03 49 05.5	-0.3
	baz=87								
SRU	San Rafael	87.19	46	*e*P		P	03 49 05.2	-0.5
	comp=Z,2.1nm,0.7s,mb4.0								
H12A	Diamond D Ranc	87.20	40	P		P	03 49 05.6	0.0
	baz=87,SNR=13								
MCK	McKinley	87.22	13	*e*P		P	03 49 04.2	-1.0
	comp=Z,13nm,0.9s,mb4.7								
G12A	Big Creek, Yel	87.23	39	⇑P		P	03 49 05.9	+0.2
	baz=87								
R18A	Canyonlands Na	87.27	47	⇓P		P	03 49 06.3	+0.2
	baz=87								
J14A	Carey	87.37	42	P		P	03 49 07.2	+0.8
	baz=88,SNR=9.8								
E11A	Bogner Ranch,	87.38	38	⇑P		P	03 49 05.4	-1.0
	baz=88								
B09A	Rice	87.46	36	P		P	03 49 06.5	-0.3
	baz=88,SNR=6.2								
XAN	Xi'an	87.47	308	P		P	03 49 05.1	-2.1
XAN				AMB		AMB		
	comp=Z,1.0nm,0.5s,mb3.8								
A09A	Danville	87.54	35	⇓P		P	03 49 06.9	-0.2
	baz=88,SNR=6.2								
H13A	Challis	87.57	40	⇓P		P	03 49 07.3	-0.1
	baz=88,SNR=5.9								
O17A	Robinson Place	87.58	45	⇓P		P	03 49 07.5	0.0
	baz=88,SNR=7.1								
F12A	Elk City	87.61	39	⇑P		P	03 49 07.4	-0.1
	baz=88,SNR=17								
D11A	Klaveano Farm,	87.69	37	⇓P		P	03 49 06.9	-0.9
	baz=88								
I14A	Mackay	87.72	41	⇓P		P	03 49 08.4	+0.3
	baz=88,SNR=11								
HWUT	Hardware Ranch	87.73	44	*e*P		P	03 49 07.7	-0.5
	comp=Z,2.6nm,1.0s,mb3.9								
TXAR	Lajitas Array	87.82	58	P		P	03 49 09.4	+0.5
	comp=Z,2.8nm,0.8s,mb4.0,baz=219,slow=6.0,SNR=34								
G13A	Cobalt	87.86	40	⇓P		P	03 49 08.6	-0.1
	baz=88,SNR=5.5								
NEW	Newport	87.93	36	*e*P		P	03 49 08.2	-0.7
	comp=Z,2.1nm,0.8s,mb3.9								
SNAA	Sanae	87.98	179	*e*P		P	03 49 07.3	-1.6
SNAA	Sanae	87.98	179	*e*P		P	03 49 02.5	-6.4
	comp=Z,9.2nm,1.4s,mb4.3								
L16A	Fish Haven	88.02	44	⇑P		P	03 49 09.6	0.0
	baz=88								
J15A	Blackfoot	88.09	42	P		P	03 49 10.7	+0.9
	baz=88,SNR=10.0								
A10A	Northport	88.10	35	⇑P		P	03 49 09.8	+0.1
	baz=88								
O18A	Roosevelt	88.10	46	⇑P		P	03 49 10.3	+0.4
	baz=88								
ANMO	Albuquerque	88.12	52	*e*P		P	03 49 10.3	+0.1
H14A	Leadore	88.14	41	⇓P		P	03 49 09.7	-0.3
	baz=88,SNR=6.6								
VNA3	Neumayer Olymp	88.14	177	*e*P		P	03 49 08.1	-1.6
F13A	Darby	88.17	39	⇓P		P	03 49 09.1	-1.1
	baz=88,SNR=6.6								
C11A	Tepee Creek (N	88.18	37	⇑P		P	03 49 10.0	-0.1
	baz=88								
D12A	Red Ives Fores	88.26	38	⇑P		P	03 49 09.9	-0.6
	baz=88								
K16A	Soda Springs	88.33	43	⇑P		P	03 49 10.3	-0.7
	baz=88								
COLA	College	88.45	13	*e*P		P	03 49 09.4	-1.6
	comp=Z,11nm,0.9s,mb4.6								
J16A	Bone	88.54	42	⇓P		P	03 49 12.2	+0.3
	baz=89,SNR=8.1								
C12B	Naegeli Ranch,	88.54	37	P		P	03 49 11.6	-0.3
	baz=89,SNR=5.1								
MCMT	McKenzie Canyo	88.56	41	*e*P		P	03 49 12.2	+0.2
VNA2	Neumayer--Watz	88.57	177	*e*P		P	03 49 10.8	-0.9
	baz=193,slow=3.5								
H15A	Lima	88.58	41	⇓P		P	03 49 11.9	-0.1
	baz=89,SNR=6.2								
E13A	Victor	88.61	39	⇑P		P	03 49 11.2	-1.0
	baz=89								
O19A	Miners Draw (B	88.71	46	⇓P		P	03 49 12.7	-0.1
	baz=89								
A11A	Hall Mountain,	88.74	36	⇓P		P	03 49 12.5	-0.2
	baz=89								
RRI2	Red Ridge	88.76	42	*e*P		P	03 49 13.3	+0.3
HHC	Hu-ho-hao-te	88.77	315	*e*P		P	03 49 13.3	+0.3
HHC				AP		pP	03 51 12.8	-7.9
HHC				XP		sP	03 52 05.6	-14
HHC				PP		PP	03 52 55.6	+2.0
HHC				AMB		AMB		
	comp=Z,17nm,1.0s,mb4.8								
HHC				AMB		AMB		
	comp=Z,95nm,6.8s								
VNA1	Neumayer--Stat	88.81	177	*e*P		P	03 49 12.1	-0.7
B12A	Libby	88.89	37	⇓P		P	03 49 13.5	0.0
	baz=89								
G15A	Dillon	88.95	40	⇑P		P	03 49 14.1	+0.3
	baz=89,SNR=6.6								
N19A	John Jarvie Ra	88.96	45	⇑P		P	03 49 13.4	-0.5
	baz=89								
DLMT	Dillon	88.99	40	*e*P		P	03 49 14.1	+0.1
	comp=Z,4.1nm,0.8s,mb4.3								
BSMT	Basseo Peak	89.01	37	P		P	03 49 13.5	-0.5
C13A	Hot Springs	89.04	38	⇓P		P	03 49 13.2	-1.0
	baz=89								
REDW	Red Top Meadow	89.06	43	*e*P		P	03 49 13.6	-0.7
	comp=Z,7.1nm,1.1s,mb4.4								
TPAW	Teton Pass	89.06	42	*e*P		P	03 49 14.7	+0.3
	comp=Z,5.3nm,0.9s,mb4.4								
SNOW	Snow King Moun	89.17	43	*e*P		P	03 49 15.6	+0.7
	comp=Z,6.6nm,0.9s,mb4.5								
IMW	Indian Meadow	89.27	42	*e*P		P	03 49 16.0	+0.7
	comp=Z,4.6nm,0.8s,mb4.4								
F15A	Butte	89.30	40	⇑P		P	03 49 14.1	-1.2
	baz=89								
CMAR	Chiang Mai Arr	89.31	290	P		P	03 49 18.0	+1.9
	comp=Z,1.3nm,0.4s,mb4.1,baz=128,slow=3.2,SNR=9.4								
MOOW	Moose Ponds	89.32	42	*e*P		P	03 49 15.4	-0.2
	comp=Z,1.3nm,0.8s,mb3.8								
D14A	Greenough	89.34	38	⇓P		P	03 49 14.6	-1.0
	baz=90								
LOHW	Long Hollow	89.34	42	*e*P		P	03 49 15.4	-0.3
	comp=Z,2.5nm,0.7s,mb4.2								
C14A	Swan Lake	89.56	38	⇑P		P	03 49 16.2	-0.3
	baz=90								
BW06	Boulder Array	89.60	44	⇑P		P	03 49 16.6	-0.3
	baz=90								
BW06	Boulder Array	89.60	44	*e*P		P	03 49 16.3	-0.6
	comp=Z,3.7nm,0.8s,mb4.3								
PDAR	Pinedale Array	89.60	44	P		P	03 49 16.4	-0.4
	comp=Z,3.0nm,0.6s,mb4.3,baz=216,slow=3.8,SNR=29								
DAWY	Dawson	89.75	16	*e*P		P	03 49 16.9	-0.2
A13A	Flathead Natio	89.80	37	⇓P		P	03 49 17.4	-0.3
	baz=90								
PLCA	Paso Flores	89.87	134	P		P	03 49 17.8	-0.6
	comp=Z,1.8nm,0.8s,mb4.0,baz=203,slow=7.9,SNR=6.3								
PLCA	Paso Flores	89.87	134	*e*P		P	03 49 17.1	-1.2
	comp=Z,2.1nm,0.8s,mb4.0								
D15A	Lincoln	89.90	39	⇑P		P	03 49 17.5	-0.6
	baz=90								
SDCO	Great Sand Dun	90.05	49	*e*P		P	03 49 19.2	+0.1
	comp=Z,1.6nm,0.9s,mb3.9								
CD2	Chengdu	90.08	303	*e*P		P	03 49 17.3	-2.1
CD2				AMB		AMB		
	comp=Z,10.0nm,0.8s,mb4.7								
B14A	Marquette Ranc	90.14	37	⇓P		P	03 49 18.3	-0.9
	baz=90								
C15A	Salmond Ranch,	90.22	38	⇑P		P	03 49 18.4	-1.2
	baz=90								
A14A	Double T Ranch	90.38	37	⇑P		P	03 49 19.6	-0.7
	baz=90								
D16A	Dana Ranch, Ca	90.46	39	⇑P		P	03 49 19.7	-1.0
	baz=91								
B15A	Bradely Ranch,	90.52	38	⇑P		P	03 49 20.0	-1.0
	baz=91								
A15A	Johnson Ranch,	90.77	37	⇑P		P	03 49 21.4	-0.7
	baz=91								
D17A	Six Diamond Ra	91.03	39	⇓P		P	03 49 23.1	-0.3
	baz=91								
B16A	M & M Farms, S	91.06	38	⇑P		P	03 49 22.5	-1.0
	baz=91								
C17A	Wharram Farm,	91.23	39	⇓P		P	03 49 23.3	-0.9
	baz=91								
A16A	West Butte Ran	91.40	37	⇑P		P	03 49 24.7	-0.3
	baz=92								
MK31	Makanchi Array	110.60	313	*e*PKP		PKiKP	03 54 44.4	-3.1
MKAR	Makanchi Array	110.60	313	PKiKP		PKiKP	03 54 46.3	-1.2
	comp=Z,0.4nm,0.4s,baz=108,slow=0.8,SNR=9.4								
ARCES	ARCESS Array B	128.81	349	PKP		PKPdf	03 55 20.2	-1.5
	comp=Z,3.4nm,0.7s,baz=94,slow=2.1,SNR=16								
JOF	Joensuu	132.91	342	*ep*		PKPdf	03 55 26.9	-2.7
	comp=Z,2.5nm,0.5s								
KAF	Kangasniemi	134.96	344	*ep*		PKPdf	03 55 31.2	-2.3
	comp=Z,2.2nm,0.6s								
NB2	NORSAR Subarra	138.93	353	PKP		PKPdf	03 55 31.0	-10
	comp=Z,0.7nm,0.7s,baz=17,slow=2.6								
NOA	NORSAR Array B	138.93	353	SKPbc		SKPbc	03 58 18.1	-2.9
	comp=Z,2.0nm,0.8s,baz=15,slow=4.5,SNR=4.6								
AKASG	Malin Array Be	142.63	330	PKhKP			03 55 43.6	
	comp=Z,6.0nm,0.4s,baz=42,slow=4.2,SNR=24								
GKP	Gorka Klasztor	145.05	343	*e*PKP		PKPdf	03 55 51.8	-0.1
GKP	Gorka Klasztor	145.05	343	*e*PKP		PKPdf	03 55 51.8	-0.1
BSEG	Bad Segeberg	145.93	350	*e*PKPbc		PKPbc	03 55 54.5	-0.8
BR131	Keskin Array S	146.23	312	*e*PKPbc		PKPbc	03 55 55.6	-1.1
KWP	Kalwaria	146.26	334	*e*PKP		PKPdf	03 55 55.8	+1.7
KWP	Kalwaria	146.26	334	⇑*i*P		PKPdf	03 55 55.6	+1.5
KWP	Kalwaria	146.26	334	*e*PKP		PKPdf	03 55 55.8	+1.7
ANTO	Ankara	146.75	312	⇓*i*P		PKPbc	03 55 57.6	-0.5
ANTO	Ankara	146.75	312	⇓P		PKPbc	03 55 57.6	-0.5
KOLS	Kolonicke sedl	146.99	334	*e*PKP		PKPbc	03 55 58.2	-0.2
STHS	Stebnicka Huta	147.01	336	*e*PKP		PKPbc	03 55 58.0	-0.4
STHS				*e*			03 56 02.7	
CRVS	Cervenica-Dubn	147.34	335	*e*PKP		PKPbc	03 55 58.8	-0.5
KSP	Ksiaz	147.48	342	*e*PKP		PKPbc	03 55 59.3	-0.3
KSP	Ksiaz	147.48	342	*e*PKP		PKPbc	03 55 59.2	-0.4
OKC	Ostrava-Krasne	147.78	339	*e*PKPbc		PKPbc	03 55 59.3	-1.1
OKC				*e*PKPab		PKPab	03 56 04.5	-0.5
MLR	Muntele Rosu	147.79	326	⇑*i*P		PKPdf	03 55 58.5	+1.8
UPC	Upice	147.86	342	*e*PKPbc		PKPbc	03 55 59.8	-0.8
UPC				*e*PKPab		PKPab	03 56 05.7	+0.4
IBBN	Ibbenburen	147.88	352	*e*PKPab		PKPab	03 56 04.3	-1.0
DPC	Dobruska-Polom	147.91	342	*e*PKPbc		PKPbc	03 56 00.6	-0.1
DPC				*e*PKPab		PKPab	03 56 05.2	-0.3
CLL	Collm	147.91	346	*e*PKPbc		PKPbc	03 55 59.9	-0.8
CLL				*e*PKPab		PKPab	03 56 04.4	-1.1
CLL	Collm	147.91	346	⇓*i*PKPbc		PKPbc	03 55 59.8	-0.9
	comp=Z,15nm,0.8s								
CLL				*i* PKPab		PKPab	03 56 04.3	-1.2
	comp=Z,8.0nm,0.7s								
CLZ	Clausthal	147.94	349	*e*PKPbc		PKPbc	03 56 00.2	-0.5
CLZ				*e*PKPab		PKPab	03 56 04.8	-0.8
MORC	Moravsky Berou	148.03	340	⇑*i*P		PKPbc	03 56 00.6	-0.4
MORC	Moravsky Berou	148.03	340	*e*PKPbc		PKPbc	03 55 59.8	-1.2
BRG	Berggiesshubel	148.09	345	*e*PKPbc		PKPbc	03 56 00.4	-0.7
BRG				*e*PKPab		PKPab	03 56 05.5	-0.7
BRG	Berggiesshubel	148.09	345	*e*PKP		PKPbc	03 56 00.4	-0.7
	comp=Z,6.3nm,0.7s								
BRG				*e*			03 56 05.7	
	comp=Z,3.2nm,0.7s								
FBE	Freiberg	148.19	345	*e*PKPbc		PKPbc	03 56 00.9	-0.5
PVCC	Panska Ves	148.24	344	*e*PKPbc		PKPbc	03 56 00.9	-0.6
NEUB	Neuenburg	148.27	347	*e*PKPbc		PKPbc	03 56 01.0	-0.6
VOIR		148.29	327	⇓*i*P		PKPbc	03 56 00.5	-1.3
VOIR		148.29	327	⇓P		PKPbc	03 56 00.5	-1.3
DRGR		148.44	331	⇑*i*P		PKPbc	03 56 01.2	-0.9
DRGR		148.44	331	⇑P		PKPbc	03 56 01.2	-0.9
VYHS	Vyhne	148.68	337	*e*PKP		PKPbc	03 56 01.7	-1.0
VYHS				*e*			03 56 08.6	
PRU	Pruhonice	148.74	343	*e*PKPbc		PKPbc	03 56 01.9	-0.9
PRU				*e*PKPab		PKPab	03 56 08.5	-0.4
PSZ	Piszkesteto	148.75	335	*e*PKPbc		PKPbc	03 56 02.1	-0.8
PSZ				*e*PKPab		PKPab	03 56 07.3	-1.7
KOLL	Kolacno	148.76	338	*e*PKP		PKPbc	03 56 02.7	-0.2
KOLL				*e*			03 56 08.9	
MOX	Moxa	148.84	347	*e*PKPbc		PKPbc	03 56 02.2	-0.8
MOX				*e*PKPab		PKPab	03 56 08.3	-1.0
TANN	Tannenbergstha	148.87	346	*e*PKPbc		PKPbc	03 56 02.5	-0.6
TANN				*e*PKPab		PKPab	03 56 08.6	-0.8
WERD	Werda	148.87	346	*e*PKPbc		PKPbc	03 56 02.3	-0.8
GUNZ	Gunzen	148.95	346	*e*PKPbc		PKPbc	03 56 02.6	-0.6
WERN	Wernitzgruen	149.01	346	*e*PKPbc		PKPbc	03 56 02.6	-0.8
NKC	Novy Kostel	149.04	346	*e*PKPbc		PKPbc	03 56 02.1	-1.4
NKC				*e*PKPab		PKPab	03 56 09.7	-0.5
TREC	Trest	149.10	341	*e*PKPbc		PKPbc	03 56 02.6	-1.0
MODS	Modra-Piesok	149.33	339	*e*PKP		PKPbc	03 56 04.1	-0.1
MANZ	Manzenberg	149.35	346	*e*PKPbc		PKPbc	03 56 03.5	-0.7
GZR	Gura Zlata	149.45	329	⇓*i*P		PKPbc	03 56 03.5	-1.1
GZR	Gura Zlata	149.45	329	⇓P		PKPbc	03 56 03.5	-1.1
ROTZ	Rotzenmuhle	149.53	346	*e*PKPbc		PKPbc	03 56 03.4	-1.3
MEM	Membach	149.76	354	PKPbc		PKPbc	03 56 04.3	-0.8
KHC	Kasperske Hory	149.78	344	*e*PKPbc		PKPbc	03 56 04.4	-0.9
KHC				*e*PKPab		PKPab	03 56 13.1	-0.2
GRA1	Grafenberg Arr	149.82	347	*e*PKPbc		PKPbc	03 56 04.0	-1.4

3.1nm,0.6s,mb3.8
WRA Warramunga Arr 33.60 196 P **P** 03 49 50.0 0.0
0.6nm,0.5s,mb3.7,baz=19,slow=9.8,SNR=3.4
ASAR Alice Springs 37.28 195 PcP PcP 03 52 40.7 +2.0
0.6nm,0.7s,baz=26,slow=2.4,SNR=8.1
CMAR Chiang Mai Arr 43.18 284 P **P** 03 51 10.1 -0.2
1.0nm,0.3s,mb4.0,baz=89,slow=6.7,SNR=15
SONM Songino Array 46.71 326 P **P** 03 51 38.4 +0.6
0.9nm,0.5s,mb3.8,baz=148,slow=7.1,SNR=7.3
MK31 Makanchi Array 61.21 317 *eP* **P** 03 53 23.3 +0.1
MKAR Makanchi Array 61.21 317 P **P** 03 53 23.8 +0.5
0.4nm,0.4s,mb3.8,baz=87,slow=8.7,SNR=5.7
ZALV Zalesovo Beam 61.58 325 P **P** 03 53 25.0 -0.6
1.3nm,0.3s,mb4.5,baz=110,slow=7.6,SNR=4.4
KURK Kurchatov 64.41 320 *eP* **P** 03 53 44.1 -0.2
1.9nm,0.5s,mb4.2
BRVK Borovoye 69.87 322 *eP* **P** 03 54 18.9 +0.1
1.8nm,0.4s,mb4.2
TORD Torodi Ar. Bea 134.23 303 PKP PKPdf 04 02 27.1 +1.5
0.4nm,1.0s,baz=69,slow=1.3,SNR=4.1
LPAZ La Paz 149.23 101 PKPbc PKPbc 04 03 01.2 +4.6
0.8nm,0.7s,baz=333,slow=4.5,SNR=4.1

NOU ***14*** *03:48:29.2±4.6, 2528S×16629E, h10km, MD3.1, ML4.0*
ISCJB ***14*** *03:48:32.0±1.4, 2127S±005×16928E±003, h20km±9km, mb5.1/66, MS4.5/39, Error ellipse: s-maj=8.3km s-min=3.9km az=158.3*
NEIC ***14*** *03:48:31.7±0.2, 2116S×16930E, h10km, mb5.2/40, Error ellipse: s-maj=7.8km s-min=5.3km az=153.0*
LDG ***14*** *03:48:31.4±0.2, 2129S×16894E, h10km, Mb5.4/3, Ms4.6/9, Error ellipse: s-maj=24.2km s-min=4.5km az=157.0*
GCMT ***14*** *03:48:31.7±0.2, 2115S×16919E, h14km, MW5.2/102, Moment Tensor Solution. s82,c124; s102,c166; Duration: 1s0 Moment tensor: Scale 10^17 Nm; Mrr=0.76±.02; Mθθ=0.01±.01; Mφφ=0.74±.01; Mrθ=0.17±.03; Mθφ=0.04±.01; Mφr=0.34±.03; Best double couple: M=0.84300×10^17 NP1=φs354.00000°, δ33.00000°, λ-106.00000°. NP2=φs193.00000°, δ58.00000°, λ-80.00000°. Principal axes: T 0.8270, Plg13.0000°, Azm275.0000°; N 0.0330, Plg9.0000°, Azm7.0000°; P -0.8600, Plg74.0000°, Azm131.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
MOS ***14*** *03:48:33.1±1.3, 2130S×16928E, h24km, mb5.4/27, MS4.7/11 Error ellipse: s-maj=10.2km s-min=8.9km az=172.8*
IDC ***14*** *03:48:34.9±3.1, 2123S×16925E, h28km±21km, mb4.6/17, mb1 4.8/20, mb1mx4.8/22, mbtmp4.7/20, ML4.1/1, MS4.5/24, Ms1 4.5/24, ms1mx4.4/25, Error ellipse: s-maj=16.3km s-min=12.5km az=156.0*
DJA ***14*** *03:48:35, 2192S×169.19E, h10km, Mw5.5/6*
SZGRF ***14*** *03:48:41.4, 2254S×16974E, h33km, Southeast of Loyalty Islands*
BJI ***14*** *03:48:45.0, 2082S×16904E, h106km, mB5.2, mb4.9*
ISC 14 03:48:33.9±1.5, 2131S±005×16931E±003, h24km±10km, h95km±5.0km:pP-P,n420,σ0s85/296, mb5.1/66, MS4.5/39, 84C-63D, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time h m s	Res
				Op	ISC		ISC
LASL	**Noumea**	**2.73**	**250**	*eP*	**Pn**	**03 49 14.4**	**-1.8**
LASL				*eS*	**Sn**	**03 49 47.9**	**-0.7**
LASL				AMP		03 49 55.1	
	comp=Z,2μm,2.3s						
NORM	**Noumea**	**2.78**	**250**	*eP*	**Pn**	**03 49 15.1**	**-1.8**
NORM				*eS*	**Sn**	**03 49 48.5**	**-1.2**
NORM				AMP		03 49 53.5	
	comp=Z,1μm,1.0s						
ONTRN	**Noumea**	**2.83**	**249**	*eP*	**Pn**	**03 49 16.7**	**-0.9**
ONTRN				*eS*	**Sn**	**03 49 51.2**	**+0.2**
ONTRN				AMP		03 49 58.0	
	comp=Z,2μm,1.4s						
NOUC	**Port Laguerre**	**2.90**	**254**	*eP*	**Pn**	**03 49 16.7**	**-1.9**
NOUC				*eS*	**Sn**	**03 49 53.3**	**+0.5**
NOUC				AMP		03 49 57.1	
	comp=Z,525nm,3.4s						
HNR	**Honiara**	**14.85**	**321**	Pn	**Pn**	**03 52 02.2**	**-0.3**
	comp=Z,9.8nm,0.3s,baz=35,slow=9.2,SNR=4.0						
HNR				LR	LR	03 57 07.5	
	comp=Z,1μm,19.2s,baz=136,slow=35						
URZ	**Urewera**	**18.18**	**160**	P	**Pn**	**03 52 46.7**	**+1.9**
	comp=Z,0.6nm,0.3s,baz=353,slow=3.8,SNR=9.2						
URZ				LR	LR	03 58 47.5	
	comp=Z,2μm,18.1s,baz=342,slow=34						
ARMA	**Armidale**	**18.29**	**237**	*eP*	**Pn**	**03 52 49.6**	**+3.4**
AFI	**Afiamalu**	**19.46**	**71**	P	**Pn**	**03 53 01.6**	**+1.1**
	comp=Z,1.0nm,0.3s,baz=314,slow=2.2,SNR=10						
AFI				LR	LR	03 58 47.0	
	comp=Z,2μm,21.2s,baz=240,slow=31						
AFI	**Afiamalu**	**19.46**	**71**	*eP*	**Pn**	**03 52 59.1**	**-1.3**
AFI				pmax	pmax		
	comp=Z,209nm,1.3s						
AFI	**Afiamalu**	**19.46**	**71**	*eP*	**Pn**	**03 52 59.1**	**-1.4**
	comp=Z,209nm,1.3s						
CTA	**Charters Tower**	**21.60**	**269**	*eP*	**P**	**03 53 22.9**	**+0.7**
	comp=Z,37nm,0.8s,mb4.9						
CTA				*i* S	**S**	**03 57 25.9**	**+5.4**
CTA	**Charters Tower**	**21.60**	**269**	P	**P**	**03 53 23.7**	**+1.4**
	comp=Z,48nm,0.8s,mb5.0,baz=101,slow=12,SNR=23						
CTA				S	**S**	**03 57 19.4**	**-1.0**
	comp=Z,1.3nm,0.4s,baz=192,slow=23,SNR=2.2						
CTA				LR	LR	04 00 32.8	
	comp=Z,3μm,21.5s,MS4.6,baz=96,slow=33						
CTA	**Charters Tower**	**21.60**	**269**	*eP*	**P**	**03 53 22.9**	**+0.7**
CTA				*i* S	**S**	**03 57 25.9**	**+5.4**
CTA				pmax	pmax		
	comp=Z,37nm,0.8s						
CTAO	**Charters Tower**	**21.60**	**269**	*eP*	**P**	**03 53 23.2**	**+1.0**
CTAO				pmax	pmax		
	comp=Z,51nm,0.8s,mb5.0						
CTAO	**Charters Tower**	**21.60**	**269**	*eP*	**P**	**03 53 23.2**	**+1.0**
	comp=Z,51nm,0.8s,mb5.0						
CNB	**Canberra Magne**	**22.37**	**227**	*eP*	**P**	**03 53 32.6**	**+2.3**
CNB				*eS*	**S**	**03 57 42.0**	**+6.8**
RPZ	**Rata Peaks**	**22.39**	**177**	P	**P**	**03 53 33.5**	**+3.0**
	comp=Z,78nm,1.2s,mb5.0,baz=48,slow=14,SNR=6.4						
RPZ				LR	LR	04 01 15.4	
	comp=Z,2μm,18.7s,MS4.5,baz=3.9,slow=34						
CAN	**Canberra**	**22.62**	**228**	*eP*	**P**	**03 53 35.6**	**+2.6**
PMG	**Port Moresby**	**24.38**	**296**	*eP*	**P**	**03 53 49.9**	**-0.6**
PMG				pmax	pmax		
	comp=Z,55nm,0.9s						
PMG	**Port Moresby**	**24.38**	**296**	*eP*	**P**	**03 53 49.9**	**-0.6**
	comp=Z,55nm,0.9s,mb5.0						
COEN	**Coen**	**25.93**	**282**	*eP*	**P**	**03 54 04.5**	**0.0**
	comp=Z,16nm,0.8s,mb4.6						
TOO	**Toolangi**	**26.21**	**227**	*eP*	**P**	**03 54 09.0**	**+2.1**
TOO				*eS*	**S**	**03 58 43.9**	**+6.2**
STKA	**Stephens Creek**	**26.85**	**241**	*eP*	**P**	**03 54 13.8**	**+1.0**
	comp=Z,17nm,0.9s,mb4.6						
STKA				*eS*	**S**	**03 58 38.8**	**-9.2**
STKA	**Stephens Creek**	**26.85**	**241**	P	**P**	**03 54 13.4**	**+0.6**
	comp=Z,17nm,0.8s,mb4.6,baz=71,slow=9.0,SNR=26						
STKA				S	**S**	**03 58 46.7**	**-1.2**
	comp=Z,1.3nm,0.3s,baz=335,slow=22,SNR=1.5						
STKA				LR	LR	04 04 05.2	
	comp=Z,3μm,18.9s,MS4.9,baz=70,slow=35						
RAR	**Rarotonga**	**28.80**	**96**	LR	LR	04 03 26.6	
	comp=Z,848nm,21.5s,MS4.3,baz=267,slow=31						
WB2	**Warramunga Arr**	**32.70**	**266**	*eP*	**P**	**03 55 03.7**	**-1.1**
WRAB	**Tennant Creek**	**32.71**	**266**	*eP*	**P**	**03 55 03.7**	**-1.1**
WRAB				pmax	pmax		
	comp=Z,14nm,0.8s,mb4.9						
WRAB	**Tennant Creek**	**32.71**	**266**	*eP*	**P**	**03 55 03.7**	**-1.1**
	comp=Z,14nm,0.8s,mb4.9						
WRA	**Warramunga Arr**	**32.71**	**266**	P	**P**	**03 55 03.5**	**-1.4**
	comp=Z,16nm,0.9s,mb4.9,baz=97,slow=9.1,SNR=28						
WRA				S	**S**	**04 00 23.7**	**+3.5**
	comp=Z,3.3nm,1.2s,baz=95,slow=14,SNR=4.2						
WRA				LR	LR	04 07 29.1	
	comp=Z,2μm,21.7s,MS4.8,baz=95,slow=35						
WRA	**Warramunga Arr**	**32.71**	**266**	P	**P**	**03 55 03.5**	**-1.4**
WRA				S	**S**	**04 00 23.8**	**+3.6**
ASAR	**Alice Springs**	**32.74**	**259**	P	**P**	**03 55 04.8**	**-0.3**
	comp=Z,29nm,0.8s,mb5.2,baz=87,slow=8.3,SNR=88						
ASAR				PcP	PcP	03 57 50.1	-0.2
	comp=Z,3.9nm,0.9s,baz=106,slow=3.3,SNR=6.4						
ASAR				S	**S**	**04 00 19.1**	**-1.5**
	comp=Z,1.1nm,1.1s,baz=68,slow=27,SNR=3.1						
KAKA	**Kakadu**	**36.20**	**278**	*eP*	**P**	**03 55 32.2**	**-2.9**
	comp=Z,15nm,0.8s,mb5.0						
FORT	**Forrest**	**38.06**	**247**	*eP*	**P**	**03 55 50.7**	**-0.1**
	comp=Z,21nm,0.7s,mb5.0						
TBI	**Tubuai**	**38.11**	**101**	*eS*	**S**	**04 01 43.4**	**+0.4**
	comp=Z,441nm,28.2s						
TBI				*eLQ*		04 04 31.1	
	comp=Z,2μm,28.0s						
TBI				*eLR*	LR	04 06 06.5	
	comp=Z,2μm,27.8s,baz=260						
PPT	**Papeete**	**38.88**	**92**	*eS*	**S**	**04 01 52.9**	**-1.9**
	comp=Z,574nm,25.8s						
PPT				*eLQ*		04 04 50.2	
	comp=Z,1μm,27.0s						
PPT				*eLR*	LR	04 06 27.6	
	comp=Z,3μm,28.2s,baz=253						
FITZ	**Fitzroy Crossi**	**41.14**	**267**	*eP*	**P**	**03 56 15.7**	**-0.8**
	comp=Z,89nm,0.8s,mb5.5						
FITZ				*eS*	**S**	**04 02 29.1**	**+0.5**
FITZ	**Fitzroy Crossi**	**41.14**	**267**	P	**P**	**03 56 15.9**	**-0.7**
	comp=Z,48nm,0.8s,mb5.2,baz=133,slow=9.6,SNR=50						
FITZ				LR	LR	04 13 05.5	
	comp=Z,1μm,21.0s,MS4.7,baz=103,slow=36						
BATI	**Baumata**	**45.14**	**277**	LR	LR	04 16 14.1	
	comp=Z,1μm,18.8s,MS4.9,baz=113,slow=37						
MBWA	**Marble Bar**	**46.05**	**261**	*eP*	**P**	**03 56 56.1**	**0.0**
	comp=Z,70nm,0.9s,mb5.6						
KLBR	**Kellerberrin**	**46.91**	**246**	*eP*	**P**	**03 57 01.8**	**-0.9**
	comp=Z,40nm,0.7s,mb5.5						
NWAO	**Narrogin (SRO)**	**47.35**	**244**	*eP*	**P**	**03 57 05.4**	**-0.7**
NWAO				pmax	pmax		
	comp=Z,23nm,0.8s						
NWAO	**Narrogin (SRO)**	**47.35**	**244**	*eP*	**P**	**03 57 05.4**	**-0.7**
	comp=Z,23nm,0.8s,mb5.2						
MUN	**Mundaring**	**48.22**	**246**	*eP*	**P**	**03 57 12.3**	**-0.6**
MUN				*eS*	**S**	**04 04 08.6**	**-2.5**
DRV	**Dumont d'Urvil**	**49.05**	**195**	P	**P**	**03 57 24.0**	**+5.2**
DRV				S	S	04 04 59.0	+37
DRV				R		04 12 00.0	
KAPI	**Kappang**	**50.65**	**281**	P	**P**	**03 57 31.5**	**-0.2**
	comp=Z,11nm,0.7s,mb4.9,baz=135,slow=6.1,SNR=6.7						
KAPI				LR	LR	04 19 39.4	
	comp=Z,249nm,18.8s,MS4.2,baz=116,slow=37						
KAPI	**Kappang**	**50.65**	**281**	*eP*	**P**	**03 57 30.7**	**-1.1**
	comp=Z,13nm,0.8s,mb4.9						
DAV	**Davao City (W)**	**51.35**	**299**	LR	LR	04 19 42.6	
	comp=Z,338nm,19.3s,MS4.4,baz=87,slow=36						
RKT	**Rikitea**	**51.35**	**103**	*eS*	**S**	**04 04 54.4**	**-0.7**
	comp=Z,502nm,26.8s						
RKT				*eLR*	LR	04 12 14.9	
	comp=Z,884nm,29.5s						
CBIJ	**Chichi jima**	**54.82**	**330**	LR	LR	04 18 24.8	
	comp=Z,300nm,20.2s,MS4.4,baz=140,slow=33						
CASY	**Casey**	**58.26**	**204**	*eP*	**P**	**03 58 26.3**	**+0.1**
	comp=Z,22nm,1.0s,mb5.1						
KKM	**Kota Kinabalu**	**58.73**	**292**	*eP*	**P**	**03 58 30.7**	**+0.4**
JHJ	**Hachijo jima 2**	**61.02**	**332**	LR	LR	04 19 48.8	
	comp=Z,184nm,21.4s,MS4.2,baz=338,slow=31						
KSM	**Kuching**	**61.91**	**284**	*eP*	**P**	**03 58 52.0**	**-0.1**
JOW	**Kunigami**	**62.20**	**318**	LR	LR	04 19 26.7	
	comp=Z,217nm,21.4s,MS4.3,baz=136,slow=30						
MJAR	**Matsushiro Arr**	**64.61**	**333**	P	**P**	**03 59 09.3**	**-0.1**
	comp=Z,5.7nm,1.0s,mb4.5,baz=168,slow=7.4,SNR=12						
MJAR				LR	LR	04 21 34.0	
	comp=Z,157nm,20.5s,MS4.2,baz=105,slow=31						
MAJO	**Matsushiro**	**64.61**	**333**	*eP*	**P**	**03 59 09.4**	**0.0**
MAJO				pmax	pmax		
	comp=Z,6.0nm,0.5s,mb4.9						
MAJO	**Matsushiro**	**64.61**	**333**	*eP*	**P**	**03 59 09.4**	**-0.1**
	comp=Z,6.4nm,0.5s,mb4.9						
MAT	**Matsushiro**	**64.61**	**333**	P	**P**	**03 59 09.2**	**-0.2**
MAT				S	**S**	**04 07 43.0**	**-4.8**
MIR	**Mirnyy**	**65.19**	**205**	*i* P	**P**	**03 59 14.0**	**+1.1**
MIR				*i*		03 59 46.0	
MIR				*i* S	S	04 08 00.0	+5.6
MIR				pmax	pmax		
	comp=Z,200nm,1.4s,mb6.0						
MIR				MLR	MLR		
	comp=Z,1μm,17.0s,MS5.1						
ASAJ	**Asahikawa**	**69.56**	**340**	P	**P**	**03 59 42.1**	**+1.5**
	comp=Z,18nm,0.8s,mb5.0,baz=182,slow=15,SNR=6.2						
SSE	**Sheshan**	**69.62**	**317**	*eP*	**P**	**03 59 40.4**	**-1.0**
SSE				PcP	PcP	04 00 01.0	-3.3
SSE				AP	pP	04 00 07.1	+18
SSE				S	S	04 08 39.3	-9.1
SSE				XS	sS	04 09 26.3	+25
SSE				SCS	ScS	04 09 30.5	-11
SSE				AMB	AMB		
	comp=Z,26nm,0.8s,mb5.2						
SSE				AMB	AMB		
	comp=Z,70nm,4.0s						
SSE				LR	LR		
	comp=N,81nm,27.0s,MS4.0						
SSE				LR	LR		
	comp=E,103nm,27.1s,MS4.0						
SSE				LR	LR		
	comp=Z,121nm,24.4s,MS4.0						
SSE	**Sheshan**	**69.62**	**317**	*eP*	**P**	**03 59 40.4**	**-1.0**
	comp=Z,26nm,0.8s,mb5.2						
SSE				PcP	PcP	04 00 01.0	-3.3
SSE				pP	pP	04 00 07.1	+18
SSE				S	S	04 08 39.3	-9.1
SSE				sS	sS	04 09 26.3	+25
SSE				ScS	ScS	04 09 30.5	-11
SSE				LR	LR		
	comp=Z,120nm,24.4s,MS4.0						
KSRS	**Korea Array**	**70.25**	**326**	P	**P**	**03 59 45.9**	**+0.8**
	comp=Z,3.7nm,0.9s,mb4.3,baz=144,slow=6.6,SNR=7.0						
KSRS				LR	LR	04 29 52.5	
	comp=Z,148nm,19.2s,MS4.2,baz=136,slow=35						
QIZ	**Qiongzhong**	**70.66**	**300**	P	**P**	**03 59 48.4**	**+0.3**
QIZ				PP	PP	04 02 23.8	-1.2
QIZ				S	S	04 08 53.8	-7.3
QIZ				SS	SS	04 13 27.4	-6.2
QIZ				LR	LR		
	comp=Z,375nm,38.8s,MS4.3						
NJ2	**Nanjing**	**71.74**	**316**	*eP*	**P**	**03 59 55.1**	**+0.8**
NJ2				AP	pP	04 00 23.1	+21
NJ2				XP	sP	04 00 35.8	+31
NJ2				S	S	04 09 05.0	-8.1
NJ2				SKS		04 09 44.5	
NJ2				XS	sS	04 09 51.0	+25
NJ2				AMB	AMB		
	comp=Z,20nm,1.0s,mb5.0						
NJ2				AMB	AMB		
	comp=Z,250nm,4.2s						
NJ2				LR	LR		
	comp=N,430nm,27.0s						
NJ2				LR	LR		
	comp=E,550nm,33.8s						
NJ2				LR	LR		
	comp=Z,650nm,36.8s						
YSS	**Yuzh-Sakhalins**	**72.05**	**341**	*eP*	**P**	**03 59 58.7**	**+2.9**
YSS				pmax	pmax		
	comp=Z,68nm,1.3s,mb5.4						
YSS	**Yuzh-Sakhalins**	**72.05**	**341**	*eP*	**P**	**03 59 55.5**	**-0.3**
	comp=Z,114nm,1.5s,mb5.6						
PETK	**Petropavlovsk-**	**74.79**	**353**	P	**P**	**04 00 11.5**	**-0.3**
	comp=Z,7.1nm,0.8s,mb4.6,baz=138,slow=5.4,SNR=5.8						
PETK				LR	LR	04 28 37.4	
	comp=Z,222nm,21.9s,MS4.4,baz=163,slow=32						
MDJ	**Mudanjiang**	**74.97**	**332**	P	**P**	**04 00 14.3**	**+1.3**
MDJ				AP	pP	04 00 42.0	+21
MDJ				XP	sP	04 00 54.1	+31
MDJ				S	S	04 09 44.3	-4.9
MDJ				AMB	AMB		
	comp=Z,7.0nm,1.3s,mb4.4						
MDJ				AMB	AMB		
	comp=Z,99nm,3.8s						
MDJ				LR	LR		
	comp=N,158nm,24.9s,MS4.3						
MDJ				LR	LR		
	comp=E,123nm,21.7s,MS4.3						
MDJ				LR	LR		
	comp=Z,236nm,20.4s,MS4.5						
HABR	**Khabarovsk**	**75.92**	**337**	*eP*	**P**	**04 00 20.1**	**+1.7**
HABR				*e*		04 00 32.0	
HABR				*eS*	S	04 09 55.3	-4.3
HABR				*e*		04 10 25.4	
HABR				*e*		04 10 40.4	
HABR				*e*		04 14 51.9	
HABR				*e*		04 18 14.5	
CN2	**Changchun**	**76.25**	**329**	*eP*	**P**	**04 00 21.6**	**+1.2**
CN2				*eAP*	pP	04 00 49.9	+22
CN2				*ePP*	PP	04 03 16.8	+4.6
CN2				*eS*	S	04 09 57.3	-6.1
CN2				AMB	AMB		
	comp=Z,20nm,1.6s,mb4.8						
CN2				AMB	AMB		
	comp=Z,200nm,4.0s						
MAW	**Mawson**	**76.55**	**202**	*eP*	**P**	**04 00 22.5**	**+0.6**
	comp=Z,7.0nm,0.9s,mb4.6						
MAW				*eS*	S	04 10 08.9	+2.7
MAW	**Mawson**	**76.55**	**202**	P	**P**	**04 00 22.1**	**+0.3**
	comp=Z,9.8nm,0.8s,mb4.8,baz=110,slow=8.3,SNR=18						
MAW				LR	LR	04 29 38.4	
	comp=Z,335nm,19.8s,MS4.7,baz=76,slow=32						
MAW	**Mawson**	**76.55**	**202**	*eP*	**P**	**04 00 22.5**	**+0.6**
MAW				*eS*	S	04 10 08.9	+2.7
MAW				pmax	pmax		
	comp=Z,7.0nm,0.9s						
GYA	**Guiyang**	**77.05**	**305**	P	**P**	**04 00 26.9**	**+1.5**
GYA				AP	pP	04 00 55.6	+23
GYA				XP	sP	04 01 07.4	+32
GYA				PP	PP	04 03 23.0	+3.7
GYA				S	S	04 10 04.8	-8.1
GYA				SKS		04 10 23.9	
GYA				SCS	ScS	04 10 31.5	-10
GYA				SS	SS	04 15 05.8	-5.1
GYA				AMB	AMB		
	comp=Z,20nm,1.0s,mb5.0						
GYA				AMB	AMB		
	comp=Z,130nm,5.8s						
GYA				LR	LR		
	comp=N,620nm,18.8s,MS5.1						
GYA				LR	LR		
	comp=E,560nm,19.6s,MS5.1						
GYA				LR	LR		
	comp=Z,630nm,18.7s,MS5.0						
BJI	**Beijing**	**78.58**	**321**	P	**P**	**04 00 36.8**	**+3.2**
BJI				XP	sP	04 01 13.8	+30
BJI				PP	PP	04 03 32.3	+0.5
BJI				S	S	04 10 25.8	-3.1
BJI				XS	sS	04 11 11.3	+30
BJI				SS	SS	04 15 27.3	-6.1
BJI				AMB	AMB		
	comp=Z,23nm,1.7s,mb4.8						
BJI				AMB	AMB		
	comp=Z,277nm,3.3s						
BJI				LR	LR		
	comp=Z,310nm,36.1s,MS4.4						
BJI	**Beijing**	**78.58**	**321**	P	**P**	**04 00 36.7**	**+3.1**
BJI						04 03 32.2	
BJI				S	S	04 10 25.8	-3.1
BJI				*SS	sS	04 11 11.2	+30
BJI				SS	SS	04 15 27.2	-6.2
BJI				pmax	pmax		
	comp=Z,23nm,1.7s,mb4.8						
BJI				MLR	MLR		
	comp=Z,310nm,36.1s,MS4.4						
BJI	**Beijing**	**78.58**	**321**	P	**P**	**04 00 36.7**	**+3.1**
	comp=Z,23nm,1.7s,mb4.8						
BJI				sP	sP	04 01 13.8	+30
BJI				PP	PP	04 03 32.2	+0.4
BJI				S	S	04 10 25.8	-3.1
BJI				sS	sS	04 11 11.2	+30
BJI				SS	SS	04 15 27.2	-6.2
BJI				LR	LR		
	comp=Z,310nm,36.1s,MS4.4						
CHRT	**Chiangrai**	**79.34**	**296**	⇑P	**P**	**04 00 40.0**	**+1.8**
	comp=Z,105nm,1.0s,mb5.7						
CMAR	**Chiang Mai Arr**	**79.41**	**295**	P	**P**	**04 00 39.1**	**+0.5**
	comp=Z,6.8nm,0.8s,mb4.6,baz=136,slow=4.7,SNR=20						
CMAR				LR	LR	04 38 16.4	
	comp=Z,132nm,19.1s,MS4.3,baz=312,slow=38						
CMAR	**Chiang Mai Arr**	**79.41**	**295**	*i* P	**P**	**04 00 40.5**	**+1.9**
CMAR				pmax	pmax		
	comp=Z,7.0nm,0.8s						
KMI	**Kunming**	**79.42**	**302**	P	**P**	**04 00 39.9**	**+1.4**
KMI				AP	pP	04 01 08.8	+23
KMI				S	S	04 10 29.9	-8.5
KMI				PS		04 11 29.6	
KMI				AMB	AMB		
	comp=Z,28nm,1.1s,mb5.1						
KMI				AMB	AMB		
	comp=Z,173nm,3.1s						
KMI				LR	LR		
	comp=N,110nm,22.9s						
KMI				LR	LR		
	comp=E,219nm,15.9s						
KMI				LR	LR		
	comp=Z,177nm,23.9s,MS4.3						
KMI	**Kunming**	**79.42**	**302**	P	**P**	**04 00 39.9**	**+1.4**
	comp=Z,28nm,1.1s,mb5.1						
KMI				pP	pP	04 01 08.8	+23
KMI				S	S	04 10 29.9	-8.5
KMI				PS		04 11 29.6	
KMI				LR	LR		
	comp=Z,180nm,23.9s,MS4.3						
XAN	**Xi'an**	**79.55**	**313**	P	**P**	**04 00 39.3**	**+0.3**
XAN				AMB	AMB		
	comp=Z,14nm,1.0s,mb4.8						
XAN				AMB	AMB		
	comp=Z,208nm,4.8s						
XAN				LR	LR		
	comp=E,161nm,18.1s						
XAN				LR	LR		
	comp=Z,254nm,19.1s,MS4.6						
CHG	**Chiang Mai**	**79.57**	**295**	⇓P	**P**	**04 00 40.1**	**+0.7**
	comp=Z,18nm,0.8s,mb5.0						
CHTO	**Chiang Mai**	**79.57**	**295**	*eP*	**P**	**04 00 40.5**	**+1.1**
CHTO				pmax	pmax		
	comp=Z,8.0nm,0.7s,mb4.8						
CHTO	**Chiang Mai**	**79.57**	**295**	*eP*	**P**	**04 00 40.5**	**+1.1**
	comp=Z,7.9nm,0.7s,mb4.8						
CD2	**Chengdu**	**81.54**	**308**	*eP*	**P**	**04 00 50.3**	**+0.5**
CD2				AP	pP	04 01 18.8	+21
CD2				XP	sP	04 01 30.9	+31
CD2				PP	PP	04 04 00.4	+3.8
CD2				S	S	04 10 51.8	-8.7
CD2				XS	sS	04 11 40.3	+27
CD2				SS	SS	04 16 11.9	-6.2
CD2				AMB	AMB		
	comp=Z,30nm,1.2s,mb5.1						
CD2				AMB	AMB		
	comp=Z,60nm,5.8s						
CD2				LR	LR		
	comp=N,190nm,13.2s,MS4.9						
CD2				LR	LR		
	comp=E,360nm,16.5s,MS4.9						
CD2				LR	LR		
	comp=Z,260nm,15.6s,MS4.7						
HHC	**Hu-ho-hao-te**	**81.83**	**320**	*eP*	**P**	**04 00 52.8**	**+1.8**
HHC				AP	pP	04 01 21.8	+23
HHC				XP	sP	04 01 32.8	+31
HHC				PP	PP	04 04 03.9	+5.1
HHC				S	S	04 10 57.4	-5.6
HHC				AMB	AMB		
	comp=Z,14nm,1.0s,mb4.8						
HHC				AMB	AMB		
	comp=Z,189nm,6.3s						
HHC				LR	LR		
	comp=N,242nm,19.2s,MS4.7						
HHC				LR	LR		
	comp=E,276nm,20.4s,MS4.7						
HHC				LR	LR		
	comp=Z,184nm,18.8s,MS4.5						
CHGN	**Chignik**	**81.98**	**17**	*eP*	**P**	**04 00 58.0**	**+6.5**
HIA	**Hailar**	**82.92**	**330**	*eP*	**P**	**04 00 59.5**	**+2.9**
SYO	**Syowa Base

LZH **Lanzhou** 84.16 312 *e*P P 04 01 03.6 +0.4
comp=Z,20nm,1.6s,mb5.0
LZH pP pP 04 01 38.0 +27
LZH sP sP 04 01 45.3 +32
LZH PP PP 04 04 23.0 +5.0
LZH SKS 04 11 13.0
LZH S S 04 11 17.4 -9.5
LZH sS sS 04 12 06.1 +26
LZH SS SS 04 16 55.0 -1.8
LZH LR LR
comp=Z,360nm,19.4s,MS4.8
OHAK Old Harbor 84.28 19 *e*P P 04 01 03.3 0.0
PMSA Palmer Station 84.95 160 *e*P P 04 01 07.3 +0.5
comp=Z,71nm,1.3s,mb5.6
CLNS Chul'man 86.32 337 *e*P P 04 01 16.0 +2.5
CLNS pmax pmax
comp=Z,25nm,1.0s,mb5.4
CLNS pmax pmax
comp=N,32nm,1.5s
CLNS pmax pmax
comp=E,12nm,1.4s
SNAA Sanae 87.11 182 *e*P P 04 01 17.3 -0.1
SNAA *e* 04 01 18.7
SNAA Sanae 87.11 182 *e*P P 04 01 17.2 -0.2
SNAA pmax pmax
comp=Z,64nm,1.3s
SNAA Sanae 87.11 182 *e*P P 04 01 17.2 -0.1
comp=Z,64nm,1.3s,mb5.7
PACP Pacheco Peak 87.36 49 ⇓P P 04 01 19.4 +0.3
baz=88
KHMM Horse Mountain 87.64 44 *e*P P 04 01 22.0 +1.6
VNA3 Neumayer Olymp 87.69 180 *e*P P 04 01 19.9 -0.3
VNA3 *e* 04 01 21.3
GASB Alder Springs 87.69 46 ⇑P P 04 01 20.4 -0.2
baz=88
N02C Big Bar 87.89 45 ⇑P P 04 01 21.6 +0.1
baz=88
VNA2 Neumayer--Watz 87.98 181 *e*P P 04 01 21.8 +0.2
VNA2 *e* 04 01 23.1
S05C Merced 88.20 49 ⇑P P 04 01 22.9 -0.2
baz=88
WDC Whiskeytown Da 88.27 45 *e*P P 04 01 24.3 +0.9
WDC pmax pmax
comp=Z,45nm,1.6s,mb5.5
WDC Whiskeytown Da 88.27 45 ⇑P P 04 01 24.0 +0.6
baz=88,SNR=8.0
WDC Whiskeytown Da 88.27 45 *e*P P 04 01 24.3 +0.9
comp=Z,45nm,1.6s,mb5.5
VNA1 Neumayer--Stat 88.27 181 *e*P P 04 01 23.5 +0.5
VNA1 *e* 04 01 24.7
OHCM Honcut 88.36 46 *e*P P 04 01 23.9 +0.1
VES Vestal, Richgr 88.37 50 ⇓P P 04 01 24.3 +0.3
baz=89,SNR=5.7
SHL Shillong 88.38 298 *e*P P 04 01 24.5 +0.3
MWC Mount Wilson 88.38 52 *e*P P 04 01 25.0 +1.0
ORV Oroville 88.46 46 ⇓P P 04 01 24.3 0.0
baz=89,SNR=9.6
T06C Millerton Lake 88.47 49 ⇑P P 04 01 24.2 -0.2
baz=89,SNR=13
M02C Callahan 88.47 44 ⇓P P 04 01 24.0 -0.3
baz=89,SNR=11
CMB Columbia Colle 88.49 48 *e*P P 04 01 24.4 -0.1
CMB pmax pmax
comp=Z,27nm,1.5s,mb5.3
CMB Columbia Colle 88.49 48 ⇓P P 04 01 23.5 -0.9
baz=89,SNR=13
CMB Columbia Colle 88.49 48 *e*P P 04 01 24.4 -0.1
comp=Z,26nm,1.5s,mb5.2
LAVA Lava Cap Winer 88.59 47 ⇓P P 04 01 23.5 -1.4
baz=89
GTA Gaotai 88.59 313 *e*P P 04 01 25.8 +0.9
GTA AMB AMB
comp=Z,5.0nm,1.4s,mb4.7
BFSC Mount Baldy St 88.68 52 ⇑P P 04 01 24.2 -1.2
baz=89
EDW2 Edwards Air Fo 88.73 52 ⇑P P 04 01 24.4 -1.2
baz=89,SNR=6.6
ISA Isabella 88.73 51 *e*P P 04 01 26.3 +0.6
ISA pmax pmax
comp=Z,83nm,1.8s,mb5.8
ISA Isabella 88.73 51 ⇑P P 04 01 25.9 +0.2
baz=89,SNR=15
ISA Isabella 88.73 51 *e*P P 04 01 26.2 +0.6
comp=Z,83nm,1.8s,mb5.8
YBH Yreka Blue Hor 88.74 44 *e*P P 04 01 26.6 +1.0
YBH pmax pmax
comp=Z,33nm,1.7s
YBH Yreka Blue Hor 88.74 44 ⇑P P 04 01 25.4 -0.1
baz=89,SNR=6.8
YBH Yreka Blue Hor 88.74 44 *e*P P 04 01 26.6 +1.0
comp=Z,33nm,1.7s,mb5.4
HELL Mitchell Peak 88.81 50 ⇓P P 04 01 24.9 -1.1
baz=89
YAK Yakutsk 88.86 342 *e*P P 04 01 26.3 +0.7
YAK pmax pmax
comp=Z,27nm,1.6s,mb5.3
KCC Kaiser Creek 88.90 49 ⇑P P 04 01 26.2 -0.3
baz=89,SNR=7.6
SONM Songino Array 88.91 323 P P 04 01 25.1 -1.1
comp=Z,3.4nm,0.8s,mb4.7,baz=131,slow=4.1,SNR=19
SONM PKKP PKKPbc 04 19 07.0 -0.1
comp=Z,0.7nm,1.0s,baz=326,slow=0.5,SNR=4.5
SONM LR LR 04 43 23.9
comp=Z,186nm,18.4s,MS4.5,baz=5.5,slow=37
MONP Monument Peak 89.01 54 ⇓P P 04 01 26.8 -0.2
baz=89
HUMO Hull Mountain 89.02 43 ⇓P P 04 01 26.8 0.0
baz=89,SNR=8.2
HUMO Hull Mountain 89.02 43 *e*P P 04 01 26.2 -0.6
comp=Z,58nm,1.8s,mb5.6
O05C Quincy 89.05 46 ⇑P P 04 01 26.9 -0.2
baz=89,SNR=8.3
O04C Chester 89.11 46 ⇑P P 04 01 27.0 -0.4
baz=89,SNR=7.6
LRMC Laurel Mountai 89.22 51 ⇑P P 04 01 27.9 -0.1
baz=90,SNR=7.1
PFO Pinyon Flat Ob 89.30 53 *e*P P 04 01 27.8 -0.6
PFO pmax pmax
comp=Z,37nm,1.8s,mb5.4
PFO Pinyon Flat Ob 89.30 53 ⇓P P 04 01 28.0 -0.4
baz=90
PFO Pinyon Flat Ob 89.30 53 *e*P P 04 01 27.8 -0.6
comp=Z,37nm,1.8s,mb5.4
R06C Coleville 89.37 48 ⇓P P 04 01 28.1 -0.4
baz=90,SNR=8.6
WAKR Walker 89.37 48 *e*P P 04 01 29.5 +0.9
BEKR Beckwourth 89.38 46 ⇑P P 04 01 28.2 -0.4
baz=90,SNR=5.6
MTUM Tungsten Hills 89.44 49 *e*P P 04 01 29.9 +0.9
SWSC Sam W. Stewart 89.50 54 ⇓P P 04 01 29.3 0.0
baz=90
MPMC Manual Prospec 89.62 51 ⇓P P 04 01 30.1 +0.3
baz=90,SNR=9.7
GSC Goldstone 89.78 52 *e*P P 04 01 31.8 +1.2
GSC pmax pmax
comp=Z,69nm,1.8s,mb5.7
GSC Goldstone 89.78 52 ⇑P P 04 01 31.1 +0.5
baz=90,SNR=6.3
GSC Goldstone 89.78 52 *e*P P 04 01 31.8 +1.2
comp=Z,69nm,1.8s,mb5.7
BELC Belle Mtn. 89.81 53 ⇑P P 04 01 29.7 -1.1
baz=90
H03A Soap Creek Ran 89.86 41 ⇓P P 04 01 30.5 -0.2
baz=90
O06A Flanigan 89.88 46 ⇓P P 04 01 31.1 +0.2
baz=90,SNR=10
HEC Hector,Ludlow 89.92 52 ⇑P P 04 01 30.9 -0.4
baz=90
I04A Tendick Farm, 89.96 42 ⇓P P 04 01 30.2 -1.0
baz=90,SNR=6.6
PAHR Pah Rah Range 89.97 47 *e*P P 04 01 31.7 +0.3
comp=Z,20nm,1.3s,mb5.3
BC3 Big Chuckw Mtn 90.07 54 ⇓P P 04 01 30.8 -1.2
baz=90
L05A Lakeview 90.11 44 ⇓P P 04 01 32.1 +0.1
baz=90,SNR=6.4
NVAR Mina Array Bea 90.12 48 P P 04 01 31.6 -0.5
comp=Z,3.0nm,0.9s,mb4.6,baz=230,slow=6.7,SNR=23
GRAC Grapevine Rang 90.13 50 ⇑P P 04 01 32.1 -0.1
baz=90,SNR=16
N06A Buffalo Meadow 90.15 46 ⇓P P 04 01 32.5 +0.3
baz=90,SNR=12
FURC Furnace Creek, 90.26 51 ⇑P P 04 01 33.1 +0.3
baz=90,SNR=6.0
GLA Glamis 90.28 55 *e*P P 04 01 34.2 +1.2
MOD Modoc 90.39 45 ⇑P P 04 01 33.2 -0.1
baz=91,SNR=5.2
MOD Modoc 90.39 45 *e*P P 04 01 33.6 +0.3
comp=Z,5.7nm,0.9s,mb4.9
GMRC Granite Mounta 90.40 53 ⇓P P 04 01 33.4 -0.1
baz=91,SNR=5.8
K05A Summer Lake 90.40 44 ⇓P P 04 01 32.5 -0.9
baz=91
SHOC Shoshone 90.43 51 ⇓P P 04 01 32.8 -0.8
baz=91,SNR=6.7
J05A Fort Rock 90.45 43 ⇓P P 04 01 33.3 -0.2
baz=91,SNR=10.0
TUQ Turquoise Moun 90.49 52 ⇑P P 04 01 34.2 +0.3
baz=91,SNR=7.3
IRM Iron Mountain 90.51 53 ⇓P P 04 01 34.0 -0.1
baz=91,SNR=14
O07A Toulon 90.52 47 ⇑P P 04 01 33.2 -0.7
baz=91,SNR=6.7
S09A Goldfield 90.56 49 ⇑P P 04 01 33.4 -0.8
baz=91,SNR=6.9
Q08A Gabbs 90.58 48 ⇓P P 04 01 34.4 +0.1
baz=91,SNR=6.9
U10A Ash Meadows, A 90.62 51 ⇑P P 04 01 34.4 -0.1
baz=91,SNR=8.3
LSA Lhasa 90.66 302 P P 04 01 36.0 +1.1
TPH Tonopah 90.72 49 *e*P P 04 01 35.3 +0.4
TPH pmax pmax
comp=Z,52nm,1.8s,mb5.6
TPH Tonopah 90.72 49 *e*P P 04 01 35.3 +0.4
comp=Z,52nm,1.8s,mb5.6
N07B Gerlach 90.75 46 ⇑P P 04 01 34.6 -0.3
baz=91,SNR=5.3
Y12C Blythe 90.81 54 ⇑P P 04 01 36.1 +0.7
baz=91,SNR=6.4
K06A Valley Falls 90.85 44 ⇑P P 04 01 34.4 -1.0
baz=91,SNR=5.7
R09A Tonopah 90.90 49 ⇑P P 04 01 34.7 -1.0
baz=91,SNR=9.0
TPNV Topopah Spring 90.91 51 *e*P P 04 01 36.3 +0.4
TPNV pmax pmax
comp=Z,58nm,1.8s,mb5.6
TPNV Topopah Spring 90.91 51 ⇓P P 04 01 34.5 -1.4
baz=91,SNR=15
TPNV Topopah Spring 90.91 51 *e*P P 04 01 36.2 +0.4
comp=Z,58nm,1.8s,mb5.6
113A Mohawk Valley, 90.97 55 ⇓P P 04 01 35.2 -1.1
baz=91,SNR=7.0
O08A Rochester Mine 91.07 47 ⇓P P 04 01 36.5 0.0
baz=91,SNR=6.4
L07A Adell 91.08 45 ⇑P P 04 01 36.5 0.0
baz=91,SNR=8.6
S10A Tonopah Range, 91.09 50 ⇓P P 04 01 36.8 +0.1
baz=91,SNR=13
J06A Christmas Vall 91.13 44 ⇓P P 04 01 36.3 -0.4
baz=91,SNR=6.5
BOD Bodaibo 91.21 334 *e*P P 04 01 36.2 -0.5
BOD pmax pmax
comp=Z,14nm,1.9s,mb5.0
N08A GE Springer Mi 91.31 46 ⇑P P 04 01 37.5 -0.1
baz=92
PDMCI Parker Dam,Lak 91.33 54 ⇓P P 04 01 38.5 +0.7
baz=92,SNR=7.8
Y13A Salome 91.36 54 ⇓P P 04 01 38.2 +0.2
baz=92,SNR=9.8
214A Organ Pipe Nat 91.37 56 ⇑P P 04 01 38.8 +0.7
baz=92,SNR=7.1
V12A Nelson 91.40 52 ⇑P P 04 01 38.6 +0.4
baz=92,SNR=9.0
I06A Prineville 91.42 43 ⇑P P 04 01 38.5 +0.4
baz=92,SNR=11
M08A Happy Creek Ra 91.45 46 ⇑P P 04 01 37.9 -0.3
baz=92
K07A Rock Creek Ran 91.45 44 ⇓P P 04 01 37.8 -0.4
baz=92,SNR=8.5
R10A Warm Springs 91.46 49 ⇓P P 04 01 37.9 -0.4
baz=92,SNR=9.3
SHPR Sheep Range 91.51 51 *e*P P 04 01 39.5 +0.9
X13A Yucca 91.68 53 ⇓P P 04 01 39.4 -0.1
baz=92,SNR=10.0
H06A Lindquist Farm 91.72 42 ⇑P P 04 01 39.4 -0.1
baz=92,SNR=8.8
WVOR Wild Horse Val 91.73 45 *e*P P 04 01 39.6 +0.1
WVOR pmax pmax
comp=Z,26nm,1.6s,mb5.3
WVOR Wild Horse Val 91.73 45 *e*P P 04 01 39.6 +0.1
comp=Z,26nm,1.6s,mb5.3
G06A Carson Farm, 91.78 42 ⇑P P 04 01 39.0 -0.6
baz=92
T11A Corn Creek, Al 91.78 51 ⇓P P 04 01 39.9 0.0
baz=92,SNR=12
Z14A Wintersburg 91.84 55 ⇑P P 04 01 40.4 +0.1
baz=92,SNR=7.2
W13A Hualapai Mount 91.85 53 ⇑P P 04 01 40.8 +0.6
baz=92,SNR=13
P10A Eureka 91.94 48 ⇑P P 04 01 40.7 +0.2
baz=92
I07A Izee 91.94 43 ⇑P P 04 01 40.5 +0.1
baz=92,SNR=5.3
COLA College 92.00 17 *e*P P 04 01 37.6 -2.6
COLA pmax pmax
comp=Z,63nm,2.0s,mb5.6
COLA College 92.00 17 *e*P P 04 01 37.6 -2.6
comp=Z,63nm,2.0s,mb5.6
R11A Troy Canyon, C 92.00 49 ⇓P P 04 01 41.1 +0.3
baz=92,SNR=5.4
ZAK Zakamensk 92.00 324 *e*P P 04 01 40.9 +0.3
ZAK pmax pmax
comp=Z,7.0nm,1.3s,mb4.8
Y14A Wickenburg 92.03 54 ⇓P P 04 01 41.3 +0.1
baz=92,SNR=7.4
V13A Grand Canyon W 92.09 52 ⇑P P 04 01 41.8 +0.4
baz=92,SNR=10
H07A Lands Inn, Kim 92.14 43 ⇓P P 04 01 41.8 +0.4
baz=92
Q11A Duwater 92.16 49 ⇑P P 04 01 41.5 -0.1
baz=92,SNR=11
L09A Wilkinson Ranc 92.19 45 ⇑P P 04 01 42.0 +0.4
baz=92
E06A Yakima 92.20 40 ⇓P P 04 01 40.9 -0.6
baz=92
S12A Delamar Landin 92.20 50 ⇑P P 04 01 42.3 +0.4
baz=92,SNR=9.2
J08A Circle Bar Ran 92.26 44 ⇓P P 04 01 42.0 +0.1
baz=92,SNR=5.2
X14A Yava 92.34 54 ⇑P P 04 01 42.8 +0.2
baz=93,SNR=12
U13A Pakoon Wash 92.34 52 ⇑P P 04 01 42.7 +0.2
baz=93,SNR=7.3
G07A Ruggs Ranch, H 92.39 42 ⇓P P 04 01 41.2 -1.3
baz=93
K09A Rome 92.45 45 ⇓P P 04 01 41.6 -1.2
baz=93,SNR=7.6
TLY Talaya 92.49 325 *e*P P 04 01 45.9 +3.1
TLY *e*S SKSac 04 12 20.8 +6.2
TLY *e* 04 13 58.5
TLY *e*SS SS 04 19 12.5 +15
TLY pmax pmax
comp=Z,7.0nm,1.4s,mb4.8
W14A Seligman 92.50 53 ⇓P P 04 01 43.1 -0.1
baz=93,SNR=10
Y15A Casa Rosa Ranc 92.55 55 ⇑P P 04 01 43.3 -0.2
baz=93,SNR=15
T13A Saint George 92.64 51 ⇑P P 04 01 43.1 -0.7
baz=93,SNR=6.4
V14A Boquillas Ranc 92.66 53 ⇓P P 04 01 44.4 +0.5
baz=93,SNR=5.9
R12A Pony Springs, 92.68 50 ⇑P P 04 01 43.4 -0.6
baz=93
J09A Fry Pan Ranch, 92.73 44 ⇓P P 04 01 43.7 -0.4
baz=93,SNR=5.8
Q12A Willow Creek R 92.83 49 ⇑P P 04 01 45.0 +0.4
baz=93
X15A Humboldt 92.84 54 ⇑P P 04 01 44.5 -0.4
baz=93,SNR=14
G08A Pilot Rock 92.84 42 ⇓P P 04 01 44.6 0.0
baz=93
217A Green Valley 92.85 57 ⇑P P 04 01 44.3 -0.7
baz=93,SNR=7.5
S13A Holt Ranch, En 92.91 51 ⇑P P 04 01 44.4 -0.7
baz=93,SNR=13
U14A Mt Trumbull 92.92 52 ⇑P P 04 01 45.4 +0.3
baz=93,SNR=17
Z16A Peralta Trail, 93.00 55 ⇓P P 04 01 46.1 +0.5
baz=93,SNR=6.5
L10A Juniper Basin 93.01 46 ⇑P P 04 01 45.6 +0.1
baz=93
R13A O'Grain Ranch, 93.08 50 ⇑P P 04 01 45.0 -0.8
baz=93,SNR=6.2
TUC Tucson 93.09 57 *e*P P 04 01 46.3 +0.3
TUC pmax pmax
comp=Z,15nm,1.4s,mb5.2
TUC Tucson 93.09 57 *e*P P 04 01 46.3 +0.2
comp=Z,15nm,1.4s,mb5.2
Y16A Circle Bar Ran 93.17 55 ⇑P P 04 01 46.6 +0.2
baz=93,SNR=15
117A Oracle 93.23 56 ⇑P P 04 01 46.7 +0.1
baz=94,SNR=8.4
T14A Hurricane 93.26 51 ⇑P P 04 01 47.3 +0.6
baz=94
ELK Elko 93.27 47 *e*P P 04 01 46.1 -0.5
ELK pmax pmax
comp=Z,4.0nm,1.3s
ELK Elko 93.27 47 *e*P P 04 01 46.1 -0.6
comp=Z,3.6nm,1.3s,mb4.6
ARUT Antelope Range 93.30 51 *e*P P 04 01 46.6 -0.3
Q13A Wheeler Ranch, 93.36 49 ⇓P P 04 01 46.5 -0.7
baz=94
318A Bisbee 93.37 58 ⇑P P 04 01 46.6 -0.8
baz=94
X16A Lo Mia Camp, P 93.41 54 ⇑P P 04 01 48.0 +0.5
baz=94,SNR=13
V15A Kaibab Nationa 93.42 53 ⇓P P 04 01 47.3 -0.2
baz=94,SNR=7.8
L11A Cat Creek Ranc 93.53 46 ⇑P P 04 01 47.9 +0.1
baz=94
P13A Bates Ranch, G 93.58 49 ⇓P P 04 01 47.9 -0.2
baz=94
U15A North Rim 93.58 52 ⇑P P 04 01 47.8 -0.4
baz=94,SNR=13
Y17A Roosevelt 93.58 55 ⇓P P 04 01 48.3 0.0
baz=94,SNR=5.9
K11A Parker Ranch, 93.60 45 ⇓P P 04 01 48.4 +0.2
baz=94
T15A Red Dirt Ranch 93.75 52 ⇓P P 04 01 50.0 +1.1
baz=94,SNR=6.9
118A Homack Ranch, 93.85 57 ⇑P P 04 01 49.7 +0.1
baz=94,SNR=6.2
WUAZ Wupatki 93.90 53 ⇑P P 04 01 50.5 +0.8
baz=94
Q14A Sevier Lake (B 93.91 50 ⇑P P 04 01 50.4 +0.8
baz=94
319A Douglas 93.91 58 ⇑P P 04 01 50.6 +0.8
baz=94
H10A Noah's Angus R 93.93 43 ⇓P P 04 01 48.5 -1.1
baz=94
219A White Tail Can 94.16 57 ⇑P P 04 01 51.3 +0.3
baz=94
F10A Beach Ranch, E 94.24 42 ⇓P P 04 01 50.7 -0.2
baz=94
Y18A Canyon Day Jun 94.24 56 ⇓P P 04 01 50.5 -0.8
baz=94,SNR=9.3
U16A Tuba City 94.33 53 ⇓P P 04 01 51.8 +0.1
baz=95,SNR=6.3
H11A Donnelly 94.45 44 ⇑P P 04 01 50.9 -1.1
baz=95
G11A Walters Elk Ra 94.59 43 ⇑P P 04 01 51.5 -1.1
baz=95
T17A Navajo Res., N 94.90 52 ⇓P P 04 01 53.1 -1.2
baz=95
U18A Rough Rock, Ch 95.37 53 ⇑P P 04 01 55.6 -0.9
baz=96
T18A Mexican Hat 95.64 52 ⇓P P 04 01 58.4 +0.8
baz=96
O17A Robinson Place 96.18 49 ⇑P P 04 02 00.2 +0.2
baz=96
Q18A Rafter H Ranch 96.20 51 ⇓P P 04 02 00.4 +0.3
baz=96
PLCA Paso Flores 96.95 139 LR LR 04 36 32.9
comp=Z,98nm,18.3s,MS4.3,baz=219,slow=30
MNTX Cornudas Mount 97.12 59 *e*P P 04 02 03.3 -1.2
TXAR Lajitas Array 97.69 62 P P 04 02 07.0 -0.1
comp=Z,0.7nm,0.9s,mb4.2,baz=212,slow=4.4,SNR=5.2
TXAR LR LR 04 41 38.8
comp=Z,157nm,18.6s,MS4.5,baz=5.0,slow=33
PDAR Pinedale Array 97.97 47 P P 04 02 08.4 +0.4
comp=Z,0.4nm,1.0s,mb3.9,baz=113,slow=2.3,SNR=2.7
PDAR LR LR 04 38 48.6
comp=Z,95nm,20.3s,MS4.3,baz=134,slow=31
WMQ Urumqi 98.67 314 P P 04 02 11.3 +0.1
WMQ AP pP 04 02 40.3 +21
WMQ XP sP 04 02 52.3 +31
WMQ PP PP 04 06 15.8 +3.2
WMQ PPP 04 08 24.3
WMQ AMB AMB
comp=Z,5.0nm,0.8s,mb5.1
WMQ AMB AMB
comp=Z,95nm,4.5s
WMQ LR LR
comp=N,108nm,22.8s
WMQ LR LR
comp=E,183nm,29.8s
WMQ LR LR
comp=Z,123nm,21.0s,MS4.4
MKAR Makanchi Array 103.25 315 Pdiff Pdif 04 02 31.6 +0.1
comp=Z,0.7nm,0.7s,baz=108,slow=6.5,SNR=7.2
MKAR PP PP 04 06 46.6 -0.5
comp=Z,1.4nm,0.9s,baz=111,slow=6.6,SNR=7.1
MKAR PKKPab 04 18 47.6
comp=Z,0.2nm,0.4s,baz=298,slow=2.6,SNR=4.4
MKAR Makanchi Array 103.25 315 P Pdif 04 02 31.6 +0.1
MKAR 04 06 46.6
KURK Kurchatov 106.62 318 PKKPbc PKKPbc 04 18 24.8 +7.1
comp=Z,0.6nm,0.4s,baz=292,slow=4.0,SNR=5.2
APA Apatity 126.20 341 *e*PKIKP PKPdf 04 07 39.0 +5.3
APA pmax pmax
comp=Z,69nm,1.6s
ARCES ARCESS Array B 127.08 345 PKP PKPdf 04 07 33.4 -2.0
comp=Z,2.8nm,0.8s,baz=50,slow=3.8,SNR=8.4
LSZ Lusaka 127.30 230 *e*PKIKP PKPdf 04 07 36.5 -0.9
MAK Makhachkala 127.31 308 *i* PKIKP PKPdf 04 07 45.0 +8.4
MAK *e* 04 09 40.5
MAK pmax pmax
comp=Z,249nm,1.3s
KMBO Kilima Mbogo 128.13 251 PKP PKPdf 04 07 40.5 +1.4
comp=Z,2.7nm,0.9s,baz=277,slow=1.6,SNR=4.7
KMBO Kilima Mbogo 128.13 251 *e*PKPdf PKPdf 04 07 40.5 +1.5
BDFB Brasilia 128.14 132 PKP PKPdf 04 07 38.4 -0.6
comp=Z,2.0nm,1.1s,baz=352,slow=24,SNR=3.5
KIV Kislovodsk 130.66 310 *e*PKIKP PKPdf 04 07 41.9 -1.0
KIV Kislovodsk 130.66 310 *e*PKPdf PKPdf 04 07 41.9 -1.0
AKASG Malin Array Be 137.19 323 SKPbc SKPbc 04 11 27.4 +0.7
comp=Z,0.2nm,0.4s,baz=51,slow=3.5,SNR=4.7
KOLS Kolonicke sedl 141.95 324 *e*PKP PKPdf 04 08 04.8 +1.1
OKC Ostrava-Krasne 143.53 328 *e*PKP PKPdf 04 08 08.1 +1.6
BSEG Bad Segeberg 143.71 339 *e*PKPbc PKPdf 04 08 03.2 -3.5
PSZ Piszkesteto 143.83 325 ⇓ *e*PKP PKPdf 04 08 05.8 -1.3
PSZ Piszkesteto 143.83 325 *e*PKPdf PKPdf 04 08 05.4 -1.7
MORC Moravsky Berou 143.87 329 *e*PKIKP PKPdf 04 08 07.0 -0.1
VYHS Vyhne 144.04 326 *e*PKP PKPdf 04 08 04.9 -2.5
DPC Dobruska-Polom 144.06 330 *e*PKP PKPdf 04 08 05.9 -1.5
UPC Upice 144.09 331 *e*PKP PKPdf 04 08 05.7 -1.7
KOLL Kolacno 144.22 326 *e*PKP PKPdf 04 08 07.4 -0.3
BUD Budapest 144.56 325 ⇑ *e*PKP PKPdf 04 08 07.2 -1.2
PVCC Panska Ves 144.72 332 *e*PKP PKPdf 04 08 07.1 -1.4
BRG Berggiesshubel 144.74 333 *e*PKIKP PKPdf 04 08 07.3 -1.2
BRG *i* 04 08 09.8
BRG Berggiesshubel 144.74 333 *e*PKP PKPdf 04 08 07.2 -1.3
comp=Z,21nm,1.5s
BRG *i* 04 08 09.8
comp=Z,26nm,1.2s
CLL Collm 144.81 334 ⇑ *i*PKIKP PKPdf 04 08 07.3 -1.3
CLL pmax pmax
comp=Z,116nm,2.1s
CLL MLR MLR
comp=Z,200nm,18.9s,MS4.9
CLL Collm 144.81 334 *e*PKPbc PKPdf 04 08 07.2 -1.4
CLL Collm 144.81 334 ⇑ *i*PKPdf PKPdf 04 08 07.3 -1.3
comp=Z,116nm,2.1s
CLL *i* x x 04 08 51.2
CLL *e*PP PP 04 11 24.0 -1.6
CLL LmV 04 21 00.0
comp=Z,200nm,18.9s
CLL *e*SSS 04 36 00.0
CLL Collm 144.81 334 ⇑ *i*PKP PKPdf 04 08 07.3 -1.3
CLL *i* 04 08 51.2
CLL LR LR
comp=Z,200nm,18.9s,MS4.9
MODS Modra-Piesok 144.92 327 *e*PKP PKPdf 04 08 08.5 -0.4
PRU Pruhonice 145.12 331 *e*PKP PKPdf 04 08 08.1 -1.1
PRU AMS AMS 05 10 20.0
comp=Z,300nm,23.1s
ZST Bratislava 145.13 327 *e*PKP PKPdf 04 08 08.3 -1.0
TREC Trest 145.18 330 *e*PKP PKPdf 04 08 07.4 -2.0
CLZ Clausthal 145.41 337 *e*PKPbc PKPdf 04 08 09.7 +0.1
VAY Valandovo 145.58 313 *i* PKPdf 04 08 05.0 -5.3
ESK Eskdalemuir 145.58 352 *e*PKP2 PKPab 04 08 08.6 -1.7

TANN	**Tannenbergstha**	**145.71**	**333**	*e*PKPbc	PKPbc	04 08 10.4	-0.2
SOP	**Sopron**	**145.74**	**327**⇑	*e*PKP	PKPdf	04 08 11.3	+0.9
NKC	**Novy Kostel**	**145.85**	**333**	*e*PKPdf	PKPbc	04 08 10.2	-0.3
MOX	**Moxa**	**145.88**	**334**	*e*PKP	PKPdf	04 08 10.8	+0.3
	comp=Z,83nm,1.9s						
MOX	**Moxa**	**145.88**	**334**	*e*PKP2	PKPab	04 08 10.8	-0.8
MOX				pmax	pmax		
	comp=Z,83nm,1.9s						
MOX	**Moxa**	**145.88**	**334**	*e*PKPbc	PKPbc	04 08 10.9	-0.2
IBBN	**Ibbenburen**	**145.92**	**340**	*e*PKPbc	PKPbc	04 08 10.9	-0.3
CONA	**Conrad Observa**	**145.93**	**328**	*i* PKPab	PKPab	04 08 11.9	0.0
	comp=Z,70nm,1.7s,SNR=18						
SKO	**Skopje**	**146.05**	**315**	*i*	PKPdf	04 08 11.4	+0.3
KHC	**Kasperske Hory**	**146.18**	**331**	*e*PKP	PKPdf	04 08 11.3	+0.2
KHC				AMS	AMS	05 11 40.0	
	comp=Z,400nm,24.9s						
MANZ	**Manzenberg**	**146.18**	**333**	*e*PKPbc	PKPbc	04 08 10.7	-1.4
ROTZ	**Rotzenmuhle**	**146.31**	**333**	PKPbc	PKPbc	04 08 12.7	+0.3
GEC2	**GERESS Array S**	**146.33**	**331**	*e*PKPbc	PKPbc	04 08 11.4	-1.1
GERES	**GERESS Array B**	**146.33**	**331**	PKPbc	PKPbc	04 08 11.6	-1.0
	comp=Z,2.6nm,0.7s,baz=18,slow=1.7,SNR=20						
UBBA	**Unterbreizbach**	**146.37**	**336**	*e*PKPbc	PKPbc	04 08 12.1	-0.5
KRUS	**Krusevo**	**146.45**	**314**	*i*	PKPdf	04 08 11.4	-0.4
WET	**Wettzell**	**146.48**	**332**	*e*PKPbc	PKPbc	04 08 11.8	-1.2
WTSB	**Winterswijk**	**146.52**	**340**	*e*PKP	PKPdf	04 08 12.7	+1.2
	comp=Z,52nm,2.4s						
GRA1	**Grafenberg Arr**	**146.78**	**334**	*e*PKPbc	PKPbc	04 08 13.4	-0.4
GRF	**Grafenberg Arr**	**146.78**	**334**	*e*PKPbc	PKPbc	04 08 13.4	-0.4
BUG	**Bochum--Univer**	**146.82**	**339**	*e*PKPbc	PKPbc	04 08 13.5	-0.4
OHR	**Ohrid**	**146.87**	**314**	*i*	PKPdf	04 08 13.2	+0.7
TNS	**Taunus Mts**	**147.43**	**337**	*e*PKPbc	PKPbc	04 08 15.3	-0.3
RJOB	**Jochberg**	**147.55**	**330**	*e*PKPbc	PKPbc	04 08 15.9	-0.1
TOD	**Tromm**	**147.80**	**336**	PKP2	PKPbc	04 08 16.5	-0.2
HGN	**Heimansgroeve**	**147.83**	**340**	*e*PKP	PKPdf	04 08 16.7	+2.9
	comp=Z,63nm,2.0s						
BOJS	**Bojanci**	**147.84**	**325**	*i* PKPdf	PKPab	04 08 17.2	+2.3
BOJS				*i*		04 08 35.1	
BEBN	**Eben Emael**	**147.89**	**340**	*e*PKPbc	PKPbc	04 08 19.3	+2.5
FUR	**Furstenfeldbru**	**147.92**	**332**	*e*PKPbc	PKPbc	04 08 17.1	+0.1
FUR	**Furstenfeldbru**	**147.92**	**332**	*e*PKPbc	PKPbc	04 08 17.2	+0.2
MEM	**Membach**	**147.94**	**340**	PKPbc	PKPbc	04 08 16.6	-0.4
ABH	**Alteburg**	**148.04**	**338**	PKP	PKPbc	04 08 17.4	+0.1
JAVS	**Javornik**	**148.21**	**326**	*i* PKPdf	PKPab	04 08 21.8	+0.9
UCC	**Uccle**	**148.28**	**342**	PKPbc	PKPbc	04 08 17.6	-0.3
STU	**Stuttgart**	**148.32**	**335**	*e*PKPbc	PKPbc	04 08 17.8	-0.3
STU	**Stuttgart**	**148.32**	**335**	*e*PKPbc	PKPbc	04 08 17.4	-0.7
BCLA	**Clavier**	**148.33**	**340**	PKPbc	PKPbc	04 08 17.8	-0.2
RUP	**Ruppelstein**	**148.36**	**338**	PKIKP	PKPdf	04 08 16.5	+1.8
MOTA	**Moosalm**	**148.61**	**331**⇑	*i* PKPbc	PKPbc	04 08 18.7	-0.2
	comp=Z,6.6nm,0.8s,SNR=5.5						
LANF	**Langenberg**	**148.69**	**336**	PKP	PKPbc	04 08 18.0	-1.0
WLF	**Walferdange**	**148.71**	**339**	PKPbc	PKPbc	04 08 19.6	+0.6
WLF	**Walferdange**	**148.71**	**339**	*e*PKPbc	PKPbc	04 08 19.3	+0.3
WLF	**Walferdange**	**148.71**	**339**	*e*PKPdf	PKPdf	04 08 14.0	-1.3
WLF				*e*PKPbc	PKPbc	04 08 18.4	-0.7
GIVF	**Givet**	**148.76**	**341**	*e*PKP1	PKPbc	04 08 18.1	-1.1
DOU	**Dourbes**	**148.84**	**341**	PKPbc	PKPbc	04 08 18.8	-0.6
BAIF	**Baives**	**148.99**	**341**	*e*PKP1	PKPbc	04 08 19.0	-0.7
	comp=Z,105nm,1.7s						
BFO	**Black Forest**	**149.02**	**335**	*e*PKPbc	PKPbc	04 08 19.4	-0.5
BFO	**Black Forest**	**149.02**	**335**	*e*PKPbc	PKPbc	04 08 19.0	-0.9
SPAK	**Spaichingen-Ko**	**149.02**	**334**	PKP	PKPbc	04 08 19.1	-0.8
FETA	**Feichten**	**149.03**	**331**⇑	*i* PKPdf	PKPdf	04 08 15.8	-0.1
	comp=Z,11nm,1.1s						
DAVA	**Damuels**	**149.20**	**332**⇑	*i* PKPdf	PKPbc	04 08 18.9	-1.4
	comp=Z,26nm,1.7s						
CDF	**Champ du Feu**	**149.36**	**336**	*e*PKP1	PKPbc	04 08 19.9	-0.8
	comp=Z,72nm,1.4s						
LIBD	**Limburg**	**149.45**	**336**	PKHKP	PKPbc	04 08 19.8	-1.2
ECH	**Echery**	**149.57**	**336**	PKP	PKPbc	04 08 20.8	-0.4
ECH	**Echery**	**149.57**	**336**	*e*PKPdf	PKPdf	04 08 15.2	-1.5
ECH				*e*PKPbc	PKPbc	04 08 20.3	-1.0
ECH				PKP	PKPdf	04 08 20.8	+4.1
MOF	**Molkenrain**	**149.88**	**336**	PKP	PKPbc	04 08 21.1	-0.9
THEF	**They Montfort**	**149.99**	**337**	PKP	PKPbc	04 08 20.4	-1.9
HINF	**Hinteralfeld**	**150.01**	**336**	*e*PKP1	PKPbc	04 08 21.4	-0.9
	comp=Z,134nm,1.8s						
HAU	**Haudompre**	**150.04**	**337**	*e*PKP1	PKPbc	04 08 21.5	-0.9
HAU				*e*MLR	MLR		
	comp=Z,162nm,20.5s,MS4.5						
HAU	**Haudompre**	**150.04**	**337**	*e*PKPbc	PKPbc	04 08 21.5	-0.9
HAU				LR	LR		
	comp=Z,160nm,20.5s,MS4.8						
TUE	**Stuetta**	**150.06**	**332**	*e*PKPdf	PKPdf	04 08 16.3	-1.2
TUE				*e*PKPbc	PKPbc	04 08 21.8	-0.7
MEZF	**Maizieres J'vi**	**150.08**	**339**	*e*PKP1	PKPbc	04 08 22.0	-0.5
	comp=Z,207nm,1.7s						
LOMF	**Lomont**	**150.41**	**336**	PKP	PKPbc	04 08 23.0	-0.3
CABF	**La Chapelle**	**151.30**	**336**	*e*PKP1	PKPbc	04 08 25.0	-0.4
	comp=Z,19nm,0.8s						
FLN	**La Foliniere**	**151.42**	**346**	*e*PKP1	PKPbc	04 08 24.3	-1.3
	comp=Z,122nm,1.6s						
FLN				*e*MLR	MLR		
	comp=Z,125nm,18.0s,MS4.5						
FLN	**La Foliniere**	**151.42**	**346**	*e*PKP	PKPbc	04 08 24.3	-1.3
FLN				LR	LR		
	comp=Z,130nm,18.0s,MS4.8						
LDF	**La Druitiere**	**151.49**	**345**	*e*PKP1	PKPbc	04 08 24.5	-1.3
	comp=Z,116nm,1.8s						
LOR	**Lormes**	**151.55**	**339**	*e*PKP1	PKPbc	04 08 25.0	-1.0
	comp=Z,129nm,1.7s						
LOR				*e*MLR	MLR		
	comp=Z,219nm,21.0s,MS4.6						
LOR	**Lormes**	**151.55**	**339**	*e*PKP	PKPbc	04 08 25.0	-1.0
LOR				LR	LR		
	comp=Z,220nm,21.0s,MS4.9						
SSF	**Saint Saulge**	**151.85**	**339**	*e*PKP1	PKPbc	04 08 26.2	-0.5
	comp=Z,135nm,1.8s						
GRR	**Gorron**	**151.85**	**346**	*e*PKP1	PKPbc	04 08 25.6	-1.1
	comp=Z,54nm,1.3s						
LPL	**La Plagne**	**151.94**	**333**	*e*PKP1	PKPbc	04 08 26.5	-0.4
LPG	**La Plagne**	**151.94**	**333**	*e*PKP1	PKPbc	04 08 26.7	-0.3
SMF	**Signal de Mont**	**152.10**	**338**	*e*PKP1	PKPbc	04 08 27.4	+0.1
	comp=Z,122nm,1.6s						
AVF	**Avril sur Loir**	**152.13**	**339**	*e*PKP1	PKPbc	04 08 27.5	+0.2
	comp=Z,93nm,1.6s						
BNI	**Bardonecchia**	**152.33**	**333**	*e*PKIKP	PKPdf	04 08 20.2	-0.9
BNI				*e*		04 08 27.5	
SGMF	**Saint Gilles**	**152.33**	**348**	*e*PKP1	PKPbc	04 08 27.2	-0.5
ROSF	**Rostrenen**	**152.38**	**349**	*e*PKP1	PKPbc	04 08 27.4	-0.5
	comp=Z,99nm,1.5s						
BGF	**Bois d'Agland**	**152.51**	**340**	*e*PKP1	PKPbc	04 08 27.1	-1.1
	comp=Z,54nm,1.4s						
PLDF	**La Plantade**	**152.76**	**338**	PKP	PKPbc	04 08 31.5	+2.7
QUIF	**Quistinic**	**152.77**	**349**	*e*PKP1	PKPbc	04 08 28.6	-0.1
ORIF	**Oris-en-Rattie**	**152.78**	**334**	*e*PKP1	PKPbc	04 08 28.0	-0.8
	comp=Z,11nm,0.7s						
ORIF				*e*MLR	MLR		
	comp=Z,284nm,20.2s,MS4.8						
TCF	**Toulx Ste Croi**	**152.95**	**340**	*e*PKP1	PKPbc	04 08 28.1	-1.1
	comp=Z,35nm,1.4s						
SSB	**Saint Sauveur**	**153.01**	**336**	*e*PKIKP	PKPdf	04 08 20.8	-1.2
SSB				*e*		04 08 28.5	
PYM	**Petit Puy Mans**	**153.16**	**338**	PKP	PKPbc	04 08 29.2	-0.5
VIVF	**Saint-Julien-l**	**153.31**	**335**	*e*PKP1	PKPbc	04 08 29.3	-0.7
MFF	**Saint Martin d**	**153.35**	**344**	*e*PKP1	PKPbc	04 08 28.8	-1.2
	comp=Z,59nm,1.6s						
RJF	**Les Rejaudoux**	**154.05**	**340**	*e*PKP1	PKPbc	04 08 30.6	-1.0
	comp=Z,68nm,1.5s						
RJF				*e*MLR	MLR		
	comp=Z,242nm,21.2s,MS4.7						
RJF	**Les Rejaudoux**	**154.05**	**340**	*e*PKP	PKPbc	04 08 30.6	-1.0
RJF				LR	LR		
	comp=Z,240nm,21.3s,MS5.0						
LASF	**Ste Croix**	**154.28**	**335**	*e*PKP1	PKPbc	04 08 31.3	-0.9
	comp=Z,64nm,1.7s						
ESDC	**Sonseca Array**	**160.81**	**344**	PKPab	PKPab	04 09 13.9	-0.5
	comp=Z,0.9nm,0.7s,baz=15,slow=2.9,SNR=9.3						
DBIC	**Dimbokro**	**164.39**	**202**	PKPab	PKPab	04 09 32.2	+1.6
	comp=Z,16nm,1.1s,baz=219,slow=6.0,SNR=4.5						
DBIC	**Dimbokro**	**164.39**	**202**	*e*PKPab	PKPab	04 09 31.2	+0.6
TOAO	**Torodi Ar. Sit**	**165.66**	**238**	*e*PKPab	PKPab	04 09 37.2	+0.8
TORD	**Torodi Ar. Bea**	**165.66**	**238**	PKP	PKPdf	04 08 37.5	0.0
	comp=Z,0.8nm,1.0s,baz=13,slow=0.6,SNR=7.0						
TORD				PKPab	PKPab	04 09 36.4	0.0
	comp=Z,2.5nm,1.0s,baz=133,slow=2.8,SNR=6.2						
TORD	**Torodi Ar. Bea**	**165.66**	**238**	PKP	PKPdf	04 08 37.5	0.0
TORD				PKPab	PKPab	04 09 36.4	0.0

IDC **14** *04:04:42.2±7.0, 2.11S×10038E, h0km, mb3.5/3, mb1 3.6/3, mb1mx3.4/18, mbtmp3.5/3, Error ellipse: s-maj=380.5km s-min=28.9km az=52.0*

ISCJB **14** *04:04:43.1±1.4, 24S±0.1×998E±0.1, h33km, mb3.6/2, Error ellipse: s-maj=17.2km s-min=13.6km az=25.8*

DJA **14** *04:04:44.8±2.5, 2S±18×100E±12, h30km, MLv3.9/3*

ISC 14 04:04:45.1±1.4, 23S±01×998E±01, h35km, n9, σ1°04/8, mb3.6/2, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PDSI	**Padang**	**1.55**	**24**	P	**Pn**	**04 05 08.7**	**-1.5**
PDSI	**Padang**	**1.55**	**24**	S	**Sn**	**04 05 21.6**	**-7.5**
KRJI	**Kerinci**	**1.64**	**81**	P	**Pn**	**04 05 11.4**	**-0.1**
KRJI	**Kerinci**	**1.64**	**81**	S	**Sn**	**04 05 32.2**	**+0.8**
PPI	**Padang Panjang**	**1.95**	**17**	P	**Pn**	**04 05 15.7**	**0.0**
WRA	**Warramunga Arr**	**37.97**	**120**	P	**P**	**04 11 58.8**	**-1.0**
	0.5nm,0.6s,mb3.4,baz=304,slow=9.0,SNR=4.1						
ASAR	**Alice Springs**	**39.19**	**126**	P	**P**	**04 12 10.1**	**+0.1**
	0.1nm,0.2s,baz=306,slow=8.7,SNR=2.4						
MKAR	**Makanchi Array**	**51.31**	**345**	P	**P**	**04 13 47.8**	**+2.1**
	0.6nm,0.6s,mb3.7,baz=151,slow=7.4,SNR=7.1						
TXAR	**Lajitas Array**	**145.07**	**37**	PKP	PKPdf	04 24 19.8	+0.2
	0.3nm,0.5s,baz=316,slow=6.2,SNR=6.2						

IDC **14** *04:16:48.0±0.9, 2128S×16934E, h0km, mb4.3/10, mb1 4.5/10, mb1mx4.4/16, mbtmp4.3/10, MS3.5/6, Ms1 3.5/6, ms1mx3.2/21, Error ellipse: s-maj=38.9km s-min=20.5km az=155.0*

NEIC **14** *04:16:49.6±0.5, 2125S×16938E, h10km, mb4.5/9, Error ellipse: s-maj=20.4km s-min=9.8km az=162.0*

ISCJB **14** *04:16:51.7±0.5, 2125S±0.1×16925E±0.07, h33km, mb4.3/15, MS3.5/5, Error ellipse: s-maj=18.3km s-min=8.8km az=164.9*

SZGRF **14** *04:16:52.6, 2244S×16765E, h33km, New Caledonia*

ISC 14 04:16:53.4±0.5, 2125S±01×16927E±007, h35km, n66, σ0°92/27, mb4.3/15, MS3.5/5, 2C, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**2.76**	**252**	*e*Pn	**Pn**	**04 17 33.5**	**-1.7**
DZM				*e*Sn	**Sn**	**04 18 02.2**	**-5.1**
NOUC	**Port Laguerre**	**2.90**	**252**	*e*P	**Pn**	**04 17 35.0**	**-2.0**
NOUC				*e*S	**Sn**	**04 18 11.7**	**+1.1**
AFI	**Afiamalu**	**19.47**	**71**	LR	LR	04 26 24.0	
	comp=Z,77nm,20.5s,baz=275,slow=30						
CTA	**Charters Tower**	**21.57**	**269**	*e*P	**P**	**04 21 41.4**	**+1.4**
	7.3nm,0.8s,mb4.2						
CTA	**Charters Tower**	**21.57**	**269**	P	**P**	**04 21 40.4**	**+0.4**
	7.6nm,0.8s,mb4.2,baz=101,slow=14,SNR=3.8						
CTA				LR	LR	04 28 51.4	
	comp=Z,168nm,20.3s,MS3.4,baz=56,slow=33						
CTAO	**Charters Tower**	**21.57**	**269**	*e*P	**P**	**04 21 41.2**	**+1.2**
	13nm,0.9s,mb4.4						
PMG	**Port Moresby**	**24.31**	**296**	*e*P	**P**	**04 22 08.1**	**+0.3**
	15nm,1.0s,mb4.4						
STKA	**Stephens Creek**	**26.86**	**241**	*e*P	**P**	**04 22 31.3**	**+0.5**
	3.4nm,1.4s,mb3.7						
STKA	**Stephens Creek**	**26.86**	**241**	P	**P**	**04 22 31.0**	**+0.2**
	3.2nm,0.6s,mb4.0,baz=60,slow=10.0,SNR=6.2						
STKA				LR	LR	04 31 26.4	
	comp=Z,256nm,20.2s,MS3.8,baz=20,slow=33						
WRA	**Warramunga Arr**	**32.69**	**266**	P	**P**	**04 23 21.7**	**-0.9**
	1.3nm,0.6s,mb4.0,baz=100,slow=7.8,SNR=5.8						
WRA				LR	LR	04 35 26.8	
	comp=Z,59nm,19.2s,MS3.3,baz=310,slow=34						
ASAR	**Alice Springs**	**32.73**	**259**	P	**P**	**04 23 22.6**	**-0.3**
	4.5nm,0.9s,mb4.4,baz=86,slow=9.1,SNR=50						
ASAR				PcP	PcP	04 26 08.3	+0.3
	1.1nm,0.9s,baz=92,slow=2.5,SNR=5.1						
PPT	**Papeete**	**38.91**	**92**	eLR	LR	04 34 50.5	
	162nm,28.0s						
PPT	**Papeete**	**38.91**	**92**	LR	LR	04 37 33.1	
	comp=Z,109nm,18.9s,MS3.7,baz=235,slow=32						
FITZ	**Fitzroy Crossi**	**41.11**	**266**	*e*P	**P**	**04 24 34.4**	**+0.1**
	10nm,0.6s,mb4.6						
FITZ	**Fitzroy Crossi**	**41.11**	**266**	P	**P**	**04 24 34.6**	**+0.3**
	8.3nm,1.0s,mb4.3,baz=141,slow=10,SNR=28						
GUMO	**Guam**	**42.09**	**323**	LR	LR	04 39 50.6	
	comp=Z,48nm,20.7s,MS3.4,baz=146,slow=33						
MBWA	**Marble Bar**	**46.03**	**261**	*e*P	**P**	**04 25 13.7**	**-0.2**
	25nm,1.2s,mb5.0						
MAW	**Mawson**	**76.61**	**202**	P	**P**	**04 28 40.6**	**+0.5**
	1.5nm,0.7s,mb4.0,baz=104,slow=11,SNR=5.4						
CMAR	**Chiang Mai Arr**	**79.35**	**295**	P	**P**	**04 28 58.0**	**+2.0**
	1.2nm,0.3s,mb4.3,baz=139,slow=4.6,SNR=7.1						
CHTO	**Chiang Mai**	**79.51**	**295**	*e*P	**P**	**04 28 56.7**	**-0.2**
	2.8nm,0.6s,mb4.4						
SNAA	**Sanae**	**87.19**	**182**	*e*	**P**	**04 29 35.4**	**-0.2**
SNAA				*e*		04 29 39.2	
SNAA	**Sanae**	**87.19**	**182**	*e*P	**P**	**04 29 35.4**	**-0.1**
	15nm,1.4s,mb5.0						
VNA3	**Neumayer Olymp**	**87.77**	**180**	*e*	**P**	**04 29 38.4**	**0.0**
VNA3				*e*		04 29 41.9	
VNA2	**Neumayer--Watz**	**88.07**	**181**	*e*	**P**	**04 29 40.2**	**+0.4**
	baz=182,slow=4.5						
VNA2				*e*		04 29 43.4	
VNA1	**Neumayer--Stat**	**88.36**	**181**	*e*	**P**	**04 29 42.0**	**+0.8**
VNA1				*e*		04 29 45.3	
SONM	**Songino Array**	**88.82**	**323**	P	**P**	**04 29 43.7**	**+0.1**
	0.4nm,0.5s,mb4.0,baz=127,slow=5.8,SNR=4.9						
NVAR	**Mina Array Bea**	**90.09**	**48**	P	**P**	**04 29 50.5**	**+0.8**
	2.8nm,0.8s,mb4.7,baz=226,slow=8.4,SNR=26						
TUC	**Tucson**	**93.07**	**57**	*e*P	**P**	**04 30 02.2**	**-1.5**
	1.7nm,0.8s,mb4.5						
TXAR	**Lajitas Array**	**97.68**	**62**	P	**P**	**04 30 24.1**	**-0.7**
	0.4nm,0.8s,mb4.0,baz=241,slow=5.2,SNR=5.0						
ARCES	**ARCESS Array B**	**126.99**	**345**	PKP	PKPdf	04 35 52.5	-0.4
	3.0nm,1.0s,baz=116,slow=2.8,SNR=4.4						
PSZ	**Piszkesteto**	**143.75**	**325**	*e*PKPdf	PKPdf	04 36 24.1	-0.5
BRG	**Berggiesshubel**	**144.65**	**333**	*e*PKPbc	PKPdf	04 36 25.4	-0.7
BRG	**Berggiesshubel**	**144.65**	**333**	*e*	PKPdf	04 36 25.2	-0.9
	5.0nm,1.0s						
CLL	**Collm**	**144.72**	**334**	*e*PKPbc	PKPdf	04 36 25.0	-1.2
FBE	**Freiberg**	**144.87**	**333**	*e*PKPbc	PKPdf	04 36 26.0	-0.5
NEUB	**Neuenburg**	**145.29**	**335**	*e*PKPbc	PKPbc	04 36 27.0	0.0
ESK	**Eskdalemuir**	**145.50**	**352**	*e*PKPbc	PKPbc	04 36 27.3	-0.2
TANN	**Tannenbergstha**	**145.62**	**334**	*e*PKPbc	PKPbc	04 36 29.0	+0.9
WERD	**Werda**	**145.66**	**334**	*e*PKPbc	PKPbc	04 36 28.8	+0.6
GUNZ	**Gunzen**	**145.71**	**334**	*e*PKPbc	PKPbc	04 36 28.5	+0.1
WERN	**Wernitzgruen**	**145.75**	**333**	*e*PKPbc	PKPbc	04 36 29.8	+1.3
MOX	**Moxa**	**145.79**	**335**	*e*PKPbc	PKPbc	04 36 29.6	+1.0
CONA	**Conrad Observa**	**145.84**	**328**⇑	*i* PKPdf	PKPdf	04 36 27.8	-0.5
	5.8nm,1.0s						
CSNA	**Conrad Observa**	**145.84**	**328**⇑	*i* PKPdf	PKPdf	04 36 27.8	-0.4
	5.5nm,1.0s						
MANZ	**Manzenberg**	**146.09**	**333**	*e*PKPbc	PKPbc	04 36 29.5	0.0
GEC2	**GERESS Array S**	**146.24**	**331**	*e*PKPbc	PKPbc	04 36 29.9	-0.1
GERES	**GERESS Array B**	**146.24**	**331**	PKPbc	PKPbc	04 36 29.6	-0.4
	1.6nm,0.7s,baz=31,slow=3.1,SNR=19						
GRA1	**Grafenberg Arr**	**146.69**	**334**	*e*PKPbc	PKPbc	04 36 31.7	+0.4
GRF	**Grafenberg Arr**	**146.69**	**334**	*e*PKPbc	PKPbc	04 36 31.7	+0.4
HAU	**Haudompre**	**149.96**	**337**	*e*PKP1	PKPbc	04 36 39.6	-0.3
MEZF	**Maizieres J'vi**	**149.99**	**339**	*e*PKP1	PKPbc	04 36 40.2	+0.2
CABF	**La Chapelle**	**151.22**	**336**	*e*PKP1	PKPbc	04 36 43.1	+0.1
	7.4nm,0.9s						
FLN	**La Foliniere**	**151.33**	**346**	*e*PKP1	PKPbc	04 36 42.5	-0.7
LDF	**La Druitiere**	**151.40**	**345**	*e*PKP1	PKPbc	04 36 42.6	-0.7
LOR	**Lormes**	**151.46**	**339**	*e*PKP1	PKPbc	04 36 43.2	-0.3
	7.4nm,0.9s						
SSF	**Saint Saulge**	**151.76**	**339**	*e*PKP1	PKPbc	04 36 43.9	-0.3
	5.4nm,0.9s						
GRR	**Gorron**	**151.77**	**346**	*e*PKP1	PKPbc	04 36 43.7	-0.5
LPL	**La Plagne**	**151.85**	**333**	*e*PKP1	PKPbc	04 36 44.7	+0.2
BNI	**Bardonecchia**	**152.25**	**333**	*e*PKPbc	PKPbc	04 36 45.8	+0.4
SGMF	**Saint Gilles**	**152.25**	**348**	*e*PKP1	PKPbc	04 36 44.5	-0.8
BGF	**Bois d'Agland**	**152.42**	**340**	*e*PKP1	PKPbc	04 36 44.8	-0.9
ORIF	**Oris-en-Rattie**	**152.69**	**334**	*e*PKP1	PKPbc	04 36 46.0	-0.4
TCF	**Toulx Ste Croi**	**152.86**	**340**	*e*PKP1	PKPbc	04 36 46.2	-0.5
PGF	**Pioggiola**	**153.06**	**327**	*e*PKP1	PKPbc	04 36 47.0	-0.3
ESDC	**Sonseca Array**	**160.72**	**344**	PKPab	PKPab	04 37 32.8	+1.1
	0.7nm,0.8s,baz=9.6,slow=3.4,SNR=5.3						
TORD	**Torodi Ar. Bea**	**165.68**	**238**	PKPab	PKPab	04 37 54.1	-0.1
	0.4nm,0.9s,baz=106,slow=5.3,SNR=2.7						

ISCJB **14** *04:58:21.8±2.5, 2119S±0.06×16923E±004, h9km±15km, mb4.9/63, MS4.1/22, Error ellipse: s-maj=10.7km s-min=4.2km az=157.4*

LDG **14** *04:58:22.6±0.2, 2119S×16892E, h10km, Mb5.1/4, Ms4.3/8, Error ellipse: s-maj=21.2km s-min=3.8km az=154.0*

DJA **14** *04:58:25, 2153S×16942E, h10km, mb5.0/9*

MOS **14** *04:58:26.1±1.4, 2115S×16920E, h34km, mb5.2/26, Error ellipse: s-maj=10.9km s-min=9.2km az=169.3*

IDC **14** *04:58:26.7±7.0, 2123S×16927E, h33km±51km, mb4.4/14, mb1 4.6/16, mb1mx4.5/18, mbtmp4.4/16, ML3.9/2, MS3.8/15, Ms1 3.8/15, ms1mx3.7/24, Error ellipse: s-maj=23.1km s-min=17.7km az=147.0*

BJI **14** *04:58:27.0, 2124S×16981E, h67km, mB5.1, mb4.9, Ms5.0, Msz4.7*

SZGRF **14** *04:58:27.0, 23.11S×16964E, h33km, Southeast of Loyalty Islands*

GCMT **14** *04:58:27.2±0.3, 21.04S×169.11E, h19km, MW4.9/74, Moment Tensor Solution. s35,c41; s74,c87; Duration: 0 Moment tensor: Scale 10^16 Nm; Mrr-3.45±.17; Mθθ 1.86±.13; Mϕϕ 1.59±.12; Mrθ 0.24±.31; Mϕθ -0.16±.07; Mϕr 0.51±.26; Best double couple: Mo 2.72200×10^16 NP1: ϕs 121.00000°, δ45.00000°, λ-81.00000°. NP2: ϕs 288.00000°, δ45.00000°, λ-99.00000°. Principal axes: T 1.9310, Plg0.0000°, Azm25.0000°; N 1.5820, Plg6.0000°, Azm295.0000°; P -3.5130, Plg84.0000°, Azm115.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

NEIC **14** *04:58:27.2±1.4, 21.17S×169.16E, h39km±12km, mb5.0/40 Error ellipse: s-maj=10.0km s-min=6.6km az=148.0*

ISC 14 04:58:23.0±2.9, 2123S±006×16925E±004, h9km±17km, h57km±9.5km::pP-P, n382, σ0°69/272, mb4.9/63, MS4.1/22, 70C-78D, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**2.74**	**252**	*e*Pn	**Pn**	**04 59 06.6**	**-0.6**
DZM				*e*Sn	**Sn**	**04 59 40.4**	**-0.1**
ONTRN	**Noumea**	**2.81**	**247**	*e*P	**Pn**	**04 59 07.4**	**-0.8**
ONTRN				*e*S	**Sn**	**04 59 40.7**	**-1.5**
NOUC	**Port Laguerre**	**2.87**	**252**	*e*P	**Pn**	**04 59 08.2**	**-0.9**
NOUC				*e*S	**Sn**	**04 59 45.2**	**+1.4**
HNR	**Honiara**	**14.76**	**321**	Pn	**Pn**	**05 01 52.6**	**+0.4**
	4.7nm,0.3s,baz=90,slow=5.1,SNR=1.7						
HNR				LR	LR	05 07 07.9	
	comp=Z,166nm,18.3s,baz=148,slow=35						
URZ	**Urewera**	**18.27**	**160**	P	**Pn**	**05 02 42.3**	**+5.4**
	0.5nm,0.3s,baz=191,slow=4.5,SNR=4.8						
URZ				LR	LR	05 07 14.2	
	comp=Z,172nm,18.8s,baz=165,slow=29						
ARMA	**Armidale**	**18.29**	**236**	*e*P	**Pn**	**05 02 40.7**	**+3.5**
AFI	**Afiamalu**	**19.49**	**71**	P	**Pn**	**05 02 51.5**	**-0.2**
	1.9nm,0.3s,

NJ2 LR LR
comp=Z,330nm,27.2s,MS4.5
YSS Yuzh-Sakhalins 71.96 341⇑ *eP* **P** **05 09 47.9 +1.1**
YSS pmax pmax
comp=Z,73nm,1.7s,mb5.3
YSS Yuzh-Sakhalins 71.96 341 *eP* **P** **05 09 47.5 +0.7**
comp=Z,27nm,0.8s,mb5.2
PET Petropavlovsk 74.51 353⇑ *eP* **P** **05 09 58.3 -3.4**
PET pmax pmax
comp=Z,59nm,1.2s,mb5.4
PETK Petropavlovsk- 74.70 353 LR LR 05 40 56.6
comp=Z,68nm,18.8s,MS4.0,baz=353,slow=34
MDJ Mudanjiang 74.88 332 P **P** **05 10 04.3 +0.3**
MDJ S S 05 19 38.6 -2.6
MDJ AMB AMB
comp=Z,7.0nm,1.1s,mb4.5
MDJ AMB AMB
comp=Z,109nm,5.0s
CN2 Changchun 76.16 329 *eP* **P** **05 10 11.5 +0.1**
CN2 *eAP* pP 05 10 31.8 +18
CN2 *eS* S 05 19 48.3 -7.2
CN2 AMB AMB
comp=Z,20nm,0.9s,mb5.0
CN2 AMB AMB
comp=Z,200nm,4.0s
MAW Mawson 76.60 202 *eP* **P** **05 10 14.5 +0.8**
comp=Z,6.4nm,1.0s,mb4.5
MAW Mawson 76.60 202 P **P** **05 10 14.1 +0.5**
comp=Z,3.5nm,0.8s,mb4.3,baz=77,slow=4.4,SNR=7.0
MAW LR LR 05 39 28.5
comp=Z,101nm,18.2s,MS4.2,baz=243,slow=32
MAW Mawson 76.60 202 *eP* **P** **05 10 14.5 +0.8**
MAW pmax pmax
comp=Z,6.0nm,1.0s
GYA Guiyang 76.97 305 P **P** **05 10 17.3 +0.9**
GYA AP pP 05 10 38.0 +19
GYA XP sP 05 10 46.3 +26
GYA PP PP 05 13 13.8 +3.9
GYA S S 05 19 57.3 -7.8
GYA SKS 05 20 17.4
GYA PS 05 20 47.5
GYA SS SS 05 24 58.6 -3.8
GYA AMB AMB
comp=Z,20nm,1.0s,mb5.0
GYA AMB AMB
comp=Z,120nm,5.0s
GYA LR LR
comp=N,510nm,18.0s,MS5.0
GYA LR LR
comp=E,490nm,19.6s,MS5.0
GYA LR LR
comp=Z,460nm,18.5s,MS4.8
BJI Beijing 78.49 321 P **P** **05 10 24.8 +0.2**
BJI S S 05 20 16.3 -4.7
BJI AMB AMB
comp=Z,11nm,0.5s,mb5.0
BJI LR LR
comp=Z,81nm,34.7s,MS3.8
BJI Beijing 78.49 321 P **P** **05 10 24.8 +0.2**
comp=Z,11nm,0.5s,mb5.0
BJI S S 05 20 16.3 -4.7
BJI LR LR
comp=Z,80nm,34.7s,MS3.8
CMAR Chiang Mai Arr 79.33 295 P **P** **05 10 31.1 +1.5**
comp=Z,2.9nm,0.5s,mb4.5,baz=133,slow=4.3,SNR=21
CMAR Chiang Mai Arr 79.33 295⇑ *eP* **P** **05 10 31.6 +1.9**
KMI Kunming 79.33 302 P **P** **05 10 30.8 +1.2**
KMI PCP PcP 05 10 39.1 +1.4
KMI AP pP 05 10 50.3 +18
KMI AMB AMB
comp=Z,21nm,1.1s,mb5.0
KMI Kunming 79.33 302 P **P** **05 10 30.8 +1.2**
KMI 05 10 39.1
KMI pmax pmax
comp=Z,21nm,1.1s,mb5.0
KMI Kunming 79.33 302 P **P** **05 10 30.8 +1.2**
comp=Z,21nm,1.1s,mb5.0
KMI PcP PcP 05 10 39.1 +1.4
KMI pP pP 05 10 50.3 +18
XAN Xi'an 79.46 313 P **P** **05 10 30.5 +0.4**
XAN AMB AMB
comp=Z,11nm,1.2s,mb4.7
XAN AMB AMB
comp=Z,65nm,6.0s
CHG Chiang Mai 79.49 295 ⇓P **P** **05 10 31.6 +1.1**
comp=Z,14nm,1.0s,mb4.8
CHTO Chiang Mai 79.49 295 *eP* **P** **05 10 30.8 +0.3**
CHTO pmax pmax
comp=Z,32nm,1.6s,mb5.0
CHTO Chiang Mai 79.49 295 *eP* **P** **05 10 30.8 +0.3**
comp=Z,32nm,1.6s,mb5.0
CD2 Chengdu 81.45 308 *eP* **P** **05 10 41.8 +1.0**
CD2 AP pP 05 11 02.1 +18
CD2 XP sP 05 11 10.3 +26
CD2 S S 05 20 45.3 -7.4
CD2 XS sS 05 21 20.4 +23
CD2 SS SS 05 26 05.8 -3.9
CD2 AMB AMB
comp=Z,10.0nm,1.2s,mb4.6
CD2 AMB AMB
comp=Z,30nm,8.5s
CD2 LR LR
comp=N,130nm,12.0s,MS4.6
CD2 LR LR
comp=E,130nm,14.4s,MS4.6
CD2 LR LR
comp=Z,110nm,14.4s,MS4.4
HHC Hu-ho-hao-te 81.74 320 *eP* **P** **05 10 43.6 +1.5**
HHC AP pP 05 10 57.0 +12
HHC PP PP 05 13 53.5 +4.1
HHC S S 05 20 52.3 -2.8
HHC SS SS 05 26 13.5 0.0
HHC AMB AMB
comp=Z,14nm,1.1s,mb4.8
HHC AMB AMB
comp=Z,161nm,5.7s
HHC LR LR
comp=N,216nm,18.8s,MS4.7
HHC LR LR
comp=E,210nm,18.6s,MS4.7
HHC LR LR
comp=Z,161nm,19.2s,MS4.4
HIA Hailar 82.83 330 *eP* **P** **05 10 47.1 -0.5**
SYO Syowa Base 83.03 196⇓ *eP* **P** **05 10 46.8 -1.7**
SYO Syowa Base 83.03 196 *ep* pP 05 11 03.8 +12
LZH Lanzhou 84.07 312 *eP* **P** **05 10 55.0 +0.7**
LZH XP sP 05 11 24.8 +27
LZH AMB AMB
comp=Z,44nm,1.5s,mb5.4
LZH AMB AMB
comp=Z,120nm,5.2s
LZH Lanzhou 84.07 312 *eP* **P** **05 10 55.0 +0.7**
comp=Z,44nm,1.5s,mb5.4
LZH pP pP 05 11 19.5 +22
LZH sP sP 05 11 24.8 +27
SEY Seymchan 84.94 352⇑ *eP* **P** **05 10 57.9 -0.1**
V03C Hunter Liggett 86.91 50 ⇓P **P** **05 11 08.7 +0.2**
baz=87
KCPM Cahto Peak 87.11 45 *eP* **P** **05 11 09.3 -0.1**
SNAA Sanae 87.18 182 *eP* **P** **05 11 08.4 -0.9**
SNAA *e* pP 05 11 11.8 -0.3
SNAA *e* 05 11 16.6
SNAA Sanae 87.18 182 *eP* **P** **05 11 08.5 -0.8**
comp=Z,24nm,1.1s,mb5.3
O01C Eel River Cons 87.19 45⇑P **P** **05 11 10.1 +0.4**
baz=87
PACP Pacheco Peak 87.35 49 ⇓P **P** **05 11 10.9 +0.3**
baz=88
PKD Parkfield 87.37 50⇑P **P** **05 11 10.9 +0.2**
baz=88
U04C Hernandez Rese 87.40 49⇑P **P** **05 11 11.3 +0.4**
baz=88
SMMC Simmler 87.46 51⇑P **P** **05 11 10.9 -0.2**
baz=88
BLG Laguna Peak 87.58 52⇑P **P** **05 11 12.1 +0.3**
baz=88
VNA3 Neumayer Olymp 87.77 180 *eP* **P** **05 11 11.4 -0.7**
VNA3 *e* pP 05 11 14.8 -0.2
VNA3 *e* 05 11 19.3
VNA2 Neumayer--Watz 88.06 181 *eP* **P** **05 11 13.3 -0.2**
baz=190,slow=4.8
VNA2 *e* pP 05 11 16.6 +0.2
VNA2 *e* 05 11 21.2
WDC Whiskeytown Da 88.25 45 *eP* **P** **05 11 14.6 -0.2**
WDC pmax pmax
comp=Z,11nm,1.3s,mb4.9
WDC Whiskeytown Da 88.25 45 ⇓P **P** **05 11 14.1 -0.8**
baz=88
WDC Whiskeytown Da 88.25 45 *eP* **P** **05 11 14.6 -0.2**
comp=Z,11nm,1.3s,mb4.9
VNA1 Neumayer--Stat 88.35 181 *eP* **P** **05 11 14.9 0.0**
VNA1 *e* pP 05 11 18.5 +0.7
VNA1 *e* 05 11 22.6
L02A Cave Junction 88.36 43⇑P **P** **05 11 15.1 -0.2**
baz=88
ORV Oroville 88.44 46 P **P** **05 11 15.9 +0.1**
baz=89,SNR=5.8
M02C Callahan 88.45 44 P **P** **05 11 16.5 +0.7**
baz=89,SNR=5.8
T06C Millerton Lake 88.46 49 ⇓P **P** **05 11 15.6 -0.3**
baz=89
CMB Columbia Colle 88.47 48 *eP* **P** **05 11 15.9 0.0**
CMB pmax pmax
comp=Z,9.0nm,0.9s,mb5.0
CMB Columbia Colle 88.47 48 P **P** **05 11 16.0 +0.1**
baz=89,SNR=10.0
CMB Columbia Colle 88.47 48 *eP* **P** **05 11 15.9 0.0**
comp=Z,9.1nm,0.9s,mb5.0
GTA Gaotai 88.50 313 *eP* **P** **05 11 17.1 +1.1**
GTA AMB AMB
comp=Z,4.0nm,1.4s,mb4.5
LAVA Lava Cap Winer 88.57 47 ⇓P **P** **05 11 16.3 -0.1**
baz=89
BFSC Mount Baldy St 88.67 52 ⇓P **P** **05 11 16.8 -0.2**
baz=89
YBH Yreka Blue Hor 88.72 44 ⇓P **P** **05 11 16.7 -0.3**
baz=89
YBH Yreka Blue Hor 88.72 44 *eP* **P** **05 11 17.4 +0.4**
BAR Barrett 88.72 54 *eP* **P** **05 11 16.9 -0.4**
comp=Z,8.5nm,1.0s,mb5.0
EDW2 Edwards Air Fo 88.72 52 ⇓P **P** **05 11 17.0 -0.2**
baz=89
ISA Isabella 88.72 51 *eP* **P** **05 11 17.0 -0.2**
ISA pmax pmax
comp=Z,10.0nm,0.9s,mb5.2
ISA Isabella 88.72 51⇑P **P** **05 11 17.1 -0.1**
baz=89
ISA Isabella 88.72 51 *eP* **P** **05 11 16.9 -0.2**
comp=Z,9.6nm,0.9s,mb5.1
MURC Murrieta 88.73 53⇑P **P** **05 11 16.9 -0.3**
baz=89
YAK Yakutsk 88.77 343 *eP* **P** **05 11 15.4 -1.3**
YAK pmax pmax
comp=Z,17nm,1.1s,mb5.3
HELL Mitchell Peak 88.80 50⇑P **P** **05 11 16.6 -0.9**
baz=89
SONM Songino Array 88.81 323 P **P** **05 11 17.6 +0.3**
comp=Z,2.7nm,0.9s,mb4.6,baz=139,slow=5.3,SNR=14
SONM PP PP 05 14 53.3 +6.6
comp=Z,0.3nm,0.8s,baz=111,slow=6.3,SNR=3.6
M03C McCloud 88.87 45⇑P **P** **05 11 18.1 +0.3**
baz=89,SNR=6.1
KCC Kaiser Creek 88.89 49 ⇓P **P** **05 11 17.7 -0.2**
baz=89,SNR=5.7
HUMO Hull Mountain 89.00 43⇑P **P** **05 11 18.5 +0.2**
baz=89
HUMO Hull Mountain 89.00 43 *eP* **P** **05 11 18.4 +0.1**
comp=Z,5.7nm,0.9s,mb4.9
MONP Monument Peak 89.00 54⇑P **P** **05 11 18.9 +0.3**
baz=89,SNR=5.1
O05C Quincy 89.03 46 ⇓P **P** **05 11 18.6 +0.1**
baz=89,SNR=6.5
O04C Chester 89.09 46 ⇓P **P** **05 11 19.0 +0.2**
baz=89,SNR=5.4
LRMC Laurel Mountai 89.21 51⇑P **P** **05 11 19.3 -0.2**
baz=89,SNR=9.1
PFO Pinyon Flat Ob 89.29 53 *eP* **P** **05 11 19.6 -0.3**
PFO pmax pmax
comp=Z,4.0nm,0.8s,mb4.8
PFO Pinyon Flat Ob 89.29 53 *eP* **P** **05 11 19.6 -0.3**
comp=Z,3.7nm,0.8s,mb4.8
R06C Coleville 89.35 48 ⇓P **P** **05 11 20.0 -0.1**
baz=90,SNR=6.7
WAKR Walker 89.35 48 *eP* **P** **05 11 19.8 -0.3**
BEKR Beckwourth 89.36 46 P **P** **05 11 20.1 0.0**
baz=90,SNR=5.5
MTUM Tungsten Hills 89.43 49 *eP* **P** **05 11 20.4 -0.1**
WCN Washoe City 89.51 47⇑P **P** **05 11 20.4 -0.3**
baz=90
MPMC Manual Prospec 89.61 51 P **P** **05 11 21.3 0.0**
baz=90,SNR=11
GSC Goldstone 89.78 52 ⇓P **P** **05 11 22.0 -0.1**
baz=90
GSC Goldstone 89.78 52 *eP* **P** **05 11 22.3 +0.2**
BELC Belle Mtn. 89.80 53⇑P **P** **05 11 22.7 +0.4**
baz=90,SNR=10
J04A Umpqua Nationa 89.86 43⇑P **P** **05 11 22.4 +0.1**
baz=90
O06A Flanigan 89.86 46 ⇓P **P** **05 11 22.5 +0.1**
baz=90,SNR=9.3
HEC Hector,Ludlow 89.92 52⇑P **P** **05 11 22.8 0.0**
baz=90
M06C Likely Place G 89.92 45 ⇓P **P** **05 11 22.6 0.0**
baz=90,SNR=5.8
I04A Tendick Farm, 89.94 42 ⇓P **P** **05 11 22.3 -0.4**
baz=90
PAHR Pah Rah Range 89.95 47 *eP* **P** **05 11 23.2 +0.3**
comp=Z,13nm,1.1s,mb5.2
BC3 Big Chuckw Mtn 90.06 54⇑P **P** **05 11 23.7 +0.2**
baz=90,SNR=6.4
NVAR Mina Array Bea 90.11 48 P **P** **05 11 23.9 +0.2**
comp=Z,6.0nm,0.8s,mb5.0,baz=225,slow=8.6,SNR=46
GRAC Grapevine Rang 90.12 50 P **P** **05 11 23.8 +0.1**
baz=90,SNR=11
N06A Buffalo Meadow 90.14 46⇑P **P** **05 11 23.8 +0.1**
baz=90,SNR=9.3
R08A Mina 90.21 49 ⇓P **P** **05 11 24.1 +0.1**
baz=90,SNR=7.8
FURC Furnace Creek, 90.25 51 ⇓P **P** **05 11 24.3 0.0**
baz=90,SNR=7.4
GLA Glamis 90.28 55⇑P **P** **05 11 25.1 +0.6**
baz=90,SNR=6.5
GLA Glamis 90.28 55 *eP* **P** **05 11 25.3 +0.8**
MOD Modoc 90.37 45 ⇓P **P** **05 11 24.7 0.0**
baz=90,SNR=5.4
MOD Modoc 90.37 45 *eP* **P** **05 11 24.6 -0.2**
comp=Z,5.9nm,1.0s,mb4.9
K05A Summer Lake 90.38 44 ⇓P **P** **05 11 25.0 +0.2**
baz=90,SNR=7.0
GMRC Granite Mounta 90.39 53 ⇓P **P** **05 11 25.2 +0.1**
baz=90,SNR=5.6
J05A Fort Rock 90.43 43 ⇓P **P** **05 11 25.3 +0.3**
baz=91,SNR=11
IRM Iron Mountain 90.51 53 P **P** **05 11 25.8 +0.2**
baz=91,SNR=11
O07A Toulon 90.51 47⇑P **P** **05 11 25.1 -0.3**
baz=91,SNR=9.4
S09A Goldfield 90.55 50⇑P **P** **05 11 25.1 -0.6**
baz=91,SNR=7.6
Q08A Gabbs 90.56 48 P **P** **05 11 25.5 -0.2**
baz=91,SNR=12
U10A Ash Meadows, A 90.61 51⇑P **P** **05 11 26.4 +0.4**
baz=91,SNR=9.6
TPH Tonopah 90.71 49 *eP* **P** **05 11 26.8 +0.4**
TPH pmax pmax
comp=Z,13nm,1.3s,mb5.1
TPH Tonopah 90.71 49 *eP* **P** **05 11 26.8 +0.4**
comp=Z,13nm,1.3s,mb5.1
Y12C Blythe 90.80 54 ⇓P **P** **05 11 27.3 +0.4**
baz=91,SNR=6.0
K06A Valley Falls 90.83 44 ⇓P **P** **05 11 27.1 +0.2**
baz=91,SNR=5.9
M07A Soldier Meadow 90.88 46 ⇓P **P** **05 11 27.2 +0.1**
baz=91,SNR=7.0
R09A Tonopah 90.89 49 P **P** **05 11 27.1 -0.1**
baz=91,SNR=8.7
TPNV Topopah Spring 90.90 51 *eP* **P** **05 11 27.3 -0.1**
TPNV pmax pmax
comp=Z,18nm,1.2s,mb5.3
TPNV Topopah Spring 90.90 51 P **P** **05 11 27.7 +0.4**
baz=91,SNR=16
TPNV Topopah Spring 90.90 51 *eP* **P** **05 11 27.2 -0.1**
comp=Z,18nm,1.2s,mb5.3
LDFC Landfair 90.93 53 *eP* **P** **05 11 28.0 +0.4**
comp=Z,23nm,0.8s,mb5.6
V11A Goodsprings 91.02 52⇑P **P** **05 11 28.2 +0.3**
baz=91,SNR=7.5
O08A Rochester Mine 91.06 47 ⇓P **P** **05 11 28.1 +0.2**
baz=91,SNR=8.6
L07A Adell 91.06 45 ⇓P **P** **05 11 28.5 +0.5**
baz=91,SNR=8.5
S10A Tonopah Range, 91.08 50 P **P** **05 11 28.2 +0.1**
baz=91,SNR=18
J06A Christmas Vall 91.11 44 ⇓P **P** **05 11 27.8 -0.4**
baz=91,SNR=5.2
N08A GE Springer Mi 91.30 46 ⇓P **P** **05 11 29.0 -0.1**
baz=91,SNR=5.3
PDMCI Parker Dam,Lak 91.32 54 P **P** **05 11 29.3 -0.1**
baz=92,SNR=8.6
Y13A Salome 91.36 54⇑P **P** **05 11 29.5 -0.1**
baz=92,SNR=12
214A Organ Pipe Nat 91.37 56 P **P** **05 11 30.2 +0.5**
baz=92,SNR=5.8
V12A Nelson 91.40 52⇑P **P** **05 11 29.5 -0.1**
baz=92,SNR=6.8
I06A Prineville 91.40 43⇑P **P** **05 11 29.7 +0.2**
baz=92,SNR=9.2
K07A Rock Creek Ran 91.43 44⇑P **P** **05 11 29.2 -0.5**
baz=92,SNR=6.6
M08A Happy Creek Ra 91.43 46⇑P **P** **05 11 30.0 +0.3**
baz=92
R10A Warm Springs 91.45 49⇑P **P** **05 11 30.3 +0.4**
baz=92,SNR=7.9
SHPR Sheep Range 91.50 51 *eP* **P** **05 11 30.7 +0.5**
S11A Rachel 91.57 50⇑P **P** **05 11 29.7 -0.7**
baz=92
GNW Green Mountain 91.57 39 *eP* **P** **05 11 29.5 -0.7**
comp=Z,2.7nm,0.6s,mb4.8
X13A Yucca 91.68 54⇑P **P** **05 11 30.8 -0.2**
baz=92,SNR=12
H06A Lindquist Farm 91.70 42 P **P** **05 11 30.5 -0.4**
baz=92,SNR=11
E05A Randle 91.71 40 ⇓P **P** **05 11 30.3 -0.5**
baz=92
WVOR Wild Horse Val 91.71 45 *eP* **P** **05 11 30.5 -0.5**
WVOR pmax pmax
comp=Z,8.0nm,1.4s,mb4.9
WVOR Wild Horse Val 91.71 45 *eP* **P** **05 11 30.4 -0.5**
comp=Z,8.5nm,1.4s,mb4.9
T11A Corn Creek, Al 91.77 51 ⇓P **P** **05 11 31.3 -0.1**
baz=92,SNR=12
L08A Fields 91.80 45⇑P **P** **05 11 30.9 -0.5**
baz=92,SNR=8.7
Z14A Wintersburg 91.84 55⇑P **P** **05 11 32.1 +0.3**
baz=92,SNR=6.9
W13A Hualapai Mount 91.85 53⇑P **P** **05 11 32.2 +0.4**
baz=92,SNR=9.0
ZAK Zakamensk 91.91 324 *eP* **P** **05 11 31.5 -0.2**
ZAK pmax pmax
comp=Z,3.0nm,1.0s,mb4.6
I07A Izee 91.92 43⇑P **P** **05 11 32.0 +0.1**
baz=92,SNR=5.0
COLA College 91.94 17 *eP* **P** **05 11 29.8 -1.6**
COLA pmax pmax
comp=Z,3.0nm,0.7s,mb4.7
COLA College 91.94 17 *eP* **P** **05 11 29.8 -1.6**
comp=Z,3.4nm,0.7s,mb4.8
K08A Mann Creek Ran 91.95 45 ⇓P **P** **05 11 31.6 -0.5**
baz=92
R11A Troy Canyon, C 91.99 50 ⇓P **P** **05 11 32.2 -0.2**
baz=92,SNR=5.2
Y14A Wickenburg 92.03 54 ⇓P **P** **05 11 32.3 -0.3**
baz=92,SNR=6.4
V13A Grand Canyon W 92.09 52 ⇓P **P** **05 11 32.9 0.0**
baz=92,SNR=12
H07A Lands Inn, Kim 92.12 43⇑P **P** **05 11 32.5 -0.3**
baz=92
Q11A Duckwater 92.15 49 ⇓P **P** **05 11 33.1 0.0**
baz=92,SNR=5.4
S12A Delamar Landin 92.20 50 ⇓P **P** **05 11 33.0 -0.4**
baz=92,SNR=18
J08A Circle Bar Ran 92.24 44⇑P **P** **05 11 33.1 -0.3**
baz=92,SNR=7.4
X14A Yava 92.33 54 P **P** **05 11 34.5 +0.4**
baz=92,SNR=14
U13A Pakoon Wash 92.34 52 ⇓P **P** **05 11 34.0 0.0**
baz=92,SNR=5.2
TLY Talaya 92.40 325 *eP* **P** **05 11 36.7 +2.8**
TLY *e* 05 11 54.2
TLY pmax pmax
comp=Z,5.0nm,1.1s,mb4.8
K09A Rome 92.44 45⇑P **P** **05 11 34.0 -0.3**
baz=93,SNR=5.8
216A Three Points, 92.44 57⇑P **P** **05 11 35.0 +0.4**
baz=93
116A Eloy 92.47 56 ⇓P **P** **05 11 35.0 +0.3**
baz=93,SNR=6.0
W14A Seligman 92.49 53 ⇓P **P** **05 11 35.4 +0.6**
baz=93,SNR=12
Y15A Casa Rosa Ranc 92.55 55 ⇓P **P** **05 11 34.8 -0.3**
baz=93,SNR=20
T13A Saint George 92.63 51⇑P **P** **05 11 35.6 +0.3**
baz=93
V14A Boquillas Ranc 92.65 53 ⇓P **P** **05 11 35.9 +0.4**
baz=93,SNR=13
R12A Pony Springs, 92.67 50 ⇓P **P** **05 11 35.8 +0.3**
baz=93,SNR=5.4
M10A I.L. Ranch, Tu 92.70 46 ⇓P **P** **05 11 35.5 0.0**
baz=93,SNR=6.2
J09A Fry Pan Ranch, 92.71 44⇑P **P** **05 11 35.2 -0.3**
baz=93,SNR=6.3
G08A Pilot Rock 92.82 42⇑P **P** **05 11 35.5 -0.6**
baz=93
X15A Humboldt 92.84 54⇑P **P** **05 11 36.4 +0.1**
baz=93,SNR=14
217A Green Valley 92.85 57⇑P **P** **05 11 36.8 +0.3**
baz=93,SNR=7.2
S13A Holt Ranch, En 92.90 51 ⇓P **P** **05 11 36.9 +0.3**
baz=93,SNR=6.7
U14A Mt Trumbull 92.91 52⇑P **P** **05 11 37.0 +0.4**
baz=93,SNR=12
L10A Juniper Basin 92.99 46⇑P **P** **05 11 36.8 0.0**
baz=93
Z16A Peralta Trail, 93.00 55 ⇓P **P** **05 11 37.4 +0.3**
baz=93,SNR=6.8
K10A MacKenzie Ranc 93.03 45 ⇓P **P** **05 11 37.0 -0.1**
baz=93
TUC Tucson 93.09 57 *eP* **P** **05 11 37.7 +0.1**
TUC pmax pmax
comp=Z,12nm,1.4s,mb5.1
TUC Tucson 93.09 57 *eP* **P** **05 11 37.6 +0.1**
comp=Z,12nm,1.4s,mb5.1
W15A Williams 93.09 54 ⇓P **P** **05 11 38.4 +0.8**
baz=93
Y16A Circle Bar Ran 93.17 55 ⇓P **P** **05 11 38.2 +0.3**
baz=93,SNR=12
117A Oracle 93.23 56 ⇓P **P** **05 11 38.5 +0.3**
baz=93,SNR=9.9
T14A Hurricane 93.25 52 ⇓P **P** **05 11 38.0 -0.1**
baz=93
Q13A Wheeler Ranch, 93.35 49⇑P **P** **05 11 37.9 -0.7**
baz=94
H09A Durkee 93.36 43⇑P **P** **05 11 37.2 -1.3**
baz=94
X16A Lo Mia Camp, P 93.41 54 ⇓P **P** **05 11 39.3 +0.3**
baz=94,SNR=14
V15A Kaibab Nationa 93.42 53⇑P **P** **05 11 39.3 +0.2**
baz=94,SNR=7.4
N12A Clover Valley, 93.44 47⇑P **P** **05 11 38.3 -0.7**
baz=94
218A Dragoon 93.53 57 P **P** **05 11 39.9 +0.2**
baz=94,SNR=5.9
P13A Bates Ranch, G 93.56 49 ⇓P **P** **05 11 39.0 -0.6**
baz=94
U15A North Rim 93.57 52 ⇓P **P** **05 11 40.1 +0.4**
baz=94,SNR=10
Y17A Roosevelt 93.58 55 ⇓P **P** **05 11 39.8 -0.1**
baz=94
W16A Flagstaff 93.61 54⇑P **P** **05 11 40.5 +0.6**
baz=94,SNR=5.4
T15A Red Dirt Ranch 93.74 52 ⇓P **P** **05 11 40.7 +0.2**
baz=94
118A Homack Ranch, 93.85 57 ⇓P **P** **05 11 41.4 +0.3**
baz=94,SNR=5.1
X17A Forest Lakes 93.86 55 ⇓P **P** **05 11 41.5 +0.4**
baz=94,SNR=6.0
WUAZ Wupatki 93.89 53 ⇓P **P** **05 11 41.1 -0.1**
baz=94
WUAZ Wupatki 93.89 53 *eP* **P** **05 11 41.2 0.0**
comp=Z,8.9nm,1.1s,mb5.1
H10A Noah's Angus R 93.91 44⇑P **P** **05 11 40.0 -1.0**
baz=94
G10A Bishop Farm, J 93.98 43 ⇓P **P** **05 11 39.5 -1.9**
baz=94
I11A Placerville 94.13 44 ⇓P **P** **05 11 41.9 -0.2**
baz=94
F10A Beach Ranch, E 94.22 42 ⇓P **P** **05 11 41.7 -0.7**
baz=94
Y18A Canyon Day Jun 94.24 56 ⇓P **P** **05 11 43.3 +0.4**
baz=94,SNR=8.3
M13A Montello 94.25 47 ⇓P **P** **05 11 42.3 -0.4**

baz=94
U16A Tuba City 94.32 53 ⇓P P 05 11 43.6 +0.5
baz=94
J12A Stokes Ranch, 94.41 45 ⇑P P 05 11 43.3 -0.1
baz=94
H11A Donnelly 94.43 44 ⇓P P 05 11 42.8 -0.6
baz=95
MSU Marysvale 94.49 50 eP P 05 11 43.8 -0.1
G11A Walters Elk Ra 94.57 43 ⇓P P 05 11 43.4 -0.6
baz=95
T17A Navajo Res., N 94.90 52 ⇓P P 05 11 46.2 +0.5
baz=95
R16A Teasdale 94.90 51 ⇑P P 05 11 46.2 +0.5
baz=95
Y19A Nutrioso 94.91 56 ⇓P P 05 11 46.2 +0.3
baz=95
HLID Hailey 94.99 45 eP P 05 11 46.0 -0.1
comp=Z,1.7nm,0.9s,mb4.5
G12A Big Creek, Yel 95.06 43 ⇑P P 05 11 45.5 -0.8
baz=95
L14A Malta 95.16 47 ⇓P P 05 11 46.9 0.0
baz=95
R17A Hanksville Air 95.51 51 ⇓P P 05 11 48.5 0.0
baz=96
T18A Mexican Hat 95.64 52 ⇑P P 05 11 49.3 +0.2
baz=96
I14A Mackay 95.78 45 ⇑P P 05 11 48.9 -0.7
baz=96
SRU San Rafael 95.91 50 ⇓P P 05 11 50.7 +0.4
baz=96
SRU San Rafael 95.91 50 eP P 05 11 51.9 +1.5
O17A Robinson Place 96.17 49 ⇑P P 05 11 51.8 +0.3
baz=96
PLCA Paso Flores 97.04 139 P P 05 11 56.8 +1.1
comp=Z,1.7nm,1.0s,mb4.4,baz=178,slow=5.1,SNR=2.9
TXAR Lajitas Array 97.70 62 P P 05 11 57.3 -1.4
comp=Z,0.9nm,0.9s,mb4.3,baz=232,slow=6.2,SNR=7.4
TXAR PP PP 05 16 00.4 +3.5
comp=Z,0.2nm,0.8s,baz=226,slow=3.3,SNR=3.9
PDAR Pinedale Array 97.95 47 P P 05 11 59.5 0.0
comp=Z,0.4nm,0.7s,mb4.1,baz=224,slow=4.1,SNR=4.4
WMQ Urumqi 98.58 314 P P 05 12 01.1 -1.2
WMQ AP pP 05 12 21.6 +16
WMQ XP sP 05 12 29.9 +24
WMQ PP PP 05 16 04.6 +1.2
WMQ PPP 05 18 13.1
WMQ AMB AMB
comp=Z,5.0nm,0.9s,mb5.0
WMQ AMB AMB
comp=Z,60nm,5.4s
WMQ LR LR
comp=N,37nm,22.0s,MS3.9
WMQ LR LR
comp=E,21nm,17.7s,MS3.9
WMQ LR LR
comp=Z,38nm,19.0s,MS3.9
MKAR Makanchi Array 103.16 315 PKKP PKKPbc 05 28 36.8 +17
comp=Z,0.2nm,0.3s,baz=298,slow=2.6,SNR=4.3
PKME Peaks-Kenny Pk 126.78 49 ePKPdf PKPdf 05 17 25.7 -1.5
ARCES ARCESS Array B 126.99 345 PKP PKPdf 05 17 26.1 -0.8
comp=Z,6.5nm,1.0s,baz=68,slow=2.5,SNR=8.0
BDFB Brasilia 128.23 132 PKP PKPdf 05 17 29.4 -1.4
comp=Z,1.5nm,0.8s,baz=218,slow=22,SNR=4.0
KIS Kishinev 139.00 318 LRM 05 18 36.0
comp=Z,700nm,20.0s
KOLS Kolonicke sedl 141.86 324 ePKP PKPdf 05 17 58.0 +2.9
STHS Stebnicka Huta 142.13 326 ePKP PKPdf 05 17 54.2 -1.4
BSEG Bad Segeberg 143.62 339 ePKIKP PKPdf 05 18 00.1 +2.0
BSEG Bad Segeberg 143.62 339 ePKPbc PKPdf 05 17 56.7 -1.4
VYHS Vyhne 143.95 326 ePKP PKPdf 05 17 57.1 -1.8
DPC Dobruska-Polom 143.97 330 ePKP PKPdf 05 17 56.6 -2.2
DPC ex x 05 18 02.7
UPC Upice 144.00 331 ePKP PKPdf 05 17 56.2 -2.7
PVCC Panska Ves 144.63 332 ePKP PKPdf 05 17 58.4 -1.6
BRG Berggiesshubel 144.65 333 ePKIKP PKPdf 05 17 58.6 -1.4
BRG pmax pmax
comp=Z,8.0nm,0.9s
BRG Berggiesshubel 144.65 333 ePKPbc PKPdf 05 17 58.2 -1.8
BRG Berggiesshubel 144.65 333 ePKP PKPdf 05 17 58.6 -1.4
comp=Z,12nm,0.9s
CLL Collm 144.72 334 ⇓iPKIKP PKPdf 05 17 57.4 -2.7
CLL i 05 18 07.1
CLL pmax pmax
comp=Z,11nm,0.8s
CLL Collm 144.72 334 ePKPbc PKPdf 05 17 57.8 -2.3
CLL Collm 144.72 334 ⇓iPKPdf PKPdf 05 17 57.4 -2.7
comp=Z,11nm,0.8s
CLL i (pPKPdf) 05 18 07.1
CLL ex x 05 18 30.0
CLL Collm 144.72 334 ⇓iPKP PKPdf 05 17 57.4 -2.7
CLL i 05 18 07.1
MODS Modra-Piesok 144.83 327 ePKP PKPdf 05 18 00.0 -0.4
PRU Pruhonice 145.03 331 ePKP PKPdf 05 17 59.4 -1.3
PRU epPKP pPKPdf 05 18 07.1 +3.5
ZST Bratislava 145.03 327 ePKP PKPdf 05 18 00.5 -0.3
TREC Trest 145.09 330 ePKP PKPdf 05 17 59.7 -1.1
CLZ Clausthal 145.31 337 ePKPbc PKPbc 05 18 00.1 -0.8
ESK Eskdalemuir 145.50 352 ePKP2 PKPab 05 18 00.1 -1.5
TANN Tannenbergstha 145.62 333 ePKPbc PKPbc 05 18 01.5 -0.4
NKC Novy Kostel 145.76 333 ePKP PKPdf 05 18 01.8 -0.1
MOX Moxa 145.79 334 ePKP PKPdf 05 18 01.8 -0.2
comp=Z,36nm,2.0s
MOX Moxa 145.79 334 ePKP2 PKPab 05 18 01.8 -1.0
MOX pmax pmax
comp=Z,36nm,2.0s
MOX Moxa 145.79 334 ePKPbc PKPbc 05 18 01.6 -0.8
IBBN Ibbenburen 145.83 340 ePKPbc PKPbc 05 18 01.8 -0.7
CONA Conrad Observa 145.84 328 ⇑iPKPab PKPab 05 18 03.3 +0.2
comp=Z,14nm,1.0s
CSNA Conrad Observa 145.84 328 ⇑iPKPab PKPab 05 18 03.3 +0.2
comp=Z,12nm,1.0s
KHC Kasperske Hory 146.09 331 ⇑iPKP2 PKPab 05 18 03.5 -0.5
KHC Kasperske Hory 146.09 331 ePKP PKPdf 05 18 03.3 +0.8
MANZ Manzenberg 146.09 333 ePKPbc PKPbc 05 18 02.9 -0.5
ROTZ Rotzenmuhle 146.22 333 ePKPbc PKPbc 05 18 02.9 -0.9
GEC2 GERESS Array S 146.24 331 ePKPbc PKPbc 05 18 03.6 -0.3
GERES GERESS Array B 146.24 331 PKPbc PKPbc 05 18 02.4 -1.5
comp=Z,3.8nm,0.8s,baz=36,slow=2.3,SNR=38
UBBA Unterbreizbach 146.28 336 ePKPbc PKPbc 05 18 04.4 +0.5
WETT Wettzell 146.39 332 ePKPbc PKPbc 05 18 04.0 -0.3
WTSB Winterswijk 146.43 340 ePKP PKPdf 05 18 03.2 +0.2
GRA1 Grafenberg Arr 146.69 334 ePKPbc PKPbc 05 18 04.2 -0.9
GRF Grafenberg Arr 146.69 334 ePKPbc PKPbc 05 18 04.2 -0.9
BUG Bochum-Univer 146.73 339 ePKPbc PKPbc 05 18 04.5 -0.7
TNS Taunus Mts 147.34 337 ePKPbc PKPbc 05 18 06.7 -0.3
RJOB Jochberg 147.45 330 ePKPbc PKPbc 05 18 06.8 -0.6
HGN Heimansgroeve 147.74 340 ePKP PKPdf 05 18 06.6 +1.4
comp=Z,24nm,2.6s
FUR Furstenfeldbru 147.83 332 ePKPbc PKPbc 05 18 08.2 -0.2
MEM Membach 147.85 340 PKPbc PKPbc 05 18 08.0 -0.4
UCC Uccle 148.19 342 PKPab PKPbc 05 18 08.8 -0.5
STU Stuttgart 148.23 335 ePKPbc PKPbc 05 18 09.4 0.0
STU Stuttgart 148.23 335 ePKPbc PKPbc 05 18 08.2 -1.2
BCLA Clavier 148.24 340 PKPab PKPab 05 18 11.9 -0.5
WTTA Wattenberg 148.34 330 ⇑iPKPbc PKPbc 05 18 09.3 -0.4
comp=Z,14nm,1.2s
MOTA Moosalm 148.52 331 ⇑iPKPbc PKPbc 05 18 09.7 -0.5
comp=Z,8.8nm,1.0s
WLF Walferdange 148.62 339 PKPbc PKPbc 05 18 10.8 +0.4
WLF Walferdange 148.62 339 ePKPbc PKPbc 05 18 08.7 -1.7
WLF ePKPab PKPab 05 18 13.5 -0.4
GIVF Givet 148.67 341 ePKP1 PKPbc 05 18 09.6 -0.9
DOU Dourbes 148.75 341 PKPbc PKPbc 05 18 09.4 -1.3
BAIF Baives 148.90 341 ePKP1 PKPbc 05 18 10.2 -0.9
comp=Z,21nm,1.2s
BFO Black Forest 148.93 335 ePKPbc PKPdf 05 18 08.6 +1.3
BFO Black Forest 148.93 335 ePKPbc PKPbc 05 18 10.3 -0.9
CDF Champ du Feu 149.27 336 ePKP1 PKPbc 05 18 11.0 -1.1
ECH Echery 149.47 336 ePKP2 PKPbc 05 18 12.6 0.0
HINF Hinteralfeld 149.92 336 ePKP1 PKPbc 05 18 12.4 -1.3
HAU Haudompre 149.95 337 ePKP1 PKPbc 05 18 12.7 -1.1
HAU eMLR MLR
comp=Z,78nm,20.8s,MS4.2
HAU Haudompre 149.95 337 ePKP PKPbc 05 18 12.7 -1.1
HAU LR LR
comp=Z,80nm,20.8s,MS4.5
TUE Stuetta 149.97 332 ePKPbc PKPbc 05 18 13.4 -0.5
MEZF Maizieres J'vi 149.99 339 ePKP1 PKPbc 05 18 13.3 -0.6
comp=Z,42nm,1.2s
CABF La Chapelle 151.21 336 ePKP1 PKPbc 05 18 16.2 -0.6
comp=Z,18nm,1.0s
FLN La Foliniere 151.33 346 ePKP1 PKPbc 05 18 15.6 -1.4
FLN eMLR MLR
comp=Z,127nm,21.0s,MS4.4
FLN La Foliniere 151.33 346 ePKP PKPbc 05 18 15.6 -1.4
FLN LR LR
comp=Z,130nm,21.0s,MS4.7
LDF La Druitiere 151.40 345 ePKP1 PKPbc 05 18 15.7 -1.5
LOR Lormes 151.46 339 ePKP1 PKPbc 05 18 16.3 -1.1
comp=Z,18nm,1.1s
LOR eMLR MLR
comp=Z,136nm,18.8s,MS4.5
LOR Lormes 151.46 339 ePKP PKPbc 05 18 16.3 -1.1
LOR LR LR
comp=Z,140nm,18.8s,MS4.8
SSF Saint Saulge 151.76 339 ePKP1 PKPbc 05 18 17.0 -1.1
comp=Z,30nm,1.2s
GRR Gorron 151.77 346 ePKP1 PKPbc 05 18 16.8 -1.3
LPL La Plagne 151.85 333 ePKP1 PKPbc 05 18 17.7 -0.6
LPG La Plagne 151.85 333 ePKP1 PKPbc 05 18 17.9 -0.5
comp=Z,13nm,0.9s
SMF Signal de Mont 152.00 338 ePKP1 PKPbc 05 18 17.4 -1.3
AVF Avril sur Loir 152.04 339 ePKP1 PKPbc 05 18 17.1 -1.6
BNI Bardonecchia 152.24 333 ePKIKP PKPbc 05 18 18.4 -0.8
SGMF Saint Gilles 152.25 348 ePKP1 PKPbc 05 18 17.6 -1.6
comp=Z,18nm,0.9s
BGF Bois d'Agland 152.42 339 ePKP1 PKPbc 05 18 18.4 -1.2
MBDF Montbardon 152.46 332 ePKP1 PKPbc 05 18 18.6 -1.2
comp=Z,7.8nm,0.8s
ORIF Oris-en-Rattie 152.68 334 ePKP1 PKPbc 05 18 18.7 -1.5
comp=Z,7.7nm,0.7s
ORIF eMLR MLR
comp=Z,83nm,18.8s,MS4.3
TCF Toulx Ste Croi 152.86 340 ePKP1 PKPbc 05 18 19.3 -1.3
VIVF Saint-Julien-l 153.22 335 ePKP1 PKPbc 05 18 20.4 -1.0
FRF La Foret Royal 153.44 331 ePKP1 PKPbc 05 18 20.4 -1.5
SMRF Simiane la Rot 153.58 333 ePKP1 PKPbc 05 18 21.5 -0.7
comp=Z,18nm,1.2s
LASF Ste Croix 154.19 335 ePKP1 PKPbc 05 18 22.6 -1.0
comp=Z,55nm,1.8s
PBRG Braganca 159.21 352 ePKPab PKPab 05 18 58.0 -0.8
PCAB Cabril 159.46 354 ePKPab PKPab 05 18 59.2 -0.7
MVO Moncorvo 159.88 352 ePKPab PKPab 05 19 01.2 -0.6
PVIS Viseu 160.43 354 ePKPab PKPab 05 19 03.7 -0.4
MTE Manteigas 160.70 353 ePKPab PKPab 05 19 04.8 -0.5
ESDC Sonseca Array 160.72 344 PKPab PKPab 05 19 04.8 -0.7
comp=Z,0.8nm,0.6s,baz=24,slow=3.2,SNR=8.6
PCBR Castelo Branco 161.24 352 ePKPab PKPab 05 19 07.0 -0.7
PTOM Tomar 161.57 354 ePKPab PKPab 05 19 08.7 -0.4
PESTR Estremoz 162.22 352 ePKPab PKPab 05 19 11.5 -0.5
EVO Evora 162.60 353 ePKPab PKPab 05 19 13.0 -0.7
TAM Tamanrasset 164.83 279 ePKIKP PKPdf 05 18 27.5 -0.7
TORD Torodi Ar. Bea 165.65 238 PKP PKPdf 05 18 26.9 -2.2
comp=Z,0.9nm,0.9s,baz=189,slow=2.6,SNR=3.2
TORD PKPab PKPab 05 19 27.0 -0.9
comp=Z,0.5nm,0.8s,baz=99,slow=4.5,SNR=3.6

JMA 14 05:21:51.0±0.4, 4695N×14154E, h0km, M3.6, Sakhalin Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JWK2	**Keihoku**	**1.65**	**171**	P	Pn	05 22 21.7	+0.5
JWK2				eS	Sn	05 22 43.7	+0.6

*IDC **14** 05:32:52.1±2.3, 708N×9204E, h0km, mb3.5/4, mb1 3.7/5, mb1mx3.5/21, mbtmp3.5/5, ML4.3/1, Error ellipse: s-maj=82.3km s-min=24.7km az=62.0*
*ISCJB **14** 05:33:09.5±1.2, 75N±0.1×936E±0.2, h100km, mb4.0/8, Error ellipse: s-maj=34.2km s-min=14.2km az=149.7*
ISC 14 05:33:11.4±1.2, 75N±0.1×936E±0.2, h100km, n15, σ1§41/15, mb4.0/8, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**12.03**	**25**	Pn	**Pn**	**05 35 59.7**	**+0.2**
	0.5nm,0.3s,baz=230,slow=14,SNR=12						
ODAN	**Odare**	**20.12**	**344**	eP	**P**	**05 37 31.6**	**-5.9**
	15nm,0.5s						
RAMN	**Ramite**	**20.44**	**342**	eP	**P**	**05 37 37.6**	**-3.3**
	35nm,0.4s						
TAPN	**Taplejung**	**20.50**	**345**	eP	**P**	**05 37 34.7**	**-6.8**
	12nm,0.5s						
JIRN	**Jiri**	**21.23**	**341**	eP	**P**	**05 37 47.1**	**-2.3**
PKIN	**Phulchoki**	**21.42**	**340**	eP	**P**	**05 37 52.7**	**+1.4**
	30nm,0.6s,mb4.8						
GUN	**Gumba**	**21.57**	**341**	eP	**P**	**05 37 52.3**	**-0.6**
KKN	**Kakani**	**21.65**	**340**	eP	**P**	**05 37 54.5**	**+0.7**
GKN	**Gorkha**	**22.08**	**338**	eP	**P**	**05 38 00.5**	**+2.2**
	16nm,0.4s,mb4.7						
KOLN	**Koldanda**	**22.27**	**336**	eP	**P**	**05 38 04.1**	**+3.8**
	19nm,0.6s,mb4.6						
DANN	**Dangsing**	**22.72**	**337**	eP	**P**	**05 38 08.8**	**+3.7**
	9.5nm,0.4s,mb4.4						
MKAR	**Makanchi Array**	**40.32**	**348**	P	**P**	**05 40 32.3**	**-6.6**
	0.4nm,0.7s,mb3.3,baz=170,slow=8.1,SNR=3.7						
KURK	**Kurchatov**	**44.83**	**346**	P	**P**	**05 41 08.4**	**-6.9**
	0.2nm,0.3s,mb3.3,baz=175,slow=7.4,SNR=4.0						
WRA	**Warramunga Arr**	**48.47**	**125**	P	**P**	**05 41 44.2**	**0.0**
	0.7nm,0.7s,mb3.6,baz=307,slow=8.6,SNR=2.5						
ASAR	**Alice Springs**	**50.08**	**129**	P	**P**	**05 41 56.4**	**-0.1**
	0.3nm,0.5s,mb3.5,baz=304,slow=7.4,SNR=7.3						

*NEIC **14** 05:41:42.0, 3738N×1938E, h10km, ML3.8(ATH), After ATH.*
*CSEM **14** 05:42:12.3, 3929N±2.0, 19E, h18km, MD3.3/6, After ATH*
ISC 14 05:41:35.1±2.7, 370N±0.1×185E±0.2, h13km±14km, n15, σ1§20/17, Central Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VLS	**Valsamata**	**2.04**	**53**	ePn	**Sn**	**05 42 34.4**	**0.0**
VLS	**Valsamata**	**2.04**	**53**	ePN	**Sn**	**05 42 34.4**	**0.0**
KEK	**Kerkira**	**2.93**	**20**	ePn	**Pn**	**05 42 22.6**	**+1.3**
KEK	**Kerkira**	**2.93**	**20**	ePN	**Pn**	**05 42 22.6**	**+1.3**
EVR	**Evrytania**	**3.25**	**52**	ePn	**Pg**	**05 42 37.4**	**0.0**
EVR	**Evrytania**	**3.25**	**52**	ePN	**Pg**	**05 42 37.4**	**0.0**
JAN	**Janina**	**3.26**	**33**	ePb	**Pn**	**05 42 24.0**	**-1.8**
JAN				eSn	**Pg**	**05 42 33.0**	**-4.5**
JAN	**Janina**	**3.26**	**33**	ePB	**Pn**	**05 42 24.0**	**-1.8**
JAN				eSN	**Pg**	**05 42 33.0**	**-4.5**
THL	**Klokotos Trika**	**3.78**	**45**	ePn	**Pn**	**05 42 39.7**	**+6.7**
THL	**Klokotos Trika**	**3.78**	**45**	ePN	**Pn**	**05 42 39.7**	**+6.7**
KZN	**Kozani**	**4.20**	**36**	ePn	**Pn**	**05 42 41.6**	**+2.8**
KZN	**Kozani**	**4.20**	**36**	ePN	**Pn**	**05 42 41.6**	**+2.8**
TIR	**Tirane**	**4.51**	**13**	P	**Pn**	**05 42 42.0**	**-1.0**
NPS	**Neapolis**	**5.98**	**104**	P	**Pn**	**05 43 03.7**	**+0.5**
ARG	**Arkhangelos**	**7.76**	**93**	P	**Pn**	**05 43 26.9**	**-0.7**

*IDC **14** 05:47:53.6±0.7, 3311N×7573E, h0km, mb4.0/11, mb1 4.1/13, mb1mx3.9/23, mbtmp3.9/13, ML3.5/2, MS3.9/1, Ms1 3.9/1, ms1mx3.0/24, Error ellipse: s-maj=20.4km s-min=17.3km az=52.0*
*ISCJB **14** 05:47:55.9±1.2, 3332N±0.04×7578E±0.06, h19km±9km, mb4.1/16, Error ellipse: s-maj=9.6km s-min=5.0km az=143.5*
*NDI **14** 05:47:57.1±3.1, 3322N×7570E, h10km, ML3.4*
ISC 14 05:47:56.2±1.2, 3326N±0.04×7577E±0.06, h8km±8km, n34, σ1§10/40, mb4.1/16, 1D, Eastern Kashmir

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
THN	**Thein Dam**	**0.83**	**183**	eP	**Pg**	**05 48 09.9**	**-2.3**
THN				eS	**Sg**	**05 48 23.6**	**+0.6**
JMU	**Jammu**	**0.91**	**234**	eP	**Pg**	**05 48 15.5**	**+1.7**
JMU				eS	**Sg**	**05 48 25.0**	**-0.6**
PONG	**Pong**	**1.32**	**173**	eP	**Pn**	**05 48 20.0**	**-0.9**
PONG				ex	x	05 49 41.0	
BHK	**Bhakra**	**1.92**	**163**	eP	**Pn**	**05 48 28.8**	**-0.4**
BHK				eS	**Sn**	**05 48 53.9**	**+0.3**
SDNR	**Sundarnagar**	**2.03**	**150**	eP	**Pn**	**05 48 30.6**	**-0.1**
SDNR				eS	**Sn**	**05 48 57.4**	**+1.1**
SMLA	**Simla**	**2.44**	**151**	⇓iP	**Pn**	**05 48 37.5**	**+1.2**
SMLA				*i* S	**Sn**	**05 49 07.6**	**+1.3**
SMLA				ex	x	05 49 15.0	
	comp=N,3μm,0.4s						
SMLA				ex	x	05 49 17.7	
	comp=E,2μm,0.4s						
DDI	**Dehra Dun**	**3.52**	**146**	eP	**Pn**	**05 48 52.4**	**+1.2**
DDI				ex	x	05 51 25.0	
JOSI	**Joshimath**	**4.20**	**129**	eP	**Pn**	**05 49 02.1**	**+1.5**
JOSI				eS	**Sn**	**05 49 49.7**	**-0.2**
JOSI				AML	AML	05 50 09.3	
	comp=N,274nm,0.9s						
JOSI				AML	AML	05 50 09.6	
	comp=E,318nm,0.7s						
SONA	**Sohna**	**5.12**	**167**	eP	**Pn**	**05 49 12.6**	**-0.7**
SONA				ex	x	05 50 05.8	
SONA				AML	AML	05 50 18.3	
	comp=E,25nm,0.3s						
SONA				AML	AML	05 50 20.0	
	comp=N,14nm,0.3s						
KHET	**Khetri**	**5.17**	**180**	eP	**Pn**	**05 49 13.6**	**-0.4**
KHET				eS	**Sn**	**05 50 10.2**	**-3.6**
KHET				AML	AML	05 50 18.5	
	comp=N,9.1nm,0.2s						
KHET				AML	AML	05 50 20.1	
	comp=E,15nm,0.1s						
MKAR	**Makanchi Array**	**14.40**	**18**	Pn	**Pn**	**05 51 20.9**	**+0.6**
	comp=E,0.2nm,0.3s,baz=200,slow=12,SNR=4.0						
KURK	**Kurchatov**	**17.56**	**6**	P	**Pn**	**05 51 58.7**	**-2.6**
	comp=E,0.1nm,0.3s,baz=191,slow=12,SNR=7.1						
BVAR	**Borovoye Array**	**20.13**	**351**	P	**P**	**05 52 31.4**	**+1.0**
	comp=E,1.4nm,0.4s,baz=166,slow=11,SNR=8.9						
ZALV	**Zalesovo Beam**	**21.66**	**15**	P	**P**	**05 52 45.8**	**-1.1**
	comp=E,1.3nm,0.3s,mb3.8,baz=210,slow=10.0,SNR=7.0						
CMAR	**Chiang Mai Arr**	**25.46**	**120**	P	**P**	**05 53 23.4**	**-1.4**
	comp=E,1.7nm,0.5s,mb3.8,baz=309,slow=9.3,SNR=12						
SONM	**Songino Array**	**27.23**	**49**	P	**P**	**05 53 41.5**	**+1.0**
	comp=E,0.4nm,0.5s,mb3.2,baz=249,slow=9.0,SNR=4.1						
ARCES	**ARCESS Array B**	**45.62**	**338**	P	**P**	**05 56 17.1**	**+0.5**
	comp=E,0.9nm,0.4s,mb4.1,baz=112,slow=8.4,SNR=14						
KMBO	**Kilima Mbogo**	**49.85**	**235**	P	**P**	**05 56 49.9**	**-0.3**
	comp=E,1.4nm,0.6s,mb4.2,baz=36,slow=12,SNR=4.8						
KMBO				LR	LR	06 18 42.0	
	comp=E,125nm,19.0s,baz=280,slow=37						
LPG	**La Plagne**	**53.20**	**305**	eP	**P**	**05 57 15.8**	**+1.0**
	comp=E,4.5nm,0.6s,mb4.2						
LPL	**La Plagne**	**53.21**	**305**	eP	**P**	**05 57 15.9**	**+1.0**
	comp=E,7.9nm,0.5s,mb4.6						
MBDF	**Montbardon**	**53.35**	**304**	eP	**P**	**05 57 16.5**	**+0.5**
	comp=E,6.6nm,0.8s,mb4.3						
ORIF	**Oris-en-Rattie**	**53.93**	**304**	eP	**P**	**05 57 21.2**	**+1.0**
VIVF	**Saint-Julien-l**	**54.77**	**305**	eP	**P**	**05 57 26.7**	**+0.3**
	comp=E,3.2nm,0.7s,mb4.2						
SMF	**Signal de Mont**	**54.92**	**307**	eP	**P**	**05 57 27.5**	**+0.1**
TCF	**Toulx Ste Croi**	**56.10**	**307**	eP	**P**	**05 57 35.4**	**-0.5**
CAF	**Calviac**	**56.55**	**305**	eP	**P**	**05 57 39.6**	**+0.5**
	comp=E,4.1nm,0.8s,mb4.2						
MTLF	**Montolieu**	**56.88**	**303**	eP	**P**	**05 57 42.0**	**+0.5**
ETSF	**Etsaut**	**58.95**	**304**	eP	**P**	**05 57 56.3**	**+0.2**
	comp=E,4.0nm,0.6s,mb4.3						
ESDC	**Sonseca Array**	**62.46**	**301**	P	**P**	**05 58 19.8**	**-0.2**
	comp=E,1.2nm,0.6s,mb4.2,baz=59,slow=7.4,SNR=13						
TORD	**Torodi Ar. Bea**	**69.68**	**273**	P	**P**	**05 59 03.7**	**-3.1**
	comp=E,1.4nm,0.5s,mb4.2,baz=46,slow=5.9,SNR=26						
WRA	**Warramunga Arr**	**76.94**	**125**	P	**P**	**05 59 48.0**	**-1.5**
	comp=E,0.6nm,0.3s,mb4.0,baz=323,slow=5.3,SNR=4.0						
ASAR	**Alice Springs**	**79.18**	**128**	P	**P**	**05 59 59.9**	**-1.9**
	comp=E,0.5nm,0.7s,mb3.6,baz=311,slow=4.8,SNR=6.5						
STKA	**Stephens Creek**	**89.71**	**129**	P	**P**	**06 00 52.9**	**-2.1**
	comp=E,0.7nm,0.3s,mb4.4,baz=306,slow=8.7,SNR=3.7						
PLCA	**Paso Flores**	**152.21**	**245**	PKPbc	PKPbc	06 07 50.5	-1.8
	comp=E,1.3nm,0.9s,baz=222,slow=3.2,SNR=2.9						

*NNC **14** 05:48:56.3±5.0, 3707N×6985E, h0km, mb5.0, mpv5.2, Error ellipse: s-maj=49.9km s-min=28.2km az=19.0*
*IDC **14** 05:48:59.9±0.8, 3715N×7021E, h0km, mb4.0/13, mb1 4.4/17, mb1mx4.3/23, mbtmp4.2/17, ML4.6/4, MS3.8/11, Ms1 3.8/11, ms1mx3.5/27, Error ellipse: s-maj=17.3km s-min=14.2km az=10.0*
*MOS **14** 05:49:02.8±2.0, 3731N×7005E, h33km, mb4.6/34, Error ellipse: s-maj=7.6km s-min=4.8km az=101.5*
*BJI **14** 05:49:04.8, 3802N×6981E, h39km, mB5.0, mb4.7, ML5.0, Ms4.5, Msz4.1*
*ISCJB **14** 05:49:04.5±0.6, 3727N±0.002×70.14E±0.004, h53km±7km, mb4.3/40, MS3.8/17, Error ellipse: s-maj=5.8km s-min=4.0km az=164.9*
*NEIC **14** 05:49:07.5±0.8, 3744N×6992E, h66km±9km, mb4.5/19, Error ellipse: s-maj=7.6km s-min=7.4km az=89.0*
*SZGRF **14** 05:49:09.1, 3738N×6994E, h33km, mb4.0, Afghanistan-Tajikistan border region*
ISC 14 05:49:07.6±0.5, 3731N±0.002×7019E±0.004, h69km±5km, n186, σ1§69/199, mb4.3/40, 12C-16D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KBL	**Kabul**	**2.92**	**199**	ePn	**Pn**	**05 49 53.5**	**+1.8**
KBL				eSn	**Sn**	**05 50 34.8**	**+9.2**
SRNI	**Srinagar**	**4.96**	**129**	ex	x	05 50 30.0	
SRNI				eS	**Sn**	**05 51 14.0**	**-1.6**
KSH	**Kashi**	**5.05**	**62**	eP	**Pn**	**05 50 20.8**	**+0.1**
KSH				S	**Sn**	**05 51 25.8**	**+8.1**
KSH				Smax			
	comp=N,3μm,0.8s						
KSH				Smax			
	comp=E,7μm,1.0s						
AML	**Almayashu**	**5.52**	**28**	P	**Pn**	**05 50 28.1**	**+1.0**
	SNR=42						
AML	**Almayashu**	**5.52**	**28**	ePn	**Pn**	**05 50 27.2**	**0.0**
	comp=E,542nm,0.9s						
KK31	**Karatay Array**	**5.79**	**2**	⇑Pn	**Pn**	**05 50 30.5**	**-0.4**
	comp=E,42nm,0.6s,baz=183,slow=13,SNR=362						
KK31				⇑Lg		05 52 05.8	
	comp=E,319nm,0.6s,baz=185,slow=26,SNR=6.2						
KK31	**Karatay Array**	**5.79**	**2**	PN	**Pn**	**05 50 30.9**	**0.0**
KK31				pmax	pmax		
	comp=Z,42nm,0.6s						
UCH	**Uchtor**	**5.93**	**33**	P	**Pn**	**05 50 33.6**	**+0.8**
	SNR=39						
UCH	**Uchtor**	**5.93**	**33**	ePn	**Pn**	**05 50 33.6**	**+0.7**
	comp=Z,27nm,0.9s						
UCH				eSn	**Sn**	**05 51 46.2**	**+6.9**
EKS2	**Erkin-Say**	**6.01**	**26**	P	**Pn**	**05 50 34.9**	**+1.0**
	SNR=52						
EKS2	**Erkin-Say**	**6.01**	**26**	ePn	**Pn**	**05 50 34.4**	**+0.5**
	comp=Z,115nm,0.8s						
EKS2				eSg	Sn	05 52 14.8	+33
KZA	**Kyzart**	**6.16**	**38**	P	**Pn**	**05 50 35.7**	**-0.2**
	SNR=21						
AAK	**Ala-Archa**	**6.26**	**31**	P	**Pn**	**05 50 38.1**	**+0.8**
	SNR=67						
KBK	**Karagaybulak**	**6.47**	**33**	P	**Pn**	**05 50 41.3**	**+1.2**
	SNR=32						
FRU	**Bishkek**	**6.48**	**30**	ePN	**Pn**	**05 50 40.0**	**-0.3**
FRU				*e*		05 52 20.0	
FRU				pmax	pmax		
	comp=Z,1μm,2.0s						
FRU				smax			
	comp=E,5μm,2.3s						
THN	**Thein Dam**	**6.65**	**135**	eP	**Pn**	**05 50 44.8**	**+2.1**
THN				ex	x	05 53 45.1	
CHMS	**Chumysh**	**6.67**	**30**	P	**Pn**	**05 50 43.8**	**+0.9**
	SNR=18						
USP	**Ospenovka**	**6.80**	**28**	P	**Pn**	**05 50 45.0**	**+0.3**
	SNR=80						
TKM2	**Tokmak 2**	**6.97**	**35**	⇓Pn	**Pn**	**05 50 47.5**	**+0.5**
	comp=E,178nm,0.7s						
TKM2				⇑Lg	

SMLA					*ex*		x	05 52 47.7	
	comp=N,505nm,0.4s								
SMLA					*ex*		x	05 52 52.1	
	comp=E,558nm,0.4s								
JOSI	**Joshimath**	**10.29**	**128**		*e*P		**Pn**	**05 51 34.4**	**+2.0**
JOSI					*e*S		**Sn**	**05 53 20.6**	**-5.4**
JOSI					AML		AML	05 54 32.4	
	comp=E,429nm,1.2s								
JOSI					AML		AML	05 54 37.0	
	comp=N,377nm,0.4s								
KHET	**Khetri**	**10.35**	**151**		*e*P		**Pn**	**05 51 31.6**	**-1.7**
KHET					*ex*		x	05 53 22.1	
KUDL	**Kundal**	**10.56**	**148**		*e*P		**Pn**	**05 51 37.9**	**+1.7**
KUDL					*e*S		**Sn**	**05 53 26.4**	**-6.4**
KALG	**Kalgarh**	**10.57**	**135**		*e*P		**Pn**	**05 51 37.4**	**+1.1**
KALG					*e*S		**Sn**	**05 53 24.9**	**-7.9**
KALG					AML		AML	05 54 00.8	
	comp=E,77nm,0.7s								
SONA	**Sohna**	**10.73**	**145**		*e*P		**Pn**	**05 51 38.7**	**+0.2**
SONA					*e*S		**Sn**	**05 53 28.0**	**-8.9**
SONA					AML		AML	05 53 43.1	
	comp=E,52nm,0.4s								
SONA					AML		AML	05 53 44.2	
	comp=N,31nm,0.8s								
PTH	**Pithoragarh**	**11.40**	**130**		*ex*		x	05 53 56.5	
AJM	**Ajmer**	**11.44**	**159**		*ex*		x	05 50 49.0	
AGRA	**Agra**	**11.99**	**145**		*e*S		**Sn**	**05 53 59.5**	**-8.2**
AGRA					AML		AML	05 55 39.3	
	comp=N,91nm,0.6s								
AGRA					AML		AML	05 55 40.7	
	comp=E,120nm,1.0s								
MK31	**Makanchi Array**	**13.05**	**40**		Pn		**Pn**	**05 52 08.6**	**-1.3**
	comp=E,53nm,0.8s,baz=221,slow=12,SNR=121								
MK31					Lg			05 56 01.4	
	comp=E,39nm,1.1s,baz=264,slow=22,SNR=3.7								
MK31	**Makanchi Array**	**13.05**	**40**	*i*	P		**Pn**	**05 52 08.5**	**-1.4**
MK31					pmax		pmax		
	comp=Z,28nm,0.7s								
MK31	**Makanchi Array**	**13.05**	**40**	*e*	Pn		**Pn**	**05 52 08.7**	**-1.2**
MKAR	**Makanchi Array**	**13.05**	**40**		Pn		**Pn**	**05 52 08.9**	**-1.0**
	comp=Z,2.4nm,0.3s,baz=228,slow=13,SNR=137								
MKAR					Lg			05 56 01.8	
	comp=Z,0.2nm,0.3s,baz=236,slow=26,SNR=3.8								
AB31	**Akbulak array**	**14.06**	**331**		Pn		**Pn**	**05 52 18.7**	**-4.6**
	comp=Z,13nm,0.6s,baz=156,slow=12,SNR=206								
AB31					⇓Sn		**Sn**	**05 54 46.9**	**-11**
	comp=Z,3.8nm,0.3s,baz=166,slow=22,SNR=9.5								
AB31	**Akbulak array**	**14.06**	**331**		*e*P		**Pn**	**05 52 18.7**	**-4.6**
AB31					pmax		pmax		
	comp=Z,13nm,0.6s								
DANN	**Dangsing**	**14.48**	**124**		*e*P		**Pn**	**05 52 26.3**	**-2.6**
	comp=Z,141nm,0.8s								
KURBB	**Kurchatov Arra**	**14.59**	**22**		⇓Pn		**Pn**	**05 52 25.5**	**-4.7**
	comp=Z,1.9nm,0.6s								
KURBB					⇑Lg			05 56 47.7	
	comp=Z,19nm,1.2s								
KURK	**Kurchatov**	**14.70**	**22**		Pn		**Pn**	**05 52 27.0**	**-4.6**
KURK					Lg			05 56 53.5	
KURK	**Kurchatov**	**14.70**	**22**		Pn		**Pn**	**05 52 25.7**	**-5.8**
	comp=Z,0.8nm,0.3s,baz=212,slow=12,SNR=58								
KURK					Lg			05 56 49.1	
	comp=Z,0.2nm,0.3s,baz=213,slow=29,SNR=6.7								
KURK	**Kurchatov**	**14.70**	**22**	⇑	*i*P		**Pn**	**05 52 27.4**	**-4.2**
KURK					pmax		pmax		
	comp=Z,11nm,1.2s								
WMQ	**Urumqi**	**14.80**	**58**		*e*P		**Pn**	**05 52 30.0**	**-2.9**
GKN	**Gorkha**	**15.29**	**123**		*e*P		**Pn**	**05 52 36.8**	**-2.5**
	comp=Z,185nm,0.7s								
VOSK	**Vostochnaya**	**15.42**	**2**		⇓Pn		**Pn**	**05 52 38.8**	**-2.1**
	comp=Z,21nm,0.9s								
VOSK					⇑Sn		**Sn**	**05 55 36.3**	**+5.6**
	comp=Z,17nm,0.9s								
VOSK					⇓Lg			05 57 12.7	
	comp=Z,163nm,1.4s								
BVA0	**Borovoye Array**	**15.72**	**0**		⇓Pn		**Pn**	**05 52 44.4**	**-0.2**
	comp=Z,2.5nm,0.5s,baz=168,slow=14,SNR=26								
BVA0					⇓Sn		**Sn**	**05 55 49.6**	**+12**
	comp=Z,7.2nm,1.6s,baz=176,slow=25,SNR=5.7								
BVA0	**Borovoye Array**	**15.72**	**0**	*i*	P		**Pn**	**05 52 44.1**	**-0.5**
BVA0					pmax		pmax		
	comp=Z,4.0nm,1.0s								
BVAR	**Borovoye Array**	**15.72**	**0**		Pn		**Pn**	**05 52 43.3**	**-1.4**
	comp=Z,1.4nm,0.3s,baz=167,slow=13,SNR=20								
BVAR					Sn		**Sn**	**05 55 28.8**	**-8.9**
	comp=Z,0.2nm,0.3s,baz=172,slow=20,SNR=2.5								
BVAR					Lg			05 57 17.7	
	comp=Z,0.3nm,0.3s,baz=163,slow=26,SNR=3.3								
BVAR					LR		LR	05 58 26.5	
	comp=Z,283nm,21.4s,baz=185,slow=36								
BRVK	**Borovoye**	**15.75**	**0**		P		**Pn**	**05 52 44.1**	**-0.9**
BRVK					pmax		pmax		
	comp=Z,53nm,0.7s								
BRVK	**Borovoye**	**15.75**	**0**		Pn		**Pn**	**05 52 44.1**	**-1.0**
	comp=Z,53nm,0.7s								
AKTK	**Aktyubinsk**	**15.76**	**330**		Pn		**Pn**	**05 52 41.5**	**-3.7**
AKTK					Sn		**Sn**	**05 55 24.1**	**-15**
AKTK					LR		LR	05 59 18.4	
AKTO	**Aktyubinsk**	**15.76**	**330**	⇑	Pn		**Pn**	**05 52 43.7**	**-1.4**
	comp=Z,14nm,1.0s								
AKTO					⇑Sn		**Sn**	**05 55 30.3**	**-8.5**
	comp=Z,10.0nm,1.7s								
AKTO	**Aktyubinsk**	**15.76**	**330**		Pn		**Pn**	**05 52 41.5**	**-3.7**
	comp=Z,1.1nm,0.3s,baz=148,slow=15,SNR=24								
AKTO					Sn		**Sn**	**05 55 24.1**	**-15**
	comp=Z,0.4nm,0.3s,baz=65,slow=16,SNR=2.1								
AKTO					LR		LR	05 59 18.4	
	comp=Z,296nm,19.6s,baz=143,slow=39								
KKN	**Kakani**	**15.86**	**122**		*e*P		**Pn**	**05 52 43.5**	**-3.1**
DMN	**Daman**	**15.86**	**123**		*e*P		**Pn**	**05 52 43.8**	**-2.8**
PKI	**Pulchoki**	**16.08**	**123**		*e*P		**Pn**	**05 52 46.3**	**-3.2**
	comp=Z,79nm,0.8s								
GUN	**Gumba**	**16.18**	**121**		*e*P		**Pn**	**05 52 49.8**	**-0.9**
	comp=Z,216nm,0.8s								
JIRN	**Jiri**	**16.56**	**121**		*e*P		**Pn**	**05 52 53.1**	**-2.3**
RAMN	**Ramite**	**17.29**	**122**		*e*P		**Pn**	**05 53 02.3**	**-2.1**
	comp=Z,89nm,0.7s								
AKL	**Akola**	**17.58**	**158**		*e*P		**Pn**	**05 53 08.0**	**0.0**
AKL					*ex*		x	05 56 20.1	
TAPN	**Taplejung**	**17.80**	**119**		*e*P		**Pn**	**05 53 09.9**	**-0.8**
	comp=Z,91nm,0.8s								
ODAN	**Odare**	**17.89**	**121**		*e*P		**Pn**	**05 53 09.3**	**-2.4**
POO	**Poona**	**18.98**	**169**	⇓	*i*P		**Pn**	**05 53 24.0**	**-0.9**
POO					*ex*		x	05 57 08.0	
LSA	**Lhasa**	**19.03**	**107**		P		**Pn**	**05 53 33.0**	**+7.5**
LSA					AP		pP	05 53 40.4	+2.1
LSA					XP		sP	05 53 45.0	-2.0
LSA					S		**S**	**05 56 57.9**	**+1.5**
LSA					XS		sS	05 57 18.8	-0.8
LSA					AMB		AMB		
	comp=Z,20nm,0.8s								
LSA					LR		LR		
	comp=N,920nm,18.9s								
LSA					LR		LR		
	comp=E,1μm,17.1s								
LSA					LR		LR		
	comp=Z,590nm,14.5s								
LSA	**Lhasa**	**19.03**	**107**		*e*P		**Pn**	**05 53 27.3**	**+1.8**
LSA					pmax		pmax		
	comp=Z,11nm,0.5s								
LSA	**Lhasa**	**19.03**	**107**		*e*P		**Pn**	**05 53 27.3**	**+1.9**
	comp=Z,11nm,0.5s								
ZAA0	**Zalesovo Array**	**19.47**	**27**		*e*P		**Pn**	**05 53 27.8**	**-2.6**
ZALV	**Zalesovo Beam**	**19.47**	**27**		P		**Pn**	**05 53 28.4**	**-1.9**
	comp=Z,5.7nm,0.3s,baz=217,slow=10,SNR=103								
ZALV					S		**S**	**05 57 03.6**	**-1.1**
	comp=Z,0.1nm,0.3s,baz=210,slow=13,SNR=1.9								
ZALV	**Zalesovo Beam**	**19.47**	**27**		P		**Pn**	**05 53 28.5**	**-1.9**
ZALV					S		**S**	**05 57 03.6**	**-1.1**
ZALV					pmax		pmax		
	comp=Z,6.0nm,0.3s								
DGRG	**David-gareji**	**19.60**	**290**		P		pP	05 53 41.9	-2.6
NVS	**Novosibirsk**	**19.67**	**23**		*e*P		**Pn**	**05 53 30.8**	**-2.0**
NVS					*e*S		**S**	**05 57 06.0**	**-2.8**
NVS					pmax		pmax		
	comp=Z,42nm,1.0s								
NVS					pmax		pmax		
	comp=N,27nm,0.9s								
NVS					pmax		pmax		
	comp=E,13nm,0.9s								
NVS					smax				
	comp=N,57nm,1.6s								
GNI	**Garni**	**20.04**	**286**	*d*	*i*P		**P**	**05 53 38.5**	**+3.6**
GNI					pmax		pmax		
	comp=Z,11nm,1.3s								
UMR	**Umm Al-Rimmam**	**20.26**	**254**		*e*P		**P**	**05 53 38.1**	**+0.7**
	baz=253								
UMR					AMb		AMB	05 53 47.4	
	comp=Z,21nm,0.7s,baz=253								
MIB	**Mutribah**	**20.43**	**255**		*e*P		**P**	**05 53 40.5**	**+1.2**
	baz=254								
MIB					AMb		AMB	05 53 47.5	
	comp=Z,56nm,0.7s,baz=254								
SVE	**Sverdlovsk**	**20.54**	**345**	⇑	*e*P		**P**	**05 53 40.7**	**+0.5**
SVE					*e*S		**S**	**05 57 17.2**	**-8.8**
SVE					pmax		pmax		
	comp=Z,31nm,1.0s								
SVE					MLR		MLR		
	comp=Z,912nm,13.0s								
ARU	**Arti**	**20.66**	**341**	*c*	*i*P		**P**	**05 53 42.8**	**+1.3**
ARU					*e*			05 53 58.2	
ARU					*e*PPP			05 54 07.2	
ARU					*e*S		**S**	**05 57 32.0**	**+3.7**
ARU					*e*SS			05 57 51.2	
ARU					*e*SSS			05 58 06.6	
ARU					pmax		pmax		
	comp=Z,40nm,1.2s								
ARU					MLR		MLR		
	comp=Z,861nm,15.0s								
ARU	**Arti**	**20.66**	**341**		*e*P		**P**	**05 53 42.1**	**+0.7**
	comp=Z,38nm,0.9s								
ARU					*e*S		**S**	**05 57 29.4**	**+1.2**
RDF	**Al-Radifah**	**20.69**	**253**		*e*P		**P**	**05 53 42.6**	**+0.5**
	baz=252								
RDF					AMb		AMB	05 53 46.2	
	comp=Z,39nm,1.0s,baz=252								
NAY	**Al-Naaiem**	**20.77**	**254**		*e*P		**P**	**05 53 43.3**	**+0.4**
	baz=253								
NAY					AMb		AMB	05 53 53.2	
	comp=Z,16nm,0.9s,baz=253								
ONI	**Oni**	**21.12**	**293**		P		**P**	**05 53 48.9**	**+2.3**
HYB	**Hyderabad**	**21.14**	**157**	*i*	P		**P**	**05 53 49.0**	**+2.0**
HYB					*e*S		**S**	**05 57 44.0**	**+5.7**
HYB	**Hyderabad**	**21.14**	**157**		*e*P		**P**	**05 53 49.0**	**+2.0**
KIV	**Kislovodsk**	**21.84**	**296**		*e*P		**P**	**05 53 54.7**	**+0.4**
KIV					*e*S		**S**	**05 57 51.9**	**+0.3**
KIV					pmax		pmax		
	comp=Z,12nm,1.0s,mb4.2								
KIV					MLR		MLR		
	comp=Z,104nm,14.0s								
KIV	**Kislovodsk**	**21.84**	**296**		*e*P		**P**	**05 53 53.5**	**-0.8**
	comp=Z,8.4nm,0.5s,mb4.3								
SHL	**Shillong**	**21.84**	**116**		*ex*		x	05 53 54.0	
SHL					*ex*		x	05 57 46.0	
GTA	**Gaotai**	**23.28**	**76**		*e*P		**P**	**05 54 12.3**	**+3.1**
GTA					AP			05 54 18.8	
GTA					XP		sP	05 54 22.6	-10
GTA					AMB		AMB		
	comp=Z,11nm,1.0s,mb4.1								
GTA					AMB		AMB		
	comp=Z,94nm,6.3s								
GTA					LR		LR		
	comp=N,370nm,12.3s								
GTA					LR		LR		
	comp=E,284nm,11.4s								
GTA					LR		LR		
	comp=Z,263nm,11.4s								
KRAR	**Krasnoyarsk**	**24.14**	**32**	*c*	*i*P		**P**	**05 54 18.8**	**+1.9**
VRHR	**Novokhopersk**	**24.50**	**313**		*e*P		**P**	**05 54 21.3**	**+1.1**
VRHR					pmax		pmax		
	comp=Z,20nm,0.4s,mb4.8								
VRHR					pmax		pmax		
	comp=N,10.0nm,0.5s								
VRHR					pmax		pmax		
	comp=E,10.0nm,0.4s								
VSR	**Storozhevoye**	**25.98**	**312**		*e*P		**P**	**05 54 38.6**	**+5.0**
VSR					pmax		pmax		
	comp=Z,4.0nm,0.5s,mb4.1								
VSR					pmax		pmax		
	comp=N,4.0nm,0.4s								
VSR					pmax		pmax		
	comp=E,10.0nm,0.8s								
ZAK	**Zakamensk**	**26.96**	**50**		*e*P		**P**	**05 54 44.9**	**+2.4**
ZAK					pmax		pmax		
	comp=Z,9.0nm,0.9s,mb4.3								
TLY	**Talaya**	**27.57**	**48**		*e*P		**P**	**05 54 55.8**	**+7.9**
TLY					*e*			05 55 39.9	
TLY					pmax		pmax		
	comp=Z,8.0nm,0.9s,mb4.2								
TLY					MLR		MLR		
	comp=Z,159nm,16.0s								
SIM	**Simferopol'**	**28.05**	**297**		*e*P		pP	05 55 08.2	-0.5
SIM					*e*		sP	05 55 20.0	+3.2
SIM					pmax		pmax		
	comp=Z,15nm,1.1s,mb4.4								
SONM	**Songino Array**	**28.42**	**57**		P		**P**	**05 54 57.6**	**+2.1**
	comp=Z,0.7nm,0.5s,mb3.5,baz=260,slow=8.9,SNR=6.1								
SONM					LR		LR	06 08 15.9	
	comp=Z,270nm,18.0s,baz=76,slow=41								
SONM	**Songino Array**	**28.42**	**57**		P		**P**	**05 54 57.6**	**+2.1**
SONM					pmax		pmax		
	comp=Z,1.0nm,0.5s								
SONM					MLR		MLR		
	comp=Z,270nm,18.0s								
MMAI	**Mount Meron Ar**	**28.66**	**272**		LR		LR	06 08 37.5	
	comp=Z,131nm,18.2s,baz=340,slow=41								
OBN	**Obninsk**	**28.90**	**319**	⇓	*e*P		**P**	**05 55 03.6**	**+3.9**
OBN					*i*		pP	05 55 22.1	+5.9
OBN					*i*			05 55 48.4	
OBN					pmax		pmax		
	comp=Z,3.0nm,0.6s,mb4.1								
OBN					MLR		MLR		
	comp=Z,200nm,15.0s								
KLMR	**Klimovskoe**	**30.46**	**330**		P		**P**	**05 55 22.7**	**+9.3**
KLMR					pmax		pmax		
	comp=Z,32nm,1.9s,mb4.6								
CMAR	**Chiang Mai Arr**	**31.41**	**119**		P		**P**	**05 55 23.2**	**+0.9**
	comp=Z,1.1nm,0.4s,mb4.0,baz=305,slow=9.1,SNR=4.4								
CMAR					LR		LR	06 08 57.3	
	comp=Z,116nm,20.7s,baz=313,slow=38								
CMAR	**Chiang Mai Arr**	**31.41**	**119**		P		**P**	**05 55 23.2**	**+1.0**
CMAR					pmax		pmax		
	comp=Z,1.0nm,0.4s								
CMAR					MLR		MLR		
	comp=Z,116nm,20.7s								
AKASG	**Malin Array Be**	**31.94**	**308**		P		**P**	**05 55 28.1**	**+1.5**
	comp=Z,1.8nm,0.6s,mb4.0,baz=80,slow=7.5,SNR=6.5								
AKASG	**Malin Array Be**	**31.94**	**308**		P		**P**	**05 55 28.1**	**+1.6**
AKASG					pmax		pmax		
	comp=Z,2.0nm,0.6s								
JOF	**Joensuu**	**34.84**	**330**		*e*p		**P**	**05 55 53.7**	**+2.0**
	comp=Z,4.4nm,0.6s,mb4.5								
JOF	**Joensuu**	**34.84**	**330**		*e*P		**P**	**05 55 53.7**	**+2.0**
JOF					pmax		pmax		
	comp=Z,4.0nm,0.6s,mb4.4								
BOD	**Bodaibo**	**35.14**	**40**		*e*P		**P**	**05 55 56.0**	**+1.7**
BOD					pmax		pmax		
	comp=Z,13nm,1.2s,mb4.6								
FINES	**FINESS Array B**	**36.45**	**326**		*e*P		**P**	**05 56 07.0**	**+1.6**
KAF	**Kangasniemi**	**36.60**	**327**		*e*p		**P**	**05 56 08.2**	**+1.5**
	comp=Z,2.4nm,0.7s,mb4.2								
KAF	**Kangasniemi**	**36.60**	**327**		*e*P		**P**	**05 56 08.2**	**+1.5**
KAF					pmax		pmax		
	comp=Z,2.0nm,0.7s,mb4.2								
KEV	**Kevo**	**39.81**	**338**		*e*p		**P**	**05 56 35.6**	**+2.0**
	comp=Z,2.9nm,0.6s,mb4.3								
KEV	**Kevo**	**39.81**	**338**		*e*P		**P**	**05 56 35.6**	**+2.0**
KEV					pmax		pmax		
	comp=Z,3.0nm,0.6s,mb4.3								
ARCES	**ARCESS Array B**	**40.15**	**337**		P		**P**	**05 56 38.3**	**+1.9**
	comp=Z,2.2nm,0.4s,mb4.3,baz=111,slow=7.5,SNR=15								
ARCES					LR		LR	06 14 05.9	
	comp=Z,76nm,20.6s,baz=273,slow=37								
ARCES	**ARCESS Array B**	**40.15**	**337**		P		**P**	**05 56 38.3**	**+1.9**
ARCES					pmax		pmax		
	comp=Z,2.0nm,0.4s								
ARCES					MLR		MLR		
	comp=Z,76nm,20.6s								
BRG	**Berggiesshubel**	**41.62**	**308**		*e*P		**P**	**05 56 52.7**	**+4.0**
BRG					pmax		pmax		
	comp=Z,3.0nm,0.9s,mb4.0								
BRG	**Berggiesshubel**	**41.62**	**308**		*e*P		**P**	**05 56 52.7**	**+4.0**
	comp=Z,4.5nm,0.9s,mb4.2								
GERES	**GERESS Array B**	**41.94**	**304**		P		**P**	**05 56 54.2**	**+2.8**
	comp=Z,0.4nm,0.7s,mb3.3,baz=63,slow=6.7,SNR=4.4								
KHC	**Kasperske Hory**	**41.99**	**305**	*c*	*i*P		**P**	**05 56 53.9**	**+2.2**
HFS	**Hagfors**	**42.03**	**321**		LR		LR	06 16 26.3	
	comp=Z,125nm,18.7s,baz=328,slow=39								
CLL	**Collm**	**42.18**	**308**	⇓	*i*P		**P**	**05 56 55.8**	**+2.5**
CLL					pmax		pmax		
	comp=Z,16nm,1.7s,mb4.5								
CLL	**Collm**	**42.18**	**308**	⇓	*i*(P)		**P**	**05 56 55.8**	**+2.5**
	comp=Z,16nm,1.7s,mb4.5								
CLL					*i*	x	x	05 57 00.4	
CLL					*e*(pP)		pP	05 57 09.0	-1.4
CLL	**Collm**	**42.18**	**308**	⇓	*i*P		**P**	**05 56 55.8**	**+2.5**
	comp=Z,16nm,1.7s,mb4.5								
CLL					*i*			05 57 00.4	
NB2	**NORSAR Subarra**	**43.35**	**323**		P		**P**	**05 57 03.7**	**+1.1**
	comp=Z,6.8nm,0.8s,mb4.4,baz=96,slow=8.6								
NOA	**NORSAR Array B**	**43.35**	**323**		P		**P**	**05 57 04.0**	**+1.5**
	comp=Z,4.1nm,0.6s,mb4.3,baz=97,slow=8.2,SNR=14								
NOA					LR		LR	06 16 20.7	
	comp=Z,120nm,18.4s,baz=80,slow=38								
NOA	**NORSAR Array B**	**43.35**	**323**		P		**P**	**05 57 04.0**	**+1.4**
NOA					pmax		pmax		
	comp=Z,4.0nm,0.6s								
NOA					MLR		MLR		
	comp=Z,120nm,18.4s								
GRA1	**Grafenberg Arr**	**43.46**	**306**		*e*P		**P**	**05 57 06.6**	**+3.0**
	comp=Z,4.0nm,1.0s,mb4.1								
GRF	**Grafenberg Arr**	**43.46**	**306**		*e*P		**P**	**05 57 06.6**	**+3.0**
GRF					pmax		pmax		
	comp=Z,4.0nm,1.0s,mb4.1								
GRF	**Grafenberg Arr**	**43.46**	**306**		*e*P		**P**	**05 57 06.6**	**+3.0**
GRF					pmax		pmax		
	comp=Z,4.0nm,1.0s,mb4.1								
GRF	**Grafenberg Arr**	**43.46**	**306**		*e*P		**P**	**05 57 06.6**	**+3.0**
	comp=Z,4.0nm,1.0s,mb4.1								
YAK	**Yakutsk**	**43.69**	**36**		*e*P		**P**	**05 57 06.5**	**+1.2**
YAK					pmax		pmax		
	comp=Z,15nm,1.0s,mb4.7								
KSRS	**Korea Array**	**45.23**	**71**		LR		LR	06 19 13.3	
	comp=Z,55nm,19.6s,baz=104,slow=40								
TIXI	**Tiksi**	**45.27**	**22**		*e*P		**P**	**05 57 18.9**	**+1.1**
TIXI					pmax		pmax		
	comp=Z,25nm,1.2s,mb4.8								
TIXI	**Tiksi**	**45.27**	**22**		*e*P		**P**	**05 57 19.8**	**+2.0**
	comp=Z,12nm,0.6s,mb4.8								
CDF	**Champ du Feu**	**46.22**	**305**		*e*P		**P**	**05 57 23.5**	**-2.1**
SPITS	**Spitsbergen Ar**	**46.56**	**347**		LR		LR	06 19 09.9	
	comp=Z,184nm,18.5s,baz=260,slow=39								
HINF	**Hinteralfeld**	**46.61**	**304**		*e*P		**P**	**05 57 26.1**	**-2.5**
	comp=Z,7.1nm,0.8s,mb4.1								
HINF	**Hinteralfeld**	**46.61**	**304**		*e*P		**P**	**05 57 26.1**	**-2.5**
HINF					pmax		pmax		
	comp=Z,4.0nm,0.8s,mb4.2								
HINF	**Hinteralfeld**	**46.61**	**304**		*e*P		**P**	**05 57 26.1**	**-2.5**
	comp=Z,3.5nm,0.8s,mb4.1								
HAU	**Haudompre**	**46.90**	**304**		*e*P		**P**	**05 57 28.5**	**-2.4**
HAU					*e*MLR		MLR		
	comp=Z,78nm,20.8s								
HAU	**Haudompre**	**46.90**	**304**		*e*P		**P**	**05 57 28.5**	**-2.4**
HAU					LR		LR		
	comp=Z,80nm,20.8s								
MBDF	**Montbardon**	**47.34**	**300**		*e*P		**P**	**05 57 32.0**	**-2.4**
	comp=Z,9.4nm,0.7s,mb4.3								
MBDF	**Montbardon**	**47.34**	**300**		*e*P		**P**	**05 57 32.0**	**-2.4**
MBDF					pmax		pmax		
	comp=Z,3.0nm,0.8s,mb4.1								
MBDF	**Montbardon**	**47.34**	**300**		*e*P		**P**	**05 57 32.0**	**-2.4**
	comp=Z,3.3nm,0.8s,mb4.1								
CABF	**La Chapelle**	**47.37**	**303**		*e*P		**P**	**05 57 32.3**	**-2.3**
	comp=Z,7.7nm,0.7s,mb4.2								
CABF	**La Chapelle**	**47.37**	**303**		*e*P		**P**	**05 57 32.3**	**-2.3**
CABF					pmax		pmax		
	comp=Z,4.0nm,0.7s,mb4.3								
CABF	**La Chapelle**	**47.37**	**303**		*e*P		**P**	**05 57 32.3**	**-2.3**
	comp=Z,3.8nm,0.7s,mb4.2								
MEZF	**Maizieres J'vi**	**47.65**	**305**		*e*P		**P**	**05 57 35.0**	**-1.7**
FRF	**La Foret Royal**	**47.73**	**298**		*e*P		**P**	**05 57 35.0**	**-2.4**
	comp=Z,36nm,1.1s,mb4.8								
FRF	**La Foret Royal**	**47.73**	**298**		*e*P		**P**	**05 57 35.0**	**-2.4**
FRF					pmax		pmax		
	comp=Z,18nm,1.1s,mb4.8								
FRF	**La Foret Royal**	**47.73**	**298**		*e*P		**P**	**05 57 35.0**	**-2.4**
	comp=Z,18nm,1.1s,mb4.8								
KEST	**Kesra**	**48.17**	**288**		P		**P**	**05 57 44.1**	**+3.1**
	comp=Z,4.3nm,1.2s,mb4.1,baz=180,slow=1.0,SNR=3.5								
LOR	**Lormes**	**48.71**	**304**		*e*P		**P**	**05 57 42.6**	**-2.3**
LOR					*e*MLR		MLR		
	comp=Z,136nm,18.8s								
LOR	**Lormes**	**48.71**	**304**		*e*P		**P**	**05 57 42.6**	**-2.3**
LOR					LR		LR		
	comp=Z,140nm,18.8s								
SMF	**Signal de Mont**	**48.87**	**303**		*e*P		**P**	**05 57 43.8**	**-2.3**
	comp=Z,7.2nm,0.8s,mb4.4								
SSF	**Saint Saulge**	**48.99**	**304**		*e*P		**P**	**05 57 44.6**	**-2.5**
AVF	**Avril sur Loir**	**49.16**	**303**		*e*P		**P**	**05 57 46.1**	**-2.3**
	comp=Z,13nm,0.9s,mb4.6								
AVF	**Avril sur Loir**	**49.16**	**303**		*e*P		**P**	**05 57 46.1**	**-2.3**
AVF					pmax		pmax		

2.3nm,1.1s,baz=107,slow=6.5,SNR=3.1
ESDC Sonseca Array 62.48 301 P P 06 03 31.5 +0.9
1.2nm,0.9s,baz=56,slow=8.2,SNR=5.6
TORD Torodi Ar. Bea 69.51 273 P P 06 04 15.8 -0.4
0.7nm,0.4s,baz=46,slow=5.7,SNR=12
WRA Warramunga Arr 76.90 124 P P 06 04 59.6 -0.1
0.3nm,0.4s,baz=322,slow=5.3,SNR=3.2
ASAR Alice Springs 79.12 127 P P 06 05 12.5 +0.5
0.3nm,0.7s,baz=330,slow=5.4,SNR=3.3

NEIC 14 06:17:27.7, 5443N×16148W, h4km, ML3.5(AEIC), After AEIC., Alaska Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SDPT	**Sand Point**	**1.09**	**32**	P	Pg	06 17 47.7	-0.9
SDPT				S	Sg	06 18 03.4	+0.7
FALS	**False Pass**	**1.21**	**292**	P	Pg	06 17 50.1	-0.7
FALS				S	Sg	06 18 07.4	+1.0
CHGN	**Chignik**	**2.57**	**42**	P	Pn	06 18 09.2	-0.7
UNV	**Unalaska Valle**	**3.01**	**261**	*e*Pn	Pn	06 18 15.2	-0.9
SVW2	**Sparrevohn**	**7.39**	**23**	*e*Pn	Pn	06 19 15.9	-0.3
SVW2				*e*Sn	Sn	06 20 39.8	-0.5
SLKM	**Skilak Lake**	**8.59**	**40**	*e*Pn	Pn	06 19 32.5	-0.1

ISCJB 14 06:29:00.2±1.2, 4237N±004×45.1E±0.1, h8km±12km, Error ellipse: s-maj=13.6km s-min=5.5km az=165.5
CSEM 14 06:29:00.0, 4237N×4494E, h6km, mb3.6, Error ellipse: s-maj=36.6km s-min=13.0km az=230.0, After OBN
MOS 14 06:29:00.4±0.1, 4237N×4494E, h6km, mb3.6/1, Error ellipse: s-maj=36.6km s-min=13.0km az=113.0
TIF 14 06:29:00.2, 4236N×4513E, h15km±2km
ISC 14 06:29:00.8±1.2, 4236N±004×451E±01, h19km±10km, n10, σ1§10/16, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TBLG	**Delisi**	**0.68**	**202**	Pg	**Pg**	**06 29 14.1**	**-0.1**
TBLG				Sg	**Sg**	**06 29 24.2**	**+0.9**
MTA	**Mtatsminda**	**0.70**	**198**	P	**Pb**	**06 29 14.5**	**+0.1**
LACR	**Lac**	**0.74**	**309**	*e*Pg	**Pg**	**06 29 14.0**	**-1.3**
LACR				*e*Sg	**Sg**	**06 29 25.4**	**+0.2**
VLKR	**Vladikavkaz**	**0.74**	**337**	*e*Pg	**Pg**	**06 29 14.7**	**-0.7**
VLKR				*e*Sg	**Sg**	**06 29 27.2**	**+1.9**
GOR	**Gori**	**0.81**	**243**	P	**Pb**	**06 29 15.1**	**-1.2**
DGRG	**David-gareji**	**0.94**	**166**	P	**Pb**	**06 29 19.6**	**+1.2**
ZEI	**Tsey**	**0.96**	**295**	*e*Pg	**Pg**	**06 29 17.7**	**-1.8**
ZEI				*e*Sg	**Sg**	**06 29 32.6**	**+0.4**
ARNR	**Ardon**	**1.01**	**325**	*e*Pg	**Pg**	**06 29 19.2**	**-1.3**
ARNR				*e*Sg	**Sg**	**06 29 35.2**	**+1.4**
KORR	**Kora**	**1.04**	**314**	*e*Pg	**Pg**	**06 29 19.4**	**-1.5**
KORR				*i* Sg	**Sg**	**06 29 35.5**	**+0.9**
ONI	**Oni**	**1.22**	**281**	P	**Pn**	**06 29 23.6**	**+0.8**

ISK 14 06:41:15.6, 4063N×3693E, h5km, MD3.0
CSEM 14 06:41:15.9±0.1, 4064N×3695E, h2km, MD3.0, Error ellipse: s-maj=2.9km s-min=1.9km az=25.0, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RSDY	**Resadiye-TOKAT**	**0.38**	**130**	*e*PG	Pg	06 41 24.8	+1.7
RSDY				*e*SG	Sg	06 41 30.7	+2.7
SVSK	**Karacayir**	**0.72**	**177**	*e*PG	Pg	06 41 29.6	-0.2
SVSK				*e*SG	Sg	06 41 41.4	+2.3
KVT	**Kavak**	**0.81**	**303**	*e*PG	Pg	06 41 32.2	+0.6
GRSN	**GIRESUNGRSN**	**1.04**	**74**	*i* P	Pn	06 41 37.4	-0.1
GRSN	**GIRESUNGRSN**	**1.04**	**74**	*i* P	Pn	06 41 37.4	-0.1
GRSN				*i* S	Sn	06 41 52.6	+0.1
ESPY	**Espiye-Giresun**	**1.38**	**78**	*e*PN	Pn	06 41 42.8	+0.7
DIKM	**Dikmen**	**1.63**	**309**	*e*PN	Pn	06 41 46.5	+1.0
CORM	**Corum**	**1.83**	**256**	*e*PN	Pn	06 41 50.0	+1.7
BYBT	**Boyabat**	**1.85**	**297**	*e*PN	Pn	06 41 49.7	+1.1
BNN	**Bunyan**	**1.98**	**206**	*e*PN	Pn	06 41 51.5	+1.1
TOS	**Tosya**	**2.26**	**281**	*e*PN	Pn	06 41 56.1	+1.9
AVNT	**Avonos**	**2.46**	**222**	*i* P	Pn	06 41 59.3	+2.2
AVNT				*i* S	Sn	06 42 31.8	+4.0
PTK	**Pertek**	**2.57**	**132**	*e*PN	Pn	06 42 00.3	+1.8

ISCJB 14 06:46:53.1±1.6, 524S±008×1466E±02, h125km±18km, mb4.2/11, Error ellipse: s-maj=30.4km s-min=8.7km az=21.5
NEIC 14 06:46:56.4±1.9, 532S×14671E, h152km±17km, mb4.5/6, Error ellipse: s-maj=20.1km s-min=13.7km az=104.0
IDC 14 06:47:00.5±2.9, 538S×14669E, h189km±25km, mb3.7/8, mb1 3.8/10, mb1mx3.7/16, mbtmp3.7/10, Error ellipse: s-maj=28.2km s-min=9.9km az=107.0
ISC 14 06:46:56.8±1.3, 535S±008×1466E±02, h146km±16km, n26, σ0§93/25, mb4.1/11, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**4.08**	**172**	*e*Pn	**Pn**	**06 47 56.2**	**-1.7**
PMG				*e*Sn	**Sn**	**06 48 38.0**	**-7.5**
CTA	**Charters Tower**	**14.65**	**181**	P	**Pn**	**06 50 19.7**	**+2.5**
	0.8nm,0.3s,baz=355,slow=11,SNR=6.1						
CTA	**Charters Tower**	**14.65**	**181**	P	**Pn**	**06 50 19.7**	**+2.5**
KAKA	**Kakadu**	**15.74**	**241**	*e*P	**Pn**	**06 50 29.5**	**-1.2**
	12nm,0.6s						
WRAB	**Tennant Creek**	**18.74**	**218**	*e*P	**P**	**06 51 05.4**	**+0.8**
	6.6nm,0.5s						
WRAB				*e*S	**S**	**06 54 29.9**	**-0.5**
WB2	**Warramunga Arr**	**18.75**	**218**	*e*P	**P**	**06 51 05.2**	**+0.6**
WB2				*e*S	**S**	**06 54 26.5**	**-3.9**
WRA	**Warramunga Arr**	**18.76**	**218**	P	**P**	**06 51 06.1**	**+1.4**
	0.9nm,0.3s,baz=43,slow=11,SNR=24						
WRA				S	**S**	**06 54 29.9**	**-0.8**
	0.2nm,0.3s,baz=44,slow=21,SNR=5.3						
ASAR	**Alice Springs**	**21.92**	**213**	P	**P**	**06 51 39.5**	**+0.9**
	2.0nm,0.4s,mb3.9,baz=43,slow=8.1,SNR=50						
ASAR				S	**S**	**06 55 30.4**	**-0.5**
	2.0nm,0.9s,baz=34,slow=21,SNR=8.7						
FITZ	**Fitzroy Crossi**	**24.05**	**236**	*e*P	**P**	**06 51 59.7**	**+1.0**
	7.0nm,0.4s,mb4.5						
FITZ	**Fitzroy Crossi**	**24.05**	**236**	P	**P**	**06 51 59.4**	**+0.7**
	5.1nm,0.5s,mb4.3,baz=54,slow=10,SNR=26						
FORT	**Forrest**	**30.70**	**212**	*e*P	**P**	**06 52 58.5**	**+0.5**
	9.3nm,0.7s,mb4.6						
KLBR	**Kellerberrin**	**37.55**	**222**	*e*P	**P**	**06 53 56.8**	**-0.2**
	4.7nm,0.3s,mb4.6						
MUN	**Mundaring**	**38.83**	**223**	*e*P	**P**	**06 54 08.2**	**+0.5**
MJAR	**Matsushiro Arr**	**42.40**	**350**	P	**P**	**06 54 37.1**	**+0.2**
	1.0nm,0.2s,mb4.0,baz=155,slow=9.0,SNR=6.7						
MAJO	**Matsushiro**	**42.40**	**350**	*e*P	**P**	**06 54 36.9**	**0.0**
	7.0nm,0.6s,mb4.5						
MAJO				*e*pP	pP	06 55 14.4	+5.1
KSRS	**Korea Array**	**45.99**	**339**	P	**P**	**06 55 05.5**	**+0.1**
	1.4nm,0.8s,mb3.7,baz=146,slow=9.1,SNR=5.1						
SONM	**Songino Array**	**63.62**	**331**	P	**P**	**06 57 12.2**	**0.0**
	1.3nm,0.5s,mb4.0,baz=139,slow=5.2,SNR=8.7						
MKAR	**Makanchi Array**	**76.72**	**321**	P	**P**	**06 58 31.6**	**-0.3**
	0.4nm,0.4s,mb3.4,baz=98,slow=8.5,SNR=12						
ZALV	**Zalesovo Beam**	**78.23**	**328**	P	**P**	**06 58 39.4**	**-0.8**
	2.3nm,0.5s,mb4.1,baz=116,slow=5.8,SNR=8.1						
MAW	**Mawson**	**82.68**	**203**	P	**P**	**06 59 02.4**	**-1.3**
	1.8nm,0.6s,mb4.0,baz=106,slow=9.1,SNR=12						
PLCA	**Paso Flores**	**122.90**	**147**	PKP	PKPdf	07 05 34.3	-1.8
	1.2nm,0.5s,baz=264,slow=1.8,SNR=7.9						
LPAZ	**La Paz**	**139.50**	**123**	PKP	PKPdf	07 06 07.5	-0.4
	0.3nm,0.5s,baz=3.6,slow=3.7,SNR=5.0						
CPUP	**Villa Florida**	**140.91**	**145**	PKP	PKPdf	07 06 08.6	-1.7
	0.5nm,0.6s,baz=239,slow=5.9,SNR=3.0						
TORD	**Torodi Ar. Bea**	**144.50**	**285**	PKP	PKPdf	07 06 13.8	-3.1
	0.6nm,0.5s,baz=86,slow=4.4,SNR=15						
TORD	**Torodi Ar. Bea**	**144.50**	**285**	PKP	PKPdf	07 06 13.8	-3.1
BDFB	**Brasilia**	**154.64**	**146**	PKPbc	PKPbc	07 06 39.6	-1.9
	1.0nm,0.8s,baz=34,slow=3.6,SNR=4.8						

IDC 14 07:03:16.6±1.6, 184N×3068E, h0km, mb3.8/5, mb1 3.9/6, mb1mx3.6/19, mbtmp3.8/6, ML3.6/1, MS3.2/1, Ms1 3.2/1, ms1mx2.6/27, Error ellipse: s-maj=44.9km s-min=22.4km az=11.0, Uganda

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMBO	**Kilima Mbogo**	**7.20**	**114**	Pn	Pn	07 05 03.8	+0.6
	1.0nm,0.3s,baz=270,slow=16,SNR=18						
KMBO				Pg	Pg	07 05 28.0	-6.7
	2.8nm,0.3s,baz=278,slow=19,SNR=9.9						
KMBO				Sn	Sn	07 06 13.6	-12
	3.6nm,0.3s,baz=234,slow=20,SNR=4.7						
KMBO				Lg		07 06 57.2	
	9.1nm,0.3s,baz=203,slow=24,SNR=14						
LBTB	**Lobatse**	**27.14**	**190**	LR	LR	07 19 51.8	
	comp=Z,54nm,19.9s,baz=96,slow=37						
TORD	**Torodi Ar. Bea**	**30.81**	**293**	P	P	07 09 33.6	-0.8
	0.9nm,0.8s,baz=105,slow=8.4,SNR=6.2						
DBIC	**Dimbokro**	**35.75**	**279**	P	P	07 10 18.0	+0.5
	1.5nm,0.5s,baz=88,slow=13,SNR=4.8						
GERES	**GERESS Array B**	**49.05**	**345**	P	P	07 12 06.1	+0.8
	0.8nm,0.7s,baz=169,slow=7.7,SNR=7.8						
MKAR	**Makanchi Array**	**63.29**	**37**	P	P	07 13 47.7	+0.5
	0.4nm,0.6s,baz=232,slow=8.1,SNR=4.2						
ZALV	**Zalesovo Beam**	**68.18**	**31**	P	P	07 14 17.7	-0.9
	0.9nm,0.6s,baz=258,slow=4.4,SNR=3.6						

NIED 14 07:12:00, 3020N×14280E, h5km, Mw4.2 Best double couple: M₀2.11000×10¹⁵ NP1:φs321.00000°, δ70.00000°, λ-97.00000°. NP2:φs160.00000°, δ21.00000°, λ-72.00000°.
IDC 14 07:12:54.0±0.7, 3009N×14271E, h0km, mb3.9/9, mb1 4.1/12, mb1mx3.9/22, mbtmp3.9/12, ML3.8/3, MS2.9/6, Ms1 2.9/6, ms1mx2.7/39, Error ellipse: s-maj=23.1km s-min=18.2km az=77.0
ISCJB 14 07:12:54.9±1.7, 3019N±003×1425E±0.1, h19km±13km, mb4.0/10, MS2.9/2, Error ellipse: s-maj=16.0km s-min=4.4km az=165.3
JMA 14 07:12:55.2±0.3, 3022N×14282E, h49km, M4.1
MOS 14 07:12:56.3±1.2, 3012N×14253E, h28km, mb4.1/6, Error ellipse: s-maj=32.9km s-min=13.1km az=120.5
NEIC 14 07:12:59.4±0.5, 3016N×14264E, h35km, MG4.1(JMA), Error ellipse: s-maj=18.7km s-min=11.5km az=55.0
ISC 14 07:12:57.0±1.8, 3017N±003×1425E±01, h21km±14km, n45, σ1§06/49, mb4.0/10, MS2.9/2, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**3.08**	**186**	Pn	**Pn**	**07 13 43.6**	**-0.8**
	15nm,0.3s,baz=281,slow=20,SNR=13						
CBIJ				Sn	**Sn**	**07 14 17.8**	**-2.8**
	38nm,0.3s,baz=288,slow=22,SNR=9.5						
CBIJ				LR	LR	07 14 47.2	
	comp=Z,207nm,19.7s,baz=50,slow=38						
CBIJ	**Chichi jima**	**3.08**	**186**	P	**Pn**	**07 13 43.6**	**-0.8**
CBIJ				S	**Sn**	**07 14 18.8**	**-1.8**
JHHJ	**Haha-jima-NKT**	**3.54**	**185**	P	**Pn**	**07 13 51.2**	**+0.4**
JHHJ				*e*S	**Sn**	**07 14 31.5**	**-0.5**
JHJ2	**Mitsune**	**3.73**	**323**	P	**Pn**	**07 13 53.8**	**+0.5**
JHJ2				*e*S	**Sn**	**07 14 37.0**	**+0.5**
BSO1	**Boso 1**	**4.65**	**344**	P	**Pn**	**07 14 04.8**	**-1.2**
BSO3	**Boso 3**	**4.92**	**340**	P	**Pn**	**07 14 09.2**	**-0.5**
BSO3				*e*S	**Sn**	**07 15 06.0**	**+0.1**
JKO	**Kozu shima**	**4.92**	**325**	P	**Pn**	**07 14 09.5**	**-0.2**
BSO4	**Boso 4**	**5.14**	**340**	P	**Pn**	**07 14 12.7**	**-0.1**
BSO4				S	**Sn**	**07 15 12.1**	**+0.6**
JOD2	**Odawara 2**	**5.84**	**331**	P	**Pn**	**07 14 22.5**	**+0.2**
JOD2				*e*S	**Sn**	**07 15 27.9**	**-0.8**
JHU	**Hanno**	**6.28**	**335**	P	**Pn**	**07 14 28.5**	**+0.1**
JHU				S	**Sn**	**07 15 37.6**	**-1.9**
JRY	**Ryogami san**	**6.57**	**333**	P	**Pn**	**07 14 32.7**	**+0.4**
JRY				S	**Sn**	**07 15 45.6**	**-1.0**
JHO	**Hitachi**	**6.62**	**346**	P	**Pn**	**07 14 31.5**	**-1.6**
JAG	**Ashikaga**	**6.74**	**338**	P	**Pn**	**07 14 34.7**	**0.0**
MJAR	**Matsushiro Arr**	**7.30**	**332**	Pn	**Pn**	**07 14 42.7**	**+0.3**
	1.8nm,0.3s,baz=154,slow=11,SNR=20						
MJAR				Sn	**Sn**	**07 16 02.9**	**-1.8**
	0.7nm,0.3s,baz=162,slow=18,SNR=6.6						
MJAR	**Matsushiro Arr**	**7.30**	**332**	P	**Pn**	**07 14 42.7**	**+0.3**
MJAR						07 16 02.9	
MJAR				pmax	pmax		
	comp=Z,2.0nm,0.3s						
MJAR				smax			
	comp=N,1.0nm,0.3s						
MAJO	**Matsushiro**	**7.30**	**332**	*e*P	**Pn**	**07 14 43.2**	**+0.8**
MAJO				*e*		07 16 05.4	
MAJO				pmax	pmax		
	comp=Z,11nm,0.5s						
MAJO	**Matsushiro**	**7.30**	**332**	*e*Pn	**Pn**	**07 14 43.2**	**+0.8**
	comp=Z,11nm,0.5s						
MAJO				*e*Sn	**Sn**	**07 16 05.4**	**+0.7**
MAT	**Matsushiro**	**7.30**	**332**	P	**Pn**	**07 14 42.7**	**+0.3**
MAT				*e*S	**Sn**	**07 16 01.6**	**-3.1**
JOW	**Kunigami**	**12.96**	**259**	LR	LR	07 20 57.7	
	comp=Z,43nm,18.1s,baz=359,slow=37						
ASAJ	**Asahikawa**	**13.92**	**0**	LR	LR	07 21 45.6	
	comp=Z,51nm,20.2s,baz=108,slow=38						
KSRS	**Korea Array**	**14.13**	**305**	Pn	**Pn**	**07 16 18.3**	**+2.4**
	comp=Z,0.4nm,0.3s,baz=89,slow=15,SNR=3.2						
KSRS				LR	LR	07 21 41.1	
	comp=Z,16nm,18.3s,baz=125,slow=37						
PETK	**Petropavlovsk-**	**25.47**	**22**	LR	LR	07 26 49.8	
	comp=Z,47nm,21.5s,MS3.0,baz=32,slow=33						
DAV	**Davao City (W)**	**27.95**	**218**	LR	LR	07 28 45.3	
	comp=Z,28nm,20.7s,MS2.8,baz=289,slow=34						
SONM	**Songino Array**	**32.77**	**313**	P	**P**	**07 19 31.3**	**+2.9**
	comp=Z,1.7nm,1.0s,mb3.9,baz=123,slow=8.7,SNR=7.5						
SONM	**Songino Array**	**32.77**	**313**	P	**P**	**07 19 31.3**	**+2.9**
SONM				pmax	pmax		
	comp=Z,2.0nm,1.0s						
ZALV	**Zalesovo Beam**	**47.40**	**317**	P	**P**	**07 21 30.7**	**+1.1**
	comp=Z,0.4nm,0.3s,mb3.9,baz=86,slow=7.7,SNR=3.3						
MK31	**Makanchi Array**	**48.79**	**308**	*e*P	**P**	**07 21 42.0**	**+1.6**
MKAR	**Makanchi Array**	**48.79**	**308**	P	**P**	**07 21 42.0**	**+1.6**
	comp=Z,1.1nm,0.9s,mb3.9,baz=89,slow=9.5,SNR=10						
MKAR	**Makanchi Array**	**48.79**	**308**	P	**P**	**07 21 42.0**	**+1.6**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.9s						
MKAR	**Makanchi Array**	**48.79**	**308**	P	**P**	**07 21 42.0**	**+1.6**
WRA	**Warramunga Arr**	**50.44**	**190**	P	**P**	**07 21 53.1**	**-0.1**
	comp=Z,1.9nm,0.9s,mb4.1,baz=9.1,slow=7.9,SNR=8.1						
WRA	**Warramunga Arr**	**50.44**	**190**	P	**P**	**07 21 53.1**	**-0.1**
WRA				pmax	pmax		
	comp=Z,2.0nm,0.9s						
ASAR	**Alice Springs**	**54.16**	**190**	P	**P**	**07 22 19.9**	**-0.9**
	comp=Z,0.9nm,0.9s,mb3.7,baz=4.6,slow=5.4,SNR=5.8						
ASAR	**Alice Springs**	**54.16**	**190**	P	**P**	**07 22 19.9**	**-0.9**
ASAR				pmax	pmax		
	comp=Z,1.0nm,0.9s						
AML	**Almayashu**	**55.46**	**303**	*e*P	**P**	**07 22 33.8**	**+3.6**
	comp=Z,4.8nm,1.0s,mb4.5						
YBH	**Yreka Blue Hor**	**73.88**	**51**	P	**P**	**07 24 30.8**	**+0.4**
	comp=Z,1.5nm,1.0s,mb3.9,baz=304,slow=7.3,SNR=4.4						
YBH	**Yreka Blue Hor**	**73.88**	**51**	P	**P**	**07 24 30.8**	**+0.5**
YBH				pmax	pmax		
	comp=Z,2.0nm,1.0s						
NVAR	**Mina Array Bea**	**78.40**	**52**	P	**P**	**07 24 56.1**	**-0.1**
	comp=Z,2.0nm,0.9s,mb4.0,baz=285,slow=5.3,SNR=8.8						
PDAR	**Pinedale Array**	**81.83**	**45**	P	**P**	**07 25 14.9**	**+0.3**
	comp=Z,0.4nm,0.9s,mb3.3,baz=329,slow=3.2,SNR=2.9						
TXAR	**Lajitas Array**	**93.53**	**53**	P	**P**	**07 26 11.9**	**+0.3**
	comp=Z,1.0nm,0.8s,mb4.3,baz=299,slow=3.1,SNR=11						
TXAR	**Lajitas Array**	**93.53**	**53**	P	**P**	**07 26 11.9**	**+0.3**
TXAR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
LPAZ	**La Paz**	**148.75**	**71**	PKPbc	PKPbc	07 32 44.8	+1.4
	comp=Z,1.4nm,0.9s,baz=342,slow=7.5,SNR=6.3						
LPAZ	**La Paz**	**148.75**	**71**	PKP2	PKPbc	07 32 44.8	+1.4
LPAZ				pmax	pmax		
	comp=Z,1.0nm,0.9s						
PLCA	**Paso Flores**	**151.23**	**121**	PKPbc	PKPbc	07 32 49.0	+0.3
	comp=Z,2.7nm,1.0s,baz=199,slow=3.8,SNR=3.7						
PLCA	**Paso Flores**	**151.23**	**121**	PKIKP	PKPbc	07 32 49.1	+0.4
PLCA				pmax	pmax		
	comp=Z,3.0nm,1.0s						

IDC 14 07:28:31.3±0.8, 2124S×16930E, h0km, mb4.5/14, mb1 4.6/16, mb1mx4.6/19, mbtmp4.5/16, ML4.9/1, MS4.0/11, Ms1 4.0/11, ms1mx3.7/22, Error ellipse: s-maj=27.3km s-min=17.3km az=150.0
NOU 14 07:28:31.6±4.0, 2519S×16590E, h10km, MD3.1, ML3.8
LDG 14 07:28:32.7±0.3, 2134S×16896E, h10km, Mb4.8/1, Error ellipse: s-maj=28.4km s-min=4.7km az=158.0
SZGRF 14 07:28:35.8, 2154S×16971E, h33km, Southeast of Loyalty Islands
BJI 14 07:28:35.9, 2077S×16937E, h20km, mB5.2, mb4.9, Ms4.9, Msz4.7
ISCJB 14 07:28:35.2±0.2, 2121S±006×16924E±004, h31km, mb4.8/45, MS4.2/13, Error ellipse: s-maj=10.0km s-min=2.9km az=156.2
MOS 14 07:28:36.1±1.4, 2118S×16925E, h33km, mb5.2/17, Error ellipse: s-maj=12.2km s-min=10.3km az=179.7
NEIC 14 07:28:37.3±0.3, 2119S×16931E, h35km, mb5.0/22, Error ellipse: s-maj=12.2km s-min=6.1km az=155.0
ISC 14 07:28:36.8±0.2, 2128S±007×16927E±004, h33km, h33km±1.8km:pP-P, n318, σ0§73/249, mb4.8/45, MS4.2/13, 64C-75D, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLUM	**Mont Dore**	**2.63**	**248**	*e*P	**Pn**	**07 29 15.8**	**-1.2**
PLUM				*e*S	**Sn**	**07 29 49.9**	**+2.0**
PLUM				AMP		07 29 55.9	
	comp=Z,728nm,0.4s						
LASL	**Noumea**	**2.71**	**249**	*e*P	**Pn**	**07 29 17.3**	**-0.7**
LASL				*e*S	**Sn**	**07 29 49.9**	**+0.3**
DZM	**Mont Dzumac**	**2.74**	**253**	*e*Pn	**Pn**	**07 29 17.3**	**-1.2**
DZM				Sn	**Sn**	**07 29 50.1**	**-0.4**
NORM	**Noumea**	**2.75**	**249**	*e*P	**Pn**	**07 29 17.0**	**-1.7**
NORM				*e*S	**Sn**	**07 29 50.0**	**-0.8**
NORM				AMP		07 29 55.9	
	comp=Z,997nm,0.4s						
ONTRN	**Noumea**	**2.81**	**248**	*e*P	**Pn**	**07 29 18.0**	**-1.4**
ONTRN				*e*S	**Sn**	**07 29 52.8**	**+0.6**
ONTRN				AMP		07 29 58.6	
	comp=Z,2μm,3.7s						
NOUC	**Port Laguerre**	**2.88**	**253**	*e*P	**Pn**	**07 29 18.6**	**-1.8**
NOUC				*e*S	**Sn**	**07 29 53.1**	**-0.7**
NOUC				AMP		07 29 57.9	
	comp=Z,386nm,1.6s						
HNR	**Honiara**	**14.81**	**321**	Pn	**Pn**	**07 32 03.3**	**-0.6**
	comp=Z,5.0nm,0.3s,baz=198,slow=7.4,SNR=4.1						
HNR				LR	LR	07 35 44.6	
	comp=Z,133nm,18.5s,baz=323,slow=29						
HNR	**Honiara**	**14.81**	**321**	*e*P	**Pn**	**07 32 03.9**	**-0.1**
HNR				pmax	pmax		
	comp=Z,223nm,1.2s						
HNR	**Honiara**	**14.81**	**321**	*e*Pn	**Pn**	**07 32 03.9**	**-0.1**
	comp=Z,223nm,1.2s						
URZ	**Urewera**	**18.23**	**160**	P	**Pn**	**07 32 41.0**	**-6.1**
	comp=Z,0.2nm,0.3s,baz=3.5,slow=19,SNR=2.2						
URZ				LR	LR	07 38 49.3	
	comp=Z,572nm,18.1s,baz=350,slow=34						
URZ	**Urewera**	**18.23**	**160**	P	**Pn**	**07 32 41.0**	**-6.1**
URZ				LR	LR	07 38 49.3	
ARMA	**Armidale**	**18.28**	**237**	*e*P	**Pn**	**07 32 51.1**	**+3.2**
AFI	**Afiamalu**	**19.49**	**71**	P	**Pn**	**07 32 58.0**	**-4.6**
	baz=235,slow=13,SNR=3.0						
AFI				LR	LR	07 39 08.1	
	comp=Z,368nm,18.6s,baz=236,slow=33						
AFI	**Afiamalu**	**19.49**	**71**	*e*P	**Pn**	**07 32 59.0**	**-3.6**
AFI				pmax	pmax		
	comp=Z,53nm,1.0s						
AFI	**Afiamalu**	**19.49**	**71**	*e*P	**Pn**	**07 32 59.0**	**-3.5**
	comp=Z,53nm,1.0s						
CTA	**Charters Tower**	**21.56**	**269**	*e*P	**P**	**07 33 25.0**	**+1.3**
	comp=Z,12nm,1.1s,mb4.2						
CTA				*e*S	**S**	**07 37 25.9**	**+5.0**
CTA	**Charters Tower**	**21.56**	**269**	P	**P**	**07 33 22.4**	**-1.3**
	comp=Z,9.9nm,0.9s,mb4.3,baz=96,slow=13,SNR=5.5						
CTA	**Charters Tower**	**21.56**	**269**	*e*P	**P**	**07 33 25.0**	**+1.3**
CTA				*e*S	**S**	**07 37 25.9**	**+5.0**
CTA				pmax	pmax		
	comp=Z,12nm,1.1s						
CTAO	**Charters Tower**	**21.56**	**269**	*e*P	**P**	**07 33 24.7**	**+1.0**
CTAO				pmax	pmax		
	comp=Z,27nm,1.4s,mb4.5						
CTAO	**Charters Tower**	**21.56**	**269**	*e*P	**P**	**07 33 24.7**	**+1.0**
	comp=Z,27nm,1.4s,mb4.5						
CNB	**Canberra Magne**	**22.36**	**227**	*e*P	**P**	**07 33 35.2**	**+3.2**
CNB				*e*S	**S**	**07 37 49.0**	**+13**
RPZ	**Rata Peaks**	**22.42**	**177**	LR	LR	07 41 18.1	
	comp=Z,933nm,18.4s,MS4.2,baz=26,slow=34						
CAN	**Canberra**	**22.61**	**227**	*e*P	**P**	**07 33 36.2**	**+1.5**
PMG	**Port Moresby**	**24.33**	**296**	P	**P**	**07 33 52.8**	**+1.1**
PMG				pmax	pmax		
	comp=Z,11nm,0.8s						
PMG	**Port Moresby**	**24.33**	**296**	P	**P**	**07 33 52.8**	**+1.1**
	comp=Z,11nm,0.8s,mb4.3						
TOO	**Toolangi**	**26.20**	**227**	*e*P	**P**	**07 34 10.9**	**+2.4**
TOO				*e*S	S	07 39 11.9	+33
STKA	**Stephens Creek**	**26.83**	**241**	*e*P	**P**	**07 34 15.6**	**+1.3**
	comp=Z,7.5nm,0.9s,mb4.2						
STKA	**Stephens Creek**	**26.83**	**241**	P	**P**	**07 34 14.2**	**-0.1**
	comp=Z,7.8nm,0.8s,mb4.3,baz=60,slow=8.9,SNR=16						
STKA				LR	LR	07 44 22.0	
	comp=Z,559nm,18.9s,MS4.1,baz=33,slow=35						
WB2	**Warramunga Arr**	**32.67**	**266**	*e*P	**P**	**07 35 05.5**	**-0.6**
WRAB	**Tennant Creek**	**32.67**	**266**	*i* P	**P**	**07 35 04.7**	**-1.5**
WRA	**Warramunga Arr**	**32.68**	**266**	P	**P**	**07 35 04.7**	**-1.6**
	comp=Z,2.5nm,1.0s,mb4.1,baz=102,slow=

XAN	Xi'an	79.51	313	P	P	07 40 40.4	+0.1	
XAN				AP	pP	07 40 49.1	-1.6	
XAN				S	S	07 50 40.6	+0.9	
XAN				AMB	AMB			
	comp=Z,7.0nm,1.0s,mb4.5							
XAN				AMB	AMB			
	comp=Z,50nm,4.7s							
XAN				LR	LR			
	comp=E,48nm,20.4s							
XAN				LR	LR			
	comp=Z,62nm,20.4s,MS3.9							
CHG	Chiang Mai	79.53	295	P	P	07 40 42.8	+2.1	
CHTO	Chiang Mai	79.53	295	*eP*	P	07 40 42.1	+1.4	
CD2	Chengdu	81.50	308 ⇑	*iP*	P	07 40 52.8	+1.7	
CD2				AP	pP	07 41 03.1	+1.6	
CD2				XP	sP	07 41 07.0	+1.8	
CD2				PP	PP	07 44 01.5	+3.6	
CD2				S	S	07 51 01.1	+0.4	
CD2				XS	sS	07 51 19.3	+1.5	
CD2				SS	SS	07 56 21.8	+3.5	
CD2				AMB	AMB			
	comp=Z,10.0nm,1.3s,mb4.6							
CD2				AMB	AMB			
	comp=Z,40nm,8.2s							
CD2				LR	LR			
	comp=N,100nm,13.2s							
CD2				LR	LR			
	comp=Z,150nm,13.6s,MS4.5							
HHC	Hu-ho-hao-te	81.78	320	*eP*	P	07 40 55.6	+3.3	
HHC				AP	pP	07 41 06.3	+3.6	
HHC				XP	sP	07 41 10.9	+4.4	
HHC				PP	PP	07 44 04.8	+4.8	
HHC				S	S	07 51 05.8	+2.6	
HHC				XS	sS	07 51 22.8	+2.5	
HHC				AMB	AMB			
	comp=Z,15nm,1.2s,mb4.8							
HHC				AMB	AMB			
	comp=Z,123nm,6.6s							
HHC				LR	LR			
	comp=N,165nm,18.4s,MS4.7							
HHC				LR	LR			
	comp=E,249nm,19.4s,MS4.7							
HHC				LR	LR			
	comp=Z,136nm,15.6s,MS4.4							
LZH	Lanzhou	84.11	312	*eP*	P	07 41 07.5	+3.0	
LZH				AP	pP	07 41 19.0	+4.1	
LZH				XP	sP	07 41 22.5	+3.8	
LZH				AMB	AMB			
	comp=Z,28nm,1.5s,mb5.2							
LZH				AMB	AMB			
	comp=Z,128nm,5.0s							
LZH	Lanzhou	84.11	312	*eP*	P	07 41 07.5	+3.0	
LZH				*PP	pP	07 41 19.0	+4.1	
LZH				*SP	sP	07 41 22.5	+3.8	
LZH				pmax	pmax			
	comp=Z,28nm,1.5s,mb5.2							
LZH	Lanzhou	84.11	312	*eP*	P	07 41 07.5	+3.0	
	comp=Z,28nm,1.5s,mb5.2							
LZH				pP	pP	07 41 19.0	+4.1	
LZH				sP	sP	07 41 22.5	+3.8	
KDAK	Kodiak Island	84.94	19	*eP*	P	07 41 06.5	-1.7	
CLNS	Chul'man	86.28	337	*eP*	P	07 41 15.5	+0.7	
CLNS				pmax	pmax			
	comp=E,5.0nm,0.8s							
CLNS				pmax	pmax			
	comp=Z,23nm,1.1s,mb5.3							
CLNS				pmax	pmax			
	comp=N,17nm,1.3s							
SNAA	Sanae	87.13	182	*eP*	P	07 41 18.8	-0.2	
SNAA				*e*		07 41 23.5		
SNAA				*e*	pP	07 41 27.7	-1.8	
SNAA	Sanae	87.13	182	*eP*	P	07 41 19.2	+0.2	
SNAA				pmax	pmax			
	comp=Z,10.0nm,1.2s							
SNAA	Sanae	87.13	182	*eP*	P	07 41 19.2	+0.2	
	comp=Z,10nm,1.2s,mb4.9							
PACP	Pacheco Peak	87.37	49	⇓P	P	07 41 21.1	+0.4	
	baz=88							
PKD	Parkfield	87.39	50	⇓P	P	07 41 19.9	-0.9	
	baz=88							
PKM	Peak Mountain	87.41	51	⇑P	P	07 41 20.8	-0.2	
	baz=88							
U04C	Hernandez Rese	87.42	49	⇓P	P	07 41 21.9	+0.9	
	baz=88							
SMMC	Simmler	87.47	51	⇑P	P	07 41 21.4	+0.2	
	baz=88							
PTRM	Twissleman Ran	87.48	50	*eP*	P	07 41 21.7	+0.4	
KHMM	Horse Mountain	87.64	44	*eP*	P	07 41 22.6	+0.7	
GASB	Alder Springs	87.70	46	⇑P	P	07 41 22.5	+0.3	
	baz=88							
VNA3	Neumayer Olymp	87.72	180	*eP*	P	07 41 21.5	-0.4	
VNA3				*e*		07 41 26.3		
VNA3				*e*	pP	07 41 30.1	-2.2	
VNA2	Neumayer--Watz	88.01	181	*eP*	P	07 41 23.1	-0.2	
VNA2				*e*		07 41 28.0		
VNA2				*e*	pP	07 41 32.0	-1.7	
S05C	Merced	88.20	49	⇑P	P	07 41 25.1	+0.4	
	baz=88							
WDC	Whiskeytown Da	88.28	45	*eP*	P	07 41 24.6	-0.3	
WDC				pmax	pmax			
	comp=Z,16nm,1.4s,mb5.1							
WDC	Whiskeytown Da	88.28	45	⇑P	P	07 41 25.4	+0.5	
	baz=88,SNR=5.6							
WDC	Whiskeytown Da	88.28	45	*eP*	P	07 41 24.6	-0.3	
	comp=Z,16nm,1.4s,mb5.1							
VES	Vestal, Richgr	88.38	50	⇓P	P	07 41 24.3	-1.2	
	baz=88							
ORV	Oroville	88.46	46	⇓P	P	07 41 24.9	-0.9	
	baz=89,SNR=9.3							
M02C	Callahan	88.48	44	⇑P	P	07 41 26.2	+0.4	
	baz=89,SNR=6.0							
T06C	Millerton Lake	88.48	49	⇓P	P	07 41 25.7	-0.3	
	baz=89							
CMB	Columbia Colle	88.49	48	*eP*	P	07 41 25.9	-0.1	
CMB				pmax	pmax			
	comp=Z,6.0nm,1.3s,mb4.7							
CMB	Columbia Colle	88.49	48	⇑P	P	07 41 25.9	-0.1	
	baz=89,SNR=5.5							
CMB	Columbia Colle	88.49	48	*eP*	P	07 41 25.9	-0.1	
	comp=Z,5.5nm,1.3s,mb4.6							
GTA	Gaotai	88.54	313	*eP*	P	07 41 27.8	+1.6	
GTA				AP	pP	07 41 32.8	-3.9	
GTA				XP	sP	07 41 36.0	-4.4	
GTA				AMB	AMB			
	comp=Z,4.0nm,1.2s,mb4.6							
LAVA	Lava Cap Winer	88.59	47	⇑P	P	07 41 26.0	-0.5	
	baz=89							
BFSC	Mount Baldy St	88.69	52	⇑P	P	07 41 26.6	-0.4	
	baz=89							
ISA	Isabella	88.74	51	*eP*	P	07 41 27.0	-0.2	
ISA				pmax	pmax			
	comp=Z,15nm,1.4s,mb5.1							
ISA	Isabella	88.74	51	⇓P	P	07 41 27.3	+0.1	
	baz=89							
ISA	Isabella	88.74	51	*eP*	P	07 41 27.0	-0.3	
	comp=Z,16nm,1.4s,mb5.1							
YBH	Yreka Blue Hor	88.74	44	P	P	07 41 27.0	-0.1	
	comp=Z,3.3nm,1.1s,mb4.6,baz=190,slow=3.3,SNR=5.5							
YBH	Yreka Blue Hor	88.74	44	⇓P	P	07 41 27.2	+0.2	
	baz=89							
YAK	Yakutsk	88.82	343	*eP*	P	07 41 25.9	-1.0	
YAK				pmax	pmax			
	comp=Z,19nm,1.0s,mb5.4							
SONM	Songino Array	88.86	323	P	P	07 41 27.0	-0.5	
	comp=Z,3.2nm,0.9s,mb4.6,baz=130,slow=5.9,SNR=14							
SONM				LR	LR	08 17 56.5		
	comp=Z,36nm,19.0s,MS3.8,baz=65,slow=33							
M03C	McCloud	88.90	45	P	P	07 41 28.2	+0.4	
	baz=89,SNR=7.2							
KCC	Kaiser Creek	88.90	49	⇑P	P	07 41 27.8	-0.1	
	baz=89,SNR=5.0							
MONP	Monument Peak	89.02	54	⇓P	P	07 41 28.0	-0.6	
	baz=89							
HUMO	Hull Mountain	89.02	43	⇑P	P	07 41 28.3	-0.1	
	baz=89							
O05C	Quincy	89.05	46	⇑P	P	07 41 28.8	+0.2	
	baz=89,SNR=7.3							
O04C	Chester	89.11	46	⇓P	P	07 41 29.5	+0.6	
	baz=89,SNR=5.4							
LRMC	Laurel Mountai	89.22	51	⇓P	P	07 41 29.8	+0.3	
	baz=89							
PFO	Pinyon Flat Ob	89.31	53	*eP*	P	07 41 30.0	+0.1	
PFO				pmax	pmax			
	comp=Z,20nm,1.6s,mb5.2							
PFO	Pinyon Flat Ob	89.31	53	⇑P	P	07 41 30.1	+0.1	
	baz=89							
PFO	Pinyon Flat Ob	89.31	53	*eP*	P	07 41 30.0	+0.6	
	comp=Z,20nm,1.6s,mb5.2							
M04C	Macdoel	89.33	44	⇓P	P	07 41 30.5	+0.7	
	baz=89							
R06C	Coleville	89.37	48	⇑P	P	07 41 30.6	+0.4	
	baz=90,SNR=6.6							
WAKR	Walker	89.37	48	*eP*	P	07 41 30.1	0.0	
BEKR	Beckwourth	89.39	46	⇑P	P	07 41 30.0	-0.2	
	baz=90,SNR=5.1							
MTUM	Tungsten Hills	89.45	49	*eP*	P	07 41 30.6	+0.1	
I03A	Eugene	89.51	42	⇑P	P	07 41 30.9	+0.2	
	baz=90							
WCN	Washoe City	89.53	47	⇑P	P	07 41 30.8	-0.1	
	baz=90							
MPMC	Manual Prospec	89.63	51	⇓P	P	07 41 31.7	+0.2	
	baz=90,SNR=11							
BELC	Belle Mtn.	89.82	53	⇑P	P	07 41 32.4	+0.1	
	baz=90							
O06A	Flanigan	89.89	46	⇑P	P	07 41 32.5	0.0	
	baz=90,SNR=8.9							
M06C	Likely Place G	89.94	45	⇑P	P	07 41 33.3	+0.5	
	baz=90,SNR=5.5							
I04A	Tendick Farm,	89.96	42	⇑P	P	07 41 32.0	-0.7	
	baz=90							
PAHR	Pah Rah Range	89.97	47	*eP*	P	07 41 32.9	0.0	
	comp=Z,12nm,1.1s,mb5.2							
BC3	Big Chuckw Mtn	90.08	54	⇑P	P	07 41 33.6	+0.1	
	baz=90							
NVAR	Mina Array Bea	90.13	48	P	P	07 41 33.7	+0.1	
	comp=Z,6.5nm,0.9s,mb5.0,baz=228,slow=7.4,SNR=26							
NVAR	Mina Array Bea	90.13	48	P	P	07 41 33.7	+0.1	
GRAC	Grapevine Rang	90.14	50	⇑P	P	07 41 33.9	+0.2	
	baz=90,SNR=7.0							
N06A	Buffalo Meadow	90.16	46	⇑P	P	07 41 34.2	+0.4	
	baz=90,SNR=12							
112A	Yuma	90.26	55	⇓P	P	07 41 34.7	+0.3	
	baz=90							
FURC	Furnace Creek,	90.27	51	⇓P	P	07 41 34.8	+0.4	
	baz=90,SNR=6.2							
GLA	Glamis	90.29	55	⇑P	P	07 41 34.8	+0.2	
	baz=90,SNR=6.6							
GLA	Glamis	90.29	55	*eP*	P	07 41 34.2	-0.4	
MOD	Modoc	90.39	45	⇓P	P	07 41 35.0	+0.2	
	baz=90,SNR=6.6							
MOD	Modoc	90.39	45	*eP*	P	07 41 35.1	+0.3	
K05A	Summer Lake	90.41	44	⇓P	P	07 41 35.0	+0.1	
	baz=90							
GMRC	Granite Mounta	90.41	53	⇓P	P	07 41 35.0	-0.1	
	baz=90,SNR=6.1							
SHOC	Shoshone	90.44	51	⇓P	P	07 41 35.1	-0.1	
	baz=90,SNR=5.1							
J05A	Fort Rock	90.46	43	⇑P	P	07 41 35.4	+0.3	
	baz=91,SNR=11							
TUQ	Turquoise Moun	90.50	52	⇓P	P	07 41 35.0	-0.4	
	baz=91,SNR=5.7							
IRM	Iron Mountain	90.52	53	⇓P	P	07 41 35.4	-0.2	
	baz=91,SNR=13							
O07A	Toulon	90.53	47	⇑P	P	07 41 35.7	+0.2	
	baz=91,SNR=5.8							
S09A	Goldfield	90.57	49	⇓P	P	07 41 34.8	-1.0	
	baz=91							
Q08A	Gabbs	90.58	48	P	P	07 41 35.8	0.0	
	baz=91,SNR=8.9							
U10A	Ash Meadows, A	90.63	51	⇓P	P	07 41 36.6	+0.5	
	baz=91,SNR=8.1							
TPH	Tonopah	90.73	49	*eP*	P	07 41 36.5	0.0	
TPH				pmax	pmax			
	comp=Z,10.0nm,1.1s,mb5.1							
TPH	Tonopah	90.73	49	*eP*	P	07 41 36.5	0.0	
	comp=Z,10nm,1.1s,mb5.1							
Y12C	Blythe	90.82	54	⇑P	P	07 41 37.3	+0.3	
	baz=91,SNR=8.0							
K06A	Valley Falls	90.86	44	⇑P	P	07 41 36.8	-0.1	
	baz=91,SNR=5.9							
I05A	Bend	90.86	42	⇑P	P	07 41 36.6	-0.3	
	baz=91							
M07A	Soldier Meadow	90.90	46	⇓P	P	07 41 37.1	-0.1	
	baz=91							
NLWA	Neilton Lookou	90.90	39	⇓P	P	07 41 36.5	-0.6	
	baz=91							
NLWA	Neilton Lookou	90.90	39	*eP*	P	07 41 37.4	+0.3	
	comp=Z,6.6nm,1.0s,mb4.9							
R09A	Tonopah	90.91	49	⇑P	P	07 41 36.7	-0.6	
	baz=91,SNR=5.9							
TPNV	Topopah Spring	90.92	51	⇑P	P	07 41 36.4	-1.0	
	baz=91,SNR=6.5							
TPNV	Topopah Spring	90.92	51	*eP*	P	07 41 37.3	-0.1	
LDFC	Landfair	90.94	53	*eP*	P	07 41 38.5	+0.9	
113A	Mohawk Valley,	90.98	55	⇑P	P	07 41 38.0	+0.2	
	baz=91							
V11A	Goodsprings	91.03	52	⇑P	P	07 41 37.7	-0.2	
	baz=91,SNR=6.6							
O08A	Rochester Mine	91.08	47	⇓P	P	07 41 37.6	-0.4	
	baz=91							
L07A	Adell	91.08	45	⇓P	P	07 41 38.3	+0.3	
	baz=91,SNR=8.7							
S10A	Tonopah Range,	91.10	50	⇑P	P	07 41 38.2	0.0	
	baz=91,SNR=7.5							
J06A	Christmas Vall	91.13	44	⇓P	P	07 41 37.8	-0.4	
	baz=91,SNR=7.4							
NEE2	Needles Airpor	91.18	53	⇓P	P	07 41 38.6	0.0	
	baz=91							
W12A	Cal Nev Ari	91.22	53	⇑P	P	07 41 38.8	0.0	
	baz=91,SNR=6.2							
N08A	GE Springer Mi	91.32	46	⇑P	P	07 41 39.3	+0.1	
	baz=91,SNR=7.4							
PDMCI	Parker Dam,Lak	91.34	54	⇑P	P	07 41 39.6	+0.2	
	baz=91,SNR=8.0							
Y13A	Salome	91.37	54	⇓P	P	07 41 40.0	+0.4	
	baz=91,SNR=10.0							
214A	Organ Pipe Nat	91.38	56	⇓P	P	07 41 40.1	+0.4	
	baz=91							
I06A	Preville	91.42	43	⇓P	P	07 41 39.5	-0.1	
	baz=92,SNR=8.9							
M08A	Happy Creek Ra	91.45	46	⇓P	P	07 41 39.7	0.0	
	baz=92							
K07A	Rock Creek Ran	91.46	44	⇓P	P	07 41 39.8	+0.1	
	baz=92,SNR=6.9							
R10A	Warm Springs	91.47	49	⇑P	P	07 41 39.8	-0.1	
	baz=92,SNR=6.1							
SHPR	Sheep Range	91.52	51	*eP*	P	07 41 40.0	-0.2	
S11A	Rachel	91.58	50	⇓P	P	07 41 40.1	-0.4	
	baz=92							
GNW	Green Mountain	91.60	39	*eP*	P	07 41 40.3	+0.1	
	comp=Z,7.5nm,1.1s,mb4.9							
X13A	Yucca	91.69	54	⇓P	P	07 41 41.3	+0.2	
	baz=92,SNR=11							
H06A	Lindquist Farm	91.72	42	⇓P	P	07 41 40.6	-0.3	
	baz=92,SNR=10							
E05A	Randle	91.73	40	⇓P	P	07 41 40.4	-0.5	
	baz=92							
WVOR	Wild Horse Val	91.74	45	*eP*	P	07 41 41.1	+0.1	
WVOR				pmax	pmax			
	comp=Z,8.0nm,1.2s,mb4.9							
WVOR	Wild Horse Val	91.74	45	*eP*	P	07 41 41.1	0.0	
	comp=Z,8.1nm,1.2s,mb4.9							
T11A	Corn Creek, Al	91.79	51	⇓P	P	07 41 41.6	+0.2	
	baz=92,SNR=7.1							
L08A	Fields	91.82	45	⇓P	P	07 41 41.6	+0.2	
	baz=92,SNR=7.7							
Z14A	Wintersburg	91.86	55	⇓P	P	07 41 41.9	+0.1	
	baz=92,SNR=6.9							
W13A	Hualapai Mount	91.86	53	⇓P	P	07 41 41.8	0.0	
	baz=92,SNR=5.9							
I07A	Izee	91.94	43	⇓P	P	07 41 42.0	+0.1	
	baz=92,SNR=6.4							
ZAK	Zakamensk	91.96	324	*eP*	P	07 41 42.0	+0.1	
ZAK				pmax	pmax			
	comp=Z,3.0nm,1.3s,mb4.5							
COLA	College	91.98	17	*dP*	P	07 41 40.7	-0.9	
R11A	Troy Canyon, C	92.00	50	⇓P	P	07 41 41.9	-0.5	
	baz=92							
Y14A	Wickenburg	92.05	54	⇑P	P	07 41 41.7	-1.0	
	baz=92,SNR=7.2							
V13A	Grand Canyon W	92.10	52	⇓P	P	07 41 42.7	-0.2	
	baz=92,SNR=6.7							
115A	Sonoran Desert	92.14	56	⇓P	P	07 41 43.8	+0.6	
	baz=92							
H07A	Lands Inn, Kim	92.14	43	⇓P	P	07 41 42.0	-0.8	
	baz=92							
Q11A	Duckwater	92.17	49	⇓P	P	07 41 43.1	-0.1	
	baz=92,SNR=6.8							
L09A	Wilkinson Ranc	92.19	46	⇓P	P	07 41 43.6	+0.5	
	baz=92							
S12A	Delamar Landin	92.21	50	⇓P	P	07 41 44.1	+0.7	
	baz=92,SNR=14							
J08A	Circle Bar Ran	92.27	44	⇓P	P	07 41 43.1	-0.3	
	baz=92,SNR=6.3							
X14A	Yava	92.35	54	⇑P	P	07 41 44.2	+0.1	
	baz=92,SNR=9.7							
U13A	Pakoon Wash	92.35	52	⇑P	P	07 41 43.8	-0.3	
	baz=92,SNR=5.9							
TLY	Talaya	92.45	325 ⇑	*iP*	P	07 41 40.4	-3.7	
TLY				pmax	pmax			
	comp=Z,7.0nm,0.8s,mb5.0							
216A	Three Points,	92.45	57	⇓P	P	07 41 45.4	+0.8	
	baz=92							
K09A	Rome	92.46	45	⇑P	P	07 41 43.6	-0.7	
	baz=92,SNR=8.2							
I08A	Drewsey	92.46	44	⇑P	P	07 41 44.5	+0.2	
	baz=92							
116A	Eloy	92.49	56	⇓P	P	07 41 45.2	+0.4	
	baz=92							
W14A	Seligman	92.51	53	⇑P	P	07 41 45.0	+0.2	
	baz=93,SNR=8.2							
Y15A	Casa Rosa Ranc	92.56	55	⇓P	P	07 41 45.1	0.0	
	baz=93,SNR=13							
T13A	Saint George	92.65	51	⇑P	P	07 41 44.0	-1.4	
	baz=93							
V14A	Boquillas Ranc	92.67	53	P	P	07 41 46.4	+0.8	
	baz=93,SNR=6.5							
R12A	Pony Springs,	92.69	50	⇓P	P	07 41 45.9	+0.3	
	baz=93							
O11A	Cowboy Ranch,	92.72	48	⇓P	P	07 41 45.4	-0.2	
	baz=93							
M10A	I.L. Ranch, Tu	92.72	46	⇑P	P	07 41 46.3	+0.7	
	baz=93,SNR=6.3							
J09A	Fry Pan Ranch,	92.73	44	P	P	07 41 45.3	-0.3	
	baz=93,SNR=8.1							
Q12A	Willow Creek R	92.83	49	⇓P	P	07 41 45.3	-0.9	
	baz=93							
G08A	Pilot Rock	92.85	42	⇓P	P	07 41 46.0	-0.1	
	baz=93							
X15A	Humboldt	92.85	54	⇑P	P	07 41 46.0	-0.4	
	baz=93,SNR=16							
S13A	Holt Ranch, En	92.91	51	⇑P	P	07 41 46.3	-0.3	
	baz=93							
U14A	Mt Trumbull	92.93	52	⇓P	P	07 41 46.5	-0.2	
	baz=93,SNR=8.2							
HAWA	Hanford	93.00	41	*eP*	P	07 41 46.6	-0.2	
Z16A	Peralta Trail,	93.01	55	⇓P	P	07 41 47.1	-0.1	
	baz=93,SNR=6.2							
L10A	Juniper Basin	93.01	46	⇓P	P	07 41 47.2	+0.2	
	baz=93							
R13A	O'Grain Ranch,	93.08	50	⇓P	P	07 41 47.4	0.0	
	baz=93							
TUC	Tucson	93.10	57	*eP*	P	07 41 48.2	+0.6	
TUC				pmax	pmax			
	comp=Z,9.0nm,1.4s,mb5.0							
TUC	Tucson	93.10	57	*eP*	P	07 41 48.2	+0.6	
	comp=Z,8.9nm,1.4s,mb5.0							
Y16A	Circle Bar Ran	93.18	55	⇑P	P	07 41 48.0	0.0	
	baz=93,SNR=14							
117A	Oracle	93.24	56	⇓P	P	07 41 48.0	-0.3	
	baz=93,SNR=8.4							
X16A	Lo Mia Camp, P	93.42	54	⇓P	P	07 41 49.0	0.0	
	baz=94,SNR=15							
V15A	Kaibab Nationa	93.43	53	⇓P	P	07 41 49.8	+0.7	
	baz=94,SNR=7.0							
P13A	Bates Ranch, G	93.58	49	⇓P	P	07 41 49.7	+0.1	
	baz=94							
U15A	North Rim	93.59	52	⇑P	P	07 41 49.8	0.0	
	baz=94,SNR=8.0							
Y17A	Roosevelt	93.60	55	⇑P	P	07 41 49.9	0.0	
	baz=94,SNR=6.3							
118A	Homack Ranch,	93.86	57	⇓P	P	07 41 51.3	+0.2	
	baz=94,SNR=5.1							
X17A	Forest Lakes	93.88	55	⇑P	P	07 41 51.3	+0.2	
	baz=94,SNR=8.5							
WUAZ	Wupatki	93.91	53	⇑P	P	07 41 51.3	0.0	
	baz=94,SNR=6.2							
WUAZ	Wupatki	93.91	53	*eP*	P	07 41 51.7	+0.5	
	comp=Z,10nm,1.0s,mb5.2							
G10A	Bishop Farm, J	94.00	43	⇓P	P	07 41 50.1	-1.4	
	baz=94							
I11A	Placerville	94.15	44	⇓P	P	07 41 52.0	-0.1	
	baz=94							
219A	White Tail Can	94.17	57	⇑P	P	07 41 52.4	-0.2	
	baz=94							
M13A	Montello	94.27	47	⇑P	P	07 41 52.6	-0.1	
	baz=94							
U16A	Tuba City	94.34	53	⇑P	P	07 41 53.1	-0.1	
	baz=94,SNR=5.1							
J12A	Stokes Ranch,	94.43	45	⇑P	P	07 41 53.5	0.0	
	baz=94							
H11A	Donnelly	94.45	44	⇓P	P	07 41 53.8	+0.3	
	baz=94							
G12A	Big Creek, Yel	95.08	43	⇓P	P	07 41 56.1	-0.3	
	baz=95							
J13A	Cove Ranch, Pi	95.11	45	⇑P	P	07 41 56.2	-0.4	
	baz=95							
H12A	Diamond D Ranc	95.14	44	⇓P	P	07 41 56.6	-0.1	
	baz=95							
ANMO	Albuquerque	97.43	56	*ciP*	P	07 42 05.4	-1.9	
TXAR	Lajitas Array	97.71	62	P	P	07 42 08.7	-0.1	
	comp=Z,0.4nm,0.8s,mb4.0,baz=235,slow=4.4,SNR=4.1							
TXAR				LR	LR	08 17 30.2		
	comp=Z,98nm,18.4s,MS4.3,baz=5.0,slow=30							
GDL2	Guadalupe Moun	98.12	59	*eP*	P	07 42 14.2	+3.7	
WMQ	Urumqi	98.63	314	P	P	07 42 12.8	+0.3	
WMQ				AP	pP	07 42 23.3	+0.3	
WMQ				XP	sP	07 42 27.8	+1.1	
WMQ				PP	PP	07 46 16.3	+2.4	
WMQ				PPP		07 48 24.8		
WMQ				AMB	AMB			
	comp=Z,4.0nm,0.7s,mb5.1							
WMQ				AMB	AMB			
	comp=Z,106nm,4.1s							
WMQ				LR	LR			
	comp=N,67nm,19.5s							
WMQ				LR	LR			
	comp=Z,32nm,21.2s,MS3.8							
MKAR	Makanchi Array	103.20	315	Pdiff	Pdiff	07 42 32.8	0.0	
	comp=Z,0.1nm,0.2s,baz=115,slow=5.5,SNR=3.2							
ARCES	ARCESS Array B	127.04	345	PKP	PKPdf	07 47 36.1	-0.7	
	comp=Z,1.2nm,0.6s,baz=90,slow=2.4,SNR=7.2							
JOF	Joensuu	129.63	337	*ep*	PKPdf	07 47 45.0	+3.1	
	comp=Z,3.6nm,0.6s							
JOF	Joensuu	129.63	337	*e*PKIKP	PKPdf	07 47 45.0	+3.1	
JOF				pmax	pmax			
	comp=Z,4.0nm,0.6s							
OBN	Obninsk	131.20	326	*i* PKIK

MOX	**Moxa**	**145.84 334**	*e*PKP2	PKPab	07 48 13.7	+0.8
MOX			pmax	pmax		
	comp=Z,30nm,2.0s					
MOX	**Moxa**	**145.84 334**	*e*PKPab	PKPab	07 48 12.5	-0.4
IBBN	**Ibbenburen**	**145.88 340**	*e*PKPab	PKPab	07 48 13.0	0.0
CONA	**Conrad Observa**	**145.88 328**⇑	*i*PKPab	PKPab	07 48 14.0	+0.8
	comp=Z,12nm,1.0s					
CSNA	**Conrad Observa**	**145.89 328**⇑	*i*PKPab	PKPab	07 48 13.1	-0.1
	comp=Z,11nm,1.0s					
KHC	**Kasperske Hory**	**146.13 331**	*e*PKP	PKPdf	07 48 13.6	+1.1
MANZ	**Manzenberg**	**146.14 333**	*e*PKPab	PKPab	07 48 14.2	+0.1
ROTZ	**Rotzenmuhle**	**146.26 333**	*e*PKPab	PKPab	07 48 14.4	-0.2
GEC2	**GERESS Array S**	**146.28 331**	*e*PKPab	PKPab	07 48 14.1	-0.6
GERES	**GERESS Array B**	**146.28 331**	PKPbc	PKPbc	07 48 11.7	-2.2
	comp=Z,2.4nm,0.7s,baz=29,slow=3.0,SNR=22					
UBBA	**Unterbreizbach**	**146.33 336**	*e*PKPab	PKPab	07 48 15.8	+1.0
WET	**Wettzell**	**146.44 332**	*e*PKPab	PKPab	07 48 16.4	+1.1
GRA1	**Grafenberg Arr**	**146.73 334**	*e*PKPab	PKPab	07 48 15.5	-0.9
GRF	**Grafenberg Arr**	**146.73 334**	*e*PKPab	PKPab	07 48 15.5	-0.9
BUG	**Bochum--Univer**	**146.78 339**	*e*PKPab	PKPab	07 48 15.9	-0.6
RJOB	**Jochberg**	**147.50 330**	*e*PKPab	PKPab	07 48 19.7	+0.2
BOJS	**Bojanci**	**147.79 325**	*i* PKPdf	PKPab	07 48 23.8	+3.0
MEM	**Membach**	**147.90 340**	PKPbc	PKPbc	07 48 19.8	+1.4
MEM			PKPab	PKPab	07 48 25.0	+4.1
JAVS	**Javornik**	**148.16 326**	*i* PKPdf	PKPab	07 48 21.9	-0.2
UCC	**Uccle**	**148.24 342**	PKPab	PKPab	07 48 26.0	+3.7
UCC			APKPbc		07 48 30.9	
UCC			APKPab		07 48 37.5	
BCLA	**Clavier**	**148.29 340**	PKPab	PKPab	07 48 23.0	+0.5
WLF	**Walferdange**	**148.67 339**	PKPbc	PKPbc	07 48 21.1	+0.6
WLF			PKPab	PKPab	07 48 24.6	+0.5
WLF	**Walferdange**	**148.67 339**	*e*PKPbc	PKPbc	07 48 19.5	-0.9
WLF			*e*PKPab	PKPab	07 48 24.4	+0.3
GIVF	**Givet**	**148.72 341**	*e*PKP1	PKPbc	07 48 21.0	+0.5
DOU	**Dourbes**	**148.79 341**	PKPab	PKPab	07 48 24.2	-0.4
DOU			APKPbc		07 48 34.9	
BAIF	**Baives**	**148.94 341**	*e*PKP1	PKPbc	07 48 20.7	-0.4
	comp=Z,25nm,1.2s					
BFO	**Black Forest**	**148.98 335**	*e*PKPbc	PKPbc	07 48 20.9	-0.4
BFO			*e*PKPab	PKPab	07 48 25.3	-0.1
BFO	**Black Forest**	**148.98 335**	*e*PKPbc	PKPbc	07 48 21.3	+0.1
BFO			*e*PKPab	PKPab	07 48 25.3	-0.1
BFO			*e*PKPab	PKPab	07 48 26.1	+0.8
CDF	**Champ du Feu**	**149.32 336**	*e*PKP1	PKPbc	07 48 21.5	-0.6
	comp=Z,24nm,1.2s					
HINF	**Hinteralfeld**	**149.97 336**	*e*PKP1	PKPbc	07 48 23.0	-0.7
	comp=Z,33nm,1.4s					
HAU	**Haudompre**	**150.00 337**	*e*PKP1	PKPbc	07 48 23.2	-0.6
TUE	**Stuetta**	**150.02 332**	*e*PKPbc	PKPbc	07 48 24.0	+0.1
MEZF	**Maizieres J'vi**	**150.04 339**	*e*PKP1	PKPbc	07 48 23.6	-0.3
CABF	**La Chapelle**	**151.26 335**	*e*PKP1	PKPbc	07 48 26.0	-0.8
	comp=Z,69nm,1.5s					
FLN	**La Foliniere**	**151.38 346**	*e*PKP1	PKPbc	07 48 26.0	-1.0
	comp=Z,30nm,1.1s					
LDF	**La Druitiere**	**151.45 345**	*e*PKP1	PKPbc	07 48 26.2	-1.0
	comp=Z,13nm,0.8s					
LOR	**Lormes**	**151.51 339**	*e*PKP1	PKPbc	07 48 26.7	-0.7
SSF	**Saint Saulge**	**151.81 339**	*e*PKP1	PKPbc	07 48 27.5	-0.6
	comp=Z,20nm,1.1s					
GRR	**Gorron**	**151.82 346**	*e*PKP1	PKPbc	07 48 27.2	-0.8
	comp=Z,19nm,0.9s					
LPG	**La Plagne**	**151.90 333**	*e*PKP1	PKPbc	07 48 28.3	0.0
	comp=Z,18nm,1.1s					
SMF	**Signal de Mont**	**152.06 338**	*e*PKP1	PKPbc	07 48 28.5	-0.1
	comp=Z,33nm,1.3s					
AVF	**Avril sur Loir**	**152.09 339**	*e*PKP1	PKPbc	07 48 27.9	-0.8
	comp=Z,23nm,1.1s					
SGMF	**Saint Gilles**	**152.30 348**	*e*PKP1	PKPbc	07 48 28.0	-1.1
	comp=Z,36nm,1.1s					
ROSF	**Rostrenen**	**152.35 349**	*e*PKP1	PKPbc	07 48 28.9	-0.3
	comp=Z,41nm,1.3s					
ORIF	**Oris-en-Rattie**	**152.73 334**	*e*PKP1	PKPbc	07 48 30.2	0.0
	comp=Z,46nm,1.5s					
QUIF	**Quistinic**	**152.74 349**	*e*PKP1	PKPbc	07 48 29.9	-0.2
TCF	**Toulx Ste Croi**	**152.91 340**	*e*PKP1	PKPbc	07 48 29.9	-0.7
	comp=Z,16nm,1.2s					
PGF	**Pioggiola**	**153.10 327**	*e*PKP1	PKPbc	07 48 29.7	-1.4
	comp=Z,15nm,0.8s					
MFF	**Saint Martin d**	**153.31 344**	*e*PKP1	PKPbc	07 48 30.8	-0.6
	comp=Z,21nm,1.1s					
ESDC	**Sonseca Array**	**160.77 344**	PKPab	PKPab	07 49 15.0	-0.6
	comp=Z,1.1nm,0.6s,baz=14,slow=3.3,SNR=10					

NIED ***14*** *07:29:00.2* ***9.90N×14.120E,h32km,Mw4.0*** *Best double couple: M0 1.08000×10^15 NP1:φs=288.00000°, δ76.00000°, λ-45.00000°. NP2:φs=32.00000°, δ46.00000°, λ-161.00000°.*

IDC ***14*** *07:29:09.9±0.6,30.14N×142.79E,h0km,mb4.1/18, mb1 4.3/21,mb1mx4.2/26,mbtmp4.1/21,ML3.8/3,MS3.2/4, Ms1 3.2/4,ms1mx2.8/40,Error ellipse: s-maj=18.7km s-min=15.4km az=61.0*

ISCJB ***14*** *07:29:10.5±1.8,3025N±004×14274E±007,h13km±11km, mb4.2/23,MS3.3/2,Error ellipse: s-maj=10.5km s-min=5.3km az=150.4*

JMA ***14*** *07:29:14.1,2994N×141.23E,h37km,M4.2*

NEIC ***14*** *07:29:15.3±0.4,30.18N×142.74E,h35km,mb4.5/5, MW4.0(NIED),Error ellipse: s-maj=13.1km s-min=9.2km az=51.0*

ISC 14 07:29:12.7±2.0,3022N±004×14278E±006,h17km±12km, n74,σ0991/82,mb4.2/23,MS3.3/2,15C-11D,Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op		ISC	h m s	ISC
CBIJ	**Chichi jima**	**3.15**	**190**	Pn		**Pn**	**07 30 00.6**	**-1.0**
	13nm,0.3s,baz=254,slow=21,SNR=22							
CBIJ				Sn		**Sn**	**07 30 35.5**	**-3.3**
	38nm,0.3s,baz=297,slow=22,SNR=9.1							
CBIJ	**Chichi jima**	**3.15**	**190**	P		**Pn**	**07 30 00.1**	**-1.5**
CBIJ				*e*S		**Sn**	**07 30 34.5**	**-4.3**
JHHJ	**Haha-jima-NKT**	**3.62**	**189**	P		**Pn**	**07 30 07.5**	**-0.4**
BSO2	**Boso 2**	**4.83**	**340**	*e*S		**Sn**	**07 31 20.4**	**+0.3**
BSO3	**Boso 3**	**4.96**	**338**	P		**Pn**	**07 30 27.8**	**+1.5**
BSO3				S		**Sn**	**07 31 22.2**	**-1.0**
BSO4	**Boso 4**	**5.18**	**337**	P		**Pn**	**07 30 30.5**	**+1.1**
BSO4				S		**Sn**	**07 31 28.8**	**0.0**
JOD2	**Odawara 2**	**5.91**	**329**	P		**Pn**	**07 30 38.8**	**-0.7**
JOD2				S		**Sn**	**07 31 42.2**	**-4.6**
JHU	**Hanno**	**6.34**	**333**	P		**Pn**	**07 30 45.3**	**0.0**
JHU				S		**Sn**	**07 31 52.0**	**-5.2**
JYT	**Yasato**	**6.37**	**341**	P		**Pn**	**07 30 45.2**	**-0.5**
JYT				S		**Sn**	**07 31 54.7**	**-3.4**
JRY	**Ryogami san**	**6.63**	**332**	P		**Pn**	**07 30 48.8**	**-0.5**
JRY				S		**Sn**	**07 32 00.2**	**-4.3**
JHO	**Hitachi**	**6.64**	**344**	P		**Pn**	**07 30 48.6**	**-0.8**
JAG	**Ashikaga**	**6.79**	**337**	P		**Pn**	**07 30 51.6**	**+0.2**
MJAR	**Matsushiro Arr**	**7.37**	**330**	Pn		**Pn**	**07 30 59.1**	**-0.4**
	3.9nm,0.3s,baz=156,slow=11,SNR=57							
MJAR				Sn		**Sn**	**07 32 19.0**	**-3.7**
	0.9nm,0.3s,baz=169,slow=20,SNR=9.6							
MAJO	**Matsushiro**	**7.37**	**330**	*e*Pn		**Pn**	**07 30 59.3**	**-0.2**
	34nm,0.6s							
MAJO				*e*Sn		**Sn**	**07 32 21.7**	**-1.0**
MAT	**Matsushiro**	**7.37**	**330**	P		**Pn**	**07 30 58.6**	**-0.9**
MAT				S		**Sn**	**07 32 17.8**	**-4.9**
JOW	**Kunigami**	**13.19**	**259**	LR		LR	07 36 37.4	
	comp=Z,162nm,21.6s,baz=114,slow=34							
ASAJ	**Asahikawa**	**13.87**	**359**	Pn		**Pn**	**07 32 25.4**	**-3.0**
	0.7nm,0.3s,baz=66,slow=26,SNR=5.2							
KSRS	**Korea Array**	**14.29**	**304**	Pn		**Pn**	**07 32 35.4**	**+1.2**
	0.3nm,0.3s,baz=116,slow=14,SNR=10.0							
KSRS				LR		LR	07 37 31.5	
	comp=Z,39nm,20.8s,baz=343,slow=35							
MDJ	**Mudanjiang**	**17.75**	**328**	*e*Pn		**Pn**	**07 33 20.0**	**+1.1**
	8.3nm,0.8s							
SONM	**Songino Array**	**32.91**	**313**	P		**P**	**07 35 47.7**	**+1.9**
	3.0nm,0.8s,mb4.3,baz=110,slow=8.3,SNR=14							
CMAR	**Chiang Mai Ar**	**41.39**	**264**	P		**P**	**07 36 58.0**	**-0.2**
	0.8nm,0.4s,mb3.7,baz=69,slow=4.9,SNR=2.9							
CMAR				LR		LR	07 56 11.9	
	comp=Z,40nm,18.2s,MS3.3,baz=70,slow=39							
CMAR	**Chiang Mai Arr**	**41.39**	**264**	P		**P**	**07 36 58.0**	**-0.2**
CMAR				LR		LR	07 56 11.9	
BDT	**Bhumibol Dam**	**41.86**	**262**	P		**P**	**07 36 45.0**	**-17**
	31nm,1.0s,mb4.9							
ZALV	**Zalesovo Beam**	**47.52**	**317**	P		**P**	**07 37 46.5**	**-0.3**
	0.7nm,0.3s,mb4.2,baz=93,slow=7.9,SNR=6.4							
ZALV				PcP		PcP	07 39 16.9	+0.3
	1.0nm,0.3s,baz=103,slow=1.9,SNR=2.7							
ZALV	**Zalesovo Beam**	**47.52**	**317**	P		**P**	**07 37 46.5**	**-0.3**
ZALV				PcP		PcP	07 39 16.9	+0.3

MKAR	**Makanchi Array**	**48.94**	**308**	P		**P**	**07 37 58.5**	**+0.7**
	2.0nm,0.7s,mb4.2,baz=90,slow=8.9,SNR=19							
MKAR				LR		LR	08 00 03.1	
	comp=Z,25nm,19.8s,MS3.2,baz=154,slow=38							
WRA	**Warramunga Arr**	**50.53**	**190**	P		**P**	**07 38 08.8**	**-1.3**
	2.7nm,0.8s,mb4.2,baz=9.5,slow=8.1,SNR=14							
KURK	**Kurchatov**	**51.22**	**313**	P		**P**	**07 38 15.4**	**+0.4**
	1.5nm,0.5s,mb4.2,baz=89,slow=7.9,SNR=6.5							
ASAR	**Alice Springs**	**54.25**	**190**	P		**P**	**07 38 37.0**	**-0.7**
	1.6nm,0.9s,mb3.9,baz=9.2,slow=7.0,SNR=9.2							
UCH	**Uchtor**	**55.01**	**303**	*e*P		**P**	**07 38 45.1**	**+2.0**
	3.8nm,1.0s,mb4.4							
UCH					*e*PP	PP	07 40 46.6	+0.5
AML	**Almayashu**	**55.63**	**303**	*e*P		**P**	**07 38 49.6**	**+2.0**
	7.8nm,0.9s,mb4.7							
BVAR	**Borovoye Array**	**56.13**	**316**	P		**P**	**07 38 51.0**	**0.0**
	1.8nm,0.7s,mb4.2,baz=91,slow=9.6,SNR=10.0							
KBL	**Kabul**	**61.13**	**295**	*e*P		**P**	**07 39 25.7**	**-0.5**
	6.0nm,0.9s,mb4.7							
AKTK	**Aktyubinsk**	**64.18**	**315**	P		**P**	**07 39 46.0**	**-0.2**
AKTO	**Aktyubinsk**	**64.18**	**315**	P		**P**	**07 39 46.0**	**-0.2**
	1.1nm,0.5s,mb4.2,baz=40,slow=7.9,SNR=3.7							
YKA	**Yellowknife Ar**	**69.16**	**29**	P		**P**	**07 40 16.8**	**-1.0**
	2.0nm,0.6s,mb4.2,baz=294,slow=6.8,SNR=3.7							
ARCES	**ARCESS Array B**	**70.78**	**341**	P		**P**	**07 40 29.4**	**+1.8**
	2.0nm,0.9s,mb4.1,baz=20,slow=3.9,SNR=3.5							
YBH	**Yreka Blue Hor**	**73.67**	**51**	P		**P**	**07 40 46.5**	**+1.1**
	0.7nm,0.4s,mb4.0,baz=274,slow=16,SNR=4.1							
L07A	**Adell**	**75.79**	**50**	⇑P		**P**	**07 40 59.2**	**+1.5**
	baz=76							
C13A	**Hot Springs**	**76.05**	**43**	⇓P		**P**	**07 41 00.1**	**+1.0**
	baz=76							
BEKR	**Beckwourth**	**76.11**	**52**	⇑P		**P**	**07 40 59.9**	**+0.4**
	baz=76,SNR=5.7							
G11A	**Walters Elk Ra**	**76.14**	**45**	⇑P		**P**	**07 40 60.0**	**+0.4**
	baz=76							
J09A	**Fry Ban Ranch,**	**76.19**	**48**	⇑P		**P**	**07 41 01.0**	**+1.0**
	baz=76							
H10A	**Noah's Angus R**	**76.24**	**46**	⇑P		**P**	**07 40 59.9**	**-0.3**
	baz=76							
O06A	**Flanigan**	**76.33**	**51**	⇓P		**P**	**07 41 01.0**	**+0.2**
	baz=76							
L08A	**Fields**	**76.36**	**49**	⇓P		**P**	**07 41 01.2**	**+0.2**
	baz=76							
LAVA	**Lava Cap Winer**	**76.36**	**53**	⇓P		**P**	**07 41 00.7**	**-0.3**
	baz=76							
B14A	**Marquette Ranc**	**76.47**	**42**	⇓P		**P**	**07 41 01.7**	**+0.3**
	baz=76							
C14A	**Swan Lake**	**76.49**	**42**	⇓P		**P**	**07 41 02.1**	**+0.6**
	baz=76							
CMB	**Columbia Colle**	**76.94**	**54**	⇑P		**P**	**07 41 03.6**	**-0.7**
	baz=77							
A16A	**West Butte Ran**	**77.12**	**41**	⇑P		**P**	**07 41 04.7**	**-0.4**
	baz=77							
NVAR	**Mina Array Bea**	**78.19**	**52**	P		**P**	**07 41 12.1**	**+0.8**
	2.1nm,0.8s,mb4.1,baz=285,slow=5.6,SNR=18							
R09A	**Tonopah**	**79.13**	**52**	⇓P		**P**	**07 41 16.9**	**+0.4**
	baz=79							
E18A	**Harlowton**	**79.35**	**42**	⇑P		**P**	**07 41 18.0**	**+0.5**
	baz=79							
GRAC	**Grapevine Rang**	**79.54**	**53**	⇑P		**P**	**07 41 18.6**	**-0.1**
	baz=79							
S10A	**Tonopah Range,**	**79.61**	**52**	⇑P		**P**	**07 41 19.7**	**+0.6**
	baz=80							
MPMC	**Manual Prospec**	**79.92**	**54**	⇑P		**P**	**07 41 19.8**	**-1.0**
	baz=80							
LRMC	**Laurel Mountai**	**80.08**	**55**	⇑P		**P**	**07 41 22.1**	**+0.4**
	baz=80							
EDW2	**Edwards Air Fo**	**80.16**	**55**	⇑P		**P**	**07 41 21.2**	**-0.9**
	baz=80							
AKASG	**Malin Array Be**	**80.42**	**324**	P		**P**	**07 41 22.7**	**-0.5**
	1.7nm,0.7s,mb4.1,baz=49,slow=5.4,SNR=5.2							
NB2	**NORSAR Subarra**	**80.91**	**338**	P		**P**	**07 41 25.5**	**-0.1**
	comp=Z,2.1nm,0.9s,mb4.1,baz=42,slow=5.9							
NOA	**NORSAR Array B**	**80.91**	**338**	P		**P**	**07 41 26.0**	**+0.4**
	comp=Z,1.6nm,0.8s,mb4.0,baz=39,slow=5.2,SNR=5.4							
P14A	**Drum Mountains**	**81.12**	**49**	⇓P		**P**	**07 41 26.0**	**-1.1**
	baz=81							
Q14A	**Sevier Lake (B**	**81.30**	**50**	⇓P		**P**	**07 41 27.3**	**-0.8**
	baz=81							
TUQ	**Turquoise Moun**	**81.34**	**54**	⇓P		**P**	**07 41 27.1**	**-1.3**
	baz=81							
HEC	**Hector,Ludlow**	**81.36**	**55**	⇑P		**P**	**07 41 27.5**	**-1.0**
	baz=81							
PDAR	**Pinedale Array**	**81.64**	**45**	P		**P**	**07 41 30.4**	**+0.6**
	comp=Z,0.6nm,0.8s,mb3.5,baz=217,slow=1.7,SNR=4.1							
T13A	**Saint George**	**81.91**	**52**	⇓P		**P**	**07 41 30.7**	**-0.7**
	baz=82							
U13A	**Pakoon Wash**	**82.19**	**52**	⇑P		**P**	**07 41 32.3**	**-0.5**
	baz=82							
BR131	**Keskin Array S**	**84.27**	**313**	*e*P		**P**	**07 41 43.5**	**-0.1**
	comp=Z,1.6nm,0.6s,mb4.3							
ASF	**Jabal al Asfar**	**86.30**	**305**	P		**P**	**07 41 54.5**	**+0.6**
	comp=Z,1.1nm,0.7s,mb4.2,baz=195,slow=6.5,SNR=4.2							
TXAR	**Lajitas Array**	**93.32**	**53**	P		**P**	**07 42 27.8**	**+0.8**
	comp=Z,1.8nm,0.8s,mb4.5,baz=287,slow=2.7,SNR=16							
LPAZ	**La Paz**	**148.52**	**71**	PKPbc		PKPbc	07 49 00.5	+1.4
	comp=Z,2.4nm,0.9s,baz=9.3,slow=4.1,SNR=12							
PLCA	**Paso Flores**	**151.06**	**120**	PKPbc		PKPbc	07 49 04.0	-0.6
	comp=Z,3.1nm,0.9s,baz=195,slow=2.8,SNR=5.9							

TEH ***14*** *07:40:05.4,2760N×5297E,h16km,ML4.1*

NEIC ***14*** *07:40:24.4,2761N×5283E,h6km,ML3.9(THR), MN4.1(TEH),After THR.*

THR ***14*** *07:40:24.6±0.4,2762N×5283E,h6km±6km,ML3.8*

IDC ***14*** *07:40:25.8±0.9,2770N×5298E,h0km,mb4.1/18, mb1 4.1/20,mb1mx4.0/27,mbtmp4.0/20,ML3.6/2,Error ellipse: s-maj=22.7km s-min=14.0km az=175.0*

ISCJB ***14*** *07:40:26.3±0.3,2767N±003×5291E±004,h10km, mb4.1/19,Error ellipse: s-maj=4.9km s-min=3.7km az=152.3*

CSEM ***14*** *07:40:28.3±0.1,2775N×5294E,h25km,ML3.8,Error ellipse: s-maj=3.4km s-min=2.2km az=17.0*

ISC 14 07:40:28.1±0.3,2768N±003×5293E±004,h10km,n67, σ1921/75,mb4.1/19,1C-6D,Southern Iran

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op		ISC	h m s	ISC
GHIR	**Ghir-Karzin**	**0.60**	**5**	*e*Pg		**Pg**	**07 40 37.9**	**-2.0**
GHIR				*e*Sg		**Sg**	**07 40 47.6**	**-0.2**
GHIR				AML		AML	07 40 50.1	
	comp=N,5μm,0.3s							
GHIR	**Ghir-Karzin**	**0.60**	**5**	*e*Pg		**Pg**	**07 40 37.9**	**-2.0**
	SNR=90							
GHIR				*e*Sg		**Sg**	**07 40 47.6**	**-0.2**
	comp=N,5μm,0.3s,SNR=90							
GHIR	**Ghir-Karzin**	**0.60**	**5**	*e*Pg		**Pg**	**07 40 37.0**	**-2.9**
GHIR				*e*Sg		**Sg**	**07 40 47.0**	**-0.8**
IMOK	**Mouk**	**1.37**	**352**	Pn		**Pg**	**07 40 55.3**	**+0.8**
IMOK				*e*Sg		**Sg**	**07 41 15.3**	**+2.9**
IMOK	**Mouk**	**1.37**	**352**	⇓*e*Pn		**Pg**	**07 40 55.4**	**+0.9**
IMOK				*e*Sg		**Sg**	**07 41 15.3**	**+2.9**
IMOK				*e*			07 41 20.7	
ISRV	**Sarvestan**	**1.70**	**5**	⇓*e*Pn		**Pg**	**07 40 59.8**	**-1.0**
ISRV				*e*Sg		**Sg**	**07 41 25.0**	**+2.1**
ISRV	**Sarvestan**	**1.70**	**5**	⇓*e*Pn		**Pg**	**07 40 59.8**	**-1.0**
ISRV				*e*Sg		**Sg**	**07 41 25.0**	**+2.1**
ISRV				*e*			07 41 33.6	
IPAR	**Pars**	**2.16**	**3**	⇓*e*Pn		**Pn**	**07 41 05.8**	**+1.7**
IPAR				*e*			07 41 40.8	
BNDS	**Bandar-Abbas**	**2.89**	**95**	*e*Pn		**Pn**	**07 41 14.5**	**+0.2**
BNDS				AML		AML	07 42 10.2	
	comp=N,224nm,0.4s							
BNDS				AML		AML	07 42 20.0	
	comp=E,284nm,0.5s							
BNDS	**Bandar-Abbas**	**2.89**	**95**	*e*Pn		**Pn**	**07 41 13.0**	**-1.2**
BANOM	**Banah**	**3.48**	**119**	P		**Pn**	**07 41 22.7**	**+0.3**
	SNR=29							
BANOM	**Banah**	**3.48**	**119**	P		**Pn**	**07 41 22.7**	**+0.3**
	SNR=29							
BANOM				S		**Sn**	**07 42 01.5**	**-2.2**
NAZ	**Nazwa, Dubai**	**3.63**	**137**	P		**Pn**	**07 41 26.2**	**+1.8**
ASUD	**Al Ashush, Dub**	**3.73**	**144**	P		**Pn**	**07 41 27.4**	**+1.6**
	SNR=30							
FAQ	**Al Faqa, Dubai**	**3.78**	**140**	P		**Pn**	**07 41 27.5**	**+1.1**
	SNR=11							
IMEH	**Mehriz**	**3.98**	**21**	*e*Pn		**Pn**	**07 41 30.7**	**+1.5**
IMEH				*e*			07 42 20.7	
HATD	**Hatta, Dubai**	**4.04**	**134**	P		**Pn**	**07 41 32.3**	**+2.2**
KRBR	**Kerman**	**4.07**	**55**	*e*Pn		**Pn**	**07 41 31.2**	**+0.8**
KRBR				AML		AML	07 42 22.6	
	comp=N,137nm,0.6s							
KRBR				AML		AML	07 42 23.2	
	comp=E,142nm,0.5s							

KRBR	**Kerman**	**4.07**	**55**	*e*Pn		**Pn**	**07 41 31.0**	**+0.6**
ISAD	**Sadrabad**	**4.27**	**9**	Pn		**Pn**	**07 41 34.7**	**+1.5**
ISAD	**Sadrabad**	**4.27**	**9**	*e*Pn		**Pn**	**07 41 34.8**	**+1.6**
ISAD				*e*			07 41 39.8	
IBAF	**Bafgh**	**4.52**	**30**	Pn		**Pn**	**07 41 37.3**	**+0.7**
IBAF	**Bafgh**	**4.52**	**30**	⇓*e*Pn		**Pn**	**07 41 37.4**	**+0.8**
IBAF				*e*			07 41 38.3	
ICHK	**Chekchek**	**4.72**	**15**	Pn		**Pn**	**07 41 40.9**	**+1.5**
ICHK	**Chekchek**	**4.72**	**15**	⇑*e*Pn		**Pn**	**07 41 41.0**	**+1.6**
ICHK				*e*			07 41 41.4	
KBD	**Kabd**	**4.84**	**289**	*e*P		**Pn**	**07 41 41.3**	**+0.2**
RDF	**Al-Radifah**	**4.90**	**286**	*e*P		**Pn**	**07 41 42.5**	**+0.6**
UMR	**Umm Al-Rimmam**	**4.95**	**293**	*e*P		**Pn**	**07 41 43.1**	**+0.6**
	baz=296							
UMR				AML		AML	07 42 27.1	
	comp=Z,33nm,0.6s,baz=296							
NASN	**Na'in**	**5.10**	**359**	*e*Pn		**Pn**	**07 41 44.9**	**+0.3**
NASN				AML		AML	07 42 45.0	
	comp=N,41nm,0.6s							
NASN	**Na'in**	**5.10**	**359**	*e*Pn		**Pn**	**07 41 45.0**	**+0.4**
NAY	**Al-Naaiem**	**5.25**	**289**	*e*P		**Pn**	**07 41 47.6**	**+1.0**
	baz=291							
NAY				AML		AML	07 42 22.9	
	comp=Z,22nm,0.5s,baz=291							
MIB	**Mutribah**	**5.34**	**295**	*e*P		**Pn**	**07 41 49.3**	**+1.3**
	baz=297							
MIB				AML		AML	07 42 27.7	
	comp=Z,50nm,0.7s,baz=297							
RST	**Umm Al-Ruwaisa**	**5.52**	**291**	*e*P		**Pn**	**07 41 51.3**	**+0.9**
	baz=293							
RST				AML		AML	07 42 23.6	
	comp=Z,65nm,0.5s,baz=293							
BSY	**Bisya**	**6.25**	**141**	⇓P		**Pn**	**07 42 01.5**	**+1.0**
	SNR=31							
BSYO	**Bisya**	**6.29**	**141**	P		**Pn**	**07 42 01.5**	**+0.6**
	SNR=31							
ZHSF	**Zahedan**	**7.16**	**73**	*e*Pn		**Pn**	**07 42 14.0**	**+1.2**
ZHSF	**Zahedan**	**7.16**	**73**	*e*Pn		**Pn**	**07 42 13.0**	**+0.1**
ASAO	**Ashtian**	**7.28**	**341**	*e*Pn		**Pn**	**07 42 14.6**	**0.0**
ASAO	**Ashtian**	**7.28**	**341**	*e*Pn		**Pn**	**07 42 14.0**	**-0.6**
DAMV	**Damavand**	**7.97**	**354**	*e*Pn		**Pn**	**07 42 23.9**	**-0.1**
DAMV	**Damavand**	**7.97**	**354**	*e*Pn		**Pn**	**07 42 23.0**	**-1.0**
ASF	**Jabal al Asfar**	**14.60**	**292**	Pn		**Pn**	**07 43 53.3**	**-1.5**
	comp=Z,0.2nm,0.3s,baz=60,slow=8.1,SNR=2.8							
EIL	**Elat**	**15.90**	**281**	Pn		**Pn**	**07 44 11.8**	**-0.2**
	comp=Z,0.3nm,0.3s,baz=16,slow=18,SNR=2.6							
AKTK	**Aktyubinsk**	**23.05**	**8**	P		**P**	**07 45 32.7**	**-0.8**
AKTO	**Aktyubinsk**	**23.05**	**8**	P		**P**	**07 45 32.7**	**-0.8**
	comp=Z,1.8nm,0.3s,mb3.9,baz=176,slow=12,SNR=6.7							
IDI	**Anoyia**	**25.03**	**295**	P		**P**	**07 45 53.9**	**+1.5**
	comp=Z,12nm,0.5s,mb4.7,baz=91,slow=9.1,SNR=13							
BVAR	**Borovoye Array**	**28.44**	**22**	P		**P**	**07 46 22.3**	**-0.6**
	comp=Z,1.7nm,0.5s,mb3.9,baz=215,slow=8.0,SNR=10							
AKASG	**Malin Array Be**	**29.19**	**328**	P		**P**	**07 46 28.3**	**-1.3**
	comp=Z,1.5nm,0

ASAR Alice Springs 149.17 235 PKPbc PKPbc 08 22 49.2 -0.2
0.2nm,0.6s,baz=111,slow=3.9,SNR=6.1
WRA Warramunga Arr 150.38 242 PKPbc PKPbc 08 22 51.9 -0.5
0.3nm,0.7s,baz=110,slow=2.4,SNR=5.6

IDC 14 08:04:42.0±1.3, 4151N×2937W, h0km, mb3.5/4, mb1 3.8/5, mb1mx3.5/24, mbtmp3.5/5, ML4.5/1, MS3.5/13, Ms1 3.5/13, ms1mx3.2/42, Error ellipse: s-maj=58.5km s-min=24.6km az=14.0, Azores Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
ESDC	**Sonseca Array**	**19.37**	**87**	P		Pn	08 09 10.2	0.0
	0.3nm,0.3s,baz=287,slow=12,SNR=8.8							
MDT	**Midelt**	**21.50**	**106**	LR		LR	08 16 02.9	
	comp=Z,81nm,19.0s,baz=262,slow=32							
DAVOX	**Davos/Dischmat**	**28.44**	**66**	LR		LR	08 20 08.9	
	comp=Z,90nm,18.4s,baz=167,slow=33							
GERES	**GERESS Array B**	**30.90**	**61**	LR		LR	08 21 41.7	
	comp=Z,53nm,18.1s,baz=277,slow=33							
NOA	**NORSAR Array B**	**31.31**	**38**	LR		LR	08 23 13.2	
	comp=Z,47nm,18.1s,baz=335,slow=36							
HFS	**Hagfors**	**32.20**	**40**	LR		LR	08 23 03.1	
	comp=Z,110nm,19.1s,baz=68,slow=34							
VRAC	**Vranov**	**32.77**	**60**	LR		LR	08 22 37.4	
	comp=Z,58nm,18.3s,baz=326,slow=33							
TORD	**Torodi Ar. Bea**	**39.11**	**127**	P		P	08 12 10.8	-0.3
	0.7nm,1.1s,baz=312,slow=9.4,SNR=2.5							
TORD				LR		LR	08 26 20.8	
	comp=Z,48nm,19.9s,baz=0.0,slow=33							
DBIC	**Dimbokro**	**40.98**	**141**	LR		LR	08 26 28.0	
	comp=Z,51nm,21.3s,baz=187,slow=32							
GNI	**Garni**	**54.44**	**65**	LR		LR	08 36 56.3	
	comp=Z,27nm,20.0s,baz=131,slow=36							
PDAR	**Pinedale Array**	**57.25**	**300**	P		P	08 14 31.9	+0.8
	0.3nm,0.8s,baz=68,slow=5.0,SNR=3.0							
PDAR				LR		LR	08 39 17.8	
	comp=Z,54nm,18.1s,baz=181,slow=36							
TXAR	**Lajitas Array**	**60.05**	**284**	P		P	08 14 50.8	0.0
	1.0nm,1.0s,baz=90,slow=5.0,SNR=6.7							
TXAR				LR		LR	08 40 50.8	
	comp=Z,44nm,18.4s,baz=270,slow=36							
PFO	**Pinyon Flat Ob**	**66.69**	**295**	LR		LR	08 43 57.1	
	comp=Z,108nm,21.2s,baz=164,slow=35							
LPIG	**La Paz**	**67.90**	**283**	LR		LR	08 47 35.0	
	comp=Z,46nm,19.1s,baz=10,slow=38							
MKAR	**Makanchi Array**	**73.19**	**42**	P		P	08 16 14.1	-0.4
	0.2nm,0.2s,baz=328,slow=7.0,SNR=3.6							

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*ISCJB **14** 08:20:50.9±0.5, 1064N±003×6251W±003, h97km±6km, Error ellipse: s-maj=5.1km s-min=3.4km az=139.0*
*FUNV **14** 08:20:52.2, 1069N×6243W, h95km, MW3.5*
*TRN **14** 08:20:53.3, 1074N×6239W, h101km, MD3.4*
*NEIC **14** 08:20:53.9, 1075N×6238W, h96km, MD3.4(TRN), After TRN.*

ISC 14 08:20:51.7±0.5, 1065N±003×6251W±003, h94km±7km, n28, σ1§04/53, 3C-3D, Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
GUIV	**Guiria**	**0.28**	**90**	⇑*iP*		**Pn**	**08 21 05.8**	**+0.4**
GUIV				*eS*		**Sn**	**08 21 15.2**	**-0.4**
CRUV	**Carupano**	**0.72**	**272**	⇑*iP*		**Pn**	**08 21 09.5**	**+0.8**
CRUV				*eS*		**Sn**	**08 21 22.0**	**+0.6**
TCE	**Chacachacare**	**0.74**	**86**	⇓*iP*		**Pn**	**08 21 10.1**	**+1.2**
TCE				*eS*		**Sn**	**08 21 21.9**	**+0.1**
TRN	**Trinidad (W)**	**1.08**	**90**	⇑*iP*		**Pn**	**08 21 13.8**	**+1.2**
TRN				*eS*		**Sn**	**08 21 27.5**	**-0.9**
TPP	**Pointe-a-Pierr**	**1.09**	**107**	*eP*		**Pn**	**08 21 14.7**	**+2.0**
TPP				*eS*		**Sn**	**08 21 29.4**	**+1.0**
TBH	**Brigand Hill**	**1.43**	**96**	*eP*		**Pn**	**08 21 18.1**	**+1.4**
TBH				*eS*		**Sn**	**08 21 36.3**	**+0.7**
GRGR	**Grenville**	**1.70**	**29**	*e*Pn		**Pn**	**08 21 19.6**	**-0.5**
GRGR				*e*Sn		**Sn**	**08 21 40.8**	**-1.0**
GRW	**Mount Saint Ca**	**1.72**	**29**	*eP*		**Pn**	**08 21 20.9**	**+0.5**
GRW				*eS*		**Sn**	**08 21 40.8**	**-1.4**
TPR	**Prospect**	**1.78**	**72**	*eP*		**Pn**	**08 21 22.0**	**+0.8**
TPR				*eS*		**Sn**	**08 21 42.4**	**-1.2**
GRHS	**Sauteurs**	**1.78**	**28**	*eP*		**Pn**	**08 21 21.7**	**+0.5**
GRHS				*eS*		**Sn**	**08 21 43.0**	**-0.6**
BOT	**Bacolet**	**1.83**	**73**	*eP*		**Pn**	**08 21 22.1**	**+0.3**
BOT				*eS*		**Sn**	**08 21 43.0**	**-1.8**
GRSS	**Sisters**	**1.86**	**28**	*eP*		**Pn**	**08 21 23.2**	**+0.9**
GRSS				*eS*		**Sn**	**08 21 43.6**	**-1.8**
GRSS	**Sisters**	**1.86**	**28**	*eP*		**Pn**	**08 21 23.2**	**+0.9**
GRSS				*eS*		**Sn**	**08 21 46.3**	**+0.8**
GRIC	**Isle de Caille**	**1.86**	**29**	*eP*		**Pn**	**08 21 23.1**	**+0.8**
GRIC				*eS*		**Sn**	**08 21 45.3**	**-0.3**
TOSP	**Speyside**	**2.04**	**71**	*eP*		**Pn**	**08 21 24.2**	**-0.3**
TOSP				*eS*		**Sn**	**08 21 47.7**	**-2.0**
PCRV	**Puerto La Cruz**	**2.15**	**258**	*eP*		**Pn**	**08 21 27.0**	**+1.1**
PCRV				*eS*		**Sn**	**08 21 51.6**	**-0.5**
IBAV	**Isla La Blanqu**	**2.34**	**300**	*eP*		**Pn**	**08 21 28.3**	**-0.2**
RIOV	**Rio Grande**	**2.65**	**165**	*eP*		**Pn**	**08 21 33.5**	**+0.9**
RIOV				*eS*		**Sn**	**08 22 02.0**	**-2.1**
PRGV	**PARIAGUAN**	**2.82**	**229**	*eP*		**Pn**	**08 21 35.8**	**+0.9**
PRGV				*eS*		**Sn**	**08 22 07.7**	**-0.4**
SVB	**Belmont**	**2.88**	**25**	*eP*		**Pn**	**08 21 35.7**	**-0.1**
SVB				*eS*		**Sn**	**08 22 09.3**	**-0.4**
GURV	**El Guri**	**2.92**	**191**	*eP*		**Pn**	**08 21 37.2**	**+0.9**
GURV				*eS*		**Sn**	**08 22 09.9**	**-0.7**
CUPV	**Cœpira**	**3.28**	**260**	*eP*		**Pn**	**08 21 42.1**	**+1.0**
CUPV				*eS*		**Sn**	**08 22 18.7**	**-0.5**
BIRV	**Birongo**	**3.70**	**268**	*eP*		**Pn**	**08 21 48.2**	**+1.5**
BIRV				*eS*		**Sn**	**08 22 27.9**	**-1.6**
BIM	**Bigot**	**4.09**	**20**	*eP*		**Pn**	**08 21 51.7**	**-0.4**
FDF	**Fort de France**	**4.27**	**18**	⇓*eP*		**Pn**	**08 21 54.1**	**-0.4**
FDF				⇓*eS*		**Sn**	**08 22 45.8**	**+2.6**
LUEV	**Luepa**	**4.88**	**168**	*eP*		**Pn**	**08 22 02.1**	**-0.7**
CAOV	**Caicara del Or**	**5.01**	**229**	*eP*		**Pn**	**08 22 04.2**	**-0.3**
CAOV				*eS*		**Sn**	**08 22 58.6**	**-2.6**
BAUV	**El Baul**	**5.71**	**253**	*eP*		**Pn**	**08 22 13.3**	**-0.7**
BAUV				*eS*		**Sn**	**08 23 14.1**	**-4.2**

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*ISCJB **14** 08:32:57.0±1.3, 202S±0.1×1776W±0.1, h489km±19km, mb4.4/13, Error ellipse: s-maj=18.1km s-min=15.3km az=139.9*
*NEIC **14** 08:32:58.6±1.2, 2028S×17759W, h494km±15km, mb4.6/7, Error ellipse: s-maj=20.2km s-min=12.5km az=133.0*
*IDC **14** 08:32:59.2±2.1, 2050S×17748W, h500km±23km, mb4.0/7, mb1 4.1/9, mb1mx3.7/18, mbtmp4.0/9, Error ellipse: s-maj=19.7km s-min=13.8km az=105.0*

ISC 14 08:32:58.9±1.4, 203S±01×1776W±01, h496km±20km, n33, σ0§95/28, mb4.4/13, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
AFI	**Afiamalu**	**8.44**	**42**	P		**P**	**08 34 59.7**	**-0.2**
	7.1nm,0.3s,baz=4.0,slow=4.3,SNR=22							
AFI				S		**S**	**08 36 33.5**	**-5.7**
	9.5nm,0.3s,baz=30,slow=20,SNR=10							
URZ	**Urewera**	**18.49**	**193**	P		**P**	**08 36 42.7**	**-1.1**
	3.1nm,0.3s,baz=325,slow=23,SNR=17							
URZ				S		**S**	**08 39 41.1**	**-6.1**
	0.5nm,0.3s,baz=19,slow=14,SNR=4.4							
ARMA	**Armidale**	**29.49**	**244**	*eP*		**P**	**08 38 23.5**	**+1.4**
CTA	**Charters Tower**	**33.87**	**264**	*eP*		**P**	**08 39 00.7**	**+0.9**
	18nm,0.6s,mb4.7							
CTA	**Charters Tower**	**33.87**	**264**	P		**P**	**08 39 00.8**	**+1.0**
	22nm,0.6s,mb4.8,baz=101,slow=10,SNR=33							
STKA	**Stephens Creek**	**38.21**	**244**	*eP*		**P**	**08 39 36.4**	**+0.8**
	6.5nm,0.5s,mb4.3							
STKA	**Stephens Creek**	**38.21**	**244**	P		**P**	**08 39 36.5**	**+0.9**
	7.9nm,0.5s,mb4.4,baz=91,slow=9.4,SNR=19							
ASAR	**Alice Springs**	**44.92**	**256**	P		**P**	**08 40 29.5**	**+0.5**
	32nm,0.5s,mb5.0,baz=94,slow=7.6,SNR=501							
ASAR				S		**S**	**08 46 28.6**	**-1.8**
	1.6nm,0.9s,baz=93,slow=15,SNR=10							
WB2	**Warramunga Ar**	**44.98**	**262**	*eP*		**P**	**08 40 29.1**	**-0.4**
WRAB	**Tennant Creek**	**44.98**	**262**	*eP*		**P**	**08 40 28.2**	**-1.3**
	30nm,1.0s,mb4.7							
WRA	**Warramunga Arr**	**44.99**	**262**	P		**P**	**08 40 29.4**	**-0.1**
	17nm,0.6s,mb4.7,baz=98,slow=7.8,SNR=252							
KAKA	**Kakadu**	**48.33**	**271**	*eP*		**P**	**08 40 52.8**	**-2.2**
	18nm,0.6s,mb4.6							
FORT	**Forrest**	**49.71**	**246**	*eP*		**P**	**08 41 04.8**	**-0.2**
	20nm,0.5s,mb4.7							
FITZ	**Fitzroy Crossi**	**53.42**	**262**	*eP*		**P**	**08 41 32.4**	**+0.4**
	12nm,0.4s,mb4.6							
KLBR	**Kellerberrin**	**58.48**	**245**	*eP*		**P**	**08 42 07.3**	**+0.3**
	18nm,0.9s,mb4.4							
CASY	**Casey**	**64.31**	**205**	*eP*		**P**	**08 42 45.1**	**+0.5**
MJAR	**Matsushiro Arr**	**70.25**	**323**	P		**P**	**08 43 22.2**	**+0.6**
	3.0nm,0.5s,mb4.1,baz=154,slow=6.3,SNR=20							
MJAR	**Matsushiro Arr**	**70.25**	**323**	P		**P**	**08 43 22.2**	**+0.6**
MAJO	**Matsushiro**	**70.25**	**323**	*eP*		**P**	**08 43 20.4**	**-1.2**
	3.2nm,0.6s,mb4.0							
MAW	**Mawson**	**81.89**	**200**	*eP*		**P**	**08 44 25.5**	**0.0**
	1.5nm,0.5s,mb3.8							
MAW	**Mawson**	**81.89**	**200**	P		**P**	**08 44 25.9**	**+0.4**
	1.2nm,0.5s,mb3.7,baz=148,slow=5.0,SNR=12							
SNAA	**Sanae**	**88.22**	**178**	*e*		**P**	**08 44 55.8**	**-0.4**
VNA3	**Neumayer Olymp**	**88.34**	**176**	*e*		**P**	**08 44 56.7**	**-0.1**
VNA2	**Neumayer--Watz**	**88.78**	**177**	*e*		**P**	**08 44 59.2**	**+0.3**
	baz=196,slow=3.7							
CMAR	**Chiang Mai Arr**	**90.38**	**289**	P		**P**	**08 45 09.4**	**+2.2**
	1.7nm,0.6s,mb4.0,baz=113,slow=2.9,SNR=9.5							
ZALV	**Zalesovo Beam**	**110.55**	**321**	PKiKP	PKiKP		08 50 34.5	+0.3
	1.0nm,0.3s,baz=54,slow=3.8,SNR=7.1							
MKAR	**Makanchi Array**	**111.31**	**313**	PKiKP	PKiKP		08 50 35.0	-0.9
	0.3nm,0.4s,baz=136,slow=0.9,SNR=4.1							
ARCES	**ARCESS Array B**	**128.77**	**350**	PKP	PKPdf		08 51 08.9	+0.2
	2.1nm,0.7s,baz=31,slow=2.3,SNR=4.1							
AKASG	**Malin Array Be**	**143.00**	**332**	PKhKP			08 51 32.5	
	2.7nm,0.5s,baz=42,slow=4.5,SNR=11							
CLL	**Collm**	**147.93**	**347**	*i* PKPbc	PKPbc		08 51 48.1	+0.4
	comp=Z,8.0nm,0.9s							
BRG	**Berggiesshubel**	**148.14**	**346**	*i* P	PKPdf		08 51 48.9	+4.6
	comp=Z,3.5nm,0.6s							
GERES	**GERESS Array B**	**150.09**	**345**	PKPbc	PKPbc		08 51 52.8	-0.2
	comp=Z,1.3nm,0.8s,baz=29,slow=3.0,SNR=9.5							
TORD	**Torodi Ar. Bea**	**172.88**	**175**	PKPab	PKPab		08 53 41.2	+0.1
	comp=Z,0.4nm,0.5s,baz=177,slow=3.1,SNR=3.8							

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*NIED **14** 08:47:00, 3320N×13270E, h35km, Mw3.7 Best double couple: M₀4.39000×10¹⁴ NP1:φs211.00000°, δ75.00000°, λ-33.00000°. NP2:φs311.00000°, δ58.00000°, λ-163.00000°.*
*IDC **14** 08:47:29.7±1.6, 3306N×13270E, h0km, mb3.4/2, mb1 3.6/4, mb1mx3.4/23, mbtmp3.4/4, ML3.3/2, Error ellipse: s-maj=35.7km s-min=22.3km az=121.0*
*ISCJB **14** 08:47:32.7±0.5, 3319N±004×13269E±005, h44km±5km, mb3.6/2, Error ellipse: s-maj=7.5km s-min=6.6km az=152.7*
*NEIC **14** 08:47:33.7, 3319N×13266E, h36km, MG3.9(JMA), After JMA.*
NEIC Recorded [2 JMA] in Ehime and Kochi Prefectures. Recorded [1 JMA] in Olta Prefecture, Kyushu and in Yamaguchi Prefecture, Honshu.
*JMA **14** 08:47:33.6, 3319N×13266E, h36km, M3.9 Broadband fault plane solution: P waves. NP1:φs208.00000°, δ61.00000°, λ-29.00000°. NP2:φs313.00000°, δ65.00000°, λ-148.00000°. Principal axes: T Plg2.0000°, Azm80.0000°; N Plg50.0000°, Azm348.0000°; P Plg40.0000°, Azm172.0000°;*
JMA Felt II J1.

ISC 14 08:47:33.9±0.5, 3319N±004×13268E±005, h33km±3km, n13, σ0§57/21, mb3.6/2, 2C-4D, Shikoku

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
UWA2	**Uwa jima 2**	**0.05**	**300**	⇓P		**Pb**	**08 47 39.4**	**0.0**
UWA2				S		**Sb**	**08 47 43.4**	**+0.2**
JTO	**Tosashimizu**	**0.34**	**162**	⇓P		**Pb**	**08 47 42.0**	**-0.2**
JTO				S		**Sb**	**08 47 48.1**	**+0.3**
JKU	**Kubokawa**	**0.34**	**69**	⇑P		**Pb**	**08 47 42.1**	**-0.1**
JKU				S		**Sb**	**08 47 48.0**	**+0.1**
JNA	**Nagahama**	**0.41**	**336**	⇓P		**Pb**	**08 47 42.7**	**-0.4**
JNA				S		**Sb**	**08 47 49.1**	**-0.2**
JET	**Tanbara**	**0.67**	**28**	P		**Pn**	**08 47 46.5**	**-0.5**
JET				S		**Sb**	**08 47 55.9**	**-0.3**
JUS	**Usuki**	**0.79**	**261**	⇑P		**Pn**	**08 47 47.9**	**-0.7**
JUS				S		**Sn**	**08 47 58.9**	**-0.4**
JHM	**Kurahashi**	**0.96**	**353**	⇓P		**Pn**	**08 47 50.9**	**-0.1**
MAJO	**Matsushiro**	**5.64**	**52**	*e*Pn		**Pn**	**08 48 55.8**	**+0.4**
	6.7nm,0.4s							
MAT	**Matsushiro**	**5.64**	**52**	P		**Pn**	**08 48 56.1**	**+0.7**
MAT				*e*S		**Sn**	**08 49 57.8**	**-1.2**
MJAR	**Matsushiro Arr**	**5.64**	**52**	Pn		**Pn**	**08 48 56.5**	**+1.0**
	2.5nm,0.3s,baz=238,slow=13,SNR=38							
MJAR				Lg			08 50 30.8	
	baz=234,slow=33,SNR=2.6							
KSRS	**Korea Array**	**5.76**	**319**	Pn		**Pn**	**08 48 58.0**	**+1.0**
	0.2nm,0.3s,baz=144,slow=16,SNR=2.9							
KSRS				Sn		**Sn**	**08 50 02.6**	**+0.6**
	1.2nm,0.3s,baz=138,slow=24,SNR=4.2							
WRA	**Warramunga Arr**	**52.85**	**178**	P		**P**	**08 56 45.5**	**-0.8**
	0.4nm,0.6s,mb3.6,baz=355,slow=8.6,SNR=5.6							
ASAR	**Alice Springs**	**56.55**	**179**	P		**P**	**08 57 13.6**	**+0.5**
	0.4nm,0.6s,mb3.7,baz=12,slow=13,SNR=9.0							

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*BJI **14** 09:18:03.4, 3442N×2608E, h5km, mB5.2, mb4.8, Ms4.7, Msz4.3*
*SZGRF **14** 09:18:05.3, 3393N×2699E, h33km, mb4.3, MS3.6, Eastern Mediterranean Sea*
*CSEM **14** 09:18:06.3±0.0, 3438N×2665E, h7km, mb4.6/93, Ms3.7, Error ellipse: s-maj=1.2km s-min=0.8km az=42.0*
*ISCJB **14** 09:18:07.4±0.5, 3435N±001×2662E±002, h15km±3km, mb4.6/131, MS3.9/19, Error ellipse: s-maj=2.7km s-min=1.8km az=37.9*
*IDC **14** 09:18:07.3±0.6, 3454N×2652E, h0km, mb4.4/23, mb1 4.4/33, mb1mx4.4/38, mbtmp4.3/33, ML4.4/8, MS3.9/10, Ms1 4.0/10, ms1mx3.5/42, Error ellipse: s-maj=13.9km s-min=11.1km az=174.0*
*HLW **14** 09:18:08.2, 3461N×2659E, h33km, Mb4.4*
*ISK **14** 09:18:08.2, 3438N×2680E, h7km, ML4.3*
*DDA **14** 09:18:10.2, 3436N×2681E, h11km±1km, Md4.0*
*ATH **14** 09:18:11.4, 3450N×2654E, h16km±1km, MD4.4/10, ML4.5*
*GII **14** 09:18:13.4±0.7, 3413N×2718E, h7km±55km, mb4.7/4, ML4.6/4, Mw3.9/6*
*THE **14** 09:18:13.1, 3460N×2633E, h0km±2km, Error ellipse: s-maj=4.7km s-min=0.9km az=140.0*
*NEIC **14** 09:18:13.2±0.7, 3453N×2658E, h40km±5km, mb4.5/103, MS3.8/5, Error ellipse: s-maj=6.7km s-min=3.9km az=185.0*
*MOS **14** 09:18:14.2±1.2, 3471N×2650E, h58km, mb4.7/65, Error ellipse: s-maj=5.0km s-min=2.7km az=112.6*

ISC 14 09:18:10.5±0.5, 3437N±001×2659E±002, h23km±4km, h15km±1.7km:pP-P, n692, σ1§25/731, mb4.6/131, MS3.9/19, 37C-14D, Crete

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
ZKR	**Zakros**	**0.81**	**338**	P		**Pb**	**09 18 23.2**	**-2.7**
ZKR				S		**Sb**	**09 18 32.3**	**-4.1**
NPS	**Neapolis**	**1.21**	**318**	*e*Pn		**Pn**	**09 18 31.4**	**-0.5**
NPS				*e*Sn		**Sn**	**09 18 46.0**	**-1.5**
NPS	**Neapolis**	**1.21**	**318**	*e*PN		**Pn**	**09 18 31.4**	**-0.5**
NPS				*e*SN		**Sn**	**09 18 46.0**	**-1.5**
LAST	**Lasithi**	**1.21**	**311**	P		**Pn**	**09 18 30.6**	**-1.4**
LAST				S		**Sn**	**09 18 45.8**	**-1.9**
KARP	**Karpathos**	**1.27**	**21**	*e*Pn		**Pn**	**09 18 33.4**	**+0.6**
KARP	**Karpathos**	**1.27**	**21**	*e*PN		**Pn**	**09 18 33.4**	**+0.6**
SIVA	**Sivas**	**1.61**	**294**	P		**Pn**	**09 18 37.1**	**-0.3**
SIVA				S		**Sn**	**09 18 56.8**	**-0.6**
IDI	**Anoyia**	**1.68**	**304**	Pn		**Pn**	**09 18 39.8**	**+1.4**
	22nm,0.3s,baz=132,slow=14,SNR=96							
IDI				Sn		**Sn**	**09 19 03.2**	**+4.0**
	182nm,0.3s,baz=66,slow=18,SNR=10.0							
THR1	**Thera Island**	**2.21**	**335**	P		**Pn**	**09 18 46.2**	**+0.6**
THR1	**Thera Island**	**2.21**	**335**	P		**Pn**	**09 18 46.2**	**+0.6**
THR6	**Thira Island,**	**2.21**	**334**	P		**Pn**	**09 18 46.0**	**+0.2**
THR6	**Thira Island,**	**2.21**	**334**	P		**Pn**	**09 18 46.2**	**+0.4**
VAM	**Vamos**	**2.23**	**299**	*e*Pn		**Pn**	**09 18 48.6**	**+2.7**
VAM	**Vamos**	**2.23**	**299**	*e*PN		**Pn**	**09 18 48.6**	**+2.7**
VAM	**Vamos**	**2.23**	**299**	*e*PN		**Pn**	**09 18 49.0**	**+3.1**
ARG	**Arkhangelos**	**2.23**	**34**	*e*Pn		**Pn**	**09 18 48.7**	**+2.7**
ARG	**Arkhangelos**	**2.23**	**34**	*e*PN		**Pn**	**09 18 48.7**	**+2.7**
THR5	**Thira Island,**	**2.29**	**334**	P		**Pn**	**09 18 46.7**	**-0.1**
THR5	**Thira Island,**	**2.29**	**334**	P		**Pn**	**09 18 46.9**	**+0.1**
BODT	**Bodrum**	**2.75**	**12**	*e*PN		**Pn**	**09 18 52.5**	**-0.7**
BODT				*e*SN		**Sn**	**09 19 26.2**	**+0.5**
BDRM	**Kayabasi**	**2.78**	**14**	*i* P		**Pn**	**09 18 53.3**	**-0.3**
APE	**Apeiranthos**	**2.83**	**343**	P		**Pn**	**09 18 55.1**	**+0.8**
APE				S		**Sn**	**09 19 26.1**	**-1.6**
APE	**Apeiranthos**	**2.83**	**343**	*e*P		**Pn**	**09 18 55.0**	**+0.7**
APE	**Apeiranthos**	**2.83**	**343**	*c* P		**Pn**	**09 18 54.8**	**+0.5**
APE	**Apeiranthos**	**2.83**	**343**	*e*P		**Pn**	**09 18 56.5**	**+2.2**
APE				S		**Sn**	**09 19 26.1**	**-1.6**
APE	**Apeiranthos**	**2.83**	**343**	*e*PN		**Pn**	**09 18 56.5**	**+2.2**
MLSB	**Milas**	**3.08**	**18**	*e*PN		**Pn**	**09 18 57.8**	**+0.1**
YER	**Yerkesik**	**3.09**	**26**	*e*PN		**Pn**	**09 18 57.9**	**+0.2**
AKAS	**Kas**	**3.09**	**52**	*i* P		**Pn**	**09 18 58.4**	**+0.6**
AKAS				*i* S		**Sn**	**09 19 33.6**	**-0.4**
SLUM		**3.09**	**202**	P		**Pn**	**09 18 57.5**	**-0.3**
SLUM				S		**Sn**	**09 19 34.6**	**+0.5**
SLUM		**3.09**	**202**	S		**Pn**	**09 18 57.5**	**-0.3**
SLUM				S		**Sn**	**09 19 34.6**	**+0.5**
LTBQ	**Tobruq**	**3.21**	**225**	*i* P		**Pn**	**09 19 01.6**	**+2.1**
	SNR=103							
HMAT	**Matruh**	**3.29**	**172**	P		**Pn**	**09 19 00.1**	**-0.5**
HMAT				S		**Sn**	**09 19 39.2**	**+0.2**
SMG	**Samos**	**3.34**	**3**	*e*Pn		**Pn**	**09 19 04.1**	**+2.8**
SMG	**Samos**	**3.34**	**3**	*e*PN		**Pn**	**09 19 04.1**	**+2.8**
AYDN	**Tasoluk**	**3.45**	**17**	*i* P		**Pn**	**09 19 03.4**	**+0.6**
AYDN	**Tasoluk**	**3.45**	**17**	*i* P		**Pn**	**09 19 03.3**	**+0.5**
ELL	**Elmali**	**3.60**	**48**	*e*PN		**Pn**	**09 19 04.2**	**-0.6**
GOLH	**Golhisar**	**3.75**	**39**	*i* P		**Pn**	**09 19 08.1**	**+1.3**
BLCB	**Balcova**	**4.03**	**5**	*e*PN		**Pn**	**09 19 11.9**	**+1.2**
CHOS	**Chios island**	**4.04**	**354**	P		**Pn**	**09 19 11.5**	**+0.7**
CHOS				S		**Sn**	**09 19 58.0**	**+0.6**
IZM	**Izmir**	**4.06**	**7**	*e*PN		**Pn**	**09 19 11.7**	**+0.6**
KDAG	**Bornova**	**4.07**	**7**	*i* P		**Pn**	**09 19 11.9**	**+0.7**
DID	**Didima**	**4.15**	**320**	P		**Pn**	**09 19 12.4**	**0.0**
DID				S		**Sn**	**09 19 58.2**	**-2.0**
ANTB	**Antalya**	**4.16**	**51**	*e*PN		**Pn**	**09 19 12.2**	**-0.4**
ATH	**Athens Observa**	**4.29**	**328**	*e*Pn		**Pn**	**09 19 16.6**	**+2.3**
ATH	**Athens Observa**	**4.29**	**328**	*e*PN		**Pn**	**09 19 16.6**	**+2.3**
PTL	**Penteli**	**4.29**	**330**	*e*Pn		**Pn**	**09 19 16.2**	**+1.9**
PTL	**Penteli**	**4.29**	**330**	*e*PN		**Pn**	**09 19 16.2**	**+1.9**
MANT	**Manisa**	**4.41**	**20**	*i* P		**Pn**	**09 19 16.2**	**+0.3**
KULA	**Kula-Manisa**	**4.46**	**21**	*e*PN		**Pn**	**09 19 17.0**	**+0.3**
BCK	**Bucak**	**4.48**	**45**	*e*PN		**Pn**	**09 19 16.8**	**-0.1**
VLX	**Vlachokerasia**	**4.55**	**312**	P		**Pn**	**09 19 18.0**	**+0.1**
VLX				S		**Sn**	**09 20 08.0**	**-2.0**
VLX	**Vlachokerasia**	**4.55**	**312**	P		**Pn**	**09 19 18.1**	**+0.2**
KHL	**Karahalli**	**4.60**	**30**	*e*PN		**Pn**	**09 19 19.1**	**+0.5**
AKHS	**Akhisar**	**4.61**	**12**	*i* P		**Pn**	**09 19 18.8**	**+0.1**
LTK	**Loutraki**	**4.68**	**322**	P		**Pn**	**09 19 19.9**	**+0.2**
PYL	**PYLOS**	**4.69**	**304**	P		**Pn**	**09 19 18.9**	**-0.9**
ITM	**Ithomi**	**4.72**	**308**	*e*Pn		**Pn**	**09 19 18.6**	**-1.6**
ITM	**Ithomi**	**4.72**	**308**	*e*PN		**Pn**	**09 19 18.6**	**-1.6**
PPCY	**Paphos**	**4.77**	**82**	P		**Sn**	**09 20 10.6**	**-4.9**
PRK	**Paraskevi**	**4.88**	**357**	P		**Pn**	**09 19 23.9**	**+1.5**
DEMI	**Demirci**	**4.97**	**19**	*i* P		**Pn**	**09 19 24.1**	**+0.5**
ALFC	**Alevga**	**5.01**	**79**	P		**Sn**	**09 20 17.6**	**-3.7**
	9.3nm,0.3s							
LKR	**Lokris**	**5.16**	**327**	P		**Pn**	**09 19 26.8**	**+0.5**
LEF	**Lefka**	**5.24**	**80**	*e*PN		**Pn**	**09 19 26.3**	**-1.1**
GDZ	**Gediz**	**5.25**	**25**	*i* P		**Pn**	**09 19 27.5**	**-0.1**
SHUT	**Suhut-Afyon**	**5.26**	**36**	*e*PN		**Pn**	**09 19 28.2**	**+0.6**
BALB	**Balikesir**	**5.36**	**11**	*e*PN		**Pn**	**09 19 30.7**	**+1.7**
MANS	**Anshas**	**5.37**	**128**	P		**Pn**	**09 19 33.7**	**+4.6**
HDMB	**Hadim**	**5.45**	**60**	*e*PN		**Pn**	**09 19 30.3**	**0.0**
EZN	**Ezine**	**5.46**	**358**	*e*PN		**Pn**	**09 19 32.6**	**+2.3**
ALT	**Altintas**	**5.47**	**30**	*e*PN

KRUS Krusevo 8.17 330 *e*Pn **Pn 09 20 11.0 +3.5**
ZFRI Zfri 8.19 115 Pn **Pn 09 20 06.6 -1.2**
ZFRI Sn **Sn 09 21 35.4 -4.2**
HRFI Mount Harif 8.35 119 Pn **Pn 09 20 10.2 0.0**
HRFI Sn **Sn 09 21 39.6 -4.1**
MBRI Mt Berech 8.40 121 Pn **Pn 09 20 10.7 -0.1**
MBRI Sn **Sn 09 21 41.5 -3.4**
EIL Elat 8.50 121 Pn **Pn 09 20 12.6 +0.4**
comp=Z,3.9nm,0.3s,baz=317,slow=7.6,SNR=33
EIL Sn **Sn 09 21 41.5 -5.8**
comp=Z,5.9nm,0.3s,baz=32,slow=19,SNR=3.6
EIL Elat 8.50 121 Pn **Pn 09 20 12.6 +0.5**
EIL Sn **Sn 09 21 41.5 -5.8**
EIL Elat 8.50 121 Pn **Pn 09 20 11.9 -0.2**
EIL Sn **Sn 09 21 42.4 -5.0**
TR2 8.52 132 ⇑P **Pn 09 20 12.3 -0.2**
HKAT Jabal Katrina 8.59 131 P **Pn 09 20 13.5 +0.1**
HBST Basata 8.62 124 P **Pn 09 20 13.5 -0.3**
VTS Vitosha 8.63 343 *e*P **Pn 09 20 17.0 +3.1**
VTS Vitosha 8.63 343 ⇑*i*P **Pn 09 20 14.4 +0.5**
VTS Vitosha 8.63 343 ⇑P **Pn 09 20 14.4 +0.6**
GLFJ 8.63 122 *e*P **Pn 09 20 13.9 -0.1**
SNR=33
CORM Corum 8.64 45 *e*PN **Pn 09 20 14.4 +0.4**
BNN Bunyan 8.68 56 *e*PN **Pn 09 20 14.5 0.0**
TOS Tosya 8.88 39 *e*PN **Pn 09 20 17.9 +0.6**
PVL Pavlikeni 8.89 354 *e*P **Pn 09 20 18.0 +0.5**
ASF Jabal al Asfar 8.90 101 Pn **Pn 09 20 16.9 -0.7**
comp=Z,1.7nm,0.3s,baz=155,slow=1.6,SNR=19
ASF Sn **Sn 09 21 52.8 -4.4**
comp=Z,1.2nm,0.3s,baz=237,slow=21,SNR=6.0
TR1 8.94 133 ⇑P **Pn 09 20 18.4 +0.3**
HDK1 Dakhla 9.12 164 ⇑P **Pn 09 20 21.7 +1.0**
BARS Barje 9.23 338 *e*Pn **Pn 09 20 24.7 +2.6**
AKRG Al Kharijah 9.46 158 ⇑P **Pn 09 20 25.8 +0.5**
GTR Jabal at Tayr 9.47 158 ⇑P **Pn 09 20 26.3 +0.9**
BOLS Boljevac 10.11 341 *e*Pn **Pn 09 20 37.0 +2.8**
TIRR Tirgusor 10.18 7 ⇑*i*P **Pn 09 20 39.6 +4.5**
TIRR Tirgusor 10.18 7 ⇑P **Pn 09 20 39.6 +4.6**
HDK2 Wahat Dakhilah 10.22 168 P **Pn 09 20 37.0 +1.2**
CUC Castrocucco 10.27 306 *e*Pn **Pn 09 20 35.2 -1.1**
comp=Z,58nm,0.6s
CUC Castrocucco 10.27 306 *e*Pn **Pn 09 20 35.2 -1.1**
comp=Z,58nm,0.6s
VAE Valguarnera 10.36 291 Pn **Pn 09 20 35.6 -2.0**
comp=Z,1.0nm,0.3s,baz=168,slow=9.3,SNR=3.0
VAE Sn **Sn 09 22 31.5 -1.4**
comp=Z,3.4nm,0.3s,baz=260,slow=18,SNR=2.7
GRUS Gruza 10.54 336 *e*Pn **Pn 09 20 40.7 +0.6**
HEDF Idfu 10.87 147 ⇑P **Pn 09 20 45.2 +0.6**
VOIR 11.12 354 ⇑P **Pn 09 20 48.8 +0.8**
VOIR 11.12 354 ⇑P **Pn 09 20 48.8 +0.8**
MLR Muntele Rosu 11.12 358 Pn **Pn 09 20 46.9 -1.1**
comp=Z,0.2nm,0.3s,baz=142,slow=16,SNR=2.6
MLR LR LR 09 25 28.7
comp=Z,300nm,18.4s,baz=179,slow=40
MLR Muntele Rosu 11.12 358 ⇓*i*P **Pn 09 20 52.9 +4.9**
MLR Muntele Rosu 11.12 358 Pn **Pn 09 20 46.9 -1.1**
MLR ⇓P 09 20 52.9
MLR LR LR 09 25 28.7
GZR Gura Zlata 11.40 346 ⇓*i*P **Pn 09 20 54.4 +2.7**
GZR Gura Zlata 11.40 346 ⇓P **Pn 09 20 54.4 +2.7**
PLOR Plostina 11.47 0 ⇑*i*P **Pn 09 21 02.9 +10**
VRI Vrincioaia 11.49 1 ⇑*i*P **Pn 09 21 08.7 +11**
BZS Buzias 11.87 343 ⇑*i*P **Pn 09 20 59.5 +1.4**
BZS Buzias 11.87 343 ⇑P **Pn 09 20 59.5 +1.3**
HMSM Jabal Masmas 12.35 157 P **Pn 09 21 05.9 +1.0**
DRGR 12.76 348 ⇑*i*P **Pn 09 21 14.7 +4.4**
PKSM Moragy 13.29 335 ⇑*i*P **Pn 09 21 15.6 -2.0**
PKSM Moragy 13.29 335 P **Pn 09 21 15.7 -1.9**
PKSM Moragy 13.29 335 ⇑P **Pn 09 21 15.7 -1.9**
ANN Anapa 13.35 35 *e*P **Pn 09 21 20.5 +2.1**
ANN *e*S **Sn 09 23 46.2 +0.3**
ANN pmax pmax
comp=Z,112nm,1.5s
ANN Anapa 13.35 35 *e*P **Pn 09 21 20.5 +2.1**
comp=Z,112nm,1.5s
ANN *e*S **Sn 09 23 46.2 +0.3**
SOC Sochi 13.73 44 *e*P **Pn 09 21 26.9 +3.3**
SOC *e* 09 24 00.6
SOC MLR MLR
comp=Z,400nm,13.0s
BOJS Bojanci 14.11 325 *i* Pn **Pn 09 21 29.1 +0.4**
BOJS *i* Sn **Sn 09 23 54.5 -10**
KEST Kesra 14.20 280 Pn **Pn 09 21 30.0 -0.1**
comp=Z,0.1nm,0.3s,baz=77,slow=16,SNR=2.4
PSZ Piszkesteto 14.44 342 *e*P **Pn 09 21 34.0 +0.7**
PSZ pmax pmax
comp=Z,19nm,1.1s
PSZ Piszkesteto 14.44 342 ⇓*e*P **Pn 09 21 35.1 +1.8**
PSZ Piszkesteto 14.44 342 *e*P **Pn 09 21 34.0 +0.7**
comp=Z,19nm,1.1s
UZH Uzhgorod 14.61 349 *e*P **Pn 09 21 38.3 +2.7**
UZH MLR MLR
comp=N,850nm,9.0s
UZH MLR MLR
comp=E,780nm,9.0s
UZH MLR MLR
comp=Z,600nm,9.0s
KOLS Kolonicke sedl 14.91 349 *e*P **Pn 09 21 40.7 +1.1**
KOLS *e*pP pP 09 21 54.8 +3.4
JAVS Javornik 14.96 324 *i* Pn **Pn 09 21 42.7 +2.3**
CRVS Cervenica-Dubn 15.02 347 *e*P **Pn 09 21 44.6 +3.5**
CRVS *e*pP pP 09 21 56.6 +4.0
PERS Pernice 15.03 328 *i* Pn **Pn 09 21 42.8 +1.5**
VOY Vojsko 15.14 324 *e*Pn **Pn 09 21 43.8 +1.1**
VOY *e* 09 21 48.4
VOY *e* 09 21 55.3
VYHS Vyhne 15.26 340 *e*PN **Pn 09 21 41.0 -3.2**
SOP Sopron 15.29 333 ⇓*e*P **Pn 09 21 43.4 -1.3**
ARSA Arzberg 15.34 330 ⇓*i*Pn **Pn 09 21 44.4 -0.9**
comp=Z,20nm,1.2s
ONI Oni 15.52 53 P **Pn 09 21 49.0 +1.3**
GNI Garni 15.55 63 Pn **Pn 09 21 50.0 +1.9**
comp=Z,1.0nm,0.3s,baz=263,slow=4.2,SNR=4.4
GNI Garni 15.55 63 *e*Pn **Pn 09 21 50.7 +2.5**
GNI pmax pmax
comp=Z,12nn,0.8s
GNI Garni 15.55 63 *e*Pn **Pn 09 21 50.7 +2.6**
comp=Z,12nn,0.8s
STHS Stebnicka Huta 15.55 347 *e*P **Pn 09 21 51.9 +3.8**
STHS pmax pmax
comp=Z,13nm,0.8s
STHS Stebnicka Huta 15.55 347 *e*P **Pn 09 21 51.9 +3.8**
comp=Z,13nm,0.8s
LVV L'vov 15.56 354 *e*P **Pn 09 21 39.6 -8.6**
MODS Modra-Piesok 15.63 336 *e*P **Pn 09 21 53.6 +4.5**
KIV Kislovodsk 15.71 48 *e*P **Pn 09 21 55.1 +4.9**
KIV *e*S **Sn 09 24 49.4 +5.9**
KIV pmax pmax
comp=Z,56nm,1.2s
KIV MLR MLR
comp=Z,140nm,13.0s
KIV Kislovodsk 15.71 48 ⇑*i*P **Pn 09 21 56.3 +6.1**
KIV Kislovodsk 15.71 48 *e*Pn **Pn 09 21 51.6 +1.4**
comp=Z,66nm,1.0s
KIV ⇑P 09 21 56.2
NIE Niedzica 15.74 345 *e*P **Pn 09 21 53.5 +2.9**
PGF Pioggiola 16.00 306 *e*P **Pn 09 21 51.0 -3.0**
comp=Z,30nm,0.8s
PGF Pioggiola 16.00 306 *e*P **Pn 09 21 51.0 -3.0**
PGF pmax pmax
comp=Z,15nm,0.8s
PGF Pioggiola 16.00 306 *e*P **Pn 09 21 51.0 -3.0**
comp=Z,15nm,0.8s
MTA Mtatsminda 16.08 58 P **Pn 09 21 56.7 +1.7**
KIEV Kiev 16.43 6 *e*P **Pn 09 21 58.2 -1.2**
KIEV pmax pmax
comp=Z,12nn,0.6s
KIEV Kiev 16.43 6 *e*P **Pn 09 21 58.2 -1.2**
comp=Z,12nn,0.6s
KIEV Kiev 16.43 6 *e*P **Pn 09 21 58.2 -1.2**
comp=Z,12nn,0.6s
AKASG Malin Array Be 16.44 6 Pn **Pn 09 21 57.1 -2.3**
comp=Z,3.4nm,0.3s,baz=194,slow=11,SNR=16
AKASG Malin Array Be 16.44 6 P **Pn 09 21 57.1 -2.4**
AKASG pmax pmax
comp=Z,3.0nm,0.3s
AKBB Malin Array Si 16.44 6 *e*P **Pn 09 21 58.7 -0.8**
AKBB Malin Array Si 16.44 6 *e*P **Pn 09 21 58.7 -0.8**
VRAC Vranov 16.66 337 Pn **Pn 09 22 00.2 -2.2**
comp=Z,0.8nm,0.3s,baz=154,slow=10,SNR=6.9
VRAC Vranov 16.66 337 P **Pn 09 22 00.2 -2.1**
VRAC pmax pmax
comp=Z,1.0nm,0.3s
VRAC Vranov 16.66 337 ⇓*i*P **Pn 09 22 01.1 -1.2**
VRAC Vranov 16.66 337 ⇓P **Pn 09 22 01.1 -1.3**
OKC Ostrava-Krasne 16.66 341 *e*P **Pn 09 22 02.9 +0.5**
MORC Moravsky Berou 16.78 339 *e*P **Pn 09 22 01.2 -2.6**
MORC pmax pmax
comp=Z,18nm,1.1s
MORC Moravsky Berou 16.78 339 ⇓*i*P **Pn 09 22 02.3 -1.5**
MORC Moravsky Berou 16.78 339 *e*P **Pn 09 22 01.2 -2.6**
comp=Z,18nm,1.1s
RJOB Jochberg 16.90 326 *e*P **Pn 09 22 05.1 -0.2**
comp=Z,8.0nm,0.8s
TREC Trest 17.03 334 *e*P **Pn 09 22 07.5 +0.5**
GEC2 GERESS Array S 17.35 330 *e*P **Pn 09 22 11.0 +0.1**
GEC2 pmax pmax
comp=Z,9.0nm,0.7s
GEC2 GERESS Array S 17.35 330 *e*P **Pn 09 22 11.0 +0.1**
comp=Z,9.0nm,0.7s
GERES GERESS Array B 17.35 330 Pn **Pn 09 22 08.3 -2.6**
comp=Z,1.2nm,0.3s,baz=143,slow=12,SNR=21
GERES GERESS Array B 17.35 330 P **Pn 09 22 08.3 -2.6**
GERES pmax pmax
comp=Z,1.0nm,0.3s
SET Setif 17.40 282 P sP 09 22 23.0 +0.8
FETA Feichten 17.41 321 ⇓*i*Pn **Pn 09 22 13.5 +1.8**
comp=Z,39nm,0.8s
SBF Sospel 17.60 308 *e*P **Pn 09 22 12.2 -1.9**
comp=Z,70nm,0.9s
SBF Sospel 17.60 308 *e*P **Pn 09 22 12.2 -1.9**
SBF pmax pmax
comp=Z,35nm,0.9s
SBF Sospel 17.60 308 *e*P **Pn 09 22 12.2 -1.9**
comp=Z,35nm,0.9s
KHC Kasperske Hory 17.62 331 *e*P **Pn 09 22 12.0 -2.3**
comp=Z,600nm,14.8s
KHC Kasperske Hory 17.62 331 *e*P **Pn 09 22 12.0 -2.3**
KHC AMS AMS 09 30 40.0
comp=Z,600nm,14.8s
DPC Dobruska-Polom 17.66 338 *e*P **Pn 09 22 12.3 -2.4**
DAVOX Davos/Dischmat 17.70 319 P **Pn 09 22 16.3 +1.0**
comp=Z,0.4nm,0.3s,baz=168,slow=9.3,SNR=8.8
DAVOX LR LR 09 29 54.3
comp=Z,326nm,21.0s,baz=109,slow=40
DAVOS Davos 17.79 319 P **Pn 09 22 16.4 0.0**
TUE Stuetta 17.81 318 *e*P **Pn 09 22 16.1 -0.5**
comp=Z,25nm,0.8s
TUE Stuetta 17.81 318 *e*P **Pn 09 22 16.1 -0.5**
comp=Z,25nm,0.8s
UPC Upice 17.89 338 *e*P **Pn 09 22 15.0 -2.6**
WET Wettzell 17.92 330 *e*P **Pn 09 22 16.5 -1.5**
WET pmax pmax
comp=Z,9.0nm,0.9s
WET Wettzell 17.92 330 *e*P **Pn 09 22 16.5 -1.5**
comp=Z,9.0nm,0.9s
PRU Pruhonice 17.95 334 *e*P **Pn 09 22 14.7 -3.6**
comp=Z,600nm,7.6s
PRU Pruhonice 17.95 334 *e*P **Pn 09 22 14.7 -3.6**
PRU AMS AMS 09 31 10.0
comp=Z,600nm,7.6s
RST Umm Al-Ruwaisa 17.98 100 *e*P **Pn 09 22 18.3 -0.6**
comp=Z,58nm,0.9s
RST Umm Al-Ruwaisa 17.98 100 *e*P **Pn 09 22 18.3 -0.6**
baz=101
RST AMb AMB 09 22 30.0
comp=Z,59nm,0.9s,baz=101
FRF La Foret Royal 17.99 307 *e*P **Pn 09 22 16.8 -2.1**
comp=Z,42nm,1.1s
FRF La Foret Royal 17.99 307 *e*P **Pn 09 22 16.8 -2.1**
FRF pmax pmax
comp=Z,21nm,1.1s
FRF La Foret Royal 17.99 307 *e*P **Pn 09 22 16.8 -2.1**
comp=Z,21nm,1.1s
LMR La Mourre 17.99 306 *e*P **Pn 09 22 17.4 -1.5**
comp=Z,181nm,1.8s
LMR La Mourre 17.99 306 *e*P **Pn 09 22 17.4 -1.5**
LMR pmax pmax
comp=Z,91nm,1.8s
LMR La Mourre 17.99 306 *e*P **Pn 09 22 17.4 -1.5**
comp=Z,91nm,1.8s
DAVA Damuels 18.02 321 ⇑*i*Pn **Pn 09 22 18.4 -0.9**
comp=Z,21nm,0.9s
KSP Ksiaz 18.10 339 *e*P **Pn 09 22 18.4 -1.8**
MIB Mutribah 18.15 99 *e*P **Pn 09 22 20.4 -0.6**
comp=Z,53nm,1.2s
MIB Mutribah 18.15 99 *e*P **Pn 09 22 20.4 -0.6**
baz=99
MIB AMb AMB 09 22 31.7
comp=Z,53nm,1.2s,baz=99
NAY Al-Naaiem 18.27 101 *e*P **Pn 09 22 22.1 -0.3**
comp=Z,38nm,1.1s
NAY Al-Naaiem 18.27 101 *e*P **Pn 09 22 22.1 -0.3**
baz=101
NAY AMb AMB 09 22 32.8
comp=Z,38nm,1.1s,baz=101
MBDF Montbardon 18.41 310 *e*P **Pn 09 22 23.2 -0.9**
comp=Z,47nm,0.7s
MBDF Montbardon 18.41 310 *e*P **Pn 09 22 23.2 -0.9**
MBDF pmax pmax
comp=Z,24nm,0.7s
MBDF Montbardon 18.41 310 *e*P **Pn 09 22 23.2 -0.9**
comp=Z,24nm,0.7s
UMR Umm Al-Rimmam 18.55 99 *e*P **Pn 09 22 25.3 -0.5**
comp=Z,99nm,1.2s
UMR Umm Al-Rimmam 18.55 99 *e*P **Pn 09 22 25.3 -0.5**
baz=100
UMR AMb AMB 09 22 29.9
comp=Z,99nm,1.2s,baz=100
RDF Al-Radifah 18.64 101 *e*P **Pn 09 22 25.7 -1.2**
comp=Z,33nm,1.0s
RDF Al-Radifah 18.64 101 *e*P **Pn 09 22 25.7 -1.2**
baz=102
RDF AMb AMB 09 22 32.0
comp=Z,33nm,1.0s,baz=102
LPG La Plagne 18.79 312 *e*P **Pn 09 22 27.2 -1.5**
comp=Z,27nm,0.7s
LPG La Plagne 18.79 312 *e*P **Pn 09 22 27.2 -1.5**
LPG pmax pmax
comp=Z,13nm,0.7s
LPG La Plagne 18.79 312 *e*P **Pn 09 22 27.2 -1.5**
comp=Z,13nm,0.7s
LPL La Plagne 18.82 312 *e*P **Pn 09 22 27.5 -1.4**
comp=Z,40nm,0.9s
LPL La Plagne 18.82 312 *e*P **Pn 09 22 27.5 -1.4**
LPL pmax pmax
comp=Z,20nm,0.9s
LPL La Plagne 18.82 312 *e*P **Pn 09 22 27.5 -1.4**
comp=Z,20nm,0.9s
SMRF Simiane la Rot 18.87 307 *e*P **Pn 09 22 28.5 -1.1**
comp=Z,34nm,1.1s
SMRF Simiane la Rot 18.87 307 *e*P **Pn 09 22 28.5 -1.1**
comp=Z,17nm,1.1s
BRG Berggiesshubel 18.90 335 *e*P **Pn 09 22 29.2 -0.7**
BRG pmax pmax
comp=Z,7.0nm,0.8s
BRG MLR MLR
comp=N,202nm,13.6s
BRG MLR MLR
comp=E,195nm,16.1s
BRG MLR MLR
comp=Z,239nm,16.2s
BRG Berggiesshubel 18.90 335 *e*P **Pn 09 22 28.7 -1.2**
comp=Z,16nm,1.2s
BRG Berggiesshubel 18.90 335 *e*P **Pn 09 22 29.2 -0.7**
comp=Z,11nm,0.8s
BRG
comp=N,337nm,13.6s
BRG
comp=E,326nm,16.1s
BRG
comp=Z,399nm,16.2s
NKC Novy Kostel 18.95 331 *e*P **Pn 09 22 27.4 -3.1**
comp=Z,600nm,14.0s
NKC Novy Kostel 18.95 331 *e*P **Pn 09 22 27.4 -3.1**
NKC *ex* x 09 22 54.1
NKC AMS AMS 09 31 00.0
comp=Z,600nm,14.0s
NKC Novy Kostel 18.95 331 *e*P **Pn 09 22 27.4 -3.1**
NKC *e* 09 22 54.1
GRA1 Grafenberg Arr 19.05 328 *e*P **Pn 09 22 28.9 -2.8**
comp=Z,15nm,0.9s
GRF Grafenberg Arr 19.05 328 *e*P **Pn 09 22 28.9 -2.8**
GRF pmax pmax
comp=Z,15nm,0.9s
GRF MLR MLR
comp=Z,300nm,21.0s
GRF Grafenberg Arr 19.05 328 *e*P **Pn 09 22 28.9 -2.8**
comp=Z,15nm,0.9s
GRF *e*L 09 31 08.5
comp=Z,317nm,21.0s
ORIF Oris-en-Rattie 19.07 310 *e*P **Pn 09 22 29.7 -2.3**
comp=Z,22nn,1.0s
ORIF *e*MLR MLR
comp=Z,375nm,21.2s
ORIF Oris-en-Rattie 19.07 310 *e*P **Pn 09 22 29.7 -2.3**
ORIF pmax pmax
comp=Z,11nm,1.0s
ORIF Oris-en-Rattie 19.07 310 *e*P **Pn 09 22 29.7 -2.3**
comp=Z,11nm,1.0s
TANN Tannenbergstha 19.08 331 *e*P **Pn 09 22 29.0 -3.1**
comp=Z,15nm,1.1s
SPAK Spaichingen-Ko 19.11 321 *e*P **Pn 09 22 30.8 -1.7**
VSR Storozhevoye 19.16 25 *e*P **Pn 09 22 31.9 -1.1**
VSR pmax pmax
comp=Z,7.0nm,0.6s
VSR pmax pmax
comp=N,10.0nm,0.7s
VSR pmax pmax
comp=E,10.0nm,0.9s
STU Stuttgart 19.34 323 *e*P **Pn 09 22 32.3 -2.9**
STU pmax pmax
comp=Z,49nm,0.9s
STU Stuttgart 19.34 323 *e*P **Pn 09 22 32.2 -3.0**
comp=Z,44nm,0.9s
STU Stuttgart 19.34 323 *e*P **Pn 09 22 32.3 -2.9**
comp=Z,49nm,0.9s
STU Stuttgart 19.34 323 *e*P **Pn 09 22 32.3 -3.0**
comp=Z,49nm,0.9s
EMHD Djebel Mahouad 19.38 282 P **Pn 09 22 37.4 +1.6**
FELD Feldberg im Sc 19.38 320 *e*P **Pn 09 22 35.4 -0.4**
BBS Basel-Blauen 19.41 318 *e*P **Pn 09 22 33.4 -2.6**
BFO Black Forest 19.49 321 *e*P **Pn 09 22 34.5 -2.6**
BFO pmax pmax
comp=Z,17nm,0.8s
BFO Black Forest 19.49 321 *e*P **Pn 09 22 34.5 -2.6**
comp=Z,17nm,0.8s
CLL Collm 19.59 334 *e*P **Pn 09 22 35.8 -2.4**
comp=Z,10.0nm,0.9s
CLL Collm 19.59 334 *i* P **Pn 09 22 35.8 -2.4**
comp=Z,11nm,0.7s
CLL *e*pP pP 09 22 46.0 +2.8
CLL *ex* x 09 22 49.0
CLL *i* pPP 09 22 58.1
CLL *e*PcP PcP 09 26 55.0 -0.9
CLL LmH 09 29 24.0
comp=N,200nm,21.2s
CLL LmH 09 29 24.0
comp=E,500nm,19.4s
CLL LmV 09 30 36.0
comp=Z,300nm,18.5s
CLL Collm 19.59 334 *i* P **Pn 09 22 35.8 -2.4**
comp=Z,9.0nm,1.0s
CLL *i* pP pP 09 22 37.4 -5.8
CLL Collm 19.59 334 *i* P **Pn 09 22 35.8 -2.4**
comp=Z,9.0nm,1.0s
CLL *i* pP pP 09 22 37.4 -5.8
CLL *e*PcP PcP 09 26 55.0 -0.9
MOX Moxa 19.60 331 *e*P **Pn 09 22 37.7 -0.6**
comp=Z,17nm,1.1s
MOX
comp=Z,600nm,18.0s
MOX Moxa 19.60 331 *e*P **Pn 09 22 37.7 -0.6**
MOX pmax pmax
comp=Z,17nm,1.1s
MOX MLR MLR
comp=Z,600nm,18.0s
MOX Moxa 19.60 331 *e*P **Pn 09 22 36.2 -2.1**
comp=Z,18nn,1.2s
VOR Voronezh 19.60 24 P **Pn 09 22 37.0 -1.3**
VOR pmax pmax
comp=Z,200nm,2.0s
VOR Voronezh 19.60 24 P **Pn 09 22 37.0 -1.3**
comp=Z,200nm,2.0s
LOMF Lomont 19.72 317 *e*P **Pn 09 22 39.9 +0.1**
CABF La Chapelle 19.75 314 *e*P **Pn 09 22 36.5 -3.7**
comp=Z,40nm,0.8s
CABF La Chapelle 19.75 314 *e*P **Pn 09 22 36.5 -3.7**
CABF pmax pmax
comp=Z,20nm,0.8s
CABF La Chapelle 19.75 314 *e*P **Pn 09 22 36.5 -3.7**
comp=Z,20nm,0.8s
SUW Suwalki 19.79 354 *e*P **Pn 09 22 37.3 -3.2**
SUW pmax pmax
comp=Z,110nm,0.8s
SUW Suwalki 19.79 354 *e*P **Pn 09 22 37.3 -3.2**
comp=Z,110nm,0.8s
SUW Suwalki 19.79 354 *e*P **Pn 09 22 37.2 -3.3**
comp=Z,110nm,0.8s
VIVF Saint-Julien-l 19.82 308 *e*P **Pn 09 22 38.2 -2.7**
comp=Z,21nm,0.8s
VIVF Saint-Julien-l 19.82 308 *e*P **Pn 09 22 38.2 -2.7**
VIVF pmax pmax
comp=Z,11nm,0.8s
VIVF Saint-Julien-l 19.82 308 *e*P **Pn 09 22 38.2 -2.7**
comp=Z,11nm,0.8s
MOF Molkenrain 19.84 319 *e*P **Pn 09 22 39.9 -1.3**
OG05 Jujurieux 19.85 312 *e*P **Pn 09 22 38.4 -2.9**
VRHR Novokhopersk 19.97 29 *e*P **Pn 09 22 40.9 -1.8**
VRHR pmax pmax
comp=Z,120nm,0.6s
VRHR pmax pmax
comp=N,30nm,0.7s
VRHR pmax pmax
comp=E,40nm,0.6s
VRHR Novokhopersk 19.97 29 *e*P **Pn 09 22 40.9 -1.8**
comp=E,30nm,0.7s
HINF Hinteralfeld 19.97 318 *e*P **Pn 09 22 39.6 -3.2**
comp=E,26nm,0.6s
HINF Hinteralfeld 19.97 318 *e*P **Pn 09 22 39.6 -3.2**
HINF pmax pmax
comp=Z,13nm,0.6s
HINF Hinteralfeld 19.97 318 *e*P **Pn 09 22 39.6 -3.2**
comp=Z,13nm,0.6s
ECH Echery 20.04 320 *e*P **P 09 22 41.2 -0.5**
ECH Echery 20.04 320 *e*P **P 09 22 40.8 -0.9**
LASF Ste Croix 20.05 306 *e*P **P 09 22 42.8 +0.9**
SSB Saint Sauveur 20.08 309 *e*P **P 09 22 41.7 -0.4**
SSB Saint Sauveur 20.08 309 *e*P **P 09 22 41.7 -0.5**
TOD Tromm 20.09 325 *e*P **P 09 22 41.7 -0.6**
CDF Champ du Feu 20.10 320 *e*P **P 09 22 42.1 -0.2**
comp=Z,91nm,0.9s
CDF Champ du Feu 20.10 320 *e*P **P 09 22 42.1 -0.2**
CDF pmax pmax
comp=Z,45nm,0.9s
CDF Champ du Feu 20.10 320 *e*P **P 09 22 42.1 -0.2**
comp=Z,46nm,0.9s
LANF Langenberg 20.17 322 *e*P **P 09 22 44.3 +1.1**
KTD Kalmit 20.25 323 *e*P **P 09 22 44.3 +0.3**
RUE Ruedersdorf 20.30 337 *e*P **P 09 22 44.6 +0.1**
comp=Z,23nm,0.7s
HAU Haudompre 20.36 318 *e*P **P 09 22 44.5 -0.7**
comp=Z,55nm,0.7s
HAU *e*MLR MLR
comp=Z,416nm,22.0s,MS3.5
HAU Haudompre 20.36 318 *e*P **P 09 22 44.5 -0.7**
HAU pmax pmax
comp=Z,28nm,0.7s
HAU MLR MLR
comp=Z,420nm,22.0s,MS3.8
HAU Haudompre 20.36 318 *e*P **P 09 22 44.5 -0.7**
comp=Z,28nm,0.7s
HAU LR LR
comp=Z,420nm,22.0s,MS3.8
TNS Taunus Mts 20.68 325 *e*P **P 09 22 48.3 -0.3**
TNS pmax pmax
comp=Z,23nm,0.9s
TNS Taunus Mts 20.68 325 *e*P **P 09 22 48.3 -0.3**
comp=Z,23nm,0.9s
THEF They Montfort 20.69 318 *e*P **P 09 22 48.6 -0.1**
MTLF Montolieu 20.93 303 *e*P **P 09 22 50.3 -1.2**
comp=Z,31nm,1.1s
MTLF Montolieu 20.93 303 *e*P **P 09 22 50.3 -1.2**
MTLF pmax pmax
comp=Z,15nm,1.1s
MTLF Montolieu 20.93 303 *e*P **P 09 22 50.3 -1.2**
comp=Z,15nm,1.1s
PLDF La Plantade 20.96 310 *e*P **P 09 22 51.1 -0.6**
RUP Ruppelstein 21.01 323 *e*P **P 09 22 51.0 -1.2**
CLZ Clausthal 21.02 331 *e*P **P 09 22 51.3 -1.0**
CLZ pmax pmax
comp=Z,15nm,1.1s,mb4.2
CLZ Clausthal 21.02 331 *e*P **P 09 22 51.3 -1.0**
comp=Z,15nm,1.1s,mb4.2

EMIR **Miracle** 21.06 298 P P 09 22 55.7 +2.9
comp=Z,36nm,1.0s,mb4.7
EMIR **Miracle** 21.06 298 P P 09 22 55.7 +2.9
comp=Z,36nm,1.0s,mb4.7
SMF **Signal de Mont** 21.12 312 eP P 09 22 51.6 -1.8
comp=Z,33nm,0.9s,mb4.4
SMF **Signal de Mont** 21.12 312 eP P 09 22 51.6 -1.8
SMF pmax pmax
comp=Z,17nm,0.9s,mb4.4
SMF **Signal de Mont** 21.12 312 eP P 09 22 51.6 -1.8
comp=Z,16nm,0.9s,mb4.4
PYM **Petit Puy Mans** 21.25 309 eP P 09 22 54.1 -0.8
EPOB **Poblet** 21.27 297 P P 09 22 57.3 +2.2
comp=Z,23nm,0.9s,mb4.5
EPOB **Poblet** 21.27 297 P P 09 22 57.3 +2.2
comp=Z,23nm,0.9s,mb4.5
AGO **Saint Agoulin** 21.30 310 eP P 09 22 55.1 -0.3
MEZF **Maizieres J'vi** 21.36 318 eP P 09 22 55.3 -0.6
comp=Z,192nm,0.9s,mb5.0
MEZF **Maizieres J'vi** 21.36 318 eP P 09 22 55.3 -0.6
comp=Z,66nm,0.9s,mb5.0
LOR **Lormes** 21.41 314 eP P 09 22 55.4 -1.1
comp=Z,34nm,0.8s,mb4.4
LOR eMLR MLR
comp=Z,290nm,21.2s,MS3.3
LOR **Lormes** 21.41 314 eP P 09 22 55.4 -1.1
LOR pmax pmax
comp=Z,17nm,0.8s,mb4.4
LOR MLR MLR
comp=Z,290nm,21.3s,MS3.6
LOR **Lormes** 21.41 314 eP P 09 22 55.4 -1.1
comp=Z,17nm,0.8s,mb4.4
LOR LR LR
comp=Z,290nm,21.3s,MS3.6
WLF **Walferdange** 21.45 322 eP P 09 22 56.3 -0.6
WLF pmax pmax
comp=Z,60nm,0.9s,mb4.9
WLF **Walferdange** 21.45 322 eP P 09 22 57.0 +0.1
comp=Z,65nm,0.9s,mb5.0
WLF **Walferdange** 21.45 322 P P 09 22 56.5 -0.4
comp=Z,38nm,1.0s,mb4.7
WLF **Walferdange** 21.45 322 eP P 09 22 56.3 -0.6
comp=Z,60nm,0.9s,mb4.9
AVF **Avril sur Loir** 21.49 312 eP P 09 22 56.2 -1.2
comp=Z,54nm,1.0s,mb4.5
AVF **Avril sur Loir** 21.49 312 eP P 09 22 56.2 -1.2
AVF pmax pmax
comp=Z,27nm,1.0s,mb4.5
AVF **Avril sur Loir** 21.49 312 eP P 09 22 56.2 -1.2
comp=Z,27nm,1.0s,mb4.5
SSF **Saint Saulge** 21.52 313 eP P 09 22 56.2 -1.5
comp=Z,76nm,1.0s,mb4.8
SSF **Saint Saulge** 21.52 313 eP P 09 22 56.2 -1.5
SSF pmax pmax
comp=Z,38nm,1.0s,mb4.8
SSF **Saint Saulge** 21.52 313 eP P 09 22 56.2 -1.5
comp=Z,38nm,1.0s,mb4.8
CAF **Calviac** 21.55 307 eP P 09 22 58.4 +0.3
comp=Z,13nm,0.8s,mb4.1
CAF **Calviac** 21.55 307 eP P 09 22 58.4 +0.3
CAF pmax pmax
comp=Z,6.0nm,0.8s,mb4.1
CAF **Calviac** 21.55 307 eP P 09 22 58.4 +0.3
comp=Z,6.3nm,0.8s,mb4.1
BGF **Bois d'Agland** 21.70 311 eP P 09 22 59.6 0.0
comp=Z,28nm,0.7s,mb4.5
BGF **Bois d'Agland** 21.70 311 eP P 09 22 59.6 0.0
BGF pmax pmax
comp=Z,14nm,0.7s,mb4.5
BGF **Bois d'Agland** 21.70 311 eP P 09 22 59.6 0.0
comp=Z,14nm,0.7s,mb4.5
TAM **Tamanrasset** 21.76 244 eP P 09 23 01.9 +1.5
TAM **Tamanrasset** 21.76 244 eP P 09 23 01.9 +1.5
ERTA **Horta de San J** 21.76 295 P P 09 23 04.5 +4.1
comp=Z,26nm,1.3s,mb4.5
OBN **Obninsk** 21.88 15⎍ eP P 09 22 58.1 -3.4
OBN i *PP 09 23 15.6
OBN pmax pmax
comp=Z,25nm,0.9s,mb4.6
OBN MLR MLR
comp=Z,200nm,17.0s,MS3.6
OBN **Obninsk** 21.88 15 P P 09 23 00.1 -1.4
comp=Z,30nm,0.8s,mb4.8
OBN **Obninsk** 21.88 15 P P 09 23 00.1 -1.4
comp=Z,30nm,0.8s,mb4.8
TCF **Toulx Ste Croi** 21.98 310 eP P 09 23 02.7 0.0
comp=Z,34nm,1.2s,mb4.4
TCF **Toulx Ste Croi** 21.98 310 eP P 09 23 02.7 0.0
TCF pmax pmax
comp=Z,17nm,1.2s,mb4.3
TCF **Toulx Ste Croi** 21.98 310 eP P 09 23 02.7 0.0
comp=Z,17nm,1.2s,mb4.4
RJF **Les Rejaudoux** 22.05 307 eP P 09 23 02.5 -0.9
comp=Z,29nm,0.8s,mb4.5
RJF eMLR MLR
comp=Z,406nm,19.8s,MS3.5
RJF **Les Rejaudoux** 22.05 307 eP P 09 23 02.5 -0.9
RJF pmax pmax
comp=Z,14nm,0.8s,mb4.4
RJF MLR MLR
comp=Z,410nm,19.8s,MS3.9
RJF **Les Rejaudoux** 22.05 307 eP P 09 23 02.5 -0.9
comp=Z,14nm,0.8s,mb4.5
RJF LR LR
comp=Z,410nm,19.8s,MS3.9
MEM **Membach** 22.11 323 P P 09 23 04.0 0.0
comp=Z,61nm,1.0s,mb5.0
MEM **Membach** 22.11 323 P P 09 23 03.9 -0.1
comp=Z,61nm,1.0s,mb5.0
EPF **Esparros** 22.17 301 eP P 09 23 05.3 +0.5
comp=Z,8.9nm,0.7s,mb4.0
EPF **Esparros** 22.17 301 eP P 09 23 05.3 +0.5
EPF pmax pmax
comp=Z,4.0nm,0.7s,mb4.0
EPF **Esparros** 22.17 301 eP P 09 23 05.3 +0.5
comp=Z,4.4nm,0.7s,mb4.0
EBIE **Bielsa** 22.23 300 P P 09 23 09.0 +3.6
comp=Z,20nm,1.3s,mb4.4
HGN **Heimansgroeve** 22.25 324 eP P 09 23 05.4 0.0
EMOS **Mosqueruela** 22.28 294 P P 09 23 08.8 +2.8
comp=Z,20nm,1.3s,mb4.4
EMOS **Mosqueruela** 22.28 294 P P 09 23 08.8 +2.9
comp=Z,20nm,1.3s,mb4.4
BCLA **Clavier** 22.34 322 P P 09 23 05.5 -1.0
comp=Z,27nm,1.3s,mb4.5
BEBN **Eben Emael** 22.39 324 P P 09 23 10.9 +3.9
GIVF **Givet** 22.40 321 eP P 09 23 04.9 -2.1
comp=Z,70nm,0.9s,mb4.8
GIVF **Givet** 22.40 321 eP P 09 23 04.9 -2.1
GIVF pmax pmax
comp=Z,35nm,0.9s,mb4.8
GIVF **Givet** 22.40 321 eP P 09 23 04.9 -2.1
comp=Z,35nm,0.9s,mb4.8
LFF **La Frestale** 22.44 306 eP P 09 23 07.5 -0.1
comp=Z,18nm,0.7s,mb4.3
LFF **La Frestale** 22.44 306 eP P 09 23 07.5 -0.1
LFF pmax pmax
comp=Z,9.0nm,0.7s,mb4.3
LFF **La Frestale** 22.44 306 eP P 09 23 07.5 -0.1
comp=Z,9.1nm,0.7s,mb4.3
DOU **Dourbes** 22.51 321 P P 09 23 07.4 -0.9
comp=Z,22nm,1.2s,mb4.5
WTSB **Winterswijk** 22.63 327 eP P 09 23 09.5 0.0
BAIF **Baives** 22.69 320 eP P 09 23 08.4 -1.8
comp=Z,77nm,0.8s,mb4.9
BAIF **Baives** 22.69 320 eP P 09 23 08.4 -1.8
BAIF pmax pmax
comp=Z,39nm,0.8s,mb4.9
BAIF **Baives** 22.69 320 eP P 09 23 08.4 -1.8
comp=Z,39nm,0.8s,mb4.9
MOS **Moscow** 22.69 16 e P 09 23 07.8 -2.3
MOS e 09 23 16.2
ETSF **Etsaut** 22.79 300 eP P 09 23 11.4 +0.2
comp=Z,8.5nm,0.6s,mb4.1
ETSF **Etsaut** 22.79 300 eP P 09 23 11.4 +0.2
ETSF pmax pmax
comp=Z,4.0nm,0.6s,mb4.0
ETSF **Etsaut** 22.79 300 eP P 09 23 11.4 +0.2
comp=Z,4.2nm,0.6s,mb4.1
SNF **Seneffe** 22.92 322 P P 09 23 12.2 -0.3
comp=Z,21nm,1.2s,mb4.5
UCC **Uccle** 23.05 322 P P 09 23 13.8 -0.2
comp=Z,76nm,1.0s,mb5.1
SJPF **Ste Jean** 23.31 300 eP P 09 23 16.8 0.0
comp=Z,16nm,0.8s,mb4.2
SJPF **Ste Jean** 23.31 300 eP P 09 23 16.8 0.0
SJPF pmax pmax
comp=Z,8.0nm,0.8s,mb4.2
SJPF **Ste Jean** 23.31 300 eP P 09 23 16.8 0.0
comp=Z,8.2nm,0.8s,mb4.2
EALK **Alkurruntz** 23.53 300 P P 09 23 22.6 +3.5
comp=Z,18nm,1.2s,mb4.4
ELIZ **Elizondo** 23.54 300 P P 09 23 22.2 +3.1
ELIZ pmax pmax
comp=Z,21nm,1.1s,mb4.5
ELIZ **Elizondo** 23.54 300 P P 09 23 22.2 +3.1
comp=Z,21nm,1.1s,mb4.5
MFF **Saint Martin d** 23.61 309 eP P 09 23 18.3 -1.4
comp=Z,40nm,1.1s,mb4.5
MFF **Saint Martin d** 23.61 309 eP P 09 23 18.3 -1.4
MFF pmax pmax
comp=Z,20nm,1.1s,mb4.5
MFF **Saint Martin d** 23.61 309 eP P 09 23 18.3 -1.4
comp=Z,20nm,1.1s,mb4.5
EVIA **Vianos** 23.73 289 P P 09 23 23.2 +2.3
EVIA pmax pmax
comp=Z,4.0nm,0.5s,mb4.1
EVIA **Vianos** 23.73 289 P P 09 23 23.2 +2.3
comp=Z,4.3nm,0.5s,mb4.1
EHUE **Huescar** 23.79 287 P P 09 23 23.4 +1.9
EHUE pmax pmax
comp=Z,10.0nm,1.2s,mb4.1
EHUE **Huescar** 23.79 287 P P 09 23 23.4 +1.9
comp=Z,10.0nm,1.2s,mb4.1
EHUE **Huescar** 23.79 287 P P 09 23 23.4 +2.0
comp=Z,10.0nm,1.2s,mb4.1
VSU **Vasula** 24.10 0d iP P 09 23 21.3 -2.8
VSU **Vasula** 24.10 0 i P P 09 23 21.3 -2.8
LDF **La Druitiere** 24.39 314 eP P 09 23 26.1 -0.7
comp=Z,28nm,0.8s,mb4.5
LDF **La Druitiere** 24.39 314 eP P 09 23 26.1 -0.7
LDF pmax pmax
comp=Z,14nm,0.8s,mb4.4
LDF **La Druitiere** 24.39 314 eP P 09 23 26.1 -0.7
comp=Z,14nm,0.8s,mb4.5
ECOG **Cogollos-Vega** 24.58 286 P P 09 23 30.3 +1.6
ECOG pmax pmax
comp=Z,11nm,0.9s,mb4.4
ECOG **Cogollos-Vega** 24.58 286 P P 09 23 30.3 +1.6
comp=Z,11nm,0.9s,mb4.4
ECOG **Cogollos-Vega** 24.58 286 P P 09 23 30.3 +1.7
comp=Z,11nm,0.9s,mb4.4
FLN **La Foliniere** 24.68 314 eP P 09 23 28.4 -1.0
comp=Z,90nm,1.1s,mb4.9
FLN eMLR MLR
comp=Z,292nm,19.8s,MS3.5
FLN **La Foliniere** 24.68 314 eP P 09 23 28.4 -1.0
FLN pmax pmax
comp=Z,45nm,1.1s,mb4.9
FLN MLR MLR
comp=Z,290nm,19.8s,MS3.8
FLN **La Foliniere** 24.68 314 eP P 09 23 28.4 -1.0
comp=Z,45nm,1.1s,mb4.9
FLN LR LR
comp=Z,290nm,19.8s,MS3.8
EBAN **Banos Encina** 24.73 288 P P 09 23 32.0 +2.0
EBAN pmax pmax
comp=Z,4.0nm,0.8s,mb4.0
EBAN **Banos Encina** 24.73 288 P P 09 23 32.0 +2.0
comp=Z,4.0nm,0.8s,mb4.0
EBAN **Banos Encina** 24.73 288 P P 09 23 32.0 +2.0
comp=Z,3.5nm,0.8s,mb3.9
GRR **Gorron** 24.75 313 eP P 09 23 29.7 -0.4
ESDC **Sonseca Array** 24.90 291 P P 09 23 31.0 -0.6
comp=Z,1.9nm,0.5s,mb3.9,baz=82,slow=9.8,SNR=15
ESDC **Sonseca Array** 24.90 291 P P 09 23 31.8 +0.3
ESDC **Sonseca Array** 24.90 291 P P 09 23 31.8 +0.3
ESLA **Sonseca Array** 24.90 291 eP P 09 23 31.2 -0.3
comp=Z,2.2nm,0.8s,mb3.7
ESLA **Sonseca Array** 24.90 291 eP P 09 23 31.2 -0.3
comp=Z,2.2nm,0.8s,mb3.7
ELAN **Lanestosa** 24.91 300 P P 09 23 33.2 +1.6
comp=Z,14nm,0.9s,mb4.5
ELAN **Lanestosa** 24.91 300 P P 09 23 33.2 +1.5
comp=Z,14nm,0.9s,mb4.5
ELOJ **Sierra Loja** 25.05 285 P P 09 23 34.6 +1.6
ELOJ pmax pmax
comp=Z,1.0nm,1.1s
ELOJ **Sierra Loja** 25.05 285 P P 09 23 34.5 +1.5
comp=Z,0.8nm,1.1s
ELOJ **Sierra Loja** 25.05 285 P P 09 23 34.5 +1.6
comp=Z,0.8nm,1.1s
GUD **Guadarrama** 25.11 294 P P 09 23 35.2 +1.8
GUD pmax pmax
comp=Z,29nm,1.3s,mb4.7
GUD **Guadarrama** 25.11 294 P P 09 23 35.2 +1.8
comp=Z,29nm,1.3s,mb4.7
GUD **Guadarrama** 25.11 294 P P 09 23 35.2 +1.8
comp=Z,29nm,1.3s,mb4.7
PAB **San Pablo** 25.19 291 eP P 09 23 34.7 +0.5
PAB pmax pmax
comp=Z,10.0nm,0.9s,mb4.3
PAB **San Pablo** 25.19 291 eP P 09 23 34.7 +0.5
comp=Z,10.0nm,0.9s,mb4.3
PAB **San Pablo** 25.19 291 eP P 09 23 34.7 +0.5
comp=Z,9.7nm,0.9s,mb4.3
TZK **Tazeka** 25.41 278 eP P 09 23 38.0 +1.8
PUL **Pulkovo** 25.53 4 i P P 09 23 33.5 -3.5
EMIJ **Mijas** 25.59 284 P P 09 23 39.1 +1.3
comp=Z,30nm,1.4s,mb4.6
EMIJ **Mijas** 25.59 284 P P 09 23 39.1 +1.3
comp=Z,30nm,1.4s,mb4.6
SGMF **Saint Gilles** 25.74 311 eP P 09 23 37.8 -1.3
ZFT **Errachidia** 25.95 274 i P P 09 23 42.0 +0.8
MDT **Midelt** 26.00 275 P P 09 23 41.9 +0.3
comp=Z,2.4nm,0.7s,mb3.9,baz=85,slow=11,SNR=9.5
MDT LR LR 09 35 42.6
comp=Z,283nm,21.0s,MS3.8,baz=291,slow=41
QUIF **Quistinic** 26.00 310 eP P 09 23 40.3 -1.1
ECAB **El Cabril** 26.02 288 P P 09 23 42.8 +1.1
comp=Z,9.8nm,0.6s,mb4.5
ECAB **El Cabril** 26.02 288 P P 09 23 42.9 +1.1
comp=Z,9.8nm,0.6s,mb4.5
EARI **Arriondas** 26.20 299 P P 09 23 47.2 +3.8
comp=Z,31nm,1.7s,mb4.6
ROSF **Rostrenen** 26.21 311 eP P 09 23 42.6 -0.8
comp=Z,25nm,0.9s,mb4.4
ROSF **Rostrenen** 26.21 311 eP P 09 23 42.6 -0.8
ROSF pmax pmax
comp=Z,13nm,0.9s,mb4.5
ROSF **Rostrenen** 26.21 311 eP P 09 23 42.6 -0.8
comp=Z,12nm,0.9s,mb4.4
ESPR **Espera** 26.43 285 P P 09 23 46.8 +1.3
comp=Z,28nm,1.3s,mb4.6
EPLA **Plasencia** 26.54 292 P P 09 23 49.1 +2.7
EPLA pmax pmax
comp=Z,29nm,1.6s,mb4.6
EPLA **Plasencia** 26.54 292 P P 09 23 49.1 +2.7
comp=Z,29nm,1.6s,mb4.6
EPLA **Plasencia** 26.54 292 P P 09 23 49.1 +2.6
comp=Z,29nm,1.6s,mb4.6
HFS **Hagfors** 27.12 346 P P 09 23 49.4 -2.0
comp=Z,5.1nm,0.7s,mb4.2,baz=96,slow=9.1,SNR=16
HFS **Hagfors** 27.12 346 P P 09 23 49.4 -2.0
HFS pmax pmax
comp=Z,5.0nm,0.7s
ECAL **Calabor** 27.16 296 P P 09 23 53.7 +1.8
comp=Z,30nm,1.2s,mb4.7
ECAL **Calabor** 27.16 296 P P 09 23 53.7 +1.8
comp=Z,30nm,1.2s,mb4.7
EBAD **Badajoz** 27.26 289 P P 09 23 51.9 -1.0
comp=Z,22nm,1.6s,mb4.4
EBAD **Badajoz** 27.26 289 P P 09 23 51.9 -0.9
comp=Z,22nm,1.6s,mb4.4
PBAR **Barrancos** 27.30 288 eP P 09 23 52.2 -1.0
comp=Z,22nm,1.4s,mb4.5
MVO **Moncorvo** 27.32 294 eP P 09 23 54.4 +1.0
comp=Z,24nm,1.6s,mb4.5
PMRV **Marv??o** 27.54 291 eP P 09 23 55.5 +0.1
comp=Z,22nm,1.4s,mb4.6
PESTR **Estremoz** 27.70 289 eP P 09 23 57.2 +0.3
comp=Z,18nm,1.4s,mb4.5
KAF **Kangasniemi** 27.77 360 ep P 09 23 54.3 -2.9
comp=Z,3.7nm,0.5s,mb4.3
KAF **Kangasniemi** 27.77 360 eP P 09 23 54.3 -2.9
KAF pmax pmax
comp=Z,4.0nm,0.5s,mb4.3
KLMR **Klimovskoe** 27.79 14 eP P 09 23 55.4 -2.0
KLMR pmax pmax
comp=Z,27nm,0.8s,mb4.9
AKTK **Aktyubinsk** 27.95 45 P P 09 23 58.8 -0.1
AKTK **Aktyubinsk** 27.95 45 P P 09 23 58.8 -0.1
AKTO **Aktyubinsk** 27.95 45 P P 09 23 58.8 -0.1
comp=Z,3.9nm,0.6s,mb4.2,baz=254,slow=11,SNR=7.0
AKTO **Aktyubinsk** 27.95 45 P P 09 24 00.2 +1.3
AKTO pmax pmax
comp=Z,2.0nm,0.8s,mb3.8
EVO **Evora** 28.05 289 eP P 09 24 00.8 +0.9
comp=Z,26nm,1.5s,mb4.6
NAO01 **NORSAR Array S** 28.38 344 eP P 09 24 01.0 -1.6
comp=Z,9.9nm,0.8s,mb4.5
NB2 **NORSAR Subarra** 28.48 344 P P 09 24 00.5 -3.0
comp=Z,2.3nm,0.7s,mb3.9,baz=141,slow=9.3
NOA **NORSAR Array B** 28.48 344 P P 09 24 01.6 -1.9
comp=Z,2.0nm,0.7s,mb3.9,baz=142,slow=6.6,SNR=7.8
NOA **NORSAR Array B** 28.48 344 P P 09 24 01.6 -1.9
NOA pmax pmax
comp=Z,2.0nm,0.7s
AB31 **Akbulak array** 28.69 49 i P P 09 24 05.5 -0.1
AB31 pmax pmax
comp=Z,5.0nm,0.7s,mb4.3
AB31 **Akbulak array** 28.69 49 i P P 09 24 05.5 -0.1
comp=Z,5.0nm,0.7s,mb4.3
JOF **Joensuu** 28.73 4 ep P 09 24 02.7 -3.0
comp=Z,4.6nm,0.6s,mb4.4
JOF **Joensuu** 28.73 4 eP P 09 24 02.7 -3.0
JOF pmax pmax
comp=Z,5.0nm,0.6s,mb4.4
EKA **Eskdalemuir Ar** 29.37 325 P P 09 24 10.5 -1.0
comp=Z,4.6nm,0.7s,mb4.3,baz=119,slow=9.7,SNR=10
EKA **Eskdalemuir Ar** 29.37 325 P P 09 24 10.5 -1.0
EKA pmax pmax
comp=Z,5.0nm,0.7s
TOA0 **Torodi Ar. Sit** 30.92 233 eP P 09 24 26.5 +0.9
TOA0 **Torodi Ar. Sit** 30.92 233 eP P 09 24 26.4 +0.9
TORD **Torodi Ar. Bea** 30.92 233 P P 09 24 26.7 +1.1
comp=Z,3.8nm,0.6s,mb4.4,baz=33,slow=8.5,SNR=36
TORD LR LR 09 38 43.0
comp=Z,460nm,19.7s,MS4.1,baz=35,slow=40
TORD **Torodi Ar. Bea** 30.92 233 P P 09 24 26.7 +1.1
TORD LR LR 09 38 43.0
ARU **Arti** 31.01 35c iP P 09 24 25.5 -0.5
ARU e 09 25 22.7
ARU eS S 09 29 22.1 -7.3
ARU eSS SS 09 31 07.7 -34
ARU pmax pmax
comp=Z,4.0nm,0.8s,mb4.3
ARU **Arti** 31.01 35 i P P 09 24 25.5 -0.5
comp=Z,4.0nm,0.8s,mb4.3
ARU **Arti** 31.01 35 P P 09 24 27.6 +1.5
comp=Z,16nm,1.3s,mb4.7
SVE **Sverdlovsk** 32.20 35⎍ eP P 09 24 36.5 0.0
SVE e 09 27 22.7
SVE eS S 09 29 43.7 -4.2
SVE pmax pmax
comp=Z,11nm,0.9s,mb4.7
SVE **Sverdlovsk** 32.20 35 eP P 09 24 36.5 0.0
comp=Z,11nm,0.9s,mb4.7
SVE **Sverdlovsk** 32.20 35 ePcP PcP 09 27 22.7 -1.9
APA **Apatity** 33.48 5⎍ eP P 09 24 48.0 +0.5
APA i 09 24 59.0
APA pmax pmax
comp=Z,64nm,1.5s,mb5.3
APA **Apatity** 33.48 5 eP P 09 24 48.0 +0.5
comp=Z,64nm,1.5s,mb5.3
KBL **Kabul** 34.81 77 eP P 09 25 00.4 +0.9
KBL pmax pmax
comp=Z,4.0nm,0.8s,mb4.4
KBL **Kabul** 34.81 77 eP P 09 25 00.4 +0.9
comp=Z,4.0nm,0.8s,mb4.4
KBL **Kabul** 34.81 77 eP P 09 25 00.4 +0.9
comp=Z,3.7nm,0.8s,mb4.4
KK31 **Karatay Array** 35.02 62 i P P 09 25 01.6 +0.5
KK31 pmax pmax
comp=Z,10.0nm,1.0s,mb4.7
KK31 **Karatay Array** 35.02 62 i P P 09 25 01.6 +0.5
comp=Z,10.0nm,1.0s,mb4.7
ARCES **ARCESS Array B** 35.23 359 P P 09 25 00.4 -2.2
comp=Z,5.4nm,0.6s,mb4.6,baz=182,slow=9.1,SNR=27
ARCES **ARCESS Array B** 35.23 359 P P 09 25 00.4 -2.2
ARCES pmax pmax
comp=Z,5.0nm,0.6s
KEV **Kevo** 35.45 0 ep P 09 25 02.1 -2.4
BRVK **Borovoye** 36.00 45 P P 09 25 10.1 +0.7
BRVK pmax pmax
comp=Z,19nm,1.1s,mb4.9
BRVK **Borovoye** 36.00 45 P P 09 25 10.1 +0.7
comp=Z,19nm,1.1s,mb4.9
BRVK **Borovoye** 36.00 45 P P 09 25 10.1 +0.7
comp=Z,19nm,1.1s,mb4.9
BVA0 **Borovoye Array** 36.05 45 i P P 09 25 10.4 +0.5
BVA0 pmax pmax
comp=Z,2.0nm,1.0s,mb4.0
BVA0 **Borovoye Array** 36.05 45 i P P 09 25 10.4 +0.5
comp=Z,2.0nm,1.0s,mb4.0
BVAR **Borovoye Array** 36.05 45 P P 09 25 09.8 -0.1
comp=Z,6.1nm,0.9s,mb4.5,baz=246,slow=7.3,SNR=18
BVAR **Borovoye Array** 36.05 45 P P 09 25 09.8 -0.1
BVAR pmax pmax
comp=Z,6.0nm,0.9s
KMBO **Kilima Mbogo** 36.70 162 LR LR 09 40 43.1
comp=Z,185nm,18.1s,MS3.9,baz=313,slow=37
EKS2 **Erkin-Say** 37.43 63 eP P 09 25 23.2 +1.4
comp=Z,9.4nm,0.9s,mb4.6
EKS2 **Erkin-Say** 37.43 63 eP P 09 25 23.2 +1.4
comp=Z,9.4nm,0.9s,mb4.6
UCH **Uchtor** 38.00 64 eP P 09 25 27.3 +0.7
comp=Z,4.9nm,0.8s,mb4.3
UCH **Uchtor** 38.00 64 eP P 09 25 27.3 +0.6
comp=Z,4.9nm,0.8s,mb4.3
TKM2 **Tokmak 2** 38.75 62 eP P 09 25 33.6 +0.7
TKM2 pmax pmax
comp=Z,5.0nm,0.8s,mb4.3
TKM2 **Tokmak 2** 38.75 62 eP P 09 25 33.6 +0.7
comp=Z,5.0nm,0.8s,mb4.3
TKM2 **Tokmak 2** 38.75 62 eP P 09 25 33.6 +0.7
comp=Z,5.0nm,0.8s,mb4.3
DBIC **Dimbokro** 40.02 234 P P 09 25 44.4 +0.6
comp=Z,4.1nm,0.4s,mb4.5,baz=21,slow=8.6,SNR=13
DBIC LR LR 09 44 06.2
comp=Z,399nm,18.9s,MS4.3,baz=23,slow=39
DBIC **Dimbokro** 40.02 234 P P 09 25 44.4 +0.6
DBIC pmax pmax
comp=Z,4.0nm,0.4s
DBIC MLR MLR
comp=Z,399nm,18.9s
DBIC **Dimbokro** 40.02 234 P P 09 25 44.4 +0.6
DBIC LR LR 09 44 06.2
LIC **Lamto** 40.46 233 eP P 09 25 51.5 +4.0
comp=Z,60nm,1.3s,mb4.9
LIC eMLR MLR
comp=Z,500nm,21.0s,MS4.0
LIC **Lamto** 40.46 233 eP P 09 25 51.5 +4.0
comp=Z,30nm,1.3s,mb4.9
LIC LR LR
comp=Z,250nm,21.0s,MS4.0
KURK **Kurchatov** 40.77 50 P P 09 25 49.6 0.0
comp=Z,18nm,0.9s,mb4.7,baz=277,slow=8.8,SNR=32
KURK **Kurchatov** 40.77 50⎍ eP P 09 25 49.7 +0.1
KURK pmax pmax
comp=Z,13nm,1.1s,mb4.5
KURK **Kurchatov** 40.77 50 eP P 09 25 49.6 0.0
comp=Z,13nm,0.8s,mb4.6
KURK **Kurchatov** 40.77 50 eP P 09 25 49.6 0.0
comp=Z,13nm,0.8s,mb4.6
MK31 **Makanchi Array** 43.23 56 i P P 09 26 10.4 +0.6
MK31 pmax pmax
comp=Z,8.0nm,0.7s,mb4.6
MK31 **Makanchi Array** 43.23 56 i P P 09 26 10.4 +0.6
comp=Z,8.0nm,0.7s,mb4.6
MK31 **Makanchi Array** 43.23 56 eP P 09 26 10.7 +0.9
MKAR **Makanchi Array** 43.23 56 P P 09 26 10.3 +0.5
comp=Z,5.0nm,0.6s,mb4.4,baz=282,slow=6.1,SNR=34
MKAR **Makanchi Array** 43.23 56 P P 09 26 10.3 +0.5
MKAR pmax pmax
comp=Z,5.0nm,0.6s
NVS **Novosibirsk** 43.83 44 eP P 09 26 15.8 +1.4
NVS pmax pmax
comp=Z,19nm,0.9s,mb4.8
NVS pmax pmax
comp=E,8.0nm,0.8s
NVS **Novosibirsk** 43.83 44 eP P 09 26 15.8 +1.4
comp=E,19nm,0.9s,mb4.8
SPITS **Spitsbergen Ar** 44.14 357 P P 09 26 15.3 -1.3
comp=E,3.2nm,0.5s,mb4.3,baz=187,slow=7.8,SNR=9.5
SPITS **Spitsbergen Ar** 44.14 357 P P 09 26 15.3 -1.3
SPITS pmax pmax
comp=Z,3.0nm,0.5s
SPB4 **Spitsbergen Ar** 44.14 357 eP P 09 26 16.5 -0.2
SPB4 **Spitsbergen Ar** 44.14 357 eP P 09 26 16.5 -0.2

ZAA0	**Zalesovo Array**	**44.71**	**46**	*e*P	**P**	**09 26 21.1**	**-0.4**
ZAA0	**Zalesovo Array**	**44.71**	**46**	*e*P	**P**	**09 26 21.1**	**-0.4**
ZALV	**Zalesovo Beam**	**44.71**	**46**	P	**P**	**09 26 21.2**	**-0.3**
	comp=Z,7.0nm,0.6s,mb4.7,baz=268,slow=8.9,SNR=24						
ZALV	**Zalesovo Beam**	**44.71**	**46**	P	**P**	**09 26 21.2**	**-0.3**
ZALV				pmax	pmax		
	comp=Z,7.0nm,0.6s,mb4.7						
ZALV	**Zalesovo Beam**	**44.71**	**46**	P	**P**	**09 26 21.2**	**-0.3**
WMQ	**Urumqi**	**47.39**	**59**	*i*P	**P**	**09 26 43.9**	**+1.2**
WMQ				PCP	PcP	09 28 13.9	+0.8
WMQ				PP	PP	09 28 35.9	+2.0
WMQ				PCS	PcS	09 32 07.9	-0.4
WMQ				S	**S**	**09 33 31.5**	**-3.9**
WMQ				AMB	AMB		
	comp=Z,14nm,0.5s,mb5.2						
WMQ				AMB	AMB		
	comp=Z,174nm,4.9s						
WMQ				LR	LR		
	comp=N,290nm,33.5s,MS4.1						
WMQ				LR	LR		
	comp=E,163nm,32.0s,MS4.1						
WMQ				LR	LR		
	comp=Z,101nm,24.7s						
DANN	**Dangsing**	**48.64**	**81**	*e*P	**P**	**09 26 54.3**	**+1.6**
	comp=Z,134nm,0.9s						
KOLN	**Koldanda**	**48.73**	**81**	*e*P	**P**	**09 26 54.1**	**+0.7**
	comp=Z,28nm,0.8s,mb5.3						
LSZ	**Lusaka**	**49.39**	**178**	P	**P**	**09 27 00.2**	**+1.9**
	comp=Z,1.4nm,0.7s,mb4.1,baz=64,slow=12,SNR=3.3						
LSZ	**Lusaka**	**49.39**	**178**	P	**P**	**09 27 00.2**	**+1.9**
LSZ				pmax	pmax		
	comp=Z,1.0nm,0.7s,mb4.0						
GKN	**Gorkha**	**49.49**	**81**	*e*P	**P**	**09 27 00.2**	**+1.0**
	comp=Z,40nm,0.9s,mb5.4						
DMN	**Daman**	**50.03**	**81**	*e*P	**P**	**09 27 04.4**	**+1.1**
	comp=Z,38nm,0.8s,mb5.5						
KKN	**Kakani**	**50.10**	**81**	*e*P	**P**	**09 27 04.8**	**+1.0**
	comp=Z,35nm,0.8s,mb5.5						
SUMG	**Summit**	**50.14**	**339**	*e*P	**P**	**09 27 03.1**	**-0.4**
	comp=Z,4.3nm,0.8s,mb4.5						
SUMG	**Summit**	**50.14**	**339**	*e*P	**P**	**09 27 03.1**	**-0.4**
	comp=Z,4.3nm,0.8s,mb4.5						
PKIN	**Phulchoki**	**50.27**	**81**	*e*P	**P**	**09 27 05.9**	**+0.7**
	comp=Z,28nm,0.9s,mb5.3						
PKI	**Pulchoki**	**50.29**	**81**	*e*P	**P**	**09 27 06.0**	**+0.8**
	comp=Z,57nm,1.0s,mb5.6						
GUN	**Gumba**	**50.54**	**80**	*e*P	**P**	**09 27 08.3**	**+1.1**
	comp=Z,70nm,0.9s,mb5.6						
JIRN	**Jiri**	**50.89**	**80**	*e*P	**P**	**09 27 10.8**	**+1.0**
	comp=Z,44nm,0.9s,mb5.4						
RAMN	**Ramite**	**51.51**	**81**	*e*P	**P**	**09 27 15.3**	**+0.9**
ODAN	**Odare**	**52.19**	**81**	*e*P	**P**	**09 27 19.7**	**+0.2**
TAPN	**Taplejung**	**52.25**	**80**	*e*P	**P**	**09 27 20.2**	**+0.2**
	comp=Z,32nm,1.0s,mb5.2						
MOY	**Mondy**	**54.68**	**47**	*e*P	**P**	**09 27 39.8**	**+2.4**
TLY	**Talaya**	**56.28**	**47**	*i*P	**P**	**09 27 50.2**	**+1.2**
TLY				pmax	pmax		
	comp=Z,10.0nm,1.0s,mb4.8						
TLY	**Talaya**	**56.28**	**47**	*e*P	**P**	**09 27 49.7**	**+0.7**
	comp=Z,8.9nm,0.9s,mb4.8						
TLY	**Talaya**	**56.28**	**47**	*e*P	**P**	**09 27 49.7**	**+0.8**
	comp=Z,8.9nm,0.9s,mb4.8						
ZAK	**Zakamensk**	**56.39**	**48**	*e*P	**P**	**09 27 51.1**	**+1.4**
ZAK				pmax	pmax		
	comp=Z,10.0nm,0.9s,mb4.8						
ZAK	**Zakamensk**	**56.39**	**48**	*e*P	**P**	**09 27 51.1**	**+1.4**
	comp=Z,10.0nm,0.9s,mb4.8						
GTA	**Gaotai**	**57.30**	**62**	*e*P	**P**	**09 27 57.9**	**+1.5**
GTA				AP	pP	09 28 04.1	+0.5
GTA				XP	sP	09 28 07.1	+0.7
GTA				AMB	AMB		
	comp=Z,5.0nm,1.0s,mb4.5						
LBTB	**Lobatse**	**59.06**	**181**	LR	LR	09 55 03.4	
	comp=Z,186nm,19.1s,MS4.2,baz=250,slow=37						
SONM	**Songino Array**	**59.08**	**51**	P	**P**	**09 28 09.8**	**+1.1**
	comp=Z,7.3nm,0.8s,mb4.8,baz=288,slow=8.0,SNR=38						
SONM	**Songino Array**	**59.08**	**51**	P	**P**	**09 28 09.8**	**+1.1**
SONM				pmax	pmax		
	comp=Z,7.0nm,0.8s						
BOD	**Bodaibo**	**60.35**	**38**	*e*P	**P**	**09 28 15.8**	**-1.5**
BOD				pmax	pmax		
	comp=Z,7.0nm,2.3s,mb4.3						
LZH	**Lanzhou**	**61.49**	**64**	*e*P	**P**	**09 28 25.0**	**-0.4**
LZH				AP	pP	09 28 28.5	-4.2
LZH				XP	sP	09 28 30.0	-5.5
LZH				AMB	AMB		
	comp=Z,29nm,1.6s,mb5.2						
LZH				AMB	AMB		
	comp=Z,170nm,4.0s						
CD2	**Chengdu**	**63.57**	**69**	*e*P	**P**	**09 28 40.6**	**+1.2**
CD2				AP	pP	09 28 45.3	-1.4
CD2				XP	sP	09 28 48.3	-1.2
CD2				PP	PP	09 31 01.8	+2.7
CD2				S	**S**	**09 37 11.3**	**-0.5**
CD2				SS	SS	09 41 19.8	+0.8
CD2				AMB	AMB		
	comp=Z,30nm,0.6s,mb5.5						
CD2				AMB	AMB		
	comp=Z,80nm,6.2s						
CD2				LR	LR		
	comp=N,170nm,9.6s						
CD2				LR	LR		
	comp=E,130nm,13.2s						
CD2				LR	LR		
	comp=Z,70nm,8.4s						
HHC	**Hu-ho-hao-te**	**65.09**	**56**	*e*P	**P**	**09 28 50.5**	**+1.3**
HHC				AP	pP	09 28 55.3	-1.3
HHC				XP	sP	09 28 57.5	-1.8
HHC				PCP	PcP	09 29 22.5	+0.6
HHC				PP	PP	09 31 15.6	+3.4
HHC				SCP		09 33 24.3	
HHC				S	S	09 37 31.4	+1.0
HHC				XS	sS	09 37 39.1	-3.4
HHC				SCS	ScS	09 38 41.0	-1.9
HHC				SS	SS	09 41 43.5	+1.2
HHC				AMB	AMB		
	comp=Z,17nm,1.1s,mb5.0						
HHC				AMB	AMB		
	comp=Z,67nm,7.1s						
HHC				LR	LR		
	comp=N,185nm,18.0s,MS4.5						
HHC				LR	LR		
	comp=E,213nm,15.7s,MS4.5						
HHC				LR	LR		
	comp=Z,124nm,15.7s,MS4.2						
CHTO	**Chiang Mai**	**65.31**	**83**	P	**P**	**09 28 51.3**	**+0.4**
CHTO				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.4						
CHTO	**Chiang Mai**	**65.31**	**83**	P	**P**	**09 28 51.3**	**+0.4**
	comp=Z,3.0nm,0.8s,mb4.4						
CHTO	**Chiang Mai**	**65.31**	**83**	P	**P**	**09 28 51.3**	**+0.4**
	comp=Z,3.5nm,0.8s,mb4.4						
KMI	**Kunming**	**65.37**	**76**	P	**P**	**09 28 53.6**	**+2.4**
KMI				AMB	AMB		
	comp=Z,9.0nm,0.6s,mb5.0						
CMAR	**Chiang Mai Arr**	**65.49**	**84**	P	**P**	**09 28 52.7**	**+0.6**
	comp=Z,2.5nm,0.8s,mb4.3,baz=292,slow=6.7,SNR=11						
CMAR				LR	LR	10 02 53.2	
	comp=Z,86nm,19.0s,MS4.0,baz=280,slow=41						
CMAR	**Chiang Mai Arr**	**65.49**	**84**	P	**P**	**09 28 52.7**	**+0.6**
CMAR				pmax	pmax		
	comp=Z,3.0nm,0.8s						
CMAR				MLR	MLR		
	comp=Z,86nm,19.0s						
XAN	**Xi'an**	**66.12**	**64**	P	**P**	**09 28 56.3**	**+0.3**
XAN				AP	pP	09 28 58.8	-4.5
XAN				S	S	09 37 43.8	+0.6
XAN				SS	SS	09 42 00.0	+1.4
XAN				AMB	AMB		
	comp=Z,4.0nm,0.9s,mb4.5						
XAN				AMB	AMB		
	comp=Z,13nm,13.8s						
XAN				LR	LR		
	comp=N,20nm,28.7s,MS3.6						
XAN				LR	LR		
	comp=E,47nm,28.6s,MS3.6						
XAN				LR	LR		
	comp=Z,70nm,35.9s						
HIA	**Hailar**	**66.75**	**45**	*e*P	**P**	**09 29 00.4**	**+0.7**
HIA				pmax	pmax		
	comp=Z,10.0nm,0.8s						
HIA	**Hailar**	**66.75**	**45**	*e*P	**P**	**09 29 00.4**	**+0.7**
	comp=Z,10.0nm,0.8s,mb4.9						
HIA	**Hailar**	**66.75**	**45**	*e*P	**P**	**09 29 00.4**	**+0.8**
	comp=Z,10.0nm,0.8s,mb4.9						
GYA	**Guiyang**	**67.86**	**72**	P	**P**	**09 29 07.6**	**+0.5**
GYA				AP	pP	09 29 12.3	-2.2
GYA				PCP	PcP	09 29 35.6	+2.0
GYA				PP	PP	09 31 40.0	+3.3
GYA				SCP		09 33 36.8	
GYA				S	S	09 38 04.4	+0.1
GYA				SKS		09 39 02.3	
GYA				SS	SS	09 42 27.0	+1.1
GYA				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb4.8						
GYA				AMB	AMB		
	comp=Z,80nm,5.0s						
GYA				LR	LR		
	comp=N,520nm,19.6s,MS4.9						
GYA				LR	LR		
	comp=E,490nm,18.2s,MS4.9						
GYA				LR	LR		
	comp=Z,470nm,19.3s,MS4.7						
BJI	**Beijing**	**68.61**	**56**	P	**P**	**09 29 12.5**	**+0.9**
BJI				S	S	09 38 10.0	-2.9
BJI				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.8						
BJI				LR	LR		
	comp=Z,58nm,27.5s,MS3.7						
SEY	**Seymchan**	**73.84**	**23**	*e*P	**P**	**09 29 40.2**	**-2.6**
MDJ	**Mudanjiang**	**74.91**	**46**	P	**P**	**09 29 48.4**	**-1.0**
MDJ				AMB	AMB		
	comp=Z,4.0nm,0.7s,mb4.5						
MDJ				AMB	AMB		
	comp=Z,51nm,4.8s						
KSRS	**Korea Array**	**77.82**	**53**	P	**P**	**09 30 06.8**	**+0.7**
	comp=Z,3.8nm,0.8s,mb4.4,baz=306,slow=5.0,SNR=8.9						
KSRS	**Korea Array**	**77.82**	**53**	P	**P**	**09 30 06.8**	**+0.7**
KSRS				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.4						
YKA	**Yellowknife Ar**	**78.56**	**343**	P	**P**	**09 30 07.9**	**-1.7**
	comp=Z,2.5nm,0.8s,mb4.2,baz=33,slow=5.1,SNR=2.7						
YKA				LR	LR	10 07 49.4	
	comp=Z,30nm,19.3s,MS3.6,baz=155,slow=38						
YKA	**Yellowknife Ar**	**78.56**	**343**	P	**P**	**09 30 07.9**	**-1.8**
YKA				pmax	pmax		
	comp=Z,3.0nm,0.8s						
YKA				MLR	MLR		
	comp=Z,30nm,19.3s						
YKA	**Yellowknife Ar**	**78.56**	**343**	P	**P**	**09 30 07.9**	**-1.8**
	comp=Z,30nm,19.3s						
FFC	**Flin Flon**	**80.88**	**333**	*e*P	**P**	**09 30 22.8**	**+0.4**
FFC				pmax	pmax		
	comp=Z,11nm,0.9s,mb4.8						
FFC	**Flin Flon**	**80.88**	**333**	*e*P	**P**	**09 30 22.8**	**+0.4**
	comp=Z,11nm,0.9s,mb4.8						
FFC	**Flin Flon**	**80.88**	**333**	*e*P	**P**	**09 30 22.8**	**+0.4**
	comp=Z,11nm,0.9s,mb4.8						
DAWY	**Dawson**	**81.27**	**354**	*e*P	**P**	**09 30 25.3**	**+1.0**
DAWY	**Dawson**	**81.27**	**354**	*e*P	**P**	**09 30 25.3**	**+1.0**
ULM	**Lac du Bonnet**	**81.62**	**327**	P	**P**	**09 30 26.3**	**-0.1**
	comp=Z,4.3nm,1.1s,mb4.3,baz=72,slow=6.4,SNR=3.9						
ULM				LR	LR	10 06 32.9	
	comp=Z,82nm,19.3s,MS4.1,baz=73,slow=36						
ULM	**Lac du Bonnet**	**81.62**	**327**	*e*P	**P**	**09 30 26.2**	**-0.2**
	comp=Z,9.4nm,1.1s,mb4.6						
ULM	**Lac du Bonnet**	**81.62**	**327**	*e*P	**P**	**09 30 26.2**	**-0.3**
	comp=Z,9.4nm,1.1s,mb4.6						
BPAW	**Bear Paw Mtn.**	**81.85**	**359**	*e*P	**P**	**09 30 28.0**	**+0.7**
	comp=Z,9.1nm,1.0s,mb4.7						
BPAW	**Bear Paw Mtn.**	**81.85**	**359**	*e*P	**P**	**09 30 28.0**	**+0.7**
	comp=Z,9.1nm,1.0s,mb4.7						
CHUM	**Lake Minchumin**	**82.08**	**360**	*e*P	**P**	**09 30 28.8**	**+0.2**
	comp=Z,37nm,1.4s,mb5.1						
CHUM	**Lake Minchumin**	**82.08**	**360**	*e*P	**P**	**09 30 28.8**	**+0.2**
	comp=Z,37nm,1.4s,mb5.1						
MCK	**McKinley**	**82.17**	**358**	P	**P**	**09 30 28.7**	**-0.3**
MCK				pmax	pmax		
	comp=Z,17nm,1.3s,mb4.8						
MCK	**McKinley**	**82.17**	**358**	P	**P**	**09 30 28.7**	**-0.3**
	comp=Z,17nm,1.3s,mb4.8						
MCK	**McKinley**	**82.17**	**358**	P	**P**	**09 30 28.7**	**-0.3**
	comp=Z,17nm,1.3s,mb4.8						
TRF	**Thorofare Moun**	**82.49**	**359**	P	**P**	**09 30 33.9**	**+3.2**
TRF	**Thorofare Moun**	**82.49**	**359**	P	**P**	**09 30 33.9**	**+3.2**
AGMN	**Agassiz Refuge**	**83.00**	**325**	*e*P	**P**	**09 30 33.6**	**-0.1**
AGMN	**Agassiz Refuge**	**83.00**	**325**	*e*P	**P**	**09 30 33.6**	**-0.1**
PPLA	**Purkeypile**	**83.07**	**359**	*e*P	**P**	**09 30 34.1**	**+0.4**
	comp=Z,11nm,0.7s,mb5.0						
PPLA	**Purkeypile**	**83.07**	**359**	*e*P	**P**	**09 30 34.1**	**+0.4**
	comp=Z,11nm,0.7s,mb5.0						
TKL	**Tuckaleechee C**	**84.74**	**310**	P	**P**	**09 30 44.2**	**+1.3**
	comp=Z,2.9nm,1.0s,mb4.4,baz=90,slow=3.0,SNR=2.5						
TKL	**Tuckaleechee C**	**84.74**	**310**	P	**P**	**09 30 44.2**	**+1.4**
TKL				pmax	pmax		
	comp=Z,3.0nm,1.0s,mb4.4						
TKL	**Tuckaleechee C**	**84.74**	**310**	P	**P**	**09 30 44.2**	**+1.3**
MAT	**Matsushiro**	**84.97**	**49**	P	**P**	**09 30 44.0**	**+0.1**
MJAR	**Matsushiro Arr**	**84.97**	**49**	P	**P**	**09 30 45.0**	**+1.1**
	comp=Z,3.2nm,0.8s,mb4.5,baz=309,slow=5.2,SNR=8.5						
MJAR	**Matsushiro Arr**	**84.97**	**49**	P	**P**	**09 30 45.0**	**+1.0**
MJAR				pmax	pmax		
	comp=Z,3.0nm,0.8s						
EDM	**Edmonton**	**86.09**	**337**	*e*P	**P**	**09 30 49.0**	**-0.2**
EDM	**Edmonton**	**86.09**	**337**	*e*P	**P**	**09 30 49.0**	**-0.1**
SIUC	**Southern Illin**	**86.75**	**314**	*e*P	**P**	**09 30 53.6**	**+0.8**
	comp=Z,11nm,0.7s,mb5.2						
SIUC	**Southern Illin**	**86.75**	**314**	*e*P	**P**	**09 30 53.6**	**+0.8**
	comp=Z,11nm,0.7s,mb5.2						
CCM	**Cathedral Cave**	**87.71**	**316**	*e*P	**P**	**09 30 57.4**	**0.0**
CCM				pmax	pmax		
	comp=Z,4.0nm,0.6s,mb4.8						
CCM	**Cathedral Cave**	**87.71**	**316**	*e*P	**P**	**09 30 57.4**	**0.0**
	comp=Z,4.0nm,0.6s,mb4.8						
CCM	**Cathedral Cave**	**87.71**	**316**	*e*P	**P**	**09 30 57.4**	**0.0**
	comp=Z,3.8nm,0.6s,mb4.8						
LRAL	**Lakeview Retre**	**88.47**	**310**	*e*P	**P**	**09 31 01.4**	**+0.3**
	comp=Z,7.2nm,0.9s,mb4.9						
LRAL	**Lakeview Retre**	**88.47**	**310**	*e*P	**P**	**09 31 01.4**	**+0.3**
	comp=Z,7.3nm,0.9s,mb4.9						
LAO	**LASA Array**	**88.83**	**330**	P	**P**	**09 31 02.6**	**+0.1**
	comp=Z,11nm,1.0s,mb5.2						
LAO	**LASA Array**	**88.83**	**330**	P	**P**	**09 31 02.6**	**+0.1**
	comp=Z,11nm,1.0s,mb5.2						
HRY	**Holter Researc**	**91.04**	**333**	P	**P**	**09 31 15.1**	**+2.3**
HRY	**Holter Researc**	**91.04**	**333**	P	**P**	**09 31 15.1**	**+2.3**
NEW	**Newport**	**91.58**	**337**	*e*P	**P**	**09 31 16.3**	**+1.0**
NEW				pmax	pmax		
	comp=Z,8.0nm,1.1s						
NEW	**Newport**	**91.58**	**337**	*e*P	**P**	**09 31 16.3**	**+1.0**
	comp=Z,8.0nm,1.1s,mb5.0						
NEW	**Newport**	**91.58**	**337**	*e*P	**P**	**09 31 16.3**	**+1.0**
	comp=Z,7.9nm,1.1s,mb5.0						
PHWY	**Pilot Hill**	**92.75**	**326**	*e*P	**P**	**09 31 21.4**	**+0.5**
	comp=Z,4.5nm,0.8s,mb5.0						
PHWY	**Pilot Hill**	**92.75**	**326**	*e*P	**P**	**09 31 21.4**	**+0.5**
	comp=Z,4.5nm,0.8s,mb5.0						
PDAR	**Pinedale Array**	**93.39**	**329**	P	**P**	**09 31 23.9**	**+0.1**
	comp=Z,0.7nm,1.0s,mb4.1,baz=90,slow=4.4,SNR=3.7						
PDAR				PP	PP	09 35 17.9	+11
	comp=Z,0.3nm,0.9s,baz=14,slow=7.6,SNR=3.8						
NVAR	**Mina Array Bea**	**100.59**	**333**	PP	PP	09 36 13.3	+11
	comp=Z,0.9nm,1.1s,baz=54,slow=7.5,SNR=4.6						
WRA	**Warramunga Arr**	**115.32**	**98**	PKP	PKPdf	09 36 49.4	-1.1
	comp=Z,0.5nm,0.9s,baz=312,slow=1.5,SNR=3.5						
WRA	**Warramunga Arr**	**115.32**	**98**	PKIKP	PKPdf	09 36 49.4	-1.1
WRA				pmax	pmax		
	comp=Z,1.0nm,0.9s						
ASAR	**Alice Springs**	**116.74**	**101**	PKP	PKPdf	09 36 53.2	0.0
	comp=Z,0.2nm,0.6s,baz=285,slow=1.4,SNR=3.5						

CSEM ***14*** *09:53:29.9, 3526N×2632E, h10km, MD3.7/3, After ATH*
ATH 14 09:53:29.9, 3526N×2632E, h10km, MD3.7/3, Crete

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NPS	**Neapolis**	**0.58**	**270**	*e*Pb	Pb	09 53 40.5	-1.6
NPS	**Neapolis**	**0.58**	**270**	*e*PB	Pb	09 53 40.5	-1.6
KARP	**Karpathos**	**0.74**	**67**	*e*Pb	Pb	09 53 44.0	-0.9
KARP	**Karpathos**	**0.74**	**67**	*e*PB	Pb	09 53 44.0	-0.9
VAM	**Vamos**	**1.74**	**275**	*e*Pn	Pn	09 54 02.8	+2.7
VAM	**Vamos**	**1.74**	**275**	*e*PN	Pn	09 54 02.8	+2.7

MAN 14 10:35:03, 1668N×12269E, h6km, mb4.4, ML3.3, MS3.2, 1D, Luzon

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PALP	**Palanan**	**0.45**	**327**	*e*P	Pg	10 35 13.0	+1.2
PALP				*e*S	Sg	10 35 19.2	+1.4
CAUP	**Cauayan**	**0.87**	**288**	*e*P	Pg	10 35 20.3	+0.6
BALP	**Baler**	**1.42**	**229**	*e*P	Pn	10 35 29.7	+0.4
BALP				*e*S	Sb	10 35 48.5	+0.3
PCPH	**Palayan**	**1.89**	**234**	*i*P	Pn	10 35 37.4	+1.5
PCPH				*e*S	Sn	10 36 01.0	+1.0
POLP	**Polilio Island**	**2.07**	**200**	*e*P	Pn	10 35 39.6	+1.3
POLP				*e*S	Sn	10 36 06.2	+1.8
ABRA	**Dolores**	**2.12**	**297**	*e*P	Pn	10 35 39.4	+0.4
ABRA				*e*S	Sn	10 36 08.1	+2.4
BOLP	**Bolinao**	**2.68**	**264**	*e*P	Pn	10 35 49.9	+3.2
BOLP				*e*S	Sn	10 36 25.1	+5.6
SCZP	**Santa Cruz**	**2.81**	**252**	*e*P	Pn	10 35 43.7	-4.9

IDC ***14*** *10:37:19.3±0.5, 267N×12701E, h0km, mb4.3/14, mb1 4.5/14, mb1mx4.4/18, mbtmp4.4/14, Error ellipse: s-maj=30.8km s-min=9.9km az=77.0*
NEIC ***14*** *10:37:24.3±0.3, 273N×12707E, h35km, mb4.7/10, Error ellipse: s-maj=17.1km s-min=5.6km az=74.0*
ISCJB ***14*** *10:37:26.3±0.7, 272N±004×12700E±009, h71km±7km, mb4.6/28, Error ellipse: s-maj=14.6km s-min=5.9km az=166.5*
DJA ***14*** *10:37:32.7±1.3, 2N±12×127E±1 1, h30km, mb4.4/1, mB5.4/1, Mjma3.8/4, MLv4.2/4, Mw(mB)5.2/1*
ISC 14 10:37:27.6±0.7, 271N±004×12702E±009, h65km±6km, n48, σ0°78/47, mb4.6/28, Northern Moluca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TNTI	**Ternate**	**1.95**	**170**	P	**Pn**	**10 37 59.3**	**+0.8**
MNI	**Manado**	**2.52**	**240**	P	**Pn**	**10 38 06.8**	**+0.6**
LBMI	**Labuha**	**3.35**	**172**	P	**Pn**	**10 38 19.3**	**+1.6**
MATI	**Mati**	**4.28**	**350**	*e*P	**Pn**	**10 38 30.4**	**0.0**
BUKP	**Musuan**	**5.50**	**339**	*e*P	**Pn**	**10 38 46.2**	**-0.8**
PAGZ	**Pagadian**	**6.26**	**325**	*e*P	**Pn**	**10 38 55.7**	**-1.8**
BUTP	**Butuan**	**6.38**	**347**	*e*P	**Pn**	**10 38 59.5**	**+0.5**
MSLP	**Maasin**	**7.69**	**344**	*e*P	**Pn**	**10 39 17.4**	**+0.4**
KDI	**Kendari**	**7.95**	**214**	P	**Pn**	**10 39 20.1**	**-0.4**
KAKA	**Kakadu**	**16.23**	**161**	*e*P	**Pn**	**10 41 11.4**	**-0.3**
	18nm,0.6s						
FITZ	**Fitzroy Crossi**	**20.72**	**184**	*e*P	**P**	**10 42 02.3**	**-0.5**
	7.9nm,0.6s						
FITZ	**Fitzroy Crossi**	**20.72**	**184**	P	**P**	**10 42 02.3**	**-0.6**
	3.8nm,0.7s,baz=357,slow=8.1,SNR=14						
WRAB	**Tennant Creek**	**23.62**	**163**	*e*P	**P**	**10 42 32.0**	**-1.0**
	24nm,0.6s,mb4.7						
WRA	**Warramunga Arr**	**23.63**	**163**	P	**P**	**10 42 31.9**	**-1.1**
	25nm,0.6s,mb4.7,baz=343,slow=10,SNR=145						
WRA				S	**S**	**10 46 44.3**	**+1.4**
	1.8nm,1.0s,baz=335,slow=15,SNR=4.6						
WB2	**Warramunga Arr**	**23.63**	**163**	*e*P	**P**	**10 42 32.0**	**-1.0**
ASAR	**Alice Springs**	**27.05**	**166**	P	**P**	**10 43 03.3**	**-0.8**
	2.6nm,0.5s,mb4.0,baz=349,slow=6.8,SNR=55						
ASAR				PcP	PcP	10 46 25.6	+1.6
	0.7nm,0.6s,baz=353,slow=2.1,SNR=3.7						
ASAR				S	**S**	**10 47 45.6**	**+8.2**
	0.8nm,0.8s,baz=346,slow=18,SNR=4.2						
CMAR	**Chiang Mai Arr**	**31.65**	**302**	P	**P**	**10 43 44.6**	**-0.3**
	1.0nm,0.3s,mb4.0,baz=113,slow=7.1,SNR=10						
FORT	**Forrest**	**33.31**	**178**	*e*P	**P**	**10 43 58.8**	**-0.5**
	17nm,0.6s,mb5.1						
KSRS	**Korea Array**	**34.59**	**1**	P	**P**	**10 44 10.7**	**+0.4**
	2.8nm,0.6s,mb4.2,baz=177,slow=9.9,SNR=14						
MJAR	**Matsushiro Arr**	**35.22**	**16**	P	**P**	**10 44 14.4**	**-1.3**
	1.6nm,0.7s,mb4.0,baz=178,slow=8.9,SNR=9.1						
KLBR	**Kellerberrin**	**35.23**	**194**	*e*P	**P**	**10 44 14.7**	**-1.1**
	68nm,1.6s,mb5.2						
MUN	**Mundaring**	**35.99**	**196**	*e*P	**P**	**10 44 23.4**	**+1.0**
STKA	**Stephens Creek**	**37.07**	**159**	*e*P	**P**	**10 44 31.6**	**0.0**
	9.0nm,0.6s,mb4.9						
STKA	**Stephens Creek**	**37.07**	**159**	P	**P**	**10 44 31.7**	**+0.1**
	9.7nm,0.6s,mb4.9,baz=332,slow=8.4,SNR=42						
ASAJ	**Asahikawa**	**43.48**	**16**	P	**P**	**10 45 25.8**	**+1.3**
	12nm,0.7s,mb4.7,baz=264,slow=11,SNR=3.2						
TAPN	**Taplejung**	**44.86**	**307**	*e*P	**P**	**10 45 36.1**	**+0.4**
	7.6nm,0.5s,mb4.7						
ODAN	**Odare**	**44.90**	**306**	*e*P	**P**	**10 45 35.8**	**-0.3**
	16nm,0.7s,mb4.8						
RAMN	**Ramite**	**45.58**	**306**	*e*P	**P**	**10 45 41.7**	**+0.2**
	14nm,0.7s,mb4.8						
JIRN	**Jiri**	**46.21**	**307**	*e*P	**P**	**10 45 46.6**	**+0.2**
	12nm,0.5s,mb4.8						
GUN	**Gumba**	**46.56**	**307**	*e*P	**P**	**10 45 49.0**	**-0.2**
	16nm,0.5s,mb5.0						
DMN	**Daman**	**47.06**	**306**	*e*P	**P**	**10 45 52.8**	**-0.3**
	13nm,0.8s,mb4.7						
KOLN	**Koldanda**	**48.35**	**305**	*e*P	**P**	**10 46 03.2**	**+0.2**
	14nm,0.5s,mb5.0						
SONM	**Songino Array**	**48.35**	**341**	P	**P**	**10 46 03.3**	**+0.6**
	1.7nm,0.6s,mb4.0,baz=156,slow=8.4,SNR=12						
SONM				PcP	PcP	10 47 29.7	+1.3
	1.2nm,0.7s,baz=174,slow=3.5,SNR=4.2						
DANN	**Dangsing**

14nm,0.7s,mb4.9,baz=333,slow=8.2,SNR=35
STKA PcP PcP 10 52 16.2 +1.6
2.5nm,0.6s,baz=275,slow=2.3,SNR=3.3
TAPN Taplejung 44.92 307 *eP* **P 10 50 58.6 -0.7**
10nm,0.8s,mb4.7
ODAN Odare 44.97 306 *eP* **P 10 50 59.8 +0.1**
5.0nm,0.2s,mb5.0
RAMN Ramite 45.64 306 *eP* **P 10 51 05.4 +0.4**
17nm,0.8s,mb5.0
JIRN Jiri 46.27 306 *eP* **P 10 51 10.2 +0.2**
13nm,0.6s,mb5.0
GUN Gumba 46.62 307 *eP* **P 10 51 12.6 -0.2**
26nm,0.7s,mb5.3
PKI Pulchoki 46.86 306 *eP* **P 10 51 14.1 -0.5**
KKN Kakani 47.06 306 *eP* **P 10 51 15.8 -0.3**
DMN Daman 47.12 306 *eP* **P 10 51 16.1 -0.6**
22nm,1.1s,mb5.0
GKN Gorkha 47.66 306 *eP* **P 10 51 20.3 -0.5**
SONM Songino Array 48.33 341 P **P 10 51 25.9 +0.3**
1.3nm,0.7s,mb4.1,baz=150,slow=7.9,SNR=8.0
SONM PcP PcP 10 52 53.9 +2.1
0.7nm,0.8s,baz=164,slow=4.1,SNR=5.3
KOLN Koldanda 48.41 305 *eP* **P 10 51 26.7 +0.1**
26nm,0.7s,mb5.3
DANN Dangsing 48.51 306 *eP* **P 10 51 27.4 0.0**
31nm,0.7s,mb5.5
PETK Petropavlovsk- 56.15 22 P **P 10 52 22.4 -1.1**
6.5nm,0.9s,mb4.7,baz=197,slow=4.5,SNR=2.6
MKAR Makanchi Array 58.57 325 P **P 10 52 41.2 +0.4**
2.1nm,0.6s,mb4.4,baz=120,slow=8.5,SNR=26
UCH Uchtor 61.16 318 *eP* **P 10 52 59.9 +1.3**
2.7nm,0.8s,mb4.4
ZALV Zalesovo Beam 61.62 333 P **P 10 53 01.5 0.0**
0.4nm,0.3s,mb4.0,baz=116,slow=3.4,SNR=4.2
ZALV Zalesovo Beam 61.62 333 P **P 10 53 01.5 0.0**
KURK Kurchatov 62.76 328 *eP* **P 10 53 09.8 +0.6**
MAW Mawson 83.02 200 P **P 10 55 10.1 +1.3**
1.0nm,0.6s,mb4.0,baz=18,slow=7.1,SNR=4.7
ARCES ARCESS Array B 91.48 340 P **P 10 55 50.0 +0.1**
3.0nm,0.8s,mb4.7,baz=68,slow=7.1,SNR=4.3
AKASG Malin Array Be 92.89 321 LR LR 11 44 29.3
comp=Z,67nm,20.3s,baz=305,slow=40
NOA NORSAR Array B 99.82 334 P Pdif 10 56 27.9 -0.2
0.8nm,0.7s,baz=65,slow=4.5,SNR=3.4
TXAR Lajitas Array 121.84 53 PKP PKPdf 11 01 40.1 +1.6
0.3nm,0.7s,baz=185,slow=0.5,SNR=4.5
TORD Torodi Ar. Bea 123.61 288 PKP PKPdf 11 01 43.4 +1.1
0.7nm,0.7s,baz=19,slow=1.3,SNR=4.6

IDC ***14*** *10:46:53.7±3.0, 270N×12722E, h0km, mb4.0/4, mb1 4.3/4, mb1mx3.9/16, mbtmp4.1/4, Error ellipse: s-maj=96.9km s-min=52.1km az=81.0*
NEIC ***14*** *10:46:57.8±1.8, 288N×12742E, h35km, mb4.3/2, Error ellipse: s-maj=77.8km s-min=17.1km az=61.0*
ISCJB ***14*** *10:47:07.5±5.5, 25N±03×1270E±05, h138km±57km, mb4.2/4, Error ellipse: s-maj=102.6km s-min=19.9km az=149.7*
ISC 14 10:46:58.0±1.7**, 28N**±03×**1274E**±05**, h35**km**, n10, σ0**§**62**/10**, mb4.2/4, Northern Molucca Sea**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KAKA	**Kakadu**	**16.22**	**162**	*eP*	**Pn**	**10 50 47.7**	**+4.3**
	4.3nm,0.4s						
KAKA	**Kakadu**	**16.22**	**162**	*e*Pn	**Pn**	**10 50 46.1**	**+2.7**
FITZ	**Fitzroy Crossi**	**20.86**	**185**	*eP*	**P**	**10 51 37.1**	**+0.1**
	2.6nm,0.4s						
FITZ	**Fitzroy Crossi**	**20.86**	**185**	P	**P**	**10 51 36.6**	**-0.5**
	1.7nm,0.5s,baz=24,slow=11,SNR=6.1						
QIZ	**Qiongzhong**	**23.55**	**314**	*eP*	**P**	**10 52 05.7**	**+0.2**
	32nm,1.1s,mb4.7						
WRAB	**Tennant Creek**	**23.62**	**163**	*eP*	**P**	**10 52 06.3**	**+0.2**
WRA	**Warramunga Arr**	**23.62**	**164**	P	**P**	**10 52 05.9**	**-0.2**
	7.9nm,0.6s,mb4.3,baz=342,slow=10,SNR=32						
WB2	**Warramunga Arr**	**23.63**	**163**	*eP*	**P**	**10 52 06.0**	**-0.2**
ASAR	**Alice Springs**	**27.08**	**167**	P	**P**	**10 52 37.5**	**0.0**
	1.0nm,0.5s,mb3.6,baz=344,slow=9.1,SNR=12						
ASAR				PcP	PcP	10 55 59.9	+1.8
	0.4nm,0.6s,baz=1.9,slow=2.8,SNR=4.6						
STKA	**Stephens Creek**	**37.05**	**160**	P	**P**	**10 54 04.2**	**-0.5**
	3.5nm,0.7s,mb4.3,baz=333,slow=7.7,SNR=8.0						

BJI ***14*** *10:48:44.0, 1622N×12283E, h32km, mB4.9, mb4.6, Ms4.1, Msz3.9*
IDC ***14*** *10:48:44.9±0.6, 1671N×12248E, h0km, mb4.2/15, mb1 4.4/16, mb1mx4.3/20, mbtmp4.3/16, ML3.5/1, MS3.9/8, Ms1 3.9/8, ms1mx3.4/29, Error ellipse: s-maj=24.2km s-min=13.5km az=79.0*
MAN ***14*** *10:48:47, 1668N×12263E, h9km, mb5.1, ML4.1, MS4.2*
ISCJB ***14*** *10:48:47.5±0.7, 1677N±002×12276E±004, h29km±5km, mb4.5/33, MS3.9/11, Error ellipse: s-maj=6.1km s-min=3.7km az=172.4*
MOS ***14*** *10:48:47.6±0.9, 1675N×12257E, h27km, mb4.9/18, MS4.0/4, Error ellipse: s-maj=18.8km s-min=8.0km az=110.9*
NEIC ***14*** *10:48:50.1±0.3, 1672N×12257E, h35km, mb4.7/5, Error ellipse: s-maj=11.6km s-min=7.5km az=85.0*
ISC 14 10:48:48.8±0.8**, 1675N**±002×**12269E**±004**, h24**km±5km**, n95, σ1§11**/106**, mb4.5**/33**, MS3.9**/11**, 11C-6D, Luzon**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PALP	**Palanan**	**0.40**	**321**	*eP*	**Pb**	**10 48 55.8**	**-1.4**
PALP				*e*S	**Sb**	**10 49 02.3**	**-0.7**
CAUP	**Cauayan**	**0.85**	**283**	*eP*	**Pb**	**10 49 03.4**	**-1.4**
CAUP				*e*S	**Sb**	**10 49 16.8**	**+1.0**
CVP	**Callao Caves**	**1.25**	**319**↑	*eP*	**Pn**	**10 49 09.6**	**-1.2**
CVP				*e*S	**Sn**	**10 49 28.7**	**+1.8**
BALP	**Baler**	**1.47**	**227**	*eP*	**Pn**	**10 49 12.5**	**-1.2**
BALP				*e*S	**Sn**	**10 49 30.8**	**-1.3**
SGCP	**Mt. Cagua**	**1.60**	**338**	*eP*	**Pn**	**10 49 17.6**	**+2.0**
SGCP				*e*S	**Sn**	**10 49 41.2**	**+5.7**
PCPH	**Palayan**	**1.93**	**232**↓	*eP*	**Pn**	**10 49 21.9**	**+1.8**
PCPH				*e*S	**Sn**	**10 49 44.1**	**+0.5**
ABRA	**Dolores**	**2.09**	**296**	*eP*	**Pn**	**10 49 22.4**	**+0.2**
ABRA				*e*S	**Sn**	**10 49 50.2**	**+2.7**
POLP	**Polilio Island**	**2.14**	**200**	*eP*	**Pn**	**10 49 15.7**	**-7.3**
POLP				*e*S	**Sn**	**10 49 48.4**	**-0.4**
SIPP	**Brgy, Tapao**	**2.42**	**299**↓	*eP*	**Pn**	**10 49 27.7**	**+0.8**
SIPP				*i* S	**Sn**	**10 50 00.6**	**+4.8**
PIP	**Pasuquin**	**2.52**	**309**↑	*iP*	**Pn**	**10 49 28.4**	**+0.2**
PIP				*e*S	**Pb**	**10 49 34.3**	**+1.1**
QVPH	**Quezon City--P**	**2.61**	**217**↑	*eP*	**Pn**	**10 49 34.0**	**+4.5**
QVPH				*e*S	**Sb**	**10 50 13.3**	**+6.8**
BOLP	**Bolinao**	**2.68**	**262**	*eP*	**Pn**	**10 49 32.2**	**+1.7**
BOLP				*e*S	**Sn**	**10 50 07.5**	**+5.3**
GQP	**Guinayangan**	**2.84**	**185**↑	*eP*	**Pn**	**10 49 32.6**	**0.0**
GQP				*i* S	**Sn**	**10 50 06.2**	**+0.1**
NBP	**Mount Natib**	**2.96**	**228**↑	*eP*	**Pn**	**10 49 34.8**	**+0.5**
NBP				*e*S	**Sn**	**10 50 06.9**	**-2.2**
PVCP	**Virac**	**3.44**	**155**↑	*iP*	**Pn**	**10 49 40.0**	**-0.9**
PVCP				*i* S	**Sn**	**10 50 21.1**	**+0.1**
PVCP	**Virac**	**3.44**	**155**	*eP*	**Pn**	**10 49 40.2**	**-0.8**
PVCP				*e*S	**Sn**	**10 50 20.7**	**-0.3**
LUBP	**Lubang**	**3.81**	**218**	*eP*	**Pn**	**10 49 50.0**	**+3.9**
OTRP	**Odiongan**	**4.41**	**188**	*eP*	**Pn**	**10 49 54.8**	**+0.5**
OTRP				*e*S	**Sn**	**10 50 47.0**	**+2.1**
CNP	**Catarman**	**4.63**	**155**	*eP*	**Pn**	**10 49 58.9**	**+1.6**
PLP	**Palo**	**5.98**	**158**↓	*eP*	**Pn**	**10 50 18.1**	**+2.2**
DAV	**Davao City (W)**	**10.03**	**163**	LR	LR	10 55 51.9	
	comp=Z,1µm,18.3s,baz=334,slow=42						
JOW	**Kunigami**	**11.29**	**26**	Pn	**Pn**	**10 51 28.2**	**-0.5**
	0.6nm,0.3s,baz=198,slow=13,SNR=3.3						
QIZ	**Qiongzhong**	**12.43**	**282**	P	**Pn**	**10 51 42.9**	**-1.4**
QIZ				S	**Sn**	**10 54 01.5**	**-0.7**
QIZ				LR	LR		
	comp=E,638nm,16.9s						
QIZ				LR	LR		
	comp=Z,869nm,18.0s						
WHN	**Wuhan**	**15.70**	**332**	*eP*	**Pn**	**10 52 33.9**	**+5.5**
KSM	**Kuching**	**19.47**	**220**	*eP*	**Pn**	**10 53 13.3**	**-2.0**
CBIJ	**Chichi jima**	**20.79**	**57**	LR	LR	11 00 32.1	
	comp=Z,175nm,19.6s,MS3.4,baz=224,slow=34						
KSRS	**Korea Array**	**21.13**	**12**	P	**P**	**10 53 31.4**	**-0.5**
	comp=Z,5.7nm,0.7s,mb4.0,baz=195,slow=11,SNR=12						
KSRS	**Korea Array**	**21.13**	**12**	P	**P**	**10 53 31.5**	**-0.4**
KSRS				pmax	pmax		
	comp=Z,6.0nm,0.7s,mb4.0						
XAN	**Xi'an**	**21.19**	**327**	P	**P**	**10 53 33.1**	**+0.5**
XAN				AP		10 53 40.3	
XAN				S	**S**	**10 57 30.4**	**+3.2**
XAN				AMB	AMB		
	comp=Z,12nm,1.1s,mb4.1						
XAN				AMB	AMB		
	comp=Z,121nm,6.2s						
XAN				LR	LR		
	comp=E,361nm,12.9s						
XAN				LR	LR		
	comp=Z,485nm,14.6s,MS4.0						
GUMO	**Guam**	**21.64**	**95**	LR	LR	11 00 15.6	
	comp=Z,327nm,18.8s,MS3.8,baz=93,slow=32						
CMAR	**Chiang Mai Arr**	**22.69**	**278**	P	**P**	**10 53 47.1**	**-1.7**
	comp=Z,2.3nm,1.0s,mb3.6,baz=88,slow=8.0,SNR=12						
CMAR	**Chiang Mai Arr**	**22.69**	**278**	*i* P	**P**	**10 53 48.2**	**-0.6**
CMAR				pmax	pmax		
	comp=Z,2.0nm,1.0s						
MJAR	**Matsushiro Arr**	**24.04**	**32**	P	**P**	**10 54 02.8**	**+0.8**
	comp=Z,2.4nm,0.8s,mb3.7,baz=192,slow=7.9,SNR=10						
MJAR	**Matsushiro Arr**	**24.04**	**32**	P	**P**	**10 54 02.8**	**+0.8**
MJAR				pmax	pmax		
	comp=Z,2.0nm,0.8s						
LZH	**Lanzhou**	**25.52**	**323**	*eP*	**P**	**10 54 17.9**	**+2.4**
LZH				AP	pP	10 54 24.0	+1.4
LZH				XP	sP	10 54 26.1	+0.6
LZH				AMB	AMB		
	comp=Z,39nm,1.2s,mb4.8						
LZH				AMB	AMB		
	comp=Z,180nm,5.8s						
LZH				LR	LR		
	comp=E,428nm,17.2s						
LZH				LR	LR		
	comp=Z,397nm,19.4s,MS4.0						
BATI	**Baumata**	**26.80**	**178**	LR	LR	11 05 41.7	
	comp=Z,215nm,20.6s,MS3.7,baz=96,slow=38						
HABR	**Khabarovsk**	**33.22**	**15**	*eP*	**P**	**10 55 21.6**	**-2.1**
HABR				*e*		10 55 35.0	
HABR				*e*		10 56 30.0	
HABR				*e*		10 58 02.0	
HABR				*e*S	**S**	**11 00 40.3**	**-1.9**
HABR				*e*		11 00 56.0	
HABR				*e*		11 05 45.8	
SONM	**Songino Array**	**33.77**	**340**	P	**P**	**10 55 29.4**	**+0.8**
	comp=Z,4.8nm,0.7s,mb4.5,baz=158,slow=9.9,SNR=27						
SONM				LR	LR	11 10 46.0	
	comp=Z,352nm,19.0s,MS4.1,baz=155,slow=39						
SONM	**Songino Array**	**33.77**	**340**	P	**P**	**10 55 29.4**	**+0.9**
SONM				pmax	pmax		
	comp=Z,5.0nm,0.7s						
SONM				MLR	MLR		
	comp=Z,352nm,19.0s						
FITZ	**Fitzroy Crossi**	**34.76**	**175**	P	**P**	**10 55 36.4**	**-1.0**
	comp=Z,3.4nm,1.0s,mb4.2,baz=0.0,slow=15,SNR=4.1						
ZAK	**Zakamensk**	**37.00**	**339**	*eP*	**P**	**10 55 55.2**	**-1.1**
ZAK				pmax	pmax		
	comp=Z,3.0nm,1.0s,mb4.1						
TLY	**Talaya**	**38.00**	**341**↓	*iP*	**P**	**10 56 05.6**	**+0.9**
TLY				pmax	pmax		
	comp=Z,10.0nm,1.3s,mb4.4						
WRAB	**Tennant Creek**	**38.22**	**162**	*eP*	**P**	**10 56 06.5**	**-0.4**
WRA	**Warramunga Arr**	**38.22**	**162**	P	**P**	**10 56 06.0**	**-0.9**
	comp=Z,6.5nm,0.9s,mb4.3,baz=342,slow=9.5,SNR=14						
WRA	**Warramunga Arr**	**38.22**	**162**	*i* P	**P**	**10 56 07.1**	**+0.2**
WRA				pmax	pmax		
	comp=Z,7.0nm,0.9s						
BOD	**Bodaibo**	**41.51**	**353**	*eP*	**P**	**10 56 33.6**	**-0.2**
BOD				pmax	pmax		
	comp=Z,6.0nm,1.4s,mb4.0						
ASAR	**Alice Springs**	**41.64**	**164**	P	**P**	**10 56 35.7**	**+0.4**
	comp=Z,0.7nm,0.6s,mb3.5,baz=3.7,slow=9.4,SNR=14						
ASAR	**Alice Springs**	**41.64**	**164**	P	**P**	**10 56 35.7**	**+0.4**
ASAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
PETK	**Petropavlovsk-**	**45.44**	**29**	P	**P**	**10 57 07.7**	**+2.0**
	comp=Z,12nm,0.8s,mb4.8,baz=209,slow=5.3,SNR=9.7						
PETK	**Petropavlovsk-**	**45.44**	**29**	P	**P**	**10 57 07.7**	**+2.1**
PETK				pmax	pmax		
	comp=Z,12nm,0.8s,mb4.8						
ZAA0	**Zalesovo Array**	**47.30**	**330**	*eP*	**P**	**10 57 19.6**	**-0.6**
ZALV	**Zalesovo Beam**	**47.30**	**330**	P	**P**	**10 57 19.7**	**-0.5**
	comp=Z,4.6nm,1.0s,mb4.4,baz=114,slow=6.6,SNR=12						
ZALV				LR	LR	11 18 25.0	
	comp=Z,75nm,18.8s,MS3.7,baz=276,slow=38						
ZALV	**Zalesovo Beam**	**47.30**	**330**	P	**P**	**10 57 19.7**	**-0.5**
ZALV				pmax	pmax		
	comp=Z,5.0nm,1.0s,mb4.4						
ZALV				MLR	MLR		
	comp=Z,75nm,18.8s,MS3.7						
UCH	**Uchtor**	**48.21**	**312**	*eP*	**P**	**10 57 28.9**	**+1.4**
	comp=Z,12nm,1.3s,mb4.8						
NVS	**Novosibirsk**	**48.58**	**331**	*i* P	**P**	**10 57 29.5**	**-0.6**
KURK	**Kurchatov**	**48.79**	**324**↑	*eP*	**P**	**10 57 31.9**	**+0.1**
KURK				pmax	pmax		
	comp=Z,15nm,1.3s,mb4.9						
STKA	**Stephens Creek**	**51.64**	**159**	P	**P**	**10 57 54.4**	**+0.8**
	comp=Z,2.2nm,0.9s,mb4.1,baz=322,slow=7.6,SNR=3.4						
BRVK	**Borovoye**	**54.46**	**324**	*eP*	**P**	**10 58 14.9**	**+0.7**
BRVK				pmax	pmax		
	comp=Z,21nm,0.9s,mb5.1						
BRVK	**Borovoye**	**54.46**	**324**	*eP*	**P**	**10 58 14.9**	**+0.7**
	comp=Z,21nm,0.9s,mb5.1						
TIXI	**Tiksi**	**55.01**	**2***c*	*iP*	**P**	**10 58 17.0**	**-0.8**
TIXI				pmax	pmax		
	comp=Z,10.0nm,1.3s,mb4.7						
SVE	**Sverdlovsk**	**60.91**	**326**↑	*eP*	**P**	**10 59 00.0**	**+0.5**
SVE				pmax	pmax		
	comp=Z,24nm,1.0s,mb5.3						
ARU	**Arti**	**61.93**	**325***c*	*iP*	**P**	**10 59 05.9**	**-0.5**
ARU				*e*		10 59 44.4	
ARU				*e*		11 01 19.9	
ARU				*e*S	**S**	**11 07 29.4**	**+0.5**
ARU				*e*SS	SS	11 11 30.4	-0.7
ARU				pmax	pmax		
	comp=Z,18nm,1.2s,mb5.1						
KIV	**Kislovodsk**	**71.44**	**311**↑	*eP*	**P**	**11 00 07.8**	**+0.5**
KIV				pmax	pmax		
	comp=Z,18nm,0.9s,mb5.0						
KIV				MLR	MLR		
	comp=Z,100nm,15.0s,MS4.2						
OBN	**Obninsk**	**74.23**	**323**↓	*iP*	**P**	**11 00 23.2**	**-0.4**
OBN				*i*	pP	11 00 31.4	+0.1
OBN				pmax	pmax		
	comp=Z,25nm,1.2s,mb5.0						
OBN				MLR	MLR		
	comp=Z,100nm,17.0s,MS4.2						
ANN	**Anapa**	**75.07**	**313**	*eP*	sP	11 00 41.6	+2.3
ANN				pmax	pmax		
	comp=Z,114nm,1.8s,mb5.5						
JOF	**Joensuu**	**75.87**	**332**	*ep*	**P**	**11 00 32.1**	**-0.8**
	comp=Z,5.6nm,0.5s,mb4.8						
KEV	**Kevo**	**76.38**	**339**	*ep*	**P**	**11 00 35.1**	**-0.6**
ARCES	**ARCESS Array B**	**76.94**	**339**	P	**P**	**11 00 38.8**	**-0.1**
	comp=Z,5.1nm,1.1s,mb4.4,baz=74,slow=6.6,SNR=11						
ARCES	**ARCESS Array B**	**76.94**	**339**	P	**P**	**11 00 38.8**	**-0.1**
ARCES				pmax	pmax		
	comp=Z,5.0nm,1.1s						
ASF	**Jabal al Asfar**	**77.79**	**300**	LR	LR	11 38 52.2	
	comp=Z,35nm,18.7s,MS3.7,baz=156,slow=39						
KAF	**Kangasniemi**	**78.30**	**331**	*ep*	**P**	**11 00 45.8**	**-0.8**
	comp=Z,7.2nm,0.6s,mb4.8,baz=74,slow=5.1						
KAF	**Kangasniemi**	**78.30**	**331**	*eP*	**P**	**11 00 45.8**	**-0.8**
KAF				pmax	pmax		
	comp=Z,7.0nm,0.6s,mb4.8						
DAWY	**Dawson**	**78.51**	**26**	*eP*	**P**	**11 00 49.6**	**+1.9**
VSU	**Vasula**	**78.96**	**328**	*d iP*	**P**	**11 00 50.7**	**+0.4**
AKASG	**Malin Array Be**	**79.38**	**320**	P	**P**	**11 00 51.6**	**-1.2**
	comp=Z,3.8nm,0.7s,mb4.4,baz=64,slow=5.3,SNR=12						
AKASG	**Malin Array Be**	**79.38**	**320**	*i* P	**P**	**11 00 52.0**	**-0.8**
AKASG				pmax	pmax		
	comp=Z,4.0nm,0.7s						
KIEV	**Kiev**	**79.39**	**320**	*eP*	**P**	**11 00 52.0**	**-0.8**
KIEV				pmax	pmax		
	comp=Z,4.0nm,0.7s,mb4.5						
KIEV	**Kiev**	**79.39**	**320**	*eP*	**P**	**11 00 52.0**	**-0.8**
	comp=Z,3.8nm,0.7s,mb4.4						
STHS	**Stebnicka Huta**	**84.67**	**320**	*eP*	**P**	**11 01 18.4**	**-2.2**
STHS				pmax	pmax		
	comp=Z,8.0nm,1.8s,mb4.5						
STHS	**Stebnicka Huta**	**84.67**	**320**	*eP*	**P**	**11 01 18.4**	**-2.2**
	comp=Z,7.9nm,1.8s,mb4.5						
CRVS	**Cervenica-Dubn**	**84.71**	**319**	*eP*	**P**	**11 01 21.6**	**+0.8**
HFS	**Hagfors**	**84.72**	**332**	LR	LR	11 38 56.8	
	comp=Z,55nm,20.7s,MS3.9,baz=230,slow=36						
OJC	**Ojcow**	**85.28**	**321**	*eP*	**P**	**11 01 23.6**	**0.0**
NB2	**NORSAR Subarra**	**85.44**	**333**	P	**P**	**11 01 23.6**	**-0.6**
	comp=Z,13nm,0.8s,mb5.1,baz=64,slow=5.1						
NOA	**NORSAR Array B**	**85.44**	**333**	P	**P**	**11 01 23.7**	**-0.5**
	comp=Z,9.0nm,0.7s,mb5.0,baz=64,slow=5.0,SNR=30						
NOA	**NORSAR Array B**	**85.44**	**333**	P	**P**	**11 01 23.7**	**-0.5**
NOA				pmax	pmax		
	comp=Z,9.0nm,0.7s						
VYHS	**Vyhne**	**86.48**	**320**	*eP*	**P**	**11 01 29.5**	**-0.1**
DPC	**Dobruska-Polom**	**87.30**	**322**	*eP*	**P**	**11 01 33.2**	**-0.4**
CLL	**Collm**	**88.83**	**324**	*eP*	**P**	**11 01 40.0**	**-0.8**
YKA	**Yellowknife Ar**	**89.24**	**23**	P	**P**	**11 01 42.8**	**+0.3**
	comp=Z,2.0nm,0.7s,mb4.6,baz=305,slow=4.1,SNR=3.8						
KHC	**Kasperske Hory**	**89.43**	**322**	*eP*	**P**	**11 01 39.4**	**-4.3**
GERES	**GERESS Array B**	**89.47**	**321**	P	**P**	**11 01 43.1**	**-0.8**
	comp=Z,0.4nm,0.5s,mb4.0,baz=54,slow=6.9,SNR=6.8						
TXAR	**Lajitas Array**	**115.97**	**45**	PKP	PKPdf	11 07 30.9	+0.6
	comp=Z,0.4nm,0.8s,baz=281,slow=1.5,SNR=5.5						
PLCA	**Paso Flores**	**153.50**	**157**	PKPbc	PKPbc	11 08 46.7	+1.2
	comp=Z,1.5nm,0.8s,baz=210,slow=5.3,SNR=3.1						
PLCA	**Paso Flores**	**153.50**	**157**	PKIKP	PKPbc	11 08 46.7	+1.2
PLCA				pmax	pmax		
	comp=Z,2.0nm,0.8s						

BJI ***14*** *11:02:53.2, 020N×9869E, h75km, mB5.0, mb5.2, Ms4.2, Msz4.2*
MOS ***14*** *11:02:54.7±1.1, 077N×9876E, h50km, mb5.4/52, Error ellipse: s-maj=10.7km s-min=4.6km az=114.9*
ISCJB ***14*** *11:02:57.5±0.2, 074N±003×9862E±003, h70km, mb5.0/132, Error ellipse: s-maj=4.7km s-min=3.3km az=44.2*
IDC ***14*** *11:02:57.8±0.5, 081N×9889E, h61km±4km, mb4.5/26, mb1 4.6/27, mb1mx4.6/28, mbtmp4.5/27, MS3.6/11, Ms1 3.6/11, ms1mx3.4/32, Error ellipse: s-maj=13.9km s-min=9.2km az=45.0*
DJA ***14*** *11:02:58, 067N×9838E, h30km, Mw5.4/10*
NEIC ***14*** *11:02:59.2±0.8, 076N×9875E, h75km±7km, mb5.0/45, Error ellipse: s-maj=8.0km s-min=4.6km az=55.0*
NEIC Felt [III] at Sibolga, Sumatra.
SZGRF ***14*** *11:03:05.7, 080N×9688E, h33km, mb5.0, Off west coast of northern Sumatera, Indonesia*
ISC 14 11:02:59.2±0.2**, 072N**±003×**9864E**±003**, h72**km**,**
h72km±2.5km**:pP-P, n372,** σ1§**05**/356**, mb5.0**/132**, 35C-18D, Northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PPI	**Padang Panjang**	**2.11**	**123**	P	**Pn**	**11 03 33.4**	**+1.0**
PDSI	**Padang**	**2.44**	**132**	P	**Pn**	**11 03 37.0**	**+0.1**
TSI	**Tuntungan**	**2.77**	**359**	P	**Pn**	**11 03 41.8**	**+0.5**
IPM	**Ipoh**	**4.43**	**33**	↓P	**Pn**	**11 04 06.0**	**+2.0**
IPM	**Ipoh**	**4.43**	**33**	P	**Pn**	**11 04 05.1**	**+1.0**
KGM	**Kluang**	**4.86**	**75**	↑P	**Pn**	**11 04 10.3**	**+0.5**
KULM	**Kulim**	**4.97**	**24**	↓P	**Pn**	**11 04 11.9**	**+0.6**
MYKOM	**Kota Tinggi**	**5.32**	**78**	↑P	**Pn**	**11 04 16.7**	**+0.5**
MYKOM	**Kota Tinggi**	**5.32**	**78**	P	**Pn**	**11 04 16.4**	**+0.2**
BSI	**Banda Aceh**	**5.80**	**325**	P	**Pn**	**11 04 21.0**	**-1.8**
	140nm,0.6s,3.6nm						
KSI	**Kapahiang**	**5.87**	**138**	P	**Pn**	**11 04 24.8**	**+1.1**
	455nm,0.9s,5.3nm						
KTGM	**Kuala Trenggan**	**6.41**	**44**	↑P	**Pn**	**11 04 32.1**	**+0.9**
PPBI	**Pangkal Pinang**	**8.03**	**111**	P	**Pn**	**11 04 56.6**	**+3.4**
	52nm,1.0s,0.1nm						
KLI	**Kotabumi**	**8.33**	**132**	P	**Pn**	**11 05 02.2**	**+4.9**
	133nm,0.7s,4µm						
TPI	**Tanjungpandan**	**9.65**	**111**	P	**Pn**	**11 05 17.3**	**+1.9**
	83nm,1.2s,598nm						
DBJI	**Dramaga**	**10.85**	**132**	P	**Pn**	**11 05 31.8**	**+0.1**
	118nm,1.0s,2µm						
LEM	**Lembang**	**11.68**	**130**	P	**Pn**	**11 05 50.5**	**+7.4**
KSM	**Kuching**	**11.69**	**86**	↑P	**Pn**	**11 05 46.1**	**+2.9**
KSM	**Kuching**	**11.69**	**86**	P	**Pn**	**11 05 47.9**	**+4.6**
	26nm,1.4s,370nm						
KSM	**Kuching**	**11.69**	**86**	*e*Pn	**Pn**	**11 05 43.5**	**+0.3**
JCJI	**Jatiwangi**	**11.99**	**127**	P	**Pn**	**11 05 50.3**	**+3.0**
	134nm,0.9s						
STKI	**Sintang**	**12.86**	**93**	P	**Pn**	**11 06 04.4**	**+5.3**
	297nm,0.8s						
COCO	**West Island**	**12.95**	**188**	*e*Pn	**Pn**	**11 05 60.0**	**-0.3**
PBKI	**Pangkalan Bun**	**13.46**	**105**	P	**Pn**	**11 06 09.7**	**+2.5**
	213nm,1.0s,2µm						
BJII	**Banjamegara**	**13.64**	**126**	P	**Pn**	**11 06 07.0**	**-2.5**
SBUM	**Sibu**	**13.69**	**83**	↑P	**Pn**	**11 06 12.5**	**+2.4**
SBUM	**Sibu**	**13.69**	**83**	P	**Pn**	**11 06 11.9**	**+1.7**
NST	**Nakhon Sawan**	**14.93**	**6**	P	**Pn**	**11 06 25.5**	**-0.9**
SJI	**Sawahan**	**15.55**	**123**	P	**Pn**	**11 06 32.8**	**-1.6**
KKTK	**Khon Kaen**	**16.06**	**15**	P	**Pn**	**11 06 40.4**	**-0.3**
	2µm,0.5s						
CM31	**Chiang Mai Arr**	**17.63**	**1**	*e*Pn	**Pn**	**11 06 59.6**	**-0.6**
	32nm,0.6s						
CMAR	**Chiang Mai Arr**	**17.63**	**1**	P	**Pn**	**11 06 59.5**	**-0.7**
	9.3nm,0.3s,baz=190,slow=11,SNR=215						
CMAR				PcP	PcP	11 11 36.9	+1.0
	baz=220,slow=2.4,SNR=11						
CMAR				LR	LR	11 13 17.0	
	comp=Z,213nm,19.8s,baz=31,slow=35					

DAV Davao City (W) 27.60 76 LR LR 11 20 38.9
comp=Z,187nm,19.1s,baz=201,slow=39
NGP Nagpur 27.89 318 *eP* **P** **11 08 41.8 -0.8**
NGP AMb AMB 11 08 43.6
comp=Z,34nm,1.4s,mb4.7
ODAN Odare 28.15 338 *eP* **P** **11 08 45.2 +0.4**
comp=Z,37nm,0.6s,mb5.1
TAPN Taplejung 28.48 339 *eP* **P** **11 08 48.7 +1.0**
RAMN Ramite 28.53 337 *eP* **P** **11 08 49.1 +0.9**
comp=Z,22nm,0.4s,mb5.1
AKL Akola 29.00 315 *eP* **P** **11 08 53.8 +1.4**
AKL AMb AMB 11 08 55.3
comp=Z,19nm,1.0s,mb4.7
JIRN Jiri 29.33 337 *eP* **P** **11 08 55.8 +0.6**
comp=Z,93nm,0.9s,mb5.4
PKI Pulchoki 29.56 336 *eP* **P** **11 08 57.4 +0.1**
comp=Z,31nm,0.7s,mb5.1
PKIN Phulchoki 29.57 336 *eP* **P** **11 08 57.4 0.0**
comp=Z,20nm,0.6s,mb4.9
GUN Gumba 29.68 337 *eP* **P** **11 08 59.0 +0.7**
comp=Z,41nm,0.4s,mb5.5
LSA Lhasa 29.69 347 P **P** **11 08 59.4 +1.0**
LSA Lhasa 29.69 347 *eP* **P** **11 08 59.8 +1.4**
LSA pmax pmax
comp=Z,20nm,0.5s,mb5.0
LSA Lhasa 29.69 347 *eP* **P** **11 08 59.8 +1.5**
comp=Z,20nm,0.5s,mb5.0
DMN Daman 29.72 335 *eP* **P** **11 08 58.9 +0.2**
comp=Z,28nm,0.7s,mb5.0
KKN Kakani 29.81 336 *eP* **P** **11 08 59.7 +0.2**
comp=Z,66nm,1.0s,mb5.2
MBWA Marble Bar 29.96 138 *eP* **P** **11 09 00.3 -0.6**
comp=Z,40nm,1.8s,mb4.8
POO Poona 30.09 307 *eP* **P** **11 09 02.0 -0.1**
GKN Gorkha 30.27 335 *eP* **P** **11 09 03.9 +0.4**
comp=Z,102nm,0.8s,mb5.5
CD2 Chengdu 30.42 9 P **P** **11 09 03.8 -1.0**
CD2 AP pP 11 09 23.3 +1.3
CD2 XP sP 11 09 33.6 +3.2
CD2 PP PP 11 10 06.8 -8.0
CD2 S **S** **11 13 59.3 -1.2**
CD2 XS sS 11 14 33.0 +3.0
CD2 AMB AMB
comp=Z,20nm,0.9s,mb4.8
CD2 AMB AMB
comp=Z,40nm,5.2s
CD2 LR LR
comp=N,290nm,15.6s
CD2 LR LR
comp=E,190nm,14.4s
CD2 LR LR
comp=Z,330nm,16.8s
BHPL Bhopal 30.42 319 *eP* **P** **11 09 04.4 -0.6**
BHPL AMb AMB 11 09 07.8
comp=Z,23nm,1.4s,mb4.6
KOLN Koldanda 30.52 333 *eP* **P** **11 09 06.5 +0.8**
comp=Z,57nm,0.6s,mb5.5
DANN Dangsing 30.95 334 *eP* **P** **11 09 10.0 +0.5**
comp=Z,31nm,0.4s,mb5.4
FITZ Fitzroy Crossi 32.48 126 *eP* **P** **11 09 20.1 -3.0**
comp=Z,5.2nm,0.6s,mb4.4
FITZ Fitzroy Crossi 32.48 126 P **P** **11 09 19.7 -3.4**
comp=Z,2.1nm,0.6s,mb4.0,baz=307,slow=21,SNR=11
FITZ LR LR 11 22 14.4
comp=Z,55nm,21.1s,baz=305,slow=36
PTH Pithoragarh 33.62 330 *eP* **P** **11 09 33.2 +0.3**
XAN Xi'an 34.52 15 P **P** **11 09 38.9 -1.7**
XAN AP pP 11 09 58.9 +0.9
XAN S **S** **11 15 03.1 -1.2**
XAN AMB AMB
comp=Z,98nm,0.8s,mb5.7
XAN LR LR
comp=E,115nm,27.9s
XAN LR LR
comp=Z,117nm,25.2s
LZH Lanzhou 35.52 7 *eP* **P** **11 09 49.0 -0.2**
LZH AP pP 11 10 08.1 +1.5
LZH XP sP 11 10 14.0 -1.0
LZH PP PP 11 11 10.3 -0.9
LZH AMB AMB
comp=Z,40nm,1.0s,mb5.3
LZH AMB AMB
comp=Z,190nm,4.9s
LZH LR LR
comp=N,204nm,13.5s
LZH LR LR
comp=Z,370nm,16.8s
KAKA Kakadu 36.09 113 *eP* **P** **11 09 48.8 -5.6**
SMLA Simla 36.45 328 *i P* **P** **11 09 57.5 +0.3**
SMLA *ex* x 11 09 58.9
comp=Z,153nm,0.4s
SMLA *i* x x 11 16 00.1
MUN Mundaring 36.53 154 *eP* **P** **11 09 59.5 +1.6**
NJ2 Nanjing 36.55 30 *eP* **P** **11 09 59.4 +1.3**
NJ2 AMB AMB
comp=Z,20nm,0.9s,mb5.0
KLBR Kellerberrin 36.89 152 *eP* **P** **11 10 02.3 +1.3**
comp=Z,17nm,0.8s,mb5.0
NWAO Narrogin (SRO) 37.78 154 P **P** **11 10 10.2 +1.7**
comp=Z,12nm,0.7s,mb4.8,baz=321,slow=11,SNR=8.8
NWAO LR LR 11 22 46.3
comp=Z,98nm,21.2s,baz=106,slow=32
GTA Gaotai 38.52 1 P **P** **11 10 14.3 -0.3**
GTA AP pP 11 10 32.8 +0.6
GTA XP sP 11 10 42.1 +1.5
GTA PP PP 11 11 47.6 +3.4
GTA PCP PcP 11 12 26.6 +0.4
GTA S **S** **11 16 02.1 -3.0**
GTA SCP ScP 11 16 08.6 +0.6
GTA AMB AMB
comp=Z,41nm,1.1s,mb5.2
GTA AMB AMB
comp=Z,176nm,7.5s
GTA LR LR
comp=N,102nm,12.9s
GTA LR LR
comp=E,91nm,13.2s
GTA LR LR
comp=Z,95nm,12.6s
WRA Warramunga Arr 40.56 122 P **P** **11 10 29.1 -2.8**
comp=Z,15nm,0.8s,mb4.8,baz=302,slow=9.0,SNR=82
WRA pP pP 11 10 45.1 -4.5
comp=Z,12nm,0.8s,baz=304,slow=8.9,SNR=7.2
WRA PcP PcP 11 12 32.7 -0.4
comp=Z,0.5nm,0.5s,baz=317,slow=2.7,SNR=4.3
WRA ScP ScP 11 16 15.3 -1.1
comp=Z,0.5nm,1.0s,baz=285,slow=3.2,SNR=4.7
WRA S **S** **11 16 28.2 -8.1**
comp=Z,1.0nm,0.6s,baz=285,slow=16,SNR=5.8
WRA Warramunga Arr 40.56 122 *i* P **P** **11 10 29.1 -2.8**
WRA pmax pmax
comp=Z,15nm,0.9s
WRA Warramunga Arr 40.56 122 P **P** **11 10 29.1 -2.8**
WRA pP pP 11 10 45.1 -4.5
WRA PcP PcP 11 12 32.7 -0.4
WRA ScP ScP 11 16 15.3 -1.1
WRA S **S** **11 16 28.2 -8.1**
WRAB Tennant Creek 40.57 122 P **P** **11 10 29.3 -2.6**
comp=Z,131nm,0.6s,mb5.9,SNR=9.1
WRAB Tennant Creek 40.57 122 *eP* **P** **11 10 29.6 -2.3**
WRAB pmax pmax
comp=Z,15nm,0.7s,mb4.9
WRAB Tennant Creek 40.57 122 *eP* **P** **11 10 29.6 -2.4**
comp=Z,15nm,0.7s,mb4.9
WB2 Warramunga Arr 40.57 122 *eP* **P** **11 10 29.5 -2.5**
HHC Hu-ho-hao-te 41.63 15 ⇓P **P** **11 10 41.4 +1.1**
HHC AP pP 11 10 59.5 +1.4
HHC XP sP 11 11 08.6 +2.2
HHC PP PP 11 12 22.6 +4.7
HHC PCP PcP 11 12 37.3 +1.2
HHC SCP ScP 11 16 19.0 -1.1
HHC PCS PcS 11 16 27.5 0.0
HHC S **S** **11 16 53.0 +1.5**
HHC XS sS 11 17 25.8 +4.0
HHC SS SS 11 19 55.5 -3.9
HHC SCS ScS 11 20 35.5 -1.3
HHC AMB AMB
comp=Z,38nm,1.3s,mb5.0
HHC AMB AMB
comp=Z,131nm,6.5s
HHC LR LR
comp=N,206nm,11.9s
HHC LR LR
comp=E,157nm,11.6s
HHC LR LR
comp=Z,164nm,14.1s
ASAR Alice Springs 41.96 128 P **P** **11 10 41.0 -2.3**
comp=Z,8.7nm,0.7s,mb4.6,baz=298,slow=7.7,SNR=154
ASAR pP pP 11 10 57.0 -4.1
comp=Z,5.6nm,0.7s,baz=299,slow=7.6,SNR=8.5
ASAR ScP ScP 11 16 21.3 -0.5
comp=Z,1.5nm,0.9s,baz=287,slow=4.5,SNR=6.0
ASAR S **S** **11 16 49.4 -7.6**
comp=Z,1.1nm,0.8s,baz=300,slow=14,SNR=7.7
ASAR Alice Springs 41.96 128 P **P** **11 10 41.1 -2.2**
ASAR *PP pP 11 10 57.0 -4.1
ASAR S **S** **11 16 49.4 -7.5**
FORT Forrest 41.99 141 *eP* **P** **11 10 43.6 +0.2**
comp=Z,32nm,0.6s,mb5.2
FORT *e* pP 11 10 59.9 -1.3
BJT Baijiatuao 42.25 20 *eP* **P** **11 10 46.0 +0.6**
BJT pmax pmax
comp=Z,361nm,1.0s
BJT Baijiatuao 42.25 20 *eP* **P** **11 10 46.0 +0.6**
comp=Z,361nm,1.0s,mb6.1
BJI Beijing 42.27 20 P **P** **11 10 46.1 +0.5**
BJI S **S** **11 17 03.3 +2.3**
BJI AMB AMB
comp=Z,287nm,1.1s,mb5.9
KBL Kabul 43.55 324 *eP* **P** **11 10 55.8 -0.2**
KBL pmax pmax
comp=Z,8.0nm,0.7s,mb4.6
KBL Kabul 43.55 324 *eP* **P** **11 10 55.8 -0.2**
comp=Z,7.9nm,0.7s,mb4.5
WMQ Urumqi 44.01 349 ⇓P **P** **11 11 00.3 +0.8**
WMQ AP pP 11 11 18.8 +1.4
WMQ XP sP 11 11 27.8 +2.1
WMQ PP PP 11 12 45.8 +2.4
WMQ PPP 11 13 24.3
WMQ SCP ScP 11 16 28.8 -0.9
WMQ PCS PcS 11 16 36.8 -0.2
WMQ S **S** **11 17 26.3 -0.1**
WMQ XS sS 11 17 58.3 +1.5
WMQ AMB AMB
comp=Z,84nm,1.1s,mb5.4
WMQ AMB AMB
comp=Z,174nm,4.9s
WMQ LR LR
comp=N,65nm,20.0s
WMQ LR LR
comp=E,72nm,24.0s
KSRS Korea Array 45.45 33 P **P** **11 11 09.6 -1.5**
comp=E,11nm,0.8s,mb4.6,baz=223,slow=9.2,SNR=27
KSRS LR LR 11 33 54.8
comp=E,36nm,18.7s,baz=190,slow=41
KZA Kyzart 46.25 336 P **P** **11 11 13.1 -4.2**
SNR=18
UCH Uchtor 46.68 335 P **P** **11 11 22.1 +1.4**
SNR=63
UCH Uchtor 46.68 335 *eP* **P** **11 11 21.9 +1.3**
comp=E,42nm,0.9s,mb5.2
SNY Shenyang 46.70 26 ⇑P **P** **11 11 20.1 -0.7**
SNY AMB AMB
comp=Z,21nm,1.7s,mb4.6
RBK Rabkut 46.76 293 ⇓P **P** **11 11 23.2 +1.5**
SNR=5.4
TKM2 Tokmak 2 46.81 337 *eP* **P** **11 11 22.5 +0.8**
TKM2 pmax pmax
comp=Z,58nm,0.7s,mb5.4
TKM2 Tokmak 2 46.81 337 P **P** **11 11 22.8 +1.1**
SNR=80
TKM2 Tokmak 2 46.81 337 *eP* **P** **11 11 22.5 +0.8**
comp=Z,58nm,0.7s,mb5.4
KBK Karagaybulak 46.85 336 P **P** **11 11 23.6 +1.6**
SNR=27
AML Almayashu 46.94 335 P **P** **11 11 24.1 +1.4**
SNR=7.0
AML Almayashu 46.94 335 *eP* **P** **11 11 23.9 +1.1**
comp=Z,20nm,0.6s,mb5.0
AAK Ala-Archa 47.02 336 P **P** **11 11 24.6 +1.3**
SNR=17
FRU Bishkek 47.13 336 ⇓*i* P **P** **11 11 25.0 +0.8**
FRU pmax pmax
comp=Z,70nm,2.0s,mb5.0
CHMS Chumysh 47.22 336 P **P** **11 11 25.4 +0.6**
SNR=16
WHFO Wadi Hawf 47.27 294 P **P** **11 11 26.9 +1.3**
SNR=5.4
EKS2 Erkin-Say 47.34 335 P **P** **11 11 27.1 +1.3**
SNR=35
EKS2 Erkin-Say 47.34 335 *eP* **P** **11 11 27.0 +1.2**
comp=Z,36nm,0.8s,mb5.2
SONM Songino Array 47.41 7 P **P** **11 11 27.0 +0.7**
comp=Z,24nm,0.7s,mb5.0,baz=189,slow=9.6,SNR=138
SONM PcP PcP 11 12 56.1 +0.3
comp=Z,11nm,0.8s,baz=185,slow=2.2,SNR=6.7
SONM ScP ScP 11 16 43.4 -0.3
comp=Z,1.6nm,0.8s,baz=183,slow=4.7,SNR=5.8
SONM LR LR 11 31 34.7
comp=Z,85nm,19.4s,baz=28,slow=36
SONM Songino Array 47.41 7 P **P** **11 11 27.0 +0.7**
SONM 11 12 56.1
USP Ospenovka 47.54 336 P **P** **11 11 27.7 +0.3**
SNR=47
ABTO Aybut 47.55 293 P **P** **11 11 29.4 +1.5**
SNR=5.8
CN2 Changchun 49.10 26 *eP* **P** **11 11 37.8 -1.6**
CN2 AMB AMB
comp=Z,50nm,0.7s,mb5.5
KK31 Karatay Array 49.13 333 *i* P **P** **11 11 39.2 -0.4**
KK31 pmax pmax
comp=Z,3.0nm,0.5s,mb4.5
CBIJ Chichi jima 49.33 54 P **P** **11 11 38.2 -3.2**
comp=Z,32nm,0.6s,mb5.5,baz=346,slow=11,SNR=4.3
ZAK Zakamensk 49.64 4 *eP* **P** **11 11 43.6 +0.3**
ZAK pmax pmax
comp=Z,7.0nm,1.2s,mb4.5
TLY Talaya 50.96 4 P **P** **11 11 54.7 +1.4**
comp=Z,93nm,0.7s,mb5.9,SNR=6.9
TLY Talaya 50.96 4 P **P** **11 11 54.6 +1.3**
SNR=5.0
TLY Talaya 50.96 4 *eP* **P** **11 11 54.1 +0.8**
TLY *e* 11 21 36.7
TLY pmax pmax
comp=Z,11nm,0.8s,mb4.9
TLY MLR MLR
comp=Z,102nm,22.0s
TLY Talaya 50.96 4 *eP* **P** **11 11 54.1 +0.8**
comp=Z,10nm,0.8s,mb4.9
CTA Charters Tower 51.00 117 P **P** **11 11 52.5 -1.7**
comp=Z,4.6nm,0.8s,mb4.6,baz=276,slow=13,SNR=3.3
CTA LR LR 11 36 27.1
comp=Z,67nm,18.8s,baz=250,slow=40
CTA Charters Tower 51.00 117 P **P** **11 11 52.5 -1.7**
CTA LR LR 11 36 27.1
MJAR Matsushiro Arr 51.09 41 P **P** **11 11 52.6 -1.9**
comp=Z,3.3nm,0.8s,mb4.4,baz=229,slow=6.4,SNR=16
MDJ Mudanjiang 51.60 28 P **P** **11 11 57.8 -0.4**
MDJ AP pP 11 12 15.6 -0.9
MDJ XP sP 11 12 23.8 -0.9
MDJ PP PP 11 13 55.8 -0.6
MDJ S **S** **11 19 13.8 0.0**
MDJ XS sS 11 19 44.6 -0.3
MDJ AMB AMB
comp=Z,11nm,1.1s,mb4.8
MDJ AMB AMB
comp=Z,93nm,5.1s
MDJ LR LR
comp=N,107nm,5.4s
MDJ LR LR
comp=E,148nm,5.4s
MDJ LR LR
comp=Z,222nm,5.4s
HIA Hailar 51.65 18 *eP* **P** **11 11 58.3 -0.2**
HIA pmax pmax
comp=Z,28nm,0.9s
HIA Hailar 51.65 18 *eP* **P** **11 11 58.3 -0.2**
comp=Z,28nm,0.9s,mb5.3
STKA Stephens Creek 51.97 133 ⇑*i* P **P** **11 12 00.1 -1.1**
comp=Z,12nm,0.5s,mb5.2
STKA Stephens Creek 51.97 133 P **P** **11 12 00.1 -1.1**
comp=Z,15nm,0.6s,mb5.2,baz=312,slow=7.0,SNR=54
STKA pP pP 11 12 17.2 -2.3
comp=Z,8.3nm,0.7s,baz=305,slow=8.1,SNR=5.2
STKA LR LR 11 33 48.7
comp=Z,70nm,20.0s,baz=301,slow=36
KURK Kurchatov 52.64 344 P **P** **11 12 05.5 -0.3**
comp=Z,437nm,0.9s,SNR=32
KURK Kurchatov 52.64 344 ⇑P **P** **11 12 05.7 0.0**
SNR=18
KURK Kurchatov 52.64 344 P **P** **11 12 05.3 -0.4**
comp=Z,33nm,0.8s,mb5.5,baz=165,slow=7.3,SNR=37
KURK LR LR 11 37 46.0
comp=Z,49nm,18.9s,baz=165,slow=40
KURK Kurchatov 52.64 344 ⇑*eP* **P** **11 12 05.6 -0.2**
KURK pmax pmax
comp=Z,68nm,0.8s,mb5.7
KURK Kurchatov 52.64 344 *eP* **P** **11 12 05.9 +0.1**
OPO Ambohidratompo 54.04 246 P **P** **11 12 19.1 +2.4**
comp=Z,3.3nm,0.9s,mb4.4,baz=260,slow=22,SNR=4.1
ZAA0 Zalesovo Array 54.27 350 *eP* **P** **11 12 17.5 -0.1**
ZALV Zalesovo Beam 54.27 350 P **P** **11 12 17.3 -0.4**
comp=Z,39nm,0.5s,mb5.7,baz=178,slow=6.2,SNR=149
ZALV S **S** **11 19 49.9 +0.1**
comp=Z,0.4nm,0.5s,baz=140,slow=12,SNR=3.8
KRAR Krasnoyarsk 55.32 356*c i* P **P** **11 12 25.3 +0.1**
KRAR pmax pmax
comp=Z,71nm,1.3s,mb5.5
KLR Kul'dur 56.05 26 *eP* **P** **11 12 26.2 -4.4**
KLR pmax pmax
comp=E,28nm,0.9s
KLR pmax pmax
comp=Z,56nm,0.9s,mb5.6
NAY Al-Naaiem 56.55 305 *eP* **P** **11 12 34.2 -0.4**
baz=305
NAY AMb AMB 11 12 35.0
comp=Z,24nm,0.7s,mb5.3,baz=305
MIB Mutribah 56.66 306 *eP* **P** **11 12 35.2 -0.1**
baz=306
MIB AMb AMB 11 12 36.1
comp=Z,58nm,0.8s,mb5.7,baz=306
VOSK Vostochnaya 56.73 340 P **P** **11 12 35.4 0.0**
VOSK pmax pmax
comp=Z,40nm,1.1s,mb5.4
RST Umm Al-Ruwaisa 56.83 305 *eP* **P** **11 12 35.8 -0.8**
baz=305
RST AMb AMB 11 12 36.8
comp=Z,30nm,0.7s,mb5.4,baz=305
HABR Khabarovsk 56.99 28 *eP* **P** **11 12 36.2 -1.1**
HABR *e* 11 13 29.3
HABR *eS* **S** **11 20 28.3 +2.1**
BVA0 Borovoye Array 57.18 340 *i* P **P** **11 12 37.1 -1.5**
BVA0 pmax pmax
comp=Z,8.0nm,1.0s,mb4.7
BRVK Borovoye 57.25 340 P **P** **11 12 38.9 -0.1**
comp=Z,185nm,1.1s,mb6.0,SNR=10
BRVK Borovoye 57.25 340 ⇑P **P** **11 12 38.7 -0.3**
SNR=9.5
BRVK Borovoye 57.25 340 *eP* **P** **11 12 38.3 -0.7**
BOD Bodaibo 58.23 10 *eP* **P** **11 12 45.7 -0.1**
BOD pmax pmax
comp=Z,25nm,1.6s,mb5.0
AB31 Akbulak array 58.62 331 *i* P **P** **11 12 47.7 -1.0**
AB31 pmax pmax
comp=Z,22nm,0.7s,mb5.3
ARMA Armidale 59.09 126 *eP* **P** **11 12 53.0 +0.6**
YSS Yuzh-Sakhalins 59.95 33⇑*eP* **P** **11 12 57.4 -0.5**
YSS pmax pmax
comp=Z,40nm,1.0s,mb5.4
AKTO Aktyubinsk 60.34 331 P **P** **11 12 59.3 -1.2**
AKTO pmax pmax
comp=Z,3.0nm,1.2s,mb4.2
KMBO Kilima Mbogo 61.41 268 P **P** **11 13 10.4 +1.9**
comp=Z,5.0nm,0.8s,mb4.6,baz=59,slow=11,SNR=16
KMBO pP pP 11 13 28.0 +0.7
comp=Z,2.6nm,0.8s,baz=35,slow=10,SNR=3.5
KMBO Kilima Mbogo 61.41 268 *eP* **P** **11 13 10.6 +2.1**
GNI Garni 62.64 316 *eP* **P** **11 13 17.2 +1.0**
GNI pmax pmax
comp=Z,16nm,0.9s
GNI Garni 62.64 316 *eP* **P** **11 13 17.2 +1.0**
comp=Z,16nm,0.9s,mb5.0
SVE Sverdlovsk 63.67 338⇑*eP* **P** **11 13 22.4 -0.3**
SVE *e*PPP 11 17 12.3
SVE *eS* **S** **11 22 05.4 +14**
SVE pmax pmax
comp=Z,53nm,1.0s,mb5.3
ARU Arti 64.19 337 P **P** **11 13 25.6 -0.5**
comp=Z,152nm,1.1s,mb5.7,SNR=6.7
ARU Arti 64.19 337*d i* P **P** **11 13 24.9 -1.2**
ARU *PP pP 11 13 47.0 +2.0
ARU *e* 11 15 43.5
ARU *eS* **S** **11 21 59.4 +1.6**
ARU *eSS* SS 11 26 04.9 -3.5
ARU pmax pmax
comp=Z,30nm,1.2s,mb5.0
ARU Arti 64.19 337 *eP* **P** **11 13 25.1 -1.1**
comp=Z,27nm,1.1s,mb5.0
YAK Yakutsk 65.49 15 *eP* **P** **11 13 31.8 -2.7**
YAK pmax pmax
comp=Z,28nm,0.9s,mb5.1
KIV Kislovodsk 65.61 319⇑*eP* **P** **11 13 35.3 -0.3**
KIV pmax pmax
comp=Z,30nm,1.0s,mb5.1
KIV Kislovodsk 65.61 319 *eP* **P** **11 13 35.5 -0.2**
comp=Z,24nm,0.9s,mb5.0
ANN Anapa 69.41 318 *eP* **P** **11 13 56.0 -3.6**
ANN pmax pmax
comp=Z,46nm,0.9s,mb5.3
BR131 Keskin Array S 70.50 312 *eP* **P** **11 14 05.8 -0.6**
PETK Petropavlovsk- 71.35 33 P **P** **11 14 09.8 -1.4**
comp=Z,4.8nm,0.9s,mb4.3,baz=64,slow=0.6,SNR=8.2
PETK LR LR 11 46 14.9
comp=Z,41nm,21.3s,baz=167,slow=36
SIM Simferopol' 71.69 318*d i* P **P** **11 14 14.0 +0.5**
SIM pmax pmax
comp=Z,28µm,0.7s
PET Petropavlovsk 71.83 33*d i* P **P** **11 14 15.4 +1.2**
PET pmax pmax
comp=Z,105nm,1.6s,mb5.4
MAW Mawson 72.58 194 P **P** **11 14 20.4 +2.1**
comp=Z,1.6nm,0.7s,mb4.0,baz=292,slow=19,SNR=7.6
TIXI Tiksi 73.42 10 *eP* **P** **11 14 21.8 -1.4**
TIXI pmax pmax
comp=Z,25nm,0.9s,mb5.0
TIXI Tiksi 73.42 10 *eP* **P** **11 14 21.8 -1.4**
MOS Moscow 73.48 329 *eP* **P** **11 14 22.0 -1.9**
MOS pmax pmax
comp=Z,53nm,0.7s,mb5.5
SEY Seymchan 73.65 23⇑*eP* **P** **11 14 23.8 -0.9**
OBN Obninsk 73.78 328*d i* P **P** **11 14 24.7 -1.0**
OBN *e* 11 17 12.2
OBN pmax pmax
comp=Z,45nm,1.2s,mb5.1
OBN Obninsk 73.78 328 *eP* **P** **11 14 25.0 -0.7**
KLMR Klimovskoe 74.81 334 *eP* **P** **11 14 29.6 -1.9**
KLMR pmax pmax
comp=Z,26nm,1.2s,mb4.8
IDI Anoyia 76.34 306 P **P** **11 14 40.7 -0.2**
comp=Z,14nm,0.8s,mb4.8,baz=92,slow=10.0,SNR=7.7
AKASG Malin Array Be 76.52 322 P **P** **11 14 40.0 -1.5**
comp=Z,6.6nm,0.6s,mb4.6,baz=89,slow=5.0,SNR=22
AKASG pP pP 11 14 57.4 -3.5
comp=Z,2.1nm,0.6s,baz=93,slow=5.0,SNR=3.4
VRI Vrincioaia 76.95 317⇑*i* P **P** **11 14 44.1 +0.1**
VRI Vrincioaia 76.95 317 P **P** **11 14 44.8 +0.8**
PLOR Plostina 77.00 317 P **P** **11 14 45.0 +0.7**
PLOR Plostina 77.00 317⇑*i* P **P** **11 14 44.4 +0.1**
MLR Muntele Rosu 77.40 317 P **P** **11 14 46.8 +0.2**
comp=Z,20nm,0.8s,mb4.9,baz=144,slow=2.0,SNR=19
MLR Muntele Rosu 77.40 317⇓*i* P **P** **11 14 46.9 +0.3**
MLR Muntele Rosu 77.40 317 P **P** **11 14 47.3 +0.7**
ZIMR 77.44 315⇑*i* P **P** **11 14 46.9 +0.1**
ZIMR 77.44 315 ⇑P **P** **11 14 46.9 +0.1**
RPZ Rata Peaks 77.85 135 P **P** **11 14 48.6 -0.4**
comp=Z,11nm,0.9s,mb4.6,baz=196,slow=7.4,SNR=3.1
VOIR 78.01 316⇑*i* P **P** **11 14 49.3 -0.6**
VOIR 78.01 316 P **P** **11 14 49.4 -0.5**
VTS Vitosha 78.81 313⇑*i* P **P** **11 14 53.3 -1.1**
JOF Joensuu 79.19 335 *ep* **P** **11 14 54.5 -1.6**
comp=Z,14nm,0.8s,mb4.8
JOF Joensuu 79.19 335 *eP* **P** **11 14 54.5 -1.6**
JOF pmax pmax
comp=Z,14nm,0.8s,mb4.8
LVV L'vov 79.55 321 *eP* **P** **11 14 57.8 -0.5**
DRGR 79.86 317⇑*i* P **P** **11 15 00.8 +0.8**
DRGR 79.86 317 ⇑P **P** **11 15 00.8 +0.7**
VSU Vasula 79.99 330*c i* P **P** **11 15 00.2 -0.3**
SYO Syowa Base 79.99 198⇑*eX* 11 15 26.0
KWP Kalwaria 80.36 320 *eP* **P** **11 15 03.1 +0.5**
KWP Kalwaria 80.36 320⇑*i* P **P** **11 15 02.3 -0.4**
KWP Kalwaria 80.36 320 *eP* **P** **11 15 03.1 +0.4**
BZS Buzias 80.42 316⇑*i* P **P** **11 15 03.0 -0.1**
BZS Buzias 80.42 316 P **P** **11 15 03.0 -0.1**
KOLS Kolonicke sedl 80.52 319 *eP* **P** **11 15 04.3 +0.8**
SUW Suwalki 80.90 325 *eP* **P** **11 15 04.8 -0.7**

SUW	Suwalki	80.90	325	*e*P		P	11 15 04.8	-0.6
CRVS	Cervenica-Dubn	81.04	319	*e*P		P	11 15 07.1	+0.8
CRVS	Cervenica-Dubn	81.04	319	*e*P		P	11 15 07.2	+0.9
KAF	Kangasniemi	81.16	333	*e*p		P	11 15 05.3	-1.4
	comp=Z,22nm,0.8s,mb5.0,baz=99,slow=4.9							
KAF	Kangasniemi	81.16	333	*e*P		P	11 15 05.3	-1.4
KAF				pmax	pmax			
	comp=Z,22nm,0.8s,mb5.0							
STHS	Stebnicka Huta	81.26	320	*e*P		P	11 15 08.4	+0.9
STHS				pmax	pmax			
	comp=Z,8.0nm,0.8s,mb4.6							
STHS	Stebnicka Huta	81.26	320	*e*P		P	11 15 08.4	+0.9
	comp=Z,7.9nm,0.8s,mb4.6							
PSZ	Piszkesteto	81.92	318	⇓ *i*P		P	11 15 11.2	+0.2
PSZ	Piszkesteto	81.92	318	⇓P		P	11 15 11.2	+0.1
OJC	Ojcow	82.31	321	*e*P		P	11 15 12.6	-0.4
PKSM	Moragy	82.56	316	⇑ *i*P		P	11 15 14.4	0.0
PKSM	Moragy	82.56	316	⇑P		P	11 15 14.4	+0.1
VYHS	Vyhne	82.70	319	*e*P		P	11 15 14.8	-0.3
KOLL	Kolacno	83.00	319	*e*P		P	11 15 16.6	0.0
KEV	Kevo	83.03	341	*e*p		P	11 15 14.3	-2.0
	comp=Z,15nm,0.9s,mb4.8							
KEV	Kevo	83.03	341	*e*P		P	11 15 14.3	-2.0
KEV				pmax	pmax			
	comp=Z,15nm,0.9s,mb4.8							
OKC	Ostrava-Krasne	83.31	320	*e*P		P	11 15 18.4	+0.2
ARCES	ARCESS Array B	83.47	340	P		P	11 15 18.2	-0.4
	comp=Z,8.7nm,0.9s,mb4.6,baz=98,slow=4.3,SNR=16							
ARCES				pP	pP		11 15 34.8	-3.5
	comp=Z,0.8nm,0.4s,baz=103,slow=5.1,SNR=1.6							
ARCES	ARCESS Array B	83.47	340	P		P	11 15 18.2	-0.4
ARCES				pP	pP		11 15 34.8	-3.5
MORC	Moravsky Berou	83.70	320	*e*P		P	11 15 20.0	-0.1
MORC				pmax	pmax			
	comp=Z,14nm,1.2s,mb4.7							
MORC	Moravsky Berou	83.70	320	⇑ *i*P		P	11 15 20.7	+0.6
MORC	Moravsky Berou	83.70	320	*e*P		P	11 15 20.0	-0.2
	comp=Z,14nm,1.2s,mb4.7							
MODS	Modra-Piesok	83.72	318	*e*P		P	11 15 17.8	-2.5
ZST	Bratislava	83.82	318	*e*P		P	11 15 18.1	-2.7
ZST				pmax	pmax			
	comp=Z,12nm,1.1s,mb4.6							
ZST	Bratislava	83.82	318	*e*P		P	11 15 18.0	-2.8
ZST	Bratislava	83.82	318	*e*P		P	11 15 18.1	-2.7
	comp=Z,12nm,1.1s,mb4.6							
DPC	Dobruska-Polom	84.54	320	*e*P		P	11 15 24.8	+0.4
UPC	Upice	84.75	321	*e*P		P	11 15 23.8	-1.7
TREC	Trest	84.98	319	*e*P		P	11 15 25.5	-1.2
PRU	Pruhonice	85.65	320	*e*P		P	11 15 30.1	+0.1
PVCC	Panska Ves	85.67	320	*e*P		P	11 15 29.8	-0.3
BRG	Berggiesshubel	86.09	321	*i* P		P	11 15 32.3	+0.2
BRG				pmax	pmax			
	comp=Z,5.0nm,1.0s,mb4.4							
BRG	Berggiesshubel	86.09	321	*e*P		P	11 15 32.2	+0.1
	comp=Z,8.0nm,1.0s,mb4.6							
BRG	Berggiesshubel	86.09	321	*i* P		P	11 15 32.3	+0.2
	comp=Z,7.5nm,1.0s,mb4.6							
GEC2	GERESS Array S	86.12	319	*e*P		P	11 15 32.5	+0.2
GEC2				pmax	pmax			
	comp=Z,16nm,1.3s,mb4.8							
GEC2	GERESS Array S	86.12	319	*e*P		P	11 15 32.5	+0.2
	comp=Z,16nm,1.3s,mb4.8							
GERES	GERESS Array B	86.12	319	P		P	11 15 32.8	+0.4
	comp=Z,4.9nm,1.0s,mb4.4,baz=98,slow=5.5,SNR=28							
KHC	Kasperske Hory	86.22	319	⇑ *e*P		P	11 15 32.8	0.0
KHC	Kasperske Hory	86.22	319	*e*P		P	11 15 32.6	-0.2
RUE	Ruedersdorf	86.29	322	*e*P		P	11 15 33.6	+0.5
	comp=Z,29nm,1.1s,mb5.1							
RJOB	Jochberg	86.67	318	*e*P		P	11 15 34.1	-1.0
	comp=Z,6.0nm,1.1s,mb4.4							
WET	Wettzell	86.68	319	*e*P		P	11 15 35.1	0.0
WET				pmax	pmax			
	comp=Z,9.0nm,1.0s,mb4.7							
WET	Wettzell	86.68	319	*e*P		P	11 15 35.1	0.0
	comp=Z,9.0nm,1.0s,mb4.7							
CLL	Collm	86.71	321	⇓ *i*P		P	11 15 34.9	-0.3
CLL				pmax	pmax			
	comp=Z,8.0nm,1.1s,mb4.6							
CLL	Collm	86.71	321	*e*P		P	11 15 34.9	-0.3
	comp=Z,8.0nm,1.2s,mb4.5							
CLL	Collm	86.71	321	⇓ *i*P		P	11 15 34.9	-0.3
	comp=Z,8.0nm,1.1s,mb4.6							
CLL				*ex*		x	11 15 42.0	
TANN	Tannenbergstha	87.01	320	*e*P		P	11 15 36.9	+0.3
	comp=Z,3.0nm,0.9s,mb4.2							
NKC	Novy Kostel	87.01	320	*e*P		P	11 15 35.1	-1.5
WERN	Wernitzgruen	87.06	320	*e*P		P	11 15 37.0	+0.1
	comp=Z,4.0nm,1.0s,mb4.3							
ROTZ	Rotzenmuhle	87.14	320	*e*P		P	11 15 37.7	+0.4
	comp=Z,8.0nm,1.0s,mb4.6							
MANZ	Manzenberg	87.22	320	*e*P		P	11 15 38.2	+0.5
	comp=Z,12nm,1.1s,mb4.7							
MOX	Moxa	87.56	320	*e*P		P	11 15 39.4	+0.1
	comp=Z,12nm,1.4s,mb4.7							
GRA1	Grafenberg Arr	87.78	320	*e*P		P	11 15 40.7	+0.3
	comp=Z,9.0nm,0.9s,mb4.8							
GRF	Grafenberg Arr	87.78	320	*e*P		P	11 15 40.7	+0.3
GRF				pmax	pmax			
	comp=Z,9.0nm,0.9s,mb4.8							
GRF	Grafenberg Arr	87.78	320	*e*P		P	11 15 40.7	+0.3
GRF				pmax	pmax			
	comp=Z,9.0nm,0.9s,mb4.8							
GRF	Grafenberg Arr	87.78	320	*e*P		P	11 15 40.7	+0.3
	comp=Z,9.0nm,0.9s,mb4.8							
NB2	NORSAR Subarra	88.12	331	P		P	11 15 41.2	-0.5
	comp=Z,0.4nm,0.8s,baz=94,slow=5.6							
NOA	NORSAR Array B	88.12	331	P		P	11 15 41.4	-0.3
	comp=Z,4.5nm,0.9s,mb4.5,baz=94,slow=4.9,SNR=8.1							
CLZ	Clausthal	88.36	322	*e*P		P	11 15 43.4	+0.3
CLZ				pmax	pmax			
	comp=Z,23nm,1.1s,mb5.1							
CLZ	Clausthal	88.36	322	*e*P		P	11 15 43.4	+0.3
	comp=Z,23nm,1.1s,mb5.1							
BSEG	Bad Segeberg	88.43	324	*e*P		P	11 15 43.7	+0.3
BSEG				pmax	pmax			
	comp=Z,24nm,1.2s,mb5.1							
BSEG	Bad Segeberg	88.43	324	*e*P		P	11 15 43.7	+0.3
	comp=Z,24nm,1.2s,mb5.1							
DAVOX	Davos/Dischmat	88.63	317	P		P	11 15 44.4	-0.1
	comp=Z,10nm,0.8s,mb4.9,baz=127,slow=6.6,SNR=14							
DAVOS	Davos	88.69	317	P		P	11 15 44.4	-0.3
KEST	Kesra	89.01	306	P		P	11 15 47.1	+0.6
	comp=Z,4.6nm,1.0s,mb4.5,baz=128,slow=2.7,SNR=5.8							
KEST				pP	pP		11 16 04.3	-2.1
	comp=Z,2.4nm,0.9s,baz=352,slow=12,SNR=2.9							
TNS	Taunus Mts	89.58	320	*e*P		P	11 15 49.5	+0.7
TNS				pmax	pmax			
	comp=Z,23nm,1.1s,mb5.2							
TNS	Taunus Mts	89.58	320	*e*P		P	11 15 49.5	+0.7
	comp=Z,23nm,1.1s,mb5.2							
BFO	Black Forest	89.67	318	*e*P		P	11 15 48.6	-0.7
BFO				pmax	pmax			
	comp=Z,7.0nm,1.0s,mb4.8							
BFO	Black Forest	89.67	318	*e*P		P	11 15 48.6	-0.7
	comp=Z,7.0nm,1.0s,mb4.8							
IBBN	Ibbenburen	89.98	322	*e*P		P	11 15 51.1	+0.5
	comp=Z,18nm,1.1s,mb5.1							
BUG	Bochum-Univer	90.30	321	*e*P		P	11 15 52.7	+0.5
	comp=Z,11nm,1.0s,mb4.9							
CDF	Champ du Feu	90.38	318	*e*P		P	11 15 52.1	-0.5
	comp=Z,13nm,1.0s,mb4.7							
CDF	Champ du Feu	90.38	318	*e*P		P	11 15 52.1	-0.5
CDF				pmax	pmax			
	comp=Z,7.0nm,1.0s,mb4.8							
CDF	Champ du Feu	90.38	318	*e*P		P	11 15 52.1	-0.5
	comp=Z,6.6nm,1.0s,mb4.7							
ECH	Echery	90.46	318	*e*P		P	11 15 53.1	+0.1
HINF	Hinteralfeld	90.68	318	*e*P		P	11 15 53.0	-1.0
LPG	La Plagne	90.82	315	*e*P		P	11 15 54.8	+0.1
	comp=Z,27nm,1.0s,mb5.0							
LPG	La Plagne	90.82	315	*e*P		P	11 15 54.8	+0.1
LPG				pmax	pmax			
	comp=Z,13nm,1.0s,mb5.0							
LPG	La Plagne	90.82	315	*e*P		P	11 15 54.8	+0.1
	comp=Z,13nm,1.0s,mb5.0							
LPL	La Plagne	90.83	315	*e*P		P	11 15 54.8	0.0
	comp=Z,24nm,0.9s,mb5.0							
LPL	La Plagne	90.83	315	*e*P		P	11 15 54.8	0.0
LPL				pmax	pmax			
	comp=Z,12nm,0.9s,mb5.0							
LPL	La Plagne	90.83	315	*e*P		P	11 15 54.8	0.0
	comp=Z,12nm,0.9s,mb5.0							
HAU	Haudompre	91.01	318	*e*P		P	11 15 55.1	-0.4
	comp=Z,29nm,1.0s,mb5.0							
HAU	Haudompre	91.01	318	*e*P		P	11 15 55.1	-0.4
HAU				pmax	pmax			
	comp=Z,14nm,1.0s,mb5.0							
HAU	Haudompre	91.01	318	*e*P		P	11 15 55.1	-0.4
	comp=Z,14nm,1.0s,mb5.1							
LMR	La Mourre	91.07	313	*e*P		P	11 15 55.5	-0.4
WLF	Walferdange	91.07	320	P		P	11 15 57.0	+1.2
WLF	Walferdange	91.07	320	*e*P		P	11 15 56.7	+0.9
	comp=Z,10.0nm,1.0s,mb4.9							
CABF	La Chapelle	91.24	316	*e*P		P	11 15 56.7	0.0
	comp=Z,20nm,1.0s,mb4.9							
CABF	La Chapelle	91.24	316	*e*P		P	11 15 56.7	0.0
CABF				pmax	pmax			
	comp=Z,10.0nm,1.0s,mb4.9							
CABF	La Chapelle	91.24	316	*e*P		P	11 15 56.7	0.0
	comp=Z,10nm,1.0s,mb4.9							
ORIF	Oris-en-Rattie	91.46	315	*e*P		P	11 15 57.9	+0.2
MEZF	Maizieres J'vi	91.85	318	*e*P		P	11 15 59.2	-0.2
	comp=Z,12nm,0.9s,mb4.8							
MEZF	Maizieres J'vi	91.85	318	*e*P		P	11 15 59.2	-0.2
	comp=Z,12nm,0.9s,mb5.1							
GIVF	Givet	91.91	320	*e*P		P	11 15 59.5	-0.2
BAIF	Baives	92.31	320	*e*P		P	11 16 01.4	-0.1
	comp=Z,43nm,1.4s,mb5.2							
BAIF	Baives	92.31	320	*e*P		P	11 16 01.4	-0.1
BAIF				pmax	pmax			
	comp=Z,22nm,1.4s,mb5.2							
BAIF	Baives	92.31	320	*e*P		P	11 16 01.4	-0.1
	comp=Z,22nm,1.4s,mb5.2							
VIVF	Saint-Julien-l	92.32	315	*e*P		P	11 16 01.4	-0.3
LOR	Lormes	92.73	317	*e*P		P	11 16 03.2	-0.3
	comp=Z,21nm,1.1s,mb5.1							
LOR	Lormes	92.73	317	*e*P		P	11 16 03.2	-0.3
LOR				pmax	pmax			
	comp=Z,10.0nm,1.1s,mb5.1							
LOR	Lormes	92.73	317	*e*P		P	11 16 03.2	-0.3
	comp=Z,10nm,1.1s,mb5.1							
SMF	Signal de Mont	92.78	317	*e*P		P	11 16 03.4	-0.4
	comp=Z,19nm,1.0s,mb5.1							
SMF	Signal de Mont	92.78	317	*e*P		P	11 16 03.4	-0.4
SMF				pmax	pmax			
	comp=Z,9.0nm,1.0s,mb5.0							
SMF	Signal de Mont	92.78	317	*e*P		P	11 16 03.4	-0.4
	comp=Z,9.4nm,1.0s,mb5.1							
SSF	Saint Saulge	92.98	317	*e*P		P	11 16 04.7	0.0
	comp=Z,8.5nm,1.1s,mb4.7							
SSF	Saint Saulge	92.98	317	*e*P		P	11 16 04.7	0.0
SSF				pmax	pmax			
	comp=Z,4.0nm,1.1s,mb4.7							
SSF	Saint Saulge	92.98	317	*e*P		P	11 16 04.7	0.0
	comp=Z,4.3nm,1.1s,mb4.7							
AVF	Avril sur Loir	93.11	317	*e*P		P	11 16 04.9	-0.4
	comp=Z,7.7nm,1.0s,mb4.7							
AVF	Avril sur Loir	93.11	317	*e*P		P	11 16 04.9	-0.4
AVF				pmax	pmax			
	comp=Z,4.0nm,1.0s,mb4.7							
AVF	Avril sur Loir	93.11	317	*e*P		P	11 16 04.9	-0.4
	comp=Z,3.8nm,1.0s,mb4.7							
BGF	Bois d'Agland	93.48	317	*e*P		P	11 16 07.0	0.0
	comp=Z,21nm,1.1s,mb5.1							
BGF	Bois d'Agland	93.48	317	*e*P		P	11 16 07.0	0.0
BGF				pmax	pmax			
	comp=Z,10.0nm,1.1s,mb5.1							
BGF	Bois d'Agland	93.48	317	*e*P		P	11 16 07.0	0.0
	comp=Z,10nm,1.1s,mb5.1							
TCF	Toulx Ste Croi	93.94	316	*e*P		P	11 16 09.2	+0.1
CAF	Calviac	94.16	315	*e*P		P	11 16 10.1	-0.1
	comp=Z,19nm,1.3s,mb5.0							
CAF	Calviac	94.16	315	*e*P		P	11 16 10.1	-0.1
CAF				pmax	pmax			
	comp=Z,10.0nm,1.3s,mb5.0							
CAF	Calviac	94.16	315	*e*P		P	11 16 10.1	-0.1
	comp=Z,9.6nm,1.3s,mb5.0							
TORD	Torodi Ar. Bea	96.60	283	P		P	11 16 22.3	+0.3
	comp=Z,0.4nm,0.9s,mb3.8,baz=96,slow=4.3,SNR=2.7							
TORD				LR	LR		11 59 10.0	
	comp=Z,40nm,18.3s,baz=305,slow=35							
ROSF	Rostrenen	97.38	319	*e*P		P	11 16 24.0	-0.7
MSO	Missoula	124.72	27	*e*PKPdf	PKPdf		11 21 50.4	-0.4
EGMT	Eagleton	125.54	23	*e*PKPdf	PKPdf		11 21 52.0	-0.3
DLMT	Dillon	126.44	27	*e*PKPdf	PKPdf		11 21 54.3	+0.2
ULM	La Salle Bonnet	127.73	12	PKP	PKPdf		11 21 55.7	-0.8
	comp=Z,6.7nm,0.6s,baz=356,slow=2.3,SNR=20							
NVAR	Mina Array Bea	128.32	37	PKP	PKPdf		11 21 59.1	+1.2
	comp=Z,1.1nm,0.8s,baz=257,slow=3.5,SNR=8.7							
RRI2	Red Ridge	128.57	28	*e*PKPdf	PKPdf		11 21 59.0	+0.7
SNOW	Snow King Moun	128.75	27	*e*PKPdf	PKPdf		11 22 00.1	+1.5
REDW	Red Top Meadow	128.78	27	*e*PKPdf	PKPdf		11 21 60.0	+1.3
BW06	Boulder Array	129.84	27	*e*PKPdf	PKPdf		11 22 01.2	+0.5
PDAR	Pinedale Array	129.84	27	PKP	PKPdf		11 21 59.9	-0.9
	comp=Z,0.9nm,0.8s,baz=90,slow=0.7,SNR=6.8							
MSU	Marysvale	131.76	33	*e*PKPdf	PKPdf		11 22 05.2	+0.8
MSU				*e*SKPbc	SKPbc		11 25 24.8	+0.7
ECSD	EROS,Sioux Fal	133.69	15	*e*PKPdf	PKPdf		11 22 07.5	-0.5
ECSD				*e*SKPbc	SKPbc		11 25 30.0	-0.5
ANMO	Albuquerque	137.46	31	*e*SKPbc	SKPbc		11 25 42.9	+0.3
KSU1	Kansas State U	137.98	18	*e*PKPdf	PKPdf		11 22 15.4	-0.6
CCM	Cathedral Cave	140.36	12	*e*PKIKP	PKPdf		11 22 19.1	-1.4
GDL2	Guadalupe Moun	140.69	32	*e*SKPbc	SKPbc		11 25 51.9	+0.3
WCI	Wyandotte Cave	140.98	6	*e*PKIKP	PKPdf		11 22 21.0	-0.6
WVT	Waverly	142.85	9	*e*PKIKP	PKPdf		11 22 20.7	-4.3
MIAR	Mount Ida	143.10	17	*e*PKPpre			11 22 21.7	
MIAR				*e*SKPbc	SKPbc		11 25 57.5	-0.1
TXAR	Lajitas Array	143.30	34	PKP	PKPdf		11 22 22.7	-3.3
	comp=Z,0.7nm,0.6s,baz=222,slow=2.4,SNR=9.4							
TXAR				SKPbc	SKPbc		11 25 57.8	-0.5
	comp=Z,1.2nm,0.7s,baz=305,slow=0.3,SNR=7.9							
TKL	Tuckaleechee C	143.74	3	*e*PKIKP	PKPdf		11 22 22.7	-3.9
BDFB	Brasilia	143.91	244	PKP	PKPdf		11 22 26.2	-1.1
	comp=Z,3.6nm,0.6s,baz=117,slow=8.4,SNR=12							
SWET	Sewanee	144.00	6	*e*PKP	PKPdf		11 22 22.5	-4.6
OXF	Oxford	144.15	11	*e*PKIKP	PKPdf		11 22 24.6	-2.7
JCT	Junction City	144.36	28	*e*PKPdf	PKPdf		11 22 25.0	-2.8
JCT				*e*SKPbc	SKPbc		11 26 00.4	-0.4
JSC	Jenkinsville	145.19	360	*e*PKIKP	PKPdf		11 22 27.8	-1.3
NATX	Nacogdoches	145.33	20	*e*PKP	PKPdf		11 22 29.3	-0.2
CPUP	Villa Florida	145.59	220	PKPbc	PKPbc		11 22 30.9	+0.6
	comp=Z,14nm,0.7s,baz=94,slow=1.8,SNR=47							
CPUP	Villa Florida	145.59	220	*e*PKPbc	PKPbc		11 22 30.8	+0.5
GOGA	Godfrey	146.00	3	*e*PKP2	PKPab		11 22 30.4	-1.5
LRAL	Lakeview Retre	146.01	8	*e*PKPdf	PKPdf		11 22 30.1	-0.5
LPAZ	La Paz	159.76	219	PKP	PKPdf		11 22 52.2	+1.4
	comp=Z,1.8nm,0.8s,baz=31,slow=11,SNR=7.4							
LPAZ				PKPab	PKPab		11 23 31.6	+1.8
	comp=Z,1.6nm,0.8s,baz=98,slow=6.7,SNR=5.3							
LPAZ	La Paz	159.76	219	PKP	PKPdf		11 22 52.2	+1.3
LPAZ				PKPab	PKPab		11 23 31.6	+1.8

*IDC **14** 11:15:55.7±0.6,268N×12696E,h0km,mb4.1/12, mb1 4.3/12,mb1mx4.2/17,mbtmp4.2/12,MS3.4/1, Ms1 3.4/1,ms1mx2.7/30,Error ellipse: s-maj=39.3km s-min=13.5km az=75.0*
*NEIC **14** 11:16:04.3±3.1,265N×12702E,h70km±30km,mb4.6/7, Error ellipse: s-maj=22.1km s-min=9.0km az=72.0*
*ISCJB **14** 11:16:06.8±1.8,260N±007×1270E±02,h113km±18km, mb4.2/15,Error ellipse: s-maj=32.7km s-min=8.1km az=163.4*

ISC 14 11:16:07.9±1.6,259N±007×1271E±02,h105km±16km,n25, σ0§73/22,mb4.2/15,Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
BUKP	Musuan	5.61	339	*e*S		Sn	11 18 32.8	+0.5
KAKA	Kakadu	16.12	161	*e*P		Pn	11 19 48.1	-0.3
	8.8nm,0.6s							
FITZ	Fitzroy Crossi	20.61	184	*e*P		P	11 20 38.6	-0.2
	3.5nm,0.9s							
FITZ	Fitzroy Crossi	20.61	184	P		P	11 20 37.8	-1.0
	1.5nm,0.4s,baz=15,slow=10.0,SNR=13							
GUMO	Guam	20.73	57	LR		LR	11 27 13.2	
	comp=Z,116nm,20.1s,baz=93,slow=33							
WRAB	Tennant Creek	23.50	163	*e*P		P	11 21 08.1	-0.3
	16nm,0.6s,mb4.5							
WRA	Warramunga Arr	23.51	163	P		P	11 21 07.9	-0.5
	17nm,0.6s,mb4.5,baz=342,slow=10,SNR=165							
WB2	Warramunga Arr	23.51	163	*e*P		P	11 21 08.0	-0.5
ASAR	Alice Springs	26.94	166	P		P	11 21 39.5	+0.1
	2.3nm,0.6s,mb3.9,baz=351,slow=7.3,SNR=65							
ASAR				PcP		PcP	11 25 01.0	+1.9
	0.7nm,0.7s,baz=356,slow=1.5,SNR=6.8							
CMAR	Chiang Mai Arr	31.73	302	P		P	11 22 21.1	-0.9
	0.7nm,0.3s,mb3.8,baz=119,slow=8.1,SNR=5.9							
FORT	Forrest	33.20	178	*e*P		P	11 22 35.0	+0.3
	12nm,0.6s,mb4.9							
KSRS	Korea Array	34.70	1	P		P	11 22 47.0	-0.6
	0.8nm,0.7s,mb3.7,baz=177,slow=9.4,SNR=5.7							
KLBR	Kellerberrin	35.12	194	*e*P		P	11 22 51.9	+0.6
	16nm,1.1s,mb4.8							
STKA	Stephens Creek	36.96	159	*e*P		P	11 23 07.7	+0.7
	6.9nm,0.6s,mb4.8							
STKA	Stephens Creek	36.96	159	P		P	11 23 07.8	+0.8
	7.6nm,0.7s,mb4.8,baz=339,slow=7.5,SNR=21							
STKA				PcP		PcP	11 25 28.9	+2.7
	1.6nm,0.6s,baz=314,slow=8.0,SNR=3.3							
SONM	Songino Array	48.47	341	P		P	11 24 39.7	-0.1
	1.1nm,0.8s,mb3.8,baz=156,slow=7.6,SNR=5.9							
SONM				PcP		PcP	11 26 06.0	+1.7
	0.7nm,0.7s,baz=154,slow=4.7,SNR=3.7							
PETK	Petropavlovsk-	56.36	22	P		P	11 25 38.7	+0.8
	3.9nm,1.0s,mb4.4,baz=212,slow=5.1,SNR=3.3							
PETK	Petropavlovsk-	56.36	22	P		P	11 25 38.7	+0.8
AML	Almayashu	61.74	317	*e*P		P	11 26 15.8	+0.6
	2.1nm,0.6s,mb4.3							
ZALV	Zalesovo Beam	61.74	333	P		P	11 26 14.2	-0.9
	0.5nm,0.3s,mb4.0,baz=117,slow=5.0,SNR=3.4							
KURK	Kurchatov	62.87	328	P		P	11 26 22.1	-0.5
	2.0nm,0.6s,mb4.2,baz=129,slow=6.3,SNR=15							
MAW	Mawson	82.81	200	P		P	11 28 22.3	+2.3
	1.5nm,0.9s,mb3.8,baz=90,slow=9.5,SNR=6.0							
ARCES	ARCESS Array B	91.62	340	P		P	11 29 02.5	-0.2
	0.9nm,0.6s,mb4.2,baz=76,slow=5.1,SNR=3.7							
TXAR	Lajitas Array	122.03	53	PKP		PKPdf	11 34 52.9	+2.2
	0.1nm,0.6s,baz=45,slow=0.5,SNR=2.5							
TORD	Torodi Ar. Bea	123.57	288	PKP		PKPdf	11 34 55.9	+1.8
	0.6nm,0.8s,baz=45,slow=0.4,SNR=3.0							

MAN 14 11:16:54,846N×12478E,h28km,mb4.5,ML3.4,MS3.3, 1C,Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
CGP	Cagayan de Oro	0.08	268	⇑ *i*P		Pb	11 17 01.1	+2.1
CGP				*i* S		Sb	11 17 05.6	+3.3
BUKP	Musuan	0.64	154	*e*P		Pb	11 17 07.8	+1.1
PAGZ	Pagadian	1.51	246	*e*P		Pn	11 17 20.7	+1.5

*ISK **14** 11:19:15.8,3757N×3860E,h9km,MD2.8*
*CSEM **14** 11:19:15.6±0.1,3758N×3861E,h12km,MD2.7,Error ellipse: s-maj=3.4km s-min=2.5km az=50.0*
*ISCJB **14** 11:19:16.2±0.6,3760N±004×3865E±005,h12km±6km, Error ellipse: s-maj=7.0km s-min=6.6km az=43.5*
*DDA **14** 11:19:17.3,3758N×3858E,h6km±3km,Md2.7*

ISC 14 11:19:16.4±0.6,3758N±004×3864E±005,h14km±5km,n9, σ0§70/14,Turkey

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
URFA	Urfa	0.20	133	*e*PG		Pg	11 19 21.1	+0.1
URFA				*e*SG		Sg	11 19 24.2	0.0
ATAB	Bozova	0.29	249	*i* P		Pg	11 19 22.2	-0.4
ATAB				*i* S		Sg	11 19 26.4	-0.4
MYA	Malataya	0.77	347	*e*PG		Pg	11 19 31.0	-0.4
MYA				*e*SG		Sg	11 19 41.9	+0.4
GZT	Gaziantep	0.88	256	*i* P		Pb	11 19 33.4	-0.1
GZT				*i* S		Sb	11 19 46.6	+1.5
SVRC	Sivrice-ELAZID	0.96	33	*e*PG		Pg	11 19 36.0	+1.1
GAZ	Gaziantep	1.21	251	*e*PN		Pn	11 19 38.8	0.0
KMRS	Kahramanmaras	1.39	268	*e*PN		Pn	11 19

WRA				PcP	PcP	11 59 25.9	+0.7
	0.3nm,0.4s,baz=68,slow=2.9,SNR=5.7						
ASAR	**Alice Springs**	**26.83**	**229**	P	**P**	**11 56 09.8**	**-0.4**
	0.8nm,0.5s,mb3.5,baz=57,slow=10.0,SNR=49						
ASAR				PcP	PcP	11 59 31.4	+1.0
	0.6nm,0.6s,baz=67,slow=2.5,SNR=8.7						
FITZ	**Fitzroy Crossi**	**31.45**	**247**	*e*P	**P**	**11 56 50.6**	**-0.5**
	5.7nm,0.5s,mb4.6						
FITZ	**Fitzroy Crossi**	**31.45**	**247**	P	**P**	**11 56 50.7**	**-0.4**
	2.9nm,0.5s,mb4.2,baz=72,slow=9.6,SNR=19						
SONM	**Songino Array**	**69.80**	**327**	P	**P**	**12 01 39.5**	**+1.1**
	1.2nm,0.6s,mb3.9,baz=138,slow=7.2,SNR=12						
ZALV	**Zalesovo Beam**	**84.66**	**326**	P	**P**	**12 03 00.9**	**-0.4**
	0.6nm,0.4s,mb3.8,baz=114,slow=3.6,SNR=3.0						
MAW	**Mawson**	**84.74**	**203**	P	**P**	**12 03 02.1**	**+0.6**
	0.4nm,0.5s,mb3.6,baz=97,slow=8.1,SNR=3.8						
TORD	**Torodi Ar. Bea**	**153.86**	**286**	PKPbc	PKPbc	12 10 27.1	-0.4
	0.4nm,0.5s,baz=53,slow=2.2,SNR=5.1						
TORD				PKPab	PKPab	12 10 40.8	-0.1
	0.3nm,0.5s,baz=78,slow=3.6,SNR=3.7						

NOU ***14*** *12:28:13.7±1.7, 1971S×16867E, h10km, MD3.2, ML3.9, MS2.2*
IDC ***14*** *12:28:17.6±0.7, 2120S×16930E, h0km, mb4.6/14, mb1 4.7/16, mb1mx4.7/19, mbtmp4.6/16, ML3.2/2, MS3.9/6, Ms1 3.9/6, ms1mx3.4/28, Error ellipse: s-maj=24.6km s-min=16.0km az=150.0*
BJI ***14*** *12:28:17.9, 2160S×17027E, h44km, mB5.1, mb4.8, Ms4.9, Msz4.4*
ISCJB ***14*** *12:28:22.5±0.2, 2125S±006×16929E±004, h43km, mb4.7/33, MS4.2/9, Error ellipse: s-maj=9.7km s-min=3.5km az=153.6*
NEIC ***14*** *12:28:23.8±2.4, 2118S×16931E, h44km±22km, mb4.8/15, Error ellipse: s-maj=11.0km s-min=7.9km az=164.0*
ISC 14 12:28:23.1±0.2, 2123S±006×16933E±004, h35km, h38km±4.3km:pP-P, n187, σ0s71/159, mb4.7/33, MS4.2/9, 53C-43D, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
PLUM	**Mont Dore**	**2.71**	**247**	*e*P		**Pn**	**12 29 00.8**	**-3.3**
PLUM				*e*S		**Sn**	**12 29 36.8**	**+1.1**
NORM	**Noumea**	**2.83**	**249**	*e*P		**Pn**	**12 29 02.5**	**-3.3**
NORM				*e*S		**Sn**	**12 29 39.5**	**+0.9**
NORM				AMP			12 29 41.3	
	comp=Z,688nm,0.5s							
ONTRN	**Noumea**	**2.88**	**248**	*e*P		**Pn**	**12 29 04.1**	**-2.4**
ONTRN				AMP			12 29 08.1	
	comp=Z,874nm,0.0s							
ONTRN				*e*S		**Sn**	**12 29 41.1**	**+1.2**
NOUC	**Port Laguerre**	**2.95**	**252**	*e*P		**Pn**	**12 29 04.1**	**-3.3**
NOUC				*e*S		**Sn**	**12 29 39.5**	**-2.1**
NOUC				AMP			12 30 02.8	
	comp=Z,220nm,19.1s							
URZ	**Urewera**	**18.25**	**160**	P		**Pn**	**12 32 33.2**	**-0.3**
	comp=Z,0.3nm,0.3s,baz=180,slow=11,SNR=2.7							
ARMA	**Armidale**	**18.36**	**237**	*e*P		**Pn**	**12 32 36.8**	**+1.9**
AFI	**Afiamalu**	**19.42**	**71**	P		**Pn**	**12 32 45.9**	**-1.9**
	comp=Z,1.0nm,0.3s,baz=112,slow=23,SNR=4.3							
AFI				LR		LR	12 38 53.0	
	comp=Z,227nm,19.4s,baz=124,slow=33							
AFI	**Afiamalu**	**19.42**	**71**	*e*P		**Pn**	**12 32 45.5**	**-2.3**
CTA	**Charters Tower**	**21.62**	**269**	*e*P		**P**	**12 33 10.9**	**+0.6**
	comp=Z,22nm,0.8s,mb4.6							
CTA	**Charters Tower**	**21.62**	**269**	P		**P**	**12 33 10.4**	**+0.1**
	comp=Z,26nm,0.8s,mb4.7,baz=93,slow=12,SNR=16							
CTA				LR		LR	12 40 00.7	
	comp=Z,164nm,21.3s,MS3.4,baz=92,slow=33							
CTAO	**Charters Tower**	**21.62**	**269**	*e*P		**P**	**12 33 10.0**	**-0.4**
	comp=Z,27nm,0.8s,mb4.7							
CNB	**Canberra Magne**	**22.44**	**227**	*e*P		**P**	**12 33 20.3**	**+1.4**
CAN	**Canberra**	**22.69**	**227**	*e*P		**P**	**12 33 23.0**	**+1.4**
PMG	**Port Moresby**	**24.36**	**295**	*e*P		**P**	**12 33 37.1**	**-0.9**
	comp=Z,11nm,0.7s,mb4.4							
TOO	**Toolangi**	**26.28**	**226**	*e*P		**P**	**12 33 56.1**	**+0.9**
STKA	**Stephens Creek**	**26.91**	**241**	*e*P		**P**	**12 34 01.3**	**+0.3**
	comp=Z,14nm,0.8s,mb4.5							
STKA	**Stephens Creek**	**26.91**	**241**	P		**P**	**12 34 01.4**	**+0.5**
	comp=Z,18nm,0.8s,mb4.7,baz=77,slow=8.8,SNR=38							
WRA	**Warramunga Arr**	**32.74**	**266**	P		**P**	**12 34 50.9**	**-1.9**
	comp=Z,6.9nm,0.9s,mb4.6,baz=94,slow=9.2,SNR=7.3							
ASAR	**Alice Springs**	**32.78**	**259**	P		**P**	**12 34 52.0**	**-1.2**
	comp=Z,16nm,0.7s,mb5.0,baz=82,slow=9.2,SNR=19							
PPT	**Papeete**	**38.86**	**92**	*e*S		**S**	**12 41 51.3**	**+10**
	comp=Z,54nm,24.5s							
PPT				*e*LR		LR	12 46 30.9	
	comp=Z,78nm,24.5s							
FITZ	**Fitzroy Crossi**	**41.17**	**266**	*e*P		**P**	**12 36 04.1**	**-0.3**
	comp=Z,44nm,0.7s,mb5.2							
FITZ	**Fitzroy Crossi**	**41.17**	**266**	P		**P**	**12 36 04.0**	**-0.5**
	comp=Z,29nm,0.8s,mb5.0,baz=114,slow=9.3,SNR=7.0							
FITZ				LR		LR	12 53 27.2	
	comp=Z,222nm,18.6s,MS4.1,baz=99,slow=37							
BATI	**Baumata**	**45.16**	**277**	LR		LR	12 55 01.4	
	comp=Z,241nm,18.6s,MS4.2,baz=122,slow=36							
MBWA	**Marble Bar**	**46.09**	**261**	*e*P		**P**	**12 36 42.5**	**-1.5**
	comp=Z,27nm,0.8s,mb5.2							
KLBR	**Kellerberrin**	**46.96**	**246**	*e*P		**P**	**12 36 49.3**	**-1.5**
	comp=Z,15nm,0.5s,mb5.2							
NWAO	**Narrogin (SRO)**	**47.41**	**244**	P		**P**	**12 36 53.1**	**-1.1**
	comp=Z,21nm,0.8s,mb5.1,baz=94,slow=5.4,SNR=9.8							
NWAO				LR		LR	12 58 19.8	
	comp=Z,223nm,18.1s,MS4.2,baz=285,slow=38							
SBA	**Scott Base**	**56.68**	**181**	*e*P		**P**	**12 38 03.5**	**+0.9**
	comp=Z,4.8nm,0.8s,mb4.6							
CASY	**Casey**	**58.34**	**204**	*e*P		**P**	**12 38 13.4**	**-0.9**
	comp=Z,6.9nm,1.1s,mb4.6							
MJAR	**Matsushiro Arr**	**64.55**	**333**	P		**P**	**12 38 55.5**	**-1.0**
	comp=Z,1.1nm,0.5s,mb4.1,baz=162,slow=7.6,SNR=7.5							
PETK	**Petropavlovsk-**	**74.71**	**353**	P		**P**	**12 39 59.2**	**+0.4**
	comp=Z,4.8nm,1.0s,mb4.4,baz=134,slow=7.6,SNR=5.9							
PETK	**Petropavlovsk-**	**74.71**	**353**	P		**P**	**12 39 59.2**	**+0.4**
MDJ	**Mudanjiang**	**74.91**	**332**	P		**P**	**12 40 00.4**	**+0.2**
MDJ				AMB		AMB		
	comp=Z,9.0nm,2.1s,mb4.3							
MDJ				AMB		AMB		
	comp=Z,225nm,4.3s							
MAW	**Mawson**	**76.63**	**202**	P		**P**	**12 40 09.8**	**-0.1**
	comp=Z,2.0nm,0.7s,mb4.1,baz=130,slow=9.2,SNR=6.5							
GYA	**Guiyang**	**77.03**	**305**	*e*P		**P**	**12 40 13.6**	**+0.9**
GYA				AP		pP	12 40 27.9	+4.2
GYA				XP		sP	12 40 31.6	+3.9
GYA				PP		PP	12 43 10.3	+3.6
GYA				S		S	12 49 59.5	+0.4
GYA				SKS			12 50 18.4	
GYA				AMB		AMB		
	comp=Z,10.0nm,1.0s,mb4.7							
GYA				AMB		AMB		
	comp=Z,90nm,5.6s							
GYA				LR		LR		
	comp=N,520nm,18.8s,MS5.0							
GYA				LR		LR		
	comp=E,460nm,19.4s,MS5.0							
GYA				LR		LR		
	comp=Z,430nm,18.6s,MS4.8							
KMI	**Kunming**	**79.40**	**302**	P		**P**	**12 40 27.8**	**+1.9**
KMI				AP		pP	12 40 35.3	-1.6
KMI				AMB		AMB		
	comp=Z,14nm,1.0s,mb4.8							
KMI	**Kunming**	**79.40**	**302**	P		**P**	**12 40 27.7**	**+1.8**
KMI				pP		pP	12 40 35.2	-1.7
CMAR	**Chiang Mai Arr**	**79.40**	**295**	P		**P**	**12 40 27.2**	**+1.2**
	comp=Z,5.9nm,0.9s,mb4.5,baz=136,slow=4.3,SNR=26							
XAN	**Xi'an**	**79.52**	**313**	P		**P**	**12 40 26.8**	**+0.5**
XAN				AMB		AMB		
	comp=Z,4.0nm,1.0s,mb4.3							
CHG	**Chiang Mai**	**79.56**	**295**	⇓P		**P**	**12 40 27.9**	**+1.0**
	comp=Z,11nm,0.7s,mb4.9							
CHTO	**Chiang Mai**	**79.56**	**295**	*e*P		**P**	**12 40 26.8**	**-0.1**
	comp=Z,11nm,1.0s,mb4.7							
CD2	**Chengdu**	**81.51**	**308**	*e*P		**P**	**12 40 37.3**	**+0.2**
CD2				AP		pP	12 40 50.5	+2.3
CD2				XP		sP	12 40 55.9	+3.7
CD2				PP		PP	12 43 46.3	+2.3
CD2				S		S	12 50 44.6	-2.0
CD2				XS		sS	12 51 07.0	+2.2
CD2				AMB		AMB		
	comp=Z,20nm,1.4s,mb4.8							
CD2				AMB		AMB		
	comp=Z,50nm,4.2s							
CD2				LR		LR		
	comp=N,210nm,14.6s,MS4.8							
CD2				LR		LR		
	comp=E,230nm,14.8s,MS4.8							
CD2				LR		LR		
	comp=Z,160nm,16.2s,MS4.5							
HHC	**Hu-ho-hao-te**	**81.78**	**320**	*e*P		**P**	**12 40 39.8**	**+1.5**
HHC				AP		pP	12 40 53.9	+4.6
HHC				XP		sP	12 40 58.0	+4.6
HHC				PP		PP	12 43 49.5	+3.5
HHC				S		S	12 50 48.9	0.0
HHC				XS		sS	12 51 11.6	+4.4
HHC				SS		SS	12 56 13.8	+5.8
HHC				AMB		AMB		
	comp=Z,30nm,1.2s,mb5.1							
HHC				AMB		AMB		
	comp=Z,152nm,6.0s							
HHC				LR		LR		
	comp=N,233nm,18.6s,MS4.7							
HHC				LR		LR		
	comp=E,172nm,15.1s,MS4.7							
HHC				LR		LR		
	comp=Z,119nm,18.0s,MS4.3							
LZH	**Lanzhou**	**84.12**	**312**	*e*P		**P**	**12 40 52.0**	**+1.4**
LZH				AP		pP	12 41 05.5	+3.9
LZH				XP		sP	12 41 10.0	+4.4
LZH				AMB		AMB		
	comp=Z,17nm,1.5s,mb5.0							
LZH				AMB		AMB		
	comp=Z,68nm,4.3s							
KCPM	**Cahto Peak**	**87.06**	**45**	*e*P		**P**	**12 41 05.3**	**+0.2**
SNAA	**Sanae**	**87.19**	**182**	*e*P		**P**	**12 41 04.8**	**-0.5**
SNAA				*e*			12 41 07.0	
SNAA				*e*		pP	12 41 15.0	-1.4
SNAA	**Sanae**	**87.19**	**182**	*e*P		**P**	**12 41 04.8**	**-0.5**
	comp=Z,8.9nm,1.1s,mb4.9							
PACP	**Pacheco Peak**	**87.30**	**49**	⇓P		**P**	**12 41 07.0**	**+0.7**
	baz=87							
PKD	**Parkfield**	**87.31**	**50**	⇑P		**P**	**12 41 06.1**	**-0.3**
	baz=88							
U04C	**Hernandez Rese**	**87.34**	**49**	⇑P		**P**	**12 41 07.1**	**+0.6**
	baz=88							
SMMC	**Simmler**	**87.40**	**51**	⇑P		**P**	**12 41 06.5**	**-0.3**
	baz=88							
GASB	**Alder Springs**	**87.62**	**46**	⇓P		**P**	**12 41 07.7**	**-0.1**
	baz=88							
VNA3	**Neumayer Olymp**	**87.77**	**180**	*e*P		**P**	**12 41 07.6**	**-0.5**
VNA3				*e*			12 41 09.5	
VNA3				*e*		pP	12 41 15.9	-3.3
SLKM	**Skilak Lake**	**87.80**	**19**	*e*P		**P**	**12 41 08.1**	**0.0**
VNA2	**Neumayer--Watz**	**88.06**	**181**	*e*P		**P**	**12 41 09.5**	**0.0**
	baz=196,slow=3.7							
VNA2				*e*			12 41 11.6	
VNA2				*e*		pP	12 41 17.7	-2.9
WDC	**Whiskeytown Da**	**88.20**	**45**	⇓P		**P**	**12 41 10.4**	**-0.1**
	baz=88							
OHCM	**Honcut**	**88.29**	**46**	*e*P		**P**	**12 41 10.5**	**-0.5**
VES	**Vestal, Richgr**	**88.30**	**50**	⇓P		**P**	**12 41 10.3**	**-0.8**
	baz=88							
VNA1	**Neumayer--Stat**	**88.35**	**181**	*e*P		**P**	**12 41 11.0**	**+0.2**
VNA1				*e*			12 41 12.7	
VNA1				*e*		pP	12 41 19.0	-3.0
ORV	**Oroville**	**88.39**	**46**	⇓P		**P**	**12 41 11.2**	**-0.2**
	baz=88,SNR=6.9							
M02C	**Callahan**	**88.40**	**44**	⇑P		**P**	**12 41 11.7**	**+0.3**
	baz=89							
T06C	**Millerton Lake**	**88.40**	**49**	⇑P		**P**	**12 41 11.4**	**-0.2**
	baz=89							
CMB	**Columbia Colle**	**88.42**	**48**	⇓P		**P**	**12 41 11.5**	**-0.1**
	baz=89							
CMB	**Columbia Colle**	**88.42**	**48**	*e*P		**P**	**12 41 11.0**	**-0.6**
	comp=Z,7.3nm,1.1s,mb4.8							
ISA	**Isabella**	**88.66**	**51**	⇑P		**P**	**12 41 12.7**	**-0.2**
	baz=89							
ISA	**Isabella**	**88.66**	**51**	*e*P		**P**	**12 41 12.6**	**-0.2**
	comp=Z,11nm,1.3s,mb5.0							
KCC	**Kaiser Creek**	**88.83**	**49**	⇑P		**P**	**12 41 13.0**	**-0.6**
	baz=89							
SONM	**Songino Array**	**88.86**	**323**	P		**P**	**12 41 12.3**	**-1.1**
	comp=Z,0.7nm,0.6s,mb4.2,baz=136,slow=5.1,SNR=4.6							
MONP	**Monument Peak**	**88.94**	**54**	⇓P		**P**	**12 41 14.0**	**-0.2**
	baz=89							
HUMO	**Hull Mountain**	**88.95**	**43**	⇓P		**P**	**12 41 14.2**	**+0.2**
	baz=89							
O05C	**Quincy**	**88.98**	**46**	⇓P		**P**	**12 41 13.8**	**-0.5**
	baz=89							
R06C	**Coleville**	**89.30**	**48**	⇑P		**P**	**12 41 15.1**	**-0.6**
	baz=89							
BEKR	**Beckwourth**	**89.31**	**46**	⇓P		**P**	**12 41 15.5**	**-0.2**
	baz=90,SNR=5.8							
MTUM	**Tungsten Hills**	**89.37**	**49**	*e*P		**P**	**12 41 16.2**	**+0.1**
SWSC	**Sam W. Stewart**	**89.43**	**54**	⇓P		**P**	**12 41 15.9**	**-0.6**
	baz=90							
P06A	**Stead Airport,**	**89.53**	**47**	⇑P		**P**	**12 41 16.9**	**+0.1**
	baz=90							
MPMC	**Manual Prospec**	**89.56**	**51**	⇑P		**P**	**12 41 16.9**	**-0.1**
	baz=90							
BELC	**Belle Mtn.**	**89.74**	**53**	⇑P		**P**	**12 41 17.9**	**0.0**
	baz=90							
HEC	**Hector,Ludlow**	**89.86**	**52**	⇓P		**P**	**12 41 18.3**	**-0.1**
	baz=90							
L05A	**Lakeview**	**90.04**	**44**	⇓P		**P**	**12 41 19.5**	**+0.4**
	baz=90							
NVAR	**Mina Array Bea**	**90.05**	**48**	P		**P**	**12 41 19.4**	**+0.2**
	comp=Z,8.8nm,0.7s,mb4.7,baz=226,slow=8.3,SNR=28							
GRAC	**Grapevine Rang**	**90.06**	**50**	⇑P		**P**	**12 41 19.7**	**+0.3**
	baz=90,SNR=6.1							
N06A	**Buffalo Meadow**	**90.08**	**46**	⇓P		**P**	**12 41 19.4**	**+0.1**
	baz=90,SNR=6.6							
R08A	**Mina**	**90.15**	**49**	⇑P		**P**	**12 41 19.7**	**0.0**
	baz=90,SNR=5.1							
FURC	**Furnace Creek,**	**90.19**	**51**	⇑P		**P**	**12 41 20.0**	**0.0**
	baz=90,SNR=5.9							
GLA	**Glamis**	**90.22**	**55**	⇑P		**P**	**12 41 19.9**	**-0.3**
	baz=90							
GLA	**Glamis**	**90.22**	**55**	*e*P		**P**	**12 41 19.7**	**-0.4**
	comp=Z,13nm,1.1s,mb5.2							
J05A	**Fort Rock**	**90.38**	**43**	⇑P		**P**	**12 41 21.0**	**+0.3**
	baz=90							
IRM	**Iron Mountain**	**90.45**	**53**	⇓P		**P**	**12 41 20.7**	**-0.5**
	baz=91							
O07A	**Toulon**	**90.45**	**47**	⇓P		**P**	**12 41 21.3**	**+0.2**
	baz=91,SNR=7.2							
S09A	**Gofield**	**90.49**	**49**	⇑P		**P**	**12 41 21.0**	**-0.4**
	baz=91							
Q08A	**Gabbs**	**90.50**	**48**	⇑P		**P**	**12 41 21.3**	**-0.1**
	baz=91,SNR=5.8							
U10A	**Ash Meadows, A**	**90.56**	**51**	⇑P		**P**	**12 41 21.6**	**-0.1**
	baz=91,SNR=6.1							
N07B	**Gerlach**	**90.67**	**46**	⇓P		**P**	**12 41 22.3**	**+0.2**
	baz=91							
R09A	**Tonopah**	**90.83**	**49**	⇑P		**P**	**12 41 23.2**	**+0.3**
	baz=91							
TPNV	**Topopah Spring**	**90.84**	**51**	⇑P		**P**	**12 41 23.1**	**0.0**
	baz=91,SNR=8.3							
TPNV	**Topopah Spring**	**90.84**	**51**	*e*P		**P**	**12 41 22.9**	**-0.1**
	comp=Z,5.0nm,0.8s,mb4.9							
O08A	**Rochester Mine**	**91.00**	**47**	⇑P		**P**	**12 41 23.8**	**+0.1**
	baz=91,SNR=6.1							
S10A	**Tonopah Range,**	**91.03**	**50**	⇑P		**P**	**12 41 23.9**	**+0.1**
	baz=91,SNR=12							
N08A	**GE Springer Mi**	**91.24**	**46**	⇑P		**P**	**12 41 25.2**	**+0.4**
	baz=91							
PDMCI	**Parker Dam,Lak**	**91.26**	**54**	⇑P		**P**	**12 41 25.2**	**+0.1**
	baz=91							
Y13A	**Salome**	**91.29**	**54**	⇑P		**P**	**12 41 25.5**	**+0.4**
	baz=91,SNR=6.7							
V12A	**Nelson**	**91.34**	**52**	⇓P		**P**	**12 41 25.1**	**-0.2**
	baz=92							
I06A	**Prineville**	**91.35**	**43**	⇓P		**P**	**12 41 25.3**	**+0.1**
	baz=92							
K07A	**Rock Creek Ran**	**91.38**	**44**	⇑P		**P**	**12 41 25.6**	**+0.3**
	baz=92							
B04A	**Port Angeles**	**91.38**	**38**	⇓P		**P**	**12 41 25.8**	**+0.6**
	baz=92							
R10A	**Warm Springs**	**91.39**	**49**	⇓P		**P**	**12 41 26.1**	**+0.6**
	baz=92,SNR=8.2							
F05A	**White Salmon**	**91.51**	**41**	⇑P		**P**	**12 41 26.2**	**+0.3**
	baz=92							
S11A	**Rachel**	**91.51**	**50**	⇑P		**P**	**12 41 26.0**	**-0.1**
	baz=92							
C04A	**Brinnon**	**91.52**	**39**	⇓P		**P**	**12 41 26.5**	**+0.6**
	baz=92							
X13A	**Yucca**	**91.62**	**53**	⇓P		**P**	**12 41 26.6**	**-0.1**
	baz=92,SNR=8.1							
E05A	**Randle**	**91.66**	**40**	⇓P		**P**	**12 41 25.9**	**-0.6**
	baz=92							
J07A	**Hines**	**91.66**	**44**	⇓P		**P**	**12 41 26.6**	**0.0**
	baz=92							
N09A	**Rock Creek Ran**	**91.68**	**47**	⇑P		**P**	**12 41 26.2**	**-0.6**
	baz=92							
T11A	**Corn Creek, Al**	**91.71**	**51**	⇑P		**P**	**12 41 26.9**	**-0.1**
	baz=92,SNR=8.9							
L08A	**Fields**	**91.74**	**45**	⇑P		**P**	**12 41 27.0**	**0.0**
	baz=92							
W13A	**Hualapai Mount**	**91.79**	**53**	⇓P		**P**	**12 41 27.1**	**-0.3**
	baz=92							
U12A	**Valley of Fire**	**91.86**	**52**	⇓P		**P**	**12 41 27.7**	**0.0**
	baz=92							
K08A	**Mann Creek Ran**	**91.89**	**45**	⇑P		**P**	**12 41 27.5**	**-0.2**
	baz=92							
V13A	**Grand Canyon W**	**92.03**	**52**	⇑P		**P**	**12 41 28.2**	**-0.3**
	baz=92,SNR=6.1							
H07A	**Lands Inn, Kim**	**92.06**	**43**	⇓P		**P**	**12 41 28.3**	**-0.2**
	baz=92							
Q11A	**Duckwater**	**92.09**	**49**	⇓P		**P**	**12 41 28.4**	**-0.3**
	baz=92							
S12A	**Delamar Landin**	**92.14**	**50**	⇓P		**P**	**12 41 29.3**	**+0.3**
	baz=92,SNR=5.6							
A04A	**Legoe Bay, Lum**	**92.17**	**38**	⇑P		**P**	**12 41 29.1**	**+0.3**
	baz=92							
J08A	**Circle Bar Ran**	**92.19**	**44**	⇑P		**P**	**12 41 29.1**	**0.0**
	baz=92							
X14A	**Yava**	**92.27**	**54**	⇓P		**P**	**12 41 30.0**	**+0.3**
	baz=92,SNR=8.4							
W14A	**Seligman**	**92.43**	**53**	⇑P		**P**	**12 41 30.7**	**+0.3**
	baz=93,SNR=6.3							
Y15A	**Casa Rosa Ranc**	**92.49**	**55**	⇓P		**P**	**12 41 31.0**	**+0.3**
	baz=93,SNR=10							
T13A	**Saint George**	**92.57**	**51**	⇓P		**P**	**12 41 31.3**	**+0.3**
	baz=93,SNR=5.7							
V14A	**Boquillas Ranc**	**92.59**	**53**	⇑P		**P**	**12 41 31.5**	**+0.3**
	baz=93,SNR=7.1							
X15A	**Humboldt**	**92.77**	**54**	⇑P		**P**	**12 41 32.2**	**+0.2**
	baz=93,SNR=9.5							
217A	**Green Valley**	**92.79**	**57**	⇓P		**P**	**12 41 32.3**	**+0.1**
	baz=93							
U14A	**Mt Trumbull**	**92.85**	**52**	⇓P		**P**	**12 41 32.9**	**+0.6**
	baz=93,SNR=8.9							
Z16A	**Peralta Trail,**	**92.93**	**55**	⇓P		**P**	**12 41 32.7**	**-0.1**
	baz=93							
Y16A	**Circle Bar Ran**	**93.11**	**55**	⇑P		**P**	**12 41 33.2**	**-0.4**
	baz=93,SNR=8.8							
117A	**Oracle**	**93.16**	**56**	⇓P		**P**	**12 41 33.8**	**0.0**
	baz=93,SNR=5.1							
X16A	**Lo Mia Camp, P**	**93.35**	**54**	⇑P		**P**	**12 41 34.9**	**+0.2**
	baz=94,SNR=6.9							
N12A	**Clover Valley,**	**93.38**	**47**	⇓P		**P**	**12 41 34.8**	**+0.2**
	baz=94							
P13A	**Bates Ranch, G**	**93.50**	**49**	⇑P		**P**	**12 41 35.4**	**+0.1**
	baz=94							
U15A	**North Rim**	**93.51**	**52**	⇑P		**P**	**12 41 36.2**	**+0.9**
	baz=94,SNR=8.6							
118A	**Homack Ranch,**	**93.79**	**57**	⇑P		**P**	**12 41 36.7**	**-0.1**
	baz=94							
X17A	**Forest Lakes**	**93.80**	**55**	⇓P		**P**	**12 41 37.3**	**+0.6**
	baz=94,SNR=6.4							
WUAZ	**Wupatki**	**93.83**	**53**	⇑P		**P**	**12 41 37.2**	**+0.3**
	baz=94							
Q14A	**Sevier Lake (B**	**93.83**	**50**	⇑P		**P**	**12 41 36.8**	**0.0**
	baz=94							
Y18A	**Canyon Day Jun**	**94.17**	**55**	⇓P		**P**	**12 41 38.3**	**-0.2**
	baz=94							
U16A	**Tuba City**	**94.26**	**53**	⇑P		**P**	**12 41 38.9**	**0.0**
	baz=94							
H11A	**Donnelly**	**94.38**	**44**	⇑P		**P**	**12 41 39.1**	**-0.1**
	baz=94							
G11A	**Walters Elk Ra**	**94.52**	**43**	⇑P		**P**	**12 41 39.6**	**-0.1**
	baz=95							
G12A	**Big Creek, Yel**	**95.00**	**43**	⇑P		**P**	**12 41 42.1**	**+0.1**
	baz=95							
J13A	**Cove Ranch, Pi**	**95.03**	**45**	⇑P		**P**	**12 41 41.8**	**-0.4**
	baz=95							
H12A	**Diamond D Ranc**	**95.06**	**44**	⇑P		**P**	**12 41 42.0**	**-0.3**
	baz=95							
T18A	**Mexican Hat**	**95.58**	**52**	⇑P		**P**	**12 41 44.7**	**-0.1**
	baz=96							
O17A	**Robinson Place**	**96.11**	**49**	⇓P		**P**	**12 41 47.6**	**+0.4**
	baz=96							
Q18A	**Rafter H Ranch**	**96.13**	**51**	⇓P		**P**	**12 41 47.0**	**-0.3**
	baz=96							
TXAR	**Lajitas Array**	**97.64**	**62**	P		**P**	**12 41 53.9**	**-0.5**
	comp=Z,0.2nm,0.7s,mb3.8,baz=242,slow=3.9,SNR=3.1							
PDAR	**Pinedale Array**	**97.90**	**47**	P		**P**	**12 41 57.2**	**+2.1**
	comp=Z,0.3nm,0.5s,mb4.0,baz=194,slow=3.0,SNR=3.8							
PDAR				LR		LR	13 21 52.4	
	comp=Z,31nm,18.6s,MS3.8,baz=259,slow=33							
WMQ	**Urumqi**	**98.64**	**314**	P		**P**	**12 41 58.3**	**-0.2**
WMQ				AP		pP	12 42

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BBSI	**Bau Bau**	**2.92**	**301**	P	**Pn**	**12 30 34.5**	**+0.8**
BATI	**Baumata**	**3.47**	**204**	Pn	**Pn**	**12 30 46.3**	**+5.1**
	7.5nm,0.3s,baz=260,slow=6.1,SNR=11						
BATI				LR	LR	12 31 55.3	
	comp=Z,272nm,19.7s,baz=27,slow=34						
KDI	**Kendari**	**3.91**	**321**	P	**Pn**	**12 30 46.6**	**-0.6**
KAPI	**Kappang**	**5.67**	**290**	P	**Pn**	**12 31 09.4**	**-2.0**
LBMI	**Labuha**	**6.78**	**21**	P	**Pn**	**12 31 28.2**	**+1.5**
	114nm,1.0s,716nm0.3nm						
SWI	**Sorong**	**8.68**	**45**	P	**Pn**	**12 31 53.2**	**+0.5**
	118nm,0.8s,849nm0.4nm						
KAKA	**Kakadu**	**9.19**	**129**	*e*P	**Pn**	**12 32 00.4**	**+0.6**
	20nm,0.7s						
FITZ	**Fitzroy Crossi**	**11.03**	**177**	*e*P	**Pn**	**12 32 26.0**	**+1.0**
	11nm,0.6s						
FITZ				*e*S	**Sn**	**12 34 29.1**	**+2.0**
FITZ	**Fitzroy Crossi**	**11.03**	**177**	Pn	**Pn**	**12 32 24.7**	**-0.3**
	0.7nm,0.3s,baz=11,slow=12,SNR=25						
FITZ				Sn	**Sn**	**12 34 27.7**	**+0.5**
	1.2nm,0.3s,baz=124,slow=13,SNR=6.1						
FITZ				LR	LR	12 37 28.9	
	comp=Z,86nm,18.1s,baz=191,slow=41						
FITZ	**Fitzroy Crossi**	**11.03**	**177**	P	**Pn**	**12 32 28.7**	**+3.7**
	18nm,0.8s						
WRAB	**Tennant Creek**	**15.68**	**146**	P	**Pn**	**12 33 26.4**	**-1.4**
	42nm,0.9s						
WRAB	**Tennant Creek**	**15.68**	**146**	*e*Pn	**Pn**	**12 33 26.7**	**-1.1**
	34nm,0.9s						
WRA	**Warramunga Arr**	**15.68**	**146**	Pn	**Pn**	**12 33 26.3**	**-1.5**
	1.4nm,0.3s,baz=321,slow=13,SNR=92						
WRA				Sn	**Sn**	**12 36 19.6**	**-0.9**
	0.4nm,0.3s,baz=312,slow=21,SNR=3.8						
WRA	**Warramunga Arr**	**15.68**	**146**	Pn	**Pn**	**12 33 26.3**	**-1.5**
WRA				Sn	**Sn**	**12 36 19.6**	**-0.9**
WB2	**Warramunga Arr**	**15.68**	**146**	*e*Pn	**Pn**	**12 33 26.7**	**-1.2**
ASAR	**Alice Springs**	**18.60**	**154**	P	**Pn**	**12 34 05.0**	**+0.8**
	1.1nm,0.3s,baz=324,slow=10,SNR=103						
FORT	**Forrest**	**23.80**	**174**	*e*P	**P**	**12 35 01.2**	**+2.3**
	24nm,0.6s,mb4.8						
FORT				*e*		12 35 10.7	
NWAO	**Narrogin (SRO)**	**26.80**	**195**	P	**P**	**12 35 30.2**	**+4.2**
	9.8nm,0.9s,mb4.3,baz=32,slow=9.5,SNR=3.6						
CMAR	**Chiang Mai Arr**	**36.14**	**315**	P	**P**	**12 36 49.3**	**+1.0**
	1.8nm,0.7s,mb4.1,baz=142,slow=6.7,SNR=13						
MJAR	**Matsushiro Arr**	**45.04**	**15**	P	**P**	**12 37 59.4**	**-2.2**
	2.2nm,1.1s,mb3.9,baz=176,slow=9.6,SNR=4.2						
SONM	**Songino Array**	**57.05**	**345**	P	**P**	**12 39 31.5**	**-0.2**
	1.5nm,1.2s,mb3.9,baz=170,slow=9.0,SNR=5.2						
PETK	**Petropavlovsk-**	**65.97**	**21**	P	**P**	**12 40 33.1**	**+1.4**
	4.4nm,1.0s,mb4.5,baz=208,slow=5.0,SNR=5.2						
ZALV	**Zalesovo Beam**	**69.52**	**336**	P	**P**	**12 40 52.9**	**-1.2**
	0.8nm,0.6s,mb3.9,baz=134,slow=4.3,SNR=4.4						
ZALV	**Zalesovo Beam**	**69.52**	**336**	P	**P**	**12 40 52.9**	**-1.2**

*IDC **14** 12:33:42.3±2.0,2092S×16906E,h0km,mb4.1/7, mb1 4.3/7,mb1mx4.1/16,mbtmp4.1/7, Error ellipse: s-maj=86.4km s-min=28.3km az=157.0*
*ISCJB **14** 12:33:45.9±1.6,207S±0.3×169.0E±0.3,h33km,mb4.0/7, Error ellipse: s-maj=56.5km s-min=12.9km az=144.3*
*NEIC **14** 12:33:53.6±7.5,2088S×16842E,h49km±40km,mb4.6/1, Error ellipse: s-maj=77.5km s-min=57.9km az=75.0*

ISC 14 12:33:47.7±1.6,208S±03×1690E±02,h35km,n10, σ1s12/11,mb4.0/7,Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**2.72**	**242**	*e*Pn	**Pn**	**12 34 27.8**	**-1.0**
DZM				*e*Sn	**Sn**	**12 35 01.8**	**+1.3**
CTA	**Charters Tower**	**21.34**	**268**	P	**P**	**12 38 30.3**	**-1.6**
	7.3nm,1.0s,mb4.0,baz=77,slow=14,SNR=3.4						
CTAO	**Charters Tower**	**21.34**	**268**	P	**P**	**12 38 30.5**	**-1.4**
STKA	**Stephens Creek**	**26.87**	**240**	P	**P**	**12 39 24.4**	**-0.8**
	3.1nm,0.7s,mb3.9,baz=75,slow=12,SNR=4.2						
WRA	**Warramunga Arr**	**32.49**	**265**	P	**P**	**12 40 13.8**	**-1.4**
	1.3nm,0.8s,mb3.6,baz=97,slow=8.1,SNR=6.3						
ASAR	**Alice Springs**	**32.58**	**258**	P	**P**	**12 40 16.5**	**+0.6**
	3.2nm,0.7s,mb4.3,baz=85,slow=8.7,SNR=12						
FITZ	**Fitzroy Crossi**	**40.91**	**266**	*e*P	**P**	**12 41 28.5**	**+1.7**
	8.0nm,0.7s,mb4.5						
FITZ	**Fitzroy Crossi**	**40.91**	**266**	P	**P**	**12 41 27.2**	**+0.3**
	4.8nm,0.7s,mb4.2,baz=98,slow=11,SNR=12						
CMAR	**Chiang Mai Arr**	**78.95**	**295**	P	**P**	**12 45 49.6**	**+1.4**
	0.2nm,0.3s,mb3.5,baz=142,slow=4.7,SNR=5.0						
NVAR	**Mina Array Bea**	**89.98**	**49**	P	**P**	**12 46 43.9**	**+0.4**
	0.9nm,0.8s,mb4.2,baz=226,slow=9.1,SNR=7.6						

*IDC **14** 12:43:29.8±7.2,906S×112.45E,h0km,mb3.3/3,mb1 3.6/4, mb1mx3.4/15,mbtmp3.4/4,ML3.3/1, Error ellipse: s-maj=115.7km s-min=103.0km az=174.0*
*ISCJB **14** 12:43:32.4±0.6,953S±006×11200E±007,h33km,mb3.3/4, Error ellipse: s-maj=10.9km s-min=6.7km az=145.1*
*DJA **14** 12:43:35,932S×11199E,h30km,MLv4.0/4*
*NEIC **14** 12:43:35.8±1.3,1000S×11193E,h35km,mb3.3/1, Error ellipse: s-maj=38.2km s-min=11.4km az=193.0*

ISC 14 12:43:33.9±0.6,948S±006×11203E±007,h35km,n13, σ0s56/14,mb3.3/4,South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRKI	**Karangkates**	**1.38**	**18**	P	**Pn**	**12 43 56.3**	**-0.3**
KRKI	**Karangkates**	**1.38**	**18**	S	**Sn**	**12 44 13.6**	**0.0**
SJI	**Sawahan**	**1.75**	**351**	P	**Pn**	**12 44 01.3**	**-0.5**
UGM	**Wanagama**	**2.16**	**316**	P	**Pn**	**12 44 08.0**	**+0.6**
UGM	**Wanagama**	**2.16**	**316**	S	**Sn**	**12 44 33.0**	**+0.1**
XMIS	**Christmas Isla**	**6.37**	**260**	*e*Pn	**Pn**	**12 45 04.8**	**-0.5**
MBWA	**Marble Bar**	**13.78**	**148**	*e*Pn	**Pn**	**12 46 43.0**	**-3.8**
FITZ	**Fitzroy Crossi**	**15.74**	**124**	Pn	**Pn**	**12 47 12.5**	**-0.5**
	0.1nm,0.3s,baz=300,slow=14,SNR=4.4						
FITZ				Sn	**Sn**	**12 49 54.6**	**-12**
	0.1nm,0.3s,baz=30,slow=20,SNR=2.9						
WRA	**Warramunga Arr**	**23.92**	**118**	P	**P**	**12 48 44.4**	**-0.4**
	0.8nm,0.6s,mb3.4,baz=294,slow=12,SNR=14						
WRAB	**Tennant Creek**	**23.93**	**118**	P	**P**	**12 48 45.3**	**+0.4**
	0.6nm,0.6s,mb3.2						
WB2	**Warramunga Arr**	**23.93**	**118**	*e*P	**P**	**12 48 45.3**	**+0.5**
ASAR	**Alice Springs**	**25.21**	**127**	P	**P**	**12 48 56.6**	**+0.1**
	0.2nm,0.4s,mb3.0,baz=300,slow=9.0,SNR=11						
STKA	**Stephens Creek**	**35.31**	**133**	P	**P**	**12 50 26.6**	**+0.8**
	0.6nm,0.7s,mb3.6,baz=305,slow=12,SNR=3.3						

*NNC **14** 12:51:22.4±5.3,3705N×7108E,h235km±67km,mb2.6, mpv3.8, Error ellipse: s-maj=52.2km s-min=32.8km az=24.0*

ISC 14 12:51:20.7±2.6,370N±02×711E±02,h248km±38km,n9, σ0s46/12,1C-3D,Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**5.55**	**21**	P	**Pn**	**12 52 42.9**	**-0.1**
	SNR=81						
UCH	**Uchtor**	**5.90**	**26**	P	**Pn**	**12 52 47.2**	**-0.2**
	SNR=18						
EKS2	**Erkin-Say**	**6.06**	**19**	P	**Pn**	**12 52 49.5**	**+0.1**
	SNR=7.2						
KK31	**Karatay Array**	**6.14**	**356**	P	**Pn**	**12 52 50.8**	**+0.4**
	2.9nm,0.3s,baz=179,slow=13,SNR=130						
KK31				⇑S	**S**	**12 54 02.2**	**-0.1**
	2.4nm,0.5s,baz=181,slow=22,SNR=4.5						
AAK	**Ala-Archa**	**6.25**	**24**	P	**Pn**	**12 52 52.0**	**+0.2**
	SNR=9.2						
KBK	**Karagaybulak**	**6.43**	**27**	P	**Pn**	**12 52 53.2**	**-0.7**
	SNR=5.8						
TKM2	**Tokmak 2**	**6.90**	**29**	⇓P	**Pn**	**12 52 59.8**	**-0.1**
	5.6nm,0.7s						
TKM2				⇓S	**S**	**12 54 19.9**	**+0.4**
	2.1nm,0.9s						
TKM2	**Tokmak 2**	**6.90**	**29**	P	**Pn**	**12 52 59.9**	**0.0**
	SNR=13						
AB31	**Akbulak array**	**14.70**	**330**	P	**Pn**	**12 54 40.9**	**+3.8**
	0.8nm,0.6s,baz=140,slow=12,SNR=12						
AB31				⇓S	**S**	**12 57 19.0**	**-0.3**
	0.1nm,0.3s						

MAN 14 13:09:52,956N×12675E,h25km,mb4.5,ML3.4,MS3.3, 1C-2D,Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BUTP	**Butuan**	**1.26**	**242**	*e*P	Pn	13 10 13.8	-0.3
BUTP				*e*S	Sn	13 10 31.3	+1.2
SCPH	**Surigao**	**1.26**	**280**	*e*P	Pn	13 10 12.5	-1.5
SCPH				*e*S	Sn	13 10 27.6	-2.6
BIPH	**Bislig**	**1.42**	**196**	⇓*i*P	Pn	13 10 16.9	+0.6
BIPH				*i* S	Sn	13 10 34.5	+0.3
MSLP	**Maasin**	**1.94**	**287**	*e*P	Pn	13 10 24.4	+0.9
MSLP				*e*S	Sn	13 10 53.4	+6.3
CGP	**Cagayan de Oro**	**2.31**	**242**	⇑*e*P	Pn	13 10 29.4	+0.9
CGP				*i* S	Sn	13 10 59.9	+3.8
PLP	**Palo**	**2.36**	**313**	⇓*e*P	Pn	13 10 29.5	+0.4
PLP				*e*S	Sn	13 10 56.1	-1.2
BUKP	**Musuan**	**2.36**	**225**	*e*P	Pn	13 10 32.5	+3.3
BUKP				*e*S	Sn	13 11 04.6	+7.2
BESP	**Borongan**	**2.40**	**328**	*e*P	Pn	13 10 30.7	+1.0
BESP				*e*S	Sn	13 10 59.8	+1.5
TBP	**Tagbilaran**	**2.85**	**273**	*e*P	Pn	13 10 37.7	+1.8
TBP				*e*S	Sn	13 11 11.4	+2.0
PAGZ	**Pagadian**	**3.74**	**243**	*e*P	Pn	13 10 49.3	+1.2

*NIED **14** 13:19:00,27.40N×140.80E,h480km,Mw4.2 Best double couple: M0 2.64000×10^15 NP1:φs55.00000°,δ70.00000°, λ-22.00000°. NP2:φs153.00000°,δ69.00000°, λ-158.00000°.*
*BJI **14** 13:19:07.7,2661N×14103E,h440km,mB4.8,mb4.6*
*MOS **14** 13:19:15.6±0.9,27.18N×140.21E,h447km,mb4.2/19, Error ellipse: s-maj=13.2km s-min=6.7km az=108.7*
*ISCJB **14** 13:19:16.7±0.4,2721N±004×14020E±004,h454km±3km, mb4.0/37, Error ellipse: s-maj=6.5km s-min=5.0km az=136.3*
*IDC **14** 13:19:16.5±0.5,27.18N×140.16E,h438km±5km,mb3.6/16, mb1 3.8/20,mb1mx3.7/23,mbtmp3.6/20, Error ellipse: s-maj=12.5km s-min=9.1km az=80.0*
*JMA **14** 13:19:17.7±0.3,2742N×14082E,h471km±4km,M4.4*
*NEIC **14** 13:19:18.4±0.8,2721N×140.14E,h460km±8km,mb4.2/9, Error ellipse: s-maj=9.6km s-min=7.3km az=114.0*

ISC 14 13:19:17.8±0.4,2726N±004×14027E±004,h451km±3km, n212,σ0s85/225,mb4.0/37,61C-48D,Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**1.72**	**95**	P	**P**	**13 20 16.5**	**-0.4**
	58nm,0.3s,baz=278,slow=19,SNR=37						
CBIJ				S	**S**	**13 21 01.8**	**-3.1**
	90nm,0.3s,baz=305,slow=22,SNR=20						
CBIJ	**Chichi jima**	**1.72**	**95**	P	**P**	**13 20 17.0**	**+0.1**
CBIJ				S	**S**	**13 21 04.1**	**-0.8**
JHHJ	**Haha-jima-NKT**	**1.82**	**110**	P	**P**	**13 20 18.2**	**+0.7**
JHHJ				S	**S**	**13 21 05.3**	**-0.5**
JHJ2	**Mitsune**	**5.85**	**356**	P	**P**	**13 20 51.3**	**+0.9**
JHJ2				*e*S	**S**	**13 22 05.9**	**-0.3**
JHJ	**Hachijo jima 2**	**5.86**	**356**	P	**P**	**13 20 50.9**	**+0.4**
	75nm,0.3s,baz=94,slow=21,SNR=18						
JHJ				S	**S**	**13 22 03.9**	**-2.5**
	46nm,0.3s,baz=259,slow=22,SNR=5.9						
JWZ	**Kozaga**	**7.38**	**329**	P	**P**	**13 21 09.0**	**+2.5**
BSO1	**Boso 1**	**7.40**	**5**	P	**P**	**13 21 07.6**	**+1.0**
BSO1				*e*S	**S**	**13 22 34.2**	**-1.6**
BSO3	**Boso 3**	**7.52**	**2**	P	**P**	**13 21 08.5**	**+0.6**
BSO3				S	**S**	**13 22 36.8**	**-1.5**
BSO4	**Boso 4**	**7.71**	**0**	*e*S	**S**	**13 22 40.4**	**-1.5**
JIE	**Ise**	**7.74**	**338**	P	**P**	**13 21 12.8**	**+2.5**
JKN2	**Miekihoku**	**7.76**	**335**	P	**P**	**13 21 13.0**	**+2.5**
HMMJ	**Hamamatsu 2**	**7.88**	**345**	P	**P**	**13 21 12.9**	**+1.1**
JOD2	**Odawara 2**	**8.04**	**353**	P	**P**	**13 21 14.4**	**+0.9**
JOD2				*e*S	**S**	**13 22 45.2**	**-3.3**
JRY	**Ryogami san**	**8.81**	**353**	P	**P**	**13 21 22.0**	**+0.2**
JRY				*e*S	**S**	**13 23 03.0**	**-0.7**
MJAR	**Matsushiro Arr**	**9.42**	**350**	P	**P**	**13 21 27.7**	**-0.7**
	5.7nm,0.3s,baz=168,slow=11,SNR=51						
MJAR				S	**S**	**13 23 15.3**	**-0.6**
	0.7nm,0.3s,baz=240,slow=11,SNR=7.3						
MJAR	**Matsushiro Arr**	**9.42**	**350**	P	**P**	**13 21 27.7**	**-0.7**
MJAR				S	**S**	**13 23 15.3**	**-0.6**
MJAR				pmax	pmax		
	comp=Z,6.0nm,0.3s						
MJAR				smax			
	comp=N,1.0nm,0.3s						
MJAR	**Matsushiro Arr**	**9.42**	**350**	P	**P**	**13 21 27.7**	**-0.7**
MJAR				S	**S**	**13 23 15.3**	**-0.6**
MAJO	**Matsushiro**	**9.42**	**350**	*e*P	**P**	**13 21 28.2**	**-0.2**
MAJO				pmax	pmax		
	comp=Z,60nm,0.4s						
MAJO	**Matsushiro**	**9.42**	**350**	*e*P	**P**	**13 21 28.2**	**-0.2**
	comp=Z,60nm,0.4s						
MAT	**Matsushiro**	**9.42**	**350**	P	**P**	**13 21 28.2**	**-0.2**
MAT				*e*S	**S**	**13 23 15.2**	**-0.7**
MAT	**Matsushiro**	**9.42**	**350**	P	**P**	**13 21 28.4**	**0.0**
JHS	**Saijyo**	**9.85**	**323**	P	**P**	**13 21 36.6**	**+3.5**
JOW	**Kunigami**	**10.70**	**270**	P	**P**	**13 21 44.0**	**+1.5**
	comp=Z,26nm,0.3s,baz=109,slow=11,SNR=91						
KSRS	**Korea Array**	**14.55**	**317**	P	**P**	**13 22 23.8**	**-0.2**
	comp=Z,0.3nm,0.3s,baz=131,slow=9.9,SNR=6.4						
ERM	**Erimo**	**14.91**	**8**	*e*P	**P**	**13 22 29.7**	**+2.0**
ASAJ	**Asahikawa**	**16.93**	**6**	P	**P**	**13 22 50.6**	**+1.6**
	comp=Z,3.9nm,0.3s,baz=168,slow=1.8,SNR=22						
ASAJ	**Asahikawa**	**16.93**	**6**	P	**P**	**13 22 50.6**	**+1.6**
ASAJ				pmax	pmax		
	comp=Z,4.0nm,0.3s						
VLA	**Vladivostok**	**17.23**	**339**	⇓*i*P	**P**	**13 22 53.9**	**+1.7**
VLA				*e*S	**S**	**13 25 49.7**	**+0.5**
VLA				pmax	pmax		
	comp=Z,67nm,0.6s						
NJ2	**Nanjing**	**19.20**	**290**	*e*P	**P**	**13 23 11.6**	**-0.2**
NJ2				AMB	AMB		
	comp=Z,20nm,0.7s						
MDJ	**Mudanjiang**	**19.33**	**336**	P	**P**	**13 23 11.4**	**-1.3**
MDJ				XP	sP	13 25 08.6	-3.7
MDJ				S	**S**	**13 26 20.9**	**-3.5**
MDJ				SCS	ScS	13 33 47.5	0.0
MDJ				AMB	AMB		
	comp=Z,8.0nm,2.0s						
MDJ				AMB	AMB		
	comp=Z,87nm,3.9s						
YSS	**Yuzh-Sakhalins**	**19.76**	**5**	*e*P	**P**	**13 23 17.0**	**+0.4**
YSS				pmax	pmax		
	comp=Z,104nm,2.5s						
HABR	**Khabarovsk**	**21.57**	**351**	P	**P**	**13 23 31.8**	**-1.2**
HABR				*e*		13 27 13.9	
HIA	**Hailar**	**27.08**	**330**	*d*P	**P**	**13 24 22.4**	**+0.1**
HHC	**Hu-ho-hao-te**	**27.23**	**307**	*e*P	**P**	**13 24 24.9**	**+1.2**
HHC				XP	sP	13 26 34.6	-0.5
HHC				S	**S**	**13 28 31.6**	**+1.8**
HHC				AMB	AMB		
	comp=Z,20nm,1.0s,mb4.5						
HHC				AMB	AMB		
	comp=Z,117nm,6.7s						
PEA0B	**Petropavlovsk-**	**28.90**	**22**	*e*P	**P**	**13 24 41.1**	**+3.0**
PETK	**Petropavlovsk-**	**28.90**	**22**	P	**P**	**13 24 39.2**	**+1.1**
	comp=Z,2.5nm,0.8s,mb3.7,baz=212,slow=5.6,SNR=11						
PETK	**Petropavlovsk-**	**28.90**	**22**	P	**P**	**13 24 39.2**	**+1.1**
PET	**Petropavlovsk**	**29.15**	**23**	*e*P	**P**	**13 24 42.0**	**+1.6**
CD2	**Chengdu**	**32.02**	**285**	*e*P	**P**	**13 25 05.1**	**-0.5**
CD2				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.3						
SONM	**Songino Array**	**33.42**	**317**	P	**P**	**13 25 16.6**	**-0.7**
	comp=Z,1.3nm,0.6s,mb3.5,baz=128,slow=8.0,SNR=10						
SONM				PcP	PcP	13 27 46.4	+0.4
	comp=Z,0.4nm,0.4s,baz=138,slow=2.8,SNR=4.0						
SONM				ScP	ScP	13 30 46.7	-0.4
	comp=Z,0.2nm,0.4s,baz=150,slow=4.4,SNR=3.7						
YAK	**Yakutsk**	**35.48**	**351**	*e*P	**P**	**13 25 33.3**	**-1.1**
YAK				pmax	pmax		
	comp=Z,15nm,0.9s,mb4.4						
BOD	**Bodaibo**	**35.70**	**336**	*e*P	**P**	**13 25 36.3**	**0.0**
BOD				pmax	pmax		
	comp=Z,8.0nm,1.4s,mb4.0						
ZAK	**Zakamensk**	**36.37**	**319**	*e*P	**P**	**13 25 42.2**	**+0.2**
ZAK				pmax	pmax		
	comp=Z,2.0nm,1.1s,mb3.5						
TLY	**Talaya**	**36.74**	**322**	⇑*i*P	**P**	**13 25 44.5**	**-0.6**
TLY				pmax	pmax		
	comp=Z,10.0nm,2.5s,mb3.8						
CMAR	**Chiang Mai Arr**	**38.93**	**266**	P	**P**	**13 26 03.1**	**-0.4**
	comp=Z,1.1nm,0.6s,mb3.5,baz=67,slow=5.7,SNR=10						
CMAR	**Chiang Mai Arr**	**38.93**	**266**	⇑*e*P	**P**	**13 26 03.2**	**-0.3**
TIXI	**Tiksi**	**44.89**	**355**	*e*P	**P**	**13 26 50.0**	**0.0**
TIXI				pmax	pmax		
	comp=Z,9.0nm,0.8s,mb4.2						
TIXI	**Tiksi**	**44.89**	**355**	*e*P	**P**	**13 26 49.6**	**-0.5**
	comp=Z,5.0nm,0.4s,mb4.3						
WMQ	**Urumqi**	**45.09**	**306**	P	**P**	**13 26 52.5**	**+0.4**
WMQ				AP	pP	13 28 18.5	+0.2
WMQ				PCP	PcP	13 28 25.0	+1.4
WMQ				XP	sP	13 29 07.5	-1.5
WMQ				AMB	AMB		
	comp=Z,6.0nm,1.0s,mb4.0						
WMQ				AMB	AMB		
	comp=Z,174nm,4.5s						
WRAB	**Tennant Creek**	**47.26**	**188**	*i* P	**P**	**13 27 08.4**	**-0.5**
WRAB	**Tennant Creek**	**47.26**	**188**	*e*P	**P**	**13 27 08.2**	**-0.7**
WB2	**Warramunga Arr**	**47.27**	**188**	*e*P	**P**	**13 27 07.7**	**-1.3**
WRA	**Warramunga Arr**	**47.27**	**188**	P	**P**	**13 27 07.9**	**-1.1**
	comp=Z,4.3nm,0.3s,mb3.3,baz=6.6,slow=7.6,SNR=26						
WRA				ScP	ScP	13 31 40.2	-1.7
	comp=Z,0.3nm,0.7s,baz=3.8,slow=5.0,SNR=6.2						
WRA	**Warramunga Arr**	**47.27**	**188**	*i* P	**P**	**13 27 07.9**	**-1.1**
ZAA0	**Zalesovo Array**	**48.25**	**319**	*e*P	**P**	**13 27 15.2**	**-0.7**
ZALV	**Zalesovo Beam**	**48.25**	**319**	P	**P**	**13 27 15.6**	**-0.4**
	comp=Z,4.3nm,0.3s,mb4.2,baz=102,slow=7.4,SNR=29						
ZALV				PcP	PcP	13 28 33.9	-0.7
	comp=Z,2.1nm,0.5s,baz=97,slow=3.6,SNR=6.2						
ZALV				ScP	ScP	13 31 44.1	-1.5
	comp=Z,0.7nm,0.5s,baz=121,slow=3.5,SNR=3.8						
ZALV	**Zalesovo Beam**	**48.25**	**319**	P	**P**	**13 27 15.6**	**-0.3**
ZALV						13 28 33.9	
ZALV				pmax	pmax		
	comp=Z,4.0nm,0.4s,mb4.1						
ZALV				pmax	pmax		
	comp=Z,2.0nm,0.5s,mb3.7						
ZALV				pmax	pmax		
	comp=N,1.0nm,0.5s						
ZALV	**Zalesovo Beam**	**48.25**	**319**	P	**P**	**13 27 15.6**	**-0.4**
ZALV				PcP	PcP	13 28 33.9	-0.7
ZALV				ScP	ScP	13 31 44.1	-1.5
ASAR	**Alice Springs**	**51.00**	**188**	P	**P**	**13 27 35.7**	**-0.9**
	comp=N,0.3nm,0.4s,mb3.0,baz=3.4,slow=5.6,SNR=17						
KURK	**Kurchatov**	**51.65**	**314**	P	**P**	**13 27 41.4**	**+0.3**
	comp=N,21nm,0.6s,mb4.6,baz=92,slow=8.1,SNR=64						
KURK	**Kurchatov**	**51.65**	**314**	P	**P**	**13 27 41.4**	**+0.3**
KURK				pmax	pmax		
	comp=Z,21nm,0.6s,mb4.6						
KURK	**Kurchatov**	**51.65**	**314**	*e*P	**P**	**13 27 40.9**	**-0.3**
	comp=Z,9.0nm,0.6s,mb4.3						
TKM2	**Tokmak 2**	**53.92**	**305**	*e*P	**P**	**13 27 58.3**	**+0.7**
TKM2				pmax	pmax		
	comp=Z,2.0nm,0.4s,mb3.8						
TKM2	**Tokmak 2**	**53.92**	**305**	*e*P	**P**	**13 27 58.3**	**+0.7**
	comp=Z,1.6nm,0.4s,mb3.7						
UCH	**Uchtor**	**54.79**	**304**	*e*P	**P**	**13 28 05.3**	**+1.5**
	comp=Z,2.1nm,0.6s,mb3.6						
KDAK	**Kodiak Island**	**55.26**	**37**	P	**P**	**13 28 07.5**	**+0.8**
	comp=Z,13nm,1.0s,mb4.2,baz=292,slow=5.1,SNR=16						
AML	**Almayashu**	**55.41**	**304**	*e*P	**P**	**13 28 09.0**	**+0.9**
	comp=Z,1.4nm,0.5s,mb3.5						
PPLA	**Purkeypile**	**55.90**	**31**	*e*P	**P**	**13 28 12.6**	**+1.5**
	comp=Z,17nm,1.4s,mb4.2						
VOSK	**Vostochnaya**	**56.42**	**317**	P	**P**	**13 28 14.6**	**-0.3**
VOSK				pmax	pmax		
	comp=Z,8.0nm,1.0s,mb4.0						
BVA0	**Borovoye Array**	**56.77**	**317**	*i* P	**P**	**13 28 17.1**	**-0.2**
BVA0				pmax	pmax		
	comp=Z,3.0nm,0.5s,mb3.9						
BRVK	**Borovoye**	**56.83**	**317**	*e*P	**P**	**13 28 17.7**	**-0.1**
BRVK				pmax	pmax		
	comp=Z,21nm,1.0s,mb4.4						
BRVK	**Borovoye**	**56.83**	**317**	*e*P	**P**	**13 28 17.7**	**-0.1**
	comp=Z,21nm,1.0s,mb4.4						
MCK	**McKinley**	**57.44**	**30**	*e*P	**P**	**13 28 22.4**	**+0.6**
MCK				pmax	pmax		
	comp=Z,11nm,0.7s,mb4.3						
MCK	**McKinley**	**57.44**	**30**	*e*P	**P**	**13 28 22.4**	**+0.7**
	comp=Z,11nm,0.7s,mb4.3						
KK31	**Karatay Array**	**57.60**	**306**	*i* P	**P**	**13 28 23.1**	**-0.2**
KK31				pmax	pmax		
	comp=Z,2.0nm,0.4s,mb3.8						
ARU	**Arti**	**63.25**	**322**	*d*P	**P**	**13 29 00.2**	**-0.4**
ARU				*e*		13 29 29.4	
ARU				*PP	pP	13 30 30.4	-4.2
ARU				*e*		13 31 21.8	
ARU				*e*S	**S**	**13 36 57.9**	**+1.8**
ARU				*e*SS	SS	13 41 08.4	-3.5
ARU				pmax	pmax		
	comp=Z,12nm,1.0s,mb4.4						
AB31	**Akbulak array**	**63.76**	**314**	P	**P**	**13 29 03.4**	**-0.6**
AB31				pmax	pmax		
	comp=Z,2.0nm,0.4s,mb4.0						
KEV	**Kevo**	**72.26**	**340**	*e*p	**P**	**13 29 55.6**	**-0.1**
YKA	**Yellowknife Ar**	**72.81**	**28**	P	**P**	**13 29 59.3**	**+0.4**
	comp=Z,4.5nm,0.5s,mb4.3,baz=296,slow=6.1,SNR=21

D11A	Klaveano Farm, baz=79	78.97	43	⇑P		P		13 30 33.1	-0.4
O04C	Chester baz=79,SNR=6.5	78.97	50	⇑P		P		13 30 33.1	-0.6
M06C	Likely Place G baz=79	79.00	49	⇓P		P		13 30 33.1	-0.8
ORV	Oroville baz=79	79.03	51	⇑P		P		13 30 33.6	-0.4
Q03C	Winters baz=79	79.07	52	⇑P		P		13 30 33.9	-0.4
G10A	Bishop Farm, J baz=79,SNR=5.9	79.31	45	⇑P		P		13 30 35.1	-0.4
J08A	Circle Bar Ran baz=79,SNR=5.3	79.35	47	⇑P		P		13 30 36.0	+0.3
L07A	Adell baz=79	79.39	48	⇑P		P		13 30 36.0	0.0
B13A	Whitefish baz=79	79.44	41	⇑P		P		13 30 36.2	+0.1
I09A	Lost Marbles R baz=80	79.53	46	⇑P		P		13 30 36.4	-0.3
BEKR	Beckwourth baz=80,SNR=7.1	79.67	51	⇓P		P		13 30 36.9	-0.6
C13A	Hot Springs baz=80	79.72	42	⇓P		P		13 30 37.1	-0.5
E12A	Beaver Dam Sad baz=80	79.73	43	⇓P		P		13 30 37.2	-0.4
G11A	Walters Elk Ra baz=80,SNR=6.1	79.79	44	⇓P		P		13 30 38.2	+0.2
J09A	Fry Pan Ranch, baz=80	79.82	46	⇑P		P		13 30 37.6	-0.5
H10A	Noah's Angus R baz=80	79.88	45	⇓P		P		13 30 38.1	-0.3
LAVA	Lava Cap Winer baz=80	79.91	52	⇑P		P		13 30 38.4	-0.4
L08A	Fields baz=80	79.97	48	⇑P		P		13 30 38.4	-0.6
B14A	Marquette Ranc baz=80	80.14	40	⇑P		P		13 30 39.5	-0.3
A15A	Johnson Ranch, baz=80	80.14	40	⇑P		P		13 30 39.0	-0.8
C14A	Swan Lake baz=80	80.16	41	⇑P		P		13 30 39.6	-0.3
N07B	Gerlach baz=80	80.20	49	⇓P		P		13 30 40.0	-0.3
F12A	Elk City baz=80,SNR=5.3	80.25	43	⇓P		P		13 30 40.9	+0.5
G12A	Big Creek, Yel baz=80	80.51	44	⇓P		P		13 30 42.1	+0.3
B15A	Bradely Ranch, baz=80	80.58	40	⇓P		P		13 30 42.6	+0.5
F13A	Darby baz=81	80.79	43	⇓P		P		13 30 43.1	-0.1
A16A	West Butte Ran baz=81,SNR=5.5	80.80	39	⇓P		P		13 30 43.3	+0.1
C15A	Salmond Ranch, baz=81,SNR=5.1	80.82	41	⇑P		P		13 30 42.7	-0.6
R06C	Coleville baz=81	80.92	51	⇓P		P		13 30 45.4	+1.4
O08A	Rochester Mine baz=81	80.98	49	⇑P		P		13 30 44.4	+0.1
E14A	Clinton baz=81	80.99	42	⇓P		P		13 30 44.7	+0.5
H12A	Diamond D Ranc baz=81	81.08	44	⇓P		P		13 30 44.5	-0.3
N09A	Rock Creek Ran baz=81	81.14	49	⇑P		P		13 30 44.8	-0.3
L10A	Juniper Basin baz=81	81.25	47	⇑P		P		13 30 45.7	0.0
I12A	Atlanta baz=81	81.28	45	⇑P		P		13 30 45.9	+0.1
C16A	Fuhringer Ranc baz=81,SNR=5.4	81.31	40	⇑P		P		13 30 47.1	+1.3
H13A	Challis baz=81	81.45	44	⇑P		P		13 30 47.0	+0.4
AKASG	Malin Array Be comp=Z,2.4nm,0.4s,mb4.1,baz=51,slow=5.2,SNR=24	81.47	323	P		P		13 30 45.9	-0.7
AKASG	Malin Array Be	81.47	323	*i* P		P		13 30 45.9	-0.7
AKASG	comp=Z,2.0nm,0.4s			pmax		pmax			
AKASG	Malin Array Be	81.47	323	P		P		13 30 45.9	-0.7
E15A	Deer Lodge baz=81	81.49	42	⇓P		P		13 30 46.8	-0.1
L11A	Cat Creek Ranc baz=82	81.67	47	⇓P		P		13 30 47.0	-0.9
NVAR	Mina Array Bea comp=Z,1.5nm,0.6s,mb3.7,baz=292,slow=5.2,SNR=15	81.75	51	P		P		13 30 50.0	+1.7
HLID	Hailey baz=82	81.84	45	⇑P		P		13 30 48.2	-0.5
I13A	Wildhorse Cree baz=82	81.86	45	⇓P		P		13 30 47.8	-0.9
F15A	Butte baz=82,SNR=7.1	81.88	42	⇑P		P		13 30 49.0	+0.2
R08A	Mina baz=82	81.93	51	⇓P		P		13 30 49.9	+0.6
C17A	Wharram Farm, baz=82	81.96	40	⇑P		P		13 30 48.6	-0.6
H14A	Leadore baz=82	81.97	44	⇑P		P		13 30 49.3	0.0
E16A	East Helena baz=82	82.01	42	⇑P		P		13 30 50.2	+0.7
J13A	Cove Ranch, Pi baz=82	82.08	45	⇓P		P		13 30 51.6	+1.7
L12A	House Creek Ra baz=82	82.16	47	⇓P		P		13 30 52.2	+1.8
D17A	Six Diamond Ra baz=82	82.26	41	⇑P		P		13 30 50.7	-0.1
I14A	Mackay baz=82,SNR=6.6	82.26	44	⇓P		P		13 30 50.9	0.0
J14A	Carey baz=82	82.53	45	⇓P		P		13 30 52.0	-0.2
M12A	Wells baz=82	82.59	47	⇑P		P		13 30 52.5	0.0
G16A	Moss Hill, Enn baz=82	82.61	43	⇓P		P		13 30 52.8	+0.2
R09A	Tonopah baz=83	82.70	51	⇑P		P		13 30 52.6	-0.6
NOA	NORSAR Array B comp=Z,6.3nm,0.7s,mb4.3,baz=46,slow=4.8,SNR=24	82.82	338	P		P		13 30 52.4	-0.9
NOA	NORSAR Array B	82.82	338	P		P		13 30 52.4	-0.9
NOA	comp=Z,6.0nm,0.7s			pmax		pmax			
NOA	NORSAR Array B	82.82	338	P		P		13 30 52.4	-0.9
S09A	Goldfield baz=83	82.84	51	⇑P		P		13 30 55.5	+1.6
E18A	Harlowton baz=83,SNR=7.3	83.02	41	⇓P		P		13 30 56.2	+1.6
S10A	Tonopah Range, baz=83	83.18	51	⇑P		P		13 30 54.8	-0.8
R10A	Warm Springs baz=83	83.20	50	⇓P		P		13 30 55.3	-0.4
MPMC	Manual Prospec baz=83	83.45	53	⇑P		P		13 30 56.0	-1.0
I16A	Newdale baz=83	83.51	44	⇓P		P		13 30 56.2	-0.9
P12A	McGill baz=84	83.56	49	⇓P		P		13 30 56.6	-0.9
TPNV	Topopah Spring baz=84	83.89	52	⇓P		P		13 30 58.9	-0.3
RLMT	Red Lodge baz=84	84.18	42	⇓P		P		13 31 00.4	-0.1
DUG	Dugway baz=84	84.58	47	⇑P		P		13 31 03.6	+1.1
TUQ	Turquoise Moun baz=85	84.87	53	⇑P		P		13 31 04.0	-0.1
Q14A	Sevier Lake (B baz=85	84.90	49	⇑P		P		13 31 03.8	-0.4
BW06	Boulder Array baz=85	85.29	44	⇑P		P		13 31 06.9	+0.9
PDAR	Pinedale Array comp=Z,0.5nm,0.6s,mb3.3,baz=72,slow=0.9,SNR=4.0	85.29	44	P		P		13 31 06.5	+0.6
GMRC	Granite Mounta baz=85	85.38	53	⇓P		P		13 31 06.3	-0.3
BELC	Belle Mtn. baz=86	85.53	54	⇑P		P		13 31 07.1	-0.2
U13A	Pakoon Wash baz=86	85.75	51	⇑P		P		13 31 08.2	-0.1
V13A	Grand Canyon W baz=86	86.03	52	⇑P		P		13 31 09.4	-0.3
IRM	Iron Mountain baz=86	86.06	54	⇓P		P		13 31 09.2	-0.6
BC3	Big Chuckw Mtn baz=86	86.09	54	⇓P		P		13 31 09.5	-0.5
STHS	Stebnicka Huta	86.39	325	*e*P		P		13 31 07.8	-3.3
DPC	Dobruska-Polom	88.20	328	*e*P		P		13 31 19.2	-0.4
VYHS	Vyhne	88.20	325	*e*P		P		13 31 19.1	-0.5
UPC	Upice	88.24	328	*e*P		P		13 31 19.2	-0.6
CLL	Collm	89.07	330	*e*P		P		13 31 23.0	-0.6
CLL				*e*PP		PP		13 34 58.0	-2.6
PRU	Pruhonice	89.29	328	*e*P		P		13 31 23.8	-0.9
KHC	Kasperske Hory	90.33	328	*e*P		P		13 31 29.2	-0.3
KHC	Kasperske Hory	90.33	328	*e*P		P		13 31 28.9	-0.6
GERES	GERESS Array B comp=Z,1.5nm,0.7s,mb3.9,baz=39,slow=5.1,SNR=12	90.48	328	P		P		13 31 29.5	-0.7
GERES	GERESS Array B	90.48	328	P		P		13 31 29.5	-0.7
GERES	comp=Z,2.0nm,0.7s			pmax		pmax			
TXAR	Lajitas Array comp=Z,0.9nm,0.5s,mb3.7,baz=297,slow=1.9,SNR=5.9	96.87	52	P		P		13 32 00.7	+0.9
TORD	Torodi Ar. Bea comp=Z,0.5nm,0.5s,baz=37,slow=1.4,SNR=8.7	123.18	310	PKP	PKPdf			13 37 22.5	-0.5
SDV	Santo Domingo comp=Z,1.7nm,0.5s,baz=311,slow=11,SNR=3.9	133.23	44	PKP	PKPdf			13 37 43.0	+0.8
PLCA	Paso Flores comp=Z,2.1nm,0.6s,baz=202,slow=2.7,SNR=10	151.29	126	PKPbc	PKPbc			13 38 20.1	+0.7
PLCA	Paso Flores	151.29	126	PKIKP	PKPbc			13 38 20.1	+0.7
PLCA	comp=Z,2.0nm,0.6s			pmax	pmax				

*IDC **14** 13:26:05.2±1.5, 3008N×142.45E, h0km, mb3.5/3, mb1 3.6/6, mb1mx3.5/20, mbtmp3.5/6, ML3.3/3, Error ellipse: s-maj=56.5km s-min=20.8km az=83.0*
*ISCJB **14** 13:26:07.7±0.8, 30.13N±005×1423E±02, h33km, mb3.5/3, Error ellipse: s-maj=22.3km s-min=4.0km az=165.4*
*JMA **14** 13:26:07.4±0.3, 30.16N×142.42E, h48km, M3.7*

ISC 14 13:26:09.8±0.8, 3012N±006×1423E±02, h35km, n12, σ0s73/20, mb3.5/3, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
CBIJ	Chichi jima	3.02	182	Pn		Pn	13 26 53.5	-1.6
CBIJ	6.4nm,0.3s,baz=253,slow=21,SNR=10			Sn		Sn	13 27 29.5	-0.6
CBIJ	9.9nm,0.3s,baz=282,slow=22,SNR=6.8	3.02	182	P		Pn	13 26 54.8	-0.3
CBIJ				*e*S		Sn	13 27 29.3	-0.8
JHJ2	Mitsune	3.66	325	P		Pn	13 27 03.6	-0.3
JHJ2				*e*S		Sn	13 27 45.7	-0.1
JHJ	Hachijo jima 2	3.68	325	Pn		Pn	13 27 04.6	+0.4
JHJ	3.1nm,0.3s,baz=333,slow=18,SNR=2.4			Sn		Sn	13 27 46.7	+0.3
BSO1	Boso 1	4.65	346	P		Pn	13 27 16.3	-1.3
BSO1	8.3nm,0.3s,baz=60,slow=21,SNR=5.2			*e*S		Sn	13 28 06.8	-3.5
JOD2	Odawara 2	5.80	333	P		Pn	13 27 34.3	+1.0
JHU	Hanno	6.25	337	P		Pn	13 27 40.2	+0.7
JHU				*e*S		Sn	13 28 49.2	-0.5
JRY	Ryogami san	6.53	335	P		Pn	13 27 43.8	+0.4
JRY	0.5nm,0.3s,baz=157,slow=11,SNR=8.6			*e*S		Sn	13 28 55.9	-0.8
MJAR	Matsushiro Arr	7.26	333	Pn		Pn	13 27 53.8	+0.4
MJAR	0.2nm,0.3s,baz=168,slow=17,SNR=4.1			Sn		Sn	13 29 14.6	+0.1
WRA	Warramunga Arr	50.36	190	P		P	13 35 04.2	+0.7
ASAR	0.3nm,0.4s,mb3.7,baz=7.2,slow=7.7,SNR=10 Alice Springs	54.09	190	P		P	13 35 31.8	+0.7
TXAR	0.1nm,0.6s,mb3.0,baz=1.2,slow=5.9,SNR=4.2 Lajitas Array	93.71	53	P		P	13 39 23.4	+0.3
	0.3nm,0.8s,mb3.8,baz=294,slow=4.0,SNR=3.7							

*ISCJB **14** 13:36:40.7±0.8, 1999S×006×692W±0.1, h102km±9km, mb3.5/3, Error ellipse: s-maj=19.0km s-min=7.9km az=160.5*
*IDC **14** 13:36:43.9±1.5, 20.14S×69.14W, h114km±15km, mb3.4/5, mb1 3.7/7, mb1mx3.5/16, mbtmp3.4/7, Error ellipse: s-maj=28.4km s-min=14.0km az=98.0*
*NEIC **14** 13:36:44.4±0.9, 20.13S×69.07W, h120km±8km, mb3.4/1, Error ellipse: s-maj=17.7km s-min=9.0km az=97.0*

ISC 14 13:36:42.0±0.7, 2000S±006×692W±01, h97km±9km, n22, σ0s93/22, mb3.5/3, Northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
LVC	Limon Verde	2.62	173	P		Pn	13 37 23.5	+0.9
LVC	52nm,0.3s,baz=354,slow=9.6,SNR=575			S		Sn	13 37 54.0	+0.3
LVC	48nm,0.3s,baz=357,slow=11,SNR=12	2.62	173	*e*Pn		Pn	13 37 23.3	+0.8
LVC	Limon Verde			*e*Sn		Sn	13 37 52.9	-0.8
LPAZ	La Paz	3.84	16	P		Pn	13 37 45.0	+6.0
LPAZ	3.0nm,0.3s,baz=201,slow=7.4,SNR=62 La Paz	3.84	16	*e*P		Pn	13 37 44.8	+5.9
ARE	Arequipa	4.12	328	*e*P		Pn	13 37 43.0	+0.2
ARE				*e*S		Sn	13 38 29.0	-0.9
SIV	San Ignacio	8.73	64	P		Pn	13 38 46.1	+0.7
LCO	baz=255,slow=11 Las Campanas	9.07	188	*e*P		Pn	13 38 44.3	-5.7
CFAA	Coronel Fontan	11.59	176	P		Pn	13 39 18.5	-5.7
TRQA	0.1nm,0.3s,baz=347,slow=15,SNR=9.1 Tornquist	19.06	162	*e*P		Pn	13 40 56.2	-2.2
PLCA	1.6nm,0.8s Paso Flores	20.70	183	P		P	13 41 15.3	+1.1
PLCA	1.7nm,0.8s,baz=8.2,slow=9.7,SNR=4.0 Paso Flores	20.70	183	P		P	13 41 14.8	+0.6
TXAR	Lajitas Array	59.23	325	P		P	13 46 33.6	+0.5
MSU	0.2nm,0.5s,mb3.4,baz=149,slow=7.3,SNR=4.4 Marysvale	70.78	326	P		P	13 47 43.9	-3.9
NVAR	Mina Array Bea	74.13	322	P		P	13 48 08.6	+0.8
TOA0	0.2nm,0.5s,mb3.1,baz=176,slow=5.9,SNR=3.6 Torodi Ar. Sit	77.15	71	*e*P		P	13 48 24.6	-0.9
TORD	Torodi Ar. Bea	77.15	71	P		P	13 48 25.0	-0.4
TORD	0.9nm,0.4s,mb3.9,baz=254,slow=5.4,SNR=22 Torodi Ar. Bea	77.15	71	P		P	13 48 25.0	-0.4
YKA	Yellowknife Ar	89.68	341	P		P	13 49 29.2	+0.7
YKA	1.3nm,0.7s,baz=136,slow=4.7,SNR=6.3 Yellowknife Ar	89.68	341	P		P	13 49 29.2	+0.6
ASAR	Alice Springs	131.09	209	PKP	PKPdf		13 55 42.7	-0.4
WRA	0.3nm,0.5s,baz=121,slow=1.8,SNR=8.0 Warramunga Arr	134.08	212	PKP	PKPdf		13 55 48.6	-0.3
SONM	0.2nm,0.6s,baz=146,slow=1.5,SNR=5.8 Songino Array	152.01	6	PKPbc	PKPbc		13 56 26.5	+0.8
	0.8nm,0.5s,baz=326,slow=1.2,SNR=4.4							

*BJI **14** 13:48:24.4, 54.60N×164.00E, h37km, mB4.9, mb4.4*
*MOS **14** 13:48:24.1±1.0, 54.69N×164.02E, h24km, mb4.5/20, Error ellipse: s-maj=9.8km s-min=8.2km az=76.8*
*KRSC **14** 13:48:24.1±0.1, 54.56N×164.02E, h42km±41km, ML4.8*
*ISCJB **14** 13:48:25.4±0.3, 54.55N±003×164.04E±004, h35km, mb4.4/44, MS3.4/6, Error ellipse: s-maj=3.8km s-min=3.1km az=165.4*
*NEIC **14** 13:48:27.5±1.2, 54.64N×164.01E, h38km±11km, mb4.6/11, Error ellipse: s-maj=12.0km s-min=6.7km az=146.0*
*IDC **14** 13:48:27.6±0.5, 54.67N×164.05E, h36km±4km, mb3.9/19, mb1 4.1/21, mb1mx4.1/25, mbtmp4.0/21, ML4.0/2, MS3.3/8, Ms1 3.3/8, ms1mx3.0/31, Error ellipse: s-maj=18.0km s-min=10.3km az=149.0*

ISC 14 13:48:27.6±0.3, 5457N±003×16401E±004, h37km, h37km±2.6km:pP-P, n119, σ1s17/137, mb4.4/44, MS3.4/6, 4C-2D, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
MKZ	Mys Kozlova	1.33	270	P		Pn	13 48 47.8	-1.7
KBTR	Krutoberegovo	1.77	338	*e*P		Pn	13 48 52.1	-3.6
KBTR				*i* S		Sn	13 49 12.7	-4.3
ZLN	Zelenaya	2.33	310	*e*P		Pn	13 49 02.6	-0.8
ZLN				*i* S		Sn	13 49 31.3	+0.5
BZMR	Bezymyannaya	2.43	306	*e*P		Pn	13 49 04.1	-0.6
BZMR				*i* S		Sn	13 49 34.1	+0.9
BZWR	Bezymyannyi-We	2.45	306	*e*P		Pn	13 49 04.3	-0.6
BZWR				*i* S		Sn	13 49 34.7	+1.2
KMNR	Kamenistaya	2.47	300	*e*P		Pn	13 49 04.8	-0.4
KMNR				*i* S		Sn	13 49 34.7	+0.6
BDR	Baidarnaya	2.56	323	*e*P		Pn	13 49 04.9	-1.5
BDR				*i* S		Sn	13 49 34.9	-1.3
KRSR	Krestovskiy	2.56	311	*e*P		Pn	13 49 05.2	-1.3
KRSR				*i* S		Sn	13 49 36.4	0.0
KPT	Kopyto	2.58	304	*e*P		Pn	13 49 06.5	-0.2
KPT				*i* S		Sn	13 49 38.3	+1.5
KLY	Klyuchi	2.59	314	*e*P		Pn	13 49 04.1	-2.8
KLY				*i* S		Sn	13 49 34.0	-3.0
KII	Karymskiy	2.73	260	*e*P		Pn	13 49 08.4	-0.4
KII				*i* S		Sn	13 49 39.5	-0.9
SPN	Mys Shipunski	2.79	240	*e*P		Pn	13 49 07.9	-1.7
SPN				*i* S		Sn	13 49 39.2	-2.7
KOZR	Kozyr	2.79	304	PN		Pn	13 49 09.4	-0.2
KOZR				S		Sn	13 49 43.8	+1.9
KOZ	Kozyrevsk	2.79	304	*e*P		Pn	13 49 09.4	-0.3
KOZ				*i* S		Sn	13 49 43.8	+1.7
SRDR	Sredinnyy	3.00	307	P		Pn	13 49 13.3	+0.7
NLC	Nalytchevo	3.10	245	*e*P		Pn	13 49 12.6	-1.3
NLC				*i* S		Sn	13 49 47.2	-2.4
AVH	Avacha	3.38	249	*e*P		Pn	13 49 17.6	-0.2
AVH				*i* S		Sn	13 49 56.5	-0.1
PET	Petropavlovsk	3.53	246	*e*PN		Pn	13 49 19.6	-0.3
PET	comp=Z,74nm,0.6s			pmax		pmax		
PET				MLR		MLR		
PET	comp=Z,500nm,13.0s	3.53	246	*e*P		Pn	13 49 19.2	-0.7
PET	Petropavlovsk			*i* S		Sn	13 49 58.2	-2.2
PET	Petropavlovsk	3.53	246	*e*Pn		Pn	13 49 19.3	-0.5
PET				*e*Sn		Sn	13 49 58.2	-2.2
GNL	Ganaly	3.67	259	*e*P		Pn	13 49 22.4	+0.6
GNL				*i* S		Sn	13 50 03.4	-0.4
RUS	Russkaya	3.92	239	*e*P		Pn	13 49 24.0	-1.2
RUS				*i* S		Sn	13 50 06.2	-3.7
PEA0B	Petropavlovsk-	4.01	251	*e*Pn		Pn	13 49 26.7	+0.2
PEA0B				*e*Sn		Sn	13 50 13.6	+1.4
PETK	Petropavlovsk-	4.01	251	Pn		Pn	13 49 26.8	+0.3
PETK	comp=Z,14nm,0.3s,baz=75,slow=18,SNR=577			Sn		Sn	13 50 13.6	+1.4
PETK	comp=Z,18nm,0.3s,baz=215,slow=23,SNR=10			LR		LR	13 51 16.5	
PETK	comp=Z,215nm,18.4s,baz=88,slow=42	4.01	251	Pn		Pn	13 49 26.8	+0.3
PETK	Petropavlovsk-			Sn		Sn	13 50 13.6	+1.4
PETK				LR		LR	13 51 16.5	
GRL	Gorelyy	4.08	243	P		Pn	13 49 27.6	+0.3
GRL				*i* S		Sn	13 50 13.0	-0.7
MIPR	Malaya Ipel'ka	4.91	245	P		Pn	13 49 39.5	+0.8
SKR	Severo-Kuril's	6.18	234	*e*PN		Pn	13 49 56.6	+0.3
ASAJ	Asahikawa	17.37	242	P		Pn	13 52 26.9	+0.1
ASAJ	comp=Z,0.9nm,0.3s,baz=90,slow=10,SNR=7.0			LR		LR	13 59 40.8	
ASAJ	comp=Z,64nm,19.2s,baz=96,slow=39	17.37	242	P		Pn	13 52 26.9	+0.1
ASAJ	Asahikawa			pmax		pmax		
ASAJ	comp=Z,1.0nm,0.3s			MLR		MLR		
ASAJ	comp=Z,64nm,19.2s	18.63	236	*i* P		Pn	13 52 39.7	-2.6
ERM	Erimo	19.32	307	*e*P		Pn	13 52 47.0	-3.5
YAK	Yakutsk			pmax		pmax		
YAK	comp=Z,14nm,0.9s	22.79	332	*c i*P		P	13 53 26.0	-0.4
TIXI	Tiksi			pmax		pmax		
TIXI	comp=Z,5.0nm,1.0s,mb3.9	22.79	332	*e*P		P	13 53 26.6	+0.2
TIXI	Tiksi	24.06	65	P		P	13 53 36.5	-2.4
KDAK	Kodiak Island comp=Z,6.2nm,0.6s,mb4.2,baz=243,slow=9.2,SNR=7.2	24.33	49	*e*P		P	13 53 40.3	-1.0
BPAW	Bear Paw Mtn. comp=Z,2µm,0.8s			*e*			13 53 50.9	
BPAW		24.63	51	*e*P		P	13 53 43.5	-0.6
TRF	Thorofare Moun comp=Z,24nm,1.7s,mb4.5	24.92	41	*e*P		P	13 53 46.3	-0.4
COLD	Coldfoot comp=Z,22nm,1.1s,mb4.6	25.23	50	*e*P		P	13 53 51.7	+2.2
MCK	McKinley			pmax		pmax		
MCK	comp=Z,17nm,1.1s,mb4.5	25.23	50	*e*P		P	13 53 51.7	+2.2
MCK	McKinley comp=Z,17nm,1.1s,mb4.5							
MAJO	Matsushiro	25.29	235	*e*P		P	13 53 51.6	+1.3
MAJO	comp=Z,12nm,0.5s,mb4.7			pmax		pmax		
MAJO	Matsushiro comp=Z,12nm,0.5s,mb4.7	25.29	235	*e*P		P	13 53 51.6	+1.2
MJAR	Matsushiro Arr comp=Z,7.9nm,0.8s,mb4.3,baz=32,slow=8.5,SNR=29	25.29	235	P		P	13 53 51.5	+1.2
MJAR	Matsushiro Arr	25.29	235	P		P	13 53 51.5	+1.2
MJAR	comp=Z,8.0nm,0.8s			pmax		pmax		
MAT	Matsushiro	25.29	235	P		P	13 53 51.3	+1.0
COLA	College	25.70	47	*e*P		P	13 53 52.2	-1.6
COLA	comp=Z,13nm,0.9s,mb4.5			pmax		pmax		
COLA	College	25.70	47	*e*P		P	13 53 52.2	-1.6
HIA	comp=Z,14nm,0.9s,mb4.5 Hailar	27.45	277	*c i*P		P	13 54 08.8	-0.9
BOD	Bodaibo	27.49	297	*e*P		P	13 54 10.8	+0.8
BOD	comp=Z,6.0nm,2.0s,mb3.8			pmax		pmax		
KSRS	Korea Array comp=Z,1.6nm,0.6s,mb3.9,baz=42,slow=9.4,SNR=8.7	29.91	250	P		P	13 54 33.7	+2.0
KSRS				LR		LR	14 06 42.8	
KSRS	comp=Z,26nm,19.9s,MS2.9,baz=174,slow=36	29.91	250	P		P	13 54 33.7	+2.0
KSRS	Korea Array			pmax		pmax		
KSRS	comp=Z,2.0nm,0.6s,mb4.0			MLR		MLR		
KSRS	comp=Z,26nm,19.9s,MS2.9	35.30	56	P		P	13 55 18.2	-0.2
DLBC	Dease Lake comp=Z,1.1nm,0.7s,mb3.9,baz=296,slow=16,SNR=3.2	35.82	284	P		P	13 55 22.6	-0.5
SONM	Songino Array comp=Z,0.5nm,0.4s,mb3.8,baz=69,slow=7.9,SNR=5.2			P		PcP	13 57 50.1	+0.2
SONM	comp=Z,1.5nm,0.8s,baz=98,slow=1.5,SNR=6.6			LR		LR	14 11 25.9	
SONM	comp=Z,59nm,18.6s,MS3.4,baz=221,slow=38	35.82	284	P		P	13 55 22.6	-0.5
SONM	Songino Array						13 57 50.1	
SONM				pmax		pmax		
SONM	comp=Z,1.0nm,0.4s			pmax		pmax		
SONM	comp=Z,2.0nm,0.8s			MLR		MLR		
SONM	comp=Z,59nm,18.6s	36.21	289	*e*P		P	13 55 26.9	+0.4
ZAK	Zakamensk			pmax		pmax		
ZAK	comp=Z,2.0nm,1.5s,mb3.8	40.49	45	P		P	13 56 00.8	-1.4
YKA	Yellowknife Ar comp=Z,1.7nm,0.8s,mb3.8,baz=317,slow=7.7,SNR=3.3	40.49	45	P		P	13 56 00.8	-1.4
YKA	Yellowknife Ar			pmax		pmax		
YKA	comp=Z,2.0nm,0.8s	43.92	303	P		P	13 56 30.2	-0.1
ZALV	Zalesovo Beam comp=Z,0.6nm,0.4s,mb3.6,baz=63,slow=3.6,SNR=4.3			LR		LR	14 16 20.7	
ZALV	comp=Z,44nm,18.3s,MS3.4,baz=70,slow=38	43.92	303	P		P	13 56 30.2	-0.1
ZALV	Zalesovo Beam			pmax		pmax		
ZALV	comp=Z,1.0nm,0.4s,mb3.9			MLR		MLR		
ZALV	comp=Z,44nm,18.3s,MS3.4	44.18	305	*e*P		P	13 56 31.1	-1.2
NVS	Novosibirsk	44.65	271	*e*P		P	13 56 38.8	+2.5
LZH	Lanzhou			AP		pP	13 56 43.5	-3.5
LZH				AMB		AMB		
LZH	comp=Z,19nm,1.2s,mb4.8			AMB		AMB		
LZH	comp=Z,82nm,4.3s	44.73	278	*e*P		P	13 56 39.0	+2.1
GTA	Gaotai			AP		pP	13 56 44.0	-3.6
GTA				XP		sP	13 56 47.5	-4.4
GTA				AMB		AMB		
GTA	comp=Z,7.0nm,1.2s,mb4.4	48.36	74	LR		LR	14 14 38.7	
YBH	Yreka Blue Hor comp=Z,42nm,21.1s,MS3.4,baz=277,slow=32							
KURK	Kurchatov	48.90	303	*i* P		P	13 57 07.8	-1.6
KURK	comp=Z,6.0nm,0.8s,mb4.7			pmax		pmax		
KURK	Kurchatov comp=Z,7.3nm,0.8s,mb4.8	48.90	303	*e*

ULM	**Lac du Bonnet**	**56.10**	**50**	P		**P**		**13 58 03.0**	**+0.3**
ULM				pP		pP		13 58 13.1	-0.6
JOF	**Joensuu**	**57.17**	**336**	*ep*		**P**		**13 58 08.8**	**-1.3**
	comp=Z,5.2nm,0.6s,mb4.7								
JOF	**Joensuu**	**57.17**	**336**	*eP*		**P**		**13 58 08.8**	**-1.3**
JOF				pmax		pmax			
	comp=Z,5.0nm,0.6s,mb4.7								
AML	**Almayashu**	**57.25**	**298**	*eP*		**P**		**13 58 11.8**	**+0.9**
	comp=Z,1.3nm,0.6s,mb4.1								
KAF	**Kangasniemi**	**59.00**	**338**	*ep*		**P**		**13 58 21.4**	**-1.5**
TAPN	**Taplejung**	**60.38**	**276**	*eP*		**P**		**13 58 33.8**	**+0.9**
	comp=Z,24nm,0.9s,mb5.2								
CHTO	**Chiang Mai**	**60.45**	**261**	*eP*		**P**		**13 58 34.9**	**+1.5**
CHTO				pmax		pmax			
	comp=Z,4.0nm,0.7s,mb4.6								
CHTO	**Chiang Mai**	**60.45**	**261**	*eP*		**P**		**13 58 34.9**	**+1.4**
	comp=Z,4.1nm,0.7s,mb4.6								
CMAR	**Chiang Mai Arr**	**60.73**	**261**	P		**P**		**13 58 36.8**	**+1.4**
	comp=Z,3.2nm,0.7s,mb4.5,baz=22,slow=7.0,SNR=30								
CMAR				LR		LR		14 26 35.4	
	comp=Z,30nm,19.3s,MS3.5,baz=272,slow=38								
CMAR	**Chiang Mai Arr**	**60.73**	**261**	P		**P**		**13 58 36.8**	**+1.4**
CMAR				pmax		pmax			
	comp=Z,3.0nm,0.7s								
CMAR				MLR		MLR			
	comp=Z,30nm,19.3s								
ODAN	**Odare**	**60.94**	**276**	*eP*		**P**		**13 58 37.6**	**+0.9**
GUN	**Gumba**	**61.02**	**278**	*eP*		**P**		**13 58 38.9**	**+1.7**
	comp=Z,9.2nm,0.5s,mb5.2								
RAMN	**Ramite**	**61.33**	**277**	*eP*		**P**		**13 58 39.8**	**+0.5**
KKN	**Kakani**	**61.45**	**278**	*eP*		**P**		**13 58 41.1**	**+0.9**
PKI	**Pulchoki**	**61.54**	**278**	*eP*		**P**		**13 58 41.5**	**+0.7**
	comp=Z,23nm,0.8s,mb5.3								
PKIN	**Phulchoki**	**61.55**	**278**	*eP*		**P**		**13 58 41.3**	**+0.5**
	comp=Z,8.5nm,0.6s,mb5.1								
GKN	**Gorkha**	**61.66**	**279**	*eP*		**P**		**13 58 41.7**	**+0.1**
DMN	**Daman**	**61.69**	**278**	*eP*		**P**		**13 58 42.5**	**+0.7**
DANN	**Dangsing**	**61.90**	**280**	*eP*		**P**		**13 58 44.2**	**+1.0**
	comp=Z,26nm,1.0s,mb5.3								
ANMO	**Albuquerque**	**62.13**	**68**	*c iP*		**P**		**13 58 46.0**	**+1.4**
KOLN	**Koldanda**	**62.43**	**280**	*eP*		**P**		**13 58 47.2**	**+0.5**
	comp=Z,4.6nm,0.6s,mb4.8								
OBN	**Obninsk**	**62.48**	**329**	*i* P		**P**		**13 58 46.7**	**+0.1**
NB2	**NORSAR Subarra**	**62.73**	**346**	P		**P**		**13 58 47.3**	**-0.9**
	comp=Z,1.5nm,0.6s,mb4.3,baz=18,slow=6.5								
NOA	**NORSAR Array B**	**62.73**	**346**	P		**P**		**13 58 47.5**	**-0.8**
	comp=Z,1.6nm,0.5s,mb4.4,baz=18,slow=6.6,SNR=6.4								
NOA				pP		pP		13 58 58.9	-0.4
	comp=Z,2.4nm,0.8s,baz=19,slow=6.9,SNR=5.0								
NOA	**NORSAR Array B**	**62.73**	**346**	P		**P**		**13 58 47.5**	**-0.7**
NOA				*PP		pP		13 58 58.9	-0.4
NOA				pmax		pmax			
	comp=Z,2.0nm,0.5s								
NOA				pmax		pmax			
	comp=Z,2.0nm,0.8s								
KBL	**Kabul**	**65.34**	**295**	*eP*		**P**		**13 59 04.3**	**-1.5**
KBL				pmax		pmax			
	comp=Z,8.0nm,1.0s,mb4.7								
KBL	**Kabul**	**65.34**	**295**	*eP*		**P**		**13 59 04.3**	**-1.4**
	comp=Z,7.6nm,1.0s,mb4.7								
TXAR	**Lajitas Array**	**67.94**	**70**	P		**P**		**13 59 22.8**	**+0.4**
	comp=Z,0.6nm,0.5s,mb3.9,baz=301,slow=5.3,SNR=18								
TXAR				pP		pP		13 59 33.3	-0.3
	comp=Z,1.9nm,0.5s,baz=310,slow=4.7,SNR=16								
TXAR				LR		LR		14 27 59.3	
	comp=Z,37nm,18.3s,MS3.6,baz=10.0,slow=35								
TXAR	**Lajitas Array**	**67.94**	**70**	*eP*		**P**		**13 59 22.8**	**+0.4**
AKASG	**Malin Array Be**	**68.49**	**331**	P		**P**		**13 59 25.0**	**-0.6**
	comp=Z,0.5nm,0.4s,mb3.9,baz=22,slow=4.5,SNR=4.1								
AKASG				pP		pP		13 59 35.8	-0.9
	comp=Z,1.0nm,0.5s,baz=28,slow=6.8,SNR=3.2								
AKASG	**Malin Array Be**	**68.49**	**331**	*i* P		**P**		**13 59 25.0**	**-0.6**
AKASG				pmax		pmax			
	comp=Z,1.0nm,0.4s								
KAKA	**Kakadu**	**72.16**	**212**	*eP*		**P**		**13 59 46.3**	**-2.0**
	comp=Z,13nm,0.7s,mb5.0								
MOX	**Moxa**	**72.64**	**342**	*e*PG		**P**		**13 59 54.0**	**+3.2**
WRAB	**Tennant Creek**	**78.43**	**208**	*eP*		**P**		**14 00 24.6**	**+0.4**
WRAB				pmax		pmax			
	comp=Z,5.0nm,0.8s,mb4.5								
WRAB	**Tennant Creek**	**78.43**	**208**	*eP*		**P**		**14 00 24.6**	**+0.3**
	comp=Z,4.8nm,0.8s,mb4.5								
WB2	**Warramunga Arr**	**78.44**	**208**	*eP*		**P**		**14 00 24.1**	**-0.1**
WRA	**Warramunga Arr**	**78.44**	**208**	P		**P**		**14 00 24.5**	**+0.2**
	comp=Z,4.7nm,0.6s,mb4.6,baz=22,slow=6.1,SNR=49								
WRA	**Warramunga Arr**	**78.44**	**208**	*i* P		**P**		**14 00 24.5**	**+0.2**
WRA				pmax		pmax			
	comp=Z,5.0nm,0.6s								
FITZ	**Fitzroy Crossi**	**79.45**	**217**	P		**P**		**14 00 30.4**	**+0.6**
	comp=Z,1.7nm,0.6s,mb4.1,baz=30,slow=7.2,SNR=7.1								
ASAR	**Alice Springs**	**82.11**	**208**	P		**P**		**14 00 44.8**	**+0.9**
	comp=Z,4.6nm,0.8s,mb4.5,baz=17,slow=5.5,SNR=63								
ASAR				pP		pP		14 00 55.9	+0.5
	comp=Z,1.4nm,0.7s,baz=18,slow=5.6,SNR=5.5								
ASAR	**Alice Springs**	**82.11**	**208**	*eP*		**P**		**14 00 44.8**	**+0.9**
ESDC	**Sonseca Array**	**85.56**	**351**	P		**P**		**14 01 01.1**	**-0.5**
	comp=Z,1.4nm,0.7s,mb4.3,baz=5.7,slow=4.2,SNR=9.6								
ESDC				pP		pP		14 01 13.3	+0.3
	comp=Z,1.1nm,0.7s,baz=2.3,slow=6.0,SNR=3.9								
STKA	**Stephens Creek**	**88.24**	**199**	P		**P**		**14 01 14.5**	**+0.1**
	comp=Z,3.9nm,1.0s,mb4.6,baz=341,slow=8.1,SNR=4.8								
STKA				pP		pP		14 01 26.0	+0.1
	comp=Z,1.3nm,0.7s,baz=20,slow=12,SNR=2.3								
STKA	**Stephens Creek**	**88.24**	**199**	P		**P**		**14 01 14.5**	**+0.1**
STKA				pP		pP		14 01 26.0	+0.1
PLCA	**Paso Flores**	**141.72**	**92**	PKP		PKPdf		14 07 54.8	+0.6
	comp=Z,0.9nm,0.8s,baz=201,slow=3.6,SNR=3.2								
PLCA	**Paso Flores**	**141.72**	**92**	PKIKP		PKPdf		14 07 54.8	+0.6
PLCA				pmax		pmax			
	comp=Z,1.0nm,0.8s								
QSPA	**South Pole Qui**	**144.32**	**180**	PKP		PKPdf		14 07 55.4	-2.2
	comp=Z,6.3nm,0.7s,baz=326,slow=0.6,SNR=38								
QSPA				pPKP		pPKPdf		14 08 06.9	-2.6
	comp=Z,3.2nm,0.7s,baz=36,slow=1.5,SNR=5.4								
QSPA	**South Pole Qui**	**144.32**	**180**	PKP		PKPdf		14 07 55.4	-2.2
QSPA				pPKP		pPKPdf		14 08 06.9	-2.6
SUR	**Sutherland**	**145.87**	**295**	PKPbc		PKPbc		14 08 01.3	-1.1
	comp=Z,15nm,1.0s,baz=138,slow=6.5,SNR=4.4								

*ISCJB **14** 13:58:28.0±0.3, 4982N±002×1840E±002, h0km, Error ellipse: s-maj=3.2km s-min=2.2km az=18.3*
*IPEC **14** 13:58:29.1±0.2, 4982N×1857E, h11km±1km, ML2.5/4, Error ellipse: s-maj=1.9km s-min=1.0km az=163.0*
*CSEM **14** 13:58:29.4±0.1, 4985N×1852E, h1km, ML3.4/6, Error ellipse: s-maj=2.0km s-min=1.3km az=17.0*
*NEIC **14** 13:58:29.4±0.5, 4982N×1843E, h5km, ML3.4(FUR), Error ellipse: s-maj=8.3km s-min=4.8km az=202.0*
*PRU **14** 13:58:30.2, 4984N×1844E, h0km*
*VIE **14** 13:58:30.4±0.4, 4966N×1838E, h0km, mb2.5/5, ML2.7/5, Error ellipse: s-maj=2.5km s-min=1.9km az=72.0 21 km SSE of Ostrava Suspected Mining induced.*

ISC 14 13:58:29.1±0.3, 4980N±002×1845E±002, h0km, n48, σ1§14/86, 11C-9D, Czech and Slovak Republics

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
OKC	**Ostrava-Krasne**	**0.20**	**282**	*e*Pg		**Pg**		**13 58 34.4**	**+1.5**
OKC				Sg		**Sg**		**13 58 37.9**	**+2.3**
	872nm,0.6s								
OKC	**Ostrava-Krasne**	**0.20**	**282**	*e*PG		**Pg**		**13 58 34.7**	**+1.8**
OKC				*e*SG		**Sg**		**13 58 37.9**	**+2.3**
	872nm,0.6s								
RAC	**Raciborz**	**0.33**	**330**	*e*Pg		**Pg**		**13 58 36.8**	**+1.4**
RAC				*e*Sg		**Sg**		**13 58 42.6**	**+2.9**
MORC	**Moravsky Berou**	**0.59**	**268**	⇓*i*P		**Pg**		**13 58 41.3**	**+0.9**
MORC	**Moravsky Berou**	**0.59**	**268**	*e*Pg		**Pg**		**13 58 41.1**	**+0.7**
MORC				*e*Sg		**Sg**		**13 58 50.2**	**+2.2**
	128nm,0.5s								
MORC	**Moravsky Berou**	**0.59**	**268**	*e*Pg		**Pg**		**13 58 40.9**	**+0.5**
OJC	**Ojcow**	**0.97**	**64**	*e*Pg		**Pg**		**13 58 46.5**	**-1.1**
OJC				*e*Sg		**Sg**		**13 58 59.2**	**-0.9**
JAVC	**Velka Javorina**	**1.07**	**209**	*e*Pg		**Pg**		**13 58 51.1**	**+1.6**
KOLL	**Kolacno**	**1.22**	**182**	*i* PN		**Pn**		**13 58 53.1**	**-0.2**
KOLL				*e*SN		**Sn**		**13 59 10.5**	**0.0**
NIE	**Niedzica**	**1.27**	**107**	*e*Pg		**Pg**		**13 58 53.1**	**-0.2**
NIE				*e*Sg		**Sg**		**13 59 11.4**	**+1.6**
VRAC	**Vranov**	**1.31**	**249**	⇓*i*P		**Pg**		**13 58 54.0**	**-0.1**
VRAC	**Vranov**	**1.31**	**249**	*e*Pg		**Pg**		**13 58 54.0**	**-0.1**
VRAC				*e*Sg		**Sg**		**13 59 12.8**	**+1.8**
	105nm,0.4s								
VYHS	**Vyhne**	**1.33**	**169**	*e*PN		**Pn**		**13 58 54.2**	**-0.6**
VYHS				*e*SN		**Sn**		**13 59 11.3**	**-1.9**
DPC	**Dobruska-Polom**	**1.48**	**293**	*e*Pn		**Pn**		**13 58 56.5**	**-0.4**
DPC	**Dobruska-Polom**	**1.48**	**293**	Pg		**Pg**		**13 58 57.1**	**-0.3**
DPC				*e*Sg		**Sg**		**13 59 17.9**	**+1.3**
DPC	**Dobruska-Polom**	**1.48**	**293**	*e*PG		**Pg**		**13 58 57.1**	**-0.3**
DPC				*e*SG		**Sg**		**13 59 17.2**	**+0.6**
	38nm,0.4s								
KRUC	**Moravsky**	**1.53**	**242**	*e*Pn		**Pn**		**13 58 56.9**	**-0.7**
KRUC				*e*Sg		**Sg**		**13 59 19.4**	**+1.2**
	37nm,0.3s								
MODS	**Modra-Piesok**	**1.62**	**209**	*e*PN		**Pn**		**13 58 59.1**	**+0.3**
MODS				*e*SN		**Sn**		**13 59 21.6**	**+1.2**
UPC	**Upice**	**1.72**	**295**	*e*PG		**Pg**		**13 59 00.0**	**-2.1**
UPC				*e*SG		**Sg**		**13 59 25.1**	**+0.7**
KSP	**Ksiaz**	**1.74**	**308**	*e*Pn		**Pn**		**13 58 60.0**	**-0.5**
KSP				*e*Pg		**Pg**		**13 59 02.8**	**+0.5**
KSP				*e*Sg		**Sg**		**13 59 27.0**	**+2.2**
KSP	**Ksiaz**	**1.74**	**308**	*e*Pg		**Pg**		**13 59 02.1**	**-0.2**
KSP				*e*Sg		**Sg**		**13 59 25.0**	**+0.2**
KSP	**Ksiaz**	**1.74**	**308**	*e*Pn		**Pn**		**13 58 59.9**	**-0.5**
KSP				*e*Pg		**Pg**		**13 59 02.1**	**-0.2**
KSP				*e*Sg		**Sg**		**13 59 25.0**	**+0.2**
ZST	**Bratislava**	**1.83**	**210**	*e*PN		**Pn**		**13 59 02.0**	**+0.2**
ZST				*e*SN		**Sn**		**13 59 26.4**	**+0.8**
STHS	**Stebnicka Huta**	**1.85**	**101**	*e*PN		**Pn**		**13 59 04.1**	**+2.0**
STHS				*e*SN		**Sn**		**13 59 30.0**	**+3.8**
TREC	**Trest**	**2.00**	**257**	*e*Pn		**Pn**		**13 59 03.5**	**-0.5**
TREC				*e*Sg		**Sg**		**13 59 33.9**	**+0.7**
PENC	**Penc**	**2.08**	**164**	⇓*e*Pn		**Pn**		**13 59 05.6**	**+0.4**
PSZ	**Piszkesteto**	**2.11**	**153**	⇓*e*Pn		**Pn**		**13 59 05.7**	**+0.2**
PSZ	**Piszkesteto**	**2.11**	**153**	⇑*i*P		**Pn**		**13 59 03.2**	**-2.3**
PSZ	**Piszkesteto**	**2.11**	**153**	*e*P		**Pn**		**13 59 05.6**	**+0.1**
PSZ	**Piszkesteto**	**2.11**	**153**	*e*P		**Pn**		**13 59 05.6**	**0.0**
CRVS	**Cervenica-Dubn**	**2.16**	**113**	*e*PN		**Pn**		**13 59 07.9**	**+1.6**
CRVS				*e*SN		**Sn**		**13 59 37.0**	**+3.3**
PKSG		**2.41**	**181**	⇓*e*Pn		**Pn**		**13 59 10.1**	**+0.4**
PKSG				*e*Sn		**Sn**		**13 59 40.3**	**+0.5**
SOP	**Sopron**	**2.46**	**211**	⇑*e*PB		**Pb**		**13 59 10.9**	**-3.2**
CONA	**Conrad Observa**	**2.54**	**223**	*e*Pn		**Pn**		**13 59 11.3**	**-0.1**
	SNR=23								
CONA				⇑*i*Sn		**Sn**		**13 59 42.7**	**-0.3**
CSNA	**Conrad Observa**	**2.54**	**223**	⇑*i*Pn		**Pn**		**13 59 11.3**	**-0.1**
CSNA				⇓*i*Sn		**Sn**		**13 59 42.0**	**-1.0**
PRU	**Pruhonice**	**2.54**	**276**	*e*PN		**Pn**		**13 59 09.9**	**-1.5**
PRU				*e*PG		**Pg**		**13 59 14.9**	**-2.8**
PRU				*e*SG		**Sg**		**13 59 50.8**	**+0.3**
	23nm,0.7s								
PVCC	**Panska Ves**	**2.60**	**288**	*e*PG		**Pg**		**13 59 17.4**	**-1.5**
PVCC				*e*SG		**Sg**		**13 59 52.0**	**-0.6**
	61nm,0.6s								
KOLS	**Kolonicke sedl**	**2.64**	**108**	*e*		**Pn**		**13 59 20.5**	**+7.6**
BRG	**Berggiesshubel**	**3.08**	**292**	PG		**Pg**		**13 59 25.7**	**-2.4**
BRG				SG		**Sg**		**14 00 07.1**	**-1.0**
	19nm,0.8s								
ARSA	**Arzberg**	**3.21**	**218**	⇑*i*Pn		**Pn**		**13 59 20.7**	**+0.1**
ARSA				⇓*i*Sn		**Sn**		**13 59 58.9**	**-0.6**
KHC	**Kasperske Hory**	**3.25**	**260**	*e*PN		**Pn**		**13 59 21.5**	**+0.3**
KHC				*e*PG		**Pg**		**13 59 28.4**	**-2.9**
KHC				*e*SG		**Sg**		**14 00 13.8**	**+0.4**
	18nm,0.4s								
MOA	**Molln**	**3.38**	**236**	⇑*i*Pn		**Pn**		**13 59 22.8**	**-0.3**
	SNR=9.1								
MOA				⇓*i*Pg		**Pg**		**13 59 32.1**	**-1.8**
MOA				⇑*i*Sn		**Sn**		**14 00 02.9**	**-1.0**
MOA				⇑*i*Sg		**Sg**		**14 00 17.6**	**-0.1**
	16nm,0.5s								
PKSM	**Moragy**	**3.59**	**178**	⇑*i*P		**Pn**		**13 59 25.6**	**-0.3**
WET	**Wettzell**	**3.69**	**262**	*e*Pn		**Pn**		**13 59 26.9**	**-0.4**
CLL	**Collm**	**3.79**	**296**	*e*Pn		**Pn**		**13 59 29.0**	**+0.3**
CLL				*e*Pg		**Pg**		**13 59 41.0**	**-0.7**
CLL				*i* Sg		**Sg**		**14 00 30.4**	**-0.4**
	comp=Z,19nm,0.8s								
DRGR		**4.14**	**135**	⇓*i*P		**Pn**		**13 59 33.5**	**+0.1**
BZS	**Buzias**	**4.70**	**152**	⇑*i*P		**Pn**		**13 59 40.0**	**-1.1**
BURAR	**Bucovina Array**	**4.98**	**113**	⇓*i*P		**Pn**		**13 59 45.7**	**+0.7**

IDC 14 14:00:58.0±15.0, 090S×12637E, h0km, mb3.4/3, mb1 3.7/3, mb1mx3.4/14, mbtmp3.5/3, Error ellipse: s-maj=230.5km s-min=163.4km az=152.0, Southern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**20.47**	**158**	P		P		14 05 37.5	0.0
	1.0nm,0.6s,baz=336,slow=11,SNR=17								
ASAR	**Alice Springs**	**23.78**	**163**	P		P		14 06 14.1	+1.5
	0.2nm,0.3s,baz=344,slow=11,SNR=12								
STKA	**Stephens Creek**	**34.01**	**156**	P		P		14 07 42.0	-1.7
	1.2nm,0.8s,baz=354,slow=10,SNR=3.8								

*MAN **14** 14:02:54, 578N×12445E, h31km, mb4.7, ML3.6, MS3.5*
*IDC **14** 14:02:54.8±2.5, 545N×12535E, h0km, mb3.7/4, mb1 3.9/4, mb1mx3.5/17, mbtmp3.7/4, Error ellipse: s-maj=130.2km s-min=18.1km az=91.0*
*ISCJB **14** 14:02:56.0±0.8, 583N±006×124.34E±007, h72km±11km, mb3.6/3, Error ellipse: s-maj=13.3km s-min=7.8km az=136.4*

ISC 14 14:02:57.0±0.8, 583N±007×12434E±007, h64km±13km, n14, σ0§93/23, mb3.6/3, 1C-4D, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
GSPH	**General Santos**	**0.66**	**68**	⇑*e*P		**Pn**		**14 03 10.7**	**-0.4**
GSPH				*e*S		**Sn**		**14 03 21.8**	**+0.4**
CTBH	**Cotabato--PC H**	**1.38**	**356**	⇓*i*P		**Pn**		**14 03 19.9**	**-0.3**
CTBH				*i* S		**Sn**		**14 03 37.1**	**-0.6**
KCP	**Kidapawan**	**1.39**	**33**	⇓*e*P		**Pn**		**14 03 23.9**	**+3.6**
KCP				*e*S		**Sn**		**14 03 42.2**	**+4.4**
DAV	**Davao City (W)**	**1.74**	**45**	Pn		**Pn**		**14 03 24.6**	**-0.5**
	61nm,0.3s,baz=268,slow=14,SNR=8.3								
DAV				Sn		**Sn**		**14 03 48.1**	**+1.8**
	66nm,0.3s,baz=110,slow=21,SNR=4.9								
BUKP	**Musuan**	**2.16**	**20**	*e*P		**Pn**		**14 03 29.9**	**-0.8**
BUKP				*e*S		**Sn**		**14 03 55.3**	**-1.0**
MATI	**Mati**	**2.21**	**60**	*e*P		**Pn**		**14 03 28.3**	**-3.1**
PAGZ	**Pagadian**	**2.21**	**335**	*e*P		**Pn**		**14 03 30.9**	**-0.6**
PAGZ				*e*S		**Sn**		**14 03 57.2**	**-0.6**
ZMPH	**Zamboanga City**	**2.52**	**296**	⇓*i*P		**Pn**		**14 03 36.0**	**+0.5**
ZMPH				*i* S		**Sn**		**14 03 52.6**	**-13**
CGP	**Cagayan de Oro**	**2.63**	**8**	⇓*e*P		**Pn**		**14 03 37.6**	**+0.5**
CGP				*e*S		**Sn**		**14 04 12.6**	**+4.7**
DCPH	**Dipolog City**	**2.90**	**340**	*e*P		**Pn**		**14 03 41.5**	**+0.7**
DCPH				*e*S		**Sn**		**14 04 15.8**	**+1.2**
FITZ	**Fitzroy Crossi**	**23.82**	**177**	P		**P**		**14 08 05.1**	**+0.9**
	0.6nm,0.5s,baz=360,slow=18,SNR=6.0								
WRA	**Warramunga Arr**	**27.44**	**159**	P		**P**		**14 08 36.1**	**-0.9**
	0.9nm,0.6s,mb3.5,baz=341,slow=9.4,SNR=9.5								
ASAR	**Alice Springs**	**30.77**	**163**	P		**P**		**14 09 06.2**	**-0.3**
	0.3nm,0.5s,mb3.4,baz=348,slow=7.6,SNR=9.7								
STKA	**Stephens Creek**	**40.95**	**157**	P		**P**		**14 10 33.9**	**+0.4**
	1.3nm,0.4s,mb3.9,baz=346,slow=11,SNR=6.2								

*NIED **14** 14:20:00, 4320N×14640E, h44km, Mw4.1 Best double couple: M0 1.35000×10^15 NP1:φs169.00000°, δ60.00000°, λ41.00000°. NP2:φs55.00000°, δ56.00000°, λ142.00000°.*
*ISCJB **14** 14:20:35.0±1.0, 4319N±008×14644E±008, h60km±7km, mb4.0/10, Error ellipse: s-maj=13.2km s-min=9.2km az=154.1*
*JMA **14** 14:20:35.1±0.1, 4316N×14645E, h51km±1km, M4.1*
JMA Felt I J1.
*NEIC **14** 14:20:39.1±1.5, 4367N×14644E, h61km±16km, mb3.7/1, Error ellipse: s-maj=23.4km s-min=14.1km az=135.0*
*IDC **14** 14:20:39.8±2.5, 4377N×14646E, h64km±25km, mb3.8/8, mb1 4.0/11, mb1mx3.7/21, mbtmp3.8/11, ML3.7/3, MS2.8/3, Ms1 2.8/3, ms1mx2.4/29, Error ellipse: s-maj=36.8km s-min=19.1km az=174.0*
*MOS **14** 14:20:40.9±1.9, 4361N×14607E, h90km, mb4.0/4, Error ellipse: s-maj=16.3km s-min=12.6km az=72.6*

ISC 14 14:20:35.5±1.0, 4319N±008×14649E±008, h48km±8km, n39, σ0§90/47, mb4.0/10, 3C-1D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
NEM2	**Nemuro 2**	**0.57**	**288**	P		**Pn**		**14 20 47.2**	**-0.2**
NEM2				*e*S		**Sn**		**14 20 55.8**	**-0.2**
JRA	**Rausu**	**1.24**	**307**	P		**Pn**		**14 20 56.4**	**+0.1**
JRA				*e*S		**Sn**		**14 21 12.4**	**+0.5**
JAK	**Akkeshi**	**1.32**	**262**	P		**Pn**		**14 20 57.2**	**-0.3**
JAK				*e*S		**Sn**		**14 21 13.2**	**-0.8**
JNK	**Nakash**	**1.35**	**288**	P		**Pn**		**14 20 57.4**	**-0.4**
JNK				*e*S		**Sn**		**14 21 14.0**	**-0.5**
JOB	**Onbets**	**1.96**	**262**	P		**Pn**		**14 21 06.2**	**0.0**
JOB				*e*S		**Sn**		**14 21 29.1**	**-0.6**
JAR	**Ashorobuto**	**1.99**	**274**	P		**Pn**		**14 21 06.6**	**0.0**
JAR				*e*S		**Sn**		**14 21 30.1**	**-0.1**
JTKR	**Abashiri--Toko**	**2.03**	**293**	P		**Pn**		**14 21 08.0**	**+0.9**
JTKR				*e*S		**Sn**		**14 21 32.5**	**+1.3**
JCH	**Churui**	**2.37**	**257**	P		**Pn**		**14 21 11.3**	**-0.5**
JCH				*e*S		**Sn**		**14 21 38.5**	**-1.0**
JMP	**Maruseppu**	**2.41**	**291**	P		**Pn**		**14 21 13.5**	**+1.1**
ERM	**Erimo**	**2.73**	**246**	*e*PN		**Pn**		**14 21 18.6**	**+1.9**
ASAJ	**Asahikawa**	**2.97**	**289**	P		**Pn**		**14 21 21.8**	**+1.8**
	16nm,0.3s,baz=101,slow=9.6,SNR=46								
ASAJ				S		**Sn**		**14 22 00.5**	**+6.1**
	5.9nm,0.3s,baz=30,slow=30,SNR=6.1								
YSS	**Yuzh-Sakhalins**	**4.60**	**326**	*d* iPN		**Pn**		**14 21 42.4**	**+0.1**
YSS	**Yuzh-Sakhalins**	**4.60**	**326**	Pn		**Pn**		**14 21 41.7**	**-0.6**
MJAR	**Matsushiro Arr**	**9.19**	**227**	P		**Pn**		**14 22 55.9**	**+10**
	0.4nm,0.3s,baz=29,slow=14,SNR=9.3								
MJAR				S		**Sn**		**14 24 36.3**	**+8.9**
	0.4nm,0.3s,baz=27,slow=16,SNR=3.7								
MJAR				LR		LR		14 26 57.8	
	comp=Z,73nm,18.7s,baz=35,slow=40								
MAJO	**Matsushiro**	**9.20**	**227**	*e*PN		**Pn**		**14 22 55.1**	**+10**
JHJ	**Hachijo jima 2**	**11.35**	**210**	LR		LR		14 27 26.6	
	comp=Z,40nm,19.5s,baz=170,slow=34								
PETK	**Petropavlovsk-**	**12.41**	**33**	P		**Pn**		**14 23 27.1**	**-2.1**
	0.2nm,0.3s,baz=174,slow=9.3,SNR=7.1								
PET	**Petropavlovsk**	**12.74**	**35**	*c* iPN		**Pn**		**14 23 39.9**	**+6.1**
KSRS	**Korea Array**	**15.27**	**254**	LR		LR		14 30 30.8	
	comp=Z,28nm,20.1s,baz=70,slow=38								
SONM	**Songino Array**	**28.25**	**294**	P		**P**		**14 26 24.0**	**+0.3**
	1.2nm,0.5s,mb3.8,baz=92,slow=8.8,SNR=14								
SONM	**Songino Array**	**28.25**	**294**	P		**P**		**14 26 24.0**	**+0.3**
SONM				pmax		pmax			
	comp=Z,1.0nm,0.5s								
TLY	**Talaya**	**29.82**	**302**	⇑*i*P		**P**		**14 26 38.0**	**+0.3**
TLY				pmax		pmax			
	comp=Z,4.0nm,0.8s,mb4.2								
KRAR	**Krasnoyarsk**	**36.10**	**310**	*c iP*		**P**		**14 27 30.5**	**-1.9**
KDAK	**Kodiak Island**	**39.98**	**47**	P		**P**		**14 28 04.2**	**-0.8**
	comp=Z,7.0nm,0.7s,mb4.5,baz=278,slow=7.9,SNR=4.5								
MCK	**McKinley**	**41.37**	**37**	*eP*		**P**		**14 28 15.3**	**-1.0**
KURK	**Kurchatov**	**45.44**	**304**	*eP*		**P**		**14 28 49.0**	**-0.3**
KURK				pmax		pmax			
	comp=Z,1.0nm,0.6s,mb3.8								
KURK	**Kurchatov**	**45.44**	**304**

CHN5				*e*S		Sg	14 24 34.3	+3.5
	baz=217								
WGK	**Gukeng**	**0.99**	**226**	*e*P		Pg	14 24 18.3	+0.3
	baz=225								
WGK				*e*S		Sg	14 24 34.1	+3.2
	baz=225								
ALS	**Alishan**	**1.00**	**209**	P		Pg	14 24 17.9	-0.1
	baz=210								
TWF1	**Yuli**	**1.03**	**182**	⇓*i*P		Pg	14 24 18.5	-0.2
	baz=181								
TWF1				*e*S		Sg	14 24 32.3	+0.2
	baz=181								
WTCT	**Ta-ch'eng**	**1.09**	**242**	*e*P		Pb	14 24 20.0	+0.1
	baz=229								
WTCT				*e*S		Sg	14 24 35.4	+1.3
	baz=229								
CHN2	**Minshiung**	**1.16**	**223**	*e*P		Pb	14 24 21.4	+0.5
	baz=237								
ELDTW	**Lidau**	**1.23**	**194**	*e*P		Pn	14 24 21.3	-0.8
	baz=206								
WSF	**Szhu**	**1.26**	**234**	*e*P		Pn	14 24 22.4	-0.1
	baz=234								
CHKT	**Chengkung**	**1.28**	**179**	*e*P		Pn	14 24 23.4	+0.6
	baz=162								
CHKT				*e*S		Sb	14 24 40.2	+0.6
	baz=162								
WTP	**Ta-pu**	**1.31**	**210**	*e*P		Pn	14 24 24.1	+0.8
	baz=209								
WTP				*e*S		Sb	14 24 43.6	+3.1
	baz=209								
STYT	**Tauyuan**	**1.33**	**204**	*e*P		Pn	14 24 23.6	+0.2
	baz=202								
STYT				*e*S		Sb	14 24 44.3	+3.4
	baz=202								
TWK	**Hsinying**	**1.36**	**215**	*e*P		Pn	14 24 24.5	+0.7
	baz=227								
TWK				*e*S		Sb	14 24 45.1	+3.3
	baz=227								
CHN1	**Nanshi**	**1.41**	**212**	*e*P		Pn	14 24 25.4	+0.9
	baz=223								
CHN1				*e*S		Sn	14 24 46.9	+3.8
	baz=223								
CHN8	**Yiju**	**1.46**	**225**	*e*P		Pn	14 24 25.9	+0.7
	baz=237								
CHN8				*e*S		Sn	14 24 45.4	+1.0
	baz=237								
SGST	**Jiashian**	**1.47**	**208**	P		Pn	14 24 26.8	+1.4
	baz=206								
SGST				*e*S		Sn	14 24 48.2	+3.5
	baz=206								
YOJ	**Yonaguni jima**	**1.53**	**87**	*e*P		Pn	14 24 29.0	+2.7
	baz=88								
TWG	**Pinlang**	**1.58**	**189**	*e*P		Pn	14 24 27.8	+1.0
	baz=190								
CHN3	**Shihua**	**1.58**	**214**	*e*P		Pn	14 24 28.5	+1.6
	baz=215								
SCLT	**Jiali**	**1.59**	**221**	*e*P		Pn	14 24 28.6	+1.4
	baz=236								
SSD	**Sandimen**	**1.75**	**202**	P		Pn	14 24 31.6	+2.2
	baz=199								
SSD				*e*S		Sn	14 24 55.6	+3.8
	baz=199								
TWM1	**Shoushan**	**1.77**	**208**	*e*P		Pn	14 24 32.0	+2.5
	baz=209								
ECL	**Taimali**	**1.81**	**191**	*e*P		Pn	14 24 32.2	+2.0
	baz=180								
PNG	**Penghu**	**1.82**	**244**	*e*P		Pn	14 24 31.8	+1.6
	baz=242								
PNG				*e*S		Sn	14 24 52.9	-0.5
	baz=242								
EAST	**Anshuo**	**2.04**	**193**	*e*P		Pn	14 24 36.0	+2.7
	baz=193								
TAW	**Tawu**	**2.06**	**191**	*e*P		Pn	14 24 36.1	+2.6
	baz=179								
SCZT	**Fangliau**	**2.11**	**198**	⇑P		Pn	14 24 36.9	+2.7
	baz=195								
SCZT				*e*S		Sn	14 25 02.6	+2.1
	baz=195								

*KRSC **14** 14:37:03.6±0.5, 5582N×16104E, h138km±27km, ML4.4*
*MOS **14** 14:37:04.2±1.4, 5590N×16092E, h134km, mb3.7/7, Error ellipse: s-maj=22.3km s-min=8.8km az=79.8*
*ISCJB **14** 14:37:05.5±0.3, 5579N±003×16099E±009, h122km, mb3.9/10, Error ellipse: s-maj=7.1km s-min=4.1km az=15.7*
*IDC **14** 14:37:05.8±0.8, 5589N×16068E, h127km±7km, mb3.6/9, mb1 3.8/11, mb1mx3.6/23, mbtmp3.6/11, Error ellipse: s-maj=19.5km s-min=13.7km az=154.0*
*NEIC **14** 14:37:05.6±0.5, 5596N×16069E, mb4.2/1, Error ellipse: s-maj=12.7km s-min=8.0km az=113.0*

ISC 14 14:37:05.8±0.3, 5584N±003×16094E±009, h129km±2km, h124km±4.1km; pP-P, n54, σ0s88/63, mb3.7/10, 3C-1D, Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ZLN	**Zelenaya**	**0.19**	**337**	P	**Pn**	**14 37 23.9**	**+0.4**
BZMR	**Bezymyannaya**	**0.27**	**291**	*e*P	**Pn**	**14 37 23.9**	**+0.2**
BZMR				*i* S	**Sn**	**14 37 38.1**	**+0.9**
BZWR	**Bezymyannyi-We**	**0.28**	**297**	*e*P	**Pn**	**14 37 23.9**	**+0.2**
KMNR	**Kamenistaya**	**0.40**	**258**	*e*P	**Pn**	**14 37 24.4**	**+0.2**
KMNR				*i* S	**Sn**	**14 37 38.7**	**+0.6**
KPT	**Kopyto**	**0.42**	**288**	*e*P	**Pn**	**14 37 24.1**	**-0.2**
KRSR	**Krestovskiy**	**0.43**	**331**	*e*P	**Pn**	**14 37 23.8**	**-0.5**
KLY	**Klyuchi**	**0.50**	**341**	*e*P	**Pn**	**14 37 24.2**	**-0.5**
KLY				*i* S	**Sn**	**14 37 38.6**	**-0.5**
KOZR	**Kozyr**	**0.63**	**292**	PN	**Pn**	**14 37 25.4**	**-0.1**
KOZ	**Kozyrevsk**	**0.64**	**291**	*e*P	**Pn**	**14 37 25.4**	**-0.2**
BDR	**Baidarnaya**	**0.75**	**12**	*e*P	**Pn**	**14 37 26.5**	**+0.1**
BDR				*i* S	**Sn**	**14 37 42.3**	**+0.3**
SRDR	**Sredinnyy**	**0.84**	**305**	P	**Pn**	**14 37 26.8**	**-0.3**
SRDR				*i* S	**Sn**	**14 37 43.1**	**-0.2**
KBTR	**Krutoberegovo**	**1.12**	**70**	*e*P	**Pn**	**14 37 29.1**	**-0.6**
KBTR				*i* S	**Sn**	**14 37 47.2**	**-0.7**
MKZ	**Mys Kozlova**	**1.36**	**160**	P	**Pn**	**14 37 31.9**	**-0.4**
MKZ				*i* S	**Sn**	**14 37 52.3**	**-0.1**
GNL	**Ganaly**	**2.76**	**220**	*e*P	**Pn**	**14 37 49.8**	**+0.5**
SPN	**Mys Shipunski**	**2.80**	**191**	*e*P	**Pn**	**14 37 48.5**	**-1.2**
SPN				*i* S	**Sn**	**14 38 22.0**	**-1.5**
NLC	**Nalytchevo**	**2.83**	**200**	*e*P	**Pn**	**14 37 50.1**	**0.0**
NLC				*i* S	**Sn**	**14 38 24.0**	**-0.3**
AVH	**Avacha**	**2.88**	**207**	*e*P	**Pn**	**14 37 51.8**	**+1.0**
PET	**Petropavlovsk**	**3.12**	**206**	*e*P	**Pn**	**14 37 55.0**	**+1.1**
PET				*i* S	**Sn**	**14 38 33.7**	**+2.7**
PET	**Petropavlovsk**	**3.12**	**206**	*e*P	**Pn**	**14 37 54.5**	**+0.6**
PEA0B	**Petropavlovsk-**	**3.33**	**216**	*e*P	**Pn**	**14 37 57.0**	**+0.4**
PETK	**Petropavlovsk-**	**3.33**	**216**	P	**Pn**	**14 37 57.0**	**+0.4**
	5.2nm,0.3s,baz=60,slow=16,SNR=152						
PETK	**Petropavlovsk-**	**3.33**	**216**	P	**Pn**	**14 37 57.0**	**+0.4**
RUS	**Russkaya**	**3.70**	**204**	*e*P	**Pn**	**14 38 01.2**	**-0.3**
RUS				*e*S	**Sn**	**14 38 43.1**	**-1.5**
MIPR	**Malaya Ipel'ka**	**4.34**	**216**	P	**Pn**	**14 38 10.6**	**+0.7**
SKR	**Severo-Kuril's**	**5.92**	**211**	*e*PN	**Pn**	**14 38 35.0**	**+3.9**
SKR				*e*		14 39 36.0	
YSS	**Yuzh-Sakhalins**	**14.38**	**239**	*d*P	**Pn**	**14 40 18.0**	**-5.2**
ASAJ	**Asahikawa**	**16.57**	**233**	P	**Pn**	**14 40 51.1**	**+0.8**
	1.4nm,0.3s,baz=41,slow=14,SNR=12						
ASAJ	**Asahikawa**	**16.57**	**233**	P	**Pn**	**14 40 51.2**	**+0.8**
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ERM	**Erimo**	**18.03**	**227**	*e*P	**P**	**14 41 06.4**	**-0.2**
TIXI	**Tiksi**	**20.84**	**332**	*c*P	**P**	**14 41 38.0**	**+1.3**
TIXI				pmax	pmax		
	comp=Z,14nm,2.5s						
TIXI	**Tiksi**	**20.84**	**332**	*e*P	**P**	**14 41 36.0**	**-0.7**
VLA	**Vladivostok**	**22.56**	**248**	*c*P	**P**	**14 41 50.7**	**-4.4**
SONM	**Songino Array**	**33.84**	**280**	P	**P**	**14 43 36.1**	**+0.7**
	comp=Z,0.7nm,0.6s,mb3.6,baz=59,slow=7.8,SNR=5.2						
SONM	**Songino Array**	**33.84**	**280**	P	**P**	**14 43 36.1**	**+0.7**
SONM				pmax	pmax		
	comp=Z,1.0nm,0.6s						
KURK	**Kurchatov**	**46.74**	**300**	P	**P**	**14 45 21.2**	**-0.3**
	comp=Z,3.7nm,0.3s,mb4.5,baz=55,slow=6.9,SNR=5.0						
KURK	**Kurchatov**	**46.74**	**300**	P	**P**	**14 45 21.2**	**-0.3**
KURK				pmax	pmax		
	comp=Z,4.0nm,0.3s,mb4.5						
KURK	**Kurchatov**	**46.74**	**300**	*e*P	**P**	**14 45 20.2**	**-1.2**
	comp=Z,4.2nm,0.8s,mb4.1						
BVAR	**Borovoye Array**	**49.10**	**307**	P	**P**	**14 45 38.1**	**-1.4**
	comp=Z,0.9nm,0.6s,mb3.6,baz=60,slow=3.5,SNR=4.7						
BVAR	**Borovoye Array**	**49.10**	**307**	P	**P**	**14 45 38.1**	**-1.5**
BVAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
NVAR	**Mina Array Bea**	**54.39**	**72**	P	**P**	**14 46 21.2**	**+2.2**
	comp=Z,0.6nm,0.6s,mb3.5,baz=301,slow=7.1,SNR=6.6						
NVAR				pP	pP	14 46 48.3	-1.0
	comp=Z,0.5nm,0.7s,baz=274,slow=5.7,SNR=4.0						
JOF	**Joensuu**	**55.29**	**335**	*ep*	**P**	**14 46 24.1**	**-1.0**
	comp=Z,0.9nm,0.4s,mb3.9						
JOF	**Joensuu**	**55.29**	**335**	*e*P	**P**	**14 46 24.1**	**-1.0**
JOF				pmax	pmax		
	comp=Z,1.0nm,0.4s,mb3.9						
PDAR	**Pinedale Array**	**55.79**	**63**	P	**P**	**14 46 30.8**	**+1.8**
	comp=Z,0.4nm,0.6s,mb3.4,baz=316,slow=6.3,SNR=2.0						
PDAR				pP	pP	14 47 01.1	+1.7
	comp=Z,0.9nm,0.7s,baz=7.6,slow=4.5,SNR=2.8						
NOA	**NORSAR Array B**	**61.04**	**344**	P	**P**	**14 47 04.1**	**-1.1**
	comp=Z,0.9nm,0.9s,mb3.6,baz=14,slow=5.9,SNR=2.5						
NOA	**NORSAR Array B**	**61.04**	**344**	P	**P**	**14 47 04.1**	**-1.0**
NOA				pmax	pmax		
	comp=Z,1.0nm,0.9s						
TXAR	**Lajitas Array**	**69.14**	**68**	P	**P**	**14 47 59.3**	**+1.4**
	comp=Z,0.8nm,0.6s,mb3.6,baz=305,slow=4.9,SNR=15						
TXAR				pP	pP	14 48 30.4	+1.0
	comp=Z,0.4nm,0.7s,baz=306,slow=3.7,SNR=3.8						
TXAR	**Lajitas Array**	**69.14**	**68**	*e*P	**P**	**14 47 59.3**	**+1.4**
WRAB	**Tennant Creek**	**78.77**	**205**	⇑*i*P	**P**	**14 48 52.3**	**-1.5**
WRA	**Warramunga Arr**	**78.78**	**205**	P	**P**	**14 48 53.3**	**-0.6**
	comp=Z,1.0nm,0.7s,mb3.6,baz=10,slow=5.9,SNR=18						
WRA	**Warramunga Arr**	**78.78**	**205**	P	**P**	**14 48 53.3**	**-0.6**
WRA				pmax	pmax		
	comp=Z,1.0nm,0.7s						
ASAR	**Alice Springs**	**82.46**	**205**	P	**P**	**14 49 13.6**	**+0.1**
	comp=Z,1.1nm,0.6s,mb3.7,baz=16,slow=4.8,SNR=48						
ASAR	**Alice Springs**	**82.46**	**205**	P	**P**	**14 49 13.6**	**+0.2**
ASAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
PLCA	**Paso Flores**	**143.48**	**88**	PKP	PKPdf	14 56 22.7	-1.4
	comp=Z,0.5nm,0.5s,baz=231,slow=4.0,SNR=3.1						
PLCA	**Paso Flores**	**143.48**	**88**	PKIKP	PKPdf	14 56 22.7	-1.5
PLCA				pmax	pmax		
	comp=Z,1.0nm,0.5s						

*NIED **14** 14:38:00, 3540N×13320E, h5km, Mw3.5 Best double couple: M0 2.30000×10^14 NP1:φs157.00000°, δ85.00000°, λ-35.00000°. NP2:φs251.00000°, δ55.00000°, λ-174.00000°.*
*IDC **14** 14:38:48.0±1.8, 3537N×13306E, h0km, mb3.3/1, mb1 3.3/3, mb1mx3.1/21, mbtmp3.0/3, ML2.8/2, MS2.7/1, Ms1 2.7/1, ms1mx2.3/16, Error ellipse: s-maj=35.0km s-min=21.3km az=173.0*
*ISCJB **14** 14:38:49.5±0.6, 3546N±004×133.17E±004, h20km±5km, Error ellipse: s-maj=7.3km s-min=5.7km az=6.9*
*JMA **14** 14:38:50.0, 3543N×13320E, h1^+km±1km, M3.5 Broadband fault plane solution: P waves. NP1: φs342.00000°, δ61.00000°, λ-11.00000°. NP2:φs77.00000°, δ81.00000°, λ-151.00000°. Principal axes: T Plg13.0000°, Azm206.0000°; N Plg60.0000°, Azm93.0000°; P Plg27.0000°, Azm303.0000°;*
JMA Felt III J1.

ISC 14 14:38:50.1±0.6, 3542N±004×13318E±004, h12km±5km, n12, σ0s76/18, 4C-3D, Western Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JNM	**Ikuma**	**0.14**	**301**	⇓P	**Pg**	**14 38 53.6**	**+0.1**
JNM				S	**Sg**	**14 38 56.4**	**+0.4**
JHS	**Saijyo**	**0.43**	**187**	⇑P	**Pg**	**14 38 58.6**	**+0.1**
JHS				S	**Sg**	**14 39 04.8**	**+0.6**
JKR	**Kurayoshi**	**0.52**	**95**	⇓P	**Pg**	**14 38 59.8**	**-0.6**
JKR				S	**Sg**	**14 39 06.7**	**-0.6**
JJG	**Jouge**	**0.78**	**182**	⇑P	**Pg**	**14 39 05.0**	**-0.2**
JJG				S	**Sg**	**14 39 15.8**	**+0.4**
JGT	**Gotsu**	**0.80**	**241**	⇑P	**Pg**	**14 39 05.4**	**-0.1**
JGT				S	**Sg**	**14 39 16.3**	**+0.4**
JAD	**Aida**	**0.94**	**120**	⇓P	**Pg**	**14 39 07.2**	**-1.1**
JHT	**Toyohira**	**0.98**	**220**	⇑P	**Pg**	**14 39 08.4**	**-0.6**
MAT	**Matsushiro**	**4.23**	**73**	P	**Pn**	**14 39 55.9**	**+1.6**
MAT				S	**Sn**	**14 40 49.3**	**+5.7**
MJAR	**Matsushiro Arr**	**4.23**	**73**	Pn	**Pn**	**14 39 56.2**	**+1.9**
	0.5nm,0.3s,baz=261,slow=14,SNR=9.0						
MJAR				Lg		14 41 06.5	
	1.0nm,0.3s,baz=263,slow=8.1,SNR=6.2						
KSRS	**Korea Array**	**4.70**	**297**	Pn	**Pn**	**14 40 00.1**	**-0.7**
	0.4nm,0.3s,baz=113,slow=15,SNR=5.1						
KSRS				Sn	**Sn**	**14 40 54.7**	**-0.5**
	1.4nm,0.3s,baz=115,slow=25,SNR=8.0						
ASAJ	**Asahikawa**	**11.30**	**37**	LR	LR	14 45 34.6	
	comp=Z,36nm,20.4s,baz=70,slow=36						
WRA	**Warramunga Arr**	**55.07**	**179**	P	**P**	**14 48 21.1**	**-0.7**
	0.2nm,0.4s,baz=0.2,slow=8.0,SNR=4.8						

*ISCJB **14** 14:43:42.6±0.4, 4405N±004×2708E±004, h10km, Error ellipse: s-maj=6.0km s-min=3.3km az=159.8*
*BUC **14** 14:43:42.5±2.3, 4403N×2711E, h16km±18km, MD2.8/4, Error ellipse: s-maj=14.3km s-min=4.7km az=345.0*
*CSEM **14** 14:43:42.7±0.1, 4411N×2709E, h25km, ML2.9, Error ellipse: s-maj=3.5km s-min=2.0km az=167.0*
*SOF **14** 14:43:42.0, 4410N×2709E, h15km, MD2.6*
*NEIC **14** 14:43:43.2, 4410N×2712E, h4km, ML2.9(BUC), After BUC.*

ISC 14 14:43:42.6±0.5, 4405N±004×2707E±004, h9km±5km, n33, σ1s01/49, 10C-12D, Romania

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CVD	**Cernavoda**	**0.74**	**69**	⇓*i*P	**Pg**	**14 43 57.1**	**+0.3**
CVD				*i* S	**Sg**	**14 44 07.5**	**+1.0**
CVD	**Cernavoda**	**0.74**	**69**	⇑P	**Pg**	**14 43 57.2**	**+0.4**
CVD				S	**Sg**	**14 44 07.6**	**+1.1**
CVD	**Cernavoda**	**0.74**	**69**	⇑P	**Pg**	**14 43 57.2**	**+0.4**
CVD				S	**Sg**	**14 44 07.6**	**+1.1**
BUC1	**Bucharest**	**0.81**	**292**	⇓*i*P	**Pg**	**14 43 58.5**	**+0.3**
BUC1				*i* S	**Sg**	**14 44 09.9**	**+1.2**
PRD	**Provadia**	**0.88**	**164**	*i* P	**Pg**	**14 44 00.6**	**+1.1**
PSN	**Preselentsi**	**0.88**	**114**	*i* P	**Pg**	**14 43 59.6**	**0.0**
HARR	**Harsova**	**0.89**	**43**	⇑*i*P	**Pg**	**14 43 59.3**	**-0.4**
HARR				*i* S	**Sg**	**14 44 11.1**	**-0.2**
HARR	**Harsova**	**0.89**	**43**	⇑P	**Pg**	**14 43 59.2**	**-0.5**
HARR				S	**Sg**	**14 44 10.7**	**-0.6**
HARR	**Harsova**	**0.89**	**43**	⇑P	**Pg**	**14 43 59.2**	**-0.4**
HARR				S	**Sg**	**14 44 10.7**	**-0.6**
TIRR	**Tirgusor**	**1.05**	**66**	⇓*i*P	**Pg**	**14 44 01.6**	**-1.1**
TIRR				*i* S	**Sg**	**14 44 15.3**	**-1.0**
TIRR	**Tirgusor**	**1.05**	**66**	⇓P	**Pg**	**14 44 01.6**	**-1.1**
TIRR				S	**Sg**	**14 44 15.2**	**-1.1**
TIRR	**Tirgusor**	**1.05**	**66**	⇓P	**Pg**	**14 44 01.6**	**-1.1**
TIRR				S	**Sg**	**14 44 15.2**	**-1.0**
ISR	**Istrita**	**1.14**	**341**	⇑P	**Pg**	**14 44 04.3**	**-0.1**
ISR	**Istrita**	**1.14**	**341**	⇑P	**Pg**	**14 44 04.3**	**-0.1**
SZH	**Strazhica**	**1.14**	**227**	*i* P	**Pg**	**14 44 03.5**	**-0.9**
ZIMR		**1.30**	**253**	⇑*i*P	**Pn**	**14 44 06.4**	**-0.5**
ZIMR				*i* S	**Sb**	**14 44 24.7**	**+0.8**
JMB	**Yambol**	**1.62**	**193**	*i* P	**Pn**	**14 44 12.5**	**+1.2**
MLR	**Muntele Rosu**	**1.65**	**331**	⇓*e*P	**Pn**	**14 44 12.8**	**+1.1**
MLR	**Muntele Rosu**	**1.65**	**331**	⇓P	**Pn**	**14 44 12.8**	**+1.0**
TLCR		**1.69**	**47**	⇓*i*P	**Pn**	**14 44 12.9**	**+0.7**
TLCR				*i* S	**Sn**	**14 44 34.1**	**+0.2**
TLCR		**1.69**	**47**	⇓P	**Pn**	**14 44 12.8**	**+0.6**
TLCR				S	**Sn**	**14 44 34.0**	**+0.1**
VRI	**Vrincioaia**	**1.83**	**352**	⇑*i*P	**Pn**	**14 44 15.7**	**+1.4**
VRI	**Vrincioaia**	**1.83**	**352**	⇑P	**Pn**	**14 44 15.7**	**+1.4**
VOIR		**2.00**	**315**	⇓*i*P	**Pn**	**14 44 17.2**	**+0.6**
VTS	**Vitosha**	**3.17**	**244**	⇓*i*P	**Pn**	**14 44 33.7**	**+1.0**
VTS	**Vitosha**	**3.17**	**244**	*e*P	**Pn**	**14 44 32.0**	**-0.7**
VTS	**Vitosha**	**3.17**	**244**	*e*Pn	**Pn**	**14 44 35.5**	**+2.8**
VTS				*e*Sg	**Sg**	**14 45 20.2**	**-4.3**
ZAPS	**Zavoj**	**3.31**	**258**	*e*Pn	**Pn**	**14 44 33.3**	**-1.3**
ZAPS				*e*Sg	**Sg**	**14 45 21.5**	**-7.5**
GZR	**Gura Zlata**	**3.34**	**295**	⇓*i*P	**Pn**	**14 44 34.6**	**-0.4**
MMB	**Musomiste**	**3.48**	**226**	*e*P	**Pn**	**14 44 46.0**	**+9.1**
BARS	**Barje**	**4.02**	**254**	*e*Pn	**Pn**	**14 44 43.8**	**-0.5**
BARS				*e*Sg	**Sg**	**14 45 45.1**	**-6.7**
BZS	**Buzias**	**4.19**	**294**	*e*Pn	**Pn**	**14 44 44.3**	**-2.3**
DIVS	**Divibare**	**5.10**	**273**	*e*Pn	**Pn**	**14 44 56.9**	**-2.3**

*ISCJB **14** 14:56:01.8±0.9, 3915N±002×2415E±004, h12km±7km, Error ellipse: s-maj=4.8km s-min=3.8km az=23.3*
*SOF **14** 14:56:02.4, 3930N×2418E, h10km, MD2.8*
*ATH **14** 14:56:02.4, 3915N×2416E, h34km±2km, MD3.4/13, ML3.5*
*CSEM **14** 14:56:02.1±0.3, 3917N×2413E, h14km±2km, ML3.9/3, Error ellipse: s-maj=2.0km s-min=1.6km az=103.0*
*NEIC **14** 14:56:02.4, 3915N×2416E, h34km, ML3.5(ATH), After ATH.*
*THE **14** 14:56:02.4, 3914N×2416E, h8km±1km, ML3.9/3, Error ellipse: s-maj=1.0km s-min=0.6km az=246.0*
*BEO **14** 14:56:14.1, 3996N×2365E, ML2.3/1*

ISC 14 14:56:01.9±0.8, 3913N±002×2414E±004, h9km±6km, n66, σ0s85/75, 5C-5D, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AOS	**Alonnisos**	**0.20**	**283**	P	**Pg**	**14 56 07.1**	**+1.0**
NEO	**Neokhori**	**0.73**	**285**	*e*Pn	**Pn**	**14 56 17.6**	**-0.9**
NEO	**Neokhori**	**0.73**	**285**	*e*PN	**Pn**	**14 56 17.6**	**-0.9**
XOR	**Xorichti**	**0.77**	**289**	P	**Pg**	**14 56 17.4**	**+0.6**
LKR	**Lokris**	**1.00**	**242**	*e*Pn	**Pn**	**14 56 21.7**	**-0.5**
LKR				*e*Sn	**Sn**	**14 56 36.2**	**-0.3**
LKR	**Lokris**	**1.00**	**242**	*e*PN	**Pn**	**14 56 21.7**	**-0.5**
LKR				*e*SN	**Sn**	**14 56 36.2**	**-0.3**
LOS	**Limnos**	**1.09**	**42**	P	**Pg**	**14 56 22.4**	**-0.5**
PTL	**Penteli**	**1.09**	**191**	*e*Pn	**Pn**	**14 56 23.0**	**-0.5**
PTL	**Penteli**	**1.09**	**191**	*e*PN	**Pn**	**14 56 23.0**	**-0.5**
ATH	**Athens Observa**	**1.20**	**196**	*e*Pn	**Pn**	**14 56 25.2**	**+0.3**
ATH				*e*Sn	**Sn**	**14 56 41.0**	**-0.2**
ATH	**Athens Observa**	**1.20**	**196**	*e*PN	**Pn**	**14 56 25.2**	**+0.3**
ATH				*e*SN	**Sn**	**14 56 41.0**	**-0.2**
OUR	**Ouranopolis**	**1.21**	**354**	P	**Pb**	**14 56 24.4**	**-0.7**
KVR	**Kavouri**	**1.33**	**193**	*e*Pb	**Pb**	**14 56 26.0**	**-1.0**
KVR	**Kavouri**	**1.33**	**193**	*e*PB	**Pb**	**14 56 26.0**	**-1.0**
PLG	**Polygyros**	**1.36**	**337**	P	**Pn**	**14 56 26.2**	**-0.9**
PLG	**Polygyros**	**1.36**	**337**	*e*Pn	**Pn**	**14 56 26.3**	**-0.8**
PLG	**Polygyros**	**1.36**	**337**	*e*PN	**Pn**	**14 56 26.3**	**-0.8**
AGG	**Agios Georgios**	**1.41**	**266**	P	**Pn**	**14 56 27.8**	**0.0**
AGG				S	**Sn**	**14 56 47.4**	**+0.9**
LTK	**Loutraki**	**1.43**	**220**	P	**Pn**	**14 56 28.2**	**+0.1**
NAIG	**Nisos Aigina**	**1.46**	**201**	*e*Pn	**Pn**	**14 56 29.0**	**+0.6**
NAIG	**Nisos Aigina**	**1.46**	**201**	*e*PN	**Pn**	**14 56 29.0**	**+0.6**
LIT	**Litokhoron**	**1.60**	**308**	P	**Pn**	**14 56 30.2**	**-0.2**
PRK	**Paraskevi**	**1.67**	**85**	P	**Pn**	**14 56 30.9**	**-0.4**
PRK				S	**Sn**	**14 56 53.2**	**+0.4**
PRK	**Paraskevi**	**1.67**	**85**	*e*Pb	**Pn**	**14 56 30.9**	**-0.4**
PRK				S	**Sn**	**14 56 53.2**	**+0.4**
PRK	**Paraskevi**	**1.67**	**85**	*e*PB	**Pn**	**14 56 30.9**	**-0.4**
CHOS	**Chios island**	**1.67**	**116**	P	**Pn**	**14 56 31.3**	**-0.1**
HORT	**Hortiatis**	**1.67**	**332**	P	**Pn**	**14 56 31.4**	**0.0**
THL	**Klokotos Trika**	**1.70**	**286**	*e*Pb	**Pb**	**14 56 32.0**	**-1.4**
THL	**Klokotos Trika**	**1.70**	**286**	*e*PB	**Pb**	**14 56 32.0**	**-1.4**
DID	**Didima**	**1.76**	**204**	P	**Pn**	**14 56 32.4**	**-0.3**
SOH	**Sokhos**	**1.80**	**341**	P	**Pn**	**14 56 33.0**	**-0.1**
SOH				S	**Sn**	**14 56 57.1**	**+1.0**
EVR	**Evrytania**	**1.82**	**264**	P	**Pn**	**14 56 30.6**	**-2.9**
AYVA	**Ayvalik**	**1.99**	**84**	*i* P	**Pn**	**14 56 35.9**	**+0.1**
KZN	**Kozani**	**2.17**	**304**	P	**Pn**	**14 56 39.7**	**+1.4**
VLX	**Vlachokerasia**	**2.23**	**219**	P	**Pn**	**14 56 39.7**	**+0.6**
NVR	**Nevrokopi**	**2.23**	**355**	*e*Pn	**Pn**	**14 56 38.6**	**-0.5**
NVR	**Nevrokopi**	**2.23**	**355**	*e*PN	**Pn**	**14 56 38.6**	**-0.5**
RDO	**Rodhopi**	**2.29**	**28**	*e*Pn	**Pn**	**14 56 39.2**	**-0.7**
RDO	**Rodhopi**	**2.29**	**28**	*e*PN	**Pn**	**14 56 39.2**	**-0.7**
ALN	**Alexandroupoli**	**2.30**	**39**	P	**Pn**	**14 56 38.6**	**-1.4**
APE	**Apeiranthos**	**2.33**	**151**	P	**Pn**	**14 56 40.4**	**0.0**
APE	**Apeiranthos**	**2.33**	**151**	⇓*i*P	**Pn**	**14 56 40.5**	**+0.1**
APE	**Apeiranthos**	**2.33**	**151**	*e*Pn	**Pn**	**14 56 40.9**	**+0.5**
APE	**Apeiranthos**	**2.33**	**151**	*e*PN	**Pn**	**14 56 40.9**	**+0.5**
MMB	**Musomiste**	**2.48**	**353**	*i* P	**Pn**	**14 56 41.7**	**-0.8**
RZN	**Rozhen**	**2.60**	**10**	*i* P	**Pn**	**14 56 44.0**	**-0.1**
JAN	**Janina**	**2.60**	**283**	P	**Pn**	**14 56 49.8**	**+5.6**
ITM	**Ithomi**	**2.61**	**223**	*e*Pn	**Pn**	**14 56 45.0**	**+0.7**
ITM	**Ithomi**	**2.61**	**223**	*e*PN	**Pn**	**14 56 45.0**	**+0.7**
KDZ	**Kurdzhali**	**2.71**	**21**	*i* P	**Pn**

KUR AMB AMB 15 07 25.0
comp=E,5µm,0.7s
KUR *i* S **Sn** **15 07 40.0 -0.4**
KUR A 15 07 43.0
comp=E,100µm,1.6s
KUR A 15 07 43.0
comp=E,80µm,1.6s
KUR A 15 07 43.0
comp=E,191µm,2.0s
KUR A 15 07 43.0
comp=E,140µm,2.0s
YUK Yuzh-Kuril'sk 3.12 242 *e*P **Pn** **15 07 47.5 +1.7**
YUK AMB AMB 15 07 48.0
comp=E,2µm,0.5s
YUK AMB AMB 15 07 48.0
comp=E,840nm,0.4s
YUK AMB AMB 15 07 48.0
comp=E,420nm,0.4s
YUK AMB AMB 15 07 59.0
comp=E,5µm,2.0s
YUK AMB AMB 15 07 59.0
comp=E,5µm,2.0s
YUK AMB AMB 15 07 59.0
comp=E,3µm,2.0s
YUK *i* S **Sn** **15 08 24.6 +2.4**
YUK A 15 08 28.5
comp=E,11µm,0.5s
YUK A 15 08 28.5
comp=E,10µm,0.5s
YUK A 15 08 29.9
comp=E,23µm,1.0s
YUK A 15 08 29.9
comp=E,18µm,0.8s
NEM2 Nemuro 2 3.57 234 P **Pn** **15 07 51.9 0.0**
NEM2 *e*S **Sn** **15 08 30.7 -2.4**
JRA Rausu 3.63 245 P **Pn** **15 07 54.9 +2.2**
JNK Nakash 4.06 243 P **Pn** **15 08 00.3 +1.8**
JAK Akkeshi 4.40 236 P **Pn** **15 08 03.0 -0.1**
JAK *e*S **Sn** **15 08 50.7 -2.5**
JTKR Abashiri--Toko 4.41 251 P **Pn** **15 08 05.6 +2.4**
JTKR *e*S **Sn** **15 08 56.0 +2.6**
JMP Maruseppu 4.76 253 P **Pn** **15 08 10.5 +2.5**
JAR Ashorobuto 4.80 244 P **Pn** **15 08 10.5 +2.0**
JOB Onbets 4.97 240 P **Pn** **15 08 11.7 +0.9**
JOB *e*S **Sn** **15 09 06.7 -0.3**
YSS Yuzh-Sakhalins 5.01 289K *i*PN **Pn** **15 08 14.8 +3.5**
YSS *e*S **Sn** **15 09 12.3 +4.4**
YSS pmax pmax
comp=N,150nm,0.9s
YSS pmax pmax
comp=E,460nm,0.9s
YSS pmax pmax
comp=Z,540nm,0.9s
YSS smax
comp=N,620nm,1.0s
YSS smax
comp=E,2µm,2.0s
YSS Yuzh-Sakhalins 5.01 289⇓ *i*P **Pn** **15 08 14.8 +3.5**
YSS AMB AMB 15 08 15.7
comp=E,150nm,0.9s
YSS AMB AMB 15 08 15.7
comp=E,460nm,0.9s
YSS AMB AMB 15 08 15.7
comp=E,540nm,0.9s
YSS *e*S **Sn** **15 09 12.3 +4.4**
YSS A 15 09 16.6
comp=E,620nm,1.0s
YSS A 15 09 16.6
comp=E,2µm,2.0s
YSS Yuzh-Sakhalins 5.01 289⇓ *i*Pn **Pn** **15 08 14.7 +3.3**
YSS *e*Sn **Sn** **15 09 10.3 +2.4**
JSE Soyaes 5.05 266 P **Pn** **15 08 15.5 +3.6**
JKK2 Kamakawa 2 5.22 254 P **Pn** **15 08 17.2 +2.9**
ASAJ Asahikawa 5.24 257 P **Pn** **15 08 17.5 +3.0**
comp=E,33nm,0.3s,baz=70,slow=12,SNR=156
ASAJ Asahikawa 5.24 257 P **Pn** **15 08 17.8 +3.3**
ASAJ Asahikawa 5.24 257 PN **Pn** **15 08 17.5 +3.0**
ASAJ pmax pmax
comp=Z,33nm,0.3s
JCH Churui 5.42 239 P **Pn** **15 08 17.0 0.0**
JCH *e*S **Sn** **15 09 14.7 -3.2**
JWK2 Keihoku 5.49 270 P **Pn** **15 08 22.7 +4.8**
JFR Furan 5.62 247 P **Pn** **15 08 21.8 +2.2**
JAB Ashibetsu 5.71 252 P **Pn** **15 08 24.3 +3.3**
JEM Erimo 5.90 236 P **Pn** **15 08 24.1 +0.6**
ERM Erimo 5.90 236 Pn **Pn** **15 08 25.7 +2.2**
comp=Z,3µm,0.5s,SNR=53
ERM Erimo 5.90 236 *e*PN **Pn** **15 08 24.3 +0.8**
ERM pmax pmax
comp=Z,186nm,0.4s
ERM Erimo 5.90 236 *e*Pn **Pn** **15 08 24.3 +0.8**
comp=Z,186nm,0.4s
ERM *e*S **Sn** **15 09 24.2 -5.5**
JBT2 Biratori 2 5.95 245 P **Pn** **15 08 25.1 +0.9**
JBT2 *e*S **Sn** **15 09 27.2 -3.7**
JHR Hokuryu 5.96 255 P **Pn** **15 08 27.8 +3.5**
JNBK Urakawa-nobuka 5.98 239 P **Pn** **15 08 23.9 -0.7**
JNBK *e*S **Sn** **15 09 25.6 -6.0**
UGL Uglegorsk 6.27 307 *e*P **Pn** **15 08 32.0 +3.6**
UGL AMB AMB 15 08 33.0
comp=Z,540nm,1.0s
JEW Eniwo 6.51 248 P **Pn** **15 08 34.0 +2.2**
SKR Severo-Kuril's 6.70 38 *e*PN **Pn** **15 08 33.0 -1.3**
SKR *e*S **Sn** **15 09 46.5 -2.6**
SKR pmax pmax
comp=N,50nm,0.6s
SKR pmax pmax
comp=E,40nm,0.6s
SKR pmax pmax
comp=Z,120nm,0.6s
SKR smax
comp=N,40nm,0.5s
SKR smax
comp=E,70nm,0.5s
SKR smax
comp=Z,40nm,0.5s
SKR Severo-Kuril's 6.70 38 *e*P **Pn** **15 08 33.0 -1.3**
SKR AMB AMB 15 08 36.0
comp=Z,50nm,0.6s
SKR AMB AMB 15 08 36.0
comp=Z,40nm,0.6s
SKR AMB AMB 15 08 36.0
comp=Z,120nm,0.6s
SKR *e*S **Sn** **15 09 46.5 -2.6**
SKR A 15 10 03.0
comp=Z,40nm,0.5s
SKR A 15 10 03.0
comp=Z,70nm,0.5s
JSK Shakotan 6.95 255 P **Pn** **15 08 41.4 +3.7**
JNB Noboribetsu 6.95 247 P **Pn** **15 08 38.3 +0.5**
JNB *e*S **Sn** **15 09 54.4 -0.9**
JKB Kayabe 7.26 243 P **Pn** **15 08 41.7 -0.3**
JKB *e*S **Sn** **15 09 58.8 -4.0**
JSH Shimam 7.52 251 P **Pn** **15 08 47.5 +1.9**
JYM2 Yakumo 2 7.56 246 P **Pn** **15 08 46.3 +0.2**
JSR Shiriuchi 7.84 242 P **Pn** **15 08 49.2 -0.7**
JSR *e*S **Sn** **15 10 11.6 -5.3**
JTM Tenmabayashi 7.89 236 P **Pn** **15 08 49.4 -1.2**
JTM *e*S **Sn** **15 10 10.6 -7.7**
JANG Nango 7.91 232 P **Pn** **15 08 48.0 -2.9**
JANG *e*S **Sn** **15 10 09.2 -10**
JTH Tanohata 8.03 228 P **Pn** **15 08 49.3 -3.2**
JTH *e*S **Sn** **15 10 12.5 -9.2**
JOSM Okushiri--Mats 8.15 248 P **Pn** **15 08 54.4 +0.2**
JOSM *e*S **Sn** **15 10 23.1 -1.5**
OFUJ Ofunato 8.78 225 P **Pn** **15 08 59.9 -2.7**
OFUJ *e*S **Sn** **15 10 30.7 -9.1**
JRG Rokugo 9.08 231 P **Pn** **15 09 04.9 -1.9**
JRG *e*S **Sn** **15 10 39.6 -7.6**
PEA0B Petropavlovsk- 9.19 32 *e*Pn **Pn** **15 09 07.0 -1.2**
PETK Petropavlovsk- 9.19 32 P **Pn** **15 09 07.0 -1.2**
comp=Z,8.3nm,0.3s,baz=209,slow=10,SNR=246
JOG2 Oga 2 9.20 236 P **Pn** **15 09 07.3 -1.1**
JIO Ouri 9.42 224 P **Pn** **15 09 08.0 -3.4**
JIO *e*S **Sn** **15 10 45.5 -10**
PET Petropavlovsk 9.49 35 *e*Pn **Pn** **15 09 11.3 -1.0**
PET MLR MLR
comp=Z,2µm,17.0s
PET Petropavlovsk 9.49 35 *e*Pn **Pn** **15 09 10.0 -2.4**
JYA Atsumi 10.16 230 P **Pn** **15 09 19.7 -1.7**
JYA *e*S **Sn** **15 11 06.6 -6.8**
HABR Khabarovsk 10.41 292⇑ *e*PN **Pn** **15 09 26.5 +1.7**
HABR *e*S **Sn** **15 11 21.5 +2.0**
JFK Kawauchi 10.51 222 P **Pn** **15 09 22.7 -3.5**
JFK *e*S **Sn** **15 11 12.1 -10**
JFY Yanaizu 11.05 226 P **Pn** **15 09 31.8 -1.8**
JFY *e*S **Sn** **15 11 26.0 -9.1**
MAJO Matsushiro 12.48 228 *e*PN **Pn** **15 09 50.5 -2.2**
MAJO pmax pmax
comp=Z,57nm,0.9s
MAJO Matsushiro 12.48 228 *e*Pn **Pn** **15 09 50.5 -2.2**
comp=Z,57nm,0.9s
MAT Matsushiro 12.48 228 P **Pn** **15 09 50.1 -2.6**
MAT S **Sn** **15 12 03.3 -6.5**
MJAR Matsushiro Arr 12.48 228 P **Pn** **15 09 50.6 -2.2**
comp=Z,1.8nm,0.3s,baz=29,slow=13,SNR=65
MJAR S **Sn** **15 12 06.8 -3.0**
comp=Z,0.5nm,0.3s,baz=45,slow=14,SNR=5.9
MJAR LR LR 15 14 46.5
comp=Z,153nm,20.2s,baz=50,slow=37
MJAR ScP ScP 15 18 47.4 -1.2
comp=Z,0.1nm,0.3s,baz=82,slow=1.7,SNR=5.7
MJAR Matsushiro Arr 12.48 228 P **Pn** **15 09 50.5 -2.2**
MJAR S **Sn** **15 12 06.8 -3.0**
MJAR LR LR 15 14 46.5
MJAR ScP ScP 15 18 47.4 -1.2
KLR Kul'dur 12.70 293 *e*PN **Pn** **15 09 53.7 -1.8**
KLR pmax pmax
comp=E,160nm,1.8s
KLR pmax pmax
comp=Z,150nm,1.8s
VLA Vladivostok 12.97 266 *e*PN **Pn** **15 09 59.9 +0.8**
VLA *e*S **Sn** **15 12 22.5 +0.9**
VLA pmax pmax
comp=Z,104nm,1.2s
MDJ Mudanjiang 14.23 273 *e*Pn **Pn** **15 10 16.1 +0.5**
comp=Z,21nm,0.7s
JHJ Hachijo jima 2 14.57 215 P **Pn** **15 10 19.9 -0.1**
comp=Z,6.2nm,0.3s,baz=49,slow=17,SNR=2.4
JHJ S **Sn** **15 12 51.4 -9.2**
comp=Z,21nm,0.3s,baz=241,slow=24,SNR=8.2
ZEA Zeya 16.63 308 *e*P **Pn** **15 10 43.4 -2.2**
ZEA AMB AMB 15 10 44.5
comp=Z,86nm,0.9s
ZEA AMB AMB 15 10 44.5
comp=Z,65nm,1.0s
ZEA AMB AMB 15 10 44.5
comp=Z,53nm,1.0s
CN2 Changchun 17.31 273 *e*P **Pn** **15 10 52.5 -1.7**
CN2 AMB AMB
comp=Z,40nm,1.0s
SEY Seymchan 17.49 4⇑ *e*P **Pn** **15 10 55.5 -0.6**
KSRS Korea Array 18.16 251 P **Pn** **15 11 03.2 -1.2**
comp=Z,1.6nm,0.3s,baz=61,slow=11,SNR=58
KSRS LR LR 15 17 32.0
comp=Z,100nm,18.8s,baz=360,slow=35
KSRS Korea Array 18.16 251 P **Pn** **15 11 03.2 -1.2**
KSRS pmax pmax
comp=Z,2.0nm,0.3s
KSRS MLR MLR
comp=Z,100nm,18.8s
INCN Inchon 19.01 253 *e*P **Pn** **15 11 13.7 -0.8**
comp=Z,140nm,0.9s
CLNS Chul'man 19.09 315 *e*P **Pn** **15 11 13.3 -2.0**
CLNS *e*S **S** **15 14 47.2 +2.5**
CLNS pmax pmax
comp=E,10.0nm,0.9s
CLNS pmax pmax
comp=E,15nm,1.0s
CLNS pmax pmax
comp=N,16nm,1.1s
CLNS smax
comp=E,15nm,1.0s
CLNS smax
comp=N,20nm,1.2s
CBIJ Chichi jima 19.37 201 S **S** **15 14 41.0 -10**
comp=N,5.2nm,0.3s,baz=73,slow=19,SNR=4.5
YAK Yakutsk 20.15 332 *e*P **P** **15 11 25.0 0.0**
YAK *e**PP 15 11 49.7
YAK *e*S **S** **15 15 04.6 -1.1**
YAK *e* 15 15 32.8
YAK *e**SS sS 15 15 48.0 +12
YAK *e* 15 22 41.0
YAK pmax pmax
comp=N,17nm,1.0s
YAK pmax pmax
comp=Z,44nm,0.9s
YAK pmax pmax
comp=E,21nm,1.2s
YAK smax
comp=N,535nm,4.9s
YAK smax
comp=E,293nm,2.5s
HIA Hailar 20.54 291 *e*P **P** **15 11 25.6 -3.6**
HIA pmax pmax
comp=Z,8.0nm,0.5s
HIA Hailar 20.54 291 *e*P **P** **15 11 25.6 -3.6**
comp=Z,7.6nm,0.5s
DL2 Dalian 21.74 262 *e*P **P** **15 11 42.3 +0.1**
DL2 AMB AMB
comp=Z,30nm,1.0s,mb4.6
BOD Bodaibo 24.97 312 *e*P **P** **15 12 10.3 -2.7**
BOD pmax pmax
comp=Z,6.0nm,1.1s,mb3.9
BJI Beijing 25.08 269 P **P** **15 12 14.8 +0.7**
BJI XP sP 15 12 43.6 -2.8
BJI S **S** **15 16 29.4 -2.1**
BJI AMB AMB
comp=Z,103nm,0.8s,mb5.3
BJI LR LR
comp=Z,232nm,35.8s
BJT Baijiatuau 25.09 269 *e*P **P** **15 12 14.7 +0.4**
BJT pmax pmax
comp=Z,58nm,0.6s
BJT Baijiatuau 25.09 269 *e*P **P** **15 12 14.7 +0.4**
comp=Z,58nm,0.6s,mb5.2
JOW Kunigami 25.31 230 P **P** **15 12 17.2 +0.8**
comp=Z,50nm,1.0s,mb4.9,baz=50,slow=12,SNR=4.3
TIA Tai'an 26.18 261 *e*P **P** **15 12 26.1 +2.0**
TIA AMB AMB
comp=Z,60nm,0.7s,mb5.1
NJ2 Nanjing 27.36 251 *e*P **P** **15 12 35.4 +0.6**
NJ2 AP pP 15 12 55.8 -0.3
NJ2 XP sP 15 13 08.5 +1.4
NJ2 S **S** **15 17 00.0 -7.6**
NJ2 AMB AMB
comp=Z,20nm,0.8s,mb4.7
NJ2 AMB AMB
comp=Z,150nm,3.9s
NJ2 LR LR
comp=N,290nm,22.0s
NJ2 LR LR
comp=E,390nm,27.0s
NJ2 LR LR
comp=Z,380nm,26.9s
HHC Hu-ho-hao-te 28.00 274 ⇓P **P** **15 12 41.4 +1.0**
HHC AP pP 15 13 03.3 +1.6
HHC XP sP 15 13 14.8 +2.0
HHC PP PP 15 13 33.5 -12
HHC PCP PcP 15 15 56.8 +3.9
HHC S **S** **15 17 16.5 -1.1**
HHC XS sS 15 17 53.6 -1.1
HHC SS SS 15 18 42.8 -36
HHC SCP ScP 15 19 26.3 +1.4
HHC AMB AMB
comp=Z,56nm,1.3s,mb4.9
HHC AMB AMB
comp=Z,119nm,6.0s
HHC LR LR
comp=N,259nm,10.6s
HHC LR LR
comp=E,280nm,10.8s
HHC LR LR
comp=Z,226nm,13.5s
TIXI Tiksi 28.00 346 *e*P **P** **15 12 37.5 -2.6**
SONM Songino Array 29.50 290 P **P** **15 12 53.3 -0.2**
comp=Z,4.9nm,0.9s,mb4.2,baz=79,slow=8.0,SNR=20
SONM ScP ScP 15 19 29.0 -0.5
comp=Z,1.0nm,0.9s,baz=117,slow=1.7,SNR=4.2
SONM LR LR 15 24 07.8
comp=Z,78nm,20.4s,baz=117,slow=35
SONM Songino Array 29.50 290 P **P** **15 12 53.3 -0.3**
SONM pmax pmax
comp=Z,5.0nm,0.9s
SONM pmax pmax
comp=N,1.0nm,1.0s
SONM MLR MLR
comp=Z,78nm,20.4s
ZAK Zakamensk 31.04 296 *e*P **P** **15 12 54.7 -12**
ZAK pmax pmax
comp=Z,3.0nm,1.5s,mb3.8
WHN Wuhan 31.31 254⇓ *i*P **P** **15 13 10.1 +0.3**
GUMO Guam 32.12 189 LR LR 15 24 13.9
comp=Z,26nm,21.4s,baz=100,slow=32
XAN Xi'an 33.03 264 P **P** **15 13 24.3 -0.5**
XAN AP pP 15 13 44.0 -2.4
XAN PP PP 15 14 39.4 -1.6
XAN S **S** **15 18 35.3 -1.0**
XAN AMB AMB
comp=Z,49nm,1.1s,mb5.2
XAN AMB AMB
comp=Z,8.0nm,12.1s
XAN LR LR
comp=E,79nm,30.9s
XAN LR LR
comp=Z,213nm,40.1s
SVW2 Sparrevohn 35.02 44 *e*P **P** **15 13 41.8 +0.2**
LZH Lanzhou 35.53 271 *e*P **P** **15 13 47.5 +1.1**
LZH AP pP 15 14 07.0 -1.1
LZH XP sP 15 14 21.0 +1.9
LZH PP PP 15 15 09.5 +0.8
LZH AMB AMB
comp=Z,200nm,1.0s,mb6.0
LZH AMB AMB
comp=Z,760nm,4.0s
LZH LR LR
comp=N,180nm,10.9s
LZH LR LR
comp=Z,352nm,14.5s
IMA2 Indian Mountai 36.17 35 *e*P **P** **15 13 51.3 -0.1**
KRAR Krasnoyarsk 36.42 308*c i*P **P** **15 13 52.9 -0.7**
KRAR pmax pmax
comp=Z,13nm,0.5s,mb5.1
CHUM Lake Minchumin 36.60 39 *e*P **P** **15 13 55.3 +0.2**
comp=Z,69nm,1.4s,mb5.4
PPLA Purkeypile 36.64 41 *e*P **P** **15 13 56.3 +0.9**
comp=Z,144nm,1.5s,mb5.7
KDAK Kodiak Island 36.70 49 P **P** **15 13 55.0 -1.0**
comp=Z,337nm,0.9s,SNR=9.8
KDAK Kodiak Island 36.70 49 P **P** **15 13 54.7 -1.3**
comp=Z,42nm,0.8s,mb5.4,baz=305,slow=4.9,SNR=18
KDAK Kodiak Island 36.70 49 P **P** **15 13 54.7 -1.3**
GTA Gaotai 36.80 279 P **P** **15 13 58.1 +1.0**
GTA AP pP 15 14 20.8 +1.8
GTA XP sP 15 14 32.3 +2.4
GTA PP PP 15 15 27.5 +5.0
GTA S **S** **15 19 37.1 +3.0**
GTA XS sS 15 20 15.8 +4.0
GTA AMB AMB
comp=Z,67nm,1.0s,mb5.5
GTA AMB AMB
comp=Z,216nm,7.5s
GTA LR LR
comp=N,114nm,15.6s
GTA LR LR
comp=E,104nm,12.6s
GTA LR LR
comp=Z,98nm,13.8s
BPAW Bear Paw Mtn. 37.19 39 *e*P **P** **15 14 00.1 0.0**
comp=Z,68nm,1.5s,mb5.4
KTH Kantishna Hill 37.21 40 *e*P **P** **15 14 00.5 +0.2**
comp=Z,116nm,1.1s,mb5.7
TRF Thorofare Moun 37.50 40 *e*P **P** **15 14 02.3 -0.4**
comp=Z,7.8nm,0.8s,mb4.7
COLD Coldfoot 37.66 34 *e*P **P** **15 14 03.7 -0.3**
comp=Z,33nm,0.7s,mb5.3
SLKM Skilak Lake 37.66 45 *e*P **P** **15 14 03.1 -1.0**
SEW Seward 38.08 45 *e*P **P** **15 14 06.2 -1.4**
MCK McKinley 38.10 39 *e*P **P** **15 14 07.3 -0.4**
MCK pmax pmax
comp=Z,39nm,0.9s,mb5.2
MCK McKinley 38.10 39 *e*P **P** **15 14 07.3 -0.4**
comp=Z,39nm,0.9s,mb5.2
PMR Palmer 38.11 43 *e*P **P** **15 14 07.5 -0.4**
PMR pmax pmax
comp=Z,39nm,1.0s,mb5.2
PMR Palmer 38.11 43 *e*P **P** **15 14 07.5 -0.4**
comp=Z,39nm,1.0s,mb5.2
CD2 Chengdu 38.39 264 *e*P **P** **15 14 10.3 -0.3**
CD2 AP pP 15 14 32.9 +0.3
CD2 XP sP 15 14 44.5 +1.0
CD2 PP PP 15 15 43.8 +3.7
CD2 PCP PcP 15 16 23.5 +1.3
CD2 S **S** **15 19 56.8 -1.6**
CD2 XS sS 15 20 35.4 -0.9
CD2 SS SS 15 22 39.4 -11
CD2 SCS ScS 15 24 09.6 -2.0
CD2 AMB AMB
comp=Z,110nm,0.7s,mb5.8
CD2 AMB AMB
comp=Z,180nm,5.2s
CD2 LR LR
comp=E,130nm,9.6s
CD2 LR LR
comp=E,90nm,12.0s
COLA College 38.55 37 *e*P **P** **15 14 11.4 -0.1**
COLA pmax pmax
comp=Z,70nm,0.8s,mb5.5
COLA College 38.55 37 *e*P **P** **15 14 11.4 -0.1**
comp=Z,70nm,0.8s,mb5.5
GYA Guiyang 39.12 256⇑ *i*P **P** **15 14 15.9 -0.8**
GYA AP pP 15 14 36.8 -2.0
GYA XP sP 15 14 47.6 -2.1
GYA PP PP 15 15 50.3 +2.2
GYA PCP PcP 15 16 26.3 +1.8
GYA SCP ScP 15 20 02.8 -1.3
GYA S **S** **15 20 07.8 -1.6**
GYA SS SS 15 22 55.4 -10
GYA AMB AMB
comp=Z,10.0nm,0.9s,mb4.7
GYA AMB AMB
comp=Z,100nm,5.2s
GYA LR LR
comp=N,560nm,17.4s
GYA LR LR
comp=E,540nm,18.2s
GYA LR LR
comp=Z,510nm,17.6s
MENT Mentasta 40.50 40 *e*P **P** **15 14 27.8 +0.1**
ZALV Zalesovo Beam 41.38 306 P **P** **15 14 33.2 -1.9**
comp=Z,0.8nm,0.3s,mb4.0,baz=72,slow=8.0,SNR=5.6
ZALV PcP PcP 15 16 31.7 +0.3
comp=Z,3.5nm,0.8s,baz=77,slow=3.4,SNR=7.7
ZALV pPcP 15 16 57.7
comp=Z,3.6nm,0.7s,baz=76,slow=2.9,SNR=7.1
ZALV ScP ScP 15 20 10.9 -1.5
comp=Z,2.0nm,0.8s,baz=64,slow=5.1,SNR=6.2
ZALV LR LR 15 32 39.6
comp=Z,44nm,19.1s,baz=68,slow=37
ZALV Zalesovo Beam 41.38 306 P **P** **15 14 33.2 -1.9**
ZALV 15 16 31.7
ZALV pmax pmax
comp=Z,1.0nm,0.3s,mb4.1
ZALV pmax pmax
comp=Z,4.0nm,0.8s,mb4.3
ZALV pmax pmax
comp=Z,4.0nm,0.7s,mb4.4
ZALV pmax pmax
comp=N,2.0nm,0.8s
ZALV MLR MLR
comp=Z,44nm,19.1s
ZALV Zalesovo Beam 41.38 306 P **P** **15 14 33.2 -1.9**
ZALV PcP PcP 15 16 31.7 +0.3
ZALV pPcP 15 16 57.7
ZALV ScP ScP 15 20 10.9 -1.5
ZALV LR LR 15 32 39.6
QIZ Qiongzhong 42.18 244 P **P** **15 14 40.9 -1.1**
QIZ S **S** **15 20 57.3 +2.3**
QIZ LR LR
comp=Z,66nm,24.8s
DAWY Dawson 42.27 38 *e*P **P** **15 14 41.7 -0.4**
KMI Kunming 42.67 258 P **P** **15 14 46.8 +0.9**
KMI AP pP 15 15 06.8 -1.4
KMI XP sP 15 15 16.5 -2.5
KMI PP PP 15 16 28.5 +2.0
KMI S **S** **15 21 01.8 -0.2**
KMI SS SS 15 24 05.8 -10
KMI SSS 15 24 57.0
KMI AMB AMB
comp=Z,30nm,1.3s,mb4.9
KMI LR LR
comp=Z,69nm,40.3s
KMI Kunming 42.67 258 P **P** **15 14 46.7 +0.8**
KMI *PP pP 15 15 06.8 -1.4
KMI *SP sP 15 15 16.5 -2.5

KMI 15 16 28.5
KMI S **S** **15 21 01.7 -0.3**
KMI SS SS 15 24 05.8 -10
KMI SSS 15 24 57.0
KMI Kunming 42.67 258 P **P** **15 14 46.7 +0.8**
KMI pP pP 15 15 06.8 -1.4
KMI sP sP 15 15 16.5 -2.5
KMI PP PP 15 16 28.5 +2.0
KMI S **S** **15 21 01.7 -0.3**
KMI sS sS 15 21 35.1 -5.4
KMI SS SS 15 24 05.8 -10
KMI SSS 15 24 57.0
WMQ Urumqi 43.13 291 P **P** **15 14 50.8 +1.4**
WMQ AP pP 15 15 12.8 +1.0
WMQ XP sP 15 15 24.8 +2.2
WMQ PP PP 15 16 34.8 +3.7
WMQ PCP PcP 15 16 39.3 +1.9
WMQ PPP 15 17 11.8
WMQ SCP ScP 15 20 20.3 +0.6
WMQ S **S** **15 21 09.3 +0.9**
WMQ XS sS 15 21 48.8 +1.9
WMQ AMB AMB
comp=Z,14nm,0.7s,mb4.8
WMQ AMB AMB
comp=Z,113nm,3.6s
WMQ LR LR
comp=N,72nm,17.1s
WMQ LR LR
comp=E,40nm,23.3s
WMQ LR LR
comp=Z,82nm,29.4s
HYT Haines Junctio 43.78 43 *e*P **P** **15 14 55.3 +1.0**
KURK Kurchatov 46.04 303 P **P** **15 15 11.4 -1.0**
comp=Z,6.4nm,0.7s,mb4.4,baz=70,slow=8.9,SNR=33
KURK PcP PcP 15 16 47.7 +0.5
comp=Z,2.4nm,0.8s,baz=71,slow=3.2,SNR=4.1
KURK pPcP 15 17 13.0
comp=Z,2.3nm,0.8s,baz=73,slow=3.1,SNR=4.0
KURK ScP ScP 15 20 30.8 -0.8
comp=Z,1.1nm,0.9s,baz=74,slow=3.3,SNR=4.0
KURK S **S** **15 21 44.7 -5.6**
comp=Z,0.4nm,0.6s,baz=71,slow=14,SNR=4.4
KURK Kurchatov 46.04 303 P **P** **15 15 11.4 -1.0**
KURK 15 16 47.7
KURK S **S** **15 21 44.7 -5.6**
KURK pmax pmax
comp=Z,6.0nm,0.7s,mb4.4
KURK pmax pmax
comp=Z,2.0nm,0.8s,mb3.9
KURK pmax pmax
comp=Z,2.0nm,0.8s,mb3.9
KURK pmax pmax
comp=N,1.0nm,0.9s
KURK Kurchatov 46.04 303 *e*P **P** **15 15 10.5 -1.9**
comp=N,6.7nm,0.8s,mb4.4
LSA Lhasa 47.94 272 P **P** **15 15 29.6 +2.1**
LSA AMB AMB
comp=Z,30nm,1.0s,mb5.1
DLBC Dease Lake 48.13 44 *e*P **P** **15 15 29.6 +1.1**
DLBC *e*pP pP 15 15 50.1 -1.2
CHRT Chiangrai 48.21 255 ⇑P **P** **15 15 31.0 +1.3**
CHG Chiang Mai 49.51 255 ⇓P **P** **15 15 40.7 +1.1**
comp=Z,30nm,0.8s,mb5.3
CHTO Chiang Mai 49.51 255 P **P** **15 15 41.1 +1.5**
SNR=9.1
CHTO Chiang Mai 49.51 255 *e*P **P** **15 15 40.6 +1.0**
CHTO *e**PP pP 15 16 02.3 -0.2
CHTO pmax pmax
comp=Z,24nm,0.8s,mb5.2
CHTO Chiang Mai 49.51 255 *e*P **P** **15 15 40.6 +1.0**
comp=Z,24nm,0.8s,mb5.2
CHTO *e*pP pP 15 16 02.3 -0.2
VOSK Vostochnaya 49.57 308 P **P** **15 15 37.3 -2.3**
VOSK pmax pmax
comp=Z,4.0nm,0.7s,mb4.5
CMAR Chiang Mai Arr 49.76 254 P **P** **15 15 42.8 +1.3**
comp=Z,9.9nm,0.6s,mb4.9,baz=40,slow=7.3,SNR=118
CMAR pP pP 15 16 05.6 +1.2
comp=Z,5.3nm,0.8s,baz=45,slow=7.5,SNR=6.7
CMAR pPcP 15 17 27.5
comp=Z,1.6nm,0.8s,baz=9.3,slow=2.9,SNR=5.4
CMAR ScP ScP 15 20 48.9 +1.1
comp=Z,1.0nm,0.9s,baz=5.4,slow=5.3,SNR=6.1
CMAR LR LR 15 35 58.1
comp=Z,39nm,20.0s,baz=237,slow=35
CMAR Chiang Mai Arr 49.76 254 P **P** **15 15 42.8 +1.3**
CMAR *PP pP 15 16 05.6 +1.2
CMAR pmax pmax
comp=Z,10.0nm,0.6s
CMAR pmax pmax
comp=Z,5.0nm,0.8s
CMAR pmax pmax
comp=Z,2.0nm,0.8s
CMAR pmax pmax
comp=N,1.0nm,0.9s
BVA0 Borovoye Array 49.77 309 *i* P **P** **15 15 41.1 0.0**
BVA0 pmax pmax
comp=Z,3.0nm,1.1s,mb4.1
BVAR Borovoye Array 49.77 309 P **P** **15 15 40.8 -0.4**
comp=Z,1.3nm,0.6s,mb4.0,baz=74,slow=5.3,SNR=8.7
BVAR pP pP 15 16 01.8 -2.2
comp=Z,2.6nm,0.6s,baz=89,slow=6.8,SNR=6.9
BVAR PcP PcP 15 17 00.7 +0.1
comp=Z,1.7nm,0.8s,baz=67,slow=5.3,SNR=3.7
BVAR ScP ScP 15 20 45.7 -1.6
comp=Z,1.6nm,0.9s,baz=72,slow=4.8,SNR=5.0
BVAR Borovoye Array 49.77 309 P **P** **15 15 40.8 -0.3**
BVAR *PP pP 15 16 01.8 -2.2
BVAR 15 17 00.7
BVAR pmax pmax
comp=Z,1.0nm,0.6s
BVAR pmax pmax
comp=Z,3.0nm,0.6s
BVAR pmax pmax
comp=Z,2.0nm,0.8s
BVAR pmax pmax
comp=N,2.0nm,0.9s
BRVK Borovoye 49.81 309 *e*P **P** **15 15 39.6 -1.9**
BRVK pmax pmax
comp=Z,5.0nm,0.8s,mb4.5
BRVK Borovoye 49.81 309 *e*P **P** **15 15 39.6 -1.8**
comp=Z,5.5nm,0.8s,mb4.5
SHL Shillong 49.94 267 *i* P **P** **15 15 44.0 +1.2**
TKM2 Tokmak 2 51.37 295 *e*P **P** **15 15 52.9 -0.4**
TKM2 pmax pmax
comp=Z,11nm,0.8s,mb4.9
TKM2 Tokmak 2 51.37 295 P **P** **15 15 53.4 +0.1**
SNR=16
TKM2 Tokmak 2 51.37 295 *e*P **P** **15 15 52.9 -0.4**
comp=Z,11nm,0.8s,mb4.9
TAPN Taplejung 51.77 272 *e*P **P** **15 15 57.9 +1.4**
comp=Z,76nm,0.8s,mb5.8
USP Ospenovka 51.89 296 P **P** **15 15 57.2 0.0**
SNR=26
KBK Karagaybulak 51.92 295 P **P** **15 15 58.2 +0.8**
SNR=19
AAK Ala-Archa 52.22 295 P **P** **15 15 59.7 +0.1**
SNR=14
ODAN Odare 52.30 271 *e*P **P** **15 16 01.4 +1.0**
comp=Z,65nm,0.9s,mb5.6
UCH Uchtor 52.41 295 P **P** **15 16 05.1 +4.1**
SNR=13
UCH Uchtor 52.41 295 *e*P **P** **15 16 01.3 +0.2**
comp=Z,6.6nm,0.8s,mb4.7
JIRN Jiri 52.65 273 *e*P **P** **15 16 04.5 +1.5**
comp=Z,160nm,0.7s,mb6.1
EKS2 Erkin-Say 52.66 296 P **P** **15 16 03.0 +0.2**
SNR=14
EKS2 Erkin-Say 52.66 296 *e*P **P** **15 16 02.7 -0.2**
comp=Z,12nm,0.9s,mb4.9
GUN Gumba 52.71 274 *e*P **P** **15 16 04.6 +1.1**
comp=Z,102nm,0.7s,mb6.0
RAMN Ramite 52.80 272 *e*P **P** **15 16 05.0 +0.9**
comp=Z,289nm,0.9s
AML Almayashu 52.98 295 P **P** **15 16 06.1 +0.8**
SNR=28
AML Almayashu 52.98 295 *e*P **P** **15 16 04.8 -0.4**
comp=Z,16nm,0.8s,mb5.1
SVE Sverdlovsk 53.08 317 *e*P **P** **15 16 02.8 -2.9**
SVE pmax pmax
comp=Z,7.0nm,0.7s,mb4.8
KKN Kakani 53.21 274 *e*P **P** **15 16 08.2 +1.1**
comp=Z,174nm,1.0s,mb6.0
PKI Pulchoki 53.25 274 *e*P **P** **15 16 08.3 +0.9**
PKIN Phulchoki 53.26 274 *e*P **P** **15 16 08.3 +0.8**
comp=Z,61nm,0.9s,mb5.6

YKA Yellowknife Ar 53.30 35 P **P** **15 16 06.9 -0.3**
comp=Z,15nm,0.7s,mb5.1,baz=297,slow=6.9,SNR=19
YKA pP pP 15 16 29.9 -0.4
comp=Z,1.6nm,0.5s,baz=300,slow=7.2,SNR=3.5
YKA Yellowknife Ar 53.30 35 P **P** **15 16 06.9 -0.3**
YKA *PP pP 15 16 29.9 -0.5
YKA pmax pmax
comp=Z,15nm,0.7s
YKA pmax pmax
comp=Z,2.0nm,0.5s
YKA Yellowknife Ar 53.30 35 P **P** **15 16 07.0 -0.3**
YKA pP pP 15 16 29.9 -0.4
DMN Daman 53.44 274 *e*P **P** **15 16 10.1 +1.3**
comp=Z,168nm,0.9s,mb6.1
GKN Gorkha 53.53 274 *e*P **P** **15 16 10.5 +1.0**
comp=Z,196nm,0.9s,mb6.1
DANN Dangsing 53.93 275 *e*P **P** **15 16 14.0 +1.6**
ARU Arti 54.27 317 *d*/P **P** **15 16 12.1 -2.3**
ARU *PP pP 15 16 37.0 -0.6
ARU *e*S S **15 23 41.7 -2.7**
ARU *e*SS SS 15 27 25.3 -1.5
ARU pmax pmax
comp=Z,10.0nm,1.2s,mb4.7
ARU Arti 54.27 317 P **P** **15 16 12.3 -2.1**
comp=Z,3.2nm,0.6s,mb4.5
KOLN Koldanda 54.40 275 *e*P **P** **15 16 17.0 +1.2**
comp=Z,124nm,0.8s,mb6.0
KK31 Karatay Array 54.47 298 *i* P **P** **15 16 15.5 -0.6**
KK31 pmax pmax
comp=Z,1.0nm,0.3s,mb4.3
BOK Bokaro 55.27 270 *e*P **P** **15 16 21.9 -0.2**
BOK AMb AMB 15 16 24.2
comp=Z,45nm,1.3s,mb5.3
KSM Kuching 55.86 230 *e*P **P** **15 16 27.6 +1.2**
B04A Port Angeles 56.37 54 ⇑P **P** **15 16 28.9 -0.7**
baz=56
A04A Legoe Bay, Lum 56.46 53 ⇑P **P** **15 16 29.5 -0.8**
baz=56,SNR=7.2
NLWA Neilton Lookou 56.52 54 ⇓P **P** **15 16 31.0 +0.3**
baz=56,SNR=10
DDI Dehra Dun 56.71 281 *e*P **P** **15 16 31.6 -0.7**
D03A Wishkah Elem. 56.73 55 ⇑P **P** **15 16 32.4 +0.2**
baz=56,SNR=6.5
SMLA Simla 56.84 282 *i* P **P** **15 16 33.4 +0.2**
SMLA *i* S **S** **15 24 21.2 +2.0**
A06A Chilliwack 56.93 52 ⇑P **P** **15 16 32.8 -0.8**
baz=57
GNW Green Mountain 57.02 54 *e*P **P** **15 16 33.8 -0.4**
comp=Z,22nm,1.5s,mb5.0
B05A Bryant 57.05 53 ⇑P **P** **15 16 33.7 -0.7**
baz=57,SNR=6.1
THN Thein Dam 57.05 284 *e*P **P** **15 16 34.0 -0.7**
E03A Lebam 57.16 55 ⇑P **P** **15 16 34.7 -0.5**
baz=57,SNR=6.0
RPW Rockport 57.27 52 *e*P **P** **15 16 35.5 -0.4**
AB31 Akbulak array 57.34 309 *i* P **P** **15 16 35.6 -0.9**
AB31 pmax pmax
comp=Z,2.0nm,0.4s,mb4.5
A07A Ashnola River, 57.56 51 ⇑P **P** **15 16 37.7 -0.3**
baz=57,SNR=15
E04A Onalaska 57.62 55 ⇓P **P** **15 16 38.0 -0.4**
baz=57
D05A Enumclaw 57.70 54 ⇑P **P** **15 16 38.3 -0.8**
baz=58,SNR=7.7
AKTK Aktyubinsk 57.73 311 P **P** **15 16 38.4 -0.8**
AKTO Aktyubinsk 57.73 311 P **P** **15 16 38.4 -0.8**
comp=Z,2.1nm,0.6s,mb4.4,baz=54,slow=7.3,SNR=9.3
AKTO Aktyubinsk 57.73 311 P **P** **15 16 38.4 -0.8**
AKTO pmax pmax
comp=Z,2.0nm,0.6s,mb4.3
HEBO Mount Hebo 57.79 57 *e*P **P** **15 16 40.4 +0.7**
comp=Z,39nm,0.8s,mb5.5
C06A Tall Timber Ra 57.91 53 ⇑P **P** **15 16 39.9 -0.5**
baz=58
H02A Toledo 57.94 57 ⇓P **P** **15 16 40.7 -0.1**
baz=58
G03A Yamhill 58.01 56 ⇓P **P** **15 16 40.8 -0.4**
baz=58,SNR=5.3
B07A Winthrop 58.04 52 ⇓P **P** **15 16 40.9 -0.5**
baz=58,SNR=12
LON Longmire 58.05 54 *e*P **P** **15 16 41.2 -0.3**
LON pmax pmax
comp=Z,3.0nm,0.8s,mb4.4
LON Longmire 58.05 54 *e*P **P** **15 16 41.2 -0.2**
comp=Z,3.5nm,0.8s,mb4.4
F04A Amboy 58.16 55 ⇑P **P** **15 16 42.2 -0.1**
baz=58,SNR=8.4
ARCES ARCESS Array B 58.18 340 P **P** **15 16 40.0 -2.0**
comp=Z,1.9nm,0.7s,mb4.2,baz=37,slow=9.1,SNR=3.1
ARCES ARCESS Array B 58.18 340 P **P** **15 16 40.0 -2.1**
ARCES pmax pmax
comp=Z,2.0nm,0.7s
E05A Randle 58.18 54 ⇓P **P** **15 16 41.7 -0.7**
baz=58,SNR=7.7
A08A Turner Farm, O 58.22 51 ⇓P **P** **15 16 42.4 -0.2**
baz=58,SNR=19
MPOR Mary's Peak 58.30 57 P **P** **15 16 44.6 +1.3**
H03A Soap Creek Ran 58.36 57 ⇑P **P** **15 16 43.6 0.0**
baz=58,SNR=5.8
ETW Entiat 58.40 53 *e*P **P** **15 16 43.7 -0.3**
COR Corvallis 58.41 57 *e*P **P** **15 16 44.6 +0.6**
COR pmax pmax
comp=Z,108nm,1.3s,mb5.7
COR Corvallis 58.41 57 *e*P **P** **15 16 44.6 +0.6**
comp=Z,108nm,1.3s,mb5.7
C07A Waterville 58.50 52 ⇑P **P** **15 16 44.2 -0.5**
baz=58,SNR=11
B08A Colville Reser 58.53 51 ⇓P **P** **15 16 44.2 -0.6**
baz=58,SNR=24
G04A Mulino 58.54 56 ⇓P **P** **15 16 44.6 -0.3**
baz=58,SNR=11
WTV Waterville 58.56 52 P **P** **15 16 44.6 -0.4**
A09A Danville 58.59 51 ⇑P **P** **15 16 44.9 -0.2**
baz=58,SNR=30
E06A Yakima 58.64 54 ⇑P **P** **15 16 45.1 -0.5**
baz=58,SNR=6.2
K01A Sixes 58.72 59 ⇑P **P** **15 16 46.3 +0.1**
baz=58
F05A White Salmon 58.74 55 ⇑P **P** **15 16 46.5 +0.2**
baz=58,SNR=6.0
KEBM Edson Butte 58.77 59 *e*P **P** **15 16 47.7 +1.2**
I03A Eugene 58.77 57 ⇑P **P** **15 16 47.4 +0.9**
baz=58
D07A Quincy 58.84 53 ⇓P **P** **15 16 46.7 -0.3**
baz=59,SNR=5.4
EDM Edmonton 58.85 44 *e*P **P** **15 16 46.4 -0.5**
EDM *e**PP pP 15 17 10.3 -0.2
VLL Laurance Lake 58.85 55 P **P** **15 16 47.9 +0.8**
J02A Umpqua 58.94 58 ⇑P **P** **15 16 48.7 +0.9**
baz=59,SNR=9.5
HOOD Mount Hood Mea 58.95 55 *e*P **P** **15 16 48.4 +0.7**
comp=Z,106nm,1.0s,mb5.8
H04A Detroit Lake 59.00 56 ⇑P **P** **15 16 48.3 +0.2**
baz=59,SNR=10.0
C08A Higginbotham F 59.01 52 ⇓P **P** **15 16 47.6 -0.6**
baz=59,SNR=8.6
VFP Flag Point 59.06 55 P **P** **15 16 49.3 +0.8**
A10A Northport 59.14 50 ⇓P **P** **15 16 48.8 -0.1**
baz=59,SNR=16
B09A Rice 59.14 51 ⇓P **P** **15 16 48.9 -0.1**
baz=59,SNR=9.5
G05A Wamic 59.19 55 ⇑P **P** **15 16 49.6 +0.2**
baz=59,SNR=15
F06A Goldendale 59.20 55 ⇑P **P** **15 16 49.8 +0.3**
baz=59,SNR=7.2
E07A Sunnyside 59.27 53 ⇑P **P** **15 16 49.8 -0.1**
baz=59,SNR=6.4
K02A Glendale 59.34 59 ⇑P **P** **15 16 50.9 +0.4**
baz=59,SNR=5.4
I04A Tendick Farm, 59.38 57 ⇑P **P** **15 16 50.6 -0.2**
baz=59,SNR=12
OD2 Odessa Site #2 59.42 52 P **P** **15 16 50.8 -0.2**
C09A Chrisman Ranch 59.43 51 ⇓P **P** **15 16 50.8 -0.2**
baz=59,SNR=5.5
D08A Wollman Farm, 59.50 52 ⇑P **P** **15 16 51.2 -0.3**
baz=59,SNR=11
RSW Rattlesnake Hi 59.51 53 *e*P **P** **15 16 51.7 +0.1**
RSW pP pP 15 17 15.7 +0.5
HAWA Hanford 59.54 53 *e*P **P** **15 16 51.7 -0.1**
comp=Z,31nm,1.4s,mb5.1
H05A Madras 59.58 56 ⇓P **P** **15 16 52.5 +0.4**
baz=59,SNR=5.9
G06A Carlson Farm, 59.59 55 ⇑P **P** **15 16 52.4 +0.3**
baz=59,SNR=14
F07A Phinny Hill Vi 59.61 54 ⇓P **P** **15 16 52.6 +0.4**
baz=59,SNR=11

L02A Cave Junction 59.62 59 ⇓P **P** **15 16 52.0 -0.4**
baz=59
HUMO Hull Mountain 59.75 59 ⇑P **P** **15 16 52.8 -0.4**
baz=60
HUMO Hull Mountain 59.75 59 *e*P **P** **15 16 53.6 +0.3**
comp=Z,7.6nm,1.0s,mb4.7
E08A Dider Farm, El 59.75 53 ⇓P **P** **15 16 53.2 -0.1**
baz=60,SNR=9.6
NEW Newport 59.79 51 *e*P **P** **15 16 52.3 -1.2**
NEW pmax pmax
comp=Z,15nm,1.4s
NEW Newport 59.79 51 *e*P **P** **15 16 52.2 -1.2**
comp=Z,15nm,1.4s,mb4.8
A11A Hall Mountain, 59.79 50 ⇓P **P** **15 16 54.0 +0.5**
baz=60,SNR=19
D09A Jones Farm, Ri 59.84 52 ⇓P **P** **15 16 53.5 -0.3**
baz=60,SNR=7.7
I05A Bend 59.84 56 ⇓P **P** **15 16 54.5 +0.6**
baz=60,SNR=6.9
J04A Umpqua Nationa 59.88 58 ⇑P **P** **15 16 54.1 -0.1**
baz=60,SNR=7.8
C10A Spilker Farm, 59.95 51 ⇑P **P** **15 16 54.1 -0.4**
baz=60
H06A Lindquist Farm 60.05 55 ⇑P **P** **15 16 55.3 -0.1**
baz=60,SNR=12
B11A Sandpoint 60.09 50 ⇓P **P** **15 16 55.7 +0.1**
baz=60,SNR=9.0
G07A Ruggs Ranch, H 60.12 55 ⇑P **P** **15 16 56.0 +0.2**
baz=60
A12A Yaak River Ran 60.19 49 ⇓P **P** **15 16 56.6 +0.4**
baz=60,SNR=9.9
E09A Wood Farm, Sta 60.25 53 ⇑P **P** **15 16 56.4 -0.3**
baz=60,SNR=31
KBL Kabul 60.27 290 *e*P **P** **15 16 56.3 -0.7**
KBL pmax pmax
comp=Z,45nm,1.0s,mb5.5
KBL Kabul 60.27 290 *e*P **P** **15 16 56.3 -0.7**
comp=Z,45nm,1.0s,mb5.5
F08A Pendleton 60.32 54 ⇑P **P** **15 16 57.2 +0.1**
baz=60,SNR=9.4
J05A Fort Rock 60.38 57 ⇑P **P** **15 16 58.4 +0.9**
baz=60,SNR=32
YBH Yreka Blue Hor 60.41 59 *e*P **P** **15 16 58.6 +0.8**
YBH pmax pmax
comp=Z,5.0nm,0.6s
YBH Yreka Blue Hor 60.41 59 ⇑P **P** **15 16 58.6 +0.8**
baz=60,SNR=17
YBH Yreka Blue Hor 60.41 59 *e*P **P** **15 16 58.6 +0.8**
comp=Z,4.9nm,0.6s,mb4.7
D10A Wagner Farm, O 60.41 52 ⇑P **P** **15 16 57.2 -0.6**
baz=60
C11A Tepee Creek (N 60.51 51 ⇓P **P** **15 16 58.6 +0.2**
baz=60,SNR=25
G08A Pilot Rock 60.51 54 ⇑P **P** **15 16 58.6 +0.2**
baz=60,SNR=13
M02C Callahan 60.52 60 ⇑P **P** **15 16 59.5 +0.9**
baz=60,SNR=10
LNOR Lincton Mounta 60.55 53 *e*P **P** **15 16 58.8 +0.1**
H07A Lands Inn, Kim 60.58 55 ⇑P **P** **15 16 58.8 -0.1**
baz=60,SNR=7.3
N02C Big Bar 60.59 60 ⇓P **P** **15 16 59.5 +0.4**
baz=60,SNR=5.9
I06A Prineville 60.59 56 ⇑P **P** **15 16 59.2 +0.2**
baz=60,SNR=11
L04A Klamath Falls 60.64 58 ⇓P **P** **15 17 00.1 +0.7**
baz=60,SNR=11
A13A Flathead Natio 60.84 49 ⇑P **P** **15 17 00.8 +0.1**
baz=61,SNR=20
E10A Myers Farm, Un 60.84 52 ⇑P **P** **15 17 00.7 0.0**
baz=61,SNR=18
F09A S2 Ranch, Elgi 60.86 53 ⇓P **P** **15 17 01.2 +0.4**
baz=61
M04C Macdoel 60.90 59 ⇑P **P** **15 17 01.9 +0.7**
baz=61,SNR=16
K05A Summer Lake 60.91 57 ⇑P **P** **15 17 02.0 +0.8**
baz=61,SNR=31
I07A Izee 60.92 56 ⇑P **P** **15 17 01.7 +0.5**
baz=61,SNR=11
D11A Klaveano Farm, 60.94 51 ⇓P **P** **15 17 00.9 -0.4**
baz=61,SNR=6.7
C12B Naegeli Ranch, 61.01 50 ⇓P **P** **15 17 01.9 +0.1**
baz=61
J06A Christmas Vall 61.03 57 ⇓P **P** **15 17 02.5 +0.4**
baz=61,SNR=29
M03C McCloud 61.04 59 ⇓P **P** **15 17 02.9 +0.8**
baz=61,SNR=8.9
VIS Vishakhapatnam 61.06 266 *e*P **P** **15 17 02.6 +0.1**
KIPM Iron Peak 61.08 61 *e*P **P** **15 17 03.1 +0.7**
F10A Beach Ranch, E 61.09 53 ⇓P **P** **15 17 02.4 +0.1**
baz=61,SNR=18
H08A Prairie City 61.14 55 ⇑P **P** **15 17 03.1 +0.4**
baz=61,SNR=20
B13A Whitefish 61.15 49 ⇑P **P** **15 17 03.1 +0.3**
baz=61,SNR=34
G09A Cove 61.19 54 ⇓P **P** **15 17 03.3 +0.2**
baz=61,SNR=7.2
WDC Whiskeytown Da 61.20 60 *e*P **P** **15 17 03.2 0.0**
WDC pmax pmax
comp=Z,18nm,1.1s,mb5.0
WDC Whiskeytown Da 61.20 60 ⇓P **P** **15 17 03.4 +0.2**
baz=61,SNR=15
WDC Whiskeytown Da 61.20 60 *e*P **P** **15 17 03.2 0.0**
comp=Z,18nm,1.1s,mb5.0
K06A Valley Falls 61.24 57 ⇑P **P** **15 17 04.1 +0.6**
baz=61,SNR=44
JOF Joensuu 61.33 333 *e*p **P** **15 17 01.2 -2.5**
comp=Z,2.4nm,0.6s,mb4.4
JOF Joensuu 61.33 333 *e*P **P** **15 17 01.2 -2.5**
JOF pmax pmax
comp=Z,2.0nm,0.6s,mb4.3
A14A Double T Ranch 61.34 48 ⇓P **P** **15 17 03.8 -0.2**
baz=61,SNR=16
L05A Lakeview 61.35 58 P **P** **15 17 04.8 +0.6**
baz=61,SNR=36
E11A Bogner Ranch, 61.42 52 ⇓P **P** **15 17 04.2 -0.3**
baz=61,SNR=14
AJM Ajmer 61.44 280 *i* P **P** **15 17 04.0 -1.0**
AJM *e*P 15 17 05.3
J07A Hines 61.45 56 ⇓P **P** **15 17 05.5 +0.7**
baz=61,SNR=15
D12A Red Ives Fores 61.47 51 ⇓P **P** **15 17 04.6 -0.4**
baz=61
LTIM Timbered Crate 61.48 59 P **P** **15 17 05.5 +0.4**
C13A Hot Springs 61.51 50 ⇓P **P** **15 17 05.4 +0.2**
baz=61,SNR=11
G10A Bishop Farm, J 61.55 53 ⇓P **P** **15 17 05.6 +0.1**
baz=61,SNR=21
I08A Drewsey 61.56 55 ⇑P **P** **15 17 06.1 +0.5**
baz=61,SNR=14
BHPL Bhopal 61.57 275 *e*P **P** **15 17 05.9 -0.1**
H09A Durkee 61.62 54 ⇑P **P** **15 17 06.6 +0.6**
baz=61,SNR=7.0
GASB Alder Springs 61.64 61 ⇑P **P** **15 17 07.1 +0.9**
baz=61,SNR=13
A15A Johnson Ranch, 61.70 48 ⇑P **P** **15 17 05.7 -0.7**
baz=61,SNR=19
BMO Blue Mountains 61.71 54 *e*P **P** **15 17 06.5 -0.1**
comp=Z,12nm,1.1s,mb4.8
F11A Grangeville 61.73 52 ⇑P **P** **15 17 06.4 -0.3**
baz=62,SNR=20
E12A Beaver Dam Sad 61.74 52 P **P** **15 17 07.0 +0.2**
baz=62,SNR=40
MOD Modoc 61.75 58 ⇓P **P** **15 17 07.3 +0.4**
baz=62,SNR=22
MOD Modoc 61.75 58 *e*P **P** **15 17 07.2 +0.3**
comp=Z,22nm,0.8s,mb5.2
B14A Marquette Ranc 61.79 49 ⇑P **P** **15 17 07.2 +0.1**
baz=62,SNR=28
HOPS Hopland 61.82 62 ⇓P **P** **15 17 07.2 -0.2**
baz=62
K07A Rock Creek Ran 61.90 57 ⇑P **P** **15 17 08.4 +0.5**
baz=62,SNR=25
C14A Swan Lake 61.90 49 ⇑P **P** **15 17 08.1 +0.3**
baz=62
D13A Huson 61.93 50 ⇑P **P** **15 17 08.0 0.0**
baz=62,SNR=18
J08A Circle Bar Ran 61.95 56 ⇑P **P** **15 17 08.4 +0.2**
baz=62,SNR=11
G11A Walters Elk Ra 61.97 53 ⇑P **P** **15 17 07.9 -0.4**
baz=62,SNR=36
I09A Lost Marbles R 62.00 55 ⇑P **P** **15 17 08.9 +0.4**
baz=62,SNR=13
M06C Likely Place G 62.07 59 ⇓P **P** **15 17 09.5 +0.5**
baz=62,SNR=5.8
H10A Noah's Angus R 62.19 54 ⇑P **P** **15 17 09.7 0.0**
baz=62,SNR=23
B15A Bradely Ranch, 62.20 48 ⇑P **P** **15 17 09.5 -0.3**
baz=62,SNR=14

O04C **Chester** 62.24 60 ⇓P P 15 17 10.7 +0.5
baz=62,SNR=15
L07A **Adell** 62.25 57 ⇑P P 15 17 11.0 +0.8
baz=62,SNR=27
MNRC **McLaughlin Nat** 62.28 62 ⇓P P 15 17 11.0 +0.5
baz=62,SNR=9.1
A16A **West Butte Ran** 62.30 47 ⇓P P 15 17 09.8 -0.6
baz=62,SNR=11
F12A **Elk City** 62.31 52 ⇑P P 15 17 10.8 +0.2
baz=62,SNR=21
K08A **Mann Creek Ran** 62.32 56 ⇑P P 15 17 11.2 +0.5
baz=62,SNR=15
J09A **Fry Pan Ranch,** 62.37 55 ⇓P P 15 17 11.4 +0.4
baz=62,SNR=18
MSO **Missoula** 62.37 50 *e*P P 15 17 10.9 0.0
comp=Z,19nm,0.8s,mb5.2
WVOR **Wild Horse Val** 62.41 57 *e*P P 15 17 11.2 -0.1
WVOR pmax pmax
comp=Z,23nm,0.9s,mb5.2
WVOR **Wild Horse Val** 62.41 57 *e*P P 15 17 11.2 -0.1
comp=Z,23nm,0.9s,mb5.2
ORV **Oroville** 62.45 61 ⇓P P 15 17 11.0 -0.6
baz=62,SNR=17
D14A **Greenough** 62.45 50 ⇓P P 15 17 11.4 -0.1
baz=62,SNR=42
I10A **Payette** 62.47 54 ⇑P P 15 17 12.1 +0.5
baz=62,SNR=16
E13A **Victor** 62.48 51 ⇓P P 15 17 11.4 -0.2
baz=62,SNR=11
C15A **Salmond Ranch,** 62.50 49 ⇓P P 15 17 12.4 +0.6
baz=62,SNR=42
H11A **Donnelly** 62.54 53 ⇓P P 15 17 11.8 -0.3
baz=62,SNR=18
O05C **Quincy** 62.56 60 ⇓P P 15 17 12.4 +0.1
baz=62,SNR=5.4
B16A **M & M Farms, S** 62.58 48 ⇑P P 15 17 11.9 -0.4
baz=62,SNR=44
OHCM **Honcut** 62.59 61 *e*P P 15 17 11.7 -0.9
OHCM *e*pP pP 15 17 35.2 -1.1
G12A **Big Creek, Yel** 62.66 53 ⇓P P 15 17 12.3 -0.6
baz=62
CHMT **Chamberlain Mo** 62.69 50 *e*P P 15 17 12.8 -0.2
N06A **Buffalo Meadow** 62.73 59 ⇑P P 15 17 13.3 -0.1
baz=62,SNR=28
L08A **Fields** 62.73 57 ⇑P P 15 17 13.9 +0.5
baz=62,SNR=20
M07A **Soldier Meadow** 62.74 58 ⇓P P 15 17 13.9 +0.4
baz=62,SNR=60
K09A **Rome** 62.78 56 ⇓P P 15 17 14.0 +0.2
baz=62,SNR=12
F13A **Darby** 62.80 51 ⇑P P 15 17 13.3 -0.5
baz=62,SNR=14
E14A **Clinton** 62.87 51 ⇑P P 15 17 14.2 -0.1
baz=63,SNR=22
C16A **Fuhringer Ranc** 62.94 48 ⇑P P 15 17 15.0 +0.2
baz=63
BEKR **Beckwourth** 62.96 60 ⇓P P 15 17 15.0 0.0
baz=63,SNR=38
D15A **Lincoln** 63.01 50 ⇑P P 15 17 15.3 +0.2
baz=63,SNR=6.3
I11A **Placerville** 63.05 54 ⇑P P 15 17 15.5 0.0
baz=63
O06A **Flanigan** 63.09 59 ⇓P P 15 17 16.1 +0.2
baz=63,SNR=16
M08A **Happy Creek Ra** 63.17 57 ⇓P P 15 17 16.8 +0.5
baz=63,SNR=13
FFC **Flin Flon** 63.17 38 P P 15 17 16.4 +0.3
comp=Z,211nm,0.9s,mb6.1,SNR=8.3
FFC **Flin Flon** 63.17 38 *e*pP pP 15 17 38.9 -1.1
comp=Z,33nm,1.0s
N07B **Gerlach** 63.23 58 ⇑P P 15 17 17.1 +0.3
baz=63,SNR=16
L09A **Wilkinson Ranc** 63.24 56 ⇑P P 15 17 17.1 +0.3
baz=63,SNR=8.2
H12A **Diamond D Ranc** 63.28 53 ⇑P P 15 17 17.2 +0.1
baz=63,SNR=14
G13A **Cobalt** 63.29 52 ⇓P P 15 17 16.8 -0.3
baz=63,SNR=34
F14A **Wisdom** 63.31 51 ⇓P P 15 17 17.1 -0.2
baz=63,SNR=5.5
E15A **Deer Lodge** 63.33 50 ⇓P P 15 17 17.2 -0.1
baz=63,SNR=17
LAVA **Lava Cap Winer** 63.41 61 P P 15 17 17.9 -0.1
baz=63,SNR=16
MFID **Camas Ranch** 63.44 54 ⇓P P 15 17 18.1 +0.1
baz=63,SNR=7.3
KAF **Kangasniemi** 63.50 334 *e*p P 15 17 16.0 -2.2
D16A **Dana Ranch, Ca** 63.53 49 ⇓P P 15 17 18.6 0.0
baz=63,SNR=30
C17A **Wharram Farm,** 63.56 48 ⇑P P 15 17 18.5 -0.3
baz=63,SNR=36
HRY **Holter Researc** 63.58 49 *e*P P 15 17 19.2 +0.2
I12A **Atlanta** 63.59 54 ⇑P P 15 17 19.2 +0.1
baz=63
H13A **Challis** 63.61 53 ⇓P P 15 17 19.2 0.0
baz=63
PAHR **Pah Rah Range** 63.65 59 *e*P P 15 17 19.5 0.0
comp=Z,28nm,1.2s,mb5.0
PAHR *e*pP pP 15 17 42.9 -0.5
O07A **Toulon** 63.67 59 ⇓P P 15 17 20.1 +0.4
baz=63,SNR=28
WCN **Washoe City** 63.67 60 ⇑P P 15 17 19.9 +0.2
baz=63,SNR=13
K11A **Parker Ranch,** 63.72 55 ⇓P P 15 17 20.1 +0.1
baz=64,SNR=10
N08A **GE Springer Mi** 63.73 58 ⇑P P 15 17 20.4 +0.3
baz=64,SNR=5.9
M09A **Marrel Ranch,** 63.73 57 ⇑P P 15 17 20.2 +0.2
baz=64
F15A **Butte** 63.77 51 ⇑P P 15 17 20.4 +0.1
baz=64,SNR=28
E16A **East Helena** 63.78 50 ⇑P P 15 17 20.6 +0.3
baz=64,SNR=16
EGMT **Eagleton** 63.84 47 ⇓P P 15 17 20.7 0.0
baz=64,SNR=18
EGMT **Eagleton** 63.84 47 *e*P P 15 17 20.4 -0.3
comp=Z,46nm,1.0s,mb5.3
L10A **Juniper Basin** 63.90 56 ⇓P P 15 17 21.4 +0.3
baz=64,SNR=10
D17A **Six Diamond Ra** 63.91 49 ⇑P P 15 17 21.2 +0.1
baz=64
J12A **Stokes Ranch,** 63.95 54 ⇑P P 15 17 21.7 +0.2
baz=64,SNR=19
DLMT **Dillon** 64.02 51 *e*P P 15 17 21.4 -0.5
comp=Z,28nm,1.2s,mb5.0
O08A **Rochester Mine** 64.02 58 ⇑P P 15 17 22.5 +0.5
baz=64,SNR=22
N09A **Rock Creek Ran** 64.05 57 ⇓P P 15 17 22.5 +0.4
baz=64
H14A **Leadore** 64.07 52 ⇓P P 15 17 21.7 -0.5
baz=64,SNR=8.0
CMB **Columbia Colle** 64.07 61 *e*P P 15 17 21.6 -0.7
CMB pmax pmax
comp=Z,19nm,1.2s,mb4.8
CMB **Columbia Colle** 64.07 61 ⇑P P 15 17 22.3 0.0
baz=64,SNR=16
CMB **Columbia Colle** 64.07 61 *e*P P 15 17 21.6 -0.7
comp=Z,19nm,1.2s,mb4.8
I13A **Wildhorse Cree** 64.09 53 ⇓P P 15 17 22.6 +0.2
baz=64,SNR=18
LCCM **Lewis and Clar** 64.11 50 P P 15 17 22.6 +0.2
HLID **Hailey** 64.15 53 ⇑P P 15 17 22.8 +0.1
baz=64,SNR=14
HLID **Hailey** 64.15 53 *e*P P 15 17 23.0 +0.3
comp=Z,12nm,1.0s,mb4.7
PACP **Pacheco Peak** 64.15 63 ⇓P P 15 17 23.0 +0.1
baz=64,SNR=7.9
G15A **Dillon** 64.20 51 ⇑P P 15 17 23.0 -0.1
baz=64,SNR=16
M10A **I.L. Ranch, Tu** 64.21 56 ⇑P P 15 17 23.5 +0.3
baz=64,SNR=18
MCMT **McKenzie Canyo** 64.22 52 *e*P P 15 17 23.3 +0.2
E17A **Martinsdale** 64.26 49 ⇑P P 15 17 24.1 +0.7
baz=64,SNR=33
L11A **Cat Creek Ranc** 64.26 55 ⇓P P 15 17 24.0 +0.6
baz=64,SNR=23
R06C **Coleville** 64.34 60 ⇓P P 15 17 24.5 +0.4
baz=64,SNR=17
J13A **Cove Ranch, Pi** 64.39 53 ⇑P P 15 17 24.7 +0.4
baz=64,SNR=20
K12A **Draper Farm, C** 64.45 55 ⇑P P 15 17 24.6 -0.1
baz=64,SNR=11
I14A **Mackay** 64.46 53 ⇑P P 15 17 25.1 +0.3
baz=64,SNR=38
H15A **Lima** 64.47 52 ⇑P P 15 17 24.3 -0.5
baz=64
BMN **Battle Mountai** 64.49 58 *e*P P 15 17 25.4 +0.4
BMN pmax pmax
comp=Z,25nm,1.1s,mb5.0
BMN **Battle Mountai** 64.49 58 *e*P P 15 17 25.4 +0.4
comp=Z,25nm,1.1s,mb5.0
G16A **Moss Hill, Enn** 64.54 51 ⇑P P 15 17 25.3 0.0
baz=64,SNR=38
S05C **Merced** 64.54 62 ⇓P P 15 17 25.4 0.0
baz=64
HYB **Hyderabad** 64.62 269 *e*P P 15 17 26.5 +0.3
E18A **Harlowton** 64.69 49 ⇓P P 15 17 26.7 +0.5
baz=64,SNR=16
L12A **House Creek Ra** 64.70 55 ⇓P P 15 17 26.7 +0.4
baz=64,SNR=6.7
M11A **Holland Ranch,** 64.70 56 ⇑P P 15 17 27.3 +0.9
baz=64,SNR=14
J14A **Carey** 64.80 53 ⇓P P 15 17 27.9 +0.9
baz=64,SNR=34
U04C **Hernandez Rese** 64.87 63 ⇓P P 15 17 28.2 +0.7
baz=65
K13A **Stover Farm, H** 64.91 54 ⇑P P 15 17 27.6 -0.1
baz=65
OBN **Obninsk** 64.92 324 ⇓*i*P P 15 17 26.1 -1.5
OBN *i* *PP pP 15 17 53.3 +1.8
OBN pmax pmax
comp=Z,13nm,1.5s,mb4.5
QLMT **Earthquake Lak** 65.00 51 *e*P P 15 17 28.5 +0.3
O10A **Cortez Mining,** 65.00 57 ⇓P P 15 17 29.1 +0.7
baz=65
Q08A **Gabbs** 65.05 59 ⇑P P 15 17 28.9 +0.2
baz=65,SNR=21
NVAR **Mina Array Bea** 65.10 60 P P 15 17 29.5 +0.5
comp=Z,13nm,0.7s,mb4.8,baz=290,slow=6.8,SNR=102
NVAR pP pP 15 17 52.5 -0.4
comp=Z,4.8nm,0.7s,baz=290,slow=7.3,SNR=7.1
NVAR **Mina Array Bea** 65.10 60 P P 15 17 29.5 +0.5
NVAR pP pP 15 17 52.5 -0.4
T06C **Millerton Lake** 65.14 62 ⇑P P 15 17 28.8 -0.5
baz=65,SNR=6.7
H16A **Russell Place,** 65.18 51 ⇑P P 15 17 29.7 +0.3
baz=65,SNR=17
KCC **Kaiser Creek** 65.18 61 ⇓P P 15 17 28.9 -0.6
baz=65,SNR=9.7
M12A **Wells** 65.22 56 ⇑P P 15 17 30.1 +0.4
baz=65,SNR=16
F18A **Big Timber** 65.22 49 ⇑P P 15 17 30.2 +0.5
baz=65,SNR=32
GCMT **Greycliff** 65.32 49 *e*P P 15 17 30.7 +0.4
L13A **Double Diamond** 65.35 54 ⇑P P 15 17 31.3 +0.7
baz=65,SNR=9.3
YMR **Madison River** 65.35 51 *e*P P 15 17 31.2 +0.6
comp=Z,15nm,0.6s,mb5.0
J15A **Blackfoot** 65.36 53 ⇑P P 15 17 31.1 +0.5
baz=65,SNR=17
P10A **Eureka** 65.45 58 ⇑P P 15 17 31.3 0.0
baz=65,SNR=5.4
K14A **Jones Ranch, D** 65.49 54 ⇑P P 15 17 32.2 +0.7
baz=65,SNR=10
N12A **Clover Valley,** 65.51 56 ⇓P P 15 17 32.2 +0.6
baz=65,SNR=9.9
Q09A **Carvers** 65.52 59 ⇓P P 15 17 32.2 +0.5
baz=65,SNR=5.2
YFT **Old Faithful** 65.56 51 *e*P P 15 17 33.5 +1.6
I16A **Newdale** 65.58 52 ⇓P P 15 17 32.6 +0.6
baz=65,SNR=16
O11A **Cowboy Ranch,** 65.61 57 ⇑P P 15 17 32.7 +0.5
baz=65,SNR=8.7
MTUM **Tungsten Hills** 65.62 61 P P 15 17 32.4 0.0
M13A **Montello** 65.69 55 ⇑P P 15 17 32.5 -0.3
baz=65,SNR=11
LKWY **Lake** 65.73 51 *e*P P 15 17 33.2 +0.2
LKWY pmax pmax
comp=Z,11nm,0.8s,mb4.7
LKWY **Lake** 65.73 51 *e*P P 15 17 33.2 +0.2
comp=Z,11nm,0.8s,mb4.7
H17A **Grant Village** 65.74 51 ⇑P P 15 17 33.8 +0.7
baz=66,SNR=16
HELL **Mitchell Peak** 65.77 62 ⇓P P 15 17 32.9 -0.4
baz=66,SNR=24
K15A **Arbon** 65.77 53 ⇑P P 15 17 34.0 +0.8
baz=66,SNR=23
L14A **Malta** 65.79 54 ⇑P P 15 17 33.9 +0.5
baz=66,SNR=12
IMW **Indian Meadow** 65.87 51 *e*P P 15 17 34.7 +0.9
comp=Z,25nm,1.1s,mb5.0
J16A **Bone** 65.90 52 ⇑P P 15 17 34.6 +0.6
baz=66,SNR=22
DCID1 **Dry Creek** 65.93 52 *e*P P 15 17 35.3 +1.1
comp=Z,42nm,1.1s,mb5.2
R09A **Tonopah** 65.97 59 P P 15 17 34.8 +0.1
baz=66,SNR=35
RLMT **Red Lodge** 65.97 50 ⇓P P 15 17 35.1 +0.6
baz=66,SNR=21
RLMT **Red Lodge** 65.97 50 *e*P P 15 17 35.0 +0.4
comp=Z,24nm,1.0s,mb5.0
TPH **Tonopah** 65.98 60 *e*P P 15 17 34.8 +0.1
TPH *e*PP pP 15 17 58.5 -0.2
TPH pmax pmax
comp=Z,20nm,0.9s,mb5.0
TPH **Tonopah** 65.98 60 *e*P P 15 17 34.8 +0.1
comp=Z,20nm,0.9s,mb5.0
TPH *e*pP pP 15 17 58.5 -0.1
N13A **Wendover, West** 65.99 56 ⇑P P 15 17 35.1 +0.4
baz=66
Q10A **Clear Creek Ra** 66.00 59 ⇓P P 15 17 35.0 +0.2
baz=66,SNR=12
RRI2 **Red Ridge** 66.02 52 *e*P P 15 17 35.6 +0.8
comp=Z,39nm,0.8s,mb5.3
RRI2 *e*pP pP 15 17 59.9 +1.1
SMMC **Simmler** 66.03 64 ⇓P P 15 17 35.5 +0.5
baz=66
I17A **Pilgram Creek** 66.05 51 ⇑P P 15 17 35.7 +0.7
baz=66,SNR=16
O12A **Currie** 66.05 56 ⇓P P 15 17 35.5 +0.4
baz=66,SNR=19
M14A **Sheep Mountain** 66.07 55 ⇓P P 15 17 35.5 +0.3
baz=66,SNR=9.5
MOOW **Moose Ponds** 66.07 51 *e*P P 15 17 35.9 +0.7
comp=Z,19nm,1.0s,mb4.9
TPAW **Teton Pass** 66.13 52 *e*P P 15 17 36.4 +0.8
comp=Z,32nm,0.8s,mb5.2
K16A **Soda Springs** 66.20 53 ⇑P P 15 17 36.1 +0.1
baz=66,SNR=18
S09A **Goldfield** 66.20 60 ⇓P P 15 17 36.2 +0.1
baz=66,SNR=15
HVU **Hansel Valley** 66.22 54 *e*P P 15 17 36.4 +0.3
HVU pmax pmax
comp=Z,15nm,1.0s,mb4.8
HVU **Hansel Valley** 66.22 54 *e*P P 15 17 36.4 +0.3
comp=Z,15nm,1.0s,mb4.8
LOHW **Long Hollow** 66.24 51 *e*P P 15 17 36.9 +0.7
comp=Z,28nm,1.2s,mb5.0
LOHW *e*pP pP 15 18 00.5 +0.3
SNOW **Snow King Moun** 66.25 52 *e*P P 15 17 37.3 +0.9
comp=Z,34nm,1.1s,mb5.1
REDW **Red Top Meadow** 66.26 52 *e*P P 15 17 37.1 +0.7
comp=Z,32nm,1.0s,mb5.1
REDW *e*pP pP 15 18 01.0 +0.6
VES **Vestal, Richgr** 66.27 63 ⇓P P 15 17 35.9 -0.7
baz=66,SNR=5.8
L15A **Malad City** 66.29 54 ⇑P P 15 17 36.6 0.0
baz=66,SNR=10
DGMT **Dagmar** 66.35 44 ⇑P P 15 17 36.7 -0.2
baz=66,SNR=13
DGMT **Dagmar** 66.35 44 *e*P P 15 17 36.5 -0.3
comp=Z,52nm,0.7s,mb5.5
R10A **Warm Springs** 66.40 59 ⇑P P 15 17 37.1 -0.3
baz=66,SNR=7.3
S10A **Tonopah Range,** 66.46 59 ⇓P P 15 17 37.8 0.0
baz=66,SNR=15
P12A **McGill** 66.47 57 ⇑P P 15 17 37.7 -0.1
baz=66,SNR=7.6
CWC **Cottonwood Cre** 66.50 61 ⇑P P 15 17 38.1 +0.1
baz=66,SNR=12
LAO **LASA Array** 66.53 47 *e*P P 15 17 38.1 +0.1
comp=Z,37nm,0.9s,mb5.2
GRAC **Grapevine Rang** 66.58 61 ⇑P P 15 17 38.9 +0.4
baz=66,SNR=24
N14A **Grayback Hills** 66.58 55 ⇓P P 15 17 38.4 -0.1
baz=66,SNR=7.2
O13A **Hicks Ranch, I** 66.59 56 ⇓P P 15 17 38.6 +0.1
baz=66,SNR=5.1
M15A **Larsen Ranch,** 66.61 54 ⇑P P 15 17 38.9 +0.2
baz=66,SNR=15
WRAB **Tennant Creek** 66.64 196 ⇑*i*P P 15 17 37.1 -1.8
WRA **Warramunga Arr** 66.66 196 P P 15 17 38.6 -0.4
comp=Z,6.4nm,0.8s,mb4.5,baz=14,slow=6.7,SNR=46
WRA **Warramunga Arr** 66.66 196 P P 15 17 38.6 -0.4
WRA pmax pmax
comp=Z,6.0nm,0.8s
ISA **Isabella** 66.76 62 *e*P P 15 17 38.3 -1.4
ISA pmax pmax
comp=Z,10.0nm,1.2s,mb4.5
ISA **Isabella** 66.76 62 ⇑P P 15 17 38.5 -1.2
baz=66,SNR=7.5
ISA **Isabella** 66.76 62 *e*P P 15 17 38.3 -1.4
comp=Z,9.6nm,1.2s,mb4.5
R11A **Troy Canyon, C** 66.79 58 ⇓P P 15 17 39.9 0.0
baz=66,SNR=21
Q12A **Willow Creek R** 66.80 58 ⇑P P 15 17 39.9 0.0
baz=66,SNR=9.3
L16A **Fish Haven** 66.82 53 ⇑P P 15 17 40.0 0.0
baz=66,SNR=12
BHJ **Bhuj** 66.97 280 *e*P P 15 17 41.0 -0.3
P13A **Bates Ranch, G** 67.01 57 ⇑P P 15 17 41.4 +0.2
baz=67,SNR=9.1
HWUT **Hardware Ranch** 67.01 54 *e*P P 15 17 41.2 0.0
comp=Z,20nm,1.1s,mb4.8
MPMC **Manual Prospec** 67.11 61 ⇓P P 15 17 41.9 0.0
baz=67,SNR=26
S11A **Rachel** 67.15 59 ⇑P P 15 17 42.3 +0.1
baz=67,SNR=8.8
M16A **Huntsville** 67.17 54 ⇓P P 15 17 42.4 +0.2
baz=67,SNR=9.5
POO **Poona** 67.18 274 *e*P P 15 17 42.4 -0.1
DUG **Dugway** 67.22 55 *e*P P 15 17 42.8 +0.2
DUG pmax pmax
comp=Z,30nm,1.3s,mb5.0
DUG **Dugway** 67.22 55 ⇓P P 15 17 42.7 +0.2
baz=67,SNR=23
DUG **Dugway** 67.22 55 *e*P P 15 17 42.8 +0.3
comp=Z,30nm,1.3s,mb5.0
FURC **Furnace Creek,** 67.24 61 ⇓P P 15 17 42.7 0.0
baz=67,SNR=8.4
OSI **Osito Adit** 67.28 63 *e*P P 15 17 42.9 -0.2
comp=Z,8.8nm,0.8s,mb4.6
TPNV **Topopah Spring** 67.30 60 *e*P P 15 17 43.0 -0.1
TPNV pmax pmax
comp=Z,52nm,1.5s,mb5.1
TPNV **Topopah Spring** 67.30 60 ⇓P P 15 17 43.2 +0.1
baz=67,SNR=24
TPNV **Topopah Spring** 67.30 60 *e*P P 15 17 43.0 -0.1
comp=Z,52nm,1.5s,mb5.1
NOQ **North Oquirrh** 67.33 55 *e*P P 15 17 43.5 +0.3
comp=Z,15nm,0.7s,mb4.9
Q13A **Wheeler Ranch,** 67.33 57 ⇑P P 15 17 43.5 +0.2
baz=67,SNR=20
LRMC **Laurel Mountai** 67.37 62 ⇑P P 15 17 43.2 -0.4
baz=67,SNR=8.4
O15A **The Old Anders** 67.37 55 ⇑P P 15 17 43.6 +0.2
baz=67,SNR=6.2
BW06 **Boulder Array** 67.37 52 ⇑P P 15 17 42.8 -0.6
baz=67,SNR=5.7
PDAR **Pinedale Array** 67.37 52 P P 15 17 43.1 -0.3
comp=Z,12nm,0.7s,mb4.8,baz=347,slow=13,SNR=6.9
PDAR pP pP 15 18 08.0 +0.5
comp=Z,4.2nm,0.7s,baz=328,slow=0.6,SNR=1.8
R12A **Pony Springs,** 67.39 58 ⇓P P 15 17 43.1 -0.6
baz=67,SNR=13
P14A **Drum Mountains** 67.47 56 ⇑P P 15 17 43.8 -0.4
baz=67,SNR=16
EDW2 **Edwards Air Fo** 67.57 63 ⇑P P 15 17 44.5 -0.3
baz=67,SNR=15
U10A **Ash Meadows, A** 67.59 60 ⇓P P 15 17 45.1 +0.2
baz=67,SNR=11
S12A **Delamar Landin** 67.72 59 ⇑P P 15 17 45.6 -0.1
baz=68,SNR=13
T11A **Corn Creek, Al** 67.73 59 ⇓P P 15 17 46.0 +0.2
baz=68,SNR=18
JLU **Jordanelle** 67.74 54 *e*P P 15 17 45.6 -0.2
Q14A **Sevier Lake (B** 67.75 57 ⇓P P 15 17 46.1 +0.2
baz=68,SNR=23
KAD **Karad** 67.76 272 *e*P P 15 17 45.7 -0.6
KAD AMb AMB 15 17 47.5
comp=Z,40nm,1.0s,mb5.2
NLU **North Lily Min** 67.81 55 *e*P P 15 17 46.2 -0.1
N17A **Moffit Pass** 67.87 54 ⇑P P 15 17 46.8 +0.2
baz=68,SNR=21
R13A **O'Grain Ranch,** 67.87 58 ⇑P P 15 17 46.4 -0.2
baz=68,SNR=7.8
SHOC **Shoshone** 67.96 61 ⇑P P 15 17 46.9 -0.4
baz=68
O16A **Springville** 67.97 55 ⇓P P 15 17 47.5 +0.2
baz=68,SNR=15
DAU **Daniels Canyon** 67.98 54 *e*P P 15 17 47.8 +0.5
MPU **Maple Canyon** 68.02 55 *e*P P 15 17 47.8 +0.2
comp=Z,14nm,0.9s,mb4.8
GSC **Goldstone** 68.03 62 *e*P P 15 17 47.5 -0.2
GSC pmax pmax
comp=Z,10.0nm,1.0s,mb4.6
GSC **Goldstone** 68.03 62 ⇓P P 15 17 47.5 -0.2
baz=68,SNR=9.8
GSC **Goldstone** 68.03 62 *e*P P 15 17 47.5 -0.2
comp=Z,10nm,1.0s,mb4.6
BFSC **Mount Baldy St** 68.19 63 ⇓P P 15 17 48.1 -0.6
baz=68,SNR=6.1
Q15A **Fillmore** 68.26 56 ⇓P P 15 17 48.6 -0.5
baz=68,SNR=5.4
S13A **Holt Ranch, En** 68.33 58 ⇑P P 15 17 49.3 -0.2
baz=68,SNR=11
O17A **Robinson Place** 68.42 54 ⇓P P 15 17 49.9 -0.2
baz=68,SNR=8.2
ARUT **Antelope Range** 68.44 58 *e*P P 15 17 50.2 0.0
TUQ **Turquoise Moun** 68.49 61 ⇑P P 15 17 50.3 -0.3
baz=68,SNR=23
N18A **Larsen Ranch,** 68.50 53 ⇓P P 15 17 49.7 -0.9
baz=68,SNR=6.9
V11A **Goodsprings** 68.52 60 ⇑P P 15 17 50.5 -0.3
baz=68,SNR=6.0
NB2 **NORSAR Subarra** 68.56 340 P P 15 17 49.1 -1.5
comp=Z,1.2nm,0.7s,mb3.8,baz=28,slow=6.2
NOA **NORSAR Array B** 68.56 340 P P 15 17 47.5 -3.1
comp=Z,1.8nm,0.7s,mb4.0,baz=29,slow=6.3,SNR=5.7
NOA pP pP 15 18 14.2 -0.5
comp=Z,1.3nm,0.6s,baz=29,slow=6.4,SNR=2.4
NOA **NORSAR Array B** 68.56 340 P P 15 17 47.5 -3.1
NOA *PP pP 15 18 14.2 -0.5
NOA pmax pmax
comp=Z,2.0nm,0.7s
NOA pmax pmax
comp=Z,1.0nm,0.6s
S14A **Cedar City** 68.62 58 ⇑P P 15 17 51.3 0.0
baz=68,SNR=5.9
HEC **Hector,Ludlow** 68.63 62 ⇓P P 15 17 51.3 -0.2
baz=68,SNR=17
T13A **Saint George** 68.67 59 ⇓P P 15 17 51.6 -0.1
baz=68,SNR=14
MSU **Marysvale** 68.70 56 *e*P P 15 17 52.3 +0.4
TMUT **Trail Mountain** 68.75 55 *e*P P 15 17 52.3 +0.2
O18A **Roosevelt** 68.79 54 ⇑P P 15 17 52.1 -0.2
baz=68
N19A **John Jarvie Ra** 68.83 53 ⇑P P 15 17 52.2 -0.5
baz=69
P17A **Butcher Ranch,** 68.90 55 ⇑P P 15 17 53.1 +0.1
baz=69,SNR=8.4
V12A **Nelson** 68.95 60 ⇓P P 15 17 53.3 -0.1
baz=69,SNR=5.9
ULM **Lac du Bonnet** 68.97 39 P P 15 17 52.2 -1.0
comp=Z,7.2nm,0.7s,mb4.6,baz=313,slow=5.7,SNR=20
Q16A **Castle Valley** 69.02 56 ⇓P P 15 17 54.2 +0.3
baz=69,SNR=13
U13A **Pakoon Wash** 69.03 59 ⇓P P 15 17 54.4 +0.4
baz=69,SNR=27
GMRC **Granite Mounta** 69.08 61 ⇑P P 15 17 54.2 0.0
baz=69,SNR=11
T14A **Hurricane** 69.13 58 ⇑P P 15 17 54.3 -0.2
baz=69,SNR=13
S15A **Panguitch** 69.15 57 ⇓P P 15 17 54.6 -0.1
baz=69,SNR=5.5
LDFC **Landfair** 69.22 61 *e*P P 15 17 55.0 -0.2
comp=Z,54nm,1.2s,mb5.2
R16A **Teasdale** 69.26 56 ⇑P P 15 17 55.4 +0.1
baz=69,SNR=23
O19A **Miners Draw (B** 69.26 53 ⇓P P 15 17 55.0 -0.3
baz=69,SNR=11
SRU **San Rafael** 69.27 55 *e*P P 15 17 54.6 -0.7
SRU pmax pmax
comp=Z,19nm,0.9s,mb4.9
SRU **San Rafael** 69.27 55 ⇓P P 15 17 55.5 +0.1
baz=69,SNR=16
SRU **San Rafael** 69.27 55 *e*P P 15 17 54.6 -0.7
comp=Z,19nm,0.9s,mb4.9
BELC **Belle Mtn.** 69.39 62 ⇑P P 15 17 55.5 -0.6
baz=69
RWWY **Rawlins** 69.39 51 *e*P P 15 17 55.6 -0.4
comp=Z,18nm,0.9s,mb4.9
V13A **Grand Canyon W** 69.39 60 ⇑P P 15 17 56.3 +0.1

baz=69,SNR=20
Q18A **Rafter H Ranch** 69.50 55 ⇑P P 15 17 56.0 -0.7
baz=69
U14A **Mt Trumbull** 69.50 59 ⇓P P 15 17 56.9 +0.1
baz=69,SNR=15
S16A **Weppner Ranch,** 69.57 57 ⇑P P 15 17 57.5 +0.3
baz=69,SNR=13
T15A **Red Dirt Ranch** 69.58 58 ⇓P P 15 17 57.5 +0.2
baz=69,SNR=7.6
R17A **Hanksville Air** 69.62 56 ⇑P P 15 17 56.9 -0.7
baz=69,SNR=19
IRM **Iron Mountain** 69.81 62 ⇓P P 15 17 58.6 -0.1
baz=70,SNR=12
MONP **Monument Peak** 69.86 63 ⇓P P 15 17 59.0 -0.1
baz=70
BC3 **Big Chuckw Mtn** 69.95 62 ⇑P P 15 17 59.3 -0.3
baz=70,SNR=7.7
W13A **Hualapai Mount** 69.96 60 ⇓P P 15 17 59.3 -0.3
baz=70,SNR=7.8
U15A **North Rim** 70.03 58 ⇑P P 15 18 00.5 +0.4
baz=70,SNR=13
V14A **Boquillas Ranc** 70.07 59 ⇑P P 15 18 00.8 +0.5
baz=70,SNR=32
Q19A **Hogan Spring (** 70.09 54 ⇑P P 15 17 60.0 -0.5
baz=70,SNR=23
S17A **Black Ridge (B** 70.10 56 ⇑P P 15 18 00.5 0.0
baz=70,SNR=23
R18A **Canyonlands Na** 70.12 55 ⇑P P 15 18 00.0 -0.5
baz=70,SNR=18
X13A **Yucca** 70.33 61 ⇑P P 15 18 01.5 -0.4
baz=70,SNR=20
PDMCI **Parker Dam,Lak** 70.33 61 ⇑P P 15 18 01.6 -0.4
baz=70,SNR=7.4
ASAR **Alice Springs** 70.37 195 P P 15 18 02.8 +0.8
comp=Z,5.2nm,0.8s,mb4.4,baz=9.8,slow=5.1,SNR=58
ASAR **Alice Springs** 70.37 195 P P 15 18 02.8 +0.8
ASAR pmax pmax
comp=Z,5.0nm,0.8s
W14A **Seligman** 70.37 60 ⇑P P 15 18 02.6 +0.5
baz=70,SNR=21
AGMN **Agassiz Refuge** 70.40 40 *e*P P 15 18 00.3 -1.8
comp=Z,19nm,1.1s,mb4.8
Y12C **Blythe** 70.47 62 ⇓P P 15 18 02.6 -0.1
baz=70,SNR=8.5
V15A **Kaibab Nationa** 70.51 59 ⇑P P 15 18 03.5 +0.5
baz=70,SNR=10.0
T17A **Navajo Res., N** 70.53 57 ⇑P P 15 18 01.9 -1.2
baz=70
S18A **Hurst Farm, Bl** 70.53 56 ⇑P P 15 18 02.9 -0.2
baz=70,SNR=14
GLA **Glamis** 70.75 62 ⇑P P 15 18 03.7 -0.8
baz=70
Y13A **Salome** 70.85 61 ⇑P P 15 18 04.4 -0.7
baz=71
U17A **Shonto** 70.88 57 ⇑P P 15 18 05.2 0.0
baz=71,SNR=12
U16A **Tuba City** 70.91 58 ⇓P P 15 18 05.8 +0.4
baz=71,SNR=17
T18A **Mexican Hat** 70.98 56 ⇓P P 15 18 04.9 -0.9
baz=71,SNR=13
X14A **Yava** 70.98 60 ⇑P P 15 18 06.4 +0.5
baz=71,SNR=17
S19A **Harvey Farm, M** 70.99 55 ⇑P P 15 18 05.5 -0.4
baz=71,SNR=21
AKASG **Malin Array Be** 71.18 325 P P 15 18 04.8 -2.0
comp=Z,3.7nm,0.5s,mb4.5,baz=35,slow=6.2,SNR=17
AKASG **Malin Array Be** 71.18 325 *i* P P 15 18 06.0 -0.8
AKASG pmax pmax
comp=Z,4.0nm,0.5s
WUAZ **Wupatki** 71.19 58 ⇑P P 15 18 07.4 +0.3
baz=71,SNR=6.4
WUAZ **Wupatki** 71.19 58 *e*P P 15 18 07.2 +0.1
comp=Z,25nm,1.5s,mb4.8
112A **Yuma** 71.25 63 ⇑P P 15 18 07.3 -0.2
baz=71
Y14A **Wickenburg** 71.27 61 ⇓P P 15 18 07.5 -0.2
baz=71,SNR=14
X15A **Humboldt** 71.37 60 ⇑P P 15 18 08.7 +0.4
baz=71,SNR=18
GNI **Garni** 71.45 309 *c i* P P 15 18 09.5 +0.9
GNI pmax pmax
comp=Z,24nm,1.7s
U18A **Rough Rock, Ch** 71.47 57 ⇓P P 15 18 09.0 +0.2
baz=71,SNR=11
ISCO **Idaho Springs** 71.56 52 *e*P P 15 18 09.6 +0.3
ISCO pmax pmax
comp=Z,8.0nm,0.8s,mb4.6
ISCO **Idaho Springs** 71.56 52 *e*P P 15 18 09.6 +0.3
comp=Z,8.3nm,0.8s,mb4.6
113A **Mohawk Valley,** 71.59 62 ⇑P P 15 18 09.0 -0.6
baz=71
Y15A **Casa Rosa Ranc** 71.67 60 ⇓P P 15 18 10.3 +0.2
baz=71,SNR=16
X16A **Lo Mia Camp, P** 71.90 59 ⇓P P 15 18 11.7 +0.3
baz=72,SNR=22
V18A **Ganado** 71.92 57 ⇓P P 15 18 11.4 -0.1
baz=72,SNR=9.0
Y16A **Circle Bar Ran** 72.24 60 ⇑P P 15 18 13.5 0.0
baz=72,SNR=13
X17A **Forest Lakes** 72.34 59 ⇑P P 15 18 14.4 +0.4
baz=72,SNR=9.6
115A **Sonoran Desert** 72.59 61 ⇑P P 15 18 15.5 -0.1
baz=72
EYMN **Ely** 72.61 38 *e*P P 15 18 14.3 -1.0
comp=Z,31nm,1.0s,mb5.1
OGNE **Ogallala** 72.69 49 *e*P P 15 18 15.8 -0.3
comp=Z,89nm,0.9s,mb5.6
X18A **Snowflake** 72.72 58 ⇑P P 15 18 16.4 +0.1
baz=72
214A **Organ Pipe Nat** 72.74 62 ⇑P P 15 18 16.1 -0.3
baz=72,SNR=5.5
Y17A **Roosevelt** 72.75 59 ⇑P P 15 18 16.6 +0.1
baz=72,SNR=11
116A **Eloy** 73.01 61 ⇓P P 15 18 17.8 -0.2
baz=73
SDCO **Great Sand Dun** 73.06 53 *e*P P 15 18 18.3 +0.1
comp=Z,17nm,1.4s,mb4.7
X19A **St. Johns** 73.18 58 ⇓P P 15 18 19.4 +0.3
baz=73,SNR=15
Y18A **Canyon Day Jun** 73.19 59 ⇓P P 15 18 19.5 +0.5
baz=73,SNR=12
Z17A **San Carlos Hig** 73.25 60 ⇓P P 15 18 19.7 +0.3
baz=73
ECSD **EROS,Sioux Fal** 73.42 44 *e*P P 15 18 18.5 -1.8
comp=Z,25nm,0.9s,mb5.0
ECSD *e*pP pP 15 18 43.0 -1.6
Y19A **Nutrioso** 73.53 58 ⇑P P 15 18 21.8 +0.7
baz=73,SNR=6.4
216A **Three Points,** 73.54 61 ⇑P P 15 18 21.4 +0.2
baz=73,SNR=6.6
117A **Oracle** 73.59 60 ⇓P P 15 18 21.4 0.0
baz=73,SNR=7.6
TUC **Tucson** 73.74 60 *e*P P 15 18 22.2 -0.1
TUC *e**PP pP 15 18 44.9 -1.9
TUC pmax pmax
comp=Z,7.0nm,1.0s,mb4.3
TUC **Tucson** 73.74 60 *e*P P 15 18 22.1 -0.2
comp=Z,6.6nm,1.0s,mb4.3
TUC *e*pP pP 15 18 44.9 -1.8
Z19A **T-Link Ranch,** 73.98 59 ⇓P P 15 18 23.7 0.0
baz=74
118A **Homack Ranch,** 74.01 60 ⇓P P 15 18 23.9 0.0
baz=74,SNR=15
217A **Green Valley** 74.09 61 ⇑P P 15 18 24.4 0.0
baz=74,SNR=12
BANOM **Banah** 74.22 291 ⇓P P 15 18 26.4 +1.2
SNR=7.1
119A **Ashpeak Ranch,** 74.33 59 ⇓P P 15 18 25.7 0.0
baz=74
218A **Dragoon** 74.43 60 ⇑P P 15 18 26.6 +0.3
baz=74,SNR=12
LAZ **Ladron** 74.47 57 *e*P P 15 18 26.9 +0.3
ANMO **Albuquerque** 74.48 56 *e*P P 15 18 26.8 +0.2
ANMO *e**PP pP 15 18 50.7 -0.4
ANMO pmax pmax
comp=Z,5.0nm,0.7s
ANMO **Albuquerque** 74.48 56 *e*P P 15 18 26.8 +0.2
comp=Z,4.8nm,0.7s,mb4.3
ANMO *e*pP pP 15 18 50.7 -0.4
BIDO **Bidbid** 74.64 288 P P 15 18 29.3 +1.6
SNR=8.0
WBK **Wadi Bani Khal** 74.70 287 ⇓P P 15 18 29.8 +1.7
SNR=14
318A **Bisbee** 74.83 61 ⇓P P 15 18 28.9 +0.2
baz=75,SNR=14
219A **White Tail Can** 74.89 60 ⇓P P 15 18 29.2 +0.2
baz=75,SNR=14
BNM **Barren Site** 74.95 57 *e*P P 15 18 29.0 -0.3
SMDO **Samad** 75.01 288 P P 15 18 31.3 +1.5
SNR=8.9
BSEG **Bad Segeberg** 75.02 337 *e*P P 15 18 39.8 +10
BSEG pmax pmax
comp=Z,14nm,1.6s,mb4.4
HATD **Hatta, Dubai** 75.08 290 ⇑P P 15 18 31.1 +1.0
SNR=13
HOQ **Hoqain** 75.15 288 P P 15 18 31.7 +1.1
SNR=15
OJC **Ojcow** 75.18 329 *e*P P 15 18 29.4 -0.9
BUR08 **Bucovina Ar. S** 75.22 325 *e*P P 15 18 29.8 -0.8
319A **Douglas** 75.31 60 ⇓P P 15 18 31.7 +0.3
baz=75,SNR=9.1
STHS **Stebnicka Huta** 75.31 328 *e*P P 15 18 31.3 +0.2
STHS pmax pmax
comp=Z,2.0nm,0.6s,mb4.0
STHS **Stebnicka Huta** 75.31 328 *e*P P 15 18 31.3 +0.2
comp=Z,1.8nm,0.6s,mb4.0
KOLS **Kolonicke sedl** 75.32 327 *e*P P 15 18 34.0 +2.8
JMDO **Jabal Madar** 75.45 287 P P 15 18 33.7 +1.4
SNR=22
TLCR 75.64 321 ⇓ *i* P P 15 18 33.0 0.0
TLCR 75.64 321 ⇓P P 15 18 33.0 0.0
BSY **Bisya** 75.80 288 P P 15 18 35.4 +1.1
SNR=22
DPC **Dobruska-Polom** 76.28 331 *e*P P 15 18 36.9 +0.3
MORC **Moravsky Berou** 76.34 330 ⇑ *i* P P 15 18 37.2 +0.2
MORC **Moravsky Berou** 76.34 330 ⇑P P 15 18 37.1 +0.2
HARR **Harsova** 76.41 321 ⇑ *i* P P 15 18 38.4 +0.9
HARR **Harsova** 76.41 321 ⇑P P 15 18 38.4 +1.0
CLL **Collm** 76.53 334 *i* P P 15 18 37.4 -0.6
CLL *e* pP 15 19 05.0 +2.5
CLL pmax pmax
comp=Z,8.0nm,0.8s,mb4.5
CLL **Collm** 76.53 334 *e*P P 15 18 37.3 -0.7
comp=Z,8.0nm,0.8s,mb4.5
CLL **Collm** 76.53 334 *i* P P 15 18 37.4 -0.6
comp=Z,8.0nm,0.8s,mb4.5
CLL *ex* x 15 18 52.0
CLL *ex* x 15 19 05.0
MLR **Muntele Rosu** 76.63 323 ⇑ *i* P P 15 18 39.5 +0.8
MLR **Muntele Rosu** 76.63 323 ⇑P P 15 18 39.5 +0.9
CLZ **Clausthal** 76.85 335 *e*P P 15 18 39.8 0.0
CLZ pmax pmax
comp=Z,14nm,1.6s,mb4.4
CLZ **Clausthal** 76.85 335 *e*P P 15 18 39.8 0.0
comp=Z,14nm,1.6s,mb4.4
DRGR 76.91 326 ⇓ *i* P P 15 18 40.3 +0.1
DRGR 76.91 326 ⇓P P 15 18 40.3 +0.2
VYHS **Vyhne** 76.97 329 *e*P P 15 18 40.6 +0.1
VOIR 77.05 324 ⇓ *i* P P 15 18 42.0 +1.0
VOIR 77.05 324 ⇓P P 15 18 42.0 +0.9
VRAC **Vranov** 77.07 331 LR LR 15 59 41.9
comp=Z,25nm,20.8s,baz=172,slow=41
VRAC **Vranov** 77.07 331 ⇑ *i* P P 15 18 41.7 +0.6
VRAC **Vranov** 77.07 331 ⇑P P 15 18 41.7 +0.6
PRU **Pruhonice** 77.18 322 *e*P P 15 18 41.8 +0.1
AMTX **Amarillo** 77.26 53 *e*P P 15 18 42.3 -0.1
comp=Z,33nm,0.8s,mb5.1
AMTX *e*pP pP 15 19 07.5 +0.5
STKA **Stephens Creek** 77.41 187 P P 15 18 43.8 +0.9
comp=Z,1.8nm,0.8s,mb3.9,baz=250,slow=20,SNR=3.9
TREC **Trest** 77.46 331 *e*P P 15 18 43.1 -0.1
ZST **Bratislava** 77.84 330 *e*P P 15 18 49.6 +4.2
ZST pmax pmax
comp=Z,4.0nm,0.9s,mb4.2
ZST **Bratislava** 77.84 330 *e*P P 15 18 49.6 +4.2
comp=Z,3.8nm,0.9s,mb4.1
UBBA **Unterbreizbach** 77.87 335 *e*P P 15 18 44.8 -0.7
comp=Z,2.0nm,0.6s,mb4.0
ANTO **Ankara** 77.90 315 ⇑ *i* P P 15 18 46.8 +1.0
ANTO **Ankara** 77.90 315 ⇑P P 15 18 46.8 +1.0
MANZ **Manzenberg** 77.96 334 *e*P P 15 18 46.1 +0.1
comp=Z,4.0nm,1.2s,mb4.0
GZR **Gura Zlata** 78.02 325 ⇑ *i* P P 15 18 46.6 +0.2
GZR **Gura Zlata** 78.02 325 ⇑P P 15 18 46.6 +0.2
ROTZ **Rotzenmuhle** 78.12 333 *e*P P 15 18 47.4 +0.5
comp=Z,5.0nm,1.0s,mb4.2
KHC **Kasperske Hory** 78.24 332 *e*P P 15 18 47.4 -0.1
KHC *e*pP pP 15 19 15.0 +2.8
BZS **Buzias** 78.30 326 ⇓ *i* P P 15 18 48.1 +0.1
BZS **Buzias** 78.30 326 ⇓P P 15 18 48.1 +0.1
GEC2 **GERESS Array S** 78.44 332 *e*P P 15 18 48.3 -0.4
GEC2 pmax pmax
comp=Z,3.0nm,0.7s,mb4.1
GEC2 **GERESS Array S** 78.44 332 *e*P P 15 18 48.3 -0.4
comp=Z,3.0nm,0.7s,mb4.1
GERES **GERESS Array B** 78.44 332 P P 15 18 48.1 -0.6
comp=Z,2.4nm,0.6s,mb4.1,baz=33,slow=5.6,SNR=25
GERES **GERESS Array B** 78.44 332 P P 15 18 48.1 -0.6
GERES pmax pmax
comp=Z,2.0nm,0.6s
WET **Wettzell** 78.45 333 *e*P P 15 18 48.8 +0.1
WET pmax pmax
comp=Z,6.0nm,0.9s,mb4.3
WET **Wettzell** 78.45 333 *e*P P 15 18 48.8 +0.1
comp=Z,6.0nm,0.9s,mb4.3
FORT **Forrest** 78.47 199 *e*P P 15 18 49.9 +1.1
comp=Z,21nm,0.7s,mb5.0
GRA1 **Grafenberg Arr** 78.50 334 *e*P P 15 18 48.9 -0.1
comp=Z,7.0nm,0.7s,mb4.5
GRF **Grafenberg Arr** 78.50 334 *e*P P 15 18 48.9 -0.1
GRF pmax pmax
comp=Z,7.0nm,0.7s,mb4.5
GRF **Grafenberg Arr** 78.50 334 *e*P P 15 18 48.9 -0.1
GRF pmax pmax
comp=Z,7.0nm,0.7s,mb4.5
GRF **Grafenberg Arr** 78.50 334 *e*P P 15 18 48.9 -0.1
comp=Z,7.0nm,0.7s,mb4.5
PKSM **Moragy** 78.95 328 ⇓ *i* P P 15 18 50.2 -1.4
PKSM **Moragy** 78.95 328 ⇓P P 15 18 50.2 -1.4
MEM **Membach** 79.18 337 P P 15 18 52.8 +0.1
RJOB **Jochberg** 79.71 332 *e*P P 15 18 56.2 +0.6
comp=Z,5.0nm,0.8s,mb4.4
VTS **Vitosha** 80.14 323 ⇓ *i* P P 15 18 58.3 +0.3
VTS **Vitosha** 80.14 323 ⇓P P 15 18 58.3 +0.3
TXAR **Lajitas Array** 80.16 58 P P 15 18 58.2 -0.1
comp=Z,9.6nm,0.7s,mb4.7,baz=300,slow=4.1,SNR=121
TXAR pP pP 15 19 21.7 -1.4
comp=Z,3.0nm,0.5s,baz=296,slow=3.9,SNR=5.6
TXAR **Lajitas Array** 80.16 58 P P 15 18 58.2 -0.2
TXAR *PP pP 15 19 21.7 -1.4
TXAR pmax pmax
comp=Z,10.0nm,0.7s
TXAR pmax pmax
comp=Z,3.0nm,0.5s
TXAR **Lajitas Array** 80.16 58 P P 15 18 58.2 -0.1
TXAR pP pP 15 19 21.7 -1.4
BAIF **Baives** 80.16 338 *e*P P 15 18 57.4 -0.6
CCM **Cathedral Cave** 80.37 44 *e*P P 15 18 58.2 -1.2
CCM pmax pmax
comp=Z,28nm,1.1s,mb5.0
CCM **Cathedral Cave** 80.37 44 *e*P P 15 18 58.2 -1.2
comp=Z,28nm,1.1s,mb5.0
BFO **Black Forest** 80.58 335 *e*P P 15 18 59.6 -0.7
BFO pmax pmax
comp=Z,5.0nm,0.9s,mb4.3
BFO **Black Forest** 80.58 335 *e*P P 15 18 59.6 -0.7
comp=Z,5.0nm,0.9s,mb4.3
CDF **Champ du Feu** 80.82 336 *e*P P 15 19 01.0 -0.5
comp=Z,9.6nm,0.8s,mb4.4
CDF **Champ du Feu** 80.82 336 *e*P P 15 19 01.0 -0.5
CDF pmax pmax
comp=Z,5.0nm,0.8s,mb4.4
CDF **Champ du Feu** 80.82 336 *e*P P 15 19 01.0 -0.5
comp=Z,4.8nm,0.8s,mb4.4
FVM **French Village** 80.83 44 *e*P P 15 19 00.8 -1.0
FVM pmax pmax
comp=Z,4.0nm,0.4s,mb4.6
FVM **French Village** 80.83 44 *e*P P 15 19 00.8 -1.1
comp=Z,4.3nm,0.4s,mb4.6
ECH **Echery** 81.03 336 *e*P P 15 19 01.6 -1.1
OLIL **Olney** 81.35 42 *e*P P 15 19 03.3 -1.3
comp=Z,9.0nm,0.4s,mb5.0
MEZF **Maizieres J'vi** 81.36 337 *e*P P 15 19 04.1 -0.3
comp=Z,9.1nm,0.6s,mb4.5
MEZF **Maizieres J'vi** 81.36 337 *e*P P 15 19 04.1 -0.3
comp=Z,9.1nm,0.6s,mb4.8
WHFO **Wadi Hawf** 81.45 287 P P 15 19 05.9 +0.5
SNR=7.8
HINF **Hinteralfeld** 81.48 336 *e*P P 15 19 04.1 -0.9
DAVOX **Davos/Dischmat** 81.49 333 LR LR 16 04 02.6
comp=Z,50nm,19.0s,baz=154,slow=42
JCT **Junction City** 81.58 55 *e*P P 15 19 05.0 -0.9
JCT pmax pmax
comp=Z,37nm,1.3s,mb5.0
JCT **Junction City** 81.58 55 *e*P P 15 19 05.0 -0.9
comp=Z,37nm,1.3s,mb5.0
MIAR **Mount Ida** 81.92 48 *e*P P 15 19 07.0 -0.6
MIAR pmax pmax
comp=Z,36nm,1.2s,mb5.1
MIAR **Mount Ida** 81.92 48 *e*P P 15 19 07.0 -0.6
comp=Z,36nm,1.2s,mb5.1
TUE **Stuetta** 81.93 334 *e*P P 15 19 07.2 -0.3
comp=Z,3.2nm,0.6s,mb4.3
ALLY **Alegheny Colle** 82.45 35 *e*P P 15 19 08.2 -2.1
FLN **La Foliniere** 82.52 341 *e*P P 15 19 09.9 -0.6
comp=Z,14nm,0.9s,mb4.5
FLN **La Foliniere** 82.52 341 *e*P P 15 19 09.9 -0.6
FLN pmax pmax
comp=Z,7.0nm,0.9s,mb4.5
FLN **La Foliniere** 82.52 341 *e*P P 15 19 09.9 -0.6
comp=Z,6.9nm,0.9s,mb4.5
LDF **La Druitiere** 82.60 340 *e*P P 15 19 10.2 -0.7
comp=Z,5.6nm,0.6s,mb4.3
LDF **La Druitiere** 82.60 340 *e*P P 15 19 10.2 -0.7
LDF pmax pmax
comp=Z,3.0nm,0.6s,mb4.3
LDF **La Druitiere** 82.60 340 *e*P P 15 19 10.2 -0.7
comp=Z,2.8nm,0.6s,mb4.3
WCI **Wyandotte Cave** 82.60 41 *e*P P 15 19 10.4 -0.7
WCI pmax pmax
comp=Z,21nm,0.9s,mb5.0
WCI **Wyandotte Cave** 82.60 41 *e*P P 15 19 10.3 -0.8
comp=Z,21nm,0.9s,mb5.0
CABF **La Chapelle** 82.79 336 *e*P P 15 19 11.5 -0.4
comp=Z,5.0nm,0.8s,mb4.1
CABF **La Chapelle** 82.79 336 *e*P P 15 19 11.5 -0.4
CABF pmax pmax
comp=Z,3.0nm,0.8s,mb4.2
CABF **La Chapelle** 82.79 336 *e*P P 15 19 11.5 -0.4
comp=Z,2.5nm,0.8s,mb4.1
LOR **Lormes** 82.81 337 *e*P P 15 19 11.4 -0.7
comp=Z,9.1nm,0.6s,mb4.5
LOR **Lormes** 82.81 337 *e*P P 15 19 11.4 -0.7
LOR pmax pmax
comp=Z,5.0nm,0.6s,mb4.5
LOR **Lormes** 82.81 337 *e*P P 15 19 11.4 -0.7
comp=Z,4.6nm,0.6s,mb4.5
GRR **Gorron** 82.96 341 *e*P P 15 19 12.4 -0.4
comp=Z,20nm,0.7s,mb4.7
GRR **Gorron** 82.96 341 *e*P P 15 19 12.4 -0.4
GRR pmax pmax
comp=Z,10.0nm,0.7s,mb4.8
GRR **Gorron** 82.96 341 *e*P P 15 19 12.4 -0.4
comp=Z,10nm,0.7s,mb4.8
SSF **Saint Saulge** 83.10 337 *e*P P 15 19 12.9 -0.6
comp=Z,13nm,1.0s,mb4.4
SSF **Saint Saulge** 83.10 337 *e*P P 15 19 12.9 -0.6
SSF pmax pmax
comp=Z,6.0nm,1.0s,mb4.4
SSF **Saint Saulge** 83.10 337 *e*P P 15 19 12.9 -0.6
comp=Z,6.3nm,1.0s,mb4.4
AVF **Avril sur Loir** 83.39 337 *e*P P 15 19 14.6 -0.4
comp=Z,10nm,0.9s,mb4.4
AVF **Avril sur Loir** 83.39 337 *e*P P 15 19 14.6 -0.4
AVF pmax pmax
comp=Z,5.0nm,0.9s,mb4.3
AVF **Avril sur Loir** 83.39 337 *e*P P 15 19 14.6 -0.4
comp=Z,5.1nm,0.9s,mb4.3
SMF **Signal de Mont** 83.39 337 *e*P P 15 19 14.6 -0.4
comp=Z,27nm,0.9s,mb4.8
SMF **Signal de Mont** 83.39 337 *e*P P 15 19 14.6 -0.4
SMF pmax pmax
comp=Z,14nm,0.9s,mb4.8
SMF **Signal de Mont** 83.39 337 *e*P P 15 19 14.6 -0.4
comp=Z,14nm,0.9s,mb4.8
PPT **Papeete** 83.44 123 LR LR 15 52 05.6
comp=Z,11nm,18.9s,baz=321,slow=32
SGMF **Saint Gilles** 83.47 342 *e*P P 15 19 15.2 -0.2
comp=Z,25nm,1.0s,mb4.7
SGMF **Saint Gilles** 83.47 342 *e*P P 15 19 15.2 -0.2
SGMF pmax pmax
comp=Z,12nm,1.0s,mb4.7
SGMF **Saint Gilles** 83.47 342 *e*P P 15 19 15.2 -0.2
comp=Z,12nm,1.0s,mb4.7
ROSF **Rostrenen** 83.55 342 *e*P P 15 19 15.6 -0.2
comp=Z,34nm,1.1s,mb4.8
ROSF **Rostrenen** 83.55 342 *e*P P 15 19 15.6 -0.2
ROSF pmax pmax
comp=Z,17nm,1.1s,mb4.8
ROSF **Rostrenen** 83.55 342 *e*P P 15 19 15.6 -0.2
comp=Z,17nm,1.1s,mb4.8
WVT **Waverly** 83.56 43 *e*P P 15 19 15.5 -0.6
WVT *e**PP pP 15 19 39.1 -1.9
WVT pmax pmax
comp=Z,8.0nm,0.6s,mb4.7
WVT **Waverly** 83.56 43 *e*P P 15 19 15.5 -0.6
comp=Z,7.7nm,0.6s,mb4.7
WVT *e*pP pP 15 19 39.1 -1.9
LPL **La Plagne** 83.59 335 *e*P P 15 19 16.2 +0.1
comp=Z,15nm,0.9s,mb4.5
LPL **La Plagne** 83.59 335 *e*P P 15 19 16.2 +0.1
LPL pmax pmax
comp=Z,8.0nm,0.9s,mb4.5
LPL **La Plagne** 83.59 335 *e*P P 15 19 16.2 +0.1
comp=Z,7.5nm,0.9s,mb4.5
LPG **La Plagne** 83.60 335 *e*P P 15 19 16.6 +0.5
comp=Z,18nm,1.1s,mb4.5
LPG **La Plagne** 83.60 335 *e*P P 15 19 16.6 +0.5
LPG pmax pmax
comp=Z,9.0nm,1.1s,mb4.5
LPG **La Plagne** 83.60 335 *e*P P 15 19 16.6 +0.5
comp=Z,9.1nm,1.1s,mb4.5
BGF **Bois d'Agland** 83.74 338 *e*P P 15 19 16.6 -0.2
comp=Z,7.5nm,0.7s,mb4.3
BGF **Bois d'Agland** 83.74 338 *e*P P 15 19 16.6 -0.2
BGF pmax pmax
comp=Z,4.0nm,0.7s,mb4.4
BGF **Bois d'Agland** 83.74 338 *e*P P 15 19 16.6 -0.2
comp=Z,3.8nm,0.7s,mb4.3
QUIF **Quistinic** 83.92 342 *e*P P 15 19 18.2 +0.5
TCF **Toulx Ste Croi** 84.16 338 *e*P P 15 19 18.9 -0.1
comp=Z,14.5nm,0.8s,mb4.1
TCF **Toulx Ste Croi** 84.16 338 *e*P P 15 19 18.9 -0.1
TCF pmax pmax
comp=Z,2.0nm,0.8s,mb4.0
TCF **Toulx Ste Croi** 84.16 338 *e*P P 15 19 18.9 -0.1
comp=Z,2.3nm,0.8s,mb4.1
MCWV **Mont Chateau** 84.25 36 *e*P P 15 19 18.8 -0.8
comp=Z,7.2nm,0.7s,mb4.6
MBDF **Montbardon** 84.29 334 *e*P P 15 19 19.2 -0.5
comp=Z,11nm,0.9s,mb4.4
MBDF **Montbardon** 84.29 334 *e*P P 15 19 19.2 -0.5
MBDF pmax pmax
comp=Z,6.0nm,0.9s,mb4.4
MBDF **Montbardon** 84.29 334 *e*P P 15 19 19.2 -0.5
comp=Z,5.6nm,0.9s,mb4.4
ORIF **Oris-en-Rattie** 84.39 335 *e*P P 15 19 20.3 +0.2
comp=Z,18nm,0.7s,mb4.8
ORIF **Oris-en-Rattie** 84.39 335 *e*P P 15 19 20.3 +0.2
ORIF pmax pmax
comp=Z,9.0nm,0.7s,mb4.7
ORIF **Oris-en-Rattie** 84.39 335 *e*P P 15 19 20.3 +0.2
comp=Z,9.3nm,0.7s,mb4.7
MFF **Saint Martin d** 84.46 340 *e*P P 15 19 20.4 -0.1
comp=Z,18nm,1.0s,mb4.6
MFF **Saint Martin d** 84.46 340 *e*P P 15 19 20.4 -0.1
MFF pmax pmax
comp=Z,9.0nm,1.0s,mb4.5
MFF **Saint Martin d** 84.46 340 *e*P P 15 19 20.4 -0.1
comp=Z,9.0nm,1.0s,mb4.5
VIVF **Saint-Julien-l** 84.80 336 *e*P P 15 19 22.2 0.0
comp=Z,7.8nm,0.8s,mb4.4
VIVF **Saint-Julien-l** 84.80 336 *e*P P 15 19 22.2 0.0
VIVF pmax pmax
comp=Z,4.0nm,0.8s,mb4.4
VIVF **Saint-Julien-l** 84.80 336 *e*P P 15 19 22.2 0.0
comp=Z,3.9nm,0.8s,mb4.4
SBF **Sospel** 84.87 334 *e*P P 15 19 22.4 -0.2
SWET **Sewanee** 85.21 43 *e*P P 15 19 23.3 -1.1
SWET *e*pP pP 15 19 47.4 -2.1
TZTN **Tazewell** 85.23 40 *e*P P 15 19 23.8 -0.8
comp=Z,7.0nm,0.7s,mb4.7
RJF **Les Rejaudoux** 85.25 338 *e*P P 15 19 24.5 0.0
comp=Z,11nm,0.9s,mb4.5
RJF **Les Rejaudoux** 85.25 338 *e*P P 15 19 24.5 0.0
RJF pmax pmax
comp=Z,6.0nm,0.9s,mb4.5
RJF **Les Rejaudoux** 85.25 338 *e*P P 15 19 24.5 0.0
comp=Z,5.5nm,0.9s,mb4.5
FRF **La Foret Royal** 85.39 334 *e*P P 15 19 24.4 -0.8

	comp=Z,8.9nm,0.7s,mb4.5								
FRF	**La Foret Royal**	**85.39**	**334**	*e*P		**P**	**15 19 24.4**	**-0.8**	
FRF				pmax		pmax			
	comp=Z,4.0nm,0.7s,mb4.5								
FRF	**La Foret Royal**	**85.39**	**334**	*e*P		**P**	**15 19 24.4**	**-0.8**	
	comp=Z,4.4nm,0.7s,mb4.5								
CAF	**Calviac**	**85.46**	**338**	*e*P		**P**	**15 19 25.0**	**-0.5**	
	comp=Z,17nm,0.9s,mb4.7								
CAF	**Calviac**	**85.46**	**338**	*e*P		**P**	**15 19 25.0**	**-0.5**	
CAF				pmax		pmax			
	comp=Z,9.0nm,0.9s,mb4.7								
CAF	**Calviac**	**85.46**	**338**	*e*P		**P**	**15 19 25.0**	**-0.5**	
	comp=Z,8.7nm,0.9s,mb4.7								
LMR	**La Mourre**	**85.64**	**334**	*e*P		**P**	**15 19 25.9**	**-0.5**	
LFF	**La Frestale**	**85.79**	**338**	*e*P		**P**	**15 19 27.5**	**+0.3**	
	comp=Z,21nm,0.8s,mb4.8								
LFF	**La Frestale**	**85.79**	**338**	*e*P		**P**	**15 19 27.5**	**+0.3**	
LFF				pmax		pmax			
	comp=Z,10.0nm,0.8s,mb4.8								
LFF	**La Frestale**	**85.79**	**338**	*e*P		**P**	**15 19 27.5**	**+0.3**	
	comp=Z,10nm,0.8s,mb4.8								
TKL	**Tuckaleechee C**	**85.86**	**41**	*e*P		**P**	**15 19 27.0**	**-0.7**	
ELN	**Prospectdale**	**85.91**	**38**	*e*P		**P**	**15 19 27.2**	**-0.7**	
BLA	**Blacksburg**	**86.06**	**38**	*e*P		**P**	**15 19 28.3**	**-0.3**	
BLA				pmax		pmax			
	comp=Z,13nm,0.8s,mb4.9								
BLA	**Blacksburg**	**86.06**	**38**	*e*P		**P**	**15 19 28.3**	**-0.4**	
	comp=Z,13nm,0.8s,mb4.9								
MTLF	**Montolieu**	**86.88**	**337**	*e*P		**P**	**15 19 33.0**	**+0.5**	
	comp=Z,11nm,1.0s,mb4.5								
MTLF	**Montolieu**	**86.88**	**337**	*e*P		**P**	**15 19 33.0**	**+0.5**	
MTLF				pmax		pmax			
	comp=Z,6.0nm,1.0s,mb4.5								
MTLF	**Montolieu**	**86.88**	**337**	*e*P		**P**	**15 19 33.0**	**+0.5**	
	comp=Z,5.5nm,1.0s,mb4.4								
ETSF	**Etsaut**	**88.03**	**339**	*e*P		**P**	**15 19 38.5**	**+0.4**	
	comp=Z,9.3nm,0.9s,mb4.5								
ETSF	**Etsaut**	**88.03**	**339**	*e*P		**P**	**15 19 38.5**	**+0.4**	
ETSF				pmax		pmax			
	comp=Z,5.0nm,0.9s,mb4.5								
ETSF	**Etsaut**	**88.03**	**339**	*e*P		**P**	**15 19 38.5**	**+0.4**	
	comp=Z,4.7nm,0.9s,mb4.5								
DBIC	**Dimbokro**	**123.24**	**329**	PKP		PKPdf	15 25 43.7	-1.0	
	comp=Z,9.8nm,1.2s,baz=193,slow=19,SNR=3.2								
DBIC	**Dimbokro**	**123.24**	**329**	PKIKP		PKPdf	15 25 43.7	-1.0	
DBIC				pmax		pmax			
	comp=Z,10.0nm,1.2s								
LPAZ	**La Paz**	**137.01**	**60**	PKP		PKPdf	15 26 11.0	+0.5	
	comp=Z,0.9nm,0.8s,baz=45,slow=13,SNR=4.4								
LPAZ	**La Paz**	**137.01**	**60**	PKIKP		PKPdf	15 26 11.0	+0.5	
LPAZ				pmax		pmax			
	comp=Z,1.0nm,0.8s								
LPAZ	**La Paz**	**137.01**	**60**	PKP		PKPdf	15 26 11.0	+0.5	
BDFB	**Brasilia**	**146.68**	**32**	PKPbc		PKPbc	15 26 29.8	+0.3	
	comp=Z,10nm,0.8s,baz=259,slow=2.7,SNR=16								
BDFB	**Brasilia**	**146.68**	**32**	PKP2		PKPab	15 26 29.8	-1.0	
BDFB				pmax		pmax			
	comp=Z,10.0nm,0.8s								
PLCA	**Paso Flores**	**150.47**	**95**	PKPbc		PKPbc	15 26 38.9	+0.3	
	comp=Z,13nm,0.8s,baz=268,slow=2.5,SNR=35								
PLCA				pPKPbc		pPKPbc	15 27 06.2	+1.5	
	comp=Z,5.3nm,0.7s,baz=46,slow=4.1,SNR=4.7								
PLCA	**Paso Flores**	**150.47**	**95**	PKIKP		PKPbc	15 26 38.9	+0.3	
PLCA							15 27 06.3		
PLCA				pmax		pmax			
	comp=Z,13nm,0.8s								
PLCA				pmax		pmax			
	comp=Z,5.0nm,0.7s								
PLCA	**Paso Flores**	**150.47**	**95**	*e*PKPbc		PKPbc	15 26 38.6	0.0	
SNAA	**Sanae**	**150.72**	**197**	*e*PKPdf		PKPbc	15 26 38.4	+0.2	
SNAA				*e*			15 26 40.3		
SNAA				*e*			15 27 04.1		
SNAA				*e*			15 27 07.1		
SNAA				*e*			15 27 12.2		
CPUP	**Villa Florida**	**151.13**	**58**	PKPbc		PKPbc	15 26 40.4	-0.2	
	comp=Z,3.5nm,0.7s,baz=294,slow=3.1,SNR=11								
CPUP				pPKPbc		pPKPbc	15 27 07.6	+0.8	
	comp=Z,6.7nm,0.7s,baz=314,slow=2.7,SNR=6.9								
CPUP	**Villa Florida**	**151.13**	**58**	PKIKP		PKPbc	15 26 40.4	-0.2	
CPUP							15 27 07.6		
CPUP				pmax		pmax			
	comp=Z,4.0nm,0.7s								
CPUP				pmax		pmax			
	comp=Z,7.0nm,0.7s								
CPUP	**Villa Florida**	**151.13**	**58**	PKPbc		PKPbc	15 26 40.4	-0.2	
CPUP				pPKPbc		pPKPbc	15 27 07.6	+0.8	
VNA2	**Neumayer--Watz**	**152.22**	**196**	*e*PKPdf		PKPbc	15 26 42.0	+0.3	
VNA2				*e*			15 26 44.0		
VNA2				*e*			15 26 53.5		
VNA2				*e*			15 27 07.6		
VNA2				*e*			15 27 10.0		
VNA3	**Neumayer Olymp**	**152.37**	**194**	*e*PKPdf		PKPbc	15 26 42.3	+0.3	
VNA3				*e*			15 26 44.8		
VNA3				*e*			15 26 53.1		
VNA3				*e*			15 27 17.9		

IDC 14 15:07:33.8±3.1, 2049S×17423W, h0km, mb3.8/4, mb1 4.1/5, mb1mx3.8/18, mbtmp3.9/5, ML2.6/1, Error ellipse: s-maj=102.5km s-min=30.6km az=134.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**6.95**	**20**	Pn	Pn	15 09 14.9	-2.1
	5.8nm,0.3s,baz=71,slow=2.3,SNR=18						
AFI				Sn	Sn	15 10 26.3	-10
	4.7nm,0.3s,baz=171,slow=19,SNR=4.0						
ASAR	**Alice Springs**	**47.96**	**256**	P	P	15 16 13.4	-1.1
	0.6nm,0.8s,baz=98,slow=7.8,SNR=16						
WRA	**Warramunga Arr**	**48.10**	**261**	P	P	15 16 15.3	-0.3
	0.4nm,0.7s,baz=97,slow=7.7,SNR=7.4						
MJAR	**Matsushiro Arr**	**72.36**	**321**	P	P	15 19 02.0	+0.5
	0.8nm,0.6s,baz=158,slow=5.4,SNR=4.8						
CMAR	**Chiang Mai Arr**	**93.46**	**288**	P	P	15 20 53.4	+1.6
	1.0nm,0.9s,baz=129,slow=2.4,SNR=6.5						
AKASG	**Malin Array Be**	**144.64**	**334**	PKP	PKPdf	15 27 10.7	-1.5
	0.4nm,0.3s,baz=40,slow=3.8,SNR=3.6						
GERES	**GERESS Array B**	**151.01**	**349**	PKPbc	PKPbc	15 27 29.0	+0.4
	0.3nm,0.6s,baz=22,slow=1.1,SNR=4.5						

MAN 14 15:17:14, 881N×12634E, h59km, mb4.2, ML3.0, MS2.7, 1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BIPH	**Bislig**	**0.62**	**178**	⇓*i*P	Pn	15 17 28.8	+1.6
BIPH				*i* S	Sn	15 17 40.1	+3.2
BUTP	**Butuan**	**0.72**	**283**	*e*P	Pn	15 17 28.9	+0.4
BUTP				*e*S	Sn	15 17 42.2	+3.0
SCPH	**Surigao**	**1.28**	**319**	*e*P	Pn	15 17 36.3	+0.6
SCPH				*e*S	Sn	15 17 54.4	+2.4
BUKP	**Musuan**	**1.56**	**234**	*e*P	Pn	15 17 40.4	+0.9
BUKP				*e*S	Sn	15 18 00.4	+1.6
MSLP	**Maasin**	**1.97**	**312**	*e*P	Pn	15 17 46.4	+1.4
PAGZ	**Pagadian**	**3.07**	**252**	*e*P	Pn	15 18 01.3	+1.1

*ISCJB **14** 15:26:35.3±1.7, 3649N±0.009×70.1E±0.02, h209km±23km, Error ellipse: s-maj=25.3km s-min=9.0km az=152.7*
*NNC **14** 15:26:39.2±7.1, 3728N×6977E, h0km, mb3.8, mpv3.5, Error ellipse: s-maj=64.0km s-min=54.0km az=102.0*

ISC 14 15:26:34.4±2.3, 364N±01×699E±02, h192km±27km, n20, σ0°62/24, 6D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AML	**Almayashu**	**6.46**	**26**	P	**Pn**	**15 28 07.4**	**-0.1**
	SNR=48						
KK31	**Karatay Array**	**6.74**	**4**	Pn	**Pn**	**15 28 11.3**	**+0.3**
	0.8nm,0.3s,baz=177,slow=12,SNR=17						
KK31				⇓Sn	**Sn**	**15 29 21.3**	**-6.3**
	8.2nm,0.8s,baz=186,slow=21,SNR=3.7						
UCH	**Uchtor**	**6.86**	**30**	P	**Pn**	**15 28 12.4**	**-0.2**
	SNR=24						
EKS2	**Erkin-Say**	**6.96**	**24**	P	**Pn**	**15 28 14.1**	**+0.2**
	SNR=6.2						
AAK	**Ala-Archa**	**7.19**	**28**	P	**Pn**	**15 28 17.0**	**0.0**
	SNR=7.6						
KBK	**Karagaybulak**	**7.39**	**30**	P	**Pn**	**15 28 19.9**	**+0.3**
	SNR=5.6						
USP	**Ospenovka**	**7.74**	**26**	P	**Pn**	**15 28 24.5**	**+0.3**
	SNR=6.1						
TKM2	**Tokmak 2**	**7.88**	**32**	⇓Pn	**Pn**	**15 28 25.1**	**-0.8**
	6.3nm,0.8s						
TKM2				⇓Sn	**Sn**	**15 29 49.4**	**-5.2**
	4.5nm,0.8s						
TKM2	**Tokmak 2**	**7.88**	**32**	P	**Pn**	**15 28 25.4**	**-0.6**
	SNR=9.0						
SMLA	**Simla**	**8.00**	**129**	*i* P	**Pn**	**15 28 27.4**	**-0.4**
SMLA				*i* S	**Sn**	**15 29 52.4**	**-5.3**
SMLA				*i* S	**Sn**	**15 29 53.1**	**-4.6**
SMLA				*ex*	x	15 29 56.0	
	comp=E,192nm,0.4s						
SMLA				*ex*	x	15 29 57.0	
	comp=N,222nm,0.3s						
DANN	**Dangsing**	**14.18**	**120**	*e*P	**Pn**	**15 29 46.9**	**0.0**
	comp=N,8.2nm,0.4s						
AB31	**Akbulak array**	**14.78**	**334**	⇓Pn	**Pn**	**15 29 54.2**	**+0.1**
	comp=N,0.5nm,0.3s,baz=151,slow=12,SNR=21						
DMN	**Daman**	**15.57**	**120**	*e*P	**Pn**	**15 30 03.0**	**-1.0**
	comp=N,4.7nm,0.3s						
PKIN	**Phulchoki**	**15.80**	**119**	*e*P	**Pn**	**15 30 06.4**	**-0.3**
	comp=N,5.8nm,0.4s						
GUN	**Gumba**	**15.94**	**117**	*e*P	**Pn**	**15 30 09.7**	**+1.3**
JIRN	**Jiri**	**16.31**	**118**	*e*P	**Pn**	**15 30 14.5**	**+1.6**
	comp=N,7.7nm,0.3s						
VOSK	**Vostochnaya**	**16.36**	**2**	⇓Pn	**Pn**	**15 30 13.2**	**-0.1**
	comp=N,1.9nm,0.6s						
BVA0	**Borovoye Array**	**16.65**	**1**	⇓Pn	**Pn**	**15 30 16.3**	**-0.4**
	comp=N,0.4nm,0.6s,baz=166,slow=11,SNR=9.2						
TAPN	**Taplejung**	**17.59**	**116**	*e*P	**Pn**	**15 30 28.1**	**+0.1**
ODAN	**Odare**	**17.64**	**118**	*e*P	**Pn**	**15 30 27.7**	**-1.0**

MAN 14 15:43:33, 1132N×12562E, h26km, mb4.4, ML3.2, MS3.0, 1D, Samar

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BESP	**Borongan**	**0.33**	**328**	*e*P	Pb	15 43 43.7	+3.1
BESP				*e*S	Sb	15 43 50.5	+4.8
PLP	**Palo**	**0.65**	**256**	⇓*e*P	Pb	15 43 46.1	+0.4
PLP				*e*S	Sb	15 43 54.7	+0.4
OCLP	**Ormoc**	**1.03**	**255**	*e*P	Pn	15 43 53.5	+1.8
OCLP				*e*S	Sb	15 44 06.4	+1.2
MSLP	**Maasin**	**1.40**	**212**	*e*P	Pn	15 43 58.4	+1.6
MSLP				*e*S	Sn	15 44 17.2	+2.8
SCPH	**Surigao**	**1.53**	**185**	*e*P	Pn	15 43 59.0	+0.3
SCPH				*e*S	Sn	15 44 16.8	-1.1
PVCP	**Virac**	**2.68**	**328**	*e*P	Pn	15 44 19.0	+4.6
GUIM	**Jordan**	**3.05**	**257**	*e*P	Pn	15 44 20.6	+1.0

MAN 14 16:01:07, 1676N×12280E, h13km, mb4.2, ML3.0, MS2.8, 1C-1D, Luzon

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PALP	**Palanan**	**0.47**	**310**	*i* P	Pg	16 01 16.2	-0.1
PALP				*i* S	Sg	16 01 23.6	+1.0
PALP	**Palanan**	**0.47**	**310**	*e*P	Pg	16 01 17.0	+0.7
PALP				*e*S	Sg	16 01 23.2	+0.6
BALP	**Baler**	**1.56**	**229**	*e*P	Pn	16 01 33.5	-0.8
BALP				*e*S	Sn	16 01 52.5	-1.9
SGCP	**Mt. Cagua**	**1.64**	**334**	*e*P	Pn	16 01 37.9	+2.3
SGCP				*e*S	Sn	16 01 57.0	+0.5
PCPH	**Palayan**	**2.03**	**234**	⇓*e*P	Pn	16 01 41.2	+0.3
PCPH				*e*S	Sn	16 02 05.8	-0.3
ABRA	**Dolores**	**2.19**	**294**	*e*P	Pn	16 01 43.2	+0.2
ABRA				*e*S	Sn	16 02 11.0	+1.0
POLP	**Polilio Island**	**2.19**	**202**	*e*P	Pn	16 01 43.2	+0.1
POLP				*e*S	Sn	16 02 09.3	-0.7
BOLP	**Bolinao**	**2.80**	**263**	*e*P	Pn	16 01 53.7	+2.2
BOLP				*e*S	Sn	16 02 27.7	+2.6
SCZP	**Santa Cruz**	**2.94**	**251**	*e*P	Pn	16 01 55.6	+2.1
PVCP	**Virac**	**3.41**	**157**	*e*P	Pn	16 02 01.4	+1.5
PVCP				*e*S	Sn	16 02 42.2	+2.0

IDC 14 16:15:07.7±12.0, 4106S×7873E, h0km, mb3.6/3, mb1 3.8/3, mb1mx3.6/14, mbtmp3.6/3, MS3.4/1, Ms1 3.3/1, ms1mx2.9/23, Error ellipse: s-maj=375.4km s-min=32.5km az=135.0, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MAW	**Mawson**	**27.97**	**193**	P	P	16 20 59.6	0.0
	1.0nm,0.7s,baz=5.7,slow=10,SNR=3.0						
MAW				LR	LR	16 29 53.8	
	comp=Z,78nm,18.9s,baz=243,slow=32						
ASAR	**Alice Springs**	**48.92**	**87**	P	P	16 23 56.0	+0.4
	0.8nm,1.1s,baz=248,slow=5.1,SNR=5.8						
WRA	**Warramunga Arr**	**51.42**	**83**	P	P	16 24 14.1	-0.4
	0.9nm,0.9s,baz=232,slow=7.6,SNR=6.3						

*IDC **14** 16:24:24.8±1.6, 2.12N×8480W, h0km, mb3.7/4, mb1 4.1/6, mb1mx3.8/19, mbtmp3.9/6, ML3.7/2, MS3.3/7, Ms1 3.3/7, ms1mx3.1/28, Error ellipse: s-maj=56.6km s-min=24.3km az=56.0*
*NEIC **14** 16:24:26.3±1.1, 209N×8482W, h10km, mb3.5/1, Error ellipse: s-maj=24.4km s-min=15.5km az=45.0*
*ISCJB **14** 16:24:28.6±1.1, 23N±0.1×8471W±0.2, h33km, mb3.7/5, MS3.2/2, Error ellipse: s-maj=27.6km s-min=15.6km az=142.9*

ISC 14 16:24:30.5±1.1, 22N±01×848W±01, h35km, n15, σ0°97/10, mb3.7/5, MS3.2/2, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
OTAV	**Otavalo**	**6.58**	**107**	*e*Pn	**Pn**	**16 26 00.3**	**-4.6**
	9.9nm,1.1s						
JTS	**JuntasAbangare**	**8.05**	**359**	Pn	**Pn**	**16 26 23.9**	**-1.1**
	1.6nm,0.3s,baz=149,slow=16,SNR=7.5						
JTS				LR	LR	16 28 47.3	
	comp=Z,234nm,19.8s,baz=28,slow=32						
ATAH	**Atahualpa**	**11.12**	**145**	LR	LR	16 30 56.3	
	comp=Z,164nm,19.0s,baz=338,slow=35						
SDV	**Santo Domingo**	**15.54**	**64**	Pn	**Pn**	**16 28 08.0**	**+1.0**
	0.2nm,0.3s,baz=242,slow=11,SNR=7.4						
SDV				LR	LR	16 33 20.2	
	comp=Z,98nm,19.3s,baz=204,slow=34						
SDV	**Santo Domingo**	**15.54**	**64**	*e*P	**Pn**	**16 28 07.9**	**+0.8**
SDV				LR	LR	16 33 20.2	
CMIG	**Matias Romero**	**17.85**	**327**	LR	LR	16 34 01.6	
	comp=Z,96nm,21.8s,baz=193,slow=32						
TEIG	**Tepich**	**18.25**	**349**	LR	LR	16 35 18.2	
	comp=Z,93nm,19.4s,baz=312,slow=36						
LPAZ	**La Paz**	**24.63**	**139**	P	**P**	**16 29 47.6**	**-0.2**
	4.7nm,1.2s,mb3.9,baz=335,slow=9.5,SNR=7.7						
LPAZ	**La Paz**	**24.63**	**139**	*e*P	**P**	**16 29 47.2**	**-0.7**
LVC	**Limon Verde**	**29.09**	**149**	LR	LR	16 41 36.7	
	comp=Z,62nm,19.6s,MS3.2,baz=305,slow=36						
TXAR	**Lajitas Array**	**32.44**	**328**	P	**P**	**16 30 58.6**	**+1.1**
	0.2nm,0.7s,mb3.1,baz=142,slow=10,SNR=3.0						
TKL	**Tuckaleechee C**	**33.31**	**1**	LR	LR	16 43 06.4	
	comp=Z,51nm,20.7s,MS3.2,baz=312,slow=34						
SDCO	**Great Sand Dun**	**40.19**	**334**	*e*P	**P**	**16 32 04.8**	**+1.2**
	1.1nm,0.9s,mb3.6						
NVAR	**Mina Array Bea**	**47.35**	**324**	P	**P**	**16 33 00.8**	**-0.4**
	0.2nm,0.3s,mb3.5,baz=153,slow=5.9,SNR=4.3						
ULM	**Lac du Bonnet**	**48.81**	**351**	P	**P**	**16 33 11.0**	**-1.2**
	3.5nm,0.9s,mb4.4,baz=156,slow=8.9,SNR=4.0						

*LDG **14** 16:49:46.0±0.4, 1965S×16971E, h10km, Mb4.1/1, Error ellipse: s-maj=52.2km s-min=37.5km az=25.0*
*IDC **14** 16:49:58.3±5.3, 2075S×16987E, h116km±46km, mb3.9/9, mb1 4.1/10, mb1mx3.9/16, mbtmp3.9/10, MS3.0/1, Ms1 2.9/1, ms1mx2.5/19, Error ellipse: s-maj=27.1km s-min=18.1km az=152.0*
*ISCJB **14** 16:49:58.9±1.3, 2070S±0.009×16984E±0.10, h135km±10km, mb4.0/10, Error ellipse: s-maj=16.7km s-min=13.7km az=141.0*
*NEIC **14** 16:49:59.6±1.4, 2065S×16988E, h131km±12km, mb4.3/2, Error ellipse: s-maj=15.1km s-min=11.4km az=155.0*
*NOU **14** 16:49:59.8±1.5, 1997S×16907E, h0km±999km, MD2.9, ML3.5*
*SZGRF **14** 17:09:22.2, 2350S×16250E, h33km, New Caledonia region*

ISC 14 16:49:59.8±1.1, 2070S±0.009×16986E±0.009, h130km±9km, n58, σ0°75/32, mb4.0/10, 1D, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PLUM	**Mont Dore**	**3.38**	**242**	*e*P	**Pn**	**16 50 51.7**	**+0.3**
PLUM				*e*S	**Sn**	**16 51 32.8**	**+1.4**
PLUM				AMP		16 51 35.5	
	comp=Z,372nm,0.0s						
LASL	**Noumea**	**3.45**	**243**	*e*P	**Pn**	**16 50 52.5**	**+0.2**
LASL				AMP		16 50 54.3	
	comp=Z,291nm,0.6s						
DZM	**Mont Dzumac**	**3.47**	**246**	*e*Pn	**Pn**	**16 50 52.7**	**+0.2**
DZM				*e*S	**Sn**	**16 51 29.7**	**-3.6**
NORM	**Noumea**	**3.50**	**244**	*e*P	**Pn**	**16 50 53.0**	**+0.1**
NORM				*e*S	**Sn**	**16 51 33.4**	**-0.6**
NORM				AMP		16 51 43.1	
	comp=Z,482nm,0.0s						
ONTRN	**Noumea**	**3.55**	**243**	*e*P	**Pn**	**16 50 52.9**	**-0.7**
ONTRN				*e*S	**Sn**	**16 51 35.1**	**-0.3**
ONTRN				AMP		16 51 39.9	
	comp=Z,501nm,2.3s						
NOUC	**Port Laguerre**	**3.60**	**247**	*e*P	**Pn**	**16 50 54.6**	**+0.4**
NOUC				AMP		16 50 56.0	
	comp=Z,180nm,0.7s						
NOUC				*e*S	**Sn**	**16 51 36.5**	**+0.1**
HNR	**Honiara**	**14.73**	**318**	Pn	**Pn**	**16 53 21.6**	**-0.3**
AFI	**Afiamalu**	**18.78**	**72**	P	**P**	**16 54 08.4**	**-0.7**
	comp=Z,1.5nm,0.3s,baz=228,slow=3.1,SNR=3.6						
AFI	**Afiamalu**	**18.78**	**72**	*e*P	**P**	**16 54 08.0**	**-1.1**
STKA	**Stephens Creek**	**27.60**	**240**	P	**P**	**16 55 34.3**	**-0.7**
	comp=Z,1.1nm,0.5s,mb3.9,baz=82,slow=8.7,SNR=5.9						
STKA				PcP	PcP	16 58 49.0	-0.4
	comp=Z,1.0nm,0.5s,baz=45,slow=4.3,SNR=4.0						
STKA				LR	LR	17 05 37.4	
	comp=Z,30nm,18.9s,baz=207,slow=34						
STKA	**Stephens Creek**	**27.60**	**240**	*e*P	**P**	**16 55 36.1**	**+1.1**
STKA				PcP	PcP	16 58 49.0	-0.4
STKA				LR	LR	17 05 37.4	
WB2	**Warramunga Arr**	**33.27**	**265**	*e*P	**P**	**16 56 24.3**	**-0.7**
WRAB	**Tennant Creek**	**33.27**	**265**	*e*P	**P**	**16 56 24.2**	**-0.9**
	comp=Z,1.5nm,0.4s,mb4.1						
WRA	**Warramunga Arr**	**33.28**	**265**	P	**P**	**16 56 24.0**	**-1.2**
	comp=Z,1.0nm,0.4s,mb3.9,baz=95,slow=8.2,SNR=36						
WRA				PcP	PcP	16 59 03.6	-1.0
	comp=Z,0.5nm,0.5s,baz=92,slow=3.1,SNR=6.8						
ASAR	**Alice Springs**	**33.38**	**258**	P	**P**	**16 56 25.9**	**-0.1**
	comp=Z,2.9nm,0.4s,mb4.3,baz=94,slow=8.7,SNR=144						
ASAR				PcP	PcP	16 59 04.2	-0.6
	comp=Z,1.2nm,0.7s,baz=83,slow=3.3,SNR=9.2						
FITZ	**Fitzroy Crossi**	**41.70**	**266**	*e*P	**P**	**16 57 36.6**	**+0.5**
	comp=Z,7.3nm,0.6s,mb4.5						
FITZ				*e*	pP	16 58 08.4	+3.2
FITZ	**Fitzroy Crossi**	**41.70**	**266**	P	**P**	**16 57 36.5**	**+0.4**
	comp=Z,4.6nm,0.7s,mb4.2,baz=131,slow=8.9,SNR=20						
SBA	**Scott Base**	**57.21**	**181**	*e*P	**P**	**16 59 34.1**	**+1.1**
MJAR	**Matsushiro Arr**	**64.31**	**332**	P	**P**	**17 00 22.2**	**+0.7**
	comp=Z,0.7nm,0.4s,mb3.8,baz=159,slow=6.5,SNR=4.0						
MJAR	**Matsushiro Arr**	**64.31**	**332**	P	**P**	**17 00 22.2**	**+0.7**
MAW	**Mawson**	**77.31**	**202**	P	**P**	**17 01 40.0**	**+0.4**
	comp=Z,1.0nm,0.4s,mb3.8,baz=96,slow=7.4,SNR=6.9						
CMAR	**Chiang Mai Arr**	**79.64**	**294**	P	**P**	**17 01 54.1**	**+0.8**
	comp=Z,1.8nm,0.8s,mb3.7,baz=138,slow=4.1,SNR=14						
SNAA	**Sanae**	**87.73**	**182**	*e*	**P**	**17 02 32.4**	**-1.2**
VNA3	**Neumayer Olymp**	**88.30**	**180**	*e*	**P**	**17 02 35.6**	**-0.7**
VNA2	**Neumayer--Watz**	**88.60**	**181**	*e*	**P**	**17 02 37.7**	**0.0**
	baz=188,slow=4.3						
SONM	**Songino Array**	**88.74**	**323**	P	**P**	**17 02 39.1**	**+0.5**
	comp=Z,0.4nm,0.4s,mb3.7,baz=133,slow=5.4,SNR=5.8						
NVAR	**Mina Array Bea**	**89.33**	**48**	P	**P**	**17 02 42.6**	**+1.0**
	comp=Z,2.2nm,0.7s,mb4.2,baz=226,slow=8.5,SNR=19						
ARCES	**ARCESS Array B**	**126.63**	**345**	PKP	PKPdf	17 08 45.9	-1.1
	comp=Z,2.2nm,0.7s,baz=351,slow=1.6,SNR=6.1						
BRG	**Berggiesshubel**	**144.44**	**334**	*e*PKPbc	PKPdf	17 09 19.2	-1.3
BRG	**Berggiesshubel**	**144.44**	**334**	*i* P	PKPdf	17 09 19.2	-1.3
	comp=Z,4.5nm,0.6s						
CLL	**Collm**	**144.49**	**335**	*e*PKPbc	PKPdf	17 09 18.9	-1.7
CLL	**Collm**	**144.49**	**335**	⇓*i*PKPdf	PKPdf	17 09 18.8	-1.8
	comp=Z,4.0nm,0.7s						
FBE	**Freiberg**	**144.64**	**334**	*e*PKPbc	PKPdf	17 09 20.0	-0.9
WERD	**Werda**	**145.43**	**335**	*e*PKPbc	PKPbc	17 09 22.2	-0.3
GUNZ	**Gunzen**	**145.49**	**334**	*e*PKPbc	PKPbc	17 09 23.6	+1.0
WERN	**Wernitzgruen**	**145.53**	**334**	*e*PKPbc	PKPbc	17 09 23.8	+1.0
NKC	**Novy Kostel**	**145.54**	**334**	*e*PKPbc	PKPbc	17 09 22.8	0.0
MOX	**Moxa**	**145.55**	**335**	*e*PKPbc	PKPbc	17 09 22.8	0.0
ROTZ	**Rotzenmuhle**	**146.00**	**334**	*e*PKPbc	PKPbc	17 09 25.1	+0.9
GEC2	**GERESS Array S**	**146.05**	**331**	*e*PKPbc	PKPbc	17 09 23.2	-1.2
GERES	**GERESS Array B**	**146.05**	**331**	PKPbc	PKPbc	17 09 24.1	-0.3
	comp=Z,2.1nm,0.6s,baz=31,slow=2.9,SNR=28						
FLN	**La Foliniere

NEIC ***14*** *17:49:47.3±3.1, 4.32S×100.59E, h35km, Error ellipse: s-maj=124.0km s-min=15.0km az=61.0*
ISC 14 17:49:47.3±3.4, 43S±05×1006E±08, h35km, n8, σ0≥83/7, mb3.5/6, Southwest of Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**22.70**	**356**	P	**P**	**17 54 44.8**	**-1.2**
	0.5nm,0.6s,mb3.1,baz=192,slow=8.3,SNR=6.1						
WRA	**Warramunga Arr**	**36.36**	**118**	P	**P**	**17 56 48.3**	**-0.1**
	0.2nm,0.5s,mb3.3,baz=303,slow=9.2,SNR=7.3						
ASAR	**Alice Springs**	**37.45**	**124**	P	**P**	**17 56 57.6**	**0.0**
	0.1nm,0.5s,mb2.9,baz=301,slow=8.2,SNR=6.2						
STKA	**Stephens Creek**	**47.20**	**130**	P	**P**	**17 58 16.7**	**-0.2**
	2.0nm,0.6s,mb4.2,baz=24,slow=13,SNR=4.4						
STKA				LR	LR	18 08 18.2	
	comp=Z,87nm,22.0s,baz=26,slow=34						
STKA	**Stephens Creek**	**47.20**	**130**	P	**P**	**17 58 16.7**	**-0.2**
STKA				LR	LR	18 08 18.2	
SONM	**Songino Array**	**52.19**	**5**	P	**P**	**17 58 56.2**	**+1.7**
	0.7nm,0.7s,mb3.7,baz=186,slow=9.0,SNR=6.1						
ZALV	**Zalesovo Beam**	**59.54**	**349**	P	**P**	**17 59 47.0**	**-0.1**
	0.8nm,0.5s,mb4.0,baz=152,slow=6.6,SNR=5.0						
TXAR	**Lajitas Array**	**146.15**	**40**	PKPbc	PKPbc	18 09 24.6	+0.1
	0.1nm,0.5s,baz=228,slow=4.7,SNR=2.8						

NEIC ***14*** *17:52:23.0±2.5, 11.35S×162.97E, h35km, mb4.3/3, Error ellipse: s-maj=46.1km s-min=22.7km az=83.0*
IDC ***14*** *17:52:30.1±7.8, 11.11S×162.56E, h78km±47km, mb3.8/6, mb1 3.9/7, mb1mx3.6/18, mbtmp3.8/7, ML4.4/1, MS3.4/4, Ms1 3.3/4, ms1mx2.8/31, Error ellipse: s-maj=84.2km s-min=28.8km az=105.0*
ISC 14 17:52:17.3±6.9, 114S±02×1632E±02, h6km±45km, n14, σ0≥89/11, mb4.0/7, MS3.3/3, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**3.78**	**301**	P	**Pn**	**17 53 16.3**	**+0.2**
	49nm,0.3s,baz=151,slow=6.4,SNR=55						
HNR				S	**Sn**	**17 54 01.2**	**+0.3**
	73nm,0.3s,baz=159,slow=21,SNR=3.6						
AFI	**Afiamalu**	**24.52**	**98**	LR	LR	18 06 07.8	
	comp=Z,70nm,18.8s,MS3.2,baz=195,slow=32						
STKA	**Stephens Creek**	**28.49**	**221**	*e*P	**P**	**17 58 15.9**	**+2.4**
	13nm,1.4s,mb4.4						
WRAB	**Tennant Creek**	**29.01**	**249**	*e*P	**P**	**17 58 17.4**	**-0.9**
	3.8nm,1.1s,mb4.0						
WB2	**Warramunga Arr**	**29.01**	**249**	*e*P	**P**	**17 58 17.6**	**-0.7**
WRA	**Warramunga Arr**	**29.02**	**249**	P	**P**	**17 58 18.3**	**-0.1**
	0.6nm,0.5s,mb3.6,baz=78,slow=9.1,SNR=15						
ASAR	**Alice Springs**	**30.41**	**242**	P	**P**	**17 58 31.1**	**+0.4**
	1.1nm,0.6s,mb3.8,baz=64,slow=10.0,SNR=34						
FITZ	**Fitzroy Crossi**	**36.88**	**255**	P	**P**	**17 59 26.3**	**-0.7**
	1.3nm,0.6s,mb4.0,baz=96,slow=10,SNR=8.1						
FITZ	**Fitzroy Crossi**	**36.88**	**255**	*e*P	**P**	**17 59 25.1**	**-1.9**
	3.8nm,0.8s,mb4.3						
BATI	**Baumata**	**38.85**	**268**	P	**P**	**17 59 43.9**	**+0.2**
	16nm,1.0s,mb4.7,baz=112,slow=5.4,SNR=2.9						
PPT	**Papeete**	**46.02**	**103**	*e*LR	LR	18 14 27.4	
	51nm,24.5s						
KSRS	**Korea Array**	**58.82**	**327**	LR	LR	18 23 19.4	
	comp=Z,16nm,19.5s,MS3.1,baz=335,slow=32						
SONM	**Songino Array**	**77.52**	**325**	P	**P**	**18 04 13.9**	**0.0**
	0.4nm,0.7s,mb3.4,baz=159,slow=4.5,SNR=3.5						
LPIG	**La Paz**	**91.43**	**66**	LR	LR	18 37 32.2	
	comp=Z,28nm,20.9s,MS3.7,baz=192,slow=29						

ISCJB ***14*** *17:58:33.9±0.6, 37.13N±003×3630E±004, h3km±7km, Error ellipse: s-maj=6.0km s-min=4.8km az=39.8*
CSEM ***14*** *17:58:33.6±0.1, 37.10N×3631E, h8km, MD3.5, Error ellipse: s-maj=3.5km s-min=1.7km az=159.0*
ISK ***14*** *17:58:33.8, 3709N×3632E, h9km, MD3.6*
DDA ***14*** *17:58:34.0, 37.16N×3627E, h15km±1km, Md3.5*
ISC 14 17:58:34.6±0.5, 3713N±003×3630E±004, h5km±6km, n23, σ0≥88/26, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ANDN	**Andirin**	**0.45**	**5**	*i* P	**Pg**	**17 58 42.2**	**-1.1**
ANDN				*i* S	**Sg**	**17 58 49.3**	**+0.1**
CEYT	**Ceyhan**	**0.46**	**255**	*e*PG	**Pg**	**17 58 43.2**	**-0.1**
CEYT				*e*SG	**Sg**	**17 58 50.1**	**+0.8**
KOZT	**Kozan**	**0.52**	**313**	*e*PG	**Pg**	**17 58 45.8**	**+1.2**
COBT	**Iskenderun**	**0.61**	**183**	*i* P	**Pg**	**17 58 46.0**	**-0.3**
COBT				*i* S	**Sg**	**17 58 56.5**	**+2.3**
KMRS	**Kahramanmaras**	**0.61**	**52**	*e*PG	**Pg**	**17 58 45.4**	**-1.0**
GAZ	**Gaziantep**	**0.73**	**86**	*e*PG	**Pg**	**17 58 48.2**	**-0.5**
KRTS	**Karatas**	**0.93**	**234**	*e*PG	**Pg**	**17 58 51.8**	**-0.5**
HTY	**Hatay**	**1.01**	**187**	*e*PG	**Pg**	**17 58 53.7**	**-0.3**
GZT	**Gaziantep**	**1.03**	**77**	*i* P	**Pg**	**17 59 54.0**	**-0.5**
GZT				*i* S	**Sg**	**17 59 09.4**	**+1.5**
GULE	**Gulek**	**1.23**	**278**	*i* P	Px	17 58 42.9	
GULE				*i* S	Sx	17 59 02.3	
MERS	**Mersin**	**1.45**	**260**	*e*PN	**Pn**	**17 59 00.5**	**-0.9**
BNN	**Bunyan**	**1.76**	**348**	*e*PN	**Pn**	**17 59 05.9**	**+0.2**
URFA	**Urfa**	**2.04**	**80**	*e*PN	**Pn**	**17 59 09.5**	**0.0**
MYA	**Malataya**	**2.07**	**54**	*e*PN	**Pn**	**17 59 09.4**	**-0.5**
DARE	**Darende-Malaty**	**2.18**	**33**	*e*PN	**Pn**	**17 59 05.3**	**-6.1**
IKL	**Isikli**	**2.28**	**248**	*e*PN	**Pn**	**17 59 12.2**	**-0.7**
SVRC	**Sivrice-ELAZID**	**2.69**	**61**	*e*PN	**Pn**	**17 59 19.0**	**+0.5**
SVSK	**Karacayir**	**2.84**	**11**	*e*PN	**Pn**	**17 59 21.4**	**+0.8**
HWQ	**Hawqa**	**2.86**	**186**	*e*P	**Pg**	**17 59 29.9**	**+0.6**
PTK	**Pertek**	**3.01**	**53**	*e*PN	**Pn**	**17 59 23.1**	**+0.2**
KAMT	**Kaman**	**3.02**	**318**	*e*PN	**Pn**	**17 59 24.0**	**+0.9**
BHL	**Bhannes**	**3.26**	**189**	*e*P	**Pg**	**17 59 34.9**	**-2.2**
RSDY	**Resadiye-TOKAT**	**3.36**	**14**	*e*PN	**Pn**	**17 59 27.8**	**0.0**

NEIC ***14*** *18:04:30.5, 17.13N×100.66W, h5km, MD3.6(MEX), After MEX.*
MEX 14 18:04:31.5±0.8, 1712N×10065W, h20km±66km, MD3.6, Guerrero

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CAIG	**El Cayaco**	**0.37**	**101**	*i* P	Pb	18 04 37.3	-2.0
CAIG				*i* S	Sb	18 04 43.3	-1.4
ACX	**Acapulco**	**0.74**	**110**	*i* P	Pb	18 04 44.1	-1.7
ACX				*i* S	Sb	18 04 53.4	-2.1
ACX	**Acapulco**	**0.74**	**110**	*i* P	Pb	18 04 44.6	-1.2
ACX				*i* S	Sb	18 04 54.1	-1.3
ZIIG	**Zihuatanejo**	**0.92**	**302**	*i* P	Pb	18 04 46.4	-2.4
ZIIG				*i* S	Sb	18 04 56.4	-4.2
ZIIG	**Zihuatanejo**	**0.92**	**302**	*i* P	Pb	18 04 46.4	-2.4
ZIIG				*i* S	Sb	18 04 57.0	-3.6
PLIG	**Platanillo**	**1.67**	**41**	*i* P	Pn	18 04 57.1	-2.5
PLIG				*i* S	Sn	18 05 17.2	-3.3
PLIG	**Platanillo**	**1.67**	**41**	*i* P	Pn	18 04 58.0	-1.6
PLIG				*i* S	Sn	18 05 17.9	-2.6
MZVM		**2.46**	**33**	*i* P	Pn	18 05 07.9	-2.6
MZVM				*i* S	Sn	18 05 37.4	-2.6
PNIG	**Pinotepa**	**2.52**	**106**	*e*P	Pn	18 05 08.7	-2.6
PNIG				*i* S	Sn	18 05 36.5	-4.9
PNIG	**Pinotepa**	**2.52**	**106**	*e*P	Pn	18 05 08.7	-2.6
PNIG				*i* S	Sn	18 05 40.9	-0.5
MOIG	**Morelia**	**2.60**	**349**	*e*P	Pn	18 05 10.8	-1.6
MOIG				*i* S	Sn	18 05 40.6	-2.8
UTMO	**Huajuapan**	**2.80**	**75**	*e*P	Pn	18 05 13.9	-1.3
UTMO				*i* S	Sn	18 05 43.9	-4.5
IIO	**Organos**	**3.06**	**36**	*e*P	Pn	18 05 16.8	-2.0
IIO				*i* S	Sn	18 05 51.3	-3.6
IIO	**Organos**	**3.06**	**36**	*e*P	Pn	18 05 18.0	-0.7
IIO				*i* S	Sn	18 05 55.6	+0.7

NEIC ***14*** *18:07:40.1±5.2, 4.91S×153.49E, h35km, mb3.6/1, Error ellipse: s-maj=151.0km s-min=23.1km az=107.0*
IDC 14 18:07:34.4±1.9, 481S×15349E, h0km, mb3.5/5, mb1 3.6/5, mb1mx3.5/15, mbtmp3.5/5, Error ellipse: s-maj=70.4km s-min=27.3km az=112.0, New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRAB	**Tennant Creek**	**23.94**	**229**	*e*P	P	18 12 50.7	+0.3
	1.7nm,0.8s						
WRAB				*e*S	S	18 17 00.7	-7.4
WRA	**Warramunga Arr**	**23.95**	**229**	P	P	18 12 50.5	0.0
	0.4nm,0.5s,baz=53,slow=9.8,SNR=13						
WRA				PcP	PcP	18 16 32.8	-0.4
	0.3nm,0.8s,baz=59,slow=2.1,SNR=4.8						
ASAR	**Alice Springs**	**26.61**	**223**	P	P	18 13 14.9	+0.3
	0.3nm,0.8s,baz=56,slow=9.1,SNR=7.0						
ASAR				PcP	PcP	18 16 39.1	0.0
	0.2nm,0.6s,baz=39,slow=2.8,SNR=4.2						
FITZ	**Fitzroy Crossi**	**30.26**	**242**	P	P	18 13 47.7	+0.4
	0.7nm,0.6s,baz=50,slow=7.9,SNR=3.2						
SONM	**Songino Array**	**66.70**	**327**	P	P	18 18 28.2	+1.1
	0.3nm,0.5s,baz=124,slow=6.0,SNR=3.0						
ZALV	**Zalesovo Beam**	**81.54**	**326**	P	P	18 19 53.6	-0.1
	0.3nm,0.4s,baz=123,slow=5.3,SNR=2.1						
TORD	**Torodi Ar. Bea**	**150.96**	**288**	PKPbc	PKPbc	18 27 29.3	-0.9
	1.0nm,0.4s,baz=80,slow=1.6,SNR=40						

TAP ***14*** *18:29:43.3, 24.51N×122.44E, h17km, ML2.6, D*
JMA ***14*** *18:29:43.4±0.1, 24.54N×122.36E, h25km, M2.0*
ISCJB ***14*** *18:29:44.6±0.5, 24.52N±006×122.43E±003, h26km±7km, Error ellipse: s-maj=10.8km s-min=4.0km az=4.2*
ISC 14 18:29:44.4±0.7, 2451N±005×12243E±002, h19km±5km, n13, σ0≥56/25, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
YOJ	**Yonaguni jima**	**0.53**	**95**	P	**Pg**	**18 29 55.0**	**0.0**
YOJ				S	**Sg**	**18 30 03.2**	**+1.0**
TWC	**Suao**	**0.54**	**281**	*i* P	**Pg**	**18 29 54.7**	**-0.6**
	baz=280						
TWC				*i* S	**Sg**	**18 30 02.9**	**+0.3**
	baz=280						
ENA	**Nanau**	**0.64**	**263**	P	**Pb**	**18 29 56.4**	**-0.5**
	baz=262						
ENA				S	**Sb**	**18 30 05.8**	**+0.3**
	baz=262						
TWB1	**Santiao Chiao**	**0.64**	**321**	*i* P	**Pb**	**18 29 56.2**	**-0.8**
	baz=320						
TWB1				*i* S	**Sb**	**18 30 05.8**	**+0.3**
	baz=320						
ILA	**Ilan**	**0.67**	**292**	P	**Pb**	**18 29 57.0**	**-0.5**
	baz=291						
ILA				S	**Sb**	**18 30 07.0**	**+0.5**
	baz=291						
TWE	**Neicheng**	**0.73**	**287**	P	**Pb**	**18 29 58.0**	**-0.5**
	baz=286						
TWE				S	**Sb**	**18 30 08.7**	**+0.6**
	baz=286						
NWF	**Wu-fen Shan**	**0.81**	**313**	*e*P	**Pb**	**18 29 59.4**	**-0.6**
	baz=312						
NWF				*e*S	**Sb**	**18 30 11.3**	**+0.7**
	baz=312						
NNS	**Nan Shan**	**0.97**	**266**	*e*P	**Pb**	**18 30 01.8**	**-0.8**
	baz=265						
NNS				*e*S	**Sb**	**18 30 15.8**	**+0.8**
	baz=265						
WHF	**Hehuan Shan**	**1.13**	**251**	*e*P	**Pn**	**18 30 04.5**	**-0.7**
	baz=251						
WHF				*e*S	**Sb**	**18 30 20.1**	**+0.5**
	baz=251						
IRIF	**Iriomote-Funau**	**1.19**	**98**	P	**Pn**	**18 30 05.7**	**-0.4**
IRIF				S	**Sb**	**18 30 21.8**	**+0.3**
HATJ	**Hateruma jima**	**1.33**	**110**	P	**Sn**	**18 30 25.3**	**+0.1**
JKRS	**Kuro-shima**	**1.46**	**100**	P	**Pn**	**18 30 09.9**	**+0.1**
JKRS				S	**Sn**	**18 30 29.0**	**+0.6**
JIJ	**Ishigaki jima**	**1.56**	**95**	P	**Pn**	**18 30 11.4**	**+0.2**
JIJ				S	**Sn**	**18 30 30.0**	**-1.0**

DDA ***14*** *18:33:39.1, 37.15N×3630E, h7km±5km, Md3.0*
ISK ***14*** *18:33:40.2, 37.18N×3644E, h2km, MD2.9*
ISCJB ***14*** *18:33:41.0±1.1, 37.19N±006×3641E±005, h10km, Error ellipse: s-maj=9.3km s-min=5.2km az=12.4*
CSEM ***14*** *18:33:42.9±0.4, 3750N×3639E, h12km, MD3.0, Error ellipse: s-maj=16.4km s-min=6.6km az=178.0*
ISC 14 18:33:40.4±1.6, 3713N±008×3641E±005, h1km±11km, n8, σ1≥12/13, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ANDN	**Andirin**	**0.46**	**354**	*i* P	**Pg**	**18 33 47.1**	**-2.0**
ANDN				*i* S	**Sg**	**18 33 54.0**	**-1.1**
KMRS	**Kahramanmaras**	**0.55**	**46**	*e*PG	**Pg**	**18 33 50.8**	**-0.1**
KMRS				*e*SG	**Sg**	**18 33 58.5**	**+0.6**
KOZT	**Kozan**	**0.58**	**307**	*e*PG	**Pg**	**18 33 52.0**	**+0.4**
KOZT				*e*SG	**Sg**	**18 34 01.0**	**+1.9**
GAZ	**Gaziantep**	**0.64**	**86**	*e*PG	**Pg**	**18 33 53.2**	**+0.5**
GZT	**Gaziantep**	**0.95**	**76**	*i* P	**Pn**	**18 33 59.4**	**-1.5**
GZT				*i* S	**Sn**	**18 34 15.8**	**+0.7**
AKCD	**Akcadag**	**1.68**	**45**	*i* P	**Pg**	**18 34 11.1**	**-1.4**
AKCD				*i* S	**Sg**	**18 34 35.9**	**+1.7**
URFA	**Urfa**	**1.95**	**80**	*e*PN	**Pn**	**18 34 14.9**	**+0.2**
MYA	**Malataya**	**2.00**	**53**	*e*PN	**Pn**	**18 34 15.4**	**+0.1**

IDC ***14*** *18:46:30.6±0.5, 22.82S×69.36E, h0km, mb4.3/18, mb1 4.4/18, mb1mx4.3/21, mbtmp4.3/18, MS4.1/16, Ms1 4.1/16, ms1mx3.9/26, Error ellipse: s-maj=18.7km s-min=14.2km az=6.0*
ISCJB ***14*** *18:46:30.6±0.3, 2286S±008×6946E±007, h10km, mb4.5/39, MS4.2/16, Error ellipse: s-maj=12.2km s-min=8.4km az=15.3*
BJI ***14*** *18:46:31.5, 2280S×6940E, h10km, mB5.0, mb4.3*
GCMT ***14*** *18:46:32.3±0.2, 22.70S×69.26E, h14km±1km, MW5.0/73, Moment Tensor Solution. s32,c43; s73,c108; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr=0.70±.15; Mθθ=3.21±.12; Mϕϕ3.91±.15; Mrθ=0.44±.27; Mϕ 1.76±.13; Mrϕ0.82±..27; Best double couple: M₀4.08300×10¹⁶ NP1:ϕs58.00000°,δ76.00000°,λ-3.00000°. NP2: ϕs149.00000°,δ87.00000°,λ-166.00000°. Principal axes: T 4.4190, Plg8.0000°, Azm283.0000°; N -0.6680, Plg76.0000°, Azm159.0000°; P -3.7470, Plg12.0000°, Azm14.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
NEIC ***14*** *18:46:32.3±0.3, 2284S×6943E, h10km, mb4.8/20 Error ellipse: s-maj=11.8km s-min=8.0km az=14.0*
DJA ***14*** *18:46:34, 24.14S×6883E, h10km, mb5.0/7*
SZGRF ***14*** *18:46:36.2, 2545S×6700E, h33km, mb4.8, Indian Ocean Triple Junction*
ISC 14 18:46:32.4±0.3, 2285S±008×6943E±006, h10km, n74, σ1≥07/60, mb4.5/39, MS4.2/16, 3C-1D, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RER	**Riviere de l'E**	**12.80**	**275**	*e*Pn	**Pn**	**18 49 26.8**	**-7.8**
ABPO	**Ambohimpanom**	**21.08**	**276**	*e*P	**P**	**18 51 16.2**	**-0.8**
	24nm,1.0s,mb4.5						
OPO	**Ambohidratompo**	**21.23**	**277**	P	**P**	**18 51 18.8**	**+0.1**
	15nm,1.0s,mb4.3,baz=91,slow=1.3,SNR=8.5						
KMBO	**Kilima Mbogo**	**37.99**	**300**	P	**P**	**18 53 50.2**	**-0.7**
	4.8nm,1.1s,mb4.2,baz=108,slow=5.8,SNR=7.2						
KMBO				LR	LR	19 05 56.1	
	comp=Z,350nm,21.2s,MS4.1,baz=108,slow=31						
KMBO	**Kilima Mbogo**	**37.99**	**300**	P	**P**	**18 53 50.2**	**-0.7**
KMBO				LR	LR	19 05 56.1	
LSZ	**Lusaka**	**39.60**	**273**	P	**P**	**18 54 03.3**	**-1.0**
	7.4nm,0.8s,mb4.4,baz=108,slow=7.9,SNR=12						
LBTB	**Lobatse**	**39.99**	**258**	P	**P**	**18 54 06.5**	**-1.0**
	5.4nm,0.7s,mb4.4,baz=106,slow=6.2,SNR=9.1						
NWAO	**Narrogin (SRO)**	**43.12**	**114**	P	**P**	**18 54 33.3**	**+0.2**
	46nm,1.5s,mb5.0						
MAW	**Mawson**	**44.94**	**184**	P	**P**	**18 54 47.9**	**+0.7**
	1.9nm,0.8s,mb4.0,baz=12,slow=7.3,SNR=4.6						
MAW				LR	LR	19 10 13.1	
	comp=Z,88nm,19.8s,MS3.7,baz=173,slow=32						
CM31	**Chiang Mai Arr**	**50.17**	**38**	*e*P	**P**	**18 55 27.5**	**-0.9**
	7.9nm,1.2s,mb4.6						
CMAR	**Chiang Mai Arr**	**50.17**	**38**	P	**P**	**18 55 27.7**	**-0.8**
	2.1nm,0.8s,mb4.2,baz=237,slow=8.2,SNR=8.7						
CMAR				LR	LR	19 13 37.3	
	comp=Z,90nm,19.9s,MS3.8,baz=118,slow=32						
FITZ	**Fitzroy Crossi**	**52.61**	**96**	*e*P	**P**	**18 55 47.7**	**+0.8**
	9.7nm,0.9s,mb4.7						
LSA	**Lhasa**	**56.27**	**23**	P	**P**	**18 56 16.6**	**+3.4**
LSA	**Lhasa**	**56.27**	**23**	*e*P	**P**	**18 56 12.8**	**-0.4**
	8.5nm,1.1s,mb4.7						
KBL	**Kabul**	**57.08**	**360**	*e*P	**P**	**18 56 17.8**	**-1.0**
	9.4nm,1.1s,mb4.7						
QIZ	**Qiongzhong**	**57.37**	**47**	*e*P	**P**	**18 56 14.8**	**-6.4**
	95nm,1.4s,mb5.6						
ASAR	**Alice Springs**	**58.76**	**105**	P	**P**	**18 56 31.1**	**+0.1**
	6.0nm,0.8s,mb4.7,baz=261,slow=6.6,SNR=60						
WRA	**Warramunga Arr**	**60.07**	**101**	P	**P**	**18 56 40.4**	**+0.3**
	10nm,0.8s,mb4.9,baz=255,slow=6.8,SNR=66						
WRA				LR	LR	19 21 28.7	
	comp=Z,328nm,18.0s,MS4.5,baz=250,slow=35						
WB2	**Warramunga Arr**	**60.08**	**101**	*e*P	**P**	**18 56 40.4**	**+0.2**
WRAB	**Tennant Creek**	**60.08**	**101**	*e*P	**P**	**18 56 39.6**	**-0.6**
	8.9nm,0.8s,mb4.8						
KAKA	**Kakadu**	**60.47**	**92**	*e*P	**P**	**18 56 40.9**	**-2.0**
	8.6nm,0.7s,mb4.9						
STKA	**Stephens Creek**	**63.69**	**115**	P	**P**	**18 57 04.2**	**-0.1**
	2.2nm,0.9s,mb4.2,baz=276,slow=14,SNR=2.7						
STKA				LR	LR	19 21 01.8	
	comp=Z,425nm,20.5s,MS4.6,baz=93,slow=32						
STKA	**Stephens Creek**	**63.69**	**115**	*e*P	**P**	**18 57 02.8**	**-1.5**
	7.1nm,1.3s,mb4.5						
AML	**Almayashu**	**64.78**	**4**	*e*P	**P**	**18 57 11.0**	**0.0**
	2.4nm,0.8s,mb4.3						
GNI	**Garni**	**66.77**	**340**	*e*P	**P**	**18 57 25.1**	**+1.2**
	20nm,1.3s,mb5.0						
LZH	**Lanzhou**	**67.05**	**30**	*e*P	**P**	**18 57 31.0**	**+5.2**
LZH				AP	pP	18 57 35.0	+5.9
LZH				XP	sP	18 57 36.0	+5.7
LZH				AMB	AMB		
	comp=Z,17nm,1.5s,mb4.8						
LZH				AMB	AMB		
	comp=Z,68nm,4.3s						
QSPA	**South Pole Qui**	**67.27**	**180**	P	**P**	**18 57 27.1**	**+0.4**
	comp=Z,6.8nm,1.0s,mb4.6,baz=264,slow=2.6,SNR=13						
GTA	**Gaotai**	**68.14**	**25**	*e*P	**P**	**18 57 33.3**	**+0.7**
GTA				AP	pP	18 57 37.8	+1.9
GTA				XP	sP	18 57 40.6	+3.5
GTA				AMB	AMB		
	comp=Z,3.0nm,1.2s,mb4.2						
KIV	**Kislovodsk**	**70.86**	**340**	*e*P	**P**	**18 57 54.1**	**+4.8**
	comp=Z,20nm,1.1s,mb5.0						
AKTO	**Aktyubinsk**	**73.66**	**352**	LR	LR	19 27 41.0	
	comp=Z,81nm,20.5s,MS4.0,baz=360,slow=34						
KURK	**Kurchatov**	**73.69**	**6**	*e*P	**P**	**18 58 03.8**	**-2.3**
	comp=Z,5.3nm,1.0s,mb4.4						
TORD	**Torodi Ar. Bea**	**75.33**	**291**	P	**P**	**18 58 14.7**	**-1.8**
	comp=Z,2.0nm,1.0s,mb4.0,baz=141,slow=4.9,SNR=6.6						
TORD				LR	LR	19 30 52.1	
	comp=Z,206nm,18.1s,MS4.5,baz=125,slow=35						
BVAR	**Borovoye Array**	**75.56**	**1**	LR	LR	19 29 01.0	
	comp=Z,163nm,21.0s,MS4.3,baz=190,slow=34						
BRVK	**Borovoye**	**75.59**	**1**	*e*P	**P**	**18 58 17.6**	**+0.5**
	comp=Z,4.7nm,0.8s,mb4.5						
ZAA0	**Zalesovo Array**	**77.63**	**9**	*e*P	**P**	**18 58 27.3**	**-1.3**
ZALV	**Zalesovo Beam**	**77.63**	**9**	P	**P**	**18 58 27.4**	**-1.2**
	comp=Z,0.9nm,0.3s,mb4.1,baz=198,slow=4.4,SNR=9.9						
ZALV				LR	LR	19 29 37.5	
	comp=Z,45nm,21.1s,MS3.8,baz=214,slow=33						
SONM	**Songino Array**	**77.81**	**24**	P	**P**	**18 58 29.9**	**+0.2**
	comp=Z,3.0nm,0.9s,mb4.2,baz=214,slow=5.5,SNR=20						
SONM				LR	LR	19 31 30.5	
	comp=Z,103nm,18.4s,MS4.2,baz=199,slow=35						
DBIC	**Dimbokro**	**78.25**	**282**	P	**P**	**18 58 32.0**	**-1.0**
	comp=Z,3.1nm,0.8s,mb4.3,baz=186,slow=8.5,SNR=3.5						
DBIC				LR	LR	19 30 32.8	
	comp=Z,365nm,20.1s,MS4.7,baz=95,slow=34						
PLOR	**Plostina**	**78.64**	**331**	↑*i* P	**P**	**18 58 32.3**	**-2.1**
VOIR		**79.05**	**330**	↑*i* P	**P**	**18 58 38.0**	**+1.4**
BZS	**Buzias**	**80.81**	**328**	↑*i* P	**P**	**18 58 46.4**	**+0.2**
AKASG	**Malin Array Be**	**81.37**	**335**	P	**P**	**18 58 49.9**	**+0.8**
	comp=Z,2.1nm,0.7s,mb4.2,baz=141,slow=4.5,SNR=6.9						
KSRS	**Korea Array**	**81.38**	**43**	P	**P**	**18 58 48.5**	**-1.0**
	comp=Z,1.3nm,0.6s,mb4.0,baz=239,slow=6.0,SNR=5.4						
KEST	**Kesra**	**81.39**	**314**	LR	LR	19 31 33.9	
	comp=Z,55nm,21.4s,MS3.9,baz=303,slow=33						
PKSM	**Moragy**	**82.70**	**327**	↓*i* P	**P**	**18 58 55.8**	**-0.3**
VRAC	**Vranov**	**85.83**	**328**	LR	LR	19 33 52.5	
	comp=Z,72nm,18.8s,MS4.1,baz=317,slow=33						
GERES	**GERESS Array B**	**86.95**	**327**	P	**P**	**18 59 19.4**	**+2.0**
	comp=Z,0.3nm,0.6s,mb3.7,baz=140,slow=6.4,SNR=4.5						
GERES				LR	LR	19 35 03.6	
	comp=Z,52nm,18.9s,MS4.0,baz=286,slow=34						
MJAR	**Matsushiro Arr**	**87.71**	**49**	P	**P**	**18 59 23.5**	**+2.1**
	comp=Z,0.9nm,0.8s,mb4.0,baz=242,slow=5.1,SNR=4.1						
BRG	**Berggiesshubel**	**88.14**	**329**	*e*(P)	**P**	**18 59 30.1**	**+6.9**
	comp=Z,3.0nm,0.8s,mb4.6						
MBDF	**Montbardon**	**88.21**	**321**	*e*P	**P**	**18 59 24.3**	**+0.6**
LPG	**La Plagne**	**88.67**	**321**	*e*P	**P**	**18 59 27.7**	**+1.9**
	comp=Z,7.1nm,0.9s,mb4.7						
LPG	**La Plagne**	**88.67**	**321**	*e*P	**P**	**18 59 27.7**	**+1.9**
	comp=Z,3.5nm,0.9s,mb4.7						
LPL	**La Plagne**	**88.69**	**321**	*e*P	**P**	**18 59 27.1**	**+1.2**
GRA1	**Grafenberg Arr

IDC 14 19:28:10.4±37.0, 1475S×16656E, h0km, mb3.7/4, mb1 3.8/4, mb1mx3.6/16, mbtmp3.7/4, Error ellipse: s-maj=638.0km s-min=96.0km az=69.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**28.46**	**229**	P	P	19 34 07.0	-0.2
	1.0nm,0.4s,baz=75,slow=12,SNR=5.3						
WRA	**Warramunga Arr**	**31.16**	**256**	P	P	19 34 31.2	0.0
	0.2nm,0.8s,baz=84,slow=8.8,SNR=5.0						
ASAR	**Alice Springs**	**32.03**	**249**	P	P	19 34 38.5	-0.4
	0.3nm,0.3s,baz=80,slow=9.3,SNR=14						
FITZ	**Fitzroy Crossi**	**39.34**	**259**	P	P	19 35 42.3	+0.5
	0.7nm,0.4s,baz=99,slow=13,SNR=4.7						

ISCJB ***14*** *19:38:36.4±3.8, 27N±0.1×1286E±0.2, h243km±40km, mb3.8/9, Error ellipse: s-maj=31.3km s-min=16.7km az=152.1*

NEIC ***14*** *19:38:36.5±5.5, 263N×12859E, h226km±58km, mb4.3/4, Error ellipse: s-maj=24.2km s-min=14.0km az=58.0*

IDC ***14*** *19:38:42.4±7.7, 252N×12845E, h288km±83km, mb3.4/10, mb1 3.5/11, mb1mx3.4/18, mbtmp3.4/11, Error ellipse: s-maj=41.5km s-min=14.6km az=60.0*

ISC 14 19:38:37.5±3.9, 26N±01×1286E±02, h238km±41km, n16, σ0s85/16, mb3.8/9, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	**Baumata**	**13.68**	**201**	P	**Pn**	**19 41 43.3**	**+1.1**
	4.1nm,0.3s,baz=27,slow=3.7,SNR=12						
KAKA	**Kakadu**	**15.70**	**166**	*e*P	**Pn**	**19 42 05.0**	**-1.6**
	47nm,1.9s						
FITZ	**Fitzroy Crossi**	**20.81**	**188**	P	**P**	**19 43 00.2**	**-0.8**
	1.1nm,0.5s,baz=19,slow=8.7,SNR=12						
WRAB	**Tennant Creek**	**23.11**	**166**	*e*P	**P**	**19 43 22.3**	**-0.4**
	1.8nm,0.5s,mb3.9						
WRA	**Warramunga Arr**	**23.11**	**166**	P	**P**	**19 43 23.3**	**+0.5**
	1.2nm,0.4s,mb3.8,baz=343,slow=10,SNR=33						
ASAR	**Alice Springs**	**26.63**	**169**	P	**P**	**19 43 55.0**	**+0.6**
	2.0nm,0.5s,mb4.0,baz=355,slow=8.2,SNR=52						
CMAR	**Chiang Mai Arr**	**33.07**	**300**	P	**P**	**19 44 51.7**	**+0.5**
	0.7nm,0.5s,mb3.4,baz=111,slow=7.1,SNR=7.3						
COCO	**West Island**	**34.86**	**244**	*e*P	**P**	**19 45 06.6**	**-0.1**
	16nm,0.3s						
STKA	**Stephens Creek**	**36.45**	**161**	*e*P	**P**	**19 45 21.3**	**+1.4**
	0.9nm,0.3s,mb3.8						
STKA	**Stephens Creek**	**36.45**	**161**	P	**P**	**19 45 20.2**	**+0.4**
	1.0nm,0.3s,mb3.8,baz=359,slow=6.9,SNR=11						
SONM	**Songino Array**	**48.96**	**340**	P	**P**	**19 47 00.0**	**+0.1**
	0.1nm,0.3s,baz=161,slow=8.5,SNR=3.7						
PETK	**Petropavlovsk-**	**55.75**	**21**	P	**P**	**19 47 50.7**	**+1.2**
	3.0nm,1.0s,mb3.8,baz=183,slow=5.2,SNR=3.6						
ZALV	**Zalesovo Beam**	**62.44**	**333**	P	**P**	**19 48 34.2**	**-1.1**
	0.5nm,0.3s,mb3.5,baz=121,slow=7.5,SNR=3.0						
KURK	**Kurchatov**	**63.69**	**327**	P	**P**	**19 48 43.6**	**-0.1**
	2.5nm,0.6s,mb4.0,baz=126,slow=6.0,SNR=24						
ARCES	**ARCESS Array B**	**92.14**	**340**	P	**P**	**19 51 18.5**	**-1.0**
	2.3nm,0.8s,mb4.2,baz=79,slow=6.2,SNR=5.1						
ARCES	**ARCESS Array B**	**92.14**	**340**	P	**P**	**19 51 18.5**	**-1.0**

ISCJB ***14*** *19:46:42.2±1.6, 753S±008×12967E±008, h181km±17km, mb3.5/4, Error ellipse: s-maj=15.9km s-min=9.0km az=39.7*

NEIC ***14*** *19:46:43.5±2.9, 753S×12980E, h182km±35km, mb3.8/1, Error ellipse: s-maj=35.6km s-min=23.9km az=61.0*

IDC ***14*** *19:46:47.3±4.8, 770S×12943E, h214km±49km, mb3.2/4, mb1 3.2/8, mb1mx3.1/15, mbtmp3.2/8, Error ellipse: s-maj=47.6km s-min=19.3km az=54.0*

ISC 14 19:46:43.4±1.5, 762S±009×12966E±008, h176km±16km, n10, σ1s37/16, mb3.5/4, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**5.75**	**152**	*e*Pn	**Pn**	**19 48 07.6**	**+0.5**
	32nm,0.6s						
KAKA				*e*Sn	**Sn**	**19 49 13.4**	**+0.4**
BATI	**Baumata**	**6.46**	**246**	P	**Pn**	**19 48 18.9**	**+2.4**
	9.5nm,0.3s,baz=86,slow=4.3,SNR=16						
BATI				S	**Sn**	**19 49 28.5**	**-1.3**
	15nm,0.3s,baz=63,slow=15,SNR=6.4						
FITZ	**Fitzroy Crossi**	**11.13**	**200**	P	**Pn**	**19 49 19.7**	**+1.9**
	0.8nm,0.3s,baz=28,slow=14,SNR=26						
FITZ				S	**Sn**	**19 51 21.1**	**-0.4**
	0.6nm,0.3s,baz=62,slow=22,SNR=6.0						
WRAB	**Tennant Creek**	**13.06**	**160**	*e*Pn	**Pn**	**19 49 40.8**	**-1.6**
	2.4nm,0.6s						
WRAB				*e*Sn	**Sn**	**19 52 05.3**	**-2.4**
WRA	**Warramunga Arr**	**13.06**	**160**	P	**Pn**	**19 49 44.4**	**+1.9**
	0.7nm,0.3s,baz=332,slow=14,SNR=29						
WRA				S	**Sn**	**19 52 06.0**	**-1.8**
	1.8nm,0.3s,baz=330,slow=23,SNR=13						
ASAR	**Alice Springs**	**16.47**	**166**	P	**Pn**	**19 50 24.8**	**+0.2**
	0.0nm,0.3s,baz=350,slow=9.3,SNR=4.1						
ASAR				S	**S**	**19 53 29.3**	**+2.0**
	0.4nm,0.3s,baz=348,slow=24,SNR=4.7						
CMAR	**Chiang Mai Arr**	**39.87**	**311**	P	**P**	**19 53 59.6**	**-0.5**
	0.4nm,0.5s,mb3.3,baz=144,slow=6.2,SNR=5.0						
SONM	**Songino Array**	**58.92**	**342**	P	**P**	**19 56 24.1**	**+0.3**
	0.2nm,0.5s,mb3.2,baz=161,slow=6.1,SNR=3.5						
ZALV	**Zalesovo Beam**	**71.98**	**334**	P	**P**	**19 57 46.1**	**-1.5**
	0.5nm,0.4s,mb3.6,baz=129,slow=4.0,SNR=4.4						
KURK	**Kurchatov**	**72.87**	**329**	P	**P**	**19 57 53.0**	**+0.1**
	1.1nm,0.5s,mb3.9,baz=125,slow=5.0,SNR=16						

IDC ***14*** *19:59:39.6±3.4, 3685S×17726E, h0km, mb3.4/2, mb1 3.6/2, mb1mx3.5/14, mbtmp3.4/2, MS3.1/1, Ms1 3.1/1, ms1mx2.7/10, Error ellipse: s-maj=77.7km s-min=23.1km az=68.0*

ISCJB ***14*** *19:59:40.7±1.4, 3672S±007×177.18E±008, h19km±10km, mb3.6/3, Error ellipse: s-maj=14.2km s-min=7.0km az=38.8*

NEIC ***14*** *19:59:41.1, 3665S×177.15E, h12km, mb4.6/1, ML4.4(WEL), After WEL.*

ISC 14 19:59:40.8±1.9, 3675S±007×17719E±008, h12km±10km, n18, σ0s89/20, mb3.6/3, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WIZ	**White Island**	**0.77**	**180**	P	**Pg**	**19 59 56.2**	**+0.4**
WIZ				S	**Sg**	**20 00 06.1**	**+0.1**
KUZ	**Kuaotunu**	**1.18**	**270**	P	**Pn**	**20 00 01.6**	**-1.5**
MXZ	**Matakaoa Point**	**1.21**	**132**	P	**Pn**	**20 00 03.0**	**-0.4**
MXZ				S	**Sb**	**20 00 18.4**	**-0.7**
TGRZ	**Tauranga**	**1.22**	**217**	P	**Pn**	**20 00 03.0**	**-0.7**
URZ	**Urewera**	**1.51**	**182**	Pn	**Pn**	**20 00 05.8**	**-1.7**
	11nm,0.3s,baz=330,slow=5.9,SNR=27						
URZ				Sn	**Sn**	**20 00 27.9**	**+0.8**
	30nm,0.3s,baz=226,slow=23,SNR=13						
URZ	**Urewera**	**1.51**	**182**	P	**Pn**	**20 00 07.3**	**-0.3**
PUZ	**Puketiti**	**1.57**	**183**	P	**Pn**	**20 00 10.4**	**+2.0**
MKAZ	**Moumakai**	**1.66**	**257**	P	**Pn**	**20 00 09.0**	**-0.6**
TOZ	**Tahuroa Road**	**1.66**	**234**	P	**Pn**	**20 00 09.3**	**-0.4**
OTAZ	**Otara**	**1.82**	**263**	*e*P	**Pn**	**20 00 12.1**	**+0.1**
WTAZ	**Waiatarua**	**2.10**	**264**	P	**Pn**	**20 00 16.2**	**+0.4**
WCZ	**Waipu Caves**	**2.43**	**289**	P	**Pn**	**20 00 20.7**	**+0.4**
HIZ	**Hauiti**	**2.55**	**226**	P	**Pn**	**20 00 22.5**	**+0.5**
STKA	**Stephens Creek**	**29.69**	**269**	*e*P	**P**	**20 05 45.9**	**-0.6**
	15nm,1.5s,mb4.5						
ASAR	**Alice Springs**	**39.30**	**277**	P	**P**	**20 07 10.6**	**+1.0**
	0.3nm,0.6s,mb3.2,baz=128,slow=9.5,SNR=3.9						
WRA	**Warramunga Arr**	**40.89**	**282**	P	**P**	**20 07 24.4**	**+1.5**
	0.4nm,0.7s,mb3.2,baz=123,slow=7.7,SNR=5.9						
SBA	**Scott Base**	**41.45**	**193**	*e*P	**P**	**20 07 25.6**	**-1.2**
TORD	**Torodi Ar. Bea**	**156.15**	**191**	PKPab	PKPab	20 20 03.5	+0.5
	0.2nm,0.4s,baz=178,slow=3.4,SNR=6.7						

NNC 14 20:15:49.2±3.5, 4251N×8051E, h0km, mb3.8, mpv3.4, 8C, Error ellipse: s-maj=33.1km s-min=20.2km az=143.0, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KNDC	**Almaty**	**2.70**	**286**	⇑Pn	Pn	20 16 33.9	0.0
	16nm,0.4s						
KNDC				⇑Lg		20 17 16.7	
	56nm,0.8s						
TKM2	**Tokmak 2**	**3.65**	**278**	⇑Pn	Pn	20 16 46.4	-0.4
	4.9nm,0.5s						
TKM2				⇑Lg		20 17 43.8	
	9.9nm,0.5s						
KK31	**Karatay Array**	**7.38**	**278**	Pg	Pg	20 18 03.6	-6.9
	0.4nm,0.5s,baz=96,slow=16,SNR=4.4						
KK31				⇑Lg		20 19 44.5	
	0.5nm,0.5s,baz=101,slow=32,SNR=4.5						
KURK	**Kurchatov**	**8.31**	**352**	⇑Pn	Pn	20 17 54.2	+3.3
	10.0nm,2.5s						
KURK				⇑Sn	Sn	20 19 24.9	-0.5
	1.1nm,0.6s						
KURK				⇑Lg		20 20 08.8	
	10.0nm,1.3s						

IDC ***14*** *20:18:20.7±4.0, 871S×12868E, h0km, mb3.8/1, mb1 3.6/5, mb1mx3.4/14, mbtmp3.4/5, ML3.2/4, Error ellipse: s-maj=53.4km s-min=28.7km az=14.0*

NEIC ***14*** *20:18:21.3±5.9, 835S×12873E, h35km, mb3.4/1, Error ellipse: s-maj=71.7km s-min=33.3km az=170.0*

ISC 14 20:18:23.8±3.6, 86S±01×12870E±008, h33km±39km, n7, σ0s87/12, Timor Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	**Baumata**	**5.23**	**251**	Pn	**Pn**	**20 19 40.0**	**+0.2**
	1.3nm,0.3s,baz=10,slow=19,SNR=5.0						
BATI				Sn	**Sn**	**20 20 39.2**	**+0.2**
	1.9nm,0.3s,baz=125,slow=19,SNR=4.3						
FITZ	**Fitzroy Crossi**	**9.94**	**197**	Pn	**Pn**	**20 20 44.4**	**+0.1**
	0.3nm,0.3s,baz=22,slow=20,SNR=14						
FITZ				Sn	**Sn**	**20 22 33.8**	**-1.0**
	1.0nm,0.3s,baz=274,slow=20,SNR=9.4						
WRAB	**Tennant Creek**	**12.56**	**155**	*e*Pn	**Pn**	**20 21 20.1**	**-0.1**
	0.7nm,0.6s						
WRAB				*e*Sn	**Sn**	**20 23 39.6**	**+0.6**
WRA	**Warramunga Arr**	**12.56**	**155**	Pn	**Pn**	**20 21 19.3**	**-0.9**
	0.2nm,0.3s,baz=324,slow=13,SNR=16						
WRA				Sn	**Sn**	**20 23 37.8**	**-1.3**
	0.8nm,0.3s,baz=332,slow=23,SNR=11						
ASAR	**Alice Springs**	**15.82**	**162**	Pn	**Pn**	**20 22 05.3**	**+1.1**
	0.1nm,0.3s,baz=344,slow=12,SNR=4.7						
ASAR				Sn	**Sn**	**20 25 00.2**	**+1.7**
	0.3nm,0.3s,baz=343,slow=26,SNR=6.6						
STKA	**Stephens Creek**	**26.11**	**154**	P	**P**	**20 23 54.6**	**-0.1**
	1.5nm,0.9s,baz=331,slow=13,SNR=3.2						
STKA	**Stephens Creek**	**26.11**	**154**	*e*P	**P**	**20 23 53.6**	**-1.1**
	0.5nm,0.5s						

NNC ***14*** *21:17:14.6±8.2, 3994N×7524E, h0km, mb3.5, mpv3.1, Error ellipse: s-maj=83.5km s-min=36.4km az=144.0*

ISC 14 21:17:40.3±5.8, 414N±05×748E±02, h35km, n11, σ0s83/12, 4C-3D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UCH	**Uchtor**	**0.90**	**348**	P	**Pn**	**21 17 56.7**	**+0.3**
	SNR=95						
AML	**Almayashu**	**1.12**	**314**	P	**Pn**	**21 17 58.8**	**-0.6**
	SNR=23						
AAK	**Ala-Archa**	**1.30**	**351**	P	**Pn**	**21 18 02.9**	**+0.9**
	SNR=9.9						
KBK	**Karagaybulak**	**1.31**	**6**	P	**Pn**	**21 18 01.9**	**-0.2**
	SNR=79						
EKS2	**Erkin-Say**	**1.50**	**331**	P	**Pn**	**21 18 05.3**	**+0.5**
	SNR=9.7						
CHMS	**Chumysh**	**1.65**	**359**	P	**Pn**	**21 18 06.8**	**0.0**
	SNR=7.5						
TKM2	**Tokmak 2**	**1.68**	**21**	⇑Pn	**Pn**	**21 18 05.2**	**-2.1**
	7.4nm,0.3s						
TKM2				⇑Lg		21 18 49.9	
	20nm,0.8s						
TKM2	**Tokmak 2**	**1.68**	**21**	P	**Pn**	**21 18 05.2**	**-2.0**
	SNR=12						
USP	**Ospenovka**	**1.92**	**354**	P	**Pn**	**21 18 10.3**	**-0.2**
	SNR=9.7						
KNDC	**Almaty**	**2.48**	**40**	⇓Pg	**Pn**	**21 18 19.1**	**+1.0**
	9.2nm,0.6s						
KNDC				⇑Lg		21 19 05.5	
	118nm,0.7s						
KK31	**Karatay Array**	**3.62**	**300**	⇑Pn	**Pn**	**21 18 28.3**	**-5.5**
	0.3nm,0.5s,baz=127,slow=12						
KK31				⇓Pg	**Pn**	**21 18 43.9**	**+10**
	1.0nm,0.5s,baz=134,slow=16						
KK31				⇓Lg		21 19 48.9	
	1.7nm,0.5s,baz=123,slow=27,SNR=7.5						

IDC 14 21:19:56.3±7.4, 316N×12682E, h0km, mb3.8/3, mb1 4.0/3, mb1mx3.5/16, mbtmp3.8/3, Error ellipse: s-maj=135.2km s-min=117.0km az=77.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.11**	**162**	P	P	21 25 13.6	-0.4
	3.1nm,0.7s,baz=342,slow=10,SNR=24						
ASAR	**Alice Springs**	**27.54**	**166**	P	P	21 25 45.1	+0.2
	0.4nm,0.6s,baz=350,slow=7.9,SNR=5.9						
STKA	**Stephens Creek**	**37.56**	**159**	P	P	21 27 12.9	+0.4
	2.2nm,0.8s,baz=331,slow=5.4,SNR=3.5						

IDC 14 21:30:42.7±7.8, 267N×12702E, h0km, mb3.6/3, mb1 3.8/3, mb1mx3.5/15, mbtmp3.6/3, Error ellipse: s-maj=174.9km s-min=121.4km az=75.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.60**	**163**	P	P	21 35 55.4	-0.1
	1.6nm,0.6s,baz=342,slow=10,SNR=7.6						
ASAR	**Alice Springs**	**27.02**	**166**	P	P	21 36 26.6	-0.1
	0.2nm,0.5s,baz=342,slow=8.7,SNR=5.0						
STKA	**Stephens Creek**	**37.05**	**159**	P	P	21 37 54.6	+0.1
	1.7nm,0.8s,baz=322,slow=15,SNR=2.8						

IDC ***14*** *21:35:58.7±0.7, 5474N×164.17E, h0km, mb3.9/17, mb1 4.1/19, mb1mx4.1/25, mbtmp3.9/19, ML4.0/2, MS3.4/4, Ms1 3.4/4, ms1mx2.6/40, Error ellipse: s-maj=22.2km s-min=13.8km az=159.0*

ISCJB ***14*** *21:36:01.0±1.2, 5458N±003×164.17E±005, h30km±9km, mb4.0/27, MS3.5/3, Error ellipse: s-maj=5.4km s-min=4.5km az=25.1*

KRSC ***14*** *21:36:00.9±0.8, 5456N×164.04E, h42km±42km, ML4.6*

MOS ***14*** *21:36:02.5±1.1, 5465N×163.98E, h40km, mb4.3/18, Error ellipse: s-maj=9.9km s-min=7.8km az=78.4*

NEIC ***14*** *21:36:04.1±0.3, 5473N×164.04E, h35km, mb4.4/10, Error ellipse: s-maj=8.8km s-min=5.7km az=150.0*

ISC 14 21:36:01.5±1.3, 5462N±003×16417E±005, h19km±8km, n101, σ1s03/120, mb4.0/27, MS3.5/3, 1C-2D, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKZ	**Mys Kozlova**	**1.42**	**268**	P	**Pn**	**21 36 24.8**	**-1.3**
MKZ				*i* S	**Sn**	**21 36 42.1**	**-2.1**
KBTR	**Krutoberegovo**	**1.77**	**335**	*e*P	**Pn**	**21 36 29.0**	**-1.9**
KBTR				*i* S	**Sn**	**21 36 49.2**	**-3.6**
ZLN	**Zelenaya**	**2.38**	**307**	*i* P	**Pn**	**21 36 40.5**	**+1.2**
ZLN				*i* S	**Sn**	**21 37 10.0**	**+2.1**
TUMR	**Tumrok**	**2.41**	**288**	P	**Pn**	**21 36 40.2**	**+0.4**
TUMR				*i* S	**Sn**	**21 37 09.4**	**+0.7**
BZMR	**Bezymyannaya**	**2.48**	**304**	*e*P	**Pn**	**21 36 41.2**	**+0.5**
BZMR				*i* S	**Sn**	**21 37 10.4**	**0.0**
BZWR	**Bezymyannyi-We**	**2.49**	**304**	*e*P	**Pn**	**21 36 41.6**	**+0.7**
BZWR				*i* S	**Sn**	**21 37 11.6**	**+0.9**
KMNR	**Kamenistaya**	**2.52**	**298**	*e*P	**Pn**	**21 36 41.8**	**+0.5**
KMNR				*i* S	**Sn**	**21 37 11.8**	**+0.3**
BDR	**Baidarnaya**	**2.58**	**321**	*e*P	**Pn**	**21 36 42.2**	**+0.2**
BDR				*i* S	**Sn**	**21 37 12.1**	**-0.6**
KRSR	**Krestovskiy**	**2.60**	**309**	*e*P	**Pn**	**21 36 42.3**	**-0.1**
KRSR				*i* S	**Sn**	**21 37 12.8**	**-0.6**
KLY	**Klyuchi**	**2.62**	**312**	*e*P	**Pn**	**21 36 41.2**	**-1.5**
KLY				*i* S	**Sn**	**21 37 11.0**	**-2.9**
KPT	**Kopyto**	**2.63**	**303**	*e*P	**Pn**	**21 36 43.3**	**+0.6**
KPT				*i* S	**Sn**	**21 37 14.9**	**+0.9**
KII	**Karymskiy**	**2.82**	**260**	P	**Pn**	**21 36 45.6**	**+0.2**
KOZR	**Kozyr**	**2.84**	**302**	PN	**Pn**	**21 36 46.1**	**+0.5**
KOZR				S	**Sn**	**21 37 19.9**	**+0.7**
KOZ	**Kozyrevsk**	**2.84**	**302**	P	**Pn**	**21 36 46.1**	**+0.4**
KOZ				*i* S	**Sn**	**21 37 19.9**	**+0.6**
SPN	**Mys Shipunski**	**2.89**	**240**	P	**Pn**	**21 36 43.8**	**-2.5**
SPN				*i* S	**Sn**	**21 37 15.1**	**-5.3**
SRDR	**Sredinnyy**	**3.05**	**306**	P	**Pn**	**21 36 49.8**	**+1.3**
NLC	**Nalytchevo**	**3.20**	**245**	*e*P	**Pn**	**21 36 49.1**	**-1.5**
NLC				*i* S	**Sn**	**21 37 23.8**	**-4.3**
AVH	**Avacha**	**3.48**	**249**	*e*P	**Pn**	**21 36 54.5**	**0.0**
PET	**Petropavlovsk**	**3.64**	**246**	*e*PN	**Pn**	**21 36 56.7**	**+0.1**
PET				*e*S	**Sn**	**21 37 35.9**	**-3.0**
PET				pmax	pmax		
	comp=Z,43nm,0.5s						
PET				smax			
	comp=E,173nm,0.4s						
PET				smax			
	comp=N,223nm,0.6s						
PET	**Petropavlovsk**	**3.64**	**246**	P	**Pn**	**21 36 55.9**	**-0.7**
PET				*i* S	**Sn**	**21 37 36.2**	**-2.7**
GNL	**Ganaly**	**3.77**	**258**	*e*P	**Pn**	**21 36 59.3**	**+0.8**
RUS	**Russkaya**	**4.02**	**239**	P	**Pn**	**21 37 00.5**	**-1.4**
PEA0B	**Petropavlovsk-**	**4.12**	**251**	*e*Pn	**Pn**	**21 37 03.9**	**+0.7**
PEA0B				*e*Sn	**Sn**	**21 37 52.9**	**+2.1**
PETK	**Petropavlovsk-**	**4.12**	**251**	Pn	**Pn**	**21 37 03.5**	**+0.3**
	comp=N,6.7nm,0.3s,baz=77,slow=18,SNR=33						
PETK				Sn	**Sn**	**21 37 50.1**	**-0.6**
	comp=N,5.8nm,0.3s,baz=296,slow=18,SNR=6.1						
GRL	**Gorelyy**	**4.18**	**243**	P	**Pn**	**21 37 04.6**	**+0.6**
MIPR	**Malaya Ipel'ka**	**5.01**	**245**	P	**Pn**	**21 37 16.0**	**+0.5**
SKR	**Severo-Kuril's**	**6.29**	**234**	*e*PN	**Pn**	**21 37 32.9**	**-0.1**
YSS	**Yuzh-Sakhalins**	**15.52**	**249**	*d* iP	**Pn**	**21 39 39.2**	**+0.3**
ASAJ	**Asahikawa**	**17.47**	**242**	P	**Pn**	**21 40 03.2**	**-0.5**
	comp=N,0.9nm,0.3s,baz=76,slow=16,SNR=6.5						
ASAJ				LR	LR	21 47 17.1	
	comp=N,42nm,19.6s,baz=324,slow=39						
ASAJ	**Asahikawa**	**17.47**	**242**	P	**Pn**	**21 40 03.2**	**-0.5**
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ASAJ				MLR	MLR		
	comp=Z,42nm,19.6s						
YAK	**Yakutsk**	**19.37**	**306**	*e*P	**Pn**	**21 40 24.8**	**-1.9**
YAK				pmax	pmax		
	comp=Z,13nm,0.8s						
YAK	**Yakutsk**	**19.37**	**306**	*e*P	**Pn**	**21 40 23.9**	**-2.8**
	comp=Z,13nm,0.4s						
TIXI	**Tiksi**	**22.79**	**332**	*e*P	**P**	**21 41 02.9**	**+0.6**
TIXI				pmax	pmax		
	comp=Z,10.0nm,1.1s,mb4.2						
TIXI	**Tiksi**	**22.79**	**332**	*e*P	**P**	**21 41 01.1**	**-1.2**
	comp=Z,3.0nm,0.5s,mb4.0						
KDAK	**Kodiak Island**	**23.96**	**65**	P	**P**	**21 41 12.8**	**-1.3**
	comp=Z,5.7nm,0.8s,mb4.1,baz=0.5,slow=6.6,SNR=3.4						
TRF	**Thorofare Moun**	**24.53**	**51**	*e*P	**P**	**21 41 20.6**	**+1.4**
	comp=Z,4μm,1.2s						
PMR	**Palmer**	**25.16**	**55**	P	**P**	**21 41 24.1**	**-0.8**
MAJO	**Matsushiro**	**25.39**	**235**	*e*P	**P**	**21 41 27.8**	**+0.5**
MAJO				pmax	pmax		
	comp=Z,7.0nm,0.6s,mb4.4						
MAJO	**Matsushiro**	**25.39**	**235**	*e*P	**P**	**21 41 27.8**	**+0.5**
	comp=Z,6.8nm,0.6s,mb4.3						
MAT	**Matsushiro**	**25.39**	**235**	P	**P**	**21 41 31.9**	**+4.6**
MJAR	**Matsushiro Arr**	**25.39**	**235**	P	**P**	**21 41 28.7**	**+1.4**
	comp=Z,4.3nm,0.8s,mb4.0,baz=19,slow=9.5,SNR=13						
MJAR	**Matsushiro Arr**	**25.39**	**235**	P	**P**	**21 41 28.7**	**+1.4**
MJAR				pmax	pmax		
	comp=Z,4.0nm,0.8s						
COLA	**College**	**25.60**	**47**	P	**P**	**21 41 28.7**	**-0.3**
HIA	**Hailar**	**27.53**	**277**	*i* P	**P**	**21 41 45.4**	**-1.1**
HIA	**Hailar**	**27.53**	**277**	P	**P**	**21 41 45.9**	**-0.7**
SONM	**Songino Array**	**35.89**	**284**	P	**P**	**21 43 00.5**	**+0.6**
	comp=Z,0.8nm,0.5s,mb3.9,baz=59,slow=8.7,SNR=8.3						
SONM				PcP	PcP	21 45 26.9	+0.4
	comp=Z,0.4nm,0.7s,baz=146,slow=2.6,SNR=3.6						
SONM				LR	LR	21 59 01.0	
	comp=Z,45nm,18.4s,MS3.3,baz=122,slow=38						
SONM	**Songino Array**	**35.89**	**284**	P	**P**	**21 43 00.5**	**+0.6**
SONM						21 45 26.9	
SONM				pmax	pmax		
	comp=Z,1.0nm,0.5s						
SONM				MLR	MLR		
	comp=Z,45nm,18.4s						
YKA	**Yellowknife Ar**	**40.39**	**45**	P	**P**	**21 43 38.7**	**+1.2**
	comp=Z,0.5nm,0.8s,mb3.3,baz=299,slow=8.0,SNR=2.7						
YKA	**Yellowknife Ar**	**40.39**	**45**	P	**P**	**21 43 38.7**	**+1.1**
YKA				pmax	pmax		
	comp=Z,1.0nm,0.8s						
ZALV	**Zalesovo Beam**	**43.97**	**303**	P	**P**	**21 44 04.9**	**-1.9**
	comp=Z,0.6nm,0.5s,mb3.6,baz=56,slow=8.3,SNR=3.2						
ZALV	**Zalesovo Beam**	**43.97**	**303**	P	**P**	**21 44 04.9**	**-1.9**
ZALV				pmax	pmax		
	comp=Z,1.0nm,0.5s,mb3.8						
NVS	**Novosibirsk**	**44.23**	**305**	*i* P	**P**	**21 44 08.2**	**-0.7**
KURK	**Kurchatov**	**48.95**	**303**	P	**P**	**21 44 46.3**	**+0.3**
	comp=Z,3.5nm,0.4s,mb4.8,baz=56,slow=8.0,SNR=37						
KURK	**Kurchatov**	**48.95**	**303**	P	**P**	**21 44 46.3**	**+0.3**
KURK				pmax	pmax		
	comp=Z,4.0nm,0.4s,mb4.8						
KURK	**Kurchatov**	**48.95**	**303**	*e*P	**P**	**21 44 45.7**	**-0.3**
BVAR	**Borovoye Array**	**51.31**	**309**	P	**P**	**21 45 03.4**	**-0.4**
	comp=Z,0.7nm,0.5s,mb3.9,baz=64,slow=7.1,SNR=6.9						
BVAR				LR	LR	22 11 11.1	
	comp=Z,34nm,18.7s,MS3.4,baz=203,slow=41						
BVAR	**Borovoye Array**	**51.31**	**309**	P	**P**	**21 45 03.4**	**-0.4**
BVAR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
BVAR				MLR	MLR		
	comp=Z,34nm,18.7s						
BRVK

PSZ	**Piszkesteto**	**73.48 336**	P	**P**	**21 47 30.2**	**-2.0**
GERES	**GERESS Array B**	**73.95 340**	P	**P**	**21 47 35.2**	**+0.3**
	comp=Z,0.5nm,0.6s,mb3.6,baz=32,slow=7.8,SNR=5.4					
GERES	**GERESS Array B**	**73.95 340**	P	**P**	**21 47 35.2**	**+0.3**
GERES			pmax	pmax		
	comp=Z,1.0nm,0.6s					
STU	**Stuttgart**	**74.85 343**	P	**P**	**21 47 40.2**	**+0.1**
WRAB	**Tennant Creek**	**78.52 209**	*eP*	**P**	**21 48 01.6**	**+0.6**
WRAB			pmax	pmax		
	comp=Z,2.0nm,0.9s,mb4.0					
WRAB	**Tennant Creek**	**78.52 209**	*eP*	**P**	**21 48 01.6**	**+0.6**
	comp=Z,1.6nm,0.9s,mb4.0					
WB2	**Warramunga Arr**	**78.53 209**	P	**P**	**21 48 01.7**	**+0.7**
WRA	**Warramunga Arr**	**78.53 209**	P	**P**	**21 48 01.6**	**+0.5**
	comp=Z,0.9nm,0.7s,mb3.8,baz=20,slow=5.8,SNR=3.8					
WRA	**Warramunga Arr**	**78.53 209**	P	**P**	**21 48 01.6**	**+0.5**
WRA			pmax	pmax		
	comp=Z,1.0nm,0.7s					
ASAR	**Alice Springs**	**82.19 208**	P	**P**	**21 48 21.3**	**+0.6**
	comp=Z,0.7nm,0.8s,mb3.6,baz=9.4,slow=5.9,SNR=8.0					
ASAR	**Alice Springs**	**82.19 208**	P	**P**	**21 48 21.3**	**+0.6**
ASAR			pmax	pmax		
	comp=Z,1.0nm,0.8s					
ESDC	**Sonseca Array**	**85.53 351**	P	**P**	**21 48 37.9**	**+0.1**
	comp=Z,0.2nm,0.5s,mb3.6,baz=0.0,slow=4.1,SNR=5.9					
STKA	**Stephens Creek**	**88.31 199**	LR	LR	22 23 06.4	
	comp=Z,43nm,19.6s,MS3.9,baz=26,slow=32					

ISCJB ***14*** *21:53:44.8±0.6,281S±0.1×628E±0.2, h10km, mb4.1/12, MS3.8/4, Error ellipse: s-maj=21.1km s-min=14.9km az=149.2*

NEIC ***14*** *21:53:46.3±0.6,2798S×6273E, h10km, mb4.4/5, Error ellipse: s-maj=21.7km s-min=14.3km az=61.0*

IDC ***14*** *21:53:46.2±0.8,2827S×6282E, h0km, mb4.0/9, mb1 4.2/10, mb1mx3.9/22, mbtmp4.0/10, ML3.5/1, MS3.7/4, Ms1 3.7/4, ms1mx3.2/28, Error ellipse: s-maj=26.1km s-min=22.3km az=56.0*

ISC 14 21:53:46.6±0.6, 280S±01×627E±02, h10km, n23, σ1$18/20, mb4.1/12, MS3.8/4, Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OPO	**Ambohidratompo**	**17.06**	**300**	P	**Pn**	**21 57 50.5**	**+5.2**
	0.2nm,0.3s,baz=72,slow=14,SNR=2.0						
MAW	**Mawson**	**39.59**	**180**	P	**P**	**22 01 17.6**	**-0.1**
	1.8nm,0.6s,mb4.0,baz=335,slow=5.9,SNR=7.7						
MAW				LR	LR	22 14 36.5	
	comp=Z,44nm,18.7s,MS3.3,baz=250,slow=32						
CMAR	**Chiang Mai Arr**	**58.03**	**41**	P	**P**	**22 03 42.3**	**+2.4**
	0.5nm,0.6s,mb3.7,baz=230,slow=7.9,SNR=4.5						
FITZ	**Fitzroy Crossi**	**58.21**	**95**	P	**P**	**22 03 41.6**	**+0.3**
	2.8nm,0.9s,mb4.3,baz=285,slow=8.5,SNR=5.7						
FITZ	**Fitzroy Crossi**	**58.21**	**95**	*eP*	**P**	**22 03 40.1**	**-1.2**
	4.5nm,0.7s,mb4.6						
QSPA	**South Pole Qui**	**62.11**	**180**	P	**P**	**22 04 06.6**	**-0.5**
	1.1nm,0.7s,mb4.1,baz=53,slow=1.0,SNR=3.8						
QSPA				LR	LR	22 27 18.9	
	comp=Z,52nm,20.7s,MS3.7,baz=18,slow=32						
ASAR	**Alice Springs**	**63.41**	**104**	P	**P**	**22 04 16.9**	**+0.2**
	3.3nm,0.6s,mb4.7,baz=246,slow=6.2,SNR=47						
WRA	**Warramunga Arr**	**65.14**	**100**	P	**P**	**22 04 28.4**	**+0.3**
	3.0nm,0.7s,mb4.4,baz=248,slow=6.1,SNR=8.6						
WB2	**Warramunga Arr**	**65.15**	**100**	*eP*	**P**	**22 04 28.6**	**+0.5**
WRAB	**Tennant Creek**	**65.16**	**100**	*eP*	**P**	**22 04 28.5**	**+0.3**
	2.9nm,0.6s,mb4.5						
STKA	**Stephens Creek**	**67.02**	**115**	P	**P**	**22 04 39.3**	**-0.7**
	2.0nm,0.8s,mb4.2						
EKS2	**Erkin-Say**	**71.09**	**9**	*eP*	**P**	**22 05 03.4**	**-1.4**
	1.0nm,0.6s,mb3.9						
TORD	**Torodi Ar. Bea**	**71.83**	**296**	P	**P**	**22 05 11.8**	**+1.9**
	0.4nm,0.8s,mb3.4,baz=122,slow=7.0,SNR=3.4						
TORD				LR	LR	22 36 24.0	
	comp=Z,54nm,18.4s,MS3.9,baz=235,slow=36						
KIV	**Kislovodsk**	**73.95**	**345**	P	**P**	**22 05 21.8**	**0.0**
KURK	**Kurchatov**	**79.67**	**10**	P	**P**	**22 05 56.5**	**+2.6**
	0.4nm,0.6s,mb3.5,baz=214,slow=7.0,SNR=2.9						
KURK	**Kurchatov**	**79.67**	**10**	*eP*	**P**	**22 05 52.4**	**-1.6**
	2.0nm,1.3s,mb3.9						
BRVK	**Borovoye**	**81.03**	**5**	P	**P**	**22 05 59.7**	**-1.5**
RPZ	**Rata Peaks**	**83.10**	**136**	LR	LR	22 35 59.8	
	comp=Z,114nm,18.4s,MS4.3,baz=242,slow=31						
ZALV	**Zalesovo Beam**	**83.87**	**13**	P	**P**	**22 06 16.9**	**+1.0**
	0.4nm,0.4s,mb3.9,baz=216,slow=4.6,SNR=2.1						
ZALV	**Zalesovo Beam**	**83.87**	**13**	P	**P**	**22 06 16.9**	**+1.0**
ARU	**Arti**	**84.21**	**358**	P	**P**	**22 06 15.6**	**-2.1**
YKA	**Yellowknife Ar**	**145.50**	**358**	PKPbc	PKPbc	22 13 25.8	+1.5
	0.5nm,0.4s,baz=350,slow=3.2,SNR=11						
YKA	**Yellowknife Ar**	**145.50**	**358**	PKPbc	PKPbc	22 13 25.8	+1.5

IDC 14 21:57:07.9±1.2, 270N×12691E, h0km, mb3.6/6, mb1 3.8/6, mb1mx3.7/17, mbtmp3.6/6, Error ellipse: s-maj=94.3km s-min=18.6km az=72.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**20.71**	**183**	P	P	22 01 50.8	+0.9
	0.9nm,0.7s,baz=358,slow=11,SNR=3.5						
WRA	**Warramunga Arr**	**23.65**	**162**	P	P	22 02 20.9	-0.4
	3.2nm,0.5s,baz=342,slow=10,SNR=14						
ASAR	**Alice Springs**	**27.07**	**166**	P	P	22 02 52.0	-0.3
	0.3nm,0.5s,baz=346,slow=6.5,SNR=6.9						
STKA	**Stephens Creek**	**37.11**	**159**	P	P	22 04 19.9	-0.2
	1.3nm,0.6s,baz=334,slow=7.1,SNR=5.3						
SONM	**Songino Array**	**48.33**	**342**	P	P	22 05 52.5	+1.4
	0.2nm,0.6s,baz=134,slow=4.2,SNR=2.9						
KURK	**Kurchatov**	**62.70**	**328**	P	P	22 07 33.3	-1.2
	0.3nm,0.5s,baz=128,slow=6.2,SNR=4.2						

IDC ***14*** *22:00:30.6±3.8, 172N×12666E, h27km±24km, mb3.8/8, mb1 3.8/9, mb1mx3.7/17, mbtmp3.7/9, ML3.4/1, MS3.1/4, Ms1 3.1/4, ms1mx2.7/24, Error ellipse: s-maj=82.5km s-min=13.6km az=70.0*

ISCJB ***14*** *22:00:32.9±0.9, 172N±007×12665E±006, h66km±8km, mb4.0/13, Error ellipse: s-maj=14.6km s-min=6.9km az=39.8*

NEIC ***14*** *22:00:34.0±1.6, 170N×12665E, h61km±15km, mb4.2/8, Error ellipse: s-maj=16.6km s-min=5.8km az=59.0*

DJA ***14*** *22:00:36.7±0.4, 1N±6×126E±, h20km, MLv4.0/3*

ISC 14 22:00:33.9±0.9, 169N±007×12666E±007, h58km±9km, n34, σ0$77/33, mb4.0/13, MS3.1/4, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TNTI	**Ternate**	**1.16**	**142**	P	**Pn**	**22 00 54.0**	**+0.1**
TNTI	**Ternate**	**1.16**	**142**	S	**Sn**	**22 01 09.0**	**+0.1**
MNI	**Manado**	**1.83**	**262**	P	**Pn**	**22 01 01.9**	**-1.2**
MNI	**Manado**	**1.83**	**262**	S	**Sn**	**22 01 26.2**	**+1.0**
LBMI	**Labuha**	**2.46**	**160**	P	**Pn**	**22 01 12.3**	**+0.6**
KKM	**Kota Kinabalu**	**11.28**	**293**	Pn	**Pn**	**22 03 12.6**	**+0.2**
KAKA	**Kakadu**	**15.42**	**158**	*ePn*	**Pn**	**22 04 08.0**	**+0.1**
KSM	**Kuching**	**16.35**	**269**	*ePn*	**Pn**	**22 04 19.9**	**+0.2**
FITZ	**Fitzroy Crossi**	**19.70**	**183**	P	**Pn**	**22 04 58.5**	**-1.9**
	0.1nm,0.3s,baz=0.3,slow=16,SNR=3.8						
FITZ	**Fitzroy Crossi**	**19.70**	**183**	*eP*	**Pn**	**22 04 58.8**	**-1.6**
	2.3nm,0.4s						
GUMO	**Guam**	**21.55**	**56**	LR	LR	22 11 12.4	
	comp=Z,28nm,20.9s,MS2.6,baz=254,slow=30						
WRAB	**Tennant Creek**	**22.78**	**161**	*eP*	**P**	**22 05 31.3**	**-0.3**
	6.1nm,0.6s,mb4.2						
WRA	**Warramunga Arr**	**22.78**	**161**	P	**P**	**22 05 31.2**	**-0.4**
	5.1nm,0.5s,mb4.2,baz=339,slow=11,SNR=14						
WRA				S	**S**	**22 09 40.2**	**+3.6**
	0.4nm,0.4s,baz=317,slow=26,SNR=3.7						
WB2	**Warramunga Arr**	**22.79**	**161**	*eP*	**P**	**22 05 31.2**	**-0.5**
PMG	**Port Moresby**	**23.21**	**119**	P	**P**	**22 05 36.3**	**+0.1**
YHNB	**Yeheng**	**23.40**	**348**	*eP*	**P**	**22 05 37.9**	**+0.1**
ASAR	**Alice Springs**	**26.18**	**165**	P	**P**	**22 06 03.3**	**+0.2**
	1.7nm,0.3s,mb4.0,baz=341,slow=9.2,SNR=25						
ASAR				PcP	PcP	22 09 28.5	-0.6
	0.3nm,0.5s,baz=348,slow=2.4,SNR=4.2						
ASAR				S	**S**	**22 10 35.1**	**+4.1**
	0.1nm,0.6s,baz=351,slow=17,SNR=3.0						
NWAO	**Narrogin (SRO)**	**35.57**	**194**	*eP*	**P**	**22 07 25.6**	**-0.1**
KSRS	**Korea Array**	**35.60**	**2**	LR	LR	22 21 13.1	
	comp=Z,20nm,19.9s,MS2.9,baz=165,slow=35						
STKA	**Stephens Creek**	**36.27**	**158**	P	**P**	**22 07 32.4**	**+0.7**
	1.6nm,0.6s,mb4.1,baz=330,slow=9.7,SNR=7.4						
STKA	**Stephens Creek**	**36.27**	**158**	*eP*	**P**	**22 07 32.5**	**+0.8**
	13nm,1.3s,mb4.7						
SONM	**Songino Array**	**49.20**	**342**	P	**P**	**22 09 16.8**	**+0.7**
	0.2nm,0.5s,mb3.4,baz=150,slow=8.4,SNR=3.2						
SONM				LR	LR	22 29 43.6	
	comp=Z,33nm,19.5s,MS3.3,baz=149,slow=36						
TLY	**Talaya**	**53.43**	**342**	*eP*	**P**	**22 09 46.9**	**-0.9**
TKM2	**Tokmak 2**	**61.22**	**319**	*eP*	**P**	**22 10 43.6**	**+0.7**
	1.1nm,0.4s,mb4.3						
UCH	**Uchtor**	**61.62**	**318**	*eP*	**P**	**22 10 45.9**	**+0.2**
	1.6nm,0.9s,mb4.2						
EKS2	**Erkin-Say**	**62.30**	**318**	*eP*	**P**	**22 10 49.9**	**-0.2**
	0.9nm,0.8s,mb4.0						
ZALV	**Zalesovo Beam**	**62.36**	**334**	P	**P**	**22 10 51.3**	**+1.0**
	0.4nm,0.3s,mb4.0,baz=112,slow=6.4,SNR=2.7						
KBL	**Kabul**	**62.71**	**308**	P	**P**	**22 10 50.5**	**-2.5**
AFI	**Afiamalu**	**62.92**	**106**	LR	LR	22 34 12.4	
	comp=Z,30nm,21.2s,MS3.4,baz=199,slow=32						
KURK	**Kurchatov**	**63.41**	**328**	P	**P**	**22 10 57.0**	**-0.4**
	0.7nm,0.4s,mb4.1,baz=128,slow=6.2,SNR=11						
KURK	**Kurchatov**	**63.41**	**328**	*eP*	**P**	**22 10 56.5**	**-0.8**
	1.5nm,0.4s,mb4.5						
BVAR	**Borovoye Array**	**68.98**	**327**	P	**P**	**22 11 33.5**	**+0.5**
	0.4nm,0.5s,mb3.6,baz=116,slow=6.6,SNR=2.8						
ARU	**Arti**	**76.61**	**328**	*eP*	**P**	**22 12 17.9**	**-0.2**
	1.2nm,0.4s,mb4.2						
MAW	**Mawson**	**81.83**	**200**	P	**P**	**22 12 47.1**	**+0.7**
	1.0nm,0.6s,mb3.9,baz=56,slow=9.3,SNR=5.3						

ISCJB ***14*** *22:25:11.6±2.1, 2501S±009×1799E±0.1, h467km±26km, mb4.0/17, Error ellipse: s-maj=15.9km s-min=13.7km az=26.9*

IDC ***14*** *22:25:12.8±6.3, 2499S×18000W, h467km±65km, mb3.6/13, mb1 3.8/13, mb1mx3.6/19, mbtmp3.6/13, Error ellipse: s-maj=33.0km s-min=17.9km az=65.0*

NEIC ***14*** *22:25:12.7±1.1, 2498S×17995E, h468km±13km, mb4.2/10, Error ellipse: s-maj=10.1km s-min=8.6km az=128.0*

ISC 14 22:25:12.4±1.7, 2499S±009×1799E±01, h463km±23km, n39, σ0$71/34, mb4.0/17, 1D, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**13.51**	**37**	P	**P**	**22 28 08.0**	**+0.4**
FUNA	**Funafuti**	**16.39**	**357**	P	**P**	**22 28 37.5**	**-0.6**
RPZ	**Rata Peaks**	**20.04**	**199**	P	**P**	**22 29 13.0**	**-0.2**
	4.1nm,0.5s,baz=295,slow=20,SNR=2.7						
RPZ	**Rata Peaks**	**20.04**	**199**	P	**P**	**22 29 13.0**	**-0.2**
HNR	**Honiara**	**24.51**	**306**	*eP*	**P**	**22 29 53.7**	**-0.3**
CTA	**Charters Tower**	**31.43**	**272**	*eP*	**P**	**22 30 55.8**	**+1.3**
	9.4nm,0.3s,mb4.7						
CTA	**Charters Tower**	**31.43**	**272**	P	**P**	**22 30 55.9**	**+1.3**
	13nm,0.3s,mb4.8,baz=102,slow=10,SNR=29						
CTAO	**Charters Tower**	**31.43**	**272**	*eP*	**P**	**22 30 55.8**	**+1.3**
	14nm,0.3s,mb4.9						
STKA	**Stephens Creek**	**34.27**	**250**	*eP*	**P**	**22 31 19.5**	**+0.9**
	2.8nm,0.4s,mb4.0						
STKA	**Stephens Creek**	**34.27**	**250**	P	**P**	**22 31 19.6**	**+1.0**
	3.1nm,0.4s,mb4.1,baz=94,slow=12,SNR=19						
STKA	**Stephens Creek**	**34.27**	**250**	*eP*	**P**	**22 31 19.2**	**+0.6**
	3.3nm,0.3s,mb4.2						
PMG	**Port Moresby**	**34.80**	**291**	*eP*	**P**	**22 31 23.5**	**+0.2**
	5.6nm,0.6s,mb4.2						
ASAR	**Alice Springs**	**41.80**	**262**	P	**P**	**22 32 20.7**	**+0.3**
	2.6nm,0.3s,mb4.1,baz=92,slow=7.3,SNR=70						
WB2	**Warramunga Arr**	**42.27**	**267**	*eP*	**P**	**22 32 24.0**	**-0.2**
WRAB	**Tennant Creek**	**42.27**	**267**	*eP*	**P**	**22 32 23.8**	**-0.4**
	4.2nm,0.4s,mb4.2						
WRA	**Warramunga Arr**	**42.28**	**267**	P	**P**	**22 32 24.0**	**-0.2**
	8.0nm,0.3s,mb4.6,baz=99,slow=6.8,SNR=98						
KAKA	**Kakadu**	**46.35**	**276**	*i*P	**P**	**22 32 52.8**	**-3.1**
	4.0nm,0.2s,mb4.5						
FITZ	**Fitzroy Crossi**	**50.69**	**267**	*eP*	**P**	**22 33 28.2**	**-0.1**
	7.4nm,0.6s,mb4.2						
FITZ	**Fitzroy Crossi**	**50.69**	**267**	P	**P**	**22 33 28.7**	**+0.4**
	4.2nm,0.6s,mb4.0,baz=113,slow=10,SNR=21						
FITZ	**Fitzroy Crossi**	**50.69**	**267**	*eP*	**P**	**22 33 28.2**	**-0.1**
	6.2nm,0.5s,mb4.2						
SBA	**Scott Base**	**53.29**	**183**	P	**P**	**22 33 45.8**	**-0.5**
MBWA	**Marble Bar**	**55.12**	**261**	*eP*	**P**	**22 33 59.2**	**-1.0**
	2.4nm,0.4s,mb3.9						
BATI	**Bamata**	**55.24**	**275**	P	**P**	**22 34 02.0**	**+0.9**
	11nm,0.5s,mb4.5,baz=70,slow=0.7,SNR=3.4						
CASY	**Casey**	**59.11**	**206**	*eP*	**P**	**22 34 26.4**	**-0.3**
	2.8nm,0.6s,mb3.8						
QSPA	**South Pole Qui**	**65.10**	**180**	P	**P**	**22 35 06.5**	**+0.8**
	1.5nm,0.8s,mb3.7,baz=91,slow=2.6,SNR=4.4						
KSM	**Kuching**	**72.23**	**280**	P	**P**	**22 35 49.8**	**-0.3**
MJAR	**Matsushiro Arr**	**72.76**	**326**	P	**P**	**22 35 52.1**	**-0.5**
	1.7nm,0.9s,mb3.6,baz=202,slow=6.5,SNR=4.1						
MAW	**Mawson**	**76.71**	**201**	P	**P**	**22 36 14.3**	**-0.2**
	1.7nm,0.6s,mb3.8,baz=100,slow=8.8,SNR=7.7						
MAW	**Mawson**	**76.71**	**201**	*eP*	**P**	**22 36 14.8**	**+0.2**
	1.9nm,0.6s,mb3.8						
PETK	**Petropavlovsk-**	**80.14**	**347**	P	**P**	**22 36 32.8**	**-0.2**
	1.9nm,0.7s,mb3.8,baz=131,slow=7.3,SNR=4.9						
SNAA	**Sanae**	**83.58**	**179**	*eP*	**P**	**22 36 49.9**	**-0.7**
CMAR	**Chiang Mai Arr**	**89.84**	**290**	P	**P**	**22 37 22.6**	**+1.3**
	1.0nm,0.8s,mb3.7,baz=146,slow=3.5,SNR=7.2						
TXAR	**Lajitas Array**	**91.06**	**58**	P	**P**	**22 37 27.2**	**+0.4**
	0.4nm,0.7s,mb3.4,baz=220,slow=7.5,SNR=4.8						
TXAR	**Lajitas Array**	**91.06**	**58**	P	**P**	**22 37 27.2**	**+0.4**
ARCES	**ARCESS Array B**	**132.94**	**348**	PKP	PKPdf	22 43 33.0	-0.4
	2.5nm,0.9s,baz=46,slow=6.9,SNR=3.9						
ARCES	**ARCESS Array B**	**132.94**	**348**	PKP	PKPdf	22 43 33.0	-0.4
AKASG	**Malin Array Be**	**145.84**	**326**	PKPbc	PKPbc	22 43 57.1	-1.7
	0.6nm,0.3s,baz=46,slow=4.3,SNR=4.4						
CLL	**Collm**	**151.87**	**342**	*e*PKPbc	PKPbc	22 44 13.0	-0.8
TORD	**Torodi Ar. Bea**	**168.10**	**188**	PKP	PKPdf	22 44 26.9	+1.1
	0.7nm,1.1s,baz=180,slow=0.4,SNR=3.1						
TORD				PKPab	PKPab	22 45 35.6	-0.9
	0.2nm,0.6s,baz=182,slow=3.7,SNR=6.2						

ISC 14 22:35:06.3±2.1, 362N±01×708E±03, h37km±38km, n16, σ0$70/19, 1C-1D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
THN	**Thein Dam**	**5.54**	**132**	*eP*	**Pn**	**22 36 32.6**	**+6.4**
THN				*ex*	x	22 36 34.4	
KK31	**Karatay Array**	**6.87**	**358**	⇓Pn	**Pn**	**22 36 44.5**	**+0.1**
	0.5nm,0.2s,baz=181,slow=12,SNR=46						
KK31				⇑Sn	**Sn**	**22 37 53.9**	**-7.4**
	8.1nm,0.3s,baz=188,slow=24,SNR=6.0						
SMLA	**Simla**	**7.33**	**132**	*i* P	**Pn**	**22 36 56.9**	**+6.0**
SMLA				*i* S	**Sn**	**22 38 15.6**	**+2.8**
SMLA				*i* S	**Sn**	**22 38 17.0**	**+4.2**
SMLA				*ex*	x	22 38 19.9	
	comp=E,84nm,0.3s						
SMLA				*ex*	x	22 38 20.8	
	comp=N,80nm,0.3s						
KHET	**Khetri**	**9.16**	**151**	*e*S	**Sn**	**22 38 57.5**	**-0.2**
KHET				AML	AML	22 39 02.3	
	comp=N,5.5nm,0.3s						
KHET				AML	AML	22 39 02.6	
	comp=E,2.7nm,0.1s						
JOSI	**Joshimath**	**9.23**	**125**	*e*S	**Sn**	**22 38 58.8**	**-0.6**
JOSI				AML	AML	22 39 07.3	
	comp=E,20nm,0.5s						
JOSI				AML	AML	22 39 16.5	
	comp=N,13nm,0.4s						
SONA	**Sohna**	**9.55**	**145**	*e*S	**Sn**	**22 39 07.4**	**0.0**
SONA				AML	AML	22 39 09.3	
	comp=E,52nm,0.1s						
SONA				AML	AML	22 39 10.6	
	comp=N,44nm,0.1s						
DANN	**Dangsing**	**13.46**	**122**	*eP*	**Pn**	**22 38 14.4**	**-0.3**
	comp=N,5.7nm,0.4s						
KOLN	**Koldanda**	**13.72**	**124**	*eP*	**Pn**	**22 38 18.7**	**+0.4**
GKN	**Gorkha**	**14.28**	**121**	*eP*	**Pn**	**22 38 25.9**	**0.0**
	comp=N,6.1nm,0.3s						
DMN	**Daman**	**14.85**	**121**	*eP*	**Pn**	**22 38 32.6**	**-1.0**
	comp=N,6.3nm,0.4s						
KKN	**Kakani**	**14.86**	**120**	*eP*	**Pn**	**22 38 32.8**	**-0.9**
	comp=N,6.0nm,0.4s						
PKIN	**Phulchoki**	**15.07**	**121**	*eP*	**Pn**	**22 38 37.0**	**+0.5**
PKI	**Pulchoki**	**15.08**	**121**	*eP*	**Pn**	**22 38 37.0**	**+0.4**
	comp=N,6.6nm,0.4s						
JIRN	**Jiri**	**15.57**	**119**	*eP*	**Pn**	**22 38 42.5**	**-0.6**
	comp=N,8.3nm,0.3s						
RAMN	**Ramite**	**16.30**	**120**	*eP*	**Pn**	**22 38 53.6**	**+1.3**
	comp=N,8.7nm,0.5s						
TAPN	**Taplejung**	**16.84**	**117**	*eP*	**Pn**	**22 38 59.3**	**+0.1**
	comp=N,6.3nm,0.4s						

IDC ***14*** *22:36:41.8±1.5, 277N×127.10E, h0km, mb3.9/6, mb1 4.1/6, mb1mx3.9/16, mbtmp3.9/6, MS2.9/3, Ms1 3.0/3, ms1mx2.7/19, Error ellipse: s-maj=66.8km s-min=19.6km az=65.0*

ISCJB ***14*** *22:36:45.0±0.6, 275N±009×1270E±0.1, h33km, mb3.9/8, MS2.8/3, Error ellipse: s-maj=20.4km s-min=8.3km az=149.7*

NEIC ***14*** *22:36:47.0±0.5, 274N×12703E, h35km, mb4.2/5, Error ellipse: s-maj=15.6km s-min=6.5km az=60.0*

ISC 14 22:36:47.1±0.6, 272N±009×1270E±01, h35km, n23, σ0$78/21, mb3.9/8, MS2.8/3, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KKM	**Kota Kinabalu**	**11.27**	**287**	*e*Pn	**Pn**	**22 39 24.9**	**-0.9**
KSM	**Kuching**	**16.75**	**266**	Pn	**Pn**	**22 40 38.6**	**-0.6**
GUMO	**Guam**	**20.68**	**58**	LR	LR	22 47 49.3	
	comp=Z,37nm,21.8s,MS2.7,baz=222,slow=32						
FITZ	**Fitzroy Crossi**	**20.74**	**184**	P	**P**	**22 41 25.4**	**+0.6**
	1.1nm,0.7s,baz=13,slow=14,SNR=4.3						
FITZ	**Fitzroy Crossi**	**20.74**	**184**	*eP*	**P**	**22 41 25.9**	**+1.1**
	19nm,1.5s						
WRAB	**Tennant Creek**	**23.63**	**163**	*eP*	**P**	**22 41 54.8**	**-0.5**
	5.2nm,0.7s,mb4.1						
WRA	**Warramunga Arr**	**23.64**	**163**	P	**P**	**22 41 54.7**	**-0.7**
	4.9nm,0.6s,mb4.1,baz=342,slow=10,SNR=17						
WB2	**Warramunga Arr**	**23.64**	**163**	*eP*	**P**	**22 41 55.0**	**-0.5**
MBWA	**Marble Bar**	**24.78**	**196**	P	**P**	**22 42 07.3**	**+1.5**
ASAR	**Alice Springs**	**27.07**	**166**	P	**P**	**22 42 26.3**	**-0.2**
	0.6nm,0.6s,mb3.3,baz=342,slow=6.3,SNR=9.8						
CMAR	**Chiang Mai Arr**	**31.64**	**302**	P	**P**	**22 43 07.2**	**0.0**
	0.5nm,0.3s,mb3.8,baz=113,slow=6.0,SNR=4.6						
CMAR				LR	LR	22 55 08.2	
	comp=Z,25nm,18.3s,MS2.9,baz=135,slow=35						
CMAR	**Chiang Mai Arr**	**31.64**	**302**	P	**P**	**22 43 07.2**	**0.0**
CMAR				LR	LR	22 55 08.2	
ENH	**Enshi**	**32.04**	**331**	P	**P**	**22 43 09.3**	**-1.3**
KSRS	**Korea Array**	**34.58**	**1**	LR	LR	22 57 01.5	
	comp=Z,17nm,19.1s,MS2.8,baz=175,slow=35						
STKA	**Stephens Creek**	**37.09**	**159**	P	**P**	**22 43 53.6**	**-0.5**
	4.0nm,0.7s,mb4.3,baz=331,slow=8.3,SNR=7.3						
STKA	**Stephens Creek**	**37.09**	**159**	*eP*	**P**	**22 43 54.2**	**0.0**
	3.6nm,0.7s,mb4.3						
LSA	**Lhasa**	**43.32**	**312**	*eP*	**P**	**22 44 47.5**	**+1.5**
SONM	**Songino Array**	**48.34**	**341**	P	**P**	**22 45 25.5**	**+0.3**
	0.2nm,0.5s,mb3.4,baz=159,slow=8.9,SNR=4.0						
TAU	**Tasmania Unive**	**48.98**	**160**	P	**P**	**22 45 30.2**	**0.0**
UCH	**Uchtor**	**61.11**	**318**	P	**P**	**22 46 59.0**	**+1.1**
	1.6nm,0.9s,mb4.2						
EKS2	**Erkin-Say**	**61.79**	**318**	*eP*	**P**	**22 47 02.9**	**+0.5**
BRVK	**Borovoye**	**68.39**	**327**	*eP*	**P**	**22 47 45.0**	**-0.2**
	1.8nm,0.6s,mb4.3						
ARU	**Arti**	**75.94**	**328**	*eP*	**P**	**22 48 29.8**	**-0.4**

IDC 14 23:07:40.0±15.0, 347S×10185E, h0km, mb3.3/3, mb1 3.6/3, mb1mx3.4/16, mbtmp3.4/3, Error ellipse: s-maj=570.2km s-min=28.5km az=62.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**21.98**	**353**	P	P	23 12 36.6	+0.9
	0.6nm,0.5s,baz=183,slow=10,SNR=4.1						
ASAR	**Alice Springs**	**36.90**	**126**	P	P	23 14 50.8	+0.1
	0.2nm,0.3s,baz=296,slow=7.1,SNR=4.0						
SONM	**Songino Array**	**51.24**	**4**	P	P	23 16 44.8	-0.6
	0.4nm,0.6s,baz=172,slow=8.2,SNR=3.7						

ISCJB ***14*** *23:17:09.9±0.7, 24.19N±002×12208E±004, h25km±4km, Error ellipse: s-maj=6.9km s-min=3.5km az=15.3*

TAP ***14*** *23:17:10.7, 2423N×12199E,

CHN5	**Tsauling**	**1.42**	**245**	*e*P	**Pn**	**23 17 34.9**	**+0.5**
	baz=242						
CHN5				*e*S	**Sn**	**23 17 53.1**	**+0.8**
	baz=242						
WGK	**Gukeng**	**1.48**	**250**	*e*P	**Pn**	**23 17 35.6**	**+0.4**
	baz=247						
CHN2	**Minshiung**	**1.61**	**246**	*e*P	**Pn**	**23 17 36.0**	**-1.0**
	baz=243						
WTP	**Ta-pu**	**1.64**	**235**	*e*P	**Pn**	**23 17 38.2**	**+0.7**
	baz=232						
WTP				*e*S	**Sn**	**23 17 59.7**	**+1.9**
	baz=232						
TWG	**Pinlang**	**1.65**	**214**	*e*P	**Pn**	**23 17 36.5**	**-1.1**
	baz=210						
TWG				*e*S	**Sn**	**23 17 56.6**	**-1.4**
	baz=210						
TWK	**Hsinying**	**1.73**	**238**	*e*P	**Pn**	**23 17 39.4**	**+0.8**
	baz=235						
TWK				*e*S	**Sn**	**23 18 01.2**	**+1.2**
	baz=235						
CHN1	**Nanshi**	**1.74**	**235**	*e*P	**Pn**	**23 17 39.8**	**+1.0**
	baz=232						
CHN1				*e*S	**Sn**	**23 18 02.1**	**+1.8**
	baz=232						
SGST	**Jiashian**	**1.77**	**231**	*e*P	**Pn**	**23 17 39.2**	**+0.1**
	baz=228						
SGST				*e*S	**Sn**	**23 18 02.7**	**+1.9**
	baz=228						
ECL	**Taimali**	**1.90**	**213**	*e*P	**Pn**	**23 17 39.4**	**-1.6**
	baz=210						
SSD	**Sandimen**	**1.96**	**223**	P	**Pn**	**23 17 42.8**	**+1.0**
	baz=220						
EAST	**Anshuo**	**2.13**	**212**	*e*P	**Pn**	**23 17 43.7**	**-0.5**
	baz=209						
SCZT	**Fangliau**	**2.26**	**217**	*e*P	**Pn**	**23 17 47.8**	**+1.9**
	baz=214						
SCZT				*e*S	**Sn**	**23 18 14.2**	**+1.2**
	baz=214						
PNG	**Penghu**	**2.40**	**255**	*e*P	**Pn**	**23 17 48.2**	**+0.4**
	baz=253						
PNG				*e*S	**Sn**	**23 18 14.9**	**-1.5**
	baz=253						
MATI	**Mati**	**17.61**	**166**	*e*P	**Pn**	**23 21 10.2**	**-3.8**

MAN 14 23:20:58, 1154N×12542E, h11km, mb3.7, ML2.5, MS2.0, 1D, Samar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BESP	**Borongan**	**0.07**	**16**	*e*P	Pg	23 21 02.9	+2.6
BESP				*e*S	Sg	23 21 09.1	+7.1
PLP	**Palo**	**0.57**	**229⇓**	*e*P	Pg	23 21 09.6	+0.5
PLP				*e*S	Sg	23 21 18.8	+2.1
OCLP	**Ormoc**	**0.93**	**239**	*e*P	Sg	23 21 25.9	-2.2
CNP	**Catarman**	**1.22**	**323**	*e*P	Pn	23 21 20.1	-0.9
CNP				*e*S	Sb	23 21 39.7	+2.9
MSLP	**Maasin**	**1.50**	**202**	*e*P	Pn	23 21 25.2	+0.4
MSLP				*e*S	Sn	23 21 47.1	+2.7

*CSEM **14** 23:21:28.2±0.2, 4822N×349W, h12km, MD2.8/3, ML2.8/21, Error ellipse: s-maj=2.8km s-min=1.8km az=81.0, After LDG*
*NEIC **14** 23:21:28.2, 4822N×349W, h12km, ML2.9(LDG), After LDG.*
*LDG **14** 23:21:28.2±0.2, 4822N×349W, h12km, Md2.8/3, Ml2.9/22, Error ellipse: s-maj=2.8km s-min=1.8km az=81.0*
*BGS **14** 23:21:30.3±0.9, 4855N×378W, h10km, ML2.0*
ISC 14 23:21:27.5±0.6, 4814N±002×336W±004, h10km, n73, σ1§11/168, France

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ROSF	**Rostrenen**	**0.21**	**16**	*e*Pg	Pg	23 21 32.0	+0.1
	SNR=1.0						
ROSF				*e*Sg	Sg	23 21 34.8	0.0
	154nm,0.2s						
ROSF	**Rostrenen**	**0.21**	**16**	*e*Pg	Pg	23 21 32.0	+0.1
	SNR=1.0						
ROSF				*e*Sg	Sg	23 21 34.8	0.0
	77nm,0.2s						
QUIF	**Quistinic**	**0.26**	**149**	*e*Pg	Pg	23 21 35.3	+2.6
	SNR=1.0						
QUIF				*e*Sg	Sg	23 21 40.3	+4.1
	268nm,0.2s						
QUIF	**Quistinic**	**0.26**	**149**	*e*Pg	Pg	23 21 35.3	+2.6
	SNR=1.0						
QUIF				*e*Sg	Sg	23 21 40.3	+4.1
	134nm,0.2s						
SGMF	**Saint Gilles**	**0.55**	**77**	*e*Pn	Pg	23 21 41.6	+3.4
	SNR=1.0						
SGMF				*e*Sg	Sg	23 21 48.9	+3.5
SGMF				*e*Sn	Sg	23 21 50.9	+5.5
	39nm,0.2s,SNR=1.0						
SGMF	**Saint Gilles**	**0.55**	**77**	*e*Pn	Pg	23 21 41.6	+3.4
	SNR=1.0						
SGMF				*e*Sg	Sg	23 21 48.9	+3.5
SGMF				*e*Sn	Sg	23 21 50.9	+5.5
	20nm,0.2s,SNR=1.0						
SGMF	**Saint Gilles**	**0.55**	**77**	*e*Pg	Pg	23 21 39.8	+1.6
SGMF				*e*Pn	Pg	23 21 41.6	+3.4
SGMF				*e*Sg	Sg	23 21 48.9	+3.5
SGMF				*e*Sn	Sg	23 21 50.9	+5.5
JSA	**Saint Aubin**	**1.31**	**36**	P	Pn	23 21 52.1	+0.2
JSA				S	Sn	23 22 07.6	-1.9
JSA				AML	AML	23 22 10.0	
	58nm,0.2s						
JSA				AML	AML	23 22 10.3	
	42nm,0.2s						
JSA	**Saint Aubin**	**1.31**	**36**	*e*P	Pn	23 21 52.1	+0.2
JSA				*e*S	Sn	23 22 07.6	-1.9
JSA				AML	AML	23 22 10.0	
	comp=N,58nm,0.2s						
JSA				AML	AML	23 22 10.3	
	comp=E,42nm,0.2s						
JVM	**Valle D.L. Mar**	**1.32**	**35**	*e*P	Pn	23 21 52.4	+0.3
JRS	**Jersey**	**1.35**	**38**	*e*P	Pn	23 21 52.9	+0.5
JRS				*e*S	Sb	23 22 10.1	-0.1
JRS				AML	AML	23 22 14.8	
	comp=E,33nm,0.4s						
JQE	**Queens East**	**1.38**	**39**	*e*P	Pn	23 21 53.3	+0.5
JLP	**Les Platons**	**1.39**	**36**	*e*P	Pn	23 21 53.5	+0.6
GRR	**Gorron**	**1.69**	**81**	*e*Pg	Pg	23 22 00.4	+0.5
	SNR=1.0						
GRR				*e*Sg	Sg	23 22 23.6	+1.7
	comp=E,9.9nm,0.2s,SNR=1.0						
GRR	**Gorron**	**1.69**	**81**	*e*Pg	Pg	23 22 00.4	+0.5
	SNR=1.0						
GRR				*e*Sg	Sg	23 22 23.6	+1.7
	comp=E,4.9nm,0.2s,SNR=1.0						
GRR	**Gorron**	**1.69**	**81**	*e*Pn	Pn	23 21 56.7	-0.4
GRR				*e*Pg	Pg	23 22 00.4	+0.5
GRR				*e*Sg	Sg	23 22 23.6	+1.7
FLN	**La Foliniere**	**2.02**	**71**	*e*P	Pn	23 22 03.0	+1.4
	baz=253						
FLN	**La Foliniere**	**2.02**	**71**	*e*Pg	Pg	23 22 06.4	+0.2
	baz=255						
FLN				*e*Sn	Sn	23 22 25.1	-1.7
	SNR=1.0						
FLN				*e*Sg	Sg	23 22 32.8	+0.5
	comp=E,8.3nm,0.2s,SNR=1.0						
FLN	**La Foliniere**	**2.02**	**71**	*e*P	Pn	23 22 03.0	+1.4
	baz=253						
FLN	**La Foliniere**	**2.02**	**71**	*e*Pg	Pg	23 22 06.4	+0.2
	baz=255						
FLN				*e*Sn	Sn	23 22 25.1	-1.7
	SNR=1.0						
FLN				*e*Sg	Sg	23 22 32.8	+0.5
	comp=E,4.2nm,0.2s,SNR=1.0						
FLN	**La Foliniere**	**2.02**	**71**	*e*Pn	Pn	23 22 01.6	+0.1
FLN				*e*P		23 22 03.0	
FLN				*e*Pg	Pg	23 22 06.4	+0.2
FLN				*e*Sn	Sn	23 22 25.1	-1.7
FLN				*e*Sg	Sg	23 22 32.8	+0.5
LDF	**La Druitiere**	**2.21**	**77**	*e*Pg	Pg	23 22 10.5	+0.7
	SNR=1.0						
LDF				*e*Sg	Sg	23 22 39.2	+0.8
	comp=E,9.9nm,0.2s,SNR=1.0						
LDF	**La Druitiere**	**2.21**	**77**	*e*Pg	Pg	23 22 10.5	+0.7
	SNR=1.0						
LDF				*e*Sg	Sg	23 22 39.2	+0.8
	comp=E,4.9nm,0.2s,SNR=1.0						
LDF	**La Druitiere**	**2.21**	**77**	*e*Pn	Pn	23 22 04.1	-0.1
LDF				*e*Pg	Pg	23 22 10.5	+0.7
LDF				*e*Sg	Sg	23 22 39.2	+0.8
DYA	**Yadsworthy**	**2.33**	**351**	AML	AML	23 22 40.2	
	comp=E,6.9nm,0.5s						
DYA				AML	AML	23 22 40.2	
	comp=N,6.5nm,0.3s						
DYA	**Yadsworthy**	**2.33**	**351**	AML	AML	23 22 40.2	
	comp=N,6.9nm,0.5s						
DYA				AML	AML	23 22 40.2	
	comp=N,6.5nm,0.3s						
MFF	**Saint Martin d**	**2.67**	**124**	*e*Pg	Pg	23 22 19.2	+0.5
MFF				*e*Sn	Sn	23 22 42.2	-0.7
	SNR=1.0						
MFF				*e*Sg	Sg	23 22 55.4	+2.1
	SNR=1.0						
MFF	**Saint Martin d**	**2.67**	**124**	*e*Pg	Pg	23 22 19.2	+0.5
MFF				*e*Sn	Sn	23 22 42.2	-0.7
	SNR=1.0						
MFF				*e*Sg	Sg	23 22 55.4	+2.1
	SNR=1.0						
MFF	**Saint Martin d**	**2.67**	**124**	*e*Pn	Pn	23 22 10.8	+0.3
MFF				*e*Pg	Pg	23 22 19.2	+0.5
MFF				*e*Sn	Sn	23 22 42.2	-0.7
MFF				*e*Sg	Sg	23 22 55.4	+2.1
HYF	**Humbligny**	**4.14**	**100**	*e*Pg	Pg	23 22 46.5	-0.4
HYF				*e*Sg	Sg	23 23 41.4	+0.9
TCF	**Toulx Ste Croi**	**4.22**	**114**	*e*Pg	Pg	23 22 48.9	+0.5
	SNR=1.0						
TCF				*e*Sn	Sn	23 23 18.8	-2.4
	SNR=1.0						
TCF				*e*Sg	Sg	23 23 43.5	+0.4
	comp=N,4.6nm,0.3s,SNR=1.0						
TCF	**Toulx Ste Croi**	**4.22**	**114**	*e*Pg	Pg	23 22 48.9	+0.5
	SNR=1.0						
TCF				*e*Sn	Sn	23 23 18.8	-2.4
	SNR=1.0						
TCF				*e*Sg	Sg	23 23 43.5	+0.4
	comp=N,2.3nm,0.3s,SNR=1.0						
TCF	**Toulx Ste Croi**	**4.22**	**114**	*e*Pn	Pn	23 22 32.3	+0.4
TCF				*e*Pg	Pg	23 22 48.9	+0.5
TCF				*e*Sn	Sn	23 23 18.8	-2.4
TCF				*e*Sg	Sg	23 23 43.5	+0.4
LFF	**La Frestale**	**4.27**	**137**	*e*Pn	Pn	23 22 33.6	+1.1
	SNR=1.0						
LFF				*e*Sn	Sn	23 23 19.6	-2.8
	SNR=1.0						
LFF				*e*Sg	Sg	23 23 45.2	+0.6
	comp=N,7.6nm,0.3s,SNR=1.0						
LFF	**La Frestale**	**4.27**	**137**	*e*Pn	Pn	23 22 33.6	+1.1
	SNR=1.0						
LFF				*e*Sn	Sn	23 23 19.6	-2.8
	SNR=1.0						
LFF				*e*Sg	Sg	23 23 45.2	+0.6
	comp=N,3.8nm,0.3s,SNR=1.0						
RJF	**Les Rejaudoux**	**4.39**	**128**	*e*Pn	Pn	23 22 34.6	+0.4
RJF				*e*Sn	Sn	23 23 22.4	-2.9
	SNR=1.0						
RJF				*e*Sg	Sg	23 23 49.9	+1.5
	comp=N,12nm,0.4s,SNR=1.0						
RJF	**Les Rejaudoux**	**4.39**	**128**	*e*Pn	Pn	23 22 34.6	+0.4
RJF				*e*Sn	Sn	23 23 22.4	-2.9
	SNR=1.0						
RJF				*e*Sg	Sg	23 23 49.9	+1.5
	comp=N,6.0nm,0.4s,SNR=1.0						
BGF	**Bois d'Agland**	**4.51**	**108**	*e*Pn	Pn	23 22 36.4	+0.6
	SNR=1.0						
BGF	**Bois d'Agland**	**4.51**	**108**	*e*Pg	Pg	23 22 53.6	-0.2
	SNR=1.0						
BGF				*e*Sn	Sn	23 23 25.6	-2.6
	comp=N,6.2nm,0.4s,SNR=1.0						
BGF				*e*Sg	Sg	23 23 53.4	+1.3
	comp=N,8.5nm,0.3s						
BGF	**Bois d'Agland**	**4.51**	**108**	*e*Pg	Pg	23 22 53.6	-0.2
	SNR=1.0						
BGF				*e*Sn	Sn	23 23 25.6	-2.6
	comp=N,3.1nm,0.4s,SNR=1.0						
BGF				*e*Sg	Sg	23 23 53.4	+1.3
	comp=N,4.2nm,0.3s						
BGF	**Bois d'Agland**	**4.51**	**108**	*e*Pn	Pn	23 22 36.4	+0.6
BGF				*e*Pg	Pg	23 22 53.6	-0.2
BGF				*e*Sn	Sn	23 23 25.6	-2.6
BGF				*e*Sg	Sg	23 23 53.4	+1.3
AVF	**Avril sur Loir**	**4.75**	**104**	*e*Pn	Pn	23 22 39.2	+0.1
	SNR=1.0						
AVF				*e*Sn	Sn	23 23 31.0	-3.2
AVF				*e*Sg	Sg	23 24 00.0	+0.1
	comp=N,1.5nm,0.3s,SNR=1.0						
AVF	**Avril sur Loir**	**4.75**	**104**	*e*Pn	Pn	23 22 39.2	+0.1
	SNR=1.0						
AVF				*e*Sn	Sn	23 23 31.0	-3.2
AVF				*e*Sg	Sg	23 24 00.0	+0.1
	comp=N,0.8nm,0.3s,SNR=1.0						
SSF	**Saint Saulge**	**4.77**	**100**	*e*Pg	Pg	23 22 58.2	-0.6
	SNR=1.0						
SSF				*e*Sn	Sn	23 23 31.6	-3.0
SSF				*e*Sg	Sg	23 24 00.6	+0.1
	comp=N,3.2nm,0.5s,SNR=1.0						
SSF	**Saint Saulge**	**4.77**	**100**	*e*Pg	Pg	23 22 58.2	-0.6
	SNR=1.0						
SSF				*e*Sn	Sn	23 23 31.6	-3.0
SSF				*e*Sg	Sg	23 24 00.6	+0.1
	comp=N,1.6nm,0.5s,SNR=1.0						
SSF	**Saint Saulge**	**4.77**	**100**	*e*Pn	Pn	23 22 39.4	0.0
SSF				*e*Pg	Pg	23 22 58.2	-0.6
SSF				*e*Sn	Sn	23 23 31.6	-3.0
SSF				*e*Sg	Sg	23 24 00.6	+0.1
CAF	**Calviac**	**4.93**	**129**	*e*Pn	Pn	23 22 42.2	+0.6
CAF				*e*Sn	Sn	23 23 35.1	-3.6
	SNR=1.0						
CAF				*e*Sg	Sg	23 24 06.5	+0.7
	comp=N,4.2nm,0.3s,SNR=1.0						
CAF	**Calviac**	**4.93**	**129**	*e*Pn	Pn	23 22 42.2	+0.6
CAF				*e*Sn	Sn	23 23 35.1	-3.6
	SNR=1.0						
CAF				*e*Sg	Sg	23 24 06.5	+0.7
	comp=N,2.1nm,0.3s,SNR=1.0						
LOR	**Lormes**	**4.95**	**97**	*e*Pn	Pn	23 22 41.8	-0.1
	baz=276,SNR=1.0						
LOR	**Lormes**	**4.95**	**97**	*e*Pg	Pg	23 23 01.4	-0.9
	SNR=1.0						
LOR				*e*Sn	Sn	23 23 35.9	-3.3
	SNR=1.0						
LOR				*e*Sg	Sg	23 24 06.6	+0.2
	comp=N,2.0nm,0.3s,SNR=1.0						
LOR	**Lormes**	**4.95**	**97**	*e*Pg	Pg	23 23 01.4	-0.9
	SNR=1.0						
LOR				*e*Sn	Sn	23 23 35.9	-3.3
	SNR=1.0						
LOR				*e*Sg	Sg	23 24 06.6	+0.2
	comp=N,1.0nm,0.3s,SNR=1.0						
LOR	**Lormes**	**4.95**	**97**	*e*Pn	Pn	23 22 41.8	-0.1
LOR				*e*Pg	Pg	23 23 01.4	-0.9
LOR				*e*Sn	Sn	23 23 35.9	-3.3
LOR				*e*Sg	Sg	23 24 06.6	+0.2
SMF	**Signal de Mont**	**5.11**	**104**	*e*Pn	Pn	23 22 43.6	-0.5
SJPF	**Ste Jean**	**5.24**	**163**	*e*Sn	Sn	23 23 41.6	-4.7
	comp=N,0.8nm,0.2s,SNR=1.0						
SJPF	**Ste Jean**	**5.24**	**163**	*e*Sn	Sn	23 23 41.6	-4.7
	comp=N,0.4nm,0.2s,SNR=1.0						
BAIF	**Baives**	**5.33**	**66**	*e*Sn	Sn	23 23 44.0	-4.5
	comp=N,2.0nm,0.6s,SNR=1.0						
BAIF	**Baives**	**5.33**	**66**	*e*Sn	Sn	23 23 44.0	-4.5
	comp=N,1.0nm,0.6s,SNR=1.0						
ETSF	**Etsaut**	**5.60**	**158**	*e*Pn	Pn	23 22 50.3	-0.4
ETSF				*e*Sn	Sn	23 23 48.2	-6.9
SFTF	**Sexfontaines**	**5.62**	**86**	*e*Pn	Pn	23 22 50.7	-0.4
SFTF				*e*Sn	Sn	23 23 50.9	-4.7
SFTF				*e*Sg	Sg	23 24 27.2	-0.6
	comp=N,1.2nm,0.3s						
SFTF	**Sexfontaines**	**5.62**	**86**	*e*Pn	Pn	23 22 50.7	-0.4
SFTF				*e*Sn	Sn	23 23 50.9	-4.7
SFTF				*e*Sg	Sg	23 24 27.2	-0.6
	comp=N,0.6nm,0.3s						
MEZF	**Maizieres J'vi**	**5.62**	**83**	*e*Sg	Sg	23 24 27.3	-0.7
	comp=N,1.7nm,0.3s						
MEZF	**Maizieres J'vi**	**5.62**	**83**	*e*Sg	Sg	23 24 27.3	-0.7
	comp=N,0.9nm,0.3s						
EPF	**Esparros**	**5.73**	**152**	*e*Pg	Pg	23 23 14.7	-2.5
EPF				*e*Sn	Sn	23 23 52.7	-5.6
	comp=N,1.4nm,0.2s,SNR=1.0						
EPF	**Esparros**	**5.73**	**152**	*e*Pg	Pg	23 23 14.7	-2.5
EPF				*e*Sn	Sn	23 23 52.7	-5.6
	comp=N,0.7nm,0.2s,SNR=1.0						
EPF	**Esparros**	**5.73**	**152**	*e*Pn	Pn	23 22 52.6	0.0
EPF				*e*Pg	Pg	23 23 14.7	-2.5
EPF				*e*Sn	Sn	23 23 52.7	-5.6
MTLF	**Montolieu**	**6.18**	**139**	*e*Pg	Pg	23 23 25.6	-0.3
	SNR=1.0						
MTLF				*e*Sn	Sn	23 24 03.8	-5.7
	comp=N,0.7nm,0.2s,SNR=1.0						
MTLF	**Montolieu**	**6.18**	**139**	*e*Pg	Pg	23 23 25.6	-0.3
	SNR=1.0						
MTLF				*e*Sn	Sn	23 24 03.8	-5.7
	comp=N,0.3nm,0.2s,SNR=1.0						
MTLF	**Montolieu**	**6.18**	**139**	*e*Pn	Pn	23 23 00.0	+1.2
MTLF				*e*Pg	Pg	23 23 25.6	-0.3
MTLF				*e*Sn	Sn	23 24 03.8	-5.7
VIVF	**Saint-Julien-l**	**6.44**	**118**	*e*Sg	Sg	23 24 54.5	+0.3
	comp=N,2.9nm,0.4s						
VIVF	**Saint-Julien-l**	**6.44**	**118**	*e*Sg	Sg	23 24 54.5	+0.3
	comp=N,1.5nm,0.4s						
LASF	**Ste Croix**	**6.45**	**126**	*e*Sn	Sn	23 24 12.9	-3.3
	comp=N,1.4nm,0.3s,SNR=1.0						
LASF				*e*Sg	Sg	23 24 54.7	+0.1
	comp=N,5.7nm,0.6s						
LASF	**Ste Croix**	**6.45**	**126**	*e*Sn	Sn	23 24 12.9	-3.3
	comp=N,0.7nm,0.3s,SNR=1.0						
LASF				*e*Sg	Sg	23 24 54.7	+0.1
	comp=N,2.8nm,0.6s						

*DDA **14** 23:25:37.0, 37.19N×36.33E, h6km±1km, Md3.0*
*CSEM **14** 23:25:38.9±2.4, 3773N×3642E, h10km, MD3.0, Error ellipse: s-maj=60.9km s-min=19.8km az=172.0*
ISC 14 23:25:35.2±2.7, 3713N±010×362E±01, h10km, n4, σ0§74/7, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ANDN	**Andirin**	**0.46**	**11**	*i* P	**Pg**	**23 25 44.3**	**+0.1**
ANDN				*i* S	**Sg**	**23 25 50.9**	**+0.6**
KMRS	**Kahramanmaras**	**0.65**	**54**	*e*PG	**Pg**	**23 25 47.2**	**-0.6**
KMRS				*e*SG	**Sg**	**23 25 55.1**	**-1.2**
GAZ	**Gaziantep**	**0.78**	**86**	*e*PG	**Pg**	**23 25 50.2**	**-0.1**
GZT	**Gaziantep**	**1.09**	**77**	*i* P	**Pb**	**23 25 56.0**	**-0.1**
GZT				*i* S	**Sg**	**23 26 11.4**	**+1.3**

*NEIC **14** 23:33:03.8, 4823N×349W, h12km, ML2.9(LDG), After LDG.*
*LDG **14** 23:33:03.8±0.2, 4823N×349W, h12km, Ml2.9/21, Error ellipse: s-maj=2.5km s-min=1.7km az=81.0*
*CSEM **14** 23:33:04.2±0.1, 4824N×346W, h12km, ML3.0/18, Error ellipse: s-maj=2.3km s-min=1.9km az=94.0*
*BGS **14** 23:33:05.3±1.1, 4842N×371W, h10km, ML2.2*
ISC 14 23:33:03.4±0.6, 4815N±002×335W±004, h10km, n76, σ1§18/155, France

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ROSF	**Rostrenen**	**0.19**	**15**	*e*Pg	**Pg**	**23 33 07.7**	**+0.3**
	SNR=1.0						
ROSF				*e*Sg	**Sg**	**23 33 10.6**	**+0.4**
	174nm,0.2s						
ROSF	**Rostrenen**	**0.19**	**15**	*e*Pg	**Pg**	**23 33 07.7**	**+0.3**
	SNR=1.0						
ROSF				*e*Sg	**Sg**	**23 33 10.6**	**+0.4**
	87nm,0.2s						
QUIF	**Quistinic**	**0.27**	**153**	*e*Pg	**Pg**	**23 33 11.0**	**+2.2**
QUIF				*e*Sg	**Sg**	**23 33 16.1**	**+3.7**
	266nm,0.2s						
QUIF	**Quistinic**	**0.27**	**153**	*e*Pg	**Pg**	**23 33 11.0**	**+2.2**
QUIF				*e*Sg	**Sg**	**23 33 16.1**	**+3.7**
	133nm,0.2s						
SGMF	**Saint Gilles**	**0.54**	**79**	*e*Pg	**Pg**	**23 33 15.5**	**+1.7**
	SNR=1.0						
SGMF	**Saint Gilles**	**0.54**	**79**	*e*Pn	**Pg**	**23 33 17.3**	**+3.5**
SGMF				*e*Sg	**Sg**	**23 33 24.6**	**+3.7**
SGMF				*e*Sn	**Sg**	**23 33 26.7**	**+5.8**
	63nm,0.2s						
SGMF	**Saint Gilles**	**0.54**	**79**	*e*Pn	**Pg**	**23 33 17.3**	**+3.5**
SGMF				*e*Sg	**Sg**	**23 33 24.6**	**+3.7**
SGMF				*e*Sn	**Sg**	**23 33 26.7**	**+5.8**
	32nm,0.2s						
SGMF	**Saint Gilles**	**0.54**	**79**	*e*Pg	**Pg**	**23 33 15.5**	**+1.7**
SGMF				*e*Pn	**Pg**	**23 33 17.3**	**+3.5**
SGMF				*e*Sg	**Sg**	**23 33 24.6**	**+3.7**
SGMF				*e*Sn	**Sg**	**23 33 26.7**	**+5.8**
JSA	**Saint Aubin**	**1.30**	**37**	P	**Pn**	**23 33 27.9**	**+0.3**
JSA				S	**Sb**	**23 33 43.4**	**-1.1**
JSA				AML	AML	23 33 45.8	
	57nm,0.2s						
JSA				AML	AML	23 33 46.0	
	46nm,0.2s						
JSA	**Saint Aubin**	**1.30**	**37**	*e*P	**Pn**	**23 33 27.8**	**+0.3**
JSA				*e*P		23 33 27.9	
JSA				*e*S	**Sb**	**23 33 43.4**	**-1.1**
JSA				AML	AML	23 33 45.8	
	comp=N,57nm,0.2s						
JSA				AML	AML	23 33 46.0	
	comp=E,46nm,0.2s						
JSA	**Saint Aubin**	**1.30**	**37**	*e*S	**Sb**	**23 33 43.4**	**-1.1**
	comp=E,15nm,0.3s						
JVM	**Valle D.L. Mar**	**1.31**	**35**	*e*P	**Pn**	**23 33 27.9**	**+0.3**
JRS	**Jersey**	**1.33**	**38**	*e*P	**Pn**	**23 33 28.1**	**+0.1**
JRS				*e*S	**Sb**	**23 33 45.2**	**-0.3**
JRS				AML	AML	23 33 50.5	
	comp=E,53nm,0.5s						
JQE	**Queens East**	**1.36**	**39**	*e*P	**Pn**	**23 33 28.7**	**+0.3**
JQE				*e*S	**Sb**	**23 33 47.1**	**+0.7**
JLP	**Les Platons**	**1.37**	**37**	*e*P	**Pn**	**23 33 29.1**	**+0.6**
GRR	**Gorron**	**1.68**	**81**	*e*Pn	**Pn**	**23 33 32.5**	**-0.3**
GRR	**Gorron**	**1.68**	**81**	*e*Pg	**Pn**	**23 33 36.3**	**+3.5**
	SNR=1.0						
GRR				*e*Sg	**Sn**	**23 33 58.8**	**+4.5**
	comp=E,21nm,0.2s						
GRR	**Gorron**	**1.68**	**81**	*e*Pn	**Pn**	**23 33 32.5**	**-0.3**
GRR	**Gorron**	**1.68**	**81**	*e*Pg	**Pn**	**23 33 36.3**	**+3.5**
	SNR=1.0						
GRR				*e*Sg	**Sn**	**23 33 58.8**	**+4.5**
	comp=E,11nm,0.2s						
FLN	**La Foliniere**	**2.00**	**71**	*e*Pn	**Pn**	**23 33 37.3**	**+0.1**
FLN	**La Foliniere**	**2.00**	**71**	*e*P	**Pn**	**23 33 38.8**	**+1.6**
	baz=252						
FLN	**La Foliniere**	**2.00**	**71**	*e*Pg	**Pg**	**23 33 42.1**	**+0.3**
	baz=253,SNR=1.0						
FLN				*e*Sg	**Sg**	**23 34 08.6**	**+0.9**
	comp=E,15nm,0.2s,SNR=1.0						
FLN	**La Foliniere**	**2.00**	**71**	*e*P	**Pn**	**23 33 38.8**	**+1.6**
FLN	**La Foliniere**	**2.00**	**71**	*e*Pg	**Pg**	**23 33 42.1**	**+0.3**
	SNR=1.0						
FLN				*e*Sg	**Sg**	**23 34 08.6**	**+0.9**
	comp

TCF	**Toulx Ste Croi**	**4.22**	**114**	*e*Pg		**Pg**	**23 34 24.7**	**+0.5**
TCF				*e*Sn		**Sn**	**23 34 54.9**	**-2.1**
TCF				*e*Sg		**Sg**	**23 35 19.0**	**+0.1**
	comp=N,5.4nm,0.3s,SNR=1.0							
TCF	**Toulx Ste Croi**	**4.22**	**114**	*e*Pg		**Pg**	**23 34 24.7**	**+0.5**
TCF				*e*Sn		**Sn**	**23 34 54.9**	**-2.1**
TCF				*e*Sg		**Sg**	**23 35 19.0**	**+0.1**
	comp=N,2.7nm,0.3s,SNR=1.0							
LFF	**La Frestale**	**4.28**	**137**	*e*Pn		**Pn**	**23 34 09.2**	**+0.7**
	SNR=1.0							
LFF				*e*Sn		**Sn**	**23 34 55.1**	**-3.3**
	SNR=1.0							
LFF				*e*Sg		**Sg**	**23 35 21.1**	**+0.5**
	comp=N,9.9nm,0.3s,SNR=1.0							
LFF	**La Frestale**	**4.28**	**137**	*e*Pn		**Pn**	**23 34 09.2**	**+0.7**
	SNR=1.0							
LFF				*e*Sn		**Sn**	**23 34 55.1**	**-3.3**
	SNR=1.0							
LFF				*e*Sg		**Sg**	**23 35 21.1**	**+0.5**
	comp=N,4.9nm,0.3s,SNR=1.0							
RJF	**Les Rejaudoux**	**4.39**	**129**	*e*Pn		**Pn**	**23 34 10.3**	**+0.2**
RJF				*e*Sn		**Sn**	**23 34 58.1**	**-3.2**
RJF				*e*Sg		**Sg**	**23 35 25.8**	**+1.4**
	comp=N,16nm,0.4s							
RJF	**Les Rejaudoux**	**4.39**	**129**	*e*Pn		**Pn**	**23 34 10.3**	**+0.2**
RJF				*e*Sn		**Sn**	**23 34 58.1**	**-3.2**
RJF				*e*Sg		**Sg**	**23 35 25.8**	**+1.4**
	comp=N,8.2nm,0.4s							
BGF	**Bois d'Agland**	**4.50**	**108**	*e*Pn		**Pn**	**23 34 11.7**	**+0.1**
BGF	**Bois d'Agland**	**4.50**	**108**	*e*Pg		**Pg**	**23 34 29.5**	**-0.1**
BGF				*e*Sn		**Sn**	**23 35 01.7**	**-2.2**
BGF				*e*Sg		**Sg**	**23 35 29.0**	**+1.1**
	comp=N,14nm,0.4s,SNR=1.0							
BGF	**Bois d'Agland**	**4.50**	**108**	*e*Pg		**Pg**	**23 34 29.5**	**-0.1**
BGF				*e*Sn		**Sn**	**23 35 01.7**	**-2.2**
BGF				*e*Sg		**Sg**	**23 35 29.0**	**+1.1**
	comp=N,7.1nm,0.4s,SNR=1.0							
AVF	**Avril sur Loir**	**4.74**	**104**	*e*Pn		**Pn**	**23 34 14.6**	**-0.3**
AVF				*e*Sn		**Sn**	**23 35 06.8**	**-3.1**
AVF				*e*Sg		**Sg**	**23 35 35.3**	**-0.3**
	comp=N,3.2nm,0.5s,SNR=1.0							
AVF	**Avril sur Loir**	**4.74**	**104**	*e*Pn		**Pn**	**23 34 14.6**	**-0.3**
AVF				*e*Sn		**Sn**	**23 35 06.8**	**-3.1**
AVF				*e*Sg		**Sg**	**23 35 35.3**	**-0.3**
	comp=N,1.6nm,0.5s,SNR=1.0							
SSF	**Saint Saulge**	**4.76**	**101**	*e*Pg		**Pg**	**23 34 34.0**	**-0.6**
	SNR=1.0							
SSF				*e*Sn		**Sn**	**23 35 07.9**	**-2.5**
	SNR=1.0							
SSF				*e*Sg		**Sg**	**23 35 36.3**	**+0.1**
	comp=N,4.2nm,0.5s,SNR=1.0							
SSF	**Saint Saulge**	**4.76**	**101**	*e*Pn		**Pn**	**23 34 15.4**	**+0.3**
	SNR=1.0							
SSF	**Saint Saulge**	**4.76**	**101**	*e*Pg		**Pg**	**23 34 34.0**	**-0.6**
	SNR=1.0							
SSF				*e*Sn		**Sn**	**23 35 07.9**	**-2.5**
	SNR=1.0							
SSF				*e*Sg		**Sg**	**23 35 36.3**	**+0.1**
	comp=N,2.1nm,0.5s,SNR=1.0							
CAF	**Calviac**	**4.94**	**129**	*e*Sn		**Sn**	**23 35 11.1**	**-3.5**
	SNR=1.0							
CAF				*e*Sg		**Sg**	**23 35 42.3**	**+0.5**
	comp=N,5.5nm,0.3s							
CAF	**Calviac**	**4.94**	**129**	*e*Sn		**Sn**	**23 35 11.1**	**-3.5**
	SNR=1.0							
CAF				*e*Sg		**Sg**	**23 35 42.3**	**+0.5**
	comp=N,2.8nm,0.3s							
LOR	**Lormes**	**4.95**	**98**	*e*Pn		**Pn**	**23 34 17.5**	**-0.1**
LOR	**Lormes**	**4.95**	**98**	*e*Pg		**Pg**	**23 34 37.1**	**-0.9**
	baz=283,SNR=1.0							
LOR				*e*Sn		**Sn**	**23 35 11.7**	**-3.1**
	SNR=1.0							
LOR				*e*Sg		**Sg**	**23 35 42.2**	**+0.1**
	comp=N,2.6nm,0.3s,SNR=1.0							
LOR	**Lormes**	**4.95**	**98**	*e*Pg		**Pg**	**23 34 37.1**	**-0.9**
	SNR=1.0							
LOR				*e*Sn		**Sn**	**23 35 11.7**	**-3.1**
	SNR=1.0							
LOR				*e*Sg		**Sg**	**23 35 42.2**	**+0.1**
	comp=N,1.3nm,0.3s,SNR=1.0							
SMF	**Signal de Mont**	**5.11**	**105**	*e*Sn		**Sn**	**23 35 15.8**	**-3.1**
SMF				*e*Sg		**Sg**	**23 35 47.5**	**+0.2**
	comp=N,1.8nm,0.3s							
SMF	**Signal de Mont**	**5.11**	**105**	*e*Sn		**Sn**	**23 35 15.8**	**-3.1**
SMF				*e*Sg		**Sg**	**23 35 47.5**	**+0.2**
	comp=N,0.9nm,0.3s							
SJPF	**Ste Jean**	**5.25**	**163**	*e*Pn		**Pn**	**23 34 21.6**	**-0.3**
SJPF				*e*Sn		**Sn**	**23 35 16.1**	**-6.4**
	comp=N,1.1nm,0.2s,SNR=1.0							
SJPF	**Ste Jean**	**5.25**	**163**	*e*Pn		**Pn**	**23 34 21.6**	**-0.3**
SJPF				*e*Sn		**Sn**	**23 35 16.1**	**-6.4**
	comp=N,0.6nm,0.2s,SNR=1.0							
BAIF	**Baives**	**5.32**	**66**	*e*Sn		**Sn**	**23 35 19.4**	**-4.6**
ETSF	**Etsaut**	**5.61**	**159**	*e*Pn		**Pn**	**23 34 26.1**	**-0.7**
ETSF				*e*Sn		**Sn**	**23 35 24.0**	**-7.2**
	comp=N,0.7nm,0.3s							
ETSF	**Etsaut**	**5.61**	**159**	*e*Pn		**Pn**	**23 34 26.1**	**-0.7**
ETSF				*e*Sn		**Sn**	**23 35 24.0**	**-7.2**
	comp=N,0.3nm,0.3s							
SFTF	**Sexfontaines**	**5.61**	**86**	*e*Pn		**Pn**	**23 34 26.7**	**-0.1**
SFTF				*e*Sn		**Sn**	**23 35 26.8**	**-4.4**
SFTF				*e*Sg		**Sg**	**23 36 02.9**	**-0.5**
	comp=N,0.9nm,0.2s							
SFTF	**Sexfontaines**	**5.61**	**86**	*e*Pn		**Pn**	**23 34 26.7**	**-0.1**
SFTF				*e*Sn		**Sn**	**23 35 26.8**	**-4.4**
SFTF				*e*Sg		**Sg**	**23 36 02.9**	**-0.5**
	comp=N,0.4nm,0.2s							
EPF	**Esparros**	**5.74**	**152**	*e*Pg		**Pb**	**23 34 45.7**	**+2.2**
EPF	**Esparros**	**5.74**	**152**	*e*Pn		**Pn**	**23 34 28.3**	**-0.3**
	SNR=1.0							
EPF	**Esparros**	**5.74**	**152**	*e*Pg		**Pg**	**23 34 51.1**	**-2.1**
EPF				*e*Sn		**Sn**	**23 35 28.4**	**-6.0**
	comp=N,2.0nm,0.2s							
EPF	**Esparros**	**5.74**	**152**	*e*Pg		**Pg**	**23 34 51.1**	**-2.1**
EPF				*e*Sn		**Sn**	**23 35 28.4**	**-6.0**
	comp=N,1.0nm,0.2s							
MTLF	**Montolieu**	**6.19**	**139**	*e*Pn		**Pn**	**23 34 34.9**	**+0.2**
	SNR=1.0							
MTLF				*e*Sn		**Sn**	**23 35 43.0**	**-2.5**
	SNR=1.0							
MTLF				*e*Sg		**Sg**	**23 36 24.4**	**+2.4**
	comp=N,1.4nm,0.3s							
MTLF	**Montolieu**	**6.19**	**139**	*e*Pn		**Pn**	**23 34 34.9**	**+0.2**
	SNR=1.0							
MTLF				*e*Sn		**Sn**	**23 35 43.0**	**-2.5**
	SNR=1.0							
MTLF				*e*Sg		**Sg**	**23 36 24.4**	**+2.4**
	comp=N,0.7nm,0.3s							
VIVF	**Saint-Julien-l**	**6.44**	**118**	*e*Sg		**Sg**	**23 36 30.4**	**+0.3**
	comp=N,7.4nm,0.8s							
VIVF	**Saint-Julien-l**	**6.44**	**118**	*e*Sg		**Sg**	**23 36 30.4**	**+0.3**
	comp=N,3.7nm,0.8s							
LASF	**Ste Croix**	**6.46**	**127**	*e*Sn		**Sn**	**23 35 47.7**	**-4.4**
LASF				*e*Sg		**Sg**	**23 36 30.8**	**+0.3**
	comp=N,3.1nm,0.4s							
LASF	**Ste Croix**	**6.46**	**127**	*e*Sn		**Sn**	**23 35 47.7**	**-4.4**
LASF				*e*Sg		**Sg**	**23 36 30.8**	**+0.3**
	comp=N,1.5nm,0.4s							
HINF	**Hinteralfeld**	**6.86**	**89**	*e*Sg		**Sg**	**23 36 42.1**	**-1.2**
	comp=N,1.1nm,0.3s							
HINF	**Hinteralfeld**	**6.86**	**89**	*e*Sg		**Sg**	**23 36 42.1**	**-1.2**
	comp=N,0.6nm,0.3s							

CSEM ***14*** *23:33:33.7±0.2, 4822N×348W, h9km±1km, ML2.5/3, Error ellipse: s-maj=4.0km s-min=2.3km az=109.0, After LDG*

LDG 14 23:33:33.7±0.2, 4822N×348W, h9km±1km, Ml2.6/3, Error ellipse: s-maj=4.0km s-min=2.3km az=109.0, France

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ROSF	**Rostrenen**	**0.18**	**50**	*e*Pg	Pg	23 33 37.5	0.0
ROSF				*e*Sg	Sg	23 33 40.4	+0.4
	74nm,0.3s						
ROSF	**Rostrenen**	**0.18**	**50**	*e*Pg	Pg	23 33 37.5	0.0
ROSF				*e*Sg	Sg	23 33 40.4	+0.4
	37nm,0.3s						
QUIF	**Quistinic**	**0.37**	**145**	*e*Pg	Pg	23 33 40.9	0.0
QUIF				*e*Sg	Sg	23 33 45.9	+0.1
	117nm,0.2s						
QUIF	**Quistinic**	**0.37**	**145**	*e*Pg	Pg	23 33 40.9	0.0
QUIF				*e*Sg	Sg	23 33 45.9	+0.1
	59nm,0.2s						
SGMF	**Saint Gilles**	**0.62**	**87**	*e*Pg	Pg	23 33 45.4	-0.2
SGMF	**Saint Gilles**	**0.62**	**87**	*e*Pn	Pg	23 33 47.2	+1.6
SGMF				*e*Sg	Sg	23 33 54.3	+0.6
SGMF				*e*Sn	Sg	23 33 56.3	+2.6
SGMF	**Saint Gilles**	**0.62**	**87**	*e*Pn	Pg	23 33 47.2	+1.6
SGMF				*e*Sg	Sg	23 33 54.3	+0.6
SGMF				*e*Sn	Sg	23 33 56.3	+2.6
GRR	**Gorron**	**1.76**	**84**	*e*Sg	Sg	23 34 29.1	-1.1
	5.5nm,0.2s						
GRR	**Gorron**	**1.76**	**84**	*e*Sg	Sg	23 34 29.1	-1.1
	2.8nm,0.2s						
FLN	**La Foliniere**	**2.07**	**74**	*e*Sg	Sg	23 34 38.4	-1.7
	4.9nm,0.2s						
FLN	**La Foliniere**	**2.07**	**74**	*e*Sg	Sg	23 34 38.4	-1.7
	2.5nm,0.2s						
LDF	**La Druitiere**	**2.27**	**79**	*e*Sg	Sg	23 34 44.5	-2.0
	5.7nm,0.2s						
LDF	**La Druitiere**	**2.27**	**79**	*e*Sg	Sg	23 34 44.5	-2.0
	2.8nm,0.2s						

NEIC ***14*** *23:36:04.4, 32.17S×68.05W, h150km, MD3.5(GUC), After GUC.*

GUC 14 23:36:04.4±0.7, 3217S×6805W, h150km, MD3.5, ML3.1, 1C-2D, Mendoza Province

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FCH	**Farellones**	**2.21**	**238**	⇓*i*P	Pn	23 36 43.6	+1.6
FCH				AML	AML	23 37 22.5	
	comp=E,54nm,0.3s						
CLCH	**Cerro Calan**	**2.43**	**239**	*e*P	Pn	23 36 45.2	+0.7
CLCH				AML	AML	23 37 26.0	
	comp=E,70nm,0.3s						
PEL	**Peldehue**	**2.43**	**246**	⇓*i*P	Pn	23 36 45.7	+1.1
PEL				AML	AML	23 37 25.2	
	comp=E,122nm,0.7s						
PCH	**Pirque**	**2.53**	**234**	⇓*i*P	Pn	23 36 46.8	+1.0
PCH				*i* S	Sn	23 37 18.4	+0.6
CHCH	**Chadas Angostu**	**2.81**	**231**	*e*P	Pn	23 36 49.6	+0.4
TACH	**Talagante**	**2.84**	**238**	*i* P	Pn	23 36 50.6	+0.9
CACH	**El Canelo**	**2.89**	**227**	*e*P	Pn	23 36 51.4	+1.1
CICH	**Cipreses**	**2.92**	**222**	*e*P	Pn	23 36 51.0	+0.2
CHNG	**Los Chungos**	**2.95**	**275**	AML	AML	23 37 37.0	
	comp=E,46nm,0.5s						
TLL	**Tololo Astrono**	**3.09**	**309**	*e*P	Pn	23 36 53.9	+0.9

CSEM ***14*** *23:50:10.1, 4296N×4684E, h6km, mb3.7, Error ellipse: s-maj=11.5km s-min=10.9km az=29.0, After OBN*

MOS 14 23:50:10.1±2.1, 4296N×4684E, h6km, mb3.7/1, Error ellipse: s-maj=11.5km s-min=10.9km az=92.9, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DBC	**Dubki**	**0.06**	**354**	*i* PG	Pg	23 50 11.5	-0.1
DBC				pmax	pmax		
	comp=Z,242nm,0.1s						
DBC	**Dubki**	**0.06**	**354**	*i* Pg	Pg	23 50 11.5	-0.1
	comp=Z,242nm,0.1s						
UNCR	**Uncukul**	**0.25**	**187**	*e*PG	Pg	23 50 16.0	+1.0
UNCR				*i* S	Sg	23 50 22.0	+3.7
UNCR				pmax	pmax		
	comp=Z,67nm,0.2s						
UNCR	**Uncukul**	**0.25**	**187**	*e*Pg	Pg	23 50 16.0	+1.0
	comp=Z,67nm,0.2s						
UNCR				*i* Sg	Sg	23 50 22.0	+3.7
BTLR	**Botlikh**	**0.54**	**237**	*e*PG	Pg	23 50 18.0	-2.5
BTLR				*e*S	Sg	23 50 27.0	-0.6
BTLR				pmax	pmax		
	comp=Z,53nm,0.2s						
BTLR	**Botlikh**	**0.54**	**237**	*e*Pg	Pg	23 50 18.0	-2.5
	comp=Z,53nm,0.2s						
BTLR				*e*Sg	Sg	23 50 27.0	-0.6
KMKR	**Kumukh**	**0.85**	**167**	PG	Pg	23 50 29.0	+2.5
KMKR				*e*S	Sg	23 50 44.0	+6.4
VLKR	**Vladikavkaz**	**1.59**	**274**	*e*Pg	Pg	23 50 41.0	+0.5
VLKR				*e*Sg	Sg	23 51 01.8	+0.7
LACR	**Lac**	**1.87**	**267**	*i* Pn	Pn	23 50 43.0	+0.4
ARNR	**Ardon**	**1.89**	**278**	*e*Pn	Pn	23 50 45.2	+2.3
ARNR				*i* Sg	Sg	23 51 09.2	-1.6
KMSR	**Komsomolskaya**	**1.91**	**283**	*e*Pn	Pn	23 50 46.6	+3.5
KMSR				*e*Sg	Sg	23 51 11.5	+0.2
KORR	**Kora**	**2.04**	**274**	*e*Pn	Pn	23 50 46.4	+1.5
ZEI	**Tsey**	**2.17**	**266**	*e*Pn	Pn	23 50 46.3	-0.4
LSNR	**Lesken**	**2.23**	**279**	*e*Pn	Pn	23 50 49.7	+2.1
LSNR				*e*Sn	Sn	23 51 17.1	+1.6

ISCJB ***14*** *23:55:10.9±0.5, 6492N×003×8774W×007, h10km, Error ellipse: s-maj=4.8km s-min=3.2km az=28.9*
OTT ***14*** *23:55:14.4±0.2, 6491N×8787W, h18km, MN3.0/16, Wager Bay region, Nu 196km south from Repulse Bay, Nu Boothia Ungava Seismic Zone.*

ISC 14 23:55:13.1±0.9, 6494N±003×8783W±008, h14km±5km, n18, σ1§23/38, Northwest Territories

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WAGN	**Wager Bay**	**1.16**	**325**	PG	**Pg**	**23 55 34.7**	**-0.7**
WAGN				SG	**Sg**	**23 55 52.0**	**+1.5**
WAGN				Trac		23 55 53.9	
	comp=Z,80nm,0.1s						
NUNN	**Nunuq Camp, NU**	**1.40**	**283**	PG	**Pg**	**23 55 39.7**	**-0.3**
NUNN				SG	**Sg**	**23 55 57.9**	**-0.3**
NUNN				Trac		23 56 02.2	
	comp=Z,54nm,0.1s						
QILN	**Qililugaq Expl**	**1.82**	**19**	PN	**Pn**	**23 55 45.6**	**+1.6**
QILN				SN	**Sn**	**23 56 08.3**	**+1.5**
QILN				SG	**Sg**	**23 56 12.6**	**+0.9**
QILN				Trac		23 56 13.1	
	comp=Z,26nm,0.1s						
SEDN	**First Sedna Si**	**2.25**	**223**	PN	**Pn**	**23 55 50.2**	**+0.3**
SEDN				SN	**Sn**	**23 56 17.1**	**-0.4**
SEDN				Trac		23 56 21.5	
	comp=Z,18nm,0.1s						
JOSN	**Second Sedna S**	**2.42**	**224**	PN	**Pn**	**23 55 52.4**	**+0.2**
JOSN				SN	**Sn**	**23 56 20.6**	**-0.9**
JOSN				Trac		23 56 27.1	
	comp=Z,25nm,0.1s						
BULN	**Bullion Camp,**	**2.63**	**306**	PN	**Pn**	**23 55 56.4**	**+1.2**
BULN				SN	**Sn**	**23 56 27.6**	**+0.8**
BULN				SG	**Sg**	**23 56 34.5**	**-3.1**
BULN				Trac		23 56 44.6	
	comp=Z,12nm,0.1s						
YRTN	**Rankin Inlet**	**2.86**	**223**	PN	**Pn**	**23 55 57.2**	**-1.0**
YRTN				SN	**Sn**	**23 56 32.6**	**+0.3**
YRTN				Trac		23 56 44.9	
	comp=Z,30nm,0.2s						
STLN	**Stellar Camp,**	**3.17**	**321**	SN	**Sn**	**23 56 40.5**	**+0.4**
STLN				SG	**Sg**	**23 56 52.7**	**-2.1**
STLN				Trac		23 57 00.0	
	comp=Z,4.1nm,0.1s						
KUGN	**Kugaaruk Camp,**	**3.29**	**345**	PN	**Pn**	**23 56 05.7**	**+1.6**
KUGN				SN	**Sn**	**23 56 42.8**	**-0.1**
KUGN				SG	**Sg**	**23 56 56.9**	**-1.6**
KUGN				Trac		23 56 59.2	
	comp=Z,12nm,0.1s						
YBKN	**Baker Lake, Hu**	**3.57**	**264**	PN	**Pn**	**23 56 08.7**	**+0.7**
YBKN				SN	**Sn**	**23 56 50.1**	**+0.1**
YBKN				LG		23 57 03.2	
YBKN				Trac		23 57 08.1	
	comp=Z,12nm,0.3s						
SRLN	**Sarcpa Lake, N**	**4.04**	**24**	PN	**Pn**	**23 56 14.6**	**+0.1**
SRLN				SN	**Sn**	**23 57 00.0**	**-1.5**
SRLN				LG		23 57 19.4	
SRLN				Trac		23 57 24.6	
	comp=Z,9.0nm,0.1s						
LAIN	**Lailor River,**	**4.51**	**20**	PN	**Pn**	**23 56 23.2**	**+2.3**
LAIN				SN	**Sn**	**23 57 12.2**	**-0.9**
LAIN				LG		23 57 33.3	
LAIN				Trac		23 57 35.6	
	comp=Z,18nm,0.4s						
ILON	**Igloolik, Nuna**	**5.03**	**25**	PN	**Pn**	**23 56 29.3**	**+1.3**
ILON				SN	**Sn**	**23 57 23.6**	**-2.1**
ILON				LG		23 57 48.1	
ILON				Trac		23 57 50.7	
	comp=Z,15nm,0.5s						
IVKQ	**Ivujivik**	**5.09**	**115**	PN	**Pn**	**23 56 26.5**	**-2.4**
IVKQ				SN	**Sn**	**23 57 22.6**	**-4.7**
IVKQ				LG		23 57 46.1	
IVKQ				Trac		23 57 53.3	
	comp=Z,12nm,0.5s						
GIFN	**Gifford Fjord,**	**5.60**	**22**	PN	**Pn**	**23 56 37.5**	**+1.6**
GIFN				SN	**Sn**	**23 57 37.9**	**-2.1**
GIFN				LG		23 58 06.7	
GIFN				Trac		23 58 12.4	
	comp=Z,11nm,0.5s						
FCC	**Fort Churchill**	**6.87**	**208**	PN	**Pn**	**23 56 53.2**	**-0.1**
FCC				SN	**Sn**	**23 58 05.0**	**-6.1**
FCC				LG		23 58 41.3	
FCC				Trac		23 58 41.4	
	comp=Z,4.9nm,0.8s						
INUQ	**Inukjuak**	**7.97**	**140**	PN	**Pn**	**23 57 09.1**	**+0.6**
INUQ				SN	**Sn**	**23 58 30.4**	**-7.8**
FFC	**Flin Flon**	**12.43**	**221**	SN	**Sn**	**00 00 10.0**	**-18**

ISCJB ***15*** *00:13:16.8±4.6, 185N±0.1×1452E±0.2, h438km±51km, mb3.6/10, Error ellipse: s-maj=35.5km s-min=16.5km az=178.3*
IDC ***15*** *00:13:16.6±4.2, 1858N×14525E, h422km±45km, mb3.2/10, mb1 3.5/12, mb1mx3.3/21, mbtmp3.3/12, Error ellipse: s-maj=25.5km s-min=13.3km az=86.0*

ISC 15 00:13:16.1±4.4, 186N±01×1453E±03, h417km±50km, n14, σ0§88/12, mb3.6/10, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JOW	**Kunigami**	**17.69**	**301**	P	**P**	**00 16 57.4**	**+0.7**
	1.5nm,0.3s,baz=133,slow=7.8,SNR=4.5						
MJAR	**Matsushiro Arr**	**18.95**	**342**	P	**P**	**00 17 08.3**	**-1.3**
	0.4nm,0.3s,baz=167,slow=9.9,SNR=8.2						
WRA	**Warramunga Arr**	**39.75**	**196**	P	**P**	**00 20 09.9**	**-0.9**
	0.6nm,0.6s,mb3.1,baz=15,slow=8.6,SNR=2.3						
FITZ	**Fitzroy Crossi**	**41.23**	**209**	P	**P**	**00 20 24.3**	**+1.4**
	0.8nm,0.4s,mb3.4,baz=34,slow=11,SNR=6.8						
SONM	**Songino Array**	**42.99**	**322**	P	**P**	**00 20 37.2**	**+0.8**
	1.5nm,0.6s,mb3.5,baz=137,slow=7.2,SNR=11						
SONM				PcP	PcP	00 22 17.7	-0.2
	0.4nm,0.6s,baz=124,slow=4.7,SNR=3.1						
ASAR	**Alice Springs**	**43.42**	**195**	P	**P**	**00 20 39.2**	**-0.9**
	0.3nm,0.5s,mb2.9,baz=9.1,slow=7.8,SNR=6.9						
CMAR	**Chiang Mai Arr**	**43.83**	**278**	P	**P**	**00 20 43.7**	**+0.2**
	3.7nm,0.8s,mb3.8,baz=70,slow=6.5,SNR=17						
ZALV	**Zalesovo Beam**	**57.87**	**323**	P	**P**	**00 22 25.0**	**-1.1**
	0.4nm,0.3s,mb3.2,baz=101,slow=7.8,SNR=2.7						
KURK	**Kurchatov**	**61.09**	**318**	P	**P**	**00 22 48.0**	**+0.1**
	7.1nm,0.7s,mb4.2,baz=96,slow=7.2,SNR=20						
YKA	**Yellowknife Ar**	**78.29**	**28**	P	**P**	**00 24 31.5**	**+0.4**
	1.1nm,0.5s,mb3.7,baz=288,slow=5.0,SNR=9.4						
ARCES	**ARCESS Array B**	**82.49**	**342**	P	**P**	**00 24 52.5**	**-0.5**
	4.0nm,0.9s,mb4.1,baz=58,slow=4.3,SNR=7.4						
NVAR	**Mina Array Bea**	**83.54**	**52**	P	**P**	**00 25 00.1**	**+1.1**
	0.6nm,0.5s,mb3.5,baz=271,slow=5.8,SNR=6.9						
TORD	**Torodi Ar. Bea**	**132.22**	**309**	PKP	PKPdf	00 31 41.0	-1.3
	0.4nm,1.0s,baz=51,slow=1.5,SNR=7.5						
LPAZ	**La Paz**	**148.08**	**91**	PKPbc	PKPbc	00 32 15.4	+1.0
	1.7nm,0.6s,baz=314,slow=3.3,SNR=4.5						

NEIC ***15*** *00:15:30.3±1.5, 454N×12726E, h35km, mb4.2/2, Error ellipse: s-maj=66.2km s-min=24.1km az=70.0*
ISCJB ***15*** *00:16:05.2±1.1, 26N±02×1274E±0.6, h250km, mb3.8/6, Error ellipse: s-maj=80.6km s-min=15.1km az=162.3*
IDC ***15*** *00:16:34.3±4.6, 2.11N×12720E, h608km±71km, mb2.9/5, mb1 3.1/5, mb1mx2.8/15, mbtmp2.9/5, Error ellipse: s-maj=114.0km s-min=22.6km az=71.0*

ISC 15 00:16:07.0±1.0, 25N±02×1272E±05, h250km, n10, σ0§99/8, mb3.8/6, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**20.56**	**184**	*e*P	**P**	**00 20 27.4**	**+0.4**
	19nm,2.1s						
WRAB	**Tennant Creek**	**23.41**	**163**	*e*P	**P**	**00 20 54.3**	**+0.4**
	8.7nm,1.0s,mb4.2						
WRA	**Warramunga Arr**	**23.41**	**163**	P	**P**	**00 20 53.9**	**0.0**
	6.6nm,0.6s,mb4.4,baz=342,slow=10,SNR=20						
WB2	**Warramunga Arr**	**23.41**	**163**	*e*P	**P**	**00 20 53.9**	**0.0**
ASAR	**Alice Springs**	**26.85**	**166**	P	**P**	**00 21 25.4**	**+0.6**
	0.6nm,0.5s,mb3.5,baz=348,slow=7.8,SNR=13						
STKA	**Stephens Creek**	**36.85**	**159**	P	**P**	**00 22 50.2**	**-1.4**
	3.1nm,0.7s,mb4.0,baz=351,slow=7.8,SNR=6.9						
SONM	**Songino Array**	**48.57**	**341**	P	**P**	**00 24 26.8**	**+1.6**
	0.6nm,0.7s,mb3.0,baz=144,slow=8.0,SNR=2.8						
KURK	**Kurchatov**	**62.99**	**328**	P	**P**	**00 26 05.5**	**-1.7**
	0.4nm,0.3s,mb3.5,baz=115,slow=6.2,SNR=4.8						
TORD	**Torodi Ar. Bea**	**123.72**	**288**	PKP	PKPdf	00 34 24.8	-11
	1.7nm,1.3s,baz=53,slow=2.8,SNR=4.0						
TORD	**Torodi Ar. Bea**	**123.72**	**288**	PKP	PKPdf	00 34 24.8	-11

DJA ***15*** *00:55:29, 684N×12563E, h54km, mb4.6/13*
IDC ***15*** *00:55:31.2±2.4, 520N×12532E, h60km±21km, mb3.8/9, mb1 3.9/9, mb1mx3.8/16, mbtmp3.8/9, MS3.2/6, Ms1 3.2/6, ms1mx2.9/24, Error ellipse: s-maj=35.4km s-min=14.4km az=77.0*
ISCJB ***15*** *00:55:32.4±0.9, 531N×006×1254E±0.1, h93km±10km, mb4.1/12, Error ellipse: s-maj=22.4km s-min=9.9km az=170.8*
NEIC ***15*** *00:55:32.4±1.3, 523N×12536E, h71km±14km, mb4.4/3, Error ellipse: s-maj=20.9km s-min=8.2km az=79.0*

**ISC 15 00:55:33.3±0.9, 528

ZALV	**Zalesovo Beam**	**58.61**	**333**	P	**P**	**01 05 21.4**	**-0.3**
	0.4nm,0.5s,mb3.7,baz=126,slow=9.5,SNR=2.4						
KURK	**Kurchatov**	**59.72**	**328**	P	**P**	**01 05 29.6**	**+0.1**
	1.1nm,0.7s,mb4.0,baz=124,slow=6.4,SNR=7.6						
TXAR	**Lajitas Array**	**121.68**	**51**	PKP	PKPdf	01 14 19.9	+1.4
	0.1nm,0.5s,baz=241,slow=1.3,SNR=3.4						

DDA ***15*** *01:20:20.3,3929N×4014E,h6km±1km, Md3.1*
ISCJB ***15*** *01:20:21.0±0.8, 3937N±006×4003E±006, h10km, Error ellipse: s-maj=9.3km s-min=4.3km az=144.6*
CSEM ***15*** *01:20:21.8±0.3, 3927N×4009E, h20km, MD3.2, Error ellipse: s-maj=5.5km s-min=4.2km az=93.0*
ISK ***15*** *01:20:22.7, 3924N×4005E, h16km, MD3.2*

ISC 15 01:20:21.4±1.1, 3938N±006×4005E±007, h12km±7km, n11, σ0§92/19, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
EZC	**Erzincan**	**0.41**	**334**	*e*PG		**Pg**	**01 20 37.1**	**+7.7**
EZC				*e*SG		**Sg**	**01 20 49.0**	**+14**
PTK	**Pertek**	**0.71**	**226**	*e*PG		**Pg**	**01 20 34.7**	**-0.3**
PTK				*e*SG		**Sg**	**01 20 44.5**	**+0.1**
ERZM	**Erzurum**	**1.14**	**62**	*i* P		**Pb**	**01 20 41.9**	**-1.2**
ERZM				*i* S		**Sb**	**01 20 58.4**	**+0.5**
SVRC	**Sivrice-ELAZID**	**1.16**	**210**	*e*PG		**Pg**	**01 20 43.9**	**+0.2**
SVRC				*e*SG		**Sg**	**01 20 58.8**	**+0.1**
ELZG	**Elazig**	**1.21**	**224**	*i* P		**Pn**	**01 20 43.1**	**-1.0**
ELZG				*i* S		**Sb**	**01 21 02.9**	**+3.1**
DIYA	**Diyarbakir**	**1.46**	**178**	*i* P		**Pn**	**01 20 46.4**	**-1.1**
DIYA				*i* S		**Sn**	**01 21 07.1**	**+0.6**
MYA	**Malataya**	**1.65**	**231**	*e*PN		**Pn**	**01 20 50.0**	**-0.1**
MYA				*e*SN		**Sn**	**01 21 10.5**	**-0.7**
BEST	**Besiri**	**1.77**	**147**	*i* P		**Pn**	**01 20 51.2**	**-0.6**
BEST				*i* S		**Sn**	**01 21 13.7**	**-0.5**
URFA	**Urfa**	**2.17**	**207**	*e*PN		**Pn**	**01 20 57.8**	**+0.5**
AGRB	**Hanur-Agry**	**2.29**	**84**	*e*PN		**Pn**	**01 21 01.2**	**+2.4**
KMRS	**Kahramanmaras**	**3.10**	**234**	*e*PN		**Pn**	**01 21 10.5**	**+0.4**

ISCJB ***15*** *02:11:18.6±0.5, 177S±0.1×4174E±007, h10km, mb4.0/14, Error ellipse: s-maj=14.9km s-min=9.3km az=12.0*
IDC ***15*** *02:11:18.9±0.7, 1768S×4181E, h0km, mb3.9/11, mb1 4.1/12, mb1mx3.9/22, mbtmp4.0/12, ML4.3/1, MS2.6/2, Ms1 2.6/2, ms1mx2.5/26, Error ellipse: s-maj=26.8km s-min=20.3km az=10.0*
NEIC ***15*** *02:11:20.1±0.4, 1768S×4173E, h10km, mb4.0/3, Error ellipse: s-maj=12.5km s-min=8.0km az=9.0*

ISC 15 02:11:20.1±0.5, 178S±01×4178E±006, h10km, n32, σ0§97/31, mb4.0/14, Mozambique Channel

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
OPO	**Ambohidratompo**	**5.19**	**99**	Pn		**Pn**	**02 12 38.4**	**+0.6**
	12nm,0.3s,baz=271,slow=14,SNR=59							
OPO				Sn		**Sn**	**02 13 33.1**	**-4.7**
	21nm,0.3s,baz=2.4,slow=20,SNR=6.7							
ABPO	**Ambohimpanom**	**5.30**	**104**	*e*Pn		**Pn**	**02 12 40.0**	**+0.6**
	29nm,0.4s							
ABPO				Sn		**Sn**	**02 13 38.2**	**-2.4**
LSZ	**Lusaka**	**13.28**	**279**	Pn		**Pn**	**02 14 25.7**	**-3.1**
	0.8nm,0.3s,baz=108,slow=12,SNR=17							
LSZ				Sn		**Sn**	**02 16 46.8**	**-10**
	0.5nm,0.3s,baz=112,slow=19,SNR=2.7							
LSZ				LR		LR	02 20 25.3	
	comp=Z,35nm,18.7s,baz=316,slow=41							
LSZ	**Lusaka**	**13.28**	**279**	*e*Pn		**Pn**	**02 14 26.8**	**-2.1**
	0.9nm,0.3s							
LSZ				Sn		**Sn**	**02 16 46.8**	**-10**
LSZ				LR		LR	02 20 25.3	
LBTB	**Lobatse**	**16.67**	**242**	Pn		**Pn**	**02 15 12.6**	**-1.3**
	0.2nm,0.3s,baz=63,slow=15,SNR=3.7							
LBTB				Sn		**Sn**	**02 18 09.8**	**-9.3**
	0.3nm,0.3s,baz=65,slow=17,SNR=3.7							
LBTB				LR		LR	02 21 31.1	
	comp=Z,14nm,19.1s,baz=114,slow=36							
LBTB	**Lobatse**	**16.67**	**242**	*e*Pn		**Pn**	**02 15 12.8**	**-1.1**
	22nm,1.8s							
LBTB				Sn		**Sn**	**02 18 09.8**	**-9.4**
LBTB				LR		LR	02 21 31.1	
KMBO	**Kilima Mbogo**	**17.19**	**345**	P		**Pn**	**02 15 16.5**	**-4.0**
	0.2nm,0.3s,baz=191,slow=16,SNR=3.3							
KMBO	**Kilima Mbogo**	**17.19**	**345**	*e*Pn		**Pn**	**02 15 16.9**	**-3.7**
	4.2nm,1.4s							
SUR	**Sutherland**	**23.82**	**229**	P		**P**	**02 16 34.6**	**+1.2**
	9.2nm,0.7s,mb4.3,baz=69,slow=9.1,SNR=7.6							
SUR	**Sutherland**	**23.82**	**229**	*e*P		**P**	**02 16 34.9**	**+1.5**
	9.7nm,0.8s,mb4.3							
TORD	**Torodi Ar. Bea**	**50.13**	**305**	P		**P**	**02 20 15.6**	**-0.3**
	0.5nm,0.7s,mb3.7,baz=130,slow=6.2,SNR=8.8							
DBIC	**Dimbokro**	**52.08**	**294**	P		**P**	**02 20 30.4**	**-0.3**
	2.7nm,1.0s,mb4.1,baz=111,slow=7.7,SNR=8.5							
LPG	**La Plagne**	**70.60**	**335**	*e*P		**P**	**02 22 36.2**	**+0.7**
	2.9nm,0.7s,mb4.0							
LPL	**La Plagne**	**70.62**	**335**	*e*P		**P**	**02 22 36.3**	**+0.7**
GERES	**GERESS Array B**	**70.94**	**341**	P		**P**	**02 22 36.9**	**-0.6**
	0.6nm,0.5s,mb3.8,baz=146,slow=5.4,SNR=7.1							
ESDC	**Sonseca Array**	**71.37**	**324**	P		**P**	**02 22 40.6**	**+0.3**
	0.1nm,0.3s,mb3.3,baz=113,slow=1.8,SNR=3.1							
CABF	**La Chapelle**	**71.77**	**335**	*e*P		**P**	**02 22 43.1**	**+0.5**
	9.5nm,0.9s,mb4.4							
SMF	**Signal de Mont**	**72.73**	**334**	*e*P		**P**	**02 22 48.5**	**+0.2**
LOR	**Lormes**	**73.22**	**334**	*e*P		**P**	**02 22 51.6**	**+0.4**
	3.3nm,0.8s,mb4.0							
MKAR	**Makanchi Array**	**73.95**	**28**	P		**P**	**02 22 55.6**	**0.0**
	0.9nm,0.6s,mb3.9							
ZALV	**Zalesovo Beam**	**80.44**	**24**	P		**P**	**02 23 30.9**	**-0.9**
	1.4nm,0.9s,mb3.9,baz=223,slow=8.1,SNR=3.9							
ASAR	**Alice Springs**	**84.88**	**113**	P		**P**	**02 23 56.5**	**+0.8**
	1.0nm,0.7s,mb4.0,baz=262,slow=4.6,SNR=10							
BDFB	**Brasilia**	**85.13**	**255**	P		**P**	**02 23 58.7**	**+1.6**
	4.1nm,1.0s,mb4.5,baz=76,slow=8.3,SNR=4.5							
WRA	**Warramunga Arr**	**86.37**	**110**	P		**P**	**02 24 02.8**	**-0.4**
	0.2nm,0.7s,mb3.5,baz=262,slow=6.8,SNR=3.1							
ARCES	**ARCESS Array B**	**87.90**	**354**	P		**P**	**02 24 09.1**	**-0.3**
	1.5nm,0.8s,mb4.2,baz=159,slow=5.4,SNR=3.0							
PDAR	**Pinedale Array**	**145.23**	**322**	PKPbc		PKPbc	02 30 57.9	0.0
	0.8nm,0.7s,baz=69,slow=4.9,SNR=8.4							
TXAR	**Lajitas Array**	**146.45**	**296**	PKPbc		PKPbc	02 31 02.5	+0.4
	1.2nm,0.7s,baz=105,slow=4.5,SNR=18							
TXAR	**Lajitas Array**	**146.45**	**296**	PKPbc		PKPbc	02 31 02.5	+0.4
ANMO	**Albuquerque**	**147.03**	**307**	PKPbc		PKPbc	02 31 03.5	-0.1
	0.4nm,0.5s,baz=84,slow=9.2,SNR=3.1							
ELK	**Elko**	**149.80**	**324**	PKPab		PKPab	02 31 16.0	0.0
	0.7nm,0.6s,baz=60,slow=5.8,SNR=4.1							
NVAR	**Mina Array Bea**	**153.10**	**324**	PKPbc		PKPbc	02 31 19.5	+1.2
	0.6nm,0.8s,baz=74,slow=2.5,SNR=5.1							
NVAR				PKPab		PKPab	02 31 27.5	-2.3
	0.5nm,0.7s,baz=99,slow=4.6,SNR=4.2							
NVAR	**Mina Array Bea**	**153.10**	**324**	PKPbc		PKPbc	02 31 19.5	+1.2
NVAR				PKPab		PKPab	02 31 27.5	-2.3

MOS ***15*** *03:17:45.1±0.9, 5161N×1607E, h9km, mb4.0/4, Error ellipse: s-maj=5.8km s-min=4.0km az=75.1*
ISCJB ***15*** *03:17:45.2±0.2, 5148N±001×1609E±002, h0km, mb3.7/9, Error ellipse: s-maj=2.1km s-min=1.6km az=9.4*
IPEC ***15*** *03:17:45.9±0.4, 5160N×1618E, h1km±2km, ML3.6/4, Error ellipse: s-maj=2.5km s-min=1.6km az=15.0*
NEIC ***15*** *03:17:47.0±0.3, 5157N×1610E, h5km, ML3.8(PRU), ML3.8(STR), ML3.9(SZGRF), Error ellipse: s-maj=4.6km s-min=3.4km az=200.0*
BGR ***15*** *03:17:46.4±0.4, 5158N×1617E, h1km, ML3.9, Error ellipse: s-maj=5.6km s-min=2.2km az=9.0*
PRU ***15*** *03:17:47.7, 5152N×1614E, h0km, Felt In Harrachov*
LDG ***15*** *03:17:47.6±0.2, 5162N×1622E, h1km, Ml4.3/16, Error ellipse: s-maj=6.4km s-min=4.1km az=178.0, Suspected Mining induced.*
CSEM ***15*** *03:17:47.6±0.1, 5154N×1615E, h1km, mb3.8/2, ML4.3/22, Ms3.9, Error ellipse: s-maj=1.4km s-min=0.8km az=8.0*
WAR ***15*** *03:17:48.0, 5154N×1613E, Mw3.3*
IDC ***15*** *03:17:48.7±1.4, 5152N×1601E, h15km±11km, mb3.8/8, mb1 3.9/14, mb1mx3.7/25, mbtmp3.7/14, ML3.8/5, Error ellipse: s-maj=9.8km s-min=7.9km az=78.0*
STR ***15*** *03:17:49.4±0.6, 5119N×1600E, h5km, Ml4.4, Error ellipse: s-maj=0.0km s-min=0.0km az=0.0*
VIE ***15*** *03:17:49.6±0.5, 5136N×1598E, h0km, mb3.5/17, ML3.6/14, Ms3.9/4, Error ellipse: s-maj=3.1km s-min=2.7km az=150.0, Suspected Mining induced.*

ISC 15 03:17:46.2±0.2, 5158N±001×1615E±002, h0km, n198, σ1§01/317, mb3.7/9, 23C-19D, Poland

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
KSP	**Ksiaz**	**0.74**	**173**	*i* Pg		**Pg**	**03 18 01.0**	**+0.6**
KSP				*e*Sg		**Sg**	**03 18 10.4**	**+0.3**
KSP	**Ksiaz**	**0.74**	**173**	*e*Pg		**Pg**	**03 18 01.1**	**+0.7**
KSP				*e*Sg		**Sg**	**03 18 10.3**	**+0.3**
KSP	**Ksiaz**	**0.74**	**173**	*e*Pg		**Pg**	**03 18 00.8**	**+0.4**
KSP				Sg		**Sg**	**03 18 10.3**	**+0.3**
KSP				*e*S		**Sg**	**03 18 14.2**	**+4.2**
KSP	**Ksiaz**	**0.74**	**173**	⇓*i*Pg		**Pg**	**03 18 01.0**	**+0.6**
KSP				*i* Sg		**Sg**	**03 18 10.3**	**+0.3**
KSP				*e*			03 18 14.2	
DPC	**Dobruska-Polom**	**1.24**	**175**	*e*P		**Pg**	**03 18 09.9**	**0.0**
DPC				*e*			03 18 25.5	
DPC				smax				
	comp=N,485nm,0.5s							
DPC				MLR		MLR		
	comp=Z,1μm,5.6s							
DPC	**Dobruska-Polom**	**1.24**	**175**	Pg		**Pg**	**03 18 09.9**	**0.0**
DPC				Sg		**Sg**	**03 18 25.5**	**-0.4**
	comp=Z,485nm,0.5s							
DPC	**Dobruska-Polom**	**1.24**	**175**	*e*PG		**Pg**	**03 18 09.9**	**0.0**
DPC				*e*SG		**Sg**	**03 18 25.5**	**-0.4**
	comp=Z,485nm,0.5s							
DPC				AMS		AMS	03 18 30.0	
	comp=Z,1μm,5.6s							
DPC	**Dobruska-Polom**	**1.24**	**175**	*e*Pg		**Pg**	**03 18 09.9**	**0.0**
DPC				*e*Sg		**Sg**	**03 18 25.5**	**-0.4**
PVCC	**Panska Ves**	**1.45**	**224**	*e*P		**Pn**	**03 18 13.6**	**0.0**
PVCC				*e*			03 18 33.6	
PVCC				smax				
	comp=N,1μm,0.3s							
PVCC				MLR		MLR		
	comp=Z,1μm,4.1s							
PVCC	**Panska Ves**	**1.45**	**224**	*e*Pn		**Pn**	**03 18 13.5**	**-0.1**
PVCC				*e*Sg		**Sg**	**03 18 32.4**	**-0.3**
PVCC	**Panska Ves**	**1.45**	**224**	*e*PG		**Pn**	**03 18 13.6**	**0.0**
PVCC				*e*SG		**Sg**	**03 18 33.6**	**+0.9**
	comp=Z,1μm,0.3s							
PVCC				AMS		AMS	03 18 40.0	
	comp=Z,1μm,4.1s							
PVCC	**Panska Ves**	**1.45**	**224**	*e*Pg		**Pn**	**03 18 13.6**	**0.0**
PVCC				*e*Sg		**Sg**	**03 18 33.6**	**+0.9**
BRG	**Berggiesshubel**	**1.56**	**244**	*e*Pn		**Pn**	**03 18 14.5**	**-0.6**
BRG				*e*Sg		**Sg**	**03 18 37.0**	**+0.9**
BRG	**Berggiesshubel**	**1.56**	**244**	P		**Pn**	**03 18 14.5**	**-0.6**
BRG							03 18 36.7	
BRG				smax				
	comp=N,543nm,0.4s							
BRG	**Berggiesshubel**	**1.56**	**244**	Pg		**Pg**	**03 18 16.1**	**+0.1**
BRG				Sg		**Sg**	**03 18 37.0**	**+0.9**
BRG	**Berggiesshubel**	**1.56**	**244**	PN		**Pn**	**03 18 14.5**	**-0.6**
BRG				PG		**Pg**	**03 18 16.1**	**+0.1**
BRG				SG		**Sg**	**03 18 36.7**	**+0.6**
	comp=N,907nm,0.4s							
RUE	**Ruedersdorf**	**1.72**	**303**	*e*Pn		**Pn**	**03 18 17.2**	**-0.1**
RUE	**Ruedersdorf**	**1.72**	**303**	*e*Pn		**Pn**	**03 18 17.2**	**-0.1**
GKP	**Gorka Klasztor**	**1.82**	**21**	*e*Pn		**Pn**	**03 18 20.2**	**+1.4**
GKP				*e*Pg		**Pg**	**03 18 26.7**	**+5.6**
GKP				*e*Sg		**Sg**	**03 18 49.3**	**+4.7**
GKP	**Gorka Klasztor**	**1.82**	**21**	*e*Pn		**Pn**	**03 18 20.2**	**+1.5**
GKP				*e*Pg		**Pg**	**03 18 26.7**	**+5.6**
GKP				*e*Sg		**Sg**	**03 18 49.3**	**+4.7**
FBE	**Freiberg**	**1.88**	**251**	*e*Pn		**Pn**	**03 18 19.0**	**-0.5**
FBE				*e*Sg		**Sg**	**03 18 38.2**	**+0.3**
RAC	**Raciborz**	**1.98**	**138**	*e*Pn		**Pn**	**03 18 20.2**	**+0.8**
RAC				*e*Pg		**Pg**	**03 18 24.1**	**-0.1**
RAC				*e*Sg		**Sg**	**03 18 50.1**	**+0.3**
RAC	**Raciborz**	**1.98**	**138**	*e*Pg		**Pg**	**03 18 24.1**	**-0.1**
RAC				*e*Sg		**Sg**	**03 18 50.1**	**+0.3**
CLL	**Collm**	**1.99**	**263**	*e*Pn		**Pn**	**03 18 20.5**	**-0.5**
CLL				*i* Pg		**Pg**	**03 18 24.3**	**0.0**
CLL				*e*Sg		**Sg**	**03 18 50.6**	**+0.6**
CLL	**Collm**	**1.99**	**263**	*i* Pn		**Pn**	**03 18 20.5**	**-0.5**
CLL				*i* Pg		**Pg**	**03 18 24.3**	**0.0**
CLL				*ex*		x	03 18 25.0	
CLL				*i* x		x	03 18 27.7	
CLL				*i* Sg		**Sg**	**03 18 50.2**	**+0.2**
	comp=Z,292nm,0.4s							
CLL	**Collm**	**1.99**	**263**	*i* Pn		**Pn**	**03 18 20.5**	**-0.5**
CLL				*i* Pg		**Pg**	**03 18 24.3**	**0.0**
CLL				*i* Sg		**Sg**	**03 18 50.2**	**+0.2**
MORC	**Moravsky Berou**	**2.01**	**153**	*e*Pn		**Pn**	**03 18 20.8**	**-0.6**
MORC				*e*Sg		**Sg**	**03 18 50.4**	**-0.3**
MORC	**Moravsky Berou**	**2.01**	**153**	⇓P		**Pn**	**03 18 21.5**	**+0.1**
MORC				Sg		**Sg**	**03 18 50.4**	**-0.4**
MORC	**Moravsky Berou**	**2.01**	**153**	⇓P		**Pn**	**03 18 21.5**	**+0.1**
VRAC	**Vranov**	**2.29**	**173**	Pn		**Pn**	**03 18 25.3**	**+0.1**
	comp=Z,12nm,0.3s,baz=345,slow=14,SNR=58							
VRAC				Pg		**Pg**	**03 18 30.7**	**+0.6**
	comp=Z,29nm,0.3s,baz=343,slow=16,SNR=38							
VRAC				Lg			03 18 59.3	
	comp=Z,47nm,0.3s,baz=99,slow=21,SNR=12							
VRAC	**Vranov**	**2.29**	**173**	*e*Pn		**Pn**	**03 18 25.2**	**0.0**
VRAC				*e*Sg		**Sg**	**03 18 57.8**	**-2.0**
	comp=Z,328nm,0.5s							
VRAC	**Vranov**	**2.29**	**173**	⇓P		**Pn**	**03 18 25.3**	**+0.1**
VRAC				S		**Sn**	**03 18 57.9**	**+3.8**
KRUC	**Moravsky**	**2.53**	**176**	*e*Pn		**Pn**	**03 18 28.3**	**-0.1**
KRUC				*e*Sg		**Sg**	**03 19 05.4**	**-1.9**
	comp=Z,191nm,0.8s							
TANN	**Tannenbergstha**	**2.60**	**245**	*e*Pn		**Pn**	**03 18 29.6**	**+0.1**
TANN				*e*Sg		**Sg**	**03 19 09.7**	**-0.1**
WERD	**Werda**	**2.68**	**246**	*e*Pn		**Pn**	**03 18 30.5**	**0.0**
WERD				*e*Sg		**Sg**	**03 19 11.5**	**-0.7**
OJC	**Ojcow**	**2.68**	**119**	*e*Pn		**Pn**	**03 18 29.0**	**-1.6**
OJC				*e*Pg		**Pg**	**03 18 37.8**	**+0.2**
OJC				*e*Sg		**Sg**	**03 19 12.3**	**+0.1**
OJC	**Ojcow**	**2.68**	**119**	*e*Pn		**Pn**	**03 18 29.0**	**-1.5**
OJC				*e*Sg		**Sg**	**03 19 12.9**	**+0.6**
JAVC	**Velka Javorina**	**2.89**	**160**	*e*Pn		**Pn**	**03 18 34.5**	**+1.0**
KHC	**Kasperske Hory**	**2.95**	**215**	*e*P		**Pn**	**03 18 34.0**	**-0.3**
KHC				*e*			03 19 14.5	
KHC	**Kasperske Hory**	**2.95**	**215**	*e*PN		**Pn**	**03 18 34.0**	**-0.3**
KHC				*e*PG		**Pg**	**03 18 39.5**	**-3.2**
KHC				*ex*		x	03 19 14.5	
KHC				*e*SG		**Sg**	**03 19 22.5**	**+1.5**
MGBB	**Grossbuechelbe**	**2.97**	**239**	⇓*i*Pn		**Pn**	**03 18 34.8**	**+0.3**
MOX	**Moxa**	**3.00**	**254**	*e*Pn		**Pn**	**03 18 34.9**	**-0.1**
MOX				*e*Pg		**Pg**	**03 18 43.5**	**-0.3**
MOX				*e*Sg		**Sg**	**03 19 23.9**	**+1.2**
MOX	**Moxa**	**3.00**	**254**	*e*PN		**Pn**	**03 18 34.8**	**-0.2**
MOX				*e*PG		**Pg**	**03 18 43.5**	**-0.3**
MOX				*i* SG		**Sg**	**03 19 23.9**	**+1.2**
MANZ	**Manzenberg**	**3.02**	**240**	*e*Pn		**Pn**	**03 18 35.3**	**+0.1**
MANZ				*e*Sg		**Sg**	**03 19 21.7**	**-1.4**
ROTZ	**Rotzenmuhle**	**3.09**	**236**	*e*Pn		**Pn**	**03 18 36.5**	**+0.3**
ROTZ				*e*Sg		**Sg**	**03 19 24.0**	**-1.6**
GEC2	**GERESS Array S**	**3.16**	**211**	*e*Pn		**Pn**	**03 18 37.1**	**0.0**
GEC2				*e*Sg		**Sg**	**03 19 25.7**	**-1.8**
GEC2	**GERESS Array S**	**3.16**	**211**	*e*Pn		**Pn**	**03 18 37.1**	**0.0**
GEC2				*e*Sg		**Sg**	**03 19 25.7**	**-1.8**
GERES	**GERESS Array B**	**3.16**	**211**	Pn		**Pn**	**03 18 37.0**	**-0.1**
	comp=Z,18nm,0.3s,baz=29,slow=12,SNR=465							
GERES				Pg		**Pg**	**03 18 44.3**	**-2.4**
	comp=Z,24nm,0.3s,baz=38,slow=17,SNR=44							
GERES				Lg			03 19 24.8	
	comp=Z,45nm,0.3s,baz=28,slow=28,SNR=9.7							
GERES	**GERESS Array B**	**3.16**	**211**	Pg		**Pg**	**03 18 44.3**	**-2.4**
WET	**Wettzell**	**3.21**	**222**	*e*Pn		**Pn**	**03 18 37.9**	**+0.1**
WET	**Wettzell**	**3.21**	**222**	*e*Pn		**Pn**	**03 18 37.9**	**0.0**
MODS	**Modra-Piesok**	**3.29**	**167**	*e*Pn		**Pn**	**03 18 39.7**	**+0.8**
MODS				*e*PG		**Pg**	**03 18 48.9**	**-0.3**
MODS				*e*SG		**Sg**	**03 19 28.1**	**-3.8**
KOLL	**Kolacno**	**3.34**	**153**	*i* PN		**Pn**	**03 18 39.7**	**+0.1**
KOLL				*e*PG		**Pg**	**03 18 49.7**	**-0.4**
KOLL				*e*SG		**Sg**	**03 19 29.9**	**-3.4**
KOLL	**Kolacno**	**3.34**	**153**	*e*Pg		**Pg**	**03 18 49.7**	**-0.4**
KOLL				*e*Sg		**Sg**	**03 19 31.7**	**-1.6**
KOLL	**Kolacno**	**3.34**	**153**	*i* Pn		**Pn**	**03 18 39.7**	**+0.1**
KOLL				*e*Pg		**Pg**	**03 18 49.7**	**-0.4**
KOLL				*e*Sg		**Sg**	**03 19 29.9**	**-3.4**
KOLL				*e*Sg		**Sg**	**03 19 31.7**	**-1.6**
NIE	**Niedzica**	**3.43**	**127**	*e*Pn		**Pn**	**03 18 41.2**	**+0.4**
NIE				*e*Pg		**Pg**	**03 18 51.2**	**-0.7**
NIE				*e*Sg		**Sg**	**03 19 35.7**	**-0.6**
ZST	**Bratislava**	**3.44**	**169**	*e*P		**Pg**	**03 18 50.1**	**-2.1**
ZST				pmax		pmax		
	comp=N,138nm,0.7s							
ZST	**Bratislava**	**3.44**	**169**	*e*PG		**Pg**	**03 18 50.1**	**-2.1**
ZST				*e*SG		**Sg**	**03 19 35.2**	**-1.5**
VYHS	**Vyhne**	**3.54**	**150**	*e*PN		**Pn**	**03 18 41.9**	**-0.5**
VYHS				*e*PG		**Pg**	**03 18 54.4**	**+0.3**
VYHS				*e*SG		**Sg**	**03 19 39.4**	**-0.5**
CLZ	**Clausthal**	**3.60**	**276**	*e*Pn		**Pn**	**03 18 44.1**	**+0.9**
CLZ	**Clausthal**	**3.60**	**276**	*e*Pn		**Pn**	**03 18 44.1**	**+0.9**
CONA	**Conrad Observa**	**3.66**	**183**	*i* Pn		**Pn**	**03 18 44.4**	**+0.4**
	SNR=21							
CONA				⇑*i*Sg		**Sg**	**03 19 43.6**	**-0.1**
	comp=N,145nm,0.4s							
CSNA	**Conrad Observa**	**3.66**	**183**	⇑*i*Pn		**Pn**	**03 18 44.5**	**+0.5**
CSNA				⇑*i*Sg		**Sg**	**03 19 43.6**	**-0.1**
	comp=N,205nm,0.6s							
GRA1	**Grafenberg Arr**	**3.66**	**241**	Pn		**Pn**	**03 18 44.5**	**+0.5**
GRA1				Sg		**Sg**	**03 19 43.9**	**+0.2**
GRA1	**Grafenberg Arr**	**3.66**	**241**	*e*Pn		**Pn**	**03 18 44.6**	**+0.6**
GRA1				*e*Sg		**Sg**	**03 19 43.9**	**+0.2**
GRF	**Grafenberg Arr**	**3.66**	**241**	*e*Pn		**Pn**	**03 18 44.5**	**+0.5**
GRF				*e*Sg		**Sg**	**03 19 43.9**	**+0.1**
STHS	**Stebnicka Huta**	**3.91**	**122**	*e*PN		**Pn**	**03 18 47.8**	**+0.4**
STHS				*e*PG		**Pg**	**03 19 01.8**	**+0.7**
STHS				*e*SG		**Sg**	**03 19 51.8**	**+0.1**
SOP	**Sopron**	**3.91**	**176**	⇑*e*Pn		**Pn**	**03 18 48.0**	**+0.6**
SOP				*e*SB		**Sb**	**03 19 51.8**	**+8.0**
HROE	**Hohe Rhon--Fla**	**3.92**	**257**	⇓*i*Pn		**Pn**	**03 18 47.6**	**0.0**
HROE				⇓*i*Pg		**Pg**	**03 19 00.1**	**-1.2**
MOA	**Molln**	**3.93**	**199**	*i* Pn		**Pn**	**03 18 48.0**	**+0.3**
	SNR=110							
MOA				⇓*i*Sg		**Sg**	**03 19 52.1**	**-0.3**
	comp=N,271nm,0.7s							
BSEG	**Bad Segeberg**	**4.25**	**306**	*e*P		**Pn**	**03 18 44.1**	**-8.1**
PENC	**Penc**	**4.30**	**151**	⇑*e*Pn		**Pn**	**03 18 53.5**	**+0.6**
CRVS	**Cervenica-Dubn**	**4.34**	**126**	*e*PN		**Pn**	**03 18 54.2**	**+0.9**
CRVS				*e*PG		**Pg**	**03 19 09.8**	**+0.5**
CRVS				*e*SG		**Sg**	**03 20 03.6**	**-1.9**
ARSA	**Arzberg**	**4.35**	**186**	⇓*i*Pn		**Pn**	**03 18 53.8**	**+0.3**
	SNR=38							
ARSA				⇑*i*Sg		**Sg**	**03 20 07.2**	**+1.3**
	comp=N,147nm,0.6s							
PSZ	**Piszkesteto**	**4.40**	**145**	⇑*e*Pn		**Pn**	**03 18 54.8**	**+0.7**
PSZ				*e*Sg		**Sg**	**03 20 09.5**	**+2.1**
PSZ	**Piszkesteto**	**4.40**	**145**	⇓P		**Pn**	**03 18 54.7**	**+0.6**
PSZ				S		**Sn**	**03 19 49.5**	**+3.5**
PSZ	**Piszkesteto**	**4.40**	**145**	⇓P		**Pn**	**03 18 54.7**	**+0.6**
PKSG		**4.44**	**160**	⇑*e*Pn		**Pn**	**03 18 55.0**	**+0.3**
BUD	**Budapest**	**4.51**	**154**	*e*SB		**Sg**	**03 20 12.7**	**+1.8**
KWP	**Kalwaria**	**4.61**	**112**	*e*Pn		**Pn**	**03 18 56.9**	**-0.2**
KWP				*e*Pg		**Pg**	**03 19 11.7**	**-2.8**
KWP				*e*Sg		**Sg**	**03 20 24.3**	**+10**
COP	**Copenhagen**	**4.67**	**333**	*i* P		**Pg**	**03 19 13.1**	**-2.5**
COP				*i*			03 19 19.5	
COP				*i* S		**Sg**	**03 20 18.9**	**+2.8**
COP				*i* LG			03 20 37.4	
KOLS	**Kolonicke sedl**	**4.74**	**122**	*e*Pn		**Pn**

TUE	**Stuetta**	**6.79**	**224**	*e*Pn		**Pn**	**03 19 27.9**	**+1.0**
	comp=Z,8.0nm,0.8s							
TUE				*e*Sg		**Sg**	**03 21 25.9**	**+1.7**
BCLA	**Clavier**	**6.94**	**265**	P		**Pn**	**03 19 29.7**	**+0.6**
BCLA	**Clavier**	**6.94**	**265**	P		**Pn**	**03 19 29.6**	**+0.5**
HINF	**Hinteralfeld**	**7.11**	**242**	*e*Pn		**Pn**	**03 19 30.7**	**-0.6**
HINF				*e*Sg		**Sg**	**03 21 29.9**	**-4.4**
	comp=Z,162nm,1.2s							
HINF	**Hinteralfeld**	**7.11**	**242**	*e*Pn		**Pn**	**03 19 30.7**	**-0.6**
HINF				*e*Sg		**Sg**	**03 21 29.9**	**-4.4**
	comp=Z,81nm,1.2s							
HAU	**Haudompre**	**7.28**	**244**	*e*Pn		**Pn**	**03 19 32.4**	**-1.3**
HAU				*e*Sg		**Sg**	**03 21 37.2**	**-2.7**
	comp=Z,84nm,1.0s							
GIVF	**Givet**	**7.32**	**263**	*e*Pg		**Pg**	**03 20 03.2**	**-3.2**
GIVF				*e*Sg		**Sg**	**03 21 37.1**	**-4.1**
	comp=Z,68nm,0.9s							
GIVF	**Givet**	**7.32**	**263**	*e*Pg		**Pg**	**03 20 03.2**	**-3.2**
GIVF				*e*Sg		**Sg**	**03 21 37.1**	**-4.1**
	comp=Z,34nm,0.9s							
GIVF	**Givet**	**7.32**	**263**	*e*Pn		**Pn**	**03 19 34.2**	**-0.1**
GIVF				*e*Pg		**Pg**	**03 20 03.2**	**-3.2**
GIVF				*e*Sg		**Sg**	**03 21 37.1**	**-4.1**
DOU	**Dourbes**	**7.46**	**263**	P		**Pn**	**03 19 36.8**	**+0.6**
SNF	**Seneffe**	**7.56**	**266**	P		**Pn**	**03 19 39.6**	**+2.1**
BAIF	**Baives**	**7.71**	**263**	*e*Pn		**Pn**	**03 19 39.3**	**-0.4**
BAIF				*e*Sg		**Sg**	**03 21 48.9**	**-4.9**
	comp=Z,76nm,1.2s							
MEZF	**Maizieres J'vi**	**7.78**	**251**	*e*Sg		**Sg**	**03 21 52.0**	**-3.8**
	comp=Z,81nm,1.1s							
MEZF	**Maizieres J'vi**	**7.78**	**251**	*e*Sg		**Sg**	**03 21 52.0**	**-3.8**
	comp=Z,40nm,1.1s							
SFTF	**Sexfontaines**	**7.93**	**249**	*e*Pn		**Pn**	**03 19 42.3**	**-0.3**
	baz=71							
SFTF				*e*Sg		**Sg**	**03 21 54.0**	**-6.6**
	comp=Z,66nm,0.9s							
CABF	**La Chapelle**	**8.26**	**237**	*e*Pn		**Pn**	**03 19 46.0**	**-1.2**
CABF				*e*Sg		**Sg**	**03 22 07.7**	**-3.6**
	comp=Z,287nm,1.4s							
AKASG	**Malin Array Be**	**8.27**	**91**	Pn		**Pn**	**03 19 46.0**	**-1.3**
	comp=Z,3.6nm,0.3s,baz=280,slow=12,SNR=13							
AKASG				Sn		**Sn**	**03 21 15.9**	**-5.5**
	comp=Z,2.7nm,0.3s,baz=269,slow=23,SNR=5.0							
AKASG				Lg			03 22 19.0	
	comp=Z,1.1nm,0.3s,baz=272,slow=23,SNR=4.9							
AKASG	**Malin Array Be**	**8.27**	**91**	P		**Pn**	**03 19 46.1**	**-1.2**
AKASG							03 21 15.9	
AKASG	**Malin Array Be**	**8.27**	**91**	Pn		**Pn**	**03 19 46.0**	**-1.3**
AKASG	**Malin Array Be**	**8.27**	**91**	Pn		**Pn**	**03 19 46.0**	**-1.3**
AKASG				Sn		**Sn**	**03 21 15.9**	**-5.5**
AKASG				Lg			03 22 19.0	
AKBB	**Malin Array Si**	**8.27**	**91**	*e*Pn		**Pn**	**03 19 46.4**	**-0.9**
AKBB	**Malin Array Si**	**8.27**	**91**	*e*Pn		**Pn**	**03 19 46.4**	**-0.9**
HFS	**Hagfors**	**8.68**	**352**	Pn		**Pn**	**03 19 52.3**	**-0.6**
	comp=Z,0.3nm,0.3s,baz=167,slow=13,SNR=9.4							
HFS				Sn		**Sn**	**03 21 32.0**	**+0.6**
	comp=Z,0.3nm,0.3s,baz=173,slow=25,SNR=2.8							
HFS				Lg			03 22 26.3	
	comp=Z,0.7nm,0.3s,baz=167,slow=27,SNR=3.2							
HFS	**Hagfors**	**8.68**	**352**	P		**Pn**	**03 19 52.3**	**-0.6**
HFS							03 21 32.0	
LPL	**La Plagne**	**8.70**	**229**	*e*Pn		**Pn**	**03 19 53.1**	**-0.1**
LPL				*e*Sg		**Sg**	**03 22 21.4**	**-4.0**
	comp=Z,89nm,1.5s							
LPL	**La Plagne**	**8.70**	**229**	*e*Pn		**Pn**	**03 19 53.1**	**-0.1**
LPL				*e*Sg		**Sg**	**03 22 21.4**	**-4.0**
	comp=Z,44nm,1.5s							
LPG	**La Plagne**	**8.71**	**229**	*e*Pn		**Pn**	**03 19 53.6**	**+0.3**
LPG				*e*Sg		**Sg**	**03 22 22.8**	**-2.8**
	comp=Z,77nm,1.2s							
LOR	**Lormes**	**9.09**	**246**	*e*Pn		**Pn**	**03 19 57.3**	**-1.3**
	baz=67							
LOR	**Lormes**	**9.09**	**246**	*e*Pg		Px	03 20 36.2	
	baz=65							
LOR				*e*Sg		Sx	03 22 33.4	
	comp=Z,38nm,1.0s							
LOR	**Lormes**	**9.09**	**246**	*e*Pg		Px	03 20 36.2	
LOR				*e*Sg		Sx	03 22 33.4	
	comp=Z,19nm,1.0s							
LOR	**Lormes**	**9.09**	**246**	*e*Pn		**Pn**	**03 19 57.3**	**-1.3**
LOR				*e*Pg		**Pn**	**03 20 36.2**	**+38**
LOR				*e*Sg		**Sn**	**03 22 33.4**	**+52**
MBDF	**Montbardon**	**9.28**	**226**	*e*Pn		**Pn**	**03 20 01.4**	**+0.2**
MBDF				*e*Sg		Sn	03 22 40.8	+55
	comp=Z,29nm,1.0s							
SSF	**Saint Saulge**	**9.41**	**246**	*e*Pn		**Pn**	**03 20 01.4**	**-1.5**
SSF				*e*Sg		Sn	03 22 43.3	+54
	comp=Z,52nm,1.2s							
SMF	**Signal de Mont**	**9.46**	**243**	*e*Pg		Px	03 20 43.5	
SMF				*e*Sg		Sx	03 22 45.6	
	comp=Z,26nm,0.8s							
SMF	**Signal de Mont**	**9.46**	**243**	*e*Pn		**Pn**	**03 20 02.6**	**-1.0**
SMF				*e*Pg		Pn	03 20 43.5	+40
SMF				*e*Sg		Sn	03 22 45.6	+55
ORIF	**Oris-en-Rattie**	**9.55**	**230**	*e*Pn		**Pn**	**03 20 05.1**	**+0.3**
ORIF				*e*Sg		Sn	03 22 48.2	+55
	comp=Z,48nm,1.2s							
ORIF	**Oris-en-Rattie**	**9.55**	**230**	*e*Pn		**Pn**	**03 20 05.1**	**+0.3**
ORIF				*e*Sg		Sn	03 22 48.2	+55
	comp=Z,24nm,1.2s							
AVF	**Avril sur Loir**	**9.65**	**245**	*e*Pn		**Pn**	**03 20 04.5**	**-1.7**
AVF				*e*Pg		Pn	03 20 48.6	+42
SBF	**Sospel**	**9.69**	**221**	*e*Pn		**Pn**	**03 20 06.3**	**-0.5**
HYF	**Humbligny**	**9.80**	**249**	*e*Pn		**Pn**	**03 20 08.1**	**-0.1**
NOA	**NORSAR Array B**	**9.87**	**346**	Pn		**Pn**	**03 20 07.9**	**-1.2**
	comp=Z,0.3nm,0.3s,baz=161,slow=11,SNR=5.3							
NOA				Sn		**Sn**	**03 21 52.8**	**-7.7**
	comp=Z,0.3nm,0.3s,baz=142,slow=22,SNR=2.8							
VIVF	**Saint-Julien-l**	**10.19**	**233**	*e*Pn		**Pn**	**03 20 13.4**	**-0.1**
PGF	**Pioggiola**	**10.26**	**211**	*e*Pn		**Pn**	**03 20 15.8**	**+1.2**
FRF	**La Foret Royal**	**10.27**	**222**	*e*Pn		**Pn**	**03 20 14.8**	**+0.2**
LMR	**La Mourre**	**10.51**	**222**	*e*Pn		**Pn**	**03 20 17.8**	**-0.2**
LASF	**Ste Croix**	**11.15**	**232**	*e*Pn		**Pn**	**03 20 26.4**	**-0.4**
EKA	**Eskdalemuir Ar**	**12.10**	**296**	Pn		**Pn**	**03 20 35.9**	**-3.7**
	comp=Z,0.4nm,0.3s,baz=104,slow=14,SNR=10							
EKA				Sn		**Sn**	**03 22 44.9**	**-10**
	comp=Z,0.3nm,0.3s,baz=101,slow=25,SNR=4.9							
OBN	**Obninsk**	**12.69**	**66**	*e*P		**Pn**	**03 20 45.5**	**-2.3**
OBN				*e*S		**Sn**	**03 23 02.4**	**-7.3**
OBN				pmax		pmax		
	comp=Z,6.0nm,0.5s							
ESDC	**Sonseca Array**	**18.36**	**237**	P		**Pn**	**03 22 04.0**	**+2.0**
	comp=Z,0.1nm,0.3s,baz=57,slow=11,SNR=4.7							
ARCES	**ARCESS Array B**	**16.55**	**10**	P		**Pn**	**03 22 01.3**	**-2.9**
	comp=Z,0.3nm,0.3s,baz=187,slow=14,SNR=11							
AKTK	**Aktyubinsk**	**26.12**	**76**	P		**P**	**03 23 21.5**	**0.0**
	comp=Z,1.0nm,0.6s,mb3.6							
AKTO	**Aktyubinsk**	**26.12**	**76**	P		**P**	**03 23 21.5**	**0.0**
	comp=Z,1.3nm,0.6s,mb3.7,baz=294,slow=10,SNR=5.9							
AKTO	**Aktyubinsk**	**26.12**	**76**	P		**P**	**03 23 21.5**	**0.0**
AKTO				pmax		pmax		
	comp=Z,1.0nm,0.6s,mb3.6							
TORD	**Torodi Ar. Bea**	**40.07**	**202**	P		**P**	**03 25 23.1**	**-0.1**
	comp=Z,1.5nm,1.0s,mb3.6,baz=9.5,slow=8.9,SNR=6.9							
ZALV	**Zalesovo Beam**	**40.14**	**59**	P		**P**	**03 25 24.7**	**+1.3**
	comp=Z,0.5nm,0.4s,mb3.5,baz=309,slow=9.1,SNR=3.0							
ZALV	**Zalesovo Beam**	**40.14**	**59**	P		**P**	**03 25 24.7**	**+1.3**
ZALV				pmax		pmax		
	comp=Z,1.0nm,0.4s,mb3.8							
MKAR	**Makanchi Array**	**42.17**	**69**	P		**P**	**03 25 41.2**	**+1.0**
	comp=Z,0.2nm,0.4s,mb3.2,baz=300,slow=5.8,SNR=2.7							
SONM	**Songino Array**	**54.86**	**55**	P		**P**	**03 27 19.2**	**+1.3**
	comp=Z,0.7nm,0.8s,mb3.8,baz=282,slow=9.3,SNR=7.0							
SONM	**Songino Array**	**54.86**	**55**	P		**P**	**03 27 19.2**	**+1.3**
SONM				pmax		pmax		
	comp=Z,1.0nm,0.8s							
YKA	**Yellowknife Ar**	**59.80**	**336**	P		**P**	**03 27 51.9**	**-0.7**
	comp=Z,0.9nm,0.6s,mb4.0,baz=30,slow=6.8,SNR=11							
CMAR	**Chiang Mai Arr**	**71.33**	**84**	P		**P**	**03 29 07.7**	**-0.1**
	comp=Z,0.8nm,0.3s,mb4.3,baz=334,slow=6.0,SNR=3.2							
CMAR	**Chiang Mai Arr**	**71.33**	**84**	P		**P**	**03 29 07.7**	**0.0**
CMAR				pmax		pmax		
	comp=Z,1.0nm,0.3s							
PDAR	**Pinedale Array**	**74.90**	**322**	P		**P**	**03 29 29.8**	**+1.2**
	comp=Z,0.6nm,0.6s,mb3.8,baz=39,slow=6.2,SNR=6.7							

*ISCJB **15** 03:17:53.4±0.8, 1786S×0.10×17864W×007, h555km±9km, mb4.3/25, Error ellipse: s-maj=17.2km s-min=5.5km az=149.4*
*IDC **15** 03:17:55.6±1.6, 1792S×17849W, h576km±19km, mb3.6/12, mb1 3.9/13, mb1mx3.8/17, mbtmp3.6/13, Error ellipse: s-maj=21.1km s-min=11.0km az=146.0*
*NEIC **15** 03:17:55.1±0.9, 1790S×17851W, h573km±11km, mb4.5/14,*

2007 OCT

Error ellipse: s-maj=17.3km s-min=7.3km az=148.0
*DJA **15** 03:18:03, 1800S×17888W, h645km, mb4.6/12*
ISC 15 03:17:54.8±1.0, 1788S×1.010×17860W×.007, h559km±11km, n288, σ0=49/281, mb4.3/25, 116C-125D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**7.66**	**60**	P		**P**		**03 19 48.9**	**-0.6**
	6.4nm,0.3s,baz=205,slow=18,SNR=12								
AFI				S		**S**		**03 21 20.1**	**-3.5**
	1.0nm,0.3s,baz=360,slow=19,SNR=2.8								
URZ	**Urewera**	**20.65**	**190**	P		**P**		**03 21 55.8**	**-0.2**
	24nm,1.1s,baz=29,slow=10,SNR=5.3								
URZ				S		**S**		**03 25 02.3**	**-8.9**
	9.0nm,0.9s,baz=5.5,slow=19,SNR=2.3								
ARMA	**Armidale**	**29.79**	**240**	*e*P		**P**		**03 23 18.6**	**+1.7**
CTA	**Charters Tower**	**33.27**	**260**	*e*P		**P**		**03 23 47.6**	**+0.9**
	18nm,0.8s,mb4.7								
CNB	**Canberra Magne**	**33.30**	**232**	*e*P		**P**		**03 23 48.1**	**+1.4**
PMG	**Port Moresby**	**34.27**	**280**	*e*P		**P**		**03 23 56.2**	**+1.0**
	66nm,1.0s,mb5.1								
TOO	**Toolangi**	**37.04**	**231**	*e*P		**P**		**03 24 18.6**	**+0.8**
STKA	**Stephens Creek**	**38.48**	**241**	*e*P		**P**		**03 24 30.8**	**+1.2**
	13nm,0.5s,mb4.7								
STKA	**Stephens Creek**	**38.48**	**241**	P		**P**		**03 24 30.8**	**+1.2**
	26nm,0.7s,mb4.8,baz=88,slow=9.4,SNR=41								
WB2	**Warramunga Arr**	**44.44**	**260**	*e*P		**P**		**03 25 16.7**	**-0.2**
WRAB	**Tennant Creek**	**44.44**	**260**	*e*P		**P**		**03 25 16.7**	**-0.2**
	13nm,0.6s,mb4.6								
WRA	**Warramunga Arr**	**44.45**	**260**	P		**P**		**03 25 16.8**	**-0.1**
	14nm,0.5s,mb4.8,baz=93,slow=7.3,SNR=263								
WRA				PcP		PcP		03 26 47.4	-0.9
	1.3nm,0.4s,baz=95,slow=3.3,SNR=4.4								
ASAR	**Alice Springs**	**44.62**	**254**	P		**P**		**03 25 18.8**	**+0.6**
	99nm,0.6s,mb5.5,baz=87,slow=8.6,SNR=1012								
ASAR				PcP		PcP		03 26 48.2	-0.6
	3.1nm,0.6s,baz=93,slow=3.8,SNR=4.8								
ASAR				S		**S**		**03 31 13.1**	**-1.0**
	0.7nm,1.0s,baz=90,slow=16,SNR=4.4								
KAKA	**Kakadu**	**47.40**	**269**	*e*P		**P**		**03 25 37.2**	**-2.2**
	37nm,0.5s,mb5.2								
FORT	**Forrest**	**49.85**	**245**	*e*P		**P**		**03 25 56.8**	**-0.5**
	29nm,0.5s,mb5.0								
FITZ	**Fitzroy Crossi**	**52.85**	**261**	*e*P		**P**		**03 26 19.4**	**+0.2**
	6.0nm,0.4s,mb4.3								
MBWA	**Marble Bar**	**57.90**	**256**	*e*P		**P**		**03 26 53.8**	**-0.4**
	11nm,0.6s,mb4.3								
KLBR	**Kellerberrin**	**58.67**	**244**	↓*i*P		**P**		**03 26 58.5**	**-0.8**
	20nm,0.6s,mb4.5								
MUN	**Mundaring**	**59.97**	**243**	*e*P		**P**		**03 27 05.4**	**-2.5**
MJAR	**Matsushiro Ant**	**67.78**	**323**	P		**P**		**03 27 56.5**	**-0.8**
	1.4nm,0.5s,mb3.8,baz=161,slow=7.1,SNR=4.9								
KSM	**Kuching**	**72.50**	**277**	*e*P		**P**		**03 28 25.8**	**0.0**
PETK	**Petropavlovsk-**	**73.61**	**345**	P		**P**		**03 28 31.6**	**+0.3**
	1.3nm,0.6s,mb3.5,baz=118,slow=7.2,SNR=2.9								
U04C	**Hernandez Rese**	**76.75**	**45**	↓P		**P**		**03 28 49.7**	**+0.5**
	baz=77								
HOPS	**Hopland**	**76.78**	**41**	↓P		**P**		**03 28 49.2**	**-0.1**
	baz=77								
PACP	**Pacheco Peak**	**76.78**	**44**	↓P		**P**		**03 28 49.9**	**+0.6**
	baz=77								
CVS	**Carmenet Viney**	**76.79**	**42**	↑P		**P**		**03 28 49.4**	**+0.1**
	baz=77								
WENL	**Wente Vineyard**	**76.82**	**43**	↑P		**P**		**03 28 49.9**	**+0.4**
	baz=77								
MNRC	**McLaughlin Nat**	**77.11**	**42**	↑P		**P**		**03 28 51.6**	**+0.6**
	baz=77								
ARVC	**Arvin**	**77.40**	**47**	↑P		**P**		**03 28 51.9**	**-0.8**
	baz=78								
S05C	**Merced**	**77.60**	**44**	↓P		**P**		**03 28 54.0**	**+0.3**
	baz=78								
VES	**Vestal, Richgr**	**77.61**	**46**	↓P		**P**		**03 28 53.5**	**-0.3**
	baz=78								
N02C	**Big Bar**	**77.72**	**40**	↑P		**P**		**03 28 53.9**	**-0.5**
	baz=78								
BFSC	**Mount Baldy St**	**77.75**	**48**	↓P		**P**		**03 28 54.5**	**-0.1**
	baz=78								
T06C	**Millerton Lake**	**77.83**	**45**	↑P		**P**		**03 28 54.7**	**-0.3**
	baz=78								
EDW2	**Edwards Air Fo**	**77.85**	**47**	↑P		**P**		**03 28 55.1**	**0.0**
	baz=78								
ISA	**Isabella**	**77.93**	**46**	↑P		**P**		**03 28 55.6**	**0.0**
	baz=78								
ISA	**Isabella**	**77.93**	**46**	*e*P		**P**		**03 28 55.4**	**-0.2**
	2.8nm,0.8s,mb3.6								
MONP	**Monument Peak**	**77.94**	**50**	↓P		**P**		**03 28 56.2**	**+0.5**
	baz=78								
CMB	**Columbia Colle**	**77.95**	**43**	↓P		**P**		**03 28 55.4**	**-0.2**
	baz=78								
WDC	**Whiskeytown Da**	**78.04**	**40**	↑P		**P**		**03 28 56.1**	**+0.1**
	baz=78								
ORV	**Oroville**	**78.09**	**42**	↑P		**P**		**03 28 56.6**	**+0.2**
	baz=78								
LAVA	**Lava Cap Winer**	**78.12**	**43**	↓P		**P**		**03 28 56.6**	**0.0**
	baz=78								
KCC	**Kaiser Creek**	**78.26**	**44**	↑P		**P**		**03 28 57.5**	**+0.2**
	baz=78								
M02C	**Callahan**	**78.33**	**39**	↓P		**P**		**03 28 58.0**	**+0.4**
	baz=78								
LRMC	**Laurel Mountai**	**78.38**	**47**	↓P		**P**		**03 28 58.5**	**+0.5**
	baz=78								
YBH	**Yreka Blue Hor**	**78.62**	**39**	↑P		**P**		**03 28 59.7**	**+0.5**
	baz=79								
O05C	**Quincy**	**78.70**	**41**	↑P		**P**		**03 28 59.8**	**+0.2**
	baz=79								
M03C	**McCloud**	**78.71**	**40**	↑P		**P**		**03 28 59.9**	**+0.3**
	baz=79								
K02A	**Glendale**	**78.78**	**38**	↑P		**P**		**03 29 00.3**	**+0.4**
	baz=79								
O04C	**Chester**	**78.80**	**41**	↑P		**P**		**03 29 00.4**	**+0.4**
	baz=79								
BELC	**Belle Mtn.**	**78.81**	**49**	↓P		**P**		**03 29 00.6**	**+0.3**
	baz=79								
MPMC	**Manual Prospec**	**78.82**	**46**	↓P		**P**		**03 29 00.5**	**+0.2**
	baz=79								
R06C	**Coleville**	**78.83**	**43**	↑P		**P**		**03 29 00.7**	**+0.4**
	baz=79								
BEKR	**Beckwourth**	**79.00**	**42**	↑P		**P**		**03 29 01.0**	**-0.2**
	baz=79								
HUMO	**Hull Mountain**	**79.00**	**38**	↑P		**P**		**03 29 01.4**	**+0.3**
	baz=79								
BC3	**Big Chuckw Mtn**	**79.02**	**49**	↑P		**P**		**03 29 01.7**	**+0.3**
	baz=79								
WCN	**Washoe City**	**79.06**	**43**	↓P		**P**		**03 29 01.9**	**+0.4**
	baz=79								
J02A	**Umpqua**	**79.09**	**37**	↓P		**P**		**03 29 01.8**	**+0.3**
	baz=79								
M04C	**Macdoel**	**79.18**	**40**	↓P		**P**		**03 29 02.2**	**+0.1**
	baz=79								
GRAC	**Grapevine Rang**	**79.40**	**46**	↑P		**P**		**03 29 03.4**	**+0.1**
	baz=80								
FURC	**Furnace Creek,**	**79.47**	**46**	↓P		**P**		**03 29 03.5**	**-0.3**
	baz=80								
IRM	**Iron Mountain**	**79.49**	**49**	↓P		**P**		**03 29 04.1**	**+0.2**
	baz=80								
O06A	**Flanigan**	**79.50**	**42**	↑P		**P**		**03 29 04.0**	**+0.2**
	baz=80,SNR=9.8								
NVAR	**Mina Array Bea**	**79.53**	**44**	P		**P**		**03 29 03.6**	**-0.4**
	2.7nm,0.7s,mb3.7,baz=223,slow=8.6,SNR=28								
TUQ	**Turquoise Moun**	**79.59**	**48**	↑P		**P**		**03 29 04.8**	**+0.4**
	baz=80								
M06C	**Likely Place G**	**79.68**	**41**	↓P		**P**		**03 29 05.0**	**+0.2**
	baz=80								
Y12C	**Blythe**	**79.74**	**50**	↑P		**P**		**03 29 05.7**	**+0.4**
	baz=80								
U10A	**Ash Meadows, A**	**79.81**	**47**	↓P		**P**		**03 29 05.8**	**+0.2**
	baz=80								
113A	**Mohawk Valley,**	**79.82**	**51**	↑P		**P**		**03 29 05.9**	**+0.2**
	baz=80								
N06A	**Buffalo Meadow**	**79.82**	**41**	↑P		**P**		**03 29 05.3**	**-0.2**
	baz=80,SNR=5.3								
J04A	**Umpqua Nationa**	**79.87**	**38**	↑P		**P**		**03 29 06.3**	**+0.6**
	baz=80,SNR=6.3								
S09A	**Goldfield**	**79.88**	**45**	↑P		**P**		**03 29 06.2**	**+0.3**
	baz=80								
L05A	**Lakeview**	**79.94**	**40**	↓P		**P**		**03 29 06.7**	**+0.6**
	baz=80								
Q08A	**Gabbs**	**80.01**	**44**	↑P		**P**		**03 29 06.7**	**+0.2**
	baz=80								
O07A	**Toulon**	**80.11**	**42**	↓P		**P**		**03 29 07.0**	**0.0**
	baz=80,SNR=6.3								
TPNV	**Topopah Spring**	**80.14**	**46**	↓P		**P**		**03 29 07.5**	**+0.2**
	baz=80								
214A	**Organ Pipe Nat**	**80.14**	**52**	↓P		**P**		**03 29 07.7**	**+0.3**
	baz=80								
MOD	**Modoc**	**80.19**	**40**	↓P		**P**		**03 29 07.5**	**+0.1**
	baz=80,SNR=7.9								
MOD	**Modoc**	**80.19**	**40**	*e*P		**P**		**03 29 07.3**	**-0.1**
	4.5nm,0.6s,mb4.0								
R09A	**Tonopah**	**80.25**	**45**	↓P		**P**		**03 29 08.1**	**+0.3**
	baz=80								
PDMCI	**Parker Dam,Lak**	**80.29**	**49**	↓P		**P**		**03 29 08.3**	**+0.2**
	baz=80								
K05A	**Summer Lake**	**80.30**	**39**	↑P		**P**		**03 29 08.3**	**+0.4**
	baz=80								
N07B	**Gerlach**	**80.39**	**42**	↓P		**P**		**03 29 08.6**	**+0.1**
	baz=80								
S10A	**Tonopah Range,**	**80.41**	**45**	↓P		**P**		**03 29 08.7**	**+0.1**
	baz=80,SNR=7.1								
J05A	**Fort Rock**	**80.42**	**39**	↓P		**P**		**03 29 09.0**	**+0.5**
	baz=81,SNR=10								
V12A	**Nelson**	**80.49**	**48**	↑P		**P**		**03 29 09.0**	**-0.1**
	baz=81								
M07A	**Soldier Meadow**	**80.60**	**41**	↓P		**P**		**03 29 09.8**	**+0.3**
	baz=81,SNR=6.0								
O08A	**Rochester Mine**	**80.64**	**42**	↑P		**P**		**03 29 09.9**	**+0.2**
	baz=81								
X13A	**Yucca**	**80.66**	**49**	↓P		**P**		**03 29 10.2**	**+0.2**
	baz=81								
Z14A	**Wintersburg**	**80.71**	**51**	↓P		**P**		**03 29 10.7**	**+0.4**
	baz=81								
K06A	**Valley Falls**	**80.73**	**39**	↑P		**P**		**03 29 10.4**	**+0.2**
	baz=81,SNR=7.2								
R10A	**Warm Springs**	**80.79**	**45**	↑P		**P**		**03 29 11.0**	**+0.4**
	baz=81,SNR=6.3								
S11A	**Rachel**	**80.84**	**46**	↓P		**P**		**03 29 11.1**	**+0.2**
	baz=81								
L07A	**Adell**	**80.84**	**40**	↓P		**P**		**03 29 11.2**	**+0.4**
	baz=81,SNR=5.2								
W13A	**Hualapai Mount**	**80.86**	**49**	↑P		**P**		**03 29 11.3**	**+0.3**
	baz=81								
N08A	**GE Springer Mi**	**80.92**	**42**	↓P		**P**		**03 29 11.3**	**+0.1**
	baz=81,SNR=5.1								
Y14A	**Wickenburg**	**80.94**	**50**	↓P		**P**		**03 29 11.5**	**0.0**
	baz=81								
T11A	**Corn Creek, Al**	**80.99**	**46**	↑P		**P**		**03 29 12.0**	**+0.3**
	baz=81,SNR=5.4								
Q10A	**Clear Creek Ra**	**81.01**	**44**	↓P		**P**		**03 29 11.9**	**+0.2**
	baz=81								
J06A	**Christmas Vall**	**81.04**	**39**	↑P		**P**		**03 29 11.9**	**+0.1**
	baz=81								
U12A	**Valley of Fire**	**81.06**	**47**	↑P		**P**		**03 29 12.5**	**+0.5**
	baz=81								
M08A	**Happy Creek Ra**	**81.13**	**41**	↓P		**P**		**03 29 12.4**	**+0.1**
	baz=81								
V13A	**Grand Canyon W**	**81.16**	**48**	↑P		**P**		**03 29 12.7**	**+0.1**
	baz=81								
116A	**Eloy**	**81.26**	**52**	↓P		**P**		**03 29 13.3**	**+0.2**
	baz=81								
K07A	**Rock Creek Ran**	**81.28**	**40**	↓P		**P**		**03 29 13.2**	**+0.2**
	baz=81,SNR=7.6								
X14A	**Yava**	**81.28**	**50**	↑P		**P**		**03 29 13.6**	**+0.4**
	baz=81								
R11A	**Troy Canyon, C**	**81.31**	**45**	↑P		**P**		**03 29 13.4**	**+0.1**
	baz=81								
N09A	**Rock Creek Ran**	**81.34**	**42**	↓P		**P**		**03 29 13.6**	**+0.2**
	baz=82								
I06A	**Prineville**	**81.40**	**38**	↓P		**P**		**03 29 14.0**	**+0.4**
	baz=82,SNR=8.7								
S12A	**Delamar Landin**	**81.43**	**46**	↓P		**P**		**03 29 14.5**	**+0.6**
	baz=82,SNR=8.8

K10A MacKenzie Ranc 82.79 41 ⇓P P 03 29 20.9 +0.3
baz=83
A04A Legoe Bay, Lum 82.82 34 ⇑P P 03 29 21.1 +0.4
baz=83
O12A Currie 82.85 44 ⇑P P 03 29 21.1 +0.1
baz=83
219A White Tail Can 82.85 53 ⇑P P 03 29 23.4 +2.2
baz=83
T15A Red Dirt Ranch 82.86 48 ⇑P P 03 29 21.1 0.0
baz=83
WUAZ Wupatki 82.87 49 ⇑P P 03 29 20.9 -0.4
baz=83
B05A Bryant 82.87 34 ⇑P P 03 29 20.9 0.0
baz=83
I09A Lost Marbles R 82.90 39 ⇓P P 03 29 20.9 -0.3
baz=83
G08A Pilot Rock 82.90 38 ⇑P P 03 29 21.0 -0.2
baz=83
P13A Bates Ranch, G 82.92 45 ⇑P P 03 29 21.2 -0.2
baz=83,SNR=5.5
N12A Clover Valley, 82.95 43 ⇓P P 03 29 21.6 +0.1
baz=83
Y18A Canyon Day Jun 83.06 51 ⇓P P 03 29 21.7 -0.5
baz=83
E07A Sunnyside 83.11 36 ⇑P P 03 29 22.3 +0.2
baz=83
RSW Rattlesnake Hi 83.16 37 eP P 03 29 21.9 -0.6
L11A Cat Creek Ranc 83.17 42 ⇓P P 03 29 22.9 +0.3
baz=83
Q14A Sevier Lake (B 83.19 45 ⇑P P 03 29 22.8 0.0
baz=83,SNR=6.4
F08A Pendleton 83.29 38 ⇓P P 03 29 22.6 -0.5
baz=84
K11A Parker Ranch, 83.31 41 ⇑P P 03 29 23.4 +0.1
baz=84
M12A Wells 83.32 43 ⇑P P 03 29 23.4 +0.1
baz=84
U16A Tuba City 83.33 49 ⇑P P 03 29 23.2 -0.4
baz=83,SNR=5.2
D07A Quincy 83.41 36 ⇑P P 03 29 23.8 +0.1
baz=84
ETW Entiat 83.44 35 eP P 03 29 23.2 -0.6
X18A Snowflake 83.45 51 ⇑P P 03 29 24.2 0.0
baz=84
E08A Dider Farm, El 83.52 37 ⇓P P 03 29 24.1 -0.1
baz=84
I10A Payette 83.53 40 ⇑P P 03 29 24.4 +0.1
baz=84
G09A Cove 83.59 38 ⇓P P 03 29 24.4 -0.2
baz=84
P14A Drum Mountains 83.63 45 ⇓P P 03 29 25.1 +0.2
baz=84
L12A House Creek Ra 83.63 42 ⇓P P 03 29 24.9 0.0
baz=84
C07A Waterville 83.64 35 ⇓P P 03 29 24.4 -0.4
baz=84
Y19A Nutrioso 83.72 51 ⇓P P 03 29 25.4 -0.1
baz=84
MFID Camas Ranch 83.78 41 ⇓P P 03 29 25.4 -0.1
baz=84
M13A Montello 83.78 43 ⇑P P 03 29 25.6 -0.1
baz=84
MAW Mawson 83.82 200 P P 03 29 24.5 -0.9
2.1nm,0.4s,mb4.0,baz=112,slow=6.5,SNR=9.3
H10A Noah's Angus R 83.83 39 ⇑P P 03 29 25.3 -0.5
baz=84,SNR=6.3
U17A Shonto 83.88 49 ⇑P P 03 29 26.3 0.0
baz=84
X19A St. Johns 83.90 51 ⇓P P 03 29 28.0 +1.6
baz=84
D08A Wollman Farm, 83.92 36 ⇓P P 03 29 25.9 -0.2
baz=84
K12A Draper Farm, C 83.95 42 ⇓P P 03 29 26.2 -0.2
baz=84
I11A Placerville 83.95 40 ⇑P P 03 29 26.6 +0.1
baz=84
T17A Navajo Res., N 83.96 48 ⇑P P 03 29 26.7 0.0
baz=84
G10A Bishop Farm, J 83.99 39 ⇑P P 03 29 26.3 -0.3
baz=84
B07A Winthrop 84.05 35 ⇑P P 03 29 26.3 -0.5
baz=84
E09A Wood Farm, Sta 84.06 37 ⇑P P 03 29 26.5 -0.3
baz=84
J12A Stokes Ranch, 84.14 41 ⇑P P 03 29 26.9 -0.5
baz=84
A07A Ashnola River, 84.25 34 ⇑P P 03 29 27.5 -0.3
baz=84
C08A Higginbotham F 84.26 36 ⇓P P 03 29 27.1 -0.7
baz=84
D09A Jones Farm, Ri 84.27 37 ⇓P P 03 29 27.6 -0.3
baz=84
F10A Beach Ranch, E 84.29 38 ⇑P P 03 29 27.9 -0.2
baz=84
H11A Donnelly 84.34 40 ⇑P P 03 29 28.0 -0.3
baz=84
M14A Sheep Mountain 84.38 43 ⇑P P 03 29 28.7 +0.1
baz=84
I12A Atlanta 84.40 41 ⇑P P 03 29 28.5 -0.1
baz=84
B08A Colville Reser 84.42 35 ⇓P P 03 29 27.8 -0.9
baz=85
K13A Stover Farm, H 84.48 42 ⇑P P 03 29 28.7 -0.3
baz=85
G11A Walters Elk Ra 84.55 39 ⇓P P 03 29 28.8 -0.5
baz=85
R17A Hanksville Air 84.68 47 ⇑P P 03 29 29.7 -0.5
baz=85
T18A Mexican Hat 84.69 48 ⇓P P 03 29 30.1 -0.1
baz=85,SNR=7.3
C09A Chrisman Ranch 84.70 36 ⇓P P 03 29 29.4 -0.6
baz=85
HLID Hailey 84.73 41 ⇑P P 03 29 30.3 0.0
baz=85
A08A Turner Farm, O 84.80 35 ⇓P P 03 29 29.8 -0.6
baz=85
J13A Cove Ranch, Pi 84.80 41 ⇓P P 03 30.9 +0.3
baz=85,SNR=5.6
F11A Grangeville 84.88 38 ⇓P P 03 29 29.5 -1.4
baz=85
M15A Larsen Ranch, 84.95 44 ⇓P P 03 29 30.8 -0.5
baz=85
H12A Diamond D Ranc 84.96 40 ⇑P P 03 29 31.1 -0.2
baz=85
K14A Jones Ranch, D 85.01 42 ⇑P P 03 29 31.2 -0.4
baz=85
E11A Bogner Ranch, 85.10 38 ⇓P P 03 29 31.0 -0.9
baz=85
B09A Rice 85.11 36 ⇓P P 03 29 31.4 -0.6
baz=85
SRU San Rafael 85.13 46 eP P 03 29 27.3 -5.1
3.3nm,0.6s,mb4.0
J14A Carey 85.17 42 ⇑P P 03 29 32.6 +0.2
baz=85
A09A Danville 85.18 35 ⇓P P 03 29 31.8 -0.5
baz=85
F12A Elk City 85.35 39 ⇓P P 03 29 32.6 -0.5
baz=86
D11A Klaveano Farm, 85.39 37 ⇓P P 03 29 32.7 -0.7
baz=86
Q18A Rafter H Ranch 85.40 47 ⇑P P 03 29 33.5 -0.1
baz=86
O17A Robinson Place 85.49 45 ⇓P P 03 29 34.2 +0.2
baz=86
I14A Mackay 85.52 41 ⇓P P 03 29 34.3 +0.3
baz=86
G13A Cobalt 85.62 40 ⇓P P 03 29 33.9 -0.6
baz=86
A10A Northport 85.75 35 ⇑P P 03 29 34.5 -0.5
baz=86
C11A Tepee Creek (N 85.86 37 ⇑P P 03 29 35.4 -0.2
baz=86
L16A Fish Haven 85.88 44 ⇓P P 03 29 35.9 +0.1
baz=86
J15A Blackfoot 85.90 42 ⇓P P 03 29 36.2 +0.3
baz=86
H14A Leadore 85.91 41 ⇓P P 03 29 36.2 +0.3
baz=86
F13A Darby 85.92 39 ⇓P P 03 29 35.5 -0.4
baz=86
D12A Red Ives Fores 85.97 38 ⇓P P 03 29 35.9 -0.2
baz=86
TXAR Lajitas Array 86.14 58 P P 03 29 37.2 -0.1
2.7nm,0.8s,mb4.0,baz=215,slow=6.2,SNR=30
TXAR Lajitas Array 86.14 58 P P 03 29 37.2 -0.1
G14A Jackson 86.17 40 ⇓P P 03 29 37.2 +0.1
baz=86
K16A Soda Springs 86.17 43 ⇑P P 03 29 36.7 -0.4
baz=86
H15A Lima 86.36 41 ⇓P P 03 29 38.3 +0.3
baz=86
J16A Bone 86.36 42 ⇓P P 03 29 38.3 +0.2
baz=86
A11A Hall Mountain, 86.40 36 ⇑P P 03 29 38.1 0.0
baz=87
D13A Huson 86.51 38 ⇓P P 03 29 38.4 -0.3
baz=87
RRI2 Red Ridge 86.59 42 P P 03 29 38.8 -0.3
4.2nm,0.8s,mb4.1
G15A Dillon 86.73 40 ⇑P P 03 29 39.6 -0.1
baz=87
I16A Newdale 86.73 42 ⇑P P 03 29 40.2 +0.4
baz=87
E14A Clinton 86.74 39 ⇓P P 03 29 39.1 -0.6
baz=87
G16A Moss Hill, Enn 87.18 41 ⇓P P 03 29 41.5 -0.4
baz=87
C14A Swan Lake 87.27 38 ⇑P P 03 29 41.9 -0.3
baz=87
H16A Russell Place, 87.28 41 ⇑P P 03 29 42.1 -0.2
baz=87
H16A ⇓P 03 29 43.0
baz=87
BW06 Boulder Array 87.46 44 ⇓P P 03 29 42.8 -0.4
baz=88
PDAR Pinedale Array 87.46 44 P P 03 29 42.2 -1.0
1.8nm,0.6s,mb3.9,baz=230,slow=2.9,SNR=16
D15A Lincoln 87.63 39 ⇓P P 03 29 43.8 -0.2
baz=88
B14A Marquette Ranc 87.84 37 ⇑P P 03 29 44.3 -0.6
baz=88
C15A Salmond Ranch, 87.94 38 ⇓P P 03 29 45.4 +0.1
baz=88
A14A Double T Ranch 88.06 37 ⇓P P 03 29 45.7 -0.2
baz=88
D16A Dana Ranch, Ca 88.20 39 ⇑P P 03 29 46.2 -0.4
baz=88
B15A Bradely Ranch, 88.23 38 ⇑P P 03 29 45.9 -0.7
baz=88
C16A Fuhringer Ranc 88.46 38 ⇓P P 03 29 47.2 -0.5
baz=89
CMAR Chiang Mai Arr 88.70 290 P P 03 29 50.6 +1.1
1.4nm,0.5s,mb4.1,baz=108,slow=3.2,SNR=8.3
RLMT Red Lodge 88.72 41 ⇑P P 03 29 48.8 -0.2
baz=89
C17A Wharram Farm, 88.96 39 ⇓P P 03 29 49.7 -0.4
baz=89
E18A Harlowton 88.98 40 ⇓P P 03 29 50.3 +0.1
baz=89
A16A West Butte Ran 89.10 37 ⇑P P 03 29 50.3 -0.5
baz=89
VNA3 Neumayer Olymp 90.78 176 e P 03 29 56.9 -1.3
VNA2 Neumayer--Watz 91.21 177 e P 03 29 59.3 -0.9
DGMT Dagmar 93.29 40 ⇓P P 03 30 09.8 -0.2
baz=93
SONM Songino Array 93.41 319 P P 03 30 10.9 +0.3
0.3nm,0.5s,mb3.6,baz=116,slow=2.8,SNR=3.4
YKA Yellowknife Ar 94.39 25 P P 03 30 13.0 -1.7
0.4nm,0.6s,mb3.7,baz=237,slow=4.7,SNR=7.1
MKAR Makanchi Array 108.98 314 PKiKP PKiKP 03 35 19.0 -2.0
0.3nm,0.3s,baz=89,slow=1.1,SNR=3.2
KURK Kurchatov 111.68 318 PKiKP PKiKP 03 35 24.1 -2.0
0.4nm,0.6s,baz=76,slow=1.8,SNR=4.4
BVAR Borovoye Array 116.71 321 PKP PKPdf 03 35 33.8 -1.9
0.8nm,0.5s,baz=101,slow=4.7,SNR=4.4
SPITS Spitsbergen Ar 119.23 356 PKP PKPdf 03 35 38.5 -1.4
15nm,1.1s,baz=5.7,slow=5.9,SNR=2.6
AKASG Malin Array Be 140.45 332 PKP PKPdf 03 36 21.5 +1.0
0.5nm,0.4s,baz=47,slow=2.8,SNR=3.1
BR131 Keskin Array S 144.63 315 ePKPdf PKPdf 03 36 28.0 -0.3
ASF Jabal al Asfar 145.08 301 PKPbc PKPbc 03 36 29.5 -0.5
1.8nm,0.5s,baz=33,slow=3.3,SNR=3.4
MMAI Mount Meron Ar 145.97 303 PKPbc PKPbc 03 36 31.9 -0.8
4.4nm,0.6s,baz=58,slow=7.0,SNR=8.1
GERES GERESS Array B 147.54 345 PKPbc PKPbc 03 36 35.5 -0.9
1.0nm,0.5s,baz=20,slow=2.6,SNR=13
TORD Torodi Ar. Bea 175.28 184 PKP PKPdf 03 36 59.4 -2.3
0.5nm,0.9s,baz=186,slow=1.4,SNR=2.7
TORD PKPab PKPab 03 38 40.2 -1.7
1.9nm,1.3s,baz=185,slow=4.1,SNR=4.3

IDC ***15*** *04:04:14.2±1.8,296S×13990E,h0km,mb3.9/5,mb1 4.1/6, mb1mx3.9/14,mbtmp4.0/6,ML4.1/1,MS3.4/6,Ms1 3.4/6, ms1mx3.0/21,Error ellipse: s-maj=67.1km s-min=14.6km az=92.0*

ISCJB ***15*** *04:04:18.2±3.4,303S±008×1392E±01,h23km±27km, mb3.8/4,MS3.5/2,Error ellipse: s-maj=21.5km s-min=11.6km az=18.5*

NEIC ***15*** *04:04:21.4±0.9,303S×139.11E,h35km,mb4.3/2,Error ellipse: s-maj=20.9km s-min=13.8km az=87.0*

ISC 15 04:04:24.3±1.9,32S±01×1392E±01,h64km±19km,n16, σ0s75/17,mb3.8/4,Irian Jaya

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
PMG	Port Moresby	10.05	129	ePn	Pn	Pn	04 06 46.5	+0.6
	42nm,1.1s							
KAKA	Kakadu	11.63	215	eP	Pn	Pn	04 07 06.7	-0.8
	61nm,0.5s							
KAKA				eS	Sn	Sn	04 09 16.4	+0.6
WRAB	Tennant Creek	17.35	196	ePn	Pn	Pn	04 08 21.8	-0.4
	12nm,0.6s							
WB2	Warramunga Arr	17.36	196	ePn	Pn	Pn	04 08 22.5	+0.2
WRA	Warramunga Arr	17.36	196	P	Pn	Pn	04 08 21.5	-0.9
	0.7nm,0.3s,baz=18,slow=13,SNR=22							
WRA				S	S	S	04 11 34.4	-5.8
	0.2nm,0.3s,baz=6.7,slow=22,SNR=5.8							
WRA				LR	LR	LR	04 16 01.6	
	comp=Z,96nm,18.5s,baz=40,slow=40							
GUMO	Guam	17.55	19	LR	LR	LR	04 14 53.7	
	comp=Z,89nm,18.1s,baz=9.3,slow=37							
CTA	Charters Tower	18.19	158	LR	LR	LR	04 16 09.9	
	comp=Z,287nm,18.4s,baz=49,slow=40							
FITZ	Fitzroy Crossi	19.95	221	eP	Pn	Pn	04 08 54.0	+0.5
	10nm,0.6s							
FITZ				eS	S	S	04 12 30.9	-1.5
FITZ	Fitzroy Crossi	19.95	221	P	Pn	Pn	04 08 53.9	+0.4
	5.9nm,0.6s,baz=49,slow=14,SNR=18							
FITZ				S	S	S	04 12 34.0	+1.6
	8.7nm,1.1s,baz=196,slow=17,SNR=4.1							
FITZ				LR	LR	LR	04 17 58.2	
	comp=Z,43nm,20.0s,baz=49,slow=40							
ASAR	Alice Springs	21.04	194	P	P	P	04 09 03.9	+0.9
	14nm,0.8s,mb4.4,baz=25,slow=10,SNR=23							
ASAR				S	S	S	04 13 03.5	+10
	1.7nm,0.9s,baz=16,slow=27,SNR=4.3							
STKA	Stephens Creek	28.67	176	P	P	P	04 10 14.3	-0.9
	1.1nm,0.7s,mb3.7,baz=347,slow=14,SNR=2.8							
STKA				LR	LR	LR	04 23 14.3	
	comp=Z,105nm,21.8s,baz=213,slow=40							
STKA	Stephens Creek	28.67	176	P	P	P	04 10 14.3	-0.9
STKA				LR	LR	LR	04 23 14.3	
JHJ	Hachijo jima 2	36.07	1	LR	LR	LR	04 22 33.0	
	comp=Z,82nm,20.1s,baz=285,slow=31							
SONM	Songino Array	58.33	335	P	P	P	04 14 12.3	-0.3
	0.4nm,0.5s,mb3.7,baz=151,slow=8.2,SNR=3.2							
MKAR	Makanchi Array	70.44	322	P	P	P	04 15 32.5	+0.6
	0.2nm,0.3s,mb3.5,baz=113,slow=5.6,SNR=3.2							
DBIC	Dimbokro	144.04	277	PKP	PKPdf	PKPdf	04 23 52.1	-1.7
	2.9nm,0.9s,baz=153,slow=3.6,SNR=4.0							

BJI ***15*** *05:47:11.2,052N×9727E,h25km,mB4.8,mb4.7,Ms4.4, Msz4.3*

IDC ***15*** *05:47:16.1±1.1,136N×9730E,h0km,mb4.3/9,mb1 4.4/10, mb1mx4.2/20,mbtmp4.3/10,ML4.3/1,MS4.1/11,Ms1 4.1/11, ms1mx3.8/26,Error ellipse: s-maj=43.4km s-min=16.3km az=61.0*

DJA ***15*** *05:47:19,139N×9704E,h14km,MLv4.7/7*

ISCJB ***15*** *05:47:20.4±1.2,133N±007×9719E±007,h45km±9km, mb4.6/28,MS4.2/12,Error ellipse: s-maj=15.8km s-min=7.0km az=135.8*

NEIC ***15*** *05:47:21.4±0.4,139N×9738E,h35km,mb4.8/17,Error ellipse: s-maj=14.5km s-min=6.0km az=55.0*

NEIC Felt [III] at Gunungsitoli.

ISC 15 05:47:20.6±1.5,129N±007×9713E±006,h29km±10km,n12, σ0s97/64,mb4.6/28,MS4.2/12,5C-7D,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
GSI	Gunungsitoli	0.44	88	P	Pb	Pb	05 47 29.7	-0.3

TSI Tuntungan 2.62 33 P Pn 05 48 01.2 +0.2
PPI Padang Panjang 3.70 118 P Pn 05 48 16.3 +0.5
PDSI Padang 3.98 123 P Pn 05 48 22.7 +3.0
BSI Banda Aceh 4.56 336 P Pn 05 48 25.7 -2.0
IPM Ipoh 5.01 51 ⇑P Pn 05 48 33.9 0.0
IPM Ipoh 5.01 51 P Pn 05 48 33.6 -0.3
76nm,0.8s,2μm0.4nm
KULM Kulim 5.30 41 ⇑P Pn 05 48 33.9 -3.9
KGM Kluang 6.23 83 ⇓P Pn 05 48 50.8 +0.3
MYKOM Kota Tinggi 6.73 86 ⇑P Pn 05 48 58.1 +0.6
KTGM Kuala Trenggan 7.21 56 ⇓P Pn 05 49 04.1 0.0
KSM Kuching 13.17 89 ⇓P Pn 05 50 28.7 +2.9
SBUM Sibu 15.12 85 ⇑P Pn 05 50 53.0 +0.7
BTM Bintulu 16.05 83 ⇓P Pn 05 51 04.8 +0.4
CMAR Chiang Mai Arr 17.15 6 P Pn 05 51 16.7 -1.5
0.4nm,0.3s,baz=196,slow=11,SNR=13
CMAR LR LR 05 58 44.2
comp=Z,615nm,19.8s,baz=190,slow=40
CHTO Chiang Mai 17.50 6 eP Pn 05 51 19.9 -2.7
2.7nm,0.6s
KKM Kota Kinabalu 19.61 76 ⇓P Pn 05 51 47.0 -1.3
KKM Kota Kinabalu 19.61 76 eP Pn 05 51 44.9 -3.4
KDM Kudat 20.42 74 ⇓P P 05 51 55.8 +0.2
TSM Tawau 20.93 81 ⇑P P 05 52 00.9 -0.2
QIZ Qiongzhong 21.59 34 P P 05 52 09.3 +1.1
QIZ LR LR
comp=E,774nm,16.9s
QIZ LR LR
comp=Z,623nm,16.5s,MS4.1
MYLDM Lahad Datu 21.68 79 ⇓P P 05 52 10.0 +0.8
KMI Kunming 24.30 12 P P 05 52 35.9 +0.2
KMI AP 05 52 42.3
KMI XP sP 05 52 44.8 -2.9
KMI PP 05 53 12.6
KMI PPP 05 53 23.4
KMI S S 05 56 53.6 +0.5
KMI XS sS 05 57 04.3 -2.7
KMI SS 05 57 50.3
KMI SSS 05 58 06.8
KMI AMB AMB
comp=Z,23nm,1.7s,mb4.3
KMI AMB AMB
comp=Z,205nm,4.7s
KMI LR LR
comp=N,1μm,16.1s,MS4.6
KMI LR LR
comp=E,611nm,13.8s,MS4.6
KMI LR LR
comp=Z,2μm,16.1s,MS4.6
KMI Kunming 24.30 12 P P 05 52 35.9 +0.2
comp=Z,23nm,1.7s,mb4.3
KMI pP 05 52 42.3
KMI sP sP 05 52 44.7 -3.0
KMI PP 05 53 12.6
KMI PPP 05 53 23.4
KMI S S 05 56 53.6 +0.5
KMI sS sS 05 57 04.3 -2.7
KMI SS 05 57 50.3
KMI SSS 05 58 06.7
KMI LR LR
comp=Z,2μm,16.1s,MS4.6
SHL Shillong 24.66 349 eP P 05 52 39.4 +0.5
GYA Guiyang 26.65 19 eP P 05 52 55.8 -1.1
GYA AMB AMB
comp=Z,10.0nm,0.8s,mb4.4
ODAN Odare 27.09 341 eP P 05 53 01.9 +1.0
TAPN Taplejung 27.44 342 eP P 05 53 05.0 +0.9
comp=Z,37nm,0.8s,mb5.0
RAMN Ramite 27.44 339 eP P 05 53 05.5 +1.4
comp=Z,14nm,0.6s,mb4.7
JIRN Jiri 28.24 339 eP P 05 53 12.1 +0.9
comp=Z,35nm,0.7s,mb5.1
PKI Pulchoki 28.44 338 eP P 05 53 13.4 +0.4
comp=Z,12nm,0.6s,mb4.7
PKI Pulchoki 28.44 338 eP P 05 53 13.6 +0.6
comp=Z,8.9nm,0.6s,mb4.6
PKIN Phulchoki 28.45 338 eP P 05 53 13.6 +0.5
comp=Z,8.9nm,0.6s,mb4.5
GUN Gumba 28.58 339 eP P 05 53 15.0 +0.8
comp=Z,42nm,0.7s,mb5.3
DMN Daman 28.59 337 eP P 05 53 14.4 +0.1
comp=Z,14nm,0.7s,mb4.8
KKN Kakani 28.69 338 eP P 05 53 15.5 +0.3
comp=Z,23nm,0.8s,mb4.9
LSA Lhasa 28.82 349 P P 05 53 18.3 +2.0
GKN Gorkha 29.13 337 eP P 05 53 19.9 +0.8
comp=Z,28nm,0.8s,mb5.0
KOLN Koldanda 29.35 335 eP P 05 53 20.4 -0.6
comp=Z,37nm,0.7s,mb5.2
DANN Dangsing 29.79 336 eP P 05 53 25.4 +0.4
comp=Z,15nm,0.6s,mb4.9
LZH Lanzhou 35.18 9 eP P 05 54 10.6 -1.4
LZH AP pP 05 54 18.5 -2.1
LZH XP sP 05 54 21.3 -2.8
LZH AMB AMB
comp=Z,18nm,1.0s,mb5.0
LZH AMB AMB
comp=Z,73nm,4.5s
LZH Lanzhou 35.18 9 eP P 05 54 10.6 -1.4
comp=Z,18nm,1.0s,mb5.0
LZH pP pP 05 54 18.5 -2.1
LZH sP sP 05 54 21.2 -2.9
GTA Gaotai 38.02 3 eP P 05 54 35.8 -0.4
GTA AP pP 05 54 43.4 -1.4
GTA XP sP 05 54 47.8 -0.5
GTA AMB AMB
comp=Z,8.0nm,1.0s,mb4.4
WRA Warramunga Arr 42.14 122 P P 05 55 08.9 -1.8
comp=Z,2.3nm,0.5s,mb4.0,baz=302,slow=9.1,SNR=34
WRA LR LR 06 12 22.7
comp=Z,172nm,21.3s,MS3.9,baz=300,slow=36
WRAB Tennant Creek 42.15 122 eP P 05 55 09.6 -1.2
comp=Z,2.3nm,0.5s,mb4.1
WB2 Warramunga Arr 42.15 122 eP P 05 55 09.5 -1.3
WMQ Urumqi 43.17 350 eP P 05 55 19.4 +0.7
ASAR Alice Springs 43.50 127 P P 05 55 20.6 -1.1
comp=Z,0.8nm,0.5s,mb3.7,baz=298,slow=7.6,SNR=10
UCH Uchtor 45.54 336 eP P 05 55 38.0 +0.4
comp=Z,3.5nm,0.7s,mb4.4
AML Almayashu 45.79 336 eP P 05 55 40.1 +0.4
comp=Z,5.1nm,0.6s,mb4.6
KSRS Korea Array 45.81 35 P P 05 55 39.0 -1.0
comp=Z,4.7nm,0.7s,mb4.5,baz=217,slow=8.9,SNR=14
KSRS LR LR 06 15 10.6
comp=Z,153nm,20.5s,MS3.9,baz=113,slow=37
EKS2 Erkin-Say 46.20 336 eP P 05 55 43.3 +0.5
comp=Z,4.0nm,0.7s,mb4.5
SONM Songino Array 47.05 9 P P 05 55 49.2 -0.3
comp=Z,4.0nm,0.7s,mb4.4,baz=189,slow=8.9,SNR=25
MK31 Makanchi Array 47.14 346 eP P 05 55 49.7 -0.4
MKAR Makanchi Array 47.14 346 P P 05 55 49.9 -0.2
comp=Z,3.8nm,0.6s,mb4.5,baz=159,slow=7.7,SNR=48
MKAR Makanchi Array 47.14 346 P P 05 55 49.9 -0.2
KURK Kurchatov 51.69 345 P P 05 56 24.1 -0.7
comp=Z,4.0nm,0.7s,mb4.5,baz=166,slow=7.0,SNR=9.4
KURK Kurchatov 51.69 345 eP P 05 56 24.4 -0.4
comp=Z,1.8nm,0.6s,mb4.2
CTA Charters Tower 52.60 117 LR LR 06 19 41.0
comp=Z,123nm,20.5s,MS3.9,baz=60,slow=37
ZAA0 Zalesovo Array 53.46 351 eP P 05 56 37.1 -0.7
ZALV Zalesovo Beam 53.46 351 P P 05 56 37.4 -0.5
comp=Z,11nm,0.7s,mb4.9,baz=181,slow=6.7,SNR=41
STKA Stephens Creek 53.47 122 P P 05 56 38.5 +0.1
comp=Z,1.1nm,0.4s,mb4.1,baz=311,slow=16,SNR=2.9
BVAR Borovoye Array 56.14 341 P P 05 56 56.5 -0.9
comp=Z,3.8nm,0.6s,mb4.6,baz=139,slow=8.7,SNR=20
KMBO Kilima Mbogo 59.92 268 LR LR 06 18 29.4
comp=Z,102nm,18.9s,MS4.0,baz=208,slow=31
MAW Mawson 72.78 193 LR LR 06 26 28.2
comp=Z,99nm,18.1s,MS4.1,baz=250,slow=32
RPZ Rata Peaks 79.32 135 LR LR 06 36 18.2
comp=Z,296nm,18.6s,MS4.7,baz=255,slow=37
ARCES ARCESS Array B 82.43 340 LR LR 06 40 21.6
comp=Z,124nm,18.9s,MS4.3,baz=289,slow=39
NOA NORSAR Array B 86.89 331 LR LR 06 42 17.9
comp=Z,45nm,18.1s,MS3.9,baz=80,slow=38
QSPA South Pole Qui 91.23 180 LR LR 06 40 03.9
comp=Z,86nm,18.1s,MS4.2,baz=355,slow=35
TORD Torodi Ar. Bea 95.00 283 LR LR 06 42 27.0
comp=Z,70nm,18.3s,MS4.2,baz=120,slow=35
TXAR Lajitas Array 143.63 32 PKP PKPdf 06 06 50.6 -2.8
comp=Z,0.4nm,0.7s,baz=77,slow=1.0,SNR=4.3
CPUP Villa Florida 145.03 222 PKPbc PKPbc 06 06 56.6 +1.3
comp=Z,1.1nm,0.6s,baz=357,slow=7.1,SNR=3.5

IDC ***15*** *06:24:35.6±1.4, 3319S×17829W, h0km, mb4.6/4, mb1 4.8/5, mb1mx4.2/18, mbtmp4.6/5, ML4.2/1, Error ellipse: s-maj=39.3km s-min=27.0km az=47.0*

ISC 15 06:24:39.4±6.8, 333S±01×1785W±02, h17km±43km, n15, σ0§69/10, mb4.7/6, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**6.09**	**215**	Pn	**Pn**	**06 26 08.4**	**-0.1**
	4.8nm,0.3s,baz=17,slow=1.8,SNR=20						
URZ				Sn	**Sn**	**06 27 17.9**	**+0.1**
	10nm,0.3s,baz=167,slow=20,SNR=11						
CTA	**Charters Tower**	**33.96**	**284**	P	**P**	**06 31 23.4**	**+1.4**
	6.0nm,0.5s,mb4.8,baz=117,slow=12,SNR=12						
ASAR	**Alice Springs**	**42.61**	**270**	P	**P**	**06 32 34.8**	**-0.1**
	11nm,0.7s,mb4.7,baz=109,slow=7.4,SNR=126						
WRA	**Warramunga Arr**	**43.87**	**275**	P	**P**	**06 32 44.4**	**-0.6**
	5.0nm,0.6s,mb4.5,baz=116,slow=7.5,SNR=58						
KAKA	**Kakadu**	**49.09**	**283**	*e*P	**P**	**06 33 22.3**	**-3.7**
	32nm,1.7s,mb5.1						
FITZ	**Fitzroy Crossi**	**51.99**	**272**	*e*P	**P**	**06 33 47.7**	**-0.3**
	4.4nm,0.6s,mb4.6						
QSPA	**South Pole Qui**	**56.80**	**180**	P	**P**	**06 34 22.8**	**+0.7**
	5.8nm,1.1s,mb4.5,baz=13,slow=4.4,SNR=13						
SNAA	**Sanae**	**75.26**	**179**	*e*	Px	06 36 31.4	
SNAA				*e*		06 36 42.6	
VNA3	**Neumayer Olymp**	**75.43**	**176**	*e*	**P**	**06 36 21.3**	**-0.5**
VNA3				*e*		06 36 33.5	
VNA3				*e*		06 36 43.3	
VNA2	**Neumayer--Watz**	**75.86**	**177**	*e*	**P**	**06 36 24.2**	**0.0**
	baz=176,slow=5.0						
VNA2				*e*		06 36 36.1	
VNA2				*e*		06 36 45.2	
VNA1	**Neumayer--Stat**	**76.09**	**177**	*e*	Px	06 36 37.4	
MKAR	**Makanchi Array**	**119.29**	**309**	PKP	PKPdf	06 43 25.8	-1.5
	0.4nm,0.5s,baz=217,slow=1.5,SNR=5.8						
NB2	**NORSAR Subarra**	**151.55**	**350**	PKP	PKPbc	06 44 30.1	-1.6
	comp=Z,1.2nm,0.6s,baz=18,slow=4.1						
NOA	**NORSAR Array B**	**151.55**	**350**	PKPbc	PKPbc	06 44 30.6	-1.1
	comp=Z,0.8nm,0.6s,baz=13,slow=4.1,SNR=4.9						
TORD	**Torodi Ar. Bea**	**159.92**	**181**	PKPab	PKPab	06 45 16.2	-1.0
	comp=Z,1.0nm,1.0s,baz=172,slow=3.1,SNR=4.2						

KRSC 15 06:37:23.2±1.0, 5466N×16104E, h106km±55km, ML3.7, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKZ	**Mys Kozlova**	**0.41**	**104**	P	Pn	06 37 40.3	+1.3
KMNR	**Kamenistaya**	**1.19**	**338**	P	Pn	06 37 46.4	+0.3
SPN	**Mys Shipunski**	**1.68**	**201**	*e*P	Pn	06 37 52.6	+0.7
SPN				*e*S	Sn	06 38 13.8	+0.1
NLC	**Nalytchevo**	**1.80**	**215**	P	Pn	06 37 54.2	+0.8
NLC				S	Sn	06 38 16.9	+0.5
KBTR	**Krutoberegovo**	**1.85**	**32**	*e*P	Pn	06 37 54.7	+0.6
KBTR				*e*S	Sn	06 38 17.7	+0.1
AVH	**Avacha**	**1.95**	**225**	P	Pn	06 37 57.9	+2.6
AVH				S	Sn	06 38 23.2	+3.4
GNL	**Ganaly**	**2.06**	**243**	P	Pn	06 37 57.6	+0.9
PET	**Petropavlovsk**	**2.17**	**222**	S	Sn	06 38 26.1	+1.4
RUS	**Russkaya**	**2.69**	**215**	P	Pn	06 38 04.8	-0.1

NEIC ***15*** *06:42:35.0, 3720N×11781W, h0km, ML3.5(NCEDC), After NCEDC.*

ISCJB ***15*** *06:42:35.7±0.2, 3718N±001×11782W±002, h10km, Error ellipse: s-maj=2.0km s-min=1.8km az=152.8*

ISC 15 06:42:35.3±0.3, 3719N±001×11783W±002, h3km±2km, n54, σ0§83/96, 36C-33D, California-Nevada border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TIN	**Tinemaha**	**0.34**	**248**	⇑P	**Pg**	**06 42 42.7**	**+0.8**
TIN				⇓S	**Sg**	**06 42 47.7**	**+1.4**
	baz=0.4						
GRAC	**Grapevine Rang**	**0.41**	**116**	P	**Pg**	**06 42 44.2**	**+1.0**
	baz=0.4,SNR=989						
GRAC				⇑S	**Sg**	**06 42 49.7**	**+1.1**
	baz=0.4						
MTUM	**Tungsten Hills**	**0.61**	**286**	*e*Pg	**Pg**	**06 42 47.4**	**+0.4**
MTUM				*e*Sg	**Sg**	**06 42 55.0**	**+0.1**
S09A	**Goldfield**	**0.72**	**42**	P	**Pg**	**06 42 49.3**	**+0.1**
	baz=0.7,SNR=692						
S09A				⇑S	**Sg**	**06 42 58.9**	**+0.3**
	baz=0.7						
CWC	**Cottonwood Cre**	**0.77**	**195**	⇑P	**Pg**	**06 42 49.8**	**-0.2**
	baz=0.8						
CWC				⇑S	**Sg**	**06 43 00.2**	**+0.1**
	baz=0.8						
MLAC	**Mammoth Lakes**	**0.92**	**299**	⇓P	**Pg**	**06 42 52.9**	**0.0**
	baz=0.9,SNR=57						
MLAC				⇓S	**Sg**	**06 43 05.4**	**+0.6**
	baz=0.9						
TPH	**Tonopah**	**1.01**	**28**	*e*Pg	**Pg**	**06 42 54.8**	**+0.1**
TPH				*e*Sg	**Sg**	**06 43 07.6**	**-0.2**
TPH				*e*Sn	**Sn**	**06 43 10.8**	**-0.4**
FURC	**Furnace Creek,**	**1.06**	**132**	⇓P	**Pg**	**06 42 55.6**	**0.0**
	baz=1.1,SNR=97						
FURC				⇓S	**Sg**	**06 43 10.4**	**+1.2**
	baz=1.1						
MPMC	**Manual Prospec**	**1.16**	**166**	⇑P	**Pg**	**06 42 56.8**	**-0.7**
	baz=1.2						
MPMC				⇓S	**Sg**	**06 43 12.4**	**0.0**
	baz=1.2						
R08A	**Mina**	**1.18**	**349**	⇑P	**Pg**	**06 42 57.6**	**-0.4**
	baz=1.2						
R08A				⇑S	**Sg**	**06 43 13.8**	**+0.4**
	baz=1.2						
KCC	**Kaiser Creek**	**1.20**	**277**	⇓P	**Pg**	**06 42 57.5**	**-0.7**
	baz=1.2						
KCC				⇓S	**Sg**	**06 43 12.6**	**-1.2**
	baz=1.2						
R09A	**Tonopah**	**1.21**	**29**	P	**Pg**	**06 42 58.1**	**-0.5**
	baz=1.2,SNR=863						
R09A				⇑S	**Sg**	**06 43 14.4**	**0.0**
	baz=1.2						
S10A	**Tonopah Range,**	**1.23**	**53**	⇑P	**Pg**	**06 42 58.4**	**-0.4**
	baz=1.2,SNR=1000						
S10A				⇓S	**Sg**	**06 43 15.3**	**+0.5**
	baz=1.2						
TPNV	**Topopah Spring**	**1.29**	**100**	⇑P	**Pg**	**06 42 59.4**	**-0.5**
	baz=1.3,SNR=1000						
TPNV				⇑S	**Sg**	**06 43 17.8**	**+1.1**
	baz=1.3						
TPNV	**Topopah Spring**	**1.29**	**100**	*e*Pg	**Pg**	**06 42 59.4**	**-0.6**
TPNV				*e*Sn	**Sn**	**06 43 18.1**	**+0.3**
U10A	**Ash Meadows, A**	**1.43**	**122**	⇑P	**Pn**	**06 43 01.6**	**-0.5**
	baz=1.4,SNR=350						
U10A				⇓S	**Sb**	**06 43 21.7**	**+0.7**
	baz=1.4						
RCTC	**Rector, Farmer**	**1.43**	**233**	⇓P	**Pn**	**06 43 01.7**	**-0.5**
	baz=1.5,SNR=13						
RCTC				⇑S	**Sb**	**06 43 20.4**	**-0.8**
	baz=1.5						
T06C	**Millerton Lake**	**1.51**	**264**	⇓P	**Pn**	**06 43 02.8**	**-0.4**
	baz=1.5,SNR=169						
T06C				⇓S	**Sn**	**06 43 22.4**	**-1.1**
	baz=1.5						
ISA	**Isabella**	**1.60**	**199**	⇓P	**Pn**	**06 43 04.1**	**-0.4**
	baz=1.6,SNR=133						
ISA				⇑S	**Sn**	**06 43 25.9**	**+0.1**
	baz=1.6						
ISA	**Isabella**	**1.60**	**199**	*e*Pn	**Pn**	**06 43 03.9**	**-0.6**
ISA				*e*Sn	**Sn**	**06 43 25.5**	**-0.3**
R10A	**Warm Springs**	**1.64**	**47**	⇓P	**Pn**	**06 43 04.3**	**-0.7**
	baz=1.6,SNR=230						
R10A				⇑Sb	**Sb**	**06 43 28.5**	**+1.3**
	baz=1.6						
Q08A	**Gabbs**	**1.68**	**357**	⇓P	**Pn**	**06 43 04.7**	**-0.8**
	baz=1.7,SNR=80						
Q08A				⇑Sb	**Sb**	**06 43 29.0**	**+0.7**
	baz=1.7						
VES	**Vestal, Richgr**	**1.68**	**217**	⇑Pb	**Pb**	**06 43 06.5**	**-0.3**
	baz=1.7,SNR=17						
VES				⇑S	**Sn**	**06 43 27.5**	**0.0**
	baz=1.7						
LRMC	**Laurel Mountai**	**1.71**	**176**	⇑Pb	**Pb**	**06 43 07.2**	**-0.1**
	baz=1.7,SNR=9.3						
S11A	**Rachel**	**1.72**	**74**	⇑Pb	**Pb**	**06 43 07.5**	**0.0**
	baz=1.7						
Q09A	**Carvers**	**1.73**	**17**	⇓P	**Pn**	**06 43 05.8**	**-0.4**
	baz=1.7						
Q09A				⇑Sb	**Sb**	**06 43 31.2**	**+1.5**
	baz=1.7						
SHOC	**Shoshone**	**1.79**	**135**	⇓P	**Pn**	**06 43 07.2**	**+0.1**
	baz=1.8						
SHOC				⇓Sb	**Sb**	**06 43 33.5**	**+1.9**
	baz=1.8						
R06C	**Coleville**	**1.85**	**317**	⇓P	**Pn**	**06 43 07.6**	**-0.4**
	baz=1.9						
R06C				⇑S	**Sn**	**06 43 32.2**	**+0.4**
	baz=1.9						
Q10A	**Clear Creek Ra**	**1.99**	**34**	⇓P	**Pn**	**06 43 09.3**	**-0.5**
	baz=2.0						
Q10A				⇓Sb	**Sb**	**06 43 38.7**	**+1.4**
	baz=2.0						
S05C	**Merced**	**2.00**	**275**	⇓P	**Pn**	**06 43 10.1**	**+0.1**
	baz=2.0,SNR=190						
S05C				⇓Sb	**Sb**	**06 43 37.9**	**+0.3**
	baz=2.0						
U05C	**Westside ANR,**	**2.02**	**246**	⇓Pb	**Pb**	**06 43 12.3**	**-0.4**
	baz=2.0,SNR=39						
U05C				⇓Sb	**Sb**	**06 43 39.7**	**+1.4**
	baz=2.0						
GSC	**Goldstone**	**2.05**	**156**	*e*Pn	**Pn**	**06 43 09.7**	**-1.0**
GSC				*e*Pg	**Pg**	**06 43 14.1**	**-0.6**
GSC				*e*Sg	**Sg**	**06 43 41.4**	**+0.1**
T11A	**Corn Creek, Al**	**2.08**	**88**	⇓P	**Pn**	**06 43 10.3**	**-0.8**
	baz=2.1,SNR=29						
T11A				⇑S	**Sn**	**06 43 37.3**	**-0.3**
	baz=2.1						
U11A	**Corn Creek**	**2.11**	**110**	⇓P	**Pn**	**06 43 10.8**	**-0.6**
	baz=2.1						
R11A	**Troy Canyon, C**	**2.12**	**56**	⇓P	**Pn**	**06 43 11.1**	**-0.6**
	baz=2.1,SNR=23						
R11A				⇑S	**Sn**	**06 43 37.9**	**-0.7**
	baz=2.1						
V05C	**Boulder Hill,**	**2.12**	**232**	⇑Pb	**Pb**	**06 43 14.3**	**-0.1**
	baz=2.1						
V05C				⇑Sb	**Sb**	**06 43 42.9**	**+1.7**
	baz=2.1						
CMB	**Columbia Colle**	**2.20**	**293**	⇑P	**Pn**	**06 43 12.5**	**-0.2**
	baz=2.2,SNR=134						
CMB				⇓Sb	**Sb**	**06 43 43.9**	**+0.5**
	baz=2.2						
CMB	**Columbia Colle**	**2.20**	**293**	*e*Pn	**Pn**	**06 43 12.6**	**-0.2**
CMB				*e*Pg	**Pg**	**06 43 15.2**	**-2.2**
CMB				*e*S	**Sn**	**06 43 42.3**	**+1.8**
ARVC	**Arvin**	**2.21**	**202**	⇑Pb	**Pb**	**06 43 16.0**	**+0.2**
	baz=2.2						
EDW2	**Edwards Air Fo**	**2.30**	**183**	⇑Pb	**Pb**	**06 43 17.5**	**0.0**
	baz=2.3						
TUQ	**Turquoise Moun**	**2.33**	**138**	⇓P	**Pn**	**06 43 13.5**	**-1.0**
	baz=2.3,SNR=6.7						
Q11A	**Duckwater**	**2.39**	**45**	⇑P	**Pn**	**06 43 14.6**	**-0.7**
	baz=2.4,SNR=8.1						
S12A	**Delamar Landin**	**2.41**	**79**	⇓P	**Pn**	**06 43 15.0**	**-0.6**
	baz=2.4						
PTRM	**Twissleman Ran**	**2.45**	**232**	*e*Pn	**Pn**	**06 43 17.0**	**+0.8**
PTRM				*e*Sn	**Sn**	**06 43 45.5**	**-1.2**
WCN	**Washoe City**	**2.60**	**325**	⇑P	**Pn**	**06 43 17.9**	**-0.4**
	baz=2.6						
SAO	**San Andreas Ge**	**2.93**	**263**	*e*Pn	**Pn**	**06 43 24.6**	**+1.8**
O08A	**Rochester Mine**	**3.11**	**355**	⇑P	**Pn**	**06 43 24.6**	**-0.6**
	baz=3.1,SNR=7.9						
O10A	**Cortez Mining,**	**3.27**	**18**	⇑P	**Pn**	**06 43 27.3**	**-0.2**
	baz=3.3						
BELC	**Belle Mtn.**	**3.51**	**154**	⇑P	**Pn**	**06 43 30.3**	**-0.5**
	baz=3.5,SNR=20						
ARUT	**Antelope Range**	**3.54**	**79**	*e*Pg	**Pg**	**06 43 42.1**	**-1.1**
ARUT				*e*Sg	**Sg**	**06 44 29.5**	**+0.4**
CCUT	**Cedar City**	**3.58**	**83**	*e*Pn	**Pn**	**06 43 34.3**	**+2.6**
CCUT				*e*Pg	**Pg**	**06 43 42.3**	**-1.6**
CCUT				*e*Sg	**Sg**	**06 44 29.6**	**-0.6**
O12A	**Currie**	**3.91**	**37**	⇑P	**Pn**	**06 43 36.1**	**-0.2**
	baz=3.9,SNR=5.9						
NSHM	**Saint Helena R**	**4.01**	**291**	*e*Pn	**Pn**	**06 43 40.7**	**+3.1**
N12A	**Clover Valley,**	**4.26**	**30**	⇓P	**Pn**	**06 43 40.9**	**-0.1**
	baz=4.2,SNR=15						

ISCJB ***15*** *06:59:35.3±0.9, 3517N±010×2626E±005, h13km±7km, Error ellipse: s-maj=17.4km s-min=5.6km az=164.1*

CSEM ***15*** *06:59:35.0±0.1, 3523N×2615E, h2km, MD3.5, Error ellipse: s-maj=3.5km s-min=2.8km az=27.0*

THE ***15*** *06:59:36.1, 3519N×2619E, h2km±5km, Error ellipse: s-maj=5.2km s-min=1.0km az=198.0*

NEIC ***15*** *06:59:37.3, 3544N×2621E, h10km, MD3.5(ATH), After ATH.*

ATH ***15*** *06:59:37.3, 3544N×2621E, h10km±4km, MD3.5/5*

ISC 15 06:59:36.1±0.6, 3518N±009×2624E±004, h13km±11km, n18, σ0§83/26, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZKR	**Zakros**	**0.07**	**195**	P	**Pg**	**06 59 37.8**	**-0.9**
ZKR				S	**Sg**	**06 59 39.9**	**-0.7**
NPS	**Neapolis**	**0.52**	**279**	*e*Pb	**Pg**	**06 59 46.5**	**+0.3**
NPS				*e*Sb	**Sg**	**06 59 54.6**	**+1.4**
NPS	**Neapolis**	**0.52**	**279**	*e*PB	**Pg**	**06 59 46.5**	**+0.3**
NPS				*e*SB	**Sg**	**06 59 54.6**	**+1.4**
LAST	**Lasithi**	**0.62**	**269**	P	**Pg**	**06 59 46.8**	**-1.4**
LAST				S	**Sg**	**06 59 56.9**	**+0.5**
KARP	**Karpathos**	**0.84**	**64**	*e*Pg	**Pg**	**06 59 51.9**	**-0.4**
KARP				*e*Sb	**Sg**	**07 00 03.3**	**0.0**
KARP	**Karpathos**	**0.84**	**64**	*e*PG	**Pg**	**06 59 51.9**	**-0.4**
KARP				*e*SB	**Sg**	**07 00 03.3**	**0.0**
THR1	**Thera Island**	**1.35**	**332**	P	**Pn**	**07 00 00.0**	**-0.5**
THR6	**Thira Island,**	**1.36**	**330**	P	**Pn**	**06 59 59.7**	**-1.0**
THR3	**Thira Island,**	**1.40**	**331**	P	**Pn**	**07 00 00.7**	**-0.6**
THR5	**Thira Island,**	**1.43**	**330**	P	**Pn**	**07 00 01.6**	**-0.1**
THR4	**Thira Island,**	**1.45**	**332**	P	**Pn**	**07 00 02.3**	**+0.4**
VAM	**Vamos**	**1.68**	**278**	*e*Pg	**Pg**	**07 00 07.9**	**-0.5**
VAM	**Vamos**	**1.68**	**278**	*e*PG	**Pg**	**07 00 07.9**	**-0.5**
ARG	**Arkhangelos**	**1.85**	**55**	*e*Pn	**Pn**	**07 00 10.2**	**+2.7**
ARG	**Arkhangelos**	**1.85**	**55**	*e*PN	**Pn**	**07 00 10.2**	**+2.7**
APE	**Apeiranthos**	**1.97**	**343**	P	**Pn**	**07 00 08.8**	**-0.3**
APE				S	**Sn**	**07 00 33.5**	**-0.2**
APE	**Apeiranthos**	**1.97**	**343**	*e*Pg	**Pn**	**07 00 09.2**	**+0.1**
APE				S	**Sn**	**07 00 33.5**	**-0.2**
APE	**Apeiranthos**	**1.97**	**343**	*e*PG	**Pn**	**07 00 09.2**	**+0.1**

HLW ***15*** *07:03:48.8, 3004N×37.12E, h25km, Mb2.9*

ISCJB ***15*** *07:03:50.3±1.1, 2987N±005×3628E±007, h0km, Error ellipse: s-maj=8.8km s-min=6.2km az=157.3*

GII ***15*** *07:03:50.0±0.0, 2982N×3630E, h0km, ML2.3/3, EXPLOSION*

SGS ***15*** *07:03:50.8, 3001N×3626E, h7km*

CSEM ***15*** *07:03:51.0±0.2, 2998N×3682E, h35km, ML2.8, Error ellipse: s-maj=6.4km s-min=3.1km az=55.0*

ISC 15 07:03:50.2±1.1, 2985N±004×3632E±007, h0km, n18, σ0§87/25, 1C, Western Arabian Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HRFI	**Mount Harif**	**1.13**	**280**	Pg	**Pg**	**07 04 11.3**	**-0.6**
EIL	**Elat**	**1.20**	**262**	Pg	**Pg**	**07 04 13.3**	**0.0**
ZFRI	**Zfri**	**1.21**	**306**	Pg	**Pg**	**07 04 12.8**	**-0.7**
MBRI	**Mt Berech**	**1.22**	**268**	Pg	**Pg**	**07 04 13.1**	**-0.6**
MBRI				Sg	**Sg**	**07 04 29.7**	**+0.1**
HQLS		**1.23**	**244**	P	**Pg**	**07 04 12.7**	**-1.0**
HQLS				S	**Sg**	**07 04 29.5**	**-0.1**
PRNI	**Paran**	**1.25**	**294**	Pg	**Pg**	**07 04 13.1**	**-1.0**
PRNI				Sg	**Sg**	**07 04 31.8**	**+1.5**
JLOS		**1.33**	**213**	P	**Pg**	**07 04 15.5**	**-0.2**
JLOS		**1.33**	**213**	P	**Pg**	**07 04 15.5**	**-0.2**
JLOS				S	**Sg**	**07 04 33.6**	**+0.7**
KRMI	**Paran Flat**	**1.41**	**281**	Pn	**Pn**	**07 04 16.2**	**-1.0**
TBKS	**Tabuk**	**1.64**	**173**	P	**Pn**	**07 04 20.4**	**+0.1**
BDAS	**Al Bad'**	**1.77**	**217**	P	**Pn**	**07 04 22.1**	**-0.1**
DSI	**Dead Sea**	**1.90**	**335**	Pn	**Pn**	**07 04 24.6**	**+0.8**
HKAT	**Jabal Katrina**	**2.43**	**238**	P	**Pn**	**07 04 35.5**	**+4.3**
TR2		**2.70**	**238**	P	**Pn**	**07 04 39.3**	**+4.3**
TR1		**2.77**	**229**	⇑P	**Pn**	**07 04 39.8**	**+3.9**
AMAG	**Maghara**	**2.81**	**287**	P	**Pn**	**07 04 39.9**	**+3.5**
AMAG				S	**Sn**	**07 05 17.0**	**+6.1**
AMAG	**Maghara**	**2.81**	**287**	P	**Pn**	**07 04 39.9**	**+3.5**
	570nm,0.4s						
AMAG				S	**Sn**	**07 05 17.0**	**+6.1**
SUZ		**3.03**	**271**	P	**Pn**	**07 04 43.9**	**+4.5**
SUZ				S	**Sn**	**07 05 24.3**	**+7.8**

ISK ***15*** *07:18:53.3, 3827N×3903E, h13km, MD2.9*

DDA ***15*** *07:18:53.7, 3820N×3902E, h7km±5km, Md2.9*

CSEM ***15*** *07:18:53.2±0.1, 3827N×3903E, h12km, MD2.9, Error ellipse: s-maj=2.1km s-min=1.6km az=133.0*

ISCJB ***15*** *07:18:54.0±0.6, 3825N±003×3902E±004, h6km±5km, Error ellipse: s-maj=5.2km s-min=4.7km az=19.0*

ISC 15 07:18:54.5±0.5, 3826N±003×3902E±003, h9km±5km, n12, σ0§75/20, 2C-1D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ELZG	**Elazig**	**0.24**	**354**	⇓*i*P	**Pg**	**07 18 59.9**	**+0.4**
ELZG				*i* S	**Sg**	**07 19 04.0**	**+1.2**
SVRC	**Sivrice-ELAZID**	**0.26**	**62**	*e*PG	**Pg**	**07 18 58.8**	**-0.9**
SVRC				*e*SG	**Sg**	**07 19 02.8**	**-0.4**
MYA	**Malataya**	**0.47**	**278**	*e*PG	**Pg**	**07 19 03.1**	**-0.6**
PTK	**Pertek**	**0.70**	**25**	*e*PG	**Pg**	**07 19 07.0**	**-1.0**
PTK				*e*SG	**Sg**	**07 19 17.6**	**+0.5**
URFA	**Urfa**	**0.83**	**191**	*e*PG	**Pg**	**07 19 09.9**	**-0.7**
URFA				*e*SG	**Sg**	**07 19 22.7**	**+1.3**
AKCD	**Akcadag**	**0.86**	**273**	⇑*i*P	**Pg**	**07 19 10.2**	**-1.0**
AKCD				*i* S	**Sg**	**07 19 23.1**	**+0.7**
DIYA	**Diyarbakir**	**0.93**	**111**	⇑*i*P	**Pg**	**07 19 12.3**	**-0.2**
DIYA				*i* S	**Sg**	**07 19 25.4**	**+0.8**
DARE	**Darende-Malaty**	**1.18**	**306**	*e*PN	**Pn**	**07 19 16.9**	**-0.3**
DARE				*e*SN	**Sn**	**07 19 34.4**	**+1.1**
MARD	**Mardin**	**1.68**	**124**	*e*P	**Pn**	**07 19 24.5**	**+0.3**
MARD				*e*S	**Sn**	**07 19 46.1**	**+0.4**
GAZ	**Gaziantep**	**1.80**	**233**	*e*PN	**Pn**	**07 19 25.1**	**-0.6**
KMRS	**Kahramanmaras**	**1.84**	**247**	*e*PN	**Pn**	**07 19 25.7**	**-0.6**
SVSK	**Karacayir**	**2.28**	**317**	*e*PN	**Pn**	**07 19 31.9**	**-0.5**

IDC ***15*** *07:42:15.0±0.8, 575S×10381E, h0km, mb4.5/14, mb1 4.6/14, mb1mx4.4/20, mbtmp4.5/14, MS3.3/3, Ms1 3.4/3, ms1mx2.8/27, Error ellipse: s-maj=37.8km s-min=13.0km az=50.0*

NEIC ***15*** *07:42:19.3±0.4, 590S×10374E, h35km, mb4.8/14, Error ellipse: s-maj=24.6km s-min=6.8km az=52.0*

DJA ***15*** *07:42:20.0±0.5, 6S±5×103E±, h66km±7km, mB5.4/4, Mjma4.0/12, MLv4.7/12, Mw(mB)5.2/4, Mwp3.7/6*

ISCJB ***15*** *07:42:22.2±1.2, 579S±009×10378E±008, h76km±9km, mb4.7/37, Error ellipse: s-maj=19.3km s-min=6.1km az=42.2*

ISC 15 07:42:23.3±1.0, 582S±009×10375E±008, h68km±8km, n90, σ0§86/76, mb4.7/37, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KLI	**Kotabumi**	**1.46**	**49**	P	**Pn**	**07 42 59.4**	**+12**
SBJI	**Serang**	**2.39**	**97**	P	**Pn**	**07 43 13.8**	**+14**
KSI	**Kapahiang**	**2.44**	**332**	P	**Pn**	**07 43 01.6**	**+0.7**
DBJI	**Dramaga**	**3.08**	**104**	P	**Pn**	**07 43 10.1**	**+0.6**
LEM	**Lembang**	**3.98**	**105**	P	**Pn**	**07 43 24.0**	**+2.1**
PPBI	**Pangkal Pinang**	**4.34**	**33**	P	**Pn**	**07 43 26.9**	**0.0**
KRJI	**Kerinci**	**4.35**	**328**	P	**Pn**	**07 43 18.6**	**-8.3**
TPI	**Tanjungpandan**	**4.94**	**52**	P	**Pn**	**07 43 34.0**	**-1.1**
	44nm,0.5s,754nm0.2nm						
XMIS	**Christmas Isla**	**5.00**	**158**	P	**Pn**	**07 43 28.2**	**-7.7**
XMIS	**Christmas Isla**	**5.00**	**158**	*e*Pn	**Pn**	**07 43 28.1**	**-7.8**
XMIS				*e*Sn	**Sn**	**07 44 20.8**	**-12**
DSRI	**Dabo**	**5.37**	**9**	P	**Pn**	**07 43 41.2**	**+0.3**
PDSI	**Padang**	**5.87**	**326**	P	**Pn**	**07 43 47.2**	**-0.6**
	90nm,0.4s,4µm0.8nm						
PPI	**Padang Panjang**	**6.29**	**328**	P	**Pn**	**07 43 53.0**	**-0.5**
	27nm,0.8s,2µm0.3nm						
UGM	**Wanagama**	**7.04**	**108**	P	**Pn**	**07 44 04.5**	**+0.7**
GSI	**Gunungsitoli**	**9.38**	**319**	P	**Pn**	**07 44 33.1**	**-2.7**
IGBI	**Denpasar**	**11.69**	**105**	P	**Pn**	**07 45 07.1**	**-0.3**
SBUM	**Sibu**	**11.79**	**46**	P	**Pn**	**07 45 11.5**	**+2.7**
KAPI	**Kappang**	**15.96**	**88**	LR	LR	07 52 18.2	
	comp=Z,81nm,21.7s,baz=55,slow=38						
BATI	**Baumata**	**20.20**	**104**	P	**P**	**07 46 51.2**	**-1.4**
	44nm,0.4s,baz=187,slow=5.1,SNR=8.6						
BATI	**Baumata**	**20.20**	**104**	P	**P**	**07 46 51.5**	**-1.2**
CMAR	**Chiang Mai Arr**	**24.58**	**349**	P	**P**	**07 47 36.2**	**-0.8**
	8.8nm,0.6s,mb4.3,baz=182,slow=8.8,SNR=32						
CMAR				LR	LR	07 56 38.6	
	comp=Z,70nm,21.4s,baz=175,slow=35						
FITZ	**Fitzroy Crossi**	**24.61**	**122**	*e*P	**P**	**07 47 36.9**	**-0.6**
	8.1nm,0.8s,mb4.2						
FITZ	**Fitzroy Crossi**	**24.61**	**122**	P	**P**	**07 47 36.7**	**-0.7**
	4.6nm,0.8s,mb4.0,baz=271,slow=5.4,SNR=12						
FITZ	**Fitzroy Crossi**	**24.61**	**122**	P	**P**	**07 47 36.6**	**-0.9**
FITZ	**Fitzroy Crossi**	**24.61**	**122**	*e*P	**P**	**07 47 36.8**	**-0.7**
	9.8nm,0.8s,mb4.3						
CHTO	**Chiang Mai**	**24.93**	**349**	*e*P	**P**	**07 47 39.0**	**-1.2**
	4.1nm,0.7s,mb4.0						
KAKA	**Kakadu**	**29.11**	**106**	P	**P**	**07 48 17.1**	**-0.9**
KAKA	**Kakadu**	**29.11**	**106**	*e*P	**P**	**07 48 16.8**	**-1.1**
	11nm,0.5s,mb4.8						
WRA	**Warramunga Arr**	**32.88**	**118**	P	**P**	**07 48 50.4**	**-0.7**
	1.6nm,0.7s,mb4.0,baz=302,slow=9.3,SNR=26						
WRA				PcP	PcP	07 51 35.5

ZAA0	**Zalesovo Array**	**61.63**	**347**	*e*P	**P**		**07 52 32.5**	**-1.2**
ZALV	**Zalesovo Beam**	**61.63**	**347**	P	**P**		**07 52 33.0**	**-0.7**
	14nm,0.6s,mb5.2,baz=153,slow=4.7,SNR=43							
NAY	**Al-Naaiem**	**64.48**	**306**	*e*P	**P**		**07 52 53.9**	**+0.8**
NAY				AMb	AMB		07 52 54.7	
	comp=Z,8.0nm,0.7s,mb4.7							
RST	**Umm Al-Ruwaisa**	**64.77**	**306**	*e*P	**P**		**07 52 55.6**	**+0.6**
RST				AMb	AMB		07 52 56.5	
	comp=Z,17nm,0.7s,mb5.0							
BRVK	**Borovoye**	**65.12**	**338**	*e*P	**P**		**07 52 56.5**	**-0.2**
	comp=Z,8.4nm,0.7s,mb4.7							
AKTK	**Aktyubinsk**	**68.49**	**331**	P	**P**		**07 53 18.3**	**+0.1**
AKTO	**Aktyubinsk**	**68.49**	**331**	P	**P**		**07 53 18.3**	**+0.1**
	comp=Z,1.7nm,0.5s,mb4.2,baz=123,slow=7.8,SNR=6.8							
ARU	**Arti**	**72.19**	**336**	*e*P	**P**		**07 53 40.6**	**-0.1**
	comp=Z,4.2nm,0.6s,mb4.5							
ASF	**Jabal al Asfar**	**73.84**	**306**	P	**P**		**07 53 53.8**	**+2.8**
	comp=Z,2.2nm,0.6s,mb4.1,baz=286,slow=1.6,SNR=7.0							
AKASG	**Malin Array Be**	**84.77**	**322**	P	**P**		**07 54 50.5**	**+0.4**
	comp=Z,1.9nm,0.5s,mb4.3,baz=95,slow=4.4,SNR=8.7							
AKASG	**Malin Array Be**	**84.77**	**322**	P	**P**		**07 54 50.5**	**+0.4**
BUR08	**Bucovina Ar. S**	**86.59**	**318**	*e*P	**P**		**07 55 01.5**	**+2.3**
JOF	**Joensuu**	**87.25**	**334**	*e*p	**P**		**07 55 02.6**	**+0.6**
	comp=Z,2.2nm,0.5s,mb4.3							
KAF	**Kangasniemi**	**89.26**	**333**	*e*p	**P**		**07 55 12.1**	**+0.5**
	comp=Z,4.5nm,0.5s,mb4.8							
ARCES	**ARCESS Array B**	**91.31**	**340**	P	**P**		**07 55 21.9**	**+0.9**
	comp=Z,1.1nm,0.5s,mb4.2,baz=74,slow=4.3,SNR=5.9							
NVAR	**Mina Array Bea**	**129.98**	**43**	PKP	PKPdf		08 01 27.5	+1.8
	comp=Z,0.5nm,0.3s,baz=251,slow=4.5,SNR=3.6							
PDAR	**Pinedale Array**	**132.88**	**33**	PKP	PKPdf		08 01 32.6	+1.6
	comp=Z,0.3nm,0.4s,baz=72,slow=4.0,SNR=4.3							
TXAR	**Lajitas Array**	**145.11**	**45**	PKPbc	PKPbc		08 01 54.4	+1.1
	comp=Z,6.0nm,0.7s,baz=267,slow=1.2,SNR=42							
ACSO	**Alum Creek Sta**	**145.21**	**9**	*e*PKPdf	PKPdf		08 01 52.8	-0.7
OLIL	**Olney**	**145.52**	**16**	*e*PKPdf	PKPdf		08 01 54.4	+0.3
WCI	**Wyandotte Cave**	**146.47**	**14**	*e*PKPdf	PKPdf		08 01 56.7	+1.0
JCT	**Junction City**	**146.95**	**39**	*e*PKPbc	PKPbc		08 01 59.1	+0.3
MIAR	**Mount Ida**	**147.23**	**27**	*e*PKPbc	PKPbc		08 01 59.8	+0.3
MIAR				*e*PKPab	PKPab		08 02 01.7	+0.4
WVT	**Waverly**	**148.01**	**18**	*e*PKPbc	PKPbc		08 02 01.4	-0.2
LRAL	**Lakeview Retre**	**151.13**	**19**	*e*PKPbc	PKPbc		08 02 08.8	-0.5
JTS	**JuntasAbangare**	**170.31**	**62**	*e*PKPdf	PKPdf		08 02 22.2	-2.3

IDC ***15*** *08:01:15.2±5.7, 2387S×17997E, h510km±58km, mb3.2/8, mb1 3.4/9, mb1mx3.3/16, mbtmp3.3/9, Error ellipse: s-maj=36.8km s-min=25.7km az=68.0*
ISCJB ***15*** *08:01:18.8±2.4, 24.1S±0.1×17985E±009, h572km±33km, mb3.7/8, Error ellipse: s-maj=20.0km s-min=12.7km az=169.0*

ISC 15 08:01:20.8±2.0, 244S±01×17995E±009, h593km±24km, n13, σ0956/13, mb3.7/8, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera**	**14.08**	**189**	P	**P**	**08 04 19.8**	**-0.5**
	2.1nm,0.3s,baz=112,slow=13,SNR=9.8						
URZ				S	**S**	**08 06 47.5**	**-0.1**
	0.4nm,0.3s,baz=63,slow=14,SNR=3.0						
RAR	**Rarotonga**	**18.95**	**85**	S	**S**	**08 08 07.7**	**+0.1**
	5.2nm,0.3s,baz=176,slow=12,SNR=2.2						
CTA	**Charters Tower**	**31.44**	**271**	P	**P**	**08 06 55.1**	**-0.2**
	5.7nm,0.5s,mb4.5,baz=97,slow=11,SNR=9.2						
STKA	**Stephens Creek**	**34.52**	**249**	P	**P**	**08 07 22.1**	**+0.9**
	1.2nm,0.7s,mb3.6,baz=95,slow=12,SNR=2.8						
ASAR	**Alice Springs**	**41.92**	**261**	P	**P**	**08 08 21.4**	**+0.3**
	1.0nm,0.5s,mb3.6,baz=98,slow=7.3,SNR=13						
ASAR				S	**S**	**08 13 58.0**	**+0.2**
	0.3nm,0.8s,baz=94,slow=15,SNR=2.9						
WRA	**Warramunga Arr**	**42.34**	**267**	P	**P**	**08 08 23.9**	**-0.5**
	1.7nm,0.3s,mb4.0,baz=96,slow=8.4,SNR=28						
WRA				S	**S**	**08 14 02.7**	**-1.1**
	0.5nm,0.8s,baz=99,slow=15,SNR=5.9						
FITZ	**Fitzroy Crossi**	**50.75**	**266**	P	**P**	**08 09 28.6**	**+0.9**
	0.9nm,0.5s,mb3.4,baz=275,slow=22,SNR=5.0						
MAW	**Mawson**	**77.32**	**200**	P	**P**	**08 12 19.2**	**+4.3**
	0.9nm,0.6s,mb3.4,baz=146,slow=7.3,SNR=4.1						
KSRS	**Korea Array**	**78.56**	**320**	P	**P**	**08 12 21.8**	**-0.2**
	0.5nm,0.3s,mb3.3,baz=118,slow=5.1,SNR=2.9						
PETK	**Petropavlovsk-**	**79.52**	**347**	P	**P**	**08 12 26.3**	**-0.4**
	2.8nm,0.8s,mb3.6,baz=101,slow=7.5,SNR=4.9						
BVAR	**Borovoye Array**	**120.74**	**319**	PKP	PKPdf	08 19 07.3	+1.4
	0.7nm,0.5s,baz=77,slow=7.6,SNR=3.6						
ARCES	**ARCESS Array B**	**132.31**	**348**	PKP	PKPdf	08 19 28.5	+1.0
	2.1nm,0.9s,baz=20,slow=2.9,SNR=3.2						
AKASG	**Malin Array Be**	**145.32**	**327**	PKP	PKPdf	08 19 53.5	+1.8
	0.8nm,0.3s,baz=40,slow=4.1,SNR=5.1						

IDC 15 08:16:21.4±0.9, 1662S×17272W, h0km, mb4.2/8, mb1 4.5/8, mb1mx4.2/20, mbtmp4.2/8, ML1.6/1, MS3.6/8, Ms1 3.6/8, ms1mx3.2/27, Error ellipse: s-maj=40.3km s-min=16.2km az=137.0, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**2.85**	**19**	Pn	Pn	08 17 07.7	-0.4
	4.8nm,0.3s,baz=34,slow=6.2,SNR=13						
AFI				Sn	Sn	08 17 42.4	-0.7
	33nm,0.3s,baz=274,slow=18,SNR=15						
RAR	**Rarotonga**	**13.08**	**112**	LR	LR	08 22 23.8	
	comp=Z,208nm,22.0s,baz=260,slow=28						
PPT	**Papeete**	**22.14**	**96**	LR	LR	08 27 39.0	
	comp=Z,96nm,20.4s,baz=210,slow=31						
URZ	**Urewera**	**23.33**	**201**	P	P	08 21 30.5	-0.8
	12nm,0.7s,baz=255,slow=20,SNR=4.6						
HNR	**Honiara**	**27.55**	**282**	LR	LR	08 31 49.3	
	comp=Z,189nm,19.4s,baz=320,slow=34						
CTA	**Charters Tower**	**39.02**	**258**	P	P	08 23 49.4	-0.6
	4.1nm,0.7s,baz=88,slow=12,SNR=2.7						
STKA	**Stephens Creek**	**44.00**	**241**	P	P	08 24 30.5	-0.3
	4.2nm,0.9s,baz=89,slow=9.1,SNR=5.4						
WRA	**Warramunga Arr**	**50.21**	**258**	P	P	08 25 19.7	+0.3
	3.2nm,0.7s,baz=95,slow=6.9,SNR=31						
WRA				LR	LR	08 44 47.5	
	comp=Z,77nm,19.4s,baz=130,slow=34						
ASAR	**Alice Springs**	**50.36**	**253**	P	P	08 25 21.1	+0.6
	18nm,0.8s,baz=85,slow=8.6,SNR=113						
FITZ	**Fitzroy Crossi**	**58.60**	**259**	LR	LR	08 49 38.3	
	comp=Z,43nm,20.8s,baz=99,slow=34						
MJAR	**Matsushiro Arr**	**70.29**	**320**	LR	LR	08 51 44.7	
	comp=Z,58nm,20.1s,baz=330,slow=30						
NVAR	**Mina Array Bea**	**74.80**	**41**	P	P	08 28 04.3	+0.7
	0.5nm,0.6s,baz=230,slow=9.8,SNR=5.1						
KSRS	**Korea Array**	**77.48**	**315**	LR	LR	08 56 27.4	
	comp=Z,24nm,21.1s,baz=100,slow=31						
TXAR	**Lajitas Array**	**80.75**	**56**	P	P	08 28 37.4	+0.4
	1.8nm,1.1s,baz=198,slow=7.9,SNR=6.6						
TXAR				LR	LR	08 56 10.4	
	comp=Z,34nm,18.6s,baz=180,slow=30						
PDAR	**Pinedale Array**	**82.74**	**41**	P	P	08 28 47.5	+0.3
	0.6nm,1.0s,baz=212,slow=3.2,SNR=3.6						

CSEM ***15*** *08:17:01.8, 12.14N×4421E, h7km, ML3.9, After DHMR*
DHMR 15 08:17:01.8±1.2, 1214N×4421E, h7km±16km, ML3.9, 1C, Western Arabian Peninsula

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
UDYN	**Al 'Udayn**	**1.83**	**353**	*i* P	Pn	08 17 34.6	+1.0
UDYN				*i* S	Sn	08 17 59.2	+2.2
	974nm,0.5s						
UDYN	**Al 'Udayn**	**1.83**	**353**	*i* P	Pn	08 17 34.6	+1.0
UDYN				*i* S	Sn	08 17 59.1	+2.2
UDYN				AML	AML	08 18 10.2	
	comp=N,2μm,0.5s						
LBOS		**1.99**	**30**	⇑*i* P	Pn	08 17 37.6	+1.7
LBOS				*i* S	Sn	08 18 05.1	+4.0
BDHA	**Al Bayda'**	**2.25**	**36**	*i* P	Pn	08 17 41.3	+1.8
BDHA				*i* S	Sn	08 18 11.8	+4.3
BDHA				AML	AML	08 18 21.9	
	comp=N,947nm,0.5s						
DHBB	**Dhamar BB**	**2.42**	**4**	*i* P	Pn	08 17 44.3	+2.5
DHBB				*i* S	Sn	08 18 17.6	+6.0
HAJJ	**Hajjah**	**3.58**	**351**	*i* P	Sn	08 17 59.9	+2.1
HAJJ				*i* S	Sn	08 18 46.6	+6.3
	comp=N,260nm,0.7s						
HAJJ	**Hajjah**	**3.58**	**351**	*i* P	Pn	08 17 59.9	+2.1
HAJJ				*i* S	Sn	08 18 46.6	+6.2
HAJJ				AML	AML	08 19 03.1	
	comp=N,521nm,0.7s						

IDC 15 08:22:23.6±2.3, 585S×13055E, h0km, mb3.6/1, mb1 3.6/4, mb1mx3.5/14, mbtmp3.5/4, ML3.0/1, MS3.2/2, Ms1 3.2/2, ms1mx2.4/21, Error ellipse: s-maj=93.9km s-min=29.1km az=77.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BATI	**Baumata**	**8.08**	**237**	LR	LR	08 27 59.5	
	comp=Z,134nm,19.0s,baz=144,slow=42						
FITZ	**Fitzroy Crossi**	**13.09**	**201**	Pn	Pn	08 25 31.6	+0.7
	0.1nm,0.3s,baz=28,slow=16,SNR=4.0						
FITZ				Sn	Sn	08 27 41.2	-16
	0.1nm,0.3s,baz=68,slow=16,SNR=4.4						
WRA	**Warramunga Arr**	**14.48**	**166**	Pn	Pn	08 25 48.7	-1.2
	0.2nm,0.3s,baz=348,slow=13,SNR=8.0						
WRA				Sn	Sn	08 28 16.7	-15
	0.2nm,0.3s,baz=343,slow=20,SNR=7.9						
ASAR	**Alice Springs**	**18.00**	**170**	P	Pn	08 26 35.6	+0.2
	0.2nm,0.3s,baz=347,slow=11,SNR=9.7						
STKA	**Stephens Creek**	**27.88**	**160**	LR	LR	08 39 06.8	
	comp=Z,61nm,18.4s,baz=172,slow=36						
MKAR	**Makanchi Array**	**67.58**	**326**	P	P	08 33 22.1	+0.1
	0.3nm,0.3s,baz=130,slow=10,SNR=4.7						

CSEM ***15*** *08:23:13.3±0.2, 3769N×2205E, h0km±2km, ML3.6/3, Error ellipse: s-maj=3.2km s-min=2.2km az=29.0*
NEIC ***15*** *08:23:13.3, 3770N×2197E, h21km, MD3.5(ATH), After ATH.*
ATH ***15*** *08:23:13.3, 3770N×2197E, h21km±2km, MD3.5/12*
THE ***15*** *08:23:14.4, 3767N×2203E, h0km±1km, ML3.6/3, Error ellipse: s-maj=1.9km s-min=0.6km az=172.0*
ISCJB ***15*** *08:23:15.1±0.5, 3759N±003×2203E±003, h23km±6km, Error ellipse: s-maj=5.0km s-min=4.6km az=0.8*

ISC 15 08:23:14.5±0.4, 3767N±003×2203E±003, h7km±4km, n44, σ1§16/63, Southern Greece

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
VLX	**Vlachokerasia**	**0.41**	**137**	P	**Pg**	**08 23 22.6**	**+0.1**
VLX				S	**Sg**	**08 23 28.4**	**+0.5**
ITM	**Ithomi**	**0.50**	**189**	*e*Pn	**Pg**	**08 23 24.2**	**+0.1**
ITM				*e*Sn	**Sg**	**08 23 31.3**	**+0.7**
ITM	**Ithomi**	**0.50**	**189**	*e*PN	**Pg**	**08 23 24.2**	**+0.1**
ITM				*e*SN	**Sg**	**08 23 31.3**	**+0.7**
RLS	**Riolos of Patr**	**0.59**	**311**	*e*Pn	**Pg**	**08 23 24.0**	**-1.8**
RLS				*e*Sn	**Sg**	**08 23 32.5**	**-1.0**
RLS	**Riolos of Patr**	**0.59**	**311**	*e*PN	**Pg**	**08 23 24.0**	**-1.8**
RLS				*e*SN	**Sg**	**08 23 32.5**	**-1.0**
PYL	**PYLOS**	**0.81**	**196**	P	**Pg**	**08 23 29.5**	**-0.5**
PYL				S	**Sg**	**08 23 41.7**	**+1.2**
LTK	**Loutraki**	**0.82**	**65**	P	**Pg**	**08 23 29.6**	**-0.7**
LTK				S	**Sg**	**08 23 42.0**	**+1.0**
DID	**Didima**	**0.98**	**99**	P	**Pg**	**08 23 32.5**	**-0.8**
DID				S	**Sg**	**08 23 47.6**	**+1.7**
KFL	**Anninata**	**1.07**	**294**	P	**Pg**	**08 23 33.9**	**-1.2**
KFL				S	**Sg**	**08 23 50.5**	**+1.5**
NAIG	**Nisos Aigina**	**1.16**	**85**	*e*Pn	**Pn**	**08 23 36.0**	**-1.3**
NAIG	**Nisos Aigina**	**1.16**	**85**	*e*PN	**Pn**	**08 23 36.0**	**-1.3**
VLI	**Veliai**	**1.20**	**142**	*e*Pn	**Pn**	**08 23 37.0**	**-0.7**
VLI	**Veliai**	**1.20**	**142**	*e*PN	**Pn**	**08 23 37.0**	**-0.7**
LKR	**Lokris**	**1.24**	**38**	P	**Pn**	**08 23 37.6**	**-0.7**
LKR				S	**Sb**	**08 23 55.9**	**+1.3**
LKR	**Lokris**	**1.24**	**38**	*e*Pn	**Pn**	**08 23 37.2**	**-1.1**
LKR	**Lokris**	**1.24**	**38**	P	**Pn**	**08 23 37.6**	**-0.7**
LKR				S	**Sb**	**08 23 55.9**	**+1.3**
LKR	**Lokris**	**1.24**	**38**	*e*PN	**Pn**	**08 23 37.2**	**-1.1**
VLS	**Valsamata**	**1.24**	**294**	P	**Pn**	**08 23 37.9**	**-0.4**
VLS				S	**Sg**	**08 23 56.4**	**+1.9**
VLS	**Valsamata**	**1.24**	**294**	*e*Pn	**Pn**	**08 23 35.8**	**-2.5**
VLS	**Valsamata**	**1.24**	**294**	P	**Pn**	**08 23 37.9**	**-0.4**
VLS				S	**Sg**	**08 23 56.4**	**+1.9**
VLS	**Valsamata**	**1.24**	**294**	*e*PN	**Pn**	**08 23 35.8**	**-2.5**
EVR	**Evrytania**	**1.25**	**352**	*e*Pn	**Pn**	**08 23 36.7**	**-1.8**
EVR	**Evrytania**	**1.25**	**352**	*e*PN	**Pn**	**08 23 36.7**	**-1.8**
AGG	**Agios Georgios**	**1.37**	**10**	P	**Pn**	**08 23 39.3**	**-0.8**
AGG				S	**Sb**	**08 24 00.6**	**+2.4**
ATH	**Athens Observa**	**1.37**	**77**	*e*Pn	**Pn**	**08 23 38.9**	**-1.2**
ATH				*e*Sn	**Sn**	**08 23 59.4**	**+0.8**
ATH	**Athens Observa**	**1.37**	**77**	*e*PN	**Pn**	**08 23 38.9**	**-1.2**
ATH				*e*SN	**Sn**	**08 23 59.4**	**+0.8**
KVR	**Kavouri**	**1.39**	**83**	*e*Pn	**Pn**	**08 23 40.0**	**-0.4**
KVR	**Kavouri**	**1.39**	**83**	*e*PN	**Pn**	**08 23 40.0**	**-0.4**
LKD	**Levkas**	**1.50**	**314**	P	**Pn**	**08 23 41.7**	**-0.2**
LKD				S	**Sn**	**08 24 03.1**	**+1.4**
PTL	**Penteli**	**1.50**	**75**	*e*Pb	**Pn**	**08 23 40.5**	**-1.4**
PTL	**Penteli**	**1.50**	**75**	*e*PB	**Pn**	**08 23 40.5**	**-1.4**
KYTH	**Kithira**	**1.61**	**149**	*e*Pn	**Pn**	**08 23 45.0**	**+1.6**
KYTH	**Kithira**	**1.61**	**149**	*e*PN	**Pn**	**08 23 45.0**	**+1.6**
NEO	**Neokhori**	**1.88**	**30**	*e*Pn	**Pn**	**08 23 46.7**	**-0.5**
NEO	**Neokhori**	**1.88**	**30**	*e*PN	**Pn**	**08 23 46.7**	**-0.5**
THL	**Klokotos Trika**	**1.89**	**360**	P	**Pn**	**08 23 48.0**	**+0.7**
THL				S	**Sn**	**08 24 14.2**	**+2.9**
THL	**Klokotos Trika**	**1.89**	**360**	*e*Pb	**Pn**	**08 23 45.7**	**-1.6**
THL	**Klokotos Trika**	**1.89**	**360**	P	**Pn**	**08 23 48.0**	**+0.7**
THL	**Klokotos Trika**	**1.89**	**360**	*e*PB	**Pn**	**08 23 45.7**	**-1.6**
XOR	**Xorichti**	**1.92**	**28**	P	**Pn**	**08 23 47.5**	**-0.2**
AOS	**Alonnisos**	**2.09**	**44**	P	**Pn**	**08 23 49.7**	**-0.3**
MEV	**Metsovon**	**2.20**	**344**	P	**Pn**	**08 23 51.0**	**-0.5**
MEV				S	**Sn**	**08 24 20.6**	**+1.6**
LIT	**Litokhoron**	**2.45**	**8**	P	**Pn**	**08 23 54.7**	**-0.3**
OUR	**Ouranopolis**	**3.06**	**29**	P	**Pn**	**08 24 03.6**	**+0.2**

CSEM ***15*** *08:25:30.7±0.1, 3837N×3923E, h2km, MD3.3, Error ellipse: s-maj=1.7km s-min=1.3km az=137.0*
ISCJB ***15*** *08:25:31.8±0.6, 3836N±003×3925E±003, h1km±5km, Error ellipse: s-maj=4.7km s-min=3.8km az=23.3*
ISK ***15*** *08:25:31.4, 3837N×3922E, h7km, MD3.5*
DDA ***15*** *08:25:31.4, 3837N×3925E, h6km±3km, Md3.3*
NEIC ***15*** *08:25:31.3, 3839N×3920E, h5km, ML3.2(ISK), After ISK.*

ISC 15 08:25:32.4±0.6, 3836N±003×3925E±003, h2km±5km, n34, σ0§75/48, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ELZG	**Elazig**	**0.25**	**302**	*i* P	**Pg**	**08 25 37.0**	**-0.2**
ELZG				*i* S	**Sg**	**08 25 40.9**	**+0.4**
PTK	**Pertek**	**0.54**	**12**	PG	**Pg**	**08 25 42.0**	**-0.8**
PTK				*e*SG	**Sg**	**08 25 50.4**	**+0.7**
PTK	**Pertek**	**0.54**	**12**	*i* Pg	**Pg**	**08 25 42.0**	**-0.7**
PTK				Sg	**Sg**	**08 25 50.7**	**+1.0**
PTK	**Pertek**	**0.54**	**12**	Pg	**Pg**	**08 25 41.7**	**-1.0**
PTK				Sg	**Sg**	**08 25 50.7**	**+1.0**
MYA	**Malataya**	**0.65**	**267**	*e*PG	**Pg**	**08 25 42.2**	**-0.7**
MYA				*e*SG	**Sg**	**08 25 53.5**	**+0.1**
MYA	**Malataya**	**0.65**	**267**	Pg	**Pg**	**08 25 44.0**	**-0.9**
MYA				Sg	**Sg**	**08 25 53.0**	**-0.3**
DIYA	**Diyarbakir**	**0.81**	**122**	*i* P	**Pg**	**08 25 47.9**	**0.0**
DIYA				*i* S	**Sg**	**08 25 59.5**	**+1.1**
URFA	**Urfa**	**0.98**	**201**	*e*PG	**Pg**	**08 25 50.7**	**-0.5**
URFA				*e*SG	**Sg**	**08 26 04.1**	**+0.2**
URFA	**Urfa**	**0.98**	**201**	*e*Pg	**Pg**	**08 25 50.7**	**-0.5**
URFA				Sg	**Sg**	**08 26 05.3**	**+1.4**
URFA	**Urfa**	**0.98**	**201**	Pg	**Pg**	**08 25 51.3**	**+0.1**
URFA				Sg	**Sg**	**08 26 05.3**	**+1.4**
AKCD	**Akcadag**	**1.05**	**267**	*i* P	**Pg**	**08 25 51.0**	**-1.5**
AKCD				*i* S	**Sg**	**08 26 06.2**	**+0.1**
ATAB	**Bozova**	**1.17**	**221**	*i* P	**Pg**	**08 25 55.1**	**+0.3**
ATAB				*i* S	**Sg**	**08 26 10.3**	**+0.3**
DARE	**Darende-Malaty**	**1.28**	**298**	*e*PN	**Pn**	**08 25 56.9**	**-0.4**
DARE				*e*SN	**Sn**	**08 26 16.5**	**+1.5**
EZC	**Erzincan**	**1.45**	**17**	*e*PN	**Pn**	**08 25 57.9**	**-1.7**
EZC	**Erzincan**	**1.45**	**17**	Pn	**Pn**	**08 25 58.2**	**-1.5**
MARD	**Mardin**	**1.60**	**130**	*i* P	**Pn**	**08 26 01.0**	**-0.7**
MARD				*i* S	**Sn**	**08 26 22.2**	**-0.7**
BEST	**Besiri**	**1.66**	**106**	*i* P	**Pn**	**08 26 02.6**	**+0.1**
GZT	**Gaziantep**	**1.67**	**234**	*i* P	**Pn**	**08 26 01.6**	**-1.1**
GAZ	**Gaziantep**	**2.01**	**234**	*e*PN	**Pn**	**08 26 06.8**	**-0.5**
GAZ	**Gaziantep**	**2.01**	**234**	Pn	**Pn**	**08 26 07.7**	**+0.4**
KMRS	**Kahramanmaras**	**2.05**	**246**	*e*PN	**Pn**	**08 26 07.2**	**-0.7**
PINB	**Pinarbasi**	**2.26**	**279**	*i* P	**Pn**	**08 26 11.2**	**+0.4**
SVSK	**Karacayir**	**2.34**	**312**	*e*PN	**Pn**	**08 26 11.8**	**-0.1**
SVSK	**Karacayir**	**2.34**	**312**	Pn	**Pn**	**08 26 12.3**	**+0.4**
SVSK	**Karacayir**	**2.34**	**312**	Pn	**Pn**	**08 26 12.3**	**+0.4**
SIRT	**Sirnak**	**2.66**	**108**	*e*PN	**Pn**	**08 26 16.5**	**+0.2**
BNN	**Bunyan**	**2.71**	**281**	*e*PN	**Pn**	**08 26 16.6**	**-0.4**
BNN	**Bunyan**	**2.71**	**281**	Pn	**Pn**	**08 26 17.0**	**0.0**
AGRB	**Hanur-Agry**	**3.15**	**66**	*e*PN	**Pn**	**08 26 23.8**	**+0.7**
HTY	**Hatay**	**3.35**	**229**	*e*PN	**Pn**	**08 26 25.9**	**+0.2**
HTY	**Hatay**	**3.35**	**229**	Pn	**Pn**	**08 26 26.7**	**+0.9**
CORM	**Corum**	**4.02**	**298**	*e*PN	**Pn**	**08 26 35.3**	**+0.3**
CANT	**Cankiri**	**4.90**	**299**	*e*PN	**Pn**	**08 26 47.9**	**+0.8**
CANT	**Cankiri**	**4.90**	**299**	Pn	**Pn**	**08 26 48.3**	**+1.2**

IDC 15 08:53:32.0±1.6, 068S×12412E, h0km, mb3.3/3, mb1 3.6/3, mb1mx3.4/15, mbtmp3.3/3, Error ellipse: s-maj=179.5km s-min=24.6km az=62.0, Southern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**21.60**	**153**	P	P	08 58 22.9	-0.8
	0.5nm,0.4s,baz=330,slow=11,SNR=24						
ASAR	**Alice Springs**	**24.74**	**158**	P	P	08 58 56.0	+0.7
	0.7nm,0.3s,baz=345,slow=12,SNR=18						
MKAR	**Makanchi Array**	**59.78**	**328**	P	P	09 03 38.9	0.0
	0.1nm,0.4s,baz=110,slow=7.8,SNR=3.1						

ISCJB ***15*** *09:14:59.0±0.8, 088N±007×126.10E±007, h64km±9km, mb4.2/9, Error ellipse: s-maj=14.1km s-min=8.4km az=136.1*
DJA ***15*** *09:14:59, 092N×126.11E, h26km, MLv4.2/2*
IDC ***15*** *09:15:00.3±4.8, 087N×126.12E, h55km±47km, mb3.8/8, mb1 4.0/10, mb1mx3.8/18, mbtmp3.8/10, ML3.7/2, Error ellipse: s-maj=38.3km s-min=16.7km az=70.0*
NEIC ***15*** *09:15:01.8±2.0, 083N×126.13E, h72km±21km, mb4.3/1, Error ellipse: s-maj=20.0km s-min=9.1km az=63.0*

ISC 15 09:14:59.9±0.8, 087N±007×12612E±007, h53km±10km, n20, σ0§84/19, mb4.2/9, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TNTI	**Ternate**	**1.25**	**95**	P	**Pn**	**09 15 20.9**	**-0.2**
MNI	**Manado**	**1.40**	**294**	P	**Pn**	**09 15 22.0**	**-1.0**
MNI	**Manado**	**1.40**	**294**	S	**Sn**	**09 15 40.4**	**0.0**
LBMI	**Labuha**	**2.04**	**137**	P	**Pn**	**09 15 32.4**	**+0.5**
KAPI	**Kappang**	**8.64**	**227**	P	**Pn**	**09 17 04.3**	**+1.9**
	1.5nm,0.3s,baz=56,slow=11,SNR=6.5						
KAKA	**Kakadu**	**14.88**	**155**	*e*Pn	**Pn**	**09 18 27.9**	**+0.6**
FITZ	**Fitzroy Crossi**	**18.86**	**181**	P	**Pn**	**09 19 15.3**	**-1.6**
	0.1nm,0.3s,baz=337,slow=13,SNR=3.7						
WRAB	**Tennant Creek**	**22.20**	**159**	*e*P	**P**	**09 19 51.4**	**-0.5**
	9.8nm,0.7s,mb4.3						
WRA	**Warramunga Arr**	**22.20**	**159**	P	**P**	**09 19 51.4**	**-0.5**
	10nm,0.7s,mb4.4,baz=338,slow=11,SNR=42						
WB2	**Warramunga Arr**	**22.21**	**159**	*e*P	**P**	**09 19 51.4**	**-0.6**
ASAR	**Alice Springs**	**25.54**	**163**	P	**P**	**09 20 24.1**	**+0.3**
	2.9nm,0.7s,mb3.9,baz=340,slow=8.4,SNR=24						
STKA	**Stephens Creek**	**35.72**	**157**	P	**P**	**09 21 54.0**	**+0.5**
	5.3nm,0.8s,mb4.5,baz=301,slow=3.7,SNR=7.0						
MJAR	**Matsushiro Arr**	**37.22**	**16**	P	**P**	**09 22 05.7**	**-0.5**
	1.5nm,0.7s,mb3.9,baz=189,slow=9.3,SNR=4.3						
SONM	**Songino Array**	**49.81**	**343**	P	**P**	**09 23 48.1**	**+0.7**
	0.5nm,0.6s,mb3.7,baz=175,slow=7.1,SNR=1.8						
SONM				PcP	PcP	09 25 08.4	+0.9
	0.3nm,0.5s,baz=159,slow=4.5,SNR=3.1						
PETK	**Petropavlovsk-**	**58.

ISC 15 09:42:57.7±1.1, 24N±02×1265E±05, h35km, n11, σ0§36/9, mb3.9/6, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
BATI	**Baumata**	**12.84**	**193**	LR		LR	09 50 35.2	
	comp=Z,56nm,19.2s,baz=117,slow=35							
FITZ	**Fitzroy Crossi**	**20.39**	**182**	P		**P**	**09 47 31.7**	**0.0**
	1.5nm,0.8s,baz=73,slow=20,SNR=1.5							
GUMO	**Guam**	**21.30**	**58**	LR		LR	09 54 00.7	
	comp=Z,48nm,21.0s,baz=270,slow=32							
WRAB	**Tennant Creek**	**23.50**	**161**	*e*P		**P**	**09 48 04.5**	**-0.3**
	2.4nm,0.5s,mb3.9							
WRA	**Warramunga Arr**	**23.51**	**161**	P		**P**	**09 48 04.7**	**-0.2**
	4.2nm,0.6s,mb4.0,baz=342,slow=10,SNR=12							
WB2	**Warramunga Arr**	**23.51**	**161**	*e*P		**P**	**09 48 04.2**	**-0.6**
ASAR	**Alice Springs**	**26.90**	**165**	P		**P**	**09 48 36.2**	**+0.6**
	0.6nm,0.6s,mb3.3,baz=350,slow=8.2,SNR=4.6							
STKA	**Stephens Creek**	**36.99**	**158**	P		**P**	**09 50 04.5**	**+0.5**
	3.6nm,0.7s,mb4.3,baz=345,slow=9.7,SNR=4.3							
MKAR	**Makanchi Array**	**58.50**	**326**	P		**P**	**09 52 50.3**	**-0.2**
	0.5nm,0.5s,mb3.6,baz=124,slow=7.8,SNR=6.6							
AKTK	**Aktyubinsk**	**74.54**	**322**	P		**P**	**09 54 33.0**	**+0.1**
AKTO	**Aktyubinsk**	**74.54**	**322**	P		**P**	**09 54 33.0**	**+0.1**
	1.6nm,0.8s,mb4.0,baz=90,slow=5.1,SNR=4.7							

*NEIC **15** 10:46:47.2±1.0, 3346N×7161E, h35km, Error ellipse: s-maj=28.9km s-min=10.4km az=119.0*
*IDC **15** 10:47:20.2±7.0, 3618N×7119E, h163km±58km, mb3.4/6, mb1 3.5/10, mb1mx3.3/25, mbtmp3.3/10, Error ellipse: s-maj=52.9km s-min=29.7km az=156.0*
*ISCJB **15** 10:47:25.3±1.0, 3658N±006×7121E±0.1, h210km±13km, mb3.6/5, Error ellipse: s-maj=19.2km s-min=6.9km az=161.2*
*MOS **15** 10:47:25.4±1.3, 3664N×7107E, h204km, mb3.7/2, Error ellipse: s-maj=25.7km s-min=11.2km az=83.2*
*NNC **15** 10:47:33.4±4.3, 3722N×7107E, h219km±55km, mb2.7, mpv4.1, Error ellipse: s-maj=43.8km s-min=23.7km az=12.0*

ISC 15 10:47:26.3±0.9, 3657N±005×711E±01, h204km±13km, n40, σ0§93/43, mb3.6/5, 2C-3D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
THN	**Thein Dam**	**5.61**	**136**	*e*P		**Pn**	**10 48 48.8**	**+0.2**
THN				*e*S		**Sn**	**10 49 54.6**	**+1.0**
AML	**Almayashu**	**5.91**	**19**	P		**Pn**	**10 48 52.4**	**+0.2**
	SNR=112							
AML	**Almayashu**	**5.91**	**19**	*e*Pn		**Pn**	**10 48 52.2**	**0.0**
	91nm,0.5s							
UCH	**Uchtor**	**6.24**	**24**	P		**Pn**	**10 48 56.8**	**+0.3**
	SNR=99							
UCH	**Uchtor**	**6.24**	**24**	*e*Pn		**Pn**	**10 48 56.8**	**+0.3**
	55nm,0.6s							
EKS2	**Erkin-Say**	**6.42**	**18**	P		**Pn**	**10 48 59.0**	**+0.1**
	SNR=14							
EKS2	**Erkin-Say**	**6.42**	**18**	*e*Pn		**Pn**	**10 48 59.1**	**+0.2**
	13nm,0.5s							
KK31	**Karatay Array**	**6.54**	**356**	⇓P		**Pn**	**10 48 59.7**	**-0.8**
	1.4nm,0.2s,baz=185,slow=13,SNR=68							
KK31				⇓S		**Sn**	**10 50 08.5**	**-6.8**
	6.9nm,0.3s,baz=185,slow=22,SNR=20							
AAK	**Ala-Archa**	**6.60**	**22**	P		**Pn**	**10 49 01.6**	**+0.4**
	SNR=20							
KBK	**Karagaybulak**	**6.76**	**25**	P		**Pn**	**10 49 04.1**	**+0.8**
	SNR=12							
CHMS	**Chumysh**	**7.01**	**22**	P		**Pn**	**10 49 07.0**	**+0.5**
	SNR=6.5							
USP	**Ospenovka**	**7.18**	**20**	P		**Pn**	**10 49 07.8**	**-0.9**
	SNR=7.5							
TKM2	**Tokmak 2**	**7.22**	**27**	⇑P		**Pn**	**10 49 09.5**	**+0.2**
	40nm,0.7s							
TKM2				⇑S		**Sn**	**10 50 26.5**	**-4.8**
	3.5nm,0.7s							
TKM2	**Tokmak 2**	**7.22**	**27**	*e*PN		**Pn**	**10 49 09.5**	**+0.2**
TKM2				pmax		pmax		
	comp=Z,45nm,0.7s							
TKM2	**Tokmak 2**	**7.22**	**27**	P		**Pn**	**10 49 09.7**	**+0.4**
	SNR=62							
TKM2	**Tokmak 2**	**7.22**	**27**	*e*Pn		**Pn**	**10 49 09.5**	**+0.2**
	comp=Z,45nm,0.7s							
SMLA	**Simla**	**7.40**	**135**	*i* P		**Pn**	**10 49 12.7**	**+0.9**
SMLA				*i* S		**Sn**	**10 50 34.0**	**-1.6**
SMLA				*ex*		x	10 50 36.8	
	comp=E,298nm,0.4s							
SMLA				*ex*		x	10 50 37.8	
	comp=N,258nm,0.3s							
JOSI	**Joshimath**	**9.25**	**128**	*ex*		x	10 51 16.6	
KHET	**Khetri**	**9.35**	**154**	*e*S		**Sn**	**10 51 04.7**	**-17**
KHET				AML		AML	10 51 17.5	
	comp=N,8.7nm,0.4s							
KHET				AML		AML	10 51 19.2	
	comp=E,6.6nm,0.2s							
KUDL	**Kundal**	**9.55**	**150**	*e*S		**Sn**	**10 51 14.4**	**-12**
KUDL				AML		AML	10 51 25.8	
	comp=N,4.7nm,0.3s							
SONA	**Sohna**	**9.71**	**147**	*e*S		**Sn**	**10 51 20.5**	**-10**
SONA				AML		AML	10 51 27.6	
	comp=E,16nm,0.2s							
SONA				AML		AML	10 51 30.9	
	comp=N,9.1nm,0.2s							
MK31	**Makanchi Array**	**13.18**	**36**	*e*P		**Pn**	**10 50 24.0**	**-1.7**
MKAR	**Makanchi Array**	**13.18**	**36**	P		**Pn**	**10 50 25.2**	**-0.5**
	comp=N,0.3nm,0.3s,baz=216,slow=12,SNR=14							
AB31	**Akbulak array**	**15.07**	**331**	P		**Pn**	**10 50 47.6**	**-1.2**
	comp=N,0.3nm,0.3s,baz=153,slow=12,SNR=21							
KURK	**Kurchatov**	**15.14**	**19**	P		**Pn**	**10 50 46.7**	**-3.0**
	comp=N,0.1nm,0.3s,baz=204,slow=11,SNR=5.7							
BVAR	**Borovoye Array**	**16.46**	**358**	P		**P**	**10 51 06.2**	**+1.5**
	comp=N,0.3nm,0.3s,baz=167,slow=13,SNR=3.3							
AKTO	**Aktyubinsk**	**16.77**	**330**	⇓P		**P**	**10 51 08.6**	**+0.6**
	comp=N,1.2nm,1.2s							
AKTO	**Aktyubinsk**	**16.77**	**330**	P		**P**	**10 51 09.1**	**+1.0**
	comp=N,0.6nm,0.3s,baz=134,slow=8.4,SNR=9.8							
AKTO	**Aktyubinsk**	**16.77**	**330**	P		**P**	**10 51 09.1**	**+1.0**
AKTO				pmax		pmax		
	comp=Z,1.0nm,0.3s							
ZALV	**Zalesovo Beam**	**19.82**	**24**	P		**P**	**10 51 41.5**	**+0.4**
	comp=Z,2.3nm,0.6s,baz=218,slow=9.6,SNR=8.3							
AKASG	**Malin Array Be**	**32.97**	**309**	P		**P**	**10 53 41.8**	**+0.3**
	comp=Z,0.8nm,0.4s,mb3.6,baz=88,slow=6.4,SNR=4.1							
AKASG	**Malin Array Be**	**32.97**	**309**	P		**P**	**10 53 41.8**	**+0.3**
AKASG				pmax		pmax		
	comp=Z,1.0nm,0.4s							
ARCES	**ARCESS Array B**	**41.12**	**338**	P		**P**	**10 54 50.8**	**+1.0**
	comp=Z,4.8nm,1.0s,mb3.9,baz=118,slow=8.7,SNR=11							
HFA0	**Hagfors New Ar**	**43.07**	**322**	P		**P**	**10 55 05.1**	**-0.6**
NB2	**NORSAR Subarra**	**44.38**	**323**	P		**P**	**10 55 16.4**	**+0.4**
	comp=Z,1.7nm,0.5s,mb3.6,baz=96,slow=7.4							
NB2	**NORSAR Subarra**	**44.38**	**323**	P		**P**	**10 55 16.0**	**0.0**
NOA	**NORSAR Array B**	**44.38**	**323**	P		**P**	**10 55 16.4**	**+0.3**
	comp=Z,1.4nm,0.5s,mb3.6,baz=97,slow=7.7,SNR=7.5							
TORD	**Torodi Ar. Bea**	**65.81**	**269**	P		**P**	**10 57 48.5**	**-1.3**
	comp=Z,0.5nm,0.5s,mb3.4,baz=51,slow=6.1,SNR=7.2							
YKA	**Yellowknife Ar**	**81.17**	**3**	P		**P**	**10 59 19.2**	**+0.6**
	comp=Z,0.5nm,0.5s,mb3.4,baz=351,slow=5.6,SNR=3.7							
YKA	**Yellowknife Ar**	**81.17**	**3**	P		**P**	**10 59 19.2**	**+0.6**
YKA				pmax		pmax		
	comp=Z,1.0nm,0.5s							

*ISCJB **15** 10:52:44.4±0.7, 474S±005×14940E±006, h601km±11km, mb4.6/35, Error ellipse: s-maj=8.6km s-min=7.2km az=179.3*
*IDC **15** 10:52:44.8±0.6, 475S×14943E, h585km±6km, mb3.9/21, mb1 4.1/24, mb1mx4.0/27, mbtmp4.0/24, Error ellipse: s-maj=10.1km s-min=7.4km az=93.0*
*NEIC **15** 10:52:45.1±0.6, 471S×14948E, h598km±8km, mb4.7/17, Error ellipse: s-maj=8.5km s-min=6.1km az=77.0*
*DJA **15** 10:52:46, 471S×14919E, h581km, Mw5.0/5*
*BJI **15** 10:52:47.9, 401S×14937E, h598km, mB4.4, mb4.6*

ISC 15 10:52:45.1±0.7, 475S±004×14946E±006, h592km±10km, h579km±8.0km: pP-P, n92, σ0§91/83, mb4.6/35, 1C-1D, Bismarck Sea

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
PMG	**Port Moresby**	**5.16**	**206**	*e*P		**P**	**10 54 19.3**	**+0.4**
COEN	**Coen**	**11.05**	**214**	*e*P		**P**	**10 55 14.9**	**+0.7**
	46nm,0.9s							
HNR	**Honiara**	**11.40**	**115**	P		**P**	**10 55 16.1**	**-1.7**
	7.1nm,0.3s,baz=237,slow=1.5,SNR=10							
HNR				S		**S**	**10 57 22.5**	**-0.7**
	3.0nm,0.3s,baz=187,slow=14,SNR=4.3							
HNR	**Honiara**	**11.40**	**115**	*e*P		**P**	**10 55 16.0**	**-1.8**
	103nm,0.8s							
CTA	**Charters Tower**	**15.56**	**191**	⇓*i*P		**P**	**10 56 00.0**	**+1.2**
	132nm,0.9s							
CTA				*e*S		**S**	**10 58 42.1**	**+5.3**
CTA	**Charters Tower**	**15.56**	**191**	P		**P**	**10 55 59.7**	**+0.9**
	5.6nm,0.3s,baz=6.7,slow=12,SNR=82							
CTAO	**Charters Tower**	**15.56**	**191**	*e*P		**P**	**10 55 59.4**	**+0.6**
KAKA	**Kakadu**	**18.58**	**244**	*e*P		**P**	**10 56 24.2**	**-2.2**
	19nm,0.6s							
GUMO	**Guam**	**18.78**	**346**	P		**P**	**10 56 28.7**	**+0.5**
	36nm,0.3s,baz=164,slow=4.2,SNR=26							
GUMO	**Guam**	**18.78**	**346**	*e*P		**P**	**10 56 27.4**	**-0.8**
EIDS	**Eidsvold**	**20.56**	**176**	*e*P		**P**	**10 56 44.1**	**-0.1**
WB2	**Warramunga Arr**	**21.09**	**223**	*e*P		**P**	**10 56 49.3**	**+0.2**
WB2				*e*S		**S**	**11 00 03.8**	**-1.9**
WRA	**Warramunga Arr**	**21.09**	**223**	P		**P**	**10 56 49.4**	**+0.3**
	23nm,0.6s,mb5.0,baz=48,slow=9.0,SNR=430							
WRA				S		**S**	**11 00 04.5**	**-1.3**
	15nm,0.7s,baz=44,slow=16,SNR=18							
WRA				PcP		PcP	11 00 30.6	+0.9
	2.7nm,0.6s,baz=31,slow=2.0,SNR=4.6							
WRA				ScP		ScP	11 03 12.5	+1.3
	5.3nm,0.9s,baz=38,slow=2.8,SNR=10.0							
DZM	**Mont Dzumac**	**23.82**	**138**	*e*P		**P**	**10 57 13.4**	**+0.1**
ASAR	**Alice Springs**	**24.06**	**217**	P		**P**	**10 57 15.8**	**+0.3**
	36nm,0.6s,mb5.2,baz=51,slow=8.1,SNR=643							
ASAR				S		**S**	**11 00 49.7**	**-2.8**
	2.4nm,0.7s,baz=34,slow=12,SNR=6.6							
ASAR				ScP		ScP	11 03 20.6	+1.5
	1.7nm,0.6s,baz=33,slow=3.6,SNR=5.2							
ASAR	**Alice Springs**	**24.06**	**217**	P		**P**	**10 57 15.8**	**+0.3**
ASAR				S		**S**	**11 00 49.7**	**-2.8**
ASAR				ScP		ScP	11 03 20.6	+1.5
ARMA	**Armidale**	**25.62**	**176**	*e*P		**P**	**10 57 30.5**	**+1.4**
BATI	**Baumata**	**26.14**	**257**	P		**P**	**10 57 34.6**	**+0.7**
	14nm,0.4s,mb4.9,baz=99,slow=7.1,SNR=3.0							
FITZ	**Fitzroy Crossi**	**26.81**	**238**	*e*P		**P**	**10 57 39.3**	**-0.4**
	7.0nm,0.8s,mb4.3							
FITZ	**Fitzroy Crossi**	**26.81**	**238**	P		**P**	**10 57 39.2**	**-0.5**
	2.1nm,0.5s,mb4.0,baz=58,slow=13,SNR=12							
STKA	**Stephens Creek**	**27.98**	**194**	*e*P		**P**	**10 57 49.4**	**-0.3**
	19nm,0.8s,mb4.8							
STKA	**Stephens Creek**	**27.98**	**194**	P		**P**	**10 57 49.7**	**0.0**
	21nm,0.7s,mb4.8,baz=348,slow=8.3,SNR=32							
STKA				S		**S**	**11 01 51.1**	**-2.4**
	3.0nm,0.7s,baz=132,slow=20,SNR=3.3							
KAPI	**Kappang**	**29.60**	**268**	P		**P**	**10 58 03.5**	**-0.6**
	17nm,0.7s,mb4.8,baz=99,slow=4.8,SNR=10							
KAPI	**Kappang**	**29.60**	**268**	P		**P**	**10 58 03.5**	**-0.6**
CNB	**Canberra Magne**	**30.42**	**180**	*e*P		**P**	**10 58 12.1**	**+1.4**
FORT	**Forrest**	**32.81**	**215**	*e*P		**P**	**10 58 30.8**	**-0.3**
	47nm,0.6s,mb5.3							
TOO	**Toolangi**	**32.87**	**186**	*e*P		**P**	**10 58 32.7**	**+1.2**
JOW	**Kunigami**	**37.49**	**328**	P		**P**	**10 59 10.6**	**+0.7**
	48nm,0.5s,mb5.3,baz=163,slow=11,SNR=17							
AFI	**Afiamalu**	**39.26**	**106**	P		**P**	**10 59 25.4**	**+1.0**
	21nm,0.6s,mb4.8,baz=48,slow=20,SNR=10							
AFI	**Afiamalu**	**39.26**	**106**	*e*P		**P**	**10 59 23.9**	**-0.5**
	29nm,0.8s,mb4.9							
NACB	**Ninganchiao**	**39.54**	**318**	*e*P		**P**	**10 59 25.6**	**-0.8**
	187nm,0.5s,mb5.9							
KSM	**Kuching**	**39.60**	**278**	*e*P		**P**	**10 59 26.9**	**-0.2**
KLBR	**Kellerberrin**	**39.97**	**224**	*e*P		**P**	**10 59 28.8**	**-1.0**
	6.6nm,0.7s,mb4.3							
YHNB	**Yeheng**	**40.02**	**318**	*e*P		**P**	**10 59 30.3**	**0.0**
	38nm,0.5s,mb5.2							
URZ	**Urewera**	**41.78**	**147**	P		**P**	**10 59 44.7**	**+0.6**
	12nm,0.8s,mb4.6,baz=304,slow=2.9,SNR=6.4							
MJAR	**Matsushiro Arr**	**42.40**	**347**	P		**P**	**10 59 48.2**	**-0.7**
	22nm,0.8s,mb4.7,baz=169,slow=8.9,SNR=36							
MJAR				ScP		ScP	11 04 24.0	+1.0
	3.5nm,0.8s,baz=152,slow=4.7,SNR=7.2							
MJAR	**Matsushiro Arr**	**42.40**	**347**	P		**P**	**10 59 48.2**	**-0.7**
MJAR				ScP		ScP	11 04 24.0	+1.0
MAJO	**Matsushiro**	**42.40**	**347**	*e*P		**P**	**10 59 48.5**	**-0.4**
	45nm,0.9s,mb5.0							
MAT	**Matsushiro**	**42.40**	**347**	P		**P**	**10 59 47.9**	**-1.0**
RPZ	**Rata Peaks**	**43.24**	**157**	P		**P**	**10 59 55.9**	**+0.6**
	15nm,1.1s,mb4.5,baz=230,slow=23,SNR=2.3							
KSRS	**Korea Array**	**46.53**	**336**	P		**P**	**11 00 20.6**	**0.0**
	15nm,0.8s,mb4.6,baz=154,slow=8.0,SNR=40							
KSRS				ScP		ScP	11 04 41.4	+1.2
	1.3nm,0.7s,baz=160,slow=4.0,SNR=4.4							
KS15	**Wonju Array Si**	**46.54**	**336**	*e*P		**P**	**11 00 19.7**	**-0.8**
ASAJ	**Asahikawa**	**49.03**	**353**	P		**P**	**11 00 39.5**	**+0.5**
	30nm,0.7s,mb4.9,baz=216,slow=9.1,SNR=38							
MDJ	**Mudanjiang**	**52.28**	**342**	P		**P**	**11 01 02.6**	**+0.1**
MDJ				AMB		AMB		
	comp=Z,22nm,0.8s,mb4.5							
MDJ				AMB		AMB		
	comp=Z,76nm,6.1s							
MDJ	**Mudanjiang**	**52.28**	**342**	*e*P		**P**	**11 01 02.3**	**-0.2**
	comp=Z,55nm,1.5s,mb4.7							
CN2	**Changchun**	**52.95**	**338**	⇑P		**P**	**11 01 07.4**	**+0.1**
CN2				AMB		AMB		
	comp=Z,10.0nm,1.0s,mb4.1							
XAN	**Xi'an**	**54.33**	**318**	P		**P**	**11 01 16.9**	**-0.3**
XAN				AMB		AMB		
	comp=Z,29nm,0.8s,mb4.7							
XAN				AMB		AMB		
	comp=Z,60nm,5.2s							
CMAR	**Chiang Mai Arr**	**54.86**	**296**	P		**P**	**11 01 22.4**	**+1.2**
	comp=Z,4.3nm,0.6s,mb3.9,baz=129,slow=5.4,SNR=22							
CMAR				pP		pP	11 03 12.1	-0.8
	comp=Z,3.3nm,1.0s,baz=124,slow=5.6,SNR=3.2							
PETK	**Petropavlovsk-**	**58.06**	**6**	P		**P**	**11 01 42.6**	**+0.2**
	comp=Z,23nm,0.7s,mb4.4,baz=162,slow=6.0,SNR=87							
PET	**Petropavlovsk**	**58.08**	**7**	*e*P		**P**	**11 01 42.5**	**0.0**
LZH	**Lanzhou**	**58.91**	**317**	*e*P		**P**	**11 01 49.5**	**+1.0**
LZH				AMB		AMB		
	comp=Z,30nm,1.5s,mb4.2							
LZH				AMB		AMB		
	comp=Z,124nm,4.3s							
HIA	**Hailar**	**59.68**	**338**	*e*P		**P**	**11 01 52.8**	**-0.5**
	comp=Z,38nm,0.7s,mb4.7							
GTA	**Gaotai**	**63.39**	**319**	*e*P		**P**	**11 02 18.8**	**+1.1**
GTA				AMB		AMB		
	comp=Z,17nm,0.9s,mb4.4							
SONM	**Songino Array**	**64.54**	**329**	P		**P**	**11 02 25.6**	**+0.8**
	comp=Z,13nm,0.5s,mb4.6,baz=147,slow=4.1,SNR=79							
SONM				ScP			11 05 58.1	
	comp=Z,0.7nm,0.7s,baz=158,slow=4.7,SNR=3.6							
LSA	**Lhasa**	**65.48**	**306**	*e*P		**P**	**11 02 31.3**	**+0.2**
	comp=Z,12nm,0.7s,mb4.4							
CASY	**Casey**	**67.12**	**196**	*e*P		**P**	**11 02 39.8**	**-0.7**
	comp=Z,7.3nm,1.2s,mb4.0							
TLY	**Talaya**	**68.40**	**331**	*e*P		**P**	**11 02 49.0**	**+0.5**
TIXI	**Tiksi**	**77.44**	**353**	*e*P		**P**	**11 03 39.3**	**-0.4**
	comp=Z,4.0nm,0.8s,mb3.9							
MK31	**Makanchi Array**	**78.11**	**320**	*e*P		**P**	**11 03 42.1**	**-1.8**
MKAR	**Makanchi Array**	**78.11**	**320**	P		**P**	**11 03 44.2**	**+0.3**
	comp=Z,7.4nm,0.8s,mb4.1,baz=103,slow=6.9,SNR=43							
MKAR				pP		pP	11 05 45.0	-2.7
	comp=Z,1.5nm,1.0s,baz=96,slow=3.4,SNR=2.2							
MKAR				PP		PP	11 06 48.8	-2.9
	comp=Z,0.9nm,0.9s,baz=96,slow=8.8,SNR=2.8							
MKAR	**Makanchi Array**	**78.11**	**320**	P		**P**	**11 03 44.2**	**+0.3**
MKAR				pP		pP	11 05 45.0	-2.7
MKAR				PP		PP	11 06 48.8	-2.9
ZAA0	**Zalesovo Array**	**79.28**	**327**	*e*P		**P**	**11 03 49.0**	**-0.9**
ZALV	**Zalesovo Beam**	**79.28**	**327**	P		**P**	**11 03 48.9**	**-1.0**
	comp=Z,4.1nm,0.6s,mb3.9,baz=110,slow=5.3,SNR=20							
ZALV	**Zalesovo Beam**	**79.28**	**327**	P		**P**	**11 03 48.9**	**-1.0**
RC01	**Rabbit Creek A**	**80.54**	**25**	*e*P		**P**	**11 03 54.8**	**-1.5**
TKM2	**Tokmak 2**	**81.51**	**314**	P		**P**	**11 04 02.9**	**+1.2**
	SNR=6.2							
KURK	**Kurchatov**	**81.69**	**323**	P		**P**	**11 04 02.5**	**0.0**
	comp=Z,7.3nm,0.7s,mb4.3,baz=115,slow=3.8,SNR=17							
KURK	**Kurchatov**	**81.69**	**323**	*e*P		**P**	**11 04 01.6**	**-0.8**
	comp=Z,14nm,1.0s,mb4.4							
MCK	**McKinley**	**82.11**	**23**	*e*P		**P**	**11 04 03.9**	**-0.4**
UCH	**Uchtor**	**82.11**	**314**	P		**P**	**11 04 06.7**	**+1.9**
	SNR=6.5							
USP	**Ospenovka**	**82.37**	**315**	P		**P**	**11 04 07.2**	**+1.1**
	SNR=5.3							
AML	**Almayashu**	**82.68**	**313**	P		**P**	**11 04 08.7**	**+1.0**
	SNR=10							
EKS2	**Erkin-Say**	**82.75**	**314**	P		**P**	**11 04 09.6**	**+1.6**
	SNR=6.5							
BVAR	**Borovoye Array**	**87.21**	**324**	P		**P**	**11 04 28.3**	**-1.1**
	comp=Z,1.7nm,0.6s,mb4.0,baz=104,slow=6.7,SNR=7.9							
BVAR				pP		pP	11 06 35.6	-1.3
	comp=Z,0.8nm,0.6s,baz=108,slow=7.7,SNR=2.4							
BVAR	**Borovoye Array**	**87.21**	**324**	P		**P**	**11 04 28.3**	**-1.1**
BVAR				pP		pP	11 06 35.6	-1.3
NVAR	**Mina Array Bea**	**94.67**	**52**	P		**P**	**11 05 04.8**	**+0.7**
	comp=Z,0.9nm,0.7s,mb4.0,baz=249,slow=7.2,SNR=9.3							
PDAR	**Pinedale Array**	**101.27**	**47**	P		Pdif	11 05 33.5	+0.3
	comp=Z,0.8nm,0.5s,baz=201,slow=0.8,SNR=8.6							
ARCES	**ARCESS Array B**	**105.83**	**342**	PKiKP		PKiKP	11 10 01.1	-0.6
	comp=Z,3.2nm,0.9s,baz=75,slow=1.7,SNR=6.4							
TXAR	**Lajitas Array**	**107.02**	**61**	PP		PP	11 10 33.2	-1.4
	comp=Z,0.5nm,1.0s,baz=300,slow=2.0,SNR=4.0							
PLCA	**Paso Flores**	**121.78**	**145**	PKP		PKPdf	11 10 34.0	+1.0
	comp=Z,2.5nm,0.6s,baz=199,slow=2.8,SNR=8.7							
PLCA	**Paso Flores**	**121.78**	**145**	PKP		PKPdf	11 10 34.0	+1.0
GERES	**GERESS Array B**	**122.23**	**327**	PKP		PKPdf	11 10 33.5	-0.1
	comp=Z,1.3nm,0.5s,baz=79,slow=1.5,SNR=8.7							
ROSC	**El Rosal**	**136.37**	**88**	PKP		PKPdf	11 11 02.7	+1.2
	comp=Z,3.3nm,0.4s,baz=104,slow=22,SNR=4.1							
LPAZ	**La Paz**	**137.35**	**120**	PKhKP			11 10 55.4	
	comp=Z,1.0nm,0.5s,baz=257,slow=8.2,SNR=4.8							
LPAZ				PKP		PKPdf	11 11 04.0	+0.9
	comp=Z,2.1nm,0.6s,baz=296,slow=5.3,SNR=5.4							
CPUP	**Villa Florida**	**139.65**	**141**	PKhKP			11 11 00.5	
CPUP				PKP		PKPdf	11 11 08.3	+1.2
	comp=Z,1.7nm,0.6s							
SDV	**Santo Domingo**	**140.00**	**82**	*e*PKPdf		PKPdf	11 11 02.3	-5.7
CPD	**Cerro la Pandu**	**142.99**	**66**	*e*PKPdf		PKPdf	11 11 10.7	-2.6
HUMP	**Col San Antoni**	**143.01**	**66**	*e*PKPdf		PKPdf	11 11 10.6	-2.6
MTP	**Monte Pirata**	**143.30**	**66**	*e*PKPab		PKPdf	11 11 10.8	-3.0
TOA0	**Torodi Ar. Sit**	**147.12**	**287**	*e*PKPbc		PKPbc	11 11 23.1	-0.5
TORD	**Torodi Ar. Bea**	**147.12**	**287**	PKPbc		PKPbc	11 11 23.3	-0.2
	comp=Z,3.8nm,0.4s,baz=89,slow=2.5,SNR=43							
TORD				pPKPbc		pPKPbc	11 13 36.7	-1.9
	comp=Z,2.1nm,0.9s,baz=68,slow=3.0,SNR=9.5							
TORD				SKPbc		SKPbc	11 14 05.7	-0.2
	comp=Z,1.5nm,0.7s,baz=50,slow=2.2,SNR=4.6							
BDFB	**Brasilia**	**153.36**	**140**	PKPbc		PKPbc	11 11 37.2	-0.9
	comp=Z,2.3nm,0.4s,baz=129,slow=20,SNR=5.4							

*GII **15** 11:13:16.9±0.0, 2989N×3632E, h0km, ML2.2/3, EXPLOSION*
*SGS **15** 11:13:18.0, 3003N×3621E, h3km*
*CSEM **15** 11:13:18.0, 3003N×3621E, h3km, ML2.7, After SNSN*

ISC 15 11:13:16.3±1.3, 2986N±005×3637E±008, h0km, n12, σ0§78/16, Western Arabian Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
HRFI	**Mount Harif**	**1.17**	**279**	Pg		**Pg**	**11 13 38.2**	**-0.5**
ZFRI	**Zfri**	**1.24**	**304**	Pg		**Pg**	**11 13 38.3**	**-1.8**
EIL	**Elat**	**1.25**	**262**	Pg		**Pg**	**11 13 40.0**	**-0.2**
EIL				Sg		**Sg**	**11 13 57.7**	**+1.3**
HQLS		**1.27**	**244**	P		**Pg**	**11 13 40.1**	**-0.5**
HQLS		**1.27**	**244**	P		**Pg**	**11 13 40.1**	**-0.5**
HQLS				S		**Sg**	**11 13 56.8**	**-0.2**
MBRI	**Mt Berech**	**1.27**	**268**	Pg		**Pg**	**11 13 40.6**	**0.0**
PRNI	**Paran**	**1.28**	**293**	Pg		**Pg**	**11 13 40.0**	**-0.8**
PRNI				Sg		**Sg**	**11 13 57.9**	**+0.4**
JLOS		**1.36**	**215**	P		**Pg**	**11 13 42.9**	**+0.6**
KRMI	**Paran

EXPLOSION
ISC 15 11:34:19.8±0.8,**2987N**±003×**3624E**±006,**h0**km,**n23**,
σ**0s93**/27,**Western Arabian Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
AQBJ	**Aqaba**	**1.04**	**263**	Pg	**Pg**	**11 34 39.3**	**-0.5**
HRFI	**Mount Harif**	**1.05**	**280**	Pg	**Pg**	**11 34 39.4**	**-0.7**
EIL	**Elat**	**1.13**	**260**	Pg	**Pg**	**11 34 41.5**	**-0.1**
ZFRI	**Zfri**	**1.15**	**307**	Pg	**Pg**	**11 34 41.4**	**-0.4**
MBRI	**Mt Berech**	**1.15**	**267**	Pg	**Pg**	**11 34 41.4**	**-0.6**
MBRI				Sg	**Sg**	**11 34 58.1**	**+1.2**
HQLS		**1.17**	**241**	P	**Pg**	**11 34 41.3**	**-0.9**
HQLS		**1.17**	**241**	P	**Pg**	**11 34 41.3**	**-0.9**
HQLS				S	**Sg**	**11 34 58.2**	**+0.8**
PRNI	**Paran**	**1.17**	**295**	Pg	**Pg**	**11 34 41.8**	**-0.5**
JLOS		**1.30**	**210**	P	**Pg**	**11 34 44.0**	**-0.8**
JLOS		**1.30**	**210**	P	**Pg**	**11 34 44.0**	**-0.8**
JLOS				S	**Sg**	**11 35 02.1**	**+0.5**
HBST	**Basata**	**1.46**	**244**	P	**Pn**	**11 34 46.4**	**-1.0**
RMNI	**Mount Ramon**	**1.47**	**300**	Pn	**Pn**	**11 34 47.4**	**-0.2**
MZDA	**Masada**	**1.62**	**333**	Pn	**Pn**	**11 34 50.1**	**+0.4**
TBKS	**Tabuk**	**1.66**	**171**	S	**Sn**	**11 35 13.6**	**+1.3**
TBKS	**Tabuk**	**1.66**	**171**	P	**Pn**	**11 34 50.1**	**-0.1**
BDAS	**Al Bad'**	**1.74**	**215**	P	**Pn**	**11 34 51.0**	**-0.4**
DSI	**Dead Sea**	**1.85**	**337**	Pn	**Pn**	**11 34 54.0**	**+1.2**
DSI				Sn	**Sn**	**11 35 19.7**	**+2.8**
RSHS		**2.01**	**219**	S	**Sn**	**11 35 23.1**	**+2.4**
RSHS		**2.01**	**219**	P	**Pn**	**11 34 53.7**	**-1.3**
HKAT	**Jabal Katrina**	**2.37**	**236**	P	**Pn**	**11 34 59.7**	**-0.3**
TR2		**2.65**	**237**	P	**Pn**	**11 35 03.1**	**-0.7**
AMAG	**Maghara**	**2.73**	**287**	P	**Pn**	**11 34 57.4**	**-7.5**
WJHS		**3.12**	**177**	P	**Pn**	**11 35 10.3**	**0.0**

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*ISCJB **15** 12:11:38.9±2.3,296N±007×1290E±02,h240km±24km, mb3.7/11,Error ellipse: s-maj=34.1km s-min=10.4km az=175.4*
*IDC **15** 12:11:42.2±2.2,289N×12883E,h258km±22km,mb3.3/10, mb1 3.5/12,mb1mx3.4/20,mbtmp3.4/12,Error ellipse: s-maj=31.0km s-min=9.0km az=86.0*
*NEIC **15** 12:11:42.7±2.5,291N×12884E,h266km±27km,mb4.2/1, Error ellipse: s-maj=24.1km s-min=9.9km az=79.0*
ISC 15 12:11:41.5±2.2,**290N**±007×**1289E**±02,**h251**km±23km,**n19**,
σ**0s75**/19,**mb3.7**/11,**Halmahera**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KAPI	**Kappang**	**12.04**	**229**	P	**Pn**	**12 14 26.7**	**+0.9**
	1.7nm,0.3s,baz=64,slow=13,SNR=12						
BATI	**Baumata**	**14.02**	**202**	P	**Pn**	**12 14 49.0**	**-1.0**
	3.9nm,0.3s,baz=86,slow=3.2,SNR=5.4						
FITZ	**Fitzroy Crossi**	**21.11**	**189**	P	**P**	**12 16 06.6**	**-0.7**
	0.9nm,0.5s,mb3.6,baz=13,slow=11,SNR=5.4						
FITZ	**Fitzroy Crossi**	**21.11**	**189**	*e*P	**P**	**12 16 06.9**	**-0.4**
WRAB	**Tennant Creek**	**23.31**	**167**	*e*P	**P**	**12 16 27.4**	**0.0**
	15nm,1.7s,mb4.2						
WRA	**Warramunga Arr**	**23.32**	**167**	P	**P**	**12 16 27.1**	**-0.4**
	0.8nm,0.3s,mb3.7,baz=346,slow=9.9,SNR=22						
WRA				S	**S**	**12 20 19.6**	**-1.6**
	0.7nm,0.7s,baz=340,slow=14,SNR=3.2						
WB2	**Warramunga Arr**	**23.32**	**167**	*e*P	**P**	**12 16 27.6**	**+0.1**
ASAR	**Alice Springs**	**26.85**	**170**	P	**P**	**12 16 59.6**	**+0.4**
	1.3nm,0.4s,mb3.9,baz=352,slow=7.6,SNR=29						
ASAR				PcP	PcP	12 20 15.7	+0.7
	0.5nm,0.4s,baz=357,slow=2.2,SNR=10						
ASAR				S	**S**	**12 21 17.4**	**+0.6**
	0.9nm,0.8s,baz=346,slow=19,SNR=5.3						
KSRS	**Korea Array**	**34.40**	**359**	P	**P**	**12 18 05.2**	**0.0**
	1.5nm,0.4s,mb3.8,baz=177,slow=9.8,SNR=7.6						
MJAR	**Matsushiro Arr**	**34.57**	**13**	P	**P**	**12 18 05.7**	**-1.0**
	2.9nm,0.7s,mb3.9,baz=187,slow=9.7,SNR=7.6						
STKA	**Stephens Creek**	**36.63**	**162**	P	**P**	**12 18 24.8**	**+0.6**
	1.9nm,0.3s,mb4.1,baz=337,slow=7.1,SNR=16						
STKA	**Stephens Creek**	**36.63**	**162**	*e*P	**P**	**12 18 24.9**	**+0.7**
SONM	**Songino Array**	**48.79**	**340**	P	**P**	**12 20 01.2**	**-0.1**
	0.4nm,0.4s,mb3.1,baz=156,slow=7.4,SNR=3.3						
PETK	**Petropavlovsk-**	**55.41**	**21**	P	**P**	**12 20 51.0**	**+1.1**
	1.0nm,0.7s,mb3.5,baz=207,slow=4.7,SNR=3.6						
MKAR	**Makanchi Array**	**59.47**	**325**	P	**P**	**12 21 17.5**	**-0.7**
	0.3nm,0.4s,mb3.2,baz=121,slow=7.1,SNR=3.7						
MKAR	**Makanchi Array**	**59.47**	**325**	P	**P**	**12 21 17.5**	**-0.7**
QSPA	**South Pole Qui**	**92.81**	**180**	P	**P**	**12 24 26.2**	**+1.2**
	0.5nm,0.5s,mb3.8,baz=189,slow=3.3,SNR=7.3						
TORD	**Torodi Ar. Bea**	**125.22**	**288**	PKP	PKPdf	12 30 12.4	-0.9
	0.1nm,0.4s,baz=55,slow=1.6,SNR=3.5						
CFAA	**Coronel Fontan**	**147.20**	**152**	PKPbc	PKPbc	12 30 56.9	+1.1
	0.3nm,0.5s,baz=212,slow=4.5,SNR=5.7						

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*SZGRF **15** 12:29:30.4,4589S×16902E,h33km,mb7.2,South Island, New Zealand*
*ISCJB **15** 12:29:31.7±0.9,4467S±002×16751E±003,h1km±5km, mb5.9/80,MS6.8/225,Error ellipse: s-maj=4.4km s-min=3.5km az=151.3*
*BJI **15** 12:29:33.7,4467S×16788E,h19km,mB6.9,mb5.7,Ms6.7, Msz6.5*
*NEIC **15** 12:29:34.9±0.1,4480S×16755E,h18km,mb6.1/54,ME6.6, MS6.8/192,MW6.7,ML6.7(WEL),Error ellipse: s-maj=4.8km s-min=2.9km az=154.0,Moment Tensor Solution. s15 Moment tensor: Scale 10^19Nm; Mrr0.89; Mθθ0.14; Mφφ-1.03; Mrθ0.10; Mθφ-0.99; Mφr0.24; Best double couple: M0 1.40000×10^19 NP1:φs219.00000°, δ40.00000°,λ103.00000°. NP2:φs22.00000°,δ52.00000°, λ79.00000°. Principal axes: T 0.9200, Plg79.0000°, Azm243.0000°; N 0.7100, Plg8.0000°, Azm28.0000°; P -1.6300, Plg5.0000°, Azm119.0000°; Broadband fault plane solution: P waves. NP1:φs10.00000°,δ25.00000°, λ90.00000°. NP2:φs190.00000°,δ65.00000°,λ90.00000°. Principal axes: T Plg70.0000°, Azm100.0000°; N Plg0.0000°, Azm0.0000°; P Plg20.0000°, Azm280.0000°; Complex earthquake observed on broadband displacement seismograms. A small event is followed by at least one larger event about 6 seconds later. Depth based on second event. Energy computed from BB mechanism.*
NEIC Slight damage in Fiordland. Felt [V] at Invercargill; [IV] at Dunedin, Queenstown and Wanaka; [III] at Christchurch. Felt in much of the South Island and southern part of the North Island.
*MOS **15** 12:29:35.1±1.2,4473S×16753E,h22km,mb6.1/21, MS6.8/74 Error ellipse: s-maj=10.1km s-min=8.3km az=115.8*
*GCMT **15** 12:29:36.0±0.1,4471S×16724E,h19km,MW6.8/117, Moment Tensor Solution. s115,c296; s117,c508; Duration: 6s1 Moment tensor: Scale 10^19Nm; Mrr1.24±.01; Mθθ-0.15±.01; Mφφ-1.09±.01; Mrθ0.07±.02; Mθφ-0.82±.01; Mφr-1.34±.02; Best double couple: M0 1.95900×10^19 NP1:φs54.00000°,δ30.00000°, λ132.00000°. NP2:φs187.00000°,δ68.00000°,λ69.00000°. Principal axes: T 1.9350, Plg61.0000°, Azm65.0000°; N 0.0510, Plg20.0000°, Azm195.0000°; P -1.9840, Plg20.0000°, Azm293.0000°; nsta1 refers to body waves, cutoff=50s. nsta2 refers to surface/mantle waves, cutoff=50s.*
*DJA **15** 12:29:39,4493S×16659E,h10km,Mw6.9/8*
*IDC **15** 12:29:40.0±2.4,4470S×16759E,h48km±22km,mb5.2/21, mb1 5.2/21,mb1mx5.2/21,mbtmp5.1/21,ML6.0/1,MS6.7/16, Ms1 6.7/16,ms1mx6.4/24,Error ellipse: s-maj=14.4km s-min=11.9km az=49.0*
ISC 15 12:29:33.5±0.7,**4474S**±003×**16752E**±003,**h2**km±4km,
n1421,σ**1s11**/286,**mb5.9**/80,**MS6.8**/225,**325C-226D**,
South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MSZ	**Milford Sound**	**0.30**	**77**	⇓P	**Pg**	**12 29 41.0**	**+1.8**
MLZ	**Mavora Lakes**	**0.77**	**143**	⇓*e*P	**Pg**	**12 29 48.9**	**+0.7**
DCZ	**Deep Cove**	**0.78**	**199**	P	**Pg**	**12 29 47.7**	**-0.7**
WKZ	**Wanaka**	**1.07**	**95**	⇓P	**Pg**	**12 29 54.8**	**+0.8**
JCZ	**Jackson Bay**	**1.11**	**54**	P	**Pg**	**12 29 55.0**	**+0.2**
JCZ				S	**Sg**	**12 30 11.5**	**+2.3**
WHZ	**Wether Hill Ro**	**1.19**	**165**	⇓P	**Pg**	**12 29 55.9**	**-0.5**
EAZ	**Earnscleugh**	**1.36**	**112**	P	**Pn**	**12 29 59.4**	**-0.1**
TUZ	**Tuapeka**	**1.93**	**130**	⇓P	**Pn**	**12 30 07.4**	**+0.2**
LBZ	**Lake Benmore**	**1.94**	**80**	⇓P	**Pn**	**12 30 08.4**	**+1.0**
FOZ	**Fox Glacier**	**1.96**	**54**	P	**Pn**	**12 30 07.6**	**0.0**
ODZ	**Otahua Downs**	**2.25**	**99**	⇑P	**Pn**	**12 30 12.0**	**+0.4**
RPZ	**Rata Peaks**	**2.74**	**69**	P	**Pn**	**12 30 19.8**	**+1.4**
	3μm,0.3s,baz=235,slow=7.1,SNR=1892						
RPZ	**Rata Peaks**	**2.74**	**69**	P	**Pn**	**12 30 18.7**	**+0.3**
WVZ	**Waitaha Valley**	**2.86**	**56**	P	**Pn**	**12 30 18.5**	**-1.6**
MQZ	**McQueen's Vall**	**3.83**	**76**	P	**Pn**	**12 30 32.7**	**-0.7**
CRLZ	**Canterbury Las**	**3.85**	**74**	P	**Pn**	**12 30 33.2**	**-0.5**
DSZ	**Denniston Nort**	**4.33**	**48**	P	**Pn**	**12 30 39.0**	**-1.3**
THZ	**Tophouse**	**4.93**	**55**	P	**Pn**	**12 30 48.0**	**-0.5**
KHZ	**Kahutara**	**4.95**	**64**	P	**Pn**	**12 30 47.9**	**-0.9**
QRZ	**Quartz Range**	**5.38**	**45**	P	**Pn**	**12 30 53.5**	**-1.1**
SNZO	**South Karori**	**6.29**	**59**	*e*Pn	**Pn**	**12 31 08.2**	**+1.1**
SNZO				*e*Sn	**Sn**	**12 32 20.2**	**+0.7**
MRW	**Makara Radio**	**6.33**	**59**	P	**Pn**	**12 31 07.5**	**-0.2**
BHW	**Baring Head**	**6.33**	**61**	P	**Pn**	**12 31 07.6**	**-0.2**
WEL	**Wellington**	**6.34**	**60**	P	**Pn**	**12 31 07.5**	**-0.3**
MSWZ	**Moikau Station**	**6.56**	**62**	P	**Pn**	**12 31 10.1**	**-0.9**
CAW	**Cannon Point**	**6.63**	**59**	P	**Pn**	**12 31 10.1**	**-1.7**
KIW	**Kapiti Island**	**6.68**	**57**	P	**Pn**	**12 31 12.2**	**-0.3**
PAWZ	**Paruwai Farm**	**6.70**	**63**	P	**Pn**	**12 31 11.1**	**-1.6**
MTW	**Mount Morrison**	**6.87**	**61**	P	**Pn**	**12 31 13.2**	**-1.9**
MRZ	**Mangatainoka R**	**7.20**	**58**	P	**Pn**	**12 31 17.3**	**-2.4**
NWEZ	**Newall Road**	**7.22**	**43**	P	**Pn**	**12 31 19.3**	**-0.7**
NEZ	**North Egmont**	**7.34**	**44**	P	**Pn**	**12 31 21.4**	**-0.2**
WAZ	**Wanganui**	**7.45**	**51**	P	**Pn**	**12 31 24.0**	**+0.9**
RAEZ	**Rainy Point**	**7.47**	**46**	P	**Pn**	**12 31 23.7**	**+0.3**
VRZ	**Vera Road**	**7.78**	**46**	P	**Pn**	**12 31 27.3**	**-0.4**
WNVZ	**Wahianoa**	**8.09**	**51**	P	**Pn**	**12 31 32.7**	**+0.9**
MOVZ	**Moawhango**	**8.12**	**52**	P	**Pn**	**12 31 32.0**	**-0.3**
WPVZ	**Whakapapa**	**8.14**	**50**	P	**Pn**	**12 31 34.0**	**+1.4**
TWVZ	**Taurewa**	**8.18**	**49**	P	**Pn**	**12 31 33.3**	**+0.2**
NGZ	**Ngauruhoe**	**8.20**	**50**	P	**Pn**	**12 31 34.7**	**+1.4**
WTVZ	**West Tongariro**	**8.23**	**50**	P	**Pn**	**12 31 34.3**	**+0.5**
HIZ	**Hauiti**	**8.30**	**44**	P	**Pn**	**12 31 33.5**	**-1.2**
RATZ	**Rangitukua**	**8.51**	**49**	P	**Pn**	**12 31 38.2**	**+0.6**
WATZ	**Wairara**	**8.60**	**48**	P	**Pn**	**12 31 40.3**	**+1.4**
BKZ	**Black Stump Fm**	**8.70**	**53**	P	**Pn**	**12 31 37.4**	**-2.8**
WTAZ	**Waiatarua**	**9.45**	**37**	P	**Pn**	**12 31 50.0**	**-0.6**
KNZ	**Kokohu**	**9.49**	**56**	P	**Pn**	**12 31 49.6**	**-1.4**
MKAZ	**Moumakai**	**9.57**	**40**	P	**Pn**	**12 31 51.6**	**-0.5**
KAAZ	**Kauri Point**	**9.60**	**37**	P	**Pn**	**12 31 52.4**	**-0.2**
URZ	**Urewera**	**9.68**	**51**	P	**Pn**	**12 31 51.0**	**-2.6**
	6.9nm,0.3s,baz=240,slow=8.8,SNR=42						
URZ				S	**Sn**	**12 33 34.2**	**-8.7**
	45nm,0.3s,baz=70,slow=18,SNR=3.0						
URZ	**Urewera**	**9.68**	**51**	P	**Pn**	**12 31 50.7**	**-2.9**
MWZ	**Matawai**	**9.86**	**53**	P	**Pn**	**12 31 55.5**	**-0.6**
KUZ	**Kuaotunu**	**10.12**	**41**	P	**Pn**	**12 31 58.9**	**-0.8**
WCZ	**Waipu Caves**	**10.21**	**33**	P	**Pn**	**12 32 00.0**	**-1.0**
OUZ	**Omahuta**	**10.59**	**28**	P	**Pn**	**12 32 05.4**	**-0.7**
MCQ	**Macquarie Isla**	**11.22**	**206**	*e*P	**Pn**	**12 32 20.6**	**+5.8**
MCQ				*e*S	**Sn**	**12 34 25.2**	**+4.5**
TAU	**Tasmania Unive**	**14.69**	**270**	*e*Pn	**Pn**	**12 33 01.0**	**-1.1**
TAU				*e*Sn	**Sn**	**12 35 36.5**	**-9.0**
CNB	**Canberra Magne**	**16.76**	**298**	⇓*i*P	**Pn**	**12 33 28.5**	**-0.7**
CNB				*e*S	**Sn**	**12 36 22.3**	**-14**
CAN	**Canberra**	**16.98**	**297**	*e*Pn	**Pn**	**12 33 31.5**	**-0.6**
	988nm,1.2s						
CAN				*e*Sn	**Sn**	**12 36 36.1**	**-5.2**
TOO	**Toolangi**	**18.03**	**286**	*e*P	**Pn**	**12 33 46.2**	**+1.1**
TOO				*e*S	**Sn**	**12 36 54.6**	**-12**
ARMA	**Armidale**	**19.00**	**313**	*e*P	**Pn**	**12 33 59.5**	**+2.6**
NOUC	**Port Laguerre**	**22.60**	**357**	*e*P	**P**	**12 34 36.5**	**+1.2**
DZM	**Mont Dzumac**	**22.63**	**357**	*e*P	**P**	**12 34 37.3**	**+1.7**
DZM	**Mont Dzumac**	**22.63**	**357**	*e*P	**P**	**12 34 37.4**	**+1.9**
STKA	**Stephens Creek**	**23.94**	**294**	*e*P	**P**	**12 34 49.7**	**+0.9**
	203nm,1.2s,mb5.4						
STKA	**Stephens Creek**	**23.94**	**294**	P	**P**	**12 34 50.8**	**+1.9**
	195nm,1.3s,mb5.4,baz=126,slow=10,SNR=42						
STKA				LR	LR	12 43 25.6	
	comp=Z,244μm,18.0s,MS6.7,baz=306,slow=34						
ADE	**Adelaide**	**24.06**	**284**	⇑*i*P	**P**	**12 34 52.6**	**+2.6**
DRV	**Dumont d'Urvil**	**26.46**	**204**	P	**P**	**12 35 14.0**	**+2.6**
DRV				S	**S**	**12 39 55.0**	**+9.3**
DRV				R		12 42 00.0	
CTA	**Charters Tower**	**30.26**	**317**	*e*P	**P**	**12 35 47.1**	**+1.4**
	58nm,0.9s,mb5.3						
CTA	**Charters Tower**	**30.26**	**317**	P	**P**	**12 35 46.9**	**+1.1**
	29nm,0.8s,mb5.1,baz=148,slow=11,SNR=16						
CTA				LR	LR	12 47 49.7	
	comp=Z,118μm,18.1s,MS6.6,baz=143,slow=36						
CTA	**Charters Tower**	**30.26**	**317**	P	**P**	**12 35 46.9**	**+1.2**
CTA				pmax	pmax		
	comp=Z,29nm,0.8s						
CTA				MLR	MLR		
	comp=Z,118μm,18.2s						
CTAO	**Charters Tower**	**30.26**	**317**	*e*P	**P**	**12 35 45.8**	**+0.1**
CTAO				pmax	pmax		
	comp=Z,2μm,2.8s,mb6.4						
CTAO				MLR	MLR		
	comp=Z,100μm,19.0s,MS6.5						
CTAO	**Charters Tower**	**30.26**	**317**	*e*P	**P**	**12 35 45.8**	**+0.1**
	comp=Z,2μm,2.8s,mb6.4						
CTAO				LR	LR		
	comp=Z,100μm,19.0s,MS6.5						
SBA	**Scott Base**	**33.23**	**180**	*e*P	**P**	**12 36 13.2**	**+1.9**
SBA				pmax	pmax		
	comp=Z,333nm,1.2s,mb6.1						
SBA				MLR	MLR		
	comp=Z,160μm,20.0s,MS6.7						
SBA	**Scott Base**	**33.23**	**180**	*e*P	**P**	**12 36 13.2**	**+1.9**
	comp=Z,333nm,1.2s,mb6.1						
SBA				LR	LR		
	comp=Z,160μm,20.0s,MS6.7						
FORT	**Forrest**	**33.82**	**281**	*e*P	**P**	**12 36 17.3**	**+0.3**
	comp=Z,150nm,1.1s,mb5.8						
FORT				*e*PP	PP	12 37 46.3	+13
FORT				*e*S	S	12 41 20.1	-22
ASAR	**Alice Springs**	**34.49**	**296**	P	**P**	**12 36 22.8**	**-0.1**
	comp=Z,46nm,1.0s,mb5.3,baz=130,slow=7.2,SNR=238						
ASAR				PcP	PcP	12 38 57.5	-0.5
	comp=Z,37nm,0.9s,baz=129,slow=3.6,SNR=5.8						
ASAR				P3KPbc		13 07 27.6	
	comp=Z,0.8nm,0.9s,baz=358,slow=3.8,SNR=4.8						
ASAR				P3KP		13 08 57.2	
	comp=Z,1.7nm,1.0s,baz=332,slow=1.7,SNR=4.9						
ASAR	**Alice Springs**	**34.49**	**296**	P	**P**	**12 36 22.8**	**0.0**
ASAR						12 38 57.5	
ASAR	**Alice Springs**	**34.49**	**296**	P	**P**	**12 36 22.8**	**-0.1**
ASAR				PcP	PcP	12 38 57.5	-0.5
ASAR				*e*		13 07 27.6	
ASAR				PKKKP		13 08 57.2	
AFI	**Afiamalu**	**35.42**	**36**	P	**P**	**12 36 30.9**	**0.0**
	comp=Z,105nm,0.8s,mb5.8,baz=320,slow=3.3,SNR=17						
AFI	**Afiamalu**	**35.42**	**36**	*e*P	**P**	**12 36 30.9**	**0.0**
AFI				pmax	pmax		
	comp=Z,561nm,0.8s,mb6.5						
AFI				MLR	MLR		
	comp=Z,80μm,22.0s,MS6.4						
AFI	**Afiamalu**	**35.42**	**36**	*e*P	**P**	**12 36 30.9**	**0.0**
	comp=Z,561nm,0.8s,mb6.5						
AFI				LR	LR		
	comp=Z,80μm,22.0s,MS6.4						
RAR	**Rarotonga**	**35.72**	**60**	P	**P**	**12 36 32.6**	**-0.8**
	comp=Z,27nm,0.4s,mb5.5,baz=225,slow=7.1,SNR=2.8						
RAR				LR	LR	12 48 41.4	
	comp=Z,135μm,21.6s,MS6.7,baz=219,slow=32						
RAR	**Rarotonga**	**35.72**	**60**	*e*P	**P**	**12 36 33.7**	**+0.2**
RAR				pmax	pmax		
	comp=Z,164nm,0.9s						
RAR				MLR	MLR		
	comp=Z,116μm,21.0s						
RAR	**Rarotonga**	**35.72**	**60**	*e*P	**P**	**12 36 33.7**	**+0.2**
	comp=Z,164nm,0.9s,mb6.0						
RAR				LR	LR		
	comp=Z,116μm,21.0s,MS6.6						
HNR	**Honiara**	**35.78**	**347**	LR	LR	12 49 46.0	
	comp=Z,108μm,20.7s,MS6.6,baz=180,slow=34						
HNR	**Honiara**	**35.78**	**347**	*e*P	**P**	**12 36 34.8**	**+0.8**
HNR				pmax	pmax		
	comp=Z,2μm,1.4s,mb6.7						
HNR				MLR	MLR		
	comp=Z,181μm,19.0s,MS6.9						
HNR	**Honiara**	**35.78**	**347**	*e*P	**P**	**12 36 34.8**	**+0.8**
	comp=Z,2μm,1.4s,mb6.7						
HNR				LR	LR		
	comp=Z,181μm,19.0s,MS6.9						
WB2	**Warramunga Arr**	**36.96**	**301**	*e*P	**P**	**12 36 43.4**	**-0.7**
WRA	**Warramunga Arr**	**36.96**	**301**	P	**P**	**12 36 43.4**	**-0.7**
	comp=Z,42nm,0.9s,mb5.3,baz=136,slow=7.8,SNR=149						
WRA				PcP	PcP	12 39 04.8	-0.5
	comp=Z,33nm,0.9s,baz=137,slow=2.8,SNR=7.2						
WRA				LR	LR	12 51 22.4	
	comp=Z,122μm,18.6s,MS6.7,baz=140,slow=35						
WRA	**Warramunga Arr**	**36.96**	**301**	P	**P**	**12 36 43.4**	**-0.7**
WRA						12 39 04.8	
WRAB	**Tennant Creek**	**36.96**	**301**	*e*P	**P**	**12 36 43.4**	**-0.6**
	comp=Z,257nm,1.0s,mb6.0						
WRAB				LR	LR		
	comp=Z,135μm,20.0s,MS6.7						
CASY	**Casey**	**37.00**	**214**	⇑*i*P	**P**	**12 36 43.7**	**-0.2**
CASY				*e*PP	PP	12 38 17.5	+10
CASY				*e*S	**S**	**12 42 30.0**	**+0.3**
CASY	**Casey**	**37.00**	**214**	⇑*i*P	**P**	**12 36 43.7**	**-0.2**
CASY				*e*PP	PP	12 38 17.5	+10
CASY				*e*S	**S**	**12 42 30.0**	**+0.3**
CASY				LR	LR		
	comp=Z,157μm,20.0s,MS6.8						
COEN	**Coen**	**37.01**	**318**	*e*P	**P**	**12 36 45.7**	**+1.2**
	comp=Z,134nm,1.0s,mb5.7						
FUNA	**Funafuti**	**37.48**	**19**	*e*P	**P**	**12 36 49.5**	**+1.0**
	comp=Z,311nm,1.6s,mb5.9						
FUNA				LR	LR		
	comp=Z,105μm,21.0s,MS6.6						
PMG	**Port Moresby**	**39.36**	**327**	*e*P	**P**	**12 37 05.8**	**+1.5**
	comp=Z,223nm,0.8s,mb6.0						
PMG				LR	LR		
	comp=Z,71μm,20.0s,MS6.5						
NWAO	**Narrogin (SRO)**	**40.31**	**269**	LR	LR	12 51 04.4	
	comp=Z,77μm,18.8s,MS6.6,baz=125,slow=32						
NWAO	**Narrogin (SRO)**	**40.31**	**269**	*e*P	**P**	**12 37 13.5**	**+1.4**
NWAO				pmax	pmax		
	comp=Z,266nm,1.3s						
NWAO				MLR	MLR		
	comp=Z,59μm,20.0s						
NWAO	**Narrogin (SRO)**	**40.31**	**269**	*e*P	**P**	**12 37 13.5**	**+1.4**
	comp=Z,266nm,1.3s,mb5.8						
NWAO				LR	LR		
	comp=Z,59μm,20.0s,MS6.4						
KLBR	**Kellerberrin**	**40.66**	**271**	*e*P	**P**	**12 37 14.8**	**-0.2**
	comp=Z,921nm,1.4s,mb6.2						
TBI	**Tubuai**	**40.95**	**73**	*e*P	**P**	**12 37 18.9**	**+1.4**
	comp=Z,2μm,1.1s,mb6.6						
TBI				*e*S	**S**	**12 43 32.0**	**+1.9**
	comp=Z,51μm,29.5s						
TBI				*e*SS	SS	12 46 24.6	-6.9
	comp=Z,49μm,36.8s						
TBI				*e*LR	LR	12 48 36.5	
	comp=Z,173μm,24.2s,baz=228						
TBI	**Tubuai**	**40.95**	**73**	*e*P	**P**	**12 37 18.9**	**+1.4**
	comp=Z,2μm,1.1s,mb6.6						
TBI				*e*S	**S**	**12 43 32.0**	**+1.9**
TBI				*e*SS	SS	12 46 24.6	-6.9
MUN	**Mundaring**	**41.55**	**270**	*e*P	**P**	**12 37 23.8**	**+1.4**
MUN				*e*PP	PP	12 39 24.4	+26
KAKA	**Kakadu**	**43.74**	**306**	*e*P	**P**	**12 37 37.5**	**-2.7**
	comp=Z,116nm,0.7s,mb5.7						
FITZ	**Fitzroy Crossi**	**43.83**	**294**	*e*P	**P**	**12 37 40.3**	**-0.7**
	comp=Z,70nm,0.6s,mb5.6						
FITZ				*e*S	**S**	**12 44 09.2**	**-3.5**
FITZ	**Fitzroy Crossi**	**43.83**	**294**	LR	LR	12 56 15.0	
	comp=Z,57μm,18.6s,MS6.5,baz=310,slow=36						
MIR	**Mirnyy**	**44.02**	**214α**	*i*P	**P**	**12 37 42.0**	**+0.1**
MIR				*i*		12 37 48.0	
MIR				*i*		12 39 30.0	
MIR				*i* S	**S**	**12 44 16.0**	**+1.6**
MIR				*i* SS	SS	12 47 30.0	-0.6
MIR				pmax	pmax		
	comp=Z,200nm,1.5s,mb5.6						
MIR				pmax	pmax		
	comp=Z,2μm,5.0s						
MIR				MLR	MLR		
	comp=Z,120μm,17.0s,MS6.9						
PAE	**Paea**	**44.83**	**67**	*e*P	**P**	**12 37 51.3**	**+2.4**
	comp=Z,2μm,1.2s,mb6.8						
PPT	**Papeete**	**44.90**	**67**	*e*P	**P**	**12 37 52.2**	**+2.7**
	comp=Z,230nm,1.1s,mb5.9						
PPT				*e*S	**S**	**12 44 29.0**	**+0.8**
	comp=Z,42μm,27.2s						
PPT				*e*SS	SS	12 47 51.8	+2.6
	comp=Z,224μm,31.0s						
PPT				*e*LR	LR	12 50 39.5	
	comp=Z,236μm,24.5s,baz=222						
PPT	**Papeete**	**44.90**	**67**	P	**P**	**12 37 50.0**	**+0.5**
	comp=Z,39nm,0.7s,mb5.4,baz=202,slow=11,SNR=2.6						
PPT				LR	LR	12 54 30.0	
	comp=Z,71μm,19.8s,MS6.6,baz=230,slow=33						
QSPA	**South Pole Qui**	**45.39**	**180**	P	**P**	**12 37 53.8**	**+1.1**
	comp=Z,96nm,1.0s,mb5.6,baz=21,slow=3.4,SNR=138						
QSPA				LR	LR	12 54 23.4	
	comp=Z,154μm,20.2s,MS6.9,baz=250,slow=33						
QSPA				PKPPKP		13 09 28.8	
	comp=Z,5.0nm,0.9s,baz=198,slow=4.2,SNR=3.3						
MBWA	**Marble Bar**	**45.68**	**285**	*e*P	**P**	**12 37 55.8**	**+0.1**
	comp=Z,287nm,1.1s,mb6.1						
MBWA				LR	LR		
	comp=Z,93μm,19.0s,MS6.7						
TARA	**Tarawa**	**46.15**	**8**	P	**P**	**12 37 59.3**	**-0.1**
PMOR	**Pomariorio Ree**	**47.86**	**66**	*e*P	**P**	**12 38 15.3**	**+2.5**
	comp=Z,1μm,1.3s,mb6.7						
VAH	**Vaihoa**	**47.87**	**67**	*e*P	**P**	**12 38 15.2**	**+2.3**
	comp=Z,519nm,1.3s,mb6.4						
JAY	**Jayapura**	**48.24**	**323**	P	**P**	**12 38 18.1**	**+2.4**
BATI	**Baumata**	**50.99**	**299**	LR	LR	13 00 22.7	
	comp=Z,91μm,19.8s,MS6.8,baz=168,slow=36						
RKT	**Rikitea**	**51.22**	**85**	*e*S	**S**	**12 45 58.7**	**+0.9**
	comp=Z,69μm,30.0s						
RKT				*e*LR	LR	12 53 11.8	
	comp=Z,171μm,24.0s,baz=231						
PTCN	**Pitcairn Islan**	**53.48**	**90**	PFAKE		12 39 00.0	+4.8
PTCN				LR	LR		
	comp=Z,116μm,20.0s,MS6.9						
SWI	**Sorong**	**54.19**	**313**	P	**P**	**12 39 01.8**	**+1.4**
MAW	**Mawson**	**54.63**	**207**	⇑*i*P	**P**	**12 39 02.8**	**-0.2**
	comp=Z,179nm,1.1s,mb6.0						
MAW				*e*S	**S**	**12 46 35.0**	**-8.1**
MAW	**Mawson**	**54.63**	**207**	P	**P**	**12 39 03.0**	**0.0**
	comp=Z,31nm,0.9s,mb5.3,baz=120,slow=9.3,SNR=28						
MAW				LR	LR	13 00 13.1	
	comp=Z,154μm,19.9s,MS7.1,baz=110,slow=34						
MAW	**Mawson**	**54.63**	**207**	⇑*i*P	**P**	**12 39 02.8**	**-0.2**
MAW				*e*S	**S**	**12 46 35.0**	**-8.1**
MAW				pmax	pmax		
	comp=Z,179nm,1.1s						
MAW				MLR	MLR		
	comp=Z,284μm,22.0s						
MAW	**Mawson**	**54.63**	**207**	⇑*i*P	**P**	**12 39 02.8**	**-0.2**
	comp=Z,179nm,1.1s,mb6.0						
MAW				*e*S	**S**	**12 46 35.0**	**-8.1**
MAW				LR	LR		
	comp=Z,284μm,22.0s,MS7.3						
XMAS	**Kiritimati**	**56.06**	**44**	*e*P	**P**	**12 39 13.5**	**-0.5**
	comp=Z,859nm,1.7s,mb6.5						
XMAS				LR	LR		
	comp=Z,58μm,19.0s,MS6.7						
KAPI	**Kappang**	**57.44**	**299**	P	**P**	**12 39 24.9**	**+1.1**
	comp=Z,1μm,1.1s,mb6.9,SNR=15						
KAPI	**Kappang**	**57.44**	**299**	P	**P**	**12 39 23.5**	**-0.3**
	SNR=23						
KAPI	**Kappang**	**57.44**	**299**	*e*P	**P**	**12 39 23.6**	**-0.3**
	comp=Z,551nm,1.1s,mb6.5						
KAPI				LR	LR		
	comp=Z,79μm,20.0s,MS6.8						
TAOE	**Nuku Hiva Isla**	**57.48**	**68**	*e*PP	PP	12 41 31.4	-0.1
	comp=Z,19μm,26.8s						
TAOE				*e*S	**S**	**12 47 22.3**	**0.0**
	comp=Z,140μm,29.1s						
TAOE				*e*SS	SS	12 51 36.6	+25
	comp=Z,133μm,27.2s						
TAOE				*e*LQ		12 53 53.2	
	comp=Z,242μm,31.0s						
TAOE				*e*LR	LR	12 56 10.1	
	comp=Z,618μm,24.3s,baz=229						
SYO	**Syowa Base**	**60.23**	**199**	⇓*i*P	**P**	**12 39 39.9**	**-2.5**
GUMO	**Guam**	**61.59**	**335**	P	**P**	**12 39 53.2**	**+0.9**
	comp=Z,147nm,1.0s,mb6.1,baz=167,slow=3.1,SNR=7.6						
GUMO	**Guam**	**61.59**	**335**	*e*P	**P**	**12 39 51.6**	**-0.7**
GUMO				pmax	pmax		
	comp=Z,174nm,0.9s,mb6.2						
GUMO				MLR	MLR		
	comp=Z,25μm,19.0s,MS6.4						
GUMO	**Guam**	**61.59**	**335**	*e*P	**P**	**12 39 51.6**	**-0.7**
	comp=Z,174nm,0.9s,mb6.2						
GUMO				LR	LR		
	comp=Z,25μm,19.0s,MS6.4						
XMIS	**Christmas Isla**	**62.78**	**283**	*e*P	**P**	**12 40 00.7**	**+0.2**
NVL	**N'lazarevskaya**	**63.47**	**189c**	*i*P	**P**	**12 40 04.6**	**+0.3**
NVL				*e*		12 42 26.3	
NVL				*e*S	**S**	**12 48 34.2**	**-3.4**
NVL				pmax	pmax		
	comp=Z,442nm,1.3s,mb6.4						

MAIT Maitri 63.47 189 eP P 12 40 03.6 -0.7
PMSA Palmer Station 63.64 158 P P 12 40 06.2 +0.7
comp=Z,85nm,1.2s,mb5.7,baz=214,slow=5.9,SNR=5.4
PMSA Palmer Station 63.64 158 eP P 12 40 06.0 +0.5
comp=Z,1μm,2.3s,mb6.6
PMSA LR LR
comp=Z,86μm,19.0s,MS7.0
SNAA Sanae 63.69 183 eP P 12 40 04.8 -0.9
SNAA e 12 40 06.6
SNAA e 12 40 11.6
SNAA e 12 40 16.2
SNAA e 12 40 21.1
SNAA Sanae 63.69 183 eP P 12 40 04.7 -1.0
comp=Z,220nm,1.0s,mb6.1
DAV Davao City (W) 63.87 312⇑eP P 12 40 06.4 -1.2
VNA3 Neumayer Olymp 64.31 181 eP P 12 40 08.8 -1.0
VNA3 e 12 40 10.5
VNA3 e 12 40 16.6
VNA3 e 12 40 20.0
VNA3 e 12 40 24.9
BIPH Bislig 64.41 314⇑eP P 12 40 09.2 -1.9
VNA2 Neumayer--Watz 64.59 182 eP P 12 40 10.9 -0.7
baz=173,slow=5.1
VNA2 e 12 40 12.7
VNA2 e 12 40 18.7
VNA2 e 12 40 22.0
VNA2 e 12 40 26.4
BUKP Musuan 64.82 312 eP P 12 40 12.8 -1.0
VNA1 Neumayer--Stat 64.88 182 eP P 12 40 13.5 0.0
VNA1 e 12 40 15.0
VNA1 e 12 40 20.9
VNA1 e 12 40 24.4
VNA1 e 12 40 29.0
BUTP Butuan 65.45 314 eP P 12 40 27.1 +9.2
TSM Tawau 65.92 304 ⇑P P 12 40 22.4 +1.4
MYLDM Lahad Datu 66.26 305 ⇓P P 12 40 25.3 +2.1
RPN Rapa Nui 66.80 106 eP P 12 40 26.6 0.0
comp=Z,1μm,1.6s,mb6.7
RPN LR LR
comp=Z,57μm,19.0s,MS6.8
MSLP Maasin 66.83 313 eP P 12 40 25.6 -1.2
TBP Tagbilaran 66.98 312 eP P 12 40 27.1 -0.6
SDKM Sandakan 67.39 304 ⇓P P 12 40 30.1 -0.3
LLP Lapu-Lapu 67.45 313 eP P 12 40 31.5 +0.8
PLP Palo 67.64 314⇓eP P 12 40 31.8 -0.1
COCO West Island 67.81 275 PFAKE 12 40 40.0 +6.9
COCO LR LR
comp=Z,42μm,20.0s,MS6.7
SBUM Sibu 67.94 298 ⇑P P 12 40 34.1 +0.3
BTM Bintulu 67.97 299 ⇑P P 12 40 35.2 +1.1
KKM Kota Kinabalu 68.30 303 ⇓P P 12 40 36.6 +0.5
KKM Kota Kinabalu 68.30 303 eP P 12 40 35.7 -0.4
comp=Z,158nm,0.9s,mb6.0
KKM LR LR
comp=Z,31μm,19.0s,MS6.6
KSM Kuching 68.41 295 ⇑P P 12 40 37.0 +0.1
KSM Kuching 68.41 295 eP P 12 40 35.7 -1.1
comp=Z,209nm,1.0s,mb6.1
GUIM Jordan 68.44 312 eP P 12 40 34.9 -2.0
KDM Kudat 68.63 304 ⇑P P 12 40 38.0 -0.1
CUYO Cuyo Island 69.47 310 eP P 12 40 41.3 -2.0
BATP Bataraza 69.58 306 eP P 12 40 41.5 -2.5
PPR Puerto Princes 69.85 308⇓eP P 12 40 46.9 +1.2
USHA Ushuaia 70.05 149 P P 12 40 47.7 +1.3
comp=Z,20nm,0.9s,mb5.0,baz=197,slow=8.8,SNR=5.5
PVCP Virac 70.13 315 eP P 12 40 46.1 -1.2
OTRP Odiongan 70.19 312 eP P 12 40 45.3 -2.4
SJMP San Jose 70.75 311 eP P 12 40 50.0 -1.2
POHA Pohakuloa 72.50 36 eP P 12 41 00.5 -1.1
comp=Z,262nm,1.2s,mb6.0
POHA LR LR
comp=Z,44μm,22.0s,MS6.7
MYKOM Kota Tinggi 72.89 290 ⇑P P 12 41 04.5 +0.3
KIP Kipapa 72.98 33 eP P 12 41 06.2 +1.8
KIP pmax pmax
comp=Z,223nm,1.1s,mb6.0
KIP MLR MLR
comp=Z,38μm,21.0s,MS6.7
KIP Kipapa 72.98 33 eP P 12 41 06.2 +1.8
comp=Z,223nm,1.1s,mb6.0
KIP LR LR
comp=Z,38μm,21.0s,MS6.7
KGM Kluang 73.41 290 ⇓P P 12 41 08.0 +0.7
MIDW Midway 73.90 14 eP P 12 41 09.4 -0.3
comp=Z,448nm,1.4s,mb6.2
MIDW LR LR
comp=Z,41μm,20.0s,MS6.7
CAUP Cauayan 74.14 315 eP P 12 41 16.5 +5.2
CBIJ Chichi jima 75.14 337 P P 12 41 18.6 +1.7
comp=Z,56nm,0.7s,mb5.6,baz=109,slow=22,SNR=5.3
COYC Coyhaique 75.76 141 eP P 12 41 20.7 +0.2
PIP Pasuquin 75.91 314⇑eP P 12 41 21.5 0.0
KTGM Kuala Trenggan 75.99 292 ⇑P P 12 41 22.7 +0.6
EFI East Falkland 76.22 153 eP P 12 41 24.0 +1.1
EFI pmax pmax
comp=Z,39nm,1.1s,mb5.2
EFI MLR MLR
comp=Z,29μm,19.0s,MS6.6
EFI East Falkland 76.22 153 eP P 12 41 24.0 +1.0
comp=Z,39nm,1.1s,mb5.2
EFI LR LR
comp=Z,29μm,19.0s,MS6.6
IPM Ipoh 76.76 290 ⇑P P 12 41 26.5 -0.1
KULM Kulim 77.61 290 ⇓P P 12 41 31.4 +0.1
SNG Songkhla 79.02 292 P P 12 41 39.0 -0.1
comp=Z,1μm,1.1s,mb6.8
PLCA Paso Flores 80.24 139 P P 12 41 45.5 +0.1
comp=Z,58nm,1.0s,mb5.5,baz=221,slow=5.9,SNR=62
PLCA PKKPbc PKKPbc 13 00 33.1 +6.4
comp=Z,4.0nm,1.0s,baz=18,slow=2.0,SNR=3.9
PLCA PKP2ab 13 08 21.6
comp=Z,3.2nm,1.0s,baz=258,slow=6.3,SNR=3.2
PLCA PKPPKP 13 08 30.3
comp=Z,2.1nm,0.9s,baz=172,slow=5.6,SNR=2.9
PLCA LR LR 13 09 42.2
comp=Z,66μm,21.8s,MS6.9,baz=215,slow=30
PLCA Paso Flores 80.24 139 eP P 12 41 45.2 -0.2
comp=Z,252nm,1.3s,mb6.0
PLCA LR LR
comp=Z,64μm,22.0s,MS6.9
NACB Ninganchiao 80.38 318 eP P 12 41 44.6 -1.6
YHNB Yeheng 80.90 318 eP P 12 41 50.2 +1.1
comp=Z,107nm,1.3s,mb5.6
YHNB LR LR
comp=Z,19μm,20.0s,MS6.5
TATO Taipei 81.11 319 eP P 12 41 48.6 -1.5
comp=Z,317nm,1.3s,mb6.1
TATO LR LR
comp=Z,16μm,20.0s,MS6.4
QIZ Qiongzhong 82.34 306 P P 12 41 57.3 +0.5
QIZ AP 12 42 04.3
QIZ XP sP 12 42 07.4 +10
QIZ PP PP 12 45 06.4 +0.6
QIZ S S 12 52 15.0 +1.4
QIZ XS sS 12 52 25.8 +11
QIZ SS SS 12 57 35.1 +0.6
QIZ AMB AMB
comp=Z,46nm,2.2s,mb5.0
QIZ LR LR
comp=N,13μm,18.8s
QIZ LR LR
comp=Z,19μm,18.8s,MS6.5
QIZ Qiongzhong 82.34 306 PFAKE 12 42 10.0 +13
QIZ LR LR
comp=Z,19μm,20.0s,MS6.5
QZH Quanzhou 82.48 316⇑*i*P P 12 41 57.6 +0.3
QZH PP PP 12 45 09.8 +3.0
QZH S S 12 52 16.6 +1.9
QZH SS SS 12 57 37.1 +0.7
QZH AMB AMB
comp=Z,880nm,2.2s,mb6.3
QZH AMB AMB
comp=Z,24μm,7.4s
QZH LR LR
comp=N,17μm,17.4s,MS6.6
QZH LR LR
comp=E,12μm,16.8s,MS6.6
QZH LR LR
comp=Z,28μm,18.5s,MS6.7
HKC Hong Kong Obse 82.57 311⇑*i*P P 12 41 58.0 +0.2
HKC *i* S S 12 52 12.0 -3.7
CCHI Chillan 82.75 136⇑*i*P P 12 41 58.6 -0.3
GZH Guangzhou 83.65 311 P P 12 42 04.9 +1.5
GZH S S 12 52 31.8 +5.2
GZH AMB AMB
comp=Z,15μm,8.8s
GZH LR LR
comp=N,8μm,21.0s,MS6.1
GZH LR LR
comp=E,4μm,21.6s,MS6.1
GZH LR LR
comp=Z,16μm,20.6s,MS6.4
NICH Los Niches 84.43 135 eP P 12 42 05.1 -2.4
KKTK Khon Kaen 84.47 299 P P 12 42 14.0 +6.3
comp=Z,494nm,0.5s,mb6.9
MJAR Matsushiro Arr 85.14 337 P P 12 42 10.7 0.0
comp=Z,35nm,1.1s,mb5.4,baz=170,slow=6.2,SNR=38
MJAR LR LR 13 16 23.3
comp=Z,11μm,20.4s,MS6.2,baz=160,slow=33
MAJO Matsushiro 85.15 337 eP P 12 42 10.4 -0.3
MAJO pmax pmax
comp=Z,222nm,1.6s,mb6.0
MAJO MLR MLR
comp=Z,16μm,19.0s,MS6.4
MAJO Matsushiro 85.15 337 eP P 12 42 10.4 -0.3
comp=Z,222nm,1.6s,mb6.0
MAJO LR LR
comp=Z,16μm,19.0s,MS6.4
MAT Matsushiro 85.15 337 P P 12 42 10.0 -0.7
MAT S S 12 52 40.0 -1.0
NST Nakhon Sawan 85.66 297 P P 12 42 13.0 -0.7
comp=Z,65nm,1.3s,mb5.7
LMEL Las Melosas 85.86 135⇑*i*P P 12 42 14.3 -0.4
CLCH Cerro Calan 86.05 135⇑*i*P P 12 42 14.8 -0.9
FCH Farellones 86.23 135⇑*i*P P 12 42 15.3 -1.2
TRQA Tornquist 86.26 143 eP P 12 42 15.6 -1.0
comp=Z,166nm,1.0s,mb6.2
TRQA LR LR
comp=Z,41μm,19.0s,MS6.8
SSE Sheshan 86.47 322 P P 12 42 17.3 -0.1
SSE AP 12 42 25.8
SSE XP sP 12 42 32.5 +14
SSE PP PP 12 45 44.8 +5.5
SSE S S 12 52 48.3 -6.0
SSE XS sS 12 53 04.4 +9.0
SSE SS SS 12 58 32.3 -2.9
SSE AMB AMB
comp=Z,75nm,1.9s,mb5.6
SSE AMB AMB
comp=Z,9μm,8.1s
SSE LR LR
comp=N,12μm,28.0s,MS6.3
SSE LR LR
comp=E,15μm,28.5s,MS6.3
SSE LR LR
comp=Z,19μm,20.3s
SSE Sheshan 86.47 322 P P 12 42 17.3 -0.1
comp=Z,75nm,1.9s,mb5.6
SSE pP 12 42 25.7
SSE sP sP 12 42 32.5 +14
SSE PP PP 12 45 44.7 +5.4
SSE S S 12 52 48.3 -6.0
SSE sS sS 12 53 04.4 +9.0
SSE SS SS 12 58 32.2 -3.0
SSE LR LR
comp=Z,19μm,20.3s,MS6.5
BDT Bhumibol Dam 87.55 297 ⇓P P 12 42 23.0 0.0
comp=Z,58nm,1.0s,mb5.8
PBA Port Blair 87.56 289 eP x 12 43 07.2
PBA *e*S x 12 53 28.4
NJ2 Nanjing 88.32 320 eP P 12 42 26.6 +0.3
NJ2 AP 12 42 34.6
NJ2 XP sP 12 42 37.8 +11
NJ2 PP PP 12 45 57.3 +3.0
NJ2 S S 12 53 02.5 -10
NJ2 AMB AMB
comp=Z,40nm,1.0s,mb5.6
NJ2 AMB AMB
comp=Z,5μm,8.0s
NJ2 LR LR
comp=N,17μm,24.6s,MS6.5
NJ2 LR LR
comp=E,12μm,19.8s,MS6.5
NJ2 LR LR
comp=Z,12μm,19.8s,MS6.3
DGAR Diego Garcia 88.42 261 PFAKE 12 42 40.0 +13
DGAR LR LR
comp=Z,7μm,19.0s,MS6.1
TLL Tololo Astrono 88.48 133 eP P 12 42 23.8 -3.6
CM31 Chiang Mai Arr 88.49 298 eP P 12 42 28.0 +0.5
CM31 LR LR
comp=Z,24μm,20.0s,MS6.6
CMAR Chiang Mai Arr 88.49 298 P P 12 42 27.6 +0.2
comp=Z,20nm,0.7s,mb5.5,baz=155,slow=3.2,SNR=106
CMAR PKKPbc PKKPbc 13 00 09.9 +1.7
comp=Z,1.5nm,0.9s,baz=299,slow=4.2,SNR=5.8
CMAR PKPPKP 13 08 18.1
comp=Z,1.0nm,0.9s,baz=306,slow=5.0,SNR=4.1
CMAR LR LR 13 23 18.8
comp=Z,28μm,19.9s,MS6.7,baz=318,slow=36
CHG Chiang Mai 88.75 298 ⇑P P 12 42 28.9 +0.2
comp=Z,123nm,1.4s,mb6.0
CHTO Chiang Mai 88.75 298 PFAKE 12 42 40.0 +11
CHTO LR LR
comp=Z,30μm,20.0s,MS6.7
CHRT Chiangrai 89.02 299 ⇑P P 12 42 29.0 -0.9
comp=Z,1μm,1.0s
ERM Erimo 89.08 342 eP P 12 42 29.7 +0.1
ERM pmax pmax
comp=Z,120nm,1.6s,mb6.0
ERM MLR MLR
comp=Z,25μm,20.0s,MS6.6
ERM Erimo 89.08 342 eP P 12 42 29.7 +0.1
comp=Z,120nm,1.6s,mb6.0
ERM LR LR
comp=Z,25μm,20.0s,MS6.6
WHN Wuhan 89.20 316 ⇑P P 12 42 30.6 +0.1
WHN SS SS 12 59 17.0 +1.8
WHN AMB AMB
comp=Z,4μm,7.6s
WHN LR LR
comp=N,19μm,16.7s,MS6.7
WHN LR LR
comp=E,14μm,16.0s,MS6.7
WHN LR LR
comp=Z,19μm,24.0s
KSRS Korea Array 89.30 330 P P 12 42 31.9 +1.1
comp=Z,12nm,1.0s,mb5.2,baz=149,slow=5.3,SNR=20
KSRS Korea Array 89.30 330 P P 12 42 31.9 +1.1
KSRS pmax pmax
comp=Z,12nm,1.0s,mb5.2
LCO Las Campanas 89.45 132 eP P 12 42 27.6 -4.4
LCO Las Campanas 89.45 132 eP P 12 42 32.6 +0.6
comp=Z,742nm,1.9s,mb6.7
LCO LR LR
comp=Z,85μm,20.0s,MS7.2
RER Riviere de l'E 89.71 240 eP P 12 42 30.5 -2.8
comp=Z,220nm,0.9s,mb6.5
INCN Inchon 89.80 329 eP P 12 42 33.3 +0.2
comp=Z,68nm,0.8s,mb6.0
INCN LR LR
comp=Z,16μm,21.0s,MS6.4
GYA Guiyang 89.98 308⇑*i*P P 12 42 34.4 +0.1
GYA AP 12 42 42.8
GYA PPP 12 48 10.4
GYA SKS 12 53 00.3
GYA S S 12 53 25.3 -2.6
GYA SS SS 12 59 24.3 -2.3
GYA SSS 13 03 02.8
GYA AMB AMB
comp=Z,80nm,1.0s,mb6.0
GYA AMB AMB
comp=Z,2μm,5.9s
GYA LR LR
comp=N,8μm,22.1s,MS6.3
GYA LR LR
comp=E,9μm,19.8s,MS6.3
GYA LR LR
comp=Z,7μm,20.4s,MS6.1
YUK Yuzh-Kuril'sk 90.47 345⇑*i*P P 12 42 43.0 +6.9
YUK *e* 12 46 14.0
YUK *e*SS SS 12 59 43.0 +10
YUK *e*SSS 13 03 09.0
YUK pmax pmax
comp=N,5μm,9.0s
YUK pmax pmax
comp=E,3μm,9.0s
YUK pmax pmax
comp=Z,15μm,9.0s
YUK pmax pmax
comp=N,8μm,9.0s
YUK pmax pmax
comp=E,3μm,9.0s
YUK pmax pmax
comp=Z,8μm,9.0s
LPA La Plata 90.65 144*c*eP P 12 42 35.0 -2.5
LPA *e*PCP PcP 12 42 37.0 -1.6
LPA *e*pSKS 12 53 22.0
LPA *e*SCS ScS 12 53 37.0 -0.8
LPA *e*PS PS 12 54 42.0 +1.4
LPA
comp=Z,64μm,20.0s
KMI Kunming 91.19 305 P P 12 42 40.9 +0.9
KMI AP 12 42 50.3
KMI XP sP 12 42 53.8 +13
KMI PP PP 12 46 20.8 +3.6
KMI PPP 12 48 21.9
KMI SKS 12 53 09.3
KMI S S 12 53 35.3 -3.8
KMI XS sS 12 53 50.5 +10
KMI PS PS 12 54 51.3 +3.8
KMI SS SS 12 59 44.4 +0.2
KMI SSS 13 03 21.5
KMI AMB AMB
comp=Z,95nm,2.0s,mb5.8
KMI AMB AMB
comp=Z,8μm,11.9s
KMI LR LR
comp=N,18μm,18.6s,MS6.7
KMI LR LR
comp=E,15μm,17.2s,MS6.7
KMI LR LR
comp=Z,20μm,18.1s,MS6.6
KMI Kunming 91.19 305 P P 12 42 40.9 +0.9
KMI *PP 12 42 50.3
KMI 12 46 20.7
KMI PPP 12 48 21.9
KMI 12 53 09.2
KMI S S 12 53 35.3 -3.8
KMI PS PS 12 54 51.2 +3.7
KMI SS SS 12 59 44.4 +0.2
KMI SSS 13 03 21.5
KMI
comp=Z,95nm,2.0s,mb5.8
KMI MLR MLR
comp=Z,20μm,18.1s,MS6.6
KMI Kunming 91.19 305 P P 12 42 40.9 +0.9
comp=Z,95nm,2.0s,mb5.8
KMI pP 12 42 50.3
KMI sP sP 12 42 53.8 +13
KMI PP PP 12 46 20.7 +3.5
KMI PPP 12 48 21.9
KMI SKS 12 53 09.2
KMI S S 12 53 35.3 -3.8
KMI sS sS 12 53 50.5 +10
KMI PS PS 12 54 51.2 +3.7
KMI SS SS 12 59 44.4 +0.2
KMI SSS 13 03 21.5
KMI LR LR
comp=Z,20μm,18.1s,MS6.6
TIA Tai'an 92.59 321 eP P 12 42 46.6 +0.5
TIA AMB AMB
comp=Z,4μm,8.0s
TIA LR LR
comp=N,7μm,18.0s,MS6.2
TIA LR LR
comp=E,3μm,17.0s,MS6.2
DL2 Dalian 92.96 326 P P 12 42 46.8 -1.0
DL2 PP PP 12 46 30.6 -0.4
DL2 SKS 12 53 19.8
DL2 S S 12 53 46.9 -7.5
DL2 SS SS 13 00 04.4 -4.9
DL2 AMB AMB
comp=Z,20nm,1.7s,mb5.3
DL2 AMB AMB
comp=Z,3μm,9.2s
DL2 LR LR
comp=N,6μm,22.6s
DL2 LR LR
comp=E,2μm,15.6s
DL2 LR LR
comp=Z,10μm,39.7s
VLA Vladivostok 93.07 335*de*P P 12 42 48.0 -0.2
VLA *e* 12 46 32.7
VLA S SKSac 12 53 21.0 -1.7
VLA *e*PS PS 12 55 12.0 +4.2
VLA pmax pmax
comp=Z,81nm,1.8s,mb5.8
VLA MLR MLR
comp=Z,16μm,20.0s,MS6.5
YSS Yuzh-Sakhalins 93.88 343*c i*P P 12 42 52.0 +0.2
YSS *e**SP sP 12 43 04.0 +11
YSS *e* 12 46 44.0
YSS *e* 12 53 23.0
YSS *e*S S 12 53 54.0 -8.0
YSS pmax pmax
comp=Z,150nm,1.3s,mb6.3
YSS pmax pmax
comp=Z,4μm,8.0s
YSS MLR MLR
comp=E,13μm,19.0s,MS6.5
YSS MLR MLR
comp=Z,20μm,19.0s,MS6.6
YSS MLR MLR
comp=N,10μm,20.0s,MS6.5
YSS Yuzh-Sakhalins 93.88 343 *e*P **P 12 42 51.1 -0.7**
comp=N,47nm,0.9s,mb5.9
YSS LR LR
comp=Z,7μm,20.0s,MS6.1
XAN Xi'an 94.73 315 P P 12 42 55.8 -0.2
XAN AP 12 43 04.4
XAN XP sP 12 43 08.6 +12
XAN PP PP 12 46 48.0 +3.1
XAN AMB AMB
comp=Z,18nm,1.9s,mb5.2
XAN AMB AMB
comp=Z,6μm,11.1s
XAN LR LR
comp=N,4μm,19.7s,MS6.2
XAN LR LR
comp=E,6μm,19.7s,MS6.2
XAN LR LR
comp=Z,18μm,18.7s,MS6.6
SNY Shenyang 94.73 329 ⇑P P 12 42 54.6 -1.2
SNY AMB AMB
comp=Z,6μm,14.7s
SNY LR LR
comp=N,14μm,19.5s,MS6.5
SNY LR LR
comp=E,6μm,21.6s,MS6.5
SNY LR LR
comp=Z,17μm,20.4s,MS6.5
CD2 Chengdu 95.03 309 P P 12 42 57.4 -0.1
CD2 AP 12 43 05.4
CD2 XP sP 12 43 08.6 +10
CD2 PP PP 12 46 49.6 +2.3
CD2 SKS 12 53 30.1
CD2 S S 12 54 08.0 -4.9
CD2 XS sS 12 54 21.5 +7.5
CD2 SS SS 13 00 38.5 -0.5
CD2 AMB AMB
comp=Z,80nm,1.2s,mb6.0
CD2 AMB AMB
comp=Z,8μm,7.2s
CD2 LR LR
comp=N,20μm,19.2s,MS6.7
CD2 LR LR
comp=E,16μm,18.0s,MS6.7
CD2 LR LR
comp=Z,26μm,19.2s,MS6.7
MDJ Mudanjiang 95.14 334 P P 12 42 58.3 +0.7
MDJ AP 12 43 06.3
MDJ XP sP 12 43 10.3 +12
MDJ PP PP 12 46 49.0 +1.1
MDJ S S 12 54 11.4 -1.7
MDJ XS sS 12 54 24.8 +11
MDJ PS PS 12 55 36.3 +5.7
MDJ SS SS 13 00 35.6 -4.5
MDJ AMB AMB
comp=Z,19nm,2.1s,mb5.2
MDJ AMB AMB
comp=Z,5μm,11.8s
MDJ LR LR
comp=N,10μm,19.9s,MS6.4

MDJ LR LR
comp=E,9µm,19.9s,MS6.4
MDJ LR LR
comp=Z,18µm,21.0s,MS6.5
MDJ Mudanjiang 95.14 334 *eP* **P 12 42 58.1 +0.5**
comp=Z,20nm,1.0s,mb5.5
MDJ LR LR
comp=Z,18µm,20.0s,MS6.5
LVC Limon Verde 95.51 129 P **P 12 43 01.1 +1.0**
comp=Z,4.8nm,1.0s,mb4.9,baz=299,slow=0.6,SNR=3.4
LVC LR LR 13 16 32.3
comp=Z,47µm,21.5s,MS6.9,baz=218,slow=29
LVC Limon Verde 95.51 129 *eP* **P 12 43 02.8 +2.7**
comp=Z,24nm,1.1s,mb5.5
LVC LR LR
comp=Z,46µm,21.0s,MS6.9
SKR Severo-Kuril's 95.56 353 *eP* **P 12 43 03.0 +3.6**
SKR *e* 12 46 58.0
SKR pmax pmax
comp=N,4µm,18.0s
SKR pmax pmax
comp=E,3µm,18.0s
SKR pmax pmax
comp=Z,6µm,18.0s
SKR pmax pmax
comp=N,4µm,18.0s
SKR pmax pmax
comp=Z,6µm,18.0s
SKR MLR MLR
comp=N,12µm,18.0s,MS6.5
SKR MLR MLR
comp=E,6µm,18.0s,MS6.5
SKR MLR MLR
comp=Z,24µm,18.0s,MS6.7
CN2 Changchun 95.78 331 *eP* **P 12 42 59.8 -0.8**
CN2 *e*AP 12 43 07.8
CN2 *e*PP PP 12 46 55.5 +2.6
CN2 *e*S S 12 54 13.8 -5.0
CN2 SS SS 13 00 48.0 -1.3
CN2 AMB AMB
comp=Z,20nm,1.4s,mb5.3
CN2 AMB AMB
comp=Z,4µm,11.0s
CN2 LR LR
comp=N,9µm,22.0s,MS6.3
CN2 LR LR
comp=E,6µm,22.0s,MS6.3
CN2 LR LR
comp=Z,4µm,24.0s,MS5.8
TIY Taiyuan 95.96 319 ⇑P **P 12 43 04.1 +2.6**
TIY AMB AMB
comp=Z,4µm,11.0s
TIY LR LR
comp=N,12µm,16.5s,MS6.5
TIY LR LR
comp=E,7µm,15.9s,MS6.5
TIY LR LR
comp=Z,8µm,17.2s,MS6.3
BJT Baijiatuau 96.17 323 PFAKE 12 43 10.0 +7.5
BJT LR LR
comp=Z,28µm,21.0s,MS6.7
BJI Beijing 96.18 323 P **P 12 43 02.6 +0.1**
BJI PP PP 12 46 54.6 -1.5
BJI S S 12 54 17.0 -5.4
BJI XS sS 12 54 29.8 +6.3
BJI AMB AMB
comp=Z,15nm,1.6s,mb5.2
BJI AMB AMB
comp=Z,6µm,9.7s
BJI LR LR
comp=N,20µm,18.9s,MS6.7
BJI LR LR
comp=E,13µm,21.4s,MS6.7
BJI LR LR
comp=Z,22µm,23.2s,MS6.6
BJI Beijing 96.18 323 P **P 12 43 02.6 +0.1**
BJI *SP sP 12 43 10.7 +7.3
BJI 12 46 54.6
BJI S S 12 54 17.0 -5.4
BJI SS SS 13 00 47.3 -7.8
BJI pmax pmax
comp=Z,15nm,1.6s,mb5.2
BJI MLR MLR
comp=Z,22µm,23.2s,MS6.6
BJI Beijing 96.18 323 P **P 12 43 02.6 +0.1**
comp=Z,15nm,1.6s,mb5.2
BJI sP sP 12 43 10.7 +7.3
BJI PP PP 12 46 54.6 -1.5
BJI S S 12 54 17.0 -5.4
BJI sS sS 12 54 29.8 +6.3
BJI SS SS 13 00 47.3 -7.8
BJI LR LR
comp=Z,22µm,23.2s,MS6.6
TRD Trivandrum 96.31 276 *eP* **P 12 43 02.4 -1.4**
ABPO Ambohimpanom 96.48 235 *eP* **P 12 43 05.2 +0.6**
comp=Z,86nm,1.3s,mb6.0
ABPO LR LR
comp=Z,44µm,20.0s,MS6.9
OPO Ambohidratompo 96.85 236 P **P 12 43 08.1 +1.9**
comp=Z,20nm,1.0s,mb5.5,baz=255,slow=3.6,SNR=3.6
KOD Kodaikanal 97.15 277 *eP* **P 12 43 07.4 -0.1**
MDRS Chennai 97.15 281 *eP* **P 12 43 04.8 -2.7**
MDRS *ex* x 12 53 50.0
MDRS *ex* x 12 55 57.0
ADK Adak 97.21 10 PFAKE 12 43 20.0 +13
ADK LR LR
comp=Z,50µm,22.0s,MS7.0
SMY Shemya 97.25 4 PFAKE 12 43 20.0 +13
SMY LR LR
comp=Z,55µm,21.0s,MS7.0
SUR Sutherland 97.48 208 *eP* **P 12 43 08.6 -0.3**
comp=Z,35nm,0.9s,mb5.8
SUR LR LR
comp=Z,50µm,20.0s,MS7.0
PET Petropavlovsk 97.68 355*c i*P **P 12 43 08.6 -0.3**
PET *i* 12 47 12.4
PET *i* 12 53 48.7
PET *i* S S 12 54 37.7 +3.1
PET *e*PS PS 12 56 02.9 +4.8
PET *e*SS SS 13 01 28.2 +12
PET *e*SSS 13 05 01.7
PET pmax pmax
comp=Z,5µm,14.5s
PET pmax pmax
comp=Z,4µm,13.7s
PET pmax pmax
comp=Z,5µm,14.8s
PET smax
comp=E,13µm,20.9s
PET smax
comp=E,7µm,13.7s
PET Petropavlovsk 97.68 355 *eP* **P 12 43 12.9 +4.0**
PET LR LR
comp=Z,39µm,20.0s,MS6.9
PETK Petropavlovsk- 97.83 354 P **P 12 43 09.1 -0.6**
comp=Z,4.3nm,1.0s,mb4.9,baz=151,slow=3.3,SNR=4.7
PETK PP PP 12 47 15.5 +7.0
comp=Z,15nm,1.2s,baz=134,slow=5.3,SNR=3.9
PETK Petropavlovsk- 97.83 354 P **P 12 43 09.1 -0.6**
PETK PP PP 12 47 15.5 +7.0
SHL Shillong 98.12 298 *eP* **P 12 43 12.5 +0.8**
SHL *e*PP PP 12 47 11.5 +0.2
SHL *ex* x 12 54 46.0
PAYG Puerto Ayora 98.19 99 PFAKE 12 43 20.0 +7.7
PAYG LR LR
comp=Z,25µm,19.0s,MS6.7
VIS Vishakhapatnam 98.25 287 *i* P **P 12 43 11.8 -0.6**
VIS *ex* x 12 43 19.6
comp=Z,36nm,1.5s
VIS *i* x x 12 53 53.9
CAL Calcutta 98.26 293 *eP* **P 12 43 20.8 +8.4**
CAL *e*S SKSac 12 53 55.0 +3.9
TRIS Tristan da Cun 98.57 180 PFAKE 12 43 20.0 +6.3
TRIS LR LR
comp=Z,40µm,20.0s,MS6.9
KLR Kul'dur 98.66 337 *eP* **P 12 43 06.0 -7.5**
KLR pmax pmax
comp=Z,4µm,11.0s
HHC Hu-ho-hao-te 98.88 320 ⇑P **P 12 43 14.5 -0.2**
HHC AP 12 43 23.9
HHC XP sP 12 43 28.3 +13
HHC PP PP 12 47 19.5 +2.7
HHC SKS 12 53 49.3
HHC S S 12 54 41.8 -3.6
HHC XS sS 12 54 55.4 +8.9
HHC SS SS 13 01 35.8 +2.7
HHC AMB AMB
comp=Z,13nm,1.2s,mb5.3
HHC AMB AMB
comp=Z,3µm,8.7s
HHC LR LR
comp=N,9µm,17.8s,MS6.5
HHC LR LR
comp=E,9µm,18.8s,MS6.5
HHC LR LR
comp=Z,14µm,21.4s,MS6.4
LZH Lanzhou 98.94 313 *eP* **P 12 43 16.1 +1.0**
LZH AP 12 43 23.0
LZH XP sP 12 43 25.3 +9.3
LZH PP PP 12 47 21.0 +3.7
LZH SKS 12 53 53.0
LZH S S 12 54 45.0 -1.1
LZH XS sS 12 54 53.3 +6.0
LZH SS SS 13 01 35.0 +0.9
LZH AMB AMB
comp=Z,73nm,1.6s,mb6.0
LZH AMB AMB
comp=Z,449nm,6.2s
LZH LR LR
comp=E,11µm,16.5s
LZH LR LR
comp=Z,20µm,19.0s,MS6.6
LZH Lanzhou 98.94 313 *eP* **P 12 43 16.1 +1.0**
LZH *PP 12 43 23.0
LZH *SP sP 12 43 25.2 +9.2
LZH 12 47 21.0
LZH 12 53 53.0
LZH S S 12 54 45.0 -1.1
LZH SS SS 13 01 35.0 +0.9
LZH pmax pmax
comp=Z,73nm,1.6s,mb6.0
LZH MLR MLR
comp=Z,20µm,19.0s,MS6.6
LZH Lanzhou 98.94 313 *eP* **P 12 43 16.1 +1.0**
comp=Z,73nm,1.6s,mb6.0
LZH pP 12 43 23.0
LZH sP sP 12 43 25.2 +9.2
LZH PP PP 12 47 21.0 +3.7
LZH SKS 12 53 53.0
LZH S S 12 54 45.0 -1.1
LZH sS sS 12 54 53.2 +5.9
LZH SS SS 13 01 35.0 +0.9
LZH LR LR
comp=Z,20µm,19.0s,MS6.6
NNA Nana 99.03 117 PFAKE 12 43 20.0 +3.9
NNA LR LR
comp=Z,64µm,20.0s,MS7.1
BOSA Boshof 99.28 213 P **P 12 43 15.5 -1.5**
comp=Z,3.6nm,0.8s,mb4.9,baz=145,slow=19,SNR=4.4
BOSA LR LR 13 23 10.4
comp=Z,36µm,18.9s,MS6.9,baz=160,slow=32
BOSA Boshof 99.28 213 P **P 12 43 15.5 -1.5**
BOSA LR LR 13 23 10.4
BTO Baotou 99.39 319 *eP* **P 12 43 20.3 +3.3**
BOK Bokaro 100.74 293 *eP* Pdif 12 43 20.9 -2.6
LPAZ La Paz 100.99 126 P Pdif 12 43 26.4 +1.8
comp=Z,0.8nm,0.8s,baz=247,slow=2.3,SNR=4.0
LPAZ PKKPbc PKKPbc 12 59 40.4 +6.0
comp=Z,1.2nm,0.7s,baz=32,slow=2.5,SNR=4.5
LPAZ La Paz 100.99 126 *eP* Pdif 12 43 25.1 +0.5
LPAZ pmax pmax
comp=Z,53nm,1.9s
LPAZ MLR MLR
comp=Z,33µm,20.0s
LPAZ La Paz 100.99 126 *e*Pdif Pdif 12 43 25.1 +0.5
comp=Z,53nm,1.9s
LPAZ LR LR
comp=Z,33µm,20.0s,MS6.8
HYB Hyderabad 101.32 283 *i* P Pdif 12 43 30.0 +3.9
HYB *e*PP PP 12 47 50.0 +14
HYB *e*SKS 12 54 08.0
HYB *e*PS PS 12 56 40.0 +1.7
HYB *e*SS SS 13 02 10.0 +2.3
HYB Hyderabad 101.32 283 *eP* Pdif 12 43 30.0 +3.9
HYB *e*SKS 12 54 04.0
LSA Lhasa 101.51 300 PFAKE 12 43 40.0 +13
LSA LR LR
comp=Z,12µm,19.0s,MS6.5
SNCC San Nicolas Is 101.99 55 ⇑P Pdif 12 43 31.5 +2.5
baz=102
SNCC San Nicolas Is 101.99 55 PFAKE 12 43 40.0 +11
SNCC LR LR
comp=Z,40µm,20.0s,MS6.9
MSEY Mahe Island 102.11 251 PFAKE 12 43 40.0 +10
MSEY LR LR
comp=Z,48µm,19.0s,MS7.0
LBTB Lobatse 102.36 215 PFAKE 12 43 40.0 +9.4
LBTB LR LR
comp=Z,24µm,19.0s,MS6.7
SCI San Clemente I 102.38 56 P Pdif 12 43 35.0 +4.2
baz=103
BSC Santa Cruz Isl 102.46 54 ⇑P Pdif 12 43 34.9 +3.8
baz=103
HIA Hailar 102.49 330 PFAKE 12 43 40.0 +8.8
HIA LR LR
comp=Z,19µm,20.0s,MS6.6
SBC Santa Barbara 102.73 54 ⇓P Pdif 12 43 36.1 +3.8
baz=103
CIS Catalina Islan 102.76 56 ⇓P Pdif 12 43 35.9 +3.5
baz=103
BLG Laguna Peak 102.88 55 ⇓P Pdif 12 43 35.8 +2.9
baz=103
PKM Peak Mountain 103.00 54 ⇓P Pdif 12 43 36.4 +2.9
baz=103
V03C Hunter Liggett 103.00 52 ⇑P Pdif 12 43 36.9 +3.4
baz=103
FMP Fort Macarthur 103.04 55 ⇑P Pdif 12 43 36.1 +2.4
baz=103
109C Camp Elliot, M 103.17 57 ⇓P Pdif 12 43 37.1 +2.9
baz=103
SMMC Simmler 103.19 53 ⇓P Pdif 12 43 37.3 +2.9
baz=104
FARB Farallon Islan 103.24 50 ⇓P Pdif 12 43 37.1 +2.5
baz=104
BAR Barrett 103.28 57 PFAKE 12 43 40.0 +5.3
BAR LR LR
comp=Z,35nm,20.0s,MS6.9
GOA Goa 103.32 279⇓ *e*P Pdif 12 43 32.7 -2.2
GOA *i* S SKSac 12 54 12.8 -3.2
PKD Parkfield 103.34 52 ⇑P Pdif 12 43 38.8 +3.8
baz=104
DECC Green Verdugo 103.40 55 ⇓P Pdif 12 43 40.0 +4.7
baz=104
SAO San Andreas Ge 103.42 51 PFAKE 12 43 40.0 +4.6
SAO LR LR
comp=Z,38um,21.0s,MS6.9
OSI Osito Adit 103.43 55 ⇓P Pdif 12 43 39.7 +4.3
baz=104
JRSC Jasper Ridge 103.44 50 ⇑P Pdif 12 43 39.3 +3.9
baz=104
U04C Hernandez Rese 103.50 52 ⇑P Pdif 12 43 38.7 +2.9
baz=104
NGP Nagpur 103.52 286 *eP* Pdif 12 43 34.7 -1.1
NGP *e*S SKSac 12 54 13.9 -2.8
NGP *ex* x 13 31 05.1
comp=Z,23um,17.9s
MWC Mount Wilson 103.54 55 PFAKE 12 43 40.0 +4.1
MWC LR LR
comp=Z,39µm,20.0s,MS6.9
MONP Monument Peak 103.58 57 ⇓P Pdif 12 43 40.3 +4.2
baz=104
DVTC Desert V Tower 103.61 58 ⇓P Pdif 12 43 39.1 +2.9
baz=104
MURC Murrieta 103.61 56 ⇓P Pdif 12 43 40.5 +4.2
baz=104
MCCM Marconi Confer 103.63 50 PFAKE 12 43 40.0 +3.7
MCCM LR LR
comp=Z,31um,19.0s,MS6.9
V05C Boulder Hill, 103.64 53 ⇑P Pdif 12 43 40.2 +3.8
baz=104
PACP Pacheco Peak 103.68 51 ⇓P Pdif 12 43 40.8 +4.3
baz=104
ARVC Arvin 103.73 54 ⇓P Pdif 12 43 40.6 +3.8
baz=104
BFSC Mount Baldy St 103.79 55 ⇑P Pdif 12 43 42.2 +5.1
baz=104
U05C Westside ANR, 103.86 52 ⇓P Pdif 12 43 40.2 +2.9
baz=104
WENL Wente Vineyard 103.86 51 ⇑P Pdif 12 43 41.2 +3.9
baz=104
SWSC Sam W. Stewart 103.98 57 ⇓P Pdif 12 43 42.5 +4.7
baz=104
CVS Carmenet Viney 104.00 50 ⇑P Pdif 12 43 41.8 +3.9
baz=104
BDM Black Diamond 104.05 50 ⇑P Pdif 12 43 41.6 +3.4
baz=104
EDW2 Edwards Air Fo 104.05 55 ⇑P Pdif 12 43 42.4 +4.2
baz=104
PFO Pinyon Flat Ob 104.06 57 ⇓P Pdif 12 43 41.5 +3.3
baz=104
PFO Pinyon Flat Ob 104.06 57 PFAKE 12 43 50.0 +12
PFO LR LR
comp=Z,38µm,20.0s,MS6.9
VES Vestal, Richgr 104.09 53 ⇑P Pdif 12 43 41.7 +3.4
baz=104
HOPS Hopland 104.14 49 ⇑P Pdif 12 43 42.0 +3.4
baz=104
HOPS Hopland 104.14 49 PFAKE 12 43 50.0 +11
HOPS LR LR
comp=Z,42µm,21.0s,MS7.0
BBRC Big Bear Sol-O 104.24 56 ⇓P Pdif 12 43 43.7 +4.7
baz=104
JBP Jabalpur 104.25 288 *eP* Pdif 12 43 45.5 +6.5
JBP *e*S SKSac 12 54 21.8 +1.8
KAD Karad 104.30 280 *ex* x 12 43 42.6
KAD *ex* x 12 47 22.4
ISA Isabella 104.32 54 ⇑P Pdif 12 43 43.6 +4.3
baz=105
ISA Isabella 104.32 54 PFAKE 12 43 50.0 +11
ISA LR LR
comp=Z,28µm,20.0s,MS6.8
RCTC Rector, Farmer 104.34 53 ⇓P Pdif 12 43 43.2 +3.8
baz=105
MNRC McLaughlin Nat 104.40 49 ⇑P Pdif 12 43 43.6 +3.9
baz=105
112A Yuma 104.44 59 ⇓P Pdif 12 43 44.1 +4.2
baz=105
Q03C Winters 104.45 50 ⇓P Pdif 12 43 43.4 +3.4
baz=105
S05C Merced 104.46 52 ⇑P Pdif 12 43 43.6 +3.6
baz=105
T06C Millerton Lake 104.57 52 ⇓P Pdif 12 43 44.7 +4.2
baz=105
O01C Eel River Cons 104.58 48 ⇓P Pdif 12 43 45.6 +5.1
baz=105
BELC Belle Mtn. 104.60 57 ⇓P Pdif 12 43 45.6 +5.0
baz=105
AKL Akola 104.62 285 *eP* Pdif 12 43 41.2 +0.5
AKL *eP* 12 43 42.0
RRX Edison Barstow 104.62 55 ⇓P Pdif 12 43 44.9 +4.1
baz=105
LRMC Laurel Mountai 104.64 54 ⇓P Pdif 12 43 45.2 +4.4
baz=105
GLA Glamis 104.65 58 ⇑P Pdif 12 43 45.7 +4.9
baz=105
GLA Glamis 104.65 58 *e*Pdif Pdif 12 43 40.7 -0.1
GLA LR LR
comp=Z,36µm,19.0s,MS6.9
BC3 Big Chuckw Mtn 104.69 57 ⇑P Pdif 12 43 45.6 +4.6
baz=105
R04C Big Horse Ranc 104.77 51 ⇓P Pdif 12 43 45.5 +4.1
baz=105
GASB Alder Springs 104.81 49 ⇑P Pdif 12 43 45.4 +3.9
baz=105
CMB Columbia Colle 104.92 51 ⇓P Pdif 12 43 46.2 +4.2
baz=105
CMB Columbia Colle 104.92 51 PFAKE 12 43 50.0 +8.0
CMB LR LR
comp=Z,36µm,20.0s,MS6.9
JCC Jacoby Creek 104.96 47 ⇓P Pdif 12 43 46.5 +4.2
baz=105
HEC Hector,Ludlow 104.98 56 ⇑P Pdif 12 43 46.7 +4.4
baz=105
KCC Kaiser Creek 105.01 52 ⇑P Pdif 12 43 47.1 +4.7
baz=105
GSC Goldstone 105.03 55 ⇓P Pdif 12 43 47.2 +4.6
baz=105
GSC Goldstone 105.03 55 PFAKE 12 48 10.0 +13
GSC LR LR
comp=Z,43µm,20.0s,MS7.0
CWC Cottonwood Cre 105.09 54 ⇓P Pdif 12 43 47.7 +4.9
baz=105
113A Mohawk Valley, 105.09 59 ⇓P Pdif 12 43 47.6 +4.8
baz=105
214A Organ Pipe Nat 105.12 60 ⇓P Pdif 12 43 47.4 +4.5
baz=105
SIV San Ignacio 105.15 132 Pdiff Pdif 12 43 49.0 +5.9
comp=Z,0.3nm,0.4s,baz=197,slow=8.4,SNR=3.6
MPMC Manual Prospec 105.17 54 ⇑P Pdif 12 43 47.9 +4.8
baz=105
IRM Iron Mountain 105.22 57 ⇑P Pdif 12 43 48.5 +5.1
baz=106
LAVA Lava Cap Winer 105.23 50 ⇓P Pdif 12 43 47.3 +3.9
baz=106
DAC Darwin (Calif) 105.26 54 PFAKE 12 48 10.0 +13
DAC LR LR
comp=Z,43µm,20.0s,MS7.0
Y12C Blythe 105.31 58 ⇑P Pdif 12 43 47.9 +4.1
baz=106
N02C Big Bar 105.34 47 ⇑P Pdif 12 43 49.3 +5.4
baz=106
GMRC Granite Mounta 105.34 56 ⇑P Pdif 12 43 48.7 +4.8
baz=106
POO Poona 105.36 281 *eP* Pdif 12 43 42.4 -1.6
POO *i* x x 12 48 13.6
ORV Oroville 105.39 49 ⇑P Pdif 12 43 49.2 +5.1
baz=106
TIN Tinemaha 105.44 53 ⇓P Pdif 12 43 49.4 +5.1
baz=106
MLAC Mammoth Lakes 105.50 52 ⇑P Pdif 12 43 49.4 +4.8
baz=106
WDC Whiskeytown Da 105.57 48 ⇑P Pdif 12 43 49.3 +4.4
baz=106
WDC Whiskeytown Da 105.57 48 PFAKE 12 48 10.0 +12
WDC LR LR
comp=Z,35µm,22.0s,MS6.9
TUQ Turquoise Moun 105.64 56 ⇓P Pdif 12 43 50.0 +4.8
baz=106
M01C Crescent City 105.66 46 ⇓P Pdif 12 43 50.4 +5.0
baz=106
SHOC Shoshone 105.76 55 ⇓P Pdif 12 43 50.4 +4.6
baz=106
Y13A Salome 105.78 58 ⇑P Pdif 12 43 51.1 +5.3
baz=106
R06C Coleville 105.78 51 ⇑P Pdif 12 43 50.8 +4.9
baz=106
FURC Furnace Creek, 105.81 54 ⇓P Pdif 12 43 50.6 +4.6
baz=106
GRAC Grapevine Rang 105.89 54 ⇓P Pdif 12 43 51.2 +4.9
baz=106
PDMCI Parker Dam,Lak 105.92 57 ⇑P Pdif 12 43 51.5 +5.0
baz=106
NEE2 Needles Airpor 105.95 57 ⇑P Pdif 12 43 51.6 +5.0
baz=106
M02C Callahan 105.99 47 ⇑P Pdif 12 43 52.2 +5.4
baz=106
115A Sonoran Desert 105.99 60 ⇓P Pdif 12 43 52.1 +5.3
baz=106
216A Three Points, 105.99 61 ⇑P Pdif 12 43 52.1 +5.3
baz=106
O05C Quincy 106.00 49 ⇑P Pdif 12 43 52.1 +5.3
baz=106
Z14A Wintersburg 106.00 59 ⇑P Pdif 12 43 51.7 +4.8
baz=106
BHPL Bhopal 106.04 287 *eP* Pdif 12 43 45.1 -1.9
BHPL *ex* x 12 43 54.0
BHPL AMb AMB 12 44 02.2
comp=Z,12nm,1.1s
U10A Ash Meadows, A 106.09 55 ⇑P Pdif 12 43 53.0 +5.7
baz=106
L02A Cave Junction 106.15 46 ⇑P Pdif 12 43 53.5 +6.0
baz=106
O04C Chester 106.16 49 ⇑P Pdif 12 43 52.3 +4.7
baz=106
WCN Washoe City 106.16 50 ⇓P Pdif 12 43 52.1 +4.6
baz=106
W12A Cal Nev Ari 106.17 56 ⇑P Pdif 12 43 53.4 +5.8
baz=106
V11A Goodsprings 106.21 56 ⇑P Pdif 12 43 53.3 +5.5
baz=106
116A Eloy 106.22 60 ⇓P Pdif 12 43 53.3 +5.5
baz=106
BEKR Beckwourth 106.23 50 ⇓P Pdif 12 43 53.5 +5.6
baz=106
217A Green Valley 106.24 61 ⇑P Pdif 12 43 53.8 +5.9
baz=106
M03C McCloud 106.29 48 ⇓P Pdif 12 43 53.3 +5.1
baz=107

YBH	Yreka Blue Hor	106.31	47	PP	PP		12 48 11.2	-1.4		
	comp=Z,3.8nm,0.9s,baz=221,slow=5.9,SNR=5.0									
YBH	Yreka Blue Hor	106.31	47	⇓P	Pdif		12 43 53.2	+5.0		
	baz=107									
YBH	Yreka Blue Hor	106.31	47	PFAKE			12 48 10.0	+11		
YBH				LR	LR					
	comp=Z,25µm,21.0s,MS6.7									
X13A	Yucca	106.31	57	⇓P	Pdif		12 43 53.9	+5.7		
	baz=107									
BOM	Bombay	106.33	281	*ex*	x		12 48 22.0			
BOM				eS	SKSac		12 54 24.5	-5.1		
P06A	Stead Airport,	106.35	50	⇑P	Pdif		12 43 53.0	+4.6		
	baz=107									
NVAR	Mina Array Bea	106.36	52	Pdiff	Pdif		12 43 49.8	+1.3		
	comp=Z,0.1nm,0.3s,baz=289,slow=2.8,SNR=2.7									
NVAR				PKiKP	PKiKP		12 47 59.4	+0.1		
	comp=Z,0.5nm,0.7s,baz=224,slow=2.5,SNR=2.8									
NVAR				PKKPbc	PKKPbc		12 59 25.1	+5.8		
	comp=Z,1.3nm,0.7s,baz=78,slow=4.3,SNR=5.3									
Y14A	Wickenburg	106.36	58	⇓P	Pdif		12 43 53.7	+5.3		
	baz=107									
R08A	Mina	106.41	52	⇓P	Pdif		12 43 54.1	+5.4		
	baz=107									
Q07A	Schurz	106.43	51	⇓P	Pdif		12 43 53.3	+4.5		
	baz=107									
Z15A	Gila River Ind	106.43	59	⇓P	Pdif		12 43 54.8	+6.1		
	baz=107									
V12A	Nelson	106.48	56	⇑P	Pdif		12 43 53.9	+5.0		
	baz=107									
S09A	Goldfield	106.48	53	⇓P	Pdif		12 43 53.2	+4.2		
	baz=107									
TPNV	Topopah Spring	106.50	54	⇑P	Pdif		12 43 54.0	+4.9		
	baz=107									
TPNV	Topopah Spring	106.50	54	PFAKE			12 48 10.0	+10		
TPNV				LR	LR					
	comp=Z,31µm,20.0s,MS6.8									
318A	Bisbee	106.53	62	⇓P	Pdif		12 43 54.9	+5.7		
	baz=107									
TUC	Tucson	106.62	61	PFAKE			12 48 10.0	+10		
TUC				LR	LR					
	comp=Z,52µm,20.0s,MS7.1									
W13A	Hualapai Mount	106.62	57	⇑P	Pdif		12 43 55.4	+5.8		
	baz=107									
U11A	Corn Creek	106.64	55	⇓P	Pdif		12 43 55.2	+5.6		
	baz=107									
SONM	Songino Array	106.65	322	Pdiff	Pdif		12 43 51.2	+1.5		
	comp=Z,1.4nm,0.9s,baz=108,slow=3.8,SNR=3.9									
SONM				PKiKP	PKiKP		12 47 59.1	-0.3		
	comp=Z,1.9nm,1.0s,baz=92,slow=2.3,SNR=2.7									
SONM				PKKPbc	PKKPbc		12 59 20.5	+1.7		
	comp=Z,5.3nm,0.9s,baz=295,slow=3.5,SNR=6.1									
K02A	Glendale	106.65	46	⇓P	Pdif		12 43 55.2	+5.5		
	baz=107									
TPH	Tonopah	106.72	53	PFAKE			12 48 10.0	+10		
TPH				LR	LR					
	comp=Z,25µm,22.0s,MS6.7									
O06A	Flanigan	106.73	50	⇑P	Pdif		12 43 55.4	+5.3		
	baz=107									
Y15A	Casa Rosa Ranc	106.78	59	⇓P	Pdif		12 43 55.9	+5.6		
	baz=107									
X14A	Yava	106.79	58	⇑P	Pdif		12 43 56.0	+5.6		
	baz=107									
M04C	Macdoel	106.80	47	⇓P	Pdif		12 43 56.1	+5.7		
	baz=107									
HUMO	Hull Mountain	106.81	46	⇓P	Pdif		12 43 56.3	+5.9		
	baz=107									
HUMO	Hull Mountain	106.81	46	PFAKE			12 48 10.0	+10		
HUMO				LR	LR					
	comp=Z,27µm,21.0s,MS6.8									
P07A	Fallon	106.81	51	⇑P	Pdif		12 43 55.9	+5.5		
	baz=107									
117A	Oracle	106.83	61	⇓P	Pdif		12 43 56.4	+5.9		
	baz=107									
218A	Dragoon	106.86	62	⇑P	Pdif		12 43 56.7	+6.1		
	baz=107									
Z16A	Peralta Trail,	106.92	60	⇓P	Pdif		12 43 57.4	+6.4		
	baz=107									
R09A	Tonopah	106.92	53	⇓P	Pdif		12 43 56.4	+5.5		
	baz=107									
319A	Douglas	106.94	63	⇓P	Pdif		12 43 56.5	+5.5		
	baz=107									
S10A	Tonopah Range,	106.97	53	⇑P	Pdif		12 43 56.1	+5.0		
	baz=107									
J02A	Umpqua	107.03	45	⇓P	Pdif		12 43 56.1	+4.7		
	baz=107									
OTAV	Otavalo	107.05	107	PFAKE			12 48 10.0	+8.7		
OTAV				LR	LR					
	comp=Z,16µm,20.0s,MS6.6									
L04A	Klamath Falls	107.05	47	⇑P	Pdif		12 43 56.7	+5.2		
	baz=107									
V13A	Grand Canyon W	107.08	56	⇑P	Pdif		12 43 56.8	+5.2		
	baz=107									
M06C	Likely Place G	107.11	49	⇓P	Pdif		12 43 56.8	+5.0		
	baz=107									
N06A	Buffalo Meadow	107.14	49	⇓P	Pdif		12 43 57.6	+5.7		
	baz=107									
U12A	Valley of Fire	107.14	56	⇑P	Pdif		12 43 57.5	+5.6		
	baz=107									
W14A	Seligman	107.18	57	⇑P	Pdif		12 43 57.8	+5.8		
	baz=107									
X15A	Humboldt	107.20	58	⇓P	Pdif		12 43 58.0	+5.8		
	baz=107									
T12A	Moapa	107.24	55	⇑P	Pdif		12 43 57.7	+5.4		
	baz=108									
O07A	Toulon	107.25	50	⇑P	Pdif		12 43 57.9	+5.5		
	baz=108									
Y16A	Circle Bar Ran	107.25	59	⇓P	Pdif		12 43 58.3	+5.9		
	baz=108									
S11A	Rachel	107.27	54	⇑P	Pdif		12 43 58.0	+5.6		
	baz=108									
Q09A	Carvers	107.27	52	⇑P	Pdif		12 43 58.5	+6.1		
	baz=108									
T11A	Corn Creek, Al	107.30	55	⇓P	Pdif		12 43 58.5	+5.8		
	baz=108									
118A	Homack Ranch,	107.35	61	⇑P	Pdif		12 43 58.4	+5.5		
	baz=108									
P08A	Dixie Valley	107.36	51	⇑P	Pdif		12 43 58.5	+5.6		
	baz=108									
I02A	Mapleton	107.36	45	⇓P	Pdif		12 43 58.5	+5.6		
	baz=108									
219A	White Tail Can	107.37	62	⇑P	Pdif		12 43 58.8	+5.9		
	baz=108									
R10A	Warm Springs	107.39	53	⇓P	Pdif		12 43 58.8	+5.7		
	baz=108									
KDAK	Kodiak Island	107.42	21	PFAKE			12 48 10.0	+9.5		
KDAK				LR	LR					
	comp=Z,12µm,22.0s,MS6.4									
K04A	Chilquin	107.44	47	⇑P	Pdif		12 43 58.3	+5.0		
	baz=108									
V14A	Boquillas Ranc	107.45	57	⇓P	Pdif		12 43 59.1	+5.8		
	baz=108									
U13A	Pakoon Wash	107.47	56	⇓P	Pdif		12 43 59.1	+5.8		
	baz=108									
Z17A	San Carlos Hig	107.48	60	⇑P	Pdif		12 43 58.5	+5.1		
	baz=108									
L05A	Lakeview	107.52	48	⇑P	Pdif		12 43 59.5	+5.9		
	baz=108									
Y17A	Roosevelt	107.52	60	⇓P	Pdif		12 43 59.6	+6.0		
	baz=108									
Z18A	Geronimo	107.61	61	⇑P	Pdif		12 43 59.1	+5.1		
	baz=108									
I03A	Eugene	107.62	45	⇑P	Pdif		12 43 59.1	+5.1		
	baz=108									
N07B	Gerlach	107.63	50	⇓P	Pdif		12 43 59.1	+5.0		
	baz=108									
X16A	Lo Mia Camp, P	107.64	59	⇓P	Pdif		12 43 59.8	+5.7		
	baz=108									
W15A	Williams	107.65	58	⇑P	Pdif		12 43 59.6	+5.4		
	baz=108									
J04A	Umpqua Nationa	107.69	46	⇑P	Pdif		12 43 59.5	+5.1		
	baz=108									
MOD	Modoc	107.69	48	⇑P	Pdif		12 43 59.7	+5.3		
	baz=108									
MOD	Modoc	107.69	48	PFAKE			12 48 10.0	+8.4		
MOD				LR	LR					
	comp=Z,37µm,20.0s,MS6.9									
Q10A	Clear Creek Ra	107.70	53	⇑P	Pdif		12 43 59.7	+5.3		
	baz=108									
O08A	Rochester Mine	107.73	51	⇑P	Pdif		12 43 59.4	+4.9		
	baz=108									
S12A	Delamar Landin	107.76	55	⇑P	Pdif		12 44 00.4	+5.8		
	baz=108									
P09A	Austin	107.79	52	⇓P	Pdif		12 44 00.1	+5.3		
	baz=108									
R11A	Troy Canyon, C	107.84	54	⇓P	Pdif		12 43 59.9	+4.8		
	baz=108									
119A	Ashpeak Ranch,	107.85	62	⇑P	Pdif		12 43 59.7	+4.6		
	baz=108									
T13A	Saint George	107.91	56	⇑P	Pdif		12 43 60.0	+4.6		
	baz=108									
I04A	Tendick Farm,	107.93	46	⇓P	Pdif		12 44 00.2	+4.7		
	baz=108									
U14A	Mt Trumbull	107.94	56	⇓P	Pdif		12 43 59.5	+4.1		
	baz=108									
M07A	Soldier Meadow	107.94	49	⇑P	Pdif		12 43 59.9	+4.5		
	baz=108									
K05A	Summer Lake	107.96	47	⇓P	Pdif		12 44 00.1	+4.5		
	baz=108									
X17A	Forest Lakes	107.97	59	⇓P	Pdif		12 44 00.3	+4.7		
	baz=108									
W16A	Flagstaff	108.03	58	⇓P	Pdif		12 44 00.9	+5.0		
	baz=108									
COR	Corvallis	108.05	45	PFAKE			12 48 10.0	+7.9		
COR				LR	LR					
	comp=Z,62µm,20.0s,MS7.2									
Y18A	Canyon Day Jun	108.07	60	⇑P	Pdif		12 44 01.0	+4.9		
	baz=108									
N08A	GE Springer Mi	108.09	50	⇑P	Pdif		12 44 00.8	+4.7		
	baz=108									
H03A	Soap Creek Ran	108.11	45	⇑P	Pdif		12 44 01.0	+4.8		
	baz=108									
V15A	Kaibab Nationa	108.13	57	⇓P	Pdif		12 44 01.6	+5.3		
	baz=108									
Q11A	Duckwater	108.14	53	⇑P	Pdif		12 44 01.4	+5.0		
	baz=108									
J05A	Fort Rock	108.18	47	⇑P	Pdif		12 44 00.9	+4.4		
	baz=108									
P10A	Eureka	108.22	52	⇑P	Pdif		12 44 01.7	+5.0		
	baz=108									
Z19A	T-Link Ranch,	108.23	61	⇑P	Pdif		12 44 01.9	+5.2		
	baz=108									
L07A	Adell	108.29	49	⇑P	Pdif		12 44 02.0	+4.9		
	baz=109									
S13A	Holt Ranch, En	108.32	55	⇑P	Pdif		12 44 02.5	+5.3		
	baz=109									
AGRA	Agra	108.33	290	*e*P	Pdif		12 43 56.8	-0.5		
BMN	Battle Mountai	108.35	51	PFAKE			12 48 10.0	+7.1		
BMN				LR	LR					
	comp=Z,30µm,21.0s,MS6.8									
K06A	Valley Falls	108.35	48	⇑P	Pdif		12 44 02.2	+4.9		
	baz=109									
R12A	Pony Springs,	108.39	54	⇑P	Pdif		12 44 02.6	+5.1		
	baz=109									
M08A	Happy Creek Ra	108.41	50	⇓P	Pdif		12 44 02.6	+5.0		
	baz=109									
WUAZ	Wupatki	108.41	58	⇑P	Pdif		12 44 02.5	+4.9		
	baz=109									
T14A	Hurricane	108.43	56	⇑P	Pdif		12 44 02.9	+5.3		
	baz=109									
N09A	Rock Creek Ran	108.47	51	⇓P	Pdif		12 44 03.0	+5.2		
	baz=109									
U15A	North Rim	108.47	57	⇑P	Pdif		12 44 02.9	+5.0		
	baz=109									
W17A	Winslow	108.52	59	⇑P	Pdif		12 44 03.0	+4.9		
	baz=109									
P11A	Circle Ranch,	108.57	53	⇓P	Pdif		12 44 03.1	+4.8		
	baz=109									
G03A	Yamhill	108.58	44	⇑P	Pdif		12 44 03.5	+5.2		
	baz=109									
X18A	Snowflake	108.62	60	⇑P	Pdif		12 44 04.0	+5.5		
	baz=109									
O10A	Cortez Mining,	108.65	52	⇑P	Pdif		12 44 04.4	+5.7		
	baz=109									
R13A	O'Grain Ranch,	108.66	55	⇑P	Pdif		12 44 04.2	+5.6		
	baz=109									
Y19A	Nutrioso	108.67	61	⇑P	Pdif		12 44 03.7	+5.0		
	baz=109									
H04A	Detroit Lake	108.68	45	⇑P	Pdif		12 44 03.6	+4.8		
	baz=109									
J06A	Christmas Vall	108.72	47	⇑P	Pdif		12 44 04.0	+5.1		
	baz=109									
Q12A	Willow Creek R	108.75	53	⇑P	Pdif		12 44 04.2	+5.1		
	baz=109									
I05A	Bend	108.78	46	⇑P	Pdif		12 44 04.2	+5.1		
	baz=109									
K07A	Rock Creek Ran	108.81	48	⇑P	Pdif		12 44 04.4	+5.1		
	baz=109									
T15A	Red Dirt Ranch	108.81	56	⇓P	Pdif		12 44 04.6	+5.3		
	baz=109									
S14A	Cedar City	108.85	55	⇑P	Pdif		12 44 04.5	+5.0		
	baz=109									
F03A	Seaside	108.88	43	⇓P	Pdif		12 44 04.3	+4.7		
	baz=109									
G04A	Mulino	108.90	45	⇓P	Pdif		12 44 04.7	+5.0		
	baz=109									
M09A	Marrel Ranch,	108.90	50	⇓P	Pdif		12 44 04.5	+4.7		
	baz=109									
N10A	Dunphy	108.94	51	⇑P	Pdif		12 44 05.0	+5.1		
	baz=109									
L08A	Fields	108.94	49	⇑P	Pdif		12 44 05.2	+5.2		
	baz=109									
WVOR	Wild Horse Val	108.95	49	*e*PKPdf	PKiKP		12 48 00.4	-3.6		
WVOR				LR	LR					
	comp=Z,35µm,20.0s,MS6.9									
X19A	St. Johns	108.96	60	⇓P	Pdif		12 44 05.5	+5.5		
	baz=109									
U16A	Tuba City	108.98	58	⇑P	Pdif		12 44 05.6	+5.5		
	baz=109									
P12A	McGill	109.00	53	⇓P	Pdif		12 44 05.4	+5.2		
	baz=109									
O11A	Cowboy Ranch,	109.02	52	⇓P	Pdif		12 44 05.7	+5.4		
	baz=109									
H05A	Madras	109.14	46	⇓P	Pdif		12 44 06.4	+5.6		
	baz=109									
W18A	Petrified Fore	109.15	59	⇓P	Pdif		12 44 06.5	+5.7		
	baz=109									
Q13A	Wheeler Ranch,	109.16	54	⇓P	Pdif		12 44 06.5	+5.7		
	baz=109									
I06A	Prineville	109.17	47	⇑P	Pdif		12 44 06.6	+5.7		
	baz=109									
L09A	Wilkinson Ranc	109.19	50	⇑P	Pdif		12 44 06.6	+5.6		
	baz=110									
TXAR	Lajitas Array	109.21	68	Pdiff	Pdif		12 44 02.8	+1.7		
	comp=Z,0.0nm,0.3s,baz=205,slow=4.0,SNR=2.3									
TXAR				PKiKP	PKiKP		12 48 04.2	-0.6		
	comp=Z,0.9nm,1.0s,baz=216,slow=2.8,SNR=3.2									
TXAR				PKKPbc	PKKPbc		12 59 12.0	+2.0		
	comp=Z,0.8nm,0.8s,baz=79,slow=4.4,SNR=6.0									
TXAR	Lajitas Array	109.21	68	Pdif	Pdif		12 44 02.8	+1.7		
TXAR				PKPdf	PKiKP		12 48 04.2	-0.6		
TXAR				PKKPbc	PKKPbc		12 59 12.0	+2.0		
K08A	Mann Creek Ran	109.24	49	⇓P	Pdif		12 44 06.8	+5.6		
	baz=110									
J07A	Hines	109.25	48	⇑P	Pdif		12 44 06.6	+5.3		
	baz=110									
S15A	Panguitch	109.27	56	⇑P	Pdif		12 44 07.7	+6.4		
	baz=110									
R14A	James Farms, M	109.29	55	⇑P	Pdif		12 44 07.4	+5.9		
	baz=110									
E03A	Lebam	109.31	43	⇓P	Pdif		12 44 06.9	+5.3		
	baz=110									
T16A	Glen Canyon Da	109.31	57	⇑P	Pdif		12 44 07.3	+5.7		
	baz=110									
W19A	Sanders	109.36	60	⇑P	Pdif		12 44 07.6	+5.9		
	baz=110									
V18A	Ganado	109.42	59	⇑P	Pdif		12 44 07.4	+5.3		
	baz=110									
N11A	Elko Archery C	109.44	52	⇑P	Pdif		12 44 07.4	+5.3		
	baz=110									
F04A	Amboy	109.44	44	⇑P	Pdif		12 44 07.6	+5.5		
	baz=110									
JOSI	Joshimath	109.45	294	*e*P	Pdif		12 44 03.0	+0.9		
M10A	I.L. Ranch, Tu	109.47	51	⇓P	Pdif		12 44 07.5	+5.2		
	baz=110									
P13A	Bates Ranch, G	109.49	54	⇓P	Pdif		12 44 07.4	+5.0		
	baz=110									
U17A	Shonto	109.56	58	⇓P	Pdif		12 44 08.2	+5.5		
	baz=110									
SONA	Sohna	109.57	291	*e*P	Pdif		12 44 02.2	-0.5		
Q14A	Sevier Lake (B	109.61	54	⇓P	Pdif		12 44 08.1	+5.3		
	baz=110									
JTS	JuntasAbangare	109.62	95	PFAKE			12 48 10.0	+3.9		
JTS				LR	LR					
	comp=Z,43µm,19.0s,MS7.0									
O12A	Currie	109.62	53	⇓P	Pdif		12 44 07.8	+4.8		
	baz=110									
K09A	Rome	109.63	49	⇓P	Pdif		12 44 07.6	+4.6		
	baz=110									
I07A	Izee	109.63	47	⇓P	Pdif		12 44 08.2	+5.2		
	baz=110									
H06A	Lindquist Farm	109.65	46	⇓P	Pdif		12 44 08.2	+5.2		
	baz=110									
ELK	Elko	109.67	52	PFAKE			12 48 10.0	+4.7		
ELK				LR	LR					
	comp=Z,42µm,20.0s,MS7.0									
AYAN	Aya Nagar	109.70	291	*ex*	x		12 43 57.0			
T17A	Navajo Res., N	109.74	57	⇓P	Pdif		12 44 09.0	+5.5		
	baz=110									
S16A	Weppner Ranch,	109.75	56	⇓P	Pdif		12 44 08.9	+5.4		
	baz=110									
LSZ	Lusaka	109.75	222	PKiKP	PKiKP		12 48 06.7	+0.4		
	comp=Z,2.9nm,0.7s,baz=90,slow=1.0,SNR=4.4									
LSZ				PP	PP		12 48 30.0	-7.0		
	comp=Z,3.7nm,0.8s,baz=127,slow=4.5,SNR=4.3									
LSZ	Lusaka	109.75	222	PKPdf	PKiKP		12 48 06.7	+0.4		
LSZ				PP	PP		12 48 30.1	-7.0		
LSZ				LR	LR					
	comp=Z,53µm,19.0s,MS7.1									
E04A	Onalaska	109.76	43	⇑P	Pdif		12 44 09.1	+5.5		
	baz=110									
NLWA	Neilton Lookou	109.76	42	⇑P	Pdif		12 44 08.7	+5.1		
	baz=110									
NLWA	Neilton Lookou	109.76	42	PFAKE			12 48 10.0	+4.7		
NLWA				LR	LR					
	comp=Z,46µm,20.0s,MS7.0									
NDI	New Delhi	109.77	291	*ex*	x		12 44 08.0			
NDI				*ex*	x		12 54 44.0			
M11A	Holland Ranch,	109.82	51	⇓P	Pdif		12 44 08.4	+4.6		
	baz=110									
G06A	Carlson Farm,	109.85	46	⇓P	Pdif		12 44 09.0	+5.0		
	baz=110									
N12A	Clover Valley,	109.85	52	⇓P	Pdif		12 44 08.8	+4.9		
	baz=110									
F05A	White Salmon	109.88	45	⇓P	Pdif		12 44 08.8	+4.7		
	baz=110									
L10A	Juniper Basin	109.88	50	⇑P	Pdif		12 44 08.9	+4.8		
	baz=110									
MVU	Marysvale	109.90	55	PFAKE			12 48 10.0	+4.2		
MVU				LR	LR					
	comp=Z,43µm,20.0s,MS7.0									
ZAK	Zakamensk	109.91	322	*e*P	Pdif		12 44 11.9	+7.7		
ZAK				pmax	pmax					
	comp=Z,4.0nm,1.1s									
U18A	Rough Rock, Ch	109.92	58	⇓P	Pdif		12 44 09.1	+4.8		
	baz=110									
H07A	Lands Inn, Kim	109.95	47	⇑P	Pdif		12 44 09.7	+5.3		
	baz=110									
V19A	Window Rock	109.96	59	⇓P	Pdif		12 44 09.8	+5.3		
	baz=110									
O13A	Hicks Ranch, I	109.97	53	⇑P	Pdif		12 44 09.3	+4.8		
	baz=110									
I08A	Drewsey	110.00	48	⇓P	Pdif		12 44 09.9	+5.3		
	baz=110									
J09A	Fry Pan Ranch,	110.05	49	⇓P	Pdif		12 44 09.9	+5.0		
	baz=110									
AJM	Ajmer	110.06	288	*ex*	x		12 44 13.6			
AJM				*i* x	x		12 48 47.3			
P14A	Drum Mountains	110.13	54	⇑P	Pdif		12 44 10.6	+5.4		
	baz=110									
Q15A	Fillmore	110.14	55	⇑P	Pdif		12 44 10.6	+5.4		
	baz=110									
K10A	MacKenzie Ranc	110.14	49	⇓P	Pdif		12 44 10.0	+4.8		
	baz=110									
F06A	Goldendale	110.14	45	⇑P	Pdif		12 44 10.2	+4.9		
	baz=110									
S17A	Black Ridge (B	110.16	57	⇑P	Pdif		12 44 10.3	+4.9		
	baz=110									
R16A	Teasdale	110.19	56	⇑P	Pdif		12 44 10.8	+5.4		
	baz=110									
E05A	Randle	110.21	44	⇓P	Pdif		12 44 10.7	+5.1		
	baz=110									
Y22D	IRIS PASSCAL I	110.21	62	⇑P	Pdif		12 44 11.1	+5.5		
	baz=110									
DDI	Dehra Dun	110.28	293	*ex*	x		12 47 23.0			
M12A	Wells	110.30	52	⇑P	Pdif		12 44 10.9	+5.0		
	baz=111									
KHET	Khetri	110.31	290	*ex*	x		12 44 09.5			
N13A	Wendover, West	110.32	52	⇓P	Pdif		12 44 11.1	+5.0		
	baz=111									
L11A	Cat Creek Ranc	110.34	51	⇑P	Pdif		12 44 11.4	+5.3		
	baz=111									
H08A	Prairie City	110.37	47	⇓P	Pdif		12 44 11.1	+4.8		
	baz=111									
T18A	Mexican Hat	110.39	58	⇓P	Pdif		12 44 11.5	+5.1		
	baz=111									
B04A	Port Angeles	110.41	42	⇓P	Pdif		12 44 11.4	+5.0		
	baz=111									
C04A	Brinnon	110.42	42	⇑P	Pdif		12 44 12.1	+5.6		
	baz=111									
I09A	Lost Marbles R	110.48	48	⇓P	Pdif		12 44 11.6	+4.8		
	baz=111									
D05A	Enumclaw	110.53	43	⇑P	Pdif		12 44 11.7	+4.7		
	baz=111									
TGUH	Tegucigalpa,Un	110.53	90	PFAKE			12 48 20.0	+12		
TGUH				LR	LR					
	comp=Z,23µm,21.0s,MS6.7									
E06A	Yakima	110.58	44	⇑P	Pdif		12 44 12.5	+5.3		
	baz=111									
K11A	Parker Ranch,	110.59	50	⇑P	Pdif		12 44 12.0	+4.7		
	baz=111									
J10A	Berg Farm, Mel	110.64	49	⇑P	Pdif		12 44 12.2	+4.8		
	baz=111									
F07A	Phinny Hill Vi	110.66	45	⇑P	Pdif		12 44 12.9	+5.3		
	baz=111									
DUG	Dugway	110.68	54	*e*PKiK

MFID	**Camas Ranch**	**111.13**	**49**	⇓P	Pdif	12 44 14.5	+4.8
	baz=111						
E07A	**Sunnyside**	**111.16**	**45**	⇓P	Pdif	12 44 15.2	+5.4
	baz=111						
F08A	**Pendleton**	**111.18**	**46**	⇑P	Pdif	12 44 15.1	+5.2
	baz=112						
R18A	**Canyonlands Na**	**111.20**	**57**	⇓P	Pdif	12 44 15.2	+5.3
	baz=111						
HAWA	**Hanford**	**111.20**	**45**	*e*PKPdf	PKiKP	12 48 09.2	+1.2
B05A	**Bryant**	**111.23**	**42**	⇑P	Pdif	12 44 15.3	+5.2
	baz=112						
S19A	**Harvey Farm, M**	**111.23**	**58**	⇑P	Pdif	12 44 15.2	+5.1
	baz=112						
M14A	**Sheep Mountain**	**111.24**	**52**	⇓P	Pdif	12 44 15.3	+5.2
	baz=112						
A04A	**Legoe Bay, Lum**	**111.25**	**42**	⇑P	Pdif	12 44 15.9	+5.7
	baz=112						
MVCO	**Mesa Verde**	**111.27**	**58**	⇑P	Pdif	12 44 15.5	+5.2
	baz=112						
MVCO	**Mesa Verde**	**111.27**	**58**	*e*PKPdf	PKiKP	12 48 08.5	+0.1
MVCO				LR	LR		
	comp=Z,31μm,20.0s,MS6.9						
L13A	**Double Diamond**	**111.29**	**52**	⇑P	Pdif	12 44 15.7	+5.3
	baz=112						
SRU	**San Rafael**	**111.30**	**56**	⇓P	Pdif	12 44 15.4	+5.0
	baz=112						
SRU	**San Rafael**	**111.30**	**56**	*e*Pdif	Pdif	12 44 10.2	-0.1
BMO	**Blue Mountains**	**111.31**	**48**	*e*PKPdf	PKiKP	12 48 04.1	-4.2
BMO				LR	LR		
	comp=Z,35μm,20.0s,MS6.9						
G09A	**Cove**	**111.35**	**47**	⇑P	Pdif	12 44 15.8	+5.2
	baz=112						
SMLA	**Simla**	**111.38**	**293**	*ex*	x	12 43 35.2	
I11A	**Placerville**	**111.40**	**49**	⇓P	Pdif	12 44 16.0	+5.2
	baz=112						
P17A	**Butcher Ranch,**	**111.41**	**55**	⇓P	Pdif	12 44 16.4	+5.5
	baz=112						
BHJ	**Bhuj**	**111.41**	**282**	*ex*	x	12 44 16.8	
BHJ				AMS	AMS	13 33 01.7	
	comp=Z,18μm,15.3s,MS6.8						
J12A	**Stokes Ranch,**	**111.42**	**50**	⇑P	Pdif	12 44 16.2	+5.2
	baz=112						
H10A	**Noah's Angus R**	**111.43**	**48**	⇓P	Pdif	12 44 16.1	+5.1
	baz=112						
O16A	**Springville**	**111.44**	**54**	⇑P	Pdif	12 44 16.7	+5.7
	baz=112						
BOD	**Bodaibo**	**111.45**	**332**	*e*PKIKP	PKiKP	12 47 59.7	-8.4
BOD				*e*		12 48 57.2	
BOD				pmax	pmax		
	comp=Z,10.0nm,1.6s						
BOD				pmax	pmax		
	comp=Z,19nm,2.7s						
E08A	**Dider Farm, El**	**111.51**	**45**	⇑P	Pdif	12 44 16.6	+5.3
	baz=112						
Q18A	**Rafter H Ranch**	**111.52**	**56**	⇓P	Pdif	12 44 16.7	+5.3
	baz=112						
D07A	**Quincy**	**111.53**	**44**	⇓P	Pdif	12 44 17.3	+5.8
	baz=112						
F09A	**S2 Ranch, Elgi**	**111.57**	**47**	⇓P	Pdif	12 44 17.1	+5.5
	baz=112						
C06A	**Tall Timber Ra**	**111.58**	**43**	⇑P	Pdif	12 44 16.7	+5.1
	baz=112						
K13A	**Stover Farm, H**	**111.58**	**51**	⇓P	Pdif	12 44 17.1	+5.4
	baz=112						
PMR	**Palmer**	**111.61**	**21**	*e*PKIKP	PKiKP	12 48 06.9	-1.4
PMR				MLR	MLR		
	comp=Z,21μm,21.0s,MS6.7						
L14A	**Malta**	**111.65**	**52**	⇑P	Pdif	12 44 17.1	+5.1
	baz=112						
B06A	**Marblemount**	**111.70**	**43**	⇑P	Pdif	12 44 17.6	+5.4
	baz=112						
G10A	**Bishop Farm, J**	**111.70**	**47**	⇑P	Pdif	12 44 17.6	+5.4
	baz=112						
M15A	**Larsen Ranch,**	**111.72**	**53**	⇓P	Pdif	12 44 17.3	+5.1
	baz=112						
A05A	**Maple Falls**	**111.74**	**42**	⇓P	Pdif	12 44 17.4	+5.1
	baz=112						
BDFB	**Brasilia**	**111.77**	**143**	PFAKE		12 48 20.0	+10
BDFB				LR	LR		
	comp=Z,60μm,22.0s,MS7.1						
P18A	**Preston Nutter**	**111.80**	**56**	⇑P	Pdif	12 44 17.9	+5.2
	baz=112						
C07A	**Waterville**	**111.83**	**44**	⇑P	Pdif	12 44 18.2	+5.5
	baz=112						
O17A	**Robinson Place**	**111.88**	**55**	⇑P	Pdif	12 44 17.9	+4.9
	baz=112						
H11A	**Donnelly**	**111.89**	**48**	⇑P	Pdif	12 44 18.1	+5.0
	baz=112						
N16A	**Rees Ranch, Co**	**111.92**	**54**	⇑P	Pdif	12 44 18.8	+5.7
	baz=112						
KVTX	**Kingsville**	**111.92**	**73**	PFAKE		12 48 20.0	+10
KVTX				LR	LR		
	comp=Z,42μm,19.0s,MS7.0						
Q19A	**Hogan Spring (**	**111.94**	**57**	⇓P	Pdif	12 44 18.9	+5.6
	baz=112						
D08A	**Wollman Farm,**	**111.97**	**45**	⇓P	Pdif	12 44 18.8	+5.5
	baz=112						
E09A	**Wood Farm, Sta**	**111.99**	**46**	⇑P	Pdif	12 44 18.4	+4.9
	baz=112						
PPLA	**Purkeypile**	**112.00**	**19**	*e*PKPdf	PKiKP	12 48 08.2	-0.8
HLID	**Hailey**	**112.00**	**50**	⇑P	Pdif	12 44 18.6	+5.1
	baz=112						
HLID	**Hailey**	**112.00**	**50**	PFAKE		12 48 20.0	+10
HLID				LR	LR		
	comp=Z,21μm,21.0s,MS6.7						
K14A	**Jones Ranch, D**	**112.02**	**52**	⇓P	Pdif	12 44 18.8	+5.2
	baz=112						
J13A	**Cove Ranch, Pi**	**112.03**	**50**	⇓P	Pdif	12 44 19.2	+5.6
	baz=112						
M16A	**Huntsville**	**112.09**	**53**	⇑P	Pdif	12 44 19.3	+5.4
	baz=112						
A06A	**Chilliwack**	**112.10**	**42**	⇑P	Pdif	12 44 19.2	+5.3
	baz=112						
F10A	**Beach Ranch, E**	**112.10**	**47**	⇓P	Pdif	12 44 19.0	+5.0
	baz=112						
SIT	**Sitka**	**112.11**	**30**	PFAKE		12 48 20.0	+11
SIT				LR	LR		
	comp=Z,43μm,19.0s,MS7.1						
L15A	**Malad City**	**112.11**	**52**	⇓P	Pdif	12 44 19.2	+5.2
	baz=112						
G11A	**Walters Elk Ra**	**112.22**	**48**	⇓P	Pdif	12 44 19.7	+5.2
	baz=112						
D09A	**Jones Farm, Ri**	**112.28**	**45**	⇑P	Pdif	12 44 20.0	+5.3
	baz=112						
N17A	**Moffit Pass**	**112.31**	**54**	⇓P	Pdif	12 44 20.4	+5.6
	baz=113						
HWUT	**Hardware Ranch**	**112.31**	**53**	PFAKE		12 48 20.0	+10
HWUT				LR	LR		
	comp=Z,51μm,20.0s,MS7.1						
B07A	**Winthrop**	**112.32**	**43**	⇓P	Pdif	12 44 20.1	+5.2
	baz=113						
J14A	**Carey**	**112.34**	**51**	⇓P	Pdif	12 44 20.5	+5.5
	baz=113						
O18A	**Roosevelt**	**112.35**	**55**	⇑P	Pdif	12 44 20.9	+5.8
	baz=113						
C08A	**Higginbotham F**	**112.39**	**44**	⇓P	Pdif	12 44 20.5	+5.3
	baz=113						
I13A	**Wildhorse Cree**	**112.39**	**50**	⇑P	Pdif	12 44 21.3	+6.0
	baz=113						
H12A	**Diamond D Ranc**	**112.41**	**49**	⇑P	Pdif	12 44 20.9	+5.6
	baz=113						
BCIP	**Isla Barro Col**	**112.46**	**100**	PFAKE		12 48 20.0	+8.6
BCIP				LR	LR		
	comp=Z,21μm,20.0s,MS6.7						
K15A	**Arbon**	**112.47**	**52**	⇑P	Pdif	12 44 21.3	+5.7
	baz=113						
E10A	**Myers Farm, Un**	**112.50**	**46**	⇑P	Pdif	12 44 20.9	+5.1
	baz=113						
P19A	**Cripple Cowboy**	**112.55**	**56**	⇓P	Pdif	12 44 20.8	+4.8
	baz=113						
A07A	**Ashnola River,**	**112.59**	**43**	⇑P	Pdif	12 44 22.0	+5.9
	baz=113						
F11A	**Grangeville**	**112.61**	**47**	⇑P	Pdif	12 44 20.4	+4.2
	baz=113						
B08A	**Colville Reser**	**112.64**	**44**	⇑P	Pdif	12 44 21.5	+5.1
	baz=113						
L16A	**Fish Haven**	**112.66**	**53**	⇓P	Pdif	12 44 21.5	+5.1
	baz=113						
WRAK	**Wrangell Islan**	**112.71**	**31**	PFAKE		12 48 20.0	+9.5
WRAK				LR	LR		
	comp=Z,38μm,22.0s,MS6.9						
H13A	**Challis**	**112.75**	**49**	⇑P	Pdif	12 44 21.4	+4.6
	baz=113						
I14A	**Mackay**	**112.77**	**50**	⇑P	Pdif	12 44 22.1	+5.2
	baz=113						
C09A	**Chrisman Ranch**	**112.79**	**45**	⇑P	Pdif	12 44 22.8	+5.7
	baz=113						
CHUM	**Lake Minchumin**	**112.83**	**18**	*e*PKPdf	PKiKP	12 48 09.4	-1.1
KTH	**Kantishna Hill**	**112.86**	**19**	*e*PKPdf	PKiKP	12 48 09.1	-1.5
E11A	**Bogner Ranch,**	**112.89**	**47**	⇑P	Pdif	12 44 22.6	+5.1
	baz=113						
O19A	**Miners Draw (B**	**112.89**	**56**	⇑P	Pdif	12 44 22.7	+5.2
	baz=113						
TRF	**Thorofare Moun**	**112.92**	**19**	*e*PKPdf	PKiKP	12 48 09.7	-1.1
J15A	**Blackfoot**	**112.99**	**51**	⇑P	Pdif	12 44 23.5	+5.6
	baz=113						
F12A	**Elk City**	**112.99**	**48**	⇓P	Pdif	12 44 23.1	+5.2
	baz=113						
N18A	**Larsen Ranch,**	**113.00**	**55**	⇓P	Pdif	12 44 22.8	+4.8
	baz=113						
A08A	**Turner Farm, O**	**113.07**	**43**	⇓P	Pdif	12 44 23.8	+5.5
	baz=113						
K16A	**Soda Springs**	**113.09**	**52**	⇓P	Pdif	12 44 24.3	+5.9
	baz=113						
G13A	**Cobalt**	**113.10**	**49**	⇑P	Pdif	12 44 24.5	+6.0
	baz=113						
WMQ	**Urumqi**	**113.13**	**309**	PKP	PKiKP	12 48 11.5	-0.3
WMQ				PP	PP	12 49 06.8	+4.8
WMQ				PPP		12 51 29.8	
WMQ				PP	PP		
	comp=Z,2μm,11.4s						
WMQ				LR	LR		
	comp=N,9μm,29.6s,MS6.3						
WMQ				LR	LR		
	comp=E,6μm,26.3s,MS6.3						
WMQ				LR	LR		
	comp=Z,11μm,29.6s,MS6.3						
THN	**Thein Dam**	**113.16**	**293**	*ex*	x	12 48 09.8	
N19A	**John Jarvie Ra**	**113.23**	**55**	⇑P	Pdif	12 44 24.8	+5.8
	baz=114						
E12A	**Beaver Dam Sad**	**113.26**	**47**	⇑P	Pdif	12 44 25.3	+6.2
	baz=114						
H14A	**Leadore**	**113.26**	**50**	⇓P	Pdif	12 44 24.8	+5.6
	baz=114						
B09A	**Rice**	**113.27**	**44**	⇑P	Pdif	12 44 24.8	+5.6
	baz=114						
D11A	**Klaveano Farm,**	**113.28**	**46**	⇑P	Pdif	12 44 24.9	+5.7
	baz=114						
C10A	**Spilker Farm,**	**113.29**	**45**	⇓P	Pdif	12 44 24.8	+5.6
	baz=114						
BPAW	**Bear Paw Mtn.**	**113.32**	**18**	*e*PKPdf	PKiKP	12 48 09.3	-2.1
AHID	**Auburn Hatcher**	**113.33**	**52**	*e*PKPdf	PKiKP	12 48 12.5	+0.4
AHID				LR	LR		
	comp=Z,30μm,21.0s,MS6.9						
I15A	**Monteview**	**113.35**	**51**	⇓P	Pdif	12 44 25.3	+5.8
	baz=114						
J16A	**Bone**	**113.36**	**52**	⇓P	Pdif	12 44 25.1	+5.5
	baz=114						
A09A	**Danville**	**113.42**	**44**	⇑P	Pdif	12 44 25.6	+5.8
	baz=114						
SDCO	**Great Sand Dun**	**113.45**	**60**	*e*PKPdf	PKiKP	12 48 13.2	+0.6
SDCO				LR	LR		
	comp=Z,36μm,20.0s,MS7.0						
MCK	**McKinley**	**113.48**	**20**	*e*PKIKP	PKiKP	12 48 10.1	-1.7
F13A	**Darby**	**113.50**	**48**	⇓P	Pdif	12 44 25.4	+5.2
	baz=114						
RRI2	**Red Ridge**	**113.58**	**52**	*e*PKPdf	PKiKP	12 48 12.9	+0.3
G14A	**Jackson**	**113.62**	**49**	⇓P	Pdif	12 44 25.8	+5.1
	baz=114						
B10A	**Chitwood Farm,**	**113.65**	**45**	⇑P	Pdif	12 44 26.3	+5.4
	baz=114						
H15A	**Lima**	**113.66**	**50**	⇓P	Pdif	12 44 26.1	+5.3
	baz=114						
NEW	**Newport**	**113.68**	**45**	*e*PKIKP	PKiKP	12 48 13.6	+0.9
MCMT	**McKenzie Canyo**	**113.68**	**50**	*e*PKPdf	PKiKP	12 48 12.4	-0.4
D12A	**Red Ives Fores**	**113.79**	**47**	⇑P	Pdif	12 44 26.8	+5.3
	baz=114						
I16A	**Newdale**	**113.82**	**51**	⇑P	Pdif	12 44 27.4	+5.8
	baz=114						
C11A	**Tepee Creek (N**	**113.84**	**46**	⇓P	Pdif	12 44 26.9	+5.2
	baz=114						
REDW	**Red Top Meadow**	**113.85**	**52**	*e*PKPdf	PKiKP	12 48 13.1	-0.1
TPAW	**Teton Pass**	**113.87**	**52**	*e*PKPdf	PKiKP	12 48 14.1	+0.9
TEIG	**Tepich**	**113.91**	**85**	PFAKE		12 48 20.0	+6.0
TEIG				LR	LR		
	comp=Z,27μm,19.0s,MS6.9						
A10A	**Northport**	**113.93**	**44**	⇓P	Pdif	12 44 26.8	+4.7
	baz=114						
SKAG	**Skagway**	**113.94**	**28**	*e*PKPdf	PKiKP	12 48 12.1	-0.7
E13A	**Victor**	**114.00**	**48**	⇓P	Pdif	12 44 27.2	+4.8
	baz=114						
F14A	**Wisdom**	**114.03**	**49**	⇑P	Pdif	12 44 27.6	+5.1
	baz=114						
AMTX	**Amarillo**	**114.05**	**64**	PFAKE		12 48 20.0	+6.2
AMTX				LR	LR		
	comp=Z,33μm,21.0s,MS6.9						
G15A	**Dillon**	**114.09**	**50**	⇑P	Pdif	12 44 28.1	+5.3
	baz=114						
LOHW	**Long Hollow**	**114.15**	**52**	*e*PKPdf	PKiKP	12 48 13.2	-0.5
C12B	**Naegeli Ranch,**	**114.15**	**46**	⇓P	Pdif	12 44 28.2	+5.1
	baz=114						
MOOW	**Moose Ponds**	**114.15**	**52**	*e*PKPdf	PKiKP	12 48 14.0	+0.2
DLMT	**Dillon**	**114.16**	**50**	*e*PKPdf	PKiKP	12 48 13.6	-0.1
B11A	**Sandpoint**	**114.17**	**45**	⇓P	Pdif	12 44 27.6	+4.5
	baz=114						
BW06	**Boulder Array**	**114.20**	**53**	⇑P	Pdif	12 44 28.3	+5.0
	baz=114						
BW06	**Boulder Array**	**114.20**	**53**	*e*PKPdf	PKiKP	12 48 11.2	-2.6
BW06				LR	LR		
	comp=Z,48μm,20.0s,MS7.1						
PDAR	**Pinedale Array**	**114.20**	**53**	PKP	PKiKP	12 48 12.4	-1.4
	comp=Z,2.0nm,1.0s,baz=228,slow=2.3,SNR=6.4						
PDAR				PP	PP	12 49 11.1	+1.4
	comp=Z,5.2nm,1.1s,baz=226,slow=3.9,SNR=6.2						
PDAR				PKKPbc	PKKPbc	12 58 59.2	+5.4
	comp=Z,2.9nm,1.2s,baz=101,slow=4.7,SNR=5.4						
PDAR				SKKP		13 03 01.9	
	comp=Z,3.6nm,1.1s,baz=64,slow=3.4,SNR=4.0						
D13A	**Huson**	**114.28**	**47**	⇑P	Pdif	12 44 28.0	+4.3
	baz=114						
E14A	**Clinton**	**114.35**	**48**	⇓P	Pdif	12 44 29.0	+5.0
	baz=115						
I17A	**Pilgram Creek**	**114.36**	**52**	⇓P	Pdif	12 44 29.1	+5.1
	baz=115						
MSO	**Missoula**	**114.38**	**48**	PFAKE		12 48 20.0	+5.9
MSO				LR	LR		
	comp=Z,24μm,22.0s,MS6.8						
IMA2	**Indian Mountai**	**114.45**	**16**	*e*PKPdf	PKiKP	12 48 13.1	-0.5
QLMT	**Earthquake Lak**	**114.46**	**51**	*e*PKPdf	PKiKP	12 48 15.1	+0.8
H16A	**Russell Place,**	**114.48**	**51**	⇑P	Pdif	12 44 30.3	+5.8
	baz=115						
G16A	**Moss Hill, Enn**	**114.51**	**50**	⇓P	Pdif	12 44 30.3	+5.6
	baz=115						
A11A	**Hall Mountain,**	**114.51**	**45**	⇑P	Pdif	12 44 30.5	+5.8
	baz=115						
F15A	**Butte**	**114.52**	**49**	⇓P	Pdif	12 44 30.7	+5.9
	baz=115						
B12A	**Libby**	**114.58**	**45**	⇑P	Pdif	12 44 30.3	+5.3
	baz=115						
C13A	**Hot Springs**	**114.60**	**47**	⇑P	Pdif	12 44 29.4	+4.4
	baz=115						
H17A	**Grant Village**	**114.66**	**51**	⇑P	Pdif	12 44 31.2	+5.8
	baz=115						
ISCO	**Idaho Springs**	**114.66**	**58**	*e*PKIKP	PKiKP	12 48 14.9	+0.1
ISCO				MLR	MLR		
	comp=Z,33μm,20.0s,MS6.9						
COLA	**College**	**114.70**	**19**	*e*PKIKP	PKiKP	12 48 12.2	-1.9
COLA				MLR	MLR		
	comp=Z,38μm,20.0s,MS7.0						
D14A	**Greenough**	**114.77**	**48**	⇓P	Pdif	12 44 31.5	+5.7
	baz=115						
CHMT	**Chamberlain Mo**	**114.80**	**48**	*e*PKPdf	PKiKP	12 48 14.1	-0.7
E15A	**Deer Lodge**	**114.81**	**49**	⇓P	Pdif	12 44 32.0	+5.9
	baz=115						
HKT	**Hockley**	**114.84**	**72**	PFAKE		12 48 20.0	+4.5
HKT				LR	LR		
	comp=Z,28μm,20.0s,MS6.9						
A12A	**Yaak River Ran**	**114.85**	**45**	⇑P	Pdif	12 44 32.2	+6.0
	baz=115						
LKWY	**Lake**	**114.86**	**51**	PFAKE		12 48 20.0	+4.9
LKWY				LR	LR		
	comp=Z,27μm,20.0s,MS6.8						
RWWY	**Rawlins**	**114.89**	**55**	*e*PKPdf	PKiKP	12 48 14.9	-0.3
DLBC	**Dease Lake**	**115.04**	**31**	*e*PKPdf	PKiKP	12 48 14.4	-0.6
C14A	**Swan Lake**	**115.08**	**47**	⇓P	Pdif	12 44 32.6	+5.4
	baz=115						
B13A	**Whitefish**	**115.10**	**46**	⇓P	Pdif	12 44 32.8	+5.5
	baz=115						
D15A	**Lincoln**	**115.27**	**48**	⇓P	Pdif	12 44 33.2	+5.2
	baz=116						
E16A	**East Helena**	**115.40**	**49**	⇑P	Pdif	12 44 33.9	+5.3
	baz=116						
HRY	**Holter Researc**	**115.43**	**49**	*e*PKPdf	PKPdf	12 48 15.7	-0.4
C15A	**Salmond Ranch,**	**115.68**	**47**	⇑P	Pdif	12 44 33.9	+4.0
	baz=116						
PHWY	**Pilot Hill**	**115.68**	**57**	*e*PKPdf	PKPdf	12 48 16.5	-0.2
B14A	**Marquette Ranc**	**115.70**	**47**	⇓P	Pdif	12 44 35.5	+5.5
	baz=116						
D16A	**Dana Ranch, Ca**	**115.78**	**49**	⇓P	Pdif	12 44 34.9	+4.6
	baz=116						
E17A	**Martinsdale**	**115.80**	**49**	⇓P	Pdif	12 44 35.8	+5.4
	baz=116						
RLMT	**Red Lodge**	**115.84**	**51**	⇓P	Pdif	12 44 36.0	+5.4
	baz=116						
RLMT	**Red Lodge**	**115.84**	**51**	*e*PKPdf	PKPdf	12 48 17.2	+0.3
RLMT				LR	LR		
	comp=Z,18μm,19.0s,MS6.7						
A14A	**Double T Ranch**	**116.01**	**46**	⇑P	Pdif	12 44 36.6	+5.3
	baz=116						
GCMT	**Greycliff**	**116.03**	**51**	*e*PKPdf	PKPdf	12 48 17.9	+0.6
B15A	**Bradely Ranch,**	**116.04**	**47**	⇑P	Pdif	12 44 37.0	+5.6
	baz=116						
F18A	**Big Timber**	**116.07**	**50**	⇑P	Pdif	12 44 37.7	+6.1
	baz=116						
COLD	**Coldfoot**	**116.16**	**17**	*e*PKPdf	PKPdf	12 48 16.6	-0.3
DAWY	**Dawson**	**116.22**	**23**	*e*PKPdf	PKPdf	12 48 15.6	-1.5
A15A	**Johnson Ranch,**	**116.37**	**46**	⇓P	Pdif	12 44 38.3	+5.3
	baz=117						
E18A	**Harlowton**	**116.37**	**50**	⇓P	Pdif	12 44 38.5	+5.6
	baz=117						
KMBO	**Kilima Mbogo**	**116.54**	**239**	PKP	PKPdf	12 48 19.7	+0.4
	comp=Z,3.1nm,0.9s,baz=204,slow=3.2,SNR=6.3						
KMBO	**Kilima Mbogo**	**116.54**	**239**	*e*PKPdf	PKPdf	12 48 19.7	+0.3
KMBO				LR	LR		
	comp=Z,41μm,19.0s,MS7.1						
B16A	**M & M Farms, S**	**116.55**	**47**	⇓P	Pdif	12 44 39.0	+5.3
	baz=117						
C17A	**Wharram Farm,**	**116.57**	**48**	⇑P	Pdif	12 44 39.2	+5.3
	baz=117						
NATX	**Nacogdoches**	**116.75**	**71**	PFAKE		12 48 30.0	+11
NATX				LR	LR		
	comp=Z,35μm,20.0s,MS7.0						
A16A	**West Butte Ran**	**116.94**	**47**	⇓P	Pdif	12 44 39.4	+3.9
	baz=117						
EGMT	**Eagleton**	**117.35**	**49**	⇓P	Pdif	12 44 41.8	+4.5
	baz=118						
EGMT	**Eagleton**	**117.35**	**49**	*e*PKPdf	PKPdf	12 48 18.1	-1.6
EGMT				LR	LR		
	comp=Z,4μm,21.0s,MS6.0						
KSH	**Kashi**	**117.35**	**299**	*e*PKP	PKPdf	12 48 19.5	-0.5
KSH				PKS		12 51 52.0	
KSH				SS	SS	13 05 43.5	+0.5
KSH				PP	PP		
	comp=Z,4μm,4.5s						
KSH				LR	LR		
	comp=N,21μm,15.3s,MS7.1						
KSH				LR	LR		
	comp=E,31μm,15.4s,MS7.1						
KSH				LR	LR		
	comp=Z,13μm,18.8s,MS6.6						
OGNE	**Ogallala**	**117.53**	**59**	*e*PKPdf	PKPdf	12 48 21.6	+1.3
OGNE				LR	LR		
	comp=Z,43μm,20.0s,MS7.1						
CBKS	**Cedar Bluff**	**117.68**	**62**	*e*PKIKP	PKPdf	12 48 19.8	-0.9
CBKS				MLR	MLR		
	comp=Z,46μm,21.0s,MS7.1						
MK31	**Makanchi Array**	**117.97**	**309**	*i* PKIKP	PKPdf	12 48 18.0	-3.0
MK31				pmax	pmax		
	comp=Z,35nm,0.9s						
MK31	**Makanchi Array**	**117.97**	**309**	*e*PKPdf	PKPdf	12 48 18.9	-2.0
MKAR	**Makanchi Array**	**117.97**	**309**	Pdiff	Pdif	12 44 42.0	+2.0
	comp=Z,0.3nm,0.7s,baz=121,slow=5.8,SNR=3.6						
MKAR				PKP	PKPdf	12 48 19.7	-1.3
	comp=Z,9.9nm,0.9s,baz=169,slow=2.2,SNR=4.1						
MKAR				PKKPab	PKKPab	12 58 41.4	-0.4
	comp=Z,1.3nm,0.7s,baz=332,slow=4.1,SNR=4.1						
MKAR	**Makanchi Array**	**117.97**	**309**	P	Pdif	12 44 42.0	+2.0
MKAR						12 48 19.7	
MKAR	**Makanchi Array**	**117.97**	**309**	Pdif	Pdif	12 44 42.0	+2.0
MKAR				PKP	PKPdf	12 48 19.7	-1.3
MKAR				PKKPab	PKKPab	12 58 41.4	-0.4
LAO	**LASA Array**	**118.48**	**51**	*e*PKPdf	PKPdf	12 48 21.2	-0.7
LAO				LR	LR		
	comp=Z,15μm,21.0s,MS6.6						
RBK	**Rabkut**	**118.61**	**267**	P	PKPdf	12 48 22.8	-0.3
	SNR=12						
SDV	**Santo Domingo**	**118.64**	**107**	SKKP		13 02 34.5	
	comp=Z,2.7nm,0.4s,baz=61,slow=14,SNR=3.0						
SDV	**Santo Domingo**	**118.64**	**107**	*e*PKPdf	PKPdf	12 48 22.0	-1.3
SDV				LR	LR		
	comp=Z,6μm,20.0s,MS6.2						
EDM	**Edmonton**	**118.67**	**42**	*e*PKIKP	PKPdf	12 48 19.9	-2.2
KBL	**Kabul**	**118.86**	**291**	*e*PKIKP	PKPdf	12 48 22.8	-0.3
JMDO	**Jabal Madar**	**118.99**	**274**	P	PKPdf	12 48 22.8	-0.9
	SNR=9.8						
MIAR	**Mount Ida**	**119.15**	**69**	*e*PKIKP	PKPdf	12 48 23.1	-0.6
MIAR				MLR	MLR		
	comp=Z,40μm,20.0s,MS7.0						
ABTO	**Aybut**	**119.15**	**266**	P	PKPdf	12 48 23.9	-0.2
	SNR=8.5						
TIXI	**Tiksi**	**119.28**	**347**	*i* PKIKP	PKPdf	12 48 19.5	-3.3
TIXI				*i*		12 48 25.7	
TIXI				MLR	MLR		
	comp=Z,27μm,20.0s,MS6.9						
TIXI	**Tiksi**	**119.28**	**347**	*e*PKPdf	PKPdf	12 48 20.3	-2.5
TIXI				LR	LR		
	comp=Z,28μm,21.0s,MS6.9						
SMDO	**Samad**	**119.47**

OXF MLR MLR
comp=Z,24µm,20.0s,MS6.8
HATD Hatta, Dubai 121.94 274 P PKPdf 12 48 28.0 -1.3
SNR=10
NVS Novosibirsk 122.08 317 *e*PKIKP PKPdf 12 48 25.6 -3.0
NVS *e* 12 50 09.2
NVS pmax pmax
comp=Z,49nm,1.4s
NVS pmax pmax
comp=N,21nm,1.6s
NVS pmax pmax
comp=E,24nm,1.5s
KURK Kurchatov 122.19 311 P PKPd 12 48 27.2 -1.8
SNR=31
KURK Kurchatov 122.19 311 PKP PKPd 12 48 26.7 -2.3
comp=E,25nm,0.9s,baz=118,slow=1.8,SNR=30
KURK SKKP 13 02 23.7
comp=E,4.8nm,1.0s,baz=276,slow=4.1,SNR=3.7
KURK Kurchatov 122.19 311 *i* PKIKP PKPdf 12 48 27.9 -1.1
KURK Kurchatov 122.19 311 *e*PKPdf PKPdf 12 48 27.1 -1.9
KURK LR LR
comp=Z,16µm,21.0s,MS6.7
ECSD EROS,Sioux Fal 122.42 59 *e*PKPdf PKPdf 12 48 27.3 -2.3
CCM Cathedral Cave 122.70 67 *e*PKIKP PKPdf 12 48 28.5 -1.9
CCM MLR MLR
comp=Z,49µm,19.0s,MS7.2
LRAL Lakeview Retre 122.72 74 *e*PKPdf PKPdf 12 48 29.5 -1.1
LRAL LR LR
comp=Z,15µm,20.0s,MS6.6
FVM French Village 123.20 67 *e*PKIKP PKPdf 12 48 29.5 -1.8
YKA Yellowknife Ar 123.49 33 PKP PKPdf 12 48 28.8 -2.2
comp=Z,5.6nm,0.7s,baz=222,slow=2.0,SNR=16
YKA PP PP 12 50 18.0 +4.6
comp=Z,6.0nm,1.1s,baz=240,slow=6.8,SNR=4.0
YKA PKKPbc PKKPbc 12 58 21.3 +1.1
comp=Z,10nm,0.8s,baz=50,slow=4.4,SNR=18
YKA SKKPbc 13 02 01.2
comp=Z,1.7nm,0.9s,baz=62,slow=6.7,SNR=3.8
YKA SKKP 13 02 15.4
comp=Z,4.3nm,1.0s,baz=48,slow=4.3,SNR=4.2
YKA Yellowknife Ar 123.49 33 PKIKP PKPdf 12 48 28.8 -2.3
YKA 12 50 18.1
YKA Yellowknife Ar 123.49 33 PKP PKPdf 12 48 28.8 -2.2
YKA PP PP 12 50 18.1 +4.6
YKA PKKPbc PKKPbc 12 58 21.3 +1.1
YKA SKKPbc 13 02 01.2
YKA SKKP 13 02 15.4
SCIA State Center 123.54 62 *e*PKPdf PKPdf 12 48 30.3 -1.5
SCIA LR LR
comp=Z,43µm,20.0s,MS7.1
DWPF Disney 123.71 82 PFAKE 12 48 40.0 +7.4
DWPF LR LR
comp=Z,27µm,21.0s,MS6.9
SIUC Southern Illin 123.85 68 *e*PKPdf PKPdf 12 48 30.6 -1.9
WVT Waverly 123.90 71 *e*PKIKP PKPdf 12 48 29.7 -3.0
WVT MLR MLR
comp=Z,28µm,19.0s,MS7.0
USIN University of 125.02 69 *e*PKPdf PKPdf 12 48 32.9 -1.9
FFC Flin Flon 125.10 45 *e*PKIKP PKPdf 12 48 32.3 -2.1
FFC MLR MLR
comp=Z,21µm,19.0s,MS6.8
OLIL Olney 125.14 68 *e*PKPdf PKPdf 12 48 33.0 -2.0
AGMN Agassiz Refuge 125.25 54 *e*PKPdf PKPdf 12 48 32.2 -2.7
AGMN LR LR
comp=Z,5µm,19.0s,MS6.2
HDIL Hopedale 125.33 65 *e*PKPdf PKPdf 12 48 33.7 -1.6
HDIL LR LR
comp=Z,54µm,19.0s,MS7.2
GOGA Godfrey 125.36 76 *e*PKIKP PKPdf 12 48 33.9 -1.7
GOGA MLR MLR
comp=Z,20µm,19.0s,MS6.8
CPCT Cooper Cave 125.77 73 *e*PKPdf PKPdf 12 48 34.4 -2.0
JFWS Jewell Farm 125.94 62 *e*PKIKP PKPdf 12 48 34.8 -1.6
JFWS MLR MLR
comp=Z,45µm,21.0s,MS7.1
WCI Wyandotte Cave 126.07 69 *e*PKIKP PKPdf 12 48 35.1 -1.7
WCI MLR MLR
comp=Z,29µm,20.0s,MS7.0
ULM Lac du Bonnet 126.19 52 PKP PKPdf 12 48 34.1 -2.5
comp=Z,23nm,1.1s,baz=250,slow=3.9,SNR=18
ULM Lac du Bonnet 126.19 52 *e*PKPdf PKPdf 12 48 33.7 -3.0
ULM LR LR
comp=Z,23µm,20.0s,MS6.8
TKL Tuckaleechee C 126.39 73 *e*PKIKP PKPdf 12 48 35.7 -1.8
BLO Bloomington 126.42 68 *e*PKIKP PKPdf 12 48 35.8 -1.7
TZTN Tazewell 127.02 73 *e*PKPdf PKPdf 12 48 37.8 -0.9
TZTN LR LR
comp=Z,23µm,19.0s,MS6.9
GRGR Grenville 127.03 112 PFAKE 12 48 50.0 +11
GRGR LR LR
comp=Z,16µm,20.0s,MS6.7
JSC Jenkinsville 127.37 76 *e*PKIKP PKPdf 12 48 38.2 -1.2
NHSC New Hope 127.47 78 PFAKE 12 48 50.0 +10
NHSC LR LR
comp=Z,13µm,19.0s,MS6.6
ASCN Ascension 127.55 178 PFAKE 12 48 50.0 +10
ASCN LR LR
comp=Z,28µm,21.0s,MS6.9
EYMN Ely 127.64 56 *e*PKPdf PKPdf 12 48 37.5 -2.0
EYMN LR LR
comp=Z,6µm,19.0s,MS6.3
BVA0 Borovoye Array 127.77 311 *i* PKIKP PKPdf 12 48 37.4 -2.2
BVA0 pmax pmax
comp=Z,67nm,2.0s
BRVK Borovoye 127.84 311 P PKPdf 12 48 38.9 -0.8
SNR=30
BRVK Borovoye 127.84 311 *e*PKPdf PKPdf 12 48 38.4 -1.3
BRVK LR LR
comp=Z,17µm,20.0s,MS6.7
COWI Conover 128.19 59 *e*PKPdf PKPdf 12 48 38.4 -2.2
COWI LR LR
comp=Z,44µm,21.0s,MS7.1
SJG San Juan 128.20 103 *e*PKIKP PKPdf 12 48 42.5 +1.0
SJG MLR MLR
comp=Z,26µm,21.0s
MTP Monte Pirata 128.60 103 *e*PKPdf PKPdf 12 48 42.7 +0.5
BBGH Gun Hill 129.15 113 PFAKE 12 48 50.0 +6.6
BBGH LR LR
comp=Z,35µm,22.0s,MS7.0
FDF Fort de France 129.25 110 *e*PKIKP PKPdf 12 48 42.6 -1.0
ELN Prospectdale 129.29 73 *e*PKPdf PKPdf 12 48 41.4 -1.6
ACSO Alum Creek Sta 129.31 69 *e*PKPdf PKPdf 12 48 40.8 -2.2
ACSO LR LR
comp=Z,8µm,19.0s,MS6.4
BLA Blacksburg 129.51 74 *e*PKIKP PKPdf 12 48 42.0 -1.4
BLA MLR MLR
comp=Z,6µm,19.0s,MS6.3
CNNC Cliffs of the 130.22 77 PFAKE 12 48 50.0 +5.2
CNNC LR LR
comp=Z,18µm,19.0s,MS6.8
GLMI Grayling 130.42 63 PFAKE 12 48 50.0 +5.1
GLMI LR LR
comp=Z,31µm,21.0s,MS7.0
RDF Al-Radifah 130.51 273 *e*P PKPdf 12 48 45.2 -0.4
baz=273
RDF AMb AMB 12 48 53.7
comp=Z,155nm,0.9s,baz=273
NAY Al-Naaiem 130.92 273 *e*P PKPdf 12 48 45.4 -0.9
baz=273
NAY AMb AMB 12 48 51.8
comp=Z,35nm,0.9s,baz=273
MCWV Mont Chateau 131.12 71 PFAKE 12 49 00.0 +14
MCWV LR LR
comp=Z,40µm,20.0s,MS7.1
MIB Mutribah 131.17 273 *e*P PKPdf 12 48 46.1 -0.7
baz=273
MIB AMb AMB 12 48 59.6
comp=Z,91nm,1.8s,baz=273
RST Umm Al-Ruwaisa 131.24 273 *e*P PKPdf 12 48 46.1 -0.8
baz=273
RST AMb AMB 12 49 00.5
comp=Z,107nm,1.8s,baz=273
URVA University of 131.67 75 *e*PKPdf PKPdf 12 48 44.9 -2.6
CBN Corbin 132.09 74 PFAKE 12 49 00.0 +12
CBN LR LR
comp=Z,23µm,19.0s,MS6.9
AB31 Akbulak array 132.14 303 *i* PKIKP PKPdf 12 48 46.7 -1.3
AB31 pmax pmax
comp=Z,33nm,1.1s
ERPA Erie 132.19 68 *e*PKPdf PKPdf 12 48 44.3 -4.0
ERPA LR LR
comp=Z,60µm,22.0s,MS7.3
SSPA Standing Stone 132.91 71 *e*PKPdf PKPdf 12 48 49.2 -0.5
SSPA LR LR
comp=Z,23µm,19.0s,MS6.9

SDMD Soldier's Deli 133.04 73 *e*PKPdf PKPdf 12 48 48.6 -1.4
AKTK Aktyubinsk 133.74 303 *i* PKP PKPdf 12 48 50.6 -0.4
AKTO Aktyubinsk 133.74 303 *i* PKIKP PKPdf 12 48 50.5 -0.5
AKTO pmax pmax
comp=Z,19nm,1.8s
SVE Sverdlovsk 134.41 313⇑ *i* PKIKP PKPdf 12 48 53.2 +1.2
SVE *e*PPP 12 54 30.0
SVE pmax pmax
comp=Z,88nm,1.0s
SVE pmax pmax
comp=Z,2µm,11.4s
BINY Binghamton 134.89 70 *e*PKPdf PKPdf 12 48 51.5 -1.9
BINY LR LR
comp=Z,41µm,20.0s,MS7.1
ARU Arti 135.39 312 *i* PKIKP PKPdf 12 48 53.8 -0.1
ARU 12 51 30.2
ARU 12 56 04.4
ARU SP SP 13 01 44.4 -8.1
ARU PS PS 13 01 54.8 +1.5
ARU Arti 135.39 312 PFAKE 12 49 00.0 +6.1
ARU LR LR
comp=Z,16µm,19.0s,MS6.8
NCB Newcomb 136.80 68 *e*PKPdf PKPdf 12 48 56.8 -0.1
NCB LR LR
comp=Z,50µm,22.0s,MS7.2
LONY Lake Ozonia 136.82 67 *e*PKPdf PKPdf 12 48 56.0 -1.0
LONY LR LR
comp=Z,9µm,20.0s,MS6.5
QUA2 Belchertown 137.37 71 *e*PKPdf PKPdf 12 48 55.0 -3.0
FRNY Flat Rock 137.56 67 *e*PKPdf PKPdf 12 48 57.7 -0.6
MAK Makhachkala 137.56 290 *d* *i*P Pdif 12 46 05.4 -1.8
MAK *e* 12 48 57.3
MAK *i* 12 49 05.1
MAK *i* 12 51 44.0
MAK *e* 12 56 01.3
HAKT HAKKARI 137.81 280⇑ *i*P PKPdf 12 48 50.4 -8.6
HRV Adam Dziewonsk 138.00 71 PFAKE 12 49 10.0 +11
HRV LR LR
comp=Z,39µm,20.0s,MS7.1
BBSR BB Station 138.01 89 PFAKE 12 49 10.0 +10
BBSR LR LR
comp=Z,18µm,20.0s,MS6.8
WES Weston 138.11 72 PFAKE 12 49 10.0 +11
WES LR LR
comp=Z,25µm,20.0s,MS7.0
CLDR Caldiran 138.39 283 *e*P PKPdf 12 48 59.8 -0.2
LBNH Lisbon 138.43 69 *e*PKIKP PKPdf 12 49 01.5 +1.6
LBNH MLR MLR
comp=Z,42µm,21.0s,MS7.2
DYDN Diyadin 138.73 283⇑ *i*P PKPdf 12 48 55.5 -5.2
MTA Mtatsminda 138.88 287 P PKPdf 12 48 55.5 -5.4
AGRB Hanur-Agry 139.23 283 *e*P PKPdf 12 48 55.5 -6.0
MARD Mardin 139.75 279⇑ *i*P PKPdf 12 48 57.1 -5.4
ONI Oni 140.15 287 P PKPdf 12 48 56.4 -6.7
DIYA Diyarbakir 140.50 279⇑ *i*P PKPdf 12 49 01.0 -2.9
EZM Erzurum 140.50 282 *e*P PKPdf 12 49 08.0 +4.1
PKME Peaks-Kenny Pk 140.55 68 *e*PKPdf PKPdf 12 49 03.3 -0.5
PKME LR LR
comp=Z,42µm,20.0s,MS7.2
DAGI Agillar 140.61 284⇑ *i*P PKPdf 12 48 55.2 -8.8
ARTV Artvin 140.64 285⇑ *i*P PKPdf 12 48 56.9 -7.2
DDEM Demirkent 140.65 284⇑ *i*P PKPdf 12 49 01.2 -2.9
DBAD Bademkaya 140.74 284⇑ *i*P PKPdf 12 48 53.9 -10
DBOC Borcka 140.89 285⇑ *i*P PKPdf 12 48 56.2 -8.3
BCA Borcka 140.96 285 *e*P PKPdf 12 48 58.6 -6.0
LIC Lamto 141.09 192 *e*PKIKP PKPdf 12 48 57.1 -8.6
comp=Z,99nm,0.8s
LIC *e*MLR MLR
comp=Z,38µm,18.0s,MS6.9
LIC Lamto 141.09 192 *e*P PKPdf 12 48 57.2 -8.5
comp=Z,155nm,0.8s
KOPT Kop Dagi 141.15 282⇑ *i*P PKPdf 12 48 58.1 -6.9
KIC Kosan Boka 141.18 192 *e*P PKPdf 12 48 58.9 -7.0
comp=Z,214nm,0.8s
KIV Kislovodsk 141.18 289 *e*PKIKP PKPdf 12 49 01.1 -3.8
KIV *i* 12 49 03.8
KIV Kislovodsk 141.18 289 *e*PKPdf PKPdf 12 49 04.6 -0.3
KIV LR LR
comp=Z,11µm,19.0s,MS6.6
URFA Urfa 141.19 278 *e*P PKPdf 12 49 02.1 -3.1
SVRC Sivrice-ELAZID 141.28 279 *e*P PKPdf 12 49 00.0 -5.3
PZAR Pazar-Rize 141.35 284 *e*P PKPdf 12 49 00.9 -4.4
PTK Pertek 141.44 280 *e*P PKPdf 12 48 56.9 -8.7
DBIC Dimbokro 141.50 192 PKhKP 12 48 58.8
comp=Z,12nm,0.6s,baz=136,slow=4.0,SNR=22
DBIC PKP PKPdf 12 49 05.7 -0.8
comp=Z,37nm,0.7s,baz=146,slow=3.9,SNR=25
DBIC Dimbokro 141.50 192 *e*PKPdf 12 48 58.6
DBIC PKP PKPdf 12 49 05.7 -0.8
DBIC LR LR
comp=Z,24µm,20.0s,MS7.0
TIC Toumodi 141.50 192 *e*P PKPdf 12 48 58.7 -7.8
comp=Z,587nm,1.4s
EZC Erzincan 141.51 281 *e*P PKPdf 12 49 02.5 -3.2
ELZG Elazig 141.56 279⇑ *i*P PKPdf 12 49 04.9 -0.9
ATAB Bozova 141.58 277⇑ *i*P PKPdf 12 48 58.1 -7.7
HWQ Hawqa 141.71 271 *e*P PKPdf 12 48 57.5 -8.7
BHL Bhannes 141.72 271 *e*P PKPdf 12 48 58.5 -7.8
MACK Trabzon 142.04 283⇑ *i*P PKPdf 12 49 04.0 -2.6
GUMT Gumushane 142.04 282 *e*P PKPdf 12 49 02.1 -4.5
GZT Gaziantep 142.04 277⇑ *i*P PKPdf 12 49 01.9 -4.8
KTUT Trabzon 142.06 283 *e*P PKPdf 12 49 02.1 -4.5
GAZ Gaziantep 142.21 276 *e*P PKPdf 12 49 00.3 -6.6
AKCD Akcadag 142.22 278⇑ *i*P PKPdf 12 49 00.4 -6.5
YAYL Yayladag 142.46 274⇑ *i*P PKPdf 12 49 00.1 -7.4
KMRS Kahramanmaras 142.58 277 *e*P PKPdf 12 49 08.9 +1.3
DARE Darende-Malaty 142.58 279 *e*P PKPdf 12 49 07.0 -0.7
ESPY Espiye-Giresun 142.75 283 *e*P PKPdf 12 49 01.5 -6.3
ANDN Andirin 143.01 276⇑ *i*P PKPdf 12 49 03.6 -4.8
CEYT Ceyhan 143.17 275 *e*P PKPdf 12 49 08.0 -0.8
PHNC Paralimni 143.43 271 P PKPdf 12 49 07.7 -1.5
comp=Z,6.7nm,1.4s
PINB Pinarbasi 143.45 278⇑ *i*P PKPdf 12 49 05.9 -3.2
SVSK Karacayir 143.56 280 *e*P PKPdf 12 49 06.5 -2.8
EREN Erenkoy 143.59 272 *e*P PKPdf 12 49 08.5 -1.0
VRHR Novokhopersk 143.89 300 *e*PKIKP PKPdf 12 49 06.7 -2.8
VRHR *e* 12 52 29.2
VRHR pmax pmax
comp=Z,150nm,0.9s
VRHR pmax pmax
comp=N,40nm,0.7s
VRHR pmax pmax
comp=E,90nm,1.2s
CSS Prodhromos 143.91 270 P PKPdf 12 49 07.8 -2.3
comp=E,1.8nm,0.8s
CSS Prodhromos 143.91 270 P PKPdf 12 49 07.8 -2.3
CSS LR LR
comp=Z,20µm,20.0s,MS6.9
BNN Bunyan 143.92 278 *e*P PKPdf 12 49 06.5 -3.5
LFK Lefkose 143.93 271 *e*P PKPdf 12 49 07.9 -2.2
MERS Mersin 143.98 274 *e*P PKPdf 12 49 06.7 -3.4
TOKT Tokat 144.04 281 *e*P PKPdf 12 49 07.0 -3.2
MAMC Mammari 144.10 271 P PKPdf 12 49 07.7 -2.7
IKL Isikli 144.28 273 *e*P PKPdf 12 49 07.5 -3.2
LEF Lefka 144.31 270 *e*P PKPdf 12 49 07.3 -3.4
KBS Kingsbay 144.46 352 *e*PKPdf PKPdf 12 49 07.4 -2.4
KBS AMS AMS 13 53 26.4
comp=Z,15µm,20.8s,MS6.7
KBS Kingsbay 144.46 352 *e*PKPdf PKPdf 12 49 07.8 -2.0
KBS LR LR
comp=Z,15µm,21.0s,MS6.8
NIG Nigde 144.47 276 *e*P PKPdf 12 49 09.7 -1.3
ALFC Alevga 144.53 270 P PKPdf 12 49 08.3 -2.9
comp=Z,7.2nm,0.9s
PPCY Paphos 144.58 270 P PKPdf 12 49 09.4 -1.8
AVNT Avonos 144.59 277⇑ *i*P PKPdf 12 49 06.5 -4.7
SPB4 Spitsbergen Ar 144.60 350 *e*PKPdf PKPdf 12 49 07.7 -2.3
YOZ Yozgat 144.62 279 *e*P PKPdf 12 49 08.9 -2.2
AKMC Akamas 144.66 270 P PKPdf 12 49 09.2 -2.2
KVT Kavak 144.68 282 *e*P PKPdf 12 49 09.9 -1.3
ANN Anapa 145.02 288 *i* PKP2 PKPab 12 49 09.0 -2.1
ANN *e* 12 52 33.6
ANN *e*SS SS 13 11 15.7 -5.7
ANN pmax pmax
comp=Z,14µm,6.7s
ANN pmax pmax
comp=Z,604nm,1.3s
CDAG Cicekdag 145.28 278⇑ *i*P PKPbc 12 49 11.7 -0.4
CORM Corum 145.32 279 *e*P PKPbc 12 49 11.4 -0.8
CTKT Corum 145.39 280⇑ *i*P PKPbc 12 49 12.7 +0.3
VSR Storozhevoye 145.43 300 *e*PKIKP PKPdf 12 49 10.9 -1.3
VSR *e* 12 52 40.8
VSR *e*PPS 13 05 10.5

VSR pmax pmax
comp=Z,110nm,0.9s
VSR pmax pmax
comp=N,30nm,1.1s
VSR pmax pmax
comp=E,130nm,1.0s
DIKM Dikmen 145.45 282 *e*P PKPdf 12 49 12.9 +0.4
HDMB Hadim 145.47 273 *e*P PKPdf 12 49 12.2 -0.6
BOYT Boyabat 145.61 281⇑ *i*P PKPdf 12 49 11.6 -1.2
KAMT Kaman 145.65 278 *e*P PKPdf 12 49 12.0 -1.0
BYBT Boyabat 145.72 282 *e*P PKPdf 12 49 12.4 -0.6
KLMR Klimovskoe 145.74 317 *e*PKIKP PKPdf 12 49 10.5 -1.9
KLMR pmax pmax
comp=Z,1.0nm,1.5s
BR131 Keskin Array S 145.84 278 PFAKE 12 49 20.0 +6.7
BR131 LR LR
comp=Z,8µm,20.0s,MS6.5
KONT Konya--Tatoy 146.00 274 *e*P PKPdf 12 49 13.9 +0.3
TOS Tosya 146.08 280 *e*P PKPdf 12 49 10.4 -3.2
LADK Ladik-KONYA 146.11 275 *e*P PKPdf 12 49 12.4 -1.4
CANT Cankiri 146.20 279 *e*P PKPdf 12 49 12.0 -1.9
TOA0 Tosya Ar. Sit 146.27 205 *e*PKPbc PKPdf 12 49 13.2 -1.6
TORD Torodi Ar. Bea 146.27 205 PKPbc PKPdf 12 49 14.3 -0.4
comp=Z,30nm,0.6s,baz=141,slow=1.8,SNR=277
ELDT Eldivan 146.29 279⇑ *i*P PKPdf 12 49 14.1 +0.1
ILGA Ilgaz 146.30 280⇑ *i*P PKPdf 12 49 14.8 +0.8
LVZ Lovozero 146.39 330 PFAKE 12 49 20.0 +6.7
LVZ LR LR
comp=Z,24µm,22.0s,MS6.9
BZK Bozkurt 146.43 282 *e*P PKPdf 12 49 13.1 -1.0
ANTO Ankara 146.50 278 *e*P PKPdf 12 49 13.4 -0.9
ANTO Ankara 146.50 278 P PKPdf 12 49 13.7 -0.7
SNR=28
ANTO Ankara 146.50 278 *e*PKPbc PKPbc 12 49 15.3 -0.5
ANTO LR LR
comp=Z,12µm,22.0s,MS6.6
LOD Lodumlu 146.53 278 *e*P PKPdf 12 49 07.3 -7.1
BALT Daday 146.71 281⇓ *i*P PKPdf 12 49 12.8 -1.9
KIZT Kizilcal 146.74 276 *e*P PKPdf 12 49 15.1 +0.3
ANTB Antalya 146.75 272 *e*P PKPdf 12 49 13.7 -1.2
MOS Moscow 146.83 308 *e*PKHKP 12 49 11.0
MOS *e* 12 52 44.6
MOS pmax pmax
comp=Z,291nm,1.4s
MOS Moscow 146.83 308 *e*P PKPdf 12 49 11.1 -3.3
APA Apatity 146.94 330⇑ *i*PKIKP PKPdf 12 49 14.0 -0.2
APA *i* 12 49 19.3
APA *i* 12 52 42.0
APA *i* 12 56 06.0
APA *i* PPS 13 11 42.0
APA pmax pmax
comp=Z,130nm,1.1s
APA MLR MLR
comp=Z,21µm,23.0s,MS6.9
BJO Bjornoya 147.00 345 *e*PKPdf PKPdf 12 49 17.0 +2.8
BJO *e*PKPdf PKPdf 12 49 17.0 +2.8
BJO *e*PP PP 12 52 42.3 +0.9
BJO AMS AMS 13 48 35.6
comp=Z,9µm,23.7s,MS6.5
BCK Bucak 147.04 273 *e*P PKPdf 12 49 14.9 -0.5
AKAS Kas 147.18 270⇑ *i*P PKPdf 12 49 16.7 +1.0
ELI Elmali 147.21 271 *e*P PKPdf 12 49 14.3 -1.4
SIM Simferopol' 147.31 287 PKIKP PKPdf 12 49 15.0 -0.6
SIM pmax pmax
comp=Z,164nm,1.1s
SIM pmax pmax
comp=Z,10µm,10.0s
OBN Obninsk 147.40 306α *i*PKIKP PKPdf 12 49 13.9 -1.5
OBN *i* 12 49 17.0
OBN *i* 12 49 26.5
OBN *e* 12 52 53.6
OBN *i* SS SS 13 11 48.3 +0.3
OBN pmax pmax
comp=Z,65nm,1.6s
OBN pmax pmax
comp=Z,398nm,1.1s
OBN MLR MLR
comp=Z,10µm,22.0s,MS6.6
OBN Obninsk 147.40 306 *e*PKPbc PKPbc 12 49 17.3 -0.6
OBN LR LR
comp=Z,17µm,22.0s,MS6.8
TKTP Tekketepe 147.49 273⇑ *i*P PKPdf 12 49 12.7 -3.4
SHUT Suhut-Afyon 147.55 274 *e*P PKPdf 12 49 17.2 +1.0
GOLH Golhisar 147.68 271 *i*P PKPdf 12 49 16.6 +0.2
ESKT Eskisehir 147.73 276⇑ *i*P PKPdf 12 49 14.1 -2.3
DAG Yanmarks Havn 147.76 3⇑ *i*P PKPdf 12 49 13.1 -2.3
comp=Z,190nm,1.0s
KDZE Karadeniz Ereo 148.00 280 *e*P PKPab 12 49 23.3 +0.7
ALT Altintas 148.07 275 *e*P PKPdf 12 49 15.5 -1.5
ALT Altintas 148.07 275⇓ *i*P PKPbc 12 49 20.8 +0.6
KEV Kevo 148.11 335 *e*PKP2 PKPdf 12 49 18.0 +1.9
KEV MLR MLR
comp=Z,20µm,22.0s,MS6.9
BORA Eskisehir 148.16 277⇑ *i*P PKPbc 12 49 19.5 -0.9
KHL Karahalli 148.18 273 *e*P PKPbc 12 49 21.8 +1.3
TURN Turunc 148.19 270⇓ *i*P PKPdf 12 49 17.9 +0.6
HENT Hendek 148.20 278⇑ *i*P PKPdf 12 49 19.0 +1.8
DNZL Cakiroluk 148.25 272⇓ *i*P PKPdf 12 49 12.7 -4.7
DENT Denizli 148.28 272 *e*P PKPdf 12 49 19.4 +1.9
GULT Gulveren 148.32 278 *e*P PKPdf 12 49 17.8 +0.4
GDZ Gediz 148.53 275⇑ *i*P PKPdf 12 49 18.5 +0.8
ARCES ARCESS Array B 148.67 335 PKPbc PKPbc 12 49 19.3 -1.5
comp=Z,82nm,0.8s,baz=69,slow=1.9,SNR=114
ARCES ARCESS Array B 148.67 335 PKP2 PKPbc 12 49 19.3 -1.5
ARCES pmax pmax
comp=Z,82nm,0.8s
ARE0 ARCESS Array S 148.67 335 *e*PKPbc PKPbc 12 49 19.3 -1.5
CAVI Cavuskoy 148.71 277 *e*P PKPdf 12 49 13.1 -4.9
ADVT Abdulvahap 148.87 277 *e*P PKPdf 12 49 14.0 -4.3
KULA Kula-Manisa 148.87 273 *e*P PKPdf 12 49 16.9 -1.5
MANT Manisa 148.94 273⇓ *i*P PKPab 12 49 34.0 +7.5
MLSB Milas 148.97 270 *e*P PKPdf 12 49 20.3 +1.8
DEMI Demirci 149.05 274⇑ *i*P PKPdf 12 49 17.6 -1.1
AYDN Tasoluk 149.06 271⇓ *i*P PKPdf 12 49 20.6 +1.9
BDRM Kayabasi 149.11 270⇑ *i*P PKPbc 12 49 21.5 -1.4
YLV Yalova 149.18 277 *e*P PKPdf 12 49 16.4 -2.4
ULDT Uludag 149.19 276⇓ *i*P PKPdf 12 49 20.4 +1.6
BODT Bodrum 149.20 270 *e*P PKPbc 12 49 21.3 -1.8
SILT Sile 149.21 278 *e*P PKPab 12 49 28.8 +1.2
JOF Joensuu 149.22 322 *e*pkp PKPbc 12 49 21.0 -1.4
GEMT Gemlik 149.26 277 *e*P PKPdf 12 49 16.1 -2.9
DURS Dursunbey 149.45 275⇑ *i*P PKPdf 12 49 16.8 -2.4
SUMG Summit 149.53 15 *e*PKPdf PKPdf 12 49 17.4 -1.0
SUMG *e*PKPbc PKPbc 12 49 22.1 -0.8
GCAM G?zelcaml? 149.54 271⇑ *i*P PKPbc 12 49 22.4 -1.6
ISK Istanbul-Kandi 149.59 278 *e*P PKPdf 12 49 16.6 -2.8
AKHS Akhisar 149.63 273⇑ *i*P PKPdf 12 49 17.8 -1.8
AKS Akhisar 149.63 273 *e*P PKPbc 12 49 22.3 -1.8
KLYT Kilyos 149.66 278 *e*P PKPbc 12 49 22.3 -1.8
KDAG Bornova 149.82 272⇑ *i*P PKPbc 12 49 22.9 -1.8
IZM Izmir 149.82 272 *e*P PKPbc 12 49 23.6 -1.1
BGKT Bogazkoy 149.83 278 *e*P PKPbc 12 49 22.3 -2.2
BALB Balikesir 149.89 275 *e*P PKPdf 12 49 20.3 +0.4
SFJD Kangerlussuaq 149.92 29⇑ *i*P PKPbc 12 49 21.7 -2.3
comp=Z,183nm,0.9s
SFJD *i* 12 53 02.5
SFJD *i* 13 03 20.5
SFJD
comp=Z,27µm,22.0s
SFJD Kangerlussuaq 149.92 29 *e*PKPbc PKPbc 12 49 22.0 -2.0
SFJD LR LR
comp=Z,30µm,22.0s,MS7.0
SFJ Sondre 149.93 29⇑ *i*P PKPbc 12 49 21.7 -2.3
SFJ *i* 12 53 02.5
SFJ *i* 13 03 20.5
SFJ LR LR
comp=Z,27µm,22.0s,MS7.0
BLCB Balcova 149.97 272 *e*P PKPdf 12 49 16.1 -4.1
CTKS Kestanelik-??a 150.04 278 *e*P PKPdf 12 49 20.3 +0.2
BALY Balya 150.11 275⇑ *i*P PKPdf 12 49 18.3 -2.0
SLVT Silivri 150.24 278 *e*P PKPab 12 49 31.8 -0.1
CTYL Yal??k??y-??at 150.27 278 *e*P PKPdf 12 49 21.3 +0.9
URLA Izmir 150.28 271⇑ *i*P PKPdf 12 49 19.5 -1.1
PUL Pulkovo 150.42 316 *e*PKIKP PKPbc 12 49 25.2 -0.2
TRO Tromso 150.46 338 *e*PKPdf PKPdf 12 49 22.1 +2.2
TRO *e*PP PP 12 53 01.4 -0.2
TRO AMS AMS 13 56 20.5
comp=Z,11µm,21.8s,MS6.6
APE Apeiranthos 150.47 268⇓ *i*PKIKP PKPbc 12 49 25.2 -1.1
AYVA Ayvalik 150.60 273⇑ *i*P PKPbc 12 49 24.6 -1.9
TKR Tekirdag 150.63 277 *e*P PKPbc 12 49 24.3 -2.2
SART Tekirdag 150.78 276⇑ *i*P PKPdf 12 49 20.5 -0.8

RKY Sarkoy-Tekirda 150.78 276 eP PKPdf 12 49 18.4 -2.9
PRK Paraskevi 150.88 273 P PKPdf 12 49 22.1 +0.6
TLCR 151.00 286 ⇑PKIKP PKPbc 12 49 26.3 -0.9
PSN Preselentsi 151.04 282 P PKPdf 12 49 23.7 +2.1
EZN Ezine 151.06 274 eP PKPdf 12 49 18.9 -2.8
TIRR Tirgusor 151.09 284 ⇑PKIKP PKPdf 12 49 24.0 +2.4
TIRR Tirgusor 151.09 284 ePKPbc PKPbc 12 49 25.8 -1.7
KIS Kishinev 151.39 289 ⇑iPKIKP PKPbc 12 49 26.0 -2.1
KIS M 12 49 27.5
comp=Z,600nm,2.0s
KIS Kishinev 151.39 289 i PP PP 12 52 58.0 -10
KIS i SKKS SKKSac 13 00 00.0 +1.3
KIS LRM 14 03 36.0
comp=Z,18μm,20.0s
PRD Provadia 151.45 281 P PKPdf 12 49 24.3 +2.1
HARR Harsova 151.48 284 ⇑PKIKP PKPdf 12 49 25.3 +3.1
EDRB Edirne 151.49 278 eP PKPdf 12 49 22.3 0.0
GADA Gvkgeada 151.50 274 eP PKPdf 12 49 20.1 -2.3
ENEZ Enez 151.52 276 eP PKPdf 12 49 22.8 +0.4
AKASG Malin Array Be 151.61 297 PKP PKPdf 12 49 19.8 -2.4
comp=Z,0.9nm,0.5s,baz=88,slow=1.8,SNR=9.2
AKASG PKPbc PKPbc 12 49 27.9 -0.6
comp=Z,79nm,0.8s,baz=84,slow=2.4,SNR=118
AKBB Malin Array Si 151.61 297 ePKIKP PKPbc 12 49 27.2 -1.3
ALN Alexandroupoli 151.66 276 P PKPdf 12 49 23.0 +0.4
KAF Kangasniemi 151.68 322 epkp PKPbc 12 49 26.6 -1.7
baz=60,slow=2.1
KYTH Kithira 151.88 265 eP PKPbc 12 49 33.5 +3.9
KYTH Kithira 151.88 265 eP PKPbc 12 49 33.5 +3.9
LIA Limnos Island 151.90 273 P PKPdf 12 49 23.6 +0.6
KVR Kavouri 152.07 268 eP PKPbc 12 49 32.0 +2.1
KVR Kavouri 152.07 268 eP PKPbc 12 49 32.0 +2.1
PTL Penteli 152.09 269 eP PKPbc 12 49 30.0 0.0
PTL Penteli 152.09 269 eP PKPbc 12 49 30.0 0.0
NAIG Nisos Aigina 152.24 268 eP PKPbc 12 49 28.5 -1.8
NAIG Nisos Aigina 152.24 268 eP PKPdf 12 49 28.5 +4.9
KDZ Kurdzhali 152.36 277 P PKPdf 12 49 25.0 +1.3
MNK Minsk 152.47 305 cePKIKP PKPdf 12 49 24.0 +0.6
MNK e 12 49 27.0
MNK e 12 56 20.2
MNK eSS SS 13 12 40.0 -4.4
VRI Vrincioaia 152.58 286 ⇓PKIKP PKPdf 12 49 26.0 +2.2
PLOR Plostina 152.63 286 ⇑PKIKP PKPbc 12 49 29.7 -1.2
LTK Loutraki 152.72 268 P PKPdf 12 49 27.3 +3.0
VLX Vlachokerasia 152.85 267 P PKPdf 12 49 28.5 +4.0
RZN Rozhen 152.87 277 P PKPdf 12 49 26.3 +1.9
LKR Lokris 152.96 269 P PKPbc 12 49 29.6 -2.3
MLR Muntele Rosu 153.04 285 ⇑PKIKP PKPdf 12 49 27.0 +2.5
XOR Xorichti 153.12 271 P PKPbc 12 49 29.5 -2.7
PLG Polygyros 153.32 273 P PKPbc 12 49 29.7 -2.9
MMB Musomiste 153.54 276 i P PKPdf 12 49 27.0 +1.6
SOH Sokhos 153.54 274 P PKPdf 12 49 27.5 +2.1
AGG Agios Georgios 153.59 270 P PKPdf 12 49 27.8 +2.3
TAM Tamanrasset 153.59 220 ePKIKP PKPdf 12 49 25.0 -1.0
TAM e 12 49 32.7
JMIC Jan Mayen 153.61 357 ePKPdf PKPdf 12 49 28.3 +3.8
JMIC ePP PP 12 53 18.6 -0.7
HORT Hortiatis 153.64 274 P PKPdf 12 49 27.7 +1.9
VOIR 153.64 285 ⇑PKIKP PKPbc 12 49 32.5 -0.7
THE Thessaloniki 153.75 274 P PKPdf 12 49 26.3 +0.6
LIT Litokhoron 153.90 272 P PKPdf 12 49 26.0 +0.1
BURAR Bucovina Array 153.90 290 ⇑PKIKP PKPdf 12 49 23.7 -2.0
BUR08 Bucovina Ar. S 153.92 290 ePKPdf PKPdf 12 49 25.0 -0.7
THL Klokotos Trika 154.03 271 P PKPdf 12 49 27.9 +1.8
MOR8 Moi Rana 154.05 335 epPKP pPKPdf 12 49 31.9 +5.9
MOR8 e 12 49 50.8
KKB Krupnik 154.08 276 i P PKPdf 12 49 27.6 +1.5
VTS Vitosha 154.22 278 ⇑PKIKP PKPbc 12 49 33.3 -1.2
VTS Vitosha 154.22 278 P PKPdf 12 49 28.9 +2.6
GRG Griva 154.27 274 P PKPdf 12 49 24.7 -1.7
VAY Valandovo 154.27 275 P PKPdf 12 49 27.4 +1.0
VAY Valandovo 154.27 275 ⇑iPKP PKPdf 12 49 25.9 -0.6
VAY i PP PP 12 53 26.2 +1.8
KZN Kozani 154.48 272 eP PKPbc 12 49 39.5 +4.3
KZN Kozani 154.48 272 eP PKPbc 12 49 39.5 +4.3
LVV L'vov 154.88 295 i PKIKP PKPdf 12 49 30.5 +3.5
LVV i 12 53 30.7
LVV i SS SS 13 13 02.1 -9.1
JAN Janina 154.90 270 eP PKPbc 12 49 36.0 0.0
JAN Janina 154.90 270 eP PKPbc 12 49 36.0 0.0
KRUS Krusevo 155.22 274 ⇑iPKP PKPdf 12 49 21.2 -6.5
SUW Suwalki 155.23 305 ePKPdf PKPdf 12 49 29.9 +2.6
SUW ePKPab PKPab 12 49 59.1 +6.7
SUW ePP PP 12 53 40.4 +11
SUW e 13 04 05.7
SUW eSS SS 13 13 17.7 +3.1
SUW Suwalki 155.23 305 ePKPdf PKPdf 12 49 29.9 +2.6
SUW ePKPab PKPab 12 49 59.1 +6.7
SUW ePP PP 12 53 40.4 +11
SUW e 13 04 05.7
SUW eSS SS 13 13 17.7 +3.1
SKO Skopje 155.28 276 P PKPdf 12 49 30.7 +2.9
SKO Skopje 155.28 276 ⇑iPKP PKPdf 12 49 24.5 -3.3
SKO i PP PP 12 53 29.9 -0.1
KBN Korca 155.30 272 ePN PKPdf 12 49 31.8 +3.9
OHR Ohrid 155.46 273 ⇑iPKP PKPdf 12 49 29.3 +1.2
OHR i PP PP 12 53 31.6 +0.6
DRGR 155.48 287 ⇑PKIKP PKPdf 12 49 25.4 -2.5
SRN Sarande 155.59 270 ePN PKPdf 12 49 31.9 +3.6
KWP Kalwaria 155.74 294 ePKPdf PKPdf 12 49 31.4 +3.3
KWP ePKPab PKPab 12 50 05.6 +11
KWP ePP PP 12 53 36.4 +4.1
KWP eSS SS 13 13 23.4 +3.0
KWP Kalwaria 155.74 294 ePKPdf PKPdf 12 49 31.5 +3.4
KWP ePKPab PKPab 12 50 05.6 +11
KWP ePP PP 12 53 36.4 +4.1
KWP eSS SS 13 13 23.4 +3.0
KWP LR LR
comp=Z,29μm,21.0s,MS7.1
NSS Namsos 155.93 334 ePKPdf PKPdf 12 49 31.8 +3.9
NSS ePP PP 12 53 28.5 -4.0
UZH Uzhgorod 155.96 292 ⇓iPKIKP PKPdf 12 49 31.0 +2.5
UZH i 12 53 39.0
UZH i 13 06 44.0
UZH i 13 13 20.0
KOLS Kolonicke sedl 155.99 292 ePKP PKPdf 12 49 40.0 +12
KOLS ePP PP 12 53 36.8 +3.0
TIR Tirane 156.20 273 i PN PKPdf 12 49 31.3 +2.3
TIR Tirane 156.20 273 PFAKE 12 49 40.0 +11
TIR LR LR
comp=Z,25μm,21.0s,MS7.0
PUK Puka 156.40 275 ePN PKPdf 12 49 32.5 +3.2
CRVS Cervenica-Dubn 156.52 292 ePP PP 12 53 37.2 +0.5
STHS Stebnicka Huta 156.68 294 ePKP PKPdf 12 49 29.4 0.0
STHS e 12 49 59.6
WAR Warsaw 156.72 301 ePKPdf PKPdf 12 49 34.7 +5.3
WAR ePP PP 12 53 41.2 +3.6
NIE Niedzica 157.29 294 ePKPdf PKPdf 12 49 29.2 -1.0
PSZ Piszkesteto 157.51 290 ⇑epPKP pPKPdf 12 49 32.6 +1.4
PSZ Piszkesteto 157.51 290 ⇓P PKPdf 12 49 32.4 +1.9
PSZ LR LR
comp=Z,19μm,22.0s,MS6.9
OJC Ojcow 157.62 296 ePKPdf PKPdf 12 49 27.5 -3.0
OJC ePKPab PKPab 12 50 03.4 +0.6
OJC ePP PP 12 53 45.0 +2.3
OJC eSKSdf SKSdf 12 56 54.0 +17
OJC eSKKSac SKKSac 13 00 29.1 -2.9
OJC ePPS 13 06 54.0
OJC eSS SS 13 13 40.2 -0.4
OJC L 14 07 45.2
comp=Z,19nm,20.1s
OJC Ojcow 157.62 296 ePKIKP PKPdf 12 49 27.5 -3.0
OJC e 12 53 45.0
OJC e 13 06 54.0
OJC eSS SS 13 13 40.2 -0.4
OJC MLR MLR
comp=Z,19μm,20.1s,MS6.9
WDD Wield Dalam 157.66 256 PFAKE 12 49 40.0 +8.9
WDD LR LR
comp=Z,28μm,20.0s,MS7.1
CEL Celeste 157.85 263 PFAKE 12 49 40.0 +8.7
CEL LR LR
comp=Z,88μm,19.0s,MS7.6
BUD Budapest 158.06 288 ⇑epPKP pPKPdf 12 49 33.3 +1.4
PKSM Moragy 158.19 285 ⇑PKIKP PKPdf 12 49 28.8 -2.6
STON Ston 158.19 276 P PKPdf 12 49 29.3 -2.2
VYHS Vyhne 158.24 291 ePKP PKPab 12 50 09.2 +3.6
VYHS ePP PP 12 53 44.1 -2.1
NB2 NORSAR Subarra 158.50 328 PKP PKPdf 12 49 27.3 -4.0
comp=Z,169nm,2.0s,baz=50,slow=2.2
NB2 NORSAR Subarra 158.50 328 PKP PKPdf 12 49 27.3 -4.0
baz=50,slow=2.2
NOA NORSAR Array B 158.50 328 PKP PKPdf 12 49 30.7 -0.6
comp=Z,1.0nm,0.8s,baz=45,slow=1.7,SNR=3.5
NOA PKPab PKPab 12 50 05.5 -0.8
comp=Z,4.0nm,0.7s,baz=56,slow=4.8,SNR=8.0
CUC Castrocucco 158.61 267 PFAKE 12 49 40.0 +7.9
CUC LR LR
comp=Z,26μm,22.0s,MS7.0
RAC Raciborz 158.65 295 ePKPdf PKPdf 12 49 29.2 -2.6
RAC ePP PP 12 53 38.9 -9.5
RAC LR LR
comp=Z,17μm,20.0s,MS6.9
OKC Ostrava-Krasne 158.69 295 ePKPAB PKPab 12 50 08.1 +0.6
OKC ex x 12 50 20.3
OKC ePP PP 12 53 54.6 +6.0
OKC AMS AMS 14 09 20.0
comp=Z,13μm,19.2s
MOL Molde 158.72 334 ePKPdf PKPdf 12 49 29.8 -1.7
MOL ePP PP 12 53 38.5 -9.4
MOL AMS AMS 13 56 19.9
comp=Z,9μm,23.6s,MS6.5
NAO01 NORSAR Array S 158.75 328 ePKPdf PKPdf 12 49 29.9 -1.7
NAO01 LR LR
comp=Z,23μm,20.0s,MS7.0
GKP Gorka Klasztor 158.84 304 ePKPdf PKPdf 12 49 29.1 -2.9
GKP ePKPab PKPab 12 50 14.9 +6.9
GKP ePP PP 12 53 57.1 +7.9
GKP Gorka Klasztor 158.84 304 ePKPdf PKPdf 12 49 29.1 -2.8
GKP ePKPab PKPab 12 50 14.9 +6.9
GKP ePP PP 12 53 57.1 +7.8
MORC Moravsky Berou 159.09 295 ⇓PKIKP PKPdf 12 49 34.6 +2.3
MORC Moravsky Berou 159.09 295 ePKPdf PKPdf 12 49 30.0 -2.3
BORG Borgarnes 159.35 11 PFAKE 12 49 40.0 +7.8
BORG LR LR
comp=Z,26μm,19.0s,MS7.1
ZST Bratislava 159.39 290 ePKP PKPdf 12 49 30.5 -2.2
ZST e 12 50 02.7
ZST ePP PP 12 53 50.8 -1.7
ZST Bratislava 159.39 290 ePKP PKPdf 12 49 30.5 -2.2
ZST e 12 50 02.7
ZST ePP PP 12 53 50.8 -1.7
ZST LR LR
comp=Z,7μm,22.1s,MS6.4
SISC Sisak 159.66 282 P PKPdf 12 49 34.4 +1.2
KSP Ksiaz 159.80 298 ePKPdf PKPdf 12 49 30.7 -2.4
KSP ePKPab PKPab 12 50 19.6 +7.3
KSP ePP PP 12 54 06.1 +12
KSP e 13 02 18.5
KSP Ksiaz 159.80 298 ePKIKP PKPdf 12 49 30.4 -2.7
KSP e 12 50 07.6
KSP e 12 53 57.0
KSP MLR MLR
comp=Z,40μm,21.1s,MS7.2
KSP Ksiaz 159.80 298 ePKPdf PKPdf 12 49 30.4 -2.7
KSP ePKPab PKPab 12 50 07.6 -4.7
KSP epPKPab pPKPab 12 50 18.9 +6.0
KSP ePP PP 12 53 57.0 +2.4
KSP eSKSP 13 04 22.0
KSP eSS SS 13 13 50.0 -14
KSP LR LR
comp=Z,40μm,21.1s,MS7.2
DPC Dobruska-Polom 159.84 296 ePKIKP PKPdf 12 49 31.1 -2.1
DPC e 12 54 02.0
DPC MLR MLR
comp=Z,16μm,20.3s,MS6.9
DPC Dobruska-Polom 159.84 296 ePKPDF PKPdf 12 49 31.1 -2.1
DPC epPKP pPKPab 12 50 18.7 +5.6
DPC ePP PP 12 54 02.0 +7.2
DPC ex x 13 04 30.1
DPC AMS AMS 14 10 20.0
comp=Z,16μm,20.3s
KOGS Kog 159.86 285 ePKPdf PKPdf 12 49 30.3 -3.1
KOGS ePKPab PKPab 12 50 19.7 +7.0
KOGS e 12 52 55.9
KOGS ePP PP 12 53 59.7 +4.6
KOGS eSKKSac SKKSac 13 00 47.2 +3.2
KOGS e 13 01 35.7
KOGS e 13 07 31.1
KOGS e 13 09 15.7
KOGS e 13 20 17.5
KOGS e 13 29 31.2
KOGS e 13 45 55.0
KOGS Kog 159.86 285 ePKPdf PKPdf 12 49 30.3 -3.1
KOGS ePKPab PKPab 12 50 19.7 +7.0
KOGS e 12 52 55.9
KOGS ePP PP 12 53 59.7 +4.6
KOGS eSKKSac SKKSac 13 00 47.2 +3.2
KOGS e 13 01 35.7
KOGS e 13 07 31.1
KOGS e 13 09 15.7
KOGS e 13 20 17.5
KONO Kongsberg 160.00 326 ePKPdf PKPdf 12 49 31.4 -1.6
KONO ePP PP 12 53 55.0 0.0
UPC Upice 160.02 297 ePKPDF PKPdf 12 49 31.2 -2.2
UPC epPKP pPKPab 12 50 18.4 +4.5
CONA Conrad Observa 160.22 289 ⇑iPKPdf PKPdf 12 49 30.2 -3.5
comp=Z,16nm,1.4s
CSNA Conrad Observa 160.22 289 ⇑iPKPdf PKPdf 12 49 30.2 -3.5
comp=Z,14nm,1.3s
GCIS Gornji Cirnik 160.23 283 ePKPdf PKPdf 12 49 31.1 -2.6
GCIS ePKPab PKPab 12 50 21.8 +7.5
ARSA Arzberg 160.42 287 ⇑iPKPdf PKPdf 12 49 32.2 -1.7
comp=Z,18nm,1.3s
BOJS Bojanci 160.44 282 ePKPdf PKPdf 12 49 30.5 -3.6
BOJS ePKPab PKPab 12 50 22.2 +6.9
BOJS e 13 02 11.5
BOJS e 13 04 20.5
BOJS e 13 07 29.7
BOJS e 13 09 17.1
BOJS eSS SS 13 14 21.0 +10
BOJS e 13 46 15.0
BOJS Bojanci 160.44 282 ePKPdf PKPdf 12 49 30.5 -3.6
BOJS ePKPab PKPab 12 50 22.2 +6.9
BOJS e 13 02 11.5
BOJS e 13 04 20.5
BOJS e 13 07 29.7
BOJS e 13 09 17.1
BOJS eSS SS 13 14 21.0 +10
BOJS e 13 46 15.0
TREC Trest 160.45 293 ePKPDF PKPdf 12 49 31.7 -2.2
TREC ePKPAB PKPab 12 50 15.0 -0.1
TREC ePP PP 12 54 05.1 +6.9
TREC AMS AMS 14 13 20.0
comp=Z,24μm,19.2s
NVLJ Novalja 160.56 279 P PKPdf 12 49 31.0 -3.2
PERS Pernice 160.66 285 ePKPdf PKPdf 12 49 30.8 -3.4
PERS ePKPab PKPab 12 50 23.2 +7.1
PERS e 12 53 10.9
SOKA Soboth 160.72 286 ⇑iPKPdf PKPdf 12 49 32.5 -1.8
comp=Z,36nm,1.4s
COP Copenhagen 160.77 314 ⇑iPKIKP PKPdf 12 49 35.5 +1.5
COP pmax pmax
comp=Z,16nm,1.0s
COP MLR MLR
comp=Z,8μm,20.0s
COP Copenhagen 160.77 314 ⇑iP PKPdf 12 49 35.5 +1.5
comp=Z,16nm,1.0s
COP i 12 50 27.4
COP i 12 54 10.9
COP e 12 54 11.2
COP i 12 54 12.1
COP
comp=Z,8μm,20.0s
PVCC Panska Ves 160.93 297 ePKIKP PKPdf 12 49 31.9 -2.5
PVCC e 12 54 08.6
PVCC MLR MLR
comp=Z,20μm,19.9s
PVCC Panska Ves 160.93 297 ePKPDF PKPdf 12 49 31.9 -2.5
PVCC ePKPAB PKPab 12 50 17.6 +0.4
PVCC ePP PP 12 54 08.6 +7.9
PVCC ex x 13 04 28.7
PVCC AMS AMS 14 12 10.0
comp=Z,20μm,19.9s
PRU Pruhonice 161.01 296 ePKIKP PKPdf 12 49 32.1 -2.4
PRU e 12 50 17.2
PRU e 12 54 08.5
PRU MLR MLR
comp=Z,27μm,20.5s
PRU Pruhonice 161.01 296 ePKPDF PKPdf 12 49 32.1 -2.4
PRU ePKPAB PKPab 12 50 17.2 -0.4
PRU ePP PP 12 54 08.5 +7.4
PRU ex x 13 04 29.4
PRU AMS AMS 14 13 40.0
comp=Z,27μm,20.5s
LJU Ljubljana 161.01 284 ePKIKP PKPdf 12 49 31.7 -2.9
LJU e 12 54 05.3
LJU ePPP 12 57 51.0
LJU e 13 07 29.0
LJU Ljubljana 161.01 284 ePKPdf PKPdf 12 49 31.7 -2.9
LJU ePKPab PKPab 12 50 25.0 +7.3
LJU e 12 53 10.8
LJU ePP PP 12 54 05.3 +4.0
LJU e 12 56 25.4
LJU ePPP 12 57 51.0
LJU eSKKSac SKKSac 13 00 54.5 +4.5
LJU e 13 04 25.4
LJU e 13 07 29.0
LJU e 13 20 34.4
LJU e 13 46 32.6
LJU Ljubljana 161.01 284 ePKPdf PKPdf 12 49 31.7 -2.9
LJU ePKPab PKPab 12 50 25.0 +7.3
LJU e 12 53 10.8
LJU ePP PP 12 54 05.3 +4.0
LJU e 12 56 25.4
LJU ePPP 12 57 51.0
LJU eSKKSac SKKSac 13 00 54.5 +4.5
LJU e 13 04 25.4
LJU e 13 07 29.0
LJU e 13 20 34.4
OBKA Obir 161.04 285 ⇑iPKPdf PKPdf 12 49 31.8 -2.9
comp=Z,22nm,1.4s
BER Bergen 161.06 332 ePKPdf PKPdf 12 49 33.3 -0.9
BER ePKPdf PKPab 12 50 16.3 -1.1
BER ePP PP 12 53 59.4 -1.2
KEST Kesra 161.10 249 PKPab PKPab 12 50 19.2 +0.9
comp=Z,27nm,1.0s,baz=136,slow=2.7,SNR=15
BRG Berggiesshubel 161.28 299 i PKIKP PKPdf 12 49 31.4 -3.3
BRG 12 54 05.0
BRG pmax pmax
comp=Z,21nm,1.8s
BRG pmax pmax
comp=Z,28nm,1.8s
BRG MLR MLR
comp=N,10μm,19.3s
BRG Berggiesshubel 161.28 299 ePKPdf PKPdf 12 49 32.0 -2.7
BRG ePKPab PKPab 12 50 18.6 -0.1
BRG ePP PP 12 54 04.9 +2.4
BRG Berggiesshubel 161.28 299 i PKP PKPdf 12 49 31.4 -3.3
comp=N,35nm,1.8s
BRG i 12 50 19.5
comp=N,122nm,1.5s
BRG PP PP 12 54 05.0 +2.5
comp=N,47nm,1.8s
BRG i 12 57 07.0
BRG i 12 59 49.0
BRG i 13 04 34.0
BRG i 13 14 36.0
BRG
comp=N,16μm,19.3s
BRG
comp=E,17μm,19.9s
BRG
comp=Z,34μm,18.8s
BRG Berggiesshubel 161.28 299 i PKP PKPdf 12 49 31.4 -3.3
BRG i 12 50 19.5
BRG PP PP 12 54 05.0 +2.5
BRG i 12 57 07.0
BRG i 12 59 49.0
BRG i 13 04 34.0
BRG i 13 14 36.0
BRG LR LR
comp=Z,20μm,18.8s
MOA Molln 161.29 289 ⇑iPKPdf PKPdf 12 49 32.7 -2.2
comp=Z,22nm,1.6s
VOY Vojsko 161.45 283 e PKPdf 12 49 39.0 +3.9
VOY e 12 50 18.4
VOJS Vojsko 161.46 283 ePKPdf PKPdf 12 49 32.4 -2.8
VOJS ePKPab PKPab 12 50 27.4 +7.8
VOJS ePP PP 12 54 08.1 +4.4
TRI Trieste 161.51 282 PFAKE 12 49 40.0 +4.8
TRI LR LR
comp=Z,27μm,20.0s
GERES GERESS Array B 161.64 292 PKP PKPdf 12 49 34.4 -0.8
comp=Z,2.3nm,0.9s,baz=128,slow=1.6,SNR=3.5
GERES PKPab PKPab 12 50 18.4 -2.0
comp=Z,4.9nm,0.7s,baz=98,slow=2.2,SNR=5.2
GERES PP PP 12 54 09.3 +4.7
comp=Z,7.7nm,1.0s,baz=101,slow=4.2,SNR=4.9
GERES GERESS Array B 161.64 292 PKP PKPdf 12 49 34.4 -0.8
GERES PKPab PKPab 12 50 18.4 -2.0
GERES PP PP 12 54 09.3 +4.7
MYKA Terra Mystica 161.67 285 ⇑iPKPdf PKPdf 12 49 33.2 -2.1
comp=Z,100nm,1.7s
KHC Kasperske Hory 161.71 293 ePKIKP PKPdf 12 49 33.0 -2.3
KHC e 12 49 45.5
KHC e 12 54 12.3
KHC MLR MLR
comp=Z,31μm,19.7s
KHC Kasperske Hory 161.71 293 ePKPDF PKPdf 12 49 33.0 -2.3
KHC epPKP pPKPdf 12 49 45.5 +10
KHC ex x 12 50 09.0
KHC ex x 12 50 26.0
KHC ePP PP 12 54 12.3 +7.4
KHC eSKKS SKKSac 13 00 54.8 +1.4
KHC AMS AMS 14 15 10.0
comp=Z,31μm,19.7s
CLL Collm 161.78 300 i PKIKP PKPdf 12 49 32.6 -2.7
CLL i 12 49 39.8
CLL i 12 50 18.7
CLL pmax pmax
comp=Z,77nm,2.4s
CLL pmax pmax
comp=Z,159nm,2.3s
CLL MLR MLR
comp=Z,33μm,19.9s
CLL Collm 161.78 300 ePKPdf PKPdf 12 49 32.4 -2.9
CLL ePP PP 12 54 08.4 +3.2
CLL Collm 161.78 300 i PKPdf PKPdf 12 49 32.6 -2.7
comp=Z,77nm,2.4s
CLL i pPKPdf pPKPdf 12 49 39.8 +3.9
CLL i x x 12 49 46.2
CLL ePKPdif 12 50 04.0
CLL i PKPab PKPab 12 50 18.7 -2.2
comp=Z,159nm,2.3s
CLL i x x 12 50 33.6
comp=Z,829nm,3.2s
CLL ePP PP 12 54 12.0 +6.8
comp=Z,8μm,21.6s
CLL ex x 12 54 20.0
CLL ePPP 12 57 54.0
CLL eSKKSac SKKSac 13 00 47.0 -6.6
CLL ex x 13 01 31.0
CLL ePSKS 13 04 37.0
CLL ePPS 13 07 44.0
CLL ex x 13 09 38.0
CLL ex x 13 10 47.0
CLL LmV 13 14 00.0
comp=Z,33μm,19.9s
CLL eSS SS 13 14 35.0 +11
CLL ePSS 13 15 24.0
CLL eSSS 13 20 35.0
CLL ex x 13 21 22.0
CLL eSSSS 13 25 06.0
CLL ex x 13 29 47.0
CLL ex x 13 38 09.0
CLL Collm 161.78 300 i PKP PKPdf 12 49 32.6 -2.7
CLL i 12 49 39.8
KBA Koelnbreinsper 161.90 287 ⇑iPKPdf PKPdf 12 49 33.4 -2.1
comp=Z,27nm,1.4s
MUD Monsted U'grnd 162.02 318 ⇑iP PKPdf 12 49 36.9 +1.6
MUD i 12 50 25.7
MUD e 12 54 01.5
MUD i 12 54 19.6
MUD
comp=Z,22μm,19.0s
MUD Monsted U'grnd 162.02 318 ⇑iP PKPdf 12 49 36.9 +1.6
MUD i 12 50 25.7
MUD e 12 54 01.5
MUD i 12 54 19.6
WET Wettzell 162.16 293 ePKPdf PKPdf 12 49 32.8 -2.9
WET ePKPab PKPab 12 50 22.6 0.0
TANN Tannenbergstha 162.28 298 ePKPdf PKPdf 12 49 32.8 -3.0
NKC Novy Kostel 162.32 297 ePKP2 PKPab 12 50 25.5 +2.2
NKC e 12 54 15.9
NKC MLR MLR
comp=Z,29μm,20.8s

NKC	**Novy Kostel**	**162.32 297**	*e*PKPAB	PKPab	12 50 25.5	+2.2		
NKC			*e*PP	PP	12 54 15.9	+7.8		
NKC			*ex*	x	13 04 39.0			
NKC			AMS	AMS	14 10 30.0			
	comp=Z,29µm,20.8s							
ABTA	**Abfaltersbach**	**162.45 285**⇑	*i*PKPdf	PKPdf	12 49 34.0	-2.0		
	comp=Z,31nm,1.3s							
ROTZ	**Rotzenmuhle**	**162.53 296**	*e*PKPdf	PKPdf	12 49 33.9	-2.2		
ROTZ			*e*PKPab	PKPab	12 50 24.6	+0.4		
ROTZ			*e*PP	PP	12 54 10.7	+1.4		
BSEG	**Bad Segeberg**	**162.59 310**	*e*PKPdf	PKPdf	12 49 33.6	-2.4		
BSEG			*e*PKPab	PKPab	12 50 24.9	+0.6		
BSEG			*e*PP	PP	12 54 10.0	+0.7		
ABSA	**Djebel Ababsia**	**162.65 248**	P	PKPdf	12 49 35.0	-1.7		
MOX	**Moxa**	**162.77 299**	*e*PKP	PKPdf	12 49 34.4	-1.9		
	comp=Z,49nm,1.7s							
MOX			*e*		12 50 27.7			
	comp=Z,74nm,1.6s							
MOX								
	comp=Z,17µm,22.0s							
MOX	**Moxa**	**162.77 299**	*e*PKPdf	PKPdf	12 49 32.4	-3.9		
MOX			*e*PKPab	PKPab	12 50 26.5	+1.2		
CMAH	**Djebel Manchou**	**162.89 249**	P	PKPdf	12 49 35.0	-1.9		
VSL	**Villasalto**	**162.97 260**	PFAKE		12 49 50.0	+13		
VSL			LR	LR				
	comp=Z,25µm,21.0s							
WTTA	**Wattenberg**	**163.07 287**⇓	*i*PKPdf	PKPdf	12 49 34.6	-2.1		
	comp=Z,99nm,1.8s							
GRA1	**Grafenberg Arr**	**163.18 296**	*e*PKPdf	PKPdf	12 49 33.5	-3.2		
GRA1			*e*PP	PP	12 54 15.1	+2.4		
GRA1			LR	LR				
	comp=Z,33µm,21.2s							
GRF	**Grafenberg Arr**	**163.18 296**	*e*PKPdf	PKPdf	12 49 33.5	-3.2		
GRF			*e*PP	PP	12 54 15.1	+2.4		
GRF			*e*L		14 11 53.6			
	comp=Z,33µm,21.2s							
CKFL	**Kef-Lekhel**	**163.22 247**	P	PKPdf	12 49 40.0	+2.8		
CLZ	**Clausthal**	**163.25 303**	*e*PKPdf	PKPdf	12 49 34.7	-2.0		
CLZ			*e*PKPab	PKPab	12 50 28.3	+1.0		
CASM	**Ain Smara**	**163.29 246**	P	PKPdf	12 49 40.0	+2.7		
CAEH	**'Ain El Ouahch**	**163.36 248**	P	PKPdf	12 49 35.0	-2.3		
RETA	**Reutte**	**163.66 288**⇑	*i*PKPdf	PKPdf	12 49 35.3	-2.0		
	comp=Z,33nm,1.5s							
VLC	**Villacollemand**	**163.66 276**	PFAKE		12 49 50.0	+13		
VLC			LR	LR				
	comp=Z,17µm,20.0s							
FETA	**Feichten**	**163.68 286**⇑	*i*PKPdf	PKPdf	12 49 35.3	-1.9		
	comp=Z,39nm,1.5s							
UBBA	**Unterbreizbach**	**163.74 300**	*e*PKPdf	PKPdf	12 49 34.6	-2.6		
UBBA			*e*PP	PP	12 54 17.4	+1.8		
CKHR	**Kef el Ahmar**	**163.78 244**	P	PKPdf	12 49 38.0	+0.3		
DFRA	**Djebel Bou Aff**	**163.86 246**	P	PKPdf	12 49 36.0	-1.8		
SET	**Setif**	**163.96 244**	P	PKPdf	12 49 36.0	-1.9		
DAVA	**Damuels**	**164.26 287**⇑	*i*PKPdf	PKPdf	12 49 36.3	-1.4		
	comp=Z,48nm,1.5s							
STU	**Stuttgart**	**164.62 293**	*e*PKPab	PKPab	12 50 33.0	-0.4		
TUE	**Stuetta**	**164.63 284**	*e*PKPdf	PKPdf	12 49 35.1	-3.0		
TUE			LR	LR				
	comp=Z,35µm,19.0s							
IBBN	**Ibbenburen**	**164.63 307**	*e*PKPab	PKPab	12 50 34.5	+1.1		
TOD	**Tromm**	**164.74 296**	PKIKP	PKPdf	12 49 33.2	-4.9		
AKF	**Akfadou**	**164.76 244**	P	PKPdf	12 49 41.0	+2.4		
TNS	**Taunus Mts**	**164.84 299**	*e*PKPab	PKPab	12 50 34.8	+0.4		
SPAK	**Spaichingen-Ko**	**164.96 290**	PKP	PKPdf	12 49 36.2	-2.2		
BUG	**Bochum--Univer**	**165.22 304**	*e*PKPab	PKPab	12 50 36.0	0.0		
BFO	**Black Forest**	**165.24 291**	*e*PP	PP	12 54 26.9	+3.3		
BFO	**Black Forest**	**165.24 291**	PFAKE		12 49 50.0	+11		
BFO			LR	LR				
	comp=Z,35µm,21.0s							
WTSB	**Winterswijk**	**165.31 306**	*e*PKPab	PKPab	12 50 34.6	-1.8		
ABH	**Alteburg**	**165.48 298**	PKP	PKPdf	12 49 33.2	-5.5		
LANF	**Langenberg**	**165.49 294**	PKP	PKPdf	12 49 36.6	-2.2		
EMHD	**Djebel Mahouad**	**165.50 239**	P	PKPdf	12 49 44.0	+4.8		
FELD	**Feldberg im Sc**	**165.50 290**	PKP	PKPdf	12 49 35.8	-3.0		
ABA	**Alger-Bouzarea**	**165.83 241**	P	PKPdf	12 49 40.0	+6.5		
ETRT	**Tiaret**	**165.92 233**	P	PKPdf	12 49 45.0	+5.4		
ECH	**Echery**	**166.03 291**	PKP	PKPdf	12 49 36.4	-2.9		
MOF	**Molkenrain**	**166.09 290**	PKP	PKPdf	12 49 36.6	-2.7		
HGN	**Heimansgroeve**	**166.24 303**	*e*PKPab	PKPab	12 50 40.6	+0.1		
HGN	**Heimansgroeve**	**166.24 303**	*e*PP	PP	12 54 29.1	+0.6		
SURF	**Saint Ours**	**166.25 276**	PKP	PKPdf	12 49 38.1	-1.5		
HINF	**Hinteralfeld**	**166.28 290**	*e*PKIKP	PKPdf	12 49 37.2	-2.3		
MBDF	**Montbardon**	**166.31 277**	*e*PKIKP	PKPdf	12 49 39.6	0.0		
	comp=Z,92nm,1.3s							
OJGS	**Djebel Guires**	**166.32 232**	P	PKPdf	12 49 48.0	+8.1		
LOMF	**Lomont**	**166.33 288**	PKP	PKPdf	12 49 35.6	-3.9		
LPG	**La Plagne**	**166.39 280**	*e*PKIKP	PKPdf	12 49 39.9	+0.3		
LPL	**La Plagne**	**166.41 280**	*e*PKIKP	PKPdf	12 49 39.7	+0.1		
BNI	**Bardonecchia**	**166.41 278**	*e*PKIKP	PKPdf	12 49 37.9	-1.8		
BNI			MLR	MLR				
	comp=Z,32µm,21.0s							
WLF	**Walferdange**	**166.41 298**	*e*PKPdf	PKPdf	12 49 41.0	+1.5		
WLF			*e*PP	PP	12 54 35.0	+5.4		
EBNR	**Beni Rached**	**166.42 236**	P	PKPdf	12 49 44.3	+4.3		
ECHA	**Ech Chlef**	**166.42 236**	P	PKPdf	12 49 50.0	+10		
EANR	**'Ain N'Sour**	**166.43 234**	P	PKPdf	12 49 47.5	+7.5		
HAU	**Haudompre**	**166.59 291**	*e*PKIKP	PKPdf	12 49 37.7	-2.0		
HAU			*e*MLR	MLR				
	comp=Z,33µm,19.2s							
HAU	**Haudompre**	**166.59 291**	*e*PKPdf	PKPdf	12 49 37.7	-2.0		
HAU			LR	LR				
	comp=Z,33µm,19.3s							
OJBR	**Djebel Berber**	**166.60 231**	P	PKPdf	12 49 50.0	+10		
MDT	**Midelt**	**166.61 210**	PKP	PKPdf	12 49 39.6	-0.7		
	comp=Z,3.1nm,1.0s,baz=0.7,slow=2.4							
MDT			PKPab	PKPab	12 50 42.7	+0.1		
	comp=Z,5.4nm,0.8s,baz=161,slow=5.9,SNR=2.7							
OKGL	**Djebel Kef Gue**	**166.76 233**	P	PKPdf	12 49 49.0	+8.8		
THEF	**They Montfort**	**166.80 292**	PKP	PKPdf	12 49 36.2	-3.7		
ORIF	**Oris-en-Rattie**	**166.96 277**	*e*PKIKP	PKPdf	12 49 39.2	-0.9		
ORIF			*e*MLR	MLR				
	comp=Z,65µm,20.8s							
GIVF	**Givet**	**167.12 301**	*e*PKIKP	PKPdf	12 49 37.8	-2.2		
UCC	**Uccle**	**167.16 304**	PP	PP	12 54 34.6	+1.3		
MEZF	**Maizieres J'vi**	**167.37 294**	*e*PKIKP	PKPdf	12 49 38.2	-2.1		
VIVF	**Saint-Julien-l**	**167.81 277**	*e*PKIKP	PKPdf	12 49 36.9	-3.8		
	comp=Z,70nm,1.6s							
EKA	**Eskdalemuir Ar**	**167.83 334**	PKPab	PKPab	12 50 49.0	+1.6		
	comp=Z,4.9nm,0.7s,baz=28,slow=3.2,SNR=4.6							
EKA	**Eskdalemuir Ar**	**167.83 334**	PKP2	PKPab	12 50 49.0	+1.7		
EKA			pmax	pmax				
	comp=Z,5.0nm,0.7s							
ESK	**Eskdalemuir**	**167.86 334**	*e*PKP2	PKPab	12 50 48.1	+0.7		
ESK			MLR	MLR				
	comp=Z,28µm,21.0s							
PDA	**Ponta Delgada**	**167.88 121**	KP		12 49 42.0			
PDA			KP		12 49 42.0			
PDA			KP		12 49 42.0			
PDA	**Ponta Delgada**	**167.88 121**	R		13 49 24.0			
CMLA	**Cha da Macela**	**167.97 121**	*e*PKP	PKPdf	12 49 40.3	-0.8		
CMLA	**Cha da Macela**	**167.97 121**	*e*PP	PP	12 54 36.9	-0.6		
CMLA	**Cha da Macela**	**167.97 121**	*e*SS	SS	13 15 40.9	+13		
CMLA	**Cha da Macela**	**167.97 121**	*e*LQ		13 39 56.5			
CMLA			*e*LR	LR	13 49 02.9			
CMLA	**Cha da Macela**	**167.97 121**	PFAKE		12 49 50.0	+8.9		
CMLA			LR	LR				
	comp=Z,29µm,20.0s							
LASF	**Ste Croix**	**168.29 272**	*e*PKIKP	PKPdf	12 49 37.2	-3.9		
LOR	**Lormes**	**168.35 288**	*e*PKIKP	PKPdf	12 49 37.2	-3.8		
	comp=Z,43nm,1.3s							
LOR			*e*MLR	MLR				
	comp=Z,46µm,20.0s							
LOR	**Lormes**	**168.35 288**	*e*PKPdf	PKPdf	12 49 37.2	-3.8		
LOR			LR	LR				
	comp=Z,46µm,20.0s							
RTC	**Rabat Centre**	**168.42 204**	PFAKE		12 49 50.0	+8.5		
RTC			LR	LR				
	comp=Z,65µm,20.0s							
SMF	**Signal de Mont**	**168.42 285**	*e*PKIKP	PKPdf	12 49 40.6	-0.5		
SSF	**Saint Saulge**	**168.62 287**	*e*PKIKP	PKPdf	12 49 37.3	-3.9		
AVF	**Avril sur Loir**	**168.75 286**	*e*PKIKP	PKPdf	12 49 40.6	-0.7		
FILF	**Fillols**	**168.88 264**	PKP	PKPdf	12 49 46.8	+5.3		
VALF	**Valcebollere**	**169.22 263**	PKP	PKPdf	12 49 45.8	+4.1		
MTLF	**Montolieu**	**169.32 268**	*e*PKIKP	PKPdf	12 49 37.8	-3.9		
EPOB	**Poblet**	**169.51 256**	PKP	PKPdf	12 49 39.2	-2.7		
ETOB	**Tobarra**	**169.81 237**	PKP	PKPdf	12 49 40.1	-2.1		
EHUE	**Huescar**	**169.84 230**	PKIKP	PKPdf	12 49 40.2	-2.1		
ERTA	**Horta de San J**	**169.86 253**	PKP	PKPdf	12 49 36.3	-5.9		
EQES	**Quesada**	**170.09 229**	PKP	PKPdf	12 49 42.9	+0.5		
EMOS	**Mosqueruela**	**170.12 248**	PKP	PKPdf	12 49 40.4	-1.9		
EJIF	**Jimena Fronter**	**170.16 215**	PKIKP	PKPdf	12 49 38.2	-4.3		
EVIA	**Vianos**	**170.37 234**	PKIKP	PKPdf	12 49 39.9	-2.6		
SFS	**San Fernando**	**170.46 212**	PFAKE		12 49 50.0	+7.3		
SFS			LR	LR				
	comp=Z,106µm,20.0s							
EPF	**Esparros**	**170.58 264**	*e*PKIKP	PKPdf	12 49 42.7	+0.2		
	comp=Z,93nm,1.5s							
EBIE	**Bielsa**	**170.63 262**	PKP	PKPdf	12 49 41.7	-0.9		
ESPR	**Espera**	**170.67 215**	PKP	PKPdf	12 49 42.0	-0.8		
ESAC	**San Caprasio**	**170.72 255**	PKP	PKPdf	12 49 37.9	-4.7		
VIEF	**Viey**	**170.77 263**	PKP	PKPdf	12 49 48.4	+5.8		
REYF	**Montagne du Re**	**171.11 263**	PKP	PKPdf	12 49 46.3	+3.5		
EADA	**Adamuz**	**171.15 225**	PKP	PKPdf	12 49 40.5	-2.4		
ETSF	**Etsaut**	**171.18 262**	*e*PKIKP	PKPdf	12 49 41.6	-1.2		
	comp=Z,60nm,1.5s							
ETOR	**Torete**	**171.39 247**	PKIKP	PKPdf	12 49 41.7	-1.3		
LARF	**Larrau**	**171.52 262**	PKP	PKPdf	12 49 46.8	+3.8		
PBDV	**Barranco-do-Ve**	**171.76 206**	*e*PKPdf	PKPdf	12 49 41.6	-1.7		
PBDV	**Barranco-do-Ve**	**171.76 206**	*e*PKPab	PKPab	12 51 05.5	+0.3		
PBDV	**Barranco-do-Ve**	**171.76 206**	*e*PP	PP	12 54 58.1	+2.3		
PBDV			*e*SS	SS	13 15 54.1	-10		
PBDV			*e*LQ		13 43 44.0			
PBDV			*e*LR	LR	13 56 47.3			
	comp=Z,45µm,22.0s							
PVAQ	**Vaqueiros**	**171.84 208**	*e*PKPdf	PKPdf	12 49 41.8	-1.5		
PVAQ	**Vaqueiros**	**171.84 208**	*e*PKPab	PKPab	12 51 01.4	-4.1		
PVAQ	**Vaqueiros**	**171.84 208**	*e*PP	PP	12 54 56.0	-0.2		
PVAQ			*e*SS	SS	13 16 07.2	+3.1		
PVAQ			*e*LQ		13 43 03.2			
PVAQ			*e*LR	LR	13 52 59.4			
	comp=Z,43µm,20.0s							
EGRO	**El Granado**	**171.87 209**	PKP	PKPdf	12 49 41.7	-1.6		
ESDC	**Sonseca Array**	**171.90 234**	PKP	PKPdf	12 49 41.9	-1.3		
	comp=Z,0.8nm,0.5s,baz=352,slow=2.8,SNR=5.9							
ESDC			PKPab	PKPab	12 51 06.2	+0.3		
	comp=Z,6.5nm,0.8s,baz=130,slow=2.4,SNR=7.4							
ESDC			PP	PP	12 55 01.2	+4.0		
	comp=Z,1.8nm,0.7s,baz=106,slow=5.5,SNR=4.2							
ESDC	**Sonseca Array**	**171.90 234**	PKP	PKPdf	12 49 40.9	-2.4		
ESLA	**Sonseca Array**	**171.90 234**	*e*PKPdf	PKPdf	12 49 38.9	-4.3		
ESLA			*ep*PKPdf	pPKPdf	12 49 52.8	+8.8		
ESLA			LR	LR				
	comp=Z,190µm,19.0s							
PFVI	**Vila Bisbo**	**171.91 201**	*e*SS	SS	13 16 15.1	+10		
PFVI			*e*LQ		13 43 30.2			
PFVI			*e*LR	LR	13 56 16.8			
	comp=Z,35µm,22.0s							
EALK	**Alkurruntz**	**171.94 263**	PKP	PKPdf	12 49 40.2	-2.9		
ELIZ	**Elizondo**	**171.94 263**	PKIKP	PKPdf	12 49 42.2	-1.0		
MORF	**Marmelete**	**172.03 203**	*e*PKPdf	PKPdf	12 49 47.8	+4.4		
MORF	**Marmelete**	**172.03 203**	*e*PKPab	PKPab	12 51 10.7	+4.3		
MORF	**Marmelete**	**172.03 203**	*e*PP	PP	12 55 00.5	+3.4		
MORF			*e*SS	SS	13 16 28.5	+22		
MORF			*e*LR	LR	13 56 32.4			
	comp=Z,40µm,20.0s							
PAB	**San Pablo**	**172.03 232**	*e*PKIKP	PKPdf	12 49 42.1	-1.2		
PAB			MLR	MLR				
	comp=Z,27µm,21.0s							
PBAR	**Barrancos**	**172.27 214**	*e*PKPdf	PKPdf	12 49 42.2	-1.3		
PBAR	**Barrancos**	**172.27 214**	*e*PKPab	PKPab	12 51 12.5	+5.0		
PBAR			*i* P		12 52 22.5			
PBAR	**Barrancos**	**172.27 214**	*e*PP	PP	12 55 00.0	+1.5		
PBAR			*e*SS	SS	13 16 03.6	-5.7		
PBAR			*e*LQ		13 42 55.4			
PBAR			*e*LR	LR	13 55 11.2			
	comp=Z,54µm,20.0s							
PTEO	**Sao Teotonio**	**172.27 203**	*e*PKPdf	PKPdf	12 49 46.5	+3.0		
PTEO	**Sao Teotonio**	**172.27 203**	*e*PP	PP	12 55 01.4	+3.1		
PBEJ	**Beja**	**172.45 209**	*e*PKPab	PKPab	12 51 07.1	-1.1		
PBEJ	**Beja**	**172.45 209**	*e*PP	PP	12 55 00.7	+1.4		
EBAD	**Badajoz**	**172.76 216**	PKP	PKPdf	12 49 39.7	-3.9		
EVO	**Evora**	**172.95 210**	*e*PKIKP	PKPdf	12 49 42.8	-1.0		
	comp=Z,179nm,1.6s							
EVO			*e*MLR	MLR				
	comp=Z,47µm,22.2s							
PESTR	**Estremoz**	**173.09 214**	*e*PKPdf	PKPdf	12 49 42.2	-1.6		
PESTR	**Estremoz**	**173.09 214**	*e*PKPab	PKPab	12 51 16.8	+5.7		
PESTR			*i* P		12 52 17.2			
PESTR	**Estremoz**	**173.09 214**	*e*PP	PP	12 55 04.7	+2.2		
PESTR			*e*SS	SS	13 16 27.4	+10		
PESTR			*e*LQ		13 42 46.5			
PESTR			*e*LR	LR	13 54 19.8			
	comp=Z,45µm,20.0s							
ELAN	**Lanestosa**	**173.30 260**	PKP	PKPdf	12 49 38.6	-5.2		
EPLA	**Plasencia**	**173.34 228**	PKIKP	PKPdf	12 49 42.3	-1.6		
PMRV	**Marv??o**	**173.48 217**	*e*PKPdf	PKPdf	12 49 42.7	-1.2		
PMRV	**Marv??o**	**173.48 217**	*e*PKPab	PKPab	12 51 14.9	+2.1		
PMRV			*i* P		12 52 16.6			
PMRV	**Marv??o**	**173.48 217**	*e*PP	PP	12 55 06.2	+1.7		
PMRV			*e*SS	SS	13 16 27.5	+6.3		
PMRV			*e*LQ		13 43 50.8			
PMRV			*e*LR	LR	13 54 45.5			
	comp=Z,43µm,20.0s							
PCBR	**Castelo Branco**	**173.86 219**	*e*PKPdf	PKPdf	12 49 43.2	-0.9		
PCBR	**Castelo Branco**	**173.86 219**	*e*PP	PP	12 55 05.7	-0.7		
PTOM	**Tomar**	**174.05 212**	*e*PP	PP	12 55 17.2	+10		
MTE	**Manteigas**	**174.33 222**	*e*PKPdf	PKPdf	12 49 44.4	+0.2		
MTE	**Manteigas**	**174.33 222**	*e*PKPab	PKPab	12 51 16.5	-0.1		
MTE			*i* P		12 52 11.8			
MTE	**Manteigas**	**174.33 222**	*e*PP	PP	12 55 03.9	-4.9		
MTE			*e*LQ		13 42 18.8			
MTE			*e*LR	LR	13 55 17.2			
	comp=Z,44µm,18.0s							
MTE	**Manteigas**	**174.33 222**	PFAKE		12 49 50.0	+5.8		
MTE			LR	LR				
	comp=Z,41µm,19.0s							
MVO	**Moncorvo**	**174.63 230**	*e*PKPdf	PKPdf	12 49 41.0	-3.3		
MVO	**Moncorvo**	**174.63 230**	*e*PKPab	PKPab	12 51 22.9	+5.0		
MVO	**Moncorvo**	**174.63 230**	*i* PP	PP	12 55 12.4	+1.9		
MVO			*e*SS	SS	13 15 57.0	-36		
MVO			*e*LQ		13 43 05.1			
MVO			*e*LR	LR	13 55 25.2			
	comp=Z,37µm,20.0s							
PVIS	**Viseu**	**174.75 222**	*e*PKPbc	PKPdf	12 49 47.8	+3.5		
PBRG	**Braganca**	**174.88 237**	*e*PKPdf	PKPdf	12 49 43.1	-1.2		
PBRG	**Braganca**	**174.88 237**	*e*PKPab	PKPab	12 51 23.4	+4.3		
PBRG	**Braganca**	**174.88 237**	*e*PP	PP	12 55 15.9	+4.1		
PVRL	**Vila Real**	**175.08 227**	*e*PKPbc	PKPdf	12 49 46.3	+1.9		

ISCJB ***15*** *12:35:37.8ₛ1.1, 44.79Sₛ004.4×167.38Eₛ005, h22ᵏᵐ.8ᵏᵐ, mb4.9/15, Error ellipse: s-maj=7.2km s-min=6.2km az=174.6*

NEIC ***15*** *12:35:38.6, 44.81Sₛ×167.50E, h5ᵏᵐ, mb5.1/4, ML5.8(WEL), After WEL.*

NEIC Felt widely in the southern part of the South Island.

MOS ***15*** *12:35:40.0ₛ1.9, 44.70Sₛ×167.25E, h28ᵏᵐ, mb4.9/2, Error ellipse: s-maj=26.7km s-min=18.7km az=123.7*

IDC ***15*** *12:35:42.4ₛ2.0, 44.68Sₛ×167.47E, h47ᵏᵐ±19ᵏᵐ, mb4.7/13, mb1 4.8/14, mb1mx4.8/18, mbtmp4.7/14, ML5.2/2, Error ellipse: s-maj=18.3km s-min=14.0km az=13.0*

DJA ***15*** *12:35:45, 44.75Sₛ×168.63E, h102ᵏᵐ, mb5.6/24*

ISC 15 12:35:37.7ₛ1.2, 44.79S±0.004×167.42E±0.004, h10ᵏᵐ±7ᵏᵐ, h10ᵏᵐ±1.1ᵏᵐ:pP-P, n69, σ0.89/46, mb4.9/15, 1C-1D, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MLZ	**Mavora Lakes**	**0.77**	**137**	P	**Pg**	**12 35 52.5**	**0.0**
MLZ				S	**Sg**	**12 36 02.4**	**-0.2**
WKZ	**Wanaka**	**1.14**	**93**	P	**Pb**	**12 35 59.0**	**-0.4**
WKZ				S	**Sb**	**12 36 13.4**	**-0.8**
JCZ	**Jackson Bay**	**1.19**	**54**	P	**Pb**	**12 36 00.2**	**-0.2**
JCZ				S	**Sb**	**12 36 16.0**	**+0.1**
EAZ	**Earnscleugh**	**1.41**	**109**	P	**Pn**	**12 36 03.6**	**+0.2**
EAZ				S	**Sn**	**12 36 21.0**	**-1.0**
TUZ	**Tuapeka**	**1.94**	**128**	P	**Pn**	**12 36 11.6**	**+0.8**
ODZ	**Otahua Downs**	**2.30**	**98**	P	**Pn**	**12 36 16.6**	**+0.9**
ODZ				S	**Sn**	**12 36 45.7**	**+1.6**
RPZ	**Rata Peaks**	**2.82**	**69**	P	**Pn**	**12 36 23.5**	**+0.7**
	2µm,0.3s,baz=236,slow=5.7,SNR=48						
RPZ				S	**Sn**	**12 36 56.8**	**0.0**
	454nm,0.3s,baz=204,slow=20,SNR=4.7						
LTZ	**Lake Taylor**	**4.04**	**62**	P	**Pn**	**12 36 39.0**	**-0.6**
KIW	**Kapiti Island**	**6.76**	**57**	*e*P	**Pn**	**12 37 16.2**	**-0.7**
RAEZ	**Rainy Point**	**7.56**	**46**	*e*P	**Pn**	**12 37 31.0**	**+3.1**
URZ	**Urewera**	**9.76**	**51**	P	**Pn**	**12 37 57.8**	**-0.2**
	3.8nm,0.3s,baz=225,slow=15,SNR=8.3						
URZ				S	**Sn**	**12 39 39.8**	**-7.9**
	2.0nm,0.3s,baz=323,slow=20,SNR=2.9						
ARMA	**Armidale**	**18.99**	**314**	*e*P	**Pn**	**12 40 02.8**	**+2.8**
STKA	**Stephens Creek**	**23.90**	**294**	P	**P**	**12 40 51.8**	**+0.3**
	80nm,1.1s,mb5.1,baz=134,slow=12,SNR=4.8						
CTA	**Charters Tower**	**30.25**	**318**	P	**P**	**12 41 48.4**	**-0.4**
	14nm,0.9s,mb4.7,baz=129,slow=11,SNR=3.6						
ASAR	**Alice Springs**	**34.46**	**297**	P	**P**	**12 42 25.7**	**+0.1**
	27nm,1.1s,mb5.1,baz=135,slow=7.2,SNR=11						
ASAR				PcP	PcP	12 44 59.7	-1.1
	11nm,0.8s,baz=126,slow=3.8,SNR=10						
AFI	**Afiamalu**	**35.50**	**36**	P	**P**	**12 42 34.1**	**-0.5**
	25nm,0.8s,mb5.2,baz=339,slow=4.5,SNR=4.4						
AFI	**Afiamalu**	**35.50**	**36**	P	**P**	**12 42 34.1**	**-0.5**
CASY	**Casey**	**36.92**	**214**	*e*P	**P**	**12 42 46.6**	**+0.3**
WRA	**Warramunga Arr**	**36.93**	**301**	P	**P**	**12 42 46.1**	**-0.7**
	27nm,1.0s,mb5.0,baz=137,slow=7.6,SNR=13						
WRA				PcP	PcP	12 45 06.8	-1.4
	14nm,0.8s,baz=143,slow=3.1,SNR=17						
NWAO	**Narrogin (SRO)**	**40.25**	**269**	P	**P**	**12 43 13.6**	**-1.1**
	19nm,1.0s,mb4.8,baz=148,slow=9.5,SNR=3.5						
KLBR	**Kellerberrin**	**40.60**	**271**	*e*P	**P**	**12 43 18.1**	**+0.6**
	58nm,1.0s,mb5.2						
MUN	**Mundaring**	**41.49**	**270**	*e*P	**P**	**12 43 25.8**	**+1.0**
KAKA	**Kakadu**	**43.71**	**306**	*e*P	**P**	**12 43 41.0**	**-2.1**
	30nm,0.9s,mb5.0						
FITZ	**Fitzroy Crossi**	**43.79**	**294**	*e*P	**P**	**12 43 43.8**	**+0.1**
	33nm,0.9s,mb5.1						
FITZ	**Fitzroy Crossi**	**43.79**	**294**	P	**P**	**12 43 42.9**	**-0.8**
	15nm,0.7s,mb4.8,baz=142,slow=8.8,SNR=9.9						
QSPA	**South Pole Qui**	**45.34**	**180**	P	**P**	**12 43 56.9**	**+1.6**
	14nm,0.8s,mb4.9,baz=318,slow=2.4,SNR=9.9						
MAW	**Mawson**	**54.55**	**207**	*e*P	**P**	**12 45 06.0**	**+0.6**
	8.8nm,1.0s,mb4.7						
MAW	**Mawson**	**54.55**	**207**	P	**P**	**12 45 06.0**	**+0.6**
	11nm,0.9s,mb4.9,baz=120,slow=9.1,SNR=4.3						
MAW	**Mawson**	**54.55**	**207**	*e*P	**P**	**12 45 06.0**	**+0.6**
MAW				pmax	pmax		
	comp=Z,9.0nm,1.0s						
SYO	**Syowa Base**	**60.16**	**199**⇑	*i*P	**P**	**12 45 43.0**	**-2.0**
SNAA	**Sanae**	**63.64**	**183**	*e*	**P**	**12 46 07.9**	**-0.4**
SNAA				*e*	pP	12 46 10.9	-0.5
SNAA				*e*		12 46 14.7	
VNA3	**Neumayer Olymp**	**64.26**	**181**	*e*	**P**	**12 46 11.8**	**-0.6**
VNA3				*e*	pP	12 46 14.3	-1.2
VNA3				*e*		12 46 18.6	
VNA2	**Neumayer--Watz**	**64.54**	**182**	*e*	**P**	**12 46 14.1**	**-0.1**
	baz=172,slow=3.2						
VNA2				*e*	pP	12 46 17.8	+0.5
VNA2				*e*		12 46 22.3	
VNA1	**Neumayer--Stat**	**64.83**	**182**	*e*	**P**	**12 46 16.7**	**+0.5**
VNA1				*e*	pP	12 46 18.8	-0.5
VNA1				*e*		12 46 22.8	
PLCA	**Paso Flores**	**80.25**	**139**	P	**P**	**12 47 47.8

IDC ***15*** *13:14:29.3±1.9, 4544S×16796E, h0km, mb3.7/3, mb1 4.0/4, mb1mx3.8/13, mbtmp3.8/4, ML4.5/1, Error ellipse: s-maj=55.2km s-min=26.4km az=163.0*
NEIC ***15*** *13:14:30.1±1.1, 4554S×16801E, h10km, Error ellipse: s-maj=34.2km s-min=12.2km az=160.0*

ISC 15 13:14:32.3±3.0, 458S±05×1681E±03, h35km, n7, σ1§39/6, mb3.3/3, South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
RPZ	**Rata Peaks**	**2.92**	**46**	Pn		**Pn**		**13 15 15.3**	**-0.9**
	77nm,0.3s,baz=234,slow=5.8,SNR=116								
RPZ				Sn		**Sn**		**13 15 50.9**	**+0.9**
	18nm,0.3s,baz=170,slow=22,SNR=3.2								
SNZO	**South Karori**	**6.53**	**49**	*e*P		**Pn**		**13 16 05.1**	**-0.7**
ASAR	**Alice Springs**	**35.34**	**297**	P		**P**		**13 21 23.9**	**-0.4**
	0.2nm,0.9s,mb3.1,baz=134,slow=7.6,SNR=4.6								
WRA	**Warramunga Arr**	**37.87**	**302**	P		**P**		**13 21 45.3**	**-0.6**
	0.2nm,0.6s,mb3.0,baz=137,slow=8.0,SNR=4.5								
CMAR	**Chiang Mai Arr**	**89.35**	**297**	P		**P**		**13 27 27.0**	**+1.9**
	0.4nm,0.8s,mb3.8,baz=132,slow=1.3,SNR=4.1								
TORD	**Torodi Ar. Bea**	**145.51**	**204**	PKPbc		PKPbc		13 34 09.3	+2.3
	0.5nm,0.7s,baz=149,slow=2.8,SNR=2.9								
TORD	**Torodi Ar. Bea**	**145.51**	**204**	PKPbc		PKPbc		13 34 09.3	+2.3

NEIC ***15*** *13:18:12.7, 1794N×10048W, h25km, MD3.9(MEX), After MEX.*

MEX 15 13:18:12.7±0.6, 1794N×10049W, h29km±18km, MD3.9, Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
CAIG	**El Cayaco**	**0.91**	**167**	*i* P			Pn	13 18 27.0	-2.6
CAIG				*i* S			Sb	13 18 38.6	-3.1
ZIIG	**Zihuatanejo**	**0.99**	**251**	*e*P			Pn	13 18 28.5	-2.1
ZIIG				*i* S			Sn	13 18 39.9	-3.7
PLIG	**Platanillo**	**1.04**	**64**	*e*P			Pn	13 18 29.3	-2.1
PLIG				*i* S			Sn	13 18 41.0	-3.9
ACX	**Acapulco**	**1.20**	**153**	*e*P			Pn	13 18 30.6	-2.9
ACX				*i* S			Sn	13 18 45.7	-3.1
MZVM		**1.73**	**44**	*e*P			Pn	13 18 39.4	-1.4
MZVM				*i* S			Sn	13 18 58.9	-2.9
UTMO	**Huajuapan**	**2.56**	**92**	*i* P			Pn	13 18 51.4	-0.8
UTMO				*i* S			Sn	13 19 18.5	-3.9
PNIG	**Pinotepa**	**2.73**	**124**	*e*P			Pn	13 18 52.7	-1.9
PNIG				*i* S			Sn	13 19 24.1	-2.5
PNIG	**Pinotepa**	**2.73**	**124**	*e*P			Pn	13 18 52.7	-1.9
PNIG				*i* S			Sn	13 19 25.1	-1.5

BJI ***15*** *13:20:23.6, 4805N×13055E, h26km, ML3.3*

SKHL 15 13:20:17.4±3.5, 4797N×13016E, h10km, mb3.7/2, Priamurye-Northeastern China border region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
KLR	**Kul'dur**	**1.64**	**39**	*e*Pg			Pg	13 20 47.8	-1.1
KLR				*e*Sg			Sg	13 21 10.0	-0.2
MDJ	**Mudanjiang**	**3.38**	**187**	P			Pg	13 21 18.4	+8.3
MDJ				PG			Pg	13 21 25.8	+3.7
MDJ				SG			Sg	13 22 08.9	+3.1
MDJ				Smax					
	comp=N,49nm,0.7s								
MDJ				Smax					
	comp=E,75nm,0.7s								
GRTR	**Gornotajezhnoj**	**4.49**	**161**	*e*rx		rx		13 21 31.0	
GRTR				*e*Sg		Sg		13 22 40.0	-1.4
GRNR	**Gornyy**	**4.96**	**53**	*e*Pg		Pg		13 21 45.0	-7.3
GRNR				AMB		AMB		13 21 45.8	
	comp=E,9.0nm,0.5s								
GRNR				*e*Sg		Sg		13 22 51.0	-5.5
GRNR				A				13 22 58.2	
	comp=E,34nm,0.9s								
TEY	**Ternei**	**5.33**	**121**	*e*Sg		Sg		13 23 04.0	-4.4
TEY				A				13 23 14.5	
	comp=E,42nm,0.8s								
EKMR	**Ekimchan**	**5.41**	**18**	*e*Pn		Pn		13 21 41.0	+3.0
EKMR				*e*Pg		Pg		13 21 55.8	-5.1
EKMR				AMB		AMB		13 22 02.8	
	comp=E,4.0nm,0.5s								
EKMR				*e*Sg		Sg		13 23 05.7	-5.2
EKMR				A				13 23 09.5	
	comp=E,17nm,0.5s								
EKMR				A				13 23 09.5	
	comp=E,20nm,0.5s								
EKMR				A				13 23 09.5	
	comp=E,19nm,0.5s								
KROS	**Kirovskiy**	**6.77**	**344**	*e*rx		rx		13 22 36.6	
KROS				*e*Sg		Sg		13 23 48.0	-6.7
KROS				A				13 24 01.6	
	comp=E,7.0nm,0.6s								
BMKR	**Bomnak**	**6.80**	**354**	*e*Pn		Pn		13 22 00.5	+3.4
BMKR				*e*Sg		Sg		13 23 52.0	-3.5
BMKR				A				13 23 59.6	
	comp=E,12nm,0.5s								
NKL	**Nikolayevsk**	**8.47**	**48**	*e*Sg		Sn		13 24 42.5	+47

IDC ***15*** *13:50:53.8±1.7, 4504S×16731E, h0km, mb3.2/2, mb1 3.5/2, mb1mx3.4/12, mbtmp3.2/2, ML4.9/1, MS4.1/1, Ms1 4.1/1, ms1mx4.1/5, Error ellipse: s-maj=58.1km s-min=25.7km az=173.0*
ISCJB ***15*** *13:50:54.1±0.6, 4473S±004×16721E±007, h10km, Error ellipse: s-maj=7.5km s-min=5.2km az=31.1*
NEIC ***15*** *13:50:54.8, 4479S×167.19E, h5km, ML4.6(WEL), After WEL.*

ISC 15 13:50:54.7±1.2, 4476S±005×16724E±008, h1km±8km, n31, σ0§81/32, South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
MSZ	**Milford Sound**	**0.50**	**80**	P			**Pg**	**13 51 05.3**	**+1.2**
MSZ				S			**Sg**	**13 51 10.6**	**0.0**
DCZ	**Deep Cove**	**0.72**	**185**	P			**Pg**	**13 51 08.5**	**+0.1**
DCZ				S			**Sg**	**13 51 17.5**	**-0.3**
MLZ	**Mavora Lakes**	**0.88**	**132**	P			**Pg**	**13 51 11.6**	**+0.1**
WHZ	**Wether Hill Ro**	**1.24**	**157**	P			**Pg**	**13 51 17.7**	**-0.7**
WKZ	**Wanaka**	**1.27**	**94**	P			**Pg**	**13 51 18.7**	**-0.2**
JCZ	**Jackson Bay**	**1.28**	**58**	P			**Pg**	**13 51 20.0**	**+0.7**
EAZ	**Earnscleugh**	**1.54**	**109**	P			**Pn**	**13 51 22.9**	**-0.3**
TUZ	**Tuapeka**	**2.06**	**126**	P			**Pn**	**13 51 31.0**	**+0.6**
FOZ	**Fox Glacier**	**2.13**	**57**	P			**Pn**	**13 51 31.5**	**+0.2**
LBZ	**Lake Benmore**	**2.13**	**81**	P			**Pn**	**13 51 32.4**	**+1.0**
ODZ	**Otahua Downs**	**2.43**	**98**	P			**Pn**	**13 51 36.4**	**+0.9**
RPZ	**Rata Peaks**	**2.93**	**70**	Pn			**Pn**	**13 51 42.9**	**+0.6**
	144nm,0.3s,baz=241,slow=3.6,SNR=638								
RPZ				Sn			**Sn**	**13 52 19.1**	**+1.0**
	47nm,0.3s,baz=44,slow=16,SNR=4.6								
RPZ				LR			LR	13 52 22.7	
	comp=Z,3μm,20.2s,baz=6.1,slow=30								
RPZ	**Rata Peaks**	**2.93**	**70**	P			**Pn**	**13 51 42.7**	**+0.4**
WVZ	**Waitaha Valley**	**3.03**	**57**	P			**Pn**	**13 51 42.4**	**-1.3**
MQZ	**McQueen's Vall**	**4.03**	**77**	P			**Pn**	**13 51 56.6**	**-0.8**
CRLZ	**Canterbury Las**	**4.05**	**75**	P			**Pn**	**13 51 57.0**	**-0.6**
DSZ	**Denniston Nort**	**4.49**	**49**	P			**Pn**	**13 52 02.9**	**-0.8**
THZ	**Tophouse**	**5.11**	**56**	P			**Pn**	**13 52 11.9**	**-0.3**
KHZ	**Kahutara**	**5.14**	**65**	P			**Pn**	**13 52 12.3**	**-0.3**
QRZ	**Quartz Range**	**5.53**	**47**	P			**Pn**	**13 52 17.2**	**-0.8**
NNZ	**Nelson**	**5.72**	**54**	P			**Pn**	**13 52 20.5**	**-0.2**
TCW	**Tory Channel**	**6.26**	**58**	P			**Pn**	**13 52 29.1**	**+1.1**
SNZO	**South Karori**	**6.46**	**60**	P			**Pn**	**13 52 31.0**	**+0.2**
CAW	**Cannon Point**	**6.80**	**60**	P			**Pn**	**13 52 33.8**	**-1.7**
URZ	**Urewera**	**9.84**	**52**	Pn			**Pn**	**13 53 14.1**	**-3.1**
	0.7nm,0.3s,baz=278,slow=7.1,SNR=4.1								
URZ				Sn			**Sn**	**13 55 01.5**	**-6.7**
	0.7nm,0.3s,baz=52,slow=12,SNR=2.7								
WCZ	**Waipu Caves**	**10.34**	**34**	P			**Pn**	**13 53 24.0**	**0.0**
ASAR	**Alice Springs**	**34.33**	**297**	P			**P**	**13 57 43.4**	**+0.7**
	0.2nm,0.7s,baz=138,slow=8.3,SNR=4.2								
WRA	**Warramunga Arr**	**36.81**	**301**	P			**P**	**13 58 05.1**	**+1.0**
	0.4nm,1.0s,baz=138,slow=7.8,SNR=3.9								
TORD	**Torodi Ar. Bea**	**146.16**	**206**	PKPbc			PKPbc	14 10 34.5	-2.3
	0.7nm,0.6s,baz=157,slow=1.2,SNR=4.6								
ARCES	**ARCESS Array B**	**148.61**	**335**	PKPbc			PKPbc	14 10 41.7	-0.3
	2.3nm,0.8s,baz=64,slow=2.8,SNR=5.6								
ARCES	**ARCESS Array B**	**148.61**	**335**	PKPbc			PKPbc	14 10 41.7	-0.3

NEIC ***15*** *13:59:16.6, 1639N×9942W, h17km, MD3.8(MEX), After MEX.*

MEX 15 13:59:16.6±1.5, 1639N×9942W, h17km±30km, MD3.8, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
ACX	**Acapulco**	**0.68**	**315**	*i* P			Pg	13 59 26.2	-3.7
ACX				*i* S			Sg	13 59 35.2	-3.7
CAIG	**El Cayaco**	**1.05**	**309**	*i* P			Pb	13 59 34.1	-2.1
CAIG				*i* S			Sb	13 59 45.3	-4.4
PNIG	**Pinotepa**	**1.24**	**90**	*i* P			Pn	13 59 34.7	-4.5
PNIG				*i* S			Sb	13 59 50.6	-4.7
PLIG	**Platanillo**	**2.00**	**358**	*e*P			Pn	13 59 47.0	-2.6
PLIG				*i* S			Sn	14 00 10.5	-3.7
UTMO	**Huajuapan**	**2.11**	**47**	*i* P			Pn	13 59 49.1	-2.1
UTMO				*i* S			Sn	14 00 12.7	-4.3
ZIIG	**Zihuatanejo**	**2.30**	**302**	*e*P			Pn	13 59 50.5	-3.3
ZIIG				*i* S			Sn	14 00 18.7	-3.2
VHO	**Vista Hermosa**	**2.66**	**75**	*e*P			Pn	13 59 57.3	-1.5
VHO				*i* S			Sn	14 00 24.7	-6.0
MZVM		**2.79**	**4**	*i* P			Pn	13 59 57.9	-2.7
MZVM				*i* S			Sn	14 00 32.1	-1.8
PTVM	**Pico Tres Padr**	**3.20**	**5**	*e*P			Pn	14 00 04.5	-1.7
PTVM				*i* S			Sn	14 00 41.1	-2.9
IIO	**Organos**	**3.26**	**12**	*e*P			Pn	14 00 05.1	-1.8
IIO				*i* S			Sn	14 00 42.4	-3.0
CMIG	**Matias Romero**	**4.40**	**80**	*i* P			Pn	14 00 19.9	-2.8
CMIG				*i* S			Sn	14 01 11.4	-2.2

MAN 15 14:00:10, 997N×12514E, h9km, mb4.1, ML2.9, MS2.7, 1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
MSLP	**Maasin**	**0.32**	**301**	*e*P			Pg	14 00 17.2	+0.8
MSLP				*e*S			Sg	14 00 24.7	+3.9
SCPH	**Surigao**	**0.39**	**118**	*e*P			Pg	14 00 18.3	+0.7
SCPH				*e*S			Sg	14 00 24.1	+1.3
PLP	**Palo**	**1.20**	**352**	*e*P			Pb	14 00 30.8	-2.2
PLP				*e*S			Sb	14 00 46.5	-2.1
LLP	**Lapu-Lapu**	**1.21**	**287**	*e*P			Pb	14 00 32.4	-0.6
LLP				*e*S			Sb	14 00 48.5	-0.3
TBP	**Tagbilaran**	**1.29**	**258**	*e*P			Pn	14 00 33.8	-0.4
TBP				*e*S			Sb	14 00 51.9	+0.8
BUKP	**Musuan**	**2.08**	**182**	*e*P			Pn	14 00 45.4	+0.4
GUIM	**Jordan**	**2.59**	**285**	*e*P			Pn	14 00 53.0	+0.9
GUIM				*e*S			Sn	14 01 25.6	+1.7

IDC 15 14:26:26.3±32.0, 1343S×16948E, h0km, mb3.9/4, mb1 4.0/4, mb1mx3.7/17, mbtmp3.9/4, Error ellipse: s-maj=564.4km s-min=107.7km az=70.0, Vanuatu Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
STKA	**Stephens Creek**	**31.47**	**230**	P		P		14 32 49.2	-0.5
	1.1nm,0.6s,baz=66,slow=10.0,SNR=3.2								
WRA	**Warramunga Arr**	**34.23**	**254**	P		P		14 33 14.9	+0.8
	0.5nm,0.3s,baz=86,slow=8.8,SNR=18								
ASAR	**Alice Springs**	**35.14**	**248**	P		P		14 33 21.9	0.0
	1.0nm,0.3s,baz=74,slow=9.7,SNR=60								
FITZ	**Fitzroy Crossi**	**42.38**	**258**	P		P		14 34 22.1	-0.6
	0.4nm,0.5s,baz=67,slow=7.7,SNR=3.5								

ISCJB ***15*** *14:51:40.0±0.5, 1464N±004×9452W±003, h33km, mb4.2/21, Error ellipse: s-maj=6.1km s-min=3.3km az=24.7*
MEX ***15*** *14:51:40.6±1.0, 1451N×9454W, h32km±36km, MD4.4*
NEIC ***15*** *14:51:40.6, 1451N×9454W, h32km, mb4.4/9, MD4.4(MEX), After MEX.*
IDC ***15*** *14:51:42.7±0.8, 1467N×9424W, h32km±5km, mb3.7/14, mb1 4.0/16, mb1mx3.9/25, mbtmp3.8/16, ML4.3/3, Error ellipse: s-maj=24.9km s-min=12.6km az=62.0*
CASC ***15*** *14:51:44.2±2.3, 1626N×9358W, h33km, MD4.4, mb4.3(NEIC)*

ISC 15 14:51:41.8±0.5, 1464N±004×9448W±003, h35km, n60, σ1§29/68, mb4.2/21, 3C-1D, Off coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
HUIG	**Huatulco**	**1.93**	**306**	*i* P			**Pn**	**14 52 10.6**	**-1.5**
HUIG				*i* S			**Sn**	**14 52 31.8**	**-3.4**
THIG		**2.16**	**83**	*i* P			**Pn**	**14 52 13.6**	**-1.7**
THIG				*i* S			**Sn**	**14 52 38.4**	**-2.6**
CMIG	**Matias Romero**	**2.46**	**351**	Pn			**Pn**	**14 52 19.7**	**+0.1**
	75nm,0.3s,baz=156,slow=11,SNR=804								
CMIG				Sn			**Sn**	**14 52 49.0**	**+0.6**
	180nm,0.3s,baz=42,slow=18,SNR=29								
CMIG	**Matias Romero**	**2.46**	**351**	Pn			**Pn**	**14 52 19.7**	**+0.1**
CMIG				Sn			**Sn**	**14 52 49.0**	**+0.6**
SCX	**San Cristobal**	**2.74**	**40**	*i* P			**Pn**	**14 52 23.9**	**+0.6**
SCX				*i* S			**Sn**	**14 52 56.7**	**+1.5**
JAT	**Jato**	**2.78**	**96**	*i* P			**Pn**	**14 52 23.8**	**-0.1**
JAT				*e*S			**Sn**	**14 52 56.6**	**+0.5**
CCIG	**Comitan**	**2.79**	**54**	*i* P			**Pn**	**14 52 24.0**	**0.0**
CCIG				*i* S			**Sn**	**14 52 56.1**	**-0.4**
VHO	**Vista Hermosa**	**3.24**	**318**	*i* P			**Pn**	**14 52 31.5**	**+1.2**
VHO				*i* S			**Sn**	**14 53 05.5**	**-2.2**
OXX	**Oaxaca**	**3.24**	**319**	*e*P			**Pn**	**14 52 29.7**	**-0.6**
OXX				*i* S			**Sn**	**14 53 06.2**	**-1.4**
TUIG	**Tuzandepetl**	**3.37**	**1**	*i* P			**Pn**	**14 52 32.1**	**+0.1**
TUIG				*i* S			**Sn**	**14 53 12.1**	**+1.3**
FG6		**3.49**	**91**	*e*P			**Pn**	**14 52 34.4**	**+0.8**
FUG	**Fuego 3**	**3.53**	**93**	*e*P			**Pn**	**14 52 33.6**	**-0.6**
FUG				*e*S			**Sn**	**14 53 12.1**	**-2.7**
PNIG	**Pinotepa**	**3.92**	**297**	*i* P			**Pn**	**14 52 38.0**	**-1.5**
PNIG				*i* S			**Sn**	**14 53 20.6**	**-3.7**
UTMO	**Huajuapan**	**4.50**	**315**	*e*P			**Pn**	**14 52 46.8**	**-0.6**
UTMO				*i* S			**Sn**	**14 53 38.1**	**-0.5**
RBDL	**Robledal**	**4.68**	**96**	*e*P			x	14 52 49.0	
RTR	**El Retiro**	**4.75**	**98**	*e*P			x	14 52 50.5	
RTR				*e*S			x	14 53 42.1	
SBLS	**San Blas**	**4.78**	**99**	*e*P			x	14 52 50.4	
SBLS				*e*S			x	14 53 42.3	
SNJE	**San Jose**	**4.79**	**99**	*e*P			x	14 52 50.7	
SNJE				*e*S			x	14 53 42.8	
BOQS	**Boqueron**	**5.13**	**100**	*e*P			x	14 52 55.6	
BOQS				*e*S			x	14 53 50.5	
SCIG	**Sabancuy**	**5.33**	**36**	*i* P			**Pn**	**14 52 58.5**	**-0.5**
SCIG				*i* S			**Sn**	**14 53 60.0**	**+0.7**
LFRS	**El Faro**	**5.36**	**100**	*e*P			x	14 52 57.5	
IIO	**Organos**	**6.37**	**321**	*e*P			**Pn**	**14 53 13.0**	**-0.3**
IIO				*i* S			**Sn**	**14 54 24.0**	**-0.8**
MZVM		**6.41**	**316**	*e*P			**Pn**	**14 53 14.2**	**+0.4**
MZVM				*i* S			**Sn**	**14 54 25.1**	**-0.6**
TEIG	**Tepich**	**8.12**	**46**	Pn			**Pn**	**14 53 35.3**	**-2.0**
	24nm,0.3s,baz=229,slow=1.4,SNR=63								
TEIG				Sn			**Sn**	**14 55 05.7**	**-2.2**
	4.6nm,0.3s,baz=302,slow=22,SNR=6.0								
TEIG	**Tepich**	**8.12**	**46**	*e*Pn			**Pn**	**14 53 35.0**	**-2.2**
	66nm,0.4s								
JCT	**Junction City**	**16.50**	**344**	*e*P			**Pn**	**14 55 32.1**	**+1.4**
	18nm,0.9s								
TXAR	**Lajitas Array**	**16.91**	**331**	Pn			**Pn**	**14 55 38.8**	**+3.1**
	0.1nm,0.3s,baz=154,slow=15,SNR=26								
MIAR	**Mount Ida**	**19.83**	**2**	*e*P			**Pn**	**14 56 09.7**	**-1.7**
	7.1nm,0.6s								
UALR	**University of**	**20.14**	**5**	*e*P			**P**	**14 56 13.5**	**+0.6**
	10.0nm,0.7s								
AMTX	**Amarillo**	**21.17**	**343**	*e*P			**P**	**14 56 26.5**	**+2.4**
	30nm,0.7s,mb4.7								
WVT	**Waverly**	**22.21**	**14**	P			**P**	**14 56 34.6**	**-0.7**
	5.8nm,0.6s,mb4.2								
BNM	**Barren Site**	**22.31**	**333**	*e*P			**P**	**14 56 40.7**	**+4.3**
ANMO	**Albuquerque**	**22.92**	**334**	P			**P**	**14 56 45.6**	**+2.9**
	1.6nm,0.6s,mb3.6,baz=142,slow=12,SNR=3.7								
TKL	**Tuckaleechee C**	**23.03**	**23**	P			**P**	**14 56 43.0**	**-0.9**
	9.4nm,0.7s,mb4.3,baz=196,slow=12,SNR=8.8								
TZTN	**Tazewell**	**23.90**	**22**	*e*P			**P**	**14 56 51.9**	**-0.4**
	24nm,1.3s,mb4.5								
SDV	**Santo Domingo**	**24.03**	**101**	P			**P**	**14 56 52.8**	**-1.0**
	5.3nm,0.6s,mb4.2,baz=340,slow=12,SNR=7.2								
SDV	**Santo Domingo**	**24.03**	**101**	*e*P			**P**	**14 56 53.1**	**-0.7**
	4.4nm,0.6s,mb4.1								
OLIL	**Olney**	**24.65**	**12**	*e*P			**P**	**14 56 59.4**	**+0.2**
	32nm,0.2s,mb5.5								
SCIA	**State Center**	**27.19**	**2**	*e*P			**P**	**14 57 22.7**	**+0.6**
	34nm,0.6s,mb5.0								
JFWS	**Jewell Farm**	**28.41**	**7**	*e*P			**P**	**14 57 33.2**	**+0.2**
	9.5nm,0.5s,mb4.7								
PDAR	**Pinedale Array**	**30.88**	**338**	P			**P**	**14 57 57.5**	**+2.6**
	0.5nm,0.7s,mb3.5,baz=134,slow=6.4,SNR=4.0								
NVAR	**Mina Array Bea**	**31.68**	**323**	P			**P**	**14 58 05.8**	**+3.8**
	0.9nm,0.8s,mb3.6,baz=132,slow=8.3,SNR=8.9								
NVAR	**Mina Array Bea**	**31.68**	**323**	P			**P**	**14 58 05.8**	**+3.8**
GCMT	**Greycliff**	**33.58**	**341**	*e*P			**P**	**14 58 21.4**	**+2.8**
ULM	**Lac du Bonnet**	**35.53**	**358**	P			**P**	**14 58 35.2**	**-0.1**
	2.5nm,0.5s,mb4.4,baz=163,slow=11,SNR=5.4								
LPAZ	**La Paz**	**40.27**	**139**	P			**P**	**14 59 15.6**	**-0.2**
	0.7nm,0.7s,mb3.5,baz=329,slow=7.6,SNR=3.3								
LPAZ				pP			pP	14 59 26.5	+0.5
	1.1nm,0.8s,baz=305,slow=10,SNR=3.7								
LPAZ	**La Paz**	**40.27**	**139**	P			**P**	**14 59 15.6**	**-0.2**
LPAZ				pP			pP	14 59 26.5	+0.5
SIV	**San Ignacio**	**44.90**	**131**	P			**P**	**14 59 53.2**	**-0.2**
	0.5nm,0.7s,mb3.5,baz=295,slow=14,SNR=1.7								
YKA	**Yellowknife Ar**	**49.87**	**348**	P			**P**	**15 00 33.1**	**+1.7**
	3.2nm,1.0s,mb4.3,baz=176,slow=36,SNR=3.2								
CFAA	**Coronel Fontan**	**52.43**	**152**	P			**P**	**15 00 51.0**	**-0.1**
	0.4nm,0.7s,mb3.5,baz=326,slow=4.9,SNR=8.1								
CFAA				pP			pP	15 01 01.9	+0.3
	0.4nm,0.7s,baz=320,slow=6.9,SNR=4.5								
ESDC	**Sonseca Array**	**81.20**	**51**	P			**P**	**15 03 54.6**	**+0.3**
	0.8nm,0.4s,mb4.0,baz=288,slow=5.5,SNR=9.1								
NB2	**NORSAR Subarra**	**84.72**	**28**	P			**P**	**15 04 15.5**	**+3.5**
	comp=Z,1.1nm,0.6s,mb4.2,baz=289,slow=5.3								
NOA	**NORSAR Array B**	**84.72**	**28**	P			**P**	**15 04 14.0**	**+2.0**
	comp=Z,2.2nm,0.8s,mb4.4,baz=291,slow=5.2,SNR=7.8								
NOA	**NORSAR Array B**	**84.72**	**28**	P			**P**	**15 04 14.0**	**+2.0**
ARCES	**ARCESS Array B**	**86.27**	**18**	P			**P**	**15 04 23.3**	**+3.7**
	comp=Z,2.8nm,0.8s,mb4.5,baz=300,slow=4.6,SNR=12								
GERES	**GERESS Array B**	**90.63**	**39**	P			**P**	**15 04 43.0**	**+2.2**
	comp=Z,0.3nm,0.5s,mb3.9,baz=298,slow=2.9,SNR=5.0								
TORD	**Torodi Ar. Bea**	**92.56**	**76**	P			**P**	**15 04 51.6**	**+1.3**
	comp=Z,0.4nm,0.8s,mb3.9,baz=284,slow=5.2,SNR=3.0								
WRA	**Warramunga Arr**	**133.21**	**256**	PKP			PKPdf	15 10 55.3	+0.5
	comp=Z,0.5nm,0.6s,baz=90,slow=2.5,SNR=10								
WRA				pPKP			pPKPdf	15 11 06.4	+0.1
	comp=Z,0.6nm,0.6s,baz=86,slow=2.5,SNR=4.0								
ASAR	**Alice Springs**	**133.60**	**251**	PKP			PKPdf	15 10 56.5	+1.0
	comp=Z,0.3nm,0.7s,baz=62,slow=3.0,SNR=4.8								
ASAR				pPKP			pPKPdf	15 11 07.0	+0.2
	comp=Z,0.4nm,0.7s,baz=65,slow=1.8,SNR=3.3								
CMAR	**Chiang Mai Arr**	**144.55**	**338**	PKP			PKPdf	15 11 15.2	-0.4
	comp=Z,0.7nm,0.8s,baz=351,slow=3.3,SNR=5.5								
CMAR				pPKP			pPKPdf	15 11 26.4	-0.6
	comp=Z,1.7nm,0.9s,baz=344,slow=3.5,SNR=9.3								

IDC 15 14:54:41.0±24.0, 1799S×17228W, h0km, mb4.2/4, mb1 4.4/4, mb1mx3.9/19, mbtmp4.2/4, Error ellipse: s-maj=456.7km s-min=163.7km az=72.0, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
CTA	**Charters Tower**	**39.19**	**260**	P		P		15 02 11.2	+0.1
	8.9nm,1.1s,baz=101,slow=10,SNR=3.2								
STKA	**Stephens Creek**	**43.74**	**243**	P		P		15 02 48.5	+0.2
	3.5nm,0.9s,baz=86,slow=13,SNR=3.5								
WRA	**Warramunga Arr**	**50.35**	**259**	P		P		15 03 40.0	-0.2
	0.6nm,0.3s,baz=98,slow=7.1,SNR=60								
ASAR	**Alice Springs**	**50.38**	**254**	P		P		15 03 40.2	-0.2
	1.6nm,0.5s,baz=88,slow=8.3,SNR=69								

NEIC ***15*** *15:51:08.8±1.7, 7385S×12963E, h88km±18km, mb4.1/3, Error ellipse: s-maj=16.2km s-min=9.6km az=55.0*
ISCJB ***15*** *15:51:10.1±0.9, 7765S±004×12962E±006, h139km±11km, mb3.9/10, Error ellipse: s-maj=10.9km s-min=6.2km az=153.6*
IDC ***15*** *15:51:10.1±2.7, 7435S×12953E, h103km±25km, mb3.7/10, mb1 3.8/12, mb1mx3.7/17, mbtmp3.8/12, Error ellipse: s-maj=31.0km s-min=16.0km az=68.0*
DJA ***15*** *15:51:10.9±0.5, 8§54S×130E±, h81km±17km, mB5.7/4, MLv5.2/5, Mw(mB)5.4/4, Mwp4.6/5*

ISC 15 15:51:09.9±0.8, 7615S±005×12965E±007, h110km±10km, n35, σ1§23/43, mb3.9/10, Banda Sea

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DCZ	**Deep Cove**	**0.71**	**191**	P	Pg	15 53 25.4	-0.3
DCZ				S	Sg	15 53 35.4	+0.5
MLZ	**Mavora Lakes**	**0.81**	**135**	P	Pg	15 53 27.7	+0.1
MLZ				S	Sg	15 53 38.3	+0.1
WKZ	**Wanaka**	**1.19**	**93**	P	Pg	15 53 34.3	-0.5
WKZ				S	Sg	15 53 46.0	-4.2
JCZ	**Jackson Bay**	**1.23**	**56**	P	Pg	15 53 35.2	-0.4
EAZ	**Earnscleugh**	**1.46**	**109**	P	Pn	15 53 38.8	-0.2
TUZ	**Tuapeka**	**1.99**	**127**	P	Pn	15 53 46.7	+0.4
LBZ	**Lake Benmore**	**2.06**	**80**	P	Pn	15 53 47.8	+0.5
FOZ	**Fox Glacier**	**2.08**	**55**	P	Pn	15 53 46.9	-0.5
RPZ	**Rata Peaks**	**2.87**	**70**	P	Pn	15 53 58.3	0.0
WVZ	**Waitaha Valley**	**2.98**	**56**	P	Pn	15 53 57.6	-2.3
MQZ	**McQueen's Vall**	**3.96**	**76**	P	Pn	15 54 12.5	-0.8
CRLZ	**Canterbury Las**	**3.98**	**74**	P	Pn	15 54 12.4	-1.2
DSZ	**Denniston Nort**	**4.45**	**49**	P	Pn	15 54 18.3	-1.7
THZ	**Tophouse**	**5.05**	**55**	P	Pn	15 54 27.9	-0.5
KHZ	**Kahutara**	**5.08**	**64**	P	Pn	15 54 27.6	-1.1
QRZ	**Quartz Range**	**5.49**	**46**	P	Pn	15 54 32.6	-1.7
NNZ	**Nelson**	**5.67**	**53**	P	Pn	15 54 36.0	-0.9
TCW	**Tory Channel**	**6.20**	**57**	P	Pn	15 54 44.4	+0.2
CAW	**Cannon Point**	**6.75**	**60**	P	Pn	15 54 49.0	-2.6

BJI 15 15:57:29.1, 4270N×8521E, h15km, ML2.8, 4C, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WMQ	**Urumqi**	**2.13**	**57**	*e*P	Pn	15 58 06.5	+2.4
WMQ				SG	Sg	15 58 34.4	-3.3
WMQ				Smax			
	comp=N,90nm,0.4s						
WMQ				Smax			
	comp=E,113nm,0.4s						
MK31	**Makanchi Array**	**4.59**	**334**	⇑Pg	Pg	15 58 49.5	-7.5
	comp=E,1.4nm,0.7s,baz=158,slow=15						
MK31				⇑Sn	Sn	15 59 27.4	-3.6
	comp=E,0.5nm,0.3s,baz=144,slow=26						
MK31				⇑Lg		15 59 45.5	
	comp=E,1.5nm,0.3s,baz=147,slow=29						
TKM2	**Tokmak 2**	**7.07**	**275**	⇑Lg		16 01 11.9	
	comp=E,2.7nm,0.8s						

CSEM ***15*** *16:08:16.9±0.1, 4079N×3283E, h0km, MD3.3, Error ellipse: s-maj=1.3km s-min=0.8km az=178.0*
ISK ***15*** *16:08:16.9, 4078N×3283E, h5km, MD3.5*
DDA ***15*** *16:08:17.0, 4083N×3280E, h5km±2km, Md3.3*
ISCJB ***15*** *16:08:18.5±0.3, 4079N±003×3282E±002, h10km, Error ellipse: s-maj=4.0km s-min=2.6km az=175.1*

ISC 15 16:08:18.3±0.6, 4082N±003×3283E±003, h0km±5km, n33, σ0s78/45, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ELDT	**Eldivan**	**0.56**	**125**	*i* P	**Pg**	**16 08 28.6**	**-0.4**
ELDT				*i* S	**Sg**	**16 08 37.1**	**+0.8**
CANT	**Cankiri**	**0.64**	**109**	*e*PG	**Pg**	**16 08 30.5**	**0.0**
CANT				*e*SG	**Sg**	**16 08 39.6**	**+0.8**
ILGA	**Ilgaz**	**0.71**	**70**	*i* P	**Pg**	**16 08 31.5**	**-0.4**
ILGA				*i* S	**Sg**	**16 08 42.0**	**+0.8**
BALT	**Daday**	**0.83**	**30**	*i* P	**Pg**	**16 08 33.6**	**-0.6**
BALT				*i* S	**Sg**	**16 08 44.8**	**-0.3**
TOS	**Tosya**	**0.93**	**76**	*e*PG	**Pg**	**16 08 35.5**	**-0.7**
ANTO	**Ankara**	**0.95**	**182**	*e*PG	**Pg**	**16 08 35.1**	**-1.3**
ANTO				*e*SG	**Sg**	**16 08 48.9**	**+0.3**
KDZE	**Karadeniz Ereo**	**1.16**	**296**	*e*PN	**Pn**	**16 08 40.3**	**-1.4**
BZK	**Bozkurt**	**1.45**	**37**	*e*PN	**Pn**	**16 08 45.6**	**0.0**
HENT	**Hendek**	**1.46**	**271**	*i* P	**Pn**	**16 08 44.5**	**-1.4**
HENT				*i* S	**Sg**	**16 09 07.8**	**+2.5**
CTKT	**Corum**	**1.50**	**97**	*i* P	**Pn**	**16 08 46.0**	**-0.5**
CTKT				*i* S	**Sg**	**16 09 07.1**	**+0.5**
CORM	**Corum**	**1.52**	**114**	*e*PN	**Pn**	**16 08 46.3**	**-0.3**
CORM				*e*SN	**Sn**	**16 09 07.3**	**+0.3**
KAMT	**Kaman**	**1.60**	**154**	*e*PN	**Pn**	**16 08 47.0**	**-0.7**
BYBT	**Boyabat**	**1.60**	**65**	*e*PN	**Pn**	**16 08 47.8**	**0.0**
CDAG	**Cicekdag**	**1.68**	**135**	*i* P	**Pn**	**16 08 48.9**	**+0.1**
CDAG				*i* S	**Sg**	**16 09 12.3**	**+0.1**
GULT	**Gulveren**	**1.80**	**258**	*e*PN	**Pn**	**16 08 50.2**	**-0.2**
GPA	**Golpazari**	**1.99**	**255**	*e*PN	**Pn**	**16 08 52.9**	**-0.2**
ESKT	**Eskisehir**	**1.99**	**230**	*i* P	**Pn**	**16 08 53.5**	**+0.4**
ESKT				*i* S	**Sg**	**16 09 21.8**	**-0.5**
SEYT	**Eskypehyr**	**1.99**	**230**	*i* P	**Pn**	**16 08 53.5**	**+0.4**
DIKM	**Dikmen**	**2.01**	**65**	*e*PN	**Pn**	**16 08 53.7**	**+0.2**
BORA	**Eskisehir**	**2.04**	**244**	*i* P	**Pn**	**16 08 52.5**	**-1.3**
BORA				*i* S	**Sg**	**16 09 24.4**	**+0.6**
KIZT	**Kizilcal**	**2.07**	**201**	*e*PN	**Pn**	**16 08 53.7**	**-0.4**
YOZ	**Yozgat**	**2.24**	**121**	*e*PN	**Pn**	**16 08 56.4**	**-0.1**
CAVI	**Cavuskoy**	**2.36**	**256**	*e*PN	**Pn**	**16 08 58.2**	**+0.1**
ADVT	**Abdulvahap**	**2.38**	**262**	*e*PN	**Pn**	**16 08 58.5**	**0.0**
HRT	**Hereke**	**2.40**	**271**	*e*PN	**Pn**	**16 08 59.2**	**+0.5**
KVT	**Kavak**	**2.45**	**83**	*e*PN	**Pn**	**16 08 60.0**	**+0.5**
AVNT	**Avonos**	**2.56**	**142**	*i* P	**Pn**	**16 09 03.1**	**+2.0**
AVNT				*i* S	**Sg**	**16 09 37.8**	**-2.9**
LADK	**Ladik-KONYA**	**2.64**	**188**	*e*PN	**Pn**	**16 09 01.8**	**-0.2**
YLV	**Yalova**	**2.64**	**266**	*e*PN	**Pn**	**16 09 03.0**	**+1.0**
ALT	**Altintas**	**2.73**	**231**	*e*PN	**Pn**	**16 09 03.6**	**+0.4**
KONT	**Konya--Tatoy**	**2.89**	**187**	*e*PN	**Pn**	**16 09 05.5**	**0.0**
BNN	**Bunyan**	**3.04**	**129**	*e*PN	**Pn**	**16 09 07.8**	**+0.2**
CTKS	**Kestanelik-??a**	**3.29**	**279**	*e*PN	**Pn**	**16 09 11.8**	**+0.8**

ISCJB ***15*** *16:25:48.7±0.2, 47215N±0009×1060E±001, h4km±1km, Error ellipse: s-maj=1.6km s-min=1.4km az=170.3*
ZUR ***15*** *16:25:49.0, 4721N×1062E, h5km, ML2.9/3*
VIE ***15*** *16:25:49.4±0.2, 4717N×1062E, h11km±3km, mb2.5/10, ML3.4/13, Error ellipse: s-maj=1.0km s-min=0.7km az=168.0 5 km NE of Landeck felt 4-5 EMS98 at Landeck / TYROL*
LEDBW ***15*** *16:25:50.7±0.7, 4717N±004×1068E±004, h10km, ML3.3, Error ellipse: s-maj=16.0km s-min=14.0km az=70.0*
PRU ***15*** *16:25:50.5, 4721N×1062E, h7km*
ROM ***15*** *16:25:50.8±0.5, 4711N×1059E, h5km, Md3.0/6, Ml2.7/10, Error ellipse: s-maj=5.9km s-min=3.3km az=178.0*
BGR ***15*** *16:25:51.1±0.5, 4715N×1058E, h10km, ML3.1, Error ellipse: s-maj=7.8km s-min=3.3km az=20.0*
CSEM ***15*** *16:25:51.9±0.1, 4727N×1067E, h10km, ML3.2/27, Error ellipse: s-maj=1.6km s-min=1.0km az=170.0*
NEIC ***15*** *16:25:52.2±0.5, 4734N×1054E, h14km±4km, ML2.7(ZUR), ML3.1(SZGRF), ML3.2(LDG), ML3.2(STR), Error ellipse: s-maj=3.3km s-min=2.3km az=149.0*
LDG ***15*** *16:25:52.0±0.1, 4736N×1069E, h10km, Ml3.2/24, Error ellipse: s-maj=2.0km s-min=1.5km az=16.0*
STR ***15*** *16:25:54.4±0.3, 4740N×1045E, h10km, Ml3.2, Error ellipse: s-maj=0.0km s-min=0.0km az=0.0*

ISC 15 16:25:50.1±0.2, 47205N±0009×1062E±001, h7km±1km, n202, σ1s22/391, 22C-22D, Austria

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FETA	**Feichten**	**0.20**	**158**	⇓*i*Pg	**Pg**	**16 25 53.9**	**-0.2**
	440nm,0.1s,SNR=4138						
FETA				⇑*i*Sg	**Sg**	**16 25 56.2**	**-0.5**
	2µm,0.1s						
RETA	**Reutte**	**0.30**	**19**	⇑*i*Pg	**Pg**	**16 25 56.2**	**+0.2**
	109nm,0.1s,SNR=93						
RETA				⇑*i*Sg	**Sg**	**16 26 01.2**	**+1.3**
	281nm,0.1s						
MOTA	**Moosalm**	**0.36**	**67**	⇑*e*Pg	**Pg**	**16 25 56.9**	**-0.1**
	60nm,0.1s,SNR=234						
MOTA				⇓*i*Sg	**Sg**	**16 26 02.4**	**+0.7**
	408nm,0.2s						
SQTA	**Sankt Quirin**	**0.40**	**88**	⇓*i*Pg	**Pg**	**16 25 57.9**	**+0.1**
SQTA				⇑*i*Sg	**Sg**	**16 26 04.1**	**+1.0**
SQTA	**Sankt Quirin**	**0.40**	**88**	Pg	**Pg**	**16 25 57.9**	**0.0**
SQTA				Sg	**Sg**	**16 26 04.1**	**+1.0**
DAVA	**Damuels**	**0.51**	**279**	*e*Pg	**Pg**	**16 25 59.3**	**-0.7**
DAVA				*e*Sg	**Sg**	**16 26 08.2**	**+1.5**
	SNR=5.9						
DAVA	**Damuels**	**0.51**	**279**	⇓*e*Pg	**Pg**	**16 25 59.3**	**-0.7**
	81nm,0.2s,SNR=198						
DAVA				⇑*i*Sg	**Sg**	**16 26 06.7**	**0.0**
	198nm,0.2s						
UBR	**Ueberruh**	**0.59**	**324**	⇓P*	**Pb**	**16 26 02.5**	**-0.3**
UBR				S*	**Sg**	**16 26 12.3**	**+3.1**
FUORN	**Ofenpass-Fuorn**	**0.64**	**203**	⇑*i*Pg	**Pg**	**16 26 01.7**	**-0.6**
	750nm,0.6s						
FUORN	**Ofenpass-Fuorn**	**0.64**	**203**	⇑*i*P	**Pg**	**16 25 59.2**	**-3.1**

DAVOX	**Davos/Dischmat**	**0.66**	**230**	Pg	**Pg**	**16 26 02.3**	**-0.6**
DAVOX				Sg	**Sg**	**16 26 11.1**	**-0.4**
DAVOX	**Davos/Dischmat**	**0.66**	**230**	⇓*e*P	**Pg**	**16 26 01.0**	**-1.9**
DAVOX	**Davos/Dischmat**	**0.66**	**230**	⇑*i*Pg	**Pg**	**16 26 02.2**	**-0.7**
	2µm,0.2s						
DAVOX				Sg	**Sg**	**16 26 11.1**	**-0.4**
WATA	**Walderalm**	**0.66**	**78**	⇓*e*Pg	**Pg**	**16 26 02.4**	**-0.5**
	37nm,0.2s,SNR=39						
WATA				⇓*i*Sg	**Sg**	**16 26 12.0**	**+0.5**
	122nm,0.2s						
WTTA	**Wattenberg**	**0.69**	**85**	*e*Pg	**Pg**	**16 26 03.2**	**-0.2**
WTTA				*e*Sg	**Sg**	**16 26 14.1**	**+1.6**
WTTA	**Wattenberg**	**0.69**	**85**	*e*Pg	**Pg**	**16 26 03.2**	**-0.2**
	103nm,0.2s,SNR=175						
WTTA				⇓*i*Sg	**Sg**	**16 26 12.7**	**+0.2**
	233nm,0.3s						
BRMO	**Bormio**	**0.75**	**193**	Pg	**Pg**	**16 26 03.6**	**-0.9**
BRMO				Sg	**Sg**	**16 26 12.7**	**-1.5**
	131nm,0.5s						
SCE	**Schlegeis**	**0.76**	**102**	⇓*i*Pg	**Pg**	**16 26 04.1**	**-0.7**
SCE				⇓*i*Sg	**Sg**	**16 26 14.4**	**-0.2**
LIENZ	**Kamor/St.Gall**	**0.78**	**277**	*e*P	**Pg**	**16 26 01.5**	**-3.5**
APPI	**Appiano**	**0.84**	**150**	Pg	**Pg**	**16 26 05.7**	**-0.5**
APPI				Sg	**Sg**	**16 26 16.5**	**-0.5**
	224nm,0.3s						
PLONS	**Plons/SG**	**0.86**	**260**	*e*P	**Pg**	**16 26 09.4**	**+2.7**
BRMO				Sg	**Sg**	**16 26 12.7**	**-1.5**
	131nm,0.5s						
BERNI	**Berninapass**	**0.89**	**208**	⇑*i*Pg	**Pg**	**16 26 06.1**	**-1.2**
	344nm,0.2s						
BERNI	**Berninapass**	**0.89**	**208**	⇑*i*P	**Pg**	**16 26 01.7**	**-5.6**
FUR	**Furstenfeldbru**	**1.06**	**24**	*e*Pg	**Pg**	**16 26 11.5**	**+1.1**
FUR				*e*Sg	**Sg**	**16 26 26.7**	**+2.6**
FUR	**Furstenfeldbru**	**1.06**	**24**	*e*Pg	**Pg**	**16 26 11.5**	**+1.1**
FUR				*e*Sg	**Sg**	**16 26 26.7**	**+2.5**
VDL	**Val di Lei**	**1.08**	**229**	⇑*i*Pg	**Pg**	**16 26 09.5**	**-1.4**
	290nm,0.4s						
VDL	**Val di Lei**	**1.08**	**229**	*e*Pn	**Pn**	**16 26 01.9**	**-10**
TUE	**Stuetta**	**1.14**	**231**	Pg	**Pg**	**16 26 10.7**	**-1.3**
TUE				Sg	**Sg**	**16 26 27.2**	**+0.4**
	137nm,0.4s						
TUE	**Stuetta**	**1.14**	**231**	*e*P	**Pg**	**16 26 10.6**	**-1.4**
TUE				*e*S	**Sg**	**16 26 25.7**	**-1.1**
MABI	**Malga Bissina**	**1.15**	**184**	Pg	**Pg**	**16 26 11.3**	**-0.9**
MABI				Sg	**Sg**	**16 26 25.8**	**-1.4**
	60nm,0.4s						
SEST	**Monte Rota**	**1.18**	**112**	Pg	**Pg**	**16 26 11.6**	**-1.2**
	116nm,0.6s						
WILA	**Wila**	**1.19**	**281**	⇑*i*Pg	**Pg**	**16 26 13.2**	**+0.3**
	2µm,0.5s						
SISB	**Singen-Schiene**	**1.22**	**294**	P*	**Pb**	**16 26 14.5**	**+1.0**
SISB				Pg	**Pg**	**16 26 14.9**	**+1.3**
SISB				S*	**Sb**	**16 26 31.7**	**+2.2**
SISB				Sg	**Sg**	**16 26 33.2**	**+3.8**
SISB	**Singen-Schiene**	**1.22**	**294**	P	**Pb**	**16 26 14.5**	**+1.0**
SISB				Sx	Sx	16 26 31.7	
SISB	**Singen-Schiene**	**1.22**	**294**	P	**Pg**	**16 26 14.9**	**+1.3**
SISB				S	**Sg**	**16 26 33.2**	**+3.8**
SISB	**Singen-Schiene**	**1.22**	**294**	Pg	**Pg**	**16 26 14.9**	**+1.3**
SISB				Sg	**Sg**	**16 26 33.2**	**+3.7**
GUT	**Gutenstein**	**1.34**	**311**	⇓P	**Pn**	**16 26 15.2**	**0.0**
GUT				Pg	**Pg**	**16 26 16.4**	**+0.6**
GUT				S	**Sn**	**16 26 33.4**	**+0.2**
GUT				Sg	**Sg**	**16 26 35.3**	**+2.1**
GUT	**Gutenstein**	**1.34**	**311**	⇓Pn	**Sn**	**16 26 15.2**	**0.0**
GUT				Sn	**Sn**	**16 26 33.4**	**+0.2**
GUT	**Gutenstein**	**1.34**	**311**	P	**Pg**	**16 26 16.4**	**+0.6**
GUT				S	**Sg**	**16 26 35.3**	**+2.1**
CTI	**Castel Tesino**	**1.36**	**148**	Pg	**Pg**	**16 26 14.9**	**-1.2**
CTI				Sg	**Sg**	**16 26 33.8**	**+0.1**
	93nm,0.3s						
ABTA	**Abfaltersbach**	**1.37**	**109**	⇓*e*Pg	**Pg**	**16 26 15.4**	**-1.0**
	15nm,0.4s,SNR=16						
ABTA				⇓*i*Sg	**Sg**	**16 26 34.0**	**-0.2**
	94nm,0.3s						
HDH	**Heidenheim-Cha**	**1.41**	**349**	P	**Pn**	**16 26 16.2**	**0.0**
HDH				S	**Sb**	**16 26 32.5**	**-2.3**
HDH				Sg	**Sg**	**16 26 37.3**	**+1.9**
MAGA	**Magasa**	**1.43**	**180**	Pg	**Pg**	**16 26 16.7**	**-0.8**
MAGA				Sg	**Sg**	**16 26 35.3**	**-0.8**
	309nm,0.5s						
FLACH	**Flaach**	**1.44**	**285**	*e*Pn	**Pn**	**16 26 13.6**	**-3.0**
BUCH	**Bad Urach**	**1.51**	**326**	⇓P	**Pn**	**16 26 18.0**	**+0.5**
BUCH				S	**Sn**	**16 26 37.6**	**+0.1**
BUCH				Sg	**Sg**	**16 26 40.9**	**+2.2**
NORI	**Noerdlinger Ri**	**1.52**	**0**	⇑*i*Pn	**Pn**	**16 26 17.4**	**-0.3**
RWMO	**Wildenmoos**	**1.53**	**69**	⇑*e*Pn	**Pn**	**16 26 19.6**	**+1.8**
RWMO				⇑*i*Sg	**Sg**	**16 26 43.6**	**+4.4**
SPAK	**Spaichingen-Ko**	**1.53**	**307**	P	**Pn**	**16 26 19.7**	**+1.8**
SPAK				S	**Sn**	**16 26 37.7**	**-0.3**
SPAK	**Spaichingen-Ko**	**1.53**	**307**	P	**Pn**	**16 26 19.7**	**+1.8**
SPAK				S	**Sn**	**16 26 37.7**	**-0.3**
SPAK				Sg	**Sg**	**16 26 38.0**	**-1.4**
SPAK	**Spaichingen-Ko**	**1.53**	**307**	Pg	**Pg**	**16 26 19.5**	**0.0**
SPAK				Sg	**Sg**	**16 26 38.0**	**-1.4**
SLE	**Schleitheim**	**1.55**	**292**	⇓*i*Pn	**Pn**	**16 26 18.2**	**+0.1**
	576nm,0.4s						
MDI	**Monti di Nese**	**1.56**	**204**	Pg	**Pg**	**16 26 19.4**	**-0.6**
	94nm,0.5s						
RJOB	**Jochberg**	**1.57**	**69**	*e*Pn	**Pn**	**16 26 20.0**	**+1.7**
RJOB				*e*Pg	**Pg**	**16 26 21.0**	**+0.8**
RJOB				*e*Sg	**Sg**	**16 26 43.3**	**+2.8**
RJOB	**Jochberg**	**1.57**	**69**	Pg	**Pg**	**16 26 21.0**	**+0.8**
RJOB				Sg	**Sg**	**16 26 43.3**	**+2.8**
SALO	**Salr**	**1.59**	**182**	Pg	**Pg**	**16 26 20.3**	**-0.3**
	201nm,0.8s						
FVI	**Forni Avoltri**	**1.60**	**112**	Pg	**Pg**	**16 26 19.9**	**-0.9**
	76nm,0.4s						
TUBL	**Tuebingen-Lenn**	**1.68**	**322**	P	**Pn**	**16 26 21.0**	**+1.1**
TUBL				S	**Sn**	**16 26 42.0**	**+0.4**
BGLD	**Berchtesgaden**	**1.68**	**74**	*e*Pn	**Pn**	**16 26 21.3**	**+1.4**
BGLD				*i* Pg	**Pg**	**16 26 22.5**	**+0.1**
BGLD				*i* Sg	**Sg**	**16 26 47.2**	**+3.0**
MUGIO	**Muggio**	**1.68**	**221**	⇑*i*Pn	**Pn**	**16 26 20.3**	**+0.4**
	201nm,0.4s						
MUGIO	**Muggio**	**1.68**	**221**	Pn	**Pn**	**16 26 20.5**	**+0.6**
STU	**Stuttgart**	**1.84**	**329**	*e*Pn	**Pn**	**16 26 22.0**	**-0.1**
STU				Sn	**Sn**	**16 26 44.8**	**-0.8**
STU				Sg	**Sg**	**16 26 49.7**	**+0.5**
STU	**Stuttgart**	**1.84**	**329**	*e*Pn	**Pn**	**16 26 22.0**	**0.0**
VAI	**Varese**	**1.85**	**224**	Pn	**Pn**	**16 26 23.9**	**+1.7**
	42nm,0.3s						
KBA	**Koelnbreinsper**	**1.86**	**93**	*e*Pg	**Pg**	**16 26 24.7**	**-1.1**
KBA				*e*Sg	**Sg**	**16 26 53.0**	**+3.1**
KBA	**Koelnbreinsper**	**1.86**	**93**	⇑*e*Pg	**Pg**	**16 26 24.5**	**-1.4**
	27nm,0.2s,SNR=55						
KBA				⇑*i*Sg	**Sg**	**16 26 51.4**	**+1.5**
	52nm,0.2s						
KBA	**Koelnbreinsper**	**1.86**	**93**	Pg	**Pg**	**16 26 24.7**	**-1.1**
KBA				Sg	**Sg**	**16 26 51.4**	**+1.5**
	52nm,0.2s						
FELD	**Feldberg im Sc**	**1.90**	**292**	P	**Pn**	**16 26 23.0**	**+0.1**
FELD				S	**Sn**	**16 26 46.2**	**-0.8**
FELD	**Feldberg im Sc**	**1.90**	**292**	P	**Pn**	**16 26 23.0**	**+0.1**
FELD	**Feldberg im Sc**	**1.90**	**292**	Pg	**Pg**	**16 26 26.6**	**+0.1**
FELD				S	**Sn**	**16 26 46.2**	**-0.8**
FELD				Sn	**Sn**	**16 26 46.4**	**-0.6**
FELD				Sg	**Sg**	**16 26 51.5**	**+0.5**
FELD	**Feldberg im Sc**	**1.90**	**292**	Pn	**Pn**	**16 26 22.6**	**-0.3**
FELD				Pg	**Pg**	**16 26 26.6**	**+0.1**
FELD				Sn	**Sn**	**16 26 46.4**	**-0.6**
FELD				Sg	**Sg**	**16 26 51.5**	**+0.5**
LBG	**Lerchenberg**	**1.91**	**321**	⇑P	**Pn**	**16 26 23.4**	**+0.4**
LBG				S	**Sn**	**16 26 46.4**	**-0.9**
LBG				Sg	**Sg**	**16 26 52.5**	**+1.0**
BFO	**Black Forest**	**1.91**	**307**	*e*Pn	**Pn**	**16 26 23.2**	**+0.1**
BFO				*e*Sn	**Sn**	**16 26 46.6**	**-0.8**
	SNR=1.6						
BFO	**Black Forest**	**1.91**	**307**	*e*Pn	**Pn**	**16 26 23.2**	**+0.1**
KIZ	**Kirchzarten**	**1.98**	**293**	P	**Pn**	**16 26 23.9**	**-0.1**
KIZ				Pg	**Pg**	**16 26 27.9**	**-0.2**
KIZ				S	**Sn**	**16 26 46.5**	**-2.5**
KIZ				Sg	**Sg**	**16 26 54.2**	**+0.5**
KIZ	**Kirchzarten**	**1.98**	**293**	P	**Pn**	**16 26 23.9**	**-0.1**
KIZ				S	**Sn**	**16 26 46.5**	**-2.5**
KIZ	**Kirchzarten**	**1.98**	**293**	P	**Pg**	**16 26 27.9**	**-0.2**
KIZ				S	**Sg**	**16 26 54.2**	**+0.5**
GMNA	**Gemona**	**2.02**	**116**	Pn	**Pn**	**16 26 27.0**	**+2.4**
PTCC	**Patocco-Chiusa**	**2.04**	**112**	Pn	**Pn**	**16 26 28.1**	**+3.3**
BBS	**Basel-Blauen**	**2.13**	**278**	Pg	**Pg**	**16 26 31.0**	**0.0**
BBS				Sg	**Sg**	**16 26 59.0**	**+0.4**
MYKA	**Terra Mystica**	**2.15**	**104**	⇓*i*Pg	**Pg**	**16 26 29.7**	**-1.6**
	7.3nm,0.3s						
MYKA				⇑*i*Sg	**Sg**	**16 27 00.5**	**+1.4**
	23nm,0.3s						
LIBD	**Limburg**	**2.25**	**296**	Pg	**Pg**	**16 26 32.5**	**-0.7**
SIND	**Sindeldorf**	**2.25**	**343**	P	**Pn**	**16 26 27.3**	**-0.4**
SIND				S	**Sn**	**16 26 55.6**	**-0.2**
SIND				Sg	**Sg**	**16 27 02.9**	**+0.5**
MOF	**Molkenrain**	**2.45**	**287**	Pn	**Pn**	**16 26 30.9**	**+0.4**
WET	**Wettzell**	**2.46**	**37**	*e*Pn	**Pn**	**16 26 30.9**	**+0.4**
WET				*e*Sn	**Sn**	**16 27 01.5**	**+0.6**
WET	**Wettzell**	**2.46**	**37**	*e*Pn	**Pn**	**16 26 30.9**	**+0.3**
WET				*e*Sn	**Sn**	**16 27 01.5**	**+0.6**
GORS	**Gorjuse**	**2.48**	**110**	*i* Pn	**Pn**	**16 26 34.3**	**+3.4**
GRA1	**Grafenberg Arr**	**2.52**	**9**	Pg	**Pg**	**16 26 39.3**	**+0.9**
GRA1				Sg	**Sg**	**16 27 11.6**	**+0.5**
GRA1	**Grafenberg Arr**	**2.52**	**9**	*e*Pg	**Pg**	**16 26 39.3**	**+0.9**
GRA1				*e*Sg	**Sg**	**16 27 11.6**	**+0.5**
GRF	**Grafenberg Arr**	**2.52**	**9**	*e*Pg	**Pg**	**16 26 39.3**	**+0.9**
GRF				*e*Sg	**Sg**	**16 27 11.6**	**+0.6**
VOJS	**Vojsko**	**2.54**	**116**	*i* Pn	**Pn**	**16 26 34.4**	**+2.7**
VOY	**Vojsko**	**2.54**	**116**	*e*Pn	**Pn**	**16 26 34.3**	**+2.6**
VOY				*e*Sn	**Sn**	**16 27 07.8**	**+4.9**
ECH	**Echery**	**2.55**	**295**	Pn	**Pn**	**16 26 31.3**	**-0.5**
ECH	**Echery**	**2.55**	**295**	P	**Pg**	**16 26 38.8**	**-0.1**
ECH	**Echery**	**2.55**	**295**	*e*Pn	**Pn**	**16 26 31.7**	**-0.1**
ECH	**Echery**	**2.55**	**295**	*e*Pg	**Pg**	**16 26 38.5**	**-0.4**
ECH	**Echery**	**2.55**	**295**	*e*Pn	**Pn**	**16 26 31.7**	**-0.1**
ECH				*e*Pg	**Pg**	**16 26 38.5**	**-0.4**
ECH				*e*Sn	**Sn**	**16 27 03.2**	**+0.1**
ECH				*e*Sg	**Sg**	**16 27 14.2**	**+2.3**
MOA	**Molln**	**2.55**	**74**	*e*Pg	**Pg**	**16 26 37.6**	**-1.4**
MOA				*e*Sg	**Sg**	**16 27 12.1**	**0.0**
MOA	**Molln**	**2.55**	**74**	⇓*i*Pg	**Pg**	**16 26 37.9**	**-1.0**
	8.7nm,0.2s						
MOA				⇓*i*Sg	**Sg**	**16 27 12.1**	**+0.1**
	55nm,0.2s						
MOA	**Molln**	**2.55**	**74**	Pn	**Pn**	**16 26 31.2**	**-0.7**
	SNR=9.6						
MOA	**Molln**	**2.55**	**74**	Pg	**Pg**	**16 26 37.9**	**-1.1**
	8.7nm,0.2s						
MOA				Sg	**Sg**	**16 27 12.1**	**0.0**
	55nm,0.2s						
CDF	**Champ du Feu**	**2.56**	**299**	*e*Pg	**Pg**	**16 26 38.9**	**-0.2**
	SNR=1.0						
CDF				*e*Sg	**Sg**	**16 27 10.9**	**-1.4**
	53nm,0.5s,SNR=1.0						
CDF	**Champ du Feu**	**2.56**	**299**	*e*Pg	**Pg**	**16 26 38.9**	**-0.2**
	SNR=1.0						
CDF				*e*Sg	**Sg**	**16 27 10.9**	**-1.4**
	26nm,0.5s,SNR=1.0						
CDF	**Champ du Feu**	**2.56**	**299**	*e*Pn	**Pn**	**16 26 32.0**	**0.0**
CDF				*e*Pg	**Pg**	**16 26 38.9**	**-0.2**
CDF				*e*Sg	**Sg**	**16 27 10.9**	**-1.4**
LANF	**Langenberg**	**2.59**	**314**	Pn	**Pn**	**16 26 32.6**	**+0.2**
SWS	**Schriesheim-Wi**	**2.62**	**331**	P	**Pn**	**16 26 33.1**	**+0.3**
SWS				S	**Sn**	**16 27 02.7**	**-2.0**
SWS				Sg	**Sg**	**16 27 15.6**	**+1.4**
HINF	**Hinteralfeld**	**2.63**	**285**	*e*Pg	**Pg**	**16 26 41.8**	**+1.4**
	SNR=1.0						
HINF				*e*Sn	**Sn**	**16 27 02.5**	**-2.5**
HINF				*e*Sg	**Sg**	**16 27 14.8**	**+0.3**
	37nm,0.4s,SN

MOX				*e*Sg		**Sg**	**16 27 42.0**	**-0.6**
MOX	**Moxa**	**3.50**	**10**	*e*PN		**Pn**	**16 26 43.3**	**-1.7**
MOX				*e*SN		**Sn**	**16 27 25.7**	**-0.9**
MOX				*e*SG		**Sg**	**16 27 42.0**	**-0.6**
CSNA	**Conrad Observa**	**3.62**	**77**	⇓*i* Pn		**Pn**	**16 26 48.0**	**+1.5**
	1.3nm,0.1s							
CSNA	**Conrad Observa**	**3.62**	**77**	Pn		**Pn**	**16 26 48.0**	**+1.5**
	1.3nm,0.1s							
UBBA	**Unterbreizbach**	**3.64**	**354**	*e*Sn		**Sn**	**16 27 28.2**	**-1.8**
	SNR=1.6							
MBDF	**Montbardon**	**3.65**	**229**	*e*P		**Pn**	**16 26 52.2**	**+5.2**
	SNR=1.0							
MBDF				*e*Sn		**Sn**	**16 27 31.0**	**+0.7**
	14nm,0.6s							
MBDF	**Montbardon**	**3.65**	**229**	*e*P		**Pn**	**16 26 52.2**	**+5.2**
	SNR=1.0							
MBDF				*e*Sn		**Sn**	**16 27 31.0**	**+0.7**
	7.2nm,0.6s							
MBDF	**Montbardon**	**3.65**	**229**	*e*Pn		**Pn**	**16 26 48.6**	**+1.6**
MBDF				*e*P			16 26 52.2	
MBDF				*e*Sn		**Sn**	**16 27 31.0**	**+0.7**
RFYF	**Reffroy**	**3.74**	**294**	*e*Pg		**Pg**	**16 27 00.4**	**-1.4**
	baz=108							
RFYF				*e*Sg		**Sg**	**16 27 49.0**	**-1.3**
	10nm,0.2s							
RFYF	**Reffroy**	**3.74**	**294**	*e*Pg		**Pg**	**16 27 00.4**	**-1.4**
RFYF				*e*Sg		**Sg**	**16 27 49.0**	**-1.3**
	5.2nm,0.2s							
PRU	**Pruhonice**	**3.81**	**42**	*e*PN		**Pn**	**16 26 49.5**	**+0.3**
PRU				*ex*		x	16 26 57.4	
PRU				*e*SG		**Sg**	**16 27 50.6**	**-1.8**
	11nm,0.6s							
WLF	**Walferdange**	**3.86**	**311**	P		**Pn**	**16 26 50.7**	**+0.8**
WLF	**Walferdange**	**3.86**	**311**	P		**Pn**	**16 26 50.6**	**+0.7**
SAOF	**Saorge**	**3.87**	**215**	Pn		**Pn**	**16 26 53.4**	**+3.4**
SFTF	**Sexfontaines**	**3.90**	**287**	*e*Pn		**Pn**	**16 26 50.2**	**-0.2**
	baz=103							
SFTF	**Sexfontaines**	**3.90**	**287**	*e*Pg		**Pg**	**16 27 04.4**	**-0.4**
SFTF				*e*Sg		**Sg**	**16 27 54.8**	**-0.6**
	15nm,0.5s							
SFTF	**Sexfontaines**	**3.90**	**287**	*e*Pg		**Pg**	**16 27 04.4**	**-0.4**
SFTF				*e*Sg		**Sg**	**16 27 54.8**	**-0.6**
	7.4nm,0.5s							
SFTF	**Sexfontaines**	**3.90**	**287**	*e*Pn		**Pn**	**16 26 50.2**	**-0.2**
SFTF				*e*Pg		**Pg**	**16 27 04.4**	**-0.4**
SFTF				*e*Sg		**Sg**	**16 27 54.8**	**-0.6**
AUTN	**L'Aution**	**3.92**	**216**	Pn		**Pn**	**16 26 54.5**	**+3.9**
MEZF	**Maizieres J'vi**	**3.97**	**291**	*e*Pn		**Pn**	**16 26 50.3**	**-1.0**
	baz=105							
MEZF	**Maizieres J'vi**	**3.97**	**291**	*e*Pg		**Pg**	**16 27 04.8**	**-1.3**
	baz=109							
MEZF				*e*Sg		**Sg**	**16 27 56.8**	**-0.7**
	14nm,0.4s,baz=98							
MEZF	**Maizieres J'vi**	**3.97**	**291**	*e*Pg		**Pg**	**16 27 04.8**	**-1.3**
MEZF				*e*Sg		**Sg**	**16 27 56.8**	**-0.7**
	6.9nm,0.4s							
MEZF	**Maizieres J'vi**	**3.97**	**291**	*e*Pn		**Pn**	**16 26 50.3**	**-1.0**
MEZF				*e*Pg		**Pg**	**16 27 04.8**	**-1.3**
MEZF				*e*Sg		**Sg**	**16 27 56.8**	**-0.7**
TOUF	**Mont Tournerai**	**3.97**	**218**	Pn		**Pn**	**16 26 54.9**	**+3.5**
ORIF	**Oris-en-Rattie**	**4.02**	**237**	*e*Pn		**Pn**	**16 26 54.3**	**+2.3**
	SNR=1.0							
ORIF				*e*Sn		**Sn**	**16 27 39.3**	**0.0**
ORIF				*e*Sg		**Sg**	**16 28 01.3**	**+2.3**
	19nm,0.7s,SNR=1.0							
ORIF	**Oris-en-Rattie**	**4.02**	**237**	*e*Pn		**Pn**	**16 26 54.3**	**+2.3**
	SNR=1.0							
ORIF				*e*Sn		**Sn**	**16 27 39.3**	**0.0**
ORIF				*e*Sg		**Sg**	**16 28 01.3**	**+2.3**
	9.4nm,0.7s,SNR=1.0							
SBF	**Sospel**	**4.02**	**215**	*e*Pn		**Pn**	**16 26 54.2**	**+2.1**
	SNR=1.0							
SBF				*e*Sn		**Sn**	**16 27 40.2**	**+0.8**
	27nm,0.6s							
SBF	**Sospel**	**4.02**	**215**	*e*Pn		**Pn**	**16 26 54.2**	**+2.1**
	SNR=1.0							
SBF				*e*Sn		**Sn**	**16 27 40.2**	**+0.8**
	13nm,0.6s							
MVIF	**Mont Vial**	**4.11**	**218**	Pn		**Pn**	**16 26 56.1**	**+2.8**
BRG	**Berggiesshubel**	**4.27**	**30**	PG		**Pg**	**16 27 10.4**	**-1.5**
BRG				SG		**Sg**	**16 28 06.8**	**-0.4**
	6.3nm,0.5s							
CLL	**Collm**	**4.39**	**20**	*e*Pn		**Pn**	**16 26 56.0**	**-1.2**
CLL				*e*Pg		**Pg**	**16 27 16.0**	**+1.8**
CLL				*i* Sg		**Sg**	**16 28 12.3**	**+1.2**
	comp=Z,18nm,1.0s							
ZST	**Bratislava**	**4.49**	**75**	*e*SG		**Sg**	**16 28 11.4**	**-2.7**
VRAC	**Vranov**	**4.51**	**60**	*e*Pn		**Pn**	**16 27 00.0**	**+1.2**
VRAC				*e*Sn		**Sn**	**16 27 50.2**	**-1.2**
VRAC				*e*Sg		**Sg**	**16 28 12.3**	**-2.6**
FRF	**La Foret Royal**	**4.60**	**219**	*e*Pn		**Pn**	**16 27 01.9**	**+1.9**
	SNR=1.0							
FRF				*e*Sn		**Sn**	**16 27 54.3**	**+0.7**
	comp=Z,6.6nm,0.5s							
FRF	**La Foret Royal**	**4.60**	**219**	*e*Pn		**Pn**	**16 27 01.9**	**+1.9**
	SNR=1.0							
FRF				*e*Sn		**Sn**	**16 27 54.3**	**+0.7**
	comp=Z,3.3nm,0.5s							
LOR	**Lormes**	**4.61**	**273**	*e*Pn		**Pn**	**16 27 00.4**	**+0.3**
	baz=96							
LOR				*e*Sg		**Sg**	**16 28 15.9**	**-2.1**
	comp=Z,10nm,0.5s,baz=92,SNR=1.0							
LOR	**Lormes**	**4.61**	**273**	*e*Pn		**Pn**	**16 27 00.4**	**+0.3**
LOR				*e*Sg		**Sg**	**16 28 15.9**	**-2.1**
	comp=Z,5.2nm,0.5s,SNR=1.0							
MODS	**Modra-Piesok**	**4.64**	**73**	*e*SG		**Sg**	**16 28 14.5**	**-4.4**
SSB	**Saint Sauveur**	**4.64**	**248**	*e*Pn		**Pn**	**16 27 00.8**	**+0.3**
SSB	**Saint Sauveur**	**4.64**	**248**	*e*Pn		**Pn**	**16 27 00.8**	**+0.3**
SMF	**Signal de Mont**	**4.68**	**266**	*e*Pn		**Pn**	**16 27 01.3**	**+0.2**
SMF				*e*Sn		**Sn**	**16 27 53.1**	**-2.5**
	SNR=1.0							
SMF				*e*Sg		**Sg**	**16 28 19.0**	**-1.3**
	comp=Z,8.4nm,0.3s,SNR=1.0							
SMF	**Signal de Mont**	**4.68**	**266**	*e*Pn		**Pn**	**16 27 01.3**	**+0.2**
SMF				*e*Sn		**Sn**	**16 27 53.1**	**-2.5**
	SNR=1.0							
SMF				*e*Sg		**Sg**	**16 28 19.0**	**-1.3**
	comp=Z,4.2nm,0.3s,SNR=1.0							
VIVF	**Saint-Julien-l**	**4.76**	**243**	*e*Pn		**Pn**	**16 27 03.1**	**+0.8**
	SNR=1.0							
VIVF				*e*Sn		**Sn**	**16 27 56.3**	**-1.4**
	comp=Z,2.9nm,0.2s							
VIVF	**Saint-Julien-l**	**4.76**	**243**	*e*Pn		**Pn**	**16 27 03.1**	**+0.8**
	SNR=1.0							
VIVF				*e*Sn		**Sn**	**16 27 56.3**	**-1.4**
	comp=Z,1.5nm,0.2s							
SMRF	**Simiane la Rot**	**4.79**	**229**	*e*Pn		**Pn**	**16 27 04.1**	**+1.4**
	SNR=1.0							
PGF	**Pioggiola**	**4.80**	**194**	*e*Pn		**Pn**	**16 27 05.0**	**+2.3**
PGF				*e*Sn		**Sn**	**16 27 58.4**	**-0.1**
GIVF	**Givet**	**4.81**	**309**	*e*Sg		**Sg**	**16 28 21.5**	**-3.1**
	comp=Z,4.8nm,0.2s							
GIVF	**Givet**	**4.81**	**309**	*e*Sg		**Sg**	**16 28 21.5**	**-3.1**
	comp=Z,2.4nm,0.2s							
LMR	**La Mourre**	**4.84**	**218**	*e*Pn		**Pn**	**16 27 04.6**	**+1.3**
	SNR=1.0							
SSF	**Saint Saulge**	**4.86**	**271**	*e*Pn		**Pn**	**16 27 03.8**	**+0.2**
	SNR=1.0							
SSF				*e*Sg		**Sg**	**16 28 25.7**	**-0.4**
	comp=Z,5.9nm,0.5s,SNR=1.0							
SSF	**Saint Saulge**	**4.86**	**271**	*e*Pn		**Pn**	**16 27 03.8**	**+0.2**
	SNR=1.0							
SSF				*e*Sg		**Sg**	**16 28 25.7**	**-0.4**
	comp=Z,3.0nm,0.5s,SNR=1.0							
DPC	**Dobruska-Polom**	**4.91**	**48**	*e*SN		**Sn**	**16 27 59.2**	**-2.1**
DPC				*e*SG		**Sg**	**16 28 24.9**	**-2.8**
AVF	**Avril sur Loir**	**4.99**	**268**	*e*Pn		**Pn**	**16 27 05.6**	**+0.2**
	SNR=1.0							
AVF				*e*Sn		**Sn**	**16 28 00.3**	**-3.0**
AVF				*e*Sg		**Sg**	**16 28 30.1**	**-0.2**
	comp=Z,4.7nm,0.6s							
AVF	**Avril sur Loir**	**4.99**	**268**	*e*Pn		**Pn**	**16 27 05.6**	**+0.2**
	SNR=1.0							
AVF				*e*Sn		**Sn**	**16 28 00.3**	**-3.0**
AVF				*e*Sg		**Sg**	**16 28 30.1**	**-0.2**
	comp=Z,2.3nm,0.6s							
BAIF	**Baives**	**5.12**	**306**	*e*Pn		**Pn**	**16 27 06.3**	**-0.9**
	SNR=1.0							
MORC	**Moravsky Berou**	**5.27**	**58**	*e*Pn		**Pn**	**16 27 09.7**	**+0.5**
MORC				*e*Sn		**Sn**	**16 28 08.8**	**-1.4**
MORC				*e*Sg		**Sg**	**16 28 38.6**	**-0.7**
BGF	**Bois d'Agland**	**5.37**	**266**	*e*Pn		**Pn**	**16 27 11.0**	**+0.4**
	SNR=1.0							
BGF				*e*Sn		**Sn**	**16 28 10.8**	**-1.8**
BGF				*e*Sg		**Sg**	**16 28 41.3**	**-1.2**
	comp=Z,7.1nm,0.3s,SNR=1.0							
BGF	**Bois d'Agland**	**5.37**	**266**	*e*Pn		**Pn**	**16 27 11.0**	**+0.4**
	SNR=1.0							
BGF				*e*Sn		**Sn**	**16 28 10.8**	**-1.8**
BGF				*e*Sg		**Sg**	**16 28 41.3**	**-1.2**
	comp=Z,3.5nm,0.3s,SNR=1.0							
OKC	**Ostrava-Krasne**	**5.65**	**59**	*e*SG		**Sg**	**16 28 50.2**	**-1.2**
VYHS	**Vyhne**	**5.68**	**74**	*e*SG		**Sg**	**16 28 48.3**	**-4.0**
LASF	**Ste Croix**	**5.68**	**239**	*e*Pn		**Pn**	**16 27 15.2**	**+0.3**
LASF				*e*Sn		**Sn**	**16 28 17.9**	**-2.4**
	comp=Z,6.1nm,0.4s,SNR=1.0							
LASF	**Ste Croix**	**5.68**	**239**	*e*Pn		**Pn**	**16 27 15.2**	**+0.3**
LASF				*e*Sn		**Sn**	**16 28 17.9**	**-2.4**
	comp=Z,3.0nm,0.4s,SNR=1.0							
TCF	**Toulx Ste Croi**	**5.85**	**264**	*e*Pn		**Pn**	**16 27 17.6**	**+0.4**
	SNR=1.0							
CAF	**Calviac**	**6.38**	**252**	*e*Pn		**Pn**	**16 27 25.2**	**+0.8**
	SNR=1.0							
MTLF	**Montolieu**	**7.08**	**240**	*e*Pn		**Pn**	**16 27 34.6**	**+0.6**
	SNR=1.0							
LDF	**La Druitiere**	**7.36**	**285**	*e*Pn		**Pn**	**16 27 37.2**	**-0.6**
MFF	**Saint Martin d**	**7.40**	**269**	*e*Pn		**Pn**	**16 27 38.5**	**0.0**
	SNR=1.0							
GRR	**Gorron**	**7.82**	**283**	*e*Pn		**Pn**	**16 27 43.5**	**-0.8**

ISCJB ***15*** *16:45:50.4±0.4, 4528N±002×1740E±002, h11km±3km, Error ellipse: s-maj=3.5km s-min=2.8km az=10.1*
CSEM ***15*** *16:45:51.2±0.1, 4521N×1729E, h20km, ML2.6, Error ellipse: s-maj=2.1km s-min=1.7km az=22.0*
VIE ***15*** *16:45:52.7±0.6, 4537N×1733E, h12km±2km, mb2.4/6, ML2.7/6, Error ellipse: s-maj=4.4km s-min=2.6km az=179.0 58 km WNW of Slavonski Brod*
BEO ***15*** *16:45:52.1±0.6, 4521N×1733E, h12km±4km, ML2.6/4*
PRU ***15*** *16:45:55.4, 4550N×1745E, h11km*

ISC 15 16:45:51.9±0.4, 4525N±002×1738E±002, h17km±3km, n40, σ0°86/75, 11C-9D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
BLY	**Banja Luka**	**0.52**	**195**	⇓*i* Pg		**Pg**	**16 46 00.8**	**-1.4**
BLY				*e*Sg		**Sg**	**16 46 07.3**	**-1.9**
BLY	**Banja Luka**	**0.52**	**195**	*e*Pg		**Pg**	**16 46 00.8**	**-1.4**
BLY				*e*Sg		**Sg**	**16 46 07.7**	**-1.5**
SISC	**Sisak**	**0.74**	**288**	*e*Pg		**Pg**	**16 46 05.9**	**-0.5**
SISC				Sg		**Sg**	**16 46 17.8**	**+1.6**
SISC	**Sisak**	**0.74**	**288**	*e*Pg		**Pg**	**16 46 05.8**	**-0.6**
SISC				Sg		**Sg**	**16 46 17.7**	**+1.5**
RHK3	**Tenkes**	**0.89**	**44**	⇓*e*Pn		**Pn**	**16 46 09.3**	**-0.3**
RHK3				*e*Sn		**Sn**	**16 46 22.2**	**+0.1**
PKSM	**Moragy**	**1.31**	**42**	*e*Pg		**Pg**	**16 46 16.9**	**-0.2**
PKSM				*e*Sg		**Sg**	**16 46 35.0**	**+0.8**
PKSM	**Moragy**	**1.31**	**42**	⇑*e*Pn		**Pn**	**16 46 15.0**	**-0.4**
PKSM	**Moragy**	**1.31**	**42**	*e*Pg		**Pg**	**16 46 16.9**	**-0.2**
PKSM				*e*Sn		**Sn**	**16 46 33.4**	**+1.0**
PKSM				*e*Sg		**Sg**	**16 46 35.0**	**+0.8**
GCIS	**Gornji Cirnik**	**1.38**	**297**	*i* Pn		**Pn**	**16 46 16.1**	**-0.2**
CRES	**Cresnjev**	**1.47**	**294**	*i* Pn		**Pn**	**16 46 17.3**	**-0.3**
LEGS	**Legarje**	**1.61**	**297**	*i* Pn		**Pn**	**16 46 19.6**	**+0.1**
FGSL	**Fruska Gora**	**1.72**	**92**	*e*Pn		**Pn**	**16 46 23.5**	**+2.4**
FGSL				*e*Sg		**Sg**	**16 46 47.6**	**+0.2**
FGSL	**Fruska Gora**	**1.72**	**92**	*e*Pn		**Pn**	**16 46 22.5**	**+1.4**
FGSL				*e*Sn		**Sn**	**16 46 43.0**	**+0.3**
FGSL				*e*Sg		**Sg**	**16 46 47.6**	**+0.2**
GROS	**Grobnik**	**1.79**	**313**	*i* Pn		**Pn**	**16 46 21.8**	**-0.2**
NVLJ	**Novalja**	**1.91**	**250**	*e*Pn		**Pn**	**16 46 24.1**	**+0.5**
NVLJ				Sn		**Sn**	**16 46 48.1**	**+0.9**
BBLS	**Lazići**	**2.00**	**133**	*e*Pn		**Pn**	**16 46 24.9**	**0.0**
BBLS				*e*Sg		**Sg**	**16 46 56.5**	**+0.2**
PKS6	**Bocsa**	**2.04**	**48**	*e*Pn		**Pn**	**16 46 29.3**	**+3.9**
PERS	**Pernice**	**2.10**	**312**	*i* Pn		**Pn**	**16 46 26.3**	**+0.1**
SOKA	**Soboth**	**2.17**	**312**	⇑*i* Pn		**Pn**	**16 46 27.2**	**0.0**
SOKA				⇓*i* Sn		**Sn**	**16 46 53.3**	**-0.4**
DIVS	**Divibare**	**2.19**	**121**	*e*Pn		**Pn**	**16 46 27.4**	**-0.1**
DIVS				*e*Sn		**Sn**	**16 46 53.0**	**-1.2**
DIVS				*e*Sg		**Sg**	**16 47 02.2**	**-0.1**
PKSG		**2.26**	**18**	*e*Pn		**Pn**	**16 46 29.1**	**+0.7**
OBKA	**Obir**	**2.34**	**304**	⇑*i* Pn		**Pn**	**16 46 29.8**	**+0.2**
OBKA				⇑*i* Pg		**Pg**	**16 46 35.8**	**-1.0**
OBKA				⇑*i* Sn		**Sn**	**16 46 58.7**	**+0.8**
ARSA	**Arzberg**	**2.38**	**328**	⇓*i* Pn		**Pn**	**16 46 30.2**	**+0.1**
ARSA				⇓*i* Sn		**Sn**	**16 46 58.0**	**-0.9**
ARSA				⇑*i* Sg		**Sg**	**16 47 08.5**	**+0.1**
	12nm,0.3s							
BUD	**Budapest**	**2.51**	**26**	*e*Sn		**Sg**	**16 47 12.6**	**+0.1**
VOY	**Vojsko**	**2.57**	**289**	*e*Pn		**Pg**	**16 46 39.7**	**-1.4**
VOY				*e*			16 46 41.9	
VOY				*e*Sn		**Sn**	**16 47 04.1**	**+0.6**
VOY				*e*			16 47 13.0	
CONA	**Conrad Observa**	**2.88**	**339**	⇓*i* Pn		**Pn**	**16 46 37.6**	**+0.6**
CONA				⇑*i* Sn		**Sn**	**16 47 10.6**	**-0.5**
CSNA	**Conrad Observa**	**2.88**	**339**	⇓*i* Pn		**Pn**	**16 46 38.0**	**+1.1**
CSNA				⇓*i* Sn		**Sn**	**16 47 10.8**	**-0.3**
ZST	**Bratislava**	**2.95**	**356**	*e*PN		**Pn**	**16 46 38.2**	**+0.2**
ZST				*e*SN		**Sn**	**16 47 13.2**	**+0.2**
ZST	**Bratislava**	**2.95**	**356**	*e*Pn		**Pn**	**16 46 38.2**	**+0.2**
ZST				*e*Sn		**Sn**	**16 47 11.9**	**-1.1**
BZS	**Buzias**	**3.01**	**81**	*e*Sg		**Sg**	**16 47 28.4**	**-0.1**
MODS	**Modra-Piesok**	**3.13**	**359**	*e*PN		**Pn**	**16 46 40.9**	**+0.5**
MODS				*e*SN		**Sn**	**16 47 15.4**	**-1.9**
PSZ	**Piszkesteto**	**3.19**	**32**	⇑*e*Pg		**Pn**	**16 46 40.6**	**-0.6**
PSZ				*e*Pg		**Pg**	**16 46 52.3**	**-0.6**
PSZ				*e*Sn		**Sg**	**16 47 34.7**	**+0.6**
PSZ	**Piszkesteto**	**3.19**	**32**	*e*Pg		**Pg**	**16 46 52.3**	**-0.6**
KBA	**Koelnbreinsper**	**3.35**	**305**	⇓*i* Pn		**Pn**	**16 46 44.9**	**+1.5**
KBA				⇑*i* Sn		**Sn**	**16 47 22.9**	**+0.2**
MOA	**Molln**	**3.37**	**322**	⇑*i* Pn		**Pn**	**16 46 44.7**	**+0.9**
MOA				⇑*i* Sn		**Sn**	**16 47 23.8**	**+0.4**
VYHS	**Vyhne**	**3.40**	**17**	*e*PN		**Pn**	**16 46 45.0**	**+0.9**
VYHS				*e*SN		**Sn**	**16 47 22.9**	**-1.0**
KOLL	**Kolacno**	**3.40**	**12**	*e*PN		**Pn**	**16 46 45.1**	**+0.9**
KOLL				*e*SN		**Sn**	**16 47 23.0**	**-0.6**
VRAC	**Vranov**	**4.10**	**353**	*e*Pn		**Pn**	**16 46 53.4**	**-0.3**
VRAC				*e*Sn		**Sn**	**16 47 39.3**	**-1.9**
MORC	**Moravsky Berou**	**4.53**	**1**	*e*Pn		**Pn**	**16 47 00.4**	**+0.7**
MORC				*e*Sn		**Sn**	**16 47 50.5**	**-1.4**
KHC	**Kasperske Hory**	**4.67**	**328**	*e*PN		**Pn**	**16 47 03.6**	**+2.1**
KHC				*ex*		x	16 47 09.5	
KHC				*e*SN		**Sn**	**16 47 53.7**	**-1.5**

NEIC 15 17:08:43.0, 4476S×16739E, h5km, ML3.8(WEL), After WEL., South Island

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
MSZ	**Milford Sound**	**0.39**	**77**	P		Pg	17 08 50.6	0.0
MSZ				S		Sg	17 08 55.2	-0.5
DCZ	**Deep Cove**	**0.74**	**193**	P		Pg	17 08 56.7	-0.5
DCZ				S		Sg	17 09 06.9	+0.2
MLZ	**Mavora Lakes**	**0.81**	**137**	P		Pg	17 08 58.6	+0.1
WKZ	**Wanaka**	**1.16**	**94**	P		Pg	17 09 04.8	-0.4
WKZ				S		Sg	17 09 20.0	-0.3
JCZ	**Jackson Bay**	**1.20**	**56**	P		Pg	17 09 05.5	-0.4
WHZ	**Wether Hill Ro**	**1.20**	**161**	P		Pg	17 09 05.4	-0.6
WHZ				S		Sg	17 09 21.5	-0.1
EAZ	**Earnscleugh**	**1.44**	**110**	P		Pn	17 09 09.4	-0.3
TUZ	**Tuapeka**	**1.98**	**128**	P		Pn	17 09 17.7	+0.5
LBZ	**Lake Benmore**	**2.03**	**80**	P		Pn	17 09 18.4	+0.6
FOZ	**Fox Glacier**	**2.04**	**55**	P		Pn	17 09 17.5	-0.5
ODZ	**Otahua Downs**	**2.33**	**98**	P		Pn	17 09 22.6	+0.7
RPZ	**Rata Peaks**	**2.83**	**70**	P		Pn	17 09 28.9	+0.1
WVZ	**Waitaha Valley**	**2.95**	**56**	P		Pn	17 09 29.1	-1.3
DSZ	**Denniston Nort**	**4.41**	**48**	P		Pn	17 09 48.9	-1.6
QRZ	**Quartz Range**	**5.45**	**46**	P		Pn	17 10 03.1	-1.8

IDC 15 17:19:07.2±5.0, 1644S×17333W, h0km, mb3.9/3, mb1 4.1/4, mb1mx3.8/19, mbtmp4.0/4, MS3.5/1, Ms1 3.5/1, ms1mx2.7/41, Error ellipse: s-maj=200.8km s-min=29.3km az=134.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
AFI	**Afiamalu**	**2.93**	**31**	P		Pn	17 19 54.9	-0.1
	80nm,0.3s,baz=182,slow=2.1,SNR=249							
AFI				Sn		Sn	17 20 21.3	-10
	105nm,0.3s,baz=44,slow=23,SNR=16							
STKA	**Stephens Creek**	**43.58**	**241**	P		P	17 27 13.0	-0.2
	3.2nm,0.9s,baz=96,slow=9.2,SNR=2.7							
WRA	**Warramunga Arr**	**49.68**	**258**	P		P	17 28 00.8	-0.4
	0.2nm,0.4s,baz=96,slow=7.6,SNR=12							
WRA				LR		LR	17 46 51.4	
	comp=Z,48nm,18.7s,baz=105,slow=34							
ASAR	**Alice Springs**	**49.86**	**253**	P		P	17 28 03.0	+0.5
	2.1nm,0.7s,baz=86,slow=8.5,SNR=36							

ISCJB ***15*** *17:28:17.8±1.4, 5531S±0.10×1460E±0.6, h10km, mb4.0/5, MS3.9/3, Error ellipse: s-maj=53.3km s-min=13.3km az=5.1*
IDC ***15*** *17:28:17.3±1.6, 5533S×14641E, h0km, mb4.0/5, mb1 4.2/5, mb1mx4.0/13, mbtmp4.0/5, MS3.9/3, Ms1 4.0/3, ms1mx3.4/25, Error ellipse: s-maj=88.0km s-min=20.3km az=88.0*
NEIC ***15*** *17:28:19.1±1.2, 5531S×14629E, h10km, mb3.8/1, Error ellipse: s-maj=45.4km s-min=11.5km az=95.0*

ISC 15 17:28:19.7±1.4, 5529S±0.10×1461E±0.6, h10km, n13, σ0°67/8, mb4.0/5, MS3.9/3, West of Macquarie Island

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
CASY	**Casey**	**20.23**	**223**	*e*P		**P**	**17 32 54.9**	**+0.4**
	3.7nm,0.8s							
STKA	**Stephens Creek**	**23.62**	**350**	P		**P**	**17 33 32.3**	**+1.5**
	3.2nm,0.7s,mb3.8,baz=212,slow=15,SNR=4.1							
NWAO	**Narrogin (SRO)**	**30.12**	**306**	LR		LR	17 43 48.8	
	comp=Z,222nm,20.4s,MS3.8,baz=193,slow=31							
ASAR	**Alice Springs**	**32.86**	**339**	P		**P**	**17 34 53.8**	**+0.3**
	2.2nm,0.9s,mb4.1,baz=164,slow=9.4,SNR=13							
ASAR				PcP		PcP	17 37 36.6	-1.4
	0.5nm,0.7s,baz=153,slow=2.7,SNR=6.0							
QSPA	**South Pole Qui**	**34.82**	**180**	P		**P**	**17 35 09.9**	**-0.1**
	1.3nm,0.7s,mb4.0,baz=29,slow=3.6,SNR=5.9							
WB2	**Warramunga Arr**	**36.40**	**341**	*e*P		**P**	**17 35 23.2**	**-0.9**
WRA	**Warramunga Arr**	**36.40**	**341**	P		**P**	**17 35 23.7**	**-0.4**
	3.6nm,0.8s,mb4.4,baz=166,slow=7.5,SNR=21							
WRA				PcP		PcP	17 37 46.6	-1.7
	0.4nm,0.7s,baz=164,slow=2.7,SNR=4.2							
WRAB	**Tennant Creek**	**36.41**	**341**	*e*P		**P**	**17 35 23.7**	**-0.5**
MAW	**Mawson**	**38.43**	**218**	P		**P**	**17 35 40.7**	**-0.2**
	1.5nm,0.8s,mb3.8,baz=97,slow=7.7,SNR=3.6							
PPT	**Papeete**	**61.14**	**79**	LR		LR	18 01 06.0	
	comp=Z,92nm,19.2s,MS4.0,baz=131,slow=32							
CMAR	**Chiang Mai Arr**	**83.63**	**316**	LR		LR	18 18 42.4	
	comp=Z,72nm,19.5s,MS4.1,baz=232,slow=36							
KEST	**Kesra**	**144.69**	**255**	PKP		PKPdf	17 47 56.2	+0.3
	1.6nm,0.9s,baz=158,slow=5.4,SNR=3.3							
GERES	**GERESS Array B**	**150.54**	**277**	PKPbc		PKPbc	17 48 09.2	-1.4
	0.5nm,0.6s,baz=173,slow=4.0,SNR=4.3							

IDC ***15*** *17:34:33.2±0.8, 4471S×16745E, h0km, mb3.9/6, mb1 4.2/8, mb1mx4.1/16, mbtmp4.0/8, ML4.2/2, MS3.6/4, Ms1 3.6/4, ms1mx3.2/24, Error ellipse: s-maj=27.9km s-min=19.5km az=7.0*
NEIC ***15*** *17:34:33.8, 4474S×16734E, h5km, ML4.9(WEL), After WEL.*
ISCJB ***15*** *17:34:36.5±0.5, 4466S±004×16751E±006, h33km, mb3.9/6, MS3.7/3, Error ellipse: s-maj=7.0km s-min=5.3km az=135.8*

**ISC 15 17:34:38.4±0.5, 4473S±005×16754E±007, h35km, (h35km±5km:pP-P), n54, σ1°09/52, mb3.9/6

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HAVL	**Avola**	**1.79**	**347**	Pn	Pn	17 37 15.6	-0.1
	906nm,0.9s						
HMDC	**Modica**	**1.87**	**339**	Pn	Pn	17 37 16.0	-0.8
HMDC				Sn	Sn	17 37 41.4	+0.9
SSY	**Sortino**	**1.99**	**347**	Pn	Pn	17 37 19.9	+1.5
	443nm,0.9s						
HVZN	**Vizzini**	**2.10**	**340**	Pn	Pn	17 37 21.1	+1.2
	752nm,0.7s						
ECNV	**Catenanuova**	**2.49**	**343**	Pn	Pn	17 37 26.6	+1.3
GALF	**Gagliano Caste**	**2.64**	**342**	Pn	Pn	17 37 28.4	+1.1
CSLB	**Castelbuono**	**3.00**	**336**	Pn	Pn	17 37 32.9	+0.6
	17nm,0.6s						
GIB	**Gibilmanna**	**3.06**	**336**	Pn	Pn	17 37 34.0	+1.0
	95nm,1.0s						

IDC ***15*** *17:53:32.7±1.7, 44.98S×167.19E, h0km, mb3.5/3, mb1 3.7/3, mb1mx3.6/13, mbtmp3.5/3, ML4.6/1, Error ellipse: s-maj=56.0km s-min=24.1km az=177.0*
ISCJB ***15*** *17:53:33.1±1.0, 44.88S±0.04×167.15E±0.06, h9km±6km, mb3.5/3, Error ellipse: s-maj=7.8km s-min=5.7km az=22.9*
NEIC ***15*** *17:53:33.6, 44.89S×167.10E, h13km, ML4.3(WEL), After WEL.*

ISC 15 17:53:33.6±1.2, 44.89S±0.05×167.18E±0.07, h2km±8km, n22, g0 61/26, mb3.5/3, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSZ	**Milford Sound**	**0.57**	**68**	P	**Pg**	**17 53 45.4**	**+0.8**
MSZ				S	**Sg**	**17 53 51.8**	**-0.2**
DCZ	**Deep Cove**	**0.59**	**182**	P	**Pg**	**17 53 45.3**	**+0.4**
DCZ				S	**Sg**	**17 53 53.4**	**+0.9**
MLZ	**Mavora Lakes**	**0.84**	**123**	P	**Pg**	**17 53 49.8**	**+0.2**
MLZ				S	**Sg**	**17 53 59.8**	**-0.7**
WHZ	**Wether Hill Ro**	**1.14**	**152**	P	**Pg**	**17 53 55.0**	**-0.4**
WHZ				S	**Sg**	**17 54 09.3**	**-0.9**
WKZ	**Wanaka**	**1.31**	**88**	P	**Pg**	**17 53 58.5**	**-0.1**
JCZ	**Jackson Bay**	**1.39**	**55**	P	**Pn**	**17 53 59.8**	**-0.2**
EAZ	**Earnscleugh**	**1.54**	**104**	P	**Pn**	**17 54 02.2**	**+0.1**
TUZ	**Tuapeka**	**2.03**	**123**	P	**Pn**	**17 54 08.8**	**+0.1**
LBZ	**Lake Benmore**	**2.20**	**78**	P	**Pn**	**17 54 12.2**	**+1.1**
FOZ	**Fox Glacier**	**2.24**	**55**	P	**Pn**	**17 54 11.9**	**+0.3**
ODZ	**Otahua Downs**	**2.46**	**95**	P	**Pn**	**17 54 15.3**	**+0.6**
RPZ	**Rata Peaks**	**3.02**	**68**	Pn	**Pn**	**17 54 22.7**	**+0.3**
	83nm,0.3s,baz=228,slow=6.4,SNR=55						
RPZ				Sn	**Sn**	**17 54 59.4**	**+0.4**
	28nm,0.3s,baz=339,slow=22,SNR=7.6						
RPZ	**Rata Peaks**	**3.02**	**68**	P	**Pn**	**17 54 22.7**	**+0.4**
WVZ	**Waitaha Valley**	**3.14**	**56**	P	**Pn**	**17 54 22.8**	**-1.2**
MQZ	**McQueen's Vall**	**4.10**	**75**	P	**Pn**	**17 54 37.3**	**+0.1**
DSZ	**Denniston Nort**	**4.61**	**49**	P	**Pn**	**17 54 43.9**	**-0.3**
THZ	**Tophouse**	**5.21**	**55**	P	**Pn**	**17 54 53.3**	**+0.8**
QRZ	**Quartz Range**	**5.65**	**46**	P	**Pn**	**17 54 57.5**	**-1.0**
ASAR	**Alice Springs**	**34.35**	**297**	P	**P**	**18 00 20.8**	**-1.0**
	0.3nm,0.6s,mb3.4,baz=124,slow=5.7,SNR=6.3						
WRA	**Warramunga Arr**	**36.84**	**302**	P	**P**	**18 00 43.0**	**-0.1**
	0.5nm,0.8s,mb3.4,baz=136,slow=8.1,SNR=8.7						
FITZ	**Fitzroy Crossi**	**43.68**	**294**	P	**P**	**18 01 40.2**	**+0.3**
	1.2nm,0.9s,mb3.6,baz=114,slow=12,SNR=3.2						
TORD	**Torodi Ar. Bea**	**146.03**	**206**	PKPbc	PKPbc	18 13 13.4	-1.8
	0.3nm,0.5s,baz=168,slow=2.1,SNR=5.7						

ISCJB ***15*** *17:58:23.9±2.1, 125N±02×888W±0.1, h55km±23km, mb3.6/2, Error ellipse: s-maj=30.3km s-min=13.3km az=32.2*
CASC ***15*** *17:58:25.4±2.1, 1265N×8877W, h36km±751km, MD4.0*
NEIC ***15*** *17:58:35.2±2.2, 1328N×8815W, h117km±22km, Error ellipse: s-maj=58.7km s-min=14.0km az=65.0*
IDC ***15*** *17:58:35.1±3.6, 1319N×8833W, h112km±33km, mb3.3/2, mb1 3.6/4, mb1mx3.3/21, mbtmp3.3/4, Error ellipse: s-maj=89.9km s-min=26.0km az=59.0*

ISC 15 17:58:25.0±2.1, 125N±02×888W±01, h42km±25km, n26, g0 96/15, mb3.6/2, 1C-5D, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VSM	**San Miguel**	**1.07**	**29**	*e*P	x	17 58 42.2	
BLLM	**Bellamira**	**1.10**	**30**	*e*P	x	17 58 42.2	
SNVI	**San Vicente**	**1.13**	**358**	*e*P	x	17 58 42.6	
SNVI				*e*S	x	17 58 55.1	
LFRS	**El Faro**	**1.17**	**348**	*i*P	x	17 58 43.0	
CNCH	**Conchagua**	**1.23**	**50**	*e*P	x	17 58 44.0	
LBRS	**Las Brisas**	**1.27**	**349**	*e*P	x	17 58 44.8	
BOQS	**Boqueron**	**1.33**	**340**	*e*P	x	17 58 46.0	
BOQS				*e*S	x	17 59 01.2	
CAHU	**Cacacuatique**	**1.41**	**24**	*e*P	x	17 58 47.1	
CAHU				*e*S	x	17 59 04.0	
SNJE	**San Jose**	**1.59**	**331**	*e*P	x	17 58 50.2	
SNJE				*e*S	x	17 59 07.4	
RTR	**El Retiro**	**1.63**	**330**	*e*P	x	17 58 51.1	
RTR				*e*S	x	17 59 09.2	
CRIN	**San Cristobal**	**1.73**	**82**	*e*P	**Pn**	**17 58 52.5**	**0.0**
CRIN				*e*S	**Sn**	**17 59 15.7**	**+2.4**
RBDL	**Robledal**	**1.84**	**332**	*e*P	x	17 58 54.0	
TEL3	**Telica 3**	**1.91**	**87**	*e*P	**Pn**	**17 58 54.5**	**-0.6**
TEL3				*e*S	**Sn**	**17 59 17.4**	**-0.5**
MTO2	**Montecristo 2**	**1.99**	**344**	*e*P	x	17 58 55.7	
MIRN	**Miramar**	**2.04**	**91**	*e*P	**Pn**	**17 58 57.5**	**+0.6**
MIRN				*e*S	**Sn**	**17 59 21.0**	**-0.1**
TGUH	**Tegucigalpa,Un**	**2.16**	**43**	*e*P	**Pn**	**17 58 57.7**	**-0.8**
TGUH	**Tegucigalpa,Un**	**2.16**	**43**	*e*P	**Pn**	**17 58 57.5**	**-1.0**
COPN	**Copaltepe**	**2.18**	**98**	*e*P	**Pn**	**17 58 58.0**	**-0.7**
CSAN		**2.34**	**97**	*e*P	**Pn**	**17 59 01.4**	**+0.4**
CSAN				*e*S	**Sn**	**17 59 28.5**	**-0.1**
TEIG	**Tepich**	**7.72**	**4**	P	**Pn**	**18 00 14.7**	**-0.2**
	1.2nm,0.3s,baz=256,slow=4.2,SNR=5.5						
CHI2		**16.80**	**116**	*e*P	Px	17 58 52.0	
TXAR	**Lajitas Array**	**21.73**	**323**	P	**P**	**18 03 14.8**	**+2.0**
	0.6nm,0.7s,mb3.2,baz=147,slow=12,SNR=6.1						
YKA	**Yellowknife Ar**	**53.24**	**345**	P	**P**	**18 07 37.8**	**-1.2**
	1.4nm,0.5s,mb4.1,baz=131,slow=8.5,SNR=4.3						
YKA	**Yellowknife Ar**	**53.24**	**345**	P	**P**	**18 07 37.8**	**-1.2**
WRA	**Warramunga Arr**	**138.01**	**254**	PKP	PKPdf	18 17 47.7	+1.7
	0.5nm,0.8s,baz=114,slow=2.3,SNR=3.2						
CMAR	**Chiang Mai Arr**	**148.33**	**346**	PKPbc	PKPbc	18 18 06.8	-0.8
	0.2nm,0.7s,baz=336,slow=4.4,SNR=4.2						

IDC 15 18:14:51.6±2.0, 363S×12712E, h0km, mb3.3/2, mb1 3.8/3, mb1mx3.4/16, mbtmp3.6/3, ML4.2/1, Error ellipse: s-maj=160.3km s-min=27.4km az=66.0, Seram

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**17.67**	**157**	P	Pn	18 19 00.5	+1.1
	0.9nm,0.3s,baz=336,slow=11,SNR=130						
ASAR	**Alice Springs**	**20.97**	**162**	P	P	18 19 35.2	-1.3
	0.5nm,0.4s,baz=346,slow=12,SNR=29						
MKAR	**Makanchi Array**	**63.86**	**327**	P	P	18 25 26.6	+0.6
	0.2nm,0.4s,baz=116,slow=6.6,SNR=4.7						

SZGRF ***15*** *18:15:56.3, 1842S×17646W, h33km, Fiji Islands region*
ISCJB ***15*** *18:16:53.1±0.8, 1778S±0.06×17820W±0.04, h521km±8km, mb4.5/69, Error ellipse: s-maj=10.4km s-min=4.6km az=151.1*
BGS ***15*** *18:16:54.7±4.2, 1783S×17807W, h535km, mb4.6(NEIC)*
NEIC ***15*** *18:16:54.7±0.8, 1783S×17807W, h535km±8km, mb4.6/47, Error ellipse: s-maj=9.4km s-min=4.7km az=144.0*
IDC ***15*** *18:16:55.0±1.2, 1792S×17807W, h539km±14km, mb4.1/19, mb1 4.3/20, mb1mx4.2/23, mbtmp4.1/20, Error ellipse: s-maj=13.9km s-min=8.1km az=143.0*
BJI ***15*** *18:16:55.2, 1739S×17809W, h532km, mB4.6, mb4.7*
MOS ***15*** *18:16:55.8±1.6, 1740S×17826W, h533km, mb4.6/30, Error ellipse: s-maj=11.5km s-min=9.9km az=150.0*
DJA ***15*** *18:17:05, 1827S×17866W, h616km, Mw5.2/13*

ISC 15 18:16:54.5±0.9, 1779S±0.06×17817W±004, h526km±10km, h534km±5.0km: pP-P, n626, g0 62/445, mb4.5/69, 150C-170D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**7.26**	**59**	P	**P**	**18 18 44.3**	**+0.2**
	14nm,0.3s,baz=266,slow=2.9,SNR=20						
AFI				S	**S**	**18 20 10.8**	**-3.2**
	20nm,0.3s,baz=207,slow=23,SNR=7.8						
AFI	**Afiamalu**	**7.26**	**59**	P	**P**	**18 18 44.3**	**+0.1**
AFI				S	**S**	**18 20 10.8**	**-3.1**
AFI				pmax	pmax		
	comp=Z,14nm,0.3s						
AFI				smax			
	comp=N,20nm,0.3s						
AFI	**Afiamalu**	**7.26**	**59**	*e*P	**P**	**18 18 43.8**	**-0.3**
	comp=N,112nm,0.8s						
URZ	**Urewera**		**20.81 191**	P	**P**	**18 20 56.3**	**-2.7**
	comp=N,78nm,0.4s,baz=24,slow=1.8,SNR=54						
HNR	**Honiara**		**22.82 288**	P	**P**	**18 21 17.4**	**+0.1**
	comp=N,19nm,0.4s,mb5.1,baz=155,slow=5.7,SNR=3.9						
SNZO	**South Karori**		**24.23 193**	*e*P	**P**	**18 21 27.4**	**-2.1**
RPZ	**Rata Peaks**		**27.41 197**	P	**P**	**18 21 55.8**	**-1.8**
	comp=N,23nm,0.7s,mb5.0,baz=311,slow=4.1,SNR=8.6						
RPZ	**Rata Peaks**		**27.41 197**	P	**P**	**18 21 55.8**	**-1.8**
ARMA	**Armidale**		**30.20 240**	*e*P	**P**	**18 22 24.2**	**+2.1**
CNB	**Canberra Magne**		**33.68 232**	*e*P	**P**	**18 22 53.1**	**+1.4**
CTA	**Charters Tower**		**33.69 260**	*e*P	**P**	**18 22 53.1**	**+1.1**
	comp=N,15nm,0.8s,mb4.6						
CTA	**Charters Tower**		**33.69 260**	P	**P**	**18 22 53.0**	**+1.0**
	comp=N,16nm,0.6s,mb4.7,baz=96,slow=11,SNR=13						
CTA	**Charters Tower**		**33.69 260**	P	**P**	**18 22 53.1**	**+1.1**
CTA				pmax	pmax		
	comp=Z,16nm,0.6s						
CTAO	**Charters Tower**		**33.69 260**	*e*P	**P**	**18 22 52.8**	**+0.8**
CTAO				pmax	pmax		
	comp=Z,14nm,0.6s,mb4.7						
CTAO	**Charters Tower**		**33.69 260**	*e*P	**P**	**18 22 52.8**	**+0.8**
	comp=Z,14nm,0.6s,mb4.7						
PMG	**Port Moresby**		**34.67 279**	*e*P	**P**	**18 23 02.2**	**+1.9**
PMG				pmax	pmax		
	comp=Z,95nm,0.9s						
PMG	**Port Moresby**		**34.67 279**	*e*P	**P**	**18 23 02.2**	**+1.9**
	comp=Z,95nm,0.9s,mb5.3						
TOO	**Toolangi**		**37.42 231**	*e*P	**P**	**18 23 23.8**	**+1.0**
STKA	**Stephens Creek**		**38.89 241**	*e*P	**P**	**18 23 36.3**	**+1.5**
	comp=Z,9.6nm,0.5s,mb4.6						
STKA	**Stephens Creek**		**38.89 241**	P	**P**	**18 23 36.0**	**+1.2**
	comp=Z,13nm,0.5s,mb4.7,baz=92,slow=8.5,SNR=38						
STKA				PcP	PcP	18 25 31.0	-1.4
	comp=Z,4.0nm,0.7s,baz=137,slow=6.1,SNR=3.6						
WB2	**Warramunga Arr**		**44.87 259**	*e*P	**P**	**18 24 21.7**	**-0.4**
WRAB	**Tennant Creek**		**44.87 259**	*e*P	**P**	**18 24 21.7**	**-0.5**
WRAB				pmax	pmax		
	comp=Z,20nm,0.6s,mb4.8						
WRAB	**Tennant Creek**		**44.87 259**	*e*P	**P**	**18 24 21.7**	**-0.5**
	comp=Z,20nm,0.6s,mb4.8						
WRA	**Warramunga Arr**		**44.88 259**	P	**P**	**18 24 22.6**	**+0.4**
	comp=Z,20nm,0.5s,mb4.9,baz=96,slow=7.0,SNR=606						
WRA				PcP	PcP	18 25 52.3	-0.5
	comp=Z,5.3nm,0.6s,baz=91,slow=3.5,SNR=8.5						
WRA				S	**S**	**18 30 17.5**	**-4.3**
	comp=Z,0.8nm,0.8s,baz=96,slow=13,SNR=4.6						
WRA	**Warramunga Arr**		**44.88 259**	P	**P**	**18 24 22.6**	**+0.4**
WRA						18 25 52.3	
WRA				S	**S**	**18 30 17.5**	**-4.3**
WRA				pmax	pmax		
	comp=Z,20nm,0.5s						
WRA				pmax	pmax		
	comp=Z,5.0nm,0.6s						
WRA				smax			
	comp=N,1.0nm,0.8s						
ASAR	**Alice Springs**		**45.05 254**	P	**P**	**18 24 24.2**	**+0.7**
	comp=N,95nm,0.6s,mb5.5,baz=87,slow=8.2,SNR=2225						
ASAR				PcP	PcP	18 25 52.8	-0.5
	comp=N,9.1nm,0.7s,baz=96,slow=4.3,SNR=12						
ASAR				S	**S**	**18 30 22.0**	**-2.0**
	comp=N,3.6nm,0.8s,baz=85,slow=17,SNR=19						
ASAR	**Alice Springs**		**45.05 254**	P	**P**	**18 24 24.2**	**+0.7**
ASAR						18 25 52.8	
ASAR				S	**S**	**18 30 22.0**	**-2.0**
ASAR				pmax	pmax		
	comp=Z,95nm,0.6s						
ASAR				pmax	pmax		
	comp=Z,9.0nm,0.7s						
ASAR				smax			
	comp=N,4.0nm,0.9s						
KAKA	**Kakadu**		**47.82 269**	*e*P	**P**	**18 24 42.4**	**-2.2**
	comp=N,64nm,0.4s,mb5.5						
FORT	**Forrest**		**50.27 245**	*e*P	**P**	**18 25 02.5**	**0.0**
	comp=N,29nm,0.5s,mb5.0						
FITZ	**Fitzroy Crossi**		**53.28 260**	*e*P	**P**	**18 25 24.8**	**+0.4**
	comp=N,7.6nm,0.4s,mb4.4						
FITZ	**Fitzroy Crossi**		**53.28 260**	S	**S**	**18 32 17.2**	**+0.7**
	comp=N,1.4nm,1.1s,baz=322,slow=19,SNR=3.2						
MBWA	**Marble Bar**		**58.33 256**	*e*P	**P**	**18 25 59.1**	**-0.3**
	comp=N,12nm,0.6s,mb4.3						
KLBR	**Kellerberrin**		**59.09 243**	*e*P	**P**	**18 26 03.9**	**-0.5**
	comp=N,16nm,0.6s,mb4.4						
MUN	**Mundaring**		**60.38 243**	*e*P	**P**	**18 26 13.3**	**+0.3**
SBA	**Scott Base**		**60.56 184**	*e*P	**P**	**18 26 13.9**	**+0.6**
SBA				pmax	pmax		
	comp=Z,18nm,0.8s,mb4.5						
SBA	**Scott Base**		**60.56 184**	*e*P	**P**	**18 26 13.9**	**+0.6**
	comp=Z,18nm,0.8s,mb4.5						
CASY	**Casey**		**66.34 205**	*i*P	**P**	**18 26 49.9**	**-0.6**
CASY				*e*		18 28 58.4	
MJAR	**Matsushiro Arr**		**67.95 323**	P	**P**	**18 27 00.7**	**-0.2**
	comp=Z,12nm,0.6s,mb4.6,baz=150,slow=5.8,SNR=27						
MJAR	**Matsushiro Arr**		**67.95 323**	P	**P**	**18 27 00.7**	**-0.1**
MJAR				pmax	pmax		
	comp=Z,12nm,0.6s						
MAJO	**Matsushiro**		**67.95 323**	*e*P	**P**	**18 27 00.6**	**-0.2**
MAJO				pmax	pmax		
	comp=Z,17nm,0.8s,mb4.6						
MAJO	**Matsushiro**		**67.95 323**	*e*P	**P**	**18 27 00.6**	**-0.3**
	comp=Z,17nm,0.8s,mb4.6						
MAT	**Matsushiro**		**67.95 323**	P	**P**	**18 27 00.8**	**0.0**
KKM	**Kota Kinabalu**		**68.94 284**	*e*P	**P**	**18 27 07.6**	**+0.2**
KSM	**Kuching**		**72.90 277**	*e*P	**P**	**18 27 31.0**	**+0.3**
YSS	**Yuzh-Sakhalins**		**73.41 333**	*i*P	**P**	**18 27 33.1**	**+0.3**
YSS				pmax	pmax		
	comp=Z,40nm,2.1s,mb4.5						
YSS	**Yuzh-Sakhalins**		**73.41 333**	*e*P	**P**	**18 27 32.2**	**-0.6**
	comp=Z,17nm,0.8s,mb4.5						
PEA0B	**Petropavlovsk-**		**73.62 345**	*e*P	**P**	**18 27 33.7**	**-0.2**
PETK	**Petropavlovsk-**		**73.62 345**	P	**P**	**18 27 33.6**	**-0.2**
	comp=Z,26nm,0.8s,mb4.7,baz=108,slow=8.0,SNR=64						
PETK	**Petropavlovsk-**		**73.62 345**	P	**P**	**18 27 33.7**	**-0.2**
PETK				pmax	pmax		
	comp=Z,26nm,0.8s,mb4.7						
KSRS	**Korea Array**		**74.76 318**	P	**P**	**18 27 41.8**	**+1.0**
	comp=Z,4.5nm,0.7s,mb4.0,baz=128,slow=6.3,SNR=16						
KSRS	**Korea Array**		**74.76 318**	P	**P**	**18 27 41.8**	**+1.1**
KSRS				pmax	pmax		
	comp=Z,5.0nm,0.7s,mb4.0						
FARB	**Farallon Islan**		**75.71 42**	⇓P	**P**	**18 27 46.2**	**+0.2**
	baz=76						
V03C	**Hunter Liggett**		**75.89 44**	⇑P	**P**	**18 27 47.3**	**+0.2**
	baz=76						
JRSC	**Jasper Ridge**		**76.03 43**	⇓P	**P**	**18 27 47.9**	**+0.1**
	baz=76						
PKM	**Peak Mountain**		**76.22 46**	⇓P	**P**	**18 27 49.3**	**+0.4**
	baz=76						
PKD	**Parkfield**		**76.32 45**	⇓P	**P**	**18 27 49.9**	**+0.4**
	baz=76						
SMMC	**Simmler**		**76.33 46**	⇑P	**P**	**18 27 50.3**	**+0.8**
	baz=76						
U04C	**Hernandez Rese**		**76.39 44**	⇑P	**P**	**18 27 50.5**	**+0.7**
	baz=76,SNR=9.0						
PACP	**Pacheco Peak**		**76.42 44**	⇓P	**P**	**18 27 50.4**	**+0.5**
	baz=77,SNR=6.6						
CVS	**Carmenet Viney**		**76.44 42**	⇓P	**P**	**18 27 50.5**	**+0.5**
	baz=77						
WENL	**Wente Vineyard**		**76.47 43**	⇓P	**P**	**18 27 51.1**	**+1.0**
	baz=77						
MNRC	**McLaughlin Nat**		**76.76 41**	⇑P	**P**	**18 27 52.4**	**+0.6**
	baz=77						
JCC	**Jacoby Creek**		**76.94 39**	⇑P	**P**	**18 27 53.7**	**+1.0**
	baz=77						
GASB	**Alder Springs**		**77.05 41**	⇓P	**P**	**18 27 54.1**	**+0.8**
	baz=77						
VES	**Vestal, Richgr**		**77.24 46**	⇓P	**P**	**18 27 54.3**	**-0.2**
	baz=77						
MURC	**Murrieta**		**77.37 48**	⇓P	**P**	**18 27 55.7**	**+0.5**
	baz=78						
BFSC	**Mount Baldy St**		**77.38 48**	⇓P	**P**	**18 27 55.2**	**0.0**
	baz=78						
T06C	**Millerton Lake**		**77.46 44**	⇓P	**P**	**18 27 55.3**	**-0.4**
	baz=78,SNR=5.2						
EDW2	**Edwards Air Fo**		**77.48 47**	⇑P	**P**	**18 27 56.0**	**+0.1**
	baz=78						
OHAK	**Old Harbor**		**77.56 14**	*e*P	**P**	**18 27 54.7**	**-1.0**
MONP	**Monument Peak**		**77.56 49**	⇑P	**P**	**18 27 56.7**	**+0.4**
	baz=78,SNR=9.5						
ISA	**Isabella**		**77.56 46**	*e*P	**P**	**18 27 55.8**	**-0.4**
ISA				pmax	pmax		
	comp=Z,7.0nm,0.6s,mb4.2						
ISA	**Isabella**		**77.56 46**	*e*P	**P**	**18 27 56.2**	**0.0**
	baz=78,SNR=13						
ISA	**Isabella**		**77.56 46**	*e*P	**P**	**18 27 55.8**	**-0.4**
	comp=Z,7.0nm,0.6s,mb4.2						
CMB	**Columbia Colle**		**77.59 43**	*e*P	**P**	**18 27 56.0**	**-0.3**
CMB				pmax	pmax		
	comp=Z,11nm,0.9s,mb4.2						
CMB	**Columbia Colle**		**77.59 43**	⇑P	**P**	**18 27 56.1**	**-0.2**
	baz=78,SNR=8.2						
CMB	**Columbia Colle**		**77.59 43**	*e*P	**P**	**18 27 56.0**	**-0.3**
	comp=Z,11nm,0.9s,mb4.2						
DVTC	**Desert V Tower**		**77.67 50**	⇓P	**P**	**18 27 57.5**	**+0.6**
	baz=78						
WDC	**Whiskeytown Da**		**77.70 40**	⇓P	**P**	**18 27 57.0**	**+0.2**
	baz=78						
ORV	**Oroville**		**77.75 41**	⇓P	**P**	**18 27 56.8**	**-0.4**
	baz=78,SNR=6.4						
LAVA	**Lava Cap Winer**		**77.77 42**	⇓P	**P**	**18 27 57.6**	**+0.3**
	baz=78						
KCC	**Kaiser Creek**		**77.90 44**	⇑P	**P**	**18 27 57.8**	**-0.2**
	baz=78,SNR=11						
PFO	**Pinyon Flat Ob**		**77.90 49**	P	**P**	**18 27 57.9**	**-0.3**
	comp=Z,1.8nm,0.6s,mb3.6,baz=240,slow=4.6,SNR=3.7						
PFO	**Pinyon Flat Ob**		**77.90 49**	P	**P**	**18 27 57.9**	**-0.2**
PFO				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb3.6						
PFO	**Pinyon Flat Ob**		**77.90 49**	⇑P	**P**	**18 27 58.6**	**+0.5**
	baz=78						
M02C	**Callahan**		**77.99 39**	⇑P	**P**	**18 27 59.1**	**+0.7**
	baz=78						
LRMC	**Laurel Mountai**		**78.01 47**	⇑P	**P**	**18 27 58.8**	**+0.2**
	baz=78						
L02A	**Cave Junction**		**78.01 38**	⇓P	**P**	**18 27 58.4**	**-0.1**
	baz=78						
HABR	**Khabarovsk**		**78.02 330**	⇓*i*P	**P**	**18 27 59.6**	**+1.2**
HABR				*e*		18 28 03.8	
HABR				*e*	pP	18 29 53.2	+2.5
HABR				*e*		18 30 49.9	
HABR				*e*		18 31 02.9	
HABR				*e*S	S	18 37 09.2	+0.2
HABR				*e*		18 37 25.7	
HABR				*e*		18 45 55.1	
HABR				pmax	pmax		
	comp=Z,45nm,1.1s,mb4.7						
NJ2	**Nanjing**		**78.04 309**	*e*P	**P**	**18 27 59.3**	**+0.4**
NJ2				AMB	AMB		
	comp=Z,20nm,0.5s,mb4.7						
SWSC	**Sam W. Stewart**		**78.04 50**	⇑P	**P**	**18 27 59.4**	**+0.5**
	baz=78						
MDJ	**Mudanjiang**		**78.22 325**	P	**P**	**18 28 00.5**	**+1.0**
MDJ				AMB	AMB		
	comp=Z,30nm,1.0s,mb4.6						
MDJ				AMB	AMB		
	comp=Z,56nm,4.3s						
MDJ	**Mudanjiang**		**78.22 325**	*e*P	**P**	**18 28 00.4**	**+0.9**
	comp=Z,28nm,1.0s,mb4.5						
CWC	**Cottonwood Cre**		**78.25 46**	⇑P	**P**	**18 27 60.0**	**+0.1**
	baz=78						
YBH	**Yreka Blue Hor**		**78.28 39**	⇓P	**P**	**18 28 00.4**	**+0.4**
	baz=78,SNR=5.2						
O05C	**Quincy**		**78.35 41**	⇓P	**P**	**18 28 00.7**	**+0.3**
	baz=78						
BELC	**Belle Mtn.**		**78.43 49**	⇑P	**P**	**18 28 01.1**	**+0.1**
	baz=79,SNR=6.4						
K02A	**Glendale**		**78.45 38**	⇓P	**P**	**18 28 00.8**	**0.0**
	baz=79						
O04C	**Chester**		**78.45 41**	⇑P	**P**	**18 28 01.3**	**+0.4**
	baz=79						
MPMC	**Manual Prospec**		**78.45 46**	⇑P	**P**	**18 28 01.2**	**+0.2**
	baz=79						
R06C	**Coleville**		**78.47 43**	⇑P	**P**	**18 28 01.3**	**+0.2**
	baz=79,SNR=9.8						
TIN	**Tinemaha**		**78.48 45**	⇓P	**P**	**18 28 01.2**	**0.0**
	baz=79						
GSC	**Goldstone**		**78.53 47**	⇓P	**P**	**18 28 01.6**	**+0.1**
	baz=79						
LBCM	**Butte Creek Ri**		**78.58 40**	⇑P	**P**	**18 28 01.9**	**+0.3**
HEC	**Hector,Ludlow**		**78.62 48**	⇑P	**P**	**18 28 01.7**	**-0.2**
	baz=79,SNR=5.7						
BC3	**Big Chuckw Mtn**		**78.65 49**	⇑P	**P**	**18 28 02.6**	**+0.5**
	baz=79						
BEKR	**Beckwourth**		**78.65 42**	⇓P	**P**	**18 28 02.0**	**0.0**
	baz=79,SNR=5.5						
HUMO	**Hull Mountain**		**78.66 38**	⇑P	**P**	**18 28 02.5**	**+0.5**
	baz=79						
WCN	**Washoe City**		**78.71 42**	⇑P	**P**	**18 28 02.9**	**+0.6**
	baz=79						
J02A	**Umpqua**		**78.76 37**	⇑P	**P**	**18 28 02.6**	**+0.1**
	baz=79						
GLA	**Glamis**		**78.80 50**	⇑P	**P**	**18 28 03.3**	**+0.4**
	baz=79,SNR=5.8						
M04C	**Macdoel**		**78.84 39**	⇑P	**P**	**18 28 03.3**	**+0.3**
	baz=79						
I02A	**Mapleton**		**79.01 37**	⇑P	**P**	**18 28 04.1**	**+0.3**
	baz=79						

J05A **Fort Rock** 80.08 38 ⇑P P 18 28 09.9 +0.4
baz=80,SNR=18
KLR **Kul'dur** 80.12 329 eP P 18 28 05.8 -3.7
KLR pmax pmax
comp=Z,34nm,1.6s,mb4.4
M07A **Soldier Meadow** 80.25 41 ⇓P P 18 28 10.5 +0.1
baz=80,SNR=12
X13A **Yucca** 80.28 49 ⇓P P 18 28 10.4 -0.3
baz=80
F03A **Seaside** 80.34 35 ⇑P P 18 28 11.3 +0.6
baz=80
H04A **Detroit Lake** 80.36 37 ⇓P P 18 28 10.7 -0.2
baz=80
K06A **Valley Falls** 80.39 39 ⇑P P 18 28 11.3 +0.3
baz=81,SNR=8.2
R10A **Warm Springs** 80.43 45 ⇓P P 18 28 11.7 +0.3
baz=81,SNR=7.4
S11A **Rachel** 80.47 46 ⇑P P 18 28 11.6 0.0
baz=81
L07A **Adell** 80.50 40 ⇓P P 18 28 11.9 +0.2
baz=81
Y14A **Wickenburg** 80.56 50 ⇓P P 18 28 12.0 -0.1
baz=81
N08A **GE Springer Mi** 80.57 42 ⇑P P 18 28 12.1 0.0
baz=81,SNR=12
T11A **Corn Creek, Al** 80.62 46 ⇓P P 18 28 12.7 +0.2
baz=81,SNR=9.3
SVW2 **Sparrevohn** 80.67 11 eP P 18 28 10.4 -1.7
U12A **Valley of Fire** 80.69 47 ⇑P P 18 28 13.1 +0.3
baz=81
J06A **Christmas Vall** 80.71 39 ⇓P P 18 28 12.3 -0.4
baz=81,SNR=8.1
E03A **Lebam** 80.72 35 ⇓P P 18 28 12.8 +0.1
baz=81
M08A **Happy Creek Ra** 80.78 41 ⇓P P 18 28 13.4 +0.3
baz=81,SNR=8.9
216A **Three Points,** 80.79 52 ⇓P P 18 28 14.3 +0.9
baz=81
116A **Eloy** 80.87 52 ⇑P P 18 28 14.2 +0.4
baz=81
H05A **Madras** 80.89 37 ⇑P P 18 28 13.4 -0.2
baz=81
X14A **Yava** 80.90 49 ⇓P P 18 28 14.2 +0.3
baz=81,SNR=6.2
K07A **Rock Creek Ran** 80.94 40 ⇓P P 18 28 14.0 +0.1
baz=81,SNR=13
R11A **Troy Canyon, C** 80.94 45 ⇓P P 18 28 13.9 -0.2
baz=81,SNR=5.7
BMN **Battle Mountai** 80.96 43 eP P 18 28 13.5 -0.6
BMN pmax pmax
comp=Z,20nm,1.2s,mb4.4
BMN **Battle Mountai** 80.96 43 eP P 18 28 13.5 -0.6
comp=Z,20nm,1.2s,mb4.4
D03A **Wishkah Elem.** 80.96 34 ⇓P P 18 28 14.2 +0.3
baz=81
F04A **Amboy** 80.97 36 ⇑P P 18 28 13.8 -0.2
baz=81
N09A **Rock Creek Ran** 80.99 42 ⇓P P 18 28 14.5 +0.2
baz=81
P10A **Eureka** 81.02 44 ⇓P P 18 28 14.3 -0.1
baz=81
Y15A **Casa Rosa Ranc** 81.06 50 ⇓P P 18 28 15.4 +0.7
baz=81,SNR=6.3
LVP **Lakeview Peak** 81.06 36 P P 18 28 14.5 +0.1
S12A **Delamar Landin** 81.06 46 ⇓P P 18 28 15.3 +0.6
baz=81,SNR=12
I06A **Prineville** 81.07 38 ⇓P P 18 28 14.8 +0.3
baz=81,SNR=8.0
NLWA **Neilton Lookou** 81.08 34 ⇑P P 18 28 14.7 +0.2
baz=81
U13A **Pakoon Wash** 81.08 47 ⇓P P 18 28 15.1 +0.3
baz=81,SNR=5.4
W14A **Seligman** 81.12 49 ⇓P P 18 28 15.4 +0.4
baz=81
VFP **Flag Point** 81.14 37 ⇑P P 18 28 15.1 +0.1
Q11A **Duckwater** 81.15 45 ⇓P P 18 28 15.2 +0.1
baz=81,SNR=5.7
WVOR **Wild Horse Val** 81.16 40 eP P 18 28 14.6 -0.5
WVOR pmax pmax
comp=Z,18nm,0.9s,mb4.5
WVOR **Wild Horse Val** 81.16 40 eP P 18 28 14.6 -0.5
comp=Z,18nm,0.9s,mb4.5
217A **Green Valley** 81.17 53 ⇑P P 18 28 16.1 +0.7
baz=81,SNR=12
G05A **Wamic** 81.19 37 ⇓P P 18 28 14.9 -0.2
baz=81
L08A **Fields** 81.21 41 ⇓P P 18 28 15.5 +0.1
baz=81
SLKM **Skilak Lake** 81.22 14 eP P 18 28 13.2 -1.7
ERK **Elk Rock** 81.24 35 P P 18 28 15.8 +0.4
J07A **Hines** 81.28 39 ⇓P P 18 28 15.7 0.0
baz=82,SNR=5.3
V14A **Boquillas Ranc** 81.31 48 ⇓P P 18 28 16.4 +0.4
baz=81
M09A **Marrel Ranch,** 81.35 42 ⇑P P 18 28 16.4 +0.3
baz=82
O10A **Cortez Mining,** 81.35 43 ⇓P P 18 28 16.3 +0.1
baz=82
X15A **Humboldt** 81.38 50 ⇓P P 18 28 17.1 +0.7
baz=82
T13A **Saint George** 81.42 47 ⇓P P 18 28 17.1 +0.5
baz=82
K08A **Mann Creek Ran** 81.42 40 ⇑P P 18 28 16.6 +0.2
baz=82,SNR=10
TUC **Tucson** 81.44 52 eP P 18 28 17.3 +0.5
TUC pmax pmax
comp=Z,13nm,1.2s,mb4.2
TUC **Tucson** 81.44 52 eP P 18 28 17.3 +0.6
comp=Z,13nm,1.2s,mb4.2
H06A **Lindquist Farm** 81.45 38 ⇑P P 18 28 16.4 -0.1
baz=82,SNR=24
F05A **White Salmon** 81.48 36 ⇑P P 18 28 16.4 -0.2
baz=82,SNR=6.3
L09A **Wilkinson Ranc** 81.54 41 ⇑P P 18 28 17.5 +0.5
baz=82
I07A **Izee** 81.57 38 ⇑P P 18 28 17.3 +0.2
baz=82,SNR=13
G06A **Carlson Farm,** 81.57 37 ⇓P P 18 28 16.9 -0.2
baz=82
R12A **Pony Springs,** 81.59 45 ⇑P P 18 28 17.6 +0.2
baz=82,SNR=5.9
117A **Oracle** 81.60 52 ⇓P P 18 28 18.3 +0.8
baz=82,SNR=5.8
U14A **Mt Trumbull** 81.63 48 ⇓P P 18 28 18.2 +0.6
baz=82
318A **Bisbee** 81.65 53 ⇑P P 18 28 18.5 +0.7
baz=82,SNR=5.5
HDW **Hoodsport** 81.67 34 P P 18 28 17.8 +0.3
B04A **Port Angeles** 81.69 34 ⇑P P 18 28 17.9 +0.3
baz=82
E05A **Randle** 81.72 36 ⇑P P 18 28 17.6 -0.3
baz=82
S13A **Holt Ranch, En** 81.73 46 ⇑P P 18 28 18.5 +0.3
baz=82
C04A **Brinnon** 81.76 34 ⇓P P 18 28 17.9 -0.1
baz=82
J08A **Circle Bar Ran** 81.78 40 ⇓P P 18 28 18.3 0.0
baz=82,SNR=12
F06A **Goldendale** 81.80 37 ⇑P P 18 28 18.3 0.0
baz=82
Q12A **Willow Creek R** 81.81 45 ⇑P P 18 28 18.5 +0.1
baz=82,SNR=6.9
O11A **Cowboy Ranch,** 81.82 43 ⇓P P 18 28 18.7 +0.2
baz=82,SNR=14
H07A **Lands Inn, Kim** 81.82 38 ⇓P P 18 28 18.3 -0.1
baz=82,SNR=13
218A **Dragoon** 81.85 53 ⇑P P 18 28 19.6 +0.8
baz=82,SNR=5.9
K09A **Rome** 81.87 40 ⇓P P 18 28 18.8 0.0
baz=82,SNR=23
WPW **White Pass** 81.92 35 ⇑P P 18 28 18.6 -0.2
RCS **Mount Rainier-** 81.92 35 P P 18 28 14.0 -4.8
X16A **Lo Mia Camp, P** 81.93 50 ⇑P P 18 28 19.8 +0.6
baz=82
D05A **Enumclaw** 81.97 35 ⇑P P 18 28 19.2 +0.1
baz=82
P12A **McGill** 81.97 44 ⇑P P 18 28 19.4 +0.1
baz=82,SNR=6.0
M10A **I.L. Ranch, Tu** 81.98 42 ⇓P P 18 28 19.8 +0.5
baz=82,SNR=12
T14A **Hurricane** 82.01 47 ⇑P P 18 28 19.9 +0.3
baz=82
I08A **Drewsey** 82.03 39 ⇓P P 18 28 19.5 0.0
baz=82
CCUT **Cedar City** 82.06 47 eP P 18 28 19.6 -0.2
GSM **Grass Mountain** 82.08 35 P P 18 28 19.6 -0.1
E06A **Yakima** 82.14 36 ⇑P P 18 28 20.0 0.0
baz=82

G07A **Ruggs Ranch, H** 82.15 37 ⇓P P 18 28 19.8 -0.2
baz=82
JBO **Jordan Butte** 82.16 37 ⇓P P 18 28 19.9 -0.2
319A **Douglas** 82.17 54 ⇑P P 18 28 21.5 +1.0
baz=82
J09A **Fry Pan Ranch,** 82.21 40 ⇓P P 18 28 20.5 +0.1
baz=82,SNR=16
U15A **North Rim** 82.27 48 ⇑P P 18 28 21.7 +0.8
baz=82
Q13A **Wheeler Ranch,** 82.31 45 ⇓P P 18 28 21.0 0.0
baz=82,SNR=9.6
H08A **Prairie City** 82.31 38 ⇑P P 18 28 20.7 -0.1
baz=82,SNR=5.9
L10A **Juniper Basin** 82.32 41 ⇑P P 18 28 21.1 +0.1
baz=82,SNR=20
X17A **Forest Lakes** 82.36 50 ⇓P P 18 28 22.0 +0.6
baz=82
F07A **Phinney Hill Vi** 82.36 37 ⇓P P 18 28 21.1 0.0
baz=82
ELK **Elko** 82.41 43 P P 18 28 21.5 0.0
comp=Z,7.6nm,0.8s,mb4.2,baz=242,slow=5.8,SNR=30
ELK **Elko** 82.41 43 P P 18 28 21.5 0.0
ELK pmax pmax
comp=Z,8.0nm,0.9s
ELK **Elko** 82.41 43 eP P 18 28 21.2 -0.3
comp=Z,11nm,1.0s,mb4.2
M11A **Holland Ranch,** 82.41 42 ⇓P P 18 28 21.9 +0.4
baz=82,SNR=7.5
PMR **Palmer** 82.43 14 eP P 18 28 19.4 -1.7
PMR pmax pmax
comp=Z,8.0nm,0.6s,mb4.3
PMR **Palmer** 82.43 14 eP P 18 28 19.4 -1.7
comp=Z,8.1nm,0.6s,mb4.3
K10A **MacKenzie Ranc** 82.44 41 ⇑P P 18 28 21.7 +0.1
baz=83,SNR=12
T15A **Red Dirt Ranch** 82.48 47 ⇑P P 18 28 22.4 +0.4
baz=83
O12A **Currie** 82.49 44 ⇓P P 18 28 22.0 +0.1
baz=83,SNR=5.7
A04A **Legoe Bay, Lum** 82.51 33 ⇓P P 18 28 21.8 0.0
baz=83,SNR=7.0
B05A **Bryant** 82.56 34 ⇑P P 18 28 21.7 -0.3
baz=83
P13A **Bates Ranch, G** 82.56 45 ⇑P P 18 28 22.4 +0.2
baz=83,SNR=12
I09A **Lost Marbles R** 82.56 39 ⇑P P 18 28 21.9 -0.2
baz=83
G08A **Pilot Rock** 82.57 38 ⇑P P 18 28 22.1 -0.1
baz=83,SNR=16
N12A **Clover Valley,** 82.59 43 ⇓P P 18 28 22.7 +0.3
baz=83,SNR=11
D06A **Cle Elum** 82.60 35 ⇓P P 18 28 22.1 -0.2
baz=83
PRW **Prosser** 82.68 37 P P 18 28 23.0 +0.3
E07A **Sunnyside** 82.78 36 ⇑P P 18 28 23.2 0.0
baz=83,SNR=5.9
L11A **Cat Creek Ranc** 82.82 42 ⇓P P 18 28 23.7 +0.2
baz=83,SNR=14
Q14A **Sevier Lake (B** 82.83 45 ⇑P P 18 28 23.9 +0.2
baz=83,SNR=19
RSW **Rattlesnake Hi** 82.84 37 P P 18 28 23.6 0.0
HAWA **Hanford** 82.87 37 eP P 18 28 23.3 -0.3
comp=Z,23nm,1.1s,mb4.6
U16A **Tuba City** 82.96 49 ⇓P P 18 28 25.1 +0.7
baz=83,SNR=5.2
F08A **Pendleton** 82.96 37 ⇓P P 18 28 23.8 -0.3
baz=83,SNR=7.0
K11A **Parker Ranch,** 82.96 41 ⇓P P 18 28 24.4 +0.2
baz=83,SNR=5.7
M12A **Wells** 82.97 43 ⇑P P 18 28 24.4 +0.1
baz=83,SNR=11
PPLA **Purkeypile** 82.97 12 eP P 18 28 21.2 -2.5
comp=Z,6.0nm,0.6s,mb4.3
WRW **Wenatchee Ridg** 82.97 35 P P 18 28 23.6 -0.5
RPW **Rockport** 82.98 34 P P 18 28 23.2 -1.0
H09A **Durkee** 82.99 39 ⇑P P 18 28 24.3 0.0
baz=83,SNR=7.7
C06A **Tall Timber Ra** 83.00 35 ⇑P P 18 28 23.5 -0.8
baz=83
D07A **Quincy** 83.08 36 ⇓P P 18 28 24.4 -0.3
baz=83
T16A **Glen Canyon Da** 83.08 48 ⇑P P 18 28 25.0 +0.1
baz=83
ETW **Entiat** 83.12 35 P P 18 28 24.7 -0.2
N13A **Wendover, West** 83.14 43 ⇑P P 18 28 25.5 +0.3
baz=83
I10A **Payette** 83.19 40 ⇓P P 18 28 25.6 +0.3
baz=83
E08A **Dider Farm, El** 83.19 37 ⇑P P 18 28 25.3 0.0
baz=83
G09A **Cove** 83.25 38 ⇓P P 18 28 25.4 -0.2
baz=83,SNR=6.2
P14A **Drum Mountains** 83.26 45 ⇑P P 18 28 26.1 +0.3
baz=83,SNR=6.8
L12A **House Creek Ra** 83.28 42 ⇓P P 18 28 26.3 +0.5
baz=83
BMO **Blue Mountains** 83.30 39 eP P 18 28 25.2 -0.7
BMO pmax pmax
comp=Z,3.0nm,0.7s,mb3.9
BMO **Blue Mountains** 83.30 39 eP P 18 28 25.1 -0.7
comp=Z,3.4nm,0.7s,mb4.0
C07A **Waterville** 83.32 35 ⇑P P 18 28 25.5 -0.4
baz=84
Y19A **Nutrioso** 83.33 51 ⇑P P 18 28 27.1 +0.9
baz=83
EPH **Ephrata** 83.38 36 P P 18 28 25.9 -0.3
WTV **Waterville** 83.39 35 P P 18 28 25.9 -0.4
A06A **Chilliwack** 83.39 34 ⇓P P 18 28 26.1 -0.1
baz=84
NLW **Nelson Butte** 83.40 35 P P 18 28 25.9 -0.3
F09A **S2 Ranch, Elgi** 83.42 38 ⇓P P 18 28 26.5 +0.1
baz=84
M13A **Montello** 83.42 43 ⇑P P 18 28 26.6 +0.1
baz=84,SNR=5.6
MFID **Camas Ranch** 83.43 41 ⇓P P 18 28 26.6 0.0
baz=84,SNR=8.2
Q15A **Fillmore** 83.44 46 ⇓P P 18 28 27.1 +0.4
baz=84
H10A **Noah's Angus R** 83.50 39 ⇑P P 18 28 26.4 -0.4
baz=84,SNR=17
U17A **Shonto** 83.50 48 ⇓P P 18 28 27.9 +0.8
baz=84
D08A **Wollman Farm,** 83.59 36 ⇓P P 18 28 27.1 -0.2
baz=84,SNR=5.3
I11A **Placerville** 83.61 40 ⇓P P 18 28 27.4 -0.1
baz=84
G10A **Bishop Farm, J** 83.65 38 ⇑P P 18 28 27.3 -0.3
baz=84,SNR=6.6
SEY **Seymchan** 83.71 347 ⇑eP P 18 28 27.0 -0.5
E09A **Wood Farm, Sta** 83.73 37 ⇓P P 18 28 27.7 -0.2
baz=84
B07A **Winthrop** 83.74 35 ⇑P P 18 28 27.5 -0.4
baz=84,SNR=8.5
J12A **Stokes Ranch,** 83.80 41 ⇑P P 18 28 28.5 +0.1
baz=84,SNR=8.1
KTH **Kantishna Hill** 83.81 12 eP P 18 28 25.9 -2.1
comp=Z,18nm,0.8s,mb4.6
CHUM **Lake Minchumin** 83.84 11 eP P 18 28 26.6 -1.5
comp=Z,10nm,0.4s,mb4.7
TRF **Thorofare Moun** 83.84 12 eP P 18 28 26.2 -1.9
comp=Z,38nm,0.7s,mb5.0
OD2 **Odessa Site #2** 83.90 36 eP P 18 28 28.4 -0.4
L13A **Double Diamond** 83.93 42 ⇑P P 18 28 29.6 +0.5
baz=84
C08A **Higginbotham F** 83.94 36 ⇑P P 18 28 28.4 -0.6
baz=84,SNR=5.2
A07A **Ashnola River,** 83.94 34 ⇓P P 18 28 28.6 -0.3
baz=84,SNR=5.4
D09A **Jones Farm, Ri** 83.94 36 ⇓P P 18 28 29.0 0.0
baz=84
F10A **Beach Ranch, E** 83.96 38 ⇑P P 18 28 28.5 -0.6
baz=84,SNR=16
H11A **Donnelly** 84.00 39 ⇓P P 18 28 29.4 +0.1
baz=84
M14A **Sheep Mountain** 84.03 43 ⇑P P 18 28 29.4 -0.1
baz=84,SNR=9.5
MAW **Mawson** 84.05 200 eP P 18 28 28.7 -0.6
comp=Z,2.3nm,0.6s,mb3.9
MAW **Mawson** 84.05 200 P P 18 28 28.8 -0.5
comp=Z,2.7nm,0.5s,mb4.0,baz=112,slow=6.3,SNR=11
MAW **Mawson** 84.05 200 P P 18 28 28.8 -0.5
MAW pmax pmax
comp=Z,3.0nm,0.5s
I12A **Atlanta** 84.06 40 ⇑P P 18 28 29.8 +0.1
baz=84,SNR=15
B08A **Colville Reser** 84.11 35 ⇓P P 18 28 28.8 -1.0
baz=84,SNR=6.1
K13A **Stover Farm, H** 84.13 42 ⇑P P 18 28 30.2 +0.2
baz=84

G11A **Walters Elk Ra** 84.22 39 ⇑P P 18 28 29.9 -0.5
baz=84,SNR=24
BPAW **Bear Paw Mtn.** 84.29 12 eP P 18 28 28.1 -2.2
comp=Z,5.0nm,0.6s,mb4.2
T18A **Mexican Hat** 84.31 48 ⇑P P 18 28 31.2 +0.1
baz=84,SNR=6.2
L14A **Malta** 84.36 43 ⇓P P 18 28 31.8 +0.6
baz=84
MCK **McKinley** 84.37 13 eP P 18 28 28.6 -2.1
MCK pmax pmax
comp=Z,29nm,1.0s,mb4.8
MCK **McKinley** 84.37 13 eP P 18 28 28.6 -2.1
comp=Z,29nm,1.0s,mb4.8
C09A **Chrisman Ranch** 84.38 36 ⇓P P 18 28 30.8 -0.3
baz=85
HLID **Hailey** 84.39 41 ⇑P P 18 28 31.5 +0.2
baz=84,SNR=8.9
HLID **Hailey** 84.39 41 eP P 18 28 31.3 +0.1
comp=Z,8.2nm,0.9s,mb4.3
J13A **Cove Ranch, Pi** 84.45 41 ⇑P P 18 28 31.8 +0.2
baz=85,SNR=7.2
A08A **Turner Farm, O** 84.48 35 ⇓P P 18 28 31.2 -0.4
baz=85,SNR=7.9
D10A **Wagner Farm, O** 84.53 37 ⇓P P 18 28 31.3 -0.6
baz=85
F11A **Grangeville** 84.55 38 ⇓P P 18 28 30.7 -1.3
baz=85
H12A **Diamond D Ranc** 84.62 40 ⇑P P 18 28 32.1 -0.3
baz=85,SNR=10.0
K14A **Jones Ranch, D** 84.66 42 ⇑P P 18 28 33.1 +0.5
baz=85
I13A **Wildhorse Cree** 84.75 41 ⇓P P 18 28 33.2 +0.2
baz=85
E11A **Bogner Ranch,** 84.76 38 ⇑P P 18 28 32.0 -1.1
baz=85
B09A **Rice** 84.79 35 ⇑P P 18 28 32.8 -0.3
baz=85
J14A **Carey** 84.83 41 ⇑P P 18 28 33.8 +0.4
baz=85,SNR=8.5
A09A **Danville** 84.86 35 ⇓P P 18 28 33.0 -0.4
baz=85,SNR=6.5
L15A **Malad City** 84.90 43 ⇓P P 18 28 33.7 -0.1
baz=85
H13A **Challis** 85.00 40 ⇑P P 18 28 34.2 -0.1
baz=85,SNR=6.8
F12A **Elk City** 85.01 39 ⇑P P 18 28 33.7 -0.6
baz=85,SNR=30
D11A **Klaveano Farm,** 85.06 37 ⇑P P 18 28 34.2 -0.2
baz=85
O17A **Robinson Place** 85.12 45 ⇓P P 18 28 35.3 +0.4
baz=85
K15A **Arbon** 85.14 42 ⇑P P 18 28 34.5 -0.5
baz=85
E12A **Beaver Dam Sad** 85.17 38 ⇑P P 18 28 34.4 -0.6
baz=85
I14A **Mackay** 85.17 41 ⇑P P 18 28 35.8 +0.7
baz=85,SNR=10
GYA **Guiyang** 85.18 300 P P 18 28 36.3 +0.8
GYA AP pP 18 30 32.4 +2.0
GYA XP sP 18 31 23.0 -0.8
GYA PP PP 18 32 02.3 -0.6
GYA SKS 18 38 07.6
GYA S S 18 38 20.3 -1.6
GYA XS sS 18 41 48.9 +2.4
GYA AMB AMB
comp=Z,10.0nm,1.0s,mb4.3
GYA AMB AMB
comp=Z,110nm,6.8s
G13A **Cobalt** 85.28 40 ⇓P P 18 28 35.2 -0.4
baz=85,SNR=6.7
A10A **Northport** 85.43 35 ⇓P P 18 28 35.7 -0.5
baz=86,SNR=5.3
C11A **Tepee Creek (N** 85.53 37 ⇓P P 18 28 36.5 -0.2
baz=86,SNR=23
J15A **Blackfoot** 85.55 42 ⇑P P 18 28 37.4 +0.4
baz=86,SNR=9.7
H14A **Leadore** 85.57 40 ⇑P P 18 28 37.1 +0.1
baz=86,SNR=12
F13A **Darby** 85.58 39 ⇑P P 18 28 36.3 -0.7
baz=86,SNR=12
COLA **College** 85.60 12 i P P 18 28 34.9 -1.8
D12A **Red Ives Fores** 85.63 38 ⇓P P 18 28 36.8 -0.5
baz=86
TXAR **Lajitas Array** 85.73 58 P P 18 28 38.8 +0.6
comp=Z,7.9nm,0.8s,mb4.4,baz=219,slow=6.0,SNR=81
TXAR **Lajitas Array** 85.73 58 P P 18 28 38.8 +0.6
TXAR pmax pmax
comp=Z,8.0nm,0.8s
B11A **Sandpoint** 85.79 36 ⇓P P 18 28 37.4 -0.5
baz=86,SNR=5.9
K16A **Soda Springs** 85.82 43 ⇓P P 18 28 38.4 +0.1
baz=86,SNR=5.8
G14A **Jackson** 85.83 40 ⇓P P 18 28 38.2 0.0
baz=86
ANMO **Albuquerque** 85.84 51 eP P 18 28 37.6 -0.9
C12B **Naegeli Ranch,** 85.91 37 ⇑P P 18 28 38.6 +0.1
baz=86
MCMT **McKenzie Canyo** 86.00 40 eP P 18 28 39.3 +0.3
J16A **Bone** 86.01 42 ⇑P P 18 28 39.6 +0.4
baz=86,SNR=12
H15A **Lima** 86.02 41 ⇓P P 18 28 39.4 +0.2
baz=86,SNR=12
A11A **Hall Mountain,** 86.08 36 ⇓P P 18 28 39.3 0.0
baz=86,SNR=5.5
F14A **Wisdom** 86.17 39 ⇑P P 18 28 39.8 -0.1
baz=86
D13A **Huson** 86.18 38 ⇓P P 18 28 39.1 -0.7
baz=86
RRI2 **Red Ridge** 86.23 42 eP P 18 28 40.2 -0.1
comp=Z,15nm,0.9s,mb4.6
XAN **Xi'an** 86.37 307 P P 18 28 41.6 +0.5
XAN AMB AMB
comp=Z,24nm,1.1s,mb4.7
XAN AMB AMB
comp=Z,64nm,7.7s
I16A **Newdale** 86.38 42 ⇑P P 18 28 41.5 +0.6
baz=86,SNR=5.0
G15A **Dillon** 86.39 40 ⇑P P 18 28 40.9 0.0
baz=86,SNR=13
E14A **Clinton** 86.40 39 ⇓P P 18 28 40.4 -0.6
baz=87
C13A **Hot Springs** 86.41 37 ⇓P P 18 28 40.2 -0.8
baz=87
DLMT **Dillon** 86.42 40 eP P 18 28 41.0 -0.1
comp=Z,15nm,1.2s,mb4.5
REDW **Red Top Meadow** 86.54 42 eP P 18 28 41.4 -0.3
comp=Z,11nm,1.0s,mb4.5
F15A **Butte** 86.72 40 ⇑P P 18 28 42.2 -0.2
baz=87
D14A **Greenough** 86.73 38 ⇓P P 18 28 41.6 -0.9
baz=87
IMW **Indian Meadow** 86.74 42 eP P 18 28 42.8 +0.2
comp=Z,29nm,0.4s,mb5.3
MOOW **Moose Ponds** 86.79 42 eP P 18 28 42.8 0.0
comp=Z,3.4nm,1.0s,mb3.9
CHMT **Chamberlain Mo** 86.80 38 eP P 18 28 42.0 -0.7
LOHW **Long Hollow** 86.82 42 eP P 18 28 42.7 -0.2
comp=Z,4.7nm,1.0s,mb4.1
B13A **Whitefish** 86.83 37 ⇓P P 18 28 42.5 -0.4
baz=87
G16A **Moss Hill, Enn** 86.84 40 ⇑P P 18 28 43.0 0.0
baz=87,SNR=20
QLMT **Earthquake Lak** 86.88 41 eP P 18 28 43.5 +0.3
DAWY **Dawson** 86.91 16 eP P 18 28 42.5 -0.4
E15A **Deer Lodge** 86.92 39 ⇓P P 18 28 43.0 -0.4
baz=87
H16A **Russell Place,** 86.93 41 ⇑P P 18 28 44.0 +0.6
baz=87,SNR=16
C14A **Swan Lake** 86.94 38 ⇓P P 18 28 42.7 -0.7
baz=87
I17A **Pilgram Creek** 86.98 42 ⇑P P 18 28 42.9 -0.8
baz=87
LCCM **Lewis and Clar** 87.09 40 ⇑P P 18 28 44.2 0.0
BW06 **Boulder Array** 87.10 43 ⇑P P 18 28 43.8 -0.5
baz=87
PDAR **Pinedale Array** 87.10 43 P P 18 28 44.0 -0.3
comp=Z,4.5nm,0.7s,mb4.2,baz=210,slow=2.7,SNR=36
H17A **Grant Village** 87.21 42 ⇓P P 18 28 46.3 +1.5
baz=87,SNR=6.8
COLD **Coldfoot** 87.25 11 eP P 18 28 44.0 -0.5
comp=Z,14nm,1.0s,mb4.5
D15A **Lincoln** 87.29 39 ⇓P P 18 28 45.0 -0.1
baz=88,SNR=5.2
HHC **Hu-ho-hao-te** 87.35 314 eP P 18 28 45.6 +0.1
HHC AP pP 18 30 45.3 +4.2
HHC XP sP 18 31 38.6 +4.2

HHC PP PP 18 32 24.1 +4.2
HHC SKS 18 38 20.1
HHC S S 18 38 40.8 -1.1
HHC XS sS 18 42 12.4 +4.5
HHC AMB AMB
comp=Z,19nm,1.0s,mb4.7
HHC AMB AMB
comp=Z,132nm,8.8s
B14A Marquette Ranc 87.51 37 ⇑P **P 18 28 45.5 -0.6**
baz=88,SNR=9.1
E16A East Helena 87.55 39 ⇓P **P 18 28 46.1 -0.2**
baz=88
C15A Salmond Ranch, 87.61 38 ⇓P **P 18 28 45.9 -0.6**
baz=88,SNR=6.5
A14A Double T Ranch 87.74 37 ⇓P **P 18 28 46.8 -0.3**
baz=88,SNR=6.5
D16A Dana Ranch, Ca 87.87 39 ⇓P **P 18 28 47.7 -0.1**
baz=88
B15A Bradely Ranch, 87.90 37 ⇓P **P 18 28 47.3 -0.6**
baz=88
KMI Kunming 87.98 297 P **P 18 28 49.5 +0.6**
KMI AMB AMB
comp=Z,14nm,1.2s,mb4.6
KMI Kunming 87.98 297 P **P 18 28 49.5 +0.6**
comp=Z,14nm,1.2s,mb4.6
C16A Fuhringer Ranc 88.12 38 ⇑P **P 18 28 48.7 -0.3**
baz=88
A15A Johnson Ranch, 88.13 37 ⇓P **P 18 28 48.3 -0.7**
baz=88
RLMT Red Lodge 88.37 41 *e*P **P 18 28 50.6 +0.4**
comp=Z,17nm,1.4s,mb4.6
GCMT Greycliff 88.43 41 *e*P **P 18 28 50.7 +0.3**
B16A M & M Farms, S 88.44 38 ⇑P **P 18 28 49.8 -0.7**
baz=89
F18A Big Timber 88.45 41 ⇓P **P 18 28 50.7 +0.2**
baz=89
C17A Wharram Farm, 88.62 39 ⇓P **P 18 28 51.0 -0.3**
baz=89,SNR=6.3
E18A Harlowton 88.64 40 ⇓P **P 18 28 51.4 0.0**
baz=89,SNR=5.5
A16A West Butte Ran 88.77 37 ⇑P **P 18 28 51.6 -0.3**
baz=89
CM31 Chiang Mai Arr 89.06 290 *e*P **P 18 28 55.3 +1.2**
comp=Z,0.9nm,0.6s,mb3.8
CMAR Chiang Mai Arr 89.06 290 P **P 18 28 55.1 +1.1**
comp=Z,7.9nm,0.9s,mb4.5,baz=107,slow=2.9,SNR=62
CMAR Chiang Mai Arr 89.06 290 P **P 18 28 55.1 +1.1**
CMAR pmax pmax
comp=Z,8.0nm,0.9s
YAK Yakutsk 89.55 338⇓ *e*P **P 18 28 53.9 -1.3**
YAK pmax pmax
comp=Z,10.0nm,0.7s,mb4.8
EDM Edmonton 89.93 33 *e*P **P 18 28 55.9 -1.3**
SNAA Sanae 90.72 179 *e*P **P 18 28 58.9 -1.8**
SNAA *e* 18 29 00.0
SNAA Sanae 90.72 179 *e*P **P 18 28 58.5 -2.2**
SNAA pmax pmax
comp=Z,3.0nm,0.9s
SNAA Sanae 90.72 179 *e*P **P 18 28 58.5 -2.2**
comp=Z,3.0nm,0.9s,mb4.2
VNA3 Neumayer Olymp 90.85 176 *e*P **P 18 29 00.3 -1.0**
VNA3 *e* 18 29 01.2
LZH Lanzhou 91.00 308 *e*P **P 18 29 03.3 +0.7**
LZH AMB AMB
comp=Z,19nm,1.0s,mb5.0
LZH AMB AMB
comp=Z,102nm,5.0s
VNA2 Neumayer--Watz 91.29 177 *e*P **P 18 29 02.8 -0.5**
baz=193,slow=4.3
VNA2 *e* 18 29 03.8
VNA1 Neumayer--Stat 91.52 177 *e*P **P 18 29 04.3 -0.1**
VNA1 *e* 18 29 05.2
DGMT Dagmar 92.95 40 ⇓P **P 18 29 11.1 -0.2**
baz=93
DGMT Dagmar 92.95 40 *e*P **P 18 29 11.1 -0.2**
comp=Z,7.0nm,0.5s,mb5.0
SONM Songino Array 93.61 319 P **P 18 29 14.0 -0.3**
comp=Z,1.1nm,0.6s,mb4.2,baz=131,slow=5.9,SNR=12
SONM Songino Array 93.61 319 P **P 18 29 14.0 -0.3**
SONM pmax pmax
comp=Z,1.0nm,0.6s
YKA Yellowknife Ar 94.12 25 P **P 18 29 13.9 -2.4**
comp=Z,3.6nm,0.8s,mb4.6,baz=241,slow=4.8,SNR=5.1
YKA Yellowknife Ar 94.12 25 P **P 18 29 13.9 -2.4**
YKA pmax pmax
comp=Z,4.0nm,0.8s
TIXI Tiksi 96.09 345⇑ *e*P **P 18 29 23.0 -2.0**
TIXI pmax pmax
comp=Z,3.0nm,0.8s,mb4.6
ZAK Zakamensk 96.44 321 *e*P **P 18 29 19.8 -7.2**
ZAK pmax pmax
comp=Z,2.0nm,1.7s,mb4.1
ZALV Zalesovo Beam 108.28 322 PKiKP PKiKP 18 34 20.6 -2.0
comp=Z,1.1nm,0.6s,baz=176,slow=2.3,SNR=6.0
MKAR Makanchi Array 109.22 314 Pdiff Pdif 18 30 25.6 +1.6
comp=Z,0.3nm,0.6s,baz=110,slow=3.0,SNR=3.5
MKAR PKiKP PKiKP 18 34 22.7 -1.8
comp=Z,1.4nm,0.5s,baz=155,slow=0.5,SNR=26
KURK Kurchatov 111.89 318 *e*PKiKP PKiKP 18 34 27.8 -1.7
TKM2 Tokmak 2 113.68 310 *e*PKiKP PKiKP 18 34 31.6 -1.6
UCH Uchtor 114.45 309 *e*PKPdf PKiKP 18 34 34.3 -0.4
EKS2 Erkin-Say 115.01 309 *e*PKPdf PKPdf 18 34 33.6 -2.2
AML Almayashu 115.06 309 *e*PKPdf PKPdf 18 34 34.7 -1.1
BRVK Borovoye 116.95 321 *e*PKiKP PKPdf 18 34 37.2 -2.0
KBL Kabul 118.42 300 *e*PKiKP PKPdf 18 34 41.7 -0.9
ARU Arti 122.88 326 *i* PKiKP PKPdf 18 34 48.9 -1.5
ARU 18 36 35.3
ARU Arti 122.88 326 *e*PKPdf PKPdf 18 34 48.7 -1.8
ARCES ARCESS Array B 126.23 350 PKP PKPdf 18 34 55.2 -1.3
comp=Z,6.5nm,0.7s,baz=13,slow=1.6,SNR=25
ARCES ARCESS Array B 126.23 350 PKiKP PKPdf 18 34 55.2 -1.3
ARCES pmax pmax
comp=Z,7.0nm,0.7s
ARCES ARCESS Array B 126.23 350 PKP PKPdf 18 34 55.2 -1.3
JOF Joensuu 130.51 343 *e*p PKPdf 18 35 03.2 -1.6
comp=Z,6.0nm,0.6s
KAF Kangasniemi 132.51 345 *e*p PKPdf 18 35 06.6 -2.0
comp=Z,3.9nm,0.5s
OBN Obninsk 134.29 333⇑ *i*PKiKP PKPdf 18 35 12.1 -0.1
OBN *e* 18 37 47.6
OBN pmax pmax
comp=Z,5.0nm,0.5s
NB2 NORSAR Subarra136.28 353 PKP 18 35 03.8
comp=Z,1.4nm,0.6s,baz=17,slow=2.6
NOA NORSAR Array B 136.28 353 PKhKP 18 35 04.4
comp=Z,0.9nm,0.8s,baz=25,slow=5.3,SNR=4.0
NOA PKP PKPdf 18 35 16.2 +0.5
comp=Z,2.2nm,0.6s,baz=14,slow=4.0,SNR=8.6
NOA NORSAR Array B 136.28 353 PKHKP 18 35 04.4
NOA 18 35 16.2
NOA pmax pmax
comp=Z,1.0nm,0.8s
NOA pmax pmax
comp=Z,2.0nm,0.6s
KMBO Kilima Mbogo 140.39 245 PKP PKPdf 18 35 25.1 +0.4
comp=Z,1.8nm,0.6s,baz=240,slow=22,SNR=5.7
KMBO Kilima Mbogo 140.39 245 PKiKP PKPdf 18 35 25.1 +0.4
KMBO pmax pmax
comp=Z,2.0nm,0.6s
AKASG Malin Array Be 140.56 333 PKhKP 18 35 16.0
comp=Z,1.9nm,0.4s,baz=41,slow=3.9,SNR=20
AKASG PKP PKPdf 18 35 24.3 +0.4
comp=Z,2.9nm,0.5s,baz=44,slow=3.0,SNR=7.9
AKASG Malin Array Be 140.56 333 PKHKP 18 35 16.0
AKASG 18 35 24.3
AKASG pmax pmax
comp=Z,2.0nm,0.4s
AKASG pmax pmax
comp=Z,3.0nm,0.5s
AKASG Malin Array Be 140.56 333 PKP 18 35 16.0
AKASG PKP PKPdf 18 35 24.3 +0.4
BSEG Bad Segeberg 143.33 352 *e*PKiKP PKiKP 18 35 33.0 +0.8
BSEG Bad Segeberg 143.33 352 *e*PKPbc PKPdf 18 35 26.0 -2.6
LVV L'vov 143.39 336 *i* PKHKP 18 35 26.1
HPK Haverah Park 143.80 3 *e*P PKPdf 18 35 27.2 -2.2
KWP Kalwaria 144.05 337 *e*PKP PKPdf 18 35 29.0 -1.0
KWP Kalwaria 144.05 337 *e*PKP PKPdf 18 35 29.0 -1.0
RUE Ruedersdorf 144.13 348 *e*PKPbc PKPdf 18 35 28.9 -1.2
LHO Holmfirth 144.20 4⇓ *e*P PKPdf 18 35 28.2 -1.9
KBI1 Birley Grange 144.51 3⇓ *e*P PKPdf 18 35 29.2 -1.5
OJC Ojcow 144.58 340 *e*PKP PKPdf 18 35 30.1 -0.8
BUR08 Bucovina Ar. S 144.60 332 *e*PKPdf PKPdf 18 35 30.8 -0.2
TLCR 144.60 326 ⇓PKiKP PKPdf 18 35 30.9 -0.2
BURAR Bucovina Array 144.61 332 ⇓PKiKP PKPdf 18 35 31.7 +0.6
KWE Weaver Farm 144.72 4⇓ *e*P PKPdf 18 35 30.4 -0.7

SBD1 Bryn Du 144.73 5 *e*P PKPdf 18 35 30.2 -0.9
STHS Stebnicka Huta 144.76 338 *i* PKP PKPdf 18 35 31.4 +0.1
KOLS Kolonicke sedl 144.78 336 *e*PKP PKPdf 18 35 31.0 -0.3
KOLS *e* 18 59 57.3
KOLS Kolonicke sedl 144.78 336 *e*PKP PKPdf 18 35 31.0 -0.3
KOLS *e* 18 59 57.4
BR131 Keskin Array S 144.86 315 *e*PKPdf PKPdf 18 35 31.3 -0.5
UZH Uzhgorod 145.02 336⇓ *e*PKHKP 18 35 29.7
UZH *i* 18 35 32.3
CWF Charnwood Fore 145.03 3 *e*P PKPdf 18 35 30.5 -1.1
KSP Ksiaz 145.06 344 *e*PKP PKPdf 18 35 32.2 +0.4
KSP Ksiaz 145.06 344 *e*PKP PKPdf 18 35 32.2 +0.5
NIE Niedzica 145.09 339 *e*PKP PKPdf 18 35 32.6 +0.8
ODB Odobesti 145.10 329⇑ P PKPdf 18 35 32.3 +0.3
CRVS Cervenica-Dubn 145.11 337 *e*PKP PKPdf 18 35 32.2 +0.3
HLM1 Long Mynd 145.14 5 *e*P PKPdf 18 35 31.4 -0.5
VRI Vrincioaia 145.19 329 PKIKP PKPdf 18 35 32.9 +0.8
IBBN Ibbenburen 145.24 354 *e*PKPbc PKPbc 18 35 32.3 -0.7
PLOR Plostina 145.24 329 ⇓PKIKP PKPdf 18 35 32.6 +0.4
TIRR Tirgusor 145.30 326 ⇓PKIKP PKPdf 18 35 32.7 +0.3
ANTO Ankara 145.35 316 PKIKP PKPdf 18 35 33.6 +1.0
ANTO Ankara 145.35 316 *e*PKPdf PKPdf 18 35 32.6 0.0
CLZ Clausthal 145.35 351 *e*PKPbc PKPbc 18 35 33.0 -0.3
CLL Collm 145.39 348 *e*PKPbc PKPbc 18 35 32.8 -0.7
CLL Collm 145.39 348⇓ *i*PKPbc PKPbc 18 35 32.8 -0.7
comp=Z,56nm,1.0s
HARR Harsova 145.40 326 PKIKP PKPdf 18 35 33.5 +1.0
OKC Ostrava-Krasne 145.43 341 *e*PKP PKPdf 18 35 33.0 +0.6
UPC Upice 145.44 344 *e*PKP PKPdf 18 35 33.3 +0.9
DPC Dubruska-Polom 145.50 344 *e*PKP PKPdf 18 35 33.7 +1.2
HTR Trewern Hill 145.54 6 *e*P PKPdf 18 35 32.1 -0.4
BRG Berggiesshubel 145.60 346 *e*PKPbc PKPbc 18 35 33.5 -0.6
BRG Berggiesshubel 145.60 346 *i* PKP PKPdf 18 35 33.3 +0.7
comp=Z,26nm,0.8s
MCH1 Michaelchurch 145.65 5⇓ *e*P PKPdf 18 35 32.2 -0.5
MORC Moravsky Berou 145.67 342 *e*PKIKP PKPdf 18 35 31.7 -1.1
WTSB Winterswijk 145.67 355 *e*PKP PKPdf 18 35 32.8 +0.1
comp=Z,47nm,0.9s
FBE Freiberg 145.69 347 *e*PKPbc PKPbc 18 35 34.0 -0.3
PVCC Panska Ves 145.78 346 *e*PKP PKPdf 18 35 34.3 +1.3
BHL Bhannes 145.78 305 *e*P PKPdf 18 35 34.9 +1.4
MLR Muntele Rosu 145.85 329 PKIKP PKPdf 18 35 34.6 +1.4
HGH Gray Hill 146.02 5 *e*P PKPdf 18 35 33.2 -0.1
BUG Bochum--Univer 146.14 354 *e*PKPbc PKPbc 18 35 34.6 -1.0
MMAI Mount Meron Ar 146.27 303 PKPbc PKPbc 18 35 36.5 -0.1
PRU Pruhonice 146.29 345 *e*PKP PKPdf 18 35 35.4 +1.6
PRU *ex* x 18 35 37.7
MOX Moxa 146.30 349 *e*PKP PKPdf 18 35 33.5 -0.3
comp=Z,29nm,1.4s
MOX *e* 18 35 43.8
MOX Moxa 146.30 349 *e*PKPbc PKPbc 18 35 35.3 -0.7
VOIR 146.32 330 PKIKP PKPdf 18 35 35.9 +1.9
DRGR 146.33 334⇑ PKP2 PKPbc 18 35 36.1 -0.2
TANN Tannenbergstha 146.35 348 *e*PKPbc PKPbc 18 35 35.7 -0.5
WERD Werda 146.35 348 *e*PKPbc PKPbc 18 35 35.7 -0.5
VRAC Vranov 146.36 342⇑ PKP2 PKPbc 18 35 36.0 -0.3
VRAC Vranov 146.36 342 P PKPbc 18 35 35.9 -0.3
VYHS Vyhne 146.38 339 *e*PKP PKPbc 18 35 36.0 -0.4
GUNZ Gunzen 146.43 348 *e*PKPbc PKPbc 18 35 36.1 -0.3
KOLA Kolacno 146.46 340 *i* PKP PKPbc 18 35 36.2 -0.4
WERN Wernitzgruen 146.49 348 *e*PKPbc PKPbc 18 35 36.2 -0.4
HEX Exmoor 146.49 6 *e*P PKPdf 18 35 35.2 +1.1
PSZ Piszkesteto 146.51 338 ⇓PKIKP PKPdf 18 35 36.2 +1.9
PSZ Piszkesteto 146.51 338⇓ *e*PKP PKPdf 18 35 36.0 +1.7
PSZ Piszkesteto 146.51 338 *e*PKPbc PKPbc 18 35 35.9 -0.8
TREC Trest 146.68 344 *e*PKP PKPdf 18 35 36.3 +1.8
TREC *ex* x 18 35 39.5
MANZ Manzenberg 146.83 348 *e*PKPbc PKPbc 18 35 37.0 -0.5
HGN Heimansgroeve 146.94 355 *e*PKP PKPdf 18 35 36.3 +1.4
comp=Z,12nm,0.9s
UCC Uccle 147.00 357 PKPbc PKPbc 18 35 37.0 -1.0
ROTZ Rotzenmuhle 147.02 348 *e*PKPbc PKPbc 18 35 37.7 -0.3
MEM Membach 147.08 355 PKPbc PKPbc 18 35 37.5 -0.7
BUD Budapest 147.19 338⇑ *e*PKP PKPbc 18 35 38.3 -0.3
ZST Bratislava 147.21 341 *e*PKP PKPbc 18 35 37.9 -0.7
TNS Taunus Mts 147.21 352 *e*PKPbc PKPbc 18 35 38.0 -0.5
GRA1 Grafenberg Arr 147.28 349 *e*PKPbc PKPbc 18 35 38.3 -0.4
GRA1 *e*PKPab PKPab 18 35 42.0 -0.2
GRF Grafenberg Arr 147.28 349 *e*PKPbc PKPbc 18 35 38.3 -0.4
GRF *e*PKPab PKPab 18 35 42.0 -0.2
SNF Seneffe 147.29 357 PKPbc PKPbc 18 35 38.0 -0.7
KHC Kasperske Hory 147.32 346 *e*PKP PKPbc 18 35 38.3 -0.5
KHC *ex* x 18 35 41.8
BCLA Clavier 147.32 356 PKPbc PKPbc 18 35 37.6 -1.2
GZR Gura Zlata 147.40 332 PKHKP PKPbc 18 35 38.3 -0.9
WET Wettzell 147.46 346 *e*PKPbc PKPbc 18 35 38.6 -0.6
WET *e*PKPab PKPab 18 35 42.8 -0.2
GEC2 GERESS Array S 147.55 345 *e*PKPbc PKPbc 18 35 38.9 -0.6
GEC2 *e*PKPab PKPab 18 35 43.0 -0.4
GERES GERESS Array B 147.55 345 PKPbc PKPbc 18 35 38.9 -0.6
comp=Z,17nm,0.6s,baz=22,slow=3.0,SNR=138
GERES GERESS Array B 147.55 345 PKiKP PKPbc 18 35 38.9 -0.6
GERES pmax pmax
comp=Z,17nm,0.6s
GIVF Givet 147.67 356 *e*PKP1 PKPbc 18 35 38.3 -1.4
comp=Z,58nm,0.8s
DOU Dourbes 147.69 357 PKPbc PKPbc 18 35 39.0 -0.8
BZS Buzias 147.73 334 PKIKP PKPbc 18 35 39.2 -0.8
BAIF Baives 147.75 357 *e*PKP1 PKPbc 18 35 38.5 -1.4
comp=Z,42nm,0.8s
CONA Conrad Observa 147.82 342 *i* PKPbc PKPbc 18 35 39.9 -0.3
comp=Z,16nm,0.6s,SNR=25
CSNA Conrad Observa 147.82 342⇓ *i*PKPbc PKPbc 18 35 39.8 -0.4
comp=Z,15nm,0.5s
WLF Walferdange 148.01 355 PKPbc PKPbc 18 35 40.3 -0.3
MOA Molln 148.33 344⇓ *i*PKPbc PKPbc 18 35 40.6 -0.9
comp=Z,4.3nm,0.5s,SNR=7.4
PKSM Moragy 148.41 337 PKHKP PKPbc 18 35 40.7 -1.0
JLP Les Platons 148.46 5 *e*P PKPbc 18 35 40.2 -1.5
JQE Queens East 148.51 5 *e*P PKPbc 18 35 40.2 -1.6
JSA Saint Aubin 148.51 5 *e*P PKPbc 18 35 40.6 -1.2
JRS Jersey 148.51 5 *e*P PKPbc 18 35 40.5 -1.3
STU Stuttgart 148.52 351 *e*PKPbc PKPbc 18 35 41.4 -0.5
STU *e*PKPab PKPab 18 35 46.5 -0.8
FUR Furstenfeldbru 148.73 348 *e*PKPbc PKPbc 18 35 41.7 -0.7
FUR *e*PKPab PKPab 18 35 47.8 -0.4
RJOB Jochberg 148.81 346 *e*PKPbc PKPbc 18 35 41.7 -0.9
RJOB *e*PKPab PKPab 18 35 48.7 +0.2
KOGS Kog 149.02 340 *e*PKPbc PKPbc 18 35 41.8 -1.4
KOGS *i* PKPab PKPab 18 35 49.0 -0.5
FLN La Foliniere 149.04 3 *e*PKP1 PKPbc 18 35 41.3 -1.9
comp=Z,77nm,0.8s
BFO Black Forest 149.08 352 *e*PKPbc PKPbc 18 35 42.4 -0.9
CDF Champ du Feu 149.13 353 *e*PKP1 PKPbc 18 35 41.9 -1.5
comp=Z,31nm,0.6s
PERS Pernice 149.20 342 *i* PKPbc PKPbc 18 35 42.3 -1.3
PERS *i* PKPab PKPab 18 35 49.7 -0.5
LDF La Druitiere 149.23 3 *e*PKP1 PKPbc 18 35 41.6 -2.0
comp=Z,32nm,0.7s
ROSF Rostrenen 149.25 7 *e*PKP1 PKPbc 18 35 41.5 -2.2
comp=Z,24nm,0.8s
MEZF Maizieres J'vi 149.25 356 *e*PKP1 PKPbc 18 35 42.4 -1.3
comp=Z,26nm,0.6s
KBA Koelnbreinsper 149.28 345 *i* PKPbc PKPbc 18 35 42.4 -1.4
comp=Z,16nm,0.5s,SNR=24
VTS Vitosha 149.31 328⇑ PKHKP PKPdf 18 35 40.9 +1.9
GRR Gorron 149.40 4 *e*PKP1 PKPbc 18 35 42.3 -1.7
comp=Z,34nm,0.5s
SGMF Saint Gilles 149.40 6 *e*PKP1 PKPbc 18 35 42.0 -2.0
comp=Z,40nm,0.8s
WATA Walderalm 149.46 347⇓ *i*PKPbc PKPbc 18 35 43.3 -0.9
comp=Z,14nm,0.5s
RETA Reutte 149.48 348⇓ *i*PKPbc PKPbc 18 35 43.3 -0.9
comp=Z,8.3nm,0.5s
WTTA Wattenberg 149.51 347⇑ *i*PKPbc PKPbc 18 35 43.5 -0.8
comp=Z,39nm,0.5s
MOTA Moosalm 149.55 348⇑ *i*PKPbc PKPbc 18 35 43.3 -1.1
comp=Z,32nm,0.5s
MYKA Terra Mystica 149.62 344⇑ *i*PKPbc PKPbc 18 35 42.8 -1.8
comp=Z,18nm,0.5s
HAU Haudompre 149.63 354 *e*PKP1 PKPbc 18 35 43.0 -1.6
comp=Z,28nm,0.6s
QUIF Quistinic 149.67 7 *e*PKP1 PKPbc 18 35 42.7 -2.0
HINF Hinteralfeld 149.77 353 *e*PKP1 PKPbc 18 35 43.1 -1.8
comp=Z,20nm,0.7s
ABTA Abfaltersbach 149.80 345 *i* PKPbc PKPbc 18 35 43.6 -1.5
comp=Z,30nm,0.6s,SNR=19
VNDS Vrh nad Dolski 149.81 342 *i* PKPbc PKPbc 18 35 44.0 -1.1
DAVA Damuels 149.84 349⇑ *e*PKiKP PKiKP 18 35 44.7 -1.1
comp=Z,22nm,0.8s,SNR=12
LJU Ljubljana 149.91 342 *e*PKPbc PKPbc 18 35 44.4 -0.9
FETA Feichten 149.94 348 *i* PKPbc PKPbc 18 35 44.7 -0.7

comp=Z,20nm,0.9s,SNR=7.5
VOY Vojsko 150.10 343 *e*PKPbc PKPbc 18 35 44.1 -1.7
VOY *e* 18 35 52.5
BOJS Bojanci 150.18 341 *e*PKPbc PKPbc 18 35 45.3 -0.7
CEY Cerknica 150.22 342 *i* PKPdf PKPdf 18 35 39.2 -1.1
CEY *e*PKPbc PKPbc 18 35 45.0 -1.0
CEY *e*PKPab PKPab 18 35 53.6 -0.8
LOR Lormes 150.55 357 *e*PKP1 PKPbc 18 35 45.3 -1.5
comp=Z,40nm,0.7s
VAY Valandovo 150.56 327 *e*PKP PKPdf 18 35 42.2 +1.2
HYF Humbligny 150.59 359 *e*PKP1 PKPbc 18 35 45.7 -1.2
SKO Skopje 150.64 329 *i* PKP PKPbc 18 35 45.2 -1.9
TUE Stuetta 150.72 349 *e*PKPbc PKPbc 18 35 46.2 -1.1
SSF Saint Saulge 150.77 358 *e*PKP1 PKPbc 18 35 45.8 -1.5
comp=Z,32nm,0.7s
CABF La Chapelle 151.04 354 *e*PKP1 PKPbc 18 35 46.9 -1.0
comp=Z,33nm,0.8s
AVF Avril sur Loir 151.05 358 *e*PKP1 PKPbc 18 35 45.9 -2.0
comp=Z,13nm,0.7s
KRUS Krusevo 151.19 329⇓ *i*PKP PKPbc 18 35 46.6 -1.9
MFF Saint Martin d 151.22 3 *e*PKP1 PKPbc 18 35 46.4 -1.9
comp=Z,24nm,0.6s
BGF Bois d'Agland 151.30 359 *e*PKP1 PKPbc 18 35 46.8 -1.7
comp=Z,29nm,0.7s
TCF Toulx Ste Croi 151.58 359 *e*PKP1 PKPbc 18 35 47.3 -1.8
comp=Z,19nm,0.7s
LPL La Plagne 152.05 353 *e*PKP1 PKPbc 18 35 49.3 -0.9
comp=Z,12nm,0.8s
LPG La Plagne 152.06 353 *e*PKP1 PKPbc 18 35 49.5 -0.8
comp=Z,9.3nm,0.6s
BNI Bardonecchia 152.51 353 *e*PKIKP PKPbc 18 35 50.6 -0.7
RJF Les Rejaudoux 152.56 0 *e*PKP1 PKPbc 18 35 49.5 -1.9
comp=Z,9.3nm,0.7s
ORIF Oris-en-Rattie 152.74 354 *e*PKP1 PKPbc 18 35 50.3 -1.4
comp=Z,14nm,0.7s
MBDF Montbardon 152.82 352 *e*PKP1 PKPbc 18 35 50.5 -1.4
comp=Z,21nm,0.7s
VIVF Saint-Julien-l 152.91 356 *e*PKP1 PKPbc 18 35 50.6 -1.5
comp=Z,13nm,0.8s
LFF La Frestale 152.91 2 *e*PKP1 PKPbc 18 35 50.1 -2.0
CAF Calviac 152.94 360 *e*PKP1 PKPbc 18 35 50.5 -1.7
comp=Z,12nm,0.8s
LASF Ste Croix 153.74 357 *e*PKP1 PKPbc 18 35 52.5 -1.4
ESDC Sonseca Array 157.62 12 PKPab PKPab 18 36 24.8 -1.5
comp=Z,0.8nm,0.5s,baz=343,slow=5.0,SNR=7.8
KEST Kesra 160.92 341 PKPab PKPab 18 36 40.4 -0.4
comp=Z,2.1nm,0.7s,baz=0.3,slow=3.3,SNR=9.2
LIC Lamto 166.70 149 *e*PKIKP PKPdf 18 35 53.0 -7.6
DBIC Dimbokro 167.17 149 PKP PKPdf 18 35 58.9 -2.0
comp=Z,3.9nm,1.1s,baz=238,slow=10,SNR=4.5
DBIC Dimbokro 167.17 149 PKiKP PKPdf 18 35 58.9 -2.0
DBIC pmax pmax
comp=Z,4.0nm,1.1s
TORD Torodi Ar. Bea 175.39 178 PKP PKPdf 18 36 02.7 -2.2
comp=Z,2.2nm,1.0s,baz=8.9,slow=0.7,SNR=10
TORD PKPab PKPab 18 37 43.3 -1.8
comp=Z,0.8nm,0.8s,baz=189,slow=3.1,SNR=4.0
TORD Torodi Ar. Bea 175.39 178 PKP PKPdf 18 36 02.7 -2.2
TORD PKPab PKPab 18 37 43.3 -1.8

*ISCJB **15** 18:36:50.3±3.8, 212S±02×16920E±009, h10km±24km, mb3.8/7, Error ellipse: s-maj=33.4km s-min=11.9km az=165.9*
*IDC **15** 18:36:55.6±2.3, 2057S×16835E, h0km, mb3.8/7, mb1 4.0/7, mb1mx3.9/15, mbtmp3.8/7, MS3.3/2, Ms1 3.3/2, ms1mx2.8/23, Error ellipse: s-maj=84.9km s-min=30.2km az=149.0*
*NEIC **15** 18:37:00.7±1.3, 2070S×16835E, h35km, Error ellipse: s-maj=43.4km s-min=16.1km az=139.0*

ISC 15 18:36:50.4±4.7, 213S±02×16921E±009, h2km±29km, n15, σ0s75/16, mb3.8/7, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**2.68**	**254**	*e*P	**Pn**		**18 37 35.0**	**+0.6**
DZM				*e*S	**Sn**		**18 38 07.0**	**-0.4**
DZM	**Mont Dzumac**	**2.68**	**254**	*e*P	**Pn**		**18 37 35.0**	**+0.6**
NOUC	**Port Laguerre**	**2.81**	**254**	*e*P	**Pn**		**18 37 36.1**	**-0.2**
NOUC				*e*S	**Sn**		**18 38 11.3**	**+0.5**
AFI	**Afiamalu**	**19.55**	**71**	LR	LR		18 47 19.2	
	comp=Z,89nm,19.2s,baz=18,slow=31							
STKA	**Stephens Creek**	**26.76**	**241**	P	**P**		**18 42 34.9**	**+3.3**
	1.4nm,0.6s,mb3.6,baz=70,slow=12,SNR=3.0							
WRA	**Warramunga Arr**	**32.63**	**266**	P	**P**		**18 43 22.3**	**-1.4**
	0.6nm,0.8s,mb3.5,baz=98,slow=8.3,SNR=3.7							
ASAR	**Alice Springs**	**32.66**	**259**	P	**P**		**18 43 23.1**	**-0.9**
	1.2nm,0.7s,mb3.9,baz=85,slow=9.0,SNR=14							
FITZ	**Fitzroy Crossi**	**41.05**	**267**	P	**P**		**18 44 35.5**	**0.0**
	2.4nm,0.9s,mb3.8,baz=76,slow=7.8,SNR=4.3							
CMAR	**Chiang Mai Arr**	**79.34**	**295**	P	**P**		**18 48 58.8**	**+0.7**
	0.5nm,0.8s,mb3.5,baz=131,slow=4.2,SNR=4.1							
SNAA	**Sanae**	**87.08**	**183**	*e*	**P**		**18 49 36.9**	**-0.2**
SNAA				*e*			18 49 40.7	
VNA3	**Neumayer Olymp**	**87.67**	**180**	*e*	**P**		**18 49 39.8**	**-0.2**
VNA3				*e*			18 49 44.4	
VNA2	**Neumayer--Watz**	**87.96**	**181**	*e*	**P**		**18 49 41.7**	**+0.3**
	baz=182,slow=5.6							
VNA2				*e*			18 49 45.7	
SONM	**Songino Array**	**88.87**	**323**	P	**P**		**18 49 46.3**	**+0.4**
	0.4nm,0.9s,mb3.7,baz=123,slow=5.3,SNR=2.5							
SONM	**Songino Array**	**88.87**	**323**	P	**P**		**18 49 46.3**	**+0.4**
NVAR	**Mina Array Bea**	**90.20**	**49**	P	**P**		**18 49 58.6**	**+6.2**
	0.6nm,0.7s,mb4.0,baz=235,slow=8.3,SNR=3.6							

NEIC 15 18:48:40.3, 4478S×16737E, h5km, ML3.7(WEL)**, After WEL., South Island**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
MSZ	**Milford Sound**	**0.41**	**75**	P	**Pg**		**18 48 48.6**	**+0.4**
MSZ				S	Sg		18 48 53.1	-0.5
DCZ	**Deep Cove**	**0.71**	**192**	P	**Pg**		**18 48 53.9**	**-0.1**
DCZ				S	Sg		18 49 03.4	+0.1
MLZ	**Mavora Lakes**	**0.80**	**135**	P	**Pg**		**18 48 55.0**	**+0.2**
WKZ	**Wanaka**	**1.17**	**93**	P	**Pg**		**18 49 02.4**	**-0.4**
WKZ				S	Sg		18 49 17.1	-0.9
WHZ	**Wether Hill Ro**	**1.19**	**160**	P	**Pg**		**18 49 02.8**	**-0.3**
JCZ	**Jackson Bay**	**1.22**	**55**	P	**Pg**		**18 49 03.7**	**0.0**
EAZ	**Earnscleugh**	**1.45**	**109**	P	**Pn**		**18 49 06.9**	**-0.2**
TUZ	**Tuapeka**	**1.98**	**127**	P	**Pn**		**18 49 15.5**	**+1.1**
LBZ	**Lake Benmore**	**2.05**	**80**	P	**Pn**		**18 49 16.1**	**+0.7**
FOZ	**Fox Glacier**	**2.06**	**55**	P	**Pn**		**18 49 15.8**	**+0.2**
ODZ	**Otahua Downs**	**2.34**	**98**	P	**Pn**		**18 49 20.1**	**+0.7**
KHZ	**Kahutara**	**5.06**	**64**	P	**Pn**		**18 49 54.5**	**-2.3**

IDC 15 19:00:00.2±2.0, 918S×11231E, h0km, mb3.6/4, mb1 3.7/4, mb1mx3.5/16, mbtmp3.6/4, Error ellipse: s-maj=112.0km s-min=22.5km az=50.0, South of Jawa

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**23.82**	**119**	P	P		19 05 15.4	+0.2
	0.5nm,0.5s,baz=293,slow=11,SNR=9.8							
ASAR	**Alice Springs**	**25.18**	**127**	P	P		19 05 27.7	+0.2
	0.5nm,0.6s,baz=304,slow=8.9,SNR=7.1							
STKA	**Stephens Creek**	**35.32**	**134**	P	P		19 06 57.1	-0.2
	2.3nm,0.8s,baz=322,slow=12,SNR=2.5							
MKAR	**Makanchi Array**	**61.82**	**337**	P	P		19 10 21.1	+0.1
	0.4nm,0.3s,baz=151,slow=7.4,SNR=14							

*IDC **15** 19:14:02.1±1.8, 338S×12781E, h0km, mb4.1/2, mb1 4.3/4, mb1mx3.7/17, mbtmp4.1/4, ML3.5/2, Error ellipse: s-maj=67.0km s-min=25.2km az=73.0*
*DJA **15** 19:14:07.1±1.4, 4S±9×128E±, h86km±16km, mb4.8/1, MLv3.6/6*
*ISCJB **15** 19:14:09.3±0

0.2nm,0.3s,baz=344,slow=13,SNR=13
ASAR Alice Springs 20.80 166 P **P 19 18 48.6 +2.2**
11nm,0.8s,baz=344,slow=12,SNR=112
MKAR Makanchi Array 64.42 327 P **P 19 24 37.6 -1.9**
0.9nm,0.7s,baz=132,slow=8.1,SNR=8.2

*IDC **15** 19:20:42.8±1.2,570N×12452E,h0km,mb3.4/4,mb1 3.6/4, mb1mx3.4/19,mbtmp3.4/4, Error ellipse: s-maj=31.0km s-min=13.7km az=112.0*
*MAN **15** 19:20:43,566N×12461E,h5km,mb4.6,ML3.4,MS3.3*
*ISCJB **15** 19:20:46.8±1.2,565N±007×12456E±007,h42km±16km, mb3.3/4, Error ellipse: s-maj=14.3km s-min=9.7km az=41.8*
ISC 15 19:20:47.5±1.4,566N±005×12457E±008,h32km±10km, n12,σ0§83/19,mb3.3/4,2C-2D,Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
GSPH	**General Santos**	**0.57**	**42**	⇓*eP*		**Pb**		**19 20 58.8**	**-0.4**
GSPH				*eS*		**Sb**		**19 21 07.7**	**+0.6**
KCP	**Kidapawan**	**1.44**	**21**	⇑*iP*		**Pn**		**19 21 15.3**	**+3.9**
KCP				*i* S		**Sn**		**19 21 32.8**	**+3.5**
CTBH	**Cotabato--PC H**	**1.59**	**348**	⇓*iP*		**Pn**		**19 21 13.1**	**-0.3**
CTBH				*i* S		**Sn**		**19 21 31.8**	**-1.1**
DAV	**Davao City (W)**	**1.73**	**36**	Pn		**Pn**		**19 21 14.4**	**-1.0**
	68nm,0.3s,baz=284,slow=2.7,SNR=5.8								
DAV				Lg				19 21 36.7	
	94nm,0.3s,baz=53,slow=19,SNR=16								
MATI	**Mati**	**2.11**	**53**	*eP*		**Pn**		**19 21 19.6**	**-1.0**
MATI				*eS*		**Sn**		**19 21 37.6**	**-8.2**
BUKP	**Musuan**	**2.26**	**13**	*eP*		**Pn**		**19 21 22.4**	**-0.3**
BUKP				*eS*		**Sn**		**19 21 50.3**	**+0.8**
PAGZ	**Pagadian**	**2.48**	**332**	*eP*		**Pn**		**19 21 26.8**	**+1.2**
PAGZ				*eS*		**Sn**		**19 21 55.1**	**+0.3**
ZMPH	**Zamboanga City**	**2.80**	**298**	⇑*iP*		**Pn**		**19 21 29.8**	**-0.3**
ZMPH				*i* S		**Sn**		**19 21 52.9**	**-10**
FITZ	**Fitzroy Crossi**	**23.63**	**177**	P		**P**		**19 25 55.6**	**-0.5**
	0.6nm,0.5s,mb3.3,baz=226,slow=20,SNR=6.2								
WRA	**Warramunga Arr**	**27.19**	**160**	P		**P**		**19 26 28.6**	**+0.1**
	0.4nm,0.5s,mb3.2,baz=333,slow=10,SNR=5.7								
ASAR	**Alice Springs**	**30.54**	**163**	P		**P**		**19 26 59.4**	**+1.2**
	0.4nm,0.6s,mb3.4,baz=339,slow=6.4,SNR=6.4								
MKAR	**Makanchi Array**	**54.76**	**326**	P		**P**		**19 30 13.8**	**-0.2**
	0.2nm,0.5s,mb3.4,baz=141,slow=8.5,SNR=2.7								

*ISCJB **15** 19:22:51.2±1.1,4478S±004×167.19E±006,h8km±7km, mb4.0/5,MS3.6/4, Error ellipse: s-maj=7.5km s-min=5.0km az=36.5*
*IDC **15** 19:22:51.5±0.7,4480S×16727E,h0km,mb4.0/7, mb1 4.1/8,mb1mx4.1/14,mbtmp4.0/8,ML4.5/2,MS3.7/4, Ms1 3.7/4,ms1mx3.2/20, Error ellipse: s-maj=22.6km s-min=18.9km az=21.0*
*NEIC **15** 19:22:51.9,4483S×167.15E,h5km,ML4.9(WEL),After WEL.*
ISC 15 19:22:52.3±1.1,4482S±004×16722E±006,h4km±7km, h9km±4km:pP-P,n40,σ0§70/41,mb4.0/5,MS3.6/4,South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
MSZ	**Milford Sound**	**0.52**	**75**	P		**P**	**Pg**	**19 23 03.1**	**+0.7**
MSZ				S		**Sg**		**19 23 09.1**	**-0.1**
DCZ	**Deep Cove**	**0.67**	**184**	P		**P**	**Pg**	**19 23 05.0**	**-0.1**
DCZ				S		**Sg**		**19 23 13.9**	**+0.2**
MLZ	**Mavora Lakes**	**0.86**	**129**	P		**P**	**Pg**	**19 23 08.7**	**-0.1**
MLZ				S		**Sg**		**19 23 19.6**	**-0.3**
WHZ	**Wether Hill Ro**	**1.20**	**155**	P		**P**	**Pg**	**19 23 14.4**	**-0.8**
WKZ	**Wanaka**	**1.28**	**91**	P		**P**	**Pg**	**19 23 16.5**	**-0.3**
JCZ	**Jackson Bay**	**1.33**	**57**	P		**P**	**Pn**	**19 23 17.5**	**-0.1**
JCZ				S		**Sg**		**19 23 37.1**	**+2.2**
EAZ	**Earnscleugh**	**1.54**	**106**	P		**P**	**Pn**	**19 23 20.4**	**-0.1**
TUZ	**Tuapeka**	**2.05**	**125**	P		**P**	**Pn**	**19 23 27.7**	**+0.2**
LBZ	**Lake Benmore**	**2.16**	**80**	P		**P**	**Pn**	**19 23 29.8**	**+0.8**
FOZ	**Fox Glacier**	**2.17**	**56**	P		**P**	**Pn**	**19 23 29.2**	**0.0**
ODZ	**Otahua Downs**	**2.44**	**97**	P		**P**	**Pn**	**19 23 33.6**	**+0.7**
RPZ	**Rata Peaks**	**2.96**	**70**	Pn		**Pn**	**Pn**	**19 23 40.2**	**+0.1**
	310nm,0.3s,baz=229,slow=5.3,SNR=395								
RPZ				Sn			**Sn**	**19 24 16.5**	**+0.4**
	92nm,0.3s,baz=15,slow=20,SNR=8.1								
RPZ	**Rata Peaks**	**2.96**	**70**	P		**P**	**Pn**	**19 23 40.1**	**0.0**
WVZ	**Waitaha Valley**	**3.08**	**57**	P		**P**	**Pn**	**19 23 40.7**	**-0.9**
MQZ	**McQueen's Vall**	**4.06**	**76**	P		**P**	**Pn**	**19 23 54.4**	**-0.7**
DSZ	**Denniston Nort**	**4.54**	**49**	P		**P**	**Pn**	**19 24 00.5**	**-1.2**
THZ	**Tophouse**	**5.15**	**56**	P		**P**	**Pn**	**19 24 09.7**	**-0.4**
QRZ	**Quartz Range**	**5.58**	**46**	P		**P**	**Pn**	**19 24 14.9**	**-1.1**
NNZ	**Nelson**	**5.77**	**54**	P		**P**	**Pn**	**19 24 18.0**	**-0.6**
TCW	**Tory Channel**	**6.30**	**58**	P		**P**	**Pn**	**19 24 26.6**	**+0.7**
HIZ	**Hauiti**	**8.50**	**45**	P		**P**	**Pn**	**19 24 56.2**	**+0.1**
URZ	**Urewera**	**9.89**	**52**	Pn		**Pn**	**Pn**	**19 25 14.9**	**-0.2**
	1.1nm,0.3s,baz=283,slow=10.0,SNR=4.4								
URZ				Sn			**Sn**	**19 26 56.1**	**-10**
	1.4nm,0.3s,baz=312,slow=18,SNR=2.6								
WCZ	**Waipu Caves**	**10.39**	**34**	P		**P**	**Pn**	**19 25 20.8**	**-1.2**
STKA	**Stephens Creek**	**23.77**	**294**	P		**P**	**P**	**19 28 06.2**	**+0.3**
	4.4nm,0.9s,mb3.9,baz=85,slow=13,SNR=5.0								
STKA				LR		LR	LR	19 35 22.6	
	comp=Z,132nm,19.8s,MS3.4,baz=115,slow=32								
CTA	**Charters Tower**	**30.17**	**318**	LR		LR	LR	19 38 59.2	
	comp=Z,82nm,20.4s,MS3.4,baz=226,slow=32								
ASAR	**Alice Springs**	**34.34**	**297**	P		**P**	**P**	**19 29 39.2**	**-0.8**
	1.1nm,0.7s,mb3.9,baz=137,slow=6.8,SNR=11								
ASAR				PcP		PcP	PcP	19 32 15.1	-1.0
	0.8nm,0.8s,baz=128,slow=4.0,SNR=4.9								
WRA	**Warramunga Arr**	**36.82**	**302**	P		**P**	**P**	**19 30 01.8**	**+0.3**
	1.3nm,0.8s,baz=137,slow=7.9,SNR=17								
WRA				PcP		PcP	PcP	19 32 22.8	-0.7
	1.0nm,0.8s,baz=140,slow=3.0,SNR=8.8								
FITZ	**Fitzroy Crossi**	**43.67**	**294**	P		**P**	**P**	**19 30 58.6**	**+0.4**
	1.1nm,0.6s,baz=158,slow=22,SNR=7.7								
PPT	**Papeete**	**45.12**	**67**	LR		LR	LR	19 48 30.7	
	comp=Z,145nm,18.1s,MS4.0,baz=259,slow=34								
QSPA	**South Pole Qui**	**45.31**	**180**	P		**P**	**P**	**19 31 11.7**	**+1.1**
	2.1nm,0.8s,mb4.0,baz=347,slow=7.0,SNR=13								
QSPA				PcP		PcP	PcP	19 32 48.6	-1.5
	0.5nm,0.5s,baz=63,slow=2.8,SNR=2.7								
QSPA	**South Pole Qui**	**45.31**	**180**	P		**P**	**P**	**19 31 11.7**	**+1.1**
QSPA				PcP		PcP	PcP	19 32 48.6	-1.5
MAW	**Mawson**	**54.46**	**207**	P		**P**	**P**	**19 32 20.9**	**+0.6**
	1.4nm,0.6s,mb4.1,baz=132,slow=7.7,SNR=6.2								
MAW				LR		LR	LR	19 54 25.5	
	comp=Z,91nm,18.4s,MS3.9,baz=68,slow=35								
SNAA	**Sanae**	**63.61**	**183**	*e*		**P**	**P**	**19 33 23.4**	**-0.3**
SNAA				*e*			pP	19 33 26.0	+1.1
SNAA				*e*				19 33 29.6	
SNAA				*e*				19 33 31.8	
VNA3	**Neumayer Olymp**	**64.23**	**181**	*e*		**P**	**P**	**19 33 27.0**	**-0.8**
VNA3				*e*			pP	19 33 29.9	+0.9
VNA3				*e*				19 33 33.7	
VNA3				*e*				19 33 36.6	
VNA2	**Neumayer--Watz**	**64.51**	**182**	*e*		**P**	**P**	**19 33 29.5**	**-0.1**
	baz=169,slow=5.2								
VNA2				*e*			pP	19 33 32.4	+1.6
VNA2				*e*				19 33 36.0	
VNA2				*e*				19 33 38.8	
VNA1	**Neumayer--Stat**	**64.80**	**182**	*e*		**P**	**P**	**19 33 32.0**	**+0.5**
VNA1				*e*			pP	19 33 34.4	+1.6
VNA1				*e*				19 33 37.9	
CMAR	**Chiang Mai Arr**	**88.34**	**298**	P		**P**	**P**	**19 35 46.5**	**+1.3**
	1.4nm,0.9s,mb4.2,baz=150,slow=3.6,SNR=8.3								
TORD	**Torodi Ar. Bea**	**146.11**	**206**	PKPbc		PKPbc	PKPbc	19 42 32.2	-1.6
	3.2nm,0.8s,baz=148,slow=1.8,SNR=25								
ARCES	**ARCESS Array B**	**148.65**	**335**	PKPbc		PKPbc	PKPbc	19 42 37.8	-1.5
	3.6nm,1.0s,baz=40,slow=2.1,SNR=6.8								
AKASG	**Malin Array Be**	**151.46**	**297**	PKPbc		PKPbc	PKPbc	19 42 46.0	-0.6
	3.6nm,0.8s,baz=82,slow=2.4,SNR=10								

*ISCJB **15** 19:36:41.8±0.4,4325N±002×1873E±003,h1km±4km, Error ellipse: s-maj=3.4km s-min=3.0km az=27.1*
*PDG **15** 19:36:42.8±0.2,4320N×1876E,h8km±1km,MD2.9/6, ML2.9/8, Error ellipse: s-maj=0.4km s-min=0.7km az=0.0*
*CSEM **15** 19:36:42.5±0.1,4320N×1877E,h10km,ML2.9/8, Error ellipse: s-maj=1.9km s-min=1.6km az=117.0*
*BEO **15** 19:36:44.6±0.6,4330N×1878E,h10km±3km,ML2.8/5*
*PRU **15** 19:36:44.9,4330N×1877E,h0km*
*VIE **15** 19:36:47.9±0.6,4355N×1879E,h10km,mb2.4/3,ML2.6/3, Error ellipse: s-maj=8.8km s-min=4.6km az=52.0*
ISC 15 19:36:42.9±0.4,4323N±002×1874E±003,h1km±4km,n46, σ1§13/78,13C-7D,Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
UPM	**Unac-Piva**	**0.12**	**102**	⇓*iPg*		**Pg**	**Pg**	**19 36 45.3**	**+0.1**
UPM				*eSg*			**Sg**	**19 36 47.0**	**+0.1**
BRY	**Bratogost**	**0.36**	**204**	⇓*iPg*		**Pg**	**Pg**	**19 36 49.2**	**-0.5**
BRY				*eSg*			**Sg**	**19 36 54.7**	**+0.4**
NKY	**Niksic**	**0.46**	**156**	⇑*iPg*		**Pg**	**Pg**	**19 36 50.8**	**-0.8**
NKY				*eSg*			**Sg**	**19 36 57.5**	**0.0**
PLE	**Pljevlja**	**0.49**	**78**	⇓*iPg*		**Pg**	**Pg**	**19 36 52.0**	**-0.2**
PLE				*eSg*			**Sg**	**19 36 59.2**	**+0.7**
BBLS	**Lazići**	**0.80**	**37**	*ePg*		**Pg**	**Pg**	**19 36 58.3**	**+0.1**
BBLS				*eSg*			**Sg**	**19 37 08.2**	**-0.3**
HCY	**Herceg Novi**	**0.80**	**193**	⇓*iPg*		**Pg**	**Pg**	**19 36 57.2**	**-1.0**
HCY				*eSg*			**Sg**	**19 37 09.7**	**+1.1**
STON	**Ston**	**0.84**	**245**	*ePg*		**Pg**	**Pg**	**19 36 57.6**	**-1.5**
STON				*Sg*			**Sg**	**19 37 11.0**	**+1.0**
STON	**Ston**	**0.84**	**245**	*ePg*		**Pg**	**Pg**	**19 36 57.5**	**-1.5**
STON				*Sg*			**Sg**	**19 37 10.9**	**+1.0**
PDG	**Podgorica**	**0.88**	**154**	⇑*iPg*		**Pg**	**Pg**	**19 36 57.7**	**-2.1**
PDG				*eSg*			**Sg**	**19 37 12.1**	**+0.9**
TTG	**Podgorica**	**0.88**	**154**	⇑*iPg*		**Pg**	**Pg**	**19 36 57.7**	**-2.1**
TTG				*eSg*			**Sg**	**19 37 12.1**	**+0.9**
SJES	**Sjenica**	**0.90**	**87**	*ePg*		**Pg**	**Pg**	**19 36 59.7**	**-0.4**
SJES				*eSg*			**Sg**	**19 37 12.4**	**+0.7**
SJES	**Sjenica**	**0.90**	**87**	*ePg*		**Pg**	**Pg**	**19 36 59.6**	**-0.5**
SJES				*eSg*			**Sg**	**19 37 12.2**	**+0.5**
BEY	**Berane**	**0.92**	**112**	⇑*iPg*		**Pg**	**Pg**	**19 36 59.8**	**-0.6**
BEY				*eSg*			**Sg**	**19 37 13.6**	**+1.3**
IVA	**Berane**	**0.92**	**112**	⇑*iPg*		**Pg**	**Pg**	**19 36 59.8**	**-0.6**
IVA				*eSg*			**Sg**	**19 37 13.6**	**+1.3**
BUM	**Brajici-Budva**	**0.93**	**173**	⇓*iPg*		**Pg**	**Pg**	**19 36 59.1**	**-1.6**
BUM				*eSg*			**Sg**	**19 37 13.6**	**+0.8**
PVY	**Plav**	**1.10**	**125**	⇓*iPg*		**Pg**	**Pg**	**19 37 03.1**	**-0.9**
PVY				*eSg*			**Sn**	**19 37 20.0**	**-1.2**
DIVS	**Divibare**	**1.26**	**46**	*ePg*		**Pg**	**Pg**	**19 37 06.8**	**-0.1**
DIVS				*eSg*			**Sg**	**19 37 22.9**	**-0.3**
BCI	**Bajram Curri**	**1.30**	**131**	*i* PN		**Pn**	**Pn**	**19 37 06.7**	**-1.4**
BCI				*i* SN			**Sg**	**19 37 28.4**	**+3.8**
ULC	**Ulcinj**	**1.32**	**163**	*ePg*		**Pg**	**Pn**	**19 37 06.4**	**-1.9**
ULC				*eSg*			**Sg**	**19 37 26.7**	**+1.5**
PUK	**Puka**	**1.46**	**144**	*ePN*		**Pg**	**Pg**	**19 37 10.8**	**0.0**
PUK				*i* SN			**Sg**	**19 37 34.2**	**+4.6**
GRUS	**Gruza**	**1.58**	**65**	*ePn*		**Pn**	**Pn**	**19 37 11.0**	**-0.9**
GRUS				*eSg*			**Sg**	**19 37 32.7**	**-0.8**
BLY	**Banja Luka**	**1.89**	**324**	*ePn*		**Pn**	**Pn**	**19 37 17.2**	**+1.0**
PHP	**Peshkopia**	**1.99**	**140**	*ePN*		**Pg**	**Pg**	**19 37 21.1**	**+0.1**
PHP				*i* SN			**Sg**	**19 37 50.1**	**+3.4**
TIR	**Tirane**	**2.06**	**156**	*ePN*		**Pg**	**Pg**	**19 37 21.3**	**-0.9**
TIR	**Tirane**	**2.06**	**156**	*ePn*		**Pg**	**Pn**	**19 37 20.6**	**-1.6**
TIR				*eSg*			**Sg**	**19 37 51.3**	**+2.4**
FGSL	**Fruska Gora**	**2.08**	**21**	*ePn*		**Pn**	**Pn**	**19 37 20.3**	**+1.5**
FGSL				*eSn*			**Sn**	**19 37 47.8**	**+2.6**
BARS	**Barje**	**2.29**	**99**	*ePn*		**Pn**	**Pn**	**19 37 21.9**	**+0.2**
BARS				*eSn*			**Sn**	**19 37 51.1**	**+0.6**
KRUS	**Krusevo**	**2.63**	**134**	*i* Pn		**Pg**	**Pg**	**19 37 29.3**	**-3.9**
KRUS				*i* Sn			**Sg**	**19 38 03.9**	**-3.3**
KRUS	**Krusevo**	**2.63**	**134**	*i* Pn		**Pg**	**Pg**	**19 37 29.2**	**-4.0**
KRUS				*i* Sn			**Sg**	**19 38 03.9**	**-3.4**
RHK3	**Tenkes**	**2.68**	**353**	*ePn*		**Pn**	**Pn**	**19 37 26.9**	**-0.2**
PKSM	**Moragy**	**2.98**	**359**	*ePn*		**Pn**	**Pn**	**19 37 30.8**	**-0.5**
NVLJ	**Novalja**	**3.10**	**297**	Sg		**Sn**	**Sn**	**19 38 14.8**	**+4.3**
BZS	**Buzias**	**3.15**	**40**	*ePn*		**Pn**	**Pn**	**19 37 32.5**	**-1.1**
BZS	**Buzias**	**3.15**	**40**	⇑*iP*		**Pn**	**Pn**	**19 37 34.2**	**+0.6**
GOLS	**Golise**	**3.56**	**322**	*i* Pn		**Pn**	**Pn**	**19 37 40.0**	**+0.8**
GZR	**Gura Zlata**	**3.61**	**52**	⇑*iP*		**Pn**	**Pn**	**19 37 39.6**	**-0.3**
LEGS	**Legarje**	**3.66**	**319**	*i* Pn		**Pn**	**Pn**	**19 37 41.7**	**+1.2**
CLEY	**Cerknica**	**3.98**	**311**	*ePn*		**Pn**	**Pn**	**19 37 45.9**	**+1.0**
PKSG		**4.17**	**357**	*eSn*		**Sn**	**Sn**	**19 38 38.0**	**+1.1**
SOKA	**Soboth**	**4.34**	**324**	⇑*iPn*		**Pn**	**Pn**	**19 37 50.4**	**+0.5**
SOKA				⇑*iSn*			**Sn**	**19 38 38.9**	**-2.1**
OBKA	**Obir**	**4.43**	**319**	⇑*iPn*		**Pn**	**Pn**	**19 37 52.8**	**+1.6**
VOY	**Vojsko**	**4.45**	**311**	*ePn*		**Pn**	**Pn**	**19 37 57.7**	**+6.3**
VOY				*eSn*			**Sg**	**19 39 19.5**	**+14**
ARSA	**Arzberg**	**4.62**	**332**	⇑*iPn*		**Pn**	**Pn**	**19 37 53.9**	**+0.2**
ARSA				⇑*iSn*			**Sn**	**19 38 46.3**	**-1.7**
VYHS	**Vyhne**	**5.27**	**1**	*e*SG		**Sn**	**Sn**	**19 39 04.7**	**+0.8**
MOA	**Molln**	**5.59**	**327**	⇑*iPn*		**Pn**	**Pn**	**19 38 08.5**	**+1.4**
MOA				⇓*iSn*			**Sn**	**19 39 10.3**	**-1.5**
KHC	**Kasperske Hory**	**6.91**	**331**	*ePN*		**Pn**	**Pn**	**19 38 26.1**	**+1.0**
KHC				*e*SN			**Sn**	**19 39 42.4**	**-1.8**

*IDC **15** 19:53:39.1±0.9,1617N×12198E,h0km,mb3.8/9, mb1 3.9/9,mb1mx3.7/22,mbtmp3.8/9,MS2.9/2,Ms1 3.0/2, ms1mx2.3/31, Error ellipse: s-maj=36.6km s-min=16.3km az=67.0*
*ISCJB **15** 19:53:44.0±0.5,1622N±003×12200E±005,h51km±6km, mb3.9/9, Error ellipse: s-maj=8.6km s-min=5.0km az=168.8*
*NEIC **15** 19:53:43.9±0.5,1611N×12196E,h35km,mb4.3/2, Error ellipse: s-maj=18.4km s-min=9.2km az=63.0*
*MAN **15** 19:53:44,1610N×12185E,h12km,mb4.7,ML3.5,MS3.5*
ISC 15 19:53:45.2±0.5,1621N±003×12198E±005,h44km±7km, n30,σ1§27/40,mb3.9/9,2C-4D,Luzon

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
BALP	**Baler**	**0.61**	**220**	*eP*		**Pn**	**Pn**	**19 53 52.8**	**-4.7**
BALP				*eS*			**Sn**	**19 54 00.4**	**-5.9**
CAUP	**Cauayan**	**0.74**	**348**	*eP*		**Pn**	**Pn**	**19 53 59.1**	**-0.2**
CAUP				*eS*			**Sn**	**19 54 08.0**	**-1.6**
PALP	**Palanan**	**0.95**	**27**	⇓*eP*		**Pn**	**Pn**	**19 54 04.5**	**+2.4**
PCPH	**Palayan**	**1.07**	**233**	⇓*eP*		**Pn**	**Pn**	**19 54 00.4**	**-3.4**
PCPH				*i* S			**Sn**	**19 54 12.8**	**-4.6**
POLP	**Polilio Island**	**1.47**	**181**	*eP*		**Pn**	**Pn**	**19 54 07.5**	**-1.8**
POLP				*eS*			**Sn**	**19 54 27.8**	**+0.4**
QVPH	**Quezon City--P**	**1.79**	**210**	⇑*eP*		**Pn**	**Pn**	**19 54 14.5**	**+0.9**
QVPH				*eS*			**Sn**	**19 54 38.1**	**+3.0**
ABRA	**Dolores**	**1.88**	**320**	*eP*		**Pn**	**Pn**	**19 54 14.9**	**+0.1**
ABRA				*eS*			**Sn**	**19 54 39.7**	**+2.5**
BOLP	**Bolinao**	**1.99**	**275**	*eP*		**Pn**	**Pn**	**19 54 13.8**	**-2.6**
BOLP				*eS*			**Sn**	**19 54 41.3**	**+1.2**
SCZP	**Santa Cruz**	**2.04**	**258**	*eP*		**Pn**	**Pn**	**19 54 15.8**	**-1.2**
SCZP				*eS*			**Sn**	**19 54 46.4**	**+5.2**
NBP	**Mount Natib**	**2.10**	**226**	⇑*eP*		**Pn**	**Pn**	**19 54 17.1**	**-0.8**
NBP				*eS*			**Sn**	**19 54 41.9**	**-0.9**
GQP	**Guinayangan**	**2.34**	**169**	⇓*eP*		**Pn**	**Pn**	**19 54 21.0**	**-0.2**
GQP				*eS*			**Sn**	**19 54 50.4**	**+1.8**
LUBP	**Lubang**	**2.98**	**214**	*eP*		**Pn**	**Pn**	**19 54 28.0**	**-1.9**
LUBP				*eS*			**Sn**	**19 55 07.1**	**+2.7**
PVCP	**Virac**	**3.34**	**141**	⇓*eP*		**Pn**	**Pn**	**19 54 34.7**	**-0.3**
SJMP	**San Jose**	**3.82**	**193**	*eP*		**Pn**	**Pn**	**19 54 43.3**	**+1.7**
OTRP	**Odiongan**	**3.83**	**179**	*eP*		**Pn**	**Pn**	**19 54 40.8**	**-0.8**
BUSP	**Coron**	**4.53**	**203**	*eP*		**Pn**	**Pn**	**19 54 52.5**	**+1.3**
KSRS	**Korea Array**	**21.80**	**13**	LR		LR	LR	20 06 05.9	
	comp=Z,18nm,19.7s,baz=175,slow=34								
CMAR	**Chiang Mai Arr**	**22.10**	**279**	P			**P**	**19 58 36.9**	**0.0**
	3.1nm,0.9s,mb3.7,baz=84,slow=8.3,SNR=27								
CMAR				LR			LR	20 06 57.9	
	comp=Z,47nm,19.6s,baz=95,slow=36								
BATI	**Baumata**	**26.30**	**176**	P			**P**	**19 59 17.1**	**+0.3**
	9.2nm,0.6s,mb4.5,baz=90,slow=6.1,SNR=2.6								
SONM	**Songino Array**	**34.05**	**341**	P			**P**	**20 00 25.4**	**+0.3**
	0.5nm,1.1s,mb3.4,baz=138,slow=8.8,SNR=2.8								
WRAB	**Tennant Creek**	**37.92**	**161**	*eP*			**P**	**20 00 56.8**	**-1.6**
WRA	**Warramunga Arr**	**37.92**	**161**	P			**P**	**20 00 57.3**	**-1.1**
	2.8nm,0.8s,mb4.0,baz=339,slow=9.5,SNR=14								
ASAR	**Alice Springs**	**41.31**	**163**	P			**P**	**20 01 26.2**	**-0.4**
	0.5nm,0.7s,baz=350,slow=8.8,SNR=7.6								
PETK	**Petropavlovsk-**	**46.24**	**29**	P			**P**	**20 02 07.1**	**+1.2**
	1.4nm,0.7s,mb4.0,baz=239,slow=10.0,SNR=2.9								
ZALV	**Zalesovo Beam**	**47.44**	**331**	P			**P**	**20 02 14.6**	**-0.6**
	0.4nm,0.5s,mb3.6,baz=101,slow=7.5,SNR=3.3								
KURK	**Kurchatov**	**48.84**	**325**	P			**P**	**20 02 26.3**	**+0.2**
	1.6nm,0.8s,mb4.1,baz=121,slow=8.1,SNR=16								
KURK	**Kurchatov**	**48.84**	**325**	*eP*			**P**	**20 02 26.5**	**+0.4**
	3.6nm,0.9s,mb4.4								
KBL	**Kabul**	**50.61**	**302**	*eP*			**P**	**20 02 40.3**	**+0.4**
	1.7nm,0.8s,mb4.0								
BVAR	**Borovoye Array**	**54.43**	**324**	P			**P**	**20 03 08.0**	**+0.1**
	0.3nm,0.5s,mb3.5,baz=141,slow=9.3,SNR=2.7								
BRVK	**Borovoye**	**54.50**	**324**	*eP*			**P**	**20 03 08.8**	**+0.4**

*ATH **15** 19:55:51.9,3931N×2088E,h20km±1km,MD3.4/11*
*NEIC **15** 19:55:51.9,3931N×2088E,h20km,MD3.4(ATH),After ATH.*
*CSEM **15** 19:55:51.7±0.1,3928N×2087E,h5km,MD3.4, Error ellipse: s-maj=3.0km s-min=1.9km az=120.0*
*ISCJB **15** 19:55:52.9±0.9,3934N±003×2087E±005,h15km±9km, Error ellipse: s-maj=6.6km s-min=4.1km az=23.1*
*THE **15** 19:55:52.9,3932N×2089E,h0km±3km,ML3.3/4, Error ellipse: s-maj=3.4km s-min=0.9km az=122.0*
ISC 15 19:55:52.9±0.5,3931N±003×2089E±005,h10km±5km,n36, σ1§16/48,Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
JAN	**Janina**	**0.34**	**355**	*ePb*		**Pg**	**Pg**	**19 55 59.5**	**-0.2**
JAN				*eSb*		**Sg**		**19 56 04.7**	**+0.3**
JAN	**Janina**	**0.34**	**355**	*ePB*		**Pg**	**Pg**	**19 55 59.5**	**-0.2**
JAN				*eSB*		**Sg**		**19 56 04.7**	**+0.3**
IGT	**Igoumenitsa**	**0.49**	**297**	P		**Pg**	**Pg**	**19 56 01.4**	**-1.0**
IGT				S		**Sg**		**19 56 09.5**	**+0.7**
MEV	**Metsovon**	**0.54**	**29**	P		**Pg**	**Pg**	**19 56 02.9**	**-0.5**
LKD	**Levkas**	**0.63**	**197**	P		**Pg**	**Pg**	**19 56 04.7**	**-0.5**
LKD				S		**Sg**		**19 56 15.2**	**+1.8**
EVR	**Evrytania**	**0.81**	**119**	*ePn*		**Pn**	**Pn**	**19 56 08.0**	**-2.4**
EVR	**Evrytania**	**0.81**	**119**	*ePN*		**Pn**	**Pn**	**19 56 08.0**	**-2.4**
THL	**Klokotos Trika**	**0.90**	**74**	P		**Pg**	**Pg**	**19 56 09.5**	**-0.8**
THL	**Klokotos Trika**	**0.90**	**74**	*ePn*		**Pn**	**Pn**	**19 56 09.4**	**-2.2**
THL				*eSn*		**Sn**		**19 56 21.7**	**-3.0**
THL	**Klokotos Trika**	**0.90**	**74**	*ePN*		**Pn**	**Pn**	**19 56 09.4**	**-2.2**
THL				*eSN*		**Sn**		**19 56 21.7**	**-3.0**
KEK	**Kerkira**	**0.94**	**296**	*ePn*		**Pn**	**Pn**	**19 56 09.6**	**-2.4**
KEK	**Kerkira**	**0.94**	**296**	*ePN*		**Pn**	**Pn**	**19 56 09.6**	**-2.4**
AGG	**Agios Georgios**	**1.15**	**104**	P		**Pb**	**Pb**	**19 56 14.4**	**-0.5**
AGG				S		**Sb**		**19 56 30.8**	**+0.9**
VLS	**Valsamata**	**1.16**	**192**	P		**Pb**	**Pb**	**19 56 14.1**	**-0.9**
VLS				*eSn*		**Sn**		**19 56 30.2**	**-0.7**
VLS				S		**Sb**		**19 56 31.2**	**+1.2**
VLS	**Valsamata**	**1.16**	**192**	*ePn*		**Pn**	**Pn**	**19 56 13.8**

7µm,0.2s,SNR=7.9
EORO Óroz-Betelu 0.11 76 Pg **Pg** **20 56 59.8 +0.1**
3µm,0.4s,SNR=18
EORO Lg 20 57 02.0
7µm,0.2s,SNR=7.9
IUSE Utxeti 0.11 319 ⇓Pg **Pg** **20 57 00.7 +1.0**
1µm,0.4s,SNR=18
IUSE Lg 20 57 03.2
272nm,0.2s,SNR=4.6
IUSE Utxeti 0.11 319 Pg **Pg** **20 57 00.7 +1.0**
1µm,0.4s,SNR=18
IUSE Lg 20 57 03.2
272nm,0.2s,SNR=4.6
IUNC Uncíti 0.12 198 ⇓Pg **Pg** **20 56 59.2 -0.5**
2µm,0.3s,SNR=18
IUNC Lg 20 57 01.0
4µm,0.1s,SNR=6.9
IUNC Uncíti 0.12 198 Pg **Pg** **20 56 59.2 -0.5**
2µm,0.3s,SNR=18
IUNC Lg 20 57 01.0
4µm,0.1s,SNR=6.9
EARA Aranguren 0.13 225 ⇑Pg **Pg** **20 56 59.8 -0.2**
3µm,0.3s,SNR=18
EARA Lg 20 57 02.0
531nm,0.1s,SNR=5.0
EARA Aranguren 0.13 225 Pg **Pg** **20 56 59.8 -0.2**
3µm,0.3s,SNR=18
EARA Lg 20 57 02.0
531nm,0.1s,SNR=5.0
SJPF Ste Jean 0.30 34 *e*Pg **Pg** **20 57 03.8 +1.0**
SNR=1.0
SJPF *e*Sg **Sg** **20 57 08.0 +1.1**
2µm,0.3s
SJPF Ste Jean 0.30 34 *e*Pg **Pg** **20 57 03.8 +1.0**
SNR=1.0
SJPF *e*Sg **Sg** **20 57 08.0 +1.1**
755nm,0.3s
ELIZ Elizondo 0.30 349 ⇑Pg **Pg** **20 57 04.1 +1.2**
107nm,0.2s,SNR=18
ELIZ Lg 20 57 09.5
265nm,0.3s,SNR=17
EALK Alkurruntz 0.36 354 ⇑Pg **Pg** **20 57 05.0 +1.2**
210nm,0.3s,SNR=18
EALK Lg 20 57 10.6
450nm,0.2s,SNR=5.0
LARF Larrau 0.38 63 Pg **Pg** **20 57 04.8 +0.5**
LARF Sg **Sg** **20 57 11.1 +1.7**
LARF Larrau 0.38 63 Pg **Pg** **20 57 04.8 +0.5**
LARF Lg 20 57 10.8
OSSF Osses 0.41 20 Pg **Pg** **20 57 05.8 +1.0**
OSSF Lg 20 57 12.0
ORDF Ordiarp 0.51 47 Pg **Pg** **20 57 07.6 +0.9**
ORDF Sg **Sg** **20 57 15.0 +1.4**
ORDF Ordiarp 0.51 47 Pg **Pg** **20 57 07.7 +0.9**
ORDF Lg 20 57 15.0
ATE Arette 0.59 68 Pg **Pg** **20 57 08.6 +0.4**
ATE Lg 20 57 17.4
FDAF Les Forges d'A 0.65 94 Pg **Pg** **20 57 09.7 +0.3**
FDAF Lg 20 57 19.3
ETSF Etsaut 0.66 87 *e*Pg **Pg** **20 57 09.4 0.0**
SNR=1.0
ETSF *e*Sg **Sg** **20 57 18.2 +0.1**
259nm,0.2s,SNR=1.0
ETSF Etsaut 0.66 87 *e*Pg **Pg** **20 57 09.4 0.0**
SNR=1.0
ETSF *e*Sg **Sg** **20 57 18.2 +0.1**
130nm,0.2s,SNR=1.0
REYF Montagne du Re 0.80 75 Pg **Pg** **20 57 12.2 0.0**
REYF Sg **Sg** **20 57 23.7 +1.0**
REYF Montagne du Re 0.80 75 Pg **Pg** **20 57 12.0 -0.2**
REYF Lg 20 57 23.6
ECRI Cripan 0.82 252 Pg **Pg** **20 57 13.4 +0.9**
63nm,0.8s,SNR=7.9
ECRI Lg 20 57 24.7
116nm,0.3s,SNR=7.9
VIEF Viey 1.08 89 Pg **Pg** **20 57 16.8 -0.7**
VIEF Sg **Sg** **20 57 32.0 +0.3**
VIEF Viey 1.08 89 Pg **Pg** **20 57 16.7 -0.8**
VIEF Lg 20 57 31.9
LABF Labassere 1.14 80 Pg **Pg** **20 57 18.4 -0.1**
LABF Sg **Sg** **20 57 33.7 +0.5**
LABF Labassere 1.14 80 Pg **Pg** **20 57 18.2 -0.3**
LABF Lg 20 57 33.7
EBIE Bielsa 1.19 98 Pg **Pg** **20 57 18.7 -0.7**
64nm,0.1s,SNR=7.9
EBIE Lg 20 57 34.9
60nm,0.1s,SNR=19
EBIE Bielsa 1.19 98 Pg **Pg** **20 57 18.8 -0.7**
RESF Ens 1.32 92 Pg **Pg** **20 57 21.8 -0.2**
RESF Sg **Sg** **20 57 40.0 +0.9**
RESF Ens 1.32 92 Pg **Pg** **20 57 21.0 -1.0**
RESF Lg 20 57 39.7
EPF Esparros 1.33 82 *e*P **Pn** **20 57 23.3 +2.4**
EPF *e*Sn **Sn** **20 57 38.5 +0.1**
253nm,0.2s,SNR=1.0
EPF Esparros 1.33 82 Pn **Pn** **20 57 21.4 +0.5**
EPF Sn **Sn** **20 57 38.5 +0.1**
126nm,0.2s
EPF Esparros 1.33 82 *e*P **Pn** **20 57 23.3 +2.4**
EPF *e*Sn **Sn** **20 57 38.5 +0.1**
126nm,0.2s,SNR=1.0
EPF Esparros 1.33 82 *e*Pn **Pn** **20 57 21.4 +0.5**
EPF *e*P 20 57 23.3
EPF *e*Sn **Sn** **20 57 38.5 +0.1**
ESAC San Caprasio 1.36 147 Pg **Pg** **20 57 21.8 -0.9**
156nm,0.3s,SNR=89
ESAC Lg 20 57 39.5
294nm,0.2s,SNR=4.8
ESAC San Caprasio 1.36 147 Pg **Pg** **20 57 21.8 -0.9**
156nm,0.3s,SNR=89
ELAN Lanestosa 1.50 285 Pg **Pg** **20 57 25.9 +0.5**
14nm,0.3s,SNR=68
ELAN Lg 20 57 46.3
19nm,0.2s,SNR=8.2
ELAN Lanestosa 1.50 285 Pg **Pg** **20 57 25.9 +0.5**
14nm,0.3s,SNR=68
MELF Melles 1.63 89 Pg **Pg** **20 57 28.0 +0.2**
MELF Sg **Sg** **20 57 49.2 +0.3**
MELF Melles 1.63 89 Pg **Pg** **20 57 27.0 -0.8**
MELF Lg 20 57 49.0
MLS Moulis 1.87 86 Pg **Pg** **20 57 32.6 0.0**
MLS Sg **Sg** **20 57 57.6 +0.7**
MLS Moulis 1.87 86 Pg **Pg** **20 57 32.6 0.0**
MLS Lg 20 57 57.5
SALF Salau 1.95 92 Pg **Pg** **20 57 33.2 -0.8**
SALF Sg **Sg** **20 57 59.9 +0.7**
SALF Salau 1.95 92 Pg **Pg** **20 57 32.2 -1.8**
SALF Lg 20 57 58.3
ETOR Torete 2.09 193 Pn **Pn** **20 57 32.6 +1.2**
104nm,0.4s,SNR=116
ETOR Pg **Pg** **20 57 36.1 -0.6**
147nm,0.5s,SNR=14
ETOR Sn **Sn** **20 57 58.8 +1.4**
116nm,0.2s,SNR=6.8
ETOR Lg 20 58 04.1
2.9nm,0.1s,SNR=7.9
ETOR Torete 2.09 193 Pn **Pn** **20 57 32.6 +1.2**
ETOR Pg **Pg** **20 57 36.1 -0.6**
ETOR Lg 20 58 00.5
PAND Andorre 2.24 98 Pg **Pg** **20 57 38.2 -1.3**
PAND Lg 20 58 06.6
ERTA Horta de San J 2.33 144 Pn **Pn** **20 57 34.8 +0.2**
2.6nm,0.3s,SNR=16
ERTA Pg **Pg** **20 57 39.4 -1.8**
13nm,0.5s,SNR=16
ERTA Lg 20 58 09.6
32nm,0.2s,SNR=8.3
ERTA Horta de San J 2.33 144 Pn **Pn** **20 57 34.8 +0.2**
2.6nm,0.3s,SNR=16
ERTA Horta de San J 2.33 144 Pg **Pg** **20 57 39.4 -1.8**
13nm,0.5s,SNR=16
EMIR Miracle 2.40 112 Pn **Pn** **20 57 36.8 +1.1**
5.1nm,0.4s,SNR=11
EMIR Pg **Pg** **20 57 40.9 -1.8**
12nm,0.2s,SNR=37
EMIR Lg 20 58 13.7
33nm,0.2s,SNR=6.0
EMIR Miracle 2.40 112 Pn **Pn** **20 57 36.8 +1.2**
5.1nm,0.4s,SNR=11
EMIR Miracle 2.40 112 Pg **Pg** **20 57 40.9 -1.8**
12nm,0.2s,SNR=37
EPOB Poblet 2.42 128 Pn **Pn** **20 57 36.1 +0.3**
5.4nm,0.3s,SNR=16
EPOB Pg **Pg** **20 57 39.5 -3.4**
9.0nm,0.3s,SNR=7.0
EPOB Sn **Sn** **20 58 04.3 -1.0**
27nm,0.4s,SNR=7.8
EPOB Lg 20 58 13.3
16nm,0.1s,SNR=7.9
EPOB Poblet 2.42 128 Pn **Pn** **20 57 36.1 +0.3**
5.4nm,0.3s,SNR=16
EPOB Poblet 2.42 128 Pg **Pg** **20 57 39.5 -3.4**
9.0nm,0.3s,SNR=7.0
EPOB Poblet 2.42 128 Pn **Pn** **20 57 36.1 +0.3**
EPOB Pg **Pg** **20 57 39.5 -3.4**
EPOB Lg 20 58 10.6
LPEF Le Peyrat 2.47 87 Pn **Pn** **20 57 40.1 +3.6**
LPEF Sn **Sn** **20 58 09.3 +2.7**
VALF Valcebollere 2.60 99 Pn **Pn** **20 57 41.1 +2.7**
VALF Sn **Sn** **20 58 15.4 +5.6**
EMOS Mosqueruela 2.60 163 Pn **Pn** **20 57 39.7 +1.2**
5.9nm,0.8s,SNR=7.9
EMOS Pg **Pg** **20 57 44.1 -2.5**
7.1nm,0.4s,SNR=7.9
EMOS Lg 20 58 20.3
12nm,0.3s,SNR=7.9
EMOS Mosqueruela 2.60 163 Pn **Pn** **20 57 39.7 +1.3**
5.9nm,0.8s,SNR=7.9
EMOS Mosqueruela 2.60 163 Pg **Pg** **20 57 44.1 -2.5**
7.1nm,0.4s,SNR=7.9
LFF La Frestale 2.61 37 *e*P **Pn** **20 57 41.8 +3.3**
LFF La Frestale 2.61 37 *e*Pg **Pg** **20 57 46.8 +0.2**
LFF *e*Sn **Sn** **20 58 09.7 -0.3**
LFF *e*Sg **Sg** **20 58 19.9 -0.6**
57nm,0.3s,SNR=1.0
LFF La Frestale 2.61 37 Pn **Pn** **20 57 38.9 +0.4**
LFF Pg **Pg** **20 57 46.8 +0.2**
LFF Sn **Sn** **20 58 09.7 -0.3**
LFF Lg 20 58 19.9
28nm,0.3s
LFF La Frestale 2.61 37 *e*P **Pn** **20 57 41.8 +3.3**
LFF La Frestale 2.61 37 *e*Pg **Pg** **20 57 46.8 +0.2**
LFF *e*Sn **Sn** **20 58 09.7 -0.3**
LFF *e*Sg **Sg** **20 58 19.9 -0.6**
28nm,0.3s,SNR=1.0
LFF La Frestale 2.61 37 *e*Pn **Pn** **20 57 38.9 +0.4**
LFF *e*P 20 57 41.8
LFF *e*Pg **Pg** **20 57 46.8 +0.2**
LFF *e*Sn **Sn** **20 58 09.7 -0.3**
LFF *e*Sg **Sg** **20 58 19.9 -0.6**
CARF Carcanieres 2.62 92 Pn **Pn** **20 57 41.7 +3.0**
CARF Sg **Sg** **20 58 21.4 +0.5**
CARF Carcanieres 2.62 92 Pn **Pn** **20 57 42.5 +3.8**
CARF Lg 20 58 19.3
MTLF Montolieu 2.73 79 *e*P **Pn** **20 57 43.1 +3.0**
MTLF Montolieu 2.73 79 *e*Pg **Pg** **20 57 48.2 -0.7**
MTLF *e*Sn **Sn** **20 58 11.8 -1.2**
25nm,0.3s,SNR=1.0
MTLF Montolieu 2.73 79 Pn **Pn** **20 57 40.6 +0.5**
MTLF Pg **Pg** **20 57 48.2 -0.7**
MTLF Sn **Sn** **20 58 11.8 -1.2**
12nm,0.3s
MTLF Montolieu 2.73 79 *e*P **Pn** **20 57 43.1 +3.0**
MTLF Montolieu 2.73 79 *e*Pg **Pg** **20 57 48.2 -0.7**
MTLF *e*Sn **Sn** **20 58 11.8 -1.2**
12nm,0.3s,SNR=1.0
MTLF Montolieu 2.73 79 *e*Pn **Pn** **20 57 40.6 +0.5**
MTLF *e*P 20 57 43.1
MTLF *e*Pg **Pg** **20 57 48.2 -0.7**
MTLF *e*Sn **Sn** **20 58 11.8 -1.2**
EARI Arriondas 2.79 280 Pn **Pn** **20 57 42.2 +1.2**
1.4nm,0.4s,SNR=10
EARI Pg **Pg** **20 57 49.6 -0.4**
2.8nm,0.4s,SNR=6.5
EARI Sn **Sn** **20 58 16.2 +1.8**
5.8nm,0.5s,SNR=8.0
EARI Lg 20 58 27.2
9.9nm,0.4s,SNR=5.0
EARI Arriondas 2.79 280 Pn **Pn** **20 57 42.2 +1.3**
1.4nm,0.4s,SNR=10
EARI Arriondas 2.79 280 Pg **Pg** **20 57 49.6 -0.4**
2.8nm,0.4s,SNR=6.5
EARI Sn **Sn** **20 58 16.2 +1.8**
5.8nm,0.5s,SNR=8.0
EARI Arriondas 2.79 280 Pn **Pn** **20 57 42.2 +1.2**
EARI Pg **Pg** **20 57 49.6 -0.4**
EARI Sn **Sn** **20 58 16.2 +1.8**
EARI Lg 20 58 25.9
LRDF Laroque-de-Fa 2.93 87 Pn **Pn** **20 57 45.5 +2.6**
LRDF Sn **Sn** **20 58 21.6 +3.6**
FILF Fillols 2.97 95 Pn **Pn** **20 57 44.6 +1.1**
FILF Fillols 2.97 95 Pn **Pn** **20 57 45.0 +1.5**
FILF Lg 20 58 26.4
GUD Guadarrama 3.00 223 Pn **Pn** **20 57 45.2 +1.3**
5.4nm,0.4s,SNR=9.4
GUD Pg **Pg** **20 57 52.6 -1.6**
12nm,0.4s,SNR=14
GUD Lg 20 58 32.6
20nm,0.5s,SNR=7.9
SJAF Saint Jean de 3.22 95 Pn **Pn** **20 57 49.5 +2.6**
SJAF Sn **Sn** **20 58 28.1 +3.0**
EJON La Jonquera 3.23 96 Pn **Pn** **20 57 48.4 +1.4**
8.9nm,0.9s,SNR=7.9
EJON Pg **Pg** **20 57 56.7 -1.8**
5.4nm,0.6s,SNR=7.9
EJON Lg 20 58 40.2
26nm,0.6s,SNR=8.0
EJON La Jonquera 3.23 96 Pn **Pn** **20 57 48.4 +1.4**
8.9nm,0.9s,SNR=7.9
EJON La Jonquera 3.23 96 Pg **Pg** **20 57 56.7 -1.8**
5.4nm,0.6s,SNR=7.9
RJF Les Rejaudoux 3.24 40 *e*Pg **Pg** **20 57 57.6 -1.2**
RJF *e*Sn **Sn** **20 58 25.0 -0.7**
25nm,0.2s
RJF Les Rejaudoux 3.24 40 Pn **Pn** **20 57 47.0 -0.2**
RJF Pg **Pg** **20 57 57.6 -1.2**
RJF Sn **Sn** **20 58 25.0 -0.7**
13nm,0.2s
RJF Les Rejaudoux 3.24 40 *e*Pg **Pg** **20 57 57.6 -1.2**
RJF *e*Sn **Sn** **20 58 25.0 -0.7**
13nm,0.2s
RJF Les Rejaudoux 3.24 40 *e*Pn **Pn** **20 57 47.0 -0.2**
RJF *e*P 20 57 49.7
RJF *e*Pg **Pg** **20 57 57.6 -1.2**
RJF *e*Sn **Sn** **20 58 25.0 -0.7**
CAF Calviac 3.27 50 *e*Pg **Pg** **20 57 58.2 -1.1**
CAF *e*Sn **Sn** **20 58 25.0 -1.4**
27nm,0.2s,SNR=1.0
CAF *e*Sg **Sg** **20 58 40.3 -1.4**
16nm,0.2s,SNR=1.0
CAF Calviac 3.27 50 Pn **Pn** **20 57 48.0 +0.4**
CAF Pg **Pg** **20 57 58.2 -1.1**
CAF Sn **Sn** **20 58 25.0 -1.4**
14nm,0.2s
CAF Lg 20 58 40.3
7.9nm,0.2s
CAF Calviac 3.27 50 *e*Pg **Pg** **20 57 58.2 -1.1**
CAF *e*Sn **Sn** **20 58 25.0 -1.4**
14nm,0.2s,SNR=1.0
CAF *e*Sg **Sg** **20 58 40.3 -1.4**
7.9nm,0.2s,SNR=1.0
CAF Calviac 3.27 50 *e*Pn **Pn** **20 57 48.0 +0.4**
CAF *e*P 20 57 50.4
CAF *e*Pg **Pg** **20 57 58.2 -1.1**
CAF *e*Sn **Sn** **20 58 25.0 -1.4**
CAF *e*Sg **Sg** **20 58 40.3 -1.4**
ESDC Sonseca Array 3.71 212 Pn **Pn** **20 57 53.8 +0.2**
1.3nm,0.3s,baz=37,slow=13,SNR=20
ESDC Pg **Pg** **20 58 05.5 -2.1**
16nm,0.7s,baz=35,slow=17,SNR=7.9
ESDC Sn **Sn** **20 58 35.8 -1.3**
5.3nm,0.3s,baz=40,slow=29,SNR=7.9
ESDC Lg 20 58 54.5
14nm,0.5s,baz=34,slow=26,SNR=7.9
ESDC Sonseca Array 3.71 212 Pn **Pn** **20 57 53.8 +0.2**
1.3nm,0.3s,SNR=20
ESDC Sonseca Array 3.71 212 Pg **Pg** **20 58 05.5 -2.1**
16nm,0.7s,SNR=7.9
ESDC Sn **Sn** **20 58 35.8 -1.3**
5.3nm,0.3s,SNR=7.9
ESLA Sonseca Array 3.71 212 *e*Pn **Pn** **20 57 53.5 -0.1**
ESLA Sonseca Array 3.71 212 *e*Pn **Pn** **20 57 53.5 -0.1**
MFF Saint Martin d 3.85 14 *e*Pg **Pg** **20 58 08.4 -2.0**
MFF *e*Sn **Sn** **20 58 39.1 -1.5**
13nm,0.3s,SNR=1.0
MFF Saint Martin d 3.85 14 Pn **Pn** **20 57 36.1 +0.3**
MFF Pg **Pg** **20 58 08.4 -2.0**
MFF Sn **Sn** **20 58 39.1 -1.5**
6.7nm,0.3s
MFF Saint Martin d 3.85 14 *e*Pn **Pn** **20 57 56.1 +0.6**
MFF *e*Pg **Pg** **20 58 08.4 -2.0**
MFF *e*Sn **Sn** **20 58 39.1 -1.5**
ECAL Calabor 4.02 259 Pn **Pn** **20 57 59.3 +1.4**
5.0nm,0.3s,SNR=18
ECAL Pg **Pg** **20 58 11.2 -2.5**
6.6nm,0.3s,SNR=6.1
ECAL Sn **Sn** **20 58 44.9 +0.1**
9.4nm,0.3s,SNR=7.5
ECAL Lg 20 59 05.3
21nm,0.3s,SNR=5.0
ECAL Calabor 4.02 259 Pn **Pn** **20 57 59.3 +1.4**
5.0nm,0.3s,SNR=18
ECAL Calabor 4.02 259 Pg **Pg** **20 58 11.2 -2.4**
6.6nm,0.3s,SNR=6.1
ECAL Sn **Sn** **20 58 44.9 0.0**
9.4nm,0.3s,SNR=7.5
ECAL Calabor 4.02 259 Pn **Pn** **20 57 59.3 +1.4**
ECAL Pg **Pg** **20 58 11.2 -2.5**
ECAL Sn **Sn** **20 58 44.9 +0.1**
ECAL Lg 20 59 02.6
LASF Ste Croix 4.05 71 *e*Pn **Pn** **20 57 58.4 +0.1**
SNR=1.0
LASF *e*Sn **Sn** **20 58 43.1 -2.4**
36nm,0.4s,SNR=1.0
LASF Ste Croix 4.05 71 *e*Pn **Pn** **20 57 58.4 +0.1**
SNR=1.0
LASF *e*Sn **Sn** **20 58 43.1 -2.4**
18nm,0.4s,SNR=1.0
PBRG Braganca 4.06 257 *e*Sn **Sn** **20 58 47.3 +1.4**
PBRG A 20 59 15.8
13nm,0.5s
PBRG Braganca 4.06 257 *e*Sn **Sn** **20 58 47.3 +1.4**
13nm,0.5s
EPON Pontenova 4.20 278 Pn **Pn** **20 58 02.6 +2.2**
2.2nm,0.3s,SNR=7.9
EPON Sn **Sn** **20 58 50.2 +1.0**
2.0nm,1.2s,SNR=7.9
EPON Pontenova 4.20 278 Pn **Pn** **20 58 02.6 +2.3**
2.2nm,0.3s,SNR=7.9
EPON Sn **Sn** **20 58 50.2 +1.0**
2.0nm,1.2s,SNR=7.9
ETOB Tobarra 4.22 181 Pn **Pn** **20 58 01.5 +0.9**
3.5nm,0.6s,SNR=17
ETOB Pg **Pg** **20 58 13.9 -3.5**
6.5nm,0.9s,SNR=7.9
ETOB Sn **Sn** **20 58 48.7 -1.0**
11nm,0.6s,SNR=5.8
ETOB Lg 20 59 11.1
12nm,0.7s,SNR=5.0
ETOB Tobarra 4.22 181 Pn **Pn** **20 58 02.9 +2.3**
3.5nm,0.6s,SNR=17
ETOB Tobarra 4.22 181 Pg **Pg** **20 58 14.8 -2.6**
6.5nm,0.9s,SNR=7.9
ETOB Sn **Sn** **20 58 48.7 -1.0**
11nm,0.6s,SNR=5.8
ETOB Tobarra 4.22 181 Pn **Pn** **20 58 02.9 +2.3**
ETOB Pg **Pg** **20 58 14.8 -2.6**
ETOB Sn **Sn** **20 58 48.7 -1.0**
ETOB Lg 20 59 11.1
EVIA Vianos 4.30 191 Pn **Pn** **20 58 03.5 +1.8**
6.1nm,0.2s,SNR=11
EVIA Pg **Pg** **20 58 17.4 -1.6**
9.7nm,0.4s,SNR=7.9
EVIA Vianos 4.30 191 Pn **Pn** **20 58 03.5 +1.8**
EVIA Pg **Pg** **20 58 17.4 -1.6**
EVIA Lg 20 59 11.9
TCF Toulx Ste Croi 4.31 36 *e*Pn **Pn** **20 58 01.2 -0.6**
TCF *e*Sn **Sn** **20 58 50.1 -1.8**
16nm,0.3s
TCF Toulx Ste Croi 4.31 36 *e*Pn **Pn** **20 58 01.2 -0.6**
TCF *e*Sn **Sn** **20 58 50.1 -1.8**
7.8nm,0.3s
EIBI Ibiza 4.38 150 Pn **Pn** **20 58 03.2 +0.4**
8.9nm,0.9s,SNR=11
EIBI Sn **Sn** **20 58 48.9 -4.8**
1.8nm,0.6s,SNR=7.9
EIBI Ibiza 4.38 150 Pn **Pn** **20 58 03.2 +0.4**
8.9nm,0.9s,SNR=11
EIBI Ibiza 4.38 150 Pn **Pn** **20 58 03.2 +0.4**
EIBI Sn **Sn** **20 58 47.9 -5.8**
ETOS Mallorca 4.46 133 Pn **Pn** **20 58 03.9 0.0**
0.6nm,0.1s,SNR=7.9
ETOS Sn **Sn** **20 58 52.5 -3.2**
0.8nm,0.2s,SNR=7.9
EPLA Plasencia 4.46 233 Pn **Pn** **20 58 05.2 +1.2**
11nm,1.0s,SNR=7.9
EPLA Sn **Sn** **20 58 54.4 -1.4**
36nm,1.1s,SNR=7.9
EPLA Lg 20 59 19.9
3.1nm,0.3s,SNR=7.9
EPLA Plasencia 4.46 233 Pn **Pn** **20 58 05.2 +1.2**
11nm,1.0s,SNR=7.9
EPLA Sn **Sn** **20 58 54.4 -1.4**
36nm,1.1s,SNR=7.9
EPLA Plasencia 4.46 233 Pn **Pn** **20 58 05.2 +1.2**
EPLA Sn **Sn** **20 58 54.4 -1.4**
EPLA Lg 20 59 17.2
MVO Moncorvo 4.49 250 *e*Pn **Pn** **20 58 05.4 +1.1**
MVO Moncorvo 4.49 250 *e*Pg **Pg** **20 58 21.1 -1.5**
MVO *e*Sn **Sn** **20 58 57.2 +0.8**
MVO A 20 59 26.2
18nm,0.4s
MVO Moncorvo 4.49 250 *e*Pg **Pg** **20 58 21.1 -1.5**
MVO *e*Sn **Sn** **20 58 57.2 +0.8**
18nm,0.4s
BGF Bois d'Agland 4.80 38 *e*Pn **Pn** **20 58 08.5 0.0**
SNR=1.0
BGF *e*Sn **Sn** **20 59 01.8 -2.2**
40nm,0.3s
BGF Bois d'Agland 4.80 38 *e*Pn **Pn** **20 58 08.5 0.0**
SNR=1.0
BGF *e*Sn **Sn** **20 59 01.8 -2.2**
20nm,0.3s
VIVF Saint-Julien-l 4.86 64 *e*Pn **Pn** **20 58 10.0 +0.6**
SNR=1.0
VIVF *e*Sn **Sn** **20 59 03.4 -2.0**
12nm,0.3s
VIVF Saint-Julien-l 4.86 64 *e*Pn **Pn** **20 58 10.0 +0.6**
SNR=1.0
VIVF *e*Sn **Sn** **20 59 03.4 -2.0**
6.2nm,0.3s
PVRL Vila Real 4.93 253 *e*Pn **Pn** **20 58 11.4 +1.1**
PVRL *e*Sg **Sg** **20 59 31.5 -3.2**
PVRL A 20 59 33.0
15nm,0.3s
PVRL Vila Real 4.93 253 Pn **Pn** **20 58 11.4 +1.1**
PVRL Lg 20 59 31.5
7.7nm,0.3s
ELOB Lobios 5.00 261 Pn **Pn** **20 58 12.2 +0.9**
0.4nm,0.1s,SNR=7.9
ELOB Sn **Sn** **20 59 07.8 -1.1**
5.5nm,0.9s,SNR=7.9
ELOB Lg 20 59 33.2
1.4nm,0.2s,SNR=4.8
ELOB Lobios 5.00 261 Pn **Pn** **20 58 12.2 +0.9**
SNR=7.9
ELOB Sn **Sn** **20 59 07.8 -1.1**
5.5nm,0.9s,SNR=7.9
ELOB Lobios 5.00 261 Pn **Pn** **20 58 12.2 +0.9**
ELOB Sn **Sn** **20 59 07.8 -1.1**
ELOB Lg 20 59 31.7
PCAB Cabril 5.01 259 *e*Pn **Pn** **20 58 13.2 +1.7**
PCAB *e*Sn **Sn** **20 59 09.7 +0.4**
PCAB *e*Sg **Sg** **20 59 34.2 -3.3**
PCAB A 20 59 46.1
15nm,0.7s
PCAB Cabril 5.01 259 Pn **Pn** **20 58 13.2 +1.7**
PCAB Sn **Sn** **20 59 09.7 +0.4**
PCAB Lg 20 59 34.2
7.3nm,0.7s
PCAB Cabril 5.01 259 *e*Pn **Pn** **20 58 13.2 +1.7**
PCAB *e*Sn **Sn** **20 59 09.7 +0.4**
EBAN Banos Encina 5.02 202 Pn **Pn** **20 58 11.3 -0.4**
0.8nm,0.2s,SNR=7.9
EHUE Huescar 5.12 190 Pn **Pn** **20 58 14.3 +1.3**
0.5nm,0.5s,SNR=7.9
EHUE Pg **Pg** **20 58 30.6 -4.1**
0.2nm,0.5s,SNR=7.9
EHUE Huescar 5.12 190 Pn **Pn** **20 58 14.3 +1.3**
EHUE Pg **Pg** **20 58 30.6 -4.1**
EHUE Lg 20 59 38.0
MTE Manteigas 5.19 244 *e*Pn **Pn** **20 58 15.8 +1.9**

MTE eSg Sg 20 59 40.1 -3.0
MTE A 20 59 43.8
20nm,0.5s
MTE Manteigas 5.19 244 ePn **Pn 20 58 15.8 +1.9**
MTE eSg **Sg 20 59 40.1 -3.0**
20nm,0.5s
QUIF Quistinic 5.19 347 ePn **Pn 20 58 15.2 +1.2**
SNR=1.0
QUIF eSn **Sn 20 59 11.8 -1.9**
7.3nm,0.4s,SNR=1.0
QUIF Quistinic 5.19 347 ePn **Pn 20 58 15.2 +1.2**
SNR=1.0
QUIF eSn **Sn 20 59 11.8 -1.9**
3.7nm,0.4s,SNR=1.0
AVF Avril sur Loir 5.20 39 ePn **Pn 20 58 14.2 +0.1**
SNR=1.0
AVF eSn **Sn 20 59 11.7 -2.3**
12nm,0.5s,SNR=1.0
AVF Avril sur Loir 5.20 39 ePn **Pn 20 58 14.2 +0.1**
SNR=1.0
AVF eSn **Sn 20 59 11.7 -2.3**
5.8nm,0.5s,SNR=1.0
EQES Quesada 5.21 194 Pn **Pn 20 58 15.8 +1.6**
1.6nm,0.3s,SNR=22
EQES Pg **Pg 20 58 32.0 -4.3**
6.8nm,0.3s,SNR=14
EQES Lg 20 59 42.6
18nm,0.8s,SNR=5.0
EQES Quesada 5.21 194 Pn **Pn 20 58 15.8 +1.6**
1.6nm,0.3s,SNR=22
EQES Quesada 5.21 194 Pg **Pg 20 58 34.1 -2.2**
6.8nm,0.3s,SNR=14
EQES Quesada 5.21 194 Pn **Pn 20 58 15.8 +1.6**
EQES Pg **Pg 20 58 34.1 -2.2**
EQES Lg 20 59 42.6
SMRF Simiane la Rot 5.24 75 ePn **Pn 20 58 15.0 +0.4**
SNR=1.0
EADA Adamuz 5.26 208 Pn **Pn 20 58 16.1 +1.2**
1.5nm,0.4s,SNR=31
EADA Sn **Sn 20 59 12.7 -2.8**
8.2nm,1.0s,SNR=7.9
EADA Lg 20 59 45.3
6.3nm,0.5s,SNR=5.0
EADA Adamuz 5.26 208 Pn **Pn 20 58 16.1 +1.1**
1.5nm,0.4s,SNR=31
EADA Adamuz 5.26 208 Pn **Pn 20 58 16.1 +1.2**
EADA Sn **Sn 20 59 11.5 -3.9**
EADA Lg 20 59 43.8
HYF Humbligny 5.27 32 ePn **Pn 20 58 15.4 +0.4**
HYF eSn **Sn 20 59 14.3 -1.3**
PVIS Viseu 5.27 248 ePn **Pn 20 58 16.2 +1.1**
PVIS eSg **Sg 20 59 43.6 -2.3**
PVIS A 20 59 49.9
6.5nm,0.4s
PVIS Viseu 5.27 248 ePn **Pn 20 58 16.2 +1.1**
PVIS eSg **Sg 20 59 43.6 -2.3**
6.5nm,0.4s
SMF Signal de Mont 5.34 43 ePn **Pn 20 58 15.9 -0.1**
SNR=1.0
SMF eSn **Sn 20 59 15.1 -2.2**
4.0nm,0.2s
SMF Signal de Mont 5.34 43 ePn **Pn 20 58 15.9 -0.1**
SNR=1.0
SMF eSn **Sn 20 59 15.1 -2.2**
2.0nm,0.2s
SGMF Saint Gilles 5.45 352 ePn **Pn 20 58 19.0 +1.6**
SNR=1.0
SGMF eSn **Sn 20 59 17.2 -2.7**
3.6nm,0.3s,SNR=1.0
SGMF Saint Gilles 5.45 352 ePn **Pn 20 58 19.0 +1.6**
SNR=1.0
SGMF eSn **Sn 20 59 17.2 -2.7**
1.8nm,0.3s,SNR=1.0
PCBR Castelo Branco 5.45 238 ePn **Pn 20 58 18.0 +0.5**
PCBR eSg **Sg 20 59 51.1 -0.4**
PCBR A 20 59 55.6
7.6nm,0.4s
PCBR Castelo Branco 5.45 238 ePn **Pn 20 58 18.0 +0.5**
PCBR eSg **Sg 20 59 51.1 -0.4**
7.6nm,0.4s
SSF Saint Saulge 5.47 38 ePn **Pn 20 58 17.9 +0.1**
SNR=1.0
SSF eSn **Sn 20 59 16.7 -3.9**
8.4nm,0.3s,SNR=1.0
SSF Saint Saulge 5.47 38 ePn **Pn 20 58 17.9 +0.1**
SNR=1.0
SSF eSn **Sn 20 59 16.7 -3.9**
4.2nm,0.3s,SNR=1.0
EMAZ Mazaricos 5.53 273 Pn **Pn 20 58 19.8 +1.2**
2.3nm,0.3s,SNR=8.2
EMAZ Sn **Sn 20 59 19.2 -2.8**
0.7nm,0.6s,SNR=7.9
EMAZ Mazaricos 5.53 273 Pn **Pn 20 58 19.8 +1.2**
2.3nm,0.3s,SNR=8.2
EMAZ Mazaricos 5.53 273 Pn **Pn 20 58 19.8 +1.2**
EMAZ Sn **Sn 20 59 19.6 -2.4**
GRR Gorron 5.54 4 ePn **Pn 20 58 19.3 +0.6**
SNR=1.0
GRR eSn **Sn 20 59 20.1 -2.1**
6.6nm,0.2s
GRR Gorron 5.54 4 ePn **Pn 20 58 19.3 +0.6**
SNR=1.0
GRR eSn **Sn 20 59 20.1 -2.1**
3.3nm,0.2s
ROSF Rostrenen 5.62 347 ePn **Pn 20 58 20.8 +1.0**
SNR=1.0
ROSF eSn **Sn 20 59 21.8 -2.4**
2.9nm,0.2s
ROSF Rostrenen 5.62 347 ePn **Pn 20 58 20.8 +1.0**
SNR=1.0
ROSF eSn **Sn 20 59 21.8 -2.4**
1.5nm,0.2s
PMRV Marv??o 5.65 235 ePn **Pn 20 58 20.6 +0.4**
PMRV eSn **Sn 20 59 22.1 -2.8**
PMRV eSg **Sg 20 59 55.4 -2.5**
PMRV A 21 00 07.0
8.7nm,0.4s
PMRV Marv??o 5.65 235 ePn **Pn 20 58 20.6 +0.4**
PMRV eSn **Sn 20 59 22.1 -2.8**
PMRV eSg **Sg 20 59 55.4 -2.5**
8.7nm,0.4s
ECAB El Cabril 5.66 214 Pn **Pn 20 58 21.5 +1.1**
2.7nm,0.4s,SNR=7.0
ECAB Sn **Sn 20 59 22.0 -3.3**
2.4nm,0.2s,SNR=7.9
ECAB Lg 20 59 57.8
8.4nm,0.5s,SNR=5.0
ECAB El Cabril 5.66 214 Pn **Pn 20 58 21.5 +1.1**
2.7nm,0.4s,SNR=7.0
ECAB Sn **Sn 20 59 22.0 -3.3**
2.4nm,0.2s,SNR=7.9
ECAB El Cabril 5.66 214 Pn **Pn 20 58 21.5 +1.1**
ECAB Sn **Sn 20 59 22.0 -3.3**
ECAB Lg 20 59 55.5
ORIF Oris-en-Rattie 5.68 66 ePn **Pn 20 58 21.9 +1.2**
SNR=1.0
ORIF eSn **Sn 20 59 22.9 -2.9**
5.9nm,0.5s
ORIF Oris-en-Rattie 5.68 66 Pn **Pn 20 58 21.9 +1.2**
ORIF Sn **Sn 20 59 22.9 -2.9**
3.0nm,0.5s
LOR Lormes 5.79 39 ePn **Pn 20 58 22.2 0.0**
SNR=1.0
LOR eSn **Sn 20 59 23.7 -4.7**
SNR=1.0
LOR eSg **Sg 20 59 57.9 -4.5**
3.6nm,0.3s,SNR=1.0
LOR Lormes 5.79 39 ePn **Pn 20 58 22.2 0.0**
SNR=1.0
LOR eSn **Sn 20 59 23.7 -4.7**
SNR=1.0
LOR eSg **Sg 20 59 57.9 -4.5**
1.8nm,0.3s,SNR=1.0
LDF La Druitiere 5.80 9 ePn **Pn 20 58 23.5 +1.1**
SNR=1.0
LDF eSn **Sn 20 59 25.2 -3.6**
4.3nm,0.2s,SNR=1.0
LDF La Druitiere 5.80 9 ePn **Pn 20 58 23.5 +1.1**
SNR=1.0
LDF eSn **Sn 20 59 25.2 -3.6**
2.2nm,0.2s,SNR=1.0
EQUE Quentar 5.86 196 Pn **Pn 20 58 25.0 +1.9**
1.5nm,0.3s,SNR=8.2
EQUE Sn **Sn 20 59 27.3 -2.8**
0.2nm,0.5s,SNR=7.9
EQUE Lg 21 00 03.2
1.3nm,0.3s,SNR=5.4

FLN La Foliniere 5.94 6 ePn **Pn 20 58 25.5 +1.3**
SNR=1.0
FLN eSn **Sn 20 59 29.7 -2.3**
4.1nm,0.2s,SNR=1.0
FLN La Foliniere 5.94 6 ePn **Pn 20 58 25.5 +1.3**
SNR=1.0
FLN eSn **Sn 20 59 29.7 -2.3**
2.0nm,0.2s,SNR=1.0
FRF La Foret Royal 5.96 81 ePn **Pn 20 58 25.9 +1.4**
SNR=1.0
FRF eSn **Sn 20 59 29.5 -3.1**
4.9nm,0.4s
FRF La Foret Royal 5.96 81 ePn **Pn 20 58 25.9 +1.4**
SNR=1.0
FRF eSn **Sn 20 59 29.5 -3.1**
2.5nm,0.4s
EBER Berja 6.06 191 Pn **Pn 20 58 27.3 +1.4**
0.7nm,0.2s,SNR=7.9
MBDF Montbardon 6.24 70 eSn **Sn 20 59 36.5 -2.9**
2.5nm,0.4s
MBDF Montbardon 6.24 70 eSn **Sn 20 59 36.5 -2.9**
1.2nm,0.4s
LPL La Plagne 6.45 63 eP **Pn 20 58 36.3 +5.0**
LPL eSn **Sn 20 59 41.2 -3.5**
2.9nm,0.6s
LPL La Plagne 6.45 63 Pn **Pn 20 58 36.3 +5.0**
LPL Sn **Sn 20 59 41.2 -3.5**
1.4nm,0.6s
LPG La Plagne 6.46 63 eP **Pn 20 58 36.0 +4.6**
CABF La Chapelle 6.54 53 ePn **Pn 20 58 32.9 +0.3**
EMIJ Mijas 6.79 203 Pn **Pn 20 58 37.2 +1.2**
SNR=7.9
EJIF Jimena Fronter 7.12 207 Pn **Pn 20 58 40.9 +0.5**
0.5nm,0.2s,SNR=7.9
BAIF Baives 8.19 27 ePn **Pn 20 58 56.0 +1.0**
SNR=1.0

MOS ***15*** *21:27:35.4±1.2,3646N×14291E,h33km,mb4.0/1,Error ellipse: s-maj=25.1km s-min=16.7km az=38.2*
ISCJB ***15*** *21:27:37.9±0.8,3645N±006×14259E±007,h33km, mb3.7/6,Error ellipse: s-maj=8.7km s-min=7.6km az=14.9*
JMA ***15*** *21:27:37.0±0.2,3644N×14258E,h36km,M3.2*
IDC ***15*** *21:27:38.3±12.0,3688N×14242E,h0km,mb3.7/4, mb1 3.5/5,mb1mx3.4/21,mbtmp3.5/5,ML2.8/1,Error ellipse: s-maj=234.9km s-min=46.7km az=150.0*
NEIC ***15*** *21:27:43.7±1.1,3692N×14227E,h35km,mb4.0/3,Error ellipse: s-maj=19.8km s-min=11.0km az=131.0*
ISC 15 21:27:39.2±0.8,3646N±006×14258E±007,h35km,n27, σ1§26/34,mb3.7/6,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ONAJ	**Iwakimizuishiy**	**1.56**	**295**	P	**Pn**	**21 28 03.7**	**-0.8**
CHOJ	**Chosi**	**1.58**	**242**	P	**Pn**	**21 28 03.9**	**-0.8**
JHO	**Hitachi**	**1.62**	**276**	P	**Pn**	**21 28 04.0**	**-1.3**
JHO				eS	**Sn**	**21 28 24.6**	**-0.3**
JFK	**Kawauchi**	**1.63**	**304**	P	**Pn**	**21 28 04.4**	**-1.1**
JFK				eS	**Sn**	**21 28 24.8**	**-0.5**
JMM	**Marumori**	**2.00**	**315**	P	**Pn**	**21 28 09.0**	**-1.5**
JMM				eS	**Sn**	**21 28 33.8**	**-0.4**
JFT	**Otama**	**2.08**	**301**	P	**Pn**	**21 28 11.3**	**-0.3**
JFT				eS	**Sn**	**21 28 36.5**	**+0.3**
BSO1	**Boso 1**	**2.23**	**216**	P	**Pn**	**21 28 12.4**	**-1.2**
JAG	**Ashikaga**	**2.52**	**270**	P	**Pn**	**21 28 17.1**	**-0.5**
JRY	**Ryogami san**	**3.00**	**263**	P	**Pn**	**21 28 23.5**	**-0.8**
JRY				eS	**Sn**	**21 28 58.6**	**-0.4**
MJAR	**Matsushiro Arr**	**3.52**	**273**	Pn	**Pn**	**21 28 31.6**	**+0.2**
	1.0nm,0.3s,baz=136,slow=9.0,SNR=9.7						
MJAR				Sn	**Sn**	**21 29 14.8**	**+3.1**
	1.5nm,0.3s,baz=95,slow=10,SNR=4.6						
MAJO	**Matsushiro**	**3.52**	**273**	eP	**Pn**	**21 28 32.4**	**+1.0**
MAT	**Matsushiro**	**3.52**	**273**	P	**Pn**	**21 28 32.1**	**+0.7**
MAT				S	**Sn**	**21 29 14.6**	**+2.8**
YSS	**Yuzh-Sakhalins**	**10.48**	**1**	eP	**Pn**	**21 30 04.8**	**-2.1**
INCN	**Inchon**	**12.79**	**279**	Pn	**Pn**	**21 30 37.5**	**-1.0**
BJT	**Baijiatuau**	**21.02**	**288**	P	**P**	**21 32 21.0**	**+1.3**
TATO	**Taipei**	**21.39**	**244**	eP	**P**	**21 32 28.9**	**+5.1**
YHNB	**Yeheng**	**21.66**	**243**	eP	**P**	**21 32 31.5**	**+4.8**
	25nm,0.9s,mb4.6						
ENH	**Enshi**	**28.22**	**267**	eP	**P**	**21 33 31.6**	**+2.8**
SONM	**Songino Array**	**28.88**	**305**	P	**P**	**21 33 35.7**	**+1.3**
	0.5nm,0.8s,mb3.3,baz=87,slow=9.8,SNR=3.2						
DAV	**Davao City (W)**	**33.12**	**212**	eP	**P**	**21 34 18.6**	**+6.6**
	0.7nm,1.2s,mb3.5						
ZALV	**Zalesovo Beam**	**42.99**	**313**	P	**P**	**21 35 35.5**	**+0.7**
	0.5nm,0.4s,mb3.6,baz=109,slow=8.3,SNR=4.0						
MKAR	**Makanchi Array**	**45.21**	**303**	P	**P**	**21 35 56.2**	**+3.5**
	0.2nm,0.2s,mb3.5,baz=86,slow=10,SNR=4.4						
PMG	**Port Moresby**	**45.83**	**174**	eP	**P**	**21 35 55.5**	**-2.3**
KURK	**Kurchatov**	**47.02**	**309**	P	**P**	**21 36 07.8**	**+1.0**
	0.8nm,0.7s,mb3.8,baz=84,slow=7.7,SNR=4.7						
KURK	**Kurchatov**	**47.02**	**309**	P	**P**	**21 36 07.8**	**+0.9**
KURK				pmax	pmax		
	comp=Z,1.0nm,0.7s,mb3.9						
KURK	**Kurchatov**	**47.02**	**309**	eP	**P**	**21 36 07.0**	**+0.1**
	comp=Z,1.2nm,0.6s,mb4.0						
PPLA	**Purkeypile**	**47.11**	**35**	P	**P**	**21 36 09.3**	**+1.9**

SZGRF ***15*** *21:28:20.5,4599S×16896E,h33km,mb6.1,South Island, New Zealand*
NEIC ***15*** *21:28:23.7±0.1,4479S×16746E,h19km,mb5.6/16, MS6.0/173,MW6.0,ML6.2(WEL),Error ellipse: s-maj=5.2km s-min=3.3km az=169.0,Moment Tensor Solution. s14 Moment tensor: Scale 10¹⁸Nm; Mrr=0.00; Mθθ=0.00; Mφφ=0.00; Mrθ=0.00; Mrφ=0.00; Mθφ=0.00; Best double couple: M₀1.40000×10¹⁸ NP1:ϕs242.00000°, δ65.00000°, λ138.00000°. NP2:ϕs353.00000°, δ53.00000°, λ32.00000°. Principal axes: T 1.1300, Plg46.0000°, Azm202.0000°; N 0.3900, Plg42.0000°, Azm37.0000°; P -1.5200, Plg7.0000°, Azm300.0000°; Depth from synthetics of broadband displacement seismograms.*
NEIC Felt at Dunedin, Invercargill and Queenstown.
ISCJB ***15*** *21:28:23.8±0.5,4471S±003×16751E±003,h22km±4km, mb5.6/53,MS5.9/214 Error ellipse: s-maj=5.0km s-min=3.9km az=161.0*
GCMT ***15*** *21:28:23.7±0.1,4462S×16725E,h19km,MW6.1/110, Moment Tensor Solution. s103,c226; s110,c307; Duration: 2§6 Moment tensor: Scale 10¹⁸Nm; Mrr=0.97±.01; Mθθ=0.15±.01; Mφφ=-1.13±.01; Mrθ=-0.55±.03; Mθφ=-0.50±.01; Mrφ=-0.99±.03; Best double couple: M₀1.60800×10¹⁸ NP1:ϕs6.00000°,δ24.00000°, λ70.00000°. NP2:ϕs208.00000°,δ68.00000°,λ98.00000°. Principal axes: T 1.4570, Plg66.0000°, Azm132.0000°; N 0.3000, Plg8.0000°, Azm24.0000°; P -1.7590, Plg22.0000°, Azm291.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*
MOS ***15*** *21:28:24.1±1.0,4469S×16758E,h25km,mb5.9/11, MS5.8/71 Error ellipse: s-maj=10.8km s-min=8.7km az=106.8*
BJI ***15*** *21:28:24.1,4480S×16751E,h24km,mB6.1,mb5.6,Ms5.8, Msz5.5*
IDC ***15*** *21:28:26.1±2.2,4471S×16763E,h29km±14km,mb5.2/16, mb1 5.3/17,mb1mx5.2/18,mbtmp5.2/17,ML5.5/2,MS5.6/16, Ms1 5.6/16,ms1mx5.4/20,Error ellipse: s-maj=14.1km s-min=11.6km az=46.0*
DJA ***15*** *21:28:35,4496S×16714E,h87km,Mw6.0/44*
ISC 15 21:28:25.0±0.7,4476S±003×16754E±003,h19km±4km, h26km±3.7km:pP-P,n750,σ1§08/248,mb5.6/53,MS5.9/214, 63C-30D,South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSZ	**Milford Sound**	**0.29**	**73**	P	**Pg**	**21 28 30.6**	**-0.8**
MSZ				S	**Sg**	**21 28 35.6**	**-0.3**
MLZ	**Mavora Lakes**	**0.74**	**143**	P	**Pb**	**21 28 38.5**	**-0.7**
DCZ	**Deep Cove**	**0.77**	**201**	P	**Pb**	**21 28 37.6**	**-2.1**
WKZ	**Wanaka**	**1.06**	**94**	eP	**Pb**	**21 28 44.4**	**-0.2**
JCZ	**Jackson Bay**	**1.11**	**52**	eP	**Pn**	**21 28 45.1**	**-0.4**
WHZ	**Wether Hill Ro**	**1.17**	**166**	P	**Pn**	**21 28 45.7**	**-0.6**
EAZ	**Earnscleugh**	**1.34**	**111**	P	**Pn**	**21 28 49.2**	**+0.6**
TUZ	**Tuapeka**	**1.90**	**130**	P	**Pn**	**21 28 57.4**	**+1.1**
LBZ	**Lake Benmore**	**1.93**	**80**	P	**Pn**	**21 28 58.6**	**+1.9**
FOZ	**Fox Glacier**	**1.96**	**53**	P	**Pn**	**21 28 57.5**	**+0.4**
ODZ	**Otahua Downs**	**2.23**	**98**	P	**Pn**	**21 29 02.2**	**+1.4**
RPZ	**Rata Peaks**	**2.73**	**69**	Pn	**Pn**	**21 29 08.6**	**+0.8**
	3μm,0.3s,baz=237,slow=7.6,SNR=2635						

RPZ Sn **Sn 21 29 43.9 +3.6**
2μm,0.3s,baz=23,slow=18,SNR=8.0
RPZ Lg 21 29 56.8
4μm,0.3s,baz=89,slow=22,SNR=8.5
RPZ Rata Peaks 2.73 69 P **Pn 21 29 08.9 +1.1**
WVZ Waitaha Valley 2.86 55 P **Pn 21 29 08.7 -0.8**
MQZ McQueen's Vall 3.82 76 P **Pn 21 29 23.1 +0.3**
CRLZ Canterbury Las 3.84 74 P **Pn 21 29 23.7 +0.7**
DSZ Denniston Nort 4.33 47 P **Pn 21 29 29.1 -0.7**
THZ Tophouse 4.93 54 P **Pn 21 29 38.2 +0.2**
KHZ Kahutara 4.95 64 P **Pn 21 29 38.4 +0.2**
QRZ Quartz Range 5.38 45 P **Pn 21 29 43.3 -0.8**
BSWZ Blackbirch Sta 5.54 59 P **Pn 21 29 47.5 +1.2**
NNZ Nelson 5.56 52 P **Pn 21 29 46.2 -0.4**
TCW Tory Channel 6.08 57 P **Pn 21 29 54.0 +0.2**
SNZO South Karori 6.28 59 ePn **Pn 21 29 57.0 +0.5**
SNZO eSn **Sn 21 31 04.3 -3.4**
MRW Makara Radio 6.33 59 P **Pn 21 29 56.7 -0.4**
BHW Baring Head 6.33 61 P **Pn 21 29 57.8 +0.6**
MSWZ Moikau Station 6.56 62 P **Pn 21 30 00.1 -0.3**
CAW Cannon Point 6.62 59 P **Pn 21 30 00.8 -0.4**
KIW Kapiti Island 6.67 57 P **Pn 21 30 01.3 -0.6**
PAWZ Paruwai Farm 6.69 62 P **Pn 21 30 02.2 +0.1**
MTW Mount Morrison 6.86 61 P **Pn 21 30 03.4 -1.1**
URZ Urewera 9.68 51 Pn **Pn 21 30 41.3 -1.8**
10nm,0.3s,baz=222,slow=8.1,SNR=31
URZ Sn **Sn 21 32 24.3 -6.9**
34nm,0.3s,baz=38,slow=18,SNR=4.2
URZ Lg 21 33 32.6
5.4nm,0.3s,baz=282,slow=22,SNR=1.6
MCQ Macquarie Isla 11.21 207 eP **Pn 21 31 07.4 +3.4**
TAU Tasmania Unive 14.71 270 eP **Pn 21 31 48.7 -3.1**
TAU Tasmania Unive 14.71 270 ePn **Pn 21 31 47.6 -4.2**
MOO Moorlands 14.92 272 eP **Pn 21 31 52.8 -1.9**
MOO eS **Sn 21 34 23.3 -16**
MOO eT 21 46 36.5
CNB Canberra Magne 16.78 298 eP **Pn 21 32 16.8 -2.0**
CNB eS **Sn 21 35 11.2 -13**
CAN Canberra 17.01 297 iPn **Pn 21 32 19.7 -1.9**
CAN eS **Sn 21 35 42.9 +13**
TOO Toolangi 18.05 286 eP **Pn 21 32 35.1 +0.5**
TOO eS **Sn 21 35 42.3 -13**
ARMA Armidale 19.02 313 eP **Pn 21 32 48.2 +1.7**
ARMA eS **Sn 21 36 09.9 -9.1**
ARMA eT 21 51 14.3
ARMA Armidale 19.02 313 iP **Pn 21 32 48.0 +1.5**
ARMA eS **Sn 21 36 09.9 -9.1**
ARMA eSn **Sn 21 36 22.1 +3.1**
ARMA e 21 51 14.3
NOUC Port Laguerre 22.62 357 eP **P 21 33 25.9 +1.3**
DZM Mont Dzumac 22.65 357 eP **P 21 33 26.6 +1.7**
STKA Stephens Creek 23.96 294 iP **P 21 33 39.2 +1.2**
189nm,1.0s,mb5.5
STKA eS **S 21 37 47.7 -5.9**
STKA eT 21 51 43.5
STKA Stephens Creek 23.96 294 P **P 21 33 39.3 +1.4**
226nm,1.0s,mb5.6,baz=124,slow=11,SNR=104
STKA S **S 21 37 57.7 +4.1**
7.4nm,0.9s,baz=243,slow=20,SNR=1.8
STKA LR LR 21 41 58.1
comp=Z,21μm,18.3s,MS5.7,baz=112,slow=34
ADE Adelaide 24.08 284 iP **P 21 33 39.9 +0.8**
DRV Dumont d'Urvil 26.45 204 P **P 21 34 00.0 -0.2**
DRV S **S 21 38 37.0 +4.3**
DRV L 21 39 00.0
CTA Charters Tower 30.28 317 eP **P 21 34 36.2 +1.4**
36nm,0.9s,mb5.1
CTA eS **S 21 39 31.7 -2.1**
CTA Charters Tower 30.28 317 eP **P 21 34 36.2 +1.4**
CTA eS **S 21 39 31.7 -2.1**
CTA pmax pmax
comp=Z,36nm,0.9s
CTAO Charters Tower 30.28 317 eP **P 21 34 39.8 +5.0**
CTAO e 21 35 52.7
CTAO eS **S 21 39 37.0 +3.2**
SBA Scott Base 33.20 180 eP **P 21 35 04.3 +4.3**
SBA eS S 21 39 56.9 -22
FORT Forrest 33.84 281 eP **P 21 35 06.7 +0.7**
comp=Z,80nm,1.0s,mb5.6
FORT Forrest 33.84 281 eP **P 21 35 05.5 -0.5**
comp=Z,12nm,0.8s,mb4.9
ASAR Alice Springs 34.52 296 P **P 21 35 11.8 -0.2**
comp=Z,36nm,0.8s,mb5.3,baz=130,slow=6.9,SNR=240
ASAR PcP PcP 21 37 45.2 -1.5
comp=Z,16nm,0.8s,baz=132,slow=3.9,SNR=6.7
ASAR ScP ScP 21 41 28.3 -2.4
comp=Z,2.9nm,0.9s,baz=129,slow=3.8,SNR=3.8
ASAR Alice Springs 34.52 296 P **P 21 35 11.8 -0.1**
ASAR 21 37 45.2
AFI Afiamalu 35.43 36 P **P 21 35 20.3 +0.5**
comp=Z,118nm,0.9s,mb5.8,baz=45,slow=8.8,SNR=13
AFI Afiamalu 35.43 36 eP **P 21 35 19.4 -0.5**
AFI eS **S 21 40 53.8 0.0**
AFI LR LR
comp=Z,8μm,22.0s,MS5.4
RAR Rarotonga 35.72 60 P **P 21 35 22.0 -0.3**
comp=Z,56nm,0.9s,mb5.5,baz=103,slow=6.0,SNR=5.5
RAR LR LR 21 48 22.0
comp=Z,19μm,20.4s,MS5.8,baz=226,slow=34
RAR Rarotonga 35.72 60 eP **P 21 35 22.3 0.0**
RAR eS **S 21 41 03.3 +5.1**
RAR LR LR
comp=Z,18μm,20.0s,MS5.8
HNR Honiara 35.80 347 P **P 21 35 23.2 +0.2**
comp=Z,61nm,0.5s,mb5.8,baz=203,slow=3.2,SNR=11
HNR Honiara 35.80 347 eP **P 21 35 21.2 -1.8**
HNR eS **S 21 40 50.3 -9.3**
HNR LR LR
comp=Z,19μm,20.0s,MS5.9
WB2 Warramunga Arr 36.98 301 iP **P 21 35 33.0 -0.1**
WB2 ePP PP 21 36 60.0 +2.5
WRA Warramunga Arr 36.99 301 P **P 21 35 32.8 -0.4**
comp=Z,84nm,1.1s,mb5.5,baz=136,slow=7.5,SNR=191
WRA PcP PcP 21 37 53.1 -0.9
comp=Z,20nm,0.8s,baz=136,slow=2.9,SNR=9.2
WRA S **S 21 41 17.5 -0.1**
comp=Z,1.9nm,1.1s,baz=155,slow=11,SNR=5.9
WRA LR LR 21 50 12.6
comp=Z,14μm,18.3s,MS5.8,baz=135,slow=35
WRA Warramunga Arr 36.99 301 P **P 21 35 32.8 -0.3**
WRA 21 37 53.1
WRA S **S 21 41 17.5 -0.1**
WRAB Tennant Creek 36.99 301 iP **P 21 35 32.5 -0.6**
WRAB e 21 36 57.5
WRAB eS **S 21 41 10.9 -6.7**
WRAB MLR MLR
comp=Z,14μm,21.0s,MS5.7
CASY Casey 36.99 214 eP **P 21 35 32.9 +0.2**
CASY eS **S 21 41 10.0 -6.8**
CASY e 21 50 00.4
CASY Casey 36.99 214 eP **P 21 35 32.5 -0.2**
CASY eS **S 21 41 17.0 +0.3**
CASY e 21 50 00.4
COEN Coen 37.03 318 eP **P 21 35 32.9 -0.7**
comp=Z,21nm,0.9s,mb5.0
FUNA Funafuti 37.49 19 PFAKE 21 35 50.0 +13
FUNA LR LR
comp=Z,14μm,20.0s,MS5.7
PMG Port Moresby 39.38 327 eP **P 21 35 52.8 -0.6**
PMG e 21 37 25.8
PMG e 21 38 06.9
PMG MLR MLR
comp=Z,3μm,19.0s
PMG Port Moresby 39.38 327 eP **P 21 35 52.8 -0.5**
PMG ePP PP 21 37 25.8 +1.9
PMG ePcP PcP 21 38 06.9 +5.4
PMG eS **S 21 42 04.9 +11**
PMG LR LR
comp=Z,3μm,19.0s,MS5.1
NWAO Narrogin (SRO) 40.33 269 eP **P 21 36 01.3 +0.2**
NWAO eS **S 21 42 03.6 -4.2**
NWAO pmax pmax
comp=Z,127nm,1.6s
NWAO MLR MLR
comp=Z,6μm,20.0s
NWAO Narrogin (SRO) 40.33 269 eP **P 21 36 01.2 +0.2**
comp=Z,127nm,1.6s,mb5.4
NWAO ePcP PcP 21 37 54.4 -10
NWAO eS **S 21 42 03.6 -4.3**
NWAO LR LR
comp=Z,6μm,20.0s,MS5.5
KLBR Kellerberrin 40.68 271 eP **P 21 36 04.3 +0.3**
comp=Z,127nm,0.9s,mb5.5

TBI	**Tubuai**	**40.94**	**73**	*e*P		**P**	**21 36 07.9**	**+1.7**
	comp=Z,375nm,0.9s,mb6.0								
TBI				*e*S		**S**	**21 42 16.1**	**-1.0**
	comp=Z,4μm,30.5s								
TBI				*e*LQ			21 45 42.5		
	comp=Z,6μm,27.2s								
TBI				*e*LR	LR		21 47 22.1		
	comp=Z,12μm,25.0s,baz=240								
TBI	**Tubuai**	**40.94**	**73**	*e*P		**P**	**21 36 07.9**	**+1.7**
	comp=Z,375nm,0.9s,mb6.0								
TBI				*e*S		**S**	**21 42 16.1**	**-1.0**
TBI				*e*LQ			21 45 42.5		
MUN	**Mundaring**	**41.57**	**270**	*e*P		**P**	**21 36 12.2**	**+0.9**
MUN				*e*S		**S**	**21 42 18.8**	**-7.5**
KAKA	**Kakadu**	**43.76**	**306**	*e*P		**P**	**21 36 27.0**	**-2.3**
	comp=Z,123nm,0.9s,mb5.6								
KAKA	**Kakadu**	**43.76**	**306**	*e*P		**P**	**21 36 27.0**	**-2.3**
FITZ	**Fitzroy Crossi**	**43.86**	**294**	*e*P		**P**	**21 36 29.7**	**-0.3**
	comp=Z,76nm,0.8s,mb5.5								
FITZ				*e*PP		PP	21 38 13.9	+1.7	
FITZ				*e*S		**S**	**21 42 55.0**	**-5.1**
FITZ				*e*SS		SS	21 46 21.0	+4.5	
FITZ	**Fitzroy Crossi**	**43.86**	**294**	*e*P		**P**	**21 36 29.7**	**-0.3**
FITZ				*e*PP		PP	21 38 07.9	-4.3	
FITZ				*e*S		**S**	**21 42 55.9**	**-4.3**
FITZ				*e*SS		SS	21 46 21.0	+4.5	
MIR	**Mirnyy**	**44.01**	**214**	*α i*P		**P**	**21 36 31.5**	**+0.8**
MIR				*i*			21 36 40.0		
MIR				*i*			21 38 17.0		
MIR				*i* S		**S**	**21 43 00.0**	**-1.4**
MIR				*i* SS		SS	21 46 28.0	+10	
MIR				pmax		pmax			
	comp=Z,300nm,1.5s,mb5.8								
MIR				pmax		pmax			
	comp=Z,3μm,8.0s								
MIR				MLR		MLR			
	comp=Z,13μm,17.0s,MS5.9								
PAE	**Paea**	**44.82**	**67**	*e*P		**P**	**21 36 39.4**	**+1.7**
	comp=Z,1μm,1.1s,mb6.6								
PAE	**Paea**	**44.82**	**67**	*e*P		**P**	**21 36 39.4**	**+1.7**
PAE				pmax		pmax			
	comp=Z,1μm,1.1s,mb6.6								
PPT	**Papeete**	**44.89**	**67**	*e*S		**S**	**21 43 14.2**	**-1.0**
	comp=Z,6μm,28.5s								
PPT				*e*LQ			21 46 51.5		
	comp=Z,36μm,28.5s								
PPT				*e*LR	LR		21 49 20.8		
	comp=Z,18μm,22.8s,baz=227								
PPT	**Papeete**	**44.89**	**67**	LR	LR		21 52 06.5		
	comp=Z,8μm,19.6s,MS5.7,baz=138,slow=32								
TVO	**Taravao**	**44.95**	**67**	*e*P		**P**	**21 36 39.3**	**+0.6**
	comp=Z,1μm,1.1s,mb6.7								
TVO	**Taravao**	**44.95**	**67**	*e*P		**P**	**21 36 39.3**	**+0.6**
TVO				pmax		pmax			
	comp=Z,1μm,1.1s,mb6.7								
QSPA	**South Pole Qui**	**45.37**	**180**	P		**P**	**21 36 43.1**	**+1.8**
	comp=Z,149nm,1.1s,mb5.7,baz=16,slow=3.8,SNR=121								
QSPA				LR	LR		21 53 23.9		
	comp=Z,13μm,18.9s,MS5.9,baz=223,slow=33								
QSPA	**South Pole Qui**	**45.37**	**180**	P		**P**	**21 36 43.1**	**+1.8**
QSPA				LR	LR		21 53 23.9		
MBWA	**Marble Bar**	**45.70**	**285**	*e*P		**P**	**21 36 44.8**	**+0.1**
MBWA				*e*PcP		PcP	21 38 21.5	-1.0	
MBWA				*e*S		**S**	**21 43 24.6**	**-2.2**
MBWA				LR	LR				
	comp=Z,6μm,19.0s,MS5.6								
PMOR	**Pomariorio Ree**	**47.86**	**66**	*e*P		**P**	**21 37 00.8**	**-0.8**
	comp=Z,106nm,1.0s,mb5.8								
BATI	**Baumata**	**51.02**	**299**	LR	LR		21 59 06.2		
	comp=Z,10μm,19.9s,MS5.8,baz=160,slow=36								
RKT	**Rikitea**	**51.21**	**85**	*e*S		**S**	**21 44 43.1**	**-1.5**
	comp=Z,7μm,28.0s								
RKT				*e*LR	LR		21 51 56.5		
	comp=Z,10μm,30.8s,baz=232								
PTCN	**Pitcairn Islan**	**53.46**	**90**	PFAKE			21 38 00.0	+16	
PTCN				LR	LR				
	comp=Z,21μm,20.0s,MS6.2								
MAW	**Mawson**	**54.62**	**207**	*e*P		**P**	**21 37 52.1**	**+0.4**
	comp=Z,32nm,0.9s,mb5.3								
MAW				*e*S		**S**	**21 45 27.9**	**-2.0**
MAW	**Mawson**	**54.62**	**207**	P		**P**	**21 37 52.2**	**+0.5**
	comp=Z,29nm,1.1s,mb5.2,baz=117,slow=8.9,SNR=34								
MAW				LR	LR		21 58 52.6		
	comp=Z,7μm,20.1s,MS5.7,baz=111,slow=33								
MAW	**Mawson**	**54.62**	**207**	⇑*i*P		**P**	**21 37 52.0**	**+0.3**
MAW				*e*			21 38 51.9		
MAW				*e*S		**S**	**21 45 28.2**	**-1.7**
MAW	**Mawson**	**54.62**	**207**	⇑*i*P		**P**	**21 37 52.0**	**+0.4**
MAW				*e*PcP		PcP	21 38 51.9	-2.5	
MAW				*e*ScP		ScP	21 42 50.0	-1.7	
MAW				*e*S		**S**	**21 45 27.9**	**-2.0**
MAW				*e*S		**S**	**21 45 28.1**	**-1.8**
XMAS	**Kiritimati**	**56.07**	**44**	*e*P		**P**	**21 38 02.5**	**-0.3**
	comp=Z,328nm,1.8s,mb6.1								
XMAS				*e*S		**S**	**21 46 00.6**	**+10**
XMAS				LR	LR				
	comp=Z,6μm,20.0s,MS5.7								
KAPI	**Kappang**	**57.47**	**299**	P		**P**	**21 38 12.4**	**-0.3**
	comp=Z,798nm,1.2s,mb6.6,SNR=15								
KAPI	**Kappang**	**57.47**	**299**	⇑*i*P		**P**	**21 38 11.8**	**-1.0**
KAPI				*e*PP		PP	21 40 18.8	-1.5	
KAPI				*e*S		**S**	**21 46 00.1**	**-9.0**
KAPI				LR	LR				
	comp=Z,4μm,19.0s,MS5.6								
TAOE	**Nuku Hiva Isla**	**57.47**	**68**	*e*S		**S**	**21 46 07.9**	**-1.3**
	comp=Z,11μm,27.8s								
TAOE				*e*SS		SS	21 50 00.7	+1.6	
	comp=Z,11μm,28.0s								
TAOE				*e*LQ			21 52 40.1		
	comp=Z,36μm,30.3s								
TAOE				*e*LR	LR		21 55 01.0		
	comp=Z,44μm,22.7s,baz=226								
SYO	**Syowa Base**	**60.22**	**199**	⇓*i*P		**P**	**21 38 29.4**	**-1.7**
GUMO	**Guam**	**61.62**	**335**	*e*P		**P**	**21 38 41.2**	**0.0**
GUMO				MLR	MLR				
	comp=Z,3μm,19.0s,MS5.4								
XMIS	**Christmas Isla**	**62.80**	**283**	*e*P		**P**	**21 38 50.1**	**+0.8**
NVL	**N'lazarevskaya**	**63.45**	**189**	*c i*P		**P**	**21 38 53.8**	**+0.9**
NVL							21 41 10.0		
NVL				*e*S		**S**	**21 47 25.3**	**+0.9**
NVL				pmax		pmax			
	comp=Z,147nm,1.3s,mb6.0								
NVL				MLR		MLR			
	comp=Z,22μm,19.0s,MS6.3								
PMSA	**Palmer Station**	**63.62**	**158**	P		**P**	**21 38 55.7**	**+1.7**
	comp=Z,48nm,1.0s,mb5.5,baz=80,slow=7.3,SNR=3.5								
PMSA				LR	LR		22 01 07.1		
	comp=Z,8μm,21.8s,MS5.8,baz=220,slow=31								
PMSA	**Palmer Station**	**63.62**	**158**	*e*P		**P**	**21 38 52.2**	**-1.9**
PMSA				LR	LR		22 01 07.1		
SNAA	**Sanae**	**63.67**	**183**	*e*P		**P**	**21 38 54.1**	**-0.2**
SNAA				*e*			21 38 56.9		
SNAA				*e*			21 39 04.1		
SNAA				*e*			21 39 09.2		
SNAA				*e*			21 39 11.3		
SNAA	**Sanae**	**63.67**	**183**	*e*P		**P**	**21 38 53.7**	**-0.6**
SNAA				pmax		pmax			
	comp=Z,141nm,1.1s								
SNAA	**Sanae**	**63.67**	**183**	*e*P		**P**	**21 38 53.6**	**-0.7**
	comp=Z,140nm,1.1s,mb5.9								
DAV	**Davao City (W)**	**63.90**	**312**	LR	LR		22 07 14.6		
	comp=Z,5μm,19.2s,MS5.7,baz=34,slow=36								
DAV	**Davao City (W)**	**63.90**	**312**	*e*P		**P**	**21 38 54.1**	**-2.4**
VNA3	**Neumayer Olymp**	**64.29**	**181**	*e*P		**P**	**21 38 58.0**	**-0.4**
VNA3				*e*		pP	21 39 02.3	-2.3	
VNA3				*e*			21 39 07.9		
VNA3				*e*			21 39 12.5		
VNA3				*e*			21 39 15.5		
VNA2	**Neumayer--Watz**	**64.57**	**182**	*e*P		**P**	**21 39 00.4**	**+0.2**
	baz=162,slow=4.5								
VNA2				*e*		pP	21 39 05.1	-1.3	
VNA2				*e*			21 39 11.3		
VNA2				*e*			21 39 15.4		
VNA2				*e*			21 39 18.2		
VNA1	**Neumayer--Stat**	**64.86**	**182**	*e*P		**P**	**21 39 02.6**	**+0.5**
VNA1				*e*		pP	21 39 07.3	-1.0	
VNA1				*e*			21 39 13.5		
VNA1				*e*			21 39 17.5		
VNA1				*e*			21 39 19.6		
TSM	**Tawau**	**65.94**	**304**	⇑P		**P**	**21 39 11.5**	**+1.6**
MYLDM	**Lahad Datu**	**66.28**	**305**	⇑P		**P**	**21 39 13.9**	**+1.8**
RPN	**Rapa Nui**	**66.78**	**106**	PFAKE			21 39 30.0	+15	
RPN				LR	LR				
	comp=Z,9μm,19.0s,MS6.0								
SDKM	**Sandakan**	**67.42**	**304**	⇓P		**P**	**21 39 19.6**	**+0.3**
COCO	**West Island**	**67.83**	**275**	PFAKE			21 39 30.0	+8.1	
COCO				LR	LR				
	comp=Z,2μm,20.0s,MS5.4								
SBUM	**Sibu**	**67.96**	**298**	⇑P		**P**	**21 39 23.5**	**+0.8**
BTM	**Bintulu**	**68.00**	**299**	⇓P		**P**	**21 39 23.6**	**+0.6**
KKM	**Kota Kinabalu**	**68.32**	**303**	⇑P		**P**	**21 39 25.4**	**+0.5**
KKM	**Kota Kinabalu**	**68.32**	**303**	⇑*i*P		**P**	**21 39 24.7**	**-0.3**
KKM				*e*PP		PP	21 41 55.3	-0.7	
KKM				*e*S		S	21 48 24.6	-0.5	
KKM				LR	LR				
	comp=Z,3μm,19.0s,MS5.6								
KSM	**Kuching**	**68.43**	**295**	⇑P		**P**	**21 39 25.9**	**+0.2**
KSM	**Kuching**	**68.43**	**295**	⇑*i*P		**P**	**21 39 25.6**	**-0.1**
KSM				*e*PP		PP	21 41 57.2	+0.3	
KSM				*e*S		S	21 48 19.9	-6.5	
KDM	**Kudat**	**68.65**	**304**	⇓P		**P**	**21 39 28.2**	**+1.2**
USHA	**Ushuaia**	**70.02**	**149**	P		**P**	**21 39 36.0**	**+1.1**
	comp=Z,16nm,1.0s,mb4.9,baz=173,slow=8.1,SNR=3.2								
POHA	**Pohakuloa**	**72.51**	**36**	PFAKE			21 40 00.0	+10	
POHA				LR	LR				
	comp=Z,6μm,19.0s,MS5.9								
HON	**Honolulu**	**72.90**	**34**	*e*P		**P**	**21 39 52.3**	**-0.4**
MYKOM	**Kota Tinggi**	**72.91**	**290**	⇑P		**P**	**21 39 53.5**	**+0.5**
KIP	**Kipapa**	**72.99**	**33**	PFAKE			21 40 00.0	+6.8	
KIP				LR	LR				
	comp=Z,5μm,20.0s,MS5.8								
KGM	**Kluang**	**73.43**	**290**	⇓P		**P**	**21 39 57.1**	**+1.1**
MIDW	**Midway**	**73.92**	**14**	P		**P**	**21 39 56.8**	**-1.7**
MIDW				LR	LR				
	comp=Z,4μm,20.0s,MS5.8								
KTGM	**Kuala Trenggan**	**76.01**	**292**	⇑P		**P**	**21 40 11.4**	**+0.4**
IPM	**Ipoh**	**76.78**	**290**	⇑P		**P**	**21 40 15.1**	**-0.3**
KULM	**Kulim**	**77.63**	**290**	⇑P		**P**	**21 40 20.4**	**+0.3**
SNG	**Songkhla**	**79.05**	**292**	P		**P**	**21 40 27.0**	**-0.9**
	comp=Z,360nm,1.0s,mb6.3								
JOW	**Kunigami**	**79.76**	**325**	LR	LR		22 14 27.7		
	comp=Z,2μm,19.8s,MS5.4,baz=44,slow=35								
PLCA	**Paso Flores**	**80.22**	**139**	P		**P**	**21 40 34.5**	**+0.5**
	comp=Z,34nm,1.1s,mb5.2,baz=210,slow=6.5,SNR=18								
PLCA				LR	LR		22 09 00.1		
	comp=Z,7μm,19.8s,MS6.0,baz=214,slow=30								
NACB	**Ninganchiao**	**80.40**	**318**	*e*P		**P**	**21 40 30.8**	**-4.2**
NACB				*e*PP		PP	21 43 47.4	+8.9	
NACB				*e*S		S	21 50 25.2	-15	
YHNB	**Yeheng**	**80.93**	**318**	P		**P**	**21 40 35.8**	**-2.1**
YHNB				LR	LR				
	comp=Z,3μm,21.0s,MS5.7								
TATO	**Taipei**	**81.14**	**319**	*e*P		**P**	**21 40 38.5**	**-0.5**
JHJ	**Hachijo jima 2**	**81.52**	**337**	LR	LR		22 14 31.3		
	comp=Z,2μm,18.6s,MS5.5,baz=119,slow=34								
QIZ	**Qiongzhong**	**82.37**	**306**	P		**P**	**21 40 47.1**	**+1.5**
QIZ				XP		sP	21 41 00.3	+6.1	
QIZ				PP		PP	21 43 57.3	+2.5	
QIZ				S		S	21 51 02.4	+1.8	
QIZ				XS		sS	21 51 16.8	+5.7	
QIZ				SS		SS	21 56 18.3	-3.7	
QIZ				AMB		AMB			
	comp=Z,2μm,6.7s								
QIZ				LR		LR			
	comp=N,828nm,18.9s,MS5.4								
QIZ				LR		LR			
	comp=E,1μm,16.9s,MS5.4								
QIZ				LR		LR			
	comp=Z,2μm,19.6s,MS5.4								
QIZ	**Qiongzhong**	**82.37**	**306**	P		**P**	**21 40 45.4**	**-0.1**
QIZ				LR		LR			
	comp=Z,2μm,20.0s,MS5.4								
QZH	**Quanzhou**	**82.50**	**316**	⇑*i*P		**P**	**21 40 46.1**	**0.0**
QZH				PP		PP	21 43 57.5	+1.6	
QZH				S		S	21 51 05.1	+3.3	
QZH				AMB		AMB			
	comp=Z,550nm,1.7s,mb6.3								
QZH				AMB		AMB			
	comp=Z,4μm,10.0s								
QZH				LR		LR			
	comp=N,1μm,10.8s,MS5.6								
QZH				LR		LR			
	comp=E,1μm,12.6s,MS5.6								
QZH				LR		LR			
	comp=Z,4μm,20.8s								
CCHI	**Chillan**	**82.73**	**136**	⇑*i*P		**P**	**21 40 48.4**	**+1.0**
GZH	**Guangzhou**	**83.67**	**311**	P		**P**	**21 40 54.5**	**+2.3**
GZH				S		S	21 51 14.5	+0.8	
GZH				LR		LR			
	comp=N,992nm,20.7s,MS5.4								
GZH				LR		LR			
	comp=E,2μm,20.0s,MS5.4								
GZH				LR		LR			
	comp=Z,3μm,20.3s,MS5.6								
MJAR	**Matsushiro Arr**	**85.17**	**337**	P		**P**	**21 40 59.3**	**-0.2**
	comp=Z,24nm,1.0s,mb5.3,baz=174,slow=6.3,SNR=27								
MJAR				LR		LR	22 15 16.0		
	comp=Z,2μm,20.0s,MS5.4,baz=150,slow=33								
MAJO	**Matsushiro**	**85.17**	**337**	⇑*e*P		**P**	**21 40 59.5**	**0.0**
MAJO				MLR		MLR			
	comp=Z,2μm,20.0s,MS5.5								
MAT	**Matsushiro**	**85.17**	**337**	P		**P**	**21 40 59.4**	**-0.1**
MAT				S		S	21 51 22.0	-6.1	
NST	**Nakhon Sawan**	**85.68**	**297**	P		**P**	**21 41 02.0**	**-0.5**
	comp=Z,45nm,1.5s,mb5.5								
LMEL	**Las Melosas**	**85.84**	**135**	⇑*i*P		**P**	**21 41 03.9**	**+0.6**
FCH	**Farellones**	**86.21**	**135**	⇑*i*P		**P**	**21 41 04.3**	**-0.7**
TRQA	**Tornquist**	**86.24**	**143**	*e*P		**P**	**21 41 04.3**	**-0.8**
TRQA				LR		LR			
	comp=Z,5μm,19.0s,MS5.9								
SSE	**Sheshan**	**86.49**	**322**	P		**P**	**21 41 06.5**	**+0.3**
SSE				PP		PP	21 44 28.8	+0.5	
SSE				S		S	21 51 41.0	-0.3	
SSE				SS		SS	21 57 24.9	+2.2	
SSE				AMB		AMB			
	comp=Z,70nm,1.2s,mb5.8								
SSE				AMB		AMB			
	comp=Z,1μm,7.8s								
SSE				LR		LR			
	comp=N,1μm,24.3s,MS5.4								
SSE				LR		LR			
	comp=E,2μm,24.3s,MS5.4								
SSE				LR		LR			
	comp=Z,2μm,20.0s,MS5.6								
SSE	**Sheshan**	**86.49**	**322**	P		**P**	**21 41 06.5**	**+0.3**
	comp=Z,70nm,1.2s,mb5.8								
SSE				PP		PP	21 44 28.8	+0.5	
SSE				S		S	21 51 41.0	-0.3	
SSE				sS		sS	21 52 01.5	+10	
SSE				SS		SS	21 57 24.9	+2.2	
SSE				LR		LR			
	comp=Z,2μm,20.0s,MS5.6								
BDT	**Bhumibol Dam**	**87.57**	**297**	⇓P		**P**	**21 41 12.0**	**+0.3**
	comp=Z,24nm,1.2s,mb5.3								
NJ2	**Nanjing**	**88.35**	**320**	*e*P		**P**	**21 41 15.8**	**+0.7**
NJ2				AP		pP	21 41 21.3	-0.2	
NJ2				XP		sP	21 41 24.1	+0.3	
NJ2				PP		PP	21 44 46.8	+3.5	
NJ2				S		S	21 51 57.5	-1.6	
NJ2				XS		sS	21 52 10.5	+0.8	
NJ2				AMB		AMB			
	comp=Z,20nm,0.7s,mb5.5								
NJ2				AMB		AMB			
	comp=Z,440nm,10.1s								
NJ2				LR		LR			
	comp=N,2μm,25.4s,MS5.5								
NJ2				LR		LR			
	comp=E,1μm,21.8s,MS5.5								
NJ2				LR		LR			
	comp=Z,1μm,19.4s,MS5.4								
CM31	**Chiang Mai Arr**	**88.51**	**298**	⇑*i*P		**P**	**21 41 16.4**	**+0.2**
CMAR	**Chiang Mai Arr**	**88.51**	**298**	P		**P**	**21 41 16.9**	**+0.7**
	comp=Z,38nm,0.8s,mb5.8,baz=156,slow=3.4,SNR=178								
CMAR				LR		LR	22 25 21.7		
	comp=Z,3μm,18.5s,MS5.7,baz=139,slow=39								
CFAA	**Coronel Fontan**	**88.62**	**135**	P		**P**	**21 41 16.6**	**-0.2**
	comp=Z,1.5nm,0.9s,baz=226,slow=4.3,SNR=9.4								
CHG	**Chiang Mai**	**88.78**	**298**	⇑P		**P**	**21 41 18.1**	**+0.7**
	comp=Z,64nm,1.0s,mb5.9								
CHTO	**Chiang Mai**	**88.78**	**298**	*e*P		**P**	**21 41 14.2**	**-3.3**
CHTO				*e*PP		PP	21 44 40.6	-6.2	
CHTO				*e*S		SKSac	21 51 35.3	-11	
CHTO				LR		LR			
	comp=Z,3μm,20.0s,MS5.7								
CHRT	**Chiangrai**	**89.04**	**299**	⇑P		**P**	**21 41 19.5**	**+0.8**
	comp=Z,500nm,1.0s,mb6.8								
ERM	**Erimo**	**89.11**	**342**	P		**P**	**21 41 16.2**	**-2.2**
ERM				*e*			21 44 52.3		
ERM				*e*S		S	21 52 09.2	+3.5	
ERM				pmax		pmax			
	comp=Z,10μm,2.9s								
ERM				MLR		MLR			
	comp=Z,3μm,20.0s,MS5.7								
ERM	**Erimo**	**89.11**	**342**	P		**P**	**21 41 16.2**	**-2.2**
	comp=Z,12μm,2.9s								
ERM				*e*PP		PP	21 44 52.3	+3.2	
ERM				*e*S		S	21 52 09.2	+3.4	
ERM				LR		LR			
	comp=Z,3μm,20.0s								
WHN	**Wuhan**	**89.23**	**316**	⇑P		**P**	**21 41 20.0**	**+0.7**
WHN				AMB		AMB			
	comp=Z,1μm,2.4s,mb6.7								
WHN				LR		LR			
	comp=N,6μm,21.7s,MS6.0								
WHN				LR		LR			
	comp=E,3μm,21.0s,MS6.0								
WHN				LR		LR			
	comp=Z,4μm,19.4s,MS5.8								
KSRS	**Korea Array**	**89.32**	**330**	P		**P**	**21 41 20.4**	**+0.9**
	comp=Z,13nm,1.0s,mb5.2,baz=149,slow=5.6,SNR=21								
KSRS				LR		LR	22 16 55.0		
	comp=Z,977nm,20.7s,MS5.2,baz=170,slow=33								
KSRS	**Korea Array**	**89.32**	**330**	P		**P**	**21 41 20.4**	**+0.9**
KSRS				pmax		pmax			
	comp=Z,13nm,1.0s,mb5.2								
KSRS				MLR		MLR			
	comp=Z,977nm,20.7s,MS5.2								
LCO	**Las Campanas**	**89.42**	**132**	⇑*e*P		**P**	**21 41 19.3**	**-1.2**
LCO				LR		LR			
	comp=Z,10μm,20.0s,MS6.2								
RER	**Riviere de l'E**	**89.72**	**240**	*e*P		**P**	**21 41 21.4**	**-0.6**
RER				*e*PP		PP	21 45 08.7	+15	
RER				*e*S		S	21 52 04.9	-7.8	
INCN	**Inchon**	**89.82**	**329**	*e*P		**P**	**21 41 21.2**	**-0.7**
INCN				*e*PP		PP	21 45 00.9	+5.9	
INCN				*e*S		S	21 52 07.9	-4.7	
INCN				LR		LR			
	comp=Z,2μm,21.0s,MS5.5								
GYA	**Guiyang**	**90.01**	**308**	⇑*i*P		**P**	**21 41 23.8**	**+0.8**
GYA				AP		pP	21 41 36.5	+7.1	
GYA				XP		sP	21 41 41.6	+10	
GYA				PP		PP	21 44 53.5	-3.1	
GYA				PPP			21 47 01.8		
GYA				SKS			21 51 51.8		
GYA				S		S	21 52 13.4	-1.5	
GYA				XS		sS	21 52 33.3	+7.8	
GYA				SS		SS	21 58 12.8	-1.2	
GYA				AMB		AMB			
	comp=Z,40nm,1.0s,mb5.7								
GYA				AMB		AMB			
	comp=Z,440nm,4.0s								
GYA				LR		LR			
	comp=N,1μm,23.1s,MS5.4								
GYA				LR		LR			
	comp=E,1μm,21.0s,MS5.4								
GYA				LR		LR			
	comp=Z,2μm,22.2s,MS5.5								
YUK	**Yuzh-Kuril'sk**	**90.49**	**345**	*e*P		**P**	**21 41 27.0**	**+2.2**
YUK				*e*			21 45 04.0		
YUK				*e*PPP			21 47 08.0		
YUK				*e*SS		SS	21 58 32.0	+11	
YUK				pmax		pmax			
	comp=Z,2μm,7.0s								
YUK				MLR		MLR			
	comp=N,6μm,19.0s								
YUK				MLR		MLR			
	comp=Z,6μm,19.0s,MS6.0								
LPA	**La Plata**	**90.62**	**144**	*ce*P		**P**	**21 41 25.0**	**-1.0**
LPA									
	comp=Z,6μm,18.0s								
KMI	**Kunming**	**91.22**	**305**	P		**P**	**21 41 30.0**	**+1.3**
KMI				AP		pP	21 41 42.4	+7.3	
KMI				XP		sP	21 41 46.8	+9.4	
KMI				PP		PP	21 45 10.3	+4.0	
KMI				PPP			21 47 11.6		
KMI				SKS			21 51 57.1		
KMI				S		S	21 52 23.8	-2.3	
KMI				XS		sS	21 52 44.0	+7.3	
KMI				PS		PS	21 53 41.8	+4.9	
KMI				SS		SS	21 58 34.1	+2.5	
KMI				AMB		AMB			
	comp=Z,45nm,1.7s,mb5.5								
KMI				AMB		AMB			
	comp=Z,907nm,13.8s								
KMI				LR		LR			
	comp=N,1μm,20.2s,MS5.5								
KMI				LR		LR			
	comp=E,2μm,18.1s,MS5.5								
KMI				LR		LR			
	comp=Z,2μm,21.2s,MS5.5								
KMI	**Kunming**	**91.22**	**305**	P		**P**	**21 41 30.0**	**+1.3**
	comp=Z,45nm,1.7s,mb5.5								
KMI				*PP		pP	21 41 42.4	+7.3	
KMI							21 45 10.3		
KMI				PPP			21 47 11.6		
KMI							21 51 57.1		
KMI				S		S	21 52 23.7	-2.4	
KMI				PS		PS	21 53 41.8	+4.9	
KMI				SS		SS	21 58 34.1	+2.5	
KMI				SSS			22 02 11.5		
KMI				pmax		pmax			
	comp=Z,45nm,1.7s,mb5.5								
KMI				MLR		MLR			
	comp=Z,2μm,21.2s,MS5.5								
KMI	**Kunming**	**91.22**	**305**	P		**P**	**21 41 30.0**	**+1.3**
	comp=Z,45nm,1.7s,mb5.5								
KMI				pP		pP	21 41 42.4	+7.3	
KMI				sP		sP	21 41 46.7	+9.3	
KMI				PP		PP	21 45 10.3	+4.0	
KMI				PPP			21 47 11.6		
KMI				SKS			21 51 57.1		
KMI				S		S	21 52 23.7	-2.4	
KMI				sS		sS	21 52 44.0	+7.3	
KMI				PS		PS	21 53

comp=Z,541nm,12.6s
SNY LR LR
comp=N,851nm,41.3s,MS5.3
SNY LR LR
comp=E,2µm,39.6s,MS5.3
SNY LR LR
comp=Z,591nm,23.1s
CD2 Chengdu 95.06 309 ⇑ *i*P **P** **21 41 46.8 +0.5**
CD2 AP pP 21 41 56.8 +4.1
CD2 XP sP 21 42 01.3 +6.4
CD2 PP PP 21 45 40.4 +4.1
CD2 SKS 21 52 18.8
CD2 S S 21 52 58.0 -1.8
CD2 XS sS 21 53 15.8 +5.3
CD2 AMB AMB
comp=Z,40nm,1.2s,mb5.7
CD2 AMB AMB
comp=Z,730nm,9.6s
CD2 LR LR
comp=N,2µm,19.2s,MS5.8
CD2 LR LR
comp=E,2µm,18.0s,MS5.8
CD2 LR LR
comp=Z,3µm,18.0s,MS5.7
MDJ Mudanjiang 95.16 334 P **P** **21 41 46.8 +0.4**
MDJ PP PP 21 45 36.3 -0.6
MDJ SKS 21 52 16.5
MDJ S S 21 53 05.4 +5.3
MDJ AMB AMB
comp=Z,14nm,1.9s,mb5.1
MDJ AMB AMB
comp=Z,524nm,11.6s
MDJ LR LR
comp=N,2µm,38.9s,MS5.5
MDJ LR LR
comp=E,3µm,38.9s,MS5.5
MDJ LR LR
comp=Z,1µm,38.9s,MS5.0
MDJ Mudanjiang 95.16 334 *e*P **P** **21 41 37.4 -9.0**
MDJ *e*PP PP 21 45 49.9 +13
MDJ *e*S S 21 52 50.1 -10
MDJ LR LR
comp=Z,1µm,21.0s,MS5.4
LVC Limon Verde 95.48 129 *e*P **P** **21 41 54.5 +5.8**
LVC *e*PP PP 21 45 35.6 -3.2
LVC LR LR
comp=Z,5µm,20.0s,MS6.0
CN2 Changchun 95.81 331 *e*P **P** **21 41 49.5 +0.2**
CN2 *e*AP pP 21 42 01.0 +5.2
CN2 *e*PP PP 21 45 46.1 +4.2
CN2 *e*S S 21 53 03.3 -2.4
CN2 AMB AMB
comp=Z,20nm,1.2s,mb5.4
CN2 AMB AMB
comp=Z,500nm,8.0s
CN2 LR LR
comp=N,1µm,18.0s,MS5.5
CN2 LR LR
comp=E,500nm,18.0s,MS5.5
CN2 LR LR
comp=Z,2µm,19.0s,MS5.5
TIY Taiyuan 95.98 319 P **P** **21 41 55.0 +4.7**
TIY SKS SKSac 21 52 26.8 +1.5
TIY S S 21 53 11.3 +3.8
TIY AMB AMB
comp=Z,422nm,10.2s
TIY LR LR
comp=N,1µm,15.7s,MS5.5
TIY LR LR
comp=E,254nm,13.7s,MS5.5
TIY LR LR
comp=Z,658nm,15.5s,MS5.2
BJT Baijiatuau 96.19 323 *e*P **P** **21 41 48.7 -2.5**
BJT *e* 21 45 49.6
BJT MLR MLR
comp=Z,3µm,21.0s
BJT Baijiatuau 96.19 323 *e*P **P** **21 41 48.7 -2.5**
BJT *e*PP PP 21 45 49.6 +4.6
BJT *e*S S 21 53 17.4 +8.2
BJT LR LR
comp=Z,3µm,21.0s,MS5.7
BJI Beijing 96.21 323 P **P** **21 41 49.8 -1.5**
BJI XP sP 21 42 02.6 +2.7
BJI PP PP 21 45 42.8 -2.3
BJI XS sS 21 53 20.8 +0.8
BJI AMB AMB
comp=Z,11nm,0.8s,mb5.3
BJI AMB AMB
comp=Z,646nm,10.3s
BJI LR LR
comp=N,2µm,19.1s,MS5.7
BJI LR LR
comp=E,1µm,20.3s,MS5.7
BJI LR LR
comp=Z,3µm,41.7s
BJI Beijing 96.21 323 P **P** **21 41 49.8 -1.5**
comp=Z,11nm,0.8s,mb5.3
BJI sP sP 21 42 02.6 +2.7
BJI PP PP 21 45 42.7 -2.4
BJI S SKSac 21 52 24.5 -1.9
BJI sS sS 21 53 20.7 +0.7
BJI SS SS 21 59 26.6 -16
BJI LR LR
comp=Z,3µm,41.7s,MS5.4
ABPO Ambohimpanom 96.48 235 *e*P **P** **21 41 52.2 -1.0**
comp=Z,27nm,1.4s,mb5.5
ABPO *e*PP PP 21 45 39.3 -7.4
ABPO *e*S S 21 53 18.6 +5.6
ABPO LR LR
comp=Z,3µm,20.0s,MS5.8
ADK Adak 97.22 10 *e*P **P** **21 41 54.1 -1.5**
ADK *e*PP PP 21 45 46.0 -6.7
ADK *e*S SKSac 21 52 17.7 -13
ADK LR LR
comp=Z,5µm,21.0s,MS6.0
SMY Shemya 97.27 4 *e*P **P** **21 41 53.9 -1.9**
SMY MLR MLR
comp=Z,6µm,20.0s,MS6.0
SUR Sutherland 97.47 208 *e*P **P** **21 41 59.2 +1.7**
SUR *e*PP PP 21 45 59.2 +5.5
SUR *e*S PS 21 55 02.5 +18
SUR LR LR
comp=Z,5µm,20.0s,MS6.0
PET Petropavlovsk 97.70 355 *e*P **P** **21 41 57.3 -0.4**
PET *e* 21 45 56.8
PET *e* 21 52 31.3
PET *e*PS PS 21 54 49.3 +1.8
PET *e*SS SS 22 00 11.8 +8.6
PET *e*SSS 22 03 53.9
PET pmax pmax
comp=Z,600nm,16.7s
PET pmax pmax
comp=Z,400nm,19.4s
PET pmax pmax
comp=Z,400nm,13.6s
PET pmax pmax
comp=Z,500nm,11.5s
PET Petropavlovsk 97.70 355 *e*P **P** **21 41 50.8 -6.9**
PET *e*PP PP 21 45 50.4 -6.0
PET *e*S SKSac 21 52 48.8 +15
PET LR LR
comp=Z,3µm,20.0s,MS5.8
PETK Petropavlovsk- 97.86 354 P **P** **21 41 59.0 +0.6**
comp=Z,1.9nm,0.9s,mb4.6,baz=130,slow=5.8,SNR=3.3
PETK PKKPbc PKKPbc 21 58 37.7 +4.0
comp=Z,5.9nm,0.6s,baz=350,slow=1.8,SNR=6.0
PETK LR LR 22 20 10.9
comp=Z,3µm,21.7s,MS5.7,baz=168,slow=32
PETK Petropavlovsk- 97.86 354 P **P** **21 41 59.0 +0.6**
PETK PKKPbc PKKPbc 21 58 37.7 +4.0
PETK LR LR 22 20 10.9
SHL Shillong 98.15 298 *e*P **P** **21 42 02.5 +2.1**
SHL *e*SKS 21 52 38.0
PAYG Puerto Ayora 98.17 99 PFAKE 21 42 10.0 +9.1
PAYG LR LR
comp=Z,4µm,19.0s,MS5.9
CAL Calcutta 98.28 293 *e*P **P** **21 42 08.6 +7.5**
CAL *e*S SKSac 21 52 36.6 -1.2
CAL AMP 22 13 46.6
comp=Z,552nm,18.6s
TRIS Tristan da Cun 98.55 180 P **P** **21 42 00.4 -1.9**
TRIS LR LR
comp=Z,4µm,19.0s,MS5.9
KLR Kul'dur 98.69 337 *e*P **P** **21 41 58.0 -4.2**
HHC Hu-ho-hao-te 98.90 320 *e*P **P** **21 42 05.9 +2.5**
HHC AP pP 21 42 13.0 +3.2
HHC XP sP 21 42 17.3 +5.2
HHC PP PP 21 46 12.3 +6.5
HHC SKS 21 52 41.1
HHC S S 21 53 32.8 +0.4
HHC XS sS 21 53 47.8 +4.8
HHC AMB AMB
comp=Z,9.0nm,1.1s,mb5.2
HHC AMB AMB
comp=Z,387nm,7.8s
HHC LR LR
comp=N,996nm,18.6s,MS5.4
HHC LR LR
comp=E,685nm,18.0s,MS5.4
HHC LR LR
comp=Z,1µm,18.8s,MS5.4
LZH Lanzhou 98.96 313 *e*P **P** **21 42 04.8 +1.0**
LZH AP pP 21 42 13.3 +3.1
LZH XP sP 21 42 17.3 +4.8
LZH PP PP 21 46 11.1 +4.8
LZH SKS 21 52 38.0
LZH S S 21 53 31.0 -2.1
LZH AMB AMB
comp=Z,29nm,1.5s,mb5.6
LZH AMB AMB
comp=Z,154nm,5.5s
LZH LR LR
comp=E,2µm,18.3s
LZH LR LR
comp=Z,2µm,19.6s,MS5.7
LZH Lanzhou 98.96 313 *e*P **P** **21 42 04.8 +1.0**
LZH *PP pP 21 42 13.3 +3.1
LZH *SP sP 21 42 17.3 +4.8
LZH 21 46 11.1
LZH 21 52 38.0
LZH S S 21 53 31.0 -2.1
LZH SS SS 22 00 20.0 -1.5
LZH pmax pmax
comp=Z,29nm,1.5s,mb5.6
LZH MLR MLR
comp=Z,2µm,19.6s,MS5.7
LZH Lanzhou 98.96 313 *e*P **P** **21 42 04.8 +1.0**
comp=Z,29nm,1.5s,mb5.6
LZH pP pP 21 42 13.3 +3.1
LZH sP sP 21 42 17.3 +4.8
LZH PP PP 21 46 11.1 +4.8
LZH SKS 21 52 38.0
LZH S S 21 53 31.0 -2.1
LZH sS sS 21 53 53.0 +9.2
LZH SS SS 22 00 20.0 -1.5
LZH LR LR
comp=Z,2µm,19.6s,MS5.7
NNA Nana 99.01 117 *e*P **P** **21 42 01.4 -3.2**
NNA *e*PP PP 21 46 02.4 -3.9
NNA *e*S S 21 54 24.0 +49
NNA LR LR
comp=Z,4µm,20.0s,MS5.9
BOSA Boshof 99.27 213 P **P** **21 42 04.6 -1.1**
comp=Z,2.7nm,0.7s,mb4.9,baz=209,slow=1.4,SNR=7.4
BOSA Boshof 99.27 213 P **P** **21 42 04.6 -1.1**
HYB Hyderabad 101.34 283 *i* P Pdif 21 42 15.0 +0.2
HYB *e*SKS 21 52 52.0
HYB *e* 21 55 40.0
HYB Hyderabad 101.34 283 *e*P Pdif 21 42 15.0 +0.2
HYB *e*SKS 21 52 52.0
LSA Lhasa 101.54 300 PFAKE 21 42 30.0 +14
LSA LR LR
comp=Z,2µm,21.0s,MS5.5
SNCC San Nicolas Is 101.99 55 PFAKE 21 42 30.0 +12
SNCC LR LR
comp=Z,7µm,20.0s,MS6.2
MSEY Mahe Island 102.11 251 PFAKE 21 42 30.0 +12
MSEY LR LR
comp=Z,5µm,20.0s,MS6.0
HIA Hailar 102.52 330 *e*P Pdif 21 42 20.5 +0.5
HIA *e* 21 46 39.9
HIA MLR MLR
comp=Z,1µm,20.0s
BAR Barrett 103.28 57 *e*Pdif Pdif 21 42 31.0 +7.7
BAR *e*PP PP 21 46 33.4 -5.6
BAR LR LR
comp=Z,5µm,20.0s,MS6.0
SAO San Andreas Ge 103.42 51 PFAKE 21 42 30.0 +6.0
SAO LR LR
comp=Z,4µm,20.0s,MS5.9
MWC Mount Wilson 103.54 55 PFAKE 21 42 40.0 +15
MWC LR LR
comp=Z,7µm,20.0s,MS6.2
PFO Pinyon Flat Ob 104.06 57 PFAKE 21 42 40.0 +13
PFO LR LR
comp=Z,6µm,20.0s,MS6.2
HOPS Hopland 104.14 49 *e*Pdif Pdif 21 42 23.0 -4.2
HOPS *e*PKiKP PKiKP 21 46 36.7 -7.0
HOPS LR LR
comp=Z,6µm,20.0s,MS6.1
ISA Isabella 104.32 54 P Pdif 21 42 27.0 -1.0
ISA *i* 21 46 53.7
ISA MLR MLR
comp=Z,5µm,20.0s,MS6.0
ISA Isabella 104.32 54 Pdif Pdif 21 42 27.0 -1.0
ISA *e*PKiKP PKiKP 21 46 53.7 +10
ISA LR LR
comp=Z,5µm,20.0s,MS6.0
GLA Glamis 104.64 58 Pdif Pdif 21 42 27.5 -1.9
GLA *e*PKiKP PKiKP 21 46 36.7 -8.1
GLA LR LR
comp=Z,5µm,20.0s,MS6.0
CMB Columbia Colle 104.92 51 *e*P Pdif 21 42 30.5 -0.2
CMB *i* 21 46 49.7
CMB MLR MLR
comp=Z,3µm,20.0s,MS5.8
CMB Columbia Colle 104.92 51 *e*Pdif Pdif 21 42 30.5 -0.1
CMB *e*PKiKP PKiKP 21 46 49.7 +4.6
CMB LR LR
comp=Z,3µm,20.0s,MS5.8
GSC Goldstone 105.03 55 PKiKP PKiKP 21 46 44.9 -0.6
GSC LR LR
comp=Z,7µm,20.0s,MS6.2
SIV San Ignacio 105.13 132 PKKPbc PKKPbc 21 58 10.1 -0.8
comp=Z,0.6nm,0.6s,baz=180,slow=5.1,SNR=4.6
DAC Darwin (Calif) 105.26 54 PFAKE 21 47 00.0 +14
DAC LR LR
comp=Z,8µm,20.0s,MS6.2
WDC Whiskeytown Da 105.57 48 PFAKE 21 47 00.0 +14
WDC LR LR
comp=Z,3µm,20.0s,MS5.8
YBH Yreka Blue Hor 106.31 47 PFAKE 21 47 00.0 +12
YBH LR LR
comp=Z,4µm,19.0s,MS6.0
NVAR Mina Array Bea 106.36 52 Pdiff Pdif 21 42 40.4 +3.4
comp=Z,0.2nm,0.4s,baz=225,slow=7.5,SNR=2.1
NVAR PKiKP PKiKP 21 46 48.7 +0.9
comp=Z,1.2nm,0.9s,baz=223,slow=4.9,SNR=4.4
NVAR Mina Array Bea 106.36 52 Pdif Pdif 21 42 40.4 +3.4
NVAR PKPdf PKiKP 21 46 48.7 +0.9
TPNV Topopah Spring 106.50 54 PFAKE 21 47 00.0 +12
TPNV LR LR
comp=Z,7µm,20.0s,MS6.2
TUC Tucson 106.62 61 PFAKE 21 47 00.0 +12
TUC LR LR
comp=Z,7µm,20.0s,MS6.2
SONM Songino Array 106.67 322 Pdiff Pdif 21 42 43.7 +5.2
comp=Z,1.0nm,0.7s,baz=161,slow=3.3,SNR=6.4
SONM PKKPbc PKKPbc 21 58 05.7 -1.6
comp=Z,1.7nm,0.9s,baz=298,slow=3.2,SNR=6.8
SONM PKKP PKKPbc 21 58 18.2 +11
comp=Z,3.1nm,0.9s,baz=323,slow=2.2,SNR=10
TPH Tonopah 106.72 53 PFAKE 21 47 00.0 +12
TPH LR LR
comp=Z,3µm,21.0s,MS5.9
HUMO Hull Mountain 106.81 46 *e*Pdif Pdif 21 42 39.4 +0.3
HUMO *e*PKiKP PKiKP 21 46 46.5 -2.0
HUMO LR LR
comp=Z,5µm,20.0s,MS6.0
OTAV Otavalo 107.03 107 PFAKE 21 47 00.0 +10
OTAV LR LR
comp=Z,3µm,19.0s,MS5.8
KDAK Kodiak Island 107.44 21 *e*Pdif Pdif 21 42 41.4 -0.5
KDAK *e*PKiKP PKiKP 21 46 48.8 -0.4
KDAK LR LR
comp=Z,2µm,22.0s,MS5.5
MOD Modoc 107.70 48 PFAKE 21 47 00.0 +10
MOD LR LR
comp=Z,5µm,20.0s,MS6.0
COR Corvallis 108.05 45 PFAKE 21 47 00.0 +9.3
COR LR LR
comp=Z,8µm,20.0s,MS6.3
BMN Battle Mountai 108.35 51 PFAKE 21 47 00.0 +8.6
BMN LR LR
comp=Z,4µm,19.0s,MS6.0
WUAZ Wupatki 108.41 58 PFAKE 21 47 00.0 +8.3
WUAZ LR LR
comp=Z,5µm,20.0s,MS6.1
CCUT Cedar City 108.59 55 PKiKP PKiKP 21 46 48.9 -3.0
WVOR Wild Horse Val 108.96 49 *e*PKiKP PKiKP 21 46 51.3 -1.2
WVOR LR LR
comp=Z,4µm,20.0s,MS6.0
TXAR Lajitas Array 109.20 68 PKiKP PKiKP 21 46 52.5 -0.8
comp=Z,1.0nm,0.9s,baz=183,slow=5.0,SNR=7.3
TXAR PKKPbc PKKPbc 21 58 00.8 +2.2
comp=Z,0.8nm,0.8s,baz=106,slow=4.0,SNR=5.8
JTS JuntasAbangare 109.60 95 *e*P Pdif 21 42 54.5 +3.0
JTS *e* 21 47 28.5
JTS MLR MLR
comp=Z,2µm,22.0s
ELK Elko 109.67 52 PFAKE 21 47 00.0 +6.1
ELK LR LR
comp=Z,5µm,19.0s,MS6.1
LSZ Lusaka 109.75 222 PFAKE 21 47 10.0 +15
LSZ LR LR
comp=Z,4µm,19.0s,MS6.0
NLWA Neilton Lookou 109.77 42 PFAKE 21 47 00.0 +6.2
NLWA LR LR
comp=Z,7µm,19.0s,MS6.2
MVU Marysvale 109.90 55 *e*PKiKP PKiKP 21 46 53.0 -1.4
MVU LR LR
comp=Z,6µm,20.0s,MS6.1
MSU Marysvale 109.93 55 *e*PKiKP PKiKP 21 46 53.7 -0.8
ZAK Zakamensk 109.94 322 *e*P Pdif 21 42 59.0 +6.0
ZAK pmax pmax
comp=Z,2.0nm,1.3s
GNW Green Mountain 110.39 43 PKiKP PKiKP 21 46 54.1 -0.9
DUG Dugway 110.67 54 *e*PKiKP PKiKP 21 46 54.8 -1.0
DUG MLR MLR
comp=Z,5µm,20.0s,MS6.1
TSUM Tsumeb 110.69 210 PFAKE 21 47 10.0 +13
TSUM LR LR
comp=Z,5µm,19.0s,MS6.1
YAK Yakutsk 110.71 342 *e*P Pdif 21 42 52.0 -4.4
YAK pmax pmax
comp=Z,54nm,9.2s
YAK pmax pmax
comp=N,22nm,12.3s
YAK MLR MLR
comp=E,2µm,22.0s,MS5.7
YAK MLR MLR
comp=Z,3µm,25.0s,MS5.8
YAK MLR MLR
comp=N,2µm,23.0s,MS5.7
YAK Yakutsk 110.71 342 PFAKE 21 47 10.0 +15
YAK LR LR
comp=Z,2µm,19.0s,MS5.8
TLY Talaya 110.73 323 *e*P Pdif 21 42 55.3 -1.2
i 21 46 55.5
TLY pmax pmax
comp=Z,11nm,1.0s
TLY Talaya 110.73 323 PFAKE 21 47 10.0 +14
TLY LR LR
comp=Z,957nm,19.0s,MS5.4
ANMO Albuquerque 111.06 61 PKKPbc PKKPbc 21 58 02.9 +10
comp=Z,2.6nm,0.9s,baz=45,slow=5.7,SNR=5.9
ANMO Albuquerque 111.06 61 PFAKE 21 47 10.0 +13
ANMO LR LR
comp=Z,10µm,20.0s,MS6.4
HAWA Hanford 111.21 45 PKiKP PKiKP 21 46 55.1 -1.5
HAWA LR LR
comp=Z,5µm,20.0s,MS6.1
MPU Maple Canyon 111.24 54 PFAKE 21 47 10.0 +13
MPU LR LR
comp=Z,7µm,21.0s,MS6.2
MVCO Mesa Verde 111.27 58 PFAKE 21 47 10.0 +13
MVCO LR LR
comp=Z,4µm,20.0s,MS6.0
BMO Blue Mountains 111.31 48 PKiKP PKiKP 21 46 54.2 -2.6
BMO LR LR
comp=Z,6µm,20.0s,MS6.2
BOD Bodaibo 111.48 332 *e*PKiKP PKiKP 21 46 52.2 -4.5
BOD pmax pmax
comp=Z,6.0nm,1.9s
PMR Palmer 111.62 21 *e*PKiKP PKiKP 21 46 56.0 -0.9
PMR MLR MLR
comp=Z,4µm,22.0s,MS6.0
EYAK Cordova Ski Ar 111.63 23 *e*Pdif Pdif 21 43 08.1 +7.6
EYAK *e*PP PP 21 47 38.4 -1.3
ETW Entiat 111.64 44 PKiKP PKiKP 21 46 55.3 -2.1
KVTX Kingsville 111.91 73 PFAKE 21 47 10.0 +11
KVTX LR LR
comp=Z,3µm,21.0s,MS5.9
HLID Hailey 112.00 50 *e*PKiKP PKiKP 21 46 52.3 -5.9
HLID PP PP 21 47 38.9 -3.9
HLID LR LR
comp=Z,3µm,19.0s,MS5.9
PPLA Purkeypile 112.02 19 *e*PKiKP PKiKP 21 46 55.6 -2.0
SIT Sitka 112.12 30 PFAKE 21 47 10.0 +12
SIT LR LR
comp=Z,6µm,20.0s,MS6.2
HWUT Hardware Ranch 112.31 53 *e*PKiKP PKiKP 21 46 57.7 -1.2
HWUT LR LR
comp=Z,6µm,20.0s,MS6.2
BILL Bilibino 112.48 359 PFAKE 21 47 10.0 +12
BILL LR LR
comp=Z,5µm,22.0s,MS6.0
JCT Junction City 112.50 69 PFAKE 21 47 10.0 +10
JCT LR LR
comp=Z,6µm,22.0s,MS6.1
WRAK Wrangell Islan 112.72 31 PFAKE 21 47 10.0 +11
WRAK LR LR
comp=Z,3µm,20.0s,MS5.8
CHUM Lake Minchumin 112.84 18 *e*PKiKP PKiKP 21 46 58.4 -0.8
TRF Thorofare Moun 112.93 19 *e*PKiKP PKiKP 21 46 58.1 -1.2
WMQ Urumqi 113.16 309 PKP PKiKP 21 46 59.8 -0.6
WMQ XPKP 21 47 14.3
WMQ PP PP 21 47 55.0 +4.0
WMQ PPP 21 50 18.0
WMQ PP PP
comp=Z,508nm,5.8s
WMQ LR LR
comp=N,948nm,22.1s,MS5.5
WMQ LR LR
comp=E,742nm,22.0s,MS5.5
WMQ LR LR
comp=Z,1µm,24.6s,MS5.4
AHID Auburn Hatcher 113.33 52 PKiKP PKiKP 21 47 00.2 -0.6
AHID *e*PP PP 21 47 50.6 -1.6
AHID LR LR
comp=Z,3µm,20.0s,MS5.9
BPAW Bear Paw Mtn. 113.33 18 *e*PKiKP PKiKP 21 46 58.7 -1.3
SDCO Great Sand Dun 113.44 60 PFAKE 21 47 10.0 +8.8
SDCO LR LR
comp=Z,3µm,19.0s,MS5.9
MCK McKinley 113.49 20 PKiKP PKiKP 21 46 59.5 -0.9
MCK McKinley 113.49 20 *e*PKiKP PKiKP 21 46 59.0 -1.4
RRI2 Red Ridge 113.58 52 *e*PKiKP PKiKP 21 47 01.4 +0.2
RRI2 *e*PP PP 21 47 53.6 -0.3
NEW Newport 113.68 45 PFAKE 21 47 10.0 +8.8
NEW LR LR
comp=Z,7µm,20.0s,MS6.2
REDW Red Top Meadow 113.85 52 *e*PKiKP PKiKP 21 47 00.8 -0.9
REDW *e*PP PP 21 47 57.1 +1.2
TPAW Teton Pass 113.87 52 *e*PKiKP PKiKP 21 47 01.5 -0.3
TPAW *e*PP PP 21 47 54.1 -1.9
TEIG Tepich 113.90 85 PFAKE 21 47 10.0 +7.4
TEIG LR LR
comp=Z,4µm,20.0s,MS6.0
AMTX Amarillo 114.05 64 PFAKE 21 47 10.0 +7.6
AMTX LR LR
comp=Z,6µm,21.0s,MS6.1
IMW Indian Meadow 114.14 52 *e*PKiKP PKiKP 21 47 01.6 -0.7
IMW *e*PP PP 21 47 57.5 -0.4
LOHW Long Hollow 114.15 52 *e*PKiKP PKiKP 21 47 00.2 -2.1
LOHW *e*PP PP 21 47 57.5 -0.5
MOOW Moose Ponds 114.15 52 *e*PKiKP PKiKP 21 47 02.1 -0.2
MOOW *e*PP PP 21 47 57.1 -0.9
DLMT Dillon 114.16 50 *e*PKiKP PKiKP 21 47 01.2 -1.1
DLMT *e*PP PP 21 47 57.2 -0.8
BW06 Boulder Array 114.20 53 *e*PKiKP PKiKP 21 47 01.4 -1.1
BW06 *e*PP PP 21 47 56.8 -1.7
BW06 LR LR

comp=Z,6µm,20.0s,MS6.2
PDAR Pinedale Array 114.20 53 PKP PKiKP 21 47 02.0 -0.4
comp=Z,1.6nm,0.8s,baz=194,slow=2.4,SNR=7.9
PDAR PKKPbc PKKPbc 21 57 49.0 +6.6
comp=Z,2.0nm,1.1s,baz=111,slow=3.7,SNR=6.4
HYT Haines Junctio 114.29 26 *e*PKiKP PKiKP 21 47 00.1 -1.9
MSO Missoula 114.38 48 PFAKE 21 47 10.0 +7.4
MSO LR LR
comp=Z,5µm,19.0s,MS6.2
YMR Madison River 114.61 51 PFAKE 21 47 10.0 +6.8
YMR LR LR
comp=Z,4µm,21.0s,MS6.0
ISCO Idaho Springs 114.66 58 PFAKE 21 47 10.0 +6.6
ISCO LR LR
comp=Z,6µm,20.0s,MS6.2
COLA College 114.71 19 *e*PKiKP PKiKP 21 47 00.4 -2.3
COLA MLR MLR
comp=Z,4µm,20.0s,MS6.1
CHMT Chamberlain Mo 114.80 48 *e*PKiKP PKiKP 21 47 03.0 -0.4
CHMT *e*PP PP 21 48 01.1 -1.5
HKT Hockley 114.83 72 *e*PKiKP PKiKP 21 47 02.7 -1.4
HKT MLR MLR
comp=Z,4µm,20.0s,MS6.0
LKWY Lake 114.86 51 PFAKE 21 47 10.0 +6.4
LKWY LR LR
comp=Z,4µm,20.0s,MS6.0
RWWY Rawlins 114.89 55 *e*PKiKP PKiKP 21 47 03.5 -0.2
RWWY PP PP 21 47 55.8 -7.5
DLBC Dease Lake 115.05 31 *e*PKiKP PKiKP 21 47 02.7 -0.8
HRY Holter Researc 115.43 49 *e*PKPdf PKPdf 21 47 04.7 0.0
RLMT Red Lodge 115.84 51 *e*PKPdf PKPdf 21 47 04.6 -0.9
RLMT LR LR
comp=Z,3µm,20.0s,MS5.9
COLD Coldfoot 116.18 17 *e*PKPdf PKPdf 21 47 04.3 -1.1
DAWY Dawson 116.23 23 *e*PKPdf PKPdf 21 47 05.0 -0.6
EGAK Eagle 116.31 22 *e*PKPdf PKPdf 21 47 04.7 -1.1
EGAK *e*PP PP 21 48 12.3 -0.4
KMBO Kilima Mbogo 116.54 238 PKhKP 21 47 03.9
comp=Z,1.6nm,0.8s,baz=64,slow=17,SNR=2.9
KMBO Kilima Mbogo 116.54 238 *e*PKPdf 21 47 03.7
KMBO PKP PKPdf 21 47 03.9 -4.1
KMBO LR LR
comp=Z,3µm,19.0s,MS5.9
NATX Nacogdoches 116.74 71 PFAKE 21 47 20.0 +12
NATX LR LR
comp=Z,5µm,20.0s,MS6.2
EGMT Eagleton 117.35 49 PFAKE 21 47 20.0 +12
EGMT LR LR
comp=Z,3µm,20.0s,MS5.8
KSH Kashi 117.37 299 *e*PKP PKPdf 21 47 08.1 -0.5
KSH *e*XPKP 21 47 22.4
KSH *e*PKS 21 50 43.8
KSH *e*SKS SKSdf 21 54 14.5 -4.9
KSH LR LR
comp=N,1µm,7.8s
KSH LR LR
comp=E,1µm,7.0s
KSH LR LR
comp=Z,828nm,9.9s
OGNE Ogallala 117.53 59 *e*PKPdf PKPdf 21 47 08.2 -0.7
OGNE LR LR
comp=Z,6µm,21.0s,MS6.2
CBKS Cedar Bluff 117.68 62 PFAKE 21 47 20.0 +11
CBKS LR LR
comp=Z,7µm,21.0s,MS6.2
MK31 Makanchi Array 117.99 309 *e*PKiKP PKPdf 21 47 07.9 -1.7
MK31 *e* 21 48 24.0
MK31 *e* 21 51 04.8
MK31 Makanchi Array 117.99 309 *e*PKPdf PKPdf 21 47 07.9 -1.7
MK31 *e*PP PP 21 48 24.0 -0.9
MK31 *e*SKP 21 51 04.8
MK31 *e*PKKP PKKPbc 21 57 31.9 +2.6
MKAR Makanchi Array 117.99 309 PKP PKPdf 21 47 07.7 -1.9
comp=Z,14nm,1.0s,baz=111,slow=2.7,SNR=40
MKAR PKKPbc PKKPbc 21 57 30.4 +1.2
comp=Z,0.2nm,0.3s,baz=302,slow=2.3,SNR=4.8
MKAR Makanchi Array 117.99 309 PKP PKPdf 21 47 07.7 -1.9
MKAR PKKPbc PKKPbc 21 57 30.4 +1.2
SDV Santo Domingo 118.62 107 PFAKE 21 47 20.0 +8.1
SDV LR LR
comp=Z,787nm,22.0s,MS5.3
EDM Edmonton 118.67 42 PKiKP PKPdf 21 47 09.8 -0.9
EDM Edmonton 118.67 42 *e*PKPdf PKPdf 21 47 09.2 -1.4
KBL Kabul 118.88 291 PKiKP PKPdf 21 47 11.4 -0.3
KBL Kabul 118.88 291 *e*PKPdf PKPdf 21 47 11.0 -0.8
MIAR Mount Ida 119.14 69 PFAKE 21 47 20.0 +7.8
MIAR LR LR
comp=Z,4µm,20.0s,MS6.1
TIXI Tiksi 119.30 347 *i* PKiKP PKPdf 21 47 09.0 -2.4
TIXI *e* 21 58 25.5
TIXI pmax pmax
comp=Z,21nm,1.2s
TIXI MLR MLR
comp=Z,3µm,22.0s,MS5.9
TIXI Tiksi 119.30 347 *e*PKPdf PKPdf 21 47 08.4 -2.9
TIXI ⇑*i*PKP PKPdf 21 47 09.2 -2.2
TKM2 Tokmak 2 119.59 302 P PKPdf 21 47 12.1 -0.7
SNR=13
TKM2 Tokmak 2 119.59 302 *e*PKPdf PKPdf 21 47 11.8 -1.1
TKM2 LR LR
comp=Z,942nm,19.0s,MS5.4
KSU1 Kansas State U 119.82 63 *e*PKPdf PKPdf 21 47 11.9 -1.5
KSU1 LR LR
comp=Z,4µm,20.0s,MS6.1
VBMS Vicksburg 119.82 73 PFAKE 21 47 20.0 +6.4
VBMS LR LR
comp=Z,2µm,19.0s,MS5.7
KBK Karagaybulak 119.83 302 P PKPdf 21 47 12.6 -0.7
SNR=14
UCH Uchtor 119.85 301 P PKPdf 21 47 13.6 +0.2
SNR=31
UCH Uchtor 119.85 301 *e*PKPdf PKPdf 21 47 12.8 -0.5
UCH LR LR
comp=Z,1µm,19.0s,MS5.6
AAK Ala-Archa 120.10 302 P PKPdf 21 47 13.5 -0.3
SNR=13
UALR University of 120.10 70 *e*PKPdf PKPdf 21 47 14.2 +0.2
FRU Bishkek 120.14 302 *e*PKiKP PKPdf 21 47 13.0 -0.9
FRU pmax pmax
comp=Z,53nm,1.6s
FRU MLR MLR
comp=Z,2µm,20.0s,MS5.7
CHMS Chumysh 120.15 302 P PKPdf 21 47 13.1 -0.8
SNR=13
AML Almayashu 120.30 301 P PKPdf 21 47 14.3 +0.1
SNR=32
AML Almayashu 120.30 301 *e*PKPdf PKPdf 21 47 13.9 -0.3
AML *e*PP PP 21 48 39.2 -1.8
AML LR LR
comp=Z,1µm,20.0s,MS5.6
USP Ospenovka 120.45 302 P PKPdf 21 47 14.2 -0.3
SNR=18
EKS2 Erkin-Say 120.55 301 P PKPdf 21 47 14.4 -0.2
SNR=31
EKS2 Erkin-Say 120.55 301 *e*PKPdf PKPdf 21 47 14.2 -0.5
EKS2 LR LR
comp=Z,2µm,20.0s,MS5.7
DGMT Dagmar 120.63 51 *e*PKPdf PKPdf 21 47 13.7 -0.9
DGMT LR LR
comp=Z,1µm,19.0s,MS5.6
ZAA0 Zalesovo Array 120.84 317 *e*PKPdf PKPdf 21 47 12.8 -2.0
ZALV Zalesovo Beam 120.84 317 PKP PKPdf 21 47 12.2 -2.6
comp=Z,4.6nm,0.9s,baz=132,slow=2.2,SNR=18
BRAL Brewton 121.48 76 PFAKE 21 47 30.0 +13
BRAL LR LR
comp=Z,3µm,20.0s,MS5.9
OXF Oxford 121.92 71 PFAKE 21 47 30.0 +12
OXF LR LR
comp=Z,3µm,20.0s,MS6.0
KURK Kurchatov 122.22 311 PKP PKPdf 21 47 16.1 -1.5
comp=Z,18nm,0.9s,baz=116,slow=1.8,SNR=92
KURK Kurchatov 122.22 311 ⇑*i*PKiKP PKPdf 21 47 15.1 -2.5
KURK Kurchatov 122.22 311 *e*PKPdf PKPdf 21 47 15.7 -1.9
KURK PKP PKPdf 21 47 16.1 -1.5
ECSD EROS,Sioux Fal 122.41 59 *e*PKPdf PKPdf 21 47 16.8 -1.5
ECSD LR LR
comp=Z,4µm,20.0s,MS6.0
CCM Cathedral Cave 122.70 67 *e*PKiKP PKPdf 21 47 16.7 -2.2
CCM MLR MLR
comp=Z,8µm,20.0s,MS6.3
LRAL Lakeview Retre 122.71 74 *e*PKPdf PKPdf 21 47 17.6 -1.6
LRAL LR LR
comp=Z,2µm,19.0s,MS5.8
FVM French Village 123.19 67 *e*PKiKP PKPdf 21 47 17.8 -2.1
YKA Yellowknife Ar 123.50 33 PKP PKPdf 21 47 17.6 -2.0
comp=Z,9.3nm,0.9s,baz=221,slow=2.0,SNR=11
YKA Yellowknife Ar 123.50 33 PKiKP PKPdf 21 47 17.6 -2.1
YKA pmax pmax
comp=Z,9.0nm,0.9s
SCIA State Center 123.53 62 *e*PKPdf PKPdf 21 47 19.6 -0.8
SCIA LR LR
comp=Z,8µm,20.0s,MS6.4
DWPF Disney 123.69 82 PFAKE 21 47 30.0 +8.8
DWPF LR LR
comp=Z,4µm,20.0s,MS6.0
WVT Waverly 123.89 71 PFAKE 21 47 30.0 +8.7
WVT LR LR
comp=Z,4µm,22.0s,MS6.0
SWET Sewanee 124.67 73 *e*PKPdf PKPdf 21 47 20.8 -2.0
FFC Flin Flon 125.11 45 *e*PKiKP PKPdf 21 47 21.1 -1.9
FFC MLR MLR
comp=Z,3µm,19.0s,MS6.0
AGMN Agassiz Refuge 125.24 54 *e*PKPdf PKPdf 21 47 21.6 -1.9
AGMN LR LR
comp=Z,6µm,20.0s,MS6.2
HDIL Hopedale 125.32 65 *e*PKPdf PKPdf 21 47 22.0 -1.9
HDIL LR LR
comp=Z,8µm,20.0s,MS6.4
GOGA Godfrey 125.35 76 *e*PKiKP PKPdf 21 47 22.1 -2.1
GOGA MLR MLR
comp=Z,2µm,22.0s,MS5.7
CPCT Cooper Cave 125.76 73 *e*PKPdf PKPdf 21 47 22.9 -2.0
JFWS Jewell Farm 125.93 62 *e*PKiKP PKPdf 21 47 23.1 -1.9
JFWS MLR MLR
comp=Z,7µm,20.0s,MS6.3
WCI Wyandotte Cave 126.06 69 *e*PKiKP PKPdf 21 47 23.8 -1.6
WCI MLR MLR
comp=Z,4µm,20.0s,MS6.1
ULM Lac du Bonnet 126.19 52 PKP PKPdf 21 47 23.6 -1.6
comp=Z,25nm,1.1s,baz=226,slow=2.5,SNR=14
ULM Lac du Bonnet 126.19 52 *e*PKPdf PKPdf 21 47 23.0 -2.2
ULM PKP PKPdf 21 47 23.6 -1.6
TKL Tuckaleechee C 126.38 73 PKP PKPdf 21 47 24.6 -1.4
comp=Z,33nm,1.1s,baz=185,slow=4.4,SNR=16
TKL Tuckaleechee C 126.38 73 *e*PKiKP PKPdf 21 47 25.3 -0.8
BLO Bloomington 126.41 68 PKiKP PKPdf 21 47 24.8 -1.2
BLO Bloomington 126.41 68 *e*PKPdf PKPdf 21 47 24.4 -1.6
TZTN Tazewell 127.01 73 *e*PKPdf PKPdf 21 47 26.1 -1.2
TZTN *e*PP PP 21 49 24.4 -1.9
TZTN LR LR
comp=Z,4µm,20.0s,MS6.1
JSC Jenkinsville 127.36 76 PKiKP PKPdf 21 47 27.9 -0.1
JSC Jenkinsville 127.36 76 *e*PKPdf PKPdf 21 47 27.2 -0.8
NHSC New Hope 127.46 78 PFAKE 21 47 40.0 +12
NHSC LR LR
comp=Z,3µm,19.0s,MS5.9
ASCN Ascension 127.53 178 PFAKE 21 47 40.0 +11
ASCN LR LR
comp=Z,2µm,20.0s,MS5.8
EYMN Ely 127.63 56 *e*PKPdf PKPdf 21 47 26.7 -1.3
EYMN LR LR
comp=Z,6µm,20.0s,MS6.2
LHS Liberty Hill 127.78 76 *e*P Pdif 21 44 12.8 +0.5
BVAR Borovoye Array 127.79 311 PKP PKPdf 21 47 27.5 -0.7
comp=Z,12nm,0.9s,baz=129,slow=4.0,SNR=46
BRVK Borovoye 127.86 311 *e*PKPdf PKPdf 21 47 26.0 -2.3
BRVK ⇑*e*PKP PKPdf 21 47 26.9 -1.4
BRVK LR LR
comp=Z,3µm,19.0s,MS6.0
SJG San Juan 128.18 103 PFAKE 21 47 40.0 +10
SJG LR LR
comp=Z,3µm,20.0s,MS6.0
COWI Conover 128.19 59 *e*PKPdf PKPdf 21 47 28.1 -1.1
COWI LR LR
comp=Z,6µm,20.0s,MS6.3
BBGH Gun Hill 129.12 113 PFAKE 21 47 40.0 +8.1
BBGH LR LR
comp=Z,4µm,21.0s,MS6.1
FDF Fort de France 129.23 110 *e*PKiKP PKPdf 21 47 31.4 -0.7
ACSO Alum Creek Sta 129.30 69 *e*PKPdf PKPdf 21 47 30.1 -1.4
ACSO LR LR
comp=Z,4µm,21.0s,MS6.1
BLA Blacksburg 129.50 74 *e*PKiKP PKPdf 21 47 30.8 -1.2
BLA *e* 21 49 43.4
BLA MLR MLR
comp=Z,4µm,21.0s,MS6.0
BLA Blacksburg 129.50 74 *e*PKPdf PKPdf 21 47 30.8 -1.2
BLA *e*PP PP 21 49 43.4 +0.9
BLA *e*SKP 21 51 00.8
BLA LR LR
comp=Z,4µm,21.0s,MS6.0
CNNC Cliffs of the 130.21 77 PFAKE 21 47 40.0 +6.6
CNNC LR LR
comp=Z,2µm,19.0s,MS5.8
GLMI Grayling 130.42 63 PFAKE 21 47 40.0 +6.5
GLMI LR LR
comp=Z,3µm,22.0s,MS6.0
RDF Al-Radifah 130.53 273 *e*P PKPdf 21 47 33.3 -0.9
baz=273
RDF AMb AMB 21 47 39.2
comp=Z,77nm,1.0s,baz=273
FCC Fort Churchill 130.77 43 *e*PKiKP PKPdf 21 47 32.4 -1.3
NAY Al-Naaiem 130.93 273 *e*P PKPdf 21 47 33.5 -1.4
baz=273
NAY AMb AMB 21 47 38.2
comp=Z,17nm,1.9s,baz=273
MCWV Mont Chateau 131.12 71 PFAKE 21 47 50.0 +15
MCWV LR LR
comp=Z,6µm,20.0s,MS6.3
MIB Mutribah 131.18 273 *e*P PKPdf 21 47 34.1 -1.3
baz=273
MIB AMb AMB 21 47 36.9
comp=Z,24nm,1.0s,baz=273
CBN Corbin 132.08 74 PFAKE 21 47 50.0 +13
CBN LR LR
comp=Z,4µm,21.0s,MS6.1
ERPA Erie 132.18 68 PFAKE 21 47 50.0 +13
ERPA LR LR
comp=Z,8µm,21.0s,MS6.4
SSPA Standing Stone 132.90 71 *e*PKPdf PKPdf 21 47 36.6 -1.7
SSPA LR LR
comp=Z,3µm,19.0s,MS6.0
AKTK Aktyubinsk 133.77 303 PKP 21 47 29.1
AKTK PKP PKPdf 21 47 39.2 -0.4
AKTK SKPbc SKPbc 21 51 06.2 -1.1
AKTO Aktyubinsk 133.77 303 PKhKP 21 47 29.1
comp=Z,0.8nm,0.6s,baz=150,slow=8.1,SNR=3.2
AKTO PKP PKPdf 21 47 39.2 -0.4
comp=Z,10nm,0.9s,baz=114,slow=2.8,SNR=8.5
AKTO SKPbc SKPbc 21 51 06.2 -1.1
comp=Z,4.6nm,0.8s,baz=100,slow=1.7,SNR=5.3
AKTO Aktyubinsk 133.77 303 PKHKP 21 47 29.1
AKTO 21 47 39.2
SVE Sverdlovsk 134.43 313 ⇑*i*PKiKP PKPdf 21 47 40.2 -0.4
SVE *e* 21 50 23.8
SVE *e*SS SS 22 08 34.5 +31
SVE pmax pmax
comp=Z,28nm,1.1s
BINY Binghamton 134.88 70 *e*PKPdf PKPdf 21 47 41.4 -0.6
BINY LR LR
comp=Z,6µm,21.0s,MS6.3
ARU Arti 135.41 312 *i* PKiKP PKPdf 21 47 41.2 -1.3
ARU 21 54 49.1
ARU Arti 135.41 312 *e*PKP PKPdf 21 47 36.3 -6.2
ARU LR LR
comp=Z,2µm,20.0s,MS5.7
NCB Newcomb 136.79 68 *e*PKPdf PKPdf 21 47 44.3 -1.2
NCB LR LR
comp=Z,7µm,20.0s,MS6.4
LONY Lake Ozonia 136.81 67 *e*PKPdf PKPdf 21 47 43.8 -1.7
LONY LR LR
comp=Z,7µm,20.0s,MS6.4
FRNY Flat Rock 137.55 67 *e*PKPdf PKPdf 21 47 44.5 -2.4
MAK Makhachkala 137.58 290 *de*PKHKP 21 47 37.1
MAK *i* 21 47 45.4
MAK *i* PPP 21 53 39.4
MAK pmax pmax
comp=Z,387nm,1.5s
MAK MLR MLR
comp=Z,2µm,18.0s,MS5.8
BRYW Bryant College 137.76 72 PKPdf PKPdf 21 47 46.0 -1.3
HNH Hanover 137.98 69 PKPdf PKPdf 21 47 46.2 -1.5
HRV Adam Dziewonsk 137.99 71 PFAKE 21 48 00.0 +12
HRV LR LR
comp=Z,6µm,20.0s,MS6.3
BBSR BB Station 138.00 89 PFAKE 21 48 00.0 +12
BBSR LR LR
comp=Z,3µm,19.0s,MS6.0
WES Weston 138.10 72 PFAKE 21 48 00.0 +12
WES LR LR
comp=Z,4µm,20.0s,MS6.1
DGRG David-gareji 138.41 287 P PKPdf 21 47 44.2 -4.3
LBNH Lisbon 138.42 69 PKiKP PKPdf 21 47 44.5 -4.0
LBNH MLR MLR
comp=Z,8µm,21.0s,MS6.4
MTA Mtatsminda 138.90 287 P PKPdf 21 47 46.2 -3.3
TBLG Delisi 138.96 287 P PKPdf 21 47 46.3 -3.2
GOR Gori 139.49 287 P PKPdf 21 47 48.6 -1.9
ONI Oni 140.17 287 P PKPdf 21 47 48.3 -3.4
PKME Peaks-Kenny Pk 140.54 68 PFAKE 21 48 00.0 +7.7
PKME LR LR
comp=Z,7µm,20.0s,MS6.4
LIC Lamto 141.07 192 *e*PKiKP PKPdf 21 47 44.6 -10
comp=Z,27nm,0.7s
LIC Lamto 141.07 192 *e*P PKPdf 21 47 45.3 -9.0
comp=Z,80nm,1.1s
KIC Kosan Boka 141.16 192 *e*P PKPdf 21 47 47.0 -7.5
comp=Z,112nm,0.9s
KIV Kislovodsk 141.21 289 *e*PKiKP PKPdf 21 47 49.7 -3.8
KIV *i* 21 47 53.0
KIV *e* 21 50 51.8
KIV *e*SS SS 22 09 20.5 -3.8
KIV *e*SSS 22 14 32.7
KIV pmax pmax
comp=Z,55nm,1.2s
KIV Kislovodsk 141.21 289 ⇓P PKPdf 21 47 49.4 -4.1
KIV *e*PKPdf PKPdf 21 47 50.1 -3.5
KIV LR LR
comp=Z,1µm,19.0s,MS5.6
GOF Gofitskoye 141.36 291 *e*PKHKP 21 47 37.3
TIC Toumodi 141.48 192 *e*P PKPdf 21 47 44.9 -10
comp=Z,86nm,0.8s
DBIC Dimbokro 141.48 192 PKhKP 21 47 47.4
comp=Z,6.1nm,0.4s,baz=134,slow=5.0,SNR=13
DBIC Dimbokro 141.48 192 PKP 21 47 47.4
DBIC LR LR
comp=Z,2µm,20.0s,MS6.0
ANDN Andirin 143.03 276 ⇑*i*P PKPdf 21 47 50.4 -6.6
SOC Sochi 143.09 287 *e*PKHKP 21 47 37.6
PINB Pinarbasi 143.47 278 ⇑*i*P PKPdf 21 47 53.9 -3.9
VRHR Novokhopersk 143.91 300 *e*PKiKP PKPdf 21 47 55.3 -2.8
VRHR pmax pmax
comp=Z,90nm,1.0s
VRHR pmax pmax
comp=N,10.0nm,0.8s
VRHR pmax pmax
comp=E,60nm,1.4s
CSS Prodhromos 143.93 270 *e*PKPdf PKPdf 21 47 55.6 -3.0
KBS Kingsbay 144.48 352 ⇑*i*PKPdf PKPdf 21 47 56.6 -1.8
KBS AMS AMS 22 44 54.6
comp=Z,1µm,23.1s,MS5.7
KBS Kingsbay 144.48 352 ⇑*i*PKP PKPdf 21 47 56.0 -2.4
KBS *e*PKPdf PKPdf 21 47 56.8 -1.6
AVNT Avonos 144.61 277 ⇑*i*P PKPdf 21 47 56.0 -3.7
SPITS Spitsbergen Ar 144.62 350 PKP PKPdf 21 47 56.9 -1.7
comp=Z,354nm,0.8s,baz=356,slow=6.7,SNR=118
SPITS Spitsbergen Ar 144.62 350 PKP PKPdf 21 47 56.9 -1.7
SPB4 Spitsbergen Ar 144.62 350 *e*PKPdf PKPdf 21 47 56.7 -1.9
ANN Anapa 145.04 288 *c*PKiKP PKPdf 21 47 58.6 -1.7
ANN pmax pmax
comp=Z,276nm,1.2s
ANN MLR MLR
comp=Z,919nm,17.0s,MS5.6
CDAG Cicekdag 145.30 278 ⇑*i*P PKPbc 21 48 01.1 +0.3
CTKT Corum 145.41 280 ⇑*i*P PKPdf 21 48 01.3 +0.2
VSR Storozhevoye 145.46 300 *e*PKiKP PKPdf 21 48 00.0 -0.8
VSR pmax pmax
comp=Z,100nm,1.2s
VSR pmax pmax
comp=N,30nm,1.1s
VSR pmax pmax
comp=E,110nm,1.0s
KLMR Klimovskoe 145.76 317 *e*PKiKP PKPdf 21 47 59.3 -1.7
KLMR pmax pmax
comp=Z,1.0nm,1.7s
BR131 Keskin Array S 145.86 278 *e*PKPdf PKPdf 21 48 01.4 -0.5
BR131 LR LR
comp=Z,1µm,19.0s,MS5.7
TOA0 Torodi Ar. Sit 146.25 205 *e*PKPdf PKPdf 21 48 02.5 -0.8
TORD Torodi Ar. Bea 146.25 205 PKP PKPdf 21 48 01.8 -1.5
comp=Z,38nm,0.6s,baz=133,slow=2.1,SNR=257
ELDT Eldivan 146.31 279 *e*P PKPdf 21 48 03.0 +0.4
ILGA Ilgaz 146.32 280 *e*P PKPdf 21 48 01.3 -1.3
LVZ Lovozero 146.41 330 ⇑*i*PKP2 PKPdf 21 48 02.2 +0.3
LVZ MLR MLR
comp=Z,2µm,20.0s,MS5.8
ANTO Ankara 146.51 278 *e*PKPdf PKPdf 21 48 02.8 -0.2
BALT Daday 146.73 281 *e*P PKPdf 21 48 03.9 +0.6
MOS Moscow 146.85 308 *e*PKiKP PKPdf 21 48 00.2 -2.8
MOS pmax pmax
comp=Z,261nm,1.5s
MOS pmax pmax
comp=Z,600nm,1.9s
APA Apatity 146.97 330 ⇑*i*PKP2 PKPdf 21 48 04.0 +1.2
APA *e*SS SS 22 10 32.0 +2.9
APA pmax pmax
comp=Z,3µm,10.0s
APA pmax pmax
comp=Z,130nm,1.2s
BJO Bjornoya 147.03 345 *e*PKPdf PKPdf 21 48 04.2 +1.4
AKAS Kas 147.20 270 *e*P PKPdf 21 47 58.0 -6.2
SIM Simferopol' 147.33 287 PKP2 PKPab 21 48 07.0 -1.5
SIM 21 51 38.4
SIM pmax pmax
comp=Z,67nm,1.6s
SIM pmax pmax
comp=Z,1µm,11.0s
SIM MLR MLR
comp=Z,2µm,19.0s,MS5.9
OBN Obninsk 147.43 306 ⇑*e*PKiKP PKPdf 21 48 03.0 -1.0
OBN *i* 21 48 06.3
OBN *e* 21 51 35.6
OBN *e*PPP 21 54 53.7
OBN pmax pmax
comp=Z,59nm,1.7s
OBN pmax pmax
comp=Z,535nm,1.8s
OBN MLR MLR
comp=Z,1µm,19.0s,MS5.7
OBN Obninsk 147.43 306 ⇑*i*PKP PKPdf 21 48 03.1 -0.9
OBN *e*PKPdf PKPdf 21 48 03.4 -0.6
OBN LR LR
comp=Z,1µm,19.0s,MS5.7
GOLH Golhisar 147.69 271 *e*P PKPdf 21 48 04.0 -1.0
ESKT Eskisehir 147.75 276 *e*P PKPdf 21 48 03.6 -1.4
DAG Danmarks Havn 147.78 3 ⇑*i*P PKPdf 21 48 02.1 -1.9
comp=Z,65nm,0.8s
KEV Kevo 148.13 335 *e*PKiKP PKPdf 21 48 03.9 -0.8
KEV *e* 21 48 07.0
KEV MLR MLR
comp=Z,2µm,21.0s,MS5.9
TURN Turunc 148.21 270 *e*P PKPdf 21 48 07.7 +1.8
HENT Hendek 148.22 278 *e*P PKPdf 21 48 07.6 +1.9
ARG Arkhangelos 148.25 269 *e*P PKPbc 21 48 09.5 +0.2
ARG Arkhangelos 148.25 269 *e*P PKPdf 21 48 09.5 +3.5
DNZL Cakiroluk 148.26 272 *e*P PKPbc 21 48 08.4 -0.9
GDZ Gediz 148.55 275 *e*P PKPdf 21 48 04.3 -2.1
KARP Karpathos 148.61 267 *e*P PKPbc 21 48 08.6 -1.7
KARP Karpathos 148.61 267 *e*P PKPdf 21 48 08.6 +2.0
ARCES ARCESS Array B 148.70 335 PKPbc PKPbc 21 48 08.3 -1.2
comp=Z,66nm,0.9s,baz=77,slow=2.6,SNR=59
ARE0 ARCESS Array S 148.70 335 *e*PKPbc PKPbc 21 48 08.8 -0.6
DEMI Demirci 149.07 274 *e*P PKPdf 21 48 06.6 -0.6
AYDN Tasoluk 149.08 271 ⇑*i*P PKPbc 21 48 11.6 +0.1
BDRM Kayabasi 149.12 270 ⇓*i*P PKPbc 21 48 09.6 -2.0
DURS Dursunbey 149.47 275 *e*P PKPbc 21 48 11.7 -0.7
SUMG Summit 149.55 15 *e*PKPdf PKPdf 21 48 06.4 -0.6
SUMG *e*PKPbc PKPbc 21 48 11.8 +0.3
NPS Neapolis 149.57 265 *e*P PKPbc 21 48 13.0 +0.3
AKHS Akhisar 149.65 273 ⇓*i*P PKPdf 21 48 05.9 -2.2
BBTS Babate 149.80 172 PKPbc PKPbc 21 48 13.9 +0.1
comp=Z,124nm,1.1s,baz=223,slow=1.5,SNR=5.1
KDAG Bornova 149.84 272 *e*P PKPbc 21 48 12.1 -1.2
SMG Samos 149.84 270 *e*P PKPbc 21 48 12.1 -1.2
SFJD Kangerlussuaq 149.93 29 *i* P PKPbc 21 48 11.0 -1.6
comp=Z,59nm,0.9s
SFJD *i* 21 50 36.0
SFJD *i* 21 58 46.2
SFJD
comp=Z,4µm,21.0s
SFJD Kangerlussuaq 149.93 29 *e*PKPdf PKPdf 21 48 06.4 -1.3
SFJD *e*PKPbc PKPbc 21 48 11.2 -1.4
SFJD LR LR
comp=Z,4µm,20.0s,MS6.2

	SFJ	**Sondre**	**149.94**	**29**	*i* P	PKPbc	21 48 11.0	-1.6
	SFJ				*i*		21 50 36.0	
	SFJ				*i*		21 58 46.2	
	SFJ				LR	LR		
	comp=Z,4μm,21.0s,MS6.2							
	ELBA	**Catalca**	**150.08 278**		*e*P	PKPdf	21 48 08.8	0.0
	BALY	**Balya**	**150.13 275**	⇓	*i*P	PKPbc	21 48 11.9	-2.1
	TRO	**Tromso**	**150.49 338**		*e*PKPdf	PKPbc	21 48 12.2	-1.7
	TRO				AMS	AMS	22 53 36.5	
	comp=Z,2μm,23.2s,MS5.9							
	APE	**Apeiranthos**	**150.49 268**		*e*P	PKPbc	21 48 13.8	-1.1
	APE	**Apeiranthos**	**150.49 268**	⇓	P	PKPbc	21 48 13.8	-1.1
	VAM	**Vamos**	**150.65 264**		*e*P	PKPbc	21 48 19.3	+4.0
	PRK	**Paraskevi**	**150.89 273**		*e*P	PKPbc	21 48 15.5	-0.3
	TLCR		**151.02 286**	⇑	PKIKP	PKPbc	21 48 15.6	-0.3
	TIRR	**Tirgusor**	**151.11 284**		*e*PKIKP	PKPdf	21 48 08.1	-2.1
	TIRR				*e*		21 48 15.4	
	KIS	**Kishinev**	**151.41 289**		*e*PKIKP	PKPbc	21 48 16.0	-0.7
	KIS	**Kishinev**	**151.41 289**		*e*PP	PP	21 51 57.0	+0.3
	KIS				LRM		23 02 40.0	
	comp=Z,2μm,20.0s							
	HARR	**Harsova**	**151.50 284**	⇑	PKIKP	PKPbc	21 48 16.7	-0.3
	HARR	**Harsova**	**151.50 284**		P	PKPbc	21 48 17.4	+0.4
	AKASG	**Malin Array Be**	**151.63 297**		PKP	PKPdf	21 48 08.2	-2.6
	comp=Z,1.1nm,0.5s,baz=71,slow=1.5,SNR=12							
	AKASG				PKPbc	PKPbc	21 48 15.8	-1.3
	comp=Z,62nm,0.8s,baz=81,slow=2.4,SNR=113							
	AKASG	**Malin Array Be**	**151.63 297**		PKP	PKPdf	21 48 08.2	-2.6
	AKASG				PKPbc	PKPbc	21 48 15.8	-1.3
	AKBB	**Malin Array Si**	**151.63 297**		*e*PKIKP	PKPbc	21 48 15.3	-1.8
	KYTH	**Kithira**	**151.90 265**		*e*P	PKPbc	21 48 16.5	-1.7
	KVR	**Kavouri**	**152.08 268**		*e*P	PKPdf	21 48 15.0	+3.1
	PTL	**Penteli**	**152.11 269**		*e*P	PKPbc	21 48 17.5	-1.1
	RDO	**Rodhopi**	**152.12 276**		*e*P	PKPbc	21 48 17.4	-1.1
	VLI	**Veliai**	**152.17 266**		*e*P	PKPbc	21 48 21.0	+2.2
	ATH	**Athens Observa**	**152.18 269**		*e*P	PKPbc	21 48 18.5	-0.3
	NAIG	**Nisos Aigina**	**152.25 268**		*e*P	PKPbc	21 48 19.0	+0.1
	IAS	**Iasi**	**152.29 289**		PKIKP	PKPbc	21 48 18.0	-0.7
	ODB	**Odobesti**	**152.36 286**	⇑	P	PKPbc	21 48 20.7	+1.8
	MNK	**Minsk**	**152.49 305**		*e*PKIKP	PKPdf	21 48 08.0	-4.0
	MNK				*e*		21 52 09.0	
	MNK				*e*SS	SS	22 11 32.0	+0.4
	MNK				*e*SSS		22 17 20.0	
	MNK				MLR	MLR		
	comp=Z,5μm,20.0s,MS6.3							
	VRI	**Vrincioaia**	**152.60 286**		PKIKP	PKPbc	21 48 18.8	-0.6
	PLOR	**Plostina**	**152.65 286**		PKIKP	PKPbc	21 48 18.7	-0.9
	ZIMR		**153.02 281**	⇓	PKIKP	PKPbc	21 48 20.3	-0.1
	ZIMR		**153.02 281**		P	PKPbc	21 48 20.5	0.0
	MLR	**Muntele Rosu**	**153.06 285**		PKP	PKPdf	21 48 11.0	-2.1
	comp=Z,2.1nm,0.8s,baz=267,slow=12,SNR=5.8							
	MLR				PKPbc	PKPbc	21 48 19.8	-0.7
	comp=Z,23nm,0.9s,baz=244,slow=1.9,SNR=29							
	NEO	**Neokhori**	**153.09 271**		*e*P	PKPbc	21 48 18.3	-2.4
	ITM	**Ithomi**	**153.10 266**		*e*P	PKPab	21 48 35.0	+2.5
	PLG	**Polygyros**	**153.33 273**		*e*P	PKPbc	21 48 20.0	-1.2
	NVR	**Nevrokopi**	**153.38 276**		*e*P	PKPbc	21 48 20.8	-0.5
	TAM	**Tamanrasset**	**153.59 220**		*e*PKIKP	PKPdf	21 48 13.9	-0.7
	TAM				*e*		21 48 22.6	
	VOIR		**153.66 285**		PKIKP	PKPbc	21 48 20.6	-1.2
	RLS	**Riolos of Patr**	**153.82 267**		*e*P	PKPab	21 48 36.3	+0.8
	BURAR	**Bucovina Array**	**153.93 290**	⇑	PKIKP	PKPdf	21 48 14.1	-0.2
	EVR	**Evrytania**	**153.94 269**		*e*P	PKPbc	21 48 23.7	+1.1
	THL	**Klokotos Trika**	**154.05 271**		*e*P	PKPbc	21 48 20.9	-1.9
	VTS	**Vitosha**	**154.23 278**	⇓	PKIKP	PKPbc	21 48 22.8	-0.3
	VAY	**Valandovo**	**154.29 275**		*i* PKP	PKPbc	21 48 21.1	-2.2
	VLS	**Valsamata**	**154.50 267**		*e*P	PKPab	21 48 39.0	+0.6
	LVV	**L'vov**	**154.91 295**		*i* PKIKP	PKPbc	21 48 23.4	-0.9
	LVV				*i*		21 52 19.4	
	LVV				*e*SS	SS	22 11 58.4	+0.1
	LVV				MLR	MLR		
	comp=N,500nm,22.0s,MS5.5							
	LVV				MLR	MLR		
	comp=Z,2μm,22.0s,MS6.0							
	LVV				MLR	MLR		
	comp=E,600nm,21.0s,MS5.5							
	JAN	**Janina**	**154.91 270**		*e*P	PKPab	21 48 41.0	+0.9
	KRUS	**Krusevo**	**155.24 274**		*i* PKP	PKPdf	21 48 24.3	+7.9
	SUW	**Suwalki**	**155.26 305**		*e*PKP	PKPdf	21 48 24.3	+8.4
	SUW				*e*		21 48 41.5	
	SUW	**Suwalki**	**155.26 305**		PKIKP	PKPdf	21 48 24.6	+8.7
	SUW	**Suwalki**	**155.26 305**		*e*PKP	PKPdf	21 48 24.3	+8.4
	SUW				*e*		21 48 41.5	
	SKO	**Skopje**	**155.30 276**		*i* PKP	PKPdf	21 48 14.7	-1.6
	DRGR		**155.50 287**	⇑	PKIKP	PKPdf	21 48 14.5	-2.0
	KEK	**Kerkira**	**155.68 269**		*e*P	PKPab	21 48 43.6	+0.2
	KWP	**Kalwaria**	**155.76 294**		*e*PKIKP	PKPdf	21 48 15.1	-1.6
	KWP				MLR	MLR		
	comp=Z,3μm,21.0s,MS6.1							
	UZH	**Uzhgorod**	**155.98 292**	⇓	*i*PKIKP	PKPdf	21 48 16.0	-1.1
	UZH				*i*		21 52 25.0	
	UZH				*e*		22 05 26.0	
	UZH				MLR	MLR		
	comp=N,760nm,18.0s,MS5.9							
	UZH				MLR	MLR		
	comp=E,2μm,18.0s,MS5.9							
	UZH				MLR	MLR		
	comp=Z,800nm,18.0s,MS5.6							
	KOLS	**Kolonicke sedl**	**156.01 292**		*e*PKIKP	PKPdf	21 48 26.9	+10
	KOLS	**Kolonicke sedl**	**156.01 292**		*e*	PKPdf	21 48 26.9	+10
	BZS	**Buzias**	**156.07 284**	⇑	PKIKP	PKPdf	21 48 15.0	-2.3
	BZS	**Buzias**	**156.07 284**		P	PKPdf	21 48 16.7	-0.6
	TIR	**Tirane**	**156.22 273**		*e*PKP2	PKPab	21 48 44.5	-1.2
	TIR				MLR	MLR		
	comp=Z,3μm,20.0s,MS6.0							
	CRVS	**Cervenica-Dubn**	**156.54 292**		*e*PKP	PKPdf	21 48 15.1	-2.7
	CRVS				*e*		21 48 29.6	
	CRVS				*e*PP	PP	21 52 24.3	-1.2
	STHS	**Stebnicka Huta**	**156.70 294**		*e*PKP	PKPdf	21 48 17.1	-0.9
	STHS				*e*		21 48 47.8	
	NIE	**Niedzica**	**157.31 294**		*e*PKPdf	PKPdf	21 48 18.1	-0.7
	PSZ	**Piszkesteto**	**157.53 290**	⇓	*e*PKP	PKPdf	21 48 14.0	-5.1
	PSZ	**Piszkesteto**	**157.53 290**	⇑	P	PKPdf	21 48 14.0	-5.1
	PSZ				LR	LR		
	comp=Z,3μm,19.0s,MS6.1							
	OJC	**Ojcow**	**157.64 296**		*e*PKPdf	PKPdf	21 48 16.8	-2.3
	OJC				*e*PKPab	PKPab	21 48 51.1	-0.4
	OJC				*e*PP	PP	21 52 31.3	-0.2
	WDD	**Wield Dalam**	**157.67 256**		PFAKE		21 48 30.0	+10
	WDD				LR	LR		
	comp=Z,3μm,20.0s,MS6.1							
	CEL	**Celeste**	**157.86 263**		PFAKE		21 48 30.0	+10
	CEL				LR	LR		
	comp=Z,50μm,20.0s,MS7.3							
	HFS	**Hagfors**	**158.06 324**		PKPab	PKPab	21 48 52.1	-0.9
	comp=Z,6.0nm,0.6s,baz=74,slow=5.1,SNR=12							
	HFS	**Hagfors**	**158.06 324**		PKP2	PKPab	21 48 52.1	-0.9
	HFS				pmax	pmax		
	comp=Z,6.0nm,0.6s							
	PKSM	**Moragy**	**158.21 285**	⇓	PKIKP	PKPdf	21 48 18.4	-1.6
	PKSM	**Moragy**	**158.21 285**		P	PKPdf	21 48 19.3	-0.7
	VYHS	**Vyhne**	**158.26 291**		*e*PKP	PKPab	21 48 53.6	-0.7
	VYHS				*e*PP	PP	21 52 32.1	-2.9
	NB2	**NORSAR Subarra**	**158.52 328**		PKP	PKPab	21 48 53.2	-1.8
	comp=Z,62nm,2.0s,baz=65,slow=4.4							
	NB2	**NORSAR Subarra**	**158.52 328**		PKPdf	PKPab	21 48 53.2	-1.8
	baz=65,slow=4.4							
	NOA	**NORSAR Array B**	**158.52 328**		PKP	PKPdf	21 48 17.4	-2.5
	comp=Z,1.2nm,1.0s,baz=78,slow=0.9,SNR=2.5							
	NOA				PKPab	PKPab	21 48 52.9	-2.1
	comp=Z,2.9nm,0.7s,baz=52,slow=4.7,SNR=6.1							
	NOA	**NORSAR Array B**	**158.52 328**		PKP	PKPdf	21 48 17.4	-2.5
	NOA				PKPab	PKPab	21 48 52.9	-2.1
	KOLL	**Kolacno**	**158.56 291**		*e*PKP	PKPab	21 48 54.6	-1.0
	CUC	**Castrocucco**	**158.63 267**		*e*PKPab	PKPab	21 48 54.0	-2.1
	CUC				LR	LR		
	comp=Z,3μm,20.0s,MS6.1							
	OKC	**Ostrava-Krasne**	**158.72 295**		*e*PKPDF	PKPdf	21 48 19.0	-1.5
	OKC				*e*PKPAB	PKPab	21 48 55.6	-0.6
	OKC				*e*PP	PP	21 52 36.8	-0.6
	NAO01	**NORSAR Array S**	**158.77 328**		PFAKE		21 48 30.0	+10
	NAO01				LR	LR		
	comp=Z,3μm,19.0s,MS6.1							
	MORC	**Moravsky Berou**	**159.11 295**		*e*PKIKP	PKPdf	21 48 19.4	-1.5
	MORC	**Moravsky Berou**	**159.11 295**	⇓	P	PKPdf	21 48 18.8	-2.2
	BORG	**Borgarnes**	**159.37 11**		PFAKE		21 48 30.0	+9.2
	BORG				LR	LR		
	comp=Z,3μm,19.0s,MS6.2							
	ZST	**Bratislava**	**159.41 290**		*e*PKP	PKPdf	21 48 20.1	-1.2
	ZST				*e*		21 48 58.6	
	ZST	**Bratislava**	**159.41 290**		*e*PKP	PKPdf	21 48 20.1	-1.2
	ZST				*e*		21 48 58.6	
	ZST				LR	LR		
	comp=Z,600nm,19.7s,MS5.4							
	VRAC	**Vranov**	**159.75 293**		PKP	PKPdf	21 48 19.1	-2.6
	comp=Z,1.2nm,0.4s,baz=306,slow=5.3,SNR=6.7							
	VRAC				PKPab	PKPab	21 49 01.2	+0.5
	comp=Z,3.2nm,0.7s,baz=92,slow=6.5,SNR=7.4							
	VRAC	**Vranov**	**159.75 293**		PKIKP	PKPdf	21 48 19.1	-2.6
	VRAC				pmax	pmax		
	comp=Z,1.0nm,0.4s							
	VRAC				pmax	pmax		
	comp=Z,3.0nm,0.7s							
	VRAC	**Vranov**	**159.75 293**		P	PKPdf	21 48 20.6	-1.0
	KSP	**Ksiaz**	**159.83 298**		*e*PKP	PKPdf	21 48 20.6	-1.1
	KSP				*e*		21 49 01.7	
	KSP				*e*		21 52 44.1	
	KSP	**Ksiaz**	**159.83 298**		*e*PKIKP	PKPdf	21 48 19.5	-2.2
	KSP				*e*		21 52 43.5	
	KSP				MLR	MLR		
	comp=Z,8μm,20.4s,MS6.5							
	KSP	**Ksiaz**	**159.83 298**		*e*PKPdf	PKPdf	21 48 19.5	-2.2
	KSP				*e*PKPab	PKPab	21 49 00.9	-0.1
	KSP				*e*PP	PP	21 52 43.5	+0.1
	KSP				*e*PPS		22 06 14.0	
	KSP				*e*SS	SS	22 12 34.0	-17
	KSP				LR	LR		
	comp=Z,8μm,20.4s,MS6.5							
	DPC	**Dobruska-Polom**	**159.86 296**		*e*PKPDF	PKPdf	21 48 20.2	-1.6
	DPC				*e*PKPAB	PKPab	21 49 00.7	-0.5
	DPC				*e*PP	PP	21 52 44.2	+0.6
	DPC				AMS	AMS	23 17 20.0	
	comp=Z,2μm,17.4s							
	KOGS	**Kog**	**159.88 285**		*e*PKPdf	PKPdf	21 48 19.7	-2.3
	KOGS				*e*PKPab	PKPab	21 49 00.5	-1.0
	KOGS				*e*PP	PP	21 52 41.3	-2.7
	KOGS				*e*		21 58 31.3	
	KOGS				*e*SKKSac	SKKSac	21 59 27.9	-2.8
	KOGS				*e*		22 13 43.3	
	KOGS				*e*		22 19 04.5	
	KOGS				*e*		22 44 42.1	
	KOGS	**Kog**	**159.88 285**		*e*PKPdf	PKPdf	21 48 19.7	-2.3
	KOGS				*e*PKPab	PKPab	21 49 00.5	-1.0
	KOGS				*e*PP	PP	21 52 41.3	-2.7
	KOGS				*e*		21 58 31.3	
	KOGS				*e*SKKSac	SKKSac	21 59 27.9	-2.8
	KOGS				*e*		22 13 43.3	
	KOGS				*e*		22 19 04.5	
	KONO	**Kongsberg**	**160.02 326**		*e*PKPdf	PKPdf	21 48 20.6	-1.0
	KONO				*e*PP	PP	21 52 49.2	+5.4
	UPC	**Upice**	**160.04 297**		*e*PKPDF	PKPdf	21 48 20.0	-2.0
	UPC				*e*PKPAB	PKPab	21 49 02.2	+0.3
	UPC				*e*PP	PP	21 52 45.6	+1.0
	CONA	**Conrad Observa**	**160.24 289**	⇑	*i*PKPdf	PKPdf	21 48 18.0	-4.2
	comp=Z,7.7nm,1.7s							
	CSNA	**Conrad Observa**	**160.24 289**	⇓	*i*PKPdf	PKPdf	21 48 18.3	-4.0
	comp=Z,6.7nm,1.4s							
	BOJS	**Bojanci**	**160.46 282**		*e*PKPdf	PKPdf	21 48 19.9	-2.8
	BOJS				*e*PKPab	PKPab	21 49 03.1	-0.8
	BOJS				*e*SKKSac	SKKSac	21 59 32.6	-1.2
	BOJS				*e*		22 03 21.1	
	BOJS				*e*		22 06 09.5	
	BOJS				*e*		22 19 36.5	
	BOJS				*e*		22 45 04.6	
	BOJS	**Bojanci**	**160.46 282**		*e*PKPdf	PKPdf	21 48 19.9	-2.8
	BOJS				*e*PKPab	PKPab	21 49 03.1	-0.8
	BOJS				*e*SKKSac	SKKSac	21 59 32.6	-1.2
	BOJS				*e*		22 03 21.1	
	BOJS				*e*		22 06 09.5	
	BOJS				*e*		22 19 36.5	
	TREC	**Trest**	**160.47 293**		*e*PKPDF	PKPdf	21 48 20.7	-1.8
	TREC				*e*PKPAB	PKPab	21 49 03.9	0.0
	TREC				AMS	AMS	23 13 10.0	
	comp=Z,3μm,19.0s							
	PERS	**Pernice**	**160.68 285**		*e*PKPdf	PKPdf	21 48 20.2	-2.6
	PERS				*e*PKPab	PKPab	21 49 04.3	-0.6
	PERS				*e*		21 58 27.1	
	SOKA	**Soboth**	**160.74 285**	⇑	*i*PKPdf	PKPdf	21 48 20.7	-2.2
	comp=Z,14nm,1.5s							
	RGN	**Rugen**	**160.75 310**		*e*L		23 11 21.9	
	comp=Z,2μm,19.7s							
	COP	**Copenhagen**	**160.79 314**		*i* PKIKP	PKPdf	21 48 23.8	+1.2
	COP				*i*		21 52 52.6	
	COP				MLR	MLR		
	comp=Z,530nm,22.0s							
	COP	**Copenhagen**	**160.79 314**		*i* P	PKPdf	21 48 23.8	+1.2
	COP				*i*		21 52 52.6	
	COP				*e*		21 52 56.4	
	COP				*i*		21 52 56.7	
	COP							
	comp=Z,520nm,22.0s							
	COP	**Copenhagen**	**160.79 314**		*i* P	PKPdf	21 48 23.8	+1.2
	COP				*i*		21 52 52.6	
	COP				*e*		21 52 56.4	
	COP				*i*		21 52 56.7	
	COP				LR	LR		
	comp=Z,530nm,22.0s							
	VNDS	**Vrh nad Dolski**	**160.92 284**		*e*PKPdf	PKPdf	21 48 21.2	-1.9
	VNDS				*e*PKPab	PKPab	21 49 05.5	-0.5
	PVCC	**Panska Ves**	**160.95 297**		*e*PKPDF	PKPdf	21 48 21.4	-1.6
	PVCC				*e*PKPAB	PKPab	21 49 06.1	+0.2
	PVCC				AMS	AMS	23 15 30.0	
	comp=Z,3μm,18.2s							
	PRU	**Pruhonice**	**161.03 296**		*e*PKIKP	PKPdf	21 48 20.6	-2.5
	PRU				*e*		21 52 49.3	
	PRU				*e*		22 13 57.2	
	PRU				MLR	MLR		
	comp=Z,4μm,19.7s							
	PRU	**Pruhonice**	**161.03 296**		*e*PKPDF	PKPdf	21 48 20.6	-2.5
	PRU				*e*PKPAB	PKPab	21 49 06.2	-0.1
	PRU				*e*PP	PP	21 52 49.3	-0.6
	PRU				*ex*	x	22 03 10.7	
	PRU				*ex*	x	22 13 57.2	
	PRU				AMS	AMS	23 12 50.0	
	comp=Z,4μm,19.7s							
	LJU	**Ljubljana**	**161.03 283**		*e*PKPdf	PKPdf	21 48 21.3	-1.9
	LJU				*e*PKPab	PKPab	21 49 05.9	-0.5
	LJU				*e*PP	PP	21 52 50.4	+0.3
	LJU				*e*		22 06 12.3	
	LJU				*e*		22 45 15.8	
	LJU	**Ljubljana**	**161.03 283**		*e*PKPdf	PKPdf	21 48 21.3	-1.9
	LJU				*e*PKPab	PKPab	21 49 05.9	-0.5
	LJU				*e*PP	PP	21 52 50.4	+0.3
	LJU				*e*		22 06 12.3	
	BER	**Bergen**	**161.08 332**		*e*PKPdf	PKPdf	21 48 26.7	+3.9
	BER				*e*PP	PP	21 52 52.4	+3.0
	BER				AMS	AMS	22 54 34.0	
	comp=Z,744nm,21.7s							
	RUE	**Ruedersdorf**	**161.09 303**		*e*PKPab	PKPab	21 49 07.5	+1.1
	RUE				*e*L		23 10 27.0	
	comp=Z,3μm,22.0s							
	RUE	**Ruedersdorf**	**161.09 303**		*e*PKPdf	PKPdf	21 48 21.2	-1.8
	KEST	**Kesra**	**161.11 249**		PKPab	PKPab	21 49 07.2	+0.1
	comp=Z,25nm,1.0s,baz=67,slow=1.1,SNR=28							
	BRG	**Berggiesshubel**	**161.30 298**		*e*PKPdf	PKPdf	21 48 20.9	-2.4
	BRG				*e*PKPab	PKPab	21 49 08.0	+0.6
	BRG				*e*L		23 14 38.5	
	comp=Z,3μm,19.6s							
	BRG	**Berggiesshubel**	**161.30 298**		*e*PKP	PKPdf	21 48 21.0	-2.4
	comp=Z,20nm,1.6s							
	BRG				*i*		21 49 07.7	
	comp=Z,82nm,1.7s							
	BRG				PP	PP	21 52 52.0	+0.7
	BRG				*e*		21 55 42.9	
	comp=Z,18nm,1.7s							
	BRG				*i*		21 59 23.0	
	BRG				*i*		22 03 15.0	
	BRG				*i*		22 13 12.0	
	BRG				*i*		22 19 00.0	
	BRG							
	comp=N,2μm,17.7s							
	BRG							
	comp=E,1μm,18.8s							
	BRG							
	comp=Z,3μm,19.0s							
	BRG	**Berggiesshubel**	**161.30 298**		*e*PKP	PKPdf	21 48 21.0	-2.4
	BRG				*i*		21 49 07.7	
	BRG				PP	PP	21 52 52.0	+0.7
	BRG				*e*		21 55 42.9	
	BRG				*i*		21 59 23.0	
	BRG				*i*		22 03 15.0	
	BRG				*i*		22 13 12.0	
	BRG				*i*		22 19 00.0	
	BRG				LR	LR		
	comp=Z,2μm,19.0s							
	GORS	**Gorjuse**	**161.43 284**		*e*PKPdf	PKPdf	21 48 21.2	-2.5
	GORS				*e*PKPab	PKPab	21 49 07.1	-1.0
	TRI	**Trieste**	**161.53 282**		PFAKE		21 48 30.0	+6.3
	TRI				LR	LR		
	comp=Z,2μm,20.0s							
	FBE	**Freiberg**	**161.66 299**		*e*PKPdf	PKPdf	21 48 21.6	-2.1
	FBE				*e*PKPab	PKPab	21 49 09.5	+0.5
	GERES	**GERESS Array B**	**161.66 292**		PKP	PKPdf	21 48 20.6	-3.2
	comp=Z,0.9nm,0.8s,baz=238,slow=1.3,SNR=12							
	GERES				PKPab	PKPab	21 49 09.0	-0.1
	comp=Z,5.8nm,0.8s,baz=99,slow=4.3,SNR=12							
	GERES				PP	PP	21 52 53.6	+0.2
	comp=Z,2.2nm,0.9s,baz=72,slow=3.2,SNR=4.3							
	MYKA	**Terra Mystica**	**161.69 285**	⇑	*i*PKPdf	PKPdf	21 48 21.2	-2.7
	comp=Z,20nm,1.4s							
	KHC	**Kasperske Hory**	**161.73 293**		*e*PKIKP	PKPdf	21 48 20.9	-2.9
	KHC				*e*		21 49 09.2	
	KHC				*e*		21 52 56.5	
	KHC				*e*		22 13 07.3	
	KHC				MLR	MLR		
	comp=Z,4μm,19.3s							
	KHC	**Kasperske Hory**	**161.73 293**		*e*PKPDF	PKPdf	21 48 20.9	-2.9
	KHC				*e*PKPAB	PKPab	21 49 09.2	-0.2
	KHC				*e*PP	PP	21 52 56.5	+2.8
	KHC				*ex*	x	22 03 15.8	
	KHC				*e*SS	SS	22 13 07.3	-3.6
	KHC				AMS	AMS	23 13 10.0	
	comp=Z,4μm,19.3s							
	CLL	**Collm**	**161.81 300**		*i* PKIKP	PKPdf	21 48 21.1	-2.7
	CLL				*i*		21 49 08.6	
	CLL				pmax	pmax		
	comp=Z,31nm,1.8s							
	CLL				pmax	pmax		
	comp=Z,51nm,1.6s							
	CLL				MLR	MLR		
	comp=Z,2μm,18.5s							
	CLL	**Collm**	**161.81 300**		*e*PKPdf	PKPdf	21 48 21.2	-2.6
	CLL				*e*PKPab	PKPab	21 49 09.6	0.0
	CLL				*e*L		23 14 36.3	
	comp=Z,2μm,18.5s							
	CLL	**Collm**	**161.81 300**		*i* PKPdf	PKPdf	21 48 21.1	-2.7
	comp=Z,31nm,1.8s							
	CLL				*i* PKPab	PKPab	21 49 08.6	-1.0
	comp=Z,51nm,1.6s							
	CLL				*e*pPKPab	pPKPab	21 49 16.0	-0.1
	CLL				*e*(PP)		21 53 03.0	
	comp=Z,700nm,22.4s							
	CLL				*ex*	x	21 55 55.0	
	CLL				*e*PPP		21 56 51.0	
	CLL				*e*SKKSac	SKKSac	21 59 39.0	-1.4
	CLL				*ex*	x	22 00 26.0	
	CLL				*e*PSKS		22 03 20.0	
	CLL				*e*PPS		22 06 28.0	
	CLL				*ex*	x	22 08 24.0	
	CLL				*ex*	x	22 09 50.0	
	CLL				*e*SS	SS	22 13 20.0	+8.5
	CLL				*e*PSS		22 14 06.0	
	CLL				*e*SSS		22 19 19.0	
	CLL				*ex*	x	22 20 01.0	
	CLL				*ex*	x	22 22 46.0	
	CLL				*ex*	x	22 36 52.0	
	CLL				LmH		23 11 00.0	
	comp=N,2μm,19.2s							
	CLL				LmH		23 11 00.0	
	comp=E,900nm,19.2s							
	CLL				LmV		23 14 00.0	
	comp=Z,2μm,18.5s							
	KBA	**Koelnbreinsper**	**161.92 287**	⇓	*i*PKPdf	PKPdf	21 48 21.3	-2.8
	comp=Z,8.0nm,1.5s							
	MUD	**Monsted U'grnd**	**162.05 318**		*i* PKIKP	PKPdf	21 48 23.0	-0.9
	MUD				*e*		21 53 04.0	
	MUD				MLR	MLR		
	comp=Z,1μm,22.0s							
	MUD	**Monsted U'grnd**	**162.05 318**		*i* P	PKPdf	21 48 23.0	-0.9
	MUD				*i*		21 49 14.2	
	MUD				*e*		21 53 04.0	
	MUD				*i*		21 53 12.0	
	MUD							
	comp=Z,1μm,22.0s							
	MUD	**Monsted U'grnd**	**162.05 318**		*i* P	PKPdf	21 48 23.0	-0.9
	MUD				*i*		21 49 14.2	
	MUD				*e*		21 53 04.0	
	MUD				*i*		21 53 12.0	
	WET	**Wettzell**	**162.19 293**		*e*PKPdf	PKPdf	21 48 22.0	-2.3
	WET				*e*PKPab	PKPab	21 49 11.8	+0.4
	WET				*e*L		23 13 23.6	
	comp=Z,3μm,19.4s							
	RJOB	**Jochberg**	**162.30 289**		*e*PKPdf	PKPdf	21 48 21.8	-2.7
	RJOB				*e*L		23 10 48.5	
	comp=Z,3μm,21.3s							
	TANN	**Tannenbergstha**	**162.30 298**		*e*PKPdf	PKPdf	21 48 21.8	-2.6
	TANN				*e*PKPab	PKPab	21 49 12.1	+0.3
	TANN				*e*L		23 09 51.3	
	comp=Z,2μm,21.9s							
	NKC	**Novy Kostel**	**162.34 297**		*e*PK

	comp=Z,3μm,22.0s							
CLZ	**Clausthal**	**163.28 303**	*e*PKPdf	PKPdf	21 48 22.7	-2.6		
CLZ			*e*PKPab	PKPab	21 49 17.0	+0.9		
CLZ			*e*L		23 13 25.1			
	comp=Z,3μm,20.7s							
CASM	**Ain Smara**	**163.30 246**	P	PKPab	21 49 21.0	+4.4		
FUR	**Furstenfeldbru**	**163.31 290**	*e*PKPab	PKPab	21 49 16.0	-0.4		
FUR			*e*L		23 14 25.0			
	comp=Z,5μm,19.2s							
RETA	**Reutte**	**163.68 288**	⇓*i*PKPdf	PKPdf	21 48 23.0	-2.8		
	comp=Z,12nm,1.7s,SNR=9.1							
VLC	**Villacollemand**	**163.68 276**	PFAKE		21 48 40.0	+14		
VLC			LR	LR				
	comp=Z,2μm,22.0s							
FETA	**Feichten**	**163.71 286**	⇓*i*PKPdf	PKPdf	21 48 23.7	-2.2		
	comp=Z,14nm,1.4s							
UBBA	**Unterbreizbach**	**163.76 300**	*e*PKPdf	PKPdf	21 48 22.6	-3.2		
UBBA			*e*L		23 09 33.9			
	comp=Z,2μm,20.4s							
HLG	**Helgoland**	**163.81 313**	*e*L		23 09 43.2			
	comp=Z,2μm,21.2s							
DFRA	**Djebel Bou Aff**	**163.87 246**	P	PKPab	21 49 23.0	+3.9		
SET	**Setif**	**163.97 244**	P	PKPab	21 49 21.0	+1.5		
DAVA	**Damuels**	**164.28 287**	⇑*i*PKPdf	PKPdf	21 48 24.3	-2.1		
	comp=Z,19nm,1.5s,SNR=6.8							
DAVOX	**Davos/Dischmat**	**164.28 285**	PKP	PKPdf	21 48 23.3	-3.1		
	comp=Z,2.6nm,0.9s,baz=124,slow=15,SNR=4.4							
DAVOX			PKPab	PKPab	21 49 19.7	-1.0		
	comp=Z,7.0nm,0.8s,baz=147,slow=8.4,SNR=11							
DAVOS	**Davos**	**164.34 286**	PKIKP	PKPdf	21 48 23.3	-3.1		
DAVOS					21 49 19.7			
STU	**Stuttgart**	**164.64 293**	*e*PKPab	PKPab	21 49 22.2	0.0		
STU			*e*L		23 13 02.7			
	comp=Z,3μm,18.7s							
TUE	**Stuetta**	**164.65 284**	PFAKE		21 48 40.0	+13		
TUE			LR	LR				
	comp=Z,5μm,19.0s							
IBBN	**Ibbenburen**	**164.66 307**	*e*PKPab	PKPab	21 49 23.5	+1.4		
IBBN			*e*L		23 09 39.8			
	comp=Z,3μm,21.7s							
TNS	**Taunus Mts**	**164.87 299**	*e*PKPab	PKPab	21 49 23.6	+0.5		
TNS			*e*L		23 11 28.4			
	comp=Z,2μm,21.2s							
SPAK	**Spaichingen-Ko**	**164.98 290**	PKP	PKPdf	21 48 23.9	-3.0		
BUG	**Bochum--Univer**	**165.24 304**	*e*PKPab	PKPab	21 49 25.3	+0.6		
BUG			*e*L		23 10 51.1			
	comp=Z,2μm,20.3s							
BFO	**Black Forest**	**165.26 291**	*e*PKPab	PKPab	21 49 24.5	-0.4		
BFO			*e*L		23 07 51.8			
	comp=Z,3μm,22.0s							
BFO	**Black Forest**	**165.26 291**	*e*PKPab	PKPab	21 49 23.6	-1.4		
BFO			LR	LR				
	comp=Z,3μm,19.0s							
WTSB	**Winterswijk**	**165.33 306**	*e*PKPab	PKPab	21 49 25.5	+0.4		
	comp=Z,111nm,1.7s							
LANF	**Langenberg**	**165.52 294**	PKP	PKPdf	21 48 23.9	-3.5		
FELD	**Feldberg im Sc**	**165.52 290**	PKP	PKPdf	21 48 24.4	-3.0		
AUTN	**L'Aution**	**165.75 274**	PKP	PKPdf	21 48 38.7	+11		
RUP	**Ruppelstein**	**165.86 297**	PKIKP	PKPdf	21 48 22.9	-4.7		
BBS	**Basel-Blauen**	**165.89 288**	PKIKP	PKPdf	21 48 24.2	-3.5		
MVIF	**Mont Vial**	**165.93 273**	PKP	PKPdf	21 48 35.8	+7.9		
ECH	**Echery**	**166.05 291**	PKP	PKPdf	21 48 27.0	-0.8		
ECH	**Echery**	**166.05 291**	*e*PKPdf	PKPdf	21 48 26.5	-1.3		
HGN	**Heimansgroeve**	**166.26 302**	*e*PKPab	PKPab	21 49 28.8	-0.4		
	comp=Z,30nm,2.4s							
HGN	**Heimansgroeve**	**166.26 302**	*e*PP	PP	21 53 22.1	+4.7		
LOMF	**Lomont**	**166.36 288**	PKP	PKPdf	21 48 26.8	-1.3		
LPG	**La Plagne**	**166.41 280**	*e*PKIKP	PKPdf	21 48 28.1	-0.1		
BNI	**Bardonecchia**	**166.43 278**	*e*PKIKP	PKPdf	21 48 27.4	-0.8		
BNI			*e*		21 49 30.1			
BNI			MLR	MLR				
	comp=Z,4μm,19.0s							
LPL	**La Plagne**	**166.43 280**	*e*PKIKP	PKPdf	21 48 27.8	-0.4		
WLF	**Walferdange**	**166.44 298**	PKPab	PKPab	21 49 30.3	+0.2		
MDT	**Midelt**	**166.60 210**	PKP	PKPdf	21 48 25.8	-3.0		
	comp=Z,3.7nm,1.2s,baz=73,slow=21,SNR=3.7							
MDT			PKPab	PKPab	21 49 30.5	-0.6		
	comp=Z,3.1nm,0.9s,baz=144,slow=8.5,SNR=4.4							
BCLA	**Clavier**	**166.75 302**	APKPab		21 49 37.1			
THEF	**They Montfort**	**166.83 292**	PKP	PKPdf	21 48 25.9	-2.5		
GIVF	**Givet**	**167.14 301**	*e*PKIKP	PKPdf	21 48 25.9	-2.7		
UCC	**Uccle**	**167.19 304**	PKPab	PKPab	21 49 32.4	-1.0		
DOU	**Dourbes**	**167.28 301**	PKPab	PKPab	21 49 34.0	+0.2		
EKA	**Eskdalemuir Ar**	**167.86 334**	PKPab	PKPab	21 49 36.2	+0.1		
	comp=Z,6.2nm,1.1s,baz=27,slow=5.8,SNR=4.8							
EKA	**Eskdalemuir Ar**	**167.86 334**	PKP2	PKPab	21 49 36.2	+0.1		
EKA			pmax	pmax				
	comp=Z,6.0nm,1.1s							
ESK	**Eskdalemuir**	**167.89 334**	PFAKE		21 48 40.0	+11		
ESK			LR	LR				
	comp=Z,4μm,19.0s							
CMLA	**Cha da Macela**	**167.95 121**	PFAKE		21 48 40.0	+10		
CMLA			LR	LR				
	comp=Z,4μm,22.0s							
SSB	**Saint Sauveur**	**167.95 278**	*e*PKIKP	PKPdf	21 48 27.0	-2.3		
LOR	**Lormes**	**168.38 288**	*e*PKIKP	PKPdf	21 48 24.8	-4.8		
RTC	**Rabat Centre**	**168.41 204**	PFAKE		21 48 40.0	+10		
RTC			LR	LR				
	comp=Z,8μm,20.0s							
MENF	**Mencas**	**168.57 306**	PKP	PKPdf	21 48 20.6	-9.0		
SSF	**Saint Saulge**	**168.64 287**	*e*PKIKP	PKPdf	21 48 25.1	-4.6		
	comp=Z,9.8nm,1.0s							
CART	**Cartagena**	**168.78 234**	*e*PKPdf	PKPdf	21 48 25.7	-4.5		
TCF	**Toulx Ste Croi**	**169.59 284**	*e*PKIKP	PKPdf	21 48 25.9	-4.5		
SFS	**San Fernando**	**170.45 212**	PFAKE		21 48 40.0	+8.8		
SFS			LR	LR				
	comp=Z,11μm,20.0s							
PBDV	**Barranco-do-Ve**	**171.75 206**	*e*PKPdf	PKPdf	21 48 33.1	+1.3		
PBDV	**Barranco-do-Ve**	**171.75 206**	*e*PKPab	PKPab	21 49 56.5	+2.7		
PBDV	**Barranco-do-Ve**	**171.75 206**	*e*PP	PP	21 53 39.9	-4.5		
PBDV			*e*SS	SS	22 15 01.4	+11		
PBDV			*e*LQ		22 42 38.7			
PBDV			*e*LR	LR	22 50 37.3			
	comp=Z,5μm,20.0s							
PVAQ	**Vaqueiros**	**171.82 208**	*e*PKPdf	PKPdf	21 48 33.6	+1.7		
PVAQ	**Vaqueiros**	**171.82 208**	*e*PKPab	PKPab	21 49 58.0	+3.9		
PVAQ	**Vaqueiros**	**171.82 208**	*e*PP	PP	21 53 43.1	-1.7		
PVAQ			*e*SS	SS	22 15 01.1	+10		
PVAQ			*e*LQ		22 40 08.4			
PVAQ			*e*LR	LR	22 46 32.8			
	comp=Z,5μm,18.0s							
PFVI	**Vila Bisbo**	**171.90 201**	*e*PKPdf	PKPdf	21 48 32.0	+0.1		
PFVI	**Vila Bisbo**	**171.90 201**	*e*PKPab	PKPab	21 49 53.9	-0.5		
PFVI	**Vila Bisbo**	**171.90 201**	*e*PP	PP	21 53 44.0	-1.1		
PFVI			*e*LQ		22 42 43.4			
PFVI			*e*LR	LR	22 49 17.2			
	comp=Z,5μm,20.0s							
ESDC	**Sonseca Array**	**171.90 234**	PKP	PKPdf	21 48 31.1	-0.7		
	comp=Z,1.6nm,0.8s,baz=314,slow=0.9,SNR=5.8							
ESDC			PKPab	PKPab	21 49 54.5	0.0		
	comp=Z,15nm,1.1s,baz=116,slow=3.4,SNR=17							
ESDC			PP	PP	21 53 49.1	+3.3		
	comp=Z,3.5nm,1.1s,baz=105,slow=4.5,SNR=4.8							
ESLA	**Sonseca Array**	**171.90 234**	PFAKE		21 48 40.0	+8.2		
ESLA			LR	LR				
	comp=Z,4μm,19.0s							
MORF	**Marmelete**	**172.02 202**	*e*PKPdf	PKPdf	21 48 32.8	+0.8		
MORF	**Marmelete**	**172.02 202**	*e*PKPab	PKPab	21 49 54.3	-0.6		
MORF	**Marmelete**	**172.02 202**	*e*PP	PP	21 53 46.1	+0.4		
MORF			*e*LR	LR	22 55 20.3			
	comp=Z,4μm,20.0s							
PAB	**San Pablo**	**172.03 232**	*e*PKIKP	PKPdf	21 48 31.1	-0.8		
PAB			MLR	MLR				
	comp=Z,5μm,22.0s							
PBAR	**Barrancos**	**172.26 214**	*e*PKPdf	PKPdf	21 48 31.4	-0.6		
PBAR	**Barrancos**	**172.26 214**	*e*PKPab	PKPab	21 49 58.5	+2.4		
PBAR	**Barrancos**	**172.26 214**	*e*PP	PP	21 53 46.9	-0.2		
PBAR			*e*SS	SS	22 15 02.5	+6.5		
PBAR			*e*LQ		22 40 13.8			
PBAR			*e*LR	LR	22 47 21.0			
	comp=Z,6μm,18.0s							
EVO	**Evora**	**172.94 210**	*e*PKIKP	PKPdf	21 48 30.4	-1.9		
	comp=Z,37nm,1.3s							
PESTR	**Estremoz**	**173.08 213**	*e*PKPdf	PKPdf	21 48 31.5	-0.9		
PESTR	**Estremoz**	**173.08 213**	*e*PKPab	PKPab	21 49 59.2	-0.5		
PESTR	**Estremoz**	**173.08 213**	*e*PP	PP	21 53 49.1	-2.0		
PESTR			*e*SS	SS	22 15 13.2	+9.2		
PESTR			*e*LQ		22 40 24.4			
PESTR			*e*LR	LR	22 48 57.7			
	comp=Z,5μm,18.0s							
PMRV	**Marv??o**	**173.47 217**	*e*PKPdf	PKPdf	21 48 31.9	-0.6		
PMRV	**Marv??o**	**173.47 217**	*e*PKPab	PKPab	21 50 06.6	+5.2		
PMRV	**Marv??o**	**173.47 217**	*e*PP	PP	21 53 51.1	-2.0		
PMRV			*e*SS	SS	22 15 11.7	+3.8		
PMRV			*e*LQ		22 40 34.1			
PMRV			*e*LR	LR	22 51 38.2			
	comp=Z,4μm,20.0s							
MTE	**Manteigas**	**174.33 222**	*e*PKPdf	PKPdf	21 48 32.4	-0.4		
MTE	**Manteigas**	**174.33 222**	*e*PKPab	PKPab	21 50 03.6	-1.6		
MTE	**Manteigas**	**174.33 222**	*e*PP	PP	21 53 56.2	-1.2		
MTE			*e*SS	SS	22 15 20.9	+4.5		
MTE			*e*LQ		22 40 30.8			
MTE			*e*LR	LR	22 52 05.5			
	comp=Z,4μm,20.0s							
MTE	**Manteigas**	**174.33 222**	PFAKE		21 48 40.0	+7.2		
MTE			LR	LR				
	comp=Z,4μm,20.0s							
MVO	**Moncorvo**	**174.63 230**	*e*PKPdf	PKPdf	21 48 34.3	+1.5		
MVO	**Moncorvo**	**174.63 230**	*e*PKPab	PKPab	21 50 07.9	+1.3		
MVO	**Moncorvo**	**174.63 230**	*e*PP	PP	21 53 47.5	-12		
MVO			*e*SS	SS	22 15 28.4	+8.7		
MVO			*e*LQ		22 42 04.7			
MVO			*e*LR	LR	22 48 48.2			
	comp=Z,4μm,18.0s							

IDC ***15*** *21:39:02.2s0.6, 4597Sx7654W, h0km, mb4.4/12, mb1 4.5/14, mb1mx4.5/20, mbtmp4.4/14, ML4.4/2, MS4.6/6, Ms1 4.6/6, ms1mx4.3/25, Error ellipse: s-maj=28.3km s-min=15.6km az=91.0*

ISCJB ***15*** *21:39:09.0s0.3, 46.11Sx0.006x749W±0.1, h24km, mb4.8/29, MS4.9/3, Error ellipse: s-maj=13.6km s-min=7.0km az=159.6*

MOS ***15*** *21:39:10.6s1.6, 4603Sx7502W, h33km, mb5.4/14, Error ellipse: s-maj=29.2km s-min=11.1km az=91.1*

BJI ***15*** *21:39:11.3, 46.10Sx7500W, h33km, mB5.2, Ms5.3, Msz5.1*

NEIC ***15*** *21:39:12.4±1.6, 46.13Sx7496W, h43km±14km, mb5.1/22, Error ellipse: s-maj=20.1km s-min=8.0km az=80.0*

ISC 15 21:39:12.2±1.7, **4616S**±0.006x**750W**±0.2, **h36**km±16km, **h28**km±4.3km:**pP-P, n221**, σ0**.72**/176, **mb4.8**/29, **MS4.9**/3, **43C-48D, Southern Chile**

Code	Station Name	Δ°	AZ°	Phase	ID	Time h m s	Res ISC
				Op	ISC		
COYC	**Coyhaique**	**2.15**	**75**	⇑*i*P	**Pn**	**21 39 53.8**	**+8.3**
COYC				*e*S	**Sn**	**21 40 29.9**	**+19**
PLCA	**Paso Flores**	**6.33**	**33**	Pn	**Pn**	**21 40 43.6**	**+0.6**
	2.0nm,0.3s,baz=219,slow=11,SNR=28						
PLCA				Sn	Sn	21 42 20.7	+27
	0.4nm,0.3s,baz=127,slow=18,SNR=1.5						
PLCA				LR	LR	21 43 18.7	
	comp=Z,8μm,20.6s,baz=215,slow=38						
PLCA	**Paso Flores**	**6.33**	**33**	P	**Pn**	**21 40 43.6**	**+0.6**
PLCA	**Paso Flores**	**6.33**	**33**	Pn	**Pn**	**21 40 43.6**	**+0.6**
PLCA				Sn	Sn	21 42 20.7	+27
PLCA				LR	LR	21 43 18.7	
USHA	**Ushuaia**	**9.64**	**157**	Pn	**Pn**	**21 41 29.4**	**+1.1**
	1.8nm,0.3s,baz=306,slow=12,SNR=8.6						
USHA				LR	LR	21 45 14.3	
	comp=Z,3μm,18.5s,baz=304,slow=36						
CFAA	**Coronel Fontan**	**15.46**	**22**	Pn	**Pn**	**21 42 39.2**	**-8.2**
	0.2nm,0.3s,baz=217,slow=10,SNR=6.4						
CFAA				LR	LR	21 48 56.4	
	comp=Z,431nm,19.6s,baz=197,slow=38						
CFAA	**Coronel Fontan**	**15.46**	**22**	Pn	**Pn**	**21 42 39.2**	**-8.2**
CFAA				LR	LR	21 48 56.4	
LCO	**Las Campanas**	**17.45**	**13**	Pn	**Pn**	**21 43 09.1**	**-3.6**
	55nm,1.2s						
PMSA	**Palmer Station**	**19.61**	**166**	*e*P	**Pn**	**21 43 36.9**	**-1.8**
	70nm,1.3s						
LVC	**Limon Verde**	**24.01**	**14**	P	**P**	**21 44 19.4**	**-4.1**
	11nm,0.8s,mb4.3,baz=207,slow=7.7,SNR=7.6						
LVC	**Limon Verde**	**24.01**	**14**	*e*P	**P**	**21 44 19.5**	**-4.0**
	23nm,0.7s,mb4.7						
LPAZ	**La Paz**	**30.34**	**13**	P	**P**	**21 45 16.9**	**-3.4**
	9.7nm,1.2s,mb4.4,baz=177,slow=7.6,SNR=8.4						
LPAZ				PcP	PcP	21 48 15.8	-4.1
	1.1nm,0.8s,baz=188,slow=5.3,SNR=2.3						
LPAZ	**La Paz**	**30.34**	**13**	P	**P**	**21 45 16.9**	**-3.4**
LPAZ				PcP	PcP	21 48 15.8	-4.1
SIV	**San Ignacio**	**32.26**	**26**	P	**P**	**21 45 33.9**	**-3.4**
	9.2nm,1.1s,mb4.5,baz=222,slow=9.9,SNR=14						
NNA	**Nana**	**34.09**	**357**	*e*P	**P**	**21 45 52.3**	**-1.0**
	6.3nm,0.4s,mb4.9						
BDFB	**Brasilia**	**37.89**	**45**	P	**P**	**21 46 26.5**	**+0.7**
	9.6nm,1.1s,mb4.5,baz=191,slow=13,SNR=8.2						
BDFB				LR	LR	22 03 39.9	
	comp=Z,870nm,20.3s,MS4.5,baz=18,slow=38						
ATAH	**Atahualpa**	**39.12**	**355**	LR	LR	21 58 52.5	
	comp=Z,1μm,19.2s,MS4.7,baz=219,slow=31						
VNA3	**Neumayer Olymp**	**39.29**	**152**	*e*P	**P**	**21 46 37.8**	**+0.8**
VNA3				*e*		21 46 41.3	
VNA3				*e*	pP	21 46 45.3	-2.1
VNA3				*e*		21 46 51.3	
VNA3				*e*		22 07 47.4	
VNA3				*e*		22 07 50.3	
VNA3				*e*		22 07 55.9	
VNA1	**Neumayer--Stat**	**39.72**	**151**	*e*P	**P**	**21 46 44.4**	**+3.8**
VNA1				*e*		21 46 49.5	
VNA1				*e*	pP	21 46 55.8	+4.7
VNA1				*e*		22 07 44.4	
VNA1				*e*		22 07 52.8	
VNA2	**Neumayer--Watz**	**40.02**	**152**	*e*P	**P**	**21 46 44.1**	**+1.1**
	baz=271,slow=6.7						
VNA2				*e*		21 46 46.7	
VNA2				*e*	pP	21 46 51.6	-1.9
VNA2				*e*		21 46 57.5	
VNA2				*e*		22 07 47.5	
VNA2				*e*		22 07 50.3	
VNA2				*e*		22 07 56.0	
SNAA	**Sanae**	**41.48**	**153**	*e*P	**P**	**21 46 55.3**	**+0.2**
SNAA				*e*		21 46 58.3	
SNAA				*e*	pP	21 47 03.0	-2.6
SNAA				*e*		21 47 08.8	
SNAA				*e*		22 07 56.4	
SNAA	**Sanae**	**41.48**	**153**	*e*P	**P**	**21 46 55.3**	**+0.2**
QSPA	**South Pole Qui**	**44.09**	**180**	P	**P**	**21 47 13.5**	**-2.6**
	12nm,1.0s,mb4.6,baz=121,slow=5.3,SNR=10.0						
SBA	**Scott Base**	**50.73**	**194**	*e*P	**P**	**21 48 04.0**	**-3.7**
SBA				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.5						
SBA	**Scott Base**	**50.73**	**194**	*e*P	**P**	**21 48 04.0**	**-3.7**
	comp=Z,5.4nm,0.8s,mb4.5						
ROSC	**El Rosal**	**50.79**	**1**	P	**P**	**21 48 08.7**	**-0.1**
SDV	**Santo Domingo**	**54.93**	**5**	*e*P	**P**	**21 48 39.3**	**-0.1**
	comp=Z,3.3nm,0.7s,mb4.5						
SYO	**Syowa Base**	**55.51**	**157**	⇑*e*P	**P**	**21 48 40.0**	**-3.0**
SYO	**Syowa Base**	**55.51**	**157**	⇑*e*pP	pP	21 48 47.2	-6.6
SYO	**Syowa Base**	**55.51**	**157**	⇑*e*sP	sP	21 48 52.3	-5.8
JTS	**JuntasAbangare**	**56.89**	**348**	*e*P	**P**	**21 48 53.0**	**-0.4**
JTS				pmax	pmax		
	comp=Z,19nm,1.2s						
JTS	**JuntasAbangare**	**56.89**	**348**	*e*P	**P**	**21 48 53.0**	**-0.4**
	comp=Z,19nm,1.2s,mb5.0						
MAW	**Mawson**	**62.20**	**163**	P	**P**	**21 49 28.1**	**-1.3**
	comp=Z,5.4nm,1.1s,mb4.6,baz=220,slow=8.8,SNR=7.6						
MAW				LR	LR	22 15 39.6	
	comp=Z,2μm,18.3s,MS5.3,baz=190,slow=35						
MAW	**Mawson**	**62.20**	**163**	*e*P	**P**	**21 49 27.8**	**-1.6**
MAW				pmax	pmax		
	comp=Z,17nm,1.1s						
MAW	**Mawson**	**62.20**	**163**	*e*P	**P**	**21 49 27.8**	**-1.6**
	comp=Z,17nm,1.1s,mb5.1						
MAW	**Mawson**	**62.20**	**163**	*e*	**P**	**21 49 27.6**	**-1.8**
MAW	**Mawson**	**62.20**	**163**	*e*	**P**	**21 49 27.6**	**-1.8**
SJG	**San Juan**	**64.47**	**9**	*e*P	**P**	**21 49 44.9**	**0.0**
TEIG	**Tepich**	**67.15**	**347**	*e*P	**P**	**21 50 00.7**	**-1.5**
	comp=Z,24nm,1.0s,mb5.2						
CASY	**Casey**	**67.82**	**182**	*e*P	**P**	**21 50 01.6**	**-4.3**
	comp=Z,14nm,0.8s,mb5.0						
BOSA	**Boshof**	**76.51**	**117**	P	**P**	**21 50 59.7**	**+1.2**
	comp=Z,14nm,1.2s,mb4.8,baz=95,slow=3.6,SNR=4.7						
BOSA	**Boshof**	**76.51**	**117**	P	**P**	**21 50 59.7**	**+1.2**
TSUM	**Tsumeb**	**78.17**	**105**	*e*P	**P**	**21 51 08.0**	**+0.1**
TSUM				*e*PcP	PcP	21 51 16.9	-0.5
TXAR	**Lajitas Array**	**79.49**	**335**	P	**P**	**21 51 07.5**	**-7.3**
	comp=Z,1.1nm,0.9s,mb3.8,baz=157,slow=9.4,SNR=5.0						
TXAR	**Lajitas Array**	**79.49**	**335**	P	**P**	**21 51 07.5**	**-7.3**
JCT	**Junction City**	**79.51**	**338**	*e*P	**P**	**21 51 14.1**	**-0.7**
JCT				pmax	pmax		
	comp=Z,27nm,1.0s,mb5.1						
JCT	**Junction City**	**79.51**	**338**	*e*P	**P**	**21 51 14.1**	**-0.7**
	comp=Z,26nm,1.0s,mb5.1						
LRAL	**Lakeview Retre**	**79.56**	**350**	*e*P	**P**	**21 51 14.8**	**-0.2**
GOGA	**Godfrey**	**79.56**	**353**	*e*P	**P**	**21 51 14.7**	**-0.3**
GOGA				pmax	pmax		
	comp=Z,29nm,1.0s,mb5.2						
GOGA	**Godfrey**	**79.56**	**353**	*e*P	**P**	**21 51 14.7**	**-0.3**
	comp=Z,29nm,1.0s,mb5.2						
OXF	**Oxford**	**81.34**	**348**	*e*P	**P**	**21 51 20.2**	**-4.3**
SWET	**Sewanee**	**81.59**	**351**	*e*P	**P**	**21 51 25.9**	**0.0**
MIAR	**Mount Ida**	**82.06**	**345**	*e*P	**P**	**21 51 27.0**	**-1.3**
MIAR				*e*		21 51 34.1	
TZTN	**Tazewell**	**82.68**	**353**	*e*P	**P**	**21 51 30.9**	**-0.6**
	comp=Z,37nm,1.4s,mb5.2						
WVT	**Waverly**	**82.72**	**350**	*e*P	**P**	**21 51 29.6**	**-2.1**
WVT				pmax	pmax		
	comp=Z,68nm,1.8s,mb5.4						
WVT	**Waverly**	**82.72**	**350**	*e*P	**P**	**21 51 29.6**	**-2.1**
	comp=Z,68nm,1.8s,mb5.4						
319A	**Douglas**	**83.16**	**331**	⇓P	**P**	**21 51 33.6**	**-0.6**
	baz=84,SNR=7.0						
318A	**Bisbee**	**83.46**	**330**	⇑P	**P**	**21 51 34.9**	**-0.8**
	baz=84,SNR=9.3						
219A	**White Tail Can**	**83.73**	**331**	⇑P	**P**	**21 51 36.5**	**-0.5**
	baz=84,SNR=8.2						
218A	**Dragoon**	**83.97**	**331**	⇑P	**P**	**21 51 37.8**	**-0.5**
	baz=84,SNR=6.4						
217A	**Green Valley**	**84.06**	**330**	⇓P	**P**	**21 51 38.8**	**+0.1**
	baz=84						
119A	**Ashpeak Ranch,**	**84.45**	**332**	⇑P	**P**	**21 51 40.1**	**-0.6**
	baz=85,SNR=5.2						
TUC	**Tucson**	**84.53**	**330**	*e*P	**P**	**21 51 40.8**	**-0.3**
118A	**Homack Ranch,**	**84.55**	**331**	⇓P	**P**	**21 51 40.7**	**-0.5**
	baz=85,SNR=8.9						
117A	**Oracle**	**84.75**	**330**	⇓P	**P**	**21 51 42.1**	**-0.1**
	baz=85						
BNM	**Barren Site**	**84.88**	**334**	*e*P	**P**	**21 51 41.7**	**-1.1**
FVM	**French Village**	**84.89**	**348**	*e*P	**P**	**21 51 42.1**	**-0.7**
FVM				pmax	pmax		
	comp=Z,25nm,1.2s,mb5.2						
FVM	**French Village**	**84.89**	**348**	*e*P	**P**	**21 51 42.1**	**-0.7**
	comp=Z,25nm,1.2s,mb5.2						
214A	**Organ Pipe Nat**	**84.93**	**328**	⇓P	**P**	**21 51 42.8**	**-0.3**
	baz=85						
LPM	**Los Pinos Moun**	**85.03**	**334**	*e*P	**P**	**21 51 44.1**	**+0.5**
CCM	**Cathedral Cave**	**85.09**	**347**	*e*P	**P**	**21 51 36.7**	**-7.1**
CCM				pmax	pmax		
	comp=Z,45nm,0.9s,mb5.6						
CCM	**Cathedral Cave**	**85.09**	**347**	*e*P	**P**	**21 51 36.7**	**-7.0**
	comp=Z,46nm,0.9s,mb5.6						
115A	**Sonoran Desert**	**85.39**	**329**	⇑P	**P**	**21 51 45.3**	**-0.1**
	baz=86,SNR=6.3						
Y19A	**Nutrioso**	**85.52**	**332**	⇓P	**P**	**21 51 45.9**	**-0.1**
	baz=86,SNR=9.2						
ANMO	**Albuquerque**	**85.57**	**335**	P	**P**	**21 51 39.9**	**-6.4**
	comp=Z,2.2nm,0.9s,mb4.4,baz=157,slow=9.7,SNR=2.6						
ANMO	**Albuquerque**	**85.57**	**335**	*e*P	**P**	**21 51 46.4**	**+0.2**
ANMO				pmax	pmax		
	comp=Z,13nm,1.0s						
ANMO	**Albuquerque**	**85.57**	**335**	*e*P	**P**	**21 51 46.4**	**+0.1**
	comp=Z,13nm,1.0s,mb5.1						
Y17A	**Roosevelt**	**85.81**	**331**	⇓P	**P**	**21 51 47.1**	**-0.4**
	baz=86,SNR=6.1						
Y16A	**Circle Bar Ran**	**86.20**	**330**	⇓P	**P**	**21 51 49.2**	**-0.2**
	baz=86						
X18A	**Snowflake**	**86.28**	**332**	⇑P	**P**	**21 51 49.9**	**+0.2**
	baz=87						
X17A	**Forest Lakes**	**86.38**	**331**	⇑P	**P**	**21 51 50.6**	**+0.3**
	baz=87						
Y15A	**Casa Rosa Ranc**	**86.56**	**330**	⇓P	**P**	**21 51 50.6**	**-0.5**
	baz=87,SNR=5.3						
W19A	**Sanders**	**86.62**	**332**	⇑P	**P**	**21 51 51.3**	**-0.2**
	baz=87						
X16A	**Lo Mia Camp, P**	**86.67**	**331**	⇓P	**P**	**21 51 51.7**	**0.0**
	baz=87						
Y14A	**Wickenburg**	**86.78**	**329**	⇓P	**P**	**21 51 52.4**	**+0.1**
	baz=87						
X15A	**Humboldt**	**87.01**	**330**	⇑

baz=90
ISCO **Idaho Springs** 89.84 337 *e*P P 21 52 06.9 +0.3
ISCO pmax pmax
comp=Z,22nm,1.7s,mb5.2
ISCO **Idaho Springs** 89.84 337 *e*P P 21 52 06.9 +0.3
comp=Z,22nm,1.7s,mb5.2
SHPR **Sheep Range** 89.86 329 *e*P P 21 52 07.5 +0.7
T13A **Saint George** 89.88 330 ⇓P P 21 52 07.3 +0.4
baz=90
Q19A **Hogan Spring (** 90.12 334 ⇑P P 21 52 08.4 +0.4
baz=90
CCUT **Cedar City** 90.17 330 *e*P P 21 52 07.4 -0.8
U10A **Ash Meadows, A** 90.21 328 ⇓P P 21 52 09.1 +0.7
baz=90
PKM **Peak Mountain** 90.22 325 ⇓P P 21 52 08.3 -0.2
baz=90
S14A **Cedar City** 90.29 331 ⇓P P 21 52 09.8 +1.0
baz=91
ISA **Isabella** 90.36 326 ⇓P P 21 52 09.9 +0.7
baz=91
ISA **Isabella** 90.36 326 *e*P P 21 52 10.0 +0.8
S13A **Holt Ranch, En** 90.36 330 ⇑P P 21 52 09.4 +0.2
baz=91,SNR=6.0
Q18A **Rafter H Ranch** 90.52 333 ⇓P P 21 52 09.9 +0.1
baz=91
T11A **Corn Creek, Al** 90.54 329 ⇓P P 21 52 09.8 -0.2
baz=91,SNR=8.6
SADO **Sadowa** 90.61 357 P P 21 52 03.7 -6.4
comp=Z,4.8nm,0.9s,mb4.8,baz=234,slow=8.7,SNR=2.1
SADO **Sadowa** 90.61 357 P P 21 52 03.7 -6.4
SRU **San Rafael** 90.65 333 ⇓P P 21 52 10.1 -0.3
baz=91
TPNV **Topopah Spring** 90.65 328 *e*P P 21 52 11.8 +1.3
TPNV pmax pmax
comp=Z,6.0nm,0.9s,mb4.9
TPNV **Topopah Spring** 90.65 328 ⇑P P 21 52 10.8 +0.3
baz=91
TPNV **Topopah Spring** 90.65 328 *e*P P 21 52 11.8 +1.4
comp=Z,6.4nm,0.9s,mb5.0
Q16A **Castle Valley** 90.68 333 ⇓P P 21 52 11.0 +0.5
baz=91
S12A **Delamar Landin** 90.73 329 ⇓P P 21 52 11.7 +0.8
baz=91
R13A **O'Grain Ranch,** 90.94 330 ⇑P P 21 52 12.4 +0.6
baz=91
O19A **Miners Draw (B** 91.31 335 ⇑P P 21 52 14.1 +0.7
baz=92
PKD **Parkfield** 91.42 325 ⇑P P 21 52 14.4 +0.3
baz=92
Q14A **Sevier Lake (B** 91.43 331 ⇑P P 21 52 14.2 +0.2
baz=92
ECSD **EROS,Sioux Fal** 91.53 345 *e*P P 21 52 13.6 -0.8
S10A **Tonopah Range,** 91.64 328 ⇓P P 21 52 15.6 +0.6
baz=92
Q13A **Wheeler Ranch,** 91.65 331 ⇑P P 21 52 15.6 +0.5
baz=92
R11A **Troy Canyon, C** 91.66 329 ⇑P P 21 52 16.5 +1.4
baz=92
S09A **Goldfield** 91.70 328 ⇑P P 21 52 15.5 +0.2
baz=92
V03C **Hunter Liggett** 91.77 324 ⇓P P 21 52 16.7 +1.0
baz=92
P14A **Drum Mountains** 91.91 332 ⇑P P 21 52 16.1 -0.2
baz=92
TPH **Tonopah** 92.01 328 *e*P P 21 52 15.1 -1.6
P13A **Bates Ranch, G** 92.10 331 ⇓P P 21 52 17.3 +0.2
baz=92
KCC **Kaiser Creek** 92.14 326 ⇓P P 21 52 16.8 -0.6
baz=92
NVAR **Mina Array Bea** 92.72 327 P P 21 52 12.9 -7.2
comp=Z,0.3nm,0.6s,mb3.9,baz=201,slow=4.8,SNR=3.0
HWUT **Hardware Ranch** 93.25 333 *e*P P 21 52 22.2 -0.2
M15A **Larsen Ranch,** 93.40 333 ⇑P P 21 52 22.7 -0.3
baz=94
BW06 **Boulder Array** 93.70 335 ⇑P P 21 52 23.9 -0.6
baz=94
PDAR **Pinedale Array** 93.70 335 P P 21 52 16.8 -7.7
comp=Z,0.5nm,0.9s,mb4.0,baz=108,slow=5.8,SNR=2.5
GASB **Alder Springs** 95.49 325 ⇓P P 21 52 33.6 +0.9
baz=96
HLID **Hailey** 95.92 332 *e*P P 21 52 34.7 +0.2
WRAB **Tennant Creek** 109.04 209 PKiKP PKiKP 21 57 36.4 -1.7
FITZ **Fitzroy Crossi** 113.36 201 PKiKP PKiKP 21 57 44.5 -1.9
DLBC **Dease Lake** 113.68 332 PKiKP PKiKP 21 57 44.5 -1.0
BORG **Borgarnes** 118.22 23 PKPdf PKPdf 21 57 52.7 -1.4
HGN **Heimansgroeve** 119.08 46 *e*PPP 21 57 05.4
GERES **GERESS Array B** 121.98 51 PKP PKPdf 21 58 00.8 -1.0
comp=Z,1.1nm,0.7s,baz=231,slow=3.1,SNR=3.6
CLL **Collm** 123.00 48 *e*PKIKP PKPdf 21 58 07.0 +3.3
CLL pmax pmax
comp=Z,12nm,1.6s
CLL **Collm** 123.00 48 *e*(PKPdf) PKPdf 21 58 07.0 +3.3
MCK **McKinley** 123.92 329 *e*PKIKP PKPdf 21 58 04.3 -0.8
MLR **Muntele Rosu** 127.17 60 PKP PKPdf 21 58 10.1 -1.7
comp=Z,4.4nm,1.1s,baz=266,slow=2.0,SNR=3.1
AKASG **Malin Array Be** 131.58 55 PKP PKPdf 21 58 18.4 -1.7
comp=Z,0.7nm,0.6s,baz=247,slow=4.0,SNR=2.3
AKASG **Malin Array Be** 131.58 55 PKP PKPdf 21 58 18.4 -1.7
OBN **Obninsk** 137.35 52 PKIKP PKPdf 21 58 28.0 -2.7
OBN *e* 21 58 34.0
OBN pmax pmax
comp=Z,6.0nm,1.1s
GOF **Gofitskoye** 137.65 68 *e*PKHKP 21 58 20.4
PETK **Petropavlovsk-** 145.82 301 PKP PKPdf 21 58 40.9 -5.1
comp=Z,5.5nm,0.7s,baz=94,slow=7.0,SNR=6.2
AKTK **Aktyubinsk** 148.89 65 PKPbc PKPbc 21 58 52.8 -2.4
AKTO **Aktyubinsk** 148.89 65 PKPbc PKPbc 21 58 52.8 -2.4
comp=Z,7.0nm,1.0s,baz=270,slow=2.7,SNR=8.3
ARU **Arti** 149.78 53 PKHKP PKPdf 21 58 54.5 +2.1
ARU **Arti** 149.78 53 *e*PKPdf PKPdf 21 58 54.1 +1.7
ARU *e*PKPbc PKPbc 21 58 57.9 +0.7
KBL **Kabul** 150.51 100 *e*PKIKP PKPdf 21 58 54.1 -0.2
KBL *e* 21 59 01.9
CMAR **Chiang Mai Arr** 151.93 168 PKPbc PKPbc 21 58 57.8 -5.6
comp=Z,2.4nm,0.8s,baz=218,slow=2.9,SNR=11
TIXI **Tiksi** 152.03 344 PKIKP PKPdf 21 58 55.8 +0.4
DDI **Dehra Dun** 153.78 118 *ex* x 21 59 15.0
BVAR **Borovoye Array** 156.73 60 PKP PKPdf 21 59 01.2 -1.3
comp=Z,0.7nm,0.8s,baz=211,slow=1.7,SNR=2.1
EKS2 **Erkin-Say** 157.53 88 PKPdf PKPdf 21 59 00.5 -3.4
UCH **Uchtor** 157.89 89 PKPdf PKPdf 21 59 05.6 +1.3
KMI **Kunming** 158.94 174 PKP PKPdf 21 59 08.5 +2.3
GYA **Guiyang** 160.29 185 PKP PKPdf 21 59 07.3 -0.4
GYA APKP 21 59 18.4
GYA XPKP 21 59 22.8
GYA PKP2 PKPab 21 59 49.8 +1.6
GYA PKS 22 02 39.3
GYA PP PP 22 03 31.8 +2.1
GYA SKS SKSdf 22 06 07.4 -2.6
GYA SKKS SKKSac 22 10 16.3 +0.2
GYA SS SS 22 23 37.0 0.0
GYA PP PP
comp=Z,120nm,8.4s
GYA LR LR
comp=N,250nm,23.8s
GYA LR LR
comp=E,120nm,21.6s
GYA LR LR
comp=Z,280nm,22.4s
KURK **Kurchatov** 161.98 66 PKP PKPdf 21 59 04.9 -3.8
comp=Z,0.4nm,0.2s,baz=260,slow=1.1,SNR=2.9
KURK PKPab PKPab 21 59 54.7 -0.5
comp=Z,0.4nm,0.3s,baz=275,slow=5.4,SNR=3.5
KURK **Kurchatov** 161.98 66 PKP PKPdf 21 59 04.9 -3.8
KURK PKPab PKPab 21 59 54.7 -0.5
NJ2 **Nanjing** 162.30 222 *e*PKP PKPdf 21 59 08.6 -1.0
MDJ **Mudanjiang** 162.65 274 PKP PKPdf 21 59 08.3 -1.2
MKAR **Makanchi Array** 164.37 79 PKP PKPdf 21 59 06.7 -4.3
comp=Z,0.2nm,0.2s,baz=333,slow=5.5,SNR=1.8
MKAR PKPab PKPab 22 00 07.2 +1.4
comp=Z,1.2nm,0.7s,baz=270,slow=3.8,SNR=4.4
MKAR **Makanchi Array** 164.37 79 PKP PKPdf 21 59 06.7 -4.4
MKAR PKPab PKPab 22 00 07.2 +1.4
CD2 **Chengdu** 164.75 176 *e*PKP PKPdf 21 59 10.8 -1.1
CD2 APKP 21 59 21.5
CD2 PKP2 PKPab 22 00 08.1 +0.5
CD2 PP PP 22 03 55.8 +2.5
CD2 SKS SKSdf 22 06 09.8 -3.5
CD2 SKKS SKKSac 22 10 37.6 -1.1
CD2 SS SS 22 24 22.8 -0.4
CD2 PP PP
comp=Z,1μm,10.8s
CD2 LR LR
comp=N,570nm,15.6s
CD2 LR LR
comp=E,450nm,13.2s
CD2 LR LR
comp=Z,530nm,16.8s
ZALV **Zalesovo Beam** 164.93 52 PKP PKPdf 21 59 05.8 -5.5
comp=Z,1.4nm,0.8s,baz=349,slow=2.9,SNR=3.4
CN2 **Changchun** 165.31 268 *e*PKP PKPdf 21 59 11.8 -0.2
WMQ **Urumqi** 167.55 95 PKP PKPdf 21 59 13.0 -0.7
WMQ APKP 21 59 23.5
WMQ XPKP 21 59 27.5
WMQ PKP2 PKPab 22 00 22.0 +2.1
WMQ PP PP 22 04 11.5 +2.4
WMQ PP PP
comp=Z,262nm,10.3s
WMQ LR LR
comp=N,878nm,22.1s
WMQ LR LR
comp=E,622nm,22.0s
WMQ LR LR
comp=Z,840nm,24.6s
LZH **Lanzhou** 169.90 175 *e*PKP PKPdf 21 59 14.8 -0.7
LZH APKP 21 59 25.6
LZH XPKP 21 59 29.0
LZH PKP2 PKPab 22 00 32.8 +2.5
LZH PP PP 22 04 19.0 -0.7
LZH LR LR
comp=N,203nm,19.8s
LZH LR LR
comp=Z,356nm,20.4s
LZH **Lanzhou** 169.90 175 *e*PKIKP PKPdf 21 59 14.7 -0.8
LZH 21 59 25.6
LZH **Lanzhou** 169.90 175 *e*PKP PKPdf 21 59 14.7 -0.8
LZH pPKP pPKPdf 21 59 25.6 -1.7
LZH sPKP 21 59 29.0
GTA **Gaotai** 172.27 149 *e*PKP PKPdf 21 59 19.4 +2.8
GTA APKP 21 59 30.3
GTA XPKP 21 59 33.8
GTA SKS SKSdf 22 06 18.0 +1.2
GTA PP PP
comp=Z,227nm,8.0s
GTA LR LR
comp=N,217nm,18.4s
GTA LR LR
comp=E,229nm,19.0s
GTA LR LR
comp=Z,280nm,20.2s
HHC **Hu-ho-hao-te** 172.85 224 *e*PKP PKPdf 21 59 16.4 -0.4
HHC APKP 21 59 27.3
HHC XPKP 21 59 31.8
HHC PKS 22 02 47.1
HHC PP PP 22 04 35.4 +0.4
HHC SKS SKSdf 22 06 14.9 -2.0
HHC SKKS SKKSac 22 11 17.4 -1.0
HHC PP PP
comp=Z,781nm,10.2s
HHC LR LR
comp=N,220nm,19.6s
HHC LR LR
comp=E,276nm,19.1s
HHC LR LR
comp=Z,225nm,18.6s

NEIC 15 22:07:21.2, 4469S×16738E, h5km, ML3.8(WEL), **After WEL., South Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MLZ	**Mavora Lakes**	0.87	140	P	Pg	22 07 36.8	-1.0
MLZ				S	Sg	22 07 47.8	-1.2
JCZ	**Jackson Bay**	1.16	59	P	Pg	22 07 43.2	-0.3
WKZ	**Wanaka**	1.18	97	P	Pg	22 07 42.9	-0.8
WHZ	**Wether Hill Ro**	1.27	162	P	Pg	22 07 43.8	-1.7
FOZ	**Fox Glacier**	2.01	57	P	Pn	22 07 54.8	-0.9
LBZ	**Lake Benmore**	2.03	82	P	Pn	22 07 56.3	+0.3
TUZ	**Tuapeka**	2.03	129	P	Pn	22 07 55.8	-0.2
ODZ	**Otahua Downs**	2.35	100	P	Pn	22 08 00.5	+0.1
DSZ	**Denniston Nort**	4.37	49	P	Pn	22 08 26.8	-1.4
THZ	**Tophouse**	4.98	56	P	Pn	22 08 36.0	-0.6
KHZ	**Kahutara**	5.02	65	P	Pn	22 08 35.2	-1.9
QRZ	**Quartz Range**	5.41	46	P	Pn	22 08 40.7	-1.8

*ISCJB **15** 22:17:43.9±1.0, 448S×008×1466E±02, h33km, mb4.1/2, Error ellipse: s-maj=28.3km s-min=11.0km az=175.2*
*NEIC **15** 22:17:45.5±0.8, 442S×14673E, h35km, mb4.0/3, Error ellipse: s-maj=22.9km s-min=9.1km az=84.0*
*IDC **15** 22:17:52.5±4.2, 533S×14629E, h0km, mb4.0/2, mb1 4.2/4, mb1mx3.7/16, mbtmp4.0/4, ML4.1/2, Error ellipse: s-maj=81.1km s-min=56.6km az=101.0*
ISC 15 22:17:45.9±1.0, 446S±008×1466E±02, h35km, n19, σ0°93/18, mb4.1/2, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	4.94	174	*e*Pn	Pn	22 18 56.6	-1.0
PMG				*e*Sn	Sn	22 19 32.0	-22
COEN	**Coen**	10.03	200	*e*Pn	Pn	22 20 07.2	-0.3
COEN				S	Sn	22 21 36.7	-22
CTA	**Charters Tower**	15.54	181	Pn	Pn	22 21 23.2	+0.8
	0.7nm,0.3s,baz=2.0,slow=15,SNR=4.6						
CTA	**Charters Tower**	15.54	181	Pn	Pn	22 21 23.2	+0.8
CTAO	**Charters Tower**	15.54	181	*e*Pn	Pn	22 21 23.1	+0.8
	2.5nm,0.3s						
WRAB	**Tennant Creek**	19.48	217	*e*P	Pn	22 22 09.7	-1.5
	2.3nm,0.4s						
WRA	**Warramunga Arr**	19.49	217	P	Pn	22 22 10.9	-0.6
	0.6nm,0.3s,baz=37,slow=11,SNR=14						
ASAR	**Alice Springs**	22.69	212	P	P	22 22 44.8	+0.2
	2.0nm,0.4s,mb3.9,baz=44,slow=7.8,SNR=27						
FITZ	**Fitzroy Crossi**	24.59	235	P	P	22 23 08.1	+5.2
	4.1nm,0.6s,mb4.1,baz=69,slow=13,SNR=18						
FITZ	**Fitzroy Crossi**	24.59	235	*e*P	P	22 23 05.1	+2.2
	6.1nm,0.5s,mb4.4						
STKA	**Stephens Creek**	27.68	189	P	P	22 23 30.3	-0.3
MBWA	**Marble Bar**	30.94	235	P	P	22 24 01.5	+1.8
LSA	**Lhasa**	63.02	306	P	P	22 28 09.6	-0.1
SBA	**Scott Base**	74.11	176	P	P	22 29 19.5	+1.4
KURK	**Kurchatov**	79.76	323	P	P	22 29 49.4	-0.9
KBL	**Kabul**	82.33	306	*e*P	P	22 30 04.1	-0.2
BRVK	**Borovoye**	85.38	324	P	P	22 30 19.4	-0.1
ARU	**Arti**	92.61	326	P	P	22 30 53.7	0.0
TORD	**Torodi Ar. Bea**	144.32	286	PKP	PKPdf	22 37 31.6	+12
	0.3nm,0.8s,baz=98,slow=2.8,SNR=5.3						

*IDC **15** 22:17:50.7±1.0, 3459N×25.12E, h0km, mb3.7/6, mb1 3.8/10, mb1mx3.6/26, mbtmp3.7/10, ML3.9/4, Error ellipse: s-maj=20.3km s-min=10.3km az=71.0*
*ISCJB **15** 22:17:52.0±1.0, 3455N±005×2495E±004, h28km±6km, mb3.7/10, Error ellipse: s-maj=8.7km s-min=5.8km az=3.5*
*CSEM **15** 22:17:55.3±0.4, 3485N×2503E, h12km, MD3.7, Error ellipse: s-maj=10.2km s-min=4.5km az=8.0*
*THE **15** 22:17:56.4, 3477N×2502E, h16km±1km, Error ellipse: s-maj=3.4km s-min=1.8km az=7.0*
*NEIC **15** 22:17:57.3, 3492N×2501E, h42km, mb3.8/11, MD3.7(ATH), After ATH.*
*ATH **15** 22:17:57.3, 3492N×2501E, h42km±4km, MD3.7/8*
ISC 15 22:17:54.1±0.9, 3465N±005×2496E±004, h25km±5km, n69, σ1°20/80, mb3.7/10, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIVA	**Sivas**	0.39	341	P	Pb	22 18 02.6	+0.1
SIVA				S	Sb	22 18 08.0	-0.2
IDI	**Anoyia**	0.64	355	Pg	Pb	22 18 05.9	-0.7
	131nm,0.3s,baz=163,slow=16,SNR=1591						
IDI				Lg		22 18 14.3	
	655nm,0.3s,baz=290,slow=16,SNR=56						
LAST	**Lasithi**	0.66	40	P	Pb	22 18 06.3	-0.7
LAST				S	Sb	22 18 15.2	-0.7
NPS	**Neapolis**	0.81	41	*e*P	Pb	22 18 09.1	-0.4
NPS				*e*S	Sb	22 18 19.6	-0.5
NPS	**Neapolis**	0.81	41	*e*P	Pb	22 18 09.1	-0.4
NPS				*e*S	Sb	22 18 19.6	-0.5
VAM	**Vamos**	0.98	321	*e*P	Pn	22 18 14.4	+2.2
VAM				*e*S	Sb	22 18 25.7	+0.8
VAM	**Vamos**	0.98	321	*e*P	Pn	22 18 14.4	+2.2
VAM				*e*S	Sb	22 18 25.7	+0.8
ZKR	**Zakros**	1.13	65	P	Pn	22 18 15.0	+0.7
ZKR				S	Sn	22 18 29.6	+0.6
THR6	**Thira Island,**	1.74	12	P	Pn	22 18 23.4	+0.7
THR1	**Thera Island**	1.77	13	P	Pn	22 18 23.0	0.0
THR1				S	Sn	22 18 44.9	+0.3
THR3	**Thira Island,**	1.79	11	P	Pn	22 18 24.4	+1.0
THR5	**Thira Island,**	1.79	10	P	Pn	22 18 24.2	+0.8
KARP	**Karpathos**	2.01	63	*e*P	Pn	22 18 29.1	+2.7
KARP	**Karpathos**	2.01	63	*e*P	Pn	22 18 29.1	+2.7
KYTH	**Kithira**	2.26	317	*e*P	Pn	22 18 32.5	+2.7
KYTH	**Kithira**	2.26	317	*e*P	Pn	22 18 32.5	+2.7
APE	**Apeiranthos**	2.46	11	P	Pn	22 18 32.7	+0.2
APE				S	Sn	22 19 00.1	-1.7
APE	**Apeiranthos**	2.46	11	*e*P	Pn	22 18 32.8	+0.3
APE	**Apeiranthos**	2.46	11	*e*P	Pn	22 18 32.8	+0.3
VLI	**Veliai**	2.64	322	*e*P	Pn	22 18 35.9	+0.8
VLI	**Veliai**	2.64	322	*e*P	Pn	22 18 35.9	+0.8
ARG	**Arkhangelos**	3.02	58	*e*P	Pn	22 18 41.5	+1.3
ARG	**Arkhangelos**	3.02	58	*e*P	Pn	22 18 41.5	+1.3
DID	**Didima**	3.18	334	P	Pn	22 18 42.6	+0.2
SMG	**Samos**	3.41	26	P	Pn	22 18 46.7	+1.1
PTL	**Penteli**	3.51	346	P	Pn	22 18 48.0	+1.1
ITM	**Ithomi**	3.53	317	*e*P	Pn	22 18 48.7	+1.5
ITM	**Ithomi**	3.53	317	*e*P	Pn	22 18 48.7	+1.5
VLS	**Valsamata**	4.98	316	P	Pn	22 19 10.4	+3.2
MMAI	**Mount Meron Ar**	8.84	98	Pn	Pn	22 19 59.3	-0.9
	0.3nm,0.3s,baz=285,slow=12,SNR=3.9						
MMAI				Sn	Sn	22 21 33.4	-5.6
	1.1nm,0.3s,baz=331,slow=30,SNR=4.0						
EIL	**Elat**	9.81	118	Pn	Pn	22 20 12.7	-0.8
	0.4nm,0.3s,baz=21,slow=17,SNR=3.0						
EIL				Sn	Sn	22 21 57.8	-5.1
	0.6nm,0.3s,baz=270,slow=20,SNR=3.8						
AKASG	**Malin Array Be**	16.34	10	Pn	Pn	22 21 41.8	+0.1
	1.1nm,0.3s,baz=202,slow=11,SNR=4.5						
GERES	**GERESS Array B**	16.46	333	Pn	Pn	22 21 45.3	+2.2
	0.5nm,0.3s,baz=145,slow=12,SNR=24						
LPG	**La Plagne**	17.61	313	*e*P	Pn	22 21 53.9	-3.7
	4.9nm,0.7s						
LPG	**La Plagne**	17.61	313	*e*P	Pn	22 21 53.9	-3.7
	2.5nm,0.7s						
LPL	**La Plagne**	17.63	313	*e*P	Pn	22 21 53.4	-4.5
	3.1nm,0.5s						
LPL	**La Plagne**	17.63	313	*e*P	Pn	22 21 53.4	-4.5
	1.5nm,0.5s						
HINF	**Hinteralfeld**	18.88	320	*e*P	Pn	22 22 10.6	-2.4
CDF	**Champ du Feu**	19.03	322	*e*P	Pn	22 22 11.7	-3.1
	5.3nm,0.8s						
CDF	**Champ du Feu**	19.03	322	*e*P	Pn	22 22 11.7	-3.1
	2.7nm,0.8s						
HAU	**Haudompre**	19.26	319	*e*P	Pn	22 22 15.5	-2.1
	5.5nm,0.5s						
HAU	**Haudompre**	19.26	319	*e*P	Pn	22 22 15.5	-2.1
	2.8nm,0.5s						
SMF	**Signal de Mont**	19.94	313	*e*P	Pn	22 22 22.0	-3.8
LOR	**Lormes**	20.24	315	*e*P	P	22 22 25.9	-1.4
	5.6nm,0.6s						
LOR	**Lormes**	20.24	315	*e*P	P	22 22 25.9	-1.4
	2.8nm,0.6s						
MEZF	**Maizieres J'vi**	20.25	319	*e*P	P	22 22 26.1	-1.2
	6.3nm,0.5s						
MEZF	**Maizieres J'vi**	20.25	319	*e*P	P	22 22 26.1	-1.2
	3.2nm,0.5s						
SSF	**Saint Saulge**	20.35	314	*e*P	P	22 22 27.2	-1.2
	4.6nm,0.8s						
SSF	**Saint Saulge**	20.35	314	*e*P	P	22 22 27.2	-1.2
	2.3nm,0.8s						
EPF	**Esparros**	20.87	301	*e*P	P	22 22 34.0	-0.1
GIVF	**Givet**	21.34	322	*e*P	P	22 22 38.0	-1.1
ETSF	**Etsaut**	21.48	300	*e*P	P	22 22 41.3	+0.7
	2.9nm,0.6s,mb3.5						
ETSF	**Etsaut**	21.48	300	*e*P	P	22 22 41.3	+0.7
	1.5nm,0.6s,mb3.5						
BAIF	**Baives**	21.63	322	*e*P	P	22 22 40.7	-1.5
	12nm,0.6s,mb4.2						
BAIF	**Baives**	21.63	322	*e*P	P	22 22 40.7	-1.5
	6.2nm,0.6s,mb4.2						
SJPF	**Ste Jean**	22.00	300	*e*P	P	22 22 46.5	+0.2
MFF	**Saint Martin d**	22.39	310	*e*P	P	22 22 49.5	-0.8
	10nm,0.7s,mb4.1						
MFF	**Saint Martin d**	22.39	310	*e*P	P	22 22 49.5	-0.8
	5.1nm,0.7s,mb4.1						
LDF	**La Druitiere**	23.23	314	*e*P	P	22 22 58.0	-1.2
FLN	**La Foliniere**	23.52	315	*e*P	P	22 23 00.7	-1.4
ESDC	**Sonseca Array**	23.54	291	P	P	22 23 03.3	+0.9
	0.3nm,0.4s,mb3.0,baz=69,slow=9.7,SNR=4.3						
QUIF	**Quistinic**	24.79	311	*e*P	P	22 23 13.3	-0.5
	9.6nm,0.7s,mb4.2						
QUIF	**Quistinic**	24.79	311	*e*P	P	22 23 13.3	-0.5
	4.8nm,0.7s,mb4.2						
HFS	**Hagfors**	26.54	347	P	P	22 23 28.7	-0.8
	1.1nm,0.7s,mb3.5,baz=201,slow=12,SNR=4.1						
EKA	**Eskdalemuir Ar**	28.37	325	P	P	22 23 48.0	+2.1
	1.4nm,0.8s,mb3.6,baz=127,slow=8.1,SNR=4.3						
TORD	**Torodi Ar. Bea**	30.04	230	P	P	22 24 02.5	+1.4
	1.4nm,0.4s,mb4.0,baz=33,slow=8.7,SNR=51						
MKAR	**Makanchi Array**	44.19	56	P	P	22 25 59.9	-0.9
	0.3nm,0.4s,mb3.4,baz=278,slow=7.0,SNR=5.0						
MKAR	**Makanchi Array**	44.19	56	P	P	22 25 59.9	-0.9
SONM	**Songino Array**	59.94	50	P	P	22 27 57.9	0.0
	0.2nm,0.5s,mb3.4,baz=297,slow=5.6,SNR=2.4						

NEIC 15 22:20:00.5, 4469S×16733E, h5km, ML4.1(WEL), **After WEL., South Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSZ	**Milford Sound**	0.43	88	P	Pg	22 20 09.0	+0.3
MSZ				S	Sg	22 20 13.8	-0.5
DCZ	**Deep Cove**	0.80	189	P	Pg	22 20 15.4	-0.4
DCZ				S	Sg	22 20 25.5	-0.7
WKZ	**Wanaka**	1.21	97	P	Pg	22 20 22.9	-0.8
WHZ	**Wether Hill Ro**	1.28	160	P	Pn	22 20 23.8	-1.2
FOZ	**Fox Glacier**	2.04	57	P	Pn	22 20 35.0	-0.4
TUZ	**Tuapeka**	2.06	129	P	Pn	22 20 35.6	-0.1
LBZ	**Lake Benmore**	2.06	83	P	Pn	22 20 36.1	+0.3
ODZ	**Otahua Downs**	2.38	100	P	Pn	22 20 40.4	+0.2
RPZ	**Rata Peaks**	2.85	71	P	Pn	22 20 46.3	-0.3
WVZ	**Waitaha Valley**	2.94	58	P	Pn	22 20 46.3	-1.6
DSZ	**Denniston Nort**	4.40	50	P	Pn	22 21 06.2	-1.7
QRZ	**Quartz Range**	5.43	47	P	Pn	22 21 19.0	-3.1
MRW	**Makara Radio**	6.42	60	P	Pn	22 21 19.3	-16

*ISK **15** 22:21:39.8, 3842N×3924E, h10km, MD2.7*
*DDA **15** 22:21:39.8, 3843N×3923E, h7km±4km, Md3.0, Ml3.0*
*CSEM **15** 22:21:39.3±0.1, 3843N×3923E, h12km, MD2.7, Error ellipse: s-maj=3.6km s-min=3.1km az=136.0*
*ISCJB **15** 22:21:40.2±0.6, 3842N±004×3923E±004, h9km±5km, Error ellipse: s-maj=6.3km s-min=5.0km az=16.0*
ISC 15 22:21:40.5±0.8, 3843N±004×3923E±004, h8km±10km, n7, σ0°61/14, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SVRC	**Sivrice-ELAZID**	0.08	127	PG	Pg	22 21 42.3	-0.2
SVRC				*e*SG	Sg	22 21 44.0	0.0
ELZG	**Elazig**	0.21	291	*i* P	Pg	22 21 44.4	-0.3
ELZG				*i* S	Sg	22 21 47.3	-0.3
PTK	**Pertek**	0.48	15	*e*PG	Pg	22 21 49.4	-0.5
PTK				*e*SG	Sg	22 21 57.5	+1.1
MYA	**Malataya**	0.64	261	*e*PG	Pg	22 21 52.7	-0.2
MYA				*e*SG	Sg	22 22 02.3	+1.1
DIYA	**Diyarbakir**	0.86	125	*i* P	Pg	22 21 57.3	+0.2
DIYA				*i* S	Sg	22 22 08.0	-0.4
URFA	**Urfa**	1.03	198	*e*PG	Pg	22 21 60.0	-0.4
URFA				*e*SG	Sg	22 22 14.8	+1.0
AKCD	**Akcadag**	1.03	263	*i* P	Pg	22 21 59.5	-0.9
AKCD				*i* S	Sg	22 22 13.6	-0.3

*IDC **15** 22:23:20.8±1.4, 4494S×16744E, h0km, mb3.7/5, mb1 4.0/6, mb1mx3.9/13, mbtmp3.8/6, ML4.5/1, Error ellipse: s-maj=52.0km s-min=22.8km az=179.0*
*NEIC **15** 22:23:23.9, 4481S×16745E, h5km, ML4.5(WEL), After WEL.*
*ISCJB **15** 22:23:25.4±3.3, 449S±01×1674E±02, h38km±37km, mb3.9/6, Error ellipse: s-maj=26.6km s-min=17.3km az=40.5*
ISC 15 22:23:24.4±5.9, 448S±01×16743E±009, h19km±37km, h18km±1.1km:pP-P, n17, σ1°00/16, mb3.9/6, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RPZ	**Rata Peaks**	2.82	69	Pn	Pn	22 24 08.7	+0.3
	64nm,0.3s,baz=230,slow=5.6,SNR=26						

RPZ Sn **Sn** **22 24 42.7 +0.9**
41nm,0.3s,baz=12,slow=8.9,SNR=3.8
SNZO South Karori 6.37 59 *e*Pn **Pn** **22 25 02.0 +4.9**
SNZO *e*Sn **Sn** **22 26 07.7 -1.6**
TAU Tasmania Unive 14.63 270 *e*Pn **Pn** **22 26 46.8 -3.5**
STKA Stephens Creek 23.91 294 P **P** **22 28 38.3 +1.3**
3.3nm,0.9s,mb3.7,baz=150,slow=12,SNR=3.4
ASAR Alice Springs 34.47 297 P **P** **22 30 10.6 -0.4**
0.5nm,0.7s,mb3.6,baz=132,slow=7.5,SNR=7.1
CASY Casey 36.92 214 P **P** **22 30 31.0 -0.5**
WRA Warramunga Arr 36.94 301 P **P** **22 30 31.8 -0.5**
0.9nm,1.0s,mb3.6,baz=135,slow=7.5,SNR=4.7
WRAB Tennant Creek 36.94 301 *e*P **P** **22 30 33.9 +1.7**
48nm,2.1s,mb5.0
FITZ Fitzroy Crossi 43.80 294 P **P** **22 31 28.5 -0.6**
0.8nm,0.6s,mb3.6,baz=150,slow=8.1,SNR=4.1
SNAA Sanae 63.63 183 *e* **P** **22 33 55.8 +2.3**
SNAA *e* pP 22 34 00.6 +1.0
SNAA Sanae 63.63 183 *e*P **P** **22 33 53.2 -0.3**
VNA3 Neumayer Olymp 64.25 181 *e* **P** **22 33 57.6 0.0**
VNA3 *e* pP 22 34 03.0 -0.7
VNA2 Neumayer--Watz 64.53 182 *e* **P** **22 33 59.0 -0.4**
baz=172,slow=4.6
VNA2 *e* pP 22 34 05.1 -0.4
CMAR Chiang Mai Arr 88.46 298 P **P** **22 36 15.3 -0.1**
0.4nm,0.5s,mb3.9,baz=144,slow=2.9,SNR=4.9
TORD Torodi Ar. Bea 146.19 206 PKPbc PKPbc 22 43 02.0 -1.6
0.9nm,0.7s,baz=150,slow=2.7,SNR=8.1
ARCES ARCESS Array B 148.70 335 PKPbc PKPbc 22 43 07.9 -1.1
1.9nm,0.9s,baz=48,slow=1.8,SNR=4.4
AKASG Malin Array Be 151.58 297 PKPbc PKPbc 22 43 16.4 -0.1
0.3nm,0.3s,baz=67,slow=3.7,SNR=4.1

IDC ***15*** *22:53:17.2±4.1,3440N×7401E,h0km,mb3.8/3,mb1 4.0/6, mb1mx3.6/24,mbtmp4.0/6,ML3.9/3,Error ellipse: s-maj=89.6km s-min=32.7km az=126.0*
ISCJB ***15*** *22:53:25.2±0.6,3477N±003×7401E±006,h77km±12km, mb3.7/2,Error ellipse: s-maj=8.5km s-min=4.4km az=154.1*
NEIC ***15*** *22:53:25.8±0.6,3461N×7390E,h58km±10km,Error ellipse: s-maj=10.7km s-min=4.6km az=50.0*
NNC ***15*** *22:53:29.1±12.0,3509N×7403E,h75km±104km,mb3.0, mpv3.7,Error ellipse: s-maj=105.5km s-min=92.6km az=82.0*
ISC 15 22:53:27.1±0.5,3476N±003×7400E±006,h80km±11km, n30,σ1°24/36,mb3.7/2,3C-1D,Pakistan

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
THN	**Thein Dam**	**2.72**	**148**	*e*P		**Pn**		**22 54 09.8**	**+1.1**
THN				*e*x		x		22 54 52.9	
KBL	**Kabul**	**4.09**	**268**	*e*Pn		**Pn**		**22 54 24.7**	**-2.5**
KBL				*e*Sn		**Sn**		**22 55 14.5**	**+0.6**
SDNR	**Sundarnagar**	**4.09**	**142**	*e*P		**Pn**		**22 54 29.0**	**+1.7**
SDNR				*e*x		x		22 55 34.6	
SMLA	**Simla**	**4.49**	**143**	⇑*i*P		**Pn**		**22 54 34.8**	**+2.1**
SMLA				*i* S		**Sn**		**22 55 29.7**	**+6.0**
SMLA				*e*x		x		22 55 33.5	
	comp=N,420nm,0.3s								
SMLA				*e*x		x		22 55 34.8	
	comp=E,234nm,0.3s								
KHET	**Khetri**	**6.84**	**166**	*e*S		**Sn**		**22 56 21.0**	**-0.1**
KHET				AML		AML		22 57 09.6	
	comp=N,9.0nm,0.2s								
KHET				AML		AML		22 57 15.0	
	comp=E,14nm,0.6s								
SONA	**Sohna**	**7.00**	**157**	*e*S		**Sn**		**22 56 26.6**	**+1.5**
SONA				AML		AML		22 57 16.8	
	comp=E,11nm,0.4s								
SONA				AML		AML		22 57 17.8	
	comp=N,8.3nm,0.4s								
AML	**Almayashu**	**7.37**	**358**	*e*Pn		**Pn**		**22 55 12.8**	**+0.9**
	comp=N,2.7nm,0.4s								
AML				*e*Sn		**Sn**		**22 56 32.9**	**-0.9**
UCH	**Uchtor**	**7.47**	**3**	*e*Pn		**Pn**		**22 55 14.8**	**+1.5**
UCH				*e*Sn		**Sn**		**22 56 37.2**	**+0.8**
EKS2	**Erkin-Say**	**7.90**	**359**	*e*Pn		**Pn**		**22 55 19.7**	**+0.6**
	comp=N,2.5nm,0.5s								
EKS2				*e*Sn		**Sn**		**22 56 47.6**	**+0.8**
KK31	**Karatay Array**	**8.77**	**343**	P		**Pn**		**22 55 28.9**	**-2.0**
	comp=N,1.5nm,0.4s,baz=155,slow=12,SNR=51								
KK31				⇑S		**Sn**		**22 57 03.5**	**-4.5**
	comp=N,1.1nm,0.4s,baz=161,slow=28,SNR=4.6								
DANN	**Dangsing**	**10.49**	**125**	*e*P		**Pn**		**22 55 54.4**	**-0.1**
	comp=N,13nm,0.2s								
GKN	**Gorkha**	**11.31**	**124**	*e*P		**Pn**		**22 56 05.2**	**-0.5**
	comp=N,8.3nm,0.3s								
DMN	**Daman**	**11.88**	**124**	*e*P		**Pn**		**22 56 12.4**	**-1.0**
	comp=N,5.9nm,0.3s								
KKN	**Kakani**	**11.88**	**123**	*e*P		**Pn**		**22 56 12.4**	**-1.1**
PKI	**Pulchoki**	**12.11**	**123**	*e*P		**Pn**		**22 56 16.4**	**-0.2**
GUN	**Gumba**	**12.23**	**121**	*e*P		**Pn**		**22 56 18.0**	**-0.2**
	comp=N,5.4nm,0.3s								
JIRN	**Jiri**	**12.60**	**121**	*e*P		**Pn**		**22 56 23.1**	**-0.1**
	comp=N,21nm,0.4s								
RAMN	**Ramite**	**13.32**	**122**	*e*P		**Pn**		**22 56 31.1**	**-1.7**
	comp=N,12nm,0.5s								
MKAR	**Makanchi Array**	**13.56**	**25**	Pn		**Pn**		**22 56 44.4**	**+8.6**
	comp=N,0.1nm,0.3s,baz=215,slow=11,SNR=6.1								
TAPN	**Taplejung**	**13.87**	**118**	*e*P		**Pn**		**22 56 38.8**	**-1.2**
	comp=N,8.1nm,0.3s								
ODAN	**Odare**	**13.93**	**121**	*e*P		**Pn**		**22 56 39.7**	**-1.1**
KURK	**Kurchatov**	**16.30**	**11**	Pn		**Pn**		**22 57 09.9**	**-1.0**
	comp=N,0.1nm,0.3s,baz=197,slow=12,SNR=2.5								
AB31	**Akbulak array**	**17.82**	**329**	⇓P		**Pn**		**22 57 27.4**	**-2.1**
	comp=N,0.8nm,0.8s,baz=146,slow=12,SNR=7.5								
BVAR	**Borovoye Array**	**18.44**	**353**	P		**Pn**		**22 57 38.3**	**+1.3**
	comp=N,0.5nm,0.3s,baz=157,slow=8.9,SNR=15								
AKTK	**Aktyubinsk**	**19.53**	**328**	P		**Pn**		**22 57 49.1**	**-0.7**
AKTO	**Aktyubinsk**	**19.53**	**328**	⇑P		**Pn**		**22 57 48.0**	**-1.9**
	comp=N,0.4nm,0.8s								
AKTO	**Aktyubinsk**	**19.53**	**328**	P		**Pn**		**22 57 49.1**	**-0.7**
	comp=N,0.3nm,0.3s,baz=127,slow=12,SNR=9.4								
ZALV	**Zalesovo Beam**	**20.64**	**18**	P		**P**		**22 58 01.4**	**+1.4**
	comp=N,2.3nm,0.6s,baz=214,slow=10,SNR=13								
ARCES	**ARCESS Array B**	**43.69**	**338**	P		**P**		**23 01 25.5**	**+2.0**
	comp=N,1.5nm,0.7s,mb3.8,baz=99,slow=7.7,SNR=3.9								
TORD	**Torodi Ar. Bea**	**68.15**	**271**	P		**P**		**23 04 19.9**	**+0.9**
	comp=N,0.8nm,0.8s,mb3.6,baz=44,slow=5.6,SNR=4.7								

ISCJB ***15*** *22:59:37.6±1.6,4463S×005×167.14E±009,h10km±10km, mb3.5/2,Error ellipse: s-maj=10.9km s-min=7.0km az=28.3*
IDC ***15*** *22:59:37.0±1.7,4469S×167.16E,h0km,mb3.4/2, mb1 3.7/3,mb1mx3.6/12,mbtmp3.5/3,ML4.0/1,Error ellipse: s-maj=59.2km s-min=24.6km az=180.0*
NEIC ***15*** *22:59:40.3,4472S×167.26E,h15km,ML4.1(WEL),After WEL.*
ISC 15 22:59:38.7±1.4,4467S±006×16719E±008,h8km±9km,n21, σ0°68/23,mb3.5/2,South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
MSZ	**Milford Sound**	**0.53**	**90**	P		P	**Pg**	**22 59 49.8**	**+0.9**
MSZ				S		S	**Sg**	**22 59 55.1**	**-0.8**
DCZ	**Deep Cove**	**0.81**	**182**	P		P	**Pg**	**22 59 54.7**	**+0.5**
DCZ				S		S	**Sg**	**23 00 04.8**	**+0.1**
MLZ	**Mavora Lakes**	**0.97**	**134**	P		P	**Pg**	**22 59 56.7**	**-0.7**
JCZ	**Jackson Bay**	**1.28**	**63**	P		P	**Pn**	**23 00 03.0**	**+0.2**
WKZ	**Wanaka**	**1.31**	**97**	P		P	**Pn**	**23 00 02.9**	**-0.4**
WHZ	**Wether Hill Ro**	**1.33**	**157**	P		P	**Pn**	**23 00 03.0**	**-0.6**
EAZ	**Earnscleugh**	**1.61**	**111**	P		P	**Pn**	**23 00 07.7**	**+0.3**
FOZ	**Fox Glacier**	**2.12**	**59**	P		P	**Pn**	**23 00 14.6**	**+0.2**
TUZ	**Tuapeka**	**2.15**	**127**	P		P	**Pn**	**23 00 14.9**	**+0.1**
LBZ	**Lake Benmore**	**2.16**	**83**	P		P	**Pn**	**23 00 16.0**	**+1.0**
ODZ	**Otahua Downs**	**2.49**	**100**	P		P	**Pn**	**23 00 20.0**	**+0.5**
RPZ	**Rata Peaks**	**2.94**	**72**	Pn		**Pn**		**23 00 26.1**	**+0.3**
	19nm,0.3s,baz=234,slow=3.1,SNR=19								
RPZ				Sn		**Sn**		**23 01 01.4**	**+0.2**
	18nm,0.3s,baz=345,slow=22,SNR=6.1								
RPZ	**Rata Peaks**	**2.94**	**72**	P		P	**Pn**	**23 00 25.9**	**+0.2**
WVZ	**Waitaha Valley**	**3.02**	**59**	P		P	**Pn**	**23 00 25.9**	**-0.9**
MQZ	**McQueen's Vall**	**4.05**	**78**	P		P	**Pn**	**23 00 40.2**	**-0.7**
THZ	**Tophouse**	**5.09**	**57**	P		P	**Pn**	**23 00 55.8**	**+0.6**
QRZ	**Quartz Range**	**5.50**	**48**	P		P	**Pn**	**23 01 00.4**	**-0.5**
NNZ	**Nelson**	**5.71**	**55**	P		P	**Pn**	**23 01 04.0**	**+0.3**
ASAR	**Alice Springs**	**34.25**	**297**	P		**P**		**23 06 26.2**	**+1.1**
	0.4nm,0.7s,mb3.5,baz=133,slow=7.4,SNR=4.6								
WRA	**Warramunga Arr**	**36.73**	**301**	P		**P**		**23 06 44.7**	**-1.7**
	0.6nm,0.6s,mb3.6,baz=137,slow=7.9,SNR=6.1								
TORD	**Torodi Ar. Bea**	**146.22**	**206**	PKPbc		PKPbc		23 19 18.6	-1.4
	0.3nm,0.6s,baz=158,slow=1.6,SNR=6.5								

ISK ***15*** *23:03:03.9,3681N×2719E,h12km,MD3.2*
NEIC ***15*** *23:03:04.0,3676N×2738E,h13km,MD3.1(ISK), MD3.4(ATH),After ISK.*
DDA ***15*** *23:03:05.6,3700N×2715E,h20km±2km,Md3.3*
ISCJB ***15*** *23:03:06.6±0.5,3697N±002×2723E±003,h13km±3km, Error ellipse: s-maj=4.2km s-min=3.8km az=22.2*
CSEM ***15*** *23:03:06.6±0.1,3697N×2725E,h20km,MD3.3,Error ellipse: s-maj=2.0km s-min=1.4km az=136.0*
ATH ***15*** *23:03:06.3,3695N×2722E,h28km±4km,MD3.4/6*
THE ***15*** *23:03:08.2,3701N×2723E,h14km±7km,ML3.6/2,Error ellipse: s-maj=8.6km s-min=1.6km az=118.0*
ISC 15 23:03:07.0±0.6,3696N±003×2721E±003,h12km±3km,n48, σ0°93/69,Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
BODT	**Bodrum**	**0.13**	**37**	*e*PG		**Pg**		**23 03 10.4**	**0.0**
BDRM	**Kayabasi**	**0.22**	**60**	*i* P		**Pg**		**23 03 11.5**	**-0.2**
BDRM				*i* S		**Sg**		**23 03 14.9**	**0.0**
MLSB	**Milas**	**0.57**	**53**	*e*PG		**Pg**		**23 03 17.6**	**-0.5**
MLSB				*e*SG		**Sg**		**23 03 27.1**	**+1.5**
SMG	**Samos**	**0.81**	**339**	*e*Pn		**Pg**		**23 03 22.6**	**-0.1**
SMG				*e*Sn		**Sg**		**23 03 33.6**	**+0.3**
SMG	**Samos**	**0.81**	**339**	*e*PN		**Pg**		**23 03 22.6**	**-0.1**
SMG				*e*SN		**Sg**		**23 03 33.6**	**+0.3**
AYDN	**Tasoluk**	**0.88**	**37**	*i* P		**Pg**		**23 03 23.8**	**-0.3**
AYDN				*i* S		**Sg**		**23 03 35.3**	**-0.4**
ARG	**Arkhangelos**	**1.04**	**135**	*e*Pn		**Pn**		**23 03 26.6**	**-0.8**
ARG	**Arkhangelos**	**1.04**	**135**	*e*PN		**Pn**		**23 03 26.6**	**-0.8**
TURN	**Turunc**	**1.12**	**94**	*i* P		**Pb**		**23 03 22.6**	**-5.7**
TURN				*i* S		**Sb**		**23 03 35.2**	**-7.6**
APE	**Apeiranthos**	**1.35**	**275**	P		**Pn**		**23 03 30.8**	**-0.8**
APE				S		**Sb**		**23 03 50.0**	**+0.6**
APE	**Apeiranthos**	**1.35**	**275**	*e*Pn		**Pn**		**23 03 31.1**	**-0.5**
APE				S		**Sb**		**23 03 50.0**	**+0.6**
APE				*e*Sn		**Sn**		**23 03 50.4**	**+1.0**
APE	**Apeiranthos**	**1.35**	**275**	*e*PN		**Pn**		**23 03 31.1**	**-0.5**
APE				*e*SN		**Sn**		**23 03 50.4**	**+1.0**
KARP	**Karpathos**	**1.41**	**182**	*e*Pn		**Pn**		**23 03 31.5**	**-0.9**
KARP	**Karpathos**	**1.41**	**182**	*e*PN		**Pn**		**23 03 31.5**	**-0.9**
BLCB	**Balcova**	**1.43**	**355**	*e*PN		**Pn**		**23 03 32.2**	**-0.6**
IZM	**Izmir**	**1.44**	**2**	*e*Pn		**Pn**		**23 03 32.3**	**-0.6**
IZM				*e*SN		**Sn**		**23 03 54.0**	**+2.3**
KDAG	**Bornova**	**1.45**	**2**	*i* P		**Pn**		**23 03 31.6**	**-1.4**
KDAG				*i* S		**Sg**		**23 03 55.3**	**+1.7**
URLA	**Izmir**	**1.48**	**341**	*i* P		**Pn**		**23 03 32.7**	**-0.8**
URLA				*i* S		**Sn**		**23 03 53.1**	**+0.3**
THR3	**Thira Island,**	**1.55**	**250**	P		**Pn**		**23 03 35.1**	**+0.7**
THR6	**Thira Island,**	**1.57**	**248**	P		**Pn**		**23 03 34.3**	**-0.4**
THR5	**Thira Island,**	**1.59**	**251**	P		**Pn**		**23 03 34.5**	**-0.4**
DNZL	**Cakiroluk**	**1.64**	**63**	*i* P		**Pn**		**23 03 36.2**	**+0.6**
DNZL				*i* S		**Sg**		**23 03 59.6**	**-0.2**
DENT	**Denizli**	**1.66**	**61**	*e*PN		**Pn**		**23 03 34.7**	**-1.1**
CHOS	**Chios island**	**1.70**	**328**	P		**Pn**		**23 03 35.7**	**-0.7**
CHOS				S		**Sn**		**23 03 56.0**	**-2.0**
GOLH	**Golhisar**	**1.90**	**81**	*i* P		**Pn**		**23 03 41.1**	**+1.9**
GOLH				*i* S		**Sn**		**23 04 04.2**	**+1.1**
KULA	**Kula-Manisa**	**1.94**	**36**	*e*PN		**Pn**		**23 03 40.1**	**+0.4**
AKHS	**Akhisar**	**1.98**	**14**	*i* P		**Pn**		**23 03 44.7**	**+4.4**
AKHS				*i* S		**Sg**		**23 04 10.2**	**-0.5**
AKS	**Akhisar**	**1.98**	**14**	*e*PN		**Pn**		**23 03 39.7**	**-0.6**
ZKR	**Zakros**	**2.00**	**204**	P		**Pn**		**23 03 40.5**	**-0.1**
AKAS	**Kas**	**2.06**	**110**	*i* P		**Pn**		**23 03 42.8**	**+1.4**
AKAS				*i* S		**Sg**		**23 04 12.6**	**-0.6**
ELL	**Elmali**	**2.17**	**95**	*e*PN		**Pn**		**23 03 45.7**	**+2.7**
LAST	**Lasithi**	**2.27**	**219**	P		**Pn**		**23 03 45.7**	**+1.4**
KHL	**Karahalli**	**2.29**	**53**	*e*PN		**Pn**		**23 03 43.9**	**-0.6**
PRK	**Paraskevi**	**2.40**	**342**	P		**Pn**		**23 03 45.8**	**-0.3**
PRK				S		**Sn**		**23 04 14.5**	**-1.0**
PRK	**Paraskevi**	**2.40**	**342**	*e*Pn		**Pn**		**23 03 46.1**	**0.0**
PRK				S		**Sn**		**23 04 14.5**	**-1.0**
PRK	**Paraskevi**	**2.40**	**342**	*e*PN		**Pn**		**23 03 46.1**	**0.0**
IDI	**Anoyia**	**2.51**	**229**	P		**Pn**		**23 03 48.1**	**+0.5**
BALB	**Balikesir**	**2.73**	**11**	*e*PN		**Pn**		**23 03 51.3**	**+0.6**
BCK	**Bucak**	**2.75**	**78**	*e*PN		**Pn**		**23 03 49.7**	**-1.2**
ANTB	**Antalya**	**2.76**	**90**	*e*PN		**Pn**		**23 03 49.2**	**-1.9**
BALY	**Balya**	**2.80**	**7**	*i* P		**Pn**		**23 03 51.1**	**-0.4**
BALY				*i* S		**Sg**		**23 04 32.7**	**-4.2**
DST	**Dursunbey**	**2.87**	**22**	*e*PN		**Pn**		**23 03 52.8**	**+0.2**
SHUT	**Suhut-Afyon**	**3.09**	**58**	*e*PN		**Pn**		**23 03 55.6**	**0.0**
ALT	**Altintas**	**3.11**	**47**	*e*PN		**Pn**		**23 03 55.6**	**-0.1**
DID	**Didima**	**3.22**	**281**	P		**Pn**		**23 03 57.5**	**+0.2**
LIA	**Limnos Island**	**3.34**	**332**	*e*Pn		**Pn**		**23 03 59.4**	**+0.4**
LIA	**Limnos Island**	**3.34**	**332**	*e*PN		**Pn**		**23 03 59.4**	**+0.4**
RDO	**Rodhopi**	**4.38**	**343**	P		**Pn**		**23 04 14.3**	**+1.0**

NEIC 15 23:04:16.3,4475S×16739E,h5km,ML4.5(WEL),After WEL.,South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
MSZ	**Milford Sound**	**0.39**	**79**	P		P	Pg	23 04 24.0	+0.2
MSZ				S		S	Sg	23 04 28.9	0.0
DCZ	**Deep Cove**	**0.75**	**193**	P		P	Pg	23 04 29.9	-0.7
DCZ				S		S	Sg	23 04 40.4	0.0
MLZ	**Mavora Lakes**	**0.82**	**137**	P		P	Pg	23 04 31.8	-0.2
WKZ	**Wanaka**	**1.16**	**94**	P		P	Pg	23 04 38.1	-0.5
JCZ	**Jackson Bay**	**1.19**	**56**	P		P	Pg	23 04 38.7	-0.4
WHZ	**Wether Hill Ro**	**1.21**	**161**	P		P	Pg	23 04 38.7	-0.8
EAZ	**Earnscleugh**	**1.44**	**110**	P		P	Pn	23 04 42.7	-0.4
TUZ	**Tuapeka**	**1.99**	**128**	P		P	Pn	23 04 50.6	+0.1
LBZ	**Lake Benmore**	**2.03**	**81**	P		P	Pn	23 04 51.6	+0.5
FOZ	**Fox Glacier**	**2.04**	**55**	P		P	Pn	23 04 50.7	-0.5
ODZ	**Otahua Downs**	**2.33**	**98**	P		P	Pn	23 04 55.7	+0.4
RPZ	**Rata Peaks**	**2.83**	**70**	P		P	Pn	23 05 02.0	-0.1
WVZ	**Waitaha Valley**	**2.94**	**56**	P		P	Pn	23 05 01.5	-2.1
MQZ	**McQueen's Vall**	**3.92**	**76**	P		P	Pn	23 05 16.3	-0.8
THZ	**Tophouse**	**5.01**	**55**	P		P	Pn	23 05 31.6	-0.5
KHZ	**Kahutara**	**5.04**	**65**	P		P	Pn	23 05 32.1	-0.4
QRZ	**Quartz Range**	**5.45**	**46**	P		P	Pn	23 05 36.4	-1.7
NNZ	**Nelson**	**5.63**	**53**	P		P	Pn	23 05 39.7	-1.0
TCW	**Tory Channel**	**6.16**	**57**	P		P	Pn	23 05 48.2	+0.3
CAW	**Cannon Point**	**6.71**	**60**	P		P	Pn	23 05 53.2	-2.2
HIZ	**Hauiti**	**8.37**	**44**	P		P	Pn	23 06 17.2	-1.0

ISCJB ***15*** *23:06:50.0±0.3,3592N±003×077W±002,h10km,Error ellipse: s-maj=4.0km s-min=2.7km az=8.2*
CRAAG ***15*** *23:06:51.1,3583N×079W,MI3.8*
NEIC ***15*** *23:06:51.6,3588N×077W,h0km,MG4.0(MDD),After MDD.*
MDD ***15*** *23:06:52.0±0.4,3578N×070W,h17km±7km,mbLg2.3/28, Error ellipse: s-maj=7.9km s-min=4.2km az=166.0,PRIMO*
CSEM ***15*** *23:06:52.5±0.2,3586N×066W,h15km,ML2.9/22,Error ellipse: s-maj=4.4km s-min=3.0km az=147.0*
LDG ***15*** *23:06:52.9±0.3,3571N×072W,h20km,Ml2.9/3,Error ellipse: s-maj=5.6km s-min=3.4km az=156.0*
ISC 15 23:06:52.7±0.8,3587N±005×076W±003,h24km±10km, n107,σ1°39/174,Northern Algeria

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
USTO	**Oran**	**0.22**	**130**	P		P	**Pb**	**23 06 56.0**	**-2.4**
OTSS	**Djebel Tessala**	**0.59**	**183**	P		P	**Pb**	**23 07 02.5**	**-1.8**
ODZI	**Dziouia**	**0.70**	**214**	P		P	**Pb**	**23 07 04.0**	**-2.2**
OKGL	**Djebel Kef Gue**	**1.15**	**81**	P		P	**Pn**	**23 07 11.8**	**-1.4**
OJGS	**Djebel Guires**	**1.28**	**106**	P		P	**Pn**	**23 07 17.1**	**+2.1**
EANR	**'Ain N'Sour**	**1.51**	**87**	P		P	**Pn**	**23 07 16.6**	**-1.5**
ENIJ	**Nijar**	**1.60**	**314**	P		P	**Pn**	**23 07 18.2**	**-1.2**
	4.9nm,0.1s,SNR=10								
ENIJ				S		**Sn**		**23 07 37.8**	**-1.6**
	19nm,0.1s,SNR=7.9								
ENIJ	**Nijar**	**1.60**	**314**	Pn		**Pn**		**23 07 18.2**	**-1.2**
	4.9nm,0.1s,SNR=10								
ENIJ				Sn		**Sn**		**23 07 38.6**	**-0.8**
	19nm,0.1s,SNR=7.9								
ENIJ	**Nijar**	**1.60**	**314**	Pn		**Pn**		**23 07 18.2**	**-1.2**
ENIJ				Sn		**Sn**		**23 07 38.6**	**-0.8**
CART	**Cartagena**	**1.72**	**354**	*e*Pn		**Pn**		**23 07 20.2**	**-0.9**
CART	**Cartagena**	**1.72**	**354**	*e*Pn		**Pn**		**23 07 20.2**	**-0.9**
CART				Sn		**Sn**		**23 07 36.5**	**-5.8**
ECHF	**Ech Chlef**	**1.72**	**80**	P		**Pn**		**23 07 23.9**	**+2.8**
ECHA	**Ech Chlef**	**1.74**	**80**	P		**Pn**		**23 07 23.9**	**+2.5**
ETRT	**Tiaret**	**1.74**	**105**	P		**Pn**		**23 07 18.4**	**-2.9**
EBNR	**Beni Rached**	**1.90**	**77**	P		**Pn**		**23 07 24.9**	**+1.4**

EBER Berja 2.00 301 P **Pn** **23 07 24.1 -0.8**
6.2nm,0.1s,SNR=7.9
EBER S **Sn** **23 07 49.8 +0.6**
16nm,0.2s,SNR=7.9
EBER Berja 2.00 301 Pn **Pn** **23 07 24.0 -0.9**
6.2nm,0.1s,SNR=7.9
EBER Sn **Sn** **23 07 49.8 +0.6**
16nm,0.2s,SNR=7.9
EBER Berja 2.00 301 Pn **Pn** **23 07 24.0 -0.9**
EBER Sn **Sn** **23 07 49.8 +0.6**
EHUE Huescar 2.44 323 P **Pn** **23 07 32.2 +1.3**
0.6nm,0.1s,SNR=7.9
EHUE S **Sn** **23 08 00.8 +1.0**
3.7nm,0.1s,SNR=7.9
EGUA Guajares 2.46 294 P **Pn** **23 07 30.2 -1.0**
8.3nm,0.2s,SNR=7.9
EGUA S **Sn** **23 08 00.9 +0.4**
10nm,0.1s,SNR=7.9
EGUA Guajares 2.46 294 Pn **Pn** **23 07 30.1 -1.1**
8.3nm,0.2s,SNR=7.9
EGUA Sn **Sn** **23 08 00.9 +0.4**
10nm,0.1s,SNR=7.9
EGUA Guajares 2.46 294 Pn **Pn** **23 07 30.1 -1.2**
EGUA Sn **Sn** **23 08 00.9 +0.4**
EQUE Quentar 2.54 302 P **Pn** **23 07 32.9 +0.6**
3.3nm,0.1s,SNR=43
EQUE S **Sn** **23 08 03.4 +1.0**
2.1nm,0.1s,SNR=7.9
ECOG Cogollos-Vega 2.66 303 P **Pn** **23 07 35.3 +1.3**
2.7nm,0.1s,SNR=11
ECOG S **Sn** **23 08 06.7 +1.2**
1.0nm,0.1s,SNR=5.0
ECOG Cogollos-Vega 2.66 303 Pn **Pn** **23 07 35.3 +1.3**
2.7nm,0.1s,SNR=11
ECOG Sn **Sn** **23 08 08.2 +2.7**
ECOG Cogollos-Vega 2.66 303 Pn **Pn** **23 07 35.3 +1.3**
ECOG Sn **Sn** **23 08 08.2 +2.8**
EQES Quesada 2.68 317 P **Pn** **23 07 35.6 +1.4**
5.1nm,0.1s,SNR=7.9
EQES S **Sn** **23 08 05.9 +0.1**
10.0nm,0.1s,SNR=7.9
EQES Quesada 2.68 317 Pn **Pn** **23 07 35.8 +1.6**
5.1nm,0.1s,SNR=7.9
EQES Sn **Sn** **23 08 08.0 +2.2**
10.0nm,0.1s,SNR=7.9
EQES Quesada 2.68 317 Pn **Pn** **23 07 35.9 +1.7**
EQES Sn **Sn** **23 08 08.0 +2.2**
ERON Agron 2.71 296 P **Pn** **23 07 35.1 +0.5**
2.2nm,0.2s,SNR=7.9
ERON S **Sn** **23 08 08.8 +2.1**
1.5nm,0.1s,SNR=7.9
ERON Agron 2.71 296 Pn **Pn** **23 07 35.1 +0.5**
ERON Sn **Sn** **23 08 08.8 +2.1**
ETOB Tobarra 2.84 347 P **Pn** **23 07 37.1 +0.7**
4.1nm,0.1s,SNR=78
ETOB S **Sn** **23 08 09.2 -0.6**
8.9nm,0.1s,SNR=6.4
ETOB Tobarra 2.84 347 Pn **Pn** **23 07 37.1 +0.7**
4.1nm,0.1s,SNR=78
ETOB Sn **Sn** **23 08 09.2 -0.6**
8.9nm,0.1s,SNR=6.4
EBEN Beniarda 2.86 8 P **Pn** **23 07 36.9 +0.2**
0.6nm,0.1s,SNR=7.9
EBEN S **Sn** **23 08 08.9 -1.4**
1.7nm,0.2s,SNR=7.9
EBEN Beniarda 2.86 8 Pn **Pn** **23 07 36.9 +0.2**
SNR=7.9
EBEN Sn **Sn** **23 08 08.9 -1.4**
1.7nm,0.2s,SNR=7.9
ELOJ Sierra Loja 3.02 296 P **Pn** **23 07 40.3 +1.4**
2.1nm,0.3s,SNR=5.6
ELOJ S **Sn** **23 08 13.8 -0.5**
0.3nm,0.1s,SNR=5.0
ELOJ Sierra Loja 3.02 296 Pn **Pn** **23 07 40.7 +1.8**
2.1nm,0.3s,SNR=5.6
ELOJ Sn **Sn** **23 08 13.8 -0.4**
0.3nm,0.1s,SNR=5.0
ELOJ Sierra Loja 3.02 296 Pn **Pn** **23 07 40.7 +1.8**
ELOJ Sn **Sn** **23 08 13.8 -0.5**
EMHD Djebel Mahouad 3.02 83 P **Pn** **23 07 34.0 -5.0**
EVIA Vianos 3.09 334 P **Pn** **23 07 40.8 +0.8**
1.2nm,0.1s,SNR=9.4
EVIA S **Sn** **23 08 16.2 +0.1**
7.5nm,0.2s,SNR=7.5
EVIA Vianos 3.09 334 Pn **Pn** **23 07 40.8 +0.9**
1.2nm,0.1s,SNR=9.4
EVIA Sn **Sn** **23 08 17.4 +1.3**
7.5nm,0.2s,SNR=7.5
EVIA Vianos 3.09 334 Pn **Pn** **23 07 40.8 +0.8**
EVIA Sn **Sn** **23 08 17.4 +1.3**
**AB

2.7nm,0.2s,SNR=8.8
ETOR Sn **Sn** **23 09 01.9 -2.3**
2.9nm,0.2s,SNR=7.9
ETOR Torete 5.04 349 Pn **Pn** **23 08 08.7 +2.0**
ETOR Sn **Sn** **23 09 01.9 -2.3**
EMIN Mina Concepcio 5.11 293 P **Pn** **23 08 06.4 -1.2**
0.4nm,0.1s,SNR=7.9
EMIN S **Sn** **23 09 02.3 -3.5**
0.3nm,0.1s,SNR=7.9
EMIN Mina Concepcio 5.11 293 Pn **Pn** **23 08 06.4 -1.2**
0.4nm,0.1s,SNR=7.9
ERTA Horta de San J 5.15 9 P **Pn** **23 08 09.0 +0.8**
2.5nm,0.1s,SNR=29
ERTA S **Sn** **23 09 05.5 -1.3**
0.4nm,0.1s,SNR=7.9
ERTA Horta de San J 5.15 9 Pn **Pn** **23 08 09.0 +0.8**
2.5nm,0.1s,SNR=29
ERTA Sn **Sn** **23 09 05.5 -1.3**
0.4nm,0.1s,SNR=7.9
GUD Guadarrama 5.46 332 P **Pn** **23 08 13.7 +1.2**
0.5nm,0.2s,SNR=7.9
PBAR Barrancos 5.53 296 *e*Pn **Pn** **23 08 13.1 -0.3**
PBAR *e*Sn **Sn** **23 09 12.2 -3.9**
EGRO El Granado 5.65 289 P **Pn** **23 08 14.0 -1.1**
0.3nm,0.1s,SNR=5.6
EGRO El Granado 5.65 289 Pn **Pn** **23 08 14.0 -1.1**
0.3nm,0.1s,SNR=5.6
EPOB Poblet 5.66 14 P **Pn** **23 08 15.9 +0.7**
0.9nm,0.1s,SNR=6.9
EPOB S **Sn** **23 09 16.3 -3.0**
0.5nm,0.2s,SNR=7.9
EPOB Poblet 5.66 14 Pn **Pn** **23 08 15.9 +0.8**
0.9nm,0.1s,SNR=6.9
EPOB Sn **Sn** **23 09 16.3 -3.0**
0.5nm,0.2s,SNR=7.9
EBAD Badajoz 5.76 302 P **Pn** **23 08 15.7 -0.8**
0.9nm,0.1s,SNR=8.4
EBAD S **Sn** **23 09 19.3 -2.5**
0.2nm,0.2s,SNR=7.9
EBAD Badajoz 5.76 302 Pn **Pn** **23 08 15.7 -0.8**
0.9nm,0.1s,SNR=8.4
EBAD Sn **Sn** **23 09 19.3 -2.5**
0.2nm,0.2s,SNR=7.9
PVAQ Vaqueiros 5.80 287 *e*Pn **Pn** **23 08 16.6 -0.6**
PBDV Barranco-do-Ve 5.94 285 *e*Pn **Pn** **23 08 18.6 -0.4**
PBEJ Beja 6.09 293 *e*Pn **Pn** **23 08 20.2 -0.8**
PBEJ Beja 6.09 293 P **Pn** **23 08 20.2 -0.8**
PBEJ Beja 6.09 293 S **Sn** **23 09 28.2 -1.7**
1.2nm,0.1s
PBEJ Beja 6.09 293 *e*S **Sn** **23 09 28.2 -1.7**
PESTR Estremoz 6.21 301 *e*Pn **Pn** **23 08 22.5 -0.2**
PESTR *e*Sn **Sn** **23 09 29.4 -3.5**
EMIR Miracle 6.29 16 P **Pn** **23 08 25.9 +2.1**
0.7nm,0.2s,SNR=10
EMIR S **Sn** **23 09 31.3 -3.6**
0.2nm,0.1s,SNR=4.0
EMIR Miracle 6.29 16 Pn **Pn** **23 08 25.9 +2.1**
0.7nm,0.2s,SNR=10
EMIR Sn **Sn** **23 09 31.3 -3.6**
0.2nm,0.1s,SNR=4.0
EMIR Miracle 6.29 16 Pn **Pn** **23 08 25.9 +2.1**
EMIR Sn **Sn** **23 09 31.3 -3.6**
PMRV Marv??o 6.35 306 *e*Pn **Pn** **23 08 25.0 +0.4**
PMRV *e*Sn **Sn** **23 09 32.7 -3.6**
EVO Evora 6.37 297 *e*Pn **Pn** **23 08 24.8 -0.2**
EVO *e*Sn **Sn** **23 09 38.2 +1.3**
2.3nm,0.2s
EVOP Sao Brissos 6.45 296 *e*Pn **Pn** **23 08 24.8 -1.2**
PFVI Vila Bisbo 6.62 283 *e*Pn **Pn** **23 08 28.3 -0.1**
PCBR Castelo Branco 6.63 309 *e*Pn **Pn** **23 08 28.8 +0.3**
ETSF Etsaut 7.02 1 *e*Pn **Pn** **23 08 34.8 +1.0**
ETSF *e*Sn **Sn** **23 09 50.2 -2.6**
1.2nm,0.3s
ETSF Etsaut 7.02 1 *e*Pn **Pn** **23 08 34.8 +1.0**
ETSF *e*Sn **Sn** **23 09 50.2 -2.6**
0.6nm,0.3s
EPF Esparros 7.20 6 *e*Pn **Pn** **23 08 38.0 +1.7**
EPF *e*Sn **Sn** **23 09 54.9 -2.4**
1.1nm,0.4s
EPF Esparros 7.20 6 *e*Pn **Pn** **23 08 38.0 +1.7**
EPF *e*Sn **Sn** **23 09 54.9 -2.4**
0.6nm,0.4s
SJPF Ste Jean 7.24 357 *e*Pn **Pn** **23 08 38.5 +1.6**
LFF La Frestale 9.13 7 *e*Pn **Pn** **23 09 03.6 +0.8**
CAF Calviac 9.29 12 *e*Pn **Pn** **23 09 05.2 +0.2**
LMR La Mourre 9.32 35 *e*Pn **Pn** **23 09 06.5 +1.1**
SMRF Simiane la Rot 9.44 29 *e*Pn **Pn** **23 09 09.1 +2.1**
FRF La Foret Royal 9.56 34 *e*Pn **Pn** **23 09 10.7 +2.0**
PGF Pioggiola 10.08 46 *e*Pn **Pn** **23 09 16.1 +0.3**

IDC ***15*** *23:24:46.4±1.0, 46.10S×75.79W, h0km, mb4.0/4, mb1 4.1/5, mb1mx3.9/16, mbtmp3.9/5, ML3.7/1, MS3.3/2, Ms1 3.3/2, ms1mx3.0/27, Error ellipse: s-maj=59.0km s-min=23.8km az=104.0*
NEIC ***15*** *23:24:47.7±0.6, 46.07S×75.81W, h10km, mb4.3/3, Error ellipse: s-maj=31.5km s-min=11.9km az=110.0*
ISCJB ***15*** *23:24:49.3±0.8, 46.05S±0.1×757.1W±0.4, h33km, mb4.0/7, Error ellipse: s-maj=38.2km s-min=12.9km az=20.1*
ISC 15 23:24:51.5±0.8, 460S±01×758W±04, h35km, n13, σ0s74/10, mb4.0/7, Southern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
PLCA	**Paso Flores**	**6.52**	**38**	Pn		**Pn**	**23 26 25.1**	**+0.2**
	0.3nm,0.3s,baz=231,slow=14,SNR=9.1							
PLCA				LR		LR	23 28 51.6	
	comp=Z,474nm,21.5s,baz=235,slow=37							
CFAA	**Coronel Fontan**	**15.54**	**25**	Pn		**Pn**	**23 28 24.6**	**-3.2**
	0.1nm,0.3s,baz=208,slow=10,SNR=4.6							
CFAA				LR		LR	23 34 40.2	
	comp=Z,62nm,18.3s,baz=166,slow=38							
LVC	**Limon Verde**	**24.02**	**16**	*e*P		**P**	**23 30 02.7**	**-0.3**
	6.3nm,0.7s,mb4.2							
LPAZ	**La Paz**	**30.33**	**15**	P		**P**	**23 31 00.8**	**+1.2**
	1.0nm,0.7s,mb3.6,baz=201,slow=4.0,SNR=5.6							
LPAZ	**La Paz**	**30.33**	**15**	P		**P**	**23 31 00.8**	**+1.2**
SIV	**San Ignacio**	**32.38**	**27**	P		**P**	**23 31 17.8**	**+0.1**
	1.9nm,0.9s,mb3.9,baz=221,slow=8.6,SNR=5.3							
QSPA	**South Pole Qui**	**44.22**	**180**	P		**P**	**23 32 56.5**	**0.0**
	2.7nm,1.1s,mb3.9,baz=145,slow=5.3,SNR=3.9							
SBA	**Scott Base**	**50.73**	**194**	*e*P		**P**	**23 33 47.0**	**-0.1**
	0.7nm,0.6s,mb3.8							
TXAR	**Lajitas Array**	**79.16**	**335**	P		**P**	**23 36 52.0**	**-0.2**
	1.9nm,1.0s,mb4.0,baz=140,slow=4.7,SNR=3.7							
JCT	**Junction City**	**79.20**	**339**	P		**P**	**23 36 52.5**	**0.0**
	8.3nm,0.8s,mb4.7							
GERES	**GERESS Array B**	**122.30**	**51**	PKP		PKPdf	23 43 44.8	+3.0
	0.3nm,0.6s,baz=220,slow=2.6,SNR=3.7							
PETK	**Petropavlovsk-**	**145.32**	**302**	PKPbc		PKPbc	23 44 26.5	+2.1
	1.7nm,0.7s,baz=102,slow=5.9,SNR=2.7							
CMAR	**Chiang Mai Arr**	**152.16**	**169**	PKPbc		PKPbc	23 44 42.2	-1.1
	0.5nm,0.5s,baz=224,slow=3.8,SNR=3.8							

NEIC ***15*** *23:29:28.1±3.1, 757S×128.12E, h123km±35km, Error ellipse: s-maj=33.3km s-min=25.7km az=81.0*
ISCJB ***15*** *23:29:29.0±2.8, 76S±02×128.33E±0.10, h157km±34km, mb3.4/2, Error ellipse: s-maj=35.0km s-min=12.0km az=19.2*
IDC ***15*** *23:29:31.6±7.4, 770S×128.21E, h164km±84km, mb3.1/2, mb1 3.4/6, mb1mx3.3/16, mbtmp3.3/6, Error ellipse: s-maj=74.6km s-min=23.6km az=41.0*
ISC 15 23:29:29.7±2.5, 77S±02×128.36E±009, h142km±31km, n7, σ1s11/9, mb3.4/2, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
BATI	**Baumata**	**5.29**	**241**	P		**Pn**	**23 30 47.8**	**+0.9**
	9.5nm,0.3s,baz=82,slow=3.8,SNR=6.1							
BATI				S		**Sn**	**23 31 46.7**	**-0.5**
	12nm,0.3s,baz=114,slow=11,SNR=20							
KAKA	**Kakadu**	**6.43**	**142**	*e*Pn		**Pn**	**23 31 03.3**	**+1.1**
	24nm,0.6s							
KAKA				*e*Sn		**Sn**	**23 32 12.8**	**-1.7**
FITZ	**Fitzroy Crossi**	**10.72**	**194**	P		**Pn**	**23 31 58.7**	**-0.8**
	0.4nm,0.3s,baz=8.3,slow=9.8,SNR=14							
FITZ				S		Sx	23 33 51.6	
	1.4nm,0.3s,baz=83,slow=22,SNR=12							
WRA	**Warramunga Arr**	**13.53**	**155**	P		**Pn**	**23 32 36.1**	**+0.2**
	0.4nm,0.3s,baz=334,slow=13,SNR=5.1							
WRA				S		Sx	23 35 02.0	
	1.7nm,0.3s,baz=332,slow=22,SNR=16							
ASAR	**Alice Springs**	**16.79**	**162**	P		**Pn**	**23 33 18.6**	**+2.2**

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	0.6nm,0.3s,baz=341,slow=11,SNR=58							
ASAR				S		Sx	23 36 11.9	
	0.2nm,0.3s,baz=334,slow=21,SNR=4.0							
SONM	**Songino Array**	**58.56**	**343**	P		**P**	**23 39 11.3**	**+0.1**
	0.8nm,0.8s,mb3.6,baz=170,slow=7.5,SNR=6.6							
MKAR	**Makanchi Array**	**67.89**	**328**	P		**P**	**23 40 11.6**	**-1.2**
	0.2nm,0.5s,mb3.1,baz=128,slow=8.1,SNR=2.3							

NEIC 15 23:51:36.1, 4477S×16737E, h5km, ML4.1(WEL), After WEL., South Island

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
MSZ	**Milford Sound**	**0.41**	**77**	P		Pg	23 51 43.9	-0.1
DCZ	**Deep Cove**	**0.72**	**192**	P		Pg	23 51 49.7	-0.3
DCZ				S		Sg	23 52 00.3	+0.9
MLZ	**Mavora Lakes**	**0.81**	**136**	P		Pg	23 51 51.7	0.0
WKZ	**Wanaka**	**1.17**	**93**	P		Pg	23 51 57.9	-0.7
WHZ	**Wether Hill Ro**	**1.20**	**160**	P		Pg	23 51 58.6	-0.4
JCZ	**Jackson Bay**	**1.21**	**56**	P		Pg	23 51 59.0	-0.3
EAZ	**Earnscleugh**	**1.45**	**109**	P		Pn	23 52 02.5	-0.5
TUZ	**Tuapeka**	**1.99**	**127**	P		Pn	23 52 10.9	+0.6
LBZ	**Lake Benmore**	**2.05**	**80**	P		Pn	23 52 11.6	+0.4
FOZ	**Fox Glacier**	**2.06**	**55**	P		Pn	23 52 10.8	-0.5
ODZ	**Otahua Downs**	**2.34**	**98**	P		Pn	23 52 15.8	+0.6
RPZ	**Rata Peaks**	**2.85**	**70**	P		Pn	23 52 22.1	-0.1
WVZ	**Waitaha Valley**	**2.96**	**56**	P		Pn	23 52 21.8	-1.9
MQZ	**McQueen's Vall**	**3.94**	**76**	P		Pn	23 52 36.2	-1.0
DSZ	**Denniston Nort**	**4.43**	**49**	P		Pn	23 52 42.1	-1.8
THZ	**Tophouse**	**5.04**	**55**	P		Pn	23 52 51.7	-0.5
QRZ	**Quartz Range**	**5.47**	**46**	P		Pn	23 52 56.5	-1.7
NNZ	**Nelson**	**5.66**	**53**	P		Pn	23 52 59.2	-1.6
WCZ	**Waipu Caves**	**10.29**	**33**	P		Pn	23 54 02.5	-1.9

IDC 15 23:54:17.1±1.4, 129S×2338W, h0km, mb3.6/3, mb1 3.9/3, mb1mx3.5/20, mbtmp3.7/3, MS3.6/1, Ms1 3.6/1, ms1mx3.0/29, Error ellipse: s-maj=77.7km s-min=33.2km az=166.0, Central Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
DBIC	**Dimbokro**	**20.11**	**67**	P		P	23 58 50.8	-1.9
	4.4nm,1.1s,baz=241,slow=13,SNR=3.1							
TORD	**Torodi Ar. Bea**	**28.71**	**59**	LR		LR	00 09 36.3	
	comp=Z,112nm,18.5s,baz=45,slow=32							
LPAZ	**La Paz**	**46.52**	**249**	P		P	00 02 45.8	-1.0
	0.6nm,0.6s,baz=90,slow=3.3,SNR=4.3							
TXAR	**Lajitas Array**	**82.16**	**300**	P		P	00 06 41.6	+1.2
	0.3nm,0.8s,baz=121,slow=3.5,SNR=3.7							
ASAR	**Alice Springs**	**146.79**	**140**	PKPbc		PKPbc	00 14 02.8	+0.7
	0.4nm,0.6s,baz=202,slow=1.9,SNR=5.1							

ISCJB ***15*** *23:57:08.7±4.0, 112S±0.1×163.2E±02, h79km±31km, mb3.8/6, Error ellipse: s-maj=38.2km s-min=20.2km az=18.9*
IDC ***15*** *23:57:09.8±5.7, 11.19S×162.29E, h74km±43km, mb3.7/6, mb1 4.0/8, mb1mx3.8/18, mbtmp3.9/8, ML4.4/2, MS3.6/2, Ms1 3.6/2, ms1mx3.2/25, Error ellipse: s-maj=43.5km s-min=21.9km az=115.0*
ISC 15 23:57:09.5±4.0, 112S±01×163.2E±02, h71km±30km, n10, σ0s46/9, mb3.8/6, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
HNR	**Honiara**	**2.92**	**307**	P		**Pn**	**23 57 53.2**	**-0.5**
	76nm,0.3s,baz=102,slow=20,SNR=12							
HNR				S		**Sn**	**23 58 27.9**	**+0.3**
	237nm,0.3s,baz=332,slow=19,SNR=12							
HNR				LR		LR	23 59 06.7	
	comp=Z,692nm,18.2s,baz=132,slow=40							
CTA	**Charters Tower**	**17.80**	**238**	P		**Pn**	**00 01 12.9**	**+0.4**
	0.6nm,0.3s,baz=70,slow=12,SNR=7.5							
STKA	**Stephens Creek**	**28.09**	**220**	LR		LR	00 13 32.0	
	comp=Z,193nm,19.8s,baz=117,slow=35							
WRA	**Warramunga Arr**	**28.28**	**249**	P		**P**	**00 02 56.0**	**-0.4**
	0.7nm,0.3s,mb3.6,baz=76,slow=9.4,SNR=3.4							
ASAR	**Alice Springs**	**29.73**	**242**	P		**P**	**00 03 09.6**	**+0.3**
	0.7nm,0.6s,mb3.5,baz=68,slow=9.9,SNR=12							
PETK	**Petropavlovsk-**	**64.17**	**357**	P		**P**	**00 07 37.2**	**+0.8**
	2.5nm,0.8s,mb4.1,baz=112,slow=4.0,SNR=4.2							
SONM	**Songino Array**	**76.83**	**325**	P		**P**	**00 08 53.6**	**0.0**
	1.6nm,0.8s,mb3.8,baz=151,slow=3.0,SNR=8.6							
DIB	**Dawson Inlet,**	**84.64**	**33**	T			01 42 41.3	
	SNR=18							
NVAR	**Mina Array Bea**	**88.71**	**51**	P		**P**	**00 09 55.4**	**0.0**
	0.8nm,0.6s,mb4.0,baz=240,slow=7.2,SNR=5.0							
MKAR	**Makanchi Array**	**91.34**	**317**	P		**P**	**00 10 06.6**	**-0.8**
	0.2nm,0.4s,mb3.6,baz=82,slow=6.5,SNR=3.5							

IDC ***16*** *00:00:10.1±0.8, 45.98S×76.06W, h0km, mb4.3/10, mb1 4.4/11, mb1mx4.3/18, mbtmp4.3/11, ML3.6/1, MS4.1/9, Ms1 4.0/9, ms1mx3.8/24, Error ellipse: s-maj=38.4km s-min=15.9km az=88.0*
NEIC ***16*** *00:00:12.7±3.0, 45.97S×76.39W, h21km±21km, mb4.8/25, Error ellipse: s-maj=14.8km s-min=6.2km az=87.0*
ISCJB ***16*** *00:00:13.0±0.3, 45.93S±005×762W±0.1, h33km, mb4.6/29, MS4.1/6, Error ellipse: s-maj=13.1km s-min=6.8km az=177.8*
ISC 16 00:00:15.1±0.3, 4595S±005×763W±01, h35km, (h23km±2.2km:pP-P), n63, σ0s85/56, mb4.6/29, MS4.1/6, Off coast of southern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
PLCA	**Paso Flores**	**6.68**	**41**	Pn		**Pn**	**00 01 50.1**	**-0.5**
	1.0nm,0.3s,baz=221,slow=14,SNR=37							
PLCA				Sn		**Sn**	**00 03 20.5**	**+15**
	0.4nm,0.3s,baz=323,slow=20,SNR=1.8							
PLCA				LR		LR	00 04 27.2	
	comp=Z,2µm,19.8s,baz=211,slow=39							
PLCA	**Paso Flores**	**6.68**	**41**	*e*Pn		**Pn**	**00 01 50.7**	**+0.1**
	15nm,0.7s							
PLCA				*e*Sn		**Sn**	**00 03 04.7**	**-0.7**
USHA	**Ushuaia**	**10.20**	**154**	Pn		**Pn**	**00 02 37.6**	**-1.2**
	0.6nm,0.3s,baz=300,slow=18,SNR=4.1							
USHA				LR		LR	00 06 23.2	
	comp=Z,764nm,20.5s,baz=304,slow=37							
CFAA	**Coronel Fontan**	**15.62**	**26**	Pn		**Pn**	**00 03 46.4**	**-6.0**
	0.1nm,0.3s,baz=202,slow=12,SNR=9.5							
CFAA				LR		LR	00 10 04.7	
	comp=Z,131nm,19.0s,baz=192,slow=38							
CFAA	**Coronel Fontan**	**15.62**	**26**	Pn		**Pn**	**00 03 46.4**	**-6.0**
CFAA				LR		LR	00 10 04.7	
LCO	**Las Campanas**	**17.47**	**16**	*e*Pn		**Pn**	**00 04 16.1**	**+0.3**
	64nm,1.4s							
PMSA	**Palmer Station**	**20.04**	**165**	LR		LR	00 10 48.2	
	comp=Z,754nm,19.8s,MS4.0,baz=102,slow=32							
PMSA	**Palmer Station**	**20.04**	**165**	*e*P		**P**	**00 04 42.8**	**-1.8**
	23nm,1.0s							
LVC	**Limon Verde**	**24.04**	**17**	P		**P**	**00 05 27.0**	**+0.3**
	7.6nm,0.7s,mb4.2,baz=207,slow=10,SNR=6.8							
LVC				LR		LR	00 15 47.5	
	comp=Z,265nm,18.9s,MS3.7,baz=196,slow=39							
LVC	**Limon Verde**	**24.04**	**17**	*e*P		**P**	**00 05 27.1**	**+0.3**
	17nm,0.7s,mb4.6							
LVC				LR		LR	00 15 47.5	
LPAZ	**La Paz**	**30.35**	**16**	P		**P**	**00 06 24.1**	**+0.7**
	3.1nm,0.7s,mb4.1,baz=185,slow=8.7,SNR=15							
LPAZ	**La Paz**	**30.35**	**16**	*e*P		**P**	**00 06 24.5**	**+1.2**
	4.3nm,0.7s,mb4.3							
LPAZ				*e*PP		PP	00 07 30.2	-2.0
SIV	**San Ignacio**	**32.47**	**28**	P		**P**	**00 06 41.4**	**-0.6**
	6.3nm,1.0s,mb4.4,baz=226,slow=9.3,SNR=19							
BDFB	**Brasilia**	**38.37**	**47**	LR		LR	00 25 41.4	
	comp=Z,166nm,19.7s,MS3.9,baz=198,slow=40							
ATAH	**Atahualpa**	**38.84**	**357**	P		**P**	**00 07 36.6**	**-0.1**
	3.9nm,0.7s,mb4.3,baz=121,slow=5.9,SNR=3.6							
VNA3	**Neumayer Olymp**	**39.88**	**152**	*e*		**P**	**00 07 45.0**	**+0.2**
VNA3				*e*		pP	00 07 52.5	-2.5
VNA3				*e*			00 08 01.5	
VNA1	**Neumayer--Stat**	**40.32**	**151**	*e*		**P**	**00 07 49.4**	**+0.9**
VNA1				*e*		pP	00 07 56.3	-2.4
VNA2	**Neumayer--Watz**	**40.61**	**152**	*e*		**P**	**00 07 51.4**	**+0.5**
	baz=276,slow=9.3							
VNA2				*e*		pP	00 07 59.0	-2.1
VNA2				*e*			00 08 08.5	
SNAA	**Sanae**	**42.06**	**153**	*e*		**P**	**00 08 02.6**	**-0.2**
SNAA				*e*		pP	00 08 10.2	-2.8
SNAA				*e*			00 08 19.6	
SNAA	**Sanae**	**42.06**	**153**	*e*P		**P**	**00 08 02.8**	**0.0**

14nm,1.4s,mb4.4
QSPA South Pole Qui 44.30 180 P **P** **00 08 21.3 +0.5**
3.7nm,1.0s,mb4.1,baz=125,slow=4.9,SNR=8.1
OTAV Otavalo 46.03 357 *e*P **P** **00 08 35.5 +0.3**
6.8nm,0.8s,mb4.6
ROSC El Rosal 50.61 3 LR LR 00 28 36.5
comp=Z,241nm,18.8s,MS4.2,baz=91,slow=34
SBA Scott Base 50.72 194 *e*P **P** **00 09 11.0 +0.3**
20nm,1.8s,mb4.8
SDV Santo Domingo 54.81 7 *e*P **P** **00 09 40.3 -1.2**
2.7nm,0.7s,mb4.4
JTS JuntasAbangare 56.52 350 P **P** **00 09 53.2 -0.5**
TGUH Tegucigalpa,Un 60.54 348 P **P** **00 10 20.9 -0.8**
MAW Mawson 62.65 164 P **P** **00 10 35.3 -0.1**
2.7nm,0.9s,mb4.4,baz=170,slow=8.2,SNR=4.9
MAW LR LR 00 36 02.0
comp=Z,358nm,20.2s,MS4.5,baz=227,slow=34
MAW Mawson 62.65 164 *e*P **P** **00 10 34.9 -0.5**
4.2nm,0.8s,mb4.6
MAW LR LR 00 36 02.0
TEIG Tepich 66.75 348 *e*P **P** **00 11 02.2 -0.4**
11nm,0.7s,mb5.0
CASY Casey 67.99 183 P **P** **00 11 10.4 +0.5**
BOSA Boshof 77.37 118 LR LR 00 43 53.0
comp=Z,128nm,18.6s,MS4.3,baz=328,slow=34
TXAR Lajitas Array 78.94 336 P **P** **00 12 16.3 +1.7**
1.1nm,0.9s,mb3.8,baz=148,slow=7.3,SNR=10.0
TXAR Lajitas Array 78.94 336 P **P** **00 12 16.3 +1.7**
JCT Junction City 79.00 339 *e*P **P** **00 12 15.4 +0.4**
16nm,1.0s,mb4.9
LRAL Lakeview Retre 79.21 351 *e*P **P** **00 12 15.7 -0.4**
7.8nm,0.9s,mb4.6
LRAL *e* 00 12 22.3
GOGA Godfrey 79.25 354 *e*P **P** **00 12 15.4 -0.9**
9.1nm,0.8s,mb4.8
GOGA *e* 00 12 22.4
LBTB Lobatse 80.16 116 P **P** **00 12 21.6 0.0**
1.5nm,0.7s,mb4.0,baz=38,slow=2.1,SNR=3.6
LBTB Lobatse 80.16 116 *e*P **P** **00 12 21.2 -0.5**
4.8nm,0.9s,mb4.4
SWET Sewanee 81.26 352 P **P** **00 12 26.5 -0.5**
LIC Lamto 81.62 72 *e*P **P** **00 12 30.2 +0.7**
46nm,1.6s,mb5.2
MIAR Mount Ida 81.63 346 *e*P **P** **00 12 29.5 +0.5**
3.8nm,0.8s,mb4.4
KIC Kosan Boka 81.91 72 *e*P **P** **00 12 31.8 +0.7**
19nm,0.8s,mb5.0
TIC Toumodi 81.93 72 *e*P **P** **00 12 31.9 +0.7**
12nm,0.5s,mb5.1
DBIC Dimbokro 82.06 72 P **P** **00 12 32.4 +0.5**
4.7nm,0.8s,mb4.5,baz=222,slow=6.8,SNR=6.4
DBIC Dimbokro 82.06 72 *e*P **P** **00 12 31.6 -0.3**
5.2nm,0.7s,mb4.6
WVT Waverly 82.36 351 *e*P **P** **00 12 37.7 +4.8**
15nm,1.4s,mb4.7
SIUC Southern Illin 84.09 350 P **P** **00 12 42.1 +0.4**
9.5nm,0.7s,mb5.0
ANMO Albuquerque 85.01 336 *e*P **P** **00 12 47.9 +1.5**
2.5nm,0.8s,mb4.4
SCIA State Center 88.76 347 P **P** **00 13 04.5 +0.1**
11nm,0.7s,mb5.3
LSZ Lusaka 88.89 111 P **P** **00 13 09.3 +3.4**
PV10 Paradox Valley 88.95 335 P **P** **00 12 59.4 -6.1**
JFWS Jewell Farm 89.34 350 *e*P **P** **00 13 08.2 +1.0**
18nm,1.1s,mb5.3
TORD Torodi Ar. Bea 91.16 72 P **P** **00 13 16.2 -0.2**
0.4nm,0.7s,mb3.9,baz=236,slow=5.4,SNR=3.3
TORD Torodi Ar. Bea 91.16 72 P **P** **00 13 16.2 -0.2**
HWUT Hardware Ranch 92.68 334 *e*P **P** **00 13 22.4 -0.3**
PDAR Pinedale Array 93.16 336 P **P** **00 13 23.1 -1.8**
0.2nm,0.3s,mb4.0,baz=96,slow=6.5,SNR=2.1
MSO Missoula 98.14 335 *e*P **P** **00 13 45.4 -2.1**
2.8nm,0.7s,mb4.9
GERES GERESS Array B 122.52 52 PKP PKPdf 00 19 11.4 +5.6
0.7nm,0.6s,baz=214,slow=1.4,SNR=6.4
CMAR Chiang Mai Arr 152.30 170 PKPbc PKPbc 00 20 06.7 -0.5
0.5nm,0.4s,baz=206,slow=4.4,SNR=5.8
CMAR PKPab PKPab 00 20 16.5 -0.6
2.1nm,0.9s,baz=216,slow=3.7,SNR=5.5
MJAR Matsushiro Arr 152.60 262 PKPab PKPab 00 20 15.9 -2.1
1.3nm,0.4s,baz=172,slow=5.5,SNR=4.3
MKAR Makanchi Array 165.18 79 PKPab PKPab 00 21 11.3 -1.0
0.4nm,0.5s,baz=270,slow=4.4,SNR=5.3
ZALV Zalesovo Beam 165.47 50 PKP PKPdf 00 20 14.7 -0.1
0.3nm,0.3s,baz=291,slow=4.5,SNR=3.2

NEIC ***16*** *00:05:34.9, 31.17S×69.39W, h143km, MD3.4(GUC), After GUC.*
GUC 16 00:05:34.9±0.8, 3117S×6939W, h143km±12km, MD3.4, ML3.6, 9C-2D, San Juan Province

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
TLL	**Tololo Astrono**	**1.57**	**309**	↑*i* P		Pn	00 06 05.8	+1.1
TLL				*i* S		Sn	00 06 28.9	+1.4
TLL				AML		AML	00 06 30.0	
	comp=N,589nm,0.5s							
TLL	**Tololo Astrono**	**1.57**	**309**	↑*i* P		Pn	00 06 05.8	+1.1
TLL				*i* S		Sn	00 06 28.9	+1.4
OVCH	**Ovalle**	**1.65**	**289**	↑*i* P		Pn	00 06 06.2	+0.6
OVCH				*i* S		Sn	00 06 29.6	+0.6
OVCH				AML		AML	00 06 30.7	
	comp=N,924nm,0.3s							
OVCH	**Ovalle**	**1.65**	**289**	↑*i* P		Pn	00 06 06.2	+0.6
OVCH				*i* S		Sn	00 06 29.6	+0.6
CHNG	**Los Chungos**	**1.93**	**248**	↓*i* P		Pn	00 06 09.4	+0.7
CHNG				*i* S		Sn	00 06 34.9	+0.1
CHNG				AML		AML	00 06 43.6	
	comp=N,214nm,0.4s							
LSCH	**La Serena**	**2.03**	**308**	↑*i* P		Pn	00 06 10.7	+0.7
LSCH				*i* S		Sn	00 06 37.0	+0.1
LSCH				AML		AML	00 06 37.6	
	comp=E,202nm,0.2s							
PEL	**Peldehue**	**2.25**	**209**	↑*i* P		Pn	00 06 13.3	+0.7
PEL				*i* S		Sn	00 06 42.2	+0.6
PEL				AML		AML	00 06 44.3	
	comp=N,286nm,0.3s							
FCH	**Farellones**	**2.28**	**199**	↓*i* P		Pn	00 06 14.2	+1.3
FCH				*i* S		Sn	00 06 44.3	+2.1
FCH				AML		AML	00 06 49.8	
	comp=E,262nm,0.2s							
CLCH	**Cerro Calan**	**2.42**	**203**	*i* P		Pn	00 06 15.5	+0.9
CLCH				*i* S		Sn	00 06 46.4	+1.1
CLCH				AML		AML	00 06 48.3	
	comp=E,283nm,0.6s							
LCO	**Las Campanas**	**2.43**	**332**	*e*Pn		Pn	00 06 15.5	+0.6
LCO				*e*Sn		Sn	00 06 44.2	-1.3
ANTU	**Antumapu**	**2.61**	**203

	2.7nm,0.8s							
STKA	**Stephens Creek**	**29.57**	**201**	P	P	00 27 11.4	0.0	
	2.0nm,0.5s,baz=37,slow=14,SNR=7.5							
FITZ	**Fitzroy Crossi**	**30.56**	**241**	*e*P	P	00 27 20.0	-0.4	
	8.8nm,0.6s							
FITZ	**Fitzroy Crossi**	**30.56**	**241**	P	P	00 27 20.2	-0.2	
	4.8nm,0.7s,baz=76,slow=8.2,SNR=23							
FORT	**Forrest**	**35.60**	**220**	*e*P	P	00 28 04.1	-0.2	
	22nm,0.6s							
URZ	**Urewera**	**39.93**	**151**	LR	LR	00 42 48.2		
	comp=Z,357nm,21.6s,baz=342,slow=33							
TORD	**Torodi Ar. Bea**	**150.95**	**289**	PKPbc	PKPbc	00 40 59.6	-1.0	
	0.4nm,0.5s,baz=81,slow=2.0,SNR=9.8							
TORD				PKPab	PKPab	00 41 08.3	+0.4	
	1.1nm,0.7s,baz=80,slow=2.4,SNR=7.1							

IDC ***16*** *00:26:31.0±0.7, 44.73S×167.54E, h0km, mb4.0/6, mb1 4.2/8, mb1mx4.1/14, mbtmp4.1/8, ML4.3/2, Error ellipse: s-maj=23.8km s-min=20.2km az=178.0*

ISCJB ***16*** *00:26:32.7±1.1, 44.69S±0.004×167.37E±0.007, h20km±8km, mb4.1/9, Error ellipse: s-maj=9.8km s-min=5.7km az=32.5*

NEIC ***16*** *00:26:32.9, 44.74S×167.40E, h5km, mb4.7/2, ML4.9(WEL), After WEL.*

NEIC Felt in the Milford Sound area.

ISC 16 00:26:33.0±1.1, 4472S±004×16741E±007, h10km±6km, h9km±3km:pP-P, n46, σ0s87/44, mb4.1/9, 1C, South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
MSZ	**Milford Sound**	**0.38**	**83**	P		**Pg**		**00 26 40.7**	**+0.3**
MSZ				S		**Sg**		**00 26 45.8**	**+0.4**
DCZ	**Deep Cove**	**0.78**	**193**	P		**Pg**		**00 26 47.6**	**-0.4**
MLZ	**Mavora Lakes**	**0.83**	**139**	P		**Pg**		**00 26 48.4**	**-0.6**
MLZ				S		**Sg**		**00 27 00.1**	**+0.3**
WKZ	**Wanaka**	**1.15**	**96**	P		**Pb**		**00 26 54.4**	**-0.6**
JCZ	**Jackson Bay**	**1.17**	**57**	P		**Pb**		**00 26 55.1**	**-0.2**
JCZ				S		**Sg**		**00 27 11.2**	**+0.7**
WHZ	**Wether Hill Ro**	**1.23**	**162**	P		**Pn**		**00 26 55.6**	**-0.8**
EAZ	**Earnscleugh**	**1.44**	**111**	P		**Pn**		**00 26 59.4**	**+0.2**
TUZ	**Tuapeka**	**2.00**	**129**	P		**Pn**		**00 27 07.6**	**+0.8**
FOZ	**Fox Glacier**	**2.01**	**56**	P		**Pn**		**00 27 07.1**	**+0.1**
LBZ	**Lake Benmore**	**2.01**	**81**	P		**Pn**		**00 27 07.9**	**+0.8**
ODZ	**Otahua Downs**	**2.32**	**99**	P		**Pn**		**00 27 12.0**	**+0.7**
RPZ	**Rata Peaks**	**2.81**	**70**	Pn		**Pn**		**00 27 17.5**	**-0.5**
	266nm,0.3s,baz=227,slow=5.9,SNR=231								
RPZ				Sn		**Sn**		**00 27 52.0**	**+0.1**
	70nm,0.3s,baz=64,slow=22,SNR=7.9								
RPZ	**Rata Peaks**	**2.81**	**70**	P		**Pn**		**00 27 18.4**	**+0.4**
WVZ	**Waitaha Valley**	**2.92**	**57**	P		**Pn**		**00 27 18.0**	**-1.5**
DSZ	**Denniston Nort**	**4.38**	**49**	P		**Pn**		**00 27 38.4**	**-1.2**
THZ	**Tophouse**	**4.99**	**56**	P		**Pn**		**00 27 48.1**	**+0.2**
KHZ	**Kahutara**	**5.02**	**65**	P		**Pn**		**00 27 48.3**	**0.0**
QRZ	**Quartz Range**	**5.42**	**46**	P		**Pn**		**00 27 52.6**	**-1.3**
BSWZ	**Blackbirch Sta**	**5.60**	**60**	*e*P		**Pn**		**00 27 58.1**	**+1.7**
NNZ	**Nelson**	**5.61**	**53**	P		**Pn**		**00 27 56.1**	**-0.4**
TCW	**Tory Channel**	**6.14**	**58**	P		**Pn**		**00 28 04.6**	**+0.8**
URZ	**Urewera**	**9.72**	**52**	Pn		**Pn**		**00 28 50.8**	**-2.1**
	0.7nm,0.3s,baz=346,slow=21,SNR=3.1								
URZ				Sn		**Sn**		**00 30 31.7**	**-11**
	0.4nm,0.3s,baz=73,slow=20,SNR=2.5								
WCZ	**Waipu Caves**	**10.24**	**33**	P		**Pn**		**00 28 59.2**	**-0.8**
STKA	**Stephens Creek**	**23.86**	**294**	P		**P**		**00 31 54.2**	**+7.7**
	4.5nm,0.9s,mb3.9,baz=135,slow=7.7,SNR=4.5								
SBA	**Scott Base**	**33.24**	**180**	*e*P		**P**		**00 33 12.7**	**+2.9**
	9.2nm,1.4s,mb4.5								
ASAR	**Alice Springs**	**34.42**	**296**	P		**P**		**00 33 21.3**	**+0.7**
	0.4nm,0.5s,mb3.6,baz=130,slow=7.0,SNR=8.3								
WRA	**Warramunga Arr**	**36.89**	**301**	P		**P**		**00 33 42.7**	**+0.9**
	0.8nm,0.5s,mb3.8,baz=139,slow=7.6,SNR=4.4								
FITZ	**Fitzroy Crossi**	**43.76**	**294**	P		**P**		**00 34 39.5**	**+0.7**
	1.1nm,0.8s,mb3.7,baz=107,slow=22,SNR=5.5								
QSPA	**South Pole Qui**	**45.40**	**180**	P		**P**		**00 34 52.3**	**+1.1**
	6.7nm,1.1s,mb4.4,baz=22,slow=6.1,SNR=11								
QSPA	**South Pole Qui**	**45.40**	**180**	P		**P**		**00 34 52.3**	**+1.1**
MAW	**Mawson**	**54.61**	**207**	P		**P**		**00 36 00.3**	**-0.9**
	1.5nm,0.6s,mb4.2,baz=98,slow=10,SNR=3.7								
SYO	**Syowa Base**	**60.22**	**199⇑**	*e*P		**P**		**00 36 39.9**	**-0.8**
SNAA	**Sanae**	**63.71**	**183**	*e*		**P**		**00 37 03.4**	**-0.7**
SNAA				*e*		pP		00 37 05.8	-1.5
SNAA				*e*				00 37 10.6	
SNAA	**Sanae**	**63.71**	**183**	*e*P		**P**		**00 37 03.6**	**-0.6**
	6.1nm,1.0s,mb4.6								
VNA3	**Neumayer Olymp**	**64.33**	**181**	*e*		**P**		**00 37 07.3**	**-0.9**
VNA3				*e*		pP		00 37 10.1	-1.2
VNA3				*e*				00 37 14.6	
VNA2	**Neumayer--Watz**	**64.61**	**182**	*e*		**P**		**00 37 09.7**	**-0.3**
	baz=176,slow=5.1								
VNA2				*e*		pP		00 37 12.3	-0.9
VNA2				*e*				00 37 17.0	
VNA1	**Neumayer--Stat**	**64.90**	**182**	*e*		**P**		**00 37 11.9**	**-0.1**
VNA1				*e*		pP		00 37 14.5	-0.6
VNA1				*e*				00 37 19.1	
CMAR	**Chiang Mai Arr**	**88.41**	**298**	P		**P**		**00 39 26.6**	**+1.2**
	1.7nm,0.6s,mb4.5,baz=153,slow=3.5,SNR=13								
BOSA	**Boshof**	**99.26**	**213**	*e*P		**P**		**00 40 15.1**	**-0.1**
MKAR	**Makanchi Array**	**117.89**	**309**	PKP	PKPdf			00 45 17.9	-1.2
	0.8nm,0.9s,baz=60,slow=3.2,SNR=4.9								
DBIC	**Dimbokro**	**141.50**	**192**	PKP	PKPdf			00 46 04.2	-0.6
	1.9nm,0.7s,baz=174,slow=8.8,SNR=4.3								
SPITS	**Spitsbergen Ar**	**144.57**	**350**	PKP	PKPdf			00 46 06.4	-1.8
	24nm,0.8s,baz=352,slow=5.1,SNR=12								
TORD	**Torodi Ar. Bea**	**146.25**	**206**	PKPbc	PKPbc			00 46 12.2	-1.8
	2.6nm,0.6s,baz=144,slow=1.9,SNR=46								
ARCES	**ARCESS Array B**	**148.62**	**335**	PKPbc	PKPbc			00 46 17.5	-1.5
	3.9nm,0.7s,baz=74,slow=3.7,SNR=14								
AKASG	**Malin Array Be**	**151.53**	**297**	PKPbc	PKPbc			00 46 25.4	-1.2
	5.1nm,0.7s,baz=84,slow=2.3,SNR=18								
MLR	**Muntele Rosu**	**152.96**	**285**	PKPbc	PKPbc			00 46 29.1	-0.9
	2.2nm,0.8s,baz=267,slow=2.2,SNR=5.9								

NEIC 16 00:30:14.2, 44.76S×167.41E, h5km, ML3.9(WEL), After WEL., South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
DCZ	**Deep Cove**	**0.74**	**194**	P			Pg	00 30 28.1	-0.3
DCZ				S			Sg	00 30 38.0	0.0
MLZ	**Mavora Lakes**	**0.80**	**138**	P			Pg	00 30 29.4	-0.1
MLZ				S			Sg	00 30 40.0	+0.1
WKZ	**Wanaka**	**1.15**	**94**	P			Pg	00 30 35.5	-0.7
JCZ	**Jackson Bay**	**1.18**	**55**	P			Pg	00 30 36.3	-0.6
WHZ	**Wether Hill Ro**	**1.20**	**162**	P			Pg	00 30 36.3	-0.8
EAZ	**Earnscleugh**	**1.43**	**110**	P			Pn	00 30 40.1	-0.6
RPZ	**Rata Peaks**	**2.82**	**70**	P			Pn	00 30 59.6	-0.3
MQZ	**McQueen's Vall**	**3.91**	**76**	P			Pn	00 31 12.4	-2.5
DSZ	**Denniston Nort**	**4.40**	**48**	P			Pn	00 31 19.7	-1.9
THZ	**Tophouse**	**5.01**	**55**	P			Pn	00 31 29.4	-0.5

NEIC 16 00:32:09.5, 44.71S×167.46E, h1km, ML3.9(WEL), After WEL., South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
MSZ	**Milford Sound**	**0.34**	**84**	P			Pg	00 32 16.5	+0.6
MSZ				S			Sg	00 32 20.4	+0.1
DCZ	**Deep Cove**	**0.80**	**196**	P			Pg	00 32 25.0	+0.2
DCZ				S			Sg	00 32 35.1	-0.1
MLZ	**Mavora Lakes**	**0.81**	**142**	P			Pg	00 32 25.7	+0.6
MLZ				S			Sg	00 32 37.1	+1.4
WKZ	**Wanaka**	**1.12**	**97**	P			Pg	00 32 30.8	-0.1
JCZ	**Jackson Bay**	**1.13**	**56**	P			Pg	00 32 31.3	+0.2
EAZ	**Earnscleugh**	**1.41**	**112**	P			Pn	00 32 35.8	-0.5
FOZ	**Fox Glacier**	**1.97**	**55**	P			Pn	00 32 43.1	-0.9
WVZ	**Waitaha Valley**	**2.88**	**57**	P			Pn	00 32 54.4	-2.0
THZ	**Tophouse**	**4.95**	**55**	P			Pn	00 33 24.0	-0.9

IDC 16 00:39:26.6±9.2, 574S×149.77E, h170km±88km, mb3.3/5, mb1 3.5/5, mb1mx3.3/14, mbtmp3.3/5, Error ellipse: s-maj=62.7km s-min=26.9km az=111.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
WRA	**Warramunga Arr**	**20.60**	**225**	P		P		00 43 52.1	-0.5
	1.2nm,0.5s,baz=50,slow=11,SNR=6.7								
ASAR	**Alice Springs**	**23.47**	**219**	P		P		00 44 21.5	+0.5
	1.6nm,0.5s,baz=58,slow=8.6,SNR=28								
CMAR	**Chiang Mai Arr**	**55.57**	**297**	P		P		00 48 44.9	+0.1
	0.6nm,0.3s,baz=133,slow=13,SNR=4.4								
PETK	**Petropavlovsk-**	**59.01**	**6**	P		P		00 49 08.3	+0.1
	1.5nm,0.6s,baz=168,slow=7.0,SNR=7.7								
SONM	**Songino Array**	**65.55**	**329**	P		P		00 49 52.2	+0.3
	0.2nm,0.5s,baz=153,slow=6.6,SNR=2.7								
TORD	**Torodi Ar. Bea**	**147.69**	**285**	PKPbc	PKPbc			00 58 51.1	-1.0
	0.2nm,0.4s,baz=79,slow=2.3,SNR=5.7								

NEIC 16 00:46:52.5, 44.76S×167.33E, h5km, ML3.9(WEL), After WEL., South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
MSZ	**Milford Sound**	**0.43**	**79**	P			Pg	00 47 01.2	+0.3
MSZ				S			Sg	00 47 05.9	-0.6
DCZ	**Deep Cove**	**0.73**	**190**	P			Pg	00 47 06.4	-0.1
DCZ				S			Sg	00 47 16.4	+0.4
MLZ	**Mavora Lakes**	**0.84**	**135**	P			Pg	00 47 08.5	-0.1
WKZ	**Wanaka**	**1.20**	**94**	P			Pg	00 47 14.6	-1.0
WHZ	**Wether Hill Ro**	**1.22**	**159**	P			Pg	00 47 15.2	-0.6
JCZ	**Jackson Bay**	**1.23**	**57**	P			Pg	00 47 15.7	-0.4
EAZ	**Earnscleugh**	**1.48**	**109**	P			Pn	00 47 19.5	-0.3
TUZ	**Tuapeka**	**2.02**	**127**	P			Pn	00 47 27.4	+0.3
LBZ	**Lake Benmore**	**2.07**	**81**	P			Pn	00 47 28.5	+0.6
FOZ	**Fox Glacier**	**2.08**	**56**	P			Pn	00 47 27.4	-0.5
ODZ	**Otahua Downs**	**2.37**	**98**	P			Pn	00 47 32.5	+0.5
WVZ	**Waitaha Valley**	**2.98**	**57**	P			Pn	00 47 38.7	-1.7
MQZ	**McQueen's Vall**	**3.97**	**76**	P			Pn	00 47 52.9	-1.0
DSZ	**Denniston Nort**	**4.44**	**49**	P			Pn	00 47 58.8	-1.7
QRZ	**Quartz Range**	**5.48**	**46**	P			Pn	00 48 13.0	-1.8

DJA 16 01:12:23, 299S×122.25E, h0km, MLv3.9/3, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
KDI	**Kendari**	**1.03**	**159**	P			Pg	01 12 41.8	-1.0
KDI	**Kendari**	**1.03**	**159**	S			Sg	01 12 57.2	+1.1
PCI	**Palu**	**3.18**	**311**	P			Pn	01 13 14.3	0.0

ISCJB ***16*** *01:13:52.1±0.5, 4060N±002×2356E±003, h8km±4km, Error ellipse: s-maj=4.7km s-min=3.5km az=41.8*

ATH ***16*** *01:13:52.2, 4060N×2353E, h17km±1km, MD3.2/6*

NEIC ***16*** *01:13:52.2, 4060N×2353E, h17km, MD3.2(ATH), After ATH.*

CSEM ***16*** *01:13:52.4±0.1, 4062N×2346E, h10km, MD3.2, Error ellipse: s-maj=1.9km s-min=1.3km az=93.0*

THE ***16*** *01:13:52.4, 4060N×2355E, h6km±1km, ML2.6/5, Error ellipse: s-maj=1.3km s-min=0.5km az=309.0*

ISC 16 01:13:52.5±0.5, 4061N±003×2356E±003, h9km±4km, n25, σ0s61/41, Greece

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
PLG	**Polygyros**	**0.25**	**201**	P			**Pg**	**01 13 57.3**	**-0.2**
PLG				S			**Sg**	**01 14 00.3**	**-0.6**
PLG	**Polygyros**	**0.25**	**201**	*e*Pb			**Pg**	**01 13 57.5**	**0.0**
PLG				*e*Sb			**Sg**	**01 14 00.8**	**-0.1**
PLG	**Polygyros**	**0.25**	**201**	*e*PB			**Pg**	**01 13 57.5**	**0.0**
PLG				*e*SB			**Sg**	**01 14 00.8**	**-0.1**
SOH	**Sokhos**	**0.27**	**324**	P			**Pg**	**01 13 58.0**	**+0.1**
SOH				S			**Sg**	**01 14 01.9**	**+0.3**
HORT	**Hortiatis**	**0.35**	**269**	P			**Pg**	**01 13 59.3**	**-0.2**
HORT				S			**Sg**	**01 14 04.0**	**-0.2**
OUR	**Ouranopolis**	**0.42**	**130**	P			**Pg**	**01 14 00.6**	**-0.1**
OUR				S			**Sg**	**01 14 06.4**	**+0.2**
THE	**Thessaloniki**	**0.46**	**274**	P			**Pg**	**01 14 00.9**	**-0.5**
THE				S			**Sg**	**01 14 07.2**	**-0.2**
KNT	**Kendrikon**	**0.75**	**318**	P			**Pg**	**01 14 06.6**	**-0.4**
KNT				S			**Sg**	**01 14 16.8**	**0.0**
NVR	**Nevrokopi**	**0.78**	**17**	*e*Pn			**Pn**	**01 14 07.6**	**-2.1**
NVR				*e*Sn			**Sg**	**01 14 18.3**	**+0.6**
NVR	**Nevrokopi**	**0.78**	**17**	*e*PN			**Pn**	**01 14 07.6**	**-2.1**
NVR				*e*SN			**Sg**	**01 14 18.3**	**+0.6**
GRG	**Griva**	**0.95**	**292**	P			**Pg**	**01 14 10.2**	**-0.6**
GRG				S			**Sg**	**01 14 23.9**	**+0.8**
LIT	**Litokhoron**	**0.96**	**239**	P			**Pg**	**01 14 10.7**	**-0.3**
LIT				S			**Sg**	**01 14 24.5**	**+1.0**
VAY	**Valandovo**	**1.04**	**314**	P			**Pg**	**01 14 12.1**	**-0.4**
VAY				S			**Sg**	**01 14 26.1**	**+0.1**
NEO	**Neokhori**	**1.32**	**191**	*e*Pn			**Pn**	**01 14 16.8**	**-0.3**
NEO	**Neokhori**	**1.32**	**191**	*e*PN			**Pn**	**01 14 16.8**	**-0.3**
LOS	**Limnos**	**1.34**	**119**	P			**Pn**	**01 14 16.6**	**-0.8**
LOS				S			**Sb**	**01 14 35.0**	**0.0**
LIA	**Limnos Island**	**1.43**	**119**	*e*Pn			**Pn**	**01 14 19.1**	**+0.5**
LIA	**Limnos Island**	**1.43**	**119**	*e*PN			**Pn**	**01 14 19.1**	**+0.5**
THL	**Klokotos Trika**	**1.58**	**229**	P			**Pn**	**01 14 20.7**	**+0.1**
THL				S			**Sn**	**01 14 41.2**	**+0.1**
THL	**Klokotos Trika**	**1.58**	**229**	*e*Pn			**Pn**	**01 14 21.0**	**+0.4**
THL				S			**Sn**	**01 14 41.2**	**+0.1**
THL	**Klokotos Trika**	**1.58**	**229**	*e*PN			**Pn**	**01 14 21.0**	**+0.4**
RDO	**Rodhopi**	**1.59**	**70**	*e*Pn			**Pn**	**01 14 22.4**	**+1.6**
RDO	**Rodhopi**	**1.59**	**70**	*e*PN			**Pn**	**01 14 22.4**	**+1.6**
AGG	**Agios Georgios**	**1.84**	**211**	P			**Pn**	**01 14 24.2**	**-0.1**
LKD	**Levkas**	**2.94**	**231**	P			**Pn**	**01 14 40.0**	**+0.6**

SZGRF ***16*** *01:15:36.4, 34.16N×138.14E, h33km, mb5.1, Near south coast of eastern Honshu, Japan*

NIED ***16*** *01:16:00, 3500N×13670E, h320km, Mw4.9 Best double couple: M0 2.25000×10^16 NP1:φs342.00000°, δ82.00000°, λ-103.00000°. NP2:φs220.00000°, δ15.00000°, λ-33.00000°.*

BJI ***16*** *01:16:08.6, 3474N×13709E, h303km, mB4.5, mb5.1*

MOS ***16*** *01:16:13.0±0.9, 3487N×13664E, h312km, mb4.9/91, Error ellipse: s-maj=7.4km s-min=4.3km az=108.9*

JMA ***16*** *01:16:14.4±0.2, 3498N×13674E, h328km±2km, M4.7*

JMA Felt I J1.

NEIC ***16*** *01:16:14.4, 3498N×13674E, h328km, mb4.9/142, MW4.8(NIED), After JMA.*

NEIC Recorded [1 JMA] in Fukushima, Ibaraki and Tochigi Prefectures.

ISCJB ***16*** *01:16:14.5±0.2, 3487N±002×13657E±002, h322km±1km, mb4.8/201, Error ellipse: s-maj=3.8km s-min=2.4km az=166.6*

IDC ***16*** *01:16:15.5±0.5, 3483N×13670E, h327km±4km, mb4.5/21, mb1 4.6/25, mb1mx4.5/29, mbtmp4.5/25, Error ellipse: s-maj=8.7km s-min=6.1km az=77.0*

DJA ***16*** *01:16:24, 34.30N×136.44E, h383km, Mw5.2/9*

ISC 16 01:16:15.3±0.2, 3488N±002×13659E±002, h319km±1km, h315km±5.9km:pP-P, n909, σ0s68/935, mb4.8/201, 223C-215D, Western Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
JIE	**Ise**	**0.49**	**169**	P			**Pn**	**01 16 56.7**	**+0.6**
JIE				S			**S**	**01 17 28.7**	**+0.1**
JGM	**Miyama**	**0.83**	**7**	⇓P			**Pn**	**01 16 57.2**	**+0.3**
JGM				S			**S**	**01 17 30.1**	**0.0**
JWY	**Kouya**	**1.05**	**232**	P			**Pn**	**01 16 59.1**	**+1.1**
JWY				S			**S**	**01 17 32.8**	**+0.8**
JWT	**Wachi**	**1.05**	**293**	⇑P			**Pn**	**01 16 58.8**	**+0.9**
JWT				S			**S**	**01 17 30.8**	**-1.0**
TK01	**Tokai 1**	**1.39**	**143**	P			**Pn**	**01 17 00.0**	**+0.3**
TK01				S			**S**	**01 17 36.2**	**+1.5**
JKG	**Kaga**	**1.41**	**351**	⇓P			**Pn**	**01 16 59.6**	**-0.1**
JKG				S			**S**	**01 17 34.4**	**-0.7**
JWZ	**Kozaga**	**1.53**	**209**	⇑P			**Pn**	**01 17 01.2**	**+0.6**
JWZ				S			**S**	**01 17 37.4**	**+0.7**
JYN	**Shimob**	**1.71**	**68**	⇓P			**Pn**	**01 17 00.8**	**-0.9**
JAI	**Aioi**	**2.08**	**239**	⇑P			**Pn**	**01 17 05.5**	**+1.1**
JAI				S			**S**	**01 17 45.5**	**+2.0**
JOD2	**Odawara 2**	**2.08**	**79**	⇓P			**Pn**	**01 17 03.3**	**-1.1**
JOD2				*e*S			**S**	**01 17 42.9**	**-0.6**
MAJO	**Matsushiro**	**2.12**	**38**	*e*P			**Pn**	**01 17 03.8**	**-0.8**
MAT	**Matsushiro**	**2.12**	**38**	P			**Pn**	**01 17 03.7**	**-0.9**
MAT				S			**S**	**01 17 43.0**	**-0.9**
MAT	**Matsushiro**	**2.12**	**38**	P			**Pn**	**01 17 03.7**	**-0.9**
MAT				S			**S**	**01 17 43.5**	**-0.4**
MJAR	**Matsushiro Arr**	**2.12**	**38**	P			**Pn**	**01 17 03.7**	**-0.9**
	284nm,0.3s,baz=211,slow=7.7,SNR=1909								
MJAR				S			**S**	**01 17 45.9**	**+2.0**
	baz=86,slow=34,SNR=2.5								
MJAR	**Matsushiro Arr**	**2.12**	**38**	P			**Pn**	**01 17 03.7**	**-0.9**
MJAR				S			**S**	**01 17 45.9**	**+1.9**
MJAR				pmax	pmax				
	comp=Z,284nm,0.3s								
JRY	**Ryogami san**	**2.20**	**58**	⇓P			**Pn**	**01 17 04.3**	**-1.0**
JRY				*e*S			**S**	**01 17 44.3**	**-0.9**
JSZ	**Suzu**	**2.64**	**13**	⇓P			**Pn**	**01 17 08.3**	**-0.6**
JSZ				*e*S			**S**	**01 17 47.9**	**-4.0**
JAG	**Ashikaga**	**2.80**	**56**	⇓P			**Pn**	**01 17 07.9**	**-2.5**
JAG				*e*S			**S**	**01 17 49.6**	**-4.9**
JHJ	**Hachijo jima 2**	**3.18**	**123**	P			**Pn**	**01 17 13.7**	**-0.5**
	comp=Z,310nm,0.3s,baz=68,slow=20,SNR=26								
JHJ				S			**S**	**01 18 02.6**	**+1.3**
	comp=Z,153nm,0.3s,baz=63,slow=22,SNR=3.9								
JHJ2	**Mitsune**	**3.21**	**122**	P			**Pn**	**01 17 13.8**	**-0.6**
BSO1	**Boso 1**	**3.62**	**92**	P			**Pn**	**01 17 14.8**	**-3.7**
BSO1				*e*S			**S**	**01 18 03.7**	**-5.5**
KSRS	**Korea Array**	**7.47**	**293**	P			**Pn**	**01 18 04.7**	**+2.1**
	comp=Z,3.2nm,0.3s,baz=109,slow=13,SNR=53								
KSRS				S			**S**	**01 19 34.1**	**+4.5**
	baz=109,slow=22,SNR=4.8								
KSRS				ScP	ScP			01 27 09.6	-0.9
	comp=Z,0.4nm,0.3s,baz=108,slow=4.1,SNR=6.9								
KS15	**Wonju Array Si**	**7.49**	**292**	*e*Pn			**Pn**	**01 18 01.5**	**-1.3**
INCN	**Inchon**	**8.46**	**291**	*e*Pn			**Pn**	**01 18 16.8**	**+2.2**
	comp=Z,41nm,0.7s								
ERM	**Erimo**	**8.79**	**34**	*e*P			**Pn**	**01 18 15.0**	**-3.5**
ERM				pmax	pmax				
	comp=Z,92nm,0.6s								
ERM	**Erimo**	**8.79**	**34**	*e*P			**Pn**	**01 18 15.0**	**-3.5**
	comp=Z,92nm,0.6s								
VLA	**Vladivostok**	**9.00**	**337**	*e*P			**Pn**	**01 18 20.7**	**-0.4**
VLA				pmax	pmax				
	comp=Z,57nm,0.9s								
CBIJ	**Chichi jima**	**9.12**	**147**	P			**Pn**	**01 18 15.9**	**-6.8**
	comp=Z,16nm,0.3s,baz=84,slow=23,SNR=14								
CBIJ				S			**S**	**01 19 53.5**	**-13**
	comp=Z,49nm,0.3s,baz=285,slow=23,SNR=17								
ASAJ	**Asahikawa**	**10.32**	**25**	P			**Pn**	**01 18 34.5**	**-2.5**
	comp=Z,32nm,0.3s,baz=227,slow=11,SNR=31								
ASAJ				S			**S**	**01 20 22.1**	**-11**
	comp=Z,12nm,0.3s,baz=44,slow=26,SNR=14								
ASAJ	**Asahikawa**	**10.32**	**25**	P			**Pn**	**01 18 34.6**	**-2.5**
ASAJ				S			**S**	**01 20 22.1**	**-11**
ASAJ				pmax	pmax				
	comp=Z,32nm,0.3s								
ASAJ				smax					
	comp=N,12nm,0.3s								
JOW	**Kunigami**	**10.74**	**224**	P			**Pn**	**01 18 42.9**	**+0.5**
	comp=N,9.8nm,0.3s,baz=90,slow=13,SNR=13								
MDJ	**Mudanjiang**	**11.11**	**333**	P			**Pn**	**01 18 45.8**	**-0.8**
MDJ				S			**S**	**01 20 51.3**	**+0.5**
MDJ				PCP	PcP			01 24 15.0	+2.3
MDJ				PCS	PcS			01 27 47.8	+1.3
MDJ				AMB	AMB				
	comp=Z,34nm,0.9s								
MDJ				AMB	AMB				
	comp=Z,33nm,3.7s								
MDJ				LR	LR				
	comp=N,145nm,12.5s								
MDJ				LR	LR				
	comp=E,98nm,13.2s								
MDJ				LR	LR				
	comp=Z,198nm,14.0s								
MDJ	**Mudanjiang**	**11.11**	**333**	*e*Pn			**Pn**	**01 18 47.4**	**+0.8**
	comp=Z,46nm,0.9s								
YUK	**Yuzh-Kuril'sk**	**11.61**	**35**	P			**Pn**	**01 18 52.5**	**-0.1**
YUK				*i* S			**S**	**01 20 49.7**	**-12**
YUK				pmax	pmax				
	comp=Z,550nm,0.5s								
YUK				pmax	pmax				
	comp=N,380nm,0.5s								
YUK				pmax	pmax				
	comp=E,380nm,0.5s								
YUK				pmax	pmax				
	comp=Z,3μm,1.0s								
YUK				smax					
	comp=N,2μm,0.5s								
YUK				smax					
	comp=E,2μm,0.5s								
YUK				smax					
	comp=N,5μm,1.5s								
YUK				smax					
	comp=E,5μm,1.5s								
SNY	**Shenyang**	**12.34**	**308**	⇓P			**Pn**	**01 19 03.6**	**+2.1**
SNY				XP				01 20 16.0

comp=E,127nm,10.5s
HHC LR LR
comp=Z,128nm,10.4s
SKR Severo-Kuril's 21.23 36 *e*P **P 01 20 34.0 -2.6**
SKR pmax pmax
comp=Z,80nm,0.6s,mb5.1
BTO Baotou 21.73 293 *e*P **P 01 20 39.9 -1.4**
XAN Xi'an 22.81 276 P **P 01 20 51.0 -0.2**
XAN XP sP 01 22 20.0 -4.5
XAN S **S 01 24 34.0 -2.2**
XAN AMB AMB
comp=Z,232nm,0.8s,mb5.5
XAN AMB AMB
comp=Z,142nm,6.3s
CLNS Chul'man 23.36 344 *e*P **P 01 20 57.0 +1.1**
CLNS pmax pmax
comp=N,13nm,0.8s
CLNS pmax pmax
comp=Z,15nm,0.7s,mb4.3
CLNS pmax pmax
comp=E,7.0nm,0.7s
PEA0B Petropavlovsk- 23.57 33 *e*P **P 01 20 57.0 -0.9**
PETK Petropavlovsk- 23.57 33 P **P 01 20 57.0 -0.8**
comp=E,82nm,0.8s,mb5.0,baz=241,slow=3.3,SNR=115
PET Petropavlovsk 23.95 34 *e*P **P 01 21 00.8 -0.4**
PET *e**SP sP 01 22 30.5 -6.1
PET *e*S **S 01 24 54.3 +0.6**
PET pmax pmax
comp=Z,77nm,0.7s,mb5.0
PET pmax pmax
comp=Z,64nm,1.0s,mb4.8
PET MLR MLR
comp=Z,100nm,18.0s
PET Petropavlovsk 23.95 34 *e*P **P 01 20 59.5 -1.7**
comp=Z,163nm,1.4s,mb5.1
SONM Songino Array 25.92 309 P **P 01 21 20.0 +1.0**
comp=Z,36nm,0.7s,mb4.7,baz=115,slow=8.9,SNR=214
SONM pP 01 22 19.8
comp=Z,13nm,1.1s,baz=122,slow=9.5,SNR=2.9
SONM S **S 01 25 27.1 +2.2**
comp=Z,1.6nm,0.9s,baz=122,slow=11,SNR=3.5
SONM ScP ScP 01 27 45.9 -1.0
comp=Z,5.4nm,0.9s,baz=156,slow=3.0,SNR=17
SONM Songino Array 25.92 309 P **P 01 21 20.0 +1.0**
SONM *PP 01 22 19.8
SONM S **S 01 25 27.1 +2.2**
SONM pmax pmax
comp=Z,36nm,0.7s
SONM pmax pmax
comp=Z,13nm,1.1s
SONM smax
comp=N,2.0nm,1.0s
SONM pmax pmax
comp=N,5.0nm,0.9s
LZH Lanzhou 26.63 282 ⇑P **P 01 21 25.9 +0.4**
LZH XP sP 01 22 55.0 -7.5
LZH PCP PcP 01 24 41.3 +1.2
LZH *e*S **S 01 25 41.0 +4.6**
LZH AMB AMB
comp=Z,100nm,1.5s,mb4.8
GYA Guiyang 27.00 260 ⇓*i*P **P 01 21 28.3 -0.6**
GYA AP 01 22 26.6
GYA XP sP 01 22 59.8 -6.1
GYA PCP PcP 01 24 43.3 +2.1
GYA S **S 01 25 42.9 +0.5**
GYA XS sS 01 27 23.6 -8.6
GYA SCP ScP 01 27 52.9 +2.3
GYA PCS PcS 01 28 22.6 -0.5
GYA SCS ScS 01 31 43.0 +0.7
GYA AMB AMB
comp=Z,60nm,0.9s,mb4.8
GYA AMB AMB
comp=Z,250nm,4.5s
GYA LR LR
comp=N,240nm,13.3s
GYA LR LR
comp=E,280nm,14.3s
GYA LR LR
comp=Z,180nm,14.5s
YAK Yakutsk 27.52 353 *e*P **P 01 21 31.0 -2.0**
YAK *e* 01 25 46.7
YAK pmax pmax
comp=Z,18nm,0.9s,mb4.3
YAK pmax pmax
comp=N,7.0nm,1.3s
CD2 Chengdu 27.78 271 *e*P **P 01 21 37.8 +2.1**
CD2 AP 01 22 32.6
CD2 XP sP 01 23 05.9 -7.1
CD2 S **S 01 25 58.3 +3.7**
CD2 XS sS 01 27 36.0 -8.7
CD2 AMB AMB
comp=Z,20nm,0.8s,mb4.4
ZAK Zakamensk 28.70 313 ⇓*i*P **P 01 21 44.6 +1.1**
ZAK pmax pmax
comp=Z,22nm,1.0s,mb4.3
IRK Irkutsk 28.82 317 *e*P **P 01 21 39.4 -5.2**
IRK pmax pmax
comp=Z,42nm,1.0s,mb4.6
TLY Talaya 28.95 316 P **P 01 21 48.0 +2.2**
SNR=5.5
TLY Talaya 28.95 316 *e*P **P 01 21 47.6 +1.8**
TLY pmax pmax
comp=Z,38nm,0.8s,mb4.7
TLY Talaya 28.95 316 *e*P **P 01 21 47.5 +1.7**
comp=Z,34nm,0.8s,mb4.6
GTA Gaotai 29.53 290 ⇓*i*P **P 01 21 51.3 +0.3**
GTA AP 01 22 50.0
GTA XP sP 01 23 24.8 -3.8
GTA PCP PcP 01 24 48.1 +0.8
GTA S **S 01 26 21.5 -0.3**
GTA SCP ScP 01 27 57.8 -0.5
GTA SCS ScS 01 31 51.8 -1.8
GTA AMB AMB
comp=Z,33nm,0.9s,mb4.6
GTA AMB AMB
comp=Z,119nm,6.6s
GTA LR LR
comp=N,85nm,13.8s
GTA LR LR
comp=E,64nm,15.6s
GTA LR LR
comp=Z,64nm,16.2s
SEY Seymchan 29.76 15 ⇑*e*P **P 01 21 52.6 -0.1**
KMI Kunming 30.76 261 P **P 01 22 01.6 -0.4**
KMI AP pP 01 22 58.3 -4.5
KMI PP PP 01 23 18.8 -0.2
KMI XP sP 01 23 34.3 -5.4
KMI PCP PcP 01 24 52.4 +1.6
KMI S **S 01 26 41.8 +0.5**
KMI XS sS 01 28 26.6 -5.2
KMI SS SS 01 28 55.0 -10
KMI AMB AMB
comp=Z,39nm,1.3s,mb4.5
KMI AMB AMB
comp=Z,123nm,3.1s
KMI LR LR
comp=N,190nm,11.2s
KMI LR LR
comp=E,152nm,14.0s
KMI LR LR
comp=Z,114nm,11.9s
MYLDM Lahad Datu 33.96 214 ⇑P **P 01 22 30.7 +1.0**
SDKM Sandakan 34.17 216 ⇑P **P 01 22 30.7 -0.8**
KKM Kota Kinabalu 34.31 218 ⇓P **P 01 22 33.3 +0.6**
KKM Kota Kinabalu 34.31 218 *e*P **P 01 22 31.7 -1.0**
TSM Tawau 35.03 214 ⇓P **P 01 22 39.5 +0.6**
NANT Nan 35.58 253 ⇓P **P 01 22 41.0 -2.4**
comp=Z,738nm,0.8s,mb6.0
CHRT Chiangrai 35.72 255 ⇓P **P 01 22 45.5 +0.9**
comp=Z,316nm,0.9s,mb5.5
CHG Chiang Mai 36.95 254 ⇓P **P 01 22 54.9 -0.1**
comp=Z,33nm,0.6s,mb4.7
TIXI Tiksi 37.06 356*c* *i*P **P 01 22 54.4 -0.8**
TIXI pmax pmax
comp=Z,19nm,0.8s,mb4.4
TIXI Tiksi 37.06 356 *e*P **P 01 22 54.1 -1.1**
CM31 Chiang Mai Arr 37.15 254 *e*P **P 01 22 56.5 -0.1**
comp=Z,9.7nm,0.4s,mb4.4
CMAR Chiang Mai Arr 37.15 254 P **P 01 22 56.9 +0.2**
comp=Z,11nm,0.6s,mb4.3,baz=48,slow=8.1,SNR=52
CMAR pP pP 01 24 00.6 +1.5
comp=Z,1.9nm,0.5s,baz=51,slow=7.8,SNR=2.4
CMAR PcP PcP 01 25 09.2 0.0
comp=Z,3.1nm,0.9s,baz=16,slow=1.2,SNR=7.3
CMAR ScP ScP 01 28 25.6 +0.3
comp=Z,2.2nm,0.8s,baz=27,slow=3.0,SNR=9.1
CMAR Chiang Mai Arr 37.15 254 P **P 01 22 56.9 +0.2**
CMAR *PP pP 01 24 00.6 +1.5
CMAR 01 25 09.3
CMAR 01 28 25.7
CMAR pmax pmax
comp=Z,11nm,0.6s
CMAR pmax pmax
comp=Z,2.0nm,0.5s
CMAR pmax pmax
comp=Z,3.0nm,0.9s
CMAR pmax pmax
comp=N,2.0nm,0.9s
BILL Bilibino 37.24 18*d* *i*P **P 01 22 57.0 +0.3**
BILL *e**PP pP 01 23 56.5 -2.6
BILL *e* 01 25 08.8
BILL *e*SS SS 01 31 13.5 -4.0
BILL pmax pmax
comp=Z,132nm,1.3s,mb5.0
BILL Bilibino 37.24 18 *e*P **P 01 22 56.0 -0.7**
comp=Z,97nm,0.8s,mb5.1
ADK Adak 37.25 48 *e*P **P 01 22 55.5 -1.5**
ADK pmax pmax
comp=Z,60nm,0.6s,mb5.0
ADK Adak 37.25 48 *e*P **P 01 22 55.5 -1.6**
comp=Z,60nm,0.6s,mb5.0
BDT Bhumibol Dam 37.79 252 P **P 01 23 02.0 +0.1**
comp=Z,13nm,0.8s,mb4.2
BTM Bintulu 38.34 220 ⇓P **P 01 23 06.7 +0.2**
WMQ Urumqi 38.37 299 ⇓P **P 01 23 07.8 +1.3**
WMQ AP pP 01 24 08.8 -0.4
WMQ XP sP 01 24 38.3 -7.4
WMQ PP PP 01 24 45.3 +3.4
WMQ S **S 01 28 41.3 +4.5**
WMQ PCS PcS 01 29 02.8 +0.6
WMQ XS sS 01 30 23.8 -6.1
WMQ AMB AMB
comp=Z,84nm,1.0s,mb4.9
WMQ LR LR
comp=N,20nm,22.0s
WMQ LR LR
comp=E,23nm,22.0s
WMQ LR LR
comp=Z,31nm,22.0s
LSA Lhasa 38.51 275 P **P 01 23 09.0 +1.2**
LSA Lhasa 38.51 275 *e*P **P 01 23 09.3 +1.5**
LSA pmax pmax
comp=Z,32nm,0.8s,mb4.6
LSA Lhasa 38.51 275 *e*P **P 01 23 09.3 +1.5**
comp=Z,32nm,0.8s,mb4.6
SBUM Sibu 39.43 220 ⇑P **P 01 23 15.9 +0.3**
SHL Shillong 39.46 269 *ex* x 01 23 00.8
ZAA0 Zalesovo Array 40.55 314 *e*P **P 01 23 24.0 -0.1**
ZALV Zalesovo Beam 40.55 314 P **P 01 23 24.1 0.0**
comp=Z,18nm,0.6s,mb4.5,baz=107,slow=7.9,SNR=84
ZALV PcP PcP 01 25 18.8 -0.7
comp=Z,10.0nm,0.7s,baz=90,slow=3.7,SNR=9.6
ZALV ScP ScP 01 28 37.4 -0.5
comp=Z,2.3nm,0.7s,baz=110,slow=3.0,SNR=5.0
ZALV Zalesovo Beam 40.55 314 P **P 01 23 24.1 0.0**
ZALV 01 25 18.8
ZALV pmax pmax
comp=Z,18nm,0.6s,mb4.5
ZALV pmax pmax
comp=Z,10.0nm,0.7s,mb4.2
ZALV pmax pmax
comp=N,2.0nm,0.7s
ZALV Zalesovo Beam 40.55 314 P **P 01 23 24.1 0.0**
ZALV PcP PcP 01 25 18.8 -0.7
ZALV ScP ScP 01 28 37.4 -0.5
KSM Kuching 41.28 222 ⇓P **P 01 23 31.4 +0.8**
KSM Kuching 41.28 222 *e*P **P 01 23 30.8 +0.2**
NVS Novosibirsk 41.57 316 ⇓*i*P **P 01 23 32.3 -0.1**
NVS *e*S **S 01 29 19.8 -3.8**
NVS *e* 01 32 52.5
NVS pmax pmax
comp=N,11nm,0.8s
NVS pmax pmax
comp=E,37nm,0.8s
NVS pmax pmax
comp=Z,44nm,0.8s,mb4.6
NVS smax
comp=N,15nm,1.9s
NVS smax
comp=E,25nm,1.9s
MK31 Makanchi Array 41.99 303 *i*P **P 01 23 36.2 +0.3**
MK31 pmax pmax
comp=Z,13nm,0.4s,mb4.4
MK31 Makanchi Array 41.99 303 *e*P **P 01 23 36.5 +0.6**
MKAR Makanchi Array 41.99 303 P **P 01 23 36.5 +0.6**
comp=Z,24nm,0.6s,mb4.5,baz=89,slow=10,SNR=170
MKAR PcP PcP 01 25 23.8 -0.6
comp=Z,4.1nm,0.8s,baz=99,slow=3.8,SNR=3.8
MKAR ScP ScP 01 28 42.4 -1.4
comp=Z,2.3nm,0.6s,baz=79,slow=5.7,SNR=7.1
MKAR S **S 01 29 31.4 +1.3**
comp=Z,0.6nm,0.7s,baz=81,slow=16,SNR=3.4
MKAR Makanchi Array 41.99 303 P **P 01 23 36.5 +0.6**
MKAR 01 25 23.8
MKAR S **S 01 29 31.4 +1.3**
MKAR pmax pmax
comp=Z,24nm,0.6s
MKAR pmax pmax
comp=Z,4.0nm,0.8s
MKAR pmax pmax
comp=N,2.0nm,0.6s
MKAR smax
comp=N,1.0nm,0.7s
TAPN Taplejung 42.18 274 *e*P **P 01 23 38.1 +0.4**
comp=N,60nm,0.4s,mb5.1
GAMB Gambell 42.58 31 *e*P **P 01 23 40.9 +0.6**
ODAN Odare 42.63 273 *e*P **P 01 23 41.2 -0.1**
comp=N,77nm,0.4s,mb5.1
KTGM Kuala Trenggan 42.65 234 ⇑P **P 01 23 42.6 +1.0**
KAPI Kappang 42.73 205 P **P 01 23 40.8 -1.4**
SNR=5.5
KAPI Kappang 42.73 205 *e*P **P 01 23 40.3 -1.9**
comp=N,47nm,0.6s,mb4.8
RAMN Ramite 43.24 274 *e*P **P 01 23 46.4 +0.2**
comp=N,298nm,0.7s,mb5.5
JIRN Jiri 43.31 275 *e*P **P 01 23 47.5 +0.8**
comp=N,417nm,0.7s,mb5.7
GUN Gumba 43.47 275 *e*P **P 01 23 48.5 +0.6**
comp=N,190nm,0.7s,mb5.3
PKI Pulchoki 43.98 275 *e*P **P 01 23 52.1 +0.1**
comp=N,137nm,0.7s,mb5.2
PKI Pulchoki 43.98 275 *e*P **P 01 23 52.1 +0.1**
PKI pmax pmax
comp=Z,137nm,0.7s,mb5.2
PKIN Phulchoki 43.99 275 *e*P **P 01 23 52.1 0.0**
comp=Z,101nm,0.7s,mb5.1
KKN Kakani 44.00 275 *e*P **P 01 23 52.3 +0.1**
comp=Z,185nm,0.7s,mb5.3
KKN Kakani 44.00 275 *e*P **P 01 23 52.3 +0.1**
KKN pmax pmax
comp=Z,185nm,0.7s,mb5.3
DMN Daman 44.21 275 *e*P **P 01 23 54.0 +0.2**
comp=Z,110nm,0.8s,mb5.0
KURK Kurchatov 44.22 309 P **P 01 23 53.8 +0.2**
SNR=22
KURK Kurchatov 44.22 309 P **P 01 23 53.5 -0.1**
KURK pmax pmax
comp=Z,52nm,0.7s,mb4.8
KURK Kurchatov 44.22 309 *e*P **P 01 23 53.5 -0.1**
KULM Kulim 44.36 237 ⇑P **P 01 23 55.6 +0.5**
GKN Gorkha 44.45 276 *e*P **P 01 23 55.8 +0.1**
comp=Z,273nm,0.9s,mb5.4
TNA Tin City 44.65 29 *e*P **P 01 23 56.5 -0.2**
comp=Z,78nm,0.9s,mb4.8
IPM Ipoh 44.69 236 ⇑P **P 01 23 57.9 +0.2**
MYKOM Kota Tinggi 44.86 230 ⇑P **P 01 23 59.0 0.0**
KGM Kluang 45.02 231 ⇑P **P 01 24 01.0 +0.7**
DANN Dangsing 45.03 277 *e*P **P 01 24 01.0 +0.8**
comp=Z,389nm,0.7s,mb5.7
KOLN Koldanda 45.38 276 *e*P **P 01 24 03.4 +0.4**
comp=Z,183nm,0.9s,mb5.2
BATI Baumata 46.48 198 P **P 01 24 09.7 -1.9**
comp=Z,136nm,0.6s,mb5.3,baz=297,slow=0.5,SNR=29
BATI S **S 01 30 31.8 -3.2**
comp=Z,11nm,0.4s,baz=100,slow=22,SNR=6.6
TKM2 Tokmak 2 47.23 299 *e*P **P 01 24 18.1 +1.1**
TKM2 pmax pmax
comp=Z,17nm,0.6s,mb4.5
TKM2 Tokmak 2 47.23 299 P **P 01 24 18.3 +1.3**
SNR=53
TKM2 Tokmak 2 47.23 299 *e*P **P 01 24 18.1 +1.1**
comp=Z,17nm,0.6s,mb4.5
KAKA Kakadu 47.49 185 *e*P **P 01 24 15.4 -3.8**
comp=Z,28nm,0.9s,mb4.5
KAKA *e* 01 24 48.4
KBK Karagaybulak 47.75 299 P **P 01 24 22.1 +1.2**
SNR=29
CHMS Chumysh 47.82 299 P **P 01 24 22.1 +0.6**
SNR=13
USP Ospenovka 47.94 300 P **P 01 24 23.1 +0.6**
SNR=37
FRU Bishkek 47.95 299 ⇓*i*P **P 01 24 23.0 +0.5**
FRU pmax pmax
comp=Z,64nm,1.6s,mb4.6
AAK Ala-Archa 48.08 299 P **P 01 24 24.3 +0.8**
SNR=22
UCH Uchtor 48.16 298 P **P 01 24 25.7 +1.7**
SNR=21
UCH Uchtor 48.16 298 *e*P **P 01 24 25.5 +1.4**
comp=Z,18nm,0.9s,mb4.3
EKS2 Erkin-Say 48.59 299 P **P 01 24 28.0 +0.7**
SNR=18
EKS2 Erkin-Say 48.59 299 *e*P **P 01 24 27.8 +0.4**
comp=Z,13nm,0.9s,mb4.2
AML Almayashu 48.77 298 P **P 01 24 30.4 +1.7**
SNR=101
AML Almayashu 48.77 298 ⇓*i*P **P 01 24 30.2 +1.4**
VOSK Vostochnaya 48.83 313 P **P 01 24 29.5 +0.5**
VOSK pmax pmax
comp=Z,47nm,0.7s,mb4.8
COEN Coen 48.97 172 *e*P **P 01 24 29.7 -0.7**
comp=Z,12nm,0.8s,mb4.2
BVA0 Borovoye Array 49.15 313 *i* P **P 01 24 31.2 -0.2**
BVA0 pmax pmax
comp=Z,4.0nm,0.3s,mb4.1
BRVK Borovoye 49.21 313 ⇓P **P 01 24 32.7 +0.8**
SNR=11
BRVK Borovoye 49.21 313 *e*P **P 01 24 31.9 0.0**
BRVK pmax pmax
comp=Z,28nm,0.5s,mb4.8
BRVK Borovoye 49.21 313 *e*P **P 01 24 31.9 0.0**
comp=Z,28nm,0.5s,mb4.7
SMLA Simla 49.35 283 *e*P **P 01 24 32.9 -0.3**
SMLA AMb AMB 01 24 34.5
comp=Z,39nm,0.6s,mb4.8
SVW2 Sparrevohn 49.59 36 *e*P **P 01 24 34.8 +0.2**
VIS Vishakhapatnam 50.14 264 *e*P **P 01 24 39.4 0.0**
VIS AMb AMB 01 24 40.9
comp=Z,72nm,0.8s,mb5.0
NDI New Delhi 50.22 280 *e*P **P 01 24 39.0 -0.8**
IMA2 Indian Mountai 50.51 30 *e*P **P 01 24 41.1 -0.2**
KK31 Karatay Array 50.82 300 *i* P **P 01 24 44.2 +0.2**
KK31 pmax pmax
comp=Z,2.0nm,0.2s,mb4.0
CHUM Lake Minchumin 51.07 33 *e*P **P 01 24 46.0 +0.5**
comp=Z,29nm,0.5s,mb4.8
PPLA Purkeypile 51.15 34 P **P 01 24 42.0 -4.2**
comp=Z,51nm,0.7s,mb4.9
KDAK Kodiak Island 51.29 40 *e*P **P 01 24 46.1 -1.1**
comp=Z,93nm,0.9s,mb5.0
BPAW Bear Paw Mtn. 51.65 32 *e*P **P 01 24 49.9 +0.1**
comp=Z,11nm,0.4s,mb4.5
KTH Kantishna Hill 51.70 33 *e*P **P 01 24 48.8 -1.3**
comp=Z,81nm,0.6s,mb5.2
COLD Coldfoot 51.92 28 *e*P **P 01 24 51.6 -0.1**
comp=Z,9.3nm,0.7s,mb4.2
TRF Thorofare Moun 51.99 33 P **P 01 24 53.0 +0.7**
comp=Z,24nm,0.4s,mb4.9
BHPL Bhopal 52.34 274 *e*P **P 01 24 55.2 -0.3**
BHPL AMb AMB 01 24 55.5
comp=Z,19nm,0.2s,mb5.0
MCK McKinley 52.58 33 *e*P **P 01 24 56.0 -0.6**
MCK pmax pmax
comp=Z,27nm,0.6s,mb4.8
MCK McKinley 52.58 33 *e*P **P 01 24 56.0 -0.6**
comp=Z,27nm,0.6s,mb4.8
PMR Palmer 52.67 35 *e*P **P 01 24 56.6 -0.6**
PMR pmax pmax
comp=Z,43nm,0.6s,mb5.0
PMR Palmer 52.67 35 *e*P **P 01 24 56.6 -0.7**
comp=Z,43nm,0.6s,mb5.0
SEW Seward 52.67 37 *e*P **P 01 24 56.3 -0.9**
COLA College 52.97 31 *e*P **P 01 24 59.4 0.0**
COLA pmax pmax
comp=Z,34nm,0.6s,mb4.8
COLA College 52.97 31 *e*P **P 01 24 59.4 0.0**
comp=Z,34nm,0.6s,mb4.8
FITZ Fitzroy Crossi 53.70 193 *e*P **P 01 25 04.6 -0.7**
comp=Z,51nm,0.6s,mb5.0
FITZ Fitzroy Crossi 53.70 193 P **P 01 25 04.7 -0.6**
comp=Z,32nm,0.8s,mb4.7,baz=18,slow=9.0,SNR=94
FITZ S **S 01 32 12.6 -1.5**
comp=Z,1.8nm,1.0s,baz=164,slow=17,SNR=3.1
AKL Akola 53.85 271 *e*P **P 01 25 06.2 -0.3**
AKL AMb AMB 01 25 08.3
comp=Z,142nm,1.2s,mb5.2
SVE Sverdlovsk 54.18 319 ⇓*e*P **P 01 25 08.8 +0.5**
SVE pmax pmax
comp=Z,28nm,0.7s,mb4.7
HYB Hyderabad 54.21 267 *e*P **P 01 25 09.0 0.0**
KBL Kabul 54.52 290 *e*P **P 01 25 11.1 +0.1**
KBL pmax pmax
comp=Z,16nm,0.8s,mb4.4
KBL Kabul 54.52 290 *e*P **P 01 25 11.1 0.0**
comp=Z,16nm,0.8s,mb4.4
WRAB Tennant Creek 54.55 183 *e*P **P 01 25 09.6 -1.7**
WRAB pmax pmax
comp=Z,34nm,0.6s,mb4.8
WRAB Tennant Creek 54.55 183 *e*P **P 01 25 09.6 -1.7**
comp=Z,34nm,0.6s,mb4.9
WRA Warramunga Arr 54.56 183 P **P 01 25 10.0 -1.3**
comp=Z,30nm,0.3s,mb5.1,baz=0.3,slow=7.6,SNR=157
WRA S **S 01 32 25.1 -0.3**
comp=Z,1.4nm,0.8s,baz=12,slow=14,SNR=5.6
WRA Warramunga Arr 54.56 183 P **P 01 25 10.0 -1.3**
WRA S **S 01 32 25.1 -0.3**
WRA pmax pmax
comp=Z,30nm,0.3s
WRA smax
comp=N,1.0nm,0.8s
MENT Mentasta 55.01 33 *e*P **P 01 25 14.6 +0.6**
ARU Arti 55.38 319*d* *i*P **P 01 25 16.4 -0.4**
ARU *e**PP pP 01 26 23.0 -1.7
ARU *e* 01 27 23.0
ARU *e*S **S 01 32 36.6 +1.0**
ARU 01 34 29.8
ARU pmax pmax
comp=Z,32nm,1.0s,mb4.6
ARU Arti 55.38 319 *e*P **P 01 25 16.5 -0.3**
comp=Z,18nm,0.6s,mb4.6
ARU *e*pP pP 01 26 26.6 +2.0
CTA Charters Tower 55.43 169 *e*P **P 01 25 16.9 -0.6**
comp=Z,6.4nm,0.8s,mb4.0
CTA Charters Tower 55.43 169 P **P 01 25 16.0 -1.5**
comp=Z,8.3nm,0.8s,mb4.1,baz=343,slow=8.3,SNR=6.5
CTA Charters Tower 55.43 169 *e*P **P 01 25 16.9 -0.6**
CTA pmax pmax
comp=Z,6.0nm,0.8s
AB31 Akbulak array 56.33 310 *i* P **P 01 25 23.1 -0.5**
AB31 pmax pmax
comp=Z,12nm,0.4s,mb4.6
DAWY Dawson 56.71 32 *e*P **P 01 25 25.9 -0.1**
AKTO Aktyubinsk 57.20 312 P **P 01 25 29.1 -0.5**
AKTO pmax pmax
comp=Z,4.0nm,0.7s,mb3.9
POO Poona 57.51 271 ⇓*i*P **P 01 25 31.0 -1.3**
comp=Z,190nm,1.0s,mb5.4
PNL Peninsula 57.72 37 *e*P **P 01 25 33.2 0.0**
comp=Z,108nm,1.0s,mb5.1
KAD Karad 57.85 269 ⇓*i*P **P 01 25 33.7 -1.0**
KAD AMb AMB 01 25 35.3
comp=Z,71nm,0.7s,mb5.1
MBWA Marble Bar 57.98 199 *e*P **P 01 25 33.9 -1.5**
comp=Z,38nm,0.6s,mb4.9
ASAR Alice Springs 58.28 183 P **P 01 25 36.3 -1.0**
comp=Z,16nm,0.7s,mb4.5,baz=16,slow=12,SNR=160
ASAR S **S 01 33 12.8 -1.2**
comp=Z,3.5nm,0.8s,baz=18,slow=21,SNR=21
ASAR Alice Springs 58.28 183 P **P 01 25 36.3 -1.0**
ASAR S **S 01 33 12.8 -1.1**
ASAR pmax pmax
comp=Z,17nm,0.7s
ASAR smax
comp=N,4.0nm,0.8s
HYT Haines Junctio 58.33 35 *e*P **P 01 25 38.0 +0.7**
KOD Kodaikanal 58.95 260 *e*P **P 01 25 42.2 -0.1**
KOD AMb AMB 01 25 43.9

comp=Z,70nm,0.7s,mb5.2
GOA Goa 59.08 268 eP P 01 25 42.9 -0.2
SKAG Skagway 59.77 36 eP P 01 25 47.9 +0.8
comp=Z,58nm,1.2s,mb4.9
TRD Trivandrum 60.34 259 i P P 01 25 51.7 0.0
TRD AMb AMB 01 25 52.4
comp=Z,76nm,0.4s,mb5.4
DLBC Dease Lake 62.70 36 eP P 01 26 06.9 +0.3
KLMR Klimovskoe 63.46 327 eP P 01 26 10.0 -1.5
KLMR pmax pmax
comp=Z,19nm,1.1s,mb4.5
KEV Kevo 64.04 339 ep P 01 26 14.8 -0.4
comp=Z,6.7nm,0.7s,mb4.4
KEV Kevo 64.04 339 eP P 01 26 14.8 -0.4
KEV pmax pmax
comp=Z,7.0nm,0.7s,mb4.4
ARCES ARCESS Array B 64.61 339 P P 01 26 18.8 0.0
comp=Z,5.1nm,0.6s,mb4.3,baz=63,slow=8.7,SNR=25
ARCES ARCESS Array B 64.61 339 P P 01 26 18.8 0.0
ARCES pmax pmax
comp=Z,5.0nm,0.6s
ARE0 ARCESS Array S 64.61 339 eP P 01 26 18.8 0.0
FORT Forrest 65.80 188 eP P 01 26 25.8 -1.1
comp=Z,66nm,0.6s,mb5.5
JOF Joensuu 65.99 331 ep P 01 26 26.4 -1.3
comp=Z,17nm,0.7s,mb4.9
JOF Joensuu 65.99 331 eP P 01 26 26.4 -1.3
JOF pmax pmax
comp=Z,17nm,0.7s,mb4.9
ARMA Armidale 66.48 166 eP P 01 26 31.2 +0.1
STKA Stephens Creek 66.57 175 eP P 01 26 31.0 -0.7
comp=Z,6.5nm,0.6s,mb4.5
STKA Stephens Creek 66.57 175 P P 01 26 31.4 -0.3
comp=Z,8.1nm,0.6s,mb4.6,baz=334,slow=7.2,SNR=16
VRHR Novokhopersk 66.61 317 eP P 01 26 31.0 -0.9
VRHR pmax pmax
comp=Z,30nm,0.6s,mb5.2
VRHR pmax pmax
comp=N,20nm,0.7s
VRHR pmax pmax
comp=E,40nm,0.9s
OBN Obninsk 67.44 322 d iP P 01 26 36.3 -0.6
OBN e*PP pP 01 27 46.4 -1.4
OBN pmax pmax
comp=Z,29nm,1.7s,mb4.7
YKA Yellowknife Ar 67.60 28 P P 01 26 37.1 -0.7
comp=Z,4.8nm,0.4s,mb4.6,baz=299,slow=6.2,SNR=27
YKA Yellowknife Ar 67.60 28 P P 01 26 37.1 -0.7
YKA pmax pmax
comp=Z,5.0nm,0.4s
WBK Wadi Bani Khal 67.64 283 ⇑P P 01 26 39.0 +0.2
SNR=6.6
BIDO Bidbid 67.86 284 P P 01 26 40.8 +0.7
SNR=8.1
VSR Storozhevoye 67.93 318 eP P 01 26 39.4 -0.7
VSR pmax pmax
comp=Z,9.0nm,0.6s,mb4.7
VSR pmax pmax
comp=N,10.0nm,0.9s
VSR pmax pmax
comp=E,10.0nm,0.8s
BANOM Banah 68.14 287 ⇑P P 01 26 42.1 +0.3
SNR=5.5
SMDO Samad 68.15 283 P P 01 26 42.2 +0.2
SNR=5.8
KAF Kangasniemi 68.39 332 ep P 01 26 41.1 -1.6
comp=E,12nm,0.5s,mb4.9,baz=53,slow=5.8
KAF Kangasniemi 68.39 332 eP P 01 26 41.1 -1.6
KAF pmax pmax
comp=Z,12nm,0.5s,mb4.9
JMDO Jabal Madar 68.45 283 P P 01 26 44.0 +0.2
SNR=5.8
KLBR Kellerberrin 68.45 197 eP P 01 26 41.6 -1.8
comp=Z,21nm,1.0s,mb4.8
HOQ Hoqain 68.48 284 P P 01 26 44.5 +0.5
SNR=8.0
HATD Hatta, Dubai 68.81 286 P P 01 26 46.4 +0.5
SNR=8.2
BSY Bisya 68.99 284 P P 01 26 47.3 +0.2
SNR=13
KIV Kislovodsk 69.31 310 P P 01 26 50.0 +1.3
SNR=6.9
KIV Kislovodsk 69.31 310 d iP P 01 26 49.1 +0.4
KIV pmax pmax
comp=Z,100nm,1.2s,mb5.4
KIV Kislovodsk 69.31 310 eP P 01 26 49.1 +0.4
comp=Z,71nm,0.8s,mb5.5
NWAO Narrogin (SRO) 69.85 197 P P 01 26 50.5 -1.4
comp=Z,21nm,0.7s,mb5.0,baz=4.4,slow=5.0,SNR=14
NWAO Narrogin (SRO) 69.85 197 P P 01 26 50.6 -1.3
NWAO pmax pmax
comp=Z,21nm,0.7s
B04A Port Angeles 70.90 44 ⇓P P 01 26 58.3 +0.1
baz=71
A04A Legoe Bay, Lum 71.01 43 ⇓P P 01 26 59.3 +0.4
baz=71
NLWA Neilton Lookou 71.03 45 ⇑P P 01 26 59.7 +0.8
baz=71,SNR=5.7
A05A Maple Falls 71.22 43 ⇑P P 01 27 00.5 +0.4
baz=71
D03A Wishkah Elem. 71.23 45 ⇑P P 01 27 01.1 +0.9
baz=71
C04A Brinnon 71.38 44 ⇑P P 01 27 01.5 +0.5
baz=71
A06A Chilliwack 71.50 43 ⇓P P 01 27 01.2 -0.5
baz=71
GNW Green Mountain 71.55 45 eP P 01 27 01.7 -0.3
comp=Z,62nm,1.4s,mb5.2
B05A Bryant 71.59 44 ⇓P P 01 27 02.4 +0.1
baz=71,SNR=11
E03A Lebam 71.65 46 ⇓P P 01 27 02.9 +0.3
baz=71
JCW Jim Creek 71.73 44 P P 01 27 03.4 +0.3
D04A Dobbs Creek Ra 71.80 45 ⇑P P 01 27 04.0 +0.4
baz=72
B06A Marblemount 71.81 43 ⇓P P 01 27 03.4 -0.2
baz=72,SNR=7.4
RPW Rockport 71.83 43 P P 01 27 03.3 -0.3
E04A Onalaska 72.12 45 ⇓P P 01 27 05.2 -0.2
baz=72
C05A Tolt Reservoir 72.13 44 ⇓P P 01 27 05.5 0.0
baz=72,SNR=8.2
A07A Ashnola River, 72.14 42 ⇓P P 01 27 05.3 -0.2
baz=72,SNR=10
ANN Anapa 72.15 312 eP P 01 27 03.3 -2.3
ANN e 01 27 18.0
ANN eS S 01 35 55.6 -5.6
ANN pmax pmax
comp=Z,56nm,0.9s,mb5.3
D05A Enumclaw 72.23 45 ⇓P P 01 27 06.3 +0.3
baz=72
C06A Tall Timber Ra 72.46 44 ⇓P P 01 27 07.5 +0.1
baz=72
G03A Yamhill 72.46 47 ⇑P P 01 27 07.9 +0.4
baz=72
B07A Winthrop 72.60 43 ⇑P P 01 27 08.1 -0.2
baz=72,SNR=14
F04A Amboy 72.65 46 ⇑P P 01 27 08.8 +0.3
baz=72
E05A Randle 72.69 45 ⇑P P 01 27 08.6 -0.2
baz=72
SUMG Summit 72.78 358 eP P 01 27 09.5 +0.7
comp=Z,4.7nm,0.6s,mb4.4
H03A Soap Creek Ran 72.79 47 ⇓P P 01 27 09.8 +0.4
baz=73
A08A Turner Farm, O 72.80 42 ⇑P P 01 27 09.2 -0.1
baz=73,SNR=11
D06A Cle Elum 72.88 44 ⇑P P 01 27 09.9 0.0
baz=73,SNR=5.7
ETW Entiat 72.95 44 eP P 01 27 10.1 -0.2
G04A Mulino 73.00 47 ⇓P P 01 27 10.9 +0.2
baz=73
C07A Waterville 73.06 43 ⇓P P 01 27 10.4 -0.5
baz=73,SNR=11
K01A Sixes 73.06 49 ⇓P P 01 27 11.2 +0.2
baz=73
B08A Colville Reser 73.10 43 ⇑P P 01 27 10.9 -0.2
baz=73,SNR=16
E06A Yakima 73.16 45 ⇑P P 01 27 11.7 +0.2
baz=73,SNR=5.2
A09A Danville 73.17 42 ⇓P P 01 27 11.5 0.0
baz=73,SNR=16
I03A Eugene 73.18 48 ⇑P P 01 27 11.9 +0.2
baz=73
F05A White Salmon 73.24 46 ⇓P P 01 27 12.2 +0.3
baz=73
J02A Umpqua 73.32 49 ⇓P P 01 27 13.2 +0.7
baz=73
D07A Quincy 73.38 44 ⇑P P 01 27 12.5 -0.3
baz=73,SNR=8.5
EDM Edmonton 73.42 36 eP P 01 27 12.8 -0.1
HOOD Mount Hood Mea 73.43 46 eP P 01 27 13.5 +0.3
comp=Z,20nm,0.8s,mb4.9
H04A Detroit Lake 73.45 47 ⇓P P 01 27 13.0 -0.2
baz=73
AKASG Malin Array Be 73.55 321 P P 01 27 13.0 -0.7
comp=Z,14nm,0.5s,mb4.9,baz=50,slow=6.0,SNR=41
AKASG Malin Array Be 73.55 321 P P 01 27 13.0 -0.7
AKASG pmax pmax
comp=Z,14nm,0.5s
AKBB Malin Array Si 73.55 321 eP P 01 27 13.3 -0.4
C08A Higginbotham F 73.58 43 ⇓P P 01 27 13.5 -0.4
baz=73,SNR=13
G05A Wamic 73.67 46 ⇓P P 01 27 14.4 -0.1
baz=74
K02A Glendale 73.69 49 ⇑P P 01 27 14.7 +0.1
baz=74
F06A Goldendale 73.70 45 ⇓P P 01 27 14.4 -0.2
baz=74
B09A Rice 73.72 42 ⇓P P 01 27 14.6 -0.1
baz=74,SNR=16
A10A Northport 73.72 41 ⇑P P 01 27 14.7 -0.1
baz=74,SNR=9.5
M01C Crescent City 73.79 50 ⇓P P 01 27 15.6 +0.4
baz=74
E07A Sunnyside 73.80 44 ⇑P P 01 27 15.3 +0.1
baz=74,SNR=5.4
I04A Tendick Farm, 73.80 48 ⇓P P 01 27 15.3 0.0
baz=74,SNR=6.2
L02A Cave Junction 73.95 50 ⇑P P 01 27 16.7 +0.5
baz=74
OD2 Odessa Site #2 73.98 43 eP P 01 27 15.8 -0.4
C09A Chrisman Ranch 74.00 43 ⇓P P 01 27 16.2 -0.1
baz=74,SNR=8.0
RSW Rattlesnake Hi 74.04 44 eP P 01 27 16.7 +0.1
H05A Madras 74.05 47 ⇑P P 01 27 16.5 -0.2
baz=74
D08A Wollman Farm, 74.05 44 ⇓P P 01 27 16.3 -0.4
baz=74,SNR=12
SIM Simferopol' 74.06 314 d iP P 01 27 17.5 +0.8
SIM pmax pmax
comp=Z,32nm,0.8s,mb5.1
G06A Carlson Farm, 74.08 46 ⇑P P 01 27 16.9 0.0
baz=74,SNR=7.1
RBK Rabkut 74.09 280 P P 01 27 16.9 -0.4
SNR=10.0
HUMO Hull Mountain 74.11 49 ⇓P P 01 27 17.1 +0.1
baz=74
HUMO Hull Mountain 74.11 49 eP P 01 27 17.0 -0.1
comp=Z,9.2nm,0.8s,mb4.6
F07A Phinny Hill Vi 74.12 45 ⇓P P 01 27 17.4 +0.3
baz=74
WHFO Wadi Hawf 74.22 281 P P 01 27 17.4 -0.8
SNR=16
J04A Umpqua Nationa 74.29 48 ⇑P P 01 27 18.5 +0.4
baz=74,SNR=9.3
E08A Dider Farm, El 74.29 44 ⇑P P 01 27 18.0 -0.1
baz=74,SNR=7.0
I05A Bend 74.29 47 ⇑P P 01 27 18.2 +0.1
baz=74
NEW Newport 74.37 42 eP P 01 27 18.0 -0.5
NEW pmax pmax
comp=Z,14nm,0.9s
NEW Newport 74.37 42 eP P 01 27 18.0 -0.5
comp=Z,14nm,0.9s,mb4.7
A11A Hall Mountain, 74.38 41 ⇑P P 01 27 19.3 +0.8
baz=74,SNR=19
D09A Jones Farm, Ri 74.40 43 ⇓P P 01 27 18.4 -0.2
baz=74
JCC Jacoby Creek 74.40 51 ⇓P P 01 27 18.7 -0.1
baz=74
SUW Suwalki 74.53 326 eP P 01 27 18.7 -0.5
SUW Suwalki 74.53 326 eP P 01 27 18.7 -0.6
H06A Lindquist Farm 74.53 46 ⇑P P 01 27 19.1 -0.3
baz=74,SNR=5.5
NB2 NORSAR Subarra 74.60 336 P P 01 27 19.0 -0.5
comp=Z,15nm,1.0s,mb4.7,baz=43,slow=5.6
NOA NORSAR Array B 74.60 336 P P 01 27 18.1 -1.4
comp=Z,4.3nm,0.5s,mb4.4,baz=44,slow=5.7,SNR=27
NOA NORSAR Array B 74.60 336 P P 01 27 18.1 -1.4
NOA pmax pmax
comp=Z,4.0nm,0.5s
G07A Ruggs Ranch, H 74.63 45 ⇓P P 01 27 20.1 +0.1
baz=74
B11A Sandpoint 74.68 41 ⇑P P 01 27 20.4 +0.2
baz=74,SNR=21
YBH Yreka Blue Hor 74.74 50 eP P 01 27 20.9 +0.2
YBH pmax pmax
comp=Z,14nm,0.8s
YBH Yreka Blue Hor 74.74 50 ⇑P P 01 27 21.1 +0.4
baz=74,SNR=8.9
YBH Yreka Blue Hor 74.74 50 eP P 01 27 20.9 +0.2
comp=Z,14nm,0.8s,mb4.8
A12A Yaak River Ran 74.78 41 ⇑P P 01 27 21.0 +0.3
baz=75,SNR=11
J05A Fort Rock 74.80 48 ⇑P P 01 27 21.5 +0.5
baz=75,SNR=16
E09A Wood Farm, Sta 74.80 44 ⇑P P 01 27 20.9 -0.1
baz=75,SNR=22
M02C Callahan 74.83 50 ⇓P P 01 27 21.8 +0.5
baz=75,SNR=6.9
F08A Pendleton 74.84 45 ⇓P P 01 27 21.5 +0.3
baz=75,SNR=15
N02C Big Bar 74.86 51 ⇓P P 01 27 21.3 -0.1
baz=75
K04A Chilquin 74.86 48 ⇓P P 01 27 22.1 +0.7
baz=75
O01C Eel River Cons 74.90 52 ⇓P P 01 27 22.1 +0.4
baz=75
ABTO Aybut 74.90 281 P P 01 27 21.9 -0.2
SNR=11
L04A Klamath Falls 75.00 49 ⇑P P 01 27 22.6 +0.4
baz=75,SNR=15
G08A Pilot Rock 75.03 45 ⇓P P 01 27 22.4 -0.1
baz=75,SNR=6.8
I06A Prineville 75.05 47 ⇑P P 01 27 22.7 +0.2
baz=75,SNR=8.6
H07A Lands Inn, Kim 75.07 46 ⇓P P 01 27 22.6 +0.1
baz=75
B12A Libby 75.08 41 ⇓P P 01 27 22.9 +0.3
baz=75
C11A Tepee Creek (N 75.09 42 ⇑P P 01 27 22.8 +0.2
baz=75,SNR=44
M04C Macdoel 75.25 49 ⇓P P 01 27 24.0 +0.4
baz=75,SNR=21
K05A Summer Lake 75.31 48 ⇑P P 01 27 24.6 +0.6
baz=75,SNR=15
M03C McCloud 75.36 50 ⇓P P 01 27 24.5 +0.3
baz=75,SNR=10
I07A Izee 75.39 46 ⇓P P 01 27 24.6 +0.2
baz=75,SNR=8.8
F09A S2 Ranch, Elgi 75.39 44 ⇑P P 01 27 24.3 0.0
baz=75,SNR=8.4
E10A Myers Farm, Un 75.40 43 ⇑P P 01 27 24.2 -0.2
baz=75,SNR=12
A13A Flathead Natio 75.44 40 ⇓P P 01 27 24.6 +0.1
baz=75
J06A Christmas Vall 75.47 47 ⇓P P 01 27 25.0 +0.2
baz=75,SNR=15
WDC Whiskeytown Da 75.48 51 eP P 01 27 24.7 -0.2
WDC pmax pmax
comp=Z,27nm,1.2s,mb4.8
WDC Whiskeytown Da 75.48 51 ⇓P P 01 27 24.7 -0.2
baz=75,SNR=7.5
WDC Whiskeytown Da 75.48 51 eP P 01 27 24.7 -0.3
comp=Z,27nm,1.2s,mb4.8
D11A Klaveano Farm, 75.51 42 ⇓P P 01 27 24.5 -0.4
baz=75,SNR=26
C12B Naegeli Ranch, 75.59 42 ⇑P P 01 27 25.1 -0.4
baz=75
F10A Beach Ranch, E 75.63 44 ⇑P P 01 27 25.5 -0.2
baz=75,SNR=8.5
H08A Prairie City 75.63 46 ⇓P P 01 27 25.9 +0.2
baz=75,SNR=15
K06A Valley Falls 75.67 48 ⇑P P 01 27 26.3 +0.3
baz=76,SNR=14
G09A Cove 75.72 45 ⇑P P 01 27 26.2 0.0
baz=76,SNR=15
L05A Lakeview 75.73 49 ⇓P P 01 27 26.7 +0.4
baz=76,SNR=7.9
B13A Whitefish 75.74 41 ⇓P P 01 27 26.6 +0.3
baz=76,SNR=32
LTIM Timbered Crate 75.81 50 P P 01 27 27.0 +0.2
GASB Alder Springs 75.88 51 ⇑P P 01 27 27.8 +0.6
baz=76,SNR=5.6
BSMT Bassoo Peak 75.88 41 P P 01 27 27.5 +0.5
J07A Hines 75.91 47 ⇑P P 01 27 28.0 +0.7
baz=76,SNR=23
A14A Double T Ranch 75.94 40 ⇓P P 01 27 27.4 0.0
baz=76,SNR=17
E11A Bogner Ranch, 75.98 43 ⇑P P 01 27 27.3 -0.4
baz=76,SNR=8.6
I08A Drewsey 76.04 46 ⇓P P 01 27 27.8 -0.2
baz=76
D12A Red Ives Fores 76.05 42 ⇓P P 01 27 27.7 -0.3
baz=76
G10A Bishop Farm, J 76.09 44 ⇑P P 01 27 28.3 0.0
baz=76,SNR=34
C13A Hot Springs 76.10 41 ⇑P P 01 27 28.6 +0.3
baz=76,SNR=58
H09A Durkee 76.14 45 ⇑P P 01 27 28.9 +0.3
baz=76,SNR=8.0
MOD Modoc 76.14 48 ⇓P P 01 27 28.3 -0.3
baz=76,SNR=16
MOD Modoc 76.14 48 eP P 01 27 28.2 -0.4
comp=Z,14nm,0.7s,mb4.8
BMO Blue Mountains 76.24 45 eP P 01 27 29.1 0.0
comp=Z,27nm,0.7s,mb5.1
F11A Grangeville 76.29 43 ⇓P P 01 27 29.0 -0.3
baz=76,SNR=20
A15A Johnson Ranch, 76.29 39 ⇓P P 01 27 29.0 -0.4
baz=76,SNR=28
E12A Beaver Dam Sad 76.31 43 ⇓P P 01 27 29.5 0.0
baz=76,SNR=49
K07A Rock Creek Ran 76.33 47 ⇑P P 01 27 30.1 +0.4
baz=76,SNR=18
B14A Marquette Ranc 76.39 40 ⇑P P 01 27 30.5 +0.6
baz=76,SNR=8.6
J08A Circle Bar Ran 76.42 46 ⇓P P 01 27 30.5 +0.4
baz=76,SNR=32
M06C Likely Place G 76.42 49 ⇓P P 01 27 30.6 +0.4
baz=76,SNR=5.7
MNRC McLaughlin Nat 76.48 52 ⇑P P 01 27 31.1 +0.5
baz=76,SNR=7.1
C14A Swan Lake 76.49 41 ⇓P P 01 27 30.6 +0.1
baz=76
I09A Lost Marbles R 76.50 46 ⇓P P 01 27 30.6 +0.1
baz=76,SNR=20
G11A Walters Elk Ra 76.51 44 ⇑P P 01 27 30.2 -0.5
baz=76,SNR=84
D13A Huson 76.51 42 ⇑P P 01 27 30.2 -0.4
baz=76,SNR=16
O04C Chester 76.54 50 ⇑P P 01 27 31.1 +0.2
baz=76,SNR=13
L07A Adell 76.66 48 ⇑P P 01 27 32.3 +0.7
baz=76,SNR=30
ORV Oroville 76.71 51 ⇑P P 01 27 31.1 -0.8
baz=76,SNR=15
H10A Noah's Angus R 76.71 45 ⇑P P 01 27 31.3 -0.4
baz=76,SNR=35
CVS Carmenet Viney 76.77 52 ⇓P P 01 27 32.6 +0.4
baz=77
K08A Mann Creek Ran 76.77 47 ⇓P P 01 27 32.4 +0.3
baz=77,SNR=19
B15A Bradely Ranch, 76.79 40 ⇓P P 01 27 32.2 +0.1
baz=77,SNR=58
OHCM Honcut 76.84 51 eP P 01 27 32.1 -0.5
J09A Fry Pan Ranch, 76.85 46 ⇑P P 01 27 32.7 +0.2
baz=77,SNR=16
O05C Quincy 76.85 50 ⇓P P 01 27 32.4 -0.2
baz=77,SNR=6.9
WVOR Wild Horse Val 76.85 47 eP P 01 27 32.8 +0.2
WVOR pmax pmax
comp=Z,21nm,1.0s,mb4.8
WVOR Wild Horse Val 76.85 47 eP P 01 27 32.8 +0.2
comp=Z,21nm,1.0s,mb4.8
F12A Elk City 76.87 43 ⇑P P 01 27 32.6 0.0
baz=77,SNR=64
Q03C Winters 76.90 52 ⇑P P 01 27 33.5 +0.6
baz=77,SNR=5.1
A16A West Butte Ran 76.90 39 ⇓P P 01 27 32.4 -0.3
baz=77,SNR=7.6
MSO Missoula 76.96 42 eP P 01 27 32.6 -0.4
comp=Z,21nm,1.4s,mb4.7
I10A Payette 76.98 45 ⇑P P 01 27 33.4 +0.2
baz=77,SNR=5.6
D14A Greenough 77.04 41 ⇓P P 01 27 32.9 -0.6
baz=77,SNR=50
E13A Victor 77.06 42 ⇑P P 01 27 32.9 -0.7
baz=77
H11A Donnelly 77.07 44 ⇓P P 01 27 33.2 -0.5
baz=77,SNR=30
N06A Buffalo Meadow 77.08 49 ⇓P P 01 27 34.0 +0.1
baz=77,SNR=22
C15A Salmond Ranch, 77.10 40 ⇑P P 01 27 34.2 +0.4
baz=77,SNR=40
M07A Soldier Meadow 77.13 48 ⇓P P 01 27 34.7 +0.5
baz=77,SNR=28
L08A Fields 77.17 47 ⇑P P 01 27 34.7 +0.4
baz=77,SNR=29
B16A M & M Farms, S 77.18 39 ⇓P P 01 27 34.0 -0.2
baz=77,SNR=14
K09A Rome 77.25 47 ⇑P P 01 27 34.9 +0.2
baz=77,SNR=16
BEKR Beckwourth 77.26 50 ⇑P P 01 27 34.7 -0.2
baz=77,SNR=44
BR131 Keskin Array S 77.28 310 eP P 01 27 35.4 +0.4
comp=Z,16nm,0.9s,mb4.8
CHMT Chamberlain Mo 77.28 41 eP P 01 27 34.7 -0.2
F13A Darby 77.37 43 ⇑P P 01 27 34.3 -1.1
baz=77,SNR=12
O06A Flanigan 77.42 50 ⇓P P 01 27 35.9 +0.1
baz=77,SNR=14
JRSC Jasper Ridge 77.44 53 ⇓P P 01 27 35.5 -0.5
baz=77
E14A Clinton 77.45 42 ⇑P P 01 27 35.3 -0.5
baz=77,SNR=12
BUR08 Bucovina Ar. S 77.49 320 eP P 01 27 36.1 +0.1
BURAR Bucovina Array 77.50 320 ⇑P P 01 27 36.4 +0.4
KWP Kalwaria 77.52 322 eP P 01 27 37.1 +1.0
KWP Kalwaria 77.52 322 eP P 01 27 37.1 +1.0
C16A Fuhringer Ranc 77.54 40 ⇓P P 01 27 36.1 -0.2
baz=77,SNR=37
I11A Placerville 77.57 45 ⇑P P 01 27 36.3 -0.2
baz=77
M08A Happy Creek Ra 77.58 48 ⇑P P 01 27 37.0 +0.4
baz=77,SNR=12
FFC Flin Flon 77.59 30 eP P 01 27 35.6 -0.8
FFC pmax pmax
comp=Z,17nm,0.7s,mb4.9
FFC Flin Flon 77.59 30 eP P 01 27 35.6 -0.8
comp=Z,17nm,0.7s,mb4.9
D15A Lincoln 77.60 41 ⇓P P 01 27 36.3 -0.3
baz=77,SNR=8.1
N07B Gerlach 77.60 49 ⇑P P 01 27 36.9 +0.1
baz=77,SNR=6.6
LAVA Lava Cap Winer 77.65 51 ⇑P P 01 27 36.5 -0.5
baz=77,SNR=12
P06A Stead Airport, 77.66 50 ⇑P P 01 27 36.6 -0.4
baz=78
TIRR Tirgusor 77.66 316 ⇑P P 01 27 37.0 0.0
L09A Wilkinson Ranc 77.68 47 ⇓P P 01 27 37.4 +0.3
baz=78,SNR=6.3
GKP Gorka Klasztor 77.70 328 eP P 01 27 37.0 0.0
GKP Gorka Klasztor 77.70 328 eP P 01 27 37.0 0.0
K10A MacKenzie Ranc 77.71 46 ⇑P P 01 27 37.6 +0.3
baz=78,SNR=24
VRI Vrincioaia 77.76 318 P P 01 27 39.0 +1.5
HARR Harsova 77.80 316 ⇓P P 01 27 38.1 +0.3
PLOR Plostina 77.81 318 ⇓P P 01 27 39.7 +1.9
H12A Diamond D Ranc 77.82 44 ⇓P P 01 27 37.8 -0.1
baz=78,SNR=31
G13A Cobalt 77.85 43 ⇑P P 01 27 37.2 -0.8
baz=78,SNR=23
F14A Wisdom 77.89 42 ⇓P P 01 27 37.9 -0.3
baz=78,SNR=6.9
E15A Deer Lodge 77.91 41 ⇑P P 01 27 38.2 -0.1
baz=78,SNR=22
MFID Camas Ranch 77.94 45 ⇓P P 01 27 38.7 +0.2
baz=78,SNR=25
WCN Washoe City 77.96 50 ⇑P P 01 27 39.0 +0.2
baz=78
PAHR Pah Rah Range 77.97 50 eP P 01 27 38.7 0.0
comp=Z,34nm,1.0s,mb5.0
O07A Toulon 78.02 49 ⇑P P 01 27 39.3 +0.2
baz=78,SNR=26
N08A GE Springer Mi 78.12 48 ⇑P P 01 27 39.8 +0.3
baz=78,SNR=31
I12A Atlanta 78.12 45 ⇓P P 01 27 39.7 +0.2
baz=78,SNR=26
D16A Dana Ranch, Ca 78.12 40 ⇑P P 01 27 39.5 0.0
baz=78,SNR=23
H13A Challis 78.16 44 ⇓P P 01 27 39.5 -0.2

baz=78,SNR=29
M09A **Marrel Ranch,** 78.16 48 ⇑P P 01 27 40.0 +0.2
baz=78
C17A **Wharram Farm,** 78.16 40 ⇓P P 01 27 39.0 -0.7
baz=78,SNR=14
HRY **Holter Researc** 78.17 41 eP P 01 27 39.9 +0.2
KOLS **Kolonicke sedl** 78.19 322 eP P 01 27 40.0 +0.2
K11A **Parker Ranch,** 78.21 46 ⇑P P 01 27 40.0 0.0
baz=78,SNR=13
CMB **Columbia Colle** 78.29 52 eP P 01 27 40.2 -0.4
CMB pmax pmax
comp=Z,20nm,0.6s,mb5.0
CMB **Columbia Colle** 78.29 52 ⇑P P 01 27 40.3 -0.3
baz=78,SNR=21
CMB **Columbia Colle** 78.29 52 eP P 01 27 40.2 -0.3
comp=Z,20nm,0.6s,mb5.0
PACP **Pacheco Peak** 78.29 53 ⇓P P 01 27 40.5 -0.1
baz=78,SNR=5.4
F15A **Butte** 78.36 42 ⇓P P 01 27 40.9 +0.2
baz=78,SNR=55
L10A **Juniper Basin** 78.36 47 ⇓P P 01 27 41.2 +0.3
baz=78,SNR=27
E16A **East Helena** 78.37 41 ⇓P P 01 27 40.9 +0.1
baz=78,SNR=5.2
P07A **Fallon** 78.37 50 ⇓P P 01 27 41.5 +0.5
baz=78
STHS **Stebnicka Huta** 78.39 323 eP P 01 27 41.5 +0.6
STHS pmax pmax
comp=Z,6.0nm,1.3s,mb4.2
STHS **Stebnicka Huta** 78.39 323 eP P 01 27 41.5 +0.6
STHS **Stebnicka Huta** 78.39 323 eP P 01 27 41.5 +0.6
comp=Z,5.5nm,1.3s,mb4.1
O08A **Rochester Mine** 78.39 49 ⇓P P 01 27 41.7 +0.6
baz=78,SNR=30
MLR **Muntele Rosu** 78.42 318 ⇑P P 01 27 41.4 +0.3
EGMT **Eagleton** 78.44 39 ⇑P P 01 27 41.1 0.0
baz=78,SNR=8.4
EGMT **Eagleton** 78.44 39 eP P 01 27 40.9 -0.2
comp=Z,67nm,1.0s,mb5.3
N09A **Rock Creek Ran** 78.45 48 ⇑P P 01 27 41.8 +0.4
baz=78,SNR=14
J12A **Stokes Ranch,** 78.47 45 ⇑P P 01 27 41.6 +0.2
baz=78,SNR=11
OJC **Ojcow** 78.57 324 eP P 01 27 41.9 +0.1
DLMT **Dillon** 78.59 42 eP P 01 27 42.1 0.0
comp=Z,71nm,1.0s,mb5.3
R06C **Coleville** 78.61 51 ⇓P P 01 27 42.6 +0.3
baz=78,SNR=17
CRVS **Cervenica-Dubn** 78.62 322 eP P 01 27 42.4 +0.3
H14A **Leadore** 78.63 43 ⇓P P 01 27 41.5 -0.7
baz=78
I13A **Wildhorse Cree** 78.63 44 ⇑P P 01 27 42.9 +0.6
baz=78,SNR=33
M10A **I.L. Ranch, Tu** 78.65 47 ⇓P P 01 27 43.2 +0.7
baz=78,SNR=24
HLID **Hailey** 78.68 45 ⇑P P 01 27 43.0 +0.4
baz=78,SNR=29
HLID **Hailey** 78.68 45 eP P 01 27 42.4 -0.2
comp=Z,17nm,0.8s,mb4.8
S05C **Merced** 78.72 52 ⇓P P 01 27 42.3 -0.6
baz=78,SNR=7.0
L11A **Cat Creek Ranc** 78.74 46 ⇑P P 01 27 43.5 +0.6
baz=78,SNR=26
G15A **Dillon** 78.78 42 ⇑P P 01 27 43.1 0.0
baz=79,SNR=51
MCMT **McKenzie Canyo** 78.79 43 eP P 01 27 42.8 -0.4
NIE **Niedzica** 78.85 323 eP P 01 27 44.1 +0.7
E17A **Martinsdale** 78.85 41 ⇓P P 01 27 43.9 +0.5
baz=79,SNR=32
BMN **Battle Mountai** 78.89 48 eP P 01 27 44.1 +0.4
BMN pmax pmax
comp=Z,23nm,0.9s,mb4.9
BMN **Battle Mountai** 78.89 48 eP P 01 27 44.1 +0.4
comp=Z,23nm,0.9s,mb4.9
V03C **Hunter Liggett** 78.89 54 ⇑P P 01 27 43.8 0.0
baz=79,SNR=6.3
J13A **Cove Ranch, Pi** 78.91 45 ⇓P P 01 27 44.4 +0.6
baz=79,SNR=40
VOIR 78.95 318 P P 01 27 44.7 +0.7
K12A **Draper Farm, C** 78.95 45 ⇓P P 01 27 44.8 +0.7
baz=79
U04C **Hernandez Rese** 78.99 53 ⇑P P 01 27 44.4 0.0
baz=79
I14A **Mackay** 79.00 44 ⇑P P 01 27 44.9 +0.6
baz=79,SNR=55
H15A **Lima** 79.03 43 ⇓P P 01 27 44.2 -0.2
baz=79,SNR=6.4
G16A **Moss Hill, Enn** 79.11 42 ⇑P P 01 27 44.8 0.0
baz=79,SNR=14
N10A **Dunphy** 79.15 48 ⇓P P 01 27 45.4 +0.2
baz=79
M11A **Holland Ranch,** 79.16 47 ⇑P P 01 27 46.1 +0.9
baz=79,SNR=7.3
L12A **House Creek Ra** 79.19 46 ⇑P P 01 27 45.8 +0.5
baz=79,SNR=12
E18A **Harlowton** 79.29 40 ⇑P P 01 27 46.2 +0.4
baz=79,SNR=16
T06C **Millerton Lake** 79.32 52 ⇓P P 01 27 45.5 -0.7
baz=79,SNR=17
J14A **Carey** 79.34 44 ⇓P P 01 27 46.9 +0.8
baz=79,SNR=30
DRGR 79.34 320 ⇑P P 01 27 46.4 +0.3
Q08A **Gabbs** 79.37 50 ⇑P P 01 27 46.5 +0.1
baz=79,SNR=16
KCC **Kaiser Creek** 79.39 52 ⇑P P 01 27 46.1 -0.4
baz=79,SNR=10
PKD **Parkfield** 79.39 54 ⇑P P 01 27 46.3 -0.3
baz=79,SNR=11
NVAR **Mina Array Bea** 79.39 50 P P 01 27 46.8 +0.3
comp=Z,17nm,0.8s,mb4.8,baz=293,slow=4.9,SNR=99
O10A **Cortez Mining,** 79.41 48 ⇓P P 01 27 47.3 +0.7
baz=79,SNR=10
K13A **Stover Farm, H** 79.42 45 ⇓P P 01 27 47.1 +0.5
baz=79,SNR=12
P09A **Austin** 79.46 49 ⇑P P 01 27 46.7 -0.1
baz=79
R08A **Mina** 79.57 50 ⇓P P 01 27 47.6 +0.1
baz=79
QLMT **Earthquake Lak** 79.57 42 eP P 01 27 47.9 +0.5
M12A **Wells** 79.69 46 ⇑P P 01 27 48.8 +0.8
baz=80,SNR=37
H16A **Russell Place,** 79.75 42 ⇑P P 01 27 48.8 +0.5
baz=80,SNR=13
PTRM **Twissleman Ran** 79.78 54 eP P 01 27 48.6 0.0
KSP **Ksiaz** 79.79 326 eP P 01 27 49.0 +0.6
KSP **Ksiaz** 79.79 326 eP P 01 27 48.5 +0.1
F18A **Big Timber** 79.82 41 ⇑P P 01 27 48.8 +0.2
baz=80,SNR=27
P10A **Eureka** 79.84 49 ⇑P P 01 27 49.3 +0.4
baz=80,SNR=8.9
L13A **Double Diamond** 79.85 45 ⇓P P 01 27 49.7 +0.8
baz=80,SNR=7.6
J15A **Blackfoot** 79.91 44 ⇑P P 01 27 50.0 +0.8
baz=80,SNR=9.3
GCMT **Greycliff** 79.92 41 eP P 01 27 49.3 +0.2
YMR **Madison River** 79.93 42 eP P 01 27 50.2 +1.0
comp=Z,67nm,1.5s,mb5.2
MORC **Moravsky Berou** 79.94 325 eP P 01 27 48.9 -0.3
MORC e 01 27 55.6
MORC pmax pmax
comp=Z,12nm,1.5s,mb4.4
MORC **Moravsky Berou** 79.94 325 eP P 01 27 48.9 -0.3
comp=Z,12nm,1.5s,mb4.4
MORC ePcP PcP 01 27 55.6 0.0
N12A **Clover Valley,** 79.96 47 ⇑P P 01 27 50.0 +0.5
baz=80,SNR=25
K14A **Jones Ranch, D** 80.02 45 ⇓P P 01 27 50.4 +0.7
baz=80,SNR=12
O11A **Cowboy Ranch,** 80.02 48 ⇑P P 01 27 50.3 +0.4
baz=80,SNR=13
RCTC **Rector, Farmer** 80.03 53 ⇑P P 01 27 50.6 +0.6
baz=80
DPC **Dobruska-Polom** 80.12 326 eP P 01 27 50.6 +0.5
YFT **Old Faithful** 80.14 42 eP P 01 27 52.4 +2.0
I16A **Newdale** 80.14 43 ⇓P P 01 27 51.4 +1.0
baz=80,SNR=11
UPC **Upice** 80.15 326 eP P 01 27 50.4 +0.1
VYHS **Vyhne** 80.19 323 eP P 01 27 50.1 -0.5
GZR **Gura Zlata** 80.21 319 ⇑P P 01 27 51.5 +0.8
GZR **Gura Zlata** 80.21 319 P P 01 27 51.1 +0.4
R09A **Tonopah** 80.28 50 ⇓P P 01 27 51.3 0.0
baz=80,SNR=14
TPH **Tonopah** 80.29 50 eP P 01 27 51.7 +0.4
TPH pmax pmax
comp=Z,55nm,1.2s,mb5.2
TPH **Tonopah** 80.29 50 eP P 01 27 51.7 +0.4
comp=Z,55nm,1.2s,mb5.2
L14A **Malta** 80.30 45 ⇑P P 01 27 51.9 +0.7
baz=80,SNR=30
K15A **Arbon** 80.30 44 ⇑P P 01 27 52.0 +0.7
baz=80,SNR=7.3
LKWY **Lake** 80.31 42 eP P 01 27 52.6 +1.3
LKWY pmax pmax
comp=Z,12nm,0.8s,mb4.7
LKWY **Lake** 80.31 42 eP P 01 27 52.6 +1.3
comp=Z,12nm,0.8s,mb4.7
H17A **Grant Village** 80.32 42 ⇑P P 01 27 53.4 +2.0
baz=80,SNR=30
Q10A **Clear Creek Ra** 80.36 49 ⇑P P 01 27 51.6 0.0
baz=80,SNR=18
VES **Vestal, Richgr** 80.42 53 ⇑P P 01 27 50.8 -1.2
baz=80,SNR=5.4
IMW **Indian Meadow** 80.44 43 eP P 01 27 52.8 +0.8
comp=Z,18nm,0.9s,mb4.8
J16A **Bone** 80.45 43 ⇑P P 01 27 52.7 +0.6
baz=80,SNR=15
N13A **Wendover, West** 80.46 47 ⇓P P 01 27 52.5 +0.4
baz=80,SNR=14
PKM **Peak Mountain** 80.48 54 ⇓P P 01 27 52.4 0.0
baz=80,SNR=8.2
O12A **Currie** 80.49 47 ⇑P P 01 27 52.7 +0.3
baz=80,SNR=40
S09A **Goldfield** 80.50 51 ⇑P P 01 27 52.6 +0.2
baz=80,SNR=28
RLMT **Red Lodge** 80.56 41 ⇓P P 01 27 52.9 +0.3
baz=80,SNR=14
RLMT **Red Lodge** 80.56 41 eP P 01 27 52.8 +0.2
comp=Z,9.9nm,0.7s,mb4.7
M14A **Sheep Mountain** 80.56 46 ⇓P P 01 27 53.3 +0.6
baz=80,SNR=37
RRI2 **Red Ridge** 80.57 43 eP P 01 27 53.2 +0.5
comp=Z,27nm,1.1s,mb4.9
I17A **Pilgram Creek** 80.62 42 ⇓P P 01 27 54.2 +1.3
baz=80,SNR=14
MOOW **Moose Ponds** 80.64 43 eP P 01 27 53.8 +0.7
comp=Z,3.1nm,0.6s,mb4.2
BZS **Buzias** 80.69 320 ⇑iPg P 01 27 53.0 -0.2
BZS **Buzias** 80.69 320 P P 01 27 52.9 -0.3
TPAW **Teton Pass** 80.69 43 eP P 01 27 53.6 +0.3
comp=Z,28nm,1.1s,mb4.9
CWC **Cottonwood Cre** 80.71 52 ⇓P P 01 27 53.1 -0.5
baz=80
VRAC **Vranov** 80.72 325 P P 01 27 53.8 +0.5
HVU **Hansel Valley** 80.73 45 eP P 01 27 53.9 +0.4
HVU pmax pmax
comp=Z,27nm,0.7s,mb5.1
HVU **Hansel Valley** 80.73 45 eP P 01 27 53.9 +0.3
comp=Z,27nm,0.7s,mb5.1
K16A **Soda Springs** 80.75 44 ⇑P P 01 27 54.4 +0.8
baz=80,SNR=28
S10A **Tonopah Range,** 80.78 50 ⇓P P 01 27 54.1 +0.2
baz=81,SNR=38
PVCC **Panska Ves** 80.79 327 eP P 01 27 54.0 +0.3
LOHW **Long Hollow** 80.81 43 eP P 01 27 54.5 +0.6
comp=Z,20nm,1.3s,mb4.7
Q11A **Duckwater** 80.81 49 ⇓P P 01 27 53.9 -0.1
baz=81,SNR=7.6
L15A **Malad City** 80.81 45 ⇓P P 01 27 54.2 +0.2
baz=81,SNR=16
SNOW **Snow King Moun** 80.82 43 eP P 01 27 54.6 +0.7
comp=Z,22nm,1.0s,mb4.8
REDW **Red Top Meadow** 80.83 43 eP P 01 27 54.8 +0.7
comp=Z,21nm,1.1s,mb4.8
BRG **Berggiesshubel** 80.83 327 eP P 01 27 53.8 -0.1
BRG pmax pmax
comp=Z,4.0nm,1.1s,mb4.1
BRG pmax pmax
comp=Z,2.0nm,0.7s,mb4.0
BRG **Berggiesshubel** 80.83 327 eP P 01 27 53.8 -0.1
comp=Z,7.2nm,1.1s,mb4.3
BRG e 01 28 01.4
comp=Z,3.5nm,0.7s
GRAC **Grapevine Rang** 80.84 51 ⇑P P 01 27 54.2 0.0
baz=81,SNR=11
P12A **McGill** 80.88 48 ⇑P P 01 27 54.7 +0.3
baz=81,SNR=28
ISA **Isabella** 80.92 53 ⇑P P 01 27 53.3 -1.3
baz=81,SNR=5.6
DGMT **Dagmar** 80.92 36 eP P 01 27 54.2 -0.2
comp=Z,28nm,1.0s,mb5.0
CLL **Collm** 80.93 328 iP P 01 27 54.0 -0.4
CLL pmax pmax
comp=Z,14nm,0.7s,mb4.8
CLL **Collm** 80.93 328 eP P 01 27 54.2 -0.2
comp=Z,14nm,0.7s,mb4.8
CLL **Collm** 80.93 328 iP P 01 27 54.0 -0.4
comp=Z,14nm,0.7s,mb4.8
CLL i x x 01 28 01.9
CLL i pPcP 01 29 13.2
ARVC **Arvin** 81.00 53 ⇑P P 01 27 54.3 -0.8
baz=81
O13A **Hicks Ranch, I** 81.04 47 ⇓P P 01 27 55.7 +0.5
baz=81,SNR=8.2
N14A **Grayback Hills** 81.06 46 ⇓P P 01 27 55.7 +0.4
baz=81,SNR=60
AHID **Auburn Hatcher** 81.07 44 eP P 01 27 55.8 +0.5
comp=Z,5.4nm,0.6s,mb4.5
BGU **Big Grassy Mou** 81.11 46 eP P 01 27 55.9 +0.3
M15A **Larsen Ranch,** 81.12 45 ⇑P P 01 27 55.8 +0.2
baz=81,SNR=39
LAO **LASA Array** 81.12 38 eP P 01 27 55.6 +0.1
comp=Z,24nm,1.1s,mb4.8
R11A **Troy Canyon, C** 81.15 49 ⇑P P 01 27 56.0 +0.2
baz=81,SNR=34
PRU **Pruhonice** 81.19 326 eP P 01 27 55.7 -0.1
PRU e x 01 28 04.2
Q12A **Willow Creek R** 81.19 48 ⇑P P 01 27 56.5 +0.4
baz=81,SNR=16
SPUT **South Promonto** 81.21 45 eP P 01 27 56.5 +0.4
TREC **Trest** 81.24 325 eP P 01 27 56.1 0.0
TREC e x 01 28 04.0
MPMC **Manual Prospec** 81.32 52 ⇓P P 01 27 56.5 -0.2
baz=81,SNR=26
L16A **Fish Haven** 81.36 44 ⇑P P 01 27 57.2 +0.4
baz=81,SNR=16
N15A **Stansbury Isla** 81.44 46 ⇓P P 01 27 57.6 +0.4
baz=81,SNR=26
P13A **Bates Ranch, G** 81.44 48 ⇑P P 01 27 57.7 +0.4
baz=81,SNR=15
BLG **Laguna Peak** 81.45 54 ⇓P P 01 27 56.9 -0.6
baz=81
S11A **Rachel** 81.48 50 ⇓P P 01 27 57.8 +0.3
baz=81,SNR=11
FURC **Furnace Creek,** 81.48 51 ⇑P P 01 27 57.6 0.0
baz=81,SNR=11
HWUT **Hardware Ranch** 81.54 45 eP P 01 27 58.0 +0.3
comp=Z,47nm,1.0s,mb5.3
LRMC **Laurel Mountai** 81.54 53 ⇓P P 01 27 57.5 -0.4
baz=81
TPNV **Topopah Spring** 81.58 51 eP P 01 27 58.1 0.0
TPNV pmax pmax
comp=Z,32nm,0.8s,mb5.2
TPNV **Topopah Spring** 81.58 51 ⇓P P 01 27 58.2 +0.1
baz=81,SNR=29
TPNV **Topopah Spring** 81.58 51 eP P 01 27 58.1 0.0
comp=Z,32nm,0.8s,mb5.2
CLZ **Clausthal** 81.66 330 eP P 01 27 58.1 -0.1
CLZ pmax pmax
comp=Z,10.0nm,0.9s,mb4.7
CLZ **Clausthal** 81.66 330 eP P 01 27 58.1 -0.1
comp=Z,10.0nm,0.9s,mb4.7
M16A **Huntsville** 81.69 45 ⇑P P 01 27 58.9 +0.3
baz=82
DUG **Dugway** 81.70 46 eP P 01 27 59.0 +0.4
DUG pmax pmax
comp=Z,40nm,0.9s,mb5.2
DUG **Dugway** 81.70 46 ⇑P P 01 27 59.2 +0.5
baz=82,SNR=39
DUG **Dugway** 81.70 46 eP P 01 27 59.0 +0.4
comp=Z,40nm,0.9s,mb5.2
EDW2 **Edwards Air Fo** 81.70 53 ⇓P P 01 27 58.4 -0.4
baz=82,SNR=11
Q13A **Wheeler Ranch,** 81.74 48 ⇓P P 01 27 59.3 +0.4
baz=82,SNR=14
R12A **Pony Springs,** 81.77 49 ⇓P P 01 27 59.3 +0.3
baz=82,SNR=8.3
VTS **Vitosha** 81.78 317 ⇓P P 01 27 59.6 +0.6
NOQ **North Oquirrh** 81.82 46 eP P 01 27 59.6 +0.4
comp=Z,59nm,0.7s,mb5.5
PKSM **Moragy** 81.83 322 ⇑iPg P 01 27 58.9 -0.3
PKSM **Moragy** 81.83 322 ⇑P P 01 27 59.0 -0.2
O15A **The Old Anders** 81.85 46 ⇓P P 01 28 00.0 +0.6
baz=82,SNR=7.3
U10A **Ash Meadows, A** 81.85 51 ⇑P P 01 27 59.9 +0.3
baz=82,SNR=9.5
P14A **Drum Mountains** 81.92 47 ⇓P P 01 28 00.2 +0.4
baz=82,SNR=44
BW06 **Boulder Array** 81.94 43 ⇑P P 01 27 59.6 -0.2
baz=82,SNR=32
PDAR **Pinedale Array** 81.94 43 P P 01 27 59.4 -0.5
comp=Z,14nm,0.9s,mb4.8,baz=294,slow=2.1,SNR=95
NKC **Novy Kostel** 81.95 328 eP P 01 27 59.8 +0.1
MOX **Moxa** 82.02 328 eP P 01 27 59.6 -0.5
CONA **Conrad Observa** 82.03 324 ⇑iPcP PcP 01 28 00.1 -4.7
comp=Z,15nm,0.9s
CSNA **Conrad Observa** 82.03 324 ⇑iPcP PcP 01 28 00.1 -4.7
comp=Z,15nm,0.9s
T11A **Corn Creek, Al** 82.06 50 ⇓P P 01 28 00.6 +0.1
baz=82,SNR=28
S12A **Delamar Landin** 82.06 49 ⇓P P 01 28 01.2 +0.6
baz=82,SNR=6.1
N16A **Rees Ranch, Co** 82.07 45 ⇑P P 01 28 01.0 +0.4
baz=82,SNR=7.5
Q14A **Sevier Lake (B** 82.17 48 ⇑P P 01 28 01.6 +0.5
baz=82,SNR=59
SHOC **Shoshone** 82.20 52 ⇓P P 01 28 00.7 -0.6
baz=82
GSC **Goldstone** 82.22 52 eP P 01 28 01.0 -0.5
GSC pmax pmax
comp=Z,16nm,1.0s,mb4.8
GSC **Goldstone** 82.22 52 ⇓P P 01 28 01.2 -0.2
baz=82,SNR=9.0
GSC **Goldstone** 82.22 52 eP P 01 28 01.0 -0.4
comp=Z,16nm,1.0s,mb4.8
KHC **Kasperske Hory** 82.24 326 eP P 01 28 01.3 0.0
JLU **Jordanelle** 82.25 45 eP P 01 28 01.7 +0.2
R13A **O'Grain Ranch,** 82.26 49 ⇑P P 01 28 02.0 +0.4
baz=82,SNR=9.9
MANZ **Manzenberg** 82.28 328 eP P 01 28 01.0 -0.5
comp=Z,9.0nm,1.3s,mb4.4
NLU **North Lily Min** 82.29 46 eP P 01 28 01.8 +0.1
BFSC **Mount Baldy St** 82.31 54 ⇑P P 01 28 02.3 +0.4
baz=82,SNR=7.7
GRUS **Gruza** 82.31 319 eP P 01 28 01.5 -0.2
RRX **Edison Barstow** 82.35 53 ⇑P P 01 28 02.0 -0.1
baz=82
N17A **Moffit Pass** 82.39 45 ⇓P P 01 28 02.5 +0.3
baz=82,SNR=22
GEC2 **GERESS Array S** 82.39 326 eP P 01 28 01.3 -0.7
GEC2 pmax pmax
comp=Z,6.0nm,0.7s,mb4.5
GEC2 **GERESS Array S** 82.39 326 eP P 01 28 01.3 -0.7
comp=Z,6.0nm,0.7s,mb4.5
GERES **GERESS Array B** 82.39 326 P P 01 28 02.0 -0.1
comp=Z,4.2nm,0.6s,mb4.5,baz=37,slow=5.4,SNR=38
GERES **GERESS Array B** 82.39 326 P P 01 28 02.0 0.0
GERES pmax pmax
comp=Z,4.0nm,0.6s
ROTZ **Rotzenmuhle** 82.40 327 eP P 01 28 02.6 +0.5
comp=Z,22nm,1.3s,mb4.8
BARS **Barje** 82.42 318 eP P 01 28 02.4 +0.1
O16A **Springville** 82.47 46 ⇑P P 01 28 02.9 +0.3
baz=82,SNR=9.8
DAU **Daniels Canyon** 82.48 46 eP P 01 28 03.2 +0.5
MPU **Maple Canyon** 82.51 46 eP P 01 28 02.9 0.0
comp=Z,17nm,0.5s,mb5.1
WET **Wettzell** 82.55 327 eP P 01 28 02.5 -0.3
WET pmax pmax
comp=Z,11nm,1.3s,mb4.5
WET **Wettzell** 82.55 327 eP P 01 28 02.5 -0.3
comp=Z,11nm,1.3s,mb4.5
DIVS **Divibare** 82.56 319 eP P 01 28 02.8 -0.2
ARSA **Arzberg** 82.67 324 ⇑iPcP PcP 01 28 02.1 -5.5
comp=Z,7.6nm,0.6s,SNR=6.0
S13A **Holt Ranch, En** 82.70 49 ⇓P P 01 28 04.3 +0.4
baz=82,SNR=38
Q15A **Fillmore** 82.71 47 ⇑P P 01 28 04.4 +0.5
baz=82,SNR=5.9
TUQ **Turquoise Moun** 82.71 52 ⇑P P 01 28 03.9 0.0
baz=82,SNR=11
P16A **Fountain Green** 82.75 46 ⇑P P 01 28 04.1 +0.1
baz=82
R14A **James Farms, M** 82.76 48 ⇑P P 01 28 04.4 +0.2
baz=82
V11A **Goodsprings** 82.78 51 ⇑P P 01 28 04.0 -0.3
baz=83
HEC **Hector,Ludlow** 82.82 52 ⇓P P 01 28 04.4 -0.1
baz=83,SNR=14
ARUT **Antelope Range** 82.83 49 eP P 01 28 04.9 +0.4
MOA **Molln** 82.84 325 ⇑iPcP PcP 01 28 03.6 -4.7
comp=Z,6.8nm,0.6s,SNR=7.1
GRA1 **Grafenberg Arr** 82.89 328 eP P 01 28 04.6 0.0
comp=Z,25nm,0.9s,mb5.0
GRF **Grafenberg Arr** 82.89 328 eP P 01 28 04.6 0.0
GRF pmax pmax
comp=Z,25nm,0.9s,mb5.0
GRF **Grafenberg Arr** 82.89 328 eP P 01 28 04.6 0.0
GRF pmax pmax
comp=Z,25nm,0.9s,mb5.0
GRF **Grafenberg Arr** 82.89 328 eP P 01 28 04.6 0.0
comp=Z,25nm,0.9s,mb5.0
O17A **Robinson Place** 82.92 45 ⇑P P 01 28 05.6 +0.6
baz=83,SNR=28
VAY **Valandovo** 82.97 316 iP P 01 28 04.5 -0.7
U12A **Valley of Fire** 82.98 50 ⇑P P 01 28 05.2 -0.1
baz=83
MURC **Murrieta** 82.99 54 ⇓P P 01 28 04.8 -0.6
baz=83
S14A **Cedar City** 83.01 49 ⇓P P 01 28 05.6 +0.1
baz=83,SNR=7.4
T13A **Saint George** 83.02 49 ⇓P P 01 28 06.2 +0.7
baz=83,SNR=27
CCUT **Cedar City** 83.02 49 eP P 01 28 05.6 +0.1
BBLS **Lazići** 83.03 320 eP P 01 28 05.9 +0.5
N18A **Larsen Ranch,** 83.03 44 ⇓P P 01 28 05.2 -0.3
baz=83,SNR=14
MSU **Marysvale** 83.14 47 eP P 01 28 06.8 +0.7
SKO **Skopje** 83.18 317 eP P 01 28 07.3 +1.1
TMUT **Trail Mountain** 83.22 46 P P 01 28 06.6 +0.2
V12A **Nelson** 83.22 51 ⇓P P 01 28 06.6 +0.1
baz=83,SNR=14
BUG **Bochum--Univer** 83.23 331 eP P 01 28 05.4 -0.9
comp=Z,13nm,1.0s,mb4.7
GMRC **Granite Mounta** 83.29 52 ⇑P P 01 28 06.6 -0.3
baz=83,SNR=12
O18A **Roosevelt** 83.30 45 ⇑P P 01 28 07.5 +0.7
baz=83,SNR=10.0
SOKA **Soboth** 83.31 324 ⇓iPcP PcP 01 28 06.7 -3.8
U13A **Pakoon Wash** 83.36 50 ⇓P P 01 28 07.3 +0.1
baz=83,SNR=28
N19A **John Jarvie Ra** 83.37 44 ⇑P P 01 28 06.8 -0.4
baz=83,SNR=14
P17A **Butcher Ranch,** 83.39 46 ⇓P P 01 28 07.7 +0.4
baz=83,SNR=28
ULM **Lac du Bonnet** 83.40 31 P P 01 28 06.0 -1.2
comp=Z,20nm,0.9s,mb5.0,baz=324,slow=5.7,SNR=18
ULM **Lac du Bonnet** 83.40 31 eP P 01 28 06.0 -1.2
comp=Z,21nm,1.0s,mb4.9
LDFC **Landfair** 83.46 52 eP P 01 28 07.8 0.0
comp=Z,46nm,1.3s,mb5.1
W12A **Cal Nev Ari** 83.47 51 ⇑P P 01 28 07.4 -0.5
baz=83
PFO **Pinyon Flat Ob** 83.48 53 eP P 01 28 07.3 -0.6
PFO e*PP pP 01 29 23.6 +1.5
PFO pmax pmax
comp=Z,26nm,1.0s,mb5.0
PFO **Pinyon Flat Ob** 83.48 53 ⇓P P 01 28 07.3 -0.6
baz=83,SNR=16
PFO **Pinyon Flat Ob** 83.48 53 eP P 01 28 07.3 -0.6
comp=Z,26nm,1.0s,mb5.0
PFO epP pP 01 29 23.6 +1.5
109C **Camp Elliot, M** 83.49 54 ⇓P P 01 28 07.2 -0.7
baz=83
Q16A **Castle Valley** 83.49 47 ⇑P P 01 28 08.3 +0.4
baz=83,SNR=17
T14A **Hurricane** 83.50 49 ⇓P P 01 28 08.2 +0.2
baz=83,SNR=8.4
BELC **Belle Mtn.** 83.54 53 ⇓P P 01 28 07.5 -0.7
baz=83,SNR=8.4
S15A **Panguitch** 83.56 48 ⇑P P 01 28 09.1 +0.9
baz=83,SNR=12
P18A **Preston Nutter** 83.58 46 ⇑P P 01 28 08.8 +0.5
baz=83,SNR=54
TNS **Taunus Mts** 83.68 329 eP P 01 28 08.6 0.0
TNS pmax pmax
comp=Z,9.0nm,0.7s,mb4.7
TNS **Taunus Mts** 83.68 329 eP P 01 28 08.6 0.0
comp=Z,9.0nm,0.7s,mb4.7
KRUS **Krusevo** 83.69 317 iP P 01 28 08.6 -0.2
V13A **Grand Canyon W** 83.70 50 ⇑P P 01 28 08.9 0.0
baz=84,SNR=16

R16A	**Teasdale**	83.71	47	⇑P		P	01 28 09.8	+0.8		
	baz=84,SNR=36									
SRU	**San Rafael**	83.75	46	*e*P		P	01 28 09.0	-0.1		
SRU					pmax	pmax				
	comp=Z,27nm,0.8s,mb5.1									
SRU	**San Rafael**	83.75	46	⇓P		P	01 28 09.2	0.0		
	baz=84,SNR=32									
SRU	**San Rafael**	83.75	46	*e*P		P	01 28 09.0	-0.1		
	comp=Z,27nm,0.8s,mb5.1									
O19A	**Miners Draw (B**	83.80	45	⇓P		P	01 28 09.3	-0.1		
	baz=84,SNR=9.5									
KBA	**Koelnbreinsper**	83.83	325	⇑*i*PcP		PcP	01 28 09.1	-3.6		
	comp=Z,8.1nm,0.6s									
U14A	**Mt Trumbull**	83.85	50	⇑P		P	01 28 10.0	+0.3		
	baz=84,SNR=15									
BAR	**Barrett**	83.90	54	*e*P		P	01 28 09.5	-0.5		
	comp=Z,15nm,0.8s,mb4.9									
MONP	**Monument Peak**	83.94	54	⇑P		P	01 28 09.7	-0.5		
	baz=84									
RWWY	**Rawlins**	83.96	43	*e*P		P	01 28 10.0	-0.2		
	comp=Z,32nm,1.2s,mb5.0									
T15A	**Red Dirt Ranch**	83.97	49	⇑P		P	01 28 10.5	+0.2		
	baz=84,SNR=30									
Q18A	**Rafter H Ranch**	83.99	46	⇓P		P	01 28 10.0	-0.3		
	baz=84,SNR=11									
FUR	**Furstenfeldbru**	83.99	327	*e*P		P	01 28 10.3	+0.1		
FUR					pmax	pmax				
	comp=Z,37nm,0.8s,mb5.3									
FUR	**Furstenfeldbru**	83.99	327	*e*P		P	01 28 10.3	+0.1		
	comp=Z,37nm,0.8s,mb5.3									
IRM	**Iron Mountain**	84.00	52	⇑P		P	01 28 10.2	-0.3		
	baz=84,SNR=15									
S16A	**Weppner Ranch,**	84.00	48	⇑P		P	01 28 10.5	+0.1		
	baz=84,SNR=12									
R17A	**Hanksville Air**	84.08	47	⇑P		P	01 28 10.8	0.0		
	baz=84,SNR=31									
BC3	**Big Chuckw Mtn**	84.11	53	⇓P		P	01 28 10.7	-0.4		
	baz=84,SNR=14									
W13A	**Hualapai Mount**	84.23	51	⇑P		P	01 28 11.5	-0.2		
	baz=84,SNR=8.9									
DVTC	**Desert V Tower**	84.30	54	⇑P		P	01 28 11.6	-0.4		
	baz=84,SNR=5.5									
P19A	**Cripple Cowboy**	84.31	45	⇓P		P	01 28 12.2	+0.2		
	baz=84,SNR=24									
SWSC	**Sam W. Stewart**	84.33	54	⇓P		P	01 28 11.4	-0.7		
	baz=84									
MEM	**Membach**	84.38	331	P		P	01 28 11.8	-0.3		
	comp=Z,2.8nm,0.8s,mb4.1									
V14A	**Boquillas Ranc**	84.39	50	⇑P		P	01 28 12.9	+0.4		
	baz=84,SNR=30									
U15A	**North Rim**	84.40	49	⇓P		P	01 28 13.0	+0.6		
	baz=84,SNR=32									
STU	**Stuttgart**	84.46	328	*e*P		P	01 28 12.3	-0.2		
	comp=Z,19nm,0.9s,mb4.9									
WTTA	**Wattenberg**	84.49	326	⇑*i*PcP		PcP	01 28 12.5	-3.1		
	comp=Z,5.6nm,0.6s									
T16A	**Glen Canyon Da**	84.53	48	⇓P		P	01 28 12.5	-0.6		
	baz=84									
S17A	**Black Ridge (B**	84.54	47	⇓P		P	01 28 13.0	-0.1		
	baz=84,SNR=30									
PDMCI	**Parker Dam,Lak**	84.57	52	⇑P		P	01 28 13.0	-0.4		
	baz=84,SNR=6.3									
X13A	**Yucca**	84.58	51	⇑P		P	01 28 13.2	-0.2		
	baz=84,SNR=19									
R18A	**Canyonlands Na**	84.59	46	⇑P		P	01 28 13.3	-0.1		
	baz=84,SNR=43									
Q19A	**Hogan Spring (**	84.59	46	⇑P		P	01 28 13.3	0.0		
	baz=84,SNR=24									
Y12C	**Blythe**	84.66	52	⇑P		P	01 28 13.6	-0.2		
	baz=84,SNR=8.0									
W14A	**Seligman**	84.67	50	⇑P		P	01 28 14.0	+0.2		
	baz=84,SNR=18									
RETA	**Reutte**	84.73	326	⇑*i*PcP		PcP	01 28 13.1	-3.6		
	comp=Z,14nm,1.3s									
BCLA	**Clavier**	84.81	331	P		P	01 28 13.7	-0.5		
V15A	**Kaibab Nationa**	84.86	50	⇓P		P	01 28 15.2	+0.4		
	baz=85,SNR=20									
GLA	**Glamis**	84.90	53	⇑P		P	01 28 14.9	-0.1		
	baz=85,SNR=11									
T17A	**Navajo Res., N**	84.95	48	⇓P		P	01 28 15.0	-0.2		
	baz=85,SNR=8.7									
S18A	**Hurst Farm, Bl**	84.99	47	⇓P		P	01 28 15.2	-0.2		
	baz=85,SNR=25									
Y13A	**Salome**	85.07	52	⇓P		P	01 28 15.8	0.0		
	baz=85,SNR=13									
PV10	**Paradox Valley**	85.11	46	*e*P		P	01 28 16.6	+0.7		
BFO	**Black Forest**	85.17	328	*e*P		P	01 28 15.5	-0.5		
BFO					pmax	pmax				
	comp=Z,11nm,0.8s,mb4.7									
BFO	**Black Forest**	85.17	328	*e*P		P	01 28 15.5	-0.5		
	comp=Z,11nm,0.8s,mb4.7									
W15A	**Williams**	85.21	50	⇑P		P	01 28 16.5	0.0		
	baz=85									
GIVF	**Givet**	85.25	331	*e*P		P	01 28 15.1	-1.3		
X14A	**Yava**	85.26	51	⇑P		P	01 28 17.1	+0.4		
	baz=85,SNR=17									
DAVA	**Damuels**	85.28	327	⇓*i*PcP		PcP	01 28 15.9	-3.2		
	comp=Z,18nm,1.0s									
U17A	**Shonto**	85.29	48	⇑P		P	01 28 17.4	+0.5		
	baz=85,SNR=10									
U16A	**Tuba City**	85.30	49	⇓P		P	01 28 17.3	+0.4		
	baz=85,SNR=16									
T18A	**Mexican Hat**	85.42	47	⇑P		P	01 28 17.2	-0.3		
	baz=85,SNR=23									
S19A	**Harvey Farm, M**	85.47	46	⇓P		P	01 28 17.6	-0.1		
	baz=85,SNR=15									
BAIF	**Baives**	85.53	331	*e*P		P	01 28 16.5	-1.2		
	comp=Z,50nm,1.5s,mb4.8									
BAIF	**Baives**	85.53	331	*e*P		P	01 28 16.5	-1.2		
BAIF					pmax	pmax				
	comp=Z,25nm,1.5s,mb4.8									
BAIF	**Baives**	85.53	331	*e*P		P	01 28 16.5	-1.2		
	comp=Z,25nm,1.5s,mb4.8									
Y14A	**Wickenburg**	85.53	51	⇓P		P	01 28 17.9	-0.2		
	baz=85,SNR=12									
PV01	**Paradox Valley**	85.54	46	*e*P		P	01 28 18.5	+0.4		
WUAZ	**Wupatki**	85.55	49	⇑P		P	01 28 18.2	+0.1		
	baz=85,SNR=14									
WUAZ	**Wupatki**	85.55	49	*e*P		P	01 28 18.0	-0.2		
	comp=Z,20nm,1.1s,mb4.9									
CDF	**Champ du Feu**	85.56	329	*e*P		P	01 28 16.9	-1.0		
	comp=Z,5.2nm,0.7s,mb4.2									
CDF	**Champ du Feu**	85.56	329	*e*P		P	01 28 16.9	-1.0		
CDF					pmax	pmax				
	comp=Z,3.0nm,0.7s,mb4.2									
CDF	**Champ du Feu**	85.56	329	*e*P		P	01 28 16.9	-1.0		
	comp=Z,2.6nm,0.7s,mb4.2									
X15A	**Humboldt**	85.67	51	⇑P		P	01 28 19.1	+0.4		
	baz=86,SNR=21									
W16A	**Flagstaff**	85.72	50	⇑P		P	01 28 19.5	+0.5		
	baz=86,SNR=5.8									
113A	**Mohawk Valley,**	85.77	53	⇑P		P	01 28 18.9	-0.4		
	baz=86,SNR=11									
U18A	**Rough Rock, Ch**	85.89	48	⇓P		P	01 28 20.3	+0.5		
	baz=86,SNR=15									
Z14A	**Wintersburg**	85.93	52	⇓P		P	01 28 19.9	-0.1		
	baz=86									
Y15A	**Casa Rosa Ranc**	85.95	51	⇑P		P	01 28 20.2	+0.1		
	baz=86,SNR=19									
ISCO	**Idaho Springs**	86.13	43	*e*P		P	01 28 21.1	+0.2		
ISCO					pmax	pmax				
	comp=Z,4.0nm,0.8s,mb4.3									
ISCO	**Idaho Springs**	86.13	43	*e*P		P	01 28 21.1	+0.2		
	comp=Z,4.4nm,0.8s,mb4.3									
TUE	**Stuetta**	86.13	327	*e*P		P	01 28 20.5	-0.2		
	comp=Z,5.9nm,0.7s,mb4.5									
T19A	**Beclabito**	86.14	47	⇑P		P	01 28 21.1	+0.1		
	baz=86,SNR=15									
HINF	**Hinteralfeld**	86.20	329	*e*P		P	01 28 19.8	-1.3		
MVCO	**Mesa Verde**	86.20	47	⇓P		P	01 28 21.4	+0.1		
	baz=86,SNR=8.3									
MVCO	**Mesa Verde**	86.20	47	*e*P		P	01 28 21.1	-0.2		
	comp=Z,31nm,1.4s,mb4.9									
X16A	**Lo Mia Camp, P**	86.22	50	⇑P		P	01 28 21.7	+0.3		
	baz=86,SNR=11									
HAU	**Haudompre**	86.27	329	*e*P		P	01 28 19.8	-1.6		
	comp=Z,3.5nm,0.6s,mb4.1									
HAU	**Haudompre**	86.27	329	*e*P		P	01 28 19.8	-1.6		
HAU					pmax	pmax				
	comp=Z,2.0nm,0.6s,mb4.1									
HAU	**Haudompre**	86.27	329	*e*P		P	01 28 19.8	-1.6		
	comp=Z,1.8nm,0.6s,mb4.1									
V18A	**Ganado**	86.32	48	⇓P		P	01 28 22.3	+0.4		
	baz=86									
MEZF	**Maizieres J'vi**	86.42	330	*e*P		P	01 28 21.2	-0.9		
	comp=Z,9.0nm,0.7s,mb4.4									
MEZF	**Maizieres J'vi**	86.42	330	*e*P		P	01 28 21.2	-0.9		
	comp=Z,9.0nm,0.7s,mb4.7									

Y16A	**Circle Bar Ran**	86.54	51	⇑P		P	01 28 23.7	+0.7		
	baz=86,SNR=8.0									
X17A	**Forest Lakes**	86.67	50	⇓P		P	01 28 23.6	0.0		
	baz=86									
115A	**Sonoran Desert**	86.81	52	⇓P		P	01 28 24.6	+0.3		
	baz=87									
214A	**Organ Pipe Nat**	86.91	53	⇑P		P	01 28 25.1	+0.3		
	baz=87,SNR=6.1									
Z16A	**Peralta Trail,**	86.92	51	⇑P		P	01 28 25.2	+0.4		
	baz=87									
W19A	**Sanders**	87.05	49	⇑P		P	01 28 25.4	0.0		
	baz=87									
Y17A	**Roosevelt**	87.06	50	⇓P		P	01 28 26.0	+0.5		
	baz=87,SNR=6.0									
X18A	**Snowflake**	87.08	49	⇑P		P	01 28 25.2	-0.3		
	baz=87									
CABF	**La Chapelle**	87.47	328	*e*P		P	01 28 26.0	-1.1		
	comp=Z,13nm,0.9s,mb4.5									
CABF	**La Chapelle**	87.47	328	*e*P		P	01 28 26.0	-1.1		
CABF					pmax	pmax				
	comp=Z,6.0nm,0.9s,mb4.4									
CABF	**La Chapelle**	87.47	328	*e*P		P	01 28 26.0	-1.1		
	comp=Z,6.4nm,0.9s,mb4.5									
Y18A	**Canyon Day Jun**	87.52	50	⇑P		P	01 28 27.3	-0.3		
	baz=87									
Z17A	**San Carlos Hig**	87.56	51	⇑P		P	01 28 28.2	+0.3		
	baz=87									
X19A	**St. Johns**	87.56	49	⇓P		P	01 28 28.3	+0.5		
	baz=87,SNR=6.1									
SDCO	**Great Sand Dun**	87.60	45	*e*P		P	01 28 28.2	+0.3		
	comp=Z,7.3nm,1.2s,mb4.4									
216A	**Three Points,**	87.76	52	⇓P		P	01 28 29.0	+0.2		
	baz=88									
117A	**Oracle**	87.86	51	⇑P		P	01 28 29.4	+0.2		
	baz=88									
LOR	**Lormes**	87.89	330	*e*P		P	01 28 28.3	-0.8		
	comp=Z,4.6nm,0.6s,mb4.2									
LOR	**Lormes**	87.89	330	*e*P		P	01 28 28.3	-0.8		
LOR					pmax	pmax				
	comp=Z,2.0nm,0.6s,mb4.1									
LOR	**Lormes**	87.89	330	*e*P		P	01 28 28.3	-0.8		
	comp=Z,2.3nm,0.6s,mb4.2									
LPL	**La Plagne**	88.03	327	*e*P		P	01 28 29.0	-0.8		
	comp=Z,22nm,0.7s,mb4.8									
LPL	**La Plagne**	88.03	327	*e*P		P	01 28 29.0	-0.8		
LPL					pmax	pmax				
	comp=Z,11nm,0.7s,mb4.8									
LPL	**La Plagne**	88.03	327	*e*P		P	01 28 29.0	-0.8		
	comp=Z,11nm,0.7s,mb4.8									
LPG	**La Plagne**	88.04	327	*e*P		P	01 28 29.2	-0.7		
	comp=Z,24nm,0.6s,mb4.9									
LPG	**La Plagne**	88.04	327	*e*P		P	01 28 29.2	-0.7		
LPG					pmax	pmax				
	comp=Z,12nm,0.6s,mb4.9									
LPG	**La Plagne**	88.04	327	*e*P		P	01 28 29.2	-0.7		
	comp=Z,12nm,0.6s,mb4.9									
SSF	**Saint Saulge**	88.20	330	*e*P		P	01 28 29.3	-1.2		
	comp=Z,5.7nm,0.7s,mb4.2									
SSF	**Saint Saulge**	88.20	330	*e*P		P	01 28 29.3	-1.2		
SSF					pmax	pmax				
	comp=Z,3.0nm,0.7s,mb4.2									
SSF	**Saint Saulge**	88.20	330	*e*P		P	01 28 29.3	-1.2		
	comp=Z,2.8nm,0.7s,mb4.2									
118A	**Homack Ranch,**	88.30	51	⇓P		P	01 28 31.5	+0.2		
	baz=88,SNR=5.4									
217A	**Green Valley**	88.32	52	⇑P		P	01 28 31.0	-0.5		
	baz=88									
FLN	**La Foliniere**	88.37	333	*e*P		P	01 28 30.1	-1.2		
LDF	**La Druitiere**	88.38	333	*e*P		P	01 28 29.6	-1.8		
	comp=Z,38nm,1.2s,mb4.8									
LDF	**La Druitiere**	88.38	333	*e*P		P	01 28 29.6	-1.8		
LDF					pmax	pmax				
	comp=Z,19nm,1.2s,mb4.8									
LDF	**La Druitiere**	88.38	333	*e*P		P	01 28 29.6	-1.8		
	comp=Z,19nm,1.2s,mb4.8									
SMF	**Signal de Mont**	88.39	330	*e*P		P	01 28 31.3	-0.2		
BNI	**Bardonecchia**	88.42	327	*e*P		P	01 28 31.2	-0.4		
BNI					pmax	pmax				
	comp=Z,8.0nm,0.7s,mb4.7									
BNI	**Bardonecchia**	88.42	327	*e*P		P	01 28 31.2	-0.4		
	comp=Z,7.7nm,0.7s,mb4.6									
AVF	**Avril sur Loir**	88.48	330	*e*P		P	01 28 30.7	-1.2		
	comp=Z,13nm,0.8s,mb4.5									
AVF	**Avril sur Loir**	88.48	330	*e*P		P	01 28 30.7	-1.2		
AVF					pmax	pmax				
	comp=Z,6.0nm,0.8s,mb4.5									
AVF	**Avril sur Loir**	88.48	330	*e*P		P	01 28 30.7	-1.2		
	comp=Z,6.3nm,0.8s,mb4.5									
MBDF	**Montbardon**	88.63	327	*e*P		P	01 28 31.1	-1.5		
	comp=Z,21nm,0.7s,mb4.8									
MBDF	**Montbardon**	88.63	327	*e*P		P	01 28 31.1	-1.5		
MBDF					pmax	pmax				
	comp=Z,11nm,0.7s,mb4.8									
MBDF	**Montbardon**	88.63	327	*e*P		P	01 28 31.1	-1.5		
	comp=Z,10nm,0.7s,mb4.8									
119A	**Ashpeak Ranch,**	88.64	50	⇓P		P	01 28 32.6	-0.3		
	baz=88									
218A	**Dragoon**	88.69	51	⇓P		P	01 28 33.4	+0.3		
	baz=88,SNR=6.2									
GRR	**Gorron**	88.82	333	*e*P		P	01 28 32.2	-1.2		
	comp=Z,40nm,1.1s,mb4.9									
GRR	**Gorron**	88.82	333	*e*P		P	01 28 32.2	-1.2		
GRR					pmax	pmax				
	comp=Z,20nm,1.1s,mb4.9									
GRR	**Gorron**	88.82	333	*e*P		P	01 28 32.2	-1.2		
	comp=Z,20nm,1.1s,mb4.9									
BGF	**Bois d'Agland**	88.87	330	*e*P		P	01 28 32.6	-1.1		
ORIF	**Oris-en-Rattie**	88.88	327	*e*P		P	01 28 32.7	-1.1		
	comp=Z,14nm,0.7s,mb4.6									
ORIF	**Oris-en-Rattie**	88.88	327	*e*P		P	01 28 32.7	-1.1		
ORIF					pmax	pmax				
	comp=Z,7.0nm,0.7s,mb4.6									
ORIF	**Oris-en-Rattie**	88.88	327	*e*P		P	01 28 32.7	-1.1		
	comp=Z,6.8nm,0.7s,mb4.6									
LAZ	**Ladron**	88.90	48	*e*P		P	01 28 33.7	-0.4		
ANMO	**Albuquerque**	88.94	47	*e*P		P	01 28 34.5	+0.2		
ANMO					pmax	pmax				
	comp=Z,7.0nm,0.9s									
ANMO	**Albuquerque**	88.94	47	*e*P		P	01 28 34.5	+0.3		
	comp=Z,6.7nm,0.9s,mb4.5									
SBF	**Sospel**	88.99	326	*e*P		P	01 28 33.3	-1.1		
	comp=Z,47nm,0.9s,mb5.0									
SBF	**Sospel**	88.99	326	*e*P		P	01 28 33.3	-1.1		
SBF					pmax	pmax				
	comp=Z,24nm,0.9s,mb5.0									
SBF	**Sospel**	88.99	326	*e*P		P	01 28 33.3	-1.1		
	comp=Z,24nm,0.9s,mb5.0									
318A	**Bisbee**	89.08	52	⇓P		P	01 28 35.1	+0.1		
	baz=89,SNR=5.9									
219A	**White Tail Can**	89.18	51	⇑P		P	01 28 35.6	+0.2		
	baz=89,SNR=6.0									
PGF	**Pioggiola**	89.26	324	*e*P		P	01 28 34.6	-1.0		
TCF	**Toulx Ste Croi**	89.35	330	*e*P		P	01 28 35.0	-1.0		
	comp=Z,6.7nm,0.7s,mb4.3									
TCF	**Toulx Ste Croi**	89.35	330	*e*P		P	01 28 35.0	-1.0		
TCF					pmax	pmax				
	comp=Z,3.0nm,0.7s,mb4.2									
TCF	**Toulx Ste Croi**	89.35	330	*e*P		P	01 28 35.0	-1.0		
	comp=Z,3.3nm,0.7s,mb4.3									
BNM	**Barren Site**	89.38	48	*e*P		P	01 28 36.2	-0.1		
VIVF	**Saint-Julien-l**	89.46	328	*e*P		P	01 28 35.4	-1.1		
	comp=Z,22nm,0.8s,mb4.7									
VIVF	**Saint-Julien-l**	89.46	328	*e*P		P	01 28 35.4	-1.1		
VIVF					pmax	pmax				
	comp=Z,11nm,0.8s,mb4.7									
VIVF	**Saint-Julien-l**	89.46	328	*e*P		P	01 28 35.4	-1.1		
	comp=Z,11nm,0.8s,mb4.7									
319A	**Douglas**	89.57	51	⇑P		P	01 28 37.4	+0.1		
	baz=89									
FRF	**La Foret Royal**	89.59	326	*e*P		P	01 28 36.0	-1.1		
SMRF	**Simiane la Rot**	89.75	327	*e*P		P	01 28 36.9	-1.0		
LMR	**La Mourre**	89.83	326	*e*P		P	01 28 36.8	-1.5		
MFF	**Saint Martin d**	90.03	332	*e*P		P	01 28 38.5	-0.6		
	comp=Z,22nm,0.9s,mb4.8									
MFF	**Saint Martin d**	90.03	332	*e*P		P	01 28 38.5	-0.6		
MFF					pmax	pmax				
	comp=Z,11nm,0.9s,mb4.8									
MFF	**Saint Martin d**	90.03	332	*e*P		P	01 28 38.5	-0.6		
	comp=Z,11nm,0.9s,mb4.8									
LASF	**Ste Croix**	90.43	328	*e*P		P	01 28 40.2	-0.8		
	comp=Z,12nm,0.9s,mb4.5									
RJF	**Les Rejaudoux**	90.43	330	*e*P		P	01 28 40.4	-0.6		
	comp=Z,11nm,0.8s,mb4.6									
RJF	**Les Rejaudoux**	90.43	330	*e*P		P	01 28 40.4	-0.6		
RJF					pmax	pmax				
	comp=Z,6.0nm,0.8s,mb4.6									
RJF	**Les Rejaudoux**	90.43	330	*e*P		P	01 28 40.4	-0.6		
	comp=Z,5.7nm,0.8s,mb4.5									
CAF	**Calviac**	90.51	330	*e*P		P	01 28 41.0	-0.4		
	comp=Z,18nm,1.0s,mb4.7									
CAF	**Calviac**	90.51	330	*e*P		P	01 28 41.0	-0.4		
CAF					pmax	pmax				
	comp=Z,9.0nm,1.0s,mb4.7									
CAF	**Calviac**	90.51	330	*e*P		P	01 28 41.0	-0.4		
	comp=Z,9.3nm,1.0s,mb4.7									
LFF	**La Frestale**	91.05	330	*e*P		P	01 28 43.5	-0.4		
	comp=Z,30nm,0.6s,mb5.1									
LFF	**La Frestale**	91.05	330	*e*P		P	01 28 43.5	-0.4		
LFF					pmax	pmax				
	comp=Z,15nm,0.6s,mb5.1									
LFF	**La Frestale**	91.05	330	*e*P		P	01 28 43.5	-0.4		
	comp=Z,15nm,0.6s,mb5.1									
EPF	**Esparros**	92.78	329	*e*P		P	01 28 50.0	-1.9		
ETSF	**Etsaut**	93.26	330	*e*P		P	01 28 53.8	-0.3		
	comp=Z,7.3nm,0.8s,mb4.5									
ETSF	**Etsaut**	93.26	330	*e*P		P	01 28 53.8	-0.3		
ETSF					pmax	pmax				
	comp=Z,4.0nm,0.8s,mb4.5									
ETSF	**Etsaut**	93.26	330	*e*P		P	01 28 53.8	-0.3		
	comp=Z,3.7nm,0.8s,mb4.5									
TXAR	**Lajitas Array**	94.52	50	P		P	01 29 00.0	-0.1		
	comp=Z,11nm,0.7s,mb5.0,baz=294,slow=3.2,SNR=148									
TXAR					pP	pP	01 30 17.5	+1.9		
	comp=Z,1.1nm,0.9s,baz=270,slow=3.1,SNR=3.2									
TXAR	**Lajitas Array**	94.52	50	P		P	01 29 00.0	-0.1		
TXAR					*pP	pP	01 30 17.5	+1.9		
TXAR					pmax	pmax				
	comp=Z,11nm,0.7s									
TXAR					pmax	pmax				
	comp=Z,1.0nm,0.9s									
CCM	**Cathedral Cave**	94.95	36	*e*P		P	01 29 01.1	-0.8		
CCM					pmax	pmax				
	comp=Z,7.0nm,1.1s,mb4.6									
CCM	**Cathedral Cave**	94.95	36	*e*P		P	01 29 01.1	-0.8		
	comp=Z,7.5nm,1.1s,mb4.6									
KMBO	**Kilima Mbogo**	98.31	274	⇑*e*P		P	01 29 20.2	+2.7		
LSZ	**Lusaka**	113.55	267	PKiKP		PKiKP	01 34 15.5	-0.8		
	comp=Z,1.8nm,0.7s,baz=49,slow=3.3,SNR=5.3									
LSZ	**Lusaka**	113.55	267	*i* PKiKP		PKiKP	01 34 15.5	-0.8		
LSZ					pmax	pmax				
	comp=Z,2.0nm,0.7s									
TORD	**Torodi Ar. Bea**	115.89	310	PKP		PKPdf	01 34 19.4	-1.4		
	comp=Z,1.7nm,0.6s,baz=31,slow=1.1,SNR=54									
BOSA	**Boshof**	122.29	256	PKP		PKPdf	01 34 32.2	-0.5		
	comp=Z,3.2nm,0.6s,baz=185,slow=2.3,SNR=6.2									
BOSA	**Boshof**	122.29	256	PKiKP		PKPdf	01 34 32.2	-0.5		
BOSA					pmax	pmax				
	comp=Z,3.0nm,0.6s									
DBIC	**Dimbokro**	124.96	311	PKP		PKPdf	01 34 37.3	-1.1		
	comp=Z,4.0nm,0.7s,baz=38,slow=2.0,SNR=11									
DBIC	**Dimbokro**	124.96	311	PKiKP		PKPdf	01 34 37.3	-1.1		
DBIC					pmax	pmax				
	comp=Z,4.0nm,0.7s									
TIC	**Toumodi**	125.08	311	*e*PKP1		PKPdf	01 34 36.4	-2.2		
	comp=Z,8.3nm,0.2s									
KIC	**Kosan Boka**	125.13	311	*e*PKP1		PKPdf	01 34 37.6	-1.1		
	comp=Z,73nm,1.5s									
LIC	**Lamto**	125.41

	0.5nm,0.5s,baz=54,slow=9.3,SNR=10						
FITZ	**Fitzroy Crossi**	**27.66**	**242**	P	P	02 06 24.6	+0.2
	0.6nm,0.4s,baz=66,slow=11,SNR=8.7						
TORD	**Torodi Ar. Bea**	**149.28**	**285**	PKPbc	PKPbc	02 20 25.8	-0.6
	0.5nm,0.6s,baz=64,slow=2.2,SNR=9.0						

NEIC 16 02:33:43.6,3960S×17935E,h28km,ML3.9(WEL),After WEL.,Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KNZ	**Kokohu**	**1.42**	**293**	P	Pn	02 34 06.3	-1.3
KNZ				S	Sn	02 34 25.3	0.0
PUZ	**Puketiti**	**1.75**	**330**	P	Pn	02 34 11.2	-0.8
MWZ	**Matawai**	**1.90**	**311**	P	Pn	02 34 13.1	-1.0
MXZ	**Matakaoa Point**	**2.19**	**338**	P	Pn	02 34 18.1	0.0
URZ	**Urewera**	**2.20**	**307**	P	Pn	02 34 17.9	-0.3
BKZ	**Black Stump Fm**	**2.26**	**280**	P	Pn	02 34 18.6	-0.4
BKZ				S	Sn	02 34 42.5	-3.4
TSZ	**Takapari Road**	**2.65**	**259**	P	Pn	02 34 23.8	-0.6
MOVZ	**Moawhango**	**2.79**	**273**	P	Pn	02 34 26.7	+0.4
WNVZ	**Wahianoa**	**2.92**	**274**	P	Pn	02 34 28.9	+0.8
NGZ	**Ngauruhoe**	**2.94**	**277**	P	Pn	02 34 28.7	+0.3
FWVZ	**Far West T-bar**	**2.96**	**275**	P	Pn	02 34 29.1	+0.4
WPVZ	**Whakapapa**	**2.97**	**276**	P	Pn	02 34 29.2	+0.3
MRZ	**Mangatainoka R**	**3.08**	**249**	P	Pn	02 34 29.0	-1.3
TWVZ	**Taurewa**	**3.08**	**279**	P	Pn	02 34 30.1	-0.2
WAZ	**Wanganui**	**3.37**	**266**	P	Pn	02 34 35.0	+0.7
CAW	**Cannon Point**	**3.60**	**244**	P	Pn	02 34 36.8	-0.7
KIW	**Kapiti Island**	**3.62**	**248**	P	Pn	02 34 36.7	-1.1
HIZ	**Hauiti**	**3.66**	**286**	P	Pn	02 34 38.1	-0.3
TCW	**Tory Channel**	**4.20**	**246**	P	Pn	02 34 43.9	-1.8
NNZ	**Nelson**	**4.84**	**249**	P	Pn	02 34 53.0	-1.5
KHZ	**Kahutara**	**5.22**	**235**	P	Pn	02 34 59.9	-2.5
QRZ	**Quartz Range**	**5.36**	**255**	P	Pn	02 34 59.9	-1.8

*IDC **16** 02:49:05.3±1.0, 4600S×7589W, h0km, mb4.0/7, mb1 4.1/9, mb1mx4.0/18, mbtmp4.0/9, ML3.6/2, MS3.7/8, Ms1 3.7/8, ms1mx3.5/21, Error ellipse: s-maj=44.1km s-min=18.6km az=90.0*
*NEIC **16** 02:49:06.4±0.5, 4601S×7608W, h10km, mb4.6/4, Error ellipse: s-maj=13.5km s-min=9.3km az=90.0*
*ISCJB **16** 02:49:08.6±0.6, 4598S±007×759W±0.1, h33km, mb4.2/12, MS3.8/5, Error ellipse: s-maj=15.0km s-min=9.4km az=177.3*

ISC 16 02:49:10.6±0.6, 4598S±006×759W±01, h35km, (h34km±10.2km:pP-P), n26, σ1§01/22, mb4.2/12, MS3.8/5, Off coast of southern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
COYC	**Coyhaique**	**2.73**	**83**	*i* P	**Pn**	**02 49 51.6**	**-0.3**
PLCA	**Paso Flores**	**6.55**	**39**	Pn	**Pn**	**02 50 42.8**	**-1.6**
	0.2nm,0.3s,baz=221,slow=15,SNR=4.5						
USHA	**Ushuaia**	**10.06**	**154**	Pn	**Pn**	**02 51 31.1**	**-1.4**
	0.9nm,0.3s,baz=293,slow=8.8,SNR=7.5						
USHA				LR	LR	02 55 40.0	
	comp=Z,628nm,19.4s,baz=308,slow=39						
TRQA	**Tornquist**	**13.04**	**58**	*e*Pn	**Pn**	**02 52 14.6**	**+1.3**
	22nm,1.1s						
CFAA	**Coronel Fontan**	**15.55**	**25**	Pn	**Pn**	**02 52 41.6**	**-5.4**
	0.1nm,0.3s,baz=156,slow=21,SNR=32						
CFAA				LR	LR	02 58 50.5	
	comp=Z,70nm,21.8s,baz=198,slow=38						
CFAA	**Coronel Fontan**	**15.55**	**25**	Pn	**Pn**	**02 52 41.6**	**-5.4**
CFAA				LR	LR	02 58 50.5	
PMSA	**Palmer Station**	**19.94**	**165**	LR	LR	02 59 29.5	
	comp=Z,452nm,22.0s,baz=114,slow=31						
LVC	**Limon Verde**	**24.00**	**16**	P	**P**	**02 54 21.5**	**-0.5**
	3.3nm,0.8s,mb3.8,baz=188,slow=17,SNR=1.9						
LVC				LR	LR	03 04 31.9	
	comp=Z,146nm,20.7s,MS3.4,baz=60,slow=39						
LPAZ	**La Paz**	**30.32**	**15**	P	**P**	**02 55 19.0**	**+0.3**
	1.8nm,1.1s,mb3.7,baz=193,slow=4.9,SNR=6.1						
LPAZ	**La Paz**	**30.32**	**15**	P	**P**	**02 55 19.0**	**+0.3**
ATAH	**Atahualpa**	**38.89**	**356**	P	**P**	**02 56 36.7**	**+4.0**
	6.1nm,0.6s,mb4.4,baz=225,slow=4.3,SNR=3.2						
VNA3	**Neumayer Olymp**	**39.73**	**152**	*e*	**P**	**02 56 40.1**	**+0.9**
VNA3				*e*	pP	02 56 47.3	-2.1
VNA3				*e*	pP	02 56 52.6	+3.2
VNA1	**Neumayer--Stat**	**40.17**	**151**	*e*	**P**	**02 56 43.7**	**+0.8**
VNA1				*e*	pP	02 56 51.3	-1.8
VNA1				*e*	pP	02 56 55.8	+2.7
VNA2	**Neumayer--Watz**	**40.47**	**152**	*e*	**P**	**02 56 46.5**	**+1.2**
	baz=269,slow=6.9						
VNA2				*e*	pP	02 56 53.5	-2.0
VNA2				*e*	pP	02 56 57.8	+2.3
SNAA	**Sanae**	**41.92**	**153**	*e*P	**P**	**02 56 56.4**	**-0.8**
	5.8nm,0.9s,mb4.2						
QSPA	**South Pole Qui**	**44.27**	**180**	P	**P**	**02 57 15.5**	**-0.6**
	4.1nm,1.0s,mb4.1,baz=140,slow=6.1,SNR=8.1						
OTAV	**Otavalo**	**46.08**	**357**	*e*P	**P**	**02 57 31.8**	**+0.7**
	5.4nm,1.0s,mb4.4						
ROSC	**El Rosal**	**50.63**	**2**	LR	LR	03 18 25.6	
	comp=Z,67nm,18.6s,MS3.7,baz=15,slow=35						
JTS	**JuntasAbangare**	**56.59**	**349**	LR	LR	03 16 55.9	
	comp=Z,46nm,20.9s,MS3.5,baz=195,slow=30						
MAW	**Mawson**	**62.55**	**163**	P	**P**	**02 59 30.2**	**-0.1**
	2.4nm,0.8s,mb4.4,baz=192,slow=11,SNR=4.2						
MAW				LR	LR	03 25 41.3	
	comp=Z,169nm,18.6s,MS4.2,baz=236,slow=35						
BOSA	**Boshof**	**77.14**	**118**	LR	LR	03 30 50.2	
	comp=Z,82nm,19.5s,MS4.1,baz=57,slow=32						
TXAR	**Lajitas Array**	**79.07**	**336**	P	**P**	**03 01 12.6**	**+1.6**
	0.5nm,0.8s,mb3.5,baz=153,slow=45,SNR=3.0						
JCT	**Junction City**	**79.12**	**339**	*e*P	**P**	**03 01 11.1**	**-0.1**
	9.5nm,1.1s,mb4.6						
CCM	**Cathedral Cave**	**84.78**	**348**	*e*P	**P**	**03 01 38.9**	**-1.9**
	35nm,1.9s,mb5.2						
CCM				*e*PcP	PcP	03 01 43.9	-0.2
ANMO	**Albuquerque**	**85.14**	**335**	P	**P**	**03 01 42.1**	**-0.6**
	0.5nm,0.4s,mb4.0,baz=172,slow=3.0,SNR=3.7						
TORD	**Torodi Ar. Bea**	**90.94**	**72**	P	**P**	**03 02 11.5**	**+0.5**
	0.4nm,0.9s,mb3.8,baz=227,slow=9.6,SNR=2.6						

IDC 16 02:50:58.1±3.5, 159S×9988E, h0km, mb3.6/5, mb1 3.7/5, mb1mx3.5/18, mbtmp3.6/5, Error ellipse: s-maj=151.9km s-min=21.4km az=56.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**38.30**	**121**	P	P	02 58 20.1	-0.6
	0.3nm,0.4s,baz=303,slow=9.3,SNR=9.2						
ASAR	**Alice Springs**	**39.59**	**126**	P	P	02 58 32.3	+0.8
	0.3nm,0.6s,baz=306,slow=7.9,SNR=3.6						
SONM	**Songino Array**	**49.55**	**6**	P	P	02 59 50.9	+0.2
	0.3nm,0.4s,baz=172,slow=11,SNR=2.8						
MKAR	**Makanchi Array**	**50.60**	**344**	P	P	02 59 59.2	+0.5
	0.7nm,0.4s,baz=155,slow=8.3,SNR=9.9						
ZALV	**Zalesovo Beam**	**56.75**	**349**	P	P	03 00 43.3	-0.4
	1.5nm,0.7s,baz=186,slow=5.8,SNR=5.2						
TXAR	**Lajitas Array**	**144.45**	**37**	PKP	PKPdf	03 10 35.4	-1.9
	0.2nm,0.6s,baz=317,slow=2.1,SNR=3.8						

*IDC **16** 02:54:58.8±3.0, 1831N×10595W, h0km, mb3.1/3, mb1 3.6/5, mb1mx3.5/20, mbtmp3.3/5, ML3.5/2, MS3.2/6, Ms1 3.2/6, ms1mx2.9/15, Error ellipse: s-maj=45.0km s-min=26.6km az=30.0*
*ISCJB **16** 02:55:03.5±1.6, 1901N±006×10528W±006, h13km±13km, mb3.4/6, MS3.0/2, Error ellipse: s-maj=12.4km s-min=5.4km az=136.3*
*MEX **16** 02:55:04.5±0.3, 1895N×10552W, h20km±12km, MD4.2*
*NEIC **16** 02:55:04.6, 1894N×10551W, h20km, mb3.7/4, MD4.2(MEX), After MEX.*

ISC 16 02:55:05.4±2.0, 1902N±006×10532W±006, h16km±15km, n29, σ1§08/38, mb3.4/6, MS3.0/2, Near coast of Jalisco

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MMIG	**Aquila**	**2.01**	**111**	*i* P	**Pn**	**02 55 36.8**	**-1.8**
MMIG				*i* S	**Sn**	**02 56 01.8**	**-1.7**
ANIG	**Ahuacatlan**	**2.16**	**20**	*i* P	**Pn**	**02 55 38.7**	**-2.0**
ANIG				*i* S	**Sn**	**02 56 06.6**	**-0.6**
SFJM	**Santa Fe**	**2.60**	**55**	*i* P	**Pn**	**02 55 45.7**	**-1.0**
SFJM				*i* S	**Sn**	**02 56 18.1**	**+0.1**
SFJM	**Santa Fe**	**2.60**	**55**	*i* P	**Pn**	**02 55 47.6**	**+0.8**
SFJM				*i* S	**Sn**	**02 56 18.1**	**+0.1**
ZIIG	**Zihuatanejo**	**3.92**	**110**	*e*P	**Pn**	**02 56 04.0**	**-1.0**
ZIIG				*i* S	**Sn**	**02 56 49.8**	**-0.9**
MOIG	**Morelia**	**3.96**	**80**	*e*P	**Pn**	**02 56 04.6**	**-0.9**
MOIG				*i* S	**Sn**	**02 56 51.6**	**0.0**
ZAIG	**Zacatecas**	**4.54**	**34**	*e*P	**Pg**	**02 56 25.1**	**-7.2**
ZAIG				*i* S	**Sn**	**02 57 16.6**	**+11**
CAIG	**El Cayaco**	**5.19**	**111**	*e*P	**Pn**	**02 56 22.1**	**-0.4**
CAIG				*i* S	**Sn**	**02 57 21.7**	**-0.3**
PPM	**Popocatepetl**	**6.33**	**88**	*e*P	**Pn**	**02 56 38.6**	**+0.4**
PPM				*i* S	**Sn**	**02 57 51.5**	**+1.3**
UTMO	**Huajuapan**	**7.24**	**98**	*i* P	**Pn**	**02 56 51.2**	**+0.7**
UTMO				*i* S	**Sn**	**02 58 12.1**	**-0.3**
TPIG	**Tehuac#an**	**7.57**	**93**	*e*P	**Pn**	**02 56 56.8**	**+1.7**
HPIG		**7.89**	**358**	*e*P	**Pn**	**02 56 57.9**	**-1.6**
HPIG				*i* S	**Sn**	**02 58 26.8**	**-1.6**
LNIG	**Linares**	**7.99**	**42**	*i* P	**Pn**	**02 57 01.1**	**+0.2**
LNIG				*i* S	**Sn**	**02 58 32.4**	**+1.6**
VHO	**Vista Hermosa**	**8.40**	**102**	*e*P	**Pn**	**02 57 06.7**	**+0.3**
VHO				*i* S	**Sn**	**02 58 42.1**	**+1.1**
CMIG	**Matias Romero**	**10.11**	**99**	Pn	**Pn**	**02 57 32.7**	**+2.7**
	0.6nm,0.3s,baz=284,slow=9.4,SNR=11						
CMIG				Lg		03 00 36.7	
	0.1nm,0.3s,baz=169,slow=18,SNR=3.3						
CMIG				LR	LR	03 02 39.5	
	comp=Z,57nm,18.2s,baz=263,slow=43						
CMIG	**Matias Romero**	**10.11**	**99**	Pn	**Pn**	**02 57 32.7**	**+2.7**
TXAR	**Lajitas Array**	**10.38**	**8**	Pn	**Pn**	**02 57 42.4**	**+8.8**
	0.1nm,0.3s,baz=173,slow=8.2,SNR=4.1						
TXAR				Lg		03 00 51.9	
	0.0nm,0.3s,baz=188,slow=30,SNR=4.2						
TXAR				LR	LR	03 01 47.4	
	comp=Z,136nm,18.0s,baz=185,slow=37						
TUC	**Tucson**	**14.12**	**341**	*e*Pn	**Pn**	**02 58 26.2**	**+1.4**
	4.2nm,1.2s						
ANMO	**Albuquerque**	**15.90**	**357**	LR	LR	03 05 12.4	
	comp=Z,127nm,18.3s,baz=338,slow=37						
TEIG	**Tepich**	**16.11**	**83**	LR	LR	03 06 49.6	
	comp=Z,88nm,18.5s,baz=251,slow=42						
WUAZ	**Wupatki**	**17.29**	**343**	*e*Pn	**Pn**	**02 59 05.7**	**-0.4**
	4.1nm,1.0s						
KSU1	**Kansas State U**	**21.39**	**19**	*e*P	**P**	**02 59 51.8**	**-0.5**
	3.1nm,0.5s,mb3.9						
NVAR	**Mina Array Bea**	**22.40**	**332**	P	**P**	**03 00 04.2**	**+1.1**
	0.4nm,0.7s,mb3.0,baz=160,slow=9.6,SNR=6.0						
ELK	**Elko**	**23.27**	**341**	P	**P**	**03 00 12.9**	**+0.6**
	0.3nm,0.3s,mb3.1,baz=145,slow=11,SNR=4.3						
PDAR	**Pinedale Array**	**23.95**	**352**	P	**P**	**03 00 19.5**	**+0.8**
	0.2nm,0.5s,mb2.8,baz=155,slow=11,SNR=2.8						
REDW	**Red Top Meadow**	**24.71**	**350**	*e*P	**P**	**03 00 25.6**	**-0.2**
	1.9nm,1.0s,mb3.6						
LOHW	**Long Hollow**	**24.92**	**351**	*e*P	**P**	**03 00 28.4**	**+0.7**
	1.9nm,0.8s,mb3.7						
YBH	**Yreka Blue Hor**	**27.05**	**331**	LR	LR	03 11 20.9	
	comp=Z,42nm,21.2s,MS3.0,baz=324,slow=36						
YKA	**Yellowknife Ar**	**43.91**	**354**	LR	LR	03 24 51.5	
	comp=Z,24nm,19.3s,MS3.1,baz=145,slow=40						

*IDC **16** 03:00:41.4±2.2, 1989S×17424W, h0km, mb4.3/4, mb1 4.3/6, mb1mx4.0/20, mbtmp4.3/6, ML3.3/2, MS2.9/2, Ms1 2.9/2, ms1mx2.5/29, Error ellipse: s-maj=53.1km s-min=29.6km az=107.0*
*ISCJB **16** 03:00:42.7±3.1, 199S±01×1740W±02, h35km±35km, mb4.2/6, Error ellipse: s-maj=41.6km s-min=16.3km az=21.8*
*NEIC **16** 03:00:45.7±2.1, 1989S×17401W, h46km±26km, mb4.2/2, Error ellipse: s-maj=31.7km s-min=16.0km az=110.0*

ISC 16 03:00:44.7±2.3, 199S±01×1740W±03, h37km±29km, n12, σ1§01/13, mb4.2/6, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**6.35**	**20**	Pn	**Pn**	**03 02 16.7**	**+0.8**
	2.2nm,0.3s,baz=201,slow=21,SNR=4.0						
AFI				Sn	**Sn**	**03 03 26.7**	**-0.5**
	3.1nm,0.3s,baz=91,slow=20,SNR=5.8						
AFI	**Afiamalu**	**6.35**	**20**	Pn	**Pn**	**03 02 16.7**	**+0.8**
AFI				Sn	**Sn**	**03 03 26.7**	**-0.5**
RAR	**Rarotonga**	**13.36**	**98**	LR	LR	03 07 28.1	
	comp=Z,33nm,22.0s,baz=277,slow=30						
URZ	**Urewera**	**19.83**	**201**	P	**Pn**	**03 05 11.5**	**-2.5**
	1.4nm,0.3s,baz=87,slow=12,SNR=13						
RPZ	**Rata Peaks**	**26.82**	**205**	P	**P**	**03 06 23.9**	**+2.5**
	10nm,0.6s,mb4.5,baz=11,slow=5.2,SNR=4.1						
CTAO	**Charters Tower**	**37.31**	**263**	*e*P	**P**	**03 07 53.5**	**-0.1**
	4.2nm,0.8s,mb4.3						
CTAO				*e*pP	pP	03 08 05.9	+1.7
STKA	**Stephens Creek**	**41.44**	**244**	P	**P**	**03 08 27.3**	**-0.6**
	2.2nm,0.7s,mb3.9,baz=95,slow=11,SNR=4.0						
ASAR	**Alice Springs**	**48.33**	**256**	P	**P**	**03 09 23.1**	**+0.2**
	1.7nm,0.6s,mb4.2,baz=98,slow=7.9,SNR=30						
WB2	**Warramunga Arr**	**48.41**	**261**	*e*P	**P**	**03 09 23.2**	**-0.4**
WRAB	**Tennant Creek**	**48.42**	**261**	*e*P	**P**	**03 09 23.7**	**+0.1**
	1.3nm,0.7s,mb4.1						
WRA	**Warramunga Arr**	**48.42**	**261**	P	**P**	**03 09 24.2**	**+0.6**
	1.0nm,0.3s,mb4.3,baz=95,slow=8.2,SNR=30						
DAWY	**Dawson**	**87.92**	**14**	*e*P	**P**	**03 13 29.5**	**-0.5**

*MOS **16** 03:10:33.0±1.6, 5555N×11188E, h18km, mb4.3/1, Error ellipse: s-maj=19.7km s-min=13.4km az=74.2*

BYKL 16 03:10:33.0±0.2, 5560N×11188E, h13km±13km, 5C-1D, Lake Baykal region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMO	**Kumora**	**0.48**	**307**	*e*PG	Pg	03 10 42.0	-0.4
KMO				*e*		03 10 48.6	
KMO				pmax	pmax		
	comp=Z,835nm,0.2s						
KMO				smax			
	comp=E,3μm,0.4s						
KMO	**Kumora**	**0.48**	**307**	⇑*i*Pg	Pg	03 10 42.1	-0.3
KMO				*e*Sg	Sg	03 10 48.8	0.0
KMO				Pmax			
	comp=E,834nm,0.2s						
KMO				Smax			
	comp=E,3μm,0.9s						
YOA	**Uoyan**	**0.54**	**351**	⇓*i*PG	Pg	03 10 43.3	-0.3
YOA				*i*		03 10 51.6	
YOA				pmax	pmax		
	comp=Z,966nm,0.2s						
YOA				smax			
	comp=N,4μm,0.4s						
YOA	**Uoyan**	**0.54**	**351**	*e*Pg	Pg	03 10 43.2	-0.4
YOA				*e*Sg	Sg	03 10 51.3	+0.5
YOA				Pmax			
	comp=N,980nm,0.1s						
YOA				Smax			
	comp=N,4μm,0.4s						
YLYR	**Ulyunkhan**	**0.83**	**210**	⇑*i*Pg	Pg	03 10 48.2	-0.9
YLYR				*e*		03 10 58.9	
YLYR				pmax	pmax		
	comp=Z,88nm,0.1s						
YLYR				smax			
	comp=E,599nm,0.1s						
YLYR	**Ulyunkhan**	**0.83**	**210**	⇑*i*Pg	Pg	03 10 48.2	-0.9
YLYR				*e*Sg	Sg	03 10 59.2	-0.8
YLYR				Pmax			
	comp=E,55nm,0.1s						
YLYR				Smax			
	comp=E,596nm,0.1s						
UKT	**Uakit**	**1.00**	**96**	*e*PG	Pg	03 10 50.6	-1.6
UKT				*e*		03 11 04.0	
UKT				pmax	pmax		
	comp=Z,71nm,0.1s						
UKT				smax			
	comp=N,1μm,0.2s						
UKT	**Uakit**	**1.00**	**96**	⇑*i*Pg	Pg	03 10 50.7	-1.5
UKT				*e*Sg	Sg	03 11 04.1	-1.2
UKT				*e*		03 11 08.1	
UKT				Pmax			
	comp=N,99nm,0.1s						
UKT				max			
	comp=N,1μm,0.3s						
NIZ	**Nizh Angarsk**	**1.34**	**279**	*e*PG	Pg	03 10 56.8	-1.9
NIZ				*e*		03 11 15.3	
NIZ				pmax	pmax		
	comp=Z,104nm,0.2s						
NIZ				smax			
	comp=N,451nm,0.5s						
NIZ	**Nizh Angarsk**	**1.34**	**279**	⇑*i*Pg	Pg	03 10 57.0	-1.7
NIZ				*e*Sg	Sg	03 11 15.5	-0.5
NIZ				Pmax			
	comp=N,96nm,0.2s						
NIZ				Smax			
	comp=N,451nm,0.2s						
SYVR	**Suvo**	**2.23**	**210**	*e*Pn	Pn	03 11 12.0	+2.4
SYVR				*e*		03 11 42.5	
SYVR				pmax	pmax		
	comp=Z,46nm,0.6s						
SYVR				smax			
	comp=E,215nm,0.6s						
SYVR	**Suvo**	**2.23**	**210**	*e*Pn	Pn	03 11 10.0	+0.4
SYVR				*e*Sg	Sg	03 11 42.5	-2.2
SYVR				Smax			
	comp=E,207nm,0.7s						
NLYR	**Nelyaty**	**2.32**	**66**	*e*Pn	Pn	03 11 11.2	+0.3
NLYR				*e*Pg	Pg	03 11 13.9	-3.6
NLYR				*e*Sg	Sg	03 11 44.4	-3.2
NLYR				Pmax			
	comp=E,24nm,0.2s						
NLYR				Smax			
	comp=E,170nm,0.6s						
BOD	**Bodaibo**	**2.51**	**27**	*e*Pn	Pn	03 11 15.5	+2.0
BOD				*e*Sn	Sn	03 11 44.4	+0.5
BOD				*e*Sg	Sg	03 11 49.2	-4.5
BOD				Smax			
	comp=E,117nm,0.3s						
MXMB	**Maximikha**	**2.97**	**219**	*e*Sg	Sg	03 12 05.2	-3.2
MXMB				Smax			
	comp=E,231nm,1.0s						
OGRR	**Ongureny**	**3.17**	**234**	*e*PN	Pn	03 11 23.3	+0.8
OGRR				*e*		03 11 29.8	
OGRR				*e*S	Sn	03 12 01.2	+1.1
OGRR				*e*		03 12 10.4	
OGRR				pmax	pmax		
	comp=Z,19nm,0.3s						
OGRR				smax			
	comp=E,98nm,0.5s						
OGRR	**Ongureny**	**3.17**	**234**	*e*Pn	Pn	03 11 23.3	+0.8
OGRR				*e*Pg	Pg	03 11 29.6	-4.1
OGRR				*e*Sn	Sn	03 12 01.1	+1.0
OGRR				*e*Sg	Sg	03 12 10.5	-4.2
OGRR				Pmax			
	comp=E,21nm,0.3s						
OGRR				Smax			
	comp=E,98nm,0.4s						
CRS	**Chara**	**3.79**	**67**	*e*PN	Pg	03 11 40.7	-4.9
CRS				*e*		03 12 30.4	
CRS				pmax	pmax		
	comp=Z,23nm,0.9s						
CRS				smax			
	comp=E,90nm,0.9s						
CRS	**Chara**	**3.79**	**67**	*e*Pn	Pn	03 11 31.4	+0.3
CRS				*e*Pg	Pg	03 11 41.7	-3.9
CRS				*e*Sg	Sg	03 12 30.5	-4.2
CRS				Pmax			
	comp=E,23nm,0.9s						
CRS				Smax			
	comp=E,95nm,1.4s						
TRTB	**Turuntaevo**	**4.21**	**218**	*e*Pn	Pn	03 11 37.7	+0.9
TRTB				Pg	Pg	03 11 49.2	-4.3
TRTB				*e*Sg	Sg	03 12 43.5	-4.5
TRTB				Pmax			
	comp=E,20nm,0.7s						
TRTB				Smax			
	comp=E,34nm,0.8s						
TRG	**Tyrgan**	**4.32**	**231**	*e*Pn	Pn	03 11 38.5	+0.2
TRG				*e*Sg	Sg	03 12 46.3	-5.2
TRG				Smax			
	comp=E,31nm,0.3s						
UUDB	**Ulan-Yde**	**4.50**	**216**	*e*Sg	Sg	03 12 52.5	-4.9
UUDB				Smax			
	comp=E,61nm,1.2s						
FFNB	**Fofonovo**	**4.67**	**223**	*e*Sg	Sg	03 12 57.3	-5.6
FFNB				Smax			
	comp=E,84nm,0.6s						
TUP	**Tupik**	**4.79**	**101**	*e*PN	Pn	03 11 44.5	-0.3
TUP				*e*		03 11 58.4	
TUP				*e*		03 13 02.0	
TUP				pmax	pmax		
	comp=Z,16nm,0.6s						
TUP				smax			
	comp=E,89nm,0.8s						
TUP	**Tupik**	**4.79**	**101**	*e*Pn	Pn	03 11 44.6	-0.2
TUP				*e*Pg	Pg	03 11 58.5	-6.2
TUP				*e*Sg	Sg	03 13 01.8	-5.0
TUP				Pmax			
	comp=E,16nm,0.6s						
TUP				Smax			
	comp=E,89nm,0.6s						
KPC	**Khapcheranga**	**5.91**	**177**	*e*Sg	Sg	03 13 35.2	-7.5
KPC				Smax			
	comp=E,34nm,0.9s						
TLY	**Talaya**	**6.28**	**235**	*e*PN	Pn	03 12 04.7	-0.4
TLY				*e*		03 12 23.5	
TLY				*e*		03 13 44.4	
TLY				pmax	pmax		
	comp=Z,5.0nm,0.6s						
TLY				smax			
	comp=N,26nm,1.0s						
TLY	**Talaya**	**6.28**	**235**	*e*Sg	Sg	03 13 45.7	-8.5
TLY				Smax			
	comp=N,21nm,0.7s						
ORL	**Orlik**	**7.73**	**252**	*e*Pn	Pn	03 12 26.6	+1.5
ORL				*e*Sn	Sn	03 13 48.9	-3.6
ORL				*e*Sg	Sn	03 14 30.9	+38
ORL				Smax			
	comp=N,37nm,1.8s						

*NEIC **16** 03:10:48.7, 1696N×9873W, h16km, MD3.7(MEX), After MEX.*

MEX 16 03:10:48.5±0.6, 1696N×9873W, h17km±9km, MD3.7, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.81**	**134**	*i* P	Pb	03 11 01.6	-2.5
PNIG				*i* S	Sb	03 11 11.1	-3.6
ACX	**Acapulco**	**1.14**	**266**	*i* P	Pn	03 11 05.4	-4.3
ACX				*i* S	Sb	03 11 19.0	-5.3
UTMO	**Huajuapan**	**1.24**	**45**	*i* P	Pn	03 11 07.9	-3.1
UTMO				*i* S	Sb	03 11 22.2	-4.9
CAIG	**El Cayaco**	**1.47**	**274**	*i* P	Pn	03 11 11.6	-2.6
CAIG				*i* S	Sn	03 11 28.7	-4.4
VHO	**Vista Hermosa**	**1.92**	**86**	*i* P	Pn	03 11 17.8	-2.5
VHO				*i* S	Sn	03 11 39.4	-4.7
TPIG	**Tehuac#an**	**1.95**	**42**	*e*P	Pn	03 11 19.7	-1.2
TPIG				*i* S	Sn	03 11 44.9	-0.1
PPM	**Popocatepetl**	**2.10**	**3**	*e*P	Pn	03 11 20.6	-2.3
PPM				*i* S	Sn	03 11 44.4	-4.2
MZVM		**2.27**	**348**	*i* P	Pn	03 11 22.

	baz=140								
LAY				*e*S		**Sn**	**03 11 08.7**	**-0.4**	
	baz=140								
SCZT	**Fangliau**	**0.55**	**268**	⇑*i*P		**Pn**	**03 11 01.6**	**-0.7**	
	baz=267								
SCZT				*e*S		**Sn**	**03 11 10.3**	**-0.4**	
	baz=267								
HEN	**Hengchun**	**0.58**	**229**	*e*P		**Pn**	**03 11 02.6**	**-0.2**	
	baz=229								
HEN				*e*S		**Sn**	**03 11 12.1**	**+0.7**	
	baz=229								
TWK1	**Hengchun**	**0.58**	**220**	P		**Pn**	**03 11 02.3**	**-0.4**	
	baz=220								
TWK1				*e*S		**Sn**	**03 11 12.2**	**+0.8**	
	baz=220								
SSD	**Sandimen**	**0.64**	**304**	⇑*i*P		**Pn**	**03 11 03.0**	**-0.5**	
	baz=302								
CHKT	**Chengkung**	**0.72**	**11**	*e*P		**Pn**	**03 11 04.1**	**-0.4**	
	baz=10.0								
CHKT				S		**Sn**	**03 11 14.9**	**+0.3**	
	baz=10.0								
TWP	**Hsiaoliuchiu**	**0.79**	**267**	*e*P		**Pn**	**03 11 05.4**	**0.0**	
	baz=266								
TWP				S		**Sn**	**03 11 18.2**	**+2.1**	
	baz=266								
ELDTW	**Lidau**	**0.81**	**347**	P		**Pn**	**03 11 06.6**	**+0.8**	
	baz=346								
ELDTW				*e*S		**Sn**	**03 11 17.3**	**+0.5**	
	baz=346								
TWM1	**Shoushan**	**0.85**	**301**	P		**Pn**	**03 11 06.3**	**+0.1**	
	baz=299								
TWM1				*e*S		**Sn**	**03 11 18.5**	**+0.9**	
	baz=299								
KAU	**Kaohsiung**	**0.85**	**282**	*e*P		**Pn**	**03 11 06.6**	**+0.4**	
	baz=281								
KAU				*e*S		**Sn**	**03 11 18.7**	**+1.0**	
	baz=281								
SGST	**Jiashian**	**0.90**	**320**	*e*P		**Pn**	**03 11 06.4**	**-0.5**	
	baz=318								
SGST				*e*S		**Sn**	**03 11 19.5**	**+0.7**	
	baz=318								
TWF1	**Yuli**	**0.96**	**5**	P		**Pn**	**03 11 06.5**	**-1.2**	
	baz=3.0								
TWF1				*e*S		**Sn**	**03 11 19.0**	**-1.3**	
	baz=3.0								
CHN1	**Nanshi**	**1.01**	**322**	⇑*i*P		**Pn**	**03 11 07.8**	**-0.6**	
	baz=320								
CHN1				S		**Sn**	**03 11 21.4**	**-0.2**	
	baz=320								
WTP	**Ta-pu**	**1.01**	**327**	⇑*i*P		**Pn**	**03 11 08.0**	**-0.5**	
	baz=326								
WTP				*e*S		**Sn**	**03 11 22.2**	**+0.6**	
	baz=326								
TWK	**Hsinying**	**1.10**	**323**	*e*P		**Pn**	**03 11 08.5**	**-1.1**	
	baz=321								
TWK				*e*S		**Sn**	**03 11 23.4**	**-0.2**	
	baz=321								
EHY	**Hungye**	**1.11**	**5**	*e*P		**Pn**	**03 11 08.5**	**-1.4**	
	baz=4.0								
EHY				*e*S		**Sn**	**03 11 22.7**	**-1.3**	
	baz=4.0								
YUS	**Yu-Shan**	**1.12**	**348**	*e*P		**Pn**	**03 11 10.4**	**+0.5**	
	baz=346								
YUS				*e*S		**Sn**	**03 11 26.4**	**+2.2**	
	baz=346								
ALS	**Alishan**	**1.18**	**342**	P		**Pn**	**03 11 10.7**	**+0.1**	
	baz=340								
ALS				*e*S		**Sn**	**03 11 26.2**	**+0.6**	
	baz=340								
SCLT	**Jiali**	**1.22**	**310**	*e*S		**Sn**	**03 11 26.3**	**-0.4**	
	baz=309								
CHN5	**Tsauling**	**1.30**	**338**	P		**Pn**	**03 11 11.8**	**-0.5**	
	baz=336								
CHN5				*e*S		**Sn**	**03 11 28.6**	**+0.1**	
	baz=336								
ESL	**Shilin**	**1.43**	**8**	*e*P		**Pn**	**03 11 13.3**	**-0.8**	
	baz=7.0								
ESL				*e*S		**Sn**	**03 11 29.5**	**-2.3**	
	baz=7.0								
SMLT	**Sun Moon Lake**	**1.51**	**349**	P		**Pn**	**03 11 15.3**	**+0.1**	
	baz=348								
SMLT				*e*S		**Sn**	**03 11 34.7**	**+0.9**	
	baz=348								
TWD	**Chiawan**	**1.72**	**12**	P		**Pn**	**03 11 17.7**	**-0.4**	
	baz=11								
TWD				*e*S		**Sn**	**03 11 36.9**	**-1.9**	
	baz=11								
WHF	**Hehuan Shan**	**1.75**	**2**	*e*P		**Pn**	**03 11 19.1**	**+0.7**	
	baz=1.0								
WHF				*e*S		**Sn**	**03 11 39.0**	**-0.5**	
	baz=1.0								
TCU	**Taichung**	**1.82**	**344**	*e*S		**Sn**	**03 11 41.9**	**+0.6**	
	baz=343								
PNG	**Penghu**	**1.92**	**308**	*e*P		**Pn**	**03 11 18.5**	**-2.3**	
	baz=307								
NNS	**Nan Shan**	**2.04**	**4**	*e*P		**Pn**	**03 11 24.5**	**+1.9**	
	baz=3.0								
NNS				*e*S		**Sn**	**03 11 46.2**	**-0.6**	
	baz=3.0								
ENA	**Nanau**	**2.08**	**13**	*e*P		**Pn**	**03 11 23.2**	**+0.1**	
	baz=13								
YOJ	**Yonaguni jima**	**2.64**	**38**	P		**Pn**	**03 11 31.8**	**+1.1**	
YOJ				*e*S		**Sn**	**03 12 03.9**	**+2.3**	
HATJ	**Hateruma jima**	**2.91**	**55**	P		**Pn**	**03 11 34.5**	**+0.1**	
HATJ				S		**Sn**	**03 12 08.6**	**+0.5**	
IRIF	**Iriomote-Funau**	**3.02**	**50**	P		**Pn**	**03 11 36.1**	**+0.2**	
IRIF				S		**Sn**	**03 12 12.3**	**+1.5**	
JKRS	**Kuro-shima**	**3.16**	**54**	P		**Pn**	**03 11 38.0**	**+0.1**	
JKRS				*e*S		**Sn**	**03 12 15.1**	**+0.7**	
JIJ	**Ishigaki jima**	**3.33**	**53**	P		**Pn**	**03 11 40.3**	**+0.1**	
JIJ				S		**Sn**	**03 12 18.3**	**-0.3**	
JTJ	**Tarama**	**3.91**	**54**	P		**Pn**	**03 11 48.0**	**-0.1**	
JTJ				*e*S		**Sn**	**03 12 33.2**	**+0.4**	

IDC 16 03:25:13.8±0.9, 1500S×17368W, h0km, mb4.3/8, mb1 4.6/8, mb1mx4.4/16, mbtmp4.3/8, MS4.0/11, Ms1 4.0/11, ms1mx3.8/19, Error ellipse: s-maj=48.0km s-min=19.5km az=145.0, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID			Time		Res
					Op	ISC	h m s		ISC
AFI	**Afiamalu**	**2.14**	**60**	Pn		Pn	03 25 42.0		-8.8
	480nm,0.3s,baz=80,slow=0.6,SNR=351								
AFI				Sn		Sn	03 26 00.4		-18
	692nm,0.3s,baz=38,slow=20,SNR=18								
RAR	**Rarotonga**	**14.59**	**117**	Pn		Pn	03 28 33.2		-8.4
	3.0nm,0.3s,baz=248,slow=7.2,SNR=3.9								
RAR				LR		LR	03 32 32.5		
	comp=Z,490nm,19.4s,baz=316,slow=30								
PPT	**Papeete**	**23.28**	**100**	*e*LQ			03 34 45.7		
	1μm,27.8s								
PPT				*e*LR		LR	03 35 49.8		
	604nm,25.2s,baz=262								
PPT	**Papeete**	**23.28**	**100**	LR		LR	03 37 12.0		
	comp=Z,278nm,18.3s,baz=162,slow=31								
TBI	**Tubuai**	**24.31**	**114**	*e*LQ			03 35 15.3		
	706nm,28.8s								
TBI				*e*LR		LR	03 36 12.0		
	614nm,26.2s,baz=292								
HNR	**Honiara**	**26.35**	**279**	LR		LR	03 39 43.7		
	comp=Z,288nm,18.2s,baz=125,slow=33								
TAOE	**Nuku Hiva Isla**	**33.34**	**83**	*e*LR		LR	03 40 22.9		
	1μm,26.1s,baz=260								
RKT	**Rikitea**	**37.38**	**108**	*e*LR		LR	03 42 26.5		
	300nm,24.2s								
STKA	**Stephens Creek**	**44.00**	**240**	P		P	03 33 22.8		-0.5
	1.9nm,0.7s,baz=148,slow=14,SNR=3.0								
STKA				LR		LR	03 49 35.3		
	comp=Z,140nm,18.5s,baz=27,slow=33								
WRA	**Warramunga Arr**	**49.67**	**256**	P		P	03 34 07.5		-0.3
	4.6nm,0.7s,baz=90,slow=7.2,SNR=94								
WRA				LR		LR	03 52 06.1		
	comp=Z,85nm,21.8s,baz=200,slow=32								
ASAR	**Alice Springs**	**49.98**	**252**	P		P	03 34 09.5		-0.6
	25nm,0.7s,baz=86,slow=7.9,SNR=222								
MJAR	**Matsushiro Arr**	**68.45**	**320**	LR		LR	04 00 15.8		
	comp=Z,176nm,19.6s,baz=110,slow=31								
PETK	**Petropavlovsk-**	**72.16**	**342**	P		P	03 36 40.4		+0.3
	2.5nm,0.7s,baz=124,slow=9.8,SNR=5.1								
NVAR	**Mina Array Bea**	**74.21**	**42**	P		P	03 36 52.3		-0.3
	2.4nm,0.8s,baz=230,slow=10,SNR=5.7								
KSRS	**Korea Array**	**75.68**	**316**	LR		LR	04 04 25.1		
	comp=Z,52nm,19.3s,baz=351,slow=31								
TXAR	**Lajitas Array**	**80.61**	**56**	P		P	03 37 29.2		+0.5
	1.6nm,1.0s,baz=211,slow=7.0,SNR=10								
TXAR				LR		LR	04 05 02.8		
	comp=Z,83nm,21.0s,baz=185,slow=30								

PDAR	**Pinedale Array**	**82.15**	**42**	P		P	03 37 35.6		-0.9
	1.1nm,0.7s,baz=214,slow=3.2,SNR=8.8								
PDAR				LR		LR	04 08 47.7		
	comp=Z,75nm,18.1s,baz=60,slow=32								
MAW	**Mawson**	**88.09**	**199**	P		P	03 38 06.2		+0.3
	3.6nm,0.8s,baz=135,slow=7.9,SNR=11								
MAW				LR		LR	04 13 59.6		
	comp=Z,105nm,19.3s,baz=244,slow=33								
ULM	**Lac du Bonnet**	**93.79**	**39**	LR		LR	04 15 28.1		
	comp=Z,117nm,19.8s,baz=188,slow=32								
ARCES	**ARCESS Array B**	**124.17**	**352**	PKP		PKPdf	03 44 15.8		+1.9
	1.8nm,0.8s,baz=14,slow=2.5,SNR=6.7								
STHS	**Stebnicka Huta**	**143.57**	**344**	*e*		PKPdf	03 44 49.7		-0.9
DPC	**Dobruska-Polom**	**143.81**	**349**	*e*P		PKPdf	03 44 49.5		-1.5
CRVS	**Cervenica-Dubn**	**143.97**	**343**	*e*		PKPdf	03 44 48.6		-2.7
VYHS	**Vyhne**	**145.04**	**345**	*e*		PKPbc	03 44 53.2		+0.7
KHC	**Kasperske Hory**	**145.44**	**352**	*e*P		PKPbc	03 44 53.3		-0.5
KHC				*ex*		x	03 45 03.2		
GERES	**GERESS Array B**	**145.70**	**351**	PKPbc		PKPbc	03 44 54.7		+0.1
	0.9nm,0.6s,baz=45,slow=2.1,SNR=8.4								
CDF	**Champ du Feu**	**146.67**	**359**	*e*PKP1		PKPbc	03 45 01.7		+4.2
HINF	**Hinteralfeld**	**147.27**	**359**	*e*PKP1		PKPbc	03 45 02.2		+2.9
LOR	**Lormes**	**147.76**	**3**	*e*PKP1		PKPbc	03 45 01.8		+1.2
	12nm,0.9s								
SSF	**Saint Saulge**	**147.94**	**4**	*e*PKP1		PKPbc	03 45 02.5		+1.4
	17nm,1.2s								
AVF	**Avril sur Loir**	**148.20**	**4**	*e*PKP1		PKPbc	03 45 02.8		+1.0
SMF	**Signal de Mont**	**148.38**	**3**	*e*PKP1		PKPbc	03 45 03.2		+0.9
CABF	**La Chapelle**	**148.48**	**0**	*e*PKP1		PKPbc	03 45 04.3		+1.8
LPL	**La Plagne**	**149.57**	**359**	*e*PKP1		PKPbc	03 45 06.4		+1.0
	10nm,0.9s								
LPG	**La Plagne**	**149.59**	**359**	*e*PKP1		PKPbc	03 45 06.3		+0.9
	10nm,0.9s								
ORIF	**Oris-en-Rattie**	**150.17**	**1**	*e*PKP1		PKPbc	03 45 07.5		+0.7

*ISK **16** 03:38:01.7, 3990N×4017E, h5km, MD3.0*
*CSEM **16** 03:38:01.8±0.1, 3991N×4016E, h2km, MD3.1, Error ellipse: s-maj=2.0km s-min=1.4km az=170.0*
*DDA **16** 03:38:03.0, 3993N×4020E, h18km±2km, Md3.1*
*ISCJB **16** 03:38:03.6±0.4, 3988N±003×4016E±003, h10km, Error ellipse: s-maj=4.2km s-min=3.4km az=172.3*

ISC 16 03:38:03.0±0.7, 3988N±003×4014E±003, h0km±5km, n21, σ0s88/36, Turkey

Code	Station Name	Δ°	AZ°	Phase ID			Time		Res
					Op	ISC	h m s		ISC
EZC	**Erzincan**	**0.29**	**242**	*e*PG		**Pg**	**03 38 15.3**	**+6.9**	
EZC				*e*SG		**Sg**	**03 38 25.2**	**+13**	
KOPT	**Kop Dagi**	**0.30**	**63**	*i*P		**Pg**	**03 38 08.2**	**-0.5**	
KOPT				*i*S		**Sg**	**03 38 13.4**	**+0.7**	
GUMT	**Gumushane**	**0.77**	**319**	*e*PG		**Pg**	**03 38 17.7**	**0.0**	
GUMT				*e*SG		**Sg**	**03 38 29.4**	**+1.7**	
EZM	**Erzurum**	**0.94**	**88**	*e*PG		**Pg**	**03 38 19.8**	**-1.1**	
EZM				*e*SG		**Sg**	**03 38 33.9**	**+0.8**	
ERZM	**Erzurum**	**0.94**	**88**	*i*P		**Pg**	**03 38 19.7**	**-1.3**	
ERZM				*i*S		**Sg**	**03 38 34.2**	**+1.0**	
MACK	**Trabzon**	**1.10**	**345**	*i*P		**Pg**	**03 38 23.4**	**-0.6**	
MACK				*i*S		**Sg**	**03 38 39.0**	**+0.8**	
KTUT	**Trabzon**	**1.14**	**345**	*e*PN		**Pn**	**03 38 24.5**	**-1.6**	
PTK	**Pertek**	**1.15**	**211**	*e*PN		**Pn**	**03 38 25.2**	**-1.0**	
PTK				*e*SN		**Sn**	**03 38 42.2**	**-0.4**	
ESPY	**Espiye-Giresun**	**1.50**	**314**	*e*PN		**Pn**	**03 38 30.4**	**-0.7**	
ESPY				*e*SN		**Sn**	**03 38 51.8**	**+0.5**	
DDEM	**Demirkent**	**1.59**	**50**	*i*P		**Pn**	**03 38 31.5**	**-0.8**	
DDEM				*i*S		**Sn**	**03 38 54.5**	**+1.0**	
SVRC	**Sivrice-ELAZID**	**1.64**	**204**	*e*PN		**Pn**	**03 38 33.0**	**+0.1**	
DBAD	**Bademkaya**	**1.64**	**46**	*i*P		**Pn**	**03 38 31.6**	**-1.4**	
DBAD				*i*S		**Sn**	**03 38 53.9**	**-0.8**	
ELZG	**Elazig**	**1.65**	**213**	*i*P		**Pn**	**03 38 33.5**	**+0.4**	
ELZG				*i*S		**Sn**	**03 38 59.5**	**+4.5**	
DAGI	**Agillar**	**1.80**	**48**	*i*P		**Pn**	**03 38 35.1**	**-0.1**	
DAGI				*i*S		**Sn**	**03 38 59.3**	**+0.5**	
DBOC	**Borcka**	**1.86**	**38**	*i*P		**Pn**	**03 38 35.9**	**-0.2**	
DBOC				*i*S		**Sn**	**03 39 00.9**	**+0.5**	
DBOC	**Borcka**	**1.86**	**38**	*i*P		**Pn**	**03 38 35.8**	**-0.3**	
DBOC				*i*S		**Sn**	**03 39 00.9**	**+0.6**	
BCA	**Borcka**	**1.92**	**35**	*e*PN		**Pn**	**03 38 36.4**	**-0.5**	
DARE	**Darende-Malaty**	**2.04**	**244**	*e*PN		**Pn**	**03 38 44.8**	**+6.4**	
BEST	**Besiri**	**2.17**	**156**	*i*P		**Pn**	**03 38 41.7**	**+1.3**	
BEST				*i*S		**Sn**	**03 39 11.4**	**+3.5**	
AGRB	**Hanur-Agry**	**2.22**	**97**	*e*PN		**Pn**	**03 38 40.8**	**-0.2**	
SVSK	**Karacayir**	**2.42**	**272**	*e*PN		**Pn**	**03 38 44.2**	**+0.5**	

*NEIC **16** 03:49:11.6, 2797S×7136W, h17km, ML3.1(GUC), After GUC.*

GUC 16 03:49:11.6±0.6, 2797S×7136W, h17km±5km, MD3.6, ML3.1, 5C, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase ID			Time		Res
					Op	ISC	h m s		ISC
VACH	**Vallenar**	**0.81**	**139**	⇑*i*P		Pb	03 49 26.4		-0.7
VACH				*i*S		Sb	03 49 37.5		-0.3
VACH				AML		AML	03 49 40.2		
	comp=N,2μm,0.1s								
VACH	**Vallenar**	**0.81**	**139**	⇑*i*P		Pb	03 49 26.4		-0.7
VACH				*i*S		Sb	03 49 37.5		-0.3
CPCH	**Copiapo**	**1.08**	**56**	*i*P		Pb	03 49 30.6		-1.2
CPCH				*i*S		Sb	03 49 45.0		-0.7
LCO	**Las Campanas**	**1.19**	**151**	⇑*i*P		Pn	03 49 32.9		-0.5
LCO				*i*S		Sb	03 49 48.8		-0.1
TLL	**Tololo Astrono**	**2.25**	**168**	⇑*i*P		Pn	03 49 49.4		+1.4
TLL				*i*S		Sn	03 50 18.6		+3.4
TLL				AML		AML	03 50 24.8		
	comp=N,95nm,0.5s								
TLL	**Tololo Astrono**	**2.25**	**168**	⇑*i*P		Pn	03 49 49.4		+1.4
TLL				*i*S		Sn	03 50 18.6		+3.4

*IPEC **16** 04:14:22.0±0.3, 5153N×1620E, h0km, ML2.5/4, Error ellipse: s-maj=1.9km s-min=1.5km az=39.0*
*ISCJB **16** 04:14:22.2±0.5, 5139N±003×1610E±003, h0km, Error ellipse: s-maj=4.1km s-min=2.3km az=18.8*
*NEIC **16** 04:14:23.5±2.0, 5144N×1605E, h2km±11km, ML2.8(SZGRF), Error ellipse: s-maj=17.2km s-min=5.7km az=187.0*
*WAR **16** 04:14:24, 5146N×1610E, Mw2.8*
*CSEM **16** 04:14:24.5±0.2, 5141N×1611E, h1km, ML3.3/10, Error ellipse: s-maj=2.8km s-min=2.0km az=20.0*
*VIE **16** 04:14:24.6±0.5, 5129N×1609E, h0km, mb2.2/4, ML2.8/4, Error ellipse: s-maj=3.2km s-min=3.1km az=45.0 68 km WNW of Wroclaw Suspected Mining induced.*
*PRU **16** 04:14:24.2, 5143N×1608E, h0km*

ISC 16 04:14:22.9±0.6, 5147N±003×1610E±003, h0km, n37, σ0s98/71, 1C-6D, Poland

Code	Station Name	Δ°	AZ°	Phase ID			Time		Res
					Op	ISC	h m s		ISC
KSP	**Ksiaz**	**0.63**	**169**	*e*Pg		**Pg**	**04 14 35.6**	**+0.6**	
KSP				*e*Sg		**Sg**	**04 14 44.2**	**+1.0**	
KSP	**Ksiaz**	**0.63**	**169**	*e*Pg		**Pg**	**04 14 35.3**	**+0.3**	
KSP				*e*Sg		**Sg**	**04 14 43.5**	**+0.3**	
KSP	**Ksiaz**	**0.63**	**169**	⇓*i*Pg		**Pg**	**04 14 35.6**	**+0.6**	
KSP				*i*			04 14 36.8		
KSP				*e*Sg		**Sg**	**04 14 44.1**	**+0.9**	
UPC	**Upice**	**0.96**	**183**	*e*PG		**Pg**	**04 14 41.5**	**+0.3**	
DPC	**Dobruska-Polom**	**1.12**	**173**	Pg		**Pg**	**04 14 44.4**	**0.0**	
DPC				*e*Sg		**Sg**	**04 14 58.9**	**0.0**	
DPC	**Dobruska-Polom**	**1.12**	**173**	*e*PG		**Pg**	**04 14 44.4**	**0.0**	
DPC				*e*SG		**Sg**	**04 14 58.6**	**-0.3**	
	32nm,0.3s								
PVCC	**Panska Ves**	**1.35**	**227**	*e*Pn		**Pn**	**04 14 49.2**	**+0.3**	
PVCC				*e*Sg		**Sg**	**04 15 07.0**	**+0.9**	
PVCC	**Panska Ves**	**1.35**	**227**	*e*PG		**Pg**	**04 14 48.7**	**0.0**	
PVCC				*e*SG		**Sg**	**04 15 07.6**	**+1.5**	
	151nm,0.3s								
BRG	**Berggiesshubel**	**1.48**	**247**	PN		**Pn**	**04 14 50.0**	**-0.7**	
BRG				PG		**Pg**	**04 14 51.4**	**+0.2**	
BRG				SG		**Sg**	**04 15 11.5**	**+1.1**	
	43nm,0.5s								
PRU	**Pruhonice**	**1.78**	**214**	*e*PN		**Pn**	**04 14 54.3**	**-0.5**	
PRU				*e*PG		**Pg**	**04 14 56.2**	**-0.7**	
PRU				*e*SG		**Sg**	**04 15 20.0**	**0.0**	
	38nm,0.4s								
MORC	**Moravsky Berou**	**1.92**	**151**	P		**Pn**	**04 14 55.7**	**-1.1**	
MORC	**Moravsky Berou**	**1.92**	**151**	*e*Pn		**Pn**	**04 14 56.3**	**-0.5**	
MORC				*e*Sg		**Sg**	**04 15 23.0**	**-1.6**	
	28nm,0.5s								
MORC	**Moravsky Berou**	**1.92**	**151**	P		**Pn**	**04 14 55.7**	**-1.1**	

CLL	**Collm**	**1.95**	**267**	*e*Pn		**Pn**	**04 14 56.0**	**-1.1**	
CLL				*e*Pg		**Pg**	**04 14 59.0**	**-1.2**	
CLL				*i* x		x	04 15 03.5		
CLL				*ex*		x	04 15 15.0		
CLL				*e*Sg		**Sg**	**04 15 25.0**	**-0.4**	
	comp=Z,16nm,0.8s								
CLL	**Collm**	**1.95**	**267**	*e*Pn		**Pn**	**04 14 56.0**	**-1.1**	
CLL				*e*Pg		**Pg**	**04 14 59.0**	**-1.2**	
CLL				*e*			04 15 15.0		
CLL				*e*Sg		**Sg**	**04 15 25.0**	**-0.4**	
OKC	**Ostrava-Krasne**	**2.09**	**141**	*e*PG		**Pg**	**04 15 01.6**	**-1.2**	
OKC				*e*SG		**Sg**	**04 15 27.5**	**-2.3**	
	comp=Z,34nm,0.6s								
VRAC	**Vranov**	**2.18**	**172**	*e*Pn		**Pn**	**04 15 00.7**	**+0.4**	
VRAC				*e*Sg		**Sg**	**04 15 32.1**	**-0.8**	
	comp=Z,16nm,0.3s								
TREC	**Trest**	**2.21**	**190**	*e*PN		**Pn**	**04 15 01.4**	**+0.7**	
TREC				*e*PG		**Pg**	**04 15 04.4**	**-0.7**	
KRUC	**Moravsky**	**2.41**	**175**	*e*Pn		**Pn**	**04 15 03.5**	**0.0**	
KRUC				*e*Sg		**Sg**	**04 15 39.4**	**-0.9**	
	comp=Z,28nm,0.6s								
NKC	**Novy Kostel**	**2.62**	**243**	*e*PN		**Pn**	**04 15 06.7**	**+0.3**	
NKC				*e*PG		**Pg**	**04 15 12.9**	**-0.2**	
NKC				*e*SG		**Sg**	**04 15 47.7**	**+0.6**	
	comp=Z,30nm,0.3s								
OJC	**Ojcow**	**2.66**	**117**	*e*Pg		**Pg**	**04 15 14.5**	**+0.8**	
OJC				*e*Sg		**Sg**	**04 15 49.1**	**+1.0**	
JAVC	**Velka Javorina**	**2.80**	**158**	*e*Pn		**Pn**	**04 15 10.5**	**+1.7**	
JAVC				*e*Sg		**Sg**	**04 15 53.8**	**+1.1**	
	comp=Z,24nm,0.8s								
KHC	**Kasperske Hory**	**2.84**	**216**	*e*PN		**Pn**	**04 15 10.0**	**+0.6**	
KHC				*e*PG		**Pg**	**04 15 15.2**	**-2.1**	
KHC				*e*SN		**Sn**	**04 15 43.0**	**-1.3**	
KHC				*e*SG		**Sg**	**04 15 53.1**	**-1.0**	
	comp=Z,13nm,0.6s								
MOX	**Moxa**	**2.95**	**256**	*e*PG		**Pg**	**04 15 19.2**	**-0.1**	
MOX				*e*SG		**Sg**	**04 15 59.0**	**+1.5**	
WET	**Wettzell**	**3.11**	**223**	*e*Pn		**Pn**	**04 15 13.2**	**+0.1**	
MODS	**Modra-Piesok**	**3.19**	**166**	*e*SG		**Sg**	**04 16 05.2**	**0.0**	
KOLL	**Kolacno**	**3.25**	**152**	*e*Sg		**Sg**	**04 16 06.9**	**-0.2**	
KOLL	**Kolacno**	**3.25**	**152**	*e*SG		**Sg**	**04 16 06.9**	**-0.2**	
ZST	**Bratislava**	**3.34**	**168**	*e*SG		**Sg**	**04 16 11.9**	**+1.9**	
NIE	**Niedzica**	**3.38**	**126**	*e*P		**Pg**	**04 15 26.4**	**-1.2**	
NIE				*e*S		**Sg**	**04 16 10.0**	**-1.5**	
VYHS	**Vyhne**	**3.46**	**148**	*e*SG		**Sg**	**04 16 16.3**	**+2.4**	
CONA	**Conrad Observa**	**3.54**	**183**	⇑*i*Pn		**Pn**	**04 15 18.6**	**-0.5**	
CONA				⇓*i*Sg		**Sg**	**04 16 16.4**	**-0.3**	
	comp=Z,14nm,0.4s								
CSNA	**Conrad Observa**	**3.54**	**183**	⇓*i*Pn		**Pn**	**04 15 18.6**	**-0.5**	
CSNA				⇓*i*Sg		**Sg**	**04 16 16.4**	**-0.3**	
	comp=Z,12nm,0.4s								
CLZ	**Clausthal**	**3.59**	**278**	*e*Pn		**Pn**	**04 15 20.7**	**+1.0**	
MOA	**Molln**	**3.81**	**199**	⇓*i*Pn		**Pn**	**04 15 23.2**	**+0.5**	
MOA				⇓*i*Sg		**Sg**	**04 16 25.9**	**+0.7**	
	comp=Z,19nm,0.4s								
STHS	**Stebnicka Huta**	**3.87**	**120**	*e*PN		**Pn**	**04 15 23.8**	**+0.2**	
STHS				*e*PG		**Pg**	**04 15 37.5**	**+0.4**	
STHS				*e*SG		**Sg**	**04 16 30.7**	**+3.5**	
CRVS	**Cervenica-Dubn**	**4.29**	**125**	*e*SG		**Sg**	**04 16 44.0**	**+3.3**	

*ISCJB **16** 04:15:45.6±0.6, 3700N±004×2826E±003, h10km±5km, Error ellipse: s-maj=6.2km s-min=4.3km az=16.9*
*ATH **16** 04:15:45.2, 3705N×2830E, h22km±2km, MD3.2/3*
*CSEM **16** 04:15:45.2±0.1, 3709N×2832E, h5km, MD2.9, Error ellipse: s-maj=2.8km s-min=2.4km az=130.0*
*DDA **16** 04:15:45.1, 3699N×2827E, h7km±3km, Md2.9*
*ISK **16** 04:15:47.0, 37.10N×2820E, h23km, MD3.1*

ISC 16 04:15:45.9±0.6, 3700N±004×2828E±003, h12km±5km, n17, σ0s87/26, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID			Time		Res
					Op	ISC	h m s		ISC
TURN	**Turunc**	**0.29**	**115**	*i*P		**Pg**	**04 15 51.4**	**-0.4**	
TURN				*i*S		**Sg**	**04 15 55.2**	**-0.6**	
MLSB	**Milas**	**0.50**	**307**	*e*PG		**Pg**	**04 15 55.8**	**+0.1**	
MLSB				*e*SG		**Sg**	**04 16 02.4**	**+0.1**	
AYDN	**Tasoluk**	**0.73**	**335**	*i*P		**Pg**	**04 15 59.7**	**-0.4**	

	29nm,0.3s,baz=132,slow=21,SNR=12							
RPZ	**Rata Peaks**	**13.43**	**215**	P	**Pn**	**04 53 14.6**	**-2.4**
	1.5nm,0.3s,baz=57,slow=9.2,SNR=3.1							
RPZ				S	**Sn**	**04 55 33.4**	**-12**
	1.9nm,0.3s,baz=30,slow=18,SNR=4.8							
RAR	**Rarotonga**	**20.33**	**59**	LR	LR	05 01 07.3		
	comp=Z,550nm,20.8s,MS3.9,baz=228,slow=32							
TBI	**Tubual**	**27.20**	**77**	*e*LQ		05 01 00.9		
	540nm,25.2s							
TBI				*e*LR	LR	05 02 26.6		
	573nm,22.5s,baz=237							
PPT	**Papeete**	**30.16**	**66**	*e*LQ		05 02 18.7		
	798nm,24.5s							
PPT				*e*LR	LR	05 03 46.6		
	528nm,21.2s,baz=236							
PPT	**Papeete**	**30.16**	**66**	LR	LR	05 06 00.5		
	comp=Z,535nm,20.9s,MS4.2,baz=338,slow=31							
STKA	**Stephens Creek**	**33.64**	**261**	LR	LR	05 10 09.3		
	comp=Z,1μm,18.5s,MS4.6,baz=284,slow=36							
CTA	**Charters Tower**	**34.01**	**283**	P	**P**	**04 56 51.4**	**+1.5**
	10nm,0.6s,mb4.9,baz=122,slow=9.2,SNR=12							
CTA				LR	LR	05 08 57.9		
	comp=Z,317nm,19.2s,MS4.1,baz=49,slow=33							
CTAO	**Charters Tower**	**34.01**	**283**	*e*P	**P**	**04 56 51.5**	**+1.6**
	10nm,0.7s,mb4.9							
RKT	**Rikitea**	**39.32**	**87**	*e*LR	LR	05 08 06.6		
	589nm,22.2s							
ASAR	**Alice Springs**	**42.71**	**270**	P	**P**	**04 58 03.2**	**+0.2**
	8.5nm,0.8s,mb4.5,baz=110,slow=7.5,SNR=63							
ASAR				S	**S**	**05 04 22.4**	**-2.4**
	1.3nm,1.0s,baz=108,slow=15,SNR=6.2							
WB2	**Warramunga Arr**	**43.93**	**275**	*e*P	**P**	**04 58 12.9**	**0.0**
WRAB	**Tennant Creek**	**43.94**	**275**	*e*P	**P**	**04 58 12.5**	**-0.5**
	32nm,1.1s,mb5.0							
WRA	**Warramunga Arr**	**43.94**	**275**	P	**P**	**04 58 12.7**	**-0.3**
	8.1nm,0.6s,mb4.6,baz=118,slow=8.2,SNR=194							
WRA				LR	LR	05 15 33.3		
	comp=Z,244nm,18.9s,MS4.1,baz=115,slow=35							
SBA	**Scott Base**	**45.32**	**184**	*e*P	**P**	**04 58 27.0**	**+3.8**
	18nm,1.4s,mb4.7							
KAKA	**Kakadu**	**49.14**	**282**	*e*P	**P**	**04 58 54.7**	**+0.9**
	11nm,0.7s,mb5.0							
FITZ	**Fitzroy Crossi**	**52.08**	**272**	*e*P	**P**	**04 59 15.8**	**-0.2**
	13nm,1.2s,mb4.7							
FITZ	**Fitzroy Crossi**	**52.08**	**272**	P	**P**	**04 59 15.7**	**-0.3**
	4.0nm,0.8s,mb4.4,baz=148,slow=7.8,SNR=10.0							
FITZ				LR	LR	05 21 19.7		
	comp=Z,295nm,19.2s,MS4.3,baz=123,slow=36							
CASY	**Casey**	**52.60**	**209**	*e*P	**P**	**04 59 20.9**	**+1.7**
	16nm,0.6s,mb5.1							
QSPA	**South Pole Qui**	**57.01**	**180**	LR	LR	05 23 07.6		
	comp=Z,488nm,18.2s,MS4.6,baz=67,slow=35							
BATI	**Baumata**	**57.72**	**279**	LR	LR	05 22 12.3		
	comp=Z,326nm,20.5s,MS4.4,baz=148,slow=33							
GUMO	**Guam**	**58.20**	**317**	LR	LR	05 22 36.3		
	comp=Z,113nm,19.6s,MS4.0,baz=148,slow=33							
MAW	**Mawson**	**69.66**	**201**	LR	LR	05 30 36.2		
	comp=Z,439nm,19.0s,MS4.7,baz=94,slow=35							
MAW	**Mawson**	**69.66**	**201**	*e*P	**P**	**05 01 19.7**	**+4.9**
	25nm,1.3s,mb5.0							
USHA	**Ushuaia**	**73.87**	**146**	LR	LR	05 26 12.4		
	comp=Z,321nm,18.4s,MS4.6,baz=242,slow=29							
SYO	**Syowa Base**	**74.41**	**193**	*e*P	**P**	**05 01 42.2**	**-1.0**
SNAA	**Sanae**	**75.46**	**179**	*e*P	**P**	**05 01 49.4**	**+0.1**
	7.7nm,1.7s,mb4.4							
MJAR	**Matsushiro Arr**	**80.29**	**326**	LR	LR	05 31 16.3		
	comp=Z,127nm,19.6s,MS4.3,baz=110,slow=31							
KSRS	**Korea Array**	**86.20**	**320**	LR	LR	05 39 56.4		
	comp=Z,79nm,18.0s,MS4.2,baz=135,slow=35							
NVAR	**Mina Array Bea**	**90.44**	**43**	P	**P**	**05 03 06.7**	**-0.4**
	0.2nm,0.6s,mb3.6,baz=205,slow=3.6,SNR=2.6							
CMAR	**Chiang Mai Arr**	**93.98**	**289**	LR	LR	05 47 30.3		
	comp=Z,40nm,18.2s,MS3.9,baz=190,slow=37							
TXAR	**Lajitas Array**	**94.12**	**58**	LR	LR	05 41 37.9		
	comp=Z,222nm,18.1s,MS4.7,baz=325,slow=33							
LPAZ	**La Paz**	**97.32**	**115**	LR	LR	05 36 39.2		
	comp=Z,88nm,20.0s,MS4.2,baz=196,slow=29							
PDAR	**Pinedale Array**	**98.31**	**44**	LR	LR	05 45 38.9		
	comp=Z,159nm,18.5s,MS4.5,baz=255,slow=34							
KURK	**Kurchatov**	**122.66**	**313**	PKP	PKPdf	05 08 59.9	-0.9	
	0.7nm,0.4s,baz=118,slow=1.8,SNR=5.1							
UCH	**Uchtor**	**123.19**	**302**	*e*PKPdf	PKPdf	05 09 03.9	+1.8	
BVAR	**Borovoye Array**	**128.09**	**314**	PKP	PKPdf	05 09 08.9	-2.2	
	0.6nm,0.4s,baz=153,slow=1.6,SNR=2.7							
JOF	**Joensuu**	**144.79**	**337**	*e*p	PKPdf	05 09 38.3	-3.3	
	9.9nm,1.0s							
KAF	**Kangasniemi**	**146.97**	**339**	*e*p	PKPdf	05 09 46.3	+0.9	
	6.1nm,0.6s							
NB2	**NORSAR Subarra**	**151.37**	**350**	PKP	PKPdf	05 09 57.4	+4.9	
	comp=Z,15nm,1.4s,baz=38,slow=2.6							
NOA	**NORSAR Array B**	**151.37**	**350**	PKPbc	PKPbc	05 09 58.4	-0.1	
	comp=Z,1.8nm,0.8s,baz=16,slow=4.6,SNR=7.0							
NOA	**NORSAR Array B**	**151.37**	**350**	PKPbc	PKPbc	05 09 58.4	-0.1	
AKASG	**Malin Array Be**	**153.19**	**319**	PKPbc	PKPbc	05 10 01.8	-1.2	
	comp=Z,0.3nm,0.2s,baz=65,slow=1.3,SNR=8.7							
BR131	**Keskin Array S**	**153.49**	**294**	*e*PKPbc	PKPbc	05 10 03.7	-0.3	
BR131				*e*PKPab	PKPab	05 10 15.6	-0.8	
CLL	**Collm**	**160.00**	**339**	*e*PKPab	PKPab	05 10 44.0	+0.1	
	comp=Z,18nm,1.7s							
TORD	**Torodi Ar. Bea**	**160.13**	**180**	PKPab	PKPab	05 10 46.1	+0.7	
	comp=Z,1.8nm,1.0s,baz=178,slow=2.9,SNR=6.0							
MOX	**Moxa**	**161.00**	**340**	*e*P	PKPab	05 10 47.8	-0.5	
MOX	**Moxa**	**161.00**	**340**	*e*P	PKPab	05 10 47.7	-0.6	
	comp=Z,13nm,1.5s							
ROTZ	**Rotzenmuhle**	**161.59**	**338**	*e*P	PKPab	05 10 50.6	-0.4	
	comp=Z,10.0nm,1.3s							
KHC	**Kasperske Hory**	**161.67**	**334**	*e*PKPab	PKPab	05 10 51.0	-0.3	
GRF	**Grafenberg Arr**	**161.96**	**340**	*e*P	PKPab	05 10 53.1	+0.5	
	comp=Z,11nm,1.2s							

SZGRF **16** *04:58:49.6,4350N×14800E,h33km,mb4.8,East of Kuril Islands, Russia*

NIED **16** *04:59:00,4360N×14830E,h8km,Mw4.2 Best double couple: M₀2.09000×10¹⁵ NP1:φs238.00000°,δ68.00000°, λ146.00000°. NP2:φs343.00000°,δ59.00000°,λ26.00000°.*

JMA **16** *04:59:28.6±0.4,4360N×14827E,h0km,M4.7*

SKHL **16** *04:59:28.8±1.7,4402N×14853E,h26km±5km,mb4.9/2, Ms3.8/1*

IDC **16** *04:59:29.8±0.5,4392N×14824E,h0km,mb4.3/14, mb1 4.4/17,mb1mx4.3/24,mbtmp4.2/17,ML3.4/4,MS3.5/6, Ms1 3.5/6,ms1mx3.2/33,Error ellipse: s-maj=18.6km s-min=12.6km az=142.0*

ISCJB **16** *04:59:31.8±0.3,4390N±006×14830E±004,h22km, mb4.4/43,MS3.6/4, Error ellipse: s-maj=8.0km s-min=3.7km az=171.1*

MOS **16** *04:59:31.1±1.0,4408N×14820E,h14km,mb4.6/24, Error ellipse: s-maj=10.5km s-min=8.3km az=101.1*

BJI **16** *04:59:33.6,4390N×14820E,h24km,mB4.8,mb4.1,Ms3.6, Msz3.5*

NEIC **16** *04:59:33.6±0.2,4387N×14825E,mb4.6/23,Error ellipse: s-maj=7.2km s-min=4.5km az=154.0*

ISC 16 04:59:33.8±0.3,4387N±005×14828E±004,h24km, h24km±1.4km:pP-P,n118,σ0s91/114,mb4.4/43,MS3.6/4, 3C-1D,East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
KUR	**Kuril'sk**	**1.39**	**348**	*i*PN		**Pn**	**04 59 52.0**	**-5.7**
KUR				pmax		pmax		
	comp=Z,1μm,0.5s							
KUR	**Kuril'sk**	**1.39**	**348**	*i*P		**Pn**	**04 59 51.5**	**-6.2**
KUR				AMB		AMB	04 59 52.5	
	comp=Z,380nm,0.5s							
KUR				AMB		AMB	04 59 52.5	
	comp=Z,420nm,0.5s							
KUR				AMB		AMB	04 59 52.5	
	comp=Z,1μm,0.5s							
KUR				AMB		AMB	04 59 52.5	
	comp=Z,2μm,1.0s							
KUR				A			05 00 13.2	
	comp=Z,4μm,0.4s							
KUR				A			05 00 13.2	
	comp=Z,2μm,0.4s							
KUR				A			05 00 13.2	
	comp=Z,12μm,2.0s							
KUR				A			05 00 13.2	
	comp=Z,8μm,2.0s							
YUK	**Yuzh-Kuril'sk**	**1.75**	**276**	PN		**Pn**	**05 00 00.5**	**-2.2**
YUK				*i* S		**Sn**	**05 00 25.6**	**+1.3**
YUK				pmax		pmax		
	comp=Z,380nm,0.5s							
YUK				smax				
	comp=N,12μm,1.0s							
YUK				smax				
	comp=E,18μm,1.0s							
YUK				smax				
	comp=N,4μm,0.5s							
YUK				smax				
	comp=E,7μm,0.5s							
YUK	**Yuzh-Kuril'sk**	**1.75**	**276**	*e*P		**Pn**	**05 00 00.5**	**-2.2**
YUK				AMB		AMB	05 00 04.0	
	comp=E,380nm,0.5s							
YUK				*i* S		**Sn**	**05 00 25.6**	**+1.3**
YUK				A			05 00 37.0	
	comp=E,12μm,1.0s							
YUK				A			05 00 37.0	
	comp=E,18μm,1.0s							
YUK				A			05 00 37.6	
	comp=E,4μm,0.5s							
YUK				A			05 00 37.6	
	comp=E,7μm,0.5s							
NEM2	**Nemuro 2**	**1.91**	**255**	P		**Pn**	**05 00 02.1**	**-2.7**
JRA	**Rausu**	**2.28**	**273**	P		**Pn**	**05 00 08.9**	**-1.1**
JRA				*e*S		**Sn**	**05 00 38.3**	**+1.0**
JNK	**Nakash**	**2.60**	**265**	*e*S		**Sn**	**05 00 44.8**	**-0.3**
JTKR	**Abashiri--Toko**	**3.16**	**273**	P		**Pn**	**05 00 21.6**	**-0.4**
JTKR				*e*S		**Sn**	**05 01 00.8**	**+1.8**
ASAJ	**Asahikawa**	**4.11**	**275**	Pn		**Pn**	**05 00 35.0**	**0.0**
	comp=E,1.8nm,0.3s,baz=86,slow=16,SNR=4.8							
ASAJ				LR		LR	05 02 20.5	
	comp=E,367nm,18.1s,baz=155,slow=42							
ASAJ	**Asahikawa**	**4.11**	**275**	PN		**Pn**	**05 00 35.0**	**0.0**
ASAJ				pmax		pmax		
	comp=Z,2.0nm,0.3s							
ASAJ				MLR		MLR		
	comp=Z,367nm,18.1s							
ERM	**Erimo**	**4.20**	**245**	*e*P		**Pn**	**05 00 38.1**	**+1.9**
ERM	**Erimo**	**4.20**	**245**	*e*Pn		**Pn**	**05 00 38.0**	**+1.7**
YSS	**Yuzh-Sakhalins**	**4.96**	**310**	*e*P		**Pn**	**05 00 46.0**	**-0.7**
YSS				*e*sP			05 00 53.7	
YSS				*e*S		**Sn**	**05 01 43.9**	**+0.6**
YSS				A			05 01 46.0	
	comp=Z,120nm,1.0s							
YSS				AMS		AMS	05 02 33.0	
	comp=Z,500nm,15.0s							
YSS				AMS		AMS	05 02 33.0	
	comp=Z,400nm,15.0s							
YSS				AMS		AMS	05 02 33.0	
	comp=Z,500nm,16.0s							
YSS	**Yuzh-Sakhalins**	**4.96**	**310**	*e*Pn		**Pn**	**05 00 46.8**	**+0.1**
YSS				*e*Sn		**Sn**	**05 01 44.0**	**+0.7**
JKB	**Kayabe**	**5.68**	**252**	P		**Pn**	**05 00 56.9**	**+0.2**
UGL	**Uglegorsk**	**6.75**	**323**	*e*P		**Pn**	**05 01 11.0**	**-0.2**
JMK	**Ichinoseki**	**7.23**	**230**	*e*S		**Sn**	**05 02 34.2**	**-5.1**
MJAR	**Matsushiro Arr**	**10.62**	**230**	Pn		**Pn**	**05 02 03.1**	**-1.3**
	comp=Z,0.4nm,0.3s,baz=25,slow=13,SNR=5.8							
PETK	**Petropavlovsk-**	**11.14**	**31**	Pn		**Pn**	**05 02 10.1**	**-1.4**
	comp=Z,0.7nm,0.3s,baz=200,slow=11,SNR=5.6							
PETK	**Petropavlovsk-**	**11.14**	**31**	Pn		**Pn**	**05 02 10.1**	**-1.4**
KLR	**Kul'dur**	**12.57**	**301**	*e*PN		**Pn**	**05 02 34.3**	**+3.3**
KSRS	**Korea Array**	**16.71**	**254**	Pn		**Pn**	**05 03 26.6**	**+0.4**
	comp=Z,0.1nm,0.3s,baz=59,slow=14,SNR=2.7							
KSRS				LR		LR	05 09 17.3	
	comp=Z,103nm,19.1s,baz=340,slow=35							
SEY	**Seymchan**	**19.24**	**6**	*i*P		**Pn**	**05 03 53.6**	**-3.5**
HIA	**Hailar**	**20.28**	**295**	*e*P		**P**	**05 04 06.2**	**-1.3**
YAK	**Yakutsk**	**21.22**	**335**	*e*P		**P**	**05 04 17.5**	**0.0**
YAK				pmax		pmax		
	comp=Z,16nm,0.7s,mb4.5							
BILL	**Bilibino**	**26.02**	**15**	*e*P		**P**	**05 05 03.9**	**-0.6**
BILL				pmax		pmax		
	comp=Z,4.0nm,1.1s,mb3.9							
SONM	**Songino Array**	**29.18**	**293**	P		**P**	**05 05 32.8**	**-0.3**
	comp=Z,0.8nm,0.7s,mb3.6,baz=82,slow=7.9,SNR=5.2							
SONM				LR		LR	05 18 05.8	
	comp=Z,130nm,18.5s,MS3.6,baz=85,slow=38							
SONM	**Songino Array**	**29.18**	**293**	P		**P**	**05 05 32.8**	**-0.2**
SONM				pmax		pmax		
	comp=Z,1.0nm,0.7s							
SONM				MLR		MLR		
	comp=Z,130nm,18.5s							
TIXI	**Tiksi**	**29.41**	**348**	*e*P		**P**	**05 05 32.3**	**-2.5**
TIXI				pmax		pmax		
	comp=Z,7.0nm,2.5s,mb4.0							
LZH	**Lanzhou**	**34.59**	**272**	*e*P		**P**	**05 06 27.6**	**+7.0**
LZH				AMB		AMB		
	comp=Z,29nm,1.2s,mb5.1							
LZH				AMB		AMB		
	comp=Z,117nm,4.0s							
GTA	**Gaotai**	**36.08**	**280**	*e*P		**P**	**05 06 36.6**	**+3.2**
GTA				AP		pP	05 06 40.0	-0.6
GTA				XP		sP	05 06 41.6	-1.9
GTA				AMB		AMB		
	comp=Z,3.0nm,1.0s,mb4.2							
IMA2	**Indian Mountai**	**38.12**	**34**	*e*P		**P**	**05 06 50.2**	**-0.2**
KDAK	**Kodiak Island**	**38.56**	**48**	P		**P**	**05 06 53.2**	**-1.0**
	comp=Z,19nm,0.7s,mb4.9,baz=300,slow=7.6,SNR=9.3							
KDAK	**Kodiak Island**	**38.56**	**48**	P		**P**	**05 06 53.2**	**-1.0**
COLD	**Coldfoot**	**39.61**	**32**	*e*P		**P**	**05 07 02.8**	**-0.1**
	comp=Z,69nm,1.2s,mb5.3							
COLD				*e*pP		pP	05 07 10.0	-0.1
COLA	**College**	**40.49**	**36**	*e*P		**P**	**05 07 11.1**	**+0.9**
ZALV	**Zalesovo Beam**	**41.58**	**307**	PcP		PcP	05 09 15.4	-0.7
	comp=Z,2.2nm,0.6s,baz=68,slow=3.7,SNR=7.6							
ZALV				LR		LR	05 24 09.4	
	comp=Z,51nm,18.1s,MS3.4,baz=75,slow=36							
MK31	**Makanchi Array**	**45.25**	**298**	*e*P		**P**	**05 07 48.2**	**-0.8**
MKAR	**Makanchi Array**	**45.25**	**298**	P		**P**	**05 07 48.0**	**-1.0**
	comp=Z,1.3nm,0.6s,mb3.9,baz=80,slow=8.5,SNR=9.9							
MKAR				PcP		PcP	05 09 28.8	+0.2
	comp=Z,0.8nm,0.6s,baz=60,slow=4.0,SNR=3.3							
MKAR				LR		LR	05 27 55.5	
	comp=Z,102nm,18.3s,MS3.8,baz=356,slow=38							
MKAR	**Makanchi Array**	**45.25**	**298**	P		**P**	**05 07 48.0**	**-1.0**
MKAR							05 09 28.8	
MKAR				pmax		pmax		
	comp=Z,1.0nm,0.6s							
MKAR				pmax		pmax		
	comp=Z,1.0nm,0.6s							
MKAR				MLR		MLR		
	comp=Z,102nm,18.3s							
KURK	**Kurchatov**	**46.14**	**304**	P		**P**	**05 07 55.5**	**-0.5**
	comp=Z,1.0nm,0.5s,mb4.0,baz=72,slow=8.3,SNR=4.8							
KURK	**Kurchatov**	**46.14**	**304**	*e*P		**P**	**05 07 57.2**	**+1.2**
KURK				pmax		pmax		
	comp=Z,6.0nm,1.7s,mb4.2							
CMAR	**Chiang Mai Arr**	**48.35**	**255**	P		**P**	**05 08 13.1**	**-0.5**
	comp=Z,0.6nm,0.3s,mb4.0,baz=51,slow=4.7,SNR=3.3							
CMAR	**Chiang Mai Arr**	**48.35**	**255**	P		**P**	**05 08 13.1**	**-0.5**
CMAR				pmax		pmax		
	comp=Z,1.0nm,0.4s							
DLBC	**Dease Lake**	**50.03**	**43**	P		**P**	**05 08 26.5**	**+0.6**
	baz=270,slow=3.0							
DLBC	**Dease Lake**	**50.03**	**43**	P		**P**	**05 08 26.5**	**+0.6**
TKM2	**Tokmak 2**	**51.19**	**296**	*e*P		**P**	**05 08 35.0**	**+0.1**
TKM2				pmax		pmax		
	comp=Z,3.0nm,0.7s,mb4.3							
TKM2	**Tokmak 2**	**51.19**	**296**	*e*P		**P**	**05 08 35.0**	**0.0**
	comp=Z,2.7nm,0.7s,mb4.3							
EKS2	**Erkin-Say**	**52.49**	**296**	*e*P		**P**	**05 08 44.7**	**0.0**
	comp=Z,2.2nm,0.6s,mb4.3							
AML	**Almayashu**	**52.80**	**296**	*e*P		**P**	**05 08 47.1**	**+0.2**
	comp=Z,2.1nm,0.6s,mb4.2							
YKA	**Yellowknife Ar**	**55.24**	**34**	P		**P**	**05 09 04.4**	**0.0**
	comp=Z,1.9nm,0.6s,mb4.3,baz=296,slow=7.0,SNR=3.4							
YKA	**Yellowknife Ar**	**55.24**	**34**	P		**P**	**05 09 04.4**	**0.0**
YKA				pmax		pmax		
	comp=Z,2.0nm,0.6s							
YKA	**Yellowknife Ar**	**55.24**	**34**	P		**P**	**05 09 04.4**	**0.0**
KAKA	**Kakadu**	**58.14**	**198**	*e*P		**P**	**05 09 23.0**	**-2.5**
	comp=Z,1.1nm,0.6s,mb5.1							
ARCES	**ARCESS Array B**	**59.41**	**340**	P		**P**	**05 09 32.6**	**-1.1**
	comp=Z,3.7nm,0.9s,mb4.4,baz=52,slow=4.8,SNR=5.7							
ARCES	**ARCESS Array B**	**59.41**	**340**	P		**P**	**05 09 32.6**	**-1.2**
ARCES				pmax		pmax		
	comp=Z,4.0nm,0.9s							
WRA	**Warramunga Arr**	**64.78**	**195**	P		**P**	**05 10 09.6**	**-0.6**
	comp=Z,2.2nm,0.7s,mb4.3,baz=14,slow=6.9,SNR=18							
WRA	**Warramunga Arr**	**64.78**	**195**	P		**P**	**05 10 09.6**	**-0.6**
WRA				pmax		pmax		
	comp=Z,2.0nm,0.7s							
FITZ	**Fitzroy Crossi**	**65.07**	**204**	*e*P		**P**	**05 10 12.4**	**+0.2**
	comp=Z,5.0nm,0.8s,mb4.6							
FITZ	**Fitzroy Crossi**	**65.07**	**204**	P		**P**	**05 10 12.7**	**+0.5**
	comp=Z,3.3nm,0.9s,mb4.4,baz=357,slow=9.4,SNR=8.6							
MDRS	**Chennai**	**65.24**	**264**	*ex*		x	05 09 47.0	
MDRS				*ex*		x	05 24 43.0	
MDRS				*ex*		x	05 41 59.0	
OBN	**Obninsk**	**65.70**	**324**	*e*P		**P**	**05 10 16.3**	**+0.4**
OBN				pmax		pmax		
	comp=Z,9.0nm,1.2s,mb4.7							
NVAR	**Mina Array Bea**	**66.82**	**59**	P		**P**	**05 10 24.0**	**+0.6**
	comp=Z,5.2nm,0.8s,mb4.6,baz=287,slow=6.7,SNR=37							
IMW	**Indian Meadow**	**67.70**	**50**	*e*P		**P**	**05 10 30.1**	**+1.1**
	comp=Z,2.7nm,0.8s,mb4.3							
TPH	**Tonopah**	**67.70**	**58**	*e*P		**P**	**05 10 29.7**	**+0.7**
TPH				pmax		pmax		
	comp=Z,5.0nm,0.9s,mb4.5							
TPH	**Tonopah**	**67.70**	**58**	*e*P		**P**	**05 10 29.7**	**+0.7**
	comp=Z,4.7nm,0.9s,mb4.5							
RRI2	**Red Ridge**	**67.84**	**51**	*e*P		**P**	**05 10 30.8**	**+1.0**
	comp=Z,5.8nm,0.8s,mb4.7							
TPAW	**Teton Pass**	**67.96**	**50**	*e*P		**P**	**05 10 31.3**	**+0.8**
	comp=Z,6.7nm,1.0s,mb4.6							
ASAR	**Alice Springs**	**68.49**	**194**	P		**P**	**05 10 34.5**	**+0.7**
	comp=Z,2.1nm,0.7s,mb4.3,baz=12,slow=6.1,SNR=20							
ASAR	**Alice Springs**	**68.49**	**194**	P		**P**	**05 10 34.6**	**+0.7**
ASAR				pmax		pmax		
	comp=Z,2.0nm,0.7s							
HWUT	**Hardware Ranch**	**68.82**	**52**	*e*P		**P**	**05 10 36.2**	**+0.2**
	comp=Z,2.7nm,1.0s,mb4.1							
HWUT				*e*pP		pP	05 10 44.3	+0.8
DUG	**Dugway**	**69.01**	**54**	*e*P		**P**	**05 10 37.7**	**+0.6**
DUG				*e**PP		pP	05 10 44.9	+0.2
DUG				pmax		pmax		
	comp=Z,6.0nm,1.1s,mb4.4							
DUG	**Dugway**	**69.01**	**54**	*e*P		**P**	**05 10 37.7**	**+0.5**
	comp=Z,5.6nm,1.1s,mb4.4							
DUG				*e*pP		pP	05 10 44.9	+0.2
TPNV	**Topopah Spring**	**69.02**	**59**	*e*P		**P**	**05 10 37.7**	**+0.5**
TPNV				pmax		pmax		
	comp=Z,3.0nm,0.8s,mb4.3							
TPNV	**Topopah Spring**	**69.02**	**59**	*e*P		**P**	**05 10 37.7**	**+0.5**
	comp=Z,3.3nm,0.8s,mb4.3							
PDAR	**Pinedale Array**	**69.20**	**50**	P		**P**	**05 10 38.4**	**+0.1**
	comp=Z,2.5nm,0.8s,mb4.2,baz=257,slow=0.7,SNR=21							
JLU	**Jordanelle**	**69.54**	**53**	*e*P		**P**	**05 10 40.9**	**+0.5**
NOA	**NORSAR Array B**	**69.78**	**339**	P		**P**	**05 10 41.1**	**-0.4**
	comp=Z,2.6nm,0.9s,mb4.2,baz=17,slow=3.0,SNR=3.3							
NOA				LR		LR	05 43 47.8	
	comp=Z,28nm,19.3s,MS3.5,baz=235,slow=38							
NOA	**NORSAR Array B**	**69.78**	**339**	P		**P**	**05 10 41.1**	**-0.4**
NOA				pmax		pmax		
	comp=Z,3.0nm,0.9s							
NOA				MLR		MLR		
	comp=Z,28nm,19.3s							
KIV	**Kislovodsk**	**70.29**	**312**	*i*P		**P**	**05 10 45.5**	**+0.5**
KIV				*i* *PP		pP	05 10 52.2	-0.3
KIV				*i*			05 11 07.6	
KIV				pmax		pmax		
	comp=Z,25nm,1.3s,mb5.0							
LDFC	**Landfair**	**70.92**	**60**	*e*P		**P**	**05 10 49.2**	**+0.2**
	comp=Z,5.7nm,0.9s,mb4.5							
SRU	**San Rafael**	**71.06**	**54**	*e*P		**P**	**05 10 50.1**	**+0.4**
SRU				pmax		pmax		
	comp=Z,5.0nm,0.9s,mb4.4							
SRU	**San Rafael**	**71.06**	**54**	*e*P		**P**	**05 10 50.1**	**+0.4**
	comp=Z,5.4nm,0.9s,mb4.5							
PV10	**Paradox Valley**	**72.41**	**54**	*e*P		**P**	**05 10 58.6**	**+0.7**
PV01	**Paradox Valley**	**72.84**	**53**	*e*P		**P**	**05 11 00.8**	**+0.3**
PV01				*e*pP		pP	05 11 08.6	+0.5
ISCO	**Idaho Springs**	**73.40**	**51**	*e*P		**P**	**05 11 04.3**	**+0.6**
ISCO				pmax		pmax		
	comp=Z,2.0nm,0.6s,mb4.2							
ISCO	**Idaho Springs**	**73.40**	**51**	*e*P		**P**	**05 11 04.3**	**+0.6**
	comp=Z,1.6nm,0.6s,mb4.1							
MVCO	**Mesa Verde**	**73.51**	**54**	*e*P		**P**	**05 11 04.7**	**+0.3**
	comp=Z,5.2nm,1.0s,mb4.4							
MVCO				*e*pP		pP	05 11 12.1	+0.1
BUR08	**Bucovina Ar. S**	**76.00**	**324**	*e*P		**P**	**05 11 18.5**	**-0.2**
ANMO	**Albuquerque**	**76.26**	**55**	*e*P		**P**	**05 11 20.6**	**+0.2**
ANMO				pmax		pmax		
	comp=Z,2.0nm,0.9s							
ANMO	**Albuquerque**	**76.26**	**55**	*e*P		**P**	**05 11 20.6**	**+0.3**
	comp=Z,2.0nm,0.9s,mb4.0							
DPC	**Dobruska-Polom**	**77.26**	**331**	*e*P		**P**	**05 11 25.6**	**-0.1**
D

	2.2nm,0.8s,baz=110,slow=2.7,SNR=6.9							
ROSC	**El Rosal**	**48.06**	**12**	LR	LR	05 42 48.2		
	comp=Z,92nm,19.6s,baz=53,slow=34							
TXAR	**Lajitas Array**	**74.08**	**342**	P	P	05 27 17.2	-0.6	
	0.2nm,0.5s,baz=156,slow=8.9,SNR=3.2							
NVAR	**Mina Array Bea**	**86.76**	**333**	P	P	05 28 26.9	+1.1	
	0.6nm,0.8s,baz=160,slow=4.7,SNR=4.5							
TORD	**Torodi Ar. Bea**	**95.25**	**77**	P	P	05 29 04.3	-1.6	
	1.0nm,1.1s,baz=235,slow=5.2,SNR=3.7							
GERES	**GERESS Array B**	**124.59**	**53**	PKP	PKPdf	05 34 39.7	-1.0	
	0.8nm,0.7s,baz=248,slow=3.6,SNR=4.7							
MJAR	**Matsushiro Arr**	**147.61**	**273**	PKPbc	PKPbc	05 35 25.7	-0.5	
	1.2nm,0.5s,baz=142,slow=3.7,SNR=4.1							
MKAR	**Makanchi Array**	**169.04**	**63**	PKPab	PKPab	05 37 00.0	-0.1	
	0.5nm,0.8s,baz=275,slow=5.7,SNR=5.4							

BJI 16 05:17:00.9,3868N×10220E,h18km,ML3.7,Gansu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GTA	**Gaotai**	**2.00**	**292**	PG	Pg	05 17 35.8	-3.4
GTA				SG	Sg	05 18 03.1	-2.1
GTA				Smax			
	comp=N,609nm,0.7s						
GTA				Smax			
	comp=E,650nm,0.9s						
LZH	**Lanzhou**	**2.90**	**153**	PG	Pg	05 17 50.1	-6.4
LZH				SG	Sg	05 18 25.5	-8.6
LZH				Smax			
	comp=N,339nm,0.7s						
LZH				Smax			
	comp=E,328nm,0.8s						

NIED ***16*** *05:23:00,44.00N×148.20E,h8km,Mw3.6 Best double couple: M₀3.12000×10¹⁴ NP1:φs179.00000°,δ53.00000°, λ53.00000°. NP2:φs50.00000°,δ51.00000°,λ129.00000°.*

JMA 16 05:23:19.4±0.5,4396N×14821E,h0km,M3.7,East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NEM2	**Nemuro 2**	**1.89**	**252**	P	Pn	05 23 53.4	+0.6
JNBK	**Urakawa-nobuka**	**4.33**	**249**	P	Pn	05 24 30.5	+4.0
JKB	**Kayabe**	**5.66**	**251**	P	Pn	05 24 46.8	+2.1

ISCJB ***16*** *05:39:01.9±1.3,3773S±008×17621E±009,h249km±10km, mb3.6/2,Error ellipse: s-maj=13.4km s-min=11.7km az=15.2*

IDC ***16*** *05:39:06.4±1.1,3818S×17629E,h203km±16km,mb3.5/2, mb1 3.9/3,mb1mx3.5/13,mbtmp3.7/3, Error ellipse: s-maj=51.0km s-min=19.7km az=124.0*

NEIC ***16*** *05:39:06.4,3780S×17628E,h211km,MG4.9(WEL),After WEL.*

ISC 16 05:39:06.0±0.8,3793S±005×17621E±009,h217km±6km, n57,σ1°13/60,mb3.6/2,North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KARZ	**Kaharoa**	**0.10**	**165**	P	**Pn**	05 39 34.2	**+0.1**
EDRZ	**Edgecumbe**	**0.45**	**114**	P	**Pn**	05 39 34.8	**0.0**
TOZ	**Tahuroa Road**	**0.59**	**289**	P	**Pn**	05 39 35.3	**0.0**
URZ	**Urewera**	**0.78**	**115**	P	**Pn**	05 39 35.8	**-0.3**
	baz=260,slow=5.2						
URZ				S	**S**	05 39 56.8	**-2.9**
	286nm,0.3s,baz=119,slow=19,SNR=10						
URZ	**Urewera**	**0.78**	**115**	P	**Pn**	05 39 35.4	**-0.8**
RATZ	**Rangitukua**	**1.00**	**200**	P	**Pn**	05 39 38.5	**+1.1**
MWZ	**Matawai**	**1.12**	**112**	P	**Pn**	05 39 37.9	**-0.3**
MKAZ	**Moumakai**	**1.16**	**314**	P	**Pn**	05 39 38.3	**-0.3**
MKAZ				S	**S**	05 40 02.7	**-1.2**
HIZ	**Hauiti**	**1.22**	**241**	P	**Pn**	05 39 39.8	**+0.9**
KUZ	**Kuaotunu**	**1.24**	**341**	P	**Pn**	05 39 38.0	**-1.1**
KUZ				S	**S**	05 40 02.5	**-2.4**
BKZ	**Black Stump Fm**	**1.26**	**170**	P	**Pn**	05 39 39.9	**+0.7**
TWVZ	**Taurewa**	**1.29**	**208**	P	**Pn**	05 39 40.7	**+1.3**
NGZ	**Ngauruhoe**	**1.34**	**201**	P	**Pn**	05 39 41.5	**+1.7**
WPVZ	**Whakapapa**	**1.38**	**202**	P	**Pn**	05 39 41.6	**+1.5**
TUVZ	**Tukino**	**1.41**	**198**	P	**Pn**	05 39 41.8	**+1.5**
FWVZ	**Far West T-bar**	**1.42**	**201**	P	**Pn**	05 39 42.0	**+1.5**
WNVZ	**Wahianoa**	**1.48**	**199**	P	**Pn**	05 39 42.3	**+1.4**
MOVZ	**Moawhango**	**1.52**	**193**	P	**Pn**	05 39 42.0	**+0.7**
KNZ	**Kokohu**	**1.58**	**134**	P	**Pn**	05 39 42.6	**+0.8**
PUZ	**Puketiti**	**1.62**	**96**	P	**Pn**	05 39 41.7	**-0.5**
VRZ	**Vera Road**	**1.65**	**223**	P	**Pn**	05 39 43.8	**+1.4**
MXZ	**Matakaoa Point**	**1.70**	**78**	P	**Pn**	05 39 42.3	**-0.6**
RAEZ	**Rainy Point**	**1.97**	**226**	P	**Pn**	05 39 47.9	**+2.5**
WAZ	**Wanganui**	**2.06**	**207**	P	**Pn**	05 39 47.4	**+1.1**
NEZ	**North Egmont**	**2.13**	**230**	P	**Pn**	05 39 49.7	**+2.7**
TSZ	**Takapari Road**	**2.14**	**185**	P	**Pn**	05 39 48.0	**+1.0**
MRZ	**Mangatainoka R**	**2.77**	**190**	P	**Pn**	05 39 54.2	**+0.4**
KIW	**Kapiti Island**	**3.10**	**199**	P	**Pn**	05 39 57.5	**0.0**
MTW	**Mount Morrison**	**3.27**	**189**	P	**Pn**	05 39 59.6	**0.0**
CAW	**Cannon Point**	**3.30**	**195**	P	**Pn**	05 39 59.8	**0.0**
MRW	**Makara Radio**	**3.50**	**199**	P	**Pn**	05 40 02.0	**-0.2**
PAWZ	**Paruwai Farm**	**3.50**	**190**	P	**Pn**	05 40 02.2	**-0.1**
WEL	**Wellington**	**3.54**	**198**	P	**Pn**	05 40 02.5	**-0.1**
MSWZ	**Moikau Station**	**3.56**	**192**	P	**Pn**	05 40 02.7	**-0.3**
SNZO	**South Karori**	**3.57**	**199**	P	**Pn**	05 40 02.7	**-0.4**
TCW	**Tory Channel**	**3.61**	**204**	P	**Pn**	05 40 03.3	**-0.2**
BHW	**Baring Head**	**3.63**	**196**	P	**Pn**	05 40 03.3	**-0.5**
NNZ	**Nelson**	**3.95**	**213**	P	**Pn**	05 40 07.0	**-0.6**
QRZ	**Quartz Range**	**4.07**	**223**	P	**Pn**	05 40 08.8	**-0.3**
BSWZ	**Blackbirch Sta**	**4.19**	**205**	P	**Pn**	05 40 10.4	**-0.2**
THZ	**Tophouse**	**4.60**	**213**	P	**Pn**	05 40 15.4	**-0.3**
KHZ	**Kahutara**	**4.93**	**204**	P	**Pn**	05 40 19.4	**-0.4**
DSZ	**Denniston Nort**	**5.11**	**220**	P	**Pn**	05 40 21.1	**-0.9**
CRLZ	**Canterbury Las**	**6.27**	**205**	P	**Pn**	05 40 35.3	**-1.5**
MQZ	**McQueen's Vall**	**6.37**	**204**	P	**Pn**	05 40 36.2	**-1.9**
WVZ	**Waitaha Valley**	**6.62**	**217**	P	**Pn**	05 40 40.5	**-0.8**
RPZ	**Rata Peaks**	**6.98**	**212**	P	**Pn**	05 40 45.1	**-0.8**
	17nm,0.3s,baz=117,slow=0.6,SNR=30						
RPZ				S	**S**	05 41 59.6	**-6.1**
	9.2nm,0.3s,baz=195,slow=22,SNR=14						
RPZ	**Rata Peaks**	**6.98**	**212**	P	**Pn**	05 40 45.1	**-0.8**
FOZ	**Fox Glacier**	**7.50**	**219**	P	**Pn**	05 40 50.1	**-2.5**
LBZ	**Lake Benmore**	**7.89**	**213**	P	**Pn**	05 40 56.5	**-1.2**
ODZ	**Otahua Downs**	**8.25**	**209**	P	**Pn**	05 41 01.7	**-0.5**
JCZ	**Jackson Bay**	**8.33**	**220**	P	**Pn**	05 41 01.8	**-1.6**
EAZ	**Earnscleugh**	**8.94**	**213**	P	**Pn**	05 41 09.7	**-1.5**
TUZ	**Tuapeka**	**9.40**	**209**	P	**Pn**	05 41 16.8	**-0.3**
ASAR	**Alice Springs**	**38.69**	**279**	P	**P**	05 46 11.8	**+2.9**
	1.8nm,0.6s,mb3.8,baz=121,slow=8.3,SNR=17						
WRA	**Warramunga Arr**	**40.40**	**284**	P	**P**	05 46 25.5	**+2.4**
	1.1nm,0.5s,mb3.5,baz=120,slow=8.6,SNR=15						
ARCES	**ARCESS Array B**	**144.64**	**343**	PKP	PKPdf	05 58 16.0	+0.6
	4.0nm,0.9s,baz=46,slow=3.5,SNR=6.6						

CSEM ***16*** *05:43:34.7±0.1,3693N×28.13E,h2km,MD3.4,Error ellipse: s-maj=1.8km s-min=1.2km az=61.0*

ISCJB ***16*** *05:43:36.0±0.5,3696N±002×28.10E±003,h7km±4km, Error ellipse: s-maj=4.1km s-min=3.7km az=33.1*

ATH ***16*** *05:43:36.8,3704N×28.19E,h39km±4km,MD3.5/4*

ISK ***16*** *05:43:37.2,3706N×2807E,h10km,MD3.4*

DDA ***16*** *05:43:37.5,3705N×2804E,h7km±7km,MD3.4*

NEIC ***16*** *05:43:38.0,3709N×2807E,h8km,MD3.3(ISK), MD3.5(ATH),After ISK.*

HLW ***16*** *05:43:53.4,3589N×2844E,h25km,Mb3.4*

ISC 16 05:43:38.1±0.4,3702N±002×2803E±003,h15km±3km,n60, σ0°84/77,Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MLSB	**Milas**	**0.35**	**324**	*e*PG	**Pg**	05 43 44.5	**-0.6**
MLSB				*e*SG	**Sg**	05 43 49.9	**-0.1**
BDRM	**Kayabasi**	**0.47**	**276**	*i* P	**Pg**	05 43 46.9	**-0.6**
BDRM				*i* S	**Sg**	05 43 54.9	**+1.0**
TURN	**Turunc**	**0.48**	**107**	*i* P	**Pg**	05 43 42.9	**-4.7**
TURN				*i* S	**Sg**	05 43 46.8	**-7.2**
BODT	**Bodrum**	**0.58**	**275**	*e*PG	**Pg**	05 43 48.9	**-0.6**
BODT				*e*SG	**Sg**	05 43 58.5	**+1.3**
AYDN	**Tasoluk**	**0.66**	**349**	*i* P	**Pg**	05 43 50.5	**-0.3**
AYDN				*i* S	**Sg**	05 43 59.3	**-0.2**
ARG	**Arkhangelos**	**0.80**	**175**	*e*Pn	**Pg**	05 43 53.0	**-0.6**
ARG				*e*Sn	**Sg**	05 44 05.2	**+1.0**
ARG	**Arkhangelos**	**0.80**	**175**	*e*PN	**Pg**	05 43 53.0	**-0.6**
ARG				*e*SN	**Sg**	05 44 05.2	**+1.0**
DENT	**Denizli**	**1.08**	**47**	*e*PG	**Pg**	05 43 57.5	**-1.5**
DENT				*e*SG	**Sg**	05 44 12.0	**-1.2**
SMG	**Samos**	**1.18**	**306**	*e*Pn	**Pn**	05 44 00.0	**+0.1**
SMG				*e*Sn	**Sn**	05 44 16.1	**+0.4**
SMG	**Samos**	**1.18**	**306**	*e*PN	**Pn**	05 44 00.0	**+0.1**
SMG				*e*SN	**Sn**	05 44 16.1	**+0.4**
GOLH	**Golhisar**	**1.24**	**79**	*i* P	**Pn**	05 44 00.9	**+0.1**
GOLH				*i* S	**Sg**	05 44 21.6	**+3.5**
AKAS	**Kas**	**1.49**	**121**	*i* P	**Pn**	05 44 05.7	**+1.5**
AKAS				*i* S	**Sg**	05 44 27.8	**+1.8**
IZM	**Izmir**	**1.51**	**336**	*e*PN	**Pn**	05 44 04.4	**-0.1**
KDAG	**Bornova**	**1.51**	**337**	*i* P	**Pn**	05 44 04.5	**-0.1**
KDAG	**Bornova**	**1.51**	**337**	*i* P	**Pn**	05 44 04.4	**-0.1**
ELL	**Elmali**	**1.53**	**100**	*e*PN	**Pn**	05 44 04.7	**0.0**
MANT	**Manisa**	**1.53**	**16**	*i* P	**Pn**	05 44 04.8	**0.0**
MANT				*i* S	**Sg**	05 44 28.1	**+0.7**
MANT	**Manisa**	**1.53**	**16**	*i* P	**Pn**	05 44 04.8	**0.0**
MANT				*i* S	**Sg**	05 44 28.0	**+0.6**
BLCB	**Balcova**	**1.58**	**330**	*e*PN	**Pn**	05 44 04.7	**-0.7**
KULA	**Kula-Manisa**	**1.58**	**18**	*e*PN	**Pn**	05 44 05.4	**0.0**
KARP	**Karpathos**	**1.63**	**206**	*e*Pn	**Pn**	05 44 06.0	**-0.1**
KARP				*e*Sn	**Sn**	05 44 27.0	**+0.2**
KARP	**Karpathos**	**1.63**	**206**	*e*PN	**Pn**	05 44 06.0	**-0.1**
KARP				*e*SN	**Sn**	05 44 27.0	**+0.2**
KHL	**Karahalli**	**1.76**	**42**	*e*PN	**Pn**	05 44 07.9	**0.0**
AKHS	**Akhisar**	**1.87**	**355**	*i* P	**Pn**	05 44 09.1	**-0.4**
AKS	**Akhisar**	**1.87**	**355**	*e*PN	**Pn**	05 44 09.0	**-0.4**
APE	**Apeiranthos**	**2.00**	**272**	*e*Pn	**Pn**	05 44 11.6	**+0.3**
APE	**Apeiranthos**	**2.00**	**272**	*e*PN	**Pn**	05 44 11.6	**+0.3**
BCK	**Bucak**	**2.09**	**77**	*e*PN	**Pn**	05 44 13.1	**+0.7**
ANTB	**Antalya**	**2.10**	**92**	*e*PN	**Pn**	05 44 12.9	**+0.3**
GDZ	**Gediz**	**2.36**	**28**	*i* P	**Pn**	05 44 16.6	**+0.4**
GDZ	**Gediz**	**2.36**	**28**	*i* P	**Pn**	05 44 16.6	**+0.3**
SHUT	**Suhut-Afyon**	**2.52**	**52**	*e*PN	**Pn**	05 44 18.4	**0.0**
ALT	**Altintas**	**2.61**	**38**	*e*PN	**Pn**	05 44 19.8	**+0.1**
BALB	**Balikesir**	**2.62**	**357**	*e*PN	**Pn**	05 44 20.6	**+0.8**
DST	**Dursunbey**	**2.63**	**10**	*e*PN	**Pn**	05 44 20.6	**+0.7**
HDMB	**Hadim**	**3.56**	**90**	*e*PN	**Pn**	05 44 34.3	**+1.5**
KONT	**Konya--Tatoy**	**3.56**	**74**	*e*PN	**Pn**	05 44 34.2	**+1.4**
HRSH	**Kfar Ka'horesh**	**7.35**	**124**	P	**Pn**	05 45 28.5	**+3.7**
HRSH	**Kfar Ka'horesh**	**7.35**	**124**	P	**Pn**	05 45 28.5	**+3.8**
RSH		**7.67**	**140**	P	**Pn**	05 45 28.5	**-0.6**
AMAG	**Maghara**	**7.68**	**144**	P	**Pn**	05 45 28.3	**-1.0**
AMAG	**Maghara**	**7.68**	**144**	P	**Pn**	05 45 28.4	**-0.9**
AMAG	**Maghara**	**7.68**	**144**	P	**Pn**	05 45 28.4	**-0.9**
KOT	**Kottamia**	**7.75**	**155**	P	**Pn**	05 45 28.5	**-1.7**
HHAG	**Hagoal**	**7.82**	**153**	P	**Pn**	05 45 29.3	**-1.9**
HHAG	**Hagoal**	**7.82**	**153**	P	**Pn**	05 45 30.5	**-0.7**
HHAG	**Hagoal**	**7.82**	**153**	P	**Pn**	05 45 30.5	**-0.7**
HSAF	**As Saff**	**7.94**	**157**	P	**Pn**	05 45 31.1	**-1.8**
HSAF	**As Saff**	**7.94**	**157**	P	**Pn**	05 45 33.0	**0.0**
HSAF	**As Saff**	**7.94**	**157**	P	**Pn**	05 45 33.0	**+0.1**
GLL	**Jalalah**	**8.03**	**156**	P	**Pn**	05 45 32.0	**-2.1**
GLL	**Jalalah**	**8.03**	**156**	P	**Pn**	05 45 33.7	**-0.4**
GLL	**Jalalah**	**8.03**	**156**	P	**Pn**	05 45 33.7	**-0.4**
SUZ		**8.20**	**149**	P	**Pn**	05 45 35.3	**-1.2**
SUZ				S	**Sn**	05 46 49.3	**-20**
SUZ		**8.20**	**149**	P	**Pn**	05 45 35.9	**-0.6**
SUZ		**8.20**	**149**	P	**Pn**	05 45 35.9	**-0.6**
HKAT	**Jabal Katrina**	**9.84**	**148**	P	**Pn**	05 45 59.1	**+0.2**
TR2		**9.85**	**149**	P	**Pn**	05 45 58.0	**-1.1**
TR2		**9.85**	**149**	P	**Pn**	05 45 58.8	**-0.3**
TR2		**9.85**	**149**	P	**Pn**	05 45 58.8	**-0.3**

IDC 16 05:54:25.0±1.6,580S×13078E,h0km,mb3.9/2,mb1 3.9/5, mb1mx3.7/14,mbtmp3.8/5,ML3.6/3,MS3.7/2,Ms1 3.7/2, ms1mx2.7/27,Error ellipse: s-maj=65.2km s-min=24.3km az=72.0,Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**13.21**	**202**	Pn	Pn	05 57 34.3	+0.2
	0.2nm,0.3s,baz=40,slow=16,SNR=3.9						
FITZ				Sn	Sn	05 59 42.0	-20
	0.4nm,0.3s,baz=182,slow=20,SNR=6.6						
WRA	**Warramunga Arr**	**14.47**	**166**	Pn	Pn	05 57 52.6	+1.3
	0.2nm,0.3s,baz=346,slow=11,SNR=12						
WRA				Sn	Sn	06 00 22.1	-11
	0.8nm,0.3s,baz=338,slow=22,SNR=11						
ASAR	**Alice Springs**	**18.01**	**171**	P	Pn	05 58 38.2	+1.3
	0.5nm,0.3s,baz=345,slow=10,SNR=22						
ASAR				S	Sn	06 01 47.5	-11
	0.2nm,0.3s,baz=346,slow=20,SNR=4.8						
CTA	**Charters Tower**	**20.68**	**135**	LR	LR	06 07 16.0	
	comp=Z,62nm,18.5s,baz=53,slow=37						
STKA	**Stephens Creek**	**27.84**	**160**	P	P	06 00 15.2	-1.1
	2.3nm,0.8s,baz=353,slow=8.0,SNR=4.5						
MKAR	**Makanchi Array**	**67.66**	**326**	P	P	06 05 24.2	+0.3
	0.4nm,0.3s,baz=116,slow=7.5,SNR=8.9						
ZALV	**Zalesovo Beam**	**70.86**	**333**	LR	LR	06 39 00.4	
	comp=Z,136nm,18.7s,baz=221,slow=38						

NIED ***16*** *06:04:00,2720N×143.40E,h17km,Mw4.9 Best double couple: M₀2.55000×10¹⁶ NP1:φs170.00000°,δ66.00000°, λ-85.00000°. NP2:φs338.00000°,δ24.00000°, λ-101.00000°.*

JMA ***16*** *06:04:42.4,27.19N×143.43E,h29km,M4.9*

JMA Felt I J1.

IDC ***16*** *06:04:43.7±0.5,2707N×143.01E,h0km,mb4.8/20, mb1 4.9/23,mb1mx4.9/25,mbtmp4.7/23,ML4.3/3,MS4.2/17, Ms1 4.2/17,ms1mx4.0/30,Error ellipse: s-maj=12.7km s-min=11.6km az=104.0*

BJI ***16*** *06:04:46.8,2702N×14291E,h35km,mB4.9,mb4.8,Ms4.7, Msz4.5*

MOS ***16*** *06:04:47.3±1.0,2704N×14289E,h32km,mb5.2/69, MS4.2/10,Error ellipse: s-maj=8.8km s-min=5.4km az=109.3*

ISCJB ***16*** *06:04:48.2±0.1,2713N±003×14284E±002,h35km, mb5.1/154,MS4.4/29,Error ellipse: s-maj=4.1km s-min=2.6km az=4.4*

NEIC ***16*** *06:04:49.4±0.1,2703N×14291E,mb5.1/99,MW4.9(NIED), Error ellipse: s-maj=3.9km s-min=3.0km az=159.0*

NEIC Recorded [1 JMA] in the Chichijima-retto.

GCMT ***16*** *06:04:49.4±0.4,27.12N×143.13E,h12km±1km,MW4.9/58, Moment Tensor Solution. s25,c30; s58,c83; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr-1.92±.15; Mθθ0.01±.10; Mφφ1.91±.10; Mrθ0.94±.34; Mφφ-0.96±.06; Mφr-0.71±.24; Best double couple: M₀2.43500×10¹⁶ NP1:φs175.00000°,δ35.00000°,λ-62.00000°. NP2: φs322.00000°,δ60.00000°,λ-108.00000°. Principal axes: T 2.5460, Plg13.0000°, Azm65.0000°; N -0.2220, Plg16.0000°, Azm331.0000°; P -2.3240, Plg69.0000°, Azm193.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

SZGRF ***16*** *06:04:53.2,2735N×142.33E,h33km,mb4.8,Bonin Islands, Japan, region*

ISC 16 06:04:49.9±0.1,2710N±002×14286E±002,h37km, h37km±4km:pP-P,n690,σ0°68/688,mb5.0/154,MS4.4/29, 168C-187D,Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CBIJ	**Chichi jima**	**0.60**	**269**	Pn	**Pn**	06 05 02.2	**+0.2**
	3µm,0.3s,baz=93,slow=10.0,SNR=622						
CBIJ				Sn	**Sn**	06 05 14.4	**+3.9**
	7µm,0.3s,baz=294,slow=20,SNR=32						
CBIJ	**Chichi jima**	**0.60**	**269**	P	**Pn**	06 05 02.3	**+0.3**
CBIJ				*e*S	**Sn**	06 05 16.8	**+6.2**
JHHJ	**Haha-jima-NKT**	**0.77**	**232**	P	**Pn**	06 05 04.3	**0.0**
JHHJ				*e*S	**Sn**	06 05 19.9	**+5.2**
JHJ	**Hachijo jima 2**	**6.56**	**337**	LR	LR	06 08 59.0	
	comp=Z,3µm,19.2s,baz=143,slow=38						
BSO3	**Boso 3**	**7.94**	**346**	P	**Pn**	06 06 39.1	**-3.6**
BSO3				*e*S	**Sn**	06 08 11.1	**-0.1**
BSO4	**Boso 4**	**8.15**	**345**	P	**Pn**	06 06 42.8	**-3.5**
BSO4				*e*S	**Sn**	06 08 15.7	**-0.9**
JOD2	**Odawara 2**	**8.75**	**339**	P	**Pn**	06 06 51.1	**-2.9**
JOD2				*e*S	**Sn**	06 08 29.2	**-2.1**
JHU	**Hanno**	**9.24**	**342**	P	**Pn**	06 06 57.5	**-3.1**
JHU				*e*S	**Sn**	06 08 42.5	**-0.8**
JNY	**Yasuok**	**9.27**	**334**	P	**Pn**	06 07 02.8	**+1.7**
JYT	**Yasato**	**9.38**	**347**	P	**Pn**	06 07 00.1	**-2.4**
JYT				*e*S	**Sn**	06 08 43.6	**-3.0**
MJAR	**Matsushiro Arr**	**10.21**	**338**	Pn	**Pn**	06 07 11.9	**-2.0**
	3.7nm,0.3s,baz=166,slow=11,SNR=23						
MJAR				Sn	**Sn**	06 09 04.8	**-2.2**
	0.8nm,0.3s,baz=122,slow=44,SNR=2.3						
MJAR				LR	LR	06 10 53.0	
	comp=Z,954nm,20.9s,baz=180,slow=36						
MJAR	**Matsushiro Arr**	**10.21**	**338**	P	**Pn**	06 07 11.9	**-2.0**
MJAR						06 09 04.8	
MJAR				pmax	pmax		
	comp=Z,4.0nm,0.3s						
MJAR				smax			
	comp=N,1.0nm,0.3s						
MJAR				MLR	MLR		
	comp=Z,954nm,20.9s						
MAJO	**Matsushiro**	**10.21**	**338**	*e*P	**Pn**	06 07 12.7	**-1.2**
MAT	**Matsushiro**	**10.21**	**338**	P	**Pn**	06 07 12.0	**-1.9**
MAT				*e*S	**Sn**	06 09 09.4	**+2.3**
GUMO	**Guam**	**13.58**	**172**	LR	LR	06 12 43.4	
	comp=Z,1µm,19.7s,baz=38,slow=36						
ERM	**Erimo**	**14.88**	**1**	*e*P	**Pn**	06 08 24.4	**+6.8**
ERM				pmax	pmax		
	comp=Z,86nm,1.0s						
ERM	**Erimo**	**14.88**	**1**	*e*P	**Pn**	06 08 24.4	**+6.9**
	comp=Z,86nm,1.0s						
KSRS	**Korea Array**	**16.29**	**313**	Pn	**Pn**	06 08 37.5	**+1.6**
	comp=Z,1.5nm,0.3s,baz=121,slow=12,SNR=27						
KSRS				LR	LR	06 14 32.1	
	comp=Z,467nm,18.8s,baz=124,slow=36						
KSRS	**Korea Array**	**16.29**	**313**	P	**Pn**	06 08 37.5	**+1.6**
KSRS				pmax	pmax		
	comp=Z,2.0nm,0.3s						
KSRS				MLR	MLR		
	comp=Z,467nm,18.8s						
KS15	**Wonju Array Si**	**16.31**	**313**	*e*Pn	**Pn**	06 08 38.1	**+1.9**
ASAJ	**Asahikawa**	**16.98**	**359**	P	**Pn**	06 08 43.1	**-1.3**
	comp=Z,1.2nm,0.3s,baz=216,slow=14,SNR=4.3						
ASAJ	**Asahikawa**	**16.98**	**359**	P	**Pn**	06 08 43.2	**-1.3**
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
VLA	**Vladivostok**	**18.30**	**334**	*e*P	**Pn**	06 09 01.1	**+0.3**
VLA				pmax	pmax		
	comp=Z,168nm,1.4s						
SSE	**Sheshan**	**19.35**	**287**	P	**Pn**	06 09 13.8	**+0.2**
SSE				XP	sP	06 09 29.1	+2.6
SSE				S	**S**	06 12 45.0	**-4.3**
SSE				AMB	AMB		
	comp=Z,33nm,0.8s						
SSE				AMB	AMB		
	comp=Z,68nm,6.3s						
SSE				LR	LR		
	comp=N,216nm,12.0s						
SSE				LR	LR		
	comp=E,285nm,11.9s						
SSE				LR	LR		
	comp=Z,356nm,18.7s						
NACB	**Ninganchiao**	**19.39**	**266**	*e*P	**Pn**	06 09 13.0	**-1.2**
	comp=Z,76nm,0.7s						
YHNB	**Yeheng**	**19.48**	**268**	*e*P	**Pn**	06 09 14.9	**-0.4**
	comp=Z,85nm,0.9s						
YSS	**Yuzh-Sakhalins**	**19.82**	**360**	*e*P	**Pn**	06 09 18.0	**-1.0**
YSS				*e*S	**S**	06 13 02.0	**+3.7**
YSS				pmax	pmax		
	comp=Z,40nm,1.0s						
YSS				pmax	pmax		
	comp=N,40nm,1.1s						
YSS				MLR	MLR		
	comp=Z,500nm,16.0s						
YSS				MLR	MLR		
	comp=N,500nm,15.0s						
YSS				MLR	MLR		
	comp=E,500nm,15.0s						
YSS	**Yuzh-Sakhalins**	**19.82**	**360**	*e*P	**Pn**	06 09 18.5	**-0.5**
	comp=E,17nm,0.5s						
MDJ	**Mudanjiang**	**20.47**	**332**	*e*P	**P**	06 09 24.4	**0.0**
	comp=E,17nm,0.6s						
NJ2	**Nanjing**	**21.44**	**289**	*e*P	**P**	06 09 36.9	**+2.0**
NJ2				AP		06 09 44.6	
NJ2				XP	sP	06 09 49.5	+0.3
NJ2				PP		06 09 58.3	
NJ2				S	**S**	06 13 27.0	**-3.8**
NJ2				XS	sS	06 13 41.5	-4.6
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.5s,mb4.4						
NJ2				AMB	AMB		
	comp=Z,60nm,3.5s						
NJ2				LR	LR		
	comp=N,260nm,9.2s						
NJ2				LR	LR		
	comp=E,220nm,8.4s						
SNY	**Shenyang**	**21.57**	**318**	⇑P	**P**	06 09 35.4	**-0.9**
SNY				S	**S**	06 13 32.3	**-0.9**
SNY				AMB	AMB		
	comp=Z,100nm,3.5s						
SNY				LR	LR		
	comp=N,543nm,16.1s						
SNY				LR	LR		
	comp=Z,780nm,14.9s,MS4.

XAN XP sP 06 11 05.5 -3.9
XAN PP PP 06 11 49.0 -13
XAN PCP PcP 06 13 59.3 +2.7
XAN S **S** **06 15 49.1 -0.5**
XAN SCS ScS 06 21 32.4 +1.1
XAN AMB AMB
comp=Z,27nm,0.9s,mb5.0
XAN AMB AMB
comp=Z,129nm,6.1s
XAN LR LR
comp=E,815nm,14.8s
XAN LR LR
comp=Z,1µm,14.6s,MS4.7
GYA Guiyang 32.25 277 P **P** **06 11 15.6 +0.5**
GYA AP pP 06 11 25.8 +0.3
GYA XP sP 06 11 30.3 +0.3
GYA PP PP 06 12 23.6 -4.7
GYA S **S** **06 16 24.4 -1.7**
GYA XS sS 06 16 43.3 -0.1
GYA SCP ScP 06 17 43.9 +0.1
GYA SCS ScS 06 21 40.0 -2.9
GYA AMB AMB
comp=Z,10.0nm,0.6s,mb4.8
GYA AMB AMB
comp=Z,110nm,3.7s
GYA LR LR
comp=N,690nm,15.0s,MS4.6
GYA LR LR
comp=E,590nm,16.5s,MS4.6
GYA LR LR
comp=Z,1µm,16.8s,MS4.6
CLNS Chul'man 32.37 342 *eP* **P** **06 11 16.0 +0.3**
CLNS *e*PP pP 06 11 23.9 -2.2
CLNS ePPP 06 12 29.1
CLNS *e* 06 14 06.3
CLNS *e*S **S** **06 16 23.8 -3.3**
CLNS *e*SS SS 06 18 18.1 -29
CLNS pmax pmax
comp=Z,20nm,1.4s,mb4.8
CLNS pmax pmax
comp=N,20nm,1.4s
CLNS pmax pmax
comp=E,6.0nm,1.0s
CLNS pmax pmax
comp=N,12nm,0.9s
CLNS pmax pmax
comp=Z,6.0nm,1.0s,mb4.4
CLNS pmax pmax
comp=E,7.0nm,1.1s
CLNS smax
comp=N,125nm,14.3s
CLNS smax
comp=E,106nm,16.9s
CLNS MLR MLR
comp=E,332nm,12.0s,MS4.3
CLNS MLR MLR
comp=N,313nm,17.0s,MS4.3
CLNS MLR MLR
comp=Z,352nm,13.0s,MS4.2
KKM Kota Kinabalu 32.88 235 *eP* **P** **06 11 20.7 +0.1**
LZH Lanzhou 34.23 295 *eP* **P** **06 11 32.4 +0.2**
LZH AP pP 06 11 43.8 +1.1
LZH XP sP 06 11 47.3 +0.1
LZH AMB AMB
comp=Z,25nm,1.0s,mb5.1
LZH AMB AMB
comp=Z,130nm,4.6s
LZH LR LR
comp=E,837nm,15.0s
LZH LR LR
comp=Z,1µm,16.9s,MS4.7
CD2 Chengdu 34.29 286⇑ *iP* **P** **06 11 32.0 -0.8**
CD2 AP pP 06 11 41.8 -1.5
CD2 XP sP 06 11 45.6 -2.1
CD2 PP PP 06 12 48.9 -1.9
CD2 S **S** **06 16 56.8 -0.8**
CD2 XS sS 06 17 12.8 -2.2
CD2 SS SS 06 19 08.1 -19
CD2 AMB AMB
comp=Z,100nm,0.7s,mb5.8
CD2 AMB AMB
comp=Z,180nm,6.0s
CD2 LR LR
comp=N,1µm,14.4s,MS4.8
CD2 LR LR
comp=E,540nm,13.2s,MS4.8
CD2 LR LR
comp=Z,720nm,13.2s,MS4.6
SONM Songino Array 35.13 316 P **P** **06 11 39.7 -0.1**
comp=Z,3.6nm,0.6s,mb4.5,baz=130,slow=9.2,SNR=12
SONM LR LR 06 26 28.7
comp=Z,182nm,19.1s,MS3.8,baz=97,slow=37
SONM Songino Array 35.13 316 P **P** **06 11 39.7 -0.1**
SONM pmax pmax
comp=Z,4.0nm,0.6s
SONM MLR MLR
comp=Z,182nm,19.1s
KMI Kunming 35.98 276 P **P** **06 11 47.0 -0.4**
KMI AP pP 06 11 58.6 +0.7
KMI XP sP 06 12 02.1 -0.2
KMI PP PP 06 13 11.8 +2.3
KMI PCP PcP 06 14 15.8 +2.2
KMI S **S** **06 17 24.6 +1.0**
KMI XS sS 06 17 40.8 -0.3
KMI PCS PcS 06 18 02.1 +0.9
KMI SS SS 06 19 45.3 -16
KMI SCS ScS 06 22 02.1 -0.6
KMI AMB AMB
comp=Z,8.0nm,1.1s,mb4.6
KMI AMB AMB
comp=Z,43nm,3.1s
KMI LR LR
comp=N,499nm,14.3s,MS4.5
KMI LR LR
comp=E,386nm,14.3s,MS4.5
KMI LR LR
comp=Z,295nm,14.9s,MS4.2
YAK Yakutsk 36.02 349 *eP* **P** **06 11 45.6 -1.6**
YAK pmax pmax
comp=Z,30nm,1.3s,mb5.1
YAK pmax pmax
comp=E,7.0nm,1.0s
YAK pmax pmax
comp=N,21nm,1.2s
YAK MLR MLR
comp=Z,419nm,18.0s,MS4.2
YAK MLR MLR
comp=N,198nm,14.0s,MS4.1
YAK MLR MLR
comp=E,100nm,12.0s,MS4.1
SEY Seymchan 36.38 7⇓ *eP* **P** **06 11 50.5 +0.2**
BOD Bodaibo 36.81 334 *eP* **P** **06 11 53.6 -0.4**
BOD pmax pmax
comp=Z,25nm,1.4s,mb4.8
ZAK Zakamensk 38.00 319 *eP* **P** **06 12 04.4 +0.1**
ZAK pmax pmax
comp=Z,24nm,1.1s,mb4.8
IRK Irkutsk 38.20 322 *eP* **P** **06 12 06.5 +0.6**
IRK *e* 06 13 40.3
IRK pmax pmax
comp=Z,47nm,1.6s,mb5.0
TLY Talaya 38.31 321 P **P** **06 12 09.5 +2.6**
comp=Z,258nm,0.7s,mb6.1,SNR=6.0
TLY Talaya 38.31 321 *eP* **P** **06 12 08.9 +2.0**
TLY *e* 06 13 43.7
TLY *e*SS SS 06 21 10.5 +23
TLY pmax pmax
comp=Z,55nm,1.3s,mb5.1
TLY Talaya 38.31 321 *eP* **P** **06 12 09.2 +2.3**
comp=Z,28nm,0.7s,mb5.1
TLY *e* pP 06 12 18.8 +1.4
NANT Nan 39.55 267⇑ P **P** **06 12 15.0 -2.6**
comp=Z,184nm,0.9s,mb5.8
HNR Honiara 39.92 153 LR LR 06 26 49.1
comp=Z,233nm,18.6s,MS4.1,baz=126,slow=33
CHRT Chiangrai 40.01 269 P **P** **06 12 22.0 +0.6**
KAKA Kakadu 40.85 196 *eP* **P** **06 12 24.9 -3.4**
comp=Z,20nm,0.8s,mb4.8
KAKA Kakadu 40.85 196 *eP* **P** **06 12 25.6 -2.7**
CHG Chiang Mai 41.10 268⇑P **P** **06 12 29.9 -0.6**
comp=Z,21nm,0.9s,mb4.8
CHTO Chiang Mai 41.10 268 *eP* **P** **06 12 29.8 -0.7**
CHTO *e**PP pP 06 12 41.8 +0.6
CHTO pmax pmax
comp=Z,10.0nm,0.8s,mb4.5
CHTO Chiang Mai 41.10 268 *eP* **P** **06 12 29.8 -0.7**
comp=Z,9.9nm,0.8s,mb4.5
CHTO epP pP 06 12 41.8 +0.6
CMAR Chiang Mai Arr 41.23 267 P **P** **06 12 31.2 -0.3**
comp=Z,5.8nm,0.8s,mb4.3,baz=51,slow=9.3,SNR=28
CMAR LR LR 06 31 26.3
comp=Z,137nm,18.9s,MS3.8,baz=78,slow=39
CMAR Chiang Mai Arr 41.23 267 P **P** **06 12 31.2 -0.3**
CMAR pmax pmax
comp=Z,6.0nm,0.8s
CMAR MLR MLR
comp=Z,137nm,18.9s
BATI Baumata 41.50 209 LR LR 06 29 33.2
comp=Z,283nm,18.1s,MS4.2,baz=119,slow=36
BDT Bhumibol Dam 41.60 266 P **P** **06 12 35.0 +0.4**
comp=Z,18nm,0.9s,mb4.7
BILL Bilibino 43.31 13⇑ *eP* **P** **06 12 47.9 +0.1**
BILL *e* pP 06 12 58.2 -0.3
BILL *e* 06 14 37.0
BILL pmax pmax
comp=Z,33nm,1.1s,mb5.0
BILL Bilibino 43.31 13 *eP* **P** **06 12 48.0 +0.1**
comp=Z,16nm,0.9s,mb4.7
LSA Lhasa 45.26 286 P **P** **06 13 06.0 +2.1**
LSA Lhasa 45.26 286 *eP* **P** **06 13 06.1 +2.2**
LSA pmax pmax
comp=Z,8.0nm,0.6s,mb4.7
LSA Lhasa 45.26 286 *eP* **P** **06 13 06.1 +2.2**
comp=Z,8.3nm,0.6s,mb4.7
TIXI Tiksi 45.27 354⇓ *eP* **P** **06 13 03.1 -0.3**
TIXI pmax pmax
comp=Z,9.0nm,0.6s,mb4.8
TIXI MLR MLR
comp=Z,200nm,15.0s,MS4.2
TIXI Tiksi 45.27 354 *eP* **P** **06 13 03.5 +0.1**
comp=Z,11nm,0.8s,mb4.7
CTA Charters Tower 47.03 176 *eP* **P** **06 13 16.7 -1.1**
comp=Z,4.4nm,0.6s,mb4.6
CTA *ep*P pP 06 13 26.8 -1.8
CTA Charters Tower 47.03 176 P **P** **06 13 16.1 -1.7**
comp=Z,7.5nm,0.7s,mb4.7,baz=0.4,slow=8.9,SNR=8.9
CTA LR LR 06 30 24.6
comp=Z,199nm,21.6s,MS4.0,baz=39,slow=33
CTA Charters Tower 47.03 176 *eP* **P** **06 13 16.7 -1.1**
CTA *e**PP pP 06 13 26.8 -1.8
CTA pmax pmax
comp=Z,4.0nm,0.6s
CTAO Charters Tower 47.03 176 *eP* **P** **06 13 16.3 -1.5**
CTAO pmax pmax
comp=Z,19nm,1.0s,mb5.0
CTAO Charters Tower 47.03 176 *eP* **P** **06 13 16.3 -1.5**
comp=Z,19nm,1.0s,mb5.0
WMQ Urumqi 47.06 306⇑P **P** **06 13 19.5 +1.6**
WMQ AP pP 06 13 29.5 +0.8
WMQ XP sP 06 13 33.5 +0.4
WMQ PCP PcP 06 14 51.5 +2.0
WMQ PP PP 06 15 09.9 +1.1
WMQ SCP ScP 06 18 41.8 +1.2
WMQ S **S** **06 20 08.0 +0.7**
WMQ XS sS 06 20 25.5 +0.4
WMQ AMB AMB
comp=Z,18nm,1.5s,mb4.8
WMQ LR LR
comp=N,117nm,18.0s,MS4.0
WMQ LR LR
comp=E,110nm,21.6s,MS4.0
WMQ LR LR
comp=Z,155nm,15.5s
WRAB Tennant Creek 47.48 191 P **P** **06 13 20.0 -1.3**
comp=Z,509nm,0.6s,SNR=65
WRAB Tennant Creek 47.48 191 *eP* **P** **06 13 20.1 -1.2**
WRAB pmax pmax
comp=Z,40nm,0.5s,mb5.6
WRAB Tennant Creek 47.48 191 *eP* **P** **06 13 20.1 -1.2**
comp=Z,40nm,0.5s,mb5.6
WB2 Warramunga Arr 47.49 191 *eP* **P** **06 13 20.1 -1.3**
WRA Warramunga Arr 47.49 191 P **P** **06 13 20.2 -1.2**
comp=Z,39nm,0.6s,mb5.5,baz=12,slow=8.6,SNR=163
WRA Warramunga Arr 47.49 191 P **P** **06 13 20.2 -1.2**
WRA pmax pmax
comp=Z,39nm,0.6s
FITZ Fitzroy Crossi 47.94 202 *eP* **P** **06 13 24.4 -0.5**
comp=Z,52nm,0.6s,mb5.7
FITZ *ep*P pP 06 13 36.1 +0.3
FITZ Fitzroy Crossi 47.94 202 P **P** **06 13 24.3 -0.6**
comp=Z,31nm,0.8s,mb5.4,baz=24,slow=9.7,SNR=120
FITZ Fitzroy Crossi 47.94 202 *eP* **P** **06 13 24.3 -0.6**
comp=Z,60nm,0.8s,mb5.7
FITZ *ep*P pP 06 13 35.5 -0.3
FITZ *ep*P pP 06 13 36.1 +0.3
TAPN Taplejung 48.69 284 *eP* **P** **06 13 30.8 0.0**
ODAN Odare 49.08 283 *eP* **P** **06 13 34.2 +0.4**
comp=Z,32nm,0.4s,mb5.7
RAMN Ramite 49.74 283 *eP* **P** **06 13 39.7 +0.8**
ZALV Zalesovo Beam 49.88 319 P **P** **06 13 39.1 -0.4**
comp=Z,10.0nm,0.6s,mb5.0,baz=98,slow=7.1,SNR=33
ZALV Zalesovo Beam 49.88 319 P **P** **06 13 39.1 -0.4**
ZALV pmax pmax
comp=Z,10.0nm,0.6s,mb5.0
JIRN Jiri 49.93 284 *eP* **P** **06 13 41.6 +1.3**
comp=Z,137nm,0.7s,mb6.1
GUN Gumba 50.14 285 *eP* **P** **06 13 42.9 +1.0**
comp=Z,71nm,0.6s,mb5.9
PKI Pulchoki 50.63 285 *eP* **P** **06 13 45.9 +0.4**
KKN Kakani 50.69 285 *eP* **P** **06 13 46.8 +0.8**
comp=Z,37nm,0.7s,mb5.4
KKN Kakani 50.69 285 *eP* **P** **06 13 46.8 +0.8**
KKN pmax pmax
comp=Z,37nm,0.7s,mb5.4
DMN Daman 50.88 285 *eP* **P** **06 13 48.1 +0.7**
comp=Z,49nm,0.6s,mb5.6
MK31 Makanchi Array 50.94 310 *i* P **P** **06 13 47.4 -0.2**
MK31 pmax pmax
comp=Z,2.0nm,0.3s,mb4.5
MK31 Makanchi Array 50.94 310 *eP* **P** **06 13 47.3 -0.2**
MKAR Makanchi Array 50.94 310 P **P** **06 13 47.4 -0.2**
comp=Z,4.5nm,0.6s,mb4.6,baz=86,slow=10,SNR=44
MKAR Makanchi Array 50.94 310 *i* P **P** **06 13 47.4 -0.2**
MKAR pmax pmax
comp=Z,5.0nm,0.6s
GKN Gorkha 51.19 285 *eP* **P** **06 13 50.5 +0.7**
comp=Z,48nm,0.9s,mb5.5
ASAR Alice Springs 51.21 191 P **P** **06 13 48.1 -1.6**
comp=Z,4.5nm,0.5s,mb4.6,baz=5.0,slow=5.7,SNR=71
ASAR Alice Springs 51.21 191 P **P** **06 13 48.2 -1.6**
ASAR pmax pmax
comp=Z,5.0nm,0.5s
DANN Dangsing 51.86 286 *eP* **P** **06 13 56.0 +1.2**
comp=Z,117nm,0.8s,mb5.9
KOLN Koldanda 52.14 285 *eP* **P** **06 13 57.6 +0.7**
MBWA Marble Bar 52.95 207 *eP* **P** **06 14 02.5 -0.2**
comp=Z,19nm,0.9s,mb5.0
MBWA *ep*P pP 06 14 11.8 -1.8
SVW2 Sparrevohn 52.96 32 *eP* **P** **06 14 02.8 +0.4**
IMA2 *ep*P pP 06 14 26.9 +0.1
KURK Kurchatov 53.41 315 P **P** **06 14 06.8 +0.9**
comp=Z,261nm,1.0s,mb6.1,SNR=30
KURK Kurchatov 53.41 315 *eP* **P** **06 14 06.2 +0.3**
KURK *e**PP pP 06 14 17.4 +0.6
KURK pmax pmax
comp=Z,36nm,0.9s,mb5.3
KURK Kurchatov 53.41 315 *eP* **P** **06 14 06.2 +0.3**
comp=Z,36nm,0.9s,mb5.3
KURK *ep*P pP 06 14 17.4 +0.6
KDAK Kodiak Island 54.00 37 P **P** **06 14 08.8 -1.2**
comp=Z,11nm,0.6s,mb5.0,baz=296,slow=8.8,SNR=18
PTH Pithoragarh 54.60 288 *eP* **P** **06 14 15.0 +0.1**
IMA2 Indian Mountai 54.81 27 *eP* **P** **06 14 15.8 0.0**
IMA2 *ep*P pP 06 14 26.9 +0.1
PPLA Purkeypike 54.85 30 *eP* **P** **06 14 16.6 +0.4**
comp=Z,39nm,1.3s,mb5.3
KTH Kantishna Hill 55.52 30 *eP* **P** **06 14 21.5 +0.5**
comp=Z,59nm,1.6s,mb5.4
BPAW Bear Paw Mtn. 55.57 29 *eP* **P** **06 14 21.4 0.0**
comp=Z,36nm,1.5s,mb5.2
BPAW *ep*P pP 06 14 32.1 -0.2
TRF Thorofare Moun 55.78 30 *eP* **P** **06 14 22.1 -0.8**
comp=Z,66nm,1.6s,mb5.4
TKM2 Tokmak 2 55.91 305 *eP* **P** **06 14 24.4 +0.3**
TKM2 *e**PP pP 06 14 36.7 +1.6
TKM2 pmax pmax
comp=Z,13nm,0.6s,mb5.1
TKM2 Tokmak 2 55.91 305 *eP* **P** **06 14 24.4 +0.3**
comp=Z,13nm,0.6s,mb5.1
TKM2 *ep*P pP 06 14 36.7 +1.6
PMR Palmer 56.11 32 *eP* **P** **06 14 24.2 -1.0**
PMR *e**PP pP 06 14 34.0 -2.2
PMR pmax pmax
comp=Z,31nm,1.3s,mb5.2
PMR Palmer 56.11 32 *eP* **P** **06 14 24.2 -1.1**
comp=Z,31nm,1.3s,mb5.2
PMR *ep*P pP 06 14 34.0 -2.3
DDI Dehra Dun 56.24 290 *eP* **P** **06 14 26.2 -0.5**
COLD Coldfoot 56.40 25 *eP* **P** **06 14 27.6 +0.4**
comp=Z,23nm,1.0s,mb5.2
COLD *ep*P pP 06 14 38.5 +0.2
MCK McKinley 56.42 30 *eP* **P** **06 14 26.8 -0.6**
MCK *e**PP pP 06 14 37.5 -0.9
MCK pmax pmax
comp=Z,43nm,1.3s,mb5.3
MCK McKinley 56.42 30 *eP* **P** **06 14 26.8 -0.7**
comp=Z,43nm,1.3s,mb5.3
MCK *ep*P pP 06 14 37.5 -0.9
FRU Bishkek 56.63 305 *eP* **P** **06 14 30.0 +0.7**
FRU pmax pmax
comp=Z,40nm,1.4s,mb5.3
SMLA Simla 56.79 291 *i* P **P** **06 14 29.4 -1.2**
SMLA AMb AMB 06 14 34.7
comp=Z,56nm,1.3s,mb5.4
UCH Uchtor 56.79 304 *eP* **P** **06 14 31.9 +1.5**
comp=Z,14nm,0.7s,mb5.1
UCH *ep*P pP 06 14 42.3 +0.9
COLA College 57.02 28 *eP* **P** **06 14 31.8 +0.1**
COLA pmax pmax
comp=Z,6.0nm,0.9s,mb4.6
COLA College 57.02 28 *eP* **P** **06 14 31.8 +0.1**
comp=Z,6.5nm,0.9s,mb4.7
EKS2 Erkin-Say 57.27 305 *eP* **P** **06 14 33.8 0.0**
comp=Z,4.3nm,0.6s,mb4.7
NDI New Delhi 57.36 288 *eP* **P** **06 14 33.0 -1.7**
AML Almayashu 57.41 304 *eP* **P** **06 14 36.0 +1.2**
comp=Z,11nm,0.6s,mb5.1
AML *ep*P pP 06 14 44.9 -0.9
NGP Nagpur 58.01 279 *eP* **P** **06 14 38.6 -0.8**
NGP AMb AMB 06 14 42.1
comp=Z,47nm,1.2s,mb5.4
VOSK Vostochnaya 58.11 317 P **P** **06 14 40.8 +1.3**
VOSK pmax pmax
comp=Z,56nm,0.9s,mb5.6
BVA0 Borovoye Array 58.45 317 *i* P **P** **06 14 42.5 +0.6**
BVA0 pmax pmax
comp=Z,10.0nm,0.8s,mb4.9
BRVK Borovoye 58.51 318 P **P** **06 14 43.0 +0.7**
comp=Z,408nm,0.7s,SNR=17
BRVK Borovoye 58.51 318 P **P** **06 14 43.0 +0.7**
SNR=26
BRVK Borovoye 58.51 318 *eP* **P** **06 14 43.1 +0.8**
BRVK *e**PP pP 06 14 53.6 +0.2
BRVK pmax pmax
comp=Z,99nm,0.8s,mb5.9
BRVK Borovoye 58.51 318 *eP* **P** **06 14 43.1 +0.8**
comp=Z,99nm,0.8s,mb5.9
BRVK *ep*P pP 06 14 53.6 +0.3
STKA Stephens Creek 58.66 181 *eP* **P** **06 14 41.9 -1.6**
comp=Z,8.0nm,0.8s,mb4.8
STKA Stephens Creek 58.66 181 P **P** **06 14 42.4 -1.1**
comp=Z,4.8nm,0.4s,mb4.9,baz=348,slow=7.6,SNR=20
STKA Stephens Creek 58.66 181 *eP* **P** **06 14 42.0 -1.5**
comp=Z,6.7nm,0.6s,mb4.8
FORT Forrest 59.27 195 *eP* **P** **06 14 46.9 -0.8**
comp=Z,11nm,0.4s,mb5.2
FORT Forrest 59.27 195 *eP* **P** **06 14 46.6 -1.2**
comp=Z,2.4nm,0.6s,mb4.4
KK31 Karatay Array 59.57 306 *i* P **P** **06 14 50.1 +0.2**
KK31 pmax pmax
comp=Z,33nm,0.6s,mb5.5
HYB Hyderabad 59.75 275 *i* P **P** **06 14 51.5 0.0**
HYB Hyderabad 59.75 275 *eP* **P** **06 14 51.5 0.0**
AKL Akola 59.95 279 *eP* **P** **06 14 50.8 -2.0**
AKL AMb AMB 06 15 05.6
comp=Z,52nm,0.2s,mb6.3
AFI Afiamalu 60.00 127 LR LR 06 35 23.8
comp=Z,91nm,20.5s,MS3.9,baz=353,slow=31
DAWY Dawson 60.65 30 *eP* **P** **06 14 57.4 +0.6**
DAWY *ep*P pP 06 15 08.0 0.0
HYT Haines Junctio 61.73 33 *eP* **P** **06 15 05.4 +1.1**
HYT *ep*P pP 06 15 15.3 -0.1
KBL Kabul 62.56 297 *eP* **P** **06 15 11.0 +0.7**
KBL pmax pmax
comp=Z,24nm,0.7s,mb5.4
KBL Kabul 62.56 297 *eP* **P** **06 15 11.0 +0.7**
comp=Z,24nm,0.7s,mb5.4
SKAG Skagway 62.97 35 *eP* **P** **06 15 12.8 +0.2**
comp=Z,18nm,1.1s,mb5.1
KLBR Kellerberrin 63.09 204 *eP* **P** **06 15 12.9 -0.7**
comp=Z,9.3nm,0.6s,mb5.1
POO Poona 63.51 278⇑ *iP* **P** **06 15 15.0 -1.8**
comp=Z,50nm,1.0s,mb5.5
POO *eP* 06 15 17.1
POO *ex* x 06 15 38.2
KOD Kodaikanal 63.56 268 *eP* **P** **06 15 18.0 +0.8**
KOD AMb AMB 06 15 20.3
comp=Z,26nm,1.0s,mb5.2
SVE Sverdlovsk 63.59 323⇓ *eP* **P** **06 15 17.6 +0.9**
SVE pmax pmax
comp=Z,34nm,0.7s,mb5.5
KAD Karad 63.66 277 *ex* x 06 15 14.0
NWAO Narrogin (SRO) 64.48 204 P **P** **06 15 22.5 -0.3**
comp=Z,17nm,0.7s,mb5.2,baz=7.3,slow=0.0
NWAO Narrogin (SRO) 64.48 204 P **P** **06 15 22.5 -0.3**
NWAO pmax pmax
comp=Z,17nm,0.7s
NWAO Narrogin (SRO) 64.48 204 *eP* **P** **06 15 22.2 -0.6**
comp=Z,13nm,0.7s,mb5.1
GOA Goa 64.67 275 *ex* x 06 15 41.6
ARU Arti 64.79 322 *d* *iP* **P** **06 15 24.9 +0.3**
ARU *e* 06 15 55.8
ARU *e* 06 17 43.6
ARU *e*S **S** **06 24 05.8 +3.2**
ARU *e*SS SS 06 28 16.3 +2.7
ARU pmax pmax
comp=Z,27nm,0.7s,mb5.4
ARU Arti 64.79 322 *eP* **P** **06 15 25.2 +0.6**
comp=Z,44nm,0.6s,mb5.7
ARU *ep*P pP 06 15 36.0 +0.3
AB31 Akbulak array 65.52 314 P **P** **06 15 29.5 0.0**
AB31 pmax pmax
comp=Z,25nm,0.9s,mb5.2
DLBC Dease Lake 65.86 35 *eP* **P** **06 15 31.9 +0.4**
DLBC *ep*P pP 06 15 42.6 0.0
YKA Yellowknife Ar 71.85 28 P **P** **06 16 07.5 -1.1**
comp=Z,8.9nm,0.8s,mb4.8,baz=292,slow=5.8,SNR=9.6
YKA Yellowknife Ar 71.85 28 *iP* **P** **06 16 08.0 -0.7**
YKA pmax pmax
comp=Z,9.0nm,0.8s
APA Apatity 72.27 338⇑ *iP* **P** **06 16 12.0 +0.9**
APA *i* pP 06 16 23.6 +1.2
APA pmax pmax
comp=Z,20nm,0.8s,mb5.1
APA MLR MLR
comp=Z,700nm,17.0s,MS5.0
NLWA Neilton Lookou 72.67 45⇑P **P** **06 16 13.9 0.0**
baz=72
ARCES LR LR 06 53 39.6
comp=Z,368nm,18.6s,MS4.7,baz=214,slow=40
ARCES ARCESS Array B 73.73 341 P **P** **06 16 19.7 0.0**
ARCES pmax pmax
comp=Z,5.0nm,0.7s
ARCES MLR MLR
comp=Z,368nm,18.6s
D05A Enumclaw 73.93 45⇓P **P** **06 16 20.7 -0.6**
baz=74
I02A Mapleton 73.94 49⇑P **P** **06 16 21.6 +0.2**
baz=74
H03A Soap Creek Ran 74.05 48⇓P **P** **06 16 22.2 +0.2**
baz=74
F04A Amboy 74.14 46⇑P **P** **06 16 22.7 +0.2**
baz=74
A07A Ashnola River, 74.20 43⇓P **P** **06 16 23.0 +0.2**
baz=74,SNR=7.0

E05A	**Randle**	**74.32**	**46**	⇑P		**P**	**06 16 23.3**	**-0.2**
	baz=74								
I03A	**Eugene**	**74.32**	**48**	⇑P		**P**	**06 16 23.8**	**+0.2**
	baz=74								
J02A	**Umpqua**	**74.36**	**49**	⇓P		**P**	**06 16 23.4**	**-0.5**
	baz=74								
B07A	**Winthrop**	**74.59**	**43**	⇓P		**P**	**06 16 25.3**	**+0.2**
	baz=74,SNR=6.1								
K02A	**Glendale**	**74.64**	**50**	⇓P		**P**	**06 16 25.1**	**-0.5**
	baz=74								
D06A	**Cle Elum**	**74.65**	**45**	⇓P		**P**	**06 16 25.3**	**-0.2**
	baz=74								
H04A	**Detroit Lake**	**74.77**	**47**	⇑P		**P**	**06 16 25.8**	**-0.4**
	baz=75								
F05A	**White Salmon**	**74.77**	**46**	⇑P		**P**	**06 16 25.8**	**-0.4**
	baz=75								
ETW	**Entiat**	**74.80**	**44**	P		**P**	**06 16 26.7**	**+0.4**
L02A	**Cave Junction**	**74.80**	**50**	⇓P		**P**	**06 16 25.6**	**-0.9**
	baz=75								
E06A	**Yakima**	**74.82**	**45**	⇓P		**P**	**06 16 26.9**	**+0.4**
	baz=75								
HOOD	**Mount Hood Mea**	**74.87**	**47**	*e*P		**P**	**06 16 27.4**	**+0.7**
	comp=Z,34nm,0.9s,mb5.3								
HOOD				*ep*P		pP	06 16 38.1	0.0
A08A	**Turner Farm, O**	**74.91**	**43**	⇓P		**P**	**06 16 26.6**	**-0.4**
	baz=75								
EBG	**Ellensburg**	**74.93**	**45**	P		**P**	**06 16 27.3**	**+0.2**
C07A	**Waterville**	**74.94**	**44**	⇑P		**P**	**06 16 26.8**	**-0.3**
	baz=75,SNR=7.6								
I04A	**Tendick Farm,**	**74.97**	**48**	⇑P		**P**	**06 16 27.4**	**0.0**
	baz=75								
B08A	**Colville Reser**	**75.11**	**43**	⇑P		**P**	**06 16 28.1**	**0.0**
	baz=75,SNR=13								
G05A	**Wamic**	**75.12**	**47**	⇓P		**P**	**06 16 27.8**	**-0.4**
	baz=75								
D07A	**Quincy**	**75.19**	**44**	⇓P		**P**	**06 16 28.0**	**-0.6**
	baz=75								
A09A	**Danville**	**75.31**	**42**	⇓P		**P**	**06 16 29.4**	**+0.2**
	baz=75,SNR=7.7								
JOF	**Joensuu**	**75.34**	**334**	*ep*		**P**	**06 16 29.3**	**+0.1**
	comp=Z,23nm,0.8s,mb5.2								
JOF	**Joensuu**	**75.34**	**334**	*e*P		**P**	**06 16 29.3**	**+0.1**
JOF				pmax		pmax			
	comp=Z,23nm,0.8s,mb5.2								
J04A	**Umpqua Nationa**	**75.39**	**49**	⇑P		**P**	**06 16 29.8**	**0.0**
	baz=75								
H05A	**Madras**	**75.41**	**47**	⇓P		**P**	**06 16 29.7**	**-0.2**
	baz=75								
E07A	**Sunnyside**	**75.52**	**45**	⇑P		**P**	**06 16 30.5**	**0.0**
	baz=75								
C08A	**Higginbotham F**	**75.53**	**44**	⇓P		**P**	**06 16 30.4**	**-0.1**
	baz=75,SNR=7.6								
N02C	**Big Bar**	**75.53**	**51**	⇓P		**P**	**06 16 30.4**	**-0.3**
	baz=75								
G06A	**Carlson Farm,**	**75.56**	**46**	⇓P		**P**	**06 16 31.2**	**+0.4**
	baz=75								
I05A	**Bend**	**75.58**	**48**	⇑P		**P**	**06 16 30.9**	**0.0**
	baz=76								
YBH	**Yreka Blue Hor**	**75.58**	**50**	LR		LR	06 45 10.2		
	comp=Z,170nm,18.5s,MS4.4,baz=311,slow=32								
YBH	**Yreka Blue Hor**	**75.58**	**50**	*e*P		**P**	**06 16 31.1**	**+0.1**
YBH				pmax		pmax			
	comp=Z,12nm,1.0s								
YBH	**Yreka Blue Hor**	**75.58**	**50**	⇓P		**P**	**06 16 31.3**	**+0.4**
	baz=76,SNR=5.5								
YBH	**Yreka Blue Hor**	**75.58**	**50**	*e*P		**P**	**06 16 31.1**	**+0.1**
	comp=Z,12nm,1.0s,mb4.8								
M02C	**Callahan**	**75.62**	**51**	⇑P		**P**	**06 16 31.3**	**+0.1**
	baz=76								
F07A	**Phinny Hill Vi**	**75.75**	**46**	⇓P		**P**	**06 16 32.0**	**+0.2**
	baz=76								
RSW	**Rattlesnake Hi**	**75.76**	**45**	*e*P		**P**	**06 16 32.3**	**+0.5**
RSW				*ep*P		pP	06 16 42.3	-1.0
KCPM	**Cahto Peak**	**75.78**	**53**	*e*P		**P**	**06 16 32.7**	**+0.5**
KCPM				*ep*P		pP	06 16 43.6	+0.1
HAWA	**Hanford**	**75.79**	**45**	*e*P		**P**	**06 16 31.9**	**-0.2**
	comp=Z,20nm,1.3s,mb4.9								
HAWA				*ep*P		pP	06 16 42.6	-0.9
B09A	**Rice**	**75.81**	**43**	⇓P		**P**	**06 16 32.2**	**+0.1**
	baz=76,SNR=7.3								
OD2	**Odessa Site #2**	**75.89**	**44**	P		**P**	**06 16 32.6**	**0.0**
K04A	**Chilquin**	**75.90**	**49**	⇓P		**P**	**06 16 32.9**	**+0.2**
	baz=76								
D08A	**Wollman Farm,**	**75.90**	**44**	⇑P		**P**	**06 16 32.6**	**-0.1**
	baz=76,SNR=7.2								
A10A	**Northport**	**75.93**	**42**	⇓P		**P**	**06 16 33.0**	**+0.2**
	baz=76,SNR=7.7								
J05A	**Fort Rock**	**75.96**	**48**	⇓P		**P**	**06 16 33.2**	**+0.1**
	baz=76,SNR=8.2								
H06A	**Lindquist Farm**	**75.96**	**47**	⇓P		**P**	**06 16 33.1**	**0.0**
	baz=76,SNR=5.3								
L04A	**Klamath Falls**	**75.97**	**50**	⇓P		**P**	**06 16 33.3**	**+0.2**
	baz=76								
VRHR	**Novokhopersk**	**75.99**	**320**	*e*P		**P**	**06 16 33.0**	**-0.1**
VRHR				pmax		pmax			
	comp=Z,10.0nm,0.4s,mb5.1								
VRHR				pmax		pmax			
	comp=N,20nm,0.5s								
VRHR				pmax		pmax			
	comp=E,20nm,0.7s								
C09A	**Chrisman Ranch**	**75.99**	**43**	⇑P		**P**	**06 16 33.2**	**0.0**
	baz=76,SNR=5.6								
MOS	**Moscow**	**76.04**	**326**	*e*P		**P**	**06 16 33.2**	**-0.1**
MOS				*e*		pP	06 16 45.2	+0.5
MOS				pmax		pmax			
	comp=Z,38nm,1.0s,mb5.3								
E08A	**Dider Farm, El**	**76.05**	**45**	⇓P		**P**	**06 16 32.9**	**-0.6**
	baz=76								
M04C	**Macdoel**	**76.16**	**50**	⇑P		**P**	**06 16 34.5**	**+0.3**
	baz=76,SNR=10								
WDC	**Whiskeytown Da**	**76.16**	**51**	*e*P		**P**	**06 16 34.7**	**+0.4**
WDC				pmax		pmax			
	comp=Z,13nm,1.0s,mb4.8								
WDC	**Whiskeytown Da**	**76.16**	**51**	⇓P		**P**	**06 16 34.4**	**+0.1**
	baz=76								
WDC	**Whiskeytown Da**	**76.16**	**51**	*e*P		**P**	**06 16 34.7**	**+0.4**
	comp=Z,13nm,1.0s,mb4.8								
M03C	**McCloud**	**76.17**	**51**	⇑P		**P**	**06 16 34.5**	**+0.1**
	baz=76,SNR=9.1								
D09A	**Jones Farm, Ri**	**76.28**	**44**	⇑P		**P**	**06 16 34.8**	**0.0**
	baz=76,SNR=6.1								
I06A	**Prineville**	**76.37**	**48**	⇓P		**P**	**06 16 35.8**	**+0.4**
	baz=76,SNR=7.3								
GASB	**Alder Springs**	**76.41**	**52**	⇓P		**P**	**06 16 36.3**	**+0.6**
	baz=76,SNR=6.0								
LASM	**Arnica Sink**	**76.41**	**50**	P		**P**	**06 16 36.3**	**+0.6**
K05A	**Summer Lake**	**76.42**	**49**	⇑P		**P**	**06 16 36.1**	**+0.4**
	baz=76,SNR=12								
EDM	**Edmonton**	**76.45**	**37**	*e*P		**P**	**06 16 35.4**	**-0.3**
EDM				*e**PP		pP	06 16 45.8	-1.2
NEW	**Newport**	**76.49**	**43**	*e*P		**P**	**06 16 35.8**	**-0.2**
NEW				*e**PP		pP	06 16 47.1	-0.3
NEW				pmax		pmax			
	comp=Z,17nm,0.9s								
NEW	**Newport**	**76.49**	**43**	*e*P		**P**	**06 16 35.8**	**-0.3**
	comp=Z,17nm,0.9s,mb5.0								
NEW				*ep*P		pP	06 16 47.1	-0.3
F08A	**Pendleton**	**76.52**	**45**	⇓P		**P**	**06 16 36.6**	**+0.4**
	baz=76,SNR=7.6								
H07A	**Lands Inn, Kim**	**76.52**	**47**	⇓P		**P**	**06 16 36.6**	**+0.4**
	baz=76								
C10A	**Spilker Farm,**	**76.57**	**43**	⇑P		**P**	**06 16 36.3**	**-0.2**
	baz=76								
E09A	**Wood Farm, Sta**	**76.61**	**45**	⇓P		**P**	**06 16 36.9**	**+0.2**
	baz=76								
G08A	**Pilot Rock**	**76.62**	**46**	⇑P		**P**	**06 16 37.0**	**+0.2**
	baz=76,SNR=8.0								
A11A	**Hall Mountain,**	**76.65**	**42**	⇓P		**P**	**06 16 37.3**	**+0.4**
	baz=76,SNR=7.0								
J06A	**Christmas Vall**	**76.69**	**48**	⇓P		**P**	**06 16 37.4**	**+0.2**
	baz=77								
L05A	**Lakeview**	**76.73**	**50**	⇑P		**P**	**06 16 37.9**	**+0.4**
	baz=77,SNR=7.7								
I07A	**Izee**	**76.77**	**47**	⇑P		**P**	**06 16 37.9**	**+0.2**
	baz=77								
LNOR	**Lincton Mounta**	**76.80**	**45**	*e*P		**P**	**06 16 39.3**	**+1.5**
K06A	**Valley Falls**	**76.81**	**49**	⇓P		**P**	**06 16 38.4**	**+0.5**
	baz=77,SNR=5.6								
OBN	**Obninsk**	**76.87**	**326⇑**	*e*P		**P**	**06 16 39.7**	**+1.7**
OBN				*e**PP		pP	06 16 49.7	+0.3
OBN				*e*SS		SS	06 31 22.5	+3.6
OBN				pmax		pmax			
	comp=Z,11nm,0.5s,mb5.0								
OBN				MLR		MLR			
	comp=Z,300nm,15.0s,MS4.7								
B11A	**Sandpoint**	**76.87**	**42**	⇓P		**P**	**06 16 38.4**	**+0.2**
	baz=77								
MNRC	**McLaughlin Nat**	**76.92**	**53**	⇑P		**P**	**06 16 39.1**	**+0.5**
	baz=77								
A12A	**Yaak River Ran**	**77.08**	**42**	⇑P		**P**	**06 16 39.9**	**+0.6**
	baz=77,SNR=5.6								
F09A	**S2 Ranch, Elgi**	**77.11**	**45**	⇑P		**P**	**06 16 39.9**	**+0.4**
	baz=77								
CVS	**Carmenet Viney**	**77.13**	**54**	⇓P		**P**	**06 16 39.5**	**-0.3**
	baz=77								
H08A	**Prairie City**	**77.13**	**47**	⇓P		**P**	**06 16 40.0**	**+0.4**
	baz=77,SNR=10								
MOD	**Modoc**	**77.16**	**49**	⇓P		**P**	**06 16 40.0**	**+0.1**
	baz=77,SNR=7.9								
MOD	**Modoc**	**77.16**	**49**	*e*P		**P**	**06 16 40.0**	**+0.2**
	comp=Z,14nm,1.0s,mb4.9								
MOD				*ep*P		pP	06 16 50.5	-0.8
J07A	**Hines**	**77.20**	**48**	⇓P		**P**	**06 16 40.5**	**+0.4**
	baz=77,SNR=9.6								
C11A	**Tepee Creek (N**	**77.20**	**43**	⇓P		**P**	**06 16 40.2**	**+0.2**
	baz=77,SNR=16								
E10A	**Myers Farm, Un**	**77.27**	**44**	⇓P		**P**	**06 16 40.4**	**0.0**
	baz=77								
O04C	**Chester**	**77.28**	**51**	⇑P		**P**	**06 16 41.1**	**+0.5**
	baz=77,SNR=9.0								
ORV	**Oroville**	**77.31**	**52**	⇑P		**P**	**06 16 40.1**	**-0.6**
	baz=77,SNR=28								
VSR	**Storozhevoye**	**77.32**	**321**	*e*P		**P**	**06 16 42.4**	**+1.8**
VSR				pmax		pmax			
	comp=Z,10.0nm,1.3s,mb4.6								
VSR				pmax		pmax			
	comp=N,10.0nm,0.8s								
VSR				pmax		pmax			
	comp=E,10.0nm,0.9s								
B12A	**Libby**	**77.32**	**42**	⇑P		**P**	**06 16 41.0**	**+0.3**
	baz=77								
Q03C	**Winters**	**77.33**	**53**	⇑P		**P**	**06 16 41.0**	**+0.1**
	baz=77								
M06C	**Likely Place G**	**77.33**	**50**	⇓P		**P**	**06 16 41.0**	**+0.2**
	baz=77,SNR=5.9								
G09A	**Cove**	**77.38**	**46**	⇑P		**P**	**06 16 41.2**	**+0.1**
	baz=77,SNR=18								
OHCM	**Honcut**	**77.41**	**52**	*e*P		**P**	**06 16 40.8**	**-0.6**
OHCM				*ep*P		pP	06 16 52.0	-0.7
F10A	**Beach Ranch, E**	**77.42**	**45**	⇑P		**P**	**06 16 41.1**	**-0.2**
	baz=77,SNR=6.0								
D11A	**Klaveano Farm,**	**77.50**	**43**	⇑P		**P**	**06 16 41.4**	**-0.3**
	baz=77,SNR=11								
K07A	**Rock Creek Ran**	**77.53**	**48**	⇓P		**P**	**06 16 42.0**	**0.0**
	baz=77,SNR=14								
O05C	**Quincy**	**77.55**	**51**	⇓P		**P**	**06 16 42.0**	**-0.1**
	baz=77								
JRSC	**Jasper Ridge**	**77.67**	**54**	⇑P		**P**	**06 16 42.7**	**-0.1**
	baz=78								
BDM	**Black Diamond**	**77.72**	**54**	⇑P		**P**	**06 16 42.7**	**-0.3**
	baz=78								
H09A	**Durkee**	**77.72**	**46**	⇓P		**P**	**06 16 43.3**	**+0.4**
	baz=78,SNR=6.5								
KAF	**Kangasniemi**	**77.73**	**335**	*ep*		**P**	**06 16 41.6**	**-1.1**
	comp=E,14nm,0.7s,mb5.0,baz=51,slow=5.2								
KAF	**Kangasniemi**	**77.73**	**335**	*e*P		**P**	**06 16 41.6**	**-1.1**
KAF				pmax		pmax			
	comp=Z,14nm,0.7s,mb5.0								
C12B	**Naegeli Ranch,**	**77.73**	**43**	⇓P		**P**	**06 16 43.0**	**0.0**
	baz=78								
J08A	**Circle Bar Ran**	**77.76**	**48**	⇓P		**P**	**06 16 43.5**	**+0.2**
	baz=78,SNR=16								
L07A	**Adel**	**77.76**	**49**	⇑P		**P**	**06 16 43.8**	**+0.6**
	baz=78,SNR=22								
G10A	**Bishop Farm, J**	**77.79**	**45**	⇓P		**P**	**06 16 43.5**	**+0.1**
	baz=78,SNR=28								
A13A	**Flathead Natio**	**77.81**	**41**	⇑P		**P**	**06 16 43.7**	**+0.3**
	baz=78								
BMO	**Blue Mountains**	**77.86**	**46**	*e*P		**P**	**06 16 43.3**	**-0.5**
	comp=Z,24nm,1.1s,mb5.0								
BMO				*ep*P		pP	06 16 55.2	0.0
E11A	**Bogner Ranch,**	**77.89**	**44**	⇑P		**P**	**06 16 43.8**	**-0.1**
	baz=78,SNR=10.0								
N06A	**Buffalo Meadow**	**77.96**	**50**	⇓P		**P**	**06 16 44.5**	**+0.1**
	baz=78,SNR=12								
I09A	**Lost Marbles R**	**77.97**	**47**	⇓P		**P**	**06 16 44.5**	**+0.2**
	baz=78,SNR=6.1								
BEKR	**Beckwourth**	**77.98**	**51**	⇓P		**P**	**06 16 44.3**	**-0.2**
	baz=78,SNR=25								
K08A	**Mann Creek Ran**	**78.02**	**48**	⇓P		**P**	**06 16 44.8**	**+0.1**
	baz=78,SNR=7.4								
B13A	**Whitefish**	**78.03**	**42**	⇓P		**P**	**06 16 45.3**	**+0.6**
	baz=78,SNR=12								
WVOR	**Wild Horse Val**	**78.05**	**48**	*e*P		**P**	**06 16 42.5**	**-2.4**
WVOR				pmax		pmax			
	comp=Z,13nm,1.0s,mb4.8								
WVOR	**Wild Horse Val**	**78.05**	**48**	*e*P		**P**	**06 16 42.5**	**-2.3**
	comp=Z,13nm,1.0s,mb4.8								
BSMT	**Bassoo Peak**	**78.08**	**42**	P		**P**	**06 16 45.6**	**+0.6**
D12A	**Red Ives Fores**	**78.10**	**43**	⇑P		**P**	**06 16 45.1**	**0.0**
	baz=78								
F11A	**Grangeville**	**78.13**	**44**	⇓P		**P**	**06 16 44.9**	**-0.4**
	baz=78,SNR=11								
M07A	**Soldier Meadow**	**78.14**	**50**	⇓P		**P**	**06 16 45.7**	**+0.3**
	baz=78,SNR=17								
LAVA	**Lava Cap Winer**	**78.18**	**53**	⇑P		**P**	**06 16 45.5**	**-0.1**
	baz=78								
O06A	**Flanigan**	**78.22**	**51**	⇑P		**P**	**06 16 45.9**	**0.0**
	baz=78,SNR=12								
J09A	**Fry Pan Ranch,**	**78.23**	**47**	⇑P		**P**	**06 16 46.2**	**+0.3**
	baz=78,SNR=12								
R04C	**Big Horse Ranc**	**78.25**	**53**	⇓P		**P**	**06 16 45.7**	**-0.3**
	baz=78								
E12A	**Beaver Dam Sad**	**78.26**	**44**	⇓P		**P**	**06 16 46.2**	**+0.3**
	baz=78,SNR=20								
G11A	**Walters Elk Ra**	**78.28**	**45**	⇑P		**P**	**06 16 45.7**	**-0.4**
	baz=78,SNR=34								
C13A	**Hot Springs**	**78.29**	**42**	⇑P		**P**	**06 16 46.5**	**+0.4**
	baz=78,SNR=20								
H10A	**Noah's Angus R**	**78.34**	**46**	⇓P		**P**	**06 16 46.3**	**-0.1**
	baz=78,SNR=23								
L08A	**Fields**	**78.35**	**49**	⇓P		**P**	**06 16 46.6**	**0.0**
	baz=78,SNR=28								
A14A	**Double T Ranch**	**78.37**	**41**	⇓P		**P**	**06 16 47.0**	**+0.5**
	baz=78,SNR=16								
P06A	**Stead Airport,**	**78.38**	**51**	⇓P		**P**	**06 16 46.4**	**-0.3**
	baz=78								
KIV	**Kislovodsk**	**78.48**	**313**	*e*P		**P**	**06 16 49.4**	**+2.2**
KIV				pmax		pmax			
	comp=Z,31nm,1.0s,mb5.2								
KIV				MLR		MLR			
	comp=Z,208nm,18.0s,MS4.5								
KIV	**Kislovodsk**	**78.48**	**313**	*e*P		**P**	**06 16 49.7**	**+2.5**
	comp=Z,20nm,0.8s,mb5.1								
I10A	**Payette**	**78.53**	**46**	⇓P		**P**	**06 16 47.4**	**-0.1**
	baz=78								
PACP	**Pacheco Peak**	**78.53**	**54**	⇓P		**P**	**06 16 47.3**	**-0.4**
	baz=78								
K09A	**Rome**	**78.54**	**48**	⇑P		**P**	**06 16 47.6**	**0.0**
	baz=78,SNR=7.8								
N07B	**Gerlach**	**78.54**	**50**	⇓P		**P**	**06 16 47.7**	**+0.1**
	baz=78,SNR=10								
D13A	**Huson**	**78.63**	**43**	⇓P		**P**	**06 16 47.7**	**-0.3**
	baz=78,SNR=7.9								
WCN	**Washoe City**	**78.64**	**52**	⇓P		**P**	**06 16 47.8**	**-0.3**
	baz=78								
M08A	**Happy Creek Ra**	**78.65**	**49**	⇑P		**P**	**06 16 48.0**	**-0.2**
	baz=78,SNR=14								
PAHR	**Pah Rah Range**	**78.72**	**51**	*e*P		**P**	**06 16 48.3**	**-0.3**
	comp=Z,21nm,1.0s,mb5.0								
PAHR				*ep*P		pP	06 16 58.3	-1.7
CMB	**Columbia Colle**	**78.74**	**53**	*e*P		**P**	**06 16 48.2**	**-0.6**
CMB				*e**PP		pP	06 16 59.6	-0.6
CMB				pmax		pmax			
	comp=Z,31nm,1.0s,mb5.2								
CMB	**Columbia Colle**	**78.74**	**53**	⇑P		**P**	**06 16 48.4**	**-0.3**
	baz=79,SNR=17								
CMB	**Columbia Colle**	**78.74**	**53**	*e*P		**P**	**06 16 48.2**	**-0.5**
	comp=Z,31nm,1.0s,mb5.2								
CMB				*ep*P		pP	06 16 59.6	-0.6
C14A	**Swan Lake**	**78.74**	**42**	⇑P		**P**	**06 16 48.8**	**+0.2**
	baz=79								
B14A	**Marquette Ranc**	**78.75**	**41**	⇓P		**P**	**06 16 49.2**	**+0.6**
	baz=79,SNR=15								
F12A	**Elk City**	**78.75**	**44**	⇑P		**P**	**06 16 48.4**	**-0.2**
	baz=79,SNR=11								
H11A	**Donnelly**	**78.75**	**46**	⇑P		**P**	**06 16 48.4**	**-0.3**
	baz=79,SNR=24								
A15A	**Johnson Ranch,**	**78.77**	**41**	⇓P		**P**	**06 16 48.9**	**+0.2**
	baz=79,SNR=17								
O07A	**Toulon**	**78.88**	**51**	⇓P		**P**	**06 16 49.6**	**+0.1**
	baz=79,SNR=13								
L09A	**Wilkinson Ranc**	**78.88**	**49**	⇓P		**P**	**06 16 49.7**	**+0.2**
	baz=79,SNR=6.0								
MSO	**Missoula**	**79.06**	**43**	*e*P		**P**	**06 16 49.8**	**-0.6**
	comp=Z,15nm,1.5s,mb4.7								
MSO				*ep*P		pP	06 17 00.6	-1.2
K10A	**MacKenzie Ranc**	**79.07**	**48**	⇓P		**P**	**06 16 50.6**	**+0.2**
	baz=79,SNR=13								
S05C	**Merced**	**79.08**	**54**	⇑P		**P**	**06 16 50.1**	**-0.5**
	baz=79,SNR=9.8								
E13A	**Victor**	**79.09**	**43**	⇑P		**P**	**06 16 50.2**	**-0.4**
	baz=79,SNR=5.4								
N08A	**GE Springer Mi**	**79.11**	**50**	⇑P		**P**	**06 16 50.8**	**0.0**
	baz=79								
PPT	**Papeete**	**79.13**	**116**	*e*LR		LR	06 41 16.0		
	comp=Z,201nm,21.5s								
PPT	**Papeete**	**79.13**	**116**	LR		LR	06 47 09.6		
	comp=Z,308nm,21.1s,MS4.6,baz=352,slow=32								
I11A	**Placerville**	**79.15**	**46**	⇓P		**P**	**06 16 50.9**	**0.0**
	baz=79,SNR=6.0								
U04C	**Hernandez Rese**	**79.17**	**55**	⇓P		**P**	**06 16 51.5**	**+0.3**
	baz=79,SNR=6.9								
B15A	**Bradely Ranch,**	**79.19**	**41**	⇓P		**P**	**06 16 51.3**	**+0.3**
	baz=79,SNR=15								
R06C	**Coleville**	**79.19**	**52**	⇑P		**P**	**06 16 51.4**	**+0.2**
	baz=79,SNR=9.4								
D14A	**Greenough**	**79.21**	**43**	⇑P		**P**	**06 16 51.5**	**+0.3**
	baz=79,SNR=7.7								
M09A	**Marrel Ranch,**	**79.29**	**49**	⇑P		**P**	**06 16 51.6**	**-0.1**
	baz=79								
F13A	**Darby**	**79.31**	**44**	⇑P		**P**	**06 16 51.2**	**-0.5**
	baz=79,SNR=17								
O08A	**Rochester Mine**	**79.31**	**50**	⇓P		**P**	**06 16 51.8**	**-0.1**
	baz=79,SNR=18								
C15A	**Salmond Ranch,**	**79.42**	**42**	⇑P		**P**	**06 16 52.6**	**+0.3**
	baz=79,SNR=12								
A16A	**West Butte Ran**	**79.44**	**40**	⇓P		**P**	**06 16 52.5**	**+0.2**
	baz=79,SNR=7.2								
CHMT	**Chamberlain Mo**	**79.44**	**43**	*e*P		**P**	**06 16 51.7**	**-0.7**
CHMT				*ep*P		pP	06 17 02.9	-1.0
MFID	**Camas Ranch**	**79.46**	**47**	⇑P		**P**	**06 16 52.9**	**+0.3**
	baz=79,SNR=25								
N09A	**Rock Creek Ran**	**79.49**	**50**	⇓P		**P**	**06 16 53.2**	**+0.3**
	baz=79,SNR=16								
PKD	**Parkfield**	**79.53**	**55**	⇑P		**P**	**06 16 53.0**	**-0.1**
	baz=79,SNR=5.7								
E14A	**Clinton**	**79.53**	**43**	⇓P		**P**	**06 16 52.0**	**-0.9**
	baz=79								
H12A	**Diamond D Ranc**	**79.56**	**45**	⇑P		**P**	**06 16 53.1**	**-0.1**
	baz=79,SNR=14								
K11A	**Parker Ranch,**	**79.62**	**47**	⇓P		**P**	**06 16 53.6**	**+0.2**
	baz=80,SNR=16								
P08A	**Dixie Valley**	**79.63**	**51**	⇓P		**P**	**06 16 53.3**	**-0.3**
	baz=80								
B16A	**M & M Farms, S**	**79.64**	**41**	⇓P		**P**	**06 16 53.7**	**+0.2**
	baz=80								
L10A	**Juniper Basin**	**79.65**	**48**	⇓P		**P**	**06 16 53.7**	**+0.1**
	baz=80,SNR=12								
T06C	**Millerton Lake**	**79.67**	**54**	⇑P		**P**	**06 16 53.6**	**-0.3**
	baz=80,SNR=22								
VSU	**Vasula**	**79.68**	**331⇑**	*e*P		**P**	**06 16 53.8**	**+0.3**
G13A	**Cobalt**	**79.70**	**45**	⇓P		**P**	**06 16 53.6**	**-0.2**
	baz=80,SNR=34								
KCC	**Kaiser Creek**	**79.81**	**53**	⇓P		**P**	**06 16 54.1**	**-0.5**
	baz=80,SNR=7.8								
D15A	**Lincoln**	**79.82**	**42**	⇓P		**P**	**06 16 54.0**	**-0.5**
	baz=80								
M10A	**I.L. Ranch, Tu**	**79.86**	**49**	⇑P		**P**	**06 16 55.2**	**+0.4**
	baz=80,SNR=8.5								
BMN	**Battle Mountai**	**79.89**	**50**	*e*P		**P**	**06 16 55.0**	**0.0**
BMN				pmax		pmax			
	comp=Z,12nm,1.0s,mb4.8								
BMN	**Battle Mountai**	**79.89**	**50**	*e*P		**P**	**06 16 55.0**	**0.0**
	comp=Z,12nm,1.0s,mb4.8								
F14A	**Wisdom**	**79.89**	**44**	⇓P		**P**	**06 16 54.8**	**0.0**
	baz=80								
C16A	**Fuhringer Ranc**	**79.91**	**41**	⇑P		**P**	**06 16 54.7**	**-0.3**
	baz=80								
H13A	**Challis**	**79.93**	**45**	⇑P		**P**	**06 16 55.2**	**+0.1**
	baz=80,SNR=32								
J12A	**Stokes Ranch,**	**80.01**	**47**	⇓P		**P**	**06 16 55.9**	**+0.3**
	baz=80,SNR=7.7								
**NVA

ISA pmax pmax
comp=Z,18nm,1.3s,mb4.8
ISA Isabella 81.16 55 ⇑P **P 06 17 00.9 -1.0**
baz=81,SNR=6.9
ISA Isabella 81.16 55 *eP* **P 06 17 00.3 -1.6**
comp=Z,18nm,1.3s,mb4.8
ISA *epP* pP 06 17 11.7 -1.7
N12A Clover Valley, 81.17 49 ⇓P **P 06 17 01.9 0.0**
baz=81,SNR=9.3
Q10A Clear Creek Ra 81.19 51 ⇑P **P 06 17 01.4 -0.6**
baz=81
UMR Umm Al-Rimmam 81.22 299 *eP* **P 06 17 02.2 -0.1**
baz=299
UMR AMb AMB 06 17 05.0
comp=Z,28nm,0.9s,mb5.2,baz=299
L13A Double Diamond 81.31 47 ⇓P **P 06 17 03.0 +0.5**
baz=81,SNR=12
I15A Monteview 81.32 45 ⇓P **P 06 17 03.2 +0.7**
baz=81,SNR=11
GRAC Grapevine Rang 81.35 53 ⇑P **P 06 17 02.7 -0.1**
baz=81,SNR=6.6
ANN Anapa 81.41 316 *eP* **P 06 17 01.7 -1.3**
ANN *e**PP pP 06 17 12.2 -2.3
ANN *eS* S 06 27 12.9 +1.3
ANN pmax pmax
comp=Z,57nm,1.3s,mb5.3
FFC Flin Flon 81.42 32 P **P 06 17 03.3 +0.4**
comp=Z,136nm,0.9s,mb5.9,SNR=5.2
FFC Flin Flon 81.42 32 *eP* **P 06 17 02.7 -0.2**
FFC *e**PP pP 06 17 13.5 -0.8
FFC pmax pmax
comp=Z,29nm,1.0s,mb5.2
FFC Flin Flon 81.42 32 *eP* **P 06 17 02.7 -0.2**
comp=Z,29nm,1.0s,mb5.2
FFC *epP* pP 06 17 13.5 -0.8
BLG Laguna Peak 81.43 56 ⇓P **P 06 17 02.7 -0.6**
baz=81
S10A Tonopah Range, 81.47 52 ⇑P **P 06 17 03.2 -0.3**
baz=81,SNR=22
MNK Minsk 81.48 328 *eP* **P 06 17 04.0 +0.8**
R10A Warm Springs 81.50 51 ⇓P **P 06 17 03.7 0.0**
baz=81,SNR=16
QLMT Earthquake Lak 81.57 44 *eP* **P 06 17 04.2 +0.3**
K14A Jones Ranch, D 81.58 46 ⇑P **P 06 17 04.5 +0.5**
baz=81,SNR=22
E18A Harlowton 81.61 42 ⇑P **P 06 17 04.6 +0.5**
baz=82,SNR=22
RDF Al-Radifah 81.62 298 *eP* **P 06 17 04.5 0.0**
baz=298
RDF AMb AMB 06 17 08.7
comp=Z,46nm,0.9s,mb5.4,baz=298
O12A Currie 81.64 49 ⇓P **P 06 17 04.4 0.0**
baz=82,SNR=25
J15A Blackfoot 81.64 45 ⇑P **P 06 17 05.4 +1.1**
baz=82,SNR=32
MPMC Manual Prospec 81.69 54 ⇑P **P 06 17 04.7 0.0**
baz=82,SNR=13
Q11A Duckwater 81.69 51 ⇑P **P 06 17 04.5 -0.2**
baz=82,SNR=12
NAY Al-Naaiem 81.72 298 *eP* **P 06 17 04.8 -0.2**
baz=299
NAY AMb AMB 06 17 29.9
comp=Z,59nm,1.2s,mb5.4,baz=299
N13A Wendover, West 81.72 48 ⇓P **P 06 17 04.4 -0.4**
baz=82
H16A Russell Place, 81.74 44 ⇑P **P 06 17 05.5 +0.7**
baz=82,SNR=10
L14A Malta 81.79 47 ⇓P **P 06 17 05.4 +0.3**
baz=82,SNR=11
RST Umm Al-Ruwaisa 81.80 299 *eP* **P 06 17 05.0 -0.4**
baz=299
RST AMb AMB 06 17 17.9
comp=Z,49nm,0.8s,mb5.5,baz=299
LRMC Laurel Mountai 81.81 54 ⇓P **P 06 17 05.0 -0.4**
baz=82
EDW2 Edwards Air Fo 81.87 55 ⇓P **P 06 17 05.4 -0.2**
baz=82,SNR=15
P12A McGill 81.91 50 ⇑P **P 06 17 05.8 0.0**
baz=82,SNR=9.6
K15A Arbon 81.93 46 ⇓P **P 06 17 06.7 +0.8**
baz=82,SNR=9.3
YMR Madison River 81.93 44 *eP* **P 06 17 06.4 +0.6**
comp=Z,28nm,1.0s,mb5.2
FURC Furnace Creek, 81.95 53 ⇓P **P 06 17 05.9 -0.1**
baz=82,SNR=10
R11A Troy Canyon, C 81.97 51 ⇑P **P 06 17 06.1 0.0**
baz=82,SNR=26
M14A Sheep Mountain 81.98 47 ⇑P **P 06 17 06.5 +0.4**
baz=82,SNR=23
I16A Newdale 82.01 45 ⇓P **P 06 17 07.0 +0.8**
baz=82,SNR=20
F18A Big Timber 82.07 42 ⇑P **P 06 17 06.8 +0.4**
baz=82,SNR=8.7
YNR Norris Junctio 82.09 44 *eP* **P 06 17 08.1 +1.5**
YFT Old Faithful 82.12 44 *eP* **P 06 17 08.9 +2.1**
YFT *epP* pP 06 17 19.8 +1.5
GCMT Greycliff 82.16 42 *eP* **P 06 17 06.9 0.0**
TPNV Topopah Spring 82.17 53 *eP* **P 06 17 06.5 -0.7**
TPNV *e**PP pP 06 17 17.6 -1.0
TPNV pmax pmax
comp=Z,17nm,1.0s,mb4.9
TPNV Topopah Spring 82.17 53 ⇑P **P 06 17 07.1 0.0**
baz=82,SNR=12
TPNV Topopah Spring 82.17 53 *eP* **P 06 17 06.5 -0.7**
comp=Z,17nm,1.0s,mb4.9
TPNV *epP* pP 06 17 17.6 -1.0
Q12A Willow Creek R 82.17 50 ⇑P **P 06 17 07.2 0.0**
baz=82
S11A Rachel 82.19 52 ⇓P **P 06 17 07.1 -0.2**
baz=82
O13A Hicks Ranch, I 82.22 49 ⇓P **P 06 17 07.6 +0.2**
baz=82,SNR=6.4
J16A Bone 82.23 45 ⇓P **P 06 17 08.4 +1.0**
baz=82,SNR=16
CIS Catalina Islan 82.24 57 ⇑P **P 06 17 06.3 -1.3**
baz=82
H17A Grant Village 82.31 44 ⇑P **P 06 17 09.3 +1.5**
baz=82,SNR=18
LKWY Lake 82.33 44 *eP* **P 06 17 10.3 +2.4**
LKWY *e**PP pP 06 17 20.9 +1.5
LKWY pmax pmax
comp=Z,17nm,1.1s,mb4.9
LKWY Lake 82.33 44 *eP* **P 06 17 10.3 +2.4**
comp=Z,18nm,1.1s,mb4.9
LKWY *epP* pP 06 17 20.9 +1.5
DCID1 Drake Creek 82.34 45 *eP* **P 06 17 09.1 +1.2**
comp=Z,29nm,1.0s,mb5.2
DCID1 *epP* pP 06 17 18.8 -0.6
IMW Indian Meadow 82.34 44 *eP* **P 06 17 08.9 +1.0**
comp=Z,25nm,0.9s,mb5.1
IMW *epP* pP 06 17 20.0 +0.6
U10A Ash Meadows, A 82.36 53 ⇑P **P 06 17 08.4 +0.2**
baz=82,SNR=9.9
L15A Malad City 82.36 47 ⇑P **P 06 17 08.4 +0.3**
baz=82,SNR=8.5
TBI Tubuai 82.38 121 *e*LR LR 06 42 40.3
comp=Z,198nm,29.5s
N14A Grayback Hills 82.40 48 ⇑P **P 06 17 08.4 +0.1**
baz=82,SNR=15
BFSC Mount Baldy St 82.41 56 ⇑P **P 06 17 08.5 0.0**
baz=82
K16A Soda Springs 82.46 46 ⇓P **P 06 17 09.7 +1.1**
baz=82,SNR=20
BGU Big Grassy Mou 82.47 48 *eP* **P 06 17 08.5 -0.2**
P13A Bates Ranch, G 82.52 50 ⇓P **P 06 17 09.0 0.0**
baz=82,SNR=23
GSC Goldstone 82.53 54 *eP* **P 06 17 08.8 -0.3**
GSC pmax pmax
comp=Z,14nm,1.0s,mb5.0
GSC Goldstone 82.53 54 ⇑P **P 06 17 09.0 -0.1**
baz=82,SNR=11
GSC Goldstone 82.53 54 *eP* **P 06 17 08.8 -0.4**
comp=Z,14nm,1.0s,mb4.9
MOOW Moose Ponds 82.53 45 *eP* **P 06 17 09.6 +0.6**
comp=Z,22nm,1.5s,mb5.0
TPAW Teton Pass 82.54 45 *eP* **P 06 17 08.7 -0.2**
comp=Z,14nm,0.9s,mb5.0
I17A Pilgram Creek 82.55 44 ⇓P **P 06 17 10.3 +1.3**
baz=82,SNR=13
M15A Larsen Ranch, 82.59 47 ⇓P **P 06 17 09.4 +0.1**
baz=82,SNR=11
R12A Pony Springs, 82.66 51 ⇑P **P 06 17 09.1 -0.6**
baz=82
REDW Red Top Meadow 82.66 45 *eP* **P 06 17 10.3 +0.7**
comp=Z,26nm,1.4s,mb5.1
SPUT South Promonto 82.66 47 *eP* **P 06 17 10.2 +0.6**
SNOW Snow King Moun 82.67 45 *eP* **P 06 17 10.5 +0.8**
comp=Z,13nm,1.1s,mb4.9
SNOW *epP* pP 06 17 21.5 +0.3
RLMT Red Lodge 82.74 43 ⇑P **P 06 17 11.0 +1.0**
baz=83,SNR=15
RLMT Red Lodge 82.74 43 *eP* **P 06 17 10.7 +0.7**
comp=Z,17nm,0.9s,mb5.1
RLMT *epP* pP 06 17 21.4 -0.1
T11A Corn Creek, Al 82.75 52 ⇑P **P 06 17 10.1 -0.2**
baz=83,SNR=7.6
Q13A Wheeler Ranch, 82.76 50 ⇓P **P 06 17 10.4 +0.1**
baz=83,SNR=6.4
AHID Auburn Hatcher 82.81 46 *eP* **P 06 17 11.2 +0.8**
comp=Z,10nm,1.1s,mb4.8
AHID *epP* pP 06 17 22.0 +0.1
N15A Stansbury Isla 82.82 48 ⇑P **P 06 17 10.8 +0.2**
baz=83,SNR=12
S12A Delamar Landin 82.84 51 ⇓P **P 06 17 10.3 -0.4**
baz=83
AKASG Malin Array Be 82.97 324 P **P 06 17 10.6 -0.4**
comp=Z,4.0nm,0.6s,mb4.6,baz=46,slow=5.1,SNR=16
AKASG Malin Array Be 82.97 324 *i* P **P 06 17 10.8 -0.3**
AKASG pmax pmax
comp=Z,4.0nm,0.6s
AKBB Malin Array Si 82.97 324 *eP* **P 06 17 12.1 +1.0**
DUG Dugway 82.97 48 *eP* **P 06 17 11.5 +0.2**
DUG *e**PP pP 06 17 22.4 -0.4
DUG pmax pmax
comp=Z,25nm,1.0s,mb5.2
DUG Dugway 82.97 48 ⇓P **P 06 17 11.4 +0.1**
baz=83,SNR=27
DUG Dugway 82.97 48 *eP* **P 06 17 11.5 +0.2**
comp=Z,24nm,1.0s,mb5.2
DUG *epP* pP 06 17 22.4 -0.3
L16A Fish Haven 82.97 46 ⇑P **P 06 17 11.7 +0.4**
baz=83,SNR=12
MURC Murrieta 83.04 56 ⇑P **P 06 17 11.4 -0.4**
baz=83
HWUT Hardware Ranch 83.09 47 *eP* **P 06 17 12.0 +0.1**
comp=Z,12nm,0.8s,mb5.0
HWUT *epP* pP 06 17 22.8 -0.6
P14A Drum Mountains 83.10 49 ⇑P **P 06 17 12.0 0.0**
baz=83,SNR=24
TUQ Turquoise Moun 83.11 54 ⇑P **P 06 17 11.9 -0.2**
baz=83
O15A The Old Anders 83.16 48 ⇓P **P 06 17 11.9 -0.4**
baz=83
R13A O'Grain Ranch, 83.17 51 ⇓P **P 06 17 12.6 +0.2**
baz=83,SNR=9.4
M16A Huntsville 83.20 47 ⇓P **P 06 17 12.1 -0.4**
baz=83
Q14A Sevier Lake (B 83.25 50 ⇑P **P 06 17 12.9 +0.1**
baz=83,SNR=19
V11A Goodsprings 83.27 53 ⇓P **P 06 17 12.7 -0.2**
baz=83,SNR=6.5
N16A Rees Ranch, Co 83.54 47 ⇓P **P 06 17 14.0 -0.2**
baz=83
S13A Holt Ranch, En 83.54 51 ⇑P **P 06 17 14.5 +0.2**
baz=83,SNR=12
NLU North Lily Min 83.58 48 *eP* **P 06 17 14.4 -0.1**
NLU *epP* pP 06 17 25.2 -0.8
PFO Pinyon Flat Ob 83.58 56 P **P 06 17 14.9 +0.3**
comp=Z,70nm,1.1s,mb5.7,SNR=5.3
PFO Pinyon Flat Ob 83.58 56 *eP* **P 06 17 14.2 -0.4**
PFO *e**PP pP 06 17 24.9 -1.2
PFO pmax pmax
comp=Z,16nm,1.1s,mb5.1
PFO Pinyon Flat Ob 83.58 56 *eP* **P 06 17 14.2 -0.5**
comp=Z,16nm,1.1s,mb5.0
PFO *epP* pP 06 17 24.9 -1.2
GMRC Granite Mounta 83.61 54 ⇓P **P 06 17 14.3 -0.4**
baz=84,SNR=9.5
JLU Jordanelle 83.67 48 *eP* **P 06 17 15.2 +0.3**
LAO LASA Array 83.71 40 *eP* **P 06 17 14.8 -0.2**
comp=Z,24nm,1.0s,mb5.3
ARUT Antelope Range 83.73 51 *eP* **P 06 17 15.4 +0.1**
BELC Belle Mtn. 83.73 55 ⇑P **P 06 17 14.7 -0.6**
baz=84,SNR=6.5
V12A Nelson 83.74 53 ⇑P **P 06 17 15.2 -0.2**
baz=84,SNR=12
T13A Saint George 83.78 52 ⇓P **P 06 17 15.7 +0.1**
baz=84,SNR=12
BW06 Boulder Array 83.78 45 ⇑P **P 06 17 15.1 -0.3**
baz=84,SNR=8.3
BW06 Boulder Array 83.78 45 *eP* **P 06 17 14.8 -0.6**
comp=Z,7.8nm,1.0s,mb4.8
PDAR Pinedale Array 83.78 45 P **P 06 17 15.2 -0.2**
comp=Z,5.6nm,1.0s,mb4.6,baz=285,slow=2.8,SNR=26
PDAR LR LR 06 54 29.3
comp=Z,225nm,18.5s,MS4.6,baz=311,slow=36
NOA NORSAR Array B 83.83 339 P **P 06 17 14.9 -0.4**
comp=Z,3.7nm,0.7s,mb4.6,baz=42,slow=5.0,SNR=13
NOA NORSAR Array B 83.83 339 P **P 06 17 14.9 -0.4**
NOA pmax pmax
comp=Z,4.0nm,0.7s
O16A Springville 83.84 48 ⇓P **P 06 17 15.8 +0.1**
baz=84
MPU Maple Canyon 83.85 48 *eP* **P 06 17 15.8 -0.1**
comp=Z,36nm,1.6s,mb5.2
Q15A Filmore 83.85 49 ⇑P **P 06 17 15.8 0.0**
baz=84
DGMT Dagmar 83.86 38 ⇓P **P 06 17 15.0 -0.7**
baz=84
LDFC Landfair 83.86 54 *eP* **P 06 17 15.1 -0.9**
comp=Z,26nm,1.0s,mb5.3
DAU Daniels Canyon 83.89 48 *eP* **P 06 17 16.5 +0.4**
CCUT Cedar City 83.90 51 *eP* **P 06 17 16.1 0.0**
N17A Moffit Pass 83.90 47 ⇑P **P 06 17 16.1 0.0**
baz=84,SNR=6.5
S14A Cedar City 83.93 51 ⇓P **P 06 17 16.1 -0.2**
baz=84,SNR=5.9
SUW Suwalki 83.96 329 *eP* **P 06 17 16.5 +0.4**
SUW Suwalki 83.96 329 *eP* **P 06 17 16.3 +0.2**
SUW *e**PP pP 06 17 27.0 -0.6
SUW pmax pmax
comp=Z,75nm,1.1s,mb5.7
SUW Suwalki 83.96 329 *eP* **P 06 17 16.3 +0.2**
comp=Z,75nm,1.1s,mb5.7
SUW *epP* pP 06 17 27.0 -0.6
U13A Pakoon Wash 84.03 52 ⇓P **P 06 17 16.9 0.0**
baz=84,SNR=12
MSU Marysvale 84.23 50 *eP* **P 06 17 18.1 +0.3**
IRM Iron Mountain 84.28 55 ⇓P **P 06 17 17.6 -0.5**
baz=84,SNR=6.1
V13A Grand Canyon W 84.29 53 ⇓P **P 06 17 18.0 -0.2**
baz=84,SNR=12
BC3 Big Chuckw Mtn 84.30 55 ⇑P **P 06 17 18.0 -0.3**
baz=84,SNR=8.7
T14A Hurricane 84.33 51 ⇑P **P 06 17 18.7 +0.4**
baz=84,SNR=15
SWSC Sam W. Stewart 84.39 56 ⇓P **P 06 17 17.6 -1.1**
baz=84
S15A Panguitch 84.53 50 ⇑P **P 06 17 19.5 +0.2**
baz=84
U14A Mt Trumbull 84.58 52 ⇓P **P 06 17 19.6 -0.1**
baz=84,SNR=7.5
N18A Larsen Ranch, 84.64 47 ⇑P **P 06 17 19.5 -0.3**
baz=84,SNR=10
Q16A Castle Valley 84.71 49 ⇓P **P 06 17 20.5 +0.3**
baz=85,SNR=22
P17A Butcher Ranch, 84.71 48 ⇓P **P 06 17 20.3 +0.1**
baz=85,SNR=7.0
W13A Hualapai Mount 84.73 53 ⇑P **P 06 17 20.4 0.0**
baz=85,SNR=5.6
O18A Roosevelt 84.79 47 ⇑P **P 06 17 20.9 +0.3**
baz=85,SNR=9.1
R16A Teasdale 84.82 50 ⇓P **P 06 17 21.3 +0.5**
baz=85,SNR=25
T15A Red Dirt Ranch 84.84 51 ⇑P **P 06 17 21.0 +0.1**
baz=85,SNR=9.9
Y12C Blythe 84.93 55 ⇓P **P 06 17 21.0 -0.5**
baz=85
PDMCI Parker Dam,Lak 84.94 54 ⇓P **P 06 17 20.8 -0.7**
baz=85
P18A Preston Nutter 84.96 48 ⇑P **P 06 17 21.6 +0.2**
baz=85,SNR=7.7
N19A John Jarvie Ra 85.00 46 ⇑P **P 06 17 21.3 -0.4**
baz=85,SNR=7.5
X13A Yucca 85.02 54 ⇓P **P 06 17 21.6 -0.2**
baz=85,SNR=9.7
V14A Boquillas Ranc 85.02 52 ⇓P **P 06 17 22.0 +0.1**
baz=85,SNR=18
S16A Weppner Ranch, 85.03 50 ⇑P **P 06 17 21.9 +0.1**
baz=85,SNR=9.7
SRU San Rafael 85.04 48 *eP* **P 06 17 21.6 -0.3**
SRU pmax pmax
comp=Z,12nm,1.0s,mb5.0
SRU San Rafael 85.04 48 ⇓P **P 06 17 21.7 -0.1**
baz=85,SNR=18
SRU San Rafael 85.04 48 *eP* **P 06 17 21.6 -0.3**
comp=Z,12nm,1.0s,mb5.0
GLA Glamis 85.05 55 *eP* **P 06 17 21.4 -0.6**
GLA pmax pmax
comp=Z,32nm,1.4s,mb5.3
GLA Glamis 85.05 55 ⇑P **P 06 17 21.6 -0.5**
baz=85
GLA Glamis 85.05 55 *eP* **P 06 17 21.4 -0.6**
comp=Z,32nm,1.4s,mb5.3
U15A North Rim 85.20 51 ⇓P **P 06 17 23.0 +0.3**
baz=85,SNR=13
W14A Seligman 85.25 53 ⇑P **P 06 17 23.1 +0.1**
baz=85,SNR=12
R17A Hanksville Air 85.27 49 ⇓P **P 06 17 22.9 -0.2**
baz=85,SNR=24
KIS Kishinev 85.31 321 *eP* **P 06 17 21.0 -2.1**
KIS *eL* 06 58 10.0
KIS LRM 07 00 20.0
comp=Z,300nm,16.0s
O19A Miners Draw (B 85.35 47 ⇑P **P 06 17 23.0 -0.4**
baz=85,SNR=6.7
Y13A Salome 85.40 54 ⇓P **P 06 17 23.5 -0.3**
baz=85
T16A Glen Canyon Da 85.46 51 ⇓P **P 06 17 23.2 -0.9**
baz=85
V15A Kaibab Nationa 85.59 52 ⇑P **P 06 17 24.8 +0.1**
baz=85,SNR=10
S17A Black Ridge (B 85.61 50 ⇑P **P 06 17 24.2 -0.6**
baz=86,SNR=13
X14A Yava 85.75 53 ⇓P **P 06 17 25.6 +0.1**
baz=86,SNR=8.4
P19A Cripple Cowboy 85.79 47 ⇑P **P 06 17 25.5 -0.1**
baz=86,SNR=5.9
RWWY Rawlins 85.83 45 *eP* **P 06 17 25.6 -0.1**
comp=Z,22nm,1.0s,mb5.3
R18A Canyonlands Na 85.84 49 ⇓P **P 06 17 25.3 -0.6**
baz=86,SNR=15
W15A Williams 85.84 53 ⇓P **P 06 17 26.4 +0.4**
baz=86,SNR=7.0
Y14A Wickenburg 85.94 54 ⇑P **P 06 17 26.2 -0.2**
baz=86,SNR=17
T17A Navajo Res., N 85.94 50 ⇓P **P 06 17 25.9 -0.5**
baz=86,SNR=7.7
113A Mohawk Valley, 85.96 55 ⇓P **P 06 17 26.0 -0.6**
baz=86,SNR=9.8
Q19A Hogan Spring (85.96 48 ⇓P **P 06 17 25.8 -0.7**
baz=86,SNR=6.6
S18A Hurst Farm, Bl 86.13 49 ⇑P **P 06 17 26.8 -0.6**
baz=86,SNR=13
U16A Tuba City 86.15 51 ⇑P **P 06 17 27.7 +0.2**
baz=86,SNR=12
X15A Humboldt 86.21 53 ⇑P **P 06 17 28.0 +0.2**
baz=86,SNR=18
U17A Shonto 86.24 51 ⇓P **P 06 17 28.0 +0.1**
baz=86,SNR=18
Z14A Wintersburg 86.27 54 ⇓P **P 06 17 27.6 -0.5**
baz=86
WUAZ Wupatki 86.30 52 ⇑P **P 06 17 28.2 0.0**
baz=86,SNR=7.5
WUAZ Wupatki 86.30 52 *eP* **P 06 17 28.1 -0.1**
comp=Z,12nm,1.0s,mb5.1
WUAZ *epP* pP 06 17 39.0 -0.7
W16A Flagstaff 86.41 52 ⇑P **P 06 17 28.0 -0.7**
baz=86
Y15A Casa Rosa Ranc 86.41 54 ⇓P **P 06 17 28.4 -0.4**
baz=86,SNR=19
PV10 Paradox Valley 86.42 48 *eP* **P 06 17 29.0 +0.2**
PV10 *epP* pP 06 17 40.3 0.0
BR131 Keskin Array S 86.44 313 *eP* **P 06 17 29.2 +0.4**
comp=Z,6.3nm,0.8s,mb4.9
BR131 *epP* pP 06 17 40.0 -0.3
T18A Mexican Hat 86.50 50 ⇓P **P 06 17 28.4 -0.8**
baz=86,SNR=10
S19A Harvey Farm, M 86.68 49 ⇓P **P 06 17 29.4 -0.7**
baz=86
X16A Lo Mia Camp, P 86.81 53 ⇑P **P 06 17 30.6 -0.2**
baz=87,SNR=9.7
PV01 Paradox Valley 86.86 48 *eP* **P 06 17 30.5 -0.4**
PV01 *epP* pP 06 17 41.9 -0.5
Z15A Gila River Ind 86.87 54 ⇑P **P 06 17 30.9 -0.1**
baz=87,SNR=5.1
U18A Rough Rock, Ch 86.88 50 ⇑P **P 06 17 31.2 +0.2**
baz=87,SNR=19
KWP Kalwaria 86.95 326 *eP* **P** 06 17 41.7 -1.0
KWP Kalwaria 86.95 326 *eP* **P** 06 17 41.7 -1.0
Y16A Circle Bar Ran 87.06 53 ⇑P **P 06 17 32.0 0.0**
baz=87,SNR=17
214A Organ Pipe Nat 87.07 56 ⇓P **P 06 17 31.9 -0.2**
baz=87,SNR=9.7
ULM Lac du Bonnet 87.11 33 LR LR 07 02 53.3
comp=Z,165nm,18.0s,MS4.5,baz=347,slow=40
115A Sonoran Desert 87.12 55 ⇑P **P 06 17 32.3 +0.1**
baz=87,SNR=7.9
V18A Ganado 87.21 51 ⇑P **P 06 17 32.9 +0.2**
baz=87,SNR=9.9
T19A Beclabito 87.24 50 ⇓P **P 06 17 32.6 -0.1**
baz=87,SNR=12
X17A Forest Lakes 87.31 53 ⇑P **P 06 17 33.8 +0.6**
baz=87,SNR=7.9
Z16A Peralta Trail, 87.37 54 ⇓P **P 06 17 33.4 -0.1**
baz=87
MVCO Mesa Verde 87.40 49 ⇓P **P 06 17 33.3 -0.3**
baz=87
MVCO Mesa Verde 87.40 49 *eP* **P 06 17 33.8 +0.3**
comp=Z,14nm,1.4s,mb5.0
MVCO *epP* pP 06 17 45.1 0.0
116A Eloy 87.57 55 ⇑P **P 06 17 34.4 0.0**
baz=87,SNR=6.8
Y17A Roosevelt 87.61 53 ⇑P **P 06 17 34.6 0.0**
baz=88,SNR=9.0
KOLS Kolonicke sedl 87.62 325 *eP* **P 06 17 35.1 +0.8**
X18A Snowflake 87.81 52 ⇑P **P 06 17 34.9 -0.7**
baz=88
V19A Window Rock 87.82 51 ⇓P **P 06 17 35.5 -0.1**
baz=88
STHS Stebnicka Huta 87.82 326 *eP* **P 06 17 34.1 -1.2**
STHS pmax pmax
comp=Z,3.0nm,0.9s,mb4.5
STHS Stebnicka Huta 87.82 326 *eP* **P 06 17 34.1 -1.2**
comp=Z,3.4nm,0.9s,mb4.6
ISCO Idaho Springs 87.88 46 *eP* **P 06 17 36.6 +0.8**
ISCO pmax pmax
comp=Z,10.0nm,1.3s,mb4.9
ISCO Idaho Springs 87.88 46 *eP* **P 06 17 36.6 +0.8**
comp=Z,9.9nm,1.3s,mb4.9
W19A Sanders 87.90 51 ⇑P **P 06 17 35.5 -0.5**
baz=88
216A Three Points, 88.04 55 ⇓P **P 06 17 36.8 +0.1**
baz=88,SNR=5.7
CRVS Cervenica-Dubn 88.05 326 *eP* **P 06 17 36.6 +0.2**
Y18A Canyon Day Jun 88.14 53 ⇑P **P 06 17 37.4 +0.3**
baz=88,SNR=9.1
117A Oracle 88.26 54 ⇑P **P 06 17 37.2 -0.5**
baz=88
X19A St. Johns 88.33 52 ⇑P **P 06 17 38.2 +0.2**
baz=88,SNR=10
TUC Tucson 88.37 54 *eP* **P 06 17 38.2 0.0**
TUC pmax pmax
comp=Z,20nm,1.6s,mb5.1
TUC Tucson 88.37 54 *eP* **P 06 17 38.1 -0.1**
comp=Z,20nm,1.6s,mb5.1
AGMN Agassiz Refuge 88.38 35 *eP* **P 06 17 37.4 -0.6**
comp=Z,15nm,1.1s,mb5.1
AGMN *epP* pP 06 17 48.1 -1.4
Y19A Nutrioso 88.60 52 ⇓P **P 06 17 39.2 -0.1**
baz=88
217A Green Valley 88.62 55 ⇓P **P 06 17 39.4 0.0**
baz=88,SNR=10
118A Homack Ranch, 88.78 54 ⇑P **P 06 17 40.4 +0.2**
baz=89,SNR=7.7
218A Dragoon 89.08 54 ⇓P **P 06 17 42.1 +0.5**
baz=89,SNR=10.0
SDCO Great Sand Dun 89.10 47 *eP* **P 06 17 42.1 +0.5**
comp=Z,14nm,1.9s,mb5.0
119A Ashpeak Ranch, 89.19 53 ⇑P **P 06 17 41.6 -0.5**
baz=89
318A Bisbee 89.39 55 ⇓P **P 06 17 43.5 +0.4**
baz=89,SNR=7.7
DPC Dobruska-Polom 89.55 329 *eP* **P 06 17 43.6 +0.2**
DPC *epP* pP 06 17 53.2 -1.8
VYHS Vyhne 89.62 327 *eP* **P 06 17 42.7 -1.1**
219A White Tail Can 89.63 54 ⇓P **P 06 17 44.4 +0.2**
baz=90,SNR=7.8
LAZ Ladron 89.84 51 *eP* **P 06 17 45.7 +0.5**
LAZ *epP* pP 06 17 57.1 +0.4
ANMO Albuquerque 90.01 50 *eP* **P 06 17 46.0 +0.1**

ANMO					*e**PP	pP	06 17 57.1	-0.4	
ANMO					pmax	pmax			
	comp=Z,6.0nm,1.2s								
ANMO	**Albuquerque**	**90.01**	**50**	*e*P	**P**		**06 17 46.0**	**+0.1**	
	comp=Z,6.0nm,1.2s,mb4.8								
ANMO					*e*pP	pP	06 17 57.1	-0.4	
BRG	**Berggiesshubel**	**90.24**	**330**	*e*P	**P**		**06 17 40.0**	**-6.6**	
BRG					pmax	pmax			
	comp=Z,1.0nm,0.7s,mb4.2								
BRG	**Berggiesshubel**	**90.24**	**330**	*e*P	**P**		**06 17 40.0**	**-6.6**	
	comp=Z,2.3nm,0.7s,mb4.6								
BNM	**Barren Site**	**90.33**	**51**	*e*P	**P**		**06 17 47.4**	**0.0**	
CLL	**Collm**	**90.33**	**331**	*i* P	**P**		**06 17 46.8**	**-0.3**	
CLL				*e**PP	pP		06 17 58.0	-0.6	
CLL				*e*			06 21 17.0		
CLL				pmax	pmax				
	comp=Z,18nm,1.7s,mb5.1								
CLL	**Collm**	**90.33**	**331**	*i* P	**P**		**06 17 46.8**	**-0.3**	
	comp=Z,18nm,1.7s,mb5.1								
CLL				*e*pP	pP		06 17 58.0	-0.6	
CLL				*e*PP	PP		06 21 17.0	-3.7	
ECSD	**EROS,Sioux Fal**	**90.92**	**39**	*e*P	**P**		**06 17 49.9**	**-0.1**	
	comp=Z,11nm,1.1s,mb5.1								
ECSD				*e*pP	pP		06 18 00.1	-1.4	
KHC	**Kasperske Hory**	**91.67**	**329**	*e*P	**P**		**06 17 53.1**	**-0.2**	
KHC				*e*pP	pP		06 18 03.7	-1.2	
GERES	**GERESS Array B**	**91.81**	**329**	P	**P**		**06 17 53.3**	**-0.7**	
	comp=Z,0.9nm,0.7s,mb4.2,baz=33,slow=5.1,SNR=5.7								
GERES	**GERESS Array B**	**91.81**	**329**	P	**P**		**06 17 53.3**	**-0.7**	
GERES				pmax	pmax				
	comp=Z,1.0nm,0.7s								
GRA1	**Grafenberg Arr**	**92.30**	**331**	*e*P	**P**		**06 17 57.0**	**+0.8**	
	comp=Z,5.0nm,1.0s,mb4.8								
GRF	**Grafenberg Arr**	**92.30**	**331**	*e*P	**P**		**06 17 57.0**	**+0.8**	
GRF				pmax	pmax				
	comp=Z,5.0nm,1.0s,mb4.8								
GRF	**Grafenberg Arr**	**92.30**	**331**	*e*P	**P**		**06 17 57.0**	**+0.8**	
GRF				pmax	pmax				
	comp=Z,5.0nm,1.0s,mb4.8								
GRF	**Grafenberg Arr**	**92.30**	**331**	*e*P	**P**		**06 17 57.0**	**+0.8**	
	comp=Z,5.0nm,1.0s,mb4.8								
SCIA	**State Center**	**94.00**	**38**	*e*P	**P**		**06 18 04.7**	**+0.5**	
	comp=Z,37nm,1.4s,mb5.6								
TXAR	**Lajitas Array**	**95.11**	**54**	P	**P**		**06 18 09.6**	**0.0**	
	comp=Z,1.3nm,0.7s,mb4.5,baz=315,slow=1.9,SNR=21								
TXAR				LR	LR		07 00 50.1		
	comp=Z,108nm,19.2s,MS4.3,baz=15,slow=35								
TXAR	**Lajitas Array**	**95.11**	**54**	P	**P**		**06 18 09.6**	**0.0**	
TXAR				pmax	pmax				
	comp=Z,1.0nm,0.7s								
TXAR				MLR	MLR				
	comp=Z,108nm,19.2s								
TXAR	**Lajitas Array**	**95.11**	**54**	P	**P**		**06 18 09.6**	**0.0**	
TXAR				LR	LR		07 00 50.1		
CMLA	**Cha da Macela**	**114.56**	**350**	*e*LQ			06 53 00.1		
TORD	**Torodi Ar. Bea**	**125.03**	**312**	PKP	PKPdf		06 23 46.7	-0.3	
	comp=Z,0.8nm,0.6s,baz=72,slow=1.2,SNR=6.1								
TORD				PP	PP		06 25 36.3	+1.1	
	comp=Z,1.4nm,0.8s,baz=26,slow=6.7,SNR=5.3								
TORD	**Torodi Ar. Bea**	**125.03**	**312**	PKP	PKPdf		06 23 46.7	-0.3	
TORD				PP	PP		06 25 36.3	+1.1	
BOSA	**Boshof**	**125.39**	**253**	PKP	PKPdf		06 23 47.5	+0.3	
	comp=Z,3.6nm,0.9s,baz=334,slow=17,SNR=3.3								
BOSA	**Boshof**	**125.39**	**253**	PKIKP	PKPdf		06 23 47.5	+0.2	
BOSA				pmax	pmax				
	comp=Z,4.0nm,0.9s								
SDV	**Santo Domingo**	**131.69**	**47**	*e*PKPdf	PKPdf		06 24 00.5	+0.8	
SDV				*ep*PKPdf	pPKPdf		06 24 11.2	-0.4	
VNA2	**Neumayer--Watz**	**133.03**	**193**	*e*PKPdf	PKPdf		06 23 58.3	-2.2	
	baz=183,slow=6.0								
VNA2				*e*			06 24 02.4		
VNA3	**Neumayer Olymp**	**133.21**	**192**	*e*PKPdf	PKPdf		06 23 55.4	-5.4	
PLCA	**Paso Flores**	**149.32**	**125**	PKPbc	PKPbc		06 24 34.5	-0.3	
	comp=Z,6.2nm,0.9s,baz=246,slow=4.2,SNR=15								
PLCA	**Paso Flores**	**149.32**	**125**	PKP2	PKPbc		06 24 34.6	-0.2	
PLCA				pmax	pmax				
	comp=Z,6.0nm,0.9s								
LPAZ	**La Paz**	**149.34**	**76**	*e*PKPdf	PKPdf		06 24 31.9	+0.7	
LPAZ				*e*PKPbc	PKPbc		06 24 36.6	+1.0	
LVC	**Limon Verde**	**150.87**	**88**	*e*PKPbc	PKPbc		06 24 40.0	+0.9	

***BJI* 16 06:11:28.7, 3857N×10214E, *h*16km, ML3.6, Gansu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GTA	**Gaotai**	**2.00**	**296**	P	Pn	06 12 01.5	-0.3
GTA				AMB	AMB		
	comp=Z,5.0nm,1.2s						
GTA				AMB	AMB		
	comp=Z,122nm,5.0s						
GTA				LR	LR		
	comp=N,502nm,16.6s						
GTA				LR	LR		
	comp=E,582nm,17.2s						
GTA				LR	LR		
	comp=Z,666nm,15.8s						
GTA	**Gaotai**	**2.00**	**296**	PG	Pg	06 12 03.6	-3.4
GTA				SG	Sg	06 12 30.0	-3.0
GTA				Smax			
	comp=N,561nm,0.7s						
GTA				Smax			
	comp=E,404nm,0.9s						
LZH	**Lanzhou**	**2.83**	**151**	PG	Pg	06 12 16.8	-6.1
LZH				SG	Sg	06 12 52.1	-7.4
LZH				Smax			
	comp=N,277nm,0.6s						
LZH				Smax			
	comp=E,255nm,0.6s						

IDC 16 06:11:57.5±1.9, 3309S×17834W, *h*0km, *mb*4.5/4, *mb*1 4.6/5, *mb*1*mx*4.2/17, *mbtmp*4.5/5, *ML*4.3/1, Error ellipse: s-maj=40.6km s-min=35.3km az=70.0, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**6.35**	**214**	Pn	Pn	06 13 33.2	+0.9
	6.7nm,0.3s,baz=61,slow=4.9,SNR=13						
URZ				Sn	Sn	06 14 44.0	-1.5
	14nm,0.3s,baz=177,slow=21,SNR=7.1						
CTA	**Charters Tower**	**34.04**	**283**	*e*P	P	06 18 45.0	+1.6
	5.8nm,0.5s						
CTA	**Charters Tower**	**34.04**	**283**	P	P	06 18 44.6	+1.3
	6.8nm,0.5s,baz=116,slow=11,SNR=12						
ASAR	**Alice Springs**	**42.75**	**270**	P	P	06 19 56.6	-0.1
	5.6nm,0.7s,baz=108,slow=7.4,SNR=23						
WRA	**Warramunga Arr**	**43.98**	**275**	P	P	06 20 05.9	-0.7
	4.9nm,0.4s,baz=116,slow=7.7,SNR=46						
KAKA	**Kakadu**	**49.16**	**282**	*e*P	P	06 20 47.8	+0.4
	4.1nm,0.6s						
FITZ	**Fitzroy Crossi**	**52.12**	**272**	*e*P	P	06 21 08.9	-0.8
	3.2nm,0.8s						
FITZ	**Fitzroy Crossi**	**52.12**	**272**	P	P	06 21 09.2	-0.5
	1.6nm,0.7s,baz=181,slow=8.3,SNR=5.2						
NB2	**NORSAR Subarra**	**151.35**	**350**	PKP	PKPdf	06 31 51.9	+5.7
	comp=Z,2.4nm,0.9s,baz=17,slow=2.6						
AKASG	**Malin Array Be**	**153.20**	**319**	PKPbc	PKPbc	06 31 56.5	-0.3
	comp=Z,0.3nm,0.3s,baz=74,slow=2.1,SNR=4.1						
AKASG	**Malin Array Be**	**153.20**	**319**	PKPbc	PKPbc	06 31 56.5	-0.3
TORD	**Torodi Ar. Bea**	**160.15**	**180**	PKPab	PKPab	06 32 39.0	-0.2
	comp=Z,0.8nm,0.9s,baz=185,slow=3.4,SNR=4.2						

IDC 16 06:14:33.6±4.2, 2091S×17900W, *h*620km±47km, *mb*3.2/10, *mb*1 3.5/10, *mb*1*mx*3.4/17, *mbtmp*3.2/10, Error ellipse: s-maj=50.8km s-min=20.9km az=150.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**32.52**	**265**	P	P	06 20 16.1	+0.2
	2.7nm,0.5s,baz=88,slow=14,SNR=5.0						
STKA	**Stephens Creek**	**36.77**	**244**	P	P	06 20 50.9	-0.1
	1.8nm,0.5s,baz=86,slow=13,SNR=2.9						
ASAR	**Alice Springs**	**43.52**	**257**	P	P	06 21 44.4	-0.2
	4.7nm,0.5s,baz=96,slow=7.8,SNR=17						
ASAR				PcP	PcP	06 23 18.8	+0.6
	1.1nm,0.6s,baz=108,slow=4.1,SNR=5.0						
WRA	**Warramunga Arr**	**43.62**	**263**	P	P	06 21 44.7	-0.7
	2.1nm,0.6s,baz=97,slow=7.5,SNR=11						
WRA				PcP	PcP	06 23 19.1	+0.6
	0.4nm,0.6s,baz=92,slow=3.3,SNR=2.7						
FITZ	**Fitzroy Crossi**	**52.05**	**263**	P	P	06 22 48.2	+0.3
	0.9nm,0.6s,baz=136,slow=4.8,SNR=5.5						
PETK	**Petropavlovsk-**	**76.43**	**346**	P	P	06 25 21.0	+0.4
	1.6nm,0.6s,baz=126,slow=7.3,SNR=4.1						
NVAR	**Mina Array Bea**	**81.96**	**44**	P	P	06 25 50.7	+0.6
	1.2nm,0.7s,baz=224,slow=7.8,SNR=7.9						
TXAR	**Lajitas Array**	**88.06**	**58**	P	P	06 26 20.5	+0.8
	0.6nm,0.8s,baz=207,slow=4.2,SNR=5.8						
CMAR	**Chiang Mai Arr**	**89.37**	**290**	P	P	06 26 27.6	+1.5
	0.9nm,0.3s,baz=150,slow=3.1,SNR=5.3						
PDAR	**Pinedale Array**	**89.90**	**44**	P	P	06 26 28.1	+0.2
	0.8nm,0.6s,baz=229,slow=2.6,SNR=7.1						
MKAR	**Makanchi Array**	**110.80**	**313**	PKiKP	PKiKP	06 31 57.7	+0.4
	0.1nm,0.4s,baz=105,slow=1.4,SNR=3.6						
BVAR	**Borovoye Array**	**118.79**	**320**	PKP	PKPdf	06 32 12.4	0.0
	0.9nm,0.4s,baz=90,slow=3.5,SNR=3.2						
ARCES	**ARCESS Array B**	**129.15**	**349**	PKP	PKPdf	06 32 31.2	-0.6
	1.5nm,0.6s,baz=3.2,slow=4.8,SNR=4.7						
AKASG	**Malin Array Be**	**142.91**	**330**	PKP	PKPdf	06 32 55.5	-2.2
	4.2nm,0.4s,baz=43,slow=4.1,SNR=19						
GERES	**GERESS Array B**	**150.33**	**343**	PKPbc	PKPbc	06 33 14.3	-1.7
	1.2nm,0.6s,baz=29,slow=3.0,SNR=5.7						
GERES	**GERESS Array B**	**150.33**	**343**	PKPbc	PKPbc	06 33 14.3	-1.7

BJI **16** *06:19:39.6, 2682N×143.17E, h31km, mB4.9, mb4.7, Ms4.5, Msz4.3*
JMA **16** *06:19:39.9, 2724N×143.29E, h53km±4km, M4.1*
MOS **16** *06:19:41.5±0.9, 2702N×142.86E, h25km, mb4.6/19, Error ellipse: s-maj=15.4km s-min=8.0km az=113.8*
ISCJB **16** *06:19:43.9±1.1, 2730N±004×142.84E±0.03, h32km±7km, mb4.6/55, MS4.1/8, Error ellipse: s-maj=6.5km s-min=4.5km az=13.2*
IDC **16** *06:19:44.3±4.4, 2706N×142.96E, h33km±33km, mb4.1/17, mb1 4.2/19, mb1mx4.2/25, mbtmp4.1/19, ML3.8/2, MS4.1/1, Ms1 4.1/1, ms1mx2.6/28, Error ellipse: s-maj=18.8km s-min=14.5km az=78.0*
NEIC **16** *06:19:45.2±0.2, 2707N×142.88E, mb4.8/20, Error ellipse: s-maj=5.9km s-min=5.7km az=206.0*

ISC 16 06:19:44.6±1.0, 2715N±003×142.89E±003, *h*29km±7km, *h*36km±1.0km: pP-P, n274, σ0.962/284, *mb*4.6/55, *MS*4.1/8, 93C-76D, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**0.63**	**265**	Pn	Pn	06 19 58.0	+0.4
	635nm,0.3s,baz=296,slow=22,SNR=213						
CBIJ				Sn	Sn	06 20 09.3	+2.6
	2μm,0.3s,baz=292,slow=19,SNR=29						
CBIJ	**Chichi jima**	**0.63**	**265**	P	Pb	06 19 57.9	+0.7
CBIJ				*e*S	Sb	06 20 11.2	+5.4
JHHJ	**Haha-jima-NKT**	**0.82**	**231**	P	Pn	06 20 00.3	+0.1
JHU	**Hanno**	**9.21**	**341**	P	Pn	06 21 54.6	-0.8
JHU				*e*S	Sn	06 23 34.8	-3.1
JRY	**Ryogami san**	**9.47**	**340**	P	Pn	06 21 57.5	-1.5
JRY				*e*S	Sn	06 23 43.7	-0.8
JAG	**Ashikaga**	**9.70**	**343**	P	Pn	06 22 00.8	-1.3
JAG				*e*S	Sn	06 23 48.8	-1.2
MJAR	**Matsushiro Arr**	**10.17**	**338**	Pn	Pn	06 22 07.5	-1.2
	0.8nm,0.3s,baz=165,slow=12,SNR=8.1						
MJAR	**Matsushiro Arr**	**10.17**	**338**	P	Pn	06 22 07.5	-1.1
MJAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
MAJO	**Matsushiro**	**10.18**	**338**	*e*P	Pn	06 22 08.4	-0.2
MAT	**Matsushiro**	**10.18**	**338**	P	Pn	06 22 05.0	-3.6
MAT				*e*S	Sn	06 24 00.6	-1.1
KSRS	**Korea Array**	**16.28**	**313**	Pn	Pn	06 23 32.6	+1.5
	comp=Z,0.3nm,0.3s,baz=118,slow=13,SNR=10						
YSS	**Yuzh-Sakhalins**	**19.77**	**360**	*i* P	P	06 24 14.1	+0.3
CN2	**Changchun**	**21.79**	**324**	*e*P	P	06 24 36.0	+2.0
KLR	**Kul'dur**	**23.67**	**342**	*e*P	P	06 24 49.7	-3.9
WHN	**Wuhan**	**25.20**	**284**	⇑P	P	06 25 06.8	-1.0
BJI	**Beijing**	**25.59**	**307**	P	P	06 25 11.0	-0.2
BJI				S	S	06 29 38.0	+0.7
BJI				AMB	AMB		
	comp=Z,8.0nm,0.4s,mb4.6						
BJI				AMB	AMB		
	comp=Z,486nm,10.5s						
BJI				LR	LR		
	comp=N,183nm,11.6s,MS4.0						
BJI				LR	LR		
	comp=E,297nm,15.1s,MS4.0						
BJI				LR	LR		
	comp=Z,127nm,17.4s,MS3.5						
HIA	**Hailar**	**28.40**	**327**	⇑*e*P	P	06 25 38.0	+1.7
HHC	**Hu-ho-hao-te**	**29.18**	**306**	*e*P	P	06 25 44.8	+1.5
HHC				AP	pP	06 25 55.4	+3.5
HHC				XP	sP	06 25 59.4	+4.0
HHC				PP	PP	06 26 39.3	-10
HHC				PCP	PcP	06 28 52.5	+2.2
HHC				S	S	06 30 33.6	-0.2
HHC				XS	sS	06 30 48.6	+0.7
HHC				SS	SS	06 32 05.4	-33
HHC				SCP	ScP	06 32 29.3	-0.6
HHC				AMB	AMB		
	comp=Z,14nm,1.0s,mb4.7						
HHC				AMB	AMB		
	comp=Z,191nm,7.5s						
HHC				LR	LR		
	comp=N,223nm,12.9s,MS4.2						
HHC				LR	LR		
	comp=E,266nm,10.8s,MS4.2						
HHC				LR	LR		
	comp=Z,287nm,12.0s,MS4.1						
XAN	**Xi'an**	**29.94**	**292**	P	P	06 25 48.6	-1.6
XAN				AP	pP	06 25 58.4	-0.4
XAN				XP	sP	06 26 02.0	-0.3
XAN				AMB	AMB		
	comp=Z,12nm,0.9s,mb4.6						
GYA	**Guiyang**	**32.28**	**277**	*e*P	P	06 26 11.6	+0.7
GYA				AP	pP	06 26 21.9	+2.5
GYA				XP	sP	06 26 25.4	+2.4
GYA				PP	PP	06 27 19.6	-4.4
GYA				S	S	06 31 20.8	-1.9
GYA				XS	sS	06 31 38.9	+2.1
GYA				SCP	ScP	06 32 40.5	+0.1
GYA				SCS	ScS	06 36 37.8	-1.8
GYA				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.8						
GYA				AMB	AMB		
	comp=Z,110nm,3.7s						
GYA				LR	LR		
	comp=N,640nm,15.2s,MS4.5						
GYA				LR	LR		
	comp=E,530nm,16.8s,MS4.5						
GYA				LR	LR		
	comp=Z,1μm,16.2s,MS4.6						
LZH	**Lanzhou**	**34.24**	**295**	*e*P	P	06 26 28.5	+0.6
LZH				AP	pP	06 26 37.0	+0.5
LZH				XP	sP	06 26 43.0	+3.0
LZH				AMB	AMB		
	comp=Z,18nm,1.0s,mb5.0						
LZH				AMB	AMB		
	comp=Z,77nm,4.0s						
LZH				LR	LR		
	comp=N,290nm,11.6s						
LZH				LR	LR		
	comp=Z,339nm,12.9s,MS4.3						
CD2	**Chengdu**	**34.30**	**286**	⇓*i* P	P	06 26 27.3	-1.2
CD2				AP	pP	06 26 37.0	-0.1
CD2				XP	sP	06 26 40.9	+0.2
CD2				PP	PP	06 27 43.5	-3.0
CD2				S	S	06 31 50.8	-3.3
CD2				XS	sS	06 32 05.8	-2.5
CD2				AMB	AMB		
	comp=Z,40nm,0.7s,mb5.5						
CD2				AMB	AMB		
	comp=Z,120nm,6.2s						
CD2				LR	LR		
	comp=N,530nm,13.2s,MS4.5						
CD2				LR	LR		
	comp=E,390nm,13.2s,MS4.5						
CD2				LR	LR		
	comp=Z,410nm,13.2s,MS4.3						
SONM	**Songino Array**	**35.11**	**316**	P	P	06 26 35.3	0.0
	comp=Z,1.6nm,0.7s,mb4.1,baz=124,slow=6.2,SNR=7.3						
SONM				LR	LR	06 39 17.0	
	comp=Z,278nm,18.5s,MS4.0,baz=106,slow=33						
KMI	**Kunming**	**36.00**	**276**	P	P	06 26 44.3	+1.1
KMI				AMB	AMB		
	comp=Z,8.0nm,0.8s,mb4.7						
SEY	**Seymchan**	**36.33**	**7**	*i* P	P	06 26 46.1	+0.6
BOD	**Bodaibo**	**36.78**	**334**	*e*P	P	06 26 49.3	-0.1
BOD				pmax	pmax		
	comp=Z,6.0nm,0.5s,mb4.7						
GTA	**Gaotai**	**37.70**	**300**	*e*P	P	06 26 58.0	+0.5
GTA				AP	pP	06 27 08.3	+2.2
GTA				XP	sP	06 27 12.4	+2.7
GTA				S	S	06 32 46.0	+0.1
GTA				XS	sS	06 33 02.8	+2.7
GTA				SS	SS	06 35 22.1	-10
GTA				AMB	AMB		
	comp=Z,3.0nm,1.0s,mb4.0						
GTA				AMB	AMB		
	comp=Z,132nm,6.5s						
GTA				LR	LR		
	comp=N,166nm,17.2s,MS4.3						
GTA				LR	LR		
	comp=E,350nm,16.1s,MS4.3						
GTA				LR	LR		
	comp=Z,266nm,15.5s,MS4.2						
ZAK	**Zakamensk**	**37.99**	**318**	*e*P	P	06 27 01.3	+1.6
ZAK				pmax	pmax		
	comp=Z,7.0nm,1.1s,mb4.3						
TLY	**Talaya**	**38.30**	**321**	*i* P	P	06 27 03.9	+1.6
TLY				pmax	pmax		
	comp=Z,11nm,1.0s,mb4.5						
CHTO	**Chiang Mai**	**41.13**	**268**	*e*P	P	06 27 25.9	-0.5
CMAR	**Chiang Mai Arr**	**41.26**	**267**	P	P	06 27 26.6	-0.7
	comp=Z,2.5nm,0.6s,mb4.0,baz=54,slow=9.0,SNR=14						
CMAR	**Chiang Mai Arr**	**41.26**	**267**	P	P	06 27 26.7	-0.7
CMAR				pmax	pmax		
	comp=Z,3.0nm,0.6s						
BILL	**Bilibino**	**43.26**	**13**	*e*P	P	06 27 44.2	+1.1
BILL				pmax	pmax		
	comp=Z,7.0nm,1.0s,mb4.3						
TIXI	**Tiksi**	**45.22**	**354**	*i* P	P	06 27 58.6	-0.1
TIXI				pmax	pmax		
	comp=Z,4.0nm,1.4s,mb4.1						
WMQ	**Urumqi**	**47.06**	**306**	⇑P	P	06 28 15.1	+1.6
WMQ				AP	pP	06 28 25.1	+2.7
WMQ				XP	sP	06 28 29.1	+3.2
WMQ				PCP	PcP	06 29 47.1	+1.8
WMQ				PP	PP	06 30 05.5	+1.2
WMQ				SCP	ScP	06 33 37.3	+0.2
WMQ				S	S	06 35 03.6	0.0
WMQ				XS	sS	06 35 21.1	+3.0
WMQ				AMB	AMB		
	comp=Z,5.0nm,0.9s,mb4.4						
WMQ				AMB	AMB		
	comp=Z,14nm,3.8s						
WMQ				LR	LR		
	comp=N,47nm,17.5s,MS3.5						
WMQ				LR	LR		
	comp=E,15nm,17.5s,MS3.5						
WMQ				LR	LR		
	comp=Z,62nm,16.0s,MS3.7						
WRAB	**Tennant Creek**	**47.53**	**191**	*e*P	P	06 28 15.8	-1.6
	comp=Z,17nm,0.9s,mb5.1						
WB2	**Warramunga Arr**	**47.54**	**191**	*e*P	P	06 28 15.7	-1.7
WRA	**Warramunga Arr**	**47.54**	**191**	P	P	06 28 15.8	-1.6
	comp=Z,11nm,0.7s,mb5.0,baz=12,slow=8.5,SNR=97						
WRA	**Warramunga Arr**	**47.54**	**191**	P	P	06 28 15.8	-1.6
WRA				pmax	pmax		
	comp=Z,11nm,0.7s						
FITZ	**Fitzroy Crossi**	**47.99**	**202**	*e*P	P	06 28 20.1	-0.9
	comp=Z,16nm,0.8s,mb5.1						
FITZ	**Fitzroy Crossi**	**47.99**	**202**	P	P	06 28 20.1	-0.9
	comp=Z,9.4nm,0.8s,mb4.9,baz=20,slow=10,SNR=26						
FITZ	**Fitzroy Crossi**	**47.99**	**202**	*e*P	P	06 28 19.9	-1.1
	comp=Z,23nm,0.9s,mb5.2						
TAPN	**Taplejung**	**48.70**	**284**	*e*P	P	06 28 26.4	-0.1
ODAN	**Odare**	**49.09**	**283**	*e*P	P	06 28 29.4	-0.2
	comp=Z,10.0nm,0.4s,mb5.2						
RAMN	**Ramite**	**49.76**	**283**	*e*P	P	06 28 34.5	-0.1
ZAA0	**Zalesovo Array**	**49.86**	**319**	*e*P	P	06 28 35.2	+0.2
ZALV	**Zalesovo Beam**	**49.86**	**319**	P	P	06 28 34.8	-0.2
	comp=Z,3.0nm,0.6s,mb4.5,baz=108,slow=7.7,SNR=13						
ZALV	**Zalesovo Beam**	**49.86**	**319**	P	P	06 28 34.8	-0.2
ZALV				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.5						
JIRN	**Jiri**	**49.95**	**284**	*e*P	P	06 28 36.5	+0.5
	comp=Z,35nm,0.7s,mb5.5						
GUN	**Gumba**	**50.16**	**285**	*e*P	P	06 28 38.3	+0.7
	comp=Z,32nm,0.7s,mb5.4						
KKN	**Kakani**	**50.70**	**285**	*e*P	P	06 28 42.0	+0.2
	comp=Z,3.7nm,0.2s,mb5.0						
DMN	**Daman**	**50.90**	**285**	*e*P	P	06 28 43.2	0.0
	comp=Z,15nm,0.6s,mb5.1						
MK31	**Makanchi Array**	**50.93**	**310**	*e*P	P	06 28 42.9	-0.3
MKAR	**Makanchi Array**	**50.93**	**310**	P	P	06 28 42.8	-0.3
	comp=Z,1.2nm,0.6s,mb4.0,baz=90,slow=8.7,SNR=14						
MKAR	**Makanchi Array**	**50.93**	**310**	P	P	06 28 42.8	-0.4
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
GKN	**Gorkha**	**51.21**	**285**	*e*P	P	06 28 45.8	+0.3
ASAR	**Alice Springs**	**51.26**	**191**	P	P	06 28 43.9	-1.9
	comp=Z,0.8nm,0.6s,mb3.8,baz=5.0,slow=5.3,SNR=14						
ASAR	**Alice Springs**	**51.26**	**191**	P	P	06 28 43.9	-1.9
ASAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
DANN	**Dangsing**	**51.88**	**286**	*e*P	P	06 28 51.0	+0.4
	comp=Z,25nm,0.7s,mb5.2						
KURK	**Kurchatov**	**53.40**	**314**	P	P	06 29 01.7	+0.2
	comp=Z,7.2nm,0.6s,mb4.8,baz=91,slow=6.8,SNR=32						
KURK	**Kurchatov**	**53.40**	**314**	*c i*P	P	06 29 01.7	+0.2
KURK				pmax	pmax		
	comp=Z,9.0nm,1.0s,mb4.7						
KURK	**Kurchatov**	**53.40**	**314**	*e*P	P	06 29 01.4	-0.1
	comp=Z,9.7nm,1.0s,mb4.7						
AML	**Almayashu**	**57.40**	**304**	*e*P	P	06 29 31.5	+1.1
	comp=Z,7.5nm,0.9s,mb4.7						
BVAR	**Borovoye Array**	**58.43**	**317**	P	P	06 29 37.8	+0.4
	comp=Z,13nm,0.7s,mb5.1,baz=93,slow=8.1,SNR=23						
BVAR	**Borovoye Array**	**58.43**	**317**	P	P	06 29 37.8	+0.4
BVAR				pmax	pmax		
	comp=Z,13nm,0.7s						
BRVK	**Borovoye**	**58.49**	**317**	*e*P	P	06 29 38.7	+0.8
BRVK				*e**PP	pP	06 29 49.3	+2.4
BRVK				pmax	pmax		
	comp=Z,24nm,0.8s,mb5.3						
BRVK	**Borovoye**

F08A	Pendleton	76.47	45	⇓P		P	06 31 32.3	+0.7
	baz=76							
H07A	Lands Inn, Kim	76.47	47	⇓P		P	06 31 32.3	+0.6
	baz=76							
G08A	Pilot Rock	76.56	46	⇓P		P	06 31 32.1	-0.1
	baz=76							
A11A	Hall Mountain,	76.59	42	⇑P		P	06 31 32.5	+0.2
	baz=76							
J06A	Christmas Vall	76.64	48	⇓P		P	06 31 32.3	-0.4
	baz=77							
L05A	Lakeview	76.68	50	⇓P		P	06 31 32.8	-0.1
	baz=77							
I07A	Izee	76.72	47	⇓P		P	06 31 33.2	+0.1
	baz=77							
MOD	Modoc	77.10	50	⇑P		P	06 31 35.0	-0.3
	baz=77							
J07A	Hines	77.15	48	⇑P		P	06 31 35.6	+0.1
	baz=77							
C11A	Tepee Creek (N	77.15	43	⇓P		P	06 31 35.6	+0.2
	baz=77							
ORV	Oroville	77.26	52	⇑P		P	06 31 35.3	-0.9
	baz=77							
M06C	Likely Place G	77.28	50	⇑P		P	06 31 36.0	-0.3
	baz=77							
G09A	Cove	77.32	46	⇓P		P	06 31 36.7	+0.3
	baz=77							
F10A	Beach Ranch, E	77.37	45	⇓P		P	06 31 37.3	+0.6
	baz=77							
D11A	Klaveano Farm,	77.45	43	⇑P		P	06 31 37.0	-0.1
	baz=77							
K07A	Rock Creek Ran	77.48	48	⇑P		P	06 31 37.5	+0.1
	baz=77							
KAF	Kangasniemi	77.70	335	*e*p		P	06 31 37.3	-0.9
	comp=Z,3.9nm,0.6s,mb4.5							
KAF	Kangasniemi	77.70	335	*e*P		P	06 31 37.3	-0.9
KAF					pmax	pmax		
	comp=Z,4.0nm,0.6s,mb4.5							
J08A	Circle Bar Ran	77.70	48	⇓P		P	06 31 38.7	+0.1
	baz=78							
L07A	Adell	77.70	49	⇓P		P	06 31 39.0	+0.4
	baz=78							
G10A	Bishop Farm, J	77.73	45	⇓P		P	06 31 38.6	-0.1
	baz=78,SNR=6.3							
A13A	Flathead Natio	77.75	41	⇑P		P	06 31 38.8	0.0
	baz=78							
BMO	Blue Mountains	77.81	46	*e*P		P	06 31 39.2	0.0
	comp=Z,5.0nm,1.3s,mb4.3							
E11A	Bogner Ranch,	77.84	44	⇑P		P	06 31 38.9	-0.4
	baz=78							
N06A	Buffalo Meadow	77.91	50	⇓P		P	06 31 39.6	-0.3
	baz=78							
BEKR	Beckwourth	77.92	51	⇑P		P	06 31 39.4	-0.5
	baz=78,SNR=6.0							
B13A	Whitefish	77.98	42	⇑P		P	06 31 40.2	+0.1
	baz=78							
F11A	Grangeville	78.08	44	⇑P		P	06 31 40.7	0.0
	baz=78							
M07A	Soldier Meadow	78.09	50	⇓P		P	06 31 41.3	+0.5
	baz=78							
O06A	Flanigan	78.17	51	⇑P		P	06 31 41.3	+0.1
	baz=78							
J09A	Fry Pan Ranch,	78.18	47	⇓P		P	06 31 41.3	0.0
	baz=78							
E12A	Beaver Dam Sad	78.20	44	⇓P		P	06 31 41.5	+0.1
	baz=78							
G11A	Walters Elk Ra	78.23	45	⇑P		P	06 31 41.0	-0.5
	baz=78,SNR=8.1							
C13A	Hot Springs	78.23	42	⇓P		P	06 31 41.6	+0.1
	baz=78							
H10A	Noah's Angus R	78.28	46	⇑P		P	06 31 41.8	0.0
	baz=78							
L08A	Fields	78.30	49	⇑P		P	06 31 42.0	+0.1
	baz=78,SNR=5.2							
A14A	Double T Ranch	78.32	41	⇑P		P	06 31 41.9	0.0
	baz=78							
KIV	Kislovodsk	78.47	313	*i* P		P	06 31 41.7	-1.2
KIV					pmax	pmax		
	comp=Z,17nm,1.1s,mb4.9							
K09A	Rome	78.49	48	⇓P		P	06 31 43.1	+0.1
	baz=78							
D13A	Huson	78.57	43	⇑P		P	06 31 42.9	-0.5
	baz=78							
M08A	Happy Creek Ra	78.60	49	⇑P		P	06 31 43.7	+0.1
	baz=78							
C14A	Swan Lake	78.69	42	⇑P		P	06 31 44.1	+0.1
	baz=79							
CMB	Columbia Colle	78.69	53	*e*P		P	06 31 43.8	-0.4
CMB					pmax	pmax		
	comp=Z,2.0nm,0.8s,mb4.1							
CMB	Columbia Colle	78.69	53	⇓P		P	06 31 44.3	+0.1
	baz=79							
CMB	Columbia Colle	78.69	53	*e*P		P	06 31 43.8	-0.4
	comp=Z,1.7nm,0.8s,mb4.0							
B14A	Marquette Ranc	78.69	41	⇓P		P	06 31 44.2	+0.2
	baz=79							
F12A	Elk City	78.70	44	⇑P		P	06 31 43.8	-0.3
	baz=79							
H11A	Donnelly	78.70	46	⇓P		P	06 31 43.7	-0.4
	baz=79,SNR=5.1							
A15A	Johnson Ranch,	78.72	41	⇑P		P	06 31 44.0	-0.1
	baz=79							
O07A	Toulon	78.82	51	⇓P		P	06 31 44.8	-0.1
	baz=79							
L09A	Wilkinson Ranc	78.83	49	⇑P		P	06 31 45.1	+0.2
	baz=79							
K10A	MacKenzie Ranc	79.02	48	⇓P		P	06 31 45.8	0.0
	baz=79							
N08A	GE Springer Mi	79.06	50	⇓P		P	06 31 46.2	+0.1
	baz=79							
B15A	Bradely Ranch,	79.13	41	⇑P		P	06 31 46.6	+0.2
	baz=79							
R06C	Coleville	79.14	52	⇑P		P	06 31 46.7	+0.1
	baz=79							
F13A	Darby	79.26	44	⇑P		P	06 31 47.0	-0.2
	baz=79							
O08A	Rochester Mine	79.26	50	⇑P		P	06 31 47.4	+0.1
	baz=79							
C15A	Salmond Ranch,	79.36	42	⇑P		P	06 31 47.5	-0.1
	baz=79							
MFID	Camas Ranch	79.41	47	⇓P		P	06 31 48.1	+0.1
	baz=79							
H12A	Diamond D Ranc	79.51	45	⇓P		P	06 31 48.6	+0.1
	baz=79							
K11A	Parker Ranch,	79.57	47	⇑P		P	06 31 48.9	-0.1
	baz=80							
L10A	Juniper Basin	79.60	48	⇓P		P	06 31 49.0	-0.1
	baz=80							
T06C	Millerton Lake	79.62	54	⇑P		P	06 31 49.2	-0.1
	baz=80							
G13A	Cobalt	79.64	45	⇓P		P	06 31 48.9	-0.4
	baz=80,SNR=8.1							
C16A	Fuhringer Ranc	79.86	41	⇓P		P	06 31 50.5	+0.1
	baz=80							
H13A	Challis	79.88	45	⇑P		P	06 31 51.1	+0.6
	baz=80							
J12A	Stokes Ranch,	79.95	47	⇓P		P	06 31 51.2	+0.2
	baz=80							
NVAR	Mina Array Bea	79.99	52	P		P	06 31 51.3	0.0
	comp=Z,1.6nm,0.7s,mb4.0,baz=283,slow=5.6,SNR=14							
E15A	Deer Lodge	79.99	43	⇓P		P	06 31 51.3	+0.2
	baz=80							
L11A	Cat Creek Ranc	80.03	48	⇓P		P	06 31 51.7	+0.3
	baz=80							
HLID	Hailey	80.25	46	⇑P		P	06 31 52.6	+0.1
	baz=80							
HLID	Hailey	80.25	46	*e*P		P	06 31 52.7	+0.1
	comp=Z,0.9nm,0.7s,mb3.8							
I13A	Wildhorse Cree	80.27	46	⇑P		P	06 31 53.3	+0.6
	baz=80							
D16A	Dana Ranch, Ca	80.35	42	⇑P		P	06 31 53.3	+0.2
	baz=80							
F15A	Butte	80.36	43	⇓P		P	06 31 53.2	+0.1
	baz=80,SNR=7.7							
K12A	Draper Farm, C	80.37	47	⇑P		P	06 31 53.0	-0.2
	baz=80							
LRM	Limekiln Ridge	80.40	43	*e*P		P	06 31 53.9	+0.6
H14A	Leadore	80.41	45	⇓P		P	06 31 53.7	+0.3
	baz=80							
J13A	Cove Ranch, Pi	80.48	46	⇑P		P	06 31 54.2	+0.4
	baz=80							
C17A	Wharram Farm,	80.52	41	⇑P		P	06 31 53.8	-0.2
	baz=80							
E16A	East Helena	80.52	42	⇓P		P	06 31 54.2	+0.2
	baz=80							
L12A	House Creek Ra	80.52	47	⇑P		P	06 31 54.1	0.0
	baz=80							
VES	Vestal, Richgr	80.59	55	⇑P		P	06 31 53.7	-0.9
	baz=80							
I14A	Mackay	80.69	45	⇑P		P	06 31 55.5	+0.5
	baz=81,SNR=7.3							
G15A	Dillon	80.69	44	⇑P		P	06 31 55.5	+0.6
	baz=81							
P10A	Eureka	80.72	50	⇓P		P	06 31 55.5	+0.3
	baz=81							
K13A	Stover Farm, H	80.89	47	⇑P		P	06 31 56.3	+0.3
	baz=81							
M12A	Wells	80.93	48	⇓P		P	06 31 56.8	+0.5
	baz=81,SNR=5.1							
J14A	Carey	80.94	46	⇓P		P	06 31 56.4	+0.2
	baz=81,SNR=5.4							
R09A	Tonopah	80.94	52	⇑P		P	06 31 56.1	-0.2
	baz=81,SNR=6.7							
O11A	Cowboy Ranch,	81.04	50	⇓P		P	06 31 56.5	-0.4
	baz=81							
E17A	Martinsdale	81.05	42	⇓P		P	06 31 56.6	-0.2
	baz=81							
S09A	Goldfield	81.07	52	⇑P		P	06 31 56.7	-0.4
	baz=81							
G16A	Moss Hill, Enn	81.08	44	⇓P		P	06 31 56.8	-0.2
	baz=81							
N12A	Clover Valley,	81.12	49	⇓P		P	06 31 57.7	+0.4
	baz=81							
Q10A	Clear Creek Ra	81.14	51	⇑P		P	06 31 57.3	-0.1
	baz=81							
KBD	Kabd	81.40	298	*e*P		P	06 31 59.1	+0.1
	baz=298							
KBD					AMb	AMB	06 32 01.6	
	comp=Z,10.0nm,0.9s,mb4.8,baz=298							
S10A	Tonopah Range,	81.42	52	⇓P		P	06 31 58.8	-0.1
	baz=81							
R10A	Warm Springs	81.45	51	⇑P		P	06 31 58.9	-0.2
	baz=81							
QLMT	Earthquake Lak	81.51	44	*e*P		P	06 32 00.7	+1.4
K14A	Jones Ranch, D	81.53	46	⇑P		P	06 31 59.3	-0.1
	baz=81							
E18A	Harlowton	81.56	42	⇑P		P	06 31 59.8	+0.3
	baz=82							
O12A	Currie	81.59	49	⇑P		P	06 31 59.7	-0.1
	baz=82,SNR=6.1							
J15A	Blackfoot	81.59	45	⇓P		P	06 32 00.1	+0.4
	baz=82,SNR=5.4							
RDF	Al-Radifah	81.62	298	*e*P		P	06 31 59.7	-0.5
	baz=298							
MPMC	Manual Prospec	81.64	54	⇓P		P	06 32 00.2	0.0
	baz=82							
Q11A	Duckwater	81.64	51	⇑P		P	06 31 59.9	-0.2
	baz=82							
NAY	Al-Naaiem	81.72	299	*e*P		P	06 31 60.0	-0.7
	baz=298							
NAY					AMb	AMB	06 32 03.2	
	comp=Z,16nm,1.5s,mb4.7,baz=298							
L14A	Malta	81.74	47	⇓P		P	06 32 00.8	+0.3
	baz=82							
RST	Umm Al-Ruwaisa	81.80	299	*e*P		P	06 32 00.3	-0.8
	baz=299							
RST					AMb	AMB	06 32 01.9	
	comp=Z,17nm,0.7s,mb5.1,baz=299							
K15A	Arbon	81.88	46	⇑P		P	06 32 01.4	+0.1
	baz=82							
R11A	Troy Canyon, C	81.92	51	⇑P		P	06 32 01.8	+0.2
	baz=82							
M14A	Sheep Mountain	81.93	47	⇓P		P	06 32 01.6	0.0
	baz=82							
I16A	Newdale	81.95	45	⇓P		P	06 32 02.3	+0.6
	baz=82							
F18A	Big Timber	82.01	42	⇑P		P	06 32 02.2	+0.3
	baz=82							
TPNV	Topopah Spring	82.11	53	⇓P		P	06 32 02.4	-0.3
	baz=82							
J16A	Bone	82.17	45	⇓P		P	06 32 03.3	+0.5
	baz=82							
L15A	Malad City	82.31	47	⇑P		P	06 32 03.7	+0.1
	baz=82							
RRI2	Red Ridge	82.32	45	*e*P		P	06 32 04.6	+1.0
	comp=Z,3.5nm,0.8s,mb4.3							
N14A	Grayback Hills	82.35	48	⇑P		P	06 32 03.9	+0.1
	baz=82							
K16A	Soda Springs	82.41	46	⇓P		P	06 32 04.7	+0.6
	baz=82							
P13A	Bates Ranch, G	82.47	50	⇓P		P	06 32 04.7	+0.2
	baz=82							
M15A	Larsen Ranch,	82.53	47	⇓P		P	06 32 04.7	0.0
	baz=82							
RLMT	Red Lodge	82.69	43	⇓P		P	06 32 06.0	+0.5
	baz=83							
T11A	Corn Creek, Al	82.70	52	⇑P		P	06 32 05.5	-0.2
	baz=83							
N15A	Stansbury Isla	82.77	48	⇓P		P	06 32 06.2	+0.2
	baz=83							
DUG	Dugway	82.92	48	*e*P		P	06 32 06.9	+0.1
DUG					pmax	pmax		
	comp=Z,3.0nm,0.7s,mb4.4							
DUG	Dugway	82.92	48	⇓P		P	06 32 07.1	+0.3
	baz=83							
DUG	Dugway	82.92	48	*e*P		P	06 32 06.9	+0.1
	comp=Z,2.5nm,0.7s,mb4.3							
L16A	Fish Haven	82.92	46	⇓P		P	06 32 07.2	+0.5
	baz=83							
HWUT	Hardware Ranch	83.04	47	*e*P		P	06 32 07.4	0.0
	comp=Z,6.2nm,1.4s,mb4.5							
P14A	Drum Mountains	83.05	49	⇑P		P	06 32 07.6	+0.2
	baz=83							
Q14A	Sevier Lake (B	83.20	50	⇓P		P	06 32 08.3	+0.1
	baz=83							
V12A	Nelson	83.69	53	⇑P		P	06 32 11.0	+0.2
	baz=84							
BW06	Boulder Array	83.73	45	⇑P		P	06 32 11.0	+0.1
	baz=84							
BW06	Boulder Array	83.73	45	*e*P		P	06 32 11.0	+0.1
	comp=Z,1.0nm,0.7s,mb4.0							
PDAR	Pinedale Array	83.73	45	P		P	06 32 09.8	-1.0
	comp=Z,0.8nm,0.9s,mb3.9,baz=314,slow=5.3,SNR=5.7							
O16A	Springville	83.78	48	⇑P		P	06 32 11.5	+0.3
	baz=84							
NOA	NORSAR Array B	83.79	339	P		P	06 32 10.1	-0.8
	comp=Z,2.4nm,0.9s,mb4.3,baz=49,slow=4.8,SNR=4.0							
NOA	NORSAR Array B	83.79	339	P		P	06 32 10.1	-0.7
NOA					pmax	pmax		
	comp=Z,2.0nm,0.9s							
NOA	NORSAR Array B	83.79	339	P		P	06 32 10.1	-0.8
U13A	Pakoon Wash	83.98	52	⇑P		P	06 32 12.0	-0.3
	baz=84							
V13A	Grand Canyon W	84.24	53	⇑P		P	06 32 13.3	-0.3
	baz=84							
BC3	Big Chuckw Mtn	84.25	55	⇓P		P	06 32 13.8	+0.1
	baz=84							
N18A	Larsen Ranch,	84.59	47	⇓P		P	06 32 15.1	-0.2
	baz=84							
P17A	Butcher Ranch,	84.66	48	⇓P		P	06 32 15.5	-0.2
	baz=85							
O18A	Roosevelt	84.74	47	⇑P		P	06 32 16.5	+0.4
	baz=85							
R16A	Teasdale	84.77	50	⇓P		P	06 32 16.4	+0.2
	baz=85							
T15A	Red Dirt Ranch	84.79	51	⇓P		P	06 32 16.8	+0.4
	baz=85							
X13A	Yucca	84.97	54	⇑P		P	06 32 17.1	-0.2
	baz=85							
V14A	Boquillas Ranc	84.97	53	⇑P		P	06 32 17.2	-0.1
	baz=85							
S16A	Weppner Ranch,	84.98	50	⇑P		P	06 32 17.2	-0.1
	baz=85							
SRU	San Rafael	84.99	48	⇑P		P	06 32 17.3	-0.1
	baz=85							
U15A	North Rim	85.15	51	⇑P		P	06 32 18.5	+0.3
	baz=85							
W14A	Seligman	85.20	53	⇑P		P	06 32 18.2	-0.2
	baz=85							
R17A	Hanksville Air	85.22	49	⇑P		P	06 32 18.4	-0.1
	baz=85							
V15A	Kaibab Nationa	85.54	52	⇑P		P	06 32 20.4	+0.3
	baz=86							
S17A	Black Ridge (B	85.56	50	⇓P		P	06 32 20.0	-0.2
	baz=86							
X14A	Yava	85.70	53	⇑P		P	06 32 20.9	-0.1
	baz=86							
P19A	Cripple Cowboy	85.74	47	⇑P		P	06 32 21.4	+0.3
	baz=86							
Y14A	Wickenburg	85.89	54	⇓P		P	06 32 22.1	+0.1
	baz=86							
T17A	Navajo Res., N	85.89	50	⇑P		P	06 32 22.0	+0.1
	baz=86							
Q19A	Hogan Spring (	85.91	48	⇑P		P	06 32 22.0	0.0
	baz=86							
113A	Mohawk Valley,	85.91	55	⇓P		P	06 32 21.8	-0.2
	baz=86							
S18A	Hurst Farm, Bl	86.08	49	⇑P		P	06 32 22.5	-0.4
	baz=86							
U16A	Tuba City	86.10	51	⇑P		P	06 32 22.8	-0.1
	baz=86							
X15A	Humboldt	86.16	53	⇑P		P	06 32 23.0	-0.2
	baz=86							
U17A	Shonto	86.19	51	⇓P		P	06 32 23.9	+0.5
	baz=86							
WUAZ	Wupatki	86.25	52	⇑P		P	06 32 24.1	+0.4
	baz=86							
W16A	Flagstaff	86.35	52	⇑P		P	06 32 24.3	+0.1
	baz=86							
Y15A	Casa Rosa Ranc	86.36	54	⇑P		P	06 32 24.2	-0.1
	baz=86							
PV10	Paradox Valley	86.36	48	*e*P		P	06 32 24.9	+0.7
T18A	Mexican Hat	86.45	50	⇑P		P	06 32 24.0	-0.6
	baz=86							
X16A	Lo Mia Camp, P	86.76	53	⇓P		P	06 32 25.7	-0.5
	baz=87							
PV01	Paradox Valley	86.81	48	*e*P		P	06 32 25.4	-1.0
U18A	Rough Rock, Ch	86.83	50	⇑P		P	06 32 25.9	-0.6
	baz=87							
214A	Organ Pipe Nat	87.02	56	⇓P		P	06 32 27.3	-0.3
	baz=87							
115A	Sonoran Desert	87.07	55	⇑P		P	06 32 27.4	-0.4
	baz=87							
V18A	Ganado	87.16	51	⇑P		P	06 32 28.2	+0.1
	baz=87							
X19A	St. Johns	88.28	52	⇑P		P	06 32 33.7	+0.2
	baz=88							
219A	White Tail Can	89.58	54	⇑P		P	06 32 39.6	-0.1
	baz=90							
GERES	GERESS Array B	91.79	329	P		P	06 32 49.7	+0.1
	comp=Z,0.5nm,0.6s,mb4.0,baz=49,slow=4.4,SNR=2.9							
GERES	GERESS Array B	91.79	329	P		P	06 32 49.7	+0.1
GERES					pmax	pmax		
	comp=Z,1.0nm,0.6s							
GERES	GERESS Array B	91.79	329	P		P	06 32 49.7	+0.1
TXAR	Lajitas Array	95.06	54	P		P	06 33 05.5	+0.4
	comp=Z,0.3nm,0.7s,mb3.8,baz=305,slow=3.2,SNR=3.7							
TORD	Torodi Ar. Bea	125.02	312	PKP		PKPdf	06 38 41.0	-1.8
	comp=Z,0.5nm,0.8s,baz=42,slow=2.3,SNR=3.7							
LPAZ	La Paz	149.30	76	PKPbc		PKPbc	06 39 31.6	+0.3
	comp=Z,2.9nm,0.8s,baz=306,slow=1.4,SNR=14							
LPAZ	La Paz	149.30	76	*e*PKPbc		PKPbc	06 39 31.3	+0.1

IDC ***16*** *06:22:33.5±3.0, 2460S×6860W, h0km, mb3.6/1, mb1 4.0/2, mb1mx3.5/15, mbtmp3.9/2, ML3.6/1, Error ellipse: s-maj=106.7km s-min=56.0km az=75.0*
NEIC ***16*** *06:22:36.2, 2999S×6887W, h142km, MG3.7(GUC), After GUC.*
GUC ***16*** *06:22:36.2±0.5, 2999S×6887W, h142km±30km, ML3.7*
ISCJB ***16*** *06:22:38.2±2.1, 2999S±009×691W±04, h159km±37km, Error ellipse: s-maj=63.8km s-min=11.3km az=9.1*

ISC 16 06:22:37.7±2.0, 3002S±008×689W±03, h128km±34km, n13, σ0$81/19, 2C-1D, San Juan Province

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
TLL	Tololo Astrono	1.70	265	⇑*i*	P		Pn	06 23 09.0	+1.1
TLL				*i*	S		Sn	06 23 33.4	+2.3
TLL					AML		AML	06 23 34.3	
	comp=E,1μm,0.4s								
TLL	Tololo Astrono	1.70	265	⇑*i*	P		Pn	06 23 09.0	+1.1
TLL				*i*	S		Sn	06 23 33.4	+2.3
LCO	Las Campanas	1.91	301	⇓*i*	P		Pn	06 23 10.3	-0.1
LCO				*i*	S		Sn	06 23 36.0	+0.6
LSCH	La Serena	2.08	273	*e*	P		Pn	06 23 11.9	-0.7
LSCH				*i*	S		Sn	06 23 38.9	-0.5
LSCH					AML		AML	06 23 40.7	
	comp=N,228nm,0.2s								
LSCH	La Serena	2.08	273	*e*	P		Pn	06 23 11.9	-0.7
LSCH				*i*	S		Sn	06 23 38.9	-0.5
OVCH	Ovalle	2.12	253	*i*	P		Pn	06 23 12.6	-0.4
OVCH				*i*	S		Sn	06 23 39.8	-0.3
VACH	Vallenar	2.21	310	*e*	P		Pn	06 23 13.6	-0.6
VACH				*i*	S		Sn	06 23 41.4	-0.6
VACH					AML		AML	06 23 43.7	
	comp=N,2μm,0.1s								
VACH	Vallenar	2.21	310	*e*	P		Pn	06 23 13.6	-0.6
VACH				*i*	S		Sn	06 23 41.4	-0.6
CHNG	Los Chungos	2.94	230	*i*	P		Pn	06 23 22.7	-0.8
CHNG				*i*	S		Sn	06 23 58.6	-0.1
CHNG					AML		AML	06 24 07.0	
	comp=N,84nm,0.5s								
TORD	Torodi Ar. Bea	80.27	69	P		P		06 34 35.2	+0.6
	comp=N,0.3nm,0.5s,baz=240,slow=5.2,SNR=6.8								
KURK	Kurchatov	148.11	40	PKP		PKPab		06 42 09.5	-1.6
	comp=N,0.4nm,0.6s,baz=296,slow=2.8,SNR=3.8								
ZALV	Zalesovo Beam	149.43	31	PKP		PKPab		06 42 12.8	-3.5
	comp=N,1.1nm,0.5s,baz=315,slow=3.0,SNR=4.9								
MKAR	Makanchi Array	152.08	45	PKPbc		PKPbc		06 42 18.7	+1.2
	comp=N,0.3nm,0.4s,baz=303,slow=2.2,SNR=5.1								

IDC 16 06:29:45.4±1.2, 2251N×12668E, h0km, mb3.8/6, mb1 3.9/6, mb1mx3.8/17, mbtmp3.8/6, Error ellipse: s-maj=136.8km s-min=17.6km az=68.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	23.55	162	P		P		06 34 58.5	+0.8
	4.0nm,0.7s,baz=341,slow=11,SNR=29								
ASAR	Alice Springs	26.95	165	P		P		06 35 27.0	-1.8
	0.4nm,0.5s,baz=348,slow=7.7,SNR=6.2								
STKA	Stephens Creek	37.02	159	P		P		06 36 57.8	+0.9
	3.2nm,0.8s,baz=339,slow=13,SNR=4.4								
SONM	Songino Array	48.43	342	P		P		06 38 29.0	-0.4
	0.6nm,0.6s,baz=165,slow=6.0,SNR=4.9								
MKAR	Makanchi Array	58.53	326	P		P		06 39 43.8	+0.2
	0.4nm,0.5s,baz=125,slow=6.9,SNR=3.8								
KURK	Kurchatov	62.74	328	P		P		06 40 12.5	+0.2
	0.4nm,0.6s,baz=131,slow=6.0,SNR=3.8								

GII ***16*** *06:39:33.2±0.3, 3564N×2771E, h50km, ML3.5/2*
ISK ***16*** *06:39:44.0, 3488N×2783E, h27km, MD3.6*
CSEM ***16*** *06:39:45.4±0.2, 3502N×2789E, h60km, MD3.4, Error ellipse: s-maj=5.5km s-min=2.3km az=51.0*
ISCJB ***16*** *06:39:47.4±0.7, 3509N±006×2821E±006, h72km±30km, Error ellipse: s-maj=11.6km s-min=6.7km az=32.4*
DDA ***16*** *06:39:49.4, 3559N×28.17E, h6km±5km, Md3.4*
NEIC ***16*** *06:39:57.6, 3599N×2762E, h20km, MD3.4(ATH), After ATH.*
ATH ***16*** *06:39:57.6, 3599N×2762E, h20km±4km, MD3.4/5*

**ISC 16 06:39:48.1±1.6, 3513N±004×2823E±007, h23km±14km, n42, σ1$29/52,

APE	**Apeiranthos**	**2.92**	**312**	*e*Pn	**Pn**	**06 40 32.8**	**-0.3**
APE	**Apeiranthos**	**2.92**	**312**	*e*PN	**Pn**	**06 40 32.8**	**-0.3**
IZM	**Izmir**	**3.35**	**347**	*e*PN	**Pn**	**06 40 39.1**	**0.0**
KHL	**Karahalli**	**3.36**	**18**	*e*PN	**Pn**	**06 40 40.9**	**+1.8**
KULA	**Kula-Manisa**	**3.40**	**6**	*e*PN	**Pn**	**06 40 41.1**	**+1.4**
LEF	**Lefka**	**3.82**	**89**	*e*PN	**Pn**	**06 40 47.0**	**+1.5**
HDMB	**Hadim**	**3.91**	**61**	*e*PN	**Pn**	**06 40 49.9**	**+3.2**
IKL	**Isikli**	**4.58**	**74**	*e*PN	**Pn**	**06 40 59.3**	**+3.4**
HNTI	**Hanita**	**6.11**	**108**	Sn	**Sn**	**06 42 24.7**	**-1.5**
MMA0B	**Mount Meron ar**	**6.32**	**107**	Sn	**Sn**	**06 42 30.1**	**-1.1**
SLTI	**Sal'it**	**6.37**	**115**	Sn	**Sn**	**06 42 32.1**	**-0.3**
KSDI	**Kefar Szold**	**6.46**	**105**	Sn	**Sn**	**06 42 32.8**	**-1.8**
MMLI	**Mount Malkishu**	**6.56**	**112**	Sn	**Sn**	**06 42 36.7**	**-0.6**
HMDT	**Nahal Hemdat**	**6.72**	**113**	Sn	**Sn**	**06 42 40.1**	**-1.2**
RTMI	**Retamim**	**6.78**	**125**	Sn	**Sn**	**06 42 43.0**	**+0.5**
YTIR	**Yattir**	**6.88**	**121**	Sn	**Sn**	**06 42 45.3**	**+0.1**
DSI	**Dead Sea**	**6.96**	**119**	Sn	**Sn**	**06 42 46.7**	**-0.3**
MZDA	**Masada**	**7.09**	**120**	Sn	**Sn**	**06 42 50.1**	**-0.1**
RMNI	**Mount Ramon**	**7.12**	**128**	Sn	**Sn**	**06 42 52.1**	**+1.2**
ZFRI	**Zfri**	**7.42**	**126**	Sn	**Sn**	**06 42 58.8**	**+0.5**
HRFI	**Mount Harif**	**7.67**	**130**	Sn	**Sn**	**06 43 05.2**	**+0.7**
MBRI	**Mt Berech**	**7.76**	**131**	Sn	**Sn**	**06 43 07.1**	**+0.4**

IDC ***16*** *06:40:18.7±12.0, 2254N×12203E, h0km, mb3.8/4, mb1 3.8/4, mb1mx3.6/19, mbtmp3.8/4, Error ellipse: s-maj=254.4km s-min=42.8km az=179.0*
ISCJB ***16*** *06:40:33.9±2.3, 242N±02×1212E±01, h10km, mb3.8/3, Error ellipse: s-maj=36.6km s-min=15.6km az=168.7*
BJI ***16*** *06:41:02.3, 2630N×11853E, h23km, ML4.0*
ISC 16 06:40:34.9±2.3**, 241N**±02×**1212E**±01**, h10km, n7, σ0§70/8, mb3.8/3, Taiwan**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
QZH	**Quanzhou**	**2.51**	**290**	P		**Pn**	**06 41 27.5**	**+12**
QZH				S		**Sn**	**06 41 46.4**	**-0.1**
QZH	comp=N,1μm,0.3s			Smax				
QZH	comp=E,3μm,0.4s			Smax				
GZH	**Guangzhou**	**7.27**	**264**	PG		**Pb**	**06 42 41.4**	**+0.2**
GZH	comp=N,211nm,0.6s			Smax				
GZH	comp=E,163nm,0.7s			Smax				
CD2	**Chengdu**	**16.88**	**298**	XP		**Pn**	**06 44 24.8**	**-6.5**
SONM	**Songino Array**	**26.45**	**337**	P		**P**	**06 46 13.1**	**+1.2**
	comp=E,1.0nm,0.8s,mb3.4,baz=162,slow=9.1,SNR=3.8							
MKAR	**Makanchi Array**	**38.40**	**316**	P		**P**	**06 47 55.8**	**-0.6**
	comp=E,0.2nm,0.5s,baz=108,slow=7.7,SNR=4.2							
PETK	**Petropavlovsk-**	**39.93**	**34**	P		**P**	**06 48 01.7**	**-7.4**
	comp=E,2.6nm,0.5s,mb4.2,baz=208,slow=9.8,SNR=11							
ZALV	**Zalesovo Beam**	**40.32**	**327**	P		**P**	**06 48 11.5**	**-0.7**
	comp=E,1.2nm,0.7s,mb3.8,baz=117,slow=9.0,SNR=4.9							

LDG ***16*** *06:41:47.1±0.6, 1419S×16990E, h10km, Error ellipse: s-maj=105.3km s-min=5.7km az=105.0*
ISCJB ***16*** *06:42:02.0±5.4, 143S±03×1674E±02, h156km±34km, mb4.4/14, Error ellipse: s-maj=62.2km s-min=19.8km az=29.0*
NEIC ***16*** *06:42:10.2±2.9, 1480S×16717E, h185km±25km, mb4.4/13, Error ellipse: s-maj=22.3km s-min=15.7km az=172.0*
IDC ***16*** *06:42:12.5±13.0, 1465S×16706E, h208km±106km, mb4.2/8, mb1 4.3/8, mb1mx3.9/19, mbtmp4.2/8, Error ellipse: s-maj=68.8km s-min=36.6km az=80.0*
ISC 16 06:42:01.0±5.6**, 142S**±04×**1676E**±02**, h143**km±35km**, n60, σ0§74/28, mb4.4/14, Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**7.94**	**187**	*e*Pn		**Pn**	**06 43 53.4**	**-0.3**
CTA	**Charters Tower**	**21.18**	**251**	*e*P		**P**	**06 46 37.0**	**+1.8**
	6.8nm,0.8s,mb4.0							
CTA	**Charters Tower**	**21.18**	**251**	P		**P**	**06 46 36.0**	**+0.9**
	6.3nm,0.9s,mb4.0,baz=76,slow=12,SNR=6.4							
CTAO	**Charters Tower**	**21.18**	**251**	*e*P		**P**	**06 46 37.4**	**+2.2**
	9.0nm,0.7s,mb4.2							
ARMA	**Armidale**	**21.84**	**220**	*e*P		**P**	**06 46 42.3**	**+0.2**
STKA	**Stephens Creek**	**29.57**	**229**	*e*P		**P**	**06 47 52.8**	**+0.4**
	17nm,0.6s							
STKA	**Stephens Creek**	**29.57**	**229**	P		**P**	**06 47 52.9**	**+0.4**
	21nm,0.6s,baz=46,slow=7.5,SNR=24							
STKA				PcP		PcP	06 50 56.0	+2.0
	2.4nm,0.6s,baz=63,slow=2.3,SNR=3.8							
WRAB	**Tennant Creek**	**32.22**	**255**	*e*P		**P**	**06 48 15.0**	**-0.9**
	3.3nm,0.7s,mb4.2							
WRA	**Warramunga Arr**	**32.23**	**255**	P		**P**	**06 48 15.3**	**-0.6**
	5.6nm,0.8s,mb4.3,baz=84,slow=8.7,SNR=54							
WRA				PcP		PcP	06 51 03.3	+2.1
	0.8nm,0.8s,baz=83,slow=2.4,SNR=4.5							
ASAR	**Alice Springs**	**33.13**	**248**	P		**P**	**06 48 23.5**	**-0.3**
	9.3nm,0.7s,mb4.7,baz=80,slow=8.8,SNR=143							
ASAR				PcP		PcP	06 51 05.2	+1.5
	1.0nm,0.7s,baz=80,slow=2.0,SNR=5.3							
KAKA	**Kakadu**	**34.16**	**268**	*e*P		**P**	**06 48 31.4**	**-1.4**
	3.7nm,0.6s,mb4.3							
FORT	**Forrest**	**39.82**	**239**	*e*P		**P**	**06 49 20.2**	**-0.3**
	31nm,0.7s							
FORT	**Forrest**	**39.82**	**239**	*e*P		**P**	**06 49 20.2**	**-0.3**
	5.2nm,0.8s,mb4.2							
FORT				*e*PcP		PcP	06 51 24.4	+0.7
FITZ	**Fitzroy Crossi**	**40.39**	**259**	*e*P		**P**	**06 49 26.1**	**+0.8**
	18nm,0.8s,mb4.8							
FITZ	**Fitzroy Crossi**	**40.39**	**259**	P		**P**	**06 49 26.2**	**+0.9**
	9.1nm,0.7s,mb4.5,baz=98,slow=9.1,SNR=34							
FITZ	**Fitzroy Crossi**	**40.39**	**259**	*e*P		**P**	**06 49 26.2**	**+0.9**
	20nm,0.8s,mb4.8							
MBWA	**Marble Bar**	**45.95**	**254**	*e*P		**P**	**06 50 10.7**	**+0.7**
	10nm,0.7s,mb4.6							
MBWA				*e*PcP		PcP	06 51 46.1	+1.6
KLBR	**Kellerberrin**	**48.62**	**240**	*e*P		**P**	**06 50 29.7**	**-0.8**
	12nm,1.0s,mb4.5							
NWAO	**Narrogin (SRO)**	**49.27**	**239**	P		**P**	**06 50 34.9**	**-0.6**
	20nm,0.9s,mb4.7,baz=108,slow=6.4,SNR=7.9							
NWAO	**Narrogin (SRO)**	**49.27**	**239**	*e*P		**P**	**06 50 35.2**	**-0.3**
	13nm,0.8s,mb4.6							
MUN	**Mundaring**	**49.98**	**240**	*e*P		**P**	**06 50 41.0**	**+0.2**
SBA	**Scott Base**	**63.70**	**180**	*e*P		**P**	**06 52 17.7**	**+0.9**
	16nm,1.2s,mb4.7							
MAW	**Mawson**	**82.51**	**202**	*e*P		**P**	**06 54 07.9**	**+0.5**
	3.5nm,0.7s,mb4.2							
MAW	**Mawson**	**82.51**	**202**	P		**P**	**06 54 08.1**	**+0.7**
	4.0nm,0.7s,mb4.3,baz=114,slow=9.0,SNR=11							
SNAA	**Sanae**	**94.13**	**183**	*e*P		**P**	**06 55 02.4**	**-0.7**
	2.0nm,0.7s,mb4.4							
VNA3	**Neumayer Olymp**	**94.79**	**181**	*e*		**P**	**06 55 05.3**	**-0.7**
VNA3				*e*			06 55 11.4	
VNA2	**Neumayer--Watz**	**95.06**	**182**	*e*		**P**	**06 55 07.4**	**+0.1**
	baz=181,slow=4.3							
VNA2				*e*			06 55 13.2	
MKAR	**Makanchi Array**	**96.98**	**316**	P		**P**	**06 55 21.6**	**+5.2**
	0.9nm,0.6s,mb4.3,baz=105,slow=6.0,SNR=4.0							
ARCES	**ARCESS Array B**	**119.77**	**346**	PKP		PKPdf	07 00 36.5	+2.9
	1.5nm,0.4s,baz=70,slow=2.1,SNR=20							
CABF	**La Chapelle**	**144.10**	**338**	*e*PKP1		PKPdf	07 01 23.3	+3.5
	5.5nm,0.5s							
FLN	**La Foliniere**	**144.11**	**346**	*e*PKP1		PKPdf	07 01 23.4	+3.6
LDF	**La Druitiere**	**144.18**	**346**	*e*PKP1		PKPdf	07 01 23.7	+3.8
LOR	**Lormes**	**144.29**	**341**	*e*PKP1		PKPdf	07 01 23.5	+3.4
	6.2nm,0.6s							
GRR	**Gorron**	**144.54**	**347**	*e*PKP1		PKPdf	07 01 24.1	+3.6
SSF	**Saint Saulge**	**144.59**	**341**	*e*PKP1		PKPdf	07 01 24.7	+4.1
	11nm,0.5s							
LPL	**La Plagne**	**144.78**	**336**	*e*PKP1		PKPdf	07 01 25.7	+4.7
	16nm,0.5s							
LPG	**La Plagne**	**144.79**	**336**	*e*PKP1		PKPdf	07 01 25.8	+4.7
	17nm,0.5s							
SMF	**Signal de Mont**	**144.85**	**340**	*e*PKP1		PKPbc	07 01 25.2	+4.7
	3.1nm,0.4s							
AVF	**Avril sur Loir**	**144.88**	**341**	*e*PKP1		PKPbc	07 01 25.2	+4.6
BNI	**Bardonecchia**	**145.19**	**336**	*e*PKPdf		PKPdf	07 01 26.5	+4.7
BGF	**Bois d'Agland**	**145.24**	**341**	*e*PKP1		PKPbc	07 01 26.5	+4.7
	11nm,0.5s							
MBDF	**Montbardon**	**145.42**	**336**	*e*PKP1		PKPbc	07 01 27.0	+4.6
	10.0nm,0.6s							
ORIF	**Oris-en-Rattie**	**145.61**	**337**	*e*PKP1		PKPbc	07 01 27.9	+4.9
	24nm,0.6s							
TCF	**Toulx Ste Croi**	**145.68**	**342**	*e*PKP1		PKPbc	07 01 27.8	+4.7
SBF	**Sospel**	**145.85**	**334**	*e*PKP1		PKPbc	07 01 28.0	+4.3
	54nm,0.8s							
MFF	**Saint Martin d**	**146.05**	**345**	*e*PKP1		PKPbc	07 01 29.0	+4.8
	12nm,0.7s							
PGF	**Pioggiola**	**146.19**	**331**	*e*PKP1		PKPbc	07 01 29.1	+4.3
	17nm,0.8s							
FRF	**La Foret Royal**	**146.43**	**335**	*e*PKP1		PKPbc	07 01 29.7	+4.2
	12nm,0.6s							
SMRF	**Simiane la Rot**	**146.52**	**336**	*e*PKP1		PKPbc	07 01 30.5	+4.8
	10nm,0.7s							
LMR	**La Mourre**	**146.68**	**334**	*e*PKP1		PKPbc	07 01 30.4	+4.2
RJF	**Les Rejaudoux**	**146.77**	**342**	*e*PKP1		PKPbc	07 01 31.0	+4.6
	6.8nm,0.6s							
CAF	**Calviac**	**146.94**	**341**	*e*PKP1		PKPbc	07 01 31.7	+4.8
LASF	**Ste Croix**	**147.09**	**338**	*e*PKP1		PKPbc	07 01 32.0	+4.7
	12nm,0.8s							
LFF	**La Frestale**	**147.34**	**343**	*e*PKP1		PKPbc	07 01 32.5	+4.5
MTLF	**Montolieu**	**148.31**	**339**	*e*PKP1		PKPbc	07 01 35.1	+4.5
	12nm,0.7s							
EPF	**Esparros**	**149.19**	**342**	*e*PKP1		PKPbc	07 01 37.7	+4.9
SJPF	**Ste Jean**	**149.57**	**344**	*e*PKP1		PKPbc	07 01 38.5	+4.7
	4.2nm,0.6s							
ETSF	**Etsaut**	**149.58**	**343**	*e*PKP1		PKPbc	07 01 38.8	+5.0
	13nm,0.7s							
KEST	**Kesra**	**150.94**	**322**	PKPbc		PKPbc	07 01 41.5	+4.2
	2.2nm,0.8s,baz=275,slow=1.2,SNR=4.8							
TORD	**Torodi Ar. Bea**	**166.21**	**268**	PKPab		PKPab	07 02 53.0	+1.1
	2.6nm,0.9s,baz=94,slow=4.2,SNR=12							

ISCJB ***16*** *06:46:55.0±0.2, 2047N±003×10085E±003, h10km, mb4.5/34, MS3.8/10, Error ellipse: s-maj=4.6km s-min=3.4km az=152.6*
IDC ***16*** *06:46:55.5±0.7, 2057N×10081E, h0km, mb4.3/13, mb1 4.4/14, mb1mx4.2/23, mbtmp4.3/14, ML4.4/1, MS3.8/11, Ms1 3.8/11, ms1mx3.4/39, Error ellipse: s-maj=18.0km s-min=12.2km az=89.0*
MOS ***16*** *06:46:55.1±1.0, 2052N×10085E, h10km, mb4.6/23, Error ellipse: s-maj=12.9km s-min=7.4km az=125.0*
SZGRF ***16*** *06:46:56.8, 1990N×10152E, h33km, mb4.5, Laos*
BJI ***16*** *06:46:57.3, 2031N×10087E, h30km, mB4.6, mb4.5, ML4.8, Ms4.7, Msz4.3*
NEIC ***16*** *06:46:57.8±0.3, 2053N×10071E, h10km, mb4.6/20, Error ellipse: s-maj=7.4km s-min=5.4km az=57.0*
PLV ***16*** *06:47:02.8±1.4, 2043N×10129E, h14km±7km, MD4.5*
ISC 16 06:46:56.6±0.2**, 2045N**±003×**10086E**±002**, h10km, n129, σ1§12/149, mb4.5/34, MS3.8/10, 1C, Laos**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
CHRT	**Chiangrai**	**1.16**	**241**	P		**Pb**	**06 47 18.0**	**-0.8**
DBV	**Dienbien**	**2.23**	**65**	*e*PN		**Pn**	**06 47 33.7**	**0.0**
DBV				*e*PG		**Pg**	**06 47 39.2**	**-0.3**
DBV				*e*SG		**Sg**	**06 48 03.9**	**+4.5**
CHG	**Chiang Mai**	**2.43**	**228**	PN		**Pn**	**06 47 37.3**	**+0.9**
CHG				PG		**Pg**	**06 47 42.7**	**-0.5**
CHG				SG		**Sg**	**06 48 14.1**	**-0.7**
CHTO	**Chiang Mai**	**2.43**	**228**	*e*Pn		**Pn**	**06 47 37.2**	**+0.8**
CHTO				*e*Pg		**Pg**	**06 47 43.5**	**+0.3**
CHTO				*e*Sg		**Sg**	**06 48 13.5**	**-1.2**
CM31	**Chiang Mai Arr**	**2.68**	**223**	*e*Pn		**Pn**	**06 47 41.1**	**+1.2**
CM31				*e*Pg		**Pg**	**06 47 46.8**	**-1.2**
CM31				*e*S		**Sn**	**06 48 19.8**	**+7.4**
CMAR	**Chiang Mai Arr**	**2.68**	**223**	Pn		**Pn**	**06 47 40.9**	**+1.0**
	19nm,0.3s,baz=30,slow=13,SNR=43							
CMAR				Pg		**Pg**	**06 47 47.5**	**-0.6**
	139nm,0.3s,baz=36,slow=17,SNR=295							
CMAR				Sn		**Sn**	**06 48 11.3**	**-1.1**
	82nm,0.3s,baz=33,slow=23,SNR=9.8							
CMAR				LR		LR	06 48 15.9	
	comp=Z,751nm,21.5s,baz=53,slow=29							
CMAR				Lg			06 48 22.7	
	282nm,0.3s,baz=47,slow=32,SNR=17							
CMAR	**Chiang Mai Arr**	**2.68**	**223**	P		**Pn**	**06 47 40.9**	**+1.0**
CMAR							06 48 11.3	
CMAR	comp=Z,19nm,0.3s			pmax	pmax			
CMAR	comp=Z,139nm,0.3s			pmax	pmax			
CMAR	comp=N,82nm,0.3s			smax				
CMAR	comp=Z,751nm,21.5s			MLR	MLR			
SLVN	**Son La**	**2.98**	**72**	*e*PN		**Pn**	**06 47 44.0**	**0.0**
SLVN				*e*PG		**Pg**	**06 47 52.3**	**-1.5**
SLVN				*e*SG		**Sg**	**06 48 27.4**	**-5.1**
HNV	**Hanoi**	**4.66**	**82**	*e*Pn		**Pn**	**06 48 06.2**	**-0.9**
HNV				*e*Pg		**Pg**	**06 48 22.8**	**-3.1**
HNV				*e*Sg		**Sg**	**06 49 16.4**	**-10**
DSV	**Doi Son**	**4.79**	**87**	*e*Pn		**Pn**	**06 48 09.9**	**+0.9**
DSV				*e*Pg		**Pg**	**06 48 27.6**	**-0.9**
DSV				*e*Sg		**Sg**	**06 49 25.1**	**-5.7**
NST	**Nakhon Sawan**	**4.80**	**188**	PN		**Pn**	**06 48 11.0**	**+2.0**
NST				PG		**Pg**	**06 48 32.0**	**+3.4**
NST				SG		**Sg**	**06 49 43.0**	**+12**
MTZV	**Met**	**5.24**	**77**	*e*Pn		**Pn**	**06 48 15.0**	**-0.1**
MTZV				*e*Pg		**Pg**	**06 48 34.9**	**-2.2**
MTZV				*e*SG		**Sg**	**06 49 39.1**	**-5.8**
PLV	**Phu-Lien**	**5.42**	**85**	*e*Pn		**Pn**	**06 48 18.3**	**+0.8**
PLV				*e*Pg		**Pg**	**06 48 39.3**	**-1.1**
PLV				*e*Sg		**Sg**	**06 49 44.1**	**-6.5**
YTV	**Yen Tu**	**5.53**	**82**	*e*Pn		**Pn**	**06 48 19.3**	**+0.3**
YTV				*e*Pg		**Pg**	**06 48 40.8**	**-1.7**
YTV				*e*Sg		**Sg**	**06 49 47.0**	**-7.1**
GYA	**Guiyang**	**8.01**	**41**	P		**Pn**	**06 48 55.1**	**+2.0**
GYA				S		**Sn**	**06 50 34.6**	**+11**
CD2	**Chengdu**	**10.74**	**13**	*i*P		**Pn**	**06 49 34.3**	**+3.7**
CD2				AP			06 49 37.3	
CD2				XP			06 49 40.8	
CD2				PP			06 49 42.9	
CD2				S		**Sn**	**06 51 36.0**	**+5.1**
CD2				SS			06 51 49.5	
CD2	comp=Z,20nm,0.6s			AMB	AMB			
CD2	comp=Z,60nm,4.2s			AMB	AMB			
CD2	comp=N,1μm,8.4s			LR	LR			
CD2	comp=E,1μm,9.2s			LR	LR			
CD2	comp=Z,2μm,9.6s			LR	LR			
LSA	**Lhasa**	**12.73**	**318**	P		**Pn**	**06 50 00.0**	**+2.2**
LSA	**Lhasa**	**12.73**	**318**	*e*P		**Pn**	**06 50 00.0**	**+2.2**
LSA	comp=Z,49nm,1.2s			pmax	pmax			
LSA	**Lhasa**	**12.73**	**318**	*e*Pn		**Pn**	**06 49 60.0**	**+2.1**
	comp=Z,49nm,1.2s							
TAPN	**Taplejung**	**13.85**	**302**	*e*P		**Pn**	**06 50 12.3**	**-0.7**
	comp=Z,47nm,0.7s							
ODAN	**Odare**	**13.89**	**300**	*e*P		**Pn**	**06 50 12.7**	**-1.0**
	comp=Z,25nm,0.6s							
RAMN	**Ramite**	**14.57**	**299**	*e*P		**Pn**	**06 50 22.3**	**-0.7**
	comp=Z,82nm,0.7s							
JIRN	**Jiri**	**15.20**	**301**	*e*P		**Pn**	**06 50 30.1**	**-1.3**
	comp=Z,86nm,0.8s							
XAN	**Xi'an**	**15.31**	**26**	P		**Pn**	**06 50 32.4**	**-0.4**
XAN				AP		pP	06 50 41.1	+0.6
XAN	comp=Z,9.0nm,1.1s			AMB	AMB			
XAN	comp=Z,24nm,3.5s			AMB	AMB			
XAN	comp=N,886nm,11.4s			LR	LR			
XAN	comp=E,2μm,12.4s			LR	LR			
XAN	comp=Z,480nm,11.3s			LR	LR			
GUN	**Gumba**	**15.55**	**301**	*e*P		**Pn**	**06 50 34.3**	**-1.7**
	comp=Z,248nm,0.8s							
PKI	**Pulchoki**	**15.79**	**300**	*e*P		**Pn**	**06 50 38.9**	**-0.3**
LZH	**Lanzhou**	**15.80**	**9**	*e*P		**Pn**	**06 50 41.3**	**+2.1**
LZH				AP		pP	06 50 48.6	+2.7
LZH				XP		sP	06 50 51.9	+4.7
LZH	comp=Z,29nm,1.2s			AMB	AMB			
LZH	comp=Z,80nm,4.1s			AMB	AMB			
KKN	**Kakani**	**15.98**	**300**	*e*P		**Pn**	**06 50 39.9**	**-1.7**
DMN	**Daman**	**16.05**	**299**	*e*P		**Pn**	**06 50 41.7**	**-0.9**
	comp=Z,61nm,0.9s							
GKN	**Gorkha**	**16.59**	**300**	*e*P		**Pn**	**06 50 47.7**	**-1.7**
	comp=Z,174nm,1.1s							
DANN	**Dangsing**	**17.44**	**300**	*e*P		**Pn**	**06 50 59.1**	**-1.0**
	comp=Z,58nm,0.8s							
GTA	**Gaotai**	**18.92**	**358**	P		**Pn**	**06 51 21.6**	**+3.4**
GTA				AP		pP	06 51 26.4	+6.0
GTA				XP		sP	06 51 28.8	+7.1
GTA	comp=Z,11nm,2.4s			AMB	AMB			
GTA	comp=Z,212nm,5.0s			AMB	AMB			
GTA	comp=Z,126nm,15.5s			LR	LR			
KKM	**Kota Kinabalu**	**20.67**	**132**	*e*P		**P**	**06 51 41.4**	**+4.5**
HYB	**Hyderabad**	**21.31**	**266**	*i*P		**P**	**06 51 43.0**	**-0.8**
HYB	**Hyderabad**	**21.31**	**266**	*e*P		**P**	**06 51 43.0**	**-0.8**
POO	**Poona**	**25.53**	**270**	*ex*		x	06 52 25.0	
WMQ	**Urumqi**	**25.77**	**338**	*e*P		**P**	**06 52 30.3**	**+2.8**
SONM	**Songino Array**	**27.69**	**8**	P		**P**	**06 52 45.1**	**+0.3**
	comp=Z,1.5nm,0.5s,mb3.8,baz=192,slow=11,SNR=12							
SONM				LR		LR	07 05 21.6	
	comp=Z,165nm,19.0s,MS3.6,baz=18,slow=40							
SONM	**Songino Array**	**27.69**	**8**	P		**P**	**06 52 45.1**	**+0.3**
SONM	comp=Z,2.0nm,0.5s			pmax	pmax			
SONM	comp=Z,165nm,19.0s			MLR	MLR			
SONM	**Songino Array**	**27.69**	**8**	P		**P**	**06 52 45.1**	**+0.3**
SONM				LR		LR	07 05 21.6	
KSRS	**Korea Array**	**28.97**	**48**	LR		LR	07 05 22.1	
	comp=Z,211nm,20.8s,MS3.7,baz=58,slow=38							
MK31	**Makanchi Array**	**30.33**	**334**	*i*P		**P**	**06 53 08.8**	**+0.5**
MK31	comp=Z,4.0nm,0.5s,mb4.4			pmax	pmax			
MK31	**Makanchi Array**	**30.33**	**334**	*e*P		**P**	**06 53 08.7**	**+0.3**
MKAR	**Makanchi Array**	**30.33**	**334**	P		**P**	**06 53 09.0**	**+0.7**
	comp=Z,4.0nm,0.5s,mb4.4,baz=141,slow=9.2,SNR=53							
MKAR	**Makanchi Array**	**30.33**	**334**	P		**P**	**06 53 09.0**	**+0.7**
MKAR	comp=Z,4.0nm,0.5s			pmax	pmax			
MKAR	**Makanchi Array**	**30.33**	**334**	P		**P**	**06 53 09.0**	**+0.7**
TKM2	**Tokmak 2**	**30.84**	**322**	*e*P		**P**	**06 53 13.7**	**+0.8**
TKM2	comp=Z,5.0nm,0.7s,mb4.5			pmax	pmax			
TKM2	**Tokmak 2**	**30.84**	**322**	P		**P**	**06 53 14.6**	**+1.7**
	SNR=7.3							
TKM2	**Tokmak 2**	**30.84**	**322**	*e*P		**P**	**06 53 13.7**	**+0.8**
	comp=Z,5.4nm,0.7s,mb4.5							
KBK	**Karagaybulak**	**31.05**	**321**	P		**P**	**06 53 16.6**	**+1.9**
	SNR=5.5							
UCH	**Uchtor**	**31.05**	**320**	P		**P**	**06 53 16.8**	**+2.1**
	SNR=7.3							
UCH	**Uchtor**	**31.05**	**320**	*e*P		**P**	**06 53 16.0**	**+1.3**
	comp=Z,2.4nm,0.6s,mb4.2							
AML	**Almayashu**	**31.49**	**319**	P		**P**	**06 53 20.4**	**+1.8**
	SNR=8.3							
AML	**Almayashu**	**31.49**	**319**	*e*P		**P**	**06 53 20.0**	**+1.4**
	comp=Z,3.9nm,0.6s,mb4.4							
USP	**Ospenovka**	**31.68**	**322**	P		**P**	**06 53 21.3**	**+1.0**
	SNR=5.2							
EKS2	**Erkin-Say**	**31.75**	**320**	*e*P		**P**	**06 53 22.3**	**+1.4**
	comp=Z,5.4nm,0.3s,mb4.9							
KURK	**Kurchatov**	**34.93**	**335**	P		**P**	**06 53 46.8**	**-1.7**
	comp=Z,3.1nm,0.6s,mb4.4,baz=142,slow=9.3,SNR=9.2							
KURK	**Kurchatov**	**34.93**	**335**	*e*P		**P**	**06 53 48.5**	**0.0**
KURK	comp=Z,8.0nm,1.0s,mb4.6			pmax	pmax			
KURK	**Kurchatov**	**34.93**	**335**	*e*P		**P**	**06 53 48.5**	**0.0**
	comp=Z,7.6nm,1.0s,mb4.6							
ZAA0	**Zalesovo Array**	**35.62**	**344**	*e*P		**P**	**06 53 54.4**	**-0.1**
ZALV	**Zalesovo Beam**	**35.62**	**344**	P		**P**	**06 53 53.8**	**-0.6**
	comp=Z,2.3nm,0.7s,mb4.2,baz=148,slow=8.7,SNR=8.9							
ZALV				LR		LR	07 10 06.6	
	comp=Z,130nm,19.5s,MS3.7,baz=292,slow=39							
ZALV	**Zalesovo Beam**	**35.62**	**344**	P		**P**	**06 53 53.8**	**-0.6**
ZALV	comp=Z,2.0nm,0.7s,mb4.2			pmax	pmax			
ZALV	comp=Z,131nm,19.5s,MS3.7			MLR	MLR			
MJAR	**Matsushiro Arr**	**36.27**	**56**	LR		LR	07 10 32.5	
	comp=Z,148nm,18.1s,MS3.8,baz=80,slow=39							
NVS	**Novosibirsk**	**36.84**	**343**	*e*P		**P**	**06 54 03.8**	**-1.1**
BVAR	**Borovoye Array**	**40.09**	**332**	P		**P**	**06 54 32.7**	**+0.4**
	comp=Z,3.1nm,0.5s,mb4.3,baz=128,slow=9.7,SNR=17							
BVAR	**Borovoye Array**	**40.09**	**332**	P		**P**	**06 54 32.7**	**+0.5**
BVAR	comp=Z,3.0nm,0.5s			pmax	pmax			
BRVK	**Borovoye**	**40.16**	**332**	*e*P		**P**	**06 54 33.0**	**+0.2**
BRVK	comp=Z,10.0nm,0.8s,mb4.6			pmax	pmax			
BRVK	**Borovoye**	**40.16**	**332**	*e*P		**P**	**06 54 33.0**	**+0.2**
	comp=Z,10nm,0.8s,mb4.6							
ASAJ	**Asahikawa**	**41.85**	**46**	LR		LR	07 11 19.1	
	comp=Z

CRVS	**Cervenica-Dubn**	**67.99**	**316**	*e*P	**P**	**06 57 57.2**	**+1.2**
NIE	**Niedzica**	**68.68**	**316**	*e*P	**P**	**06 58 01.4**	**+1.1**
SPITS	**Spitsbergen Ar**	**69.00**	**347**	LR	LR	07 32 21.3	
	comp=Z,106nm,18.8s,MS4.1,baz=15,slow=40						
NB2	**NORSAR Subarra**	**72.17**	**329**	P	**P**	**06 58 20.4**	**-1.0**
	comp=Z,1.9nm,0.7s,mb4.1,baz=80,slow=6.2						
NOA	**NORSAR Array B**	**72.17**	**329**	P	**P**	**06 58 20.4**	**-1.0**
	comp=Z,2.4nm,0.7s,mb4.2,baz=81,slow=5.9,SNR=8.1						
NOA	**NORSAR Array B**	**72.17**	**329**	P	**P**	**06 58 20.4**	**-1.0**
NOA				pmax	pmax		
	comp=Z,2.0nm,0.7s						
BRG	**Berggiesshubel**	**72.50**	**318**	*e*P	**P**	**06 58 23.8**	**+0.2**
BRG				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.3						
BRG	**Berggiesshubel**	**72.50**	**318**	*e*P	**P**	**06 58 23.8**	**+0.2**
	comp=Z,5.0nm,0.8s,mb4.5						
CLL	**Collm**	**73.00**	**319**	*e*P	**P**	**06 58 26.0**	**-0.5**
GERES	**GERESS Array B**	**73.06**	**316**	P	**P**	**06 58 26.7**	**-0.2**
	comp=Z,0.8nm,0.5s,mb3.9,baz=55,slow=5.1,SNR=7.7						
GERES	**GERESS Array B**	**73.06**	**316**	P	**P**	**06 58 26.7**	**-0.2**
GERES				pmax	pmax		
	comp=Z,1.0nm,0.5s						
GRA1	**Grafenberg Arr**	**74.46**	**318**	*e*P	**P**	**06 58 36.2**	**+1.1**
	comp=Z,7.0nm,1.4s,mb4.4						
GRF	**Grafenberg Arr**	**74.46**	**318**	*e*P	**P**	**06 58 36.2**	**+1.1**
GRF				pmax	pmax		
	comp=Z,7.0nm,1.4s,mb4.4						
GRF	**Grafenberg Arr**	**74.46**	**318**	*e*P	**P**	**06 58 36.2**	**+1.1**
GRF				pmax	pmax		
	comp=Z,7.0nm,1.4s,mb4.4						
GRF	**Grafenberg Arr**	**74.46**	**318**	*e*P	**P**	**06 58 36.2**	**+1.1**
	comp=Z,7.0nm,1.4s,mb4.4						
LPG	**La Plagne**	**78.49**	**314**	*e*P	**P**	**06 58 58.6**	**+0.6**
LPL	**La Plagne**	**78.49**	**314**	*e*P	**P**	**06 58 58.5**	**+0.4**
	comp=Z,14nm,0.8s,mb4.7						
LPL	**La Plagne**	**78.49**	**314**	*e*P	**P**	**06 58 58.5**	**+0.4**
LPL				pmax	pmax		
	comp=Z,7.0nm,0.8s,mb4.6						
LPL	**La Plagne**	**78.49**	**314**	*e*P	**P**	**06 58 58.5**	**+0.4**
	comp=Z,7.1nm,0.8s,mb4.7						
SVW2	**Sparrevohn**	**78.65**	**29**	*e*P	**P**	**06 59 03.0**	**+4.3**
ORIF	**Oris-en-Rattie**	**79.25**	**314**	*e*P	**P**	**06 59 02.4**	**+0.2**
LOR	**Lormes**	**79.84**	**317**	*e*P	**P**	**06 59 05.0**	**-0.4**
SMF	**Signal de Mont**	**80.05**	**316**	*e*P	**P**	**06 59 06.5**	**-0.1**
	comp=Z,5.0nm,0.5s,mb4.4						
SMF	**Signal de Mont**	**80.05**	**316**	*e*P	**P**	**06 59 06.5**	**-0.1**
	comp=Z,2.5nm,0.5s,mb4.4						
SSF	**Saint Saulge**	**80.13**	**317**	*e*P	**P**	**06 59 06.9**	**-0.1**
AVF	**Avril sur Loir**	**80.32**	**316**	*e*P	**P**	**06 59 07.8**	**-0.2**
	comp=Z,6.5nm,0.6s,mb4.4						
AVF	**Avril sur Loir**	**80.32**	**316**	*e*P	**P**	**06 59 07.8**	**-0.2**
	comp=Z,3.3nm,0.6s,mb4.4						
TCF	**Toulx Ste Croi**	**81.23**	**316**	*e*P	**P**	**06 59 13.3**	**+0.4**
	comp=Z,4.3nm,0.5s,mb4.3						
TCF	**Toulx Ste Croi**	**81.23**	**316**	*e*P	**P**	**06 59 13.3**	**+0.4**
	comp=Z,2.2nm,0.5s,mb4.3						
RJF	**Les Rejaudoux**	**82.03**	**315**	*e*P	**P**	**06 59 16.9**	**-0.3**
ETSF	**Etsaut**	**84.31**	**314**	*e*P	**P**	**06 59 28.6**	**-0.4**
	comp=Z,12nm,0.9s,mb4.7						
ETSF	**Etsaut**	**84.31**	**314**	*e*P	**P**	**06 59 28.6**	**-0.4**
	comp=Z,6.0nm,0.9s,mb4.7						
SJPF	**Ste Jean**	**84.68**	**314**	*e*P	**P**	**06 59 31.7**	**+0.8**

IDC 16 06:55:20.8±1.9, 270N×12701E, h0km, mb3.3/3, mb1 3.6/3, mb1mx3.4/16, mbtmp3.4/3, Error ellipse: s-maj=143.9km s-min=24.6km az=66.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**23.62**	**163**	P	P	07 00 33.7	-0.3
	1.1nm,0.6s,baz=342,slow=10,SNR=10						
ASAR	**Alice Springs**	**27.05**	**166**	P	P	07 01 05.0	-0.1
	0.2nm,0.6s,baz=344,slow=9.6,SNR=3.7						
MKAR	**Makanchi Array**	**58.56**	**325**	P	P	07 05 19.5	+0.2
	0.2nm,0.6s,baz=117,slow=8.0,SNR=3.4						

IDC 16 07:06:03.7±1.1, 2752N×14009E, h474km±14km, mb3.1/6, mb1 3.3/7, mb1mx3.0/21, mbtmp3.2/7, Error ellipse: s-maj=27.9km s-min=14.5km az=68.0, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CBIJ	**Chichi jima**	**1.91**	**102**	P	P	07 07 05.5	-0.3
	42nm,0.3s,baz=69,slow=2.0,SNR=29						
CBIJ				S	S	07 07 53.0	-3.3
	74nm,0.3s,baz=299,slow=21,SNR=16						
JOW	**Kunigami**	**10.55**	**269**	P	P	07 08 28.4	+1.7
	2.5nm,0.3s,baz=80,slow=11,SNR=5.4						
WRA	**Warramunga Arr**	**47.50**	**187**	P	P	07 13 54.8	-0.1
	0.8nm,0.5s,baz=6.7,slow=7.6,SNR=21						
MKAR	**Makanchi Array**	**48.77**	**309**	P	P	07 14 04.1	-0.1
	0.7nm,0.5s,baz=89,slow=10,SNR=13						
MKAR				ScP	ScP	07 18 29.0	-0.6
	0.2nm,0.5s,baz=106,slow=4.7,SNR=4.0						
ASAR	**Alice Springs**	**51.23**	**187**	P	P	07 14 22.4	-0.1
	0.3nm,0.5s,baz=358,slow=5.6,SNR=6.1						
KURK	**Kurchatov**	**51.35**	**314**	P	P	07 14 23.2	0.0
	3.2nm,0.5s,baz=92,slow=8.3,SNR=14						
BVAR	**Borovoye Array**	**56.47**	**317**	P	P	07 14 59.3	0.0
	2.3nm,0.4s,baz=95,slow=6.4,SNR=9.7						
NVAR	**Mina Array Bea**	**81.71**	**51**	P	P	07 17 33.1	+1.2
	0.3nm,0.6s,baz=296,slow=5.4,SNR=3.6						

IDC 16 07:18:47.5±1.0, 275N×12815E, h0km, mb3.9/6, mb1 4.2/6, mb1mx3.9/17, mbtmp4.0/6, Error ellipse: s-maj=59.6km s-min=18.6km az=79.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**20.86**	**187**	P	P	07 23 32.2	+0.9
	0.5nm,0.4s,baz=14,slow=12,SNR=5.8						
WRA	**Warramunga Arr**	**23.35**	**165**	P	P	07 23 58.3	+0.4
	3.0nm,0.3s,baz=343,slow=10,SNR=92						
ASAR	**Alice Springs**	**26.84**	**168**	P	P	07 24 29.6	-0.4
	0.4nm,0.4s,baz=350,slow=8.4,SNR=8.8						
ASAR				PcP	PcP	07 27 50.6	-2.2
	0.6nm,0.4s,baz=354,slow=2.4,SNR=12						
MJAR	**Matsushiro Arr**	**34.89**	**14**	P	P	07 25 40.9	+0.1
	1.3nm,0.4s,baz=186,slow=10,SNR=4.7						
STKA	**Stephens Creek**	**36.73**	**161**	P	P	07 25 56.8	+0.2
	5.7nm,0.5s,baz=336,slow=8.8,SNR=21						
MKAR	**Makanchi Array**	**59.17**	**325**	P	P	07 28 51.2	+0.9
	0.3nm,0.3s,baz=114,slow=8.1,SNR=6.6						

TAP ***16*** *07:22:46.4, 21.29N×120.90E, h71km±1km, ML3.8, D*

ISC 16 07:22:47.0±1.4, 2127N±008×1209E±01, h69km±12km, n14, σ0§37/25, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TSEB	**Hengchuen, Pin**	**0.62**	**0**	P	**Pn**	**07 23 01.1**	**+0.1**
	baz=355						
TSEB				S	**Sn**	**07 23 11.9**	**+0.6**
	baz=355						
TWK1	**Hengchun**	**0.67**	**353**	*i* P	**Pn**	**07 23 01.4**	**-0.1**
	baz=351						
TWK1				S	**Sn**	**07 23 12.0**	**-0.3**
	baz=351						
HEN	**Hengchun**	**0.74**	**349**	P	**Pn**	**07 23 02.2**	**-0.1**
	baz=347						
HEN				*e*S	**Sn**	**07 23 13.7**	**+0.1**
	baz=347						
LAY	**Lan-yu**	**0.97**	**39**	P	**Pn**	**07 23 04.9**	**-0.3**
	baz=39						
LAY				*e*S	**Sn**	**07 23 18.8**	**+0.2**
	baz=39						
TAW	**Tawu**	**1.08**	**0**	*e*P	**Pn**	**07 23 05.2**	**-1.2**
	baz=359						
TAW				*e*S	**Sn**	**07 23 20.8**	**-0.1**
	baz=359						
EAST	**Anshuo**	**1.10**	**358**	P	**Pn**	**07 23 07.2**	**+0.4**
	baz=357						
SCZT	**Fangliau**	**1.12**	**347**	P	**Pn**	**07 23 07.0**	**-0.1**
	baz=346						
SCZT				*e*S	**Sn**	**07 23 21.9**	**-0.1**
	baz=346						
ECL	**Taimali**	**1.32**	**2**	*e*P	**Pn**	**07 23 10.2**	**+0.7**
	baz=2.0						
ECL				*e*S	**Sn**	**07 23 26.0**	**-0.5**
	baz=2.0						
SSD	**Sandimen**	**1.48**	**351**	*e*P	**Pn**	**07 23 11.8**	**+0.1**
	baz=350						
SSD				*e*S	**Sn**	**07 23 30.5**	**+0.1**
	baz=350						
TWM1	**Shoushan**	**1.60**	**344**	*e*P	**Pn**	**07 23 13.2**	**-0.2**
	baz=343						
SGST	**Jiashian**	**1.82**	**351**	*e*P	**Pn**	**07 23 16.9**	**+0.6**
	baz=350						
SGST				*e*S	**Sn**	**07 23 38.5**	**+0.1**
	baz=350						
CHKT	**Chengkung**	**1.87**	**13**	*e*S	**Sn**	**07 23 39.6**	**+0.1**
	baz=13						
CHN1	**Nanshi**	**1.93**	**350**	*e*P	**Pn**	**07 23 17.6**	**-0.1**
	baz=349						
CHN1				*e*S	**Sn**	**07 23 40.9**	**-0.2**
	baz=349						
TWK	**Hsinying**	**2.02**	**349**	*e*P	**Pn**	**07 23 19.1**	**+0.2**
	baz=348						
TWK				*e*S	**Sn**	**07 23 43.3**	**+0.2**
	baz=348						

ISCJB ***16*** *07:40:37.6±0.7, 3790N±002×2228E±003, h8km±5km, Error ellipse: s-maj=3.8km s-min=3.6km az=142.4*
CSEM ***16*** *07:40:37.6±0.1, 3793N×2229E, h8km, ML3.9/4, Error ellipse: s-maj=1.7km s-min=1.5km az=9.0*
THE ***16*** *07:40:38.1, 3791N×2227E, h5km±1km, ML3.9/4, Error ellipse: s-maj=1.4km s-min=0.5km az=129.0*
NEIC ***16*** *07:40:38.0, 3791N×2228E, h22km, ML3.5(ATH), After ATH.*
ATH ***16*** *07:40:38.0, 3791N×2228E, h22km±1km, MD3.5/18, ML3.5*

ISC 16 07:40:38.3±0.5, 3791N±002×2228E±003, h11km±4km, n57, σ1§17/80, 2D, Southern Greece

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
VLX	**Vlachokerasia**	**0.54**	**172**	P	**Pg**	**07 40 48.2**	**-0.7**
VLX				S	**Sg**	**07 40 56.1**	**+0.1**
LTK	**Loutraki**	**0.56**	**78**	P	**Pg**	**07 40 49.0**	**-0.1**
LTK				S	**Sg**	**07 40 56.6**	**+0.2**
RLS	**Riolos of Patr**	**0.66**	**283**	*i* Pb	**Pb**	**07 40 50.2**	**-1.6**
RLS				*e*Sn	**Sg**	**07 41 00.8**	**+1.1**
RLS	**Riolos of Patr**	**0.66**	**283**	⇑*i*PB	**Pb**	**07 40 50.2**	**-1.6**
RLS				*e*SN	**Sg**	**07 41 00.8**	**+1.1**
ITM	**Ithomi**	**0.78**	**201**	*e*Pn	**Pn**	**07 40 52.9**	**-2.4**
ITM				*e*Sn	**Sg**	**07 41 04.2**	**+0.7**
ITM	**Ithomi**	**0.78**	**201**	*e*PN	**Pn**	**07 40 52.9**	**-2.4**
ITM				*e*SN	**Sg**	**07 41 04.2**	**+0.7**
DID	**Didima**	**0.86**	**118**	P	**Pg**	**07 40 54.0**	**-0.9**
DID				S	**Sg**	**07 41 07.5**	**+1.4**
LKR	**Lokris**	**0.93**	**37**	P	**Pg**	**07 40 55.9**	**-0.4**
LKR				S	**Sg**	**07 41 09.5**	**+1.1**
LKR	**Lokris**	**0.93**	**37**	*e*Pn	**Pn**	**07 40 56.1**	**-1.3**
LKR				*e*Sn	**Sg**	**07 41 09.5**	**+1.1**
LKR	**Lokris**	**0.93**	**37**	*e*PN	**Pn**	**07 40 56.1**	**-1.3**
LKR				*e*SN	**Sg**	**07 41 09.5**	**+1.1**
NAIG	**Nisos Aigina**	**0.97**	**99**	*e*Pn	**Pn**	**07 41 36.6**	**-1.3**
NAIG	**Nisos Aigina**	**0.97**	**99**	*e*PN	**Pn**	**07 40 56.6**	**-1.3**
EVR	**Evrytania**	**1.07**	**340**	*e*Pn	**Pn**	**07 40 58.2**	**-1.1**
EVR				*e*Sn	**Sn**	**07 41 13.6**	**-0.6**
EVR	**Evrytania**	**1.07**	**340**	*e*PN	**Pn**	**07 40 58.2**	**-1.1**
EVR				*e*SN	**Sn**	**07 41 13.6**	**-0.6**
PYL	**PYLOS**	**1.10**	**203**	P	**Pb**	**07 40 58.3**	**-1.0**
PYL				S	**Sg**	**07 41 14.8**	**+1.1**
AGG	**Agios Georgios**	**1.11**	**2**	P	**Pb**	**07 40 58.4**	**-1.2**
AGG				S	**Sg**	**07 41 14.6**	**+0.5**
ATH	**Athens Observa**	**1.14**	**86**	*e*Pn	**Pn**	**07 40 59.5**	**-0.7**
ATH				*e*Sn	**Sn**	**07 41 15.5**	**-0.3**
ATH	**Athens Observa**	**1.14**	**86**	*e*PN	**Pn**	**07 40 59.5**	**-0.7**
ATH				*e*SN	**Sn**	**07 41 15.5**	**-0.3**
KFL	**Anninata**	**1.20**	**280**	P	**Pb**	**07 41 00.7**	**-0.3**
PTL	**Penteli**	**1.26**	**83**	*e*Pn	**Pn**	**07 41 01.5**	**-0.4**
PTL	**Penteli**	**1.26**	**83**	*e*PN	**Pn**	**07 41 01.5**	**-0.4**
VLS	**Valsamata**	**1.36**	**282**	P	**Pn**	**07 41 02.8**	**-0.5**
VLS	**Valsamata**	**1.36**	**282**	⇓*i*Pn	**Pn**	**07 41 03.9**	**+0.7**
VLS				*e*Sn	**Sn**	**07 41 23.3**	**+2.0**
VLS	**Valsamata**	**1.36**	**282**	⇓*i*PN	**Pn**	**07 41 03.9**	**+0.7**
VLS				*e*SN	**Sn**	**07 41 23.3**	**+2.0**
LKD	**Levkas**	**1.51**	**302**	P	**Pn**	**07 41 05.3**	**0.0**
LKD				S	**Sn**	**07 41 25.0**	**0.0**
NEO	**Neokhori**	**1.58**	**28**	*e*Pb	**Pb**	**07 41 05.9**	**-1.6**
NEO	**Neokhori**	**1.58**	**28**	*e*PB	**Pb**	**07 41 05.9**	**-1.6**
XOR	**Xorichti**	**1.62**	**26**	P	**Pn**	**07 41 06.4**	**-0.4**
THL	**Klokotos Trika**	**1.67**	**353**	P	**Pn**	**07 41 07.5**	**0.0**
THL				S	**Sn**	**07 41 29.9**	**+1.1**
THL	**Klokotos Trika**	**1.67**	**353**	*e*Pn	**Pn**	**07 41 07.8**	**+0.3**
THL				*e*Sn	**Sn**	**07 41 30.1**	**+1.3**
THL	**Klokotos Trika**	**1.67**	**353**	*e*PN	**Pn**	**07 41 07.8**	**+0.3**
THL				*e*SN	**Sn**	**07 41 30.1**	**+1.3**
AOS	**Alonnisos**	**1.78**	**44**	P	**Pn**	**07 41 08.9**	**-0.1**
JAN	**Janina**	**2.07**	**328**	*e*Pb	**Pb**	**07 41 13.5**	**-2.4**
JAN	**Janina**	**2.07**	**328**	*e*PB	**Pb**	**07 41 13.5**	**-2.4**
LIT	**Litokhoron**	**2.19**	**4**	P	**Pn**	**07 41 14.7**	**0.0**
LIT				S	**Sn**	**07 41 42.9**	**+1.0**
KZN	**Kozani**	**2.43**	**351**	*e*Pn	**Pn**	**07 41 19.1**	**+1.2**
KZN	**Kozani**	**2.43**	**351**	*e*PN	**Pn**	**07 41 19.1**	**+1.2**
KEK	**Kerkira**	**2.65**	**314**	*e*Pb	**Pb**	**07 41 23.2**	**-2.5**
KEK	**Kerkira**	**2.65**	**314**	*e*PB	**Pb**	**07 41 23.2**	**-2.5**
APE	**Apeiranthos**	**2.72**	**107**	*e*Pn	**Pn**	**07 41 23.4**	**+1.5**
APE	**Apeiranthos**	**2.72**	**107**	*e*PN	**Pn**	**07 41 23.4**	**+1.5**
OUR	**Ouranopolis**	**2.76**	**28**	P	**Pn**	**07 41 22.1**	**-0.4**
VAM	**Vamos**	**2.94**	**148**	*e*Pb	**Pb**	**07 41 27.5**	**-3.2**
VAM	**Vamos**	**2.94**	**148**	*e*PB	**Pb**	**07 41 27.5**	**-3.2**
VAY	**Valandovo**	**3.41**	**4**	*i* Pn	**Pn**	**07 41 31.8**	**+0.3**
KRUS	**Krusevo**	**3.54**	**347**	*i* Pn	**Pn**	**07 41 36.4**	**+3.1**
KRUS	**Krusevo**	**3.54**	**347**	*i* Pn	**Pn**	**07 41 36.3**	**+3.0**
SMG	**Samos**	**3.62**	**92**	P	**Pn**	**07 41 35.4**	**+1.1**
NVR	**Nevrokopi**	**3.65**	**19**	*e*Pn	**Pn**	**07 41 35.6**	**+0.9**
NVR	**Nevrokopi**	**3.65**	**19**	*e*PN	**Pn**	**07 41 35.6**	**+0.9**
NPS	**Neapolis**	**3.77**	**134**	*e*Pn	**Pn**	**07 41 36.8**	**+0.5**
NPS	**Neapolis**	**3.77**	**134**	*e*PN	**Pn**	**07 41 36.8**	**+0.5**
KARP	**Karpathos**	**4.58**	**120**	*e*Pn	**Pn**	**07 41 49.3**	**+1.8**
KARP	**Karpathos**	**4.58**	**120**	*e*PN	**Pn**	**07 41 49.3**	**+1.8**
BARS	**Barje**	**4.91**	**356**	*e*Pn	**Pn**	**07 41 55.3**	**+3.2**
CUC	**Castrocucco**	**5.45**	**294**	*e*Pn	**Pn**	**07 42 02.6**	**+3.1**
	22nm,0.8s						
DIVS	**Divibare**	**6.42**	**345**	*e*Pn	**Pn**	**07 42 11.8**	**-1.0**

IDC 16 07:50:48.5±1.1, 287N×12735E, h0km, mb4.0/9, mb1 4.1/9, mb1mx3.9/20, mbtmp4.0/9, MS3.3/1, Ms1 3.3/1, ms1mx2.6/27, Error ellipse: s-maj=75.0km s-min=15.1km az=66.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**20.91**	**185**	P	P	07 55 32.6	-0.2
	0.7nm,0.5s,baz=5.7,slow=10,SNR=3.9						
WRA	**Warramunga Arr**	**23.69**	**163**	P	P	07 56 01.5	-0.7
	6.0nm,0.7s,baz=342,slow=10,SNR=61						
WRA				PcP	PcP	07 59 47.5	+0.7
	0.2nm,0.6s,baz=333,slow=2.0,SNR=3.6						
ASAR	**Alice Springs**	**27.14**	**167**	P	P	07 56 33.1	-0.4
	0.7nm,0.6s,baz=354,slow=8.2,SNR=15						
ASAR				PcP	PcP	07 59 55.0	+0.5
	0.2nm,0.7s,baz=333,slow=2.5,SNR=4.1						
CMAR	**Chiang Mai Arr**	**31.84**	**301**	P	P	07 57 16.2	+0.8
	0.6nm,0.3s,baz=116,slow=7.2,SNR=5.2						
MJAR	**Matsushiro Arr**	**34.97**	**15**	LR	LR	08 10 56.6	
	comp=Z,50nm,20.0s,baz=280,slow=34						
STKA	**Stephens Creek**	**37.11**	**160**	P	P	07 58 01.2	+0.3
	3.9nm,0.8s,baz=355,slow=13,SNR=5.1						
MKAR	**Makanchi Array**	**58.61**	**325**	P	P	08 00 47.1	-0.2
	0.7nm,0.5s,baz=117,slow=8.8,SNR=12						
KURK	**Kurchatov**	**62.79**	**328**	P	P	08 01 15.6	-0.2
	0.5nm,0.4s,baz=126,slow=6.9,SNR=3.9						
BVAR	**Borovoye Array**	**68.37**	**327**	P	P	08 01 52.1	+0.2
	0.7nm,0.7s,baz=167,slow=8.8,SNR=4.3						
AKTO	**Aktyubinsk**	**74.71**	**322**	P	P	08 02 29.6	-0.5
	1.6nm,0.7s,baz=109,slow=8.4,SNR=8.2						
TORD	**Torodi Ar. Bea**	**123.77**	**288**	PKP	PKPdf	08 09 49.3	-0.2
	0.4nm,0.8s,baz=71,slow=1.7,SNR=2.3						

ISCJB ***16*** *08:22:08.2±3.3, 884S±009×1148E±02, h56km±29km, mb4.1/5, Error ellipse: s-maj=28.1km s-min=14.2km az=7.8*
NEIC ***16*** *08:22:08.3±4.4, 902S×11457E, h35km, mb4.2/2, Error ellipse: s-maj=68.4km s-min=17.4km az=103.0*
NEIC Felt [II] at Denpasar.
IDC ***16*** *08:22:14.6±6.5, 881S×11496E, h98km±57km, mb3.7/4, mb1 3.8/6, mb1mx3.6/18, mbtmp3.7/6, Error ellipse: s-maj=52.5km s-min=20.1km az=68.0*
DJA ***16*** *08:22:16, 879S×11499E, h84km, MLv4.0/8*

ISC 16 08:22:10.8±2.4, 891S±008×1148E±02, h62km±21km, n13, σ1§11/14, mb4.1/5, Bali region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KAPI	**Kappang**	**6.25**	**52**	P	**Pn**	**08 23 42.4**	**+1.9**
	1.8nm,0.3s,baz=250,slow=8.4,SNR=8.1						
KAPI				S	**Sn**	**08 24 49.8**	**-0.8**
	2.7nm,0.3s,baz=235,slow=22,SNR=5.7						
MBWA	**Marble Bar**	**13.08**	**159**	*e*Pn	**Pn**	**08 25 12.5**	**-1.3**
MBWA				*e*S	Sx	08 27 25.1	
FITZ	**Fitzroy Crossi**	**13.94**	**132**	*e*P	**Pn**	**08 25 26.8**	**+1.3**
	1.4nm,0.3s						
FITZ				*e*S	Sx	08 27 49.4	
FITZ	**Fitzroy Crossi**	**13.94**	**132**	P	**Pn**	**08 25 27.0**	**+1.5**
	0.4nm,0.3s,baz=343,slow=12,SNR=11						
FITZ	**Fitzroy Crossi**	**13.94**	**132**	*e*Pn	**Pn**	**08 25 26.3**	**+0.8**
FITZ				*e*S	Sx	08 27 51.8	
KAKA	**Kakadu**	**17.73**	**104**	*e*P	**Pn**	**08 26 11.2**	**-2.4**
	2.4nm,0.5s						
WRA	**Warramunga Arr**	**21.85**	**122**	P	**P**	**08 26 57.9**	**-0.5**
	4.3nm,0.5s,mb4.2,baz=295,slow=12,SNR=55						
WRAB	**Tennant Creek**	**21.85**	**122**	*e*P	**P**	**08 26 59.0**	**+0.5**
	3.8nm,0.4s,mb4.2						
WB2	**Warramunga Arr**	**21.86**	**122**	*e*P	**P**	**08 26 59.0**	**+0.5**
ASAR	**Alice Springs**	**23.44**	**131**	P	**P**	**08 27 15.2**	**+0.3**
	4.2nm,0.5s,mb4.1,baz=304,slow=9.1,SNR=70						
ASAR				PcP	PcP	08 30 58.7	-0.8
	0.3nm,0.4s,baz=326,slow=1.9,SNR=4.6						
STKA	**Stephens Creek**	**33.78**	**136**	*e*P	**P**	**08 28 47.8**	**+0.9**
	3.5nm,0.9s,mb4.3						
STKA	**Stephens Creek**	**33.78**	**136**	P	**P**	**08 28 47.3**	**+0.4**
	3.9nm,0.7s,mb4.4,baz=316,slow=8.6,SNR=7.4						
MKAR	**Makanchi Array**	**62.56**	**335**	P	**P**	**08 32 27.7**	**-0.6**
	0.2nm,0.3s,mb3.6,baz=150,slow=7.1,SNR=4.2						

IDC ***16*** *08:31:06.8±2.2, 1853N×14575E, h184km±19km, mb3.8/14, mb1 3.9/15, mb1mx3.8/24, mbtmp3.8/15, Error ellipse: s-maj=24.7km s-min=11.8km az=84.0*
ISCJB ***16*** *08:31:07.0±1.7, 1850N±008×1455E±02, h198km±14km, mb4.0/20, Error ellipse: s-maj=29.6km s-min=12.6km az=178.9*
NEIC ***16*** *08:31:07.4±1.5, 1853N×14574E, h192km±13km, mb4.5/6, Error ellipse: s-maj=18.4km s-min=8.5km az=88.0*

ISC 16 08:31:07.2±1.7, 1852N±008×1456E±02, h185km±14km, n30, σ0§71/31, mb4.2/20, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**4.96**	**189**	P	**Pn**	**08 32 21.3**	**+0.5**
	14nm,0.3s,baz=38,slow=17,SNR=14						
GUMO				S	**Sn**	**08 33 18.4**	**-0.2**
	76nm,0.3s,baz=174,slow=19,SNR=14						
GUMO	**Guam**	**4.96**	**189**	*e*Pn	**Pn**	**08 32 21.3**	**+0.5**
GUMO				*e*Sn	**Sn**	**08 33 17.8**	**-0.9**
KAKA	**Kakadu**	**33.65**	**204**	*e*P	**P**	**08 37 27.2**	**-3.3**
	4.9nm,0.5s,mb4.5						
KAKA	**Kakadu**	**33.65**	**204**	*e*P	**P**	**08 37 29.4**	**-1.1**
CTA	**Charters Tower**	**38.38**	**179**	P	**P**	**08 38 11.6**	**+1.0**
	1.8nm,0.4s,mb4.1,baz=4.7,slow=12,SNR=4.2						
WRAB	**Tennant Creek**	**39.79**	**197**	*e*P	**P**	**08 38 22.3**	**0.0**
	7.7nm,0.6s,mb4.5						
WB2	**Warramunga Arr**	**39.80**	**197**	*e*P	**P**	**08 38 22.4**	**0.0**
WRA	**Warramunga Arr**	**39.80**	**197**	P	**P**	**08 38 22.5**	**+0.2**
	4.0nm,0.3s,mb4.5,baz=13,slow=8.0,SNR=40						
WRA				PcP	PcP	08 40 24.3	-0.5
	1.1nm,0.5s,baz=16,slow=3.5,SNR=6.6						
FITZ	**Fitzroy Crossi**	**41.36**	**209**	*e*P	**P**	**08 38 35.9**	**+0.7**
	17nm,0.6s,mb4.9						
FITZ	**Fitzroy Crossi**	**41.36**	**209**	P	**P**	**08 38 35.9**	**+0.8**
	7.0nm,0.5s,mb4.5,baz=32,slow=9.3,SNR=73						
FITZ	**Fitzroy Crossi**	**41.36**	**209**	*e*P	**P**	**08 38 35.7**	**+0.5**
	12nm,0.4s,mb4.9						
SONM	**Songino Array**	**43.24**	**322**	P	**P**	**08 38 51.1**	**+1.1**
	0.7nm,0.6s,mb3.5,baz=129,slow=6.1,SNR=2.9						
ASAR	**Alice Springs**	**43.47**	**196**	P	**P**	**08 38 52.0**	**-0.1**
	2.1nm,0.5s,mb4.0,baz=14

λ108.00000°. NP2:φ∞7.00000°, δ73.00000°, λ84.00000°. Principal axes: T 1.5790, Plg62.0000°, Azm268.0000°; N 0.1310, Plg6.0000°, Azm9.0000°; P -1.7100, Plg28.0000°, Azm102.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.

BJI **16** *08:41:45.0,3300S×17830W,h39km, mB5.7, mb5.2, Ms5.1, Msz5.0*

IDC **16** *08:41:45.3±0.6, 3308S×17840W, h41km±4km, mb4.5/14, mb1 4.7/15, mb1mx4.6/18, mbtmp4.5/15, ML4.4/1, MS4.9/21, Ms1 5.0/21, ms1mx4.8/29, Error ellipse: s-maj=14.1km s-min=11.5km az=171.0*

DJA **16** *08:42:56, 3289S×17826E, h650km, Mw5.1/5*

ISC 16 08:41:45.6±0.3, 3313S±006×17837W±007, h43km, h43km±1.4km: pP-P, n174, σ1§10/79, mb4.9/29, MS5.0/25, 6C-8D, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera**	**6.30**	**214**	P	**Pn**	**08 43 14.0**	**-2.0**
	8.4nm,0.3s,baz=31,slow=6.5,SNR=55						
URZ				S	**Sn**	**08 44 25.3**	**-1.4**
	40nm,0.3s,baz=169,slow=22,SNR=17						
RPZ	**Rata Peaks**	**13.42**	**215**	S	**Sn**	**08 47 10.5**	**-11**
	2.5nm,0.3s,baz=20,slow=21,SNR=5.9						
DZM	**Mont Dzumac**	**17.37**	**306**	*e*P	**Pn**	**08 45 47.5**	**+2.7**
DZM	**Mont Dzumac**	**17.37**	**306**	*e*P	**Pn**	**08 45 48.2**	**+3.4**
NOUC	**Port Laguerre**	**17.44**	**305**	*e*P	**Pn**	**08 45 49.9**	**+4.1**
AFI	**Afiamalu**	**20.05**	**19**	P	**P**	**08 46 12.8**	**-2.4**
	64nm,0.9s,baz=46,slow=12,SNR=5.4						
AFI	**Afiamalu**	**20.05**	**19**	*e*P	**P**	**08 46 12.5**	**-2.7**
AFI				pmax	pmax		
	comp=Z,63nm,0.8s						
AFI	**Afiamalu**	**20.05**	**19**	*e*P	**P**	**08 46 12.5**	**-2.7**
	comp=Z,63nm,0.8s						
RAR	**Rarotonga**	**20.33**	**59**	LR	LR	08 52 41.3	
	comp=Z,4μm,21.3s,MS4.7,baz=218,slow=32						
ARMA	**Armidale**	**25.61**	**268**	*e*P	**P**	**08 47 15.3**	**+4.4**
ARMA				*e*S	S	08 52 00.2	+24
ARMA	**Armidale**	**25.61**	**268**	*e*P	**P**	**08 47 13.0**	**+2.1**
	comp=Z,5.9nm,2.1s,mb3.8						
TBI	**Tubuai**	**27.20**	**76**	*e*LR	LR	08 54 02.0	
	comp=Z,3μm,21.0s,baz=242						
PPT	**Papeete**	**30.16**	**66**	*e*LR	LR	08 55 34.6	
	comp=Z,3μm,20.8s,baz=230						
PPT	**Papeete**	**30.16**	**66**	LR	LR	08 57 55.3	
	comp=Z,4μm,19.5s,MS5.0,baz=235,slow=32						
STKA	**Stephens Creek**	**33.65**	**261**	*e*P	**P**	**08 48 23.5**	**+1.3**
	comp=Z,4.6nm,0.8s,mb4.5						
STKA				*e*S	**S**	**08 53 47.0**	**+4.9**
STKA	**Stephens Creek**	**33.65**	**261**	P	**P**	**08 48 22.9**	**+0.7**
	comp=Z,2.9nm,0.7s,mb4.3,baz=98,slow=8.2,SNR=5.0						
STKA				LR	LR	09 01 37.2	
	comp=Z,3μm,18.0s,MS5.1,baz=92,slow=35						
STKA	**Stephens Creek**	**33.65**	**261**	*e*P	**P**	**08 48 22.7**	**+0.5**
	comp=Z,5.9nm,0.9s,mb4.5						
CTA	**Charters Tower**	**34.02**	**283**	*e*P	**P**	**08 48 27.3**	**+1.7**
	comp=Z,19nm,0.6s,mb5.2						
CTA				*e*S	**S**	**08 53 53.0**	**+4.9**
CTA	**Charters Tower**	**34.02**	**283**	P	**P**	**08 48 26.6**	**+1.0**
	comp=Z,21nm,0.6s,mb5.2,baz=108,slow=10,SNR=42						
CTA				LR	LR	09 00 34.5	
	comp=Z,1μm,18.7s,MS4.7,baz=118,slow=33						
CTA	**Charters Tower**	**34.02**	**283**	*e*P	**P**	**08 48 27.3**	**+1.7**
CTA				*e*S	**S**	**08 53 53.0**	**+4.9**
CTA				pmax	pmax		
	comp=Z,19nm,0.6s						
CTAO	**Charters Tower**	**34.02**	**283**	*e*P	**P**	**08 48 27.2**	**+1.6**
CTAO				pmax	pmax		
	comp=Z,21nm,0.6s,mb5.2						
CTAO	**Charters Tower**	**34.02**	**283**	*e*P	**P**	**08 48 27.2**	**+1.7**
	comp=Z,21nm,0.6s,mb5.2						
RKT	**Rikitea**	**39.32**	**87**	*e*S	**S**	**08 55 06.2**	**-2.6**
	comp=Z,620nm,25.2s						
RKT				*e*LR	LR	08 59 38.9	
	comp=Z,3μm,30.2s,baz=241						
COEN	**Coen**	**39.79**	**289**	*e*P	**P**	**08 49 15.4**	**+0.8**
	comp=Z,10nm,0.9s,mb4.6						
DRV	**Dumont d'Urvil**	**41.51**	**204**	P	**P**	**08 49 35.0**	**+6.8**
DRV				S	**S**	**08 55 49.0**	**+8.4**
DRV				L		08 59 00.0	
DRV				R		09 02 00.0	
ASAR	**Alice Springs**	**42.72**	**270**	P	**P**	**08 49 38.1**	**-0.5**
	comp=Z,16nm,0.7s,mb4.9,baz=109,slow=7.6,SNR=192						
ASAR				pP	pP	08 49 50.6	+0.1
	comp=Z,16nm,0.7s,baz=108,slow=7.4,SNR=11						
ASAR				S	**S**	**08 55 58.3**	**-1.1**
	comp=Z,3.4nm,1.1s,baz=109,slow=14,SNR=4.3						
WB2	**Warramunga Ar**	**43.94**	**275**	*e*P	**P**	**08 49 48.3**	**-0.2**
WRAB	**Tennant Creek**	**43.95**	**275**	*e*P	**P**	**08 49 48.2**	**-0.4**
WRAB				pmax	pmax		
	comp=Z,31nm,0.8s,mb5.1						
WRAB	**Tennant Creek**	**43.95**	**275**	*e*P	**P**	**08 49 48.2**	**-0.4**
	comp=Z,30nm,0.8s,mb5.1						
WRA	**Warramunga Arr**	**43.95**	**275**	P	**P**	**08 49 48.2**	**-0.5**
	comp=Z,27nm,0.8s,mb5.0,baz=116,slow=7.6,SNR=72						
WRA				pP	pP	08 50 00.1	-0.5
	comp=Z,38nm,0.8s,baz=116,slow=7.5,SNR=11						
WRA				ScP	ScP	08 55 22.6	+0.3
	comp=Z,1.3nm,1.1s,baz=134,slow=3.8,SNR=4.7						
WRA				S	**S**	**08 56 17.5**	**0.0**
	comp=Z,3.5nm,1.1s,baz=109,slow=16,SNR=4.4						
WRA				LR	LR	09 08 21.5	
	comp=Z,2μm,18.4s,MS5.0,baz=130,slow=36						
WRA	**Warramunga Arr**	**43.95**	**275**	P	**P**	**08 49 48.2**	**-0.4**
WRA				*PP	pP	08 50 00.1	-0.5
WRA				S	**S**	**08 56 17.5**	**0.0**
FORT	**Forrest**	**45.10**	**258**	*e*P	**P**	**08 49 56.9**	**-0.8**
	comp=Z,38nm,0.9s,mb5.2						
SBA	**Scott Base**	**45.30**	**184**	*e*P	**P**	**08 50 01.9**	**+3.2**
SBA				pmax	pmax		
	comp=Z,35nm,1.3s,mb5.0						
SBA	**Scott Base**	**45.30**	**184**	*e*P	**P**	**08 50 01.9**	**+3.3**
	comp=Z,35nm,1.3s,mb5.0						
KAKA	**Kakadu**	**49.15**	**282**	*e*P	**P**	**08 50 25.9**	**-3.5**
	comp=Z,16nm,0.7s,mb5.2						
FITZ	**Fitzroy Crossi**	**52.09**	**272**	*e*P	**P**	**08 50 51.2**	**-0.3**
	comp=Z,42nm,1.9s,mb5.0						
FITZ				*e*S	**S**	**08 58 17.7**	**+5.0**
FITZ	**Fitzroy Crossi**	**52.09**	**272**	LR	LR	09 12 57.3	
	comp=Z,1μm,18.2s,MS5.0,baz=115,slow=36						
CASY	**Casey**	**52.60**	**209**	*e*P	**P**	**08 50 55.6**	**+1.0**
	comp=Z,33nm,0.9s,mb5.3						
CASY				*e*pP	pP	08 51 06.5	-0.3
KLBR	**Kellerberrin**	**53.21**	**253**	*e*P	**P**	**08 50 59.2**	**-0.5**
	comp=Z,59nm,1.5s,mb5.3						
QSPA	**South Pole Qui**	**56.99**	**180**	P	**P**	**08 51 27.9**	**+1.7**
	comp=Z,18nm,1.2s,mb5.0,baz=37,slow=3.7,SNR=14						
QSPA				pP	pP	08 51 38.4	-0.1
	comp=Z,28nm,0.8s,baz=12,slow=2.1,SNR=22						
QSPA				LR	LR	09 14 50.0	
	comp=Z,3μm,18.2s,MS5.4,baz=218,slow=35						
QSPA	**South Pole Qui**	**56.99**	**180**	P	**P**	**08 51 27.9**	**+1.7**
QSPA				pP	pP	08 51 38.4	-0.1
QSPA				LR	LR	09 14 50.0	
BATI	**Baumata**	**57.73**	**279**	LR	LR	09 15 45.0	
	comp=Z,1μm,20.2s,MS5.0,baz=225,slow=35						
GUMO	**Guam**	**58.21**	**317**	LR	LR	09 12 59.8	
	comp=Z,343nm,20.3s,MS4.5,baz=269,slow=32						
MIR	**Mirnyy**	**59.56**	**208**	*i*P	**P**	**08 51 45.0**	**+0.7**
MIR				*i*S	**S**	**09 00 00.0**	**+9.2**
MIR				*e*		09 01 34.0	
MIR				pmax	pmax		
	comp=Z,200nm,1.5s,mb5.9						
MIR				pmax	pmax		
	comp=Z,1μm,4.0s						
MIR				MLR	MLR		
	comp=Z,2μm,18.0s,MS5.2						
KAPI	**Kappang**	**63.81**	**282**	LR	LR	09 21 53.6	
	comp=Z,1μm,18.7s,MS5.1,baz=63,slow=38						
DAV	**Davao City (W)**	**66.50**	**296**	LR	LR	09 21 14.6	
	comp=Z,452nm,18.4s,MS4.7,baz=156,slow=36						
MAW	**Mawson**	**69.65**	**201**	*e*P	**P**	**08 52 51.4**	**+1.3**
	comp=Z,6.6nm,0.4s,mb4.9						
MAW				*e*		09 02 01.0	
MAW	**Mawson**	**69.65**	**201**	P	**P**	**08 52 50.7**	**+0.6**
	comp=Z,31nm,1.4s,mb5.1,baz=125,slow=8.4,SNR=15						
MAW				pP	pP	08 53 02.6	-0.1
	comp=Z,10nm,0.9s,baz=116,slow=11,SNR=7.9						
MAW				LR	LR	09 22 11.5	
	comp=Z,2μm,20.0s,MS5.4,baz=114,slow=35						
MAW	**Mawson**	**69.65**	**201**	*e*P	**P**	**08 52 51.4**	**+1.3**
MAW				*e*		09 02 01.0	
MAW				pmax	pmax		
	comp=Z,7.0nm,0.4s						
PMSA	**Palmer Station**	**69.92**	**155**	LR	LR	09 20 37.3	
	comp=Z,1μm,19.2s,MS5.1,baz=50,slow=33						
SYO	**Syowa Base**	**74.40**	**193**	*i*P	**P**	**08 53 17.0**	**-1.5**
SNAA	**Sanae**	**75.45**	**179**	*e*P	**P**	**08 53 24.7**	**+0.2**
SNAA				*e**PP	pP	08 53 36.1	-1.2
SNAA				pmax	pmax		
	comp=Z,25nm,1.0s						
SNAA	**Sanae**	**75.45**	**179**	*e*P	**P**	**08 53 24.7**	**+0.1**
	comp=Z,25nm,1.0s,mb5.1						
SNAA				*e*pP	pP	08 53 36.1	-1.2
VNA3	**Neumayer Olymp**	**75.61**	**176**	*e*P	**P**	**08 53 25.1**	**-0.4**
VNA3				*e*	pP	08 53 37.9	-0.3
VNA3				*e*		08 53 44.1	
VNA3				*e*		08 53 49.7	
VNA3				*e*		08 54 10.7	
VNA2	**Neumayer--Watz**	**76.04**	**177**	*e*P	**P**	**08 53 27.1**	**-0.9**
VNA2				*e*	pP	08 53 40.8	+0.1
VNA2				*e*		08 53 46.9	
VNA2				*e*		08 53 52.6	
VNA2				*e*		08 53 57.2	
VNA2				*e*		08 54 13.6	
NVL	**N'lazarevskaya**	**76.14**	**183**	P	**P**	**08 53 29.9**	**+1.4**
NVL				S	S	09 03 12.9	+4.1
NVL				pmax	pmax		
	comp=Z,37nm,1.9s,mb5.0						
NVL				MLR	MLR		
	comp=N,1μm,20.0s,MS5.3						
NVL				MLR	MLR		
	comp=E,742nm,20.0s,MS5.3						
NVL				MLR	MLR		
	comp=Z,2μm,20.0s,MS5.4						
VNA1	**Neumayer--Stat**	**76.28**	**177**	*e*P	**P**	**08 53 30.2**	**+0.9**
VNA1				*e*	pP	08 53 42.5	+0.5
VNA1				*e*		08 53 48.9	
VNA1				*e*		08 54 15.0	
MJAR	**Matsushiro Arr**	**80.30**	**326**	P	**P**	**08 53 50.7**	**-1.2**
	comp=Z,1.6nm,0.8s,mb4.0,baz=167,slow=3.9,SNR=4.0						
MJAR				LR	LR	09 24 53.8	
	comp=Z,410nm,19.4s,MS4.8,baz=75,slow=32						
MJAR	**Matsushiro Arr**	**80.30**	**326**	P	**P**	**08 53 50.7**	**-1.2**
MJAR				LR	LR	09 24 53.8	
PLCA	**Paso Flores**	**80.89**	**133**	P	**P**	**08 53 55.4**	**+0.1**
	comp=Z,9.2nm,1.0s,mb4.7,baz=211,slow=5.9,SNR=6.1						
PLCA				pP	pP	08 54 07.5	-0.5
	comp=Z,6.7nm,0.8s,baz=200,slow=13,SNR=5.1						
PLCA				LR	LR	09 23 37.6	
	comp=Z,1μm,18.5s,MS5.2,baz=220,slow=31						
PLCA	**Paso Flores**	**80.89**	**133**	P	**P**	**08 53 55.4**	**+0.2**
PLCA				*PP	pP	08 54 07.6	-0.5
KSRS	**Korea Array**	**86.22**	**320**	P	**P**	**08 54 23.5**	**+1.2**
	comp=Z,1.9nm,0.7s,mb4.4,baz=141,slow=5.4,SNR=6.0						
KSRS				LR	LR	09 32 20.1	
	comp=Z,366nm,18.4s,MS4.8,baz=143,slow=35						
YSS	**Yuzh-Sakhalins**	**87.06**	**335**	*e*P	**P**	**08 54 23.0**	**-3.2**
YSS				*e*S	S	09 04 53.0	-8.7
YSS				pmax	pmax		
	comp=Z,1.0nm,4.0s						
YSS				smax			
	comp=N,700nm,12.0s						
YSS	**Yuzh-Sakhalins**	**87.06**	**335**	*i* P	**P**	**08 54 27.3**	**+1.1**
PETK	**Petropavlovsk-**	**88.37**	**346**	P	**P**	**08 54 32.5**	**+0.2**
	comp=N,6.7nm,0.8s,mb4.9,baz=121,slow=7.1,SNR=8.0						
PETK				LR	LR	09 27 08.2	
	comp=N,449nm,21.0s,MS4.9,baz=155,slow=31						
VLA	**Vladivostok**	**88.47**	**326**	P	**P**	**08 54 33.0**	**0.0**
VLA				MLR	MLR		
	comp=Z,500nm,20.4s,MS4.9						
WDC	**Whiskeytown Da**	**89.63**	**39**	*e*P	**P**	**08 54 37.3**	**-1.2**
WDC				pmax	pmax		
	comp=Z,13nm,1.4s,mb5.1						
WDC	**Whiskeytown Da**	**89.63**	**39**	*e*P	**P**	**08 54 37.3**	**-1.2**
	comp=Z,12nm,1.4s,mb5.0						
NVAR	**Mina Array Bea**	**90.45**	**43**	P	**P**	**08 54 42.2**	**-0.2**
	comp=Z,2.5nm,0.8s,mb4.6,baz=219,slow=7.6,SNR=12						
NVAR	**Mina Array Bea**	**90.45**	**43**	P	**P**	**08 54 42.2**	**-0.2**
MDJ	**Mudanjiang**	**90.69**	**326**	P	**P**	**08 54 43.3**	**-0.1**
MDJ				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb5.2						
MDJ				AMB	AMB		
	comp=Z,222nm,5.6s						
MDJ				LR	LR		
	comp=N,272nm,16.9s,MS4.8						
MDJ				LR	LR		
	comp=E,135nm,16.1s,MS4.8						
MDJ				LR	LR		
	comp=Z,448nm,17.6s,MS5.0						
TUC	**Tucson**	**91.06**	**52**	*e*P	**P**	**08 54 46.0**	**+0.6**
TUC				pmax	pmax		
	comp=Z,9.0nm,1.3s,mb4.9						
TUC	**Tucson**	**91.06**	**52**	*e*P	**P**	**08 54 46.0**	**+0.5**
	comp=Z,9.4nm,1.3s,mb5.0						
HABR	**Khabarovsk**	**91.27**	**331**	*e*P	**P**	**08 54 45.7**	**-0.3**
HABR				*e*S	SKSac	09 05 14.7	+0.4
HABR				*e*		09 05 32.4	
CN2	**Changchun**	**92.12**	**323**	*e*P	**P**	**08 54 49.3**	**-0.7**
CN2				AMB	AMB		
	comp=Z,10.0nm,1.1s,mb5.1						
KLR	**Kul'dur**	**93.22**	**330**	*e*P	**P**	**08 54 50.1**	**-4.9**
CMAR	**Chiang Mai Arr**	**94.00**	**289**	LR	LR	09 37 51.8	
	comp=Z,218nm,18.4s,MS4.7,baz=205,slow=36						
TXAR	**Lajitas Array**	**94.12**	**58**	P	**P**	**08 54 59.6**	**0.0**
	comp=Z,1.3nm,1.1s,mb4.3,baz=197,slow=3.9,SNR=6.7						
TXAR				LR	LR	09 32 53.7	
	comp=Z,1μm,18.1s,MS5.4,baz=105,slow=33						
ANMO	**Albuquerque**	**95.52**	**52**	*i* P	**P**	**08 55 06.4**	**+0.5**
LPAZ	**La Paz**	**97.31**	**115**	P	**P**	**08 55 15.4**	**+0.8**
	comp=Z,1.8nm,1.0s,mb4.5,baz=273,slow=3.6,SNR=5.3						
LPAZ				LR	LR	09 31 22.2	
	comp=Z,296nm,19.6s,MS4.8,baz=318,slow=31						
PDAR	**Pinedale Array**	**98.32**	**44**	LR	LR	09 37 31.1	
	comp=Z,834nm,18.2s,MS5.3,baz=250,slow=34						
BILL	**Bilibino**	**101.51**	**354**	*e*P	Pdif	08 55 31.6	-1.3
BILL				*e*SS	SS	09 14 06.6	-5.1
BILL				pmax	pmax		
	comp=Z,6.0nm,1.6s						
MK31	**Makanchi Array**	**119.26**	**309**	*e*PKIKP	PKPdf	09 00 29.1	-0.5
MKAR	**Makanchi Array**	**119.26**	**309**	PKP	PKPdf	09 00 28.8	-0.9
	comp=Z,2.2nm,0.7s,baz=77,slow=2.6,SNR=16						
ZALV	**Zalesovo Beam**	**119.83**	**317**	PKP	PKPdf	09 00 29.1	-1.4
	comp=Z,2.0nm,0.7s,baz=113,slow=3.3,SNR=5.5						
NVS	**Novosibirsk**	**120.96**	**318**	*e*PKIKP	PKPdf	09 00 31.3	-1.4
NVS				pmax	pmax		
	comp=N,5.0nm,1.5s						
NVS				pmax	pmax		
	comp=E,8.0nm,1.5s						
NVS				pmax	pmax		
	comp=Z,10.0nm,1.5s						
TKM2	**Tokmak 2**	**122.63**	**303**	*e*PKIKP	PKPdf	09 00 35.7	-0.6
KURK	**Kurchatov**	**122.68**	**313**	PKP	PKPdf	09 00 35.6	-0.4
	comp=Z,6.2nm,0.7s,baz=111,slow=2.0,SNR=20						
KURK	**Kurchatov**	**122.68**	**313**	*i*PKIKP	PKPdf	09 00 34.9	-1.2
KURK				pmax	pmax		
	comp=Z,8.0nm,0.7s						
UCH	**Uchtor**	**123.20**	**302**	*e*PKPdf	PKPdf	09 00 38.0	+0.7
AML	**Almayashu**	**123.76**	**302**	*e*PKPdf	PKPdf	09 00 38.8	+0.4
EKS2	**Erkin-Say**	**123.85**	**302**	*e*PKPdf	PKPdf	09 00 38.2	-0.4
BVAR	**Borovoye Array**	**128.10**	**314**	PKP	PKPdf	09 00 45.7	-0.7
	comp=Z,4.0nm,0.6s,baz=100,slow=1.8,SNR=20						
BRVK	**Borovoye**	**128.17**	**314**	*i* PKIKP	PKPdf	09 00 46.1	-0.4
ARU	**Arti**	**134.96**	**319**	*i* PKIKP	PKPdf	09 00 59.0	-0.2
ARU				SS	SS	09 21 17.7	-7.4
ARU	**Arti**	**134.96**	**319**	*e*PKPdf	PKPdf	09 00 59.5	+0.2
ARCES	**ARCESS Array B**	**141.17**	**347**	PKhKP		09 01 04.7	
	comp=Z,2.7nm,0.8s,baz=58,slow=4.6,SNR=4.4						
ARCES	**ARCESS Array B**	**141.17**	**347**	PKP		09 01 04.7	
MAK	**Makhachkala**	**142.96**	**299**	*e*PKHKP		09 01 06.6	
MAK				*e*		09 04 20.7	
MAK				*e*PPP		09 07 34.3	
MAK				*e*		09 08 22.2	
JOF	**Joensuu**	**144.81**	**337**	*e*p	PKPdf	09 01 14.6	-2.3
	comp=Z,23nm,0.7s						
JOF	**Joensuu**	**144.81**	**337**	*e*PKIKP	PKPdf	09 01 14.6	-2.3
JOF				pmax	pmax		
	comp=Z,23nm,0.7s						
MTA	**Mtatsminda**	**144.96**	**297**	P	PKPdf	09 01 14.2	-3.7
TBLG	**Delisi**	**145.00**	**297**	P	PKPbc	09 01 16.2	-1.1
GOR	**Gori**	**145.47**	**297**	P	PKPdf	09 01 19.5	+0.7
VRHR	**Novokhopersk**	**145.84**	**314**	*e*PKIKP	PKPdf	09 01 17.6	-1.4
VRHR				pmax	pmax		
	comp=Z,90nm,1.1s						
VRHR				pmax	pmax		
	comp=N,30nm,0.8s						
VRHR				pmax	pmax		
	comp=E,20nm,0.4s						
ONI	**Oni**	**145.95**	**298**	P	PKPdf	09 01 19.9	+0.4
MOS	**Moscow**	**146.36**	**323**	*e*PKIKP	PKPdf	09 01 17.9	-1.9
MOS				pmax	pmax		
	comp=Z,215nm,1.5s						
KIV	**Kislovodsk**	**146.43**	**301**	*i* PKP2	PKPab	09 01 21.1	-1.6
KAF	**Kangasniemi**	**146.99**	**339**	*e*p	PKPdf	09 01 20.8	+0.2
	comp=Z,20nm,0.7s						
KAF	**Kangasniemi**	**146.99**	**339**	*e*PKP2	PKPdf	09 01 20.8	+0.2
KAF				pmax	pmax		
	comp=Z,20nm,0.7s						
OBN	**Obninsk**	**147.18**	**323**	*i*PKP2	PKPdf	09 01 22.9	+1.7
OBN				pmax	pmax		
	comp=Z,25nm,1.1s						
OBN	**Obninsk**	**147.18**	**323**	*e*PKP	PKPdf	09 01 22.9	+1.7
VSR	**Storozhevoye**	**147.28**	**315**	*de*PKP2	PKPbc	09 01 23.3	-0.6
VSR				pmax	pmax		
	comp=Z,10.0nm,1.3s						
VSR				pmax	pmax		
	comp=N,9.0nm,0.9s						
VSR				pmax	pmax		
	comp=E,10.0nm,1.2s						
SOC	**Sochi**	**148.60**	**301**	*c i*PKP2	PKPbc	09 01 26.4	-1.2
SOC				*e*		09 04 54.9	
SOC				*e*SS	SS	09 23 57.7	-6.7
SOC				pmax	pmax		
	comp=Z,33nm,0.9s						
VSU	**Vasula**	**149.55**	**334**	*i*PKP2	PKPbc	09 01 28.7	-0.8
ANN	**Anapa**	**150.05**	**303**	*i* PKIKP	PKPdf	09 01 20.6	-5.6
ANN				pmax	pmax		
	comp=Z,45nm,1.1s						
ASF	**Jabal al Asfar**	**150.37**	**278**	PKPbc	PKPbc	09 01 33.4	+1.0
	comp=Z,8.1nm,1.2s,baz=89,slow=0.5,SNR=10						
NB2	**NORSAR Subarra**	**151.38**	**350**	PKP	PKPbc	09 01 32.7	-1.1
	comp=Z,69nm,1.4s,baz=17,slow=2.6						
NB2	**NORSAR Subarra**	**151.38**	**350**	PKP	PKPbc	09 01 32.7	-1.1
	baz=17,slow=2.6						
NOA	**NORSAR Array B**	**151.38**	**350**	PKPbc	PKPbc	09 01 32.3	-1.5
	comp=Z,3.2nm,0.8s,baz=19,slow=4.7,SNR=15						
EIL	**Elat**	**151.41**	**272**	PKPbc	PKPbc	09 01 35.0	+0.1
	comp=Z,14nm,0.8s,baz=100,slow=0.5,SNR=10.0						
NAO01	**NORSAR Array S**	**151.62**	**350**	*e*PKPab	PKPab	09 01 42.4	-0.7
MNK	**Minsk**	**151.76**	**327**	*i*PKIKP	PKPbc	09 01 33.0	-1.9
MMAI	**Mont Meron Ar**	**151.76**	**279**	PKPbc	PKPbc	09 01 35.2	-0.4
	comp=Z,10nm,0.7s,baz=72,slow=5.4,SNR=7.7						
SIM	**Simferopol'**	**152.32**	**305**	*i* PKIKP	PKPbc	09 01 37.6	+1.1
SIM				pmax	pmax		
	comp=Z,70nm,0.4s						
DBIC	**Dimbokro**	**153.00**	**166**	PKPbc	PKPbc	09 01 40.0	+1.1
	comp=Z,5.7nm,1.0s,baz=38,slow=3.5,SNR=4.0						
AKASG	**Malin Array Be**	**153.21**	**319**	PKPbc	PKPbc	09 01 38.0	-0.2
	comp=Z,4.6nm,0.7s,baz=73,slow=2.4,SNR=15						
AKBB	**Malin Array Si**	**153.21**	**319**	*e*PKIKP	PKPbc	09 01 38.3	+0.1
BR131	**Keskin Array S**	**153.51**	**294**	*e*PKPbc	PKPbc	09 01 40.5	+1.3
KIS	**Kishinev**	**155.15**	**312**	*e*	PKPab	09 01 54.0	-4.5
KIS				*e*L		10 09 36.0	
KIS				LRM		10 15 10.0	
	comp=Z,300nm,19.0s						
KOLS	**Kolonicke sedl**	**157.93**	**322**	*e*PKP	PKPdf	09 01 37.3	+0.2
STHS	**Stebnicka Huta**	**158.14**	**324**	*e*PKP	PKPdf	09 01 39.0	+1.6
STHS				*e*		09 02 11.2	
STHS	**Stebnicka Huta**	**158.14**	**324**	*e*PKP	PKPdf	09 01 39.1	+1.7
STHS				*e*		09 02 11.2	
CRVS	**Cervenica-Dubn**	**158.37**	**323**	*e*PKP	PKPab	09 02 12.9	+0.6
CRVS				*e*		09 38 09.7	
CRVS				*e*		09 39 07.1	
KSP	**Ksiaz**	**159.28**	**333**	*e*PKP2	PKPab	09 02 15.4	-0.8
OKC	**Ostrava-Krasne**	**159.29**	**329**	AMS	AMS	10 14 50.0	
	comp=Z,500nm,21.2s						
UPC	**Upice**	**159.65**	**333**	*e*PKPAB	PKPab	09 02 17.2	-0.6
UPC				*ep*PKP	pPKPab	09 02 29.2	-1.7
DPC	**Dobruska-Polom**	**159.66**	**332**	*ep*PKP	pPKPdf	09 01 50.4	-2.2
DPC				*e*PKPAB	PKPab	09 02 17.3	-0.5
DPC				*ex*	x	09 02 30.1	
DPC				AMS	AMS	10 19 10.0	
	comp=Z,400nm,19.5s						
VYHS	**Vyhne**	**159.94**	**325**	*e*PKP	PKPab	09 02 17.7	-1.4
CLL	**Collm**	**160.02**	**339**	*i*PKP2	PKPab	09 02 18.4	-0.9
CLL				pmax	pmax		
	comp=Z,23nm,1.2s						
CLL				MLR	MLR		
	comp=Z,400nm,18.8s						
CLL	**Collm**	**160.02**	**339**	*ep*PKPdf	pPKPdf	09 01 50.3	-2.7
CLL				*e*PKPab	PKPab	09 02 18.3	-1.0
CLL	**Collm**	**160.02**	**339**	*i*PKPab	PKPab	09 02 18.4	-0.9
	comp=Z,23nm,1.2s						
CLL				*ex*	x	09 02 26.0	
CLL				*i* pPKPab	pPKPab	09 02 30

comp=Z,0.4nm,0.3s,baz=126,slow=2.2,SNR=2.5

ISCJB **16** *08:53:42.9±0.1, 3436N×001×11763W±001, h10km, mb4.5/3, Error ellipse: s-maj=1.7km s-min=1.4km az=14.5*
IDC **16** *08:53:42.9±2.5, 3426N×11767W, h0km, mb4.1/1, mb1 3.9/4, mb1mx3.7/22, mbtmp3.5/4, ML3.7/3, Error ellipse: s-maj=32.9km s-min=13.5km az=57.0*
BJI **16** *08:53:43.2, 3437N×11851W, h5km, mB5.0, mb4.7, Ms4.9, Msz4.6*
NEIC **16** *08:53:44.1, 3439N×11764W, h8km, mb4.1/2, ML4.2(PAS), After PAS.*
NEIC Felt [IV] at Covina, Phelan, Pinon Hills and Wrightwood; [III] at Acton, Adelanto, Alhambra, Apple Valley, Azusa, Bell, Burbank, Crestline, Duarte, Fontana, Fullerton, Glendale, Glendora, Hesperia, Huntington Beach, Irvine, La Verne, Lancaster, Littlerock, Long Beach, Los Angeles, Manhattan Beach, Monrovia, Mount Baldy, North Hollywood, Palmdale, Panorama City, Pasadena, Placentia, Rancho Cucamonga, Riverside, San Dimas, San Gabriel, Santa Monica, Sherman Oaks, Sierra Madre, South Pasadena, Studio City, Valley Village, Van Nuys, Victorville, Walnut and West Hollywood. Felt as far north as Edwards and as far south as San Clemente.

ISC 16 08:53:43.1±0.3, 3435N±001×11765W±001, h2km±2km, n151, σ0°96/221, mb4.5/3, 67C-55D, Southern California

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
BFSC	**Mount Baldy St** baz=0.1,SNR=1000	**0.11**	**183**	P		**Pg**	**08 53 46.5**	**+1.3**
BFSC				⇑S		**Sg**	**08 53 49.0**	**+2.2**
MWC	**Mount Wilson** baz=0.1	**0.36**	**249**	*e*Pg		**Pg**	**08 53 51.0**	**+1.1**
MWC				*e*Sg		**Sg**	**08 53 56.5**	**+1.8**
DECC	**Green Verdugo** baz=0.6,SNR=477	**0.57**	**260**	⇑P		**Pg**	**08 53 55.0**	**+0.9**
DECC				⇓S		**Sg**	**08 54 02.1**	**+0.7**
EDW2	**Edwards Air Fo** baz=0.6,SNR=1000	**0.60**	**332**	⇑P		**Pg**	**08 53 54.7**	**+0.2**
EDW2				⇓S		**Sg**	**08 54 02.5**	**+0.3**
BBRC	**Big Bear Sol-O** baz=0.6,SNR=1000	**0.61**	**98**	P		**Pg**	**08 53 55.4**	**+0.6**
BBRC				⇓S		**Sg**	**08 54 03.8**	**+1.1**
RRX	**Edison Barstow** baz=0.7,SNR=376	**0.75**	**45**	P		**Pg**	**08 53 57.7**	**+0.2**
RRX				⇑S		**Sg**	**08 54 07.8**	**+0.6**
FMP	**Fort Macarthur** baz=0.9,SNR=208	**0.83**	**220**	P		**Pg**	**08 53 59.7**	**+0.7**
FMP				⇑S		**Sg**	**08 54 10.5**	**+0.7**
MURC	**Murrieta** baz=0.9,SNR=641	**0.84**	**153**	P		**Pg**	**08 53 59.3**	**+0.1**
MURC				⇓S		**Sg**	**08 54 10.6**	**+0.6**
OSI	**Osito Adit** baz=0.9,SNR=113	**0.92**	**287**	⇑P		**Pg**	**08 54 00.6**	**-0.2**
OSI				⇓S		**Sg**	**08 54 13.5**	**+0.7**
OSI	**Osito Adit**	**0.92**	**287**	*e*Pg		**Pg**	**08 54 00.5**	**-0.3**
OSI				*e*Sg		**Sg**	**08 54 14.0**	**+1.2**
LRMC	**Laurel Mountai** baz=1.1,SNR=452	**1.12**	**358**	P		**Pg**	**08 54 04.2**	**-0.4**
LRMC				⇑S		**Sg**	**08 54 19.8**	**+0.6**
CIS	**Catalina Islan** baz=1.2,SNR=1000	**1.13**	**214**	P		**Pg**	**08 54 04.7**	**-0.1**
CIS				⇓S		**Sg**	**08 54 20.6**	**+1.1**
GSC	**Goldstone** baz=1.1,SNR=607	**1.17**	**36**	P		**Pg**	**08 54 05.1**	**-0.4**
GSC				⇓S		**Sg**	**08 54 20.9**	**+0.1**
GSC	**Goldstone**	**1.17**	**36**	*e*Pg		**Pg**	**08 54 05.1**	**-0.5**
GSC				*e*Sg		**Sg**	**08 54 21.8**	**+1.0**
HEC	**Hector,Ludlow** baz=1.2,SNR=76	**1.19**	**66**	⇑P		**Pg**	**08 54 05.4**	**-0.5**
HEC				⇑S		**Sg**	**08 54 21.2**	**0.0**
BLG	**Laguna Peak** baz=1.2,SNR=1000	**1.20**	**259**	⇓P		**Pg**	**08 54 05.2**	**-0.8**
BLG				⇑S		**Sg**	**08 54 21.5**	**0.0**
ARVC	**Arvin** baz=1.2,SNR=840	**1.24**	**309**	P		**Pg**	**08 54 06.5**	**-0.4**
ARVC				⇑S		**Sg**	**08 54 22.4**	**-0.5**
PFO	**Pinyon Flat Ob** baz=1.2,SNR=130	**1.24**	**126**	P		**Pg**	**08 54 06.4**	**-0.5**
PFO				⇓S		**Sg**	**08 54 22.2**	**-0.7**
PFO	**Pinyon Flat Ob**	**1.24**	**126**	*e*Pg		**Pg**	**08 54 06.2**	**-0.6**
PFO				*e*Sg		**Sg**	**08 54 22.3**	**-0.6**
BELC	**Belle Mtn.** baz=1.4,SNR=255	**1.41**	**104**	⇑P		**Pn**	**08 54 09.5**	**-0.2**
BELC				⇓S		**Sg**	**08 54 29.0**	**+0.5**
ISA	**Isabella** baz=1.5,SNR=1000	**1.47**	**333**	P		**Pn**	**08 54 09.6**	**-1.0**
ISA				⇑S		**Sb**	**08 54 29.0**	**-1.2**
ISA	**Isabella**	**1.47**	**333**	*e*Pn		**Pn**	**08 54 09.5**	**-1.0**
ISA				*e*Sg		**Sg**	**08 54 29.5**	**-0.8**
109C	**Camp Elliot, M** baz=1.6,SNR=180	**1.53**	**163**	⇓P		**Pn**	**08 54 10.4**	**-0.9**
109C				⇑S		**Sn**	**08 54 30.4**	**-1.3**
SCI	**San Clemente I** baz=1.6	**1.56**	**209**	⇑P		**Pn**	**08 54 11.3**	**-0.4**
SCI				⇑S		**Sn**	**08 54 32.3**	**-0.2**
BSC	**Santa Cruz Isl** baz=1.7,SNR=6.4	**1.68**	**258**	⇓P		**Pn**	**08 54 12.8**	**-0.7**
BSC				⇓S		**Sn**	**08 54 35.0**	**-0.6**
GMRC	**Granite Mounta** baz=1.7,SNR=619	**1.70**	**75**	⇑P		**Pn**	**08 54 12.1**	**-1.5**
GMRC				⇑Sb		**Sb**	**08 54 37.4**	**+0.7**
MPMC	**Manual Prospec** baz=1.7,SNR=1000	**1.71**	**4**	P		**Pn**	**08 54 12.8**	**-0.9**
MPMC				⇓Sb		**Sb**	**08 54 38.1**	**+1.1**
SBC	**Santa Barbara** baz=1.7,SNR=25	**1.71**	**274**	⇑P		**Pn**	**08 54 13.6**	**-0.2**
SBC				⇓Sb		**Sb**	**08 54 37.4**	**+0.4**
TUQ	**Turquoise Moun** baz=1.8	**1.78**	**52**	⇑P		**Pn**	**08 54 13.6**	**-1.2**
TUQ				⇓Sb		**Sb**	**08 54 40.0**	**+0.8**
MONP	**Monument Peak** baz=1.8,SNR=23	**1.78**	**145**	⇓P		**Pn**	**08 54 15.0**	**+0.2**
MONP				⇓S		**Sn**	**08 54 38.2**	**+0.2**
BAR	**Barrett**	**1.86**	**154**	*e*Pn		**Pn**	**08 54 15.8**	**-0.1**
BAR				*e*Sg		**Sg**	**08 54 40.4**	**-2.3**
PKM	**Peak Mountain** baz=1.9,SNR=161	**1.87**	**287**	⇓P		**Pn**	**08 54 16.0**	**0.0**
PKM				⇓Sb		**Sb**	**08 54 42.3**	**+0.6**
VES	**Vestal, Richgr** baz=1.9,SNR=115	**1.89**	**322**	⇑P		**Pn**	**08 54 15.7**	**-0.7**
VES				⇓Sb		**Sb**	**08 54 42.6**	**+0.2**
SHOC	**Shoshone** baz=1.9,SNR=605	**1.91**	**36**	P		**Pn**	**08 54 15.6**	**-0.9**
SHOC				⇑Sb		**Sb**	**08 54 44.1**	**+1.3**
SNCC	**San Nicolas Is** baz=1.9,SNR=24	**1.91**	**235**	⇑P		**Pn**	**08 54 15.7**	**-0.8**
SNCC				⇓S		**Sn**	**08 54 40.4**	**-0.7**
SNCC	**San Nicolas Is**	**1.91**	**235**	*e*Pn		**Pn**	**08 54 15.5**	**-1.0**
SNCC				*e*Sg		**Sg**	**08 54 44.9**	**+0.5**
BC3	**Big Chuckw Mtn** baz=1.9,SNR=43	**1.95**	**110**	⇑P		**Pn**	**08 54 16.4**	**-0.7**
BC3				⇑S		**Sn**	**08 54 41.7**	**-0.5**
IRM	**Iron Mountain** baz=2.1,SNR=36	**2.08**	**95**	⇑P		**Pn**	**08 54 17.6**	**-1.3**
IRM				⇑Sb		**Sb**	**08 54 49.0**	**+1.2**
SWSC	**Sam W. Stewart** baz=2.1,SNR=13	**2.09**	**132**	⇑P		**Pn**	**08 54 17.8**	**-1.2**
SWSC				⇑Sb		**Sb**	**08 54 48.8**	**+0.7**
CWC	**Cottonwood Cre** baz=2.1,SNR=85	**2.11**	**351**	⇓P		**Pn**	**08 54 18.6**	**-0.7**
CWC				⇑Sb		**Sb**	**08 54 49.4**	**+0.7**
DVTC	**Desert V Tower** baz=2.1	**2.13**	**142**	⇓Sb		**Sb**	**08 54 49.9**	**+0.7**
FURC	**Furnace Creek,** baz=2.2	**2.21**	**17**	⇑P		**Pn**	**08 54 19.6**	**-1.1**
U10A	**Ash Meadows, A** baz=2.3,SNR=51	**2.33**	**27**	⇓P		**Pn**	**08 54 21.7**	**-0.6**
RCTC	**Rector, Farmer** baz=2.3,SNR=16	**2.34**	**327**	⇓P		**Pn**	**08 54 22.4**	**-0.1**
RCTC				⇑Sb		**Sb**	**08 54 55.9**	**+0.6**
V11A	**Goodsprings** baz=2.3,SNR=50	**2.35**	**50**	⇑P		**Pn**	**08 54 21.9**	**-0.6**
V11A				⇓Sb		**Sb**	**08 54 56.7**	**+1.3**
V05C	**Boulder Hill,** baz=2.4,SNR=13	**2.38**	**310**	⇓P		**Pn**	**08 54 23.1**	**0.0**
PTRM	**Twissleman Ran**	**2.47**	**302**	*e*Pn		**Pn**	**08 54 23.4**	**-0.9**
W12A	**Cal Nev Ari** baz=2.4,SNR=13	**2.48**	**67**	⇓P		**Pn**	**08 54 23.3**	**-1.1**
W12A				⇑Sb		**Sb**	**08 55 01.2**	**+2.1**
NEE2	**Needles Airpor** baz=2.5,SNR=20	**2.54**	**80**	⇑P		**Pn**	**08 54 24.3**	**-0.8**
NEE2				⇑Sb		**Sb**	**08 55 03.0**	**+2.1**
GRAC	**Grapevine Rang** baz=2.6,SNR=57	**2.65**	**5**	⇓P		**Pn**	**08 54 26.9**	**+0.1**
Y12C	**Blythe** baz=2.7,SNR=41	**2.67**	**102**	⇓P		**Pn**	**08 54 25.6**	**-1.3**
V12A	**Nelson** baz=2.6,SNR=63	**2.67**	**58**	P		**Pn**	**08 54 26.3**	**-0.8**
V12A				⇓Sb		**Sb**	**08 55 07.4**	**+2.5**
GLA	**Glamis** baz=2.7	**2.69**	**118**	⇓P		**Pn**	**08 54 27.0**	**-0.2**
GLA				⇑S		**Sn**	**08 55 00.2**	**-0.1**
GLA	**Glamis**	**2.69**	**118**	*e*Pn		**Pn**	**08 54 26.9**	**-0.4**
GLA				*e*Sg		**Sg**	**08 55 08.9**	**-0.5**
U11A	**Corn Creek** baz=2.7,SNR=15	**2.77**	**41**	⇓P		**Pn**	**08 54 28.1**	**-0.3**
U05C	**Westside ANR,** baz=2.8,SNR=6.7	**2.83**	**315**	⇑P		**Pn**	**08 54 29.3**	**+0.1**
TPNV	**Topopah Spring** baz=2.8,SNR=153	**2.83**	**23**	P		**Pn**	**08 54 29.3**	**0.0**
TPNV	**Topopah Spring**	**2.83**	**23**	*e*Pn		**Pn**	**08 54 29.2**	**0.0**
TPNV				*e*Pg		**Pg**	**08 54 36.9**	**-0.4**
TPNV				*e*Sg		**Sg**	**08 55 13.1**	**-0.9**
PKD	**Parkfield** baz=2.8,SNR=58	**2.85**	**305**	⇑P		**Pn**	**08 54 28.8**	**-0.7**
PKD				⇑S		**Sn**	**08 55 03.7**	**-0.7**
PDMCI	**Parker Dam,Lak** baz=2.9	**2.91**	**90**	⇓P		**Pn**	**08 54 29.6**	**-0.7**
MTUM	**Tungsten Hills**	**3.08**	**346**	*e*Pn		**Pn**	**08 54 33.5**	**+0.7**
MTUM				*e*Pg		**Pg**	**08 54 40.4**	**-1.8**
MTUM				*e*Sg		**Sg**	**08 55 20.3**	**-1.9**
T06C	**Millerton Lake** baz=3.1,SNR=19	**3.13**	**328**	⇓P		**Pn**	**08 54 32.8**	**-0.6**
X13A	**Yucca** baz=3.1,SNR=962	**3.17**	**85**	⇑P		**Pn**	**08 54 33.0**	**-0.9**
W13A	**Hualapai Mount** baz=3.2,SNR=176	**3.19**	**75**	P		**Pn**	**08 54 33.4**	**-0.7**
Y13A	**Salome** baz=3.2,SNR=31	**3.22**	**99**	⇓P		**Pn**	**08 54 33.8**	**-0.7**
U04C	**Hernandez Rese** baz=3.2,SNR=31	**3.25**	**309**	⇓P		**Pn**	**08 54 34.2**	**-0.8**
KCC	**Kaiser Creek** baz=3.2,SNR=35	**3.26**	**336**	⇓P		**Pn**	**08 54 35.7**	**+0.6**
U12A	**Valley of Fire** baz=3.2	**3.28**	**50**	⇓P		**Pn**	**08 54 34.9**	**-0.5**
V13A	**Grand Canyon W** baz=3.3,SNR=30	**3.36**	**63**	P		**Pn**	**08 54 35.9**	**-0.5**
T12A	**Moapa** baz=3.3	**3.37**	**44**	⇓P		**Pn**	**08 54 36.5**	**0.0**
V03C	**Hunter Liggett** baz=3.4,SNR=47	**3.38**	**301**	P		**Pn**	**08 54 35.3**	**-1.4**
S09A	**Goldfield** baz=3.4,SNR=40	**3.38**	**6**	P		**Pn**	**08 54 37.3**	**+0.5**
T11A	**Corn Creek, Al** baz=3.5	**3.49**	**34**	⇑P		**Pn**	**08 54 38.1**	**-0.2**
113A	**Mohawk Valley,** baz=3.6	**3.61**	**115**	⇓P		**Pn**	**08 54 39.0**	**-0.9**
U13A	**Pakoon Wash** baz=3.6,SNR=52	**3.65**	**55**	⇑P		**Pn**	**08 54 40.1**	**-0.3**
S10A	**Tonopah Range,** baz=3.6,SNR=30	**3.66**	**13**	⇓P		**Pn**	**08 54 40.9**	**+0.2**
S05C	**Merced** baz=3.7,SNR=26	**3.69**	**325**	⇑P		**Pn**	**08 54 41.2**	**+0.1**
TPH	**Tonopah**	**3.73**	**5**	*e*Pn		**Pn**	**08 54 42.1**	**+0.5**
TPH				*e*Pg		**Pg**	**08 54 52.5**	**-2.0**
TPH				*e*Sg		**Sg**	**08 55 45.2**	**+2.3**
W14A	**Seligman** baz=3.8,SNR=31	**3.85**	**76**	⇑P		**Pn**	**08 54 42.7**	**-0.6**
Y14A	**Wickenburg** baz=3.9,SNR=54	**3.88**	**95**	⇑P		**Pn**	**08 54 43.1**	**-0.5**
R09A	**Tonopah** baz=3.9,SNR=8.3	**3.91**	**7**	⇓P		**Pn**	**08 54 44.2**	**+0.2**
SAO	**San Andreas Ge**	**3.92**	**309**	*e*Pn		**Pn**	**08 54 43.9**	**-0.3**
X14A	**Yava** baz=3.9,SNR=38	**3.94**	**87**	⇑P		**Pn**	**08 54 44.0**	**-0.4**
V14A	**Boquillas Ranc** baz=3.9,SNR=28	**3.94**	**70**	P		**Pn**	**08 54 44.2**	**-0.3**
S12A	**Delamar Landin** baz=3.9	**3.96**	**34**	⇓P		**Pn**	**08 54 44.5**	**-0.3**
PACP	**Pacheco Peak** baz=4.0	**3.97**	**313**	⇑P		**Pn**	**08 54 44.5**	**-0.4**
Z14A	**Wintersburg** baz=4.0,SNR=13	**4.04**	**103**	⇓P		**Pn**	**08 54 44.8**	**-1.0**
T13A	**Saint George** baz=4.0,SNR=15	**4.04**	**48**	⇑P		**Pn**	**08 54 45.5**	**-0.4**
R10A	**Warm Springs** baz=4.0	**4.08**	**15**	⇓P		**Pn**	**08 54 46.2**	**-0.1**
NVAR	**Mina Array Bea** 14nm,0.3s,baz=174,slow=18,SNR=78	**4.10**	**353**	Pg		**Pg**	**08 54 58.4**	**-3.3**
NVAR	5.8nm,0.3s,baz=177,slow=33,SNR=4.1			Lg			08 55 55.5	
NVAR	**Mina Array Bea**	**4.10**	**353**	Pn		**Pn**	**08 54 47.8**	**+1.1**
NVAR				Pg		**Pg**	**08 54 58.4**	**-3.3**
NVAR				Lg			08 55 55.5	
NVAR	**Mina Array Bea** 1.0nm,0.3s,baz=177,slow=14,SNR=22	**4.10**	**353**	Pn		**Pn**	**08 54 47.8**	**+1.1**
U14A	**Mt Trumbull** baz=4.2	**4.19**	**59**	⇓P		**Pn**	**08 54 48.1**	**+0.2**
CMB	**Columbia Colle**	**4.29**	**330**	*e*Pn		**Pn**	**08 54 51.4**	**+2.1**
CMB				*e*S		**Sn**	**08 55 50.5**	**+11**
R11A	**Troy Canyon, C** baz=4.3,SNR=10	**4.32**	**22**	⇑P		**Pn**	**08 54 50.1**	**+0.4**
Y15A	**Casa Rosa Ranc** baz=4.4,SNR=211	**4.43**	**94**	P		**Pn**	**08 54 51.0**	**-0.2**
S13A	**Holt Ranch, En** baz=4.4	**4.45**	**43**	⇓P		**Pn**	**08 54 52.1**	**+0.6**
X15A	**Humboldt** baz=4.5,SNR=68	**4.48**	**87**	P		**Pn**	**08 54 51.6**	**-0.3**
Q10A	**Clear Creek Ra** baz=4.5	**4.58**	**12**	⇑P		**Pn**	**08 54 53.9**	**+0.7**
T14A	**Hurricane** baz=4.6	**4.59**	**53**	⇑P		**Pn**	**08 54 53.8**	**+0.4**
R12A	**Pony Springs,** baz=4.6	**4.67**	**31**	⇑P		**Pn**	**08 54 54.4**	**0.0**
Z15A	**Gila River Ind** baz=4.7,SNR=13	**4.69**	**102**	⇓P		**Pn**	**08 54 54.1**	**-0.8**
R04C	**Big Horse Ranc** baz=4.7	**4.71**	**327**	⇑P		**Pn**	**08 54 56.0**	**+0.9**
CCUT	**Cedar City**	**4.72**	**46**	*e*Pn		**Pn**	**08 54 55.9**	**+0.7**
V15A	**Kaibab Nationa** baz=4.7	**4.72**	**70**	⇑P		**Pn**	**08 54 55.3**	**0.0**
JRSC	**Jasper Ridge** baz=4.8,SNR=16	**4.81**	**311**	⇓P		**Pn**	**08 54 55.4**	**-1.0**
115A	**Sonoran Desert** baz=4.8,SNR=15	**4.82**	**108**	⇑P		**Pn**	**08 54 56.0**	**-0.5**
ARUT	**Antelope Range**	**4.83**	**44**	*e*Pn		**Pn**	**08 54 57.7**	**+1.0**
ARUT				*e*Pg		**Pg**	**08 55 10.7**	**-5.0**
R13A	**O'Grain Ranch,** baz=4.8	**4.84**	**37**	⇑P		**Pn**	**08 54 57.6**	**+0.8**
U15A	**North Rim** baz=4.8	**4.84**	**63**	⇓P		**Pn**	**08 54 57.3**	**+0.5**
T15A	**Red Dirt Ranch** baz=5.0	**5.04**	**57**	⇑P		**Pn**	**08 55 00.3**	**+0.6**
X16A	**Lo Mia Camp, P** baz=5.1	**5.13**	**88**	⇑P		**Pn**	**08 55 01.1**	**+0.2**
Y16A	**Circle Bar Ran** baz=5.1,SNR=85	**5.14**	**94**	⇑P		**Pn**	**08 55 00.9**	**-0.1**
P09A	**Austin** baz=5.2	**5.21**	**4**	⇑P		**Pn**	**08 55 01.6**	**-0.2**
Z16A	**Peralta Trail,** baz=5.3,SNR=50	**5.28**	**99**	⇓P		**Pn**	**08 55 02.1**	**-0.7**
WUAZ	**Wupatki** 1.7nm,0.8s	**5.29**	**76**	*e*Pn		**Pn**	**08 55 04.0**	**+1.0**
WUAZ				*e*Pg		**Pg**	**08 55 24.7**	**+0.4**
WUAZ				*e*Sg		**Sg**	**08 56 29.6**	**-3.2**
PAHR	**Pah Rah Range** 19nm,0.7s	**5.52**	**346**	*e*Pn		**Pn**	**08 55 07.6**	**+1.4**
PAHR				*e*Sg		**Sg**	**08 56 39.5**	**-0.8**
Y17A	**Roosevelt** baz=5.7,SNR=52	**5.69**	**95**	⇑P		**Pn**	**08 55 08.2**	**-0.3**
OHCM	**Honcut**	**5.85**	**329**	*e*Pn		**Pn**	**08 55 13.5**	**+2.9**
117A	**Oracle** baz=6.0,SNR=17	**6.04**	**105**	⇓P		**Pn**	**08 55 12.8**	**-0.5**
MSU	**Marysvale**	**6.06**	**45**	*e*Pn		**Pn**	**08 55 15.6**	**+2.1**
MSU				*e*Pg		**Pg**	**08 55 38.6**	**-0.5**
Z17A	**San Carlos Hig** baz=6.0,SNR=7.2	**6.07**	**98**	⇑P		**Pn**	**08 55 13.2**	**-0.5**
TUC	**Tucson** 4.2nm,0.6s	**6.10**	**108**	*e*Pn		**Pn**	**08 55 13.0**	**-1.2**
TUC				*e*Sg		**Sg**	**08 56 54.0**	**-4.9**
Y18A	**Canyon Day Jun** baz=6.3	**6.35**	**93**	⇑P		**Pn**	**08 55 18.0**	**+0.4**
S17A	**Black Ridge (B** baz=6.4	**6.45**	**57**	⇑P		**Pn**	**08 55 20.1**	**+1.2**
118A	**Homack Ranch,** baz=6.6	**6.64**	**103**	⇑P		**Pn**	**08 55 21.6**	**+0.1**
ELK	**Elko** 18nm,0.6s	**6.66**	**16**	*e*Pn		**Pn**	**08 55 22.4**	**+0.6**
N12A	**Clover Valley,** baz=6.8	**6.81**	**17**	⇑P		**Pn**	**08 55 24.8**	**+0.9**
DUG	**Dugway** 18nm,0.6s	**6.99**	**32**	*e*Pn		**Pn**	**08 55 24.0**	**-2.4**
DUG				*e*Pg		**Pg**	**08 55 53.0**	**-4.0**
DUG				*e*S		Sn	08 57 24.1	+38
TMUT	**Trail Mountain**	**7.14**	**44**	*e*Pn		**Pn**	**08 55 31.0**	**+2.6**
119A	**Ashpeak Ranch,** baz=7.1	**7.14**	**100**	⇓P		**Pn**	**08 55 28.9**	**+0.4**
MPU	**Maple Canyon** 11nm,0.8s	**7.42**	**39**	*e*Pn		**Pn**	**08 55 30.9**	**-1.3**
MPU				*e*Pg		**Pg**	**08 56 04.4**	**-0.7**
MPU				*e*Sg		**Sg**	**08 57 34.0**	**-7.1**
SRU	**San Rafael** 7.4nm,0.5s	**7.43**	**48**	*e*Pn		**Pn**	**08 55 35.9**	**+3.4**
BGU	**Big Grassy Mou**	**7.51**	**28**	*e*Pn		**Pn**	**08 55 38.6**	**+5.1**
BGU				*e*Pg		**Pg**	**08 56 02.1**	**-4.8**
BGU				*e*Sg		**Sg**	**08 57 41.7**	**-2.6**
JLU	**Jordanelle**	**7.95**	**36**	*e*Pn		**Pn**	**08 55 43.0**	**+3.5**
JLU				*e*Pg		**Pg**	**08 56 14.6**	**-0.7**
PV10	**Paradox Valley**	**8.02**	**57**	*e*Pn		**Pn**	**08 55 40.8**	**+0.2**
PV10				*e*Sg		**Sg**	**08 57 56.2**	**-4.4**
PV01	**Paradox Valley**	**8.25**	**60**	*e*Pn		**Pn**	**08 55 45.3**	**+1.7**
PV01				*e*Pg		**Pg**	**08 56 11.5**	**-10**
PV01				*e*Sg		**Sg**	**08 57 57.8**	**-10**
HWUT	**Hardware Ranch** 13nm,0.9s	**8.69**	**32**	*e*Pn		**Pn**	**08 55 52.8**	**+3.1**
REDW	**Red Top Meadow**	**10.44**	**28**	*e*Pn		**Pn**	**08 56 15.3**	**+1.7**
PDAR	**Pinedale Array** 0.1nm,0.3s,baz=206,slow=10.0,SNR=5.8	**10.52**	**35**	Pn		**Pn**	**08 56 18.6**	**+4.0**
PDAR	0.1nm,0.3s,baz=204,slow=13,SNR=3.9			Pg		Pn	08 57 01.1	+46
PDAR	baz=224,slow=31,SNR=4.0			Lg			08 59 17.7	
PDAR	**Pinedale Array**	**10.52**	**35**	Pn		**Pn**	**08 56 18.6**	**+4.0**
PDAR				Pg		Pn	08 57 01.1	+46
PDAR				Lg			08 59 17.7	
LOHW	**Long Hollow** 6.7nm,1.2s	**10.74**	**29**	*e*Pn		**Pn**	**08 56 22.2**	**+4.3**
TXAR	**Lajitas Array** 0.2nm,0.3s,baz=293,slow=12,SNR=11	**12.89**	**109**	Pn		**Pn**	**08 56 49.7**	**+2.4**
TXAR	**Lajitas Array**	**12.89**	**109**	Pn		**Pn**	**08 56 49.7**	**+2.4**
MIAR	**Mount Ida** 6.1nm,0.9s	**19.85**	**83**	*e*P		**Pn**	**08 58 16.8**	**0.0**
AGMN	**Agassiz Refuge** 13nm,0.9s,mb4.3	**21.39**	**43**	*e*P		**P**	**08 58 32.8**	**+1.0**
ULM	**Lac du Bonnet** 4.8nm,0.7s,mb4.1,baz=235,slow=11,SNR=7.9	**22.50**	**38**	P		**P**	**08 58 43.8**	**+0.2**
HHC	**Hu-ho-hao-te**	**92.52**	**325**	*e*P		**P**	**09 06 55.9**	**+0.1**
HHC				PP		PP	09 10 39.4	+3.3
HHC				SKS			09 17 28.8	
HHC				S		S	09 17 58.3	-2.5
HHC				SS		SS	09 24 11.6	+0.9
HHC	comp=Z,15nm,1.1s,mb5.3			AMB		AMB		
HHC	comp=Z,137nm,6.5s			AMB		AMB		
HHC	comp=N,139nm,20.0s			LR		LR		
HHC	comp=E,141nm,22.3s			LR		LR		
HHC	comp=Z,132nm,18.4s			LR		LR		
GTA	**Gaotai**	**98.83**	**332**	*e*P		**P**	**09 07 26.0**	**+1.4**
GTA				AP		pP	09 07 29.4	+4.0
GTA				XP		sP	09 07 31.0	+5.3
WMQ	**Urumqi**	**98.84**	**342**	*e*P		**P**	**09 07 26.0**	**+1.5**
LZH	**Lanzhou**	**99.94**	**327**	*e*P		Pdif	09 07 27.5	-1.9
LZH				AP			09 07 30.0	
LZH	comp=Z,67nm,5.0s			AMB		AMB		

IDC 16 08:54:09.4±2.3, 1561S×6696E, h0km, mb4.1/8, mb1 4.2/8, mb1mx3.9/22, mbtmp4.1/8, MS4.2/6, Ms1 4.2/6, ms1mx3.7/36, Error ellipse: s-maj=71.2km s-min=26.4km az=56.0, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
KMBO	**Kilima Mbogo** comp=Z,122nm,18.4s,baz=80,slow=36	**32.65**	**293**	LR		LR	09 13 51.5	
LSZ	**Lusaka** comp=Z,600nm,18.0s,baz=124,slow=34	**37.34**	**265**	LR		LR	09 15 38.1	
LBTB	**Lobatse** comp=Z,414nm,18.5s,baz=104,slow=33	**39.77**	**250**	LR		LR	09 16 02.8	
BOSA	**Boshof** comp=Z,227nm,19.0s,baz=160,slow=33	**40.55**	**244**	LR		LR	09 16 20.8	
SUR	**Sutherland** comp=Z,306nm,18.5s,baz=55,slow=32	**44.98**	**240**	LR		LR	09 18 03.5	
CMAR	**Chiang Mai Arr** 0.8nm,0.3s,baz=226,slow=7.9,SNR=6.6	**46.24**	**44**	P		P	09 02 37.4	+0.7
CMAR	comp=Z,241nm,18.6s,baz=125,slow=35			LR		LR	09 21 07.9	
ASAR	**Alice Springs** 0.9nm,1.0s,baz=268,slow=7.2,SNR=5.8	**63.08**	**109**	P		P	09 04 38.5	-0.7
MKAR	**Makanchi Array** 1.2nm,0.7s,baz=198,slow=6.1,SNR=5.7	**63.62**	**12**	P		P	09 04 41.5	-0.6
WRA	**Warramunga Arr** 1.8nm,1.0s,baz=271,slow=5.9,SNR=9.2	**63.94**	**105**	P		P	09 04 45.1	+0.3
KURK	**Kurchatov** 0.7nm,0.2s,baz=189,slow=5.3,SNR=2.7	**66.82**	**8**	P		P	09 05 02.0	-0.8
BVAR	**Borovoye Array** 0.8nm,0.4s,baz=160,slow=4.6,SNR=4.2	**68.41**	**2**	P		P	09 05 12.8	0.0
ZALV	**Zalesovo Beam** 1.5nm,0.6s,baz=212,slow=5.3,SNR=6.5	**70.94**	**11**	P		P	09 05 27.9	-0.5
SONM	**Songino Array** 1.6nm,0.7s,baz=217,slow=6.7,SNR=5.5	**72.31**	**27**	P		P	09 05 37.7	+0.9
PDAR	**Pinedale Array** 0.7nm,0.8s,baz=45,slow=2.3,SNR=5.6	**152.77**	**354**	PKPbc		PKPbc	09 14 09.8	+1.3

**IDC 16 08:57:11.8±35.0, 1580S×6637E, h0km, mb4.0/3, mb1 4.2/3, mb1mx3.6/20, mbtmp4.0/3,

*MOS **16** 09:03:12.3±1.3,2957N×141.13E,h33km,mb4.4/5,Error ellipse: s-maj=40.2km s-min=12.8km az=103.0*
*JMA **16** 09:03:13.1,2970N×141.44E,h40km,M4.4*
*ISCJB **16** 09:03:14.0±0.5,2973N±004×1415E±02,h58km,mb4.0/10,Error ellipse: s-maj=20.4km s-min=3.8km az=166.8*
*IDC **16** 09:03:17.1±0.8,2953N×141.10E,h58km±6km,mb3.7/9,mb1 4.0/11,mb1mx3.8/21,mbtmp3.7/11,MS3.4/2,Ms1 3.4/2,ms1mx2.9/38,Error ellipse: s-maj=25.7km s-min=16.9km az=62.0*
*NEIC **16** 09:03:17.4±0.5,2959N×141.13E,mb4.2/1,Error ellipse: s-maj=17.0km s-min=10.3km az=75.0*

ISC 16 09:03:15.6±0.5,2973N±004×1417E±02,h60km,
h60km±.9km:pP-P,n42,σ1§10/54,mb4.0/10,Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**2.66**	**170**	P			**Pn**	**09 03 55.6**	**-0.5**
	37nm,0.3s,baz=76,slow=8.6,SNR=30								
CBIJ				S			**Sn**	**09 04 23.8**	**-3.5**
	81nm,0.3s,baz=308,slow=17,SNR=6.5								
CBIJ	**Chichi jima**	**2.66**	**170**	P			**Pn**	**09 03 55.5**	**-0.6**
CBIJ				*eS*			**Sn**	**09 04 27.0**	**-0.2**
JHHJ	**Haha-jima-NKT**	**3.12**	**172**	P			**Pn**	**09 04 01.7**	**-0.7**
JHHJ				*eS*			**Sn**	**09 04 37.1**	**-1.4**
JHJ2	**Mitsune**	**3.73**	**335**	P			**Pn**	**09 04 09.1**	**-1.6**
JHJ2				*eS*			**Sn**	**09 04 48.9**	**-4.4**
JHJ	**Hachijo jima 2**	**3.75**	**335**	P			**Pn**	**09 04 09.2**	**-1.7**
	22nm,0.3s,baz=72,slow=13,SNR=4.2								
JHJ				S			**Sn**	**09 04 49.0**	**-4.7**
	41nm,0.3s,baz=104,slow=17,SNR=3.3								
BSO1	**Boso 1**	**4.94**	**353**	P			**Pn**	**09 04 27.3**	**0.0**
BSO1				*eS*			**Sn**	**09 05 23.4**	**+0.2**
BSO3	**Boso 3**	**5.15**	**349**	P			**Pn**	**09 04 30.9**	**+0.7**
BSO3				*eS*			**Sn**	**09 05 28.6**	**+0.3**
JOD2	**Odawara 2**	**5.93**	**339**	P			**Pn**	**09 04 41.3**	**+0.4**
JOD2				*eS*			**Sn**	**09 05 46.5**	**-1.0**
JHU	**Hanno**	**6.43**	**342**	P			**Pn**	**09 04 48.8**	**+1.2**
JHU				*eS*			**Sn**	**09 05 56.5**	**-3.1**
JNY	**Yasuok**	**6.47**	**331**	P			**Pn**	**09 04 49.4**	**+1.2**
JRY	**Ryogami san**	**6.69**	**340**	P			**Pn**	**09 04 52.6**	**+1.4**
JRY				S			**Sn**	**09 06 06.3**	**+0.3**
JHO	**Hitachi**	**6.92**	**353**	P			**Pn**	**09 04 54.1**	**-0.3**
JHO				*eS*			**Sn**	**09 06 06.9**	**-4.8**
JAG	**Ashikaga**	**6.93**	**345**	P			**Pn**	**09 04 54.1**	**-0.4**
JAG				*eS*			**Sn**	**09 06 09.5**	**-2.4**
MJAR	**Matsushiro Arr**	**7.39**	**338**	P			**Pn**	**09 05 01.4**	**+0.6**
	3.3nm,0.3s,baz=160,slow=13,SNR=13								
MJAR	**Matsushiro Arr**	**7.39**	**338**	P			**Pn**	**09 05 01.4**	**+0.6**
MJAR				pmax			pmax		
	comp=Z,3.0nm,0.3s								
MAJO	**Matsushiro**	**7.39**	**338**	*eP*			**Pn**	**09 05 01.2**	**+0.4**
MAJO				pmax			pmax		
	comp=Z,15nm,0.4s								
MAJO	**Matsushiro**	**7.39**	**338**	*eP*			**Pn**	**09 05 01.2**	**+0.4**
	comp=Z,14nm,0.4s								
MAT	**Matsushiro**	**7.39**	**338**	P			**Pn**	**09 05 01.2**	**+0.4**
MAT				*eS*			**Sn**	**09 06 22.3**	**-0.9**
JFK	**Kawauchi**	**7.64**	**355**	P			**Pn**	**09 05 03.5**	**-0.8**
JFK				*eS*			**Sn**	**09 06 25.0**	**-4.4**
JMK	**Ichinoseki**	**9.21**	**358**	*eS*			**Sn**	**09 07 01.4**	**-6.3**
JOW	**Kunigami**	**12.16**	**260**	LR			LR	09 09 26.1	
	comp=Z,202nm,18.0s,baz=244,slow=32								
ASAJ	**Asahikawa**	**14.38**	**3**	P			**Pn**	**09 06 35.2**	**-0.6**
	comp=Z,0.8nm,0.3s,baz=171,slow=6.1,SNR=5.1								
ASAJ				LR			LR	09 12 21.1	
	comp=Z,118nm,18.4s,baz=359,slow=37								
ASAJ	**Asahikawa**	**14.38**	**3**	P			**Pn**	**09 06 35.3**	**-0.5**
ASAJ				pmax			pmax		
	comp=Z,1.0nm,0.3s								
ASAJ				MLR			MLR		
	comp=Z,118nm,18.4s								
CMAR	**Chiang Mai Arr**	**40.38**	**264**	*sP*			*sP*	09 11 05.1	-5.0
	comp=Z,0.6nm,0.3s,baz=84,slow=5.0,SNR=2.1								
MKAR	**Makanchi Array**	**48.48**	**308**	P			**P**	**09 11 52.2**	**0.0**
	comp=Z,0.2nm,0.2s,mb3.7,baz=88,slow=10,SNR=2.6								
WRA	**Warramunga Arr**	**49.89**	**189**	P			**P**	**09 12 02.9**	**-0.2**
	comp=Z,1.4nm,0.3s,mb4.5,baz=7.3,slow=8.0,SNR=22								
WRA	**Warramunga Arr**	**49.89**	**189**	P			**P**	**09 12 02.9**	**-0.2**
WRA				pmax			pmax		
	comp=Z,1.0nm,0.3s								
KURK	**Kurchatov**	**50.84**	**313**	P			**P**	**09 12 10.3**	**+0.2**
	comp=Z,0.9nm,0.4s,mb4.1,baz=88,slow=6.4,SNR=2.9								
KURK	**Kurchatov**	**50.84**	**313**	P			**P**	**09 12 10.3**	**+0.2**
KURK				pmax			pmax		
	comp=Z,1.0nm,0.4s,mb4.1								
PPLA	**Purkeypike**	**53.15**	**32**	*eP*			**P**	**09 12 31.8**	**+4.8**
BVAR	**Borovoye Array**	**55.82**	**316**	P			**P**	**09 12 47.1**	**+0.6**
	comp=Z,1.2nm,0.5s,mb4.2,baz=87,slow=8.8,SNR=6.4								
BVAR	**Borovoye Array**	**55.82**	**316**	P			**P**	**09 12 47.1**	**+0.6**
BVAR				pmax			pmax		
	comp=Z,1.0nm,0.5s								
ARCES	**ARCESS Array B**	**70.92**	**340**	P			**P**	**09 14 27.9**	**+1.9**
	comp=Z,3.4nm,1.0s,mb4.2,baz=55,slow=7.9,SNR=6.5								
ARCES				pP			pP	09 14 43.9	+1.5
	comp=Z,3.7nm,0.9s,baz=55,slow=10,SNR=2.4								
ARCES	**ARCESS Array B**	**70.92**	**340**	P			**P**	**09 14 27.9**	**+1.9**
ARCES				*PP			pP	09 14 43.9	+1.5
ARCES				pmax			pmax		
	comp=Z,3.0nm,1.0s								
ARCES				pmax			pmax		
	comp=Z,4.0nm,0.9s								
ARCES	**ARCESS Array B**	**70.92**	**340**	P			**P**	**09 14 27.9**	**+1.9**
ARCES				pP			pP	09 14 43.9	+1.5
NVAR	**Mina Array Bea**	**79.25**	**52**	P			**P**	**09 15 19.5**	**+4.9**
	comp=Z,0.7nm,0.6s,mb3.8,baz=298,slow=5.8,SNR=5.9								
NVAR				pP			pP	09 15 35.6	+4.4
	comp=Z,2.1nm,0.8s,baz=291,slow=5.2,SNR=7.6								
NOA	**NORSAR Array B**	**81.01**	**338**	P			**P**	**09 15 25.1**	**+1.5**
	comp=Z,1.6nm,0.8s,mb4.0,baz=28,slow=7.9,SNR=3.0								
NOA				pP			pP	09 15 41.0	+0.7
	comp=Z,1.6nm,0.7s,baz=42,slow=5.2,SNR=3.8								
NOA	**NORSAR Array B**	**81.01**	**338**	P			**P**	**09 15 25.1**	**+1.5**
NOA				*PP			pP	09 15 41.0	+0.7
NOA				pmax			pmax		
	comp=Z,2.0nm,0.9s								
NOA				pmax			pmax		
	comp=Z,2.0nm,0.7s								
PDAR	**Pinedale Array**	**82.66**	**45**	P			**P**	**09 15 36.6**	**+4.0**
	comp=Z,0.2nm,0.6s,mb3.4,baz=328,slow=3.2,SNR=2.7								
PDAR				pP			pP	09 15 53.8	+4.4
	comp=Z,0.6nm,0.7s,baz=320,slow=3.9,SNR=4.8								
BR131	**Keskin Array S**	**83.89**	**312**	*eP*			**P**	**09 15 41.5**	**+2.5**
	comp=Z,1.4nm,0.6s,mb4.3								
BR131				*e*			pP	09 15 57.7	+1.8
TXAR	**Lajitas Array**	**94.38**	**53**	P			**P**	**09 16 34.3**	**+5.2**
	comp=Z,0.2nm,0.7s,mb3.7,baz=284,slow=3.6,SNR=2.6								
TXAR				pP			pP	09 16 51.4	+5.2
	comp=Z,0.6nm,0.6s,baz=312,slow=2.3,SNR=5.5								
TXAR	**Lajitas Array**	**94.38**	**53**	P			**P**	**09 16 34.3**	**+5.1**
TXAR				*PP			pP	09 16 51.4	+5.2
TXAR				pmax			pmax		
	comp=Z,1.0nm,0.6s								

*ISCJB **16** 09:04:32.3±2.6,3303S×007×1785W±0.1,h15km±16km,mb4.4/12,Error ellipse: s-maj=18.2km s-min=10.8km az=25.8*
*NEIC **16** 09:04:33.7±4.8,3294S×17840W,h15km±29km,mb4.7/2,Error ellipse: s-maj=13.3km s-min=10.6km az=111.0*
*IDC **16** 09:04:37.4±0.8,3300S×17843W,h41km±6km,mb4.1/10,mb1 4.3/12,mb1mx4.2/18,mbtmp4.2/12,ML3.6/2,MS4.2/1,Ms1 4.2/1,ms1mx3.1/32,Error ellipse: s-maj=15.7km s-min=13.4km az=165.0*

ISC 16 09:04:34.4±2.9,3297S±007×1785W±01,h18km±18km,
h40km±.9km:pP-P,n31,σ0§99/22,mb4.4/12,South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
URZ	**Urewera**	**6.39**	**213**	P			**Pn**	**09 06 07.5**	**-0.1**
	5.2nm,0.3s,baz=51,slow=7.2,SNR=12								
URZ				S			**Sn**	**09 07 19.8**	**-0.4**
	36nm,0.3s,baz=165,slow=18,SNR=18								
RPZ	**Rata Peaks**	**13.51**	**214**	P			**Pn**	**09 07 42.9**	**-2.2**
	1.5nm,0.3s,baz=38,slow=19,SNR=5.0								
RPZ				S			**Sn**	**09 10 02.3**	**-12**
	1.1nm,0.3s,baz=333,slow=20,SNR=9.9								
DZM	**Mont Dzumac**	**17.21**	**305**	*eP*			**Pn**	**09 08 39.8**	**+5.9**
AFI	**Afiamalu**	**19.93**	**19**	P			**Pn**	**09 09 04.8**	**-2.2**
	2.4nm,0.3s,baz=43,slow=22,SNR=4.3								
STKA	**Stephens Creek**	**33.59**	**261**	P			**P**	**09 11 15.2**	**+1.6**
	3.5nm,0.8s,mb4.3,baz=88,slow=11,SNR=3.9								
ASAR	**Alice Springs**	**42.64**	**270**	P			**P**	**09 12 30.6**	**+0.7**
	8.0nm,0.8s,mb4.5,baz=110,slow=7.4,SNR=50								
ASAR				pP			pP	09 12 42.0	+6.5
	3.7nm,0.6s,baz=105,slow=7.4,SNR=7.1								
ASAR				S			**S**	**09 18 51.9**	**-0.5**
	0.4nm,0.7s,baz=115,slow=14,SNR=4.0								
WB2	**Warramunga Arr**	**43.85**	**275**	*eP*			**P**	**09 12 39.9**	**+0.2**
WRAB	**Tennant Creek**	**43.86**	**275**	*eP*			**P**	**09 12 40.2**	**+0.4**
	18nm,1.0s,mb4.8								
WRA	**Warramunga Arr**	**43.86**	**275**	P			**P**	**09 12 40.1**	**+0.3**
	8.0nm,0.6s,mb4.6,baz=116,slow=7.6,SNR=36								
WRA				pP			pP	09 12 51.5	+6.1
	4.4nm,0.5s,baz=115,slow=7.6,SNR=6.2								
WRA				S			**S**	**09 19 08.6**	**-1.7**
	0.6nm,0.9s,baz=132,slow=12,SNR=3.5								
FITZ	**Fitzroy Crossi**	**52.01**	**272**	P			**P**	**09 13 42.4**	**-0.5**
	3.8nm,0.8s,mb4.4,baz=165,slow=7.7,SNR=8.5								
QSPA	**South Pole Qui**	**57.15**	**180**	P			**P**	**09 14 20.4**	**+1.0**
	3.9nm,1.1s,mb4.4,baz=48,slow=3.2,SNR=10								
QSPA				pP			pP	09 14 31.6	+6.5
	10nm,0.8s,baz=52,slow=2.5,SNR=19								
QSPA	**South Pole Qui**	**57.15**	**180**	P			**P**	**09 14 20.4**	**+1.0**
QSPA				pP			pP	09 14 31.6	+6.5
MAW	**Mawson**	**69.78**	**201**	P			**P**	**09 15 43.9**	**+0.8**
	1.9nm,0.7s,mb4.1,baz=122,slow=9.8,SNR=5.7								
SNAA	**Sanae**	**75.61**	**179**	*eP*			**P**	**09 16 18.5**	**+0.8**
	6.1nm,0.9s,mb4.5								
PLCA	**Paso Flores**	**81.06**	**133**	P			**P**	**09 16 47.1**	**-1.2**
	2.3nm,0.8s,mb4.1,baz=214,slow=3.4,SNR=3.8								
KSRS	**Korea Array**	**86.05**	**320**	P			**P**	**09 17 14.5**	**+0.8**
	1.0nm,0.5s,mb4.3,baz=151,slow=8.2,SNR=4.3								
PETK	**Petropavlovsk-**	**88.19**	**346**	P			**P**	**09 17 23.9**	**+0.1**
	1.7nm,0.7s,mb4.4,baz=98,slow=8.7,SNR=5.5								
NVAR	**Mina Array Bea**	**90.38**	**43**	P			**P**	**09 17 34.8**	**+0.4**
	1.0nm,1.0s,mb4.1,baz=215,slow=7.6,SNR=4.1								
MKAR	**Makanchi Array**	**119.09**	**309**	PKP			PKPdf	09 23 20.9	-0.9
	0.3nm,0.3s,baz=66,slow=1.5,SNR=6.1								
KURK	**Kurchatov**	**122.51**	**313**	PKP			PKPdf	09 23 27.2	-0.9
	2.7nm,0.7s,baz=106,slow=1.9,SNR=9.1								
BVAR	**Borovoye Array**	**127.94**	**314**	PKP			PKPdf	09 23 38.5	0.0
	1.6nm,0.6s,baz=92,slow=4.5,SNR=8.4								
ARCES	**ARCESS Array B**	**141.00**	**347**	PKhKP				09 23 57.7	
	2.4nm,0.8s,baz=50,slow=1.9,SNR=4.7								
ARCES	**ARCESS Array B**	**141.00**	**347**	PKP			PKPdf	09 23 57.7	-4.7
JOF	**Joensuu**	**144.63**	**337**	*ep*			PKPdf	09 24 06.6	-2.4
	8.6nm,0.9s								
KAF	**Kangasniemi**	**146.81**	**339**	*ep*			PKPdf	09 24 13.3	+0.5
	6.9nm,0.6s								
NB2	**NORSAR Subarra**	**151.21**	**350**	PKP			PKPbc	09 24 25.6	-0.2
	comp=Z,3.8nm,0.9s,baz=17,slow=2.6								
NOA	**NORSAR Array B**	**151.21**	**350**	PKPbc			PKPbc	09 24 25.7	-0.1
	comp=Z,1.2nm,0.6s,baz=13,slow=4.1,SNR=4.7								
AKASG	**Malin Array Be**	**153.04**	**319**	PKPbc			PKPbc	09 24 29.5	-0.8
	comp=Z,2.3nm,0.7s,baz=75,slow=1.7,SNR=6.0								
AKASG	**Malin Array Be**	**153.04**	**319**	PKPbc			PKPbc	09 24 29.5	-0.8
CLL	**Collm**	**159.84**	**339**	PKPab			PKPab	09 25 10.0	-0.9
TORD	**Torodi Ar. Bea**	**160.27**	**180**	PKPab			PKPab	09 25 11.5	-2.1
	comp=Z,0.6nm,0.8s,baz=169,slow=2.7,SNR=2.8								

*NEIC **16** 09:16:57.5±4.2,3293S×17831W,h25km±28km,mb4.8/9,Error ellipse: s-maj=13.2km s-min=12.0km az=134.0*
*ISCJB **16** 09:16:58.3±2.2,3306S±009×17853W±009,h36km±17km,mb4.6/17,MS4.2/4,Error ellipse: s-maj=15.3km s-min=13.2km az=179.7*
*IDC **16** 09:17:00.1±0.7,3293S×17850W,h41km±5km,mb4.2/11,mb1 4.4/13,mb1mx4.3/18,mbtmp4.3/13,ML3.5/2,MS4.3/4,Ms1 4.3/4,ms1mx3.7/27,Error ellipse: s-maj=14.4km s-min=12.6km az=157.0*

ISC 16 09:17:00.7±2.0,3303S±009×17850W±010,h43km±16km,
h40km±.6km:pP-P,n51,σ0§96/37,mb4.6/17,MS4.2/4,1D,
South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
URZ	**Urewera**	**6.33**	**213**	P			**Pn**	**09 18 30.4**	**-1.1**
	6.0nm,0.3s,baz=59,slow=5.0,SNR=28								
URZ				S			**Sn**	**09 19 42.4**	**+0.1**
	22nm,0.3s,baz=163,slow=16,SNR=17								
RPZ	**Rata Peaks**	**13.45**	**214**	P			**Pn**	**09 20 04.5**	**-4.3**
	1.0nm,0.3s,baz=304,slow=18,SNR=3.7								
RPZ				S			**Sn**	**09 22 26.6**	**-10**
	1.7nm,0.3s,baz=296,slow=15,SNR=5.9								
DZM	**Mont Dzumac**	**17.23**	**306**	*eP*			**Pn**	**09 21 01.6**	**+3.5**
DZM				*eS*			S	09 23 49.5	-27
DZM	**Mont Dzumac**	**17.23**	**306**	*eP*			**Pn**	**09 21 02.2**	**+4.0**
AFI	**Afiamalu**	**19.99**	**19**	P			**Pn**	**09 21 26.4**	**-5.2**
	1.2nm,0.3s,baz=153,slow=18,SNR=3.0								
AFI	**Afiamalu**	**19.99**	**19**	P			**Pn**	**09 21 26.4**	**-5.2**
RAR	**Rarotonga**	**20.36**		LR			LR	09 28 43.7	
	comp=Z,691nm,18.2s,MS4.0,baz=242,slow=35								
PPT	**Papeete**	**30.21**	**66**	LR			LR	09 32 37.7	
	comp=Z,677nm,18.6s,MS4.3,baz=222,slow=31								
HNR	**Honiara**	**30.77**	**315**	LR			LR	09 33 59.7	
	comp=Z,267nm,18.9s,MS3.9,baz=7.4,slow=33								
STKA	**Stephens Creek**	**33.56**	**261**	P			**P**	**09 23 37.4**	**+0.9**
	2.2nm,0.7s,mb4.2,baz=23,slow=9.6,SNR=3.2								
STKA				LR			LR	09 37 09.1	
	comp=Z,846nm,18.7s,MS4.5,baz=40,slow=36								
STKA	**Stephens Creek**	**33.56**	**261**	P			**P**	**09 23 37.4**	**+0.9**
STKA				LR			LR	09 37 09.1	
CTA	**Charters Tower**	**33.90**	**283**	*eP*			**P**	**09 23 41.7**	**+2.1**
	8.5nm,0.6s,mb4.8								
CTAO	**Charters Tower**	**33.90**	**283**	*eP*			**P**	**09 23 41.6**	**+2.0**
	9.4nm,0.6s,mb4.9								
ASAR	**Alice Springs**	**42.62**	**270**	P			**P**	**09 24 53.5**	**+0.6**
	11nm,0.7s,mb4.7,baz=109,slow=7.9,SNR=130								
ASAR				pP			pP	09 25 03.8	-1.1
	9.4nm,0.8s,baz=110,slow=7.7,SNR=9.0								
ASAR				S			**S**	**09 31 12.4**	**-0.6**
	1.2nm,1.0s,baz=110,slow=15,SNR=4.1								
WB2	**Warramunga Arr**	**43.83**	**275**	*eP*			**P**	**09 25 02.2**	**-0.5**
WRAB	**Tennant Creek**	**43.84**	**275**	*eP*			**P**	**09 25 02.4**	**-0.4**
	9.0nm,0.6s,mb4.7								
WRA	**Warramunga Arr**	**43.84**	**275**	P			**P**	**09 25 02.9**	**+0.1**
	13nm,0.5s,mb4.9,baz=116,slow=7.7,SNR=294								
WRA				pP			pP	09 25 14.1	-0.6
	10nm,0.5s,baz=116,slow=7.6,SNR=7.8								
WRA				PcP			PcP	09 26 47.4	-1.3
	0.5nm,0.4s,baz=120,slow=3.4,SNR=4.8								
WRA				S			**S**	**09 31 29.9**	**-1.1**
	2.4nm,1.0s,baz=115,slow=13,SNR=4.8								
FORT	**Forrest**	**45.02**	**258**	*eP*			**P**	**09 25 12.1**	**0.0**
	18nm,0.7s,mb5.0								
KAKA	**Kakadu**	**49.03**	**282**	*eP*			**P**	**09 25 40.0**	**-3.5**
	9.5nm,0.6s,mb5.0								
FITZ	**Fitzroy Crossi**	**51.98**	**272**	*eP*			**P**	**09 26 05.6**	**-0.2**
	2.2nm,0.7s,mb4.8								
FITZ	**Fitzroy Crossi**	**51.98**	**272**	P			**P**	**09 26 05.8**	**-0.1**
	4.6nm,0.7s,mb4.5,baz=141,slow=6.7,SNR=15								
FITZ				pP			pP	09 26 17.1	-0.9
	3.2nm,0.8s,baz=165,slow=6.4,SNR=4.4								
KLBR	**Kellerberrin**	**53.14**	**253**	*eP*			**P**	**09 26 13.4**	**-0.9**
	10nm,0.9s,mb4.8								
QSPA	**South Pole Qui**	**57.09**	**180**	P			**P**	**09 26 43.8**	**+1.7**
	5.4nm,0.9s,mb4.6,baz=78,slow=1.0,SNR=30								
QSPA				pP			pP	09 26 54.6	+0.2
	11nm,0.6s,baz=23,slow=1.9,SNR=22								
MAW	**Mawson**	**69.71**	**201**	*eP*			**P**	**09 28 06.7**	**+1.1**
	3.8nm,0.8s,mb4.4								
MAW	**Mawson**	**69.71**	**201**	P			**P**	**09 28 06.1**	**+0.6**
	7.1nm,1.0s,mb4.6,baz=136,slow=4.0,SNR=9.1								
SYO	**Syowa Base**	**74.47**	**193**	*eP*			**P**	**09 28 32.6**	**-1.4**
SNAA	**Sanae**	**75.55**	**179**	*eP*			**P**	**09 28 40.0**	**-0.2**
	8.5nm,1.0s,mb4.6								
VNA3	**Neumayer Olymp**	**75.72**	**176**	*e*			**P**	**09 28 41.2**	**0.0**
VNA3				*e*			pP	09 28 52.8	-1.1
VNA3				*e*				09 29 03.9	
VNA3				*e*				09 31 37.5	
VNA3				*e*				09 31 48.5	
VNA2	**Neumayer--Watz**	**76.15**	**177**	*e*			**P**	**09 28 44.1**	**+0.5**
	baz=176,slow=3.2								
VNA2				*e*			pP	09 28 55.6	-0.8
VNA2				*e*				09 29 06.4	
VNA2				*e*				09 31 40.1	
VNA2				*e*				09 31 51.3	
VNA1	**Neumayer--Stat**	**76.38**	**177**	*e*			**P**	**09 28 45.7**	**+0.7**
VNA1				*e*			pP	09 28 57.5	-0.2
VNA1				*e*				09 29 07.7	
PLCA	**Paso Flores**	**81.03**	**133**	P			**P**	**09 29 11.0**	**0.0**
	2.8nm,0.9s,mb4.2,baz=238,slow=11,SNR=4.7								
PLCA	**Paso Flores**	**81.03**	**133**	P			**P**	**09 29 11.0**	**0.0**
KSRS	**Korea Array**	**86.08**	**320**	P			**P**	**09 29 37.2**	**+0.5**
	1.6nm,0.8s,mb4.3,baz=148,slow=5.4,SNR=5.1								
KSRS				pP			pP	09 29 48.5	-1.2
	1.3nm,0.7s,baz=131,slow=5.5,SNR=3.8								
PETK	**Petropavlovsk-**	**88.25**	**346**	P			**P**	**09 29 47.0**	**+0.3**
	5.0nm,1.0s,mb4.7,baz=132,slow=4.2,SNR=5.0								
NVAR	**Mina Array Bea**	**90.44**	**43**	P			**P**	**09 29 57.5**	**-0.1**
	1.2nm,0.7s,mb4.3,baz=223,slow=8.0,SNR=9.8								
TXAR	**Lajitas Array**	**94.15**	**58**	P			**P**	**09 30 12.6**	**-2.3**
	0.5nm,1.0s,mb3.9,baz=196,slow=8.7,SNR=4.0								
MKAR	**Makanchi Array**	**119.11**	**309**	PKP			PKPdf	09 35 43.6	-0.9
	0.5nm,0.3s,baz=90,slow=1.2,SNR=7.7								
ZALV	**Zalesovo Beam**	**119.69**	**317**	PKP			PKPdf	09 35 43.8	-1.5
	1.0nm,0.5s,baz=111,slow=2.9,SNR=4.2								
KURK	**Kurchatov**	**122.53**	**313**	PKP			PKPdf	09 35 50.2	-0.6
	3.7nm,0.8s,baz=112,slow=1.9,SNR=17								
BVAR	**Borovoye Array**	**127.96**	**314**	PKP			PKPdf	09 36 00.9	-0.3
	2.4nm,0.7s,baz=103,slow=3.2,SNR=11								
AKTK	**Aktyubinsk**	**135.52**	**310**	PKP			PKPdf	09 36 15.3	-0.3
AKTO	**Aktyubinsk**	**135.52**	**310**	PKP			PKPdf	09 36 15.3	-0.3
	1.3nm,0.6s,baz=90,slow=6.1,SNR=3.5								
JOF	**Joensuu**	**144.68**	**337**	*ep*			PKPdf	09 36 29.5	-2.3
	14nm,1.0s								
KAF	**Kangasniemi**	**146.86**	**339**	*ep*			PKPdf	09 36 35.0	-0.5
	7.9nm,0.6s								
NB2	**NORSAR Subarra**	**151.27**	**350**	PKP			PKPbc	09 36 48.4	-0.2
	comp=Z,6.1nm,0.9s,baz=17,slow=2.6								
NOA	**NORSAR Array B**	**151.27**	**350**	PKPbc			PKPbc	09 36 47.2	-1.4
	comp=Z,2.1nm,0.7s,baz=14,slow=4.1,SNR=7.1								
AKASG	**Malin Array Be**	**153.07**	**319**	PKPbc			PKPbc	09 36 51.6	-1.4
	comp=Z,1.2nm,0.5s,baz=76,slow=1.7,SNR=9.3								
CLL	**Collm**	**159.89**	**339**	*e*PKPab			PKPab	09 37 32.0	-1.9
	comp=Z,7.0nm,1.2s								
BRG	**Berggiesshubel**	**159.96**	**337**	*eP*			PKPab	09 37 34.2	0.0
	comp=Z,13nm,1.6s								
TORD	**Torodi Ar. Bea**	**160.21**	**181**	PKP			PKPdf	09 36 55.0	-0.9
	comp=Z,0.5nm,0.7s,baz=315,slow=0.8,SNR=3.1								
TORD				PKPab			PKPab	09 37 35.1	-1.0
	comp=Z,1.3nm,0.8s,baz=193,slow=2.3,SNR=5.5								
GERES	**GERESS Array B**	**161.75**	**334**	PKPab			PKPab	09 37 40.4	-1.7
	comp=Z,0.4nm,0.2s,baz=54,slow=6.9,SNR=3.7								

*ISCJB **16** 09:19:41.9±3.7,3311S±009×1785W±0.1,h25km±25km,mb4.5/11,Error ellipse: s-maj=20.6km s-min=13.4km az=26.1*
*NEIC **16** 09:19:44.8±3.2,3308S×17837W,h37km±26km,mb4.9/6,Error ellipse: s-maj=23.5km s-min=15.6km az=217.0*
*IDC **16** 09:19:45.7±0.9,3299S×17850W,h40km±6km,mb4.1/7,mb1 4.3/8,mb1mx4.1/17,mbtmp4.2/8,ML4.2/1,Error ellipse: s-maj=17.7km s-min=16.7km az=142.0*

ISC 16 09:19:44.5±3.8,3305S±009×1785W±01,h31km±26km,
h40km±1.4km:pP-P,n25,σ0§84/18,mb4.5/11,South of Kermadec Islands

| Code | Station Name | Δ° | AZ° | Phase | Op | ID |

VNA1				*e*			09 48 26.0	
VNA1				*e*			09 48 38.1	
VNA3	**Neumayer Olymp**	**17.06**	**160**	*eP*		**Pn**	**09 48 23.0**	**-0.2**
VNA3				*e*			09 48 25.3	
VNA3				*e*			09 48 26.8	
VNA3				*e*			09 48 40.0	
VNA2	**Neumayer--Watz**	**17.27**	**158**	*eP*		**Pn**	**09 48 25.1**	**-0.6**
	baz=311,slow=13							
VNA2				*e*			09 48 27.5	
VNA2				*e*			09 48 29.1	
VNA2				*e*			09 48 43.5	
SNAA	**Sanae**	**18.82**	**156**	*eP*		**Pn**	**09 48 43.8**	**-0.9**
	70nm,0.6s							
PMSA	**Palmer Station**	**19.84**	**229**	P		**Pn**	**09 48 56.9**	**+0.2**
	4.3nm,0.3s,baz=72,slow=6.2,SNR=15							
PLCA	**Paso Flores**	**31.88**	**280**	P		**P**	**09 50 47.4**	**-1.4**
	2.3nm,0.8s,mb4.0,baz=140,slow=17,SNR=2.8							
QSPA	**South Pole Qui**	**34.24**	**180**	P		**P**	**09 51 09.7**	**+0.8**
	8.8nm,0.3s,mb5.1,baz=52,slow=0.6,SNR=132							
QSPA				PcP		PcP	09 53 43.0	-1.2
	2.0nm,0.4s,baz=326,slow=4.2,SNR=5.8							
QSPA				ScP		ScP	09 57 20.1	-4.7
	1.3nm,0.6s,baz=285,slow=4.2,SNR=7.1							
QSPA				LR		LR	10 03 52.5	
	comp=Z,96nm,19.6s,MS3.5,baz=287,slow=34							
QSPA	**South Pole Qui**	**34.24**	**180**	P		**P**	**09 51 09.7**	**+0.8**
QSPA				PcP		PcP	09 53 43.0	-1.2
QSPA				ScP		ScP	09 57 20.1	-4.7
QSPA				LR		LR	10 03 52.5	
CFAA	**Coronel Fontan**	**37.44**	**293**	P		**P**	**09 51 35.8**	**-1.1**
	0.5nm,0.5s,mb3.6,baz=148,slow=8.9,SNR=10							
CFAA				PcP		PcP	09 53 52.8	-1.7
	0.3nm,0.6s,baz=217,slow=8.0,SNR=3.9							
MAW	**Mawson**	**40.25**	**144**	P		**P**	**09 52 00.1**	**+0.3**
	7.7nm,0.6s,mb4.6,baz=232,slow=8.0,SNR=35							
MAW				ScP		ScP	09 57 42.3	-5.2
	4.5nm,1.0s,baz=270,slow=5.8,SNR=6.7							
BDFB	**Brasilia**	**43.27**	**330**	P		**P**	**09 52 24.6**	**-0.6**
	1.5nm,0.6s,mb3.9,baz=128,slow=17,SNR=3.4							
LVC	**Limon Verde**	**45.18**	**300**	P		**P**	**09 52 41.4**	**+1.0**
	9.0nm,0.3s,mb5.0,baz=154,slow=4.3,SNR=33							
BOSA	**Boshof**	**46.07**	**76**	P		**P**	**09 52 47.5**	**+0.2**
	5.8nm,0.9s,mb4.5,baz=239,slow=3.9,SNR=13							
BOSA				LR		LR	10 07 31.0	
	comp=Z,240nm,18.5s,MS4.2,baz=155,slow=30							
SBA	**Scott Base**	**46.11**	**184**	*eP*		**P**	**09 52 47.5**	**+0.4**
	23nm,1.3s,mb5.0							
LBTB	**Lobatse**	**49.11**	**73**	*eP*		**P**	**09 53 10.7**	**-0.2**
	11nm,0.9s,mb4.9							
TSUM	**Tsumeb**	**49.76**	**61**	*eP*		**P**	**09 53 16.3**	**+0.3**
	11nm,1.1s,mb4.8							
LPAZ	**La Paz**	**50.26**	**305**	P		**P**	**09 53 20.9**	**+1.1**
	8.4nm,0.4s,mb5.2,baz=131,slow=5.4,SNR=84							
LSZ	**Lusaka**	**58.47**	**69**	*eP*		**P**	**09 54 19.2**	**-0.2**
	14nm,1.1s,mb4.9							
LIC	**Lamto**	**64.71**	**25**	*eP*		**P**	**09 55 01.3**	**-0.1**
	28nm,0.6s,mb5.5							
KIC	**Kosan Boka**	**64.91**	**25**	*eP*		**P**	**09 55 02.7**	**0.0**
	29nm,0.8s,mb5.4							
TIC	**Toumodi**	**65.12**	**25**	*eP*		**P**	**09 55 03.9**	**-0.1**
	54nm,0.8s,mb5.6							
DBIC	**Dimbokro**	**65.18**	**25**	P		**P**	**09 55 04.4**	**0.0**
	6.9nm,0.6s,mb4.8,baz=177,slow=6.3,SNR=14							
OTAV	**Otavalo**	**69.54**	**304**	*eP*		**P**	**09 55 33.6**	**+1.5**
	3.8nm,0.7s,mb4.4							
TOA0	**Torodi Ar. Sit**	**73.08**	**30**	*eP*		**P**	**09 55 53.3**	**0.0**
TORD	**Torodi Ar. Bea**	**73.08**	**30**	P		**P**	**09 55 53.5**	**+0.2**
	9.2nm,0.6s,mb4.9,baz=199,slow=6.3,SNR=90							
TORD	**Torodi Ar. Bea**	**73.08**	**30**	P		**P**	**09 55 53.5**	**+0.2**
SDV	**Santo Domingo**	**73.90**	**315**	*eP*		**P**	**09 55 57.7**	**-0.5**
	8.8nm,0.8s,mb4.7							
ASAR	**Alice Springs**	**99.06**	**163**	P		**P**	**09 58 02.5**	**-1.6**
	1.1nm,0.7s,mb4.5,baz=181,slow=3.9,SNR=18							
ASAR				PP		PP	10 02 01.9	-3.7
	1.2nm,0.7s,baz=193,slow=7.3,SNR=7.2							
WRA	**Warramunga Arr**	**102.78**	**162**	P		Pdif	09 58 19.2	-1.5
	0.2nm,0.5s,baz=195,slow=4.4,SNR=5.9							
WRA				PP		PP	10 02 33.5	-0.3
	1.2nm,0.9s,baz=185,slow=6.6,SNR=5.2							
WRA				PKKPbc		PKKPbc	10 14 16.6	+0.3
	0.4nm,0.8s,baz=356,slow=2.9,SNR=5.9							
PDAR	**Pinedale Array**	**120.23**	**302**	PKP		PKPdf	10 03 10.2	-2.8
	0.2nm,0.4s,baz=151,slow=2.1,SNR=4.1							
NVAR	**Mina Array Bea**	**121.28**	**293**	PKP		PKPdf	10 03 15.1	-0.2
	0.6nm,0.5s,baz=124,slow=3.6,SNR=6.7							
NVAR	**Mina Array Bea**	**121.28**	**293**	PKP		PKPdf	10 03 15.1	-0.2
ARCES	**ARCESS Array B**	**130.95**	**22**	PKP		PKPdf	10 03 31.5	-1.2
	2.8nm,0.9s,baz=174,slow=1.1,SNR=5.6							
YKA	**Yellowknife Ar**	**136.07**	**318**	PKP		PKPdf	10 03 41.3	-1.2
	1.3nm,0.5s,baz=130,slow=2.1,SNR=6.8							
YKA	**Yellowknife Ar**	**136.07**	**318**	PKP		PKPdf	10 03 41.3	-1.2
MKAR	**Makanchi Array**	**136.98**	**71**	PKP		PKPdf	10 03 43.4	-1.4
	0.1nm,0.3s,baz=134,slow=4.2,SNR=2.6							
MKAR				SKPbc		SKPbc	10 07 06.3	-7.0
	0.5nm,0.5s,baz=219,slow=2.5,SNR=5.5							
ZALV	**Zalesovo Beam**	**142.46**	**64**	PKhKP			10 03 49.4	
	0.4nm,0.3s,baz=202,slow=1.6,SNR=2.5							
DAWY	**Dawson**	**146.68**	**312**	*eP*		PKPdf	10 04 01.6	+0.2
SONM	**Songino Array**	**150.84**	**87**	PKPbc		PKPbc	10 04 13.5	-0.9
	2.5nm,0.6s,baz=228,slow=3.7,SNR=9.5							

*ISCJB **16** 10:01:02.5±0.7,348S±02°×542E±02,h10km,mb4.2/11, MS3.7/2, Error ellipse: s-maj=28.5km s-min=15.7km az=39.6*

*IDC **16** 10:01:03.1±0.8,3474S×5429E,h0km,mb4.1/9,mb1 4.3/9, mb1mx4.0/20,mbtmp4.1/9,MS3.7/2,Ms1 3.6/2, ms1mx3.3/29, Error ellipse: s-maj=32.2km s-min=20.2km az=49.0*

*NEIC **16** 10:01:04.3±0.6,3475S×54.16E,h10km,mb4.5/2, Error ellipse: s-maj=24.6km s-min=13.4km az=219.0*

ISC 16 10:01:04.6±0.7,347S±02°×542E±02,h10km,n14,σ0s80/13, mb4.2/11,MS3.7/2,Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID		Time			Res
				Op	ISC	h	m	s	ISC
LSZ	**Lusaka**	**30.35**	**303**	*eP*	**P**	**10 07 15.1**			**-1.5**
	2.1nm,0.5s,mb4.1								
MAW	**Mawson**	**33.30**	**174**	LR	LR	10 17 38.8			
	comp=Z,94nm,21.5s,MS3.5,baz=58,slow=30								
KMBO	**Kilima Mbogo**	**36.98**	**331**	P	**P**	**10 08 13.4**			**-0.7**
	4.9nm,0.4s,mb4.7,baz=309,slow=23,SNR=6.7								
QSPA	**South Pole Qui**	**55.46**	**180**	P	**P**	**10 10 39.1**			**+0.4**
	2.7nm,0.8s,mb4.3,baz=243,slow=3.7,SNR=13								
QSPA				LR	LR	10 31 15.4			
	comp=Z,98nm,19.5s,MS3.9,baz=24,slow=33								
QSPA	**South Pole Qui**	**55.46**	**180**	P	**P**	**10 10 39.1**			**+0.4**
QSPA				LR	LR	10 31 15.4			
CMAR	**Chiang Mai Arr**	**67.87**	**46**	P	**P**	**10 12 03.7**			**+0.5**
	1.3nm,0.5s,mb4.2,baz=231,slow=6.7,SNR=7.7								
ASAR	**Alice Springs**	**68.83**	**105**	P	**P**	**10 12 08.9**			**-0.5**
	1.0nm,0.6s,mb3.9,baz=235,slow=5.9,SNR=23								
TORD	**Torodi Ar. Bea**	**68.88**	**304**	P	**P**	**10 12 11.4**			**+1.7**
	0.6nm,0.8s,mb3.6,baz=130,slow=5.6,SNR=4.6								
STKA	**Stephens Creek**	**70.75**	**116**	P	**P**	**10 12 20.6**			**-0.5**
	1.8nm,0.9s,mb4.0,baz=153,slow=4.5,SNR=2.3								
WRA	**Warramunga Arr**	**71.05**	**101**	P	**P**	**10 12 22.9**			**-0.1**
	2.9nm,0.7s,mb4.3,baz=235,slow=5.4,SNR=38								
WRAB	**Tennant Creek**	**71.06**	**101**	*eP*	**P**	**10 12 22.9**			**-0.3**
	8.5nm,1.0s,mb4.6								
MKAR	**Makanchi Array**	**85.00**	**19**	P	**P**	**10 13 40.3**			**+0.6**
	0.3nm,0.2s,mb4.0,baz=213,slow=6.5,SNR=5.3								
AKASG	**Malin Array Be**	**87.87**	**344**	P	**P**	**10 13 54.2**			**+0.5**
	0.7nm,0.4s,mb4.2,baz=161,slow=3.8,SNR=4.7								
AKASG	**Malin Array Be**	**87.87**	**344**	P	**P**	**10 13 54.2**			**+0.5**

IDC 16 10:10:01.1±2.2,3299S×17881W,h0km,mb4.2/3, mb1 4.5/4,mb1mx4.1/16,mbtmp4.3/4,ML4.2/1,MS4.0/2, Ms1 4.0/2,ms1mx3.1/24,Error ellipse: s-maj=49.2km s-min=30.2km az=51.0,South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time			Res
				Op	ISC	h	m	s	ISC
URZ	**Urewera**	**6.22**	**211**	Pn	Pn	10 11 33.5			-0.7
	5.7nm,0.3s,baz=279,slow=5.3,SNR=29								
URZ				Sn	Sn	10 12 47.1			+1.1
	12nm,0.3s,baz=151,slow=18,SNR=8.9								
STKA	**Stephens Creek**	**33.31**	**261**	LR	LR	10 27 07.2			
	comp=Z,178nm,19.9s,baz=324,slow=31								
ASAR	**Alice Springs**	**42.35**	**270**	P	P	10 17 57.3			+0.2
	1.8nm,0.5s,baz=108,slow=7.7,SNR=45								
WRA	**Warramunga Arr**	**43.58**	**275**	P	P	10 18 06.9			-0.2
	5.7nm,0.5s,baz=114,slow=7.7,SNR=194								
QSPA	**South Pole Qui**	**57.13**	**180**	P	P	10 19 48.8			-0.1
	0.7nm,0.6s,baz=54,slow=4.4,SNR=7.7								
QSPA				pP		10 19 59.2			
	4.7nm,0.6s,baz=68,slow=1.2,SNR=34								
VNA3	**Neumayer Olymp**	**75.78**	**176**	*e*	P	10 21 56.8			+8.5
VNA2	**Neumayer--Watz**	**76.20**	**177**	*e*	P	10 21 59.9			+9.2
	baz=181,slow=4.2								
VNA1	**Neumayer--Stat**	**76.44**	**177**	*e*	P	10 22 01.1			+9.1
CMAR	**Chiang Mai Arr**	**93.61**	**290**	LR	LR	11 03 25.3			
	comp=Z,80nm,18.7s,baz=120,slow=34								
TORD	**Torodi Ar. Bea**	**160.25**	**181**	PKPab	PKPab	10 30 43.5			+0.3
	0.4nm,0.7s,baz=168,slow=3.7,SNR=2.8								

*MOS **16** 10:18:00.2±0.9,5621N×16207W,h176km,mb5.0/42, Error ellipse: s-maj=7.4km s-min=5.4km az=90.4*

*ISCJB **16** 10:18:01.5±0.1,5615N±002×162.13W±002,h190km, mb4.8/149,Error ellipse: s-maj=3.2km s-min=1.8km az=14.2*

*BJI **16** 10:18:01.0,5635N×16261W,h180km,mB4.9,mb4.8*

*GCMT **16** 10:18:02.8±0.3,5601N×16196W,h182km±3km,MW5.0/80, Moment Tensor Solution. s18,c18; s80,c122; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr0.53±.14; Mθθ-1.20±.17; Mφφ0.66±.15; Mrθ-0.02±.13; Mrφ-2.30±.11; Mθφ2.90±.11; Best double couple: Mo3.82100×10^16 NP1:φs275.00000°,δ42.00000°,λ171.00000°. NP2: φs12.00000°,δ84.00000°,λ48.00000°. Principal axes: T 4.0640, Plg37.0000°, Azm246.0000°; N -0.4910, Plg41.0000°, Azm18.0000°; P -3.5780, Plg27.0000°, Azm134.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*NEIC **16** 10:18:02.8±0.1,5613N×162.14W,mb5.0/92 Error ellipse: s-maj=3.2km s-min=2.2km az=186.0*

*IDC **16** 10:18:03.2±0.5,5615N×162.11W,h193km±3km,mb4.4/28, mb1 4.5/28,mb1mx4.5/31,mbtmp4.4/28,MS3.7/3, Ms1 3.7/3,ms1mx3.0/38,Error ellipse: s-maj=11.5km s-min=6.6km az=5.0*

*DJA **16** 10:18:56,5546N×165.16W,h650km,mb5.3/10*

ISC 16 10:18:03.1±0.1,5614N±002×16219W±002,h192km, h192km±1.0km:pP-P,n810,σ0s68/812,mb4.7/148, 201C-212D,Bristol Bay

Code	Station Name	Δ°	AZ°	Phase ID		Time			Res
				Op	ISC	h	m	s	ISC
SDPT	**Sand Point**	**1.25**	**128**	P	**Pn**	**10 18 29.6**			**-4.3**
SDPT				S	**Sn**	**10 18 50.7**			**-6.9**
FALS	**False Pass**	**1.46**	**209**	P	**Pn**	**10 18 33.9**			**-1.8**
FALS				S	**Sn**	**10 18 57.6**			**-3.2**
CHGN	**Chignik**	**2.12**	**84**	P	**Pn**	**10 18 38.3**			**-3.9**
AKUT	**Akutan**	**2.87**	**227**	*eP*	**Pn**	**10 18 49.9**			**-0.8**
AKUT				S	**Sn**	**10 19 26.2**			**-1.6**
AKGG	**Akutan Green G**	**2.92**	**230**	P	**Pn**	**10 18 51.1**			**-0.1**
AKLV	**Akutan Long Va**	**2.93**	**229**	P	**Pn**	**10 18 50.9**			**-0.5**
UNV	**Unalaska Valle**	**3.38**	**229**	P	**Pn**	**10 18 55.8**			**-1.0**
UNV				S	**Sn**	**10 19 37.0**			**-1.8**
OKCD	**Okmok Cone D**	**4.37**	**234**	P	**Pn**	**10 19 08.4**			**-0.7**
OKCE	**Okmok Cone E**	**4.39**	**234**	P	**Pn**	**10 19 09.2**			**-0.3**
SPIA	**Saint Paul Isl**	**4.57**	**287**	P	**Pn**	**10 19 14.0**			**+2.4**
NIKO	**Nikolski**	**5.01**	**234**	P	**Pn**	**10 19 16.6**			**-0.7**
OHAK	**Old Harbor**	**5.03**	**74**	*eP*	**Pn**	**10 19 12.8**			**-4.8**
KDAK	**Kodiak Island**	**5.51**	**69**	Pn	**Pn**	**10 19 19.0**			**-4.7**
	7µm,0.5s								
KDAK	**Kodiak Island**	**5.51**	**69**	P	**Pn**	**10 19 19.4**			**-4.3**
	217nm,0.3s,baz=259,slow=6.4,SNR=1681								
KDAK				S	**Sn**	**10 20 17.3**			**-10**
	162nm,0.3s,baz=65,slow=22,SNR=14								
AUL	**Augustine Lava**	**5.71**	**52**	P	**Pn**	**10 19 24.5**			**-1.7**
SVW2	**Sparrevohn**	**6.06**	**32**	*eP*	**Pn**	**10 19 29.4**			**-1.4**
TT01	**Tatalina**	**7.48**	**22**	P	**Pn**	**10 19 49.2**			**-0.1**
SLKM	**Skilak Lake**	**7.67**	**50**	P	**Pn**	**10 19 48.4**			**-3.4**
SEW	**Seward**	**7.83**	**54**	P	**Pn**	**10 19 49.8**			**-4.1**
FIB	**Fire Island**	**8.04**	**46**	*eP*	**Pn**	**10 19 54.2**			**-2.4**
RC01	**Rabbit Creek A**	**8.18**	**47**	*eP*	**Pn**	**10 19 54.9**			**-3.6**
	258nm,0.3s								
PPLA	**Purkeypile**	**8.47**	**33**	P	**Pn**	**10 20 02.9**			**+0.7**
PMR	**Palmer**	**8.69**	**46**	*eP*	**Pn**	**10 20 00.6**			**-4.6**
GAMB	**Gambell**	**9.02**	**332**	*ePn*	**Pn**	**10 20 10.7**			**+1.4**
GCSA	**Galena City Sc**	**9.03**	**15**	P	**Pn**	**10 20 10.8**			**+1.3**
MID	**Middleton Isla**	**9.09**	**62**	*eP*	**Pn**	**10 20 06.1**			**-4.2**
SML	**Sawmill**	**9.13**	**46**	P	**Pn**	**10 20 07.9**			**-3.0**
CHUM	**Lake Minchumin**	**9.20**	**28**	*eP*	**Pn**	**10 20 12.0**			**+0.2**
	124nm,0.6s								
KTH	**Kantishna Hill**	**9.34**	**33**	P	**Pn**	**10 20 13.5**			**-0.1**
TRF	**Thorofare Moun**	**9.46**	**34**	*eP*	**Pn**	**10 20 13.0**			**-2.2**
	82nm,0.8s								
ADK	**Adak**	**9.53**	**250**	P	**Pn**	**10 20 16.2**			**0.0**
EYAK	**Cordova Ski Ar**	**9.70**	**56**	P	**Pn**	**10 20 14.0**			**-4.3**
BPAW	**Bear Paw Mtn.**	**9.74**	**30**	P	**Pn**	**10 20 18.6**			**-0.1**
TNA	**Tin City**	**9.86**	**346**	*eP*	**Pn**	**10 20 21.4**			**+1.1**
MCK	**McKinley**	**10.09**	**36**	*eP*	**Pn**	**10 20 20.6**			**-2.8**
IMA2	**Indian Mountai**	**10.77**	**19**	*eP*	**Pn**	**10 20 31.9**			**-0.2**
COLA	**College**	**11.23**	**33**	*eP*	**Pn**	**10 20 33.1**			**-4.9**
COLA				pmax	pmax				
	comp=Z,111nm,0.9s								
COLA	**College**	**11.23**	**33**	*eP*	**Pn**	**10 20 33.1**			**-4.9**
	comp=Z,111nm,0.9s								
COLD	**Coldfoot**	**12.47**	**22**	*eP*	**Pn**	**10 20 54.8**			**+1.1**
	comp=Z,31nm,0.7s								
PNL	**Peninsula**	**12.61**	**64**	*eP*	**Pn**	**10 20 53.0**			**-2.6**
	comp=Z,342nm,0.7s								
HYT	**Haines Junctio**	**13.70**	**60**	*eP*	**Pn**	**10 21 07.1**			**-2.1**
DAWY	**Dawson**	**13.80**	**46**	*ePn*	**Pn**	**10 21 07.7**			**-2.8**
SKAG	**Skagway**	**14.66**	**66**	*eP*	**Pn**	**10 21 19.4**			**-1.7**
	comp=Z,62nm,0.5s								
SIT	**Sitka**	**14.79**	**75**	*eP*	**Pn**	**10 21 21.5**			**-1.3**
CRAG	**Craig**	**16.31**	**80**	*ePn*	**Pn**	**10 21 40.5**			**-0.7**
WRAK	**Wrangell Islan**	**16.52**	**77**	*eP*	**Pn**	**10 21 43.2**			**-0.5**
	comp=Z,70nm,0.8s								
DLBC	**Dease Lake**	**17.45**	**69**	P	**Pn**	**10 21 54.3**			**-0.4**
	baz=289,slow=6.8								
DLBC				S	**S**	**10 25 04.7**			**+0.5**
	baz=152,slow=18								
DLBC	**Dease Lake**	**17.45**	**69**	*ePn*	**Pn**	**10 21 54.0**			**-0.7**
BILL	**Bilibino**	**18.70**	**322**	*ļeP*	**P**	**10 22 08.6**			**+2.1**
BILL				*eS*	**S**	**10 25 28.7**			**-0.2**
BILL				pmax	pmax				
	comp=Z,113nm,1.1s								
BILL	**Bilibino**	**18.70**	**322**	*eP*	**P**	**10 22 07.8**			**+1.3**
	comp=Z,84nm,0.9s								
BBB	**Bella Bella**	**20.21**	**87**	P	**P**	**10 22 22.6**			**-0.3**
	comp=Z,19nm,0.8s,baz=308,slow=16,SNR=4.8								
BBB				LR	LR	10 28 59.4			
	comp=Z,155nm,18.1s,baz=299,slow=32								
PET	**Petropavlovsk**	**22.69**	**279**	*eP*	**P**	**10 22 46.8**			**-1.2**
PET				*e*PP		10 23 23.8			
PET				*eS*	**S**	**10 26 39.3**			**-2.1**
PET				pmax	pmax				
	comp=Z,200nm,5.1s								
PET				pmax	pmax				
	comp=Z,400nm,3.0s								
PET				pmax	pmax				
	comp=Z,63nm,1.0s,mb5.1								
PEA0B	**Petropavlovsk-**	**23.19**	**279**	*eP*	**P**	**10 22 51.9**			**-0.6**
PETK	**Petropavlovsk-**	**23.19**	**279**	P	**P**	**10 22 52.8**			**+0.3**
	comp=Z,25nm,0.8s,mb4.8,baz=78,slow=13,SNR=25								
PETK				pP		10 23 29.4			
	comp=Z,31nm,0.9s,baz=76,slow=16,SNR=3.9								
PETK				PcP	PcP	10 26 33.7			-0.5
	comp=Z,14nm,0.9s,baz=100,slow=7.7,SNR=5.4								
PETK				ScP	ScP	10 29 54.5			+0.9
	comp=Z,3.6nm,0.7s,baz=69,slow=9.5,SNR=4.5								
PETK	**Petropavlovsk-**	**23.19**	**279**	P	**P**	**10 22 52.8**			**+0.3**
PETK				pP		10 23 29.4			
PETK				PcP	PcP	10 26 33.7			-0.5
PETK				ScP	ScP	10 29 54.5			+0.9
SEY	**Seymchan**	**23.57**	**305**	*c iP*	**P**	**10 22 56.7**			**+0.9**
OBC	**Olympics--Boni**	**24.51**	**93**	P	**P**	**10 23 05.5**			**+1.0**
PGC	**Sidney**	**24.53**	**91**	*eP*	**P**	**10 23 04.1**			**-0.6**
	comp=Z,56nm,0.8s,mb5.2								
YKW3	**Yellowknife Ar**	**24.59**	**55**	*eP*	**P**	**10 23 04.8**			**-0.3**
YKA	**Yellowknife Ar**	**24.61**	**55**	P	**P**	**10 23 04.3**			**-0.9**
	comp=Z,6.4nm,0.5s,mb4.5,baz=274,slow=9.7,SNR=48								
YKA				pP		10 23 41.5			
	comp=Z,26nm,0.8s,baz=276,slow=9.7,SNR=11								
YKA				ScP	ScP	10 29 57.6			+0.3
	comp=Z,17nm,0.8s,baz=281,slow=3.0,SNR=24								
YKA	**Yellowknife Ar**	**24.61**	**55**	P	**P**	**10 23 04.3**			**-0.9**
YKA				*PP		10 23 41.5			
YKA	**Yellowknife Ar**	**24.61**	**55**	P	**P**	**10 23 04.3**			**-0.9**
YKA				pP		10 23 41.5			
YKA				ScP	ScP	10 29 57.6			+0.3
B04A	**Port Angeles**	**24.82**	**93**	*ļP*	**P**	**10 23 07.8**			**+0.5**
	baz=25								
A04A	**Legoe Bay, Lum**	**24.91**	**91**	*ļP*	**P**	**10 23 08.7**			**+0.6**
	baz=25								
NLWA	**Neilton Lookou**	**24.99**	**94**	*ṕP*	**P**	**10 23 09.3**			**+0.4**
	baz=25,SNR=14								
NLWA	**Neilton Lookou**	**24.99**	**94**	*eP*	**P**	**10 23 09.6**			**+0.8**
	comp=Z,71nm,0.9s,mb5.3								
A05A	**Maple Falls**	**25.11**	**89**	*ļP*	**P**	**10 23 09.8**			**-0.1**
	baz=25,SNR=12								
D03A	**Wishkah Elem.**	**25.20**	**95**	*ļP*	**P**	**10 23 11.2**			**+0.4**
	baz=25								
C04A	**Brinnon**	**25.31**	**93**	*ļP*	**P**	**10 23 12.0**			**+0.3**
	baz=25								
MBW	**Mount Baker**	**25.32**	**90**	P	**P**	**10 23 12.2**			**+0.4**
A06A	**Chilliwack**	**25.39**	**89**	*ļP*	**P**	**10 23 12.3**			**-0.1**
	baz=25,SNR=5.1								
GNW	**Green Mountain**	**25.48**	**93**	*eP*	**P**	**10 23 13.8**			**+0.6**
B05A	**Bryant**	**25.50**	**91**	*ļP*	**P**	**10 23 13.8**			**+0.4**
	baz=25,SNR=22								
JCW	**Jim Creek**	**25.63**	**91**	*eP*	**P**	**10 23 14.9**			**+0.3**
E03A	**Lebam**	**25.65**	**96**	*ṕP*	**P**	**10 23 15.4**			**+0.6**
	baz=26								
B06A	**Marblemount**	**25.70**	**90**	*ļP*	**P**	**10 23 15.0**			**-0.3**
	baz=26,SNR=7.0								
RPW	**Rockport**	**25.72**	**90**	*eP*	**P**	**10 23 15.4**			**0.0**
D04A	**Dobbs Creek Ra**	**25.75**	**94**	*ļP*	**P**	**10 23 16.5**			**+0.8**
	baz=26								
F03A	**Seaside**	**26.02**	**97**	*ṕP*	**P**	**10 23 18.3**			**+0.2**
	baz=26								
A07A	**Ashnola River,**	**26.03**	**88**	*ṕP*	**P**	**10 23 18.5**			**+0.3**
	baz=26,SNR=24								
C05A	**Tolt Reservoir**	**26.04**	**92**	*ļP*	**P**	**10 23 18.5**			**+0.2**
	baz=26,SNR=18								
E04A	**Onalaska**	**26.09**	**95**	*ṕP*	**P**	**10 23 19.7**			**+0.9**
	baz=26,SNR=5.6								
D05A	**Enumclaw**	**26.16**	**93**	*ļP*	**P**	**10 23 20.2**			**+0.9**
	baz=26,SNR=11								
C06A	**Tall Timber Ra**	**26.36**	**91**	*ļP*	**P**	**10 23 21.2**			**+0.1**
	baz=26								
B07A	**Winthrop**	**26.49**	**89**	*ṕP*	**P**	**10 23 22.4**			**+0.1**
	baz=26,SNR=14								
LON	**Longmire**	**26.51**	**94**	*eP*	**P**	**10 23 22.7**			**+0.2**
LON				pmax	pmax				
	comp=Z,17nm,0.7s,mb4.8								
LON	**Longmire**	**26.51**	**94**	*eP*	**P**	**10 23 22.7**			**+0.2**
	comp=Z,17nm,0.7s,mb4.8								
G03A	**Yamhill**	**26.55**	**97**	*ļP*	**P**	**10 23 22.9**			**0.0**
	baz=26								
E05A	**Randle**	**26.65**	**94**	*ļP*	**P**	**10 23 23.5**			**-0.2**
	baz=26,SNR=7.4								
F04A	**Amboy**	**26.66**	**96**	*ṕP*	**P**	**10 23 24.0**			**+0.1**
	baz=26								
A08A	**Turner Farm, O**	**26.70**	**87**	*ļP*	**P**	**10 23 24.3**			**+0.1**
	baz=27,SNR=24								
D06A	**Cle Elum**	**26.79**	**92**	*ļP*	**P**	**10 23 25.2**			**+0.2**
	baz=27								
ETW	**Entiat**	**26.85**	**91**	*eP*	**P**	**10 23 25.8**			**+0.3**
C07A	**Waterville**	**26.95**	**90**	*ļP*	**P**	**10

L04A **Klamath Falls** 29.35 101 ⇑P P 10 23 48.4 +0.6
baz=29,SNR=11
M02C **Callahan** 29.36 103 ⇓P P 10 23 48.6 +0.8
baz=29,SNR=8.0
D11A **Klaveano Farm,** 29.40 88 ⇑P P 10 23 47.7 -0.4
baz=29,SNR=37
I07A **Izee** 29.42 96 ⇓P P 10 23 48.7 +0.3
baz=29,SNR=20
A13A **Flathead Natio** 29.43 84 ⇓P P 10 23 48.2 -0.1
baz=29
C12B **Naegeli Ranch,** 29.51 87 ⇓P P 10 23 48.9 -0.2
baz=29,SNR=18
N02C **Big Bar** 29.51 105 ⇑P P 10 23 49.6 +0.4
baz=29,SNR=7.1
F10A **Beach Ranch, E** 29.53 91 ⇓P P 10 23 49.3 -0.1
baz=29,SNR=31
K05A **Summer Lake** 29.53 99 ⇓P P 10 23 50.3 +1.0
baz=29,SNR=24
J06A **Christmas Vall** 29.60 98 ⇓P P 10 23 50.4 +0.4
baz=30,SNR=44
H08A **Prairie City** 29.61 94 ⇑P P 10 23 50.2 +0.1
baz=30,SNR=35
G09A **Cove** 29.64 92 ⇓P P 10 23 50.3 +0.1
baz=30,SNR=44
M04C **Macdoel** 29.64 102 ⇑P P 10 23 50.8 +0.5
baz=30,SNR=18
B13A **Whitefish** 29.70 85 ⇑P P 10 23 50.5 -0.2
baz=30,SNR=17
O01C **Eel River Cons** 29.71 106 ⇓P P 10 23 52.0 +1.0
baz=30
BSMT **Bassoo Peak** 29.81 86 eP P 10 23 52.0 +0.3
M03C **McCloud** 29.84 103 ⇑P P 10 23 52.2 +0.1
baz=30
K06A **Valley Falls** 29.84 99 ⇑P P 10 23 52.8 +0.7
baz=30,SNR=29
E11A **Bogner Ranch,** 29.88 89 ⇑P P 10 23 51.6 -0.7
baz=30,SNR=25
D12A **Red Ives Fores** 29.95 88 ⇑P P 10 23 52.6 -0.4
baz=30
A14A **Double T Ranch** 29.96 83 ⇑P P 10 23 53.0 0.0
baz=30,SNR=65
J07A **Hines** 29.99 97 ⇓P P 10 23 53.8 +0.4
baz=30,SNR=17
G10A **Bishop Farm, J** 30.00 92 ⇓P P 10 23 53.6 +0.1
baz=30,SNR=118
L05A **Lakeview** 30.02 100 ⇑P P 10 23 54.5 +0.8
baz=30,SNR=18
C13A **Hot Springs** 30.03 86 ⇓P P 10 23 53.7 +0.1
baz=30,SNR=62
I08A **Drewsey** 30.05 95 ⇑P P 10 23 54.1 +0.1
baz=30,SNR=11
H09A **Durkee** 30.08 93 ⇓P P 10 23 54.4 +0.2
baz=30,SNR=20
WDC **Whiskeytown Da** 30.09 104 ⇑P P 10 23 54.3 0.0
baz=30,SNR=10
WDC **Whiskeytown Da** 30.09 104 eP P 10 23 54.6 +0.3
BMO **Blue Mountains** 30.17 93 eP P 10 23 55.0 +0.1
comp=Z,28nm,1.1s,mb4.8
F11A **Grangeville** 30.18 90 ⇓P P 10 23 54.4 -0.7
baz=30,SNR=84
E12A **Beaver Dam Sad** 30.20 89 ⇑P P 10 23 54.7 -0.5
baz=30,SNR=56
A15A **Johnson Ranch,** 30.34 82 ⇑P P 10 23 55.6 -0.8
baz=30,SNR=42
B14A **Marquette Ranc** 30.37 84 ⇑P P 10 23 56.3 -0.4
baz=30,SNR=28
MOD **Modoc** 30.41 100 ⇑P P 10 23 57.6 +0.5
baz=30,SNR=36
MOD **Modoc** 30.41 100 eP P 10 23 57.7 +0.6
G11A **Walters Elk Ra** 30.41 91 ⇓P P 10 23 56.8 -0.3
baz=30,SNR=23
D13A **Huson** 30.42 87 ⇑P P 10 23 56.7 -0.5
baz=30,SNR=16
C14A **Swan Lake** 30.44 85 ⇓P P 10 23 56.9 -0.4
baz=30
J08A **Circle Bar Ran** 30.46 96 ⇓P P 10 23 57.7 +0.1
baz=30,SNR=58
K07A **Rock Creek Ran** 30.47 98 ⇑P P 10 23 58.0 +0.4
baz=30,SNR=30
I09A **Lost Marbles R** 30.48 94 ⇓P P 10 23 57.5 -0.1
baz=30,SNR=17
H10A **Noah's Angus R** 30.64 93 ⇑P P 10 23 59.2 +0.1
baz=30,SNR=108
GASB **Alder Springs** 30.65 106 ⇑P P 10 23 60.0 +0.7
baz=30,SNR=7.2
F12A **Elk City** 30.77 90 ⇑P P 10 23 60.0 -0.2
baz=31,SNR=36
M06C **Likely Place G** 30.79 101 ⇓P P 10 24 00.9 +0.5
baz=31,SNR=11
B15A **Bradely Ranch,** 30.80 83 ⇑P P 10 23 59.8 -0.6
baz=31,SNR=18
L07A **Adell** 30.86 99 ⇓P P 10 24 01.8 +0.8
baz=31,SNR=22
K08A **Mann Creek Ran** 30.86 97 ⇓P P 10 24 01.5 +0.5
baz=31,SNR=79
MSO **Missoula** 30.87 87 eP P 10 24 00.7 -0.3
J09A **Fry Pan Ranch,** 30.87 95 ⇑P P 10 24 01.3 +0.2
baz=31,SNR=32
I10A **Payette** 30.93 93 ⇑P P 10 24 02.2 +0.6
baz=31,SNR=26
HOPS **Hopland** 30.94 107 eP P 10 24 02.2 +0.5
E13A **Victor** 30.95 88 ⇓P P 10 24 01.6 -0.3
baz=31,SNR=45
D14A **Greenough** 30.96 86 ⇑P P 10 24 01.5 -0.4
baz=31,SNR=47
WVOR **Wild Horse Val** 30.98 98 eP P 10 24 02.3 +0.3
WVOR pmax pmax
comp=Z,49nm,0.8s,mb5.2
WVOR **Wild Horse Val** 30.98 98 eP P 10 24 02.3 +0.3
comp=Z,49nm,0.8s,mb5.2
A16A **West Butte Ran** 30.98 82 ⇓P P 10 24 01.2 -0.8
baz=31,SNR=55
H11A **Donnelly** 30.98 92 ⇑P P 10 24 01.9 -0.2
baz=31,SNR=65
O04C **Chester** 31.07 103 ⇑P P 10 24 03.4 +0.6
baz=31,SNR=21
C15A **Salmond Ranch,** 31.07 84 ⇑P P 10 24 02.9 +0.1
baz=31,SNR=73
CHMT **Chamberlain Mo** 31.20 86 eP P 10 24 03.7 -0.3
B16A **M & M Farms, S** 31.21 83 ⇑P P 10 24 03.1 -0.9
baz=31,SNR=23
F13A **Darby** 31.26 89 ⇑P P 10 24 04.3 -0.2
baz=31,SNR=38
L08A **Fields** 31.30 98 ⇓P P 10 24 05.2 +0.3
baz=31,SNR=62
K09A **Rome** 31.31 96 ⇑P P 10 24 04.9 0.0
baz=31,SNR=23
MNRC **McLaughlin Nat** 31.36 106 ⇓P P 10 24 05.9 +0.4
baz=31,SNR=6.3
E14A **Clinton** 31.36 87 ⇑P P 10 24 05.3 0.0
baz=31,SNR=74
J10A **Berg Farm, Mel** 31.37 94 ⇓P P 10 24 05.3 -0.2
baz=31,SNR=20
M07A **Soldier Meadow** 31.38 100 ⇑P P 10 24 06.2 +0.6
baz=31,SNR=80
ORV **Oroville** 31.38 105 ⇑P P 10 24 04.8 -0.8
baz=31,SNR=19
O05C **Quincy** 31.41 103 ⇓P P 10 24 06.0 +0.1
baz=31,SNR=24
N06A **Buffalo Meadow** 31.45 101 ⇑P P 10 24 06.5 +0.2
baz=31,SNR=42
I11A **Placerville** 31.51 93 ⇓P P 10 24 06.4 -0.3
baz=31,SNR=64
NSHM **Saint Helena R** 31.53 107 eP P 10 24 06.7 -0.3
D15A **Lincoln** 31.54 85 ⇓P P 10 24 06.5 -0.4
baz=31,SNR=32
OHCM **Honcut** 31.55 105 eP P 10 24 06.4 -0.7
H12A **Diamond D Ranc** 31.73 91 ⇓P P 10 24 08.3 -0.3
baz=32,SNR=36
K10A **MacKenzie Ranc** 31.73 95 ⇓P P 10 24 08.9 +0.2
baz=32,SNR=58
CVS **Carmenet Viney** 31.74 107 ⇑P P 10 24 08.3 -0.4
baz=32,SNR=6.0
G13A **Cobalt** 31.74 90 ⇓P P 10 24 08.6 -0.1
baz=32,SNR=101
Q03C **Winters** 31.77 106 ⇑P P 10 24 09.7 +0.7
baz=32,SNR=6.3
M08A **Happy Creek Ra** 31.78 99 ⇓P P 10 24 09.5 +0.4
baz=32,SNR=26
BEKR **Beckwourth** 31.78 103 ⇑P P 10 24 09.0 -0.1
baz=32,SNR=37
F14A **Wisdom** 31.79 88 ⇓P P 10 24 09.3 +0.2
baz=32,SNR=42
L09A **Wilkinson Ranc** 31.79 97 ⇓P P 10 24 09.3 +0.1
baz=32,SNR=24
TIXI **Tiksi** 31.83 326c iP P 10 24 09.9 +0.7
TIXI pmax pmax
comp=Z,52nm,0.9s,mb5.1
TIXI **Tiksi** 31.83 326 eP P 10 24 09.9 +0.7
comp=Z,43nm,0.8s,mb5.0
E15A **Deer Lodge** 31.83 86 ⇓P P 10 24 09.4 0.0
baz=32,SNR=50
O06A **Flanigan** 31.86 102 ⇑P P 10 24 10.0 +0.2
baz=32,SNR=23
MFID **Camas Ranch** 31.90 94 ⇓P P 10 24 09.7 -0.4
baz=32,SNR=29
N07B **Gerlach** 31.91 100 ⇑P P 10 24 10.4 +0.2
baz=32,SNR=56
H13A **Challis** 32.05 91 ⇓P P 10 24 11.2 -0.2
baz=32,SNR=41
G14A **Jackson** 32.08 89 ⇑P P 10 24 11.4 -0.3
baz=32,SNR=53
D16A **Dana Ranch, Ca** 32.09 85 ⇑P P 10 24 11.5 -0.2
baz=32,SNR=42
HRY **Holter Researc** 32.11 85 eP P 10 24 12.0 +0.1
P06A **Stead Airport,** 32.16 103 ⇓P P 10 24 12.8 +0.3
baz=32,SNR=8.7
C17A **Wharram Farm,** 32.18 83 ⇓P P 10 24 12.5 0.0
baz=32,SNR=31
K11A **Parker Ranch,** 32.20 95 ⇑P P 10 24 13.1 +0.3
baz=32,SNR=36
F15A **Butte** 32.26 87 ⇓P P 10 24 12.9 -0.3
baz=32,SNR=18
LRM **Limekiln Ridge** 32.30 87 eP P 10 24 13.5 0.0
E16A **East Helena** 32.30 86 ⇑P P 10 24 13.7 +0.1
baz=32,SNR=46
M09A **Marrel Ranch,** 32.31 98 ⇓P P 10 24 14.2 +0.5
baz=32,SNR=23
LAVA **Lava Cap Winer** 32.37 105 ⇓P P 10 24 13.9 -0.4
baz=32,SNR=57
N08A **GE Springer Mi** 32.37 99 ⇓P P 10 24 14.4 +0.2
baz=32,SNR=21
O07A **Toulon** 32.39 101 ⇓P P 10 24 14.7 +0.3
baz=32,SNR=82
J12A **Stokes Ranch,** 32.41 93 ⇓P P 10 24 14.8 +0.2
baz=32,SNR=53
L10A **Juniper Basin** 32.41 96 ⇓P P 10 24 14.7 +0.1
baz=32,SNR=63
PAHR **Pah Rah Range** 32.43 102 eP P 10 24 15.0 +0.2
DLMT **Dillon** 32.49 88 eP P 10 24 15.0 -0.3
comp=Z,36nm,1.3s,mb4.7
WCN **Washoe City** 32.51 103 ⇑P P 10 24 15.8 +0.4
baz=32,SNR=19
EGMT **Eagleton** 32.52 82 ⇑P P 10 24 14.8 -0.6
baz=32,SNR=23
EGMT **Eagleton** 32.52 82 eP P 10 24 15.0 -0.4
H14A **Leadore** 32.52 90 ⇑P P 10 24 15.5 0.0
baz=32,SNR=132
I13A **Wildhorse Cree** 32.54 91 ⇑P P 10 24 15.4 -0.2
baz=32,SNR=57
HLID **Hailey** 32.60 92 ⇓P P 10 24 16.2 0.0
baz=32,SNR=40
HLID **Hailey** 32.60 92 eP P 10 24 16.3 +0.1
comp=Z,31nm,1.0s,mb4.8
R04C **Big Horse Ranc** 32.62 106 ⇑P P 10 24 15.9 -0.6
baz=32
WENL **Wente Vineyard** 32.65 107 ⇓P P 10 24 16.4 -0.3
baz=32
N09A **Rock Creek Ran** 32.66 99 ⇓P P 10 24 16.6 -0.1
baz=32,SNR=28
G15A **Dillon** 32.67 88 ⇑P P 10 24 16.4 -0.4
baz=32,SNR=33
MCMT **McKenzie Canyo** 32.68 89 eP P 10 24 16.9 0.0
O08A **Roster Mine** 32.69 100 ⇓P P 10 24 17.4 +0.3
baz=33,SNR=37
M10A **I.L. Ranch, Tu** 32.75 97 ⇓P P 10 24 17.7 +0.2
baz=33,SNR=35
L11A **Cat Creek Ranc** 32.76 95 ⇓P P 10 24 17.8 +0.2
baz=33,SNR=93
E17A **Martinsdale** 32.80 85 ⇑P P 10 24 18.4 +0.4
baz=33,SNR=50
P07A **Fallon** 32.81 102 ⇑P P 10 24 18.4 +0.3
baz=33,SNR=5.8
J13A **Cove Ranch, Pi** 32.84 92 ⇓P P 10 24 18.3 0.0
baz=33,SNR=55
I14A **Mackay** 32.90 91 ⇓P P 10 24 19.2 +0.4
baz=33,SNR=65
K12A **Draper Farm, C** 32.92 94 ⇑P P 10 24 19.3 +0.3
baz=33,SNR=21
H15A **Lima** 32.92 89 ⇓P P 10 24 18.7 -0.3
baz=33,SNR=76
G16A **Mos Hill, Enn** 33.02 88 ⇑P P 10 24 19.5 -0.3
baz=33,SNR=109
CMB **Columbia Colle** 33.08 105 eP P 10 24 20.5 +0.1
CMB pmax pmax
comp=Z,39nm,1.1s,mb4.8
CMB **Columbia Colle** 33.08 105 ⇑P P 10 24 20.2 -0.2
baz=33,SNR=24
CMB **Columbia Colle** 33.08 105 eP P 10 24 20.5 +0.1
comp=Z,39nm,1.1s,mb4.8
BMN **Battle Mountai** 33.11 99 eP P 10 24 21.0 +0.3
BMN pmax pmax
comp=Z,52nm,1.3s,mb4.9
BMN **Battle Mountai** 33.11 99 eP P 10 24 21.0 +0.3
comp=Z,52nm,1.3s,mb4.9
P08A **Dixie Valley** 33.15 101 ⇑P P 10 24 21.7 +0.7
baz=33,SNR=8.6
L12A **House Creek Ra** 33.18 95 ⇓P P 10 24 21.7 +0.4
baz=33,SNR=45
M11A **Holland Ranch,** 33.23 96 ⇑P P 10 24 21.9 +0.2
baz=33,SNR=18
R06C **Coleville** 33.23 104 ⇓P P 10 24 22.1 +0.4
baz=33,SNR=47
J14A **Carey** 33.25 92 ⇑P P 10 24 22.5 +0.6
baz=33,SNR=72
WAKR **Walker** 33.25 104 eP P 10 24 22.5 +0.5
E18A **Harlowton** 33.27 84 ⇑P P 10 24 22.6 +0.6
baz=33,SNR=85
Q07A **Schurz** 33.28 103 ⇓P P 10 24 22.5 +0.3
baz=33
N10A **Dunphy** 33.31 98 ⇓P P 10 24 22.6 +0.2
baz=33,SNR=18
PACP **Pacheco Peak** 33.35 108 ⇑P P 10 24 22.7 -0.1
baz=33,SNR=5.4
K13A **Stover Farm, H** 33.37 93 ⇑P P 10 24 23.0 +0.2
baz=33,SNR=12
I15A **Monteview** 33.40 90 ⇓P P 10 24 23.2 +0.1
baz=33,SNR=19
QLMT **Earthquake Lak** 33.47 88 eP P 10 24 23.9 +0.2
O10A **Cortez Mining,** 33.61 99 ⇓P P 10 24 25.2 +0.2
baz=34,SNR=13
S05C **Merced** 33.61 106 ⇓P P 10 24 25.0 -0.1
baz=34
H16A **Russell Place,** 33.65 88 ⇑P P 10 24 25.4 +0.1
baz=34,SNR=104
N11A **Elko Archery C** 33.67 97 ⇓P P 10 24 25.7 +0.2
baz=34,SNR=6.8
M12A **Wells** 33.72 96 ⇓P P 10 24 26.4 +0.4
baz=34,SNR=33
P09A **Austin** 33.77 100 ⇓P P 10 24 26.8 +0.4
baz=34,SNR=30
F18A **Big Timber** 33.77 85 ⇓P P 10 24 26.7 +0.4
baz=34,SNR=23
J15A **Blackfoot** 33.81 91 ⇓P P 10 24 27.3 +0.6
baz=34,SNR=90
L13A **Double Diamond** 33.82 94 ⇓P P 10 24 27.0 +0.3
baz=34,SNR=34
Q08A **Gabbs** 33.82 102 ⇑P P 10 24 27.0 +0.2
baz=34,SNR=60
YMR **Madison River** 33.83 88 eP P 10 24 27.3 +0.4
comp=Z,141nm,0.7s,mb5.6
GCMT **Greycliff** 33.87 85 eP P 10 24 27.5 +0.3
NVAR **Mina Array Bea** 33.92 103 P P 10 24 28.0 +0.3
comp=Z,36nm,0.7s,mb5.0,baz=304,slow=8.0,SNR=226
NVAR ScP ScP 10 30 28.4 +0.8
comp=Z,1.9nm,0.7s,baz=291,slow=3.6,SNR=11
NVAR **Mina Array Bea** 33.92 103 P P 10 24 28.0 +0.3
NVAR ScP ScP 10 30 28.4 +0.8
K14A **Jones Ranch, D** 33.95 93 ⇑P P 10 24 28.1 +0.3
baz=34,SNR=21
YNR **Norris Junctio** 33.96 87 eP P 10 24 29.1 +1.2
ELK **Elko** 34.00 97 eP P 10 24 28.8 +0.5
YAK **Yakutsk** 34.00 309 eP P 10 24 28.1 0.0
YAK e 10 29 36.2
YAK e 10 34 26.0
YAK pmax pmax
comp=Z,185nm,0.6s,mb5.8
YAK pmax pmax
comp=E,48nm,0.6s
YAK pmax pmax
comp=N,16nm,0.6s
YAK **Yakutsk** 34.00 309 eP P 10 24 28.4 +0.4
N12A **Clover Valley,** 34.03 96 ⇑P P 10 24 29.1 +0.5
baz=34,SNR=67
I16A **Newdale** 34.04 89 ⇑P P 10 24 28.8 +0.2
baz=34,SNR=21
YFT **Old Faithful** 34.04 88 eP P 10 24 30.3 +1.6
R08A **Mina** 34.09 103 ⇑P P 10 24 29.5 +0.3
baz=34,SNR=6.6
P10A **Eureka** 34.09 99 ⇓P P 10 24 29.5 +0.4
baz=34,SNR=20
U04C **Hernandez Rese** 34.10 108 ⇓P P 10 24 29.8 +0.6
baz=34,SNR=11
V03C **Hunter Liggett** 34.12 109 ⇓P P 10 24 29.4 0.0
baz=34
KCC **Kaiser Creek** 34.17 105 ⇑P P 10 24 30.1 +0.3
baz=34,SNR=39
O11A **Cowboy Ranch,** 34.19 98 ⇓P P 10 24 30.2 +0.2
baz=34,SNR=68
T06C **Millerton Lake** 34.20 106 ⇓P P 10 24 29.9 -0.2
baz=34,SNR=31
LKWY **Lake** 34.21 87 eP P 10 24 31.9 +1.8
LKWY pmax pmax
comp=Z,47nm,0.8s,mb5.1
LKWY **Lake** 34.21 87 eP P 10 24 31.9 +1.7
comp=Z,47nm,0.8s,mb5.1
MLAC **Mammoth Lakes** 34.21 104 ⇓P P 10 24 31.2 +1.0
baz=34,SNR=14
K15A **Arbon** 34.22 92 ⇓P P 10 24 31.2 +1.0
baz=34,SNR=42
H17A **Grant Village** 34.22 88 ⇑P P 10 24 31.7 +1.6
baz=34,SNR=67
L14A **Malta** 34.25 93 ⇓P P 10 24 30.8 +0.4
baz=34,SNR=56
Q09A **Carvers** 34.25 101 ⇑P P 10 24 31.1 +0.5
baz=34,SNR=9.1
IMW **Indian Meadow** 34.33 89 eP P 10 24 31.8 +0.7
comp=Z,47nm,1.0s,mb5.0
J16A **Bone** 34.35 90 ⇑P P 10 24 31.8 +0.5
baz=34,SNR=41
DCID1 **Drake Creek** 34.38 89 eP P 10 24 32.3 +0.7
RRI2 **Red Ridge** 34.47 90 eP P 10 24 33.0 +0.7
comp=Z,21nm,0.8s,mb4.7
U05C **Westside ANR,** 34.48 107 ⇑P P 10 24 32.9 +0.4
baz=34,SNR=5.5
N13A **Wendover, West** 34.50 96 ⇑P P 10 24 32.8 +0.2
baz=34,SNR=19
RLMT **Red Lodge** 34.50 86 ⇓P P 10 24 32.9 +0.3
baz=34,SNR=62
RLMT **Red Lodge** 34.50 86 eP P 10 24 33.1 +0.5
comp=Z,61nm,1.0s,mb5.1
I17A **Pilgram Creek** 34.52 88 ⇓P P 10 24 33.3 +0.6
baz=34,SNR=32
MOOW **Moose Ponds** 34.53 89 eP P 10 24 33.2 +0.4
P11A **Circle Ranch,** 34.53 99 ⇓P P 10 24 33.3 +0.4
baz=34
M14A **Sheep Mountain** 34.54 94 ⇓P P 10 24 33.1 +0.2
baz=34,SNR=41
PKD **Parkfield** 34.54 108 ⇑P P 10 24 32.9 -0.2
baz=34,SNR=5.3
MTUM **Tungsten Hills** 34.56 104 eP P 10 24 33.9 +0.7
TPAW **Teton Pass** 34.58 89 eP P 10 24 33.7 +0.4
YSS **Yuzh-Sakhalins** 34.58 278 eP P 10 24 35.4 +2.1
YSS pmax pmax
comp=Z,28nm,1.8s,mb4.5
O12A **Currie** 34.60 97 ⇑P P 10 24 33.4 0.0
baz=34,SNR=54
K16A **Soda Springs** 34.65 91 ⇓P P 10 24 34.5 +0.6
baz=34,SNR=28
HVU **Hansel Valley** 34.67 93 eP P 10 24 34.7 +0.6
Q10A **Clear Creek Ra** 34.69 100 ⇑P P 10 24 34.5 +0.3
baz=35,SNR=65
LOHW **Long Hollow** 34.70 89 eP P 10 24 34.7 +0.4
comp=Z,41nm,1.1s,mb4.9
SNOW **Snow King Moun** 34.71 89 eP P 10 24 35.0 +0.7
comp=Z,65nm,1.5s,mb4.9
REDW **Red Top Meadow** 34.72 89 eP P 10 24 34.9 +0.4
comp=Z,24nm,0.9s,mb4.7
R09A **Tonopah** 34.73 102 ⇓P P 10 24 34.6 -0.1
baz=35,SNR=75
L15A **Malad City** 34.74 93 ⇓P P 10 24 34.8 +0.1
baz=35,SNR=49
TPH **Tonopah** 34.77 102 eP P 10 24 35.4 +0.4
V05C **Boulder Hill,** 34.94 107 ⇑P P 10 24 37.1 +0.6
baz=35,SNR=6.5
TIN **Tinemaha** 34.96 104 ⇑P P 10 24 37.4 +0.7
baz=35,SNR=6.8
AHID **Auburn Hatcher** 34.96 90 eP P 10 24 37.2 +0.6
RCTC **Rector, Farmer** 34.97 106 ⇑P P 10 24 36.4 -0.3
baz=35,SNR=14
S09A **Goldfield** 35.02 102 ⇑P P 10 24 37.1 0.0
baz=35,SNR=37
P12A **McGill** 35.06 98 ⇓P P 10 24 37.5 +0.1
baz=35,SNR=60
N14A **Grayback Hills** 35.07 95 ⇓P P 10 24 37.5 0.0
baz=35,SNR=38
M15A **Larsen Ranch,** 35.07 93 ⇑P P 10 24 37.6 +0.1
baz=35,SNR=32
Q11A **Duckwater** 35.08 100 ⇓P P 10 24 37.9 +0.3
baz=35,SNR=111
BGU **Big Grassy Mou** 35.10 95 eP P 10 24 37.6 -0.2
O13A **Hicks Ranch, I** 35.12 96 ⇓P P 10 24 37.9 -0.1
baz=35,SNR=16
R10A **Warm Springs** 35.12 101 ⇓P P 10 24 38.0 0.0
baz=35,SNR=52
SPUT **South Promonto** 35.17 94 eP P 10 24 38.7 +0.3
S10A **Tonopah Range,** 35.22 102 ⇓P P 10 24 38.7 -0.2
baz=35,SNR=85
LAO **LASA Array** 35.25 81 eP P 10 24 39.3 +0.4
L16A **Fish Haven** 35.27 92 ⇓P P 10 24 39.7 +0.5
baz=35,SNR=41
DGMT **Dagmar** 35.32 77 ⇑P P 10 24 39.1 -0.5
baz=35,SNR=12
DGMT **Dagmar** 35.32 77 eP P 10 24 39.3 -0.3
comp=Z,35nm,0.8s,mb4.9
VES **Vestal, Richgr** 35.40 107 ⇓P P 10 24 39.9 -0.5
baz=35,SNR=22
Q12A **Willow Creek R** 35.40 99 ⇓P P 10 24 40.6 +0.2
baz=35,SNR=42
N15A **Stansbury Isla** 35.41 94 ⇑P P 10 24 40.0 -0.5
baz=35
HWUT **Hardware Ranch** 35.47 92 eP P 10 24 41.2 +0.3
comp=Z,46nm,1.0s,mb5.0
GRAC **Grapevine Rang** 35.47 103 ⇓P P 10 24 41.5 +0.5
baz=35,SNR=33
R11A **Troy Canyon, C** 35.47 100 ⇓P P 10 24 40.8 -0.2
baz=35,SNR=115
CWC **Cottonwood Cre** 35.50 105 ⇑P P 10 24 41.5 +0.3
baz=35,SNR=23
P13A **Bates Ranch, G** 35.56 97 ⇓P P 10 24 41.6 -0.2
baz=35,SNR=46
M16A **Huntsville** 35.62 93 ⇑P P 10 24 42.1 -0.1
baz=36,SNR=70
DUG **Dugway** 35.72 95 eP P 10 24 43.1 0.0
DUG pmax pmax
comp=Z,37nm,0.9s,mb4.9
DUG **Dugway** 35.72 95 ⇓P P 10 24 43.0 -0.1
baz=36,SNR=50
DUG **Dugway** 35.72 95 eP P 10 24 43.1 0.0
comp=Z,37nm,0.9s,mb4.9
PKM **Peak Mountain** 35.72 108 ⇑P P 10 24 43.8 +0.7
baz=36,SNR=5.8
NOQ **North Oquirrh** 35.80 94 eP P 10 24 44.0 +0.3
BW06 **Boulder Array** 35.83 89 ⇓P P 10 24 43.6 -0.3
baz=36,SNR=60
BW06 **Boulder Array** 35.83 89 eP P 10 24 43.9 -0.1
comp=Z,21nm,0.6s,mb4.8
PDAR **Pinedale Array** 35.83 89 P P 10 24 43.9 -0.1
comp=Z,21nm,0.5s,mb4.9,baz=312,slow=3.2,SNR=235
PDAR ScP ScP 10 30 34.0 -0.4
comp=Z,1.5nm,0.6s,baz=184,slow=0.7,SNR=8.2
O15A **The Old Anders** 35.85 95 ⇑P P 10 24 44.4 +0.2
baz=36,SNR=14
ISA **Isabella** 35.86 106 eP P 10 24 44.0 -0.3
ISA pmax pmax
comp=Z,46nm,1.1s,mb4.9
ISA **Isabella** 35.86 106 ⇑P P 10 24 43.7 -0.6
baz=36,SNR=31
ISA **Isabella** 35.86 106 eP P 10 24 44.0 -0.3
comp=Z,46nm,1.1s,mb4.9
S11A **Rachel** 35.89 101 ⇓P P 10 24 44.7 +0.2
baz=36,SNR=12
Q13A **Wheeler Ranch,** 35.91 98 ⇑P P 10 24 44.8 +0.1
baz=36,SNR=25
P14A **Drum Mountains** 36.00 96 ⇑P P 10 24 45.5 +0.1
baz=36
N16A **Rees Ranch, Co** 36.02 93 ⇑P P 10 24 45.7 +0.1
baz=36,SNR=18
R12A **Pony Springs,** 36.03 99 ⇓P P 10 24 45.2 -0.5
baz=36,SNR=22
ARVC **Arvin** 36.08 107 ⇓P P 10 24 45.4 -0.7
baz=36
MPMC **Manual Prospec** 36.10 105 ⇑P P 10 24 46.6 +0.3

baz=36,SNR=76
TPNV **Topopah Spring** 36.12 102 ⇑P P 10 24 46.7 +0.2
baz=36,SNR=129
TPNV **Topopah Spring** 36.12 102 eP P 10 24 46.9 +0.4
SBC **Santa Barbara** 36.12 109 ⇓P P 10 24 46.6 0.0
baz=36
FURC **Furnace Creek,** 36.14 104 ⇓P P 10 24 46.7 +0.1
baz=36,SNR=27
JLU **Jordanelle** 36.21 94 eP P 10 24 47.2 0.0
NLU **North Lily Min** 36.30 95 eP P 10 24 47.6 -0.3
Q14A **Sevier Lake (B** 36.30 97 ⇑P P 10 24 48.2 +0.2
baz=36
N17A **Moffit Pass** 36.32 93 ⇓P P 10 24 47.9 -0.3
baz=36,SNR=20
ASAJ **Asahikawa** 36.40 275 P P 10 24 49.1 +0.3
comp=Z,36nm,0.9s,mb4.9,baz=59,slow=5.1,SNR=17
S12A **Delamar Landin** 36.41 100 ⇓P P 10 24 49.2 +0.3
baz=36,SNR=23
LRMC **Laurel Mountai** 36.42 106 ⇑P P 10 24 48.8 -0.3
baz=36,SNR=35
DAU **Daniels Canyon** 36.44 94 eP P 10 24 49.6 +0.4
O16A **Springville** 36.45 94 ⇓P P 10 24 49.1 -0.1
baz=36,SNR=50
U10A **Ash Meadows, A** 36.46 103 ⇓P P 10 24 49.7 +0.3
baz=36,SNR=14
T11A **Corn Creek, Al** 36.47 101 ⇑P P 10 24 49.5 0.0
baz=36,SNR=100
MPU **Maple Canyon** 36.50 94 eP P 10 24 49.9 +0.2
EDW2 **Edwards Air Fo** 36.71 106 ⇑P P 10 24 50.9 -0.6
baz=37,SNR=7.7
BLG **Laguna Peak** 36.73 108 ⇓P P 10 24 51.1 -0.5
baz=37,SNR=5.7
P16A **Fountain Green** 36.77 95 ⇑P P 10 24 52.0 0.0
baz=37,SNR=11
Q15A **Fillmore** 36.79 96 ⇓P P 10 24 52.2 +0.1
baz=37,SNR=33
SHOC **Shoshone** 36.87 104 ⇑P P 10 24 52.7 -0.1
baz=37,SNR=35
O17A **Robinson Place** 36.88 93 ⇓P P 10 24 53.0 +0.1
baz=37,SNR=25
R14A **James Farms, M** 36.93 98 ⇑P P 10 24 53.4 +0.1
baz=37,SNR=14
N18A **Larsen Ranch,** 36.95 92 ⇑P P 10 24 52.9 -0.5
baz=37,SNR=38
S13A **Holt Ranch, En** 36.98 99 ⇑P P 10 24 53.7 0.0
baz=37,SNR=60
U11A **Corn Creek** 36.98 102 ⇓P P 10 24 53.7 -0.1
baz=37,SNR=5.7
DECC **Green Verdugo** 37.01 108 ⇓P P 10 24 53.7 -0.3
baz=37
GSC **Goldstone** 37.03 105 eP P 10 24 54.3 +0.1
GSC pmax pmax
comp=Z,70nm,1.3s,mb5.0
GSC **Goldstone** 37.03 105 ⇑P P 10 24 54.0 -0.2
baz=37,SNR=30
GSC **Goldstone** 37.03 105 eP P 10 24 54.3 +0.1
comp=Z,70nm,1.3s,mb5.0
SHPR **Sheep Range** 37.04 102 eP P 10 24 54.0 -0.3
ARUT **Antelope Range** 37.06 99 eP P 10 24 54.2 -0.2
T12A **Moapa** 37.12 101 ⇑P P 10 24 54.9 -0.1
baz=37
MWC **Mount Wilson** 37.17 107 eP P 10 24 55.4 0.0
MWC pmax pmax
comp=Z,71nm,1.3s,mb5.0
MWC **Mount Wilson** 37.17 107 eP P 10 24 55.4 0.0
comp=Z,71nm,1.3s,mb5.0
S14A **Cedar City** 37.23 98 ⇑P P 10 24 55.7 -0.1
baz=37,SNR=36
TMUT **Trail Mountain** 37.24 95 eP P 10 24 56.5 +0.6
O18A **Roosevelt** 37.24 93 ⇓P P 10 24 56.5 +0.6
baz=37,SNR=20
RRX **Edison Barstow** 37.24 105 ⇓P P 10 24 56.1 +0.1
baz=37
MSU **Marysvale** 37.25 97 eP P 10 24 56.5 +0.5
CCUT **Cedar City** 37.27 99 eP P 10 24 56.3 +0.1
N19A **John Jarvie Ra** 37.28 91 ⇓P P 10 24 55.8 -0.4
baz=37
T13A **Saint George** 37.35 100 ⇓P P 10 24 56.9 0.0
baz=37,SNR=88
BFSC **Mount Baldy St** 37.38 107 ⇑P P 10 24 56.9 -0.2
baz=37,SNR=22
P17A **Butcher Ranch,** 37.38 94 ⇑P P 10 24 57.1 0.0
baz=37,SNR=22
V11A **Goodsprings** 37.38 103 ⇓P P 10 24 57.5 +0.3
baz=37,SNR=22
TUQ **Turquoise Moun** 37.41 104 ⇑P P 10 24 57.4 0.0
baz=37,SNR=8.2
U12A **Valley of Fire** 37.43 101 ⇑P P 10 24 57.6 0.0
baz=37,SNR=17
FMP **Fort Macarthur** 37.44 108 ⇑P P 10 24 57.1 -0.6
baz=37
ERM **Erimo** 37.45 272 P P 10 24 57.3 -0.3
comp=Z,285nm,0.6s,mb6.0,SNR=5.8
Q16A **Castle Valley** 37.52 95 ⇓P P 10 24 58.9 +0.6
baz=37,SNR=57
P18A **Preston Nutter** 37.55 94 ⇓P P 10 24 58.8 +0.3
baz=37,SNR=49
CIS **Catalina Islan** 37.62 108 ⇓P P 10 24 58.7 -0.4
baz=38
HEC **Hector,Ludlow** 37.64 105 ⇑P P 10 24 59.2 -0.1
baz=38,SNR=8.6
O19A **Miners Draw (B** 37.71 92 ⇓P P 10 24 59.8 -0.1
baz=38,SNR=67
S15A **Panguitch** 37.74 98 ⇓P P 10 25 00.8 +0.7
baz=38,SNR=78
SRU **San Rafael** 37.75 95 ⇑P P 10 25 00.6 +0.4
baz=38,SNR=211
SRU **San Rafael** 37.75 95 eP P 10 25 00.7 +0.6
BBRC **Big Bear Sol-O** 37.75 106 ⇑P P 10 25 00.5 +0.2
baz=38
U13A **Pakoon Wash** 37.76 101 ⇓P P 10 25 00.7 +0.4
baz=38,SNR=79
T14A **Hurricane** 37.78 99 ⇑P P 10 25 00.6 +0.2
baz=38,SNR=63
V12A **Nelson** 37.78 102 ⇓P P 10 25 00.9 +0.4
baz=38,SNR=75
R16A **Teasdale** 37.79 96 ⇓P P 10 25 01.3 +0.8
baz=38,SNR=125
RWWY **Rawlins** 37.85 89 eP P 10 25 00.8 -0.2
SCI **San Clemente I** 37.87 109 ⇓P P 10 25 01.1 -0.1
baz=38
HABR **Khabarovsk** 37.91 286 ⇓eP P 10 25 00.7 -0.7
HABR e pP 10 25 40.8 -0.9
HABR e 10 26 02.8
HABR e 10 27 11.9
HABR eS S 10 30 39.3 +1.2
HABR e 10 34 51.1
HABR pmax pmax
comp=Z,42nm,1.5s,mb4.8
Q18A **Rafter H Ranch** 37.97 94 ⇑P P 10 25 01.9 -0.1
baz=38,SNR=74
GMRC **Granite Mounta** 38.05 104 ⇑P P 10 25 02.6 -0.1
baz=38,SNR=45
W12A **Cal Nev Ari** 38.09 103 ⇑P P 10 25 03.2 +0.1
baz=38
LDFC **Landfair** 38.12 103 eP P 10 25 03.3 0.0
R17A **Hanksville Air** 38.13 95 ⇓P P 10 25 03.4 0.0
baz=38,SNR=80
S16A **Weppner Ranch,** 38.13 97 ⇑P P 10 25 04.0 +0.6
baz=38,SNR=79
V13A **Grand Canyon W** 38.16 101 ⇓P P 10 25 04.1 +0.4
baz=38,SNR=64
U14A **Mt Trumbull** 38.19 100 ⇓P P 10 25 04.5 +0.6
baz=38,SNR=74
T15A **Red Dirt Ranch** 38.20 99 ⇑P P 10 25 04.3 +0.3
baz=38,SNR=46
P19A **Cripple Cowboy** 38.25 93 ⇓P P 10 25 04.4 +0.1
baz=38,SNR=118
BELC **Belle Mtn.** 38.45 105 ⇓P P 10 25 05.8 -0.3
baz=38,SNR=33
CLNS **Chul'man** 38.50 302 eP P 10 25 06.6 +0.4
CLNS pmax pmax
comp=Z,21nm,0.8s,mb4.7
CLNS pmax pmax
comp=E,14nm,0.8s
CLNS pmax pmax
comp=N,11nm,0.7s
PFO **Pinyon Flat Ob** 38.50 106 P P 10 25 06.0 -0.5
comp=N,222nm,1.2s,mb5.6,SNR=10.0
PFO **Pinyon Flat Ob** 38.50 106 eP P 10 25 05.9 -0.6
PFO pmax pmax
comp=Z,52nm,1.2s,mb4.9
PFO **Pinyon Flat Ob** 38.50 106 ⇑P P 10 25 06.1 -0.5
baz=38,SNR=9.1
PFO **Pinyon Flat Ob** 38.50 106 eP P 10 25 05.9 -0.6
comp=Z,52nm,1.2s,mb4.9
Q19A **Hogan Spring (** 38.56 94 ⇑P P 10 25 06.5 -0.5
baz=38
R18A **Canyonlands Na** 38.61 95 ⇓P P 10 25 06.6 -0.7
baz=38,SNR=58
NEE2 **Needles Airpor** 38.62 103 ⇑P P 10 25 07.3 -0.2
baz=38,SNR=13
S17A **Black Ridge (B** 38.63 96 ⇓P P 10 25 07.7 +0.1
baz=38,SNR=109
U15A **North Rim** 38.67 99 ⇓P P 10 25 08.3 +0.4
baz=38,SNR=61
109C **Camp Elliot, M** 38.71 108 ⇑P P 10 25 08.2 0.0
baz=39,SNR=12
T16A **Glen Canyon Da** 38.71 98 ⇑P P 10 25 07.7 -0.5
baz=39,SNR=16
ULM **Lac du Bonnet** 38.77 70 P P 10 25 07.8 -0.7
comp=Z,12nm,0.3s,mb4.9,baz=309,slow=8.4,SNR=84
ULM ScP ScP 10 30 44.2 -1.1
comp=Z,1.9nm,0.4s,baz=56,slow=4.2,SNR=5.0
ULM **Lac du Bonnet** 38.77 70 eP P 10 25 07.5 -1.0
comp=Z,14nm,0.6s,mb4.7
ULM epP pP 10 25 46.1 -3.0
W13A **Hualapai Mount** 38.77 102 ⇑P P 10 25 09.1 +0.3
baz=39,SNR=46
IRM **Iron Mountain** 38.79 104 ⇑P P 10 25 09.1 +0.2
baz=39,SNR=90
V14A **Boquillas Ranc** 38.81 101 ⇑P P 10 25 09.5 +0.5
baz=39,SNR=46
BC3 **Big Chuckw Mtn** 39.01 105 ⇓P P 10 25 10.1 -0.6
baz=39,SNR=20
S18A **Hurst Farm, Bl** 39.04 96 ⇑P P 10 25 10.8 -0.2
baz=39,SNR=124
MONP **Monument Peak** 39.07 107 ⇓P P 10 25 11.3 0.0
baz=39
T17A **Navajo Res., N** 39.09 97 ⇓P P 10 25 10.9 -0.5
baz=39,SNR=46
PHWY **Pilot Hill** 39.09 88 eP P 10 25 10.7 -0.6
PV10 **Paradox Valley** 39.09 94 eP P 10 25 11.6 +0.3
BAR **Barrett** 39.10 107 eP P 10 25 11.5 0.0
comp=Z,44nm,1.1s,mb4.9
W14A **Seligman** 39.13 101 ⇓P P 10 25 12.0 +0.3
baz=39,SNR=44
X13A **Yucca** 39.18 103 ⇓P P 10 25 11.9 -0.3
baz=39,SNR=29
V15A **Kaibab Nationa** 39.18 100 ⇑P P 10 25 12.8 +0.7
baz=39,SNR=213
KLR **Kul'dur** 39.23 289 eP P 10 25 07.8 -4.5
KLR e pP 10 25 48.2 -4.7
PDMCI **Parker Dam,Lak** 39.23 103 ⇓P P 10 25 12.2 -0.4
baz=39,SNR=18
SWSC **Sam W. Stewart** 39.37 106 ⇑P P 10 25 13.3 -0.4
baz=39,SNR=7.3
Y12C **Blythe** 39.44 104 ⇑P P 10 25 14.3 0.0
baz=39,SNR=50
U17A **Shonto** 39.45 97 ⇑P P 10 25 13.9 -0.4
baz=39,SNR=30
S19A **Harvey Farm, M** 39.48 95 ⇑P P 10 25 14.1 -0.5
baz=39,SNR=49
T18A **Mexican Hat** 39.50 96 ⇑P P 10 25 14.1 -0.7
baz=39,SNR=120
PV01 **Paradox Valley** 39.52 94 eP P 10 25 14.4 -0.5
U16A **Tuba City** 39.52 98 ⇓P P 10 25 14.9 -0.1
baz=39,SNR=63
W15A **Williams** 39.60 100 ⇑P P 10 25 16.4 +0.7
baz=40,SNR=42
Y13A **Salome** 39.77 103 ⇓P P 10 25 16.8 -0.2
baz=40,SNR=29
X14A **Yava** 39.79 102 ⇓P P 10 25 17.5 +0.3
baz=40,SNR=67
GLA **Glamis** 39.80 105 ⇑P P 10 25 17.2 -0.1
baz=40,SNR=29
GLA **Glamis** 39.80 105 eP P 10 25 17.1 -0.2
WUAZ **Wupatki** 39.85 99 ⇓P P 10 25 17.9 +0.3
baz=40,SNR=36
WUAZ **Wupatki** 39.85 99 eP P 10 25 17.9 +0.3
comp=Z,70nm,1.1s,mb5.0
AGMN **Agassiz Refuge** 39.93 72 eP P 10 25 17.1 -1.0
comp=Z,34nm,0.8s,mb4.8
ISCO **Idaho Springs** 40.02 90 eP P 10 25 19.1 +0.1
U18A **Rough Rock, Ch** 40.02 97 ⇑P P 10 25 18.5 -0.6
baz=40,SNR=21
W16A **Flagstaff** 40.07 100 ⇑P P 10 25 20.3 +0.8
baz=40,SNR=97
Y14A **Wickenburg** 40.12 102 ⇓P P 10 25 19.8 -0.1
baz=40,SNR=51
X15A **Humboldt** 40.13 101 ⇑P P 10 25 20.4 +0.3
baz=40,SNR=65
T19A **Bellabin** 40.20 96 ⇓P P 10 25 20.2 -0.3
baz=40,SNR=53
MVCO **Mesa Verde** 40.22 95 ⇓P P 10 25 20.0 -0.6
baz=40
112A **Yuma** 40.33 105 ⇓P P 10 25 21.7 0.0
baz=40,SNR=19
Y15A **Casa Rosa Ranc** 40.48 102 ⇑P P 10 25 23.0 +0.1
baz=40,SNR=55
V18A **Ganado** 40.50 98 ⇑P P 10 25 23.1 0.0
baz=40,SNR=34
W17A **Winslow** 40.53 99 ⇓P P 10 25 23.2 -0.1
baz=40
Z14A **Wintersburg** 40.59 103 ⇑P P 10 25 23.5 -0.2
baz=40,SNR=21
113A **Mohawk Valley,** 40.59 104 ⇑P P 10 25 23.4 -0.4
baz=40,SNR=9.1
X16A **Lo Mia Camp, P** 40.62 100 ⇑P P 10 25 24.8 +0.7
baz=40,SNR=78
V19A **Window Rock** 40.99 97 ⇑P P 10 25 27.1 +0.1
baz=41,SNR=19
Y16A **Circle Bar Ran** 41.00 101 ⇓P P 10 25 27.5 +0.4
baz=41,SNR=34
X17A **Forest Lakes** 41.03 100 ⇓P P 10 25 28.1 +0.7
baz=41,SNR=16
W18A **Petrified Fore** 41.05 98 ⇑P P 10 25 27.5 +0.1
baz=41
Z15A **Gila River Ind** 41.08 102 ⇓P P 10 25 27.7 0.0
baz=41,SNR=18
OGNE **Ogallala** 41.24 85 eP P 10 25 28.6 -0.3
comp=Z,109nm,0.9s,mb5.3
W19A **Sanders** 41.24 98 ⇑P P 10 25 29.4 +0.3
baz=41
X18A **Snowflake** 41.36 99 ⇓P P 10 25 30.5 +0.4
baz=41,SNR=68
Z16A **Peralta Trail,** 41.44 102 ⇓P P 10 25 30.8 +0.1
baz=41,SNR=43
115A **Sonoran Desert** 41.48 103 ⇑P P 10 25 31.5 +0.5
baz=41,SNR=24
Y17A **Roosevelt** 41.49 101 ⇑P P 10 25 31.4 +0.3
baz=41,SNR=46
SDCO **Great Sand Dun** 41.51 92 eP P 10 25 31.5 +0.3
214A **Organ Pipe Nat** 41.73 104 ⇓P P 10 25 33.0 -0.1
baz=42,SNR=22
X19A **St. Johns** 41.80 98 ⇑P P 10 25 34.1 +0.4
baz=42,SNR=40
116A **Eloy** 41.87 103 ⇑P P 10 25 34.4 +0.2
baz=42,SNR=5.9
Y18A **Canyon Day Jun** 41.88 100 ⇓P P 10 25 34.9 +0.7
baz=42,SNR=56
Z17A **San Carlos Hig** 41.99 101 ⇑P P 10 25 35.7 +0.5
baz=42,SNR=26
Y19A **Nutrioso** 42.17 99 ⇓P P 10 25 37.4 +0.8
baz=42,SNR=64
ECSD **EROS,Sioux Fal** 42.39 78 eP P 10 25 36.7 -1.5
comp=Z,23nm,0.6s,mb4.8
Z18A **Geronimo** 42.39 100 ⇑P P 10 25 38.8 +0.4
baz=42,SNR=11
117A **Oracle** 42.40 102 ⇑P P 10 25 38.9 +0.5
baz=42,SNR=83
216A **Three Points,** 42.44 103 ⇓P P 10 25 38.6 -0.2
baz=42,SNR=9.2
EYMN **Ely** 42.45 70 eP P 10 25 38.0 -0.7
comp=Z,49nm,0.8s,mb5.0
TUC **Tucson** 42.57 102 eP P 10 25 39.6 -0.2
Z19A **T-Link Ranch,** 42.66 100 ⇑P P 10 25 41.1 +0.5
baz=42,SNR=6.7
118A **Homack Ranch,** 42.77 101 ⇓P P 10 25 41.6 +0.2
baz=43,SNR=46
BOD **Bodaibo** 42.92 309 eP P 10 25 41.8 -0.5
BOD pmax pmax
comp=Z,32nm,1.1s,mb4.7
217A **Green Valley** 42.96 102 ⇑P P 10 25 43.3 +0.4
baz=43,SNR=50
ANMO **Albuquerque** 42.99 95 eP P 10 25 43.0 -0.2
LAZ **Ladron** 43.02 97 eP P 10 25 43.4 0.0
119A **Ashpeak Ranch,** 43.04 100 ⇓P P 10 25 44.0 +0.5
baz=43,SNR=43
218A **Dragoon** 43.23 102 ⇓P P 10 25 45.5 +0.4
baz=43,SNR=47
LENM **Lemitar** 43.28 97 eP P 10 25 45.9 +0.3
LPM **Los Pinos Moun** 43.36 96 eP P 10 25 46.3 +0.1
Y22D **IRIS PASSCAL I** 43.38 97 ⇑P P 10 25 46.8 +0.5
baz=43
BNM **Barren Site** 43.49 96 eP P 10 25 47.1 -0.1
BNM epP pP 10 26 28.4 -0.1
219A **White Tail Can** 43.64 101 ⇓P P 10 25 48.7 +0.3
baz=44,SNR=66
318A **Bisbee** 43.67 102 ⇓P P 10 25 48.9 +0.2
baz=44,SNR=41
CBKS **Cedar Bluff** 43.99 86 eP P 10 25 51.2 +0.1
MAJO **Matsushiro** 44.00 270 eP P 10 25 50.7 -0.5
MAJO pmax pmax
comp=Z,34nm,0.8s,mb4.7
MAJO **Matsushiro** 44.00 270 eP P 10 25 50.7 -0.5
comp=Z,34nm,0.8s,mb4.7
MAT **Matsushiro** 44.00 270 P P 10 25 51.1 -0.1
MJAR **Matsushiro Arr** 44.00 270 P P 10 25 51.2 0.0
comp=Z,8.9nm,0.6s,mb4.3,baz=32,slow=8.3,SNR=28
MJAR PcP PcP 10 27 32.8 -0.4
comp=Z,3.8nm,0.8s,baz=54,slow=3.5,SNR=4.9
MJAR ScP ScP 10 31 06.3 -0.1
comp=Z,1.8nm,1.0s,baz=359,slow=2.1,SNR=5.0
MJAR **Matsushiro Arr** 44.00 270 P P 10 25 51.2 0.0
MJAR 10 27 32.8
MJAR **Matsushiro Arr** 44.00 270 P P 10 25 51.2 0.0
MJAR PcP PcP 10 27 32.8 -0.4
MJAR ScP ScP 10 31 06.3 -0.1
319A **Douglas** 44.11 101 ⇓P P 10 25 52.2 +0.1
baz=44,SNR=20
COWI **Conover** 44.88 71 eP P 10 25 56.8 -1.2
HIA **Hailar** 45.42 296 ⇓eP P 10 26 02.4 +0.2
SCIA **State Center** 45.47 78 eP P 10 26 01.7 -1.0
KSU1 **Kansas State U** 45.53 83 eP P 10 26 01.5 -1.7
comp=Z,44nm,0.9s,mb4.8
AMTX **Amarillo** 45.71 91 eP P 10 26 04.2 -0.5
SUMG **Summit** 45.86 20 eP P 10 26 05.9 +0.5
comp=Z,5.6nm,0.8s,mb4.0
SUMG epP pP 10 26 46.5 -0.6
SPITS **Spitsbergen Ar** 45.94 0 P P 10 26 05.9 -0.1
comp=Z,6.9nm,0.9s,mb4.0,baz=52,slow=10,SNR=2.8
SPITS PcP PcP 10 27 39.5 +0.2
comp=Z,1.9nm,0.5s,baz=13,slow=5.1,SNR=4.4
CN2 **Changchun** 46.02 286 ⇓P P 10 26 06.6 -0.5
CN2 eAP pP 10 26 50.0 +1.2
CN2 eS S 10 32 35.4 -1.8
CN2 AMB AMB
comp=Z,20nm,0.8s,mb4.5
CN2 AMB AMB
comp=Z,70nm,6.0s
GDL2 **Guadalupe Moun** 46.20 96 eP P 10 26 08.4 -0.1
JFWS **Jewell Farm** 46.40 75 eP P 10 26 07.5 -2.5
HDIL **Hopedale** 48.54 76 eP P 10 26 24.9 -1.6
TXAR **Lajitas Array** 48.77 98 P P 10 26 27.9 -0.4
comp=Z,19nm,0.7s,mb4.5,baz=302,slow=5.9,SNR=262
TXAR pP pP 10 27 10.3 -0.3
comp=Z,6.2nm,1.0s,baz=318,slow=7.1,SNR=2.2
TXAR ScP ScP 10 31 27.7 +1.3
comp=Z,1.0nm,0.7s,baz=296,slow=2.7,SNR=6.0
TXAR LR LR 10 47 44.4
comp=Z,107nm,18.7s,baz=345,slow=37
TXAR **Lajitas Array** 48.77 98 P P 10 26 28.0 -0.4
TXAR *PP pP 10 27 10.3 -0.3
KSRS **Korea Array** 49.08 279 P P 10 26 31.2 +0.5
comp=Z,8.2nm,0.8s,mb4.1,baz=44,slow=7.2,SNR=21
KSRS pP pP 10 27 14.7 +1.7
comp=Z,5.3nm,1.0s,baz=43,slow=7.7,SNR=3.3
KSRS PcP PcP 10 27 51.8 +0.6
comp=Z,4.6nm,0.7s,baz=51,slow=4.1,SNR=7.6
CCM **Cathedral Cave** 49.24 80 eP P 10 26 29.2 -2.6
CCM pmax pmax
comp=Z,9.0nm,0.4s,mb4.5
CCM **Cathedral Cave** 49.24 80 eP P 10 26 29.2 -2.7
comp=Z,8.8nm,0.4s,mb4.4
FVM **French Village** 49.74 80 eP P 10 26 33.8 -1.8
JCT **Junction City** 50.05 94 eP P 10 26 36.6 -1.4
JCT e*PP pP 10 27 19.0 -1.4
JCT pmax pmax
comp=Z,63nm,0.6s,mb5.1
JCT **Junction City** 50.05 94 eP P 10 26 36.6 -1.4
comp=Z,62nm,0.6s,mb5.1
JCT epP pP 10 27 19.0 -1.4
OLIL **Olney** 50.48 77 eP P 10 26 39.6 -1.6
comp=Z,9.8nm,0.4s,mb4.5
MIAR **Mount Ida** 50.49 85 eP P 10 26 39.9 -1.4
SIUC **Southern Illin** 50.60 79 eP P 10 26 40.2 -1.8
UALR **University of** 51.01 84 eP P 10 26 43.4 -1.7
BLO **Bloomington** 51.03 76 eP P 10 26 43.6 -1.6
BLO pmax pmax
comp=Z,79nm,1.3s,mb5.0
BLO **Bloomington** 51.03 76 eP P 10 26 43.6 -1.6
comp=Z,79nm,1.3s,mb5.0
PARMO **Parma** 51.06 80 eP P 10 26 43.6 -1.9
PARMO epP pP 10 27 25.1 -3.1
USIN **University of** 51.27 78 eP P 10 26 45.4 -1.7
comp=Z,50nm,0.9s,mb4.9
TLY **Talaya** 51.46 307 i P P 10 26 48.9 +0.7
TLY pmax pmax
comp=Z,19nm,1.1s,mb4.4
WCI **Wyandotte Cave** 51.83 76 eP P 10 26 49.6 -1.6
HALT **Halls** 51.84 81 eP P 10 26 49.6 -1.7
NATX **Nacogdoches** 51.95 88 eP P 10 26 51.3 -0.9
comp=Z,79nm,1.1s,mb5.0
ACSO **Alum Creek Sta** 52.17 72 eP P 10 26 51.8 -1.9
comp=Z,18nm,0.7s,mb4.6
ERPA **Erie** 52.40 68 eP P 10 26 54.7 -0.7
comp=Z,28nm,0.8s,mb4.7
WVT **Waverly** 52.51 79 eP P 10 26 54.5 -1.8
WVT pmax pmax
comp=Z,16nm,0.7s,mb4.6
WVT **Waverly** 52.51 79 eP P 10 26 54.5 -1.8
comp=Z,16nm,0.7s,mb4.5
ZAK **Zakamensk** 52.54 306 eP P 10 26 56.3 +0.1
ZAK pmax pmax
comp=Z,5.0nm,1.4s,mb3.8
ALLY **Alegheny Colle** 52.65 69 eP P 10 26 56.2 -1.0
OXF **Oxford** 52.83 82 eP P 10 26 56.8 -1.8
OXF e*PP pP 10 27 38.6 -2.9
OXF pmax pmax
comp=Z,205nm,0.8s,mb5.6
OXF **Oxford** 52.83 82 eP P 10 26 56.8 -1.8
comp=Z,206nm,0.8s,mb5.6
OXF epP pP 10 27 38.6 -2.9
SONM **Songino Array** 52.91 302 P P 10 26 59.9 +0.9
comp=Z,4.6nm,0.6s,mb4.1,baz=50,slow=7.3,SNR=24
SONM pP pP 10 27 43.3 +1.4
comp=Z,10.0nm,0.8s,baz=43,slow=7.5,SNR=8.2
SONM ScP ScP 10 31 44.8 +0.8
comp=Z,3.8nm,0.9s,baz=51,slow=3.4,SNR=10.0
SONM **Songino Array** 52.91 302 P P 10 26 59.9 +0.9
SONM *PP pP 10 27 43.3 +1.4
BJI **Beijing** 53.59 289 P P 10 27 03.0 -1.1
BJI PP PP 10 29 05.0 -1.5
BJI S S 10 34 15.0 -7.1
BJI SS SS 10 38 05.0 +0.3
BJI AMB AMB
comp=Z,6.0nm,0.5s,mb4.4
BJI AMB AMB
comp=Z,100nm,5.3s
BJI LR LR
comp=N,138nm,14.9s
BJI LR LR
comp=E,132nm,18.9s
BJI LR LR
comp=Z,73nm,23.7s
VBMS **Vicksburg** 53.92 85 eP P 10 27 05.2 -1.3
comp=Z,136nm,1.4s,mb5.3
NCB **Newcomb** 54.01 63 eP P 10 27 03.9 -3.1
SWET **Sewanee** 54.23 79 eP P 10 27 06.3 -2.4
BINY **Binghamton** 54.41 66 eP P 10 27 08.9 -1.0
comp=Z,53nm,1.3s,mb4.9
BINY epP pP 10 27 51.8 -1.2
ARCES **ARCESS Array B** 54.51 357 P P 10 27 09.6 -0.7
comp=Z,5.7nm,0.9s,mb4.1,baz=355,slow=6.1,SNR=7.0
ARCES PcP PcP 10 28 10.2 -0.8
comp=Z,3.8nm,0.6s,baz=35,slow=4.4,SNR=5.4
TZTN **Tazewell** 54.55 76 eP P 10 27 09.2 -1.8
comp=Z,43nm,1.3s,mb4.8
SSPA **Standing Stone** 54.56 68 eP P 10 27 09.6 -1.4
comp=Z,13nm,0.8s,mb4.5
CPCT **Cooper Cave** 54.83 77 eP P 10 27 11.4 -1.7
TKL **Tuckaleechee C** 55.08 77 eP P 10 27 13.1 -1.8
LRAL **Lakeview Retre** 55.27 81 eP P 10 27 13.6 -2.6
comp=Z,14nm,1.0s,mb4.5
HHC **Hu-ho-hao-te** 55.41 293 eP P 10 27 17.0 -0.1
HHC AP pP 10 28 00.1 -0.3
HHC PCP PcP 10 28 15.9 +0.9
HHC XP sP 10 28 21.8 +0.3
HHC PP PP 10 29 24.6 +1.9

HHC SCP ScP 10 31 54.5 -0.5
HHC PCS PcS 10 32 14.5 -0.7
HHC S **S** **10 34 43.3 -3.0**
HHC XS sS 10 35 58.9 -2.9
HHC SCS ScS 10 36 43.3 -3.0
HHC SS SS 10 38 32.3 -0.9
HHC AMB AMB
comp=Z,14nm,1.1s,mb4.4
HHC AMB AMB
comp=Z,156nm,6.9s
HHC LR LR
comp=N,185nm,15.4s
HHC LR LR
comp=E,165nm,16.9s
HHC LR LR
comp=Z,109nm,14.5s
ELN Prospectdale 55.55 73 *e*P **P** **10 27 16.4 -1.8**
LVZ Lovozero 55.65 352↓ *e*P **P** **10 27 18.6 +0.1**
LVZ pmax pmax
comp=Z,11nm,0.7s,mb4.5
BLA Blacksburg 55.74 73 *e*P **P** **10 27 18.2 -1.3**
BLA pmax pmax
comp=Z,13nm,0.6s,mb4.6
BLA Blacksburg 55.74 73 *e*P **P** **10 27 18.2 -1.4**
comp=Z,13nm,0.6s,mb4.6
URVA University of 57.01 71 *e*P **P** **10 27 26.7 -1.8**
NVS Novosibirsk 57.23 321 *i* P **P** **10 27 29.3 -0.5**
NVS *e* pP 10 28 13.8 +0.5
NVS pmax pmax
comp=N,11nm,1.6s
NVS pmax pmax
comp=Z,22nm,1.6s,mb4.5
NVS pmax pmax
comp=E,8.0nm,1.3s
ZAA0 Zalesovo Array 57.38 320 *e*P **P** **10 27 30.9 0.0**
ZALV Zalesovo Beam 57.38 320 P **P** **10 27 31.5 +0.7**
comp=E,3.6nm,0.7s,mb4.1,baz=24,slow=6.8,SNR=14
ZALV pP pP 10 28 15.2 +0.8
comp=E,0.9nm,0.5s,baz=19,slow=4.9,SNR=1.1
ZALV PcP PcP 10 28 22.7 +0.3
comp=E,3.7nm,0.7s,baz=45,slow=2.8,SNR=5.7
ZALV ScP ScP 10 32 04.4 +0.9
comp=E,1.4nm,0.7s,baz=53,slow=5.9,SNR=3.9
ZALV Zalesovo Beam 57.38 320 P **P** **10 27 31.5 +0.7**
ZALV *PP pP 10 28 15.2 +0.8
ZALV 10 28 22.7
ZALV Zalesovo Beam 57.38 320 P **P** **10 27 31.5 +0.7**
ZALV pP pP 10 28 15.2 +0.8
ZALV PcP PcP 10 28 22.7 +0.3
ZALV ScP ScP 10 32 04.4 +1.0
JOF Joensuu 60.82 353 *ep* **P** **10 27 53.5 -0.8**
comp=E,6.9nm,0.7s,mb4.4
JOF Joensuu 60.82 353 *e*P **P** **10 27 53.5 -0.8**
JOF pmax pmax
comp=Z,7.0nm,0.7s,mb4.4
KAF Kangasniemi 61.90 355 *ep* **P** **10 28 00.7 -0.8**
comp=Z,7.4nm,0.4s,mb4.7,baz=1.5,slow=6.4
KAF Kangasniemi 61.90 355 *e*P **P** **10 28 00.7 -0.8**
KAF pmax pmax
comp=Z,7.0nm,0.4s,mb4.6
KLMR Klimovskoe 62.10 348 *e*P **P** **10 28 02.5 -0.4**
KLMR pmax pmax
comp=Z,29nm,1.1s,mb4.8
SVE Sverdlovsk 62.20 335↓ *e*P **P** **10 28 04.0 +0.4**
SVE pmax pmax
comp=Z,41nm,0.9s,mb5.1
KURK Kurchatov 62.22 321 P **P** **10 28 04.6 +0.8**
comp=Z,8.5nm,1.0s,mb4.3,baz=27,slow=6.4,SNR=24
KURK pP pP 10 28 48.7 +0.6
comp=Z,3.4nm,0.8s,baz=30,slow=6.7,SNR=3.8
KURK Kurchatov 62.22 321↓ *e*P **P** **10 28 04.7 +0.9**
KURK pmax pmax
comp=Z,21nm,1.3s,mb4.6
KURK Kurchatov 62.22 321 *e*P **P** **10 28 04.2 +0.4**
comp=Z,7.9nm,0.3s,mb4.8
GTA Gaotai 62.38 300 P **P** **10 28 05.4 +0.3**
GTA S **S** **10 36 14.8 -1.2**
GTA AMB AMB
comp=Z,13nm,1.2s,mb4.4
GTA AMB AMB
comp=Z,56nm,5.4s
GTA LR LR
comp=N,87nm,17.4s
GTA LR LR
comp=E,149nm,19.8s
GTA LR LR
comp=Z,146nm,15.6s
BVA0 Borovoye Array 62.94 327 *i* P **P** **10 28 09.0 +0.4**
BVA0 pmax pmax
comp=Z,6.0nm,0.9s,mb4.2
BVAR Borovoye Array 62.94 327 P **P** **10 28 09.3 +0.7**
comp=Z,20nm,0.7s,mb4.9,baz=44,slow=6.6,SNR=75
BVAR pP pP 10 28 53.2 +0.3
comp=Z,11nm,0.8s,baz=43,slow=7.1,SNR=4.9
BRVK Borovoye 62.95 327 P **P** **10 28 09.5 +0.9**
comp=Z,157nm,0.7s,mb5.8,SNR=8.1
BRVK Borovoye 62.95 327 *e*P **P** **10 28 08.3 -0.3**
BRVK *e**PP pP 10 28 54.3 +1.4
BRVK pmax pmax
comp=Z,43nm,0.9s,mb5.1
BRVK Borovoye 62.95 327 *e*P **P** **10 28 08.3 -0.3**
comp=Z,43nm,0.9s,mb5.1
BRVK *e*pP pP 10 28 54.2 +1.3
LZH Lanzhou 62.96 295 *e*P **P** **10 28 09.3 +0.3**
LZH AP pP 10 28 54.8 +1.5
LZH XP sP 10 29 14.0 -0.1
LZH PP PP 10 30 31.0 +1.5
LZH *e*S **S** **10 36 23.1 -0.3**
LZH SS SS 10 40 29.0 -2.7
LZH AMB AMB
comp=Z,42nm,1.5s,mb4.8
LZH AMB AMB
comp=Z,170nm,4.7s
ARU Arti 63.04 336 P **P** **10 28 09.0 -0.1**
comp=Z,272nm,1.0s,mb5.8,SNR=7.5
ARU Arti 63.04 336 *c i* P **P** **10 28 09.2 +0.1**
ARU *e* 10 28 43.2
ARU *e**PP pP 10 28 53.4 -0.1
ARU *e* 10 30 25.8
ARU *e*S **S** **10 36 25.4 +1.7**
ARU *e*SS SS 10 40 30.8 -1.0
ARU pmax pmax
comp=Z,44nm,1.0s,mb5.0
ARU Arti 63.04 336 *e*P **P** **10 28 08.5 -0.6**
comp=Z,27nm,0.6s,mb5.0
NB2 NORSAR Subarra 63.05 4 P **P** **10 28 08.4 -0.8**
comp=Z,2.7nm,0.8s,mb3.9,baz=356,slow=6.9
NOA NORSAR Array B 63.05 4 P **P** **10 28 08.4 -0.8**
comp=Z,6.4nm,0.9s,mb4.2,baz=356,slow=6.7,SNR=8.2
NOA pP pP 10 28 53.8 +0.2
comp=Z,5.3nm,1.0s,baz=356,slow=6.7,SNR=4.2
MK31 Makanchi Array 64.13 316 *i* P **P** **10 28 16.2 -0.2**
MK31 pmax pmax
comp=Z,1.0nm,0.3s,mb3.9
MK31 Makanchi Array 64.13 316 *e*P **P** **10 28 16.1 -0.3**
MKAR Makanchi Array 64.13 316 P **P** **10 28 16.1 -0.3**
comp=Z,3.9nm,0.7s,mb4.2,baz=42,slow=6.4,SNR=30
MKAR pP pP 10 29 02.5 +1.6
comp=Z,2.1nm,0.7s,baz=39,slow=6.2,SNR=2.4
MKAR S **S** **10 36 39.0 +1.5**
comp=Z,0.3nm,0.5s,baz=24,slow=12,SNR=3.6
WMQ Urumqi 64.38 311 *e*P **P** **10 28 19.6 +1.5**
WMQ PCP PcP 10 28 52.1 +1.2
WMQ AP pP 10 28 59.6 -3.1
WMQ XP sP 10 29 19.6 -3.8
WMQ PP PP 10 30 45.1 +3.5
WMQ AMB AMB
comp=Z,17nm,0.7s,mb4.8
WMQ AMB AMB
comp=Z,121nm,5.0s
WMQ LR LR
comp=N,109nm,19.2s
WMQ LR LR
comp=E,70nm,19.9s
WMQ LR LR
comp=Z,114nm,19.0s
CD2 Chengdu 67.07 291⇑ *i* P **P** **10 28 35.8 +0.3**
CD2 AP pP 10 29 17.4 -3.0
CD2 XP sP 10 29 36.3 -4.8
CD2 PP PP 10 31 07.3 +1.9
CD2 PCS 10 33 06.1
CD2 S S 10 37 13.4 -0.2
CD2 XS sS 10 38 26.0 -5.8
CD2 SS SS 10 41 37.4 +1.8
CD2 AMB AMB
comp=Z,40nm,0.7s,mb5.2
CD2 AMB AMB
comp=Z,100nm,8.4s
OBN Obninsk 68.06 349 *i* P **P** **10 28 39.5 -1.8**
OBN *e**PP pP 10 29 25.0 -1.3
OBN pmax pmax
comp=Z,24nm,1.2s,mb4.7
GYA Guiyang 69.07 286 P **P** **10 28 48.3 +0.3**
GYA PCP PcP 10 29 11.8 +1.1
GYA AP pP 10 29 33.0 -0.2
GYA XP sP 10 29 53.3 -0.5
GYA PP PP 10 31 24.8 +2.0
GYA SCP 10 32 55.6
GYA PCS 10 33 15.9
GYA S S 10 37 35.4 -2.0
GYA SKS 10 38 25.9
GYA XS sS 10 38 53.6 -2.4
GYA SS SS 10 42 04.8 -1.8
GYA AMB AMB
comp=Z,20nm,1.0s,mb4.7
GYA AMB AMB
comp=Z,130nm,4.9s
GYA LR LR
comp=N,740nm,18.2s
GYA LR LR
comp=E,530nm,19.8s
GYA LR LR
comp=Z,540nm,18.2s
AB31 Akbulak array 69.27 332 *i* P **P** **10 28 49.2 +0.3**
AB31 pmax pmax
comp=Z,11nm,0.4s,mb4.8
TKM2 Tokmak 2 69.94 319 *e*P **P** **10 28 53.2 +0.1**
TKM2 *e**PP pP 10 29 39.8 +1.5
TKM2 pmax pmax
comp=Z,13nm,1.1s,mb4.5
TKM2 Tokmak 2 69.94 319 P **P** **10 28 53.4 +0.4**
SNR=12
TKM2 Tokmak 2 69.94 319 *e*P **P** **10 28 53.2 +0.2**
comp=Z,13nm,1.1s,mb4.5
TKM2 *e*pP pP 10 29 39.8 +1.5
TGUH Tegucigalpa,Un 70.04 95 *e*P **P** **10 28 53.7 -0.3**
comp=Z,31nm,0.7s,mb5.0
FRU Bishkek 70.38 319 *e*P **P** **10 28 56.0 +0.3**
KBK Karagabulak 70.41 319 P **P** **10 28 57.2 +1.3**
SNR=6.0
AAK Ala-Archa 70.59 319 P **P** **10 28 58.5 +1.4**
SNR=6.6
EKS2 Erkin-Say 70.83 320 P **P** **10 28 59.6 +1.1**
SNR=7.3
EKS2 Erkin-Say 70.83 320 *e*P **P** **10 28 59.3 +0.8**
comp=Z,10nm,0.9s,mb4.5
EKS2 *e*pP pP 10 29 45.5 +1.7
UCH Uchtor 70.94 319 *e*P **P** **10 28 60.0 +0.9**
comp=Z,4.2nm,1.1s,mb4.0
AML Almayashu 71.32 319 P **P** **10 29 04.3 +2.9**
SNR=11
AML Almayashu 71.32 319 *e*P **P** **10 29 01.1 -0.3**
comp=Z,11nm,0.9s,mb4.5
AML *e*pP pP 10 29 48.8 +2.0
KK31 Karatay Array 71.60 322 *i* P **P** **10 29 03.5 +0.4**
KK31 pmax pmax
comp=Z,10.0nm,0.7s,mb4.5
CLZ Clausthal 72.22 5 *e*P **P** **10 29 08.0 +1.4**
CLZ pmax pmax
comp=Z,12nm,1.2s,mb4.4
CLZ Clausthal 72.22 5 *e*P **P** **10 29 08.0 +1.4**
comp=Z,12nm,1.2s,mb4.4
KMI Kunming 72.24 289 P **P** **10 29 07.3 +0.1**
KMI AP pP 10 29 52.6 -0.1
KMI PP PP 10 31 51.6 +1.7
KMI S S 10 38 10.9 -3.1
KMI XS sS 10 39 31.0 -2.3
KMI SS SS 10 42 55.1 0.0
KMI AMB AMB
comp=Z,6.0nm,0.7s,mb4.3
KMI AMB AMB
comp=Z,80nm,3.1s
KMI LR LR
comp=N,188nm,17.7s
KMI LR LR
comp=E,151nm,14.6s
KMI LR LR
comp=Z,163nm,20.7s
AKASG Malin Array Be 73.11 352 P **P** **10 29 11.2 -0.6**
comp=Z,2.8nm,0.4s,mb4.3,baz=6.7,slow=5.7,SNR=25
AKASG pP pP 10 29 56.6 -0.9
comp=Z,2.8nm,0.5s,baz=9.3,slow=6.0,SNR=1.9
AKBB Malin Array Si 73.11 352 *e*P **P** **10 29 11.4 -0.5**
MOX Moxa 73.47 4 *e*P **P** **10 29 14.3 +0.4**
MOX Moxa 73.47 4 *e*P **P** **10 29 14.1 +0.2**
comp=Z,3.0nm,0.7s,mb4.0
WERD Werda 73.69 4 *e*P **P** **10 29 15.5 +0.3**
GUNZ Gunzen 73.77 4 *e*P **P** **10 29 16.0 +0.3**
WERN Wernitzgruen 73.85 4 *e*P **P** **10 29 16.6 +0.4**
ROTZ Rotzenmuhle 74.36 4 *e*P **P** **10 29 19.4 +0.2**
comp=Z,5.0nm,1.3s,mb4.0
GRF Grafenberg Arr 74.40 4 *e*P **P** **10 29 20.6 +1.2**
GRF *e**PP pP 10 30 05.6 +0.5
GRF pmax pmax
comp=Z,8.0nm,0.4s,mb4.7
GRF Grafenberg Arr 74.40 4 *e*P **P** **10 29 20.6 +1.2**
comp=Z,8.0nm,0.4s,mb4.7
GRF *e*pP pP 10 30 05.6 +0.5
STHS Stebnicka Huta 74.78 358 *e*P **P** **10 29 22.3 +0.7**
STHS pmax pmax
comp=Z,5.0nm,0.8s,mb4.2
STHS Stebnicka Huta 74.78 358 *e*P **P** **10 29 22.3 +0.7**
comp=Z,4.7nm,0.8s,mb4.2
WET Wettzell 75.01 3 *e*P **P** **10 29 22.2 -0.7**
WET pmax pmax
comp=Z,4.0nm,1.2s,mb3.9
WET Wettzell 75.01 3 *e*P **P** **10 29 22.2 -0.7**
comp=Z,4.0nm,1.2s,mb3.9
KHC Kasperske Hory 75.05 3 *e*P **P** **10 29 23.5 +0.4**
KHC *e*pP pP 10 30 09.0 +0.1
CRVS Cervenica-Dubn 75.29 358 *e*P **P** **10 29 24.6 +0.1**
GERES GERESS Array B 75.33 3 P **P** **10 29 25.0 +0.3**
comp=Z,1.1nm,0.5s,mb3.7,baz=349,slow=4.1,SNR=6.4
GERES pP pP 10 30 11.1 +0.5
comp=Z,1.3nm,0.7s,baz=14,slow=5.9,SNR=3.7
CDF Champ du Feu 75.45 7 *e*P **P** **10 29 25.7 +0.3**
UZH Uzhgorod 75.54 357 *e*P **P** **10 29 26.0 +0.1**
VYHS Vyhne 75.74 359 *e*P **P** **10 29 27.2 +0.2**
HAU Haudompre 75.79 8 *e*P **P** **10 29 27.7 +0.4**
MODS Modra-Piesok 75.86 0 *e*P **P** **10 29 23.7 -4.0**
HINF Hinteralfeld 76.01 8 *e*P **P** **10 29 28.6 0.0**
ZST Bratislava 76.04 0 *e*P **P** **10 29 30.4 +1.7**
ZST pmax pmax
comp=Z,8.0nm,0.9s,mb4.3
ZST Bratislava 76.04 0 *e*P **P** **10 29 30.4 +1.7**
comp=Z,8.2nm,0.9s,mb4.4
CONA Conrad Observa 76.30 1⇑ *i*P **P** **10 29 30.8 +0.6**
comp=Z,6.0nm,1.0s,mb4.2
CSNA Conrad Observa 76.30 1⇑ *i*P **P** **10 29 30.8 +0.6**
comp=Z,5.0nm,0.8s,mb4.2
LOR Lormes 76.31 10 *e*P **P** **10 29 30.6 +0.3**
comp=Z,7.9nm,0.7s,mb4.1
LOR *e*pP pP 10 30 16.2 -0.1
LOR Lormes 76.31 10 *e*P **P** **10 29 30.6 +0.3**
LOR *e**PP pP 10 30 16.2 -0.1
LOR pmax pmax
comp=Z,4.0nm,0.7s,mb4.2
LOR Lormes 76.31 10 *e*P **P** **10 29 30.6 +0.3**
comp=Z,4.0nm,0.7s,mb4.2
LOR *e*pP pP 10 30 16.2 -0.1
BUR08 Bucovina Ar. S 76.41 355 *e*P **P** **10 29 31.1 +0.3**
SSF Saint Saulge 76.48 10 *e*P **P** **10 29 31.2 0.0**
MFF Saint Martin d 76.53 13 *e*P **P** **10 29 31.9 +0.4**
AVF Avril sur Loir 76.73 10 *e*P **P** **10 29 32.8 +0.1**
comp=Z,9.2nm,0.6s,mb4.3
AVF Avril sur Loir 76.73 10 *e*P **P** **10 29 32.8 +0.1**
AVF pmax pmax
comp=Z,5.0nm,0.6s,mb4.3
AVF Avril sur Loir 76.73 10 *e*P **P** **10 29 32.8 +0.1**
comp=Z,4.6nm,0.6s,mb4.3
SMF Signal de Mont 76.92 10 *e*P **P** **10 29 33.9 +0.2**
KBA Koelnbreinsper 77.09 3⇑ *i*P **P** **10 29 35.1 +0.4**
comp=Z,4.3nm,0.6s,mb4.3
TCF Toulx Ste Croi 77.11 11 *e*P **P** **10 29 34.8 0.0**
CABF La Chapelle 77.15 8 *e*P **P** **10 29 35.8 +0.8**
SOKA Soboth 77.53 2⇑ *i*P **P** **10 29 37.9 +0.8**
PMG Port Moresby 77.54 231⇑ *e*P **P** **10 29 38.1 +0.6**
TAPN Taplejung 78.02 301 *e*P **P** **10 29 40.4 +0.2**
KIV Kislovodsk 78.09 342↓ *e*P **P** **10 29 41.3 +1.0**
KIV pmax pmax
comp=Z,20nm,0.9s,mb4.8
LFF La Frestale 78.28 12 *e*P **P** **10 29 41.6 +0.3**
comp=Z,15nm,0.7s,mb4.5
LFF La Frestale 78.28 12 *e*P **P** **10 29 41.6 +0.3**
LFF pmax pmax
comp=Z,7.0nm,0.6s,mb4.5
LFF La Frestale 78.28 12 *e*P **P** **10 29 41.6 +0.3**
comp=Z,7.4nm,0.6s,mb4.5
GUN Gumba 78.42 303 *e*P **P** **10 29 42.7 +0.4**
CAF Calviac 78.44 11 *e*P **P** **10 29 42.5 +0.3**
JIRN Jiri 78.48 303 *e*P **P** **10 29 43.3 +0.6**
comp=Z,20nm,0.4s,mb5.1
ODAN Odare 78.59 301 *e*P **P** **10 29 43.2 -0.1**
comp=Z,14nm,0.7s,mb4.7
KKN Kakani 78.80 303 *e*P **P** **10 29 45.1 +0.7**
ORIF Oris-en-Rattie 78.82 9 *e*P **P** **10 29 44.5 +0.3**
comp=Z,7.4nm,0.7s,mb4.1
ORIF *e*pP pP 10 30 31.0 +0.5
ORIF Oris-en-Rattie 78.82 9 *e*P **P** **10 29 44.5 +0.3**
ORIF *e**PP pP 10 30 31.0 +0.5
ORIF pmax pmax
comp=Z,4.0nm,0.7s,mb4.2
ORIF Oris-en-Rattie 78.82 9 *e*P **P** **10 29 44.5 +0.3**
comp=Z,3.7nm,0.7s,mb4.1
ORIF *e*pP pP 10 30 31.0 +0.5
RAMN Ramite 78.89 302 *e*P **P** **10 29 44.8 -0.1**
comp=Z,28nm,0.8s,mb5.0
GKN Gorkha 78.92 304 *e*P **P** **10 29 44.9 -0.1**
PKI Pulchoki 78.92 303 *e*P **P** **10 29 45.1 0.0**
DANN Dangsing 79.03 305 *e*P **P** **10 29 46.0 +0.4**
comp=Z,56nm,0.8s,mb5.2
DMN Daman 79.03 304 *e*P **P** **10 29 45.9 +0.2**
MBDF Montbardon 79.08 8 *e*P **P** **10 29 46.6 +1.0**
comp=Z,10.0nm,0.8s,mb4.2
MBDF Montbardon 79.08 8 *e*P **P** **10 29 46.6 +1.0**
MBDF pmax pmax
comp=Z,5.0nm,0.8s,mb4.2
MBDF Montbardon 79.08 8 *e*P **P** **10 29 46.6 +1.0**
comp=Z,5.0nm,0.8s,mb4.2
CMAR Chiang Mai Arr 79.70 288 P **P** **10 29 49.4 0.0**
comp=Z,15nm,0.7s,mb4.7,baz=16,slow=5.6,SNR=34
CMAR pP pP 10 30 36.8 +1.1
comp=Z,8.4nm,1.0s,baz=19,slow=5.6,SNR=3.7
SMRF Simiane la Rot 79.73 9 *e*P **P** **10 29 50.5 +1.3**
SBF Sospel 79.99 8 *e*P **P** **10 29 51.2 +0.6**
MTLF Montolieu 80.02 11 *e*P **P** **10 29 51.3 +0.6**
comp=Z,6.2nm,0.8s,mb4.0
MTLF Montolieu 80.02 11 *e*P **P** **10 29 51.3 +0.6**
MTLF pmax pmax
comp=Z,3.0nm,0.8s,mb4.0
MTLF Montolieu 80.02 11 *e*P **P** **10 29 51.3 +0.6**
comp=Z,3.1nm,0.8s,mb4.0
ETSF Etsaut 80.12 14 *e*P **P** **10 29 52.2 +0.9**
comp=Z,7.1nm,0.7s,mb4.1
ETSF *e*pP pP 10 30 38.2 +0.5
ETSF Etsaut 80.12 14 *e*P **P** **10 29 52.2 +0.9**
ETSF *e**PP pP 10 30 38.2 +0.5
ETSF pmax pmax
comp=Z,4.0nm,0.7s,mb4.2
ETSF Etsaut 80.12 14 *e*P **P** **10 29 52.2 +0.9**
comp=Z,3.5nm,0.7s,mb4.1
ETSF *e*pP pP 10 30 38.2 +0.5
PGF Pioggiola 81.41 7 *e*P **P** **10 29 58.2 +0.1**
ESDC Sonseca Array 82.78 17 P **P** **10 30 05.6 +0.3**
comp=Z,1.4nm,0.5s,mb3.9,baz=353,slow=4.7,SNR=7.3
EVO Evora 83.18 20 *e*P **P** **10 30 06.8 -0.5**
comp=Z,7.8nm,0.7s,mb4.3
COEN Coen 83.34 233 *e*P **P** **10 30 07.0 -1.3**
comp=Z,24nm,1.1s,mb4.8
SDV Santo Domingo 83.56 84 *e*P **P** **10 30 08.9 -0.8**
comp=Z,5.5nm,0.8s,mb4.3
BR131 Keskin Array S 83.56 348 P **P** **10 30 08.5 -0.8**
comp=Z,1.0nm,0.5s,mb3.8
OTAV Otavalo 86.31 95 *e*P **P** **10 30 22.9 -0.4**
comp=Z,3.3nm,0.8s,mb4.1
KAKA Kakadu 87.33 243 *e*P **P** **10 30 24.9 -3.2**
comp=Z,30nm,0.6s,mb5.2
CTA Charters Tower 87.46 227⇑ *i*P **P** **10 30 29.1 +0.5**
comp=Z,35nm,0.7s,mb5.2
CTA Charters Tower 87.46 227⇑ *i*P **P** **10 30 29.1 +0.5**
CTA pmax pmax
comp=Z,35nm,0.7s
CTAO Charters Tower 87.46 227 *e*P **P** **10 30 28.9 +0.3**
CTAO pmax pmax
comp=Z,79nm,1.1s,mb5.4
CTAO Charters Tower 87.46 227 *e*P **P** **10 30 28.9 +0.3**
comp=Z,79nm,1.1s,mb5.4
KAPI Kappang 87.51 257 P **P** **10 30 27.5 -1.6**
comp=Z,43nm,1.1s,mb5.2,baz=129,slow=2.0,SNR=7.0
BATI Baumata 89.73 251 P **P** **10 30 38.9 -0.5**
comp=Z,35nm,0.6s,mb5.4,baz=180,slow=3.0,SNR=4.0
MIB Mutribah 90.78 335 *e*P **P** **10 30 44.2 -0.1**
baz=335
MIB AMb AMB 10 30 45.0
comp=Z,44nm,0.9s,mb5.4,baz=335
RST Umm Al-Ruwaisa 91.15 335 *e*P **P** **10 30 45.5 -0.4**
baz=335
RST AMb AMB 10 30 46.5
comp=Z,12nm,0.9s,mb4.8,baz=335
NAY Al-Naaiem 91.33 335 *e*P **P** **10 30 46.3 -0.5**
baz=335
NAY AMb AMB 10 30 48.2
comp=Z,11nm,1.1s,mb4.7,baz=335
WRAB Tennant Creek 92.61 237 P **P** **10 30 52.0 -0.6**
comp=Z,132nm,1.0s,mb5.9,SNR=9.2
WRAB Tennant Creek 92.61 237 *e*P **P** **10 30 52.0 -0.6**
WRAB pmax pmax
comp=Z,25nm,1.0s,mb5.2
WRAB Tennant Creek 92.61 237 *e*P **P** **10 30 52.0 -0.6**
comp=Z,25nm,1.0s,mb5.2
WB2 Warramunga Arr 92.61 237 *e*P **P** **10 30 52.0 -0.6**
WRA Warramunga Arr 92.62 237 P **P** **10 30 52.0 -0.6**
comp=Z,14nm,0.9s,mb5.0,baz=37,slow=5.4,SNR=96
WRA PKiKP PKiKP 10 35 39.3 -0.7
comp=Z,0.4nm,0.5s,baz=4.9,slow=1.5,SNR=16
WRA Warramunga Arr 92.62 237 *i* P **P** **10 30 52.0 -0.6**
WRA pmax pmax
comp=Z,14nm,0.9s
FITZ Fitzroy Crossi 95.33 245⇑ *i*P **P** **10 31 04.7 -0.4**
comp=Z,18nm,0.8s,mb5.3
ASAR Alice Springs 96.02 236 P **P** **10 31 07.2 -0.9**
comp=Z,6.5nm,0.9s,mb4.8,baz=24,slow=4.1,SNR=42
ASAR PKiKP PKiKP 10 35 44.3 -1.5
comp=Z,0.4nm,0.8s,baz=59,slow=1.1,SNR=5.8
ASAR PKKPbc PKKPbc 10 47 54.0 +1.0
comp=Z,0.2nm,0.5s,baz=194,slow=2.9,SNR=4.7
STKA Stephens Creek 99.82 226 P Pdif 10 31 24.9 -0.6
comp=Z,3.2nm,1.0s,baz=80,slow=3.7,SNR=3.4
TORD Torodi Ar. Bea 109.67 17 PKiKP PKiKP 10 36 09.5 -1.5
comp=Z,1.0nm,0.6s,baz=340,slow=2.5,SNR=9.4
TORD PKKPbc PKKPbc 10 47 12.6 0.0
comp=Z,1.0nm,0.7s,baz=155,slow=2.6,SNR=7.5
DBIC Dimbokro 114.68 25 PKP PKiKP 10 36 18.5 -2.0
comp=Z,2.4nm,0.7s,baz=156,slow=3.7,SNR=3.6
DBIC Dimbokro 114.68 25 PKP PKiKP 10 36 18.5 -2.0
KMBO Kilima Mbogo 122.96 337 PKP PKPdf 10 36 37.1 +0.6
comp=Z,3.7nm,0.8s,baz=24,slow=5.0,SNR=8.9
PLCA Paso Flores 123.42 114 PKP PKPdf 10 36 36.0 -0.4
comp=Z,1.3nm,0.6s,baz=199,slow=12,SNR=3.1
PLCA Paso Flores 123.42 114 PKP PKPdf 10 36 36.0 -0.4
MIR Mirnyy 144.74 222⇑ *i*PKIKP PKPdf 10 37 14.0 -1.2
MIR pmax pmax
comp=Z,300nm,1.4s
QSPA South Pole Qui 145.91 180 PKPbc PKPbc 10 37 18.1 +0.1
comp=Z,19nm,0.5s,baz=22,slow=0.8,SNR=124
LBTB Lobatse 148.40 346 *e*PKIKP PKPdf 10 37 23.2 +0.5
LBTB *e* 10 37 26.3
BOSA Boshof 151.99 346 PKP PKPdf 10 37 27.3 -0.9
comp=Z,4.1nm,0.7s,baz=77,slow=1.3,SNR=9.1
BOSA PKPbc PKPbc 10 37 34.6 -0.3
comp=Z,22nm,0.8s,baz=7.5,slow=1.7,SNR=24
BOSA Boshof 151.99 346 *e*PKPdf PKPdf 10 37 28.4 +0.2
BOSA *e*PKPbc PKPbc 10 37 34.5 -0.4
MAW Mawson 156.47 223 PKP PKPdf 10 37 33.0 -0.2
comp=Z,1.6nm,0.8s,baz=283,slow=16,SNR=6.3
MAW PKPbc PKPdf 10 37 43.3 +10
comp=Z,2.0nm,0.5s,baz=132,slow=2.6,SNR=12
MAW PKPab PKPab 10 38 03.7 +0.6
comp=Z,6.6nm,0.8s,baz=85,slow=5.7,SNR=10
MAW Mawson 156.47 223 PKP PKPdf 10 37 33.0 -0.2
MAW *e*PKPbc PKPdf 10 37 43.2 +10
MAW *e*PKPab PKPab 10 38 03.3 +0.2
MAW PKPab PKPab 10 38 03.7 +0.6

ISCJB ***16*** *10:28:42.7±2.3, 33.1S±0.1×1786W±0.1, h34km±18km,*

mb4.7/14,MS4.0/4, Error ellipse: s-maj=17.9km s-min=15.4km az=142.5
NEIC ***16*** *10:28:44.1±3.5, 3303S×17853W, h35km±29km, mb4.9/9, Error ellipse: s-maj=26.5km s-min=18.0km az=205.0*
IDC ***16*** *10:28:45.6±1.0, 3295S×17866W, h44km±6km, mb4.2/7, mb1 4.4/8, mb1mx4.2/15, mbtmp4.2/8, ML4.5/1, MS4.0/4, Ms1 4.0/4, ms1mx3.6/21, Error ellipse: s-maj=20.2km s-min=14.7km az=146.0*

ISC 16 10:28:45.1±2.1, 330S±01×1786W±01, h43km±17km, h41km±2.5km; pP-P, n38, σ0§93/28, mb4.7/14, MS4.0/4, 1D, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera**	**6.28**	**213**	P	**Pn**	**10 30 14.2**	**-1.0**
	11nm,0.3s,baz=184,slow=0.6,SNR=43						
URZ				S	**Sn**	**10 31 26.1**	**+0.5**
	31nm,0.3s,baz=160,slow=20,SNR=9.8						
RPZ	**Rata Peaks**	**13.39**	**214**	P	**Pn**	**10 31 47.8**	**-4.7**
	1.0nm,0.3s,baz=15,slow=20,SNR=3.4						
RPZ				S	**Sn**	**10 34 07.1**	**-13**
	1.4nm,0.3s,baz=246,slow=18,SNR=4.9						
RAR	**Rarotonga**	**20.44**	**60**	LR	LR	10 39 11.8	
	comp=Z,171nm,20.1s,MS3.4,baz=147,slow=31						
TBI	**Tubuai**	**27.36**	**77**	eLR	LR	10 41 08.7	
	205nm,29.2s						
PPT	**Papeete**	**30.29**	**67**	eLR	LR	10 42 29.9	
	143nm,22.2s						
STKA	**Stephens Creek**	**33.47**	**261**	*e*P	**P**	**10 35 21.7**	**+1.4**
	4.9nm,1.1s,mb4.3						
STKA	**Stephens Creek**	**33.47**	**261**	P	**P**	**10 35 21.7**	**+1.4**
	1.9nm,0.8s,mb4.1,baz=85,slow=11,SNR=2.7						
STKA				LR	LR	10 48 39.7	
	comp=Z,498nm,19.1s,MS4.2,baz=292,slow=36						
CTA	**Charters Tower**	**33.81**	**284**	*e*P	**P**	**10 35 25.6**	**+2.3**
	8.6nm,0.5s,mb4.9						
CTAO	**Charters Tower**	**33.81**	**284**	*e*P	**P**	**10 35 25.0**	**+1.7**
	11nm,0.6s,mb5.0						
RKT	**Rikitea**	**39.50**	**87**	eLR	LR	10 46 51.9	
	226nm,24.2s						
ASAR	**Alice Springs**	**42.53**	**270**	P	**P**	**10 36 37.0**	**+0.4**
	10nm,0.7s,mb4.7,baz=109,slow=7.6,SNR=90						
ASAR				pP	pP	10 36 49.0	+0.6
	8.5nm,0.8s,baz=111,slow=7.8,SNR=7.3						
ASAR				S	**S**	**10 42 56.4**	**+0.3**
	0.5nm,0.9s,baz=116,slow=16,SNR=3.4						
WB2	**Warramunga Arr**	**43.75**	**275**	*e*P	**P**	**10 36 46.4**	**-0.1**
WRAB	**Tennant Creek**	**43.75**	**275**	*e*P	**P**	**10 36 46.8**	**+0.3**
	12nm,0.5s,mb4.9						
WRA	**Warramunga Arr**	**43.76**	**275**	P	**P**	**10 36 46.6**	**0.0**
	12nm,0.6s,mb4.8,baz=114,slow=7.9,SNR=157						
WRA				pP	pP	10 36 58.9	+0.4
	12nm,0.4s,baz=116,slow=7.6,SNR=14						
WRA				S	**S**	**10 43 13.0**	**-1.2**
	0.9nm,0.9s,baz=115,slow=14,SNR=3.3						
WRA				LR	LR	10 53 20.7	
	comp=Z,148nm,18.3s,MS3.9,baz=115,slow=34						
WRA	**Warramunga Arr**	**43.76**	**275**	P	**P**	**10 36 46.6**	**0.0**
WRA				pP	pP	10 36 58.9	+0.4
WRA				S	**S**	**10 43 13.0**	**-1.2**
WRA				LR	LR	10 53 20.7	
FORT	**Forrest**	**44.94**	**258**	*e*P	**P**	**10 36 55.6**	**-0.3**
	21nm,0.5s,mb5.2						
KAKA	**Kakadu**	**48.94**	**283**	*e*P	**P**	**10 37 25.7**	**-1.7**
	9.6nm,0.6s,mb5.0						
FITZ	**Fitzroy Crossi**	**51.90**	**272**	*e*P	**P**	**10 37 49.4**	**-0.3**
	7.7nm,0.8s,mb4.7						
KLBR	**Kellerberrin**	**53.06**	**253**	*e*P	**P**	**10 37 56.8**	**-1.3**
	26nm,1.3s,mb5.0						
MAW	**Mawson**	**69.68**	**201**	P	**P**	**10 39 52.0**	**+2.1**
	2.1nm,0.7s,mb4.2,baz=96,slow=4.6,SNR=4.2						
PVCP	**Virac**	**71.63**	**300**	⇓*i*P	**P**	**10 39 57.8**	**-4.6**
SNAA	**Sanae**	**75.55**	**179**	*e*P	**P**	**10 40 24.0**	**-0.7**
	9.9nm,1.2s,mb4.6						
VNA3	**Neumayer Olymp**	**75.72**	**176**	*e*	**P**	**10 40 25.5**	**-0.2**
VNA3				*e*	pP	10 40 35.8	-2.6
VNA3				*e*		10 40 42.2	
VNA2	**Neumayer--Watz**	**76.15**	**177**	*e*	**P**	**10 40 27.7**	**-0.4**
	baz=184,slow=2.7						
VNA2				*e*	pP	10 40 38.4	-2.4
VNA2				*e*		10 40 44.8	
VNA1	**Neumayer--Stat**	**76.38**	**177**	*e*	pP	10 40 40.1	-2.0
VNA1				*e*		10 40 46.9	
KSRS	**Korea Array**	**86.02**	**320**	P	**P**	**10 41 20.9**	**0.0**
	1.2nm,0.6s,mb4.3,baz=156,slow=6.4,SNR=4.0						
KSRS				pP	pP	10 41 33.5	-0.3
	1.8nm,0.8s,baz=116,slow=4.9,SNR=4.4						
KSRS				LR	LR	11 16 13.8	
	comp=Z,116nm,19.4s,MS4.3,baz=135,slow=33						
PETK	**Petropavlovsk-**	**88.23**	**346**	P	**P**	**10 41 30.9**	**-0.3**
	5.4nm,1.0s,mb4.7,baz=144,slow=8.4,SNR=6.2						
NVAR	**Mina Array Bea**	**90.51**	**43**	P	**P**	**10 41 42.9**	**+0.6**
	0.8nm,0.9s,mb4.1,baz=216,slow=7.2,SNR=5.2						
MKAR	**Makanchi Array**	**119.05**	**309**	PKP	PKPdf	10 47 28.1	-0.7
	0.2nm,0.2s,baz=221,slow=1.3,SNR=2.9						
ARCES	**ARCESS Array B**	**141.03**	**347**	PKhKP		10 48 05.4	
	5.0nm,1.1s,baz=63,slow=4.2,SNR=3.2						
JOF	**Joensuu**	**144.65**	**337**	*ep*	PKPdf	10 48 14.7	-1.5
	1.7nm,0.3s						
KAF	**Kangasniemi**	**146.83**	**339**	*ep*	PKPdf	10 48 20.4	+0.5
	8.9nm,0.6s						
NB2	**NORSAR Subarra**	**151.26**	**350**	PKP	PKPbc	10 48 32.6	-0.5
	comp=Z,14nm,1.2s,baz=16,slow=2.6						
NOA	**NORSAR Array B**	**151.26**	**350**	PKPbc	PKPbc	10 48 32.4	-0.7
	comp=Z,5.8nm,0.8s,baz=14,slow=4.1,SNR=12						
AKASG	**Malin Array Be**	**153.01**	**319**	PKPbc	PKPbc	10 48 37.5	+0.2
	comp=Z,0.9nm,0.5s,baz=51,slow=3.0,SNR=6.0						
CLL	**Collm**	**159.86**	**338**	*e*PKPab	PKPab	10 49 18.0	-0.2
	comp=Z,5.0nm,0.8s						
CLL				*ep*PKPab	pPKPab	10 49 29.0	-2.2
TORD	**Torodi Ar. Bea**	**160.21**	**181**	PKPab	PKPab	10 49 20.9	+0.3
	comp=Z,0.5nm,0.7s,baz=195,slow=4.4,SNR=3.0						
GERES	**GERESS Array B**	**161.71**	**333**	PKPab	PKPab	10 49 25.2	-1.2
	comp=Z,1.7nm,1.0s,baz=57,slow=4.9,SNR=5.7						

CSEM ***16*** *10:30:24.1±0.1, 3789N×2228E, h5km, MD3.1, Error ellipse: s-maj=3.2km s-min=2.1km az=114.0*
ISCJB ***16*** *10:30:25.1±0.6, 3790N±003×2229E±004, h2km±8km, Error ellipse: s-maj=5.3km s-min=4.5km az=35.0*
ATH ***16*** *10:30:25.2, 3789N×2220E, h44km±2km, MD3.1/6*
NEIC ***16*** *10:30:25.2, 3789N×2220E, h44km, MD3.1(ATH), After ATH.*
THE ***16*** *10:30:26.0, 3788N×2232E, h9km±2km, ML2.7/1, Error ellipse: s-maj=2.9km s-min=0.6km az=128.0*

ISC 16 10:30:25.6±0.5, 3790N±003×2229E±004, h12km±7km, n19, σ0§98/29, Southern Greece

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VLX	**Vlachokerasia**	**0.53**	**172**	P	**Pg**	**10 30 35.7**	**-0.3**
VLX				S	**Sg**	**10 30 43.4**	**+0.3**
LTK	**Loutraki**	**0.55**	**77**	P	**Pg**	**10 30 36.3**	**-0.2**
LTK				S	**Sg**	**10 30 43.7**	**-0.1**
RLS	**Riolos of Patr**	**0.67**	**284**	*e*P	**Pg**	**10 30 38.1**	**-0.5**
RLS				*e*S	**Sg**	**10 30 48.0**	**+0.7**
RLS	**Riolos of Patr**	**0.67**	**284**	*e*P	**Pg**	**10 30 38.1**	**-0.5**
RLS				*e*S	**Sg**	**10 30 48.0**	**+0.7**
ITM	**Ithomi**	**0.77**	**202**	*e*P	**Pg**	**10 30 40.2**	**-0.4**
ITM	**Ithomi**	**0.77**	**202**	*e*P	**Pg**	**10 30 40.2**	**-0.4**
DID	**Didima**	**0.85**	**117**	P	**Pg**	**10 30 41.5**	**-0.6**
DID				S	**Sg**	**10 30 53.5**	**+0.3**
LKR	**Lokris**	**0.94**	**37**	P	**Pg**	**10 30 43.5**	**-0.3**
LKR				S	**Sg**	**10 30 58.0**	**+2.0**
LKR	**Lokris**	**0.94**	**37**	*e*P	**Pg**	**10 30 43.8**	**0.0**
LKR				*e*S	**Sg**	**10 30 57.2**	**+1.2**
LKR	**Lokris**	**0.94**	**37**	*e*P	**Pg**	**10 30 43.8**	**0.0**
LKR				*e*S	**Sg**	**10 30 57.2**	**+1.2**
EVR	**Evrytania**	**1.08**	**340**	*e*P	**Pb**	**10 30 44.9**	**-1.4**
EVR	**Evrytania**	**1.08**	**340**	*e*P	**Pb**	**10 30 44.9**	**-1.4**
PYL	**PYLOS**	**1.09**	**204**	P	**Pb**	**10 30 45.6**	**-0.8**
PYL				S	**Sb**	**10 31 02.9**	**+2.4**
AGG	**Agios Georgios**	**1.12**	**2**	P	**Pb**	**10 30 46.8**	**-0.2**
AGG				S	**Sb**	**10 31 04.0**	**+2.5**
KFL	**Anninata**	**1.20**	**281**	P	**Pn**	**10 30 48.5**	**+0.3**
NEO	**Neokhori**	**1.59**	**27**	*e*P	**Pn**	**10 30 53.0**	**-0.5**
NEO	**Neokhori**	**1.59**	**27**	*e*P	**Pn**	**10 30 53.0**	**-0.5**
THL	**Klokotos Trika**	**1.68**	**353**	*e*P	**Pn**	**10 30 53.1**	**-1.7**
THL	**Klokotos Trika**	**1.68**	**353**	*e*P	**Pn**	**10 30 53.1**	**-1.7**

IDC 16 10:31:24.6±3.4, 3311S×17808W, h0km, mb4.5/2, mb1 4.6/3, mb1mx4.1/15, mbtmp4.4/3, Error ellipse: s-maj=75.3km s-min=40.1km az=113.0, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera**	**6.46**	**216**	Pn	Pn	10 33 00.3	-0.7
	baz=48,slow=16,SNR=3.5						
URZ				Sn	Sn	10 34 14.7	-0.6
	6.2nm,0.3s,baz=156,slow=20,SNR=9.2						
ASAR	**Alice Springs**	**42.96**	**270**	P	P	10 39 26.1	+0.5
	3.6nm,0.7s,baz=112,slow=8.5,SNR=7.5						
ASAR				pP		10 39 37.6	
	3.0nm,0.8s,baz=116,slow=7.7,SNR=5.0						
WRA	**Warramunga Arr**	**44.20**	**275**	P	P	10 39 35.4	-0.1
	5.0nm,0.5s,baz=114,slow=7.7,SNR=16						
WRA				pP		10 39 47.2	
	3.5nm,0.6s,baz=113,slow=7.9,SNR=6.8						
MKAR	**Makanchi Array**	**119.44**	**309**	PKP	PKPdf	10 50 15.4	-0.2
	0.2nm,0.2s,baz=90,slow=2.4,SNR=3.7						

ISCJB ***16*** *10:58:46.9±1.1, 2989N±004×3629E±006, h0km, Error ellipse: s-maj=7.0km s-min=6.2km az=179.8*
CSEM ***16*** *10:58:46.7, 3014N×3626E, h6km, ML2.6, After SNSN*
SGS ***16*** *10:58:46.7, 3014N×3626E, h6km*
GII ***16*** *10:58:48.4±1.0, 2994N×3615E, h0km, ML2.2/3, EXPLOSION*

ISC 16 10:58:46.8±1.1, 2987N±004×3634E±006, h0km, n12, σ0§70/20, Western Arabian Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HRFI	**Mount Harif**	**1.14**	**279**	Pg	**Pg**	**10 59 08.3**	**-0.4**
HRFI				Sg	**Sg**	**10 59 23.4**	**-0.1**
ZFRI	**Zfri**	**1.22**	**304**	Pg	**Pg**	**10 59 09.3**	**-0.8**
ZFRI				Sg	**Sg**	**10 59 25.1**	**-0.8**
EIL	**Elat**	**1.23**	**261**	Pg	**Pg**	**10 59 10.5**	**+0.2**
EIL				Sg	**Sg**	**10 59 27.4**	**+1.2**
MBRI	**Mt Berech**	**1.24**	**267**	Pg	**Pg**	**10 59 10.2**	**-0.4**
MBRI				Sg	**Sg**	**10 59 27.8**	**+1.1**
HQLS		**1.25**	**243**	P	**Pg**	**10 59 09.9**	**-0.9**
HQLS		**1.25**	**243**	P	**Pg**	**10 59 09.9**	**-0.9**
HQLS				S	**Sg**	**10 59 27.4**	**+0.4**
PRNI	**Paran**	**1.25**	**293**	Pg	**Pg**	**10 59 10.0**	**-0.9**
PRNI				Sg	**Sg**	**10 59 27.1**	**-0.1**
JLOS		**1.35**	**213**	P	**Pg**	**10 59 12.8**	**0.0**
KRMI	**Paran Flat**	**1.42**	**280**	Pg	**Pg**	**10 59 13.2**	**-0.9**
KRMI				Sg	**Sg**	**10 59 32.5**	**-0.1**
MZDA	**Masada**	**1.66**	**330**	Pn	**Pn**	**10 59 17.8**	**+0.5**
MZDA				Sn	**Sn**	**10 59 40.2**	**+0.9**
BDAS	**Al Bad'**	**1.80**	**217**	P	**Pn**	**10 59 19.0**	**-0.1**
DSI	**Dead Sea**	**1.89**	**334**	Pn	**Pn**	**10 59 21.6**	**+1.3**

IDC 16 10:58:48.8±2.8, 166S×10000E, h0km, mb3.7/7, mb1 3.8/7, mb1mx3.7/20, mbtmp3.7/7, Error ellipse: s-maj=120.0km s-min=19.1km az=56.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**20.02**	**357**	P	P	11 03 23.0	-0.3
	0.4nm,0.4s,baz=190,slow=10,SNR=3.7						
WRA	**Warramunga Arr**	**38.16**	**121**	P	P	11 06 10.0	-0.3
	0.2nm,0.3s,baz=303,slow=9.0,SNR=8.7						
ASAR	**Alice Springs**	**39.45**	**126**	P	P	11 06 21.2	+0.2
	0.2nm,0.5s,baz=287,slow=7.4,SNR=2.9						
SONM	**Songino Array**	**49.61**	**6**	P	P	11 07 42.3	+0.4
	0.5nm,0.6s,baz=185,slow=8.7,SNR=2.8						
MKAR	**Makanchi Array**	**50.71**	**344**	P	P	11 07 50.7	+0.5
	1.2nm,0.5s,baz=151,slow=8.1,SNR=8.9						
KURK	**Kurchatov**	**55.29**	**344**	P	P	11 08 23.1	-0.8
	0.7nm,0.5s,baz=160,slow=7.2,SNR=2.6						
ZALV	**Zalesovo Beam**	**56.84**	**349**	P	P	11 08 34.7	-0.2
	1.0nm,0.3s,baz=180,slow=7.0,SNR=8.9						

KNET ***16*** *11:00:52.1±0.5, 4170N×7386E, h12km±1km, ml2.8, Error ellipse: s-maj=2.6km s-min=1.7km az=173.0*

ISC 16 11:00:50.2±1.4, 4161N±007×7369E±005, h10km, n10, σ0§96/19, 10C-8D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AML	**Almayashu**	**0.52**	**0**	⇓P	**Pg**	**11 01 01.3**	**+0.9**
	130nm,0.2s,SNR=414						
AML				⇓S	**Sg**	**11 01 09.2**	**+1.9**
	4µm,0.6s						
UCH	**Uchtor**	**0.87**	**44**	P	**Pg**	**11 01 06.0**	**-1.0**
	53nm,0.1s,SNR=464						
UCH				⇑S	**Sg**	**11 01 17.5**	**-0.8**
	190nm,0.2s						
EKS2	**Erkin-Say**	**1.05**	**3**	⇓P	**Pg**	**11 01 10.6**	**+0.1**
	15nm,0.1s,SNR=42						
EKS2				⇓S	**Sg**	**11 01 24.5**	**+0.3**
	73nm,0.3s						
AAK	**Ala-Archa**	**1.19**	**30**	⇑P	**Pb**	**11 01 12.2**	**-0.5**
	28nm,0.1s,SNR=56						
AAK				⇓S	**Sb**	**11 01 27.9**	**-0.3**
	184nm,0.2s						
KBK	**Karagaybulak**	**1.40**	**41**	⇑P	**Pn**	**11 01 15.7**	**-0.1**
	38nm,0.1s,SNR=38						
KBK				⇑S	**Sn**	**11 01 34.4**	**0.0**
	194nm,0.4s						
CHMS	**Chumysh**	**1.59**	**29**	⇑P	**Pn**	**11 01 19.5**	**+1.0**
	19nm,0.2s,SNR=11						
CHMS				⇑S	**Sg**	**11 01 40.5**	**-1.1**
	88nm,0.2s						
USP	**Ospenovka**	**1.76**	**20**	⇑P	**Pg**	**11 01 22.9**	**-1.1**
	32nm,0.2s,SNR=21						
USP				⇑S	**Sg**	**11 01 46.2**	**-0.7**
	71nm,0.2s						
TKM2	**Tokmak 2**	**1.93**	**47**	⇑P	**Pn**	**11 01 24.6**	**+1.5**
	13nm,0.3s,baz=118,slow=29						
TKM2				⇓S	**Sn**	**11 01 48.8**	**+1.5**
	34nm,0.4s,baz=118,slow=29						
TKM2	**Tokmak 2**	**1.93**	**47**	⇑P	**Pn**	**11 01 24.7**	**+1.7**
	40nm,0.2s,SNR=105						
KK31	**Karatay Array**	**2.79**	**303**	⇓Pn	**Pg**	**11 01 42.3**	**-1.4**
	0.1nm,0.1s,baz=119,slow=18,SNR=216						
KK31				⇓Sn	**Sg**	**11 02 19.8**	**-0.1**
	53nm,0.5s,baz=118,slow=29,SNR=16						

IDC ***16*** *11:14:51.8±1.1, 3453N×7311E, h0km, mb3.7/5, mb1 3.8/9, mb1mx3.6/25, mbtmp3.6/9, ML3.7/3, Error ellipse: s-maj=30.0km s-min=19.7km az=60.0*
NDI ***16*** *11:14:54.0±3.0, 3496N×7300E, h33km, ML3.6*
ISCJB ***16*** *11:14:56.6±0.5, 3461N±004×7335E±005, h61km±10km, mb3.6/4, Error ellipse: s-maj=8.4km s-min=4.6km az=148.1*
NEIC ***16*** *11:14:58.2±0.7, 3461N×7334E, h51km±9km, Error ellipse: s-maj=11.1km s-min=5.8km az=55.0*
NNC ***16*** *11:15:04.6±5.0, 3550N×7265E, h0km, mb3.6, mpv3.6, Error ellipse: s-maj=50.1km s-min=39.4km az=87.0*

ISC 16 11:14:58.1±0.4, 3464N±003×7330E±005, h53km±9km, n41, σ1§26/44, mb3.6/4, 5C-4D, Pakistan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CHCP	**Chirah Chowk**	**0.98**	**182**	⇓P	**Pn**	**11 15 14.5**	**-1.1**
CEP	**Cherat**	**1.41**	**235**	⇓P	**Pn**	**11 15 19.5**	**-2.0**
CEP				S	**Sn**	**11 15 39.0**	**+0.1**
PONG	**Pong**	**3.47**	**140**	*ex*	x	11 16 50.0	
KBL	**Kabul**	**3.52**	**270**	*e*P	**Pn**	**11 15 51.0**	**+0.8**
SDNR	**Sundarnagar**	**4.39**	**134**	*e*P	**Pn**	**11 16 04.0**	**+1.8**
SDNR				*ex*	x	11 17 15.0	
SMLA	**Simla**	**4.78**	**136**	⇑*i*P	**Pn**	**11 16 09.9**	**+2.4**
SMLA				*i* x	x	11 17 25.1	
SMLA				*ex*	x	11 17 31.7	
	comp=E,804nm,0.3s						
SMLA				*ex*	x	11 17 32.3	
	comp=N,886nm,0.2s						
DDI	**Dehra Dun**	**5.88**	**136**	*ex*	x	11 16 38.1	
JOSI	**Joshimath**	**6.66**	**126**	*e*P	**Pn**	**11 16 35.6**	**+2.2**
NDI	**New Delhi**	**6.81**	**150**	*e*P	**Pn**	**11 16 36.0**	**+0.6**
NDI				*ex*	x	11 18 34.0	
KHET	**Khetri**	**6.88**	**161**	*e*P	**Pn**	**11 16 37.2**	**+0.7**
KHET				*e*S	**Sn**	**11 17 52.4**	**-1.0**
KHET				AML	AML	11 18 28.5	
	comp=N,12nm,0.1s						
KALG	**Kalgarh**	**6.89**	**136**	*ex*	x	11 16 32.9	
KALG				*e*S	**Sn**	**11 17 52.1**	**-1.5**
KALG				AML	AML	11 17 55.0	
	comp=E,17nm,0.2s						
AYAN	**Aya Nagar**	**6.95**	**151**	*ex*	x	11 14 44.4	
KUDL	**Kundal**	**7.02**	**156**	*e*P	**Pn**	**11 16 38.5**	**+0.2**
KUDL				*e*S	**Sn**	**11 17 58.0**	**+1.3**
KUDL				AML	AML	11 18 44.8	
	comp=N,5.7nm,0.1s						
SONA	**Sohna**	**7.14**	**152**	*e*P	**Pn**	**11 16 40.5**	**+0.6**
AML	**Almayashu**	**7.49**	**2**	*e*P	**Pn**	**11 16 46.0**	**+1.3**
UCH	**Uchtor**	**7.64**	**7**	*e*P	**Pn**	**11 16 48.4**	**+1.7**
EKS2	**Erkin-Say**	**8.02**	**3**	*e*P	**Pn**	**11 16 53.5**	**+1.5**
	comp=N,2.7nm,0.8s						
TKM2	**Tokmak 2**	**8.46**	**12**	⇑Pn	**Pn**	**11 17 00.4**	**+2.3**
	comp=N,2.7nm,0.9s						
TKM2				⇑Sn	**Sn**	**11 18 30.2**	**-1.9**
	comp=N,3.6nm,0.6s						
KK31	**Karatay Array**	**8.73**	**346**	Pn	**Pn**	**11 17 01.6**	**-0.1**
	comp=N,1.3nm,0.3s,baz=158,slow=12,SNR=36						
KK31				⇑Sn	**Sn**	**11 18 34.1**	**-4.5**
	comp=N,1.5nm,0.4s,baz=163,slow=22,SNR=5.2						
DANN	**Dangsing**	**10.90**	**122**	*e*P	**Pn**	**11 17 31.9**	**+0.5**
	comp=N,15nm,0.2s						
GKN	**Gorkha**	**11.73**	**121**	*e*P	**Pn**	**11 17 42.6**	**-0.1**
	comp=N,21nm,0.3s						
DMN	**Daman**	**12.29**	**122**	*e*P	**Pn**	**11 17 49.5**	**-1.0**
	comp=N,8.2nm,0.2s						
KKN	**Kakani**	**12.31**	**120**	*e*P	**Pn**	**11 17 50.2**	**-0.5**
	comp=N,6.2nm,0.2s						
PKI	**Pulchoki**	**12.53**	**121**	*e*P	**Pn**	**11 17 52.7**	**-1.0**
	comp=N,8.3nm,0.2s						
GUN	**Gumba**	**12.67**	**119**	*e*P	**Pn**	**11 17 55.1**	**-0.5**
	comp=N,7.1nm,0.2s						
JIRN	**Jiri**	**13.04**	**119**	*e*P	**Pn**	**11 17 59.2**	**-1.4**
	comp=N,19nm,0.3s						
RAMN	**Ramite**	**13.75**	**120**	*e*P	**Pn**	**11 18 08.2**	**-2.1**
	comp=N,20nm,0.5s						
MKAR	**Makanchi Array**	**13.91**	**27**	Pn	**Pn**	**11 18 12.9**	**+0.5**
	baz=187,slow=11,SNR=1.7						
ODAN	**Odare**	**14.37**	**119**	*e*P	**Pn**	**11 18 15.4**	**-3.2**
KURK	**Kurchatov**	**16.53**	**12**	Pn	**Pn**	**11 18 44.8**	**-1.4**
	comp=N,0.1nm,0.3s,baz=196,slow=11,SNR=3.4						
AB31	**Akbulak array**	**17.63**	**330**	⇑Pn	**Pn**	**11 18 59.4**	**-0.4**
	comp=N,0.5nm,0.5s,baz=143,slow=11,SNR=10						
AB31				⇓Sn	**Sn**	**11 22 04.3**	**-11**
	comp=N,0.8nm,0.8s						
BVAR	**Borovoye Array**	**18.50**	**354**	P	**Pn**	**11 19 10.6**	**+0.2**
	comp=N,0.3nm,0.3s,baz=163,slow=11,SNR=4.2						
AKTK	**Aktyubinsk**	**19.33**	**329**	P	**Pn**	**11 19 19.2**	**-1.2**
AKTO	**Aktyubinsk**	**19.33**	**329**	⇓Pn	**Pn**	**11 19 18.6**	**-1.8**
	comp=N,0.6nm,1.0s						
AKTO	**Aktyubinsk**	**19.33**	**329**	P	**Pn**	**11 19 19.2**	**-1.2**
	comp=N,0.4nm,0.3s,baz=114,slow=15,SNR=5.0						
ZAA0	**Zalesovo Array**	**20.94**	**19**	*e*P	**P**	**11 19 35.1**	**-1.2**
ZALV	**Zalesovo Beam**	**20.94**	**19**	P	**P**	**11 19 35.8**	**-0.5**
	comp=N,1.7nm,0.5s,baz=211,slow=9.7,SNR=7.0						
CMAR	**Chiang Mai Arr**	**27.91**	**119**	P	**P**	**11 20 45.2**	**+1.9**
	comp=N,1.4nm,0.8s,mb3.6,baz=307,slow=11,SNR=12						
ARCES	**ARCESS Array B**	**43.58**	**338**	P	**P**	**11 22 57.5**	**+1.0**
	comp=N,1.3nm,0.5s,mb3.9,baz=106,slow=8.9,SNR=6.6						
TORD	**Torodi Ar. Bea**	**67.59**	**271**	P	**P**	**11 25 49.4**	**-0.1**
	comp=N,0.2nm,0.4s,mb3.5,baz=50,slow=5.5,SNR=4.6						
WRA	**Warramunga Arr**	**79.41**	**123**	P	**P**	**11 27 00.2**	**+1.4**
	comp=N,0.1nm,0.3s,mb3.2,baz=323,slow=4.8,SNR=14						

ATH ***16*** *11:21:02.8, 3797N×2372E, h21km, MD2.9/5, ML2.8*
NEIC ***16*** *11:21:02.8, 3797N×2372E, h21km, ML2.8(ATH), After ATH.*
ISCJB ***16*** *11:21:03.7±1.0, 3801N±004×2379E±005, h8km±8km, Error ellipse: s-maj=6.5km s-min=5.6km az=145.5*
CSEM ***16*** *11:21:03.7±0.2, 3799N×2367E, h12km, ML2.8, Error ellipse: s-maj=5.0km s-min=3.6km az=40.0*
THE ***16*** *11:21:03.9, 3803N×2379E, h0km±2km, ML2.5/1, Error ellipse: s-maj=2.4km s-min=1.0km az=271.0*

ISC 16 11:21:04.3±0.6, 3803N±004×2379E±005, h10km±4km, n17, σ1§01/33, Greece

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PTL	**Penteli**	**0.06**	**68**	*e*Pb	**Pg**	**11 21 07.0**	**+0.5**
PTL	**Penteli**	**0.06**	**68**	*e*PB	**Pg**	**11 21 07.0**	**+0.5**
ATH	**Athens Observa**	**0.08**	**228**	*e*Pb	**Pg**	**11 21 06.2**	**-0.5**
ATH				*e*Sb	**Sg**	**11 21 08.7**	**+0.3**
ATH	**Athens Observa**	**0.08**	**228**	*e*PB	**Pg**	**11 21 06.2**	**-0.5**
ATH				*e*SB	**Sg**	**11 21 08.7**	**+0.3**
LTK	**Loutraki**	**0.65**	**270**	P	**Pg**	**11 21 16.1**	**-0.8**
LTK				S	**Sg**	**11 21 26.5**	**+1.0**
DID	**Didima**	**0.68**	**220**	P	**Pg**	**11 21 16.2**	**-1.3**
DID				S	**Sg**	**11 21 26.9**	**+0.6**
LKR	**Lokris**	**0.88**	**315**	*e*Pn	**Pn**	**11 21 19.9**	**-2.8**
LKR

IBAV				*e*S		**Sn**	**11 59 49.4**	**-0.6**
SVB	**Belmont**	**2.74**	**24**	*e*P		**Pn**	**11 59 28.1**	**+1.2**
SVB				*e*S		**Sn**	**11 59 58.1**	**-0.9**
RIOV	**Rio Grande**	**2.74**	**168**	*e*P		**Pn**	**11 59 26.9**	**-0.1**
RIOV				*e*S		**Sn**	**11 59 57.4**	**-1.8**
PRGV	**PARIAGUAN**	**2.97**	**228**	⇓*e*P		**Pn**	**11 59 30.2**	**+0.1**
PRGV				*e*S		**Sn**	**12 00 04.2**	**-0.5**
GURV	**El Guri**	**3.06**	**193**	⇓*i*P		**Pn**	**11 59 30.6**	**-0.8**
GURV				*e*S		**Sn**	**12 00 03.9**	**-3.0**
CUPV	**Cœpira**	**3.40**	**258**	*e*P		**Pn**	**11 59 37.3**	**+1.5**
CUPV				*e*S		**Sn**	**12 00 14.1**	**-0.9**
SLW	**Petit Monier**	**3.54**	**24**	*e*P		**Pn**	**11 59 38.5**	**+0.6**
SLW	**Petit Monier**	**3.54**	**24**	*e*S		**Sn**	**12 00 18.1**	**-0.5**
BIRV	**Birongo**	**3.80**	**266**	*e*P		**Pn**	**11 59 43.0**	**+1.6**
ORCV	**Isla La Orchil**	**3.85**	**286**	*e*P		**Pn**	**11 59 42.6**	**+0.5**
ORCV				*e*S		**Sn**	**12 00 25.1**	**-1.1**
BIM	**Bigot**	**3.95**	**19**	⇓*e*P		**Pn**	**11 59 43.9**	**+0.4**
BIM	**Bigot**	**3.95**	**19**	⇓*e*S		**Sn**	**12 00 26.6**	**-2.0**
MERV	**Las Mercedes**	**4.11**	**249**	*e*P		**Pn**	**11 59 45.9**	**+0.3**
FDF	**Fort de France**	**4.13**	**17**	*e*P		**Pn**	**11 59 45.4**	**-0.5**
FUNV	**FUNVISIS**	**4.33**	**266**	*e*P		**Pn**	**11 59 50.3**	**+1.6**
LUEV	**Luepa**	**4.98**	**169**	*e*P		**Pn**	**11 59 55.7**	**-1.9**
LUEV				*e*S		**Sn**	**12 00 48.6**	**-5.2**
TBG	**Guadaloupe-3**	**5.11**	**8**	*e*P		**Pn**	**12 00 00.3**	**+1.0**
CAOV	**Caicara del Or**	**5.16**	**229**	*e*P		**Pn**	**11 59 59.2**	**-0.8**
MGG	**Marie-Galante**	**5.23**	**12**	*e*P		**Pn**	**12 00 01.5**	**+0.5**
DOG	**Dongo Capester**	**5.29**	**8**	*e*P		**Pn**	**12 00 01.9**	**+0.1**
TURV	**Turiamo**	**5.34**	**267**	*e*P		**Pn**	**12 00 03.0**	**+0.4**
LZG	**Guadaloupe-1**	**5.38**	**7**	*e*P		**Pn**	**12 00 03.6**	**+0.6**
BAUV	**El Baul**	**5.83**	**252**	*e*P		**Pn**	**12 00 08.6**	**-0.6**
JACV	**Jacura**	**6.31**	**274**	*e*P		**Pn**	**12 00 16.3**	**+0.6**
SKI	**Saint Kitts**	**6.54**	**357**	*e*P		**Pn**	**12 00 19.9**	**+1.1**
TEPV	**Terepaima**	**6.72**	**264**	*e*P		**Pn**	**12 00 21.1**	**-0.2**
SANV	**Sanarito**	**7.12**	**260**	⇓*i*P		**Pn**	**12 00 27.0**	**+0.1**
SIQV	**Siquisique**	**7.27**	**270**	*e*P		**Pn**	**12 00 29.3**	**+0.5**
CURV	**Curarigua**	**7.46**	**265**	*e*P		**Pn**	**12 00 31.5**	**0.0**
ELOV	**Elorza**	**7.92**	**242**	*e*P		**Pn**	**12 00 37.2**	**-0.6**
SDV	**Santo Domingo**	**8.31**	**258**	*e*P		**Pn**	**12 00 41.8**	**-1.3**
	12nm,0.3s							
SOCV	**Socops**	**8.69**	**254**	*e*P		**Pn**	**12 00 47.0**	**-1.2**
VIGV	**El Vigia**	**9.03**	**259**	*e*P		**Pn**	**12 00 52.4**	**-0.4**
VIRV	**Villa del Rosa**	**9.83**	**269**	*e*P		**Pn**	**12 01 02.9**	**-0.9**
CAPV	**Capacho**	**10.19**	**254**	*e*P		**Pn**	**12 01 07.5**	**-1.2**

NIED **16** *12:04:00,20.10N×12170E,h38km,Mw4.8 Best double couple: M0 1.55000×10^16 NP1:ϕs195.00000°,δ73.00000°, λ116.00000°. NP2:ϕs316.00000°,δ31.00000°,λ35.00000°.*

MAN **16** *12:04:14,2073N×121.19E,h38km,mb5.6,ML4.6,MS4.9*

IDC **16** *12:04:20.1±0.5, 1984N×12135E,h0km,mb4.3/22, mb1 4.4/24,mb1mx4.4/29,mbtmp4.3/24,ML4.4/2,MS4.2/20, Ms1 4.2/20,ms1mx3.9/32,Error ellipse: s-maj=17.6km s-min=10.5km az=79.0*

MOS **16** *12:04:21.2±1.1, 1987N×12143E,h17km,mb5.0/23, MS4.4/16,Error ellipse: s-maj=12.8km s-min=7.4km az=112.9*

BJI **16** *12:04:22.4, 1993N×12120E,h15km,mB4.9,mb4.6,ML4.2, Ms4.5,Msz4.5*

ISCJB **16** *12:04:23.6±0.2, 1996N±002×12151E±003,h30km, mb4.5/52,MS4.3/33,Error ellipse: s-maj=3.8km s-min=2.4km az=13.7*

GCMT **16** *12:04:24.4±0.3,2002N×121.12E,h30km,MW5.0/64, Moment Tensor Solution. s37,c46; s64,c104; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr3.21±.16; Mθθ0.26±.10; Mϕϕ-3.47±.12; Mrθ-1.59±.14; Mθϕ-1.21±.07; Mϕr-2.25±.15; Best double couple: M0 4.48500×10^16 NP1:ϕs2.00000°,δ28.00000°,λ65.00000°. NP2: ϕs209.00000°,δ64.00000°,λ103.00000°. Principal axes: T 4.2660, Plg68.0000°, Azm143.0000°; N 0.4360, Plg11.0000°, Azm24.0000°; P -4.7050, Plg19.0000°, Azm290.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

NEIC **16** *12:04:24.4±2.1, 1983N×12142E,h28km±15km,mb4.9/15 Error ellipse: s-maj=7.9km s-min=4.9km az=78.0*

JMA **16** *12:04:24.0±0.4, 2013N×12168E,h0km,M5.0*

DJA **16** *12:04:44, 1963N×12068E,h174km,mb4.6/8*

ISC 16 12:04:25.8±0.2,**1998N**±002×**12139E**±003,**h31**km, **h31**km±2.5km:**pP-P,n166,**σ1s**26**/177,**mb4.5**/52,**MS4.3**/33, **12C-3D,Philippine Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID		Time h m s	Res ISC
				Op		ISC		
PIP	**Pasuquin**	**1.80**	**204**	⇑*i*P		**Pn**	**12 04 52.2**	**-2.4**
SGCP	**Mt. Cagua**	**1.84**	**160**	*e*P		**Pn**	**12 04 54.8**	**-0.4**
SGCP				*e*S		**Sn**	**12 05 21.0**	**+3.6**
SIPP	**Brgy, Tapao**	**2.23**	**203**	⇑*i*P		**Pn**	**12 04 57.2**	**-3.3**
SIPP				*e*S		**Sn**	**12 05 17.8**	**-9.2**
ABRA	**Dolores**	**2.41**	**196**	*e*P		**Pn**	**12 05 02.4**	**-0.6**
ABRA				*e*S		**Sb**	**12 05 42.6**	**+4.9**
CAUP	**Cauayan**	**3.05**	**172**	*e*P		**Pn**	**12 05 13.9**	**+2.0**
CAUP				*e*S		**Sb**	**12 05 57.3**	**+1.1**
PALP	**Palanan**	**3.06**	**161**	*e*P		**Pn**	**12 05 12.7**	**+0.7**
PALP				*e*S		**Sb**	**12 05 58.2**	**+1.5**
PALP	**Palanan**	**3.06**	**161**	⇑*e*P		**Pn**	**12 05 13.1**	**+1.0**
PALP				*e*S		**Sn**	**12 05 55.2**	**+7.6**
BOLP	**Bolinao**	**3.85**	**202**	*e*P		**Pn**	**12 05 21.2**	**-1.6**
BOLP				*e*S		**Sn**	**12 06 09.7**	**+2.8**
NACB	**Ninganchiao**	**4.18**	**3**	*e*Pn		**Pn**	**12 05 27.3**	**-0.1**
BALP	**Baler**	**4.22**	**178**	*e*P		**Pn**	**12 05 28.7**	**+0.7**
BALP				*e*S		**Sn**	**12 06 17.1**	**+0.9**
PCPH	**Palayan**	**4.40**	**184**	⇑*e*P		**Pn**	**12 05 31.2**	**+0.7**
SCZP	**Santa Cruz**	**4.41**	**199**	*e*P		**Pn**	**12 05 31.2**	**+0.6**
HATJ	**Hateruma jima**	**4.63**	**28**	P		**Pn**	**12 05 33.5**	**-0.2**
HATJ				S		**Sn**	**12 06 25.7**	**-0.7**
YHNB	**Yeheng**	**4.67**	**360**	*e*P		**Pn**	**12 05 34.5**	**+0.4**
YOJ	**Yonaguni jima**	**4.71**	**18**	P		**Pn**	**12 05 35.6**	**+1.0**
YOJ				*e*S		**Sn**	**12 06 27.7**	**-0.5**
IRIF	**Iriomote-Funau**	**4.84**	**26**	P		**Pn**	**12 05 36.6**	**0.0**
IRIF				S		**Sn**	**12 06 31.1**	**-0.5**
JKRS	**Kuro-shima**	**4.88**	**29**	P		**Pn**	**12 05 36.9**	**-0.2**
JKRS				*e*S		**Sn**	**12 06 31.8**	**-0.7**
TATO	**Taipei**	**4.97**	**1**	*e*P		**Pn**	**12 05 40.8**	**+2.5**
JIJ	**Ishigaki jima**	**5.05**	**30**	P		**Pn**	**12 05 38.8**	**-0.6**
JIJ				*e*S		**Sn**	**12 06 35.8**	**-0.9**
POLP	**Polilio Island**	**5.25**	**174**	*e*P		**Pn**	**12 05 43.6**	**+1.5**
JTJ	**Tarama**	**5.56**	**33**	P		**Pn**	**12 05 46.4**	**0.0**
JTJ				S		**Sn**	**12 06 48.7**	**-0.5**
QZH	**Quanzhou**	**5.58**	**333**	P		**Pn**	**12 05 44.3**	**-2.3**
QZH				S		**Sn**	**12 06 42.0**	**-7.6**
QZH				Smax				
	comp=N,170nm,1.1s							
QZH				Smax				
	comp=E,190nm,0.7s							
QZH				LR		LR		
	comp=N,4μm,13.5s							
QZH				LR		LR		
	comp=E,3μm,11.9s							
QZH				LR		LR		
	comp=Z,6μm,15.8s							
JOGS	**Gusukube**	**6.04**	**37**	P		**Pn**	**12 05 54.0**	**+1.1**
GQP	**Guinayangan**	**6.13**	**170**	⇑*e*P		**Pn**	**12 05 55.1**	**+1.0**
LUBP	**Lubang**	**6.31**	**190**	*e*P		**Pn**	**12 05 57.6**	**+0.9**
SJMP	**San Jose**	**7.48**	**182**	*e*P		**Pn**	**12 06 14.7**	**+1.8**
JKE	**Kume jima 2**	**8.03**	**37**	P		**Pn**	**12 06 21.9**	**+1.6**
GZH	**Guangzhou**	**8.10**	**294**	P		**Pn**	**12 06 16.8**	**-4.5**
GZH				Smax				
	comp=N,85nm,0.6s							
GZH				Smax				
	comp=E,88nm,1.0s							
GZH				LR		LR		
	comp=N,1μm,17.0s							
GZH				LR		LR		
	comp=E,3μm,14.4s							
JOW	**Kunigami**	**9.30**	**42**	Pn		**Pn**	**12 06 37.2**	**-0.4**
	comp=E,9.1nm,0.3s,baz=206,slow=14,SNR=23							
JOW				LR		LR	12 10 27.5	
	comp=E,1μm,21.3s,baz=280,slow=39							
JOW	**Kunigami**	**9.30**	**42**	P		**Pn**	**12 06 38.1**	**+0.4**
JTK	**Tokunoshima**	**10.40**	**40**	P		**Pn**	**12 06 52.8**	**0.0**
QIZ	**Qiongzhong**	**10.93**	**267**	P		**Pn**	**12 06 57.4**	**-2.7**
QIZ				S		**Sn**	**12 09 07.3**	**+5.9**
QIZ				LR		LR		
	comp=E,2μm,14.2s							
QIZ				LR		LR		
	comp=Z,2μm,14.8s							
SSE	**Sheshan**	**11.07**	**359**	P		**Pn**	**12 07 06.5**	**+4.6**
SSE				XP			12 07 14.5	
SSE				S		**Sn**	**12 09 13.9**	**+9.2**
SSE						AMB	AMB	
	comp=Z,29nm,0.7s							
SSE						AMB	AMB	
	comp=Z,49nm,5.0s							
SSE						LR	LR	
	comp=N,473nm,13.9s							
SSE						LR	LR	
	comp=E,742nm,13.9s							
SSE						LR	LR	
	comp=Z,603nm,15.7s							
JAM	**Amami Oshima**	**11.25**	**40**	P		**Pn**	**12 07 03.9**	**-0.5**
NJ2	**Nanjing**	**12.23**	**350**	*e*P		**Pn**	**12 07 22.3**	**+4.4**
NJ2						AP	12 07 26.3	
NJ2						XP	12 07 28.9	
NJ2						PP	12 07 31.6	
NJ2						S	**Sn**	**12 09 40.0**	**+6.8**
NJ2						XS	12 09 47.0	
NJ2						AMB	AMB	
	comp=Z,20nm,0.9s							
NJ2						AMB	AMB	
	comp=Z,1μm,3.6s							
NJ2						LR	LR	
	comp=N,550nm,19.9s							
NJ2						LR	LR	
	comp=E,740nm,17.3s							
NJ2						LR	LR	
	comp=E,11μm,14.3s							
WHN	**Wuhan**	**12.29**	**330**	⇑P		**Pn**	**12 07 21.8**	**+3.1**
WHN						LR	LR	
	comp=N,4μm,15.0s							
WHN						LR	LR	
	comp=E,4μm,18.9s							
WHN						LR	LR	
	comp=Z,5μm,17.4s							
DAV	**Davao City (W)**	**13.46**	**162**			LR	LR	12 13 13.6
	comp=Z,2μm,20.7s,baz=346,slow=40							
KKM	**Kota Kinabalu**	**14.74**	**201**	*e*P		**Pn**	**12 07 52.2**	**+0.1**
GYA	**Guiyang**	**14.99**	**298**	⇑*i*P		**Pn**	**12 07 56.8**	**+1.4**
GYA						AP	pP	12 08 01.6	-7.3
GYA						PP		12 08 09.4	
GYA						S	**Sn**	**12 10 45.8**	**+5.3**
GYA						AMB	AMB	
	comp=Z,20nm,0.6s							
GYA						AMB	AMB	
	comp=Z,130nm,4.3s							
GYA						LR	LR	
	comp=N,780nm,12.2s							
GYA						LR	LR	
	comp=E,560nm,13.8s							
GYA						LR	LR	
	comp=Z,590nm,11.2s							
XAN	**Xi'an**	**17.85**	**324**	P		**Pn**	**12 08 30.8**	**-1.0**
XAN						AP	pP	12 08 35.5	-5.0
XAN						XP	sP	12 08 39.1	-5.5
XAN						PP		12 08 45.6	
XAN						S	**Sn**	**12 11 49.9**	**+0.1**
XAN						SS		12 12 08.1	
XAN						PCP	PcP	12 13 08.4	+0.8
XAN						AMB	AMB	
	comp=Z,21nm,1.7s							
XAN						AMB	AMB	
	comp=Z,436nm,10.9s							
XAN						LR	LR	
	comp=N,816nm,14.1s							
XAN						LR	LR	
	comp=E,469nm,14.1s							
XAN						LR	LR	
	comp=Z,2μm,14.1s							
KMI	**Kunming**	**17.96**	**290**	P		**Pn**	**12 08 34.8**	**+1.5**
KMI						AP	pP	12 08 39.1	-2.8
KMI						XP	sP	12 08 41.8	-4.1
KMI						PP		12 08 50.3	
KMI						S	**Sn**	**12 11 53.3**	**+0.5**
KMI						XS	sS	12 12 00.0	-11
KMI						AMB	AMB	
	comp=Z,16nm,1.3s							
KMI						AMB	AMB	
	comp=Z,262nm,3.4s							
KMI						LR	LR	
	comp=N,868nm,16.0s							
KMI						LR	LR	
	comp=E,1μm,16.0s							
KMI						LR	LR	
	comp=Z,2μm,13.2s							
KSRS	**Korea Array**	**18.32**	**17**	P		**Pn**	**12 08 37.6**	**+0.1**
	comp=Z,0.7nm,0.3s,baz=198,slow=11,SNR=10							
KSRS						LR	LR	12 16 49.2	
	comp=Z,376nm,19.6s,baz=201,slow=41							
KSRS	**Korea Array**	**18.32**	**17**	P		**Pn**	**12 08 37.6**	**+0.1**
KSRS						pmax	pmax	
	comp=Z,1.0nm,0.3s							
KSRS						MLR	MLR	
	comp=Z,376nm,19.6s							
CD2	**Chengdu**	**19.26**	**308**	⇑*i*P		**Pn**	**12 08 47.8**	**-1.1**
CD2						AP	pP	12 08 51.4	-4.7
CD2						XP	sP	12 08 54.8	-5.3
CD2						PP		12 09 05.3	
CD2						S	**Sn**	**12 12 20.4**	**-3.5**
CD2						XS	sS	12 12 26.3	-11
CD2						SS		12 12 46.9	
CD2						AMB	AMB	
	comp=Z,30nm,0.7s							
CD2						AMB	AMB	
	comp=Z,60nm,4.2s							
CD2						LR	LR	
	comp=N,2μm,15.6s							
CD2						LR	LR	
	comp=E,2μm,14.4s							
CD2						LR	LR	
	comp=Z,2μm,15.6s							
TIY	**Taiyuan**	**19.31**	**338**	*e*P		**Pn**	**12 08 52.4**	**+2.9**
TIY						LR	LR	
	comp=N,2μm,13.8s							
TIY						LR	LR	
	comp=E,601nm,13.6s							
TIY						LR	LR	
	comp=Z,2μm,15.1s							
NANT	**Nan**	**19.55**	**270**	P		**Pn**	**12 08 49.0**	**-3.5**
CBIJ	**Chichi jima**	**20.32**	**66**	P		**P**	**12 09 00.8**	**+1.4**
	comp=Z,21nm,0.6s,baz=306,slow=21,SNR=5.2							
CBIJ						LR	LR	12 15 05.8	
	comp=Z,336nm,20.9s,MS3.7,baz=47,slow=32							
BJI	**Beijing**	**20.49**	**349**	P		**P**	**12 09 00.9**	**-0.1**
BJI						S	**S**	**12 12 53.6**	**+4.9**
BJI						AMB	AMB	
	comp=Z,28nm,1.3s							
BJI						AMB	AMB	
	comp=Z,110nm,3.9s							
BJI						LR	LR	
	comp=N,769nm,19.5s,MS4.1							
BJI						LR	LR	
	comp=E,566nm,21.9s,MS4.1							
BJI						LR	LR	
	comp=Z,768nm,22.1s,MS4.0							
CHG	**Chiang Mai**	**21.20**	**271**	⇓P		**P**	**12 09 08.2**	**-0.8**
	comp=Z,19nm,1.1s,mb4.3							
CHTO	**Chiang Mai**	**21.20**	**271**	*e*P		**P**	**12 09 08.7**	**-0.3**
CMAR	**Chiang Mai Arr**	**21.25**	**270**	P		**P**	**12 09 08.9**	**-0.6**
	comp=Z,2.2nm,0.8s,mb3.6,baz=74,slow=9.0,SNR=21							
CMAR					PcP	PcP	12 13 13.7	-0.2
	comp=Z,0.4nm,0.3s,baz=78,slow=1.0,SNR=5.8							
CMAR						LR	LR	12 17 35.8	
	comp=Z,474nm,18.6s,MS3.9,baz=80,slow=38							
CMAR	**Chiang Mai Arr**	**21.25**	**270**	P		**P**	**12 09 08.9**	**-0.6**
CMAR							12 13 13.7	
CMAR						pmax	pmax	
	comp=Z,2.0nm,0.8s							
CMAR						MLR	MLR	
	comp=Z,474nm,18.6s							
KSM	**Kuching**	**21.35**	**212**	*e*P		**P**	**12 09 08.3**	**-2.2**
BDT	**Bhumibol Dam**	**21.39**	**266**	P		**P**	**12 09 10.5**	**-0.5**
SNY	**Shenyang**	**21.86**	**4**	⇑P		**P**	**12 09 16.0**	**+0.2**
SNY						S	**S**	**12 13 11.3**	**-4.3**
SNY						SS		12 13 54.8	
SNY						AMB	AMB	
	comp=Z,108nm,3.9s							
SNY						LR	LR	
	comp=N,633nm,14.0s							
SNY						LR	LR	
	comp=Z,740nm,14.4s,MS4.2							
MAT	**Matsushiro**	**22.12**	**38**	P		**P**	**12 09 21.3**	**+2.7**
MAT						S	**S**	**12 13 14.0**	**-6.7**
MJAR	**Matsushiro Arr**	**22.12**	**38**	P		**P**	**12 09 18.8**	**+0.2**
	comp=Z,2.5nm,1.1s,mb3.6,baz=243,slow=11,SNR=3.6							
MJAR	**Matsushiro Arr**	**22.12**	**38**	P		**P**	**12 09 18.8**	**+0.2**
MJAR						pmax	pmax	
	comp=Z,3.0nm,1.1s							
LZH	**Lanzhou**	**22.24**	**320**	⇑P		**P**	**12 09 20.5**	**+0.6**
LZH						AP		12 09 25.8	
LZH						XP	sP	12 09 29.8	-2.6
LZH						PP		12 09 48.0	
LZH						S	**S**	**12 13 22.3**	**-0.9**
LZH						XS	sS	12 13 29.0	-7.7
LZH						SS		12 14 02.0	
LZH						AMB	AMB	
	comp=Z,74nm,1.6s,mb4.9							
LZH						AMB	AMB	
	comp=Z,220nm,4.2s							
LZH						LR	LR	
	comp=N,988nm,14.0s							
LZH						LR	LR	
	comp=Z,1μm,16.4s,MS4.5							
HHC	**Hu-ho-hao-te**	**22.43**	**340**	⇓P		**P**	**12 09 20.5**	**-1.4**
HHC						AP		12 09 26.1	
HHC						XP	sP	12 09 29.4	-4.9
HHC						PP		12 09 49.3	
HHC						PCP	PcP	12 13 15.4	-0.4
HHC						S	**S**	**12 13 26.3**	**-0.4**
HHC						XS	sS	12 13 33.1	-7.2
HHC						SS		12 14 05.3	
HHC						SCP	ScP	12 16 49.8	-1.4
HHC						AMB	AMB	
	comp=Z,15nm,1.2s,mb4.3							
HHC						AMB	AMB	
	comp=Z,196nm,6.0s							
HHC						LR	LR	
	comp=N,1μm,15.1s,MS4.6							
HHC						LR	LR	
	comp=E,650nm,13.7s,MS4.6							
HHC						LR	LR	
	comp=Z,1μm,14.4s,MS4.5							
GUMO	**Guam**	**23.34**	**102**			LR	LR	12 18 27.2	
	comp=Z,549nm,19.2s,MS4.0,baz=84,slow=36							
KAPI	**Kappang**	**24.89**	**184**	P		**P**	**12 09 44.6**	**-1.4**
	comp=Z,16nm,0.9s,mb4.5,baz=2.8,slow=4.8,SNR=7.8							
KAPI						LR	LR	12 20 01.5	
	comp=Z,563nm,19.4s,MS4.1,baz=4.2,slow=38							
KAPI	**Kappang**	**24.89**	**184**	*e*P		**P**	**12 09 44.8**	**-1.2**
MDJ	**Mudanjiang**	**25.50**	**14**	P		**P**	**12 09 51.6**	**+0.4**
MDJ						AMB	AMB	
	comp=Z,6.0nm,1.4s,mb3.9							
MDJ						AMB	AMB	
	comp=Z,85nm,4.9s							
GTA	**Gaotai**	**26.83**	**321**	P		**P**	**12 10 04.0**	**+0.7**
GTA						AP	pP	12 10 09.8	-2.6
GTA						XP	sP	12 10 12.6	-3.6
GTA						S	**S**	**12 14 40.3**	**+2.7**
GTA						XS	sS	12 14 49.5	-3.1
GTA						AMB	AMB	
	comp=Z,5.0nm,1.5s,mb3.8							
GTA						AMB	AMB	
	comp=Z,140nm,4.8s							
GTA						LR	LR	
	comp=N,504nm,15.0s,MS4.4							
GTA						LR	LR	
	comp=E,547nm,14.7s,MS4.4							
GTA						LR	LR	
	comp=Z,846nm,14.7s,MS4.4							
ASAJ	**Asahikawa**	**29.87**	**32**	P		**P**	**12 10 31.2**	**+0.8**
	comp=Z,4.0nm,0.7s,mb4.3,baz=233,slow=6.1,SNR=6.6							
ASAJ	**Asahikawa**	**29.87**	**32**	P		**P**	**12 10 31.2**	**+0.8**
ASAJ						pmax	pmax	
	comp=Z,4.0nm,0.7s							
BATI	**Baumata**	**30.08**	**176**	P		**P**	**12 10 30.1**	**-2.4**
	comp=Z,31nm,0.6s,mb5.2,baz=101,slow=17,SNR=4.5							
BATI						LR	LR	12 24 10.3	
	comp=Z,451nm,18.0s,MS4.2,baz=288,slow=40							
SONM	**Songino Array**	**30.33**	**340**	P		**P**	**12 10 35.9**	**+1.4**
	comp=Z,1.6nm,0.6s,mb3.9,baz=160,slow=8.8,SNR=3.0							
SONM						LR	LR	12 24 39.8	
	comp=Z,744nm,18.3s,MS4.4,baz=340,slow=40							
SONM	**Songino Array**	**30.33**	**340**	P		**P**	**12 10 35.9**	**+1.5**
SONM						pmax	pmax	
	comp=Z,2.0nm,0.6s							
SONM						MLR	MLR	
	comp=Z,744nm,18.3s							
KLR	**Kul'dur**	**30.34**	**13**	*e*P		**P**	**12 10 39.7**	**+5.2**
KLR						pmax	pmax	
	comp=Z,53nm,1.8s,mb5.0							
KLR						MLR	MLR	
	comp=N,1μm,13.0s,MS4.8							
KLR						MLR	MLR	
	comp=E,500nm,13.0s,MS4.8							
YSS	**Yuzh-Sakhalins**	**32.06**	**28**	*e*P		**P**	**12 10 47.9**	**-1.8**
ZAK	**Zakamensk**	**33.56**	**339**	*e*P		**P**	**12 11 02.5**	**-0.3**
ZAK						pmax	pmax	
	comp=Z,5.0nm,1.4s,mb4.2							
TLY	**Talaya**	**34.56**	**340**	*e*P		pP		12 11 31.3	+11
TLY				*e*				12 16 44.2	
TLY						MLR	MLR	
	comp=Z,407nm,16.0s,MS4.3							
WMQ	**Urumqi**	**36.79**	**318**	*e*P		**P**	**12 11 33.3**	**+2.6**
WMQ						AP	pP	12 11 37.8	-2.1
WMQ						XP	sP	12 11 40.3	-3.4
WMQ						PP	PP	12 12 59.8	+5.0
WMQ						PCP	PcP	12 13 54.5	+2.1
WMQ						S	**S**	**12 17 17.8**	**+5.0**
WMQ						XS	sS	12 17 25.3	-2.6
WMQ						AMB	AMB	
	comp=Z,6.0nm,0.5s,mb4.7							
WMQ						AMB	AMB	
	comp=Z,30nm,3.6s							
WMQ						LR	LR	
	comp=N,380nm,16.9s,MS4.3							
WMQ						LR	LR	
	comp=E,262nm,16.3s,MS4.3							
WMQ						LR	LR	
	comp=Z,303nm,16.9s,MS4.2							
FITZ	**Fitzroy Crossi**	**38.07**	**173**	P		**P**	**12 11 38.0**	**-3.7**
	comp=Z,2.3nm,0.7s,mb4.0,baz=27,slow=9.2,SNR=3.8							
MBWA	**Marble Bar**	**40.92**	**182**	*e*P		**P**	**12 12 03.0**	**-2.4**
	comp=Z,6.8nm,0.6s,mb4.5							
MK31	**Makanchi Array**	**41.56**	**319**	*e*P		**P**	**12 12 10.9**	**+0.5**
MKAR	**Makanchi Array**	**41.56**	**319**	P		**P**	**12 12 10.6**	**+0.2**
	comp=Z,0.6nm,0.5s,mb3.5,baz=110,slow=9.3,SNR=7.1							
MKAR						LR	LR	12 32 38.0	
	comp=Z,321nm,18.0s,MS4.2,baz=357,slow=41							
MKAR	**Makanchi Array**	**41.56**	**319**	P		**P**	**12 12 10.6**	**+0.2**
MKAR						pmax	pmax	
	comp=Z,1.0nm,0.5s							
MKAR						MLR	MLR	
	comp=Z,321nm,18.0s							
WRAB	**Tennant Creek**	**41.65**	**161**	*e*P		**P**	**12 12 09.0**	**-2.4**
WRAB						pmax	pmax	
	comp=Z,20nm,0.8s,mb4.8							
WRAB	**Tennant Creek**	**41.65**	**161**	*e*P		**P**	**12 12 09.0**	**-2.4**

TKM2	**Tokmak 2**	**44.59**	**311**	*e*P		**P**	**12 12 36.2**	**+1.2**
	comp=Z,3.9nm,0.9s,mb4.2								
ASAR	**Alice Springs**	**45.06**	**164**	P		**P**	**12 12 37.6**	**-1.3**
	comp=Z,14nm,0.9s,mb4.8,baz=341,slow=7.2,SNR=59								
ASAR	**Alice Springs**	**45.06**	**164**	P		**P**	**12 12 37.6**	**-1.3**
ASAR				pmax	pmax				
	comp=Z,14nm,0.9s								
UCH	**Uchtor**	**45.17**	**310**	*e*P		**P**	**12 12 42.1**	**+2.4**
	comp=Z,82nm,2.2s,mb5.2								
NVS	**Novosibirsk**	**45.18**	**330**	*e*P		**P**	**12 12 38.3**	**-1.2**
NVS				pmax	pmax				
	comp=N,33nm,1.9s								
NVS				pmax	pmax				
	comp=E,28nm,1.9s								
NVS				pmax	pmax				
	comp=Z,39nm,1.9s,mb4.9								
KURK	**Kurchatov**	**45.48**	**323**	P		**P**	**12 12 41.9**	**-0.1**
	comp=Z,1.3nm,0.6s,mb3.9,baz=120,slow=7.4,SNR=7.4								
KURK	**Kurchatov**	**45.48**	**323**	P		**P**	**12 12 41.9**	**-0.1**
KURK				pmax	pmax				
	comp=Z,1.0nm,0.6s,mb3.8								
KURK	**Kurchatov**	**45.48**	**323**	*e*P		**P**	**12 12 42.4**	**+0.4**
	comp=Z,28nm,1.4s,mb4.9								
AML	**Almayashu**	**45.74**	**310**	*e*P		**P**	**12 12 43.9**	**-0.3**
	comp=Z,6.8nm,1.0s,mb4.5								
CTA	**Charters Tower**	**46.68**	**147**	P		**P**	**12 12 50.6**	**-1.2**
	comp=Z,12nm,0.9s,mb4.8,baz=326,slow=11,SNR=8.1								
CTA	**Charters Tower**	**46.68**	**147**	P		**P**	**12 12 50.6**	**-1.1**
CTA				pmax	pmax				
	comp=Z,12nm,0.9s								
CTAO	**Charters Tower**	**46.68**	**147**	*e*P		**P**	**12 12 49.5**	**-2.2**
CTAO				pmax	pmax				
	comp=Z,16nm,1.0s,mb4.9								
CTAO	**Charters Tower**	**46.68**	**147**	*e*P		**P**	**12 12 49.5**	**-2.3**
	comp=Z,16nm,1.0s,mb4.9								
HNR	**Honiara**	**47.90**	**124**	LR		LR	12 32 30.4		
	comp=Z,256nm,18.0s,MS4.2,baz=314,slow=35								
KBL	**Kabul**	**48.24**	**299**	*e*P		**P**	**12 13 05.4**	**+1.6**
FORT	**Forrest**	**50.87**	**173**	*e*P		**P**	**12 13 22.0**	**-1.8**
	comp=Z,44nm,0.7s,mb5.5								
BVAR	**Borovoye Array**	**51.08**	**323**	P		**P**	**12 13 25.5**	**+0.3**
	comp=Z,0.4nm,0.4s,mb3.7,baz=128,slow=9.8,SNR=3.3								
BRVK	**Borovoye**	**51.15**	**323**	*e*P		**P**	**12 13 25.9**	**+0.2**
BRVK				*e**PP		pP	12 13 35.4	+0.2	
KLBR	**Kellerberrin**	**51.40**	**184**	*e*P		**P**	**12 13 25.6**	**-2.1**
	comp=Z,41nm,1.4s,mb5.2								
TIXI	**Tiksi**	**51.86**	**3**	*e*P		pP	12 13 40.8	+0.6	
TIXI				pmax	pmax				
	comp=Z,21nm,1.7s,mb4.8								
TIXI				MLR	MLR				
	comp=Z,398nm,18.0s,MS4.5								
TIXI	**Tiksi**	**51.86**	**3**	*e*P		**P**	**12 13 31.6**	**+0.9**
	comp=Z,47nm,1.8s,mb5.1								
NWAO	**Narrogin (SRO)**	**52.76**	**184**	P		**P**	**12 13 36.0**	**-1.8**
	comp=Z,28nm,1.1s,mb5.1,baz=347,slow=6.7,SNR=7.4								
NWAO	**Narrogin (SRO)**	**52.76**	**184**	P		**P**	**12 13 36.0**	**-1.8**
NWAO				pmax	pmax				
	comp=Z,28nm,1.1s								
EIDS	**Eidsvold**	**53.53**	**146**	*e*P		**P**	**12 13 40.0**	**-3.6**
EIDS				*e*pP		pP	12 13 51.5	-1.6	
STKA	**Stephens Creek**	**55.08**	**159**	P		**P**	**12 13 53.3**	**-1.5**
	comp=Z,4.1nm,0.6s,mb4.7,baz=0.4,slow=7.4,SNR=7.2								
STKA				LR		LR	12 37 17.3		
	comp=Z,194nm,19.4s,MS4.2,baz=23,slow=36								
STKA	**Stephens Creek**	**55.08**	**159**	*e*P		**P**	**12 13 53.4**	**-1.4**
BILL	**Bilibino**	**55.57**	**19**	*e*P		pP	12 14 07.9	+0.4	
BILL				pmax	pmax				
	comp=Z,5.0nm,0.8s,mb4.6								
BILL				MLR	MLR				
	comp=Z,200nm,18.0s,MS4.2								
SVE	**Sverdlovsk**	**57.56**	**325**	*e*P		**P**	**12 14 13.3**	**+1.0**
SVE				pmax	pmax				
	comp=Z,26nm,1.2s,mb5.1								
ARU	**Arti**	**58.60**	**325**	*d*	*i*P	pP	12 14 29.7	+0.6	
ARU							12 16 32.9		
ARU					*e*S	Sx	12 22 41.0		
ARU					*e*SS	SS	12 26 24.8	+11	
ARU				pmax	pmax				
	comp=Z,14nm,1.0s,mb5.0								
ARU				MLR	MLR				
	comp=Z,481nm,16.0s,MS4.7								
CNB	**Canberra Magne**	**61.06**	**154**	*e*P		**P**	**12 14 36.8**	**+0.1**
TOO	**Toolangi**	**61.58**	**158**	*e*P		**P**	**12 14 40.5**	**+0.4**
KIV	**Kislovodsk**	**68.41**	**310**	‖	*e*P	pP	12 15 36.5	+2.1	
KIV				pmax	pmax				
	comp=Z,40nm,1.7s,mb5.2								
KIV				MLR	MLR				
	comp=Z,200nm,15.0s,MS4.5								
KLMR	**Klimovskoe**	**68.82**	**329**	*e*P		pP	12 15 37.9	+1.3	
KLMR				pmax	pmax				
	comp=Z,23nm,1.6s,mb4.9								
SVW2	**Sparrevohn**	**69.37**	**31**	*e*P		**P**	**12 15 29.9**	**-0.4**
IMA2	**Indian Mountai**	**69.87**	**26**	*e*P		**P**	**12 15 35.2**	**+1.9**
OBN	**Obninsk**	**70.92**	**323**	‖	*e*P	pP	12 15 51.9	+2.2	
OBN				pmax	pmax				
	comp=Z,31nm,1.4s,mb5.0								
OBN				MLR	MLR				
	comp=Z,200nm,16.0s,MS4.5								
BPAW	**Bear Paw Mtn.**	**71.20**	**28**	*e*P		**P**	**12 15 40.5**	**-0.9**
	comp=Z,8.9nm,0.9s,mb4.7								
KTH	**Kantishna Hill**	**71.30**	**28**	*e*P		**P**	**12 15 42.0**	**0.0**
	comp=Z,7.0nm,0.9s,mb4.6								
ANN	**Anapa**	**72.00**	**312**	*e*P		**P**	**12 15 48.7**	**+2.1**
ANN				pmax	pmax				
	comp=Z,37nm,0.9s,mb5.3								
MCK	**McKinley**	**72.15**	**28**	*e*P		**P**	**12 15 48.8**	**+1.7**
MCK				*e**PP		pP	12 15 58.5	+1.6	
ARCES	**ARCESS Array B**	**73.50**	**339**	P		**P**	**12 15 55.0**	**0.0**
	comp=Z,4.0nm,1.0s,mb4.3,baz=61,slow=7.3,SNR=3.3								
ARCES				LR		LR	12 53 24.7		
	comp=Z,204nm,18.1s,MS4.5,baz=201,slow=40								
ARCES	**ARCESS Array B**	**73.50**	**339**	P		**P**	**12 15 55.0**	**0.0**
ARCES				pmax	pmax				
	comp=Z,4.0nm,1.0s								
ARCES				MLR	MLR				
	comp=Z,204nm,18.1s								
KAF	**Kangasniemi**	**74.89**	**331**	*e*p		**P**	**12 16 07.3**	**+4.0**
	comp=Z,7.9nm,0.8s,mb4.7								
KAF	**Kangasniemi**	**74.89**	**331**	*e*P		**P**	**12 16 07.3**	**+4.0**
KAF				pmax	pmax				
	comp=Z,8.0nm,0.8s,mb4.7								
AKASG	**Malin Array Be**	**76.14**	**319**	P		**P**	**12 16 09.6**	**-1.0**
	comp=Z,0.3nm,0.2s,mb3.8,baz=82,slow=3.2,SNR=6.3								
AKASG				LR		LR	12 54 33.9		
	comp=Z,146nm,18.6s,MS4.3,baz=40,slow=40								
DAWY	**Dawson**	**76.18**	**27**	*e*P		**P**	**12 16 12.4**	**+1.8**
KWP	**Kalwaria**	**80.46**	**319**	*e*P		**P**	**12 16 34.6**	**+0.1**
KWP				pmax	pmax				
	comp=Z,80nm,1.7s,mb5.4								
KWP	**Kalwaria**	**80.46**	**319**	*e*P		**P**	**12 16 34.6**	**+0.1**
	comp=Z,80nm,1.7s,mb5.4								
CRVS	**Cervenica-Dubn**	**81.48**	**319**	*e*P		**P**	**12 16 40.4**	**+0.4**
NB2	**NORSAR Subarra**	**82.02**	**333**	P		**P**	**12 16 41.2**	**-1.4**
	comp=Z,4.5nm,1.1s,mb4.3,baz=62,slow=5.3								
NOA	**NORSAR Array B**	**82.02**	**333**	P		**P**	**12 16 41.6**	**-1.0**
	comp=Z,0.9nm,0.8s,mb3.8,baz=74,slow=8.7,SNR=3.1								
NOA				LR		LR	12 57 06.4		
	comp=Z,413nm,18.5s,MS4.8,baz=40,slow=39								
NOA	**NORSAR Array B**	**82.02**	**333**	P		**P**	**12 16 41.6**	**-1.0**
NOA				pmax	pmax				
	comp=Z,1.0nm,0.8s								
NOA				MLR	MLR				
	comp=Z,413nm,18.5s								
VYHS	**Vyhne**	**83.24**	**319**	*e*P		**P**	**12 16 49.7**	**+0.5**
DPC	**Dobruska-Polom**	**84.02**	**322**	*e*P		**P**	**12 16 52.6**	**-0.6**
DPC				*e*pP		pP	12 17 01.5	-1.7	
DPC				AMS		AMS	12 57 40.0		
	comp=Z,300nm,18.0s								
UPC	**Upice**	**84.14**	**322**	*e*P		**P**	**12 16 52.7**	**-1.1**
UPC				*e*pP		pP	12 17 02.9	-0.9	
KMBO	**Kilima Mbogo**	**84.87**	**267**	*i*P		**P**	**12 16 59.4**	**+1.2**
KMBO				pmax	pmax				
	comp=Z,2.0nm,0.3s								
KMBO	**Kilima Mbogo**	**84.87**	**267**	*e*P		**P**	**12 16 56.0**	**-2.2**
PVCC	**Panska Ves**	**84.96**	**322**	AMS		AMS	12 58 20.0		
	comp=Z,200nm,15.1s								
BRG	**Berggiesshubel**	**85.17**	**323**	*e*P		**P**	**12 17 05.7**	**+6.7**
BRG				pmax	pmax				
	comp=Z,2.0nm,0.7s,mb4.4								
BRG	**Berggiesshubel**	**85.17**	**323**	*e*P		**P**	**12 17 05.7**	**+6.7**
	comp=Z,3.3nm,0.7s,mb4.5								
PRU	**Pruhonice**	**85.21**	**322**	*e*P		**P**	**12 16 59.3**	**+0.1**
PRU				*e*pP		pP	12 17 09.8	+0.6	
PRU				AMS		AMS	12 58 30.0		
	comp=Z,200nm,18.1s								
CLL	**Collm**	**85.52**	**323**	*e*P		**P**	**12 17 00.0**	**-0.7**
CLL				*e*(pP)		pP	12 17 07.0	-3.7	
CLL				*e*SKSac		SKSac	12 27 23.0	-0.7	
CLL	**Collm**	**85.52**	**323**	*e*P		**P**	**12 17 00.0**	**-0.7**
CLL				*e*			12 17 07.0		
CLL				S		S	12 27 23.0	-7.1	
CLL				LR		LR			
	comp=Z,300nm,16.9s,MS4.8								
KHC	**Kasperske Hory**	**86.15**	**321**	*e*P		**P**	**12 17 03.4**	**-0.5**
KHC				*e*pP		pP	12 17 16.2	+2.3	
KHC				AMS		AMS	13 00 50.0		
	comp=Z,300nm,16.1s								
KHC	**Kasperske Hory**	**86.15**	**321**	*e*P		**P**	**12 17 03.4**	**-0.5**
KHC				*e*			12 17 16.2		
KHC				LR		LR			
	comp=Z,300nm,16.1s,MS4.8								
GERES	**GERESS Array B**	**86.20**	**321**	P		**P**	**12 17 04.0**	**-0.2**
	comp=Z,0.4nm,0.2s,mb4.2,baz=59,slow=8.1,SNR=7.4								
GERES				LR		LR	13 00 35.6		
	comp=Z,170nm,18.7s,MS4.5,baz=212,slow=39								
YKA	**Yellowknife Ar**	**86.75**	**23**	P		**P**	**12 17 05.7**	**-0.9**
	comp=Z,1.5nm,0.5s,mb4.5,baz=308,slow=4.8,SNR=13								
YKA	**Yellowknife Ar**	**86.75**	**23**	*i*P		**P**	**12 17 06.0**	**-0.6**
YKA				pmax	pmax				
	comp=Z,2.0nm,0.5s								
MAW	**Mawson**	**97.21**	**199**	LR		LR	13 01 23.9		
	comp=Z,62nm,18.1s,MS4.1,baz=244,slow=35								
SDV	**Santo Domingo**	**148.97**	**24**	PKPdf		PKPdf	12 24 06.7	-0.8	
ROSC	**El Rosal**	**150.88**	**34**	PKPbc		PKPbc	12 24 14.6	-1.7	
	comp=Z,3.0nm,0.3s,baz=77,slow=23,SNR=4.7								
LPAZ	**La Paz**	**170.23**	**69**	PKP		PKPdf	12 24 31.4	+0.1	
	comp=Z,2.5nm,1.1s,baz=327,slow=1.9,SNR=5.1								
LPAZ	**La Paz**	**170.23**	**69**	PKIKP		PKPdf	12 24 31.4	+0.1	
LPAZ				pmax	pmax				
	comp=Z,3.0nm,1.2s								
LPAZ	**La Paz**	**170.23**	**69**	PKP		PKPdf	12 24 31.4	+0.1	

KRSC 16 12:27:48.0±0.5, 5258N×15841E, h174km±26km, ML3.6,
Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RUS	**Russkaya**	**0.16**	**157**	*e*P		Pn	12 28 11.2	+0.1
RUS				*i* S		Sn	12 28 28.6	-0.1
PET	**Petropavlovsk**	**0.47**	**18**	*e*P		Pn	12 28 12.9	+1.0
PET				*i* S		Sn	12 28 31.0	+0.6
AVH	**Avacha**	**0.71**	**16**	*e*P		Pn	12 28 15.1	+2.0
AVH				*i* S		Sn	12 28 35.3	+2.8
NLC	**Nalytchevo**	**0.82**	**43**	*e*P		Pn	12 28 14.9	+1.2
NLC				*i* S		Sn	12 28 34.8	+1.2
SPN	**Mys Shipunski**	**1.11**	**61**	*e*P		Pn	12 28 17.9	+2.0
SPN				*i* S		Sn	12 28 39.2	+1.9
GNL	**Ganaly**	**1.15**	**346**	*e*P		Pn	12 28 17.1	+0.9
GNL				*i* S		Sn	12 28 38.7	+0.6
KBTR	**Krutoberegovo**	**4.46**	**34**	*e*P		Pn	12 28 57.1	+2.5
KBTR				*i* S		Sn	12 29 45.7	-1.1

NEIC ***16*** *12:50:30.6, 3532N×2313E, h43km, MD3.6(ATH), After ATH.*
CSEM ***16*** *12:50:30.6, 3532N×2313E, h43km, MD3.6/6, After ATH*
ATH 16 12:50:30.6, 3532N×2313E, h43km, MD3.6/6, Crete

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
VAM	**Vamos**	**0.88**	**84**	*e*P		Pn	12 50 48.0	+1.5
VAM	**Vamos**	**0.88**	**84**	*e*P		Pn	12 50 48.0	+1.5
NPS	**Neapolis**	**2.03**	**91**	*e*P		Pn	12 51 03.4	+1.1
NPS	**Neapolis**	**2.03**	**91**	*e*P		Pn	12 51 03.4	+1.1
ITM	**Ithomi**	**2.10**	**333**	*e*P		Pn	12 51 04.9	+1.7
ITM	**Ithomi**	**2.10**	**333**	*e*P		Pn	12 51 04.9	+1.7
APE	**Apeiranthos**	**2.61**	**47**	*e*P		Pn	12 51 12.1	+1.8
APE	**Apeiranthos**	**2.61**	**47**	*e*P		Pn	12 51 12.1	+1.8
KARP	**Karpathos**	**3.30**	**85**	*e*P		Pn	12 51 21.4	+1.7
KARP	**Karpathos**	**3.30**	**85**	*e*P		Pn	12 51 21.4	+1.7
VLS	**Valsamata**	**3.51**	**325**	*e*P		Pn	12 51 24.5	+2.0
VLS	**Valsamata**	**3.51**	**325**	*e*P		Pn	12 51 24.5	+2.0

IDC 16 13:05:12.7±16.0, 1910S×17358W, h0km, mb4.3/5,
mb1 4.4/5, mb1mx4.0/19, mbtmp4.3/5, MS3.8/1, Ms1 3.8/1,
ms1mx2.8/36, Error ellipse: s-maj=304.1km
s-min=147.1km az=81.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CTA	**Charters Tower**	**37.79**	**262**	P		P	13 12 31.4	+0.5
	2.1nm,0.4s,baz=95,slow=12,SNR=4.9							
STKA	**Stephens Creek**	**42.13**	**243**	P		P	13 13 07.0	0.0
	1.2nm,0.5s,baz=99,slow=13,SNR=5.0							
ASAR	**Alice Springs**	**48.89**	**255**	P		P	13 14 00.2	-0.4
	4.9nm,0.5s,baz=96,slow=7.5,SNR=114							
WRA	**Warranunga Arr**	**48.93**	**260**	P		P	13 14 00.3	-0.6
	1.3nm,0.2s,baz=97,slow=7.3,SNR=155							
FITZ	**Fitzroy Crossi**	**57.35**	**260**	P		P	13 15 03.3	+0.2
	1.0nm,0.5s,baz=93,slow=5.3,SNR=18							
ELK	**Elko**	**80.47**	**41**	LR		LR	13 45 47.5	
	comp=Z,56nm,20.9s,baz=96,slow=30							

ISCJB ***16*** *13:07:14.7±4.5, 3360S×1787W, h7km±28km, mb4.6/10, MS3.7/3, Error ellipse: s-maj=24.9km s-min=13.0km az=15.0*
IDC ***16*** *13:07:14.2±0.9, 3347S×17846W, h0km, mb4.5/7, mb1 4.6/9, mb1mx4.4/18, mbtmp4.6/9, ML4.6/2, MS3.7/3, Ms1 3.7/3, ms1mx3.2/27, Error ellipse: s-maj=28.0km s-min=25.0km az=137.0*
NEIC ***16*** *13:07:19.9±0.6, 3361S×17856W, h35km, mb4.7/6, Error ellipse: s-maj=16.1km s-min=11.7km az=118.0*
ISC 16 13:07:16.2±5.2, 3355S×1786W, h8km±32km, n39,
σ0s81/19, mb4.6/10, MS3.7/3, 1C, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera**	**5.84**	**215**	Pn		**Pn**	**13 08 44.1**	**+0.9**
	23nm,0.3s,baz=20,slow=5.2,SNR=109							
URZ				Sn		**Sn**	**13 09 50.3**	**0.0**
	21nm,0.3s,baz=161,slow=20,SNR=7.3							
RPZ	**Rata Peaks**	**12.96**	**215**	Pn		**Pn**	**13 10 19.5**	**-1.1**
	1.7nm,0.3s,baz=81,slow=10.0,SNR=2.9							
RPZ	**Rata Peaks**	**12.96**	**215**	Pn		**Pn**	**13 10 19.5**	**-1.1**
RAR	**Rarotonga**	**20.72**	**58**	LR		LR	13 18 19.4	
	comp=Z,176nm,18.9s,MS3.5,baz=244,slow=32							
TBI	**Tubuai**	**27.49**	**76**	*e*LR		LR	13 19 49.3	
	129nm,28.0s							
PPT	**Papeete**	**30.51**	**66**	*e*LR		LR	13 21 26.7	
	101nm,22.2s							
STKA	**Stephens Creek**	**33.38**	**262**	P		P	**13 13 56.1**	**+0.9**
	2.9nm,0.8s,mb4.3,baz=93,slow=20,SNR=3.8							
STKA				PcP		PcP	13 16 35.9	-0.9
	1.4nm,0.7s,baz=224,slow=13,SNR=3.8							
STKA				LR		LR	13 27 02.6	
	comp=Z,284nm,18.5s,MS4.0,baz=147,slow=35							
CTA	**Charters Tower**	**33.93**	**284**	*e*P		P	**13 14 01.6**	**+1.5**
	6.4nm,0.6s,mb4.7							
CTA	**Charters Tower**	**33.93**	**284**	P		P	**13 14 01.3**	**+1.2**
	5.5nm,0.5s,mb4.7,baz=112,slow=10,SNR=11							
CTAO	**Charters Tower**	**33.93**	**284**	*e*P		P	**13 14 01.3**	**+1.2**
	11nm,0.8s,mb4.8							
RKT	**Rikitea**	**39.54**	**86**	*e*LR		LR	13 25 26.3	
	134nm,24.5s							
ASAR	**Alice Springs**	**42.52**	**271**	P		P	**13 15 12.4**	**0.0**
	8.4nm,0.7s,mb4.6,baz=110,slow=7.5,SNR=54							
ASAR				PcP		PcP	13 17 04.5	-0.5
	1.3nm,0.4s,baz=117,slow=3.8,SNR=5.7							
WB2	**Warramunga Arr**	**43.78**	**276**	*e*P		P	**13 15 22.4**	**-0.2**
WRAB	**Tennant Creek**	**43.79**	**276**	*e*P		P	**13 15 22.4**	**-0.3**
	11nm,0.8s,mb4.6							
WRA	**Warramunga Arr**	**43.79**	**276**	P		P	**13 15 22.5**	**-0.3**
	11nm,0.6s,mb4.8,baz=117,slow=7.6,SNR=91							
WRA				PcP		PcP	13 17 09.0	-0.4
	1.4nm,0.6s,baz=120,slow=3.1,SNR=4.8							
KAKA	**Kakadu**	**49.05**	**283**	*e*P		P	**13 16 00.9**	**-3.2**
	8.6nm,0.8s,mb4.8							
FITZ	**Fitzroy Crossi**	**51.91**	**273**	*e*P		P	**13 16 25.4**	**-0.3**
	7.1nm,0.8s,mb4.7							
FITZ	**Fitzroy Crossi**	**51.91**	**273**	P		P	**13 16 25.2**	**-0.5**
	3.7nm,0.9s,mb4.3,baz=140,slow=7.3,SNR=9.2							
GUMO	**Guam**	**58.39**	**317**	LR		LR	13 38 27.5	
	comp=Z,35nm,18.4s,MS3.5,baz=267,slow=32							
MAW	**Mawson**	**69.19**	**201**	P		P	**13 18 24.0**	**+1.0**
	0.9nm,0.4s,mb4.1,baz=123,slow=7.4,SNR=10							
SYO	**Syowa Base**	**73.94**	**193**	‖	*e*P	P	**13 18 51.0**	**-0.6**
SNAA	**Sanae**	**75.03**	**179**	P		P	**13 18 57.9**	**0.0**
	5.4nm,0.8s,mb4.5							
PETK	**Petropavlovsk-**	**88.73**	**346**	P		P	**13 20 09.8**	**0.0**
	4.6nm,0.8s,mb4.9,baz=248,slow=1.6,SNR=4.3							
MKAR	**Makanchi Array**	**119.37**	**309**	PKP		PKPdf	13 26 05.0	-0.9
	0.5nm,0.6s,baz=198,slow=1.3,SNR=8.3							
MKAR	**Makanchi Array**	**119.37**	**309**	PKP		PKPdf	13 26 05.0	-0.9
ZALV	**Zalesovo Beam**	**120.01**	**317**	PKP		PKPdf	13 26 05.2	-1.7
	0.5nm,0.3s,baz=148,slow=3.2,SNR=4.4							
KURK	**Kurchatov**	**122.82**	**312**	PKP		PKPdf	13 26 10.9	-1.5
	2.0nm,0.6s,baz=102,slow=1.8,SNR=8.9							
BVAR	**Borovoye Array**	**128.25**	**314**	PKP		PKPdf	13 26 21.9	-0.9
	1.4nm,0.5s,baz=104,slow=1.3,SNR=8.9							
ARCES	**ARCESS Array B**	**141.54**	**347**	PKhKP			13 26 42.8	
	2.3nm,0.8s,baz=352,slow=4.3,SNR=4.8							
JOF	**Joensuu**	**145.12**	**336**	*e*p		PKPbc	13 26 52.0	-1.0
	2.6nm,0.5s							
KAF	**Kangasniemi**	**147.31**	**338**	*e*p		PKPdf	13 26 58.0	+0.8
	4.1nm,0.6s							
NB2	**NORSAR Subarra**	**151.77**	**350**	PKP		PKPbc	13 27 10.5	-0.2
	comp=Z,2.0nm,0.6s,baz=17,slow=2.5							
NOA	**NORSAR Array B**	**151.77**	**350**	PKPbc		PKPbc	13 27 10.4	-0.3
	comp=Z,2.6nm,0.6s,baz=14,slow=4.1,SNR=7.7							
LIC	**Lamto**	**152.16**	**166**	*e*PKIKP		PKPab	13 27 22.7	+0.1
	comp=Z,23nm,0.8s							
KIC	**Kosan Boka**	**152.35**	**167**	*e*PKIKP		PKPab	13 27 23.0	-0.3
	comp=Z,28nm,0.9s							
TIC	**Toumodi**	**152.58**	**166**	*e*PKIKP		PKPab	13 27 23.2	-1.1
	comp=Z,16nm,0.5s							
AKASG	**Malin Array Be**	**153.40**	**318**	PKPbc		PKPbc	13 27 12.8	-1.9
	comp=Z,1.2nm,0.5s,baz=72,slow=1.6,SNR=3.5							
BR131	**Keskin Array S**	**153.49**	**293**	*e*PKPbc		PKPbc	13 27 15.3	+0.1
TORD	**Torodi Ar. Bea**	**159.69**	**181**	PKPab		PKPab	13 27 53.7	-0.9
	comp=Z,1.3nm,0.7s,baz=178,slow=3.8,SNR=7.0							

ISCJB ***16*** *13:21:24.3±0.6, 1737S±007×7008W±007, h138km±6km, mb4.2/10, Error ellipse: s-maj=11.5km s-min=10.5km az=176.2*
NEIC ***16*** *13:21:25.1±0.9, 1740S×6998W, h125km±8km, mb4.2/2, Error ellipse: s-maj=17.4km s-min=11.4km az=79.0*
IDC ***16*** *13:21:26.2±1.4, 1752S×6985W, h136km±12km, mb3.9/7, mb1 4.0/9, mb1mx3.7/18, mbtmp3.9/9, MS2.7/2, Ms1 2.7/2, ms1mx2.4/29, Error ellipse: s-maj=22.5km s-min=10.4km az=101.0*
ISC 16 13:21:25.2±0.6, 1740S±007×7009W±007, h131km±6km,
n27, σ0s95/27, mb4.2/10, 1C-1D, Near coast of Peru

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ARE	**Arequipa**	**1.64**	**305**	‖	*i*P	**Pn**	**13 21 54.6**	**-0.4**
ARE					*i* S	**Sn**	**13 22 17.1**	**-0.5**
LPAZ	**La Paz**	**2.18**	**60**	P		**Pn**	**13 22 02.1**	**+0.7**
	87nm,0.3s,baz=247,slow=9.0,SNR=2263							
LPAZ					S	**Sn**	**13 22 29.9**	**+0.7**
	9.0nm,0.3s,baz=346,slow=24,SNR=4.4							
LPAZ	**La Paz**	**2.18**	**60**	‖	*i*P	**Pn**	**13 22 02.1**	**+0.7**
LPAZ						S	**Sn**	**13 22 29.9**	**+0.7**
LVC	**Limon Verde**	**5.30**	**168**	P		**Pn**	**13 22 42.1**	**-0.3**
	5.7nm,0.3s,baz=344,slow=10,SNR=138							
LVC					S	**Sn**	**13 23 37.8**	**-4.7**
	27nm,0.3s,baz=143,slow=19,SNR=20							
LVC	**Limon Verde**	**5.30**	**168**	*e*Pn		**Pn**	**13 22 41.7**	**-0.7**
LVC				*e*S		**Sn**	**13 23 37.8**	**-4.7**
ATAH	**Atahualpa**	**13.14**	**321**	LR		LR	13 30 12.8	
	comp=Z,57nm,19.2s,baz=286,slow=40							
CFAA	**Coronel Fontan**	**14.24**	**174**	P		**Pn**	**13 24 41.3**	**+0.4**
	0.0nm,0.3s,baz=350,slow=12,SNR=5.0							
CFAA					LR	LR	13 30 57.0		
	comp=Z,15nm,18.6s,baz=181,slow=40							
CFAA	**Coronel Fontan**	**14.24**	**174**	P		**Pn**	**13 24 41.3**	**+0.4**
CFA

comp=Z,12nm,0.9s,mb4.3,baz=210,slow=9.4,SNR=9.1
LVC Limon Verde 24.04 17 *e*P **P 13 43 08.3 -0.7**
comp=Z,104nm,1.5s,mb5.0
LVC LR LR
comp=Z,1μm,21.0s,MS4.3
LPAZ La Paz 30.35 15 P **P 13 44 06.0 +0.5**
comp=Z,5.9nm,0.9s,mb4.3,baz=169,slow=5.3,SNR=15
LPAZ La Paz 30.35 15 *e*P **P 13 44 05.9 +0.3**
LPAZ pmax pmax
comp=Z,48nm,1.5s
LPAZ MLR MLR
comp=Z,2μm,21.0s
LPAZ La Paz 30.35 15 *e*P **P 13 44 05.8 +0.3**
comp=Z,48nm,1.5s,mb5.0
LPAZ LR LR
comp=Z,2μm,21.0s,MS4.7
SIV San Ignacio 32.45 28 P **P 13 44 23.3 -0.8**
comp=Z,5.7nm,1.0s,mb4.3,baz=223,slow=10,SNR=14
BDFB Brasilia 38.33 47 LR LR 14 02 30.7
comp=Z,1μm,18.3s,MS4.8,baz=15,slow=38
VNA3 Neumayer Olymp 39.81 152 *e*P **P 13 45 26.9 +0.5**
VNA3 *e* 13 45 29.2
VNA3 *e* pP 13 45 34.9 -2.7
VNA1 Neumayer--Stat 40.26 151 *e*P **P 13 45 30.9 +0.8**
VNA1 *e* 13 45 33.3
VNA1 *e* pP 13 45 39.8 -1.5
VNA2 Neumayer--Watz 40.55 152 *e*P **P 13 45 32.8 +0.3**
VNA2 *e* 13 45 35.4
VNA2 *e* 13 45 40.5
QSPA South Pole Qui 44.27 180 P **P 13 46 02.6 -0.1**
comp=Z,4.6nm,1.0s,mb4.2,baz=140,slow=7.3,SNR=8.4
OTAV Otavalo 46.06 357 *e*P **P 13 46 17.8 +0.3**
comp=Z,45nm,1.4s,mb5.2
NVL N'lazarevskaya 46.82 153 P **P 13 46 23.6 +0.7**
NVL pmax pmax
comp=Z,21nm,1.2s,mb4.9
ROSC El Rosal 50.63 2 LR LR 14 06 37.4
comp=Z,884nm,18.2s,MS4.8,baz=198,slow=34
SBA Scott Base 50.72 194 *e*P **P 13 46 52.2 -0.5**
SBA pmax pmax
comp=Z,27nm,1.6s,mb4.9
SBA MLR MLR
comp=Z,424nm,21.0s,MS4.4
SBA Scott Base 50.72 194 *e*P **P 13 46 52.2 -0.5**
comp=Z,27nm,1.6s,mb4.9
SBA LR LR
comp=Z,424nm,21.0s,MS4.4
RKT Rikitea 52.24 275 *e*LR LR 14 02 08.1
comp=Z,575nm,27.2s
SDV Santo Domingo 54.84 7 P **P 13 47 21.6 -2.2**
comp=Z,3.3nm,0.5s,mb4.7,baz=224,slow=6.3,SNR=4.3
SDV Santo Domingo 54.84 7 *e*P **P 13 47 21.1 -2.7**
comp=Z,6.6nm,0.8s,mb4.7
SYO Syowa Base 55.99 157‖ *e*P **P 13 47 29.4 -2.1**
JTS JuntasAbangare 56.56 350 *e*P **P 13 47 35.0 -1.1**
JTS pmax pmax
comp=Z,30nm,1.3s
JTS JuntasAbangare 56.56 350 *e*P **P 13 47 35.0 -1.2**
comp=Z,30nm,1.3s,mb5.2
TBI Tubuai 62.18 264 *e*LR LR 14 06 26.1
comp=Z,233nm,27.5s
MAW Mawson 62.60 164 *e*P **P 13 48 16.6 -0.5**
comp=Z,6.4nm,1.0s,mb4.7
MAW Mawson 62.60 164 P **P 13 48 16.9 -0.3**
comp=Z,4.1nm,0.8s,mb4.6,baz=203,slow=9.3,SNR=9.9
MAW LR LR 14 14 30.2
comp=Z,1μm,21.4s,MS5.1,baz=208,slow=35
MAW Mawson 62.60 164 *e*P **P 13 48 16.6 -0.5**
MAW pmax pmax
comp=Z,6.0nm,1.0s
PPT Papeete 66.11 269 *e*S S 13 57 34.2 +7.7
comp=Z,81nm,26.0s
PPT Papeete 66.11 269 *e*LR LR 14 08 02.7
comp=Z,230nm,30.0s
PPT Papeete 66.11 269 LR LR 14 08 49.5
comp=Z,200nm,21.9s,MS4.3,baz=130,slow=28
TEIG Tepich 66.80 348 P **P 13 48 44.7 -0.2**
comp=Z,22nm,0.7s,mb5.3,baz=201,slow=2.3,SNR=3.6
TEIG LR LR 14 12 24.4
comp=Z,230nm,20.0s,MS4.4,baz=354,slow=31
RAR Rarotonga 70.72 259 LR LR 14 11 50.8
comp=Z,266nm,18.4s,MS4.5,baz=129,slow=29
LPIG La Paz 76.32 328 LR LR 14 15 14.3
comp=Z,189nm,20.6s,MS4.4,baz=171,slow=29
BOSA Boshof 77.29 118 P **P 13 49 51.9 +3.9**
comp=Z,14nm,0.8s,mb4.9,baz=236,slow=15,SNR=3.0
BOSA LR LR 14 21 26.0
comp=Z,270nm,18.5s,MS4.6,baz=206,slow=34
BOSA Boshof 77.29 118 P **P 13 49 51.5 +3.6**
BOSA *e* 13 49 56.7
BOSA pmax pmax
comp=Z,120nm,1.9s,mb5.5
BOSA MLR MLR
comp=Z,206nm,18.5s,MS4.5
BOSA Boshof 77.29 118 P **P 13 49 51.5 +3.6**
comp=Z,120nm,1.9s,mb5.5
BOSA *e* 13 49 56.7
BOSA LR LR
comp=Z,206nm,18.5s,MS4.5
TXAR Lajitas Array 79.00 336 P **P 13 49 57.7 +0.6**
comp=Z,1.6nm,0.8s,mb4.0,baz=157,slow=8.3,SNR=13
TXAR LR LR 14 19 26.9
comp=Z,121nm,19.5s,MS4.2,baz=320,slow=32
JCT Junction City 79.06 339 *e*P **P 13 49 57.9 +0.5**
JCT *e* 13 50 03.1
JCT pmax pmax
comp=Z,59nm,1.3s,mb5.4
JCT MLR MLR
comp=Z,154nm,21.0s,MS4.3
JCT Junction City 79.06 339 *e*P **P 13 49 57.9 +0.5**
comp=Z,59nm,1.3s,mb5.4
JCT *e* 13 50 03.1
JCT LR LR
comp=Z,154nm,21.0s,MS4.3
LRAL Lakeview Retre 79.25 351 *e*P **P 13 49 57.4 -0.9**
comp=Z,9.7nm,0.7s,mb4.8
GOGA Godfrey 79.29 354 *e*P **P 13 49 58.9 +0.3**
GOGA *e* 13 50 03.5
GOGA pmax pmax
comp=Z,15nm,1.2s,mb4.8
GOGA Godfrey 79.29 354 *e*P **P 13 49 58.9 +0.3**
comp=Z,14nm,1.2s,mb4.8
GOGA *e* 13 50 03.5
LBTB Lobatse 80.07 116 *e*P **P 13 50 02.5 -0.8**
LBTB *e* pP 13 50 11.1 -4.3
LBTB pmax pmax
comp=Z,29nm,1.0s,mb5.2
LBTB Lobatse 80.07 116 *e*P **P 13 50 02.5 -0.8**
comp=Z,29nm,1.0s,mb5.2
LBTB *e* pP 13 50 11.1 -4.3
SWET Sewanee 81.30 352 *e*P **P 13 50 09.1 -0.2**
LIC Lamto 81.55 72 *e*PKP1 **P 13 50 11.7 +0.5**
comp=Z,67nm,1.2s,mb5.5
MIAR Mount Ida 81.68 346 *e*P **P 13 50 12.6 +1.3**
MIAR pmax pmax
comp=Z,15nm,1.4s,mb4.7
MIAR Mount Ida 81.68 346 *e*P **P 13 50 12.6 +1.3**
comp=Z,15nm,1.4s,mb4.7
KIC Kosan Boka 81.84 72 *e*PKP1 **P 13 50 12.1 -0.7**
comp=Z,311nm,1.8s,mb5.9
TIC Toumodi 81.86 72 *e*PKP1 **P 13 50 12.8 -0.1**
comp=Z,71nm,1.0s,mb5.6
DBIC Dimbokro 81.99 72 P **P 13 50 14.4 +0.9**
comp=Z,4.7nm,0.8s,mb4.5,baz=206,slow=1.7,SNR=5.4
DBIC Dimbokro 81.99 72 *e*P **P 13 50 14.0 +0.4**
DBIC *e* 13 50 21.5
DBIC pmax pmax
comp=Z,14nm,0.9s
DBIC MLR MLR
comp=Z,359nm,20.0s
DBIC Dimbokro 81.99 72 *e*P **P 13 50 14.0 +0.5**
comp=Z,14nm,0.9s,mb4.9
DBIC *e* 13 50 21.5
DBIC LR LR
comp=Z,359nm,20.0s,MS4.7
WVT Waverly 82.40 350 *e*P **P 13 50 14.0 -1.1**
WVT pmax pmax
comp=Z,40nm,1.4s,mb5.2
WVT Waverly 82.40 350 *e*P **P 13 50 14.0 -1.1**
comp=Z,40nm,1.4s,mb5.2
GLAT Glass 82.72 349 P **P 13 50 14.2 -2.6**
ELN Prospectdale 82.93 356 P **P 13 50 16.1 -1.7**
AMTX Amarillo 83.72 339 *e*P **P 13 50 22.6 +0.7**
comp=Z,55nm,1.6s,mb5.4
AFI Afiamalu 83.97 256 LR LR 14 20 46.2
comp=Z,174nm,19.5s,MS4.4,baz=166,slow=31

SIUC Southern Illin 84.13 350 P **P 13 50 22.0 -2.0**
LPM Los Pinos Moun 84.53 335 P **P 13 50 27.8 +1.7**
CCM Cathedral Cave 84.74 348 *e*P **P 13 50 25.2 -1.9**
CCM *e* 13 50 32.1
CCM pmax pmax
comp=Z,34nm,0.8s,mb5.5
CCM Cathedral Cave 84.74 348 *e*P **P 13 50 25.2 -1.8**
comp=Z,34nm,0.8s,mb5.5
CCM *e* 13 50 32.1
LAZ Ladron 84.76 335 *e*P **P 13 50 29.1 +1.9**
ANMO Albuquerque 85.07 335 LR LR 14 21 05.5
comp=Z,154nm,21.5s,MS4.4,baz=157,slow=30
ANMO Albuquerque 85.07 335 *e*P **P 13 50 30.1 +1.3**
ANMO *e* 13 50 36.7
ANMO pmax pmax
comp=Z,13nm,1.1s
ANMO Albuquerque 85.07 335 *e*P **P 13 50 30.1 +1.3**
comp=Z,13nm,1.1s,mb5.0
ANMO *e* 13 50 36.7
CBKS Cedar Bluff 87.02 342 *e*P **P 13 50 36.6 -1.7**
CBKS pmax pmax
comp=Z,6.0nm,0.5s,mb5.1
CBKS Cedar Bluff 87.02 342 *e*P **P 13 50 36.6 -1.7**
comp=Z,6.0nm,0.5s,mb5.1
WUAZ Wupatki 87.11 332 *e*P **P 13 50 40.7 +1.9**
comp=Z,31nm,1.6s,mb5.3
WUAZ *e* 13 50 47.0
PFO Pinyon Flat Ob 87.19 327 P **P 13 50 44.0 +4.8**
comp=Z,4.0nm,0.7s,mb4.8,baz=188,slow=2.7,SNR=5.4
SDCO Great Sand Dun 87.42 337 *e*P **P 13 50 40.9 +0.6**
comp=Z,5.7nm,1.0s,mb4.8
SCIA State Center 88.81 347 *e*P **P 13 50 46.9 +0.1**
comp=Z,20nm,0.8s,mb5.5
ACCN Adirondack Com 89.00 2 *e*P **P 13 50 48.6 +1.0**
comp=Z,18nm,1.1s,mb5.3
JFWS Jewell Farm 89.39 350 *e*P **P 13 50 49.9 +0.5**
JFWS *e* 13 50 54.9
JFWS pmax pmax
comp=Z,64nm,1.2s,mb5.8
JFWS Jewell Farm 89.39 350 *e*P **P 13 50 49.9 +0.4**
comp=Z,64nm,1.2s,mb5.8
JFWS *e* 13 50 54.9
CCUT Cedar City 89.62 331 *e*P **P 13 50 52.7 +2.0**
CCUT *e* 13 50 58.4
ARUT Antelope Range 89.86 331 *e*P **P 13 50 53.8 +2.0**
PHWY Pilot Hill 90.74 338 *e*P **P 13 50 56.6 +0.7**
comp=Z,8.1nm,0.9s,mb5.0
PHWY *e* 13 51 03.0
TORD Torodi Ar. Bea 91.09 72 P **P 13 50 57.6 -0.5**
comp=Z,0.5nm,0.6s,mb4.0,baz=211,slow=4.5,SNR=3.6
TORD LR LR 14 27 50.0
comp=Z,251nm,19.2s,MS4.7,baz=240,slow=33
ECSD EROS,Sioux Fal 91.15 345 *e*P **P 13 50 57.3 -0.3**
comp=Z,28nm,1.2s,mb5.5
ECSD *e* 13 51 02.1
NVAR Mina Array Bea 92.15 328 P **P 13 51 02.7 +0.3**
comp=Z,0.4nm,0.7s,mb3.9,baz=182,slow=4.3,SNR=3.4
NVAR Mina Array Bea 92.15 328 P **P 13 51 02.7 +0.3**
PDAR Pinedale Array 93.22 336 P **P 13 51 06.8 -0.5**
comp=Z,0.5nm,0.8s,mb4.0,baz=123,slow=5.5,SNR=3.7
CMLA Cha da Macela 94.97 38 *e*SKiKP 13 59 26.5
CMLA Cha da Macela 94.97 38 *e*PKKP PKKPbc 14 08 05.5 -5.1
CMLA Cha da Macela 94.97 38 *e*LR LR 14 21 56.1
STKA Stephens Creek 95.30 212 LR LR 14 26 14.9
comp=Z,392nm,18.3s,MS4.8,baz=301,slow=30
GERES GERESS Array B 122.48 52 PKhKP 13 56 44.0
comp=Z,0.5nm,0.5s,baz=264,slow=3.6,SNR=4.5
COLA College 123.68 331 *i* PKIKP PKPdf 13 56 52.3 +2.7
AKASG Malin Array Be 132.13 56 PKP PKPdf 13 57 10.4 +4.3
comp=Z,0.3nm,0.3s,baz=262,slow=2.5,SNR=4.1
KIV Kislovodsk 137.62 70 *i* PKIKP PKPdf 13 57 25.5 +8.9
KIV *e*SSS 14 23 26.0
KIV pmax pmax
comp=Z,8.0nm,0.9s
KIV MLR MLR
comp=Z,67nm,21.0s,MS4.3
OBN Obninsk 137.85 52 *e*PKIKP PKPdf 13 57 18.2 +1.5
OBN *e* 13 57 29.1
OBN *e* 14 00 10.7
OBN *e*SS SS 14 18 16.4 +4.0
OBN pmax pmax
comp=Z,4.0nm,0.7s
HYB Hyderabad 144.61 135 *e*PKIKP PKPdf 13 57 28.5 -1.5
PETK Petropavlovsk- 145.06 302 PKP PKPdf 13 57 28.5 -1.2
comp=Z,3.5nm,0.8s,baz=180,slow=1.0,SNR=2.6
SEY Seymchan 148.05 320 *i* PKP2 PKPab 13 57 41.2 +0.7
SOKR Solikamsk 149.18 47‖ *i* PKP2 PKPab 13 57 48.4 +3.2
SOKR pmax pmax
comp=Z,40nm,1.3s
ARU Arti 150.29 53‖ *i* PKIKP PKPab 13 57 50.1 +0.2
ARU Arti 150.29 53 *e*PKPdf PKPdf 13 57 38.8 +0.6
ARU *e*PKPab PKPab 13 57 50.1 +0.3
SVE Sverdlovsk 151.42 52 *i* PKIKP PKPab 13 57 52.7 -1.8
SVE pmax pmax
comp=Z,24nm,1.5s
TIXI Tiksi 151.64 344 *i* PKIKP PKPbc 13 57 48.7 +2.6
TIXI Tiksi 151.64 344 *e*PKPbc PKPbc 13 57 45.5 -0.6
CMAR Chiang Mai Arr 152.26 170 PKPbc PKPbc 13 57 48.0 -1.2
comp=Z,1.6nm,0.5s,baz=220,slow=3.8,SNR=15
MJAR Matsushiro Arr 152.68 262 PKPbc PKPbc 13 57 48.2 -1.3
comp=Z,1.6nm,0.9s,baz=168,slow=3.2,SNR=3.4
YSS Yuzh-Sakhalins 153.35 286 *e*PKP2 PKPab 13 58 06.5 +3.5
DDI Dehra Dun 154.56 119 *ex* x 13 58 02.0
KMI Kunming 159.17 177 PKP PKPdf 13 57 51.3 -0.1
KMI XPKP 13 57 56.3
KMI PKP2 PKPab 13 58 29.8 +1.4
KMI PP PP 14 02 12.5 +3.9
KMI SKS SKSdf 14 04 54.1 +0.4
KMI SKKS SKKSac 14 08 56.8 +1.8
KMI SS SS 14 22 18.4 +8.5
KMI PP PP
comp=Z,60nm,5.4s
KMI LR LR
comp=Z,154nm,22.5s,MS4.8
GYA Guiyang 160.39 188 PKP PKPdf 13 57 52.8 0.0
GYA PKP2 PKPab 13 58 35.3 +1.6
GYA PKS 14 01 24.3
GYA PP PP 14 02 18.6 +3.3
GYA SKS SKSdf 14 04 55.8 +1.0
GYA SKKS SKKSac 14 09 04.8 +3.5
GYA SS SS 14 22 27.0 +4.3
GYA PP PP
comp=Z,120nm,8.6s
GYA LR LR
comp=N,220nm,23.4s
GYA LR LR
comp=E,190nm,21.9s
GYA LR LR
comp=Z,240nm,22.7s
KURK Kurchatov 162.62 65 *i* PKIKP PKPdf 13 58 01.5 +7.2
NVS Novosibirsk 164.20 48 *e*PKIKP PKPdf 13 58 01.0 +5.4
NVS *e* 14 02 36.5
NVS pmax pmax
comp=N,10.0nm,2.5s
NVS pmax pmax
comp=Z,24nm,2.5s
NVS pmax pmax
comp=E,16nm,2.8s
CN2 Changchun 164.53 270 *e*PKP PKPdf 13 57 58.3 +2.0
CD2 Chengdu 164.96 180 *e*PKP PKPdf 13 57 55.6 -1.5
CD2 PKP2 PKPab 13 58 54.4 +0.8
CD2 PP PP 14 02 42.3 +2.9
CD2 SKS SKSdf 14 04 54.5 -3.6
CD2 SKKS SKKSac 14 09 24.1 -0.3
CD2 SS SS 14 23 11.3 +1.3
CD2 PP PP
comp=Z,150nm,10.8s
CD2 LR LR
comp=N,500nm,16.8s
CD2 LR LR
comp=Z,330nm,20.4s
MKAR Makanchi Array 165.11 79 PKP PKPdf 13 57 57.4 +0.7
comp=Z,0.1nm,0.5s,baz=277,slow=1.2,SNR=2.0
MKAR PKPab PKPab 13 58 53.0 -1.1
comp=Z,0.9nm,0.8s,baz=263,slow=4.1,SNR=5.9
MKAR Makanchi Array 165.11 79 PKP PKPdf 13 57 57.4 +0.7
MKAR PKPab PKPab 13 58 53.0 -1.1
ZAA0 Zalesovo Array 165.42 50 *e*PKPdf PKPdf 13 57 56.3 -0.4
ZALV Zalesovo Beam 165.42 50 PKP PKPdf 13 57 55.5 -1.3
comp=Z,0.5nm,0.5s,baz=193,slow=5.8,SNR=5.6
WMQ Urumqi 168.35 95 *e*PKP PKPdf 13 57 57.5 -1.8
WMQ APKP 13 58 02.0
WMQ XPKP 13 58 04.5
WMQ LR LR
comp=N,204nm,23.8s
WMQ LR LR
comp=E,164nm,21.8s
WMQ LR LR
comp=Z,172nm,23.8s
BJI Beijing 169.20 241 PKP PKPdf 13 57 59.8 -0.2
BJI PP PP 14 02 59.9 -2.3
BJI SS SS 14 23 52.3 -2.3
BJI PP PP
comp=Z,10.0nm,13.2s
BJI LR LR
comp=N,156nm,54.5s
BJI LR LR
comp=E,132nm,44.6s
BJI LR LR
comp=Z,170nm,31.2s
LZH Lanzhou 170.12 180 *e*PKP PKPdf 13 57 57.0 -3.6
LZH APKP 13 58 01.0
LZH XPKP 13 58 04.0
LZH PP PP 14 03 06.0 +0.2
LZH SKKS SKKSac 14 09 48.1 -1.7
LZH SS SS 14 24 02.5 +0.5
LZH PP PP
comp=Z,90nm,5.6s
LZH LR LR
comp=E,190nm,20.0s
LZH LR LR
comp=Z,210nm,21.0s
HHC Hu-ho-hao-te 172.39 230 *e*PKP PKPdf 13 58 03.6 +2.0
HHC PKS 14 01 34.3
HHC PP PP 14 03 21.8 +3.9
HHC SKS SKSdf 14 05 04.6 +3.2
HHC SKKS SKKSac 14 10 08.3 +7.4
HHC PP PP
comp=Z,98nm,8.2s
HHC LR LR
comp=N,211nm,19.7s
HHC LR LR
comp=E,132nm,21.6s
HHC LR LR
comp=Z,188nm,21.0s
GTA Gaotai 172.80 154 PKP PKPdf 13 58 03.3 +1.5
GTA PKP2 PKPab 13 59 28.3 +0.2
GTA PP PP 14 03 20.3 +0.9
GTA PP PP
comp=Z,50nm,6.2s
GTA LR LR
comp=N,134nm,20.8s
GTA LR LR
comp=E,126nm,20.2s
GTA LR LR
comp=Z,184nm,22.0s

CASC ***16*** *14:14:48.9±2.4, 1329N×9093W, h122km±23km, MD4.0*
IDC ***16*** *14:15:06.8±9.7, 1433N×9119W, h72km±52km, mb3.7/1, mb1 3.7/4, mb1mx3.4/20, mbtmp3.4/4, ML3.7/3, Error ellipse: s-maj=117.9km s-min=42.3km az=176.0*
ISC 16 14:14:52.1±2.0, 131N±01×909W±02, h35km, n18, σ1901/10, 4C-1D, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
FUG	**Fuego 3**	**1.32**	**3**	*e*P		**Pn**	**14 15 13.1**	**-1.0**
FUG				*e*S		**Sn**	**14 15 30.2**	**-0.3**
JAT	**Jato**	**1.39**	**329**‖	*e*P		**Pn**	**14 15 13.4**	**-1.6**
FG6		**1.44**	**1**‖	*e*P		**Pn**	**14 15 14.5**	**-1.2**
FG6				*e*S		**Sn**	**14 15 34.6**	**+1.3**
SBLS	**San Blas**	**1.44**	**60**‖	*e*P		x	14 15 14.7	
SBLS				*e*S		x	14 15 35.6	
RTR	**El Retiro**	**1.45**	**57**	*e*P		x	14 15 14.9	
SNJE	**San Jose**	**1.47**	**59**‖	*e*P		x	14 15 15.3	
RBDL	**Robledal**	**1.54**	**50**‖	*e*P		x	14 15 16.4	
RBDL				*e*S		x	14 15 37.3	
NBG	**Las Nubes**	**1.56**	**20**	*e*P		**Pn**	**14 15 17.8**	**+0.5**
LFRS	**El Faro**	**1.86**	**74**	*e*P		x	14 15 21.1	
LBRS	**Las Brisas**	**1.91**	**71**	*e*P		x	14 15 22.9	
MTO2	**Montecristo 2**	**1.97**	**49**	*e*P		x	14 15 22.8	
SNVI	**San Vicente**	**2.07**	**76**	*e*P		x	14 15 24.0	
CNCH	**Conchagua**	**2.99**	**87**	*e*P		x	14 15 35.0	
CMIG	**Matias Romero**	**5.51**	**316**	P		**Pn**	**14 16 12.6**	**+0.9**
	0.8nm,0.3s,baz=142,slow=7.4,SNR=7.4							
TEIG	**Tepich**	**7.50**	**19**	P		**Pn**	**14 16 39.5**	**+0.4**
	2.2nm,0.3s,baz=233,slow=14,SNR=8.2							
TXAR	**Lajitas Array**	**20.02**	**326**	P		**P**	**14 19 21.6**	**-0.4**
	0.1nm,0.3s,baz=149,slow=12,SNR=6.8							
NVAR	**Mina Array Bea**	**35.02**	**321**	P		**P**	**14 21 43.0**	**+1.6**
	1.5nm,0.7s,baz=141,slow=8.8,SNR=11							
CMAR	**Chiang Mai Arr**	**147.16**	**343**	PKPbc		PKPbc	14 34 38.4	+6.0
	0.2nm,0.3s,baz=338,slow=2.1,SNR=5.0							

IDC ***16*** *14:21:08.0±3.7, 3.45S×101.13E, h0km, mb4.0/6, mb1 4.1/6, mb1mx3.9/20, mbtmp4.0/6, Error ellipse: s-maj=161.2km s-min=18.2km az=54.0*
NEIC ***16*** *14:21:13.5±1.2, 3.36S×101.28E, h35km, mb4.3/3, Error ellipse: s-maj=55.5km s-min=7.4km az=52.0*
ISCJB ***16*** *14:21:14.2±3.3, 3.6S±02×101.1E±0.3, h70km±20km, mb4.1/8, Error ellipse: s-maj=67.5km s-min=9.3km az=143.1*
DJA ***16*** *14:21:15.6±1.6, 3.3S±13×101E±1.4, h30km, Mjma3.5/4, MLv4.3/4*
ISC 16 14:21:16.2±3.3, 35S±03×1012E±03, h65km±20km, n18, σ090/17, mb4.1/8, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
KSI	**Kapahiang**	**1.38**	**96**	P		**Pn**	**14 21 38.4**	**-1.0**
PDSI	**Padang**	**2.69**	**344**	P		**Pn**	**14 21 56.2**	**-1.0**
PDSI	**Padang**	**2.69**	**344**	S		**Sn**	**14 22 28.8**	**+0.2**
PPI	**Padang Panjang**	**3.14**	**345**	P		**Pn**	**14 22 03.6**	**+0.3**
PPI	**Padang Panjang**	**3.14**	**345**	S		**Sn**	**14 22 42.1**	**+2.4**
CMAR	**Chiang Mai Arr**	**21.94**	**354**	P		**P**	**14 26 03.0**	**-1.5**
	0.9nm,0.7s,mb3.2,baz=186,slow=8.2,SNR=8.4							
WRA	**Warramunga Arr**	**36.19**	**119**	P		**P**	**14 28 13.1**	**+0.3**
	0.7nm,0.3s,mb4.0,baz=300,slow=11,SNR=26							
WRAB	**Tennant Creek**	**36.20**	**119**	*e*P		**P**	**14 28 13.1**	**+0.2**
	1.5nm,0.4s,mb4.3							
WB2	**Warramunga Arr**	**36.20**	**119**	*e*P		**P**	**14 28 13.2**	**+0.3**
ASAR	**Alice Springs**	**37.39**	**125**	P		**P**	**14 28 24.1**	**+1.1**
	0.6nm,0.4s,mb3.9,baz=300,slow=7.6,SNR=21							
CTA	**Charters Tower**	**46.86**	**114**	P		**P**	**14 29 40.8**	**+0.7**
	5.6nm,0.8s,mb4.3,baz=278,slow=5.4,SNR=4.2							
CTAO	**Charters Tower**	**46.86**	**114**	*e*P		**P**	**14 29 41.1**	**+1.0**
	14nm,1.2s,mb4.6							
TKM2	**Tokmak 2**	**51.70**	**336**	*e*P		**P**	**14 30 17.2**	**+0.6**
	1.4nm,0.8s,mb4.0							
MK31	**Makanchi Array**	**52.81**	**344**	*e*P		**P**	**14 30 24.5**	**-0.3**
MKAR	**Makanchi Array**	**52.81**	**344**	P		**P**	**14 30 24.6**	**-0.2**
	1.7nm,0.6s,mb4.3,baz=142,slow=7.4,SNR=11							
ZAA0	**Zalesovo Array**	**58.87**	**349**	P		**P**	**14 31 07.0**	**-1.1**
ZALV	**Zalesovo Beam**	**58.87**	**349**	P		**P**	**14 31 07.3**	**-0.7**
	1.4nm,0.4s,mb4.4,baz=157,slow=4.2,SNR=12							
TXAR	**Lajitas Array**	**145.12**	**40**	PKPbc		PKPbc	14 40 47.6	+1.1
	0.5nm,0.6s,baz=204,slow=1.1,SNR=6.2							

IDC 16 14:25:07.8±4.1, 1850S×17509W, h0km, mb3.7/3, mb1 4.0/3, mb1mx3.8/16, mbtmp3.7/3, Error ellipse: s-maj=295.5km s-min=28.9km az=153.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**47.63**	**260**	P		P	14 33 46.3	+0.2
	0.4nm,0.5s,baz=96,slow=7.6,SNR=17							
ASAR	**Alice Springs**	**47.67**	**255**	P		P	14 33 46.4	0.0
	0.5nm,0.5s,baz=92,slow=7.6,SNR=19							
NVAR	**Mina Array Bea**	**77.70**	**42**	P		P	14 37 07.3	+0.8
	0.8nm,0.8s,baz=217,slow=10,SNR=5.5							
ARCES	**ARCESS Array B**	**127.42**	**351**	PKP		PKPdf	14 44 13.0	-1.0
	7.6nm,1.2s,baz=8.7,slow=1.6,SNR=7.5							

NEIC ***16*** *14:34:34.5, 44.77S×167.28E, h5km, mb4.4/4, ML4.4(WEL), After WEL.*
ISCJB ***16*** *14:34:35.1±0.9, 44.74S±0.04×167.37E±0.06, h20km±7km, mb4.3/8, MS3.9/9, Error ellipse: s-maj=8.3km s-min=4.9km az=136.7*
IDC ***16*** *14:34:40.1±2.6, 44.69S×167.53E, h52km±26km, mb4.0/7, mb1 4.2/8, mb1mx4.1/14, mbtmp4.1/8, ML4.4/2, MS3.9/9, Ms1 3.9/9, ms1mx3.7/20, Error ellipse: s-maj=21.6km s-min=16.6km az=18.0*

ISC 16 14:34:35.8±0.8, 4480S×004×16740E±005, h13km±5km, h14km±.3km: pP-P, n64, σ0§84/49, mb4.3/8, MS3.9/9, 1D, South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSZ	**Milford Sound**	**0.40**	**71**	P	**Pg**	**14 34 44.1**	**+0.5**
MSZ				S	**Sg**	**14 34 49.1**	**+0.2**
DCZ	**Deep Cove**	**0.70**	**195**	P	**Pg**	**14 34 48.7**	**-0.6**
DCZ				S	**Sg**	**14 34 57.9**	**-0.6**
MLZ	**Mavora Lakes**	**0.77**	**135**	P	**Pg**	**14 34 50.8**	**+0.1**
WKZ	**Wanaka**	**1.15**	**92**	P	**Pb**	**14 34 57.5**	**0.0**
WHZ	**Wether Hill Ro**	**1.16**	**161**	P	**Pb**	**14 34 57.2**	**-0.4**
JCZ	**Jackson Bay**	**1.21**	**54**	P	**Pn**	**14 34 58.2**	**-0.2**
EAZ	**Earnscleugh**	**1.42**	**108**	P	**Pn**	**14 35 02.0**	**+0.8**
TUZ	**Tuapeka**	**1.95**	**127**	P	**Pn**	**14 35 09.3**	**+0.8**
LBZ	**Lake Benmore**	**2.03**	**79**	P	**Pn**	**14 35 10.7**	**+1.0**
FOZ	**Fox Glacier**	**2.06**	**54**	P	**Pn**	**14 35 10.1**	**+0.1**
ODZ	**Otahua Downs**	**2.31**	**97**	P	**Pn**	**14 35 14.7**	**+1.1**
RPZ	**Rata Peaks**	**2.84**	**69**	P	**Pn**	**14 35 21.2**	**+0.5**
	239nm,0.3s,baz=228,slow=6.0,SNR=234						
RPZ				S	**Sn**	**14 35 53.6**	**-1.2**
	107nm,0.3s,baz=108,slow=6.3,SNR=5.6						
RPZ	**Rata Peaks**	**2.84**	**69**	P	**Pn**	**14 35 21.0**	**+0.2**
WVZ	**Waitaha Valley**	**2.96**	**56**	P	**Pn**	**14 35 21.4**	**-1.1**
MQZ	**McQueen's Vall**	**3.93**	**76**	P	**Pn**	**14 35 35.0**	**-0.7**
CRLZ	**Canterbury Las**	**3.95**	**74**	P	**Pn**	**14 35 35.3**	**-0.7**
DSZ	**Dennistion Nort**	**4.43**	**48**	P	**Pn**	**14 35 41.4**	**-1.3**
THZ	**Tophouse**	**5.03**	**55**	P	**Pn**	**14 35 50.5**	**-0.4**
QRZ	**Quartz Range**	**5.47**	**45**	P	**Pn**	**14 35 56.4**	**-0.6**
BSWZ	**Blackbirch Sta**	**5.64**	**59**	P	**Pn**	**14 36 03.4**	**+4.1**
NNZ	**Nelson**	**5.66**	**53**	P	**Pn**	**14 35 59.6**	**+0.1**
TCW	**Tory Channel**	**6.18**	**57**	P	**Pn**	**14 36 07.9**	**+1.2**
VRZ	**Vera Road**	**7.88**	**47**	P	**Pn**	**14 36 30.7**	**+0.6**
WTAZ	**Waiatarua**	**9.55**	**37**	P	**Pn**	**14 36 52.8**	**-0.1**
MKAZ	**Moumakai**	**9.66**	**40**	P	**Pn**	**14 36 55.4**	**+0.9**
URZ	**Urewera**	**9.78**	**51**	P	**Pn**	**14 36 55.1**	**-0.9**
	0.9nm,0.3s,baz=339,slow=16,SNR=5.3						
URZ				S	**Sn**	**14 38 37.4**	**-8.2**
	1.0nm,0.3s,baz=75,slow=19,SNR=2.6						
CNB	**Canberra Magne**	**16.72**	**298**	*e*P	**Pn**	**14 38 29.7**	**+0.1**
TOO	**Toolangi**	**17.97**	**286**	*e*P	**Pn**	**14 38 46.6**	**+1.3**
STKA	**Stephens Creek**	**23.89**	**294**	*e*P	**P**	**14 39 50.9**	**+1.8**
	9.8nm,0.9s,mb4.2						
STKA	**Stephens Creek**	**23.89**	**294**	P	**P**	**14 39 49.9**	**+0.7**
	11nm,0.9s,mb4.3,baz=110,slow=12,SNR=10						
STKA				LR	LR	14 48 15.9	
	comp=Z,358nm,18.9s,MS3.9,baz=297,slow=34						
CTA	**Charters Tower**	**30.25**	**318**	LR	LR	14 51 15.9	
	comp=Z,235nm,18.5s,MS3.9,baz=340,slow=33						
SBA	**Scott Base**	**33.16**	**180**	*e*P	**P**	**14 41 14.1**	**+2.6**
	8.1nm,1.1s,mb4.6						
ASAR	**Alice Springs**	**34.45**	**297**	P	**P**	**14 41 22.9**	**-0.2**
	1.5nm,0.6s,mb4.1,baz=131,slow=6.5,SNR=23						
ASAR				PcP	PcP	14 43 56.7	-1.7
	1.8nm,0.7s,baz=129,slow=3.7,SNR=8.9						
RAR	**Rarotonga**	**35.82**	**60**	LR	LR	14 53 32.5	
	comp=Z,180nm,21.7s,MS3.8,baz=223,slow=32						
HNR	**Honiara**	**35.83**	**347**	LR	LR	14 55 03.1	
	comp=Z,198nm,18.7s,MS3.9,baz=177,slow=34						
WB2	**Warramunga Arr**	**36.92**	**301**	*e*P	**P**	**14 41 43.7**	**-0.6**
WRA	**Warramunga Arr**	**36.93**	**301**	P	**P**	**14 41 43.7**	**-0.7**
	5.4nm,1.2s,mb4.3,baz=135,slow=7.8,SNR=20						
WRA				PcP	PcP	14 44 04.3	-1.5
	2.0nm,0.7s,baz=133,slow=2.9,SNR=15						
WRA				LR	LR	14 56 50.4	
	comp=Z,149nm,19.8s,MS3.8,baz=150,slow=36						
TBI	**Tubuai**	**41.04**	**73**	*e*LR	LR	14 53 28.9	
	181nm,35.0s						
FITZ	**Fitzroy Crossi**	**43.79**	**294**	*e*P	**P**	**14 42 40.8**	**-0.4**
	3.4nm,0.6s,mb4.2						
FITZ	**Fitzroy Crossi**	**43.79**	**294**	P	**P**	**14 42 40.7**	**-0.6**
	2.3nm,0.8s,mb4.0,baz=164,slow=9.3,SNR=13						
FITZ				LR	LR	14 59 25.1	
	comp=Z,96nm,18.2s,MS3.8,baz=316,slow=34						
PPT	**Papeete**	**44.99**	**67**	*e*LR	LR	14 55 33.4	
	190nm,23.5s						
PPT	**Papeete**	**44.99**	**67**	LR	LR	14 57 22.4	
	comp=Z,150nm,18.4s,MS4.0,baz=236,slow=30						
QSPA	**South Pole Qui**	**45.32**	**180**	P	**P**	**14 42 54.0**	**+1.2**
	9.3nm,0.9s,mb4.6,baz=9.9,slow=3.5,SNR=26						
QSPA	**South Pole Qui**	**45.32**	**180**	P	**P**	**14 42 54.0**	**+1.2**
BATI	**Baumata**	**50.95**	**299**	LR	LR	15 07 21.4	
	comp=Z,238nm,18.1s,MS4.2,baz=281,slow=38						
RKT	**Rikitea**	**51.31**	**85**	*e*LR	LR	14 58 24.5	
	292nm,30.2s						
MAW	**Mawson**	**54.54**	**207**	*e*P	**P**	**14 44 02.8**	**-0.1**
	1.4nm,0.6s,mb4.2						
MAW	**Mawson**	**54.54**	**207**	P	**P**	**14 44 02.6**	**-0.3**
	3.1nm,1.0s,mb4.3,baz=140,slow=9.5,SNR=9.7						
MAW				LR	LR	15 06 04.8	
	comp=Z,105nm,19.2s,MS3.9,baz=256,slow=34						
SYO	**Syowa Base**	**60.14**	**199**	↓*i*P	**P**	**14 44 40.4**	**-2.1**
VNA3	**Neumayer Olymp**	**64.25**	**181**	*e*	**P**	**14 45 09.8**	**-0.1**
VNA3				*e*	pP	14 45 13.9	-0.1
VNA3				*e*		14 45 21.5	
VNA3				*e*		14 45 27.8	
VNA2	**Neumayer--Watz**	**64.52**	**182**	*e*	**P**	**14 45 11.4**	**-0.3**
	baz=171,slow=5.3						
VNA2				*e*	pP	14 45 15.4	-0.4
VNA2				*e*		14 45 23.8	
VNA2				*e*		14 45 30.1	
VNA1	**Neumayer--Stat**	**64.82**	**182**	*e*	**P**	**14 45 13.4**	**-0.3**
VNA1				*e*	pP	14 45 17.7	0.0
CMAR	**Chiang Mai Arr**	**88.45**	**298**	P	**P**	**14 47 28.4**	**+0.7**
	2.2nm,0.8s,mb4.5,baz=149,slow=3.3,SNR=21						
MKAR	**Makanchi Array**	**117.94**	**309**	PKP	PKPdf	14 53 19.4	-2.1
	0.2nm,0.3s,baz=132,slow=1.8,SNR=4.8						
ZALV	**Zalesovo Beam**	**120.81**	**317**	PKP	PKPdf	14 53 24.1	-2.5
	0.4nm,0.4s,baz=25,slow=4.8,SNR=2.5						
KURK	**Kurchatov**	**122.17**	**311**	PKP	PKPdf	14 53 27.4	-2.0
	1.4nm,0.7s,baz=114,slow=1.8,SNR=9.2						
BR131	**Keskin Array S**	**145.77**	**278**	*e*PKP	PKPdf	14 54 13.2	-0.4
TOA0	**Torodi Ar. Sit**	**146.18**	**206**	*e*PKP	PKPdf	14 54 13.9	-1.1
TORD	**Torodi Ar. Bea**	**146.18**	**206**	PKPbc	PKPbc	14 54 14.1	-1.9
	4.3nm,0.6s,baz=158,slow=2.3,SNR=38						
ARCES	**ARCESS Array B**	**148.70**	**335**	PKPbc	PKPbc	14 54 19.9	-1.4
	3.2nm,0.6s,baz=85,slow=2.6,SNR=17						
ARCES	**ARCESS Array B**	**148.70**	**335**	PKPbc	PKPbc	14 54 19.9	-1.5
AKASG	**Malin Array Be**	**151.56**	**297**	PKPbc	PKPbc	14 54 27.8	-1.0
	8.6nm,0.8s,baz=87,slow=2.2,SNR=20						
AKBB	**Malin Array Si**	**151.56**	**297**	*e*PKPbc	PKPbc	14 54 27.8	-1.1
KAF	**Kangasniemi**	**151.68**	**322**	*ep*	PKPbc	14 54 26.6	-2.1
	7.2nm,0.8s						

NEIC 16 14:49:26.2, 4468S×16738E, h10km, ML4.4(WEL)**, After WEL., South Island**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSZ	**Milford Sound**	**0.39**	**89**	P	Pg	14 49 33.1	-0.8
MSZ				S	Sg	14 49 41.6	+2.5
DCZ	**Deep Cove**	**0.81**	**191**	P	Pg	14 49 42.2	+0.3
MLZ	**Mavora Lakes**	**0.87**	**140**	P	Pg	14 49 40.9	-2.1
MLZ				S	Sg	14 49 55.1	+0.7
JCZ	**Jackson Bay**	**1.16**	**59**	P	Pb	14 49 47.4	-0.9
WKZ	**Wanaka**	**1.18**	**98**	P	Pb	14 49 47.2	-1.4
WHZ	**Wether Hill Ro**	**1.28**	**162**	P	Pn	14 49 47.9	-2.2
EAZ	**Earnscleugh**	**1.48**	**113**	P	Pn	14 49 51.8	-1.0
FOZ	**Fox Glacier**	**2.00**	**57**	P	Pn	14 50 03.5	+3.5
LBZ	**Lake Benmore**	**2.03**	**83**	P	Pn	14 50 00.6	+0.2
TUZ	**Tuapeka**	**2.04**	**130**	P	Pn	14 50 01.1	+0.6
ODZ	**Otahua Downs**	**2.35**	**100**	P	Pn	14 50 04.9	+0.1
RPZ	**Rata Peaks**	**2.81**	**71**	P	Pn	14 50 14.9	+3.7
WVZ	**Waitaha Valley**	**2.91**	**58**	P	Pn	14 50 14.6	+2.1
MQZ	**McQueen's Vall**	**3.91**	**77**	P	Pn	14 50 28.9	+2.6
CRLZ	**Canterbury Las**	**3.93**	**76**	P	Pn	14 50 29.3	+2.8
DSZ	**Dennistion Nort**	**4.36**	**49**	P	Pn	14 50 35.0	+2.5
THZ	**Tophouse**	**4.98**	**56**	P	Pn	14 50 44.7	+3.8
KHZ	**Kahutara**	**5.01**	**65**	P	Pn	14 50 44.2	+2.8
WCZ	**Waipu Caves**	**10.22**	**34**	P	Pn	14 51 56.5	+3.7

*IDC **16** 14:54:41.3±9.6, 3601N×7103E, h130km±87km, mb3.2/6, mb1 3.3/10, mb1mx3.2/25, mbtmp3.2/10, Error ellipse: s-maj=48.1km s-min=21.3km az=23.0*
*NEIC **16** 14:54:46.6±2.0, 3616N×7110E, h179km±17km, mb4.6/4, Error ellipse: s-maj=20.1km s-min=12.2km az=209.0*
*ISCJB **16** 14:54:49.9±1.1, 3643N±006×714E±0.1, h216km±12km, mb3.2/5, Error ellipse: s-maj=18.3km s-min=7.5km az=155.4*
*NNC **16** 14:54:58.0±4.8, 3748N×7123E, h0km, mb4.2, mpv4.1, Error ellipse: s-maj=38.9km s-min=36.4km az=52.0*

ISC 16 14:54:51.1±1.3, 3648N±008×713E±01, h212km±13km, n28, σ1§06/29, mb3.2/5, 3C-3D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AML	**Almayashu**	**5.95**	**18**	P	**Pn**	**14 56 18.2**	**+0.5**
	SNR=154						
AML	**Almayashu**	**5.95**	**18**	↓*e*Pn	**Pn**	**14 56 18.1**	**+0.4**
	120nm,0.6s						
AML				*e*Sn		14 57 23.6	
UCH	**Uchtor**	**6.27**	**23**	P	**Pn**	**14 56 22.3**	**+0.5**
	SNR=46						
UCH	**Uchtor**	**6.27**	**23**	*e*Pn	**Pn**	**14 56 22.1**	**+0.3**
	24nm,0.6s						
UCH				*e*Sn		14 57 31.9	
EKS2	**Erkin-Say**	**6.47**	**17**	P	**Pn**	**14 56 24.9**	**+0.4**
	SNR=25						
EKS2	**Erkin-Say**	**6.47**	**17**	*e*Pn	**Pn**	**14 56 23.9**	**-0.5**
	13nm,0.5s						
AAK	**Ala-Archa**	**6.63**	**21**	P	**Pn**	**14 56 27.3**	**+0.8**
	SNR=30						
KK31	**Karatay Array**	**6.64**	**355**	↑Pn	**Pn**	**14 56 26.0**	**-0.6**
	4.8nm,0.3s,baz=186,slow=14,SNR=112						
KK31				↑Sn		14 57 35.6	
	12nm,0.8s,baz=188,slow=16,SNR=9.7						
KBK	**Karagaybulak**	**6.79**	**24**	P	**Pn**	**14 56 29.9**	**+1.3**
	SNR=22						
CHMS	**Chumysh**	**7.04**	**21**	P	**Pn**	**14 56 32.3**	**+0.5**
	SNR=10						
USP	**Ospenovka**	**7.22**	**19**	P	**Pn**	**14 56 34.0**	**0.0**
	SNR=7.5						
TKM2	**Tokmak 2**	**7.25**	**26**	↓Pn	**Pn**	**14 56 35.0**	**+0.5**
	16nm,0.7s						
TKM2				↑Sn		14 57 46.6	
	1.4nm,0.6s						
TKM2	**Tokmak 2**	**7.25**	**26**	P	**Pn**	**14 56 35.1**	**+0.6**
	SNR=32						
TKM2	**Tokmak 2**	**7.25**	**26**	*e*Pn	**Pn**	**14 56 34.7**	**+0.3**
	30nm,1.0s						
SMLA	**Simla**	**7.25**	**136**	*i* P	**Pn**	**14 56 34.3**	**-0.4**
SMLA				*i* S		14 57 52.0	
SMLA				*i* S		14 57 52.6	
SMLA				*ex*	x	14 57 54.8	
	comp=N,186nm,0.3s						
SMLA				*ex*	x	14 57 58.3	
	comp=E,214nm,0.5s						
MK31	**Makanchi Array**	**13.18**	**35**	*e*P	**Pn**	**14 57 51.0**	**+0.7**
MKAR	**Makanchi Array**	**13.18**	**35**	P	**Pn**	**14 57 51.1**	**+0.8**
	comp=E,0.3nm,0.3s,baz=221,slow=15,SNR=6.5						
KURK	**Kurchatov**	**15.18**	**18**	P	**Pn**	**14 58 12.1**	**-2.7**
	comp=E,0.1nm,0.3s,baz=210,slow=11,SNR=5.2						
AB31	**Akbulak array**	**15.20**	**331**	Pn	**Pn**	**14 58 17.9**	**+2.9**
	comp=E,0.6nm,0.4s,baz=146,slow=12,SNR=20						
AB31				↓Sn	**S**	**15 01 01.7**	**-1.6**
	comp=E,0.8nm,0.6s						
BVAR	**Borovoye Array**	**16.55**	**358**	P	**P**	**14 58 31.2**	**+1.2**
	comp=E,0.5nm,0.3s,baz=158,slow=9.4,SNR=6.6						
AKTK	**Aktyubinsk**	**16.90**	**330**	P	**P**	**14 58 34.2**	**+0.3**
AKTO	**Aktyubinsk**	**16.90**	**330**	P	**P**	**14 58 34.2**	**+0.3**
	comp=E,0.3nm,0.3s,baz=114,slow=12,SNR=4.0						
ZALV	**Zalesovo Beam**	**19.85**	**24**	P	**P**	**14 59 06.6**	**+0.9**
	comp=E,0.6nm,0.4s,baz=224,slow=11,SNR=3.5						
ARCES	**ARCESS Array B**	**41.24**	**338**	P	**P**	**15 02 16.2**	**+1.3**
	comp=E,2.3nm,1.0s,mb3.6,baz=118,slow=7.2,SNR=7.7						
NOA	**NORSAR Array B**	**44.52**	**323**	P	**P**	**15 02 41.4**	**+0.2**
	comp=E,1.0nm,0.8s,mb3.2,baz=122,slow=11,SNR=2.4						
TORD	**Torodi Ar. Bea**	**65.93**	**269**	P	**P**	**15 05 12.2**	**-2.4**
	comp=E,0.4nm,0.5s,mb3.3,baz=50,slow=6.0,SNR=10						
WRA	**Warramunga Arr**	**81.80**	**122**	P	**P**	**15 06 45.2**	**-1.3**
	comp=E,0.1nm,0.3s,mb2.9,baz=325,slow=5.0,SNR=6.1						
ASAR	**Alice Springs**	**84.07**	**125**	P	**P**	**15 06 57.6**	**-0.4**
	comp=E,0.3nm,0.6s,mb3.2,baz=318,slow=4.8,SNR=6.6						

*ISK **16** 14:57:18.6, 3966N×2761E, h5km, ML2.1*
*CSEM **16** 14:57:18.1±0.5, 3964N×2757E, h15km, MD2.8, Error ellipse: s-maj=12.0km s-min=3.2km az=48.0*
*DDA **16** 14:57:20.6, 3977N×2775E, h6km±4km, Md2.8*

ISC 16 14:57:19.4±1.6, 3964N±009×2764E±009, h16km±4km, n8, σ0§81/15, 1D, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BALY	**Balya**	**0.10**	**349**	↓*i*P	**Pg**	**14 57 23.2**	**+0.5**
BALY				*i* S	**Sg**	**14 57 25.1**	**+0.2**
BALB	**Balikesir**	**0.18**	**91**	*e*PG	**Pg**	**14 57 23.7**	**0.0**
BALB				*e*SG	**Sg**	**14 57 26.5**	**-0.3**
DURS	**Dursunbey**	**0.64**	**94**	*e*P	**Pg**	**14 57 32.5**	**+0.5**
DURS				*e*S	**Sg**	**14 57 40.2**	**-0.4**
MRMT	**Marmara Adasi**	**0.96**	**358**	*e*PG	**Pg**	**14 57 37.1**	**-0.8**
MRMT				*e*SG	**Sg**	**14 57 50.8**	**+0.3**
RKY	**Sarkoy-Tekirda**	**1.10**	**341**	*e*PN	**Pn**	**14 57 39.4**	**-0.7**
RKY				*e*SN	**Sn**	**14 57 55.0**	**0.0**
SART	**Tekirdag**	**1.10**	**341**	*e*P	**Pb**	**14 57 37.3**	**-2.7**
SART				*e*S	**Sb**	**14 57 55.1**	**+0.9**
ULDT	**Uludag**	**1.25**	**66**	*e*P	**Pn**	**14 57 42.8**	**+0.6**
ULDT				*e*S	**Sb**	**14 57 57.9**	**-0.6**
YLV	**Yalova**	**1.61**	**55**	*e*PN	**Pn**	**14 57 48.6**	**+1.4**

*IDC **16** 14:58:03.3±1.5, 128N×12584E, h0km, mb4.0/4, mb1 4.0/5, mb1mx3.7/18, mbtmp3.9/5, ML3.2/1, Error ellipse: s-maj=115.9km s-min=18.9km az=68.0*
*ISCJB **16** 14:58:08.1±1.5, 15N±02×1264E±02, h58km±15km, mb4.0/3, Error ellipse: s-maj=36.6km s-min=15.1km az=37.1*
*DJA **16** 14:58:10, 128N×12634E, h30km, MLv4.0/4*

ISC 16 14:58:09.1±1.6, 15N±02×1264E±02, h47km±17km, n8, σ0§94/8, mb4.0/3, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TNTI	**Ternate**	**1.22**	**126**	P	**Pn**	**14 58 29.4**	**-0.3**
MNI	**Manado**	**1.54**	**268**	P	**Pn**	**14 58 34.0**	**-0.1**
LBMI	**Labuha**	**2.39**	**152**	P	**Pn**	**14 58 46.5**	**+0.7**
FITZ	**Fitzroy Crossi**	**19.48**	**182**	P	**Pn**	**15 02 29.0**	**-4.8**
	0.1nm,0.3s,baz=27,slow=18,SNR=3.3						
WRA	**Warramunga Arr**	**22.68**	**160**	P	**P**	**15 03 05.4**	**-1.3**
	3.2nm,0.5s,mb4.0,baz=338,slow=10,SNR=40						
ASAR	**Alice Springs**	**26.05**	**164**	P	**P**	**15 03 39.0**	**+0.9**
	0.8nm,0.5s,baz=347,slow=12,SNR=15						
MKAR	**Makanchi Array**	**59.20**	**326**	P	**P**	**15 08 05.2**	**-0.2**
	0.6nm,0.4s,mb3.9,baz=123,slow=8.8,SNR=8.9						
KURK	**Kurchatov**	**63.44**	**328**	P	**P**	**15 08 34.3**	**+0.3**
	0.9nm,0.5s,mb4.2,baz=136,slow=6.8,SNR=8.7						

*ISK **16** 15:07:07.7, 3729N×2829E, h6km, MD2.7*
*CSEM **16** 15:07:07.7±0.3, 37.19N×2821E, h12km, MD2.7, Error ellipse: s-maj=10.3km s-min=5.9km az=14.0*
*ISCJB **16** 15:07:08.9±0.7, 3725N±005×2823E±005, h12km±6km, Error ellipse: s-maj=8.3km s-min=5.3km az=27.5*
*DDA **16** 15:07:09.4, 3724N×2815E, h7km±5km, Md2.8*

ISC 16 15:07:09.6±1.0, 3726N±005×2824E±004, h7km±18km, n8, σ1§05/16, 1C, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
YER	**Yerkesik**	**0.13**	**162**	PG	**Pg**	**15 07 11.4**	**-0.9**
YER				*e*SG	**Sg**	**15 07 14.0**	**-0.1**
MLSB	**Milas**	**0.37**	**276**	*e*PG	**Pg**	**15 07 16.0**	**-0.7**
MLSB				*e*SG	**Sg**	**15 07 22.4**	**+0.9**
TURN	**Turunc**	**0.48**	**142**	*i* P	**Pg**	**15 07 17.6**	**-1.2**
TURN				*i* S	**Sg**	**15 07 27.2**	**+2.0**
TURN	**Turunc**	**0.48**	**142**	*i* P	**Pg**	**15 07 17.6**	**-1.3**
TURN				*i* S	**Sg**	**15 07 27.2**	**+2.0**
AYDN	**Tasoluk**	**0.49**	**325**	↑*i*P	**Pg**	**15 07 18.6**	**-0.5**
AYDN				*i* S	**Sg**	**15 07 25.9**	**+0.3**
BDRM	**Kayabasi**	**0.66**	**254**	*e*P	**Pg**	**15 07 20.1**	**-2.2**
BDRM				*e*S	**Sg**	**15 07 30.9**	**0.0**
BODT	**Bodrum**	**0.76**	**256**	*e*PG	**Pg**	**15 07 24.6**	**+0.3**
BODT				*e*SG	**Sg**	**15 07 35.5**	**+1.3**
DNZL	**Cakiroluk**	**0.78**	**56**	*e*P	**Pg**	**15 07 25.0**	**+0.4**
DNZL				*e*S	**Sg**	**15 07 38.8**	**+4.1**

NEIC 16 15:14:07.5, 4480S×16728E, h0km, ML4.3(WEL)**, After WEL., South Island**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSZ	**Milford Sound**	**0.48**	**75**	P	Pg	15 14 17.2	+0.5
MSZ				S	Sg	15 14 22.9	0.0
DCZ	**Deep Cove**	**0.68**	**187**	P	Pg	15 14 21.0	+0.4
DCZ				S	Sg	15 14 30.5	+1.0
MLZ	**Mavora Lakes**	**0.84**	**131**	P	Pg	15 14 23.9	+0.4
WHZ	**Wether Hill Ro**	**1.19**	**157**	P	Pg	15 14 30.2	-0.1
WKZ	**Wanaka**	**1.24**	**92**	P	Pg	15 14 30.7	-0.5
JCZ	**Jackson Bay**	**1.28**	**56**	P	Pg	15 14 32.5	+0.4
EAZ	**Earnscleugh**	**1.50**	**107**	P	Pn	15 14 35.3	-0.4
TUZ	**Tuapeka**	**2.02**	**126**	P	Pn	15 14 43.4	+0.6
LBZ	**Lake Benmore**	**2.12**	**80**	P	Pn	15 14 44.9	+0.8
FOZ	**Fox Glacier**	**2.13**	**55**	P	Pn	15 14 44.6	+0.3
ODZ	**Otahua Downs**	**2.40**	**97**	P	Pn	15 14 48.9	+0.9
RPZ	**Rata Peaks**	**2.92**	**70**	P	Pn	15 14 55.7	+0.6
WVZ	**Waitaha Valley**	**3.03**	**57**	P	Pn	15 14 55.9	-0.8
MQZ	**McQueen's Vall**	**4.01**	**76**	P	Pn	15 15 09.7	-0.4
CRLZ	**Canterbury Las**	**4.03**	**74**	P	Pn	15 15 09.9	-0.5
DSZ	**Dennistion Nort**	**4.50**	**49**	P	Pn	15 15 16.0	-0.8
THZ	**Tophouse**	**5.11**	**55**	P	Pn	15 15 25.1	-0.1
KHZ	**Kahutara**	**5.13**	**65**	P	Pn	15 15 25.1	-0.4
QRZ	**Quartz Range**	**5.54**	**46**	P	Pn	15 15 31.0	-0.1
WCZ	**Waipu Caves**	**10.36**	**34**	P	Pn	15 16 37.0	-0.2

*CSEM **16** 15:17:31.8±0.1, 3901N×2673E, h12km, MD3.2, Error ellipse: s-maj=2.5km s-min=1.7km az=80.0*
*ISK **16** 15:17:31.0, 3903N×2666E, h7km, MD3.1*
*DDA **16** 15:17:31.6, 39.11N×2681E, h22km±3km, Md3.2*
*ISCJB **16** 15:17:32.1±0.4, 3905N±002×2677E±003, h8km±4km, Error ellipse: s-maj=4.3km s-min=2.9km az=144.8*
*ATH **16** 15:17:33.7, 3890N×2651E, h24km, MD3.2/4*
*NEIC **16** 15:17:33.7, 3890N×2651E, h24km, MD3.0(ISK), MD3.2(ATH), After ATH.*
*THE **16** 15:17:35.0, 3900N×2658E, h14km, ML3.1/1, Error ellipse: s-maj=1.8km s-min=0.6km az=269.0*

ISC 16 15:17:32.5±0.4, 3905N±002×2676E±003, h8km±3km, n38, σ0§89/56, 2C, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AYVA	**Ayvalik**	**0.26**	**349**	↑*i*P	**Pg**	**15 17 37.3**	**-0.3**
AYVA				*i* S	**Sg**	**15 17 41.4**	**+0.2**
PRK	**Paraskevi**	**0.42**	**297**	P	**Pg**	**15 17 41.8**	**+1.1**
PRK				S	**Sg**	**15 17 47.5**	**+1.2**
PRK	**Paraskevi**	**0.42**	**297**	*e*Pb	**Pg**	**15 17 42.3**	**+1.6**
PRK				S	**Sg**	**15 17 47.5**	**+1.2**
PRK	**Paraskevi**	**0.42**	**297**	*e*Pb	**Pg**	**15 17 42.3**	**+1.6**
PRK				*e*Sb	**Sg**	**15 17 48.5**	**+2.2**
PRK	**Paraskevi**	**0.42**	**297**	*e*PB	**Pg**	**15 17 42.3**	**+1.6**
PRK				*e*SB	**Sg**	**15 17 48.5**	**+2.2**
BLCB	**Balcova**	**0.70**	**161**	*e*PG	**Pg**	**15 17 45.2**	**-0.8**
BLCB				*e*SG	**Sg**	**15 17 55.3**	**+0.2**
URLA	**Izmir**	**0.70**	**190**	*e*P	**Pg**	**15 17 45.2**	**-0.8**
URLA				*e*S	**Sg**	**15 17 58.9**	**+3.8**
KDAG	**Bornova**	**0.76**	**148**	*e*P	**Pg**	**15 17 46.7**	**-0.4**
KDAG				*e*S	**Sg**	**15 17 59.0**	**+2.0**
IZM	**Izmir**	**0.76**	**149**	*e*PG	**Pg**	**15 17 46.6**	**-0.5**
IZM				*e*SG	**Sg**	**15 17 58.4**	**+1.3**
AKS	**Akhisar**	**0.84**	**102**	*e*PG	**Pg**	**15 17 48.5**	**-0.1**
AKHS	**Akhisar**	**0.84**	**102**	*i* P	**Pg**	**15 17 47.5**	**-1.1**
AKHS				*i* S	**Sg**	**15 17 59.3**	**-0.3**
AKHS	**Akhisar**	**0.84**	**102**	*i* P	**Pg**	**15 17 47.5**	**-1.1**
EZN	**Ezine**	**0.84**	**337**	*e*PG	**Pg**	**15 17 48.0**	**-0.6**
EZN				*e*SG	**Sg**	**15 17 59.1**	**-0.5**
CHOS	**Chios island**	**0.86**	**220**	P	**Pg**	**15 17 48.8**	**-0.2**
CHOS				S	**Sg**	**15 17 59.7**	**-0.5**
BALY	**Balya**	**0.96**	**44**	↑*i*P	**Pg**	**15 17 49.1**	**-1.7**
BALY				*i* S	**Sg**	**15 18 02.5**	**-0.8**
BOZC	**Bozcaada**	**0.96**	**326**	*e*P	**Pg**	**15 17 50.1**	**-0

KSP			*e*Sg		**Sg**	15 48 32.6	+0.8
UPC	**Upice**	**0.99**	**183**	*e*PG	**Pg**	15 48 29.5	-0.1
DPC	**Dobruska-Polom**	**1.15**	**173**	Pg	**Pg**	15 48 32.9	+0.2
DPC				*e*Sg	**Sg**	15 48 47.4	-0.2
DPC	**Dobruska-Polom**	**1.15**	**173**	*e*PG	**Pg**	15 48 32.9	+0.2
DPC				*e*SG	**Sg**	15 48 48.0	+0.4
	23nm,0.3s						
PVCC	**Panska Ves**	**1.37**	**226**	*e*Pn	**Pn**	15 48 36.8	-0.2
PVCC	**Panska Ves**	**1.37**	**226**	Pg	**Pg**	15 48 37.0	+0.1
PVCC				Sg	**Sg**	15 48 54.2	-0.4
	141nm,0.2s						
PVCC	**Panska Ves**	**1.37**	**226**	*e*PG	**Pg**	15 48 37.0	+0.1
PVCC				*e*SG	**Sg**	15 48 54.2	-0.4
	141nm,0.2s						
BRG	**Berggiesshubel**	**1.49**	**246**	PN	**Pn**	15 48 38.5	-0.3
BRG				PG	**Pg**	15 48 39.5	+0.2
BRG				SG	**Sg**	15 48 59.6	+0.9
	41nm,0.2s						
PRU	**Pruhonice**	**1.80**	**214**	*e*PN	**Pn**	15 48 43.5	+0.5
PRU				*e*PG	**Pg**	15 48 44.7	-0.5
PRU				*e*SG	**Sg**	15 49 08.9	+0.3
	14nm,0.3s						
MORC	**Moravsky Berou**	**1.94**	**151**	*e*Pn	**Pn**	15 48 44.4	-0.5
MORC				*e*Sn	**Sn**	15 49 10.4	+0.4
MORC				*e*Sg	**Sg**	15 49 11.4	-1.7
	12nm,0.3s						
MORC	**Moravsky Berou**	**1.94**	**151**	*e*Pn	**Pn**	15 48 43.7	-1.2
MORC				*e*Sn	**Sn**	15 49 10.3	+0.3
CLL	**Collm**	**1.95**	**266**	*e*Pg	**Pg**	15 48 47.0	-1.1
CLL				*i* Sg	**Sg**	15 49 12.8	-0.6
CLL				*i* x	x	15 49 22.5	
CLL	**Collm**	**1.95**	**266**	*e*Pg	**Pg**	15 48 47.0	-1.1
CLL				*i* Sg	**Sg**	15 49 12.8	-0.6
OKC	**Ostrava-Krasne**	**2.10**	**141**	*e*PG	**Pg**	15 48 50.8	-0.2
OKC				*e*SG	**Sg**	15 49 17.1	-1.2
VRAC	**Vranov**	**2.21**	**172**	*e*Pn	**Pn**	15 48 48.5	0.0
VRAC				*e*Sg	**Sg**	15 49 20.3	-1.3
	11nm,0.2s						
TREC	**Trest**	**2.23**	**190**	*e*PN	**Pn**	15 48 49.6	+0.7
KRUC	**Moravsky**	**2.44**	**175**	*e*Pn	**Pn**	15 48 51.7	0.0
KRUC				*e*Sg	**Sg**	15 49 27.7	-1.3
	9.6nm,0.2s						
NKC	**Novy Kostel**	**2.64**	**243**	*e*PN	**Pn**	15 48 55.0	+0.5
NKC				*e*PG	**Pg**	15 49 01.0	-0.2
NKC				*e*SG	**Sg**	15 49 36.5	+1.1
	25nm,0.3s						
OJC	**Ojcow**	**2.66**	**117**	*e*Pg	**Pg**	15 49 01.8	+0.1
OJC				*e*Sg	**Sg**	15 49 37.5	+1.2
JAVC	**Velka Javorina**	**2.82**	**158**	*e*Pn	**Pn**	15 48 57.9	+0.9
JAVC				*e*Sg	**Sg**	15 49 41.1	-0.2
	15nm,0.9s						
KHC	**Kasperske Hory**	**2.86**	**215**	*e*PN	**Pn**	15 48 57.7	+0.1
KHC				*e*PG	**Pg**	15 49 03.8	-1.8
KHC				*e*SN	**Sn**	15 49 30.0	-2.7
KHC				*e*SG	**Sg**	15 49 42.1	-0.6
	8.0nm,0.3s						
MOX	**Moxa**	**2.96**	**255**	*e*PG	**Pg**	15 49 07.1	-0.2
MOX				*e*SG	**Sg**	15 49 46.6	+1.0
MODS	**Modra-Piesok**	**3.21**	**166**	*e*SG	**Sg**	15 49 53.7	-0.1
VYHS	**Vyhne**	**3.48**	**149**	*e*PG	**Pg**	15 49 18.3	+0.9
VYHS				*e*SG	**Sg**	15 50 06.0	+3.6
CONA	**Conrad Observa**	**3.57**	**183**	⇓*i*Pn	**Pn**	15 49 07.3	0.0
CONA				⇓*i*Sg	**Sg**	15 50 07.3	+2.0
	5.4nm,0.3s						
CSNA	**Conrad Observa**	**3.57**	**183**	⇓*i*Pn	**Pn**	15 49 07.2	-0.1
CSNA				⇓*i*Sg	**Sg**	15 50 06.6	+1.3
	5.1nm,0.3s						
STHS	**Stebnicka Huta**	**3.88**	**120**	*e*PG	**Pg**	15 49 25.0	-0.1
STHS	**Stebnicka Huta**	**3.88**	**120**	*e*Pg	**Pg**	15 49 25.0	-0.1
KOLS	**Kolonicke sedl**	**4.72**	**120**	*e*SG	**Sg**	15 50 42.1	0.0
KOLS	**Kolonicke sedl**	**4.72**	**120**	*e*Sg	**Sg**	15 50 42.1	0.0

ISCJB ***16*** *16:09:14.8±1.0, 688N±007×7298W±008, h172km±11km, Error ellipse: s-maj=16.3km s-min=6.9km az=38.7*
FUNV ***16*** *16:09:14.8, 672N×73.18W, h161km, MW3.5*
IDC ***16*** *16:09:15.5±4.1, 686N×7305W, h158km±51km, mb1 3.4/2, mb1mx3.0/19, mbtmp3.6/2, Error ellipse: s-maj=373.9km s-min=7.6km az=132.0*

ISC 16 16:09:15.6±1.1, **688N**±007×**7298W**±008, **h169**km±12km, **n12**, σ**0**:**92**/19, **1C, Northern Colombia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAPV	**Capacho**	**1.19**	**34**	⇑*i*P	**Pn**	16 09 44.5	+0.8
CAPV				*e*S	**Sn**	16 10 05.7	+0.3
ROSC	**El Rosal**	**2.41**	**214**	P	**Pn**	16 09 56.8	+0.1
	10nm,0.3s,baz=92,slow=22,SNR=36						
ROSC				S	**Sn**	16 10 27.3	-1.2
	24nm,0.3s,baz=110,slow=19,SNR=14						
VIGV	**El Vigia**	**2.52**	**39**	*e*P	**Pn**	16 09 59.0	+1.1
VIGV				*e*S	**Sn**	16 10 30.7	-0.1
SOCV	**Socops**	**2.53**	**56**	*e*P	**Pn**	16 09 59.2	+1.2
SOCV				*e*S	**Sn**	16 10 30.6	-0.3
SDV	**Santo Domingo**	**3.07**	**49**	P	**Pn**	16 10 06.1	+1.6
	12nm,0.3s,baz=232,slow=3.1,SNR=39						
SDV				S	**Sn**	16 10 43.3	+0.7
	8.9nm,0.3s,baz=259,slow=24,SNR=21						
VIRV	**Villa del Rosa**	**3.65**	**9**	*e*P	**Pn**	16 10 11.7	-0.1
VIRV				*e*S	**Sn**	16 10 53.8	-1.9
CURV	**Curarigua**	**4.32**	**44**	*e*P	**Pn**	16 10 21.3	+0.8
CURV				*e*S	**Sn**	16 11 10.7	-0.4
SIQV	**Siquisique**	**4.89**	**40**	*e*P	**Pn**	16 10 28.4	+0.5
SIQV				*e*S	**Sn**	16 11 23.6	-0.9
BAUV	**El Baul**	**5.31**	**67**	*e*P	**Pn**	16 10 33.2	-0.2
BAUV				*e*S	**Sn**	16 11 32.6	-1.7
CAOV	**Caicara del Or**	**6.63**	**86**	*e*P	**Pn**	16 10 50.1	-0.7
ASAR	**Alice Springs**	**149.25**	**234**	PKPbc	PKPbc	16 28 45.5	+0.5
	0.3nm,0.8s,baz=114,slow=4.0,SNR=4.3						
WRA	**Warramunga Arr**	**150.48**	**241**	PKPbc	PKPbc	16 28 48.9	+0.7
	0.1nm,0.4s,baz=110,slow=2.4,SNR=7.1						

ISCJB ***16*** *16:24:48.9±1.2, 200S±0.1×1779W±0.1, h493km±16km, mb4.0/13, Error ellipse: s-maj=21.8km s-min=12.7km az=141.8*
IDC ***16*** *16:24:51.7±2.0, 2005S×17777W, h520km±23km, mb3.5/9, mb1 3.8/11, mb1mx3.6/18, mbtmp3.6/11, Error ellipse: s-maj=26.8km s-min=14.0km az=146.0*
NEIC ***16*** *16:24:51.4±1.2, 2007S×17779W, h519km±13km, mb4.6/5, Error ellipse: s-maj=23.9km s-min=11.6km az=145.0*

ISC 16 16:24:50.9±1.4, **201S**±01×**1779W**±01, **h505**km±18km, **n34**, σ**0**:**80**/**22**, **mb4.0**/13, **3D, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**8.45**	**45**	P	**P**	16 26 52.2	+0.1
	3.3nm,0.3s,baz=147,slow=17,SNR=3.6						
AFI				S	**S**	16 28 25.6	-5.9
	1.8nm,0.3s,baz=183,slow=23,SNR=4.4						
URZ	**Urewera**	**18.66**	**192**	P	**P**	16 28 36.1	-0.7
	9.2nm,0.3s,baz=292,slow=2.4,SNR=54						
CTA	**Charters Tower**	**33.66**	**264**	⇓*i*P	**P**	16 30 50.4	+1.1
	10nm,0.6s,mb4.4						
CTA	**Charters Tower**	**33.66**	**264**	P	**P**	16 30 50.4	+1.0
	14nm,0.6s,mb4.5,baz=98,slow=10,SNR=23						
STKA	**Stephens Creek**	**38.09**	**244**	⇓*i*P	**P**	16 31 27.2	+1.2
	3.1nm,0.6s,mb3.9						
STKA	**Stephens Creek**	**38.09**	**244**	P	**P**	16 31 27.2	+1.2
	5.8nm,0.8s,mb4.1,baz=96,slow=9.6,SNR=11						
ASAR	**Alice Springs**	**44.74**	**256**	P	**P**	16 32 19.4	+0.4
	18nm,0.8s,mb4.6,baz=85,slow=7.9,SNR=252						
ASAR				S	**S**	16 38 14.4	-4.3
	0.2nm,0.7s,baz=93,slow=16,SNR=2.7						
WB2	**Warramunga Arr**	**44.77**	**262**	*e*P	**P**	16 32 18.8	-0.4
WRAB	**Tennant Creek**	**44.77**	**262**	*e*P	**P**	16 32 18.9	-0.3
	22nm,1.0s,mb4.5						
WRA	**Warramunga Arr**	**44.78**	**262**	P	**P**	16 32 19.0	-0.3
	9.6nm,0.5s,mb4.5,baz=97,slow=7.7,SNR=417						
KAKA	**Kakadu**	**48.09**	**271**	⇓*i*P	**P**	16 32 41.4	-3.1
	15nm,0.8s,mb4.4						
FITZ	**Fitzroy Crossi**	**53.21**	**262**	*e*P	**P**	16 33 21.7	-0.1
	2.9nm,0.4s,mb4.0						
MJAR	**Matsushiro Arr**	**69.93**	**324**	P	**P**	16 35 10.1	-0.8
	0.9nm,0.7s,mb3.4,baz=152,slow=5.7,SNR=4.7						
PETK	**Petropavlovsk-**	**75.88**	**345**	P	**P**	16 35 44.2	-0.5
	1.2nm,0.6s,mb3.6,baz=111,slow=8.1,SNR=4.0						
TXAR	**Lajitas Array**	**86.72**	**57**	P	**P**	16 36 42.2	+1.1
	0.2nm,0.5s,mb3.1,baz=202,slow=6.8,SNR=3.1						
PDAR	**Pinedale Array**	**88.56**	**43**	P	**P**	16 36 48.7	-0.6
	0.4nm,0.6s,mb3.5,baz=198,slow=5.6,SNR=3.3						
VNA3	**Neumayer Olymp**	**88.57**	**176**	*e*	**P**	16 36 48.7	-0.3
VNA3				*e*		16 36 53.4	
VNA2	**Neumayer--Watz**	**89.02**	**177**	*e*	**P**	16 36 51.3	+0.2
	baz=197,slow=4.2						
VNA2				*e*		16 36 55.8	
CMAR	**Chiang Mai Arr**	**90.08**	**290**	P	**P**	16 36 57.8	+0.8
	1.7nm,0.8s,mb3.9,baz=121,slow=2.8,SNR=16						
CHTO	**Chiang Mai**	**90.21**	**290**	*e*P	**P**	16 36 58.2	+0.6
	26nm,2.0s,mb4.7						
ZALV	**Zalesovo Beam**	**110.22**	**321**	PKiKP	PKiKP	16 42 22.5	-2.2
	0.4nm,0.3s,baz=54,slow=2.7,SNR=2.1						
MKAR	**Makanchi Array**	**110.98**	**314**	PKiKP	PKiKP	16 42 24.1	-2.3
	0.2nm,0.2s,baz=126,slow=2.0,SNR=3.2						
BVAR	**Borovoye Array**	**118.82**	**320**	PKP	PKPdf	16 42 39.5	-1.7
	0.8nm,0.5s,baz=168,slow=1.1,SNR=4.5						
ARCES	**ARCESS Array B**	**128.51**	**350**	PKP	PKPdf	16 42 57.6	-1.7
	4.0nm,1.0s,baz=46,slow=2.6,SNR=5.4						
NOA	**NORSAR Array B**	**138.56**	**353**	PKP	PKPdf	16 43 19.3	+1.0
	1.2nm,0.7s,baz=23,slow=4.1,SNR=3.5						
HFS	**Hagfors**	**139.12**	**351**	PKhKP		16 43 08.5	
	0.7nm,0.3s,baz=69,slow=4.8,SNR=3.7						
AKASG	**Malin Array Be**	**142.69**	**331**	PKhKP		16 43 21.4	
	1.1nm,0.4s,baz=42,slow=4.4,SNR=6.8						
BR131	**Keskin Array S**	**146.63**	**313**	*e*PKPbc	PKPbc	16 43 34.5	-1.2
ASF	**Jabal al Asfar**	**146.68**	**298**	PKPbc	PKPbc	16 43 35.0	-1.1
	1.9nm,0.5s,baz=67,slow=1.3,SNR=4.0						
BUR08	**Bucovina Ar. S**	**146.72**	**331**	*e*PKPbc	PKPbc	16 43 35.5	-0.3
CLL	**Collm**	**147.66**	**347**	*e*PKPbc	PKPbc	16 43 37.0	-1.1
	comp=Z,5.0nm,0.6s						
MMAI	**Mount Meron Ar**	**147.70**	**300**	PKPbc	PKPbc	16 43 38.2	-0.5
	comp=Z,4.4nm,0.7s,baz=50,slow=4.4,SNR=4.1						
GEC2	**GERESS Array S**	**149.81**	**345**	*e*PKP	PKPbc	16 43 42.0	-1.4
GERES	**GERESS Array B**	**149.81**	**345**	PKPbc	PKPbc	16 43 42.7	-0.8
	comp=Z,1.3nm,0.6s,baz=35,slow=3.3,SNR=13						

NEIC ***16*** *16:38:47.9, 4470S×16724E, h7km, mb4.6/8, After WEL.*
NEIC Felt at Queenstown and Wanaka.
GCMT ***16*** *16:38:47.9±0.3, 4459S×16721E, h27km±1km, MW5.0/57, Moment Tensor Solution. s21,c28; s57,c81; Duration: 0 Moment tensor: Scale 10^16 Nm; Mrr1.40±.21; Mθθ1.37±.15; Mϕϕ-2.77±.14; Mrθ0.73±.35; Mrϕ-1.59±.11; Mθϕ-1.81±.27; Best double couple: Mw3.4 2900×10^16 NP1:ϕs163.00000°, δ47.00000°, λ158.00000°. NP2: ϕs163.00000°, δ74.00000°, λ45.00000°. Principal axes: T 3.0990, Plg42.0000°, Azm31.0000°; N 0.6600, Plg43.0000°, Azm179.0000°; P -3.7590, Plg17.0000°, Azm285.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
ISCJB ***16*** *16:38:48.2±0.9, 4460S±003×16737E±005, h16km±7km, mb4.5/16, MS4.2/17 Error ellipse: s-maj=6.2km s-min=4.9km az=135.9*
MOS ***16*** *16:38:48.9±0.9, 4464S×16752E, h20km, mb4.8/16, MS4.2/6, Error ellipse: s-maj=21.8km s-min=12.8km az=44.2*
IDC ***16*** *16:38:54.9±2.8, 4463S×16767E, h58km±24km, mb4.2/11, mb1 4.3/11, mb1mx4.3/14, mbtmp4.2/11, ML5.4/1, MS4.1/15, Ms1 4.1/15, ms1mx3.9/25, Error ellipse: s-maj=18.8km s-min=15.5km az=53.0*

ISC 16 16:38:48.7±0.7, **4470S**±003×**16740E**±004, **h7**km±5km, **n128**, σ**1**:**00**/**89**, **mb4.5**/16, **MS4.2**/17, **2C-5D, South Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSZ	**Milford Sound**	**0.38**	**86**	P	**Pg**	16 38 57.3	+1.2
DCZ	**Deep Cove**	**0.80**	**192**	P	**Pg**	16 39 03.1	-1.0
DCZ				S	**Sg**	16 39 13.5	-0.9
MLZ	**Mavora Lakes**	**0.85**	**140**	P	**Pg**	16 39 05.0	-0.1
JCZ	**Jackson Bay**	**1.16**	**58**	P	**Pg**	16 39 11.2	+0.2
JCZ				S	**Sg**	16 39 28.3	+2.3
WKZ	**Wanaka**	**1.16**	**97**	*e*P	**Pg**	16 39 11.0	0.0
WKZ				S	**Sg**	16 39 26.6	+0.5
WHZ	**Wether Hill Ro**	**1.26**	**162**	P	**Pn**	16 39 11.8	-0.8
EAZ	**Earnscleugh**	**1.46**	**112**	P	**Pn**	16 39 15.7	+0.3
EAZ				S	**Sn**	16 39 35.6	+0.9
FOZ	**Fox Glacier**	**2.00**	**56**	P	**Pn**	16 39 23.0	+0.1
TUZ	**Tuapeka**	**2.02**	**129**	P	**Pn**	16 39 23.5	+0.4
LBZ	**Lake Benmore**	**2.02**	**82**	P	**Pn**	16 39 24.2	+1.1
ODZ	**Otahua Downs**	**2.33**	**100**	P	**Pn**	16 39 28.2	+0.8
RPZ	**Rata Peaks**	**2.81**	**71**	P	**Pn**	16 39 34.7	+0.7
	650nm,0.3s,baz=224,slow=5.0,SNR=1032						
RPZ				S	**Sn**	16 40 08.7	+0.7
	525nm,0.3s,baz=27,slow=21,SNR=9.5						
WVZ	**Waitaha Valley**	**2.91**	**57**	P	**Pn**	16 39 33.8	-1.5
MQZ	**McQueen's Vall**	**3.91**	**77**	P	**Pn**	16 39 48.4	-0.6
CRLZ	**Canterbury Las**	**3.92**	**75**	P	**Pn**	16 39 48.4	-0.9
DSZ	**Denniston Nort**	**4.37**	**49**	P	**Pn**	16 39 54.3	-1.1
THZ	**Tophouse**	**4.98**	**56**	P	**Pn**	16 40 03.1	-0.7
KHZ	**Kahutara**	**5.01**	**65**	P	**Pn**	16 40 03.4	-0.8
QRZ	**Quartz Range**	**5.41**	**46**	P	**Pn**	16 40 08.5	-1.2
BSWZ	**Blackbirch Sta**	**5.60**	**60**	P	**Pn**	16 40 13.7	+1.4
NNZ	**Nelson**	**5.60**	**54**	P	**Pn**	16 40 11.7	-0.6
TCW	**Tory Channel**	**6.13**	**58**	P	**Pn**	16 40 19.3	-0.3
SNZO	**South Karori**	**6.34**	**60**	*e*P	**Pn**	16 40 22.3	-0.1
	314nm,0.8s						
CAW	**Cannon Point**	**6.68**	**60**	P	**Pn**	16 40 25.8	-1.3
KIW	**Kapiti Island**	**6.73**	**58**	P	**Pn**	16 40 28.9	+1.1
MRZ	**Mangatainoka R**	**7.25**	**59**	P	**Pn**	16 40 32.9	-2.1
DFE	**Dawson Falls**	**7.33**	**45**	P	**Pn**	16 40 35.7	-0.4
NEZ	**North Egmont**	**7.37**	**45**	P	**Pn**	16 40 36.1	-0.5
WAZ	**Wanganui**	**7.49**	**51**	P	**Pn**	16 40 38.6	+0.3
RAEZ	**Rainy Point**	**7.51**	**46**	P	**Pn**	16 40 38.8	+0.3
VRZ	**Vera Road**	**7.82**	**47**	P	**Pn**	16 40 42.5	-0.3
TSZ	**Takapari Road**	**7.85**	**57**	P	**Pn**	16 40 46.1	+2.9
WTVZ	**West Tongariro**	**8.27**	**50**	P	**Pn**	16 40 49.4	+0.4
WTAZ	**Waiatarua**	**9.47**	**37**	P	**Pn**	16 41 05.0	-0.4
MKAZ	**Mokamakai**	**9.59**	**40**	P	**Pn**	16 41 06.9	-0.2
OTAZ	**Otara**	**9.61**	**39**	P	**Pn**	16 41 07.4	0.0
URZ	**Urewera**	**9.72**	**52**	P	**Pn**	16 41 05.7	-3.1
	3.0nm,0.3s,baz=231,slow=9.7,SNR=14						
URZ				S	**Sn**	16 42 49.7	-8.5
	3.0nm,0.3s,baz=55,slow=7.8,SNR=4.2						
KUZ	**Kuaotunu**	**10.14**	**41**	P	**Pn**	16 41 13.7	-1.0
WCZ	**Waipu Caves**	**10.23**	**34**	P	**Pn**	16 41 14.8	-1.0
OUZ	**Omahuta**	**10.59**	**29**	P	**Pn**	16 41 20.0	-0.8
CNB	**Canberra Magne**	**16.67**	**298**	*e*P	**Pn**	16 42 43.8	+1.2
CNB				*e*S	**Sn**	16 45 37.0	-11
CAN	**Canberra**	**16.89**	**297**	*e*P	**Pn**	16 42 44.7	-0.8
TOO	**Toolangi**	**17.94**	**286**	*e*P	**Pn**	16 43 00.5	+2.0
TOO				*e*S	**Sn**	16 46 08.5	-10
STKA	**Stephens Creek**	**23.84**	**294**	*e*P	**P**	16 44 04.8	+2.4
	11nm,1.1s,mb4.2						
STKA	**Stephens Creek**	**23.84**	**294**	P	**P**	16 44 04.7	+2.2
	8.8nm,1.1s,mb4.1,baz=111,slow=13,SNR=7.5						
STKA				PcP	PcP	16 47 45.0	-0.4
	2.9nm,0.9s,baz=129,slow=23,SNR=3.0						
STKA				LR	LR	16 52 04.8	
	comp=Z,461nm,18.7s,MS4.0,baz=298,slow=33						
CTA	**Charters Tower**	**30.17**	**318**	*e*P	**P**	16 45 01.4	+2.0
	4.3nm,0.8s,mb4.2						
CTA				*e*S	S	16 50 21.9	+23
CTA	**Charters Tower**	**30.17**	**318**	P	**P**	16 45 00.8	+1.4
	5.2nm,0.8s,mb4.3,baz=140,slow=10,SNR=4.2						
CTA				LR	LR	16 58 01.6	
	comp=Z,215nm,18.4s,MS3.8,baz=143,slow=38						
CTA	**Charters Tower**	**30.17**	**318**	*e*P	**P**	16 45 01.4	+2.0
CTA				pmax	pmax		
	comp=Z,4.0nm,0.8s						
SBA	**Scott Base**	**33.26**	**180**	*e*P	**P**	16 45 27.3	+1.2
SBA				pmax	pmax		
	comp=Z,17nm,1.1s,mb4.9						
SBA	**Scott Base**	**33.26**	**180**	*e*P	**P**	16 45 27.3	+1.3
	comp=Z,17nm,1.1s,mb4.9						
ASAR	**Alice Springs**	**34.40**	**296**	P	**P**	16 45 37.0	+0.5
	comp=Z,2.2nm,0.6s,mb4.2,baz=130,slow=6.9,SNR=54						
ASAR				PcP	PcP	16 48 10.8	-1.3
	comp=Z,6.6nm,0.7s,baz=127,slow=3.7,SNR=24						
ASAR	**Alice Springs**	**34.40**	**296**	P	**P**	16 45 37.0	+0.5
ASAR						16 48 10.8	
ASAR				pmax	pmax		
	comp=Z,2.0nm,0.6s						
ASAR				pmax	pmax		
	comp=Z,7.0nm,0.7s						
AFI	**Afiamalu**	**35.44**	**37**	P	**P**	16 45 43.6	-1.8
	comp=Z,20nm,0.9s,mb5.0,baz=250,slow=16,SNR=2.5						
AFI	**Afiamalu**	**35.44**	**37**	P	**P**	16 45 43.6	-1.9
AFI				pmax	pmax		
	comp=Z,21nm,0.9s,mb5.1						
AFI	**Afiamalu**	**35.44**	**37**	P	**P**	16 45 43.6	-1.9
HNR	**Honiara**	**35.73**	**347**	LR	LR	16 56 43.9	
	comp=Z,531nm,20.2s,MS4.3,baz=149,slow=30						
RAR	**Rarotonga**	**35.78**	**60**	LR	LR	16 56 07.6	
	comp=Z,245nm,20.8s,MS4.0,baz=284,slow=29						
WB2	**Warramunga Arr**	**36.86**	**301**	*e*P	**P**	16 45 57.5	-0.2
WRA	**Warramunga Arr**	**36.87**	**301**	P	**P**	16 45 57.8	0.0
	comp=Z,3.3nm,0.8s,mb4.2,baz=135,slow=7.8,SNR=30						
WRA				PcP	PcP	16 48 18.2	-1.2
	comp=Z,6.9nm,0.7s,baz=134,slow=2.9,SNR=33						
WRA				LR	LR	17 00 19.8	
	comp=Z,296nm,18.1s,MS4.1,baz=140,slow=35						
WRA	**Warramunga Arr**	**36.87**	**301**	P	**P**	16 45 57.8	+0.1
WRA						16 48 18.2	
WRA				pmax	pmax		
	comp=Z,3.0nm,0.8s						
WRA				pmax	pmax		
	comp=Z,7.0nm,0.7s						
WRA				MLR	MLR		
	comp=Z,296nm,18.1s						
WRAB	**Tennant Creek**	**36.87**	**301**	*e*P	**P**	16 45 57.7	0.0
WRAB				pmax	pmax		
	comp=Z,10.0nm,1.0s,mb4.6						
WRAB	**Tennant Creek**	**36.87**	**301**	*e*P	**P**	16 45 57.7	0.0
	comp=Z,9.7nm,1.0s,mb4.6						
NWAO	**Narrogin (SRO)**	**40.23**	**269**	LR	LR	17 00 12.7	
	comp=Z,151nm,20.0s,MS3.8,baz=17,slow=32						
TBI	**Tubuai**	**41.02**	**73**	*e*LR	LR	16 57 42.4	
	comp=Z,440nm,24.5s,baz=236						
KAKA	**Kakadu**	**43.65**	**306**	*e*P	**P**	16 46 51.9	-2.0
	comp=Z,12nm,1.1s,mb4.5						
KAKA				*e*		16 48 37.8	
FITZ	**Fitzroy Crossi**	**43.74**	**294**	*e*P	**P**	16 46 55.1	+0.4
	comp=Z,5.3nm,0.6s,mb4.5						
FITZ				*e*		16 48 41.0	
FITZ	**Fitzroy Crossi**	**43.74**	**294**	LR	LR	17 04 29.2	
	comp=Z,111nm,19.1s,MS3.8,baz=335,slow=35						
PPT	**Papeete**	**44.96**	**67**	*e*S	**S**	16 53 34.4	-8.5
	comp=Z,96nm,27.0s						
PPT				*e*LR	LR	16 59 30.4	
	comp=Z,529nm,24.2s,baz=220						
PPT	**Papeete**	**44.96**	**67**	LR	LR	17 01 13.7	
	comp=Z,375nm,20.7s,MS4.3,baz=232,slow=30						
QSPA	**South Pole Qui**	**45.43**	**180**	P	**P**	16 47 08.4	+1.0
	comp=Z,8.6nm,0.8s,mb4.6,baz=358,slow=1.3,SNR=29						
QSPA				PcP	PcP	16 48 45.3	-1.1
	comp=Z,3.1nm,0.7s,baz=31,slow=0.9,SNR=4.0						
QSPA				LR	LR	17 03 42.7	
	comp=Z,390nm,19.3s,MS4.4,baz=59,slow=33						
BATI	**Baumata**	**50.90**	**299**	LR	LR	17 09 28.8	
	comp=Z,309nm,19.6s,MS4.3,baz=127,slow=36						
RKT	**Rikitea**	**51.30**	**85**	*e*LR	LR	17 02 22.8	
	comp=Z,303nm,31.0s						
MAW	**Mawson**	**54.62**	**207**	P	**P**	16 48 17.6	+0.2
	comp=Z,1.8nm,0.5s,mb4.4,baz=123,slow=8.7,SNR=8.1						
MAW				PcP	PcP	16 49 19.8	-0.4
	comp=Z,2.6nm,0.8s,baz=89,slow=1.3,SNR=2.2						
MAW				LR	LR	17 08 41.4	
	comp=Z,335nm,21.8s,MS4.4,baz=101,slow=33						
MAW	**Mawson**	**54.62**	**207**	P	**P**	16 48 17.6	+0.3
MAW						16 49 19.8	
MAW				pmax	pmax		
	comp=Z,2.0nm,0.5s						
MAW				pmax	pmax		
	comp=Z,3.0nm,0.8s						
MAW				MLR	MLR		
	comp=Z,335nm,21.8s						
MAW	**Mawson**	**54.62**	**207**	*e*P	**P**	16 48 17.5	+0.1
	comp=Z,20nm,1.5s,mb4.9						
TAOE	**Nuku Hiva Isla**	**57.54**	**68**	*e*LR	LR	17 05 21.0	
	comp=Z,2μm,23.6s						
SYO	**Syowa Base**	**60.24**	**199**	⇓*i*P	**P**	16 48 56.7	-0.2
VNA3	**Neumayer Olymp**	**64.35**	**181**	*e*P	**P**	16 49 23.2	-1.2
VNA3				*e*

VSR				pmax	pmax			
	comp=N,6.0nm,0.7s							
VSR				pmax	pmax			
	comp=E,10.0nm,0.9s							
KLMR	**Klimovskoe**	**145.65**	**317**	*e*PKIKP	PKPdf	16 58 24.6	-2.0	
TORD	**Torodi Ar. Bea**	**146.27**	**206**	PKPbc	PKPbc	16 58 28.2	-1.9	
	comp=E,8.3nm,0.6s,baz=148,slow=2.1,SNR=68							
SIM	**Simferopol'**	**147.22**	**287**	*d i*PKP2	PKPab	16 58 32.7	-1.1	
SIM				pmax	pmax			
	comp=Z,20nm,0.6s							
OBN	**Obninsk**	**147.31**	**306**	*c i*PKIKP	PKPdf	16 58 28.8	-0.7	
OBN				*e*		17 05 34.8		
OBN				pmax	pmax			
	comp=Z,28nm,0.9s							
DAG	**Danmarks Havn**	**147.72**	**3**	⏚ *i*P	PKPdf	16 58 30.6	+0.9	
	comp=Z,8.0nm,0.6s							
DAG	**Danmarks Havn**	**147.72**	**3**	⏚ *e*P	PKPdf	16 58 30.6	+0.9	
ARCES	**ARCESS Array B**	**148.60**	**335**	PKPbc	PKPbc	16 58 34.0	-1.0	
	comp=Z,13nm,0.7s,baz=66,slow=3.1,SNR=62							
ARCES	**ARCESS Array B**	**148.60**	**335**	PKP2	PKPbc	16 58 34.0	-1.0	
ARCES				pmax	pmax			
	comp=Z,13nm,0.7s							
JOF	**Joensuu**	**149.14**	**322**	*e*p	PKPdf	16 58 33.8	+1.5	
	comp=Z,9.0nm,0.7s							
SFJD	**Kangerlussuaq**	**149.93**	**29**	PKPbc	PKPdf	16 58 36.1	+2.6	
	comp=Z,11nm,0.6s,baz=228,slow=1.7,SNR=8.6							
SFJD	**Kangerlussuaq**	**149.93**	**29**	PKHKP	PKPdf	16 58 36.1	+2.6	
SFJD				pmax	pmax			
	comp=Z,11nm,0.6s							
AKASG	**Malin Array Be**	**151.51**	**297**	PKPbc	PKPbc	16 58 41.8	-0.8	
	comp=Z,17nm,0.7s,baz=81,slow=2.4,SNR=58							
AKASG	**Malin Array Be**	**151.51**	**297**	*i* PKIKP	PKPbc	16 58 41.5	-1.1	
AKASG				pmax	pmax			
	comp=Z,17nm,0.7s							
KAF	**Kangasniemi**	**151.59**	**322**	*e*p	PKPdf	16 58 40.2	+4.0	
	comp=Z,22nm,0.9s							
KEST	**Kesra**	**161.04**	**249**	PKPab	PKPab	16 59 33.4	+0.9	
	comp=Z,3.1nm,0.8s,baz=347,slow=3.8,SNR=6.5							
GERES	**GERESS Array B**	**161.55**	**292**	PKPab	PKPab	16 59 33.9	-0.4	
	comp=Z,0.9nm,0.6s,baz=109,slow=3.4,SNR=8.8							
GERES	**GERESS Array B**	**161.55**	**292**	PKP2	PKPab	16 59 33.9	-0.4	
GERES				pmax	pmax			
	comp=Z,1.0nm,0.6s							
ESDC	**Sonseca Array**	**171.86**	**235**	PKPab	PKPab	17 00 19.7	-0.3	
	comp=Z,1.0nm,0.6s,baz=110,slow=3.5,SNR=7.0							

IDC **16** *16:54:44.2± 1.3, 45.15S×16740E, h0km, mb3.4/3, mb1 3.8/5, mb1mx3.7/14, mbtmp3.7/5, ML3.1/1, Error ellipse: s-maj=33.7km s-min=26.1km az=174.0*
ISCJB **16** *16:54:45.9± 1.6, 4462S×006×16731E±008, h8km±10km, mb3.5/3, Error ellipse: s-maj=11.3km s-min=8.1km az=44.6*
NEIC **16** *16:54:47.7, 4472S×16734E, h5km, ML4.4(WEL), After WEL.*

ISC 16 16:54:47.0±1.2, 4469S×006×16735E±008, h6km±7km, n23, σ0§64/25, mb3.5/3, South Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MSZ	**Milford Sound**	**0.41**	**88**	P	**Pg**	**16 54 55.6**	**+0.6**
MSZ				S	**Sg**	**16 55 00.3**	**0.0**
DCZ	**Deep Cove**	**0.80**	**190**	P	**Pg**	**16 55 02.3**	**-0.1**
MLZ	**Mavora Lakes**	**0.88**	**139**	P	**Pg**	**16 55 03.6**	**-0.3**
JCZ	**Jackson Bay**	**1.18**	**59**	P	**Pg**	**16 55 09.9**	**+0.3**
WKZ	**Wanaka**	**1.20**	**97**	P	**Pg**	**16 55 09.5**	**-0.4**
WHZ	**Wether Hill Ro**	**1.28**	**161**	P	**Pn**	**16 55 10.6**	**-0.8**
EAZ	**Earnscleugh**	**1.49**	**112**	P	**Pn**	**16 55 14.5**	**+0.2**
FOZ	**Fox Glacier**	**2.02**	**57**	P	**Pn**	**16 55 21.6**	**0.0**
LBZ	**Lake Benmore**	**2.05**	**83**	P	**Pn**	**16 55 22.8**	**+0.9**
TUZ	**Tuapeka**	**2.05**	**129**	P	**Pn**	**16 55 22.5**	**+0.6**
ODZ	**Otahua Downs**	**2.37**	**100**	P	**Pn**	**16 55 27.1**	**+0.8**
RPZ	**Rata Peaks**	**2.83**	**71**	Pn	**Pn**	**16 55 33.2**	**+0.4**
	37nm,0.3s,baz=221,slow=4.4,SNR=78						
RPZ				Sn	**Sn**	**16 56 07.0**	**-0.1**
	52nm,0.3s,baz=335,slow=14,SNR=9.5						
RPZ	**Rata Peaks**	**2.83**	**71**	P	**Pn**	**16 55 32.9**	**+0.2**
WVZ	**Waitaha Valley**	**2.93**	**58**	P	**Pn**	**16 55 32.5**	**-1.6**
MQZ	**McQueen's Vall**	**3.94**	**77**	P	**Pn**	**16 55 47.3**	**-0.6**
DSZ	**Denniston Nort**	**4.38**	**49**	P	**Pn**	**16 55 52.9**	**-1.1**
THZ	**Tophouse**	**5.00**	**56**	P	**Pn**	**16 56 03.0**	**+0.5**
QRZ	**Quartz Range**	**5.42**	**46**	P	**Pn**	**16 56 07.6**	**-0.7**
URZ	**Urewera**	**9.73**	**52**	Pn	**Pn**	**16 57 08.5**	**+1.0**
	0.2nm,0.3s,baz=158,slow=10,SNR=2.8						
URZ				Sn	**Sn**	**16 58 42.0**	**-15**
	0.2nm,0.3s,baz=269,slow=23,SNR=2.0						
ASAR	**Alice Springs**	**34.37**	**296**	P	**P**	**17 01 35.2**	**+0.6**
	0.4nm,0.8s,mb3.4,baz=134,slow=7.9,SNR=3.3						
WRA	**Warramunga Arr**	**36.84**	**301**	P	**P**	**17 01 55.9**	**0.0**
	0.4nm,0.9s,mb3.3,baz=135,slow=7.9,SNR=5.2						
QSPA	**South Pole Qui**	**45.44**	**180**	P	**P**	**17 03 00.7**	**-5.3**
	1.4nm,1.1s,mb3.7,baz=283,slow=4.4,SNR=3.4						
ARCES	**ARCESS Array B**	**148.58**	**335**	PKPbc	PKPbc	17 14 32.2	-1.2
	1.8nm,0.9s,baz=56,slow=3.1,SNR=4.7						

IDC **16** *16:57:30.3± 2.4, 1.42N×12728E, h0km, mb3.5/3, mb1 3.7/3, mb1mx3.5/15, mbtmp3.5/3, Error ellipse: s-maj=191.9km s-min=26.9km az=66.0*
ISCJB **16** *16:57:36.8± 0.9, 09N±02×12620E±009, h57km±15km, mb3.6/3, Error ellipse: s-maj=35.4km s-min=9.3km az=18.4*
DJA **16** *16:57:36.6± 0.5, 1N±10×126E±, h30km, MLv3.5/2*

ISC 16 16:57:37.4±1.1, 09N±02×12619E±008, h41km±20km, n7, σ1§23/7, mb3.6/3, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TNTI	**Ternate**	**1.18**	**94**	P	**Pn**	**16 57 57.7**	**+0.2**
TNTI	**Ternate**	**1.18**	**94**	S	**Sn**	**16 58 12.4**	**0.0**
MNI	**Manado**	**1.47**	**294**	P	**Pn**	**16 58 01.2**	**-0.2**
MNI	**Manado**	**1.47**	**294**	S	**Sn**	**16 58 19.7**	**+0.2**
WRA	**Warramunga Arr**	**22.16**	**159**	P	**P**	**17 02 28.4**	**-1.5**
	1.2nm,0.7s,mb3.5,baz=341,slow=11,SNR=27						
ASAR	**Alice Springs**	**25.50**	**163**	P	**P**	**17 03 03.9**	**+1.7**
	0.8nm,0.3s,mb3.7,baz=346,slow=11,SNR=31						
MKAR	**Makanchi Array**	**59.62**	**326**	P	**P**	**17 07 37.0**	**-0.3**
	0.2nm,0.3s,mb3.7,baz=131,slow=6.8,SNR=3.7						

IDC **16** *16:57:46.2± 1.2, 4859S×16431E, h0km, mb4.0/6, mb1 4.1/7, mb1mx4.0/13, mbtmp4.0/7, ML3.5/1, MS3.7/1, Ms1 3.6/1, ms1mx3.0/16, Error ellipse: s-maj=29.8km s-min=26.1km az=48.0*
NEIC **16** *16:57:47.4± 0.6, 4856S×16436E, h10km, mb4.4/1, Error ellipse: s-maj=14.8km s-min=12.7km az=179.0*
ISCJB **16** *16:57:49.6± 1.0, 486S±01×1642E±01, h33km, mb3.9/7, Error ellipse: s-maj=20.3km s-min=10.7km az=149.3*

ISC 16 16:57:51.8±1.0, 486S±01×1641E±01, h35km, n12, σ0§69/11, mb3.9/7, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MCQ	**Macquarie Isla**	**6.72**	**207**	*e*Pn	**Pn**	**16 59 18.4**	**-9.5**
RPZ	**Rata Peaks**	**6.85**	**47**	Pn	**Pn**	**16 59 25.9**	**-3.8**
	0.9nm,0.3s,baz=317,slow=22,SNR=6.4						
RPZ				Sn	**Sn**	**17 00 46.6**	**+0.2**
	4.7nm,0.3s,baz=328,slow=19,SNR=3.6						
STKA	**Stephens Creek**	**23.85**	**306**	P	**P**	**17 03 02.1**	**+0.5**
	1.8nm,0.6s,mb3.6,baz=126,slow=14,SNR=2.8						
STKA				LR	LR	17 10 57.7	
	comp=Z,184nm,21.1s,baz=203,slow=33						
ASAR	**Alice Springs**	**34.48**	**305**	P	**P**	**17 04 36.5**	**+0.2**
	1.1nm,0.6s,mb4.0,baz=137,slow=7.8,SNR=18						
WB2	**Warramunga Arr**	**37.30**	**310**	*e*P	**P**	**17 05 00.2**	**-0.2**
WRA	**Warramunga Arr**	**37.30**	**310**	P	**P**	**17 04 59.9**	**-0.6**
	1.5nm,0.8s,mb3.9,baz=144,slow=7.9,SNR=8.7						
WRAB	**Tennant Creek**	**37.30**	**310**	P	**P**	**17 04 59.6**	**-0.8**
	9.0nm,1.3s,mb4.4						
QSPA	**South Pole Qui**	**41.52**	**180**	P	**P**	**17 05 34.7**	**-0.2**
	2.7nm,1.0s,mb3.8,baz=9.8,slow=3.6,SNR=4.6						
FITZ	**Fitzroy Crossi**	**43.53**	**301**	P	**P**	**17 05 52.0**	**+0.1**
	2.4nm,0.6s,mb4.1,baz=168,slow=11,SNR=16						
CMAR	**Chiang Mai Arr**	**88.34**	**300**	P	**P**	**17 10 41.1**	**+1.4**
	0.5nm,0.9s,mb3.7,baz=157,slow=4.9,SNR=3.8						
AKASG	**Malin Array Be**	**151.07**	**291**	PKPbc	PKPbc	17 17 39.7	-0.4
	0.3nm,0.3s,baz=93,slow=1.9,SNR=3.7						
ARCES	**ARCESS Array B**	**151.09**	**331**	PKPbc	PKPbc	17 17 40.0	+0.4
	2.0nm,0.6s,baz=58,slow=3.0,SNR=8.6						

ISK **16** *16:57:51.0, 3849N×3932E, h13km, MD2.9*

DDA **16** *16:57:51.8, 3849N×3926E, h5km±4km, Md2.7*
CSEM **16** *16:57:51.2± 0.2, 3849N×3929E, h5km, MD2.9, Error ellipse: s-maj=7.5km s-min=4.6km az=80.0*
ISCJB **16** *16:57:52.1± 0.7, 3851N±003×3928E±005, h2km±7km, Error ellipse: s-maj=6.6km s-min=5.2km az=138.5*

ISC 16 16:57:52.4±0.6, 3850N±004×3925E±005, h7km±6km, n9, σ0§80/16, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SVRC	**Sivrice-ELAZID**	**0.13**	**158**	*e*PG	**Pg**	**16 57 54.6**	**-0.5**
SVRC				*e*SG	**Sg**	**16 57 56.7**	**-0.2**
ELZG	**Elazig**	**0.20**	**270**	*i* P	**Pg**	**16 57 56.4**	**-0.1**
ELZG				*i* S	**Sg**	**16 57 59.9**	**+0.6**
PTK	**Pertek**	**0.41**	**16**	*e*PG	**Pg**	**16 57 60.0**	**-0.3**
PTK				*e*SG	**Sg**	**16 58 05.6**	**-0.1**
DIYA	**Diyarbakir**	**0.90**	**130**	*i* P	**Pg**	**16 58 09.8**	**+0.3**
DIYA				*i* S	**Sg**	**16 58 22.1**	**+0.9**
DIYA	**Diyarbakir**	**0.90**	**130**	*i* P	**Pg**	**16 58 09.8**	**+0.2**
DIYA				*i* S	**Sg**	**16 58 22.1**	**+0.9**
URFA	**Urfa**	**1.11**	**198**	*e*PN	**Pn**	**16 58 13.6**	**-0.7**
DARE	**Darende-Malaty**	**1.22**	**292**	*e*PN	**Pn**	**16 58 16.7**	**+1.0**
MARD	**Mardin**	**1.69**	**134**	*i* P	**Pn**	**16 58 22.2**	**-0.1**
MARD				*i* S	**Sn**	**16 58 44.4**	**+0.2**
GZT	**Gaziantep**	**1.75**	**230**	*i* P	**Pn**	**16 58 20.8**	**-2.3**
GZT				*i* S	**Sn**	**16 58 49.5**	**+3.9**

THE **16** *17:01:11.7, 3790N×2099E, h3km±12km, ML2.8/1, Error ellipse: s-maj=12.3km s-min=1.2km az=254.0*
CSEM **16** *17:01:12.5± 0.5, 3790N×2085E, h8km, MD3.2, Error ellipse: s-maj=13.7km s-min=6.6km az=28.0*
ISCJB **16** *17:01:13.1± 1.2, 3794N±008×2088E±007, h11km±8km, Error ellipse: s-maj=14.7km s-min=7.0km az=32.5*
ATH **16** *17:01:13.1, 3794N×2086E, h17km±5km, MD3.2/4*
NEIC **16** *17:01:13.1, 3794N×2086E, h17km, MD3.2(ATH), After ATH.*

ISC 16 17:01:13.1±1.6, 379N±01×2086E±008, h10km±13km, n11, σ0§66/18, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KFL	**Anninata**	**0.21**	**345**	P	**Pg**	**17 01 16.8**	**-0.6**
VLS	**Valsamata**	**0.34**	**322**	P	**Pg**	**17 01 19.6**	**-0.2**
VLS				S	**Sg**	**17 01 25.8**	**+1.4**
VLS	**Valsamata**	**0.34**	**322**	*e*Pb	**Pg**	**17 01 20.0**	**+0.2**
VLS				*e*Sb	**Sg**	**17 01 25.6**	**+1.2**
VLS	**Valsamata**	**0.34**	**322**	*e*PB	**Pg**	**17 01 20.0**	**+0.2**
VLS				*e*SB	**Sg**	**17 01 25.6**	**+1.2**
RLS	**Riolos of Patr**	**0.50**	**73**	*e*Pb	**Pg**	**17 01 22.8**	**-0.1**
RLS				*e*Sb	**Sg**	**17 01 30.0**	**+0.5**
RLS	**Riolos of Patr**	**0.50**	**73**	*e*PB	**Pg**	**17 01 22.8**	**-0.1**
RLS				*e*SB	**Sg**	**17 01 30.0**	**+0.5**
LKD	**Levkas**	**0.81**	**348**	P	**Pg**	**17 01 27.6**	**-1.2**
ITM	**Ithomi**	**1.12**	**130**	*e*Pn	**Pn**	**17 01 34.5**	**-0.4**
ITM				*e*Sn	**Sn**	**17 01 50.8**	**+0.4**
ITM	**Ithomi**	**1.12**	**130**	*e*PN	**Pn**	**17 01 34.5**	**-0.4**
ITM				*e*SN	**Sn**	**17 01 50.8**	**+0.4**
EVR	**Evrytania**	**1.25**	**36**	*e*Pn	**Pn**	**17 01 36.7**	**0.0**
EVR	**Evrytania**	**1.25**	**36**	*e*PN	**Pn**	**17 01 36.7**	**0.0**

ISCJB **16** *17:03:04.8± 0.4, 4010N±002×2638E±003, h8km±4km, Error ellipse: s-maj=4.2km s-min=3.1km az=40.8*
ISK **16** *17:03:04.4, 4008N×2639E, h7km, MD3.0*
DDA **16** *17:03:04.8, 4009N×2637E, h16km±3km, Md2.8*
CSEM **16** *17:03:04.5± 0.1, 4009N×2636E, h15km, MD3.0, Error ellipse: s-maj=1.9km s-min=1.6km az=172.0*
THE **16** *17:03:07.2, 4010N×2626E, h32km±17km, ML2.7/3, Error ellipse: s-maj=17.1km s-min=0.6km az=287.0*

ISC 16 17:03:05.3±0.3, 4010N±002×2635E±003, h12km±4km, n29, σ0§89/48, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
EZN	**Ezine**	**0.27**	**185**	*e*PG	**Pg**	**17 03 10.1**	**-0.8**
EZN				*e*SG	**Sg**	**17 03 14.4**	**-0.3**
BOZC	**Bozcaada**	**0.35**	**222**	*i* P	**Pg**	**17 03 12.2**	**0.0**
BOZC				*i* S	**Sg**	**17 03 17.1**	**+0.2**
GADA	**Gvkgeada**	**0.36**	**285**	*e*PG	**Pg**	**17 03 12.8**	**+0.4**
GADA				*e*SG	**Sg**	**17 03 18.0**	**+0.6**
AYVA	**Ayvalik**	**0.83**	**162**	*i* P	**Pg**	**17 03 21.1**	**-0.2**
AYVA				*i* S	**Sg**	**17 03 32.2**	**+0.1**
ALN	**Alexandroupoli**	**0.83**	**344**	P	**Pg**	**17 03 21.7**	**+0.4**
ALN				S	**Sg**	**17 03 32.7**	**+0.5**
PRK	**Paraskevi**	**0.85**	**184**	P	**Pg**	**17 03 22.0**	**+0.3**
PRK				S	**Sg**	**17 03 34.0**	**+1.1**
RKY	**Sarkoy-Tekirda**	**0.86**	**47**	*e*PG	**Pg**	**17 03 21.3**	**-0.6**
RKY				*e*SG	**Sg**	**17 03 33.9**	**+0.7**
SART	**Tekirdag**	**0.86**	**47**	*i* P	**Pg**	**17 03 21.2**	**-0.7**
SART				*i* S	**Sg**	**17 03 34.0**	**+0.8**
LIA	**Limnos Island**	**0.92**	**258**	P	**Pg**	**17 03 22.5**	**-0.5**
LIA				S	**Sg**	**17 03 33.9**	**-1.2**
MFT	**Murefte**	**0.99**	**46**	*e*PG	**Pg**	**17 03 23.6**	**-0.7**
MFT				*e*SG	**Sg**	**17 03 38.1**	**+1.0**
BALY	**Balya**	**1.04**	**110**	*i* P	**Pb**	**17 03 25.5**	**+0.4**
BALY				*i* S	**Sb**	**17 03 38.8**	**+0.2**
MRMT	**Marmara Adasi**	**1.07**	**62**	*e*PG	**Pg**	**17 03 24.9**	**-1.0**
MRMT				*e*SG	**Sg**	**17 03 39.1**	**-0.8**
BNT	**Bandirma**	**1.23**	**77**	*e*PN	**Pn**	**17 03 27.4**	**-0.7**
BNT				*e*SN	**Sn**	**17 03 44.1**	**-0.6**
BALB	**Balikesir**	**1.26**	**111**	*e*PN	**Pn**	**17 03 27.9**	**-0.7**
BALB				*e*SN	**Sn**	**17 03 45.7**	**+0.2**
TKR	**Tekirdag**	**1.27**	**45**	*e*PN	**Pn**	**17 03 28.1**	**-0.6**
DURS	**Dursunbey**	**1.71**	**106**	*i* P	**Pn**	**17 03 38.0**	**+3.2**
DURS				*i* S	**Sn**	**17 03 57.8**	**+1.3**
DURS	**Dursunbey**	**1.71**	**106**	*i* S	**Sn**	**17 03 57.8**	**+1.3**
EDRB	**Edirne**	**1.77**	**9**	*e*PN	**Pn**	**17 03 37.0**	**+1.3**
SLVT	**Silivri**	**1.81**	**51**	*e*PN	**Pn**	**17 03 36.5**	**+0.3**
DST	**Dursunbey**	**1.82**	**105**	*e*PN	**Pn**	**17 03 36.2**	**-0.1**
ELBA	**Catalca**	**1.90**	**56**	*i* P	**Pn**	**17 03 35.0**	**-2.4**
ELBA				*i* S	**Sn**	**17 03 59.0**	**-2.2**
CTKS	**Kestanelik-??a**	**1.99**	**55**	*e*PN	**Pn**	**17 03 39.2**	**+0.5**
DEMI	**Demirci**	**2.11**	**119**	*i* P	**Pn**	**17 03 40.9**	**+0.6**
DEMI				*i* S	**Sn**	**17 04 06.2**	**-0.2**
ULDT	**Uludag**	**2.13**	**88**	*i* P	**Pn**	**17 03 43.7**	**+3.1**
ULDT				*i* S	**Sn**	**17 04 12.9**	**+5.9**
ULDT	**Uludag**	**2.13**	**88**	*i* S	**Sn**	**17 04 12.9**	**+5.8**
GEMT	**Gemlik**	**2.19**	**80**	*e*PN	**Pn**	**17 03 42.1**	**+0.6**
MANT	**Manisa**	**2.35**	**133**	*i* P	**Pn**	**17 03 42.0**	**-1.5**
MANT				*i* S	**Sn**	**17 04 20.6**	**+8.3**
YLV	**Yalova**	**2.35**	**78**	*e*PN	**Pn**	**17 03 44.4**	**+0.7**
CAVI	**Cavuskoy**	**2.67**	**87**	*e*PN	**Pn**	**17 03 48.6**	**+0.5**

NIED **16** *17:03:00, 3730N×13890E, h11km, Mw3.5 Best double couple: M0 2.35000×10^14 NP1:φs43.00000°, δ53.00000°, λ94.00000°. NP2:φs216.00000°, δ37.00000°, λ85.00000°.*
ISCJB **16** *17:03:07.4± 0.5, 3729N×004×13888E±005, h25km±6km, mb3.6/2, Error ellipse: s-maj=7.8km s-min=5.9km az=30.3*
JMA **16** *17:03:08.2, 3729N×13889E, h15km±1km, M3.7 Broadband fault plane solution: P waves. NP1: φs247.00000°, δ47.00000°, λ119.00000°. NP2: φs28.00000°, δ51.00000°, λ62.00000°. Principal axes: T Plg69.0000°, Azm232.0000°; N Plg21.0000°, Azm46.0000°; P Plg2.0000°, Azm137.0000°;*
JMA Felt IV J1.
IDC **16** *17:03:11.2± 2.6, 3721N×13854E, h35km±17km, mb3.3/3, mb1 3.5/3, mb1mx3.2/21, mbtmp3.3/3 Error ellipse: s-maj=24.0km s-min=15.3km az=17.0*

ISC 16 17:03:07.7±0.6, 3729N±004×13888E±005, h18km±4km, n13, σ0§65/19, mb3.6/2, 1C-5D, Near west coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JHK	**Hiroka**	**0.12**	**112**	⏚ P	**Pg**	**17 03 11.4**	**-0.1**
JHK				S	**Sg**	**17 03 13.8**	**-0.2**
JIZZ	**Izumozaki**	**0.28**	**330**	⏚ P	**Pg**	**17 03 14.4**	**+0.6**
JKT	**Katashina**	**0.60**	**151**	⏚ P	**Pg**	**17 03 19.8**	**+0.2**
JKT				S	**Sg**	**17 03 28.1**	**+0.4**
JNS	**Sasagawa**	**0.63**	**33**	⇑ P	**Pg**	**17 03 19.8**	**-0.3**
JNS				S	**Sg**	**17 03 28.6**	**+0.1**
JFY	**Yanaizu**	**0.67**	**80**	⏚ P	**Pb**	**17 03 20.7**	**-0.1**
JFY				S	**Sb**	**17 03 29.8**	**+0.1**
JSD	**Sado**	**0.89**	**327**	⏚ P	**Pb**	**17 03 23.7**	**-1.0**
MAT	**Matsushiro**	**0.92**	**216**	P	**Pb**	**17 03 24.7**	**-0.5**
MAT				S	**Sb**	**17 03 36.8**	**-0.3**
MAT	**Matsushiro**	**0.92**	**216**	P	**Pb**	**17 03 24.8**	**-0.4**
MAT				S	**Sb**	**17 03 36.8**	**-0.3**
MJAR	**Matsushiro Arr**	**0.92**	**216**	Pg	**Pg**	**17 03 25.4**	**-0.3**
	69nm,0.3s,baz=20,slow=17,SNR=905						
MJAR				Lg		17 03 36.9	
	139nm,0.3s,baz=20,slow=28,SNR=41						
KSRS	**Korea Array**	**8.73**	**274**	Pn	**Pn**	**17 05 15.8**	**+2.8**
	0.7nm,0.3s,baz=88,slow=15,SNR=12						
PETK	**Petropavlovsk-**	**20.54**	**34**	P	**P**	**17 07 50.7**	**+5.7**
	2.5nm,0.7s,baz=218,slow=9.1,SNR=3.2						
WRA	**Warramunga Arr**	**57.09**	**185**	P	**P**	**17 12 53.2**	**+0.3**
	0.4nm,0.5s,mb3.7,baz=0.1,slow=7.5,SNR=18						
ASAR	**Alice Springs**	**60.81**	**185**	P	**P**	**17 13 18.2**	**-0.5**
	0.3nm,0.9s,mb3.4,baz=4.7,slow=6.9,SNR=5.1						

NEIC **16** *17:09:48.7± 1.6, 2.95S×13999E, h10km, mb4.2/2, Error ellipse: s-maj=51.3km s-min=16.2km az=98.0*
IDC **16** *17:09:49.2± 3.0, 2.95S×13977E, h0km, mb3.5/4, mb1 4.0/6, mb1mx3.8/15, mbtmp3.9/6, ML4.2/2, Error ellipse: s-maj=70.3km s-min=25.6km az=89.0*
ISCJB **16** *17:09:50.8± 1.2, 2.98S±007×1400E±02, h33km, mb3.8/4, Error ellipse: s-maj=28.0km s-min=10.0km az=6.4*

ISC 16 17:09:54.3±1.1, 307S±007×1397E±02, h35km, n14, σ1§21/19, mb3.8/4, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KAKA	**Kakadu**	**11.99**	**217**	*e*P	**Pn**	**17 12 41.1**	**-1.7**
	25nm,0.5s						
KAKA				*e*S	**Sn**	**17 14 55.1**	**-0.3**
KAKA	**Kakadu**	**11.99**	**217**	*e*Pn	**Pn**	**17 12 40.7**	**-2.1**
	50nm,0.5s						
KAKA				*e*Sn	**Sn**	**17 14 54.2**	**-1.2**
BATI	**Baumata**	**17.45**	**245**	P	**Pn**	**17 13 56.3**	**+1.2**
	1.3nm,0.3s,baz=119,slow=23,SNR=3.2						
WRAB	**Tennant Creek**	**17.56**	**197**	*e*Pn	**Pn**	**17 13 56.4**	**0.0**
	5.5nm,0.6s						
WB2	**Warramunga Arr**	**17.57**	**197**	*e*P	**Pn**	**17 13 57.0**	**+0.4**
WB2				*e*Sn	**Sn**	**17 17 10.9**	**-0.4**
WRA	**Warramunga Arr**	**17.58**	**197**	P	**Pn**	**17 13 56.1**	**-0.5**
	0.7nm,0.3s,baz=16,slow=13,SNR=23						
WRA				S	**S**	**17 17 02.9**	**-15**
	baz=16,slow=22,SNR=2.5						
FITZ	**Fitzroy Crossi**	**20.34**	**222**	*e*P	**P**	**17 14 29.0**	**+1.3**
	5.3nm,0.8s						
FITZ				*e*S	**S**	**17 18 11.7**	**-2.3**
FITZ	**Fitzroy Crossi**	**20.34**	**222**	P	**P**	**17 14 28.7**	**+1.0**
	2.3nm,0.6s,baz=50,slow=9.9,SNR=24						
FITZ				S	**S**	**17 18 05.5**	**-8.6**
	1.5nm,1.0s,baz=207,slow=14,SNR=1.8						
ASAR	**Alice Springs**	**21.24**	**195**	P	**P**	**17 14 38.5**	**+1.2**
	2.5nm,0.8s,mb3.6,baz=22,slow=11,SNR=30						
MBWA	**Marble Bar**	**26.50**	**226**	*e*P	**P**	**17 15 30.9**	**+2.3**
	18nm,1.5s,mb4.4						
CMAR	**Chiang Mai Arr**	**45.50**	**300**	P	**P**	**17 18 10.2**	**-0.4**
	0.3nm,0.6s,mb3.4,baz=124,slow=5.8,SNR=5.2						
YSS	**Yuzh-Sakhalins**	**49.88**	**3**	P	**P**	**17 18 41.5**	**-2.7**
MKAR	**Makanchi Array**	**70.69**	**322**	P	**P**	**17 21 06.8**	**+0.2**
	0.2nm,0.2s,mb3.6,baz=104,slow=7.8,SNR=3.9						
DBIC	**Dimbokro**	**144.54**	**277**	PKPdf	PKPdf	17 29 23.6	-4.6

IDC **16** *17:25:20.6± 1.5, 270N×12705E, h0km, mb3.8/6, mb1 4.0/6, mb1mx3.7/17, mbtmp3.8/6, Error ellipse: s-maj=76.4km s-min=18.6km az=63.0*
NEIC **16** *17:25:21.0± 0.7, 286N×12734E, h10km, mb4.3/5, Error ellipse: s-maj=40.6km s-min=8.3km az=66.0*
ISCJB **16** *17:25:22.7± 1.0, 28N±02×1272E±04, h33km, mb4.0/8, Error ellipse: s-maj=58.7km s-min=11.3km az=155.7*

ISC 16 17:25:24.8±1.0, 28N±02×1273E±04, h35km, n14, σ0§42/14, mb4.0/8, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**20.85**	**184**	P	**P**	**17 30 03.6**	**-0.2**
	1.8nm,0.8s,baz=16,slow=11,SNR=6.4						
FITZ	**Fitzroy Crossi**	**20.85**	**184**	*e*P	**P**	**17 30 03.3**	**-0.5**
	9.2nm,1.2s						
WRAB	**Tennant Creek**	**23.65**	**163**	*e*P	**P**	**17 30 32.8**	**-0.4**
	2.5nm,0.6s,mb3.8						
WRA	**Warramunga Arr**	**23.66

URZ	**Urewera**	**9.74**	**52**	Pn		**Pn**	**17 52 46.0**	**-2.5**
	0.3nm,0.3s,baz=180,slow=17,SNR=2.1								
URZ				Sn		**Sn**	**17 54 29.4**	**-8.7**
	0.4nm,0.3s,baz=188,slow=15,SNR=2.8								
CTAO	**Charters Tower**	**30.18**	**318**	P		**P**	**17 56 40.1**	**+1.2**
	23nm,1.6s,mb4.7								
ASAR	**Alice Springs**	**34.40**	**296**	P		**P**	**17 57 16.2**	**+0.3**
	0.2nm,0.6s,mb3.2,baz=132,slow=6.3,SNR=8.3								
WRA	**Warramunga Arr**	**36.88**	**301**	P		**P**	**17 57 37.1**	**-0.1**
	0.4nm,0.8s,mb3.3,baz=135,slow=7.6,SNR=8.1								
PMG	**Port Moresby**	**39.30**	**327**	P		**P**	**17 57 56.5**	**-1.1**
	21nm,1.0s,mb4.8								
CMAR	**Chiang Mai Arr**	**88.40**	**298**	P		**P**	**18 03 22.6**	**+1.8**
	0.3nm,0.7s,mb3.6,baz=168,slow=4.6,SNR=3.6								
CMAR	**Chiang Mai Arr**	**88.40**	**298**	P		**P**	**18 03 22.6**	**+1.8**
TOA0	**Torodi Ar. Sit**	**146.24**	**206**	*e*PKPdf		PKPdf	18 10 06.6	-1.8
TORD	**Torodi Ar. Bea**	**146.24**	**206**	PKPbc		PKPbc	18 10 07.8	-1.6
	0.5nm,0.5s,baz=142,slow=2.3,SNR=9.1								

ISCJB ***16*** *17:56:45.2±0.8, 2405N±002×12230E±002, h12km±5km, Error ellipse: s-maj=2.9km s-min=2.3km az=150.4*
TAP ***16*** *17:56:45.3, 24.11N×122.25E, h10km, ML3.4, D*
JMA ***16*** *17:56:45.6±0.2, 2435N×122.16E, h42km±3km, M2.9*

ISC 16 17:56:45.2±0.4**,2407N**±002×**12229E**±002**,h11**km±2km**,**
n50,σ0°**75/97,Taiwan region**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
ENA	**Nanau**	**0.62**	**306**	*i* P		**Pg**	**17 56 57.7**	**+0.4**
	baz=304							
ENA				*i* S		**Sg**	**17 57 05.5**	**+0.2**
	baz=304							
HWA	**Hwalien**	**0.63**	**262**	*i* P		**Pg**	**17 56 57.9**	**+0.4**
	baz=257							
HWA				*i* S		**Sg**	**17 57 07.1**	**+1.3**
	baz=257							
TWD	**Chiawan**	**0.63**	**272**	*i* P		**Pg**	**17 56 57.4**	**-0.1**
	baz=267							
TWD				*i* S		**Sg**	**17 57 07.0**	**+1.1**
	baz=267							
TWC	**Suao**	**0.67**	**324**	*i* P		**Pg**	**17 56 57.8**	**-0.6**
	baz=323							
TWC				*e*S		**Sg**	**17 57 06.1**	**-1.1**
	baz=323							
YOJ	**Yonaguni jima**	**0.77**	**59**	P		**Pg**	**17 57 00.3**	**+0.2**
YOJ				*e*S		**Sg**	**17 57 10.8**	**+0.6**
ESL	**Shilin**	**0.82**	**253**	*i* P		**Pg**	**17 57 00.7**	**-0.4**
	baz=248							
ESL				*i* S		**Sg**	**17 57 13.3**	**+1.4**
	baz=248							
ILA	**Ilan**	**0.85**	**325**	P		**Pg**	**17 57 01.8**	**0.0**
	baz=324							
ILA				S		**Sg**	**17 57 13.4**	**+0.4**
	baz=324							
TWE	**Neicheng**	**0.86**	**319**	P		**Pg**	**17 57 01.8**	**-0.2**
	baz=318							
TWE				S		**Sg**	**17 57 13.4**	**+0.1**
	baz=318							
NNS	**Nan Shan**	**0.92**	**294**	P		**Pg**	**17 57 02.9**	**0.0**
	baz=292							
NNS				S		**Sg**	**17 57 15.3**	**+0.4**
	baz=292							
WHF	**Hehuan Shan**	**0.94**	**275**	*e*P		**Pg**	**17 57 03.1**	**-0.3**
	baz=272							
WHF				*e*S		**Sg**	**17 57 16.1**	**+0.6**
	baz=272							
TWB1	**Santiao Chiao**	**0.98**	**344**	*e*P		**Pg**	**17 57 02.5**	**-1.6**
	baz=345							
TWB1				*e*S		**Sg**	**17 57 16.0**	**-0.9**
	baz=345							
NSK	**Sanguang**	**1.04**	**306**	*e*P		**Pb**	**17 57 04.8**	**-0.5**
	baz=304							
EHY	**Hungye**	**1.04**	**238**	*e*P		**Pb**	**17 57 04.3**	**-1.0**
	baz=234							
EHY				*e*S		**Sg**	**17 57 17.8**	**-1.2**
	baz=234							
NWF	**Wu-fen Shan**	**1.10**	**335**	*e*P		**Pb**	**17 57 05.5**	**-0.8**
	baz=335							
NWF				*e*S		**Sb**	**17 57 19.9**	**-0.7**
	baz=335							
TWA	**Mucha**	**1.11**	**325**	*e*P		**Pb**	**17 57 06.8**	**+0.3**
	baz=324							
TWA				*e*S		**Sb**	**17 57 20.7**	**-0.3**
	baz=324							
TWF1	**Yuli**	**1.15**	**232**	*e*P		**Pb**	**17 57 05.9**	**-1.3**
	baz=229							
TWF1				*e*S		**Sb**	**17 57 21.7**	**-0.3**
	baz=229							
TAP1	**Taipei**	**1.20**	**324**	*e*P		**Pn**	**17 57 07.8**	**0.0**
	baz=324							
TAP1				*e*S		**Sb**	**17 57 23.8**	**+0.5**
	baz=324							
CHKT	**Chengkung**	**1.28**	**222**	*e*P		**Pn**	**17 57 06.8**	**-2.2**
	baz=219							
SMLT	**Sun Moon Lake**	**1.28**	**262**	*e*P		**Pn**	**17 57 08.6**	**-0.4**
	baz=259							
SMLT				*e*S		**Sb**	**17 57 25.2**	**-0.6**
	baz=259							
NSTT	**Nanjuang**	**1.30**	**296**	*e*P		**Pn**	**17 57 09.3**	**0.0**
	baz=294							
NSTT				*e*S		**Sb**	**17 57 26.9**	**+0.5**
	baz=294							
IRIF	**Iriomote-Funau**	**1.34**	**78**	P		**Pn**	**17 57 09.6**	**-0.3**
IRIF				S		**Sb**	**17 57 27.6**	**0.0**
YUS	**Yu-Shan**	**1.35**	**245**	*e*P		**Pn**	**17 57 10.0**	**+0.1**
	baz=242							
YUS				*e*S		**Sb**	**17 57 26.9**	**-0.9**
	baz=242							
TWY	**Chenhua**	**1.36**	**333**	*e*P		**Pn**	**17 57 10.0**	**-0.1**
	baz=332							
TWY				*e*S		**Sb**	**17 57 27.6**	**-0.5**
	baz=332							
HATJ	**Hateruma jima**	**1.39**	**90**	P		**Pn**	**17 57 11.0**	**+0.5**
HATJ				*e*S		**Sn**	**17 57 30.1**	**+1.4**
NSY	**Sanyi**	**1.44**	**284**	*e*P		**Pn**	**17 57 10.3**	**-0.9**
	baz=282							
NSY				*e*S		**Sn**	**17 57 30.0**	**0.0**
	baz=282							
ELDTW	**Lidau**	**1.46**	**233**	*e*P		**Pn**	**17 57 10.2**	**-1.2**
	baz=231							
ELDTW				*e*S		**Sn**	**17 57 29.4**	**-1.0**
	baz=231							
ALS	**Alishan**	**1.47**	**248**	*e*P		**Pn**	**17 57 12.0**	**+0.4**
	baz=245							
ALS				*e*S		**Sn**	**17 57 30.4**	**-0.3**
	baz=245							
TCU	**Taichung**	**1.48**	**274**	*e*P		**Pn**	**17 57 11.8**	**+0.1**
	baz=271							
TCU				*e*S		**Sn**	**17 57 30.9**	**-0.1**
	baz=271							
CHN5	**Tsauling**	**1.55**	**253**	*e*P		**Pn**	**17 57 13.3**	**+0.7**
	baz=250							
CHN5				*e*S		**Sn**	**17 57 33.3**	**+0.6**
	baz=250							
PCYT	**Pengchaiyu**	**1.57**	**353**	*e*P		**Pn**	**17 57 13.6**	**+0.6**
	baz=353							
PCYT				*e*S		**Sn**	**17 57 33.4**	**+0.1**
	baz=353							
JKRS	**Kuro-shima**	**1.58**	**83**	P		**Pn**	**17 57 13.7**	**+0.6**
JKRS				*e*S		**Sn**	**17 57 34.1**	**+0.5**
WGK	**Gukeng**	**1.62**	**257**	*e*P		**Pn**	**17 57 14.0**	**+0.2**
	baz=254							
WGK				*e*S		**Sn**	**17 57 34.9**	**+0.3**
	baz=254							
STYT	**Tauyuan**	**1.67**	**238**	*e*P		**Pn**	**17 57 14.2**	**-0.2**
	baz=235							
STYT				*e*S		**Sn**	**17 57 35.2**	**-0.4**
	baz=235							
TWG	**Pinlang**	**1.67**	**222**	*e*P		**Pn**	**17 57 12.9**	**-1.5**
	baz=220							
TWG				*e*S		**Sn**	**17 57 33.0**	**-2.7**
	baz=220							
JIJ	**Ishigaki jima**	**1.72**	**80**	P		**Pn**	**17 57 14.9**	**-0.1**
JIJ				*e*S		**Sn**	**17 57 36.3**	**-0.7**
WTP	**Ta-pu**	**1.74**	**242**	*e*P		**Pn**	**17 57 16.1**	**+0.8**
	baz=240							
WTP				*e*S		**Sn**	**17 57 38.0**	**+0.6**
	baz=240							
CHN2	**Minshiung**	**1.74**	**253**	*e*P		**Pn**	**17 57 15.7**	**+0.4**
	baz=250							
CHN2				*e*S		**Sn**	**17 57 38.0**	**+0.4**
	baz=250							
TWK	**Hsinying**	**1.83**	**245**	*e*P		**Pn**	**17 57 17.1**	**+0.5**
	baz=242							
TWK				*e*S		**Sn**	**17 57 40.3**	**+0.6**
	baz=242							
CHN1	**Nanshi**	**1.84**	**242**	*e*P		**Pn**	**17 57 17.2**	**+0.6**
	baz=239							
CHN1				*e*S		**Sn**	**17 57 40.4**	**+0.6**
	baz=239							
SGST	**Jiashian**	**1.84**	**238**	*e*P		**Pn**	**17 57 17.5**	**+0.7**
	baz=236							
SGST				*e*S		**Sn**	**17 57 40.4**	**+0.4**
	baz=236							
ECL	**Taimali**	**1.91**	**220**	*e*P		**Pn**	**17 57 15.8**	**-1.8**
	baz=218							
WSF	**Szhu**	**1.94**	**258**	*e*P		**Pn**	**17 57 18.5**	**+0.4**
	baz=255							
WSF				*e*S		**Sn**	**17 57 42.7**	**+0.3**
	baz=255							
SSD	**Sandimen**	**2.01**	**230**	*e*P		**Pn**	**17 57 20.1**	**+1.0**
	baz=227							
SSD				*e*S		**Sn**	**17 57 45.2**	**+1.1**
	baz=227							
CHN3	**Shinhua**	**2.02**	**241**	*e*P		**Pn**	**17 57 19.9**	**+0.7**
	baz=239							
CHN3				*e*S		**Sn**	**17 57 45.2**	**+0.8**
	baz=239							
TWM1	**Shoushan**	**2.11**	**235**	*e*P		**Pn**	**17 57 21.2**	**+0.8**
	baz=232							
TWM1				*e*S		**Sn**	**17 57 46.9**	**+0.2**
	baz=232							
LAY	**Lan-yu**	**2.13**	**199**	*e*P		**Pn**	**17 57 20.4**	**-0.2**
	baz=197							
LAY				*e*S		**Sn**	**17 57 46.0**	**-1.0**
	baz=197							
EAST	**Anshuo**	**2.13**	**219**	*e*P		**Pn**	**17 57 19.8**	**-1.0**
	baz=216							
EAST				*e*S		**Sn**	**17 57 46.3**	**-0.9**
	baz=216							
JTJ	**Tarama**	**2.27**	**75**	P		**Pn**	**17 57 23.3**	**+0.6**
JTJ				*e*S		**Sn**	**17 57 50.5**	**-0.2**
SCZT	**Fangliau**	**2.28**	**223**	*e*P		**Pn**	**17 57 24.0**	**+1.3**
	baz=220							
SCZT				*e*S		**Sn**	**17 57 51.3**	**+0.5**
	baz=220							
PNG	**Penghu**	**2.55**	**259**	*e*P		**Pn**	**17 57 27.7**	**+1.2**
	baz=257							
PNG				*e*S		**Sn**	**17 57 56.9**	**-0.6**
	baz=257							

CSEM ***16*** *17:58:27.3±0.2, 4303N×1784E, h2km, ML2.3, Error ellipse: s-maj=5.5km s-min=3.0km az=40.0*
ISCJB ***16*** *17:58:28.7±0.4, 4304N±002×1792E±003, h10km, Error ellipse: s-maj=3.5km s-min=2.5km az=37.1*
BEO ***16*** *17:58:28.8±0.6, 4297N×1784E, h10km±4km, ML2.3/2*
NEIC ***16*** *17:58:28.5, 4303N×1790E, h6km, ML2.6(PDG), After PDG.*
PDG ***16*** *17:58:28.5±0.1, 4303N×1790E, h6km, MD2.5/1, ML2.6/9, Error ellipse: s-maj=0.2km s-min=0.3km az=0.0*

ISC 16 17:58:29.1±0.6**,4304N**±003×**1788E**±003**,h1**km±5km**,n28,**
σ1§**28**/50**,9C-4D,Northwestern Balkan Peninsula**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
STON	**Ston**	**0.21**	**218**	⇓*i*	Pg	**Pg**	**17 58 33.7**	**+0.5**
STON					Sg	**Sg**	**17 58 38.1**	**+2.2**
STON	**Ston**	**0.21**	**218**		Sg	**Sg**	**17 58 38.1**	**+2.2**
TREB	**Trebinje**	**0.47**	**133**	⇑*i*	Pg	**Pg**	**17 58 37.5**	**-0.6**
TREB					*e*Sg	**Sg**	**17 58 44.8**	**+0.6**
BRY	**Bratogost**	**0.51**	**106**	⇓*i*	Pg	**Pg**	**17 58 37.5**	**-1.3**
BRY					*i* Sg	**Sg**	**17 58 45.4**	**0.0**
HCY	**Herceg Novi**	**0.75**	**142**	⇑*i*	Pg	**Pg**	**17 58 42.0**	**-1.4**
HCY					*i* Sg	**Sg**	**17 58 53.4**	**+0.3**
UPM	**Unac-Piva**	**0.77**	**77**	⇑*i*	Pg	**Pg**	**17 58 42.5**	**-1.4**
UPM					*i* Sg	**Sg**	**17 58 54.6**	**+0.7**
NKY	**Niksic**	**0.85**	**105**	⇓*i*	Pg	**Pg**	**17 58 43.9**	**-1.5**
NKY					*i* Sg	**Sg**	**17 58 57.1**	**+0.6**
BUM	**Brajici-Budva**	**1.05**	**134**	*e*	Pg	**Pg**	**17 58 47.7**	**-1.6**
BUM					*i* Sg	**Sg**	**17 59 03.8**	**+0.9**
PLE	**Pljevlja**	**1.15**	**75**	⇑*i*	Pg	**Pg**	**17 58 49.6**	**-1.5**
PLE					*i* Sg	**Sg**	**17 59 07.2**	**+1.3**
PDG	**Podgorica**	**1.19**	**120**	⇑*i*	Pg	**Pg**	**17 58 50.0**	**-1.8**
PDG					*i* Sg	**Sg**	**17 59 08.5**	**+1.3**
TTG	**Podgorica**	**1.19**	**120**	⇑*i*	Pg	**Pg**	**17 58 50.0**	**-1.8**
TTG					*i* Sg	**Sg**	**17 59 08.5**	**+1.3**
BBLS	**Lazići**	**1.38**	**53**	*e*	Pg	**Pg**	**17 58 53.7**	**-1.9**
BBLS					*e*Sg	**Sg**	**17 59 15.3**	**+1.7**
ULC	**Ulcinj**	**1.48**	**136**	⇓*i*	Pg	**Pg**	**17 58 55.5**	**-1.9**
ULC					*i* Sg	**Sg**	**17 59 18.5**	**+2.0**
BEY	**Berane**	**1.49**	**96**	⇑*i*	Pg	**Pg**	**17 58 55.9**	**-1.8**
BEY					*i* Sg	**Sg**	**17 59 18.9**	**+1.9**
IVA	**Berane**	**1.49**	**96**	⇑*i*	Pg	**Pg**	**17 58 55.9**	**-1.8**
IVA					*i* Sg	**Sg**	**17 59 18.9**	**+1.9**
SJES	**Sjenica**	**1.55**	**81**	*e*	Sg	**Sg**	**17 59 18.1**	**-0.7**
PVY	**Plav**	**1.60**	**105**	⇑*i*	Pn	**Pn**	**17 58 57.8**	**-0.8**
PVY					*i* Sn	**Sn**	**17 59 21.9**	**+2.0**
BLY	**Banja Luka**	**1.78**	**344**	*e*	Pn	**Pn**	**17 59 01.5**	**+0.4**
BLY					*e*Sg	**Sg**	**17 59 28.6**	**+2.2**
DIVS	**Divibare**	**1.86**	**55**	*e*	Pn	**Pn**	**17 59 01.1**	**-1.1**
DIVS					*e*Sg	**Sg**	**17 59 30.5**	**+1.5**
DIVS	**Divibare**	**1.86**	**55**	*e*	Pn	**Pn**	**17 59 02.0**	**-0.2**
DIVS					*e*Sg	**Sg**	**17 59 30.5**	**+1.5**
NVLJ	**Novalja**	**2.66**	**306**	*e*	Pn	**Pn**	**17 59 13.8**	**+0.7**
NVLJ					Sn	**Sn**	**17 59 47.9**	**+1.9**
NVLJ	**Novalja**	**2.66**	**306**	*e*	Pn	**Pn**	**17 59 13.7**	**+0.6**
NVLJ					Sn	**Sn**	**17 59 47.8**	**+1.8**
BARS	**Barje**	**2.90**	**93**	*e*	Pn	**Pn**	**17 59 16.2**	**-0.2**
KRUS	**Krusevo**	**3.01**	**123**	*i*	Pn	**Pn**	**17 59 18.5**	**+0.6**
KRUS	**Krusevo**	**3.01**	**123**	*i*	Pn	**Pn**	**17 59 18.4**	**+0.5**
PKSM	**Moragy**	**3.22**	**9**	*e*	Pn	**Pn**	**17 59 19.2**	**-1.6**
CRES	**Cresnjev**	**3.28**	**329**	*e*	Pn	**Pn**	**17 59 21.8**	**+0.1**
CRES				*e*	Sn	**Sn**	**18 00 00.8**	**-0.6**
CEY	**Cerknica**	**3.66**	**319**	*e*	Pn	**Pn**	**17 59 26.6**	**-0.3**
CEY				*e*	Sn	**Sn**	**18 00 09.6**	**-1.1**

IDC ***16*** *18:01:57.6±3.9, 3618N×7122E, h33km±29km, mb4.0/12, mb1 4.2/15, mb1mx4.0/24, mbtmp4.0/15, ML4.1/3, Error ellipse: s-maj=15.2km s-min=13.6km az=99.0*
BJI ***16*** *18:01:59.7, 3648N×7106E, h51km, mB5.0, mb4.5, ML4.3, Ms4.6, Ms2.4.3*
MOS ***16*** *18:02:01.6±1.5, 3648N×7136E, h78km, mb4.7/18, Error ellipse: s-maj=9.9km s-min=5.6km az=97.2*
ISCJB ***16*** *18:02:02.7±0.5, 3640N±002×7141E±004, h98km±5km, mb4.3/34, Error ellipse: s-maj=5.7km s-min=3.4km az=164.0*
NEIC ***16*** *18:02:03.3±0.8, 3635N×7141E, h91km±9km, mb4.5/15, Error ellipse: s-maj=9.0km s-min=5.8km az=58.0*
NNC ***16*** *18:02:09.8±3.9, 3686N×7115E, h159km±33km, mb3.7, mpv4.8, Error ellipse: s-maj=37.2km s-min=17.9km az=28.0*

ISC 16 18:02:04.5±0.4**,3641N**±002×**7144E**±004**,h101**km±5km**,**
h109km±5.7km**:pP-P,n143,**σ1§**36**/164**,mb4.3**/35**,10C-6D,**
Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
CEP	**Cherat**	**2.61**	**171**	⇑P		**Pn**	**18 02 47.4**	**+2.4**
CEP				S		**Sn**	**18 03 19.0**	**+2.8**
KBL	**Kabul**	**2.70**	**227**	*e*PN		**Pn**	**18 02 46.2**	**0.0**
CHCP	**Chirah Chowk**	**3.13**	**151**	P		**Pn**	**18 02 55.2**	**+3.3**
THW	**Thamme Wali**	**3.62**	**176**	P		**Pn**	**18 02 55.9**	**-2.6**
SARP	**Sargodha**	**4.59**	**167**	P		**Pn**	**18 03 13.5**	**+1.8**
JMU	**Jammu**	**4.66**	**141**	*e*S		**Sn**	**18 04 06.5**	**+0.9**
KSH	**Kashi**	**4.74**	**48**	⇓*i*	P	**Pn**	**18 03 15.3**	**+1.7**
KSH					S	**Sn**	**18 04 06.4**	**-1.0**
KSH					Smax			
	comp=N,1μm,0.3s							
KSH					Smax			
	comp=E,2μm,0.3s							
AML	**Almayashu**	**5.98**	**16**	P		**Pn**	**18 03 31.6**	**+1.3**
	SNR=372							
AML	**Almayashu**	**5.98**	**16**	*e*Pn		**Pn**	**18 03 31.4**	**+1.0**
	comp=E,146nm,0.4s							
AML				*e*Sn		**Sn**	**18 04 36.6**	**-0.7**
UCH	**Uchtor**	**6.28**	**21**	P		**Pn**	**18 03 36.0**	**+1.5**
	SNR=120							
UCH	**Uchtor**	**6.28**	**21**	*e*Pn		**Pn**	**18 03 35.5**	**+1.0**
	comp=E,49nm,0.7s							
UCH				*e*Sn		**Sn**	**18 04 42.4**	**-2.3**
BHK	**Bhakra**	**6.48**	**139**	*e*P		**Pn**	**18 03 39.0**	**+1.8**
BHK				*e*S		**Sn**	**18 04 49.4**	**-0.2**
EKS2	**Erkin-Say**	**6.50**	**15**	P		**Pn**	**18 03 38.8**	**+1.3**
	SNR=100							
EKS2	**Erkin-Say**	**6.50**	**15**	*e*Pn		**Pn**	**18 03 38.6**	**+1.1**
	comp=E,36nm,0.4s							
EKS2				*e*Sn		**Sn**	**18 04 44.2**	**-5.9**
AAK	**Ala-Archa**	**6.65**	**20**	P		**Pn**	**18 03 41.3**	**+1.8**
	SNR=137							
SDNR	**Sundarnagar**	**6.72**	**135**	*e*P		**Pn**	**18 03 41.6**	**+1.1**
SDNR				*e*S		**Sn**	**18 04 53.6**	**-1.9**
KK31	**Karatay Array**	**6.72**	**354**	⇓P		**Pn**	**18 03 39.5**	**-1.0**
	comp=E,29nm,0.3s,baz=176,slow=13							
KK31				⇑S		**Sn**	**18 04 52.0**	**-3.5**
	comp=E,32nm,0.4s,baz=174,slow=21							
KK31	**Karatay Array**	**6.72**	**354**	*i* PN		**Pn**	**18 03 39.5**	**-1.0**
KK31				pmax		pmax		
	comp=Z,62nm,0.2s							
KBK	**Karagaybulak**	**6.80**	**22**	P		**Pn**	**18 03 43.5**	**+2.0**
	SNR=54							
FRU	**Bishkek**	**6.87**	**20**	*i* PN		**Pn**	**18 03 44.0**	**+1.6**
FRU				*i* S		**Sn**	**18 05 00.0**	**+1.0**
FRU				pmax		pmax		
	comp=Z,150nm,1.4s							
FRU				smax				
	comp=N,200nm,1.6s							
CHMS	**Chumysh**	**7.06**	**20**	P		**Pn**	**18 03 46.4**	**+1.3**
	SNR=90							
SMLA	**Simla**	**7.11**	**136**	*i* P		**Pn**	**18 03 45.1**	**-0.7**
SMLA				*i* S		**Sn**	**18 05 04.3**	**-0.7**
USP	**Ospenovka**	**7.24**	**18**	P		**Pn**	**18 03 48.1**	**+0.6**
	SNR=32							
TKM2	**Tokmak 2**	**7.25**	**25**	⇑P		**Pn**	**18 03 49.1**	**+1.4**
	comp=N,61nm,0.8s							
TKM2	**Tokmak 2**	**7.25**	**25**	*i* P		**Pn**	**18 03 48.4**	**+0.8**
TKM2				pmax		pmax		
	comp=Z,76nm,0.7s							
TKM2	**Tokmak 2**	**7.25**	**25**	P		**Pn**	**18 03 49.5**	**+1.8**
	SNR=112							
TKM2	**Tokmak 2**	**7.25**	**25**	*e*Pn		**Pn**	**18 03 49.1**	**+1.4**
	comp=Z,85nm,0.9s							
DDI	**Dehra Dun**	**8.21**	**136**	*e*P		**Pn**	**18 04 02.6**	**+1.8**
DDI				*ex*		x	18 05 32.2	
JOSI	**Joshimath**	**8.95**	**128**	*e*P		**Pn**	**18 04 11.5**	**+0.7**
JOSI				*e*S		**Sn**	**18 05 44.8**	**-5.0**
JOSI				AML		AML	18 05 54.0	
	comp=N,693nm,1.0s							
JOSI				AML		AML	18 06 00.2	
	comp=E,516nm,0.6s							
KHET	**Khetri**	**9.10**	**155**	*e*P		**Pn**	**18 04 12.6**	**-0.3**
KHET				*e*S		**Sn**	**18 05 47.3**	**-6.2**
NDI	**New Delhi**	**9.12**	**146**	*e*P		**Pn**	**18 04 13.0**	**-0.1**
NDI				*e*S		**Sn**	**18 05 50.0**	**-3.9**
KALG	**Kalgarh**	**9.23**	**136**	*e*P		**Pn**	**18 04 10.9**	**-3.8**
KALG				*e*S		**Sn**	**18 05 49.6**	**-7.0**
AYAN	**Aya Nagar**	**9.25**	**147**	*e*S		**Sn**	**18 05 52.9**	**-4.3**
AYAN				AML		AML	18 05 56.8	
	comp=Z,66nm,0.3s							
SONA	**Sohna**	**9.43**	**148**	*e*P		**Pn**	**18 04 16.2**	**-1.2**
SONA				*e*S		**Sn**	**18 05 57.0**	**-4.6**
SONA				AML		AML	18 05 58.5	
	comp=N,58nm,0.6s							
PTH	**Pithoragarh**	**10.05**	**130**	*e*P		**Pn**	**18 04 27.8**	**+1.9**
PTH				*ex*		x	18 06 13.5	
AJM	**Ajmer**	**10.27**	**164**	*i* x		x	18 04 26.0	
AJM				*e*S		**Sn**	**18 06 15.0**	**-7.0**
AGRA	**Agra**	**10.69**	**147**	*e*P		**Pn**	**18 04 33.1**	**-1.5**
AGRA				*e*S		**Sn**	**18 06 26.4**	**-5.9**
AGRA				*e*S		**Sn**	**18 06 27.0**	**-5.3**
AGRA				AML		AML	18 06 28.7	
	comp=N,109nm,0.4s							
AGRA				AML		AML	18 06 31.2	
	comp=E,144nm,0.5s							
DANN	**Dangsing**	**13.15**	**124**	*e*P		**Pn**	**18 05 05.7**	**-1.5**
	comp=E,20nm,0.3s							
MK31	**Makanchi Array**	**13.16**	**35**	⇑P		**Pn**	**18 05 07.6**	**+0.3**
	comp=E,6.4nm,0.7s,baz=218,slow=11,SNR=23							
MK31	**Makanchi Array**	**13.16**	**35**	*e*Pn		**Pn**	**18 05 07.8**	**+0.6**
MK31				*e*P			18 05 14.8	
MKAR	**Makanchi Array**	**13.16**	**35**	Pn		**Pn**	**18 05 06.8**	**-0.5**
	comp=E,0.3nm,0.3s,baz=224,slow=14,SNR=24							
KOLN	**Koldanda**	**13.43**	**126**	*e*P		**Pn**	**18 05 08.5**	**-2.4**
GKN	**Gorkha**	**13.96**	**123**	*e*P		**Pn**	**18 05 16.8**	**-1.0**
	comp=E,26nm,0.4s							
WMQ	**Urumqi**	**14.46**	**54**	P		**Pn**	**18 05 25.8**	**+1.7**
DMN	**Daman**	**14.53**	**123**	*e*P		**Pn**	**18 05 23.8**	**-1.3**
	comp=E,43nm,0.6s							
KKN	**Kakani**	**14.53**	**122**	*e*P		**Pn**	**18 05 24.1**	**-1.1**
	comp=E,34nm,0.5s							
KKN	**Kakani**	**14.53**	**122**	*e*P		**Pn**	**18 05 24.1**	**-1.1**
KKN				pmax		pmax		
	comp=Z,34nm,0.5s							
PKI	**Pulchoki**	**14.76**	**123**	*e*P		**Pn**	**18 05 27.1**	**-1.0**
	comp=Z,26nm,0.5s							
PKI	**Pulchoki**	**14.76**	**123**	*e*P		**Pn**	**18 05 27.1**	**-1.0**
PKI				pmax		pmax		
	comp=Z,26nm,0.5s							
GUN	**Gumba**	**14.87**	**121**	*e*P		**Pn**	**18 05 29.4**	**0.0**
	comp=Z,16nm,0.4s							
KURBB	**Kurchatov Arra**	**15.10**	**18**	⇑P		**Pn**	**18 05 29.2**	**-2.9**
	comp=Z,2.0nm,0.5s							
KURK	**Kurchatov**	**15.21**	**18**	⇑P		**Pn**	**18 05 30.5**	**-3.0**
	comp=Z,7.1nm,0.7s							
KURK	**Kurchatov**	**15.21**	**18**	Pn		**Pn**	**18 05 29.2**	**-4.3**
	comp=Z,0.1nm,0.3s,baz=208,slow=11,SNR=13							
JIRN	**Jiri**	**15.24**	**121**	*e*P		**Pn**	**18 05 33.7**	**-0.4**
	comp=Z,32nm,0.4s							
AB31	**Akbulak array**	**15.33**	**330**	⇓P

GNI	**Garni**	**21.25**	**288**	P		**P**	**18 06 42.4**	**0.0**	
	comp=Z,53nm,1.4s,mb4.7								
RDF	**Al-Radifah**	**21.41**	**256**	*e*P		**P**	**18 06 43.5**	**-0.7**	
	baz=256								
RDF				AMb		AMB	18 06 44.3		
	comp=Z,25nm,0.9s,mb4.5,baz=256								
NAY	**Al-Naaiem**	**21.51**	**258**	*e*P		**P**	**18 06 44.7**	**-0.5**	
	baz=257								
NAY				AMb		AMB	18 06 46.6		
	comp=Z,11nm,0.6s,mb4.4,baz=257								
RST	**Umm Al-Ruwaisa**	**21.60**	**258**	*e*P		**P**	**18 06 45.3**	**-0.9**	
	baz=258								
RST				AMb		AMB	18 06 46.6		
	comp=Z,32nm,0.6s,mb4.8,baz=258								
SVE	**Sverdlovsk**	**21.68**	**344**⇓	*e*P		**P**	**18 06 47.1**	**+0.4**	
SVE				pmax		pmax			
	comp=Z,11nm,0.6s,mb4.4								
ARU	**Arti**	**21.83**	**341**	*d* iP		**P**	**18 06 47.9**	**-0.5**	
ARU				*e*S		**S**	**18 10 43.5**	**-0.1**	
ARU				*e*SS			18 11 10.6		
ARU				pmax		pmax			
	comp=Z,33nm,1.2s,mb4.5								
ARU	**Arti**	**21.83**	**341**	*e*P		**P**	**18 06 48.0**	**-0.4**	
	comp=Z,21nm,0.9s,mb4.5								
GTA	**Gaotai**	**22.55**	**74**	*e*P		**P**	**18 07 01.4**	**+5.2**	
GTA				AP			18 07 11.5		
GTA				XP		sP	18 07 15.6	-13	
GTA				AMB		AMB			
	comp=Z,9.0nm,1.0s,mb4.0								
KIV	**Kislovodsk**	**23.14**	**298**	*e*P		**P**	**18 07 03.1**	**+1.3**	
KIV				pmax		pmax			
	comp=Z,10.0nm,1.0s,mb4.1								
KIV	**Kislovodsk**	**23.14**	**298**	*e*P		**P**	**18 07 00.3**	**-1.5**	
ZAK	**Zakamensk**	**26.79**	**49**	*e*P		**P**	**18 07 42.1**	**+7.4**	
ZAK				pmax		pmax			
	comp=Z,3.0nm,1.6s,mb3.6								
ANN	**Anapa**	**26.99**	**299**	*e*P		**P**	**18 07 45.9**	**+9.3**	
ANN				*e**PP		pP	18 08 08.0	+9.1	
ANN				*e*SS			18 13 52.8		
ANN				pmax		pmax			
	comp=Z,33nm,0.9s,mb4.9								
CHTO	**Chiang Mai**	**29.87**	**119**	P		**P**	**18 08 05.7**	**+3.3**	
CHTO				pmax		pmax			
	comp=Z,2.0nm,0.8s,mb3.8								
CHTO	**Chiang Mai**	**29.87**	**119**	P		**P**	**18 08 05.7**	**+3.3**	
	comp=Z,1.5nm,0.8s,mb3.7								
MOS	**Moscow**	**29.95**	**321**	*e*P		**P**	**18 08 12.9**	**+10**	
MOS				*e*			18 09 13.5		
CMAR	**Chiang Mai Arr**	**30.10**	**119**	P		**P**	**18 08 06.1**	**+1.6**	
	comp=Z,1.2nm,0.7s,mb3.6,baz=299,slow=8.8,SNR=14								
CMAR	**Chiang Mai Arr**	**30.10**	**119**	*i* P		**P**	**18 08 07.9**	**+3.4**	
CMAR				pmax		pmax			
	comp=Z,1.0nm,0.7s								
OBN	**Obninsk**	**30.23**	**319**	*i* P		**P**	**18 08 06.4**	**+1.1**	
OBN				*e**PP		pP	18 08 38.8	+11	
OBN				*e*			18 09 05.8		
OBN				*e*SS		SS	18 14 39.1	-31	
OBN				pmax		pmax			
	comp=Z,6.0nm,0.8s,mb4.3								
AKASG	**Malin Array Be**	**33.27**	**309**	P		**P**	**18 08 32.5**	**+0.4**	
	comp=Z,2.8nm,0.5s,mb4.3,baz=79,slow=7.6,SNR=10								
AKASG	**Malin Array Be**	**33.27**	**309**	P		**P**	**18 08 32.5**	**+0.5**	
AKASG				pmax		pmax			
	comp=Z,3.0nm,0.5s								
JOF	**Joensuu**	**36.12**	**330**	*e*p		**P**	**18 08 57.0**	**+0.7**	
	comp=Z,6.7nm,0.4s,mb4.9								
JOF	**Joensuu**	**36.12**	**330**	*e*P		**P**	**18 08 57.0**	**+0.7**	
JOF				pmax		pmax			
	comp=Z,7.0nm,0.4s,mb4.9								
FINES	**FINESS Array B**	**37.75**	**326**	*e*P		**P**	**18 09 10.1**	**-0.1**	
KAF	**Kangasniemi**	**37.89**	**327**	*e*p		**P**	**18 09 11.7**	**+0.4**	
	comp=Z,6.1nm,1.0s,mb4.4,baz=111,slow=8.6								
KAF	**Kangasniemi**	**37.89**	**327**	*e*P		**P**	**18 09 11.7**	**+0.4**	
KAF				pmax		pmax			
	comp=Z,6.0nm,1.0s,mb4.4								
MORC	**Moravsky Berou**	**40.70**	**307**	*e*P		**P**	**18 09 34.9**	**+0.1**	
MORC				pmax		pmax			
	comp=Z,3.0nm,0.7s,mb4.2								
MORC	**Moravsky Berou**	**40.70**	**307**	*e*P		**P**	**18 09 34.9**	**+0.1**	
	comp=Z,2.7nm,0.7s,mb4.2								
ARCES	**ARCESS Array B**	**41.36**	**338**	P		**P**	**18 09 41.6**	**+1.6**	
	comp=Z,7.6nm,0.6s,mb4.7,baz=113,slow=8.2,SNR=46								
ARCES	**ARCESS Array B**	**41.36**	**338**	P		**P**	**18 09 41.6**	**+1.6**	
ARCES				pmax		pmax			
	comp=Z,8.0nm,0.6s								
ARE0	**ARCESS Array S**	**41.36**	**338**	*e*P		**P**	**18 09 41.4**	**+1.4**	
BRG	**Berggiesshubel**	**42.95**	**308**	*e*P		**P**	**18 09 55.0**	**+1.8**	
BRG				pmax		pmax			
	comp=Z,2.0nm,0.6s,mb4.0								
BRG	**Berggiesshubel**	**42.95**	**308**	*e*P		**P**	**18 09 55.0**	**+1.8**	
	comp=Z,3.0nm,0.6s,mb4.2								
GERES	**GERESS Array B**	**43.27**	**305**	P		**P**	**18 09 57.3**	**+1.6**	
	comp=Z,0.2nm,0.3s,mb3.3,baz=76,slow=8.2,SNR=4.0								
KSRS	**Korea Array**	**44.58**	**71**	P		**P**	**18 10 09.2**	**+2.8**	
	comp=Z,0.9nm,0.6s,mb3.7,baz=277,slow=7.8,SNR=4.2								
KSRS	**Korea Array**	**44.58**	**71**	P		**P**	**18 10 09.2**	**+2.8**	
KSRS				pmax		pmax			
	comp=Z,1.0nm,0.6s,mb3.7								
NB2	**NORSAR Subarra**	**44.66**	**323**	P		**P**	**18 10 07.2**	**+0.5**	
	comp=Z,3.5nm,0.4s,mb4.4,baz=98,slow=7.9								
NOA	**NORSAR Array B**	**44.66**	**323**	P		**P**	**18 10 06.8**	**+0.1**	
	comp=Z,4.1nm,0.6s,mb4.4,baz=96,slow=7.7,SNR=16								
NOA	**NORSAR Array B**	**44.66**	**323**	P		**P**	**18 10 06.8**	**+0.1**	
NOA				pmax		pmax			
	comp=Z,4.0nm,0.6s								
NOA	**NORSAR Array B**	**44.66**	**323**	P		**P**	**18 10 06.8**	**+0.1**	
NAO01	**NORSAR Array S**	**44.81**	**323**	P		**P**	**18 10 07.3**	**-0.5**	
TIXI	**Tiksi**	**45.73**	**22**	*e*P		**P**	**18 10 16.0**	**+1.0**	
TIXI				pmax		pmax			
	comp=Z,4.0nm,0.3s,mb4.6								
TIXI	**Tiksi**	**45.73**	**22**	*e*P		**P**	**18 10 16.0**	**+1.0**	
	comp=Z,3.5nm,0.3s,mb4.6								
HABR	**Khabarovsk**	**47.18**	**54**	*e*P		**P**	**18 10 26.7**	**0.0**	
HABR				*e*		pP	18 10 50.5	0.0	
HABR				S		**S**	**18 17 12.1**	**+0.5**	
HABR				*e*			18 20 10.8		
BILL	**Bilibino**	**58.53**	**26**	P		**P**	**18 11 49.1**	**-0.7**	
BILL				*e*		pP	18 12 17.9	+3.4	
BILL				*e*			18 13 57.3		
BILL				pmax		pmax			
	comp=Z,3.0nm,0.9s,mb4.3								
TOA0	**Torodi Ar. Sit**	**66.07**	**269**	*e*P		**P**	**18 12 39.4**	**-1.5**	
TORD	**Torodi Ar. Bea**	**66.07**	**269**	P		**P**	**18 12 39.2**	**-1.6**	
	comp=Z,1.4nm,0.4s,mb4.1,baz=51,slow=5.8,SNR=32								
COLA	**College**	**74.47**	**16**	P		**P**	**18 13 23.3**	**-7.9**	
COLA				pmax		pmax			
	comp=Z,9.0nm,0.6s,mb4.7								
COLA	**College**	**74.47**	**16**	P		**P**	**18 13 23.3**	**-8.0**	
	comp=Z,9.1nm,0.6s,mb4.7								
LBTB	**Lobatse**	**74.85**	**222**	*e*P		**P**	**18 13 35.2**	**+1.3**	
LBTB				pmax		pmax			
	comp=Z,3.0nm,0.6s,mb4.2								
LBTB	**Lobatse**	**74.85**	**222**	*e*P		**P**	**18 13 35.2**	**+1.2**	
	comp=Z,3.2nm,0.6s,mb4.2								
DBIC	**Dimbokro**	**75.04**	**267**	*e*P		**P**	**18 13 34.7**	**-0.7**	
DBIC				pmax		pmax			
	comp=Z,13nm,1.2s								
DBIC	**Dimbokro**	**75.04**	**267**	*e*P		**P**	**18 13 34.7**	**-0.7**	
	comp=Z,13nm,1.2s,mb4.5								
BOSA	**Boshof**	**77.90**	**220**	P		**P**	**18 13 51.6**	**+0.5**	
	comp=Z,4.9nm,0.8s,mb4.3,baz=4.1,slow=7.2,SNR=6.0								
BOSA	**Boshof**	**77.90**	**220**	P		**P**	**18 13 51.7**	**+0.6**	
BOSA				pmax		pmax			
	comp=Z,5.0nm,0.8s,mb4.3								
BOSA	**Boshof**	**77.90**	**220**	P		**P**	**18 13 51.6**	**+0.5**	
BOSA				*e*P			18 13 51.9		
NWAO	**Narrogin (SRO)**	**81.18**	**142**	P		**P**	**18 14 10.0**	**+1.2**	
NWAO				pmax		pmax			
	comp=Z,18nm,1.2s								
NWAO	**Narrogin (SRO)**	**81.18**	**142**	P		**P**	**18 14 10.0**	**+1.2**	
	comp=Z,18nm,1.2s,mb4.8								
YKA	**Yellowknife Ar**	**81.32**	**3**	P		**P**	**18 14 11.1**	**+1.9**	
	comp=Z,0.9nm,0.3s,mb4.0,baz=351,slow=5.4,SNR=17								
YKA	**Yellowknife Ar**	**81.32**	**3**	*i* P		**P**	**18 14 11.1**	**+1.9**	
YKA				pmax		pmax			
	comp=Z,1.0nm,0.4s								
WRA	**Warramunga Arr**	**81.64**	**122**	P		**P**	**18 14 11.4**	**-0.2**	
	comp=Z,0.4nm,0.3s,mb3.7,baz=325,slow=4.9,SNR=19								
WRA	**Warramunga Arr**	**81.64**	**122**	*i* P		**P**	**18 14 11.3**	**-0.2**	
ASAR	**Alice Springs**	**83.92**	**125**	P		**P**	**18 14 23.8**	**+0.5**	
	comp=Z,0.9nm,0.9s,mb3.6,baz=313,slow=5.1,SNR=14								
ASAR	**Alice Springs**	**83.92**	**125**	P		**P**	**18 14 23.8**	**+0.6**	
ASAR				pmax		pmax			
	comp=Z,1.0nm,0.9s								

NEIC ***16*** *18:12:02.0,3682N×1249W,h0km,MG4.4(MDD), After MDD.*
MDD ***16*** *18:12:03.0±1.8,3668N×1266W,h40km,mbLg2.7/27, Error ellipse: s-maj=15.5km s-min=14.3km az=89.0, PRIMO*
INMG ***16*** *18:12:04.8±0.8,3663N×1276W,h10km,ML2.4, Error ellipse: s-maj=4.9km s-min=3.5km az=99.0*
CSEM ***16*** *18:12:04.8±0.3,3678N×1234W,h2km,ML3.2/19, Error ellipse: s-maj=4.7km s-min=4.7km az=102.0*

ISC 16 18:12:06.1±1.0, 3702N±004×1221W±006, h10km, n57, σ0991/101, Azores-Cape St. Vincent Ridge

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
PFVI	**Vila Bisbo**	**2.71**	**87**		*e*Pn	**Pn**	**18 12 48.6**	**-1.0**
PFVI					*e*Sn	**Sn**	**18 13 22.4**	**0.0**
PFVI					A		18 13 23.0	
	8.6nm,0.6s							
PFVI	**Vila Bisbo**	**2.71**	**87**		*e*Pn	**Pn**	**18 12 48.6**	**-1.0**
PFVI					*e*Sn	**Sn**	**18 13 22.4**	**0.0**
	8.6nm,0.6s							
PTEO	**Sao Teotonio**	**2.83**	**78**		*e*Pn	**Pn**	**18 12 51.7**	**+0.4**
PTEO					*e*Sn	**Sn**	**18 13 26.0**	**+0.6**
PTEO					A		18 13 29.1	
	4.3nm,0.3s							
PTEO	**Sao Teotonio**	**2.83**	**78**		*e*Pn	**Pn**	**18 12 51.7**	**+0.4**
PTEO					*e*Sn	**Sn**	**18 13 26.0**	**+0.6**
	4.3nm,0.3s							
MORF	**Marmelete**	**2.86**	**83**		*e*Pn	**Pn**	**18 12 50.9**	**-0.8**
MORF					*e*Sn	**Sn**	**18 13 26.4**	**+0.3**
MORF					A		18 13 32.7	
	4.6nm,0.1s							
MORF	**Marmelete**	**2.86**	**83**		*e*Pn	**Pn**	**18 12 50.9**	**-0.8**
MORF					*e*Sn	**Sn**	**18 13 26.4**	**+0.3**
	4.6nm,0.1s							
PMAFR	**Mafra**	**3.01**	**49**		*e*Pn	**Pn**	**18 12 54.8**	**+1.0**
PMAFR					*e*Sn	**Sn**	**18 13 31.7**	**+1.8**
PMAFR					A		18 13 33.4	
	62nm,0.4s							
PMAFR	**Mafra**	**3.01**	**49**		*e*Pn	**Pn**	**18 12 54.8**	**+1.0**
PMAFR					*e*Sn	**Sn**	**18 13 31.7**	**+1.8**
	62nm,0.4s							
MOE	**Montemor**	**3.41**	**63**		*e*Pn	**Pn**	**18 12 59.7**	**+0.5**
MOE					*e*Sn	**Sn**	**18 13 41.1**	**+1.5**
PBDV	**Barranco-do-Ve**	**3.43**	**85**		*e*Pn	**Pn**	**18 12 59.2**	**-0.3**
PBDV					*e*Sn	**Sn**	**18 13 40.0**	**-0.2**
PBDV					A		18 13 47.1	
	3.0nm,0.8s							
PBDV	**Barranco-do-Ve**	**3.43**	**85**		*e*Pn	**Pn**	**18 12 59.2**	**-0.3**
PBDV					*e*Sn	**Sn**	**18 13 40.0**	**-0.2**
	3.0nm,0.8s							
PBEJ	**Beja**	**3.60**	**73**		*e*Pn	**Pn**	**18 13 02.1**	**+0.3**
PBEJ					*e*Sn	**Sn**	**18 13 45.4**	**+1.1**
PVAQ	**Vaqueiros**	**3.61**	**83**		*e*Pn	**Pn**	**18 13 01.5**	**-0.5**
PVAQ					*e*Sn	**Sn**	**18 13 44.2**	**-0.4**
PVAQ					A		18 13 49.9	
	3.6nm,0.1s							
PVAQ	**Vaqueiros**	**3.61**	**83**		*e*Pn	**Pn**	**18 13 01.5**	**-0.5**
PVAQ					*e*Sn	**Sn**	**18 13 44.2**	**-0.4**
	3.6nm,0.1s							
EVO	**Evora**	**3.65**	**64**		*e*Pn	**Pn**	**18 13 03.5**	**+0.9**
EVO					*e*Sn	**Sn**	**18 13 46.8**	**+1.1**
EVO					A		18 13 48.5	
	6.6nm,0.1s							
EVO	**Evora**	**3.65**	**64**		*e*Pn	**Pn**	**18 13 03.5**	**+0.9**
EVO					*e*Sn	**Sn**	**18 13 46.8**	**+1.1**
	6.6nm,0.1s							
EGRO	**El Granado**	**3.81**	**81**		P	**Pn**	**18 13 04.1**	**-0.6**
	0.6nm,0.2s,SNR=6.3							
EGRO					S	**Sn**	**18 13 50.0**	**+0.5**
	1.1nm,0.1s,SNR=7.9							
EGRO	**El Granado**	**3.81**	**81**		Pn	**Pn**	**18 13 04.2**	**-0.5**
EGRO					Sn	**Sn**	**18 13 50.0**	**+0.5**
	1.1nm,0.1s,SNR=7.9							
PTOM	**Tomar**	**3.96**	**48**		*e*Sn	**Sn**	**18 13 54.7**	**+1.5**
PTOM					A		18 14 06.2	
	11nm,0.2s							
PTOM	**Tomar**	**3.96**	**48**		*e*Sn	**Sn**	**18 13 54.7**	**+1.5**
	11nm,0.2s							
PESTR	**Estremoz**	**4.09**	**62**		*e*Pn	**Pn**	**18 13 09.5**	**+0.9**
PESTR					*e*Sn	**Sn**	**18 13 57.4**	**+0.9**
PBAR	**Barrancos**	**4.26**	**73**		*e*Pn	**Pn**	**18 13 11.6**	**+0.6**
PBAR					*e*Sn	**Sn**	**18 14 01.1**	**+0.3**
PBAR					A		18 14 12.2	
	1.5nm,0.4s							
PBAR	**Barrancos**	**4.26**	**73**		*e*Pn	**Pn**	**18 13 11.6**	**+0.6**
PBAR					*e*Sn	**Sn**	**18 14 01.1**	**+0.3**
	1.5nm,0.4s							
EBAD	**Badajoz**	**4.46**	**66**		P	**Pn**	**18 13 14.0**	**+0.3**
	0.3nm,0.2s,SNR=6.8							
EBAD					S	**Sn**	**18 14 06.1**	**+0.4**
	1.5nm,0.1s,SNR=7.9							
EBAD	**Badajoz**	**4.46**	**66**		Pn	**Pn**	**18 13 14.0**	**+0.3**
	0.3nm,0.2s,SNR=6.8							
EBAD					Sn	**Sn**	**18 14 06.1**	**+0.5**
	1.5nm,0.1s,SNR=7.9							
EMIN	**Mina Concepcio**	**4.47**	**79**		P	**Pn**	**18 13 13.2**	**-0.7**
	1.2nm,0.1s,SNR=16							
EMIN					S	**Sn**	**18 14 05.9**	**0.0**
	0.5nm,0.2s,SNR=7.9							
EMIN	**Mina Concepcio**	**4.47**	**79**		Pn	**Pn**	**18 13 13.2**	**-0.7**
	1.2nm,0.1s,SNR=16							
EMIN					Sn	**Sn**	**18 14 06.5**	**+0.6**
	0.5nm,0.2s,SNR=7.9							
EMIN	**Mina Concepcio**	**4.47**	**79**		Pn	**Pn**	**18 13 13.2**	**-0.7**
EMIN					Sn	**Sn**	**18 14 06.5**	**+0.6**
PMRV	**Marv??o**	**4.49**	**56**		*e*Pn	**Pn**	**18 13 14.4**	**+0.3**
PMRV					*e*Sn	**Sn**	**18 14 06.5**	**+0.1**
PMRV					A		18 14 09.5	
	3.3nm,0.2s							
PMRV	**Marv??o**	**4.49**	**56**		*e*Pn	**Pn**	**18 13 14.4**	**+0.3**
PMRV					*e*Sn	**Sn**	**18 14 06.5**	**+0.1**
	3.3nm,0.2s							
PCBR	**Castelo Branco**	**4.66**	**51**		*e*Pn	**Pn**	**18 13 17.4**	**+0.9**
PCBR					*e*Sn	**Sn**	**18 14 11.1**	**+0.5**
PCBR					A		18 14 14.5	
	3.0nm,0.2s							
PCBR	**Castelo Branco**	**4.66**	**51**		*e*Pn	**Pn**	**18 13 17.4**	**+0.9**
PCBR					*e*Sn	**Sn**	**18 14 11.1**	**+0.5**
	3.0nm,0.2s							
PVIS	**Viseu**	**4.99**	**41**		*e*Sn	**Sn**	**18 14 19.3**	**+0.5**
PVIS					A		18 14 21.2	
	12nm,0.1s							
PVIS	**Viseu**	**4.99**	**41**		*e*Sn	**Sn**	**18 14 19.3**	**+0.5**
	12nm,0.1s							
ESPR	**Espera**	**5.09**	**90**		P	**Pn**	**18 13 20.9**	**-1.5**
	2.0nm,0.1s,SNR=7.9							
ESPR					S	**Sn**	**18 14 19.1**	**-2.1**
	1.1nm,0.1s,SNR=7.9							
ESPR	**Espera**	**5.09**	**90**		Pn	**Pn**	**18 13 20.9**	**-1.5**
	2.0nm,0.1s,SNR=7.9							
ESPR					Sn	**Sn**	**18 14 20.3**	**-0.9**
	1.1nm,0.1s,SNR=7.9							
ESPR	**Espera**	**5.09**	**90**		Pn	**Pn**	**18 13 20.9**	**-1.5**
ESPR					Sn	**Sn**	**18 14 20.3**	**-0.9**
ECAB	**El Cabril**	**5.50**	**77**		P	**Pn**	**18 13 27.8**	**-0.2**
	1.6nm,0.1s,SNR=8.8							
ECAB					S	**Sn**	**18 14 30.1**	**-1.1**
	0.4nm,0.1s,SNR=7.9							
ECAB	**El Cabril**	**5.50**	**77**		Pn	**Pn**	**18 13 27.8**	**-0.2**
	1.6nm,0.1s,SNR=8.8							
ECAB					Sn	**Sn**	**18 14 30.1**	**-1.1**
	0.4nm,0.1s,SNR=7.9							
PVRL	**Vila Real**	**5.50**	**38**		*e*Sn	**Sn**	**18 14 30.9**	**-0.3**
PVRL					A		18 14 32.2	
	4.6nm,0.1s							
PVRL	**Vila Real**	**5.50**	**38**		*e*Sn	**Sn**	**18 14 30.9**	**-0.3**
	4.6nm,0.1s							
EPLA	**Plasencia**	**5.68**	**56**		P	**Pn**	**18 13 31.3**	**+0.8**
	1.2nm,0.1s,SNR=7.9							
EPLA					S	**Sn**	**18 14 34.9**	**-0.9**
	1.1nm,0.1s,SNR=7.9							
EPLA	**Plasencia**	**5.68**	**56**		Pn	**Pn**	**18 13 31.3**	**+0.8**
EPLA					Sn	**Sn**	**18 14 34.9**	**-0.9**
MVO	**Moncorvo**	**5.77**	**43**		*e*Pn	**Pn**	**18 13 32.2**	**+0.4**
MVO					*e*Sn	**Sn**	**18 14 37.0**	**-1.0**
MVO					A		18 14 39.5	
	3.5nm,0.2s							
MVO	**Moncorvo**	**5.77**	**43**		*e*Pn	**Pn**	**18 13 32.2**	**+0.4**
MVO					*e*Sn	**Sn**	**18 14 37.0**	**-1.0**
	3.5nm,0.2s							
ELOB	**Lobios**	**5.81**	**32**		P	**Pn**	**18 13 33.1**	**+0.9**
	0.4nm,0.2s,SNR=7.9							
ELOB					S	**Sn**	**18 14 38.9**	**0.0**
	1.6nm,0.1s,SNR=7.9							
ELOB	**Lobios**	**5.81**	**32**		Pn	**Pn**	**18 13 33.1**	**+0.9**
	0.4nm,0.2s,SNR=7.9							
EADA	**Adamuz**	**6.17**	**77**		P	**Pn**	**18 13 36.4**	**-0.7**
	0.6nm,0.1s,SNR=7.9							
EADA					S	**Sn**	**18 14 46.2**	**-1.5**
	0.3nm,0.2s,SNR=7.9							
EADA	**Adamuz**	**6.17**	**77**		Pn	**Pn**	**18 13 36.4**	**-0.8**
	0.6nm,0.1s,SNR=7.9							
PBRG	**Braganca**	**6.38**	**40**		*e*Sn	**Sn**	**18 14 52.5**	**-0.5**
PBRG					A		18 14 54.6	
	2.2nm,0.1s							
PBRG	**Braganca**	**6.38**	**40**		*e*Sn	**Sn**	**18 14 52.5**	**-0.5**
	2.2nm,0.1s							
EMAZ	**Mazaricos**	**6.42**	**22**		S	**Sn**	**18 14 51.1**	**-2.7**
	3.9nm,0.2s,SNR=7.9							
ECAL	**Calabor**	**6.48**	**39**		P	**Pn**	**18 13 42.1**	**+0.6**
	0.7nm,0.2s,SNR=7.9							
ECAL					S	**Sn**	**18 14 55.1**	**-0.3**
	1.6nm,0.1s,SNR=7.9							
ECAL	**Calabor**	**6.48**	**39**		Pn	**Pn**	**18 13 40.7**	**-0.8**
ECAL					Sn	**Sn**	**18 14 55.1**	**-0.3**
EPON	**Pontenova**	**7.39**	**30**		S	**Sn**	**18 15 16.3**	**-1.5**
	0.5nm,0.2s,SNR=7.9							
EARI	**Arriondas**	**8.25**	**38**		S	**Sn**	**18 15 37.3**	**-1.6**
	0.2nm,0.2s,SNR=7.9							
ETOR	**Torete**	**8.78**	**61**		P	**Pn**	**18 14 13.3**	**+0.4**
	5.2nm,0.2s,SNR=9.7							
ETOR					S	**Sn**	**18 15 49.2**	**-2.7**
	1.1nm,0.2s,SNR=5.0							

ISCJB ***16*** *18:24:03.7±0.6,2207N±003×12052E±003,h54km±4km, Error ellipse: s-maj=5.4km s-min=3.8km az=44.7*
TAP ***16*** *18:24:03.7,2208N×12051E,h48km,ML3.6,D*
JMA ***16*** *18:24:03.8±0.4,2172N×12085E,h65km*

ISC 16 18:24:04.4±0.6, 2206N±003×12049E±003, h46km±5km, n54, σ0969/105, 1D, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
HEN	**Hengchun**	**0.23**	**104**	*i* P		**Pn**	**18 24 12.2**	**-0.4**
	baz=107							
HEN				*i* S		**Sn**	**18 24 18.9**	**+0.5**
	baz=107							
TWP	**Hsiaoliuchiu**	**0.30**	**337**	P		**Pn**	**18 24 12.9**	**-0.3**
	baz=333							
TWP				S		**Sn**	**18 24 20.1**	**+0.6**
	baz=333							
TWK1	**Hengchun**	**0.31**	**112**	*i* P		**Pn**	**18 24 12.7**	**-0.6**
	baz=115							
TWK1				*i* S		**Sn**	**18 24 20.0**	**+0.4**
	baz=115							
SCZT	**Fangliau**	**0.33**	**21**	*i* P		**Pn**	**18 24 12.8**	**-0.6**
	baz=19							
SCZT				S		**Sn**	**18 24 19.7**	**-0.2**
	baz=19							
TSEB	**Hengchuen, Pin**	**0.41**	**113**	P		**Pn**	**18 24 13.5**	**-0.9**
	baz=117							
TSEB				S		**Sn**	**18 24 21.5**	**+0.1**
	baz=117							
EAST	**Anshuo**	**0.46**	**46**⇓	*i* P		**Pn**	**18 24 14.6**	**-0.3**
	baz=45							
EAST				*e*S		**Sn**	**18 24 22.4**	**+0.1**
	baz=45							
TAW	**Tawu**	**0.47**	**52**	*i* P		**Pn**	**18 24 14.8**	**-0.3**
	baz=52							
TAW				S		**Sn**	**18 24 22.7**	**0.0**
	baz=52							
KAU	**Kaohsiung**	**0.53**	**341**	P		**Pn**	**18 24 15.6**	**-0.2**
	baz=339							
KAU				S		**Sn**	**18 24 24.6**	**+0.7**
	baz=339							
ECL	**Taimali**	**0.68**	**39**	P		**Pn**	**18 24 17.5**	**-0.2**
	baz=38							
ECL				S		**Sn**	**18 24 27.1**	**-0.3**
	baz=38							
SSD	**Sandimen**	**0.69**	**11**	P		**Pn**	**18 24 17.4**	**-0.5**
	baz=9.0							
SSD				S		**Sn**	**18 24 27.7**	**+0.1**
	baz=9.0							
TWM1	**Shoushan**	**0.76**	**355**	*e*P		**Pn**	**18 24 19.2**	**+0.5**
	baz=354							
TWM1				*e*S		**Sn**	**18 24 29.6**	**+0.4**
	baz=354							
TTN	**Taitung**	**0.92**	**41**	*e*P		**Pn**	**18 24 20.6**	**-0.3**
	baz=41							
TTN				*e*S		**Sn**	**18 24 33.0**	**+0.1**
	baz=41							
TWG	**Pinlang**	**0.92**	**35**	P		**Pn**	**18 24 20.9**	**0.0**
	baz=35							
TWG

WGK					*e*S		**Sn**	**18 24 50.2**	**+0.2**
	baz=1.0								
EHY	**Hungye**	**1.63**	**28**	*e*P			**Pn**	**18 24 30.9**	**+0.3**
	baz=27								
EHY					*e*S		**Sn**	**18 24 50.1**	**-0.2**
	baz=27								
PNG	**Penghu**	**1.73**	**330**	*e*P			**Pn**	**18 24 30.0**	**-1.9**
	baz=329								
PNG					*e*S		**Sn**	**18 24 50.3**	**-2.5**
	baz=329								
WNT	**Mingjian**	**1.81**	**6**	*e*P			**Pn**	**18 24 32.6**	**-0.6**
	baz=5.0								
WNT					*e*S		**Sn**	**18 24 54.6**	**-0.3**
	baz=5.0								
SMLT	**Sun Moon Lake**	**1.85**	**12**	*e*P			**Pn**	**18 24 33.6**	**0.0**
	baz=11								
SMLT					*e*S		**Sn**	**18 24 55.6**	**-0.2**
	baz=11								
ESL	**Shilin**	**1.94**	**26**	*e*P			**Pn**	**18 24 34.7**	**-0.3**
	baz=26								
ESL					*e*S		**Sn**	**18 24 57.7**	**-0.4**
	baz=26								
TCU	**Taichung**	**2.08**	**5**	*e*P			**Pn**	**18 24 36.4**	**-0.4**
	baz=4.0								
TCU					*e*S		**Sn**	**18 25 01.1**	**-0.4**
	baz=4.0								
WHF	**Hehuan Shan**	**2.19**	**19**	P			**Pn**	**18 24 39.2**	**+0.9**
	baz=18								
WHF					*e*S		**Sn**	**18 25 04.5**	**+0.4**
	baz=18								
TWD	**Chiawan**	**2.25**	**27**	*e*P			**Pn**	**18 24 38.7**	**-0.4**
	baz=26								
TWD					*e*S		**Sn**	**18 25 05.1**	**-0.5**
	baz=26								
NSY	**Sanyi**	**2.35**	**6**	*e*P			**Pn**	**18 24 41.0**	**+0.5**
	baz=5.0								
NSY					*e*S		**Sn**	**18 25 07.6**	**-0.6**
	baz=5.0								
NNS	**Nan Shan**	**2.50**	**19**	*e*P			**Pn**	**18 24 43.7**	**+1.2**
	baz=18								
NNS					*e*S		**Sn**	**18 25 12.4**	**+0.6**
	baz=18								
NSTT	**Nanjuang**	**2.60**	**10**	*e*P			**Pn**	**18 24 43.1**	**-0.8**
	baz=10.0								
NSTT					*e*S		**Sn**	**18 25 14.1**	**-0.1**
	baz=10.0								
ENA	**Nanau**	**2.62**	**26**	*e*P			**Pn**	**18 24 46.8**	**+2.7**
	baz=25								
ENA					*e*S		**Sn**	**18 25 13.5**	**-1.2**
	baz=25								
NSK	**Sanguang**	**2.72**	**17**	*e*P			**Pn**	**18 24 47.7**	**+2.1**
	baz=16								
NSK					*e*S		**Sn**	**18 25 15.9**	**-1.2**
	baz=16								
TWC	**Suao**	**2.82**	**26**	*e*P			**Pn**	**18 24 49.2**	**+2.2**
	baz=26								
TWC					*e*S		**Sn**	**18 25 21.1**	**+1.3**
	baz=26								
TWE	**Neicheng**	**2.86**	**22**	*e*P			**Pn**	**18 24 48.7**	**+1.3**
	baz=22								
TWE					*e*S		**Sn**	**18 25 19.8**	**-0.8**
	baz=22								
KNM	**Kinmen**	**3.01**	**321**	*e*P			**Pn**	**18 24 50.9**	**+1.4**
	baz=318								
KNM					*e*S		**Sn**	**18 25 25.8**	**+1.4**
	baz=318								
YOJ	**Yonaguni jima**	**3.33**	**44**	P			**Pn**	**18 24 55.3**	**+1.4**
HATJ	**Hateruma jima**	**3.64**	**56**	P			**Pn**	**18 24 58.2**	**0.0**
HATJ					*e*S		**Sn**	**18 25 39.0**	**-0.8**
IRIF	**Iriomote-Funau**	**3.74**	**52**	P			**Pn**	**18 24 59.9**	**+0.4**
JKRS	**Kuro-shima**	**3.89**	**56**	P			**Pn**	**18 25 02.0**	**+0.3**
JKRS					*e*S		**Sn**	**18 25 46.4**	**+0.3**
JIJ	**Ishigaki jima**	**4.06**	**55**	P			**Pn**	**18 25 03.8**	**-0.2**
JIJ					*e*S		**Sn**	**18 25 49.9**	**-0.4**
JTJ	**Tarama**	**4.64**	**56**	P			**Pn**	**18 25 12.4**	**+0.5**

IDC ***16*** *18:35:41.7±0.5, 5178N×175±41W, h0km, mb4.4/21, mb1 4.5/22, mb1mx4.5/26, mbtmp4.4/22, ML4.2/1, MS3.7/19, Ms1 3.7/19, ms1mx3.5/53, Error ellipse: s-maj=18.8km s-min=11.0km az=167.0*

MOS ***16*** *18:35:47.2±0.9, 5174N×17532W, h50km, mb4.8/31, Error ellipse: s-maj=10.2km s-min=8.1km az=99.1*

ISCJB ***16*** *18:35:48.8±0.5, 5169N±005×17540W±003, h63km±4km, mb4.7/83, Error ellipse: s-maj=8.4km s-min=2.9km az=177.8*

BJI ***16*** *18:35:49.8, 5179N×176.04W, h53km, mB4.9, mb4.9, Ms4.5, Msz4.3*

NEIC ***16*** *18:35:49.7±0.6, 5165N×175.36W, h61km±4km, mb4.7/52, ML4.6(AEIC), Error ellipse: s-maj=7.3km s-min=3.2km az=173.0*

ISC 16 18:35:50.7±0.5, 5171N±005×17540W±003, h65km±4km, h56km±2.9km; pP-P, n345, o073/332, mb4.6/83, 68C-71D, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
ADK	**Adak**	**0.82**	**283**	P		**Pn**	**18 36 03.7**	**-2.9**
ADK				S		**Sn**	**18 36 16.8**	**-1.5**
AMKA	**Amchitka**	**3.33**	**266**	P		**Pn**	**18 36 38.9**	**-1.3**
AMKA				*e*P			18 36 39.2	
AMKA				S		**Sn**	**18 37 20.5**	**+2.1**
NIKO	**Nikolski**	**4.21**	**70**	P		**Pn**	**18 36 50.5**	**-1.8**
UNV	**Unalaska Valle**	**5.81**	**65**	P		**Pn**	**18 37 13.8**	**-0.3**
SPIA	**Saint Paul Isl**	**6.25**	**27**	P		**Pn**	**18 37 21.2**	**+1.1**
AKUT	**Akutan**	**6.31**	**64**	*e*Pn		**Pn**	**18 37 22.9**	**+1.9**
AKUT				*e*Sn		**Sn**	**18 38 35.8**	**+4.3**
SMY	**Shemya**	**6.54**	**283**	P		**Pn**	**18 37 24.1**	**+0.1**
SMY				*e*P			18 37 26.0	
FX1	**Attu Island--F**	**7.11**	**284**	P		**Pn**	**18 37 31.6**	**-0.3**
FALS	**False Pass**	**7.84**	**62**	P		**Pn**	**18 37 41.0**	**-1.0**
GAMB	**Gambell**	**12.26**	**8**	*e*Pn		**Pn**	**18 38 41.9**	**-0.2**
SVW2	**Sparrevohn**	**14.39**	**42**	*e*P		**Pn**	**18 39 11.6**	**+1.0**
KDAK	**Kodiak Island**	**14.47**	**56**	Pn		**Pn**	**18 39 08.2**	**-3.5**
	1.2nm,0.3s,baz=262,slow=17,SNR=29							
KDAK				Sn		**Sn**	**18 41 53.1**	**+2.5**
	0.2nm,0.3s,baz=135,slow=22,SNR=2.3							
PET	**Petropavlovsk**	**15.88**	**285**	*e*P		**Pn**	**18 39 22.9**	**-6.9**
PET				MLR		MLR		
	comp=Z,100nm,18.0s							
PETK	**Petropavlovsk-**	**16.44**	**285**	Pn		**Pn**	**18 39 38.5**	**+1.6**
	comp=Z,1.0nm,0.3s,baz=86,slow=15,SNR=19							
PETK				PcP		PcP	18 44 24.5	-0.6
	comp=Z,0.3nm,0.3s,baz=68,slow=2.9,SNR=4.2							
PETK				LR		LR	18 45 23.9	
	comp=Z,172nm,21.9s,baz=267,slow=36							
PETK	**Petropavlovsk-**	**16.44**	**285**	Pn		**Pn**	**18 39 38.5**	**+1.6**
PETK				PcP		PcP	18 44 24.5	-0.6
PETK				LR		LR	18 45 23.9	
SLKM	**Skilak Lake**	**16.48**	**48**	*e*P		**Pn**	**18 39 35.1**	**-2.2**
PPLA	**Purkeypile**	**16.70**	**39**	*e*Pn		**Pn**	**18 39 42.7**	**+2.7**
	comp=Z,15nm,0.5s							
CHUM	**Lake Minchumin**	**17.19**	**36**	*e*Pn		**Pn**	**18 39 47.5**	**+1.4**
	comp=Z,12nm,0.6s							
KTH	**Kantishna Hill**	**17.53**	**38**	*e*Pn		**Pn**	**18 39 50.4**	**+0.2**
	comp=Z,101nm,1.2s							
TRF	**Thorofare Moun**	**17.73**	**39**	*e*P		**Pn**	**18 39 53.1**	**+0.4**
	comp=Z,44nm,1.2s							
BPAW	**Bear Paw Mtn.**	**17.80**	**36**	*e*P		**Pn**	**18 39 54.5**	**+0.9**
	comp=Z,21nm,0.6s							
IMA2	**Indian Mountai**	**18.09**	**29**	*e*P		**Pn**	**18 39 58.4**	**+1.3**
MCK	**McKinley**	**18.39**	**39**	*e*P		**Pn**	**18 39 57.9**	**-2.8**
MCK				pmax		pmax		
	comp=Z,16nm,0.7s							
MCK	**McKinley**	**18.39**	**39**	*e*P		**Pn**	**18 39 57.9**	**-2.8**
	comp=Z,16nm,0.7s							
BILL	**Bilibino**	**18.64**	**338**	*c i*P		**Pn**	**18 40 05.1**	**+1.4**
BILL				pmax		pmax		
	comp=Z,38nm,1.1s							
BILL				MLR		MLR		
	comp=Z,300nm,21.0s							
BILL	**Bilibino**	**18.64**	**338**	*e*P		**Pn**	**18 40 04.6**	**+0.8**
	comp=Z,58nm,1.2s							
COLA	**College**	**19.36**	**37**	*i*P		**Pn**	**18 40 13.7**	**+1.4**
COLD	**Coldfoot**	**19.91**	**29**	*e*P		**Pn**	**18 40 17.8**	**-0.9**
	comp=Z,29nm,1.0s							
DAWY	**Dawson**	**22.42**	**43**	*e*P		**P**	**18 40 42.4**	**-1.0**
DLBC	**Dease Lake**	**26.40**	**57**	P		**P**	**18 41 20.5**	**-0.1**
	baz=252,slow=9.6							
DLBC	**Dease Lake**	**26.40**	**57**	P		**P**	**18 41 20.5**	**-0.1**
YSS	**Yuzh-Sakhalins**	**27.40**	**277**	‖*e*P		**P**	**18 41 31.0**	**+1.3**
YSS				MLR		MLR		
	comp=Z,400nm,19.0s							
YSS	**Yuzh-Sakhalins**	**27.40**	**277**	*e*P		**P**	**18 41 30.8**	**+1.1**
	comp=Z,14nm,0.7s,mb4.6							
BBB	**Bella Bella**	**28.75**	**70**	LR		LR	18 51 08.1	
	comp=Z,124nm,20.1s,baz=78,slow=32							
ASAJ	**Asahikawa**	**28.83**	**272**	P		**P**	**18 41 43.1**	**+0.7**
	comp=Z,8.5nm,0.7s,mb4.5,baz=64,slow=12,SNR=6.8							
ASAJ				LR		LR	18 52 27.5	
	comp=Z,56nm,18.8s,baz=255,slow=35							
ASAJ	**Asahikawa**	**28.83**	**272**	P		**P**	**18 41 43.1**	**+0.7**
ASAJ				pmax		pmax		
	comp=Z,9.0nm,0.7s							
ASAJ				MLR		MLR		
	comp=Z,56nm,18.8s							
YAK	**Yakutsk**	**30.80**	**311**	*i*P		**P**	**18 41 59.7**	**0.0**
YAK				pmax		pmax		
	comp=Z,4.0nm,0.7s,mb4.3							
YKA	**Yellowknife Ar**	**33.46**	**47**	P		**P**	**18 42 21.7**	**-1.2**
	comp=Z,1.0nm,0.4s,mb4.0,baz=277,slow=7.7,SNR=13							
YKA				PcP		PcP	18 45 02.7	+0.2
	comp=Z,1.1nm,0.5s,baz=285,slow=3.2,SNR=14							
YKA				LR		LR	18 57 41.5	
	comp=Z,52nm,18.2s,baz=150,slow=40							
YKA	**Yellowknife Ar**	**33.46**	**47**	P		**P**	**18 42 21.7**	**-1.2**
YKA							18 45 02.7	
YKA				pmax		pmax		
	comp=Z,1.0nm,0.4s							
YKA				pmax		pmax		
	comp=Z,1.0nm,0.5s							
YKA				MLR		MLR		
	comp=Z,52nm,18.2s							
YKA	**Yellowknife Ar**	**33.46**	**47**	P		**P**	**18 42 21.7**	**-1.3**
YKA				PcP		PcP	18 45 02.7	+0.2
YKA				LR		LR	18 57 41.5	
C04A	**Brinnon**	**33.53**	**76**	⇓P		**P**	**18 42 24.9**	**+1.1**
	baz=33							
B05A	**Bryant**	**33.81**	**74**	⇑P		**P**	**18 42 27.1**	**+0.9**
	baz=34							
C05A	**Tolt Reservoir**	**34.31**	**75**	⇓P		**P**	**18 42 31.3**	**+0.8**
	baz=34							
A07A	**Ashnola River,**	**34.49**	**72**	⇑P		**P**	**18 42 32.3**	**+0.3**
	baz=34							
F04A	**Amboy**	**34.70**	**78**	⇑P		**P**	**18 42 34.7**	**+0.8**
	baz=35							
B07A	**Winthrop**	**34.90**	**73**	⇑P		**P**	**18 42 36.2**	**+0.5**
	baz=35							
A08A	**Turner Farm, O**	**35.19**	**72**	⇓P		**P**	**18 42 38.2**	**+0.2**
	baz=35,SNR=6.0							
C07A	**Waterville**	**35.29**	**74**	⇑P		**P**	**18 42 39.1**	**+0.1**
	baz=35							
B08A	**Colville Reser**	**35.42**	**73**	⇓P		**P**	**18 42 40.2**	**+0.2**
	baz=35,SNR=5.3							
D07A	**Quincy**	**35.58**	**75**	⇓P		**P**	**18 42 41.9**	**+0.5**
	baz=36							
A09A	**Danville**	**35.58**	**71**	⇓P		**P**	**18 42 42.0**	**+0.6**
	baz=36							
MAJO	**Matsushiro**	**35.93**	**264**	*e*P		**P**	**18 42 45.0**	**+0.4**
MAJO				pmax		pmax		
	comp=Z,13nm,0.8s,mb4.9							
MAJO	**Matsushiro**	**35.93**	**264**	*e*P		**P**	**18 42 45.0**	**+0.4**
	comp=Z,13nm,0.8s,mb4.9							
MAT	**Matsushiro**	**35.93**	**264**	P		**P**	**18 42 45.4**	**+0.8**
MJAR	**Matsushiro Arr**	**35.93**	**264**	P		**P**	**18 42 44.4**	**-0.2**
	comp=Z,2.2nm,0.7s,mb4.2,baz=43,slow=7.7,SNR=6.6							
MJAR	**Matsushiro Arr**	**35.93**	**264**	P		**P**	**18 42 44.4**	**-0.2**
MJAR				pmax		pmax		
	comp=Z,2.0nm,0.7s							
E07A	**Sunnyside**	**35.95**	**76**	⇑P		**P**	**18 42 46.0**	**+1.3**
	baz=36							
B09A	**Rice**	**36.09**	**72**	⇑P		**P**	**18 42 46.2**	**+0.4**
	baz=36							
A10A	**Northport**	**36.18**	**71**	⇓P		**P**	**18 42 47.0**	**+0.4**
	baz=36							
RSW	**Rattlesnake Hi**	**36.19**	**76**	*e*P		**P**	**18 42 47.3**	**+0.6**
HAWA	**Hanford**	**36.23**	**76**	*e*P		**P**	**18 42 47.0**	**0.0**
	comp=Z,10nm,0.7s,mb4.9							
OD2	**Odessa Site #2**	**36.24**	**74**	*e*P		**P**	**18 42 46.9**	**-0.2**
D08A	**Wollman Farm,**	**36.27**	**74**	⇑P		**P**	**18 42 47.2**	**-0.1**
	baz=36							
D09A	**Jones Farm, Ri**	**36.64**	**74**	⇓P		**P**	**18 42 51.0**	**+0.5**
	baz=36							
NEW	**Newport**	**36.77**	**72**	*e*P		**P**	**18 42 50.8**	**-0.8**
NEW				pmax		pmax		
	comp=Z,8.0nm,0.5s							
NEW	**Newport**	**36.77**	**72**	*e*P		**P**	**18 42 50.8**	**-0.7**
	comp=Z,7.7nm,0.5s,mb4.9							
EDM	**Edmonton**	**36.79**	**62**	*e*P		**P**	**18 42 51.7**	**0.0**
J05A	**Fort Rock**	**36.79**	**81**	⇓P		**P**	**18 42 52.4**	**+0.6**
	baz=37							
A11A	**Hall Mountain,**	**36.90**	**70**	⇑P		**P**	**18 42 53.3**	**+0.7**
	baz=37,SNR=7.9							
F08A	**Pendleton**	**36.98**	**76**	⇑P		**P**	**18 42 53.5**	**+0.1**
	baz=37							
E09A	**Wood Farm, Sta**	**37.00**	**75**	⇓P		**P**	**18 42 53.4**	**-0.1**
	baz=37							
G08A	**Pilot Rock**	**37.13**	**77**	⇑P		**P**	**18 42 54.7**	**+0.1**
	baz=37							
B11A	**Sandpoint**	**37.13**	**71**	⇑P		**P**	**18 42 55.0**	**+0.3**
	baz=37							
I07A	**Izee**	**37.42**	**79**	⇓P		**P**	**18 42 57.6**	**+0.4**
	baz=37							
J06A	**Christmas Vall**	**37.47**	**81**	⇓P		**P**	**18 42 58.2**	**+0.6**
	baz=37							
C11A	**Tepee Creek (N**	**37.48**	**72**	⇓P		**P**	**18 42 57.7**	**0.0**
	baz=37							
F09A	**S2 Ranch, Elgi**	**37.55**	**76**	⇑P		**P**	**18 42 58.2**	**0.0**
	baz=37							
E10A	**Myers Farm, Un**	**37.64**	**74**	⇓P		**P**	**18 42 59.3**	**+0.4**
	baz=38							
K06A	**Valley Falls**	**37.66**	**81**	⇓P		**P**	**18 42 59.7**	**+0.5**
	baz=38							
H08A	**Prairie City**	**37.70**	**78**	⇑P		**P**	**18 43 00.1**	**+0.6**
	baz=38							
D11A	**Klaveano Farm,**	**37.82**	**73**	⇓P		**P**	**18 42 59.9**	**-0.6**
	baz=38							
F10A	**Beach Ranch, E**	**37.82**	**75**	⇑P		**P**	**18 43 00.1**	**-0.4**
	baz=38							
G09A	**Cove**	**37.85**	**76**	⇓P		**P**	**18 43 00.3**	**-0.4**
	baz=38							
G10A	**Bishop Farm, J**	**38.24**	**76**	⇑P		**P**	**18 43 03.7**	**-0.3**
	baz=38							
E11A	**Bogner Ranch,**	**38.24**	**74**	⇓P		**P**	**18 43 03.5**	**-0.5**
	baz=38							
B13A	**Whitefish**	**38.28**	**70**	⇑P		**P**	**18 43 04.0**	**-0.3**
	baz=38							
K07A	**Rock Creek Ran**	**38.34**	**81**	⇑P		**P**	**18 43 04.4**	**-0.5**
	baz=38							
BMO	**Blue Mountains**	**38.36**	**77**	*e*P		**P**	**18 43 04.8**	**-0.3**
	comp=Z,3.0nm,0.8s,mb4.2							
J08A	**Circle Bar Ran**	**38.44**	**79**	⇑P		**P**	**18 43 05.8**	**0.0**
	baz=38							
C13A	**Hot Springs**	**38.55**	**71**	⇓P		**P**	**18 43 06.4**	**-0.2**
	baz=38							
E12A	**Beaver Dam Sad**	**38.59**	**74**	⇓P		**P**	**18 43 06.7**	**-0.2**
	baz=38,SNR=7.2							
A14A	**Double T Ranch**	**38.60**	**69**	⇓P		**P**	**18 43 07.1**	**+0.1**
	baz=38,SNR=10							
G11A	**Walters Elk Ra**	**38.70**	**75**	⇑P		**P**	**18 43 07.7**	**-0.1**
	baz=39							
K08A	**Mann Creek Ran**	**38.78**	**80**	⇑P		**P**	**18 43 09.2**	**+0.6**
	baz=39							
H10A	**Noah's Angus R**	**38.83**	**77**	⇓P		**P**	**18 43 09.1**	**+0.1**
	baz=39,SNR=7.0							
WVOR	**Wild Horse Val**	**38.85**	**81**	*e*P		**P**	**18 43 09.2**	**0.0**
WVOR				pmax		pmax		
	comp=Z,4.0nm,0.6s,mb4.4							
WVOR	**Wild Horse Val**	**38.85**	**81**	*e*P		**P**	**18 43 09.2**	**0.0**
	comp=Z,3.9nm,0.6s,mb4.4							
J09A	**Fry Pan Ranch,**	**38.89**	**79**	⇓P		**P**	**18 43 09.7**	**+0.2**
	baz=39							
D13A	**Huson**	**38.91**	**72**	⇑P		**P**	**18 43 09.1**	**-0.6**
	baz=39							
B14A	**Marquette Ranc**	**38.98**	**70**	⇑P		**P**	**18 43 10.6**	**+0.3**
	baz=39							
A15A	**Johnson Ranch,**	**39.00**	**68**	⇓P		**P**	**18 43 10.0**	**-0.4**
	baz=39							
F12A	**Elk City**	**39.12**	**74**	⇓P		**P**	**18 43 11.4**	**0.0**
	baz=39,SNR=9.5							
L08A	**Fields**	**39.17**	**81**	⇓P		**P**	**18 43 12.0**	**+0.1**
	baz=39							
BEKR	**Beckwourth**	**39.27**	**85**	⇑P		**P**	**18 43 12.0**	**-0.7**
	baz=39							
MSO	**Missoula**	**39.35**	**72**	*e*P		**P**	**18 43 12.9**	**-0.4**
	comp=Z,4.4nm,0.5s,mb4.5							
E13A	**Victor**	**39.40**	**73**	⇓P		**P**	**18 43 13.5**	**-0.2**
	baz=39							
B15A	**Bradely Ranch,**	**39.42**	**69**	⇓P		**P**	**18 43 13.6**	**-0.3**
	baz=39,SNR=7.4							
D14A	**Greenough**	**39.48**	**71**	⇓P		**P**	**18 43 14.2**	**-0.2**
	baz=39,SNR=8.8							
CN2	**Changchun**	**39.56**	**283**	*e*P		**P**	**18 43 15.3**	**+0.2**
N07B	**Gerlach**	**39.59**	**83**	⇑P		**P**	**18 43 15.2**	**-0.1**
	baz=40							
F13A	**Darby**	**39.65**	**74**	⇓P		**P**	**18 43 15.8**	**0.0**
	baz=40,SNR=9.6							
C15A	**Salmond Ranch,**	**39.66**	**70**	⇓P		**P**	**18 43 16.2**	**+0.3**
	baz=40,SNR=20							
A16A	**West Butte Ran**	**39.67**	**68**	⇑P		**P**	**18 43 15.3**	**-0.6**
	baz=40,SNR=6.2							
CHMT	**Chamberlain Mo**	**39.72**	**72**	*e*P		**P**	**18 43 15.7**	**-0.6**
E14A	**Clinton**	**39.83**	**72**	⇑P		**P**	**18 43 17.3**	**0.0**
	baz=40,SNR=9.2							
B16A	**M & M Farms, S**	**39.87**	**69**	⇑P		**P**	**18 43 17.1**	**-0.5**
	baz=40,SNR=6.9							
H12A	**Diamond D Ranc**	**40.00**	**76**	⇑P		**P**	**18 43 18.2**	**-0.5**
	baz=40							
MFID	**Camas Ranch**	**40.03**	**78**	⇓P		**P**	**18 43 18.8**	**-0.2**
	baz=40							
G13A	**Cobalt**	**40.08**	**75**	⇑P		**P**	**18 43 19.1**	**-0.3**
	baz=40,SNR=6.2							
D15A	**Lincoln**	**40.08**	**71**	⇑P		**P**	**18 43 19.1**	**-0.3**
	baz=40,SNR=10							
HIA	**Hailar**	**40.12**	**293**	*i*P		**P**	**18 43 19.5**	**-0.2**
C16A	**Fuhringer Ranc**	**40.15**	**70**	⇑P		**P**	**18 43 19.6**	**-0.3**
	baz=40,SNR=12							
F14A	**Wisdom**	**40.22**	**73**	⇓P		**P**	**18 43 20.6**	**+0.1**
	baz=40,SNR=5.6							
I12A	**Atlanta**	**40.24**	**77**	⇓P		**P**	**18 43 20.8**	**+0.1**
	baz=40							
K11A	**Parker Ranch,**	**40.26**	**79**	⇑P		**P**	**18 43 20.8**	**-0.1**
	baz=40							
E15A	**Deer Lodge**	**40.33**	**72**	⇓P		**P**	**18 43 21.1**	**-0.3**
	baz=40							
H13A	**Challis**	**40.35**	**75**	⇓P		**P**	**18 43 21.2**	**-0.4**
	baz=40							
L10A	**Juniper Basin**	**40.38**	**80**	⇑P		**P**	**18 43 21.8**	**-0.1**
	baz=40							
N09A	**Rock Creek Ran**	**40.44**	**82**	⇑P		**P**	**18 43 22.0**	**-0.4**
	baz=40							
D16A	**Dana Ranch, Ca**	**40.66**	**70**	⇑P		**P**	**18 43 24.3**	**+0.2**
	baz=40							
HRY	**Holter Researc**	**40.66**	**71**	*e*P		**P**	**18 43 23.9**	**-0.3**
M10A	**I.L. Ranch, Tu**	**40.66**	**81**	⇓P		**P**	**18 43 24.5**	**+0.3**
	baz=40							
L11A	**Cat Creek Ranc**	**40.77**	**79**	⇓P		**P**	**18 43 25.2**	**+0.1**
	baz=41,SNR=6.1							
I13A	**Wildhorse Cree**	**40.79**	**76**	⇑P		**P**	**18 43 25.0**	**-0.3**
	baz=41,SNR=6.6							
HLID	**Hailey**	**40.80**	**77**	⇓P		**P**	**18 43 25.3**	**0.0**
	baz=41							
HLID	**Hailey**	**40.80**	**77**	*e*P		**P**	**18 43 24.9**	**-0.5**
	comp=Z,3.1nm,0.8s,mb4.2							
C17A	**Wharram Farm,**	**40.81**	**69**	⇓P		**P**	**18 43 24.9**	**-0.4**
	baz=41							
E16A	**East Helena**	**40.84**	**71**	⇓P		**P**	**18 43 25.1**	**-0.6**
	baz=41,SNR=5.8							
H14A	**Leadore**	**40.86**	**75**	⇑P		**P**	**18 43 25.5**	**-0.3**
	baz=41,SNR=6.1							
J13A	**Cove Ranch, Pi**	**41.04**	**77**	⇑P		**P**	**18 43 27.1**	**-0.2**
	baz=41,SNR=7.6							
MCMT	**McKenzie Canyo**	**41.05**	**74**	*e*P		**P**	**18 43 27.2**	**-0.2**
G15A	**Dillon**	**41.08**	**73**	⇓P		**P**	**18 43 27.0**	**-0.6**
	baz=41							
M11A	**Holland Ranch,**	**41.17**	**80**	⇑P		**P**	**18 43 28.7**	**+0.3**
	baz=41							
I14A	**Mackay**	**41.18**	**76**	⇓P		**P**	**18 43 28.7**	**+0.2**
	baz=41,SNR=12							
EGMT	**Eagleton**	**41.19**	**68**	⇓P		**P**	**18 43 28.4**	**-0.1**
	baz=41							
L12A	**House Creek Ra**	**41.23**	**79**	⇑P		**P**	**18 43 29.3**	**+0.4**
	baz=41							
H15A	**Lima**	**41.29**	**74**	⇑P		**P**	**18 43 29.3**	**0.0**
	baz=41							
E17A	**Martinsdale**	**41.36**	**71**	⇓P		**P**	**18 43 30.1**	**+0.2**
	baz=41,SNR=7.8							
NVAR	**Mina Array Bea**	**41.41**	**86**	P		**P**	**18 43 30.6**	**+0.2**
	comp=Z,2.1nm,0.7s,mb4.1,baz=302,slow=7.1,SNR=5.8							
NVAR				PcP		PcP	18 45 27.4	+0.2
	comp=Z,1.0nm,0.7s,baz=275,slow=3.1,SNR=3.8							
G16A	**Moss Hill, Enn**	**41.46**	**73**	⇑P		**P**	**18 43 30.2**	**-0.5**
	baz=41,SNR=7.7							
J14A	**Carey**	**41.48**	**76**	⇓P		**P**	**18 43 31.4**	**+0.5**
	baz=41,SNR=8.9							
M12A	**Wells**	**41.72**	**80**	⇑P		**P**	**18 43 33.3**	**+0.4**
	baz=42							
KSRS	**Korea Array**	**41.75**	**273**	P		**P**	**18 43 33.6**	**+0.4**
	comp=Z,10nm,0.9s,mb4.5,baz=55,slow=7.8,SNR=17							
KSRS				LR		LR	18 58 23.5	
	comp=Z,71nm,21.8s,baz=256,slow=33							
KSRS	**Korea Array**	**41.75**	**273**	P		**P**	**18 43 33.6**	**+0.4**
KSRS				pmax		pmax		
	comp=Z,10.0nm,0.9s,mb4.5							
KSRS				MLR		MLR	

P18A Preston Nutter 45.64 79 ⇑P **P** **18 44 04.9 +0.5**
baz=46
PFO Pinyon Flat Ob 45.64 90 LR LR 18 59 19.5
comp=Z,105nm,21.6s,baz=317,slow=31
R16A Teasdale 45.71 81 ⇓P **P** **18 44 05.4 +0.5**
baz=46
SRU San Rafael 45.78 79 *e*P **P** **18 44 06.1 +0.6**
SRU pmax pmax
comp=Z,79nm,0.6s,mb5.6
SRU San Rafael 45.78 79 ⇑P **P** **18 44 05.9 +0.4**
baz=46
SRU San Rafael 45.78 79 *e*P **P** **18 44 06.1 +0.6**
comp=Z,79nm,0.6s,mb5.6
O19A Miners Draw (B 45.91 77 ⇓P **P** **18 44 06.3 -0.2**
baz=46,SNR=14
T15A Red Dirt Ranch 45.95 83 ⇑P **P** **18 44 06.8 0.0**
baz=46
S16A Weppner Ranch, 45.99 82 ⇑P **P** **18 44 06.9 -0.3**
baz=46
R17A Hanksville Air 46.10 80 ⇑P **P** **18 44 07.4 -0.6**
baz=46
U15A North Rim 46.38 83 ⇑P **P** **18 44 10.1 -0.1**
baz=46
S17A Black Ridge (B 46.53 81 ⇑P **P** **18 44 11.3 -0.1**
baz=46
Q19A Hogan Spring (46.65 79 ⇓P **P** **18 44 11.5 -0.8**
baz=46
BJI Beijing 47.37 284 P **P** **18 44 19.3 +1.4**
BJI PP PP 18 46 07.3 -2.0
BJI S **S** **18 51 05.1 -1.7**
BJI AMB AMB
comp=Z,23nm,0.9s,mb4.9
BJI AMB AMB
comp=Z,105nm,4.4s
BJI LR LR
comp=N,120nm,20.0s
BJI LR LR
comp=E,140nm,18.1s
BJI LR LR
comp=Z,163nm,24.6s
T18A Mexican Hat 47.42 81 ⇑P **P** **18 44 17.5 -0.9**
baz=47
ULM Lac du Bonnet 47.71 59 P **P** **18 44 19.6 -0.8**
comp=Z,5.3nm,0.5s,mb4.7,baz=298,slow=9.0,SNR=9.9
ULM Lac du Bonnet 47.71 59 *e*P **P** **18 44 19.4 -1.1**
T19A Beclabito 48.14 81 ⇑P **P** **18 44 23.7 -0.2**
baz=48,SNR=8.2
SONM Songino Array 48.38 298 P **P** **18 44 25.1 -0.5**
comp=Z,0.7nm,0.5s,mb3.7,baz=75,slow=7.6,SNR=2.8
SONM PcP PcP 18 45 50.6 -0.6
comp=Z,3.8nm,0.7s,baz=55,slow=3.4,SNR=9.8
SONM LR LR 19 05 36.8
comp=Z,107nm,19.4s,baz=238,slow=37
SONM Songino Array 48.38 298 P **P** **18 44 25.1 -0.5**
SONM 18 45 50.6
SONM pmax pmax
comp=Z,1.0nm,0.5s
SONM pmax pmax
comp=Z,4.0nm,0.7s
SONM MLR MLR
comp=Z,107nm,19.4s
ZAK Zakamensk 48.59 302 *e*P **P** **18 44 25.4 -1.8**
ZAK pmax pmax
comp=Z,5.0nm,1.3s,mb4.3
AGMN Agassiz Refuge 48.84 61 *e*P **P** **18 44 27.6 -1.6**
comp=Z,17nm,0.8s,mb5.0
HHC Hu-ho-hao-te 49.63 288 *e*P **P** **18 44 35.1 -0.1**
HHC AP pP 18 44 50.3 -1.6
HHC XP sP 18 44 57.8 -1.5
HHC PCP PcP 18 45 57.1 +1.3
HHC PP PP 18 46 31.0 +1.1
HHC SCP ScP 18 49 44.3 -1.0
HHC S **S** **18 51 38.0 -0.6**
HHC XS sS 18 52 05.5 -1.3
HHC SCS ScS 18 54 20.1 -0.3
HHC SS SS 18 55 06.8 -4.2
HHC AMB AMB
comp=Z,17nm,1.1s,mb4.9
HHC AMB AMB
comp=Z,73nm,7.7s
HHC LR LR
comp=N,147nm,14.4s
HHC LR LR
comp=E,165nm,14.6s
HHC LR LR
comp=Z,148nm,16.7s
SDCO Great Sand Dun 49.70 77 *e*P **P** **18 44 35.0 -0.9**
comp=Z,2.5nm,0.8s,mb4.2
SPITS Spitsbergen Ar 50.18 357 P **P** **18 44 38.1 -0.8**
comp=Z,1.1nm,0.3s,mb4.2,baz=40,slow=6.6,SNR=10
SPITS LR LR 19 06 21.2
comp=Z,136nm,19.2s,baz=130,slow=37
SPITS Spitsbergen Ar 50.18 357 P **P** **18 44 38.1 -0.8**
SPITS pmax pmax
comp=Z,1.0nm,0.3s
SPITS MLR MLR
comp=Z,136nm,19.2s
ANMO Albuquerque 50.94 81 LR LR 19 02 24.3
comp=Z,61nm,19.9s,baz=155,slow=32
ECSD EROS,Sioux Fal 51.17 66 *e*P **P** **18 44 44.4 -2.5**
comp=Z,8.0nm,1.0s,mb4.7
CBKS Cedar Bluff 52.48 73 *e*P **P** **18 44 56.0 -0.7**
CBKS pmax pmax
comp=Z,6.0nm,0.4s,mb5.0
CBKS Cedar Bluff 52.48 73 *e*P **P** **18 44 56.0 -0.6**
comp=Z,6.3nm,0.4s,mb5.0
SFJD Kangerlussuaq 54.53 23 LR LR 19 12 18.1
comp=Z,66nm,19.0s,baz=295,slow=40
WHN Wuhan 54.74 276 P **P** **18 45 13.3 0.0**
ZALV Zalesovo Beam 55.32 315 P **P** **18 45 16.9 -0.3**
comp=Z,0.7nm,0.5s,mb4.0,baz=36,slow=6.8,SNR=4.1
ZALV PcP PcP 18 46 16.7 -0.3
comp=Z,3.1nm,0.7s,baz=43,slow=4.1,SNR=9.9
ZALV LR LR 19 10 31.4
comp=Z,70nm,20.5s,baz=158,slow=38
ZALV Zalesovo Beam 55.32 315 P **P** **18 45 16.9 -0.3**
ZALV 18 46 16.7
ZALV pmax pmax
comp=Z,1.0nm,0.5s,mb4.1
ZALV pmax pmax
comp=Z,3.0nm,0.7s,mb4.4
ZALV MLR MLR
comp=Z,70nm,20.5s
XAN Xi'an 55.67 283 P **P** **18 45 20.3 +0.4**
XAN AMB AMB
comp=Z,10.0nm,1.0s,mb4.8
XAN AMB AMB
comp=Z,63nm,12.6s
XAN LR LR
comp=E,151nm,15.5s
XAN LR LR
comp=Z,259nm,14.4s
LPIG La Paz 56.12 93 LR LR 19 03 22.9
comp=Z,110nm,21.1s,baz=204,slow=30
TXAR Lajitas Array 56.51 84 P **P** **18 45 25.2 -0.7**
comp=Z,1.0nm,0.5s,mb4.1,baz=299,slow=4.6,SNR=16
TXAR PcP PcP 18 46 22.4 +0.4
comp=Z,0.8nm,0.5s,baz=250,slow=1.8,SNR=2.4
TXAR Lajitas Array 56.51 84 P **P** **18 45 25.2 -0.8**
TXAR 18 46 22.4
TXAR pmax pmax
comp=Z,1.0nm,0.5s
TXAR pmax pmax
comp=Z,1.0nm,0.5s
LZH Lanzhou 57.31 288 *e*P **P** **18 45 31.3 -0.3**
LZH AP pP 18 45 43.5 -5.1
LZH XP sP 18 45 48.5 -7.4
LZH AMB AMB
comp=Z,15nm,1.0s,mb5.0
LZH AMB AMB
comp=Z,110nm,4.6s
GTA Gaotai 57.40 294 *e*P **P** **18 45 35.8 +3.7**
GTA AMB AMB
comp=Z,3.0nm,0.8s,mb4.4
GTA AMB AMB
comp=Z,42nm,4.2s
GTA LR LR
comp=N,95nm,16.9s
GTA LR LR
comp=E,117nm,16.4s
GTA LR LR
comp=Z,101nm,16.0s
ARCES ARCESS Array B 58.10 352 P **P** **18 45 35.7 -0.9**
comp=Z,3.2nm,0.7s,mb4.4,baz=22,slow=8.0,SNR=8.3
ARCES PcP PcP 18 46 27.0 -0.6
comp=Z,4.5nm,1.0s,baz=25,slow=5.4,SNR=8.6
ARCES ARCESS Array B 58.10 352 P **P** **18 45 35.7 -0.9**
ARCES 18 46 27.0
ARCES pmax pmax
comp=Z,3.0nm,0.7s
ARCES pmax pmax
comp=Z,5.0nm,1.0s
ARCES ARCESS Array B 58.10 352 P **P** **18 45 35.7 -0.9**
ARCES PcP PcP 18 46 27.0 -0.6
MIAR Mount Ida 59.01 72 *e*P **P** **18 45 42.4 -1.0**
MIAR pmax pmax
comp=Z,10.0nm,0.9s,mb4.8
MIAR Mount Ida 59.01 72 *e*P **P** **18 45 42.4 -1.0**
comp=Z,10nm,0.9s,mb4.8
SADO Sadowa 59.92 55 P **P** **18 45 49.0 -0.6**
baz=300,slow=12
KURK Kurchatov 60.31 315 LR LR 19 13 53.0
comp=Z,103nm,18.7s,baz=35,slow=38
KURK Kurchatov 60.31 315 ⇓*e*P **P** **18 45 50.9 -1.2**
KURK pmax pmax
comp=Z,1.0nm,0.7s,mb4.0
KURK Kurchatov 60.31 315 *e*P **P** **18 45 50.9 -1.2**
comp=Z,6.3nm,0.4s,mb5.0
CD2 Chengdu 60.97 284 *e*P **P** **18 45 57.4 +0.5**
CD2 AP pP 18 46 11.9 -2.2
CD2 XP sP 18 46 20.3 -1.1
CD2 PP PP 18 48 14.3 +2.7
CD2 S **S** **18 54 10.9 +0.7**
CD2 XS sS 18 54 35.5 -3.8
CD2 AMB AMB
comp=Z,20nm,1.0s,mb5.1
CD2 AMB AMB
comp=Z,60nm,8.2s
CD2 LR LR
comp=N,160nm,15.6s
CD2 LR LR
comp=E,250nm,10.8s
CD2 LR LR
comp=Z,300nm,10.8s
ACSO Alum Creek Sta 61.08 61 *e*P **P** **18 46 04.1 +6.5**
comp=Z,23nm,0.8s,mb5.3
MK31 Makanchi Array 61.47 310 *e*P **P** **18 45 58.6 -1.5**
MKAR Makanchi Array 61.47 310 P **P** **18 45 58.0 -2.0**
comp=Z,0.8nm,0.3s,mb4.2,baz=44,slow=7.0,SNR=26
MKAR LR LR 19 13 23.3
comp=Z,74nm,19.2s,baz=8.4,slow=37
MKAR Makanchi Array 61.47 310 P **P** **18 45 58.1 -2.0**
MKAR pmax pmax
comp=Z,1.0nm,0.3s
MKAR MLR MLR
comp=Z,74nm,19.2s
ALLY Alegheny Colle 61.60 58 *e*P **P** **18 46 01.1 0.0**
comp=Z,83nm,0.8s,mb5.8
GYA Guiyang 62.39 278 P **P** **18 46 07.0 +0.5**
GYA AP pP 18 46 23.4 -0.3
GYA XP sP 18 46 29.8 -1.2
GYA PCP PcP 18 46 47.3 +1.8
GYA PP PP 18 48 27.8 +3.7
GYA SCP ScP 18 50 42.0 +0.5
GYA S **S** **18 54 28.6 +0.4**
GYA XS sS 18 54 52.9 -4.5
GYA SKS 18 55 51.0
GYA AMB AMB
comp=Z,10.0nm,0.8s,mb4.9
GYA AMB AMB
comp=Z,70nm,5.2s
GYA LR LR
comp=N,320nm,19.4s
GYA LR LR
comp=E,290nm,20.9s
GYA LR LR
comp=Z,440nm,20.7s
MCWV Mont Chateau 63.18 59 *e*P **P** **18 46 11.2 -0.4**
comp=Z,37nm,1.0s,mb5.3
BINY Binghamton 63.37 55 *e*P **P** **18 46 12.4 -0.4**
comp=Z,40nm,1.0s,mb5.3
ARU Arti 63.41 330 *d i*P **P** **18 46 13.8 +0.9**
ARU *e* 18 46 47.7
ARU *e* 18 48 37.6
ARU *e*S **S** **18 54 46.1 +5.9**
ARU pmax pmax
comp=Z,4.0nm,0.6s,mb4.5
ARU Arti 63.41 330 *e*P **P** **18 46 11.2 -1.7**
comp=Z,4.4nm,0.4s,mb4.7
SSPA Standing Stone 63.52 57 *e*P **P** **18 46 13.2 -0.6**
comp=Z,29nm,0.6s,mb5.3
ELN Prospectdale 64.45 62 P **P** **18 46 19.5 -0.5**
GOGA Godfrey 65.70 67 *e*P **P** **18 46 26.5 -1.7**
GOGA pmax pmax
comp=Z,9.0nm,0.9s,mb4.6
GOGA Godfrey 65.70 67 *e*P **P** **18 46 26.5 -1.6**
comp=Z,9.4nm,0.9s,mb4.6
KMI Kunming 65.77 280 P **P** **18 46 29.8 +1.1**
KMI AP pP 18 46 45.3 -0.7
KMI XP sP 18 46 50.8 -2.5
KMI PCP PcP 18 47 00.4 +1.0
KMI PP PP 18 48 56.8 +3.0
KMI PCS 18 51 03.8
KMI S S 18 55 09.9 -0.2
KMI XS sS 18 55 35.1 -4.4
KMI SS SS 18 59 26.3 +1.2
KMI AMB AMB
comp=Z,20nm,0.6s,mb5.1
KMI AMB AMB
comp=Z,75nm,4.2s
KMI LR LR
comp=N,96nm,15.8s
KMI LR LR
comp=E,135nm,13.4s
KMI LR LR
comp=Z,131nm,15.8s
URVA University of 65.94 60 *e*P **P** **18 46 29.4 -0.2**
JSC Jenkinsville 66.31 64 *e*P **P** **18 46 31.7 -0.4**
NOA NORSAR Array B 67.48 357 P **P** **18 46 38.4 -0.6**
comp=Z,3.2nm,0.9s,mb4.2,baz=3.9,slow=6.4,SNR=5.9
NOA LR LR 19 14 10.6
comp=Z,48nm,20.2s,baz=20,slow=34
NOA NORSAR Array B 67.48 357 P **P** **18 46 38.4 -0.6**
NOA pmax pmax
comp=Z,3.0nm,0.9s
NOA MLR MLR
comp=Z,48nm,20.2s
EKS2 Erkin-Say 68.57 312 *e*P **P** **18 46 46.2 0.0**
comp=Z,1.6nm,0.5s,mb4.1
AML Almayashu 69.02 312 *e*P **P** **18 46 49.0 +0.1**
CHTO Chiang Mai 72.81 279 *e*P **P** **18 47 12.9 +0.6**
CHTO pmax pmax
comp=Z,7.0nm,1.0s,mb4.5
CHTO Chiang Mai 72.81 279 *e*P **P** **18 47 12.9 +0.7**
comp=Z,7.2nm,1.0s,mb4.5
TAPN Taplejung 73.06 293 *e*P **P** **18 47 14.6 +0.9**
comp=Z,28nm,0.7s,mb5.2
CMAR Chiang Mai Arr 73.08 278 P **P** **18 47 13.9 0.0**
comp=Z,2.4nm,0.4s,mb4.4,baz=24,slow=6.0,SNR=31
CMAR Chiang Mai Arr 73.08 278 *i* P **P** **18 47 14.6 +0.7**
CMAR pmax pmax
comp=Z,2.0nm,0.4s
ODAN Odare 73.62 293 *e*P **P** **18 47 17.8 +0.8**
comp=Z,7.6nm,0.4s,mb4.8
GUN Gumba 73.68 294 *e*P **P** **18 47 18.1 +0.8**
comp=Z,88nm,0.5s,mb5.8
JIRN Jiri 73.69 294 *e*P **P** **18 47 18.5 +1.1**
comp=Z,50nm,0.6s,mb5.5
RAMN Ramite 74.00 293 *e*P **P** **18 47 19.7 +0.5**
comp=Z,59nm,0.5s,mb5.5
KKN Kakani 74.11 295 *e*P **P** **18 47 20.4 +0.6**
comp=Z,13nm,0.5s,mb4.9
KKN Kakani 74.11 295 *e*P **P** **18 47 20.4 +0.6**
KKN pmax pmax
comp=Z,13nm,0.5s,mb4.9
PKI Pulchoki 74.21 294 *e*P **P** **18 47 20.9 +0.5**
comp=Z,16nm,0.6s,mb4.9
PKI Pulchoki 74.21 294 *e*P **P** **18 47 20.9 +0.5**
PKI pmax pmax
comp=Z,16nm,0.6s,mb4.9
GKN Gorkha 74.31 295 *e*P **P** **18 47 21.2 +0.2**
comp=Z,26nm,0.4s,mb5.3
DMN Daman 74.35 295 *e*P **P** **18 47 22.1 +0.9**
comp=Z,11nm,0.4s,mb4.9
DANN Dangsing 74.54 296 *e*P **P** **18 47 23.0 +0.7**
comp=Z,24nm,0.5s,mb5.2
KOLN Koldanda 75.07 296 *e*P **P** **18 47 26.1 +0.7**
comp=Z,10nm,0.4s,mb4.9
AKASG Malin Array Be 75.85 344 P **P** **18 47 28.4 -1.1**
comp=Z,1.9nm,0.4s,mb4.2,baz=18,slow=6.1,SNR=6.9
AKASG LR LR 19 21 07.7
comp=Z,77nm,20.2s,baz=25,slow=36
AKASG Malin Array Be 75.85 344 P **P** **18 47 28.4 -1.0**
AKASG pmax pmax
comp=Z,2.0nm,0.4s
AKASG MLR MLR
comp=Z,77nm,20.2s
CLL Collm 77.11 355 ⇓*i*P **P** **18 47 36.4 -0.2**
CLL pmax pmax
comp=Z,4.0nm,0.6s,mb4.3
CLL Collm 77.11 355 ⇓*i*P **P** **18 47 36.4 -0.2**
comp=Z,4.0nm,0.6s,mb4.3
KBL Kabul 77.28 310 *e*P **P** **18 47 36.6 -1.2**
KBL pmax pmax
comp=Z,2.0nm,0.8s,mb3.9
KBL Kabul 77.28 310 *e*P **P** **18 47 36.6 -1.2**
comp=Z,2.4nm,0.8s,mb4.0
BRG Berggiesshubel 77.49 354 *e*P **P** **18 47 38.5 -0.2**
BRG pmax pmax
comp=Z,2.0nm,0.7s,mb4.0
BRG Berggiesshubel 77.49 354 *e*P **P** **18 47 38.5 -0.2**
comp=Z,4.0nm,0.7s,mb4.3
KWP Kalwaria 77.87 348 ⇓P **P** **18 47 41.0 +0.2**
KAKA Kakadu 78.39 232 *e*P **P** **18 47 41.0 -3.0**
comp=Z,12nm,0.6s,mb4.8
KAKA Kakadu 78.39 232 *e*P **P** **18 47 40.8 -3.3**
comp=Z,35nm,0.9s,mb5.1
BUR08 Bucovina Ar. S 79.46 346 *e*P **P** **18 47 49.6 0.0**
BURAR Bucovina Array 79.49 346 ⇓P **P** **18 47 49.8 +0.1**
GERES GERESS Array B 79.53 354 P **P** **18 47 48.7 -1.2**
comp=Z,0.9nm,0.7s,mb3.7,baz=28,slow=6.0,SNR=9.9
GERES GERESS Array B 79.53 354 P **P** **18 47 48.7 -1.2**
GERES pmax pmax
comp=Z,1.0nm,0.7s
LDF La Druitiere 80.00 3 *e*P **P** **18 47 52.2 -0.3**
DRGR 80.65 347 ⇓P **P** **18 47 55.9 -0.1**
HAU Haudompre 80.66 359 *e*P **P** **18 47 55.8 -0.2**
TLCR 81.25 343 ⇓P **P** **18 47 59.9 +0.7**
LOR Lormes 81.40 1 *e*P **P** **18 47 59.7 -0.3**
comp=Z,13nm,1.1s,mb4.4
LOR Lormes 81.40 1 *e*P **P** **18 47 59.7 -0.3**
LOR pmax pmax
comp=Z,7.0nm,1.0s,mb4.5
LOR Lormes 81.40 1 *e*P **P** **18 47 59.7 -0.3**
comp=Z,6.7nm,1.0s,mb4.4
MLR Muntele Rosu 81.45 345 P **P** **18 48 00.4 +0.1**
comp=Z,3.3nm,0.6s,mb4.3,baz=341,slow=5.6,SNR=7.2
MLR LR LR 19 26 55.7
comp=Z,74nm,18.9s,baz=124,slow=38
MLR Muntele Rosu 81.45 345 P **P** **18 48 00.4 +0.1**
MLR pmax pmax
comp=Z,3.0nm,0.6s
MLR MLR MLR
comp=Z,74nm,18.9s
MLR Muntele Rosu 81.45 345 ⇓P **P** **18 48 00.8 +0.6**
SSF Saint Saulge 81.61 1 *e*P **P** **18 48 00.9 -0.2**
comp=Z,21nm,1.3s,mb4.5
SSF Saint Saulge 81.61 1 *e*P **P** **18 48 00.9 -0.2**
SSF pmax pmax
comp=Z,11nm,1.3s,mb4.5
SSF Saint Saulge 81.61 1 *e*P **P** **18 48 00.9 -0.2**
comp=Z,10nm,1.3s,mb4.5
VOIR 81.64 346 ⇓P **P** **18 48 02.7 +1.4**
AVF Avril sur Loir 81.88 1 *e*P **P** **18 48 02.2 -0.3**
comp=Z,13nm,1.2s,mb4.3
AVF Avril sur Loir 81.88 1 *e*P **P** **18 48 02.2 -0.3**
AVF pmax pmax
comp=Z,6.0nm,1.2s,mb4.3
AVF Avril sur Loir 81.88 1 *e*P **P** **18 48 02.2 -0.3**
comp=Z,6.3nm,1.2s,mb4.3
GZR Gura Zlata 82.02 347 ⇓P **P** **18 48 03.7 +0.4**
SMF Signal de Mont 82.03 1 *e*P **P** **18 48 01.8 -1.5**
comp=Z,28nm,1.3s,mb4.7
SMF Signal de Mont 82.03 1 *e*P **P** **18 48 01.8 -1.5**
SMF pmax pmax
comp=Z,14nm,1.3s,mb4.6
SMF Signal de Mont 82.03 1 *e*P **P** **18 48 01.8 -1.5**
comp=Z,14nm,1.3s,mb4.6
TIRR Tirgusor 82.03 343 ⇑P **P** **18 48 03.7 +0.4**
TCF Toulx Ste Croi 82.36 2 *e*P **P** **18 48 04.7 -0.4**
comp=Z,8.4nm,0.9s,mb4.3
TCF Toulx Ste Croi 82.36 2 *e*P **P** **18 48 04.7 -0.4**
TCF pmax pmax
comp=Z,4.0nm,0.9s,mb4.2
TCF Toulx Ste Croi 82.36 2 *e*P **P** **18 48 04.7 -0.4**
comp=Z,4.2nm,0.9s,mb4.3
WRAB Tennant Creek 83.74 227 *i* P **P** **18 48 11.7 -0.7**
WRA Warramunga Arr 83.75 227 P **P** **18 48 11.8 -0.6**
comp=Z,2.3nm,0.6s,mb4.2,baz=33,slow=5.7,SNR=25
WRA Warramunga Arr 83.75 227 *i* P **P** **18 48 11.8 -0.6**
WRA pmax pmax
comp=Z,2.0nm,0.6s
HYB Hyderabad 86.06 293 *i* P **P** **18 48 24.0 -0.3**
HYB Hyderabad 86.06 293 *e*P **P** **18 48 24.0 -0.3**
FITZ Fitzroy Crossi 86.37 235 *e*P **P** **18 48 25.8 +0.3**
comp=Z,9.7nm,0.9s,mb4.7
FITZ Fitzroy Crossi 86.37 235 *e*P **P** **18 48 25.4 -0.1**
comp=Z,13nm,0.9s,mb4.9
ASAR Alice Springs 87.20 225 P **P** **18 48 29.6 +0.1**
comp=Z,3.6nm,0.8s,mb4.3,baz=24,slow=5.3,SNR=39
ASAR Alice Springs 87.20 225 P **P** **18 48 29.6 +0.1**
ASAR pmax pmax
comp=Z,4.0nm,0.8s
STKA Stephens Creek 91.39 215 P **P** **18 48 49.1 +0.1**
comp=Z,6.6nm,0.9s,mb4.8,baz=2.3,slow=5.7,SNR=9.4
IDI Anoyia 91.56 344 LR LR 19 30 09.9
comp=Z,49nm,21.8s,baz=267,slow=36
TOA0 Torodi Ar. Sit 115.37 3 *e*PKPdf PKPdf 18 54 24.0 -1.0
TORD Torodi Ar. Bea 115.37 3 PKP PKPdf 18 54 24.6 -0.3
comp=Z,1.0nm,0.5s,baz=344,slow=2.4,SNR=37
DBIC Dimbokro 121.29 11 PKP PKPdf 18 54 34.8 -1.7
comp=Z,2.0nm,0.4s,baz=315,slow=2.9,SNR=8.8
DBIC Dimbokro 121.29 11 PKIKP PKPdf 18 54 34.8 -1.6
DBIC pmax pmax
comp=Z,2.0nm,0.4s
BDFB Brasilia 125.01 69 *e*P Pdif 18 51 27.0 +7.2
PLCA Paso Flores 129.05 109 PKP PKPdf 18 54 50.4 0.0
comp=Z,1.9nm,1.0s,baz=246,slow=10,SNR=3.9
PLCA Paso Flores 129.05 109 PKIKP PKPdf 18 54 50.4 +0.1
PLCA pmax pmax
comp=Z,2.0nm,1.0s
TSUM Tsumeb 145.99 338 *e*PKPdf PKPdf 18 55 22.9 +0.9
MAW Mawson 148.05 218 PKPbc PKPbc 18 55 27.3 +0.1
comp=Z,11nm,0.5s,baz=100,slow=2.9,SNR=55
MAW Mawson 148.05 218 PKP2 PKPab 18 55 27.3 -2.9
MAW pmax pmax
comp=Z,11nm,0.5s
LBTB Lobatse 148.90 321 *e*PKP2 PKPab 18 55 31.4 -3.4
BOSA Boshof 152.24 318 PKPbc PKPbc 18 55 38.8 +0.2
comp=Z,12nm,0.5s,baz=14,slow=2.5,SNR=67
BOSA Boshof 152.24 318 PKIKP PKPdf 18 55 38.8 +7.0
BOSA pmax pmax
comp=Z,12nm,0.5s
BOSA Boshof 152.24 318 *e*PKPbc PKPbc 18 55 38.8 +0.2

ISCJB ***16*** *18:45:47.7±0.6, 24.16S±0.04×66.96W±0.08, h181km±7km, mb3.7/8, Error ellipse: s-maj=12.6km s-min=7.2km az=6.7*
NEIC ***16*** *18:45:48.6±0.7, 24.13S×66.90W, h173km±8km, mb4.1/5, Error ellipse: s-maj=14.2km s-min=8.2km az=91.0*
IDC ***16*** *18:45:49.0±1.2, 24.07S×66.92W, h173km±10km, mb3.5/5, mb1 3.6/11, mb1mx3.5/20, mbtmp3.5/11, MS3.9/2, Ms1 3.9/2, ms1mx2.8/21, Error ellipse: s-maj=15.8km s-min=15.2km az=42.0*

ISC 16 18:45:48.7±0.6, 2413S±0.005×6691W±0.008, h172km±7km, n25, σ0.896/28, mb3.7/8, Salta Province

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**2.38**	**309**	P		**Pn**	**18 46 31.3**	**+1.7**
	119nm,0.3s,baz=129,slow=6.0,SNR=1856							
LVC				S		**Sn**	**18 47 01.2**	**+0.1**
	84nm,0.3s,baz=225,slow=12,SNR=23							
LVC	**Limon Verde**	**2.38**	**309**	*e*Pn		**Pn**	**18 46 30.8**	**+1.3**
LVC				P			18 46 31.3	
LVC				*e*Sn		**Sn**	**18 47 01.0**	**-0.2**
LVC				S		**Sn**	**18 47 01.2**	**+0.1**
LCO	**Las Campanas**	**5.93**	**214**	*e*Pn		**Pn**	**18 47 12.9**	**-1.8**
LCO				*e*Sn		**Sn**	**18 48 16.5**	**-5.8**
CFAA	**Coronel Fontan**	**7.54**	**189**	P		**Pn**	**18 47 35.8**	**-0.1**
	0.2nm,0.3s,baz=3.1,slow=13,SNR=23							
CFAA				S		**Sn**	**18 48 55.8**	**-4.7**
	0.6nm,0.3s,baz=126,slow=17,SNR=9.1							
LPAZ	**La Paz**	**7.88**	**351**	P		**Pn**	**18 47 42.0**	**+1.4**
	4.9nm,0.3s,baz=164,slow=8.5,SNR=99							
LPAZ				S		**Sn**	**18 49 07.2**	**-1.7**
	0.2nm,0.3s,baz=308,slow=20,SNR=3.8							
LPAZ	**La Paz**	**7.88**	**351**	*e*Pn		**Pn**	**18 47 41.3**	**+0.7**

LPAZ				*e*Sn	**Sn**	**18 49 04.2**	**-4.7**		
LPAZ				S	**Sn**	**18 49 07.2**	**-1.7**		
SIV	**San Ignacio**	**9.77**	**35**	P	**Pn**	**18 48 05.8**	**+0.3**		
	0.7nm,0.3s,baz=244,slow=9.6,SNR=10								
SIV				S	**Sn**	**18 49 54.0**	**-0.2**		
	0.2nm,0.3s,baz=252,slow=17,SNR=2.7								
TRQA	**Tornquist**	**14.51**	**164**	*e*Pn	**Pn**	**18 49 05.3**	**-0.7**		
	19nm,0.8s								
PLCA	**Paso Flores**	**16.84**	**190**	P	**Pn**	**18 49 35.5**	**+1.2**		
	0.2nm,0.3s,baz=359,slow=13,SNR=3.6								
BDFB	**Brasilia**	**19.65**	**68**	P	**P**	**18 50 05.0**	**+0.5**		
	0.5nm,0.3s,baz=232,slow=18,SNR=10								
BDFB	**Brasilia**	**19.65**	**68**	*e*P	**P**	**18 50 03.5**	**-0.9**		
	7.1nm,0.6s								
CMIG	**Matias Romero**	**49.23**	**324**	LR	LR	19 13 34.2			
	comp=Z,85nm,18.4s,baz=119,slow=34								
SNAA	**Sanae**	**59.20**	**161**	*e*P	**P**	**18 55 32.3**	**+1.0**		
	0.8nm,0.6s,mb3.7								
WVT	**Waverly**	**63.11**	**341**	P	**P**	**18 55 56.1**	**-1.8**		
	4.5nm,0.9s,mb4.3								
TXAR	**Lajitas Array**	**63.83**	**324**	P	**P**	**18 56 01.9**	**-0.8**		
	0.3nm,0.6s,mb3.3,baz=147,slow=7.3,SNR=3.8								
ANMO	**Albuquerque**	**69.70**	**326**	P	**P**	**18 56 40.8**	**+0.9**		
	0.7nm,0.4s,mb3.7,baz=124,slow=7.3,SNR=3.1								
SDCO	**Great Sand Dun**	**71.44**	**329**	P	**P**	**18 56 50.2**	**-0.1**		
	0.9nm,0.7s,mb3.6								
TORD	**Torodi Ar. Bea**	**76.53**	**69**	P	**P**	**18 57 20.4**	**0.0**		
	1.2nm,0.5s,mb3.8,baz=257,slow=5.3,SNR=21								
PDAR	**Pinedale Array**	**77.30**	**329**	P	**P**	**18 57 24.8**	**+0.8**		
	0.5nm,0.7s,mb3.2,baz=129,slow=7.1,SNR=3.1								
ULM	**Lac du Bonnet**	**78.37**	**341**	P	**P**	**18 57 29.6**	**-0.2**		
	1.9nm,0.5s,mb4.0,baz=169,slow=5.2,SNR=3.1								
YKA	**Yellowknife Ar**	**94.27**	**340**	LR	LR	19 46 39.1			
	comp=Z,76nm,19.2s,baz=155,slow=39								
WRA	**Warramunga Arr**	**131.55**	**207**	PKP	PKPdf	19 04 41.7	0.0		
	0.4nm,0.5s,baz=165,slow=1.5,SNR=5.8								
ZALV	**Zalesovo Beam**	**143.46**	**28**	PKP	PKPdf	19 05 00.4	-2.0		
	1.7nm,0.7s,baz=294,slow=4.1,SNR=6.8								
MK31	**Makanchi Array**	**146.57**	**40**	*e*PKPdf	PKPdf	19 05 08.8	+0.9		
MKAR	**Makanchi Array**	**146.57**	**40**	PKPbc	PKPbc	19 05 09.2	-0.6		
	2.4nm,0.8s,baz=318,slow=2.3,SNR=18								

ATH **16** *18:49:35.8, 36.74N×25.70E, h32km, MD3.8/3*
HLW **16** *18:49:36.5, 34.83N×26.57E, h17km, Mb3.6*
CSEM **16** *18:49:37.6±0.2, 34.39N×26.76E, h2km, MD3.8/3, Error ellipse: s-maj=5.1km s-min=3.6km az=89.0*
ISCJB **16** *18:49:39.7±1.1, 34.37N±0.03×26.73E±0.05, h15km±8km, mb3.8/4, Error ellipse: s-maj=6.8km s-min=4.8km az=157.3*
IDC **16** *18:49:45.4±2.3, 34.55N×26.63E, h47km±25km, mb3.6/4, mb1 3.5/7, mb1mx3.4/22, mbtmp3.4/7, ML3.6/3, MS3.0/1, Ms1 3.0/1, ms1mx2.2/34, Error ellipse: s-maj=27.2km s-min=19.7km az=160.0*
ISC 16 18:49:40.7±1.0, 34.41N±0.03×26.65E±0.05, h10km±7km, n34, σ1s27/40, mb3.8/4, 3C-2D, Crete

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
ZKR	**Zakros**	**0.79**	**333**	P		**P**	**Pg**	**18 49 54.2**	**-1.7**
ZKR				S		**Sg**		**18 50 04.7**	**-1.5**
NPS	**Neapolis**	**1.20**	**315**	*e*Pn		**Pn**		**18 50 01.6**	**-2.0**
NPS	**Neapolis**	**1.20**	**315**	*e*PN		**Pn**		**18 50 01.6**	**-2.0**
KARP	**Karpathos**	**1.21**	**20**	*e*Pb		**Pg**		**18 50 04.9**	**+1.0**
KARP	**Karpathos**	**1.21**	**20**	*e*PB		**Pg**		**18 50 04.9**	**+1.0**
KARP				*e*SN		**Sg**		**18 50 26.0**	**+6.4**
SIVA	**Sivas**	**1.63**	**292**	P		**Pn**		**18 50 09.9**	**+0.5**
IDI	**Anoyia**	**1.69**	**302**	P		**Pn**		**18 50 11.9**	**+1.6**
	9.8nm,0.3s,baz=130,slow=15,SNR=31								
IDI				S		**Sn**		**18 50 34.6**	**+2.7**
	22nm,0.3s,baz=212,slow=22,SNR=17								
ARG	**Arkhangelos**	**2.17**	**33**	*e*Pn		**Pn**		**18 50 09.8**	**-7.0**
ARG	**Arkhangelos**	**2.17**	**33**	*e*PN		**Pn**		**18 50 09.8**	**-7.0**
THR6	**Thira Island,**	**2.19**	**333**	P		**Pn**		**18 50 15.6**	**-1.6**
THR3	**Thira Island,**	**2.24**	**333**	P		**Pn**		**18 50 18.5**	**+0.7**
BDRM	**Kayabasi**	**2.73**	**13**	*i* P		**Pg**		**18 50 34.1**	**+1.2**
TURN	**Turunc**	**2.92**	**32**	*i* P		**Pn**		**18 50 26.0**	**-1.2**
AKAS	**Kas**	**3.02**	**52**	*i* P		**Pn**		**18 50 29.8**	**+1.2**
AKAS	**Kas**	**3.02**	**52**	*i* P		**Pn**		**18 50 29.8**	**+1.2**
AKAS				*i* S		**Sn**		**18 51 02.9**	**-1.9**
SLUM		**3.15**	**203**	↑P		**Pn**		**18 50 29.3**	**-1.1**
SLUM				S		**Sn**		**18 51 07.9**	**-0.1**
GOLH	**Golhisar**	**3.68**	**39**	*i* P		**Pn**		**18 50 39.8**	**+2.2**
DNZL	**Cakiroluk**	**3.80**	**30**	*i* P		**Pn**		**18 50 42.2**	**+2.9**
DID	**Didima**	**4.15**	**319**	P		**Pn**		**18 50 44.4**	**+0.4**
GLL	**Jalalah**	**6.46**	**137**	P		**Pn**		**18 51 15.2**	**-0.6**
MMAI	**Mount Meron Ar**	**7.42**	**98**	P		**Pn**		**18 51 30.1**	**+1.1**
	1.0nm,0.3s,baz=268,slow=11,SNR=4.4								
TR2		**8.52**	**133**	↑P		**Pn**		**18 51 43.5**	**-0.6**
HKAT	**Jabal Katrina**	**8.59**	**131**	P		**Pn**		**18 51 44.5**	**-0.5**
HKAT	**Jabal Katrina**	**8.59**	**131**	P		**Pn**		**18 51 44.5**	**-0.5**
HDK1	**Dakhla**	**9.15**	**164**	↓P		**Pn**		**18 51 53.6**	**+0.8**
AKRG	**Al Kharijah**	**9.48**	**158**	↑P		**Pn**		**18 51 58.4**	**+1.1**
GTR	**Jabal at Tayr**	**9.50**	**158**	↓P		**Pn**		**18 51 57.6**	**+0.1**
GTR				S		**Sn**		**18 53 41.8**	**-2.5**
HDK2	**Wahat Dakhilah**	**10.26**	**168**	P		**Pn**		**18 52 08.8**	**+0.9**
AKASG	**Malin Array Be**	**16.39**	**6**	P		**Pn**		**18 53 29.9**	**-0.7**
	0.5nm,0.3s,baz=191,slow=11,SNR=4.3								
GERES	**GERESS Array B**	**17.33**	**330**	P		**Pn**		**18 53 42.7**	**+0.2**
	0.1nm,0.3s,baz=134,slow=11,SNR=5.9								
GERES				LR		LR		18 59 34.3	
	comp=Z,48nm,19.6s,baz=28,slow=34								
TORD	**Torodi Ar. Bea**	**30.98**	**233**	P		**P**		**18 55 58.8**	**+0.5**
	1.0nm,0.5s,mb3.9,baz=33,slow=8.5,SNR=18								
ARCES	**ARCESS Array B**	**35.18**	**359**	P		**P**		**18 56 31.4**	**-3.0**
	0.5nm,0.4s,mb3.8,baz=181,slow=9.7,SNR=7.4								
MKAR	**Makanchi Array**	**43.17**	**56**	P		**P**		**18 57 41.7**	**+0.3**
	0.7nm,0.7s,mb3.5,baz=278,slow=6.0,SNR=8.6								
ZALV	**Zalesovo Beam**	**44.64**	**46**	P		**P**		**18 57 53.0**	**-0.1**
	0.6nm,0.4s,mb3.8,baz=261,slow=11,SNR=3.1								

SZGRF **16** *18:53:36.2, 1956S×17148E, h33km, Vanuatu Islands region*
NOU **16** *18:53:39.3±1.3, 1795S×16854E, h30km, MD3.6, ML3.9, MS3.6*
ISCJB **16** *18:53:40.7±2.0, 18.14S±0.03×168.07E±0.05, h22km±14km, mb4.9/53, MS4.4/28, Error ellipse: s-maj=8.7km s-min=5.4km az=8.8*
LDG **16** *18:53:40.9±0.1, 1789S×16764E, h10km, Mb5.1/2, Ms4.4/9, Error ellipse: s-maj=15.3km s-min=3.0km az=98.0*
MOS **16** *18:53:43.6±1.0, 1803S×16804E, h43km, mb5.1/27, MS4.4/10, Error ellipse: s-maj=10.7km s-min=9.1km az=33.8*
NEIC **16** *18:53:45.5±1.4, 1809S×168.10E, h49km±12km, mb5.0/32, MS4.7/6, Error ellipse: s-maj=9.0km s-min=8.6km az=171.0*
IDC **16** *18:53:47.7±3.5, 1807S×168.10E, h68km±30km, mb4.4/17, mb1 4.6/19, mb1mx4.6/20, mbtmp4.5/19, ML4.3/2, MS4.4/17, Ms1 4.4/17, ms1mx4.2/25, Error ellipse: s-maj=17.0km s-min=14.1km az=129.0*
GCMT **16** *18:53:48.9±0.2, 18.14S×167.93E, h38km, MW5.2/71, Moment Tensor Solution. s66,c104; s71,c100; Duration: 1s0 Moment tensor: Scale 1017Nm; Mrr0.73±.02; Mθθ0.03±.01; Mϕϕ-0.75±.01; Mrθ0.02±.02; Mθϕ0.20±.01; Mϕr-0.24±.02; Best double couple: M0 0.80600×1017 NP1:ϕs344.00000°, δ37.00000°, λ85.00000°. NP2:ϕs169.00000°, δ54.00000°, λ93.00000°. Principal axes: T 0.7700, Plg81.0000°, Azm95.0000°; N 0.0720, Plg3.0000°, Azm347.0000°; P -0.8430, Plg9.0000°, Azm257.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
BJI **16** *18:53:54.1, 17.70S×168.57E, h135km, mB5.0, mb4.8*
ISC 16 18:53:42.7±1.8, 1816S±0.03×16814E±0.05, h24km±12km, n294, σ1s03/130, mb4.9/53, MS4.4/28, 12C-7D, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**4.21**	**202**	*e*P		**Pn**		**18 54 44.8**	**-0.5**
DZM				*e*S		**Sn**		**18 55 32.7**	**-1.0**
DZM				AMP				18 55 37.0	
	comp=Z,3μm,19.3s								
DZM	**Mont Dzumac**	**4.21**	**202**	*e*Pn		**Pn**		**18 54 44.9**	**-0.4**
DZM				*e*Sn		**Sn**		**18 55 31.1**	**-2.7**
NOUC	**Port Laguerre**	**4.29**	**203**	*e*P		**Pn**		**18 54 46.5**	**0.0**
NOUC				*e*S		**Sn**		**18 55 36.2**	**+0.5**
NOUC				AMP				18 56 05.9	
	comp=Z,166nm,0.8s								

PLUM	**Mont Dore**	**4.33**	**199**	*e*P		**Pn**		**18 54 45.8**	**-1.2**
PLUM				*e*S		**Sn**		**18 55 36.3**	**-0.5**
PLUM				AMP				18 55 43.2	
ONTRN	**Noumea**	**4.42**	**201**	*e*P		**Pn**		**18 54 48.3**	**0.0**
ONTRN				*e*S		**Sn**		**18 55 38.7**	**-0.3**
ONTRN				AMP				18 55 41.7	
	comp=Z,1μm,0.8s								
HNR	**Honiara**	**11.76**	**316**	P		**Pn**		**18 56 30.3**	**+1.2**
	comp=Z,50nm,0.3s,baz=171,slow=3.3,SNR=16								
HNR				LR		LR		19 00 36.6	
	comp=Z,1μm,19.4s,baz=132,slow=35								
HNR	**Honiara**	**11.76**	**316**	P		**Pn**		**18 56 30.3**	**+1.2**
HNR				pmax		pmax			
	comp=Z,50nm,0.3s								
HNR				MLR		MLR			
	comp=Z,1μm,19.4s								
HNR	**Honiara**	**11.76**	**316**	*e*Pn		**Pn**		**18 56 29.5**	**+0.4**
	comp=Z,181nm,0.8s								
EIDS	**Eidsvold**	**17.38**	**243**	*e*Pn		**Pn**		**18 57 52.9**	**+9.2**
ARMA	**Armidale**	**19.35**	**228**	*e*P		**Pn**		**18 58 10.7**	**+3.0**
AFI	**Afiamalu**	**19.76**	**81**	P		**Pn**		**18 58 14.2**	**+1.6**
	comp=Z,1.8nm,0.3s,baz=271,slow=19,SNR=6.2								
AFI	**Afiamalu**	**19.76**	**81**	P		**Pn**		**18 58 14.2**	**+1.6**
AFI				pmax		pmax			
	comp=Z,2.0nm,0.3s								
AFI	**Afiamalu**	**19.76**	**81**	*e*P		**Pn**		**18 58 13.9**	**+1.2**
	comp=Z,183nm,1.2s								
CTA	**Charters Tower**	**20.77**	**261**	*e*P		**P**		**18 58 23.8**	**+1.8**
	comp=Z,20nm,1.1s								
CTA				*e*S		**S**		**19 02 16.0**	**+3.2**
CTA	**Charters Tower**	**20.77**	**261**	P		**P**		**18 58 23.1**	**+1.1**
	comp=Z,14nm,0.8s,baz=94,slow=12,SNR=11								
CTA				LR		LR		19 05 42.4	
	comp=Z,2μm,19.3s,MS4.5,baz=164,slow=34								
CTA	**Charters Tower**	**20.77**	**261**	P		**P**		**18 58 23.1**	**+1.1**
CTA				pmax		pmax			
	comp=Z,14nm,0.9s								
CTA				MLR		MLR			
	comp=Z,2μm,19.3s								
CTAO	**Charters Tower**	**20.77**	**261**	*e*P		**P**		**18 58 23.4**	**+1.4**
CTAO				pmax		pmax			
	comp=Z,54nm,1.2s								
CTAO	**Charters Tower**	**20.77**	**261**	*e*P		**P**		**18 58 23.4**	**+1.3**
	comp=Z,54nm,1.2s								
URZ	**Urewera**	**21.51**	**160**	LR		LR		19 05 55.1	
	comp=Z,1μm,19.9s,MS4.3,baz=165,slow=34								
PMG	**Port Moresby**	**22.13**	**290**	P		**P**		**18 58 37.1**	**+0.3**
PMG				pmax		pmax			
	comp=Z,36nm,1.2s								
PMG	**Port Moresby**	**22.13**	**290**	P		**P**		**18 58 37.1**	**+0.3**
	comp=Z,36nm,1.2s,mb4.7								
SNZO	**South Karori**	**23.75**	**168**	P		**P**		**18 58 55.3**	**+2.1**
	comp=Z,238nm,1.3s,mb5.5								
CAN	**Canberra**	**24.10**	**221**	*e*P		**P**		**18 58 58.1**	**+1.7**
	comp=Z,62nm,1.3s,mb4.9								
RPZ	**Rata Peaks**	**25.60**	**175**	P		**P**		**18 59 12.3**	**+2.3**
	comp=Z,14nm,0.6s,mb4.6,baz=86,slow=5.5,SNR=3.9								
RPZ				LR		LR		19 07 36.7	
	comp=Z,975nm,21.6s,MS4.3,baz=332,slow=32								
STKA	**Stephens Creek**	**27.57**	**235**	*e*P		**P**		**18 59 29.0**	**+1.1**
	comp=Z,19nm,1.5s,mb4.5								
STKA				*e*S		**S**		**19 04 08.6**	**+0.6**
STKA	**Stephens Creek**	**27.57**	**235**	P		**P**		**18 59 28.9**	**+1.0**
	comp=Z,7.9nm,0.8s,mb4.4,baz=66,slow=8.1,SNR=14								
STKA				LR		LR		19 10 27.2	
	comp=Z,773nm,18.8s,MS4.3,baz=25,slow=36								
RAR	**Rarotonga**	**30.34**	**101**	LR		LR		19 09 32.3	
	comp=Z,712nm,21.9s,MS4.3,baz=135,slow=31								
WB2	**Warramunga Arr**	**31.96**	**261**	*e*P		**P**		**19 00 05.6**	**-1.4**
WRAB	**Tennant Creek**	**31.96**	**261**	*e*P		**P**		**19 00 05.7**	**-1.3**
WRAB				pmax		pmax			
	comp=Z,13nm,1.3s,mb4.6								
WRAB	**Tennant Creek**	**31.96**	**261**	*e*P		**P**		**19 00 05.7**	**-1.3**
	comp=Z,13nm,1.3s,mb4.6								
WRA	**Warramunga Arr**	**31.97**	**261**	P		**P**		**19 00 05.6**	**-1.5**
	comp=Z,0.7nm,0.3s,mb3.9,baz=80,slow=6.1,SNR=36								
WRA				PcP		PcP		19 02 56.0	-1.0
	comp=Z,3.2nm,1.1s,baz=93,slow=2.9,SNR=5.7								
WRA				LR		LR		19 12 19.4	
	comp=Z,792nm,20.5s,MS4.4,baz=85,slow=35								
WRA	**Warramunga Arr**	**31.97**	**261**	P		**P**		**19 00 05.6**	**-1.4**
WRA								19 02 56.0	
WRA				pmax		pmax			
	comp=Z,1.0nm,0.4s								
WRA				pmax		pmax			
	comp=Z,3.0nm,1.1s								
WRA				MLR		MLR			
	comp=Z,792nm,20.5s								
ASAR	**Alice Springs**	**32.40**	**254**	P		**P**		**19 00 10.2**	**-0.5**
	comp=Z,6.6nm,0.7s,mb4.6,baz=83,slow=8.5,SNR=82								
ASAR				PcP		PcP		19 02 57.7	-0.4
	comp=Z,2.9nm,1.0s,baz=56,slow=5.6,SNR=4.1								
ASAR	**Alice Springs**	**32.40**	**254**	P		**P**		**19 00 10.3**	**-0.5**
ASAR								19 02 57.7	
ASAR				pmax		pmax			
	comp=Z,7.0nm,0.7s								
ASAR				pmax		pmax			
	comp=Z,3.0nm,1.0s								
FORT	**Forrest**	**38.38**	**243**	*e*P		**P**		**19 01 02.6**	**+0.4**
	comp=Z,23nm,0.7s,mb5.0								
GUMO	**Guam**	**39.01**	**322**	P		**P**		**19 01 07.0**	**-0.5**
	comp=Z,30nm,0.2s,mb5.6,baz=340,slow=23,SNR=18								
GUMO	**Guam**	**39.01**	**322**	P		**P**		**19 01 07.0**	**-0.5**
GUMO				pmax		pmax			
	comp=Z,30nm,0.2s,mb5.7								
TBI	**Tubuai**	**39.88**	**105**	*e*LQ				19 10 31.9	
	comp=Z,881nm,31.8s								
TBI				*e*LR		LR		19 12 02.6	
	comp=Z,869nm,26.0s,baz=270								
PPT	**Papeete**	**40.19**	**96**	*e*S		**S**		**19 07 23.7**	**+0.6**
	comp=Z,321nm,26.2s								
PPT				*e*LQ				19 10 43.7	
	comp=Z,1μm,28.0s								
PPT				*e*LR		LR		19 12 13.1	
	comp=Z,1μm,25.0s,baz=257								
PPT	**Papeete**	**40.19**	**96**	LR		LR		19 14 08.6	
	comp=Z,712nm,18.9s,MS4.5,baz=263,slow=30								
FITZ	**Fitzroy Crossi**	**40.32**	**263**	*e*P		**P**		**19 01 18.7**	**+0.2**
	comp=Z,18nm,0.6s,mb5.0								
FITZ				*e*S		**S**		**19 07 31.0**	**+5.9**
FITZ	**Fitzroy Crossi**	**40.32**	**263**	P		**P**		**19 01 18.3**	**-0.2**
	comp=Z,10nm,0.7s,mb4.7,baz=115,slow=8.0,SNR=48								
BATI	**Baumata**	**43.75**	**274**	P		**P**		**19 01 47.9**	**+1.3**
	comp=Z,19nm,0.8s,mb4.9,baz=107,slow=14,SNR=4.2								
MBWA	**Marble Bar**	**45.55**	**258**	*e*P		**P**		**19 02 00.5**	**-0.4**
	comp=Z,18nm,1.0s,mb5.0								
KLBR	**Kellerberrin**	**47.25**	**244**	*e*P		**P**		**19 02 22.1**	**+8.0**
	comp=Z,16nm,1.1s,mb4.9								
NWAO	**Narrogin (SRO)**	**47.79**	**242**	*e*P		**P**		**19 02 17.5**	**-0.8**
NWAO				pmax		pmax			
	comp=Z,14nm,0.8s								
NWAO	**Narrogin (SRO)**	**47.79**	**242**	*e*P		**P**		**19 02 17.5**	**-0.7**
	comp=Z,14nm,0.8s,mb5.0								
TAOE	**Nuku Hiva Isla**	**50.98**	**87**	*e*LR		LR		19 17 16.1	
	comp=Z,4μm,23.7s,baz=270								
RKT	**Rikitea**	**53.19**	**106**	*e*LR		LR		19 18 07.0	
	comp=Z,626nm,27.2s								
KKM	**Kota Kinabalu**	**56.58**	**290**	*e*P		**P**		**19 03 23.8**	**0.0**
	comp=Z,50nm,1.2s,mb5.4								
SBA	**Scott Base**	**59.73**	**180**	*e*P		**P**		**19 03 46.3**	**+1.3**
SBA				pmax		pmax			
	comp=Z,14nm,0.8s,mb5.0								
SBA	**Scott Base**	**59.73**	**180**	*e*P		**P**		**19 03 46.3**	**+1.3**
	comp=Z,14nm,0.8s,mb5.0								
KSM	**Kuching**	**60.12**	**283**	*e*P		**P**		**19 03 48.6**	**0.0**
	comp=Z,28nm,1.1s,mb5.2								
MJAR	**Matsushiro Arr**	**61.31**	**333**	P		**P**		**19 03 54.7**	**-1.5**
	comp=Z,6.8nm,1.0s,mb4.7,baz=165,slow=7.9,SNR=8.8								
MJAR	**Matsushiro Arr**	**61.31**	**333**	P		**P**		**19 03 54.7**	**-1.6**
MJAR				pmax		pmax			
	comp=Z,7.0nm,1.0s								
MAJO	**Matsushiro**	**61.31**	**333**	*e*P		**P**		**19 03 54.7**	**-1.6**
MAT	**Matsushiro**	**61.31**	**333**	P		**P**		**19 03 56.3**	**0.0**
MAT				S		**S**		**19 12 18.6**	**+3.3**
ASAJ	**Asahikawa**	**66.23**	**340**	P		**P**		**19 04 28.6**	**+0.1**
	comp=Z,14nm,0.9s,mb5.0,baz=54,slow=6.4,SNR=6.1								
ASAJ				LR		LR		19 28 59.1	
	comp=Z,463nm,21.4s,MS4.7,baz=158,slow=32								
ASAJ	**Asahikawa**	**66.23**	**340**	P		**P**		**19 04 28.6**	**+0.1**
ASAJ				pmax		pmax			
	comp=Z,14nm,1.0s								
ASAJ				MLR		MLR			
	comp=Z,463nm,21.4s								
KSRS	**Korea Array**	**67.03**	**326**	P		**P**		**19 04 34.2**	**+0.5**
	comp=Z,2.0nm,0.9s,mb4.2,baz=139,slow=8.2,SNR=3.9								
KSRS				LR		LR		19 31 14.7	
	comp=Z,52nm,20.2s,MS3.7,baz=120,slow=34								

KSRS	**Korea Array**	**67.03**	**326**	P		**P**		**19 04 34.2**	**+0.4**
KSRS				pmax		pmax			
	comp=Z,2.0nm,0.9s,mb4.2								
KSRS				MLR		MLR			
	comp=Z,52nm,20.2s,MS3.7								
MIR	**Mirnyy**	**67.57**	**205**	↓*i* P		**P**		**19 04 38.0**	**+1.2**
MIR				pmax		pmax			
	comp=Z,100nm,1.5s,mb5.6								
YSS	**Yuzh-Sakhalins**	**68.72**	**342**	*i* P		**P**		**19 04 44.2**	**0.0**
YSS				pmax		pmax			
	comp=Z,11nm,0.9s,mb4.8								
YSS	**Yuzh-Sakhalins**	**68.72**	**342**	*e*P		**P**		**19 04 44.1**	**-0.1**
	comp=Z,22nm,1.1s,mb5.0								
VLA	**Vladivostok**	**69.48**	**332**	*d i* P		**P**		**19 04 49.2**	**+0.2**
VLA				pmax		pmax			
	comp=Z,47nm,1.3s,mb5.3								
VLA				MLR		MLR			
	comp=Z,200nm,16.0s,MS4.5								
PETK	**Petropavlovsk-**	**71.54**	**353**	P		**P**		**19 05 00.5**	**-0.9**
	comp=Z,9.1nm,0.8s,mb4.8,baz=119,slow=6.5,SNR=14								
PETK				LR		LR		19 32 01.0	
	comp=Z,170nm,20.0s,MS4.3,baz=171,slow=32								
PETK	**Petropavlovsk-**	**71.54**	**353**	P		**P**		**19 05 00.5**	**-0.8**
PETK				pmax		pmax			
	comp=Z,9.0nm,0.8s,mb4.8								
PETK				MLR		MLR			
	comp=Z,170nm,20.0s,MS4.3								
PETK	**Petropavlovsk-**	**71.54**	**353**	P		**P**		**19 05 00.5**	**-0.9**
PETK				LR		LR		19 32 00.9	
MDJ	**Mudanjiang**	**71.68**	**332**	P		**P**		**19 05 03.3**	**+0.9**
MDJ				AMB		AMB			
	comp=Z,41nm,1.0s,mb5.3								
MDJ				AMB		AMB			
	comp=Z,121nm,6.7s								
MDJ				LR		LR			
	comp=N,81nm,26.8s,MS4.0								
MDJ				LR		LR			
	comp=E,84nm,26.8s,MS4.0								
MDJ				LR		LR			
	comp=Z,117nm,22.3s,MS4.1								
MDJ	**Mudanjiang**	**71.68**	**332**	*e*P		**P**		**19 05 02.5**	**+0.1**
	comp=Z,38nm,0.9s,mb5.3								
QSPA	**South Pole Qui**	**71.89**	**180**	LR		LR		19 33 32.4	
	comp=Z,242nm,19.7s,MS4.5,baz=217,slow=33								
HABR	**Khabarovsk**	**72.60**	**338**	*e*P		**P**		**19 05 06.9**	**-0.9**
HABR				*e*				19 05 21.8	
HABR				*e*				19 05 24.2	
HABR				*e*S		S		19 14 25.1	-6.0
HABR				*e*				19 15 05.9	
CN2	**Changchun**	**73.00**	**329**	↓P		**P**		**19 05 10.9**	**+0.6**
CN2				*e*AP		pP		19 05 47.0	+29
CN2				*e*S		S		19 14 25.4	-10
CN2				AMB		AMB			
	comp=Z,30nm,1.0s,mb5.2								
CN2				AMB		AMB			
	comp=Z,400nm,5.0s								
GYA	**Guiyang**	**74.35**	**305**	P		**P**		**19 05 19.4**	**+0.8**
GYA				AP		pP		19 05 56.9	+30
GYA				XP		sP		19 06 12.5	+43
GYA				PP		PP		19 08 09.3	+4.2
GYA				S		S		19 14 40.3	-11
GYA				SKS				19 15 08.9	
GYA				AMB		AMB			
	comp=Z,10.0nm,1.0s,mb4.7								
GYA				AMB		AMB			
	comp=Z,90nm,5.2s								
KLR	**Kul'dur**	**74.46**	**336**	*e*P		**P**		**19 05 14.4**	**-4.3**
KLR				pmax		pmax			
	comp=Z,70nm,1.8s,mb5.3								
BJI	**Beijing**	**75.44**	**321**	P		**P**		**19 05 25.9**	**+1.3**
BJI				PP		PP		19 08 14.3	+0.2
BJI				S		S		19 14 55.0	-8.4
BJI				SS		SS		19 19 47.8	-6.9
BJI				AMB		AMB			
	comp=Z,13nm,0.7s,mb5.0								
BJI				AMB		AMB			

comp=Z,10.0nm,1.4s,mb4.5
CD2 AMB AMB
comp=Z,40nm,6.2s
CD2 LR LR
comp=N,250nm,19.2s,MS4.6
CD2 LR LR
comp=E,170nm,20.4s,MS4.6
CD2 LR LR
comp=Z,220nm,15.6s,MS4.6
MAW Mawson 79.04 202 *e*P **P 19 05 45.8 +1.4**
comp=Z,11nm,0.9s,mb4.8
MAW Mawson 79.04 202 P **P 19 05 44.1 -0.4**
comp=Z,15nm,1.0s,mb4.9,baz=101,slow=7.7,SNR=26
MAW LR LR 19 37 37.6
comp=Z,276nm,18.4s,MS4.6,baz=314,slow=33
MAW Mawson 79.04 202 P **P 19 05 44.1 -0.3**
MAW pmax pmax
comp=Z,15nm,1.0s
MAW MLR MLR
comp=Z,276nm,18.4s
HIA Hailar 79.66 330 *e*P **P 19 05 48.0 +0.1**
HIA pmax pmax
comp=Z,10.0nm,0.9s
HIA Hailar 79.66 330 *e*P **P 19 05 48.0 +0.1**
comp=Z,10nm,0.9s,mb4.8
LZH Lanzhou 81.23 312 *e*P **P 19 05 58.5 +1.8**
LZH AP pP 19 06 33.5 +29
LZH XP sP 19 06 51.8 +44
LZH PP PP 19 09 07.5 +4.8
LZH *e*S S 19 15 55.0 -11
LZH XS sS 19 16 57.0 +38
LZH SS SS 19 21 16.3 -5.7
comp=Z,29nm,1.2s,mb5.1
LZH AMB AMB
comp=Z,160nm,4.1s
LZH Lanzhou 81.23 312 *e*P **P 19 05 58.5 +1.8**
comp=Z,29nm,1.2s,mb5.1
LZH pP pP 19 06 33.5 +29
LZH sP sP 19 06 51.7 +44
LZH PP PP 19 09 07.5 +4.8
LZH *e*S S 19 15 55.0 -11
LZH sS sS 19 16 57.0 +38
LZH SS SS 19 21 16.3 -5.7
SEY Seymchan 81.77 353‖ *e*P **P 19 05 57.9 -1.0**
YAK Yakutsk 85.53 343 *c i*P **P 19 06 17.4 -0.8**
YAK pmax pmax
comp=Z,42nm,1.1s,mb5.6
YAK Yakutsk 85.53 343 *e*P **P 19 06 17.6 -0.7**
GTA Gaotai 85.63 314 P **P 19 06 19.8 +0.5**
GTA AP pP 19 06 55.5 +28
GTA XP sP 19 07 10.6 +40
GTA SKS 19 16 28.9
GTA S S 19 16 40.8 -9.2
GTA XS sS 19 17 41.8 +39
GTA SS SS 19 22 24.9 -2.1
GTA AMB AMB
comp=Z,15nm,1.4s,mb5.0
GTA AMB AMB
comp=Z,115nm,5.7s
GTA LR LR
comp=N,87nm,17.4s,MS4.4
GTA LR LR
comp=E,87nm,17.4s,MS4.4
GTA LR LR
comp=Z,148nm,18.0s,MS4.4
SYO Syowa Base 85.68 196‖ *e*P **P 19 06 17.4 -1.7**
SONM Songino Array 85.73 323 P **P 19 06 18.2 -1.4**
comp=Z,12nm,1.0s,mb5.1,baz=135,slow=5.5,SNR=30
SONM LR LR 19 40 10.2
comp=Z,98nm,20.2s,MS4.2,baz=233,slow=32
SONM Songino Array 85.73 323 P **P 19 06 18.2 -1.4**
SONM pmax pmax
comp=Z,12nm,1.0s
SONM MLR MLR
comp=Z,98nm,20.2s
BILL Bilibino 85.96 359 *d i*P **P 19 06 20.1 -0.1**
BILL *e* 19 06 35.7
BILL pmax pmax
comp=Z,18nm,0.8s,mb5.3
BILL Bilibino 85.96 359 *e*P **P 19 06 19.9 -0.4**
comp=Z,7.5nm,0.9s,mb4.9
CMB Columbia Colle 87.22 49 *e*P **P 19 06 26.9 -0.2**
CMB pmax pmax
comp=Z,13nm,1.0s,mb5.1
CMB Columbia Colle 87.22 49 *e*P **P 19 06 26.9 -0.3**
comp=Z,13nm,1.0s,mb5.1
ISA Isabella 87.62 51 *e*P **P 19 06 32.0 +2.9**
ISA pmax pmax
comp=Z,9.0nm,0.9s,mb5.0
ISA Isabella 87.62 51 *e*P **P 19 06 32.0 +2.9**
comp=Z,8.7nm,0.9s,mb5.0
WAKR Walker 88.09 48 *e*P **P 19 06 31.5 +0.2**
MTUM Tungsten Hills 88.24 50 *e*P **P 19 06 32.0 0.0**
PMSA Palmer Station 88.28 160 P **P 19 06 31.4 -0.4**
PAHR Pah Rah Range 88.64 47 *e*P **P 19 06 34.5 +0.6**
comp=Z,11nm,1.1s,mb5.1
ZAK Zakamensk 88.81 325 *e*P **P 19 06 33.5 -0.9**
ZAK pmax pmax
comp=Z,7.0nm,1.2s,mb4.9
NVAR Mina Array Bea 88.87 49 P **P 19 06 33.4 -1.6**
comp=Z,6.2nm,1.1s,mb4.9,baz=222,slow=6.4,SNR=18
TPNV Topopah Spring 89.78 51 *e*P **P 19 06 39.7 +0.4**
MAIT Maitri 89.79 188 *e*P **P 19 06 37.8 -1.0**
WVOR Wild Horse Val 90.29 45 *e*P **P 19 06 41.7 +0.2**
WVOR pmax pmax
comp=Z,9.0nm,1.1s,mb5.0
WVOR Wild Horse Val 90.29 45 *e*P **P 19 06 41.7 +0.2**
comp=Z,9.2nm,1.1s,mb5.0
VNA3 Neumayer Olymp 90.82 181 *e*P **P 19 06 42.8 -0.8**
VNA3 *e* 19 06 44.6
VNA3 *e* 19 06 47.7
VNA2 Neumayer--Watz 91.10 181 *e*P **P 19 06 44.5 -0.4**
VNA2 *e* 19 06 46.3
VNA2 *e* 19 06 49.6
VNA1 Neumayer--Stat 91.39 181 *e*P **P 19 06 45.8 -0.5**
VNA1 *e* 19 06 47.1
VNA1 *e* 19 06 50.9
CCUT Cedar City 92.14 51 *e*P **P 19 06 49.5 -0.7**
comp=Z,4.1nm,1.1s,mb4.7
TUC Tucson 92.28 57 *e*P **P 19 06 54.3 +3.2**
TUC pmax pmax
comp=Z,4.0nm,0.7s,mb4.9
TUC Tucson 92.28 57 *e*P **P 19 06 54.3 +3.2**
comp=Z,4.3nm,0.7s,mb4.9
TUC *e*pP pP 19 07 23.1 +24
USHA Ushuaia 92.89 151 LR LR 19 40 06.0
comp=Z,636nm,19.9s,MS5.1,baz=189,slow=30
TIXI Tiksi 93.47 348‖ *e*P **P 19 06 54.4 -1.2**
TIXI pmax pmax
comp=Z,4.0nm,0.9s,mb4.8
TIXI Tiksi 93.47 348 *e*P **P 19 06 54.2 -1.5**
comp=Z,4.4nm,1.0s,mb4.8
PDAR Pinedale Array 96.65 47 P **P 19 07 09.4 -1.4**
comp=Z,0.5nm,0.4s,mb4.3,baz=116,slow=38,SNR=3.6
PDAR LR LR 19 45 16.8
comp=Z,130nm,18.7s,MS4.4,baz=270,slow=32
TXAR Lajitas Array 97.17 62 P **P 19 07 13.5 0.0**
comp=Z,0.6nm,0.7s,mb4.2,baz=228,slow=5.4,SNR=7.3
TXAR LR LR 19 45 17.2
comp=Z,184nm,18.5s,MS4.6,baz=5.0,slow=32
TXAR Lajitas Array 97.17 62 P **P 19 07 13.5 0.0**
TXAR pmax pmax
comp=Z,1.0nm,0.7s
TXAR MLR MLR
comp=Z,184nm,18.5s
YKA Yellowknife Ar 100.19 27 P Pdif 19 07 24.9 -1.7
comp=Z,0.7nm,0.6s,baz=306,slow=6.5,SNR=2.7
YKA Yellowknife Ar 100.19 27 P Pdif 19 07 24.9 -1.7
YKA pmax pmax
comp=Z,1.0nm,0.6s
YKA Yellowknife Ar 100.19 27 P Pdif 19 07 24.9 -1.7
MKAR Makanchi Array 100.24 316 P Pdif 19 07 26.1 -0.7
comp=Z,0.4nm,0.5s,baz=94,slow=6.5,SNR=7.9
MKAR Makanchi Array 100.24 316 *i*P Pdif 19 07 27.3 +0.5
ZALV Zalesovo Beam 100.63 323 P Pdif 19 07 27.4 -1.2
comp=Z,0.7nm,0.7s,baz=90,slow=5.9,SNR=4.2
ZALV Zalesovo Beam 100.63 323 P Pdif 19 07 27.4 -1.1
ZALV pmax pmax
comp=Z,1.0nm,0.7s
ARCES ARCESS Array B 123.76 345 PKP PKPdf 19 12 35.1 -2.6
comp=Z,2.5nm,0.6s,baz=67,slow=1.7,SNR=52
ARCES ARCESS Array B 123.76 345 PKIKP PKPdf 19 12 35.2 -2.6
ARCES pmax pmax
comp=Z,3.0nm,0.6s

SFJD Kangerlussuaq 125.18 18 PKP PKPdf 19 12 39.7 -0.8
comp=Z,4.4nm,0.6s,baz=293,slow=7.7,SNR=2.9
SFJD Kangerlussuaq 125.18 18 PKIKP PKPdf 19 12 39.7 -0.8
SFJD pmax pmax
comp=Z,4.0nm,0.6s
OBN Obninsk 128.02 327‖ *e*PKIKP PKPdf 19 12 43.9 -2.4
OBN *e* 19 14 48.5
OBN *e*PS PS 19 24 55.8 -0.6
OBN *e*SS SS 19 31 57.8 -3.5
OBN pmax pmax
comp=Z,7.0nm,1.1s
BDFB Brasilia 131.05 131 *e*PKIKP PKPdf 19 12 56.0 +2.7
ANN Anapa 131.22 314 *i* PKIKP PKPdf 19 12 47.6 -5.1
ANN pmax pmax
comp=Z,61nm,1.4s
AKASG Malin Array Be 134.01 324 PKP PKPdf 19 12 57.2 -0.6
comp=Z,1.9nm,0.8s,baz=70,slow=2.0,SNR=5.5
AKASG Malin Array Be 134.01 324 PKIKP PKPdf 19 12 57.2 -0.6
AKASG pmax pmax
comp=Z,2.0nm,0.8s
AKASG Malin Array Be 134.01 324 PKP PKPdf 19 12 57.2 -0.6
NOA NORSAR Array B 134.13 345 SKPbc SKPbc 19 16 19.6 -6.0
comp=Z,2.0nm,0.9s,baz=69,slow=6.3,SNR=3.5
KOLS Kolonicke sedl 138.75 326 *e*PKP PKPdf 19 13 06.9 +0.3
CRVS Cervenica-Dubn 139.20 326 *e*PKP PKPdf 19 13 09.6 +2.1
KOLL Kolacno 140.98 328 *e*PKP PKPdf 19 13 10.1 -0.6
BRG Berggiesshubel 141.44 334 *e*PKP PKPdf 19 13 09.4 -2.0
comp=Z,2.2nm,0.9s
BRG
comp=N,152nm,15.1s
BRG
comp=E,142nm,17.3s
BRG
comp=Z,174nm,19.0s
CLL Collm 141.50 335 *e*PKPdf PKPdf 19 13 10.0 -1.6
WERD Werda 142.44 335 *e*PKPbc PKPdf 19 13 08.7 -4.6
GUNZ Gunzen 142.50 334 *e*PKPbc PKPdf 19 13 08.8 -4.6
WERN Wernitzgruen 142.54 334 *e*PKPbc PKPdf 19 13 09.2 -4.2
MOX Moxa 142.57 335 *e*PKPbc PKPdf 19 13 09.1 -4.4
MANZ Manzenberg 142.88 334 *e*PKPbc PKPdf 19 13 10.2 -3.9
KHC Kasperske Hory 142.90 332‖ *i*PKIKP PKPdf 19 13 11.4 -2.7
KHC Kasperske Hory 142.90 332 *e*PKP PKPdf 19 13 09.5 -4.6
ROTZ Rotzenmuhle 143.01 334 *e*PKPbc PKPdf 19 13 10.8 -3.5
GERES GERESS Array B 143.05 332 PKiKP 19 13 10.0
comp=Z,0.9nm,0.6s,baz=35,slow=4.9,SNR=7.9
GERES GERESS Array B 143.05 332 PKIKP 19 13 10.0
GERES pmax pmax
comp=Z,1.0nm,0.6s
WET Wettzell 143.19 333 *e*PKPbc PKPdf 19 13 10.8 -3.8
GRA1 Grafenberg Arr 143.47 335 *e*PKPbc PKPdf 19 13 12.0 -3.1
GRF Grafenberg Arr 143.47 335 *e*PKPbc PKPdf 19 13 12.0 -3.1
PERS Pernice 143.93 328 *e*PKPdf PKPdf 19 13 12.6 -3.4
SOKA Soboth 143.95 328‖ *i*PKPdf PKPdf 19 13 12.7 -3.3
comp=Z,6.2nm,0.6s
TNS Taunus Mts 144.11 338 *e*PKPbc PKPdf 19 13 13.3 -2.9
TOD Tromm 144.49 337 PKP PKPdf 19 13 15.2 -1.7
KBA Koelnbreinsper 144.49 330‖ *i*PKPdf PKPdf 19 13 14.0 -3.0
comp=Z,20nm,1.2s,SNR=8.7
MEM Membach 144.62 340 PKP PKPdf 19 13 15.6 -1.5
BOJS Bojanci 144.62 326 *i* PKPdf PKPdf 19 13 15.3 -1.9
FUR Furstenfeldbru 144.63 333 *e*PKPbc PKPdf 19 13 16.1 -1.1
LJU Ljubljana 144.64 328 *i* PKPdf PKPdf 19 13 14.8 -2.4
MYKA Terra Mystica 144.67 329‖ *i*PKPab PKPdf 19 13 14.1 -3.2
comp=Z,18nm,1.0s
ABH Alteburg 144.72 338 PKP PKPdf 19 13 15.5 -1.8
UCC Uccle 144.96 342 PKP PKPdf 19 13 16.4 -1.3
VOY Vojsko 144.97 328 *e*PKPdf PKPdf 19 13 15.9 -1.9
VOY *e* 19 13 27.8
PTCC Patocco-Chiusa 144.97 329 PKP PKPdf 19 13 15.8 -2.0
JAVS Javornik 144.97 328 *i* PKPdf PKPdf 19 13 16.3 -1.5
KTD Kalmit 144.99 337 PKP PKPdf 19 13 17.1 -0.7
BCLA Clavier 145.01 341 PKP PKPdf 19 13 16.5 -1.3
STU Stuttgart 145.01 336 *e*PKPbc PKPbc 19 13 17.3 +0.1
STU Stuttgart 145.01 336 *e*PKPdf PKPdf 19 13 17.0 -0.8
RUP Ruppelstein 145.04 338 PKP PKPdf 19 13 17.3 -0.6
FVI Forni Avoltri 145.11 330 PKP PKPdf 19 13 17.7 -0.4
GMNA Gemona 145.12 329 PKP PKPdf 19 13 17.5 -0.6
ABTA Abfaltersbach 145.13 330‖ *i*PKPdf PKPdf 19 13 16.0 -2.1
comp=Z,55nm,1.2s,SNR=27
WTTA Wattenberg 145.15 332‖ *i*PKPdf PKPdf 19 13 16.8 -1.3
comp=Z,22nm,0.8s
SNF Seneffe 145.24 342 PKP PKPdf 19 13 17.6 -0.6
SEST Monte Rota 145.27 331 PKP PKPdf 19 13 17.4 -0.9
MOTA Moosalm 145.33 332‖ *i*PKPdf PKPdf 19 13 17.3 -1.1
comp=Z,31nm,0.8s,SNR=20
RETA Reutte 145.37 333‖ *i*PKPdf PKPdf 19 13 18.0 -0.5
comp=Z,37nm,1.2s
LANF Langenberg 145.38 337 PKP PKPdf 19 13 18.0 -0.4
WLF Walferdange 145.38 339 PKP PKPdf 19 13 18.3 -0.1
WLF Walferdange 145.38 339 *e*PKPdf PKPdf 19 13 18.2 -0.3
GIVF Givet 145.43 341 *e*PKP1 PKPbc 19 13 17.4 -1.1
DOU Dourbes 145.51 341 PKP PKPdf 19 13 18.0 -0.7
BAIF Baives 145.66 342 *e*PKP1 PKPbc 19 13 18.4 -0.8
comp=Z,97nm,1.2s
BFO Black Forest 145.71 336 *e*PKPbc PKPbc 19 13 19.0 -0.4
SPAK Spaichingen-Ko 145.71 335 PKP PKPdf 19 13 18.4 -0.7
STR Strasbourg 145.72 337 PKP PKPdf 19 13 20.2 +1.2
FETA Feichten 145.74 332‖ *i*PKPab PKPab 19 13 18.0 -1.9
comp=Z,11nm,0.8s
DAVA Damuels 145.91 333‖ *i*PKPab PKPab 19 13 19.3 -1.2
comp=Z,46nm,1.2s,SNR=9.1
CDF Champ du Feu 146.04 337 *e*PKP1 PKPbc 19 13 19.5 -0.9
comp=Z,31nm,0.8s
CTI Castel Tesino 146.05 330 PKP PKPdf 19 13 20.3 +0.6
LIBD Limburg 146.14 336 PKP PKPdf 19 13 20.5 +0.7
FELD Feldberg im Sc 146.21 336 PKP PKPdf 19 13 19.8 -0.1
ECH Echery 146.25 337 PKP PKPdf 19 13 20.3 +0.3
BRMO Bormio 146.31 332 PKP PKPdf 19 13 21.3 +1.2
MOF Molkenrain 146.56 337 PKP PKPdf 19 13 19.8 -0.7
THEF They Montfort 146.67 338 PKP PKPdf 19 13 22.2 +1.5
HINF Hinteralfeld 146.69 337 *e*PKP1 PKPbc 19 13 21.1 -1.3
comp=Z,11nm,0.8s
HAU Haudompre 146.72 338 *e*PKP1 PKPbc 19 13 21.4 -1.1
comp=Z,38nm,0.9s
HAU *e*MLR MLR
comp=Z,105nm,20.0s,MS4.3
HAU Haudompre 146.72 338 *e*PKP PKPdf 19 13 21.4 +0.6
HAU LR LR
comp=Z,110nm,20.0s,MS4.6
BBS Basel-Blauen 146.74 336 PKP PKPdf 19 13 21.6 +0.8
MEZF Maizieres J'vi 146.75 339 *e*PKP1 PKPbc 19 13 22.0 -0.5
comp=Z,56nm,0.8s
TUE Stuetta 146.77 333 *e*PKPdf PKPdf 19 13 22.4 +1.5
RGNG Rignano Grg 146.85 321 PKP PKPdf 19 13 22.2 +1.0
LOMF Lomont 147.09 336 PKP PKPdf 19 13 23.1 +1.7
FSSB Fossombrone 147.15 326 PKP PKPbc 19 13 23.8 0.0
RSM Repubblica di 147.16 327 PKP PKPab 19 13 24.7 -0.8
SNTG Esanatoglia 147.36 325 PKP PKPab 19 13 25.3 -1.0
SFI Santa Sofia 147.49 327 PKP PKPbc 19 13 25.5 +0.7
VAI Varese 147.49 333 PKP PKPdf 19 13 23.2 +1.1
NRCA Norcia 147.55 325 PKP PKPbc 19 13 24.8 -0.1
BADI Badiali 147.56 326 PKP PKPbc 19 13 24.8 -0.2
MURB Monte Urbino 147.58 326 PKP PKPbc 19 13 25.0 0.0
VMG Vicchio 147.60 328 PKP PKPab 19 13 26.1 -1.1
ASS Assisi 147.65 325 PKP PKPbc 19 13 24.7 -0.5
FNVD Fontana Vidola 147.67 328 PKP PKPbc 19 13 26.0 +0.8
CSSN Cassano Irpino 147.68 320 PKP PKPbc 19 13 25.2 -0.2
SGO Sicignano 147.68 319 PKP PKPbc 19 13 25.5 +0.1
AQU L'Aquila 147.70 324 PKP PKPbc 19 13 25.9 +0.5
GSCL Gusciola 147.80 329 PKP PKPbc 19 13 25.9 +0.3
SDI San Donato 147.88 322 PKP PKPbc 19 13 25.4 -0.5
VVLD Villa Vallelon 147.89 323 PKP PKPbc 19 13 25.6 -0.3
FIAM Fiamignano 147.92 324 PKP PKPbc 19 13 25.4 -0.6
PTQR Pietraquaria 147.92 323 PKP PKPbc 19 13 25.7 -0.3
CABF La Chapelle 147.99 336 *e*PKP1 PKPbc 19 13 25.5 -0.5
comp=Z,65nm,0.9s
ORO Oropa 148.02 333 PKP PKPbc 19 13 25.3 -0.8
FLN La Foliniere 148.10 346 *e*PKP1 PKPbc 19 13 24.9 -1.3
comp=Z,27nm,0.8s
FLN *e*MLR MLR
comp=Z,180nm,21.8s,MS4.5
FLN La Foliniere 148.10 346 *e*PKP PKPdf 19 13 24.9 +1.9
FLN LR LR
comp=Z,180nm,21.8s,MS4.8
LDF La Druitiere 148.18 345 *e*PKP1 PKPbc 19 13 24.9 -1.5
comp=Z,32nm,0.9s
TRAV Traversella 148.21 333 PKP PKPbc 19 13 25.4 -1.2
LOR Lormes 148.22 339 *e*PKP1 PKPbc 19 13 25.7 -0.9
comp=Z,41nm,0.9s
LOR *e*MLR MLR
comp=Z,128nm,21.0s,MS4.4
LOR Lormes 148.22 339 *e*PKP PKPbc 19 13 25.7 -0.9
LOR LR LR

comp=Z,130nm,21.0s,MS4.7
SSF Saint Saulge 148.52 340 *e*PKP1 PKPbc 19 13 26.5 -0.9
comp=Z,58nm,0.9s
GRR Gorron 148.54 346 *e*PKP1 PKPbc 19 13 26.3 -1.1
comp=Z,35nm,0.9s
HYF Humbligny 148.62 341 *e*PKP1 PKPbc 19 13 27.0 -0.6
LPL La Plagne 148.63 334 *e*PKP1 PKPbc 19 13 27.3 -0.4
comp=Z,50nm,1.1s
LPG La Plagne 148.64 334 *e*PKP1 PKPbc 19 13 27.5 -0.3
comp=Z,28nm,0.9s
SMF Signal de Mont 148.77 339 *e*PKP1 PKPbc 19 13 26.9 -1.1
comp=Z,60nm,1.3s
AVF Avril sur Loir 148.81 340 *e*PKP1 PKPbc 19 13 26.8 -1.3
comp=Z,27nm,1.0s
BNI Bardonecchia 149.03 334 *e*PKP2 PKPbc 19 13 27.6 -1.2
SGMF Saint Gilles 149.04 348 *e*PKP1 PKPbc 19 13 27.4 -1.3
comp=Z,120nm,1.4s
ROSF Rostrenen 149.09 349 *e*PKP1 PKPbc 19 13 27.3 -1.5
BGF Bois d'Agland 149.18 340 *e*PKP1 PKPbc 19 13 28.1 -1.0
comp=Z,55nm,1.0s
MBDF Montbardon 149.26 334 *e*PKP1 PKPbc 19 13 27.7 -1.6
comp=Z,10nm,0.6s
PLDF La Plantade 149.43 339 PKP PKPbc 19 13 29.0 -0.7
ORIF Oris-en-Rattie 149.47 335 *e*PKP1 PKPbc 19 13 29.1 -0.8
comp=Z,22nm,0.7s
ORIF *e*MLR MLR
comp=Z,101nm,22.8s,MS4.2
QUIF Quistinic 149.48 348 *e*PKP1 PKPbc 19 13 28.6 -1.2
SAOF Saorge 149.50 332 PKP PKPbc 19 13 29.1 -0.9
AGO Saint Agoulin 149.53 339 PKP PKPbc 19 13 28.5 -1.5
AUTN L'Aution 149.55 332 PKP PKPbc 19 13 29.6 -0.5
TOUF Mont Tournerai 149.62 332 PKP PKPbc 19 13 29.5 -0.8
TCF Toulx Ste Croi 149.62 341 *e*PKP1 PKPbc 19 13 29.1 -1.1
comp=Z,98nm,1.3s
SBF Sospel 149.65 332 *e*PKP1 PKPbc 19 13 29.1 -1.3
comp=Z,117nm,1.2s
LUCF Luceram 149.67 332 PKP PKPbc 19 13 29.8 -0.6
SSB Saint Sauveur 149.69 337 PKP PKPbc 19 13 30.0 -0.4
SSB Saint Sauveur 149.69 337 *e*PKPbc PKPbc 19 13 30.3 -0.1
MVIF Mont Vial 149.75 332 PKP PKPbc 19 13 30.1 -0.5
PYM Petit Puy Mans 149.84 339 PKP PKPbc 19 13 30.9 +0.2
PGF Pioggiola 149.91 328 *e*PKP1 PKPbc 19 13 30.0 -1.0
comp=Z,128nm,1.1s
CALN Calern 149.98 332 PKP PKPbc 19 13 29.6 -1.6
VIVF Saint-Julien-l 150.00 336 *e*PKP1 PKPbc 19 13 30.3 -0.9
comp=Z,37nm,1.0s
CORF Corte 150.02 328 PKP PKPbc 19 13 31.0 -0.3
MFF Saint Martin d 150.03 344 *e*PKP1 PKPbc 19 13 30.0 -1.2
LBL Lubilhac 150.20 338 PKP PKPbc 19 13 31.6 0.0
FRF La Foret Royal 150.24 332 *e*PKP1 PKPbc 19 13 30.5 -1.3
comp=Z,47nm,1.0s
SMRF Simiane la Rot 150.37 334 *e*PKP1 PKPbc 19 13 31.4 -0.7
comp=Z,74nm,1.0s
LMR La Mourre 150.48 332 *e*PKP1 PKPbc 19 13 31.1 -1.3
comp=Z,69nm,1.0s
RJF Les Rejaudoux 150.72 340 *e*PKP1 PKPbc 19 13 31.9 -1.0
comp=Z,51nm,1.0s
RJF *e*MLR MLR
comp=Z,155nm,20.5s,MS4.5
RJF Les Rejaudoux 150.72 340 *e*PKP PKPbc 19 13 31.9 -1.0
RJF LR LR
comp=Z,160nm,20.5s,MS4.8
CAF Calviac 150.88 339 *e*PKP1 PKPbc 19 13 32.5 -0.8
comp=Z,14nm,0.8s
LASF Ste Croix 150.97 336 *e*PKP1 PKPbc 19 13 32.7 -0.8
comp=Z,53nm,0.9s
LFF La Frestale 151.29 341 *e*PKP1 PKPbc 19 13 33.2 -1.0
comp=Z,47nm,1.0s
MTLF Montolieu 152.21 338 *e*PKP1 PKPbc 19 13 35.2 -1.2
comp=Z,38nm,1.3s
EPF Esparros 153.13 340 *e*PKP1 PKPbc 19 13 37.6 -0.8
ETSF Etsaut 153.54 341 *e*PKP1 PKPbc 19 13 38.8 -0.5
comp=Z,16nm,0.9s
SJPF Ste Jean 153.54 342 *e*PKP1 PKPbc 19 13 38.3 -1.0
ESDC Sonseca Array 157.49 344 PKPab PKPab 19 14 08.0 -0.7
comp=Z,1.5nm,0.7s,baz=16,slow=3.4,SNR=4.3
TORD Torodi Ar. Bea 166.03 251 PKP PKPdf 19 13 44.7 -1.9
comp=Z,2.2nm,1.0s,baz=347,slow=1.2,SNR=9.7
TORD PKPab PKPab 19 14 46.3 -0.5
comp=Z,1.8nm,0.9s,baz=101,slow=3.4,SNR=4.8
TORD Torodi Ar. Bea 166.03 251 PKP PKPdf 19 13 44.7 -1.9
TORD PKPab PKPab 19 14 46.3 -0.5

NIED **16** *18:55:00,2530N×12760E,h20km,Mw4.0 Best double couple: M₀1.02000×10¹⁵ NP1:φ₀191.00000°,δ70.00000°, λ47.00000°. NP2:φ₀81.00000°,δ46.00000°,λ152.00000°.*
BJI **16** *18:55:03.2,2509N×128.15E,h10km,mB4.5,mb4.3*
IDC **16** *18:55:10.3±1.0,2542N×12745E,h0km,mb3.8/9, mb1 3.9/9,mb1mx3.9/20,mbtmp3.8/9, Error ellipse: s-maj=30.1km s-min=18.6km az=79.0*
ISCJB **16** *18:55:12.4±0.7,2528N±0.5×12759E±0.05,h33km±7km, mb4.0/17, Error ellipse: s-maj=9.3km s-min=5.8km az=41.8*
JMA **16** *18:55:12.6±0.2,2530N×12760E,h55km±4km,M3.5*
NEIC **16** *18:55:15.2±0.7,2541N×12744E,h35km,mb4.2/6, Error ellipse: s-maj=14.9km s-min=10.9km az=140.0*
ISC 16 18:55:13.1±1.0**,2533N**±0.04×**12755E**±0.05**,h25**km±7km**,**n36,σ0°96/43,mb3.9/17,Ryukyu Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time h m s	Res ISC
				Op	ISC		
JJT2	**Tamagusuku 2**	**0.82**	**12**	P	**Pb**	**18 55 28.7**	**-0.1**
JJT2				*e*S	**Sb**	**18 55 40.5**	**+1.0**
NAH1	**Naha**	**0.88**	**8**	P	**Pb**	**18 55 29.4**	**-0.3**
NAH1				*e*S	**Sb**	**18 55 42.0**	**+1.0**
JKE	**Kume jima 2**	**1.21**	**325**	P	**Pn**	**18 55 34.2**	**-0.3**
JKE				S	**Sn**	**18 55 50.6**	**+0.6**
JAGN	**Aguni-jima**	**1.28**	**347**	P	**Pn**	**18 55 35.5**	**0.0**
JAGN				*e*S	**Sn**	**18 55 51.7**	**-0.2**
JOW	**Kunigami**	**1.63**	**23**	Pn	**Pn**	**18 55 39.8**	**-0.5**
	12nm,0.3s,baz=171,slow=11,SNR=32						
JOW	**Kunigami**	**1.63**	**23**	P	**Pn**	**18 55 39.7**	**-0.6**
JIH	**Iheya**	**1.74**	**12**	P	**Pn**	**18 55 41.6**	**-0.1**
JIH				*e*S	**Sn**	**18 56 02.7**	**-0.4**
JOGS	**Gusukube**	**2.03**	**254**	P	**Pn**	**18 55 46.4**	**+0.7**
JTJ	**Tarama**	**2.68**	**256**	P	**Pn**	**18 55 54.7**	**0.0**
JTK	**Tokunoshima**	**2.75**	**27**	P	**Pn**	**18 55 56.0**	**+0.4**
JIJ	**Ishigaki jima**	**3.24**	**253**	P	**Pn**	**18 56 02.1**	**-0.4**
JMZ	**Minamidaito 2**	**3.35**	**81**	P	**Pn**	**18 56 01.3**	**-2.6**
JMZ				S	**Sn**	**18 56 37.2**	**-5.7**
JAM	**Amami Oshima**	**3.57**	**30**	P	**Pn**	**18 56 06.6**	**-0.4**
JAM				*e*S	**Sn**	**18 56 47.7**	**-0.7**
JZK	**Kikaishima**	**3.67**	**36**	P	**Pn**	**18 56 08.7**	**+0.3**
JNN	**Nakanoshima**	**4.94**	**24**	P	**Pn**	**18 56 26.5**	**+0.7**
TATO	**Taipei**	**5.51**	**268**	P	**Pn**	**18 56 33.2**	**-0.4**
NACB	**Ninganchiao**	**5.54**	**259**	*e*P	**Pn**	**18 56 32.4**	**-1.6**
YHNB	**Yeheng**	**5.64**	**265**	*e*P	**Pn**	**18 56 33.3**	**-2.1**
LZH	**Lanzhou**	**22.98**	**303**	*e*P	**P**	**19 00 15.3**	**-0.5**
LZH				AP		19 00 18.5	
LZH				XP	sP	19 00 20.3	-5.6
LZH				AMB	AMB		
	comp=Z,18nm,1.4s,mb4.3						
LZH				AMB	AMB		
	comp=Z,93nm,5.0s						
YSS	**Yuzh-Sakhalins**	**24.74**	**25**	P	**P**	**19 00 31.6**	**-0.9**
	comp=Z,16nm,0.9s,mb4.6						
GTA	**Gaotai**	**27.18**	**308**	*e*P	**P**	**19 00 54.3**	**-0.4**
GTA				AP	pP	19 00 57.6	-4.5
GTA				XP	sP	19 00 59.3	-5.8
GTA				AMB	AMB		
	comp=Z,6.0nm,0.8s,mb4.2						
CMAR	**Chiang Mai Arr**	**27.38**	**261**	P	**P**	**19 00 57.2**	**+0.6**
	comp=Z,0.6nm,0.9s,mb3.1,baz=53,slow=8.0,SNR=5.7						
SONM	**Songino Array**	**27.99**	**329**	P	**P**	**19 01 03.3**	**+1.5**
	comp=Z,1.2nm,0.8s,mb3.5,baz=144,slow=10,SNR=4.2						
LSA	**Lhasa**	**32.49**	**286**	P	**P**	**19 01 44.1**	**+2.2**
	comp=Z,2.8nm,0.8s,mb4.1						
MK31	**Makanchi Array**	**41.69**	**313**	*e*P	**P**	**19 02 58.8**	**-0.9**
MKAR	**Makanchi Array**	**41.69**	**313**	P	**P**	**19 02 58.6**	**-1.1**
	comp=Z,1.7nm,0.5s,mb3.9,baz=98,slow=10,SNR=39						
ZALV	**Zalesovo Beam**	**42.60**	**324**	P	**P**	**19 03 05.9**	**-1.1**
	comp=Z,1.1nm,0.5s,mb3.8,baz=125,slow=9.3,SNR=5.7						
KURK	**Kurchatov**	**45.06**	**317**	P	**P**	**19 03 26.1**	**-0.8**
	comp=Z,0.6nm,0.5s,mb3.7,baz=106,slow=9.0,SNR=4.3						
WRA	**Warramunga Arr**	**45.48**	**171**	P	**P**	**19 03 31.9**	**+1.4**
	comp=Z,0.7nm,1.1s,mb3.4,baz=68,slow=10,SNR=2.7						
TKM2	**Tokmak 2**	**45.70**	**306**	*e*P	**P**	**19 03 32.7**	**+0.6**
	comp=Z,2.3nm,0.9s,mb4.1						
UCH	**Uchtor**	**46.45**	**305**	*e*P	**P**	**19 03 39.1**	**+1.2**
	comp=Z,2.7nm,1.0s,mb4.1						
EKS2	**Erkin-Say**	**47.02**	**306**	P	**P**	**19 03 41.8**	**-0.7**
	comp=Z,1.3nm,0.8s,mb3.9						

ASAR	**Alice Springs**	**49.09**	**172**	P		**P**	**19 04 00.2**	**+1.7**
	comp=Z,0.4nm,0.6s,mb3.6,baz=2.9,slow=13,SNR=4.3							
KBL	**Kabul**	**50.92**	**295**	*e*P		**P**	**19 04 12.9**	**+0.4**
	comp=Z,3.5nm,0.8s,mb4.3							
AKASG	**Malin Array Be**	**75.82**	**320**	P		**P**	**19 06 58.8**	**+1.7**
	comp=Z,0.9nm,0.4s,mb4.0,baz=63,slow=6.3,SNR=4.1							
NOA	**NORSAR Array B**	**79.85**	**334**	P		**P**	**19 07 19.6**	**+0.4**
	comp=Z,1.6nm,0.7s,mb4.0,baz=52,slow=5.8,SNR=3.2							

ISCJB ***16*** *19:15:40.6±0.7, 3831N±003×2592E±005, h13km±4km, Error ellipse: s-maj=6.0km s-min=4.3km az=9.9*
DDA ***16*** *19:15:41.0, 3832N×2596E, h7km±5km, Md3.0*
CSEM ***16*** *19:15:40.7±0.1, 3830N×2597E, h15km, ML3.2/1, Error ellipse: s-maj=2.9km s-min=2.3km az=103.0*
ISK ***16*** *19:15:41.0, 3851N×2597E, h7km, MD2.9*
NEIC ***16*** *19:15:41.2, 3829N×2598E, h37km, MD3.0(ATH), After ATH.*
THE ***16*** *19:15:41.4, 3829N×2601E, h13km±1km, ML3.2/1, Error ellipse: s-maj=14.2km s-min=0.7km az=103.0*
ATH ***16*** *19:15:41.2, 3829N×2598E, h37km±5km, MD3.0/4*

ISC 16 19:15:40.9±0.8, 3831N±003×2592E±005, h16km±4km, n24, σ0$72/41, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
CHOS	**Chios island**	**0.13**	**53**	P		**Pg**	**19 15 44.3**	**-0.4**
CHOS				S		**Sg**	**19 15 46.5**	**-0.7**
URLA	**Izmir**	**0.53**	**84**	*i* P		**Pg**	**19 15 51.4**	**-0.1**
URLA				*i* S		**Sg**	**19 15 59.0**	**+0.4**
URLA	**Izmir**	**0.53**	**84**	*i* P		**Pg**	**19 15 51.4**	**-0.1**
URLA				*i* S		**Sg**	**19 15 59.0**	**+0.4**
BLCB	**Balcova**	**0.89**	**85**	*e*PG		**Pg**	**19 15 58.0**	**-0.1**
BLCB				*e*SG		**Sg**	**19 16 09.4**	**-0.4**
SMG	**Samos**	**0.94**	**129**	*e*Pn		**Pn**	**19 15 58.7**	**-0.7**
SMG				*e*Sn		**Sn**	**19 16 11.1**	**-1.3**
SMG	**Samos**	**0.94**	**129**	*e*PN		**Pn**	**19 15 58.7**	**-0.7**
SMG				*e*SN		**Sn**	**19 16 11.1**	**-1.3**
PRK	**Paraskevi**	**0.98**	**16**	P		**Pb**	**19 15 59.7**	**+0.3**
PRK				S		**Sb**	**19 16 13.0**	**+1.0**
PRK	**Paraskevi**	**0.98**	**16**	*e*Pn		**Pn**	**19 16 00.0**	**+0.1**
PRK				*e*Sn		**Sn**	**19 16 13.2**	**-0.2**
PRK	**Paraskevi**	**0.98**	**16**	*e*PN		**Pn**	**19 16 00.0**	**+0.1**
PRK				*e*SN		**Sn**	**19 16 13.2**	**-0.2**
IZM	**Izmir**	**1.06**	**85**	*e*PG		**Pg**	**19 16 01.7**	**+0.3**
IZM				*e*SG		**Sg**	**19 16 16.1**	**+0.9**
KDAG	**Bornova**	**1.06**	**84**	*i* P		**Pb**	**19 16 00.9**	**+0.1**
KDAG				*i* S		**Sb**	**19 16 14.4**	**-0.1**
AYVA	**Ayvalik**	**1.17**	**31**	*i* P		**Pn**	**19 16 02.4**	**-0.1**
AYVA				*i* S		**Sb**	**19 16 18.9**	**+1.4**
APE	**Apeiranthos**	**1.27**	**194**	P		**Pn**	**19 16 04.1**	**+0.1**
APE				S		**Sb**	**19 16 21.0**	**+0.4**
APE	**Apeiranthos**	**1.27**	**194**	*e*Pn		**Pn**	**19 16 04.3**	**+0.3**
APE				*e*Sn		**Sn**	**19 16 21.3**	**+0.6**
APE	**Apeiranthos**	**1.27**	**194**	*e*PN		**Pn**	**19 16 04.3**	**+0.3**
APE				*e*SN		**Sn**	**19 16 21.3**	**+0.6**
EZN	**Ezine**	**1.55**	**12**	*e*PN		**Pn**	**19 16 07.5**	**-0.2**
EZN				*e*SN		**Sn**	**19 16 25.6**	**-1.9**
LIA	**Limnos Island**	**1.69**	**340**	P		**Pn**	**19 16 10.4**	**+0.7**
LIA	**Limnos Island**	**1.69**	**340**	*e*Pn		**Pn**	**19 16 10.5**	**+0.8**
LIA	**Limnos Island**	**1.69**	**340**	*e*PN		**Pn**	**19 16 10.5**	**+0.8**
BALY	**Balya**	**1.95**	**42**	*i* P		**Pn**	**19 16 13.6**	**+0.4**
BALY				*i* S		**Sn**	**19 16 43.6**	**+6.2**
KULA	**Kula-Manisa**	**2.16**	**84**	*e*PN		**Pn**	**19 16 17.0**	**+0.8**
ENEZ	**Enez**	**2.43**	**4**	*e*PN		**Pn**	**19 16 18.4**	**-1.5**
ALN	**Alexandroupoli**	**2.59**	**2**	P		**Pn**	**19 16 22.5**	**+0.5**
MRMT	**Marmara Adasi**	**2.63**	**29**	*e*PN		**Pn**	**19 16 21.9**	**-0.8**

KRSC 16 19:21:37.5±0.1, 5290N×16058E, h21km±20km, ML3.6, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
SPN	**Mys Shipunski**	**0.39**	**301**	*e*P		Pb	19 21 46.9	+1.2
SPN				*i* S		Sb	19 21 52.8	+1.5
NLC	**Nalytchevo**	**0.79**	**291**	*e*P		Pb	19 21 52.7	+0.1
NLC				*i* S		Sb	19 22 03.8	+0.9
AVH	**Avacha**	**1.17**	**289**	*e*P		Pn	19 21 59.2	+0.6
AVH				*i* S		Sb	19 22 15.5	+1.8
PET	**Petropavlovsk**	**1.17**	**277**	*e*P		Pn	19 21 58.7	+0.1
PET				*i* S		Sb	19 22 14.4	+0.7
RUS	**Russkaya**	**1.34**	**250**	*e*P		Pn	19 22 01.0	0.0
RUS				*i* S		Sn	19 22 17.6	-0.5
GRL	**Gorelyy**	**1.56**	**258**	P		Pn	19 22 05.8	+1.8
GNL	**Ganaly**	**1.77**	**298**	*e*P		Pn	19 22 08.6	+1.7
GNL				*i* S		Sn	19 22 32.2	+3.5
TUMR	**Tumrok**	**2.40**	**354**	*e*P		Pn	19 22 17.0	+1.5
TUMR				*i* S		Sn	19 22 45.8	+1.5
KMNR	**Kamenistaya**	**2.87**	**356**	P		Pn	19 22 22.8	+0.9
KPT	**Kopyto**	**3.08**	**356**	P		Pn	19 22 27.1	+2.3
KRSR	**Krestovskiy**	**3.32**	**360**	P		Pn	19 22 28.5	+0.3
KBTR	**Krutoberegovo**	**3.56**	**21**	P		Pn	19 22 35.3	+3.9

IDC ***16*** *19:27:30.7±1.4, 2117N×12122E, h0km, mb3.6/5, mb1 3.8/5, mb1mx3.6/19, mbtmp3.6/5, Error ellipse: s-maj=57.6km s-min=20.3km az=59.0*
TAP ***16*** *19:27:31.0, 2105N×12128E, h64km±1km, ML3.9, D*
ISCJB ***16*** *19:27:34.0±0.8, 2116N±005×12126E±007, h40km±10km, mb3.5/5, Error ellipse: s-maj=10.7km s-min=7.8km az=179.7*

ISC 16 19:27:34.7±1.2, 2118N±004×12126E±007, h32km±10km, n38, σ1$04/54, mb3.5/5, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
TSEB	**Hengchuen, Pin**	**0.79**	**335**	P		**Pn**	**19 27 48.3**	**-1.3**
	baz=335							
TSEB				S		**Sb**	**19 28 02.9**	**+2.4**
	baz=335							
TWK1	**Hengchun**	**0.87**	**331**	*i* P		**Pn**	**19 27 49.2**	**-1.5**
	baz=333							
TWK1				S		**Sn**	**19 28 03.6**	**+1.3**
	baz=333							
LAY	**Lan-yu**	**0.90**	**18**	P		**Pn**	**19 27 50.5**	**-0.6**
	baz=14							
LAY				S		**Sn**	**19 28 04.2**	**+1.2**
	baz=14							
HEN	**Hengchun**	**0.95**	**330**	P		**Pn**	**19 27 51.0**	**-0.9**
	baz=332							
TAW	**Tawu**	**1.22**	**344**	*e*P		**Pn**	**19 27 54.7**	**-0.8**
	baz=344							
TAW				*e*S		**Sn**	**19 28 09.8**	**-1.1**
	baz=344							
EAST	**Anshuo**	**1.26**	**342**	*e*P		**Pn**	**19 27 53.9**	**-2.1**
	baz=343							
EAST				*i* S		**Sn**	**19 28 13.6**	**+1.7**
	baz=343							
SCZT	**Fangliau**	**1.33**	**334**	P		**Pn**	**19 27 56.6**	**-0.4**
	baz=335							
SCZT				S		**Sn**	**19 28 14.3**	**+0.7**
	baz=335							
TWP	**Hsiaoliuchiu**	**1.43**	**325**	*e*P		**Pn**	**19 27 58.6**	**+0.2**
	baz=326							
TWP				*e*S		**Sn**	**19 28 16.5**	**+0.5**
	baz=326							
ECL	**Taimali**	**1.44**	**349**	*e*P		**Pn**	**19 27 55.8**	**-2.8**
	baz=348							
TTN	**Taitung**	**1.57**	**356**	*e*P		**Pn**	**19 27 59.9**	**-0.4**
	baz=355							
TTN				*e*S		**Sn**	**19 28 20.2**	**+0.6**
	baz=355							
TWG	**Pinlang**	**1.64**	**354**	*e*P		**Pn**	**19 27 59.2**	**-2.2**
	baz=353							
TWG				*e*S		**Sn**	**19 28 21.6**	**+0.3**
	baz=353							
SSD	**Sandimen**	**1.66**	**340**	P		**Pn**	**19 28 01.3**	**-0.3**
	baz=340							
TWM1	**Shoushan**	**1.81**	**335**	*e*P		**Pn**	**19 28 03.3**	**-0.3**
	baz=335							
CHKT	**Chengkung**	**1.91**	**3**	*e*P		**Pn**	**19 28 05.3**	**+0.2**
	baz=2.0							
CHKT				*e*S		**Sn**	**19 28 27.6**	**-0.5**
	baz=2.0							
SGST	**Jiashian**	**2.00**	**342**	*e*P		**Pn**	**19 28 06.0**	**-0.2**
	baz=342							
SGST				*e*S		**Sn**	**19 28 30.1**	**0.0**
	baz=342							
ELDTW	**Lidau**	**2.01**	**354**	*e*P		**Pn**	**19 28 07.6**	**+1.1**
	baz=353							
STYT	**Tauyuan**	**2.03**	**347**	*e*P		**Pn**	**19 28 07.5**	**+0.8**
	baz=347							
STYT				*e*S		**Sn**	**19 28 30.8**	**-0.1**
	baz=347							
CHN1	**Nanshi**	**2.11**	**341**	*e*P		**Pn**	**19 28 07.7**	**-0.1**
	baz=341							
WTP	**Ta-pu**	**2.14**	**344**	*e*P		**Pn**	**19 28 07.9**	**-0.3**
	baz=344							
TWF1	**Yuli**	**2.16**	**1**	P		**Pn**	**19 28 08.1**	**-0.4**
TWF1				*e*S		**Sn**	**19 28 33.9**	**-0.3**
TWK	**Hsinying**	**2.20**	**341**	*e*P		**Pn**	**19 28 07.8**	**-1.1**
	baz=341							
EHY	**Hungye**	**2.32**	**1**	*e*P		**Pn**	**19 28 10.1**	**-0.5**
EHY				*e*S		**Sn**	**19 28 37.3**	**-0.7**
YUS	**Yu-Shan**	**2.32**	**353**	*e*P		**Pn**	**19 28 11.1**	**+0.5**
	baz=352							
ALS	**Alishan**	**2.36**	**350**	*e*P		**Pn**	**19 28 11.7**	**+0.5**
	baz=349							
ALS				*e*S		**Sn**	**19 28 38.8**	**-0.3**
	baz=349							
CHN5	**Tsauling**	**2.47**	**348**	*e*P		**Pn**	**19 28 12.2**	**-0.5**
	baz=347							
WGK	**Gukeng**	**2.58**	**346**	*e*P		**Pn**	**19 28 13.6**	**-0.6**
	baz=345							
ESL	**Shilin**	**2.63**	**4**	*e*P		**Pn**	**19 28 17.4**	**+2.5**
	baz=2.0							
ESL				*e*S		**Sn**	**19 28 44.7**	**-1.0**
	baz=2.0							
SMLT	**Sun Moon Lake**	**2.71**	**353**	*e*P		**Pn**	**19 28 16.9**	**+0.8**
	baz=352							
WHF	**Hehuan Shan**	**2.95**	**0**	*e*P		**Pn**	**19 28 20.2**	**+0.8**
	baz=359							
NNS	**Nan Shan**	**3.25**	**2**	*e*P		**Pn**	**19 28 25.4**	**+2.0**
	baz=1.0							
TWC	**Suao**	**3.46**	**9**	*e*P		**Pn**	**19 28 25.0**	**-1.3**
	baz=8.0							
TWE	**Neicheng**	**3.55**	**6**	*e*P		**Pn**	**19 28 30.2**	**+2.7**
	baz=5.0							
KNM	**Kinmen**	**4.14**	**322**	*e*P		**Pn**	**19 28 35.8**	**+0.1**
	baz=320							
CMAR	**Chiang Mai Arr**	**21.16**	**267**	P		**P**	**19 32 16.9**	**-0.4**
	0.5nm,0.6s,mb3.0,baz=77,slow=9.6,SNR=5.4							
MKAR	**Makanchi Array**	**40.58**	**318**	P		**P**	**19 35 12.5**	**+1.4**
	0.9nm,0.6s,mb3.6,baz=113,slow=9.3,SNR=11							
ZALV	**Zalesovo Beam**	**42.82**	**329**	P		**P**	**19 35 29.3**	**-0.1**
	1.8nm,0.8s,mb3.9,baz=111,slow=8.1,SNR=9.4							
WRA	**Warramunga Arr**	**42.83**	**162**	P		**P**	**19 35 30.2**	**+0.4**
	0.8nm,0.6s,mb3.7,baz=343,slow=9.0,SNR=13							
ASAR	**Alice Springs**	**46.24**	**164**	P		**P**	**19 35 58.4**	**+1.4**
	0.3nm,0.5s,mb3.5,baz=345,slow=7.2,SNR=6.2							

ISCJB ***16*** *20:02:41.6±1.0, 4359N±007×1050W±0.1, h0km, Error ellipse: s-maj=12.9km s-min=7.4km az=38.3*
IDC ***16*** *20:02:41.7±2.8, 4325N×10515W, h0km, mb3.5/2, mb1 3.9/4, mb1mx3.5/22, mbtmp3.7/4, ML3.4/2, Error ellipse: s-maj=64.9km s-min=9.5km az=157.0*
NEIC ***16*** *20:02:45.5±1.6, 4366N×10527W, h0km, ML3.3, Error ellipse: s-maj=19.7km s-min=7.5km az=98.0, Suspected Mining explosion.*
NEIC 75 km [45 miles] SSE of Gillette.

ISC 16 20:02:44.1±0.9, 4362N±006×1051W±01, h0km, n35, σ1$10/34, Wyoming

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
RWWY	**Rawlins**	**2.49**	**220**	*e*Pn		**Pn**	**20 03 37.5**	**+1.7**
LAO	**LASA Array**	**3.18**	**346**	*e*Pn		**Pn**	**20 03 45.7**	**+0.4**
RLMT	**Red Lodge**	**3.36**	**298**	*e*Pn		**Pn**	**20 03 37.0**	**-0.8**
BW06	**Boulder Array**	**3.39**	**257**	*e*Pn		**Pn**	**20 03 37.6**	**-0.6**
PDAR	**Pinedale Array**	**3.39**	**257**	Pn		**Pn**	**20 03 37.9**	**-0.3**
	2.0nm,0.3s,baz=74,slow=16,SNR=46							
PDAR				Lg			20 04 23.1	
	12nm,0.3s,baz=68,slow=28,SNR=18							
GCMT	**Greycliff**	**3.93**	**305**	*e*Pn		**Pn**	**20 03 45.0**	**-0.6**
LKWY	**Lake**	**3.96**	**286**	Pn		**Pn**	**20 03 47.4**	**+1.4**
LOHW	**Long Hollow**	**4.02**	**272**	*e*Pn		**Pn**	**20 03 47.7**	**+0.9**
MOOW	**Moose Ponds**	**4.12**	**274**	*e*Pn		**Pn**	**20 03 48.5**	**+0.3**
SNOW	**Snow King Moun**	**4.14**	**270**	*e*Pn		**Pn**	**20 03 47.6**	**-0.8**
YNR	**Norris Junctio**	**4.18**	**287**	*e*Pn		**Pn**	**20 03 51.8**	**+2.8**
REDW	**Red Top Meadow**	**4.21**	**269**	*e*Pn		**Pn**	**20 03 53.1**	**+3.6**
YFT	**Old Faithful**	**4.24**	**283**	Pn		**Pn**	**20 03 56.2**	**+6.3**
IMW	**Indian Meadow**	**4.26**	**276**	*e*Pn		**Pn**	**20 03 50.3**	**+0.1**
TPAW	**Teton Pass**	**4.28**	**270**	*e*Pn		**Pn**	**20 03 49.4**	**-0.9**
YMR	**Madison River**	**4.37**	**286**	Pn		**Pn**	**20 03 51.4**	**-0.3**
AHID	**Auburn Hatcher**	**4.49**	**261**	Pn		**Pg**	**20 04 03.8**	**-6.3**
RRI2	**Red Ridge**	**4.56**	**269**	*e*Pn		**Pn**	**20 03 54.8**	**+0.6**
QLMT	**Earthquake Lak**	**4.73**	**287**	*e*Pn		**Pn**	**20 03 55.6**	**-0.9**
DGMT	**Dagmar**	**4.89**	**7**	*e*Pn		**Pg**	**20 04 09.1**	**-8.6**
HWUT	**Hardware Ranch**	**5.20**	**249**	*e*Pn		**Pn**	**20 04 01.2**	**-1.8**
	15nm,0.6s							
EGMT	**Eagleton**	**5.49**	**325**	*e*Pn		**Pn**	**20 04 06.8**	**-0.2**
	12nm,0.5s							
DAU	**Daniels Canyon**	**5.61**	**237**	*e*Pn		**Pn**	**20 04 09.5**	**+0.8**
JLU	**Jordanelle**	**5.62**	**240**	Pn		**Pn**	**20 04 15.3**	**+6.5**
DLMT	**Dillon**	**5.66**	**291**	*e*Pn		**Pn**	**20 04 13.3**	**+4.0**
	7.2nm,0.8s							
HRY	**Holter Researc**	**5.69**	**305**	*e*Pn		**Pn**	**20 04 12.0**	**+2.2**
SPUT	**South Promonto**	**5.93**	**250**	*e*Pn		**Pn**	**20 04 13.1**	**+0.1**
SRU	**San Rafael**	**6.09**	**224**	*e*Pn		**Pn**	**20 04 16.2**	**+0.9**
	6.5nm,0.6s							
BGU	**Big Grassy Mou**	**6.49**	**248**	*e*Pn		**Pn**	**20 04 19.1**	**-1.7**
CHMT	**Chamberlain Mo**	**6.65**	**303**	*e*Pn		**Pn**	**20 04 21.9**	**-1.0**
MSU	**Marysvale**	**7.41**	**229**	*e*Pn		**Pn**	**20 04 30.3**	**-3.0**
ELK	**Elko**	**8.08**	**253**	Lg			20 06 54.7	
	0.1nm,0.3s,baz=181,slow=23,SNR=3.1							
ULM	**Lac du Bonnet**	**9.14**	**40**	Pn		**Pn**	**20 04 56.6**	**-0.4**
	1.6nm,0.3s,baz=238,slow=12,SNR=8.4							
ULM				Lg			20 07 29.4	
	0.4nm,0.3s,baz=138,slow=12,SNR=3.6							
YKA	**Yellowknife Ar**	**19.72**	**347**	P		**Pn**	**20 07 16.4**	**+0.2**
	0.5nm,0.5s,baz=154,slow=8.4,SNR=5.2							
ARCES	**ARCESS Array B**	**61.49**	**18**	P		**P**	**20 13 01.8**	**-0.2**
	1.4nm,0.8s,baz=337,slow=8.3,SNR=6.9							

ISCJB ***16*** *20:17:37.6±0.5, 2422N±004×10387E±006, h10km, mb3.6/6, Error ellipse: s-maj=8.1km s-min=4.0km az=150.5*
BJI ***16*** *20:17:39.7, 2432N×10396E, h16km, ML3.4, Msz3.3*
IDC ***16*** *20:17:39.5±0.9, 2442N×10391E, h0km, mb3.6/6, mb1 3.7/7, mb1mx3.6/23, mbtmp3.6/7, ML4.7/1, MS2.8/1, Ms1 2.8/1, ms1mx2.4/33, Error ellipse: s-maj=26.3km s-min=15.6km az=67.0*
NEIC ***16*** *20:17:40.8±0.6, 2440N×10386E, h10km, mb3.7/1, Error ellipse: s-maj=18.5km s-min=10.1km az=66.0*
PLV ***16*** *20:17:46.9±1.5, 2388N×10417E, h7km±7km, MD3.9*

ISC 16 20:17:39.9±0.4, 2426N±004×10386E±005, h10km, n22, σ1$30/40, mb3.6/6, 1C, Yunnan

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
KMI	**Kunming**	**1.34**	**310**	PG		**Pg**	**20 18 04.6**	**-1.1**
KMI				SG		**Sg**	**20 18 22.3**	**-0.8**
KMI				Smax				
	comp=N,683nm,0.8s							
KMI				Smax				
	comp=E,790nm,0.6s							
SLVN	**Son La**	**2.91**	**179**	*e*PN		**Pn**	**20 18 29.6**	**+3.4**
SLVN				*e*PG		**Pg**	**20 18 35.9**	**+0.3**
SLVN				*e*SG		**Sg**	**20 19 09.6**	**-3.8**
DBV	**Dienbien**	**2.96**	**195**	*e*PN		**Pn**	**20 18 29.2**	**+2.3**
DBV				*e*PG		**Pg**	**20 18 37.7**	**+1.1**
DBV				*e*SG		**Sg**	**20 19 14.2**	**-0.6**
MTZV	**Met**	**3.53**	**139**	*e*Pn		**Pn**	**20 18 35.8**	**+0.9**
MTZV				*e*PG		**Pg**	**20 18 46.5**	**-1.1**
MTZV				*e*SG		**Sg**	**20 19 25.9**	**-7.5**
HNV	**Hanoi**	**3.66**	**150**	*e*Pn		**Pn**	**20 18 37.7**	**+1.1**
HNV				*e*Pg		**Pg**	**20 18 49.0**	**-1.0**
HNV				*e*SG		**Sg**	**20 19 31.0**	**-6.5**
BGV	**Bac-Giang**	**3.67**	**143**	*e*Pn		**Pn**	**20 18 38.0**	**+1.3**
BGV				*e*Pg		**Pg**	**20 18 48.5**	**-1.7**
BGV				*e*Sg		**Sg**	**20 19 30.1**	**-7.7**
YTV	**Yen Tu**	**4.05**	**139**	*e*Pn		**Pn**	**20 18 43.2**	**+1.1**
YTV				*e*Pg		**Pg**	**20 18 56.0**	**-1.7**
YTV				*e*Sg		**Sg**	**20 19 43.2**	**-7.0**
DSV	**Doi Son**	**4.14**	**151**	*e*PN		**Pn**	**20 18 44.5**	**+1.3**
DSV				*e*Pg		**Pg**	**20 18 57.5**	**-1.7**
DSV				*e*SG		**Sg**	**20 19 45.1**	**-7.8**
PLV	**Phu-Lien**	**4.28**	**143**	*e*Pn		**Pn**	**20 18 46.2**	**+1.1**
PLV				*e*Pg		**Pg**	**20 19 00.1**	**-1.9**
PLV				*e*SG		**Sg**	**20 19 48.8**	**-8.6**
NANT	**Nan**	**6.17**	**209**	⇑P		**Pn**	**20 19 10.0**	**-1.2**
	comp=E,200nm,1.0s							
CMAR	**Chiang Mai Arr**	**7.37**	**219**	Pn		**Pn**	**20 19 29.9**	**+2.2**
	comp=E,3.0nm,0.3s,baz=28,slow=13,SNR=18							
CMAR				Pg		**Pg**	**20 19 57.1**	**-3.9**
	comp=E,0.5nm,0.3s,baz=41,slow=17,SNR=16							
CMAR				Lg			20 21 38.0	
	baz=40,slow=28,SNR=5.2							
CMAR	**Chiang Mai Arr**	**7.37**	**219**	Pn		**Pn**	**20 19 29.9**	**+2.2**
CMAR				Pg		**Pg**	**20 19 57.1**	**-3.9**
CMAR				Lg			20 21 38.0	
KSRS	**Korea Array**	**24.41**	**52**	LR		LR	20 32 26.7	
	comp=E,20nm,19.3s,baz=210,slow=37							
DAV	**Davao City (W)**	**26.93**	**126**	P		**P**	**20 23 22.7**	**+1.2**
	comp=E,97nm,0.3s,baz=299,slow=7.3,SNR=3.8							
MKAR	**Makanchi Array**	**28.36**	**328**	P		**P**	**20 23 34.3**	**+0.3**
	comp=E,0.1nm,0.3s,baz=126,slow=9.1,SNR=2.5							
EKS2	**Erkin-Say**	**30.86**	**314**	P		**P**	**20 23 56.0**	**-0.3**
	comp=E,0.9nm,0.7s,mb3.7							
KURK	**Kurchatov**	**32.84**	**330**	P		**P**	**20 24 12.9**	**-0.7**
	comp=E,0.6nm,0.6s,mb3.7,baz=143,slow=8.9,SNR=4.5							
ZAA0	**Zalesovo Array**	**32.91**	**339**	P		**P**	**20 24 13.6**	**-0.6**
ZALV	**Zalesovo Beam**	**32.91**	**339**	P		**P**	**20 24 13.2**	**-0.9**
	comp=E,2.6nm,0.7s,mb4.3,baz=144,slow=9.3,SNR=14							
BVAR	**Borovoye Array**	**38.24**	**327**	P		**P**	**20 25 01.1**	**+1.1**
	comp=E,0.6nm,0.8s,mb3.4,baz=141,slow=5.5,SNR=3.5							
WRA	**Warramunga Arr**	**53.02**	**143**	P		**P**	**20 26 58.3**	**+1.1**
	comp=E,0.3nm,0.4s,mb3.5,baz=330,slow=8.5,SNR=12							
ASAR	**Alice Springs**	**55.84**	**146**	P		**P**	**20 27 21.0**	**+3.3**
	comp=E,0.1nm,0.3s,mb3.4,baz=217,slow=36,SNR=3.2							

IGQ 16 20:20:14.8, 094S×7916W, h135km±6km, Mb4.0, Ms3.8, 4C-6D, Error ellipse: s-maj=3.9km s-min=2.8km az=8.2, Ecuador

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
PORT	**Chimborazo Vol**	**0.65**	**143**	P		Pn	20 20 38.3	+3.0
CAMI	**Rancho Maria**	**0.71**	**68**	⇑P		Pn	20 20 36.8	+1.1
CAMI	**Rancho Maria**	**0.71**	**68**	⇑S		Sn	20 20 51.8	+0.1
IGUA	**Igualata**	**0.76**	**136**	P		Pn	20 20 37.1	+1.0
PISA	**Pisayambo**	**0.78**	**99**	⇓P		Pn	20 20 37.1	+0.8
PISA	**Pisayambo**	**0.78**	**99**	⇓S		Sn	20 20 52.6	0.0
VC1	**Cotopaxi 1**	**0.81**	**69**	P		Pn	20 20 37.5	+1.0
TAMB	**Tambo**	**0.83**	**73**	P		Pn	20 20 37.9	+1.2
RUN5	**Runtun**	**0.88**	**123**	⇑P		Pn	20 20 37.5	+0.5
RUN5	**Runtun**	**0.88**	**123**	⇑S		Sn	20 20 53.8	-0.2
ULBA	**Ulba**	**0.91**	**124**	P		Pn	20 20 37.1	-0.2
TERV	**Terraza Guagua**	**0.94**	**36**	P		Pn	20 20 38.6	+0.9
PINO	**Pino**	**0.95**	**35**	⇓P		Pn	20 20 38.5	+0.8
PINO	**Pino**	**0.95**	**35**	⇓S		Sn	20 20 56.7	+1.4
YANA	**Yana**	**1.01**	**36**	P		Pn	20 20 38.8	+0.6
ANTI	**Antisana**	**1.11**	**64**	⇓P		Pn	20 20 40.9	+1.7
ANTI	**Antisana**	**1.11**	**64**	⇓S		Sn	20 20 58.5	+0.7
CHIS	**Cerro-Chispas-**	**1.57**	**266**	P		Pn	20 20 43.8	-0.2

IDC ***16*** *20:24:59.7±0.6, 1452N×9298W, h0km, mb4.5/17, mb1 4.7/18, mb1mx4.7/22, mbtmp4.6/18, ML4.5/1, MS4.2/12, Ms1 4.2/12, ms1mx3.9/34, Error ellipse: s-maj=24.7km s-min=12.7km az=53.0*
CASC ***16*** *20:25:02.1±2.6, 1443N×9342W, h17km±333km, MD4.9, ML4.0, mb4.8(NEIC)*
GCMT ***16*** *20:25:03.9±0.3, 1447N×9339W, h21km, MW5.1/61, Moment Tensor Solution. s61,c76; s60,c91; Duration: 0 Moment tensor: Scale 10^16 Nm; Mrr3.97±.18; Mθθ-2.83±.13; Mφφ-1.14±.15; Mrθ2.76±.22; Mrφ1.86±.10; Mθφ-2.62±.28; Best double couple: Ms5.52100×10^16 NP1:φs295.00000°, δ24.00000°, λ77.00000°. NP2: φs130.00000°, δ67.00000°, λ96.00000°. Principal axes: T 5.5250, Plg68.0000°, Azm51.0000°; N -0.0090, Plg5.0000°, Azm308.0000°; P -5.5160, Plg22.0000°, Azm216.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
BJI ***16*** *20:25:03.0, 1440N×9310W, h28km, mB5.1, Ms5.2, Msz4.6*
NEIC ***16*** *20:25:03.9±1.9, 1439N×9309W, h29km±12km, mb4.8/80, MD4.8(MEX), Error ellipse: s-maj=8.1km s-min=5.8km az=195.0*
MEX ***16*** *20:25:04.8±0.7, 1430N×9331W, h23km±36km, MD4.8*
MOS ***16*** *20:25:04.0±1.1, 1459N×9291W, h33km, mb4.9/44, MS4.1/6, Error ellipse: s-maj=10.1km s-min=5.9km az=100.6*
ISCJB ***16*** *20:25

COPN Copaltepe 6.77 109 ⇓ *e*P P **20 26 44.7 0.0**
COPN *e*S **Sn** **20 28 04.2 +3.7**
CSAN 6.92 109 *e*P **Pn** **20 26 47.0 +0.2**
PPM Popocatepetl 6.94 311 *e*P **Pn** **20 26 48.0 +0.9**
PPM *e*P 20 26 49.0
ACX Acapulco 6.95 291 *e*P **Pn** **20 26 43.0 -4.1**
APYN Apoyeque 6.97 108 *e*P **Pn** **20 26 47.7 +0.2**
XAVN Gruta Xavier 7.02 109 *e*P **Pn** **20 26 49.4 +1.2**
WILN Americas 2 7.15 108 *e*S **Sn** **20 28 16.0 +6.2**
PLIG Platanillo 7.23 303 *e*P **Pn** **20 26 50.0 -1.0**
PLIG *i* S **Sn** **20 28 09.3 -2.5**
TEIG Tepich 7.32 39 Pn **Pn** **20 26 50.2 -2.1**
comp=E,37nm,0.3s,baz=249,slow=7.8,SNR=57
TEIG Sn **Sn** **20 28 14.4 +0.4**
comp=E,29nm,0.3s,baz=346,slow=22,SNR=3.8
TEIG LR LR 20 30 08.0
comp=E,2µm,21.3s,baz=221,slow=43
CAIG El Cayaco 7.32 291 *i* P **Pn** **20 26 48.7 -3.6**
CAIG *i* S **Sn** **20 28 11.9 -2.1**
CONN Concepcion 7.87 111 ⇑ *i*P **Pn** **20 27 00.3 +0.5**
ZIIG Zihuatanejo 8.59 292 *i* P **Pn** **20 27 06.8 -2.8**
ZIIG *i* S **Sn** **20 28 42.9 -2.2**
JCR Jicaral 9.10 120 *e*P **Pn** **20 27 18.6 +1.9**
PRS1 Puriscal 9.72 117 *e*P **Pn** **20 27 24.7 -0.4**
URSC Urasca 10.25 116 *e*P **Pn** **20 27 33.5 +1.1**
BUS Buena Vista 10.40 117 *e*P **Pn** **20 27 36.3 +1.8**
MMIG Aquila 10.50 292 *i* P **Pn** **20 27 33.4 -2.4**
SOR Soroa 12.62 48 *e*P **Pn** **20 28 03.6 -1.2**
baz=240
SOR *e*S **Sn** **20 30 22.2 -1.7**
comp=N,424nm,0.7s
SOR *e*
comp=E,419nm,0.7s
HKT Hockley 15.56 351 *e*P **Pn** **20 28 44.9 +1.0**
HKT pmax pmax
comp=Z,94nm,1.6s
HKT Hockley 15.56 351 *e*Pn **Pn** **20 28 44.9 +1.0**
comp=Z,94nm,1.6s
CCCC Cccc 16.05 63 *e*P **Pn** **20 28 58.4 +8.2**
JCT Junction City 17.03 340 *e*P **Pn** **20 29 02.1 -0.3**
JCT pmax pmax
comp=Z,73nm,1.0s
JCT Junction City 17.03 340 *e*Pn **Pn** **20 29 02.1 -0.3**
comp=Z,73nm,1.0s
JCT *e*Sn **Sn** **20 31 56.9 -14**
NATX Nacogdoches 17.22 356 *e*Pn **Pn** **20 29 05.8 +1.1**
comp=Z,52nm,0.8s
NATX *e*Sn **Sn** **20 32 03.0 -12**
BRAL Brewton 17.33 18 P **Pn** **20 29 09.8 +3.6**
DWPF Disney 17.34 37 *e*Pn **Pn** **20 29 05.1 -1.3**
comp=Z,83nm,0.9s
TXAR Lajitas Array 17.67 328 P **Pn** **20 29 11.0 +0.6**
comp=Z,1.0nm,0.3s,baz=152,slow=12,SNR=78
TXAR LR LR 20 36 49.7
comp=Z,500nm,18.3s,baz=265,slow=40
TXAR Lajitas Array 17.67 328 P **Pn** **20 29 11.0 +0.6**
TXAR pmax pmax
comp=Z,1.0nm,0.3s
TXAR MLR MLR
comp=Z,500nm,18.3s
TXAR Lajitas Array 17.67 328 P **Pn** **20 29 11.0 +0.6**
TXAR LR LR 20 36 49.7
LPIG La Paz 18.79 303 P **Pn** **20 29 25.6 +1.6**
comp=Z,19nm,0.3s,baz=182,slow=4.4,SNR=3.4
LRAL Lakeview Retre 19.25 16 *e*P **Pn** **20 29 31.2 +1.7**
comp=Z,51nm,0.9s
LRAL *e*S **S** **20 32 49.7 -14**
MIAR Mount Ida 19.94 359 *e*P **Pn** **20 29 33.8 -3.8**
MIAR *e*S **S** **20 33 02.7 -14**
MIAR pmax pmax
comp=Z,109nm,1.0s
MIAR Mount Ida 19.94 359 *e*P **Pn** **20 29 33.8 -3.7**
comp=Z,109nm,1.0s
MIAR *e*S **S** **20 33 02.7 -14**
UALR University of 20.18 2 *e*P **P** **20 29 37.8 -0.3**
comp=Z,32nm,0.8s
UALR *e*S **S** **20 33 10.5 -11**
OXF Oxford 20.18 9 *e*P **P** **20 29 35.0 -3.2**
OXF *e*S **S** **20 33 12.2 -10**
OXF pmax pmax
comp=Z,112nm,1.1s
OXF Oxford 20.18 9 *e*P **P** **20 29 35.0 -3.1**
comp=Z,112nm,1.1s
OXF *e*S **S** **20 33 12.2 -10**
OTAV Otavalo 20.30 133 *e*P **P** **20 29 38.5 -1.1**
comp=Z,17nm,1.4s
GOGA Godfrey 20.75 23 *e*P **P** **20 29 43.8 -0.5**
GOGA pmax pmax
comp=Z,30nm,0.9s
GOGA Godfrey 20.75 23 *e*P **P** **20 29 43.8 -0.4**
comp=Z,30nm,0.9s
ROSC El Rosal 20.85 116 P **P** **20 29 48.0 +2.5**
comp=Z,56nm,0.9s,baz=102,slow=9.3,SNR=32
ROSC El Rosal 20.85 116 *e*P **P** **20 29 48.4 +2.9**
CHI2 21.46 115 *e*P Px 20 26 36.4
SWET Sewanee 21.60 16 *e*P **P** **20 29 50.4 -3.0**
AMTX Amarillo 21.69 341 *e*P **P** **20 29 53.8 -0.6**
comp=Z,146nm,0.6s,mb5.6
GLAT Glass 21.93 8 P **P** **20 29 56.9 0.0**
NHSC New Hope 21.93 30 *e*P **P** **20 29 56.6 -0.3**
comp=Z,58nm,0.8s,mb5.1
WVT Waverly 22.04 11 *e*P **P** **20 29 55.1 -2.9**
WVT pmax pmax
comp=Z,20nm,0.8s,mb4.6
WVT Waverly 22.04 11 *e*P **P** **20 29 55.1 -3.0**
comp=Z,20nm,0.8s,mb4.6
PARMO Parma 22.26 7 *e*P **P** **20 30 01.3 +1.0**
JSC Jenkinsville 22.41 27 *e*P **P** **20 30 01.5 -0.5**
TKL Tuckaleechee C 22.66 20 P **P** **20 30 03.9 -0.8**
comp=Z,7.4nm,1.0s,mb4.1,baz=193,slow=12,SNR=1.5
TKL Tuckaleechee C 22.66 20 P **P** **20 30 03.9 -0.8**
TKL pmax pmax
comp=Z,7.0nm,1.0s,mb4.0
SDV Santo Domingo 22.71 102 P **P** **20 30 03.4 -2.1**
comp=Z,24nm,0.6s,mb4.8,baz=317,slow=4.4,SNR=33
SDV Santo Domingo 22.71 102 *e*P **P** **20 30 04.3 -1.1**
comp=Z,32nm,0.8s,mb4.8
BNM Barren Site 23.05 330 *e*P **P** **20 30 09.6 +0.8**
LPM Los Pinos Moun 23.18 331 *e*P **P** **20 30 10.0 -0.2**
LENM Lemitar 23.23 330 *e*P **P** **20 30 12.6 +1.9**
SIUC Southern Illin 23.36 8 *e*P **P** **20 30 10.3 -1.5**
comp=Z,38nm,0.7s,mb4.9
LAZ Ladron 23.50 330 *e*P **P** **20 30 14.9 +1.8**
CCM Cathedral Cave 23.50 4 *e*P **P** **20 30 10.8 -2.3**
CCM *e* 20 33 57.4
CCM pmax pmax
comp=Z,36nm,1.0s,mb4.8
CCM Cathedral Cave 23.50 4 *e*P **P** **20 30 10.8 -2.3**
comp=Z,36nm,1.0s,mb4.8
CCM *e*PcP PcP 20 33 57.4 -0.1
TZTN Tazewell 23.54 20 *e*P **P** **20 30 13.3 -0.2**
comp=Z,45nm,0.8s,mb5.0
ANMO Albuquerque 23.63 332 P **P** **20 30 14.5 +0.2**
comp=Z,11nm,0.7s,mb4.4,baz=148,slow=12,SNR=27
ANMO LR LR 20 40 37.0
comp=Z,365nm,19.9s,MS3.8,baz=155,slow=40
ANMO Albuquerque 23.63 332 P **P** **20 30 14.5 +0.2**
ANMO pmax pmax
comp=Z,11nm,0.7s
ANMO MLR MLR
comp=Z,365nm,20.0s
ANMO Albuquerque 23.63 332 *e*P **P** **20 30 14.3 0.0**
comp=Z,22nm,0.8s,mb4.6
USIN University of 23.85 11 P **P** **20 30 15.2 -1.1**
comp=Z,59nm,1.2s,mb4.9
TUC Tucson 23.94 321 *e*P **P** **20 30 17.2 0.0**
TUC pmax pmax
comp=Z,40nm,0.8s,mb4.9
TUC Tucson 23.94 321 *e*P **P** **20 30 17.2 0.0**
comp=Z,40nm,0.8s,mb4.9
WCI Wyandotte Cave 24.38 13 *e*P **P** **20 30 19.2 -1.9**
WCI pmax pmax
comp=Z,19nm,0.8s,mb4.6
WCI Wyandotte Cave 24.38 13 *e*P **P** **20 30 19.2 -1.9**
comp=Z,19nm,0.8s,mb4.6
OLIL Olney 24.52 9 *e*P **P** **20 30 21.5 -0.9**
comp=Z,62nm,0.9s,mb5.1
KSU1 Kansas State U 24.68 353 *e*P **P** **20 30 22.4 -1.5**
comp=Z,33nm,0.8s,mb4.9
SDCO Great Sand Dun 25.61 337 *e*P **P** **20 30 32.8 +0.4**
comp=Z,8.9nm,0.7s,mb4.4
ATAH Atahualpa 25.90 145 P **P** **20 30 37.1 +2.0**
comp=Z,13nm,0.8s,mb4.5,baz=333,slow=9.1,SNR=7.8
ATAH LR LR 20 38 57.2
comp=Z,421nm,20.8s,MS4.0,baz=303,slow=32

MVCO Mesa Verde 26.42 332 P **P** **20 30 40.9 +1.2**
baz=26
WUAZ Wupatki 26.57 325 *e*P **P** **20 30 42.1 +1.1**
comp=Z,23nm,0.8s,mb4.8
GLA Glamis 27.01 317 ⇑ P **P** **20 30 45.7 +0.7**
baz=27
PV01 Paradox Valley 27.21 333 *e*P **P** **20 30 47.8 +1.0**
PDMCI Parker Dam,Lak 27.36 320 ⇓ P **P** **20 30 48.9 +0.8**
baz=28,SNR=6.4
OGNE Ogallala 27.45 345 *e*P **P** **20 30 49.9 +1.0**
comp=Z,30nm,0.9s,mb4.8
ISCO Idaho Springs 27.46 339 *e*P **P** **20 30 48.8 -0.2**
ISCO pmax pmax
comp=Z,6.0nm,0.8s,mb4.2
ISCO Idaho Springs 27.46 339 *e*P **P** **20 30 48.8 -0.2**
comp=Z,6.4nm,0.8s,mb4.2
SWSC Sam W. Stewart 27.59 316 ⇓ P **P** **20 30 51.2 +0.9**
baz=28
BC3 Big Chuckw Mtn 27.79 317 P **P** **20 30 52.8 +0.8**
baz=28,SNR=18
IRM Iron Mountain 27.91 318 P **P** **20 30 53.8 +0.7**
baz=28,SNR=8.0
PCRV Puerto La Cruz 28.15 96 LR LR 20 42 53.7
comp=Z,567nm,20.8s,MS4.1,baz=95,slow=38
BELC Belle Mtn. 28.36 317 ⇑ P **P** **20 30 58.0 +1.0**
baz=28
PFO Pinyon Flat Ob 28.43 316 P **P** **20 30 58.2 +0.5**
comp=Z,5.4nm,0.9s,mb4.2,baz=140,slow=10,SNR=4.7
PFO LR LR 20 44 01.2
comp=Z,497nm,18.6s,MS4.1,baz=132,slow=40
PFO Pinyon Flat Ob 28.43 316 P **P** **20 30 58.3 +0.6**
PFO pmax pmax
comp=Z,5.0nm,0.9s,mb4.1
PFO MLR MLR
comp=Z,497nm,18.6s,MS4.1
PFO Pinyon Flat Ob 28.43 316 ⇓ P **P** **20 30 58.2 +0.5**
baz=29
GMRC Granite Mounta 28.62 319 ⇓ P **P** **20 31 00.2 +0.8**
baz=29
SRU San Rafael 28.89 331 *e*P **P** **20 31 00.5 -1.3**
SRU pmax pmax
comp=Z,3.0nm,0.8s,mb4.1
SRU San Rafael 28.89 331 ⇓ P **P** **20 31 02.7 +1.0**
baz=29
SRU San Rafael 28.89 331 *e*P **P** **20 31 00.5 -1.2**
comp=Z,2.8nm,0.8s,mb4.0
MURC Murrieta 28.93 315 ⇑ P **P** **20 31 03.5 +1.3**
baz=29
CCUT Cedar City 29.14 326 *e*P **P** **20 31 05.8 +1.8**
TUQ Turquoise Moun 29.21 320 ⇑ P **P** **20 31 05.8 +1.2**
baz=29
MSU Marysvale 29.23 328 *e*P **P** **20 31 07.4 +2.6**
ECSD EROS,Sioux Fal 29.27 355 *e*P **P** **20 31 01.8 -3.2**
comp=Z,9.0nm,0.8s,mb4.5
ARUT Antelope Range 29.36 326 *e*P **P** **20 31 06.5 +0.6**
TMUT Trail Mountain 29.36 331 *e*P **P** **20 31 06.4 +0.4**
BFSC Mount Baldy St 29.61 316 ⇓ P **P** **20 31 09.6 +1.5**
baz=30
RWWY Rawlins 29.70 338 *e*P **P** **20 31 10.9 +2.1**
comp=Z,33nm,0.9s,mb5.1
EDW2 Edwards Air Fo 30.20 317 ⇑ P **P** **20 31 14.4 +0.9**
baz=30
TPNV Topopah Spring 30.39 322 ⇑ P **P** **20 31 16.2 +1.1**
baz=30,SNR=5.8
MPMC Manual Prospec 30.59 319 P **P** **20 31 17.6 +0.8**
baz=31,SNR=8.9
ARVC Arvin 30.91 316 ⇑ P **P** **20 31 20.6 +1.0**
baz=31
GRAC Grapevine Rang 31.10 320 ⇑ P **P** **20 31 22.7 +1.4**
baz=31
HWUT Hardware Ranch 31.37 333 *e*P **P** **20 31 23.6 0.0**
comp=Z,6.6nm,0.8s,mb4.5
HWUT *e*PcP PcP 20 34 15.8 -0.6
PKM Peak Mountain 31.45 315 ⇑ P **P** **20 31 25.4 +0.9**
baz=32
BW06 Boulder Array 31.50 337 ⇑ P **P** **20 31 25.7 +0.9**
baz=32
PDAR Pinedale Array 31.50 337 P **P** **20 31 24.4 -0.4**
comp=Z,2.2nm,0.7s,mb4.1,baz=131,slow=8.9,SNR=16
PDAR PcP PcP 20 34 16.3 -0.5
comp=Z,0.8nm,0.6s,baz=127,slow=5.8,SNR=3.2
PDAR LR LR 20 45 54.9
comp=Z,427nm,18.1s,MS4.2,baz=322,slow=40
BGU Big Grassy Mou 31.51 330 *e*P **P** **20 31 25.3 +0.5**
BGU *e*PcP PcP 20 34 15.5 -1.2
N14A Grayback Hills 31.52 330 ⇑ P **P** **20 31 25.6 +0.6**
baz=32
SPUT South Promonto 31.53 332 *e*P **P** **20 31 25.9 +0.9**
M15A Larsen Ranch, 31.66 332 P **P** **20 31 27.0 +0.9**
baz=32
RCTC Rector, Farmer 31.87 318 ⇑ P **P** **20 31 29.2 +1.1**
baz=32
HVU Hansel Valley 32.05 332 *e*P **P** **20 31 30.1 +0.5**
HVU pmax pmax
comp=Z,9.0nm,0.7s,mb4.7
HVU Hansel Valley 32.05 332 *e*P **P** **20 31 30.1 +0.5**
comp=Z,8.6nm,0.7s,mb4.7
L15A Malad City 32.06 332 P **P** **20 31 30.4 +0.7**
baz=32
M14A Sheep Mountain 32.10 331 P **P** **20 31 31.2 +1.1**
baz=32
AHID Auburn Hatcher 32.12 335 *e*P **P** **20 31 31.7 +1.5**
comp=Z,19nm,1.0s,mb4.9
N12A Clover Valley, 32.45 328 P **P** **20 31 34.1 +1.1**
baz=33
ELK Elko 32.47 328 *e*P **P** **20 31 34.1 +0.8**
ELK pmax pmax
comp=Z,9.0nm,0.8s
ELK Elko 32.47 328 *e*P **P** **20 31 34.1 +0.8**
comp=Z,8.9nm,0.8s,mb4.7
REDW Red Top Meadow 32.52 336 *e*P **P** **20 31 34.0 +0.3**
comp=Z,43nm,0.9s,mb5.4
PKD Parkfield 32.52 316 ⇑ P **P** **20 31 34.3 +0.5**
baz=33
KCC Kaiser Creek 32.52 319 P **P** **20 31 34.7 +0.9**
baz=33,SNR=11
SNOW Snow King Moun 32.56 336 *e*P **P** **20 31 34.1 +0.1**
comp=Z,68nm,0.8s,mb5.6
NVAR Mina Array Bea 32.59 322 P **P** **20 31 35.6 +1.2**
comp=Z,19nm,0.8s,mb5.1,baz=137,slow=8.4,SNR=98
NVAR PcP PcP 20 34 19.5 -0.3
comp=Z,4.0nm,0.8s,baz=135,slow=3.4,SNR=8.3
NVAR Mina Array Bea 32.59 322 P **P** **20 31 35.6 +1.2**
NVAR PcP PcP 20 34 19.5 -0.3
LOHW Long Hollow 32.63 336 *e*P **P** **20 31 34.9 +0.3**
comp=Z,13nm,0.8s,mb4.9
TPAW Teton Pass 32.66 336 *e*P **P** **20 31 35.2 +0.2**
comp=Z,18nm,0.9s,mb5.0
RRI2 Red Ridge 32.69 335 *e*P **P** **20 31 36.3 +1.1**
comp=Z,32nm,1.3s,mb5.1
MOOW Moose Ponds 32.80 336 *e*P **P** **20 31 36.6 +0.5**
comp=Z,11nm,0.8s,mb4.8
K14A Jones Ranch, D 32.84 332 P **P** **20 31 37.1 +0.6**
baz=33
IMW Indian Meadow 33.00 336 *e*P **P** **20 31 38.4 +0.6**
comp=Z,9.3nm,0.7s,mb4.8
I16A Newdale 33.20 335 P **P** **20 31 40.7 +1.0**
baz=33
J15A Blackfoot 33.20 334 P **P** **20 31 40.5 +0.9**
baz=33
BMN Battle Mountai 33.30 325 *e*P **P** **20 31 42.0 +1.4**
BMN pmax pmax
comp=Z,14nm,0.8s,mb4.9
BMN Battle Mountai 33.30 325 *e*P **P** **20 31 42.0 +1.4**
comp=Z,14nm,0.8s,mb5.0
YFT Old Faithful 33.42 337 *e*P **P** **20 31 42.9 +1.3**
RLMT Red Lodge 33.43 339 ⇑ P **P** **20 31 42.4 +0.8**
baz=34
RLMT Red Lodge 33.43 339 *e*P **P** **20 31 41.3 -0.3**
comp=Z,8.4nm,0.7s,mb4.8
CMB Columbia Colle 33.63 319 P **P** **20 31 39.0 -4.4**
CMB pmax pmax
comp=Z,5.0nm,0.7s,mb4.5
CMB Columbia Colle 33.63 319 P **P** **20 31 39.0 -4.4**
comp=Z,4.5nm,0.7s,mb4.5
YMR Madison River 33.66 337 *e*P **P** **20 31 44.7 +1.1**
comp=Z,17nm,0.8s,mb5.0
AGMN Agassiz Refuge 33.75 357 *e*P **P** **20 31 42.4 -2.0**
comp=Z,9.9nm,0.8s,mb4.8
J13A Cove Ranch, Pi 33.97 332 P **P** **20 31 47.3 +1.0**
baz=34
QLMT Earthquake Lak 33.97 336 *e*P **P** **20 31 48.2 +1.9**
PAHR Pah Rah Range 34.05 322 *e*P **P** **20 31 47.9 +0.8**
comp=Z,11nm,1.0s,mb4.7
GCMT Greycliff 34.15 339 *e*P **P** **20 31 48.0 +0.1**
HLID Hailey 34.20 332 ⇑ P **P** **20 31 49.3 +1.0**
baz=34,SNR=15

HLID Hailey 34.20 332 *e*P **P** **20 31 48.7 +0.3**
comp=Z,8.9nm,0.8s,mb4.8
HLID *e*PcP PcP 20 34 25.2 +1.0
MCMT McKenzie Canyo 34.54 335 *e*P **P** **20 31 53.0 +1.8**
BEKR Beckwourth 34.73 322 ⇓ P **P** **20 31 54.0 +1.0**
baz=35,SNR=7.2
MFID Camas Ranch 34.75 330 P **P** **20 31 53.9 +0.8**
baz=35
DLMT Dillon 34.87 336 *e*P **P** **20 31 54.7 +0.6**
comp=Z,17nm,0.8s,mb5.0
DGMT Dagmar 35.07 347 ⇓ P **P** **20 31 55.9 +0.1**
baz=35
ORV Oroville 35.23 320 ⇑ P **P** **20 31 58.5 +1.2**
baz=35
WVOR Wild Horse Val 35.46 327 *e*P **P** **20 31 59.6 +0.4**
WVOR *e* 20 34 27.7
WVOR pmax pmax
comp=Z,15nm,0.9s,mb4.9
WVOR Wild Horse Val 35.46 327 *e*P **P** **20 31 59.6 +0.4**
comp=Z,15nm,0.9s,mb4.9
WVOR *e*PcP PcP 20 34 27.6 -0.2
M06C Likely Place G 35.65 324 P **P** **20 32 01.2 +0.3**
baz=36
ULM Lac du Bonnet 35.70 357 P **P** **20 31 59.3 -1.9**
comp=Z,8.6nm,0.9s,mb4.7,baz=177,slow=9.2,SNR=7.2
ULM PcP PcP 20 34 27.8 -0.6
comp=Z,5.0nm,0.8s,baz=102,slow=2.7,SNR=3.2
ULM LR LR 20 50 36.9
comp=Z,210nm,19.6s,MS3.9,baz=255,slow=43
ULM Lac du Bonnet 35.70 357 *e*P **P** **20 31 58.3 -2.9**
comp=Z,7.4nm,0.9s,mb4.6
HRY Holter Researc 35.71 338 *e*P **P** **20 32 01.8 +0.5**
MOD Modoc 36.01 325 P **P** **20 32 04.7 +0.8**
baz=36,SNR=6.7
MOD Modoc 36.01 325 *e*P **P** **20 32 03.9 0.0**
comp=Z,10nm,0.8s,mb4.8
EGMT Eagleton 36.14 341 P **P** **20 32 06.0 +1.1**
baz=36,SNR=7.5
EGMT Eagleton 36.14 341 *e*P **P** **20 32 05.1 +0.2**
comp=Z,25nm,0.9s,mb5.1
CHMT Chamberlain Mo 36.41 337 *e*P **P** **20 32 07.3 0.0**
BMO Blue Mountains 36.53 331 *e*P **P** **20 32 08.5 +0.2**
comp=Z,5.8nm,1.0s,mb4.4
MSO Missoula 36.61 336 *e*P **P** **20 32 09.1 +0.1**
comp=Z,7.2nm,0.8s,mb4.5
M02C Callahan 37.17 322 P **P** **20 32 13.2 -0.6**
baz=37
YBH Yreka Blue Hor 37.29 322 LR LR 20 49 40.4
comp=Z,1µm,18.1s,MS4.7,baz=148,slow=40
YBH Yreka Blue Hor 37.29 322 ⇑ P **P** **20 32 14.5 -0.3**
baz=37
H04A Detroit Lake 38.88 326 P **P** **20 32 28.3 +0.1**
baz=39
F06A Goldendale 38.89 329 ⇑ P **P** **20 32 28.8 +0.6**
baz=39
HOOD Mount Hood Mea 39.02 328 *e*P **P** **20 32 30.3 +1.0**
comp=Z,51nm,0.9s,mb5.2
OD2 Odessa Site #2 39.08 332 *e*P **P** **20 32 29.8 +0.1**
LPAZ La Paz 39.33 140 P **P** **20 32 31.6 -0.5**
comp=Z,2.2nm,0.7s,mb4.0,baz=332,slow=9.2,SNR=12
LPAZ LR LR 20 47 41.2
comp=Z,245nm,21.9s,MS4.0,baz=116,slow=35
LPAZ La Paz 39.33 140 P **P** **20 32 31.7 -0.5**
LPAZ pmax pmax
comp=Z,2.0nm,0.7s
LPAZ MLR MLR
comp=Z,245nm,21.9s
LPAZ La Paz 39.33 140 *e*P **P** **20 32 31.4 -0.8**
comp=Z,2.6nm,0.8s,mb4.0
LON Longmire 40.08 329 *e*P **P** **20 32 38.4 +0.2**
LON pmax pmax
comp=Z,20nm,0.7s,mb5.0
LON Longmire 40.08 329 *e*P **P** **20 32 38.4 +0.2**
comp=Z,20nm,0.7s,mb5.0
EDM Edmonton 41.80 342 *e*P **P** **20 32 51.4 -0.8**
YKA Yellowknife Ar 50.28 347 P **P** **20 33 58.0 -0.7**
comp=Z,22nm,0.8s,mb5.3,baz=153,slow=7.3,SNR=57
YKA Yellowknife Ar 50.28 347 P **P** **20 33 58.0 -0.7**
YKA pmax pmax
comp=Z,22nm,0.8s
YKA Yellowknife Ar 50.28 347 P **P** **20 33 58.0 -0.7**
DLBC Dease Lake 51.74 336 *e*P **P** **20 34 11.6 +1.8**
TAOE Nuku Hiva Isla 52.10 246 *e*LR LR 20 49 05.2
comp=Z,1µm,26.9s
BDFB Brasilia 53.72 122 P **P** **20 34 24.0 -1.0**
comp=Z,6.6nm,0.8s,mb4.6,baz=274,slow=13,SNR=9.7
BDFB Brasilia 53.72 122 P **P** **20 34 24.0 -1.0**
BDFB pmax pmax
comp=Z,7.0nm,0.8s
RKT Rikitea 55.47 228 *e*S **S** **20 42 32.1 +13**
comp=Z,166nm,32.2s
RKT *e*LR LR 20 50 59.9
comp=Z,567nm,27.5s
PLCA Paso Flores 58.83 160 P **P** **20 35 00.7 -0.3**
comp=Z,3.4nm,0.8s,mb4.4,baz=318,slow=2.8,SNR=5.6
PLCA Paso Flores 58.83 160 P **P** **20 35 00.7 -0.3**
PLCA pmax pmax
comp=Z,3.0nm,0.8s
KDAK Kodiak Island 61.70 328 LR LR 21 03 09.6
comp=Z,225nm,21.7s,MS4.3,baz=112,slow=37
MCK McKinley 62.27 335 *e*P **P** **20 35 23.0 -1.2**
MCK pmax pmax
comp=Z,17nm,0.9s,mb5.2
MCK McKinley 62.27 335 *e*P **P** **20 35 23.0 -1.1**
comp=Z,18nm,0.9s,mb5.2
COLA College 62.35 337 *e*P **P** **20 35 24.2 -0.5**
COLA pmax pmax
comp=Z,8.0nm,0.6s,mb5.0
COLA College 62.35 337 *e*P **P** **20 35 24.2 -0.5**
comp=Z,7.6nm,0.6s,mb5.0
TRF Thorofare Moun 62.71 335 *e*P **P** **20 35 26.7 -0.4**
comp=Z,26nm,0.9s,mb5.3
KTH Kantishna Hill 63.01 335 *e*P **P** **20 35 28.3 -0.8**
comp=Z,17nm,0.8s,mb5.2
BPAW Bear Paw Mtn. 63.25 335 *e*P **P** **20 35 29.6 -1.0**
comp=Z,14nm,0.8s,mb5.2
PPT Papeete 64.17 242 *e*S **S** **20 44 25.7 +15**
comp=Z,118nm,25.0s
PPT Papeete 64.17 242 *e*LR LR 20 54 29.5
comp=Z,292nm,26.8s
SVW2 Sparrevohn 64.19 331 *e*P **P** **20 35 36.1 -0.8**
TBI Tubuai 66.72 236 *e*S S 20 44 52.8 +11
comp=Z,119nm,28.0s
TBI Tubuai 66.72 236 *e*LR LR 20 56 07.5
comp=Z,264nm,28.2s
EVO Evora 77.33 53 *e*P **P** **20 36 54.8 -2.4**
comp=Z,20nm,1.0s,mb4.7
EVO *e*MLR MLR
comp=Z,257nm,22.2s,MS4.2
ESDC Sonseca Array 80.25 52 P **P** **20 37 10.6 -2.6**
comp=Z,3.7nm,0.8s,mb4.4,baz=293,slow=5.8,SNR=19
BILL Bilibino 80.57 338 *c i*P **P** **20 37 15.0 +0.6**
BILL *e* 20 40 17.8
BILL pmax pmax
comp=Z,21nm,1.0s,mb5.0
BILL Bilibino 80.57 338 *e*P **P** **20 37 14.5 +0.1**
comp=Z,11nm,0.8s,mb4.8
GRR Gorron 80.78 42 *e*P **P** **20 37 14.1 -1.8**
LDF La Druitiere 81.22 42 *e*P **P** **20 37 16.5 -1.7**
comp=Z,22nm,1.0s,mb4.8
LDF La Druitiere 81.22 42 *e*P **P** **20 37 16.5 -1.7**
LDF pmax pmax
comp=Z,11nm,1.0s,mb4.7
LDF La Druitiere 81.22 42 *e*P **P** **20 37 16.5 -1.7**
comp=Z,11nm,1.0s,mb4.8
SJPF Ste Jean 81.59 48 *e*P **P** **20 37 19.0 -1.3**
MFF Saint Martin d 81.62 44 *e*P **P** **20 37 18.4 -2.0**
ETSF Etsaut 82.12 48 *e*P **P** **20 37 21.1 -2.0**
comp=Z,14nm,1.0s,mb4.5
ETSF Etsaut 82.12 48 *e*P **P** **20 37 21.1 -2.0**
ETSF pmax pmax
comp=Z,7.0nm,1.0s,mb4.5
ETSF Etsaut 82.12 48 *e*P **P** **20 37 21.1 -2.0**
comp=Z,7.2nm,1.0s,mb4.6
LFF La Frestale 82.58 46 *e*P **P** **20 37 23.7 -1.8**
comp=Z,7.2nm,0.7s,mb4.5
LFF La Frestale 82.58 46 *e*P **P** **20 37 23.7 -1.8**
LFF pmax pmax
comp=Z,4.0nm,0.7s,mb4.6
LFF La Frestale 82.58 46 *e*P **P** **20 37 23.7 -1.8**
comp=Z,3.6nm,0.7s,mb4.5
EPF Esparros 82.73 48 *e*P **P** **20 37 24.7 -1.6**
comp=Z,11nm,1.1s,mb4.5
EPF Esparros 82.73 48 *e*P **P** **20 37 24.7 -1.6**
EPF pmax pmax
comp=Z,5.0nm,1.1s,mb4.5
EPF Esparros 82.73 48 *e*P **P** **20 37 24.7 -1.6**

comp=Z,5.3nm,1.1s,mb4.5
TCF Toulx Ste Croi 83.28 44 *e*P **P 20 37 27.1 -1.9**
CAF Calviac 83.50 45 *e*P **P 20 37 28.5 -1.7**
BAIF Baives 83.64 40 *e*P **P 20 37 30.5 -0.3**
BGF Bois d'Agland 83.64 44 *e*P **P 20 37 28.9 -2.0**
comp=Z,12nm,0.9s,mb4.7
BGF Bois d'Agland 83.64 44 *e*P **P 20 37 28.9 -2.0**
BGF pmax pmax
comp=Z,6.0nm,0.9s,mb4.7
BGF Bois d'Agland 83.64 44 *e*P **P 20 37 28.9 -2.0**
comp=Z,6.0nm,0.9s,mb4.7
AVF Avril sur Loir 83.92 43 *e*P **P 20 37 30.9 -1.4**
comp=Z,17nm,1.2s,mb4.8
AVF Avril sur Loir 83.92 43 *e*P **P 20 37 30.9 -1.4**
AVF pmax pmax
comp=Z,8.0nm,1.2s,mb4.7
AVF Avril sur Loir 83.92 43 *e*P **P 20 37 30.9 -1.4**
comp=Z,8.4nm,1.2s,mb4.8
SSF Saint Saulge 83.95 43 *e*P **P 20 37 30.5 -2.0**
comp=Z,13nm,1.0s,mb4.7
SSF Saint Saulge 83.95 43 *e*P **P 20 37 30.5 -2.0**
SSF pmax pmax
comp=Z,6.0nm,1.0s,mb4.7
SSF Saint Saulge 83.95 43 *e*P **P 20 37 30.5 -2.0**
comp=Z,6.3nm,1.0s,mb4.7
MTLF Montolieu 83.99 47 *e*P **P 20 37 30.5 -2.3**
comp=Z,9.4nm,1.1s,mb4.5
MTLF Montolieu 83.99 47 *e*P **P 20 37 30.5 -2.3**
MTLF pmax pmax
comp=Z,5.0nm,1.1s,mb4.6
MTLF Montolieu 83.99 47 *e*P **P 20 37 30.5 -2.3**
comp=Z,4.7nm,1.1s,mb4.5
LOR Lormes 84.13 43 *e*P **P 20 37 30.8 -2.6**
comp=Z,23nm,1.3s,mb4.8
LOR *e*MLR MLR
comp=Z,230nm,22.8s,MS4.2
LOR Lormes 84.13 43 *e*P **P 20 37 30.8 -2.6**
LOR pmax pmax
comp=Z,12nm,1.3s,mb4.9
LOR MLR MLR
comp=Z,230nm,22.8s,MS4.5
LOR Lormes 84.13 43 *e*P **P 20 37 30.8 -2.6**
comp=Z,12nm,1.3s,mb4.8
LOR LR LR
comp=Z,230nm,22.8s,MS4.5
NB2 NORSAR Subarra 84.21 28 P **P 20 37 33.5 0.0**
comp=Z,2.0nm,0.8s,mb4.3,baz=290,slow=5.3
NOA NORSAR Array B 84.21 28 P **P 20 37 32.4 -1.0**
comp=Z,2.9nm,0.8s,mb4.5,baz=291,slow=5.2,SNR=7.9
NOA NORSAR Array B 84.21 28 P **P 20 37 32.4 -1.1**
NOA pmax pmax
comp=Z,3.0nm,0.8s
NOA NORSAR Array B 84.21 28 P **P 20 37 32.4 -1.0**
HAU Haudompre 85.55 42 *e*P **P 20 37 39.1 -1.4**
comp=Z,9.4nm,0.7s,mb4.8
HAU *e*MLR MLR
comp=Z,218nm,22.2s,MS4.2
HAU Haudompre 85.55 42 *e*P **P 20 37 39.1 -1.4**
HAU pmax pmax
comp=Z,5.0nm,0.7s,mb4.8
HAU MLR MLR
comp=Z,220nm,22.3s,MS4.5
HAU Haudompre 85.55 42 *e*P **P 20 37 39.1 -1.4**
comp=Z,4.7nm,0.7s,mb4.8
HAU LR LR
comp=Z,220nm,22.3s,MS4.5
ARCES ARCESS Array B 85.98 18 P **P 20 37 41.7 -0.5**
comp=Z,6.9nm,0.7s,mb5.0,baz=289,slow=3.7,SNR=19
ARCES ARCESS Array B 85.98 18 P **P 20 37 41.7 -0.5**
ARCES pmax pmax
comp=Z,7.0nm,0.7s
CDF Champ du Feu 86.02 41 *e*P **P 20 37 43.1 +0.3**
comp=Z,7.2nm,0.8s,mb4.7
CDF Champ du Feu 86.02 41 *e*P **P 20 37 43.1 +0.3**
CDF pmax pmax
comp=Z,4.0nm,0.8s,mb4.7
CDF Champ du Feu 86.02 41 *e*P **P 20 37 43.1 +0.3**
comp=Z,3.6nm,0.8s,mb4.7
ORIF Oris-en-Rattie 86.12 45 *e*P **P 20 37 42.5 -0.9**
ORIF *e*MLR MLR
comp=Z,206nm,21.5s,MS4.2
TIC Toumodi 86.53 84 *e*P **P 20 37 45.6 -0.4**
comp=Z,75nm,1.0s,mb5.9
TIC Toumodi 86.53 84 *e*P **P 20 37 45.6 -0.4**
TIC pmax pmax
comp=Z,75nm,1.0s,mb5.9
LIC Lamto 86.63 84⇑ *i*P **P 20 37 46.6 +0.1**
comp=Z,29nm,0.9s,mb5.2
LIC *e*MLR MLR
comp=Z,189nm,23.0s,MS4.1
LIC Lamto 86.63 84 *e*P **P 20 37 46.4 -0.1**
comp=Z,43nm,0.9s,mb5.7
LIC Lamto 86.63 84⇑ *i*P **P 20 37 46.6 +0.1**
comp=Z,14nm,0.9s,mb5.2
LIC LR LR
comp=Z,90nm,23.0s,MS4.1
DBIC Dimbokro 86.68 84 P **P 20 37 46.0 -0.7**
comp=Z,6.8nm,0.7s,mb5.2,baz=277,slow=3.2,SNR=8.9
DBIC Dimbokro 86.68 84 P **P 20 37 46.0 -0.8**
DBIC pmax pmax
comp=Z,7.0nm,0.7s
MBDF Montbardon 86.78 45 *e*P **P 20 37 45.9 -0.7**
comp=Z,6.7nm,0.8s,mb4.6
MBDF Montbardon 86.78 45 *e*P **P 20 37 45.9 -0.7**
MBDF pmax pmax
comp=Z,3.0nm,0.8s,mb4.6
MBDF Montbardon 86.78 45 *e*P **P 20 37 45.9 -0.7**
comp=Z,3.3nm,0.8s,mb4.6
KIC Kosan Boka 86.87 84 *e*P **P 20 37 47.8 +0.1**
comp=Z,58nm,0.8s,mb5.9
LMR La Mourre 87.01 46 *e*P **P 20 37 45.1 -2.7**
comp=Z,20nm,1.0s,mb5.0
LMR La Mourre 87.01 46 *e*P **P 20 37 45.1 -2.7**
LMR pmax pmax
comp=Z,10.0nm,1.0s,mb5.0
LMR La Mourre 87.01 46 *e*P **P 20 37 45.1 -2.7**
comp=Z,10nm,1.0s,mb5.0
PGF Pioggiola 88.99 46 *e*P **P 20 37 56.1 -1.1**
BRG Berggiesshubel 89.27 37 P **P 20 37 59.7 +1.3**
BRG pmax pmax
comp=Z,3.0nm,1.0s,mb4.6
BRG Berggiesshubel 89.27 37 *e*(P) **P 20 37 59.7 +1.3**
comp=Z,4.2nm,1.0s,mb4.7
TIXI Tiksi 89.52 348*c i*P **P 20 37 58.6 -0.5**
TIXI pmax pmax
comp=Z,9.0nm,0.6s,mb5.3
TIXI Tiksi 89.52 348 *e*P **P 20 37 57.6 -1.5**
comp=Z,12nm,0.8s,mb5.3
GERES GERESS Array B 89.89 39 P **P 20 37 59.6 -1.7**
comp=Z,0.9nm,0.8s,mb4.2,baz=298,slow=2.9,SNR=9.1
GERES GERESS Array B 89.89 39 P **P 20 37 59.6 -1.7**
GERES pmax pmax
comp=Z,1.0nm,0.8s
TORD Torodi Ar. Bea 91.31 76 P **P 20 38 06.5 -2.1**
comp=Z,0.9nm,0.6s,mb4.2,baz=284,slow=4.9,SNR=16
TAM Tamanrasset 92.20 66 *e*P **P 20 38 13.5 +0.9**
KURK Kurchatov 114.64 6 PKIKP PKiKP 20 43 41.5 -0.8
comp=Z,1.8nm,0.7s,baz=348,slow=2.0,SNR=14
KURK Kurchatov 114.64 6 PKIKP PKiKP 20 43 41.6 -0.8
KURK pmax pmax
comp=Z,2.0nm,0.7s
KSRS Korea Array 115.49 325 PKP PKPdf 20 43 44.3 -0.1
comp=Z,0.8nm,0.7s,baz=54,slow=1.9,SNR=2.7
MK31 Makanchi Array 118.83 4 *e*PKIKP PKPdf 20 43 48.6 -1.9
MKAR Makanchi Array 118.83 4 PKIP PKPdf 20 43 48.3 -2.3
comp=Z,1.2nm,0.6s,baz=358,slow=2.0,SNR=14
MKAR Makanchi Array 118.83 4 PKIKP PKPdf 20 43 48.3 -2.2
MKAR pmax pmax
comp=Z,1.0nm,0.6s
HHC Hu-ho-hao-te 120.34 338 *e*PKP PKPdf 20 43 49.4 -4.2
HHC PP PP 20 45 19.3 +0.3
HHC PKS 20 47 25.1
HHC PP PP
comp=Z,67nm,9.0s
HHC LR LR
comp=N,113nm,21.0s,MS4.7
HHC LR LR
comp=E,107nm,18.9s,MS4.7
HHC LR LR
comp=Z,75nm,20.6s,MS4.3
BOSA Boshof 121.56 115 PKP PKPdf 20 43 56.5 +0.3
comp=Z,6.8nm,0.8s,baz=217,slow=5.1,SNR=2.9
BOSA Boshof 121.56 115 PKIKP PKPdf 20 43 56.6 +0.4
BOSA pmax pmax
comp=Z,7.0nm,0.8s
WMQ Urumqi 121.94 359 *e*PKP PKPdf 20 43 51.9 -4.7
WMQ PP PP 20 45 30.9 +1.4
WMQ LR LR
comp=N,47nm,20.5s,MS5.0
WMQ LR LR
comp=E,362nm,24.6s,MS5.0
WMQ LR LR
comp=Z,120nm,27.4s,MS4.4
AML Almayashu 122.34 12 *e*PKPdf PKPdf 20 43 58.1 +0.7
UCH Uchtor 122.40 11 *e*PKPdf PKPdf 20 43 58.1 +0.5
MAW Mawson 124.69 169 PKP PKPdf 20 43 59.0 -2.0
comp=Z,2.0nm,0.8s,baz=155,slow=3.6,SNR=6.2
MAW Mawson 124.69 169 PKIKP PKPdf 20 43 59.0 -2.1
MAW pmax pmax
comp=Z,2.0nm,0.8s
XAN Xi'an 127.34 337 PKP PKPdf 20 44 06.9 -0.4
XAN XPKP 20 44 18.8
STKA Stephens Creek 127.36 241 PKP PKPdf 20 44 06.1 -1.2
comp=Z,1.0nm,0.5s,baz=139,slow=3.9,SNR=6.4
STKA Stephens Creek 127.36 241 PKP PKPdf 20 44 06.1 -1.2
CD2 Chengdu 132.00 340 *e*PKP PKPdf 20 44 11.8 -4.4
CD2 XPKP 20 44 32.0
CD2 PP PP 20 46 37.5 +1.1
CD2 PKS 20 47 46.8
CD2 PP PP
comp=Z,90nm,10.2s
CD2 LR LR
comp=N,150nm,18.4s
CD2 LR LR
comp=Z,180nm,16.8s,MS4.8
WRA Warramunga Arr 134.46 256 PKhKP 20 44 09.6
comp=Z,0.3nm,0.7s,baz=90,slow=3.5,SNR=5.7
WRA PKP PKPdf 20 44 19.6 -1.5
comp=Z,3.0nm,0.7s,baz=86,slow=2.2,SNR=44
WRA Warramunga Arr 134.46 256 PKHKP 20 44 09.6
WRA 20 44 19.6
WRA pmax pmax
comp=Z,3.0nm,0.7s
ASAR Alice Springs 134.81 251 PKP PKPdf 20 44 20.8 -0.8
comp=Z,1.6nm,0.7s,baz=102,slow=2.0,SNR=13
ASAR Alice Springs 134.81 251 PKIKP PKPdf 20 44 20.8 -0.8
ASAR pmax pmax
comp=Z,2.0nm,0.7s
GYA Guiyang 134.95 335 *e*PDIF Pdif 20 41 20.8 -1.9
GYA PKP PKPdf 20 44 20.6 -1.3
GYA PP PP 20 46 58.9 +3.6
GYA PP PP
comp=Z,110nm,7.6s
LSA Lhasa 135.85 355 PKP PKPdf 20 44 22.6 -0.9
LSA Lhasa 135.85 355 *e*PKPdf PKPdf 20 44 24.5 +1.1
KMI Kunming 137.67 338 PKP PKPdf 20 44 25.5 -1.4
CHTO Chiang Mai 144.81 340 *e*PKIKP PKPdf 20 44 36.8 -3.1
CMAR Chiang Mai Arr 145.14 340 PKP PKPdf 20 44 39.4 -1.1
comp=Z,17nm,0.9s,baz=339,slow=3.5,SNR=82
CMAR Chiang Mai Arr 145.14 340 PKIKP PKPdf 20 44 39.4 -1.1
CMAR pmax pmax
comp=Z,17nm,0.9s
HYB Hyderabad 147.22 15 *i* PKP PKPdf 20 44 45.5 +1.5
HYB Hyderabad 147.22 15 *e*P PKPdf 20 44 45.5 +1.5

ISCJB **16** *20:38:02.9±0.4, 5322N×005×159.15E×008, h118km±3km, mb3.7/9, Error ellipse: s-maj=10.1km s-min=4.8km az=41.5*
KRSC **16** *20:38:02.8±0.8, 5323N×159 25E, h109km±19km, ML4.6*
MOS **16** *20:38:02.5±0.8, 5327N×15898E, h115km, mb3.8/7, Error ellipse: s-maj=22.8km s-min=10.2km az=81.2*
IDC **16** *20:38:04.3±0.8, 5339N×15888E, h116km±8km, mb3.5/8, mb1 3.7/8, mb1mx3.4/24, mbtmp3.5/8, Error ellipse: s-maj=28.7km s-min=18.3km az=176.0*
NEIC **16** *20:38:04.2±0.6, 5342N×15894E, h114km±7km, Error ellipse: s-maj=18.8km s-min=12.4km az=188.0*
ISC 16 20:38:04.0±0.4, 5322N±005×15914E±008, h114km±3km, n42, σ0≤84/53, mb3.7/9, 1D, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
NLC	**Nalytchevo**	**0.14**	**112**	*e*P		**Pn**	**20 38 19.2**	**-0.4**
NLC				*i* S		**Sn**	**20 38 30.9**	**-0.5**
AVH	**Avacha**	**0.24**	**280**	*e*P		**Pn**	**20 38 19.9**	**0.0**
AVH				*i* S		**Sn**	**20 38 32.2**	**+0.3**
PET	**Petropavlovsk**	**0.35**	**236**	*e*P		**Pn**	**20 38 20.2**	**-0.2**
PET				*i* S		**Sn**	**20 38 32.2**	**-0.5**
PET	**Petropavlovsk**	**0.35**	**236**	*e*Pn		**Pn**	**20 38 19.9**	**-0.4**
PET				*e*Sn		**Sn**	**20 38 31.5**	**-1.2**
SPN	**Mys Shipunski**	**0.55**	**103**	*e*P		**Pn**	**20 38 20.8**	**-0.7**
SPN				*i* S		**Sn**	**20 38 33.3**	**-1.4**
GNL	**Ganaly**	**0.86**	**304**	*e*P		**Pn**	**20 38 23.7**	**-0.3**
PEA0B	**Petropavlovsk-**	**0.87**	**263**	*e*Pn		**Pn**	**20 38 24.5**	**+0.3**
PEA0B				*e*Sn		**Sn**	**20 38 39.1**	**-0.4**
PETK	**Petropavlovsk-** 69nm,0.3s,baz=80,slow=16,SNR=990	**0.87**	**263**	P		**Pn**	**20 38 24.4**	**+0.2**
PETK				S		**Sn**	**20 38 39.3**	**-0.1**
RUS	**Russkaya**	**0.88**	**206**	*e*P		**Pn**	**20 38 24.4**	**+0.2**
RUS				*i* S		**Sn**	**20 38 39.6**	**+0.1**
GRL	**Gorelyy**	**0.93**	**224**	*e*P		**Pn**	**20 38 26.0**	**+1.2**
MIPR	**Malaya Ipel'ka**	**1.73**	**238**	P		**Pn**	**20 38 35.4**	**+1.7**
MKZ	**Mys Kozlova**	**2.04**	**48**	P		**Pn**	**20 38 36.6**	**-0.9**
MKZ				*i* S		**Sn**	**20 39 01.8**	**-1.4**
TUMR	**Tumrok**	**2.15**	**16**	*e*P		**Pn**	**20 38 39.4**	**+0.5**
KMNR	**Kamenistaya**	**2.62**	**14**	*e*P		**Pn**	**20 38 45.5**	**+0.5**
KPT	**Kopyto**	**2.82**	**12**	*e*P		**Pn**	**20 38 47.9**	**+0.3**
BZMR	**Bezymyannaya**	**2.83**	**16**	*e*P		**Pn**	**20 38 48.6**	**+0.8**
BZWR	**Bezymyannyi-We**	**2.86**	**16**	*e*P		**Pn**	**20 38 49.1**	**+1.0**
KOZ	**Kozyrevsk**	**2.87**	**8**	*e*P		**Pn**	**20 38 48.5**	**+0.2**
KOZR	**Kozyr**	**2.88**	**8**	PN		**Pn**	**20 38 48.5**	**0.0**
ZLN	**Zelenaya**	**2.96**	**18**	P		**Pn**	**20 38 50.9**	**+1.4**
KRSR	**Krestovskiy**	**3.11**	**15**	*e*P		**Pn**	**20 38 51.6**	**+0.1**
SKR	**Severo-Kuril's**	**3.15**	**217**	*e*PN		**Pn**	**20 38 52.6**	**+0.5**
SKR				*e*S		**Sn**	**20 39 29.5**	**+0.3**
SKR	comp=Z,80nm,0.5s			pmax	pmax			
SKR	comp=N,80nm,0.5s			smax				
SKR	comp=E,60nm,0.5s			smax				
SKR	comp=Z,80nm,0.5s			smax				
KLY	**Klyuchi**	**3.22**	**15**	P		**Pn**	**20 38 53.7**	**+0.8**
KBTR	**Krutoberegovo**	**3.68**	**34**	*e*P		**Pn**	**20 38 59.8**	**+0.9**
KBTR				*i* S		**Sn**	**20 39 42.3**	**+0.8**
YAK	**Yakutsk**	**17.92**	**311**⇓	*e*P		**Pn**	**20 42 04.0**	**-1.5**
YAK	**Yakutsk**	**17.92**	**311**	P		**Pn**	**20 42 01.6**	**-3.8**
TIXI	**Tiksi**	**22.72**	**336**	*i* P		**P**	**20 42 54.7**	**-1.2**
TIXI	comp=Z,3.0nm,0.9s,mb3.6			pmax	pmax			
YKA	**Yellowknife Ar** comp=Z,0.5nm,0.7s,mb3.4,baz=71,slow=10,SNR=3.5	**43.46**	**42**	P		**P**	**20 45 55.1**	**0.0**
YKA	**Yellowknife Ar**	**43.46**	**42**	P		**P**	**20 45 55.1**	**0.0**
YKA	comp=Z,1.0nm,0.7s			pmax	pmax			
SPITS	**Spitsbergen Ar** comp=Z,4.4nm,0.6s,mb4.4,baz=25,slow=10,SNR=4.8	**46.91**	**350**	P		**P**	**20 46 20.9**	**-1.3**
SPITS	**Spitsbergen Ar**	**46.91**	**350**	P		**P**	**20 46 20.9**	**-1.3**
SPITS	comp=Z,4.0nm,0.6s			pmax	pmax			
KURK	**Kurchatov** comp=Z,2.2nm,0.5s,mb4.2,baz=60,slow=7.6,SNR=19	**47.17**	**301**	P		**P**	**20 46 23.8**	**-0.8**
KURK	**Kurchatov**	**47.17**	**301**	P		**P**	**20 46 23.8**	**-0.8**
KURK	comp=Z,2.0nm,0.5s,mb4.1			pmax	pmax			
MKAR	**Makanchi Array** comp=Z,0.6nm,0.4s,mb3.8,baz=51,slow=7.1,SNR=6.4	**47.58**	**295**	P		**P**	**20 46 26.2**	**-1.6**
MKAR	**Makanchi Array**	**47.58**	**295**	*e*P		**P**	**20 46 26.9**	**-0.9**
MKAR	comp=Z,1.0nm,0.4s			pmax	pmax			
BVAR	**Borovoye Array** comp=Z,1.0nm,0.5s,mb4.0,baz=60,slow=7.8,SNR=8.7	**49.86**	**308**	P		**P**	**20 46 43.2**	**-1.8**
BVAR	**Borovoye Array**	**49.86**	**308**	P		**P**	**20 46 43.2**	**-1.9**
BVAR	comp=Z,1.0nm,0.5s			pmax	pmax			
PDAR	**Pinedale Array** comp=Z,0.6nm,0.6s,mb3.8,baz=318,slow=2.0,SNR=4.3	**57.96**	**60**	P		**P**	**20 47 44.6**	**+0.5**
TXAR	**Lajitas Array** comp=Z,0.6nm,0.8s,mb3.5,baz=309,slow=4.9,SNR=7.1	**71.12**	**66**	P		**P**	**20 49 10.4**	**+0.6**
TXAR	**Lajitas Array**	**71.12**	**66**	*e*P		**P**	**20 49 10.4**	**+0.5**
TXAR	comp=Z,1.0nm,0.8s			pmax	pmax			
WRA	**Warramunga Arr** comp=Z,0.3nm,0.9s,mb3.0,baz=18,slow=5.9,SNR=4.5	**75.96**	**204**	P		**P**	**20 49 39.0**	**+0.9**
WRA	**Warramunga Arr**	**75.96**	**204**	*e*P		**P**	**20 49 39.8**	**+1.7**

ORF **16** *21:04:44.1, 2850S×17764W, h30km, mb6.4*
MOS **16** *21:05:39.0±0.8, 2550S×17957E, h463km, mb6.2/35, MS5.5/12, Error ellipse: s-maj=7.9km s-min=6.1km az=57.2*
SZGRF **16** *21:05:39.7, 2544S×17977W, h472km, South of Fiji Islands*
BJI **16** *21:05:41.5, 2527S×17982E, h492km, mB6.3, mb5.7*
ISCJB **16** *21:05:42.2±0.1, 2568S±002×17946E±002, h499km, mb6.0/115, Error ellipse: s-maj=3.3km s-min=2.1km az=38.5*
IDC **16** *21:05:42.3±0.4, 2558S×17957E, h493km±3km, mb5.4/19, mb1 5.5/22, mb1mx5.5/22, mbtmp5.4/22, Error ellipse: s-maj=7.9km s-min=6.1km az=175.0*
BGS **16** *21:05:43.2±4.2, 2778S×17953E, h509km, mb6.2(NEIC)*
GCMT **16** *21:05:43.3±0.1, 2570S×17972E, h512km, MW6.6/118, Moment Tensor Solution. s118,c316; s103,c206; Duration: 48 Moment tensor: Scale 1019Nm; Mrr0.26±.00; Mθθ-0.46±.01; Mφφ0.19±.01; Mrθ-0.18±.01; Mrφ-0.50±.01; Mθφ-0.73±.01; Best double couple: M0 0.98400×1019 NP1:φs100.00000°, δ38.00000°, λ164.00000°. NP2:φs203.00000°, δ80.00000°, λ53.00000°. Principal axes: T 0.9930, Plg43.0000°, Azm77.0000°; N -0.0180, Plg37.0000°, Azm210.0000°; P -0.9750, Plg26.0000°, Azm321.0000°; nsta1 refers to body waves, cutoff=50s. nsta2 refers to mantle waves, cutoff=125s.*
NEIC **16** *21:05:43.3±0.1, 2578S×17953E, mb6.2/84, ME6.2, MW6.5 Error ellipse: s-maj=4.0km s-min=2.4km az=120.0, Moment Tensor Solution. s36 Moment tensor: Scale 1018Nm; Mrr1.78; Mθθ-1.07; Mφφ-0.70; Mrθ-0.77; Mrφ-2.42; Mθr-5.95; Best double couple: M06.70000×1018 NP1:φs191.00000°, δ82.00000°, λ69.00000°. NP2: φs81.00000°, δ22.00000°, λ158.00000°. Principal axes: T 6.7300, Plg48.0000°, Azm78.0000°; N -0.1600, Plg20.0000°, Azm194.0000°; P -6.5700, Plg33.0000°, Azm298.0000°; Depth from broadband displacement seismograms. Energy computed from CMT mechanism.*
NEIC Felt in the southern part of the North Island, New Zealand.
DJA **16** *21:05:45, 2545S×17958E, h540km, Mw6.4/21*
IGIL **16** *21:05:48.3, 2562S×17942E, h549km, MS6.0*
ISC 16 21:05:43.2±0.1, 2575S±002×17950E±002, h501km, h501km±1.4km; pP-P, n1657, σ0≤81/892, mb6.0/113, 434C-350D, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
OUZ	**Omahuta**	**10.73**	**207**	P		**P**	**21 08 12.5**	**+4.4**
OUZ				S		**S**	**21 10 15.7**	**+8.3**
WCZ	**Waipu Caves**	**11.09**	**202**	*e*P		**P**	**21 08 16.1**	**+4.3**
KUZ	**Kuaotunu**	**11.43**	**196**	*e*P		**P**	**21 08 18.4**	**+2.9**
MXZ	**Matakaoa Point**	**11.83**	**185**	P		**P**	**21 08 19.1**	**-0.6**
OTAZ	**Otara**	**11.83**	**198**	P		**P**	**21 08 23.6**	**+3.8**
WIZ	**White Island**	**11.91**	**189**	P		**P**	**21 08 22.2**	**+1.6**
MKAZ	**Moumakai**	**11.92**	**197**	P		**P**	**21 08 23.6**	**+2.9**
WTAZ	**Waiatarua**	**11.92**	**199**	*e*P		**P**	**21 08 24.2**	**+3.5**
PUZ	**Puketiti**	**12.34**	**185**	P		**P**	**21 08 24.2**	**-0.9**
NORM	**Noumea**	**12.40**	**284**	*e*P		**P**	**21 08 28.3**	**+2.2**
TOZ	**Tahuroa Road**	**12.42**	**195**	P		**P**	**21 08 29.0**	**+3.0**
DZM	**Mont Dzumac**	**12.49**	**284**	*e*P		**P**	**21 08 28.8**	**+1.8**
DZM	**Mont Dzumac**	**12.49**	**284**	*i*P		**P**	**21 08 30.9**	**+2.9**
NOUC	**Port Laguerre**	**12.60**	**284**	*e*P		**P**	**21 08 30.9**	**+2.7**
URZ	**Urewera** 170nm,0.3s,baz=16,slow=3.4,SNR=226	**12.64**	**189**	P		**P**	**21 08 28.0**	**-0.3**
URZ				S		**S**	**21 10 43.0**	**-1.4**
URZ	214nm,0.3s,baz=82,slow=22,SNR=13			P3KPbc			21 43 43.7	
URZ	8.5nm,0.3s,baz=106,slow=5.4,SNR=20 **Urewera**	**12.64**	**189**	P		**P**	**21 08 26.2**	**-2.1**
MWZ	**Matawai**	**12.66**	**187**	P		**P**	**21 08 27.3**	**-1.2**
HIZ	**Hauiti**	**13.32**	**196**	P		**P**	**21 08 38.9**	**+3.4**
KNZ	**Kokohu**	**13.33**	**186**	P		**P**	**21 08 34.6**	**-0.9**
KNZ				S		**S**	**21 10 54.8**	**-2.9**
BKZ	**Black Stump Fm**	**13.62**	**190**	P		**P**	**21 08 37.2**	**-1.5**
WTVZ	**West Tongariro**	**13.73**	**193**	*e*P		**P**	**21 08 38.4**	**-1.4**
FWVZ	**Far West T-bar**	**13.88**	**193**	P		**P**	**21 08 42.6**	**+1.3**
VRZ	**Vera Road**	**13.93**	**196**	P		**P**	**21 08 44.0**	**+2.1**
MOVZ	**Moawhango**	**13.98**	**192**	*e*P		**P**	**21 08 40.5**	**-2.0**
RAEZ	**Rainy Point**	**14.17**	**196**	P		**P**	**21 08 47.4**	**+3.0**
NEZ	**North Egmont**	**14.23**	**197**	*e*P		**P**	**21 08 49.0**	**+3.9**
AFI	**Afiamalu** 92nm,0.3s,baz=28,slow=2.0,SNR=92	**14.34**	**36**	P		**P**	**21 08 40.5**	**-6.1**
AFI				S		**S**	**21 11 04.7**	**-13**
AFI	242nm,0.3s,baz=54,slow=21,SNR=14 **Afiamalu**	**14.34**	**36**	P		**P**	**21 08 40.5**	**-6.1**
AFI				S		**S**	**21 11 04.7**	**-13**
AFI	comp=Z,92nm,0.3s			pmax	pmax			
AFI	comp=N,242nm,0.3s			smax				
WAZ	**Wanganui**	**14.48**	**194**	P		**P**	**21 08 47.3**	**-0.3**
TSZ	**Takapari Road**	**14.58**	**191**	P		**P**	**21 08 47.2**	**-1.5**
MRZ	**Mangatainoka R**	**15.23**	**191**	P		**P**	**21 08 52.8**	**-2.7**
KIW	**Kapiti Island**	**15.55**	**193**	P		**P**	**21 08 56.6**	**-2.3**
CAW	**Cannon Point**	**15.76**	**192**	P		**P**	**21 08 59.2**	**-1.8**
MRW	**Makara Radio**	**15.95**	**193**	P		**P**	**21 09 01.0**	**-2.0**
PAWZ	**Paruwai Farm**	**15.96**	**191**	*e*P		**P**	**21 09 00.9**	**-2.2**
WEL	**Wellington**	**15.99**	**193**	P		**P**	**21 09 03.7**	**+0.3**
MSWZ	**Moikau Station**	**16.02**	**192**	P		**P**	**21 09 01.0**	**-2.8**
SNZO	**South Karori**	**16.03**	**193**	P		**P**	**21 09 02.2**	**-1.6**
TCW	**Tory Channel**	**16.03**	**194**	*e*P		**P**	**21 09 01.6**	**-2.2**
BHW	**Baring Head**	**16.09**	**193**	*e*P		**P**	**21 09 02.0**	**-2.4**
QRZ	**Quartz Range**	**16.12**	**199**	P		**P**	**21 09 05.3**	**+0.5**
NNZ	**Nelson**	**16.25**	**197**	P		**P**	**21 09 04.9**	**-1.2**
BSWZ	**Blackbirch Sta**	**16.59**	**195**	*e*P		**P**	**21 09 08.5**	**-1.2**
THZ	**Tophouse**	**16.88**	**197**	P		**P**	**21 09 11.6**	**-1.1**
FUNA	**Funafuti** comp=N,2μm,0.9s	**17.13**	**359**⇓	*i*P		**P**	**21 09 10.4**	**-5.1**
FUNA				*e*S		**S**	**21 12 02.3**	**-6.8**
DSZ	**Denniston Nort**	**17.18**	**200**	P		**P**	**21 09 16.0**	**+0.3**
KHZ	**Kahutara**	**17.34**	**195**	P		**P**	**21 09 15.1**	**-2.1**
LTZ	**Lake Taylor**	**18.00**	**197**	P		**P**	**21 09 22.3**	**-1.0**
WVZ	**Waitaha Valley**	**18.72**	**200**	P		**P**	**21 09 29.5**	**-0.3**
MQZ	**McQueen's Vall**	**18.77**	**196**	P		**P**	**21 09 29.8**	**-0.5**
RPZ	**Rata Peaks** comp=N,47nm,0.3s,baz=343,slow=1.7,SNR=67	**19.21**	**199**	P		**P**	**21 09 33.6**	**-0.6**
RPZ				S		**S**	**21 12 40.1**	**-2.3**
RPZ	comp=N,16nm,0.3s,baz=108,slow=14,SNR=5.0 **Rata Peaks**	**19.21**	**199**	P		**P**	**21 09 33.9**	**-0.3**
FOZ	**Fox Glacier**	**19.50**	**202**	P		**P**	**21 09 36.2**	**-0.7**
RAR	**Rarotonga** comp=N,51nm,0.3s,baz=242,slow=7.3,SNR=112	**19.53**	**81**	P		**P**	**21 09 35.5**	**-2.0**
RAR	**Rarotonga**	**19.53**	**81**⇑	*i*P		**P**	**21 09 35.0**	**-2.6**
RAR				*e*S		**S**	**21 12 47.9**	**-0.4**
LBZ	**Lake Benmore**	**20.08**	**200**	P		**P**	**21 09 40.8**	**-1.4**
JCZ	**Jackson Bay**	**20.27**	**203**	P		**P**	**21 09 44.1**	**+0.2**
ODZ	**Otahua Downs**	**20.54**	**198**	P		**P**	**21 09 45.7**	**-0.7**
WKZ	**Wanaka**	**20.84**	**201**	P		**P**	**21 09 48.5**	**-0.6**
EAZ	**Earnscleugh**	**21.11**	**200**	P		**P**	**21 09 51.1**	**-0.4**
TUZ	**Tuapeka**	**21.66**	**199**	P		**P**	**21 09 56.9**	**+0.4**
HNR	**Honiara** comp=N,2μm,0.6s,mb6.8,baz=173,slow=3.2,SNR=212	**24.65**	**308**	P		**P**	**21 10 21.6**	**-2.1**
HNR				ScP		ScP	21 16 34.8	-0.8
HNR	comp=N,150nm,0.9s,baz=189,slow=9.2,SNR=5.0 **Honiara**	**24.65**	**308**	P		**P**	**21 10 21.6**	**-2.1**
ARMA	**Armidale**	**25.00**	**253**	*e*P		**P**	**21 10 29.9**	**+3.3**
ARMA				*e*S		**S**	**21 14 18.9**	**+4.3**
ARMA				*e*SCP		ScP	21 16 39.0	+2.7
ARMA				*e*SCS		ScS	21 20 30.1	+4.5
CNB	**Canberra Magne**	**27.57**	**243**⇓	*i*P		**P**	**21 10 52.3**	**+3.1**
CNB				*e*S		**S**	**21 15 01.9**	**+7.1**
CNB				*e*SCP		ScP	21 16 46.3	+2.4
CNB				*e*SCS		ScS	21 20 39.1	+2.3
CAN	**Canberra**	**27.86**	**243**⇓	*i*P		**P**	**21 10 54.3**	**+2.6**
CAN				*e*			21 12 18.0	
CAN				*e*S		**S**	**21 14 56.2**	**-3.2**
TBI	**Tubuai** comp=N,

PPT ScP ScP 21 16 51.5 +0.2
comp=N,853nm,1.1s,baz=148,slow=2.0,SNR=14
PPT SKKP 21 39 11.7
comp=N,65nm,0.4s,baz=30,slow=14,SNR=5.5
TVO Taravao 30.03 81⇑*i*P P 21 11 09.6 -1.2
comp=N,12µm,0.7s
TVO *e*ScP ScP 21 16 52.5 +0.5
comp=N,8µm,1.3s
CTA Charters Tower 31.08 274 *e*P **P 21 11 21.0 +1.1**
comp=N,738nm,0.8s,mb6.2
CTA *e*S **S 21 15 51.0 +1.4**
CTA *e*SCP ScP 21 16 58.7 +3.2
CTA *e*SS SS 21 18 44.8 -12
CTA *e*SCS ScS 21 20 57.7 +3.5
CTA Charters Tower 31.08 274 P **P 21 11 21.7 +1.8**
comp=N,900nm,0.8s,mb6.3,baz=98,slow=10,SNR=671
CTA pP 21 12 46.6
comp=N,76nm,0.6s,baz=102,slow=7.1,SNR=1.5
CTA S **S 21 15 51.4 +1.8**
comp=N,104nm,1.1s,baz=292,slow=14,SNR=11
CTA ScP ScP 21 16 57.7 +2.1
comp=N,171nm,0.8s,baz=123,slow=2.7,SNR=11
CTA P3KPbc 21 42 52.3
comp=N,18nm,0.8s,baz=295,slow=3.6,SNR=13
CTA Charters Tower 31.08 274 *e*P **P 21 11 21.0 +1.1**
CTA *e*S **S 21 15 51.0 +1.4**
CTA *e* 21 20 57.7
CTA pmax pmax
comp=Z,738nm,0.8s
CTAO Charters Tower 31.08 274⇓*i*P **P 21 11 21.7 +1.8**
CTAO *e**PP 21 12 45.5
CTAO *e*S **S 21 15 47.9 -1.7**
CTAO pmax pmax
comp=Z,963nm,0.8s,mb6.3
CTAO Charters Tower 31.08 274⇓*i*P **P 21 11 21.7 +1.8**
comp=Z,963nm,0.8s,mb6.3
CTAO *e*pP 21 12 45.5
CTAO *e*S **S 21 15 47.9 -1.7**
CTAO *e*ScP ScP 21 16 54.7 -0.8
TOO Toolangi 31.09 239⇓*i*P **P 21 11 22.4 +2.6**
TOO *e*PP PP 21 12 52.1 +5.5
TOO *e* 21 13 30.6
TOO *e*S **S 21 15 53.8 +4.4**
TOO *e*SCP ScP 21 16 57.3 +2.0
TOO *e*SCS ScS 21 20 54.6 +0.9
TOO Toolangi 31.09 239⇓*i*P **P 21 11 22.4 +2.6**
TOO *e* 21 12 52.1
TOO *e*S **S 21 15 53.8 +4.4**
TOO *e* 21 20 54.6
TAU Tasmania Unive 31.36 229⇓*e*P **P 21 11 23.0 +1.0**
TAU *e**PP 21 12 50.6
TAU Tasmania Unive 31.36 229⇓*e*P **P 21 11 23.0 +1.0**
TAU *e*pP 21 12 50.6
TAU *e*sP sP 21 13 49.8 +3.7
TAU *e*S **S 21 15 49.0 -4.4**
TAU *e*ScP ScP 21 16 50.7 -5.3
PMOR Pomariorio Ree 32.30 77⇑*i*P **P 21 11 28.8 -1.5**
comp=Z,3µm,1.1s,mb6.6
PMOR *e*ScP ScP 21 16 59.9 +0.2
comp=Z,1µm,1.3s
VAH Vaihoa 32.43 78⇑*i*P **P 21 11 29.8 -1.7**
comp=Z,4µm,1.2s,mb6.7
MCQ Macquarie Isla 32.49 202 *e*P **P 21 11 32.4 +1.0**
STKA Stephens Creek 33.65 251 *e*P **P 21 11 43.6 +1.9**
comp=Z,249nm,1.4s,mb5.5
STKA *e*PP PP 21 13 11.3 -2.5
STKA *e* 21 13 57.0
STKA *e*S **S 21 16 29.1 +0.5**
STKA *e*SCP ScP 21 17 06.6 +2.3
STKA *e*SS SS 21 19 33.9 +8.9
STKA *e*SCS ScS 21 21 09.8 +2.6
STKA Stephens Creek 33.65 251 P **P 21 11 43.6 +1.9**
comp=Z,123nm,0.5s,mb5.6,baz=90,slow=8.8,SNR=204
STKA pP 21 13 10.4
comp=Z,43nm,0.6s,baz=107,slow=5.7,SNR=1.3
STKA S **S 21 16 30.4 +1.8**
comp=Z,71nm,0.9s,baz=219,slow=22,SNR=3.3
STKA ScP ScP 21 17 04.9 +0.6
comp=Z,119nm,0.9s,baz=79,slow=6.4,SNR=6.7
STKA ScS ScS 21 21 09.3 +2.1
comp=Z,52nm,0.9s,baz=270,slow=22,SNR=26
STKA P3KPbc 21 42 39.5
comp=Z,7.9nm,0.7s,baz=272,slow=3.5,SNR=13
PMG Port Moresby 34.72 292⇓*i*P **P 21 11 51.0 +0.2**
PMG *e**PP 21 13 23.7
PMG *e*S **S 21 16 40.9 -4.1**
PMG Port Moresby 34.72 292⇓*i*P **P 21 11 51.0 +0.2**
PMG *e*pP 21 13 23.7
PMG *e*S **S 21 16 40.9 -4.2**
PMG *e*ScP ScP 21 17 10.3 +1.9
XMAS Kiritimati 35.51 42⇑*i*P **P 21 11 55.9 -1.5**
comp=Z,3µm,1.0s,mb6.7
XMAS *e*S **S 21 16 54.1 -2.9**
COEN Coen 36.01 282⇓*i*P **P 21 12 02.9 +1.3**
comp=Z,458nm,1.0s,mb5.9
COEN *e*pP pP 21 13 28.7 -1.0
COEN *e*PP PP 21 13 45.5 +6.5
COEN *e*S **S 21 17 04.2 -0.2**
ADE Adelaide 36.17 245⇓*i*P **P 21 12 04.7 +2.0**
ASAR Alice Springs 41.32 263 P **P 21 12 45.5 +0.8**
comp=Z,592nm,0.8s,mb6.0,baz=106,slow=8.2,SNR=1125
ASAR pP pP 21 14 15.8 +0.1
comp=Z,104nm,0.9s,baz=102,slow=8.6,SNR=2.2
ASAR ScP ScP 21 17 33.2 -0.3
comp=Z,89nm,0.8s,baz=112,slow=4.1,SNR=8.4
ASAR S **S 21 18 23.1 +0.6**
comp=Z,144nm,0.7s,baz=97,slow=17,SNR=15
ASAR ScS ScS 21 21 52.9 +1.0
comp=Z,19nm,0.8s,baz=102,slow=6.4,SNR=5.0
ASAR SKKP 21 38 56.4
comp=Z,0.4nm,0.4s,baz=89,slow=7.6,SNR=10
ASAR P3KPbc 21 42 06.7
comp=Z,2.6nm,0.5s,baz=286,slow=4.2,SNR=26
ASAR P3KP 21 43 54.5
comp=Z,2.5nm,1.0s,baz=211,slow=3.0,SNR=6.1
ASAR PKP2bc 21 45 23.0
comp=Z,3.6nm,1.0s,baz=274,slow=4.0,SNR=7.5
ASAR PKP2ab 21 45 59.3
comp=Z,4.9nm,1.1s,baz=293,slow=3.4,SNR=4.5
ASAR Alice Springs 41.32 263 P **P 21 12 45.5 +0.8**
ASAR *PP pP 21 14 15.8 +0.1
ASAR S **S 21 18 23.1 +0.6**
ASAR 21 21 52.9
ASAR pmax pmax
comp=Z,592nm,0.8s
ASAR pmax pmax
comp=Z,104nm,0.9s
ASAR pmax pmax
comp=N,89nm,0.8s
ASAR smax
comp=N,144nm,0.7s
ASAR pmax pmax
comp=N,19nm,0.8s
ASAR pmax pmax
comp=Z,3.0nm,0.5s
ASAR pmax pmax
comp=Z,3.0nm,1.0s
ASAR pmax pmax
comp=Z,4.0nm,1.0s
ASAR pmax pmax
comp=Z,5.0nm,1.1s
ASAR Alice Springs 41.32 263 P **P 21 12 45.5 +0.8**
ASAR pP pP 21 14 15.8 +0.1
ASAR ScP ScP 21 17 33.2 -0.3
ASAR S **S 21 18 23.1 +0.6**
ASAR ScS ScS 21 21 52.9 +1.0
ASAR SKKP 21 38 56.4
ASAR *e* 21 42 06.7
ASAR PKKKP 21 43 54.5
ASAR ⇑*e* 21 45 23.0
TAOE Nuku Hiva Isla 41.81 74⇑*i*P **P 21 12 47.7 -1.0**
comp=Z,24µm,1.0s
TAOE Nuku Hiva Isla 41.81 74⇑*i*P **P 21 12 47.5 -1.1**
WB2 Warramunga Arr 41.85 268⇓*i*P **P 21 12 49.1 +0.2**
WB2 *e*pP pP 21 14 17.8 -2.5
WB2 *e*sP sP 21 15 16.4 -0.5
WB2 *e*ScP ScP 21 17 35.1 -0.7
WB2 *e*S **S 21 18 29.4 -0.9**
WRAB Tennant Creek 41.86 268 *e*P **P 21 12 49.1 +0.1**
WRAB pmax pmax
comp=Z,520nm,0.8s,mb6.0
WRAB Tennant Creek 41.86 268⇓*i*P **P 21 12 49.4 +0.4**
comp=Z,520nm,0.8s,mb6.0
WRAB *e*pP pP 21 14 18.4 -2.0
WRAB *e*sP sP 21 15 13.6 -3.3
WRAB *e*ScP ScP 21 17 35.7 0.0
WRAB *e*S **S 21 18 31.0 +0.6**
WRA Warramunga Arr 41.87 268 P **P 21 12 49.2 +0.1**
comp=Z,538nm,0.8s,mb6.0,baz=104,slow=7.9,SNR=467
WRA pP pP 21 14 19.7 -0.7
comp=Z,32nm,0.5s,baz=106,slow=7.4,SNR=1.2
WRA PcP PcP 21 14 34.4 +1.0
comp=Z,66nm,0.9s,baz=105,slow=3.9,SNR=6.3
WRA ScP ScP 21 17 37.3 +1.5
comp=Z,158nm,0.8s,baz=105,slow=4.2,SNR=14
WRA S **S 21 18 30.2 -0.2**
comp=Z,234nm,0.8s,baz=99,slow=15,SNR=21
WRA ScS ScS 21 21 59.2 +3.9
comp=Z,4.3nm,0.8s,baz=110,slow=6.3,SNR=5.1
WRA SKKP 21 39 00.1
comp=Z,0.5nm,0.3s,baz=101,slow=6.1,SNR=13
WRA P3KPbc 21 42 04.8
comp=Z,2.2nm,0.4s,baz=295,slow=2.8,SNR=25
WRA PKP2bc 21 45 19.6
comp=Z,3.0nm,0.9s,baz=298,slow=3.3,SNR=6.5
WRA PKP2ab 21 46 00.6
comp=Z,11nm,1.3s,baz=287,slow=2.0,SNR=5.6
WRA Warramunga Arr 41.87 268 P **P 21 12 49.2 +0.2**
WRA *PP pP 21 14 19.7 -0.7
WRA 21 14 34.4
WRA S **S 21 18 30.2 -0.3**
WRA 21 21 59.2
WRA pmax pmax
comp=Z,538nm,0.8s
WRA pmax pmax
comp=Z,32nm,0.5s
WRA pmax pmax
comp=Z,66nm,0.9s
WRA pmax pmax
comp=N,158nm,0.9s
WRA smax
comp=N,234nm,0.9s
WRA pmax pmax
comp=N,4.0nm,0.8s
WRA pmax pmax
comp=N,1.0nm,0.3s
WRA pmax pmax
comp=Z,2.0nm,0.4s
WRA pmax pmax
comp=Z,3.0nm,1.0s
WRA pmax pmax
comp=Z,11nm,1.3s
WRA Warramunga Arr 41.87 268 P **P 21 12 49.1 +0.1**
WRA pP pP 21 14 19.7 -0.7
WRA PcP PcP 21 14 34.4 +1.0
WRA ScP ScP 21 17 37.3 +1.5
WRA S **S 21 18 30.2 -0.2**
WRA ScS ScS 21 21 59.2 +3.9
WRA SKKP 21 39 00.1
WRA *e* 21 42 04.8
WRA ⇑*e* 21 45 19.6
FORT Forrest 45.27 251 *e*P **P 21 13 14.7 -0.7**
comp=Z,377nm,0.6s,mb6.0
FORT *e*SCP ScP 21 17 51.4 +1.8
FORT *e*S **S 21 19 17.0 -1.7**
PTCN Pitcairn Islan 45.30 101⇑*i*P **P 21 13 15.8 +0.1**
PTCN *e*PcP PcP 21 14 46.3 +1.2
PTCN *e*ScP ScP 21 17 44.3 -5.5
KAKA Kakadu 46.06 277 *e*P **P 21 13 18.5 -3.1**
comp=Z,402nm,0.6s,mb6.0
KAKA *e*SCP ScP 21 17 53.0 -0.1
KAKA *e*S **S 21 19 25.8 -4.3**
DRV Dumont d'Urvil 47.66 200 P **P 21 13 42.0 +9.0**
DRV S **S 21 19 55.0 +4.0**
DRV SS ScS 21 22 33.0 +1.7
DRV L 21 25 00.0
FITZ Fitzroy Crossi 50.26 267 *e*P **P 21 13 53.8 +0.7**
comp=Z,573nm,1.2s,mb5.8
FITZ *e*PP pP 21 15 30.3 +1.2
FITZ *e*SCP ScP 21 18 13.3 +2.4
FITZ *e*S **S 21 20 28.5 +0.5**
FITZ *e*SCS ScS 21 22 52.0 +1.3
FITZ Fitzroy Crossi 50.26 267 P **P 21 13 53.9 +0.8**
comp=Z,87nm,0.5s,mb5.4,baz=113,slow=7.9,SNR=359
FITZ pP pP 21 15 26.9 -2.2
comp=Z,110nm,1.1s,baz=111,slow=11,SNR=2.5
FITZ ScP ScP 21 18 12.0 +1.1
comp=Z,76nm,0.9s,baz=126,slow=3.5,SNR=4.7
FITZ S **S 21 20 28.7 +0.7**
comp=Z,76nm,0.9s,baz=270,slow=20,SNR=13
FITZ PKP2bc 21 44 42.9
comp=Z,7.7nm,0.9s,baz=265,slow=8,SNR=13
KHU Kahuku 50.84 31⇑*i*P **P 21 13 55.8 -1.4**
KHU PcP PcP 21 14 55.5 -10
KHU *e*pP pP 21 15 43.0 +9.4
KKH Kailua Kona 51.02 30 *e*P **P 21 13 57.4 -1.0**
STCH Steam Cracks 51.19 31⇑*i*P **P 21 13 58.4 -1.3**
POHA Pohakuloa 51.33 31⇑*i*P **P 21 13 59.3 -1.4**
comp=Z,4µm,1.5s,mb6.5
POHA *e*PcP PcP 21 15 06.4 -0.6
POHA *e*ScP ScP 21 18 09.2 -6.1
POHA *e*S **S 21 20 51.0 +8.9**
GUMO Guam 51.63 315 P **P 21 14 01.7 -1.3**
comp=Z,744nm,0.8s,mb6.1,baz=181,slow=12,SNR=55
GUMO ScP ScP 21 18 17.0 +0.2
comp=Z,238nm,0.9s,baz=186,slow=8.7,SNR=6.5
GUMO Guam 51.63 315⇓*i*P **P 21 14 01.8 -1.2**
GUMO *e* 21 15 05.9
GUMO *e* 21 16 04.0
GUMO pmax pmax
comp=Z,790nm,0.8s,mb6.1
GUMO Guam 51.63 315⇓*i*P **P 21 14 01.8 -1.3**
comp=Z,790nm,0.8s,mb6.1
GUMO *e*PcP PcP 21 15 05.9 -2.4
GUMO *e*PP PP 21 16 04.0 -3.4
GUMO *e*S **S 21 20 36.0 -10**
HON Honolulu 51.63 27⇑*i*P **P 21 14 01.6 -1.3**
HON *e* 21 15 04.1
KIP Kipapa 51.72 27⇑*e*P **P 21 14 02.1 -1.4**
KIP *e* 21 15 05.4
KIP pmax pmax
comp=Z,2µm,1.7s,mb6.2
KIP Kipapa 51.72 27⇑*e*P **P 21 14 02.1 -1.3**
comp=Z,2µm,1.7s,mb6.2
KIP *e*PcP PcP 21 15 05.4 -3.1
HKL Haleakala 51.83 29 *e*P **P 21 14 04.2 -0.1**
SBA Scott Base 52.52 183⇓*i*P **P 21 14 11.2 +2.7**
SBA *e* 21 15 08.8
SBA *e*S **S 21 20 59.3 +2.7**
SBA Scott Base 52.52 183⇓*i*P **P 21 14 11.2 +2.7**
SBA *e*PcP PcP 21 15 08.8 -1.8
SBA *e*pP pP 21 15 49.4 +3.7
SBA *e*S **S 21 20 59.3 +2.7**
MIDW Midway 53.73 3 *e*P **P 21 14 15.9 -1.9**
comp=Z,324nm,0.8s,mb5.7
KLBR Kellerberrin 53.88 249 *e*P **P 21 14 19.2 +0.2**
comp=Z,480nm,0.7s,mb5.9
KLBR *e*PP pP 21 15 58.1 +1.3
KLBR *e*SCP ScP 21 18 27.9 +1.4
KLBR *e*S **S 21 21 14.6 -1.4**
KLBR *e*SCS ScS 21 23 12.6 -3.3
NWAO Narrogin (SRO) 54.08 247 pP pP 21 15 57.8 -0.6
comp=Z,29nm,0.9s,baz=84,slow=8.1,SNR=1.8
NWAO Narrogin (SRO) 54.08 247⇓*e*P **P 21 14 20.2 -0.2**
NWAO *e**PP pP 21 15 55.0 -3.3
NWAO Narrogin (SRO) 54.08 247⇓*e*P **P 21 14 20.2 -0.2**
NWAO *e*pP pP 21 15 55.0 -3.3
NWAO *e*sP sP 21 16 54.2 +1.2
NWAO *e*ScP ScP 21 18 28.6 +1.3
MBWA Marble Bar 54.63 261⇓*i*P **P 21 14 24.3 -0.2**
comp=Z,3µm,2.6s,mb6.2
MBWA *e*PcP PcP 21 15 19.0 -0.9
MBWA *e*pP pP 21 15 59.8 -2.9
MBWA ScP ScP 21 18 25.4 -4.5
BATI Baumata 54.93 276 pP pP 21 16 03.0 -2.1
comp=Z,229nm,0.8s,baz=152,slow=22,SNR=2.2
BATI ScP ScP 21 18 33.9 +2.5
comp=Z,297nm,0.8s,baz=184,slow=0.2,SNR=9.1
BATI PKPPKP 21 44 23.1
comp=Z,33nm,0.7s,baz=236,slow=2.3,SNR=9.5
MUN Mundaring 55.10 248 *e*P **P 21 14 27.8 +0.2**
MUN *e*PP pP 21 16 07.2 +1.2
MUN *e*SCP ScP 21 18 33.3 +1.4
MUN *e*S **S 21 21 32.0 -0.1**
MUN *e*SCS ScS 21 23 22.3 -2.4
CASY Casey 58.26 206 *e*P **P 21 14 49.5 +0.8**
CASY *e*PP pP 21 16 30.4 +1.7
CASY *e*S **S 21 22 11.5 -0.2**
CASY *e*SCS ScS 21 23 44.8 -1.8
KAPI Kappang 60.65 279 P **P 21 15 04.4 -1.2**
comp=Z,1µm,1.4s,mb6.2,SNR=68
KAPI Kappang 60.65 279⇓*i*P **P 21 15 04.1 -1.5**
KAPI *e*pP pP 21 16 46.4 -0.3
KAPI *e*ScP ScP 21 18 53.1 -3.6
BIPH Bislig 61.68 296⇓*i*P **P 21 15 09.8 -2.5**
DAV Davao City (W) 61.69 294⇓*i*P **P 21 15 10.1 -2.3**
CTBH Cotabato--PC H 62.87 294⇓*i*P **P 21 15 19.7 -0.4**
RPN Rapa Nui 62.91 109 P **P 21 15 21.5 +1.4**
comp=Z,8894µm,1.1s,baz=286,slow=4.2,SNR=27
RPN Rapa Nui 62.91 109 P **P 21 15 21.5 +1.4**
QSPA South Pole Qui 64.35 180 P **P 21 15 30.6 +2.2**
comp=Z,316nm,0.7s,mb6.0,baz=31,slow=1.6,SNR=1426
QSPA pP pP 21 17 10.9 -0.2
comp=Z,52nm,1.0s,baz=158,slow=3.7,SNR=1.0
QSPA S **S 21 23 28.9 +2.3**
comp=Z,64nm,1.1s,baz=165,slow=22,SNR=41
QSPA PKP2bc 21 44 14.1
comp=Z,13nm,1.0s,baz=219,slow=2.4,SNR=8.9
QSPA South Pole Qui 64.35 180 P **P 21 15 30.6 +2.2**
QSPA pP pP 21 17 10.9 -0.2
QSPA S **S 21 23 28.9 +2.3**
QSPA ⇑*e* 21 44 14.1
DCPH Dipolog City 64.36 294 *e*P **P 21 15 28.7 -0.9**
PLP Palo 64.50 298⇓*i*P **P 21 15 28.0 -2.4**
TBP Tagbilaran 64.56 296 *e*P **P 21 15 30.4 -0.5**
LLP Lapu-Lapu 64.83 296 *e*P **P 21 15 31.5 -1.0**
MIR Mirnyy 65.29 206⇑*i*P **P 21 15 36.0 +1.4**
MIR *e*PS 21 23 47.0
MIR pmax pmax
comp=Z,300nm,1.4s,mb5.7
RCP Roxas 66.52 297⇓*e*P **P 21 15 42.3 -0.8**
MYLDM Lahad Datu 66.63 288 ⇓P **P 21 15 44.6 +0.7**
TSM Tawau 66.72 287 ⇓P **P 21 15 44.6 +0.1**
SDKM Sandakan 67.98 288 ⇑P **P 21 15 51.8 -0.4**
PPR Puerto Princes 68.83 293⇓*i*P **P 21 15 56.9 -0.4**
KKM Kota Kinabalu 69.02 288 ⇓P **P 21 15 58.7 +0.2**
KKM Kota Kinabalu 69.02 288⇓*i*P **P 21 15 58.3 -0.2**
KKM *e*pP pP 21 17 40.2 -2.9
KKM *e*PP PP 21 18 34.0 -5.7
KKM *e*S S 21 24 22.1 -1.6
BTM Bintulu 70.35 284 ⇓P **P 21 16 06.9 +0.4**
SBUM Sibu 70.75 283 ⇑P **P 21 16 09.7 +0.8**
XMIS Christmas Isla 71.05 267⇓*i*P **P 21 16 10.8 +0.2**
XMIS PcP PcP 21 16 26.8 -0.5
XMIS *e*pP pP 21 17 52.7 -3.3
XMIS *e* 21 18 50.3
KSM Kuching 71.99 281 ⇓P **P 21 16 16.6 +0.4**
KSM Kuching 71.99 281⇓*i*P **P 21 16 16.0 -0.2**
KSM *e*pP pP 21 18 00.7 -1.2
KSM *e*PP PP 21 18 54.5 -10
KSM *e*S S 21 24 47.2 -10
MJAR Matsushiro Arr 73.17 326 P **P 21 16 21.3 -1.1**
comp=Z,137nm,0.8s,mb5.5,baz=162,slow=5.4,SNR=228
MJAR pP pP 21 18 04.9 -3.7
comp=Z,25nm,1.1s,baz=153,slow=3.8,SNR=3.2
MJAR S S 21 25 02.2 -7.4
comp=Z,5.0nm,1.1s,baz=94,slow=8.0,SNR=4.7
MJAR PKPPKP 21 43 56.5
comp=Z,8.9nm,1.3s,baz=328,slow=4.4,SNR=4.3
MJAR Matsushiro Arr 73.17 326 P **P 21 16 21.3 -1.1**
MJAR *PP pP 21 18 04.9 -3.7
MJAR S S 21 25 02.2 -7.4
MJAR pmax pmax
comp=Z,137nm,0.8s
MJAR pmax pmax
comp=Z,25nm,1.1s
MJAR smax
comp=N,5.0nm,1.2s
MJAR pmax pmax
comp=Z,9.0nm,1.3s
MAJO Matsushiro 73.17 326⇓*i*P **P 21 16 21.5 -0.9**
MAJO *e**PP pP 21 18 01.7 -6.9
MAJO *e**SP sP 21 19 08.0 +7.2
MAJO *e*S S 21 25 02.1 -7.5
MAT Matsushiro 73.17 326 P **P 21 16 21.5 -0.9**
MAT S S 21 25 08.2 -1.4
NACB Ninganchiao 74.83 307⇓*i*P **P 21 16 30.7 -1.4**
comp=Z,2µm,1.4s,mb6.4
NACB *e*pP pP 21 18 15.0 -3.9
NACB *e*sP sP 21 19 16.5 +5.5
YHNB Yeheng 75.29 307⇓*i*P **P 21 16 33.0 -1.7**
comp=Z,277nm,1.3s,mb5.6
YHNB *e*pP pP 21 18 19.7 -2.0
YHNB *e*sP sP 21 19 11.0 -2.7
YHNB *e*PP PP 21 19 31.8 -0.5
ERM Erimo 75.33 333*c i*P **P 21 16 35.2 +0.7**
ERM Erimo 75.33 333⇑*i*P **P 21 16 35.3 +0.8**
TATO Taipei 75.39 307⇓*i*P **P 21 16 33.8 -1.4**
TATO *e*pP pP 21 18 18.5 -3.8
TATO *e*sP sP 21 19 12.4 -1.9
MAW Mawson 75.87 201⇑*i*P **P 21 16 38.4 +1.2**
comp=Z,63nm,0.6s,mb5.3
MAW *e*PP pP 21 18 25.7 +1.4
MAW *e*S S 21 25 38.3 +0.1
MAW Mawson 75.87 201 P **P 21 16 38.5 +1.3**
comp=Z,68nm,0.6s,mb5.3,baz=121,slow=6.6,SNR=264
MAW pP pP 21 18 24.3 -0.1
comp=Z,51nm,0.9s,baz=108,slow=9.1,SNR=3.4
MAW Mawson 75.87 201⇑*i*P **P 21 16 38.3 +1.1**
MAW *PP pP 21 18 20.0 -4.3
MAW pmax pmax
comp=Z,18nm,1.3s
MAW Mawson 75.87 201⇑*i*P **P 21 16 38.3 +1.1**
comp=Z,18nm,1.3s
MAW *e*pP pP 21 18 20.0 -4.3
MAW *e*S S 21 25 32.0 -6.2
YUK Yuzh-Kuril'sk 75.98 336⇓*i*P **P 21 16 38.5 +0.5**
YUK *e* pP 21 18 23.5 -1.8
YUK *e*PPP 21 19 09.8
YUK *e* 21 21 22.0
YUK *i* S S 21 25 42.5 +2.7
YUK *e*PS 21 26 20.2
YUK pmax pmax
comp=Z,10µm,7.4s
YUK pmax pmax
comp=N,7µm,3.3s
YUK pmax pmax
comp=E,3µm,2.8s
YUK smax
comp=N,33µm,6.0s
YUK smax
comp=E,16µm,5.4s
AMKA Amchitka 76.78 360 *e*P **P 21 16 41.2 -1.1**
AMKA *e*pP pP 21 18 36.2 +6.3
ADK Adak 77.36 2⇓*e*P **P 21 16 44.0 -1.4**
ADK *e**PP pP 21 18 30.6 -2.6
ADK Adak 77.36 2⇓*e*P **P 21 16 44.0 -1.4**
ADK *e*pP pP 21 18 30.6 -2.7
ADK *e*sP sP 21 19 36.6 +12
PMSA Palmer Station 77.40 157⇑*i*P **P 21 16 46.4 +0.8**
comp=E,715nm,1.2s,mb6.1
PMSA *e*pP pP 21 18 32.4 -0.8
PMSA *e*sP sP 21 19 31.6 +6.2
QZH Quanzhou 77.47 306⇓*i*P **P 21 16 46.0 -0.7**
QZH AP pP 21 18 32.0 -2.5
QZH XP sP 21 19 26.0 -0.3
QZH S S 21 25 52.0 -4.6
QZH SCS ScS 21 26 14.6 -3.9
QZH XS sS 21 29 06.1 -2.6
QZH AMB AMB
comp=Z,11µm,4.4s
COCO West Island 78.28 262⇓*i*P **P 21 16 52.4 +1.1**
comp=Z,1µm,2.3s,mb6.0
COCO *e*pP pP 21 18 34.1 -5.2
COCO *e*sP sP 21 19 30.9 -0.2
SMY Shemya 78.28 357 *e*P **P 21 16 50.0 -0.4**
SMY pmax pmax
comp=Z,745nm,1.3s,mb6.0
SMY MLR MLR
comp=Z,2µm,18.0s
SMY Shemya 78.28 357 *e*P **P 21 16 50.0 -0.4**
comp=Z,745nm,1.3s,mb6.0
SMY *e*pP pP 21 18 37.9 -0.6
SMY LR LR
comp=Z,2µm,18.0s
SKR Severo-Kuril's 78.85 345 *e*P **P 21 16 51.0 -2.5**
SKR *e* 21 16 55.6
SKR *i* S S 21 26 08.0 -1.9
SKR pmax pmax
comp=Z,250nm,1.0s,mb5.7
SKR pmax pmax

comp=N,2µm,4.0s
SKR pmax pmax
comp=E,4µm,4.0s
SKR pmax pmax
comp=Z,4µm,4.0s
SKR pmax pmax
comp=Z,3µm,6.0s
SKR pmax pmax
comp=N,24µm,12.0s
SKR pmax pmax
comp=E,16µm,12.0s
SKR MLR MLR
comp=Z,3µm,18.0s
NIKO Nikolski 79.04 7 *eP* **P 21 16 53.3 -1.2**
comp=Z,451nm,0.8s,mb6.0
NIKO *epP* pP 21 18 45.6 +2.8
HKC Hong Kong Obse 79.30 301 ⇓*iP* **P 21 16 54.0 -2.6**
HKC *i* S S 21 26 10.0 -5.8
KSRS Korea Array 79.37 321 P **P 21 16 57.0 +0.4**
comp=Z,109nm,0.6s,mb5.5,baz=136,slow=5.7,SNR=193
KSRS pP pP 21 18 41.9 -3.1
comp=Z,2.8nm,0.6s,baz=309,slow=42,SNR=1.7
KSRS PP PP 21 20 09.2 +3.3
comp=Z,18nm,0.8s,baz=139,slow=7.8,SNR=5.4
KSRS Korea Array 79.37 321 P **P 21 16 57.0 +0.4**
KSRS *PP pP 21 18 41.9 -3.1
KSRS 21 20 09.2
KSRS pmax pmax
comp=Z,109nm,0.6s
KSRS pmax pmax
comp=Z,3.0nm,0.6s
KSRS pmax pmax
comp=Z,18nm,0.8s
SSE Sheshan 79.38 312 P **P 21 16 56.3 -0.5**
SSE AP pP 21 18 41.3 -3.9
SSE XP sP 21 19 32.3 -4.5
SSE S S 21 26 17.3 +1.0
SSE XS sS 21 29 23.6 -5.9
SSE SS SS 21 31 38.8 +0.7
SSE AMB AMB
comp=Z,116nm,1.1s,mb5.3
SSE AMB AMB
comp=Z,3µm,7.2s
KS15 Wonju Array Si 79.39 321 *eP* **P 21 16 57.0 +0.4**
YSS Yuzh-Sakhalins 79.61 335K *iP* **P 21 16 58.0 +0.4**
YSS *e**PP pP 21 18 44.8 -1.3
YSS *e* 21 20 03.0
YSS *i* S S 21 26 22.0 +4.1
YSS *e* 21 26 40.0
YSS pmax pmax
comp=Z,2µm,6.0s
YSS pmax pmax
comp=N,1µm,5.0s
YSS Yuzh-Sakhalins 79.61 335 ⇓*iP* **P 21 16 58.2 +0.6**
comp=N,2µm,2.0s,mb6.2
YSS PcP PcP 21 17 03.5 0.0
YSS *epP* pP 21 18 44.8 -1.3
YSS *esP* sP 21 19 34.6 -3.1
YSS *ePP* PP 21 20 04.5 -3.2
YSS *eS* S 21 26 17.0 -0.9
KTGM Kuala Trenggan 80.11 281 ⇑P **P 21 17 01.9 +0.9**
INCN Inchon 80.14 320 ⇓*iP* **P 21 17 00.8 +0.2**
INCN *epP* pP 21 18 45.5 -3.8
INCN *esP* sP 21 19 48.7 +7.9
INCN *ePP* PP 21 20 09.5 -2.7
UNV Unalaska Valle 80.18 8 *eP* **P 21 16 59.0 -1.5**
UNV *epP* pP 21 18 51.2 +2.1
GZH Guangzhou 80.37 301 P **P 21 17 02.6 +0.6**
GZH S S 21 26 24.0 -2.8
GZH AMB AMB
comp=Z,6µm,8.3s
PET Petropavlovsk 80.51 347K *iP* **P 21 17 01.0 -1.2**
PET *i* *PP pP 21 18 47.3 -3.7
PET *e**SP sP 21 19 31.8 -11
PET *e* 21 20 06.8
PET *i* S S 21 26 25.2 -1.7
PET *eSPP* 21 27 17.9
PET pmax pmax
comp=Z,3µm,6.1s
PET pmax pmax
comp=Z,184nm,0.9s,mb5.6
PET pmax pmax
comp=Z,2µm,13.7s
PET pmax pmax
comp=Z,2µm,3.6s
PET pmax pmax
comp=Z,2µm,9.9s
PET pmax pmax
comp=Z,1µm,19.1s
PET smax
comp=E,11µm,8.6s
PET smax
comp=E,11µm,18.4s
PET Petropavlovsk 80.51 347 ⇓*iP* **P 21 17 00.7 -1.4**
comp=E,1µm,2.1s,mb6.0
PET *e*PcP PcP 21 17 07.1 -0.2
PET *epP* pP 21 18 44.0 -7.1
PET *esP* sP 21 19 46.6 +4.1
PET *ePP* PP 21 20 09.4 -5.6
AKUT Akutan 80.56 9 *eP* **P 21 17 01.1 -1.3**
AKUT *e*PcP PcP 21 17 06.7 -0.8
AKUT *epP* pP 21 18 55.5 +4.2
AKUT *esP* sP 21 19 56.5 +14
PEA0B Petropavlovsk- 80.78 347 ⇓*iP* **P 21 17 03.0 -0.5**
PEA0B *e*PcP PcP 21 17 07.8 -0.6
PEA0B *epP* pP 21 18 51.2 -1.3
PEA0B *ePP* PP 21 20 15.1 -2.1
PETK Petropavlovsk- 80.78 347 P **P 21 17 03.0 -0.6**
comp=E,144nm,0.7s,mb5.6,baz=119,slow=6.1,SNR=117
PETK pP pP 21 18 51.5 -1.0
comp=E,32nm,1.0s,baz=107,slow=4.7,SNR=2.1
PETK S S 21 26 31.5 +1.8
comp=E,4.5nm,0.8s,baz=320,slow=45,SNR=3.4
QIZ Qiongzhong 80.99 296 P **P 21 17 05.6 +0.1**
QIZ PP PP 21 20 22.8 +3.4
QIZ S S 21 26 32.3 -0.9
QIZ SS SS 21 32 02.8 +0.6
QIZ AMB AMB
comp=Z,131nm,2.3s,mb5.1
QIZ AMB AMB
comp=Z,3µm,13.0s
SYO Syowa Base 81.12 194 ⇓*iP* **P 21 17 04.0 -1.3**
VLA Vladivostok 81.31 327*c iP* **P 21 17 06.0 -0.6**
VLA *e**PP pP 21 18 52.0 -3.7
VLA *i* 21 20 18.2
VLA *ePPP* 21 22 12.2
VLA *eS* S 21 26 34.0 -1.5
VLA pmax pmax
comp=Z,464nm,2.3s,mb5.6
VLA Vladivostok 81.31 327 ⇑*iP* **P 21 17 06.5 -0.1**
NJ2 Nanjing 81.53 312 *eP* **P 21 17 08.0 0.0**
NJ2 PP PP 21 20 22.3 -1.4
NJ2 SKS 21 26 36.6
NJ2 S S 21 26 38.5 +0.3
NJ2 AMB AMB
comp=Z,130nm,1.4s,mb5.3
NJ2 AMB AMB
comp=Z,3µm,7.0s
IPM Ipoh 81.60 279 ⇓P **P 21 17 09.3 +0.5**
FALS False Pass 81.60 10 ⇑P **P 21 17 06.6 -1.2**
KULM Kulim 82.30 280 ⇑P **P 21 17 12.7 +0.4**
SNCC San Nicolas Is 82.47 48 ⇓P **P 21 17 13.1 +0.4**
baz=82,SNR=5.5
SNCC San Nicolas Is 82.47 48 ⇑*iP* **P 21 17 12.9 +0.2**
comp=Z,3µm,1.9s,mb6.5
SNCC *ePP* PP 21 20 39.4 +8.1
SDPT Sand Point 82.56 11 *eP* **P 21 17 11.8 -0.8**
SDPT *ePP* pP 21 19 10.5 +8.3
SNAA Sanae 82.84 179 ⇑*iP* **P 21 17 13.8 -0.2**
SNAA *e**PP pP 21 18 59.7 -3.8
SNAA pmax pmax
comp=Z,564nm,1.4s
SNAA Sanae 82.84 179 ⇑*iP* **P 21 17 13.8 -0.2**
comp=Z,564nm,1.4s,mb5.9
SNAA *epP* pP 21 18 59.7 -3.8
SNAA *esP* sP 21 20 01.1 +6.1
SNAA *eS* S 21 26 42.5 -7.6
BSC Santa Cruz Isl 82.85 47 ⇑P **P 21 17 14.8 +0.1**
baz=83,SNR=19
SCI San Clemente I 82.97 48 ⇓P **P 21 17 15.3 0.0**
baz=83,SNR=13
FARB Farallon Islan 83.03 42 ⇓P **P 21 17 15.4 0.0**
baz=83,SNR=15
V03C Hunter Liggett 83.06 45 ⇓P **P 21 17 16.1 +0.4**
baz=83
VNA3 Neumayer Olymp 83.07 177 *eP* **P 21 17 15.4 +0.2**
VNA3 *e* 21 17 17.8
VNA3 *e* 21 17 34.9
VNA3 *e* 21 17 40.6
VNA3 *e* pP 21 19 06.2 +1.5
VNA3 *e* 21 19 12.8
VNA3 *e* 21 25 40.5
VNA3 *e* 21 26 52.0
VNA3 *e* 21 26 56.8
VNA3 *e* 21 27 01.9
VNA3 *e* 21 27 49.3
VNA3 *e* 21 35 31.1
SBC Santa Barbara 83.07 47 ⇓P **P 21 17 16.0 +0.3**
baz=83,SNR=7.6
PKM Peak Mountain 83.28 46 ⇓P **P 21 17 17.2 +0.5**
baz=83,SNR=53
BLG Laguna Peak 83.30 47 ⇓P **P 21 17 16.6 -0.3**
baz=83,SNR=14
JRSC Jasper Ridge 83.31 43 ⇓P **P 21 17 17.0 +0.1**
baz=83,SNR=17
SAC San Andreas 83.31 43 *eP* **P 21 17 17.0 +0.1**
CIS Catalina Islan 83.32 48 ⇑P **P 21 17 16.6 -0.4**
baz=83,SNR=23
MAIT Maitri 83.36 184 *eP* **P 21 17 15.9 -0.7**
NVL N'lazarevskaya 83.36 184*c iP* **P 21 17 18.1 +1.5**
NVL *eS* S 21 26 49.2 -6.1
NVL pmax pmax
comp=Z,434nm,1.6s,mb5.7
MCCM Marconi Confer 83.39 42 ⇓P **P 21 17 17.3 +0.1**
baz=83,SNR=8.5
MCCM Marconi Confer 83.39 42 ⇑*iP* **P 21 17 17.1 -0.1**
MCCM *epP* pP 21 19 08.3 +1.2
MCCM *esP* sP 21 19 60.0 +1.7
MCCM *ePP* PP 21 20 33.0 -5.6
SAO San Andreas Ge 83.39 44 ⇑*iP* **P 21 17 17.3 0.0**
SAO *epP* pP 21 19 11.8 +4.7
SAO *esP* sP 21 20 01.0 +2.6
SAO *ePP* PP 21 20 33.5 -5.1
PKD Parkfield 83.46 45 ⇑P **P 21 17 17.7 0.0**
baz=84,SNR=78
VNA2 Neumayer--Watz 83.48 178 *eP* **P 21 17 17.8 +0.6**
baz=185,slow=4.2
VNA2 *e* 21 17 20.2
VNA2 *e* 21 17 37.8
VNA2 *e* 21 17 43.0
VNA2 *e* pP 21 19 08.8 +1.9
VNA2 *e* 21 19 15.9
VNA2 *e* 21 25 44.5
VNA2 *e* 21 26 56.5
VNA2 *e* 21 27 01.7
VNA2 *e* 21 27 07.4
VNA2 *e* 21 27 53.4
VNA2 *e* 21 35 30.4
MDJ Mudanjiang 83.55 327 P **P 21 17 18.3 +0.5**
MDJ PP PP 21 20 39.6 -0.1
MDJ S S 21 26 48.8 -8.9
MDJ AMB AMB
comp=Z,186nm,1.9s,mb5.3
MDJ AMB AMB
comp=Z,4µm,7.5s
MDJ Mudanjiang 83.55 327 ⇓*iP* **P 21 17 18.0 +0.2**
comp=Z,509nm,1.5s,mb5.8
MDJ *epP* pP 21 19 30.3 +23
MDJ *ePP* PP 21 20 40.8 +1.1
MDJ *eS* S 21 26 55.7 -1.9
U04C Hernandez Rese 83.56 45 ⇓P **P 21 17 18.8 +0.7**
baz=84
FMP Fort Macarthur 83.57 48 ⇑P **P 21 17 18.2 0.0**
baz=84,SNR=9.1
PACP Pacheco Peak 83.65 44 ⇑P **P 21 17 19.0 +0.4**
baz=84,SNR=48
VNA1 Neumayer--Stat 83.72 177 *eP* **P 21 17 19.0 +0.6**
VNA1 *e* 21 17 21.9
VNA1 *e* 21 17 44.3
VNA1 *e* pP 21 19 11.7 +3.5
VNA1 *e* 21 19 17.2
VNA1 *e* 21 25 45.7
VNA1 *e* 21 27 03.2
VNA1 *e* 21 27 07.5
VNA1 *e* 21 27 15.6
WENL Wente Vineyard 83.74 43 ⇑P **P 21 17 19.4 +0.4**
baz=84,SNR=27
WHN Wuhan 83.77 308 ⇓*iP* **P 21 17 19.5 +0.2**
WHN AP pP 21 19 07.6 -1.6
WHN XP sP 21 19 58.8 -1.7
WHN PP PP 21 20 39.8 -2.0
WHN XS sS 21 30 13.8 -2.6
WHN AMB AMB
comp=Z,643nm,1.3s,mb6.0
WHN AMB AMB
comp=Z,10µm,7.1s
CVS Carmenet Viney 83.77 42 ⇓P **P 21 17 19.2 +0.1**
baz=84,SNR=46
NSHM Saint Helena R 83.79 42 *eP* **P 21 17 19.1 -0.1**
NSHM *epP* pP 21 19 12.1 +2.9
NSHM *ePP* PP 21 20 39.4 -2.4
V05C Boulder Hill, 83.82 45 ⇓P **P 21 17 20.2 +0.8**
baz=84
HOPS Hopland 83.82 41 ⇓P **P 21 17 19.7 +0.3**
baz=84,SNR=32
HOPS Hopland 83.82 41 ⇑*iP* **P 21 17 19.3 0.0**
comp=Z,975nm,1.3s,mb6.2
HOPS pP pP 21 18 53.7 -16
HOPS *esP* sP 21 20 13.5 +13
HOPS *ePP* PP 21 20 39.6 -2.4
OSI Osito Adit 83.83 47 ⇑P **P 21 17 19.6 0.0**
baz=84,SNR=20
OSI Osito Adit 83.83 47 ⇑*iP* **P 21 17 19.3 -0.2**
comp=Z,3µm,1.8s,mb6.5
OSI *epP* pP 21 19 08.2 -1.3
OSI *ePP* PP 21 20 37.6 -4.5
COYC Coyhaique 83.84 138 ⇑*iP* **P 21 17 20.7 +1.2**
DECC Green Verdugo 83.87 47 ⇓P **P 21 17 19.4 -0.3**
baz=84,SNR=9.6
BDM Black Diamond 83.89 43 ⇓P **P 21 17 20.0 +0.3**
baz=84,SNR=20
109C Camp Elliot, M 83.89 49 ⇓P **P 21 17 19.9 0.0**
baz=84
KCPM Cahto Peak 83.97 41 ⇑*iP* **P 21 17 20.7 +0.6**
KCPM *epP* pP 21 19 25.3 +15
KCPM *esP* sP 21 20 04.5 +3.2
KCPM *ePP* PP 21 20 43.1 0.0
U05C Westside ANR, 83.97 45 ⇓P **P 21 17 20.6 +0.4**
baz=84
DL2 Dalian 84.03 318 *i* P **P 21 17 21.8 +1.4**
DL2 AP pP 21 19 08.3 -2.1
DL2 XP sP 21 19 59.4 -2.2
DL2 PP PP 21 20 39.0 -4.7
DL2 S S 21 26 52.4 -10
DL2 XS sS 21 30 16.4 -2.3
DL2 AMB AMB
comp=Z,200nm,2.0s,mb5.3
DL2 AMB AMB
comp=Z,3µm,3.1s
MWC Mount Wilson 84.03 48 ⇑*iP* **P 21 17 20.3 -0.2**
MWC *e**PP pP 21 19 07.2 -3.3
MWC *e* 21 20 40.9
MWC Mount Wilson 84.03 48 ⇑*iP* **P 21 17 20.2 -0.3**
MWC *epP* pP 21 19 07.2 -3.3
MWC *esP* sP 21 20 06.1 +4.3
MWC *ePP* PP 21 20 40.9 -2.9
LPIG La Paz 84.04 60 *i* P **P 21 17 19.3 -1.5**
LPIG *i* S S 21 26 58.0 -5.4
ARVC Arvin 84.07 47 ⇓P **P 21 17 20.7 +0.1**
baz=84,SNR=44
BAR Barrett 84.07 50 ⇑*iP* **P 21 17 20.5 -0.3**
comp=Z,2µm,1.7s,mb6.3
BAR *epP* pP 21 19 09.7 -1.1
BAR *ePP* PP 21 20 41.1 -3.1
KIPM Iron Peak 84.10 41 *eP* **P 21 17 21.0 +0.2**
KIPM *epP* pP 21 19 16.0 +5.3
KIPM *ePP* PP 21 20 41.0 -3.3
MNRC McLaughlin Nat 84.12 42 ⇓P **P 21 17 21.6 +0.8**
baz=84,SNR=80
O01C Eel River Cons 84.12 40 ⇓P **P 21 17 21.6 +0.8**
baz=84
Q03C Winters 84.22 42 ⇓P **P 21 17 22.2 +0.8**
baz=84
MURC Murrieta 84.24 49 ⇑P **P 21 17 21.7 +0.1**
baz=84,SNR=63
BFSC Mount Baldy St 84.31 48 ⇓P **P 21 17 21.9 0.0**
baz=84,SNR=131
VES Vestal, Richgr 84.33 46 ⇓P **P 21 17 21.7 -0.3**
baz=84,SNR=97
MONP Monument Peak 84.36 50 ⇓P **P 21 17 22.9 +0.7**
baz=84
JCC Jacoby Creek 84.44 39 ⇓P **P 21 17 22.8 +0.4**
baz=84,SNR=13
DVTC Desert V Tower 84.45 50 ⇓P **P 21 17 23.1 +0.4**
baz=84,SNR=9.5
GASB Alder Springs 84.45 41 ⇓P **P 21 17 23.6 +1.1**
baz=84,SNR=103
S05C Merced 84.46 44 ⇓P **P 21 17 22.4 -0.1**
baz=84
EDW2 Edwards Air Fo 84.47 47 ⇓P **P 21 17 22.8 +0.1**
baz=84,SNR=157
RCTC Rector, Farmer 84.51 45 ⇑P **P 21 17 22.2 -0.7**
baz=85,SNR=5.8
ISA Isabella 84.62 46 ⇑*iP* **P 21 17 23.1 -0.3**
ISA *e* 21 20 43.8
ISA *eS* S 21 27 04.1 -4.5
ISA pmax pmax
comp=Z,818nm,1.1s,mb6.3
ISA Isabella 84.62 46 ⇑P **P 21 17 23.5 +0.1**
baz=85,SNR=295
ISA Isabella 84.62 46 ⇑*iP* **P 21 17 23.1 -0.3**
comp=Z,818nm,1.1s,mb6.3
ISA *epP* pP 21 19 13.7 +0.2
ISA *esP* sP 21 20 03.1 -1.6
ISA *ePP* PP 21 20 43.8 -4.7
ISA *eS* S 21 27 04.1 -4.4
T06C Millerton Lake 84.64 45 ⇑P **P 21 17 23.0 -0.4**
baz=85
R04C Big Horse Ranc 84.64 43 ⇓P **P 21 17 22.9 -0.5**
baz=85
KHMM Horse Mountain 84.65 40 *eP* **P 21 17 24.3 +0.9**
PFO Pinyon Flat Ob 84.75 49 ⇑*iP* **P 21 17 24.1 0.0**
PFO *e**PP pP 21 19 12.6 -1.7
PFO *e* 21 20 47.9
PFO *eS* S 21 27 01.0 -9.0
PFO pmax pmax
comp=Z,2µm,1.7s,mb6.4
PFO Pinyon Flat Ob 84.75 49 ⇓P **P 21 17 24.4 +0.3**
baz=85
PFO Pinyon Flat Ob 84.75 49 ⇑*iP* **P 21 17 24.1 0.0**
comp=Z,2µm,1.7s,mb6.4
PFO *epP* pP 21 19 12.6 -1.7
PFO *esP* sP 21 20 10.0 +4.5
PFO *ePP* PP 21 20 47.9 -1.8
PFO *eS* S 21 27 01.0 -9.0
SNY Shenyang 84.80 322 ⇓P **P 21 17 24.0 -0.1**
SNY AP pP 21 19 10.4 -4.0
SNY XP sP 21 20 01.3 -4.2
SNY PP PP 21 20 43.8 -6.0
SNY XS sS 21 30 21.8 -4.7
SNY SS SS 21 32 51.8 -5.6
SNY AMB AMB
comp=Z,223nm,1.1s,mb5.7
SNY AMB AMB
comp=Z,5µm,3.5s
BBRC Big Bear Sol-O 84.82 48 ⇑P **P 21 17 24.5 +0.1**
baz=85,SNR=5.5
SWSC Sam W. Stewart 84.82 50 ⇓P **P 21 17 24.9 +0.4**
baz=85,SNR=86
CMB Columbia Colle 84.85 43 ⇑*iP* **P 21 17 24.1 -0.3**
CMB *e* 21 20 47.8
CMB *eS* S 21 27 05.2 -5.5
CMB pmax pmax
comp=Z,571nm,1.2s,mb6.1
CMB Columbia Colle 84.85 43 ⇓P **P 21 17 24.2 -0.3**
baz=85,SNR=126
CMB Columbia Colle 84.85 43 ⇑*iP* **P 21 17 24.1 -0.3**
comp=Z,571nm,1.2s,mb6.1
CMB *epP* pP 21 19 15.9 +1.2
CMB *esP* sP 21 20 09.9 +4.0
CMB *ePP* PP 21 20 47.8 -2.5
CMB *eS* S 21 27 05.2 -5.5
N02C Big Bar 84.86 40 ⇑P **P 21 17 24.9 +0.4**
baz=85
KRMB Red Mountain 84.97 39 ⇑*iP* **P 21 17 25.8 +0.8**
KRMB *epP* pP 21 19 16.1 +0.8
KRMB *esP* sP 21 20 11.7 +5.2
KRMB *ePP* PP 21 20 50.0 -1.2
OHCM Honcut 84.99 42 *eP* **P 21 17 24.6 -0.5**
OHCM *epP* pP 21 19 18.5 +3.1
OHCM *ePP* PP 21 20 46.7 -4.7
LRMC Laurel Mountai 85.02 47 ⇑P **P 21 17 25.7 +0.4**
baz=85,SNR=28
M01C Crescent City 85.07 39 ⇓P **P 21 17 26.1 +0.7**
baz=85
LAVA Lava Cap Winer 85.08 43 ⇑P **P 21 17 25.2 -0.4**
baz=85
KCC Kaiser Creek 85.08 45 ⇓P **P 21 17 25.4 -0.2**
baz=85,SNR=144
CN2 Changchun 85.10 324 ⇓P **P 21 17 25.6 +0.1**
CN2 *eAP* pP 21 19 12.4 -3.5
CN2 *ePP* PP 21 20 47.4 -4.8
CN2 SKS 21 27 02.6
CN2 *eS* S 21 27 14.5 +1.7
CN2 AMB AMB
comp=Z,600nm,1.6s,mb6.0
CN2 AMB AMB
comp=Z,7µm,7.0s
ORV Oroville 85.12 42 ⇑P **P 21 17 25.4 -0.3**
baz=85,SNR=119
RRX Edison Barstow 85.13 48 ⇑P **P 21 17 25.9 0.0**
baz=85,SNR=6.3
WDC Whiskeytown Da 85.15 40 ⇑*iP* **P 21 17 25.6 -0.3**
WDC *e* 21 20 49.2
WDC pmax pmax
comp=Z,761nm,1.3s,mb6.2
WDC Whiskeytown Da 85.15 40 ⇑P **P 21 17 26.0 +0.2**
baz=85,SNR=124
WDC Whiskeytown Da 85.15 40 ⇑*iP* **P 21 17 25.6 -0.2**
comp=Z,761nm,1.3s,mb6.2
WDC *epP* pP 21 19 18.6 +2.3
WDC *esP* sP 21 20 10.3 +2.9
WDC *ePP* PP 21 20 49.2 -3.5
TIA Tai'an 85.18 314 ⇓P **P 21 17 26.8 +0.7**
TIA AP pP 21 19 13.5 -3.0
TIA PP PP 21 20 50.0 -3.0
TIA AMB AMB
comp=Z,343nm,1.3s,mb5.8
KBO Bosley Butte 85.25 38 *eP* **P 21 17 27.4 +1.1**
BELC Belle Mtn. 85.29 49 ⇓P **P 21 17 27.3 +0.6**
baz=85,SNR=332
CWC Cottonwood Cre 85.34 46 ⇓P **P 21 17 27.0 +0.1**
baz=85,SNR=31
112A Yuma 85.43 51 ⇓P **P 21 17 28.2 +0.8**
baz=86
BC3 Big Chuckw Mtn 85.46 49 ⇓P **P 21 17 28.2 +0.7**
baz=86,SNR=264
KKTK Khon Kaen 85.48 290 ⇓P **P 21 17 28.5 +0.5**
comp=Z,617nm,1.0s,mb6.2
M02C Callahan 85.49 40 ⇑P **P 21 17 28.2 +0.7**
baz=86
MPMC Manual Prospec 85.50 46 ⇓P **P 21 17 27.8 +0.2**
baz=86,SNR=253
GSC Goldstone 85.50 47 ⇓*iP* **P 21 17 27.4 -0.3**
GSC *e* 21 20 50.3
GSC *eS* S 21 27 21.0 +3.9
GSC pmax pmax
comp=Z,812nm,1.3s,mb6.2
GSC Goldstone 85.50 47 ⇑P **P 21 17 27.9 +0.2**
baz=86,SNR=127
GSC Goldstone 85.50 47 ⇓*iP* **P 21 17 27.4 -0.3**
comp=Z,812nm,1.3s,mb6.2
GSC *epP* pP 21 19 23.7 +5.5
GSC *esP* sP 21 20 10.7 +1.4
GSC *ePP* PP 21 20 50.3 -5.3
GSC *eS* S 21 27 21.0 +3.9
K01A Sixes 85.51 38 ⇑P **P 21 17 28.3 +0.7**
baz=86
HEC Hector,Ludlow 85.55 48 ⇑P **P 21 17 28.2 +0.2**
baz=86,SNR=120
GLA Glamis 85.55 50 ⇑*iP* **P 21 17 28.6 +0.6**
GLA *e**PP pP 21 19 15.8 -2.7
GLA *e* 21 20 53.5
GLA *eS* S 21 27 08.9 -8.8
GLA pmax pmax
comp=Z,1µm,1.3s,mb6.5
GLA Glamis 85.55 50 ⇑P **P 21 17 29.0 +1.0**
baz=86,SNR=122
GLA Glamis 85.55 50 ⇑*iP* **P 21 17 28.6 +0.6**
comp=Z,1µm,1.3s,mb6.5
GLA *epP* pP 21 19 15.8 -2.7
GLA *esP* sP 21 20 14.6 +5.0

GLA *e*PP PP 21 20 53.5 -2.5
GLA *e*S S 21 27 08.9 -8.8
L02A Cave Junction 85.56 39 ⇑P **P 21 17 28.5 +0.7**
baz=86
MLAC Mammoth Lakes 85.57 44 ⇓P **P 21 17 28.3 +0.3**
baz=86
MTUM Tungsten Hills 85.58 45 *e*P **P 21 17 28.1 +0.1**
MTUM *ep*P pP 21 19 21.2 +2.7
MTUM *es*P sP 21 20 33.6 +24
MTUM *e*PP PP 21 20 55.1 -1.0
MTUM *e*S S 21 27 08.8 -9.1
TIN Tinemaha 85.61 45 ⇑P **P 21 17 28.4 +0.2**
baz=86,SNR=9.7
KEBM Edson Butte 85.62 38⇑*i*P **P 21 17 28.5 +0.4**
KEBM *es*P sP 21 20 15.1 +5.4
KEBM *e*PP PP 21 20 50.4 -6.0
O05C Quincy 85.72 42 ⇓P **P 21 17 28.6 -0.1**
baz=86
WAKR Walker 85.72 44 *e*P **P 21 17 28.9 +0.2**
R06C Coleville 85.73 43 ⇓P **P 21 17 28.9 +0.2**
baz=86
OHAK Old Harbor 85.77 14 *e*P **P 21 17 28.2 -0.2**
OHAK *ep*P pP 21 19 20.5 +1.5
YBH Yreka Blue Hor 85.79 39 ⇑P **P 21 17 29.5 +0.5**
baz=86
YBH Yreka Blue Hor 85.79 39⇑*i*P **P 21 17 29.1 +0.2**
YBH *ep*P pP 21 19 22.6 +3.1
YBH *es*P sP 21 20 13.3 +2.7
YBH *e*PP PP 21 20 55.8 -2.0
YBH *e*S S 21 27 11.0 -8.6
M03C McCloud 85.84 40 ⇓P **P 21 17 29.3 +0.1**
baz=86
O04C Chester 85.84 41 ⇑P **P 21 17 29.3 +0.1**
baz=86
IRM Iron Mountain 85.96 49 ⇑P **P 21 17 30.6 +0.6**
baz=86,SNR=409
GMRC Granite Mounta 85.97 48 ⇑P **P 21 17 30.2 +0.3**
baz=86,SNR=217
BEKR Beckwourth 86.00 42 ⇓P **P 21 17 29.8 -0.1**
baz=86,SNR=171
LHEM Herd Peak 86.01 40 P **P 21 17 30.1 +0.2**
WCN Washoe City 86.02 43 ⇑P **P 21 17 30.4 +0.3**
baz=86,SNR=36
K02A Glendale 86.02 38 ⇓P **P 21 17 30.5 +0.5**
baz=86
GRAC Grapevine Rang 86.13 46 ⇓P **P 21 17 30.9 +0.3**
baz=86,SNR=72
113A Mohawk Valley, 86.13 51 ⇑P **P 21 17 31.2 +0.4**
baz=86
FURC Furnace Creek, 86.15 46 ⇓P **P 21 17 30.6 -0.2**
baz=86,SNR=59
Y12C Blythe 86.16 50 ⇓P **P 21 17 31.4 +0.5**
baz=86
P06A Stead Airport, 86.16 42 ⇑P **P 21 17 31.1 +0.3**
baz=86
TUQ Turquoise Moun 86.17 48 ⇓P **P 21 17 31.0 +0.1**
baz=86,SNR=86
SHOC Shoshone 86.20 47 ⇓P **P 21 17 30.9 -0.1**
baz=86,SNR=41
HUMO Hull Mountain 86.22 39 ⇓P **P 21 17 31.6 +0.7**
baz=86
HUMO Hull Mountain 86.22 39⇑*i*P **P 21 17 31.1 +0.2**
HUMO *ep*P pP 21 19 25.7 +4.1
HUMO *es*P sP 21 20 16.9 +4.2
HUMO *e*PP PP 21 20 58.9 -2.2
M04C Macdoel 86.33 40 ⇓P **P 21 17 31.9 +0.4**
baz=86
TAKO Tahkenitch 86.33 37 P **P 21 17 31.9 +0.5**
214A Organ Pipe Nat 86.36 52 ⇓P **P 21 17 32.5 +0.7**
baz=86
J02A Umpqua 86.36 38 ⇓P **P 21 17 32.2 +0.6**
baz=86
Q07A Schurz 86.38 43 ⇓P **P 21 17 31.9 +0.2**
baz=86
NVAR Mina Array Bea 86.39 44 P **P 21 17 31.7 -0.1**
comp=Z,124nm,0.7s,mb5.6,baz=223,slow=7.5,SNR=331
NVAR pP pP 21 19 22.4 -0.3
comp=Z,40nm,1.0s,baz=224,slow=8.1,SNR=2.6
NVAR PKKP PKKPbc 21 35 27.7 +1.1
comp=Z,0.6nm,0.5s,baz=94,slow=5.9,SNR=3.6
NVAR PKPPKP 21 43 30.6
comp=Z,2.3nm,0.9s,baz=100,slow=2.7,SNR=7.1
NNT Nongplab 86.40 286 ⇓P **P 21 17 37.0 +4.6**
comp=Z,762nm,1.0s,mb6.3
KDAK Kodiak Island 86.44 15 *e*P **P 21 17 31.0 -0.5**
comp=Z,758nm,2.0s,mb6.0
KDAK *ep*P pP 21 19 22.2 -0.2
KDAK *e*PP PP 21 21 00.5 -2.0
R08A Mina 86.46 44 ⇑P **P 21 17 32.2 0.0**
baz=86
U10A Ash Meadows, A 86.47 47 ⇓P **P 21 17 32.7 +0.4**
baz=86
PAHR Pah Rah Range 86.49 43⇑*i*P **P 21 17 32.0 -0.3**
PAHR *ep*P pP 21 19 26.2 +3.1
PAHR *es*P sP 21 20 15.6 +1.5
PAHR *e*PP PP 21 20 57.7 -5.7
O06A Flanigan 86.50 42 ⇑P **P 21 17 32.3 0.0**
baz=87
L04A Klamath Falls 86.55 39 ⇑P **P 21 17 32.8 +0.3**
baz=87
BBOR Butler Butte 86.55 39 P **P 21 17 32.7 +0.2**
MAIG Mazatlaan 86.64 62 *i* P **P 21 17 33.5 +0.1**
I02A Mapleton 86.64 37 ⇓P **P 21 17 33.2 +0.3**
baz=87
S09A Goldfield 86.65 45 ⇓P **P 21 17 32.8 -0.3**
baz=87
NEE2 Needles Airpor 86.66 49 ⇓P **P 21 17 33.6 +0.3**
baz=87,SNR=28
Y13A Salome 86.67 50 ⇓P **P 21 17 34.1 +0.8**
baz=87
P07A Fallon 86.69 43 ⇑P **P 21 17 33.5 +0.2**
baz=87
V11A Goodsprings 86.73 48 ⇑P **P 21 17 33.8 +0.3**
baz=87
PDMCI Parker Dam,Lak 86.73 49 ⇓P **P 21 17 33.9 +0.3**
baz=87
M06C Likely Place G 86.76 41 ⇓P **P 21 17 33.6 +0.1**
baz=87
W12A Cal Nev Ari 86.80 48 ⇓P **P 21 17 34.3 +0.5**
baz=87
TPNV Topopah Spring 86.83 46 ⇓P **P 21 17 34.1 +0.1**
baz=87,SNR=244
TPNV Topopah Spring 86.83 46⇑*i*P **P 21 17 33.7 -0.3**
TPNV *ep*P pP 21 19 27.9 +3.0
TPNV *es*P sP 21 20 17.1 +1.2
TPNV *e*PP PP 21 20 00.7 -5.4
TPNV *e*S S 21 27 14.3 -15
N06A Buffalo Meadow 86.86 42 ⇓P **P 21 17 34.1 +0.1**
baz=87
TPH Tonopah 86.86 45⇑*i*P **P 21 17 34.0 -0.1**
TPH *e* 21 21 02.4
TPH *e*S S 21 27 14.0 -16
TPH pmax pmax
comp=Z,383nm,0.9s,mb6.1
TPH Tonopah 86.86 45⇑*i*P **P 21 17 34.0 -0.1**
comp=Z,383nm,0.9s,mb6.1
TPH *ep*P pP 21 19 27.5 +2.4
TPH *es*P sP 21 20 16.3 +0.3
TPH *e*PP PP 21 21 02.4 -3.9
TPH *e*S S 21 27 14.0 -16
Q08A Gabbs 86.88 44 ⇑P **P 21 17 34.1 0.0**
baz=87
K04A Chilquin 86.92 39 ⇓P **P 21 17 34.7 +0.4**
baz=87
I03A Eugene 86.92 37 ⇓P **P 21 17 34.8 +0.6**
baz=87
H02A Toledo 86.99 37 ⇓P **P 21 17 35.6 +1.0**
baz=87
Z14A Wintersburg 87.03 51 ⇑P **P 21 17 35.8 +0.8**
baz=87
V12A Nelson 87.05 48 ⇓P **P 21 17 35.4 +0.4**
baz=87
R09A Tonopah 87.05 45 ⇑P **P 21 17 35.0 0.0**
baz=87
L05A Lakeview 87.08 40 ⇓P **P 21 17 35.7 +0.7**
baz=87
EUO Eugene 87.08 37 P **P 21 17 35.0 +0.1**
O07A Toulon 87.08 42 ⇓P **P 21 17 35.0 -0.1**
baz=87
U11A Corn Creek 87.09 47 ⇑P **P 21 17 35.7 +0.5**
baz=87
J04A Umpqua Nationa 87.10 39 ⇓P **P 21 17 35.5 +0.4**
baz=87
X13A Yucca 87.10 49 ⇓P **P 21 17 35.7 +0.4**
baz=87
S10A Tonopah Range, 87.17 45 ⇑P **P 21 17 35.7 +0.1**
baz=87
115A Sonoran Desert 87.18 52 ⇑P **P 21 17 36.4 +0.7**
baz=87
P08A Dixie Valley 87.28 43 ⇓P **P 21 17 36.3 +0.3**
baz=87
I04A Tendick Farm, 87.29 38 ⇓P **P 21 17 36.0 0.0**
baz=87
SHPR Sheep Range 87.29 47 *e*P **P 21 17 36.4 +0.2**
MOD Modoc 87.29 40 ⇓P **P 21 17 36.1 0.0**
baz=87
MOD Modoc 87.29 40⇓*i*P **P 21 17 35.5 -0.5**
MOD *ep*P pP 21 19 31.8 +4.7
MOD *es*P sP 21 20 15.3 -2.7
MOD *e*PP PP 21 21 05.0 -4.7
MOD *e*S SKSac 21 27 13.4 -1.9
GYA Guiyang 87.30 301⇑*i*P **P 21 17 37.3 +0.9**
GYA AP pP 21 19 24.8 -2.7
GYA XP sP 21 20 12.8 -5.7
GYA PP PP 21 21 12.3 +2.3
GYA SKS 21 27 17.9
GYA S S 21 27 35.8 +1.3
GYA XS sS 21 30 45.0 -7.3
GYA SS SS 21 33 37.3 +3.2
GYA AMB AMB
comp=Z,90nm,1.0s,mb5.5
GYA AMB AMB
comp=Z,1μm,6.2s
PLCA Paso Flores 87.31 134 P **P 21 17 37.5 +1.1**
comp=Z,463nm,1.2s,mb6.1,baz=239,slow=5.2,SNR=166
PLCA PKKPbc PKKPbc 21 35 23.0 -1.0
comp=Z,2.7nm,0.7s,baz=323,slow=7.3,SNR=6.4
PLCA SKKPbc 21 38 16.1
comp=Z,4.1nm,0.9s,baz=320,slow=2.1,SNR=4.8
PLCA PKPPKP 21 43 31.4
comp=Z,5.5nm,1.1s,baz=13,slow=7.2,SNR=3.5
PLCA Paso Flores 87.31 134 P **P 21 17 37.5 +1.2**
PLCA pmax pmax
comp=Z,463nm,1.2s
PLCA pmax pmax
comp=Z,3.0nm,0.7s
PLCA pmax pmax
comp=N,4.0nm,0.9s
PLCA pmax pmax
comp=Z,6.0nm,1.1s
COR Corvallis 87.31 37⇑*i*P **P 21 17 36.5 +0.5**
COR *e* 21 21 07.4
Y14A Wickenburg 87.31 50 ⇑P **P 21 17 36.6 +0.3**
baz=87
Q09A Carvers 87.33 44 ⇓P **P 21 17 36.3 0.0**
baz=87
216A Three Points, 87.35 53 ⇓P **P 21 17 37.7 +1.2**
baz=87
W13A Hualapai Mount 87.35 49 ⇑P **P 21 17 36.8 +0.4**
baz=87
H03A Soap Creek Ran 87.37 37 ⇑P **P 21 17 36.7 +0.3**
baz=87
N07B Gerlach 87.39 42 ⇓P **P 21 17 36.6 +0.1**
baz=87
NST Nakhon Sawan 87.46 289 ⇑P **P 21 17 39.0 +1.6**
comp=Z,217nm,1.2s,mb5.8
K05A Summer Lake 87.47 40 ⇓P **P 21 17 37.4 +0.6**
baz=88
116A Eloy 87.47 52 ⇑P **P 21 17 38.0 +0.9**
baz=88
HEBO Mount Hebo 87.48 36⇑*i*P **P 21 17 37.2 +0.4**
comp=Z,2μm,1.8s,mb6.5
HEBO *ep*P pP 21 19 35.9 +8.0
HEBO *e*PP PP 21 21 02.4 -8.7
Z15A Gila River Ind 87.55 51 ⇑P **P 21 17 37.9 +0.4**
baz=88
S11A Rachel 87.56 46 ⇓P **P 21 17 37.6 +0.2**
baz=88
R10A Warm Springs 87.57 45 ⇑P **P 21 17 37.7 +0.3**
baz=88
O08A Rochester Mine 87.59 43 ⇓P **P 21 17 37.8 +0.4**
baz=88
J05A Fort Rock 87.62 39 ⇓P **P 21 17 38.1 +0.6**
baz=88
M07A Soldier Meadow 87.65 41 ⇓P **P 21 17 38.1 +0.4**
baz=88
U12A Valley of Fire 87.66 47 ⇑P **P 21 17 38.4 +0.6**
baz=88
T11A Corn Creek, Al 87.67 47 ⇑P **P 21 17 38.3 +0.4**
baz=88
X14A Yava 87.68 50 ⇓P **P 21 17 38.7 +0.7**
baz=88
217A Green Valley 87.69 53 ⇓P **P 21 17 39.3 +1.2**
baz=88
V13A Grand Canyon W 87.70 48 ⇑P **P 21 17 38.4 +0.3**
baz=88
T12A Moapa 87.71 47 ⇓P **P 21 17 38.3 +0.2**
baz=88
P09A Austin 87.78 44 ⇓P **P 21 17 38.4 0.0**
baz=88
Y15A Casa Rosa Ranc 87.78 51 ⇑P **P 21 17 39.0 +0.4**
baz=88
G03A Yamhill 87.80 36 ⇓P **P 21 17 38.5 +0.2**
baz=88
Q10A Clear Creek Ra 87.82 45 ⇓P **P 21 17 38.8 +0.2**
baz=88
K06A Valley Falls 87.88 40 ⇑P **P 21 17 39.2 +0.4**
baz=88
EFI East Falkland 87.89 148⇑*i*P **P 21 17 39.6 +0.8**
EFI pmax pmax
comp=Z,3μm,1.3s,mb6.8
EFI East Falkland 87.89 148⇑*i*P **P 21 17 39.6 +0.8**
comp=Z,3μm,1.3s,mb6.8
EFI *ep*P pP 21 19 30.1 +0.2
EFI *e*PP PP 21 21 08.0 -5.2
N08A GE Springer Mi 87.90 42 ⇓P **P 21 17 39.4 +0.5**
baz=88
L07A Adell 87.93 41 ⇓P **P 21 17 39.5 +0.5**
baz=88
W14A Seligman 87.96 49 ⇑P **P 21 17 40.0 +0.7**
baz=88
H04A Detroit Lake 87.98 37 ⇑P **P 21 17 38.9 -0.2**
baz=88
TUC Tucson 87.99 53⇑*i*P **P 21 17 40.2 +0.6**
TUC *e**PP pP 21 19 28.3 -2.5
TUC *e* 21 21 07.3
TUC *e*S SKSac 21 27 26.3 +6.3
TUC Tucson 87.99 53⇑*i*P **P 21 17 40.2 +0.6**
TUC *ep*P pP 21 19 28.3 -2.6
TUC *es*P sP 21 20 21.2 -0.5
TUC *e*PP PP 21 21 07.3 -8.1
TUC *e*S SKSac 21 27 26.3 +6.4
U13A Pakoon Wash 88.03 48 ⇑P **P 21 17 40.3 +0.6**
baz=88
BJT Baijiatuau 88.04 317⇓*i*P **P 21 17 40.0 +0.4**
BJT *e**PP pP 21 19 29.2 -1.7
BJT *e* 21 21 10.5
BJT pmax pmax
comp=Z,783nm,1.4s
BJT Baijiatuau 88.04 317⇓*i*P **P 21 17 40.0 +0.4**
comp=Z,783nm,1.4s,mb6.2
BJT *ep*P pP 21 19 29.2 -1.7
BJT *es*P sP 21 20 20.8 -1.0
BJT *e*PP PP 21 21 10.5 -5.2
BJT *e*S SKSac 21 27 08.0 -12
F03A Seaside 88.05 36 ⇑P **P 21 17 40.1 +0.6**
baz=88
BJI Beijing 88.05 317 P **P 21 17 40.0 +0.4**
BJI AP pP 21 19 29.1 -1.8
BJI XP sP 21 20 14.4 -7.4
BJI PP PP 21 21 11.6 -4.1
BJI XS sS 21 30 51.8 -7.4
BJI SS SS 21 33 47.1 +2.5
BJI AMB AMB
comp=Z,337nm,2.0s,mb5.7
BJI AMB AMB
comp=Z,7μm,4.3s
ZIIG Zihuatanejo 88.06 70 *i* P **P 21 17 40.8 +0.6**
ZIIG *i* S SKSac 21 27 21.2 +0.3
R11A Troy Canyon, C 88.07 45 ⇑P **P 21 17 39.5 -0.2**
baz=88
Z16A Peralta Trail, 88.09 51 ⇑P **P 21 17 40.7 +0.8**
baz=88
318A Bisbee 88.11 54 ⇑P **P 21 17 41.3 +1.2**
baz=88
S12A Delamar Landin 88.12 46 ⇓P **P 21 17 40.9 +0.9**
baz=88
X15A Humboldt 88.14 50 ⇑P **P 21 17 40.9 +0.7**
baz=88
M08A Happy Creek Ra 88.16 42 ⇓P **P 21 17 40.4 +0.4**
baz=88
G04A Mulino 88.16 37 ⇓P **P 21 17 40.0 +0.1**
baz=88
I05A Bend 88.16 38 ⇓P **P 21 17 40.2 +0.2**
baz=88
117A Oracle 88.17 52 ⇑P **P 21 17 41.2 +0.9**
baz=88
V14A Boquillas Ranc 88.17 49 ⇑P **P 21 17 41.1 +0.8**
baz=88
J06A Christmas Vall 88.22 39 ⇓P **P 21 17 40.3 0.0**
baz=88
P10A Eureka 88.25 44 ⇑P **P 21 17 40.6 +0.1**
baz=88
BMN Battle Mountai 88.25 43⇑*i*P **P 21 17 40.3 -0.3**
BMN *e* 21 21 09.3
BMN pmax pmax
comp=Z,1μm,1.5s,mb6.4
BMN Battle Mountai 88.25 43⇑*i*P **P 21 17 40.3 -0.3**
comp=Z,1μm,1.5s,mb6.4
BMN *ep*P pP 21 19 33.9 +2.0
BMN *es*P sP 21 20 25.1 +2.3
BMN *e*PP PP 21 21 09.3 -8.0
Q11A Duckwater 88.31 45 ⇓P **P 21 17 40.9 +0.1**
baz=88
N09A Rock Creek Ran 88.31 43 ⇓P **P 21 17 41.0 +0.2**
baz=88
Y16A Circle Bar Ran 88.34 51 ⇑P **P 21 17 42.0 +0.8**
baz=88
218A Dragoon 88.35 53 ⇓P **P 21 17 42.4 +1.2**
baz=88
K07A Rock Creek Ran 88.40 40 ⇑P **P 21 17 41.7 +0.5**
baz=88
T13A Saint George 88.41 47 ⇓P **P 21 17 41.8 +0.4**
baz=88
NANT Nan 88.42 292 ⇓P **P 21 17 40.5 -1.3**
comp=Z,1μm,1.0s,mb6.5
CCHI Chillan 88.45 130⇑*i*P **P 21 17 42.5 +0.7**
E03A Lebam 88.45 35 ⇓P **P 21 17 41.7 +0.4**
baz=88
H05A Madras 88.49 38 ⇑P **P 21 17 41.6 0.0**
baz=88
W15A Williams 88.50 50 ⇑P **P 21 17 42.7 +0.8**
baz=88
U14A Mt Trumbull 88.56 48 ⇑P **P 21 17 42.9 +0.8**
baz=89
BMW Boistfort Moun 88.58 36 *e*P **P 21 17 42.0 0.0**
BMW *ep*P pP 21 19 38.7 +5.4
BMW *es*P sP 21 20 28.4 +4.2
BMW *e*PP PP 21 21 13.2 -6.6
319A Douglas 88.59 54 ⇑P **P 21 17 43.6 +1.3**
baz=89
WVOR Wild Horse Val 88.60 41⇑*i*P **P 21 17 42.1 0.0**
WVOR *ep*P pP 21 19 37.6 +4.0
WVOR *es*P sP 21 20 25.5 +1.1
WVOR *e*PP PP 21 21 13.4 -6.6
WVOR *e*S SKSac 21 27 26.9 +3.8
I06A Prineville 88.61 39 ⇑P **P 21 17 42.6 +0.4**
baz=89
O10A Cortez Mining, 88.61 43 ⇓P **P 21 17 42.4 +0.2**
baz=89
L08A Fields 88.62 41 ⇓P **P 21 17 42.5 +0.2**
baz=89
P11A Circle Ranch, 88.65 44 ⇓P **P 21 17 42.6 +0.2**
baz=89
X16A Lo Mia Camp, P 88.66 51 ⇑P **P 21 17 43.4 +0.8**
baz=89
F04A Amboy 88.66 36 ⇑P **P 21 17 42.4 +0.1**
baz=89
HOOD Mount Hood Mea 88.68 37⇑*i*P **P 21 17 42.2 -0.2**
HOOD *ep*P pP 21 19 37.6 +3.7
HOOD *e*PP PP 21 21 18.7 -1.9
R12A Pony Springs, 88.69 46 ⇓P **P 21 17 43.0 +0.4**
baz=89
Y17A Roosevelt 88.69 51 ⇑P **P 21 17 43.4 +0.7**
baz=89
M09A Marrel Ranch, 88.70 42 ⇑P **P 21 17 43.2 +0.6**
baz=89
D03A Wishkah Elem. 88.72 35 ⇓P **P 21 17 43.2 +0.7**
baz=89
VIPM Ingram Point 88.74 38 P **P 21 17 43.0 +0.3**
S13A Holt Ranch, En 88.75 47 ⇓P **P 21 17 43.6 +0.6**
baz=89
118A Homack Ranch, 88.75 53 ⇑P **P 21 17 44.2 +1.1**
baz=89
J07A Hines 88.78 40 ⇓P **P 21 17 43.2 +0.3**
baz=89
G05A Wamic 88.81 37 ⇓P **P 21 17 43.1 0.0**
baz=89
CAIG El Cayaco 88.82 71 *i* P **P 21 17 43.7 0.0**
CAIG *i* S SKSac 21 27 25.2 -0.3
NLWA Neilton Lookou 88.85 35 ⇑P **P 21 17 43.5 +0.4**
baz=89
NLWA Neilton Lookou 88.85 35⇑*i*P **P 21 17 43.7 +0.5**
comp=Z,479nm,1.3s,mb6.2
NLWA *ep*P pP 21 19 38.7 +4.1
NLWA *es*P sP 21 20 26.1 +0.6
NLWA *e*PP PP 21 21 21.1 -0.7
NLWA *e*S SKSac 21 27 33.1 +8.9
N10A Dunphy 88.86 43 ⇑P **P 21 17 43.7 +0.3**
baz=89
C03A Quillayute Air 88.86 34 ⇑P **P 21 17 44.2 +1.0**
baz=89
K08A Mann Creek Ran 88.87 41 ⇓P **P 21 17 43.9 +0.5**
baz=89
SVW2 Sparrevohn 88.87 12 *e*P **P 21 17 41.6 -1.2**
SVW2 *ep*P pP 21 19 41.0 +6.6
V15A Kaibab Nationa 88.91 49 ⇑P **P 21 17 44.6 +0.8**
baz=89
E04A Onalaska 88.92 36 ⇓P **P 21 17 44.2 +0.6**
baz=89
L09A Wilkinson Ranc 88.92 42 ⇑P **P 21 17 44.0 +0.4**
baz=89
219A White Tail Can 88.93 54 ⇓P **P 21 17 44.9 +1.0**
baz=89
Z18A Geronimo 88.94 52 ⇑P **P 21 17 44.8 +0.9**
baz=89
Q12A Willow Creek R 88.95 45 ⇑P **P 21 17 44.1 +0.2**
baz=89
W16A Flagstaff 88.96 50 ⇑P **P 21 17 44.7 +0.8**
baz=89
T14A Hurricane 88.98 48 ⇓P **P 21 17 44.5 +0.5**
baz=89
R13A O'Grain Ranch, 89.02 46 ⇑P **P 21 17 44.9 +0.7**
baz=89
TDL Tradedollar La 89.03 36 P **P 21 17 44.5 +0.4**
H06A Lindquist Farm 89.04 38 ⇑P **P 21 17 44.0 -0.1**
baz=89
ACX Acapulco 89.04 71 *i* P **P 21 17 45.0 +0.2**
O11A Cowboy Ranch, 89.05 44 ⇑P **P 21 17 44.5 +0.3**
baz=89
X17A Forest Lakes 89.06 51 ⇓P **P 21 17 45.5 +1.1**
baz=89
CCUT Cedar City 89.06 47⇑*i*P **P 21 17 45.0 +0.6**
CCUT *ep*P pP 21 19 37.9 +2.0
CCUT *es*P sP 21 20 36.3 +10
CCUT *e*PP PP 21 21 33.9 +10
CCUT *e*S S 21 27 43.6 -6.7
I07A Izee 89.10 39 ⇓P **P 21 17 44.8 +0.4**
baz=89
TIY Taiyuan 89.11 313 *i* P **P 21 17 48.1 +3.5**
TIY AP pP 21 19 33.1 -3.1
TIY SKS 21 27 27.4
TIY S S 21 27 48.8 -1.9
TIY AMB AMB
comp=Z,4μm,3.6s
BDT Bhumibol Dam 89.14 290 ⇑P **P 21 17 46.8 +1.6**
comp=Z,5.3nm,1.0s,mb5.3
F05A White Salmon 89.14 37 ⇑P **P 21 17 44.3 -0.2**
baz=89
P12A McGill 89.14 45 ⇑P **P 21 17 44.9 +0.2**
baz=89
ARUT Antelope Range 89.14 47 *e*P **P 21 17 44.5 -0.3**
ARUT *e* 21 21 22.4
ARUT *e*S S 21 27 53.2 +2.2
U15A North Rim 89.16 48 ⇑P **P 21 17 45.7 +0.9**
baz=89
G06A Carlson Farm, 89.18 38 ⇑P **P 21 17 44.9 +0.2**
baz=89
D04A Dobbs Creek Ra 89.22 35 ⇑P **P 21 17 45.5 +0.7**
baz=89
SEW Seward 89.24 15 *e*P **P 21 17 43.2 -1.5**
SEW *ep*P pP 21 19 43.9 +7.6
SEW *es*P sP 21 20 36.7 +10
J08A Circle Bar Ran 89.25 40 ⇑P **P 21 17 45.4 +0.3**
baz=89
MOIG Morelia 89.25 68 *i* P **P 21 17 45.7 0.0**
WUAZ Wupatki 89.29 50 ⇓P **P 21 17 46.0 +0.4**
baz=89

WUAZ Wupatki 89.29 50⇑*i*P P 21 17 45.9 +0.3
comp=Z,531nm,1.3s,mb6.2
WUAZ *ep*P pP 21 19 36.3 -0.8
WUAZ *es*P sP 21 20 29.8 +1.9
WUAZ *e*PP PP 21 21 18.0 -7.6
K09A Rome 89.30 41 ⇓P P 21 17 45.6 +0.2
baz=89
119A Ashpeak Ranch, 89.30 53 ⇑P P 21 17 46.6 +1.0
baz=89
Y18A Canyon Day Jun 89.30 52 ⇓P P 21 17 46.6 +1.0
baz=89
S14A Cedar City 89.31 47 ⇑P P 21 17 46.1 +0.5
baz=89
M10A I.L. Ranch, Tu 89.31 42 ⇓P P 21 17 45.9 +0.5
baz=89
H07A Lands Inn, Kim 89.38 39 ⇑P P 21 17 45.8 +0.2
baz=89
N11A Elko Archery C 89.39 43 ⇑P P 21 17 45.9 0.0
baz=89
E05A Randle 89.41 36 ⇓P P 21 17 45.7 -0.1
baz=90
Q13A Wheeler Ranch, 89.42 46 ⇓P P 21 17 46.2 +0.2
baz=90
T15A Red Dirt Ranch 89.42 48 ⇑P P 21 17 46.6 +0.5
baz=90
SLKM Skilak Lake 89.43 14 *e*P P 21 17 44.3 -1.2
SLKM *ep*P pP 21 19 37.1 -0.1
F06A Goldendale 89.44 37 ⇑P P 21 17 46.0 0.0
baz=90
B04A Port Angeles 89.47 34 ⇑P P 21 17 46.7 +0.7
baz=90
GAMB Gambell 89.49 4 *e*P P 21 17 46.4 +0.7
GAMB *ep*P pP 21 19 40.8 +3.4
GNW Green Mountain 89.50 35⇑*i*P P 21 17 46.3 +0.2
comp=Z,284nm,1.0s,mb6.0
GNW *ep*P pP 21 20 01.6 +24
GNW *es*P sP 21 20 29.3 +0.7
GNW *e*PP PP 21 21 22.4 -4.5
LON Longmire 89.50 36⇑*i*P P 21 17 46.0 -0.2
LON S S 21 27 48.3 -5.6
LON pmax pmax
comp=Z,369nm,1.4s,mb6.0
LON Longmire 89.50 36⇑*i*P P 21 17 46.0 -0.3
comp=Z,369nm,1.4s,mb6.0
LON S S 21 27 48.2 -5.6
W17A Winslow 89.52 50 ⇑P P 21 17 47.3 +0.7
baz=90
C04A Brinnon 89.52 35 ⇓P P 21 17 46.7 +0.4
baz=90
XAN Xi'an 89.52 308 P P 21 17 47.5 +0.9
XAN AP pP 21 19 34.0 -4.3
XAN XP sP 21 20 25.3 -3.7
XAN SKS 21 27 27.4
XAN S S 21 27 55.9 +1.3
XAN XS sS 21 31 07.3 -6.5
XAN SS SS 21 34 08.3 +2.4
XAN AMB AMB
comp=Z,233nm,1.9s,mb5.7
XAN AMB AMB
comp=Z,3µm,13.5s
I08A Drewsey 89.53 40 ⇑P P 21 17 46.7 +0.3
baz=90
ZAIG Zacatecas 89.55 65 *i*P P 21 17 46.8 -0.3
ZAIG *i*S pP 21 21 26.8 -1.1
Z19A T-Link Ranch, 89.60 52 ⇑P P 21 17 47.9 +0.9
baz=90
ELK Elko 89.66 44⇑*i*P P 21 17 46.7 -0.4
ELK *e* 21 21 25.7
ELK pmax pmax
comp=Z,566nm,1.5s
ELK Elko 89.66 44⇑*i*P P 21 17 46.7 -0.4
comp=Z,566nm,1.5s,mb6.2
ELK *ep*P pP 21 19 40.6 +1.9
ELK *es*P sP 21 20 34.4 +4.9
ELK *e*PP PP 21 21 25.7 -2.7
J09A Fry Pan Ranch, 89.67 40 ⇑P P 21 17 47.3 +0.2
baz=90
L10A Juniper Basin 89.68 42 ⇑P P 21 17 47.5 +0.3
baz=90
D05A Enumclaw 89.69 36 ⇓P P 21 17 47.6 +0.5
baz=90
O12A Currie 89.70 44 ⇓P P 21 17 47.4 +0.1
baz=90
P13A Bates Ranch, G 89.70 45 ⇑P P 21 17 47.6 +0.3
baz=90
R14A James Farms, M 89.70 47 ⇓P P 21 17 47.9 +0.5
baz=90
M11A Holland Ranch, 89.72 43 ⇓P P 21 17 47.8 +0.5
baz=90
KMI Kunming 89.72 298 ⇓P P 21 17 49.3 +1.5
KMI AP pP 21 19 38.1 -1.3
KMI XP sP 21 20 24.6 -5.6
KMI PP PP 21 21 29.9 +0.7
KMI SKS 21 27 32.3
KMI S S 21 27 57.6 +0.8
KMI XS sS 21 31 09.8 -6.3
KMI SS SS 21 34 12.0 +2.9
KMI AMB AMB
comp=Z,172nm,1.3s,mb5.7
KMI AMB AMB
comp=Z,3µm,6.3s
CMAR Chiang Mai Arr 89.74 291 P P 21 17 49.4 +1.4
comp=Z,65nm,0.9s,mb5.4,baz=138,slow=3.1,SNR=145
CMAR pP pP 21 19 38.4 -1.3
comp=Z,43nm,1.2s,baz=120,slow=3.1,SNR=4.6
CMAR PP PP 21 21 30.1 +0.7
comp=Z,22nm,1.0s,baz=125,slow=5.1,SNR=5.1
CMAR PKKPbc PKKPbc 21 35 18.3 +0.7
comp=Z,15nm,1.0s,baz=289,slow=4.0,SNR=16
CMAR SKKPbc 21 38 07.7
comp=Z,19nm,1.0s,baz=290,slow=4.0,SNR=25
CMAR PKPPKP 21 43 25.1
comp=Z,3.2nm,1.1s,baz=294,slow=3.9,SNR=5.3
CMAR Chiang Mai Arr 89.74 291 P P 21 17 49.4 +1.4
CMAR *PP pP 21 19 38.4 -1.2
CMAR 21 21 30.1
CMAR pmax pmax
comp=Z,65nm,1.0s
CMAR pmax pmax
comp=Z,43nm,1.2s
CMAR pmax pmax
comp=Z,23nm,1.0s
CMAR pmax pmax
comp=Z,15nm,1.0s
CMAR pmax pmax
comp=N,19nm,1.0s
CMAR pmax pmax
comp=Z,3.0nm,1.1s
X18A Snowflake 89.76 51 ⇑P P 21 17 48.4 +0.7
baz=90
S15A Panguitch 89.79 47 ⇑P P 21 17 49.0 +1.2
baz=90
U16A Tuba City 89.80 49 ⇑P P 21 17 48.4 +0.6
baz=90
E06A Yakima 89.82 37 ⇓P P 21 17 47.7 +0.1
baz=90
H08A Prairie City 89.84 39 ⇓P P 21 17 47.8 0.0
baz=90
N12A Clover Valley, 89.85 44 ⇓P P 21 17 48.1 +0.2
baz=90
K10A MacKenzie Ranc 89.85 41 ⇓P P 21 17 48.1 +0.2
baz=90
PGC Sidney 89.89 34 *e*P P 21 17 47.9 -0.1
comp=Z,536nm,1.0s,mb6.3
PAYG Puerto Ayora 89.90 91⇑*i*P P 21 17 50.1 +1.2
comp=Z,4µm,2.3s,mb6.8
PAYG *ep*P pP 21 19 53.4 +13
PAYG *es*P sP 21 20 34.8 +3.4
PAYG *e*PP PP 21 21 28.1 -2.5
CHG Chiang Mai 89.90 291 ⇓P P 21 17 50.2 +1.5
comp=Z,177nm,0.9s,mb5.9
CHTO Chiang Mai 89.90 291⇓*i*P P 21 17 49.6 +0.9
CHTO *e**PP pP 21 19 38.4 -2.0
CHTO *e* 21 21 29.5
CHTO *e*S SKSac 21 27 27.5 -4.1
Q14A Sevier Lake (B 89.92 46 ⇑P P 21 17 48.8 +0.5
baz=90
Y19A Nutrioso 89.95 52 ⇑P P 21 17 49.7 +1.0
baz=90
F07A Phinny Hill Vi 89.98 37 ⇑P P 21 17 48.2 -0.2
baz=90
T16A Glen Canyon Da 89.99 48 ⇑P P 21 17 49.1 +0.4
baz=90
I09A Lost Marbles R 90.05 40 ⇑P P 21 17 48.9 +0.1
baz=90
RC01 Rabbit Creek A 90.06 14 *e*P P 21 17 47.2 -1.2
comp=Z,299nm,1.5s,mb5.9
RC01 *ep*P pP 21 19 42.0 +1.8
PLIG Platanillo 90.08 70 *i*P P 21 17 50.2 +0.6
O13A Hicks Ranch, I 90.10 45 ⇑P P 21 17 49.6 +0.4
baz=90
G08A Pilot Rock 90.15 38 ⇑P P 21 17 49.4 +0.2
baz=90
L11A Cat Creek Ranc 90.16 42 ⇓P P 21 17 49.7 +0.3
baz=90
C05A Tolt Reservoir 90.17 35 ⇑P P 21 17 49.1 -0.2
baz=90
X19A St. Johns 90.17 51 ⇓P P 21 17 50.2 +0.6
baz=90
W18A Petrified Fore 90.22 51 ⇓P P 21 17 50.2 +0.4
baz=90
M12A Wells 90.25 43 ⇓P P 21 17 50.0 +0.2
baz=90
J10A Berg Farm, Mel 90.29 41 ⇓P P 21 17 50.0 +0.1
baz=90
D06A Cle Elum 90.30 36 ⇑P P 21 17 49.9 +0.1
baz=90
A04A Legoe Bay, Lum 90.31 34 ⇑P P 21 17 49.8 0.0
baz=90
B05A Bryant 90.32 35 ⇓P P 21 17 49.9 0.0
baz=90
S16A Weppner Ranch, 90.33 48 ⇓P P 21 17 50.4 +0.1
baz=90
K11A Parker Ranch, 90.34 42 ⇑P P 21 17 50.6 +0.4
baz=90
PNIG Pinotepa 90.36 72 *i*P P 21 17 51.3 +0.4
PNIG *i*S SKSac 21 27 34.6 +0.3
U17A Shonto 90.36 49 ⇑P P 21 17 51.0 +0.5
baz=90
JCW Jim Creek 90.36 35⇑*i*P P 21 17 49.7 -0.4
JCW *ep*P pP 21 19 44.9 +3.0
JCW *e*PP PP 21 21 27.9 -5.8
N13A Wendover, West 90.37 44 ⇓P P 21 17 50.5 +0.2
baz=90
MSU Marysvale 90.37 47 *e*P P 21 17 51.2 +0.7
MSU *ep*P pP 21 19 45.8 +3.6
MSU *es*P sP 21 20 48.0 +15
MSU *e*PP PP 21 21 32.6 -1.4
P14A Drum Mountains 90.39 46 ⇓P P 21 17 50.6 +0.2
baz=90
V18A Ganado 90.39 50 ⇓P P 21 17 51.0 +0.4
baz=90
CRAG Craig 90.42 25 *e*P P 21 17 50.6 +0.4
E07A Sunnyside 90.43 37 ⇑P P 21 17 50.7 +0.2
baz=90
W19A Sanders 90.46 51 ⇑P P 21 17 51.3 +0.4
baz=90
T17A Navajo Res., N 90.47 49 ⇓P P 21 17 51.4 +0.5
baz=90
RSW Rattlesnake Hi 90.47 37 *e*P P 21 17 50.7 0.0
H09A Durkee 90.50 39 ⇓P P 21 17 50.9 0.0
baz=91
HAWA Hanford 90.51 37⇑*i*P P 21 17 50.6 -0.2
comp=Z,916nm,1.7s,mb6.4
HAWA *ep*P pP 21 19 41.7 -0.9
HAWA *es*P sP 21 20 35.5 +2.1
HAWA *e*PP PP 21 21 33.1 -1.8
Q15A Fillmore 90.51 46 ⇓P P 21 17 51.4 +0.4
baz=91
F08A Pendleton 90.56 38 ⇓P P 21 17 51.0 -0.1
baz=91
L12A House Creek Ra 90.60 43 ⇑P P 21 17 51.7 +0.3
baz=91
PMR Palmer 90.64 14 *e*P P 21 17 50.4 -0.7
PMR pmax pmax
comp=Z,171nm,1.2s,mb5.8
PMR MLR MLR
comp=Z,2µm,19.0s
PMR Palmer 90.64 14 *e*P P 21 17 50.4 -0.7
comp=Z,171nm,1.2s,mb5.8
PMR LR LR
comp=Z,2µm,19.0s
I10A Payette 90.66 40 ⇑P P 21 17 52.0 +0.4
baz=91
YAIG Yautepec 90.66 69 *i*P P 21 17 52.7 +0.5
R16A Teasdale 90.71 47 ⇓P P 21 17 52.8 +0.8
baz=91
C06A Tall Timber Ra 90.73 35 ⇓P P 21 17 51.4 -0.5
baz=91
RPW Rockport 90.74 35 *e*P P 21 17 51.1 -0.8
RPW *ep*P pP 21 19 44.8 +1.1
RPW *e*PP PP 21 21 37.7 +1.0
D07A Quincy 90.76 36 ⇓P P 21 17 51.9 -0.1
baz=91
A05A Maple Falls 90.80 34 ⇓P P 21 17 51.7 -0.5
baz=91
B06A Marblemount 90.80 35 ⇑P P 21 17 51.6 -0.6
baz=91
G09A Cove 90.80 39 ⇓P P 21 17 52.0 -0.3
baz=91
U18A Rough Rock, Ch 90.81 50 ⇓P P 21 17 52.7 +0.2
baz=91
S17A Black Ridge (B 90.81 48 ⇓P P 21 17 52.1 -0.4
baz=91
BMO Blue Mountains 90.82 39⇑*i*P P 21 17 51.8 -0.5
BMO *ep*P pP 21 19 48.2 +4.1
BMO *es*P sP 21 20 32.1 -2.7
BMO *e*PP PP 21 21 33.6 -3.8
E08A Dider Farm, El 90.83 37 ⇑P P 21 17 52.2 -0.1
baz=91
SIT Sitka 90.83 23 *e*P P 21 17 52.3 +0.2
SIT pmax pmax
comp=Z,292nm,2.1s,mb5.8
SIT MLR MLR
comp=Z,1µm,18.0s
SIT Sitka 90.83 23 *e*P P 21 17 52.3 +0.2
comp=Z,292nm,2.1s,mb5.8
SIT LR LR
comp=Z,1µm,18.0s
ETW Entiat 90.83 36 *e*P P 21 17 51.9 -0.4
ETW *ep*P pP 21 19 47.4 +3.3
ETW *es*P sP 21 20 51.9 +17
ETW *e*PP PP 21 21 32.6 -4.7
MFID Camas Ranch 90.84 41 ⇓P P 21 17 52.4 -0.1
baz=91
LNOR Lincton Mounta 90.88 38 *e*P P 21 17 52.2 -0.4
DUG Dugway 90.88 45 ⇑P P 21 17 52.5 -0.3
baz=91
DUG Dugway 90.88 45⇑*i*P P 21 17 52.6 -0.2
DUG *ep*P pP 21 19 46.1 +1.6
DUG *es*P sP 21 20 35.9 +0.6
DUG *e*PP PP 21 21 35.2 -2.8
PBVM Pinon 90.91 69 *i*P P 21 17 54.0 +0.6
PBVM *i*S PP 21 21 37.4 -1.1
K12A Draper Farm, C 90.95 42 ⇓P P 21 17 53.2 +0.2
baz=91
PTVM Pico Tres Padr 90.95 69⇑*i*P P 21 17 53.6 0.0
PTVM *i*S PP 21 21 37.8 -1.0
SEY Seymchan 90.97 348⇓*e*P P 21 17 51.8 -0.8
H10A Noah's Angus R 90.99 40 ⇓P P 21 17 52.8 -0.3
baz=91
F09A S2 Ranch, Elgi 90.99 38 ⇑P P 21 17 53.0 -0.1
baz=91
N14A Grayback Hills 91.01 44 ⇓P P 21 17 52.9 -0.4
baz=91
V19A Window Rock 91.01 51 ⇓P P 21 17 53.7 +0.3
baz=91
C07A Waterville 91.02 36 ⇑P P 21 17 52.9 -0.4
baz=91
I11A Placerville 91.05 41 ⇑P P 21 17 53.4 -0.1
baz=91
PPM Popocatepetl 91.13 69 *i*P P 21 17 55.0 +0.6
BGU Big Grassy Mou 91.15 44⇑*i*P P 21 17 53.7 -0.3
BGU *ep*P pP 21 19 48.1 +2.3
BGU *es*P sP 21 20 36.0 -0.5
BGU *e*PP PP 21 21 36.2 -3.8
O15A The Old Anders 91.15 45 ⇓P P 21 17 54.1 +0.1
baz=91
A06A Chilliwack 91.17 34 ⇑P P 21 17 53.4 -0.5
baz=91
T18A Mexican Hat 91.18 49 ⇓P P 21 17 54.6 +0.4
baz=91
J12A Stokes Ranch, 91.18 42 ⇓P P 21 17 54.5 +0.4
baz=91
G10A Bishop Farm, J 91.19 39 ⇑P P 21 17 53.7 -0.3
baz=91
LMEL Las Melosas 91.19 129⇑*i*P P 21 17 54.8 +0.3
CLCH Cerro Calan 91.20 128⇑*i*P P 21 17 54.8 +0.2
L13A Double Diamond 91.22 43 ⇑P P 21 17 54.5 +0.2
baz=91
NLU North Lily Min 91.22 46⇑*i*P P 21 17 53.7 -0.6
NLU *ep*P pP 21 19 50.6 +4.4
NLU *es*P sP 21 20 38.7 +1.8
NLU *e*PP PP 21 21 39.9 -0.7
D08A Wollman Farm, 91.25 37 ⇓P P 21 17 54.2 -0.1
baz=91
Q16A Castle Valley 91.25 47 ⇓P P 21 17 55.1 +0.6
baz=91
M14A Sheep Mountain 91.27 44 ⇑P P 21 17 54.5 0.0
baz=91
IIO Organos 91.28 69⇑*i*P P 21 17 55.7 +0.7
IIO *i*S PP 21 21 40.7 -0.7
R17A Hanksville Air 91.29 48 ⇑P P 21 17 54.6 -0.1
baz=91
P16A Fountain Green 91.31 46 ⇑P P 21 17 55.5 +0.8
baz=91
E09A Wood Farm, Sta 91.34 38 ⇑P P 21 17 54.2 -0.5
baz=91
S18A Hurst Farm, Bl 91.39 48 ⇑P P 21 17 55.0 -0.2
baz=91
HHC Hu-ho-hao-te 91.40 315⇓*i*P P 21 17 56.0 +0.8
HHC PP PP 21 21 44.8 +2.8
HHC SKS 21 27 39.5
HHC S S 21 28 07.6 -3.5
HHC SS SS 21 34 33.1 +0.6
HHC AMB AMB
comp=Z,177nm,1.8s,mb5.7
HHC AMB AMB
comp=Z,3µm,6.1s
FCH Farellones 91.41 128⇑*i*P P 21 17 55.7 +0.1
WRAK Wrangell Islan 91.42 24 *e*P P 21 17 55.3 +0.5
TMUT Trail Mountain 91.43 47 *e*P P 21 17 56.0 +0.7
N15A Stansbury Isla 91.45 45 ⇑P P 21 17 55.1 -0.3
baz=92
K13A Stover Farm, H 91.45 43 ⇓P P 21 17 55.8 +0.5
baz=92
B07A Winthrop 91.47 35 ⇑P P 21 17 55.1 -0.2
baz=92
I12A Atlanta 91.47 41 ⇑P P 21 17 55.7 +0.3
baz=92
H11A Donnelly 91.48 40 ⇓P P 21 17 55.2 -0.2
baz=92
TNA Tin City 91.52 5 *e*P P 21 17 55.0 -0.1
F10A Beach Ranch, E 91.53 39 ⇓P P 21 17 54.9 -0.7
baz=92
MPU Maple Canyon 91.54 46 *e*P P 21 17 56.1 +0.3
OD2 Odessa Site #2 91.56 37 P P 21 17 55.2 -0.5
NOQ North Oquirrh 91.58 45 *e*P P 21 17 56.1 +0.1
D09A Jones Farm, Ri 91.58 37 ⇑P P 21 17 55.4 -0.4
baz=92
T19A Beclabito 91.60 50 ⇑P P 21 17 56.2 0.0
baz=92
C08A Higginbotham F 91.62 36 ⇓P P 21 17 55.3 -0.7
baz=92
L14A Malta 91.63 43 ⇓P P 21 17 56.3 +0.2
baz=92
HIA Hailar 91.65 326⇓*i*P P 21 17 55.3 -0.8
HIA *e*PP pP 21 19 42.6 -5.3
HIA *e*SP sP 21 20 31.0 -7.6
HIA Hailar 91.65 326⇓*i*P P 21 17 55.3 -0.8
HIA *ep*P pP 21 19 42.6 -5.3
HIA *es*P sP 21 20 31.0 -7.6
HIA *e*PP PP 21 21 28.6 -15
Y22D IRIS PASSCAL I 91.68 53 ⇓P P 21 17 57.3 +0.8
baz=92
LENM Lemitar 91.68 53 *e*P P 21 17 56.8 +0.2
LAZ Ladron 91.69 52 *e*P P 21 17 56.8 +0.2
LAZ *ep*P pP 21 19 47.4 -1.1
LAZ *e*PP PP 21 21 42.0 -2.3
A07A Ashnola River, 91.70 35 ⇑P P 21 17 56.1 -0.2
baz=92
CD2 Chengdu 91.72 304⇓*i*P P 21 17 58.0 +1.2
CD2 AP pP 21 19 46.0 -2.7
CD2 XP sP 21 20 33.8 -5.6
CD2 PP PP 21 21 47.3 +2.7
CD2 SKS 21 27 41.6
CD2 S S 21 28 15.9 +1.6
CD2 XS sS 21 31 27.1 -7.6
CD2 SS SS 21 34 41.0 +3.7
CD2 AMB AMB
comp=Z,360nm,1.2s,mb6.2
CD2 AMB AMB
comp=Z,4µm,6.0s
SPUT South Promonto 91.72 44⇑*i*P P 21 17 56.4 -0.2
SPUT *ep*P pP 21 19 51.4 +2.9
SPUT *es*P sP 21 20 53.7 +15
SPUT *e*PP PP 21 21 37.4 -7.1
O16A Springville 91.73 46 ⇓P P 21 17 56.9 +0.2
baz=92
G11A Walters Elk Ra 91.74 39 ⇑P P 21 17 56.1 -0.4
baz=92
HLID Hailey 91.77 42 ⇑P P 21 17 56.9 +0.2
baz=92
HLID Hailey 91.77 42 *e*P P 21 17 56.8 0.0
comp=Z,482nm,1.6s,mb6.2
HVU Hansel Valley 91.78 44⇑*i*P P 21 17 56.7 -0.2
HVU *ep*P pP 21 19 51.2 +2.5
HVU *e*PP PP 21 21 40.2 -4.6
HVU *e*S SKSac 21 27 46.0 +4.9
SRU San Rafael 91.78 47 ⇓P P 21 17 57.0 0.0
baz=92
SRU San Rafael 91.78 47 *e*P P 21 17 56.9 0.0
TXAR Lajitas Array 91.78 58 P P 21 17 57.2 0.0
comp=Z,125nm,0.9s,mb5.8,baz=214,slow=4.8,SNR=469
TXAR pP pP 21 19 48.3 -0.8
comp=Z,11nm,1.0s,baz=224,slow=3.5,SNR=3.0
TXAR PP PP 21 21 43.6 -1.6
comp=Z,23nm,1.1s,baz=216,slow=7.7,SNR=5.9
TXAR S SKSac 21 27 39.9 -1.8
comp=Z,6.0nm,1.2s,baz=214,slow=5.9,SNR=6.3
TXAR PKKPbc PKKPbc 21 35 14.5 +1.6
comp=Z,2.5nm,0.7s,baz=83,slow=3.4,SNR=14
TXAR PKPPKP 21 43 21.2
comp=Z,1.0nm,0.9s,baz=87,slow=4.3,SNR=3.5
TXAR Lajitas Array 91.78 58 P P 21 17 57.2 0.0
TXAR 21 21 43.6
TXAR S SKSac 21 27 39.9 -1.9
TXAR pmax pmax
comp=Z,125nm,0.9s
TXAR pmax pmax
comp=Z,11nm,1.0s
TXAR pmax pmax
comp=Z,23nm,1.1s
TXAR smax
comp=N,6.0nm,1.2s
TXAR pmax pmax
comp=Z,3.0nm,0.7s
TXAR pmax pmax
comp=Z,1.0nm,0.9s
M15A Larsen Ranch, 91.81 44 ⇓P P 21 17 56.9 -0.1
baz=92
B08A Colville Reser 91.82 36 ⇓P P 21 17 55.9 -0.9
baz=92
J13A Cove Ranch, Pi 91.82 42 ⇑P P 21 17 57.3 +0.3
baz=92
R18A Canyonlands Na 91.82 48 ⇑P P 21 17 57.1 -0.1
baz=92
HUIG Huatulco 91.82 73 *i*P P 21 17 57.7 +0.1
CTU Camp Tracy 91.83 45 *e*P P 21 17 57.6 +0.5
P17A Butcher Ranch, 91.83 47 ⇓P P 21 17 57.4 +0.2
baz=92
VHO Vista Hermosa 91.85 72 *i*P P 21 17 57.4 -0.4
VHO *i*S SKSac 21 27 45.3 +2.7
OXX Oaxaca 91.87 72 *i*P P 21 17 59.0 +1.2
E10A Myers Farm, Un 91.90 38 ⇑P P 21 17 56.6 -0.7
baz=92
BNM Barren Site 91.92 53 *e*P P 21 17 57.6 -0.1
BNM *ep*P pP 21 19 50.7 +1.1
BNM *es*P sP 21 20 42.5 +2.3
BNM *e*PP PP 21 21 37.8 -8.4
K14A Jones Ranch, D 91.95 43 ⇓P P 21 17 57.8 +0.2
baz=92
JLU Jordanelle 91.98 45 *e*P P 21 17 57.9 +0.1
S19A Harvey Farm, M 92.00 49 ⇓P P 21 17 57.9 -0.1
baz=92
DAU Daniels Canyon 92.00 46 *e*P P 21 17 58.2 +0.2
DAU *e*PP PP 21 21 37.3 -9.3
LPM Los Pinos Moun 92.00 53 *e*P P 21 17 58.0 -0.1
LPM *ep*P pP 21 19 51.5 +1.6
LPM *es*P sP 21 20 43.2 +2.6
LPM *e*PP PP 21 21 39.1 -7.6
KTH Kantishna Hill 92.01 13 *e*P P 21 17 55.2 -2.2
comp=Z,52nm,0.8s,mb5.5
KTH *ep*P pP 21 19 48.9 -0.4
CHUM Lake Minchumin 92.04 12 *e*P P 21 17 55.7 -1.8
CHUM *ep*P pP 21 19 48.3 -1.1
Q18A Rafter H Ranch 92.04 47 ⇑P P 21 17 57.9 -0.3

baz=92
C09A Chrisman Ranch 92.05 37 ⇑P P 21 17 57.5 -0.4
baz=92
TRF Thorofare Moun 92.05 13 eP P 21 17 56.0 -1.5
comp=Z,90nm,0.8s,mb5.8
TRF epP pP 21 19 48.6 -0.9
H12A Diamond D Ranc 92.07 41 ⇓P P 21 17 58.2 +0.1
baz=92
F11A Grangeville 92.09 39 ⇓P P 21 17 56.3 -1.8
baz=92
N16A Rees Ranch, Co 92.14 45 ⇓P P 21 17 59.1 +0.5
baz=92
L15A Malad City 92.14 44 ⇓P P 21 17 58.4 -0.1
baz=92
I13A Wildhorse Cree 92.14 42 ⇑P P 21 17 58.7 +0.2
baz=92
MVCO Mesa Verde 92.16 49 ⇑P P 21 17 58.5 -0.3
baz=92
MVCO Mesa Verde 92.16 49 eP P 21 17 58.3 -0.4
comp=Z,1µm,2.5s,mb6.3
J14A Carey 92.17 42 ⇓P P 21 17 59.4 +0.7
baz=92
R19A Curley Farm, L 92.20 48 ⇓P pP 21 19 44.2 -6.6
baz=92
A08A Turner Farm, O 92.22 35 ⇓P P 21 17 58.5 -0.2
baz=92
O17A Robinson Place 92.22 46 ⇑P P 21 17 59.3 +0.4
baz=92
P18A Preston Nutter 92.24 47 ⇓P P 21 17 59.1 +0.1
baz=92
M16A Huntsville 92.25 45 ⇑P P 21 17 58.9 -0.2
baz=92
BTO Baotou 92.26 314 eP P 21 17 59.3 +0.2
E11A Bogner Ranch, 92.33 39 ⇓P P 21 17 57.8 -1.4
baz=92
PV10 Paradox Valley 92.39 48 eP P 21 17 59.3 -0.4
PV10 epP pP 21 19 51.9 +0.2
PV10 esP sP 21 20 44.4 +2.1
K15A Arbon 92.43 43 ⇑P P 21 17 59.8 0.0
baz=92
H13A Challis 92.43 41 ⇓P P 21 17 59.7 -0.1
baz=92
ANMO Albuquerque 92.44 52 eP P 21 17 59.7 -0.4
HWUT Hardware Ranch 92.44 44⇑iP P 21 17 59.2 -0.7
HWUT ePP PP 21 21 46.2 -3.8
B09A Rice 92.49 36 ⇓P P 21 17 59.4 -0.5
baz=92
BPAW Bear Paw Mtn. 92.49 13 eP P 21 17 57.0 -2.6
comp=Z,157nm,2.0s,mb5.6
BPAW epP pP 21 19 49.5 -2.0
F12A Elk City 92.52 40 ⇓P P 21 17 59.6 -0.6
baz=93
Q19A Hogan Spring (92.54 48 ⇓P P 21 18 00.2 -0.3
baz=93
I14A Mackay 92.55 42 ⇓P P 21 18 01.0 +0.6
baz=93
N17A Moffit Pass 92.55 45 ⇑P P 21 18 00.3 -0.2
baz=93
MCK McKinley 92.58 13 eP P 21 17 58.6 -1.4
C10A Spilker Farm, 92.58 37 ⇑P P 21 17 59.7 -0.7
baz=93
PV01 Paradox Valley 92.58 49 eP P 21 18 00.1 -0.5
PV01 epP pP 21 19 53.9 +1.3
PV01 ePP PP 21 21 50.0 -1.2
A09A Danville 92.59 36 ⇓P P 21 17 59.9 -0.5
baz=93
GDL2 Guadalupe Moun 92.63 55 eP P 21 18 01.0 0.0
D11A Klaveano Farm, 92.66 38 ⇓P P 21 17 59.6 -1.1
baz=93
SKAG Skagway 92.68 21 eP P 21 18 00.4 -0.1
comp=Z,560nm,2.3s,mb6.2
SKAG LR LR
comp=Z,1µm,17.0s
E12A Beaver Dam Sad 92.72 39 ⇑P P 21 18 00.2 -0.9
baz=93
O18A Roosevelt 92.73 46 ⇓P P 21 18 01.4 +0.1
baz=93
G13A Cobalt 92.74 40 ⇓P P 21 18 01.1 -0.1
baz=93
L16A Fish Haven 92.75 44 ⇓P P 21 18 00.9 -0.4
baz=93
J15A Blackfoot 92.88 43 ⇓P P 21 18 02.0 +0.2
baz=93
B10A Chitwood Farm, 92.91 37 ⇓P P 21 18 00.8 -1.1
baz=93
NEW Newport 92.94 37⇑iP P 21 18 00.6 -1.4
NEW epP pP 21 19 39.1 -15
NEW esP sP 21 20 43.9 -0.7
NEW ePP PP 21 21 51.7 -2.0
H14A Leadore 92.98 41 ⇑P P 21 18 02.6 +0.3
baz=93
HYT Haines Junctio 93.06 20 eP P 21 18 01.7 -0.5
HYT epP pP 21 19 55.8 +1.6
HYT ePP PP 21 21 53.0 -1.4
F13A Darby 93.07 40 ⇑P P 21 18 01.8 -0.9
baz=93
P19A Cripple Cowboy 93.08 47 ⇓P P 21 18 02.7 -0.2
baz=93
MENT Mentasta 93.08 16 eP P 21 18 01.7 -0.6
K16A Soda Springs 93.09 43 ⇑P P 21 18 02.8 0.0
baz=93
A10A Northport 93.13 36 ⇑P P 21 18 02.2 -0.7
baz=93
C11A Tepee Creek (N 93.17 37 ⇑P P 21 18 02.8 -0.3
baz=93
I15A Monteview 93.17 42 ⇑P P 21 18 03.6 +0.4
baz=93
G14A Jackson 93.28 41 ⇑P P 21 18 03.6 -0.1
baz=93
J16A Bone 93.31 43 ⇓P P 21 18 04.0 +0.1
baz=93
N18A Larsen Ranch, 93.32 46 ⇑P P 21 18 03.2 -0.8
baz=93
O19A Miners Draw (B 93.33 47 ⇓P P 21 18 03.7 -0.3
baz=93
AHID Auburn Hatcher 93.36 44 eP P 21 18 04.5 +0.4
MCMT McKenzie Canyo 93.41 41 eP P 21 18 04.1 -0.2
MCMT epP pP 21 19 57.9 +1.7
MCMT ePP PP 21 21 55.9 -1.5
H15A Lima 93.42 42 ⇑P P 21 18 04.5 +0.2
baz=94
B11A Sandpoint 93.45 37 ⇓P P 21 18 03.4 -1.0
baz=94
C12B Naegeli Ranch, 93.52 38 ⇓P P 21 18 04.0 -0.7
baz=94
E13A Victor 93.52 39 ⇓P P 21 18 03.6 -1.2
baz=94
RRI2 Red Ridge 93.53 43⇑iP P 21 18 04.7 -0.2
comp=Z,768nm,1.9s,mb6.4
RRI2 epP pP 21 20 00.3 +3.5
RRI2 eS S 21 28 27.8 -1.8
N19A John Jarvie Ra 93.60 46 ⇑P P 21 18 04.4 -0.8
baz=94
F14A Wisdom 93.64 40 ⇓P P 21 18 04.8 -0.5
baz=94
I16A Newdale 93.71 43 ⇓P P 21 18 06.1 +0.4
baz=94
D13A Huson 93.74 39 ⇑P P 21 18 04.5 -1.2
baz=94
DCID1 Drake Creek 93.75 43⇑iP P 21 18 05.7 -0.2
DCID1 epP pP 21 19 58.2 +0.3
DCID1 esP sP 21 20 47.9 -0.5
DCID1 ePP PP 21 21 56.3 -3.7
DLBC Dease Lake 93.75 24 eP P 21 18 05.3 -0.2
DLBC epP pP 21 20 03.0 +5.5
DLBC esP sP 21 21 01.9 +14
DLBC ePP PP 21 21 56.2 -3.6
A11A Hall Mountain, 93.76 36 ⇑P P 21 18 05.7 0.0
baz=94
IMA2 Indian Mountai 93.79 11 eP P 21 18 04.5 -1.0
IMA2 epP pP 21 19 56.5 -0.9
IMA2 eS S 21 28 20.3 -11
COLA College 93.81 13⇑iP P 21 18 03.8 -1.8
COLA epP pP 21 19 56.6 -1.0
G15A Dillon 93.81 41 ⇑P P 21 18 06.0 -0.1
baz=94
REDW Red Top Meadow 93.83 43⇑iP P 21 18 05.7 -0.5
REDW epP pP 21 20 01.5 +3.3
REDW esP sP 21 20 53.8 +4.9
REDW ePP PP 21 21 58.3 -2.4
REDW eS S 21 28 25.8 -6.4
TPAW Teton Pass 93.83 43⇑iP P 21 18 05.8 -0.5
comp=Z,741nm,2.1s,mb6.3
TPAW epP pP 21 20 03.3 +5.0
TPAW esP sP 21 20 51.2 +2.3
TPAW ePP PP 21 21 50.8 -10

DLMT Dillon 93.85 41⇑iP P 21 18 05.9 -0.3
DLMT epP pP 21 19 58.9 +0.7
DLMT esP sP 21 20 46.9 -2.1
DLMT ePP PP 21 21 57.8 -3.0
DLMT eS S 21 28 28.1 -4.2
MSO Missoula 93.88 39 epP pP 21 19 51.3 -7.0
MSO esP sP 21 20 50.5 +1.4
MSO ePP PP 21 21 54.6 -6.4
B12A Libby 93.89 37 ⇓P P 21 18 05.8 -0.6
baz=94
E14A Clinton 93.91 40 ⇓P P 21 18 05.9 -0.6
baz=94
SNOW Snow King Moun 93.94 43⇑iP P 21 18 06.6 -0.2
SNOW epP pP 21 20 00.5 +1.8
SNOW esP sP 21 20 48.5 -0.9
SNOW ePP PP 21 21 57.6 -4.0
BSMT Bassoo Peak 93.98 38 eP P 21 18 05.6 -1.2
C13A Hot Springs 94.00 38 ⇓P P 21 18 05.7 -1.2
baz=94
BILL Bilibino 94.02 355*d*iP P 21 18 05.8 -0.7
BILL e 21 21 58.5
BILL e 21 27 50.7
BILL pmax pmax
comp=Z,65nm,1.2s,mb5.5
BILL Bilibino 94.02 355 *i* P P 21 18 05.9 -0.6
IMW Indian Meadow 94.06 43⇑iP P 21 18 07.1 -0.1
comp=Z,782nm,2.3s,mb6.3
IMW epP pP 21 20 02.8 +3.6
IMW esP sP 21 20 54.3 +4.4
IMW ePP PP 21 21 57.9 -4.6
IMW eS S 21 28 30.5 -3.7
MOOW Moose Ponds 94.10 43⇑iP P 21 18 07.0 -0.5
comp=Z,499nm,2.1s,mb6.2
MOOW epP pP 21 20 01.2 +1.8
MOOW esP sP 21 20 54.2 +4.1
MOOW ePP PP 21 21 49.4 -13
MOOW eS S 21 28 31.4 -3.1
LOHW Long Hollow 94.11 43⇑iP P 21 18 07.1 -0.4
LOHW epP pP 21 19 59.4 -0.2
LOHW esP sP 21 20 50.4 +0.3
LOHW ePP PP 21 21 50.6 -12
A12A Yaak River Ran 94.13 37 ⇓P P 21 18 07.1 -0.3
baz=94
LZH Lanzhou 94.15 308 ⇑P P 21 18 09.3 +1.4
LZH AP pP 21 20 01.3 +1.4
LZH XP sP 21 20 52.0 +1.5
LZH PP PP 21 22 04.0 +0.7
LZH SKS 21 27 52.3
LZH SS SS 21 35 09.1 -2.5
LZH AMB AMB
comp=Z,180nm,1.3s,mb5.9
LZH AMB AMB
comp=Z,770nm,6.2s
F15A Butte 94.17 41 ⇑P P 21 18 07.2 -0.5
baz=94
LRM Limekiln Ridge 94.19 41 eP P 21 18 07.2 -0.6
CLNS Chul'man 94.23 333 eP P 21 18 07.0 -0.7
CLNS eS SKSac 21 27 50.9 -2.8
CLNS pmax pmax
comp=Z,78nm,1.5s,mb5.5
CLNS pmax pmax
comp=E,9.0nm,1.4s
CLNS pmax pmax
comp=N,29nm,1.6s
CLNS pmax pmax
comp=E,27nm,1.6s
CLNS pmax pmax
comp=Z,53nm,2.0s,mb5.2
CLNS pmax pmax
comp=N,38nm,1.5s
CLNS smax
comp=E,275nm,1.9s
CLNS smax
comp=N,132nm,1.7s
G16A Moss Hill, Enn 94.25 41 ⇓P P 21 18 07.8 -0.3
baz=94
QLMT Earthquake Lak 94.26 42 eP P 21 18 08.5 +0.4
QLMT epP pP 21 20 02.5 +2.4
QLMT ePP PP 21 22 02.0 -1.9
D14A Greenough 94.27 39 ⇓P P 21 18 07.1 -1.1
baz=94
TRQA Tornquist 94.29 136 eP P 21 18 08.7 +0.1
comp=N,261nm,1.8s,mb6.0
TRQA epP pP 21 20 04.1 +3.6
TRQA ePP PP 21 22 02.5 -0.8
I17A Pilgram Creek 94.29 43 ⇑P P 21 18 08.7 +0.4
baz=94
H16A Russell Place, 94.30 42 ⇓P P 21 18 08.6 +0.3
baz=94
CHMT Chamberlain Mo 94.32 39 eP P 21 18 07.3 -1.1
CHMT epP pP 21 20 00.4 0.0
CHMT esP sP 21 21 04.9 +14
CHMT ePP PP 21 21 55.6 -8.8
BW06 Boulder Array 94.32 44 ⇓P P 21 18 07.6 -0.9
baz=94
BW06 Boulder Array 94.32 44⇑iP P 21 18 07.3 -1.1
BW06 epP pP 21 19 58.8 -1.7
BW06 esP sP 21 20 51.0 -0.2
BW06 ePP PP 21 21 53.2 -11
BW06 eS S 21 28 38.2 +1.7
PDAR Pinedale Array 94.32 44 P P 21 18 07.5 -1.0
comp=N,22nm,0.9s,mb5.2,baz=205,slow=3.1,SNR=60
PDAR pP pP 21 19 59.9 -0.7
comp=N,36nm,1.2s,baz=226,slow=6.0,SNR=3.5
PDAR PP PP 21 22 00.3 -4.2
comp=N,61nm,1.3s,baz=230,slow=3.7,SNR=9.8
PDAR S SKSac 21 27 55.5 +0.6
comp=N,4.3nm,1.1s,baz=144,slow=8.8,SNR=7.7
PDAR PKKP PKKPbc 21 35 06.5 -0.4
comp=N,2.1nm,0.8s,baz=104,slow=4.6,SNR=5.2
PDAR PKPPKP 21 43 14.8
comp=N,0.8nm,0.8s,baz=121,slow=11,SNR=4.5
E15A Deer Lodge 94.41 40 ⇓P P 21 18 08.0 -0.8
baz=94
YFT Old Faithful 94.42 42⇑iP P 21 18 09.8 +1.0
YFT epP pP 21 19 54.5 -6.4
YFT esP sP 21 20 56.3 +4.8
YFT ePP PP 21 21 58.5 -6.7
YMR Madison River 94.45 42 eP P 21 18 08.9 -0.1
comp=N,154nm,2.1s,mb5.7
YMR epP pP 21 20 02.3 +1.3
YMR ePP PP 21 22 01.9 -3.5
B13A Whitefish 94.45 38 ⇓P P 21 18 07.9 -1.0
baz=94
SDCO Great Sand Dun 94.49 50⇑iP P 21 18 08.6 -0.8
SDCO epP pP 21 19 59.7 -1.7
SDCO esP sP 21 20 51.2 -0.9
SDCO ePP PP 21 22 01.3 -4.5
H17A Grant Village 94.54 42 ⇑P P 21 18 10.7 +1.2
baz=95
YNR Norris Junctio 94.65 42⇑iP P 21 18 10.6 +0.7
YNR epP pP 21 20 02.0 0.0
YNR esP sP 21 20 55.7 +3.1
YNR ePP PP 21 21 59.5 -7.5
YNR eS S 21 28 37.6 -1.6
LKWY Lake 94.74 42⇑iP P 21 18 11.5 +1.2
LKWY e 21 22 05.0
LKWY pmax pmax
comp=Z,57nm,1.1s,mb5.5
LKWY Lake 94.74 42⇑iP P 21 18 11.5 +1.1
comp=Z,57nm,1.1s,mb5.5
LKWY epP pP 21 20 06.1 +3.7
LKWY esP sP 21 20 55.8 +2.8
LKWY ePP PP 21 22 05.0 -2.7
D15A Lincoln 94.81 40 ⇓P P 21 18 09.9 -0.7
baz=95
E16A East Helena 95.03 40 ⇑P P 21 18 11.0 -0.6
baz=95
HRY Holter Researc 95.03 40 eP P 21 18 11.1 -0.5
HRY epP pP 21 20 07.1 +3.4
HRY ePP PP 21 22 05.6 -4.2
B14A Marquette Ranc 95.11 38 ⇑P P 21 18 11.0 -0.9
baz=95
DAWY Dawson 95.12 17 eP P 21 18 10.8 -0.8
DAWY epP pP 21 20 03.1 -0.6
DAWY ePP PP 21 22 07.4 -2.7
C15A Salmond Ranch, 95.16 39 ⇓P P 21 18 11.2 -0.9
baz=95
SCX San Cristobal 95.25 74 *i* P P 21 18 10.0 -3.3
RWWY Rawlins 95.28 46⇑iP P 21 18 12.2 -0.7
RWWY epP pP 21 20 08.4 +3.5
RWWY esP sP 21 21 00.7 +5.1
RWWY ePP PP 21 22 02.1 -10
RWWY eS SKSac 21 28 04.8 +4.8

JCT Junction City 95.29 59⇑iP P 21 18 12.0 -1.2
JCT epP pP 21 20 04.0 -1.2
JCT esP sP 21 20 59.6 +3.7
JCT ePP PP 21 22 06.9 -5.2
JCT eS SKSac 21 28 05.5 +5.0
A14A Double T Ranch 95.36 38 ⇓P P 21 18 12.4 -0.6
baz=95
D16A Dana Ranch, Ca 95.36 40 ⇑P P 21 18 12.7 -0.4
baz=95
ISCO Idaho Springs 95.41 48⇑iP P 21 18 13.2 -0.2
ISCO epP pP 21 20 07.1 +1.5
ISCO esP sP 21 21 01.7 +5.5
ISCO ePP PP 21 22 07.2 -5.7
COLD Coldfoot 95.44 11 eP P 21 18 12.0 -1.0
comp=Z,18nm,1.1s,mb5.0
COLD epP pP 21 20 07.4 +2.3
COLD esP sP 21 21 01.9 +6.2
COLD ePP PP 21 21 59.5 -13
E17A Martinsdale 95.47 41 ⇓P P 21 18 13.0 -0.6
baz=96
B15A Bradely Ranch, 95.48 38 ⇑P P 21 18 11.9 -1.6
baz=96
CCIG Comitan 95.48 75 *i* P P 21 18 14.3 -0.1
CCIG *i* S PP 21 22 12.4 -1.4
KVTX Kingsville 95.49 62⇑iP P 21 18 14.2 0.0
KVTX epP pP 21 20 09.7 +3.4
KVTX esP sP 21 21 07.8 +11
KVTX ePP PP 21 22 09.5 -4.2
C16A Fuhringer Ranc 95.66 39 ⇑P P 21 18 13.5 -1.0
baz=96
RLMT Red Lodge 95.72 42 ⇑P P 21 18 14.9 +0.1
baz=96
RLMT Red Lodge 95.72 42⇑iP P 21 18 14.5 -0.2
RLMT epP pP 21 20 04.2 -2.7
RLMT ePP PP 21 22 12.9 -2.2
RLMT eS S 21 28 46.3 -2.1
A15A Johnson Ranch, 95.75 38 ⇓P P 21 18 13.7 -1.1
baz=96
GCMT Greycliff 95.82 42 eP P 21 18 15.2 0.0
GCMT epP pP 21 20 08.8 +1.5
GCMT ePP PP 21 22 07.8 -8.1
F18A Big Timber 95.85 42 ⇓P P 21 18 15.1 -0.2
baz=96
AMTX Amarillo 95.86 54⇑iP P 21 18 14.5 -1.2
AMTX epP pP 21 20 11.2 +3.4
AMTX esP sP 21 20 59.5 +1.0
AMTX ePP PP 21 22 04.0 -12
B16A M & M Farms, S 96.01 39 ⇓P P 21 18 14.5 -1.5
baz=96
E18A Harlowton 96.08 41 ⇓P P 21 18 16.0 -0.3
baz=96
YAK Yakutsk 96.12 339*d*iP P 21 18 14.6 -1.5
YAK e*PP pP 21 20 03.3 -5.0
YAK e 21 22 13.8
YAK eSP SP 21 30 10.0 -5.3
YAK ePS PS 21 31 16.0 -5.0
YAK eSS SS 21 35 31.2 -6.9
YAK pmax pmax
comp=Z,26nm,0.9s,mb5.4
YAK pmax pmax
comp=E,7.0nm,1.4s
YAK pmax pmax
comp=N,6.0nm,1.2s
YAK pmax pmax
comp=N,841nm,3.3s
YAK pmax pmax
comp=E,592nm,3.3s
YAK Yakutsk 96.12 339⇓eP P 21 18 14.2 -1.9
YAK epP pP 21 20 02.1 -6.2
YAK ePP PP 21 22 12.2 -5.6
YAK eS SKSac 21 27 56.4 -7.0
C17A Wharram Farm, 96.14 40 ⇓P P 21 18 15.7 -0.9
baz=96
PHWY Pilot Hill 96.24 47⇑iP P 21 18 16.1 -1.0
PHWY epP pP 21 20 10.9 +1.5
PHWY esP sP 21 21 16.9 +17
PHWY ePP PP 21 22 14.1 -5.0
PHWY eS S 21 28 43.6 -9.4
A16A West Butte Ran 96.36 38 ⇓P P 21 18 16.7 -0.8
baz=96
CIT Chita 96.46 325 eP P 21 18 18.2 +0.3
CIT e 21 22 15.2
IMP Imphal 96.70 294 eP P 21 18 19.0 -0.7
IMP ex x 21 28 01.0
NNA Nana 96.85 107⇑iP P 21 18 21.6 +1.0
NNA epP pP 21 20 13.4 +0.6
NNA esP sP 21 21 07.3 +3.8
NNA ePP PP 21 22 18.5 -5.3
EGMT Eagleton 96.92 40 ⇓P P 21 18 19.5 -0.6
baz=97
EGMT Eagleton 96.92 40⇑iP P 21 18 19.1 -1.0
EGMT ePP PP 21 22 14.6 -10
EDM Edmonton 97.73 34⇑iP P 21 18 22.0 -1.6
EDM pP pP 21 20 19.8 +3.8
EDM ePP PP 21 22 22.6 -7.6
HKT Hockley 98.15 61 eP Pdif 21 18 24.9 -0.9
HKT e 21 22 31.3
HKT pmax pmax
comp=Z,170nm,1.8s,mb6.1
HKT Hockley 98.15 61 ePdif Pdif 21 18 24.9 -0.9
comp=Z,170nm,1.8s
HKT ePP PP 21 22 31.3 -2.6
SONM Songino Array 98.20 319 P Pdif 21 18 25.8 -0.2
comp=Z,12nm,1.0s,baz=131,slow=2.2,SNR=31
SONM pP pP 21 20 15.1 -3.1
comp=Z,6.0nm,1.1s,baz=143,slow=3.0,SNR=2.6
SONM PP PP 21 22 28.7 -5.2
comp=Z,7.3nm,0.8s,baz=146,slow=5.1,SNR=3.3
SONM S SKSac 21 28 12.3 -2.3
comp=Z,5.1nm,0.8s,baz=17,slow=1.5,SNR=9.0
SONM PKKPbc PKKPbc 21 34 56.0 -0.6
comp=Z,12nm,1.1s,baz=255,slow=2.1,SNR=12
SONM SKKP 21 37 46.8
comp=Z,11nm,1.0s,baz=255,slow=2.2,SNR=10.0
SONM PKPPKP 21 43 06.6
comp=Z,1.1nm,0.6s,baz=2.9,slow=3.0,SNR=5.1
SONM Songino Array 98.20 319 P Pdif 21 18 25.8 -0.2
SONM *PP pP 21 20 15.1 -3.1
SONM 21 22 28.7
SONM S SKSac 21 28 12.3 -2.3
SONM pmax pmax
comp=Z,12nm,1.0s
SONM pmax pmax
comp=Z,6.0nm,1.1s
SONM pmax pmax
comp=Z,7.0nm,0.8s
SONM smax
comp=N,5.0nm,0.9s
SONM pmax pmax
comp=Z,12nm,1.1s
SONM pmax pmax
comp=N,11nm,1.0s
SONM pmax pmax
comp=Z,1.0nm,0.6s
LAO LASA Array 98.34 42 ePdif Pdif 21 18 26.6 0.0
LAO ePP PP 21 22 28.6 -6.4
OGNE Ogallala 98.36 49⇑iP Pdif 21 18 26.1 -0.6
comp=Z,410nm,1.8s
OGNE ePP PP 21 22 30.0 -5.3
GTA Gaotai 98.52 310⇓iP Pdif 21 18 28.1 +0.7
GTA AP pP 21 20 16.6 -3.2
GTA XP sP 21 21 04.1 -6.3
GTA PP PP 21 22 34.1 -2.3
GTA SKS 21 28 15.8
GTA S Sdif 21 29 05.8 -6.4
GTA AMB AMB
comp=Z,48nm,2.3s,mb5.4
GTA AMB AMB
comp=Z,1µm,7.1s
SHL Shillong 98.72 294⇓iP Pdif 21 18 33.0 +4.7
SHL eS SKSac 21 28 22.0 +3.8
LPA La Plata 98.79 136*ce*P Pdif 21 18 26.0 -2.7
LPA esP sP 21 21 22.0 +10
LPA ePP PP 21 22 39.0 +1.3
LPA eSKS 21 28 15.0
LPA eS Sdif 21 29 12.0 -2.6
LPA eSP SP 21 30 45.0 +0.5
LPA epSKS 21 31 06.0
LPA epS 21 31 47.0
LPA ePS PS 21 31 55.0 +5.9
LPA esS sS 21 32 51.0 +13
TGUH Tegucigalpa,Un 98.83 79 ePdif Pdif 21 18 28.9 +0.1
TGUH ePP PP 21 22 30.3 -8.9

CBKS Cedar Bluff 99.01 51 *e*P Pdif 21 18 30.8 +1.2
CBKS *e* 21 22 34.6
ARE Arequipa 99.22 113 *e*P Pdif 21 18 33.0 +2.5
BOD Bodaibo 99.48 330 *e*P Pdif 21 18 29.9 -1.8
BOD pmax pmax
comp=Z,8.0nm,2.3s
NATX Nacogdoches 99.82 60 *e*Pdif Pdif 21 18 32.4 -0.8
NATX *e*PP PP 21 22 38.4 -7.9
DGMT Dagmar 100.39 41 ⇑P Pdif 21 18 34.9 -0.8
baz=100
DGMT Dagmar 100.39 41 *e*Pdif Pdif 21 18 35.9 +0.2
DGMT *e*PP PP 21 22 47.1 -3.2
TEIG Tepich 100.45 73 *e*PP PP 21 22 47.6 -3.6
CAL Calcutta 100.47 290 *e*P Pdif 21 18 39.3 +3.2
CAL *e*S SKSac 21 28 27.5 +0.6
OTAV Otavalo 100.95 95 *e*Pdif Pdif 21 18 33.9 -4.4
comp=Z,38nm,1.4s
OTAV *e* 21 20 31.4
OTAV *e*PP PP 21 22 48.8 -6.1
LSA Lhasa 100.97 298 *e*P Pdif 21 18 39.0 +0.6
LSA *e* 21 22 57.3
LSA pmax pmax
comp=Z,5.0nm,0.7s
LSA Lhasa 100.97 298 *e*Pdif Pdif 21 18 39.0 +0.7
comp=Z,5.1nm,0.7s
LSA *e*PP PP 21 22 57.3 +2.2
ZAK Zakamensk 101.21 321 *e*P Pdif 21 18 38.7 -0.7
ZAK *e* 21 28 27.7
ZAK pmax pmax
comp=Z,26nm,1.7s
KSU1 Kansas State U 101.34 52 *e*Pdif Pdif 21 18 38.9 -1.0
KSU1 *e* 21 20 37.0
KSU1 *e*PP PP 21 22 46.0 -12
IRK Irkutsk 101.50 323 *e*P Pdif 21 18 42.5 +1.8
IRK *e*S SKSac 21 28 27.5 -2.9
IRK *e* 21 29 40.0
IRK pmax pmax
comp=Z,39nm,2.2s
TLY Talaya 101.59 322 *d* *i*P Pdif 21 18 40.2 -0.9
TLY *e*PPP 21 25 11.7
TLY *e* 21 28 31.2
TLY *e*S Sdif 21 29 40.3 +2.4
TLY *e* 21 31 13.6
TLY *e*PPS 21 32 05.5
TLY pmax pmax
comp=Z,15nm,1.3s
TLY Talaya 101.59 322 *e*Pdif Pdif 21 18 37.0 -4.1
TLY *e* 21 20 27.7
TLY *e*PP PP 21 22 41.0 -18
MIAR Mount Ida 101.77 57 *e*P Pdif 21 18 40.5 -1.4
MIAR pmax pmax
comp=Z,47nm,1.8s
MIAR Mount Ida 101.77 57 *e*Pdif Pdif 21 18 40.5 -1.4
comp=Z,47nm,1.8s
MIAR *e*PKiKP PKiKP 21 22 51.6 -11
LPAZ La Paz 102.08 115 P Pdif 21 18 45.8 +2.5
comp=Z,17nm,1.0s,baz=237,slow=2.4,SNR=22
LPAZ PP PP 21 22 59.6 -3.2
comp=Z,24nm,1.2s,baz=239,slow=4.3,SNR=5.7
LPAZ S SKSac 21 28 35.0 +0.2
comp=Z,17nm,1.1s,baz=137,slow=24,SNR=14
LPAZ La Paz 102.08 115 P Pdif 21 18 45.8 +2.6
LPAZ 21 22 59.7
LPAZ S SKSac 21 28 35.1 +0.2
LPAZ pmax pmax
comp=Z,17nm,1.0s
LPAZ pmax pmax
comp=Z,24nm,1.2s
LPAZ smax
comp=N,17nm,1.1s
YKA Yellowknife Ar 102.21 26 P Pdif 21 18 41.4 -2.5
comp=N,1.7nm,0.7s,baz=236,slow=4.5,SNR=7.9
YKA PP PP 21 23 00.8 -2.7
comp=N,3.3nm,0.6s,baz=236,slow=1.7,SNR=22
YKA SKiKP 21 25 48.3
comp=N,2.1nm,0.6s,baz=251,slow=1.5,SNR=9.7
YKA PKKPbc PKKPbc 21 34 43.8 -1.9
comp=N,3.5nm,0.6s,baz=37,slow=2.6,SNR=22
YKA PKKP PKKPbc 21 34 51.2 +5.5
comp=N,1.5nm,0.6s,baz=42,slow=2.4,SNR=4.5
YKA Yellowknife Ar 102.21 26 P Pdif 21 18 41.4 -2.5
YKA 21 23 00.8
YKA pmax pmax
comp=Z,2.0nm,0.7s
YKA pmax pmax
comp=Z,3.0nm,0.6s
YKA pmax pmax
comp=N,2.0nm,0.6s
YKA pmax pmax
comp=Z,4.0nm,0.6s
YKA pmax pmax
comp=Z,2.0nm,0.6s
YKA Yellowknife Ar 102.21 26 P Pdif 21 18 41.4 -2.5
YKA PP PP 21 23 00.8 -2.6
YKA PKKPbc PKKPbc 21 34 43.8 -1.9
YKA PKKP PKKPbc 21 34 51.2 +5.5
UALR University of 102.79 58 *e*PKiKP PKiKP 21 23 03.4 -0.6
TAPN Taplejung 102.86 294 *e*P Pdif 21 18 47.4 +0.7
comp=Z,14nm,0.7s
ODAN Odare 102.93 294 *e*P Pdif 21 18 48.5 +1.4
comp=Z,19nm,0.7s
ECSD EROS,Sioux Fal 103.17 48 *e*Pdif Pdif 21 18 47.5 -0.7
ECSD *e*PKiKP PKiKP 21 23 02.0 -2.4
TIXI Tiksi 103.21 345 *e*P Pdif 21 18 45.9 -2.4
TIXI pmax pmax
comp=Z,12nm,1.4s
TIXI Tiksi 103.21 345 *e*Pdif Pdif 21 18 45.7 -2.6
TIXI *e*PKiKP PKiKP 21 23 02.6 -1.0
VBMS Vicksburg 103.23 61 *e*PKiKP PKiKP 21 23 07.9 +3.0
comp=Z,58nm,0.3s
RAMN Ramite 103.62 293 *e*P Pdif 21 18 51.7 +1.6
comp=Z,10.0nm,0.7s
MDRS Chennai 103.79 278 ⇓*e*P Pdif 21 18 49.0 -1.9
MDRS *ex* x 21 31 05.0
MDRS *ex* x 21 31 36.0
JIRN Jiri 104.22 294 *e*P Pdif 21 18 53.0 +0.2
comp=Z,13nm,0.6s
HBAR Harrisburg 104.36 57 *e*PKiKP PKiKP 21 23 06.5 -0.4
HBAR *e*PP PP 21 23 17.7 -2.2
GUN Gumba 104.57 294 *e*P Pdif 21 18 54.5 +0.2
comp=Z,16nm,0.6s
SCIA State Center 104.81 50 *e*PKiKP PKiKP 21 23 06.5 -1.0
SCIA *e*PP PP 21 23 19.8 -3.3
CCM Cathedral Cave 104.83 55 *e*P Pdif 21 18 50.9 -4.6
CCM *e* 21 23 19.5
CCM pmax pmax
comp=Z,7.0nm,0.9s
CCM Cathedral Cave 104.83 55 *e*Pdif Pdif 21 18 50.9 -4.6
comp=Z,7.0nm,0.9s
CCM *e*PKiKP PKiKP 21 23 04.6 -3.0
CCM *e*PP PP 21 23 19.5 -3.8
PKI Pulchoki 104.83 294 *e*P Pdif 21 18 56.3 +0.8
TRD Trivandrum 104.91 272 *ex* x 21 23 23.0
OXF Oxford 104.94 59 PKiKP PKiKP 21 23 08.5 +0.6
comp=Z,414nm,1.6s
KKN Kakani 105.02 294 *e*P Pdif 21 18 56.8 +0.5
comp=Z,34nm,1.1s
KKN Kakani 105.02 294 *e*P Pdif 21 18 56.8 +0.5
KKN pmax pmax
comp=Z,34nm,1.1s
DMN Daman 105.10 294 *e*P Pdif 21 18 57.4 +0.7
comp=Z,50nm,1.0s
AGMN Agassiz Refuge 105.38 44 *e*PKiKP PKiKP 21 23 07.3 -1.1
PARMO Parma 105.44 57 PKiKP PKiKP 21 23 05.0 -3.8
PARMO *e*PP PP 21 23 22.4 -5.5
HALT Halls 105.49 57 *e*PKiKP PKiKP 21 23 07.8 -1.2
HALT *e*PP PP 21 23 24.2 -3.9
GKN Gorkha 105.63 294 *e*P Pdif 21 18 59.0 0.0
comp=Z,27nm,1.0s
GLAT Glass 105.66 57 *e*PKiKP PKiKP 21 23 04.3 -4.9
GLAT *e*PP PP 21 23 26.0 -3.4
SLM Saint Louis 105.77 54 *e*P Pdif 21 18 59.1 -0.6
SLM *e* 21 23 25.8
ULM Lac du Bonnet 106.08 42 PKiKP PKiKP 21 23 07.3 -2.3
comp=Z,3.1nm,0.4s,baz=236,slow=7.1,SNR=5.4
ULM PP PP 21 23 28.6 -3.5
comp=Z,87nm,1.3s,baz=255,slow=7.3,SNR=16
ULM Lac du Bonnet 106.08 42 *e*PKiKP PKiKP 21 23 07.1 -2.5
ULM *e*PP PP 21 23 24.9 -7.2
ULM PP PP 21 23 28.6 -3.4
SIUC Southern Illin 106.21 56 *e*PKiKP PKiKP 21 23 09.5 -0.7
SIUC *e*PP PP 21 23 30.3 -3.1
LRAL Lakeview Retre 106.30 61 *e*PKiKP PKiKP 21 23 09.4 -1.1
LRAL *e*PP PP 21 23 31.2 -2.9

KOLN Koldanda 106.40 293 *e*P Pdif 21 19 03.4 +0.9
DANN Dangsing 106.47 294 *e*P Pdif 21 19 02.4 -0.4
ROSC El Rosal 106.65 93 Pdiff Pdif 21 19 04.7 +1.1
comp=Z,6.5nm,0.4s,baz=103,slow=21,SNR=4.0
ROSC S SKSac 21 28 57.6 +2.0
comp=Z,4.6nm,0.3s,baz=279,slow=23,SNR=4.0
ROSC El Rosal 106.65 93 Pdif Pdif 21 19 04.7 +1.1
ROSC *e*PKiKP PKiKP 21 23 07.9 -3.9
ROSC *e*PP PP 21 23 36.0 -0.8
ROSC S SKSac 21 28 57.6 +2.0
ROSC PKKPab 21 34 28.8
HYB Hyderabad 106.98 281 *e*P Pdif 21 19 06.0 +0.9
HYB *e* 21 23 36.0
HYB *e* 21 28 56.0
HYB Hyderabad 106.98 281 *i* Pdif Pdif 21 19 06.0 +0.9
HYB *e*PP PP 21 23 36.0 -3.3
HYB *e*SKS SKSac 21 28 56.0 -0.7
HYB *e* 21 29 50.0
HYB *e* 21 30 24.0
HYB *e*SP SP 21 32 06.0 -5.1
HYB *e*PS PS 21 33 12.0 +1.3
HYB Hyderabad 106.98 281 *e*Pdif Pdif 21 19 06.0 +0.9
HYB *e*PP PP 21 23 36.0 -3.3
HYB *e*SKS SKSac 21 28 56.0 -0.7
HYB *e*SKKS SKKSac 21 29 50.0 -0.3
HYB *e*S Sdif 21 30 24.0 +1.2
JBP Jabalpur 107.83 288 *ex* x 21 23 34.9
JBP *e*S SKSac 21 29 00.2 +0.1
SIV San Ignacio 107.93 118 S SKSac 21 29 00.2 -0.8
comp=Z,10.0nm,1.2s,baz=83,slow=23,SNR=23
EYMN Ely 108.01 45 PKiKP PKiKP 21 23 17.6 +4.3
EYMN *e*PP PP 21 23 41.5 -4.6
MNGI Mangalore 108.60 276 *ex* x 21 24 38.5
BLO Bloomington 108.69 55 *e*PKiKP PKiKP 21 23 00.9 -14
BLO *e*PP PP 21 23 40.9 -10
AKL Akola 109.53 284 *ex* x 21 23 51.0
AKL *e*S SKSac 21 29 06.7 -0.7
TKL Tuckaleechee C 109.68 59 S SKSac 21 29 02.3 -5.1
PTH Pithoragarh 109.80 294 *e*S SKSac 21 29 06.0 -2.1
TZTN Tazewell 110.12 58 *e*PKiKP PKiKP 21 23 15.3 -2.3
TZTN *e*PP PP 21 23 58.4 -3.1
GOA Goa 110.46 278 ⇑*ex* x 21 23 50.3
GOA *i*S SKSac 21 29 07.8 -3.6
KAD Karad 110.81 280 *ex* x 21 22 38.0
POO Poona 111.55 281 *e*P PKiKP 21 23 18.0 -1.8
POO *e*S SKSac 21 29 13.0 -2.7
SDV Santo Domingo 111.66 90 S SKSac 21 29 12.1 -4.3
SDV PKKPab PKKPab 21 34 28.8 +1.9
comp=Z,6.4nm,0.8s,baz=106,slow=3.4,SNR=5.0
SDV Santo Domingo 111.66 90 *e*Pdif Pdif 21 19 29.5 +3.6
SDV *e*PKiKP PKiKP 21 23 19.9 -1.3
SDV *e*PP PP 21 24 08.2 -4.5
SDV *e*SKPdf SKPdf 21 26 07.3 -1.5
DDI Dehra Dun 111.82 294 *ex* x 21 21 18.2
DDI *e*S SKSac 21 29 13.0 -3.3
NDI New Delhi 112.02 292 *e*P PKiKP 21 23 19.0 -2.4
BOM Bombay 112.60 281 *ex* x 21 23 49.5
BOM *ex* x 21 24 07.5
comp=Z,468nm,2.9s
BOM *ex* x 21 26 01.7
SMLA Simla 112.80 295 *i* P PKiKP 21 23 22.2 -0.7
SMLA *ex* x 21 23 23.4
comp=Z,125nm,0.7s
SMLA *i* S SKSac 21 29 18.3 -1.8
MK31 Makanchi Array 113.06 312 PKIKP PKiKP 21 23 21.6 -1.2
MK31 pmax pmax
comp=Z,11nm,0.6s
MK31 Makanchi Array 113.06 312 *e*Pdif Pdif 21 19 33.7 +1.7
MK31 *e*PKiKP PKiKP 21 23 21.5 -1.3
MK31 *e*PP PP 21 24 18.7 -3.2
MK31 *e*PKKPbc PKKPbc 21 34 10.4 -1.0
MK31 *e*PKKPab PKKPab 21 34 20.1 +1.3
MKAR Makanchi Array 113.06 312 Pdiff Pdif 21 19 31.2 -0.8
comp=Z,2.4nm,0.5s,baz=45,slow=0.5,SNR=24
MKAR PKiKP PKiKP 21 23 20.9 -1.9
comp=Z,8.5nm,0.6s,baz=111,slow=1.0,SNR=15
MKAR PP PP 21 24 19.9 -2.1
comp=Z,9.6nm,0.8s,baz=92,slow=6.1,SNR=4.5
MKAR SKP 21 26 10.4
comp=Z,23nm,0.7s,baz=80,slow=2.2,SNR=12
MKAR S SKSac 21 29 20.1 -0.2
comp=Z,15nm,0.8s,baz=111,slow=6.6,SNR=9.2
MKAR PKKPbc PKKPbc 21 34 11.4 -0.1
comp=Z,18nm,0.9s,baz=289,slow=3.7,SNR=21
MKAR PKKPab PKKPab 21 34 20.1 +1.3
comp=Z,31nm,1.1s,baz=272,slow=3.5,SNR=9.5
MKAR SKKPbc 21 37 05.3
comp=Z,5.9nm,0.9s,baz=306,slow=2.9,SNR=5.6
MKAR Makanchi Array 113.06 312 P Pdif 21 19 31.2 -0.9
MKAR *i* 21 23 21.0
MKAR 21 24 19.9
MKAR S SKSac 21 29 20.2 -0.2
MKAR 21 34 11.4
MKAR pmax pmax
comp=Z,2.0nm,0.5s
MKAR pmax pmax
comp=Z,9.0nm,0.6s
MKAR pmax pmax
comp=Z,10.0nm,0.8s
MKAR pmax pmax
comp=N,23nm,0.7s
MKAR smax
comp=N,15nm,0.9s
MKAR pmax pmax
comp=Z,18nm,0.9s
MKAR pmax pmax
comp=Z,31nm,1.1s
MKAR pmax pmax
comp=N,6.0nm,0.9s
MKAR Makanchi Array 113.06 312 Pdif Pdif 21 19 31.2 -0.8
MKAR PKPdf PKiKP 21 23 20.9 -1.9
MKAR PP PP 21 24 19.9 -2.1
MKAR SKP 21 26 10.4
MKAR S SKSac 21 29 20.1 -0.2
MKAR PKKPbc PKKPbc 21 34 11.4 -0.1
MKAR PKKPab PKKPab 21 34 20.1 +1.3
MKAR SKKPbc 21 37 05.3
ZAA0 Zalesovo Array 113.08 320 *e*PKiKP PKiKP 21 23 20.4 -2.3
ZAA0 *e*PP PP 21 24 16.2 -5.7
ZALV Zalesovo Beam 113.08 320 Pdiff Pdif 21 19 30.7 -1.4
comp=N,0.3nm,0.2s,baz=318,slow=2.0,SNR=3.5
ZALV PKiKP PKiKP 21 23 21.4 -1.3
comp=N,10nm,0.6s,baz=138,slow=2.4,SNR=19
ZALV PP PP 21 24 19.9 -2.0
comp=N,5.7nm,0.8s,baz=99,slow=4.7,SNR=2.8
ZALV SKP 21 26 10.3
comp=N,11nm,0.7s,baz=136,slow=0.9,SNR=5.4
ZALV PKKPbc PKKPbc 21 34 11.6 +0.1
comp=N,3.3nm,0.7s,baz=270,slow=3.8,SNR=4.3
ZALV PKKPab PKKPab 21 34 19.7 +1.3
comp=N,9.6nm,1.0s,baz=273,slow=5.3,SNR=9.3
ZALV SKKPbc 21 37 05.7
comp=N,3.3nm,0.5s,baz=275,slow=4.6,SNR=7.9
ZALV Zalesovo Beam 113.08 320 P Pdif 21 19 30.7 -1.5
ZALV *i* 21 23 21.4
ZALV 21 24 19.9
ZALV 21 34 19.7
ZALV pmax pmax
comp=Z,10.0nm,0.6s
ZALV pmax pmax
comp=Z,6.0nm,0.8s
ZALV pmax pmax
comp=N,11nm,0.7s
ZALV pmax pmax
comp=Z,3.0nm,0.7s
ZALV pmax pmax
comp=Z,10.0nm,1.0s
ZALV pmax pmax
comp=N,3.0nm,0.5s
ZALV Zalesovo Beam 113.08 320 Pdif Pdif 21 19 30.7 -1.4
ZALV PKPdf PKiKP 21 23 21.4 -1.3
ZALV PP PP 21 24 19.9 -2.0
ZALV SKP 21 26 10.3
ZALV PKKPbc PKKPbc 21 34 11.6 +0.1
ZALV PKKPab PKKPab 21 34 19.7 +1.3
ZALV SKKPbc 21 37 05.7
AJM Ajmer 113.51 289 *ex* x 21 22 49.0
VAO Valinhos 113.86 133 ⇑*i*P PP 21 24 24.2 -2.9
VAO *i* 21 24 26.4
VAO *i* 21 24 29.3
VAO *i* 21 24 42.4
VAO *i* 21 24 55.1
VAO *i* 21 25 06.0

VAO *i* 21 25 44.6
VAO *i* 21 26 50.9
NVS Novosibirsk 114.16 321 *e*P Pdif 21 19 35.6 -1.4
NVS *i* 21 29 23.6
NVS pmax pmax
comp=Z,40nm,2.5s
NVS pmax pmax
comp=E,22nm,2.3s
NVS pmax pmax
comp=Z,34nm,1.1s
NVS pmax pmax
comp=N,10.0nm,1.3s
NVS pmax pmax
comp=E,19nm,1.3s
NVS pmax pmax
comp=N,215nm,1.8s
NVS pmax pmax
comp=E,1μm,2.3s
KSH Kashi 115.91 303 *e*PKP PKPdf 21 23 28.9 +0.3
KSH *e*PKS 21 27 04.3
KSH *e*SKKS SKKSac 21 30 42.9 -7.2
KSH PP PP
comp=Z,2μm,6.5s
SDMD Soldier's Deli 115.98 57 *e*PKPdf PKPdf 21 23 27.2 -1.5
SDMD *e*PP PP 21 24 39.0 -3.5
SDMD *e* 21 26 14.2
OPO Ambohidratompo 116.05 231 PKP PKPdf 21 23 29.9 +0.3
comp=Z,10nm,0.7s,baz=81,slow=3.0,SNR=27
OPO SKP 21 26 18.6
comp=Z,6.0nm,0.8s,baz=117,slow=6.0,SNR=4.1
KURK Kurchatov 116.21 316 PKKPbc PKKPbc 21 34 01.1 +0.2
comp=Z,28nm,1.1s,baz=284,slow=4.2,SNR=21
KURK SKKPbc 21 36 57.1
comp=Z,25nm,1.1s,baz=280,slow=3.6,SNR=13
KURK Kurchatov 116.21 316 PKIKP PKPdf 21 23 27.5 -1.3
KURK pmax pmax
comp=Z,61nm,1.0s
KURK Kurchatov 116.21 316 ⇑*i*PKP PKPdf 21 23 27.3 -1.5
TKM2 Tokmak 2 116.89 307 P PKPdf 21 23 29.7 -0.6
SNR=25
BINY Binghamton 117.19 54 *e*PKPdf PKPdf 21 23 28.9 -2.0
BINY *e*PP PP 21 24 47.9 -2.9
KBK Karagaybulak 117.31 307 P PKPdf 21 23 30.6 -0.5
SNR=19
CHMS Chumysh 117.52 307 P PKPdf 21 23 30.9 -0.7
SNR=15
UCH Uchtor 117.55 306 P PKPdf 21 23 32.1 +0.5
SNR=23
UCH Uchtor 117.55 306 *e*PKPdf PKPdf 21 23 32.5 +0.9
UCH *e*PP PP 21 24 51.1 -2.1
UCH *e*SKPdf SKPdf 21 26 16.4 -2.9
FRU Bishkek 117.58 307 *e*PKIKP PKPdf 21 23 24.0 -7.7
FRU *i* 21 33 54.0
AAK Ala-Archa 117.64 306 P PKPdf 21 23 31.7 -0.1
SNR=12
USP Ospenovka 117.75 307 P PKPdf 21 23 31.3 -0.7
SNR=18
BDFB Brasilia 118.11 126 PKP PKPdf 21 23 32.6 -1.0
comp=Z,7.5nm,0.8s,baz=172,slow=2.8,SNR=7.5
BDFB SKP 21 26 20.6
comp=Z,34nm,1.1s,baz=303,slow=2.0,SNR=12
BDFB PKKPbc PKKPbc 21 33 59.2 +5.2
comp=Z,7.5nm,0.8s,baz=76,slow=9.1,SNR=5.7
BDFB Brasilia 118.11 126 PKIKP PKPdf 21 23 32.6 -0.9
BDFB 21 33 59.2
BDFB pmax pmax
comp=Z,8.0nm,0.9s
BDFB pmax pmax
comp=N,34nm,1.1s
BDFB pmax pmax
comp=Z,8.0nm,0.8s
AML Almayashu 118.13 306 P PKPdf 21 23 33.0 +0.2
SNR=27
AML Almayashu 118.13 306 *e*Pdif Pdif 21 19 54.1 -0.5
AML *e*PKPdf PKPdf 21 23 32.4 -0.3
EKS2 Erkin-Say 118.16 306 P PKPdf 21 23 32.6 -0.2
SNR=21
SUR Sutherland 118.73 201 PKP PKPdf 21 23 35.2 +0.9
comp=Z,56nm,0.7s,baz=142,slow=1.8,SNR=41
SUR PKKPbc PKKPbc 21 33 54.6 +2.2
comp=Z,13nm,0.8s,baz=348,slow=4.8,SNR=11
FRNY Flat Rock 119.35 51 *e*PKPdf PKPdf 21 23 30.4 -4.7
FRNY *e*PP PP 21 25 06.2 +0.8
CAM3 Guarapari 119.64 136 ⇑*i*P PKPdf 21 23 35.4 -1.0
CAM3 *i* 21 23 46.4
CAM3 *i* 21 23 51.5
CAM3 *i* 21 24 01.9
CAM3 *i* 21 25 51.0
CAM3 *i* 21 26 23.5
LBNH Lisbon 120.45 52 *e*PKPdf PKPdf 21 23 34.3 -2.8
LBNH *e*PP PP 21 24 58.0 -15
HRV Adam Dziewonsk 120.48 54 *e*PKPdf PKPdf 21 23 28.1 -9.2
HRV *e*PP PP 21 25 06.4 -6.7
BOSA Boshof 120.56 206 PKP PKPdf 21 23 38.2 +0.3
comp=Z,29nm,0.7s,baz=160,slow=1.8,SNR=49
BOSA PKKPbc PKKPbc 21 33 42.5 -3.2
comp=Z,12nm,0.8s,baz=360,slow=6.2,SNR=21
BOSA Boshof 120.56 206 PKIKP PKPdf 21 23 38.3 +0.3
BOSA pmax pmax
comp=Z,29nm,0.7s
BOSA pmax pmax
comp=Z,12nm,0.8s
KK31 Karatay Array 120.60 306 *i* PKIKP PKPdf 21 23 36.7 -0.8
KK31 pmax pmax
comp=Z,62nm,0.9s
WES Weston 120.64 54 *e*PKPdf PKPdf 21 23 33.3 -4.3
WES *e*PP PP 21 25 05.5 -8.7
WES *e*SKP 21 26 22.8
BVA0 Borovoye Array 121.51 318 *i* PKIKP PKPdf 21 23 37.9 -1.0
BVA0 pmax pmax
comp=Z,14nm,1.0s
BVAR Borovoye Array 121.51 318 PKKPab PKKPab 21 33 41.8 +0.3
comp=Z,7.1nm,0.9s,baz=268,slow=4.2,SNR=9.4
BVAR SKKPbc 21 36 40.4
comp=Z,4.5nm,0.9s,baz=271,slow=1.8,SNR=5.1
BRVK Borovoye 121.58 318 ⇑*i* PKIKP PKPdf 21 23 38.4 -0.6
TBG Guadaloupe-3 122.42 87 *e*P PKPdf 21 23 40.8 -1.0
SCG Saint Claude 122.45 87 *e*P PKPdf 21 23 41.1 -0.7
BIM Bigot 122.46 89 ⇑*e*P PKPdf 21 23 40.3 -1.6
FDF Fort de France 122.47 88 ⇑*e*P PKPdf 21 23 40.8 -1.1
MGG Marie-Galante 122.74 87 *e*P PKPdf 21 23 41.2 -1.1
LBTB Lobatse 123.59 209 PKP PKPdf 21 23 43.9 0.0
comp=Z,36nm,0.9s,baz=184,slow=2.9,SNR=44
LBTB PKKPab PKKPab 21 33 36.4 -0.4
comp=Z,3.1nm,0.6s,baz=136,slow=3.5,SNR=7.1
LBTB Lobatse 123.59 209 PKIKP PKPdf 21 23 43.9 0.0
LBTB pmax pmax
comp=Z,36nm,0.9s
LBTB pmax pmax
comp=Z,3.0nm,0.6s
KBS Kingsbay 126.45 357 *e*pPKP pPKPdf 21 25 48.3 +1.8
KBS *e*SS SS 21 42 17.6 +1.6
SVE Sverdlovsk 126.89 323 *e*PKIKP PKPdf 21 23 48.9 -0.2
SVE pmax pmax
comp=Z,95nm,1.3s
ARU Arti 128.08 323 *i* PKIKP PKPdf 21 23 50.5 -0.9
ARU 21 26 00.2
ARU 21 30 05.8
ARU PS SP 21 35 17.1 -2.1
ARU Arti 128.08 323 ⇑*e*PKP PKPdf 21 23 50.3 -1.1
DAG Danmarks Havn 128.15 5 ⇓*i*P PKPdf 21 23 49.2 -1.8
comp=Z,240nm,2.4s
AB31 Akbulak array 128.16 314 *i* PKIKP PKPdf 21 23 50.7 -1.1
AB31 pmax pmax
comp=Z,57nm,1.2s
SOKR Solikamsk 128.31 327 *d* *i*PKIKP PKPdf 21 23 51.5 -0.2
SOKR pmax pmax
comp=Z,130nm,1.3s
SFJD Kangerlussuaq 128.65 23 SKPbc 21 26 24.7
comp=Z,38nm,0.9s,baz=225,slow=2.3,SNR=6.5
SFJD Kangerlussuaq 128.65 23 *i* P PKPdf 21 23 50.5 -1.6
comp=Z,18nm,0.7s
SFJD *i* 21 27 11.8
SFJD *i* 21 28 38.6
SFJD *i* S Sdif 21 33 21.0 -2.5
SFJD *i* 21 38 38.4
SFJD Kangerlussuaq 128.65 23 *e*P PKPdf 21 23 50.5 -1.6
SFJD *i* 21 27 11.8
SFJD *i* 21 28 38.6
SFJD *i* S Sdif 21 33 21.0 -2.5
SFJD *i* 21 38 38.4
AKTO Aktyubinsk 129.30 315 SKKPbc 21 36 13.5
comp=Z,7.8nm,0.9s,baz=282,slow=1.7,SNR=5.7
BJO Bjornoya 130.12 353 *e*PP PP 21 26 13.7 -1.5

BJO eSKS SKSdf 21 30 13.9 -4.0
BJO eSS SS 21 43 02.3 +1.5
LSZ Lusaka 130.58 218 PKP PKPdf 21 23 57.8 +0.4
comp=Z,41nm,0.8s,baz=128,slow=1.3,SNR=57
LSZ SKPbc SKPbc 21 26 35.3 +1.1
comp=Z,242nm,0.7s,baz=152,slow=3.5,SNR=70
LSZ SKKPbc 21 36 11.6
comp=Z,4.7nm,0.8s,baz=323,slow=3.8,SNR=4.1
LSZ Lusaka 130.58 218 PKIKP PKPdf 21 23 57.8 +0.4
LSZ 21 26 35.3
LSZ pmax pmax
comp=Z,41nm,0.8s
LSZ pmax pmax
comp=N,242nm,0.7s
LSZ pmax pmax
comp=N,5.0nm,0.8s
TSUM Tsumeb 131.99 203 PKP PKPdf 21 24 00.5 +0.5
comp=N,31nm,0.9s,baz=129,slow=2.3,SNR=28
TSUM SKPbc SKPbc 21 26 40.6 +1.4
comp=N,133nm,0.8s,baz=153,slow=3.8,SNR=37
LVZ Lovozero 132.76 343 *i* PKIKP PKPdf 21 23 59.4 -0.5
KEV Kevo 133.11 347 *ep* PKPdf 21 23 54.0 -6.5
comp=N,17nm,0.5s
KEV Kevo 133.11 347 *ep* PP 21 26 39.7 +5.5
comp=N,159nm,0.8s
KEV Kevo 133.11 347 *e*PKIKP PKPdf 21 23 54.0 -6.5
KEV pmax pmax
comp=Z,17nm,0.5s
APA Apatity 133.33 343 *e*PKIKP PKPdf 21 24 00.0 -1.0
APA *i* 21 25 48.6
APA *i* 21 26 41.6
APA *i* 21 30 28.0
APA pmax pmax
comp=Z,18nm,1.0s
APA pmax pmax
comp=N,1μm,5.5s
APA pmax pmax
comp=E,1μm,5.5s
APA MLR MLR
comp=Z,2μm,22.0s
ARCES ARCESS Array B 133.59 348 PKhKP 21 23 45.0
comp=Z,2.3nm,0.7s,baz=53,slow=2.5,SNR=11
ARCES PKP PKPdf 21 24 00.8 -0.7
comp=Z,32nm,0.6s,baz=22,slow=1.3,SNR=32
ARCES SKPbc SKPbc 21 26 43.1 +0.2
comp=Z,229nm,0.8s,baz=46,slow=3.5,SNR=43
ARCES SKKPbc 21 35 58.4
comp=Z,12nm,0.7s,baz=199,slow=3.3,SNR=16
ARCES ARCESS Array B 133.59 348 PKHKP 21 23 45.0
ARCES 21 24 00.8
ARCES 21 26 43.1
ARCES pmax pmax
comp=Z,2.0nm,0.7s
ARCES pmax pmax
comp=Z,32nm,0.6s
ARCES pmax pmax
comp=N,229nm,0.8s
ARCES pmax pmax
comp=N,12nm,0.7s
TRO Tromso 134.62 351 *e*PP PP 21 26 41.8 -1.9
TRO eSS SS 21 43 56.4 +1.6
KMBO Kilima Mbogo 134.79 240 PKhKP 21 23 55.0
comp=N,1.6nm,0.8s,baz=56,slow=9.8,SNR=4.4
KMBO PKP PKPdf 21 24 06.3 +0.9
comp=N,19nm,1.1s,baz=47,slow=2.0,SNR=7.6
KMBO SKPbc SKPbc 21 26 49.6 +1.0
comp=N,48nm,0.9s,baz=100,slow=3.1,SNR=3.3
KMBO Kilima Mbogo 134.79 240 PKHKP 21 23 55.0
KMBO 21 24 06.3
KMBO 21 26 49.6
KMBO pmax pmax
comp=Z,2.0nm,0.8s
KMBO pmax pmax
comp=Z,19nm,1.1s
KMBO pmax pmax
comp=N,48nm,0.9s
KMBO Kilima Mbogo 134.79 240 PKP 21 23 55.0
KMBO PKP PKPdf 21 24 06.3 +0.9
KMBO SKPbc SKPbc 21 26 49.6 +1.0
KLMR Klimovskoe 135.63 333 *e*PKIKP PKPdf 21 24 01.0 -4.5
KLMR *i* 21 26 46.1
KLMR *e* 21 30 27.7
JOF Joensuu 137.30 339 *ep* 21 23 56.8
comp=N,62nm,0.7s
JOF Joensuu 137.30 339 *e*PKHKP 21 23 56.8
JOF pmax pmax
comp=Z,62nm,0.7s
UMR Umm Al-Rimmam 137.36 286 *e*P PKPdf 21 24 00.9 -8.8
baz=250
MAK Makhachkala 137.42 306 *i* P Pdif 21 21 19.4 -1.0
MAK *e* 21 24 08.0
MAK *e* 21 27 00.4
MAK *e*PPP 21 30 02.7
MAK *e* 21 30 31.1
MAK *e* 21 36 41.4
MAK SSS 21 49 45.7
MAK pmax pmax
comp=Z,282nm,1.5s
MAK MLR MLR
comp=Z,1μm,22.0s
KONS Konsvik 138.35 352 *e* PKPdf 21 24 04.0 -6.4
KONS *e* 21 26 57.2
FLOS Flostrand 138.47 352 *e*P PKPdf 21 24 04.7 -5.8
BORG Borgarnes 138.75 13 PKP PKPdf 21 24 10.3 -0.8
comp=Z,18nm,0.8s,baz=165,slow=3.7,SNR=4.4
BORG SKP 21 26 58.4
comp=Z,20nm,0.7s,baz=122,slow=6.8,SNR=5.2
BORG Borgarnes 138.75 13 PKP PKPdf 21 24 10.3 -0.8
BORG SKP 21 26 58.4
VRHR Novokhopersk 139.21 320 *e*PKHKP 21 24 05.5
VRHR *i* 21 24 14.1
VRHR pmax pmax
comp=Z,50nm,1.3s
VRHR pmax pmax
comp=N,30nm,1.0s
VRHR pmax pmax
comp=E,40nm,1.2s
MOS Moscow 139.25 328 *e*PKHKP 21 24 02.3
MOS pmax pmax
comp=Z,55nm,1.2s
KAF Kangasniemi 139.44 341 *ep* 21 24 03.5
comp=Z,26nm,0.5s
KAF Kangasniemi 139.44 341 *e*PKHKP 21 24 03.5
KAF pmax pmax
comp=Z,26nm,0.5s
GNI Garni 139.84 302 *i* PKIKP PKPdf 21 24 10.8 -3.1
GNI Garni 139.84 302 *i* PKP PKPdf 21 24 10.9 -3.0
OBN Obninsk 140.09 327 ⇓*i*PKIKP PKPdf 21 24 12.4 -1.4
OBN pmax pmax
comp=Z,66nm,1.4s
OBN Obninsk 140.09 327 ⇓*e*PKP PKPdf 21 24 12.4 -1.4
VOR Voronezh 140.34 322 *e*PKIKP PKPdf 21 24 13.0 -1.4
VOR pmax pmax
comp=Z,150nm,1.2s
VSR Storozhevoye 140.58 321 *e*PKHKP 21 24 08.0
VSR *i* 21 24 16.8
VSR pmax pmax
comp=Z,10.0nm,1.2s
VSR pmax pmax
comp=N,9.0nm,1.3s
VSR pmax pmax
comp=E,1.0nm,0.6s
CLDR Caldiran 140.58 301 *e*P PKPdf 21 24 07.9 -7.4
KIV Kislovodsk 140.69 309 *e*PKHKP 21 24 09.0
KIV *i* 21 24 14.6
KIV *e* 21 27 18.2
KIV *e*PPP 21 30 28.2
KIV *e* 21 30 36.7
KIV *e* 21 39 50.5
KIV *e*SS SS 21 45 03.5 -4.4
KIV *e*SSS 21 50 35.6
KIV pmax pmax
comp=Z,73nm,1.2s
KIV Kislovodsk 140.69 309 ⇑P 21 24 07.8
KIV ⇑*i*PKP PKPdf 21 24 14.6 -0.7
HAKT HAKKARI 140.90 299 *i* P PKPdf 21 24 08.8 -7.0
AGRB Hanur-Agry 141.24 302 *e*P PKPdf 21 24 13.1 -3.3
ARTV Artvin 141.80 305 ⇓*i*P PKPdf 21 24 11.6 -5.8
DAGI Agillar 141.83 304 *i* P PKPdf 21 24 12.5 -4.9
DBOC Borcka 141.96 305 *i* P PKPdf 21 24 09.7 -8.0
DDEM Demirkent 141.98 304 ⇓*i*P PKPdf 21 24 12.8 -4.9
DBAD Bademkaya 142.00 304 ⇓*i*P PKPdf 21 24 12.8 -5.0
VSU Vasula 142.09 337 *i* PKHKP 21 24 13.3
ERZM Erzurum 142.44 303 *i* P PKPdf 21 24 15.8 -2.8
EZM Erzurum 142.44 303 *e*P PKPdf 21 24 16.6 -1.9
SOC Sochi 142.87 309 *d i*PKHKP 21 24 15.6
SOC *i* 21 24 19.6
SOC *e* 21 26 08.7
SOC *e* 21 26 56.1
SOC *e*PPP 21 30 50.5
SOC pmax pmax
comp=Z,47nm,1.4s
SOC Sochi 142.87 309 *i* PKP PKPdf 21 24 17.0 -2.2
KOPT Kop Dagi 143.08 303 ⇓*i*P PKPdf 21 24 17.8 -1.9
DOMB Dombas 143.14 352 ⇑*i*P PKPdf 21 24 15.9 -3.2
DOMB AMb AMB 21 24 18.2
comp=Z,148nm,1.2s
MARD Mardin 143.24 298 ⇓*i*P PKPdf 21 24 16.9 -3.1
KTUT Trabzon 143.44 305 *e*P PKPdf 21 24 16.6 -3.6
MACK Trabzon 143.45 305 ⇓*i*P PKPdf 21 24 17.8 -2.4
DIYA Diyarbakir 143.69 300 ⇓*i*P PKPdf 21 24 19.8 -0.9
GUMT Gumushane 143.76 304 *e*P PKPdf 21 24 20.3 -0.5
NB2 NORSAR Subarra1 143.82 350 PKP PKPdf 21 24 18.3 -2.0
comp=Z,548nm,1.0s,baz=20,slow=3.5
NB2 NORSAR Subarra1 143.82 350 PKP PKPdf 21 24 18.3 -2.0
baz=20,slow=3.5
NOA NORSAR Array B 143.82 350 PKP PKPdf 21 24 18.8 -1.5
comp=Z,264nm,0.8s,baz=22,slow=3.8,SNR=575
NOA SKKPbc 21 35 20.9
comp=Z,16nm,0.9s,baz=199,slow=4.6,SNR=15
NOA NORSAR Array B 143.82 350 PKIKP PKPdf 21 24 18.8 -1.5
NOA pmax pmax
comp=Z,264nm,0.8s
NOA pmax pmax
comp=N,16nm,0.9s
ANN Anapa 144.08 312 *d i*PKIKP PKPdf 21 24 19.0 -2.2
ANN *i* PPP 21 30 55.4
ANN pmax pmax
comp=N,244nm,1.2s
ANN pmax pmax
comp=E,161nm,1.2s
ANN pmax pmax
comp=Z,1μm,1.2s
ANN Anapa 144.08 312 *e*PKP PKPdf 21 24 20.1 -1.1
PTK Pertek 144.11 301 *e*P PKPdf 21 24 21.7 +0.2
ESPY Espiye-Giresun 144.22 305 *e*P PKPdf 21 24 20.3 -1.3
HFS Hagfors 144.25 348 PKP PKPdf 21 24 19.2 -1.8
comp=Z,187nm,0.4s,baz=68,slow=4.0,SNR=1085
HFS SKKPbc 21 35 18.3
comp=Z,38nm,0.7s,baz=146,slow=2.9,SNR=39
HFS Hagfors 144.25 348 PKIKP PKPdf 21 24 19.2 -1.8
HFS pmax pmax
comp=Z,187nm,0.4s
HFS pmax pmax
comp=N,38nm,0.7s
SVRC Sivrice-ELAZID 144.26 301 *e*P PKPdf 21 24 22.0 +0.2
HYA Hoyanger 144.30 354 *e*P PKPdf 21 24 20.8 -0.3
HYA AMb AMB 21 24 24.9
comp=Z,322nm,1.4s
MNK Minsk 144.48 332 ⇓*i*PKIKP PKPdf 21 24 20.0 -1.6
MNK *e* 21 27 38.0
MNK eSS SS 21 45 45.0 -4.8
ELZG Elazig 144.49 301 ⇓*i*P PKPdf 21 24 22.7 +0.6
GRSN GIRESUNGRSN 144.56 305 *i* P PKPdf 21 24 21.6 -0.6
URFA Urfa 144.77 299 *e*P PKPdf 21 24 22.7 0.0
MYA Malataya 144.95 301 *e*P PKPdf 21 24 24.5 +1.6
ASK Askoy 145.06 355 ⇑*i*P PKPdf 21 24 21.2 -1.2
RUND Rundenannen 145.11 355 *e*P PKPdf 21 24 24.5 +2.0
RUND AMb AMB 21 24 28.9
comp=Z,246nm,0.9s
BER Bergen 145.14 355 *e*PKPdf PKPdf 21 24 19.6 -3.0
BER *ep*PKP pPKPdf 21 26 20.2 -1.4
BER eSS SS 21 45 57.4 +1.0
ATAB Bozova 145.18 299 ⇓*i*P PKPdf 21 24 24.0 +0.6
EGD Espegrend 145.26 355 *e*P PKPdf 21 24 21.9 -0.8
EGD AMb AMB 21 24 23.3
comp=Z,212nm,1.0s
DARE Darende-Malaty 145.32 302 *e*P PKPab 21 24 27.2 +1.5
AKCD Akcadag 145.34 301 ⇓*i*P PKPdf 21 24 25.0 +1.3
KONO Kongsberg 145.39 351 *e* pPKPdf 21 26 18.8 -3.3
KONO eSS SS 21 45 59.0 -0.3
KONO Kongsberg 145.39 351 *c i*PKIKP PKPdf 21 24 22.2 -0.8
ODD1 Odda 145.49 354 *e*P PKPdf 21 24 22.5 -0.7
ODD1 AMb AMB 21 24 23.8
comp=Z,158nm,0.8s
LRW Lerwick 145.62 1 P PKPdf 21 24 23.0 -0.4
LRW Lerwick 145.62 1 *e*P PKPdf 21 24 23.0 -0.4
SVSK Karacayir 145.73 304 *e*P PKPdf 21 24 25.9 +1.7
GZT Gaziantep 145.78 299 *i* P PKPdf 21 24 24.5 +0.1
BLS5 Blasjo 145.99 354 ⇑*i*P PKPbc 21 24 26.5 +0.7
BLS5 AMb AMB 21 24 29.2
comp=Z,127nm,1.0s
GAZ Gaziantep 146.08 299 *e*P PKPdf 21 24 26.8 +1.9
KVT Kavak 146.15 306 *e*P PKPab 21 24 29.4 +0.4
SARI SarD1z-Kayseri 146.22 302 *e*P PKPbc 21 24 28.5 +1.3
AKASG Malin Array Be 146.25 325 PKPbc PKPdf 21 24 24.2 -0.5
comp=Z,36nm,0.4s,baz=42,slow=3.6,SNR=65
AKASG pPKPbc 21 26 19.0
comp=Z,28nm,0.9s,baz=47,slow=4.2,SNR=1.9
AKASG SKPbc SKPbc 21 27 17.6 +0.3
comp=Z,80nm,0.7s,baz=47,slow=2.7,SNR=13
AKASG SKKPbc 21 35 09.6
comp=Z,10nm,0.5s,baz=244,slow=4.1,SNR=20
AKASG Malin Array Be 146.25 325 PKIKP PKPdf 21 24 24.2 -0.5
AKASG pmax pmax
comp=Z,36nm,0.4s
AKASG pmax pmax
comp=Z,28nm,0.9s
AKASG pmax pmax
comp=N,80nm,0.7s
AKASG pmax pmax
comp=N,10.0nm,0.5s
KMRS Kahramanmaras 146.27 300 *e*P PKPdf 21 24 27.4 +2.2
KMY Karmoy 146.31 355 ⇑*i*PKPdf PKPdf 21 24 25.9 +1.4
KMY AMb AMB 21 24 27.1
comp=Z,226nm,0.9s
PINB Pinarbasi 146.45 302 *i* P PKPdf 21 24 28.2 +2.7
DIKM Dikmen 146.56 307 *e*P PKPdf 21 24 27.6 +2.0
SUW Suwalki 146.74 334 *e*PKP PKPdf 21 24 27.4 +2.0
SUW *ep*PKP pPKPdf 21 26 22.8 -1.7
SUW Suwalki 146.74 334 *e*PKP PKPdf 21 24 27.4 +1.9
SUW *ep*PKP pPKPdf 21 26 22.8 -1.7
BNN Bunyan 146.84 302 *e*P PKPbc 21 24 29.5 +0.8
COBT Iskenderun 146.94 298 *i* P PKPbc 21 24 30.0 +0.8
BYBT Boyabat 146.97 307 *e*P PKPbc 21 24 29.9 +0.7
SNART Snartemo 146.97 353 *e*P PKPdf 21 24 27.7 +2.0
SNART AMb AMB 21 24 30.3
comp=Z,147nm,1.2s
YOZ Yozgat 147.06 304 *e*P PKPbc 21 24 29.8 +0.4
FKH Fakeheh 147.08 294 *e*P PKPbc 21 24 30.7 +1.1
HTY Hatay 147.09 297 *e*P PKPbc 21 24 29.9 +0.3
YAYL Yayladag 147.12 297 *i* P PKPbc 21 24 30.5 +0.8
RTO Tolsta 147.14 6 *e*P PKPdf 21 24 27.9 +1.9
CTKT Corum 147.19 306 *i* P PKPdf 21 24 26.0 -0.6
RSC Scourie 147.25 5 *e*P PKPdf 21 24 28.4 +2.2
CEYT Ceyhan 147.26 299 *e*P PKPbc 21 24 30.5 +0.4
BZK Bozkurt 147.36 308 *e*P PKPbc 21 24 30.2 +0.1
YURE YUREGIR 147.38 299 *i* P PKPdf 21 24 16.5 -11
MLA1 Latheron 147.40 3 *e*P PKPdf 21 24 24.7 -1.7
CORM Corum 147.43 305 *e*P PKPbc 21 24 30.8 +0.4
HWQ Hawqa 147.45 294 *e*P PKPbc 21 24 30.6 -0.1
RRH Rhenigidale 147.55 6 *e*P PKPdf 21 24 28.9 +2.2
AVNT Avonos 147.61 302 *i* P PKPdf 21 24 23.8 -3.6
RCY Rachaya 147.62 292 *e*P PKPbc 21 24 32.4 +1.3
TOS Tosya 147.63 307 *e*P PKPbc 21 24 31.4 +0.5
RRR Rubha Reidh 147.69 5 *e*P PKPdf 21 24 29.2 +2.3
BHL Bhannes 147.73 293 *e*P PKPbc 21 24 32.2 +0.9
MVH1 Achvaich 147.74 4 *e*P PKPdf 21 24 29.2 +2.2
MRKH Merkhyat 147.76 258 *e* PKPdf 21 24 26.1 -2.2
baz=113,slow=4.3
MRKH *i* P 21 24 28.4
MRKH *i* S 21 30 49.2
MRKH AMS AMS 21 33 35.6
comp=Z,492nm,1.7s
KARA Karaisali 147.76 300 *e*P PKPbc 21 24 31.4 0.0
CDAG Cicekdag 147.77 304 *i* P PKPbc 21 24 31.4 +0.1
ILGA Ilgaz 147.85 307 *i* P PKPdf 21 24 27.6 -0.1
BALT Daday 147.94 308 *i* P PKPdf 21 24 27.1 -0.7
GULE Gulek 147.98 300 *i* P PKPdf 21 24 19.5 -8.6
MMAI Mount Meron Ar 148.00 292 SKKPbc 21 35 01.4
comp=Z,27nm,0.8s,baz=255,slow=1.6,SNR=15
CANT Cankiri 148.05 306 *e*P PKPbc 21 24 32.3 +0.3
KAC Achnashellach 148.08 5 *e*P PKPdf 21 24 26.1 -1.4
MCD Coleburn Disti 148.12 3 *e*P PKPdf 21 24 30.2 +2.6
MDO Dochfour 148.21 4 *e*P PKPdf 21 24 29.7 +2.0
ELDT Eldivan 148.23 306 *i* P PKPdf 21 24 26.9 -1.5
MERS Mersin 148.25 299 *e*P PKPbc 21 24 32.4 -0.2
KAMT Kaman 148.33 304 *e*P PKPdf 21 24 28.2 -0.3
MME1 Meikle Cairn 148.41 3 *e*P PKPdf 21 24 30.8 +2.7
MUD Monsted U'grnd 148.53 350 ⇑*i*P PKPbc 21 24 31.9 -0.7
comp=Z,101nm,0.8s
MUD *i* 21 26 28.9
MUD *i* S SKKSac 21 34 10.3 +2.7
MUD *e* 21 37 34.2
KIS Kishinev 148.56 320 *e*PKIKP PKPdf 21 24 27.0 -1.7
KIS *e* 21 28 10.0
KIS *e* 21 30 54.0
KIS eSS SS 21 46 42.0 +5.9
KIS pmax pmax
comp=Z,720nm,1.6s
KIS pmax pmax
comp=Z,2μm,11.0s
KIS MLR MLR
comp=N,1μm,20.0s
KIS MLR MLR
comp=E,600nm,20.0s
KIS MLR MLR
comp=Z,2μm,20.0s
KIS Kishinev 148.56 320 *i* PKIKP PKPbc 21 24 33.0 0.0
KIS Kishinev 148.56 320 *i* PKP2 PKPab 21 24 51.0 +13
KIS *i* pPKP pPKPdf 21 26 27.0 -0.8
KIS Kishinev 148.56 320 *e*PP PP 21 28 10.0 +2.1
KIS eSKS SKSdf 21 30 54.0 +5.0
KIS *i* SKKS SKKSac 21 34 06.0 -2.4
KIS *e*SKSP 21 37 32.0
KIS Kishinev 148.56 320 ⇑P PKPbc 21 24 32.4 -0.6
KAR1 Arisaig 148.62 6 *e*P PKPdf 21 24 26.2 -2.2
COP Copenhagen 148.63 346 ⇑*i*P PKPbc 21 24 32.3 -0.6
comp=Z,96nm,0.8s
COP *i* 21 26 20.6
EREN Erenkoy 148.75 297 *e*P PKPbc 21 24 35.2 +1.3
ANTO Ankara 148.87 305 *e*P PKPdf 21 24 28.6 -0.8
ANTO Ankara 148.87 305 ⇑P PKPdf 21 24 29.1 -0.4
ANTO P 21 24 34.5
PHNC Paralimni 148.94 296 P PKPbc 21 24 34.8 +0.5
comp=Z,6.7nm,1.1s
IKL Isikli 149.03 298 *e*P PKPbc 21 24 35.0 +0.5
IAS Iasi 149.17 321 PKHKP PKPbc 21 24 34.7 +0.2
LFK Lefkose 149.31 296 *e*P PKPbc 21 24 34.7 -0.5
LVV L'vov 149.38 328 *i* PKHKP PKPbc 21 24 34.7 -0.2
LVV *e* 21 28 15.0
LVV *i* PPP 21 31 35.0
KDZE Karadeniz Ereo 149.39 308 *e*P PKPdf 21 24 33.6 +3.4
EBH Black Hill 149.45 3 *e*P PKPdf 21 24 28.3 -1.4
EAB Aberfoyle 149.46 4 *e*P PKPdf 21 24 28.5 -1.3
GKP Gorka Klasztor 149.47 339 *e*PKP PKPbc 21 24 34.9 -0.1
GKP *ep*PKP pPKPdf 21 26 31.1 +2.0
GKP Gorka Klasztor 149.47 339 *e*PKP PKPbc 21 24 34.9 -0.1
GKP *ep*PKP pPKPdf 21 26 31.1 +2.0
TLCR 149.49 317 ⇑PKHKP PKPbc 21 24 35.4 +0.1
CSS Prodhromos 149.52 296 P PKPbc 21 24 36.0 +0.3
comp=Z,4.8nm,1.1s
CSS Prodhromos 149.52 296 *e*P PKPbc 21 24 35.5 -0.2
LADK Ladik-KONYA 149.64 302 *e*P PKPbc 21 24 35.2 -0.8
KONT Konya--Tatoy 149.71 302 *e*P PKPbc 21 24 35.2 -0.9
KIZT Kizilcal 149.83 304 *e*P PKPbc 21 24 36.1 -0.2
HDMB Hadim 149.84 300 *e*P PKPbc 21 24 36.1 -0.4
LEF Lefka 149.85 296 *e*P PKPbc 21 24 35.9 -0.6
EAU Auchinoon 149.85 3 *e*P PKPdf 21 24 29.8 -0.6
SZAC Souni-Zanaja 149.91 295 ⇓P PKPbc 21 24 36.9 +0.2
HENT Hendek 149.94 308 *i* P PKPdf 21 24 30.2 -0.9
ALFC Alevga 150.08 296 P PKPbc 21 24 36.7 -0.4
comp=Z,3.8nm,0.7s
TIRR Tirgusor 150.10 316 ⇑P PKPdf 21 24 30.4 -0.8
TIRR P 21 24 36.7
KWP Kalwaria 150.13 329 *e*PKP PKPbc 21 24 36.9 +0.2
KWP *ep*PKP pPKPdf 21 26 33.1 +2.8
KWP Kalwaria 150.13 329 *e*PKP PKPbc 21 24 36.9 +0.2
KWP *ep*PKP pPKPdf 21 26 33.1 +2.8
BURAR Bucovina Array 150.21 324 ⇑PKIKP PKPdf 21 24 31.1 -0.2
BURAR Bucovina Array 150.21 324 P PKPdf 21 24 33.0 +1.7
HARR Harsova 150.28 317 PKIKP PKPbc 21 24 37.7 +0.5
PPCY Paphos 150.33 296 P PKPbc 21 24 36.4 -1.3
GULT Gulveren 150.35 307 *e*P PKPbc 21 24 34.9 -2.6
EKA Eskdalemuir Ar 150.38 3 PKP PKPdf 21 24 30.1 -1.2
comp=Z,7.8nm,0.8s,baz=330,slow=1.3,SNR=20
EKA PKPbc PKPbc 21 24 36.2 -0.9
comp=Z,47nm,0.6s,baz=341,slow=2.5,SNR=121
EKA pPKP pPKPdf 21 26 26.9 -3.6
comp=Z,10nm,0.8s,baz=314,slow=2.0,SNR=2.4
EKA Eskdalemuir Ar 150.38 3 PKIKP PKPdf 21 24 30.1 -1.2
EKA pmax pmax
comp=Z,8.0nm,0.8s
EKA pmax pmax
comp=Z,47nm,0.6s
EKA pmax pmax
comp=Z,10.0nm,0.8s
VRI Vrincioaia 150.39 320 ⇑PKIKP PKPbc 21 24 35.6 -1.8
VRI Vrincioaia 150.39 320 P PKPbc 21 24 37.0 -0.4
ESKT Eskisehir 150.41 305 *i* P PKPdf 21 24 29.4 -2.4
PLOR Plostina 150.44 320 ⇓PKIKP PKPbc 21 24 37.0 -0.6
ECK Cauldkaine Hil 150.53 3 *e*P PKPdf 21 24 30.0 -1.5
BORA Eskisehir 150.58 306 *i* P PKPdf 21 24 30.1 -2.0
PSN Preselentsi 150.61 315 P PKPbc 21 24 38.3 +0.3
SILT Sile 150.71 309 *e*P PKPbc 21 24 38.1 -0.2
BSEG Bad Segeberg 150.71 347 *e*PKPdf PKPdf 21 24 31.2 -0.6
BSEG *e*PKPbc PKPbc 21 24 37.6 -0.3
BSEG *e*PKPab PKPab 21 24 46.6 -0.5
GAL1 Galloway 150.74 5 *e*P PKPdf 21 24 29.6 -2.2
GCD Castle Douglas 150.80 4 *e*P PKPdf 21 24 30.4 -1.5
HRT Hereke 150.82 309 *e*P PKPbc 21 24 38.2 -0.3
KOLS Kolonicke sedl 150.82 328 ⇑*e*PKIKP PKPdf 21 24 31.6 -0.5
KOLS *e* 21 31 45.3
KOLS eSS SS 21 46 59.4 -1.1
KOLS Kolonicke sedl 150.82 328 *e*PKP PKPdf 21 24 31.5 -0.6
KOLS *e* 21 24 38.6
KOLS *e* 21 26 35.1
KOLS *e* 21 31 45.3
KOLS Kolonicke sedl 150.82 328 ⇑*e*SKKSp SKKSac 21 34 18.9 -1.7
KOLS eSS SS 21 46 59.4 -1.1
KOLS Kolonicke sedl 150.82 328 *e*PKP PKPdf 21 24 31.6 -0.5
KOLS *e* 21 24 38.6
KOLS *e* 21 26 35.1
KOLS *e* 21 31 45.3
KOLS *e*SKKSac SKKSac 21 34 18.9 -1.7
KOLS eSS SS 21 46 59.4 -1.1
ADVT Abdulvahap 150.91 308 *e*P PKPbc 21 24 38.7 -0.1
CAVI Cavuskoy 150.91 307 *e*P PKPbc 21 24 38.0 -0.8
SHUT Suhut-Afyon 150.92 304 *e*P PKPdf 21 24 30.7 -1.9
STHS Stebnicka Huta 150.96 330 *e*PKP PKPdf 21 24 32.1 -0.2
STHS *e* 21 24 38.9
STHS *e* 21 26 33.6
STHS *e* 21 31 50.2
STHS Stebnicka Huta 150.96 330 ⇑*e*SKKSp SKKSac 21 34 20.1 -1.2
STHS Stebnicka Huta 150.96 330 *e*PKP PKPdf 21 24 32.1 -0.2
STHS *e* 21 24 38.9
STHS *e* 21 26 33.6
STHS *e* 21 31 50.2
STHS *e*SKKSac SKKSac 21 34 20.1 -1.2
OJC Ojcow 150.98 333 *e*PKPdf PKPdf 21 24 31.5 -0.8
OJC *e*PKPbc PKPbc 21 24 38.4 -0.2
OJC *e*PKPab PKPab 21 24 48.9 +0.5
OJC *ep*PKPab pPKPab 21 26 31.2 -11
OJC *e*PP PP 21 28 18.3 -3.0
OJC *e*SKSdf SKSdf 21 31 39.0 +47
OJC *e*SS SS 21 47 05.7 +3.8
OJC L 22 27 01.3
comp=Z,1.6nm,24.4s
OJC Ojcow 150.98 333 *e*PKIKP PKPdf 21 24 31.5 -0.8
OJC *e* 21 24 48.9
OJC *e* 21 28 18.3
OJC *e*SS SS 21 47 05.7 +3.8
OJC MLR MLR
comp=Z,2μm,24.4s
UZH Uzhgorod 151.03 328 *e*PKIKP PKPdf 21 24 31.0 -1.5
UZH *e* 21 26 23.0
UZH *i* 21 40 32.0
UZH *i* 21 46 57.0
MLR Muntele Rosu 151.05 320 PKPbc PKPbc 21 24 38.6 -0.4
comp=Z,32nm,0.4s,baz=325,slow=2.2,SNR=7.1
MLR pPKP pPKPdf 21 26 29.1 -2.8
comp=Z,19nm,0.9s,baz=146,slow=6.4,SNR=1.3
MLR Muntele Rosu 151.05 320 PKIKP PKPbc 21 24 38.6 -0.4
MLR 21 26 29.1
MLR pmax pmax
comp=Z,32nm,0.4s
MLR pmax pmax
comp=Z,19nm,0.9s
MLR Muntele Rosu 151.05 320 ⇑P PKPdf 21 24 31.5 -1.1

MLR P 21 24 38.6
KLYT Kilyos 151.09 310 eP PKPbc 21 24 37.1 -2.1
ALT Altintas 151.10 305 eP PKPdf 21 24 30.8 -2.1
YLV Yalova 151.12 308 eP PKPbc 21 24 37.0 -2.2
ISK Istanbul-Kandi 151.15 309 eP PKPbc 21 24 37.8 -1.6
BCK Bucak 151.19 302 eP PKPbc 21 24 37.9 -1.7
CRVS Cervenica-Dubn 151.23 329⇑ePKIKP PKPdf 21 24 31.4 -1.4
CRVS e 21 31 49.3
CRVS eSS SS 21 47 05.4 +0.6
CRVS Cervenica-Dubn 151.23 329 ePKP PKPdf 21 24 31.4 -1.4
CRVS e 21 24 39.5
CRVS e 21 26 38.4
CRVS e 21 31 49.3
CRVS Cervenica-Dubn 151.23 329⇑eSKKSp SKKSac 21 34 22.8 0.0
CRVS eSS SS 21 47 05.4 +0.6
CRVS Cervenica-Dubn 151.23 329 ePKP PKPdf 21 24 31.4 -1.4
CRVS e 21 24 39.5
CRVS e 21 26 38.4
CRVS e 21 31 49.3
CRVS eSKKSac SKKSac 21 34 22.8 0.0
CRVS eSS SS 21 47 05.4 +0.6
TKTP Tekketepe 151.24 303 i P PKPbc 21 24 37.6 -2.1
BGKT Bogazkoy 151.31 310 eP PKPbc 21 24 38.3 -1.4
GIM North Isle of 151.33 5 eP PKPdf 21 24 31.0 -1.7
PRD Provadia 151.34 314 P PKPbc 21 24 40.1 +0.4
NIE Niedzica 151.37 331 ePKPdf PKPdf 21 24 32.5 -0.4
NIE ePKPbc PKPbc 21 24 40.1 +0.6
NIE epPKPab pPKPab 21 26 38.9 -4.7
ULDT Uludag 151.44 308 i P PKPdf 21 24 31.9 -1.5
CTKS Kestanelik-??a 151.47 310 eP PKPdf 21 24 30.9 -2.5
DMUB Kingscourt 151.47 8 eP PKPdf 21 24 32.1 -0.9
DMUB Kingscourt 151.47 8⇑iP PKPbc 21 24 38.5 -1.1
CTYL Yal??k??y-??at 151.52 311 eP PKPbc 21 24 39.5 -0.6
GDZ Gediz 151.55 305 i P PKPdf 21 24 32.2 -1.4
ELBA Catalca 151.56 310 iP PKPdf 21 24 30.9 -2.6
CTT Catalca 151.56 310 eP PKPbc 21 24 39.5 -0.8
VOIR 151.60 320 PKIKP PKPdf 21 24 33.9 +0.5
SLVT Silivri 151.68 310 eP PKPbc 21 24 38.9 -1.7
RAC Raciborz 151.74 334 ePKPdf PKPdf 21 24 33.5 0.0
RAC ePKPbc PKPbc 21 24 40.7 +0.4
RAC ePKPab PKPab 21 24 50.0 -1.6
RAC epPKPdf pPKPdf 21 26 27.0 -5.8
KSP Ksiaz 151.82 337 ePKP PKPbc 21 24 40.8 +0.3
KSP epPKP pPKPdf 21 26 31.9 -1.0
KSP Ksiaz 151.82 337 ePKIKP PKPdf 21 24 32.9 -0.7
KSP e 21 24 52.1
KSP e 21 26 26.9
KSP eSS SS 21 47 07.0 -3.9
KSP Ksiaz 151.82 337 ePKPdf PKPdf 21 24 32.9 -0.7
KSP ePKPbc PKPbc 21 24 40.3 -0.2
KSP iPKPdf PKPdf 21 24 40.9 +7.3
KSP ePKPab PKPab 21 24 52.1 +0.2
KSP epPKPdf pPKPdf 21 26 26.9 -6.0
KSP epPKPab pPKPab 21 26 38.2 -7.2
KSP eSKKS SKKSac 21 34 23.0 -2.9
KSP e 21 37 38.0
KSP eSS SS 21 47 07.0 -3.9
ELL Elmali 151.90 300 eP PKPbc 21 24 40.2 -1.0
OKC Ostrava-Krasne 151.95 334 ePKIKP PKPdf 21 24 33.0 -0.8
OKC e 21 24 51.7
OKC e 21 40 35.3
OKC Ostrava-Krasne 151.95 334 ePKPDF PKPdf 21 24 33.0 -0.8
OKC ePKPAB PKPab 21 24 51.7 -0.8
OKC epPKP pPKPdf 21 26 28.5 -4.6
OKC ex x 21 31 51.7
OKC eSKKS SKKSac 21 34 21.3 -5.4
OKC ex x 21 37 47.9
OKC ex x 21 40 35.3
OKC Ostrava-Krasne 151.95 334 ePKP PKPdf 21 24 33.0 -0.8
OKC e 21 24 51.7
OKC e 21 26 28.5
OKC e 21 31 51.7
OKC e 21 34 21.3
OKC e 21 37 47.9
GOLH Golhisar 152.04 302 i P PKPdf 21 24 33.0 -1.4
DRGR 152.06 325⇑PKIKP PKPdf 21 24 33.0 -1.1
DRGR 152.06 325 P PKPdf 21 24 33.2 -0.8
DLF Lyons Farm 152.11 8 eP PKPdf 21 24 33.0 -0.9
DLF Lyons Farm 152.11 8⇑iP PKPbc 21 24 39.7 -1.4
DEMI Demirci 152.13 306 i P PKPdf 21 24 31.8 -2.6
UPC Upice 152.20 337 ePKIKP PKPdf 21 24 33.6 -0.6
UPC e 21 24 53.4
UPC Upice 152.20 337 ePKPDF PKPdf 21 24 33.6 -0.6
UPC ⇑ePKP PKPbc 21 24 41.3 -0.1
UPC ePKPAB PKPab 21 24 53.4 -0.1
UPC epPKP pPKPdf 21 26 38.8 +5.3
LHO Holmfirth 152.22 2 eP PKPdf 21 24 32.5 -1.5
JMB Yambol 152.22 314 P PKPbc 21 24 42.2 +0.5
DPC Dobruska-Polom 152.22 337 ePKIKP PKPdf 21 24 33.5 -0.7
DPC e 21 24 53.8
DPC e 21 40 50.2
DPC e 21 47 12.1
DPC Dobruska-Polom 152.22 337 ePKPDF PKPdf 21 24 33.5 -0.7
DPC ⇑ePKP PKPbc 21 24 41.7 +0.3
DPC ePKPAB PKPab 21 24 53.8 +0.2
DPC epPKP pPKPdf 21 26 30.6 -2.9
DPC ex x 21 31 50.6
DPC eSKKS SKKSac 21 34 26.0 -2.1
DPC ex x 21 37 46.4
DPC ex x 21 40 50.2
DPC eSS SS 21 47 12.1 -3.2
DPC Dobruska-Polom 152.22 337 ePKP PKPdf 21 24 33.5 -0.7
DPC e 21 24 41.7
DPC e 21 24 53.8
DPC e 21 26 30.6
DPC e 21 31 50.6
DPC e 21 34 26.0
DPC e 21 37 46.4
BNT Bandirma 152.22 309 eP PKPbc 21 24 40.9 -0.9
MORC Moravsky Berou 152.23 334 PKIKP PKPdf 21 24 33.5 -0.7
SZH Strazhica 152.25 316 P PKPbc 21 24 41.7 0.0
AKAS Kas 152.26 299⇓iP PKPbc 21 24 41.8 -0.2
DNZL Cakiroluk 152.31 303 i P PKPdf 21 24 26.2 -8.6
ZIMR 152.40 317 PKIKP PKPbc 21 24 41.8 -0.2
EDRB Edirne 152.40 312 eP PKPbc 21 24 40.6 -1.5
WIT Witteveen 152.43 351 ePKiKP PKPdf 21 24 34.3 -0.1
WIT Witteveen 152.43 351 iPKPpre PKPbc 21 24 42.0 +0.2
comp=Z,651nm,1.0s
CLL Collm 152.47 342⇑iPKIKP PKPdf 21 24 33.4 -1.1
CLL i 21 24 54.3
CLL pmax pmax
comp=Z,54nm,1.3s
CLL pmax pmax
comp=Z,217nm,0.8s
CLL pmax pmax
comp=Z,218nm,1.0s
CLL Collm 152.47 342 ePKPdf PKPdf 21 24 33.4 -1.1
CLL ePKPbc PKPbc 21 24 41.3 -0.6
CLL ePKPab PKPab 21 24 54.6 0.0
CLL Collm 152.47 342⇑iPKPdf PKPdf 21 24 33.4 -1.1
comp=Z,54nm,1.3s
CLL ⇑iPKPbc PKPbc 21 24 41.5 -0.4
comp=Z,217nm,0.8s
CLL iPKPab PKPab 21 24 54.3 -0.3
comp=Z,218nm,1.0s
CLL epPKPdf pPKPdf 21 26 35.0 +1.2
CLL iPKPbc pPKPbc 21 26 40.7 +0.5
CLL ePKSdf 21 28 09.0
CLL ePP PP 21 28 33.0 +3.6
CLL e(PPP) 21 32 10.0
CLL eSKKSac SKKSac 21 34 27.0 -2.4
CLL ex x 21 35 12.0
CLL eSdif 21 36 42.0
CLL eSKSP 21 37 56.0
CLL ePSKS 21 38 55.0
CLL eSPP 21 40 42.0
CLL ePPS 21 41 40.0
CLL epSPP 21 43 02.0
CLL ex x 21 44 13.0
CLL eSS SS 21 47 14.0 -3.7
CLL e(sSS) 21 50 23.0
CLL eSSS 21 53 04.0
CLL e(SSSS) 21 57 00.0
CLL ex x 22 00 40.0
CLL Collm 152.47 342⇑iPKP PKPdf 21 24 33.4 -1.1
CLL ⇑iPKP PKPbc 21 24 41.5 -0.4
CLL iPKP PKPab 21 24 54.3 -0.3
CLL epPKP pPKPdf 21 26 35.0 +1.2
CLL ePKS 21 28 09.0
CLL eSKKS SKKSac 21 34 27.0 -2.4
BALB Balikesir 152.53 307 eP PKPdf 21 24 40.4 +5.4
BRG Berggiesshubel 152.57 340 iPKIKP PKPdf 21 24 33.8 -0.9
BRG i 21 24 54.9
BRG i 21 26 24.0
BRG i 21 40 53.0
BRG SS SS 21 47 19.0 +0.1
BRG pmax pmax
comp=Z,56nm,1.5s
BRG pmax pmax
comp=Z,63nm,0.8s
BRG pmax pmax
comp=Z,101nm,1.1s
BRG Berggiesshubel 152.57 340 ePKPdf PKPdf 21 24 33.6 -1.1
BRG ePKPbc PKPbc 21 24 41.9 -0.3
BRG ePKPab PKPab 21 24 55.0 -0.1
BRG epPKPbc pPKPbc 21 26 34.3 -6.2
BRG Berggiesshubel 152.57 340 iPKP PKPdf 21 24 33.8 -0.9
comp=Z,93nm,1.5s
BRG i 21 24 42.0
comp=Z,106nm,0.8s
BRG i 21 24 54.9
comp=Z,169nm,1.1s
BRG iPKP pPKPdf 21 26 24.0 -10
BRG e 21 34 29.0
BRG i 21 37 53.0
BRG i 21 40 53.0
BRG SS SS 21 47 19.0 +0.1
SART Tekirdag 152.61 310 iP PKPdf 21 24 32.4 -2.7
PVL Pavlikeni 152.65 316 P PKPbc 21 24 43.5 +0.9
CLZ Clausthal 152.66 345 ePKIKP PKPdf 21 24 34.3 -0.5
CLZ e 21 24 55.4
CLZ Clausthal 152.66 345 ePKPdf PKPdf 21 24 34.3 -0.5
CLZ ePKPbc PKPbc 21 24 42.2 -0.1
CLZ ePKPab PKPab 21 24 55.4 0.0
CLZ epPKPbc pPKPbc 21 26 34.3 -6.3
PSZ Piszkesteto 152.66 329⇑ePKP PKPdf 21 24 33.9 -1.0
PSZ Piszkesteto 152.66 329 P PKPdf 21 24 34.5 -0.4
PVCC Panska Ves 152.67 339 ePKPDF PKPdf 21 24 34.3 -0.5
PVCC ⇑ePKP PKPbc 21 24 42.6 +0.2
PVCC ePKPAB PKPab 21 24 56.0 +0.5
PVCC epPKP pPKPdf 21 26 30.2 -4.0
PVCC eSKKS SKKSac 21 34 28.5 -2.0
PVCC ex x 21 40 45.1
PVCC eSS SS 21 47 19.7 -0.3
PVCC Panska Ves 152.67 339 ePKP PKPdf 21 24 34.3 -0.5
PVCC e 21 24 42.6
PVCC e 21 24 56.0
PVCC e 21 26 30.2
PVCC e 21 34 28.5
BALY Balya 152.67 308 iP PKPbc 21 24 41.4 -1.3
VYHS Vyhne 152.70 331⇑ePKIKP PKPdf 21 24 33.9 -1.1
VYHS e 21 24 56.2
VYHS Vyhne 152.70 331 ePKP PKPdf 21 24 33.9 -1.1
VYHS e 21 24 42.0
VYHS e 21 24 56.2
VYHS e 21 26 51.6
VYHS e 21 31 46.2
VYHS Vyhne 152.70 331⇑eSKKSp SKKSac 21 34 29.2 -1.6
VYHS eSS SS 21 47 13.4 -7.4
VYHS Vyhne 152.70 331 ePKP PKPdf 21 24 33.9 -1.1
VYHS e 21 24 42.0
VYHS e 21 24 56.2
VYHS e 21 26 51.6
VYHS e 21 31 46.3
VYHS eSKKSac SKKSac 21 34 29.2 -1.6
VYHS eSS SS 21 47 13.4 -7.4
KWE Weaver Farm 152.75 2 eP PKPdf 21 24 33.5 -1.4
IBBN Ibbenburen 152.75 349 ePKPdf PKPdf 21 24 34.3 -0.6
IBBN ePKPbc PKPbc 21 24 41.9 -0.6
IBBN ePKPab PKPab 21 24 55.7 -0.1
SBD1 Bryn Du 152.79 4 eP PKPdf 21 24 34.1 -0.8
KOLL Kolacno 152.82 332 ePKP PKPdf 21 24 34.7 -0.4
KOLL e 21 24 42.9
KOLL e 21 26 40.6
KOLL Kolacno 152.82 332⇑eSKKSp SKKSac 21 34 31.9 +0.4
KOLL Kolacno 152.82 332 ePKP PKPdf 21 24 34.7 -0.4
KOLL e 21 24 42.9
KOLL e 21 26 40.7
KOLL eSKKSac SKKSac 21 34 31.9 +0.4
TURN Turunc 152.88 301 iP PKPdf 21 24 34.4 -1.2
GZR Gura Zlata 152.91 322⇓PKIKP PKPdf 21 24 36.8 +1.4
GZR Gura Zlata 152.91 322 P PKPdf 21 24 34.5 -0.8
VRAC Vranov 152.98 335 PKP PKPdf 21 24 34.6 -0.7
comp=Z,8.1nm,0.9s,baz=50,slow=1.7,SNR=15
VRAC PKPbc PKPbc 21 24 42.2 -0.9
comp=Z,21nm,1.0s,baz=14,slow=2.4,SNR=15
VRAC PKPab PKPab 21 24 57.4 +0.5
comp=Z,18nm,0.7s,baz=43,slow=4.0,SNR=20
VRAC Vranov 152.98 335 PKIKP PKPdf 21 24 34.6 -0.7
VRAC 21 24 42.2
VRAC pmax pmax
comp=Z,8.0nm,0.9s
VRAC pmax pmax
comp=Z,21nm,1.0s
VRAC pmax pmax
comp=Z,18nm,0.7s
VRAC Vranov 152.98 335 P PKPdf 21 24 34.6 -0.7
YER Yerkesik 153.05 302 eP PKPdf 21 24 40.3 +4.4
DIM Dimitrovgrad 153.10 314 P PKPbc 21 24 43.7 +0.1
PRU Pruhonice 153.15 338 ePKIKP PKPdf 21 24 34.3 -1.2
PRU e 21 24 57.5
PRU e 21 40 55.2
PRU e 21 47 25.6
PRU Pruhonice 153.15 338 ePKPDF PKPdf 21 24 34.3 -1.2
PRU ⇑ePKP PKPbc 21 24 43.0 -0.4
PRU ePKPAB PKPab 21 24 57.5 0.0
PRU epPKP pPKPdf 21 26 33.0 -1.9
PRU ex x 21 31 57.8
PRU eSKKS SKKSac 21 34 31.5 -1.6
PRU ex x 21 37 55.3
PRU ex x 21 40 55.2
PRU eSS SS 21 47 25.6 +0.4
PRU Pruhonice 153.15 338 ePKP PKPdf 21 24 34.3 -1.2
PRU e 21 24 43.0
PRU e 21 24 57.5
PRU e 21 26 33.0
PRU e 21 31 57.8
PRU e 21 34 31.5
PRU e 21 37 55.3
HLM1 Long Mynd 153.20 3 eP PKPdf 21 24 33.0 -2.5
WTSB Winterswijk 153.24 350⇑ePKiKP PKPdf 21 24 34.8 -0.8
comp=Z,102nm,1.7s
WTSB Winterswijk 153.24 350⇑iPKPpre PKPbc 21 24 43.0 -0.6
comp=Z,181nm,0.8s
WTSB Winterswijk 153.24 350 ex PKPab 21 24 57.3 -0.6
comp=Z,110nm,1.3s
ENEZ Enez 153.29 311 eP PKPdf 21 24 32.4 -3.7
BUD Budapest 153.38 330⇑ePKP PKPdf 21 24 34.3 -1.7
BZS Buzias 153.40 324 PKIKP PKPdf 21 24 35.0 -1.0
TREC Trest 153.40 336 ePKIKP PKPdf 21 24 34.9 -1.0
TREC e 21 24 43.1
TREC e 21 24 58.5
TREC e 21 40 53.9
TREC Trest 153.40 336 ePKPDF PKPdf 21 24 34.9 -1.0
TREC ⇑ePKP PKPbc 21 24 43.1 -0.9
TREC ePKPAB PKPab 21 24 58.5 -0.2
TREC epPKP pPKPdf 21 26 30.7 -4.6
TREC ex x 21 31 59.8
TREC eSKKS SKKSac 21 34 31.8 -2.7
TREC ex x 21 37 59.4
TREC ex x 21 40 53.9
ARG Arkhangelos 153.42 300 eP PKPbc 21 24 44.8 +0.3
ARG Arkhangelos 153.42 300 eP PKPbc 21 24 44.8 +0.3
TANN Tannenbergstha 153.42 341 ePKPdf PKPdf 21 24 34.8 -1.1
TANN ePKPbc PKPbc 21 24 43.5 -0.5
TANN ePKPab PKPab 21 24 58.6 -0.1
TANN epPKPbc pPKPbc 21 26 35.0 -7.4
MOX Moxa 153.45 343 ePKP PKPdf 21 24 34.9 -1.0
comp=Z,107nm,1.5s
MOX e 21 24 58.9
comp=Z,163nm,1.6s
MOX e 21 26 35.6
MOX Moxa 153.45 343 ePKIKP PKPdf 21 24 34.9 -1.0
MOX e 21 24 58.9
MOX pmax pmax
comp=Z,107nm,1.5s
MOX pmax pmax
comp=Z,163nm,1.6s
MOX Moxa 153.45 343 ePKPdf PKPdf 21 24 35.0 -0.9
MOX ePKPbc PKPbc 21 24 43.3 -0.8
MOX ePKPab PKPab 21 24 58.8 0.0
MOX epPKPbc pPKPbc 21 26 34.7 -7.7
MODS Modra-Piesok 153.46 333 ePKP PKPdf 21 24 35.8 -0.2
MODS e 21 32 00.2
MODS Modra-Piesok 153.46 333⇑eSKKSp SKKSac 21 34 34.5 -0.4
MODS eSS SS 21 47 28.4 -0.4
MODS Modra-Piesok 153.46 333 ePKP PKPdf 21 24 35.8 -0.2
MODS e 21 32 00.2
MODS eSKKSac SKKSac 21 34 34.5 -0.4
MODS eSS SS 21 47 28.4 -0.4
RDO Rodhopi 153.53 312 eP PKPdf 21 24 35.1 -1.2
RDO Rodhopi 153.53 312 eP PKPdf 21 24 35.1 -1.2
NKC Novy Kostel 153.59 341 ePIKPdf PKPdf 21 24 35.4 -0.8
NKC e 21 24 58.7
NKC e 21 26 21.5
NKC Novy Kostel 153.59 341 ePKPDF PKPdf 21 24 35.4 -0.8
NKC ⇑ePKP PKPbc 21 24 44.2 -0.2
NKC ePKPAB PKPab 21 24 58.7 -0.7
NKC ex x 21 26 21.5
NKC eSKKS SKKSac 21 34 34.0 -1.4
NKC ex x 21 40 40.3
NKC Novy Kostel 153.59 341 ePKP PKPdf 21 24 35.4 -0.8
NKC e 21 24 44.2
NKC e 21 24 58.7
NKC e 21 26 21.5
NKC e 21 34 34.0
HTR Trewern Hill 153.62 4 eP PKPdf 21 24 36.6 +0.4
BUG Bochum-Univer 153.66 349 ePKPdf PKPdf 21 24 35.3 -0.9
BUG ePKPbc PKPbc 21 24 43.6 -0.9
BUG ePKPab PKPab 21 25 00.1 +0.4
ZST Bratislava 153.67 333 ePKP PKPdf 21 24 35.9 -0.4
ZST e 21 24 45.0
ZST e 21 26 32.9
ZST e 32 00.9
ZST Bratislava 153.67 333⇑eSKKSp SKKSac 21 34 33.8 -2.2
ZST eSS SS 21 47 33.5 +2.4
ZST Bratislava 153.67 333 ePKP PKPdf 21 24 35.9 -0.4
ZST e 21 24 45.0
ZST e 21 26 32.9
ZST e 21 32 00.9
ZST eSKKSac SKKSac 21 34 33.8 -2.2
ZST eSS SS 21 47 33.5 +2.4
UBBA Unterbreizbach 153.70 345 ePKPdf PKPdf 21 24 34.9 -1.4
UBBA ePKPbc PKPbc 21 24 43.6 -1.0
UBBA ePKPab PKPab 21 24 59.5 -0.4
GADA Gvkgeada 153.71 310 eP PKPbc 21 24 42.2 -2.8
PGB Panagyurishte 153.73 316 eP PKPbc 21 24 44.2 -0.7
BOZC Bozcaada 153.74 309 iP PKPdf 21 24 33.6 -3.1
RZN Rozhen 153.81 314 P PKPbc 21 24 44.4 -0.7
PRK Paraskevi 153.83 308 eP PKPbc 21 24 45.0 -0.2
PRK Paraskevi 153.83 308 eP PKPbc 21 24 45.0 -0.2
MANZ Manzenberg 153.91 341 ePKPdf PKPdf 21 24 35.6 -1.0
MANZ ePKPbc PKPbc 21 24 44.8 -0.3
MANZ ePKPab PKPab 21 25 01.1 +0.3
MANZ epPKPbc pPKPbc 21 26 36.0 -7.5
SMG Samos 153.97 304 eP PKPab 21 25 00.5 -1.0
SMG Samos 153.97 304 eP PKPab 21 25 00.5 -1.0
ROTZ Rotzenmuhle 154.07 341 ePKPdf PKPdf 21 24 35.8 -1.1
ROTZ ePKPbc PKPbc 21 24 45.1 -0.3
ROTZ ePKPab PKPab 21 25 02.3 +0.8
ROTZ epPKPbc pPKPbc 21 26 35.6 -8.2
KHC Kasperske Hory 154.20 338 ePKPDF PKPdf 21 24 36.0 -1.1
KHC ⇑ePKP PKPbc 21 24 45.5 -0.2
KHC ePKPAB PKPab 21 25 02.8 +0.7
KHC epPKP pPKPdf 21 26 32.4 -4.1
KHC ex x 21 26 43.0
KHC ex x 21 32 07.4
KHC eSKKS SKKSac 21 34 36.4 -2.4
KHC eSS SS 21 47 39.4 +2.8
KHC Kasperske Hory 154.20 338 ePKP PKPdf 21 24 36.0 -1.1
KHC e 21 24 45.5
KHC e 21 25 02.8
KHC e 21 26 32.4
KHC e 21 26 43.0
KHC e 21 32 07.4
KHC e 21 34 36.4
VTS Vitosha 154.30 317 P PKPbc 21 24 47.4 +1.3
VTS Vitosha 154.30 317 P PKPbc 21 24 45.9 -0.2
LIA Limnos Island 154.33 310 eP PKPdf 21 24 34.8 -2.8
LIA Limnos Island 154.33 310 eP PKPdf 21 24 34.8 -2.8
KARP Karpathos 154.35 299 eP PKPab 21 25 02.5 -0.8
KARP Karpathos 154.35 299 eP PKPab 21 25 02.5 -0.8
CONA Conrad Observa 154.38 334⇑iPKPdf PKPdf 21 24 36.4 -1.0
comp=Z,24nm,1.0s,SNR=14
CONA ⇓iPKPab PKPab 21 25 03.0 +0.1
comp=Z,83nm,0.9s
CSNA Conrad Observa 154.38 334⇑iPKPdf PKPdf 21 24 36.3 -1.0
comp=Z,23nm,1.0s
CSNA ⇓iPKPab PKPab 21 25 03.0 +0.1
comp=Z,71nm,0.9s
GEC2 GERESS Array S 154.41 338 ePKPdf PKPdf 21 24 36.3 -1.0
GEC2 ePKPab PKPab 21 25 05.5 +2.5
GERES GERESS Array B 154.41 338 PKP PKPdf 21 24 36.4 -1.0
comp=Z,9.9nm,0.9s,baz=75,slow=1.5,SNR=73
GERES PKPbc PKPbc 21 24 45.6 -0.5
comp=Z,11nm,0.8s,baz=45,slow=1.7,SNR=25
GERES PKPab PKPab 21 25 01.2 -1.7
comp=Z,16nm,0.9s,baz=46,slow=3.9,SNR=10
GERES pPKP pPKPdf 21 26 33.3 -3.5
comp=Z,15nm,1.0s,baz=127,slow=2.0,SNR=2.4
GERES pPKPbc pPKPbc 21 26 43.2 -1.4
comp=Z,14nm,0.9s,baz=50,slow=2.1,SNR=3.2
GERES GERESS Array B 154.41 338 PKIKP PKPdf 21 24 36.4 -0.9
GERES 21 25 01.2
GERES pmax pmax
comp=Z,10.0nm,0.9s
GERES pmax pmax
comp=Z,11nm,0.8s
GERES pmax pmax
comp=Z,16nm,0.9s
GERES pmax pmax
comp=Z,15nm,1.0s
GERES pmax pmax
comp=Z,14nm,0.9s
WET Wettzell 154.42 339 ePKPdf PKPdf 21 24 36.3 -1.0
WET ePKPab PKPab 21 25 03.6 +0.6
WET epPKPbc pPKPbc 21 26 37.0 -7.6
GRA1 Grafenberg Arr 154.42 342 ePKPdf PKPdf 21 24 36.4 -0.9
GRA1 ePKPab PKPab 21 25 03.6 +0.6
GRA1 epPKPbc pPKPbc 21 26 35.7 -8.9
GRA1 eSKKSac SKKSac 21 34 43.3 +3.4
GRA1 eSS SS 21 47 44.0 +5.2
GRF Grafenberg Arr 154.42 342 ePKPdf PKPdf 21 24 36.4 -0.9
GRF ePKPab PKPab 21 25 03.6 +0.6
GRF epPKPbc pPKPbc 21 26 35.7 -8.9
GRF eSKKSac SKKSac 21 34 43.3 +3.4
GRF eSS SS 21 47 44.0 +5.2
PKSM Moragy 154.49 328 PKIKP PKPdf 21 24 36.4 -1.1
MMB Musomiste 154.50 314 P PKPbc 21 24 46.2 -0.4
HGN Heimansgroeve 154.53 350⇑ePKiKP PKPdf 21 24 36.5 -1.0
comp=Z,86nm,3.4s
HGN Heimansgroeve 154.53 350⇑ePKPpre PKPbc 21 24 45.7 -0.6
comp=Z,26nm,1.0s
HGN Heimansgroeve 154.53 350 ix PKPab 21 25 03.2 -0.3
comp=Z,128nm,1.2s
NVR Nevrokopi 154.54 314 eP PKPdf 21 24 35.6 -2.2
NVR Nevrokopi 154.54 314 eP PKPdf 21 24 35.6 -2.2
BEBN Eben Emael 154.54 351 PKP PKPdf 21 24 36.6 -0.9
BEBN PKPab PKPab 21 25 03.1 -0.3
TNS Taunus Mts 154.60 347 ePKPdf PKPdf 21 24 36.8 -0.8
TNS ePKPab PKPab 21 25 03.6 -0.2
MEM Membach 154.67 350 PKP PKPdf 21 24 37.1 -0.6
MEM PKPbc PKPbc 21 24 46.4 -0.3
MEM PKPab PKPab 21 25 03.4 -0.6
UCC Uccle 154.71 353 PKP PKPdf 21 24 36.6 -1.1
UCC PKPbc PKPbc 21 24 46.1 -0.6
UCC PKPab PKPab 21 25 02.8 -1.4
BCLA Clavier 154.96 351 PKP PKPdf 21 24 36.9 -1.2
BCLA PKPab PKPab 21 25 04.7 -0.6
SNF Seneffe 155.00 353 PKP PKPdf 21 24 37.2 -0.9
SNF PKPbc PKPdf 21 24 46.9 +8.8
SNF PKPab PKPab 21 25 04.6 -0.9
MOA Molln 155.06 336 iPKPdf PKPdf 21 24 37.0 -1.2
comp=Z,17nm,1.1s,SNR=8.8
MOA ⇓iPKPab PKPab 21 25 05.1 -0.7
comp=Z,97nm,1.7s
ARSA Arzberg 155.06 334 iPKPdf PKPdf 21 24 37.0 -1.3
comp=Z,16nm,1.1s,SNR=7.9
ARSA ⇓iPKPab PKPab 21 25 05.7 -0.1
comp=Z,100nm,2.1s
TOD Tromm 155.11 346 PKIKP PKPdf 21 24 37.1 -1.2
ABH Alteburg 155.11 348 PKP PKPdf 21 24 36.9 -1.4

MENF Mencas 155.14 356 PKP PKPdf 21 24 37.0 -1.3
GIVF Givet 155.34 352⇑*i*PKIKP PKPdf 21 24 37.6 -1.0
DOU Dourbes 155.37 352 PKP PKPdf 21 24 37.5 -1.2
DOU PKPbc PKPdf 21 24 46.3 +7.7
DOU PKPab PKPab 21 25 05.7 -1.4
RUP Ruppelstein 155.37 348 PKIKP PKPdf 21 24 37.6 -1.0
VAY Valandovo 155.39 315⇑*i*PKP PKPdf 21 24 35.1 -3.8
VAY ⇓*i*PKP PKPab 21 25 06.0 -1.5
VAY *i* 21 26 35.5
VAY *i* PP pPKPab 21 26 58.5 -2.1
VAY *e*1 21 28 39.7
VAY *i* S 21 34 38.8
VAY Valandovo 155.39 315 *i* PKP PKPab 21 25 06.1 -1.4
STIP Stip 155.43 316 *i* PKP PKPab 21 25 06.5 -1.2
STIP Stip 155.43 316 *i* PKP PKPab 21 25 06.5 -1.1
BAIF Baives 155.45 353⇑*i*PKIKP PKPdf 21 24 37.8 -0.9
comp=Z,71nm,1.4s
PSET Sete Cidades 155.49 54 *e*PKP PKPdf 21 24 39.2 0.0
KTD Kalmit 155.53 346 PKIKP PKPdf 21 24 38.4 -0.4
PDA Ponta Delgada 155.56 55 *e*PKP PKPdf 21 24 38.9 -0.4
WLF Walferdange 155.57 350 PKP PKPdf 21 24 38.3 -0.6
WLF PKPbc PKPdf 21 24 48.9 +10
WLF PKPab PKPab 21 25 07.8 -0.1
NPS Neapolis 155.64 299 *e*P PKPdf 21 24 50.0 +11
NPS Neapolis 155.64 299 *e*P PKPdf 21 24 50.0 +11
CMLA Cha da Macela 155.66 54 *e*PKP PKPdf 21 24 37.3 -2.1
CMLA Cha da Macela 155.66 54 *e*PKPdf PKPdf 21 24 37.5 -1.9
CMLA *e*PKPab PKPab 21 25 05.2 -3.6
CMLA *e*PP PP 21 28 48.2 0.0
PERS Pernice 155.72 333 *i* PKPdf PKPdf 21 24 37.5 -1.7
PERS *i* PKPab PKPab 21 25 07.8 -0.9
PERS *e*pPKPbc pPKPbc 21 26 36.7 -11
PERS *e* 21 27 00.7
PERS *e*PP PP 21 28 44.9 -2.8
SOKA Soboth 155.72 333⇓*i*PKPdf PKPdf 21 24 37.5 -1.7
comp=Z,23nm,1.2s
SOKA ⇑*i*PKPab PKPab 21 25 07.8 -0.9
comp=Z,91nm,1.8s
SKO Skopje 155.74 317⇑*i*PKP PKPdf 21 24 37.8 -1.5
SKO *i* PKP PKPdf 21 24 49.1 +10
SKO ⇓*i*PKP PKPab 21 25 10.0 +1.0
SKO *i* 21 26 38.2
SKO *i* PP pPKPab 21 27 01.7 -0.4
SKO *e*1 21 28 44.6
SKO *i* S 21 34 46.2
SKO Skopje 155.74 317 *i* PKP PKPab 21 25 10.0 +1.1
FUR Furstenfeldbru 155.78 341 *e*PKPdf PKPdf 21 24 38.1 -1.1
FUR *e*PKPab PKPab 21 25 09.2 +0.3
STU Stuttgart 155.79 344 *e*PKPdf PKPdf 21 24 38.3 -0.9
STU *e*PKPab PKPab 21 25 08.9 0.0
STU *e*pPKPbc pPKPbc 21 26 39.8 -7.8
LANF Langenberg 155.91 347 PKP PKPdf 21 24 38.5 -0.9
ZAVS Zavodnje 155.93 333 *e*PKPdf PKPdf 21 24 37.4 -2.0
NEO Neokhori 155.94 310 *e*P PKPdf 21 24 37.4 -2.3
NEO Neokhori 155.94 310 *e*P PKPdf 21 24 37.4 -2.3
KBA Koelnbreinsper 156.04 336⇑*i*PKPdf PKPdf 21 24 37.6 -2.0
comp=Z,25nm,1.3s,SNR=10
KBA ⇓*i*PKPab PKPab 21 25 09.3 -0.8
comp=Z,56nm,0.9s
OBKA Obir 156.06 334⇑*i*PKPdf PKPdf 21 24 38.2 -1.5
comp=Z,9.6nm,1.1s
OBKA ⇓*i*PKPab PKPab 21 25 08.8 -1.4
comp=Z,20nm,0.8s
SISC Sisak 156.10 330 P PKPdf 21 24 38.2 -1.5
KRUS Krusevo 156.20 316⇑*i*PKP PKPdf 21 24 38.3 -1.7
KRUS *i* PKP PKPdf 21 24 47.3 +7.3
KRUS ⇓*i*PKP PKPab 21 25 11.1 +0.1
KRUS *e*1 21 28 48.8
KRUS *i* S SKKSac 21 34 47.1 -2.8
KRUS Krusevo 156.20 316 *i* PKP PKPab 21 25 11.2 +0.2
IDI Anoyia 156.21 300 pPKPab pPKPab 21 26 59.2 -5.2
comp=Z,53nm,0.9s,baz=339,slow=2.1,SNR=4.0
PDKS Podkum 156.24 333 *e*PKPdf PKPdf 21 24 38.4 -1.5
PSMN Pico do Norte, 156.28 56 *e*PKP PKPdf 21 24 38.7 -1.5
STR Strasbourg 156.30 346 PKP PKPdf 21 24 38.9 -1.0
MYKA Terra Mystica 156.31 335⇑*i*PKPdf PKPdf 21 24 38.3 -1.6
comp=Z,63nm,1.7s
MYKA ⇓*i*PKPab PKPab 21 25 10.0 -1.2
comp=Z,269nm,1.6s
BCI Bajram Curri 156.32 320 *e*P PKPdf 21 24 39.6 -0.5
LKR Lokris 156.40 309 *e*P PKPdf 21 24 37.0 -3.3
LKR Lokris 156.40 309 *e*P PKPdf 21 24 37.0 -3.3
BFO Black Forest 156.41 345 *e*PKPdf PKPdf 21 24 38.3 -1.7
BFO *e*PKPab PKPab 21 25 11.4 -0.2
WATA Walderalm 156.42 339⇑*i*PKPdf PKPdf 21 24 38.7 -1.3
comp=Z,9.9nm,0.8s
WATA ⇑*i*PKPab PKPab 21 25 12.1 +0.4
comp=Z,70nm,0.9s
GORS Gorjuse 156.43 334 *e*PKPdf PKPdf 21 24 38.2 -1.9
KZN Kozani 156.44 314 *e*P PKPdf 21 24 38.0 -2.3
KZN Kozani 156.44 314 *e*P PKPdf 21 24 38.0 -2.3
LJU Ljubljana 156.44 333 *i* PKIKP PKPdf 21 24 39.1 -1.0
LJU *i* 21 25 10.8
LJU *e* 21 28 46.9
LJU *e* 21 41 22.9
LJU *e*SS SS 21 47 56.2 -4.5
LJU Ljubljana 156.44 333 *i* PKPdf PKPdf 21 24 39.1 -1.0
LJU *i* PKPab PKPab 21 25 10.8 -1.1
LJU *i* pPKPbc 21 26 37.8
LJU *e*PP PP 21 28 46.9 -4.7
LJU *e* 21 32 26.6
LJU *e*SKKSac SKKSac 21 34 44.2 -6.6
LJU *e*SKKSac 21 38 21.0
LJU *e* 21 41 22.9
LJU *e*SS SS 21 47 56.2 -4.6
LJU *e* 21 59 21.0
LJU Ljubljana 156.44 333 *i* PKPdf PKPdf 21 24 39.1 -1.0
LJU *i* PKPab PKPab 21 25 10.8 -1.1
LJU *i* pPKPbc 21 26 37.8
LJU *e*PP PP 21 28 46.9 -4.7
LJU *e* 21 32 26.6
LJU *e*SKKSac SKKSac 21 34 44.2 -6.6
LJU *e*SKKSac 21 38 21.0
LJU *e* 21 41 22.9
LJU *e*SS SS 21 47 56.2 -4.6
WTTA Wattenberg 156.47 339⇑*i*PKPdf PKPdf 21 24 38.8 -1.3
comp=Z,57nm,1.5s,SNR=14
WTTA ⇓*i*PKPab PKPab 21 25 11.7 -0.2
comp=Z,90nm,0.9s
SPAK Spaichingen-Ko 156.52 344 PKP PKPdf 21 24 38.8 -1.4
RETA Reutte 156.54 341⇑*i*PKPdf PKPdf 21 24 38.8 -1.4
comp=Z,16nm,1.4s,SNR=7.7
RETA ⇓*i*PKPab PKPab 21 25 11.9 -0.4
comp=Z,126nm,1.0s
CDF Champ du Feu 156.56 347⇑*i*PKIKP PKPdf 21 24 38.9 -1.3
comp=Z,81nm,1.5s
MOTA Moosalm 156.56 340⇓*i*PKPdf PKPdf 21 24 38.8 -1.5
comp=Z,18nm,0.9s,SNR=14
MOTA ⇑*i*PKPab PKPab 21 25 12.2 -0.1
comp=Z,78nm,0.9s
BOJS Bojanci 156.57 331 *e*PKPdf PKPdf 21 24 38.7 -1.7
BOJS *i* PKPab PKPab 21 25 11.2 -1.3
BOJS *e*pPKPbc 21 26 37.5
BOJS *e*PP PP 21 28 47.5 -4.9
BOJS *i* SKSdf SKSdf 21 30 51.5 -7.1
BOJS *i* 21 32 22.7
BOJS *e*SKKSac SKKSac 21 34 49.3 -2.3
BOJS *e*SKKSac 21 38 21.1
BOJS *e* 21 41 24.6
BOJS *e*SS SS 21 48 00.0 -2.2
BOJS *e* 21 59 20.1
BOJS Bojanci 156.57 331 *e*PKPdf PKPdf 21 24 38.7 -1.7
BOJS *i* PKPab PKPab 21 25 11.2 -1.3
BOJS *e*pPKPbc 21 26 37.5
BOJS *e*PP PP 21 28 47.5 -4.9
BOJS *i* SKSdf SKSdf 21 30 51.5 -7.1
BOJS *i* 21 32 22.7
BOJS *e*SKKSac SKKSac 21 34 49.3 -2.3
BOJS *e*SKKSac 21 38 21.1
BOJS *e* 21 41 24.6
BOJS *e*SS SS 21 48 00.0 -2.2
OHR Ohrid 156.62 316⇑*i*PKP PKPdf 21 24 37.6 -2.9
OHR ⇓*i*PKP PKPab 21 25 11.6 -1.3
OHR *i* 21 26 38.9
OHR *i* PP pPKPab 21 27 04.0 -1.9
OHR *e*1 21 28 47.8
OHR *i* S SKKSac 21 34 46.4 -5.8
OHR Ohrid 156.62 316 *i* PKP PKPab 21 25 11.4 -1.5
ABTA Abfaltersbach 156.62 337⇑*i*PKPdf PKPdf 21 24 38.7 -1.6
comp=Z,49nm,1.4s,SNR=17
ABTA ⇑*i*PKPab PKPab 21 25 12.1 -0.5
comp=Z,47nm,0.9s
PUK Puka 156.62 319 *e*P PKPab 21 25 12.7 -0.1
THL Klokotos Trika 156.65 312 *e*P PKPdf 21 24 38.1 -2.5
THL Klokotos Trika 156.65 312 *e*P PKPdf 21 24 38.1 -2.5
VOY Vojsko 156.71 334 *e*PKPdf PKPdf 21 24 38.8 -1.7
VOY *e* 21 25 11.8
VOY *e* 21 25 44.7
VOY *e* 21 25 54.3
LIBD Limburg 156.75 346 PKIKP PKPdf 21 24 38.5 -2.0
ECH Echery 156.78 347 PKP PKPdf 21 24 39.6 -0.9
ECH Echery 156.78 347 *e*PKPdf PKPdf 21 24 39.5 -1.0
ECH *e*PKPab PKPab 21 25 11.9 -1.2
ECH *e*PP PP 21 28 50.0 -3.1
MEZF Maizieres J'vi 156.87 351⇑*i*PKIKP PKPdf 21 24 39.9 -0.7
comp=Z,200nm,1.5s
KBN Korca 156.90 315 *e*P PKPab 21 25 13.5 -0.6
FELD Feldberg im Sc 156.91 345 PKP PKPdf 21 24 39.2 -1.5
QSH Qafa e Shtames 156.93 318 *e*P PKPab 21 25 16.0 +1.8
FETA Feichten 156.97 340 *i* PKPdf PKPdf 21 24 39.6 -1.2
comp=Z,35nm,1.1s,SNR=16
FETA ⇓*i*PKPab PKPab 21 25 13.9 -0.2
comp=Z,66nm,0.9s
DAVA Damuels 156.98 342⇑*i*PKPdf PKPdf 21 24 39.5 -1.2
comp=Z,23nm,1.2s,SNR=15
DAVA ⇓*i*PKPab PKPab 21 25 13.8 -0.3
comp=Z,142nm,1.0s
THEF They Montfort 156.99 349 PKP PKPdf 21 24 39.4 -1.4
FLN La Foliniere 157.02 360⇑*i*PKIKP PKPdf 21 24 39.6 -1.2
comp=Z,361nm,1.7s
FLN *e*MLR MLR
comp=Z,1μm,22.5s
FLN La Foliniere 157.02 360⇑*i*PKPdf PKPdf 21 24 39.6 -1.2
FLN LR LR
comp=Z,1μm,22.5s
TIR Tirane 157.06 318 *e*P PKPab 21 25 14.9 +0.2
TIR Tirane 157.06 318 P PKPab 21 25 17.2 +2.5
MOF Molkenrain 157.13 347 PKP PKPdf 21 24 39.4 -1.5
HAU Haudompre 157.13 348⇑*i*PKIKP PKPdf 21 24 39.8 -1.1
comp=Z,222nm,1.8s
HAU *e*MLR MLR
comp=Z,969nm,22.5s
HAU Haudompre 157.13 348⇑*i*PKPdf PKPdf 21 24 39.8 -1.1
HAU LR LR
comp=Z,970nm,22.5s
LDF La Druitiere 157.19 359⇑*i*PKIKP PKPdf 21 24 39.8 -1.2
comp=Z,251nm,1.7s
HINF Hinteralfeld 157.22 347⇑*i*PKIKP PKPdf 21 24 39.7 -1.4
comp=Z,197nm,1.9s
STON Ston 157.32 323 P PKPdf 21 24 37.3 -4.1
ROSF Rostrenen 157.34 5⇑*i*PKIKP PKPdf 21 24 39.5 -1.7
comp=Z,408nm,1.9s
JAN Janina 157.38 313 *e*P PKPdf 21 24 40.3 -1.2
JAN Janina 157.38 313 *e*P PKPdf 21 24 40.3 -1.2
GRR Gorron 157.40 1⇑*i*PKIKP PKPdf 21 24 40.2 -1.1
comp=Z,276nm,1.8s
DAVOS Davos 157.41 341 PKIKP PKPdf 21 24 40.6 -0.7
BBS Basel-Blauen 157.41 346 PKIKP PKPdf 21 24 38.5 -2.8
DAVOX Davos/Dischmat 157.44 341 PKP PKPdf 21 24 40.6 -0.7
comp=Z,6.1nm,0.7s,baz=119,slow=0.8,SNR=12
DAVOX PKPab PKPab 21 25 16.3 +0.2
comp=Z,72nm,0.6s,baz=17,slow=2.5,SNR=23
DAVOX pPKPab pPKPab 21 27 06.7 -2.4
comp=Z,28nm,1.0s,baz=354,slow=3.0,SNR=2.5
SGMF Saint Gilles 157.47 4⇑*i*PKIKP PKPdf 21 24 40.0 -1.4
comp=Z,179nm,1.7s
NVLJ Novalja 157.48 330 P PKPdf 21 24 39.2 -2.3
LOMF Lomont 157.67 347 PKP PKPdf 21 24 40.1 -1.5
RLS Riolos of Patr 157.74 309 *e*P PKPab 21 25 17.8 0.0
RLS Riolos of Patr 157.74 309 *e*P PKPab 21 25 17.8 0.0
QUIF Quistinic 157.77 5⇑*i*PKIKP PKPdf 21 24 40.2 -1.5
comp=Z,105nm,1.6s
SRN Sarande 157.81 314 *e*P PKPab 21 25 17.4 -0.7
TUE Stuetta 157.87 342 *e*PKPdf PKPdf 21 24 38.6 -3.3
TUE *e*PKPab PKPab 21 25 17.1 -0.9
TUE *e*SKP 21 27 13.5
KEK Kerkira 158.03 314 *e*P PKPdf 21 24 41.1 -1.2
KEK Kerkira 158.03 314 *e*P PKPdf 21 24 41.1 -1.2
LOR Lormes 158.24 352⇑*i*PKIKP PKPdf 21 24 41.4 -0.9
comp=Z,197nm,1.7s
LOR *e*MLR MLR
comp=Z,1μm,21.2s
LOR Lormes 158.24 352⇑*i*PKPdf PKPdf 21 24 41.4 -0.9
LOR LR LR
comp=Z,1μm,21.3s
VLS Valsamata 158.29 310 *e*P PKPdf 21 24 41.4 -1.3
VLS Valsamata 158.29 310 *e*P PKPdf 21 24 41.4 -1.3
HYF Humbligny 158.38 354⇑*i*PKIKP PKPdf 21 24 41.9 -0.6
SSF Saint Saulge 158.49 353⇑*i*PKIKP PKPdf 21 24 41.6 -1.0
comp=Z,152nm,1.6s
CABF La Chapelle 158.52 348⇑*i*PKIKP PKPdf 21 24 42.2 -0.5
comp=Z,128nm,1.4s
AVF Avril sur Loir 158.77 353⇑*i*PKIKP PKPdf 21 24 41.7 -1.3
comp=Z,163nm,1.8s
SMF Signal de Mont 158.86 352⇑*i*PKIKP PKPdf 21 24 41.9 -1.2
comp=Z,206nm,1.9s
BGF Bois d'Agland 159.06 354⇑*i*PKIKP PKPdf 21 24 42.4 -0.9
comp=Z,191nm,1.5s
MFF Saint Martin d 159.18 359⇑*i*PKIKP PKPdf 21 24 42.4 -1.0
comp=Z,334nm,1.6s
TCF Toulx Ste Croi 159.38 355⇑*i*PKIKP PKPdf 21 24 42.7 -1.0
comp=Z,317nm,1.7s
LPL La Plagne 159.43 345⇑*i*PKIKP PKPdf 21 24 43.3 -0.5
comp=Z,35nm,1.0s
LPG La Plagne 159.44 345⇑*i*PKIKP PKPdf 21 24 43.6 -0.2
comp=Z,43nm,1.1s
AGO Saint Agoulin 159.53 353 PKP PKPdf 21 24 42.6 -1.3
PLDF La Plantade 159.55 352 PKP PKPdf 21 24 43.3 -0.6
PYM Petit Puy Mans 159.84 353 PKP PKPdf 21 24 43.1 -1.1
GDM Grand'Maison 159.87 346 PKP PKPdf 21 24 43.4 -0.9
BNI Bardonecchia 159.88 345 *e*PKIKP PKPdf 21 24 43.6 -0.7
BNI *e* 21 25 24.1
BNI *e* 21 27 23.0
BNI *e* 21 29 06.0
GRN Grenoble 159.91 347 PKP PKPdf 21 24 43.4 -0.9
SSB Saint Sauveur 160.09 350 PKP PKPdf 21 24 43.5 -1.0
SSB Saint Sauveur 160.09 350 *e*PKPdf PKPdf 21 24 43.7 -0.8
SSB *e*PKPab PKPab 21 25 26.3 -1.4
LIC Lamto 160.11 167⇑*i*PKIKP PKPdf 21 24 44.8 -0.7
comp=Z,646nm,1.6s
LIC *e*MLR MLR
comp=Z,1μm,22.5s
LIC Lamto 160.11 167 *e*PKIKP PKPdf 21 24 43.7 -1.8
comp=Z,497nm,1.6s
LIC Lamto 160.11 167⇑*i*PKPdf PKPdf 21 24 44.8 -0.7
LIC LR LR
comp=Z,740nm,22.5s
MBDF Montbardon 160.17 345⇑*i*PKIKP PKPdf 21 24 43.8 -0.8
comp=Z,116nm,1.4s
ORIF Oris-en-Rattie 160.19 347⇑*i*PKIKP PKPdf 21 24 43.8 -0.8
comp=Z,97nm,1.6s
ORIF *e*MLR MLR
comp=Z,1μm,20.0s
KIC Kosan Boka 160.30 167 *e*PKIKP PKPdf 21 24 43.6 -2.1
comp=Z,1μm,1.5s
CUC Castrocucco 160.31 320 *e*PKPdf PKPdf 21 24 41.6 -3.3
CUC *e*PKPab PKPab 21 25 28.0 -0.9
CUC *e*SKP 21 27 20.7
LBL Lubilhac 160.32 352 PKP PKPdf 21 24 44.3 -0.5
SURF Saint Ours 160.39 344 PKP PKPdf 21 24 44.4 -0.5
RJF Les Rejaudoux 160.42 356⇑*i*PKIKP PKPdf 21 24 43.9 -1.0
comp=Z,248nm,1.6s
RJF *e*MLR MLR
comp=Z,1μm,21.2s
RJF Les Rejaudoux 160.42 356⇑*i*PKPdf PKPdf 21 24 43.9 -1.0
RJF LR LR
comp=Z,1μm,21.3s
VIVF Saint-Julien-l 160.48 349⇑*i*PKIKP PKPdf 21 24 44.2 -0.7
comp=Z,153nm,1.7s
TIC Toumodi 160.52 166 *e*PKIKP PKPdf 21 24 43.9 -2.1
comp=Z,1μm,1.5s
DBIC Dimbokro 160.58 167 PKP PKPdf 21 24 45.4 -0.6
comp=Z,46nm,1.0s,baz=147,slow=2.0,SNR=28
DBIC PKPab PKPab 21 25 30.6 +0.1
comp=Z,179nm,1.2s,baz=150,slow=3.7,SNR=3.9
DBIC Dimbokro 160.58 167 PKIKP PKPdf 21 24 45.4 -0.6
DBIC 21 25 30.6
DBIC pmax pmax
comp=Z,46nm,1.0s
DBIC pmax pmax
comp=Z,179nm,1.2s
SAOF Saorge 160.66 342 PKP PKPdf 21 24 44.4 -0.8
AUTN L'Aution 160.68 342 PKP PKPdf 21 24 44.4 -0.8
TOUF Mont Tournerai 160.72 343 PKP PKPdf 21 24 44.1 -1.1
CAF Calviac 160.75 354⇑*i*PKIKP PKPdf 21 24 44.6 -0.6
comp=Z,165nm,1.5s
LUCF Luceram 160.80 343 PKP PKPdf 21 24 44.4 -0.9
SBF Sospel 160.81 342⇑*i*PKIKP PKPdf 21 24 43.8 -1.5
comp=Z,176nm,1.5s
LFF La Frestale 160.82 357⇑*i*PKIKP PKPdf 21 24 44.4 -0.9
comp=Z,58nm,1.1s
MVIF Mont Vial 160.85 343 PKP PKPdf 21 24 43.9 -1.5
REVF Revere 160.94 342 PKP PKPdf 21 24 44.4 -1.1
CALN Calern 161.05 343 PKP PKPdf 21 24 44.6 -1.0
STOF St-Etienne Org 161.06 346 PKP PKPdf 21 24 45.1 -0.5
SMRF Simiane la Rot 161.15 346⇑*i*PKIKP PKPdf 21 24 45.3 -0.4
comp=Z,57nm,1.3s
VILF Villemus 161.24 346 PKP PKPdf 21 24 45.3 -0.5
FRF La Foret Royal 161.29 344⇑*i*PKIKP PKPdf 21 24 44.6 -1.3
comp=Z,98nm,1.5s
LASF Ste Croix 161.37 350⇑*i*PKIKP PKPdf 21 24 45.3 -0.6
comp=Z,244nm,1.8s
TAVF Tavernes 161.38 345 PKP PKPdf 21 24 45.8 -0.1
PRAF Pradon 161.40 347 PKP PKPdf 21 24 45.1 -0.9
EMAZ Mazaricos 161.48 20 PKP PKPdf 21 24 46.1 +0.1
PGF Pioggiola 161.51 337⇑*i*PKIKP PKPdf 21 24 44.7 -1.4
comp=Z,221nm,1.7s
TREF Trevaresse 161.53 346 PKP PKPdf 21 24 45.1 -1.0
LMR La Mourre 161.54 344⇑*i*PKIKP PKPdf 21 24 44.7 -1.4
comp=Z,103nm,1.4s
PUYF Puyloubier 161.55 346 PKP PKPdf 21 24 45.3 -0.8
EPON Pontenova 161.64 16 PKP PKPdf 21 24 45.0 -1.3
STS Santiago 161.67 19 PKIKP PKPdf 21 24 46.3 0.0
GELF Grande-Etoile 161.75 346 PKP PKPdf 21 24 45.3 -1.0
BERF Bertagne 161.76 345 PKP PKPdf 21 24 45.5 -0.8
EARI Arriondas 162.07 11 PKP PKPdf 21 24 45.3 -1.4
MTLF Montolieu 162.31 353⇑*i*PKIKP PKPdf 21 24 46.0 -0.9
comp=Z,140nm,1.6s
ELAN Lanestosa 162.39 7 PKP PKPdf 21 24 47.0 0.0
ERUA La Rua 162.52 17 PKIKP PKPdf 21 24 47.0 -0.1
EALK Alkurruntz 162.55 2 PKIKP PKPdf 21 24 45.7 -1.4
ELIZ Elizondo 162.60 3 PKIKP PKPdf 21 24 47.0 -0.2
SJPF Ste Jean 162.66 2⇑*i*PKIKP PKPdf 21 24 46.9 -0.3
comp=Z,182nm,1.7s
ATE Arette 162.70 0 PKP PKPdf 21 24 46.7 -0.6
REYF Montagne du Re 162.72 360 PKP PKPdf 21 24 47.1 -0.2
LABF Labassere 162.73 359 PKP PKPdf 21 24 46.7 -0.6
EPF Esparros 162.74 358⇑*i*PKIKP PKPdf 21 24 46.7 -0.6
comp=Z,178nm,1.4s
LARF Larrau 162.74 1 PKP PKPdf 21 24 47.0 -0.3
ELOB Lobios 162.75 19 PKP PKPdf 21 24 47.1 -0.2
MLS Moulis 162.78 356 PKP PKPdf 21 24 46.1 -1.3
ETSF Etsaut 162.89 0⇑*i*PKIKP PKPdf 21 24 47.2 -0.3
comp=Z,57nm,1.3s
VIEF Viey 162.90 359 PKP PKPdf 21 24 47.0 -0.5
PCAB Cabril 162.90 19 *i* PKPdf PKPdf 21 24 46.6 -0.9
PCAB Cabril 162.90 19 *e*PKPab PKPab 21 25 39.7 -0.4
RESF Ens 162.97 358 PKP PKPdf 21 24 47.4 -0.1
FILF Fillols 163.04 352 PKP PKPdf 21 24 46.1 -1.5
ECAL Calabor 163.04 16 PKP PKPdf 21 24 48.2 +0.6
EBIE Bielsa 163.09 358 PKP PKPdf 21 24 48.3 +0.6
ECRI Cripan 163.10 5 PKIKP PKPdf 21 24 47.0 -0.7
EJON La Jonquera 163.11 351 PKP PKPdf 21 24 46.1 -1.6
VALF Valcebollere 163.26 354 PKP PKPdf 21 24 47.4 -0.4
PVRL Vila Real 163.39 19 *e*PKPdf PKPdf 21 24 47.5 -0.5
PVRL Vila Real 163.39 19 *i* PKPab PKPab 21 25 41.6 -0.7
MVO Moncorvo 163.69 18 *i* PKPdf PKPdf 21 24 48.0 -0.3
MVO Moncorvo 163.69 18 *e*PKPab PKPab 21 25 42.6 -1.0
MVO *i* P 21 26 46.0
EMIR Miracle 163.78 355 PKP PKPdf 21 24 47.8 -0.5
PVIS Viseu 163.85 21 *i* PKPdf PKPdf 21 24 48.1 -0.3
PVIS Viseu 163.85 21 *e*PKPab PKPab 21 25 43.5 -0.9
ESAC San Caprasio 164.06 360 PKP PKPdf 21 24 47.4 -1.2
MTE Manteigas 164.25 20 *e*PKPdf PKPdf 21 24 48.7 -0.1
MTE *e*PKPab PKPab 21 25 46.4 +0.2
CHIE El Hierro 164.27 79 PKP PKPdf 21 24 50.5 +1.3
EHIG Higuera 164.34 76 PKP PKPdf 21 24 50.6 +1.4
EPOB Poblet 164.38 356 PKP PKPdf 21 24 48.4 -0.4
PTOM Tomar 164.66 24 *i* PKPdf PKPdf 21 24 48.9 -0.3
PTOM Tomar 164.66 24 *e*PKPab PKPab 21 25 46.8 -1.2
PCBR Castelo Branco 164.78 21 *i* PKPdf PKPdf 21 24 49.1 -0.2
PCBR Castelo Branco 164.78 21 *e*PKPab PKPab 21 25 47.1 -1.4
ERTA Horta de San J 164.81 358 PKP PKPdf 21 24 48.8 -0.5
GUD Guadarrama 164.83 11 PKIKP PKPdf 21 24 49.9 +0.6
PMAFR Mafra 164.89 27 *i* PKPdf PKPdf 21 24 49.2 -0.2
PMAFR Mafra 164.89 27 *e*PKPab PKPab 21 25 47.5 -1.5
PMAFR *i* P 21 26 49.5
EGOM La Gomera 164.90 77 PKP PKPdf 21 24 50.2 +0.4
ETOR Torete 164.91 5 PKIKP PKPdf 21 24 49.0 -0.3
EPLA Plasencia 164.98 17 PKIKP PKPdf 21 24 49.4 0.0
ALMR Almeirim 165.00 25 *e*P PKPdf 21 24 49.0 -0.4
ALMR Almeirim 165.00 25 *e*P PKPdf 21 24 49.0 -0.5
PMRV Marv??o 165.18 21 *i* PKPdf PKPdf 21 24 49.3 -0.3
PMRV Marv??o 165.18 21 *e*PKPab PKPab 21 25 48.5 -1.8
PMRV *i* P 21 26 48.8
EMOS Mosqueruela 165.42 360 PKP PKPdf 21 24 50.3 +0.5
CCAN Las Canadas 165.43 77 PKP PKPdf 21 24 50.6 +0.5
PESTR Estremoz 165.62 23 *i* PKPdf PKPdf 21 24 49.7 -0.3
PESTR Estremoz 165.62 23 *e*PKPab PKPab 21 25 50.9 -1.3
PESTR *i* P 21 26 48.8
EBAJ Bajamar 165.62 75 PKP PKPdf 21 24 49.6 -0.7
EVO Evora 165.76 25⇑*i*PKIKP PKPdf 21 24 50.1 0.0
comp=Z,260nm,1.2s
EVO *e*MLR MLR
comp=Z,2μm,20.8s
EVO Evora 165.76 25 *e*PKPab PKPab 21 25 50.6 -2.3
EVO *i* P 21 26 48.0
ESDC Sonseca Array 165.81 11 PKP PKPdf 21 24 49.4 -0.7
comp=Z,1.9nm,0.8s,baz=358,slow=2.0,SNR=12
ESDC PKPab PKPab 21 25 51.3 -1.7
comp=Z,22nm,0.8s,baz=344,slow=4.2,SNR=29
ESDC pPKPab pPKPab 21 27 45.6 -0.1
comp=Z,5.9nm,0.9s,baz=336,slow=3.6,SNR=3.6
ESDC Sonseca Array 165.81 11 PKP PKPdf 21 24 50.4 +0.3
ESLA Sonseca Array 165.81 11 *e*PKPdf PKPdf 21 24 49.8 -0.4
ESLA *e*PKPab PKPab 21 25 51.7 -1.3
ESLA *e*SKP 21 27 52.6
PAB San Pablo 165.86 12 *e*PKIKP PKPdf 21 24 49.7 -0.5
PAB *e* 21 25 50.5
EBAD Badajoz 165.91 21 PKP PKPdf 21 24 50.0 -0.2
ECHE Chera 166.19 2 PKIKP PKPdf 21 24 50.9 +0.5
PBEJ Beja 166.26 25 *i* PKPdf PKPdf 21 24 50.5 0.0
PBEJ Beja 166.26 25 *e*PKPab PKPab 21 25 54.0 -1.1
PTEO Sao Teotonio 166.32 29 *i* PKPdf PKPdf 21 24 50.8 +0.2
PTEO Sao Teotonio 166.32 29 *e*PKPab PKPab 21 25 54.1 -1.3
EOSO Osorio 166.37 77 PKP PKPdf 21 24 51.2 +0.3
PBAR Barrancos 166.43 22 *i* PKPdf PKPdf 21 24 50.6 -0.1
PBAR Barrancos 166.43 22 *e*PKPab PKPab 21 25 54.5 -1.3
PBAR *i* P 21 26 50.0
MORF Marmelete 166.55 29 *i* PKPdf PKPdf 21 24 51.2 +0.4
MORF Marmelete 166.55 29 *e*PKPab PKPab 21 25 54.7 -1.7
MORF *i* P 21 26 51.4
PFVI Vila Bisbo 166.61 30 *i* PKPdf PKPdf 21 24 50.6 -0.2
PFVI Vila Bisbo 166.61 30 *e*PKPab PKPab 21 25 55.6 -1.1
PFVI *i* P 21 26 52.6
EIBI Ibiza 166.67 354 PKP PKPdf 21 24 49.8 -1.0
EGRO El Granado 166.83 25 PKP PKPdf 21 24 51.1 +0.2
PVAQ Vaqueiros 166.86 26 *i* PKPdf PKPdf 21 24 51.2 +0.2
PVAQ Vaqueiros 166.86 26 *e*PKab PKPab 21 25 55.4 -2.3
PVAQ *i* P 21 26 49.9
PBDV Barranco-do-Ve 166.91 27 *i* PKPdf PKPdf 21 24 51.8 +0.8
PBDV Barranco-do-Ve 166.91 27 *e*PKPab PKPab 21 25 57.5 -0.5
PBDV *i* P 21 26 52.3
EMIN Mina Concepcio 166.92 22 PKP PKPdf 21 24 51.2 +0.1
KEST Kesra 166.94 322 PKP PKPdf 21 24 50.7 -0.4
comp=Z,3.9nm,0.9s,baz=339,slow=5.9,SNR=7.0
KEST PKPab PKPab 21 25 58.8 +0.5
comp=Z,7.2nm,0.9s,baz=342,slow=2.0,SNR=9.3
ECAB El Cabril 167.02 18 PKP PKPdf 21 24 51.2 +0.1
EVIA Vianos 167.03 7 PKIKP PKPdf 21 24 51.9 +0.8
EBEN Beniarda 167.08 359 PKP PKPdf 21 24 50.6 -0.5
ETOB Tobarra 167.11 4 PKP PKPdf 21 24 51.1 -0.1
EADA Adamuz 167.14 15 PKP PKPdf 21 24 51.9 +0.7
CMAH Djebel Manchou 167.22 330 P PKPdf 21 24 51.5 +0.2
TOA0 Torodi Ar. Sit 167.30 190 *e*PKPdf PKPdf 21 24 50.3 -1.6
TOA0 *e*PKPdif 21 26 10.5
TOA0 *e*PKPab PKPab 21 25 58.5 -1.6
TOA0 *es*PKPdf 21 27 56.6
TOA0 *e*PP PP 21 29 47.8 -0.3
TORD Torodi Ar. Bea 167.30 190 PKP PKPdf 21 24 50.7 -1.2
comp=Z,32nm,0.9s,baz=325,slow=0.5,SNR=166
TORD PKPab PKPab 21 26 00.1 +0.1
comp=Z,57nm,0.8s,baz=162,slow=4.8,SNR=16
TORD pPKPab pPKPab 21 27 52.9 +0.3
comp=Z,21nm,1.0s,baz=190,slow=2.2,SNR=1.9
TORD Torodi Ar. Bea 167.30 190 PKP PKPdf 21 24 50.7 -1.2
TORD PKPab PKPab 21 26 00.1 +0.1

TORD				pPKPab	pPKPab	21 27 52.9	+0.3	
EBAN	**Banos Encina**	**167.31**	**12**	PKIKP	PKPdf	21 24 51.9	+0.6	
CAEH	**'Ain El Ouahch**	**167.34**	**332**	P	PKPdf	21 24 51.0	-0.4	
ABSA	**Djebel Ababsia**	**167.48**	**329**	P	PKPdf	21 24 51.0	-0.5	
CFTV	**Fuerteventura**	**167.61**	**75**	PKP	PKPdf	21 24 52.0	+0.2	
CKFL	**Kef-Lekhel**	**167.72**	**332**	P	PKPdf	21 24 52.0	+0.4	
EQES	**Quesada**	**167.78**	**10**	PKP	PKPdf	21 24 51.1	-0.5	
ELUQ	**Luque**	**167.79**	**14**	PKIKP	PKPdf	21 24 51.4	-0.3	
EHUE	**Huescar**	**167.84**	**8**	PKIKP	PKPdf	21 24 51.5	-0.2	
CASM	**Ain Smara**	**167.93**	**332**	P	PKPdf	21 24 52.0	+0.2	
EFAM	**Famara**	**167.95**	**71**	PKP	PKPdf	21 24 53.1	+1.1	
ESPR	**Espera**	**168.01**	**21**	PKP	PKPdf	21 24 52.4	+0.6	
CTEI	**Djebel Teioual**	**168.13**	**332**	P	PKPdf	21 24 52.5	+0.6	
ECOG	**Cogollos-Vega**	**168.21**	**12**	PKIKP	PKPdf	21 24 51.2	-0.8	
ELOJ	**Sierra Loja**	**168.21**	**14**	PKIKP	PKPdf	21 24 51.6	-0.4	
AKF	**Akfadou**	**168.31**	**339**	P	PKPdf	21 24 51.0	-1.0	
ERON	**Agron**	**168.41**	**13**	PKP	PKPdf	21 24 51.4	-0.7	
SET	**Setif**	**168.42**	**336**	P	PKPdf	21 24 53.0	+0.9	
EJIF	**Jimena Fronter**	**168.51**	**21**	PKIKP	PKPdf	21 24 51.9	-0.3	
CKHR	**Kef el Ahmar**	**168.54**	**335**	P	PKPdf	21 24 52.5	+0.3	
ABA	**Alger-Bouzarea**	**168.57**	**346**	P	PKPdf	21 24 53.0	+0.8	
EMIJ	**Mijas**	**168.61**	**18**	PKP	PKPdf	21 24 50.9	-1.3	
EBER	**Berja**	**168.70**	**10**	PKP	PKPdf	21 24 52.5	+0.3	
ENIJ	**Nijar**	**168.71**	**7**	PKIKP	PKPdf	21 24 51.9	-0.4	
EMHD	**Djebel Mahouad**	**169.17**	**345**	P	PKPdf	21 24 52.5	-0.1	
EALB	**Alboran**	**169.61**	**11**	PKP	PKPdf	21 24 52.8	0.0	
EANR	**'Ain N'Sour**	**169.74**	**353**	P	PKPdf	21 24 53.5	+0.6	
ETRT	**Tiaret**	**170.26**	**351**	P	PKPdf	21 24 54.0	+0.7	
MDT	**Midelt**	**172.09**	**26**	PKP	PKPdf	21 24 54.8	+0.6	
	comp=Z,25nm,0.9s,baz=296,slow=0.2,SNR=11							
MDT				PKPab	PKPab	21 26 17.6	-3.5	
	comp=Z,9.2nm,0.7s,baz=324,slow=6.5,SNR=7.4							
TAM	**Tamanrasset**	**173.77**	**243**	ePKIKP	PKPdf	21 24 55.0	-0.2	
TAM				*e*		21 26 31.2		
TAM				*e*		21 30 23.9		

*NEIC **16** 21:06:52.1, 1935N×6878W, h74km, MD3.5(RSPR), After RSPR.*

RSPR 16 21:06:52.1, 1935N×6878W, h74km±4km, MD3.5/10, MD3.5/10, 12C-1D, North Atlantic Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCDR	**Punta Cana, DR**	**0.91**	**155**	*e*P	**Pn**	21 07 04.5	-5.3
PCDR	**Punta Cana, DR**	**0.91**	**155**	*e*S	Sn	21 07 12.9	-10
STDO	**Santo Domingo**	**1.41**	**231**	*e*S	Sn	21 07 33.7	-0.3
IMO	**Isla Mona**	**1.49**	**146**	*e*P	Pn	21 07 14.5	-2.5
IMO				*e*S	Sn	21 07 30.6	-5.2
AGPR	**Aguadilla, PR**	**1.81**	**119**	*e*P	Pn	21 07 20.8	-0.5
AGPR				*e*S	Sn	21 07 43.7	+0.2
LSP	**Las Mesas**	**1.99**	**126**	*e*P	Pn	21 07 22.9	-0.8
LSP				*e*S	Sn	21 07 48.3	+0.5
CRPR	**Cabo Rojo, PR**	**2.07**	**130**	*e*P	Pn	21 07 24.3	-0.5
CRPR				*e*S	Sn	21 07 49.7	-0.2
AOPR	**Arecibo Observ**	**2.16**	**117**	*e*P	Pn	21 07 26.4	+0.3
AOPR				*e*S	Sn	21 07 52.0	0.0
GBPR	**Guanica, Bosqu**	**2.26**	**127**	*e*S	Sn	21 07 53.5	-0.9
OBIP	**Obispado Ponce**	**2.44**	**122**	*e*P	Pn	21 07 30.4	+0.6
OBIP				*e*S	Sn	21 07 59.0	+0.3
CELP	**Cerrillos**	**2.44**	**121**	*e*P	Pn	21 07 30.1	+0.2
CELP				*e*S	Sn	21 07 57.6	-1.1
ICM	**Isla Caja Muer**	**2.59**	**124**	*e*P	Pn	21 07 32.2	+0.4
ICM				*e*S	Sn	21 08 02.7	+0.4
SJG	**San Juan**	**2.78**	**116**	*e*P	Pn	21 07 35.0	+0.6
SJG				*e*S	Sn	21 08 06.4	-0.5
CBYP	**Canovanas**	**2.97**	**111**	*e*P	Pn	21 07 36.6	-0.3
CBYP				*e*S	Sn	21 08 12.3	+0.7
HUMP	**Col San Antoni**	**3.03**	**113**	*e*P	Pn	21 07 36.9	-0.8
HUMP				*e*S	Sn	21 08 13.6	+0.7
MTP	**Monte Pirata**	**3.30**	**112**	*e*P	Pn	21 07 41.5	-0.1
MTP				*e*S	Sn	21 08 19.9	+0.2

*TEH **16** 21:18:15.6, 2759N×5284E, h21km, ML3.7*
*THR **16** 21:18:39.1±0.6, 2721N×5270E, h14km±9km, ML3.8*
*ISCJB **16** 21:18:41.1±0.4, 2740N±003×5278E±004, h10km, Error ellipse: s-maj=6.2km s-min=3.7km az=151.6*
*CSEM **16** 21:18:45.1±0.1, 2749N×5268E, h35km, ML3.8, Error ellipse: s-maj=2.0km s-min=1.5km az=56.0*

ISC 16 21:18:45.4±2.0, 2736N±003×5277E±005, h34km±21km, n45, σ0°80/57, 1C-2D, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GHIR	**Ghir-Karzin**	**0.94**	**12**	*e*Pg	**Pn**	**21 18 59.6**	**-2.7**
GHIR				*e*Sg	**Sn**	**21 19 14.5**	**-0.1**
GHIR				AML	AML	21 19 16.0	
	comp=N,3μm,0.5s						
GHIR				AML	AML	21 19 18.0	
	comp=E,2μm,0.5s						
IMOK	**Mouk**	**1.68**	**358**	*e*Pn	**Pn**	**21 19 13.2**	**+0.8**
IMOK				*e*Sg	**Sn**	**21 19 33.6**	**+0.8**
IMOK	**Mouk**	**1.68**	**358**	*e*Pn	**Pn**	**21 19 13.2**	**+0.8**
IMOK				*e*Lg		21 19 34.2	
IMOK				*e*		21 19 46.9	
ISRV	**Sarvestan**	**2.04**	**8**	*e*Pn	**Pn**	**21 19 17.6**	**+0.3**
ISRV				*e*Sg	**Sn**	**21 19 44.0**	**+2.4**
ISRV	**Sarvestan**	**2.04**	**8**	*e*Pn	**Pn**	**21 19 17.6**	**+0.3**
ISRV				*e*Lg		21 19 43.8	
ISRV				*e*		21 20 03.9	
SHI	**Shiraz**	**2.29**	**354**	*e*Sn	**Sn**	**21 19 46.7**	**-1.1**
IPAR	**Pars**	**2.49**	**6**	*e*Pn	**Pn**	**21 19 23.8**	**+0.3**
IPAR				*e*Sn	**Sn**	**21 19 51.2**	**-1.5**
BNDS	**Bandar-Abbas**	**3.02**	**88**	*e*Pn	**Pn**	**21 19 29.3**	**-1.6**
BNDS				AML	AML	21 20 31.9	
	comp=E,197nm,0.8s						
BNDS				AML	AML	21 20 45.6	
	comp=N,214nm,0.7s						
NAZ	**Nazwa, Dubai**	**3.51**	**132**	Pn	**Pn**	**21 19 38.0**	**+0.5**
	SNR=20						
NAZ				Sn	**Sn**	**21 20 17.6**	**-0.3**
ASUD	**Al Ashush, Dub**	**3.56**	**139**	Pn	**Pn**	**21 19 38.8**	**+0.5**
	SNR=94						
ASUD				Sn	**Sn**	**21 20 19.6**	**+0.4**
FAQ	**Al Faqa, Dubai**	**3.63**	**135**	Pn	**Pn**	**21 19 39.2**	**-0.1**
	SNR=23						
HATD	**Hatta, Dubai**	**3.94**	**129**	Pn	**Pn**	**21 19 43.0**	**-0.4**
	SNR=18						
IMEH	**Mehriz**	**4.33**	**21**	*e*Pn	**Pn**	**21 19 49.6**	**+0.8**
IMEH	**Mehriz**	**4.33**	**21**	*e*Pn	**Pn**	**21 19 50.1**	**+1.3**
IMEH				*e*		21 21 15.6	
KRBR	**Kerman**	**4.37**	**52**	*e*Pn	**Pn**	**21 19 49.8**	**+0.3**
KRBR				AML	AML	21 21 15.1	
	comp=N,70nm,1.3s						
KRBR				AML	AML	21 21 24.6	
	comp=E,72nm,0.6s						
ISAD	**Sadrabad**	**4.61**	**10**	*e*Pn	**Pn**	**21 19 54.4**	**+1.7**
KBD	**Kabd**	**4.83**	**293**	*e*P	**Pn**	**21 19 55.8**	**0.0**
	baz=291						
KBD				AML	AML	21 20 53.0	
	comp=Z,25nm,0.3s,baz=291						
RDF	**Al-Radifah**	**4.87**	**290**	*e*P	**Pn**	**21 19 56.6**	**+0.4**
	baz=287						
RDF				AML	AML	21 20 34.3	
	comp=Z,38nm,0.6s,baz=287						
IBAF	**Bafgh**	**4.87**	**29**	*e*Pn	**Pn**	**21 19 56.2**	**-0.1**
UMR	**Umm Al-Rimmam**	**4.96**	**297**	*e*P	**Pn**	**21 19 57.2**	**-0.3**
	baz=295						
UMR				AML	AML	21 20 27.0	
	comp=Z,42nm,0.7s,baz=295						
IGAR	**Gharneh**	**5.07**	**353**	*e*Pn	**Pn**	**21 19 57.9**	**-1.1**
IGAR	**Gharneh**	**5.07**	**353**	*e*Pn	**Pn**	**21 19 51.7**	**-7.3**
IGAR				*e*		21 21 10.4	
ICHK	**Chekchek**	**5.07**	**16**	*e*Pn	**Pn**	**21 19 58.8**	**-0.3**
ICHK	**Chekchek**	**5.07**	**16**	*e*Pn	**Pn**	**21 19 59.1**	**0.0**
ICHK				*e*		21 20 20.8	
NAY	**Al-Naaiem**	**5.23**	**292**	*e*P	**Pn**	**21 20 01.4**	**+0.2**
	baz=290						
NAY				AML	AML	21 20 35.8	
	comp=Z,23nm,0.6s,baz=290						
MIB	**Mutribah**	**5.36**	**298**	*e*P	**Pn**	**21 20 03.2**	**+0.1**
	baz=296						
MIB				AML	AML	21 20 38.5	
	comp=Z,54nm,0.7s,baz=296						
NASN	**Na'in**	**5.42**	**0**	*e*Pn	**Pn**	**21 20 04.0**	**+0.1**
RST	**Umm Al-Ruwaisa**	**5.51**	**294**	*e*P	**Pn**	**21 20 04.8**	**-0.3**
	baz=292						
RST				AML	AML	21 20 39.7	
	comp=Z,33nm,0.6s,baz=292						
IZEF	**Zefreh**	**5.53**	**356**	*e*Pn	**Pn**	**21 20 05.0**	**-0.4**
IZEF				*e*Sn	**Sn**	**21 21 02.7**	**-5.1**
IZEF	**Zefreh**	**5.53**	**356**	*e*Pn	**Pn**	**21 20 04.8**	**-0.6**
IZEF				*e*		21 20 33.3	
IZEF				*e*Sn	**Sn**	**21 21 02.7**	**-5.1**
IPIR	**Pirpir**	**5.55**	**343**	*e*Pn	**Pn**	**21 20 06.0**	**+0.4**
IPIR				*e*Sn	**Sn**	**21 21 03.3**	**-5.0**
IPIR	**Pirpir**	**5.55**	**343**	*e*Pn	**Pn**	**21 20 06.4**	**+0.8**
IPIR				*e*Sn	**Sn**	**21 21 03.3**	**-5.0**
IPIR				*e*		21 21 14.7	
IKLH	**Kolahrood**	**6.03**	**350**	*e*Pn	**Pn**	**21 20 11.7**	**-0.5**
IKLH	**Kolahrood**	**6.03**	**350**	*e*Pn	**Pn**	**21 20 12.1**	**-0.1**
IKLH				*e*		21 21 33.8	
ISFB	**Sefidab**	**6.99**	**356**	*e*Pn	**Pn**	**21 20 24.1**	**-1.2**
ISFB				*e*Sn	**Sn**	**21 21 37.5**	**-6.1**
ISFB	**Sefidab**	**6.99**	**356**	*e*Pn	**Pn**	**21 20 24.0**	**-1.3**
ISFB				*e*		21 20 57.7	
ISFB				*e*Sn	**Sn**	**21 21 37.5**	**-6.1**
IKOO	**Kooshah**	**7.40**	**45**	*e*Pn	**Pn**	**21 20 30.8**	**-0.2**
ASAO	**Ashtian**	**7.55**	**342**	*e*Pn	**Pn**	**21 20 32.9**	**-0.1**
ITEG	**Tejag**	**7.57**	**42**	*e*Pn	**Pn**	**21 20 34.3**	**+1.0**
ITEG	**Tejag**	**7.57**	**42**	*e*Pn	**Pn**	**21 20 33.2**	**-0.1**
DAMV	**Damavand**	**8.28**	**355**	*e*Pn	**Pn**	**21 20 43.5**	**+0.5**
IRAZ	**Razeghan**	**8.38**	**344**	*e*Pn	**Pn**	**21 20 44.4**	**-0.1**
IRAZ	**Razeghan**	**8.38**	**344**	*e*Pn	**Pn**	**21 20 45.1**	**+0.6**
CHTH	**Charan**	**8.64**	**351**	*e*Pn	**Pn**	**21 20 47.9**	**-0.1**
SNGE	**Sanandaj**	**9.00**	**330**	*e*Pn	**Pn**	**21 20 52.4**	**-0.5**

MAN 16 21:40:54, 1170N×12513E, h11km, mb4.0, ML2.8, MS2.5, 1D, Samar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLP	**Palo**	**0.55**	**196**	*e*P	Pg	21 41 05.6	+0.9
PLP				*e*S	Sg	21 41 05.6	-6.3
OCLP	**Ormoc**	**0.82**	**219**	*e*P	Pg	21 41 12.0	+2.2
OCLP				*e*S	Sg	21 41 24.2	+3.6
CNP	**Catarman**	**0.93**	**331**	*e*P	Pg	21 41 11.5	-0.4
CNP				*e*S	Sg	21 41 28.9	+4.8
MSLP	**Maasin**	**1.57**	**190**	*e*P	Pn	21 41 22.4	+0.5
PVCP	**Virac**	**2.12**	**333**	*e*P	Pn	21 41 30.8	+1.5
PVCP				*e*S	Sn	21 42 00.9	+5.2

*ISCJB **16** 21:40:57.4±1.7, 2544S±008×1796E±0.1, h513km±22km, mb3.8/15, Error ellipse: s-maj=16.2km s-min=12.4km az=17.7*
*NEIC **16** 21:40:57.7±1.2, 2549S×17971E, h510km±15km, mb3.9/6, Error ellipse: s-maj=14.2km s-min=11.4km az=136.0*
*IDC **16** 21:40:59.6±4.4, 2552S×17966E, h526km±50km, mb3.3/12, mb1 3.6/13, mb1mx3.5/18, mbtmp3.4/13, Error ellipse: s-maj=26.3km s-min=18.8km az=37.0*

ISC 16 21:40:57.5±1.4, 2549S±008×1797E±01, h503km±18km, n27, σ0°89/25, mb3.8/15, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**12.92**	**189**	P	**P**	**21 43 47.0**	**+1.4**
	8.7nm,0.3s,baz=27,slow=2.3,SNR=24						
URZ				S	**S**	**21 46 04.3**	**+0.1**
	1.0nm,0.3s,baz=99,slow=22,SNR=6.3						
AFI	**Afiamalu**	**14.04**	**36**	*e*P	**P**	**21 43 57.0**	**-0.7**
SNZO	**South Karori**	**16.31**	**193**	*e*P	**P**	**21 44 19.9**	**-1.2**
	46nm,1.0s						
CTA	**Charters Tower**	**31.23**	**273**	P	**P**	**21 46 36.0**	**+0.5**
	2.6nm,0.5s,mb3.9,baz=129,slow=9.0,SNR=3.9						
CTAO	**Charters Tower**	**31.23**	**273**	*e*P	**P**	**21 46 36.7**	**+1.3**
	2.3nm,0.4s,mb4.0						
TAU	**Tasmania Unive**	**31.66**	**229**	*e*P	**P**	**21 46 38.9**	**+0.1**
STKA	**Stephens Creek**	**33.89**	**250**	P	**P**	**21 46 58.5**	**+0.6**
	3.5nm,0.9s,mb3.8,baz=52,slow=15,SNR=3.9						
STKA	**Stephens Creek**	**33.89**	**250**	*e*P	**P**	**21 46 58.8**	**+0.9**
	4.3nm,0.9s,mb3.9						
ASAR	**Alice Springs**	**41.52**	**262**	P	**P**	**21 48 00.6**	**+0.1**
	1.9nm,0.6s,mb3.7,baz=91,slow=6.8,SNR=16						
WRAB	**Tennant Creek**	**42.03**	**268**	*e*P	**P**	**21 48 04.4**	**-0.2**
	2.1nm,0.7s,mb3.7						
WRA	**Warramunga Arr**	**42.04**	**268**	P	**P**	**21 48 04.5**	**-0.1**
	2.0nm,0.7s,mb3.7,baz=100,slow=7.1,SNR=15						
FITZ	**Fitzroy Crossi**	**50.44**	**267**	P	**P**	**21 49 09.3**	**+0.8**
	1.3nm,0.5s,mb3.5,baz=95,slow=8.2,SNR=9.7						
FITZ	**Fitzroy Crossi**	**50.44**	**267**	*e*P	**P**	**21 49 09.1**	**+0.5**
	2.3nm,0.6s,mb3.7						
MBWA	**Marble Bar**	**54.83**	**261**	P	**P**	**21 49 37.8**	**-2.2**
QSPA	**South Pole Qui**	**64.60**	**180**	P	**P**	**21 50 44.6**	**+0.3**
	1.3nm,0.6s,mb3.8,baz=170,slow=5.8,SNR=4.2						
KKM	**Kota Kinabalu**	**69.10**	**288**	*e*P	**P**	**21 51 12.1**	**-1.0**
MJAR	**Matsushiro Arr**	**73.05**	**326**	P	**P**	**21 51 35.1**	**-0.7**
	2.9nm,0.8s,mb3.9,baz=159,slow=6.2,SNR=6.8						
MAW	**Mawson**	**76.17**	**201**	*e*P	**P**	**21 51 51.8**	**-1.3**
	0.6nm,0.4s,mb3.5						
PMSA	**Palmer Station**	**77.57**	**157**	*e*P	**P**	**21 51 60.0**	**-0.8**
	8.7nm,0.8s,mb4.2						
KSRS	**Korea Array**	**79.28**	**320**	P	**P**	**21 52 11.1**	**+0.9**
	4.8nm,0.8s,mb4.1,baz=122,slow=38,SNR=6.8						
PETK	**Petropavlovsk-**	**80.57**	**347**	P	**P**	**21 52 16.5**	**-0.2**
	1.2nm,0.4s,mb3.8,baz=157,slow=9.0,SNR=3.2						
NVAR	**Mina Array Bea**	**86.09**	**44**	P	**P**	**21 52 45.1**	**+0.5**
	1.6nm,0.8s,mb3.7,baz=226,slow=8.6,SNR=5.3						
CMAR	**Chiang Mai Arr**	**89.81**	**290**	P	**P**	**21 53 03.5**	**+1.0**
	0.6nm,0.5s,mb3.5,baz=130,slow=3.4,SNR=4.6						
TXAR	**Lajitas Array**	**91.51**	**58**	P	**P**	**21 53 11.4**	**+1.3**
	0.8nm,0.8s,mb3.7,baz=215,slow=6.3,SNR=7.0						
NB2	**NORSAR Subarra**	**143.60**	**351**	PKP	PKPdf	21 59 32.5	-1.5
	comp=Z,1.7nm,0.8s,baz=20,slow=3.6						
NOA	**NORSAR Array B**	**143.60**	**351**	PKP	PKPdf	21 59 32.8	-1.2
	comp=Z,2.6nm,0.7s,baz=22,slow=3.8,SNR=6.8						
AKASG	**Malin Array Be**	**146.13**	**326**	PKPbc	PKPbc	21 59 38.5	-2.1
	comp=Z,0.9nm,0.4s,baz=43,slow=5.1,SNR=2.5						

DJA 16 21:42:47.7±0.6, 7S±5×129E±, h223km±9km, mB6.7/1, MLv4.2/2, Mw(mB)6.5/1, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AAI	**Ambon**	**2.96**	**342**	P	Pn	21 43 37.4	-0.7
BATI	**Baumata**	**6.51**	**235**	P	Pn	21 44 22.9	+1.1
	52nm,1.4s,0.2nm						
FITZ	**Fitzroy Crossi**	**12.00**	**196**	P	Pn	21 45 28.0	-3.9
	29nm,1.5s						
WRAB	**Tennant Creek**	**14.28**	**160**	P	Pn	21 46 00.7	+0.5
	27nm,3.0s						
MYLDM	**Lahad Datu**	**15.72**	**317**	P	Pn	21 46 16.8	-0.9
STKI	**Sintang**	**18.76**	**290**	P	P	21 46 52.0	+1.6

*NEIC **16** 22:09:47.5, 1577N×9453W, h37km, MD3.9(MEX), After MEX.*

MEX 16 22:09:47.5±0.6, 1577N×9453W, h33km±26km, MD3.9, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HUIG	**Huatulco**	**1.52**	**270**	*i* P	Pn	22 10 11.0	-1.4
HUIG				*i* S	Sn	22 10 28.0	-3.0
TGIG		**1.69**	**53**	*i* P	Pn	22 10 12.8	-1.9
TGIG				*i* S	Sn	22 10 32.8	-2.4
SCX	**San Cristobal**	**2.06**	**62**	*i* P	Pn	22 10 18.4	-1.4
SCX				*i* S	Sn	22 10 42.2	-2.2
THIG		**2.35**	**111**	*e*P	Pn	22 10 22.7	-1.1
THIG				*i* S	Sn	22 10 48.8	-2.7
CCIG	**Comitan**	**2.36**	**77**	*e*P	Pn	22 10 22.8	-1.1
CCIG				*i* S	Sn	22 10 49.1	-2.6
VHO	**Vista Hermosa**	**2.48**	**302**	*e*P	Pn	22 10 24.5	-1.1
VHO				*i* S	Sn	22 10 53.4	-1.4
PNIG	**Pinotepa**	**3.51**	**281**	*e*P	Pn	22 10 39.0	-0.8
PNIG				*i* S	Sn	22 11 16.7	-3.6
PNIG	**Pinotepa**	**3.51**	**281**	*e*P	Pn	22 10 39.0	-0.8
PNIG				*i* S	Sn	22 11 15.3	-5.0
UTMO	**Huajuapan**	**3.75**	**304**	*i* P	Pn	22 10 41.8	-1.3
UTMO				*i* S	Sn	22 11 24.4	-1.6
PPM	**Popocatepetl**	**5.11**	**311**	*e*P	Pn	22 11 03.1	+1.4
PPM				*i* S	Sn	22 12 01.9	+2.3

*TEH **16** 22:19:38.6, 3780N×4462E, h5km, ML3.9*
*ISCJB **16** 22:20:40.9±0.7, 3749N±003×4457E±003, h5km±5km, mb4.1/15, Error ellipse: s-maj=4.9km s-min=3.3km az=11.5*
*IDC **16** 22:20:41.0±0.9, 3749N×4434E, h0km, mb3.9/10, mb1 4.0/12, mb1mx3.8/24, mbtmp3.9/12, ML3.8/2, MS4.0/1, Ms1 4.0/1, ms1mx3.4/42, Error ellipse: s-maj=21.2km s-min=16.3km az=156.0*
*CSEM **16** 22:20:41.4±0.1, 3764N×4459E, h5km, mb4.0/5, Error ellipse: s-maj=3.1km s-min=1.8km az=17.0*
*NEIC **16** 22:20:42.4, 3780N×4462E, h5km, mb4.2/1, ML3.7(THR), MN3.9(TEH), After TEH.*
*ISK **16** 22:20:42.1, 3764N×4447E, h5km, MD3.7*
*THR **16** 22:20:43.9±0.8, 3772N×4474E, h15km, ML3.7*
*MOS **16** 22:20:44.7±2.3, 3743N×4437E, h33km, mb4.4/7, Error ellipse: s-maj=16.1km s-min=9.0km az=85.1*
*DDA **16** 22:21:00.2, 3762N×4398E, h2km, Md3.6*

ISC 16 22:20:42.6±0.7, 3756N±003×4457E±003, h5km±5km, n98, σ1°29/115, mb4.1/15, 1D, Turkey-Iran border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HKR	**Hakkari**	**0.66**	**272**	*e*PG	**Pg**	**22 20 54.2**	**-1.1**
HAKT	**HAKKARI**	**0.68**	**270**	*i* P	**Pg**	**22 20 54.7**	**-1.0**
HAKT				*i* S	**Sg**	**22 21 08.4**	**+3.7**
ISHB	**Shabestar**	**1.10**	**49**	*e*Pg	**Pg**	**22 20 59.1**	**-4.6**
ISHB				*e*Sg	**Sg**	**22 21 11.6**	**-6.3**
ISHB				*e*		22 21 24.2	
ISHB	**Shabestar**	**1.10**	**49**	Pg	**Pg**	**22 20 59.0**	**-4.7**
ISHB				Sg	**Sg**	**22 21 11.5**	**-6.4**
IAZR	**Azarshahr**	**1.13**	**84**	*e*Pg	**Pg**	**22 21 01.3**	**-2.9**
IAZR				*e*		22 21 22.8	
VANT	**Van**	**1.28**	**314**	*e*PN	**Pn**	**22 21 06.7**	**-0.5**
VANT				*e*SN	**Sn**	**22 21 24.9**	**+0.2**
ITBZ	**Tabriz**	**1.42**	**61**	*e*Pg	**Pn**	**22 21 04.7**	**-4.3**
ITBZ				*e*	**Pg**	**22 21 09.0**	**-0.8**
ITBZ				*e*Sg	**Sn**	**22 21 22.1**	**-6.0**
IMRD	**Marand**	**1.46**	**38**	Pg	**Pn**	**22 21 05.2**	**-4.4**
IMRD	**Marand**	**1.46**	**38**	*e*Pg	**Pn**	**22 21 05.3**	**-4.3**
IMRD				*e*		22 21 44.1	
MSL	**Mosul**	**1.65**	**226**	*i* x	x	22 21 15.0	
MSL				*i* x	x	22 21 39.5	
CLDR	**Caldiran**	**1.66**	**342**	*e*PN	**Pn**	**22 21 12.1**	**-0.2**
CLDR				*e*SN	**Sn**	**22 21 34.2**	**+0.2**
SIRT	**Sirnak**	**1.69**	**269**	*e*PN	**Pn**	**22 21 13.1**	**+0.2**
SIRT				*e*SN	**Sn**	**22 21 35.8**	**+0.9**
MAKU	**Maku**	**1.79**	**3**	*e*Pn	**Pn**	**22 21 14.3**	**+0.1**
MAKU	**Maku**	**1.79**	**3**	*e*Pn	**Pn**	**22 21 14.2**	**0.0**
	SNR=52						
MAKU	**Maku**	**1.79**	**3**	*e*P	**Pn**	**22 21 14.0**	**-0.2**
IBST	**Bostanabad**	**1.85**	**85**	*e*Pn	**Pn**	**22 21 13.5**	**-1.5**
IBST				*e*Sn	**Sn**	**22 21 37.9**	**-0.8**
IBST	**Bostanabad**	**1.85**	**85**	*e*Pn	**Pn**	**22 21 13.5**	**-1.5**
IBST				*e*Sn	**Sn**	**22 21 37.9**	**-0.8**
IBST				*e*		22 21 41.4	
IBST	**Bostanabad**	**1.85**	**85**	Pn	**Pn**	**22 21 13.4**	**-1.6**
IBST				Sn	**Sn**	**22 21 37.8**	**-0.9**
IHRS	**Heris**	**2.10**	**68**	*e*Pn	**Pn**	**22 21 17.2**	**-1.2**
IHRS				*e*Sn	**Sn**	**22 21 42.0**	**-2.8**
IHRS				*e*		22 21 59.2	
IHRS	**Heris**	**2.10**	**68**	Pn	**Pn**	**22 21 17.2**	**-1.2**
IHRS				Sn	**Sn**	**22 21 41.9**	**-2.9**
AGRB	**Hanur-Agry**	**2.36**	**329**	*e*PN	**Pn**	**22 21 21.7**	**-0.2**
ISRB	**Sarab**	**2.47**	**83**	*e*Pn	**Pn**	**22 21 24.3**	**+0.8**
ISRB				*e*		22 22 15.9	
ISRB	**Sarab**	**2.47**	**83**	Pn	**Pn**	**22 21 24.2**	**+0.7**
GNI	**Garni**	**2.59**	**3**	*e*PN	**Pn**	**22 21 26.6**	**+1.4**
GNI	**Garni**	**2.59**	**3**	*e*Pn	**Pn**	**22 21 26.7**	**+1.6**
GNI				*e*Sn	**Sn**	**22 21 56.2**	**-0.7**
GNI	**Garni**	**2.59**	**3**	*e*Pn	**Pn**	**22 21 26.7**	**+1.6**
GNI				*e*Sn	**Sn**	**22 21 56.2**	**-0.7**
BEST	**Besiri**	**2.64**	**278**	*i* P	**Pn**	**22 21 29.5**	**+3.8**
BEST				*i* S	**Sg**	**22 22 07.5**	**+0.3**
GRMI	**Germi**	**2.90**	**64**	*e*Pn	**Pn**	**22 21 29.1**	**-0.3**
GRMI				AML	AML	22 22 28.8	
	comp=E,159nm,0.7s						
GRMI	**Germi**	**2.90**	**64**	*e*Pn	**Pn**	**22 21 29.1**	**-0.3**
	SNR=52						
GRMI				*e*Sg	**Sg**	**22 22 12.0**	**-3.8**
GRMI	**Germi**	**2.90**	**64**	*e*Pn	**Pn**	**22 21 30.0**	**+0.6**
GRMI				*e*Sg	**Sg**	**22 22 12.0**	**-3.8**
MARD	**Mardin**	**3.03**	**266**

comp=Z,1.0nm,0.6s,mb3.4,baz=248,slow=38,SNR=3.4
BVAR Borovoye Array 23.67 41 P **P** **22 25 56.2 +1.2**
BVAR pmax pmax
comp=Z,1.0nm,0.6s
GERES GERESS Array B 25.00 307 P **P** **22 26 05.9 -1.2**
comp=Z,1.6nm,0.8s,mb3.6,baz=99,slow=8.4,SNR=11
GERES GERESS Array B 25.00 307 P **P** **22 26 05.9 -1.2**
GERES pmax pmax
comp=Z,2.0nm,0.8s
KURK Kurchatov 27.48 50 P **P** **22 26 29.6 0.0**
comp=Z,0.6nm,0.2s,mb3.7,baz=260,slow=9.2,SNR=3.8
KURK Kurchatov 27.48 50 P **P** **22 26 29.6 0.0**
KURK pmax pmax
comp=Z,1.0nm,0.2s,mb4.0
MKAR Makanchi Array 29.20 60 P **P** **22 26 44.5 -0.4**
comp=Z,0.3nm,0.5s,mb3.3,baz=264,slow=6.3,SNR=3.1
HFS Hagfors 29.90 329 P **P** **22 26 48.4 -2.5**
comp=Z,2.2nm,0.7s,mb4.0,baz=146,slow=11,SNR=2.7
HFS Hagfors 29.90 329 P **P** **22 26 48.4 -2.5**
HFS pmax pmax
comp=Z,2.0nm,0.7s
NOA NORSAR Array B 31.42 329 P **P** **22 27 02.4 -2.0**
comp=Z,1.7nm,0.9s,mb3.9,baz=23,slow=6.4,SNR=3.6
NOA NORSAR Array B 31.42 329 P **P** **22 27 02.4 -2.0**
NOA pmax pmax
comp=Z,2.0nm,0.9s
TORD Torodi Ar. Bea 45.21 249 P **P** **22 28 57.6 -3.2**
comp=Z,2.3nm,1.2s,mb3.9,baz=48,slow=4.9,SNR=7.2
CMAR Chiang Mai Arr 50.92 96 P **P** **22 29 45.2 +0.3**
comp=Z,1.0nm,0.3s,mb4.2,baz=298,slow=8.1,SNR=5.2
CMAR Chiang Mai Arr 50.92 96 *i* P **P** **22 29 48.5 +3.5**
CMAR pmax pmax
comp=Z,1.0nm,0.3s
CMAR Chiang Mai Arr 50.92 96 P **P** **22 29 45.2 +0.2**
DBIC Dimbokro 54.30 248 P **P** **22 30 08.1 -2.0**
comp=Z,2.9nm,0.7s,mb4.3,baz=35,slow=7.4,SNR=5.1
DBIC Dimbokro 54.30 248 P **P** **22 30 08.1 -2.0**
DBIC pmax pmax
comp=Z,3.0nm,0.7s
KIC Kosan Boka 54.42 248 *e*P **P** **22 30 08.9 -2.1**
comp=Z,33nm,0.8s
TIC Toumodi 54.44 248 *e*P **P** **22 30 09.4 -1.7**
comp=Z,8.1nm,0.2s,mb5.2
LIC Lamto 54.73 248 *e*P **P** **22 30 11.5 -1.7**
comp=Z,21nm,0.7s,mb5.2
BOSA Boshof 68.27 198 P **P** **22 31 44.0 -0.3**
comp=Z,3.0nm,0.9s,mb4.3,baz=5.3,slow=8.3,SNR=3.8
BOSA Boshof 68.27 198 P **P** **22 31 44.0 -0.4**
BOSA pmax pmax
comp=Z,3.0nm,0.9s,mb4.3

IDC ***16*** *22:24:20.0±2.4, 2556S×17961E, h532km±27km, mb3.6/8, mb1 3.8/8, mb1mx3.6/16, mbtmp3.6/8, Error ellipse: s-maj=24.8km s-min=13.7km az=172.0*
ISCJB ***16*** *22:24:21.7±1.8, 2553S±008×179.47E±0.10, h564km±23km, mb4.1/14, Error ellipse: s-maj=13.5km s-min=12.3km az=11.4*
NEIC ***16*** *22:24:21.9±2.0, 2553S×17953E, h557km±23km, mb4.6/8, Error ellipse: s-maj=12.5km s-min=9.1km az=107.0*
ISC 16 22:24:19.9±1.8, 2553S±008×17959E±009, h530km±21km, n36, σ0s73/34, mb4.1/14, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera**	**12.86**	**189**	S	**S**	**22 29 25.4**	**+0.3**
	1.0nm,0.3s,baz=137,slow=23,SNR=7.1						
FUNA	**Funafuti**	**16.92**	**359**	P	**P**	**22 27 48.5**	**-0.5**
ARMA	**Armidale**	**25.14**	**252**	*e*P	**P**	**22 29 04.3**	**+1.4**
CNB	**Canberra Magne**	**27.74**	**242**	*e*P	**P**	**22 29 27.0**	**+1.3**
CTA	**Charters Tower**	**31.15**	**273**	*e*P	**P**	**22 29 55.7**	**+0.2**
	8.4nm,0.3s,mb4.8						
CTA	**Charters Tower**	**31.15**	**273**	P	**P**	**22 29 55.6**	**+0.1**
	11nm,0.3s,mb4.8,baz=96,slow=9.9,SNR=21						
CTAO	**Charters Tower**	**31.15**	**273**	*e*P	**P**	**22 29 55.9**	**+0.3**
	13nm,0.3s,mb4.9						
TOO	**Toolangi**	**31.27**	**239**	*e*P	**P**	**22 29 56.6**	**+0.3**
TAU	**Tasmania Unive**	**31.56**	**229**	*e*P	**P**	**22 29 58.5**	**-0.2**
STKA	**Stephens Creek**	**33.80**	**250**	*e*P	**P**	**22 30 18.0**	**+0.2**
	5.3nm,0.4s,mb4.4						
STKA	**Stephens Creek**	**33.80**	**250**	P	**P**	**22 30 18.1**	**+0.2**
	6.3nm,0.5s,mb4.4,baz=96,slow=11,SNR=28						
STKA	**Stephens Creek**	**33.80**	**250**	*e*P	**P**	**22 30 18.1**	**+0.2**
	5.9nm,0.4s,mb4.5						
PMG	**Port Moresby**	**34.71**	**292**	*e*P	**P**	**22 30 25.3**	**-0.4**
	12nm,0.6s,mb4.6						
ASAR	**Alice Springs**	**41.43**	**263**	P	**P**	**22 31 20.1**	**-0.3**
	7.7nm,0.4s,mb4.6,baz=89,slow=7.5,SNR=122						
ASAR				S	**S**	**22 36 59.2**	**+2.1**
	0.8nm,0.7s,baz=102,slow=16,SNR=5.5						
WB2	**Warramunga Arr**	**41.94**	**268**	*e*P	**P**	**22 31 24.1**	**-0.3**
WRAB	**Tennant Creek**	**41.95**	**268**	*e*P	**P**	**22 31 23.9**	**-0.6**
	7.9nm,0.3s,mb4.7						
WRA	**Warramunga Arr**	**41.95**	**268**	P	**P**	**22 31 24.1**	**-0.4**
	10nm,0.3s,mb4.8,baz=102,slow=7.6,SNR=225						
WRA				S	**S**	**22 37 04.3**	**-0.5**
	1.5nm,1.0s,baz=99,slow=15,SNR=5.5						
KAKA	**Kakadu**	**46.11**	**277**	*e*P	**P**	**22 31 53.0**	**-3.7**
	5.5nm,0.4s,mb4.4						
FITZ	**Fitzroy Crossi**	**50.35**	**267**	*e*P	**P**	**22 32 28.6**	**+0.3**
	3.6nm,0.5s,mb4.1						
FITZ	**Fitzroy Crossi**	**50.35**	**267**	*e*P	**P**	**22 32 28.4**	**+0.1**
	7.0nm,0.8s,mb4.1						
SBA	**Scott Base**	**52.73**	**183**	P	**P**	**22 32 44.0**	**-0.6**
NWAO	**Narrogin (SRO)**	**54.24**	**247**	*e*P	**P**	**22 32 54.7**	**-1.3**
MBWA	**Marble Bar**	**54.74**	**261**	*e*P	**P**	**22 32 58.9**	**-0.9**
	1.5nm,0.6s,mb3.4						
QSPA	**South Pole Qui**	**64.56**	**180**	P	**P**	**22 34 04.7**	**+0.6**
	0.5nm,0.3s,mb3.4,baz=52,slow=0.4,SNR=5.8						
PMSA	**Palmer Station**	**77.56**	**157**	P	**P**	**22 35 20.2**	**-0.5**
KSRS	**Korea Array**	**79.26**	**321**	P	**P**	**22 35 30.8**	**+0.6**
	1.3nm,0.6s,mb3.5,baz=127,slow=5.8,SNR=3.8						
SNAA	**Sanae**	**83.05**	**179**	*e*P	**P**	**22 35 48.5**	**-0.7**
	0.7nm,0.9s,mb3.2						
CMB	**Columbia Colle**	**84.64**	**43**	P	**P**	**22 35 58.2**	**+0.7**
NVAR	**Mina Array Bea**	**86.18**	**44**	P	**P**	**22 36 05.8**	**+0.8**
	0.7nm,0.6s,mb3.5,baz=217,slow=7.4,SNR=2.8						
PLCA	**Paso Flores**	**87.40**	**134**	*e*P	**P**	**22 36 10.2**	**-0.7**
PMR	**Palmer**	**90.41**	**14**	P	**P**	**22 36 24.0**	**-0.1**
TXAR	**Lajitas Array**	**91.61**	**58**	P	**P**	**22 36 31.1**	**+0.7**
	0.3nm,0.7s,mb3.4,baz=230,slow=7.8,SNR=4.1						
ARCES	**ARCESS Array B**	**133.40**	**348**	PKP	PKPdf	22 42 34.4	-0.5
	5.3nm,1.1s,baz=62,slow=2.7,SNR=5.4						
NOA	**NORSAR Array B**	**143.63**	**350**	PKP	PKPdf	22 42 50.8	-2.9
	1.1nm,0.8s,baz=341,slow=4.1,SNR=4.5						
HFS	**Hagfors**	**144.06**	**348**	PKP	PKPdf	22 42 53.6	-0.9
	2.1nm,0.4s,baz=71,slow=3.2,SNR=17						
TORD	**Torodi Ar. Bea**	**167.52**	**190**	PKPab	PKPab	22 44 33.6	-1.4
	0.5nm,0.9s,baz=161,slow=6.7,SNR=5.1						

KRSC 16 22:33:23.1±0.2, 5591N×16440E, h5km±5km, ML3.8, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KBTR	**Krutoberegovo**	**0.94**	**289**	*e*P	Pg	22 33 40.5	-0.5
KBTR				*i* S	Sg	22 33 52.6	-0.6
MKZ	**Mys Kozlova**	**2.04**	**230**	P	Pn	22 33 58.7	+0.6
KLY	**Klyuchi**	**2.14**	**282**	*e*P	Pn	22 33 58.3	-1.1
KLY				*i* S	Sn	22 34 24.1	-2.1
KRSR	**Krestovskiy**	**2.17**	**280**	*e*P	Pn	22 34 01.9	+2.1
BZWR	**Bezymyannyi-We**	**2.20**	**273**	*e*P	Pn	22 34 02.4	+2.2
BZWR				*i* S	Sn	22 34 31.3	+3.6
BZMR	**Bezymyannaya**	**2.20**	**272**	*e*P	Pn	22 34 01.9	+1.7
BZMR				*i* S	Sn	22 34 30.1	+2.3
KPT	**Kopyto**	**2.35**	**273**	*e*P	Pn	22 34 03.8	+1.5
KPT				*i* S	Sn	22 34 34.6	+3.1
KMNR	**Kamenistaya**	**2.35**	**268**	*e*P	Pn	22 34 04.8	+2.5
KMNR				*i* S	Sn	22 34 35.8	+4.2
TUMR	**Tumrok**	**2.50**	**257**	*e*P	Pn	22 34 06.4	+2.1
NLC	**Nalytchevo**	**4.02**	**229**	P	Pn	22 34 27.0	+1.7
NLC				*i* S	Sn	22 35 11.9	-0.8
AVH	**Avacha**	**4.23**	**234**	*e*P	Pn	22 34 30.6	+2.5
GNL	**Ganaly**	**4.35**	**242**	*e*P	Pn	22 34 32.5	+2.8
RUS	**Russkaya**	**4.91**	**227**	P	Pn	22 34 39.0	+1.6
RUS				*i* S	Sn	22 35 32.5	-2.0

IDC 16 22:35:36.9±1.6, 488S×12900E, h0km, mb3.6/2, mb1 3.9/5, mb1mx3.6/18, mbtmp3.7/5, ML3.7/2, Error ellipse: s-maj=59.3km s-min=25.4km az=77.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BATI	**Baumata**	**7.49**	**225**	Pn	Pn	22 37 27.6	+0.2
	2.0nm,0.3s,baz=108,slow=6.4,SNR=2.1						
WRA	**Warramunga Arr**	**15.85**	**161**	Pn	Pn	22 39 22.8	+1.3
	0.3nm,0.3s,baz=343,slow=13,SNR=15						
ASAR	**Alice Springs**	**19.27**	**166**	P	Pn	22 40 02.8	-1.4
	0.3nm,0.3s,baz=349,slow=12,SNR=20						
MKAR	**Makanchi Array**	**65.92**	**327**	P	P	22 46 24.9	+0.2
	0.3nm,0.3s,baz=129,slow=6.5,SNR=4.6						
KURK	**Kurchatov**	**70.20**	**329**	P	P	22 46 51.5	0.0
	0.2nm,0.5s,baz=120,slow=4.3,SNR=3.5						

KRSC ***16*** *22:57:42.2±0.3, 5484N×16245E, h16km±15km, ML4.1*
ISCJB ***16*** *22:57:43.3±1.3, 5484N±003×1625E±0.1, h20km±10km, Error ellipse: s-maj=14.2km s-min=4.6km az=14.4*
MOS ***16*** *22:57:43.7±0.7, 5486N×162.19E, h16km, mb4.3/1, Error ellipse: s-maj=30.5km s-min=12.3km az=77.0*
ISC 16 22:57:43.5±1.3, 5487N±003×1624E±01, h12km±6km, n20, σ0s78/31, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MKZ	**Mys Kozlova**	**0.50**	**231**	*e*P	**Pg**	**22 57 53.2**	**-0.1**
MKZ				*i* S	**Sg**	**22 58 00.4**	**+0.5**
TUMR	**Tumrok**	**1.36**	**289**	*e*P	**Pn**	**22 58 07.8**	**-0.4**
KBTR	**Krutoberegovo**	**1.36**	**10**	*e*P	**Pn**	**22 58 08.8**	**+0.5**
KBTR				*i* S	**Sb**	**22 58 28.9**	**+2.6**
ZLN	**Zelenaya**	**1.47**	**322**	*e*P	**Pn**	**22 58 09.6**	**-0.1**
ZLN				*i* S	**Sn**	**22 58 29.5**	**+0.7**
KMNR	**Kamenistaya**	**1.52**	**307**	P	**Pn**	**22 58 10.2**	**-0.3**
KMNR				*i* S	**Sn**	**22 58 30.4**	**+0.2**
BZMR	**Bezymyannaya**	**1.52**	**315**	*e*P	**Pn**	**22 58 10.4**	**-0.1**
BZWR	**Bezymyannyi-We**	**1.54**	**316**	*e*P	**Pn**	**22 58 10.8**	**0.0**
KPT	**Kopyto**	**1.66**	**312**	*e*P	**Pn**	**22 58 12.8**	**+0.5**
KRSR	**Krestovskiy**	**1.71**	**323**	*e*P	**Pn**	**22 58 12.4**	**-0.6**
KLY	**Klyuchi**	**1.75**	**326**	*e*P	**Pn**	**22 58 12.7**	**-1.0**
KLY				*i* S	**Sn**	**22 58 35.0**	**-0.9**
BDR	**Baidarnaya**	**1.83**	**339**	*e*P	**Pn**	**22 58 15.1**	**+0.4**
KOZR	**Kozyr**	**1.86**	**311**	PN	**Pn**	**22 58 14.2**	**-0.9**
KOZ	**Kozyrevsk**	**1.87**	**311**	*e*P	**Pn**	**22 58 14.2**	**-1.0**
SPN	**Mys Shipunski**	**2.26**	**219**	*e*P	**Pn**	**22 58 19.4**	**-1.2**
SPN				*i* S	**Sn**	**22 58 46.8**	**-1.6**
NLC	**Nalytchevo**	**2.48**	**228**	*e*P	**Pn**	**22 58 23.8**	**+0.2**
NLC				*i* S	**Sn**	**22 58 54.6**	**+0.9**
AVH	**Avacha**	**2.69**	**235**	*e*P	**Pn**	**22 58 26.5**	**0.0**
AVH				*i* S	**Sn**	**22 58 59.9**	**+0.9**
GNL	**Ganaly**	**2.87**	**248**	*e*P	**Pn**	**22 58 29.1**	**+0.2**
PET	**Petropavlovsk**	**2.88**	**232**	*e*PN	**Pn**	**22 58 30.0**	**+0.8**
PET				*e*S	**Sn**	**22 59 04.8**	**+1.1**
PET				pmax	pmax		
	comp=Z,52nm,0.3s						
PET				smax			
	comp=N,79nm,0.3s						
PET				smax			
	comp=E,101nm,0.4s						
PET	**Petropavlovsk**	**2.88**	**232**	*e*P	**Pn**	**22 58 30.0**	**+0.8**
PET				*i* S	**Sn**	**22 59 04.8**	**+1.1**
RUS	**Russkaya**	**3.36**	**225**	*e*P	**Pn**	**22 58 35.7**	**-0.1**
RUS				*i* S	**Sn**	**22 59 15.3**	**-0.2**

ISCJB ***16*** *23:01:28.8±0.6, 1440N±004×9338W±002, h39km±6km, mb4.2/11, Error ellipse: s-maj=7.1km s-min=3.2km az=22.4*
IDC ***16*** *23:01:28.6±7.0, 1430N×9323W, h33km±51km, mb3.9/6, mb1 4.3/9, mb1mx3.9/24, mbtmp4.0/9, ML4.3/3, MS3.5/2, Ms1 3.5/2, ms1mx3.3/31, Error ellipse: s-maj=55.9km s-min=16.4km az=43.0*
CASC ***16*** *23:01:28.2±3.1, 1465N×9340W, h77km±73km, MD4.4, mb4.2(NEIC)*
NEIC ***16*** *23:01:29.1, 1428N×9334W, h28km, mb4.2/7, MD4.5(MEX), After MEX.*
MEX ***16*** *23:01:29.0±0.6, 1427N×9334W, h27km±25km, MD4.5*
ISC 16 23:01:30.4±0.6, 1439N±004×9333W±002, h35km±6km, n69, σ1s18/86, mb4.2/11, 2D, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
THIG		**1.15**	**64**	*i* P	**Pn**	**23 01 47.4**	**-2.6**
THIG				*i* S	**Sn**	**23 02 02.8**	**-1.8**
JAT	**Jato**	**1.65**	**92**	*e*P	**Pn**	**23 01 56.8**	**+0.1**
JAT				*e*S	**Sn**	**23 02 19.3**	**+2.5**
CCIG	**Comitan**	**2.20**	**31**	*i* P	**Pn**	**23 02 03.5**	**-1.0**
CCIG				*i* S	**Sn**	**23 02 30.6**	**+0.2**
FG6		**2.38**	**86**	*e*P	**Pn**	**23 02 07.2**	**+0.4**
FG6				*e*S	**Sn**	**23 02 35.4**	**+0.5**
TGIG		**2.38**	**5**	*i* P	**Pn**	**23 02 06.4**	**-0.5**
TGIG				*i* S	**Sn**	**23 02 34.6**	**-0.3**
FUG	**Fuego 3**	**2.41**	**88**	*e*P	**Pn**	**23 02 06.7**	**-0.7**
FUG				*e*S	**Sn**	**23 02 39.6**	**+3.9**
SCX	**San Cristobal**	**2.42**	**16**	*i* P	**Pn**	**23 02 06.3**	**-1.2**
SCX				*i* S	**Sn**	**23 02 35.8**	**-0.1**
PCG	**Pacaya**	**2.64**	**90**	*e*P	**Pn**	**23 02 12.1**	**+1.7**
NBG	**Las Nubes**	**2.90**	**86**	*e*P	**Pn**	**23 02 14.8**	**+0.8**
NBG				*e*S	**Sn**	**23 02 49.8**	**+2.2**
HUIG	**Huatulco**	**3.01**	**297**	*i* S	**Sn**	**23 02 48.5**	**-1.9**
CMIG	**Matias Romero**	**3.07**	**331**	Pn	**Pn**	**23 02 15.8**	**-0.5**
	17nm,0.3s,baz=154,slow=10,SNR=157						
CMIG				Sn	**Sn**	**23 02 52.9**	**+1.0**
	42nm,0.3s,baz=174,slow=19,SNR=19						
CMIG				LR	LR	23 03 18.4	
	comp=Z,347nm,19.1s,baz=256,slow=34						
CMIG	**Matias Romero**	**3.07**	**331**	*i* P	**Pn**	**23 02 14.7**	**-1.7**
CMIG				*i* S	**Sn**	**23 02 51.1**	**-0.8**
RBDL	**Robledal**	**3.55**	**94**	*e*P	x	23 02 22.3	
RBDL				*e*S	x	23 03 05.5	
RTR	**El Retiro**	**3.61**	**97**	*e*P	x	23 02 23.3	
RTR				*e*S	x	23 03 05.4	
SNJE	**San Jose**	**3.65**	**98**	*e*P	x	23 02 23.8	
SNJE				*e*P	x	23 02 23.9	
SNJE				*e*S	x	23 03 09.0	
TUIG	**Tuzandepetl**	**3.77**	**344**	*e*P	**Pn**	**23 02 26.2**	**+0.2**
TUIG				*i* S	**Sn**	**23 03 09.4**	**+0.3**
MTO2	**Montecristo 2**	**3.85**	**89**	*e*P	x	23 02 27.9	
BOQS	**Boqueron**	**3.99**	**99**	*e*P	x	23 02 28.3	
LFRS	**El Faro**	**4.22**	**100**	*e*P	x	23 02 31.0	
OXX	**Oaxaca**	**4.22**	**310**	*i* P	**Pn**	**23 02 31.8**	**-0.4**
OXX				*i* S	**Sn**	**23 03 20.2**	**0.0**
VHO	**Vista Hermosa**	**4.22**	**310**	*i* P	**Pn**	**23 02 32.9**	**+0.7**
VHO				*i* S	**Sn**	**23 03 20.2**	**-0.1**
SCIG	**Sabancuy**	**4.99**	**24**	*i* P	**Pn**	**23 02 42.2**	**-0.6**
SCIG				*i* S	**Sn**	**23 03 39.4**	**+0.1**
PNIG	**Pinotepa**	**5.03**	**294**	*i* P	**Pn**	**23 02 42.6**	**-0.8**
PNIG				*i* S	**Sn**	**23 03 38.3**	**-2.1**
PNIG	**Pinotepa**	**5.03**	**294**	*i* P	**Pn**	**23 02 42.6**	**-0.8**
PNIG				*i* S	**Sn**	**23 03 36.6**	**-3.7**
CNCH	**Conchagua**	**5.46**	**101**	*e*P	x	23 02 50.1	
UTMO	**Huajuapan**	**5.49**	**309**	*i* P	**Pn**	**23 02 50.0**	**+0.4**
UTMO				*i* S	**Sn**	**23 03 52.3**	**+0.7**
TPIG	**Tehuac#an**	**5.56**	**317**	*e*P	**Pn**	**23 02 51.0**	**+0.5**
TPIG				*i* S	**Sn**	**23 03 53.9**	**+0.5**
TGUH	**Tegucigalpa,Un**	**5.89**	**93**	*e*Pn	**Pn**	**23 02 56.4**	**+1.3**
	37nm,0.9s						
TGUH				*e*Sn	**Sn**	**23 03 55.5**	**-5.9**
LVIG	**Laguna Verde**	**6.07**	**331**	*i* P	**Pn**	**23 02 54.4**	**-3.2**
LVIG				*i* S	**Sn**	**23 04 04.1**	**-1.7**
LVIG	**Laguna Verde**	**6.07**	**331**	*i* P	**Pn**	**23 02 54.4**	**-3.2**
LVIG				*i* S	**Sn**	**23 04 04.0**	**-1.8**
PPM	**Popocatepetl**	**6.88**	**313**	*e*P	**Pn**	**23 03 13.1**	**+4.4**
PPM				*i* S	**Sn**	**23 04 28.7**	**+2.9**
PLIG	**Platanillo**	**7.13**	**305**	*i* S	**Sn**	**23 04 32.0**	**-0.1**
IIO	**Organos**	**7.30**	**316**	*e*P	**Pn**	**23 03 15.9**	**+1.4**
IIO				*i* S	**Sn**	**23 04 36.3**	**+0.2**
MZVM		**7.39**	**311**	*e*P	**Pn**	**23 03 17.7**	**+1.9**
MZVM				*i* S	**Sn**	**23 04 37.8**	**-0.6**
TEIG	**Tepich**	**7.55**	**39**	Pn	**Pn**	**23 03 15.9**	**-2.0**
	9.9nm,0.3s,baz=251,slow=6.0,SNR=36						
TEIG				Sn	**Sn**	**23 04 38.1**	**-4.1**
	8.2nm,0.3s,baz=19,slow=20,SNR=4.2						
TEIG				LR	LR	23 06 41.3	
	comp=Z,721nm,18.3s,baz=292,slow=41						
TEIG	**Tepich**	**7.55**	**39**	Pn	**Pn**	**23 03 15.9**	**-2.0**
TEIG				Sn	**Sn**	**23 04 38.1**	**-4.1**
TEIG				*e*Sn	**Sn**	**23 04 41.6**	**-0.7**
TEIG				LR	LR	23 06 41.3	
JCT	**Junction City**	**17.08**	**341**	*e*Pn	**Pn**	**23 05 27.8**	**+1.4**
	21nm,1.2s						
TXAR	**Lajitas Array**	**17.68**	**329**	P	**Pn**	**23 05 34.6**	**+0.8**
	0.2nm,0.3s,baz=152,slow=10,SNR=19						
MIAR	**Mount Ida**	**20.07**	**359**	*e*P	**P**	**23 05 56.3**	**-4.3**
	11nm,1.0s						
MIAR				*e*S	**S**	**23 09 32.1**	**-12**
OXF	**Oxford**	**20.34**	**9**	P	**P**	**23 06 04.2**	**+0.6**
ROSC	**El Rosal**	**20.98**	**115**	*e*P	**P**	**23 06 11.0**	**+0.3**
AMTX	**Amarillo**	**21.75**	**341**	*e*P	**P**	**23 06 18.7**	**0.0**
	26nm,0.7s,mb4.8						
WVT	**Waverly**	**22.20**	**12**	*e*P	**P**	**23 06 23.4**	**-0.2**
SDV	**Santo Domingo**	**22.89**	**101**	P	**P**	**23 06 29.0**	**-2.1**
	4.9nm,0.6s,mb4.1,baz=318,slow=6.0,SNR=8.7						
SDV	**Santo Domingo**	**22.89**	**101**	*e*P	**P**	**23 06 30.3**	**-0.8**
BNM	**Barren Site**	**23.06**	**331**	*e*P	**P**	**23 06 34.7**	**+2.0**
LPM	**Los Pinos Moun**	**23.19**	**331**	*e*P	**P**	**23 06 33.9**	**-0.2**
ANMO	**Albuquerque**	**23.64**	**332**	P	**P**	**23 06 38.3**	**-0.2**
	1.9nm,0.7s,mb3.6,baz=146,slow=12,SNR=6.5						
ANMO	**Albuquerque**	**23.64**	**332**	*e*P	**P**	**23 06 38.6**	**+0.2**
TUC	**Tucson**	**23.91**	**321**	*e*P	**P**	**23 06 42.0**	**+1.0**
	7.0nm,0.9s,mb4.1						
SDCO	**Great Sand Dun**	**25.65**	**337**	*e*P	**P**	**23 06 58.1**	**+1.4**
	4.0nm,1.1s,mb3.9						
PV01	**Paradox Valley**	**27.23**	**333**	P	**P**	**23 07 11.9**	**+0.9**
LDFC	**Landfair**	**28.43**	**320**	*e*P	**P**	**23 07 23.1**	**+1.3**
	19nm,0.4s,mb5.1						
CCUT	**Cedar City**	**29.13**	**326**	*e*P	**P**	**23 07 28.9**	**+0.9**
PDAR	**Pinedale Array**	**31.54**	**337**	P	**P**	**23 07 48.8**	**-0.4**
	0.5nm,0.7s,mb3.4,baz=138,slow=9.1,SNR=4.6						
NVAR	**Mina Array Bea**	**32.56**	**322**	P	**P**	**23 07 59.0**	**+0.8**
	4.4nm,0.8s,mb4.4,baz=142,slow=8.9,SNR=22						
NVAR				PcP	PcP	23 10 44.5	+0.2
	1.2nm,0.9s,baz=142,slow=3.1,SNR=3.5						
NVAR	**Mina Array Bea**	**32.56**	**322**	P	**P**	**23 07 59.0**	**+0.8**
NVAR				PcP	PcP	23 10 44.5	+0.2
HLID	**Hailey**	**34.22**	**332**	*e*P	**P**	**23 08 12.2**	**-0.4**
	3.5nm,1.1s,mb4.2						
MCMT	**McKenzie Canyo**	**34.56**	**335**	*e*P	**P**	**23 08 17.5**	**+1.9**
LVC	**Limon Verde**	**43.88**	**147**	P	**P**	**23 09 32.5**	**-1.0**
SIV	**San Ignacio**	**43.91**	**132**	P	**P**	**23 09 31.2**	**-2.7**
	1.3nm,0.7s,mb3.8,baz=315,slow=8.2,SNR=9.0						
YKA	**Yellowknife Ar**	**50.35**	**347**	P	**P**	**23 10 22.9**	**-0.6**
	4.8nm,0.7s,mb4.6,baz=153,slow=7.3,SNR=15						
DLBC	**Dease Lake**	**51.77**	**336**	P	**P**	**23 10 31.9**	**-2.3**
RCBR	**Riachuelo**	**60.39**	**105**	*e*P	**P**	**23 11 35.5**	**-1.1**
PMSA	**Palmer Station**	**82.01**	**168**	P	**P**	**23 13 44.3**	**-2.0**
MKAR	**Makanchi Array**	**118.97**	**3**	PKP	PKPdf	23 20 13.7	-1.7
	0.2nm,0.2s,baz=328,slow=2.2,SNR=2.8						
WRA	**Warramunga Arr**	**134.24**	**256**	PKP	PKPdf	23 20 41.7	-3.4
	0.3nm,0.5s,baz=56,slow=1.7,SNR=6.3						
CMAR	**Chiang Mai Arr**	**145.19**	**339**	PKPbc	PKPbc	23 21 02.4	-2.3
	2.5nm,0.7s,baz=343,slow=3.8,SNR=15						
CMAR	**Chiang Mai Arr**	**145.19**	**339**	PKPbc	PKPbc	23 21 02.4	-2.3

NEIC ***16*** *23:06:41.9, 2973S×7155W, h28km, ML3.5(GUC), After GUC.*
GUC 16 23:06:41.9±0.5, 2973S×7155W, h28km±2km, MD3.6, ML3.5, 3D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LSCH	**La Serena**	**0.32**	**124**	*i* P	Pb	23 06 49.2	-0.3
LSCH				*i* S	Sb	23 06 54.8	+0.2
TLL	**Tololo Astrono**	**0.78**	**124**	*i* P	Pb	23 06 56.9	0.0
TLL				*i* S	Sb	23 07 08.4	+1.3
TLL				AML	AML	23 07 13.7	
	comp=E,1μm,0.3s						
TLL	**Tololo Astrono**	**0.78**	**124**	*i* P	Pb	23 06 56.9	0.0
TLL				*i* S	Sb	23 07 08.4	+1.3
OVCH	**Ovalle**	**0.93**	**161**	*i* P	Pn	23 06 58.8	-0.2
OVCH				*i* S	Sb	23 07 10.8	-0.5
OVCH				AML	AML	23 07 16.3	
	comp=N,1μm,0.4s						
OVCH	**Ovalle**	**0.93**	**161**	*i* P	Pn	23 06 58.8	-0.2
OVCH				*i* S	Sb	23 07 10.8	-0.5
LCO	**Las Campanas**	**1.03**	**46**	*e*Pn	Pn	23 07 00.5	+0.1
LCO				*e*Sn	Sn	23 07 14.3	+0.4
VACH	**Vallenar**	**1.34**	**31**	*i* P	Pn	23 07 05.2	+0.5
VACH				*i* S	Sn	23 07 22.6	+1.1
VACH				AML	AML	23 07 27.2	
	comp=N,1μm,0.4s						
VACH	**Vallenar**	**1.34**	**31**	*i* P	Pn

*TRN **16** 23:34:60.0, 1782N×6267W, h26km, MD3.2, M4.0(FDF)*
TRN Felt II Guadeloupe.
*NEIC **16** 23:35:01.2, 1936N×6275W, h25km, MD3.5(RSPR), After RSPR.*
*RSPR **16** 23:35:01.2, 1936N×6275W, h25km±48km*
*ISCJB **16** 23:35:02.0±0.8, 1783N±007×6268W±006, h38km±18km, Error ellipse: s-maj=14.0km s-min=3.7km az=37.8*

ISC 16 23:35:02.0±1.0,**1785N**±006×**6264W**±006,**h30**km±5km,**n33, σ0°79/58,23C-1D,Leeward Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STMA	**St. Maarten, A**	**0.49**	**294**	⇑*i*P	**Pb**	**23 35 11.9**	**-0.3**
STMA				*e*S	**Sb**	**23 35 19.1**	**-0.1**
SKI	**Saint Kitts**	**0.52**	**191**	*e*P	**Pb**	**23 35 12.3**	**-0.4**
SKI				*e*S	**Sb**	**23 35 20.1**	**+0.1**
BPA	**Boggy Peak**	**1.09**	**137**	*e*P	**Pn**	**23 35 20.2**	**-1.0**
BPA				*e*S	**Sn**	**23 35 34.5**	**-0.8**
MBGB		**1.18**	**160**	*i* P	**Pn**	**23 35 22.3**	**-0.1**
MBGB				*i* S	**Sn**	**23 35 38.4**	**+1.0**
MBWH		**1.18**	**159**	*e*P	**Pn**	**23 35 22.3**	**-0.1**
MLYT	**Lee's Yard**	**1.20**	**159**	*i* P	**Pn**	**23 35 22.9**	**+0.1**
MLYT				*i* S	**Sn**	**23 35 38.5**	**+0.6**
MBLG		**1.21**	**158**	⇓*i*P	**Pn**	**23 35 22.7**	**-0.1**
MBRY		**1.23**	**158**	*i* P	**Pn**	**23 35 23.1**	**-0.1**
ABV	**Anegada**	**1.83**	**299**	⇑*e*P	**Pn**	**23 35 33.0**	**+1.5**
ABV				*e*S	**Sn**	**23 35 53.9**	**+0.2**
LZG	**Guadaloupe-1**	**1.89**	**154**	*e*P	**Pn**	**23 35 32.0**	**-0.2**
TBVI	**Tortola**	**1.96**	**287**	⇑*e*P	**Pn**	**23 35 34.3**	**+1.0**
TBVI				*e*S	**Sn**	**23 35 55.3**	**-1.6**
TBVI				*e*S	**Sn**	**23 35 55.9**	**-1.0**
SCG	**Saint Claude**	**2.03**	**153**	*e*P	**Pn**	**23 35 34.2**	**+0.1**
HMG	**Houelmont**	**2.06**	**154**	*e*P	**Pn**	**23 35 34.1**	**-0.5**
STVI	**Saint Thomas**	**2.26**	**283**	⇑*e*P	**Pn**	**23 35 36.6**	**-0.7**
STVI	**Saint Thomas**	**2.26**	**283**	⇑*e*P	**Pn**	**23 35 37.9**	**+0.6**
STVI	**Saint Thomas**	**2.26**	**283**	⇑*e*P	**Pn**	**23 35 37.9**	**+0.6**
STVI				*e*S	**Sn**	**23 36 03.1**	**-1.0**
STVI				*e*S	**Sn**	**23 36 03.2**	**-1.0**
STVI	**Saint Thomas**	**2.26**	**283**	⇑*e*P	**Pn**	**23 35 36.6**	**-0.7**
STVI				⇑*e*P		23 35 37.9	
STVI				*e*S	**Sn**	**23 36 03.1**	**-1.0**
MTP	**Monte Pirata**	**2.79**	**276**	⇑*e*P	**Pn**	**23 35 43.8**	**-0.8**
MTP	**Monte Pirata**	**2.79**	**276**	⇑*e*P	**Pn**	**23 35 43.9**	**-0.7**
MTP	**Monte Pirata**	**2.79**	**276**	⇑*e*P	**Pn**	**23 35 43.9**	**-0.7**
MTP				*e*S	**Sn**	**23 36 16.4**	**-0.8**
MTP				*e*S	**Sn**	**23 36 19.2**	**+2.1**
MTP	**Monte Pirata**	**2.79**	**276**	⇑*e*P	**Pn**	**23 35 43.8**	**-0.8**
MTP				*e*S	**Sn**	**23 36 16.4**	**-0.8**
MTP				*e*S	**Sn**	**23 36 19.2**	**+2.1**
HUMP	**Col San Antoni**	**3.07**	**276**	*e*S	**Sn**	**23 36 24.4**	**+0.2**
HUMP	**Col San Antoni**	**3.07**	**276**	⇑*e*P	**Pn**	**23 35 50.1**	**+1.6**
HUMP	**Col San Antoni**	**3.07**	**276**	*e*S	**Sn**	**23 36 24.0**	**-0.2**
HUMP	**Col San Antoni**	**3.07**	**276**	⇑*e*P	**Pn**	**23 35 50.8**	**+2.3**
HUMP	**Col San Antoni**	**3.07**	**276**	⇑*e*P	**Pn**	**23 35 50.9**	**+2.4**
HUMP				*e*S	**Sn**	**23 36 24.0**	**-0.2**
HUMP				*e*S	**Sn**	**23 36 24.4**	**+0.2**
HUMP	**Col San Antoni**	**3.07**	**276**	⇑*e*P	**Pn**	**23 35 50.1**	**+1.6**
HUMP				⇑*e*P		23 35 50.9	
HUMP				*e*S	**Sn**	**23 36 24.0**	**-0.2**
HUMP				*e*S	**Sn**	**23 36 24.4**	**+0.2**
CBYP	**Canovanas**	**3.09**	**278**	⇑*e*P	**Pn**	**23 35 48.5**	**-0.2**
CBYP				*e*S	**Sn**	**23 36 23.6**	**-1.1**
CBYP	**Canovanas**	**3.09**	**278**	⇑*e*P	**Pn**	**23 35 49.5**	**+0.7**
CBYP	**Canovanas**	**3.09**	**278**	*e*S	**Sn**	**23 36 23.4**	**-1.3**
CBYP	**Canovanas**	**3.09**	**278**	⇑*e*P	**Pn**	**23 35 49.5**	**+0.7**
CBYP				*e*S	**Sn**	**23 36 23.4**	**-1.3**
CBYP				*e*S	**Sn**	**23 36 23.6**	**-1.1**
CBYP	**Canovanas**	**3.09**	**278**	⇑*e*P	**Pn**	**23 35 48.5**	**-0.2**
CBYP				⇑*e*P		23 35 49.5	
CBYP				*e*S	**Sn**	**23 36 23.4**	**-1.3**
CBYP				*e*S	**Sn**	**23 36 23.6**	**-1.1**
CPD	**Cerro la Pandu**	**3.12**	**274**	⇑*e*P	**Pn**	**23 35 50.1**	**+0.9**
CPD				*e*S	**Sn**	**23 36 25.6**	**0.0**

*ISCJB **17** 00:05:28.5±0.4, 2313S±009×17555W±008, h33km, mb4.5/18, MS4.1/2, Error ellipse: s-maj=13.5km s-min=11.1km az=175.5*
*BJI **17** 00:05:30.1, 2225S×17595W, h10km, mB5.3, mb4.9*
*NEIC **17** 00:05:30.1±0.5, 2306S×17552W, h35km, mb4.6/11, Error ellipse: s-maj=15.2km s-min=11.1km az=170.0*
*IDC **17** 00:05:31.5±1.0, 2319S×17551W, h40km±6km, mb4.0/9, mb1 4.2/9, mb1mx4.1/16, mbtmp4.0/9, MS4.0/3, Ms1 4.1/3, ms1mx3.5/24, Error ellipse: s-maj=34.8km s-min=21.3km az=159.0*

ISC 17 00:05:30.3±0.4,**2315S**±010×**17550W**±008,**h35**km, **(h39**km±4.5km**:pP-P),n65,**σ1°**14**/35,**mb4.5**/18,**MS4.1**/2,**1D, Tonga Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**9.84**	**22**	Pn	**Pn**	**00 07 42.9**	**-6.4**
	6.0nm,0.3s,baz=352,slow=4.2,SNR=5.9						
AFI				Sn	**Sn**	**00 09 25.8**	**-13**
	2.3nm,0.3s,baz=240,slow=20,SNR=3.2						
AFI	**Afiamalu**	**9.84**	**22**	*e*Pn	**Pn**	**00 07 43.3**	**-6.0**
AFI				*e*Sn	**Sn**	**00 09 25.6**	**-13**
RAR	**Rarotonga**	**14.70**	**85**	LR	LR	00 13 30.3	
	comp=Z,485nm,21.8s,baz=140,slow=33						
RAR	**Rarotonga**	**14.70**	**85**	Pn	**Pn**	**00 08 53.7**	**-1.9**
FUNA	**Funafuti**	**15.40**	**340**	*e*Pn	**Pn**	**00 09 01.6**	**-3.4**
PPT	**Papeete**	**24.91**	**82**	LR	LR	00 18 23.4	
	comp=Z,385nm,19.9s,MS3.9,baz=249,slow=31						
CTA	**Charters Tower**	**35.62**	**267**	*e*P	**P**	**00 12 25.8**	**+0.9**
	5.2nm,0.6s,mb4.6						
CTA	**Charters Tower**	**35.62**	**267**	P	**P**	**00 12 25.5**	**+0.6**
	5.9nm,0.6s,mb4.7,baz=83,slow=11,SNR=11						
CTAO	**Charters Tower**	**35.62**	**267**	*e*P	**P**	**00 12 25.2**	**+0.3**
	11nm,0.8s,mb4.8						
TAU	**Tasmania Unive**	**36.49**	**228**	P	**P**	**00 12 30.4**	**-1.7**
STKA	**Stephens Creek**	**38.83**	**247**	P	**P**	**00 12 53.0**	**+1.0**
	1.5nm,0.5s,mb4.0,baz=108,slow=16,SNR=3.7						
STKA	**Stephens Creek**	**38.83**	**247**	*e*P	**P**	**00 12 51.2**	**-0.8**
	5.5nm,1.0s,mb4.2						
ASAR	**Alice Springs**	**46.23**	**259**	P	**P**	**00 13 52.7**	**+0.4**
	1.1nm,0.5s,mb4.1,baz=101,slow=7.1,SNR=12						
WB2	**Warramunga Arr**	**46.58**	**264**	*e*P	**P**	**00 13 54.8**	**-0.2**
WRAB	**Tennant Creek**	**46.58**	**264**	*e*P	**P**	**00 13 54.8**	**-0.2**
	3.8nm,0.6s,mb4.5						
WRA	**Warramunga Arr**	**46.59**	**264**	P	**P**	**00 13 54.8**	**-0.3**
	2.9nm,0.5s,mb4.5,baz=102,slow=8.1,SNR=15						
KAKA	**Kakadu**	**50.38**	**272**	*e*P	**P**	**00 14 22.4**	**-2.0**
	4.7nm,0.6s,mb4.7						
FITZ	**Fitzroy Crossi**	**55.01**	**264**	*e*P	**P**	**00 14 58.8**	**+0.2**
	7.6nm,1.0s,mb4.7						
SBA	**Scott Base**	**55.41**	**184**	*e*P	**P**	**00 15 01.4**	**+0.8**
	2.1nm,0.8s,mb4.2						
MBWA	**Marble Bar**	**59.57**	**258**	*e*P	**P**	**00 15 29.1**	**-1.6**
MAW	**Mawson**	**79.86**	**199**	P	**P**	**00 17 35.6**	**+0.7**
	4.0nm,1.0s,mb4.3,baz=322,slow=2.2,SNR=6.5						
MAW	**Mawson**	**79.86**	**199**	*e*P	**P**	**00 17 35.5**	**+0.6**
	8.0nm,1.1s,mb4.6						
KSRS	**Korea Array**	**80.40**	**318**	P	**P**	**00 17 38.2**	**0.0**
	0.7nm,0.5s,mb3.8,baz=138,slow=7.3,SNR=2.6						
KSRS				pP	pP	00 17 52.2	+3.0
	1.9nm,0.7s,baz=158,slow=3.9,SNR=3.8						
MDJ	**Mudanjiang**	**84.01**	**324**	*e*P	**P**	**00 17 57.2**	**+0.3**
	4.6nm,0.4s,mb5.0						
SNAA	**Sanae**	**85.30**	**178**	*e*P	**P**	**00 18 03.1**	**0.0**
	3.5nm,1.1s,mb4.4						
VNA3	**Neumayer Olymp**	**85.35**	**175**	*e*	**P**	**00 18 02.4**	**-1.0**
VNA3				*e*		00 18 05.7	
VNA3				*e*	pP	00 18 13.0	-1.4
VNA3				*e*		00 18 23.6	
PLCA	**Paso Flores**	**85.78**	**133**	*e*P	**P**	**00 18 07.2**	**+1.1**
CN2	**Changchun**	**85.80**	**321**	*e*P	**P**	**00 18 07.4**	**+1.5**
CN2				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb5.0						
VNA2	**Neumayer--Watz**	**85.81**	**176**	*e*	**P**	**00 18 04.6**	**-1.1**
	baz=199,slow=3.0						
VNA2				*e*		00 18 07.7	
VNA2				*e*	pP	00 18 15.1	-1.7
VNA2				*e*		00 18 25.1	
TXAR	**Lajitas Array**	**86.55**	**56**	P	**P**	**00 18 10.9**	**+0.9**
	comp=Z,0.5nm,0.8s,mb3.8,baz=218,slow=5.7,SNR=6.8						
MCK	**McKinley**	**89.06**	**11**	P	**P**	**00 18 20.9**	**-0.2**
PDAR	**Pinedale Array**	**89.32**	**42**	P	**P**	**00 18 24.3**	**+1.4**
	comp=Z,0.3nm,0.4s,mb4.0,baz=149,slow=2.1,SNR=3.1						
XAN	**Xi'an**	**91.57**	**306**	P	**P**	**00 18 35.8**	**+2.2**
XAN				AP	pP	00 18 42.3	-2.4
XAN				XP	sP	00 18 45.8	-2.9
XAN				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb5.1						
XAN				AMB	AMB		
	comp=Z,50nm,7.3s						
CMAR	**Chiang Mai Arr**	**93.17**	**289**	P	**P**	**00 18 43.3**	**+2.0**
	comp=Z,4.6nm,0.8s,mb5.0,baz=123,slow=3.0,SNR=28						
CMAR				pP	pP	00 18 56.2	+3.7
	comp=Z,6.1nm,1.0s,baz=128,slow=3.6,SNR=4.7						
CMAR				LR	LR	00 59 50.1	
	comp=Z,91nm,18.7s,MS4.2,baz=27,slow=35						
CHTO	**Chiang Mai**	**93.31**	**289**	*e*P	**P**	**00 18 42.7**	**+0.8**
	comp=Z,3.1nm,0.8s,mb4.8						
MKAR	**Makanchi Array**	**114.69**	**312**	PKP	PKiKP	00 24 06.0	-0.8
	comp=Z,0.2nm,0.6s,baz=174,slow=1.3,SNR=2.4						
MKAR				pPKP		00 24 18.4	
	comp=Z,0.6nm,0.7s,baz=101,slow=1.2,SNR=4.8						
KURK	**Kurchatov**	**117.50**	**316**	PKP	PKPdf	00 24 11.4	-0.6
	comp=Z,0.3nm,0.7s,baz=112,slow=2.4,SNR=2.2						
KURK				pPKP	pPKPdf	00 24 23.6	0.0
	comp=Z,1.0nm,0.6s,baz=91,slow=1.6,SNR=8.2						
ARCES	**ARCESS Array B**	**131.92**	**350**	pPKP	pPKPdf	00 24 51.4	+0.8
	comp=Z,2.8nm,0.7s,baz=72,slow=4.0,SNR=3.8						
SUW	**Suwalki**	**146.11**	**340**	*e*PKP	PKPdf	00 25 07.0	+1.6
AKASG	**Malin Array Be**	**146.44**	**331**	PKPbc	PKPbc	00 25 07.3	-0.1
	comp=Z,2.7nm,0.8s,baz=38,slow=4.4,SNR=5.2						
AKASG	**Malin Array Be**	**146.44**	**331**	PKPbc	PKPbc	00 25 07.3	-0.1
KWP	**Kalwaria**	**149.94**	**331**	PKPdf	PKPdf	00 25 13.2	+1.5
BR131	**Keskin Array S**	**150.32**	**311**	*e*PKPbc	PKPbc	00 25 18.1	+0.2
BUR08	**Bucovina Ar. S**	**150.48**	**331**	*e*PKPdf	PKPdf	00 25 15.3	+2.6
STHS	**Stebnicka Huta**	**150.65**	**337**	*e*PKP	PKPab	00 25 30.2	+4.9
KOLS	**Kolonicke sedl**	**150.67**	**336**	*e*PKP	PKPab	00 25 30.1	+4.7
KOLS				*e*		00 25 36.5	
KSP	**Ksiaz**	**150.87**	**345**	*e*P	PKPab	00 25 31.5	+5.4
CLZ	**Clausthal**	**151.00**	**352**	*e*PKPdf	PKPab	00 25 31.8	+5.2
CRVS	**Cervenica-Dubn**	**151.00**	**337**	*e*PKP	PKPab	00 25 30.9	+4.2
CLL	**Collm**	**151.12**	**349**	*e*PKPdif	PKPbc	00 25 20.0	+0.6
	comp=Z,5.0nm,1.0s						
CLL				⇓*i*PKPab	PKPab	00 25 32.0	+4.8
	comp=Z,13nm,0.9s						
UPC	**Upice**	**151.25**	**345**	*e*PKPab	PKPab	00 25 31.4	+3.7
OKC	**Ostrava-Krasne**	**151.28**	**341**	*e*PKPab	PKPab	00 25 27.3	-0.6
DPC	**Dobruska-Polom**	**151.31**	**344**	*e*PKPab	PKPab	00 25 32.0	+4.0
BRG	**Berggiesshubel**	**151.36**	**347**	*e*PKP	PKPbc	00 25 23.0	+3.0
	comp=Z,5.7nm,1.2s						
BRG				*i*		00 25 32.4	
	comp=Z,10nm,0.7s						
MORC	**Moravsky Berou**	**151.51**	**342**	*e*P	PKPab	00 25 30.2	+1.4
PVCC	**Panska Ves**	**151.56**	**346**	*e*PKPab	PKPab	00 25 32.0	+3.0
PRU	**Pruhonice**	**152.07**	**346**	*e*PKPab	PKPab	00 25 34.1	+3.0
VYHS	**Vyhne**	**152.26**	**339**	*e*PKP	PKPab	00 25 33.2	+1.2
KOLL	**Kolacno**	**152.32**	**340**	*e*PKP	PKPab	00 25 34.3	+2.1
TNS	**Taunus Mts**	**152.80**	**354**	*e*PKPdf	PKPab	00 25 35.4	+1.2
KHC	**Kasperske Hory**	**153.09**	**347**	*e*PKPbc	PKPbc	00 25 20.0	-4.0
KHC				*e*PKPab	PKPab	00 25 34.2	-1.2
KHC	**Kasperske Hory**	**153.09**	**347**	*e*P	PKPab	00 25 34.2	-1.2
GEC2	**GERESS Array S**	**153.34**	**346**	*e*PKPdf	PKPab	00 25 36.3	-0.2
GERES	**GERESS Array B**	**153.34**	**346**	PKPbc	PKPbc	00 25 27.2	+2.7
	comp=Z,0.2nm,0.4s,baz=302,slow=1.9,SNR=3.5						
TORD	**Torodi Ar. Bea**	**169.71**	**165**	PKPab	PKPab	00 26 49.0	+0.4
	comp=Z,0.4nm,0.8s,baz=173,slow=4.1,SNR=4.7						

*IPEC **17** 00:11:53.6±0.2, 5031N×1887E, h3km±1km, ML1.8/3, Error ellipse: s-maj=2.3km s-min=0.8km az=168.0*
*PRU **17** 00:11:54.8, 5027N×1881E, h0km*
*CSEM **17** 00:11:54.2±0.5, 5036N×1882E, h2km, ML2.8/4, Error ellipse: s-maj=11.1km s-min=5.4km az=10.0*

WAR 17 00:11:53.6, 5025N×1891E, ML2.4, Mining Induced, Poland

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OJC	**Ojcow**	**0.57**	**93**	*e*Pg	Pg	00 12 05.3	+0.8
OJC				*e*Sg	Sg	00 12 13.0	+1.0
OJC	**Ojcow**	**0.57**	**93**	*e*Pg	Pg	00 12 05.1	+0.6
OJC				*e*Sg	Sg	00 12 12.6	+0.6
OKC	**Ostrava-Krasne**	**0.64**	**230**	*e*PG	Pg	00 12 06.2	+0.3
OKC				*e*SG	Sg	00 12 14.1	-0.2
	15nm,0.3s						
MORC	**Moravsky Berou**	**1.00**	**242**	*e*Pg	Pg	00 12 12.5	-0.3
MORC				*e*Sg	Sg	00 12 25.2	-0.6
	21nm,0.3s						
NIE	**Niedzica**	**1.23**	**132**	*e*Pg	Pg	00 12 17.9	+0.7
NIE				*e*Sg	Sg	00 12 34.9	+1.7
DPC	**Dobruska-Polom**	**1.66**	**274**	*e*Pn	Pn	00 12 23.2	-0.7
DPC	**Dobruska-Polom**	**1.66**	**274**	Pg	Pg	00 12 23.4	-2.0
DPC				*e*Sg	Sg	00 12 44.9	-2.0
DPC	**Dobruska-Polom**	**1.66**	**274**	*e*PG	Pg	00 12 23.4	-2.0
DPC				*e*SG	Sg	00 12 44.1	-2.8
	11nm,0.5s						
KOLL	**Kolacno**	**1.71**	**191**	*e*PN	Pn	00 12 26.1	+1.5
KOLL				*e*SN	Sn	00 12 47.7	+0.6
STHS	**Stebnicka Huta**	**1.73**	**118**	*e*PN	Pn	00 12 26.7	+1.8
STHS				*e*SN	Sn	00 12 49.6	+2.0
VYHS	**Vyhne**	**1.76**	**182**	*e*PN	Pn	00 12 24.3	-1.0
VYHS				*e*SN	Sn	00 12 47.3	-1.1
KSP	**Ksiaz**	**1.77**	**290**	*e*Pn	Pn	00 12 26.8	+1.3
KSP				*e*Sn	Sn	00 12 50.2	+1.6
KSP				*e*Sg	Sg	00 12 52.0	+1.5
KSP	**Ksiaz**	**1.77**	**290**	*e*Pg	Pg	00 12 26.8	-0.7
KSP				*e*Sg	Sg	00 12 50.1	-0.3
VRAC	**Vranov**	**1.77**	**239**	*e*Pn	Pn	00 12 25.3	-0.2
VRAC				*e*Sg	Sg	00 12 49.5	-1.1
	8.3nm,0.3s						
UPC	**Upice**	**1.87**	**279**	*e*PG	Pg	00 12 26.3	-3.2
UPC				*e*SG	Sg	00 12 51.7	-2.0
KRUC	**Moravsky**	**2.02**	**235**	*e*Pn	Pn	00 12 28.8	-0.1
KRUC				*e*Sn	Sn	00 12 55.5	+0.7
	4.5nm,0.2s						
CRVS	**Cervenica-Dubn**	**2.14**	**128**	*e*PN	Pn	00 12 33.7	+3.2
CRVS				*e*SN	Sn	00 13 00.4	+2.6
KOLS	**Kolonicke sedl**	**2.56**	**120**	*e*SN	Sn	00 13 12.1	+4.1
PRU	**Pruhonice**	**2.82**	**266**	*e*SG	Sg	00 13 20.9	-3.4
	3.0nm,0.4s						
BRG	**Berggiesshubel**	**3.23**	**283**	SG	Sg	00 13 37.3	+0.1
	4.8nm,0.4s						
KHC	**Kasperske Hory**	**3.64**	**254**	*e*PN	Pn	00 12 50.0	-1.1
KHC				*e*PG	Pg	00 13 00.0	-3.3
KHC				*e*SG	Sg	00 13 48.6	-1.8
	4.2nm,0.5s						
CLL	**Collm**	**3.89**	**288**	*e*Sg	Sg	00 13 59.0	+0.4

IDC 17 00:29:45.7±4.6,**1465S**×**17773W,h366**km±71km,**mb3.4**/4, **mb1 3.7**/5,**mb1mx3.4**/16,**mbtmp3.4**/5,**Error ellipse: s-maj=273.5km s-min=18.2km az=157.0,Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**5.82**	**83**	P	Pn	00 31 15.1	0.0
	4.3nm,0.3s,baz=94,slow=21,SNR=5.7						
WRA	**Warramunga Arr**	**45.95**	**256**	P	P	00 37 34.0	+0.1
	0.4nm,0.3s,baz=91,slow=6.5,SNR=3.9						
ASAR	**Alice Springs**	**46.37**	**251**	P	P	00 37 37.0	-0.1
	12nm,0.5s,baz=84,slow=7.8,SNR=148						
TXAR	**Lajitas Array**	**83.71**	**58**	P	P	00 41 35.1	+0.3
	0.8nm,0.8s,baz=207,slow=7.1,SNR=10						
PDAR	**Pinedale Array**	**84.55**	**43**	P	P	00 41 39.2	+0.6
	0.3nm,0.5s,baz=262,slow=5.4,SNR=2.8						
ARCES	**ARCESS Array B**	**123.24**	**350**	PKP	PKPdf	00 47 57.4	-1.4
	3.0nm,0.8s,baz=0.0,slow=1.2,SNR=3.6						
GERES	**GERESS Array B**	**144.63**	**347**	PKP	PKPdf	00 48 39.1	0.0
	0.3nm,0.4s,baz=64,slow=3.1,SNR=4.4						

*TEH **17** 00:56:17.6, 3470N×6074E, h11km, ML4.2*
*ISCJB **17** 00:57:16.9±0.4, 3474N±003×6078E±004, h10km, mb3.6/2, MS3.5/2, Error ellipse: s-maj=5.5km s-min=3.3km az=135.0*
*IDC **17** 00:57:16.4±8.9, 3430N×6082E, h0km, mb3.4/3, mb1 3.5/3, mb1mx3.3/21, mbtmp3.5/3, MS3.6/2, Ms1 3.6/2, ms1mx2.9/21, Error ellipse: s-maj=404.9km s-min=28.3km az=148.0*
*THR **17** 00:57:17.7±0.7, 3471N×6071E, h15km, ML3.5*
*CSEM **17** 00:57:18.8±0.1, 3470N×6060E, h15km, mb4.2, Error ellipse: s-maj=3.2km s-min=1.8km az=140.0*
*NEIC **17** 00:57:19.0, 3470N×6070E, h11km, ML3.8(THR), MN4.2(TEH), After TEH.*
*NNC **17** 00:57:26.4±1.8, 3561N×6043E, h0km, mb3.6, Error ellipse: s-maj=17.2km s-min=12.7km az=52.0*

ISC 17 00:57:19.0±1.9,**3472N**±003×**6076E**±004,**h10**km±13km, **n78,**σ1°**03/92,mb3.6/2,MS3.5/2,5C-3D,Northern and central Iran**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IMYA	**Miami**	**1.71**	**342**	Pn	**Pn**	**00 57 48.7**	**-0.1**
IMYA				Sn	**Sn**	**00 58 11.7**	**+1.0**
IMYA	**Miami**	**1.71**	**342**	*e*Pn	**Pn**	**00 57 48.7**	**-0.1**
IMYA				*e*Sn	**Sn**	**00 58 11.7**	**+1.0**
IMYA				*e*		00 58 15.3	
IMON	**Monand**	**1.77**	**211**	*e*Pn	**Pn**	**00 57 49.9**	**+0.2**
IMON				*e*Sn	**Sn**	**00 58 12.8**	**+0.5**
IMON				*e*		00 58 16.7	
IMOG	**Moghan**	**1.81**	**321**	Pn	**Pn**	**00 57 50.5**	**+0.3**
IMOG	**Moghan**	**1.81**	**321**	⇑*e*Pn	**Pn**	**00 57 50.6**	**+0.4**
IMOG				*e*		00 58 17.6	
MHI	**Mashad**	**1.91**	**327**	*e*Pn	**Pn**	**00 57 51.3**	**-0.2**
MHI				*e*Pn	**Pn**	**00 57 53.3**	**+1.8**
MHI				*e*Sn	**Sn**	**00 58 15.6**	**0.0**
MHI				*e*		00 58 22.1	
MHI	**Mashad**	**1.91**	**327**	Pn	**Pn**	**00 57 53.2**	**+1.7**
IDAH	**Dahanechah**	**2.11**	**201**	⇓*e*Pn	**Pn**	**00 57 55.0**	**+0.7**
IDAH				*e*		00 58 25.7	
IPAY	**Payeh**	**2.25**	**321**	*e*Pn	**Pn**	**00 57 56.7**	**+0.4**
IPAY				*e*		00 58 35.5	
ITEG	**Tejag**	**2.47**	**223**	*e*Pn	**Pn**	**00 57 58.9**	**-0.4**
ITEG				*e*		00 58 05.7	
IAKL	**Akhelmad**	**2.49**	**320**	*e*Pn	**Pn**	**00 57 59.9**	**+0.3**
IAKL				*e*		00 58 48.3	
IKOO	**Kooshah**	**2.72**	**213**	*e*Pn	**Pn**	**00 58 02.4**	**-0.3**
IKOO				*e*		00 58 49.7	
IKRD	**Kardeh**	**2.75**	**319**	*e*Pn	**Pn**	**00 57 57.5**	**-5.6**
IKRD				*e*		00 58 35.9	
IKRD	**Kardeh**	**2.75**	**319**	Pn	**Pn**	**00 57 57.4**	**-5.7**
IQHU	**Qucahn**	**2.96**	**323**	*e*Pn	**Pn**	**00 58 09.3**	**+3.2**
IQHU				*e*		00 59 12.3	
IQHU	**Qucahn**	**2.96**	**323**	Pn	**Pn**	**00 58 09.2**	**+3.1**
IEMG	**Emamgholi**	**3.19**	**328**	Pn	**Pn**	**00 58 10.2**	**+1.0**
IEMG	**Emamgholi**	**3.19**	**328**	*e*Pn	**Pn**	**00 58 10.3**	**+1.1**
IEMG				*e*		00 59 09.9	
ISFR	**Sfrayin**	**3.23**	**317**	Pn	**Pn**	**00 58 10.1**	**+0.3**
ISFR	**Sfrayin**	**3.23**	**317**	*e*Pn	**Pn**	**00 58 10.2**	**+0.4**
ISFR				*e*		00 59 13.8	
ISHV	**Shirvan**	**3.75**	**320**	*e*Pn	**Pn**	**00 58 23.5**	**+6.7**
ISHV				*e*		00 59 24.5	
MRVT	**Maraveh tapeh**	**4.78**	**309**	*e*Pn	**Pn**	**00 58 31.2**	**+0.1**
MRVT				AML	AML	01 00 02.1	
	comp=E,28nm,0.5s						
MRVT				AML	AML	01 00 13.9	
	comp=N,25nm,0.7s						
MRVT	**Maraveh tapeh**	**4.78**	**309**	*e*Pn	**Pn**	**00 58 31.2**	**+0.1**
	SNR=52						
ZHSF	**Zahedan**	**5.09**	**180**	*e*P	**Pn**	**00 58 35.3**	**-0.1**
IANJ	**Anjilo**	**5.66**	**280**	*e*Pn	**Pn**	**00 58 42.8**	**-0.4**
IANJ				*e*		00 59 05.0	
KRBR	**Kerman**	**5.81**	**217**	*e*Pn	**Pn**	**00 58 46.1**	**+0.9**
KRBR				AML	AML	01 00 40.7	
	comp=N,38nm,0.8s						
KRBR	**Kerman**	**5.81**	**217**	*e*Pn	**Pn**	**00 58 46.0**	**+0.8**
ICHK	**Chekchek**	**5.85**	**247**	Pn	**Pn**	**00 58 45.7**	**-0.1**
ICHK	**Chekchek**	**5.85**	**247**	*e*Pn	**Pn**	**00 58 45.8**	**0.0**
ICHK				*e*		00 58 47.1	
IGLO	**Ghaloghah**	**5.92**	**290**	*e*Pn	**Pn**	**00 58 46.7**	**0.0**
IGLO				*e*		00 58 58.5	
IGLO	**

IDC ***17*** *01:05:46.8±1.1, 6.45S×10.755W, h0km, mb4.2/11, mb1 4.5/11, mb1mx4.4/15, mbtmp4.2/11, MS4.8/18, Ms1 4.8/18, ms1mx4.7/23, Error ellipse: s-maj=32.6km s-min=19.8km az=47.0*

ISCJB ***17*** *01:05:47.9±5.0, 6.44S±0.10×10.734W±0.09, h14km±28km, mb4.9/73, MS5.0/201, Error ellipse: s-maj=20.1km s-min=8.4km az=40.6*

MOS ***17*** *01:05:47.7±1.1, 6.36S×10.730W, h10km, mb5.1/22, MS4.8/27, Error ellipse: s-maj=19.6km s-min=6.8km az=90.6*

BJI ***17*** *01:05:49.3, 6.40S×10.730W, h10km, mB5.3, Ms5.4, Msz5.1*

NEIC ***17*** *01:05:49.3±0.6, 6.41S×10.731W, h10km, mb5.0/63, MS5.0/181, Error ellipse: s-maj=14.7km s-min=8.3km az=51.0*

GCMT ***17*** *01:05:49.3±0.1, 6.22S×10.727W, h18km, MW5.5/104, Moment Tensor Solution. s70,c118; s104,c208; Duration: 1s4 Moment tensor: Scale 10^17Nm; Mrr-0.05±.04; Mθθ 0.40±.03; Mϕϕ-0.34±.04; Mrθ 0.34±.08; Mθϕ 2.12±.03; Mϕr-0.11±.08; Best double couple: M=2.18300×10^17 NP1:ϕs 5.00000°, δ81.00000°, λ-178.00000°. NP2:ϕs 275.00000°, δ88.00000°, λ-9.00000°. Principal axes: T 2.1920, Plg5.0000°, Azm320.0000°; N -0.0190, Plg80.0000°, Azm81.0000°; P -2.1730, Plg8.0000°, Azm230.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

ISC 17 01:05:48.9±4.9, 639S±009×10732W±009, h4km±27km, n522, σ0°89/369, mb4.9/73, MS5.0/201, 106C-115D, Central East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time	Res
								h m s	ISC
CMIG	**Matias Romero**	**26.37**	**28**	P			**P**	**01 11 27.9**	**+1.6**
	3.0nm,0.9s,mb3.8,baz=193,slow=8.7,SNR=3.8								
CMIG					LR		LR	01 19 27.5	
	comp=Z,4μm,21.0s,MS4.9,baz=193,slow=31								
TGUH	**Tegucigalpa,Un**	**28.43**	**44**		PFAKE			01 12 00.0	+15
TGUH					LR		LR		
	comp=Z,4μm,22.0s,MS4.9								
PTCN	**Pitcairn Islan**	**28.64**	**227**		PFAKE			01 12 00.0	+13
PTCN					LR		LR		
	comp=Z,5μm,20.0s,MS5.1								
ATAH	**Atahualpa**	**28.73**	**93**	LR			LR	01 20 11.7	
	comp=Z,2μm,19.4s,MS4.8,baz=149,slow=30								
OTAV	**Otavalo**	**29.55**	**78**	*eP*			**P**	**01 11 55.3**	**+0.3**
OTAV					LR		LR		
	comp=Z,1μm,19.0s,MS4.5								
LPIG	**La Paz**	**30.44**	**355**	LR			LR	01 21 03.5	
	comp=Z,3μm,21.6s,MS4.8,baz=177,slow=30								
NNA	**Nana**	**30.58**	**103**	LR			LR	01 20 52.5	
	comp=Z,3μm,18.1s,MS5.0,baz=269,slow=29								
NNA	**Nana**	**30.58**	**103**	*eP*			**P**	**01 12 03.5**	**-0.6**
	comp=Z,56nm,1.4s,mb5.2								
NNA					LR		LR		
	comp=Z,3μm,22.0s,MS4.9								
RKT	**Rikitea**	**31.39**	**235**	*eS*			**S**	**01 17 21.2**	**+1.9**
	comp=Z,739nm,32.8s								
RKT				*e*LR			LR	01 20 30.2	
	comp=Z,7μm,28.2s,baz=58								
BCIP	**Isla Barro Col**	**31.45**	**61**	*eP*			**P**	**01 12 10.7**	**-0.9**
	comp=Z,44nm,1.3s,mb5.1								
BCIP					LR		LR		
	comp=Z,6μm,21.0s,MS5.3								
TEIG	**Tepich**	**32.41**	**35**		PFAKE			01 12 30.0	+10
TEIG					LR		LR		
	comp=Z,3μm,20.0s,MS5.0								
ROSC	**El Rosal**	**34.77**	**72**	LR			LR	01 24 24.3	
	comp=Z,1μm,18.1s,MS4.7,baz=228,slow=32								
KVTX	**Kingsville**	**34.94**	**15**		PFAKE			01 12 50.0	+8.0
KVTX					LR		LR		
	comp=Z,875nm,19.0s,MS4.5								
TXAR	**Lajitas Array**	**35.69**	**5**	P			**P**	**01 12 47.5**	**-0.9**
	comp=Z,2.1nm,0.9s,mb4.1,baz=200,slow=10,SNR=19								
TXAR					LR		LR	01 24 38.8	
	comp=Z,1μm,21.4s,MS4.6,baz=95,slow=32								
JCT	**Junction City**	**37.36**	**11**	*eP*			**P**	**01 13 04.3**	**+1.7**
JCT					pmax		pmax		
	comp=Z,65nm,1.8s,mb5.2								
JCT					MLR		MLR		
	comp=Z,776nm,21.0s,MS4.5								
JCT	**Junction City**	**37.36**	**11**	*eP*			**P**	**01 13 04.3**	**+1.7**
	comp=Z,65nm,1.8s,mb5.2								
JCT					LR		LR		
	comp=Z,776nm,21.0s,MS4.5								
319A	**Douglas**	**37.60**	**357**	⇑P			**P**	**01 13 05.9**	**+1.2**
	baz=38								
318A	**Bisbee**	**37.70**	**356**	⇓P			**P**	**01 13 05.8**	**+0.4**
	baz=38								
HKT	**Hockley**	**37.77**	**16**	*eP*			**P**	**01 13 06.6**	**+0.4**
HKT					pmax		pmax		
	comp=Z,30nm,1.6s,mb4.8								
HKT					MLR		MLR		
	comp=Z,475nm,20.0s,MS4.3								
HKT	**Hockley**	**37.77**	**16**	*eP*			**P**	**01 13 06.6**	**+0.4**
	comp=Z,30nm,1.6s,mb4.8								
HKT					LR		LR		
	comp=Z,475nm,20.0s,MS4.3								
217A	**Green Valley**	**38.09**	**355**	⇓P			**P**	**01 13 09.0**	**+0.1**
	baz=38								
219A	**White Tail Can**	**38.22**	**357**	⇑P			**P**	**01 13 10.7**	**+0.9**
	baz=38								
218A	**Dragoon**	**38.23**	**356**	⇓P			**P**	**01 13 09.6**	**-0.4**
	baz=38								
216A	**Three Points,**	**38.38**	**354**	⇑P			**P**	**01 13 11.5**	**+0.3**
	baz=39								
TUC	**Tucson**	**38.62**	**355**	*eP*			**P**	**01 13 13.8**	**+0.5**
TUC					pmax		pmax		
	comp=Z,3.0nm,0.9s,mb4.0								
TUC					MLR		MLR		
	comp=Z,1μm,22.0s,MS4.7								
TUC	**Tucson**	**38.62**	**355**	*eP*			**P**	**01 13 13.8**	**+0.6**
	comp=Z,2.8nm,0.9s,mb4.0								
TUC					LR		LR		
	comp=Z,1μm,22.0s,MS4.7								
118A	**Homack Ranch,**	**38.89**	**356**	⇓P			**P**	**01 13 15.9**	**+0.3**
	baz=39								
116A	**Eloy**	**38.96**	**354**	⇑P			**P**	**01 13 15.8**	**-0.3**
	baz=39								
119A	**Ashpeak Ranch,**	**38.98**	**357**	⇓P			**P**	**01 13 16.1**	**-0.2**
	baz=39								
115A	**Sonoran Desert**	**39.15**	**353**	⇑P			**P**	**01 13 16.4**	**-1.3**
	baz=40								
112A	**Yuma**	**39.32**	**350**	⇓P			**P**	**01 13 16.8**	**-2.3**
	baz=40								
113A	**Mohawk Valley,**	**39.42**	**351**	⇑P			**P**	**01 13 20.2**	**+0.3**
	baz=40								
LPAZ	**La Paz**	**39.59**	**108**	P			**P**	**01 13 22.9**	**+1.2**
	comp=Z,2.5nm,0.9s,mb3.9,baz=300,slow=6.2,SNR=8.1								
LPAZ					LR		LR	01 26 25.4	
	comp=Z,2μm,21.2s,MS4.8,baz=107,slow=31								
LPAZ	**La Paz**	**39.59**	**108**	*eP*			**P**	**01 13 23.1**	**+1.4**
LPAZ					pmax		pmax		
	comp=Z,14nm,1.4s								
LPAZ					MLR		MLR		
	comp=Z,2μm,22.0s								
LPAZ	**La Paz**	**39.59**	**108**	*eP*			**P**	**01 13 23.1**	**+1.4**
	comp=Z,14nm,1.4s,mb4.5								
LPAZ					LR		LR		
	comp=Z,2μm,22.0s,MS4.9								
SDV	**Santo Domingo**	**39.59**	**68**	P			**P**	**01 13 21.3**	**-0.4**
	comp=Z,9.6nm,0.9s,mb4.5,baz=280,slow=4.9,SNR=8.1								
SDV	**Santo Domingo**	**39.59**	**68**	*eP*			**P**	**01 13 21.2**	**-0.5**
	comp=Z,51nm,1.5s,mb5.0								
SDV					LR		LR		
	comp=Z,533nm,21.0s,MS4.4								
DVTC	**Desert V Tower**	**39.72**	**348**	⇑P			**P**	**01 13 21.1**	**-1.3**
	baz=40								
NATX	**Nacogdoches**	**39.81**	**17**	*eP*			**P**	**01 13 23.6**	**+0.3**
	comp=Z,17nm,0.6s,mb5.0								
NATX					LR		LR		
	comp=Z,789nm,22.0s,MS4.5								
BAR	**Barrett**	**39.86**	**348**		PFAKE			01 13 40.0	+16
BAR					LR		LR		
	comp=Z,2μm,21.0s,MS4.9								
GLA	**Glamis**	**39.87**	**350**		PFAKE			01 13 40.0	+16
GLA					LR		LR		
	comp=Z,2μm,20.0s,MS4.9								
Y17A	**Roosevelt**	**40.00**	**355**	⇑P			**P**	**01 13 24.9**	**+0.1**
	baz=40								
Y18A	**Canyon Day Jun**	**40.03**	**356**	⇑P			**P**	**01 13 25.3**	**+0.3**
	baz=40								
Y19A	**Nutrioso**	**40.17**	**358**	⇑P			**P**	**01 13 25.9**	**-0.2**
	baz=40								
Y16A	**Circle Bar Ran**	**40.24**	**355**	⇓P			**P**	**01 13 26.7**	**-0.1**
	baz=40								
BNM	**Barren Site**	**40.32**	**1**	*e*P			**P**	**01 13 28.6**	**+1.1**
LENM	**Lemitar**	**40.33**	**0**	*e*P			**P**	**01 13 33.5**	**+6.0**
LVC	**Limon Verde**	**40.37**	**118**	LR			LR	01 24 18.3	
	comp=Z,531nm,21.3s,MS4.4,baz=292,slow=27								
LVC	**Limon Verde**	**40.37**	**118**	*eP*			**P**	**01 13 27.9**	**-0.2**
	comp=Z,15nm,0.9s,mb4.7								
LVC					LR		LR		
	comp=Z,5μm,20.0s,MS5.3								
Y15A	**Casa Rosa Ranc**	**40.40**	**354**	⇑P			**P**	**01 13 28.5**	**+0.4**
	baz=41								
Y14A	**Wickenburg**	**40.47**	**353**	⇑P			**P**	**01 13 28.3**	**-0.3**
	baz=41								
Y12C	**Blythe**	**40.50**	**351**	⇑P			**P**	**01 13 28.4**	**-0.5**
	baz=41								
BC3	**Big Chuckw Mtn**	**40.56**	**350**	⇓P			**P**	**01 13 28.7**	**-0.7**
	baz=41								
LAZ	**Ladron**	**40.57**	**0**	*e*P			**P**	**01 13 29.5**	**0.0**
X19A	**St. Johns**	**40.64**	**357**	⇓P			**P**	**01 13 31.2**	**+1.2**
	baz=41								
X17A	**Forest Lakes**	**40.64**	**356**	⇓P			**P**	**01 13 30.1**	**+0.1**
	baz=41								
PFO	**Pinyon Flat Ob**	**40.71**	**348**		PFAKE			01 13 40.0	+9.3
PFO					LR		LR		
	comp=Z,795nm,19.0s,MS4.6								
X16A	**Lo Mia Camp, P**	**40.77**	**355**	⇓P			**P**	**01 13 31.8**	**+0.6**
	baz=41								
X18A	**Snowflake**	**40.77**	**357**	⇑P			**P**	**01 13 31.1**	**0.0**
	baz=41								
X15A	**Humboldt**	**40.92**	**354**	⇑P			**P**	**01 13 32.8**	**+0.5**
	baz=41								
X14A	**Yava**	**40.98**	**353**	⇑P			**P**	**01 13 32.2**	**-0.6**
	baz=41,SNR=6.3								
PDMCI	**Parker Dam,Lak**	**40.98**	**351**	⇓P			**P**	**01 13 32.9**	**0.0**
	baz=41								
BELC	**Belle Mtn.**	**41.00**	**349**	⇓P			**P**	**01 13 31.8**	**-1.2**
	baz=41								
IRM	**Iron Mountain**	**41.00**	**350**	⇓P			**P**	**01 13 32.0**	**-1.0**
	baz=41								
SNCC	**San Nicolas Is**	**41.09**	**344**	⇑P			**P**	**01 13 32.7**	**-1.1**
	baz=41								
SNCC	**San Nicolas Is**	**41.09**	**344**		PFAKE			01 13 50.0	+16
SNCC					LR		LR		
	comp=Z,4μm,20.0s,MS5.2								
ANMO	**Albuquerque**	**41.12**	**1**	P			**P**	**01 13 34.5**	**+0.4**
	comp=Z,2.2nm,1.0s,baz=180,slow=12,SNR=4.1								
ANMO	**Albuquerque**	**41.12**	**1**	*eP*			**P**	**01 13 34.0**	**0.0**
ANMO					pmax		pmax		
	comp=Z,2.0nm,0.8s								
ANMO					MLR		MLR		
	comp=Z,1μm,19.0s								
ANMO	**Albuquerque**	**41.12**	**1**	*eP*			**P**	**01 13 34.0**	**-0.1**
	comp=Z,2.3nm,0.8s,mb3.9								
ANMO					LR		LR		
	comp=Z,1μm,19.0s,MS4.8								
X13A	**Yucca**	**41.22**	**352**	⇓P			**P**	**01 13 34.9**	**+0.1**
	baz=42								
LCO	**Las Campanas**	**41.23**	**128**		PFAKE			01 13 50.0	+15
LCO					LR		LR		
	comp=Z,5μm,20.0s,MS5.4								
W18A	**Petrified Fore**	**41.34**	**357**	⇓P			**P**	**01 13 36.9**	**+1.0**
	baz=42								
AMTX	**Amarillo**	**41.39**	**7**	*eP*			**P**	**01 13 36.9**	**+0.7**
	comp=Z,12nm,0.9s,mb4.5								
AMTX					LR		LR		
	comp=Z,1μm,22.0s,MS4.7								
W16A	**Flagstaff**	**41.45**	**355**	⇓P			**P**	**01 13 37.0**	**+0.3**
	baz=42								
VBMS	**Vicksburg**	**41.60**	**22**		PFAKE			01 13 50.0	+12
VBMS					LR		LR		
	comp=Z,607nm,20.0s,MS4.5								
MWC	**Mount Wilson**	**41.65**	**347**		PFAKE			01 13 50.0	+12
MWC					LR		LR		
	comp=Z,2μm,20.0s,MS5.0								
GMRC	**Granite Mounta**	**41.70**	**350**	⇑P			**P**	**01 13 39.2**	**+0.5**
	baz=42								
W13A	**Hualapai Mount**	**41.73**	**352**	⇑P			**P**	**01 13 39.4**	**+0.4**
	baz=42								
W14A	**Seligman**	**41.73**	**353**	⇑P			**P**	**01 13 39.6**	**+0.5**
	baz=42								
WUAZ	**Wupatki**	**41.85**	**355**	*eP*			**P**	**01 13 39.7**	**-0.3**
	comp=Z,26nm,1.4s,mb4.7								
WUAZ					LR		LR		
	comp=Z,2μm,19.0s,MS5.1								
BRAL	**Brewton**	**41.94**	**26**		PFAKE			01 13 50.0	+9.2
BRAL					LR		LR		
	comp=Z,891nm,22.0s,MS4.6								
V14A	**Boquillas Ranc**	**42.15**	**353**	⇑P			**P**	**01 13 43.3**	**+0.9**
	baz=42,SNR=9.2								
V15A	**Kaibab Nationa**	**42.23**	**354**	⇓P			**P**	**01 13 42.9**	**-0.2**
	baz=42,SNR=9.4								
GSC	**Goldstone**	**42.42**	**348**	*eP*			**P**	**01 13 44.1**	**-0.5**
GSC					pmax		pmax		
	comp=Z,17nm,1.1s,mb4.6								
GSC					MLR		MLR		
	comp=Z,2μm,19.0s,MS5.0								
GSC	**Goldstone**	**42.42**	**348**	⇑P			**P**	**01 13 44.3**	**-0.3**
	baz=43								
GSC	**Goldstone**	**42.42**	**348**	*eP*			**P**	**01 13 44.1**	**-0.5**
	comp=Z,17nm,1.1s,mb4.6								
GSC					LR		LR		
	comp=Z,2μm,19.0s,MS5.0								
DWPF	**Disney**	**42.43**	**35**		PFAKE			01 14 00.0	+15
DWPF					LR		LR		
	comp=Z,2μm,20.0s,MS5.1								
U16A	**Tuba City**	**42.46**	**355**	⇓P			**P**	**01 13 44.6**	**-0.3**
	baz=43								
V13A	**Grand Canyon W**	**42.48**	**352**	⇑P			**P**	**01 13 45.5**	**+0.4**
	baz=43								
V12A	**Nelson**	**42.48**	**351**	⇓P			**P**	**01 13 44.8**	**-0.3**
	baz=43								
U18A	**Rough Rock, Ch**	**42.65**	**357**	⇓P			**P**	**01 13 46.7**	**+0.2**
	baz=43,SNR=7.3								
PPT	**Papeete**	**42.70**	**251**	*eS*			**S**	**01 20 10.8**	**-0.9**
	comp=Z,413nm,25.8s								
PPT					*e*LQ			01 23 42.0	
	comp=Z,7μm,29.0s								
PPT					*e*LR		LR	01 25 38.8	
	comp=Z,4μm,25.0s,baz=76								
PPT	**Papeete**	**42.70**	**251**	LR			LR	01 26 41.5	
	comp=Z,1μm,20.5s,MS4.8,baz=82,slow=30								
MIAR	**Mount Ida**	**42.73**	**17**	*eP*			**P**	**01 13 46.2**	**-1.0**
MIAR					pmax		pmax		
	comp=Z,51nm,1.5s,mb5.0								
MIAR					MLR		MLR		
	comp=Z,693nm,20.0s,MS4.5								
MIAR	**Mount Ida**	**42.73**	**17**	*eP*			**P**	**01 13 46.1**	**-1.1**
	comp=Z,51nm,1.5s,mb5.0								
MIAR					LR		LR		
	comp=Z,693nm,20.0s,MS4.5								
U15A	**North Rim**	**42.84**	**354**	⇓P			**P**	**01 13 48.9**	**+0.8**
	baz=43								
U17A	**Shonto**	**42.88**	**356**	⇓P			**P**	**01 13 49.8**	**+1.5**
	baz=43								
U14A	**Mt Trumbull**	**42.93**	**353**	⇓P			**P**	**01 13 49.7**	**+0.9**
	baz=43								
T19A	**Beclabito**	**43.02**	**358**	⇓P			**P**	**01 13 50.7**	**+1.1**
	baz=43								
U13A	**Pakoon Wash**	**43.03**	**352**	⇓P			**P**	**01 13 50.4**	**+0.8**
	baz=43								
ISA	**Isabella**	**43.12**	**347**	⇑P			**P**	**01 13 50.7**	**+0.3**
	baz=43								
ISA	**Isabella**	**43.12**	**347**		PFAKE			01 14 00.0	+10
ISA					LR		LR		
	comp=Z,2μm,19.0s,MS5.0								
T17A	**Navajo Res., N**	**43.28**	**356**	⇓P			**P**	**01 13 52.4**	**+0.8**
	baz=44								
MPMC	**Manual Prospec**	**43.29**	**348**	⇑P			**P**	**01 13 50.9**	**-0.8**
	baz=44								
T16A	**Glen Canyon Da**	**43.32**	**355**	⇓P			**P**	**01 13 52.1**	**+0.1**
	baz=44								
T18A	**Mexican Hat**	**43.36**	**357**	⇑P			**P**	**01 13 53.2**	**+1.0**
	baz=44								
MVCO	**Mesa Verde**	**43.38**	**359**	⇓P			**P**	**01 13 53.2**	**+0.7**
	baz=44								
MVCO	**Mesa Verde**	**43.38**	**359**	*eP*			**P**	**01 13 53.7**	**+1.3**
	comp=Z,32nm,1.3s,mb4.9								
MVCO					LR		LR		
	comp=Z,390nm,20.0s,MS4.3								
U10A	**Ash Meadows, A**	**43.41**	**349**	⇑P			**P**	**01 13 53.2**	**+0.5**
	baz=44								
VES	**Vestal, Richgr**	**43.43**	**346**	⇑P			**P**	**01 13 52.5**	**-0.3**
	baz=44								
T15A	**Red Dirt Ranch**	**43.44**	**354**	⇑P			**P**	**01 13 52.6**	**-0.3**
	baz=44								
DAC	**Darwin (Calif)**	**43.52**	**348**		PFAKE			01 14 10.0	+16
DAC					LR		LR		
	comp=Z,1μm,20.0s,MS4.8								
FURC	**Furnace Creek,**	**43.56**	**349**	⇓P			**P**	**01 13 53.8**	**-0.1**
	baz=44								
T13A	**Saint George**	**43.62**	**352**	⇑P			**P**	**01 13 54.8**	**+0.4**
	baz=44,SNR=7.3								
LRAL	**Lakeview Retre**	**43.70**	**25**		PFAKE			01 14 10.0	+15
LRAL					LR		LR		
	comp=Z,789nm,19.0s,MS4.6								
TBI	**Tubuai**	**43.88**	**243**	*eS*			**S**	**01 20 30.3**	**+1.6**
	comp=Z,548nm,26.5s								
TBI				*e*LQ				01 24 10.3	
	comp=Z,2μm,36.2s								
TBI				*e*LR			LR	01 26 19.4	
	comp=Z,4μm,28.2s,baz=71								
TPNV	**Topopah Spring**	**43.91**	**350**	*eP*			**P**	**01 13 57.8**	**+1.1**
TPNV					pmax		pmax		
	comp=Z,11nm,1.0s,mb4.5								
TPNV					MLR		MLR		
	comp=Z,2μm,19.0s,MS5.0								
TPNV	**Topopah Spring**	**43.91**	**350**	⇓P			**P**	**01 13 56.2**	**-0.5**
	baz=44								
TPNV	**Topopah Spring**	**43.91**	**350**	*eP*			**P**	**01 13 57.8**	**+1.1**
	comp=Z,11nm,1.0s,mb4.5								
TPNV					LR		LR		
	comp=Z,2μm,19.0s,MS5.0								
S17A	**Black Ridge (B**	**43.91**	**356**	⇑P			**P**	**01 13 56.8**	**0.0**
	baz=44								
S18A	**Hurst Farm, Bl**	**43.92**	**357**	⇓P			**P**	**01 13 58.4**	**+1.7**
	baz=44,SNR=8.5								
S19A	**Harvey Farm, M**	**43.94**	**358**	⇑P			**P**	**01 13 57.3**	**+0.4**
	baz=44								
SDCO	**Great Sand Dun**	**43.94**	**2**	*eP*			**P**	**01 13 56.5**	**-0.4**
	comp=Z,12nm,1.3s,mb4.5								
SDCO					LR		LR		
	comp=Z,1μm,20.0s,MS4.8								
T11A	**Corn Creek, Al**	**44.02**	**351**	⇑P			**P**	**01 13 57.4**	**-0.2**
	baz=44								
OXF	**Oxford**	**44.06**	**21**		PFAKE			01 14 10.0	+12
OXF					LR		LR		
	comp=Z,606nm,20.0s,MS4.5								
S16A	**Weppner Ranch,**	**44.06**	**355**	⇓P			**P**	**01 13 58.3**	**+0.4**
	baz=44,SNR=18								
CCUT	**Cedar City**	**44.07**	**353**	*eP*			**P**	**01 13 59.1**	**+1.2**
S15A	**Panguitch**	**44.09**	**354**	⇓P			**P**	**01 13 59.2**	**+1.1**
	baz=44								
S13A	**Holt Ranch, En**	**44.16**	**353**	⇓P			**P**	**01 13 59.2**	**+0.4**
	baz=44								
S14A	**Cedar City**	**44.26**	**353**	⇑P			**P**	**01 14 00.4**	**+0.9**
	baz=45								
CFAA	**Coronel Fontan**	**44.28**	**130**	LR			LR	01 28 42.5	
	comp=Z,342nm,18.4s,MS4.3,baz=195,slow=31								
PV01	**Paradox Valley**	**44.31**	**359**	*eP*			**P**	**01 14 00.8**	**+0.9**
ARUT	**Antelope Range**	**44.32**	**353**	*eP*			**P**	**01 13 58.4**	**-1.5**
U04C	**Hernandez Rese**	**44.36**	**344**	⇓P			**P**	**01 14 00.4**	**+0.1**
	baz=45								
R18A	**Canyonlands Na**	**44.61**	**357**	⇓P			**P**	**01 14 03.5**	**+1.3**
	baz=45								
R16A	**Teasdale**	**44.61**	**355**	⇓P			**P**	**01 14 03.2**	**+0.9**
	baz=45								
R17A	**Hanksville Air**	**44.69**	**356**	⇑P			**P**	**01 14 02.3**	**-0.6**
	baz=45,SNR=14								
T06C	**Milleton Lake**	**44.70**	**346**	⇓P			**P**	**01 14 02.3**	**-0.7**
	baz=45								
MTUM	**Tungsten Hills**	**44.76**	**347**	*eP*			**P**	**01 14 04.0**	**+0.4**
R13A	**O'Grain Ranch,**	**44.77**	**353**	⇓P			**P**	**01 14 03.4**	**-0.1**
	baz=45								
S09A	**Goldfield**	**44.85**	**349**	⇑P			**P**	**01 14 03.7**	**-0.5**
	baz=45,SNR=8.2								
MVU	**Marysvale**	**44.89**	**355**		PFAKE			01 14 20.0	+15
MVU					LR		LR		
	comp=Z,3μm,19.0s,MS5.3								
MSU	**Marysvale**	**44.90**	**355**	*eP*			**P**	**01 14 06.3**	**+1.7**
SAO	**San Andreas Ge**	**44.92**	**344**		PFAKE			01 14 20.0	+15
SAO					LR		LR		
	comp=Z,3μm,22.0s,MS5.2								
S10A	**Tonopah Range,**	**44.92**	**350**	⇓P			**P**	**01 14 05.0**	**+0.3**
	baz=45								
R12A	**Pony Springs,**	**45.00**	**352**	⇑P			**P**	**01 14 05.7**	**+0.4**
	baz=45								
Q19A	**Hogan Spring (**	**45.15**	**358**	⇓P			**P**	**01 14 07.2**	**+0.7**
	baz=46								
GNAR	**Gosnell**	**45.16**	**20**	*eP*			**P**	**01 14 08.2**	**+1.5**
	comp=Z,634nm,1.0s								
R11A	**Troy Canyon, C**	**45.17**	**351**	⇑P			**P**	**01 14 07.1**	**+0.4**
	baz=46								
TPH	**Tonopah**	**45.19**	**349**	*eP*			**P**	**01 14 07.1**	**+0.2**
TPH					pmax		pmax		
	comp=Z,30nm,1.2s,mb5.0								
TPH					MLR		MLR		
	comp=Z,1μm,19.0s,MS4.8								
TPH	**Tonopah**	**45.19**	**349**	*eP*			**P**	**01 14 07.1**	**+0.2**
	comp=Z,30nm,1.2s,mb5.0								
TPH					LR		LR		
	comp=Z,1μm,19.0s,MS4.8								
Q16A	**Castle Valley**	**45.22**	**356**	⇑P			**P**	**01 14 07.7**	**+0.6**
	baz=46								
R10A	**Warm Springs**	**45.23**	**350**	⇓P			**P**	**01 14 07.6**	**+0.5**
	baz=46								
R09A	**Tonopah**	**45.32**	**349**	⇑P			**P**	**01 14 07.6**	**-0.3**
	baz=46								
Q18A	**Rafter H Ranch**	**45.33**	**357**	⇓P			**P**	**01 14 09.2**	**+1.2**
	baz=46								
SMCO	**Snowmass**	**45.34**	**0**	*eP*			**P**	**01 14 10.2**	**+2.1**
	comp=Z,51nm,2.2s,mb5.0								
SRU	**San Rafael**	**45.37**	**356**	⇓P			**P**	**01 14 09.0**	**+0.8**
	baz=46								
SRU	**San

WVT Waverly 46.08 22 *e*P **P 01 14 13.2 -0.8**
WVT pmax pmax
comp=Z,20nm,1.2s,mb4.9
WVT MLR MLR
comp=Z,526nm,20.0s,MS4.5
WVT Waverly 46.08 22 *e*P **P 01 14 13.2 -0.8**
comp=Z,20nm,1.2s,mb4.9
WVT LR LR
comp=Z,526nm,20.0s,MS4.5
P12A McGill 46.17 352 ⇑P **P 01 14 15.5 +0.8**
baz=46
NLU North Lily Min 46.32 355 *e*P **P 01 14 14.8 -1.0**
KSU1 Kansas State U 46.33 12 *e*P **P 01 14 15.6 -0.4**
comp=Z,12nm,0.7s,mb5.0
KSU1 LR LR
comp=Z,978nm,20.0s,MS4.8
MPU Maple Canyon 46.34 355 *e*P **P 01 14 13.5 -2.4**
comp=Z,15nm,1.0s,mb4.9
MPU LR LR
comp=Z,4μm,21.0s,MS5.3
O17A Robinson Place 46.46 356 ⇓P **P 01 14 17.2 +0.3**
baz=47
O19A Miners Draw (B 46.48 358 ⇓P **P 01 14 17.5 +0.4**
baz=47
MCCM Marconi Confer 46.61 343 PFAKE 01 14 30.0 +12
MCCM LR LR
comp=Z,3μm,20.0s,MS5.2
DUG Dugway 46.63 354 *e*P **P 01 14 18.9 +0.7**
DUG pmax pmax
comp=Z,20nm,1.2s,mb4.9
DUG MLR MLR
comp=Z,3μm,19.0s,MS5.3
DUG Dugway 46.63 354 *e*P **P 01 14 18.9 +0.7**
comp=Z,20nm,1.2s,mb4.9
DUG LR LR
comp=Z,3μm,19.0s,MS5.3
CCM Cathedral Cave 46.68 17 PFAKE 01 14 30.0 +11
CCM LR LR
comp=Z,685nm,21.0s,MS4.6
DAU Daniels Canyon 46.71 356 *e*P **P 01 14 17.5 -1.4**
FVM French Village 46.87 18 *e*P **P 01 14 18.6 -1.5**
FVM pmax pmax
comp=Z,10.0nm,1.0s,mb4.7
FVM French Village 46.87 18 *e*P **P 01 14 18.6 -1.5**
comp=Z,9.9nm,1.0s,mb4.7
JLU Jordanelle 46.91 356 *e*P **P 01 14 18.9 -1.5**
O11A Cowboy Ranch, 46.92 351 ⇑P **P 01 14 21.8 +1.3**
baz=47
O12A Currie 46.93 352 ⇓P **P 01 14 21.9 +1.3**
baz=47
NHSC New Hope 46.98 32 PFAKE 01 14 30.0 +8.9
NHSC LR LR
comp=Z,2μm,21.0s,MS5.1
N18A Larsen Ranch, 47.18 358 ⇑P **P 01 14 23.4 +0.9**
baz=48
N17A Moffit Pass 47.21 356 ⇓P **P 01 14 23.4 +0.7**
baz=48
N14A Grayback Hills 47.31 354 ⇑P **P 01 14 24.5 +0.9**
baz=48
OHCM Honcut 47.35 345 *e*P **P 01 14 20.6 -3.3**
OGNE Ogallala 47.35 5 *e*P **P 01 14 22.0 -1.9**
comp=Z,30nm,1.0s,mb5.2
OGNE LR LR
comp=Z,460nm,20.0s,MS4.4
SJG San Juan 47.36 58 PFAKE 01 14 40.0 +16
SJG LR LR
comp=Z,2μm,20.0s,MS5.0
JSC Jenkinsville 47.36 30 *e*P **P 01 14 23.2 -0.9**
PLCA Paso Flores 47.40 142 LR LR 01 29 39.6
comp=Z,4μm,19.0s,MS5.4,baz=316,slow=30
PLCA Paso Flores 47.40 142 P **P 01 14 23.0 -1.3**
PLCA MLR MLR
comp=Z,5μm,19.0s
N13A Wendover, West 47.44 353 ⇑P **P 01 14 25.9 +1.4**
baz=48
HOPS Hopland 47.46 343 PFAKE 01 14 40.0 +15
HOPS LR LR
comp=Z,3μm,19.0s,MS5.2
ELK Elko 47.46 352 *e*P **P 01 14 26.0 +1.3**
ELK pmax pmax
comp=Z,13nm,1.1s
ELK MLR MLR
comp=Z,2μm,20.0s
ELK Elko 47.46 352 *e*P **P 01 14 26.0 +1.3**
comp=Z,13nm,1.1s,mb4.8
ELK LR LR
comp=Z,2μm,20.0s,MS5.1
BMN Battle Mountai 47.47 350 *e*P **P 01 14 25.4 +0.6**
BMN MLR MLR
comp=Z,1μm,22.0s,MS4.8
PHWY Pilot Hill 47.49 2 *e*P **P 01 14 25.8 +0.9**
comp=Z,14nm,1.1s,mb4.8
O07A Toulon 47.53 348 ⇓P **P 01 14 25.4 +0.1**
baz=48
N12A Clover Valley, 47.54 352 ⇓P **P 01 14 25.9 +0.6**
baz=48
ORV Oroville 47.56 345 ⇑P **P 01 14 25.0 -0.5**
baz=48
M16A Huntsville 47.63 356 ⇑P **P 01 14 26.9 +0.9**
baz=48
RWWY Rawlins 47.84 0 *e*P **P 01 14 27.2 -0.4**
comp=Z,24nm,1.4s,mb5.0
HWUT Hardware Ranch 47.92 356 *e*P **P 01 14 27.2 -1.0**
comp=Z,12nm,1.0s,mb4.9
HWUT LR LR
comp=Z,2μm,20.0s,MS5.2
N09A Rock Creek Ran 47.93 350 ⇑P **P 01 14 29.2 +0.8**
baz=48
GASB Alder Springs 47.97 344 ⇑P **P 01 14 29.1 +0.4**
baz=48
M14A Sheep Mountain 47.98 354 ⇑P **P 01 14 29.9 +1.2**
baz=48
N08A GE Springer Mi 47.98 349 ⇑P **P 01 14 29.2 +0.4**
baz=48
M12A Wells 48.08 352 ⇓P **P 01 14 30.1 +0.6**
baz=48
N07B Gerlach 48.14 348 ⇑P **P 01 14 30.8 +0.8**
baz=48
TZTN Tazewell 48.17 26 *e*P **P 01 14 28.8 -1.5**
comp=Z,13nm,0.8s,mb5.0
TZTN LR LR
comp=Z,695nm,20.0s,MS4.6
O04C Chester 48.18 346 ⇑P **P 01 14 30.6 +0.3**
baz=48
N06A Buffalo Meadow 48.30 347 ⇑P **P 01 14 31.9 +0.7**
baz=49,SNR=6.8
L16A Fish Haven 48.31 356 ⇓P **P 01 14 32.5 +1.2**
baz=49
L15A Malad City 48.38 355 ⇓P **P 01 14 32.5 +0.7**
baz=49
M10A I.L. Ranch, Tu 48.42 351 ⇑P **P 01 14 33.1 +1.0**
baz=49
L14A Malta 48.49 354 ⇑P **P 01 14 33.6 +0.9**
baz=49
WCI Wyandotte Cave 48.51 22 *e*P **P 01 14 33.4 +0.5**
WCI pmax pmax
comp=Z,8.0nm,0.7s,mb4.9
WCI MLR MLR
comp=Z,489nm,21.0s,MS4.5
WCI Wyandotte Cave 48.51 22 *e*P **P 01 14 33.4 +0.5**
comp=Z,8.3nm,0.7s,mb4.9
WCI LR LR
comp=Z,489nm,21.0s,MS4.5
L13A Double Diamond 48.62 353 ⇓P **P 01 14 34.1 +0.4**
baz=49
M08A Happy Creek Ra 48.67 349 ⇓P **P 01 14 34.7 +0.6**
baz=49
M07A Soldier Meadow 48.77 348 ⇓P **P 01 14 34.7 -0.1**
baz=49
WDC Whiskeytown Da 48.79 345 *e*P **P 01 14 34.2 -0.8**
WDC pmax pmax
comp=Z,10.0nm,0.9s,mb4.8
WDC MLR MLR
comp=Z,2μm,21.0s,MS5.1
WDC Whiskeytown Da 48.79 345 ⇑P **P 01 14 34.4 -0.6**
baz=49
WDC Whiskeytown Da 48.79 345 *e*P **P 01 14 34.2 -0.8**
comp=Z,9.6nm,0.9s,mb4.8
WDC LR LR
comp=Z,2μm,21.0s,MS5.1
L12A House Creek Ra 48.81 352 ⇓P **P 01 14 35.7 +0.6**
baz=49
M06C Likely Place G 48.87 347 ⇑P **P 01 14 35.1 -0.5**
baz=49
L11A Cat Creek Ranc 48.93 352 ⇓P **P 01 14 36.8 +0.8**
baz=49
L10A Juniper Basin 48.95 351 ⇑P **P 01 14 36.5 +0.3**
baz=49
BW06 Boulder Array 48.96 358 *e*P **P 01 14 36.3 0.0**
comp=Z,25nm,1.7s,mb5.0
BW06 LR LR
comp=Z,652nm,22.0s,MS4.6
PDAR Pinedale Array 48.96 358 P **P 01 14 35.0 -1.3**
comp=Z,2.6nm,0.9s,mb4.2,baz=160,slow=6.0,SNR=9.1
PDAR LR LR 01 32 03.0
comp=Z,458nm,19.1s,MS4.5,baz=191,slow=32
PDAR Pinedale Array 48.96 358 P **P 01 14 35.0 -1.3**
PDAR LR LR 01 32 03.0
GRGR Grenville 48.99 68 PFAKE 01 14 50.0 +13
GRGR LR LR
comp=Z,1μm,22.0s,MS4.9
K14A Jones Ranch, D 48.99 354 ⇓P **P 01 14 37.1 +0.6**
baz=49
AHID Auburn Hatcher 49.04 356 PFAKE 01 14 50.0 +13
AHID LR LR
comp=Z,2μm,21.0s,MS5.0
K15A Arbon 49.07 355 ⇓P **P 01 14 37.6 +0.5**
baz=49
L09A Wilkinson Ranc 49.09 350 ⇑P **P 01 14 37.4 +0.1**
baz=49
K13A Stover Farm, H 49.19 353 ⇑P **P 01 14 38.0 -0.1**
baz=50
N02C Big Bar 49.22 344 ⇓P **P 01 14 37.7 -0.6**
baz=50
M03C McCloud 49.33 345 ⇓P **P 01 14 38.7 -0.5**
baz=50
L08A Fields 49.38 349 ⇑P **P 01 14 39.1 -0.4**
baz=50
L07A Adell 49.41 348 ⇓P **P 01 14 39.8 +0.1**
baz=50
JCC Jacoby Creek 49.42 343 ⇓P **P 01 14 38.7 -1.1**
baz=50
MOD Modoc 49.50 347 ⇑P **P 01 14 40.0 -0.5**
baz=50
MOD Modoc 49.50 347 *e*P **P 01 14 41.1 +0.6**
comp=Z,17nm,1.0s,mb5.0
MOD LR LR
comp=Z,2μm,20.0s,MS5.0
K11A Parker Ranch, 49.56 352 ⇓P **P 01 14 40.9 0.0**
baz=50
HDIL Hopedale 49.57 18 PFAKE 01 14 50.0 +9.0
HDIL LR LR
comp=Z,541nm,19.0s,MS4.6
J16A Bone 49.58 356 ⇑P **P 01 14 40.9 -0.2**
baz=50
REDW Red Top Meadow 49.62 357 *e*P **P 01 14 45.0 +3.7**
comp=Z,18nm,1.3s,mb4.9
M02C Callahan 49.63 345 ⇓P **P 01 14 40.5 -1.0**
baz=50
RRI2 Red Ridge 49.63 356 *e*P **P 01 14 42.0 +0.6**
comp=Z,26nm,1.3s,mb5.1
WVOR Wild Horse Val 49.67 349 *e*P **P 01 14 42.5 +0.8**
WVOR pmax pmax
comp=Z,55nm,2.0s,mb5.2
WVOR MLR MLR
comp=Z,946nm,21.0s,MS4.8
WVOR Wild Horse Val 49.67 349 *e*P **P 01 14 42.5 +0.8**
comp=Z,55nm,2.0s,mb5.2
WVOR LR LR
comp=Z,946nm,21.0s,MS4.8
K10A MacKenzie Ranc 49.70 351 ⇑P **P 01 14 41.8 -0.1**
baz=50
M04C Maddoel 49.74 346 ⇑P **P 01 14 40.8 -1.5**
baz=50
TPAW Teton Pass 49.75 357 *e*P **P 01 14 41.7 -0.6**
comp=Z,7.3nm,1.0s,mb4.7
SCIA State Center 49.76 14 PFAKE 01 14 50.0 +7.6
SCIA LR LR
comp=Z,510nm,21.0s,MS4.5
K09A Rome 49.76 350 ⇓P **P 01 14 41.3 -1.2**
baz=50,SNR=8.4
J14A Carey 49.80 354 ⇓P **P 01 14 41.5 -1.2**
baz=50
CNNC Cliffs of the 49.83 32 PFAKE 01 14 50.0 +6.9
CNNC LR LR
comp=Z,2μm,20.0s,MS5.1
LOHW Long Hollow 49.85 357 *e*P **P 01 14 43.0 -0.1**
comp=Z,17nm,1.3s,mb4.9
J12A Stokes Ranch, 49.91 353 ⇑P **P 01 14 43.4 -0.1**
baz=50
YBH Yreka Blue Hor 49.91 345 P **P 01 14 42.7 -0.9**
comp=Z,4.9nm,0.8s,mb4.6,baz=90,slow=5.3,SNR=8.5
YBH Yreka Blue Hor 49.91 345 ⇓P **P 01 14 42.7 -0.9**
baz=50
YBH Yreka Blue Hor 49.91 345 P **P 01 14 42.7 -0.9**
YBH LR LR
comp=Z,2μm,20.0s,MS5.1
K08A Mann Creek Ran 49.93 349 ⇓P **P 01 14 43.2 -0.5**
baz=50
J13A Cove Ranch, Pi 49.94 353 ⇓P **P 01 14 43.8 0.0**
baz=50
ELN Proectdale 49.99 28 *e*P **P 01 14 44.9 +0.6**
MOOW Moose Ponds 50.00 357 *e*P **P 01 14 44.5 +0.4**
comp=Z,23nm,1.5s,mb5.0
K07A Rock Creek Ran 50.04 349 ⇓P **P 01 14 43.9 -0.6**
baz=50
BLA Blacksburg 50.13 28 PFAKE 01 15 00.0 +15
BLA LR LR
comp=Z,890nm,20.0s,MS4.8
L04A Klamath Falls 50.13 346 ⇑P **P 01 14 44.4 -0.7**
baz=50
HLID Hailey 50.13 353 ⇑P **P 01 14 45.3 +0.1**
baz=50
HLID Hailey 50.13 353 *e*P **P 01 14 46.4 +1.3**
comp=Z,7.9nm,1.0s,mb4.7
HLID LR LR
comp=Z,2μm,19.0s,MS5.0
IMW Indian Meadow 50.16 357 *e*P **P 01 14 43.5 -1.9**
comp=Z,18nm,1.2s,mb5.0
I17A Pilgram Creek 50.16 357 ⇑P **P 01 14 45.3 -0.1**
baz=50
MFID Camas Ranch 50.16 352 ⇓P **P 01 14 45.3 -0.2**
baz=50,SNR=11
I16A Newdale 50.17 356 ⇓P **P 01 14 46.0 +0.5**
baz=50
I14A Mackay 50.39 354 ⇑P **P 01 14 46.6 -0.5**
baz=51
J09A Fry Pan Ranch, 50.40 350 ⇓P **P 01 14 46.6 -0.7**
baz=51
K05A Sumner Lake 50.42 347 ⇑P **P 01 14 46.8 -0.6**
baz=51
I13A Wildhorse Cree 50.44 354 ⇓P **P 01 14 47.4 -0.2**
baz=51
I12A Atlanta 50.45 353 ⇑P **P 01 14 47.4 -0.2**
baz=51,SNR=6.7
L02A Cave Junction 50.55 344 ⇓P **P 01 14 47.3 -1.1**
baz=51
H17A Grant Village 50.63 357 ⇓P **P 01 14 49.0 0.0**
baz=51
I11A Placerville 50.67 352 ⇓P **P 01 14 48.8 -0.5**
baz=51
J07A Hines 50.71 349 ⇓P **P 01 14 48.3 -1.3**
baz=51
J06A Christmas Vall 50.76 348 ⇑P **P 01 14 49.2 -0.7**
baz=51
LKWY Lake 50.79 357 PFAKE 01 15 00.0 +10
LKWY LR LR
comp=Z,1μm,22.0s,MS4.8
HUMO Hull Mountain 50.80 345 PFAKE 01 15 00.0 +10
HUMO LR LR
comp=Z,3μm,21.0s,MS5.3
ECSD EROS,Sioux Fal 50.82 10 *e*P **P 01 14 49.7 -0.7**
comp=Z,36nm,1.6s,mb5.0
ECSD LR LR
comp=Z,1μm,21.0s,MS4.9
YMR Madison River 50.93 357 PFAKE 01 15 00.0 +8.8
YMR LR LR
comp=Z,3μm,20.0s,MS5.3
H16A Russell Place, 50.98 356 ⇓P **P 01 14 51.4 -0.2**
baz=51
H15A Lima 51.00 355 ⇓P **P 01 14 51.2 -0.5**
baz=51
H14A Leadore 51.06 354 ⇓P **P 01 14 51.5 -0.7**
baz=51
H13A Challis 51.10 354 ⇓P **P 01 14 52.0 -0.6**
baz=51
QLMT Earthquake Lak 51.12 356 *e*P **P 01 14 53.4 +0.8**
H12A Diamond D Ranc 51.16 353 ⇑P **P 01 14 52.3 -0.6**
baz=52
MCMT McKenzie Canyo 51.22 355 *e*P **P 01 14 52.9 -0.5**
BBGH Gun Hill 51.25 68 PFAKE 01 15 10.0 +16
BBGH LR LR
comp=Z,1μm,21.0s,MS4.9
RLMT Red Lodge 51.30 358 *e*P **P 01 14 53.0 -1.0**
I07A Izee 51.43 349 ⇑P **P 01 14 54.4 -0.6**
baz=52
I06A Prineville 51.44 348 ⇓P **P 01 14 54.0 -1.1**
baz=52
JFWS Jewell Farm 51.46 16 *e*P **P 01 14 55.2 -0.1**
JFWS pmax pmax
comp=Z,29nm,1.1s,mb5.1
JFWS MLR MLR
comp=Z,830nm,20.0s,MS4.8
JFWS Jewell Farm 51.46 16 *e*P **P 01 14 55.2 -0.1**
comp=Z,30nm,1.1s,mb5.1
JFWS LR LR
comp=Z,830nm,20.0s,MS4.8
ACSO Alum Creek Sta 51.52 24 PFAKE 01 15 10.0 +14
ACSO LR LR
comp=Z,597nm,20.0s,MS4.6
G16A Moss Hill, Enn 51.54 356 ⇓P **P 01 14 55.8 0.0**
baz=52
G13A Cobalt 51.62 354 ⇑P **P 01 14 55.8 -0.5**
baz=52
H08A Prairie City 51.69 350 ⇓P **P 01 14 56.5 -0.4**
baz=52
DLMT Dillon 51.73 355 *e*P **P 01 15 02.1 +4.9**
comp=Z,23nm,1.5s,mb4.9
TRQA Tornquist 51.73 134 PFAKE 01 15 10.0 +13
TRQA LR LR
comp=Z,3μm,21.0s,MS5.3
BMO Blue Mountains 51.79 351 PFAKE 01 15 10.0 +12
BMO LR LR
comp=Z,1μm,21.0s,MS5.0
H07A Lands Inn, Kim 51.93 349 ⇓P **P 01 14 57.8 -0.9**
baz=52
GCMT Greycliff 51.99 358 *e*P **P 01 14 57.4 -1.7**
F18A Big Timber 52.10 358 ⇑P **P 01 14 59.2 -0.8**
baz=52
LRM Limekiln Ridge 52.18 355 *e*P **P 01 15 04.4 +3.8**
G10A Bishop Farm, J 52.19 351 ⇑P **P 01 14 59.4 -1.3**
baz=52
F15A Butte 52.20 355 ⇑P **P 01 15 00.6 -0.1**
baz=52
F14A Wisdom 52.25 355 ⇓P **P 01 15 00.2 -0.8**
baz=53
G09A Cove 52.28 351 ⇑P **P 01 15 00.3 -1.0**
baz=53,SNR=11
MCWV Mont Chateau 52.38 27 *e*P **P 01 15 03.4 +1.2**
comp=Z,37nm,1.3s,mb5.2
MCWV LR LR
comp=Z,1μm,20.0s,MS4.9
CBN Corbin 52.38 30 PFAKE 01 15 10.0 +7.8
CBN LR LR
comp=Z,1μm,20.0s,MS5.0
F12A Elk City 52.39 353 ⇓P **P 01 15 01.1 -1.1**
baz=53
G08A Pilot Rock 52.49 350 ⇓P **P 01 15 02.0 -0.8**
baz=53
F11A Grangeville 52.64 352 ⇓P **P 01 15 03.4 -0.6**
baz=53
COR Corvallis 52.74 346 PFAKE 01 15 20.0 +15
COR LR LR
comp=Z,3μm,20.0s,MS5.3
G06A Carlson Farm, 52.76 348 ⇓P **P 01 15 04.8 -0.1**
baz=53
E18A Harlowton 52.77 358 ⇑P **P 01 15 05.2 +0.3**
baz=53
RAR Rarotonga 52.78 248 LR LR 01 31 54.9
comp=Z,646nm,18.6s,MS4.7,baz=8.3,slow=30
E15A Deer Lodge 52.79 355 ⇑P **P 01 15 05.4 +0.3**
baz=53
E16A East Helena 52.83 356 ⇑P **P 01 15 05.7 +0.4**
baz=53
LAO LASA Array 52.85 1 *e*P **P 01 15 05.1 -0.4**
comp=Z,36nm,1.4s,mb5.1
LAO LR LR
comp=Z,664nm,22.0s,MS4.6
F10A Beach Ranch, E 52.87 351 ⇓P **P 01 15 05.1 -0.6**
baz=53
F08A Pendleton 52.95 350 ⇓P **P 01 15 05.6 -0.7**
baz=53
HRY Holter Researc 53.02 356 *e*P **P 01 15 06.4 -0.3**
HOOD Mount Hood Mea 53.06 347 *e*P **P 01 15 08.0 +0.9**
E12A Beaver Dam Sad 53.08 353 ⇑P **P 01 15 06.7 -0.5**
baz=53
E11A Bogner Ranch, 53.10 352 ⇓P **P 01 15 06.0 -1.4**
baz=53
F06A Goldendale 53.30 348 ⇑P **P 01 15 07.7 -1.1**
baz=54
MSO Missoula 53.31 354 PFAKE 01 15 20.0 +11
MSO LR LR
comp=Z,801nm,19.0s,MS4.8
D16A Dana Ranch, Ca 53.32 356 ⇑P **P 01 15 08.0 -1.0**
baz=54
CHMT Chamberlain Mo 53.33 355 *e*P **P 01 15 08.3 -0.7**
D15A Lincoln 53.40 356 ⇑P **P 01 15 09.2 -0.3**
baz=54
D14A Greenough 53.52 355 ⇑P **P 01 15 10.0 -0.4**
baz=54
SDMD Soldier's Deli 53.58 29 *e*P **P 01 15 13.6 +2.6**
comp=Z,43nm,1.6s,mb5.1
D13A Huson 53.62 354 ⇓P **P 01 15 11.1 -0.1**
baz=54
HAWA Hanford 53.66 350 PFAKE 01 15 20.0 +8.5
HAWA LR LR
comp=Z,2μm,21.0s,MS5.1
D11A Klaveano Farm, 53.80 352 ⇓P **P 01 15 11.2 -1.2**
baz=54
C17A Wharram Farm, 53.87 357 ⇓P **P 01 15 12.2 -0.8**
baz=54
D10A Wagner Farm, O 53.94 352 ⇓P **P 01 15 12.2 -1.3**
baz=54
SSPA Standing Stone 54.05 28 *e*P **P 01 15 13.4 -1.1**
comp=Z,45nm,1.6s,mb5.2
SSPA LR LR
comp=Z,551nm,21.0s,MS4.6
POHA Pohakuloa 54.08 300 PFAKE 01 15 30.0 +15
POHA LR LR
comp=Z,2μm,20.0s,MS5.3
C16A Fuhringer Ranc 54.10 356 ⇑P **P 01 15 13.2 -1.5**
baz=54
D09A Jones Farm, Ri 54.10 351 ⇑P **P 01 15 13.7 -1.0**
baz=54
C15A Salmond Ranch, 54.13 356 ⇑P **P 01 15 15.6 +0.7**
baz=54,SNR=5.5
D08A Wollman Farm, 54.20 350 ⇓P **P 01 15 15.3 -0.1**
baz=54
C13A Hot Springs 54.21 354 ⇑P **P 01 15 15.1 -0.4**
baz=54
EGMT Eagleton 54.22 358 *e*P **P 01 15 17.0 +1.5**
EGMT LR LR
comp=Z,2μm,19.0s,MS5.1
E05A Randle 54.26 348 ⇓P **P 01 15 15.7 -0.2**
baz=55
MVL Millersville 54.28 29 *e*P **P 01 15 16.0 -0.2**
comp=Z,18nm,1.2s,mb4.9
ERPA Erie 54.33 25 PFAKE 01 15 30.0 +14
ERPA LR LR
comp=Z,617nm,21.0s,MS4.7
BSMT Bassoo Peak 54.41 354 *e*P **P 01 15 17.1 +0.2**
C11A Tepee Creek (N 54.57 353 ⇓P **P 01 15 18.4 +0.4**
baz=55
B15A Bradely Ranch, 54.66 356 ⇑P **P 01 15 19.3 +0.5**
baz=55
DGMT Dagmar 54.69 3 *e*P **P 01 15 20.6 +1.6**
comp=Z,35nm,1.1s,mb5.3
DGMT LR LR
comp=Z,1μm,20.0s,MS5.0
COWI Conover 54.72 15 *e*P **P 01 15 20.3 +1.2**
comp=Z,18nm,0.9s,mb5.1
COWI LR LR
comp=Z,543nm,19.0s,MS4.6
B14A Marquette Ranc 54.77 355 ⇓P **P 01 15 19.8 +0.3**
baz=55,SNR=8.2
C09A Chrisman Ranch 54.81 351 ⇑P **P 01 15 19.7 -0.2**
baz=55
B13A Whitefish 54.89 354 ⇑P **P 01 15 20.7 +0.2**
baz=55
D05A Enumclaw 54.90 348 ⇑P **P 01 15 20.7 +0.1**
baz=55
GLMI Grayling 54.91 20 PFAKE 01 15 30.0 +9.4
GLMI LR LR
comp=Z,391nm,20.0s,MS4.5
ETW Entiat 54.98 349 *e*P **P 01 15 20.6 -0.4**
C07A Waterville 55.01 350 ⇓P **P 01 15 20.7 -0.5**
baz=55
NEW Newport 55.10 352 *e*P **P 01 15 21.6 -0.3**
NEW pmax pmax
comp=Z,29nm,1.5s
NEW MLR MLR

comp=Z,1μm,20.0s
NEW Newport 55.10 352 *e*P P **01 15 21.6 -0.4**
comp=Z,29nm,1.5s,mb5.1
NEW LR LR
comp=Z,1μm,20.0s,MS4.9
A16A West Butte Ran 55.23 357 ⇓P P **01 15 21.7 -1.1**
baz=56,SNR=9.7
A15A Johnson Ranch, 55.34 356 ⇑P P **01 15 22.0 -1.6**
baz=56,SNR=6.6
AGMN Agassiz Refuge 55.38 9 *e*P P **01 15 22.0 -2.0**
comp=Z,29nm,1.3s,mb5.2
AGMN LR LR
comp=Z,1μm,21.0s,MS4.9
A14A Double T Ranch 55.39 355 ⇓P P **01 15 23.9 0.0**
baz=56
B09A Rice 55.40 351 ⇑P P **01 15 23.5 -0.6**
baz=56
NLWA Neilton Lookou 55.51 346 ⇓P P **01 15 24.1 -0.9**
baz=56
NLWA Neilton Lookou 55.51 346 PFAKE 01 15 40.0 +15
NLWA LR LR
comp=Z,2μm,21.0s,MS5.2
JCW Jim Creek 55.85 348 *e*P P **01 15 25.6 -1.7**
EYMN Ely 55.87 13 PFAKE 01 15 40.0 +13
EYMN LR LR
comp=Z,1μm,19.0s,MS5.1
BBSR BB Station 55.95 44 PFAKE 01 15 40.0 +12
BBSR LR LR
comp=Z,654nm,20.0s,MS4.7
BINY Binghamton 56.16 28 *e*P P **01 15 27.8 -1.9**
BINY LR LR
comp=Z,938nm,19.0s,MS4.9
ULM Lac du Bonnet 57.27 9 P P **01 15 35.7 -1.8**
comp=Z,13nm,1.1s,mb4.9,baz=215,slow=7.8,SNR=6.2
ULM LR LR 01 38 11.5
comp=Z,925nm,18.6s,MS4.9,baz=207,slow=34
ULM Lac du Bonnet 57.27 9 P P **01 15 35.7 -1.8**
ULM LR LR 01 38 11.4
ACCN Adirondack Com 58.16 28 *e*P P **01 15 45.7 +1.9**
NCB Newcomb 58.35 28 PFAKE 01 16 00.0 +15
NCB LR LR
comp=Z,589nm,19.0s,MS4.7
HRV Adam Dziewonsk 58.53 30 PFAKE 01 16 00.0 +14
HRV LR LR
comp=Z,1μm,21.0s,MS4.9
WES Weston 58.57 31 PFAKE 01 16 00.0 +13
WES LR LR
comp=Z,2μm,20.0s,MS5.1
LONY Lake Ozonia 58.69 27 PFAKE 01 16 00.0 +13
LONY LR LR
comp=Z,798nm,19.0s,MS4.9
BDFB Brasilia 58.77 104 P P **01 15 49.3 +0.6**
comp=Z,2.8nm,0.8s,mb4.4,baz=246,slow=13,SNR=5.6
BDFB LR LR 01 38 34.5
comp=Z,1μm,19.7s,MS5.0,baz=44,slow=33
FRNY Flat Rock 59.31 27 *e*P P **01 15 50.0 -1.7**
EDM Edmonton 59.60 356 *e*P P **01 15 53.2 -0.4**
LBNH Lisbon 59.63 29 PFAKE 01 16 10.0 +16
LBNH LR LR
comp=Z,1μm,20.0s,MS5.1
EFI East Falkland 60.63 147 PFAKE 01 16 10.0 +9.2
EFI LR LR
comp=Z,4μm,21.0s,MS5.5
FFC Flin Flon 61.05 4 *e*P P **01 16 02.5 -1.0**
FFC pmax pmax
comp=Z,65nm,1.8s,mb5.5
FFC MLR MLR
comp=Z,1μm,19.0s,MS5.0
FFC Flin Flon 61.05 4 *e*P P **01 16 02.5 -1.1**
comp=Z,65nm,1.8s,mb5.5
FFC LR LR
comp=Z,1μm,19.0s,MS5.0
PKME Peaks-Kenny Pk 61.66 30 PFAKE 01 16 20.0 +12
PKME LR LR
comp=Z,1μm,22.0s,MS5.1
PMSA Palmer Station 65.80 161 PFAKE 01 16 50.0 +15
PMSA LR LR
comp=Z,2μm,20.0s,MS5.4
FCC Fort Churchill 65.80 8 *e*P P **01 16 34.0 -0.9**
FCC pmax pmax
comp=Z,47nm,1.1s,mb5.4
FCC Fort Churchill 65.80 8 *e*P P **01 16 34.0 -0.9**
comp=Z,47nm,1.1s,mb5.4
YKA Yellowknife Ar 68.91 356 P P **01 16 52.6 -1.9**
comp=Z,6.6nm,0.8s,mb4.6,baz=167,slow=6.3,SNR=12
YKA LR LR 01 45 05.7
comp=Z,683nm,18.2s,MS4.9,baz=150,slow=34
RCBR Riachuelo 70.96 94 PFAKE 01 17 20.0 +12
RCBR LR LR
comp=Z,760nm,20.0s,MS5.0
HYT Haines Junctio 71.06 345 *e*P P **01 17 09.1 +1.4**
FUNA Funafuti 72.80 263 PFAKE 01 17 30.0 +11
FUNA LR LR
comp=Z,3μm,20.0s,MS5.5
KDAK Kodiak Island 73.66 337 PFAKE 01 17 30.0 +6.6
KDAK LR LR
comp=Z,723nm,20.0s,MS5.0
DAWY Dawson 74.27 346 *e*P P **01 17 27.2 +0.3**
URZ Urewera 74.75 232 LR LR 01 42 17.5
comp=Z,765nm,21.8s,MS5.0,baz=136,slow=29
PMR Palmer 75.10 341 PFAKE 01 17 40.0 +8.3
PMR LR LR
comp=Z,1μm,21.0s,MS5.2
MCK McKinley 76.61 342 *e*P P **01 17 39.5 -0.8**
MCK pmax pmax
comp=Z,27nm,1.3s,mb5.0
MCK McKinley 76.61 342 *e*P P **01 17 39.5 -0.8**
comp=Z,27nm,1.3s,mb5.0
SNZO South Karori 76.78 229 PFAKE 01 17 50.0 +8.2
SNZO LR LR
comp=Z,1μm,20.0s,MS5.2
TRF Thorofare Moun 76.82 342 *e*P P **01 17 40.7 -0.7**
comp=Z,29nm,1.3s,mb5.0
PPLA Purkeypile 77.03 341 *e*P P **01 17 43.0 +0.3**
comp=Z,91nm,1.6s,mb5.5
KTH Kantishna Hill 77.09 342 *e*P P **01 17 42.0 -1.0**
comp=Z,49nm,1.3s,mb5.3
COLA College 77.14 343 *e*P P **01 17 42.5 -0.7**
COLA pmax pmax
comp=Z,17nm,1.4s,mb4.8
COLA MLR MLR
comp=Z,841nm,22.0s,MS5.0
COLA College 77.14 343 *e*P P **01 17 42.5 -0.8**
comp=Z,17nm,1.4s,mb4.8
COLA LR LR
comp=Z,841nm,22.0s,MS5.0
COLD Coldfoot 79.53 344 *e*P P **01 17 56.7 +0.2**
comp=Z,25nm,1.4s,mb5.0
ADK Adak 82.51 324 PFAKE 01 18 20.0 +7.4
ADK LR LR
comp=Z,1μm,20.0s,MS5.2
SBA Scott Base 82.94 192 PFAKE 01 18 30.0 +16
SBA LR LR
comp=Z,283nm,20.0s,MS4.6
SFJD Kangerlussuaq 83.52 19 PFAKE 01 18 30.0 +12
SFJD LR LR
comp=Z,712nm,19.0s,MS5.1
VNA3 Neumayer Olymp 86.46 161 *e*P P **01 18 34.4 +2.0**
VNA3 *e* 01 18 39.9
VNA3 *e* 01 18 46.6
VNA3 *e* 01 18 51.9
VNA2 Neumayer--Watz 87.25 161 *e*P P **01 18 39.5 +3.3**
VNA2 *e* 01 18 44.8
VNA2 *e* 01 18 50.4
VNA2 *e* 01 18 54.8
CMLA Cha da Macela 87.42 52 *e*LR LR 01 46 56.2
SMY Shemya 88.17 323 PFAKE 01 18 50.0 +9.1
SMY LR LR
comp=Z,1μm,21.0s,MS5.3
HNR Honiara 91.65 260 LR LR 01 53 15.1
comp=Z,202nm,18.1s,MS4.6,baz=211,slow=31
HNR Honiara 91.65 260 PFAKE 01 19 10.0 +12
HNR LR LR
comp=Z,342nm,20.0s,MS4.8
BILL Bilibino 94.53 338 PFAKE 01 19 20.0 +10
BILL LR LR
comp=Z,2μm,20.0s,MS5.5
PET Petropavlovsk 97.48 323 PFAKE 01 19 30.0 +6.1
PET LR LR
comp=Z,517nm,21.0s,MS5.0
MTE Manteigas 101.55 50 PFAKE 01 19 50.0 +7.9
MTE LR LR
comp=Z,475nm,20.0s,MS5.0
KBS Kingsbay 101.67 10 PFAKE 01 19 50.0 +7.4
KBS LR LR
comp=Z,939nm,20.0s,MS5.3

RTC Rabat Centre 102.21 57 PFAKE 01 20 00.0 +15
RTC LR LR
comp=Z,545nm,22.0s,MS5.0
CASY Casey 102.50 195 PFAKE 01 20 00.0 +14
CASY LR LR
comp=Z,434nm,19.0s,MS5.0
SFS San Fernando 102.70 54 PFAKE 01 20 00.0 +13
SFS LR LR
comp=Z,758nm,22.0s,MS5.2
DBIC Dimbokro 103.05 85 PFAKE 01 20 00.0 +11
DBIC LR LR
comp=Z,461nm,20.0s,MS5.0
CTAO Charters Tower 103.09 248 PFAKE 01 20 00.0 +11
CTAO LR LR
comp=Z,314nm,21.0s,MS4.8
ESK Eskdalemuir 103.25 35 PFAKE 01 20 00.0 +10
ESK LR LR
comp=Z,365nm,22.0s,MS4.9
PAB San Pablo 104.04 51 PFAKE 01 20 00.0 +6.9
PAB LR LR
comp=Z,706nm,22.0s,MS5.2
PMG Port Moresby 104.15 259 PFAKE 01 20 10.0 +16
PMG LR LR
comp=Z,427nm,22.0s,MS4.9
TIXI Tiksi 106.26 344 PFAKE 01 24 30.0 +16
TIXI LR LR
comp=Z,505nm,19.0s,MS5.1
YSS Yuzh-Sakhalins 108.21 317 PFAKE 01 24 30.0 +12
YSS LR LR
comp=Z,208nm,21.0s,MS4.7
ERM Erimo 108.74 312 PFAKE 01 24 30.0 +10
ERM LR LR
comp=Z,1μm,20.0s,MS5.5
GUMO Guam 108.75 282 PFAKE 01 24 30.0 +10
GUMO LR LR
comp=Z,300nm,22.0s,MS4.8
WLF Walferdange 109.95 39 PFAKE 01 24 30.0 +8.4
WLF LR LR
comp=Z,567nm,22.0s,MS5.1
KEV Kevo 110.20 15 PFAKE 01 24 30.0 +8.5
KEV LR LR
comp=Z,591nm,22.0s,MS5.1
YAK Yakutsk 110.65 335 PFAKE 01 24 30.0 +7.5
YAK LR LR
comp=Z,764nm,22.0s,MS5.2
BNI Bardonecchia 111.38 44 PFAKE 01 24 40.0 +16
BNI LR LR
comp=Z,454nm,20.0s,MS5.0
BFO Black Forest 111.68 40 PFAKE 01 24 40.0 +15
BFO LR LR
comp=Z,432nm,22.0s,MS5.0
TUE Stuetta 112.84 42 PFAKE 01 24 40.0 +13
TUE LR LR
comp=Z,417nm,19.0s,MS5.0
MAJO Matsushiro 113.40 307 PFAKE 01 24 40.0 +11
MAJO LR LR
comp=Z,342nm,22.0s,MS4.9
LVZ Lovozero 113.49 15 PFAKE 01 24 40.0 +12
LVZ LR LR
comp=Z,424nm,19.0s,MS5.1
WRAB Tennant Creek 113.97 245 PFAKE 01 24 40.0 +10
WRAB LR LR
comp=Z,466nm,21.0s,MS5.1
VLC Villacollemand 114.16 44 PFAKE 01 24 40.0 +10
VLC LR LR
comp=Z,249nm,20.0s,MS4.8
VSL Villasalto 114.55 49 PFAKE 01 24 40.0 +9.4
VSL LR LR
comp=Z,366nm,20.0s,MS5.0
TRI Trieste 116.00 42 PFAKE 01 24 40.0 +6.8
TRI LR LR
comp=Z,250nm,20.0s,MS4.8
SUR Sutherland 117.41 131 PFAKE 01 24 50.0 +14
SUR LR LR
comp=Z,1μm,20.0s,MS5.5
MDJ Mudanjiang 117.70 317 PKP PKPdf 01 24 34.4 -2.1
MDJ Mudanjiang 117.70 317 PFAKE 01 24 50.0 +13
MDJ LR LR
comp=Z,321nm,21.0s,MS4.9
PSZ Piszkesteto 119.08 38 PFAKE 01 24 50.0 +11
PSZ LR LR
comp=Z,370nm,22.0s,MS5.0
CUC Castrocucco 119.22 47 PFAKE 01 24 50.0 +10
CUC LR LR
comp=Z,437nm,19.0s,MS5.1
KWP Kalwaria 119.97 35 PFAKE 01 24 50.0 +9.2
KWP LR LR
comp=Z,282nm,20.0s,MS4.9
TSUM Tsumeb 120.08 116 PFAKE 01 24 50.0 +8.1
TSUM LR LR
comp=Z,1μm,20.0s,MS5.5
CN2 Changchun 120.78 318 *e*PKP PKPdf 01 24 44.9 +2.4
CN2 PP PP 01 26 16.3 +6.0
CN2 SS SS 01 42 43.8 +2.0
CN2 PP PP
comp=Z,200nm,5.0s
CN2 LR LR
comp=N,200nm,19.0s,MS4.9
CN2 LR LR
comp=E,200nm,19.0s,MS4.9
CN2 LR LR
comp=Z,240nm,17.0s,MS4.9
TIR Tirane 121.67 45 PFAKE 01 25 00.0 +16
TIR LR LR
comp=Z,237nm,19.0s,MS4.9
HIA Hailar 121.81 326 PFAKE 01 25 00.0 +16
HIA LR LR
comp=Z,474nm,19.0s,MS5.2
INCN Inchon 122.16 311 PFAKE 01 25 00.0 +15
INCN LR LR
comp=Z,614nm,20.0s,MS5.2
BOSA Boshof 122.58 130 PFAKE 01 25 00.0 +14
BOSA LR LR
comp=Z,590nm,19.0s,MS5.3
OBN Obninsk 123.49 24 PFAKE 01 25 00.0 +13
OBN LR LR
comp=Z,452nm,22.0s,MS5.1
LBTB Lobatse 124.58 126 PFAKE 01 25 00.0 +10
LBTB LR LR
comp=Z,1μm,19.0s,MS5.5
MBWA Marble Bar 126.33 238 PFAKE 01 25 00.0 +6.2
MBWA LR LR
comp=Z,530nm,21.0s,MS5.2
TLY Talaya 128.11 336 PFAKE 01 25 10.0 +14
TLY LR LR
comp=Z,579nm,20.0s,MS5.3
SSE Sheshan 128.44 305 PKP PKPdf 01 24 57.1 -0.5
SSE PP PP 01 27 05.9 +3.7
SSE SS SS 01 44 19.4 0.0
SSE PP PP
comp=Z,55nm,6.3s
SSE LR LR
comp=N,72nm,22.0s,MS4.8
SSE LR LR
comp=E,218nm,22.0s,MS4.8
SSE LR LR
comp=Z,257nm,19.0s,MS4.9
BJI Beijing 128.63 317 PKP PKPdf 01 24 56.0 -1.7
BJI LR LR
comp=N,234nm,25.7s,MS5.0
BJI LR LR
comp=E,346nm,23.3s,MS5.0
BJI LR LR
comp=Z,699nm,32.5s
BJT Baijiatuan 128.65 317 PFAKE 01 25 10.0 +12
BJT LR LR
comp=Z,647nm,21.0s,MS5.3
ARU Arti 128.86 10 PFAKE 01 25 10.0 +12
ARU LR LR
comp=Z,497nm,21.0s,MS5.2
SONM Songino Array 129.69 331 PKP PKPdf 01 24 58.3 -1.1
comp=Z,0.7nm,0.7s,baz=90,slow=1.4,SNR=2.8
NJ2 Nanjing 130.00 307 *e*PKP PKPdf 01 24 54.0 -6.5
NJ2 XPKP 01 25 08.4
NJ2 PP PP
comp=Z,1μm,10.0s
NJ2 LR LR
comp=N,550nm,21.2s,MS5.3
NJ2 LR LR
comp=E,280nm,22.2s,MS5.3
LSZ Lusaka 130.94 116 PFAKE 01 25 10.0 +7.3
LSZ LR LR
comp=Z,983nm,20.0s,MS5.5
ANTO Ankara 131.11 41 PFAKE 01 25 10.0 +7.6
ANTO LR LR
comp=Z,181nm,21.0s,MS4.8
HHC Hu-ho-hao-te 131.22 321 *e*PKP PKPdf 01 25 02.4 -0.2
HHC PP PP 01 27 24.3 +4.6
HHC PKS 01 28 38.1
HHC SKS SKSdf 01 32 13.3 -1.7
HHC SKKS SKKSac 01 34 15.1 -2.5
HHC SS SS 01 44 53.9 +1.5
HHC PP PP
comp=Z,50nm,7.8s
HHC LR LR
comp=N,218nm,20.8s,MS4.9
HHC LR LR
comp=E,156nm,21.6s,MS4.9
HHC LR LR
comp=Z,171nm,22.1s,MS4.7
KAPI Kappang 131.66 258 PFAKE 01 25 20.0 +16
KAPI LR LR
comp=Z,265nm,20.0s,MS4.9
BRVK Borovoye 133.43 2 PFAKE 01 25 20.0 +14
BRVK LR LR
comp=Z,725nm,22.0s,MS5.3
CSS Prodhromos 133.97 46 PFAKE 01 25 20.0 +12
CSS LR LR
comp=Z,213nm,21.0s,MS4.8
KIV Kislovodsk 134.28 30 PFAKE 01 25 20.0 +12
KIV LR LR
comp=Z,248nm,21.0s,MS4.9
KURK Kurchatov 135.54 355 PFAKE 01 25 20.0 +10
KURK LR LR
comp=Z,436nm,22.0s,MS5.1
KKM Kota Kinabalu 136.73 272 PFAKE 01 25 30.0 +16
KKM LR LR
comp=Z,147nm,20.0s,MS4.7
GNI Garni 138.07 33 PFAKE 01 25 30.0 +15
GNI LR LR
comp=Z,246nm,21.0s,MS4.9
MKAR Makanchi Array 138.90 350 PKP PKPdf 01 25 16.6 -0.1
comp=Z,2.4nm,1.1s,baz=29,slow=2.8,SNR=4.8
LZH Lanzhou 138.91 320 *e*PKP PKPdf 01 25 12.1 -5.0
LZH XPKP 01 25 18.9
LZH PP PP 01 28 08.0 -0.4
LZH PP PP
comp=Z,120nm,4.7s
LZH LR LR
comp=N,899nm,19.8s
LZH LR LR
comp=Z,950nm,20.6s,MS5.5
GYA Guiyang 141.98 306 PKP PKPdf 01 25 20.8 -2.1
GYA PKS 01 28 55.3
GYA SKS SKSdf 01 32 28.6 -5.4
GYA SKKS SKKSac 01 35 18.3 -4.3
GYA SS SS 01 47 01.8 -0.1
GYA PP PP
comp=Z,120nm,7.8s
GYA LR LR
comp=N,320nm,24.4s,MS5.1
GYA LR LR
comp=E,290nm,25.9s,MS5.1
GYA LR LR
comp=Z,240nm,24.7s,MS4.9
TKM2 Tokmak 2 143.53 356 *e*PKIKP PKPdf 01 25 23.2 -1.9
TKM2 MLR MLR
comp=Z,322nm,19.0s,MS5.1
KMBO Kilima Mbogo 143.85 101 PKP PKPdf 01 25 27.7 +1.1
comp=Z,13nm,1.2s,baz=252,slow=3.9,SNR=17
KMBO Kilima Mbogo 143.85 101 *e*PKPdf PKPdf 01 25 25.0 -1.6
KMBO LR LR
comp=Z,500nm,21.0s,MS5.3
EKS2 Erkin-Say 143.86 359 *e*PKPdf PKPdf 01 25 25.5 -0.2
EKS2 LR LR
comp=Z,415nm,20.0s,MS5.2
UCH Uchtor 144.27 358 *e*PKPdf PKPdf 01 25 25.1 -1.4
UCH LR LR
comp=Z,550nm,21.0s,MS5.3
AML Almayashu 144.40 359 *e*PKPdf PKPdf 01 25 26.9 +0.2
AML LR LR
comp=Z,437nm,19.0s,MS5.2
ABPO Ambohimpanom 144.41 136 PFAKE 01 25 40.0 +13
ABPO LR LR
comp=Z,403nm,20.0s,MS5.2
KMI Kunming 145.74 306 PKP PKPdf 01 25 26.8 -2.7
KMI PKP2 PKPab 01 25 30.5 +0.3
KMI XPKP 01 25 31.9
KMI PP PP 01 28 51.5 +1.1
KMI PKS 01 29 01.8
KMI PP PP
comp=Z,98nm,8.5s
KMI LR LR
comp=N,259nm,14.3s
KMI LR LR
comp=E,280nm,20.6s
COCO West Island 149.71 232 PFAKE 01 25 50.0 +14
COCO LR LR
comp=Z,245nm,20.0s,MS5.0
LSA Lhasa 151.01 325 PFAKE 01 25 50.0 +12
LSA LR LR
comp=Z,657nm,21.0s,MS5.4
CHTO Chiang Mai 151.60 298 *e*PKIKP PKPbc 01 25 44.7 -0.7
CHTO MLR MLR
comp=Z,234nm,20.0s,MS5.0
CMAR Chiang Mai Arr 151.74 298 PKPbc PKPbc 01 25 43.8 -1.9
comp=Z,1.6nm,0.5s,baz=36,slow=0.6,SNR=7.9
CMAR PKPab PKPab 01 25 50.9 -3.6
comp=Z,3.7nm,0.5s,baz=53,slow=0.9,SNR=13
MSEY Mahe Island 159.61 122 PFAKE 01 26 00.0 +10
MSEY LR LR
comp=Z,612nm,19.0s,MS5.5

*ISCJB **17** 01:15:41.7±0.3,3857N±002×2166E±003,h10km,Error ellipse: s-maj=3.4km s-min=2.8km az=20.8*
*ATH **17** 01:15:41.0,3855N×2166E,h14km±2km,MD3.5/11*
*THE **17** 01:15:41.5,3861N×2165E,h2km±1km,ML3.1/5,Error ellipse: s-maj=1.9km s-min=0.9km az=303.0*
*NEIC **17** 01:15:41.0,3855N×2166E,h14km,MD3.5(ATH),After ATH.*
*CSEM **17** 01:15:41.7±0.1,3857N×2163E,h2km,MD3.5,Error ellipse: s-maj=3.6km s-min=2.5km az=96.0*
ISC 17 01:15:41.4±0.5,3857N±002×2166E±003,h1km±4km,n39,σ0s92/66,2D,Greece

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EVR	**Evrytania**	**0.36**	**19**	*i* Pb	**Pg**	**01 15 48.5**	**+0.1**
EVR				*e*Sb	**Sg**	**01 15 54.5**	**+1.4**
EVR	**Evrytania**	**0.36**	**19**	⇓*i*PB	**Pg**	**01 15 48.5**	**+0.1**
EVR				*e*SB	**Sg**	**01 15 54.5**	**+1.4**
RLS	**Riolos of Patr**	**0.54**	**196**	*e*Pb	**Pg**	**01 15 51.1**	**-0.5**
RLS				*e*Sb	**Sg**	**01 15 58.6**	**0.0**
RLS	**Riolos of Patr**	**0.54**	**196**	*e*PB	**Pg**	**01 15 51.1**	**-0.5**
RLS				*e*SB	**Sg**	**01 15 58.7**	**0.0**
AGG	**Agios Georgios**	**0.69**	**49**	P	**Pg**	**01 15 54.7**	**0.0**
AGG				S	**Sg**	**01 16 04.4**	**+0.8**
LKD	**Levkas**	**0.80**	**280**	P	**Pg**	**01 15 56.3**	**-0.4**
LKD				S	**Sg**	**01 16 08.8**	**+1.7**
KFL	**Anninata**	**0.82**	**236**	P	**Pg**	**01 15 56.5**	**-0.7**
VLS	**Valsamata**	**0.93**	**245**	P	**Pg**	**01 15 57.7**	**-1.4**
VLS				S	**Sg**	**01 16 12.2**	**+1.1**
VLS	**Valsamata**	**0.93**	**245**	⇓*i*Pg	**Pg**	**01 15 57.9**	**-1.2**
VLS				*e*Sb	**Sb**	**01 16 12.0**	**-1.0**
VLS	**Valsamata**	**0.93**	**245**	⇓*i*PG	**Pg**	**01 15 57.9**	**-1.2**
VLS				*e*SB	**Sb**	**01 16 12.0**	**-1.0**
THL	**Klokotos Trika**	**1.03**	**16**	P	**Pg**	**01 16 00.5**	**-0.6**
THL				S	**Sg**	**01 16 14.5**	**0.0**
THL	**Klokotos Trika**	**1.03**	**16**	*e*Pg	**Pg**	**01 16 00.6**	**-0.5**
THL				S	**Sg**	**01 16 14.5**	**0.0**
THL				*e*Sb	**Sb**	**01 16 15.5**	**-0.5**
THL	**Klokotos Trika**	**1.03**	**16**	*e*PG	**Pg**	**01 16 00.6**	**-0.5**
THL				*e*SB	**Sb**	**01 16 15.5**	**-0.5**
LKR	**Lokris**	**1.05**	**85**	P	**Pg**	**01 16 00.9**	**-0.7**
LKR				S	**Sg**	**01 16 15.8**	**+0.5**
LKR	**Lokris**	**1.05**	**85**	*e*Pg	**Pg**	**01 16 00.6**	**-1.0**
LKR				*e*Sb	**Sb**	**01 16 15.9**	**-0.8**
LKR	**Lokris**	**1.05**	**85**	*e*PG	**Pg**	**01 16 00.6**	**-1.0**
LKR				*e*SB	**Sb**	**01 16 15.9**	**-0.8**
JAN	**Janina**	**1.25**	**330**	*e*Pb	**Pb**	**01 16 05.0**	**-0.8**
JAN				*e*Sb	**Sb**	**01 16 22.3**	**-0.1**
JAN	**Janina**	**1.25**	**330**	*e*PB	**Pb**	**01 16 05.0**	**-0.8**
JAN				*e*SB	**Sb**	**01 16 22.3**	**-0.1**
ITM	**Ithomi**	**1.41**	**171**	*e*Pb	**Pb**	**01 16 07.3**	**-1.1**
ITM				*e*Sb	**Sb**	**01 16 26.3**	**-0.5**
ITM	**Ithomi**	**1.41**	**171**	*e*PB	**Pb**	**01 16 07.3**	**-1.1**
ITM				*e*SB	**Sb**	**01 16 26.3**	**-0.5**

IGT	Igoumenitsa	1.41	313	P	Pn	01 16 07.6	-0.5
IGT				S	Sg	01 16 26.1	-0.5
NEO	Neokhori	1.43	59	*e*Pb	Pb	01 16 07.9	-0.8
NEO	Neokhori	1.43	59	*e*PB	Pb	01 16 07.9	-0.8
DID	Didima	1.64	130	P	Pn	01 16 11.6	+0.3
DID				S	Sn	01 16 33.8	+0.8
LIT	Litokhoron	1.66	23	P	Pn	01 16 11.2	-0.4
LIT				S	Sn	01 16 32.2	-1.3
PYL	PYLOS	1.68	178	P	Pn	01 16 12.5	+0.7
PYL				S	Sn	01 16 35.5	+1.6
KZN	Kozani	1.73	3	*e*Pn	Pn	01 16 13.3	+0.7
KZN	Kozani	1.73	3	*e*PN	Pn	01 16 13.3	+0.7
KEK	Kerkira	1.84	309	*e*Pn	Pn	01 16 14.7	+0.6
KEK	Kerkira	1.84	309	*e*PN	Pn	01 16 14.7	+0.6
GRG	Griva	2.45	13	P	Pn	01 16 22.1	-0.3
GRG				S	Sn	01 16 51.8	-1.2
KRUS	Krusevo	2.81	354	*i* Pn	Pn	01 16 30.7	+3.3
KRUS				*i* Sn	Sn	01 17 06.0	+4.1
KRUS	Krusevo	2.81	354	*i* Pn	Pn	01 16 30.6	+3.2
KRUS				*i* Sn	Sn	01 17 05.9	+4.0
VAY	Valandovo	2.83	14	*i* Pn	Pn	01 16 31.1	+3.3
VAY	Valandovo	2.83	14	*i* Pn	Pn	01 16 31.0	+3.3
STIP	Stip	3.15	7	*i* Pn	Pn	01 16 33.0	+1.1
STIP	Stip	3.15	7	*i* Pn	Pn	01 16 33.0	+1.0
NVR	Nevrokopi	3.25	31	*e*Pn	Pn	01 16 34.3	+0.8
NVR	Nevrokopi	3.25	31	*e*PN	Pn	01 16 34.3	+0.8

IDC **17** *01:16:38.2±1.0, 1742S×17237W, h0km, mb4.2/3, mb1 4.4/4, mb1mx4.0/19, mbtmp4.1/4, ML2.0/1, MS4.2/3, Ms1 4.2/3, ms1mx3.6/23, Error ellipse: s-maj=45.3km s-min=25.5km az=149.0*

NEIC **17** *01:16:42.7±6.1, 1725S×17256W, h26km±40km, mb4.4/1, Error ellipse: s-maj=34.4km s-min=15.6km az=137.0*

ISCJB **17** *01:16:43.9±4.8, 172S±03×1726W±02, h55km±46km, mb4.3/4, MS4.2/3, Error ellipse: s-maj=60.7km s-min=26.7km az=158.6*

SZGRF **17** *01:16:45.3, 1686S×172.17W, h33km, Samoa Islands region*

ISC 17 01:16:45.3±4.5, 172S±03×1726W±02, h51km±44km, n38, σ0s11/8, mb4.3/4, MS4.2/3, 3C, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**3.31**	**13**	Pn	**Pn**	**01 17 34.7**	**0.0**
	8.0nm,0.3s,baz=314,slow=23,SNR=5.9						
AFI				Sn	**Sn**	**01 18 03.0**	**-10**
	36nm,0.3s,baz=210,slow=22,SNR=12						
URZ	**Urewera**	**22.90**	**201**	LR	LR	01 27 56.9	
	comp=Z,140nm,21.9s,MS3.4,baz=192,slow=30						
HNR	**Honiara**	**27.82**	**282**	LR	LR	01 31 55.2	
	comp=Z,346nm,20.8s,MS3.9,baz=312,slow=33						
WRAB	**Tennant Creek**	**50.25**	**258**	*e*P	**P**	**01 25 36.9**	**+0.1**
	3.0nm,0.8s,mb4.4						
WRA	**Warramunga Arr**	**50.26**	**258**	P	**P**	**01 25 36.8**	**-0.1**
	0.7nm,0.5s,mb4.0,baz=94,slow=7.5,SNR=4.8						
ASAR	**Alice Springs**	**50.37**	**253**	P	**P**	**01 25 37.5**	**-0.1**
	4.9nm,0.7s,mb4.7,baz=88,slow=8.4,SNR=47						
QSPA	**South Pole Qui**	**72.90**	**180**	*e*P	**P**	**01 28 08.5**	**0.0**
TXAR	**Lajitas Array**	**80.91**	**56**	P	**P**	**01 28 54.4**	**0.0**
	2.7nm,1.2s,mb4.0,baz=237,slow=6.9,SNR=8.4						
TXAR	**Lajitas Array**	**80.91**	**56**	P	**P**	**01 28 54.4**	**0.0**
MAW	**Mawson**	**86.40**	**198**	LR	LR	02 05 01.9	
	comp=Z,835nm,18.8s,MS5.2,baz=204,slow=34						
BRVK	**Borovoye**	**119.82**	**322**	*e*PKPdf	PKPdf	01 35 30.2	+0.5
CLZ	**Clausthal**	**145.32**	**357**	*e*PKPbc	PKPbc	01 36 18.0	+0.9
KMBO	**Kilima Mbogo**	**145.46**	**241**	PKPbc	PKPbc	01 36 21.0	+2.2
	2.5nm,1.1s,baz=79,slow=3.6,SNR=7.8						
CLL	**Collm**	**145.64**	**354**	*e*PKPbc	PKPbc	01 36 18.6	+0.4
CLL	**Collm**	**145.64**	**354**	*e*PKPbc	PKPbc	01 36 19.0	+0.8
NEUB	**Neuenburg**	**145.85**	**355**	*e*PKPbc	PKPbc	01 36 20.0	+1.2
BRG	**Berggiesshubel**	**145.97**	**353**	*e*PKPbc	PKPbc	01 36 20.0	+0.8
FBE	**Freiberg**	**145.99**	**353**	*e*PKPbc	PKPbc	01 36 20.2	+1.0
UPC	**Upice**	**146.03**	**350**	*e*PKP	PKPdf	01 36 20.4	+1.9
DPC	**Dobruska-Polom**	**146.13**	**350**	*e*PKP	PKPab	01 36 20.8	+0.5
PVCC	**Panska Ves**	**146.22**	**352**	*e*PKP	PKPab	01 36 20.8	+0.1
MOX	**Moxa**	**146.43**	**355**	*e*PKP	PKPab	01 36 22.2	+0.7
	17nm,1.6s						
MOX	**Moxa**	**146.43**	**355**	*e*PKPbc	PKPbc	01 36 21.3	+0.8
MORC	**Moravsky Berou**	**146.46**	**348**	*e*PKPbc	PKPbc	01 36 19.4	-1.2
WERD	**Werda**	**146.56**	**354**	*e*PKPbc	PKPbc	01 36 22.1	+1.2
TANN	**Tannenbergstha**	**146.58**	**354**	*e*PKPbc	PKPbc	01 36 22.5	+1.5
GUNZ	**Gunzen**	**146.64**	**354**	*e*PKPbc	PKPbc	01 36 22.2	+1.0
WERN	**Wernitzgruen**	**146.71**	**354**	*e*PKPbc	PKPbc	01 36 22.6	+1.2
PRU	**Pruhonice**	**146.75**	**352**	*e*PKP	PKPab	01 36 23.3	+0.5
MANZ	**Manzenberg**	**147.04**	**354**	*e*PKPbc	PKPbc	01 36 23.7	+1.4
KHC	**Kasperske Hory**	**147.72**	**352**	*e*PKP	PKPbc	01 36 24.5	+0.3
GERES	**GERESS Array B**	**147.99**	**352**	PKPbc	PKPbc	01 36 26.2	+1.2
	0.2nm,0.4s,baz=33,slow=3.2,SNR=5.3						
CONA	**Conrad Observa**	**148.54**	**349**	⇑*i*PKiKP	PKiKP	01 36 28.1	+0.2
	11nm,1.8s						
CSNA	**Conrad Observa**	**148.54**	**349**	⇑*i*PKiKP	PKiKP	01 36 28.3	+0.3
	11nm,1.8s						
BFO	**Black Forest**	**148.90**	**359**	*e*PKPbc	PKPbc	01 36 28.5	+1.2
ABTA	**Abfaltersbach**	**150.20**	**353**	⇑*i*PKPbc	PKPbc	01 36 30.9	+0.4
	9.6nm,1.3s						
TOA0	**Torodi Ar. Sit**	**173.16**	**125**	*e*PKPdf	PKPdf	01 36 52.2	+2.4
TORD	**Torodi Ar. Bea**	**173.16**	**125**	PKPab	PKPab	01 38 15.8	-1.6
	0.6nm,0.9s,baz=265,slow=2.7,SNR=3.3						

ISCJB **17** *01:25:50.8±0.8, 65S±01×10729W±009, h10km, mb4.4/28, MS4.4/15, Error ellipse: s-maj=16.8km s-min=12.5km az=24.6*

IDC **17** *01:25:51.4±1.6, 646S×10734W, h0km, mb4.1/7, mb1 4.4/7, mb1mx4.3/12, mbtmp4.1/7, MS4.3/12, Ms1 4.3/12, ms1mx4.1/19, Error ellipse: s-maj=46.5km s-min=25.1km az=47.0*

BJI **17** *01:25:52.5, 650S×10730W, h10km, mB4.9, Ms5.2, Msz4.5*

NEIC **17** *01:25:52.5±0.5, 647S×10728W, h10km, mb4.5/23, Error ellipse: s-maj=15.9km s-min=9.8km az=59.0*

ISC 17 01:25:52.7±0.8, 65S±01×10729W±009, h10km, n226, σ0s55/196, mb4.4/28, MS4.4/15, 77C-73D, Central East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMIG	**Matias Romero**	**26.46**	**27**	LR	LR	01 39 19.1	
	comp=Z,569nm,21.3s,MS4.1,baz=186,slow=30						
OTAV	**Otavalo**	**29.55**	**78**	*e*P	**P**	**01 31 58.8**	**+0.9**
	6.8nm,1.1s,mb4.3						
LPIG	**La Paz**	**30.57**	**355**	LR	LR	01 41 05.7	
	comp=Z,555nm,21.4s,MS4.2,baz=321,slow=30						
RKT	**Rikitea**	**31.35**	**235**	*e*LR	LR	01 40 30.9	
	1μm,28.0s						
ROSC	**El Rosal**	**34.78**	**72**	LR	LR	01 44 28.9	
	comp=Z,304nm,19.0s,MS4.1,baz=200,slow=32						
TXAR	**Lajitas Array**	**35.81**	**5**	P	**P**	**01 32 52.2**	**-0.2**
	0.9nm,0.9s,mb3.7,baz=198,slow=9.9,SNR=8.9						
TXAR				LR	LR	01 44 31.1	
	comp=Z,280nm,21.4s,MS4.0,baz=60,slow=31						
TXAR	**Lajitas Array**	**35.81**	**5**	P	**P**	**01 32 52.2**	**-0.2**
TXAR				LR	LR	01 44 31.1	
JCT	**Junction City**	**37.48**	**11**	*e*P	**P**	**01 33 06.8**	**+0.2**
319A	**Douglas**	**37.72**	**357**	⇓P	**P**	**01 33 09.1**	**+0.4**
	baz=38						
318A	**Bisbee**	**37.83**	**356**	⇓P	**P**	**01 33 09.9**	**+0.4**
	baz=38						
HKT	**Hockley**	**37.89**	**16**	*e*P	**P**	**01 33 10.1**	**0.0**
	8.2nm,1.2s,mb4.3						
217A	**Green Valley**	**38.22**	**355**	⇓P	**P**	**01 33 13.4**	**+0.5**
	baz=38						
219A	**White Tail Can**	**38.34**	**357**	⇓P	**P**	**01 33 14.1**	**+0.2**
	baz=38						
218A	**Dragoon**	**38.36**	**356**	⇓P	**P**	**01 33 14.4**	**+0.3**
	baz=38						
118A	**Homack Ranch,**	**39.02**	**356**	⇓P	**P**	**01 33 18.9**	**-0.6**
	baz=39						
119A	**Ashpeak Ranch,**	**39.11**	**357**	⇑P	**P**	**01 33 20.6**	**+0.2**
	baz=39						
115A	**Sonoran Desert**	**39.28**	**353**	⇓P	**P**	**01 33 22.5**	**+0.7**
	baz=39						
LPAZ	**La Paz**	**39.52**	**108**	P	**P**	**01 33 25.8**	**+1.7**
	1.7nm,1.0s,mb3.7,baz=245,slow=7.1,SNR=3.2						
LPAZ	**La Paz**	**39.52**	**108**	*e*P	**P**	**01 33 24.4**	**+0.4**
	9.0nm,1.5s,mb4.3						
SDV	**Santo Domingo**	**39.61**	**68**	P	**P**	**01 33 25.0**	**+0.2**
	1.4nm,0.3s,mb4.2,baz=292,slow=11,SNR=6.1						
SDV	**Santo Domingo**	**39.61**	**68**	*e*P	**P**	**01 33 24.7**	**-0.1**
	14nm,1.3s,mb4.5						
Y17A	**Roosevelt**	**40.13**	**355**	⇑P	**P**	**01 33 28.9**	**+0.1**
	baz=40,SNR=5.9						
Y18A	**Canyon Day Jun**	**40.15**	**356**	⇓P	**P**	**01 33 29.3**	**+0.3**
	baz=40						
Y19A	**Nutrioso**	**40.29**	**357**	⇑P	**P**	**01 33 30.6**	**+0.4**
	baz=40,SNR=5.7						
Y16A	**Circle Bar Ran**	**40.37**	**355**	⇓P	**P**	**01 33 31.0**	**+0.3**
	baz=40						
BNM	**Barren Site**	**40.45**	**1**	*e*P	**P**	**01 33 31.8**	**+0.4**
Y15A	**Casa Rosa Ranc**	**40.53**	**354**	⇑P	**P**	**01 33 32.4**	**+0.3**
	baz=41						
Y13A	**Salome**	**40.58**	**352**	⇑P	**P**	**01 33 32.7**	**+0.1**
	baz=41						
BC3	**Big Chuckw Mtn**	**40.69**	**350**	⇓P	**P**	**01 33 33.9**	**+0.4**
	baz=41						
LAZ	**Ladron**	**40.69**	**0**	*e*P	**P**	**01 33 33.6**	**+0.1**
X17A	**Forest Lakes**	**40.76**	**356**	⇓P	**P**	**01 33 34.6**	**+0.6**
	baz=41						
X18A	**Snowflake**	**40.90**	**357**	⇓P	**P**	**01 33 35.4**	**+0.2**
	baz=41						
X16A	**Lo Mia Camp, P**	**40.90**	**355**	⇓P	**P**	**01 33 35.0**	**-0.2**
	baz=41						
X15A	**Humboldt**	**41.05**	**354**	⇑P	**P**	**01 33 36.9**	**+0.5**
	baz=41						
X14A	**Yava**	**41.10**	**353**	⇓P	**P**	**01 33 37.6**	**+0.7**
	baz=41						
IRM	**Iron Mountain**	**41.13**	**350**	⇓P	**P**	**01 33 37.0**	**-0.1**
	baz=41						
ANMO	**Albuquerque**	**41.25**	**1**	*e*P	**P**	**01 33 35.9**	**-2.2**
	2.5nm,1.0s,mb3.8						
W18A	**Petrified Fore**	**41.47**	**357**	⇓P	**P**	**01 33 40.5**	**+0.7**
	baz=42						
W16A	**Flagstaff**	**41.58**	**355**	⇓P	**P**	**01 33 40.5**	**-0.2**
	baz=42						
W13A	**Hualapai Mount**	**41.85**	**352**	⇓P	**P**	**01 33 43.7**	**+0.7**
	baz=42						
V18A	**Ganado**	**42.07**	**357**	⇓P	**P**	**01 33 45.6**	**+0.8**
	baz=42						
V14A	**Bouillas Ranc**	**42.28**	**353**	⇓P	**P**	**01 33 46.9**	**+0.4**
	baz=42,SNR=5.2						
V15A	**Kaibab Nationa**	**42.36**	**354**	⇑P	**P**	**01 33 47.7**	**+0.6**
	baz=42,SNR=5.5						
U16A	**Tuba City**	**42.58**	**355**	⇑P	**P**	**01 33 49.1**	**+0.2**
	baz=43						
V13A	**Grand Canyon W**	**42.61**	**352**	⇑P	**P**	**01 33 49.1**	**-0.1**
	baz=43						
V12A	**Nelson**	**42.61**	**351**	⇑P	**P**	**01 33 49.7**	**+0.5**
	baz=43						
PPT	**Papeete**	**42.69**	**251**	*e*LQ		01 43 42.3	
PPT	1μm,28.5s			*e*LR	LR	01 45 37.8	
	936nm,26.2s,baz=77						
PPT	**Papeete**	**42.69**	**251**	LR	LR	01 46 30.8	
	comp=Z,576nm,19.5s,MS4.5,baz=329,slow=29						
U18A	**Rough Rock, Ch**	**42.77**	**357**	⇑P	**P**	**01 33 50.7**	**+0.2**
	baz=43,SNR=6.4						
MIAR	**Mount Ida**	**42.84**	**17**	*e*P	**P**	**01 33 50.1**	**-0.9**
	5.9nm,0.8s,mb4.4						
U17A	**Shonto**	**43.00**	**356**	⇓P	**P**	**01 33 52.5**	**+0.1**
	baz=43						
U14A	**Mt Trumbull**	**43.06**	**353**	⇑P	**P**	**01 33 53.0**	**+0.2**
	baz=43						
T19A	**Beclabito**	**43.15**	**358**	⇑P	**P**	**01 33 53.5**	**0.0**
	baz=43,SNR=8.7						
T17A	**Navajo Res., N**	**43.41**	**356**	⇓P	**P**	**01 33 56.1**	**+0.5**
	baz=44						
T18A	**Mexican Hat**	**43.49**	**357**	⇓P	**P**	**01 33 56.7**	**+0.5**
	baz=44,SNR=7.4						
T15A	**Red Dirt Ranch**	**43.56**	**354**	⇑P	**P**	**01 33 57.5**	**+0.6**
	baz=44						
TBI	**Tubuai**	**43.85**	**243**	*e*S	**S**	**01 40 30.7**	**0.0**
	212nm,35.5s						
TBI				*e*LR	LR	01 46 08.0	
	841nm,28.0s,baz=72						
TPNV	**Topopah Spring**	**44.04**	**350**	*e*P	**P**	**01 34 01.0**	**+0.3**
	2.8nm,0.5s,mb4.2						
S17A	**Black Ridge (B**	**44.04**	**356**	⇑P	**P**	**01 34 00.8**	**0.0**
	baz=44						
SDCO	**Great Sand Dun**	**44.06**	**2**	*e*P	**P**	**01 34 01.1**	**+0.2**
	12nm,1.5s,mb4.4						
S19A	**Harvey Farm, M**	**44.06**	**358**	⇑P	**P**	**01 34 00.8**	**-0.1**
	baz=44						
T11A	**Corn Creek, Al**	**44.15**	**351**	⇑P	**P**	**01 34 02.1**	**+0.5**
	baz=44						
S13A	**Holt Ranch, En**	**44.29**	**353**	⇑P	**P**	**01 34 03.0**	**+0.2**
	baz=44						
GRAC	**Grapevine Rang**	**44.30**	**348**	⇑P	**P**	**01 34 03.2**	**+0.4**
	baz=44						
PV01	**Paradox Valley**	**44.43**	**359**	*e*P	**P**	**01 34 03.8**	**-0.1**
ARUT	**Antelope Range**	**44.44**	**353**	*e*P	**P**	**01 34 03.9**	**-0.1**
U04C	**Hernandez Rese**	**44.49**	**344**	⇑P	**P**	**01 34 04.9**	**+0.6**
	baz=45						
R18A	**Canyonlands Na**	**44.73**	**357**	⇑P	**P**	**01 34 06.7**	**+0.5**
	baz=45						
R17A	**Hanksville Air**	**44.81**	**356**	⇑P	**P**	**01 34 07.2**	**+0.3**
	baz=45,SNR=6.3						
MTUM	**Tungsten Hills**	**44.89**	**347**	*e*P	**P**	**01 34 07.8**	**+0.3**
S09A	**Goldfield**	**44.98**	**349**	⇓P	**P**	**01 34 08.7**	**+0.5**
	baz=45						
S10A	**Tonopah Range,**	**45.05**	**350**	⇓P	**P**	**01 34 09.1**	**+0.3**
	baz=45						
R12A	**Pony Springs,**	**45.13**	**352**	⇑P	**P**	**01 34 09.7**	**+0.4**
	baz=45						
Q19A	**Hogan Spring (**	**45.27**	**358**	⇑P	**P**	**01 34 11.0**	**+0.5**
	baz=46						
R11A	**Troy Canyon, C**	**45.30**	**351**	⇓P	**P**	**01 34 11.3**	**+0.6**
	baz=46						
TPH	**Tonopah**	**45.31**	**349**	*e*P	**P**	**01 34 11.3**	**+0.5**
	11nm,1.2s,mb4.6						
R09A	**Tonopah**	**45.45**	**349**	⇑P	**P**	**01 34 11.8**	**-0.1**
	baz=46						
Q18A	**Rafter H Ranch**	**45.46**	**357**	⇓P	**P**	**01 34 12.1**	**+0.1**
	baz=46						
SRU	**San Rafael**	**45.49**	**356**	⇑P	**P**	**01 34 12.5**	**+0.3**
	baz=46						
SRU	**San Rafael**	**45.49**	**356**	*e*P	**P**	**01 34 11.9**	**-0.3**
	2.7nm,0.8s,mb4.1						
Q14A	**Sevier Lake (B**	**45.61**	**353**	⇑P	**P**	**01 34 13.8**	**+0.6**
	baz=46						
Q13A	**Wheeler Ranch,**	**45.67**	**353**	⇑P	**P**	**01 34 14.3**	**+0.6**
	baz=46						
Q11A	**Duckwater**	**45.79**	**351**	⇑P	**P**	**01 34 15.1**	**+0.5**
	baz=46						
NVAR	**Mina Array Bea**	**45.87**	**348**	P	**P**	**01 34 16.2**	**+0.9**
	2.4nm,0.8s,mb4.2,baz=175,slow=12,SNR=16						
NVAR	**Mina Array Bea**	**45.87**	**348**	P	**P**	**01 34 16.2**	**+0.9**
Q10A	**Clear Creek Ra**	**45.89**	**350**	⇑P	**P**	**01 34 15.8**	**+0.4**
	baz=46						
P19A	**Cripple Cowboy**	**45.94**	**358**	⇑P	**P**	**01 34 16.2**	**+0.4**
	baz=46						
P13A	**Bates Ranch, G**	**46.16**	**353**	⇓P	**P**	**01 34 18.3**	**+0.8**
	baz=46						
P14A	**Drum Mountains**	**46.18**	**354**	⇓P	**P**	**01 34 18.1**	**+0.4**
	baz=46						
WVT	**Waverly**	**46.19**	**22**	*e*P	**P**	**01 34 16.6**	**-1.2**
	11nm,1.4s,mb4.6						
Q08A	**Gabbs**	**46.21**	**348**	⇑P	**P**	**01 34 18.4**	**+0.4**
	baz=46						
O17A	**Robinson Place**	**46.58**	**356**	⇑P	**P**	**01 34 20.7**	**-0.2**
	baz=47						
O19A	**Miners Draw (B**	**46.61**	**358**	⇓P	**P**	**01 34 21.2**	**+0.2**
	baz=47						
O16A	**Springville**	**46.65**	**356**	⇓P	**P**	**01 34 21.5**	**+0.2**
	baz=47						
DUG	**Dugway**	**46.75**	**354**	*e*P	**P**	**01 34 22.1**	**-0.1**
	12nm,1.4s,mb4.6						
CCM	**Cathedral Cave**	**46.79**	**17**	*e*P	**P**	**01 34 21.6**	**-0.9**
	19nm,1.4s,mb4.8						
DAU	**Daniels Canyon**	**46.84**	**356**	*e*P	**P**	**01 34 21.4**	**-1.4**
PLCA	**Paso Flores**	**47.28**	**142**	LR	LR	01 49 36.2	
	comp=Z,590nm,21.9s,MS4.5,baz=26,slow=30						
N18A	**Larsen Ranch,**	**47.31**	**358**	⇓P	**P**	**01 34 26.4**	**0.0**
	baz=48,SNR=6.3						
N16A	**Rees Ranch, Co**	**47.32**	**356**	⇑P	**P**	**01 34 26.9**	**+0.3**
	baz=48						
N13A	**Wendover, West**	**47.56**	**353**	⇓P	**P**	**01 34 28.9**	**+0.5**
	baz=48						
ELK	**Elko**	**47.59**	**352**	*e*P	**P**	**01 34 28.1**	**-0.6**
	3.4nm,0.9s,mb4.4						
O07A	**Toulon**	**47.66**	**348**	⇑P	**P**	**01 34 29.1**	**-0.2**
	baz=48						
O06A	**Flanigan**	**47.87**	**347**	⇓P	**P**	**01 34 30.9**	**+0.1**
	baz=48						
HWUT	**Hardware Ranch**	**48.05**	**356**	*e*P	**P**	**01 34 30.3**	**-1.9**
	9.1nm,1.4s,mb4.6						
N09A	**Rock Creek Ran**	**48.06**	**350**	⇑P	**P**	**01 34 32.6**	**+0.2**
	baz=48						
GASB	**Alder Springs**	**48.10**	**344**	⇓P	**P**	**01 34 33.9**	**+1.2**
	baz=48						
M14A	**Sheep Mountain**	**48.10**	**354**	⇓P	**P**	**01 34 32.9**	**+0.2**
	baz=48						
N08A	**GE Springer Mi**	**48.11**	**349**	⇑P	**P**	**01 34 32.6**	**-0.1**
	baz=48						
M12A	**Wells**	**48.20**	**352**	⇓P	**P**	**01 34 33.5**	**+0.1**
	baz=48						
N07B	**Gerlach**	**48.27**	**348**	⇓P	**P**	**01 34 34.4**	**+0.5**
	baz=48						
N06A	**Buffalo Meadow**	**48.42**	**347**	⇑P	**P**	**01 34 35.1**	**0.0**
	baz=49						
L15A	**Malad City**	**48.51**	**355**	⇓P	**P**	**01 34 35.6**	**-0.2**
	baz=49						
M10A	**i.L. Ranch, Tu**	**48.55**	**351**	⇓P	**P**	**01 34 36.9**	**+0.8**
	baz=49						
L14A	**Malta**	**48.62**	**354**	⇑P	**P**	**01 34 36.8**	**+0.2**
	baz=49						
L13A	**Double Diamond**	**48.75**	**353**	⇑P	**P**	**01 34 37.5**	**-0.1**
	baz=49						
M08A	**Happy Creek Ra**	**48.80**	**349**	⇑P	**P**	**01 34 37.7**	**-0.3**
	baz=49						
M07A	**Soldier Meadow**	**48.90**	**348**	⇑P	**P**	**01 34 38.3**	**-0.5**
	baz=49						
WDC	**Whiskeytown Da**	**48.92**	**345**	⇑P	**P**	**01 34 38.5**	**-0.5**
	baz=49						
L12A	**House Creek Ra**	**48.94**	**352**	⇑P	**P**	**01 34 38.6**	**-0.5**
	baz=49						
M06C	**Likely Place G**	**49.00**	**347**	⇑P	**P**	**01 34 39.4**	**-0.2**
	baz=49						
L11A	**Cat Creek Ranc**	**49.06**	**352**	⇓P	**P**	**01 34 39.7**	**-0.3**
	baz=49						
L10A	**Juniper Basin**	**49.08**	**351**	⇓P	**P**	**01 34 39.7**	**-0.4**
	baz=49						
BW06	**Boulder Array**	**49.09**	**358**	*e*P	**P**	**01 34 39.6**	**-0.6**
	11nm,1.6s,mb4.6						
PDAR	**Pinedale Array**	**49.09**	**358**	P	**P**	**01 34 39.5**	**-0.7**
	1.6nm,0.9s,mb4.0,baz=165,slow=6.3,SNR=8.3						
N02C	**Big Bar**	**49.35**	**344**	⇓P	**P**	**01 34 42.8**	**+0.6**
	baz=50						
L08A	**Fields**	**49.51**	**349**	⇑P	**P**	**01 34 42.7**	**-0.7**
	baz=50						
L07A	**Adell**	**49.54**	**348**	⇓P	**P**	**01 34 43.9**	**+0.2**
	baz=50						
MOD	**Modoc**	**49.63**	**347**	⇓P	**P**	**01 34 44.3**	**-0.1**
	baz=50						
K11A	**Parker Ranch,**	**49.69**	**352**	⇓P	**P**	**01 34 44.5**	**-0.3**
	baz=50						
M02C	**Callahan**	**49.76**	**345**	⇓P	**P**	**01 34 45.7**	**+0.3**
	baz=50						
K10A	**MacKenzie Ranc**	**49.83**	**351**	⇓P	**P**	**01 34 45.4**	**-0.5**
	baz=50						
M04C	**Macdoel**	**49.87**	**346**	⇓P	**P**	**01 34 46.4**	**+0.2**
	baz=50						
TPAW	**Teton Pass**	**49.88**	**357**	*e*P	**P**	**01 34 45.5**	**-0.7**
	4.0nm,1.0s,mb4.4						
J14A	**Carey**	**49.92**	**354**	⇑P	**P**	**01 34 46.2**	**-0.4**
	baz=50						
LOHW	**Long Hollow**	**49.98**	**357**	*e*P	**P**	**01 34 45.5**	**-1.5**
	11nm,1.5s,mb4.7						
J12A	**Stokes Ranch,**	**50.03**	**353**	⇑P	**P**	**01 34 47.0**	**-0.4**
	baz=50						
YBH	**Yreka Blue Hor**	**50.04**	**345**	⇓P	**P**	**01 34 47.3**	**-0.3**
	baz=50						
J13A	**Cove Ranch, Pi**	**50.07**	**353**	⇑P	**P**	**01 34 47.8**	**+0.1**
	baz=50						
MOOW	**Moose Ponds**	**50.12**	**357**	*e*P	**P**	**01 34 47.0**	**-1.1**
	1.7nm,0.8s,mb4.1						
K07A	**Rock Creek Ran**	**50.17**	**349**	⇑P	**P**	**01 34 48.7**	**+0.3**
	baz=50						
HLID	**Hailey**	**50.26**	**353**	⇓P	**P**	**01 34 48.9**	**-0.2**
	baz=50						
HLID	**Hailey**	**50.26**	**353**	*e*P	**P**	**01 34 48.9**	**-0.2**
	7.4nm,1.3s,mb4.6						
I17A	**Pilgram Creek**	**50.29**	**357**	⇑P	**P**	**01 34 49.8**	**+0.4**
	baz=50						
MFID	**Camas Ranch**	**50.29**	**352**	⇑P	**P**	**01 34 49.0**	**-0.4**
	baz=50,SNR=8.0						
I16A	**Newdale**	**50.30**	**356**	⇓P	**P**	**01 34 49.3**	**-0.1**
	baz=50						
K06A	**Valley Falls**	**50.48**	**348**	⇑P	**P**	**01 34 50.4**	**-0.4**
	baz=51						
I15A	**Monteview**	**50.50**	**355**	⇓P	**P**	**01 34 50.8**	**-0.1**
	baz=51						
I14A	**Mackay**	**50.52**	**354**	⇓P	**P**	**01 34 50.8**	**-0.3**
	baz=51						
J09A	**Fry Pan Ranch,**	**50.53**	**350**	⇓P	**P**	**01 34 51.2**	**0.0**
	baz=51						
K05A	**Summer Lake**	**50.55**	**347**

NEW	**Newport**	**55.23**	**352**	*e*P		**P**	**01 35 25.9**	**+0.1**
	15nm,1.4s,mb4.8								
A16A	**West Butte Ran**	**55.36**	**357**	⇑P		**P**	**01 35 26.2**	**-0.5**
	baz=56,SNR=8.5								
A15A	**Johnson Ranch,**	**55.46**	**356**	⇓P		**P**	**01 35 26.8**	**-0.7**
	baz=56								
ULM	**Lac du Bonnet**	**57.39**	**9**	P		**P**	**01 35 42.5**	**+1.3**
	4.9nm,0.9s,mb4.5,baz=164,slow=11,SNR=3.6								
ULM				LR		LR	01 58 13.9		
	comp=Z,182nm,18.6s,MS4.2,baz=181,slow=34								
ULM	**Lac du Bonnet**	**57.39**	**9**	P		**P**	**01 35 42.5**	**+1.2**
ULM				LR		LR	01 58 13.9		
BBB	**Bella Bella**	**61.12**	**346**	LR		LR	01 56 43.1		
	comp=Z,186nm,20.6s,MS4.2,baz=172,slow=30								
AFI	**Afiamalu**	**63.74**	**258**	LR		LR	01 56 12.2		
	comp=Z,153nm,18.7s,MS4.2,baz=81,slow=29								
FCC	**Fort Churchill**	**65.92**	**7**	*e*P		**P**	**01 36 37.2**	**-1.4**
	26nm,1.1s,mb5.2								
YKA	**Yellowknife Ar**	**69.04**	**356**	P		**P**	**01 36 57.2**	**-1.0**
	4.2nm,1.0s,mb4.3,baz=166,slow=6.2,SNR=6.9								
HYT	**Haines Junctio**	**71.19**	**345**	*e*P		**P**	**01 37 11.9**	**+0.5**
DAWY	**Dawson**	**74.40**	**346**	*e*P		**P**	**01 37 30.6**	**+0.1**
URZ	**Urewera**	**74.69**	**232**	LR	LR		02 04 43.0		
	comp=Z,297nm,18.2s,MS4.6,baz=110,slow=31								
KTH	**Kantishna Hill**	**77.22**	**342**	*e*P		**P**	**01 37 45.6**	**-1.0**
	38nm,1.5s,mb5.1								
RPZ	**Rata Peaks**	**79.51**	**227**	LR	LR		02 04 02.1		
	comp=Z,328nm,18.9s,MS4.7,baz=339,slow=29								
PETK	**Petropavlovsk-**	**98.18**	**323**	LR	LR		02 15 37.3		
	comp=Z,107nm,18.3s,MS4.4,baz=253,slow=30								
MDJ	**Mudanjiang**	**117.82**	**317**	PKP	PKPdf		01 44 39.3	-0.4	
CN2	**Changchun**	**120.89**	**318**	*e*PKP	PKPdf		01 44 47.3	+1.7	
BJI	**Beijing**	**128.75**	**317**	PKP	PKPdf		01 45 00.1	-0.7	
BJI				SS	SS		02 04 24.3	-0.3	
BJI				LR	LR				
	comp=N,275nm,22.1s,MS5.1								
BJI				LR	LR				
	comp=E,390nm,24.1s,MS5.1								
BJI				LR	LR				
	comp=Z,143nm,21.9s,MS4.6								
HHC	**Hu-ho-hao-te**	**131.33**	**321**	*e*PKP	PKPdf		01 45 05.9	+0.2	
HHC				PP	PP		01 47 28.0	+4.6	
HHC				PKS			01 48 41.3		
HHC				SKS	SKSdf		01 52 16.3	-1.1	
HHC				SKKS	SKKSac		01 54 18.8	-1.8	
HHC				SS	SS		02 04 57.3	+1.1	
HHC				PP	PP				
	comp=Z,86nm,9.2s								
HHC				LR	LR				
	comp=N,125nm,20.5s,MS4.7								
HHC				LR	LR				
	comp=E,76nm,20.6s,MS4.7								
HHC				LR	LR				
	comp=Z,91nm,22.0s,MS4.4								
KURK	**Kurchatov**	**135.67**	**355**	*e*PKPdf	PKPdf		01 45 12.1	-1.4	
GNI	**Garni**	**138.16**	**33**	*e*PKPdf	PKPdf		01 45 18.2	-0.3	
LZH	**Lanzhou**	**139.03**	**320**	*e*PKP	PKPdf		01 45 15.5	-4.7	
LZH				XPKP			01 45 20.8		
MKAR	**Makanchi Array**	**139.03**	**350**	PKP	PKPdf		01 45 19.3	-0.6	
	comp=Z,0.5nm,0.6s,baz=338,slow=3.4,SNR=2.8								
WMQ	**Urumqi**	**140.58**	**343**	PKP	PKPdf		01 45 18.3	-4.5	
WMQ				PP	PP		01 48 21.3	+0.5	
WMQ				PP	PP				
	comp=Z,17nm,6.0s								
WMQ				LR	LR				
	comp=N,642nm,28.1s,MS5.3								
WMQ				LR	LR				
	comp=E,454nm,31.8s,MS5.3								
WMQ				LR	LR				
	comp=Z,507nm,26.2s								
CD2	**Chengdu**	**142.12**	**314**	*e*PKP	PKPdf		01 45 23.9	-2.0	
TKM2	**Tokmak 2**	**143.65**	**356**	*e*PKPdf	PKPdf		01 45 29.0	+0.8	
KMBO	**Kilima Mbogo**	**143.80**	**101**	PKP	PKPdf		01 45 29.5	+0.1	
	comp=Z,3.4nm,1.1s,baz=265,slow=4.9,SNR=6.6								
KMBO	**Kilima Mbogo**	**143.80**	**101**	*e*PKPdf	PKPdf		01 45 28.1	-1.3	
EKS2	**Erkin-Say**	**143.99**	**359**	*e*PKPdf	PKPdf		01 45 30.3	+1.5	
UCH	**Uchtor**	**144.40**	**358**	*e*PKPdf	PKPdf		01 45 31.3	+1.7	
AML	**Almayashu**	**144.52**	**359**	*e*PKPdf	PKPdf		01 45 29.6	-0.2	
KMI	**Kunming**	**145.83**	**306**	PKP	PKPdf		01 45 31.8	-0.8	
CMAR	**Chiang Mai Arr**	**151.82**	**297**	PKPbc	PKPbc		01 45 48.9	+0.1	
	comp=Z,1.8nm,0.4s,baz=309,slow=0.3,SNR=8.0								

*CSEM **17** 01:33:28.6±0.1,37.10N×2930E,h15km,MD2.9,Error ellipse: s-maj=2.7km s-min=1.7km az=33.0*
*ISK **17** 01:33:28.7,37.11N×2930E,h9km,MD2.7*
*ISCJB **17** 01:33:29.3±0.7,3707N±004×2926E±005,h11km±6km, Error ellipse: s-maj=7.1km s-min=5.5km az=39.6*
*DDA **17** 01:33:29.4,3707N×2923E,h7km±1km,Md2.9*
ISC 17 01:33:29.7±0.6,**3707N**±004×**2927E**±005,**h15**km±6km,**n9,** σ0**84**/17,**2C,Turkey**

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op	ISC		h m s	ISC
GOLH	**Golhisar**	**0.29**	**54**	⇑*i*P	**Pg**		**01 33 35.7**	**-0.1**
GOLH				*i* S	**Sg**		**01 33 41.0**	**+1.1**
TURN	**Turunc**	**0.57**	**250**	*e*P	**Pg**		**01 33 46.2**	**+5.3**
TURN				*e*S	**Sg**		**01 34 01.5**	**+13**
ELL	**Elmali**	**0.60**	**122**	*e*PG	**Pg**		**01 33 40.6**	**-0.9**
ELL				*e*SG	**Sg**		**01 33 50.2**	**+0.6**
DNZL	**Cakiroluk**	**0.65**	**344**	*i* P	**Pg**		**01 33 41.7**	**-0.6**
DNZL				*i* S	**Sg**		**01 33 51.4**	**+0.4**
DENT	**Denizli**	**0.71**	**345**	*e*PG	**Pg**		**01 33 41.4**	**-2.2**
DENT				*e*SG	**Sg**		**01 33 52.8**	**-0.1**
YER	**Yerkesik**	**0.79**	**275**	*e*PG	**Pg**		**01 33 44.8**	**-0.4**
YER				*e*SG	**Sg**		**01 33 56.8**	**+1.3**
AKAS	**Kas**	**0.88**	**162**	⇑*i*P	**Pb**		**01 33 46.7**	**+0.1**
AKAS				*i* S	**Sb**		**01 34 03.8**	**+5.7**
MLSB	**Milas**	**1.21**	**281**	*e*PN	**Pn**		**01 33 52.1**	**-0.1**
KULA	**Kula-Manisa**	**1.52**	**342**	*e*PN	**Pn**		**01 33 56.0**	**-0.4**
KULA				*e*SN	**Sn**		**01 34 17.0**	**+1.0**

*ISCJB **17** 01:45:57.6±1.9,5271N±006×16461W±007,h20km±15km, mb4.1/10,Error ellipse: s-maj=10.8km s-min=6.8km az=13.5*
*NEIC **17** 01:45:59.0,5270N×16467W,h20km,ML3.8(AEIC),After AEIC.*
*IDC **17** 01:46:04.3±1.1,5309N×16443W,h47km±8km,mb3.7/8, mb1 4.0/9,mb1mx3.7/22,mbtmp3.8/9,ML4.0/1,Error ellipse: s-maj=29.1km s-min=14.3km az=9.0*
ISC 17 01:45:58.0±2.3,**5278N**±006×**16467W**±007,**h7**km±16km, **h45**km±2.2km:**pP-P,n32,**σ0**70**/34,**mb4.1**/10,**South of Alaska**

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op	ISC		h m s	ISC
AKA	**Akutan**	**1.51**	**335**	P	**Pn**		**01 46 25.8**	**+0.4**
AKUT	**Akutan**	**1.51**	**335**	P	**Pn**		**01 46 25.6**	**+0.2**
UNV	**Unalaska Valle**	**1.54**	**315**	P	**Pn**		**01 46 25.7**	**-0.1**
UNV				S	**Sn**		**01 46 45.0**	**-0.9**
AKLV	**Akutan Long Va**	**1.59**	**331**	P	**Pn**		**01 46 26.4**	**0.0**
AKLV				S	**Sn**		**01 46 47.5**	**+0.4**
AKGG	**Akutan Green G**	**1.63**	**331**	P	**Pn**		**01 46 27.1**	**+0.1**
AKGG				S	**Sn**		**01 46 49.0**	**+0.9**
OKCD	**Okmok Cone D**	**2.18**	**289**	P	**Pn**		**01 46 34.5**	**-0.1**
OKCE	**Okmok Cone E**	**2.21**	**289**	P	**Pn**		**01 46 35.3**	**+0.3**
NIKO	**Nikolski**	**2.54**	**276**	P	**Pn**		**01 46 38.9**	**-0.7**
SDPT	**Sand Point**	**3.57**	**42**	P	**Pn**		**01 46 53.8**	**+0.1**
CHGN	**Chignik**	**5.07**	**43**	P	**Pn**		**01 47 14.8**	**+0.5**
ADK	**Adak**	**7.42**	**268**	P	**Pn**		**01 47 47.0**	**+0.4**
KDAK	**Kodiak Island**	**8.52**	**49**	P	**Pn**		**01 48 00.0**	**-1.6**
	2.1nm,0.3s,baz=301,slow=21,SNR=41								
KDAK				S	**Sn**		**01 49 29.0**	**-8.9**
	0.9nm,0.3s,baz=337,slow=22,SNR=7.4								
BPAW	**Bear Paw Mtn.**	**13.38**	**27**	*e*Pn	**Pn**		**01 49 08.5**	**+0.5**
	6.5nm,0.8s								
PNL	**Peninsula**	**15.58**	**54**	*e*Pn	**Pn**		**01 49 38.1**	**+0.3**
COLD	**Coldfoot**	**16.12**	**20**	*e*Pn	**Pn**		**01 49 44.2**	**-0.5**
	3.2nm,0.8s								
COLD				*e*P			01 49 48.0		
HYT	**Haines Junctio**	**16.81**	**51**	*e*P	**Pn**		**01 49 54.9**	**+1.4**
DAWY	**Dawson**	**17.26**	**39**	*e*P	**Pn**		**01 49 57.4**	**-1.8**
YKA	**Yellowknife Ar**	**27.80**	**50**	pP	pP		01 51 56.2	+6.8
	1.4nm,0.5s,baz=277,slow=9.9,SNR=7.3								
NVAR	**Mina Array Bea**	**34.82**	**95**	P	**P**		**01 52 49.7**	**+0.5**
	0.5nm,0.6s,mb3.6,baz=297,slow=12,SNR=3.8								
PDAR	**Pinedale Array**	**37.51**	**83**	P	**P**		**01 53 12.8**	**+0.6**
	1.1nm,0.6s,mb3.8,baz=298,slow=4.7,SNR=7.7								
KSRS	**Korea Array**	**48.19**	**280**	P	**P**		**01 54 38.8**	**+0.1**
	2.4nm,0.7s,mb4.3,baz=56,slow=7.7,SNR=5.6								
TXAR	**Lajitas Array**	**49.89**	**93**	P	**P**		**01 54 51.9**	**+0.1**
	1.7nm,0.5s,mb4.3,baz=300,slow=5.6,SNR=33								
TXAR				pP		pP	01 55 04.3	+10	
	1.0nm,0.6s,baz=297,slow=5.5,SNR=8.0								
TXAR	**Lajitas Array**	**49.89**	**93**	P	**P**		**01 54 51.9**	**+0.1**
TXAR				pP	pP		01 55 04.3	+10	
SONM	**Songino Array**	**53.52**	**303**	P	**P**		**01 55 19.5**	**+0.7**
	1.0nm,0.5s,mb4.0,baz=58,slow=7.9,SNR=5.9								
SONM				pP	pP		01 55 32.7	+12	
	0.8nm,0.4s,baz=304,slow=3.4,SNR=3.2								
ARCES	**ARCESS Array B**	**57.77**	**356**	P	**P**		**01 55 48.7**	**-0.3**
	2.1nm,0.9s,mb4.2,baz=7.0,slow=8.2,SNR=5.1								
ARCES				pP	pP		01 56 02.1	+11	
	2.9nm,0.8s,baz=10,slow=7.6,SNR=2.3								
ARCES	**ARCESS Array B**	**57.77**	**356**	P	**P**		**01 55 48.7**	**-0.3**
ARCES				pP	pP		01 56 02.1	+11	
JOF	**Joensuu**	**63.96**	**352**	*e*p	**P**		**01 56 30.5**	**-0.7**
	4.5nm,1.0s,mb4.5								
KAF	**Kangasniemi**	**65.12**	**354**	*e*p	**P**		**01 56 35.1**	**-3.7**
	3.3nm,0.5s,mb4.6								
MKAR	**Makanchi Array**	**65.56**	**316**	P	**P**		**01 56 41.5**	**-0.3**
	0.8nm,0.6s,mb3.9,baz=52,slow=6.3,SNR=6.3								
MKAR	**Makanchi Array**	**65.56**	**316**	P	**P**		**01 56 41.5**	**-0.3**
AKASG	**Malin Array Be**	**76.23**	**351**	P	**P**		**01 57 46.2**	**-0.4**
	0.5nm,0.3s,mb3.9,baz=11,slow=5.8,SNR=3.7								
GERES	**GERESS Array B**	**78.74**	**1**	pP	pP		01 58 14.7	+12	
	0.4nm,0.6s,baz=12,slow=5.4,SNR=3.8								

*NEIC **17** 01:49:23.7±3.1, 1626S×17498W,h293km±14km,mb3.8/1, Error ellipse: s-maj=253.9km s-min=15.2km az=152.0*
IDC 17 01:49:23.0±3.6,**1628S×17496W,h284**km±16km,**mb3.4/4, mb1 3.7/5,mb1mx3.4/17,mbtmp3.4/5,Error ellipse: s-maj=225.5km s-min=17.6km az=150.0,Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op	ISC		h m s	ISC
AFI	**Afiamalu**	**3.87**	**53**	P	Pn		01 50 28.4	+1.4
	4.8nm,0.3s,baz=195,slow=22,SNR=4.5								
AFI				S	S		01 51 18.2	0.0
	23nm,0.3s,baz=54,slow=17,SNR=9.1								
AFI	**Afiamalu**	**3.87**	**53**	P	Pn		01 50 28.4	+1.4
AFI				S	S		01 51 18.2	0.0
WRAB	**Tennant Creek**	**48.18**	**258**	*e*P	P		01 57 35.3	-0.2
	5.2nm,1.1s								
WRA	**Warramunga Arr**	**48.19**	**258**	P	P		01 57 35.5	-0.1
	1.0nm,0.5s,baz=90,slow=7.5,SNR=7.8								
ASAR	**Alice Springs**	**48.42**	**253**	P	P		01 57 37.1	-0.2
	3.0nm,0.5s,baz=87,slow=8.0,SNR=50								
NVAR	**Mina Array Bea**	**75.98**	**43**	P	P		02 00 39.6	+0.6
	0.7nm,0.7s,baz=221,slow=12,SNR=5.2								
PDAR	**Pinedale Array**	**83.92**	**42**	P	P		02 01 21.1	-0.2
	0.6nm,0.8s,baz=192,slow=1.7,SNR=3.7								
GERES	**GERESS Array B**	**146.76**	**350**	PKPbc	PKPbc		02 08 31.2	-0.3
	0.3nm,0.5s,baz=11,slow=7.1,SNR=3.7								

*CSEM **17** 02:25:43.7±0.1,3698N×2934E,h8km,MD3.1,Error ellipse: s-maj=2.1km s-min=1.4km az=36.0*
*ISCJB **17** 02:25:44.4±0.6,3699N±004×2932E±003,h8km±5km, Error ellipse: s-maj=7.0km s-min=3.9km az=17.4*
*ISK **17** 02:25:44.1,3698N×2932E,h12km,MD3.1*
*DDA **17** 02:25:44.3,3703N×2933E,h7km±2km,Md3.1*
ISC 17 02:25:44.9±0.6,**3699N**±004×**2932E**±003,**h9**km±5km**, n26,** σ0**70**/32,**Turkey**

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op	ISC		h m s	ISC
GOLH	**Golhisar**	**0.31**	**38**	*i* P	**Pg**		**02 25 50.2**	**-0.8**
ELL	**Elmali**	**0.53**	**117**	*e*PG	**Pg**		**02 25 54.0**	**-1.2**
ELL				*e*SG	**Sg**		**02 26 02.0**	**-0.1**
TURN	**Turunc**	**0.59**	**258**	*i* P	**Pg**		**02 26 01.6**	**+5.3**
DNZL	**Cakiroluk**	**0.73**	**343**	*i* P	**Pg**		**02 25 57.8**	**-1.1**
AKAS	**Kas**	**0.79**	**163**	*i* P	**Pg**		**02 25 59.9**	**-0.3**
DENT	**Denizli**	**0.79**	**343**	*e*PG	**Pg**		**02 25 60.0**	**-0.2**
DENT				*e*SG	**Sg**		**02 26 11.4**	**+0.9**
YER	**Yerkesik**	**0.84**	**280**	*e*PG	**Pg**		**02 26 01.4**	**+0.3**
YER				*e*SG	**Sg**		**02 26 13.3**	**+1.2**
ANTB	**Antalya**	**1.07**	**95**	*e*PG	**Pg**		**02 26 05.3**	**-0.1**
ANTB				*e*SG	**Sg**		**02 26 21.0**	**+1.6**
BCK	**Bucak**	**1.11**	**65**	*e*PN	**Pn**		**02 26 05.9**	**-0.8**
BCK				*e*SN	**Sn**		**02 26 22.1**	**0.0**
MLSB	**Milas**	**1.27**	**284**	*e*PN	**Pn**		**02 26 07.9**	**-0.9**
TKTP	**Tekketepe**	**1.31**	**37**	*i* P	**Pn**		**02 26 09.2**	**-0.2**
TKTP				*i* S	**Sb**		**02 26 30.8**	**+4.1**
AYDN	**Tasoluk**	**1.33**	**301**	*i* P	**Pn**		**02 26 09.7**	**+0.1**
KHL	**Karahalli**	**1.34**	**7**	*e*PN	**Pn**		**02 26 09.6**	**-0.2**
BDRM	**Kayabasi**	**1.50**	**273**	*i* P	**Pn**		**02 26 13.2**	**+1.2**
KULA	**Kula-Manisa**	**1.61**	**341**	*e*PN	**Pn**		**02 26 13.6**	**+0.2**
BODT	**Bodrum**	**1.61**	**273**	*e*PN	**Pn**		**02 26 13.5**	**0.0**
SHUT	**Suhut-Afyon**	**1.84**	**32**	*e*PN	**Pn**		**02 26 16.4**	**-0.2**
DEMI	**Demirci**	**2.10**	**347**	*i* P	**Pn**		**02 26 19.9**	**-0.3**
ALT	**Altintas**	**2.15**	**17**	*e*PN	**Pn**		**02 26 21.0**	**+0.1**
IZM	**Izmir**	**2.15**	**311**	*e*PN	**Pn**		**02 26 20.4**	**-0.6**
AKS	**Akhisar**	**2.23**	**328**	*e*PN	**Pn**		**02 26 21.3**	**-0.7**
BLCB	**Balcova**	**2.28**	**308**	*e*PN	**Pn**		**02 26 22.2**	**-0.5**
HDMB	**Hadim**	**2.53**	**90**	*e*PN	**Pn**		**02 26 26.5**	**+0.3**
KONT	**Konya--Tatoy**	**2.60**	**68**	*e*PN	**Pn**		**02 26 27.8**	**+0.7**
LADK	**Ladik-KONYA**	**2.70**	**63**	*e*PN	**Pn**		**02 26 29.2**	**+0.7**
KIZT	**Kizilcal**	**2.76**	**46**	*e*PN	**Pn**		**02 26 30.1**	**+0.8**

*SZGRF **17** 02:55:21.1,075N×9656E,h33km,mb4.6,Off west coast of northern Sumatera, Indonesia*
*BJI **17** 02:55:23.9,243N×9642E,h45km,mB5.0,mb4.9,Ms4.5, Msz4.3*
*IDC **17** 02:55:24.5±0.6,303N×9649E,h0km,mb4.7/16, mb1 4.8/17,mb1mx4.6/22,mbtmp4.7/17,ML5.1/1,MS4.0/15, Ms1 4.0/15,ms1mx3.9/22,Error ellipse: s-maj=27.0km s-min=14.7km az=54.0*
*MOS **17** 02:55:28.0±0.9,303N×9649E,h38km,mb5.2/55, MS4.0/18,Error ellipse: s-maj=11.9km s-min=5.2km az=112.9*
*DJA **17** 02:55:28.3±0.6,3N×96E±,h46km±7km,mB5.5/9, Mjma4.6/8,MLv5.0/8,Mw(mB)5.2/9,Mwp4.4/6*
*ISCJB **17** 02:55:28.5±0.2,294N±003×9634E±003,h40km, mb5.0/108,MS4.1/35,Error ellipse: s-maj=5.2km s-min=3.5km az=37.3*
*NEIC **17** 02:55:29.9±0.2,298N×9646E,mb5.0/55,Error ellipse: s-maj=7.4km s-min=4.4km az=53.0*
ISC 17 02:55:30.5±0.2,**293N**±003×**9631E**±003,**h42**km, **h42**km±1.8km:**pP-P,n285,**σ0**98**/287,**mb5.0**/108,**MS4.1**/35, **20C-13D,Northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op	ISC		h m s	ISC
GSI	**Gunungsitoli**	**2.05**	**142**	P	**Pn**		**02 56 01.7**	**-0.9**
TSI	**Tuntungan**	**2.32**	**76**	P	**Pn**		**02 56 08.4**	**+2.2**
TSI	**Tuntungan**	**2.32**	**76**	S	**Sn**		**02 56 45.7**	**+12**
BSI	**Banda Aceh**	**2.74**	**338**	P	**Pn**		**02 56 12.0**	**0.0**
BSI	**Banda Aceh**	**2.74**	**338**	S	**Sn**		**02 56 45.5**	**+1.6**
TRSI	**Tarutung**	**2.79**	**109**	P	**Pn**		**02 56 15.1**	**+2.3**
KULM	**Kulim**	**4.92**	**61**	⇓P	**Pn**		**02 56 42.6**	**+0.6**
IPM	**Ipoh**	**4.95**	**72**	⇓P	**Pn**		**02 56 43.1**	**+0.7**
IPM	**Ipoh**	**4.95**	**72**	P	**Pn**		**02 56 43.3**	**+0.9**
	183nm,0.6s,4μm1.2nm								
PPI	**Padang Panjang**	**5.29**	**129**	P	**Pn**		**02 56 45.5**	**-1.6**
	55nm,1.0s,1μm0.6nm								
PDSI	**Padang**	**5.64**	**133**	P	**Pn**		**02 56 54.2**	**+2.3**
	78nm,0.6s,3μm0.8nm								
SNG	**Songkhla**	**6.01**	**45**	P	**Pn**		**02 56 59.0**	**+2.0**
	2μm,1.1s								
KGM	**Kluang**	**7.06**	**97**	⇓P	**Pn**		**02 57 11.4**	**0.0**
KTGM	**Kuala Trenggan**	**7.21**	**71**	⇑P	**Pn**		**02 57 15.9**	**+2.5**
MYKOM	**Kota Tinggi**	**7.62**	**98**	⇓P	**Pn**		**02 57 20.1**	**+1.1**
MYKOM	**Kota Tinggi**	**7.62**	**98**	P	**Pn**		**02 57 19.6**	**+0.6**
KSI	**Kapahiang**	**9.07**	**136**	P	**Pn**		**02 57 39.3**	**+0.4**
	163nm,0.7s								
PPBI	**Pangkal Pinang**	**11.05**	**117**	P	**Pn**		**02 58 08.2**	**+2.1**
	15nm,1.4s								
KSM	**Kuching**	**14.06**	**96**	⇑P	**Pn**		**02 58 47.4**	**+0.2**
KKTK	**Khon Kaen**	**14.78**	**25**	P	**Pn**		**02 59 02.0**	**+5.1**
	926nm,0.5s								
CM31	**Chiang Mai Arr**	**15.64**	**9**	*e*P	**Pn**		**02 59 10.4**	**+2.3**
	21nm,0.7s								
CMAR	**Chiang Mai Arr**	**15.64**	**9**	Pn	**Pn**		**02 59 06.7**	**-1.4**
	2.5nm,0.3s,baz=189,slow=16,SNR=64								
CMAR				LR	LR		03 05 14.0		
	comp=Z,1μm,20.4s,baz=188,slow=38								
CMAR	**Chiang Mai Arr**	**15.64**	**9**	P	**Pn**		**02 59 06.7**	**-1.4**
CMAR				pmax	pmax				
	comp=Z,3.0nm,0.3s								
CMAR				MLR	MLR				
	comp=Z,1μm,20.5s								
SBUM	**Sibu**	**15.90**	**91**	⇑P	**Pn**		**02 59 11.0**	**-0.4**
SBUM	**Sibu**	**15.90**	**91**	P	**Pn**		**02 59 15.7**	**+4.2**
CHG	**Chiang Mai**	**15.99**	**9**	⇑P	**Pn**		**02 59 12.3**	**-0.3**
	comp=Z,17nm,0.6s								
CHTO	**Chiang Mai**	**15.99**	**9**	*e*P	**Pn**		**02 59 11.7**	**-0.9**
CHTO				pmax	pmax				
	comp=Z,128nm,2.4s								
CHTO	**Chiang Mai**	**15.99**	**9**	*e*Pn	**Pn**		**02 59 11.7**	**-0.9**
	comp=Z,128nm,2.4s								
NANT	**Nan**	**16.34**	**15**	⇑P	**Pn**		**02 59 16.0**	**-1.1**
	comp=Z,165nm,1.0s								
BTM	**Bintulu**	**16.75**	**89**	⇑P	**Pn**		**02 59 22.8**	**+0.5**
KKM	**Kota Kinabalu**	**20.08**	**80**	⇓P	**P**		**03 00 00.3**	**-0.4**
KKM	**Kota Kinabalu**	**20.08**	**80**	P	**P**		**03 00 02.5**	**+1.8**
	comp=Z,34nm,1.3s,comp=Z,558nm								
KKM	**Kota Kinabalu**	**20.08**	**80**	*e*P	**P**		**03 00 00.1**	**-0.5**
QIZ	**Qiongzhong**	**20.76**	**39**	P	**P**		**03 00 08.6**	**+0.6**
QIZ				*e*S	**S**		**03 03 51.6**	**-6.0**
QIZ				LR	LR				
	comp=N,827nm,18.5s								
QIZ				LR	LR				
	comp=Z,892nm,19.6s,MS4.1								
KDM	**Kudat**	**20.82**	**78**	⇑P	**P**		**03 00 10.4**	**+1.8**
SDKM	**Sandakan**	**21.00**	**82**	⇓P	**P**		**03 00 09.8**	**-0.8**
TSM	**Tawau**	**21.56**	**86**	⇑P	**P**		**03 00 18.3**	**+1.6**
MYLDM	**Lahad Datu**	**22.24**	**84**	⇓P	**P**		**03 00 23.8**	**-0.2**
MYLDM	**Lahad Datu**	**22.24**	**84**	P	**P**		**03 00 27.1**	**+3.1**
HYB	**Hyderabad**	**22.60**	**311**	*i* P	**P**		**03 00 31.5**	**+3.8**
HYB	**Hyderabad**	**22.60**	**311**	*e*P	**P**		**03 00 31.5**	**+3.8**
SHL	**Shillong**	**22.90**	**350**	*e*P	**P**		**03 00 30.0**	**-0.8**
SHL				*i* S	**S**		**03 04 38.0**	**+0.2**
KMI	**Kunming**	**22.91**	**15**	P	**P**		**03 00 31.8**	**+0.9**
KMI				AP			03 00 42.3		
KMI				XP	sP		03 00 47.1	+0.4	
KMI				PP			03 00 58.5		
KMI				S	**S**		**03 04 34.0**	**-4.0**
KMI				XS	sS		03 04 52.8	-3.6	
KMI				SS			03 05 20.1		
KMI				AMB	AMB				
	comp=Z,18nm,1.0s,mb4.5								
KMI				AMB	AMB				
	comp=Z,205nm,6.0s								
KMI				LR	LR				
	comp=N,752nm,12.5s								
KMI				LR	LR				
	comp=E,385nm,17.9s								
KMI				LR	LR				
	comp=Z,818nm,14.7s,MS4.3								
ODAN	**Odare**	**25.28**	**341**	*e*P	**P**		**03 00 53.2**	**+0.1**
	comp=Z,50nm,0.5s,mb5.3								
GYA	**Guiyang**	**25.41**	**22**	⇓*i*P	**P**		**03 00 53.8**	**-0.5**
GYA				AP	pP		03 01 04.3	-1.3	
GYA				XP	sP		03 01 08.9	-1.7	
GYA				PP			03 01 34.4		
GYA				PCP	PcP		03 04 25.6	-0.3	
GYA				S	**S**		**03 05 14.0**	**-4.3**
GYA				XS	sS		03 05 35.9	-1.3	
GYA				AMB	AMB				
	comp=Z,10.0nm,0.9s,mb4.3								
GYA				AMB	AMB				
	comp=Z,120nm,4.8s								
GYA				LR	LR				
	comp=N,440nm,13.2s,MS4.3								
GYA				LR	LR				
	comp=E,580nm,14.6s,MS4.3								
GYA				LR	LR				
	comp=Z,480nm,13.9s,MS4.2								
RAMN	**Ramite**	**25.63**	**340**	*e*P	**P**		**03 00 57.0**	**+0.8**
	comp=Z,101nm,0.5s,mb5.6								
TAPN	**Taplejung**	**25.64**	**342**	*e*P	**P**		**03 00 56.3**	**0.0**
	comp=Z,31nm,0.4s,mb5

KAKA Kakadu 39.10 114 P **P** **03 02 49.7 -4.4**
comp=Z,40nm,0.7s,comp=Z,298nm,mb5.3
HHC Hu-ho-hao-te 40.18 18 *e*P **P** **03 03 03.1 +0.4**
HHC AP pP 03 03 15.9 +1.6
HHC XP sP 03 03 20.8 +1.5
HHC PP PP 03 04 40.5 +4.8
HHC PCP PcP 03 05 07.3 +0.9
HHC SCP ScP 03 08 51.3 -1.1
HHC S **S** **03 09 06.3 -0.3**
HHC XS sS 03 09 27.8 +1.8
HHC SS SS 03 12 00.1 -5.7
HHC SCS ScS 03 13 04.0 -1.9
HHC AMB AMB
comp=Z,33nm,1.0s,mb5.0
HHC AMB AMB
comp=Z,118nm,6.5s
HHC LR LR
comp=N,221nm,13.3s,MS4.3
HHC LR LR
comp=E,233nm,14.5s,MS4.3
HHC LR LR
comp=Z,200nm,13.9s,MS4.1
BJT Baijiatuau 41.07 23 *e*P **P** **03 03 09.8 -0.3**
BJT pmax pmax
comp=Z,21nm,0.6s
BJT Baijiatuau 41.07 23 *e*P **P** **03 03 09.8 -0.2**
comp=Z,21nm,0.6s,mb4.9
BJI Beijing 41.09 23 P **P** **03 03 09.8 -0.4**
BJI S **S** **03 09 19.6 -0.6**
BJI AMB AMB
comp=Z,25nm,0.9s,mb4.8
BJI AMB AMB
comp=Z,94nm,4.0s
BJI LR LR
comp=N,133nm,19.8s,MS4.1
BJI LR LR
comp=E,205nm,15.7s,MS4.1
BJI LR LR
comp=Z,143nm,31.9s
WMQ Urumqi 41.43 351 ⇑P **P** **03 03 13.5 +0.6**
WMQ AP pP 03 03 25.3 +0.7
WMQ XP sP 03 03 30.5 +0.9
WMQ PP PP 03 04 53.0 +3.8
WMQ PCP PcP 03 05 11.8 +1.5
WMQ S **S** **03 09 25.0 -0.1**
WMQ XS sS 03 09 45.5 +1.0
WMQ AMB AMB
comp=Z,17nm,0.9s,mb4.7
WMQ AMB AMB
comp=Z,164nm,4.0s
WMQ LR LR
comp=N,122nm,24.6s,MS3.8
WMQ LR LR
comp=E,91nm,23.5s,MS3.8
WMQ LR LR
comp=Z,124nm,20.0s,MS3.8
WRA Warramunga Arr 43.71 123 P **P** **03 03 30.7 -1.1**
comp=Z,7.4nm,0.5s,mb4.7,baz=302,slow=9.2,SNR=66
WRA LR LR 03 21 39.2
comp=Z,187nm,21.1s,MS4.0,baz=280,slow=36
WRA Warramunga Arr 43.71 123 P **P** **03 03 30.7 -1.2**
WRA pmax pmax
comp=Z,7.0nm,0.5s
WRA MLR MLR
comp=Z,187nm,21.1s
WRAB Tennant Creek 43.71 123 *e*P **P** **03 03 30.9 -1.0**
WRAB pmax pmax
comp=Z,21nm,1.1s,mb4.8
WRAB Tennant Creek 43.71 123 *e*P **P** **03 03 30.9 -1.0**
comp=Z,22nm,1.1s,mb4.8
UCH Uchtor 43.72 336 P **P** **03 03 32.9 +1.4**
SNR=64
UCH Uchtor 43.72 336 *e*P **P** **03 03 32.8 +1.2**
comp=Z,36nm,0.7s,mb5.2
TKM2 Tokmak 2 43.89 338 *e*P **P** **03 03 33.4 +0.5**
TKM2 pmax pmax
comp=Z,26nm,0.9s,mb5.0
TKM2 Tokmak 2 43.89 338 P **P** **03 03 33.8 +0.8**
SNR=34
TKM2 Tokmak 2 43.89 338 *e*P **P** **03 03 33.4 +0.5**
comp=Z,26nm,0.9s,mb5.0
KBK Karagaybulak 43.91 337 P **P** **03 03 34.6 +1.5**
SNR=20
AML Almayashu 43.97 336 P **P** **03 03 35.0 +1.4**
SNR=37
AML Almayashu 43.97 336 *e*P **P** **03 03 34.8 +1.2**
comp=Z,36nm,0.8s,mb5.2
AAK Ala-Archa 44.07 337 P **P** **03 03 35.5 +1.1**
SNR=18
FRU Bishkek 44.19 337 *e*P **P** **03 03 36.5 +1.2**
FRU pmax pmax
comp=Z,80nm,2.2s,mb5.1
CHMS Chumysh 44.28 337 P **P** **03 03 36.6 +0.5**
SNR=7.2
EKS2 Erkin-Say 44.38 336 P **P** **03 03 38.1 +1.3**
SNR=30
EKS2 Erkin-Say 44.38 336 *e*P **P** **03 03 37.6 +0.8**
comp=Z,21nm,0.7s,mb5.0
USP Ospenovka 44.60 337 P **P** **03 03 39.4 +0.7**
SNR=81
KSRS Korea Array 44.96 36 P **P** **03 03 39.5 -2.1**
comp=Z,1.8nm,0.6s,mb4.1,baz=224,slow=9.1,SNR=4.7
KSRS LR LR 03 23 38.9
comp=Z,322nm,19.4s,MS4.3,baz=213,slow=38
KSRS Korea Array 44.96 36 P **P** **03 03 39.5 -2.1**
KSRS pmax pmax
comp=Z,2.0nm,0.6s,mb4.1
KSRS MLR MLR
comp=Z,322nm,19.4s,MS4.3
ASAR Alice Springs 45.15 128 P **P** **03 03 42.3 -1.0**
comp=Z,2.4nm,0.5s,mb4.3,baz=299,slow=8.1,SNR=42
ASAR PcP PcP 03 05 23.4 +0.1
comp=Z,0.7nm,0.6s,baz=297,slow=4.3,SNR=4.1
ASAR Alice Springs 45.15 128 P **P** **03 03 42.3 -1.0**
ASAR 03 05 23.5
ASAR pmax pmax
comp=Z,2.0nm,0.5s
ASAR pmax pmax
comp=Z,1.0nm,0.6s
FORT Forrest 45.17 140 *e*P **P** **03 03 43.9 +0.6**
comp=Z,20nm,0.6s,mb5.1
MK31 Makanchi Array 45.36 346 *i* P **P** **03 03 44.0 -0.6**
MK31 pmax pmax
comp=Z,38nm,0.5s,mb5.5
MK31 Makanchi Array 45.36 346 *e*P **P** **03 03 44.2 -0.3**
MKAR Makanchi Array 45.36 346 P **P** **03 03 44.1 -0.5**
comp=Z,36nm,0.6s,mb5.4,baz=162,slow=8.4,SNR=193
MKAR LR LR 03 25 55.3
comp=Z,95nm,18.1s,MS3.8,baz=174,slow=40
MKAR Makanchi Array 45.36 346 P **P** **03 03 44.1 -0.5**
MKAR pmax pmax
comp=Z,36nm,0.6s
MKAR MLR MLR
comp=Z,95nm,18.2s
SONM Songino Array 45.57 10 P **P** **03 03 45.8 -0.4**
comp=Z,14nm,0.6s,mb5.0,baz=190,slow=8.9,SNR=68
SONM PcP PcP 03 05 24.7 +0.4
comp=Z,5.5nm,0.6s,baz=193,slow=3.8,SNR=10
SONM LR LR 03 25 07.5
comp=Z,324nm,18.2s,MS4.3,baz=63,slow=39
SONM Songino Array 45.57 10 P **P** **03 03 45.8 -0.4**
SONM 03 05 24.7
SONM pmax pmax
comp=Z,14nm,0.6s
SONM pmax pmax
comp=Z,6.0nm,0.6s
SONM MLR MLR
comp=Z,324nm,18.2s
KK31 Karatay Array 46.12 334 *i* P **P** **03 03 51.3 +0.6**
KK31 pmax pmax
comp=Z,3.0nm,0.3s,mb4.7
ZAK Zakamensk 47.65 6 *e*P **P** **03 04 01.9 -0.6**
ZAK *e* 03 05 31.7
ZAK pmax pmax
comp=Z,8.0nm,1.1s,mb4.7
CN2 Changchun 48.19 28 *e*P **P** **03 04 08.3 +1.5**
CN2 *e*XP sP 03 04 22.0 -1.6
CN2 *e*S **S** **03 11 04.3 +1.2**
CN2 AMB AMB
comp=Z,10.0nm,0.7s,mb5.0
CN2 AMB AMB
comp=Z,200nm,3.0s
CN2 LR LR
comp=N,220nm,21.0s,MS4.3
CN2 LR LR
comp=E,250nm,21.0s,MS4.3
CN2 LR LR
comp=Z,140nm,22.0s,MS3.9
TLY Talaya 48.97 6 ⇓*i*P **P** **03 04 12.7 +0.1**
TLY pmax pmax
comp=Z,20nm,1.1s,mb5.1
TLY Talaya 48.97 6 *i* P **P** **03 04 12.8 +0.2**
ABKT Ailbek 49.32 320 P **P** **03 04 16.3 +0.7**
comp=Z,631nm,0.6s,SNR=29
COEN Coen 49.40 111 *e*P **P** **03 04 14.4 -2.2**
comp=Z,2.7nm,0.5s,mb4.5
KURK Kurchatov 49.90 345 P **P** **03 04 19.0 -0.7**
comp=Z,18nm,0.6s,mb5.3,baz=164,slow=6.9,SNR=124
KURK PcP PcP 03 05 39.8 +0.1
comp=Z,5.0nm,0.7s,baz=158,slow=3.2,SNR=5.3
KURK LR LR 03 27 16.5
comp=Z,192nm,21.9s,MS4.1,baz=195,slow=38
KURK Kurchatov 49.90 345 P **P** **03 04 19.0 -0.8**
KURK 03 05 39.8
KURK pmax pmax
comp=Z,18nm,0.6s,mb5.3
KURK pmax pmax
comp=Z,5.0nm,0.7s,mb4.7
KURK MLR MLR
comp=Z,192nm,21.9s,MS4.1
KURK Kurchatov 49.90 345 *e*P **P** **03 04 19.6 -0.2**
comp=Z,15nm,0.6s,mb5.2
HIA Hailar 50.31 20⇑*e*P **P** **03 04 22.3 -0.6**
MDJ Mudanjiang 50.81 30 P **P** **03 04 25.6 -1.2**
MDJ AP pP 03 04 37.0 -1.7
MDJ XP sP 03 04 42.1 -1.5
MDJ PP PP 03 06 21.5 -1.8
MDJ SCP ScP 03 09 34.8 -1.4
MDJ PCS PcS 03 09 39.6 -0.9
MDJ S **S** **03 11 38.9 -0.9**
MDJ XS sS 03 11 58.0 -1.7
MDJ SCS ScS 03 14 12.8 -1.3
MDJ AMB AMB
comp=Z,2.0nm,0.8s,mb4.1
MDJ AMB AMB
comp=Z,50nm,4.9s
MDJ LR LR
comp=N,52nm,22.6s,MS3.7
MDJ LR LR
comp=E,78nm,25.4s,MS3.7
MDJ LR LR
comp=Z,102nm,23.7s,MS3.8
MJAR Matsushiro Art 51.04 44 LR LR 03 28 32.8
comp=Z,129nm,18.4s,MS4.0,baz=250,slow=39
ZAA0 Zalesovo Array 51.72 351 *e*P **P** **03 04 32.8 -0.6**
ZALV Zalesovo Beam 51.72 351 P **P** **03 04 33.1 -0.3**
comp=Z,45nm,0.5s,mb5.6,baz=178,slow=7.0,SNR=169
ZALV LR LR 03 31 29.3
comp=Z,86nm,18.9s,MS3.8,baz=134,slow=42
ZALV Zalesovo Beam 51.72 351 P **P** **03 04 33.1 -0.3**
ZALV pmax pmax
comp=Z,45nm,0.5s,mb5.7
ZALV MLR MLR
comp=Z,86nm,19.0s,MS3.8
NVS Novosibirsk 52.83 351 *i* P **P** **03 04 40.6 -1.0**
NVS pmax pmax
comp=N,30nm,1.4s
NVS pmax pmax
comp=E,26nm,1.4s
NVS pmax pmax
comp=Z,41nm,1.4s,mb5.2
KRAR Krasnoyarsk 52.99 358 *i* P **P** **03 04 42.5 -0.3**
KRAR pmax pmax
comp=Z,38nm,0.6s,mb5.5
RDF Al-Radifah 53.02 304 *e*P **P** **03 04 44.8 +1.3**
baz=304
RDF AMb AMB 03 04 45.9
comp=Z,73nm,0.7s,mb5.7,baz=304
UMR Umm Al-Rimmam 53.10 305 *e*P **P** **03 04 45.1 +1.0**
baz=305
UMR AMb AMB 03 04 46.0
comp=Z,56nm,0.7s,mb5.6,baz=305
NAY Al-Naaiem 53.38 305 *e*P **P** **03 04 46.9 +0.7**
baz=305
NAY AMb AMB 03 04 48.3
comp=Z,37nm,0.7s,mb5.4,baz=305
MIB Mutribah 53.49 305 *e*P **P** **03 04 48.0 +1.1**
baz=305
MIB AMb AMB 03 04 49.3
comp=Z,132nm,0.7s,mb6.0,baz=305
RST Umm Al-Ruwaisa 53.67 305 *e*P **P** **03 04 48.8 +0.5**
baz=305
RST AMb AMB 03 04 49.8
comp=Z,30nm,0.7s,mb5.3,baz=305
VOSK Vostochnaya 53.88 341 P **P** **03 04 49.5 +0.1**
VOSK pmax pmax
comp=Z,36nm,0.5s,mb5.6
CTAO Charters Tower 54.07 117 *e*P **P** **03 04 51.1 -0.3**
BVA0 Borovoye Array 54.33 341 *i* P **P** **03 04 51.7 -1.0**
BVA0 pmax pmax
comp=Z,5.0nm,0.6s,mb4.6
BRVK Borovoye 54.39 341 *e*P **P** **03 04 52.4 -0.7**
BRVK pmax pmax
comp=Z,43nm,0.7s,mb5.5
BRVK Borovoye 54.39 341 *e*P **P** **03 04 52.4 -0.7**
comp=Z,43nm,0.7s,mb5.5
KLR Kul'dur 55.12 28 *e*P **P** **03 04 53.6 -4.9**
STKA Stephens Creek 55.17 133 P **P** **03 04 58.5 -0.7**
comp=Z,4.1nm,0.7s,mb4.6,baz=311,slow=12,SNR=6.4
STKA Stephens Creek 55.17 133 *e*P **P** **03 04 58.5 -0.6**
AB31 Akbulak array 55.58 332⇑*e*P **P** **03 05 01.5 -0.2**
BOD Bodaibo 56.49 11 *e*P **P** **03 05 07.1 -1.0**
BOD pmax pmax
comp=Z,20nm,0.7s,mb5.3
AKTK Aktyubinsk 57.29 332 *i* P **P** **03 05 13.4 -0.5**
AKTO Aktyubinsk 57.29 332 *i* P **P** **03 05 13.3 -0.6**
AKTO pmax pmax
comp=Z,1.0nm,0.6s,mb4.0
KMBO Kilima Mbogo 59.18 267 LR LR 03 28 18.3
comp=Z,193nm,18.5s,MS4.3,baz=188,slow=33
KMBO Kilima Mbogo 59.18 267 *e*P **P** **03 05 30.4 +2.6**
KMBO pmax pmax
comp=Z,3.0nm,1.0s
KMBO Kilima Mbogo 59.18 267 *e*P **P** **03 05 30.4 +2.6**
comp=Z,2.7nm,1.0s,mb4.2
GNI Garni 59.44 316⇑*e*P **P** **03 05 30.5 +1.4**
GNI pmax pmax
comp=Z,17nm,1.3s
GNI Garni 59.44 316 *e*P **P** **03 05 29.9 +0.7**
comp=Z,9.4nm,0.8s,mb4.9
YSS Yuzh-Sakhalins 59.44 35 *i* P **P** **03 05 27.8 -1.2**
SVE Sverdlovsk 60.76 338⇑*e*P **P** **03 05 37.5 -0.3**
SVE *e* 03 07 56.6
SVE *e*S **S** **03 13 53.6 +1.8**
SVE *e*SS SS 03 17 47.5 -3.7
SVE pmax pmax
comp=Z,37nm,0.7s,mb5.6
ARU Arti 61.25 337⇓*e*P **P** **03 05 40.3 -0.9**
ARU pmax pmax
comp=Z,13nm,1.0s,mb5.0
ARU MLR MLR
comp=Z,100nm,25.0s,MS3.9
ARU Arti 61.25 337 *e*P **P** **03 05 40.4 -0.7**
comp=Z,11nm,0.9s,mb5.0
KIV Kislovodsk 62.42 319⇓*i*P **P** **03 05 49.9 +0.6**
KIV pmax pmax
comp=Z,31nm,1.1s,mb5.3
KIV MLR MLR
comp=Z,100nm,29.0s,MS3.8
KIV Kislovodsk 62.42 319 *e*P **P** **03 05 50.2 +0.9**
comp=Z,21nm,0.9s,mb5.3
KIV *e*pP pP 03 06 03.6 +2.0
YAK Yakutsk 64.02 17 *e*P **P** **03 05 54.9 -4.6**
YAK pmax pmax
comp=Z,37nm,1.0s,mb5.4
YAK pmax pmax
comp=N,12nm,1.1s
YAK pmax pmax
comp=E,15nm,1.4s
YAK Yakutsk 64.02 17⇑*e*P **P** **03 05 59.3 -0.2**
VRHR Novokhopersk 66.20 326 *e*P **P** **03 06 13.1 -0.8**
VRHR pmax pmax
comp=Z,30nm,0.6s,mb5.5
VRHR pmax pmax
comp=N,30nm,0.9s
VRHR pmax pmax
comp=E,20nm,0.8s
ANN Anapa 66.22 318 *e*P **P** **03 06 06.2 -8.0**
ANN pmax pmax
comp=Z,42nm,1.0s,mb5.4
BR131 Keskin Array S 67.30 312 *e*P **P** **03 06 21.3 +0.2**
comp=Z,1.5nm,0.5s,mb4.3
VSR Storozhevoye 67.65 325 *e*P **P** **03 06 22.0 -1.1**
VSR pmax pmax
comp=Z,6.0nm,0.7s,mb4.7
VSR pmax pmax
comp=N,2.0nm,0.6s
VSR pmax pmax
comp=E,7.0nm,0.6s
SIM Simferopol' 68.49 318 *e*P **P** **03 06 29.0 +0.4**
SIM pmax pmax
comp=Z,17nm,0.9s,mb5.1
MOS Moscow 70.40 329 *e*P **P** **03 06 38.5 -1.6**
MOS *e* 03 06 54.7
MOS *e* 03 09 15.8
MOS pmax pmax
comp=Z,72nm,0.7s,mb5.7
OBN Obninsk 70.69 328⇑*e*P **P** **03 06 41.3 -0.6**
OBN *e* 03 09 18.2
OBN *e*S S 03 15 58.8 +5.8
OBN *e*SS SS 03 20 22.8 -2.7
OBN pmax pmax
comp=Z,25nm,0.7s,mb5.2
OBN MLR MLR
comp=Z,100nm,20.0s,MS4.1
OBN Obninsk 70.69 328 *i* P **P** **03 06 41.3 -0.6**
PETK Petropavlovsk- 70.80 34 LR LR 03 41 11.4
comp=Z,71nm,18.2s,MS4.0,baz=61,slow=39
PET Petropavlovsk 71.30 34 *e*P **P** **03 06 46.8 +1.1**
PET pmax pmax
comp=Z,47nm,1.0s,mb5.4
PET MLR MLR
comp=Z,200nm,20.0s,MS4.4
PET Petropavlovsk 71.30 34⇑*e*P **P** **03 06 46.7 +1.0**
TIXI Tiksi 71.65 10 *e*P **P** **03 06 45.6 -1.8**
TIXI pmax pmax
comp=Z,13nm,1.5s,mb4.6
TIXI MLR MLR
comp=Z,210nm,18.0s,MS4.5
TIXI Tiksi 71.65 10⇑*e*P **P** **03 06 45.5 -1.9**
KLMR Klimovskoe 71.81 334 *e*P **P** **03 06 47.0 -1.6**
KLMR pmax pmax
comp=Z,26nm,1.8s,mb4.9
TIRR Tirgusor 72.27 316 *e*P **P** **03 06 51.5 -0.1**
TIRR *e**PP pP 03 07 02.6 -1.5
TIRR pmax pmax
comp=Z,8.0nm,0.8s,mb4.7
TIRR Tirgusor 72.27 316 *e*P **P** **03 06 51.5 -0.1**
comp=Z,7.9nm,0.8s,mb4.7
TIRR *e*pP pP 03 07 02.6 -1.5
SEY Seymchan 72.53 23⇑*e*P **P** **03 06 51.3 -1.5**
AKASG Malin Array Be 73.35 322 P **P** **03 06 57.2 -0.7**
comp=Z,8.2nm,0.6s,mb4.8,baz=92,slow=5.2,SNR=34
AKASG Malin Array Be 73.35 322 P **P** **03 06 57.3 -0.6**
AKASG pmax pmax
comp=Z,8.0nm,0.6s
AKBB Malin Array Si 73.35 322 *e*P **P** **03 06 57.1 -0.8**
MAW Mawson 74.19 193 LR LR 03 32 33.4
comp=Z,82nm,19.5s,MS4.0,baz=62,slow=30
BOSA Boshof 74.88 239 LR LR 03 35 47.6
comp=Z,112nm,18.1s,MS4.2,baz=242,slow=32
BUR08 Bucovina Ar. S 75.16 319 *e*P **P** **03 07 09.6 +1.0**
JOF Joensuu 76.21 335 *e*p **P** **03 07 13.4 -0.8**
comp=Z,10nm,0.7s,mb4.9
JOF Joensuu 76.21 335 *e*P **P** **03 07 13.4 -0.8**
JOF pmax pmax
comp=Z,10.0nm,0.7s,mb4.8
LVV L'vov 76.37 321 *e*P **P** **03 07 14.9 -0.5**
KWP Kalwaria 77.18 320 *e*P **P** **03 07 20.8 +0.8**
KWP Kalwaria 77.18 320 *e*P **P** **03 07 20.7 +0.7**
KOLS Kolonicke sedl 77.33 319 *e*P **P** **03 07 21.0 +0.2**
SUW Suwalki 77.75 325 *e*P **P** **03 07 22.9 -0.2**
SUW Suwalki 77.75 325 *e*P **P** **03 07 22.9 -0.2**
CRVS Cervenica-Dubn 77.85 319 *e*P **P** **03 07 24.8 +1.1**
STHS Stebnicka Huta 78.08 320 *e*P **P** **03 07 26.1 +1.1**
STHS *e* pP 03 07 40.0 +2.4
STHS pmax pmax
comp=Z,5.0nm,0.8s,mb4.5
STHS Stebnicka Huta 78.08 320 *e*P **P** **03 07 26.1 +1.1**
comp=Z,5.4nm,0.8s,mb4.5
STHS *e* pP 03 07 40.0 +2.4
KAF Kangasniemi 78.14 333 *e*p **P** **03 07 24.0 -1.1**
comp=Z,16nm,0.6s,mb5.1,baz=103,slow=5.2
KAF Kangasniemi 78.14 333 *e*P **P** **03 07 24.0 -1.1**
KAF pmax pmax
comp=Z,16nm,0.6s,mb5.1
PSZ Piszkesteto 78.73 318 *e*P **P** **03 07 28.8 +0.2**
PSZ *e**PP pP 03 07 40.3 -0.9
PSZ pmax pmax
comp=Z,5.0nm,0.6s,mb4.6
PSZ Piszkesteto 78.73 318 *e*P **P** **03 07 28.8 +0.1**
comp=Z,5.0nm,0.6s,mb4.6
PSZ *e*pP pP 03 07 40.3 -0.9
OJC Ojcow 79.13 320 *e*P **P** **03 07 31.3 +0.5**
VYHS Vyhne 79.51 319 *e*P **P** **03 07 33.0 +0.1**
BILL Bilibino 79.87 21⇓*e*P **P** **03 07 31.2 -3.2**
BILL *e* 03 10 37.7
BILL *e*S S 03 17 26.4 -8.1
BILL pmax pmax
comp=Z,18nm,2.4s,mb4.6
BILL MLR MLR
comp=Z,200nm,17.0s,MS4.5
KEV Kevo 80.18 341 *e*p **P** **03 07 33.1 -3.0**
comp=Z,9.8nm,0.6s,mb4.9
KEV Kevo 80.18 341 *e*P **P** **03 07 33.1 -3.0**
KEV pmax pmax
comp=Z,10.0nm,0.6s,mb4.9
MORC Moravsky Berou 80.51 320 *e*P **P** **03 07 38.3 0.0**
MORC pmax pmax
comp=Z,2.0nm,0.6s,mb4.2
MORC Moravsky Berou 80.51 320 *e*P **P** **03 07 38.3 0.0**
comp=Z,2.1nm,0.6s,mb4.2
MODS Modra-Piesok 80.53 318 *e*P **P** **03 07 36.0 -2.4**
MODS pmax pmax
comp=Z,15nm,2.0s,mb4.6
MODS Modra-Piesok 80.53 318 *e*P **P** **03 07 36.0 -2.4**
comp=Z,15nm,2.0s,mb4.6
ARCES ARCESS Array B 80.61 340 P **P** **03 07 38.4 0.0**
comp=Z,5.3nm,0.4s,mb4.8,baz=95,slow=4.9,SNR=97
ARCES LR LR 03 47 29.9
comp=Z,96nm,18.0s,MS4.2,baz=9.1,slow=39
ARCES ARCESS Array B 80.61 340 P **P** **03 07 38.4 0.0**
ARCES pmax pmax
comp=Z,5.0nm,0.4s
ARCES MLR MLR
comp=Z,96nm,18.0s
ARCES ARCESS Array B 80.61 340 P **P** **03 07 38.4 0.0**
ARCES LR LR 03 47 29.9
ARE0 ARCESS Array S 80.61 340 *e*P **P** **03 07 38.1 -0.3**
ZST Bratislava 80.62 318 *e*P **P** **03 07 40.0 +1.1**
ZST *e* pP 03 07 51.1 -0.4
ZST pmax pmax
comp=Z,8.0nm,0.6s,mb4.8
ZST Bratislava 80.62 318 *e*P **P** **03 07 40.0 +1.1**
ZST *e*pP pP 03 07 51.0 -0.5
ZST Bratislava 80.62 318 *e*P **P** **03 07 40.0 +1.1**
comp=Z,8.2nm,0.6s,mb4.8
ZST *e* pP 03 07 51.1 -0.4
BOJS Bojanci 81.65 315 *i* P **P** **03 07 44.5 +0.1**
PDKS Podkum 81.86 316 *e*P **P** **03 07 46.3 +0.7**
ZAVS Zavodnje 81.87 316 *e*P **P** **03 07 45.9 +0.4**
SOKA Soboth 81.89 317⇑*i*P **P** **03 07 46.3 +0.7**
GEC2 GERESS Array S 82.93 319 *e*P **P** **03 07 51.2 +0.2**
GEC2 *e**PP pP 03 08 02.9 -0.8
GERES GERESS Array B 82.93 319 P **P** **03 07 51.8 +0.8**
comp=Z,1.6nm,0.7s,mb4.2,baz=101,slow=6.2,SNR=20
GERES GERESS Array B 82.93 319 P **P** **03 07 51.8 +0.8**
GERES pmax pmax
comp=Z,2.0nm,0.7s
KHC Kasperske Hory 83.03 319 *i* P **P** **03 07 52.7 +1.1**
GRA1 Grafenberg Arr 84.60 319 *e*P **P** **03 08 00.6 +1.1**
comp=Z,4.0nm,0.9s,mb4.5
GRF Grafenberg Arr 84.60 319 *e*P **P** **03 08 00.6 +1.1**
GRF pmax pmax
comp=Z,4.0nm,0.9s,mb4.5
GRF Grafenberg Arr 84.60 319 *e*P **P** **03 08 00.6 +1.1**
GRF pmax pmax
comp=Z,4.0nm,0.9s,mb4.5
GRF Grafenberg Arr 84.60 319 *e*P **P** **03 08 00.6 +1.1**
comp=Z,4.0nm,0.9s,mb4.5
MOTA Moosalm 84.61 317⇓*i*P **P** **03 07 59.3 -0.3**
comp=Z,4.3nm,0.7s,mb4.7
NB2 NORSAR Subarra 85.07 331 P **P** **03 08 01.1 -0.6**
comp=Z,7.9nm,0.8s,mb4.9,baz=95,slow=4.8
NOA NORSAR Array B 85.07 331 P **P** **03 08 01.6 -0.1**
comp=Z,4.2nm,0.8s,mb4.6,baz=94,slow=5.4,SNR=8.9
NOA LR LR 03 48 22.8

comp=Z,63nm,20.2s,MS4.0,baz=115,slow=37
NOA NORSAR Array B 85.07 331 P **P** **03 08 01.6 -0.1**
NOA pmax pmax
comp=Z,4.0nm,0.8s
NOA MLR MLR
comp=Z,63nm,20.2s
DAVOX Davos/Dischmat 85.43 317 P **P** **03 08 04.6 +0.9**
comp=Z,9.3nm,0.6s,mb5.1,baz=119,slow=4.2,SNR=19
DAVOS Davos 85.49 317 P **P** **03 08 04.7 +0.6**
KEST Kesra 85.84 305 P **P** **03 08 07.9 +1.9**
comp=Z,2.3nm,0.9s,mb4.4,baz=334,slow=10,SNR=8.9
PGF Pioggiola 86.05 312 *e*P **P** **03 08 07.7 +0.7**
CDF Champ du Feu 87.19 318 *e*P **P** **03 08 11.5 -0.9**
HINF Hinteralfeld 87.48 318 *e*P **P** **03 08 13.5 -0.3**
LPG La Plagne 87.62 315 *e*P **P** **03 08 14.5 0.0**
comp=Z,9.8nm,0.6s,mb4.9
LPG La Plagne 87.62 315 *e*P **P** **03 08 14.5 0.0**
LPG pmax pmax
comp=Z,5.0nm,0.6s,mb4.9
LPG La Plagne 87.62 315 *e*P **P** **03 08 14.5 0.0**
comp=Z,4.9nm,0.6s,mb4.9
MBDF Montbardon 87.63 314 *e*P **P** **03 08 14.2 -0.4**
comp=Z,6.3nm,0.7s,mb4.7
MBDF Montbardon 87.63 314 *e*P **P** **03 08 14.2 -0.4**
MBDF pmax pmax
comp=Z,3.0nm,0.7s,mb4.6
MBDF Montbardon 87.63 314 *e*P **P** **03 08 14.2 -0.4**
comp=Z,3.2nm,0.7s,mb4.7
LPL La Plagne 87.63 315 *e*P **P** **03 08 14.5 -0.1**
comp=Z,7.1nm,0.6s,mb4.8
LPL La Plagne 87.63 315 *e*P **P** **03 08 14.5 -0.1**
LPL pmax pmax
comp=Z,4.0nm,0.6s,mb4.8
LPL La Plagne 87.63 315 *e*P **P** **03 08 14.5 -0.1**
comp=Z,3.5nm,0.6s,mb4.8
FRF La Foret Royal 87.76 313 *e*P **P** **03 08 14.9 -0.3**
comp=Z,11nm,0.8s,mb4.9
FRF La Foret Royal 87.76 313 *e*P **P** **03 08 14.9 -0.3**
FRF pmax pmax
comp=Z,6.0nm,0.8s,mb4.9
FRF La Foret Royal 87.76 313 *e*P **P** **03 08 14.9 -0.3**
comp=Z,5.6nm,0.8s,mb4.8
HAU Haudompre 87.82 318 *e*P **P** **03 08 14.7 -0.7**
comp=Z,14nm,0.7s,mb5.0
HAU *e*MLR MLR
comp=Z,53nm,20.2s,MS3.6
HAU Haudompre 87.82 318 *e*P **P** **03 08 14.7 -0.7**
HAU pmax pmax
comp=Z,7.0nm,0.7s,mb5.0
HAU MLR MLR
comp=Z,50nm,20.3s,MS3.9
HAU Haudompre 87.82 318 *e*P **P** **03 08 14.7 -0.7**
comp=Z,7.3nm,0.7s,mb5.0
HAU LR LR
comp=Z,50nm,20.3s,MS3.9
CABF La Chapelle 88.04 316 *e*P **P** **03 08 16.4 -0.1**
comp=Z,20nm,1.0s,mb5.0
CABF La Chapelle 88.04 316 *e*P **P** **03 08 16.4 -0.1**
CABF pmax pmax
comp=Z,10.0nm,1.0s,mb5.0
CABF La Chapelle 88.04 316 *e*P **P** **03 08 16.4 -0.1**
comp=Z,9.9nm,1.0s,mb5.0
ORIF Oris-en-Rattie 88.26 315 *e*P **P** **03 08 17.5 -0.1**
comp=Z,5.4nm,0.6s,mb4.6
ORIF *e*MLR MLR
comp=Z,37nm,17.1s,MS3.6
ORIF Oris-en-Rattie 88.26 315 *e*P **P** **03 08 17.5 -0.1**
ORIF pmax pmax
comp=Z,3.0nm,0.6s,mb4.7
ORIF Oris-en-Rattie 88.26 315 *e*P **P** **03 08 17.5 -0.1**
comp=Z,2.7nm,0.6s,mb4.7
BAIF Baives 89.13 320 *e*P **P** **03 08 21.6 0.0**
comp=Z,7.3nm,0.8s,mb4.8
BAIF Baives 89.13 320 *e*P **P** **03 08 21.6 0.0**
BAIF pmax pmax
comp=Z,4.0nm,0.8s,mb4.8
BAIF Baives 89.13 320 *e*P **P** **03 08 21.6 0.0**
comp=Z,3.7nm,0.8s,mb4.8
LOR Lormes 89.53 317 *e*P **P** **03 08 23.1 -0.4**
LOR *e*MLR MLR
comp=Z,57nm,21.8s,MS3.7
LOR Lormes 89.53 317 *e*P **P** **03 08 23.1 -0.4**
LOR LR LR
comp=Z,60nm,21.8s,MS4.0
SMF Signal de Mont 89.59 317 *e*P **P** **03 08 23.4 -0.4**
comp=Z,5.6nm,0.6s,mb4.8
SMF Signal de Mont 89.59 317 *e*P **P** **03 08 23.4 -0.4**
SMF pmax pmax
comp=Z,3.0nm,0.6s,mb4.8
SMF Signal de Mont 89.59 317 *e*P **P** **03 08 23.4 -0.4**
comp=Z,2.8nm,0.6s,mb4.8
SSF Saint Saulge 89.79 317 *e*P **P** **03 08 23.9 -0.8**
AVF Avril sur Loir 89.91 317 *e*P **P** **03 08 24.9 -0.4**
comp=Z,10nm,1.0s,mb4.8
AVF Avril sur Loir 89.91 317 *e*P **P** **03 08 24.9 -0.4**
AVF pmax pmax
comp=Z,5.0nm,1.0s,mb4.8
AVF Avril sur Loir 89.91 317 *e*P **P** **03 08 24.9 -0.4**
comp=Z,5.3nm,1.0s,mb5.0
BGF Bois d'Agland 90.28 316 *e*P **P** **03 08 26.4 -0.6**
comp=Z,17nm,0.9s,mb5.0
BGF Bois d'Agland 90.28 316 *e*P **P** **03 08 26.4 -0.6**
BGF pmax pmax
comp=Z,8.0nm,0.9s,mb5.0
BGF Bois d'Agland 90.28 316 *e*P **P** **03 08 26.4 -0.6**
comp=Z,8.4nm,0.9s,mb5.1
TCF Toulx Ste Croi 90.74 316 *e*P **P** **03 08 29.2 0.0**
LDF La Druitiere 92.08 319 *e*P **P** **03 08 35.3 0.0**
comp=Z,19nm,1.1s,mb5.1
LDF La Druitiere 92.08 319 *e*P **P** **03 08 35.3 0.0**
LDF pmax pmax
comp=Z,10.0nm,1.0s,mb5.1
LDF La Druitiere 92.08 319 *e*P **P** **03 08 35.3 0.0**
comp=Z,9.6nm,1.0s,mb5.1
FLN La Foliniere 92.30 319 *e*P **P** **03 08 36.2 -0.1**
FLN *e*MLR MLR
comp=Z,64nm,20.5s,MS3.8
FLN La Foliniere 92.30 319 *e*P **P** **03 08 36.2 -0.1**
FLN LR LR
comp=Z,60nm,20.5s,MS4.0
MFF Saint Martin d 92.33 317 *e*P **P** **03 08 36.3 -0.2**
comp=Z,17nm,1.0s,mb5.0
MFF Saint Martin d 92.33 317 *e*P **P** **03 08 36.3 -0.2**
MFF pmax pmax
comp=Z,9.0nm,1.0s,mb5.0
MFF Saint Martin d 92.33 317 *e*P **P** **03 08 36.3 -0.2**
comp=Z,8.6nm,1.0s,mb5.0
TOA0 Torodi Ar. Sit 93.83 283 *e*P **P** **03 08 44.8 +0.7**
TORD Torodi Ar. Bea 93.83 283 P **P** **03 08 44.9 +0.8**
comp=Z,0.7nm,0.7s,mb4.2,baz=90,slow=4.8,SNR=9.7
TORD LR LR 03 50 53.3
comp=Z,54nm,18.3s,MS4.0,baz=25,slow=35
IMA2 Indian Mountai 95.33 23 *e*P **P** **03 08 47.1 -2.8**
ESDC Sonseca Array 96.04 310 P **P** **03 08 53.9 +0.2**
comp=Z,0.8nm,0.7s,mb4.3,baz=59,slow=3.9,SNR=5.6
PDAR Pinedale Array 128.86 24 PKP PKPdf 03 14 32.9 -1.0
comp=Z,0.5nm,0.6s,baz=253,slow=1.0,SNR=5.1
ANMO Albuquerque 136.67 28 *i*PKIKP PKPdf 03 14 50.5 +1.7
TXAR Lajitas Array 142.64 29 PKhKP 03 14 55.8
comp=Z,0.4nm,0.5s,baz=150,slow=1.0,SNR=13
CMIG Matias Romero 157.24 29 PKPab PKPab 03 15 53.2 -0.5
comp=Z,2.9nm,0.9s,baz=321,slow=6.5,SNR=3.8
LPAZ La Paz 159.74 228 PKPab PKPab 03 16 08.2 +3.6
comp=Z,0.9nm,0.7s,baz=174,slow=6.4,SNR=4.9
LPAZ La Paz 159.74 228 PKP2 PKPab 03 16 08.2 +3.5
LPAZ pmax pmax
comp=Z,1.0nm,0.7s

NEIC 17 03:01:12.3, 4473S×16753E, h5km, ML3.8(WEL)**, After WEL., South Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MLZ	**Mavora Lakes**	**0.77**	**144**	P	Pg	03 01 27.0	0.0
MLZ				S	Sg	03 01 38.4	+1.4
WKZ	**Wanaka**	**1.06**	**96**	P	Pg	03 01 32.3	-0.4
WKZ				S	Sg	03 01 46.5	0.0
RPZ	**Rata Peaks**	**2.73**	**69**	P	Pn	03 01 56.2	-0.5
THZ	**Tophouse**	**4.92**	**55**	P	Pn	03 02 25.6	-1.2
NNZ	**Nelson**	**5.54**	**53**	P	Pn	03 02 33.8	-1.6

*ISCJB **17** 03:58:41.1±1.9, 368N±0.1×2754E±007, h16km±16km, Error ellipse: s-maj=18.1km s-min=8.0km az=21.7*
*ISK **17** 03:58:41.9, 3687N×2757E, h19km, MD2.8*

*CSEM **17** 03:58:41.5±0.6, 3685N×2755E, h25km, MD3.0, Error ellipse: s-maj=13.7km s-min=6.3km az=17.0*
*DDA **17** 03:58:45.7, 3703N×2753E, h8km±2km, Md3.0*

ISC 17 03:58:42.1±1.5**, 3685N**±009×**2755E**±007**, h18**km±6km**, n9, s**0°**62/14, Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BDRM	**Kayabasi**	**0.23**	**338**	*i* P	**Pg**	**03 58 47.5**	**-0.1**
BDRM				*i* S	**Sg**	**03 58 50.4**	**-1.0**
BODT	**Bodrum**	**0.29**	**318**	PG	**Pg**	**03 58 48.6**	**+0.1**
BODT				*e*SG	**Sg**	**03 58 52.9**	**+0.1**
MLSB	**Milas**	**0.48**	**22**	*e*PG	**Pg**	**03 58 52.6**	**+0.8**
YER	**Yerkesik**	**0.65**	**64**	*e*PG	**Pg**	**03 58 55.5**	**+0.6**
YER				*e*SG	**Sg**	**03 59 03.7**	**+0.1**
TURN	**Turunc**	**0.84**	**88**	*i* P	**Pb**	**03 58 54.4**	**-3.8**
TURN				*i* S	**Sb**	**03 59 03.7**	**-5.5**
AYDN	**Tasoluk**	**0.85**	**18**	*i* P	**Pb**	**03 58 58.4**	**0.0**
AYDN				*i* S	**Sb**	**03 59 09.2**	**-0.3**
IZM	**Izmir**	**1.56**	**352**	*e*PN	**Pn**	**03 59 08.5**	**-0.5**
BLCB	**Balcova**	**1.59**	**345**	*e*PN	**Pn**	**03 59 10.4**	**+1.1**
ELL	**Elmali**	**1.89**	**92**	*e*PN	**Pn**	**03 59 13.1**	**-0.4**

*ATH **17** 04:21:06.9, 3952N×2613E, h29km±1km, MD3.4/6*
*ISK **17** 04:21:07.5, 3956N×2602E, h5km, MD3.2, ML3.1*
*CSEM **17** 04:21:07.1±0.1, 3956N×2596E, h5km, MD3.4, Error ellipse: s-maj=2.7km s-min=1.5km az=81.0*
*NEIC **17** 04:21:07.0, 3955N×2602E, h7km, MD3.2(ISK), MD3.4(ATH), After ISK.*
*DDA **17** 04:21:07.3, 3951N×2610E, h30km±1km, Md3.1*
*ISCJB **17** 04:21:07.7±0.5, 3952N±002×2603E±003, h7km±3km, Error ellipse: s-maj=4.3km s-min=2.7km az=164.4*
*THE **17** 04:21:08.3, 3953N×2607E, h13km±1km, ML3.7/2, Error ellipse: s-maj=1.4km s-min=0.6km az=237.0*

ISC 17 04:21:08.3±0.4**, 3952N**±002×**2601E**±003**, h10**km±3km**, n56, s**1°**09/77, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BOZC	**Bozcaada**	**0.32**	**5**	*i* P	**Pg**	**04 21 14.6**	**-0.1**
BOZC				*i* S	**Sg**	**04 21 19.2**	**+0.2**
PRK	**Paraskevi**	**0.34**	**144**	P	**Pg**	**04 21 14.8**	**-0.3**
PRK				S	**Sg**	**04 21 19.8**	**+0.2**
PRK	**Paraskevi**	**0.34**	**144**	*i* Pb	**Pg**	**04 21 14.8**	**-0.3**
PRK				*e*Sb	**Sg**	**04 21 19.8**	**+0.2**
PRK	**Paraskevi**	**0.34**	**144**	⇑*i*PB	**Pg**	**04 21 14.8**	**-0.3**
PRK				*e*SB	**Sg**	**04 21 19.8**	**+0.2**
EZN	**Ezine**	**0.39**	**38**	*e*PG	**Pg**	**04 21 15.2**	**-0.7**
EZN				*e*SG	**Sg**	**04 21 20.3**	**-0.7**
AYVA	**Ayvalik**	**0.57**	**112**	*i* P	**Pg**	**04 21 18.6**	**-0.7**
AYVA				*i* S	**Sg**	**04 21 26.2**	**-0.5**
GADA	**Gvkgeada**	**0.67**	**352**	*e*PG	**Pg**	**04 21 20.6**	**-0.7**
GADA				*e*SG	**Sg**	**04 21 29.7**	**-0.5**
LIA	**Limnos Island**	**0.74**	**301**	P	**Pg**	**04 21 23.2**	**+0.6**
LIA				S	**Sg**	**04 21 34.4**	**+2.1**
LIA	**Limnos Island**	**0.74**	**301**	*i* Pn	**Pn**	**04 21 23.1**	**-1.7**
LIA				S	**Sg**	**04 21 34.4**	**+2.1**
LIA	**Limnos Island**	**0.74**	**301**	⇑*i*PN	**Pn**	**04 21 23.1**	**-1.7**
LOS	**Limnos**	**0.83**	**300**	P	**Pg**	**04 21 25.2**	**+0.9**
CHOS	**Chios island**	**1.14**	**178**	P	**Pb**	**04 21 28.6**	**-1.4**
CHOS				S	**Sb**	**04 21 45.0**	**+0.2**
ENEZ	**Enez**	**1.22**	**5**	*e*PN	**Pn**	**04 21 30.2**	**-1.2**
ENEZ				*e*SN	**Sn**	**04 21 47.0**	**-0.9**
URLA	**Izmir**	**1.25**	**158**	*i* P	**Pn**	**04 21 30.0**	**-1.7**
URLA				*i* S	**Sb**	**04 21 46.1**	**-1.9**
BALY	**Balya**	**1.26**	**80**	*i* P	**Pn**	**04 21 30.3**	**-1.6**
BALY				*i* S	**Sb**	**04 21 47.0**	**-1.4**
ALN	**Alexandroupoli**	**1.37**	**1**	P	**Pn**	**04 21 32.5**	**-1.0**
ALN				S	**Sb**	**04 21 49.9**	**-1.8**
BLCB	**Balcova**	**1.39**	**144**	*e*PN	**Pn**	**04 21 34.2**	**+0.5**
BALB	**Balikesir**	**1.45**	**85**	*e*PN	**Pn**	**04 21 33.9**	**-0.6**
RKY	**Sarkoy-Tekirda**	**1.47**	**37**	*e*PN	**Pn**	**04 21 33.9**	**-0.9**
RKY				*e*SN	**Sn**	**04 21 54.1**	**+0.1**
SART	**Tekirdag**	**1.47**	**37**	*i* P	**Pn**	**04 21 34.2**	**-0.6**
SART				*i* S	**Sn**	**04 21 53.6**	**-0.5**
KDAG	**Bornova**	**1.48**	**138**	*i* P	**Pn**	**04 21 36.3**	**+1.2**
KDAG				*i* S	**Sn**	**04 21 57.1**	**+2.6**
IZM	**Izmir**	**1.49**	**139**	*e*PN	**Pn**	**04 21 35.9**	**+0.8**
AKS	**Akhisar**	**1.54**	**114**	*e*PN	**Pn**	**04 21 34.6**	**-1.2**
AKHS	**Akhisar**	**1.54**	**114**	*i* P	**Pn**	**04 21 34.5**	**-1.3**
AKHS				*i* S	**Sn**	**04 21 53.5**	**-2.4**
MFT	**Murefte**	**1.59**	**37**	*e*PN	**Pn**	**04 21 37.0**	**+0.5**
MRMT	**Marmara Adasi**	**1.62**	**48**	*e*PN	**Pn**	**04 21 36.6**	**-0.4**
EDC	**Edincik**	**1.64**	**59**	*e*PN	**Pn**	**04 21 38.0**	**+0.7**
RDO	**Rodhopi**	**1.66**	**347**	*e*Pn	**Pn**	**04 21 36.3**	**-1.2**
RDO	**Rodhopi**	**1.66**	**347**	*e*PN	**Pn**	**04 21 36.3**	**-1.2**
BNT	**Bandirma**	**1.69**	**60**	*e*PN	**Pn**	**04 21 37.3**	**-0.5**
TKR	**Tekirdag**	**1.87**	**38**	*e*PN	**Pn**	**04 21 41.2**	**+0.8**
SMG	**Samos**	**1.92**	**160**	*e*Pn	**Pn**	**04 21 39.4**	**-1.7**
SMG	**Samos**	**1.92**	**160**	*e*PN	**Pn**	**04 21 39.4**	**-1.7**
DST	**Dursunbey**	**2.02**	**87**	*e*PN	**Pn**	**04 21 43.7**	**+1.2**
CRLT	**Corlu**	**2.08**	**39**	*e*PN	**Pn**	**04 21 43.2**	**0.0**
KULA	**Kula-Manisa**	**2.29**	**115**	*e*PN	**Pn**	**04 21 47.4**	**+1.2**
EDRB	**Edirne**	**2.39**	**13**	*e*PN	**Pn**	**04 21 48.3**	**+0.8**
SLVT	**Silivri**	**2.39**	**44**	*e*PN	**Pn**	**04 21 48.0**	**+0.5**
NVR	**Nevrokopi**	**2.46**	**319**	*e*Pn	**Pn**	**04 21 48.4**	**0.0**
NVR	**Nevrokopi**	**2.46**	**319**	*e*PN	**Pn**	**04 21 48.4**	**0.0**
CTT	**Catalca**	**2.46**	**48**	*e*PN	**Pn**	**04 21 49.2**	**+0.8**
APE	**Apeiranthos**	**2.48**	**189**	*e*Pn	**Pn**	**04 21 47.6**	**-1.1**
APE	**Apeiranthos**	**2.48**	**189**	*e*PN	**Pn**	**04 21 47.6**	**-1.1**
ULDT	**Uludag**	**2.48**	**75**	*i* P	**Pn**	**04 21 47.9**	**-0.9**
ULDT				*i* S	**Sn**	**04 22 25.5**	**+6.4**
CTKS	**Kestanelik-??a**	**2.56**	**47**	*e*PN	**Pn**	**04 21 50.5**	**+0.7**
CTYL	**Yal??k??y-??at**	**2.61**	**41**	*e*PN	**Pn**	**04 21 51.0**	**+0.5**
BODT	**Bodrum**	**2.66**	**157**	*e*PN	**Pn**	**04 21 52.9**	**+1.6**
BGKT	**Bogazkoy**	**2.68**	**51**	*e*PN	**Pn**	**04 21 52.9**	**+1.4**
BDRM	**Kayabasi**	**2.70**	**155**	*i* P	**Pg**	**04 22 00.5**	**+0.4**
BDRM				*i* S	**Sg**	**04 22 35.8**	**+0.7**
YLV	**Yalova**	**2.78**	**67**	*e*PN	**Pn**	**04 21 54.3**	**+1.4**
YLV				*e*SN	**Sn**	**04 22 28.0**	**+1.5**
ISK	**Istanbul-Kandi**	**2.79**	**56**	*e*PN	**Pn**	**04 21 54.1**	**+1.1**
KLYT	**Kilyos**	**2.89**	**52**	*e*PN	**Pn**	**04 21 55.6**	**+1.3**
ADVT	**Abdulvahap**	**3.00**	**71**	*e*PN	**Pn**	**04 21 57.0**	**+1.1**
CAVI	**Cavuskoy**	**3.02**	**76**	*e*PN	**Pn**	**04 21 57.9**	**+1.7**
SILT	**Sile**	**3.22**	**58**	*e*PN	**Pn**	**04 22 00.2**	**+1.4**
GULT	**Gulveren**	**3.58**	**74**	*e*PN	**Pn**	**04 22 05.3**	**+1.5**

*ISCJB **17** 04:37:27.7±0.5, 32.12N±005×13837E±009, h379km±6km, mb3.1/5, Error ellipse: s-maj=12.4km s-min=7.8km az=168.0*
*IDC **17** 04:37:28.4±1.5, 3206N×138.16E, h359km±51km, mb3.1/5, mb1 3.1/7, mb1mx3.0/23, mbtmp3.2/7, Error ellipse: s-maj=119.6km s-min=12.2km az=67.0*
*NEIC **17** 04:37:28.8±1.0, 31.94N×137.72E, h350km, mb3.3/1, Error ellipse: s-maj=26.2km s-min=15.9km az=95.0*
*JMA **17** 04:37:28.3±0.3, 3201N×13829E, h366km, M3.5*

ISC 17 04:37:28.6±0.6**, 3214N**±005×**13842E**±009**, h372**km±6km**, n26, s**1°**06/35, mb3.1/5, Southeast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TK02	**Tokai 2**	**1.89**	**343**	P	**Pn**	**04 38 22.2**	**+1.1**
JIE	**Ise**	**2.67**	**328**	P	**Pn**	**04 38 27.1**	**+0.4**
JWZ	**Kozaga**	**2.67**	**302**	P	**Pn**	**04 38 25.7**	**-1.1**
JKN2	**Miekihoku**	**2.76**	**320**	P	**Pn**	**04 38 27.1**	**-0.4**
BSO3	**Boso 3**	**3.18**	**33**	*e*S	**S**	**04 39 21.6**	**0.0**
BSO4	**Boso 4**	**3.26**	**29**	*e*S	**S**	**04 39 23.2**	**+0.2**
BSO1	**Boso 1**	**3.30**	**40**	*e*S	**S**	**04 39 23.5**	**0.0**
JEG	**Eigenji**	**3.43**	**331**	P	**Pn**	**04 38 34.1**	**+0.7**
JHU	**Hanno**	**3.77**	**11**	P	**Pn**	**04 38 38.0**	**+1.4**
JHU				*e*S	**S**	**04 39 31.6**	**0.0**
JRY	**Ryogami san**	**3.89**	**6**	P	**Pn**	**04 38 39.1**	**+1.4**
JRY				*e*S	**S**	**04 39 33.2**	**-0.4**
JAG	**Ashikaga**	**4.36**	**11**	P	**Pn**	**04 38 41.7**	**-0.7**
JAG				*e*S	**S**	**04 39 39.9**	**-2.3**
MJAR	**Matsushiro Arr**	**4.39**	**358**	P	**Pn**	**04 38 44.2**	**+1.4**
	0.9nm,0.3s,baz=177,slow=10,SNR=13						
MJAR				S	**S**	**04 39 42.1**	**-0.7**
	0.4nm,0.3s,baz=183,slow=20,SNR=3.4						
MAJO	**Matsushiro**	**4.40**	**358**	*e*Pn	**Pn**	**04 38 44.1**	**+1.3**
MAT	**Matsushiro**	**4.40**	**358**	P	**Pn**	**04 38 44.3**	**+1.5**
MAT				*e*S	**S**	**04 39 44.1**	**+1.2**
JTO	**Tosashimizu**	**4.80**	**280**	P	**Pn**	**04 38 45.1**	**-2.0**
JHO	**Hitachi**	**4.80**	**21**	P	**Pn**	**04 38 47.6**	**+0.6**
JHO				*e*S	**S**	**04 39 49.1**	**-1.5**
JFK	**Kawauchi**	**5.59**	**21**	P	**Pn**	**04 38 56.5**	**+1.0**
JFK				*e*S	**S**	**04 40 04.2**	**-2.0**
CBIJ	**Chichi jima**	**6.00**	**146**	P	**Pn**	**04 39 01.7**	**+1.4**
	10nm,0.3s,baz=270,slow=23,SNR=6.4						
CBIJ				S	**S**	**04 40 13.6**	**-1.2**
	25nm,0.3s,baz=300,slow=22,SNR=15						
CBIJ	**Chichi jima**	**6.00**	**146**	P	**Pn**	**04 39 00.1**	**-0.2**
CBIJ				*e*S	**S**	**04 40 11.6**	**-3.1**
SONM	**Songino Array**	**28.86**	**312**	P	**P**	**04 42 54.5**	**+0.3**
	0.7nm,0.6s,mb3.1,baz=115,slow=8.1,SNR=6.3						
ZALV	**Zalesovo Beam**	**43.56**	**316**	P	**P**	**04 44 57.0**	**0.0**
	0.7nm,0.4s,mb3.2,baz=92,slow=7.2,SNR=3.0						
MK31	**Makanchi Array**	**44.80**	**306**	*e*P	**P**	**04 45 06.1**	**-0.8**
MKAR	**Makanchi Array**	**44.80**	**306**	P	**P**	**04 45 06.5**	**-0.4**
	1.1nm,0.5s,mb3.2,baz=90,slow=9.7,SNR=9.7						
KURK	**Kurchatov**	**47.16**	**311**	P	**P**	**04 45 24.8**	**-0.2**
	1.0nm,0.7s,mb3.2,baz=89,slow=6.0,SNR=4.7						
KURK	**Kurchatov**	**47.16**	**311**	*e*P	**P**	**04 45 23.5**	**-1.5**
	1.3nm,0.6s,mb3.3						
WRA	**Warramunga Arr**	**51.93**	**185**	P	**P**	**04 46 01.4**	**+0.5**
	0.2nm,0.3s,mb2.9,baz=360,slow=7.7,SNR=3.9						

*ISCJB **17** 04:45:45.8±0.5, 3870N±002×2780E±004, h2km±6km, Error ellipse: s-maj=5.0km s-min=4.2km az=9.5*
*CSEM **17** 04:45:45.1±0.1, 3871N×2781E, h8km, MD2.9, Error ellipse: s-maj=1.8km s-min=1.5km az=126.0*
*ISK **17** 04:45:45.3, 3869N×2782E, h6km, MD2.7*
*DDA **17** 04:45:46.2, 3873N×2784E, h3km±1km, Md2.9*

ISC 17 04:45:46.3±0.5**, 3871N**±002×**2779E**±004**, h6**km±6km**, n12, s**0°**68/21, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKHS	**Akhisar**	**0.17**	**5**	*i* P	**Pg**	**04 45 49.5**	**-0.3**
AKHS				*i* S	**Sg**	**04 45 52.4**	**+0.3**
AKS	**Akhisar**	**0.17**	**5**	PG	**Pg**	**04 45 49.6**	**-0.2**
AKS				*e*SG	**Sg**	**04 45 52.5**	**+0.4**
IZM	**Izmir**	**0.52**	**234**	*e*PG	**Pg**	**04 45 55.7**	**-0.6**
IZM				*e*SG	**Sg**	**04 46 03.6**	**+0.6**
MANT	**Manisa**	**0.64**	**110**	*i* P	**Pg**	**04 45 58.8**	**+0.2**
MANT				*i* S	**Sg**	**04 46 07.6**	**+0.8**
BLCB	**Balcova**	**0.67**	**242**	*e*PG	**Pg**	**04 45 58.8**	**-0.4**
KULA	**Kula-Manisa**	**0.71**	**105**	*e*PG	**Pg**	**04 45 59.0**	**-0.8**
KULA				*e*SG	**Sg**	**04 46 08.7**	**-0.3**
DEMI	**Demirci**	**0.80**	**65**	*i* P	**Pg**	**04 46 00.7**	**-0.8**
DEMI				*i* S	**Sg**	**04 46 12.0**	**+0.1**
BALB	**Balikesir**	**0.94**	**4**	*e*PG	**Pg**	**04 46 04.2**	**-0.1**
BALY	**Balya**	**1.04**	**353**	*i* P	**Pg**	**04 46 05.9**	**-0.4**
BALY				*i* S	**Sg**	**04 46 20.5**	**+0.7**
AYDN	**Tasoluk**	**1.05**	**176**	*i* P	**Pg**	**04 46 06.8**	**+0.4**
AYDN				*i* S	**Sg**	**04 46 20.5**	**+0.6**
DST	**Dursunbey**	**1.11**	**36**	*e*PN	**Pn**	**04 46 07.2**	**-1.1**
ULDT	**Uludag**	**1.77**	**36**	*i* P	**Pn**	**04 46 16.6**	**-0.8**
ULDT				*i* S	**Sn**	**04 46 42.1**	**+1.9**

*SOF **17** 04:49:33.9, 4190N×2321E, h16km, MD2.7*
*CSEM **17** 04:49:34.2±0.1, 4190N×2322E, h15km, ML2.2, Error ellipse: s-maj=3.5km s-min=2.3km az=96.0*
*BEO **17** 04:49:34.8±1.0, 4183N×2314E, ML2.5/2*
*ISCJB **17** 04:49:34.5±0.6, 4190N±002×2324E±005, h7km±5km, Error ellipse: s-maj=5.9km s-min=3.6km az=8.4*
*SKO **17** 04:49:37.1, 4176N×2310E, h15km, M2.0, ML2.2*
*THE **17** 04:49:37.3, 4178N×2317E, h7km±2km, ML3.1/1, Error ellipse: s-maj=2.1km s-min=0.7km az=215.0*

ISC 17 04:49:35.1±0.5**, 4188N**±002×**2325E**±005**, h5**km±5km**, n22, s**0°**65/37, 7C-1D, Greece-Bulgaria border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KKB	**Krupnik**	**0.12**	**263**	Pg	**Pg**	**04 49 37.4**	**-0.2**
MMB	**Musomiste**	**0.46**	**129**	Pg	**Pg**	**04 49 44.9**	**+0.9**
VTS	**Vitosha**	**0.71**	**358**	*e*Pg	**Pg**	**04 49 48.5**	**-0.3**
VTS				S	**Sg**	**04 49 56.7**	**-1.3**
VTS				*e*Sg	**Sg**	**04 49 58.6**	**+0.6**
VAY	**Valandovo**	**0.76**	**222**	P	**Pg**	**04 49 49.2**	**-0.4**
VAY				S	**Sg**	**04 49 58.8**	**-0.6**
VAY	**Valandovo**	**0.76**	**222**	⇑*i*Pg	**Pg**	**04 49 49.1**	**-0.5**
VAY				*i* Sg	**Sg**	**04 49 59.6**	**+0.2**
VAY				*e*Lg		04 49 59.7	
	comp=E,77nm,0.3s						
VAY				*e*Lg		04 50 00.4	
	comp=N,87nm,0.3s						
VAY	**Valandovo**	**0.76**	**222**	⇑*i*Pg	**Pg**	**04 49 49.1**	**-0.5**
VAY				S	**Sg**	**04 49 58.8**	**-0.6**
VAY				*i* Sg	**Sg**	**04 49 59.6**	**+0.2**
KNT	**Kendrikon**	**0.77**	**200**	P	**Pg**	**04 49 49.5**	**-0.3**
STIP	**Stip**	**0.81**	**257**	⇑*i*Pg	**Pg**	**04 49 50.7**	**0.0**
STIP				*i* Sg	**Sg**	**04 50 01.5**	**+0.2**
STIP				*e*Lg		04 50 01.7	
	comp=N,53nm,0.3s						
STIP				*e*Lg		04 50 01.8	
	comp=E,53nm,0.2s						
STIP	**Stip**	**0.81**	**257**	⇑*i*Pg	**Pg**	**04 49 50.7**	**0.0**
STIP				*i* Sg	**Sg**	**04 50 01.4**	**+0.1**
SOH	**Sokhos**	**1.06**	**176**	P	**Pg**	**04 49 55.2**	**-0.3**
SOH				S	**Sg**	**04 50 09.5**	**+0.3**
RZN	**Rozhen**	**1.12**	**100**	*e*Pg	**Pg**	**04 49 57.3**	**+0.8**
GRG	**Griva**	**1.12**	**215**	P	**Pg**	**04 49 56.1**	**-0.5**
GRG				S	**Sg**	**04 50 10.6**	**-0.5**
HORT	**Hortiatis**	**1.29**	**185**	P	**Pn**	**04 49 59.6**	**-0.1**
HORT				S	**Sg**	**04 50 16.5**	**0.0**
ZAPS	**Zavoj**	**1.46**	**342**	*e*Pn	**Pn**	**04 50 03.0**	**+0.8**
ZAPS				*e*Sg	**Sg**	**04 50 23.4**	**+1.3**
KRUS	**Krusevo**	**1.58**	**252**	*i* Pn	**Pn**	**04 50 04.6**	**+0.8**
KRUS				*i* Sn	**Sn**	**04 50 25.9**	**+1.3**
KRUS	**Krusevo**	**1.58**	**252**	*i* Pn	**Pn**	**04 50 04.6**

MJAR	**Matsushiro Arr**	**6.98**	**336**	Pn		**Pn**	**04**	**58**	**17.9**	**+0.2**
	2.5nm,0.3s,baz=164,slow=12,SNR=10									
MJAR				Sn		**Sn**	**04**	**59**	**38.1**	**+2.5**
	1.0nm,0.3s,baz=48,slow=13,SNR=4.1									
MAT	**Matsushiro**	**6.98**	**336**	P		**Pn**	**04**	**58**	**17.9**	**+0.2**
ASAJ	**Asahikawa**	**13.90**	**3**	LR		LR	05	04	52.7	
	comp=Z,36nm,20.5s,baz=24,slow=35									
WRA	**Warramunga Arr**	**50.37**	**189**	P		**P**	**05**	**05**	**29.5**	**0.0**
	0.6nm,0.7s,mb3.8,baz=6.7,slow=8.1,SNR=6.3									
ASAR	**Alice Springs**	**54.09**	**189**	P		**P**	**05**	**05**	**57.0**	**-0.2**
	0.3nm,0.4s,mb3.5,baz=360,slow=6.1,SNR=7.2									
TXAR	**Lajitas Array**	**94.03**	**53**	P		**P**	**05**	**09**	**56.4**	**+6.0**
	0.3nm,0.8s,mb3.8,baz=318,slow=3.5,SNR=3.5									

ISCJB ***17*** *04:59:07.8±0.8, 24.15S±005×667W±0.1, h194km±8km, mb3.6/8, Error ellipse: s-maj=15.7km s-min=8.2km az=176.7*

IDC ***17*** *04:59:08.7±1.1, 24.13S×6666W, h188km±10km, mb3.4/4, mb1 3.6/9, mb1mx3.5/18, mbtmp3.4/9, MS2.7/1, Ms1 2.6/1, ms1mx2.0/9, Error ellipse: s-maj=17.0km s-min=13.0km az=79.0*

NEIC ***17*** *04:59:09.0±0.7, 24.09S×6666W, h192km±6km, mb3.8/4, Error ellipse: s-maj=10.9km s-min=9.1km az=88.0*

ISC 17 04:59:08.9±0.8,2410S-006×666W±01,h188km±8km,n23, σ0§79/23,mb3.6/8,Salta Province

Code	Station Name	Δ°	AZ°	Phase	ID		Time			Res
				Op		ISC	h	m	s	ISC
LVC	**Limon Verde**	**2.57**	**305**	P		**Pn**	**04**	**59**	**52.8**	**-0.1**
	2.1nm,0.3s,baz=195,slow=9.9,SNR=6.8									
LVC				S		**Sn**	**05**	**00**	**27.8**	**+0.8**
	48nm,0.3s,baz=62,slow=24,SNR=27									
LVC	**Limon Verde**	**2.57**	**305**	P		**Pn**	**04**	**59**	**52.8**	**-0.1**
LVC				S		**Sn**	**05**	**00**	**27.8**	**+0.8**
CFAA	**Coronel Fontan**	**7.61**	**190**	P		**Pn**	**05**	**00**	**57.5**	**+0.5**
	0.5nm,0.3s,baz=22,slow=12,SNR=172									
CFAA				S		**Sn**	**05**	**02**	**19.3**	**-3.5**
	0.7nm,0.3s,baz=254,slow=17,SNR=18									
CFAA	**Coronel Fontan**	**7.61**	**190**	P		**Pn**	**05**	**00**	**57.5**	**+0.5**
CFAA				S		**Sn**	**05**	**02**	**19.3**	**-3.5**
LPAZ	**La Paz**	**7.90**	**349**	P		**Pn**	**05**	**01**	**01.7**	**+0.8**
	3.8nm,0.3s,baz=157,slow=6.3,SNR=71									
LPAZ				S		**Sn**	**05**	**02**	**28.6**	**-1.3**
	0.1nm,0.3s,baz=237,slow=23,SNR=2.2									
ARE	**Arequipa**	**8.86**	**328**	P		**Pn**	**05**	**01**	**13.0**	**-0.5**
ARE				*e*S		**Sn**	**05**	**02**	**46.0**	**-6.8**
SIV	**San Ignacio**	**9.61**	**34**	P		**Pn**	**05**	**01**	**23.1**	**-0.2**
	1.2nm,0.3s,baz=239,slow=12,SNR=20									
BDFB	**Brasilia**	**19.41**	**68**	P		**P**	**05**	**03**	**22.4**	**+1.4**
	0.4nm,0.3s,baz=241,slow=14,SNR=9.6									
BDFB				LR		LR	05	11	20.8	
	comp=Z,23nm,21.5s,baz=101,slow=38									
TXAR	**Lajitas Array**	**63.96**	**324**	P		**P**	**05**	**09**	**21.7**	**-0.4**
	0.2nm,0.4s,mb3.3,baz=124,slow=8.1,SNR=7.7									
SDCO	**Great Sand Dun**	**71.55**	**328**	*e*P		**P**	**05**	**10**	**10.0**	**+0.6**
	0.9nm,0.7s,mb3.6									
TOA0	**Torodi Ar. Sit**	**76.29**	**69**	*e*P		**P**	**05**	**10**	**36.7**	**-0.7**
TORD	**Torodi Ar. Bea**	**76.29**	**69**	P		**P**	**05**	**10**	**36.9**	**-0.5**
	1.0nm,0.6s,mb3.6,baz=259,slow=5.9,SNR=30									
PDAR	**Pinedale Array**	**77.41**	**329**	P		**P**	**05**	**10**	**43.1**	**+0.2**
	0.3nm,0.5s,mb3.2,baz=119,slow=7.8,SNR=4.2									
ULM	**Lac du Bonnet**	**78.43**	**341**	*e*P		**P**	**05**	**10**	**47.7**	**-0.7**
	1.3nm,0.5s,mb3.8									
LOHW	**Long Hollow**	**78.55**	**329**	*e*P		**P**	**05**	**10**	**49.9**	**+0.7**
	1.3nm,0.7s,mb3.7									
HLID	**Hailey**	**80.36**	**327**	*e*P		**P**	**05**	**10**	**59.9**	**+0.9**
	1.8nm,0.8s,mb3.8									
YKA	**Yellowknife Ar**	**94.33**	**340**	P		**P**	**05**	**12**	**05.9**	**-0.5**
	0.7nm,0.5s,mb4.0,baz=138,slow=4.6,SNR=5.4									
ASAR	**Alice Springs**	**128.51**	**204**	PKP		PKPdf	05	17	53.8	-0.3
	0.5nm,0.7s,baz=145,slow=2.2,SNR=6.3									
WRA	**Warramunga Arr**	**131.69**	**207**	PKP		PKPdf	05	18	00.1	0.0
	0.4nm,0.5s,baz=161,slow=1.8,SNR=16									
WRAB	**Tennant Creek**	**131.69**	**207**	*e*PKPdf		PKPdf	05	17	59.2	-0.9
ZALV	**Zalesovo Beam**	**143.32**	**28**	PKP		PKPdf	05	18	18.4	-2.0
	1.3nm,0.6s,baz=310,slow=4.2,SNR=6.2									
MK31	**Makanchi Array**	**146.39**	**40**	*e*PKPbc		PKPbc	05	18	26.7	-0.8
MKAR	**Makanchi Array**	**146.39**	**40**	PKPbc		PKPbc	05	18	27.9	+0.5
	2.5nm,0.6s,baz=302,slow=3.1,SNR=15									

IDC ***17*** *05:41:49.1±1.5, 4.74S×139.56E, h0km, mb4.1/2, mb1 4.5/4, mb1mx4.0/12, mbtmp4.3/4, ML4.6/2, MS3.2/5, Ms1 3.2/5, ms1mx2.9/18, Error ellipse: s-maj=46.7km s-min=28.9km az=82.0*

ISCJB ***17*** *05:41:53.6±0.9, 4.93S±009×139.12E±008, h33km, mb4.1/3, MS3.2/2, Error ellipse: s-maj=13.5km s-min=10.4km az=140.1*

NEIC ***17*** *05:41:53.6±0.9, 4.98S×138.90E, h15km, mb4.5/4, Error ellipse: s-maj=15.1km s-min=11.9km az=46.0*

ISC 17 05:41:56.5±0.9,508S±007×13889E±009,h35km,n20, σ1§21/22,mb4.1/3,MS3.2/2,Near south coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase	ID		Time			Res
				Op		ISC	h	m	s	ISC
PMG	**Port Moresby**	**9.26**	**118**	*e*Pn		**Pn**	**05**	**44**	**06.2**	**-1.4**
KAKA	**Kakadu**	**9.91**	**220**	*e*P		**Pn**	**05**	**44**	**16.9**	**+0.4**
	26nm,0.5s									
KAKA				*e*S		**Sn**	**05**	**46**	**15.0**	**+8.5**
WRAB	**Tennant Creek**	**15.41**	**196**	*e*Pn		**Pn**	**05**	**45**	**31.8**	**+0.3**
	53nm,0.6s									
WB2	**Warramunga Arr**	**15.42**	**196**	*e*Pn		**Pn**	**05**	**45**	**31.6**	**0.0**
WRA	**Warramunga Arr**	**15.43**	**196**	Pn		**Pn**	**05**	**45**	**30.4**	**-1.2**
	0.9nm,0.3s,baz=17,slow=13,SNR=30									
WRA				Sn		**Sn**	**05**	**48**	**20.1**	**-1.3**
	0.3nm,0.3s,baz=18,slow=22,SNR=3.3									
WRA				Lg			05	50	18.8	
	0.5nm,0.3s,baz=21,slow=32,SNR=6.4									
WRA				LR		LR	05	52	14.7	
	comp=Z,97nm,21.4s,baz=330,slow=39									
CTA	**Charters Tower**	**16.55**	**155**	Pn		**Pn**	**05**	**45**	**47.7**	**+1.7**
	0.3nm,0.3s,baz=328,slow=12,SNR=3.3									
CTA				Lg			05	50	36.7	
	0.3nm,0.3s,baz=269,slow=1.1,SNR=5.2									
CTA	**Charters Tower**	**16.55**	**155**	Pn		**Pn**	**05**	**45**	**47.7**	**+1.7**
CTA				Lg			05	50	36.7	
FITZ	**Fitzroy Crossi**	**18.31**	**224**	*e*P		**Pn**	**05**	**46**	**12.5**	**+4.6**
	6.2nm,0.6s									
FITZ				*e*			05	46	17.9	
FITZ				*e*S		**S**	**05**	**49**	**34.3**	**-1.2**
FITZ	**Fitzroy Crossi**	**18.31**	**224**	P		**Pn**	**05**	**46**	**13.4**	**+5.5**
	1.4nm,0.3s,baz=35,slow=12,SNR=23									
FITZ				S		**S**	**05**	**49**	**37.5**	**+2.0**
	0.3nm,0.3s,baz=220,slow=23,SNR=3.1									
FITZ				Lg			05	52	02.8	
	baz=352,slow=9.6,SNR=4.8									
FITZ				LR		LR	05	53	01.1	
	comp=Z,52nm,21.3s,baz=246,slow=35									
FITZ	**Fitzroy Crossi**	**18.31**	**224**	*e*P		**Pn**	**05**	**46**	**08.8**	**+0.9**
	16nm,0.5s									
FITZ				*e*S		**S**	**05**	**49**	**34.3**	**-1.2**
KAPI	**Kappang**	**19.07**	**269**	P		**Pn**	**05**	**46**	**14.5**	**-2.6**
	23nm,1.3s									
ASAR	**Alice Springs**	**19.10**	**194**	P		**Pn**	**05**	**46**	**18.6**	**+1.3**
	2.2nm,0.3s,baz=26,slow=8.9,SNR=156									
ASAR				S		**S**	**05**	**49**	**57.9**	**+6.7**
	0.1nm,0.3s,baz=16,slow=24,SNR=11									
ASAR				Lg			05	52	19.1	
	0.1nm,0.3s,baz=20,slow=28,SNR=4.1									
GUMO	**Guam**	**19.47**	**18**	LR		LR	05	53	11.2	
	comp=Z,46nm,18.1s,baz=232,slow=36									
MBWA	**Marble Bar**	**24.52**	**228**	*e*P		**P**	**05**	**47**	**14.3**	**+1.4**
	9.5nm,0.7s,mb4.4									
STKA	**Stephens Creek**	**26.78**	**175**	LR		LR	05	58	06.1	
	comp=Z,60nm,19.5s,MS3.2,baz=207,slow=36									
CMAR	**Chiang Mai Arr**	**45.80**	**302**	P		**P**	**05**	**50**	**15.7**	**+0.5**
	0.7nm,0.4s,mb4.0,baz=122,slow=6.6,SNR=5.9									
CMAR				LR		LR	06	11	43.7	
	comp=Z,26nm,18.7s,MS3.2,baz=185,slow=39									
MKAR	**Makanchi Array**	**71.77**	**323**	P		**P**	**05**	**53**	**14.8**	**-0.5**
	1.2nm,0.6s,mb4.0,baz=103,slow=7.7,SNR=12									
MKAR	**Makanchi Array**	**71.77**	**323**	P		**P**	**05**	**53**	**14.8**	**-0.5**
DBIC	**Dimbokro**	**143.91**	**274**	PKP		PKPdf	06	01	25.8	-3.5
	2.7nm,0.7s,baz=59,slow=4.4,SNR=4.5									
LPAZ	**La Paz**	**145.86**	**129**	PKPbc		PKPbc	06	01	31.0	-2.1
	2.4nm,0.5s,baz=221,slow=3.1,SNR=8.1									

ISK ***17*** *05:44:08.9, 3987N×4070E, h8km, MD3.1*

DDA ***17*** *05:44:09.6, 3988N×4078E, h5km±3km, Md3.2*

CSEM ***17*** *05:44:09.6±0.1, 3990N×4062E, h11km±1km, MD3.2, Error ellipse: s-maj=3.6km s-min=2.2km az=168.0*

ISCJB ***17*** *05:44:10.4±0.5, 3987N±003×4069E±003, h10km, Error ellipse: s-maj=4.8km s-min=3.5km az=176.5*

ISC 17 05:44:10.1±0.7,3990N±004×4066E±004,h5km±5km,n17, σ1§07/30,Turkey

Code	Station Name	Δ°	AZ°	Phase	ID		Time			Res
				Op		ISC	h	m	s	ISC
KOPT	**Kop Dagi**	**0.17**	**312**	*i* P		**Pg**	**05**	**44**	**14.6**	**+1.1**
KOPT				*i* S		**Sg**	**05**	**44**	**19.6**	**+3.7**
EZM	**Erzurum**	**0.54**	**89**	PG		**Pg**	**05**	**44**	**19.4**	**-1.1**
EZM				*e*SG		**Sg**	**05**	**44**	**27.1**	**-0.3**
ERZM	**Erzurum**	**0.54**	**89**	*i* P		**Pg**	**05**	**44**	**19.0**	**-1.4**
ERZM				*i* S		**Sg**	**05**	**44**	**28.0**	**+0.5**
EZC	**Erzincan**	**0.67**	**257**	*e*PG		**Pg**	**05**	**44**	**29.1**	**+6.2**
GUMT	**Gumushane**	**1.06**	**302**	*e*PN		**Pn**	**05**	**44**	**30.4**	**-1.3**
GUMT				*e*SN		**Sn**	**05**	**44**	**46.9**	**0.0**
MACK	**Trabzon**	**1.24**	**327**	*i* P		**Pg**	**05**	**44**	**34.7**	**+0.7**
MACK				*i* S		**Sg**	**05**	**44**	**54.7**	**+4.6**
DDEM	**Demirkent**	**1.29**	**40**	*i* P		**Pn**	**05**	**44**	**33.1**	**-1.7**
DDEM				*i* S		**Sg**	**05**	**44**	**52.4**	**+0.8**
DBAD	**Bademkaya**	**1.36**	**35**	*i* P		**Pn**	**05**	**44**	**34.3**	**-1.5**
DBAD				*i* S		**Sb**	**05**	**44**	**54.1**	**+0.3**
PTK	**Pertek**	**1.41**	**225**	*e*PN		**Pn**	**05**	**44**	**35.4**	**-1.0**
PTK				*e*SN		**Sn**	**05**	**44**	**55.0**	**-0.4**
DAGI	**Agillar**	**1.51**	**39**	*i* P		**Pn**	**05**	**44**	**37.4**	**-0.4**
DAGI				*i* S		**Sn**	**05**	**44**	**59.0**	**+1.1**
ARTV	**Artvin**	**1.60**	**37**	*i* P		**Pn**	**05**	**44**	**38.5**	**-0.6**
ARTV				*i* S		**Sn**	**05**	**45**	**00.9**	**+0.8**
BCA	**Borcka**	**1.71**	**25**	*e*PN		**Pn**	**05**	**44**	**39.9**	**-0.6**
TUTA	**Tutak**	**1.73**	**106**	*i* P		**Pn**	**05**	**44**	**41.3**	**+0.5**
TUTA				*i* S		**Sn**	**05**	**45**	**05.0**	**+1.7**
ESPY	**Espiye-Giresun**	**1.79**	**305**	*e*PN		**Pn**	**05**	**44**	**41.3**	**-0.3**
AGRB	**Hanur-Agry**	**1.82**	**100**	*e*PN		**Pn**	**05**	**44**	**41.1**	**-1.0**
BEST	**Besiri**	**2.06**	**167**	*i* P		**Pn**	**05**	**44**	**47.6**	**+2.3**
BEST				*i* S		**Sn**	**05**	**45**	**15.3**	**+3.8**
MARD	**Mardin**	**2.59**	**178**	*i* P		**Pn**	**05**	**44**	**56.4**	**+3.9**
MARD				*i* S		**Sn**	**05**	**45**	**31.3**	**+7.0**

ISCJB ***17*** *06:45:41.9±0.3, 3668N±002×7118E±003, h226km±3km, mb4.3/31, Error ellipse: s-maj=4.6km s-min=2.9km az=169.4*

BJI ***17*** *06:45:42.6, 3697N×7104E, h236km, mB4.6, mb4.4*

NEIC ***17*** *06:45:42.9±0.6, 3668N×7115E, h220km±6km, mb4.9/20, Error ellipse: s-maj=7.2km s-min=4.6km az=58.0*

MOS ***17*** *06:45:42.0±1.0, 3667N×7114E, h230km, mb4.4/21, Error ellipse: s-maj=9.9km s-min=5.8km az=98.5*

IDC ***17*** *06:45:44.7±0.7, 3664N×7118E, h246km±7km, mb3.9/13, mb1 4.0/18, mb1mx3.9/25, mbtmp3.9/18, Error ellipse: s-maj=11.5km s-min=10.8km az=24.0*

NNC ***17*** *06:45:46.7±1.5, 3702N×7120E, h222km±10km, mb3.6, mpv5.1, Error ellipse: s-maj=12.1km s-min=9.5km az=6.0*

ISC 17 06:45:42.9±0.3,3673N±002×7120E±004,h219km±3km, h247km±2.2km,pP-P,n141,σ1§15/171,mb4.3/31,16C-11D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID		Time			Res
				Op		ISC	h	m	s	ISC
KBL	**Kabul**	**2.80**	**219**	*e*Pn		**Pn**	**06**	**46**	**31.9**	**+0.6**
KBL				*e*S		**S**	**06**	**47**	**08.3**	**-0.9**
CEP	**Cherat**	**2.95**	**168**	⇑P		**Pn**	**06**	**46**	**34.4**	**+1.4**
CEP				S		**S**	**06**	**47**	**13.0**	**+0.6**
CHCP	**Chirah Chowk**	**3.50**	**150**	⇑P		**Pn**	**06**	**46**	**40.9**	**+1.6**
THW	**Thamme Wali**	**3.95**	**173**	⇓P		**Pn**	**06**	**46**	**45.0**	**+0.2**
SRNI	**Srinagar**	**3.97**	**130**	*e*P		**Pn**	**06**	**46**	**44.0**	**-1.0**
SRNI				*e*S		**S**	**06**	**47**	**33.0**	**-1.0**
KSH	**Kashi**	**4.68**	**52**	⇓*i*P		**Pn**	**06**	**46**	**54.8**	**+1.1**
KSH				S		**S**	**06**	**47**	**45.9**	**-3.8**
KSH				Smax						
	comp=N,2μm,0.6s									
KSH				Smax						
	comp=E,3μm,0.6s									
SARP	**Sargodha**	**4.95**	**165**	⇑P		**Pn**	**06**	**46**	**58.1**	**+1.0**
JMU	**Jammu**	**5.03**	**142**	*ex*		x	06	47	17.5	
JMU				*e*S		**S**	**06**	**47**	**54.0**	**-3.7**
THN	**Thein Dam**	**5.68**	**138**	*e*P		**Pn**	**06**	**47**	**05.9**	**-0.4**
THN				*e*S		**S**	**06**	**48**	**10.6**	**-1.9**
AML	**Almayashu**	**5.73**	**19**	*e*P		**Pn**	**06**	**47**	**08.2**	**+1.3**
	SNR=1197									
AML	**Almayashu**	**5.73**	**19**	*e*Pn		**Pn**	**06**	**47**	**08.2**	**+1.3**
	comp=E,1μm,0.4s									
AML				*e*S		**S**	**06**	**48**	**12.7**	**-1.0**
UCH	**Uchtor**	**6.06**	**24**	P		**Pn**	**06**	**47**	**12.6**	**+1.5**
	SNR=968									
UCH	**Uchtor**	**6.06**	**24**	*e*Pn		**Pn**	**06**	**47**	**12.5**	**+1.4**
	comp=E,504nm,0.6s									
UCH				*e*S		**S**	**06**	**48**	**20.4**	**-0.9**
PONG	**Pong**	**6.17**	**139**	*e*P		**Pn**	**06**	**47**	**20.0**	**+7.4**
PONG				*e*S		**S**	**06**	**48**	**25.0**	**+1.0**
EKS2	**Erkin-Say**	**6.25**	**18**	P		**Pn**	**06**	**47**	**14.5**	**+1.0**
	SNR=236									
EKS2	**Erkin-Say**	**6.25**	**18**	*e*Pn		**Pn**	**06**	**47**	**14.6**	**+1.1**
	comp=E,151nm,0.6s									
EKS2				*e*S		**S**	**06**	**48**	**23.9**	**-1.7**
KK31	**Karatay Array**	**6.39**	**355**	⇓P		**Pn**	**06**	**47**	**16.0**	**+0.7**
	comp=E,12nm,0.3s,baz=178,slow=12,SNR=427									
KK31				⇓S		**S**	**06**	**48**	**26.5**	**-2.4**
	comp=E,120nm,0.5s,baz=177,slow=23,SNR=16									
KK31	**Karatay Array**	**6.39**	**355**	*i* PN		**Pn**	**06**	**47**	**15.9**	**+0.6**
KK31				pmax		pmax				
	comp=Z,25nm,0.2s									
KK31	**Karatay Array**	**6.39**	**355**	*i* P		**Pn**	**06**	**47**	**15.0**	**-0.3**
AAK	**Ala-Archa**	**6.42**	**22**	P		**Pn**	**06**	**47**	**17.1**	**+1.5**
	SNR=172									
KBK	**Karagaybulak**	**6.59**	**25**	P		**Pn**	**06**	**47**	**19.5**	**+1.7**
	SNR=58									
FRU	**Bishkek**	**6.64**	**22**	⇓*i*PN		**Pn**	**06**	**47**	**20.0**	**+1.5**
FRU				*i* S		**S**	**06**	**48**	**34.0**	**-0.7**
FRU				pmax		pmax				
	comp=Z,100nm,1.6s									
FRU				smax						
	comp=E,420nm,2.0s									
CHMS	**Chumysh**	**6.83**	**22**	P		**Pn**	**06**	**47**	**22.4**	**+1.5**
	SNR=35									
BHK	**Bhakra**	**6.84**	**139**	*e*PN		**Pn**	**06**	**47**	**20.8**	**-0.4**
BHK				*e*SN		**S**	**06**	**48**	**34.6**	**-4.9**
USP	**Ospenovka**	**7.01**	**20**	P		**Pn**	**06**	**47**	**24.2**	**+1.1**
	SNR=15									
TKM2	**Tokmak 2**	**7.05**	**27**	⇑P		**Pn**	**06**	**47**	**24.8**	**+1.1**
	comp=E,201nm,0.7s									
TKM2				⇓S		**S**	**06**	**48**	**42.9**	**-1.4**
	comp=E,131nm,0.9s									
TKM2	**Tokmak 2**	**7.05**	**27**	*e*PN		**Pn**	**06**	**47**	**24.9**	**+1.2**
TKM2				pmax		pmax				
	comp=Z,182nm,0.6s									
TKM2	**Tokmak 2**	**7.05**	**27**	P		**Pn**	**06**	**47**	**25.0**	**+1.2**
	SNR=18									
TKM2	**Tokmak 2**	**7.05**	**27**	*e*Pn		**Pn**	**06**	**47**	**24.9**	**+1.2**
	comp=Z,182nm,0.6s									
SDNR	**Sundarnagar**	**7.08**	**136**	*e*P		**Pn**	**06**	**47**	**24.0**	**-0.2**
SDNR				*e*S		**S**	**06**	**48**	**39.0**	**-6.1**
SMLA	**Simla**	**7.47**	**137**	*i* P		**Pn**	**06**	**47**	**29.6**	**+0.4**
SMLA				*i* S		**S**	**06**	**48**	**49.3**	**-5.0**
SMLA				*ex*		x	06	48	52.1	
	comp=E,3μm,0.3s									
SMLA				*ex*		x	06	48	53.1	
	comp=N,4μm,0.3s									
KNDC	**Almaty**	**7.85**	**33**	⇓P		**Pn**	**06**	**47**	**35.0**	**+1.0**
	comp=N,274nm,0.9s									
KNDC				⇑S		**S**	**06**	**49**	**01.6**	**-1.3**
	comp=N,257nm,1.0s									
DDI	**Dehra Dun**	**8.57**	**136**	*e*P		**Pn**	**06**	**47**	**43.6**	**+0.1**
DDI				*ex*		x	06	49	01.0	
JOSI	**Joshimath**	**9.29**	**129**	*i* P		**Pn**	**06**	**47**	**53.0**	**+0.2**
JOSI				*e*S		**S**	**06**	**49**	**31.2**	**-6.1**
JOSI				AML		AML	06	49	34.8	
	comp=N,493nm,0.8s									
KHET	**Khetri**	**9.46**	**154**	*e*P		**Pn**	**06**	**47**	**53.2**	**-1.8**
KHET				*e*S		**S**	**06**	**49**	**33.2**	**-8.2**
KHET				AML		AML	06	49	35.9	
	comp=E,101nm,0.5s									
NDI	**New Delhi**	**9.48**	**146**	*e*P		**Pn**	**06**	**47**	**53.0**	**-2.3**
NDI				*e*P			06	47	54.0	
NDI				*ex*		x	06	49	32.0	
KALG	**Kalgarh**	**9.59**	**137**	*e*P		**Pn**	**06**	**47**	**52.0**	**-4.6**
KALG				*e*S		**S**	**06**	**49**	**33.3**	**-11**
KALG				AML		AML	06	49	38.3	
	comp=E,154nm,0.4s									
AYAN	**Aya Nagar**	**9.62**	**147**	*e*P		**Pn**	**06**	**47**	**56.3**	**-0.7**
JASL	**Jaisalmer**	**9.78**	**182**	*e*P		**Pn**	**06**	**47**	**58.1**	**-0.9**
JASL				*ex*		x	06	49	22.6	

PTH	**Pithoragarh**	**10.40**	**131**	*ex*		x	06	48	06.0	
PTH				*ex*		x	06	50	03.2	
VAN	**Vannovskaya**	**10.50**	**281**	*e*P		**Pn**	**06**	**48**	**06.3**	**-1.8**
VAN				*e*S		**S**	**06**	**50**	**01.9**	**-3.7**
AGRA	**Agra**	**11.06**	**147**	*e*S		**S**	**06**	**50**	**11.8**	**-7.3**
AGRA				AML		AML	06	50	13.4	
	comp=E,156nm,1.3s									
AGRA				AML		AML	06	50	13.8	
	comp=N,125nm,0.6s									
MK31	**Makanchi Array**	**13.01**	**36**	⇑P		**Pn**	**06**	**48**	**39.4**	**-0.3**
	comp=N,13nm,0.8s,baz=219,slow=10,SNR=102									
MK31	**Makanchi Array**	**13.01**	**36**	*i* P		**Pn**	**06**	**48**	**39.1**	**-0.6**
MK31				pmax		pmax				
	comp=Z,2.0nm,0.2s									
MK31	**Makanchi Array**	**13.01**	**36**	*e*Pn		**Pn**	**06**	**48**	**39.6**	**-0.1**
MKAR	**Makanchi Array**	**13.01**	**36**	P		**Pn**	**06**	**48**	**40.1**	**+0.4**
	comp=Z,1.1nm,0.3s,baz=222,slow=16,SNR=41									
MKAR	**Makanchi Array**	**13.01**	**36**	P		**Pn**	**06**	**48**	**40.1**	**+0.4**
MKAR				pmax		pmax				
	comp=Z,1.0nm,0.3s									
DANN	**Dangsing**	**13.48**	**125**	*e*P		**Pn**	**06**	**48**	**45.2**	**-0.5**
	comp=Z,46nm,0.5s									
KOLN	**Koldanda**	**13.77**	**127**	*e*P		**Pn**	**06**	**48**	**48.8**	**-0.4**
	comp=Z,31nm,0.5s									
GKN	**Gorkha**	**14.29**	**124**	*e*P		**Pn**	**06**	**48**	**54.9**	**-0.8**
	comp=Z,45nm,0.3s									
WMQ	**Urumqi**	**14.44**	**56**	P		**Pn**	**06**	**48**	**58.0**	**+0.7**
KURBB	**Kurchatov Arra**	**14.86**	**18**	P		**Pn**	**06**	**49**	**01.5**	**-0.8**
KURBB				S		**S**	**06**	**51**	**44.0**	**-2.7**
DMN	**Daman**	**14.86**	**124**	*e*P		**Pn**	**06**	**49**	**02.4**	**-0.2**
	comp=Z,18nm,0.4s									
KKN	**Kakani**	**14.86**	**123**	*e*P		**Pn**	**06**	**49**	**02.1**	**-0.5**
	comp=Z,81nm,0.6s									
KKN	**Kakani**	**14.86**	**123**	*e*P		**Pn**	**06**	**49**	**02.1**	**-0.5**
KKN				pmax		pmax				
	comp=Z,81nm,0.6s									
AB31	**Akbulak array**	**14.96**	**330**	⇑P		**Pn**	**06**	**49**	**04.6**	**+1.0**
	comp=Z,18nm,0.8s,baz=140,slow=12,SNR=151									
AB31				⇓S		**S**	**06**	**51**	**49.0**	**-0.2**
	comp=Z,5.6nm,0.7s									
AB31	**Akbulak array**	**14.96**	**330**	*i* P		**Pn**	**06**	**49**	**03.0**	**-0.6**
AB31				S		**S**	**06**	**51**	**48.0**	**-1.2**
AB31				pmax		pmax				
	comp=Z,2.0nm,0.3s									
AB31				smax						
	comp=N,4.0nm,0.4s									
KURK	**Kurchatov**	**14.96**	**19**	P		**Pn**	**06**	**49**	**02.4**	**-1.2**
KURK				S		**S**	**06**	**51**	**46.8**	**-2.4**
KURK	**Kurchatov**	**14.96**	**19**	P		**Pn**	**06**	**49**	**01.9**	**-1.7**
	comp=N,0.6nm,0.3s,baz=208,slow=11,SNR=52									
KURK	**Kurchatov**	**14.96**	**19**	*e*P		**Pn**	**06**	**49**	**03.0**	**-0.6**
KURK				pmax		pmax	

comp=Z,18nm,1.3s,mb4.5
LZH AMB AMB

SONM Songino Array 28.07 56 P **P** **06 51 15.5 +1.6**
comp=Z,2.7nm,0.8s,mb3.9,baz=260,slow=9.3,SNR=15
SONM pP pP 06 52 03.5 +5.8
comp=Z,0.4nm,0.5s,baz=313,slow=46,SNR=3.8
SONM Songino Array 28.07 56 P **P** **06 51 15.5 +1.6**
SONM *PP pP 06 52 03.5 +5.8
SONM pmax pmax
comp=Z,3.0nm,0.8s
BR131 Keskin Array S 29.52 287 *eP* **P** **06 51 27.1 +0.3**
comp=Z,1.5nm,0.7s,mb3.7
OBN Obninsk 29.87 319⇑ *eP* **P** **06 51 30.6 +0.9**
OBN *i* 06 52 41.9
OBN *eS* **S** **06 56 09.2 -0.9**
OBN pmax pmax
comp=Z,31nm,1.3s,mb4.8
CMAR Chiang Mai Arr 30.42 119 P **P** **06 51 34.2 -0.7**
comp=Z,1.2nm,0.3s,mb4.0,baz=313,slow=8.4,SNR=8.1
CMAR pP pP 06 52 23.4 +4.4
comp=Z,1.3nm,0.3s,baz=301,slow=8.7,SNR=1.2
CMAR Chiang Mai Arr 30.42 119 P **P** **06 51 34.3 -0.6**
CMAR *PP pP 06 52 23.5 +4.4
CMAR pmax pmax
comp=Z,1.0nm,0.3s
CMAR pmax pmax
comp=Z,1.0nm,0.4s
KLMR Klimovskoe 31.36 330 *eP* **P** **06 51 41.9 -0.8**
KLMR pmax pmax
comp=Z,18nm,1.0s,mb4.7
AKASG Malin Array Be 32.93 309 P **P** **06 51 56.7 +0.2**
comp=Z,6.8nm,0.6s,mb4.3,baz=78,slow=7.6,SNR=25
AKASG Malin Array Be 32.93 309 *i* P **P** **06 51 56.7 +0.2**
AKASG pmax pmax
comp=Z,7.0nm,0.6s
AKASG Malin Array Be 32.93 309 P **P** **06 51 56.7 +0.2**
JOF Joensuu 35.75 330 *ep* **P** **06 52 21.1 +0.6**
comp=Z,21nm,0.6s,mb4.8
JOF Joensuu 35.75 330 *eP* **P** **06 52 21.1 +0.6**
JOF pmax pmax
comp=Z,21nm,0.6s,mb4.8
FINES FINESS Array B 37.39 326 *eP* **P** **06 52 34.0 -0.3**
KAF Kangasniemi 37.52 327 *ep* **P** **06 52 35.3 -0.1**
comp=Z,6.2nm,0.6s,mb4.3,baz=111,slow=8.6
KAF Kangasniemi 37.52 327 *eP* **P** **06 52 35.3 -0.1**
KAF pmax pmax
comp=Z,6.0nm,0.6s,mb4.3
KEV Kevo 40.65 338 *ep* **P** **06 53 01.3 +0.1**
comp=Z,9.0nm,0.7s,mb4.3
KEV Kevo 40.65 338 *eP* **P** **06 53 01.3 +0.1**
KEV pmax pmax
comp=Z,9.0nm,0.7s,mb4.3
ARCES ARCESS Array B 41.00 337 P **P** **06 53 03.6 -0.4**
comp=Z,15nm,0.7s,mb4.5,baz=112,slow=8.5,SNR=61
ARCES ARCESS Array B 41.00 337 P **P** **06 53 03.6 -0.4**
ARCES pmax pmax
comp=Z,15nm,0.7s
ARE0 ARCESS Array S 41.00 337 *eP* **P** **06 53 04.8 +0.8**
BRG Berggiesshubel 42.61 308 *eP* **P** **06 53 18.5 +1.2**
BRG pmax pmax
comp=Z,6.0nm,1.1s,mb3.9
BRG Berggiesshubel 42.61 308 *eP* **P** **06 53 18.5 +1.2**
comp=Z,9.9nm,1.1s,mb4.2
KHC Kasperske Hory 42.98 306⇑ *eP* **P** **06 53 20.3 0.0**
NOA NORSAR Array B 44.30 323 P **P** **06 53 30.3 -0.3**
comp=Z,15nm,0.7s,mb4.5,baz=96,slow=7.7,SNR=43
NOA NORSAR Array B 44.30 323 P **P** **06 53 30.3 -0.3**
NOA pmax pmax
comp=Z,15nm,0.7s
TIXI Tiksi 45.50 22⇑ *eP* **P** **06 53 40.3 +0.4**
KMBO Kilima Mbogo 49.10 228 P **P** **06 54 08.9 +0.6**
comp=Z,2.6nm,0.7s,mb3.7,baz=40,slow=10,SNR=7.0
KMBO Kilima Mbogo 49.10 228 P **P** **06 54 09.0 +0.6**
KMBO pmax pmax
comp=Z,3.0nm,0.7s
ESDC Sonseca Array 57.49 298 P **P** **06 55 08.9 -0.2**
comp=Z,2.8nm,0.7s,mb4.0,baz=60,slow=6.7,SNR=11
BILL Bilibino 58.34 26⇑ *eP* **P** **06 55 15.2 +0.7**
BILL *e*PP pP 06 56 34.5 +31
BILL *e* 06 57 26.1
BILL *eS* **S** **07 03 01.1 +2.1**
BILL pmax pmax
comp=Z,4.0nm,1.0s,mb4.0
SUMG Summit 60.90 341 *eP* **P** **06 55 33.4 +1.5**
comp=Z,7.3nm,1.1s,mb4.2
TORD Torodi Ar. Bea 65.88 269 P **P** **06 56 03.3 -2.1**
comp=Z,9.0nm,0.7s,mb4.5,baz=49,slow=5.8,SNR=75
TORD pP pP 06 57 01.6 +5.7
comp=Z,1.5nm,0.7s,baz=46,slow=5.4,SNR=2.8
DBIC Dimbokro 74.87 267 P **P** **06 56 58.0 -1.8**
comp=Z,2.0nm,0.6s,mb4.0,baz=262,slow=5.4,SNR=6.9
DBIC Dimbokro 74.87 267 P **P** **06 56 58.0 -1.8**
DBIC pmax pmax
comp=Z,2.0nm,0.6s
BOSA Boshof 78.02 220 P **P** **06 57 15.7 -1.3**
comp=Z,2.4nm,0.7s,mb3.9,baz=62,slow=20,SNR=3.6
BOSA Boshof 78.02 220 P **P** **06 57 15.7 -1.3**
BOSA pmax pmax
comp=Z,2.0nm,0.7s,mb3.9
YKA Yellowknife Ar 81.01 3 P **P** **06 57 33.1 +0.4**
comp=Z,4.6nm,0.6s,mb4.3,baz=351,slow=5.4,SNR=14
YKA Yellowknife Ar 81.01 3 P **P** **06 57 33.1 +0.4**
YKA pmax pmax
comp=Z,5.0nm,0.6s
WRA Warramunga Arr 81.97 122 P **P** **06 57 36.8 -1.6**
comp=Z,0.9nm,0.4s,mb3.8,baz=325,slow=5.0,SNR=15
WRA pP pP 06 58 35.1 +4.0
comp=Z,1.7nm,0.8s,baz=324,slow=5.1,SNR=5.5
WRA Warramunga Arr 81.97 122 P **P** **06 57 36.8 -1.6**
WRA *PP pP 06 58 35.1 +4.0
WRA pmax pmax
comp=Z,1.0nm,0.4s
WRA pmax pmax
comp=Z,2.0nm,0.8s
ASAR Alice Springs 84.25 125 P **P** **06 57 47.9 -2.0**
comp=Z,1.9nm,0.7s,mb4.0,baz=311,slow=5.1,SNR=22
ASAR pP pP 06 58 46.3 +3.4
comp=Z,0.4nm,0.5s,baz=309,slow=5.3,SNR=2.5
ASAR Alice Springs 84.25 125 P **P** **06 57 47.9 -2.0**
ASAR *PP pP 06 58 46.3 +3.4
ASAR pmax pmax
comp=Z,2.0nm,0.7s
QSPA South Pole Qui 126.52 180 PKP PKPdf 07 04 17.1 -1.3
comp=Z,1.3nm,1.0s,baz=260,slow=2.5,SNR=3.2
QSPA South Pole Qui 126.52 180 PKP PKPdf 07 04 17.1 -1.3

IDC 17 06:47:46.8±2.1, 2913S×17768W, h0km, mb4.0/3, mb1 4.3/3, mb1mx4.0/14, mbtmp4.0/3, Error ellipse: s-maj=86.2km s-min=36.5km az=151.0, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**43.47**	**265**	P	P	06 55 52.7	+0.9
	1.3nm,0.5s,baz=96,slow=6.8,SNR=25						
ASAR				PcP	PcP	06 57 40.0	-0.2
	0.3nm,0.8s,baz=114,slow=4.1,SNR=4.3						
WRA	**Warramunga Arr**	**44.34**	**271**	P	P	06 55 58.2	-0.7
	0.7nm,0.4s,baz=109,slow=6.4,SNR=19						
WRA				PcP	PcP	06 57 42.6	-0.5
	1.5nm,0.8s,baz=112,slow=3.3,SNR=7.9						
MJAR	**Matsushiro Ar**	**77.36**	**325**	P	P	06 59 42.7	-0.7
	0.7nm,0.4s,baz=150,slow=4.6,SNR=4.7						
MKAR	**Makanchi Array**	**117.17**	**310**	PKP	PKPdf	07 06 32.8	-0.8
	0.4nm,0.5s,baz=198,slow=2.7,SNR=3.4						
NB2	**NORSAR Subarra**	**147.54**	**352**	PKP	PKPdf	07 07 32.0	+2.4
	comp=Z,1.4nm,0.6s,baz=16,slow=3.0						
NOA	**NORSAR Array B**	**147.54**	**352**	PKPbc	PKPbc	07 07 32.0	-0.1
	comp=Z,2.0nm,0.7s,baz=16,slow=4.5,SNR=5.1						
AKASG	**Malin Array Be**	**150.45**	**324**	PKPbc	PKPbc	07 07 39.6	-0.3
	comp=Z,9.0nm,0.6s,baz=47,slow=3.2,SNR=25						
AKASG				PKPab	PKPab	07 07 46.0	-0.3
	comp=Z,2.5nm,0.7s,baz=48,slow=3.9,SNR=6.8						
GERES	**GERESS Array B**	**158.47**	**339**	PKPab	PKPab	07 08 21.4	+0.9
	comp=Z,0.2nm,0.2s,baz=4.9,slow=3.4,SNR=4.9						

IDC 17 06:57:03.0±0.9, 3380S×5618E, h0km, mb3.9/5, mb1 4.2/5, mb1mx3.8/20, mbtmp3.9/5, MS3.4/4, Ms1 3.4/4, ms1mx3.2/20, Error ellipse: s-maj=32.6km s-min=27.4km az=33.0, Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LBTB	**Lobatse**	**27.96**	**280**	LR	LR	07 13 24.0	
	comp=Z,44nm,19.2s,baz=140,slow=35						
MAW	**Mawson**	**34.07**	**175**	LR	LR	07 13 35.4	
	comp=Z,77nm,21.3s,baz=252,slow=29						
QSPA	**South Pole Qui**	**56.38**	**180**	P	P	07 06 46.1	+0.7
	1.6nm,0.6s,baz=243,slow=2.5,SNR=14						
CMAR	**Chiang Mai Arr**	**66.04**	**45**	P	P	07 07 52.5	+0.8
	2.0nm,0.6s,baz=230,slow=6.4,SNR=7.2						
CMAR				LR	LR	07 31 34.8	
	comp=Z,35nm,19.1s,baz=330,slow=31						
ASAR	**Alice Springs**	**67.46**	**104**	P	P	07 08 00.4	-0.5
	0.6nm,0.6s,baz=237,slow=5.8,SNR=8.6						
WRA	**Warramunga Arr**	**69.61**	**101**	P	P	07 08 14.7	+0.3
	2.0nm,0.8s,baz=238,slow=5.4,SNR=17						
TORD	**Torodi Ar. Bea**	**69.75**	**302**	P	P	07 08 15.4	+0.2
	0.2nm,0.7s,baz=133,slow=8.3,SNR=2.5						
ZALV	**Zalesovo Beam**	**90.83**	**16**	LR	LR	07 44 15.0	
	comp=Z,17nm,19.0s,baz=78,slow=31						
YKA	**Yellowknife Ar**	**150.69**	**351**	PKPbc	PKPbc	07 16 54.9	-1.3
	1.6nm,0.7s,baz=30,slow=2.1,SNR=6.0						

*CSEM **17** 08:00:49.3±0.0, 3729N×3746E, h2km, MD2.8, Error ellipse: s-maj=1.4km s-min=0.7km az=166.0*
*ISK **17** 08:00:50.1, 3728N×3742E, h2km, MD2.8*
*ISCJB **17** 08:00:51.7±0.7, 3730N±0.007×3739E±0.006, h10km, Error ellipse: s-maj=11.3km s-min=5.1km az=153.7*
*DDA **17** 08:00:51.4, 3714N×3754E, h7km±3km, Md3.0*
ISC 17 08:00:51.7±0.8, 3728N±008×3739E±007, h12km±5km, n8, σ1°09/12, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GZT	**Gaziantep**	**0.16**	**61**	*i* P	**Pg**	**08 00 54.5**	**-0.9**
GZT				*i* S	**Sg**	**08 00 59.1**	**+1.2**
GAZ	**Gaziantep**	**0.18**	**233**	*e*PG	**Pg**	**08 00 55.0**	**-0.7**
KMRS	**Kahramanmaras**	**0.45**	**300**	*e*PG	**Pg**	**08 00 60.0**	**-0.6**
AKCD	**Akcadag**	**1.10**	**22**	*i* P	**Pb**	**08 01 14.5**	**+1.9**
AKCD				*i* S	**Sb**	**08 01 31.7**	**+4.7**
URFA	**Urfa**	**1.15**	**82**	*e*PN	**Pn**	**08 01 12.4**	**-1.3**
URFA				*e*SN	**Sn**	**08 01 29.1**	**-0.2**
COBT	**Iskenderun**	**1.19**	**231**	*i* P	**Pb**	**08 01 13.9**	**-0.2**
COBT				*i* S	**Sb**	**08 01 31.4**	**+2.0**
MYA	**Malataya**	**1.33**	**38**	*e*PN	**Pn**	**08 01 16.4**	**+0.3**
SARI	**SarD1z-Kayseri**	**1.50**	**339**	*e*PN	**Pn**	**08 01 17.4**	**-1.1**

*NEIC **17** 08:01:06.0, 1600N×6101W, h1km, MD3.5(TRN), After TRN.*
TRN 17 08:01:04.1, 1596N×6115W, h39km, MD3.5, M3.0(FDF), 8C-13D, Leeward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MGG	**Marie-Galante**	**0.17**	**257**⇓	*i* P	Pn	08 01 11.8	+0.7
SFG	**Saint Francois**	**0.30**	**351**	*e*P	Pn	08 01 11.2	-1.1
DEG	**La Desirade**	**0.36**	**14**⇑	*i* P	Pn	08 01 12.3	-0.8
DWS	**Wesley**	**0.42**	**202**⇑	*i* P	Pn	08 01 15.8	+2.1
DWS				*e*S	Sn	08 01 23.6	+3.2
TBG	**Guadaloupe-3**	**0.49**	**258**⇓	*i* P	Pn	08 01 16.0	+1.4
TBG				⇓*e*S	Sn	08 01 24.7	+2.7
SCG	**Saint Claude**	**0.52**	**278**⇓	*i* P	Pn	08 01 16.5	+1.4
SCG				⇓*e*S	Sn	08 01 25.8	+3.0
HMG	**Houelmont**	**0.53**	**273**⇓	*i* P	Pn	08 01 16.7	+1.4
HMG				⇓*e*S	Sn	08 01 25.2	+2.2
LZG	**Guadaloupe-1**	**0.63**	**287**⇓	*e*P	Pn	08 01 17.8	+1.2
LZG				⇓*e*S	Sn	08 01 27.7	+2.2
MDN	**Morne-Daniel**	**0.68**	**200**⇑	*e*P	Pn	08 01 19.5	+2.3
MDN				*e*S	Sn	08 01 29.1	+2.5
DBCT	**Belle View Cho**	**0.71**	**196**	*e*P	Pn	08 01 20.0	+2.3
DBCT				*e*S	Sn	08 01 29.7	+2.3
DPMT	**Pointe Michel**	**0.72**	**198**	*e*P	Pn	08 01 19.7	+1.8
DPMT				*e*S	Sn	08 01 29.8	+2.0
DPMT	**Pointe Michel**	**0.72**	**198**	*e*P	Pn	08 01 21.2	+3.3
DPMT				*e*S	Sn	08 01 29.8	+2.0
DSHT	**Scott's Head**	**0.77**	**196**	*e*P	Pn	08 01 20.0	+1.5
DSHT				*e*S	Sn	08 01 31.5	+2.6
DSHT	**Scott's Head**	**0.77**	**196**	*e*P	Pn	08 01 21.7	+3.2
DSHT				*e*S	Sn	08 01 31.5	+2.6
FDF	**Fort de France**	**1.22**	**180**⇑	*e*P	Pn	08 01 25.2	+0.6
FDF				⇑*e*S	Sn	08 01 40.3	+0.5
FDF	**Fort de France**	**1.22**	**180**	*e*Pg	Pn	08 01 25.4	+0.7
FDF				*e*Sg	Sn	08 01 39.9	0.0
MBRY		**1.22**	**308**⇓	*e*P	Pn	08 01 26.2	+1.6
MBLG		**1.24**	**308**⇑	*i* P	Pn	08 01 26.7	+1.7
MBLG				*e*S	Sn	08 01 43.2	+2.8
MLYT	**Lee's Yard**	**1.26**	**307**⇓	*i* P	Pn	08 01 27.3	+2.1
MBWH		**1.27**	**308**⇑	*i* P	Pn	08 01 26.9	+1.5
BPA	**Boggy Peak**	**1.28**	**328**	*e*P	Pn	08 01 27.0	+1.5
BPA				*e*S	Sn	08 01 42.0	+0.6
BPA	**Boggy Peak**	**1.28**	**328**	*e*P	Pn	08 01 26.7	+1.2
BPA				*e*S	Sn	08 01 42.9	+1.4
MBGB		**1.29**	**307**⇑	*i* P	Pn	08 01 27.4	+1.8
BIM	**Bigot**	**1.43**	**177**	*e*P	Pn	08 01 28.7	+1.1
BIM				*e*S	Sn	08 01 46.3	+1.1
SLW	**Petit Monier**	**1.94**	**174**	*e*P	Pn	08 01 35.8	+1.2
SKI	**Saint Kitts**	**2.05**	**312**⇓	*i* P	Pn	08 01 38.0	+1.9
SKI				*e*S	Sn	08 02 02.1	+1.6
SKI	**Saint Kitts**	**2.05**	**312**⇓	*i* P	Pn	08 01 38.0	+1.9
SKI				*e*S	Sn	08 02 03.4	+2.9
SLB	**Belfond**	**2.12**	**177**	*i* P	Pn	08 01 39.4	+2.3
SLB				*e*S	Sn	08 02 03.9	+1.7
SLB	**Belfond**	**2.12**	**177**	*e*P	Pn	08 01 39.4	+2.3
SLB				*e*S	Sn	08 02 02.4	+0.3
SSV	**Crater Summit**	**2.61**	**181**	*e*P	Pn	08 01 45.2	+1.3
SSV				*e*S	Sn	08 02 14.2	-0.2
SVV	**Soufriere Volc**	**2.62**	**181**	*e*P	Pn	08 01 45.3	+1.3
SVV				*e*S	Sn	08 02 17.3	+2.7
SVV	**Soufriere Volc**	**2.62**	**181**	*e*P	Pn	08 01 46.8	+2.7
SVV				*e*S	Sn	08 02 16.0	+1.4
SVB	**Belmont**	**2.67**	**182**	*e*P	Pn	08 01 46.7	+2.0
SVB				*e*S	Sn	08 02 17.4	+1.6

*IDC **17** 08:03:08.9±2.2, 5997N×15289W, h82km±23km, mb3.8/8, mb1 3.8/10, mb1mx3.6/24, mbtmp3.7/10, Error ellipse: s-maj=19.6km s-min=15.0km az=10.0*
*ISCJB **17** 08:03:09.0±0.4, 5996N±003×15271W±007, h103km±5km, mb3.9/7, Error ellipse: s-maj=5.7km s-min=4.5km az=16.1*
*NEIC **17** 08:03:11.4, 5993N×15266W, h90km, MG3.5(AEIC), After AEIC.*
ISC 17 08:03:10.3±0.4, 5995N±003×15272W±007, h94km±5km, n52, σ0°91/60, mb3.9/7, Southern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AUL	**Augustine Lava**	**0.68**	**213**	P	**Pn**	**08 03 27.4**	**+0.5**
SLKM	**Skilak Lake**	**1.36**	**65**	P	**Pn**	**08 03 35.0**	**+0.5**
SEW	**Seward**	**1.65**	**83**	P	**Pn**	**08 03 38.2**	**+0.1**
FIB	**Fire Island**	**1.75**	**45**	P	**Pn**	**08 03 40.5**	**+1.2**
SVW2	**Sparrevohn**	**1.82**	**310**	P	**Pn**	**08 03 39.7**	**-0.5**
RC01	**Rabbit Creek A**	**1.86**	**51**	*e*Pn	**Pn**	**08 03 41.8**	**+1.0**
RC01				*e*Sn	**Sn**	**08 04 05.3**	**+1.3**
SKT	**Skwentna**	**2.12**	**15**	P	**Pn**	**08 03 44.4**	**+0.3**
KDAK	**Kodiak Island**	**2.18**	**178**	P	**Pn**	**08 03 44.2**	**-0.7**
	49nm,0.3s,baz=21,slow=9.6,SNR=444						
KDAK				S	**Sn**	**08 04 09.9**	**-1.4**
	94nm,0.3s,baz=127,slow=22,SNR=26						
KDAK	**Kodiak Island**	**2.18**	**178**	*e*Pn	**Pn**	**08 03 44.1**	**-0.9**
KDAK				S	**Sn**	**08 04 09.7**	**-1.7**
PMR	**Palmer**	**2.41**	**45**	P	**Pn**	**08 03 47.6**	**-0.3**
PMR				S	**Sn**	**08 04 15.4**	**-1.4**
OHAK	**Old Harbor**	**2.76**	**186**	Pn	**Pn**	**08 03 51.8**	**-0.8**
OHAK				*e*Sn	**Sn**	**08 04 25.6**	**+0.5**
SML	**Sawmill**	**2.84**	**47**	P	**Pn**	**08 03 53.3**	**-0.3**
SML				S	**Sn**	**08 04 25.8**	**-1.2**
PPLA	**Purkeypile**	**2.96**	**5**	P	**Pn**	**08 03 56.5**	**+1.2**
TT01	**Tatalina**	**3.36**	**333**	P	**Pn**	**08 04 00.3**	**-0.3**
EYAK	**Cordova Ski Ar**	**3.52**	**77**	P	**Pn**	**08 04 01.8**	**-1.1**
EYAK				S	**Sn**	**08 04 41.7**	**-1.9**
TRF	**Thorofare Moun**	**3.70**	**17**	P	**Pn**	**08 04 05.3**	**+0.1**
KTH	**Kantishna Hill**	**3.71**	**13**	P	**Pn**	**08 04 05.5**	**+0.1**
CHUM	**Lake Minchumin**	**3.95**	**3**	P	**Pn**	**08 04 09.2**	**+0.6**
CHUM				S	**Sn**	**08 04 54.3**	**+0.6**
MCK	**McKinley**	**4.19**	**24**	P	**Pn**	**08 04 12.3**	**+0.4**
MCK				S	**Sn**	**08 04 58.3**	**-1.3**
BPAW	**Bear Paw Mtn.**	**4.24**	**10**	P	**Pn**	**08 04 12.0**	**-0.5**
PAX	**Paxson**	**4.61**	**46**	P	**Pn**	**08 04 17.7**	**+0.2**
GCSA	**Galena City Sc**	**5.18**	**340**	P	**Pn**	**08 04 25.1**	**-0.2**
MENT	**Mentasta**	**5.25**	**51**	*e*Pn	**Pn**	**08 04 26.5**	**+0.3**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
COLA	**College**	**5.43**	**23**	P	**Pn**	**08 04 28.1**	**-0.5**
DOT	**Dot Lake**	**5.53**	**44**	P	**Pn**	**08 04 30.7**	**+0.7**
IL1	**Eielson Array**	**5.54**	**27**	P	**Pn**	**08 04 29.9**	**-0.3**
ILB	**Eielson Array**	**5.54**	**27**	P	**Pn**	**08 04 29.7**	**-0.5**
IM3	**Indian Mountai**	**6.07**	**356**	P	**Pn**	**08 04 37.5**	**+0.2**
BCA3	**Beaver Creek A**	**6.09**	**54**	P	**Pn**	**08 04 37.6**	**0.0**
IMA2	**Indian Mountai**	**6.16**	**356**	*e*P	**Pn**	**08 04 38.5**	**0.0**
PNL	**Peninsula**	**6.73**	**87**	P	**Pn**	**08 04 45.8**	**-0.5**
EGAK	**Eagle**	**7.23**	**43**	*e*Pn	**Pn**	**08 04 53.0**	**-0.1**
	15nm,0.5s						
COLD	**Coldfoot**	**7.39**	**8**	P	**Pn**	**08 04 54.8**	**-0.5**
DAWY	**Dawson**	**7.50**	**51**	P	**Pn**	**08 04 56.1**	**-0.7**
HYT	**Haines Junctio**	**7.59**	**77**	*e*Pn	**Pn**	**08 04 59.2**	**+1.2**
SKAG	**Skagway**	**8.80**	**86**	*e*P	**Pn**	**08 05 15.6**	**+1.1**
TNA	**Tin City**	**8.94**	**315**	*e*Pn	**Pn**	**08 05 18.4**	**+2.1**
SIT	**Sitka**	**9.55**	**100**	Pn	**Pn**	**08 05 25.1**	**+0.4**
DLBC	**Dease Lake**	**11.72**	**88**	P	**Pn**	**08 05 56.0**	**+1.8**
	baz=268,slow=7.6						
DLBC				S	**Sn**	**08 08 01.4**	**-1.3**
	baz=163,slow=19						
DLBC	**Dease Lake**	**11.72**	**88**	*e*Pn	**Pn**	**08 05 56.6**	**+2.5**
DLBC				*e*Sn	**Sn**	**08 08 03.9**	**+1.2**
YKA	**Yellowknife Ar**	**18.34**	**66**	P	**Pn**	**08 07 17.7**	**-0.3**
	0.2nm,0.3s,baz=275,slow=9.8,SNR=3.3						
PETK	**Petropavlovsk-**	**27.61**	**278**	P	**P**	**08 08 48.0**	**-0.4**
	1.4nm,0.3s,mb3.9,baz=70,slow=13,SNR=5.8						
NVAR	**Mina Array Bea**	**30.58**	**119**	P	**P**	**08 09 15.9**	**+1.0**
	0.3nm,0.5s,mb3.3,baz=308,slow=9.0,SNR=2.6						
TXAR	**Lajitas Array**	**44.83**	**111**	P	**P**	**08 11 16.9**	**+2.1**
	0.1nm,0.4s,mb2.9,baz=307,slow=5.6,SNR=5.7						
KSRS	**Korea Array**	**53.33**	**283**	P	**P**	**08 12 19.3**	**-0.2**
	2.1nm,0.5s,mb4.5,baz=39,slow=7.1,SNR=5.7						
SONM	**Songino Array**	**54.93**	**306**	P	**P**	**08 12 31.8**	**+0.8**
	5.1nm,0.6s,baz=46,slow=6.2,SNR=30						
ZALV	**Zalesovo Beam**	**57.50**	**324**	P	**P**	**08 12 48.4**	**-0.7**
	3.5nm,0.5s,mb4.7,baz=23,slow=8.1,SNR=4.4						
BVAR	**Borovoye Array**	**62.18**	**332**	P	**P**	**08 13 20.0**	**-1.2**
	2.0nm,0.5s,mb4.4,baz=40,slow=5.8,SNR=7.5						
AKTO	**Aktyubinsk**	**67.19**	**339**	P	**P**	**08 13 51.5**	**-2.2**
	0.8nm,0.5s,mb3.8,baz=38,slow=12,SNR=3.1						
LBTB	**Lobatse**	**145.06**	**3**	PKPbc	PKPbc	08 22 35.3	-0.5
	1.5nm,0.4s,baz=270,slow=6.1,SNR=2.8						
BOSA	**Boshof**	**148.63**	**3**	PKPbc	PKPbc	08 22 44.3	-1.5
	2.5nm,0.5s,baz=282,slow=4.0,SNR=5.8						
QSPA	**South Pole Qui**	**149.75**	**180**	PKPbc	PKPbc	08 22 46.8	-0.3
	1.0nm,0.7s,baz=47,slow=1.3,SNR=4.5						

NNC 17 08:11:19.0±3.2, 5000N×8806E, h0km, mb3.8, mpv3.4, 6C-3D, Error ellipse: s-maj=23.7km s-min=14.2km az=76.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MK31	**Makanchi Array**	**5.00**	**232**⇑	P*n*	Pn	08 12 35.8	+0.5
	4.5nm,0.6s,baz=52,slow=15,SNR=43						
MK31				P*g*	Pg	08 12 49.4	-5.4
	2.3nm,0.3s,baz=44,slow=14,SNR=12						
MK31				⇑S*n*	Sn	08 13 34.8	+1.0
	2.7nm,0.4s,baz=58,slow=22,SNR=7.9						
MK31				⇓L*g*		08 13 56.7	
	7.7nm,0.6s,baz=53,slow=28,SNR=3.5						
KURK	**Kurchatov**	**6.08**	**280**	⇓P*n*	Pn	08 12 49.8	-0.3
	3.9nm,0.9s						
KURK				⇑S*n*	Sn	08 14 01.6	+1.4
	3.9nm,0.8s						
KURK				⇑L*g*		08 14 32.0	
	15nm,0.8s						
KURBB	**Kurchatov Arra**	**6.13**	**279**	⇑P*n*	Pn	08 12 51.2	+0.5
	0.8nm,0.6s,baz=94,slow=14						
KURBB				⇓S*n*	Sn	08 14 03.1	+1.5
	1.9nm,0.6s,baz=88,slow=24						
KURBB				⇑L*g*		08 14 33.9	
	5.6nm,0.7s,baz=92,slow=32						

*ATH **17** 08:16:14.7, 4039N×2608E, h29km±3km, MD3.3/4*
*NEIC **17** 08:16:14.7, 4037N×2608E, h29km, MD3.1(ISK), MD3.3(ATH), After ATH.*
*ISK **17** 08:16:14.4, 4037N×2614E, h8km, MD3.1*
*CSEM **17** 08:16:14.2±0.1, 4038N×2613E, h7km, MD3.1, Error ellipse: s-maj=1.9km s-min=1.2km az=121.0*
*ISCJB **17** 08:16:14.6±0.4, 4040N±002×2610E±003, h11km±3km, Error ellipse: s-maj=4.5km s-min=3.5km az=32.4*
*THE **17** 08:16:15.2, 4038N×2609E, h1km±1km, MD3.3/3, Error ellipse: s-maj=1.3km s-min=0.3km az=342.0*
ISC 17 08:16:15.0±0.4, 4040N±002×2607E±003, h14km±3km, n25, σ0°71/43, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GADA	**Gvkgeada**	**0.24**	**213**	*e*PG	**Pg**	**08 16 20.1**	**-0.1**
GADA				*e*SG	**Sg**	**08 16 24.1**	**+0.3**
ENEZ	**Enez**	**0.35**	**10**	PG	**Pg**	**08 16 22.1**	**+0.1**
ENEZ				*e*SG	**Sg**	**08 16 27.8**	**+0.9**
ALN	**Alexandroupoli**	**0.50**	**358**	P	**Pg**	**08 16 24.7**	**-0.2**
ALN				S	**Sg**	**08 16 32.3**	**+0.7**
ALN	**Alexandroupoli**	**0.50**	**358**	P	**Pg**	**08 16 24.7**	**-0.2**
ALN				S	**Sg**	**08 16 32.1**	**+0.5**
EZN	**Ezine**	**0.60**	**161**	*e*PG	**Pg**	**08 16 25.7**	**-1.0**
EZN				*e*SG	**Sg**	**08 16 34.0**	**-0.6**
LIA	**Limnos Island**	**0.84**	**234**	P	**Pg**	**08 16 31.3**	**0.0**
LIA				S	**Sg**	**08 16 43.6**	**+1.2**
LIA	**Limnos Island**	**0.84**	**234**	*e*Pn	**Pn**	**08 16 31.5**	**-0.8**
LIA				*e*Sn	**Sn**	**08 16 43.5**	**-1.0**
LIA	**Limnos Island**	**0.84**	**234**	*e*PN	**Pn**	**08 16 31.5**	**-0.8**
LIA				*e*SN	**Sn**	**08 16 43.5**	**-1.0**
RDO	**Rodhopi**	**0.85**	**332**	*e*Pn	**Pn**	**08 16 31.1**	**-1.4**
RDO	

0.3nm,0.4s,baz=264,slow=5.3,SNR=3.2
ARCES ARCESS Array B 87.21 342 P P 08 39 02.5 -0.8
3.6nm,1.1s,baz=81,slow=9.0,SNR=5.3

DJA 17 08:36:55,861S×11081E,h44km,MLv3.8/3,Jawa

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
UGM	**Wanagama**	**0.75**	**338**	P	Pn	08 37 09.9	+0.7
UGM	**Wanagama**	**0.75**	**338**	S	Sn	08 37 21.5	+2.0
SJI	**Sawahan**	**1.29**	**48**	P	Pn	08 37 16.4	-0.1
SJI	**Sawahan**	**1.29**	**48**	S	Sn	08 37 34.5	+1.9
SMRI	**Semarang**	**1.59**	**347**	S	Sn	08 37 40.6	+0.5
BJII	**Banjamegara**	**1.67**	**319**	P	Pn	08 37 22.9	+1.1
BJII	**Banjamegara**	**1.67**	**319**	S	Sn	08 37 43.6	+1.5
KRKI	**Karangkates**	**1.69**	**75**	S	Sn	08 37 43.3	+0.9

TAP 17 08:45:19.8,2290N×11995E,h21km,ML3.6,D,Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TAI1	**Yung-k'ang**	**0.29**	**62**	*i* P	Pb	08 45 26.7	+0.3
	baz=61						
TAI1				*e*S	Sb	08 45 31.2	+0.4
	baz=61						
SCLT	**Jiali**	**0.35**	**39**	*e*P	Pb	08 45 29.8	+2.4
	baz=39						
SCLT				S	Sb	08 45 35.0	+2.4
	baz=39						
CHN3	**Shinhua**	**0.42**	**65**	*e*P	Pb	08 45 28.4	-0.1
	baz=65						
CHN3				*e*S	Sb	08 45 36.1	+1.6
	baz=65						
TWM1	**Shoushan**	**0.44**	**100**	*i* P	Pb	08 45 29.4	+0.5
	baz=99						
TWM1				*i* S	Sb	08 45 37.2	+2.1
	baz=99						
KAU	**Kaohsiung**	**0.47**	**135**	*e*P	Pb	08 45 30.4	+1.1
	baz=135						
KAU				S	Sb	08 45 37.4	+1.6
	baz=135						
CHN1	**Nanshi**	**0.60**	**62**	*i* P	Pb	08 45 32.1	+0.5
	baz=61						
CHN1				S	Sb	08 45 41.2	+1.5
	baz=61						
SGST	**Jiashian**	**0.61**	**73**	P	Pb	08 45 32.2	+0.5
	baz=72						
SGST				S	Sb	08 45 41.5	+1.6
	baz=72						
TWK	**Hsinying**	**0.61**	**54**	*e*P	Pb	08 45 33.0	+1.2
	baz=53						
TWK				*e*S	Sb	08 45 42.3	+2.3
	baz=53						
SSD	**Sandimen**	**0.65**	**104**	P	Pb	08 45 32.4	0.0
	baz=103						
SSD				S	Sb	08 45 42.4	+1.4
	baz=103						
TWP	**Hsiaoliuchiu**	**0.67**	**145**	*e*P	Pb	08 45 33.9	+1.1
	baz=145						
TWP				*e*S	Sb	08 45 45.0	+3.3
	baz=145						
WTP	**Ta-pu**	**0.70**	**61**	*i* P	Pb	08 45 34.0	+0.7
	baz=60						
WTP				S	Sb	08 45 44.8	+2.3
	baz=60						
PNG	**Penghu**	**0.76**	**331**	*e*P	Pb	08 45 35.0	+0.7
	baz=331						
PNG				*e*S	Sb	08 45 46.0	+1.9
	baz=331						
STYT	**Tauyuan**	**0.79**	**71**	P	Pb	08 45 35.2	+0.4
	baz=70						
STYT				S	Sb	08 45 46.0	+1.0
	baz=70						
CHN2	**Minshiung**	**0.79**	**37**	*e*P	Pb	08 45 34.1	-0.7
	baz=37						
CHN2				*e*S	Sb	08 45 47.7	+2.6
	baz=37						
SCZT	**Fangliau**	**0.81**	**130**	P	Pb	08 45 35.2	0.0
	baz=130						
SCZT				S	Sb	08 45 47.5	+1.8
	baz=130						
CHN5	**Tsauling**	**0.96**	**44**	P	Pb	08 45 38.0	+0.2
	baz=43						
CHN5				S	Sb	08 45 51.1	+1.0
	baz=43						
ECL	**Taimali**	**0.97**	**108**	*i* P	Pb	08 45 37.6	-0.3
	baz=108						
ECL				S	Sb	08 45 50.8	+0.4
	baz=108						
EAST	**Anshuo**	**0.98**	**122**	*i* P	Pb	08 45 37.8	-0.2
	baz=121						
EAST				*i* S	Sb	08 45 52.6	+2.1
	baz=121						
ALS	**Alishan**	**0.99**	**52**	P	Pb	08 45 38.6	+0.3
	baz=52						
ALS				*e*S	Sb	08 45 52.0	+1.0
	baz=52						
ELDTW	**Lidau**	**1.02**	**74**	*e*P	Pb	08 45 39.0	+0.2
	baz=73						
ELDTW				*e*S	Sb	08 45 52.9	+1.1
	baz=73						
TAW	**Tawu**	**1.03**	**122**	*e*P	Pb	08 45 38.9	+0.1
	baz=121						
TAW				*e*S	Sb	08 45 53.5	+1.5
	baz=121						
TWG	**Pinlang**	**1.04**	**94**	P	Pb	08 45 39.3	+0.2
	baz=94						
TWG				*e*S	Sb	08 45 53.2	+1.0
	baz=94						
YUS	**Yu-Shan**	**1.09**	**57**	P	Pn	08 45 40.9	+1.1
	baz=57						
YUS				*e*S	Sb	08 45 56.1	+2.3
	baz=57						
TTN	**Taitung**	**1.11**	**97**	*e*P	Pn	08 45 41.1	+1.0
	baz=97						
TTN				*e*S	Sb	08 45 57.5	+3.1
	baz=97						
SMLT	**Sun Moon Lake**	**1.31**	**42**	*e*P	Pn	08 45 44.1	+1.2
	baz=41						
SMLT				*e*S	Sn	08 46 01.9	+2.2
	baz=41						
TWF1	**Yuli**	**1.32**	**70**	*i* P	Pn	08 45 43.8	+0.8
	baz=70						
TWF1				S	Sn	08 46 00.5	+0.6
	baz=70						
EHY	**Hungye**	**1.40**	**64**	P	Pn	08 45 45.6	+1.6
	baz=64						
EHY				S	Sn	08 46 03.5	+1.7
	baz=64						
ESL	**Shilin**	**1.64**	**56**	*e*P	Pn	08 45 47.8	+0.5
	baz=56						
ESL				*e*S	Sn	08 46 10.1	+2.4
	baz=56						
WHF	**Hehuan Shan**	**1.73**	**44**	*e*P	Pn	08 45 50.8	+2.2
	baz=44						
WHF				*e*S	Sn	08 46 12.5	+2.5
	baz=44						

IDC 17 08:49:53.8±6.8,330N×12767E,h0km,mb3.5/3,mb1 3.7/3,mb1mx3.4/17,mbtmp3.5/3,Error ellipse: s-maj=156.7km s-min=107.3km az=77.0,Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**24.00**	**164**	P	P	08 55 11.0	+0.6
	0.1nm,0.3s,baz=344,slow=10,SNR=8.6						
ASAR	**Alice Springs**	**27.48**	**168**	P	P	08 55 42.0	+0.1
	0.2nm,0.5s,baz=354,slow=8.4,SNR=4.4						
STKA	**Stephens Creek**	**37.40**	**160**	P	P	08 57 07.8	-0.7
	3.2nm,1.1s,baz=355,slow=11,SNR=2.9						

FUNV ***17*** *09:12:34.4,667N×7324W,h156km,MW3.8*
ISCJB ***17*** *09:12:35.2±0.5,690N±006×7305W±007,h166km±6km, mb3.6/5,Error ellipse: s-maj=12.9km s-min=6.0km az=36.9*
IDC ***17*** *09:12:35.4±0.7,685N×7305W,h155km±8km,mb3.3/5, mb1 3.7/7,mb1mx3.4/19,mbtmp3.4/7,MS3.4/2,Ms1 3.4/2, ms1mx2.6/16,Error ellipse: s-maj=20.6km s-min=7.4km az=128.0*
ISC 17 09:12:36.2±0.5,689N±006×7303W±007,h160km±6km,n23, σ0$74/31,mb3.6/5,4C,Northern Colombia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CAPV	**Capacho**	**1.20**	**36**	⇑*i*P	Pn	09 13 04.5	+0.9
CAPV				*e*S	Sn	09 13 25.6	+0.8
ROSC	**El Rosal**	**2.40**	**213**	P	Pn	09 13 16.1	-0.5
	63nm,0.3s,baz=297,slow=4.3,SNR=276						
ROSC				S	Sn	09 13 46.6	-1.1
	151nm,0.3s,baz=91,slow=22,SNR=17						
VIGV	**El Vigia**	**2.55**	**40**	⇑*i*P	Pn	09 13 19.0	+0.6
VIGV				*e*S	Sn	09 13 52.2	+1.1
SOCV	**Socops**	**2.56**	**57**	*e*P	Pn	09 13 19.5	+0.9
SOCV				*e*S	Sn	09 13 51.8	+0.4
SDV	**Santo Domingo**	**3.10**	**50**	P	Pn	09 13 26.2	+1.1
	12nm,0.3s,baz=234,slow=1.4,SNR=69						
SDV				S	Sn	09 14 03.1	-0.1
	52nm,0.3s,baz=68,slow=21,SNR=46						
VIRV	**Villa del Rosa**	**3.64**	**10**	⇑*i*P	Pn	09 13 31.3	-0.8
VIRV				*e*S	Sn	09 14 15.3	-0.4
QARV	**Quebrada Arrib**	**4.13**	**37**	⇑*i*P	Pn	09 13 39.0	+0.6
QARV				*e*S	Sn	09 14 25.9	-0.9
CURV	**Curarigua**	**4.34**	**44**	*e*P	Pn	09 13 41.4	+0.2
CURV				*e*S	Sn	09 14 31.4	-0.5
DABV	**Dabajuro**	**4.66**	**30**	*e*P	Pn	09 13 45.7	+0.4
DABV				*e*S	Sn	09 14 38.1	-1.0
TEPV	**Terepaima**	**4.88**	**51**	*e*P	Pn	09 13 48.5	+0.4
TEPV				*e*S	Sn	09 14 43.2	-1.2
SIQV	**Siquisique**	**4.91**	**40**	*e*P	Pn	09 13 48.5	-0.1
SIQV				*e*S	Sn	09 14 44.8	-0.4
TURV	**Turiamo**	**6.24**	**55**	*e*P	Pn	09 14 06.0	-0.1
CAOV	**Caicara del Or**	**6.67**	**86**	*e*P	Pn	09 14 10.3	-1.7
CAOV				*e*S	Sn	09 15 22.1	-5.0
BIRV	**Birongo**	**7.58**	**61**	*e*P	Pn	09 14 23.9	0.0
LPAZ	**La Paz**	**23.53**	**168**	P	P	09 17 33.0	+1.0
	1.2nm,0.9s,mb3.4,baz=333,slow=18,SNR=3.0						
LVC	**Limon Verde**	**29.60**	**172**	LR	LR	09 31 03.3	
	comp=Z,56nm,18.4s,baz=56,slow=38						
TXAR	**Lajitas Array**	**36.48**	**312**	P	P	09 19 26.4	+0.4
	0.6nm,0.6s,mb3.4,baz=131,slow=9.0,SNR=10						
TXAR				PcP	PcP	09 21 47.2	+0.8
	0.4nm,0.8s,baz=117,slow=5.2,SNR=3.7						
ULM	**Lac du Bonnet**	**47.25**	**340**	P	P	09 20 52.2	-0.8
	1.4nm,0.4s,mb3.9,baz=139,slow=6.8,SNR=6.2						
PDAR	**Pinedale Array**	**48.07**	**324**	P	P	09 21 00.1	+0.5
	0.3nm,0.6s,mb3.1,baz=130,slow=9.6,SNR=4.0						
YKA	**Yellowknife Ar**	**63.23**	**340**	P	P	09 22 47.3	+0.1
	1.1nm,0.5s,mb3.9,baz=137,slow=6.9,SNR=5.6						
ESDC	**Sonseca Array**	**69.54**	**50**	LR	LR	09 50 01.1	
	comp=Z,25nm,18.0s,baz=110,slow=32						
ASAR	**Alice Springs**	**149.22**	**234**	PKPbc	PKPbc	09 32 05.4	-1.2
	0.6nm,0.6s,baz=123,slow=3.7,SNR=11						
WRA	**Warramunga Arr**	**150.44**	**241**	PKPbc	PKPbc	09 32 08.5	-1.2
	0.5nm,0.4s,baz=107,slow=2.7,SNR=31						

ISCJB ***17*** *09:13:15.8±0.7,3980N±005×3300E±006,h11km±7km, Error ellipse: s-maj=10.0km s-min=5.6km az=136.1*
ISK ***17*** *09:13:15.2,3981N×3302E,h15km,MD2.7*
DDA ***17*** *09:13:15.5,3980N×3294E,h10km,Md2.8*
CSEM ***17*** *09:13:15.2±0.1,3976N×3300E,h10km,MD2.7,Error ellipse: s-maj=3.1km s-min=2.0km az=35.0*
ISC 17 09:13:15.9±0.7,3984N±004×3303E±005,h6km±6km,n9, σ1$09/16,Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ANTO	**Ankara**	**0.19**	**281**	*e*PG	Pg	09 13 19.9	+0.3
ANTO				*e*SG	Sg	09 13 23.6	+1.4
KAMT	**Kaman**	**0.70**	**131**	*e*PG	Pg	09 13 29.1	-0.3
KAMT				*e*SG	Sg	09 13 39.4	+0.9
ELDT	**Eldivan**	**0.72**	**25**	*i* P	Pg	09 13 28.2	-1.6
ELDT				*i* S	Sg	09 13 37.9	-1.3
CDAG	**Cicekdag**	**1.05**	**101**	*i* P	Pg	09 13 35.8	-0.4
CDAG				*i* S	Sg	09 13 51.0	+1.2
CORM	**Corum**	**1.27**	**74**	*e*PN	Pn	09 13 39.2	-1.1
KIZT	**Kizilcal**	**1.31**	**223**	*e*PN	Pn	09 13 39.1	-1.6
CTKT	**Corum**	**1.56**	**59**	*i* P	Pn	09 13 44.5	+0.2
CTKT				*i* S	Sn	09 14 07.7	+3.0
BALT	**Daday**	**1.72**	**9**	*i* P	Pn	09 13 47.2	+0.8
BALT				*i* S	Sn	09 14 09.5	+0.8
AVNT	**Avonos**	**1.76**	**126**	*i* P	Pn	09 13 46.0	-1.1
AVNT				*i* S	Sn	09 14 09.9	+0.1

ISCJB ***17*** *09:26:40.7±0.3,2460N±003×12253E±002,h104km±3km, mb3.6/7,Error ellipse: s-maj=5.4km s-min=2.8km az=168.6*
TAP ***17*** *09:26:42.5,2451N×12254E,h79km±1km,ML4.2,D*
JMA ***17*** *09:26:42.4±0.1,2463N×12256E,h91km±1km,M4.0*
IDC ***17*** *09:26:43.1±6.2,2474N×12267E,h116km±66km,mb3.4/7, mb1 3.5/8,mb1mx3.4/22,mbtmp3.5/8,Error ellipse: s-maj=50.7km s-min=15.7km az=63.0*
ISC 17 09:26:41.8±0.3,2459N±003×12253E±002,h97km±3km, n59,σ0$92/83,mb3.6/7,1C,Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
YOJ	**Yonaguni jima**	**0.46**	**106**	P	Pn	09 26 56.9	0.0
YOJ				S	Sn	09 27 07.7	-0.6
TWC	**Suao**	**0.62**	**272**	P	Pn	09 26 57.9	-0.3
	baz=278						
TWC				S	Sn	09 27 09.2	-1.3
	baz=278						
TWB1	**Santiao Chiao**	**0.65**	**310**	*e*P	Pn	09 26 58.7	+0.3
	baz=314						
TWB1				S	Sn	09 27 10.4	-0.5
	baz=314						
ILA	**Ilan**	**0.73**	**284**	*e*S	Sn	09 27 12.2	-0.1
	baz=289						
ENA	**Nanau**	**0.74**	**258**	P	Pn	09 26 59.1	-0.1
	baz=263						
TWE	**Neicheng**	**0.80**	**280**	*e*P	Pn	09 27 00.1	+0.2
	baz=284						
TWE				S	Sn	09 27 12.6	-0.8
	baz=284						
NWF	**Wu-fen Shan**	**0.83**	**305**	P	Pn	09 27 00.8	+0.5
	baz=308						
NWF				S	Sn	09 27 14.2	+0.1
	baz=308						
TWA	**Mucha**	**0.94**	**295**	*e*P	Pn	09 27 01.8	+0.4
	baz=298						
TWA				*e*S	Sn	09 27 15.4	-0.7
	baz=298						
TWD	**Chiawan**	**0.99**	**239**	*e*P	Pn	09 27 01.2	-0.6
	baz=243						
TWD				S	Sn	09 27 15.6	-1.4
	baz=243						
HWA	**Hwalien**	**1.04**	**234**	*e*P	Pn	09 27 02.2	-0.3
	baz=238						
HWA				*e*S	Sn	09 27 17.4	-0.6
	baz=238						
NNS	**Nan Shan**	**1.06**	**262**	*e*P	Pn	09 27 04.0	+1.3
	baz=266						
NSK	**Sanguang**	**1.07**	**275**	P	Pn	09 27 03.2	+0.5
	baz=278						
NSK				S	Sn	09 27 18.4	-0.2
	baz=278						
TWY	**Chenhua**	**1.09**	**309**	*e*P	Pn	09 27 03.8	+0.8
	baz=311						
PCYT	**Pengchaiyu**	**1.12**	**338**	P	Pn	09 27 04.5	+1.2
	baz=338						
IRIF	**Iriomote-Funau**	**1.12**	**103**	P	Pn	09 27 03.4	+0.1
IRIF				S	Sn	09 27 19.4	-0.2
WHF	**Hehuan Shan**	**1.24**	**249**	⇑P	Pn	09 27 04.9	+0.2
	baz=252						
WHF				*e*S	Sn	09 27 21.4	-0.5
	baz=252						
ESL	**Shilin**	**1.27**	**233**	*e*P	Pn	09 27 04.2	-0.8
	baz=235						
ESL				*e*S	Sn	09 27 20.2	-2.4
	baz=235						
HATJ	**Hateruma jima**	**1.28**	**114**	P	Pn	09 27 05.6	+0.4
NCU	**National Centr**	**1.28**	**288**	*e*S	Sn	09 27 23.8	+0.9
	baz=290						
JKRS	**Kuro-shima**	**1.39**	**104**	P	Pn	09 27 07.0	+0.5
JKRS				S	Sn	09 27 25.5	+0.2
NSTT	**Nanjuang**	**1.39**	**272**	*e*P	Pn	09 27 07.0	+0.5
	baz=274						
NSTT				*e*S	Sn	09 27 25.2	-0.1
	baz=274						
HSN	**Hsinchu**	**1.44**	**279**	*e*S	Sn	09 27 26.1	-0.2
	baz=282						
JIJ	**Ishigaki jima**	**1.49**	**98**	P	Pn	09 27 07.7	0.0
JIJ				S	Sn	09 27 26.6	-0.8

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EHY	**Hungye**	**1.54**	**226**	*e*P	Pn	09 27 07.2	-1.2
	baz=228						
NSY	**Sanyi**	**1.62**	**264**	*e*S	Sn	09 27 30.9	+0.5
	baz=266						
SMLT	**Sun Moon Lake**	**1.65**	**245**	*e*P	Pn	09 27 10.9	+1.2
	baz=247						
SMLT				*e*S	Sn	09 27 32.2	+1.3
	baz=247						
TWF1	**Yuli**	**1.67**	**223**	*e*P	Pn	09 27 09.1	-0.9
	baz=224						
YUS	**Yu-Shan**	**1.81**	**233**	*e*P	Pn	09 27 12.4	+0.6
	baz=235						
CHKT	**Chengkung**	**1.83**	**216**	*e*P	Pn	09 27 10.8	-1.2
	baz=217						
WNT	**Mingjian**	**1.83**	**248**	*e*P	Pn	09 27 13.8	+1.8
	baz=249						
ALS	**Alishan**	**1.91**	**236**	*e*P	Pn	09 27 13.9	+0.8
	baz=237						
CHN5	**Tsauling**	**1.96**	**240**	*e*P	Pn	09 27 14.7	+1.0
	baz=241						
CHN5				*e*S	Sn	09 27 39.5	+1.4
	baz=241						
ELDTW	**Lidau**	**1.97**	**225**	*e*P	Pn	09 27 12.9	-0.9
	baz=226						
JTJ	**Tarama**	**1.98**	**88**	P	Pn	09 27 14.5	+0.6
JTJ				S	Sn	09 27 39.2	+0.7
WTP	**Ta-pu**	**2.21**	**233**	*e*P	Pn	09 27 17.9	+1.0
	baz=234						
TWG	**Pinlang**	**2.21**	**218**	*e*P	Pn	09 27 15.9	-1.1
	baz=218						
TWK	**Hsinying**	**2.29**	**235**	*e*P	Pn	09 27 18.9	+1.0
	baz=236						
CHN1	**Nanshi**	**2.31**	**233**	*e*P	Pn	09 27 18.9	+0.7
	baz=234						
ECL	**Taimali**	**2.46**	**216**	*e*P	Pn	09 27 18.8	-1.4
	baz=217						
JMJ	**Miyako jima 2**	**2.52**	**84**	P	Pn	09 27 22.4	+1.3
JMJ				S	Sn	09 27 51.0	-0.3
SSD	**Sandimen**	**2.53**	**224**	P	Pn	09 27 22.1	+0.9
	baz=224						
SSD				*e*S	Sn	09 27 52.2	+0.8
	baz=224						
TWM1	**Shoushan**	**2.61**	**228**	*e*P	Pn	09 27 24.1	+1.8
	baz=229						
JOGS	**Gusukube**	**2.62**	**86**	P	Pn	09 27 23.2	+0.8
JOGS				S	Sn	09 27 53.9	+0.3
EAST	**Anshuo**	**2.69**	**215**	*e*P	Pn	09 27 22.2	-1.1
	baz=216						
LAY	**Lan-yu**	**2.69**	**200**	*e*P	Pn	09 27 22.0	-1.4
	baz=200						
SCZT	**Fangliau**	**2.82**	**219**	*e*P	Pn	09 27 25.9	+0.8
	baz=219						
JKE	**Kume jima 2**	**4.22**	**65**	P	Pn	09 27 45.2	+1.4
JKE				S	Sn	09 28 33.7	+1.7
JIH	**Iheya**	**5.47**	**62**	P	Pn	09 28 01.0	+0.2
JIH				S	Sn	09 29 02.7	+0.2
JOW	**Kunigami**	**5.64**	**65**	P	Pn	09 28 02.9	-0.3
	6.4nm,0.3s,baz=169,slow=11,SNR=41						
JOW				S	Sn	09 29 04.4	-2.2
	5.4nm,0.3s,baz=107,slow=24,SNR=7.4						
JOW	**Kunigami**	**5.64**	**65**	P	Pn	09 28 02.8	-0.3
JTK	**Tokunoshima**	**6.59**	**60**	P	Pn	09 28 14.6	-1.4
JAM	**Amami Oshima**	**7.39**	**57**	P	Pn	09 28 25.4	-1.6
SONM	**Songino Array**	**26.49**	**335**	P	P	09 32 09.0	-0.8
	0.8nm,0.4s,mb3.5,baz=148,slow=9.6,SNR=6.3						
MKAR	**Makanchi Array**	**38.91**	**315**	P	P	09 33 57.4	-0.5
	0.8nm,0.5s,mb3.8,baz=96,slow=11,SNR=6.9						
ZALV	**Zalesovo Beam**	**40.58**	**326**	P	P	09 34 09.9	-1.6
	0.5nm,0.4s,mb3.7,baz=140,slow=7.0,SNR=2.1						
KURK	**Kurchatov**	**42.58**	**319**	P	P	09 34 27.2	-0.7
	0.3nm,0.4s,mb3.4,baz=108,slow=10,SNR=3.8						
WRA	**Warramunga Arr**	**45.73**	**164**	P	P	09 34 53.0	-0.3
	1.1nm,0.5s,mb3.8,baz=346,slow=8.7,SNR=5.5						
ASAR	**Alice Springs**	**49.22**	**166**	P	P	09 35 21.1	+0.8
	0.2nm,0.4s,mb3.4,baz=354,slow=7.7,SNR=2.2						
ARCES	**ARCESS Array B**	**69.62**	**338**	P	P	09 37 39.3	-0.9
	2.1nm,0.9s,mb4.0,baz=60,slow=5.8,SNR=5.0						

IDC ***17*** *09:31:26.3±12.0,333S×14665E,h0km,mb4.4/3, mb1 4.7/3,mb1mx3.9/14,mbtmp4.5/3,Error ellipse: s-maj=205.6km s-min=98.3km az=176.0*
NEIC ***17*** *09:31:40.5±4.0,4.12S×14628E,h35km,mb4.6/8,Error ellipse: s-maj=57.4km s-min=19.5km az=36.0*
ISC 17 09:31:41.9±3.8,43S±03×1462E±02,h35km,n16,σ1$29/16, mb4.6/5,Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**5.18**	**169**	*e*Pn	Pn	09 32 56.7	-0.3
	92nm,0.4s						
PMG				*e*S	Sx	09 33 39.1	
COEN	**Coen**	**10.06**	**197**	*e*Pn	Pn	09 34 05.2	+1.2
	11nm,0.8s						
COEN				*e*Sn	Sx	09 35 44.6	
CTA	**Charters Tower**	**15.71**	**180**	*e*P	Pn	09 35 23.0	+2.4
	2.7nm,0.3s						
CTAO	**Charters Tower**	**15.71**	**180**	*e*P	Pn	09 35 22.6	+2.0
	4.4nm,0.4s						
KAKA	**Kakadu**	**15.97**	**238**	*e*P	Pn	09 35 25.8	+1.8
	45nm,0.5s						
KAKA	**Kakadu**	**15.97**	**238**	*e*P	Pn	09 35 25.4	+1.4
	107nm,0.6s						
WRAB	**Tennant Creek**	**19.37**	**216**	*e*P	Pn	09 36 05.0	-1.1
	14nm,0.7s						
WB2	**Warramunga Arr**	**19.38**	**216**	*e*P	Pn	09 36 04.8	-1.4
WRA	**Warramunga Arr**	**19.39**	**216**	P	Pn	09 36 04.9	-1.4
	8.8nm,0.6s,baz=45,slow=12,SNR=66						
ASAR	**Alice Springs**	**22.63**	**210**	P	P	09 36 39.4	-0.5
	4.8nm,0.4s,mb4.3,baz=46,slow=8.3,SNR=102						
FITZ	**Fitzroy Crossi**	**24.36**	**234**	*e*P	P	09 36 58.8	+2.0
	10nm,0.6s,mb4.4						
FITZ	**Fitzroy Crossi**	**24.36**	**234**	*e*P	P	09 36 59.2	+2.4
	10nm,0.5s,mb4.5						
STKA	**Stephens Creek**	**27.79**	**188**	P	P	09 37 26.6	-1.0
	3.5nm,0.4s,mb4.4,baz=17,slow=10,SNR=14						
STKA	**Stephens Creek**	**27.79**	**188**	*e*P	P	09 37 27.5	-0.1
	4.0nm,0.5s,mb4.3						
FORT	**Forrest**	**31.41**	**211**	*e*P	P	09 37 58.4	-1.4
	12nm,0.7s,mb4.8						
KLBR	**Kellerberrin**	**38.10**	**221**	*e*P	P	09 38 57.8	+0.3
	54nm,1.5s,mb5.0						

ISCJB ***17*** *09:34:02.6±1.0,601S±01×186W±05,h10km,mb4.0/4, MS3.7/7,Error ellipse: s-maj=36.7km s-min=13.7km az=160.0*
IDC ***17*** *09:34:03.0±1.1,6004S×1869W,h0km,mb4.1/4,mb1 4.2/4, mb1mx3.9/15,mbtmp4.1/4,MS3.7/7,Ms1 3.6/7, ms1mx3.4/19,Error ellipse: s-maj=41.9km s-min=25.8km az=65.0*
ISC 17 09:34:04.8±1.0,601S±01×186W±05,h10km,n14,σ0$30/8, mb4.0/4,MS3.7/7,East of South Sandwich Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VNA1	**Neumayer--Stat**	**11.43**	**163**	*e*	Pn	09 36 47.7	-0.1
VNA1				*e*		09 36 50.0	
VNA1				*e*		09 36 54.5	
VNA1				*e*		09 36 56.8	
VNA3	**Neumayer Olymp**	**11.78**	**166**	*e*	Pn	09 36 52.4	-0.1
VNA3				*e*		09 36 54.4	
VNA3				*e*		09 36 59.5	
VNA3				*e*		09 37 01.7	
VNA2	**Neumayer--Watz**	**11.81**	**162**	*e*	Pn	09 36 52.6	-0.3
	baz=332,slow=17						
VNA2				*e*		09 36 54.6	
VNA2				*e*	

LPAZ	**La Paz**	**56.40**	**299**	P	**P**	**09 43 46.3**	**+0.1**
	1.4nm,0.8s,mb4.0,baz=155,slow=10,SNR=7.3							
TORD	**Torodi Ar. Bea**	**74.77**	**20**	P	**P**	**09 45 44.4**	**-0.3**
	0.9nm,0.7s,mb3.8,baz=189,slow=5.3,SNR=4.8							
ROSC	**El Rosal**	**77.98**	**303**	LR	LR	10 20 15.9		
	comp=Z,38nm,18.8s,MS3.7,baz=29,slow=36							
STKA	**Stephens Creek**	**86.94**	**163**	LR	LR	10 22 45.9		
	comp=Z,71nm,19.4s,MS4.1,baz=206,slow=34							
SONM	**Songino Array**	**146.39**	**86**	PKPbc	PKPbc	09 53 44.4	-0.3	
	1.5nm,0.7s,baz=228,slow=1.9,SNR=11							

*CSEM **17** 09:57:34.3±0.2,3733N×2807E, h3km±1km, MD3.0, Error ellipse: s-maj=3.5km s-min=2.7km az=135.0*
*ISCJB **17** 09:57:35.8±0.6, 3735N±004×2804E±004, h4km±9km, Error ellipse: s-maj=6.9km s-min=5.2km az=32.2*
*ISK **17** 09:57:35.1, 3735N×2805E, h5km, MD3.0*
*DDA **17** 09:57:35.9, 3736N×2802E, h7km±3km, Md2.8*

ISC 17 09:57:36.1±0.5, 3735N±003×2804E±004, h9km±8km, n9, σ0§82/16, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MLSB	**Milas**	**0.22**	**256**	*e*Pg	**Pg**	**09 57 40.1**	**-0.5**
YER	**Yerkesik**	**0.29**	**138**	*e*Pg	**Pg**	**09 57 41.4**	**-0.5**
YER				*e*SG	**Sg**	**09 57 45.7**	**0.0**
AYDN	**Tasoluk**	**0.34**	**337**	*i* P	**Pg**	**09 57 42.6**	**-0.2**
AYDN				*i* S	**Sg**	**09 57 47.4**	**+0.2**
BDRM	**Kayabasi**	**0.56**	**239**	*i* P	**Pg**	**09 57 46.1**	**-0.8**
BDRM				*i* S	**Sg**	**09 57 55.1**	**+1.0**
BODT	**Bodrum**	**0.65**	**244**	*e*PG	**Pg**	**09 57 47.9**	**-0.8**
BODT				*e*SG	**Sg**	**09 57 58.2**	**+1.0**
TURN	**Turunc**	**0.65**	**137**	*i* P	**Pg**	**09 57 47.0**	**-1.7**
TURN				*i* S	**Sg**	**09 57 59.1**	**+1.9**
MANT	**Manisa**	**1.21**	**20**	*i* P	**Pg**	**09 57 59.0**	**-0.4**
MANT				*i* S	**Sg**	**09 58 16.0**	**+0.9**
IZM	**Izmir**	**1.22**	**330**	*e*PN	**Pn**	**09 57 59.1**	**-0.3**
KULA	**Kula-Manisa**	**1.26**	**23**	*e*PN	**Pn**	**09 57 59.9**	**-0.1**
KULA				*e*SN	**Sn**	**09 58 17.5**	**+0.4**

*CSEM **17** 10:07:44.1, 3035N×3655E, h7km, ML2.9, After SNSN SGS **17** 10:07:44.1, 3035N×3655E, h7km*
*ISCJB **17** 10:07:48.7±1.0, 2986N±006×3627E±006, h0km, Error ellipse: s-maj=8.4km s-min=7.5km az=44.2*
*GII **17** 10:07:50.7±0.9, 2989N×3614E, h0km, ML1.6/2, EXPLOSION*

ISC 17 10:07:48.8±1.1, 2984N±006×3631E±006, h0km, n15, σ0§65/19, Western Arabian Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AQBJ	**Aqaba**	**1.10**	**265**	Pg	**Pg**	**10 08 09.8**	**-0.1**
HRFI	**Mount Harif**	**1.12**	**280**	Pg	**Pg**	**10 08 10.0**	**-0.3**
EIL	**Elat**	**1.19**	**262**	Pg	**Pg**	**10 08 12.0**	**+0.4**
HQLS		**1.21**	**244**	P	**Pg**	**10 08 11.7**	**-0.3**
HQLS		**1.21**	**244**	P	**Pg**	**10 08 11.7**	**-0.3**
HQLS				S	**Sg**	**10 08 27.9**	**+0.2**
MBRI	**Mt Berech**	**1.21**	**268**	Pg	**Pg**	**10 08 11.9**	**-0.1**
MBRI				Sg	**Sg**	**10 08 28.8**	**+1.0**
PRNI	**Paran**	**1.24**	**295**	Pg	**Pg**	**10 08 12.1**	**-0.5**
JLOS		**1.31**	**213**	P	**Pg**	**10 08 14.5**	**+0.5**
KRMI	**Paran Flat**	**1.40**	**282**	Pg	**Pg**	**10 08 14.6**	**-1.1**
KRMI				Sg	**Sg**	**10 08 33.3**	**-0.6**
TBKS	**Tabuk**	**1.62**	**173**	P	**Pn**	**10 08 18.1**	**-0.6**
MZDA	**Masada**	**1.68**	**331**	Pn	**Pn**	**10 08 20.0**	**+0.6**
DSI	**Dead Sea**	**1.90**	**335**	Pn	**Pn**	**10 08 23.4**	**+0.9**
RSHS		**2.03**	**221**	S	**Sn**	**10 08 54.0**	**+3.8**
RSHS		**2.03**	**221**	P	**Pn**	**10 08 23.9**	**-0.3**
RSHS		**2.03**	**221**	P	**Pn**	**10 08 23.9**	**-0.3**
RSHS				S	**Sn**	**10 08 54.0**	**+3.8**

*ATH **17** 10:24:01.5, 4050N×2604E, h45km, MD3.3/3*
*ISCJB **17** 10:24:02.2±0.8, 4043N±004×2607E±006, h21km±10km, Error ellipse: s-maj=8.4km s-min=6.7km az=38.4*
*DDA **17** 10:24:02.5, 4035N×2617E, h7km±1km, Md2.6*
*CSEM **17** 10:24:02.0±0.1, 4049N×2604E, h30km, MD2.6, Error ellipse: s-maj=3.1km s-min=2.8km az=58.0*

ISC 17 10:24:01.4±0.9, 4043N±004×2609E±008, h10km±10km, n10, σ0§55/17, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BOZC	**Bozcaada**	**0.59**	**183**	*i* P	**Pg**	**10 24 12.5**	**-0.4**
BOZC				*i* S	**Sg**	**10 24 20.6**	**-0.1**
RDO	**Rodhopi**	**0.83**	**330**	*e*P	**Pg**	**10 24 16.7**	**-0.7**
RDO	**Rodhopi**	**0.83**	**330**	*e*P	**Pg**	**10 24 16.7**	**-0.7**
SART	**Tekirdag**	**0.87**	**73**	*e*P	**Pb**	**10 24 18.7**	**+0.2**
SART				*i* S	**Sb**	**10 24 31.1**	**+0.9**
LIA	**Limnos Island**	**0.88**	**233**	*e*P	**Pb**	**10 24 18.7**	**0.0**
LIA	**Limnos Island**	**0.88**	**233**	*e*P	**Pb**	**10 24 18.7**	**0.0**
LIA				*e*S	**Sg**	**10 24 31.0**	**+1.2**
PRK	**Paraskevi**	**1.19**	**173**	*e*P	**Pn**	**10 24 23.8**	**-0.3**
PRK				*e*S	**Sb**	**10 24 40.0**	**+0.4**
PRK	**Paraskevi**	**1.19**	**173**	*e*P	**Pn**	**10 24 23.8**	**-0.3**
PRK				*e*S	**Sb**	**10 24 40.0**	**+0.4**
AYVA	**Ayvalik**	**1.21**	**158**	*i* P	**Pn**	**10 24 23.8**	**-0.6**
AYVA				*i* S	**Sb**	**10 24 39.6**	**-0.5**
BALY	**Balya**	**1.36**	**120**	*i* P	**Pn**	**10 24 26.3**	**-0.1**
BALY				*i* S	**Sn**	**10 24 44.6**	**+0.1**

NEIC 17 10:36:13.3, 4485S×16723E, h5km, ML3.8(WEL), After WEL., South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSZ	**Milford Sound**	**0.53**	**71**	P	Pg	10 36 22.9	-0.5
MSZ				S	Sg	10 36 28.3	-2.0
DCZ	**Deep Cove**	**0.63**	**185**	P	Pg	10 36 26.4	+1.0
MLZ	**Mavora Lakes**	**0.83**	**127**	P	Pg	10 36 29.5	+0.2
MLZ				S	Sg	10 36 40.4	+0.3
WHZ	**Wether Hill Ro**	**1.16**	**154**	P	Pg	10 36 35.6	0.0
WKZ	**Wanaka**	**1.27**	**90**	P	Pg	10 36 36.7	-1.0
WKZ				S	Sg	10 36 53.0	-1.2
JCZ	**Jackson Bay**	**1.34**	**55**	P	Pn	10 36 39.0	+0.4
EAZ	**Earnscleugh**	**1.52**	**105**	P	Pn	10 36 41.1	0.0
TUZ	**Tuapeka**	**2.02**	**124**	P	Pn	10 36 49.2	+1.2
LBZ	**Lake Benmore**	**2.16**	**79**	P	Pn	10 36 50.8	+0.9
FOZ	**Fox Glacier**	**2.19**	**55**	P	Pn	10 36 49.8	-0.5
ODZ	**Otahua Downs**	**2.43**	**96**	P	Pn	10 36 54.6	+1.0
RPZ	**Rata Peaks**	**2.97**	**69**	P	Pn	10 37 00.5	-0.5
MQZ	**McQueen's Vall**	**4.06**	**76**	P	Pn	10 37 15.8	-0.2
DSZ	**Denniston Nort**	**4.56**	**49**	P	Pn	10 37 21.6	-1.2
THZ	**Tophouse**	**5.16**	**55**	P	Pn	10 37 31.3	+0.1
QRZ	**Quartz Range**	**5.60**	**46**	P	Pn	10 37 35.5	-1.6
NNZ	**Nelson**	**5.79**	**53**	P	Pn	10 37 39.4	-0.3

*ISCJB **17** 10:42:40.5±0.8, 3904N±003×2157E±003, h10km±7km, Error ellipse: s-maj=5.3km s-min=4.2km az=152.3*
*THE **17** 10:42:40.7, 3903N×2156E, h9km±1km, ML3.6/4, Error ellipse: s-maj=1.4km s-min=0.6km az=332.0*
*CSEM **17** 10:42:40.5±0.1, 3902N×2153E, h15km, MD3.5, Error ellipse: s-maj=2.2km s-min=1.7km az=135.0*
*NEIC **17** 10:42:40.6, 3903N×2158E, h15km, MD3.5(ATH), After ATH.*
*ATH **17** 10:42:40.6, 3903N×2158E, h15km±3km, MD3.5/9*

ISC 17 10:42:40.7±0.5, 3904N±003×2155E±003, h11km±4km, n31, σ0§95/46, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EVR	**Evrytania**	**0.24**	**122**	*e*Pb	**Pg**	**10 42 45.3**	**-0.3**
EVR				*e*Sb	**Sg**	**10 42 49.5**	**+0.6**
EVR	**Evrytania**	**0.24**	**122**	*e*PB	**Pg**	**10 42 45.3**	**-0.3**
EVR				*e*SB	**Sg**	**10 42 49.5**	**+0.6**
AGG	**Agios Georgios**	**0.61**	**92**	P	**Pg**	**10 42 52.1**	**-0.4**
AGG				S	**Sg**	**10 43 01.2**	**+0.7**
THL	**Klokotos Trika**	**0.63**	**34**	P	**Pg**	**10 42 52.6**	**-0.4**
THL				S	**Sg**	**10 43 02.1**	**+0.8**
THL	**Klokotos Trika**	**0.63**	**34**	*e*Pb	**Pb**	**10 42 52.0**	**-1.7**
THL	**Klokotos Trika**	**0.63**	**34**	P	**Pg**	**10 42 52.6**	**-0.4**
THL				S	**Sg**	**10 43 02.1**	**+0.8**
THL				*e*Sn	**Sg**	**10 43 02.3**	**+1.0**
THL	**Klokotos Trika**	**0.63**	**34**	*e*PB	**Pb**	**10 42 52.0**	**-1.7**
THL				*e*SN	**Sg**	**10 43 02.3**	**+1.0**
LKD	**Levkas**	**0.78**	**245**	P	**Pg**	**10 42 55.9**	**+0.2**
LKD				S	**Sg**	**10 43 06.2**	**+0.3**
MEV	**Metsovon**	**0.78**	**341**	P	**Pg**	**10 42 55.4**	**-0.4**
JAN	**Janina**	**0.82**	**319**	*e*Pn	**Pn**	**10 42 56.8**	**-1.3**
JAN	**Janina**	**0.82**	**319**	*e*PN	**Pn**	**10 42 56.8**	**-1.3**
RLS	**Riolos of Patr**	**0.99**	**184**	*e*Pn	**Pn**	**10 42 59.7**	**-0.7**
RLS	**Riolos of Patr**	**0.99**	**184**	*e*PN	**Pn**	**10 42 59.7**	**-0.7**
KFL	**Anninata**	**1.11**	**213**	P	**Pb**	**10 43 01.4**	**-0.4**
VLS	**Valsamata**	**1.15**	**221**	P	**Pb**	**10 43 01.7**	**-0.8**
VLS				S	**Sb**	**10 43 18.4**	**+1.1**
VLS	**Valsamata**	**1.15**	**221**	*e*Pb	**Pb**	**10 43 01.9**	**-0.6**
VLS				S	**Sb**	**10 43 18.4**	**+1.1**
VLS	**Valsamata**	**1.15**	**221**	*e*PB	**Pb**	**10 43 01.9**	**-0.6**
LKR	**Lokris**	**1.20**	**109**	P	**Pn**	**10 43 03.1**	**-0.2**
LKR				S	**Sb**	**10 43 18.9**	**+0.1**
LKR	**Lokris**	**1.20**	**109**	*e*Pn	**Pn**	**10 43 02.8**	**-0.5**
LKR	**Lokris**	**1.20**	**109**	P	**Pn**	**10 43 03.1**	**-0.2**
LKR				S	**Sb**	**10 43 18.9**	**+0.1**
LKR	**Lokris**	**1.20**	**109**	*e*PN	**Pn**	**10 43 02.8**	**-0.5**
KZN	**Kozani**	**1.27**	**8**	*e*Pn	**Pn**	**10 43 04.2**	**-0.2**
KZN	**Kozani**	**1.27**	**8**	*e*PN	**Pn**	**10 43 04.2**	**-0.2**
LIT	**Litokhoron**	**1.28**	**34**	P	**Pn**	**10 43 04.2**	**-0.3**
LIT				S	**Sb**	**10 43 22.4**	**+1.2**
NEO	**Neokhori**	**1.33**	**78**	*e*Pn	**Pn**	**10 43 04.9**	**-0.2**
NEO				*e*Sn	**Sn**	**10 43 23.4**	**+0.7**
NEO	**Neokhori**	**1.33**	**78**	*e*PN	**Pn**	**10 43 04.9**	**-0.2**
NEO				*e*SN	**Sn**	**10 43 23.4**	**+0.7**
KEK	**Kerkira**	**1.51**	**297**	*e*Pn	**Pn**	**10 43 10.2**	**+2.5**
KEK	**Kerkira**	**1.51**	**297**	*e*PN	**Pn**	**10 43 10.2**	**+2.5**
PLG	**Polygyros**	**1.98**	**47**	*e*Pb	**Pb**	**10 43 14.3**	**-2.3**
PLG	**Polygyros**	**1.98**	**47**	*e*PB	**Pb**	**10 43 14.3**	**-2.3**
KRUS	**Krusevo**	**2.33**	**354**	*i* Pn	**Pn**	**10 43 20.6**	**+1.7**

*TEH **17** 10:44:30.9, 3194N×5588E, h5km, ML4.1*
*CSEM **17** 10:45:01.1±0.5, 3198N×5583E, h3km±3km, mb4.1, Error ellipse: s-maj=4.8km s-min=2.3km az=104.0*
*ISCJB **17** 10:45:02.3±0.4, 3196N±003×5585E±003, h10km, Error ellipse: s-maj=4.4km s-min=4.0km az=157.7*
*THR **17** 10:45:02.9±1.5, 3200N×5586E, h14km±14km, ML3.8*
*NEIC **17** 10:45:03.1, 3202N×5582E, h15km, ML3.8(THR), MN4.1(TEH), After THR.*

ISC 17 10:45:03.6±0.4, 3195N±003×5584E±003, h10km, n46, σ1§17/55, 2C-4D, Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IBAF	**Bafgh**	**0.42**	**213**	P	**Pg**	**10 45 10.4**	**-1.5**
IBAF				*e*Sg	**Sg**	**10 45 17.0**	**-0.5**
IBAF	**Bafgh**	**0.42**	**213**	*e*Pg	**Pg**	**10 45 10.5**	**-1.4**
IBAF				*e*Sg	**Sg**	**10 45 17.0**	**-0.5**
IBAF				*e*		10 45 17.5	
IMEH	**Mehriz**	**1.18**	**242**	Pg	**Pg**	**10 45 24.7**	**-1.6**
IMEH				*e*Sg	**Sg**	**10 45 40.8**	**-0.9**
IMEH	**Mehriz**	**1.18**	**242**	*e*Pg	**Pg**	**10 45 24.7**	**-1.6**
IMEH				*e*Sg	**Sg**	**10 45 40.8**	**-0.9**
IMEH				*e*		10 45 43.3	
ICHK	**Chekchek**	**1.25**	**284**	*e*Pg	**Pg**	**10 45 25.4**	**-2.3**
ICHK				*e*		10 45 48.1	
ISAD	**Sadrabad**	**1.83**	**270**	Pn	**Pn**	**10 45 35.6**	**+0.5**
ISAD	**Sadrabad**	**1.83**	**270**	*e*Pn	**Pn**	**10 45 35.7**	**+0.6**
ISAD				*e*		10 46 08.0	
KRBR	**Kerman**	**2.11**	**158**	*e*Pg	**Pg**	**10 45 41.1**	**-3.0**
KRBR				AML	AML	10 46 13.8	
	comp=N,1μm,0.4s						
KRBR	**Kerman**	**2.11**	**158**	*e*Pn	**Pn**	**10 45 40.9**	**+1.9**
	SNR=52						
KRBR				*e*Sg	**Sg**	**10 46 11.4**	**-0.1**
	SNR=90						
KRBR	**Kerman**	**2.11**	**158**	Pn	**Pn**	**10 45 40.0**	**+1.0**
ITEG	**Tejag**	**2.64**	**68**	*e*Pn	**Pn**	**10 45 45.4**	**-0.8**
ITEG				*e*Sn	**Sn**	**10 46 16.7**	**-1.6**
ITEG	**Tejag**	**2.64**	**68**	*e*Pn	**Pn**	**10 45 45.4**	**-0.8**
ITEG				*e*Sn	**Sn**	**10 46 16.7**	**-1.6**
ITEG				*e*		10 46 28.7	
NASN	**Na'in**	**2.70**	**289**	*e*Pn	**Pn**	**10 45 48.2**	**+1.1**
NASN				*e*Sg	**Sg**	**10 46 27.4**	**-3.0**
NASN				AML	AML	10 46 31.7	
	comp=E,254nm,0.2s						
NASN	**Na'in**	**2.70**	**289**	Pn	**Pn**	**10 45 47.0**	**-0.1**
NASN				*e*Sg	**Sg**	**10 46 27.4**	**-3.1**
	SNR=90						
IKOO	**Kooshah**	**2.73**	**79**	*e*Pn	**Pn**	**10 45 46.5**	**-0.9**
IKOO	**Kooshah**	**2.73**	**79**	*e*Pn	**Pn**	**10 45 46.6**	**-0.8**
IKOO				*e*		10 46 31.6	
IZEF	**Zefreh**	**3.12**	**289**	Pn	**Pn**	**10 45 53.7**	**+0.9**
IZEF	**Zefreh**	**3.12**	**289**	*e*Pn	**Pn**	**10 45 53.8**	**+1.0**
IPAR	**Pars**	**3.19**	**230**	*e*Pn	**Pn**	**10 45 54.7**	**+0.9**
IPAR				*e*		10 46 53.2	
IMON	**Monand**	**3.46**	**68**	*e*Pn	**Pn**	**10 45 57.3**	**-0.3**
IMON				*e*		10 46 12.5	
IDAH	**Dahanechah**	**3.50**	**76**	*e*Pn	**Pn**	**10 45 57.6**	**-0.5**
IDAH	**Dahanechah**	**3.50**	**76**	*e*Pn	**Pn**	**10 45 57.8**	**-0.3**
IDAH				*e*		10 47 02.7	
IKLH	**Kolahrood**	**3.85**	**292**	Pn	**Pn**	**10 46 03.5**	**+0.7**
IKLH	**Kolahrood**	**3.85**	**292**	*e*Pn	**Pn**	**10 46 03.6**	**+0.8**
IKLH				*e*		10 47 08.8	
ISFB	**Sefidab**	**3.86**	**309**	Pn	**Pn**	**10 46 02.9**	**-0.1**
ISFB	**Sefidab**	**3.86**	**309**	*e*Pn	**Pn**	**10 46 03.0**	**0.0**
ISFB				*e*		10 47 07.1	
IANJ	**Anjilo**	**3.86**	**336**	*e*Pn	**Pn**	**10 46 02.4**	**-0.7**
IANJ				*e*		10 47 08.8	
GHIR	**Ghir-Karzin**	**4.41**	**215**	*e*Pn	**Pn**	**10 46 12.8**	**+2.3**
GHIR				AML	AML	10 47 28.0	
	comp=E,64nm,0.7s						
GHIR	**Ghir-Karzin**	**4.41**	**215**	Pn	**Pn**	**10 46 12.0**	**+1.5**
BNDS	**Bandar-Abbas**	**4.54**	**176**	*e*Pn	**Pn**	**10 46 14.8**	**+2.4**
BNDS				AML	AML	10 47 47.5	
	comp=E,56nm,0.7s						
BNDS	**Bandar-Abbas**	**4.54**	**176**	Pn	**Pn**	**10 46 14.0**	**+1.6**
GHVR	**GHOM**	**4.57**	**305**	*e*Pn	**Pn**	**10 46 14.3**	**+1.5**
GHVR				AML	AML	10 47 37.9	
	comp=N,91nm,0.6s						
GHVR	**GHOM**	**4.57**	**305**	Pn	**Pn**	**10 46 13.0**	**+0.2**
IVRN	**Varamin**	**4.59**	**313**	Pn	**Pn**	**10 46 13.3**	**+0.2**
IVRN	**Varamin**	**4.59**	**313**	*e*Pn	**Pn**	**10 46 13.4**	**+0.3**
IVRN				*e*		10 46 14.0	
ZHSF	**Zahedan**	**4.84**	**117**	*e*Pn	**Pn**	**10 46 18.6**	**+2.0**
ZHSF	**Zahedan**	**4.84**	**117**	Pn	**Pn**	**10 46 18.0**	**+1.5**
DAMV	**Damavand**	**4.89**	**320**	*e*Pn	**Pn**	**10 46 18.0**	**+0.9**
DAMV				AML	AML	10 47 46.5	
	comp=E,66nm,0.6s						
DAMV	**Damavand**	**4.89**	**320**	Pn	**Pn**	**10 46 17.0**	**-0.1**
ASAO	**Ashtian**	**5.52**	**300**	*e*Pn	**Pn**	**10 46 27.2**	**+1.4**
ASAO	**Ashtian**	**5.52**	**300**	Pn	**Pn**	**10 46 26.0**	**+0.2**
CHTH	**Charan**	**5.56**	**317**	*e*Pn	**Pn**	**10 46 27.1**	**+0.7**
CHTH	**Charan**	**5.56**	**317**	*e*Pn	**Pn**	**10 46 27.1**	**+0.6**
	SNR=52						
CHTH	**Charan**	**5.56**	**317**	Pn	**Pn**	**10 46 26.0**	**-0.5**
MRVT	**Maraveh tapeh**	**5.70**	**2**	*e*Pn	**Pn**	**10 46 28.2**	**-0.2**
ZNJK	**Zanjan**	**7.56**	**310**	*e*Pn	**Pn**	**10 46 55.0**	**+1.1**

IDC 17 10:54:37.3±2.9, 3177S×5789E, h0km, mb3.8/3, mb1 4.1/3, mb1mx3.7/20, mbtmp3.8/3, Error ellipse: s-maj=394.3km s-min=28.2km az=21.0, Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**66.56**	**104**	P	P	11 05 29.3	-0.1
	0.7nm,0.4s,baz=237,slow=5.8,SNR=30						
WRA	**Warramunga Arr**	**68.57**	**101**	P	P	11 05 42.6	+0.4
	1.7nm,0.9s,baz=239,slow=5.6,SNR=18						
TORD	**Torodi Ar. Bea**	**69.92**	**300**	P	P	11 05 50.6	+0.1
	0.4nm,0.8s,baz=140,slow=5.6,SNR=2.5						

*NIED **17** 10:58:00, 2670N×12880E, h32km, Mw5.4 Best double couple: M0 1.19000×10^17 NP1:φs266.00000°, δ88.00000°, λ3.00000°. NP2:φs176.00000°, δ87.00000°, λ178.00000°.*
*BGS **17** 10:58:37.9±2.1, 2451N×12623E, h33km, mb5.6*
*BJI **17** 10:58:40.4, 2663N×12886E, h42km, mB5.0, mb5.0, Ms5.0, Msz4.8*
*JMA **17** 10:58:42.4±0.1, 2671N×12873E, h39km±2km, M5.4*
JMA Felt III J1.
*MOS **17** 10:58:42.1±1.4, 2680N×12859E, h31km, mb5.4/77, MS5.1/31, Error ellipse: s-maj=7.9km s-min=4.2km az=115.1*
*IDC **17** 10:58:43.9±0.4, 2672N×12846E, h42km±3km, mb4.7/25, mb1 4.7/28, mb1mx4.7/29, mbtmp4.7/28, ML4.3/3, MS4.4/24, Ms1 4.4/24, ms1mx4.4/30, Error ellipse: s-maj=11.7km s-min=7.1km az=56.0*
*ISCJB **17** 10:58:44.2±0.1, 2671N±002×12839E±002, h44km, mb5.2/167, MS4.8/50, Error ellipse: s-maj=3.0km s-min=2.4km az=158.9*
*SZGRF **17** 10:58:44.1, 2774N×12976E, h33km, mb5.4, MS5.5, Ryukyu Islands, Japan*
*GCMT **17** 10:58:45.1±0.1, 2670N×12867E, h27km, MW5.4/106, Moment Tensor Solution. s88,c153; s106,c197; Duration: 1§2 Moment tensor: Scale 10^17Nm; Mrr0.14±.02; Mθθ-0.21±.02; Mφφ0.07±.02; Mrθ0.44±.03; Mθφ1.41±.02; Mφr0.23±.04; Best double couple: M0 1.50600×10^17 NP1:φs356.00000°, δ72.00000°, λ171.00000°. NP2:φs88.00000°, δ81.00000°, λ18.00000°. Principal axes: T 1.5080, Plg19.0000°, Azm313.0000°; N -0.0030, Plg70.0000°, Azm113.0000°; P -1.5050, Plg6.0000°, Azm221.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **17** 10:58:45.1±0.2, 2672N×12854E, mb5.2/90, MW5.3(NIED) Error ellipse: s-maj=5.3km s-min=5.1km az=159.0*
NEIC Felt [IV] at Okinawa and [III] at Chatan, Ginowan, Gushikawa, Naha and Yomitan, Okinawa. Also felt at Nago, Nishihara and Urazoe. Recorded [3 JMA] on Yoron-shima and Okinawa; [2 JMA] on Tokuno-shima; [1 JMA] on Kikaiga-shima.
*DJA **17** 10:59:28, 2565N×12822E, h429km, Mw5.3/6*

ISC 17 10:58:45.8±0.1, 2673N±002×12843E±002, h46km, h46km±1.4km:pP-P,n640, σ1§03/665, mb5.2/167, MS4.8/50, 148C-88D, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JOW	**Kunigami**	**0.18**	**306**	P	**Pn**	**10 58 52.0**	**-1.5**
	38μm,0.3s,baz=122,slow=22						
JOW				S	**Sn**	**10 58 58.6**	**-0.4**
	52μm,0.3s,baz=336,slow=20,SNR=142						
JOW	**Kunigami**	**0.18**	**306**	P	**Pn**	**10 58 52.0**	**-1.5**
JOW				S	**Sn**	**10 58 58.9**	**-0.1**
JIH	**Iheya**	**0.52**	**306**	P	**Pn**	**10 58 56.7**	**-0.3**
JIH				S	**Sn**	**10 59 07.3**	**+2.3**
NAH1	**Naha**	**0.85**	**232**	P	**Pn**	**10 59 01.2**	**-0.1**
NAH1				S	**Sn**	**10 59 15.6**	**+2.9**
JJT2	**Tamagusuku 2**	**0.85**	**226**	P	**Pn**	**10 59 01.2**	**-0.2**
JAGN	**Aguni-jima**	**1.07**	**263**	P	**Pn**	**10 59 05.3**	**+0.9**
JAGN				S	**Sn**	**10 59 21.7**	**+3.5**
JTK	**Tokunoshima**	**1.15**	**24**	P	**Pn**	**10 59 01.8**	**-3.6**
JTK				S	**Sn**	**10 59 16.1**	**-3.9**
JKE	**Kume jima 2**	**1.53**	**255**	P	**Pn**	**10 59 10.5**	**-0.1**
JAM	**Amami Oshima**	**1.97**	**32**	P	**Pn**	**10 59 12.4**	**-4.3**
JZK	**Kikaishima**	**2.09**	**41**	P	**Pn**	**10 59 13.9**	**-4.4**
JMZ	**Minamidaito 2**	**2.66**	**109**	P	**Pn**	**10 59 18.7**	**-7.5**
JMZ				S	**Sn**	**10 59 45.6**	**-12**
JNN	**Nakanoshima**	**3.35**	**22**	P	**Pn**	**10 59 31.2**	**-4.4**
JOGS	**Gusukube**	**3.36**	**235**	P	**Pn**	**10 59 35.5**	**-0.3**
JOGS				S	**Sn**	**11 00 17.3**	**+2.9**
JMJ	**Miyako jima 2**	**3.41**	**237**	P	**Pn**	**10 59 36.0**	**-0.5**
JTJ	**Tarama**	**3.96**	**239**	P	**Pn**	**10 59 42.7**	**-1.2**
JIJ	**Ishigaki jima**	**4.53**	**240**	P	**Pn**	**10 59 49.8**	**-2.1**
JKRS	**Kuro-shima**	**4.71**	**239**	P	**Pn**	**10 59 52.5**	**-1.7**
IRIF	**Iriomote-Funau**	**4.87**	**242**	P	**Pn**	**10 59 54.7**	**-1.8**
HATJ	**Hateruma jima**	**4.96**	**239**	P	**Pn**	**10 59 55.4**	**-2.3**
YOJ	**Yonaguni jima**	**5.39**	**246**	P	**Pn**	**11 00 03.2**	**-0.4**
TATO	**Taipei**	**6.50**	**256**	*e*Pn	**Pn**	**11 00 20.2**	**+1.4**
NACB	**Ninganchiao**	**6.68**	**249**	*e*Pn	**Pn**	**11 00 19.6**	**-1.8**
	609nm,0.5s						
YHNB	**Yeheng**	**6.69**	**254**	*e*Pn	**Pn**	**11 00 22.1**	**+0.7**
	520nm,0.7s						
SSE	**Sheshan**	**7.70**	**306**	P	**Pn**	**11 00 36.4**	**+1.1**
SSE				AP		11 00 43.4	
SSE				S	**Sn**	**11 02 04.8**	**+3.7**
SSE				AMB	AMB		
	comp=Z,95nm,0.8s						
SSE				AMB	AMB		
	comp=Z,549nm,8.2s						
SSE				LR	LR		
	comp=N,3μm,12.2s						
SSE				LR	LR		
	comp=E,4μm,12.2s						
SSE				LR	LR		
	comp=Z,6μm,12.9s						
QZH	**Quanzhou**	**9.04**	**261**	P	**Pn**	**11 00 54.3**	**+0.6**
QZH				S	**Sn**	**11 02 35.0**	**+0.8**
QZH				LR	LR		
	comp=N,7μm,9.5s						
QZH				LR	LR		
	comp=E,4μm,11.0s						
QZH				LR	LR		
	comp=Z,5μm,11.9s						
NJ2	**Nanjing**	**9.89**	**305**	*e*P	**Pn**	**11 01 06.9**	**+1.5**
NJ2				AP		11 01 13.9	
NJ2				XP		11 01 17.6	
NJ2				S	**Sn**	**11 02 53.0**	**-2.0**
NJ2				AMB	AMB		
	comp=Z,100nm,0.9s						
NJ2				LR	LR		
	comp=N,2μm,13.7s						
NJ2				LR	LR		
	comp=E,3μm,14.1s						
N

GZH S **Sn** **11 04 49.0 +10**
GZH LR LR
comp=N,4μm,20.1s
GZH LR LR
comp=E,2μm,18.5s
OTRP Odiongan **15.51 204** *e*P **Pn** **11 02 21.2 -0.2**
SNY Shenyang **15.58 346** ⇑P **Pn** **11 02 21.4 -0.8**
SNY S **S** **11 05 10.8 -17**
SNY AMB AMB
comp=Z,10.0nm,0.5s
SNY AMB AMB
comp=Z,306nm,7.8s
SNY LR LR
comp=N,2μm,23.1s
SNY LR LR
comp=E,8μm,22.2s
SNY LR LR
comp=Z,5μm,16.3s
SJMP San Jose **15.77 207** *e*P **Pn** **11 02 27.3 +2.5**
BUSP Coron **16.57 209** *e*P **Pn** **11 02 34.0 -0.9**
VLA Vladivostok **16.59 9** *e*P **Pn** **11 02 35.0 -0.1**
VLA pmax pmax
comp=Z,10μm,0.7s
VLA MLR MLR
comp=Z,2μm,12.9s
BJT Baijiatuau **16.73 325** *e*P **Pn** **11 02 39.7 +2.9**
BJT pmax pmax
comp=Z,232nm,0.6s
BJT Baijiatuau **16.73 325** *e*P **Pn** **11 02 39.7 +2.9**
comp=Z,232nm,0.6s
BJI Beijing **16.74 326** P **Pn** **11 02 38.8 +1.9**
BJI S **S** **11 05 44.0 -7.0**
BJI AMB AMB
comp=Z,347nm,0.7s
BJI AMB AMB
comp=Z,1μm,10.1s
BJI LR LR
comp=N,4μm,18.9s
BJI LR LR
comp=E,4μm,16.6s
BJI LR LR
comp=Z,2μm,20.2s
GUIM Jordan **16.94 200** *e*P **Pn** **11 02 43.0 +3.4**
CN2 Changchun **17.21 353** *e*P **Pn** **11 02 42.8 +0.1**
CN2 *e*AP pP 11 02 50.6 -3.9
CN2 *e*XP sP 11 02 55.3 -5.1
CN2 PP 11 02 57.4
CN2 *e*S **S** **11 05 52.3 -8.1**
CN2 AMB AMB
comp=Z,10.0nm,0.8s
CN2 AMB AMB
comp=Z,400nm,5.0s
CN2 LR LR
comp=N,4μm,14.0s
CN2 LR LR
comp=E,3μm,14.0s
CN2 LR LR
comp=Z,3μm,14.0s
CUYO Cuyo Island **17.27 205** *e*P **Pn** **11 02 44.3 +0.6**
TIY Taiyuan **17.39 313** *e*P **Pn** **11 02 48.3 +3.3**
TIY S **S** **11 06 06.3 +2.1**
TIY AMB AMB
comp=Z,1μm,12.6s
TIY LR LR
comp=N,3μm,12.9s
TIY LR LR
comp=E,2μm,11.5s
TIY LR LR
comp=Z,4μm,16.9s
TBP Tagbilaran **17.49 195** *e*P **Pn** **11 02 47.1 +0.7**
MDJ Mudanjiang **17.87 3** P **Pn** **11 02 49.9 -1.0**
MDJ AP pP 11 02 58.3 -3.6
MDJ XP sP 11 03 02.5 -5.3
MDJ S **S** **11 06 07.4 -6.6**
MDJ SCP ScP 11 10 58.3 +1.4
MDJ AMB AMB
comp=Z,80nm,5.4s
MDJ LR LR
comp=N,819nm,22.7s
MDJ LR LR
comp=E,2μm,20.7s
MDJ LR LR
comp=Z,2μm,17.8s
XAN Xi'an **18.33 298** P **Pn** **11 02 56.3 -0.2**
XAN AP pP 11 03 03.8 -3.2
XAN XP sP 11 03 09.0 -3.8
XAN PP 11 03 13.3
XAN S **S** **11 06 15.3 -8.0**
XAN PCP PcP 11 07 29.3 +3.0
XAN AMB AMB
comp=Z,179nm,0.8s
XAN AMB AMB
comp=Z,960nm,13.8s
XAN LR LR
comp=N,2μm,13.7s
XAN LR LR
comp=E,2μm,19.8s
XAN LR LR
comp=Z,4μm,16.3s
QIZ Qiongzhong **18.75 250** P **Pn** **11 03 03.8 +2.0**
QIZ AP pP 11 03 12.6 +0.8
QIZ XP sP 11 03 15.5 -2.1
QIZ S **S** **11 06 28.9 -2.9**
QIZ XS sS 11 06 41.8 -7.6
QIZ SS 11 06 54.8
QIZ AMB AMB
comp=Z,450nm,7.9s
QIZ LR LR
comp=N,4μm,21.2s
QIZ LR LR
comp=Z,3μm,19.9s
BUKP Musuan **19.02 190** *e*P **Pn** **11 03 04.1 -0.9**
PAGZ Pagadian **19.38 195** *e*P **Pn** **11 03 08.1 -1.2**
ERM Erimo **19.45 35** P **Pn** **11 03 05.7 -4.3**
comp=Z,642nm,0.8s,SNR=5.4
ERM Erimo **19.45 35** *e*P **Pn** **11 03 05.4 -4.6**
ERM pmax pmax
comp=Z,98nm,0.9s
ERM Erimo **19.45 35** *e*P **Pn** **11 03 05.4 -4.6**
comp=Z,98nm,0.9s
GYA Guiyang **19.47 274** P **Pn** **11 03 11.8 +1.5**
GYA AP pP 11 03 19.9 +0.2
GYA XP sP 11 03 27.5 +2.0
GYA PP 11 03 30.8
GYA S **S** **11 06 47.5 +1.1**
GYA SS 11 07 11.9
GYA PCP PcP 11 07 28.3 -0.2
GYA AMB AMB
comp=Z,10.0nm,0.8s
GYA AMB AMB
comp=Z,160nm,2.9s
GYA LR LR
comp=N,4μm,16.2s
GYA LR LR
comp=E,4μm,12.7s
GYA LR LR
comp=Z,4μm,13.5s
HHC Hu-ho-hao-te **19.82 320** ⇑P **Pn** **11 03 12.1 -2.3**
HHC AP pP 11 03 20.8 -2.6
HHC XP sP 11 03 25.0 -4.2
HHC PP 11 03 31.6
HHC S **S** **11 06 50.8 -2.5**
HHC XS sS 11 07 03.4 -7.4
HHC SS 11 07 19.0
HHC PCP PcP 11 07 25.6 -3.2
HHC AMB AMB
comp=Z,33nm,1.0s
HHC AMB AMB
comp=Z,499nm,6.9s
HHC LR LR
comp=N,3μm,14.3s
HHC LR LR
comp=E,3μm,14.3s
HHC LR LR
comp=Z,3μm,16.1s
GUMO Guam **20.19 127** P **P** **11 03 14.2 -2.5**
comp=Z,200nm,0.9s,baz=242,slow=4.4,SNR=8.8
GUMO LR LR 11 09 49.3
comp=Z,691nm,19.3s,MS4.0,baz=85,slow=33
GUMO Guam **20.19 127** *e*P **P** **11 03 15.7 -1.0**
GUMO *e* 11 03 28.5
GUMO pmax pmax
comp=Z,434nm,0.8s
GUMO Guam **20.19 127** *e*P **P** **11 03 15.7 -1.0**
comp=Z,434nm,0.8s
GUMO *e* 11 03 28.4
BTO Baotou **20.59 317** *e*P **P** **11 03 20.4 -0.5**
ASAJ Asahikawa **20.79 30** P **P** **11 03 20.2 -2.6**
comp=Z,60nm,0.9s,baz=241,slow=20,SNR=17
ASAJ LR LR 11 11 43.5
comp=Z,3μm,21.3s,MS4.6,baz=146,slow=38
ASAJ Asahikawa **20.79 30** P **P** **11 03 20.3 -2.6**
ASAJ pmax pmax
comp=Z,60nm,0.9s
ASAJ MLR MLR
comp=Z,3μm,21.3s
CD2 Chengdu **22.00 287** ⇑*i*P **P** **11 03 36.3 +0.2**
CD2 AP 11 03 45.3
CD2 XP sP 11 03 49.5 -3.4
CD2 PP 11 04 02.3
CD2 S **S** **11 07 28.8 -7.6**
CD2 SS 11 08 11.4
CD2 AMB AMB
comp=Z,70nm,0.7s,mb5.2
CD2 AMB AMB
comp=Z,160nm,4.2s
CD2 LR LR
comp=N,7μm,22.0s
CD2 LR LR
comp=E,3μm,14.4s
CD2 LR LR
comp=Z,2μm,13.2s
KLR Kul'dur **22.61 6** *e*P **P** **11 03 36.7 -5.7**
KLR *e*S **S** **11 07 35.5 -12**
KLR MLR MLR
comp=E,700nm,12.0s
KLR MLR MLR
comp=Z,2μm,12.0s,MS4.9
LZH Lanzhou **22.92 300** *e*P **P** **11 03 45.5 -0.2**
LZH AP 11 03 56.5
LZH XP sP 11 04 02.0 -0.6
LZH PP 11 04 15.5
LZH *e*S **S** **11 07 51.0 -1.4**
LZH XS sS 11 08 05.0 -7.0
LZH SS 11 08 34.0
LZH AMB AMB
comp=Z,86nm,1.6s,mb4.9
LZH AMB AMB
comp=Z,350nm,4.9s
LZH LR LR
comp=N,2μm,14.9s
LZH LR LR
comp=Z,3μm,15.2s,MS4.8
YSS Yuzh-Sakhalins **23.14 26**κ *i*P **P** **11 03 46.0 -2.0**
YSS *e**PP 11 03 56.0
YSS *e**SP sP 11 04 01.0 -3.9
YSS *e*S **S** **11 07 52.0 -3.8**
YSS *e*SS 11 08 36.0
YSS pmax pmax
comp=N,160nm,1.0s
YSS pmax pmax
comp=E,90nm,1.0s
YSS pmax pmax
comp=Z,250nm,1.0s,mb5.6
YSS smax
comp=N,1μm,12.0s
YSS smax
comp=E,800nm,15.0s
YSS MLR MLR
comp=Z,2μm,18.0s,MS4.5
YSS MLR MLR
comp=N,2μm,19.0s,MS4.6
YSS MLR MLR
comp=E,1μm,16.0s,MS4.6
YSS Yuzh-Sakhalins **23.14 26** *e*P **P** **11 03 45.5 -2.5**
comp=E,244nm,1.0s,mb5.6
YSS *e* 11 03 58.2
YSS *e* 11 04 02.8
KMI Kunming **23.15 272** P **P** **11 03 49.4 +1.1**
KMI AP 11 03 59.3
KMI XP sP 11 04 03.0 -2.2
KMI PP 11 04 20.4
KMI PCP PcP 11 07 37.8 +2.2
KMI S **S** **11 07 54.6 -1.9**
KMI XS sS 11 08 09.1 -7.4
KMI SS 11 08 41.4
KMI AMB AMB
comp=Z,46nm,0.8s,mb5.0
KMI AMB AMB
comp=Z,210nm,3.1s
KMI LR LR
comp=N,6μm,15.1s,MS5.3
KMI LR LR
comp=E,3μm,11.5s,MS5.3
KMI LR LR
comp=Z,3μm,13.6s,MS4.9
HIA Hailar **23.49 346** *e*P **P** **11 03 50.6 -0.7**
HIA pmax pmax
comp=Z,6.0nm,0.6s
HIA Hailar **23.49 346** *e*P **P** **11 03 50.6 -0.7**
comp=Z,6.1nm,0.6s,mb4.2
KKTK Khon Kaen **25.92 252** PN **P** **11 04 17.0 +3.2**
KKTK PG **P** **11 04 21.0 +7.2**
KKTK SG pP 11 04 29.0 +3.2
NANT Nan **26.72 259** ⇓P **P** **11 04 20.0 -1.0**
comp=Z,140nm,1.0s,mb5.5
GTA Gaotai **26.99 305** P **P** **11 04 21.8 -1.4**
GTA AP pP 11 04 32.3 -3.0
GTA XP sP 11 04 36.3 -4.5
GTA PP 11 05 06.9
GTA S **S** **11 08 53.8 -3.7**
GTA AMB AMB
comp=Z,41nm,1.0s,mb4.9
GTA AMB AMB
comp=Z,257nm,5.7s
GTA LR LR
comp=N,3μm,14.4s,MS5.1
GTA LR LR
comp=E,3μm,16.5s,MS5.1
GTA LR LR
comp=Z,3μm,17.4s,MS5.0
CHRT Chiangrai **27.15 262** ⇑P **P** **11 04 27.0 +2.2**
comp=Z,184nm,1.0s,mb5.6
SONM Songino Array **27.24 326** P **P** **11 04 23.0 -2.3**
comp=Z,22nm,0.5s,mb4.9,baz=144,slow=11,SNR=58
SONM ScP ScP 11 11 21.6 +0.6
comp=Z,0.2nm,0.4s,baz=128,slow=2.4,SNR=2.5
SONM LR LR 11 16 38.8
comp=Z,1μm,18.6s,MS4.4,baz=135,slow=39
CHG Chiang Mai **28.26 260** ⇓P **P** **11 04 36.7 +1.9**
comp=Z,19nm,1.0s,mb4.7
CHTO Chiang Mai **28.26 260** *e*P **P** **11 04 37.0 +2.2**
CHTO pmax pmax
comp=Z,16nm,0.9s,mb4.7
CHTO Chiang Mai **28.26 260** *e*P **P** **11 04 37.0 +2.2**
comp=Z,16nm,0.9s,mb4.6
CMAR Chiang Mai Arr **28.39 259** P **P** **11 04 36.2 +0.2**
comp=Z,2.8nm,0.4s,mb4.2,baz=54,slow=7.2,SNR=21
CMAR LR LR 11 16 41.1
comp=Z,873nm,19.7s,MS4.4,baz=72,slow=38
CMAR Chiang Mai Arr **28.39 259** P **P** **11 04 36.2 +0.2**
CMAR pmax pmax
comp=Z,3.0nm,0.4s
CMAR MLR MLR
comp=Z,873nm,19.7s
TLY Talaya **31.18 330** *e*P **P** **11 04 59.4 -0.8**
TLY *e* 11 06 01.9
TLY *e*S **S** **11 10 06.6 +3.7**
TLY pmax pmax
comp=Z,8.0nm,0.9s,mb4.5
TLY MLR MLR
comp=Z,1μm,16.0s,MS4.7
TLY Talaya **31.18 330** *e*P **P** **11 04 59.3 -0.9**
SKR Severo-Kuril's **31.90 34** *e*P **P** **11 05 05.0 -1.6**
SKR *e* pP 11 05 18.3 -0.5
SKR *e*S **S** **11 10 08.0 -6.2**
SKR *e*SSS 11 12 19.0
SKR pmax pmax
comp=Z,110nm,1.0s,mb5.6
SKR smax
comp=N,1μm,8.0s
SKR smax
comp=E,1μm,8.0s
SKR smax
comp=Z,800nm,8.0s
SKR MLR MLR
comp=E,1μm,18.0s
SKR MLR MLR
comp=Z,1μm,18.0s,MS4.6
KAPI Kappang **32.65 196** LR LR 11 17 29.6
comp=Z,574nm,20.2s,MS4.3,baz=30,slow=34
BOD Bodaibo **32.71 346** *e*P **P** **11 05 10.8 -2.8**
BOD pmax pmax
comp=Z,3.0nm,1.0s,mb4.2
SHL Shillong **32.76 276** ⇑*i*P **P** **11 05 15.5 +1.0**
SHL *i* S **S** **11 10 32.0 +3.8**
LSA Lhasa **32.90 284** P **P** **11 05 16.6 +1.0**
LSA Lhasa **32.90 284** *e*P **P** **11 05 16.7 +1.1**
LSA pmax pmax
comp=Z,26nm,0.6s,mb5.3
LSA Lhasa **32.90 284** *e*P **P** **11 05 16.7 +1.1**
comp=Z,26nm,0.6s,mb5.3
PETK Petropavlovsk- **34.18 32** P **P** **11 05 23.6 -2.8**
comp=Z,11nm,0.8s,mb4.8,baz=220,slow=3.8,SNR=12
PETK LR LR 11 20 00.6
comp=Z,502nm,19.0s,MS4.3,baz=224,slow=37
PET Petropavlovsk **34.58 32** *e*P **P** **11 05 23.9 -6.0**
PET *e* 11 06 38.5
PET *e*S **S** **11 10 47.6 -8.2**
PET *e*SS SS 11 12 58.4 -28
PET pmax pmax
comp=Z,100nm,9.7s
PET pmax pmax
comp=Z,46nm,1.1s,mb5.3
PET pmax pmax
comp=Z,100nm,8.8s
PET MLR MLR
comp=Z,700nm,19.0s,MS4.4
PET MLR MLR
comp=Z,1μm,20.0s
PET Petropavlovsk **34.58 32**⇑*e*P **P** **11 05 28.0 -1.9**
YAK Yakutsk **35.31 1** *e*P **P** **11 05 33.3 -2.8**
YAK *e* 11 06 49.6
YAK *e* 11 08 06.9
YAK *e*S **S** **11 11 01.3 -5.4**
YAK *e*SS SS 11 13 18.2 -23
YAK *e* 11 15 48.2
YAK pmax pmax
comp=Z,28nm,0.9s,mb5.2
YAK pmax pmax
comp=N,12nm,1.0s
YAK pmax pmax
comp=Z,20nm,1.9s,mb4.7
YAK pmax pmax
comp=N,14nm,1.6s
YAK smax
comp=N,23nm,1.2s
YAK smax
comp=E,30nm,1.5s
YAK MLR MLR
comp=Z,774nm,17.0s,MS4.5
YAK MLR MLR
comp=N,552nm,17.0s,MS4.4
YAK MLR MLR
comp=E,304nm,18.0s,MS4.4
YAK Yakutsk **35.31 1** *e*P **P** **11 05 33.5 -2.6**
comp=E,39nm,0.9s,mb5.3
TAPN Taplejung **36.16 280** *e*P **P** **11 05 44.1 +0.2**
comp=E,44nm,0.7s,mb5.5
ODAN Odare **36.52 280** *e*P **P** **11 05 47.1 +0.1**
comp=E,476nm,1.1s,mb6.2
CAL Calcutta **36.59 272** *i* x x 11 11 33.6
WMQ Urumqi **36.95 308** ⇑P **P** **11 05 49.8 -0.6**
WMQ AP pP 11 05 59.8 -2.9
WMQ XP sP 11 06 03.8 -4.4
WMQ PP PP 11 07 16.5 +1.4
WMQ PCP PcP 11 08 10.8 -0.1
WMQ S **S** **11 11 32.5 +0.2**
WMQ AMB AMB
comp=Z,37nm,1.3s,mb5.0
WMQ LR LR
comp=N,2μm,20.8s,MS4.8
WMQ LR LR
comp=E,791nm,25.0s,MS4.8
WMQ LR LR
comp=Z,1μm,18.3s
BATI Baumata **37.00 188** P **P** **11 05 48.0 -3.1**
comp=Z,42nm,0.6s,mb5.4,baz=274,slow=2.6,SNR=7.9
RAMN Ramite **37.20 280** *e*P **P** **11 05 53.0 +0.2**
comp=Z,54nm,0.7s,mb5.5
JIRN Jiri **37.45 281** *e*P **P** **11 05 55.5 +0.6**
comp=Z,12nm,0.2s,mb5.3
GUN Gumba **37.69 282** *e*P **P** **11 05 57.4 +0.5**
comp=Z,101nm,0.4s,mb5.9
PKI Pulchoki **38.15 281** *e*P **P** **11 06 00.9 +0.1**
comp=Z,176nm,0.8s,mb5.8
PKI Pulchoki **38.15 281** *e*P **P** **11 06 00.9 +0.1**
PKI pmax pmax
comp=Z,176nm,0.8s,mb5.8
KKN Kakani **38.23 282** *e*P **P** **11 06 01.9 +0.5**
comp=Z,146nm,0.8s,mb5.8
KKN Kakani **38.23 282** *e*P **P** **11 06 01.9 +0.5**
KKN pmax pmax
comp=Z,146nm,0.8s,mb5.8
DMN Daman **38.41 281** *e*P **P** **11 06 03.2 +0.2**
comp=Z,165nm,1.0s,mb5.7
GKN Gorkha **38.76 282** *e*P **P** **11 06 06.0 +0.1**
comp=Z,201nm,0.8s,mb5.9
KAKA Kakadu **39.40 174** *e*P **P** **11 06 05.9 -5.3**
comp=Z,6.0nm,0.6s,mb4.5
DANN Dangsing **39.48 283** *e*P **P** **11 06 12.5 +0.6**
comp=Z,277nm,0.7s,mb6.1
SEY Seynchan **39.49 17**⇑*e*P **P** **11 06 09.2 -2.3**
KOLN Koldanda **39.70 282** *e*P **P** **11 06 14.2 +0.4**
comp=Z,172nm,0.9s,mb5.8
PMG Port Moresby **40.26 151** *e*P **P** **11 06 16.8 -1.6**
PMG pmax pmax
comp=Z,20nm,0.7s
PMG Port Moresby **40.26 151** *e*P **P** **11 06 16.8 -1.6**
comp=Z,20nm,0.7s,mb5.0
MK31 Makanchi Array **41.34 311** *i* P **P** **11 06 26.2 -0.8**
MK31 pmax pmax
comp=Z,30nm,0.7s,mb5.0
MKAR Makanchi Array **41.34 311** P **P** **11 06 25.6 -1.4**
comp=Z,23nm,0.8s,mb4.9,baz=99,slow=9.9,SNR=116
MKAR PcP PcP 11 08 23.6 -1.1
comp=Z,5.3nm,0.9s,baz=108,slow=4.7,SNR=3.4
MKAR pScP 11 12 23.5
comp=Z,1.0nm,0.6s,baz=96,slow=5.0,SNR=3.6
MKAR LR LR 11 24 55.5
comp=Z,489nm,21.1s,MS4.3,baz=100,slow=38
MKAR Makanchi Array **41.34 311** P **P** **11 06 25.6 -1.4**
MKAR 11 08 23.6
MKAR pmax pmax
comp=Z,23nm,0.8s
MKAR pmax pmax
comp=Z,5.0nm,0.9s
MKAR pmax pmax
comp=N,1.0nm,0.6s
MKAR MLR MLR
comp=Z,489nm,21.1s
ZAA0 Zalesovo Array **41.96 322** *e*P **P** **11 06 29.9 -2.1**
ZAA0 *e*PcP PcP 11 08 27.0 +0.4
ZALV Zalesovo Beam **41.96 322** P **P** **11 06 29.8 -2.2**
comp=Z,17nm,0.4s,mb5.0,baz=110,slow=9.3,SNR=80
ZALV PcP PcP 11 08 25.8 -0.8
comp=Z,4.8nm,0.4s,baz=110,slow=4.6,SNR=7.1
ZALV pScP 11 12 24.1
comp=Z,1.8nm,0.6s,baz=108,slow=4.8,SNR=4.7
ZALV LR LR 11 26 03.1
comp=Z,1μm,18.2s,MS4.8,baz=117,slow=39
ZALV Zalesovo Beam **41.96 322** P **P** **11 06 29.8 -2.2**
ZALV 11 08 25.8
ZALV pmax pmax
comp=Z,17nm,0.4s,mb5.0
ZALV pmax pmax
comp=Z,5.0nm,0.4s,mb4.5
ZALV pmax pmax
comp=N,2.0nm,0.6s
ZALV MLR MLR
comp=Z,1μm,18.2s,MS4.8
ZALV Zalesovo Beam **41.96 322** P **P** **11 06 29.8 -2.2**
ZALV PcP PcP 11 08 25.8 -0.8
ZALV pScP 11 12 24.1
ZALV LR LR 11 26 03.1
PTH Pithoragarh **42.37 285** *e*P **P** **11 06 36.5 +0.8**
COEN Coen **42.90 159** *e*P **P** **11 06 38.8 -1.2**
comp=Z,8.1nm,0.8s,mb4.5
COEN *e*pP pP 11 06 50.9 -1.6
NVS Novosibirsk **43.16 323**⇑*i*P **P** **11 06 39.1 -2.6**
NVS *e* 11 08 28.9
NVS pmax pmax
comp=N,14nm,1.7s
NVS pmax pmax
comp=Z,28nm,1.7s,mb4.7
NVS pmax pmax

comp=E,24nm,1.8s
DDI Dehra Dun 44.12 287 *e*P **P** **11 06 48.0 -1.8**
KURK Kurchatov 44.59 316 P **P** **11 06 52.9 -0.3**
comp=E,208nm,1.2s,mb5.8,SNR=10
KURK Kurchatov 44.59 316 P **P** **11 06 51.9 -1.3**
comp=E,28nm,0.5s,mb5.4,baz=102,slow=8.9,SNR=73
KURK PcP PcP 11 08 34.5 -1.0
comp=E,9.1nm,0.8s,baz=104,slow=3.5,SNR=5.2
KURK Kurchatov 44.59 316 P **P** **11 06 51.9 -1.3**
KURK 11 08 34.5
KURK pmax pmax
comp=Z,28nm,0.5s,mb5.3
KURK pmax pmax
comp=Z,9.0nm,0.8s,mb4.7
KURK Kurchatov 44.59 316 *e*P **P** **11 06 51.2 -2.0**
comp=Z,24nm,0.8s,mb5.1
KURK *e*PP PP 11 08 38.4 +0.7
FITZ Fitzroy Crossi 44.64 184 *e*P **P** **11 06 52.6 -1.3**
comp=Z,7.2nm,0.7s,mb4.6
FITZ *e*pP pP 11 07 04.4 -2.1
FITZ Fitzroy Crossi 44.64 184 LR LR 11 24 13.0
comp=Z,169nm,18.4s,MS4.0,baz=206,slow=34
SMLA Simla 44.77 288⇑ *i*P **P** **11 06 55.0 +0.1**
SMLA *i* S **S** **11 13 28.2 -0.6**
SDNR Sundarnagar 44.88 289 *e*P **P** **11 06 56.0 +0.1**
TIXI Tiksi 44.96 0 *e*P **P** **11 06 52.6 -3.3**
TIXI *e*S **S** **11 13 26.7 -3.9**
TIXI pmax pmax
comp=Z,22nm,0.9s,mb5.0
TIXI MLR MLR
comp=Z,1μm,17.0s,MS4.9
TIXI Tiksi 44.96 0 *i* P **P** **11 06 53.3 -2.6**
NDI New Delhi 45.10 285 *e*P **P** **11 06 56.0 -1.7**
KSH Kashi 45.17 300 *e*P **P** **11 06 57.0 -1.0**
KSH *e*AP pP 11 07 06.8 -3.8
KSH *e*XP sP 11 07 10.3 -5.7
KSH *e*PCP PcP 11 08 39.0 +1.3
KSH *e*PP PP 11 08 42.6 -1.5
KSH *e*SCP ScP 11 12 27.3 +0.7
KSH *e*PCS PcS 11 12 31.4 -0.1
KSH *e*S **S** **11 13 31.6 -2.8**
KSH AMB AMB
comp=Z,2.0nm,0.2s,mb4.6
KSH AMB AMB
comp=Z,869nm,4.5s
KSH LR LR
comp=N,7μm,16.3s
KSH LR LR
comp=E,2μm,10.8s
KSH LR LR
comp=Z,3μm,18.2s,MS5.2
TKM2 Tokmak 2 45.54 305⇓ *e*P **P** **11 07 01.5 +0.6**
TKM2 *e* 11 08 42.8
TKM2 pmax pmax
comp=Z,77nm,0.7s,mb5.7
TKM2 Tokmak 2 45.54 305 P **P** **11 07 01.5 +0.6**
SNR=150
TKM2 Tokmak 2 45.54 305⇓ *e*P **P** **11 07 01.5 +0.6**
comp=Z,77nm,0.7s,mb5.7
TKM2 *e*PcP PcP 11 08 42.8 +3.9
THN Thein Dam 45.82 290 *e*P **P** **11 07 01.1 -2.2**
KBK Karagaybulak 46.01 304 P **P** **11 07 05.2 +0.6**
SNR=25
CHMS Chumysh 46.16 305 P **P** **11 07 06.0 +0.2**
SNR=34
FRU Bishkek 46.26 305 *e*P **P** **11 07 07.0 +0.5**
FRU pmax pmax
comp=Z,50nm,1.9s,mb5.1
FRU MLR MLR
comp=E,1μm,16.0s
FRU MLR MLR
comp=Z,1μm,16.0s,MS4.9
UCH Uchtor 46.31 304 P **P** **11 07 08.5 +1.5**
SNR=223
UCH Uchtor 46.31 304⇓ *e*P **P** **11 07 08.1 +1.1**
comp=Z,101nm,0.7s,mb5.9
AAK Ala-Archa 46.34 304 P **P** **11 07 07.5 +0.3**
SNR=33
USP Ospenovka 46.36 305 P **P** **11 07 06.9 -0.5**
SNR=30
WRAB Tennant Creek 46.74 172 P **P** **11 07 09.0 -1.4**
comp=Z,329nm,0.7s,mb6.4,SNR=12
WRAB Tennant Creek 46.74 172 *e*P **P** **11 07 09.0 -1.4**
WRAB *e**PP pP 11 07 21.4 -1.7
WRAB pmax pmax
comp=Z,35nm,0.7s,mb5.4
WRAB Tennant Creek 46.74 172 *e*P **P** **11 07 09.0 -1.5**
comp=Z,35nm,0.7s,mb5.4
WRAB *e*pP pP 11 07 21.4 -1.7
WRA Warramunga Arr 46.74 172 P **P** **11 07 08.7 -1.8**
comp=Z,15nm,0.8s,mb5.0,baz=350,slow=8.3,SNR=49
WRA pP pP 11 07 21.9 -1.3
comp=Z,31nm,0.7s,baz=353,slow=8.3,SNR=19
WRA S **S** **11 13 53.5 -3.7**
comp=Z,3.3nm,1.1s,baz=352,slow=14,SNR=7.1
WRA LR LR 11 25 26.1
comp=Z,383nm,19.4s,MS4.4,baz=0.0,slow=34
WRA Warramunga Arr 46.74 172 P **P** **11 07 08.7 -1.8**
WRA *PP pP 11 07 21.9 -1.3
WRA S **S** **11 13 53.5 -3.7**
WRA pmax pmax
comp=Z,15nm,0.8s
WRA pmax pmax
comp=Z,31nm,0.7s
WRA smax
comp=N,3.0nm,1.1s
WB2 Warramunga Arr 46.75 172 *e*P **P** **11 07 08.8 -1.7**
WB2 *e*pP pP 11 07 21.6 -1.6
EKS2 Erkin-Say 46.87 304 P **P** **11 07 11.5 +0.2**
SNR=17
EKS2 Erkin-Say 46.87 304 *e*P **P** **11 07 11.2 -0.1**
comp=N,29nm,0.9s,mb5.2
HYB Hyderabad 46.90 269 *i* P **P** **11 07 13.0 +1.1**
HYB Hyderabad 46.90 269 *e*P **P** **11 07 13.0 +1.1**
AML Almayashu 46.92 304 P **P** **11 07 12.9 +1.2**
SNR=24
AML Almayashu 46.92 304 *e*P **P** **11 07 12.6 +0.8**
comp=N,51nm,0.9s,mb5.5
BILL Bilibino 47.14 18⇑ *e*P **P** **11 07 11.5 -1.6**
BILL *e* 11 08 56.9
BILL *e*S **S** **11 14 00.2 -1.8**
BILL pmax pmax
comp=Z,38nm,1.4s,mb5.1
BILL Bilibino 47.14 18⇑ *i*P **P** **11 07 11.5 -1.6**
HNR Honiara 47.20 135 *e*P **P** **11 07 14.4 +0.2**
HNR *e**PP pP 11 07 27.5 +0.6
HNR pmax pmax
comp=Z,74nm,1.1s,mb5.5
HNR Honiara 47.20 135 *e*P **P** **11 07 14.4 +0.2**
comp=Z,74nm,1.1s,mb5.5
HNR *e*pP pP 11 07 27.5 +0.7
MBWA Marble Bar 48.34 191 *e*P **P** **11 07 21.4 -1.5**
comp=Z,11nm,0.8s,mb4.9
MBWA *e*pP pP 11 07 33.3 -2.3
KK31 Karatay Array 49.27 305 *i* P **P** **11 07 29.8 -0.1**
KK31 pmax pmax
comp=Z,42nm,0.6s,mb5.7
VOSK Vostochnaya 49.63 318 P **P** **11 07 31.4 -1.1**
VOSK pmax pmax
comp=Z,17nm,0.7s,mb5.2
CTA Charters Tower 49.64 158 *e*P **P** **11 07 31.8 -1.1**
comp=Z,10nm,0.9s,mb4.9
CTA *e*pP pP 11 07 44.3 -1.3
CTA Charters Tower 49.64 158 LR LR 11 28 10.9
comp=Z,397nm,20.1s,MS4.4,baz=159,slow=36
CTA Charters Tower 49.64 158 *e*P **P** **11 07 31.8 -1.1**
CTA *e**PP pP 11 07 44.3 -1.3
CTA pmax pmax
comp=Z,10.0nm,0.9s
CTAO Charters Tower 49.64 158 *e*P **P** **11 07 32.1 -0.8**
CTAO *e**PP pP 11 07 45.0 -0.6
CTAO pmax pmax
comp=Z,21nm,0.7s,mb5.3
CTAO Charters Tower 49.64 158 *e*P **P** **11 07 32.1 -0.8**
comp=Z,21nm,0.7s,mb5.3
CTAO *e*pP pP 11 07 45.0 -0.6
BVA0 Borovoye Array 50.03 318 P **P** **11 07 33.9 -1.6**
BVA0 pmax pmax
comp=Z,7.0nm,0.7s,mb4.8
BVAR Borovoye Array 50.03 318 P **P** **11 07 34.4 -1.1**
comp=Z,19nm,0.5s,mb5.4,baz=83,slow=9.6,SNR=66
BVAR pP pP 11 07 47.4 -0.8
comp=Z,28nm,0.9s,baz=81,slow=9.5,SNR=10
BVAR PcP PcP 11 08 53.9 -0.9
comp=Z,12nm,0.6s,baz=116,slow=3.2,SNR=8.4
BVAR Borovoye Array 50.03 318 P **P** **11 07 34.4 -1.1**
BVAR *PP pP 11 07 47.4 -0.8
BVAR 11 08 53.9
BVAR pmax pmax
comp=Z,19nm,0.5s
BVAR pmax pmax
comp=Z,28nm,0.9s
BVAR pmax pmax
comp=Z,12nm,0.6s
BRVK Borovoye 50.09 318 P **P** **11 07 35.4 -0.6**
comp=Z,276nm,0.7s,mb6.4,SNR=17
BRVK Borovoye 50.09 318 *e*P **P** **11 07 35.1 -0.9**
BRVK *e**PP pP 11 07 46.8 -1.9
BRVK pmax pmax
comp=Z,93nm,1.0s,mb5.8
BRVK Borovoye 50.09 318 *e*P **P** **11 07 35.1 -0.9**
comp=Z,93nm,1.0s,mb5.8
BRVK *e*pP pP 11 07 46.8 -2.0
ASAR Alice Springs 50.38 173 P **P** **11 07 37.4 -1.0**
comp=Z,4.9nm,0.7s,mb4.7,baz=5.7,slow=15,SNR=56
ASAR pP pP 11 07 49.0 -2.2
comp=Z,24nm,0.7s,baz=5.0,slow=12,SNR=24
ASAR Alice Springs 50.38 173 P **P** **11 07 37.4 -1.0**
ASAR *PP pP 11 07 49.0 -2.1
ASAR pmax pmax
comp=Z,5.0nm,0.7s
ASAR pmax pmax
comp=Z,25nm,0.7s
POO Poona 50.72 273⇓ *i*P **P** **11 07 40.0 -1.3**
comp=Z,80nm,1.0s,mb5.6
KBL Kabul 51.07 294 *e*P **P** **11 07 44.6 +1.0**
KBL pmax pmax
comp=Z,106nm,0.6s,mb6.0
KBL Kabul 51.07 294 *e*P **P** **11 07 44.6 +0.9**
comp=Z,106nm,0.6s,mb6.0
SVE Sverdlovsk 55.98 322⇑ *e*P **P** **11 08 18.5 -0.8**
SVE *e*PPP 11 11 41.8
SVE *e*S **S** **11 15 59.0 -4.9**
SVE pmax pmax
comp=Z,43nm,1.1s,mb5.4
SVE MLR MLR
comp=Z,2μm,14.0s,MS5.4
EIDS Eidsvold 56.21 155 *e*P **P** **11 08 18.2 -3.0**
comp=Z,34nm,0.7s,mb5.5
AB31 Akbulak array 56.44 313⇑ *e*P **P** **11 08 21.9 -0.8**
ARU Arti 57.12 322 *d i*P **P** **11 08 26.5 -0.8**
ARU *e*S **S** **11 16 17.8 -1.2**
ARU pmax pmax
comp=Z,73nm,1.7s,mb5.4
ARU MLR MLR
comp=Z,2μm,16.0s,MS5.3
ARU Arti 57.12 322 *e*P **P** **11 08 26.3 -1.0**
comp=Z,31nm,0.7s,mb5.5
ARU *e*pP pP 11 08 38.2 -2.1
FORT Forrest 57.18 180 *e*P **P** **11 08 27.2 -0.8**
comp=Z,30nm,0.7s,mb5.4
AKTK Aktyubinsk 57.61 314 P **P** **11 08 30.0 -1.0**
AKTO Aktyubinsk 57.61 314 P **P** **11 08 30.0 -1.0**
comp=Z,19nm,0.8s,mb5.2,baz=83,slow=4.4,SNR=30
AKTO Aktyubinsk 57.61 314 P **P** **11 08 30.0 -1.0**
AKTO pmax pmax
comp=Z,19nm,0.8s,mb5.2
ABKT Ailbek 59.20 300 P **P** **11 08 43.0 +0.8**
comp=Z,208nm,0.9s,mb6.2,SNR=7.1
STKA Stephens Creek 59.61 167 *e*P **P** **11 08 43.4 -1.6**
comp=Z,3.3nm,0.7s,mb4.5
STKA *e*pP pP 11 08 57.4 -0.6
STKA Stephens Creek 59.61 167 P **P** **11 08 42.2 -2.7**
comp=Z,1.5nm,0.5s,mb4.3,baz=336,slow=6.5,SNR=6.3
STKA pP pP 11 08 56.5 -1.5
comp=Z,11nm,0.7s,baz=333,slow=6.7,SNR=12
STKA LR LR 11 35 11.5
comp=Z,203nm,18.5s,MS4.3,baz=171,slow=37
IMA2 Indian Mountai 60.98 27 *e*P **P** **11 08 53.4 -0.6**
CHUM Lake Minchumin 61.64 30 *e*P **P** **11 08 59.0 +0.6**
comp=Z,20nm,0.8s,mb5.3
PPLA Purkeypile 61.76 31 *e*P **P** **11 08 59.3 +0.1**
comp=Z,119nm,1.5s,mb5.8
PPLA *e*pP pP 11 09 11.2 -1.1
KDAK Kodiak Island 62.01 37 P **P** **11 08 57.5 -3.6**
comp=Z,13nm,0.9s,mb5.0,baz=306,slow=8.7,SNR=2.4
KDAK pP pP 11 09 13.2 -0.9
comp=Z,18nm,0.8s,baz=237,slow=6.5,SNR=4.1
KDAK LR LR 11 34 37.5
comp=Z,439nm,20.8s,MS4.6,baz=4.8,slow=35
KDAK Kodiak Island 62.01 37 P **P** **11 08 57.5 -3.6**
KDAK pP pP 11 09 13.2 -0.9
KDAK LR LR 11 34 37.5
BPAW Bear Paw Mtn. 62.21 29 *e*P **P** **11 09 02.6 +0.3**
comp=Z,41nm,1.4s,mb5.4
BPAW *e*pP pP 11 09 14.1 -1.3
KTH Kantishna Hill 62.28 30 *e*P **P** **11 09 02.2 -0.5**
comp=Z,27nm,1.1s,mb5.3
KTH *e*pP pP 11 09 15.0 -0.8
COLD Coldfoot 62.33 26 *e*P **P** **11 09 03.6 +0.6**
comp=Z,17nm,1.1s,mb5.1
TRF Thorofare Moun 62.58 30 *e*P **P** **11 09 05.1 +0.4**
comp=Z,32nm,1.6s,mb5.2
MCK McKinley 63.15 30 *e*P **P** **11 09 07.5 -1.0**
MCK pmax pmax
comp=Z,33nm,1.0s,mb5.4
MCK McKinley 63.15 30 *e*P **P** **11 09 07.5 -1.1**
comp=Z,33nm,1.0s,mb5.4
PMR Palmer 63.31 32 *e*P **P** **11 09 09.3 -0.3**
PMR pmax pmax
comp=Z,25nm,1.4s,mb5.2
PMR Palmer 63.31 32 *e*P **P** **11 09 09.3 -0.3**
comp=Z,25nm,1.4s,mb5.2
COLA College 63.49 28 *e*P **P** **11 09 10.2 -0.6**
COLA pmax pmax
comp=Z,12nm,0.8s,mb5.1
COLA College 63.49 28 *e*P **P** **11 09 10.2 -0.6**
comp=Z,12nm,0.8s,mb5.1
TOO Toolangi 65.94 165 *e*P **P** **11 09 27.2 +0.3**
TOO *e* pP 11 09 41.3 +1.2
EGAK Eagle 66.33 28 *e*P **P** **11 09 28.2 -1.0**
comp=Z,7.7nm,0.9s,mb4.7
EGAK *e*pP pP 11 09 39.5 -2.9
KLMR Klimovskoe 66.52 328 *e*P **P** **11 09 28.4 -2.1**
KLMR pmax pmax
comp=Z,50nm,1.6s,mb5.3
APA Apatity 67.48 336⇑ *i*P **P** **11 09 34.5 -2.0**
APA pmax pmax
comp=Z,22nm,0.9s,mb5.2
APA MLR MLR
comp=Z,900nm,15.0s,MS5.1
VRHR Novokhopersk 67.75 317 *e*P **P** **11 09 37.3 -1.2**
VRHR pmax pmax
comp=Z,10.0nm,0.7s,mb5.0
VRHR pmax pmax
comp=N,40nm,0.6s
VRHR pmax pmax
comp=E,50nm,0.7s
GNI Garni 68.74 305 *e*P **P** **11 09 46.6 +1.7**
GNI *e**PP pP 11 09 54.4 -3.7
GNI pmax pmax
comp=Z,25nm,0.8s
GNI Garni 68.74 305 *e*P **P** **11 09 46.6 +1.7**
comp=Z,25nm,0.8s,mb5.2
GNI *e*pP pP 11 09 54.4 -3.8
MOS Moscow 68.79 323 *e*P **P** **11 09 42.5 -2.4**
MOS *e* 11 12 15.5
MOS pmax pmax
comp=Z,83nm,0.9s,mb5.7
MOS MLR MLR
comp=Z,2μm,17.0s,MS5.3
KEV Kevo 69.04 339 *ep* **P** **11 09 43.5 -2.7**
comp=Z,17nm,0.6s,mb5.1
KEV Kevo 69.04 339 *e*P **P** **11 09 43.5 -2.7**
KEV pmax pmax
comp=Z,17nm,0.6s,mb5.2
KIV Kislovodsk 69.06 310 *e*P **P** **11 09 47.1 +0.3**
KIV *e*S S 11 18 47.7 -1.0
KIV pmax pmax
comp=Z,38nm,0.9s,mb5.3
KIV pmax pmax
comp=Z,80nm,7.3s
KIV MLR MLR
comp=Z,535nm,19.0s,MS4.8
KIV Kislovodsk 69.06 310⇑ *e*P **P** **11 09 47.0 +0.2**
VSR Storozhevoye 69.21 318 *e*P **P** **11 09 46.0 -1.6**
VSR pmax pmax
comp=Z,7.0nm,0.7s,mb4.7
VSR pmax pmax
comp=N,7.0nm,0.6s
VSR pmax pmax
comp=E,20nm,0.9s
OBN Obninsk 69.55 322⇓ *i*P **P** **11 09 48.4 -1.2**
OBN *e*S S 11 18 58.5 +4.5
OBN pmax pmax
comp=Z,65nm,1.8s,mb5.3
OBN MLR MLR
comp=Z,2μm,19.0s,MS5.3
OBN Obninsk 69.55 322⇑ *e*P **P** **11 09 48.4 -1.2**
OBN LR LR
comp=Z,2μm,19.0s,MS5.3
ARCES ARCESS Array B 69.61 339 P **P** **11 09 48.6 -1.1**
comp=Z,5.4nm,0.7s,mb4.6,baz=75,slow=6.5,SNR=17
ARCES LR LR 11 46 20.8
comp=Z,820nm,18.4s,MS5.0,baz=74,slow=41
ARE0 ARCESS Array S 69.61 339 *e*P **P** **11 09 48.7 -1.1**
MIB Mutribah 70.03 294 *e*P **P** **11 09 52.8 -0.3**
baz=294
MIB AMb AMB 11 09 56.2
comp=Z,73nm,0.9s,mb5.6,baz=294
RDF Al-Radifah 70.16 293 *e*P **P** **11 09 53.6 -0.3**
baz=293
RDF AMb AMB 11 09 57.0
comp=Z,108nm,0.9s,mb5.8,baz=293
NAY Al-Naaiem 70.30 293 *e*P **P** **11 09 54.3 -0.4**
baz=294
NAY AMb AMB 11 09 57.8
comp=Z,58nm,1.0s,mb5.5,baz=294
RST Umm Al-Ruwaisa 70.41 294 *e*P **P** **11 09 54.6 -0.8**
baz=294
RST AMb AMB 11 09 56.9
comp=Z,47nm,0.7s,mb5.5,baz=294
SKAG Skagway 70.43 33 *e*P **P** **11 09 54.8 -0.1**
comp=Z,16nm,1.1s,mb4.9
SKAG *e*pP pP 11 10 10.3 +2.1
ALE Alert 70.85 1 P **P** **11 09 56.0 -1.2**
comp=Z,133nm,0.9s,mb5.9,SNR=7.7
SOC Sochi 71.22 310 *d i*P **P** **11 09 59.7 -0.4**
SOC *e**SP sP 11 10 14.6 -4.0
SOC *e* 11 10 25.8
SOC *e* 11 12 33.3
SOC *e*PPP 11 14 21.9
SOC *e*S S 11 19 11.0 -2.9
SOC *e* 11 19 59.5
SOC *e*SS SS 11 23 52.9 +5.0
SOC pmax pmax
comp=Z,56nm,0.6s,mb5.7
SOC pmax pmax
comp=Z,91nm,5.4s
SOC Sochi 71.22 310 *i* P **P** **11 10 00.7 +0.6**
ANN Anapa 72.36 312 *e*P **P** **11 10 05.3 -1.6**
ANN *e*S S 11 19 24.3 -2.7
ANN pmax pmax
comp=Z,61nm,0.7s,mb5.6
MNK Minsk 74.49 323⇑ *e*P **P** **11 10 18.0 -1.2**
MNK pmax pmax
comp=Z,90nm,1.5s,mb5.5
MNK MLR MLR
comp=N,5μm,16.0s
MNK MLR MLR
comp=Z,6μm,16.0s
SIM Simferopol' 74.50 313 *e*P **P** **11 10 21.0 +1.5**
SIM pmax pmax
comp=Z,48nm,0.9s,mb5.4
SIM MLR MLR
comp=Z,470nm,19.5s,MS4.8
DAG Danmarks Havn 74.79 353⇑ *i*P **P** **11 10 19.2 -1.4**
DAG pmax pmax
comp=Z,9.0nm,0.7s,mb4.8
DAG Danmarks Havn 74.79 353⇑ *i*P **P** **11 10 19.2 -1.4**
comp=Z,8.9nm,0.7s,mb4.8
GZT Gaziantep 74.96 304 *i* P **P** **11 10 23.0 +0.7**
AKASG Malin Array Be 75.27 320 P **P** **11 10 22.6 -1.2**
comp=Z,36nm,0.5s,mb5.6,baz=57,slow=6.4,SNR=81
AKASG LR LR 11 46 09.7
comp=Z,2μm,19.0s,MS5.5,baz=65,slow=38
AKASG Malin Array Be 75.27 320 P **P** **11 10 22.7 -1.1**
AKASG pmax pmax
comp=Z,37nm,0.5s
AKASG MLR MLR
comp=Z,2μm,19.0s
AKBB Malin Array Si 75.27 320 *e*P **P** **11 10 22.5 -1.3**
CTKT Corum 75.71 308 *i* P **P** **11 10 27.0 +0.5**
BALT Balday 76.33 310 *i* P **P** **11 10 30.4 +0.4**
AVNT Avonos 76.38 307 *i* P **P** **11 10 28.0 -2.4**
CDAG Cicekdag 76.39 308 *i* P **P** **11 10 30.6 +0.2**
YAYL Yayladag 76.55 304 *i* P **P** **11 10 31.4 0.0**
BR131 Keskin Array S 76.87 308 *e*P **P** **11 10 32.9 -0.3**
comp=Z,33nm,0.8s,mb5.3
SUW Suwalki 77.16 324 *e*P **P** **11 10 34.2 -0.3**
SUW Suwalki 77.16 324 *e*P **P** **11 10 34.2 -0.2**
ANTO Ankara 77.41 308⇓ P **P** **11 10 36.1 0.0**
YKA Yellowknife Ar 78.00 25 P **P** **11 10 37.7 -1.3**
comp=Z,2.3nm,0.7s,mb4.2,baz=303,slow=5.7,SNR=5.8
YKA LR LR 11 45 58.5
comp=Z,26nm,18.1s,baz=80,slow=36
YKA Yellowknife Ar 78.00 25 P **P** **11 10 37.7 -1.3**
YKA pmax pmax
comp=Z,2.0nm,0.7s
YKA MLR MLR
comp=Z,27nm,18.1s
YKA Yellowknife Ar 78.00 25 P **P** **11 10 37.7 -1.3**
YKA LR LR 11 45 58.5
TIRR Tirgusor 78.42 314 P **P** **11 10 41.5 -0.1**
HARR Harsova 78.62 314 P **P** **11 10 43.0 +0.2**
LVV L'vov 78.66 320 *e*P **P** **11 10 43.0 +0.2**
LVV *e*S S 11 20 32.0 -4.4
LVV MLR MLR
comp=Z,550nm,19.0s,MS4.9
VRI Vrincioaia 78.86 316⇑ P **P** **11 10 45.1 +1.1**
VRI Vrincioaia 78.86 316 P **P** **11 10 44.1 +0.1**
PLOR Plostina 78.91 316 P **P** **11 10 44.6 +0.2**
ESKT Eskisehir 78.92 309 *i* P **P** **11 10 44.0 -0.5**
NB2 NORSAR Subarra 78.95 334 P **P** **11 10 43.1 -1.1**
comp=Z,19nm,0.7s,mb5.1,baz=52,slow=5.6
NOA NORSAR Array B 78.95 334 P **P** **11 10 42.5 -1.7**
comp=Z,17nm,0.7s,mb5.1,baz=52,slow=5.5,SNR=50
NOA LR LR 11 46 46.0
comp=Z,583nm,21.1s,MS4.9,baz=0.0,slow=36
NOA NORSAR Array B 78.95 334 P **P** **11 10 42.5 -1.7**
NOA pmax pmax
comp=Z,17nm,0.7s
NOA MLR MLR
comp=Z,583nm,21.1s
BUR08 Bucovina Ar. S 78.98 318 *e*P **P** **11 10 44.5 -0.1**
BURAR Bucovina Array 78.98 318 ⇓P **P** **11 10 44.5 -0.2**
CSS Prodhromos 79.06 304 *e*P **P** **11 10 45.1 -0.2**
comp=Z,26nm,0.6s,mb5.3
KWP Kalwaria 79.50 320 *e*P **P** **11 10 47.9 +0.4**
KWP Kalwaria 79.50 320 *e*P **P** **11 10 47.8 +0.3**
MLR Muntele Rosu 79.52 316⇑ P **P** **11 10 48.0 +0.3**
MLR Muntele Rosu 79.52 316 P **P** **11 10 47.9 +0.3**
PRD Provadia 79.63 313 P **P** **11 10 48.8 +0.5**
ULDT Uludag 79.83 310 *i* P **P** **11 10 49.5 0.0**
KOLS Kolonicke sedl 80.09 320 *e*P **P** **11 10 50.6 -0.1**
VOIR 80.10 316 ⇓P **P** **11 10 51.1 +0.3**
UZH Uzhgorod 80.22 320 *e*P **P** **11 10 53.0 +1.6**
UZH *e* 11 10 59.5
UZH *e*S S 11 20 56.0 +2.9
UZH *i* 11 21 59.0
UZH *e* 11 29 29.0
UZH MLR MLR
comp=E,1μm,18.0s
UZH MLR MLR
comp=Z,550nm,18.0s,MS5.0
STHS Stebnicka Huta 80.44 321 *e*P **P** **11 10 53.3 +0.8**
STHS pmax pmax
comp=Z,9.0nm,1.0s,mb4.7
STHS Stebnicka Huta 80.44 321 *e*P **P** **11 10 53.3 +0.8**
comp=Z,8.9nm,1.0s,mb4.7
SUMG Summit 80.55 356 *e*P **P** **11 10 52.8 +0.1**
comp=Z,8.0nm,0.6s,mb4.8
SZH Strazhica 80.56 314 P **P** **11 10 52.7 -0.6**
CRVS Cervenica-Dubn 80.57 320 *e*P **P** **11 10 52.9 -0.4**
OJC Ojcow 80.84 322 *e*P **P** **11 10 54.5 -0.2**
OJC *e*S S 11 20 58.5 -0.9
OJC L 11 49 49.8
comp=Z,1.5nm,19.5s
DRGR 80.88 318 P **P** **11 10 55.0 0.0**
DNZL Cakiroluk 80.99 308 *i* P **P** **11 10 54.6 -1.1**
BALY Balya 81.06 310 *i* P **P** **11 10 55.4 -0.6**
KDAG Bornova 81.92 309 *i* P **P** **11 10 59.7 -0.9**
OKC Ostrava-Krasne 81.94 322 *e*P **P** **11 11 01.6 +1.1**
OKC AMS AMS 11 50 10.0
comp=Z,1μm,17.3s
PSZ Piszkesteto 81.97 320⇑ *e*P **P** **11 10 57.2 -3.5**

BZS **Buzias** 82.12 317 P P 11 11 02.5 +0.9
VYHS **Vyhne** 82.27 321 *e*P P 11 11 01.9 -0.4
MORC **Moravsky Berou** 82.31 322 ⇑P P 11 11 03.1 +0.7
KSP **Ksiaz** 82.40 324 *e*P P 11 11 04.2 +1.2
KSP **Ksiaz** 82.40 324 *e*P P 11 11 03.0 +0.1
KSP LR LR
comp=Z,3µm,16.6s,MS5.8
KOLL **Kolacno** 82.47 321 *e*P P 11 11 03.8 +0.5
MUD **Monsted U'grnd** 82.57 331 *e*P P 11 11 05.0 +1.4
MUD pmax pmax
comp=Z,15nm,0.9s,mb5.0
MUD **Monsted U'grnd** 82.57 331 *i* P P 11 11 05.0 +1.4
comp=Z,15nm,0.9s,mb5.0
MUD
comp=Z,520nm,21.0s
MUD **Monsted U'grnd** 82.57 331 *e*P P 11 11 05.0 +1.4
comp=Z,15nm,0.9s,mb5.0
VTS **Vitosha** 82.64 314 ⇑P P 11 11 04.4 +0.1
DPC **Dobruska-Polom** 82.66 323 *e*P P 11 11 04.4 +0.2
DPC AMS AMS 11 51 20.0
comp=Z,1µm,17.0s
UPC **Upice** 82.73 323 *e*P P 11 11 04.8 +0.2
RUE **Ruedersdorf** 82.78 326 *e*P P 11 11 05.1 +0.3
comp=Z,26nm,0.6s,mb5.4
MMB **Musomiste** 82.79 313 P P 11 11 06.5 +1.4
VRAC **Vranov** 83.08 322 P P 11 11 08.1 +1.6
F04A **Amboy** 83.36 42 ⇓P P 11 11 08.6 +0.6
baz=83
ZST **Bratislava** 83.41 321 *e*P P 11 11 10.3 +2.1
comp=Z,12nm,0.8s,mb5.0
ZST LR LR
comp=Z,500nm,18.6s,MS4.9
PVCC **Panska Ves** 83.49 324 *e*P P 11 11 08.7 +0.2
PVCC AMS AMS 11 52 00.0
comp=Z,2µm,16.1s
KNT **Kendrikon** 83.54 313 P P 11 11 08.2 -0.8
PKSM **Moragy** 83.59 319 ⇓P P 11 11 09.6 +0.4
BSEG **Bad Segeberg** 83.60 328 *e*P P 11 11 08.6 -0.4
BSEG pmax pmax
comp=Z,20nm,0.8s,mb5.3
BSEG **Bad Segeberg** 83.60 328 *e*P P 11 11 08.6 -0.4
comp=Z,20nm,0.8s,mb5.3
D06A **Cle Elum** 83.61 40 ⇓P P 11 11 09.5 +0.3
baz=83
BRG **Berggiesshubel** 83.62 325 *e*P P 11 11 09.5 +0.3
comp=Z,17nm,0.9s,mb5.2
BRG **Berggiesshubel** 83.62 325 *e*P P 11 11 10.2 +1.1
comp=Z,14nm,1.6s,mb4.8
BRG S S 11 21 35.0 +7.1
BRG SS SS 11 26 50.0 -4.0
BRG
comp=N,900nm,17.0s
BRG
comp=E,1µm,16.7s
BRG
comp=Z,2µm,16.7s
PAIG **Paliouri** 83.64 312 P P 11 11 09.4 -0.1
PAIG **Paliouri** 83.64 312 P P 11 11 08.7 -0.8
ETW **Entiat** 83.68 39 *e*P P 11 11 10.3 +0.7
VAY **Valandovo** 83.68 313 ⇑*i*P P 11 11 08.4 -1.4
TREC **Trest** 83.69 323 *e*P P 11 11 09.8 +0.2
TREC AMS AMS 11 51 10.0
comp=Z,1µm,18.2s
C07A **Waterville** 83.78 39 ⇓P P 11 11 09.7 -0.4
baz=84
PRU **Pruhonice** 83.81 324 *e*P P 11 11 11.0 +0.8
PRU AMS AMS 11 52 10.0
comp=Z,1µm,15.6s
B08A **Colville Reser** 83.82 38 ⇑P P 11 11 09.9 -0.4
baz=84
CLL **Collm** 83.85 325 *i* P P 11 11 10.0 -0.4
CLL *i* pP 11 11 23.3 -0.7
CLL pmax pmax
comp=Z,21nm,1.1s,mb5.2
CLL **Collm** 83.85 325 *e*P P 11 11 10.0 -0.4
comp=Z,28nm,1.0s,mb5.3
CLL **Collm** 83.85 325 *i* P P 11 11 10.0 -0.4
comp=Z,21nm,1.1s,mb5.2
CLL *i* P(2) 11 11 11.8
comp=Z,29nm,1.0s
CLL *i* pP pP 11 11 23.3 -0.7
CLL *e*PS 11 22 36.0
CLL *e*SS SS 11 27 24.0 +27
CLL *ex* x 11 31 24.0
CLL LmH 11 45 00.0
comp=N,2µm,21.4s
CLL LmH 11 45 00.0
comp=E,2µm,20.8s
CLL LmV 11 53 00.0
comp=Z,2µm,18.5s
E06A **Yakima** 83.88 41 ⇑P P 11 11 10.6 -0.1
baz=84
A09A **Danville** 83.89 38 ⇑P P 11 11 09.9 -0.7
baz=84
DIVS **Divibare** 83.89 317 P P 11 11 09.6 -1.2
FBE **Freiberg** 83.89 325 *e*P P 11 11 10.5 -0.1
comp=Z,35nm,1.2s,mb5.4
GRG **Griva** 83.97 313 P P 11 11 09.6 -1.6
SKO **Skopje** 84.08 314 ⇑*i*P P 11 11 12.1 +0.3
CONA **Conrad Observa** 84.25 321 ⇑*i*P P 11 11 12.9 +0.4
comp=Z,29nm,0.7s,mb5.5,SNR=22
CSNA **Conrad Observa** 84.25 321 ⇑*i*P P 11 11 12.7 +0.2
comp=Z,29nm,0.7s,mb5.5
F06A **Goldendale** 84.42 41 ⇑P P 11 11 12.3 -1.1
baz=84
I04A **Tendick Farm,** 84.49 43 ⇑P P 11 11 13.0 -0.8
baz=84
KRUS **Krusevo** 84.51 314 *i* P P 11 11 12.8 -1.2
TANN **Tannenbergstha** 84.65 325 *e*P P 11 11 13.7 -0.8
comp=Z,17nm,1.2s,mb5.0
LAST **Lasithi** 84.71 307 P P 11 11 15.5 +0.4
WERD **Werda** 84.71 325 *e*P P 11 11 14.1 -0.7
comp=Z,18nm,1.1s,mb5.1
GUNZ **Gunzen** 84.75 325 *e*P P 11 11 15.1 +0.2
comp=Z,26nm,0.9s,mb5.4
NKC **Novy Kostel** 84.77 325 *e*P P 11 11 15.0 0.0
NKC AMS AMS 11 53 10.0
comp=Z,2µm,17.0s
HUMO **Hull Mountain** 84.78 45 ⇓P P 11 11 16.8 +1.5
baz=85
KHC **Kasperske Hory** 84.81 323 *e*P P 11 11 15.4 +0.1
KHC AMS AMS 11 52 50.0
comp=Z,1µm,16.6s
CLZ **Clausthal** 84.85 327 *e*P P 11 11 16.0 +0.6
CLZ pmax pmax
comp=Z,47nm,0.9s,mb5.6
CLZ **Clausthal** 84.85 327 *e*P P 11 11 16.0 +0.6
comp=Z,47nm,0.9s,mb5.6
GEC2 **GERESS Array S** 84.91 323 *e*P P 11 11 15.5 -0.3
GEC2 pmax pmax
comp=Z,9.0nm,0.8s,mb5.0
GEC2 **GERESS Array S** 84.91 323 *e*P P 11 11 15.5 -0.3
comp=Z,9.0nm,0.8s,mb5.0
GERES **GERESS Array B** 84.91 323 P P 11 11 15.6 -0.2
comp=Z,4.9nm,0.7s,mb4.7,baz=46,slow=3.9,SNR=19
GERES LR LR 11 54 51.4
comp=Z,216nm,20.3s,MS4.5,baz=237,slow=40
OHR **Ohrid** 84.94 314 *i* P P 11 11 14.2 -1.8
MOX **Moxa** 84.95 325 *e*P P 11 11 17.2 +1.3
comp=Z,22nm,0.9s,mb5.3
MOX
comp=Z,1µm,20.0s
MOX **Moxa** 84.95 325 *e*P P 11 11 17.2 +1.3
MOX pmax pmax
comp=Z,22nm,0.9s,mb5.3
MOX MLR MLR
comp=Z,1µm,20.0s,MS5.2
MOX **Moxa** 84.95 325 *e*P P 11 11 16.3 +0.4
comp=Z,13nm,0.8s,mb5.1
J04A **Umpqua Nationa** 84.97 44 ⇓P P 11 11 17.1 +0.9
baz=85
AGG **Agios Georgios** 84.99 311 P P 11 11 14.8 -1.6
AGG **Agios Georgios** 84.99 311 P P 11 11 13.5 -2.9
E08A **Dider Farm, El** 85.02 40 ⇑P P 11 11 17.0 +0.6
baz=85
MANZ **Manzenberg** 85.09 324 *e*P P 11 11 17.0 +0.3
comp=Z,25nm,1.2s,mb5.2
NEW **Newport** 85.09 38 *e*P P 11 11 17.6 +0.9
NEW pmax pmax
comp=Z,8.0nm,0.8s
NEW **Newport** 85.09 38 *e*P P 11 11 17.6 +0.9
comp=Z,8.3nm,0.8s,mb4.9
A11A **Hall Mountain,** 85.10 37 ⇓P P 11 11 16.7 0.0
baz=85
ROTZ **Rotzenmuhle** 85.17 324 *e*P P 11 11 17.4 +0.3
comp=Z,40nm,1.0s,mb5.5

MOA **Molln** 85.18 322 ⇓*i*P P 11 11 17.0 -0.2
comp=Z,16nm,0.8s,mb5.2
YBH **Yreka Blue Hor** 85.39 45 ⇓P P 11 11 17.9 -0.5
baz=85
PERS **Pernice** 85.40 321 *e*P P 11 11 17.4 -0.8
J05A **Fort Rock** 85.49 43 ⇓P P 11 11 18.7 -0.1
baz=85
N02C **Big Bar** 85.49 46 ⇓P P 11 11 19.4 +0.5
baz=85
E09A **Wood Farm, Sta** 85.53 39 ⇑P P 11 11 18.9 -0.1
baz=85
K04A **Chilquin** 85.54 44 ⇑P P 11 11 19.0 -0.1
baz=85
F08A **Pendleton** 85.57 40 ⇓P P 11 11 19.7 +0.6
baz=85
UBBA **Unterbreizbach** 85.66 326 *e*P P 11 11 19.6 +0.1
comp=Z,20nm,0.9s,mb5.3
L04A **Klamath Falls** 85.68 45 ⇓P P 11 11 20.0 +0.2
baz=86
D10A **Wagner Farm, O** 85.71 39 ⇓P P 11 11 19.4 -0.4
baz=86
GRA1 **Grafenberg Arr** 85.72 325 *e*P P 11 11 20.5 +0.7
comp=Z,52nm,0.9s,mb5.8
GRA1 LR LR
comp=Z,2µm,18.1s,MS5.5
GRF **Grafenberg Arr** 85.72 325 *e*P P 11 11 20.5 +0.7
GRF pmax pmax
comp=Z,52nm,0.9s,mb5.8
GRF MLR MLR
comp=Z,2µm,18.1s,MS5.5
GRF **Grafenberg Arr** 85.72 325 *e*P P 11 11 20.5 +0.7
GRF pmax pmax
comp=Z,52nm,0.9s,mb5.8
GRF MLR MLR
comp=Z,2µm,18.1s,MS5.5
GRF **Grafenberg Arr** 85.72 325 *e*P P 11 11 20.5 +0.7
comp=Z,52nm,0.9s,mb5.8
GRF *e*L 11 53 58.1
comp=Z,2µm,18.1s
G08A **Pilot Rock** 85.75 41 ⇓P P 11 11 20.6 +0.6
baz=86
I06A **Prineville** 85.75 42 ⇓P P 11 11 20.7 +0.6
baz=86
H07A **Lands Inn, Kim** 85.78 42 ⇓P P 11 11 19.8 -0.4
baz=86
C11A **Tepee Creek (N** 85.81 38 ⇑P P 11 11 20.9 +0.6
baz=86
IBBN **Ibbenburen** 85.82 328 *e*P P 11 11 19.9 -0.3
comp=Z,44nm,0.9s,mb5.7
M04C **Macdoel** 85.92 45 ⇑P P 11 11 21.2 +0.2
baz=86
K05A **Summer Lake** 86.00 44 ⇑P P 11 11 21.9 +0.5
baz=86
M03C **McCloud** 86.01 45 ⇓P P 11 11 22.3 +0.9
baz=86
RJOB **Jochberg** 86.05 322 *e*P P 11 11 22.5 +1.0
comp=Z,59nm,0.8s,mb5.9
LJU **Ljubljana** 86.07 320 *e*P P 11 11 22.5 +0.9
WDC **Whiskeytown Da** 86.11 46 ⇑P P 11 11 21.8 -0.1
baz=86
KBA **Koelnbreinsper** 86.14 322 *i* PcP PcP 11 11 23.3 -1.2
comp=Z,23nm,0.9s,SNR=7.3
A13A **Flathead Natio** 86.15 36 ⇑P P 11 11 22.9 +1.0
baz=86
J06A **Christmas Vall** 86.17 43 ⇓P P 11 11 22.7 +0.6
baz=86
MYKA **Terra Mystica** 86.23 321 ⇑*i*PcP PcP 11 11 22.9 -2.0
comp=Z,19nm,0.8s
D11A **Klaveano Farm,** 86.23 38 ⇑P P 11 11 22.0 -0.4
baz=86
LKD **Levkas** 86.28 312 P P 11 11 22.9 +0.1
LKD **Levkas** 86.28 312 P P 11 11 21.3 -1.5
K06A **Valley Falls** 86.36 43 ⇓P P 11 11 23.0 -0.1
baz=86
CADS **Cadrg** 86.41 321 *e*P P 11 11 23.0 -0.3
JAVS **Javornik** 86.42 320 *e*P P 11 11 23.3 0.0
VOY **Vojsko** 86.44 321 *e*P P 11 11 22.7 -0.7
VOY *e* 11 11 24.3
VOY *e* pP 11 11 34.0 -3.1
G09A **Cove** 86.44 40 ⇓P P 11 11 22.7 -0.8
baz=86
B13A **Whitefish** 86.46 36 ⇑P P 11 11 23.5 0.0
baz=86
GASB **Alder Springs** 86.49 47 ⇑P P 11 11 24.0 +0.2
baz=86
SFJD **Kangerlussuaq** 86.57 360 *e*P P 11 11 22.2 -1.5
SFJD pmax pmax
comp=Z,13nm,0.8s,mb5.2
SFJD MLR MLR
comp=Z,410nm,20.0s,MS4.8
SFJD **Kangerlussuaq** 86.57 360 *i* P P 11 11 22.2 -1.5
comp=Z,13nm,0.8s,mb5.2
SFJD
comp=Z,410nm,20.0s
SFJD **Kangerlussuaq** 86.57 360 *e*P P 11 11 22.2 -1.5
comp=Z,13nm,0.8s,mb5.2
SFJD LR LR
comp=Z,410nm,20.0s,MS4.8
VLS **Valsamata** 86.60 311 P P 11 11 24.7 +0.3
J07A **Hines** 86.61 43 ⇑P P 11 11 25.4 +1.0
baz=86,SNR=6.9
FUR **Furstenfeldbru** 86.62 323 *e*P P 11 11 25.3 +1.0
FUR pmax pmax
comp=Z,89nm,0.8s,mb6.0
FUR **Furstenfeldbru** 86.62 323 *e*P P 11 11 25.3 +1.0
comp=Z,89nm,0.8s,mb6.0
A14A **Double T Ranch** 86.65 36 ⇑P P 11 11 25.0 +0.6
baz=86
E11A **Bogner Ranch,** 86.71 39 ⇓P P 11 11 24.0 -0.7
baz=86
I08A **Drewsey** 86.75 42 ⇑P P 11 11 25.6 +0.6
baz=86
MCD **Coleburn Disti** 86.76 336 *e*P P 11 11 23.9 -0.8
D12A **Red Ives Fores** 86.77 38 ⇓P P 11 11 25.0 -0.1
baz=86
ABTA **Abfaltersbach** 86.79 322 ⇓*i*PcP PcP 11 11 25.2 -2.2
comp=Z,28nm,0.9s,SNR=15
G10A **Bishop Farm, J** 86.81 40 ⇓P P 11 11 26.2 +0.9
baz=87,SNR=6.0
MOD **Modoc** 86.82 44 ⇑P P 11 11 25.6 +0.2
baz=87
MOD **Modoc** 86.82 44 *e*P P 11 11 25.7 +0.3
comp=Z,14nm,1.0s,mb5.2
MOD *e*pP pP 11 11 39.4 +0.4
C13A **Hot Springs** 86.82 37 ⇑P P 11 11 24.6 -0.7
baz=87
MVH1 **Achvaich** 86.83 337 *e*P P 11 11 25.5 +0.4
WATA **Walderalm** 86.96 323 ⇓*i*PcP PcP 11 11 27.4 -0.8
comp=Z,22nm,0.9s
BMO **Blue Mountains** 86.96 40 *e*P P 11 11 26.6 +0.5
comp=Z,12nm,1.3s,mb5.0
BMO *e*pP pP 11 11 41.5 +1.8
WTTA **Wattenberg** 86.97 322 ⇓*i*PcP PcP 11 11 26.2 -2.0
comp=Z,43nm,0.9s,SNR=12
A15A **Johnson Ranch,** 87.00 35 ⇓P P 11 11 26.1 0.0
baz=87
F11A **Grangeville** 87.02 39 ⇑P P 11 11 26.5 +0.2
baz=87
E12A **Beaver Dam Sad** 87.03 39 ⇓P P 11 11 27.3 +0.9
baz=87
K07A **Rock Creek Ran** 87.03 43 ⇓P P 11 11 26.3 -0.1
baz=87
REB **Eisghbrachaidh** 87.07 337 *e*P P 11 11 25.9 -0.3
MNRC **McLaughlin Nat** 87.08 48 ⇓P P 11 11 27.6 +0.8
baz=87
M06C **Likely Place G** 87.09 45 ⇓P P 11 11 26.9 +0.2
baz=87
B14A **Marquette Ranc** 87.10 36 ⇑P P 11 11 27.2 +0.6
baz=87,SNR=5.5
J08A **Circle Bar Ran** 87.12 42 ⇓P P 11 11 27.4 +0.6
baz=87
RTO **Tolsta** 87.19 338 *e*P P 11 11 27.5 +0.7
O04C **Chester** 87.19 46 ⇓P P 11 11 28.1 +0.9
baz=87
MOTA **Moosalm** 87.21 323 ⇑*i*PcP PcP 11 11 27.3 -1.9
comp=Z,35nm,0.9s,SNR=14
I09A **Lost Marbles R** 87.21 41 ⇑P P 11 11 27.8 +0.5
baz=87
C14A **Swan Lake** 87.21 37 ⇓P P 11 11 27.1 -0.1
baz=87
G11A **Walters Elk Ra** 87.24 40 ⇓P P 11 11 26.9 -0.4
baz=87
ORV **Oroville** 87.34 47 ⇑P P 11 11 27.8 -0.1
baz=87
STU **Stuttgart** 87.34 325 *e*P P 11 11 27.3 -0.5
comp=Z,19nm,0.5s,mb5.6
L07A **Adell** 87.35 44 ⇑P P 11 11 28.6 +0.6
baz=87,SNR=6.3
H10A **Noah's Angus R** 87.44 40 ⇑P P 11 11 28.6 +0.3
baz=87,SNR=5.5
RRR **Rubha Reidh** 87.45 337 *e*P P 11 11 27.4 -0.7
K08A **Mann Creek Ran** 87.47 43 ⇑P P 11 11 27.4 -1.1
baz=87
O05C **Quincy** 87.49 46 ⇓P P 11 11 27.9 -0.8
baz=87
B15A **Bradely Ranch,** 87.50 36 ⇑P P 11 11 28.2 -0.4
baz=87
KAC **Achnashellach** 87.55 337 *e*P P 11 11 28.6 0.0
J09A **Fry Pan Ranch,** 87.56 42 ⇑P P 11 11 29.5 +0.6
baz=87
F12A **Elk City** 87.60 39 ⇑P P 11 11 28.7 -0.4
baz=87
A16A **West Butte Ran** 87.60 35 ⇑P P 11 11 28.3 -0.7
baz=87
FETA **Feichten** 87.61 323 ⇑*i*P P 11 11 27.8 -1.3
comp=Z,25nm,1.1s,mb5.4,SNR=8.2
RRH **Rhenigidale** 87.70 338 *e*P P 11 11 28.6 -0.7
N06A **Buffalo Meadow** 87.75 45 ⇑P P 11 11 30.3 +0.4
baz=88,SNR=5.4
ESY **Stoneypath** 87.76 335 *e*P P 11 11 28.2 -1.4
D14A **Greenough** 87.76 37 ⇑P P 11 11 30.8 +0.9
baz=88
H11A **Donnelly** 87.80 40 ⇓P P 11 11 29.6 -0.4
baz=88
KPL **Plockton** 87.80 337 *e*P P 11 11 29.2 -0.6
KPL AMb AMB 11 11 33.8
comp=Z,118nm,1.7s,mb5.8
C15A **Salmond Ranch,** 87.81 36 ⇓P P 11 11 30.0 -0.1
baz=88
L08A **Fields** 87.87 43 ⇑P P 11 11 30.8 +0.4
baz=88,SNR=5.9
DAVA **Damuels** 87.90 323 ⇑*i*P P 11 11 29.6 -0.9
comp=Z,30nm,0.7s,mb5.7
BEKR **Beckwourth** 87.90 46 ⇓P P 11 11 31.1 +0.5
baz=88
K09A **Rome** 87.95 42 ⇑P P 11 11 31.4 +0.5
baz=88
EBL **Broad Law** 88.03 335 *e*P P 11 11 30.8 -0.2
BFO **Black Forest** 88.06 325 *e*P P 11 11 30.9 -0.3
BFO pmax pmax
comp=Z,9.0nm,1.0s,mb5.0
BFO **Black Forest** 88.06 325 *e*P P 11 11 30.9 -0.3
comp=Z,9.0nm,1.0s,mb5.0
FFC **Flin Flon** 88.07 27 *e*P P 11 11 30.2 -0.9
FFC *e**PP pP 11 11 47.5 +2.7
FFC pmax pmax
comp=Z,22nm,0.9s,mb5.4
FFC **Flin Flon** 88.07 27 *e*P P 11 11 30.2 -0.9
comp=Z,22nm,0.9s,mb5.4
FFC *e*pP pP 11 11 47.5 +2.7
EAB **Aberfoyle** 88.20 336 *e*P P 11 11 31.5 -0.2
C16A **Fuhringer Ranc** 88.25 36 ⇑P P 11 11 31.1 -1.1
baz=88
LAVA **Lava Cap Winer** 88.27 47 ⇑P P 11 11 32.6 +0.2
baz=88
N07B **Gerlach** 88.28 45 ⇓P P 11 11 32.6 +0.2
baz=88
L09A **Wilkinson Ranc** 88.38 43 ⇓P P 11 11 33.1 +0.2
baz=88
K10A **MacKenzie Ranc** 88.42 42 ⇓P P 11 11 33.3 +0.2
baz=88
ESK **Eskdalemuir** 88.43 335 *e*P P 11 11 31.7 -1.2
ESK AMb AMB 11 11 35.8
comp=Z,64nm,1.5s,mb5.6
ECK **Cauldkaine Hil** 88.50 335 *e*P P 11 11 32.4 -0.8
PGBU **Glenifferbraes** 88.54 336 *e*P P 11 11 32.7 -0.6
PGBU AMb AMB 11 11 36.7
comp=Z,93nm,1.3s,mb6.0
H12A **Diamond D Ranc** 88.55 40 ⇑P P 11 11 33.4 -0.2
baz=88,SNR=5.9
CDF **Champ du Feu** 88.55 325 *e*P P 11 11 34.2 +0.7
comp=Z,31nm,0.9s,mb5.3
CDF **Champ du Feu** 88.55 325 *e*P P 11 11 34.2 +0.7
CDF pmax pmax
comp=Z,16nm,0.9s,mb5.3
CDF **Champ du Feu** 88.55 325 *e*P P 11 11 34.2 +0.7
comp=Z,16nm,0.9s,mb5.3
G13A **Cobalt** 88.58 39 ⇑P P 11 11 34.6 +0.9
baz=88
TIP **Timpagrande** 88.58 314 *e*P P 11 11 35.2 +1.3
comp=Z,7.5nm,0.9s,mb5.0
F14A **Wisdom** 88.62 38 ⇓P P 11 11 33.8 -0.1
baz=88
GIVF **Givet** 88.66 328 ⇑*i*P P 11 11 35.3 +1.3
MFID **Camas Ranch** 88.66 41 ⇓P P 11 11 33.4 -0.8
baz=88
O07A **Toulon** 88.68 45 ⇓P P 11 11 33.5 -0.8
baz=88
TUE **Stuetta** 88.69 323 *e*P P 11 11 35.4 +1.1
comp=Z,22nm,0.6s,mb5.7
N08A **GE Springer Mi** 88.80 44 ⇓P P 11 11 35.7 +0.9
baz=89
H13A **Challis** 88.88 39 ⇑P P 11 11 35.4 +0.2
baz=89
HRY **Holter Researc** 88.89 37 *e*P P 11 11 36.0 +0.9
HRY *e*pP pP 11 11 49.0 +0.2
CMB **Columbia Colle** 88.89 47 *e*P P 11 11 35.5 +0.1
CMB pmax pmax
comp=Z,6.0nm,1.1s,mb4.8
CMB **Columbia Colle** 88.89 47 ⇑P P 11 11 35.5 +0.2
baz=89
CMB **Columbia Colle** 88.89 47 *e*P P 11 11 35.5 +0.1
comp=Z,6.1nm,1.1s,mb4.8
O08A **Rochester Mine** 89.06 45 ⇑P P 11 11 36.7 +0.5
baz=89
F15A **Butte** 89.08 38 ⇑P P 11 11 36.7 +0.6
baz=89
E16A **East Helena** 89.09 37 ⇓P P 11 11 36.7 +0.6
baz=89
EGMT **Eagleton** 89.14 35 ⇓P P 11 11 36.2 -0.1
baz=89
HINF **Hinteralfeld** 89.15 325 ⇑*i*P P 11 11 37.3 +0.9
comp=Z,11nm,0.7s,mb5.0
HINF **Hinteralfeld** 89.15 325 ⇑*i*P P 11 11 37.3 +0.9
HINF pmax pmax
comp=Z,6.0nm,0.7s,mb5.0
HINF **Hinteralfeld** 89.15 325 ⇑*i*P P 11 11 37.3 +0.9
comp=Z,5.5nm,0.7s,mb5.0
J12A **Stokes Ranch,** 89.19 41 ⇓P P 11 11 37.2 +0.5
baz=89
HAU **Haudompre** 89.29 325 ⇑*i*P P 11 11 37.9 +0.9
HAU *e*MLR MLR
comp=Z,1µm,18.2s,MS5.1
HAU **Haudompre** 89.29 325 ⇑*i*P P 11 11 37.9 +0.9
HAU LR LR
comp=Z,1µm,18.3s,MS5.4
S05C **Merced** 89.31 48 ⇑P P 11 11 37.5 +0.2
baz=89
I13A **Wildhorse Cree** 89.36 40 ⇓P P 11 11 37.8 +0.4
baz=89,SNR=6.4
HLID **Hailey** 89.40 40 ⇑P P 11 11 38.3 +0.6
baz=89,SNR=5.9
HLID **Hailey** 89.40 40 *e*P P 11 11 39.2 +1.6
comp=Z,5.3nm,0.8s,mb4.9
HLID *e*pP pP 11 11 51.8 +0.4
L11A **Cat Creek Ranc** 89.45 42 ⇑P P 11 11 38.9 +1.0
baz=89,SNR=6.3
G15A **Dillon** 89.50 38 ⇓P P 11 11 39.1 +1.0
baz=89,SNR=6.8
E17A **Martinsdale** 89.57 36 ⇓P P 11 11 38.3 -0.1
baz=89
J13A **Cove Ranch, Pi** 89.64 40 ⇑P P 11 11 39.0 +0.2
baz=89
K12A **Draper Farm, C** 89.67 41 ⇑P P 11 11 38.5 -0.5
baz=89
I14A **Mackay** 89.73 40 ⇓P P 11 11 40.4 +1.2
baz=90,SNR=9.4
E18A **Harlowton** 90.00 36 ⇑P P 11 11 41.6 +1.3
baz=90,SNR=5.6
NVAR **Mina Array Bea** 90.03 46 P P 11 11 40.6 -0.1
comp=Z,0.8nm,0.8s,mb4.1,baz=284,slow=7.5,SNR=6.7
J14A **Carey** 90.06 40 ⇑P P 11 11 41.3 +0.5
baz=90
K13A **Stover Farm, H** 90.15 41 ⇑P P 11 11 41.3 +0.2
baz=90
CABF **La Chapelle** 90.33 324 ⇑*i*P P 11 11 43.6 +1.7
L13A **Double Diamond** 90.57 41 ⇓P P 11 11 44.0 +0.8
baz=90
LPL **La Plagne** 90.71 323 ⇑*i*P P 11 11 45.4 +1.7
LPG **La Plagne** 90.71 323 ⇑*i*P P 11 11 45.6 +1.9
comp=Z,25nm,0.9s,mb5.2
LPG **La Plagne** 90.71 323 ⇑*i*P P 11 11 45.6 +1.9
LPG pmax pmax
comp=Z,12nm,0.9s,mb5.2

LPG	La Plagne	90.71	323	⇑	*i*P	P	11 11 45.6 +1.9
	comp=Z,12nm,0.9s,mb5.2						
PPT	Papeete	90.88	109		*e*LR	LR	11 40 58.2
	comp=Z,591nm,25.8s,baz=292						
PPT	Papeete	90.88	109		LR	LR	11 42 32.0
	comp=Z,312nm,21.6s,MS4.7,baz=287,slow=29						
R09A	Tonopah	90.93	46	⇑	P	P	11 11 45.0 +0.1
	baz=91						
L14A	Malta	91.02	41	⇑	P	P	11 11 46.0 +0.8
	baz=91						
LOR	Lormes	91.04	326	⇑	*i*P	P	11 11 46.8 +1.6
LOR					*e*MLR	MLR	
	comp=Z,989nm,18.2s,MS5.0						
LOR	Lormes	91.04	326	⇑	*i*P	P	11 11 46.8 +1.6
LOR					LR	LR	
	comp=Z,990nm,18.3s,MS5.3						
BNI	Bardonecchia	91.04	323		*e*P	P	11 11 45.9 +0.7
BNI					pmax	pmax	
	comp=Z,9.0nm,0.8s,mb5.2						
BNI	Bardonecchia	91.04	323		*e*P	P	11 11 45.9 +0.6
	comp=Z,9.1nm,0.8s,mb5.2						
S09A	Goldfield	91.13	46	⇓	P	P	11 11 46.0 +0.1
	baz=91						
IMW	Indian Meadow	91.16	38		*e*P	P	11 11 47.8 +1.9
	comp=Z,5.1nm,1.0s,mb4.8						
J16A	Bone	91.18	39	⇓	P	P	11 11 47.1 +1.2
	baz=91						
O12A	Currie	91.19	43	⇑	P	P	11 11 47.5 +1.4
	baz=91						
MBDF	Montbardon	91.20	323	⇑	*i*P	P	11 11 47.0 +1.0
	comp=Z,18nm,0.9s,mb5.1						
MBDF	Montbardon	91.20	323	⇑	*i*P	P	11 11 47.0 +1.0
MBDF					pmax	pmax	
	comp=Z,9.0nm,0.9s,mb5.1						
MBDF	Montbardon	91.20	323	⇑	*i*P	P	11 11 47.0 +1.0
	comp=Z,8.8nm,0.9s,mb5.1						
M14A	Sheep Mountain	91.28	41	⇑	P	P	11 11 46.9 +0.5
	baz=91						
PGF	Pioggiola	91.34	320	⇑	*i*P	P	11 11 49.1 +2.4
	comp=Z,48nm,1.0s,mb5.5						
PGF	Pioggiola	91.34	320	⇑	*i*P	P	11 11 49.1 +2.4
PGF					pmax	pmax	
	comp=Z,24nm,1.0s,mb5.5						
PGF	Pioggiola	91.34	320	⇑	*i*P	P	11 11 49.1 +2.4
	comp=Z,24nm,1.0s,mb5.5						
SSF	Saint Saulge	91.35	326		*e*P	P	11 11 47.6 +0.9
SBF	Sospel	91.39	322	⇑	*i*P	P	11 11 48.0 +1.1
	comp=Z,39nm,0.8s,mb5.5						
SBF	Sospel	91.39	322	⇑	*i*P	P	11 11 48.0 +1.1
SBF					pmax	pmax	
	comp=Z,19nm,0.8s,mb5.5						
SBF	Sospel	91.39	322	⇑	*i*P	P	11 11 48.0 +1.1
	comp=Z,20nm,0.8s,mb5.5						
R10A	Warm Springs	91.39	45	⇓	P	P	11 11 48.2 +1.1
	baz=91						
S10A	Tonopah Range,	91.42	46	⇑	P	P	11 11 47.6 +0.5
	baz=91						
SMF	Signal de Mont	91.47	325	⇑	*i*P	P	11 11 48.0 +0.8
K16A	Soda Springs	91.47	40	⇓	P	P	11 11 48.5 +1.2
	baz=91						
L15A	Malad City	91.53	41	⇑	P	P	11 11 47.1 -0.5
	baz=91						
KMBO	Kilima Mbogo	91.56	270		P	P	11 11 49.0 +0.8
	comp=Z,1.0nm,0.2s,mb4.7,baz=45,slow=23,SNR=4.6						
KMBO	Kilima Mbogo	91.56	270		P	P	11 11 49.0 +0.8
KMBO					pmax	pmax	
	comp=Z,1.0nm,0.2s						
KMBO	Kilima Mbogo	91.56	270		P	P	11 11 49.0 +0.8
P12A	McGill	91.57	44	⇑	P	P	11 11 49.2 +1.4
	baz=91						
DGMT	Dagmar	91.57	32	⇑	P	P	11 11 48.9 +1.2
	baz=91						
AVF	Avril sur Loir	91.61	326		*e*P	P	11 11 49.4 +1.5
	comp=Z,9.7nm,0.9s,mb4.8						
AVF	Avril sur Loir	91.61	326		*e*P	P	11 11 49.4 +1.5
AVF					pmax	pmax	
	comp=Z,5.0nm,0.9s,mb4.8						
AVF	Avril sur Loir	91.61	326		*e*P	P	11 11 49.4 +1.5
	comp=Z,4.8nm,0.9s,mb4.8						
O13A	Hicks Ranch, I	91.74	43	⇑	P	P	11 11 49.4 +0.8
	baz=92						
N14A	Grayback Hills	91.78	42	⇑	P	P	11 11 49.6 +0.8
	baz=92						
R11A	Troy Canyon, C	91.81	45	⇑	P	P	11 11 49.8 +0.8
	baz=92						
Q12A	Willow Creek R	91.88	44	⇓	P	P	11 11 50.8 +1.5
	baz=92						
MPMC	Manual Prospec	91.92	48	⇓	P	P	11 11 50.0 +0.5
	baz=92						
FRF	La Foret Royal	92.02	322	⇑	*i*P	P	11 11 50.8 +1.0
LDF	La Druitiere	92.04	329	⇑	*i*P	P	11 11 51.0 +1.2
FLN	La Foliniere	92.08	329	⇑	*i*P	P	11 11 50.4 +0.4
FLN					*e*MLR	MLR	
	comp=Z,980nm,17.2s,MS5.0						
FLN	La Foliniere	92.08	329	⇑	*i*P	P	11 11 50.4 +0.4
FLN					LR	LR	
	comp=Z,980nm,17.3s,MS5.3						
FURC	Furnace Creek,	92.10	47	⇑	P	P	11 11 50.4 +0.1
	baz=92						
P13A	Bates Ranch, G	92.13	43	⇑	P	P	11 11 50.9 +0.5
	baz=92						
TPNV	Topopah Spring	92.22	46		*e*P	P	11 11 51.7 +0.8
TPNV					pmax	pmax	
	comp=Z,5.0nm,0.8s,mb4.9						
TPNV	Topopah Spring	92.22	46	⇓	P	P	11 11 51.0 +0.1
	baz=92						
TPNV	Topopah Spring	92.22	46		*e*P	P	11 11 51.7 +0.9
	comp=Z,4.6nm,0.8s,mb4.9						
VIVF	Saint-Julien-l	92.24	324	⇑	*i*P	P	11 11 51.9 +1.1
LMR	La Mourre	92.25	322	⇑	*i*P	P	11 11 51.2 +0.3
	comp=Z,33nm,1.0s,mb5.3						
LMR	La Mourre	92.25	322	⇑	*i*P	P	11 11 51.2 +0.3
LMR					pmax	pmax	
	comp=Z,17nm,1.0s,mb5.3						
LMR	La Mourre	92.25	322	⇑	*i*P	P	11 11 51.2 +0.3
	comp=Z,16nm,1.0s,mb5.3						
HWUT	Hardware Ranch	92.26	41		*e*P	P	11 11 52.5 +1.5
	comp=Z,5.5nm,1.2s,mb4.8						
DUG	Dugway	92.41	42		*e*P	P	11 11 53.4 +1.7
DUG					*e**PP	pP	11 12 06.0 +0.6
DUG					pmax	pmax	
	comp=Z,7.0nm,1.1s,mb4.9						
DUG	Dugway	92.41	42	⇑	P	P	11 11 51.8 +0.1
	baz=92						
DUG	Dugway	92.41	42		*e*P	P	11 11 53.4 +1.7
	comp=Z,6.8nm,1.1s,mb4.9						
DUG					*e*pP	pP	11 12 06.0 +0.6
R12A	Pony Springs,	92.44	45	⇑	P	P	11 11 52.3 +0.4
	baz=92						
GRR	Gorron	92.53	329	⇑	*i*P	P	11 11 53.6 +1.5
TCF	Toulx Ste Croi	92.53	326		*e*P	P	11 11 52.5 +0.4
P14A	Drum Mountains	92.62	43	⇓	P	P	11 11 53.5 +0.8
	baz=92						
BW06	Boulder Array	92.66	39	⇓	P	P	11 11 53.0 +0.1
	baz=92						
BW06	Boulder Array	92.66	39		*e*P	P	11 11 53.2 +0.4
	comp=Z,4.7nm,1.0s,mb4.9						
BW06					*e*pP	pP	11 12 06.6 +0.1
PDAR	Pinedale Array	92.66	39		P	P	11 11 52.2 -0.6
	comp=Z,1.0nm,0.8s,mb4.3,baz=143,slow=0.7,SNR=6.5						
PDAR					pP	pP	11 12 05.3 -1.2
	comp=Z,1.4nm,0.8s,baz=11,slow=0.5,SNR=7.3						
T11A	Corn Creek, Al	92.71	46	⇑	P	P	11 11 53.2 +0.1
	baz=92						
BFSC	Mount Baldy St	92.85	49	⇓	P	P	11 11 54.6 +0.7
	baz=93						
Q14A	Sevier Lake (B	92.87	43	⇑	P	P	11 11 54.6 +0.8
	baz=93						
S13A	Holt Ranch, En	93.36	45	⇑	P	P	11 11 57.2 +1.1
	baz=93						
SGMF	Saint Gilles	93.40	330	⇑	*i*P	P	11 11 56.9 +0.8
	comp=Z,16nm,0.7s,mb5.2						
SGMF	Saint Gilles	93.40	330	⇑	*i*P	P	11 11 56.9 +0.8
SGMF					pmax	pmax	
	comp=Z,8.0nm,0.7s,mb5.3						
SGMF	Saint Gilles	93.40	330	⇑	*i*P	P	11 11 56.9 +0.8
	comp=Z,7.8nm,0.7s,mb5.2						
V11A	Goodsprings	93.40	47	⇑	P	P	11 11 56.8 +0.4
	baz=93						
TBI	Tubuai	93.64	114		*e*LR	LR	11 42 06.9
	comp=Z,281nm,26.0s,baz=297						
ROSF	Rostrenen	93.66	330	⇑	*i*P	P	11 11 58.9 +1.6
	comp=Z,17nm,0.7s,mb5.3						
ROSF	Rostrenen	93.66	330	⇑	*i*P	P	11 11 58.9 +1.6
ROSF					pmax	pmax	
	comp=Z,9.0nm,0.7s,mb5.3						
ROSF	Rostrenen	93.66	330	⇑	*i*P	P	11 11 58.9 +1.6
	comp=Z,8.6nm,0.7s,mb5.3						
T13A	Saint George	93.68	45	⇓	P	P	11 11 58.7 +1.1
	baz=94						
V12A	Nelson	93.85	47	⇓	P	P	11 11 59.1 +0.7
	baz=94						
ULM	Lac du Bonnet	93.89	27		P	P	11 11 57.1 -1.2
	comp=Z,2.7nm,0.9s,mb4.7,baz=20,slow=12,SNR=2.1						
ULM					LR	LR	11 57 23.9
	comp=Z,233nm,20.3s,MS4.6,baz=351,slow=38						
QUIF	Quistinic	93.92	330		*e*P	P	11 11 59.2 +0.7
BELC	Belle Mtn.	94.11	49	⇓	P	P	11 11 59.4 -0.3
	baz=94						
V13A	Grand Canyon W	94.33	46	⇑	P	P	11 12 01.0 +0.4
	baz=94						
T15A	Red Dirt Ranch	94.64	45	⇓	P	P	11 12 02.7 +0.7
	baz=94						
BC3	Big Chuckw Mtn	94.68	49	⇓	P	P	11 12 03.6 +1.4
	baz=94						
SWSC	Sam W. Stewart	94.87	49	⇓	P	P	11 12 04.2 +1.0
	baz=95						
V14A	Boquillas Ranc	95.03	46	⇑	P	P	11 12 05.2 +1.4
	baz=95						
U15A	North Rim	95.06	45	⇑	P	P	11 12 04.7 +0.7
	baz=95						
X13A	Yucca	95.20	47	⇓	P	P	11 12 05.3 +0.7
	baz=95						
Y12C	Blythe	95.25	48	⇑	P	P	11 12 05.2 +0.3
	baz=95						
KEST	Kesra	95.38	314		P	P	11 12 03.7 -1.7
	comp=Z,4.0nm,0.9s,mb4.8,baz=289,slow=5.0,SNR=7.8						
KEST					LR	LR	11 57 47.0
	comp=Z,157nm,19.6s,MS4.5,baz=340,slow=37						
GLA	Glamis	95.46	49	⇓	P	P	11 12 06.2 +0.3
	baz=95						
Y15A	Casa Rosa Ranc	96.57	47	⇑	P	P	11 12 12.8 +2.0
	baz=96						
U18A	Rough Rock, Ch	96.58	44	⇑	P	P	11 12 12.5 +1.6
	baz=96						
Y17A	Roosevelt	97.70	46	⇑	P	P	11 12 16.2 +0.3
	baz=98						
ESDC	Sonseca Array	100.43	325		P	Pdif	11 12 26.7 -1.1
	comp=Z,0.4nm,0.3s,baz=31,slow=5.7,SNR=4.0						
RKT	Rikitea	105.62	108		*e*LR	LR	11 47 37.7
	comp=Z,288nm,22.8s						
TORD	Torodi Ar. Bea	114.84	301		PKP	PKiKP	11 17 20.8 -1.4
	comp=Z,0.7nm,0.7s,baz=12,slow=2.8,SNR=4.0						
TORD					PP	PP	11 18 13.3 -7.1
	comp=Z,2.8nm,1.0s,baz=46,slow=5.0,SNR=7.0						
QSPA	South Pole Qui	116.50	180		PKP	PKPdf	11 17 22.5 -0.9
	comp=Z,1.8nm,1.0s,baz=354,slow=3.9,SNR=8.7						
QSPA					pPKP	pPKPdf	11 17 36.2 -1.4
	comp=Z,1.3nm,0.7s,baz=57,slow=0.8,SNR=3.2						
BDFB	Brasilia	168.48	343		PKPab	PKPab	11 19 56.1 -1.2
	comp=Z,6.0nm,0.8s,baz=334,slow=4.0,SNR=11						
BDFB	Brasilia	168.48	343		PKP2	PKPab	11 19 56.2 -1.1
BDFB					pmax	pmax	
	comp=Z,6.0nm,0.8s						

DJA 17 11:28:34.1±0.9, 1N±9×127E±, h10km, MLv3.6/3, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	Ternate	0.76	131	P	Pg	11 28 47.4	-1.4
TNTI	Ternate	0.76	131	S	Sg	11 28 59.2	+0.5
MNI	Manado	1.96	275	P	Pn	11 29 08.8	+1.4
MNI	Manado	1.96	275	S	Sn	11 29 31.5	-0.5
LBMI	Labuha	2.02	159	P	Pn	11 29 08.3	0.0

*NEIC **17** 11:29:42.3, 1697N×9664W, h65km, MD3.8(MEX), After MEX.*

MEX 17 11:29:42.3±1.0, 1697N×9664W, h65km±8km, MD3.8, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VHO	Vista Hermosa	0.14	320	*i* P	Pn	11 29 50.6	-1.5
VHO				*i* S	Sn	11 29 58.2	-1.0
OXX	Oaxaca	0.14	325	*i* P	Pn	11 29 50.4	-1.7
OXX				*i* S	Sn	11 29 57.5	-1.6
HUIG	Huatulco	1.30	157	*i* P	Pn	11 30 03.9	-0.5
HUIG				*i* S	Sn	11 30 18.4	-2.6
UTMO	Huajuapan	1.40	308	*i* P	Pn	11 30 05.1	-0.7
UTMO				*i* S	Sn	11 30 21.9	-1.7
PNIG	Pinotepa	1.54	248	*i* P	Pn	11 30 06.0	-1.6
PNIG				*i* S	Sn	11 30 24.5	-2.1
TPIG	Tehuac#an	1.60	335	*e*P	Pn	11 30 07.2	-1.3
TPIG				*i* S	Sn	11 30 26.2	-2.0
PPM	Popocatepetl	2.82	318	*e*P	Pn	11 30 24.3	-0.6
PPM				*i* S	Sn	11 30 59.2	+1.4
IIO	Organos	3.28	323	*e*P	Pn	11 30 31.8	+0.5
IIO				*i* S	Sn	11 31 14.2	+5.2
TGIG		3.37	93	*e*P	Pn	11 30 31.5	-1.1
TGIG				*i* S	Sn	11 31 06.2	-5.3

*NEIC **17** 11:57:01.4, 1628N×9815W, h7km, MD4.2(MEX), After MEX.*

MEX 17 11:57:01.4±0.7, 1628N×9815W, h7km±4km, MD4.2, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	Pinotepa	0.11	13	*i* P	Pg	11 57 03.2	-0.7
PNIG				*i* S	Sg	11 57 05.7	+0.1
VHO	Vista Hermosa	1.57	60	*i* P	Pn	11 57 25.5	-4.3
VHO				*i* S	Sn	11 57 46.1	-4.3
UTMO	Huajuapan	1.57	12	*e*P	Pn	11 57 26.3	-3.5
UTMO				*i* S	Sn	11 57 46.9	-3.6
OXX	Oaxaca	1.58	60	*e*P	Pn	11 57 26.4	-3.5
OXX				*i* S	Sn	11 57 46.8	-3.9
ACX	Acapulco	1.79	289	*e*P	Pn	11 57 29.7	-3.1
ACX				*i* S	Sn	11 57 51.6	-4.2
HUIG	Huatulco	2.03	104	*e*P	Pn	11 57 33.9	-2.2
HUIG				*i* S	Sn	11 57 57.5	-4.2
CAIG	El Cayaco	2.17	291	*e*P	Pn	11 57 35.1	-2.8
CAIG				*i* S	Sn	11 58 00.0	-5.0
TPIG	Tehuac#an	2.26	19	*e*P	Pn	11 57 35.9	-3.3
TPIG				*i* S	Sn	11 58 02.4	-4.9
PLIG	Platanillo	2.46	329	*e*P	Pn	11 57 39.5	-2.6
PLIG				*i* S	Sn	11 58 08.6	-3.9
YAIG	Yautepec	2.71	341	*e*P	Pn	11 57 42.4	-3.1
YAIG				*i* S	Sn	11 58 13.4	-5.1
PPM	Popocatepetl	2.81	351	*e*P	Pn	11 57 44.1	-2.6
PPM				*e*P		11 57 44.5	
PPM				*i* S	Sn	11 58 16.5	-4.4
PPM	Popocatepetl	2.81	351	*e*P	Pn	11 57 44.5	-2.2
PPM				*i* S	Sn	11 58 16.5	-4.4
MZVM		3.07	341	*e*P	Pn	11 57 53.0	+2.6
MZVM				*i* S	Sn	11 58 24.2	-3.1
CMIG	Matias Romero	3.23	75	*e*P	Pn	11 57 48.0	-4.7
CMIG				*i* S	Sn	11 58 33.5	+2.1
PBVM	Pinon	3.27	344	*i* P	Pn	11 57 50.8	-2.3
PBVM				*i* S	Sn	11 58 29.2	-3.0
IIO	Organos	3.34	351	*e*P	Pn	11 57 55.1	+1.1
IIO				*i* S	Sn	11 58 32.0	-1.9
PTVM	Pico Tres Padr	3.42	345	*i* P	Pn	11 57 53.2	-2.0
PTVM				*i* S	Sn	11 58 34.9	-1.0
ZIIG	Zihuatanejo	3.43	293	*e*P	Pn	11 57 53.0	-2.4
ZIIG				*i* S	Sn	11 58 31.5	-4.8
LVIG	Laguna Verde	3.80	25	*i* P	Pn	11 57 54.7	-5.8
LVIG				*i* S	Sn	11 58 40.4	-5.0
TGIG		4.85	83	*e*P	Pn	11 58 13.7	-1.2
TGIG				*i* S	Sn	11 59 09.7	-1.7

IDC 17 12:02:46.5±3.5, 2354S×17992W, h507km±34km, mb3.2/6, mb1 3.4/6, mb1mx3.2/15, mbtmp3.2/6, Error ellipse: s-maj=42.0km s-min=27.5km az=175.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	Charters Tower	31.55	270	P	P	12 08 27.8	+0.9
	5.0nm,0.4s,baz=92,slow=11,SNR=10						
STKA	Stephens Creek	34.92	248	P	P	12 08 55.6	+0.2
	0.9nm,0.4s,baz=103,slow=14,SNR=2.8						
ASAR	Alice Springs	42.17	260	P	P	12 09 54.1	-0.2
	2.2nm,0.8s,baz=100,slow=7.2,SNR=25						
ASAR				ScP	ScP	12 14 39.4	+0.1
	0.9nm,0.9s,baz=99,slow=4.3,SNR=6.4						
WRA	Warramunga Arr	42.51	266	P	P	12 09 56.4	-0.7
	1.8nm,0.4s,baz=92,slow=8.4,SNR=88						
MAW	Mawson	78.11	200	P	P	12 13 51.8	-0.5
	1.9nm,1.0s,baz=107,slow=9.5,SNR=4.0						
TXAR	Lajitas Array	90.18	58	P	P	12 14 53.2	+0.6
	0.2nm,0.6s,baz=216,slow=6.2,SNR=4.9						

*CSEM **17** 12:28:13.6, 3518N×2578E, h30km, MD3.5/3, After ATH*

ATH 17 12:28:13.6, 3518N×2578E, h30km, MD3.5/3, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NPS	Neapolis	0.16	301	*e*Pb	Pb	12 28 19.4	0.0
NPS				*e*Sb	Sb	12 28 23.4	+0.1
NPS	Neapolis	0.16	301	*e*PB	Pb	12 28 19.4	0.0
NPS				*e*SB	Sb	12 28 23.4	+0.1
KARP	Karpathos	1.19	72	*e*Pn	Pn	12 28 35.8	+1.7
KARP	Karpathos	1.19	72	*e*PN	Pn	12 28 35.8	+1.7
VAM	Vamos	1.31	280	*e*Pn	Pn	12 28 37.9	+2.0
VAM				*e*Sn	Sn	12 28 55.8	+3.4
VAM	Vamos	1.31	280	*e*PN	Pn	12 28 37.9	+2.0
VAM				*e*SN	Sn	12 28 55.8	+3.4

IDC 17 13:00:32.6±2.4, 2059S×17557W, h0km, mb3.8/4, mb1 4.0/4, mb1mx3.8/18, mbtmp3.8/4, Error ellipse: s-maj=151.0km s-min=44.8km az=155.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	Stephens Creek	39.80	245	P	P	13 08 06.4	-1.3
	1.2nm,0.4s,baz=65,slow=8.6,SNR=3.7						
ASAR	Alice Springs	46.71	256	P	P	13 09 04.2	+0.5
	0.5nm,0.5s,baz=95,slow=8.4,SNR=15						
ASAR				PcP	PcP	13 10 37.1	-0.2
	0.5nm,0.6s,baz=103,slow=4.0,SNR=8.1						
WRA	Warramunga Arr	46.84	262	P	P	13 09 04.7	0.0
	0.7nm,0.3s,baz=96,slow=7.5,SNR=43						
WRA				PcP	PcP	13 10 37.2	-0.6
	0.2nm,0.4s,baz=96,slow=3.7,SNR=2.7						
FITZ	Fitzroy Crossi	55.27	262	P	P	13 10 08.5	+0.3
	0.6nm,0.5s,baz=95,slow=14,SNR=4.4						
BVAR	Borovoye Array	120.60	320	PKP	PKPdf	13 19 26.8	+0.6
	0.6nm,0.3s,baz=118,slow=4.0,SNR=4.4						
AKASG	Malin Array Be	144.16	333	PKP	PKPdf	13 20 08.4	-1.9
	0.7nm,0.3s,baz=42,slow=4.3,SNR=7.0						

*IDC **17** 13:16:39.1±3.1, 048N×9798E, h0km, mb3.5/5, mb1 3.7/6, mb1mx3.6/20, mbtmp3.5/6, ML4.2/1, Error ellipse: s-maj=123.3km s-min=20.3km az=60.0*
*ISCJB **17** 13:16:41.4±2.2, 04N±02×977E±05, h33km, mb3.5/6, Error ellipse: s-maj=74.3km s-min=13.8km az=153.0*
*NEIC **17** 13:16:44.0±2.1, 042N×9782E, h35km, mb3.7/1, Error ellipse: s-maj=77.7km s-min=13.5km az=62.0*

ISC 17 13:16:44.1±2.3, 04N±03×978E±05, h35km, n9, σ0.95/9, mb3.5/6, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	17.95	3	P	Pn	13 20 51.6	+0.5
	0.3nm,0.3s,baz=198,slow=10,SNR=4.9						
WRA	Warramunga Arr	41.10	122	P	P	13 24 25.3	+0.3
	1.1nm,0.7s,mb3.6,baz=302,slow=9.1,SNR=12						
WRAB	Tennant Creek	41.11	122	*e*P	P	13 24 25.6	+0.7
	1.2nm,0.8s,mb3.6						
WB2	Warramunga Ar	41.11	122	*e*P	P	13 24 25.8	+0.8
ASAR	Alice Springs	42.44	127	P	P	13 24 34.2	-1.6
	0.3nm,0.8s,mb3.0,baz=296,slow=6.9,SNR=3.8						
SONM	Songino Array	47.81	8	P	P	13 25 16.6	-1.5
	0.3nm,0.7s,mb3.5,baz=154,slow=14,SNR=3.2						
MKAR	Makanchi Array	48.14	346	P	P	13 25 21.7	+1.0
	0.5nm,0.7s,mb3.7,baz=120,slow=8.5,SNR=3.4						
MKAR	Makanchi Array	48.14	346	P	P	13 25 21.7	+1.0
ZALV	Zalesovo Beam	54.42	351	P	P	13 26 07.3	-0.4
	0.7nm,0.4s,mb3.9,baz=188,slow=9.6,SNR=3.3						

*TEH **17** 13:25:58.1, 2773N×5657E, h2km, ML3.5*
*CSEM **17** 13:26:38.9±0.1, 2780N×5650E, h5km, ML4.1/5, Error ellipse: s-maj=3.6km s-min=1.7km az=107.0*
*ISCJB **17** 13:26:39.4±0.6, 2768N±004×5654E±006, h25km±7km, Error ellipse: s-maj=9.0km s-min=6.7km az=17.4*
*THR **17** 13:26:39.8±0.8, 2774N×5650E, h14km±7km, ML3.7*

ISC 17 13:26:40.3±0.7, 2766N±004×5657E±006, h18km±6km, n27, σ1.9/11/33, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IBND	Bandar-abas	0.21	186	*e*Pg	Pg	13 26 44.6	-0.9
IBND				*e*Sg	Sg	13 26 49.2	+0.2
IBND				*e*		13 26 59.0	
BNDS	Bandar-Abbas	0.44	233	*e*Pg	Pg	13 26 48.8	-0.4
BNDS				AML	AML	13 27 03.5	
	comp=N,4μm,0.4s						
KRBR	Kerman	2.32	4	*e*Pn	Pn	13 27 18.7	+1.2
KRBR				*e*Sg	Sg	13 27 50.8	-4.1
KRBR				AML	AML	13 27 54.5	
	comp=E,702nm,0.6s						
KRBR				AML	AML	13 27 58.1	
	comp=N,598nm,0.5s						
KRBR	Kerman	2.32	4	*e*Pn	Pn	13 27 18.7	+1.2
	SNR=52						
KRBR				*e*Sg	Sg	13 27 50.8	-4.1
	SNR=91						
NAZ	Nazwa, Dubai	2.78	197	Pn	Pn	13 27 23.9	0.0
HATD	Hatta, Dubai	2.85	188	Pn	Pn	13 27 23.5	-1.4
FAQ	Al Faqa, Dubai	3.03	197	Pn	Pn	13 27 27.1	-0.3
	SNR=24						
ASUD	Al Ashush, Dub	3.22	200	Pn	Pn	13 27 30.3	+0.4
	SNR=12						
GHIR	Ghir-Karzin	3.23	282	*e*Pn	Pn	13 27 31.6	+1.6
GHIR				AML	AML	13 28 44.3	
	comp=N,106nm,0.5s						
ISRV	Sarvestan	3.49	300	*e*Pn	Pn	13 27 34.5	+0.9
ISRV				*e*		13 28 56.8	
IMOK	Mouk	3.66	293	*e*Pn	Pn	13 27 36.8	+0.8
IMOK				*e*		13 28 45.6	
IPAR	Pars	3.77	306	*e*Pn	Pn	13 27 39.5	+2.0
IPAR				*e*		13 29 00.

ellipse: s-maj=15.1km s-min=10.8km az=111.2
*ISCJB **17** 13:33:17.1±0.4, 36.12N±0.003×139.88E±0.005, h66km±3km, mb4.0/15, Error ellipse: s-maj=6.4km s-min=4.8km az=25.9*
*JMA **17** 13:33:18.8±0.1, 36.17N×139.82E, h55km±1km, M4.1 Broadband fault plane solution: P waves. NP1: ϕs202.00000°, δ8.00000°, λ37.00000°. NP2: ϕs76.00000°, δ85.00000°, λ96.00000°. Principal axes: T Plg49.0000°, Azm352.0000°; N Plg6.0000°, Azm255.0000°; P Plg40.0000°, Azm160.0000°;*
JMA Felt II J1.
*NEIC **17** 13:33:18.4±0.9, 36.13N×139.83E, h60km±7km, mb4.5/3, MW4.0(NIED) Error ellipse: s-maj=10.0km s-min=8.4km az=127.0*
NEIC Recorded [2 JMA] in Fukushima, Gumma, Ibaraki, Saitama and Tochigi; [1 JMA] in Chiba, Kanagawa and Tokyo Prefectures.
*IDC **17** 13:33:18.1±1.5, 3607N×13985E, h59km±13km, mb3.7/11, mb1 3.9/14, mb1mx3.8/25, mbtmp3.9/14, MS2.9/4, Ms1 2.9/4, ms1mx2.7/32, Error ellipse: s-maj=18.3km s-min=7.5km az=60.0*

ISC 17 13:33:18.2±0.4, 3612N±003×13986E±004, h58km±3km, n50, σ0°76/66, mb4.1/15, MS3.0/2, 1C-7D, Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JYT	**Yasato**	**0.29**	**67**	⇓P	**Pn**	**13 33 28.5**	**+0.5**
JYT				*e*S	**Sn**	**13 33 35.4**	**+0.3**
JAG	**Ashikaga**	**0.45**	**313**	⇓P	**Pn**	**13 33 29.4**	**-0.1**
JAG				*e*S	**Sn**	**13 33 36.8**	**-0.9**
JRY	**Ryogami san**	**0.78**	**263**	⇓P	**Pn**	**13 33 33.6**	**+0.2**
JRY				*e*S	**Sn**	**13 33 44.3**	**-0.2**
JKT	**Katashina**	**0.82**	**323**	⇓P	**Pn**	**13 33 33.4**	**-0.4**
JKT				*e*S	**Sn**	**13 33 44.4**	**-0.8**
JOD2	**Odawara 2**	**1.06**	**217**	⇑P	**Pn**	**13 33 37.8**	**+0.9**
JOD2				S	**Sn**	**13 33 52.3**	**+1.5**
JYN	**Shimodate**	**1.23**	**240**	P	**Pn**	**13 33 40.7**	**+1.4**
JFY	**Yanaizu**	**1.29**	**355**	⇓P	**Pn**	**13 33 40.2**	**+0.1**
JFY				*e*S	**Sn**	**13 33 56.7**	**+0.3**
JHK	**Hiroka**	**1.32**	**329**	⇓P	**Pn**	**13 33 40.3**	**-0.1**
MJAR	**Matsushiro Arr**	**1.40**	**288**	P	**Pn**	**13 33 41.4**	**-0.1**
	38nm,0.3s,baz=62,slow=12,SNR=191						
MJAR				S	**Sn**	**13 33 58.6**	**-0.3**
	54nm,0.3s,baz=219,slow=14,SNR=22						
MJAR	**Matsushiro Arr**	**1.40**	**288**	P	**Pn**	**13 33 41.4**	**-0.1**
MJAR				S	**Sn**	**13 33 58.7**	**-0.2**
MJAR				pmax	pmax		
	comp=Z,38nm,0.3s						
MJAR				smax			
	comp=N,54nm,0.3s						
MAJO	**Matsushiro**	**1.40**	**288**	*e*P	**Pn**	**13 33 42.0**	**+0.5**
MAT	**Matsushiro**	**1.40**	**288**	P	**Pn**	**13 33 41.9**	**+0.4**
MAT				S	**Sn**	**13 33 58.8**	**-0.2**
MAT	**Matsushiro**	**1.40**	**288**	P	**Pn**	**13 33 41.4**	**-0.1**
MAT				*e*S	**Sn**	**13 33 58.8**	**-0.2**
JFT	**Otama**	**1.45**	**15**	⇓P	**Pn**	**13 33 42.9**	**+0.7**
JFT				*e*S	**Sn**	**13 34 00.4**	**+0.2**
JFK	**Kawauchi**	**1.49**	**33**	P	**Pn**	**13 33 43.2**	**+0.5**
JFK				*e*S	**Sn**	**13 34 00.8**	**-0.3**
JHJ	**Hachijo jima 2**	**2.99**	**181**	P	**Pn**	**13 34 02.4**	**-0.8**
	comp=N,116nm,0.3s,baz=61,slow=15,SNR=16						
JHJ				S	**Sn**	**13 34 36.5**	**-1.2**
	comp=N,94nm,0.3s,baz=251,slow=22,SNR=7.3						
ERM	**Erimo**	**6.42**	**23**	*e*P	**Pn**	**13 34 50.2**	**+0.1**
ASAJ	**Asahikawa**	**8.26**	**14**	P	**Pn**	**13 35 14.6**	**-0.7**
	comp=N,1.0nm,0.3s,baz=187,slow=16,SNR=13						
ASAJ				S	**Sn**	**13 36 41.4**	**-5.7**
	comp=N,0.3nm,0.3s,baz=106,slow=22,SNR=1.9						
ASAJ				LR	LR	13 38 51.0	
	comp=N,41nm,18.5s,baz=175,slow=40						
ASAJ	**Asahikawa**	**8.26**	**14**	P	**Pn**	**13 35 14.6**	**-0.7**
ASAJ				S	**Sn**	**13 36 41.4**	**-5.7**
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ASAJ				MLR	MLR		
	comp=Z,41nm,18.5s						
CBIJ	**Chichi jima**	**9.21**	**167**	P	**Pn**	**13 35 25.7**	**-2.6**
	comp=Z,12nm,0.3s,baz=301,slow=22,SNR=10						
CBIJ				S	**Sn**	**13 37 02.0**	**-8.4**
	comp=Z,4.1nm,0.3s,baz=100,slow=23,SNR=3.6						
KSRS	**Korea Array**	**9.67**	**281**	P	**Pn**	**13 35 38.7**	**+4.1**
	comp=Z,0.3nm,0.3s,baz=92,slow=14,SNR=5.9						
KSRS				LR	LR	13 39 07.6	
	comp=Z,57nm,18.1s,baz=149,slow=36						
YSS	**Yuzh-Sakhalins**	**11.04**	**10**	*e*P	**Pn**	**13 35 53.0**	**-0.3**
SONM	**Songino Array**	**27.28**	**306**	P	**P**	**13 38 55.9**	**-1.1**
	comp=Z,0.2nm,0.4s,mb3.0,baz=133,slow=41,SNR=2.9						
SONM				LR	LR	13 49 37.1	
	comp=Z,42nm,18.7s,MS3.0,baz=173,slow=36						
ZALV	**Zalesovo Beam**	**41.62**	**313**	P	**P**	**13 41 00.1**	**-0.2**
	comp=Z,2.0nm,0.5s,mb4.0,baz=91,slow=6.7,SNR=9.5						
ZALV				PcP	PcP	13 42 56.0	-0.3
	comp=Z,0.9nm,0.4s,baz=108,slow=4.9,SNR=3.9						
ZALV				LR	LR	13 58 27.0	
	comp=Z,16nm,19.0s,MS2.9,baz=252,slow=36						
ZALV	**Zalesovo Beam**	**41.62**	**313**	P	**P**	**13 41 00.1**	**-0.3**
ZALV						13 42 56.0	
ZALV				pmax	pmax		
	comp=Z,2.0nm,0.5s,mb4.0						
ZALV				pmax	pmax		
	comp=Z,1.0nm,0.4s,mb3.8						
ZALV				MLR	MLR		
	comp=Z,16nm,19.0s,MS2.9						
MKAR	**Makanchi Array**	**43.55**	**303**	P	**P**	**13 41 16.5**	**+0.3**
	comp=Z,0.7nm,0.6s,mb3.6,baz=91,slow=12,SNR=5.1						
MKAR	**Makanchi Array**	**43.55**	**303**	P	**P**	**13 41 16.5**	**+0.3**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
KURK	**Kurchatov**	**45.52**	**309**	P	**P**	**13 41 31.8**	**0.0**
	comp=Z,1.7nm,0.5s,mb4.3,baz=83,slow=7.9,SNR=14						
KURK	**Kurchatov**	**45.52**	**309**	P	**P**	**13 41 31.8**	**0.0**
KURK				pmax	pmax		
	comp=Z,2.0nm,0.5s,mb4.3						
KDAK	**Kodiak Island**	**48.62**	**41**	P	**P**	**13 41 56.5**	**+0.7**
	comp=Z,4.8nm,0.7s,mb4.6,baz=300,slow=18,SNR=4.2						
TKM2	**Tokmak 2**	**48.97**	**299**	*e*P	**P**	**13 41 59.6**	**+0.9**
TKM2				pmax	pmax		
	comp=Z,2.0nm,0.4s,mb4.5						
TKM2	**Tokmak 2**	**48.97**	**299**	*e*P	**P**	**13 41 59.6**	**+0.8**
	comp=Z,2.4nm,0.4s,mb4.6						
BVAR	**Borovoye Array**	**50.27**	**313**	P	**P**	**13 42 07.4**	**-1.1**
	comp=Z,1.0nm,0.5s,mb4.1,baz=104,slow=6.3,SNR=4.7						
BVAR	**Borovoye Array**	**50.27**	**313**	P	**P**	**13 42 07.4**	**-1.0**
BVAR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
AML	**Almayashu**	**50.54**	**298**	*e*P	**P**	**13 42 11.8**	**+1.2**
	comp=Z,7.3nm,0.7s,mb4.7						
WRAB	**Tennant Creek**	**55.98**	**186**	*e*P	**P**	**13 42 50.4**	**-0.3**
WRAB				pmax	pmax		
	comp=Z,2.0nm,0.5s,mb4.4						
WRAB	**Tennant Creek**	**55.98**	**186**	*e*P	**P**	**13 42 50.4**	**-0.3**
	comp=Z,1.9nm,0.5s,mb4.4						
WB2	**Warramunga Arr**	**55.99**	**186**	*e*P	**P**	**13 42 50.6**	**-0.2**
WRA	**Warramunga Arr**	**55.99**	**186**	P	**P**	**13 42 50.5**	**-0.3**
	comp=Z,2.8nm,0.5s,mb4.5,baz=0.8,slow=7.6,SNR=111						
WRA	**Warramunga Arr**	**55.99**	**186**	P	**P**	**13 42 50.5**	**-0.3**
WRA				pmax	pmax		
	comp=Z,3.0nm,0.5s						
ASAR	**Alice Springs**	**59.72**	**186**	P	**P**	**13 43 17.2**	**+0.3**
	comp=Z,0.8nm,0.6s,mb4.0,baz=20,slow=11,SNR=19						
ASAR	**Alice Springs**	**59.72**	**186**	P	**P**	**13 43 17.2**	**+0.3**
ASAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
ARCES	**ARCESS Array B**	**64.41**	**339**	P	**P**	**13 43 47.0**	**-0.8**
	comp=Z,1.4nm,0.8s,mb4.0,baz=49,slow=9.7,SNR=3.3						
ARCES	**ARCESS Array B**	**64.41**	**339**	P	**P**	**13 43 47.0**	**-0.8**
ARCES				pmax	pmax		
	comp=Z,1.0nm,0.8s						
AKASG	**Malin Array Be**	**74.25**	**322**	P	**P**	**13 44 44.9**	**-4.0**
	comp=Z,0.6nm,0.3s,mb4.0,baz=52,slow=4.4,SNR=4.9						
AKASG	**Malin Array Be**	**74.25**	**322**	P	**P**	**13 44 44.9**	**-4.0**
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.3s						
NOA	**NORSAR Array B**	**74.54**	**337**	P	**P**	**13 44 50.2**	**-0.2**
	comp=Z,1.6nm,0.8s,mb4.0,baz=38,slow=5.8,SNR=3.4						
NOA	**NORSAR Array B**	**74.54**	**337**	P	**P**	**13 44 50.2**	**-0.2**
NOA				pmax	pmax		
	comp=Z,2.0nm,0.8s						
NOA	**NORSAR Array B**	**74.54**	**337**	P	**P**	**13 44 50.2**	**-0.2**
NVAR	**Mina Array Bea**	**76.54**	**52**	P	**P**	**13 45 03.8**	**+1.6**
	comp=Z,0.9nm,0.8s,mb3.8,baz=268,slow=6.4,SNR=4.3						

JMA 17 14:00:13.1±0.1, 2773N×14079E, h364km, M3.9, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CBIJ	**Chichi jima**	**1.39**	**117**	P	Pn	14 01 02.4	+0.3
CBIJ				S	S	14 01 40.7	-0.7
JHHJ	**Haha-jima-NKT**	**1.65**	**131**	P	Pn	14 01 03.6	+0.1
JHHJ				S	S	14 01 43.5	-0.5
JHJ2	**Mitsune**	**5.43**	**351**	P	Pn	14 01 39.4	+1.5
BSO1	**Boso 1**	**6.90**	**1**	P	Pn	14 01 55.5	+0.9
BSO3	**Boso 3**	**7.05**	**358**	P	Pn	14 01 57.0	+0.7
JIE	**Ise**	**7.51**	**333**	P	Pn	14 02 02.7	+1.1
JOD2	**Odawara 2**	**7.65**	**349**	P	Pn	14 02 04.0	+0.8
JRY	**Ryogami san**	**8.42**	**349**	P	Pn	14 02 12.9	+0.7

*NEIC **17** 14:06:22.1, 1588N×98.10W, h20km, MD3.8(MEX), After MEX.*

MEX 17 14:06:21.8±0.6, 1589N×9811W, h12km±22km, MD3.8, Off coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PNIG	**Pinotepa**	**0.50**	**358**	*i* P	Pg	14 06 30.5	-1.1
PNIG				*i* S	Sg	14 06 37.5	-0.8
VHO	**Vista Hermosa**	**1.77**	**48**	*i* P	Pn	14 06 48.6	-3.6
VHO				*i* S	Sn	14 07 10.6	-4.0
UTMO	**Huajuapan**	**1.95**	**9**	*i* P	Pn	14 06 52.8	-1.9
UTMO				*i* S	Sn	14 07 15.2	-3.9
ACX	**Acapulco**	**1.99**	**299**	*e*P	Pn	14 06 51.6	-3.6
ACX				*i* S	Sn	14 07 15.9	-4.1
PPM	**Popocatepetl**	**3.20**	**351**	*e*P	Pn	14 07 09.5	-2.4
PPM				*i* S	Sn	14 07 46.1	-3.8
MZVM		**3.45**	**342**	*e*P	Pn	14 07 18.5	+3.2
MZVM				*i* S	Sn	14 08 00.4	+4.3

*NIED **17** 14:08:00, 3670N×141.20E, h41km, Mw3.9 Best double couple: M0 9.10000×10^14 NP1: ϕs32.00000°, δ79.00000°, λ97.00000°. NP2: ϕs179.00000°, δ12.00000°, λ58.00000°.*
*ISCJB **17** 14:08:35.8±0.8, 3671N±004×141.27E±006, h45km±6km, mb3.8/9, Error ellipse: s-maj=8.9km s-min=5.0km az=24.9*
*MOS **17** 14:08:35.9±1.1, 3679N×141.31E, h50km, mb4.3/5, Error ellipse: s-maj=16.1km s-min=13.8km az=102.5*
*JMA **17** 14:08:37.3±0.1, 3671N×141.14E, h46km±1km, M3.6*
JMA Felt I J1.
*NEIC **17** 14:08:37.8±1.5, 3675N×141.25E, h47km±11km, mb4.4/3, Error ellipse: s-maj=17.7km s-min=12.8km az=116.0*
*IDC **17** 14:08:37.6±2.8, 3673N×141.31E, h43km±23km, mb3.5/6, mb1 3.6/9, mb1mx3.5/22, mbtmp3.6/9, ML3.6/3, MS3.0/2, Ms1 3.0/2, ms1mx2.5/25, Error ellipse: s-maj=36.7km s-min=18.3km az=75.0*

ISC 17 14:08:37.3±0.7, 3672N±003×14123E±006, h37km±7km, n36, σ0°88/51, mb3.8/9, 7D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ONAJ	**Iwakimizuishiy**	**0.51**	**318**	⇓P	**Pn**	**14 08 47.7**	**-0.4**
ONAJ				*e*S	**Sn**	**14 08 54.9**	**-0.7**
JHO	**Hitachi**	**0.54**	**258**	⇓P	**Pn**	**14 08 47.9**	**-0.6**
JHO				*e*S	**Sn**	**14 08 55.4**	**-0.9**
JFK	**Kawauchi**	**0.70**	**336**	⇓P	**Pn**	**14 08 50.5**	**-0.2**
JFK				*e*S	**Sn**	**14 08 59.7**	**-0.6**
JFT	**Otama**	**1.07**	**318**	⇓P	**Pn**	**14 08 56.4**	**+0.7**
JFT				*e*S	**Sn**	**14 09 08.7**	**-0.6**
JMM	**Marumori**	**1.19**	**343**	⇓P	**Pn**	**14 08 57.4**	**0.0**
JMM				*e*S	**Sn**	**14 09 12.4**	**0.0**
JFY	**Yanaizu**	**1.40**	**300**	⇓P	**Pn**	**14 09 00.5**	**+0.3**
JFY				*e*S	**Sn**	**14 09 16.1**	**-1.3**
JAG	**Ashikaga**	**1.46**	**259**	⇓P	**Pn**	**14 09 00.8**	**-0.3**
JAG				*e*S	**Sn**	**14 09 17.9**	**-1.1**
JKT	**Katashina**	**1.59**	**272**	P	**Pn**	**14 09 03.3**	**+0.4**
JKT				*e*S	**Sn**	**14 09 22.3**	**+0.1**
MJAR	**Matsushiro Arr**	**2.44**	**267**	P	**Pn**	**14 09 15.1**	**+0.6**
	16nm,0.3s,baz=90,slow=15,SNR=110						
MJAR				S	**Sn**	**14 09 44.5**	**+1.5**
	9.5nm,0.3s,baz=149,slow=21,SNR=7.6						
MJAR	**Matsushiro Arr**	**2.44**	**267**	P	**Pn**	**14 09 15.1**	**+0.6**
MJAR				S	**Sn**	**14 09 44.5**	**+1.5**
MJAR				pmax	pmax		
	comp=Z,16nm,0.3s						
MJAR				smax			
	comp=N,10.0nm,0.3s						
MAJO	**Matsushiro**	**2.44**	**267**	*e*P	**Pn**	**14 09 15.7**	**+1.2**
MAT	**Matsushiro**	**2.44**	**267**	P	**Pn**	**14 09 15.7**	**+1.2**
MAT				S	**Sn**	**14 09 44.5**	**+1.4**
JHJ	**Hachijo jima 2**	**3.79**	**199**	P	**Pn**	**14 09 34.0**	**+0.9**
	comp=N,11nm,0.3s,baz=276,slow=22,SNR=2.9						
JHJ				S	**Sn**	**14 10 15.8**	**-0.6**
	comp=N,14nm,0.3s,baz=250,slow=23,SNR=3.1						
ERM	**Erimo**	**5.49**	**15**	P	**Pn**	**14 09 56.7**	**+0.2**
ERM				*e*S	**Sn**	**14 11 00.9**	**+2.5**
ASAJ	**Asahikawa**	**7.46**	**8**	P	**Pn**	**14 10 23.4**	**-0.1**
	comp=N,0.8nm,0.3s,baz=222,slow=26,SNR=8.1						
ASAJ				S	**Sn**	**14 11 46.0**	**-0.8**
	comp=N,0.7nm,0.3s,baz=295,slow=28,SNR=4.1						
ASAJ	**Asahikawa**	**7.46**	**8**	P	**Pn**	**14 10 23.4**	**-0.1**
ASAJ				S	**Sn**	**14 11 46.0**	**-0.7**
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ASAJ				smax			
	comp=N,1.0nm,0.3s						
CBIJ	**Chichi jima**	**9.63**	**175**	P	**Pn**	**14 10 50.2**	**-3.1**
	comp=N,2.1nm,0.3s,baz=108,slow=23,SNR=4.0						
CBIJ				S	**Sn**	**14 12 29.8**	**-11**
	comp=N,3.6nm,0.3s,baz=307,slow=18,SNR=2.6						
KSRS	**Korea Array**	**10.65**	**278**	LR	LR	14 14 59.1	
	comp=N,70nm,18.1s,baz=90,slow=36						
SONM	**Songino Array**	**27.84**	**304**	P	**P**	**14 14 23.8**	**+0.8**
	comp=N,2.2nm,0.7s,mb3.9,baz=105,slow=8.3,SNR=15						
SONM				LR	LR	14 25 42.4	
	comp=N,36nm,19.3s,baz=169,slow=37						
SONM	**Songino Array**	**27.84**	**304**	P	**P**	**14 14 23.8**	**+0.8**
SONM				pmax	pmax		
	comp=Z,2.0nm,0.7s						
SONM				MLR	MLR		
	comp=Z,36nm,19.3s						
CMAR	**Chiang Mai Arr**	**41.27**	**255**	P	**P**	**14 16 19.4**	**+0.3**
	comp=Z,0.3nm,0.5s,mb3.2,baz=46,slow=4.1,SNR=4.5						
ZAA0	**Zalesovo Array**	**42.02**	**313**	*e*P	**P**	**14 16 24.8**	**0.0**
ZALV	**Zalesovo Beam**	**42.02**	**313**	P	**P**	**14 16 24.7**	**0.0**
	comp=Z,2.3nm,0.6s,mb4.0,baz=90,slow=7.4,SNR=9.1						
ZALV	**Zalesovo Beam**	**42.02**	**313**	P	**P**	**14 16 24.7**	**0.0**
ZALV				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb3.9						
MK31	**Makanchi Array**	**44.16**	**302**	*e*P	**P**	**14 16 39.1**	**-3.1**
MKAR	**Makanchi Array**	**44.16**	**302**	P	**P**	**14 16 41.9**	**-0.2**
	comp=Z,1.1nm,0.7s,mb3.7,baz=88,slow=9.4,SNR=8.9						
MKAR	**Makanchi Array**	**44.16**	**302**	P	**P**	**14 16 41.9**	**-0.3**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
MKAR	**Makanchi Array**	**44.16**	**302**	P	**P**	**14 16 41.9**	**-0.2**
KURK	**Kurchatov**	**46.01**	**308**	*e*P	**P**	**14 16 56.3**	**-0.5**
KURK				pmax	pmax		
	comp=Z,5.0nm,0.7s,mb4.5						
KURK	**Kurchatov**	**46.01**	**308**	*e*P	**P**	**14 16 56.3**	**-0.5**
	comp=Z,5.0nm,0.7s,mb4.5						
TKM2	**Tokmak 2**	**49.65**	**299**	*e*P	**P**	**14 17 24.9**	**-0.2**
TKM2				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.3						
TKM2	**Tokmak 2**	**49.65**	**299**	*e*P	**P**	**14 17 24.9**	**-0.2**
	comp=Z,1.6nm,0.6s,mb4.2						
AML	**Almayashu**	**51.22**	**298**	*e*P	**P**	**14 17 37.8**	**+0.8**
	comp=Z,5.5nm,1.1s,mb4.4						
WRA	**Warramunga Arr**	**56.73**	**188**	P	**P**	**14 18 16.4**	**-0.9**
	comp=Z,0.5nm,0.9s,mb3.5,baz=5.2,slow=7.1,SNR=5.8						
WRA	**Warramunga Arr**	**56.73**	**188**	P	**P**	**14 18 16.4**	**-0.9**
WRA				pmax	pmax		
	comp=Z,1.0nm,1.0s						
ASAR	**Alice Springs**	**60.46**	**188**	P	**P**	**14 18 43.5**	**+0.3**
	comp=Z,0.1nm,0.6s,mb3.1,baz=0.8,slow=6.9,SNR=3.1						

*CSEM **17** 14:22:44.7±0.2, 3907N×2673E, h15km, MD2.7, Error ellipse: s-maj=3.9km s-min=1.9km az=87.0*
*ISK **17** 14:22:44.3, 3908N×2671E, h11km, MD2.9*
*ISCJB **17** 14:22:46.1±0.5, 3906N±003×2680E±004, h7km±6km, Error ellipse: s-maj=6.0km s-min=3.9km az=146.0*
*DDA **17** 14:22:46.6, 39.10N×2678E, h14km, Md2.7*
*ATH **17** 14:22:46.5, 39.14N×2627E, h55km, MD3.0/3*

ISC 17 14:22:46.5±0.5, 3906N±003×2677E±004, h14km±6km, n14, σ0°93/24, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AYVA	**Ayvalik**	**0.26**	**345**	*i* P	**Pg**	**14 22 51.5**	**-0.5**
AYVA				*i* S	**Sg**	**14 22 55.5**	**-0.1**
PRK	**Paraskevi**	**0.43**	**295**	*e*P	**Pg**	**14 22 55.4**	**+0.3**
PRK				*e*S	**Sg**	**14 23 01.8**	**+0.9**
PRK	**Paraskevi**	**0.43**	**295**	*e*P	**Pg**	**14 22 55.4**	**+0.3**
PRK				*e*S	**Sg**	**14 23 01.8**	**+0.9**
BLCB	**Balcova**	**0.71**	**163**	*e*PG	**Pg**	**14 22 59.1**	**-1.2**
BLCB				*e*SG	**Sg**	**14 23 09.2**	**-0.4**
IZM	**Izmir**	**0.77**	**150**	*e*PG	**Pg**	**14 23 00.5**	**-0.8**
IZM				*e*SG	**Sg**	**14 23 12.2**	**+0.8**
AKHS	**Akhisar**	**0.83**	**102**	*i* P	**Pg**	**14 23 02.4**	**-0.2**
AKHS				*i* S	**Sg**	**14 23 15.8**	**+2.3**
BALY	**Balya**	**0.94**	**44**	*i* P	**Pg**	**14 23 03.5**	**-1.3**
BALY				*i* S	**Sg**	**14 23 17.6**	**+0.6**
BOZC	**Bozcaada**	**0.96**	**325**	*i* P	**Pb**	**14 23 04.0**	**-0.9**
BOZC				*i* S	**Sg**	**14 23 18.8**	**+1.2**
BALB	**Balikesir**	**1.03**	**56**	*e*PG	**Pg**	**14 23 05.0**	**-1.4**
BALB				*e*SG	**Sg**	**14 23 20.5**	**+0.5**
SMG	**Samos**	**1.35**	**178**	*e*P	**Pn**	**14 23 12.1**	**+1.1**
SMG	**Samos**	**1.35**	**178**	*e*P	**Pn**	**14 23 12.1**	**+1.1**
LIA	**Limnos Island**	**1.49**	**305**	*e*P	**Pn**	**14 23 07.1**	**-5.7**
KULA	**Kula-Manisa**	**1.57**	**110**	*e*PN	**Pn**	**14 23 13.5**	**-0.5**
KULA				*e*SN	**Sn**	**14 23 35.0**	**+0.8**
KCT	**Karacabey**	**1.71**	**45**	*e*PN	**Pn**	**14 23 15.3**	**-0.7**

*IDC **17** 14:22:58.1±1.4, 4.91S×130.11E, h0km, mb3.7/4, mb1 3.9/7, mb1mx3.8/15, mbtmp3.7/7, ML3.7/3, Error ellipse: s-maj=53.8km s-min=22.9km az=80.0*
*ISCJB **17** 14:23:07.5±3.1, 5.1S±0.1×130.05E±009, h107km±35km, mb3.6/4, Error ellipse: s-maj=22.6km s-min=14.4km az=17.6*
*NEIC **17** 14:23:09.9±3.0, 5.17S×130.00E, h112km±35km, mb4.3/3, Error ellipse: s-maj=26.0km s-min=18.8km az=90.0*

ISC 17 14:23:07.8±3.2, 52S±01×1302E±01, h94km±37km, n15, σ1°57/20, mb3.6/4, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KAKA	**Kakadu**	**7.82**	**164**	*e*P	**Pn**	**14 25 01.6**	**+2.7**
	16nm,0.4s						
KAKA				*e*S	**Sn**	**14 26 22.7**	**-3.1**
BATI	**Baumata**	**8.17**	**232**	Pn	**Pn**	**14 25 02.6**	**-1.1**
	2.1nm,0.3s,baz=200,slow=22,SNR=2.4						
BATI				Sn	**Sn**	**14 26 35.8**	**+1.4**
	1.6nm,0.3s,baz=197,slow=17,SNR=2.6						
FITZ	**Fitzroy Crossi**	**13.60**	**199**	*e*P	**Pn**	**14 26 18.0**	**+1.2**
	3.2nm,0.3s						
FITZ				*e*S	**Sn**	**14 28 36.5**	**-10**
FITZ	**Fitzroy Crossi**	**13.60**	**199**	Pn	**Pn**	**14 26 17.1**	**+0.3**
	0.7nm,0.3s,baz=36,slow=13,SNR=31						
FITZ				Sn	**Sn**	**14 28 35.6**	**-11**
	0.8nm,0.3s,baz=97,slow=20,SNR=5.4						
BUTP	**Butuan**	**14.76**	**342**	*e*P	**Pn**	**14 26 15.3**	**-17**
WRAB	**Tennant Creek**	**15.22**	**165**	*e*P	**Pn**	**14 26 40.5**	**+2.8**
WRA	**Warramunga Arr**	**15.23**	**165**	Pn	**Pn**	**14 26 38.6**	**+0.8**
	0.3nm,0.3s,baz=335,slow=13,SNR=21						
WRA				Sn	**Sn**	**14 29 17.0**	**-9.0**
	0.8nm,0.3s,baz=343,slow=23,SNR=7.6						
WB2	**Warramunga Arr**	**15.23**	**165**	*e*P	**Pn**	**14 26 40.0**	**+2.2**
ASAR	**Alice Springs**	**18.74**	**169**	P	**Pn**	**14 27 20.7**	**0.0**
	0.1nm,0.3s,baz=348,slow=10,SNR=5.0						
ASAR	**Alice Springs**	**18.74**	**169**	P	**Pn**	**14 27 20.7**	**0.0**
MBWA	**Marble Bar**	**18.85**	**212**	*e*P	**Pn**	**14 27 19.2**	**-3.0**
	6.1nm,0.6s						
CMAR	**Chiang Mai Arr**	**38.73**	**308**	P	**P**	**14 30 21.7**	**-1.4**
	0.9nm,0.5s,mb3.9,baz=143,slow=7.6,SNR=6.8						
MJAR	**Matsushiro Arr**	**42.17**	**10**	P	**P**	**14 30 50.1**	**-1.1**
	0.8nm,0.6s,mb3.7,baz=196,slow=8.2,SNR=4.4						
SONM	**Songino Array**	**56.78**	**341**	P	**P**	**14 32 43.1**	**+1.1**
	0.4nm,0.7s,mb3.5,baz=167,slow=7.8,SNR=2.8						
MKAR	**Makanchi Array**	**66.81**	**326**	P	**P**	**14 33 50.1**	**+0.7**
	0.2nm,0.4s,mb3.3,baz=113,slow=7.0,SNR=5.5						

*MOS **17** 14:39:56.8±0.9, 2356N×121.75E, h33km, mb5.2/60, MS4.2/12, Error ellipse: s-maj=8.7km s-min=4.4km az=121.3*
*ISCJB **17** 14:39:57.1±0.1, 2347N±001×121.85E±001, h33km, mb5.0/141, MS4.2/42, Error ellipse: s-maj=2.0km s-min=1.5km az=35.2*
*SZGRF **17** 14:39:57.5, 2358N×122.33E, h33km, mb5.0, Taiwan region*
*TAP **17** 14:40:00.0, 2350N×121.61E, h42km, ML5.4, B*
*BJI **17** 14:40:00.2, 2368N×121.58E, h41km, mB4.7, mb4.6, ML5.0, Ms4.6, Msz4.4*
*IDC **17** 14:40:00.3±2.7, 2348N×121.68E, h50km±26km, mb4.5/20, mb1 4.6/23

ELDTW eS Sn 14 40 20.8 -2.3
baz=236
WHF Hehuan Shan 0.75 329 P Pn 14 40 13.8 -0.6
baz=338
ALS Alishan 0.81 271⇑iP Pn 14 40 15.4 +0.3
baz=275
ALS S Sn 14 40 25.4 -0.6
baz=275
EHP Heping Village 0.81 4 P Pn 14 40 14.9 -0.3
baz=8.0
EHP eS Sn 14 40 26.8 +0.6
baz=8.0
SMLT Sun Moon Lake 0.82 298⇑iP Pn 14 40 15.1 -0.2
baz=300
SMLT S Sn 14 40 25.6 -0.6
baz=300
TWG Pinlang 0.88 220⇑iP Pn 14 40 14.8 -1.2
baz=216
TWG eS Sn 14 40 27.3 -0.4
baz=216
TTN Taitung 0.89 214 ⇑P Pn 14 40 16.2 -0.1
baz=219
TTN eS Sn 14 40 28.4 +0.4
baz=219
STYT Tauyuan 0.91 249⇑iP Pn 14 40 16.4 -0.2
baz=245
STYT eS Sn 14 40 27.6 -1.0
baz=245
CHN5 Tsauling 0.93 277⇑iP Pn 14 40 17.2 +0.4
baz=277
ENA Nanau 0.93 3 iP Pn 14 40 16.7 -0.1
baz=357
NNS Nan Shan 0.98 343 P Pn 14 40 17.2 -0.3
baz=352
NNS eS Sn 14 40 29.6 -0.7
baz=352
WNT Mingjian 0.99 293⇑iP Pn 14 40 18.1 +0.5
baz=294
WNT eS Sn 14 40 30.7 +0.1
baz=294
WTP Ta-pu 1.01 256⇑iP Pn 14 40 18.4 +0.4
baz=255
WGK Gukeng 1.05 281⇑iP Pn 14 40 18.8 +0.4
baz=281
WGK S Sn 14 40 32.4 +0.6
baz=281
SGST Jiashian 1.09 248⇑iP Pn 14 40 19.6 +0.6
baz=246
SGST eS Sn 14 40 34.0 +1.0
baz=246
CHN1 Nanshi 1.11 254⇑iP Pn 14 40 19.9 +0.7
baz=259
CHN1 eS Sn 14 40 34.2 +0.9
baz=259
CHN2 Minshiung 1.11 272⇑iP Pn 14 40 20.1 +0.8
baz=271
CHN2 eS Sn 14 40 34.5 +1.1
baz=271
ECL Taimali 1.12 217 iP Pn 14 40 17.8 -1.6
baz=206
TWC Suao 1.12 8⇓iP Pn 14 40 20.1 +0.7
baz=11
TWK Hsinying 1.12 259⇑iP Pn 14 40 19.8 +0.3
baz=257
TWK eS Sn 14 40 34.5 +0.8
baz=257
TCU Taichung 1.13 305⇑iP Pn 14 40 20.6 +1.0
baz=307
TCU eS Sn 14 40 34.6 +0.7
baz=307
YHNB Yeheng 1.20 346 ePn Pn 14 40 20.8 +0.2
YHNB eSn Sn 14 40 35.2 -0.5
NSK Sanguang 1.21 346⇑iP Pn 14 40 21.1 +0.4
baz=357
NSK eS Sn 14 40 35.3 -0.6
baz=357
TWE Neicheng 1.22 359⇑iP Pn 14 40 21.0 +0.2
baz=353
TWE eS Sn 14 40 36.7 +0.5
baz=353
SSD Sandimen 1.22 233⇑iP Pn 14 40 20.6 -0.2
baz=230
SSD eS Sn 14 40 36.9 +0.7
baz=230
NSY Sanyi 1.25 318⇑iP Pn 14 40 22.2 +1.0
baz=319
NSY S Sn 14 40 38.2 +1.5
baz=319
ILA Ilan 1.27 3 P Pn 14 40 21.9 +0.5
baz=355
ILA eS Sn 14 40 38.2 +0.9
baz=355
CHN3 Shinhua 1.28 251⇑iP Pn 14 40 23.3 +1.6
baz=250
CHN3 eS Sn 14 40 40.4 +2.7
baz=250
NSTT Nanjuang 1.29 331⇑iP Pn 14 40 22.8 +1.0
baz=333
NSTT eS Sn 14 40 38.5 +0.6
baz=333
WTCT Ta-ch'eng 1.34 286⇑iP Pn 14 40 22.8 +0.4
baz=286
WTCT S Sn 14 40 39.8 +0.8
baz=286
TWM1 Shoushan 1.34 240⇑iP Pn 14 40 24.4 +2.0
baz=239
TAW Tawu 1.34 213 P Pn 14 40 21.5 -0.9
baz=210
TAW eS Sn 14 40 37.5 -1.6
baz=210
EAST Anshuo 1.35 215⇑iP Pn 14 40 21.7 -0.9
baz=206
WSF Szhu 1.35 276⇑iP Pn 14 40 22.6 +0.1
baz=276
WSF eS Sn 14 40 39.2 -0.1
baz=276
CHN8 Yiju 1.36 264⇑iP Pn 14 40 23.1 +0.4
baz=263
CHN8 iS Sn 14 40 40.3 +0.7
baz=263
SCLT Jiali 1.41 257⇑iP Pn 14 40 24.1 +0.7
baz=256
SCLT S Sn 14 40 41.6 +0.9
baz=256
TAI1 Yung-k'ang 1.41 252 iP Pn 14 40 24.4 +1.0
baz=250
TAI1 S Sn 14 40 41.9 +1.0
baz=250
LAY Lan-yu 1.45 185 eP Pn 14 40 23.3 -0.7
baz=175
LAY eS Sn 14 40 40.4 -1.5
baz=175
HSN Hsinchu 1.46 333 ⇑P Pn 14 40 25.2 +1.2
baz=337
HSN eS Sn 14 40 43.7 +1.8
baz=337
TWA Mucha 1.48 356 P Pn 14 40 25.2 +0.9
baz=358
TWA S Sn 14 40 43.5 +0.9
baz=358
TATO Taipei 1.48 353 ePn Pn 14 40 24.5 +0.1
SCZT Fangliau 1.49 222⇑iP Pn 14 40 24.7 +0.3
baz=210
SCZT eS Sn 14 40 44.0 +1.3
baz=210
TWB1 Santiao Chiao 1.53 10⇑iP Pn 14 40 26.5 +1.4
baz=12
TWB1 S Sn 14 40 45.1 +1.4
baz=12
NCU National Centr 1.54 343 ⇑P Pn 14 40 26.5 +1.4
baz=344
NCU eS Sn 14 40 45.9 +2.0
baz=344
TAP1 Taipei 1.54 355 P Pn 14 40 25.8 +0.5
baz=356
TAP1 S Sn 14 40 44.5 +0.5
baz=356
YOJ Yonaguni jima 1.55 51 P Pn 14 40 26.8 +1.5
YOJ S Sn 14 40 45.8 +1.6
YOJ Yonaguni jima 1.55 51⇓iP Pn 14 40 26.8 +1.5
baz=53
YOJ iS Sn 14 40 45.8 +1.6
baz=53
KAU Kaohsiung 1.57 234 P Pn 14 40 27.1 +1.6
baz=247
NWF Wu-fen Shan 1.57 3 P Pn 14 40 26.6 +1.0
baz=357
NWF eS Sn 14 40 45.5 +0.8
baz=357
TWP Hsiaoliuchiu 1.67 227 eP Pn 14 40 29.1 +2.1
baz=240
TWP eS Sn 14 40 51.1 +3.9
baz=240
HEN Hengchun 1.72 211 eP Pn 14 40 28.7 +1.0
baz=208
HEN eS Sn 14 40 49.8 +1.4
baz=208
TWK1 Hengchun 1.74 208 P Pn 14 40 27.8 -0.2
baz=197
TWK1 eS Sn 14 40 47.7 -1.3
baz=197
TSEB Hengchuen, Pin 1.75 205 eS Sn 14 40 49.8 +0.8
baz=195
TWY Chenhua 1.77 358 eP Pn 14 40 28.9 +0.5
baz=359
PNG Penghu 1.96 273⇑iP Pn 14 40 30.6 -0.3
baz=272
PNG eS Sn 14 40 52.4 -1.8
baz=272
HATJ Hateruma jima 2.02 74 P Pn 14 40 33.2 +1.4
HATJ S Sn 14 40 57.7 +1.9
IRIF Iriomote-Funau 2.05 66 P Pn 14 40 33.7 +1.5
IRIF eS Sn 14 40 58.8 +2.3
PCYT Pengchaiyu 2.15 9 P Pn 14 40 34.2 +0.6
baz=21
PCYT S Sn 14 41 00.6 +1.5
baz=21
JKRS Kuro-shima 2.25 70 P Pn 14 40 36.6 +1.7
JKRS eS Sn 14 41 03.8 +2.3
JIJ Ishigaki jima 2.41 68 P Pn 14 40 38.2 +1.1
JIJ eS Sn 14 41 06.4 +1.0
JTJ Tarama 2.98 67 P Pn 14 40 46.1 +1.1
JTJ eS Sn 14 41 21.1 +1.6
KNM Kinmen 3.11 288⇑iP Pn 14 40 47.5 +0.7
baz=286
QZH Quanzhou 3.17 298 P Pn 14 40 46.5 -1.0
QZH S Sn 14 41 20.8 -3.3
QZH Smax
comp=N,7μm,0.7s
QZH Smax
comp=E,6μm,0.8s
QZH LR LR
comp=N,7μm,6.2s
QZH LR LR
comp=E,8μm,4.6s
QZH LR LR
comp=Z,16μm,14.3s
JMJ Miyako jima 2 3.55 68 P Pn 14 40 54.0 +1.3
JMJ eS Sn 14 41 35.1 +1.7
JMJ Miyako jima 2 3.55 68 eP Pn 14 40 52.9 +0.1
baz=71
JMJ eS Sn 14 41 34.8 +1.3
baz=71
JOGS Gusukube 3.63 69 P Pn 14 40 55.4 +1.6
JOGS eS Sn 14 41 37.2 +1.9
JKE Kume jima 2 5.42 58 P Pn 14 41 18.8 +0.3
JKE eS Sn 14 42 19.5 -0.1
CVP Callao Caves 5.76 179⇑⇑eP Pn 14 41 24.3 +1.1
CVP eS Sn 14 42 27.8 -0.3
JAGN Aguni-jima 5.91 57 P Pn 14 41 26.2 +1.1
JAGN eS Sn 14 42 30.6 -0.9
JJT2 Tamagusuku 2 6.11 63 P Pn 14 41 29.0 +1.1
JIH Iheya 6.69 57 P Pn 14 41 36.0 +0.1
JIH eS Sn 14 42 47.4 -3.4
JOW Kunigami 6.83 60 P Pn 14 41 37.1 -0.7
comp=Z,26nm,0.3s,baz=208,slow=9.8,SNR=54
JOW S Sn 14 42 51.1 -3.1
comp=Z,18nm,0.3s,baz=180,slow=27,SNR=2.9
JOW Kunigami 6.83 60 P Pn 14 41 37.1 -0.7
JOW eS Sn 14 42 51.8 -2.5
JOW Kunigami 6.83 60 eP Pn 14 41 36.7 -1.1
baz=64
BCPH Baguio City Da 7.15 189⇑iP Pn 14 41 43.7 +1.5
BCPH iS Sn 14 43 02.6 +0.4
BOLP Bolinao 7.27 194 eP Sn 14 43 19.6 +14
SSE Sheshan 7.58 357 P Pn 14 41 49.6 +1.5
SSE XP 14 42 04.0
SSE S Sn 14 43 15.8 +3.0
SSE AMB AMB
comp=Z,30nm,0.7s
SSE AMB AMB
comp=Z,38nm,3.1s
SSE LR LR
comp=N,317nm,6.5s
SSE LR LR
comp=E,2μm,6.5s
SSE LR LR
comp=Z,1μm,12.4s
JTK Tokunoshima 7.83 55 P Pn 14 41 49.9 -1.5
JTK eS Sn 14 43 14.9 -3.8
SCZP Santa Cruz 7.86 193 eP Sn 14 43 30.5 +11
JAM Amami Oshima 8.65 54 P Pn 14 42 00.9 -1.8
JAM eS Sn 14 43 34.0 -4.9
NJ2 Nanjing 8.88 344 eP Pn 14 42 05.0 -0.9
NJ2 S Sn 14 43 41.3 -3.4
NJ2 AMB AMB
comp=Z,20nm,0.8s
NJ2 Smax
comp=N,210nm,0.9s
NJ2 Smax
comp=E,310nm,1.0s
NJ2 LR LR
comp=N,650nm,6.7s
NJ2 LR LR
comp=Z,1μm,7.1s
JMZ Minamidaito 2 8.98 73 P Pn 14 42 04.1 -3.1
JMZ eS Sn 14 43 38.2 -8.8
WHN Wuhan 9.59 319 ⇑P Pn 14 42 14.1 -1.5
WHN S Sn 14 43 55.1 -7.0
WHN LR LR
comp=N,5μm,6.8s
WHN LR LR
comp=E,6μm,5.0s
WHN LR LR
comp=Z,4μm,17.3s
SJMP San Jose 10.99 183 eP Pn 14 42 37.9 +3.1
OTRP Odiongan 11.08 178 eP Pn 14 42 43.0 +6.9
QIZ Qiongzhong 11.90 250 P Pn 14 42 49.4 +2.1
QIZ XP 14 43 04.3
QIZ eS Sn 14 45 05.3 +6.6
QIZ LR LR
comp=N,1μm,15.8s
QIZ LR LR
comp=E,1μm,17.2s
QIZ LR LR
comp=Z,2μm,19.6s
ENPP El Nido 12.41 190 eP Pn 14 42 54.8 +0.5
TIA Tai'an 13.27 344 eP Pn 14 43 08.0 +2.1
TIA S Sn 14 45 32.0 -0.1
TIA LR LR
comp=N,574nm,6.0s
TIA LR LR
comp=E,1μm,6.0s
MSLP Maasin 13.63 167 eP Pn 14 43 19.3 +8.4
PPR Puerto Princes 13.93 192 eP Pn 14 43 24.9 +10
GYA Guiyang 13.94 285⇑iP Pn 14 43 15.3 +0.2
GYA AP 14 43 24.8
GYA XP 14 43 30.5
GYA S Sn 14 45 51.3 +2.9
GYA XS 14 46 04.8
GYA SS 14 46 08.9
GYA AMB AMB
comp=Z,40nm,1.0s
GYA LR LR
comp=N,860nm,10.4s
GYA LR LR
comp=E,2μm,12.5s
GYA LR LR
comp=Z,880nm,11.3s
KSRS Korea Array 14.91 20 P Pn 14 43 30.4 +2.4
comp=Z,1.6nm,0.3s,baz=196,slow=12,SNR=33
KSRS LR LR 14 50 04.8
comp=Z,614nm,18.9s,baz=198,slow=41
BATP Batararaza 15.08 195 eP Pn 14 43 32.7 +2.3
XAN Xi'an 15.34 316 P Pn 14 43 32.9 -0.7
XAN AP pP 14 43 40.6 -7.5
XAN PP 14 43 45.8
XAN XP sP 14 43 48.0 -5.8
XAN S S 14 46 20.8 -16
XAN SS 14 46 39.1
XAN PCP PcP 14 48 38.0 +1.7
XAN AMB AMB
comp=Z,35nm,1.3s
XAN AMB AMB
comp=Z,102nm,11.8s
XAN LR LR
comp=N,348nm,14.5s
XAN LR LR
comp=E,1μm,16.1s
XAN LR LR
comp=Z,2μm,17.1s
DAV Davao City (W) 16.75 166 LR LR 14 49 49.3
comp=Z,565nm,22.0s,baz=345,slow=35
KDM Kudat 17.13 197 ⇓P Pn 14 43 59.7 +3.2
BJI Beijing 17.14 346 P Pn 14 43 58.3 +1.9
BJI S S 14 47 07.1 -6.6
BJI AMB AMB
comp=Z,25nm,0.9s
BJI AMB AMB
comp=Z,193nm,4.8s
BJI LR LR
comp=N,774nm,14.3s
BJI LR LR
comp=E,414nm,18.8s
BJI LR LR
comp=Z,364nm,20.1s
KMI Kunming 17.35 279 P Pn 14 44 02.3 +3.2
KMI AP pP 14 44 10.1 -0.4
KMI PP 14 44 14.9
KMI S S 14 47 11.3 -6.8
KMI XS sS 14 47 26.0 -9.0
KMI SS 14 47 31.8
KMI AMB AMB
comp=Z,19nm,1.7s
KMI AMB AMB
comp=Z,139nm,3.3s
KMI LR LR
comp=N,783nm,10.0s
KMI LR LR
comp=E,2μm,12.8s
KMI LR LR
comp=Z,2μm,11.4s
CD2 Chengdu 17.56 299 P Pn 14 44 02.3 +0.6
CD2 AP pP 14 44 11.4 -1.5
CD2 XP sP 14 44 17.6 -0.9
CD2 PP 14 44 19.3
CD2 S S 14 47 15.6 -6.8
CD2 XS sS 14 47 29.5 -10
CD2 SS 14 47 37.9
CD2 AMB AMB
comp=Z,20nm,1.3s
CD2 AMB AMB
comp=Z,28nm,3.9s
CD2 LR LR
comp=N,3μm,6.6s
CD2 LR LR
comp=E,3μm,9.6s
CD2 LR LR
comp=Z,3μm,11.4s
KKM Kota Kinabalu 18.13 198 ⇓P Pn 14 44 12.5 +3.7
KKM Kota Kinabalu 18.13 198 ePn Pn 14 44 09.2 +0.4
SDKM Sandakan 18.27 194 ⇓P Pn 14 44 13.0 +2.5
SNY Shenyang 18.35 4 ⇑P Pn 14 44 13.9 +2.7
SNY AMB AMB
comp=Z,20nm,1.1s
SNY AMB AMB
comp=Z,69nm,3.5s
SNY LR LR
comp=N,380nm,22.0s
SNY LR LR
comp=E,696nm,16.5s
SNY LR LR
comp=Z,654nm,11.0s
MYLDM Lahad Datu 18.46 190 ⇑P Pn 14 44 14.5 +1.7
JHJ Hachijo jima 2 18.57 55 LR LR 14 51 09.4
comp=Z,316nm,20.1s,baz=247,slow=36
CBIJ Chichi jima 18.88 75 P Pn 14 44 17.4 -0.4
comp=Z,4.8nm,0.3s,baz=296,slow=23,SNR=6.4
CBIJ LR LR 14 51 17.4
comp=Z,259nm,18.4s,baz=294,slow=36
KKTK Khon Kaen 19.10 252 P Pn 14 44 23.0 +2.5
comp=Z,247nm,0.9s
HHC Hu-ho-hao-te 19.28 336 eP Pn 14 44 23.8 +1.3
HHC AP pP 14 44 33.8 +2.1
HHC PP 14 44 42.4
HHC S S 14 47 55.3 -1.7
HHC PCP PcP 14 48 43.8 +1.3
HHC AMB AMB
comp=Z,24nm,1.1s
HHC AMB AMB
comp=Z,192nm,6.3s
HHC LR LR
comp=N,655nm,11.7s
HHC LR LR
comp=E,994nm,10.2s
HHC LR LR
comp=Z,762nm,16.3s
MAJO Matsushiro 19.30 44 eP Pn 14 44 20.3 -2.4
MAJO pmax pmax
comp=Z,17nm,0.9s
MAJO Matsushiro 19.30 44 eP Pn 14 44 20.3 -2.4
comp=Z,17nm,0.9s
MAT Matsushiro 19.30 44 P Pn 14 44 19.8 -2.9
MAT eS S 14 47 55.0 -2.4
MJAR Matsushiro Arr 19.30 44 P Pn 14 44 20.8 -1.9
comp=Z,0.5nm,0.3s,baz=237,slow=9.2,SNR=11
MJAR LR LR 14 51 58.1
comp=Z,397nm,20.9s,baz=220,slow=37
TSM Tawau 19.44 191 ⇑P Pn 14 44 24.8 +0.3
BTO Baotou 19.68 333 eP Pn 14 44 27.3 +0.1
LZH Lanzhou 19.89 313 ⇑P Pn 14 44 29.6 -0.1
LZH XP sP 14 44 46.9 +2.8
LZH PP 14 44 49.5
LZH S S 14 48 06.5 -2.8
LZH XS sS 14 48 21.5 -4.9
LZH SS 14 48 35.0
LZH AMB AMB
comp=Z,147nm,1.5s
LZH AMB AMB
comp=Z,380nm,4.6s
LZH LR LR
comp=E,1μm,10.2s
LZH LR LR
comp=Z,2μm,12.1s
NANT Nan 20.12 261 ⇑P P 14 44 30.0 -0.4
comp=Z,181nm,1.0s
CN2 Changchun 20.49 8 eP P 14 44 34.9 +0.7
CN2 eAP 14 44 45.8
CN2 eXP sP 14 44 51.5 +0.9
CN2 eS S 14 48 16.8 -4.3
CN2 AMB AMB
comp=Z,10.0nm,0.8s
CN2 AMB AMB
comp=Z,200nm,8.0s
CN2 LR LR
comp=N,700nm,16.0s,MS4.3
CN2 LR LR
comp=E,800nm,16.0s,MS4.3
CN2 LR LR
comp=Z,700nm,17.0s,MS4.1
CHRT Chiangrai 20.67 264 ⇑P P 14 44 39.5 +3.1
comp=Z,210nm,1.0s
VLA Vladivostok 21.32 21 eP P 14 44 43.2 0.0
VLA eS S 14 48 38.0 +0.6
VLA pmax pmax
comp=Z,38nm,1.3s,mb4.6
VLA MLR MLR
comp=Z,300nm,17.0s,MS3.8
CHG Chiang Mai 21.71 262 ⇓P P 14 44 49.6 +2.1
comp=Z,26nm,0.9s,mb4.7
CHTO Chiang Mai 21.71 262 eP P 14 44 49.0 +1.5
CHTO pmax pmax
comp=Z,27nm,1.0s,mb4.6
CHTO Chiang Mai 21.71 262 eP P 14 44 49.0 +1.5
comp=Z,27nm,1.0s,mb4.6
NST Nakhon Sawan 21.73 253 P P 14 44 51.2 +3.4
CMAR Chiang Mai Arr 21.81 261 P P 14 44 50.3 +1.7
comp=Z,9.8nm,0.9s,mb4.2,baz=59,slow=8.1,SNR=61
CMAR PcP PcP 14 48 47.6 0.0
comp=Z,2.4nm,0.5s,baz=39,slow=0.5,SNR=13
CMAR LR LR 14 53 45.9
comp=Z,684nm,20.4s,MS4.0,baz=84,slow=38
CMAR Chiang Mai Arr 21.81 261 P P 14 44 50.3 +1.6
CMAR 14 48 47.6
BTM Bintulu 21.82 204 ⇑P P 14 44 48.9 +0.1
MDJ Mudanjiang 22.04 15 P P 14 44 51.8 +0.9
MDJ AP 14 45 00.1
MDJ XP sP 14 45 06.8 -0.5

MDJ S **S** **14 48 53.8 +2.4**
MDJ SCP ScP 14 52 21.5 +0.1
MDJ PCS PcS 14 52 26.3 +0.3
MDJ AMB AMB
comp=Z,3.0nm,0.9s
MDJ AMB AMB
comp=Z,32nm,5.6s
MDJ LR LR
comp=N,392nm,20.2s,MS4.0
MDJ LR LR
comp=E,467nm,19.8s,MS4.0
MDJ LR LR
comp=Z,487nm,18.9s,MS3.9
SBUM Sibu 22.84 205 ⇑P **P** **14 44 59.7 +0.1**
NNT Nongplab 23.49 246 P **P** **14 45 08.3 +2.1**
GUMO Guam 24.05 110 P **P** **14 45 11.4 0.0**
comp=Z,66nm,0.9s,mb5.1,baz=170,slow=15,SNR=5.7
GUMO LR LR 14 52 24.6
comp=Z,342nm,19.7s,MS3.8,baz=280,slow=31
GTA Gaotai 24.40 316 P **P** **14 45 14.4 +0.1**
GTA AP 14 45 26.1
GTA XP sP 14 45 31.4 0.0
GTA PP 14 45 52.3
GTA S **S** **14 49 31.3 +0.3**
GTA AMB AMB
comp=Z,3.0nm,1.0s
GTA AMB AMB
comp=Z,66nm,5.4s
GTA LR LR
comp=N,510nm,15.3s,MS4.4
GTA LR LR
comp=E,804nm,16.8s,MS4.4
GTA LR LR
comp=Z,1μm,16.5s,MS4.4
KSM Kuching 24.51 208 ⇓P **P** **14 45 16.5 +0.9**
KSM Kuching 24.51 208 *e*P **P** **14 45 15.3 -0.2**
KTGM Kuala Trenggan 25.41 228 ⇑P **P** **14 45 25.6 +1.9**
HIA Hailar 25.77 357 *e*P **P** **14 45 26.8 +0.2**
HIA pmax pmax
comp=Z,20nm,1.0s
HIA Hailar 25.77 357 *e*P **P** **14 45 26.8 +0.2**
comp=Z,20nm,1.0s,mb4.6
ASAJ Asahikawa 26.79 35 P **P** **14 45 36.3 +0.4**
comp=Z,5.1nm,0.4s,mb4.4,baz=237,slow=12,SNR=20
ASAJ LR LR 14 57 09.4
comp=Z,540nm,18.8s,MS4.1,baz=51,slow=38
KLR Kul'dur 26.88 15 *e*P **P** **14 45 33.2 -3.5**
KLR MLR MLR
comp=E,500nm,12.0s
KLR MLR MLR
comp=Z,2μm,12.0s,MS5.0
HABR Khabarovsk 27.09 20 *e*P **P** **14 45 37.6 -0.9**
HABR *e* pP 14 45 45.5 -4.9
HABR *e* 14 46 16.7
HABR *e* 14 48 55.6
HABR *e*S **S** **14 50 12.6 -0.9**
HABR *e* 14 50 28.2
HABR *e* 14 51 19.6
SHL Shillong 27.17 281 *e*P **P** **14 45 46.0 +6.5**
KULM Kulim 27.18 231 ⇓P **P** **14 45 41.4 +1.7**
SONM Songino Array 27.18 337 P **P** **14 45 39.1 -0.2**
comp=Z,6.4nm,0.8s,mb4.2,baz=153,slow=9.3,SNR=55
SONM PcP PcP 14 48 58.3 -0.5
comp=Z,0.8nm,0.5s,baz=137,slow=4.0,SNR=4.0
SONM LR LR 14 57 39.5
comp=Z,907nm,18.1s,MS4.4,baz=150,slow=39
SONM Songino Array 27.18 337 P **P** **14 45 39.1 -0.2**
SONM 14 48 58.3
IPM Ipoh 27.48 230 ⇓P **P** **14 45 43.2 +0.8**
MYKOM Kota Tinggi 27.64 221 ⇓P **P** **14 45 45.5 +1.6**
KGM Kluang 27.79 222 ⇓P **P** **14 45 46.5 +1.3**
LSA Lhasa 27.94 289 P **P** **14 45 49.0 +2.6**
LSA Lhasa 27.94 289 P **P** **14 45 48.1 +1.7**
LSA pmax pmax
comp=Z,18nm,0.6s,mb4.9
LSA Lhasa 27.94 289 P **P** **14 45 48.1 +1.7**
comp=Z,18nm,0.6s,mb4.9
KAPI Kappang 28.40 184 P **P** **14 45 48.8 -1.7**
comp=Z,12nm,0.6s,mb4.7,baz=339,slow=5.2,SNR=9.6
KAPI LR LR 14 57 23.6
comp=Z,280nm,19.4s,MS3.9,baz=6.2,slow=37
KAPI Kappang 28.40 184 P **P** **14 45 48.8 -1.7**
KAPI LR LR 14 57 23.6
YSS Yuzh-Sakhalins 28.88 31 *e*P **P** **14 45 57.0 +2.5**
YSS MLR MLR
comp=N,300nm,18.0s
YSS MLR MLR
comp=Z,300nm,18.0s,MS4.0
YSS Yuzh-Sakhalins 28.88 31 *e*P **P** **14 45 57.8 +3.2**
comp=Z,12nm,0.9s,mb4.6
ZAK Zakamensk 30.43 336 *e*P **P** **14 46 07.3 -0.9**
ZAK *e* 14 56 34.3
ZAK pmax pmax
comp=Z,3.0nm,1.2s,mb3.9
TAPN Taplejung 30.87 284 *e*P **P** **14 46 13.5 +1.1**
comp=Z,33nm,0.8s,mb5.2
ODAN Odare 31.16 283 *e*P **P** **14 46 16.3 +1.3**
comp=Z,37nm,1.2s,mb5.1
TLY Talaya 31.38 338 *e*P **P** **14 46 15.7 -0.9**
TLY *e*S **S** **14 51 30.0 +9.2**
TLY *e*SS SS 14 53 29.4 -6.9
TLY pmax pmax
comp=Z,5.0nm,0.9s,mb4.3
TLY MLR MLR
comp=Z,444nm,16.0s,MS4.2
RAMN Ramite 31.86 284 *e*P **P** **14 46 21.9 +0.7**
comp=Z,28nm,0.9s,mb5.1
GUN Gumba 32.49 285 *e*P **P** **14 46 27.9 +1.3**
comp=Z,54nm,0.9s,mb5.4
PKI Pulchoki 32.91 285 *e*P **P** **14 46 30.9 +0.6**
KKN Kakani 33.02 285 *e*P **P** **14 46 32.2 +0.9**
comp=Z,38nm,1.0s,mb5.3
KKN Kakani 33.02 285 *e*P **P** **14 46 32.2 +0.9**
KKN pmax pmax
comp=Z,38nm,1.0s,mb5.3
DMN Daman 33.18 285 *e*P **P** **14 46 33.6 +0.9**
BATI Baumata 33.55 176 LR LR 15 01 59.1
comp=Z,257nm,18.3s,MS4.0,baz=231,slow=39
GKN Gorkha 33.59 286 *e*P **P** **14 46 36.3 +0.1**
comp=Z,47nm,1.2s,mb5.3
DANN Dangsing 34.35 286 *e*P **P** **14 46 43.6 +0.7**
comp=Z,35nm,0.8s,mb5.3
WMQ Urumqi 34.46 314 ⇑P **P** **14 46 44.3 +0.7**
WMQ AP pP 14 46 56.8 +1.2
WMQ XP sP 14 47 01.8 +0.9
WMQ PP PP 14 48 01.1 -1.1
WMQ PCP PcP 14 49 19.3 +1.2
WMQ S **S** **14 52 08.3 -0.6**
WMQ XS sS 14 52 28.8 -0.1
WMQ AMB AMB
comp=Z,130nm,4.3s
WMQ LR LR
comp=N,258nm,16.3s,MS4.2
WMQ LR LR
comp=E,305nm,16.3s,MS4.2
WMQ LR LR
comp=Z,289nm,17.0s,MS4.1
KOLN Koldanda 34.51 285 *e*P **P** **14 46 44.8 +0.6**
comp=Z,26nm,0.9s,mb5.2
BOD Bodaibo 34.74 353 *e*P **P** **14 46 43.1 -2.7**
BOD pmax pmax
comp=Z,4.0nm,2.0s,mb4.0
KAKA Kakadu 37.49 163 *e*P **P** **14 47 04.6 -5.1**
comp=Z,32nm,0.7s,mb5.3
KRAR Krasnoyarsk 38.76 334 *e*P **P** **14 47 18.3 -1.7**
KRAR pmax pmax
comp=Z,9.0nm,0.8s,mb4.5
YAK Yakutsk 38.90 6⇑ *e*P **P** **14 47 19.4 -1.7**
YAK pmax pmax
comp=Z,19nm,1.0s,mb4.8
YAK Yakutsk 38.90 6 *e*P **P** **14 47 18.9 -2.2**
comp=Z,14nm,0.7s,mb4.8
MK31 Makanchi Array 39.15 316 *i*P **P** **14 47 23.2 -0.2**
MK31 pmax pmax
comp=Z,24nm,0.9s,mb4.9
MK31 Makanchi Array 39.15 316 *e*P **P** **14 47 23.6 +0.1**
MKAR Makanchi Array 39.15 316 P **P** **14 47 23.7 +0.2**
comp=Z,16nm,0.8s,mb4.8,baz=110,slow=10,SNR=93
MKAR PcP PcP 14 49 31.7 -0.6
comp=Z,2.2nm,0.8s,baz=96,slow=4.6,SNR=3.6
MKAR LR LR 15 05 01.1
comp=Z,582nm,18.2s,MS4.5,baz=241,slow=38
MKAR Makanchi Array 39.15 316⇑ *e*P **P** **14 47 23.7 +0.3**
MKAR Makanchi Array 39.15 316 P **P** **14 47 23.7 +0.2**
MKAR PcP PcP 14 49 31.7 -0.6

MKAR LR LR 15 05 01.1
PETK Petropavlovsk- 40.18 33 P **P** **14 47 33.5 +1.5**
comp=Z,3.6nm,0.7s,mb4.2,baz=214,slow=2.9,SNR=6.9
PETK LR LR 15 04 27.0
comp=Z,231nm,19.6s,MS4.0,baz=231,slow=36
PETK Petropavlovsk- 40.18 33 P **P** **14 47 33.5 +1.5**
PETK LR LR 15 04 27.0
PET Petropavlovsk 40.62 34 *e*P **P** **14 47 36.7 +1.1**
PET *e*S **S** **14 53 40.9 -1.2**
PET pmax pmax
comp=Z,25nm,1.2s,mb4.7
PET pmax pmax
comp=Z,100nm,5.8s
HYB Hyderabad 40.75 270 *i*P **P** **14 47 39.0 +1.9**
HYB Hyderabad 40.75 270 *e*P **P** **14 47 39.0 +1.9**
ZAA0 Zalesovo Array 41.07 327 *e*P **P** **14 47 38.2 -1.0**
ZALV Zalesovo Beam 41.07 327 P **P** **14 47 38.2 -1.1**
comp=Z,19nm,0.7s,mb4.8,baz=114,slow=8.1,SNR=77
ZALV PcP PcP 14 49 36.6 -1.6
comp=Z,1.6nm,0.5s,baz=110,slow=4.8,SNR=2.8
ZALV LR LR 15 05 54.9
comp=Z,233nm,20.0s,MS4.0,baz=232,slow=38
ZALV Zalesovo Beam 41.07 327 P **P** **14 47 38.2 -1.0**
ZALV 14 49 36.6
ZALV Zalesovo Beam 41.07 327 P **P** **14 47 38.2 -1.1**
ZALV PcP PcP 14 49 36.6 -1.6
ZALV LR LR 15 05 54.9
PMG Port Moresby 41.11 140*d* *i*P **P** **14 47 39.3 -0.7**
FITZ Fitzroy Crossi 41.52 174 *e*P **P** **14 47 40.7 -2.6**
comp=Z,15nm,0.6s,mb4.8
FITZ Fitzroy Crossi 41.52 174 LR LR 15 07 25.5
comp=Z,51nm,19.2s,MS3.4,baz=0.0,slow=40
NVS Novosibirsk 42.33 328 *e*P **P** **14 47 48.5 -1.0**
NVS pmax pmax
comp=Z,19nm,1.6s,mb4.5
NVS pmax pmax
comp=N,6.0nm,1.5s
NVS pmax pmax
comp=E,11nm,1.5s
TKM2 Tokmak 2 42.55 309 *e*P **P** **14 47 52.7 +1.2**
TKM2 pmax pmax
comp=Z,15nm,0.8s,mb4.8
TKM2 Tokmak 2 42.55 309 P **P** **14 47 52.9 +1.4**
SNR=25
TKM2 Tokmak 2 42.55 309 *e*P **P** **14 47 52.6 +1.2**
comp=Z,15nm,0.8s,mb4.8
COEN Coen 42.75 148 *e*P **P** **14 47 54.7 +1.3**
comp=Z,11nm,0.7s,mb4.7
KURK Kurchatov 42.91 320 P **P** **14 47 54.3 0.0**
comp=Z,89nm,1.1s,mb5.4,SNR=14
KURK Kurchatov 42.91 320⇑ *e*P **P** **14 47 54.0 -0.3**
KURK pmax pmax
comp=Z,15nm,1.0s,mb4.7
KURK Kurchatov 42.91 320 *e*P **P** **14 47 53.6 -0.7**
comp=Z,15nm,0.9s,mb4.7
KBK Karagaybulak 42.96 308 P **P** **14 47 56.5 +1.6**
SNR=11
CHMS Chumysh 43.17 308 P **P** **14 47 57.4 +0.8**
SNR=8.0
UCH Uchtor 43.20 307 P **P** **14 47 58.9 +2.2**
SNR=28
UCH Uchtor 43.20 307 *e*P **P** **14 47 58.6 +1.8**
comp=Z,26nm,1.1s,mb4.9
FRU Bishkek 43.24 308 *e*P **P** **14 47 58.0 +0.9**
AAK Ala-Archa 43.29 308 P **P** **14 47 58.7 +1.2**
SNR=7.0
USP Ospenovka 43.41 309 P **P** **14 47 59.0 +0.6**
SNR=11
AML Almayashu 43.78 307 P **P** **14 48 03.4 +1.9**
SNR=27
AML Almayashu 43.78 307 *e*P **P** **14 48 02.6 +1.1**
comp=Z,22nm,1.0s,mb4.8
EKS2 Erkin-Say 43.81 308 P **P** **14 48 02.8 +1.1**
SNR=14
EKS2 Erkin-Say 43.81 308 *e*P **P** **14 48 02.5 +0.8**
comp=Z,7.5nm,0.7s,mb4.5
SEY Seymchan 44.47 19⇑ *e*P **P** **14 48 07.1 +0.5**
POO Poona 44.77 273 *e*P **P** **14 48 09.0 -0.7**
WRAB Tennant Creek 44.90 163 P **P** **14 48 09.9 -0.6**
comp=Z,240nm,0.6s,mb6.2,SNR=16
WRAB Tennant Creek 44.90 163 *e*P **P** **14 48 09.1 -1.4**
comp=Z,29nm,0.9s,mb5.1
WRA Warramunga Arr 44.90 163 P **P** **14 48 09.3 -1.2**
comp=Z,25nm,0.7s,mb5.2,baz=344,slow=8.8,SNR=252
WB2 Warramunga Ar 44.91 163 *e*P **P** **14 48 09.3 -1.3**
KK31 Karatay Array 46.25 308 *i*P **P** **14 48 21.7 +0.6**
KK31 pmax pmax
comp=Z,3.0nm,0.4s,mb4.6
KBL Kabul 46.87 296 *e*P **P** **14 48 26.7 +0.6**
KBL pmax pmax
comp=Z,57nm,1.3s,mb5.3
KBL Kabul 46.87 296 *e*P **P** **14 48 26.7 +0.6**
comp=Z,57nm,1.3s,mb5.3
TIXI Tiksi 48.35 3*d* *i*P **P** **14 48 35.5 -1.5**
TIXI pmax pmax
comp=Z,17nm,1.3s,mb4.9
TIXI MLR MLR
comp=Z,439nm,19.0s,MS4.5
TIXI Tiksi 48.35 3 *e*P **P** **14 48 35.7 -1.3**
comp=Z,9.1nm,0.8s,mb4.9
ASAR Alice Springs 48.36 165 P **P** **14 48 37.0 -0.6**
comp=Z,21nm,1.1s,mb5.1,baz=344,slow=7.2,SNR=132
BVA0 Borovoye Array 48.50 321 P **P** **14 48 37.7 -0.7**
BVA0 pmax pmax
comp=Z,3.0nm,1.1s,mb4.2
BRVK Borovoye 48.57 321 P **P** **14 48 39.3 +0.4**
comp=Z,125nm,0.9s,mb5.9,SNR=9.8
BRVK Borovoye 48.57 321 *e*P **P** **14 48 38.6 -0.3**
BRVK pmax pmax
comp=Z,30nm,0.9s,mb5.3
BRVK Borovoye 48.57 321 *e*P **P** **14 48 38.5 -0.3**
comp=Z,30nm,0.9s,mb5.3
SMY Shemya 49.06 40 *e*P **P** **14 48 41.9 -0.8**
SMY pmax pmax
comp=Z,596nm,1.8s,mb6.3
SMY MLR MLR
comp=Z,100nm,22.0s,MS3.8
SMY Shemya 49.06 40 *e*P **P** **14 48 41.9 -0.8**
comp=Z,596nm,1.8s,mb6.3
SMY LR LR
comp=Z,100nm,22.0s,MS3.8
CTA Charters Tower 49.50 149 *e*P **P** **14 48 47.3 +0.9**
comp=Z,6.7nm,0.8s,mb4.7
CTA Charters Tower 49.50 149 P **P** **14 48 47.2 +0.8**
comp=Z,6.3nm,0.7s,mb4.8,baz=331,slow=12,SNR=8.9
CTA LR LR 15 07 55.2
comp=Z,170nm,18.8s,MS4.1,baz=141,slow=34
CTA Charters Tower 49.50 149 *e*P **P** **14 48 47.3 +0.9**
CTA pmax pmax
comp=Z,7.0nm,0.8s
HNR Honiara 49.71 127 LR LR 15 08 22.7
comp=Z,80nm,19.8s,MS3.7,baz=328,slow=34
BILL Bilibino 52.18 20⇑ *e*P **P** **14 49 06.1 +0.2**
BILL *e* 14 51 05.3
BILL *e*S **S** **14 56 34.5 +7.5**
BILL pmax pmax
comp=Z,18nm,1.0s,mb5.0
BILL MLR MLR
comp=Z,200nm,16.0s,MS4.2
BILL Bilibino 52.18 20 *e*P **P** **14 49 05.9 -0.1**
comp=Z,11nm,0.8s,mb4.8
AB31 Akbulak array 54.25 315 *i*P **P** **14 49 21.4 -0.1**
AB31 pmax pmax
comp=Z,10.0nm,0.7s,mb4.8
FORT Forrest 54.31 173 *e*P **P** **14 49 21.5 -0.5**
comp=Z,34nm,0.6s,mb5.5
SVE Sverdlovsk 54.87 324 *e*P **P** **14 49 24.3 -1.6**
SVE *e*S S 14 57 25.6 +22
SVE pmax pmax
comp=Z,22nm,0.9s,mb5.2
KLBR Kellerberrin 54.90 184 *e*P **P** **14 49 25.0 -1.3**
comp=Z,16nm,0.5s,mb5.3
ABKT Ailbek 55.54 301 P **P** **14 49 32.1 +1.1**
comp=Z,76nm,1.1s,mb5.6,SNR=6.2
ARU Arti 55.93 323⇑ *e*P **P** **14 49 33.0 -0.5**
ARU pmax pmax
comp=Z,22nm,1.0s,mb5.1
ARU Arti 55.93 323 *e*P **P** **14 49 30.2 -3.3**
comp=Z,15nm,0.6s,mb5.2
NWAO Narrogin (SRO) 56.27 185 P **P** **14 49 34.8 -1.3**
comp=Z,14nm,0.9s,mb5.0,baz=158,slow=23,SNR=5.9
NWAO LR LR 15 12 27.9
comp=Z,86nm,21.1s,MS3.8,baz=133,slow=35
STKA Stephens Creek 58.26 160 *e*P **P** **14 49 50.2 0.0**
comp=Z,20nm,0.7s,mb5.3
STKA Stephens Creek 58.26 160 P **P** **14 49 49.9 -0.3**

comp=Z,23nm,0.8s,mb5.3,baz=335,slow=6.8,SNR=56
STKA LR LR 15 15 04.6
comp=Z,111nm,21.1s,MS4.0,baz=23,slow=36
CNB Canberra Magne 64.10 155 *e*P **P** **14 50 30.3 +0.6**
SDPT Sand Point 64.16 38 *e*P **P** **14 50 28.9 -1.0**
comp=Z,44nm,0.6s,mb5.7
TOO Toolangi 64.74 159 *e*P **P** **14 50 34.5 +0.7**
CHGN Chignik 65.24 37 *e*P **P** **14 50 35.8 -1.1**
GNI Garni 65.57 305⇑ *e*P **P** **14 50 39.8 +0.4**
GNI pmax pmax
comp=Z,15nm,1.2s
MIB Mutribah 65.71 293 *e*P **P** **14 50 39.4 -1.1**
baz=293
MIB AMb AMB 14 50 40.4
comp=Z,38nm,0.7s,mb5.5,baz=293
RDF Al-Radifah 65.75 292 *e*P **P** **14 50 39.8 -0.9**
baz=292
RDF AMb AMB 14 50 41.6
comp=Z,73nm,0.6s,mb5.9,baz=292
NAY Al-Naaiem 65.93 293 *e*P **P** **14 50 40.7 -1.2**
baz=293
NAY AMb AMB 14 50 43.5
comp=Z,25nm,0.8s,mb5.3,baz=293
VRHR Novokhopersk 65.95 317 *e*P **P** **14 50 40.6 -1.0**
VRHR pmax pmax
comp=Z,40nm,0.7s,mb5.6
VRHR pmax pmax
comp=N,40nm,0.9s
VRHR pmax pmax
comp=E,20nm,0.7s
KLMR Klimovskoe 65.99 328 *e*P **P** **14 50 40.2 -1.5**
KLMR pmax pmax
comp=Z,34nm,1.5s,mb5.2
RST Umm Al-Ruwaisa 66.07 293 *e*P **P** **14 50 41.3 -1.6**
baz=293
RST AMb AMB 14 50 42.7
comp=Z,24nm,1.0s,mb5.2,baz=293
SVW2 Sparrevohn 66.24 32 *e*P **P** **14 50 44.4 +1.1**
KIV Kislovodsk 66.38 309 *e*P **P** **14 50 45.1 +0.6**
KIV pmax pmax
comp=Z,26nm,0.9s,mb5.3
KIV MLR MLR
comp=Z,116nm,18.0s,MS4.1
BHD Baghdad 67.33 298 *ex* x 14 50 54.0
VSR Storozhevoye 67.46 318 *e*P **P** **14 50 50.2 -1.0**
VSR pmax pmax
comp=N,10.0nm,0.9s
VSR pmax pmax
comp=Z,10.0nm,0.9s,mb4.8
VSR pmax pmax
comp=E,10.0nm,0.8s
MSL Mosul 67.61 301 *ex* x 14 50 55.0
PPLA Purkeypile 67.62 30 *e*P **P** **14 50 53.1 +1.0**
comp=E,48nm,1.2s,mb5.4
COLD Coldfoot 67.86 25 *e*P **P** **14 50 52.6 -0.8**
comp=E,19nm,1.3s,mb5.0
APA Apatity 67.88 336⇑ *e*P **P** **14 50 52.6 -1.0**
APA pmax pmax
comp=Z,16nm,1.0s,mb5.0
BPAW Bear Paw Mtn. 67.98 28 *e*P **P** **14 50 55.1 +0.8**
comp=Z,20nm,1.1s,mb5.1
KTH Kantishna Hill 68.09 29 *e*P **P** **14 50 55.4 +0.4**
comp=Z,20nm,1.1s,mb5.0
KDAK Kodiak Island 68.20 35 P **P** **14 50 56.0 +0.2**
comp=Z,312nm,0.7s,mb6.5,SNR=11
KDAK Kodiak Island 68.20 35 *e*P **P** **14 50 56.2 +0.4**
comp=Z,28nm,0.6s,mb5.5
OBN Obninsk 68.32 322⇑ *e*P **P** **14 50 54.6 -2.0**
OBN *e*S S 14 59 53.6 -0.6
OBN pmax pmax
comp=Z,16nm,1.2s,mb4.9
OBN MLR MLR
comp=Z,100nm,19.0s,MS4.1
TRF Thorofare Moun 68.39 29 *e*P **P** **14 50 57.1 +0.3**
comp=Z,21nm,1.1s,mb5.1
SOC Sochi 68.56 309*c* *i*P **P** **14 50 56.9 -1.4**
SOC *e**PP pP 14 51 07.5 -3.7
SOC *e**SP sP 14 51 12.3 -4.0
SOC *e* 14 51 21.6
SOC *e* 14 53 31.8
SOC *e*S S 14 59 56.1 -1.4
SOC *e* 15 00 51.7
SOC *e*SS SS 15 04 27.2 +5.4
SOC pmax pmax
comp=Z,22nm,0.9s,mb5.1
MCK McKinley 68.94 28 *e*P **P** **14 51 00.2 -0.1**
MCK pmax pmax
comp=Z,36nm,1.2s,mb5.2
MCK McKinley 68.94 28 *e*P **P** **14 51 00.2 -0.1**
comp=Z,36nm,1.2s,mb5.2
COLA College 69.19 27 *e*P **P** **14 51 02.5 +0.7**
COLA pmax pmax
comp=Z,6.0nm,0.7s,mb4.6
COLA College 69.19 27 *e*P **P** **14 51 02.5 +0.7**
comp=Z,5.8nm,0.7s,mb4.6
PMR Palmer 69.24 31 *e*P **P** **14 51 02.5 +0.3**
PMR pmax pmax
comp=Z,9.0nm,0.6s,mb4.9
PMR Palmer 69.24 31 *e*P **P** **14 51 02.5 +0.3**
comp=Z,9.0nm,0.6s,mb4.9
SEW Seward 69.38 32 *e*P **P** **14 51 02.9 -0.2**
JOF Joensuu 69.53 331 *e*p **P** **14 51 02.9 -1.0**
comp=Z,9.9nm,0.5s,mb5.0
JOF Joensuu 69.53 331 *e*P **P** **14 51 02.9 -1.0**
JOF pmax pmax
comp=Z,10.0nm,0.5s,mb5.0
KEV Kevo 69.78 338 *e*p **P** **14 51 04.4 -1.0**
comp=Z,4.0nm,0.6s,mb4.5
KEV Kevo 69.78 338 *e*P **P** **14 51 04.4 -1.0**
KEV pmax pmax
comp=Z,4.0nm,0.6s,mb4.5
ANN Anapa 69.89 311 *e*P **P** **14 51 05.2 -1.3**
ANN *e*S S 15 00 14.1 +1.0
ANN pmax pmax
comp=Z,36nm,1.0s,mb5.3
ANN MLR MLR
comp=Z,247nm,15.0s,MS4.6
ARCES ARCESS Array B 70.35 338 P **P** **14 51 08.8 0.0**
comp=Z,2.8nm,0.8s,mb4.3,baz=71,slow=9.1,SNR=15
ARCES LR LR 15 23 52.0
comp=Z,121nm,18.9s,MS4.2,baz=174,slow=37
KAF Kangasniemi 71.98 331 *e*p **P** **14 51 17.5 -1.3**
comp=Z,7.6nm,0.7s,mb4.7,baz=74,slow=5.7
KAF Kangasniemi 71.98 331 *e*P **P** **14 51 17.5 -1.3**
KAF pmax pmax
comp=Z,8.0nm,0.7s,mb4.8
SIM Simferopol' 72.14 312 *e*P **P** **14 51 21.0 +0.9**
SIM pmax pmax
comp=Z,18nm,0.8s,mb5.0
SIM MLR MLR
comp=Z,140nm,17.1s,MS4.3
DAWY Dawson 72.94 27 *e*P **P** **14 51 24.4 -0.2**
DAWY *e* pP 14 51 37.6 +0.1
AKASG Malin Array Be 73.69 319 P **P** **14 51 28.1 -1.1**
comp=Z,4.4nm,0.6s,mb4.5,baz=61,slow=5.9,SNR=18
AKASG Malin Array Be 73.69 319 *i*P **P** **14 51 28.1 -1.1**
AKASG pmax pmax
comp=Z,4.0nm,0.6s
BR131 Keskin Array S 73.95 307 *e*P **P** **14 51 30.7 -0.3**
comp=Z,12nm,0.9s,mb4.8
ANTO Ankara 74.53 307 ⇓P **P** **14 51 34.0 -0.3**
HYT Haines Junctio 74.86 30 *e*P **P** **14 51 36.7 +0.8**
HYT *e* pP 14 51 49.6 +0.7
AFI Afiamalu 74.92 113 LR LR 15 18 21.5
comp=Z,96nm,20.9s,MS4.1,baz=118,slow=31
CSS Prodhromos 75.65 302 *e*P **P** **14 51 40.0 -0.9**
comp=Z,28nm,0.8s,mb5.2
SUW Suwalki 76.12 323 *e*P **P** **14 51 42.6 -0.6**
SUW Suwalki 76.12 323 *e*P **P** **14 51 42.6 -0.6**
TIRR Tirgusor 76.16 313 ⇑P **P** **14 51 43.5 -0.1**
SKAG Skagway 76.38 31 *e*P **P** **14 51 46.3 +1.8**
comp=Z,18nm,0.8s,mb5.0
HARR Harsova 76.41 313 P **P** **14 51 45.2 +0.2**
VRI Vrincioaia 76.81 314 P **P** **14 51 47.6 +0.3**
PLOR Plostina 76.87 314 P **P** **14 51 48.4 +0.8**
BUR08 Bucovina Ar. S 77.18 316 *e*P **P** **14 51 48.5 -0.8**
BURAR Bucovina Array 77.18 316 ⇓P **P** **14 51 49.1 -0.2**
MLR Muntele Rosu 77.46 314 ⇓P **P** **14 51 51.0 +0.1**
KWP Kalwaria 77.99 319 *e*P **P** **14 51 54.0 +0.2**
KWP Kalwaria 77.99 319 *e*P **P** **14 51 54.0 +0.2**
VOIR 78.06 314 ⇓P **P** **14 51 53.8 -0.5**
KOLS Kolonicke sedl 78.52 318 *e*P **P** **14 51 56.0 -0.7**
STHS Stebnicka Huta 78.96 319 *e*P **P** **14 51 58.7 -0.4**
STHS pmax pmax
comp=Z,3.0nm,0.8s,mb4.3

STHS	Stebnicka Huta	78.96	319	eP		P	14 51 58.7	-0.4
	comp=Z,2.5nm,0.8s,mb4.2							
CRVS	Cervenica-Dubn	79.03	319	eP		P	14 51 58.8	-0.7
NOA	NORSAR Array B	79.05	332	P		P	14 51 58.1	-1.2
	comp=Z,12nm,0.7s,mb4.9,baz=59,slow=5.6,SNR=33							
NOA				LR		LR	15 29 57.4	
	comp=Z,228nm,20.1s,MS4.5,baz=25,slow=38							
NOA	NORSAR Array B	79.05	332	P		P	14 51 58.1	-1.2
NOA				LR		LR	15 29 57.4	
DRGR		79.07	316	P		P	14 51 59.6	-0.2
NAO01	NORSAR Array S	79.28	332	eP		P	14 51 59.4	-1.2
	comp=Z,4.7nm,0.5s,mb4.7							
OJC	Ojcow	79.50	320	eP		P	14 52 01.6	-0.4
NIE	Niedzica	79.52	319	eP		P	14 52 02.7	+0.5
GZR	Gura Zlata	79.57	315	P		P	14 52 02.8	+0.3
VTS	Vitosha	80.37	312	⇑P		P	14 52 06.5	-0.4
PSZ	Piszkesteto	80.38	318	⇓P		P	14 52 07.1	+0.2
TIM	Timisoara	80.44	316	⇓P		P	14 52 07.1	-0.1
URZ	Urewera	80.46	139	LR		LR	15 28 27.6	
	comp=Z,83nm,18.1s,MS4.1,baz=134,slow=36							
VYHS	Vyhne	80.78	319	eP		P	14 52 08.8	-0.2
MORC	Moravsky Berou	81.00	320	eP		P	14 52 09.1	-1.1
MORC				pmax		pmax		
	comp=Z,5.0nm,0.9s,mb4.4							
MORC	Moravsky Berou	81.00	320	eP		P	14 52 09.1	-1.0
	comp=Z,5.4nm,0.9s,mb4.5							
KOLL	Kolacno	81.01	319	eP		P	14 52 10.4	+0.2
KSP	Ksiaz	81.25	322	eP		P	14 52 11.4	0.0
KSP	Ksiaz	81.25	322	eP		P	14 52 11.1	-0.4
VAY	Valandovo	81.30	311	⇑iP		P	14 52 10.3	-1.6
DPC	Dobruska-Polom	81.46	321	eP		P	14 52 12.5	-0.1
DPC				epP		pP	14 52 24.9	-0.9
UPC	Upice	81.56	322	eP		P	14 52 12.9	-0.2
UPC				epP		pP	14 52 28.5	+2.2
VRAC	Vranov	81.76	320	P		P	14 52 14.2	0.0
MODS	Modra-Piesok	81.77	319	eP		P	14 52 12.1	-2.2
SKO	Skopje	81.82	312	⇑iP		P	14 52 14.6	-0.1
PKSM	Moragy	81.87	317	⇓P		P	14 52 13.8	-1.0
ZST	Bratislava	81.95	319	eP		P	14 52 11.4	-3.8
KRUS	Krusevo	82.19	312	iP		P	14 52 15.7	-1.0
PVCC	Panska Ves	82.37	322	eP		P	14 52 17.1	-0.3
TREC	Trest	82.42	321	eP		P	14 52 17.2	-0.4
BRG	Berggiesshubel	82.56	323	eP		P	14 52 17.7	-0.7
BRG				pmax		pmax		
	comp=Z,7.0nm,1.2s,mb4.6							
BRG				pmax		pmax		
	comp=Z,7.0nm,1.3s,mb4.5							
BRG	Berggiesshubel	82.56	323	eP		P	14 52 17.8	-0.6
	comp=Z,8.0nm,1.0s,mb4.7							
BRG	Berggiesshubel	82.56	323	eP		P	14 52 17.7	-0.7
	comp=Z,11nm,1.1s,mb4.8							
BRG				e			14 52 20.3	
	comp=Z,11nm,1.3s							
OHR	Ohrid	82.61	312	⇑iP		P	14 52 16.1	-2.7
PRU	Pruhonice	82.64	322	eP		P	14 52 17.9	-0.9
CONA	Conrad Observa	82.82	319	⇑iP		P	14 52 19.8	0.0
	comp=Z,14nm,1.2s,mb4.8							
CSNA	Conrad Observa	82.82	319	⇑iP		P	14 52 19.6	-0.1
	comp=Z,14nm,1.4s,mb4.8							
FBE	Freiberg	82.87	323	eP		P	14 52 19.5	-0.4
	comp=Z,22nm,1.0s,mb5.1							
CLL	Collm	82.88	323	⇑iP		P	14 52 19.2	-0.8
CLL				pmax		pmax		
	comp=Z,19nm,1.0s,mb5.1							
CLL				MLR		MLR		
	comp=Z,200nm,21.5s,MS4.5							
CLL	Collm	82.88	323	eP		P	14 52 19.1	-0.9
	comp=Z,19nm,1.0s,mb5.1							
CLL	Collm	82.88	323	⇑iP		P	14 52 19.2	-0.8
	comp=Z,19nm,1.0s,mb5.1							
CLL				Lm			15 33 00.0	
	comp=Z,200nm,21.5s							
BSEG	Bad Segeberg	83.00	326	eP		P	14 52 19.5	-1.0
BSEG				pmax		pmax		
	comp=Z,12nm,1.0s,mb4.9							
BSEG	Bad Segeberg	83.00	326	eP		P	14 52 19.5	-1.0
	comp=Z,12nm,1.0s,mb4.9							
YKA	Yellowknife Ar	83.42	23	P		P	14 52 22.2	-0.4
	comp=Z,3.1nm,0.6s,mb4.5,baz=308,slow=4.9,SNR=9.7							
YKA	Yellowknife Ar	83.42	23	⇑eP		P	14 52 23.1	+0.5
KHC	Kasperske Hory	83.60	321	eP		P	14 52 23.6	-0.1
TANN	Tannenbergstha	83.61	323	eP		P	14 52 23.0	-0.8
	comp=Z,7.0nm,0.9s,mb4.8							
GERES	GERESS Array B	83.67	321	P		P	14 52 23.9	-0.2
	comp=Z,12nm,0.8s,mb5.1,baz=57,slow=4.9,SNR=82							
WERD	Werda	83.68	323	eP		P	14 52 23.6	-0.5
	comp=Z,14nm,1.1s,mb5.0							
NKC	Novy Kostel	83.71	322	eP		P	14 52 23.5	-0.8
GUNZ	Gunzen	83.71	323	eP		P	14 52 23.7	-0.6
	comp=Z,19nm,1.0s,mb5.2							
WERN	Wernitzgruen	83.72	322	eP		P	14 52 23.8	-0.5
	comp=Z,14nm,0.9s,mb5.1							
MOA	Molln	83.81	320	⇑iP		P	14 52 24.0	-0.9
	comp=Z,18nm,0.8s,mb5.2							
PERS	Pernice	83.86	318	eP		P	14 52 24.4	-0.8
SOKA	Soboth	83.90	318	⇑iP		P	14 52 24.8	-0.5
	comp=Z,11nm,0.8s,mb5.0							
MOX	Moxa	83.97	323	eP		P	14 52 25.1	-0.5
	comp=Z,16nm,1.1s,mb5.1							
MOX	Moxa	83.97	323	eP		P	14 52 25.1	-0.5
MOX				pmax		pmax		
	comp=Z,16nm,1.1s,mb5.1							
MOX	Moxa	83.97	323	eP		P	14 52 25.0	-0.6
	comp=Z,12nm,0.9s,mb5.0							
WET	Wettzell	84.00	321	eP		P	14 52 25.7	-0.1
ABPO	Ambohimpanom	84.01	246	eP		P	14 52 26.5	+0.2
	comp=Z,41nm,1.1s,mb5.5							
MANZ	Manzenberg	84.02	322	eP		P	14 52 25.5	-0.4
	comp=Z,8.0nm,0.9s,mb4.8							
CLZ	Clausthal	84.04	324	eP		P	14 52 25.7	-0.2
CLZ				pmax		pmax		
	comp=Z,23nm,0.9s,mb5.3							
CLZ	Clausthal	84.04	324	eP		P	14 52 25.7	-0.2
	comp=Z,23nm,0.9s,mb5.3							
ROTZ	Rotzenmuhle	84.07	322	eP		P	14 52 26.0	-0.1
	comp=Z,16nm,1.0s,mb5.1							
OBKA	Obir	84.27	318	⇑iP		P	14 52 26.6	-0.6
	comp=Z,11nm,0.9s,mb5.0							
BOJS	Bojanci	84.31	317	iP		P	14 52 27.0	-0.4
LJU	Ljubljana	84.50	318	eP		P	14 52 27.6	-0.8
GRA1	Grafenberg Arr	84.66	322	eP		P	14 52 28.7	-0.4
	comp=Z,17nm,0.7s,mb5.3							
GRF	Grafenberg Arr	84.66	322	eP		P	14 52 28.7	-0.4
GRF				pmax		pmax		
	comp=Z,17nm,0.7s,mb5.3							
GRF	Grafenberg Arr	84.66	322	eP		P	14 52 28.7	-0.4
GRF				pmax		pmax		
	comp=Z,17nm,0.7s,mb5.3							
GRF	Grafenberg Arr	84.66	322	eP		P	14 52 28.7	-0.4
	comp=Z,17nm,0.7s,mb5.3							
RJOB	Jochberg	84.73	320	eP		P	14 52 29.4	-0.1
	comp=Z,14nm,0.9s,mb5.1							
UBBA	Unterbreizbach	84.76	324	eP		P	14 52 29.1	-0.5
	comp=Z,4.0nm,0.8s,mb4.6							
VOY	Vojsko	84.90	318	eP		P	14 52 28.8	-1.6
CADS	Cadrg	84.90	318	eP		P	14 52 28.8	-1.6
VOJS	Vojsko	84.90	318	eP		P	14 52 29.0	-1.4
IBBN	Ibbenburen	85.17	326	eP		P	14 52 31.2	-0.4
	comp=Z,22nm,0.4s,mb5.6							
KMBO	Kilima Mbogo	85.34	267	P		P	14 52 34.3	+1.1
	comp=Z,8.0nm,0.9s,mb4.9,baz=40,slow=8.3,SNR=20							
KMBO				LR		LR	15 30 26.3	
	comp=Z,84nm,21.3s,MS4.1,baz=131,slow=36							
KMBO	Kilima Mbogo	85.34	267	iP		P	14 52 34.2	+1.0
KMBO				pmax		pmax		
	comp=Z,8.0nm,0.9s							
KMBO	Kilima Mbogo	85.34	267	eP		P	14 52 33.8	+0.6
	comp=Z,11nm,1.0s,mb4.9							
FUR	Furstenfeldbru	85.40	321	eP		P	14 52 33.1	+0.2
FUR				pmax		pmax		
	comp=Z,22nm,0.5s,mb5.5							
FUR	Furstenfeldbru	85.40	321	eP		P	14 52 33.1	+0.2
	comp=Z,22nm,0.5s,mb5.5							
WTTA	Wattenberg	85.65	320	⇓iP		P	14 52 33.4	-0.8
	comp=Z,19nm,1.0s,mb5.3							
BUG	Bochum--Univer	85.89	325	eP		P	14 52 35.1	-0.1
	comp=Z,20nm,0.7s,mb5.5							
TNS	Taunus Mts	85.92	324	eP		P	14 52 35.0	-0.4
TNS				pmax		pmax		
	comp=Z,13nm,1.2s,mb5.0							
TNS	Taunus Mts	85.92	324	eP		P	14 52 35.0	-0.4
	comp=Z,13nm,1.2s,mb5.0							
FETA	Feichten	86.31	320	⇑iP		P	14 52 36.4	-1.0
	comp=Z,9.0nm,1.1s,mb4.9							
MEM	Membach	87.02	325	P		P	14 52 40.5	-0.3
WLF	Walferdange	87.47	324	P		P	14 52 43.0	0.0
	comp=Z,13nm,1.1s,mb5.1							
BCLA	Clavier	87.50	325	P		P	14 52 42.8	-0.3
CDF	Champ du Feu	87.55	323	eP		P	14 52 42.3	-1.1
GIVF	Givet	87.93	325	eP		P	14 52 44.0	-1.2
	comp=Z,50nm,1.2s,mb5.3							
GIVF	Givet	87.93	325	eP		P	14 52 44.0	-1.2
GIVF				pmax		pmax		
	comp=Z,25nm,1.2s,mb5.3							
GIVF	Givet	87.93	325	eP		P	14 52 44.0	-1.2
	comp=Z,25nm,1.2s,mb5.3							
DOU	Dourbes	88.05	325	P		P	14 52 45.0	-0.7
BAIF	Baives	88.28	325	eP		P	14 52 45.8	-1.0
	comp=Z,19nm,1.0s,mb5.0							
BAIF	Baives	88.28	325	eP		P	14 52 45.8	-1.0
BAIF				pmax		pmax		
	comp=Z,10.0nm,1.0s,mb5.0							
BAIF	Baives	88.28	325	eP		P	14 52 45.8	-1.0
	comp=Z,9.7nm,1.0s,mb5.0							
HAU	Haudompre	88.29	323	eP		P	14 52 45.5	-1.4
HAU				eMLR		MLR		
	comp=Z,174nm,18.8s,MS4.2							
HAU	Haudompre	88.29	323	eP		P	14 52 45.5	-1.4
HAU				LR		LR		
	comp=Z,170nm,18.8s,MS4.5							
MEZF	Maizieres J'vi	88.72	324	eP		P	14 52 48.2	-0.8
JCW	Jim Creek	88.76	37	eP		P	14 52 50.2	+1.1
LPG	La Plagne	89.45	320	⇑iP		P	14 52 52.0	-0.4
	comp=Z,17nm,0.6s,mb5.2							
LPG	La Plagne	89.45	320	⇑iP		P	14 52 52.0	-0.4
LPG				pmax		pmax		
	comp=Z,8.0nm,0.6s,mb5.2							
LPG	La Plagne	89.45	320	⇑iP		P	14 52 52.0	-0.4
	comp=Z,8.3nm,0.6s,mb5.2							
LPL	La Plagne	89.45	320	eP		P	14 52 51.9	-0.5
	comp=Z,19nm,0.5s,mb5.3							
LPL	La Plagne	89.45	320	eP		P	14 52 51.9	-0.5
LPL				pmax		pmax		
	comp=Z,10.0nm,0.5s,mb5.4							
LPL	La Plagne	89.45	320	eP		P	14 52 51.9	-0.5
	comp=Z,9.6nm,0.5s,mb5.4							
PGF	Pioggiola	89.69	317	⇑iP		P	14 52 53.0	-0.6
	comp=Z,31nm,0.8s,mb5.4							
PGF	Pioggiola	89.69	317	⇑iP		P	14 52 53.0	-0.6
PGF				pmax		pmax		
	comp=Z,15nm,0.8s,mb5.4							
PGF	Pioggiola	89.69	317	⇑iP		P	14 52 53.0	-0.6
	comp=Z,15nm,0.8s,mb5.4							
BNI	Bardonecchia	89.74	320	eP		P	14 52 52.7	-1.1
BNI				pmax		pmax		
	comp=Z,8.0nm,1.0s,mb5.0							
BNI	Bardonecchia	89.74	320	eP		P	14 52 52.7	-1.1
	comp=Z,8.0nm,1.0s,mb5.0							
CASY	Casey	89.80	184	eP		P	14 52 52.2	-1.6
	comp=Z,7.6nm,1.0s,mb5.0							
SBF	Sospel	89.94	319	eP		P	14 52 53.4	-1.4
	comp=Z,26nm,0.8s,mb5.3							
SBF	Sospel	89.94	319	eP		P	14 52 53.4	-1.4
SBF				pmax		pmax		
	comp=Z,13nm,0.8s,mb5.3							
SBF	Sospel	89.94	319	eP		P	14 52 53.4	-1.4
	comp=Z,13nm,0.8s,mb5.3							
ETW	Entiat	89.98	37	eP		P	14 52 55.9	+1.0
LOR	Lormes	90.09	323	⇑iP		P	14 52 54.1	-1.3
	comp=Z,17nm,0.8s,mb5.1							
LOR				eMLR		MLR		
	comp=Z,151nm,18.2s,MS4.2							
LOR	Lormes	90.09	323	⇑iP		P	14 52 54.1	-1.3
LOR				pmax		pmax		
	comp=Z,8.0nm,0.8s,mb5.1							
LOR				MLR		MLR		
	comp=Z,150nm,18.3s,MS4.5							
LOR	Lormes	90.09	323	⇑iP		P	14 52 54.1	-1.3
	comp=Z,8.4nm,0.8s,mb5.1							
LOR				LR		LR		
	comp=Z,150nm,18.3s,MS4.5							
ORIF	Oris-en-Rattie	90.29	320	⇑iP		P	14 52 55.4	-1.0
	comp=Z,12nm,0.8s,mb5.0							
ORIF				eMLR		MLR		
	comp=Z,167nm,20.8s,MS4.2							
ORIF	Oris-en-Rattie	90.29	320	⇑iP		P	14 52 55.4	-1.0
ORIF				pmax		pmax		
	comp=Z,6.0nm,0.8s,mb5.0							
ORIF	Oris-en-Rattie	90.29	320	⇑iP		P	14 52 55.4	-1.0
	comp=Z,6.1nm,0.8s,mb5.0							
SSF	Saint Saulge	90.41	323	eP		P	14 52 55.7	-1.2
	comp=Z,29nm,1.2s,mb5.2							
SSF	Saint Saulge	90.41	323	eP		P	14 52 55.7	-1.2
SSF				pmax		pmax		
	comp=Z,14nm,1.2s,mb5.2							
SSF	Saint Saulge	90.41	323	eP		P	14 52 55.7	-1.2
	comp=Z,14nm,1.2s,mb5.2							
SMF	Signal de Mont	90.47	322	⇑iP		P	14 52 56.0	-1.1
	comp=Z,39nm,0.9s,mb5.4							
SMF	Signal de Mont	90.47	322	⇑iP		P	14 52 56.0	-1.1
SMF				pmax		pmax		
	comp=Z,20nm,0.9s,mb5.5							
SMF	Signal de Mont	90.47	322	⇑iP		P	14 52 56.0	-1.1
	comp=Z,20nm,0.9s,mb5.4							
AVF	Avril sur Loir	90.65	323	⇑iP		P	14 52 56.8	-1.2
	comp=Z,36nm,1.0s,mb5.4							
AVF	Avril sur Loir	90.65	323	⇑iP		P	14 52 56.8	-1.2
AVF				pmax		pmax		
	comp=Z,18nm,1.0s,mb5.4							
AVF	Avril sur Loir	90.65	323	⇑iP		P	14 52 56.8	-1.2
	comp=Z,18nm,1.0s,mb5.4							
LMR	La Mourre	90.80	319	eP		P	14 52 58.5	-0.3
SMRF	Simiane la Rot	91.00	320	eP		P	14 52 58.2	-1.5
BGF	Bois d'Agland	91.07	323	eP		P	14 52 58.8	-1.2
LDF	La Druitiere	91.42	326	eP		P	14 53 00.3	-1.2
TCF	Toulx Ste Croi	91.58	323	eP		P	14 53 01.5	-0.9
	comp=Z,33nm,1.1s,mb5.3							
TCF	Toulx Ste Croi	91.58	323	eP		P	14 53 01.5	-0.9
TCF				pmax		pmax		
	comp=Z,16nm,1.1s,mb5.3							
TCF	Toulx Ste Croi	91.58	323	eP		P	14 53 01.5	-0.9
	comp=Z,16nm,1.1s,mb5.3							
CAF	Calviac	92.48	322	eP		P	14 53 05.3	-1.3
RJF	Les Rejaudoux	92.57	322	eP		P	14 53 06.5	-0.4
	comp=Z,66nm,1.1s,mb5.7							
RJF				eMLR		MLR		
	comp=Z,87nm,19.0s,MS3.9							
RJF	Les Rejaudoux	92.57	322	eP		P	14 53 06.5	-0.4
RJF				pmax		pmax		
	comp=Z,33nm,1.1s,mb5.7							
RJF				MLR		MLR		
	comp=Z,90nm,19.0s,MS4.2							
RJF	Les Rejaudoux	92.57	322	eP		P	14 53 06.5	-0.4
	comp=Z,33nm,1.1s,mb5.7							
RJF				LR		LR		
	comp=Z,90nm,19.0s,MS4.2							
SGMF	Saint Gilles	92.89	326	eP		P	14 53 06.6	-1.7
	comp=Z,73nm,1.3s,mb5.7							
SGMF	Saint Gilles	92.89	326	eP		P	14 53 06.6	-1.7
SGMF				pmax		pmax		
	comp=Z,36nm,1.3s,mb5.6							
SGMF	Saint Gilles	92.89	326	eP		P	14 53 06.6	-1.7
	comp=Z,36nm,1.3s,mb5.7							
KEST	Kesra	93.06	311	P		P	14 53 09.0	-0.4
	comp=Z,2.4nm,0.9s,mb4.6,baz=196,slow=17,SNR=4.2							
ROSF	Rostrenen	93.20	327	eP		P	14 53 08.0	-1.8
	comp=Z,65nm,1.2s,mb5.6							
ROSF	Rostrenen	93.20	327	eP		P	14 53 08.0	-1.8
ROSF				pmax		pmax		
	comp=Z,32nm,1.2s,mb5.6							
ROSF	Rostrenen	93.20	327	eP		P	14 53 08.0	-1.8
	comp=Z,32nm,1.2s,mb5.6							
EPF	Esparros	94.63	321	eP		P	14 53 14.9	-1.5
PPT	Papeete	95.72	107	LR		LR	15 31 37.5	
	comp=Z,119nm,18.5s,MS4.4,baz=300,slow=32							
NVAR	Mina Array Bea	96.62	43	P		P	14 53 27.6	+2.0
	comp=Z,0.9nm,0.7s,mb4.3,baz=299,slow=4.8,SNR=5.4							
ULM	Lac du Bonnet	99.40	23	LR		LR	15 37 25.8	
	comp=Z,74nm,21.5s,MS4.2,baz=20,slow=35							
TORD	Torodi Ar. Bea	110.94	295	PKiKP		PKiKP	14 58 27.9	-1.5
	comp=Z,0.3nm,0.5s,baz=43,slow=2.9,SNR=4.2							
VNA2	Neumayer--Watz	124.38	198	ePKPdf		PKPdf	14 58 52.7	-0.7
	baz=60,slow=1.1							
VNA2				e			14 58 53.8	
VNA1	Neumayer--Stat	124.77	198	ePKPdf		PKPdf	14 58 53.5	-0.7
VNA1				e			14 58 54.7	
VNA3	Neumayer Olymp	124.84	197	ePKPdf		PKPdf	14 58 53.0	-1.3
VNA3				e			14 58 54.2	
VNA3				e			14 59 13.9	
SDV	Santo Domingo	145.64	22	eP		PKPdf	14 59 33.3	-1.3
ROSC	El Rosal	147.78	31	PKPbc		PKPbc	14 59 39.9	-1.2
	comp=Z,8.8nm,0.5s,baz=91,slow=18,SNR=3.3							
LPAZ	La Paz	168.31	54	PKP		PKPdf	15 00 03.7	+1.0
	comp=Z,2.4nm,1.0s,baz=6.8,slow=4.7,SNR=6.2							
LPAZ	La Paz	168.31	54	ePKPdf		PKPdf	15 00 03.0	+0.3

IDC 17 14:41:52.2±1.3, 2469N×10964W, h0km, mb1 3.8/4, mb1mx3.7/20, mbtmp3.4/4, ML3.6/4, Error ellipse: s-maj=37.6km s-min=9.3km az=130.0, Gulf of California

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
LPIG	La Paz	0.85	226	Pg		Pg	14 42 09.1	+0.6
	176nm,0.3s,baz=24,slow=5.8,SNR=76							
LPIG				Lg			14 42 19.6	
	690nm,0.3s,baz=52,slow=22,SNR=42							
TXAR	Lajitas Array	7.05	48	Pn		Pn	14 43 37.0	+0.3
	0.4nm,0.3s,baz=205,slow=15,SNR=5.3							
TXAR				Lg			14 45 34.0	
	0.1nm,0.3s,baz=237,slow=25,SNR=2.6							
NVAR	Mina Array Bea	15.54	334	Pn		Pn	14 45 37.0	+4.3
	0.1nm,0.3s,baz=151,slow=10.0,SNR=4.9							
ELK	Elko	16.68	345	Pn		Pn	14 45 49.0	+1.7
	0.1nm,0.3s,baz=199,slow=21,SNR=2.0							
PDAR	Pinedale Array	18.03	0	P		Pn	14 46 04.0	-0.1
	0.1nm,0.3s,baz=169,slow=8.5,SNR=4.0							
WRA	Warramunga Arr	121.08	261	PKP		PKPdf	15 00 47.2	-0.4
	0.4nm,0.9s,baz=72,slow=2.0,SNR=2.9							
ASAR	Alice Springs	122.50	257	PKP		PKPdf	15 00 50.7	+0.5
	0.7nm,1.0s,baz=90,slow=2.8,SNR=3.1							

IDC 17 14:46:16.5±1.9, 905N×9245E, h0km, mb3.6/4, mb1 3.8/5, mb1mx3.6/21, mbtmp3.6/5, ML3.5/1, Error ellipse: s-maj=68.2km s-min=22.2km az=70.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
CMAR	Chiang Mai Arr	11.28	33	Pn		Pn	14 49 01.1	+2.1
	0.1nm,0.3s,baz=224,slow=14,SNR=5.0							
MKAR	Makanchi Array	38.60	349	P		P	14 53 40.8	-0.4
	0.4nm,0.5s,baz=182,slow=7.8,SNR=3.7							
SONM	Songino Array	40.42	15	P		P	14 53 55.8	-0.6
	0.3nm,0.4s,baz=186,slow=8.3,SNR=4.2							
WRA	Warramunga Arr	50.30	125	P		P	14 55 14.4	-0.9
	0.7nm,0.4s,baz=304,slow=8.6,SNR=16							
WRA				PcP		PcP	14 56 35.2	+1.0
	0.3nm,0.7s,baz=311,slow=2.9,SNR=6.6							
ASAR	Alice Springs	51.95	130	P		P	14 55 26.9	-0.6
	0.3nm,0.4s,baz=305,slow=7.8,SNR=12							
ASAR				PcP		PcP	14 56 41.5	+1.3
	0.3nm,0.7s,baz=305,slow=3.7,SNR=5.4							

KRSC 17 14:46:43.1±1.1, 5480N×16465E, h41km±41km, ML3.8, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
MKZ	Mys Kozlova	1.71	263	eP		Pn	14 47 11.5	+1.1
MKZ				eS		Sn	14 47 32.1	+1.1
KBTR	Krutoberegovo	1.75	324	eP		Pn	14 47 10.3	-0.6
KBTR				eS		Sn	14 47 30.2	-1.8
ZLN	Zelenaya	2.51	301	S		Sn	14 47 55.5	+4.9
TUMR	Tumrok	2.64	282	eP		Pn	14 47 25.7	+2.6
TUMR				eS		Sn	14 47 56.9	+3.1
BZWR	Bezymyannyi-We	2.64	298	eP		Pn	14 47 24.2	+1.1
BZWR				eS		Sn	14 47 53.9	0.0
KRSR	Krestovskiy	2.72	303	P		Pn	14 47 25.1	+0.9
KRSR				S		Sn	14 47 55.8	-0.1
SRDR	Sredinnyy	3.19	300	S		Sn	14 48 11.1	+3.8
NLC	Nalytchevo	3.53	245	eP		Pn	14 47 36.3	+1.0
NLC				eS		Sn	14 48 15.5	-0.3
AVH	Avacha	3.81	249	eP		Pn	14 47 42.0	+2.8
AVH				eS		Sn	14 48 24.7	+2.0
PET	Petropavlovsk	3.97	246	eP		Pn	14 47 43.2	+1.9
PET				eS		Sn	14 48 26.4	-0.1
GNL	Ganaly	4.09	257	eP		Pn	14 47 46.1	+3.1
GNL				eS		Sn	14 48 31.0	+1.5
RUS	Russkaya	4.36	240	eP		Pn	14 47 48.5	+1.8
RUS				eS		Sn	14 48 35.6	-0.5

MAN 17 15:38:38, 1126N×12458E, h4km, mb4.0, ML2.7, MS2.4, 1D, Leyte

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
OCLP	Ormoc	0.21	171	eP		Pg	15 38 42.9	+0.8
OCLP				eS		Sg	15 38 46.5	+1.6
PLP	Palo	0.41	104	⇓iP		Pg	15 38 46.6	+0.8
PLP				iS		Sg	15 38 52.8	+1.6
BES

JRY	**Ryogami san**	**3.17 278**	P	**Pn**	**15 53 21.4**	**+0.8**
JRY			*e*S	**Sn**	**15 53 57.4**	**+0.2**
MJAR	**Matsushiro Arr**	**3.80 285**	Pn	**Pn**	**15 53 31.3**	**+2.0**
	1.2nm,0.3s,baz=254,slow=8.7,SNR=8.9					
MJAR			Sn	**Sn**	**15 54 14.0**	**+1.2**
	1.3nm,0.3s,baz=62,slow=18,SNR=5.9					
WRA	**Warramunga Arr**	**55.86 190**	P	**P**	**16 02 06.9**	**+0.1**
	0.5nm,0.6s,mb3.8,baz=6.4,slow=7.5,SNR=9.8					
ASAR	**Alice Springs**	**59.58 189**	P	**P**	**16 02 32.8**	**-0.1**
	0.2nm,0.6s,mb3.3,baz=359,slow=7.2,SNR=5.4					

ISCJB ***17*** *15:57:30.3±0.8, 35.37N±004.4×140.43E±009, h44km±6km, mb3.5/2, Error ellipse: s-maj=13.2km s-min=6.1km az=163.9*
IDC ***17*** *15:57:30.5±2.0, 3477N×1393.2E, h0km, mb3.3/2, mb1 3.5/2, mb1mx3.3/20, mbtmp3.3/2, Error ellipse: s-maj=73.1km s-min=21.8km az=74.0*
JMA ***17*** *15:57:31.0±0.1, 3541N×140.35E, h32km±1km, M2.8*
JMA Felt I J1.

ISC 17 15:57:30.9±0.9, 3539N±004×1405E±01, h33km±4km, n11, σ1°08/19, mb3.5/2, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JCN	**Nagara**	**0.22**	**277**	P	**Pb**	**15 57 37.1**	**-0.6**
JCN				S	**Sb**	**15 57 42.0**	**-0.4**
KTR	**Katsuura**	**0.27**	**208**	P	**Pb**	**15 57 37.9**	**-0.4**
KTR				S	**Sb**	**15 57 43.1**	**-0.3**
BSO4	**Boso 4**	**0.41**	**195**	P	**Pb**	**15 57 40.5**	**+0.3**
BSO4				S	**Sb**	**15 57 48.4**	**+1.8**
BSO3	**Boso 3**	**0.59**	**177**	P	**Pn**	**15 57 42.8**	**-0.1**
BSO3				S	**Sn**	**15 57 53.1**	**+1.8**
JYT	**Yasato**	**0.86**	**345**	P	**Pn**	**15 57 46.3**	**-0.4**
JYT				S	**Sn**	**15 57 57.7**	**-0.4**
JIM2	**Oshima 3**	**1.09**	**232**	P	**Pn**	**15 57 47.7**	**-2.0**
JIM2				S	**Sn**	**15 58 00.7**	**-2.9**
JAG	**Ashikaga**	**1.32**	**322**	P	**Pn**	**15 57 52.8**	**-0.1**
MJAR	**Matsushiro Arr**	**2.16**	**303**	Pn	**Pn**	**15 58 04.7**	**+0.2**
	4.2nm,0.3s,baz=149,slow=12,SNR=21						
MJAR				Sn	**Sn**	**15 58 32.5**	**+2.3**
	2.3nm,0.3s,baz=152,slow=12,SNR=6.9						
MAT	**Matsushiro**	**2.17**	**303**	P	**Pn**	**15 58 04.9**	**+0.3**
MAT				S	**Sn**	**15 58 31.5**	**+1.3**
WRA	**Warramunga Arr**	**55.34**	**187**	P	**P**	**16 07 00.7**	**-0.6**
	0.3nm,0.5s,mb3.6,baz=1.0,slow=7.5,SNR=9.5						
ASAR	**Alice Springs**	**59.06**	**187**	P	**P**	**16 07 27.4**	**-0.2**
	0.2nm,0.6s,mb3.4,baz=1.4,slow=6.2,SNR=6.0						

IGQ 17 15:57:59.0, 091N×7967W, h12km±4km, Mb4.0, Ms3.8, Error ellipse: s-maj=2.7km s-min=1.4km az=84.0, Near coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JAMA	**Jama**	**1.28**	**205**	P	Pn	15 58 22.0	-0.7
JAMA	**Jama**	**1.28**	**205**	S	Sb	15 58 39.3	-0.1
COTA	**Cotacachi**	**1.45**	**113**	P	Pn	15 58 26.5	+1.4
YANA	**Yana**	**1.50**	**133**	P	Pn	15 58 27.4	+1.6
YANA	**Yana**	**1.50**	**133**	S	Sn	15 58 47.8	+2.6
PINO	**Pino**	**1.50**	**135**	P	Pn	15 58 27.3	+1.5
PINO	**Pino**	**1.50**	**135**	S	Sn	15 58 46.7	+1.4
TERV	**Terraza Guagua**	**1.51**	**135**	P	Pn	15 58 27.4	+1.5
TERV	**Terraza Guagua**	**1.51**	**135**	S	Sn	15 58 49.0	+3.4
JUA2	**San Juan 2**	**1.54**	**136**	P	Pn	15 58 27.5	+1.2
JUA2	**San Juan 2**	**1.54**	**136**	S	Sn	15 58 49.3	+3.0
CAMI	**Rancho Maria**	**1.96**	**143**	P	Pn	15 58 34.4	+2.4
CAMI	**Rancho Maria**	**1.96**	**143**	S	Sn	15 59 01.8	+5.2
VC1	**Cotopaxi 1**	**1.99**	**140**	P	Pn	15 58 35.7	+3.2
ANTI	**Antisana**	**2.02**	**132**	P	Pn	15 58 36.4	+3.5
ANTI	**Antisana**	**2.02**	**132**	S	Sn	15 59 04.9	+6.7
TAMB	**Tambo**	**2.06**	**141**	P	Pn	15 58 37.6	+4.2
TAMB	**Tambo**	**2.06**	**141**	S	Sn	15 59 06.5	+7.5
CHIS	**Cerro-Chispas-**	**2.21**	**208**	P	Pn	15 58 38.5	+2.9
PISA	**Pisayambo**	**2.34**	**147**	P	Pn	15 58 41.7	+4.4
ULBA	**Ulba**	**2.66**	**152**	P	Pn	15 58 46.8	+5.0
ARRY	**Arrayan**	**2.69**	**153**	P	Pn	15 58 45.5	+3.4
PATA	**Patacocha**	**2.69**	**153**	P	Pn	15 58 46.1	+3.9

ISCJB ***17*** *16:01:22.7±0.5, 3811N±003×2367E±004, h10km, Error ellipse: s-maj=4.8km s-min=3.7km az=168.9*
ATH ***17*** *16:01:22.3, 3813N×2368E, h15km±3km, ML2.6*
NEIC ***17*** *16:01:22.3, 3813N×2368E, h15km, ML2.6(ATH), After ATH.*
CSEM ***17*** *16:01:22.3±0.1, 3815N×2361E, h10km, ML2.6, Error ellipse: s-maj=2.8km s-min=1.9km az=69.0*
THE ***17*** *16:01:23.3, 3814N×2362E, h7km±1km, ML3.2/2, Error ellipse: s-maj=1.4km s-min=0.6km az=284.0*

ISC 17 16:01:23.0±0.5, 3813N±003×2366E±004, h6km±6km, n17, σ0°58/26, Greece

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ATH	**Athens Observa**	**0.17**	**163**	*e*Pb	**Pg**	**16 01 26.5**	**+0.1**
ATH				*e*Sb	**Sg**	**16 01 29.1**	**+0.4**
ATH	**Athens Observa**	**0.17**	**163**	*e*PB	**Pg**	**16 01 26.5**	**+0.1**
ATH				*e*SB	**Sg**	**16 01 29.1**	**+0.4**
PTL	**Penteli**	**0.18**	**117**	*e*Pb	**Pg**	**16 01 26.0**	**-0.7**
PTL	**Penteli**	**0.18**	**117**	*e*PB	**Pg**	**16 01 26.0**	**-0.7**
KVR	**Kavouri**	**0.32**	**164**	*e*Pb	**Pg**	**16 01 29.1**	**-0.1**
KVR	**Kavouri**	**0.32**	**164**	*e*PB	**Pg**	**16 01 29.1**	**-0.1**
NAIG	**Nisos Aigina**	**0.40**	**199**	*e*Pb	**Pg**	**16 01 30.2**	**-0.5**
NAIG	**Nisos Aigina**	**0.40**	**199**	*e*PB	**Pg**	**16 01 30.2**	**-0.5**
LTK	**Loutraki**	**0.56**	**259**	P	**Pg**	**16 01 33.5**	**-0.2**
LTK				S	**Sg**	**16 01 41.7**	**+0.7**
DID	**Didima**	**0.71**	**208**	P	**Pg**	**16 01 36.0**	**-0.7**
DID				S	**Sg**	**16 01 46.6**	**+0.7**
LKR	**Lokris**	**0.73**	**315**	P	**Pg**	**16 01 36.6**	**-0.5**
LKR				S	**Sg**	**16 01 47.0**	**+0.4**
LKR	**Lokris**	**0.73**	**315**	*e*Pn	**Pg**	**16 01 36.6**	**-0.5**
LKR	**Lokris**	**0.73**	**315**	*e*PN	**Pg**	**16 01 36.6**	**-0.5**
AOS	**Alonnisos**	**1.05**	**10**	P	**Pg**	**16 01 42.9**	**-0.3**
AOS				S	**Sg**	**16 01 57.8**	**+1.0**
VLX	**Vlachokerasia**	**1.27**	**233**	P	**Pn**	**16 01 46.4**	**-0.8**
VLX				S	**Sg**	**16 02 03.9**	**+0.1**
XOR	**Xorichti**	**1.28**	**344**	P	**Pn**	**16 01 47.2**	**-0.2**
XOR				S	**Sb**	**16 02 04.0**	**-0.3**
APE	**Apeiranthos**	**1.83**	**125**	P	**Pn**	**16 01 54.7**	**-0.3**
APE				S	**Sn**	**16 02 19.6**	**+1.2**

IDC ***17*** *16:22:11.2±1.9, 1503S×17539W, h0km, mb4.1/7, mb1 4.4/7, mb1mx4.1/17, mbtmp4.1/7, MS3.8/19, Ms1 3.8/19, ms1mx3.7/27, Error ellipse: s-maj=138.2km s-min=19.4km az=154.0*
ISCJB ***17*** *16:22:14.2±1.7, 155S±08×1753W±04, h33km, mb4.1/9, MS3.9/17, Error ellipse: s-maj=132.2km s-min=16.1km az=155.5*
NEIC ***17*** *16:22:17.5±0.7, 1455S×17567W, h35km, mb4.5/2, Error ellipse: s-maj=37.5km s-min=16.1km az=150.0*

ISC 17 16:22:17.8±0.7, 146S±02×1757W±02, h35km, n34, σ0°92/15, mb4.1/9, MS3.9/17, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**3.84**	**80**	Pn	**Pn**	**16 23 04.5**	**-10**
	114nm,0.3s,baz=238,slow=6.6,SNR=140						
AFI				Sn	**Sn**	**16 23 43.5**	**-15**
	99nm,0.3s,baz=288,slow=20,SNR=7.0						
AFI				LR	LR	16 24 23.1	
	comp=Z,847nm,21.9s,baz=255,slow=36						
AFI	**Afiamalu**	**3.84**	**80**	*e*P	**Pn**	**16 23 04.4**	**-10**
AFI				*e*S	**Sn**	**16 23 41.1**	**-17**
AFI				LR	LR	16 24 23.1	
RAR	**Rarotonga**	**16.48**	**116**	LR	LR	16 30 46.7	
	comp=Z,1911nm,20.7s,baz=57,slow=32						
HNR	**Honiara**	**24.39**	**279**	LR	LR	16 35 50.4	
	comp=Z,122nm,18.7s,MS3.4,baz=120,slow=33						
URZ	**Urewera**	**24.41**	**194**	LR	LR	16 35 16.3	
	comp=Z,198nm,20.3s,MS3.6,baz=27,slow=33						
PPT	**Papeete**	**25.23**	**100**	*e*LQ		16 32 34.3	
	881nm,26.5s						
PPT				*e*LR	LR	16 33 40.0	
	153nm,26.8s						
PPT	**Papeete**	**25.23**	**100**	LR	LR	16 35 29.3	
	comp=Z,154nm,20.6s,MS3.5,baz=282,slow=32						
TBI	**Tubuai**	**26.23**	**113**	*e*LQ		16 33 03.2	
	494nm,25.2s						
TBI				*e*LR	LR	16 34 14.5	
	285nm,26.5s						
CTA	**Charters Tower**	**36.70**	**256**	P	**P**	**16 29 21.8**	**+0.1**
	3.9nm,0.9s,mb4.2,baz=73,slow=11,SNR=2.3						
CTA	**Charters Tower**	**36.70**	**256**	P	**P**	**16 29 21.8**	**+0.1**
RKT	**Rikitea**	**39.32**	**109**	*e*LR	LR	16 40 14.9	
	133nm,28.5s						
STKA	**Stephens Creek**	**42.55**	**239**	LR	LR	16 47 18.9	
	comp=Z,97nm,18.2s,MS3.7,baz=25,slow=35						
WRA	**Warramunga Arr**	**47.90**	**256**	P	**P**	**16 30 51.3**	**-1.6**
	0.7nm,0.8s,mb3.7,baz=96,slow=6.8,SNR=5.3						
GUMO	**Guam**	**48.07**	**304**	LR	LR	16 48 03.1	
	comp=Z,55nm,19.1s,MS3.5,baz=22,slow=32						
ASAR	**Alice Springs**	**48.28**	**251**	P	**P**	**16 30 55.6**	**-0.2**
	3.1nm,0.8s,mb4.4,baz=86,slow=8.2,SNR=42						
BATI	**Baumata**	**59.27**	**267**	LR	LR	16 54 37.1	
	comp=Z,199nm,21.2s,MS4.2,baz=152,slow=33						
SBA	**Scott Base**	**63.87**	**184**	*e*P	**P**	**16 32 46.8**	**+0.4**
	4.2nm,0.9s,mb4.5						
MJAR	**Matsushiro Arr**	**66.94**	**321**	LR	LR	16 55 59.4	
	comp=Z,122nm,20.4s,MS4.1,baz=70,slow=30						
JOW	**Kunigami**	**68.26**	**307**	LR	LR	16 57 25.0	
	comp=Z,86nm,20.7s,MS4.0,baz=99,slow=31						
PETK	**Petropavlovsk-**	**71.23**	**343**	LR	LR	16 58 31.0	
	comp=Z,34nm,21.1s,MS3.6,baz=268,slow=30						
KSRS	**Korea Array**	**74.07**	**316**	LR	LR	17 03 46.0	
	comp=Z,47nm,18.9s,MS3.8,baz=9.0,slow=34						
NVAR	**Mina Array Bea**	**75.23**	**43**	P	**P**	**16 33 56.6**	**-0.5**
	2.8nm,0.9s,mb4.2,baz=227,slow=8.8,SNR=12						
TUC	**Tucson**	**77.61**	**52**	*e*P	**P**	**16 34 10.9**	**+0.3**
	3.4nm,0.8s,mb4.3						
TXAR	**Lajitas Array**	**82.01**	**57**	P	**P**	**16 34 34.4**	**-0.1**
	1.1nm,0.5s,mb4.0,baz=238,slow=7.0,SNR=13						
TXAR				LR	LR	17 03 06.8	
	comp=Z,60nm,20.2s,MS4.0,baz=180,slow=30						
TXAR	**Lajitas Array**	**82.01**	**57**	P	**P**	**16 34 34.4**	**-0.1**
TXAR				LR	LR	17 03 06.8	
PDAR	**Pinedale Array**	**83.16**	**43**	P	**P**	**16 34 39.8**	**-0.5**
	1.9nm,0.9s,mb4.1,baz=219,slow=3.8,SNR=7.6						
MAW	**Mawson**	**87.83**	**199**	LR	LR	17 12 35.0	
	comp=Z,69nm,18.2s,MS4.1,baz=65,slow=34						
YKA	**Yellowknife Ar**	**90.26**	**24**	LR	LR	17 08 00.8	
	comp=Z,73nm,20.7s,MS4.1,baz=235,slow=30						
CMAR	**Chiang Mai Arr**	**90.29**	**289**	P	**P**	**16 35 17.9**	**+2.3**
	0.2nm,0.6s,mb3.6,baz=112,slow=6.9,SNR=3.5						
CMAR				LR	LR	17 11 52.7	
	comp=Z,66nm,18.1s,MS4.1,baz=271,slow=33						
PLCA	**Paso Flores**	**91.66**	**133**	LR	LR	17 05 24.2	
	comp=Z,131nm,21.2s,MS4.3,baz=184,slow=28						
SONM	**Songino Array**	**92.81**	**319**	LR	LR	17 11 36.5	
	comp=Z,47nm,19.9s,MS3.9,baz=347,slow=32						
ULM	**Lac du Bonnet**	**94.71**	**39**	LR	LR	17 11 41.1	
	comp=Z,115nm,19.4s,MS4.3,baz=327,slow=31						
BR131	**Keskin Array S**	**144.16**	**320**	*e*PKP	PKPdf	16 41 49.1	-1.0
GERES	**GERESS Array B**	**145.00**	**349**	PKPbc	PKPbc	16 41 49.5	-1.1
	0.5nm,0.6s,baz=28,slow=2.3,SNR=3.9						

IDC ***17*** *16:21:44.2±2.0, 2958N×14001E, h0km, mb3.9/6, mb1 4.0/6, mb1mx3.7/20, mbtmp3.9/6, Error ellipse: s-maj=90.9km s-min=21.7km az=76.0*
ISCJB ***17*** *16:22:31.8±0.7, 2931N±007×1392E±03, h468km±15km, mb3.4/6, Error ellipse: s-maj=41.2km s-min=7.8km az=168.3*
JMA ***17*** *16:22:33.4±0.2, 2942N×13964E, h473km, M3.6*

ISC 17 16:22:32.4±0.8, 2934N±008×1391E±03, h454km±19km, n17, σ1°21/22, mb3.4/6, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CBIJ	**Chichi jima**	**3.50**	**129**	P	**P**	**16 23 44.3**	**+0.7**
CBIJ				S	**S**	**16 24 40.1**	**-1.4**
JIE	**Ise**	**5.44**	**338**	P	**P**	**16 24 05.3**	**+4.2**
BSO1	**Boso 1**	**5.53**	**16**	P	**P**	**16 24 04.2**	**+2.3**
BSO1				*e*S	**S**	**16 25 17.1**	**+2.0**
BSO3	**Boso 3**	**5.57**	**12**	P	**P**	**16 24 05.9**	**+3.5**
BSO3				*e*S	**S**	**16 25 16.3**	**+0.3**
TATJ	**Tateyama 2**	**5.71**	**6**	P	**P**	**16 24 05.6**	**+1.8**
TATJ				*e*S	**S**	**16 25 17.7**	**-0.8**
BSO4	**Boso 4**	**5.73**	**10**	*e*S	**S**	**16 25 19.2**	**+0.4**
JYO	**Yokosk**	**5.89**	**4**	*e*S	**S**	**16 25 21.1**	**-0.6**
JHU	**Hanno**	**6.50**	**1**	*e*S	**S**	**16 25 30.9**	**-2.3**
JRY	**Ryogami san**	**6.66**	**358**	P	**P**	**16 24 15.0**	**+1.5**
JRY				S	**S**	**16 25 35.7**	**-0.6**
JYT	**Yasato**	**6.93**	**7**	S	**S**	**16 25 39.6**	**-1.8**
JHO	**Hitachi**	**7.35**	**9**	S	**S**	**16 25 48.8**	**-0.9**
MKAR	**Makanchi Array**	**46.98**	**308**	P	**P**	**16 30 20.5**	**-0.3**
	0.2nm,0.6s,mb2.8,baz=86,slow=7.4,SNR=3.2						
FITZ	**Fitzroy Crossi**	**48.93**	**197**	P	**P**	**16 30 35.6**	**-0.2**
	1.4nm,0.9s,mb3.3,baz=36,slow=14,SNR=4.4						
WRA	**Warramunga Arr**	**49.21**	**186**	P	**P**	**16 30 36.9**	**-1.0**
	0.6nm,0.3s,mb3.4,baz=1.0,slow=7.7,SNR=30						
KURK	**Kurchatov**	**49.49**	**313**	P	**P**	**16 30 39.7**	**0.0**
	0.9nm,0.4s,mb3.5,baz=91,slow=7.7,SNR=4.1						
STKA	**Stephens Creek**	**60.92**	**178**	P	**P**	**16 31 59.9**	**-0.2**
	2.1nm,0.8s,mb3.6,baz=343,slow=11,SNR=4.2						
ARCES	**ARCESS Array B**	**70.53**	**340**	P	**P**	**16 33 00.6**	**+0.7**
	2.0nm,0.9s,mb3.6,baz=57,slow=8.8,SNR=7.2						

NIED ***17*** *16:29:00, 2960N×130.10E, h8km, Mw3.9 Best double couple: M0 8.99000×10^14 NP1:φ=292.00000°, δ=56.00000°, λ=-94.00000°. NP2:φ=119.00000°, δ=34.00000°, λ=-84.00000°.*
IDC ***17*** *16:29:27.6±1.0, 2951N×130.14E, h0km, mb3.9/6, mb1 4.0/9, mb1mx3.7/26, mbtmp3.9/9, ML3.4/3, Error ellipse: s-maj=30.7km s-min=16.6km az=86.0*
JMA ***17*** *16:29:29.7, 2956N×130.13E, h29km±1km, M4.0*
JMA Felt I J1.
ISCJB ***17*** *16:29:30.4±0.4, 2958N±003×130.12E±007, h33km, mb4.0/7, Error ellipse: s-maj=9.1km s-min=3.2km az=19.7*
NEIC ***17*** *16:29:32.8±1.2, 2952N×130.20E, h37km±13km, mb4.6/1, MW3.9(NIED), Error ellipse: s-maj=16.3km s-min=9.7km az=95.0*

ISC 17 16:29:31.8±0.4, 2963N±003×13003E±008, h35km, n21, σ1°03/30, mb4.0/7, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JNN	**Nakanoshima**	**0.25**	**327**	P	**Pn**	**16 29 37.7**	**-1.5**
JNN				S	**Sn**	**16 29 43.4**	**-0.8**
JKC	**Kuchinoerabu**	**0.84**	**10**	P	**Pn**	**16 29 46.4**	**-0.8**
JKC				*e*S	**Sn**	**16 29 58.7**	**+0.3**
JAM	**Amami Oshima**	**1.27**	**197**	P	**Pn**	**16 29 51.3**	**-1.7**
JAM				S	**Sn**	**16 30 07.6**	**-1.2**
JZK	**Kikaishima**	**1.31**	**182**	P	**Pn**	**16 29 53.7**	**+0.1**
JZK				*e*S	**Sn**	**16 30 12.5**	**+2.7**
JTN	**Tanegashima 3**	**1.31**	**38**	P	**Pn**	**16 29 52.6**	**-1.0**
JTN				*e*S	**Sn**	**16 30 09.6**	**-0.3**
JTSR	**Tashiro 2**	**1.72**	**26**	P	**Pn**	**16 29 58.6**	**-0.6**
JTSR				*e*S	**Sn**	**16 30 20.1**	**+0.2**
JSU	**Suzuyama**	**1.91**	**11**	P	**Pn**	**16 30 01.6**	**-0.2**
JSU				*e*S	**Sn**	**16 30 25.1**	**+0.5**
JTK	**Tokunoshima**	**2.07**	**208**	P	**Pn**	**16 30 02.9**	**-1.1**
JTK				*e*S	**Sn**	**16 30 27.6**	**-0.9**
JIH	**Iheya**	**3.16**	**216**	S	**Sn**	**16 30 55.4**	**-0.1**
JOW	**Kunigami**	**3.19**	**210**	Pn	**Pn**	**16 30 20.4**	**+0.9**
	12nm,0.3s,baz=45,slow=14,SNR=24						
JOW				Sn	**Sn**	**16 30 57.8**	**+1.6**
	20nm,0.3s,baz=158,slow=27,SNR=6.4						
KSRS	**Korea Array**	**8.00**	**348**	Pn	**Pn**	**16 31 31.5**	**+6.0**
	0.3nm,0.3s,baz=157,slow=14,SNR=4.3						
MJAR	**Matsushiro Arr**	**9.72**	**43**	Pn	**Pn**	**16 31 49.8**	**+0.7**
	0.5nm,0.3s,baz=249,slow=14,SNR=4.2						
ASAJ	**Asahikawa**	**17.58**	**31**	P	**Pn**	**16 33 34.4**	**+0.5**
	0.1nm,0.3s,baz=230,slow=16,SNR=3.0						
SONM	**Songino Array**	**25.73**	**322**	P	**P**	**16 35 00.6**	**+1.8**
	0.3nm,0.5s,mb3.0,baz=134,slow=10.0,SNR=5.0						
KURK	**Kurchatov**	**43.54**	**314**	P	**P**	**16 37 33.8**	**+1.9**
	0.3nm,0.4s,mb3.3,baz=101,slow=9.0,SNR=2.7						
FITZ	**Fitzroy Crossi**	**47.64**	**186**	P	**P**	**16 38 03.8**	**-0.8**
	3.1nm,0.8s,mb4.4,baz=18,slow=10,SNR=11						
BVAR	**Borovoye Array**	**48.87**	**316**	P	**P**	**16 38 17.3**	**+3.5**
	0.6nm,0.7s,mb3.8,baz=99,slow=8.9,SNR=3.7						
WRAB	**Tennant Creek**	**49.45**	**175**	*e*P	**P**	**16 38 18.8**	**+0.3**
	4.9nm,0.8s,mb4.6						
WRA	**Warramunga Arr**	**49.45**	**175**	P	**P**	**16 38 18.3**	**-0.3**
	4.4nm,0.7s,mb4.6,baz=354,slow=8.2,SNR=46						
WB2	**Warramunga Arr**	**49.46**	**175**	*e*P	**P**	**16 38 18.8**	**+0.2**
ASAR	**Alice Springs**	**53.12**	**176**	P	**P**	**16 38 46.3**	**+0.3**
	1.6nm,0.6s,mb4.1,baz=5.5,slow=14,SNR=31						

CSEM ***17*** *16:29:39.2, 35.10N×0.13W, h0km, ML3.5, After ALG*
CRAAG 17 16:29:39.2, 3510N×013W, Ml3.5, Northern Algeria

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ODJA	**Bouhanifia**	**0.23**	**355**	P	Pg	16 29 48.0	+4.3
OJBR	**Djebel Berber**	**0.62**	**38**	P	Pg	16 29 58.0	+6.9
USTO	**Oran**	**0.72**	**332**	P	Pg	16 29 56.0	+2.9
OJGS	**Djebel Guires**	**0.82**	**60**	P	Pg	16 30 02.0	+7.0
OKGL	**Djebel Kef Gue**	**1.13**	**33**	P	Pg	16 30 04.0	+3.1

DDA ***17*** *16:32:57.4, 3943N×33.17E, h7km±3km, Md2.9*
CSEM ***17*** *16:32:57.4±0.3, 3950N×3319E, h0km±1km, MD2.8, Error ellipse: s-maj=3.0km s-min=2.2km az=19.0*
ISCJB ***17*** *16:32:58.7±0.9, 3947N±004×3318E±004, h2km±7km, Error ellipse: s-maj=7.0km s-min=5.2km az=28.6*
ISK ***17*** *16:32:58.0, 3949N×3318E, h5km, MD2.8*

ISC 17 16:32:59.0±0.9, 3945N±004×3316E±005, h4km±7km, n11, σ0°66/19, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KAMT	**Kaman**	**0.43**	**100**	*e*PG	**Pg**	**16 33 06.8**	**-0.5**
KAMT				*e*SG	**Sg**	**16 33 14.4**	**+1.4**
ANTO	**Ankara**	**0.51**	**326**	*e*PG	**Pg**	**16 33 08.3**	**-0.5**
ANTO				*e*SG	**Sg**	**16 33 16.0**	**+0.6**
CDAG	**Cicekdag**	**0.95**	**79**	*i* P	**Pg**	**16 33 17.4**	**+0.1**
CDAG				*i* S	**Sg**	**16 33 29.7**	**0.0**
ELDT	**Eldivan**	**1.06**	**11**	*i* P	**Pg**	**16 33 18.2**	**-1.2**
ELDT				*i* P		16 33 18.2	
ELDT				*i* S	**Sg**	**16 33 33.2**	**0.0**
KIZT	**Kizilcal**	**1.15**	**241**	*e*PN	**Pn**	**16 33 22.5**	**+0.7**
CORM	**Corum**	**1.35**	**57**	*e*PN	**Pn**	**16 33 24.1**	**-0.5**
CORM				*e*SN	**Sn**	**16 33 43.6**	**+0.7**
AVNT	**Avonos**	**1.48**	**116**	*i* P	**Pn**	**16 33 25.6**	**-0.7**
AVNT				*i* S	**Sb**	**16 33 45.3**	**-0.8**
KONT	**Konya--Tatoy**	**1.62**	**203**	*e*PN	**Pn**	**16 33 28.9**	**+0.5**
YOZ	**Yozgat**	**1.68**	**83**	*e*PN	**Pn**	**16 33 28.6**	**-0.5**
CTKT	**Corum**	**1.72**	**46**	*i* P	**Pn**	**16 33 30.0**	**+0.3**
CTKT				*i* S	**Sg**	**16 33 54.5**	**+0.4**
CTKT	**Corum**	**1.72**	**46**	*i* P	**Pn**	**16 33 30.0**	**+0.4**
CTKT				*i* S	**Sg**	**16 33 54.5**	**+0.3**

ISCJB ***17*** *16:39:02.1±1.5, 947N±004×12582E±009, h7km±7km, mb3.5/3, Error ellipse: s-maj=15.3km s-min=7.0km az=171.7*
MAN ***17*** *16:39:02, 950N×12581E, h8km, mb4.4, ML3.3, MS3.1*
IDC ***17*** *16:39:03.4±36.0, 875N×12606E, h0km, mb3.7/3, mb1 3.9/3, mb1mx3.4/18, mbtmp3.7/3, Error ellipse: s-maj=626.3km s-min=226.8km az=158.0*

ISC 17 16:39:00.3±1.4, 947N±005×12597E±007, h10km±7km, n13, σ1°15/18, mb3.5/3, 2D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SCPH	**Surigao**	**0.57**	**303**	*e*P	**Pg**	**16 39 11.2**	**-0.2**
SCPH				*e*S	**Sg**	**16 39 17.4**	**-1.5**
BUTP	**Butuan**	**0.61**	**215**	*e*P	**Pg**	**16 39 13.9**	**+1.3**
MSLP	**Maasin**	**1.28**	**301**	*e*P	**Pn**	**16 39 24.6**	**+0.3**
CGP	**Cagayan de Oro**	**1.62**	**232**	*i* P	**Pn**	**16 39 28.7**	**-0.2**
CGP				*i* S	**Sn**	**16 39 49.7**	**-0.1**
BUKP	**Musuan**	**1.82**	**210**	*e*P	**Pn**	**16 39 33.1**	**+1.4**
BUKP				*e*S	**Sn**	**16 40 06.8**	**+12**
PLP	**Palo**	**1.95**	**330**	*e*P	**Pn**	**16 39 33.8**	**+0.3**
PLP				*e*S	**Sn**	**16 40 00.4**	**+2.4**
TBP	**Tagbilaran**	**2.09**	**276**	*e*P	**Pn**	**16 39 34.9**	**-0.6**
TBP				*e*S	**Sn**	**16 40 00.5**	**-1.1**
MATI	**Mati**	**2.52**	**174**	*e*P	**Pn**	**16 39 47.6**	**+6.2**
PAGZ	**Pagadian**	**3.03**	**238**	*e*P	**Pn**	**16 39 49.6**	**+1.2**
GUIM	**Jordan**	**3.53**	**289**	*e*P	**Pn**	**16 39 55.9**	**+0.7**
WRA	**Warramunga Arr**	**30.36**	**164**	P	**P**	**16 45 10.6**	**-2.0**
	0.3nm,0.9s,mb3.0,baz=342,slow=9.5,SNR=9.5						
ASAR	**Alice Springs**	**33.83**	**167**	P	**P**	**16 45 41.9**	**-1.1**
	0.3nm,0.3s,mb3.7,baz=349,slow=7.5,SNR=31						
STKA	**Stephens Creek**	**43.74**	**161**	P	**P**	**16 47 04.5**	**-1.4**
	2.3nm,1.0s,mb3.9,baz=354,slow=10,SNR=3.5						

ISCJB ***17*** *16:42:28.8±0.6, 4

EZ5V		**2.38**	**268**	*i* P	Pn	17 29 29.6	-2.4
EZ5V				*i* S	Sn	17 29 57.6	-4.0
MMIG	**Aquila**	**2.50**	**239**	*i* P	Pn	17 29 31.0	-2.6
MMIG				*i* S	Sn	17 29 59.9	-4.6
CAIG	**El Cayaco**	**2.63**	**163**	*e*P	Pn	17 29 33.0	-2.4
CAIG				*i* S	Sn	17 30 02.7	-5.0
R15V		**2.77**	**262**	*i* P	Pn	17 29 33.8	-3.5
R15V				*i* S	Sn	17 30 07.9	-3.3

IDC ***17*** *17:37:39.2±2.9,2163N×9977E, h0km, mb3.3/2, mb1 3.5/3, mb1mx3.2/21, mbtmp3.2/3, ML3.5/1, MS3.0/1, Ms1 3.0/1, ms1mx2.5/13, Error ellipse: s-maj=44.5km s-min=23.9km az=127.0*

ISC 17 17:37:41.1±1.7**, 2147N**±009×**1000E**±02**, h10**km**, n9, σ1§16/14, mb3.4/2, Myanmar-China border region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CHRT	**Chiangrai**	**1.60**	**186**	PG	**Pg**	**17 38 11.5**	**-0.4**
CHRT				SG	**Sg**	**17 38 34.0**	**+1.3**
NANT	**Nan**	**2.75**	**165**	PN	**Pn**	**17 38 24.0**	**-1.3**
NANT				PG	**Pg**	**17 38 32.0**	**-1.8**
NANT				SG	**Sg**	**17 39 05.0**	**-4.5**
CHG	**Chiang Mai**	**2.81**	**200**	PG	**Pg**	**17 38 33.2**	**-1.8**
CHG				SG	**Sg**	**17 39 11.6**	**+0.2**
CMAR	**Chiang Mai Arr**	**3.15**	**198**	Pn	**Pn**	**17 38 31.8**	**+1.0**
	1.3nm,0.3s,baz=8.8,slow=13,SNR=25						
CMAR				Pg	**Pg**	**17 38 40.2**	**-1.2**
	11nm,0.3s,baz=6.3,slow=17,SNR=92						
CMAR				Lg		17 39 21.1	
	14nm,0.3s,baz=8.3,slow=32,SNR=12						
BDT	**Bhumibol Dam**	**4.30**	**192**	PG	**Pg**	**17 39 04.0**	**+0.5**
BDT				SG	**Sg**	**17 40 00.0**	**+0.7**
KKTK	**Khon Kaen**	**5.79**	**152**	P	**Sg**	**17 40 52.4**	**+5.4**
	247nm,0.8s						
GUMO	**Guam**	**43.42**	**93**	LR	LR	18 03 24.2	
	comp=Z,19nm,21.9s,baz=344,slow=35						
WRA	**Warramunga Arr**	**53.15**	**138**	P	**P**	**17 47 00.7**	**+1.3**
	0.3nm,0.8s,mb3.3,baz=322,slow=7.5,SNR=3.4						
ASAR	**Alice Springs**	**55.73**	**142**	P	**P**	**17 47 19.1**	**+1.1**
	0.4nm,0.9s,mb3.5,baz=320,slow=7.1,SNR=4.3						

NEIC ***17*** *17:44:11.8, 1973N×101.15W, h2km, MD3.6(MEX), After MEX.*

MEX 17 17:44:09.9±0.4**, 1971N×10119W, h16**km±1km**, MD3.6, Michoacan**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MOIG	**Morelia**	**0.03**	**185**	*i* P	Pg	17 44 12.2	-0.5
MOIG				*i* S	Sg	17 44 13.9	-0.7
MZVM		**1.92**	**105**	*e*P	Pn	17 44 38.5	-3.5
MZVM				*i* S	Sn	17 45 00.7	-5.1
ZIIG	**Zihuatanejo**	**2.11**	**187**	*e*P	Pn	17 44 41.1	-3.4
ZIIG				*i* S	Sn	17 45 06.4	-4.1
ZIIG	**Zihuatanejo**	**2.11**	**187**	*i* P	Pn	17 44 46.8	+2.2
ZIIG				*i* S	Sn	17 45 09.9	-0.6
IIO	**Organos**	**2.33**	**93**	*e*P	Pn	17 44 45.0	-2.5
IIO				*i* S	Sn	17 45 12.3	-3.5
IIO	**Organos**	**2.33**	**93**	*e*P	Pn	17 44 45.0	-2.5
IIO				*i* S	Sn	17 45 14.7	-1.1
MMIG	**Aquila**	**2.48**	**236**	*i* P	Pn	17 44 47.2	-2.5
MMIG				*i* S	Sn	17 45 14.8	-4.9
PPM	**Popocatepetl**	**2.50**	**104**	*e*P	Pn	17 44 48.7	-1.3
PPM				*i* S	Sn	17 45 16.5	-3.7
PPM	**Popocatepetl**	**2.50**	**104**	*e*P	Pn	17 44 50.7	+0.7
PPM				*i* S	Sn	17 45 20.8	+0.6
CAIG	**El Cayaco**	**2.79**	**162**	*i* P	Pn	17 44 54.0	-3.1
CAIG				*i* S	Sn	17 45 23.9	-3.4
CAIG	**El Cayaco**	**2.79**	**162**	*e*P	Pn	17 44 54.7	+0.8
CAIG				*i* S	Sn	17 45 27.2	-0.1
ZAIG	**Zacatecas**	**3.30**	**337**	*i* S	Sn	17 45 36.6	-3.4
ZAIG	**Zacatecas**	**3.30**	**337**	*e*P	Pg	17 45 11.9	-1.4
ZAIG				*i* S	Sn	17 45 46.6	+6.6

MEX 17 17:46:30.6±0.8**, 1971N×10116W, h5**km**, MD3.5, Michoacan**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MOIG	**Morelia**	**0.04**	**221**	*i* P	Pg	17 46 30.8	-1.0
MOIG				*i* S	Sg	17 46 32.4	-0.2
ZIIG	**Zihuatanejo**	**2.11**	**188**	*i* P	Pn	17 47 04.0	-2.5
ZIIG				*i* S	Sn	17 47 28.5	-4.7
MMIG	**Aquila**	**2.51**	**236**	*e*P	Pn	17 47 10.0	-2.0
MMIG				*i* S	Sn	17 47 39.5	-3.4
ZAIG	**Zacatecas**	**3.31**	**337**	*e*P	Pn	17 47 21.8	-1.4
ZAIG				*i* S	Sn	17 47 59.6	-3.3

NEIC ***17*** *17:48:13.4, 1688N×10029W, h4km, MD3.6(MEX), After MEX.*

MEX 17 17:48:13.6±0.6**, 1689N×10028W, h7**km±8km**, MD3.6, Near coast of Guerrero**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CAIG	**El Cayaco**	**0.16**	**5**	*i* P	Pg	17 48 16.4	-0.5
CAIG				*i* S	Sg	17 48 19.2	0.0
ACX	**Acapulco**	**0.35**	**93**	*i* P	Pg	17 48 20.1	-0.3
ACX				*i* S	Sg	17 48 24.6	-0.4
ZIIG	**Zihuatanejo**	**1.34**	**303**	*i* P	Pn	17 48 35.6	-3.2
ZIIG				*i* S	Sb	17 48 50.4	-6.1
PNIG	**Pinotepa**	**2.12**	**103**	*i* P	Pn	17 48 46.5	-3.0
PNIG				*i* S	Sn	17 49 12.3	-3.9
UTMO	**Huajupan**	**2.55**	**68**	*i* P	Pn	17 48 54.0	-1.3
UTMO				*i* S	Sn	17 49 22.0	-4.7

ISCJB ***17*** *17:54:32.7±3.2, 297N±0.1×949E±0.1, h12km±20km, mb3.5/3, Error ellipse: s-maj=18.2km s-min=15.3km az=30.1*

IDC ***17*** *17:54:33.8±1.6, 3001N×9549E, h0km, mb3.5/3, mb1 3.4/5, mb1mx3.3/21, mbtmp3.3/5, ML3.0/1, Error ellipse: s-maj=79.8km s-min=21.8km az=66.0*

NEIC ***17*** *17:54:38.1±0.7, 2975N×9491E, h35km, Error ellipse: s-maj=13.2km s-min=9.9km az=166.0*

ISC 17 17:54:33.3±3.0**, 2985N**±009×**950E**±01**, h5**km±20km**, n17, σ1§25/18, mb3.5/3, Eastern Xizang-India border region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LSA	**Lhasa**	**3.31**	**268**	*e*P	**Pn**	**17 55 28.1**	**+2.3**
SHL	**Shillong**	**5.05**	**213**	*e*P	**Pg**	**17 56 11.0**	**+0.8**
SHL				*i* S	**Sg**	**17 57 15.0**	**-0.7**
TAPN	**Taplejung**	**6.83**	**250**	*e*P	**Pn**	**17 56 15.5**	**+1.3**
	11nm,0.5s						
ODAN	**Odare**	**7.30**	**248**	*e*P	**Pn**	**17 56 20.5**	**-0.1**
	9.0nm,0.3s						
RAMN	**Ramite**	**7.90**	**251**	*e*P	**Pn**	**17 56 29.5**	**+0.6**
	8.3nm,0.3s						
JIRN	**Jiri**	**7.99**	**256**	*e*P	**Pn**	**17 56 31.6**	**+1.5**
	9.0nm,0.3s						
GUN	**Gumba**	**8.18**	**259**	*e*P	**Pn**	**17 56 32.4**	**-0.4**
	5.3nm,0.2s						
PKI	**Pulchoki**	**8.68**	**257**	*e*P	**Pn**	**17 56 39.4**	**-0.2**
	4.3nm,0.3s						
KKN	**Kakani**	**8.73**	**259**	*e*P	**Pn**	**17 56 39.5**	**-0.7**
	3.1nm,0.2s						
GKN	**Gorkha**	**9.22**	**261**	*e*P	**Pn**	**17 56 45.0**	**-2.0**
DANN	**Dangsing**	**9.90**	**264**	*e*P	**Pn**	**17 56 53.9**	**-2.4**
	6.5nm,0.4s						
KOLN	**Koldanda**	**10.17**	**261**	*e*P	**Pn**	**17 56 56.3**	**-3.7**
	3.3nm,0.3s						
MKAR	**Makanchi Array**	**19.58**	**333**	P	**Pn**	**17 59 03.5**	**+0.2**
	0.1nm,0.3s,baz=148,slow=9.9,SNR=3.1						
SONM	**Songino Array**	**20.01**	**23**	P	**P**	**17 59 04.3**	**-2.5**
	0.1nm,0.3s,baz=198,slow=10,SNR=4.1						
ZALV	**Zalesovo Beam**	**25.19**	**346**	P	**P**	**18 00 00.9**	**+1.3**
	0.4nm,0.4s,mb3.3,baz=152,slow=9.5,SNR=2.5						
WRA	**Warramunga Arr**	**62.37**	**138**	P	**P**	**18 04 57.4**	**+0.3**
	0.6nm,1.1s,mb3.6,baz=322,slow=8.1,SNR=2.6						
ASAR	**Alice Springs**	**65.05**	**141**	P	**P**	**18 05 14.8**	**0.0**
	0.3nm,0.7s,mb3.5,baz=322,slow=7.3,SNR=4.4						

IDC ***17*** *18:00:48.2±1.9, 4645N×10105E, h0km, mb3.9/8, mb1 4.0/8, mb1mx3.8/19, mbtmp3.9/8, Error ellipse: s-maj=89.9km s-min=16.1km az=57.0*

ISCJB ***17*** *18:00:50.2±1.7, 485S×1003E±0.5, h33km, mb4.0/9, Error ellipse: s-maj=78.9km s-min=13.5km az=144.9*

NEIC ***17*** *18:00:53.4±1.1, 4645N×10108E, h35km, mb4.5/2, Error ellipse: s-maj=52.1km s-min=9.2km az=55.0*

ISC 17 18:00:53.3±1.6**, 47S**×003×**1011E**±04**, h35**km**, n13, σ0§42/12, mb4.0/9, Southern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**23.06**	**355**	P	**P**	**18 05 56.1**	**+0.3**
	2.1nm,0.9s,mb3.5,baz=184,slow=8.6,SNR=15						
WRA	**Warramunga Arr**	**35.78**	**118**	P	**P**	**18 07 48.6**	**-0.8**
	0.8nm,0.9s,mb3.6,baz=302,slow=10,SNR=3.9						
ASAR	**Alice Springs**	**36.87**	**124**	P	**P**	**18 07 58.7**	**+0.1**
	0.5nm,0.8s,mb3.4,baz=294,slow=7.6,SNR=6.4						
ASAR				PcP	PcP	18 10 20.8	+0.7
	0.4nm,0.8s,baz=304,slow=2.3,SNR=4.8						
STKA	**Stephens Creek**	**46.62**	**130**	P	**P**	**18 09 19.1**	**+0.8**
	baz=300,slow=11						
SONM	**Songino Array**	**52.48**	**5**	P	**P**	**18 10 02.6**	**0.0**
	1.6nm,0.8s,mb4.0,baz=181,slow=8.8,SNR=12						
MK31	**Makanchi Array**	**53.86**	**344**	*e*P	**P**	**18 10 13.4**	**+0.6**
MKAR	**Makanchi Array**	**53.86**	**344**	P	**P**	**18 10 12.7**	**-0.1**
	1.9nm,0.7s,mb4.1,baz=147,slow=8.8,SNR=16						
KURK	**Kurchatov**	**58.44**	**343**	P	**P**	**18 10 45.3**	**-0.2**
	0.3nm,0.2s,mb3.9,baz=163,slow=6.2,SNR=5.0						
KURK	**Kurchatov**	**58.44**	**343**	*e*P	**P**	**18 10 45.5**	**0.0**
	4.0nm,1.1s,mb4.4						
ZALV	**Zalesovo Beam**	**59.96**	**349**	P	**P**	**18 10 55.8**	**-0.1**
	1.7nm,0.8s,mb4.1,baz=159,slow=4.5,SNR=7.6						
BVAR	**Borovoye Array**	**63.03**	**340**	P	**P**	**18 11 16.3**	**-0.4**
	0.8nm,0.6s,mb4.0,baz=156,slow=8.1,SNR=5.1						
BRVK	**Borovoye**	**63.09**	**340**	*e*P	**P**	**18 11 16.7**	**-0.4**
	3.1nm,0.6s,mb4.6						
TXAR	**Lajitas Array**	**146.08**	**41**	PKPbc	PKPbc	18 20 31.0	+0.6
	0.7nm,0.7s,baz=339,slow=3.1,SNR=4.7						

SOF ***17*** *18:07:28.2, 3959N×2335E, h0km, MD2.8*

ATH ***17*** *18:07:31.1, 3954N×2351E, h10km±1km, MD3.4/8, ML3.3*

NEIC ***17*** *18:07:31.1, 3954N×2351E, h10km, ML3.3(ATH), After ATH.*

ISCJB ***17*** *18:07:31.4±0.5, 3956N±002×2343E±004, h11km±4km, Error ellipse: s-maj=5.5km s-min=2.9km az=5.8*

THE ***17*** *18:07:31.8, 3956N×2339E, h11km, ML3.4/6, Error ellipse: s-maj=0.6km s-min=0.3km az=108.0*

CSEM ***17*** *18:07:32.3±0.1, 3957N×2343E, h25km, ML3.4/6, Error ellipse: s-maj=3.4km s-min=1.5km az=97.0*

ISC 17 18:07:31.5±0.4**, 3957N**±002×**2342E**±004**, h10**km±3km**, n39, σ0§85/55, Aegean Sea**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
XOR	**Xorichti**	**0.27**	**221**	P	**Pg**	**18 07 36.7**	**-0.3**
XOR				S	**Sg**	**18 07 41.1**	**+0.4**
NEO	**Neokhori**	**0.31**	**210**	*e*Pb	**Pg**	**18 07 37.4**	**-0.2**
NEO	**Neokhori**	**0.31**	**210**	*e*PB	**Pg**	**18 07 37.4**	**-0.2**
PAIG	**Paliouri**	**0.41**	**29**	P	**Pg**	**18 07 40.3**	**+0.8**
PAIG				S	**Sg**	**18 07 46.7**	**+1.8**
AOS	**Alonnisos**	**0.54**	**138**	P	**Pg**	**18 07 42.3**	**+0.4**
AOS				S	**Sg**	**18 07 49.9**	**+1.0**
PLG	**Polygyros**	**0.80**	**1**	*e*Pb	**Pb**	**18 07 46.6**	**-0.9**
PLG				*e*Sb	**Sb**	**18 07 57.9**	**-0.4**
PLG	**Polygyros**	**0.80**	**1**	*e*PB	**Pb**	**18 07 46.6**	**-0.9**
PLG				*e*SB	**Sb**	**18 07 57.9**	**-0.4**
OUR	**Ouranopolis**	**0.87**	**29**	P	**Pg**	**18 07 48.8**	**+0.5**
LIT	**Litokhoron**	**0.89**	**307**	P	**Pg**	**18 07 48.0**	**-0.6**
LIT				S	**Sg**	**18 08 00.9**	**+0.6**
LKR	**Lokris**	**0.98**	**200**	*e*Pb	**Pb**	**18 07 49.8**	**-0.7**
LKR	**Lokris**	**0.98**	**200**	*e*PB	**Pb**	**18 07 49.8**	**-0.7**
AGG	**Agios Georgios**	**1.01**	**237**	P	**Pg**	**18 07 50.0**	**-0.9**
AGG				S	**Sg**	**18 08 04.3**	**+0.3**
HORT	**Hortiatis**	**1.05**	**346**	P	**Pg**	**18 07 51.6**	**-0.1**
HORT				S	**Sg**	**18 08 06.5**	**+1.1**
THE	**Thessaloniki**	**1.11**	**342**	P	**Pb**	**18 07 52.2**	**-0.6**
THE				S	**Sb**	**18 08 08.2**	**+0.8**
SOH	**Sokhos**	**1.25**	**358**	P	**Pn**	**18 07 54.8**	**-0.1**
SOH				S	**Sb**	**18 08 12.4**	**+1.2**
LIA	**Limnos Island**	**1.40**	**76**	*e*Pb	**Pb**	**18 07 56.3**	**-1.3**
LIA	**Limnos Island**	**1.40**	**76**	*e*PB	**Pb**	**18 07 56.3**	**-1.3**
EVR	**Evrytania**	**1.41**	**243**	*e*Pb	**Pb**	**18 07 58.4**	**+0.5**
EVR	**Evrytania**	**1.41**	**243**	*e*PB	**Pb**	**18 07 58.4**	**+0.5**
GRG	**Griva**	**1.59**	**331**	P	**Pn**	**18 07 59.2**	**-0.4**
GRG				S	**Sn**	**18 08 20.5**	**+0.3**
LTK	**Loutraki**	**1.59**	**193**	P	**Pn**	**18 07 58.8**	**-0.8**
LTK				S	**Sn**	**18 08 20.2**	**+0.1**
ATH	**Athens Observa**	**1.61**	**172**	*e*Pb	**Pb**	**18 08 00.5**	**-0.8**
ATH	**Athens Observa**	**1.61**	**172**	*e*PB	**Pb**	**18 08 00.5**	**-0.8**
KNT	**Kendrikon**	**1.64**	**346**	P	**Pn**	**18 08 00.1**	**-0.2**
KVR	**Kavouri**	**1.76**	**171**	*e*Pn	**Pn**	**18 08 04.0**	**+2.0**
KVR	**Kavouri**	**1.76**	**171**	*e*PN	**Pn**	**18 08 04.0**	**+2.0**
NAIG	**Nisos Aigina**	**1.81**	**178**	*e*Pn	**Pn**	**18 08 04.0**	**+1.3**
NAIG	**Nisos Aigina**	**1.81**	**178**	*e*PN	**Pn**	**18 08 04.0**	**+1.3**
VAY	**Valandovo**	**1.86**	**340**	*e*Pn	**Pn**	**18 08 03.3**	**-0.1**
VAY	**Valandovo**	**1.86**	**340**	*e*Pn	**Pn**	**18 08 03.2**	**-0.2**
MMB	**Musomiste**	**2.03**	**6**	Pg	**Pg**	**18 08 09.0**	**-1.4**
DID	**Didima**	**2.07**	**184**	P	**Pn**	**18 08 05.5**	**-0.7**
DID				S	**Sn**	**18 08 31.9**	**-0.1**
KKB	**Krupnik**	**2.31**	**354**	P	**Pn**	**18 08 09.3**	**-0.2**
KKB				Pg	**Pg**	**18 08 12.3**	**-3.4**
RZN	**Rozhen**	**2.33**	**25**	P	**Pn**	**18 08 10.7**	**-0.1**
RZN				Pg	**Pg**	**18 08 14.6**	**-1.6**
VLX	**Vlachokerasia**	**2.35**	**201**	P	**Pn**	**18 08 09.8**	**-0.2**
VLX				S	**Sn**	**18 08 39.4**	**+0.5**
KRUS	**Krusevo**	**2.44**	**318**	*e*Pn	**Pn**	**18 08 12.8**	**+1.4**
KRUS	**Krusevo**	**2.44**	**318**	*e*Pn	**Pn**	**18 08 12.7**	**+1.3**
VTS	**Vitosha**	**3.02**	**357**	Pg	**Pg**	**18 08 28.3**	**-1.0**
BARS	**Barje**	**3.46**	**340**	*e*Pn	**Pn**	**18 08 25.3**	**0.0**

MEX 17 18:08:58.0±0.5**, 1972N×10119W, h12**km±2km**, MD3.5, Michoacan**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MOIG	**Morelia**	**0.04**	**182**	*i* P	Pg	18 08 59.5	-0.7
MOIG				*i* S	Sg	18 09 01.1	-0.6
SFJM	**Santa Fe**	**1.90**	**294**	*i* P	Pn	18 09 27.4	-2.9
SFJM				*i* S	Sn	18 09 48.8	-5.4
ZIIG	**Zihuatanejo**	**2.12**	**187**	*i* P	Pn	18 09 30.3	-3.0
ZIIG				*i* S	Sn	18 09 54.7	-4.9
MMIG	**Aquila**	**2.49**	**235**	*e*P	Pn	18 09 35.8	-2.6
MMIG				*i* S	Sn	18 10 04.2	-4.6

ISCJB ***17*** *18:21:21.5±0.5, 4039N±002×2606E±004, h10km±3km, Error ellipse: s-maj=4.8km s-min=3.5km az=17.0*

ATH ***17*** *18:21:21.1, 4039N×2613E, h28km±3km, MD3.2/4*

NEIC ***17*** *18:21:21.1, 4039N×2613E, h28km, MD3.2(ISK), MD3.2(ATH), After ATH.*

CSEM ***17*** *18:21:21.1±0.1, 4037N×2609E, h8km, MD3.2, Error ellipse: s-maj=1.6km s-min=1.3km az=103.0*

DDA ***17*** *18:21:21.1, 4038N×2616E, h7km±5km, Md3.0*

ISK ***17*** *18:21:21.4, 4038N×2610E, h8km, MD3.2*

ISC 17 18:21:21.8±0.5**, 4038N**±002×**2605E**±004**, h11**km±3km**, n36, σ0§94/49, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GADA	**Gvkgeada**	**0.23**	**212**	*e*PG	**Pg**	**18 21 26.8**	**+0.3**
GADA				*e*SG	**Sg**	**18 21 30.9**	**+1.2**
ENEZ	**Enez**	**0.36**	**12**	*e*PG	**Pg**	**18 21 28.9**	**-0.2**
ENEZ				*e*SG	**Sg**	**18 21 34.3**	**+0.4**
BOZC	**Bozcaada**	**0.54**	**180**	*i* P	**Pg**	**18 21 31.9**	**-0.5**
BOZC				*i* S	**Sg**	**18 21 40.5**	**+1.0**
EZN	**Ezine**	**0.59**	**159**	*e*PG	**Pg**	**18 21 32.6**	**-0.8**
EZN				*e*SG	**Sg**	**18 21 41.5**	**+0.3**
LIA	**Limnos Island**	**0.82**	**234**	*e*Pn	**Pn**	**18 21 38.2**	**-1.1**
LIA	**Limnos Island**	**0.82**	**234**	*e*PN	**Pn**	**18 21 38.2**	**-1.1**
RDO	**Rodhopi**	**0.86**	**333**	*e*Pn	**Pn**	**18 21 37.9**	**-1.9**
RDO				*e*Sn	**Sn**	**18 21 51.2**	**-1.1**
RDO	**Rodhopi**	**0.86**	**333**	*e*PN	**Pn**	**18 21 37.9**	**-1.9**
RDO				*e*SN	**Sn**	**18 21 51.2**	**-1.1**
RKY	**Sarkoy-Tekirda**	**0.91**	**70**	*e*PG	**Pg**	**18 21 38.6**	**-0.8**
RKY				*e*SG	**Sg**	**18 21 51.1**	**-0.1**
SART	**Tekirdag**	**0.91**	**70**	*i* P	**Pg**	**18 21 37.4**	**-2.0**
SART				*i* S	**Sg**	**18 21 50.7**	**-0.6**
MFT	**Murefte**	**1.02**	**66**	*e*PG	**Pg**	**18 21 41.2**	**-0.2**
MFT				*e*SG	**Sg**	**18 21 55.2**	**+0.5**
PRK	**Paraskevi**	**1.15**	**171**	*e*Pn	**Pn**	**18 21 42.9**	**-0.9**
PRK	**Paraskevi**	**1.15**	**171**	*e*PN	**Pn**	**18 21 42.9**	**-0.9**
AYVA	**Ayvalik**	**1.18**	**155**	*i* P	**Pb**	**18 21 43.3**	**-0.9**
AYVA				*i* S	**Sb**	**18 21 59.4**	**0.0**
MRMT	**Marmara Adasi**	**1.20**	**79**	*e*PN	**Pn**	**18 21 43.9**	**-0.6**
MRMT				*e*SN	**Sn**	**18 21 59.8**	**-0.8**
TKR	**Tekirdag**	**1.28**	**61**	*e*PN	**Pn**	**18 21 45.6**	**0.0**
BALY	**Balya**	**1.36**	**118**	*i* P	**Pn**	**18 21 45.7**	**-1.0**
BALY				*i* S	**Sb**	**18 22 03.3**	**-1.4**
EDC	**Edincik**	**1.38**	**91**	*e*PN	**Pn**	**18 21 46.9**	**-0.1**
BNT	**Bandirma**	**1.43**	**90**	*e*PN	**Pn**	**18 21 47.1**	**-0.5**
CRLT	**Corlu**	**1.48**	**59**	*e*PN	**Pn**	**18 21 48.6**	**+0.3**
EDRB	**Edirne**	**1.55**	**19**	*e*PN	**Pn**	**18 21 49.6**	**+0.3**
EDRB				*e*SN	**Sn**	**18 22 11.1**	**+1.6**
BALB	**Balikesir**	**1.59**	**117**	*e*PN	**Pn**	**18 21 49.9**	**+0.1**
SLVT	**Silivri**	**1.84**	**62**	*e*PN	**Pn**	**18 21 53.9**	**+0.5**
CTT	**Catalca**	**1.96**	**66**	*e*PN	**Pn**	**18 21 55.5**	**+0.5**
PLG	**Polygyros**	**1.99**	**271**	*e*Pn	**Pn**	**18 21 55.4**	**0.0**
PLG	**Polygyros**	**1.99**	**271**	*e*PN	**Pn**	**18 21 55.4**	**0.0**
CTYL	**Yal??k??y-??at**	**2.02**	**56**	*e*PN	**Pn**	**18 21 56.4**	**+0.7**
AKHS	**Akhisar**	**2.03**	**137**	*i* P	**Pn**	**18 21 54.0**	**-1.8**
CTKS	**Kestanelik-??a**	**2.05**	**65**	*e*PN	**Pn**	**18 21 57.5**	**+1.3**
DST	**Dursunbey**	**2.12**	**111**	*e*PN	**Pn**	**18 21 58.3**	**+1.1**
KLYT	**Kilyos**	**2.43**	**68**	*e*PN	**Pn**	**18 22 02.9**	**+1.5**
DEMI	**Demirci**	**2.45**	**122**	*i* P	**Pn**	**18 22 02.0**	**+0.3**
YLV	**Yalova**	**2.54**	**85**	*e*PN	**Pn**	**18 22 04.5**	**+1.6**
KULA	**Kula-Manisa**	**2.75**	**132**	*e*PN	**Pn**	**18 22 07.0**	**+1.2**
KHL	**Karahalli**	**3.39**	**126**	*e*PN	**Pn**	**18 22 15.9**	**+1.3**
ALT	**Altintas**	**3.40**	**112**	*e*PN	**Pn**	**18 22 15.7**	**+0.9**

NIED ***17*** *18:47:00, 4640N×15330E, h8km, Mw4.1 Best double couple: M0 1.65000×10^15 NP1:φs=191.00000°, δ77.00000°, λ-73.00000°. NP2:φs=317.00000°, δ21.00000°, λ-142.00000°.*

JMA ***17*** *18:47:49.3±0.7, 4635N×15332E, h30km, M4.1*

NEIC ***17*** *18:47:51.5±8.2, 4613N×15265E, h3km±51km, mb4.3/1, Error ellipse: s-maj=20.0km s-min=16.4km az=83.0*

MOS ***17*** *18:47:54.2±1.5, 4621N×15274E, h33km, mb4.2/6, Error ellipse: s-maj=21.0km s-min=16.1km az=62.6*

ISCJB ***17*** *18:47:54.2±2.2, 4611N±0.1×1527E±0.1, h33km±16km, mb3.8/10, Error ellipse: s-maj=20.9km s-min=6.6km az=147.0*

IDC ***17*** *18:47:57.6±3.0, 4619N×15279E, h48km±27km, mb3.3/9, mb1 3.6/11, mb1mx3.4/23, mbtmp3.4/11, ML3.7/2, Error ellipse: s-maj=26.4km s-min=19.0km az=109.0*

ISC 17 18:47:55.8±2.1**, 461N**±01×**1528E**±01**, h31**km±16km**, n40, σ1§49/45, mb3.8/10, 1C, Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KUR	**Kuril'sk**	**3.54**	**257**	*e*PN	**Pn**	**18 48 45.5**	**-3.0**
KUR				*e*S	**Sn**	**18 49 29.0**	**-0.2**
KUR				pmax	pmax		
	comp=N,40nm,0.4s						
KUR				pmax	pmax		
	comp=Z,100nm,0.4s						
KUR				smax			
	comp=N,90nm,0.5s						
KUR				smax			
	comp=E,170nm,0.5s						
SKR	**Severo-Kuril's**	**5.09**	**25**	*e*PN	**Pn**	**18 49 07.3**	**-2.5**
SKR				pmax	pmax		
	comp=N,40nm,0.5s						
SKR				pmax	pmax		
	comp=Z,60nm,0.5s						
NEM2	**Nemuro 2**	**5.70**	**244**	P	**Pn**	**18 49 17.7**	**-0.5**
NEM2				*e*S	**Sn**	**18 50 22.7**	**+0.2**
JNK	**Nakash**	**6.25**	**249**	P	**Pn**	**18 49 26.9**	**+1.2**
JAK	**Akkeshi**	**6.54**	**244**	*e*S	**Sn**	**18 50 42.4**	**-0.9**
JTKR	**Abashiri--Toko**	**6.62**	**254**	P	**Pn**	**18 49 32.8**	**+1.9**
JMP	**Maruseppu**	**6.98**	**256**	P	**Pn**	**18 49 38.6**	**+2.8**
JAR	**Ashorobuto**	**6.99**	**249**	P	**Pn**	**18 49 37.6**	**+1.6**
JAR				*e*S	**Sn**	**18 50 55.9**	**+1.6**
JOB	**Onbets**	**7.14**	**246**	*e*S	**Sn**	**18 50 58.6**	**+0.7**
JKK2	**Kamakawa 2**	**7.44**	**256**	P	**Pn**	**18 49 44.5**	**+2.4**
ASAJ	**Asahikawa**	**7.46**	**258**	P	**Pn**	**18 49 45.2**	**+2.9**
	comp=Z,1.4nm,0.3s,baz=354,slow=20,SNR=16						
ASAJ	**Asahikawa**	**7.46**	**258**	P	**Pn**	**18 49 45.5**	**+3.2**
ASAJ	**Asahikawa**	**7.46**	**258**	PN	**Pn**	**18 49 45.2**	**+2.9**
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
JCH	**Churui**	**7.58**	**246**	*e*S	**Sn**	**18 51 07.3**	**-1.6**
PETK	**Petropavlovsk-**	**7.70**	**23**	P

ASAR	**Alice Springs**	**36.78**	**124**	P	**P**		**18 55 13.7**	**+0.1**
	0.7nm,0.5s,mb3.7,baz=301,slow=7.8,SNR=12							
ASAR				PcP	PcP		18 57 35.8	+0.4
	0.9nm,0.7s,baz=282,slow=2.0,SNR=8.4							
STKA	**Stephens Creek**	**46.56**	**131**	P	**P**		**18 56 33.3**	**-0.2**
	2.9nm,0.8s,mb4.3,baz=306,slow=8.7,SNR=7.9							
SONM	**Songino Array**	**52.26**	**4**	P	**P**		**18 57 18.6**	**+1.9**
	3.4nm,0.8s,mb4.3,baz=189,slow=8.5,SNR=22							
TKM2	**Tokmak 2**	**52.59**	**336**	*e*P	**P**		**18 57 19.6**	**+0.5**
	6.2nm,1.2s,mb4.4							
MK31	**Makanchi Array**	**53.73**	**344**	*e*P	**P**		**18 57 27.7**	**+0.2**
MKAR	**Makanchi Array**	**53.73**	**344**	P	**P**		**18 57 27.9**	**+0.4**
	5.8nm,0.8s,mb4.6,baz=144,slow=8.3,SNR=40							
KURK	**Kurchatov**	**58.31**	**343**	P	**P**		**18 57 59.6**	**-0.6**
	3.8nm,0.9s,mb4.4,baz=168,slow=6.7,SNR=18							
KURK	**Kurchatov**	**58.31**	**343**	*e*P	**P**		**18 58 00.0**	**-0.2**
ZAA0	**Zalesovo Array**	**59.81**	**349**	*e*P	**P**		**18 58 10.5**	**0.0**
ZALV	**Zalesovo Beam**	**59.81**	**349**	P	**P**		**18 58 10.4**	**-0.1**
	4.6nm,0.9s,mb4.5,baz=160,slow=4.7,SNR=17							
BVAR	**Borovoye Array**	**62.92**	**340**	P	**P**		**18 58 30.7**	**-0.9**
	2.5nm,0.6s,mb4.5,baz=144,slow=9.2,SNR=10							
VNA2	**Neumayer--Watz**	**91.85**	**198**	*e*	**P**		**19 01 13.0**	**0.0**
	baz=39,slow=2.9							
VNA3	**Neumayer Olymp**	**92.43**	**198**	*e*	**P**		**19 01 15.9**	**+0.1**
PV01	**Paradox Valley**	**136.82**	**35**	*e*PKPdf	PKPdf		19 07 29.1	+0.9
TXAR	**Lajitas Array**	**145.77**	**41**	PKPbc	PKPbc		19 07 46.4	+1.4
	1.2nm,0.7s,baz=278,slow=1.5,SNR=12							
WVT	**Waverly**	**147.37**	**14**	*e*PKPdf	PKPdf		19 07 48.9	+1.8

IDC ***17*** *19:46:55.1±1.1,276N×127.11E, h0km, mb3.8/7, mb1 3.9/7, mb1mx3.8/17, mbtmp3.8/7, Error ellipse: s-maj=107.7km s-min=16.0km az=71.0*

ISCJB ***17*** *19:46:58.1±0.8, 27N±02×1269E±05, h33km, mb3.9/8, Error ellipse: s-maj=76.5km s-min=11.4km az=160.4*

NEIC ***17*** *19:46:59.9±0.6, 276N×127.17E, h35km, mb4.1/2, Error ellipse: s-maj=53.7km s-min=8.5km az=71.0*

ISC 17 19:47:00.0±0.8, 28N±02×1272E±05, h35km, n11, σ0§49/11, mb3.9/8, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**20.78**	**184**	P	**P**	**19 51 38.6**	**+0.4**
	1.1nm,0.7s,baz=7.6,slow=15,SNR=3.8						
WRAB	**Tennant Creek**	**23.63**	**163**	*e*P	**P**	**19 52 08.1**	**-0.1**
	2.7nm,0.8s,mb3.7						
WRA	**Warramunga Arr**	**23.63**	**163**	P	**P**	**19 52 08.0**	**-0.3**
	2.4nm,0.8s,mb3.7,baz=335,slow=10,SNR=19						
WRA				PcP	PcP	19 55 53.5	+1.1
	0.2nm,0.4s,baz=337,slow=2.1,SNR=4.5						
WB2	**Warramunga Arr**	**23.64**	**163**	*e*P	**P**	**19 52 07.9**	**-0.4**
ASAR	**Alice Springs**	**27.07**	**166**	P	**P**	**19 52 39.2**	**-0.2**
	0.2nm,0.4s,mb3.0,baz=346,slow=9.0,SNR=7.0						
STKA	**Stephens Creek**	**37.07**	**159**	P	**P**	**19 54 07.5**	**+0.5**
	3.8nm,0.6s,mb4.4,baz=345,slow=8.1,SNR=7.7						
SONM	**Songino Array**	**48.35**	**341**	P	**P**	**19 55 39.2**	**+1.0**
	2.0nm,0.6s,mb4.3,baz=156,slow=9.1,SNR=19						
MKAR	**Makanchi Array**	**58.59**	**325**	P	**P**	**19 56 53.6**	**+0.2**
	0.4nm,0.5s,mb3.7,baz=120,slow=8.9,SNR=5.9						
ZALV	**Zalesovo Beam**	**61.64**	**333**	P	**P**	**19 57 13.7**	**-0.5**
	0.6nm,0.5s,mb4.0,baz=140,slow=7.6,SNR=3.1						
ZALV	**Zalesovo Beam**	**61.64**	**333**	P	**P**	**19 57 13.7**	**-0.5**
KURK	**Kurchatov**	**62.79**	**328**	*e*P	**P**	**19 57 21.1**	**-0.8**
	2.5nm,0.9s,mb4.3						

ATH ***17*** *19:53:34.4, 3728N×2165E, h12km±4km, MD3.4/8*

NEIC ***17*** *19:53:34.4, 3728N×2165E, h12km, MD3.4(ATH), After ATH.*

ISCJB ***17*** *19:53:35.3±0.5, 3729N±003×2172E±004, h10km, Error ellipse: s-maj=5.0km s-min=3.6km az=139.9*

CSEM ***17*** *19:53:35.0±0.1, 3734N×2176E, h2km, MD3.4, Error ellipse: s-maj=3.5km s-min=2.0km az=39.0*

THE ***17*** *19:53:35.0, 3732N×2173E, h0km±2km, ML3.0/1, Error ellipse: s-maj=2.7km s-min=0.8km az=202.0*

ISC 17 19:53:35.2±0.6, 3731N±003×2172E±004, h5km±6km, n28, σ0§90/40, Southern Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ITM	**Ithomi**	**0.21**	**128**	*e*Pg	**Pg**	**19 53 39.1**	**-0.3**
ITM	**Ithomi**	**0.21**	**128**	*e*PG	**Pg**	**19 53 39.1**	**-0.3**
PYL	**PYLOS**	**0.41**	**177**	P	**Pg**	**19 53 42.5**	**-0.7**
PYL				S	**Sg**	**19 53 49.7**	**+1.1**
VLX	**Vlachokerasia**	**0.53**	**83**	P	**Pg**	**19 53 44.7**	**-0.7**
VLX				S	**Sg**	**19 53 52.3**	**-0.1**
RLS	**Riolos of Patr**	**0.77**	**345**	*e*Pg	**Pg**	**19 53 48.9**	**-1.2**
RLS				*e*Sb	**Sb**	**19 54 01.2**	**-0.8**
RLS	**Riolos of Patr**	**0.77**	**345**	*e*PG	**Pg**	**19 53 48.9**	**-1.2**
RLS				*e*SB	**Sb**	**19 54 01.2**	**-0.8**
KFL	**Anninata**	**1.09**	**318**	P	**Pg**	**19 53 55.4**	**-0.7**
KFL				S	**Sg**	**19 54 11.8**	**+1.6**
VLI	**Veliai**	**1.14**	**121**	*e*Pb	**Pg**	**19 53 57.1**	**-0.3**
VLI	**Veliai**	**1.14**	**121**	*e*PB	**Pb**	**19 53 57.1**	**-0.3**
LTK	**Loutraki**	**1.22**	**54**	P	**Pg**	**19 53 58.1**	**-0.6**
LTK				S	**Sg**	**19 54 15.1**	**+0.6**
DID	**Didima**	**1.23**	**80**	P	**Pg**	**19 53 57.3**	**-1.4**
DID				S	**Sg**	**19 54 15.8**	**+1.2**
VLS	**Valsamata**	**1.24**	**314**	*e*Pb	**Pb**	**19 53 57.5**	**-1.7**
VLS				*e*Sb	**Sb**	**19 54 14.8**	**-0.7**
VLS				S	**Sg**	**19 54 17.0**	**+1.8**
VLS	**Valsamata**	**1.24**	**314**	*e*Pb	**Pb**	**19 53 57.5**	**-1.7**
VLS				*e*Sb	**Sb**	**19 54 14.8**	**-0.7**
VLS	**Valsamata**	**1.24**	**314**	*e*PB	**Pb**	**19 53 57.5**	**-1.7**
VLS				*e*SB	**Sb**	**19 54 14.8**	**-0.7**
KYTH	**Kithira**	**1.48**	**134**	*e*Pb	**Pb**	**19 54 03.0**	**-0.1**
KYTH	**Kithira**	**1.48**	**134**	*e*PB	**Pb**	**19 54 03.0**	**-0.1**
EVR	**Evrytania**	**1.61**	**3**	*e*Pb	**Pb**	**19 54 05.4**	**0.0**
EVR	**Evrytania**	**1.61**	**3**	*e*PB	**Pb**	**19 54 05.4**	**0.0**
LKR	**Lokris**	**1.68**	**37**	P	**Pn**	**19 54 05.0**	**-0.3**
LKR	**Lokris**	**1.68**	**37**	*e*Pn	**Pn**	**19 54 05.6**	**+0.3**
LKR	**Lokris**	**1.68**	**37**	*e*PN	**Pn**	**19 54 05.6**	**+0.3**
AGG	**Agios Georgios**	**1.78**	**16**	P	**Pn**	**19 54 06.8**	**+0.2**
AGG				S	**Sn**	**19 54 29.5**	**-0.1**
THL	**Klokotos Trika**	**2.26**	**6**	*e*Pn	**Pn**	**19 54 14.4**	**+1.1**
THL	**Klokotos Trika**	**2.26**	**6**	*e*PN	**Pn**	**19 54 14.4**	**+1.1**
NEO	**Neokhori**	**2.32**	**30**	P	**Pn**	**19 54 14.5**	**+0.4**
XOR	**Xorichti**	**2.36**	**29**	P	**Pn**	**19 54 14.5**	**-0.1**
SMG	**Samos**	**4.09**	**83**	P	**Pn**	**19 54 39.8**	**+1.4**
CEL	**Celeste**	**4.71**	**283**	P	**Pn**	**19 54 40.0**	**-6.9**

NEIC ***17*** *20:04:09.7, 4175N×8142W, h5km, MD3.1(LDO), MN3.2(OGSO), MN3.4(OTT), After OGSO.*

NEIC Felt [III] at Eastlake, Mentor, Painesville, Wickliffe and Willoughby. Felt at Akron, Aurora, Burton, Cleveland, Euclid, North Royalton, Pataskala and Toledo.

OTT 17 20:04:10.2±0.1, 4179N×8142W, h5km, MN3.4/11, 2C-3D, South shore Lake Erie 77km southeast from Blenheim, On Eastern Background Seismic Zone., Ohio

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLIO	**Pelee Island,**	**0.90**	**268**	ǁPg	Pg	20 04 26.4	-1.1
PLIO				SG	Sg	20 04 38.0	-1.2
PLIO				Trac		20 04 39.6	
	comp=Z,191nm,0.1s						
PLIO	**Pelee Island,**	**0.90**	**268**	P	Pg	20 04 26.4	-1.1
PLIO				S	Sg	20 04 38.1	-1.1
ALLY	**Alegheny Colle**	**0.97**	**98**	ǁPG	Pg	20 04 27.6	-1.1
ALLY				SG	Sg	20 04 40.1	-1.2
ALLY	**Alegheny Colle**	**0.97**	**98**	P	Pg	20 04 27.6	-1.1
ALLY				S	Sg	20 04 40.1	-1.2
ERPA	**Erie**	**1.12**	**72**	ǁPG	Pg	20 04 30.4	-1.3
ERPA				SG	Sg	20 04 45.5	-0.7
ERPA				Trac		20 04 51.1	
	comp=Z,180nm,0.2s						
ERPA	**Erie**	**1.12**	**72**	*e*P	Pg	20 04 30.0	-1.7
ERPA				*e*S	Sg	20 04 44.6	-1.6
ELFO	**Elginfield**	**1.41**	**3**	⇑PG	Pg	20 04 35.6	-1.6
ELFO				SG	Sg	20 04 54.5	-1.0
TYNO	**Tyneside**	**1.74**	**41**	⇑PG	Pg	20 04 41.2	-2.3
TYNO				SG	Sg	20 05 03.6	-2.6
TYNO				Trac		20 05 08.1	
	comp=Z,122nm,0.1s						
TYNO	**Tyneside**	**1.74**	**41**	P	Pn	20 04 41.1	0.0
TYNO				S	Sn	20 05 04.9	+1.3
ACSO	**Alum Creek Sta**	**1.95**	**218**	*e*P	Pn	20 04 43.1	-0.8
ACSO				*e*S	Sn	20 05 08.0	-0.8
EFO	**Effingham**	**2.04**	**49**	PN	Pn	20 05 45.8	+0.7
EFO				SG	Sg	20 05 12.7	-2.9
EFO				Trac		20 04 14.6	
	comp=Z,73nm,0.2s						
EFO	**Effingham**	**2.04**	**49**	P	Pn	20 04 45.7	+0.5
EFO				S	Sn	20 05 12.7	+1.7
ACTO	**Acton**	**2.08**	**28**	PN	Pn	20 04 46.1	+0.4
ACTO				PG	Pg	20 04 47.2	-2.8
ACTO				SG	Sg	20 05 15.5	-1.5
ACTO	**Acton**	**2.08**	**28**	P	Pn	20 04 46.0	+0.3
ACTO				S	Sn	20 05 14.2	+2.2
STCO	**Saint Catharin**	**2.19**	**49**	SG	Sg	20 05 18.5	-2.1
STCO	**Saint Catharin**	**2.19**	**49**	P	Pn	20 04 48.3	+1.0
STCO				S	Sn	20 05 16.1	+1.4
BUF	**Buffalo**	**2.22**	**58**	P	Pn	20 04 50.0	+2.3
BUF				*e*S	Sn	20 05 07.3	-8.1
BASO	**Ashfield**	**2.23**	**356**	PN	Pn	20 04 48.8	+1.0
BASO				SG	Sg	20 05 19.5	-2.4
BWLO	**Walkerton**	**2.34**	**5**	PN	Pn	20 04 49.6	+0.3
BWLO				SG	Sg	20 05 22.1	-3.3
BWLO				Trac		20 05 26.7	
	comp=Z,59nm,0.2s						
TORO	**Toronto--Lesli**	**2.38**	**39**	SG	Sg	20 05 24.5	-2.3
TORO	**Toronto--Lesli**	**2.38**	**39**	P	Pn	20 04 51.1	+1.2
TORO				S	Sn	20 05 21.3	+1.8
MCWV	**Mont Chateau**	**2.44**	**150**	*e*P	Pn	20 04 51.5	+0.8
MCWV				*e*S	Sn	20 05 22.6	+1.7
BRCO	**Bruce Peninsul**	**2.46**	**360**	Trac		20 05 29.6	
	comp=Z,115nm,0.2s						
MEDO	**Medina**	**2.59**	**57**	PN	Pn	20 04 52.4	-0.4
MEDO				SG	Sg	20 05 29.9	-3.6
MEDO	**Medina**	**2.59**	**57**	P	Pn	20 04 52.6	-0.1
MEDO				S	Sn	20 05 25.7	+1.1
PKRO	**Pickering**	**2.78**	**38**	PG	Pg	20 04 59.1	-4.4
PKRO				SG	Sg	20 05 34.7	-4.8
PKRO	**Pickering**	**2.78**	**38**	P	Pn	20 04 58.9	+3.5
PKRO				S	Sn	20 05 31.2	+1.9
CLWO	**Collingwood**	**2.79**	**17**	PN	Pn	20 04 55.5	0.0
CLWO				SG	Sg	20 05 35.4	-4.2
CLWO				Trac		20 05 39.2	
	comp=Z,71nm,0.2s						
CLWO	**Collingwood**	**2.79**	**17**	P	Pn	20 04 55.4	0.0
CLWO				S	Sn	20 05 31.0	+1.6
DRWO	**Darlington Wes**	**2.88**	**43**	SG	Sg	20 05 37.5	-5.0
SSPA	**Standing Stone**	**2.91**	**112**	*e*Pn	Pn	20 04 55.0	-2.1
SSPA				*e*S	Sn	20 05 26.2	-6.2
WLVO	**Wesleyville**	**3.08**	**45**	P	Pn	20 04 58.9	-0.6
WLVO				S	Sn	20 05 38.7	+1.9
SADO	**Sadowa**	**3.42**	**28**	PN	Pn	20 05 03.0	-1.0
SADO				PG	Pg	20 05 11.2	-4.4
SADO				LG		20 05 54.0	
SADO				Trac		20 05 59.9	
	comp=Z,21nm,0.1s						
SADO	**Sadowa**	**3.42**	**28**	P	Pn	20 05 03.4	-0.7
SADO				S	Sn	20 05 46.3	+1.4
KLBO	**Killbear Provi**	**3.68**	**13**	P	Pn	20 05 07.2	-0.4
KLBO				S	Sn	20 05 52.9	+1.6
PECO	**Prince Edward**	**3.90**	**55**	PN	Pn	20 05 10.3	-0.4
PECO				SN	Sn	20 05 53.7	-3.2
PECO				LG		20 06 07.0	
PECO				Trac		20 06 14.2	
	comp=Z,28nm,0.2s						
BINY	**Binghamton**	**4.07**	**82**	*e*Pn	Pn	20 05 12.0	-1.2
BINY				*e*S	Sn	20 06 07.9	+6.7
ELN	**Prospectdale**	**4.58**	**173**	*e*Pn	Pn	20 05 13.4	-6.7
BLA	**Blacksburg**	**4.63**	**170**	Pn	Pn	20 05 16.5	-4.3
EEO	**Eldee**	**5.14**	**18**	SN	Sn	20 06 24.0	-3.4
EEO				LG		20 06 50.2	
EEO				Trac		20 06 51.6	
	comp=Z,17nm,0.3s						
CRLO	**Chalk River**	**5.16**	**33**	SN	Sn	20 06 21.5	-6.3
CRLO				LG		20 06 46.5	
CRLO				Trac		20 06 49.5	
	comp=Z,25nm,0.3s						
TZTN	**Tazewell**	**5.49**	**198**	Pn	Pn	20 05 36.6	+4.0
	17nm,0.8s						
WBO	**Williamsburg**	**5.51**	**52**	SN	Sn	20 06 32.1	-4.5
WBO				LG		20 06 56.3	
WBO				Trac		20 07 02.5	
	comp=Z,9.3nm,0.2s						
GAC	**Glen Almond**	**5.82**	**46**	LG		20 07 02.2	
GAC				Trac		20 07 11.2	
	comp=Z,16nm,0.3s						
GRQ	**Grand Remous**	**6.26**	**38**	SN	Sn	20 06 46.7	-8.4
GRQ				LG		20 07 21.4	
GRQ				Trac		20 07 29.4	
	comp=Z,13nm,0.2s						
TKL	**Tuckaleechee C**	**6.39**	**197**	P	Pn	20 05 51.5	+6.5
TKL				*e*P		20 06 02.8	
TKL				*e*Sn	Sn	20 06 54.7	-3.6
FRNY	**Flat Rock**	**6.48**	**59**	SN	Sn	20 06 59.2	-1.1
FRNY				LG		20 07 26.8	
JFWS	**Jewell Farm**	**6.63**	**283**	SN	Sn	20 07 01.3	-2.9
JFWS				SN	Sn	20 07 02.1	-2.2
JFWS				LG		20 07 36.5	
JFWS				LG		20 07 37.1	
JFWS				Trac		20 07 42.0	
	comp=Z,31nm,0.5s						
TRQ	**Mont Tremblant**	**6.65**	**46**	SN	Sn	20 07 02.6	-1.9
TRQ				LG		20 07 31.8	
TRQ				Trac		20 07 46.4	
	comp=Z,9.9nm,0.2s						

NEIC ***17*** *20:08:12.9±4.0, 3050S×179.17W, h231km±35km, Error ellipse: s-maj=38.0km s-min=17.7km az=213.0*

ISCJB ***17*** *20:08:13.3±3.8, 306S±02×1794W±02, h234km±31km, mb4.0/7, Error ellipse: s-maj=36.2km s-min=17.9km az=139.5*

IDC ***17*** *20:08:14.6±4.9, 3055S×17929W, h242km±43km, mb3.8/7, mb1 3.9/8, mb1mx3.7/17, mbtmp3.8/8, Error ellipse: s-maj=32.4km s-min=17.0km az=44.0*

ISC 17 20:08:13.9±3.9, 307S±02×1794W±02, h225km±31km, n49, σ1§10/15, mb4.0/7, 13C, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**8.09**	**200**	P	**Pn**	**20 10 09.4**	**+1.2**
	5.8nm,0.3s,baz=54,slow=3.2,SNR=12						
URZ				S	**S**	**20 11 39.3**	**-0.5**
	20nm,0.3s,baz=110,slow=23,SNR=17						
RPZ	**Rata Peaks**	**15.05**	**208**	P	**Pn**	**20 11 32.7**	**-2.9**
	0.7nm,0.3s,baz=332,slow=14,SNR=4.8						
RPZ				S	**S**	**20 14 08.0**	**-14**
	2.1nm,0.3s,baz=108,slow=23,SNR=15						
CTA	**Charters Tower**	**32.66**	**281**	P	**P**	**20 14 26.5**	**+1.5**
	18nm,0.8s,mb4.6,baz=108,slow=8.5,SNR=13						
CTAO	**Charters Tower**	**32.66**	**281**	*e*P	**P**	**20 14 26.3**	**+1.3**
STKA	**Stephens Creek**	**33.24**	**258**	P	**P**	**20 14 31.2**	**+1.3**
	3.2nm,0.7s,mb4.0,baz=110,slow=11,SNR=4.3						
ASAR	**Alice Springs**	**41.90**	**268**	P	**P**	**20 15 41.8**	**-0.7**
	1.3nm,0.7s,mb3.5,baz=103,slow=7.3,SNR=16						
WRA	**Warramunga Arr**	**42.91**	**273**	P	**P**	**20 15 49.6**	**-1.0**
	2.8nm,0.7s,mb3.8,baz=112,slow=7.6,SNR=24						
QSPA	**South Pole Qui**	**59.42**	**180**	P	**P**	**20 17 53.4**	**+1.2**
	1.9nm,0.7s,mb3.8,baz=20,slow=2.7,SNR=11						
VNA3	**Neumayer Olymp**	**78.10**	**177**	*e*	**P**	**20 19 46.6**	**-0.8**
VNA3				*e*		20 19 48.6	
VNA3				*e*		20 19 54.4	
VNA3				*e*		20 20 48.2	
VNA3				*e*		20 20 52.7	
VNA2	**Neumayer--Watz**	**78.52**	**177**	*e*	**P**	**20 19 49.3**	**-0.4**
	baz=189,slow=3.9						
VNA2				*e*		20 19 51.3	
VNA2				*e*		20 19 56.5	
VNA2				*e*		20 20 51.9	
VNA2				*e*		20 20 56.6	
VNA1	**Neumayer--Stat**	**78.75**	**177**	*e*	**P**	**20 19 52.0**	**+1.0**
PLCA	**Paso Flores**	**83.19**	**134**	P	**P**	**20 20 14.8**	**-0.1**
	1.5nm,0.6s,mb3.9,baz=270,slow=7.1,SNR=5.4						
PETK	**Petropavlovsk-**	**85.80**	**346**	P	**P**	**20 20 26.2**	**-1.1**
	5.6nm,0.7s,mb4.4,baz=117,slow=7.3,SNR=9.5						
MKAR	**Makanchi Array**	**117.04**	**310**	PKP	PKPdf	20 26 28.0	-3.5
	0.4nm,0.4s,baz=95,slow=1.3,SNR=5.2						
MKAR	**Makanchi Array**	**117.04**	**310**	PKP	PKPdf	20 26 28.0	-3.5
UCH	**Uchtor**	**121.16**	**303**	*e*PKPdf	PKPdf	20 26 38.8	-0.9
AML	**Almayashu**	**121.72**	**303**	*e*PKPdf	PKPdf	20 26 39.5	-1.3
KBL	**Kabul**	**123.23**	**293**	*e*PKPdf	PKPdf	20 26 42.4	-1.5
ARCES	**ARCESS Array B**	**138.60**	**347**	PKhKP		20 27 03.0	
	3.2nm,1.0s,baz=5.7,slow=4.9,SNR=4.3						
ARCES				PKP	PKPdf	20 27 10.0	-1.8
	1.2nm,0.6s,baz=13,slow=1.6,SNR=7.1						
ARCES	**ARCESS Array B**	**138.60**	**347**	PKP		20 27 03.0	
ARCES				PKP	PKPdf	20 27 10.0	-1.8

JOF	**Joensuu**	**142.23**	**338**	*e*p	PKPdf	20 27 09.5	-9.0
	2.8nm,0.7s								
KAF	**Kangasniemi**	**144.40**	**339**	*e*p	PKPdf	20 27 17.9	-4.5
	21nm,0.6s								
OBN	**Obninsk**	**144.71**	**324**	*e*PKPdf	PKPdf	20 27 20.9	-2.2
NB2	**NORSAR Subarra1**	**148.84**	**350**	PKP	PKPdf	20 27 31.8	+2.0
	comp=Z,7.6nm,0.8s,baz=20,slow=4.3								
NOA	**NORSAR Array B**	**148.84**	**350**	PKPbc	PKPbc	20 27 32.2	-1.8
	comp=Z,2.2nm,0.6s,baz=16,slow=4.2,SNR=6.6								
NOA	**NORSAR Array B**	**148.84**	**350**	PKPbc	PKPbc	20 27 32.2	-1.8
AKASG	**Malin Array Be**	**150.78**	**321**	PKPbc	PKPbc	20 27 36.9	-2.1
	comp=Z,8.9nm,0.7s,baz=53,slow=2.6,SNR=28								
AKASG				PKPab	PKPab	20 27 45.6	-1.5		
	comp=Z,0.7nm,0.4s,baz=45,slow=4.6,SNR=6.5								
AKASG	**Malin Array Be**	**150.78**	**321**	PKPbc	PKPbc	20 27 36.9	-2.1		
AKASG				PKPab	PKPab	20 27 45.6	-1.5		
AKBB	**Malin Array Si**	**150.78**	**321**	*e*PKPbc	PKPbc	20 27 37.0	-2.0		
BR131	**Keskin Array S**	**151.67**	**298**	*e*PKPbc	PKPbc	20 27 39.4	-2.0		
KOLS	**Kolonicke sedl**	**155.46**	**324**	*e*PKP	PKPab	20 28 12.0	+5.1		
STHS	**Stebnicka Huta**	**155.65**	**326**	*e*PKP	PKPab	20 28 12.5	+4.8		
CRVS	**Cervenica-Dubn**	**155.89**	**325**	*e*PKP	PKPab	20 28 12.8	+4.1		
CLL	**Collm**	**157.43**	**339**	⇑*i*PKPab	PKPab	20 28 13.8	-1.5		
	comp=Z,6.0nm,0.6s								
BRG	**Berggiesshubel**	**157.51**	**338**	*e*P	PKPab	20 28 14.4	-1.2		
	comp=Z,7.2nm,1.0s								
GERES	**GERESS Array B**	**159.31**	**335**	PKPab	PKPab	20 28 22.2	-1.3		
	comp=Z,0.9nm,0.7s,baz=33,slow=5.1,SNR=7.4								
MEZF	**Maizieres J'vi**	**161.88**	**350**	⇑*i*PKP2	PKPab	20 28 33.1	-1.6		
HAU	**Haudompre**	**162.15**	**347**	⇑*i*PKP2	PKPab	20 28 34.0	-1.9		
	comp=Z,8.8nm,0.8s								
TORD	**Torodi Ar. Bea**	**162.52**	**184**	PKPab	PKPab	20 28 36.6	-1.7		
	comp=Z,0.6nm,0.6s,baz=167,slow=5.6,SNR=5.0								
SSF	**Saint Saulge**	**163.49**	**353**	⇑*i*PKP2	PKPab	20 28 40.1	-1.7		
	comp=Z,18nm,1.1s								
SMF	**Signal de Mont**	**163.87**	**352**	⇑*i*PKP2	PKPab	20 28 41.7	-1.8		
	comp=Z,17nm,1.0s								
LPL	**La Plagne**	**164.44**	**344**	⇑*i*PKP2	PKPab	20 28 45.2	-0.8		
	comp=Z,17nm,1.1s								
LPG	**La Plagne**	**164.45**	**344**	⇑*i*PKP2	PKPab	20 28 45.5	-0.6		
	comp=Z,14nm,1.0s								
MBDF	**Montbardon**	**165.16**	**343**	⇑*i*PKP2	PKPab	20 28 47.9	-1.4		
ORIF	**Oris-en-Rattie**	**165.20**	**345**	⇑*i*PKP2	PKPab	20 28 48.3	-1.1		
	comp=Z,6.9nm,0.8s								
VIVF	**Saint-Julien-l**	**165.50**	**348**	⇑*i*PKP2	PKPab	20 28 49.3	-1.4		
SBF	**Sospel**	**165.78**	**340**	⇑*i*PKP2	PKPab	20 28 50.0	-2.0		
	comp=Z,22nm,1.0s								
FRF	**La Foret Royal**	**166.28**	**341**	⇑*i*PKP2	PKPab	20 28 51.6	-2.6		
	comp=Z,12nm,1.0s								
LMR	**La Mourre**	**166.53**	**341**	⇑*i*PKP2	PKPab	20 28 53.7	-1.6		
	comp=Z,18nm,0.9s								

NEIC ***17*** *20:21:33.9, 1601N×9767W, h32km, MD3.7(MEX), After MEX.*

MEX 17 20:21:33.7±0.6, 1605N×9765W, h10km±16km, MD3.7, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.57**	**307**	*i* P	Pg	20 21 43.5	-1.3
PNIG				*i* S	Sg	20 21 51.7	-0.6
VHO	**Vista Hermosa**	**1.35**	**41**	*i* P	Pn	20 21 54.9	-3.7
VHO				*i* S	Sb	20 22 11.8	-4.6
OXX	**Oaxaca**	**1.36**	**41**	*e*P	Pn	20 21 55.8	-2.9
OXX				*i* S	Sb	20 22 10.9	-5.8
OXX	**Oaxaca**	**1.36**	**41**	*e*P	Pn	20 21 55.8	-2.9
OXX				*i* S	Sb	20 22 10.7	-6.0
UTMO	**Huajuapan**	**1.78**	**355**	*i* P	Pn	20 22 02.2	-2.3
UTMO				*i* S	Sn	20 22 22.1	-5.0
CAIG	**El Cayaco**	**2.70**	**292**	*e*P	Pn	20 22 13.9	-3.2
CAIG				*i* S	Sn	20 22 46.2	-3.6
CAIG	**El Cayaco**	**2.70**	**292**	*e*P	Pn	20 22 14.7	-2.4
CAIG				*i* S	Sn	20 22 43.4	-6.4
PPM	**Popocatep

VNA3	**Neumayer Olymp**	**75.64**	**176**	*e*	**P**	**21 06 15.1**	**-0.5**
VNA3				*e*	pP	21 06 25.2	-1.3
VNA3				*e*		21 06 29.4	
VNA3				*e*		21 06 37.7	
VNA3				*e*		21 06 45.0	
VNA2	**Neumayer--Watz** baz=180,slow=4.3	**76.07**	**177**	*e*	**P**	**21 06 18.0**	**0.0**
VNA2				*e*	pP	21 06 28.2	-0.7
VNA2				*e*		21 06 31.5	
VNA2				*e*		21 06 41.3	
VNA2				*e*		21 06 47.3	
VNA1	**Neumayer--Stat**	**76.30**	**177**	*e*	**P**	**21 06 19.7**	**+0.4**
VNA1				*e*	pP	21 06 30.0	-0.3
VNA1				*e*		21 06 33.6	
VNA1				*e*		21 06 42.9	
VNA1				*e*		21 06 50.3	
PLCA	**Paso Flores** comp=Z,86nm,20.9s,MS4.1,baz=12,slow=31	**81.04**	**133**	LR	LR	21 35 57.5	
ASAJ	**Asahikawa** 4.8nm,0.8s,mb4.7,baz=253,slow=2.5,SNR=4.1	**84.61**	**333**	P	**P**	**21 07 04.5**	**+0.4**
KSRS	**Korea Array** 1.3nm,0.7s,mb4.3,baz=276,slow=27,SNR=4.3	**86.08**	**320**	P	**P**	**21 07 12.1**	**+0.6**
PETK	**Petropavlovsk-** 1.3nm,0.5s,mb4.4,baz=117,slow=7.5,SNR=4.9	**88.31**	**346**	P	**P**	**21 07 21.2**	**-0.7**
TXAR	**Lajitas Array** comp=Z,87nm,19.0s,MS4.2,baz=240,slow=32	**94.28**	**58**	LR	LR	21 44 57.3	
LPAZ	**La Paz** comp=Z,23nm,21.7s,MS3.6,baz=1.2,slow=28	**97.50**	**115**	LR	LR	21 40 19.1	
MKAR	**Makanchi Array** 0.3nm,0.3s,baz=192,slow=1.0,SNR=4.4	**119.09**	**309**	PKP	PKPdf	21 13 17.9	-1.4
MKAR	**Makanchi Array**	**119.09**	**309**	PKP	PKPdf	21 13 17.9	-1.4
ZALV	**Zalesovo Beam** 0.3nm,0.3s,baz=90,slow=3.6,SNR=2.6	**119.69**	**317**	PKP	PKPdf	21 13 18.2	-2.0
KURK	**Kurchatov**	**122.52**	**313**	*e*P	PKPdf	21 13 24.8	-0.9
BVAR	**Borovoye Array** 0.5nm,0.4s,baz=103,slow=4.7,SNR=6.0	**127.95**	**314**	PKP	PKPdf	21 13 35.6	-0.5
ARCES	**ARCESS Array B** 1.6nm,0.6s,baz=72,slow=1.4,SNR=9.0	**141.11**	**347**	PKP	PKPdf	21 14 01.4	+1.2
JOF	**Joensuu** 5.2nm,0.7s	**144.72**	**337**	*e*p	PKPdf	21 14 04.4	-2.3
KAF	**Kangasniemi** baz=30,slow=2.3	**146.90**	**339**	*e*p	PKPdf	21 14 05.5	-5.0
NB2	**NORSAR Subarra** comp=Z,2.6nm,0.6s,baz=15,slow=2.5	**151.34**	**350**	PKP	PKPbc	21 14 22.8	-0.9
NOA	**NORSAR Array B** comp=Z,3.2nm,0.6s,baz=14,slow=4.1,SNR=13	**151.34**	**350**	PKPbc	PKPbc	21 14 22.9	-0.8
NOA					PKPab	21 14 29.6	-2.3
	comp=Z,2.6nm,0.6s,baz=17,slow=4.1,SNR=6.1						
LIC	**Lamto**	**152.59**	**166**	*e*PKP2	PKPab	21 14 39.1	+0.7
LIC	**Lamto** comp=Z,45nm,1.3s	**152.59**	**166**	*e*PKP1	PKPbc	21 14 27.0	-1.0
KIC	**Kosan Boka** comp=Z,98nm,1.4s	**152.78**	**167**	*e*PKP1	PKPbc	21 14 27.9	-0.5
TIC	**Toumodi** comp=Z,43nm,0.9s	**153.00**	**166**	*e*PKP1	PKPbc	21 14 27.9	-1.0
DBIC	**Dimbokro** comp=Z,1.5nm,0.6s,baz=268,slow=20,SNR=4.5	**153.06**	**166**	PKPbc	PKPbc	21 14 28.1	-0.9
DBIC					PKPab	21 14 39.2	-1.1
	comp=Z,2.1nm,0.6s,baz=305,slow=14,SNR=4.5						
AKASG	**Malin Array Be** comp=Z,0.8nm,0.4s,baz=56,slow=2.8,SNR=5.9	**153.07**	**319**	PKPbc	PKPbc	21 14 27.6	-0.3
AKASG					PKPab	21 14 39.8	+0.3
	comp=Z,3.0nm,0.7s,baz=62,slow=2.5,SNR=5.1						
CLL	**Collm**	**159.93**	**338**	*e*PKPab	PKPab	21 15 08.0	-0.9
BRG	**Berggiesshubel** comp=Z,2.8nm,0.8s	**160.00**	**336**	*e*P	PKPab	21 15 07.5	-1.8
TORD	**Torodi Ar. Bea** comp=Z,1.0nm,0.5s,baz=166,slow=4.0,SNR=11	**160.12**	**181**	PKPab	PKPab	21 15 10.1	-0.5
KHC	**Kasperske Hory**	**161.59**	**334**	*e*PKPab	PKPab	21 15 12.0	-4.2
KHC				*ep*PKP	pPKPab	21 15 28.0	+0.6
GERES	**GERESS Array B** comp=Z,0.3nm,0.5s,baz=30,slow=6.0,SNR=2.5	**161.78**	**333**	PKPbc	PKPab	21 15 16.5	-0.6
SSF	**Saint Saulge** comp=Z,6.7nm,0.9s	**165.97**	**354**	*e*PKP2	PKPab	21 15 34.6	-0.9
SMF	**Signal de Mont** comp=Z,20nm,1.2s	**166.35**	**353**	*e*PKP2	PKPab	21 15 35.8	-1.4
LPL	**La Plagne**	**166.95**	**343**	*e*PKP2	PKPab	21 15 39.4	-0.4
LPG	**La Plagne**	**166.96**	**343**	*e*PKP2	PKPab	21 15 39.9	0.0
ORIF	**Oris-en-Rattie** comp=Z,4.8nm,0.8s	**167.71**	**345**	*e*PKP2	PKPab	21 15 42.7	-0.5

*NNC **17** 21:11:18.7±3.8, 3883N×7145E, h0km, mb3.9, mpv4.0, Error ellipse: s-maj=30.6km s-min=21.3km az=7.0*
ISC 17 21:11:21.4±2.0, 387N±01×713E±01, h35km, n12, σ1.510/14, 5C-1D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AML	**Almayashu** SNR=25	**3.90**	**27**	P	**Pn**	**21 12 17.9**	**-0.9**
UCH	**Uchtor** SNR=9.7	**4.31**	**33**	P	**Pn**	**21 12 25.3**	**+0.9**
EKS2	**Erkin-Say** SNR=11	**4.40**	**24**	P	**Pn**	**21 12 24.7**	**-1.0**
KK31	**Karatay Array** 27nm,0.6s,baz=169,slow=13,SNR=248	**4.47**	**352**	⇑Pn	**Pn**	**21 12 24.7**	**-1.9**
KK31				⇑Sn	**Sn**	**21 13 18.5**	**+1.2**
	21nm,0.3s,baz=164,slow=29,SNR=13						
AAK	**Ala-Archa** SNR=21	**4.64**	**30**	P	**Pn**	**21 12 30.5**	**+1.7**
KBK	**Karagaybulak** SNR=10	**4.84**	**34**	P	**Pn**	**21 12 33.1**	**+1.4**
CHMS	**Chumysh** SNR=9.0	**5.05**	**30**	P	**Pn**	**21 12 34.4**	**-0.1**
USP	**Ospenovka** SNR=16	**5.18**	**27**	P	**Pn**	**21 12 35.5**	**-0.9**
TKM2	**Tokmak 2** 5.8nm,0.4s	**5.34**	**36**	⇓Pn	**Pn**	**21 12 38.8**	**+0.2**
TKM2				⇑Sn	**Sn**	**21 13 37.8**	**-1.0**
	14nm,0.4s						
TKM2	**Tokmak 2** SNR=6.0	**5.34**	**36**	P	**Pn**	**21 12 39.7**	**+1.1**
AB31	**Akbulak array** 0.3nm,0.3s,baz=133,slow=13,SNR=10	**13.37**	**326**	⇑Pn	**Pn**	**21 14 27.6**	**-0.8**
AKTO	**Aktyubinsk** 0.5nm,0.8s	**15.08**	**326**	⇑Pn	**Pn**	**21 14 52.5**	**+0.8**

*NEIC **17** 21:35:58.0±1.0, 5015N×19.10E, h5km, MG2.5(WAR), Error ellipse: s-maj=15.7km s-min=6.7km az=179.0*
WAR 17 21:35:58.2, 5011N×1918E, ML2.4, Mining Induced, Poland

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OJC	**Ojcow**	**0.41**	**74**	*e*Pg	Pg	21 36 05.9	-0.2
OJC				*e*Sg	Sg	21 36 12.3	+0.8
OKC	**Ostrava-Krasne**	**0.72**	**248**	*e*PG	Pg	21 36 11.3	-0.6
OKC				*e*SG	Sg	21 36 20.0	-1.2
	18nm,0.5s						
NIE	**Niedzica**	**1.01**	**133**	*e*Pg	Pg	21 36 17.3	-0.2
NIE				*e*Sg	Sg	21 36 33.4	+2.9
MORC	**Moravsky Berou**	**1.11**	**253**	*e*P	Pg	21 36 18.3	-1.1
MORC				*e*S	Sg	21 36 32.1	-1.6
STHS	**Stebnicka Huta**	**1.51**	**116**	*e*PN	Pn	21 36 27.3	+0.9
STHS				*e*SN	Sn	21 36 49.4	+2.7
KOLL	**Kolacno**	**1.61**	**199**	*e*PN	Pn	21 36 28.0	+0.2
KOLL				*e*SN	Sn	21 36 49.3	0.0
VYHS	**Vyhne**	**1.63**	**188**	*e*PN	Pn	21 36 26.8	-1.3
VYHS				*e*SN	Sn	21 36 48.1	-1.6
DPC	**Dobruska-Polom**	**1.85**	**279**	*e*PG	Pg	21 36 29.6	-4.0
DPC				*e*SG	Sg	21 36 52.7	-4.9
	10nm,0.5s						
CRVS	**Cervenica-Dubn**	**1.92**	**128**	*e*PN	Pn	21 36 33.9	+1.9
CRVS				*e*SN	Sn	21 36 58.0	+1.2
SMOL	**Smolenice**	**1.96**	**216**	*e*SN	Sn	21 36 57.7	-0.2
UPC	**Upice**	**2.07**	**282**	*e*SG	Sg	21 37 01.4	-3.2
KOLS	**Kolonicke sedl**	**2.33**	**119**	*e*PN	Pn	21 36 42.4	+4.6
KOLS				*e*SN	Sn	21 37 11.0	+3.9
PRU	**Pruhonice**	**2.99**	**270**	*e*PG	Pg	21 36 50.6	-4.9
PRU				*e*SG	Sg	21 37 30.0	-4.2
BRG	**Berggiesshubel** 2.8nm,0.4s	**3.43**	**285**	SG	Sg	21 37 45.7	-2.6
KHC	**Kasperske Hory** 3.3nm,0.4s	**3.77**	**257**	*e*SG	Sg	21 37 55.4	-3.8
CLL	**Collm**	**4.11**	**289**	*e*Sg	Sg	21 38 10.0	0.0

*JMA **17** 21:45:48.9±0.8, 2785N×12693E, h42km, M2.9*
*ISCJB **17** 21:45:49.1±3.1, 2777N±008×12701E±0.10, h12km±21km, mb3.5/3, MS3.2/4, Error ellipse: s-maj=17.1km s-min=10.2km az=137.7*
*IDC **17** 21:45:49.0±1.5, 2779N×12722E, h0km, mb3.8/3, mb1 4.0/3, mb1mx3.6/20, mbtmp3.8/3, MS3.3/7, Ms1 3.3/7, ms1mx3.0/37, Error ellipse: s-maj=56.5km s-min=19.5km az=53.0*
ISC 17 21:45:50.0±1.9, 2771N±008×12705E±010, h8km±11km, n15, σ0.984/11, mb3.5/3, MS3.2/4, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JIH	**Iheya**	**1.06**	**129**	P	**Pg**	**21 46 10.1**	**-0.3**
JIH				S	**Sg**	**21 46 24.8**	**+0.7**
JAGN	**Aguni-jima**	**1.13**	**171**	P	**Pb**	**21 46 11.2**	**-0.6**
JAGN				S	**Sb**	**21 46 27.7**	**+1.1**
JKE	**Kume jima 2**	**1.40**	**190**	P	**Pn**	**21 46 14.0**	**-1.8**
JOW	**Kunigami** 19nm,0.3s,baz=317,slow=15,SNR=12	**1.40**	**128**	Pn	**Pn**	**21 46 15.5**	**-0.4**
JOW				Sn	**Sn**	**21 46 33.9**	**-0.7**
	18nm,0.3s,baz=322,slow=23,SNR=4.3						
JOW	**Kunigami**	**1.40**	**128**	P	**Pn**	**21 46 15.3**	**-0.6**
KSRS	**Korea Array** comp=Z,196nm,18.9s,baz=185,slow=39	**9.74**	**4**	LR	LR	21 52 07.1	
MJAR	**Matsushiro Arr** comp=Z,162nm,19.2s,baz=200,slow=39	**12.92**	**44**	LR	LR	21 54 07.2	
CBIJ	**Chichi jima** comp=Z,66nm,21.6s,baz=36,slow=34	**13.47**	**89**	LR	LR	21 53 23.8	
DAV	**Davao City (W)** comp=Z,72nm,20.3s,MS3.0,baz=314,slow=35	**20.57**	**184**	LR	LR	21 57 55.2	
ASAJ	**Asahikawa** comp=Z,50nm,19.7s,MS2.9,baz=158,slow=37	**20.60**	**33**	LR	LR	21 58 34.4	
SONM	**Songino Array** 1.4nm,0.9s,mb3.5,baz=137,slow=7.4,SNR=9.5	**25.74**	**327**	P	**P**	**21 51 21.4**	**+0.5**
CMAR	**Chiang Mai Arr** comp=Z,70nm,18.7s,MS3.3,baz=60,slow=38	**27.39**	**256**	LR	LR	22 03 25.3	
WRA	**Warramunga Arr** 0.7nm,0.7s,mb3.8,baz=352,slow=8.2,SNR=5.1	**47.89**	**171**	P	**P**	**21 54 29.2**	**+0.4**
BVAR	**Borovoye Array** comp=Z,53nm,19.6s,MS3.5,baz=285,slow=38	**48.47**	**318**	LR	LR	22 16 36.6	
ASAR	**Alice Springs** 0.1nm,0.4s,mb3.1,baz=359,slow=12,SNR=3.3	**51.50**	**172**	P	**P**	**21 54 57.2**	**+1.0**

*NEIC **17** 22:35:16.3, 3055S×7061W, h95km, MD3.7(GUC), After GUC.*
GUC 17 22:35:16.3±0.9, 3055S×7061W, h95km±6km, MD3.7, ML3.9, 4C-7D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TLL	**Tololo Astrono**	**0.42**	**336**	⇓*i*P	Pn	22 35 31.8	+0.8
TLL				*i* S	Sn	22 35 43.1	+1.2
TLL				AML	AML	22 35 47.5	
	comp=N,2μm,0.3s						
TLL	**Tololo Astrono**	**0.42**	**336**	⇓*i*P	Pn	22 35 31.8	+0.8
TLL				*i* S	Sn	22 35 43.1	+1.2
OVCH	**Ovalle**	**0.51**	**263**	⇓*i*P	Pn	22 35 31.9	+0.3
OVCH				*i* S	Sn	22 35 43.4	+0.4
LSCH				AML	AML	22 35 43.6	
	comp=N,7μm,0.2s						
OVCH	**Ovalle**	**0.51**	**263**	⇓*i*P	Pn	22 35 31.9	+0.3
OVCH				*i* S	Sn	22 35 43.4	+0.4
LSCH	**La Serena**	**0.84**	**319**	*i* P	Pn	22 35 35.1	+0.4
LSCH				*i* S	Sn	22 35 49.1	+0.7
LSCH				AML	AML	22 35 49.5	
	comp=E,1μm,0.3s						
CHNG	**Los Chungos**	**1.53**	**210**	⇓*i*P	Pn	22 35 43.0	+0.4
CHNG				*i* S	Sn	22 36 03.1	+0.5
CHNG				AML	AML	22 36 08.5	
	comp=N,2μm,0.3s						
LCO	**Las Campanas**	**1.54**	**357**	⇓*i*P	Pn	22 35 43.4	+0.6
LCO				*i* S	Sn	22 36 04.0	+1.2
VACH	**Vallenar**	**1.97**	**356**	*e*P	Pn	22 35 49.0	+0.7
VACH				*i* S	Sn	22 36 13.6	+0.9
PACH	**Papudo**	**2.10**	**199**	*e*P	Pn	22 35 50.0	0.0
PACH				*i* S	Sn	22 36 15.9	+0.2
JACH	**Jahuel**	**2.12**	**180**	⇑*i*P	Pn	22 35 51.1	+0.8
JACH				*i* S	Sn	22 36 17.3	+1.0
ROCH	**El Roble**	**2.44**	**188**	*e*P	Pn	22 35 54.6	+0.1
ROCH				*e*S	Sn	22 36 23.5	-0.1
PEL	**Peldehue**	**2.59**	**181**	*e*P	Pn	22 35 56.5	+0.1
PEL				*i* S	Sn	22 36 28.0	+0.8
PEL				AML	AML	22 36 36.7	
	comp=E,775nm,0.4s						
FCH	**Farellones**	**2.78**	**174**	⇑*i*P	Pn	22 36 00.4	+1.4
FCH				*e*S	Sn	22 36 34.0	+2.2
FCH				AML	AML	22 36 41.8	
	comp=E,402nm,0.2s						
CLCH	**Cerro Calan**	**2.84**	**179**	*e*P	Pn	22 36 00.3	+0.5
CLCH				*e*S	Sn	22 36 34.2	+1.1
CLCH				AML	AML	22 36 46.0	
	comp=E,350nm,0.4s						
RCDM	**Rinconada Maip**	**2.94**	**183**	⇑*i*P	Pn	22 36 01.1	0.0
RCDM				*e*S	Sn	22 36 35.6	+0.1
RCDM				AML	AML	22 36 44.8	
	comp=E,707nm,0.1s						
RCDM	**Rinconada Maip**	**2.94**	**183**	⇑*i*P	Pn	22 36 01.1	0.0
RCDM				*e*S	Sn	22 36 35.6	+0.1
ANTU	**Antumapu** comp=E,401nm,0.2s	**3.01**	**180**	AML	AML	22 36 48.7	
PCH	**Pirque**	**3.06**	**178**	*e*P	Pn	22 36 03.1	+0.4
TACH	**Talagante**	**3.11**	**185**	*e*P	Pn	22 36 03.3	0.0
LMEL	**Las Melosas**	**3.31**	**174**	*e*P	Pn	22 36 07.1	+1.1
LMEL				*e*S	Sn	22 36 45.8	+1.5
LMEL				AML	AML	22 36 57.7	
	comp=N,360nm,0.2s						
LMEL	**Las Melosas**	**3.31**	**174**	*e*P	Pn	22 36 07.1	+1.1
LMEL				*e*S	Sn	22 36 45.8	+1.5
CHCH	**Chadas Angostu**	**3.37**	**181**	*i* S	Sn	22 36 46.3	+0.3
LNV	**Longovilo**	**3.46**	**191**	⇓*i*P	Pn	22 36 07.7	-0.5
CACH	**El Canelo**	**3.56**	**180**	*e*P	Pn	22 36 10.0	+0.6

*CSEM **17** 22:49:58.6±0.2, 3837N×3900E, h0km±1km, MD3.4, Error ellipse: s-maj=1.9km s-min=1.4km az=147.0*
*ISK **17** 22:49:59.8, 3836N×3900E, h6km, MD3.4*
*ISCJB **17** 22:50:00.3±0.6, 3836N±003×3900E±003, h5km±5km, Error ellipse: s-maj=4.4km s-min=3.7km az=162.1*
*DDA **17** 22:50:00.1, 3836N×3900E, h7km±3km, Md3.0*
ISC 17 22:50:00.8±0.5, 3837N±003×3900E±003, h3km±5km, n22, σ0.980/33, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SVRC	**Sivrice-ELAZID**	**0.24**	**87**	*e*PG	**Pg**	**22 50 04.9**	**-0.5**
SVRC				*e*SG	**Sg**	**22 50 09.1**	**+0.5**
MYA	**Malataya**	**0.46**	**265**	*e*PG	**Pg**	**22 50 09.3**	**-0.3**
MYA				*e*SG	**Sg**	**22 50 15.9**	**+0.4**
PTK	**Pertek**	**0.61**	**30**	*e*PG	**Pg**	**22 50 11.9**	**-0.6**
PTK				*e*SG	**Sg**	**22 50 21.2**	**+0.8**
AKCD	**Akcadag**	**0.85**	**266**	*i* P	**Pg**	**22 50 16.4**	**-0.8**
AKCD				*i* S	**Sg**	**22 50 29.0**	**+0.8**
URFA	**Urfa**	**0.93**	**189**	*e*PG	**Pg**	**22 50 18.4**	**-0.4**
URFA				*e*SG	**Sg**	**22 50 31.3**	**+0.5**
DIYA	**Diyarbakir**	**0.99**	**116**	*i* P	**Pg**	**22 50 19.4**	**-0.3**
DIYA				*i* S	**Sg**	**22 50 33.5**	**+1.0**
KEMA	**Kemaliye**	**0.99**	**336**	*i* P	**Pg**	**22 50 18.6**	**-1.1**
KEMA				*i* S	**Sg**	**22 50 33.4**	**+0.8**
KEMA	**Kemaliye**	**0.99**	**336**	*i* P	**Pg**	**22 50 18.6**	**-1.2**
KEMA				*i* S	**Sg**	**22 50 33.4**	**+0.8**
ATAB	**Bozova**	**1.06**	**212**	*i* P	**Pg**	**22 50 20.8**	**-0.3**
ATAB				*i* S	**Sg**	**22 50 34.8**	**0.0**
GZT	**Gaziantep**	**1.52**	**229**	*i* P	**Pn**	**22 50 28.3**	**-0.7**
GZT				*i* S	**Sn**	**22 50 51.9**	**+2.6**
MARD	**Mardin**	**1.75**	**126**	*i* P	**Pn**	**22 50 31.9**	**-0.2**
MARD				*i* S	**Sn**	**22 50 54.1**	**-0.9**
SARI	**SarD1z-Kayseri**	**1.84**	**281**	*e*PN	**Pn**	**22 50 35.6**	**+2.3**
GAZ	**Gaziantep**	**1.85**	**231**	*e*PN	**Pn**	**22 50 32.8**	**-0.7**
KMRS	**Kahramanmaras**	**1.87**	**243**	*e*PN	**Pn**	**22 50 33.1**	**-0.7**
GUMT	**Gumushane**	**2.12**	**10**	*e*PN	**Pn**	**22 50 37.0**	**-0.2**
SVSK	**Karacayir**	**2.20**	**315**	*e*PN	**Pn**	**22 50 37.8**	**-0.5**
EZM	**Erzurum**	**2.39**	**49**	*e*PN	**Pn**	**22 50 40.8**	**-0.1**
ESPY	**Espiye-Giresun**	**2.56**	**355**	*e*PN	**Pn**	**22 50 43.0**	**-0.1**
TOKT	**Tokat**	**2.73**	**316**	*e*PN	**Pn**	**22 50 44.8**	**-0.7**
HTY	**Hatay**	**3.20**	**226**	*e*PN	**Pn**	**22 50 52.0**	**-0.1**
AGRB	**Hanur-Agry**	**3.33**	**68**	*e*PN	**Pn**	**22 50 55.0**	**+1.1**
HKR	**Hakkari**	**3.83**	**100**	*e*PN	**Pn**	**22 51 01.1**	**+0.5**

IDC 17 22:58:11.6±5.1, 205S×9920E, h0km, mb3.7/3, mb1 3.7/3, mb1mx3.4/19, mbtmp3.7/3, Error ellipse: s-maj=178.5km s-min=73.5km az=55.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SONM	**Songino Array** 0.8nm,0.8s,baz=196,slow=8.4,SNR=7.0	**50.08**	**6**	P	P	23 07 08.3	+0.1
MKAR	**Makanchi Array** 1.0nm,0.7s,baz=146,slow=8.8,SNR=8.5	**50.87**	**345**	P	P	23 07 14.1	-0.1
ZALV	**Zalesovo Beam** 0.8nm,0.6s,baz=179,slow=5.8,SNR=5.4	**57.07**	**350**	P	P	23 07 59.5	0.0
TXAR	**Lajitas Array** 0.7nm,0.7s,baz=329,slow=1.6,SNR=7.9	**145.23**	**37**	PKPbc	PKPbc	23 17 50.9	-0.7

*ISCJB **17** 23:02:34.3±0.3, 2348N±002×12166E±002, h32km±2km, Error ellipse: s-maj=3.3km s-min=2.0km az=34.4*
*JMA **17** 23:02:34.6±0.6, 2341N×12171E, h55km, M3.2*
*TAP **17** 23:02:34.5, 2350N×12162E, h29km, ML3.4, D*
ISC 17 23:02:34.6±0.3, 2349N±002×12164E±002, h29km±2km, n53, σ0.963/104, 1C, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EHY	**Hungye** baz=271	**0.29**	**274**	*i* P	**Pb**	**23 02 42.1**	**+0.2**
EHY				*i* S	**Sb**	**23 02 47.3**	**+0.4**
	baz=271						
TWF1	**Yuli** baz=243	**0.34**	**247**	*i* P	**Pb**	**23 02 42.9**	**+0.3**
TWF1				*i* S	**Sb**	**23 02 48.8**	**+0.7**
	baz=243						
ESL	**Shilin** baz=331	**0.38**	**329**	P	**Pb**	**23 02 42.8**	**-0.3**
ESL				S	**Sb**	**23 02 49.5**	**+0.6**
	baz=331						
CHKT	**Chengkung** baz=210	**0.46**	**214**	*i* P	**Pb**	**23 02 44.7**	**+0.3**
CHKT				S	**Sb**	**23 02 52.2**	**+1.2**
	baz=210						
HWA	**Hwalien** baz=358	**0.49**	**356**	*i* P	**Pb**	**23 02 44.9**	**0.0**
HWA				*i* S	**Sb**	**23 02 52.5**	**+0.6**
	baz=358						
TWD	**Chiawan** baz=357	**0.59**	**356**	*i* P	**Pb**	**23 02 46.2**	**-0.4**
TWD				*i* S	**Sb**	**23 02 55.3**	**+0.7**
	baz=357						
YUS	**Yu-Shan** baz=268	**0.63**	**270**	*i* P	**Pb**	**23 02 47.3**	**+0.1**
YUS				*i* S	**Sb**	**23 02 55.8**	**0.0**
	baz=268						
ELDTW	**Lidau** baz=240	**0.65**	**243**	*e*P	**Pb**	**23 02 46.4**	**-1.1**
ELDTW				*e*S	**Sb**	**23 02 54.8**	**-1.3**
	baz=240						
WHF	**Hehuan Shan** baz=333	**0.74**	**332**	P	**Pb**	**23 02 47.9**	**-1.1**
WHF				*e*S	**Sb**	**23 02 57.8**	**-1.1**
	baz=333						
ALS	**Alishan** baz=270	**0.77**	**272**	*i* P	**Pb**	**23 02 49.4**	**-0.1**
ALS				*i* S	**Sb**	**23 02 59.5**	**-0.1**
	baz=270						
SMLT	**Sun Moon Lake** baz=299	**0.79**	**300**	P	**Pn**	**23 02 49.2**	**-0.5**
SMLT				S	**Sb**	**23 03 00.1**	**0.0**
	baz=299						
TWG	**Pinlang** baz=216	**0.85**	**219**	*e*P	**Pn**	**23 02 48.8**	**-1.7**
TWG				*e*S	**Sb**	**23 03 00.5**	**-1.3**
	baz=216						
TTN	**Taitung** baz=210	**0.86**	**212**	*e*P	**Pn**	**23 02 50.4**	**-0.3**
TTN				*e*S	**Sb**	**23 03 02.3**	**+0.1**
	baz=210						
STYT	**Tauyuan** baz=247	**0.88**	**249**	*e*P	**Pn**	**23 02 50.3**	**-0.6**
STYT				*e*S	**Sb**	**23 03 02.1**	**-0.5**
	baz=247						
CHN5	**Tsauling** baz=276	**0.89**	**277**	⇑*i*P	**Pn**	**23 02 51.1**	**-0.1**
CHN5				*e*S	**Sb**	**23 03 03.3**	**+0.2**
	baz=276						
ENA	**Nanau** baz=6.0	**0.94**	**5**	*e*P	**Pn**	**23 02 51.2**	**-0.6**
ENA				*e*S	**Sn**	**23 03 03.8**	**-0.5**
	baz=6.0						
WNT	**Mingjian** baz=293	**0.96**	**294**	*e*P	**Pn**	**23 02 52.2**	**0.0**
WNT				*e*S	**Sn**	**23 03 04.8**	**-0.1**
	baz=293						
WTP	**Ta-pu** baz=254	**0.97**	**256**	*e*P	**Pn**	**23 02 52.4**	**+0.1**
WTP				*e*S	**Sn**	**23 03 05.5**	**+0.3**
	baz=254						
NNS	**Nan Shan** baz=346	**0.98**	**345**	*e*P	**Pn**	**23 02 51.5**	**-0.9**
NNS				*e*S	**Sn**	**23 03 04.5**	**-0.8**
	baz=346						
WGK	**Gukeng** baz=280	**1.01**	**282**	*e*P	**Pn**	**23 02 52.9**	**+0.1**
WGK				*e*S	**Sn**	**23 03 06.5**	**+0.4**
	baz=280						
SGST	**Jiashian** baz=246	**1.05**	**248**	*e*P	**Pn**	**23 02 52.6**	**-0.8**
SGST				*e*S	**Sn**	**23 03 07.0**	**-0.1**
	baz=246						
CHN1	**Nanshi** baz=252	**1.07**	**254**	*e*P	**Pn**	**23 02 53.9**	**+0.3**
CHN1				*e*S	**Sn**	**23 03 07.7**	**+0.3**
	baz=252						
CHN2	**Minshiung** baz=271	**1.07**	**273**	*e*P	**Pn**	**23 02 54.1**	**+0.5**
CHN2				*e*S	**Sn**	**23 03 07.7**	**+0.1**
	baz=271						
TWK	**Hsinying** baz=257	**1.08**	**259**	*e*P	**Pn**	**23 02 54.3**	**+0.5**
TWK				*e*S	**Sn**	**23 03 09.0**	**+1.1**
	baz=257						
ECL	**Taimali** baz=214	**1.09**	**216**	*e*P	**Pn**	**23 02 52.0**	**-1.9**
ECL				*e*S	**Sn**	**23 03 06.3**	**-1.7**
	baz=214						
TCU	**Taichung** baz=306	**1.10**	**307**	P	**Pn**	**23 02 54.5**	**+0.4**
TCU				*e*S	**Sn**	**23 03 08.8**	**+0.4**
	baz=306						
TWC	**Suao** baz=10.0	**1.13**	**10**	*e*P	**Pn**	**23 02 54.8**	**+0.2**
TWC				*e*S	**Sn**	**23 03 09.3**	**+0.2**
	baz=10.0						
SSD	**Sandimen** baz=230	**1.19**	**232**	*e*P	**Pn**	**23 02 55.0**	**-0.2**
SSD				*e

baz=219
SCZT eS Sn 23 00 17.6 +0.5
baz=219
TWA Mucha 1.49 358 eP Pn 23 02 59.9 +0.5
baz=358
TWA eS Sn 23 03 18.4 +0.5
baz=358
NCU National Centr 1.53 344 eP Pn 23 02 60.0 0.0
baz=344
NCU eS Sn 23 03 19.0 0.0
baz=344
TWB1 Santiao Chiao 1.55 12 eP Pn 23 03 00.9 +0.7
baz=12
TWB1 eS Sn 23 03 19.5 +0.2
baz=12
NWF Wu-fen Shan 1.58 5 eP Pn 23 03 01.0 +0.3
baz=5.0
NWF eS Sn 23 03 20.6 +0.4
baz=5.0
YOJ Yonaguni jima 1.58 52 P Pn 23 03 01.0 +0.3
YOJ eS Sn 23 03 20.4 +0.2
HEN Hengchun 1.69 210 eP Pn 23 03 02.9 +0.6
baz=208
HEN eS Sn 23 03 23.6 +0.7
baz=208
TWK1 Hengchun 1.72 207 eP Pn 23 03 03.5 +0.9
baz=205
TWK1 eS Sn 23 03 23.2 -0.3
baz=205
TSEB Hengchuen, Pin 1.72 204 eP Pn 23 03 03.5 +0.9
baz=204
TSEB eS Sn 23 03 24.8 +1.2
baz=204
TWY Chenhua 1.78 359 eP Pn 23 03 04.0 +0.6
baz=359
TWY eS Sn 23 03 25.4 +0.3
baz=359
PNG Penghu 1.92 273 eP Pn 23 03 04.5 -0.8
baz=272
PNG eS Sn 23 03 27.2 -1.3
baz=272
HATJ Hateruma jima 2.06 74 P Pn 23 03 06.9 -0.4
IRIF Iriomote-Funau 2.09 66 P Pn 23 03 08.0 +0.4
IRIF eS Sn 23 03 33.3 +0.6
JKRS Kuro-shima 2.29 70 P Pn 23 03 11.2 +0.8
JIJ Ishigaki jima 2.45 69 P Pn 23 03 12.4 -0.2
JIJ eS Sn 23 03 40.4 -1.2
JTJ Tarama 3.02 67 P Pn 23 03 20.4 -0.1
JTJ eS Sn 23 03 54.9 -0.8

IDC ***17*** *23:04:00.5±0.8, 1267N×9250E, h0km, mb3.8/12, mb1 4.0/13, mb1mx3.9/25, mbtmp3.9/13, ML4.3/1, Error ellipse: s-maj=25.6km s-min=15.0km az=58.0*
ISCJB ***17*** *23:04:03.4±0.5, 1270N±005×9257E±005, h33km, mb4.0/20, Error ellipse: s-maj=8.3km s-min=6.6km az=42.8*
NEIC ***17*** *23:04:05.7±0.4, 1270N×9255E, h35km, mb4.3/13, Error ellipse: s-maj=10.3km s-min=5.9km az=56.0*
ISC 17 23:04:00.5±2.9, 1264N±006×9249E±005, h1km±18km, n50, σ0s94/51, mb4.1/20, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PBA	**Port Blair**	**1.01**	**166**	*e*P	x	23 05 02.7	
PBA				*e*S	x	23 05 21.4	
CMAR	**Chiang Mai Arr**	**8.49**	**46**	Pn	**Pn**	**23 06 04.7**	**-0.1**
	1.0nm,0.3s,baz=239,slow=15,SNR=11						
CMAR				Sn	**Sn**	**23 07 40.5**	**-0.7**
	1.1nm,0.3s,baz=236,slow=25,SNR=5.2						
CHTO	**Chiang Mai**	**8.74**	**45**	*e*Pn	**Pn**	**23 06 09.0**	**+1.0**
	3.5nm,0.9s						
BWNR	**Bhubaneshwar**	**9.95**	**321**	*e*P	**Pn**	**23 06 23.3**	**-1.4**
BWNR				*e*S	**Sn**	**23 08 02.1**	**-15**
VIS	**Vishakhapatnam**	**10.18**	**301**	*e*P	**Pn**	**23 06 25.1**	**-2.8**
VIS				AMb	AMB	23 06 26.4	
	comp=Z,18nm,0.9s						
VIS				*e*S	**Sn**	**23 08 08.8**	**-14**
BOK	**Bokaro**	**12.74**	**331**	*e*P	**Pn**	**23 07 02.2**	**-0.7**
BOK				AMb	AMB	23 07 07.1	
	comp=Z,3.5nm,0.3s						
BOK				*e*S	**Sn**	**23 09 08.7**	**-17**
SHL	**Shillong**	**12.87**	**358**	*e*P	**Pn**	**23 07 01.9**	**-2.8**
SHL				*e*S	**Sn**	**23 09 13.7**	**-15**
ODAN	**Odare**	**14.94**	**342**	*e*P	**Pn**	**23 07 34.4**	**+1.5**
RAMN	**Ramite**	**15.27**	**340**	*e*P	**Pn**	**23 07 37.0**	**-0.4**
	comp=Z,15nm,0.5s						
TAPN	**Taplejung**	**15.31**	**344**	*e*P	**Pn**	**23 07 41.5**	**+3.7**
	comp=Z,7.5nm,0.5s						
NGP	**Nagpur**	**15.38**	**305**	*e*P	**Pn**	**23 07 36.6**	**-2.3**
NGP				*ex*	x	23 10 14.8	
JIRN	**Jiri**	**16.07**	**339**	*e*P	**Pn**	**23 07 48.6**	**+0.9**
	comp=Z,2.4nm,0.2s						
PKI	**Pulchoki**	**16.27**	**337**	*e*P	**Pn**	**23 07 50.5**	**+0.2**
GUN	**Gumba**	**16.40**	**339**	*e*P	**Pn**	**23 07 53.7**	**+1.7**
DMN	**Daman**	**16.42**	**336**	*e*P	**Pn**	**23 07 52.9**	**+0.6**
AKL	**Akola**	**16.84**	**300**	*ex*	x	23 10 48.3	
GKN	**Gorkha**	**16.96**	**336**	*e*P	**Pn**	**23 07 59.2**	**+0.1**
	comp=Z,10.0nm,0.4s						
LSA	**Lhasa**	**17.02**	**356**	Pn	**Pn**	**23 07 59.1**	**-0.8**
	comp=Z,5.2nm,0.6s						
KOLN	**Koldanda**	**17.20**	**332**	*e*P	**Pn**	**23 08 03.3**	**+1.2**
	comp=Z,25nm,0.8s						
DANN	**Dangsing**	**17.63**	**334**	*e*P	**Pn**	**23 08 09.6**	**+2.1**
	comp=Z,8.3nm,0.5s						
BHPL	**Bhopal**	**17.77**	**308**	*e*P	**Pn**	**23 08 08.8**	**-0.5**
BHPL				AMb	AMB	23 08 32.6	
	comp=Z,11nm,0.9s						
BHPL				*ex*	x	23 11 12.7	
POO	**Poona**	**18.88**	**290**	*ex*	**Sn**	**23 11 54.5**	**-0.3**
PTH	**Pithoragarh**	**20.32**	**328**	*ex*	x	23 10 26.2	
KBL	**Kabul**	**30.46**	**320**	*e*P	**P**	**23 10 15.4**	**+0.6**
	comp=Z,1.2nm,0.6s,mb3.9						
EKS2	**Erkin-Say**	**34.03**	**335**	*e*P	**P**	**23 10 46.0**	**-0.1**
	comp=Z,1.1nm,0.6s,mb4.0						
BJT	**Baijiatuan**	**34.34**	**33**	P	**P**	**23 10 48.2**	**-0.6**
MKAR	**Makanchi Array**	**35.12**	**348**	P	**P**	**23 10 55.5**	**+0.2**
	comp=Z,0.5nm,0.6s,mb3.6,baz=161,slow=7.7,SNR=6.0						
SONM	**Songino Array**	**36.97**	**16**	P	**P**	**23 11 11.9**	**+0.7**
	comp=Z,1.6nm,1.0s,mb3.7,baz=185,slow=7.1,SNR=9.0						
KURK	**Kurchatov**	**39.62**	**346**	P	**P**	**23 11 32.8**	**-0.8**
	comp=Z,1.1nm,0.8s,mb3.5,baz=166,slow=8.0,SNR=6.3						
KURK	**Kurchatov**	**39.62**	**346**	*e*P	**P**	**23 11 32.8**	**-0.7**
	comp=Z,1.6nm,0.7s,mb3.8						
KSRS	**Korea Array**	**40.13**	**46**	P	**P**	**23 11 37.5**	**-0.6**
	comp=Z,1.8nm,0.6s,mb3.9,baz=243,slow=8.2,SNR=5.4						
ZAA0	**Zalesovo Array**	**41.66**	**353**	*e*P	**P**	**23 11 49.6**	**-0.7**
ZALV	**Zalesovo Beam**	**41.66**	**353**	P	**P**	**23 11 50.0**	**-0.4**
	comp=Z,1.2nm,0.7s,mb3.7,baz=169,slow=8.3,SNR=7.6						
BVAR	**Borovoye Array**	**43.98**	**341**	P	**P**	**23 12 09.1**	**-0.1**
	comp=Z,0.6nm,0.6s,mb3.5,baz=236,slow=37,SNR=2.9						
FITZ	**Fitzroy Crossi**	**44.76**	**132**	P	**P**	**23 12 16.1**	**+0.3**
	comp=Z,1.7nm,0.7s,mb4.1,baz=258,slow=6.8,SNR=6.0						
GNI	**Garni**	**50.01**	**312**	P	**P**	**23 12 56.6**	**+0.1**
	comp=Z,0.9nm,0.3s,mb4.1,baz=108,slow=13,SNR=2.0						
GNI	**Garni**	**50.01**	**312**	*e*P	**P**	**23 12 56.7**	**+0.1**
	comp=Z,15nm,1.3s,mb4.8						
WRA	**Warramunga Arr**	**52.39**	**128**	P	**P**	**23 13 13.5**	**-1.2**
	comp=Z,2.0nm,0.8s,mb4.1,baz=306,slow=8.3,SNR=10						
WRA				PcP	PcP	23 14 26.3	+0.6
	comp=Z,0.5nm,0.5s,baz=317,slow=3.1,SNR=7.9						
WRAB	**Tennant Creek**	**52.39**	**128**	*e*P	**P**	**23 13 14.8**	**+0.1**
	comp=Z,3.3nm,0.9s,mb4.3						
WB2	**Warramunga Arr**	**52.40**	**128**	*e*P	**P**	**23 13 14.8**	**0.0**
KIV	**Kislovodsk**	**52.74**	**316**	P	**P**	**23 13 17.7**	**+0.7**
	comp=Z,5.1nm,0.9s,mb4.5						
ASAR	**Alice Springs**	**54.24**	**132**	P	**P**	**23 13 29.1**	**+0.8**
	comp=Z,1.1nm,0.7s,mb4.0,baz=308,slow=6.5,SNR=8.5						
ASAR				PcP	PcP	23 14 33.4	+0.7
	comp=Z,0.7nm,0.7s,baz=302,slow=2.8,SNR=5.0						
BR131	**Keskin Array S**	**58.14**	**309**	*e*P	**P**	**23 13 56.1**	**+0.1**
	comp=Z,1.9nm,0.7s,mb4.2						
CTAO	**Charters Tower**	**62.09**	**121**	*e*P	**P**	**23 14 22.6**	**-0.7**
	comp=Z,1.3nm,1.0s,mb5.1						
GERES	**GERESS Array B**	**73.23**	**317**	P	**P**	**23 15 32.9**	**-0.3**
	comp=Z,0.6nm,0.8s,mb3.8,baz=51,slow=4.3,SNR=4.1						
BOSA	**Boshof**	**76.79**	**236**	*e*P	**P**	**23 15 54.8**	**+0.7**
LPG	**La Plagne**	**78.14**	**314**	*e*P	**P**	**23 16 02.2**	**+0.7**
	comp=Z,13nm,1.2s,mb4.6						
LPL	**La Plagne**	**78.15**	**314**	*e*P	**P**	**23 16 02.3**	**+0.8**
	comp=Z,6.6nm,0.8s,mb4.5						
TORD	**Torodi Ar. Bea**	**87.94**	**283**	P	**P**	**23 16 53.1**	**+0.3**
	comp=Z,13nm,1.0s,mb4.0,baz=99,slow=4.3,SNR=4.6						
TXAR	**Lajitas Array**	**135.46**	**20**	PKP	PKPdf	23 23 25.0	+1.9
	comp=Z,0.2nm,0.6s,baz=321,slow=1.2,SNR=3.3						

BJI ***17*** *23:08:47.3, 470S×10134E, h28km, mB4.8, mb4.7*
IDC ***17*** *23:08:48.3±1.1, 423S×10121E, h0km, mb4.4/15, mb1 4.5/16, mb1mx4.3/24, mbtmp4.4/16, ML4.2/1, MS3.6/2, Ms1 3.7/2, ms1mx3.1/22, Error ellipse: s-maj=38.7km s-min=12.8km az=50.0*
DJA ***17*** *23:08:53.6±0.6, 4S±5×101E±, h20km, mB5.5/4, Mjma3.9/6, MLv4.7/7, Mw(mB)5.2/4, Mwp4.1/2*
NEIC ***17*** *23:08:53.9±0.2, 421S×10130E, h35km, mb4.8/26, Error ellipse: s-maj=8.1km s-min=4.4km az=53.0*
ISCJB ***17*** *23:08:54.3±1.2, 423S±006×10127E±008, h57km±10km, mb4.7/41, MS3.5/2, Error ellipse: s-maj=15.3km s-min=5.9km az=143.5*
ISC 17 23:08:55.6±1.0, 422S±006×10126E±007, h50km±9km, h22km±3.4km: pP-P, n78, σ0s89/75, mb4.7/41, MS3.5/2, 2C, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KSI	**Kapahiang**	**1.44**	**67**	P	**Pn**	**23 09 19.3**	**0.0**
KSI	**Kapahiang**	**1.44**	**67**	S	**Sn**	**23 09 41.9**	**+4.9**
PDSI	**Padang**	**3.38**	**346**	P	**Pn**	**23 09 43.8**	**-2.1**
KLI	**Kotabumi**	**3.64**	**100**	P	**Pn**	**23 09 56.8**	**+7.4**
PPI	**Padang Panjang**	**3.84**	**347**	P	**Pn**	**23 09 50.8**	**-1.3**
RGRI	**Rengat**	**3.99**	**16**	P	**Pn**	**23 10 04.2**	**+10**
PPBI	**Pangkal Pinang**	**5.28**	**67**	P	**Pn**	**23 10 13.2**	**+1.3**
	41nm,1.0s,749nm0.3nm						
DBJI	**Dramaga**	**5.94**	**113**	P	**Pn**	**23 10 20.6**	**-0.3**
	120nm,0.8s,0.5nm						
CBJI	**Citeko**	**5.98**	**112**	P	**Pn**	**23 10 22.8**	**+1.3**
	323nm,0.7s						
LEM	**Lembang**	**6.83**	**113**	P	**Pn**	**23 10 35.0**	**+1.7**
	94nm,1.0s,0.3nm						
IPM	**Ipoh**	**8.64**	**358**	P	**Pn**	**23 11 01.3**	**+3.2**
	18nm,1.1s,412nm0.1nm						
KSM	**Kuching**	**10.66**	**58**	*e*Pn	**Pn**	**23 11 21.7**	**-4.1**
BSI	**Banda Aceh**	**11.34**	**328**	P	**Pn**	**23 11 33.5**	**-1.6**
	50nm,1.2s						
KKM	**Kota Kinabalu**	**18.08**	**56**	*e*Pn	**Pn**	**23 13 02.5**	**-0.8**
KAPI	**Kappang**	**18.45**	**93**	P	**Pn**	**23 13 08.0**	**+0.2**
	0.8nm,0.3s,baz=266,slow=11,SNR=5.2						
BDT	**Bhumibol Dam**	**21.44**	**354**	P	**P**	**23 13 40.0**	**+0.3**
CM31	**Chiang Mai Arr**	**22.65**	**354**	*e*P	**P**	**23 13 52.4**	**-0.2**
CMAR	**Chiang Mai Arr**	**22.65**	**354**	P	**P**	**23 13 52.9**	**+0.3**
	12nm,0.8s,mb4.4,baz=183,slow=8.6,SNR=52						
CMAR				LR	LR	23 24 28.9	
	comp=Z,122nm,18.2s,MS3.4,baz=190,slow=42						
BATI	**Baumata**	**23.00**	**106**	P	**P**	**23 13 54.7**	**-1.6**
	8.0nm,0.3s,mb4.7,baz=286,slow=6.5,SNR=2.6						
CHG	**Chiang Mai**	**23.00**	**354**	⇑P	**P**	**23 13 55.9**	**-0.4**
	13nm,1.0s,mb4.3						
CHTO	**Chiang Mai**	**23.00**	**354**	*e*P	**P**	**23 13 55.4**	**-0.9**
	8.4nm,0.8s,mb4.2						
CHRT	**Chiangrai**	**23.98**	**357**	⇑P	**P**	**23 14 05.5**	**-0.1**
	105nm,1.0s,mb5.2						
FITZ	**Fitzroy Crossi**	**27.55**	**122**	P	**P**	**23 14 37.8**	**-0.2**
	3.9nm,0.8s,mb4.1,baz=288,slow=9.2,SNR=11						
FITZ	**Fitzroy Crossi**	**27.55**	**122**	*e*P	**P**	**23 14 37.6**	**-0.4**
	8.9nm,0.8s,mb4.5						
NWAO	**Narrogin (SRO)**	**32.23**	**154**	P	**P**	**23 15 18.1**	**-1.1**
ODAN	**Odare**	**33.68**	**337**	*e*P	**P**	**23 15 33.0**	**+1.0**
	38nm,0.8s,mb5.4						
TAPN	**Taplejung**	**34.00**	**338**	*e*P	**P**	**23 15 36.0**	**+1.2**
	53nm,0.9s,mb5.5						
RAMN	**Ramite**	**34.08**	**336**	*e*P	**P**	**23 15 36.2**	**+0.8**
	30nm,0.9s,mb5.2						
LSA	**Lhasa**	**35.09**	**345**	*e*P	**P**	**23 15 45.0**	**+0.8**
	2.5nm,0.6s,mb4.3						
GUN	**Gumba**	**35.22**	**336**	*e*P	**P**	**23 15 46.3**	**+1.1**
	41nm,0.7s,mb5.5						
DMN	**Daman**	**35.27**	**335**	*e*P	**P**	**23 15 46.1**	**+0.4**
	10nm,0.8s,mb4.8						
KKN	**Kakani**	**35.36**	**335**	*e*P	**P**	**23 15 47.1**	**+0.6**
	22nm,0.8s,mb5.2						
WRA	**Warramunga Arr**	**35.81**	**119**	P	**P**	**23 15 49.1**	**-1.3**
	2.1nm,0.5s,mb4.3,baz=301,slow=9.1,SNR=23						
WRA				LR	LR	23 32 23.5	
	comp=Z,85nm,18.8s,MS3.5,baz=255,slow=40						
WRAB	**Tennant Creek**	**35.81**	**119**	*e*P	**P**	**23 15 49.9**	**-0.7**
	6.6nm,0.9s,mb4.6						
WB2	**Warramunga Arr**	**35.82**	**119**	*e*P	**P**	**23 15 50.0**	**-0.5**
GKN	**Gorkha**	**35.82**	**334**	*e*P	**P**	**23 15 50.8**	**+0.4**
	31nm,1.0s,mb5.2						
KOLN	**Koldanda**	**36.08**	**333**	*e*P	**P**	**23 15 53.3**	**+0.7**
	23nm,0.7s,mb5.2						
DANN	**Dangsing**	**36.50**	**334**	*e*P	**P**	**23 15 56.3**	**0.0**
	29nm,0.9s,mb5.1						
ASAR	**Alice Springs**	**36.95**	**125**	P	**P**	**23 16 00.1**	**0.0**
	1.4nm,0.5s,mb4.0,baz=298,slow=7.9,SNR=12						
XAN	**Xi'an**	**38.73**	**10**	P	**P**	**23 16 14.1**	**-0.9**
XAN				AP	pP	23 16 20.3	-7.9
XAN				XP	sP	23 16 24.5	-10
XAN				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb4.5						
XAN				AMB	AMB		
	comp=Z,51nm,10.2s						
LZH	**Lanzhou**	**40.17**	**3**	*e*P	**P**	**23 16 28.5**	**+1.6**
LZH				AP	pP	23 16 36.0	-4.1
LZH				XP	sP	23 16 40.4	-5.6
LZH				AMB	AMB		
	comp=Z,26nm,1.2s,mb4.8						
LZH				AMB	AMB		
	comp=Z,115nm,4.8s						
GTA	**Gaotai**	**43.43**	**358**	*e*P	**P**	**23 16 54.3**	**+0.7**
GTA				AP	pP	23 17 02.0	-4.9
GTA				XP	sP	23 17 06.0	-6.7
GTA				AMB	AMB		
	comp=Z,6.0nm,0.8s,mb4.4						
PMG	**Port Moresby**	**45.83**	**99**	*e*P	**P**	**23 17 13.3**	**+0.2**
	comp=Z,11nm,0.7s,mb4.9						
STKA	**Stephens Creek**	**46.75**	**131**	P	**P**	**23 17 20.2**	**+0.1**
	comp=Z,3.1nm,0.8s,mb4.3,baz=322,slow=22,SNR=4.7						
STKA	**Stephens Creek**	**46.75**	**131**	*e*P	**P**	**23 17 20.5**	**+0.4**
	comp=Z,4.8nm,0.8s,mb4.5						
KSRS	**Korea Array**	**48.31**	**29**	P	**P**	**23 17 30.6**	**-1.5**
	comp=Z,7.9nm,0.9s,mb4.7,baz=218,slow=8.3,SNR=15						
WMQ	**Urumqi**	**49.36**	**347**	P	**P**	**23 17 41.0**	**+1.0**
SONM	**Songino Array**	**52.03**	**4**	P	**P**	**23 18 01.2**	**+1.1**
	comp=Z,11nm,0.8s,mb4.8,baz=184,slow=9.0,SNR=79						
UCH	**Uchtor**	**52.23**	**335**	*e*P	**P**	**23 18 02.2**	**+0.6**
	comp=Z,3.2nm,0.9s,mb4.2						
TKM2	**Tokmak 2**	**52.36**	**336**	*e*P	**P**	**23 18 03.0**	**+0.5**
	comp=Z,7.3nm,0.6s,mb4.8						
AML	**Almayashu**	**52.50**	**334**	*e*P	**P**	**23 18 04.2**	**+0.6**
	comp=Z,3.2nm,0.7s,mb4.4						
EKS2	**Erkin-Say**	**52.89**	**335**	*e*P	**P**	**23 18 06.9**	**+0.3**
	comp=Z,10nm,0.8s,mb4.8						
MJAR	**Matsushiro Arr**	**53.23**	**37**	P	**P**	**23 18 08.1**	**-1.1**
	comp=Z,4.9nm,0.9s,mb4.4,baz=216,slow=6.9,SNR=8.1						
MK31	**Makanchi Array**	**53.49**	**344**	*e*P	**P**	**23 18 11.0**	**+0.1**
MKAR	**Makanchi Array**	**53.49**	**344**	P	**P**	**23 18 10.8**	**0.0**
	comp=Z,7.4nm,0.7s,mb4.7,baz=148,slow=8.4,SNR=69						
MKAR	**Makanchi Array**	**53.49**	**344**	P	**P**	**23 18 10.8**	**0.0**
TLY	**Talaya**	**55.72**	**2**	P	**P**	**23 18 27.6**	**+0.6**
TAU	**Tasmania Unive**	**56.08**	**140**	*e*P	**P**	**23 18 29.9**	**+0.2**
KURK	**Kurchatov**	**58.08**	**343**	P	**P**	**23 18 42.2**	**-1.4**
	comp=Z,5.8nm,0.9s,mb4.6,baz=166,slow=6.8,SNR=20						
KURK	**Kurchatov**	**58.08**	**343**	*e*P	**P**	**23 18 43.3**	**-0.4**
	comp=Z,7.1nm,0.7s,mb4.8						
ZAA0	**Zalesovo Array**	**59.57**	**349**	*e*P	**P**	**23 18 53.4**	**-0.5**
ZALV	**Zalesovo Beam**	**59.57**	**349**	P	**P**	**23 18 53.5**	**-0.4**
	comp=Z,4.7nm,0.5s,mb4.8,baz=178,slow=5.5,SNR=28						
BVAR	**Borovoye Array**	**62.69**	**340**	P	**P**	**23 19 14.1**	**-1.0**
	comp=Z,3.9nm,0.6s,mb4.7,baz=141,slow=7.6,SNR=17						
BRVK	**Borovoye**	**62.75**	**340**	*e*P	**P**	**23 19 14.0**	**-1.5**
	comp=Z,6.7nm,0.5s,mb5.0						
AKTK	**Aktyubinsk**	**65.90**	**331**	P	**P**	**23 19 35.6**	**-0.5**
AKTO	**Aktyubinsk**	**65.90**	**331**	P	**P**	**23 19 35.6**	**-0.6**
	comp=Z,0.5nm,0.3s,mb4.0,baz=107,slow=10,SNR=3.0						
MAW	**Mawson**	**68.47**	**195**	*e*P	**P**	**23 19 52.0**	**-0.1**
	comp=Z,2.3nm,0.7s,mb4.3						
ARU	**Arti**	**69.73**	**336**	*e*P	**P**	**23 19 59.7**	**-0.4**
	comp=Z,2.4nm,0.5s,mb4.4						
BR131	**Keskin Array S**	**75.74**	**313**	*e*P	**P**	**23 20 34.8**	**-1.4**
	comp=Z,1.2nm,0.8s,mb3.9						
OBN	**Obninsk**	**79.33**	**328**	*e*P	**P**	**23 20 55.0**	**-0.8**
SUR	**Sutherland**	**79.69**	**238**	*e*P	**P**	**23 20 58.7**	**+0.3**
SBA	**Scott Base**	**80.85**	**169**	P	**P**	**23 21 04.6**	**+0.8**
BUR08	**Bucovina Ar. S**	**83.77**	**319**	*e*P	**P**	**23 21 19.9**	**+0.4**
SNAA	**Sanae**	**90.43**	**198**	*e*P	**P**	**23 21 52.2**	**+0.9**
	comp=Z,2.1nm,1.0s,mb4.4						
GERES	**GERESS Array B**	**91.54**	**319**	P	**P**	**23 21 57.0**	**+0.1**
	comp=Z,0.1nm,0.3s,mb3.6,baz=64,slow=4.5,SNR=3.5						
PMR	**Palmer**	**102.96**	**28**	*e*Pdif	Pdif	23 22 47.3	-1.1
	comp=Z,13nm,0.8s						
TXAR	**Lajitas Array**	**145.62**	**41**	PKPbc	PKPbc	23 28 29.9	+0.5
	comp=Z,9.4nm,1.1s,baz=339,slow=6.7,SNR=7.1						
TXAR	**Lajitas Array**	**145.62**	**41**	PKPbc	PKPbc	23 28 29.9	+0.5

JMA ***17*** *23:43:59.5±0.2, 3535N×13702E, h309km±2km, M3.3*
ISCJB ***17*** *23:44:00.1±0.4, 3539N±007×13699E±009, h303km±3km, mb3.2/8, Error ellipse: s-maj=11.9km s-min=10.9km az=139.0*
IDC ***17*** *23:44:01.6±0.8, 3554N×13701E, h300km±10km, mb3.0/5, mb1 3.2/6, mb1mx3.1/22, mbtmp3.0/6, Error ellipse: s-maj=28.1km s-min=17.7km az=51.0*
NEIC ***17*** *23:44:01.4±0.8, 3548N×13697E, h301km±10km, mb3.4/3, Error ellipse: s-maj=27.3km s-min=13.6km az=69.0*
ISC 17 23:44:01.0±0.4, 3538N±007×13699E±009, h297km±3km, n29, σ0s81/34, mb3.2/8, Western Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JAO	**Obara**	**0.24**	**118**	P	**Pn**	**23 44 38.9**	**0.0**
JAO				S	S	23 45 08.8	-0.1
JGM	**Miyama**	**0.39**	**325**	P	**Pn**	**23 44 39.2**	**+0.2**
JGM				S	**S**	**23 45 09.8**	**+0.6**
JIE	**Ise**	**1.01**	**194**	P	**Pn**	**23 44 40.9**	**-0.4**
JKG	**Kaga**	**1.04**	**329**	P	**Pn**	**23 44 40.8**	**-0.4**
JYN	**Shimob**	**1.27**	**84**	P	**Pn**	**23 44 42.5**	**0.0**
JWT	**Wachi**	**1.30**	**266**	P	**Pn**	**23 44 42.6**	**-0.1**
MAJO	**Matsushiro**	**1.52**	**40**	*e*Pn	**Pn**	**23 44 44.3**	**+0.3**
MAJO				*e*S	**S**	**23 45 18.6**	**+0.5**
MAT	**Matsushiro**	**1.52**	**40**	P	**Pn**	**23 44 44.3**	**+0.3**
MAT				S	**S**	**23 45 19.1**	**+1.0**
MAT	**Matsushiro**	**1.52**	**40**	P	**Pn**	**23 44 44.1**	**+0.1**
MJAR	**Matsushiro Arr**	**1.52**	**40**	P	**Pn**	**23 44 44.5**	**+0.5**
	8.4nm,0.3s,baz=210,slow=7.5,SNR=46						
MJAR				S	**S**	**23 45 18.2**	**+0.1**
	baz=86,slow=27,SNR=7.0						
JWY	**Kouya**	**1.64**	**225**	P	**Pn**	**23 44 44.6**	**-0.3**
JRY	**Ryogami san**	**1.68**	**67**	P	**Pn**	**23 44 45.2**	**+0.1**
JRY				S	**S**	**23 45 19.9**	**-0.2**
JOD2	**Odawara 2**	**1.72**	**93**	P	**Pn**	**23 44 45.2**	**-0.2**
JWZ	**Kozaga**	**2.13**	**210**	P	**Pn**	**23 44 47.6**	**-1.1**
JAG	**Ashikaga**	**2.25**	**62**	P	**Pn**	**23 44 48.7**	**-0.9**
BSO1	**Boso 1**	**3.35**	**101**	P	**Pn**	**23 44 58.4**	**-1.7**
KSRS	**Korea Array**	**7.60**	**288**	P	**Pn**	**23 45 50.2**	**+0.7**
	0.3nm,0.3s,baz=108,slow=14,SNR=4.5						
SONM	**Songino Array**	**25.86**	**308**	P	**P**	**23 49 05.2**	**-0.7**
	1.1nm,0.7s,mb3.4,baz=114,slow=9.1,SNR=8.7						
YAK	**Yakutsk**	**27.07**	**352**	P	**P**	**23 49 15.2**	**-1.2**
MKAR	**Makanchi Array**	**41.99**	**303**	P	**P**	**23 51 24.2**	**+0.7**
	0.4nm,0.5s,mb2.9,baz=98,slow=8.1,SNR=4.5						
KURK	**Kurchatov**	**44.16**	**309**	*e*P	**P**	**23 51 39.2**	**-1.4**
	1.3nm,0.7s,mb3.3						
BRVK	**Borovoye**	**49.11**	**313**	*e*P	**P**	**23 52 18.7**	**-0.1**
FITZ	**Fitzroy Crossi**	**54.27**	**193**	*e*P	**P**	**23 52 55.4**	**-1.6**
	1.0nm,0.6s,mb3.3						
KBL	**Kabul**	**54.65**	**290**	P	**P**	**23 53 00.1**	**+0.4**
WRAB	**Tennant Creek**	**55.07**	**183**	*e*P	**P**	**23 53 04.0**	**+1.3**
	1.5nm,0.8s,mb3.5						
WRA	**Warramunga Arr**	**55.08**	**183**	P	**P**	**23 53 03.7**	**+1.0**
	0.3nm,0.4s,mb3.1,baz=358,slow=7.7,SNR=4.3						
ASAR	**Alice Springs**	**58.80**	**183**	P	**P**	**23 53 30.9**	**+2.2**
	0.1nm,0.3s,mb2.7,baz=10,slow=13,SNR=4.6						
TXAR	**Lajitas Array**	**93.94**	**50**	P	**P**	**23 56 46.0**	**+0.6**
	0.4nm,0.7s,mb3.6,baz=308,slow=3.5,SNR=6.6						
TORD	**Torodi Ar. Bea**	**115.82**	**310**	PKP	PKPdf	00 02 07.4	-1.5
	0.8nm,1.2s,baz=72,slow=0.5,SNR=3.0						

CSEM ***17*** *23:50:53.9±0.2, 3836N×2837E, h10km, MD2.4, Error ellipse: s-maj=5.4km s-min=3.2km az=169.0*
ISCJB ***17*** *23:50:54.7±0.5, 3838N±003×2836E±003, h10km, Error ellipse: s-maj=5.1km s-min=3.2km az=167.2*
DDA ***17*** *23:50:54.7, 3839N×2835E, h6km±5km, Md2.4*
ISK ***17*** *23:50:54.2, 3839N×2835E, h7km, MD2.8*
ISC 17 23:50:55.2±0.5, 3839N±003×2836E±003, h2km±12km, n12, σ0s51/21, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MANT	**Manisa**	**0.19**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DL2	**Dalian**	**1.00**	**42**	PG	Pg	00 27 54.4	-3.7
DL2				SG	Sg	00 28 06.6	-4.5
DL2				Smax			
	comp=N,860nm,0.6s						
DL2				Smax			
	comp=E,2μm,0.6s						
TIA	**Tai'an**	**3.50**	**237**	PG	Pg	00 28 41.3	-4.6
TIA				SG	Sg	00 29 25.9	-5.3
TIA				Smax			
	comp=N,36nm,0.4s						
TIA				Smax			
	comp=E,17nm,0.4s						

*LDG **18** 00:53:09.3±0.4, 1502S×7387W, h10km, Mb4.9/16, Ms3.9/8, Error ellipse: s-maj=25.8km s-min=9.5km az=43.0*
*MOS **18** 00:53:14.2±0.8, 1551S×7413W, h66km, mb5.2/34, Error ellipse: s-maj=11.0km s-min=7.4km az=113.3*
*IDC **18** 00:53:15.7±0.5, 1561S×7413W, h69km±3km, mb4.4/15, mb1 4.6/17, mb1mx4.6/18, mbtmp4.4/17, MS3.7/7, Ms1 3.7/7, ms1mx3.5/18, Error ellipse: s-maj=16.6km s-min=9.8km az=55.0*
*ISCJB **18** 00:53:17.9±0.2, 1562S±004×7410W±004, h101km, mb4.8/78, Error ellipse: s-maj=7.4km s-min=4.0km az=40.0*
*NEIC **18** 00:53:19.0±0.2, 1570S×7404W, mb4.9/58, Error ellipse: s-maj=7.1km s-min=4.0km az=53.0*
NEIC Felt [III] at Caraveli and Chala.
*BJI **18** 00:53:19.0, 1570S×7400W, h102km, mB5.1*
ISC 18 00:53:19.8±0.2, 1566S±004×7401W±004, h103km, h103km±1.2km:pP-P, n575, ∘0§67/517, mb4.8/78, 150C-137D, Near coast of Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARE	**Arequipa**	**2.55**	**109**	↑*i*P	**Pn**	**00 53 57.1**	**-2.6**
ARE				*i* S	**Sn**	**00 54 15.0**	**-15**
NNA	**Nana**	**4.57**	**323**	P	**Pn**	**00 54 20.3**	**-6.4**
	22nm,0.3s,baz=146,slow=11,SNR=25						
NNA				S	**Sn**	**00 55 11.2**	**-7.5**
	286nm,0.3s,baz=204,slow=11,SNR=9.4						
NNA	**Nana**	**4.57**	**323**	*e*Pn	**Pn**	**00 54 20.1**	**-6.7**
NNA				*e*Sn	**Sn**	**00 55 11.2**	**-7.6**
LPAZ	**La Paz**	**5.69**	**97**	P	**Pn**	**00 54 44.2**	**+2.3**
	1.8nm,0.3s,baz=275,slow=9.5,SNR=30						
LPAZ				LR	LR	00 56 26.2	
	comp=Z,246nm,18.5s,baz=279,slow=33						
LPAZ	**La Paz**	**5.69**	**97**	P	**Pn**	**00 54 44.2**	**+2.3**
LPAZ				pmax	pmax		
	comp=Z,2.0nm,0.3s						
LPAZ				MLR	MLR		
	comp=Z,246nm,18.5s						
LVC	**Limon Verde**	**8.43**	**146**	P	**Pn**	**00 55 16.4**	**-2.7**
	comp=Z,6.6nm,0.3s,baz=323,slow=10.0,SNR=99						
LVC				S	**Sn**	**00 56 45.4**	**-7.2**
	comp=Z,24nm,0.3s,baz=112,slow=20,SNR=15						
LVC	**Limon Verde**	**8.43**	**146**	*e*Pn	**Pn**	**00 55 16.2**	**-3.0**
ATAH	**Atahualpa**	**9.62**	**333**	P	**Pn**	**00 55 33.6**	**-1.7**
	comp=Z,2.3nm,0.3s,baz=180,slow=2.9,SNR=24						
ATAH				S	**Sn**	**00 57 16.1**	**-5.6**
	comp=Z,3.9nm,0.3s,baz=107,slow=19,SNR=2.1						
SIV	**San Ignacio**	**12.46**	**93**	P	**Pn**	**00 56 09.2**	**-4.3**
	comp=Z,0.1nm,0.3s,baz=273,slow=14,SNR=8.4						
LCO	**Las Campanas**	**13.63**	**168**	*e*Pn	**Pn**	**00 56 26.8**	**-2.0**
	comp=Z,51nm,1.3s						
LCO				*e*Sn	**Sn**	**00 58 49.6**	**-9.4**
OTAV	**Otavalo**	**16.39**	**344**	*e*P	**Pn**	**00 57 06.1**	**+2.2**
CFAA	**Coronel Fontan**	**16.72**	**163**	P	**Pn**	**00 57 06.6**	**-1.3**
	comp=Z,0.1nm,0.3s,baz=336,slow=11,SNR=15						
CFAA	**Coronel Fontan**	**16.72**	**163**	P	**Pn**	**00 57 06.6**	**-1.3**
ROSC	**El Rosal**	**20.39**	**359**	P	**P**	**00 57 51.5**	**+3.0**
	comp=Z,11nm,0.7s,baz=90,slow=20,SNR=4.2						
ROSC	**El Rosal**	**20.39**	**359**	*e*Pn	**P**	**00 57 48.5**	**-0.1**
SDV	**Santo Domingo**	**24.62**	**8**	P	**P**	**00 58 30.6**	**-0.1**
	comp=Z,20nm,0.7s,mb4.6,baz=251,slow=8.1,SNR=15						
SDV				LR	LR	01 09 05.8	
	comp=Z,162nm,19.8s,baz=172,slow=39						
SDV	**Santo Domingo**	**24.62**	**8**	*e*P	**P**	**00 58 30.5**	**-0.3**
TRQA	**Tornquist**	**24.71**	**157**	*e*Pn	**P**	**00 58 29.5**	**-1.9**
BDFB	**Brasilia**	**25.03**	**93**	P	**P**	**00 58 34.7**	**+0.2**
	comp=Z,4.9nm,0.8s,mb4.0,baz=250,slow=16,SNR=9.3						
BDFB	**Brasilia**	**25.03**	**93**	P	**P**	**00 58 34.7**	**+0.2**
BDFB				pmax	pmax		
	comp=Z,5.0nm,0.8s						
PLCA	**Paso Flores**	**25.16**	**174**	P	**P**	**00 58 35.4**	**0.0**
	comp=Z,7.6nm,0.9s,mb4.1,baz=349,slow=11,SNR=11						
PLCA	**Paso Flores**	**25.16**	**174**	*e*P	**P**	**00 58 36.6**	**+1.2**
PLCA				*e*		00 58 50.9	
PLCA				pmax	pmax		
	comp=Z,33nm,1.2s						
PLCA	**Paso Flores**	**25.16**	**174**	*e*P	**P**	**00 58 36.5**	**+1.1**
	comp=Z,33nm,1.2s,mb4.6						
PLCA				*e*		00 58 50.9	
PCRV	**Puerto La Cruz**	**27.30**	**20**	P	**P**	**00 58 54.7**	**-0.3**
	comp=Z,4.8nm,0.4s,mb4.4,baz=295,slow=7.5,SNR=4.1						
PCRV				LR	LR	01 10 56.8	
	comp=Z,292nm,18.1s,baz=204,slow=39						
BBGH	**Gun Hill**	**31.99**	**27**	P	**P**	**00 59 34.1**	**-2.3**
RPN	**Rapa Nui**	**34.70**	**245**	P	**P**	**00 59 58.9**	**-1.0**
	comp=Z,156μm,0.4s,baz=56,slow=11,SNR=2.5						
RPN	**Rapa Nui**	**34.70**	**245**	P	**P**	**00 59 58.9**	**-1.0**
TEIG	**Tepich**	**38.32**	**338**	*e*P	**P**	**01 00 30.0**	**-0.6**
	comp=Z,18nm,0.8s,mb4.9						
RCBR	**Riachuelo**	**38.63**	**80**	P	**P**	**01 00 31.5**	**-2.0**
BBSR	**BB Station**	**48.58**	**11**	*e*P	**P**	**01 01 52.1**	**-0.8**
	comp=Z,8.9nm,0.6s,mb4.9						
PMSA	**Palmer Station**	**49.53**	**174**	P	**P**	**01 01 57.3**	**-2.5**
GOGA	**Godfrey**	**49.62**	**350**	*e*P	**P**	**01 01 59.7**	**-1.1**
GOGA				*e**PP	pP	01 02 25.1	-0.2
GOGA				pmax	pmax		
	comp=Z,26nm,1.1s,mb5.1						
GOGA	**Godfrey**	**49.62**	**350**	*e*P	**P**	**01 01 59.7**	**-1.1**
	comp=Z,26nm,1.1s,mb5.1						
GOGA				*ep*P	pP	01 02 25.1	-0.1
LRAL	**Lakeview Retre**	**49.98**	**346**	*e*P	**P**	**01 02 01.6**	**-1.9**
LRAL				*ep*P	pP	01 02 21.2	-6.8
JSC	**Jenkinsville**	**50.14**	**352**	*e*P	**P**	**01 02 03.0**	**-1.7**
CPCT	**Cooper Cave**	**51.80**	**349**	*e*P	**P**	**01 02 16.0**	**-1.1**
SWET	**Sewanee**	**51.84**	**348**	*e*P	**P**	**01 02 16.0**	**-1.5**
SWET				*ep*P	pP	01 02 41.5	-0.6
OXF	**Oxford**	**52.00**	**344**	*e*P	**P**	**01 02 16.4**	**-2.2**
OXF				pmax	pmax		
	comp=Z,10.0nm,0.6s,mb5.0						
OXF	**Oxford**	**52.00**	**344**	*e*P	**P**	**01 02 16.4**	**-2.2**
	comp=Z,10nm,0.6s,mb5.0						
JCT	**Junction City**	**52.16**	**332**	*e*P	**P**	**01 02 19.0**	**-0.9**
JCT				pmax	pmax		
	comp=Z,22nm,1.1s,mb5.1						
JCT	**Junction City**	**52.16**	**332**	*e*P	**P**	**01 02 19.0**	**-0.9**
	comp=Z,22nm,1.1s,mb5.1						
TZTN	**Tazewell**	**52.70**	**350**	*e*P	**P**	**01 02 22.8**	**-1.0**
ELN	**Prospectdale**	**52.98**	**353**	P	**P**	**01 02 25.3**	**-0.6**
UALR	**University of**	**53.10**	**341**	*e*P	**P**	**01 02 26.2**	**-0.6**
	comp=Z,33nm,1.2s,mb5.2						
TXAR	**Lajitas Array**	**53.11**	**327**	P	**P**	**01 02 26.0**	**-1.0**
	comp=Z,11nm,0.8s,mb5.0,baz=148,slow=8.8,SNR=123						
TXAR				sP	pP	01 02 51.0	-0.7
	comp=Z,2.4nm,0.6s,baz=150,slow=7.9,SNR=3.8						
TXAR	**Lajitas Array**	**53.11**	**327**	P	**P**	**01 02 26.0**	**-0.9**
TXAR				*SP	pP	01 02 51.0	-0.7
TXAR				pmax	pmax		
	comp=Z,11nm,0.8s						
TXAR				pmax	pmax		
	comp=Z,2.0nm,0.6s						
TXAR	**Lajitas Array**	**53.11**	**327**	P	**P**	**01 02 26.0**	**-1.0**
TXAR				sP	pP	01 02 51.0	-0.7
WVT	**Waverly**	**53.14**	**346**	*e*P	**P**	**01 02 24.2**	**-2.8**
WVT				*e**PP	pP	01 02 49.8	-1.9
WVT				pmax	pmax		
	comp=Z,18nm,1.2s,mb5.0						
WVT	**Waverly**	**53.14**	**346**	*e*P	**P**	**01 02 24.2**	**-2.8**
	comp=Z,18nm,1.2s,mb5.0						
WVT				*ep*P	pP	01 02 49.8	-2.0
MIAR	**Mount Ida**	**53.28**	**340**	*e*P	**P**	**01 02 26.9**	**-1.2**
MIAR				pmax	pmax		
	comp=Z,12nm,0.8s,mb5.0						
MIAR	**Mount Ida**	**53.28**	**340**	*e*P	**P**	**01 02 26.9**	**-1.2**
	comp=Z,12nm,0.8s,mb5.0						
WCI	**Wyandotte Cave**	**54.83**	**348**	*e*P	**P**	**01 02 37.4**	**-1.9**
SDMD	**Soldier's Deli**	**54.84**	**357**	*e*P	**P**	**01 02 39.6**	**+0.3**
SDMD				*ep*P	pP	01 03 05.3	+1.1
USIN	**University of**	**54.86**	**347**	*e*P	**P**	**01 02 37.7**	**-1.8**
	comp=Z,62nm,0.9s,mb5.6						
USIN				*ep*P	pP	01 03 02.8	-1.5
SIUC	**Southern Illin**	**54.98**	**345**	*e*P	**P**	**01 02 38.9**	**-1.5**
SIUC				*ep*P	pP	01 03 04.1	-1.1
MVL	**Millersville**	**55.41**	**358**	*e*P	**P**	**01 02 43.7**	**+0.3**
	comp=Z,25nm,0.9s,mb5.2						
FVM	**French Village**	**55.54**	**344**	*e*P	**P**	**01 02 42.9**	**-1.5**
FVM				*e**PP	pP	01 03 08.4	-0.9
FVM				pmax	pmax		
	comp=Z,4.0nm,0.6s,mb4.6						
FVM	**French Village**	**55.54**	**344**	*e*P	**P**	**01 02 42.9**	**-1.5**
	comp=Z,4.2nm,0.6s,mb4.7						
FVM				*ep*P	pP	01 03 08.4	-0.9
OLIL	**Olney**	**55.69**	**347**	*e*P	**P**	**01 02 43.6**	**-1.9**
	comp=Z,21nm,1.1s,mb5.1						
GDL2	**Guadalupe Moun**	**55.77**	**329**	*e*P	**P**	**01 02 45.5**	**-0.6**
CCM	**Cathedral Cave**	**55.83**	**344**	*e*P	**P**	**01 02 44.9**	**-1.5**
CCM				*e**PP	pP	01 03 09.1	-2.3
CCM				pmax	pmax		
	comp=Z,16nm,1.1s,mb5.0						
CCM	**Cathedral Cave**	**55.83**	**344**	*e*P	**P**	**01 02 44.9**	**-1.5**
	comp=Z,16nm,1.1s,mb5.0						
CCM				*ep*P	pP	01 03 09.1	-2.3
SSPA	**Standing Stone**	**56.12**	**356**	*e*P	**P**	**01 02 48.2**	**-0.3**
SSPA				*ep*P	pP	01 03 13.7	+0.2
ACSO	**Alum Creek Sta**	**56.23**	**352**	*e*P	**P**	**01 02 47.9**	**-1.3**
ACSO				*ep*P	pP	01 03 12.4	-1.8
BINY	**Binghamton**	**57.60**	**358**	*e*P	**P**	**01 02 59.1**	**+0.3**
BINY				*ep*P	pP	01 03 17.0	-6.9
RKT	**Rikitea**	**57.64**	**252**	*e*LR	LR	01 19 52.8	
	comp=Z,200nm,35.0s						
RKT	**Rikitea**	**57.64**	**252**	*e*T		02 04 24.0	
	comp=Z,5.1nm,0.3s						
HDIL	**Hopedale**	**57.70**	**346**	*e*P	**P**	**01 02 57.7**	**-1.9**
	comp=Z,19nm,0.8s,mb5.2						
HDIL				*ep*P	pP	01 03 21.8	-2.9
319A	**Douglas**	**57.74**	**324**	⇓P	**P**	**01 02 59.9**	**-0.2**
	baz=58,SNR=12						
318A	**Bisbee**	**58.19**	**324**	⇓P	**P**	**01 03 02.9**	**-0.3**
	baz=58,SNR=31						
219A	**White Tail Can**	**58.20**	**325**	⇓P	**P**	**01 03 02.9**	**-0.3**
	baz=58,SNR=12						
KSU1	**Kansas State U**	**58.43**	**339**	*e*P	**P**	**01 03 03.1**	**-1.6**
KSU1				*ep*P	pP	01 03 28.6	-1.2
BNM	**Barren Site**	**58.46**	**328**	*e*P	**P**	**01 03 04.7**	**-0.4**
BNM				*ep*P	pP	01 03 26.2	-4.0
LPM	**Los Pinos Moun**	**58.59**	**328**	*e*P	**P**	**01 03 06.0**	**0.0**
218A	**Dragoon**	**58.62**	**324**	⇓P	**P**	**01 03 05.9**	**-0.3**
	baz=59,SNR=11						
119A	**Ashpeak Ranch,**	**58.80**	**325**	↑P	**P**	**01 03 07.0**	**-0.5**
	baz=59						
217A	**Green Valley**	**58.91**	**323**	↑P	**P**	**01 03 07.8**	**-0.4**
	baz=59,SNR=14						
LAZ	**Ladron**	**58.92**	**328**	*e*P	**P**	**01 03 07.8**	**-0.5**
LAZ				*e*		01 03 27.3	
ANMO	**Albuquerque**	**59.01**	**329**	*e*P	**P**	**01 03 08.4**	**-0.5**
ANMO				pmax	pmax		
	comp=Z,16nm,0.9s						
ANMO	**Albuquerque**	**59.01**	**329**	*e*P	**P**	**01 03 08.4**	**-0.5**
	comp=Z,16nm,0.9s,mb5.1						
118A	**Homack Ranch,**	**59.07**	**325**	⇓P	**P**	**01 03 08.8**	**-0.5**
	baz=59,SNR=12						
Z19A	**T-Link Ranch,**	**59.18**	**326**	⇓P	**P**	**01 03 09.9**	**-0.2**
	baz=59						
TUC	**Tucson**	**59.29**	**324**	*e*P	**P**	**01 03 10.1**	**-0.7**
TUC				pmax	pmax		
	comp=Z,8.0nm,0.9s,mb4.8						
TUC	**Tucson**	**59.29**	**324**	*e*P	**P**	**01 03 10.1**	**-0.8**
	comp=Z,8.1nm,0.9s,mb4.8						
CBKS	**Cedar Bluff**	**59.30**	**337**	*e*P	**P**	**01 03 10.1**	**-0.7**
CBKS				*e**PP	pP	01 03 35.4	-0.6
216A	**Three Points,**	**59.45**	**323**	↑P	**P**	**01 03 11.6**	**-0.4**
	baz=59,SNR=11						
117A	**Oracle**	**59.45**	**324**	⇓P	**P**	**01 03 11.5**	**-0.4**
	baz=59,SNR=6.0						
Y19A	**Nutrioso**	**59.68**	**326**	⇓P	**P**	**01 03 13.6**	**+0.1**
	baz=60,SNR=11						
Z17A	**San Carlos Hig**	**59.84**	**325**	↑P	**P**	**01 03 14.5**	**-0.1**
	baz=60						
Y18A	**Canyon Day Jun**	**59.97**	**326**	⇓P	**P**	**01 03 15.1**	**-0.4**
	baz=60,SNR=6.6						
LONY	**Lake Ozonia**	**59.99**	**360**	*e*P	**P**	**01 03 15.4**	**0.0**
	comp=Z,16nm,1.2s,mb4.9						
116A	**Eloy**	**60.00**	**323**	↑P	**P**	**01 03 15.2**	**-0.5**
	baz=60,SNR=6.0						
X19A	**St. Johns**	**60.06**	**327**	↑P	**P**	**01 03 16.0**	**0.0**
	baz=60						
FRNY	**Flat Rock**	**60.20**	**0**	*e*P	**P**	**01 03 17.1**	**+0.2**
	comp=Z,16nm,1.0s,mb5.0						
FRNY				*ep*P	pP	01 03 43.0	+0.9
214A	**Organ Pipe Nat**	**60.20**	**322**	↑P	**P**	**01 03 16.8**	**-0.3**
	baz=60,SNR=5.1						
Y17A	**Roosevelt**	**60.35**	**325**	↑P	**P**	**01 03 17.7**	**-0.3**
	baz=60,SNR=8.3						
115A	**Sonoran Desert**	**60.40**	**323**	↑P	**P**	**01 03 18.5**	**0.0**
	baz=60						
Z16A	**Peralta Trail,**	**60.41**	**324**	⇓P	**P**	**01 03 18.3**	**-0.2**
	baz=60						
X18A	**Snowflake**	**60.49**	**326**	⇓P	**P**	**01 03 18.9**	**-0.1**
	baz=60,SNR=6.3						
W19A	**Sanders**	**60.63**	**327**	↑P	**P**	**01 03 20.3**	**+0.3**
	baz=61						
Z15A	**Gila River Ind**	**60.79**	**324**	↑P	**P**	**01 03 20.9**	**-0.2**
	baz=61						
X17A	**Forest Lakes**	**60.81**	**325**	↑P	**P**	**01 03 21.6**	**+0.4**
	baz=61,SNR=12						
SDCO	**Great Sand Dun**	**60.81**	**332**	*e*P	**P**	**01 03 19.4**	**-1.7**
W18A	**Petrified Fore**	**60.82**	**327**	⇓P	**P**	**01 03 21.4**	**+0.1**
	baz=61						
Y16A	**Circle Bar Ran**	**60.84**	**325**	⇓P	**P**	**01 03 21.4**	**0.0**
	baz=61,SNR=14						
V19A	**Window Rock**	**60.92**	**328**	⇓P	**P**	**01 03 21.8**	**-0.1**
	baz=61,SNR=5.4						
X16A	**Lo Mia Camp, P**	**61.22**	**325**	↑P	**P**	**01 03 24.2**	**+0.2**
	baz=61,SNR=17						
Z14A	**Wintersburg**	**61.29**	**323**	↑P	**P**	**01 03 24.1**	**-0.3**
	baz=61						
W17A	**Winslow**	**61.31**	**326**	↑P	**P**	**01 03 24.6**	**+0.1**
	baz=61						
113A	**Mohawk Valley,**	**61.35**	**322**	⇓P	**P**	**01 03 24.6**	**-0.3**
	baz=61						
Y15A	**Casa Rosa Ranc**	**61.37**	**324**	↑P	**P**	**01 03 24.9**	**-0.1**
	baz=61,SNR=5.2						
V18A	**Ganado**	**61.38**	**327**	⇓P	**P**	**01 03 24.5**	**-0.5**
	baz=61						
112A	**Yuma**	**61.67**	**321**	⇓P	**P**	**01 03 26.7**	**-0.3**
	baz=62						
X15A	**Humboldt**	**61.71**	**325**	↑P	**P**	**01 03 27.3**	**0.0**
	baz=62,SNR=14						
Y14A	**Wickenburg**	**61.74**	**324**	↑P	**P**	**01 03 27.4**	**-0.2**
	baz=62,SNR=6.8						
W16A	**Flagstaff**	**61.77**	**325**	↑P	**P**	**01 03 27.8**	**+0.2**
	baz=62						
T19A	**Beclabito**	**61.77**	**329**	⇓P	**P**	**01 03 26.8**	**-0.8**
	baz=62,SNR=12						
MVCO	**Mesa Verde**	**61.81**	**329**	↑P	**P**	**01 03 27.4**	**-0.5**
	baz=62,SNR=5.2						
MVCO	**Mesa Verde**	**61.81**	**329**	*e*P	**P**	**01 03 27.5**	**-0.4**
	comp=Z,16nm,1.1s,mb5.0						
U18A	**Rough Rock, Ch**	**61.89**	**328**	↑P	**P**	**01 03 28.2**	**-0.2**
	baz=62,SNR=6.2						
WUAZ	**Wupatki**	**62.00**	**326**	↑P	**P**	**01 03 29.3**	**+0.1**
	baz=62,SNR=9.2						
WUAZ	**Wupatki**	**62.00**	**326**	*e*P	**P**	**01 03 29.6**	**+0.4**
	comp=Z,24nm,0.9s,mb5.2						
WUAZ				*ep*P	pP	01 03 49.1	-5.5
X14A	**Yava**	**62.06**	**324**	⇓P	**P**	**01 03 29.8**	**+0.2**
	baz=62,SNR=7.1						
Y13A	**Salome**	**62.13**	**323**	↑P	**P**	**01 03 30.0**	**-0.1**
	baz=62,SNR=5.1						
W15A	**Williams**	**62.23**	**325**	⇓P	**P**	**01 03 30.7**	**-0.1**
	baz=62						
U16A	**Tuba City**	**62.34**	**327**	⇓P	**P**	**01 03 31.4**	**-0.1**
	baz=62,SNR=13						
U17A	**Shonto**	**62.44**	**327**	↑P	**P**	**01 03 32.0**	**-0.1**
	baz=62,SNR=6.0						
T18A	**Mexican Hat**	**62.44**	**328**	⇓P	**P**	**01 03 31.4**	**-0.7**
	baz=62,SNR=15						
Y12C	**Blythe**	**62.49**	**322**	⇓P	**P**	**01 03 32.2**	**-0.3**
	baz=62						
ISCO	**Idaho Springs**	**62.54**	**333**	*e*P	**P**	**01 03 32.3**	**-0.4**
ISCO				*e**PP	pP	01 03 58.1	0.0
S19A	**Harvey Farm, M**	**62.54**	**329**	↑P	**P**	**01 03 32.3**	**-0.5**
	baz=62,SNR=5.6						
PV01	**Paradox Valley**	**62.57**	**330**	*e*P	**P**	**01 03 31.9**	**-1.0**
PV01				*ep*P	pP	01 03 58.3	-0.1
ECSD	**EROS,Sioux Fal**	**62.62**	**342**	*e*P	**P**	**01 03 31.6**	**-1.5**
	comp=Z,17nm,0.9s,mb5.0						
SMCO	**Snowmass**	**62.65**	**332**	*e*P	**P**	**01 03 33.3**	**-0.2**
	comp=Z,12nm,1.0s,mb4.8						
SMCO				*ep*P	pP	01 03 57.6	-1.2
V15A	**Kaibab Nationa**	**62.66**	**326**	⇓P	**P**	**01 03 33.8**	**+0.3**
	baz=63,SNR=7.9						
DVTC	**Desert V Tower**	**62.68**	**320**	↑P	**P**	**01 03 32.8**	**-0.9**
	baz=63						
X13A	**Yucca**	**62.69**	**324**	↑P	**P**	**01 03 33.6**	**-0.2**
	baz=63						
W14A	**Seligman**	**62.71**	**324**	↑P	**P**	**01 03 34.1**	**+0.2**
	baz=63,SNR=5.0						
T17A	**Navajo Res., N**	**62.81**	**327**	↑P	**P**	**01 03 34.9**	**+0.3**
	baz=63						
S18A	**Hurst Farm, Bl**	**62.93**	**328**	⇓P	**P**	**01 03 35.2**	**-0.2**
	baz=63,SNR=12						
BC3	**Big Chuckw Mtn**	**62.97**	**322**	↑P	**P**	**01 03 35.7**	**0.0**
	baz=63,SNR=8.4						
R19A	**Curley Farm, L**	**63.03**	**329**	↑P	**P**	**01 03 35.5**	**-0.5**
	baz=63						
V14A	**Boquillas Ranc**	**63.03**	**325**	↑P	**P**	**01 03 36.4**	**+0.4**
	baz=63,SNR=12						
W13A	**Hualapai Mount**	**63.08**	**324**	⇓P	**P**	**01 03 36.6**	**+0.1**
	baz=63						
IRM	**Iron Mountain**	**63.15**	**322**	⇓P	**P**	**01 03 36.8**	**0.0**
	baz=63,SNR=12						
U15A	**North Rim**	**63.17**	**326**	⇓P	**P**	**01 03 37.3**	**+0.3**
	baz=63,SNR=9.9						
R18A	**Canyonlands Na**	**63.41**	**329**	⇓P	**P**	**01 03 37.8**	**-0.7**
	baz=63,SNR=7.2						
BELC	**Belle Mtn.**	**63.54**	**322**	↑P	**P**	**01 03 39.6**	**+0.1**
	baz=64,SNR=5.0						
PFO	**Pinyon Flat Ob**	**63.55**	**321**	*e*P	**P**	**01 03 39.6**	**+0.1**
PFO				pmax	pmax		
	comp=Z,17nm,0.9s,mb4.9						
PFO	**Pinyon Flat Ob**	**63.55**	**321**	⇓P	**P**	**01 03 39.7**	**+0.2**
	baz=64,SNR=7.6						
PFO	**Pinyon Flat Ob**	**63.55**	**321**	*e*P	**P**	**01 03 39.6**	**+0.1**
	comp=Z,17nm,0.9s,mb4.9						
Q19A	**Hogan Spring (**	**63.55**	**330**	↑P	**P**	**01 03 39.0**	**-0.4**
	baz=64,SNR=14						
U14A	**Mt Trumbull**	**63.65**	**325**	⇓P	**P**	**01 03 40.5**	**+0.4**
	baz=64,SNR=18						
T15A	**Red Dirt Ranch**	**63.66**	**326**	↑P	**P**	**01 03 40.5**	**+0.3**
	baz=64,SNR=9.9						
V13A	**Grand Canyon W**	**63.68**	**324**	↑P	**P**	**01 03 40.4**	**+0.1**
	baz=64,SNR=9.9						
S16A	**Weppner Ranch,**	**63.77**	**327**	⇓P	**P**	**01 03 40.8**	**-0.1**
	baz=64						
W12A	**Cal Nev Ari**	**63.79**	**323**	⇓P	**P**	**01 03 40.7**	**-0.3**
	baz=64						
R17A	**Hanksville Air**	**63.85**	**328**	↑P	**P**	**01 03 41.2**	**-0.2**
	baz=64,SNR=30						
GMRC	**Granite Mounta**	**63.88**	**322**	⇓P	**P**	**01 03 41.7**	**0.0**
	baz=64						
MURC	**Murrieta**	**63.99**	**321**	↑P	**P**	**01 03 42.4**	**0.0**
	baz=64						
T14A	**Hurricane**	**64.07**	**326**	⇓P	**P**	**01 03 43.2**	**+0.4**
	baz=64,SNR=12						
U13A	**Pakoon Wash**	**64.08**	**325**	⇓P	**P**	**01 03 43.1**	**+0.1**
	baz=64,SNR=7.4						
V12A	**Nelson**	**64.08**	**324**	⇓P	**P**	**01 03 42.8**	**-0.2**
	baz=64						
Q18A	**Rafter H Ranch**	**64.09**	**329**	⇓P	**P**	**01 03 42.6**	**-0.3**
	baz=64,SNR=9.7						
R16A	**Teasdale**	**64.14**	**328**	↑P	**P**	**01 03 43.2**	**0.0**
	baz=64,SNR=5.5						
S15A	**Panguitch**	**64.14**	**327**	↑P	**P**	**01 03 43.5**	**+0.2**
	baz=64						
SRU	**San Rafael**	**64.29**	**329**	*e*P	**P**	**01 03 43.9**	**-0.3**
SRU				*e**PP	pP	01 04 09.5	-0.3
SRU				pmax	pmax		
	comp=Z,29nm,1.5s,mb4.9						
SRU	**San Rafael**	**64.29**	**329**	↑P	**P**	**01 03 43.8**	**-0.4**
	baz=64,SNR=11						
SRU	**San Rafael**	**64.29**	**329**	*e*P	**P**	**01 03 43.9**	**-0.3**
	comp=Z,29nm,1.5s,mb4.9						
SRU				*ep*P	pP	01 04 09.5	-0.3
U12A	**Valley of Fire**	**64.41**	**324**	↑P	**P**	**01 03 45.1**	**0.0**
	baz=64,SNR=9.4						
Q16A	**Castle Valley**	**64.46**	**329**	⇓P	**P**	**01 03 45.3**	**-0.1**
	baz=64,SNR=8.3						
T13A	**Saint George**	**64.48**	**325**	↑P	**P**	**01 03 45.9**	**+0.3**
	baz=64,SNR=8.4						
V11A	**Goodsprings**	**64.49**	**323**	⇓P	**P**	**01 03 45.6**	**-0.1**
	baz=64,SNR=5.2						
TUQ	**Turquoise Moun**	**64.50**	**323**	⇓P	**P**	**01 03 45.7**	**0.0**
	baz=64						
**O19

S11A **Rachel** 65.95 325 ⇑P P 01 03 55.8 +0.7
baz=66
Q13A **Wheeler Ranch,** 65.96 327 ⇑P P 01 03 55.3 +0.3
baz=66,SNR=9.4
N16A **Rees Ranch, Co** 66.10 330 ⇓P P 01 03 56.4 +0.5
baz=66
O15A **The Old Anders** 66.15 329 ⇓P P 01 03 56.7 +0.4
baz=66
ISA **Isabella** 66.16 321 eP P 01 03 56.4 0.0
ISA pmax pmax
comp=Z,8.0nm,0.9s,mb4.5
ISA **Isabella** 66.16 321 ⇑P P 01 03 56.5 +0.1
baz=66,SNR=7.9
ISA **Isabella** 66.16 321 eP P 01 03 56.4 0.0
comp=Z,7.6nm,0.9s,mb4.5
DUG **Dugway** 66.26 328 eP P 01 03 57.2 +0.3
DUG pmax pmax
comp=Z,25nm,0.9s,mb5.0
DUG **Dugway** 66.26 328 ⇓P P 01 03 57.2 +0.2
baz=66,SNR=26
DUG **Dugway** 66.26 328 eP P 01 03 57.2 +0.3
comp=Z,26nm,0.9s,mb5.0
P13A **Bates Ranch, G** 66.33 327 ⇓P P 01 03 57.9 +0.5
baz=66,SNR=12
R11A **Troy Canyon, C** 66.36 325 ⇑P P 01 03 58.1 +0.4
baz=66,SNR=20
GRAC **Grapevine Rang** 66.42 323 ⇑P P 01 03 58.3 +0.2
baz=66
CWC **Cottonwood Cre** 66.45 322 ⇓P P 01 03 58.4 +0.1
baz=66
Q12A **Willow Creek R** 66.45 326 ⇓P P 01 03 58.3 +0.1
baz=66,SNR=6.5
PKM **Peak Mountain** 66.47 320 ⇑P P 01 03 58.8 +0.4
baz=66
M16A **Huntsville** 66.52 330 ⇓P P 01 03 58.1 -0.5
baz=66,SNR=5.8
AGMN **Agassiz Refuge** 66.58 344 eP P 01 03 57.6 -1.2
comp=Z,14nm,0.8s,mb4.9
S10A **Tonopah Range,** 66.62 324 ⇓P P 01 03 59.7 +0.4
baz=67,SNR=14
VES **Vestal, Richgr** 66.65 321 ⇑P P 01 03 59.7 +0.2
baz=67
PDAR **Pinedale Array** 66.69 332 P P 01 03 58.7 -0.9
comp=Z,4.9nm,0.5s,mb4.6,baz=152,slow=6.6,SNR=4.3
PDAR **Pinedale Array** 66.69 332 P P 01 03 58.7 -1.0
HWUT **Hardware Ranch** 66.72 330 eP P 01 03 59.2 -0.6
comp=Z,23nm,1.1s,mb4.9
HWUT epP pP 01 04 18.3 -7.2
R10A **Warm Springs** 66.72 325 ⇑P P 01 04 00.9 +1.0
baz=67,SNR=10
Q11A **Duckwater** 66.76 326 ⇓P P 01 04 00.5 +0.4
baz=67,SNR=12
O13A **Hicks Ranch, I** 66.81 328 ⇓P P 01 04 01.1 +0.6
baz=67
P12A **McGill** 66.81 327 ⇑P P 01 04 00.9 +0.5
baz=67
S09A **Goldfield** 66.84 324 ⇑P P 01 04 00.9 +0.2
baz=67,SNR=11
N14A **Grayback Hills** 66.94 329 ⇓P P 01 04 01.0 -0.2
baz=67,SNR=12
M15A **Larsen Ranch,** 67.03 330 ⇑P P 01 04 02.1 +0.2
baz=67
TPH **Tonopah** 67.08 324 eP P 01 04 02.6 +0.4
TPH pmax pmax
comp=Z,14nm,0.9s,mb4.8
TPH **Tonopah** 67.08 324 eP P 01 04 02.6 +0.4
comp=Z,14nm,0.9s,mb4.8
R09A **Tonopah** 67.11 324 ⇓P P 01 04 02.6 +0.2
baz=67,SNR=5.7
VNA3 **Neumayer Olymp** 67.12 162 eP P 01 04 02.8 +0.8
VNA3 e 01 04 09.9
VNA3 e 01 04 20.5
Q10A **Clear Creek Ra** 67.15 325 ⇓P P 01 04 03.2 +0.6
baz=67,SNR=7.8
O12A **Currie** 67.30 327 ⇓P P 01 04 03.9 +0.3
baz=67,SNR=11
MTUM **Tungsten Hills** 67.36 323 eP P 01 04 04.3 +0.3
VNA1 **Neumayer--Stat** 67.37 161 eP P 01 04 04.6 +1.0
VNA1 e 01 04 22.6
AHID **Auburn Hatcher** 67.39 331 eP P 01 04 03.8 -0.3
AHID epP pP 01 04 29.9 +0.1
L15A **Malad City** 67.41 330 ⇑P P 01 04 03.5 -0.8
baz=67,SNR=12
HVU **Hansel Valley** 67.43 330 eP P 01 04 04.1 -0.3
HVU e*PP pP 01 04 30.2 +0.1
M14A **Sheep Mountain** 67.51 329 ⇓P P 01 04 04.3 -0.5
baz=68,SNR=18
K16A **Soda Springs** 67.67 331 ⇑P P 01 04 05.8 -0.1
baz=68,SNR=8.1
O11A **Cowboy Ranch,** 67.68 327 ⇓P P 01 04 06.2 +0.2
baz=68,SNR=10.0
VNA2 **Neumayer--Watz** 67.73 161 eP P 01 04 06.6 +0.8
baz=288,slow=7.2
VNA2 e 01 04 14.1
VNA2 e 01 04 23.7
VNA2 e pP 01 04 34.3 +2.7
REDW **Red Top Meadow** 67.74 332 eP P 01 04 06.2 -0.1
REDW epP pP 01 04 26.4 -5.6
P10A **Eureka** 67.75 326 ⇑P P 01 04 07.1 +0.7
baz=68
KCC **Kaiser Creek** 67.78 322 ⇑P P 01 04 06.5 -0.1
baz=68,SNR=5.5
T06C **Millerton Lake** 67.80 322 ⇑P P 01 04 06.1 -0.7
baz=68
LOHW **Long Hollow** 67.83 332 eP P 01 04 06.7 -0.1
L14A **Malta** 67.85 329 ⇑P P 01 04 06.5 -0.5
baz=68,SNR=8.4
TPAW **Teton Pass** 67.89 332 eP P 01 04 06.9 -0.2
ELK **Elko** 67.91 327 eP P 01 04 07.3 -0.1
ELK e*PP pP 01 04 27.0 -6.1
NVAR **Mina Array Bea** 67.94 324 P P 01 04 07.5 -0.1
comp=Z,0.9nm,0.5s,mb3.9,baz=62,slow=22,SNR=9.0
NVAR pP pP 01 04 27.1 -6.3
comp=Z,0.9nm,0.9s,baz=140,slow=8.2,SNR=3.4
RRI2 **Red Ridge** 67.94 332 eP P 01 04 07.6 +0.1
K15A **Arbon** 68.00 330 ⇑P P 01 04 08.1 +0.2
baz=68
J16A **Bone** 68.02 331 ⇑P P 01 04 08.2 +0.2
baz=68
U04C **Hernandez Rese** 68.02 321 ⇓P P 01 04 08.3 +0.1
baz=68
I17A **Pilgram Creek** 68.05 332 ⇓P P 01 04 08.3 +0.1
baz=68
IMW **Indian Meadow** 68.20 332 eP P 01 04 09.0 -0.1
comp=Z,36nm,1.4s,mb5.0
K14A **Jones Ranch, D** 68.21 330 ⇑P P 01 04 09.2 0.0
baz=68
M12A **Wells** 68.23 328 ⇑P P 01 04 08.9 -0.5
baz=68,SNR=5.2
L13A **Double Diamond** 68.24 329 ⇑P P 01 04 09.4 0.0
baz=68,SNR=6.3
O10A **Cortez Mining,** 68.25 326 ⇓P P 01 04 09.6 +0.1
baz=68
ULM **Lac du Bonnet** 68.39 345 P P 01 04 08.0 -2.2
comp=Z,12nm,0.7s,mb4.8,baz=161,slow=5.4,SNR=20
ULM pP pP 01 04 27.4 -8.6
comp=Z,4.6nm,0.7s,baz=162,slow=7.7,SNR=3.5
ULM **Lac du Bonnet** 68.39 345 P P 01 04 08.0 -2.2
ULM pP pP 01 04 27.4 -8.6
S05C **Merced** 68.39 322 ⇑P P 01 04 10.8 +0.3
baz=68,SNR=6.8
I16A **Newdale** 68.43 332 ⇓P P 01 04 10.9 +0.3
baz=68
RLMT **Red Lodge** 68.44 334 ⇓P P 01 04 10.2 -0.3
baz=68
RLMT **Red Lodge** 68.44 334 eP P 01 04 10.2 -0.4
comp=Z,19nm,1.0s,mb4.9
RLMT epP pP 01 04 36.3 -0.1
LAO **LASA Array** 68.50 337 eP P 01 04 10.2 -0.7
comp=Z,28nm,1.3s,mb4.9
LAO e pP 01 04 34.3 -2.5
J15A **Blackfoot** 68.50 331 ⇓P P 01 04 11.0 0.0
baz=68,SNR=5.7
WAKR **Walker** 68.64 323 eP P 01 04 13.1 +1.1
R06C **Coleville** 68.66 323 ⇓P P 01 04 12.7 +0.6
baz=69
P08A **Dixie Valley** 68.69 325 ⇓P P 01 04 12.8 +0.5
baz=69
M11A **Holland Ranch,** 68.69 327 ⇓P P 01 04 12.9 +0.6
baz=69
PACP **Pacheco Peak** 68.75 321 ⇑P P 01 04 13.4 +0.6
baz=69
L12A **House Creek Ra** 68.82 328 ⇓P P 01 04 13.7 +0.7
baz=69
CMB **Columbia Colle** 68.88 322 ⇓P P 01 04 13.6 +0.1
baz=69
CMB **Columbia Colle** 68.88 322 eP P 01 04 12.7 -0.8
CMB e pP 01 04 37.0 -2.3
J14A **Carey** 68.96 330 ⇑P P 01 04 14.1 +0.3
baz=69,SNR=12
H16A **Russell Place,** 68.97 332 ⇑P P 01 04 14.3 +0.4
baz=69,SNR=5.3
K12A **Draper Farm, C** 69.12 329 ⇓P P 01 04 15.2 +0.3
baz=69,SNR=5.3
O08A **Rochester Mine** 69.14 325 ⇓P P 01 04 15.0 0.0
baz=69,SNR=5.7
M10A **I.L. Ranch, Tu** 69.15 327 ⇓P P 01 04 15.1 0.0
baz=69
L11A **Cat Creek Ranc** 69.21 328 ⇓P P 01 04 15.5 +0.1
baz=69,SNR=12
F18A **Big Timber** 69.25 334 ⇑P P 01 04 15.3 -0.4
baz=69,SNR=6.9
DGMT **Dagmar** 69.27 339 ⇓P P 01 04 16.2 +0.5
baz=69
J13A **Cove Ranch, Pi** 69.33 330 ⇓P P 01 04 16.2 0.0
baz=69,SNR=5.9
SNAA **Sanae** 69.34 161 eP P 01 04 16.2 +0.3
SNAA e 01 04 34.2
SNAA e 01 04 48.1
SNAA **Sanae** 69.34 161 eP P 01 04 16.2 +0.3
SNAA e 01 04 34.3
SNAA pmax pmax
comp=Z,17nm,0.8s
SNAA **Sanae** 69.34 161 eP P 01 04 16.1 +0.3
comp=Z,17nm,0.8s,mb4.9
SNAA e 01 04 34.3
WCN **Washoe City** 69.36 324 ⇑P P 01 04 16.9 +0.4
baz=69
I14A **Mackay** 69.38 331 ⇑P P 01 04 16.8 +0.3
baz=69,SNR=6.1
PAHR **Pah Rah Range** 69.43 324 eP P 01 04 17.6 +0.7
comp=Z,31nm,0.9s,mb5.1
PAHR epP pP 01 04 37.2 -5.5
O07A **Toulon** 69.45 325 ⇑P P 01 04 16.8 -0.2
baz=69,SNR=9.3
N08A **GE Springer Mi** 69.47 326 ⇑P P 01 04 16.8 -0.3
baz=69
L10A **Juniper Basin** 69.51 328 ⇓P P 01 04 17.4 +0.1
baz=70,SNR=15
M09A **Marrel Ranch,** 69.56 327 ⇓P P 01 04 17.8 +0.2
baz=70
HLID **Hailey** 69.57 330 ⇓P P 01 04 17.7 +0.1
baz=70,SNR=5.9
HLID **Hailey** 69.57 330 eP P 01 04 18.0 +0.4
HLID epP pP 01 04 44.1 +0.6
LAVA **Lava Cap Winer** 69.57 323 ⇑P P 01 04 17.6 -0.1
baz=70
JRSC **Jasper Ridge** 69.58 321 ⇑P P 01 04 17.8 -0.1
baz=70
G16A **Moss Hill, Enn** 69.62 332 ⇓P P 01 04 18.3 +0.3
baz=70
J12A **Stokes Ranch,** 69.67 329 ⇓P P 01 04 18.3 +0.1
baz=70
I13A **Wildhorse Cree** 69.69 330 ⇑P P 01 04 18.6 +0.3
baz=70,SNR=13
P06A **Stead Airport,** 69.70 324 ⇓P P 01 04 19.1 +0.5
baz=70
BDM **Black Diamond** 69.71 321 ⇓P P 01 04 19.1 +0.4
baz=70
MCMT **McKenzie Canyo** 69.79 332 eP P 01 04 19.2 +0.3
MCMT e 01 04 37.9
K11A **Parker Ranch,** 69.79 328 ⇑P P 01 04 19.0 0.0
baz=70,SNR=5.5
E18A **Harlowton** 69.86 334 ⇑P P 01 04 19.2 -0.2
baz=70
H14A **Leadore** 69.86 331 ⇓P P 01 04 19.9 +0.5
baz=70
G15A **Dillon** 69.88 332 ⇑P P 01 04 19.7 +0.2
baz=70,SNR=7.4
N07B **Gerlach** 69.93 325 ⇓P P 01 04 20.0 +0.1
baz=70,SNR=7.4
M08A **Happy Creek Ra** 70.07 326 ⇑P P 01 04 20.9 +0.2
baz=70
DLMT **Dillon** 70.08 332 eP P 01 04 20.8 +0.1
comp=Z,14nm,1.2s,mb4.7
DLMT ePcP PcP 01 04 43.1 +1.0
DLMT epP pP 01 04 46.6 0.0
BEKR **Beckwourth** 70.09 324 ⇑P P 01 04 21.0 +0.1
baz=70,SNR=6.8
I12A **Atlanta** 70.09 330 ⇑P P 01 04 21.1 +0.3
baz=70,SNR=5.7
L09A **Wilkinson Ranc** 70.09 327 ⇑P P 01 04 20.9 0.0
baz=70,SNR=5.6
MFID **Camas Ranch** 70.15 329 ⇓P P 01 04 21.6 +0.3
baz=70,SNR=13
E17A **Martinsdale** 70.18 334 ⇓P P 01 04 21.3 0.0
baz=70
K10A **MacKenzie Ranc** 70.22 328 ⇑P P 01 04 21.6 0.0
baz=70,SNR=9.9
H13A **Challis** 70.24 331 ⇑P P 01 04 21.8 0.0
baz=70,SNR=5.7
CVS **Carmenet Viney** 70.32 321 ⇑P P 01 04 22.0 -0.3
baz=70
G14A **Jackson** 70.38 332 ⇑P P 01 04 23.0 +0.4
baz=70
OHCM **Honcut** 70.39 323 eP P 01 04 21.6 -1.1
OHCM ePcP PcP 01 04 41.7 -1.9
N06A **Buffalo Meadow** 70.39 325 ⇓P P 01 04 22.9 +0.2
baz=70,SNR=16
F15A **Butte** 70.41 333 ⇑P P 01 04 23.0 +0.3
baz=70
O05C **Quincy** 70.47 323 ⇓P P 01 04 23.4 +0.2
baz=70
H12A **Diamond D Ranc** 70.52 330 ⇓P P 01 04 23.5 +0.1
baz=70,SNR=6.7
ORV **Oroville** 70.54 323 ⇑P P 01 04 24.2 +0.5
baz=70,SNR=27
L08A **Fields** 70.57 327 ⇑P P 01 04 23.7 -0.1
baz=70,SNR=6.6
I11A **Placerville** 70.58 329 ⇑P P 01 04 24.0 +0.2
baz=70
E16A **East Helena** 70.58 333 ⇓P P 01 04 23.9 +0.1
baz=71
K09A **Rome** 70.61 327 ⇑P P 01 04 24.0 0.0
baz=71,SNR=12
G13A **Cobalt** 70.63 331 ⇓P P 01 04 24.2 +0.2
baz=71,SNR=8.3
MNRC **McLaughlin Nat** 70.66 322 ⇑P P 01 04 24.4 +0.1
baz=71
O04C **Chester** 70.81 324 ⇑P P 01 04 25.7 +0.4
baz=71
TBI **Tubuai** 70.84 250 eLR LR 01 25 56.2
comp=Z,100nm,39.8s
L07A **Adell** 70.99 326 ⇓P P 01 04 26.8 +0.5
baz=71
M06C **Likely Place G** 71.06 325 ⇓P P 01 04 27.2 +0.5
baz=71
C17A **Wharram Farm,** 71.06 335 ⇓P P 01 04 26.8 +0.2
baz=71
F13A **Darby** 71.20 331 ⇓P P 01 04 27.5 0.0
baz=71,SNR=8.2
E14A **Clinton** 71.29 332 ⇓P P 01 04 28.7 +0.7
baz=71
GASB **Alder Springs** 71.32 322 ⇑P P 01 04 29.6 +1.2
baz=71
K07A **Rock Creek Ran** 71.40 326 ⇑P P 01 04 29.0 +0.2
baz=71
MOD **Modoc** 71.43 325 ⇑P P 01 04 29.4 +0.5
baz=71,SNR=6.9
MOD **Modoc** 71.43 325 eP P 01 04 29.5 +0.5
MOD epP pP 01 04 55.7 +0.8
J08A **Circle Bar Ran** 71.46 327 ⇓P P 01 04 29.3 +0.2
baz=71
H10A **Noah's Angus R** 71.46 329 ⇑P P 01 04 28.9 -0.2
baz=71
F12A **Elk City** 71.60 331 ⇑P P 01 04 29.6 -0.3
baz=72,SNR=5.7
C16A **Fuhringer Ranc** 71.61 334 ⇓P P 01 04 29.7 -0.2
baz=72
E13A **Victor** 71.62 332 ⇑P P 01 04 30.4 +0.4
baz=72,SNR=6.6
LIC **Lamto** 71.67 78⇑*iP* P 01 04 30.8 -0.2
comp=Z,22nm,0.8s,mb4.7
LIC eMLR MLR
comp=Z,124nm,21.8s
LIC **Lamto** 71.67 78 eP P 01 04 30.4 -0.6
comp=Z,33nm,0.9s,mb5.2
LIC **Lamto** 71.67 78⇑*iP* P 01 04 30.8 -0.2
comp=Z,11nm,0.8s,mb4.7
LIC LR LR
comp=Z,60nm,21.8s
TIC **Toumodi** 71.81 77 eP P 01 04 31.2 -0.7
comp=Z,72nm,1.1s,mb5.4
TIC **Toumodi** 71.81 77 eP P 01 04 31.2 -0.7
TIC pmax pmax
comp=Z,72nm,1.1s,mb5.4
WDC **Whiskeytown Da** 71.81 323 ⇓P P 01 04 30.2 -1.1
baz=72
G11A **Walters Elk Ra** 71.82 330 ⇑P P 01 04 31.0 -0.2
baz=72,SNR=8.7
L05A **Lakeview** 71.82 325 ⇓P P 01 04 31.5 +0.2
baz=72
J07A **Hines** 71.91 327 ⇑P P 01 04 32.4 +0.6
baz=72
BMO **Blue Mountains** 71.93 329 eP P 01 04 31.4 -0.5
BMO epP pP 01 04 56.2 -1.7
C15A **Salmond Ranch,** 71.95 334 ⇑P P 01 04 32.1 +0.2
baz=72
PPT **Papeete** 71.97 256 eLR LR 01 26 24.9
comp=Z,66nm,25.5s
DBIC **Dimbokro** 71.97 77 P P 01 04 32.6 -0.2
comp=Z,11nm,0.6s,mb4.9,baz=245,slow=6.0,SNR=28
DBIC LR LR 01 35 06.4
comp=Z,71nm,18.9s,baz=217,slow=35
DBIC **Dimbokro** 71.97 77 eP P 01 04 32.4 -0.5
comp=Z,11nm,0.6s,mb4.8
H09A **Durkee** 71.97 329 ⇑P P 01 04 32.3 +0.2
baz=72
KIC **Kosan Boka** 71.98 78 eP P 01 04 32.6 -0.3
comp=Z,71nm,0.7s,mb5.6
K06A **Valley Falls** 72.01 326 ⇓P P 01 04 33.1 +0.6
baz=72,SNR=11
M03C **McCloud** 72.03 324 ⇑P P 01 04 32.4 -0.2
baz=72
F11A **Grangeville** 72.12 330 ⇓P P 01 04 32.7 -0.3
baz=72,SNR=9.8
G10A **Bishop Farm, J** 72.16 330 ⇑P P 01 04 33.5 +0.3
baz=72,SNR=9.4
M04C **Macdoel** 72.20 324 ⇑P P 01 04 33.7 +0.1
baz=72
D13A **Huson** 72.24 332 ⇓P P 01 04 34.3 +0.6
baz=72
J06A **Christmas Vall** 72.27 326 ⇓P P 01 04 34.3 +0.3
baz=72,SNR=10
K05A **Summer Lake** 72.31 326 ⇑P P 01 04 35.3 +1.1
baz=72
B15A **Bradely Ranch,** 72.35 334 ⇑P P 01 04 34.2 -0.1
baz=72
H08A **Prairie City** 72.38 328 ⇓P P 01 04 35.1 +0.5
baz=72,SNR=9.5
N02C **Big Bar** 72.41 323 ⇓P P 01 04 35.2 +0.3
baz=72,SNR=5.7
C14A **Swan Lake** 72.44 333 ⇓P P 01 04 35.2 +0.3
baz=72
A16A **West Butte Ran** 72.45 335 ⇑P P 01 04 34.9 +0.1
baz=72
G09A **Cove** 72.47 329 ⇑P P 01 04 35.6 +0.5
baz=72,SNR=12
E11A **Bogner Ranch,** 72.49 331 ⇓P P 01 04 35.2 0.0
baz=72
I07A **Izee** 72.50 327 ⇑P P 01 04 35.4 0.0
baz=72
D12A **Red Ives Fores** 72.61 332 ⇑P P 01 04 35.7 -0.2
baz=73
YBH **Yreka Blue Hor** 72.66 324 ⇑P P 01 04 36.2 -0.1
baz=73
B14A **Marquette Ranc** 72.69 334 ⇑P P 01 04 36.8 +0.5
baz=73
C13A **Hot Springs** 72.73 333 ⇓P P 01 04 37.1 +0.4
baz=73
I06A **Prineville** 72.77 327 ⇓P P 01 04 37.9 +0.9
baz=73
F09A **S2 Ranch, Elgi** 72.84 329 ⇑P P 01 04 37.8 +0.5
baz=73
J05A **Fort Rock** 72.87 326 ⇓P P 01 04 38.4 +0.9
baz=73
H07A **Lands Inn, Kim** 72.88 328 ⇑P P 01 04 38.3 +0.7
baz=73
E10A **Myers Farm, Un** 73.01 330 ⇓P P 01 04 39.0 +0.7
baz=73
D11A **Klaveano Farm,** 73.06 331 ⇓P P 01 04 39.1 +0.5
baz=73
G08A **Pilot Rock** 73.06 329 ⇑P P 01 04 39.4 +0.8
baz=73
C12B **Naegeli Ranch,** 73.16 332 ⇓P P 01 04 39.8 +0.7
baz=73
B13A **Whitefish** 73.21 333 ⇓P P 01 04 39.8 +0.3
baz=73
J04A **Umpqua Nationa** 73.32 325 ⇓P P 01 04 40.6 +0.5
baz=73
H06A **Lindquist Farm** 73.38 327 ⇑P P 01 04 41.2 +0.7
baz=73,SNR=7.0
WALA **Waterton Lakes** 73.49 334 eP P 01 04 40.9 -0.2
D10A **Wagner Farm, O** 73.50 331 ⇑P P 01 04 41.2 0.0
baz=74
E09A **Wood Farm, Sta** 73.53 330 ⇓P P 01 04 41.3 -0.1
baz=74
C11A **Tepee Creek (N** 73.61 332 ⇑P P 01 04 41.8 +0.1
baz=74,SNR=9.5
A13A **Flathead Natio** 73.61 334 ⇑P P 01 04 42.2 +0.5
baz=74
K02A **Glendale** 73.77 324 ⇑P P 01 04 43.3 +0.4
baz=74
H05A **Madras** 73.79 327 ⇑P P 01 04 43.4 +0.5
baz=74
D09A **Jones Farm, Ri** 74.00 330 ⇑P P 01 04 44.4 +0.3
baz=74
HAWA **Hanford** 74.12 329 eP P 01 04 44.1 -0.7
comp=Z,29nm,1.4s,mb4.8
HAWA epP pP 01 05 11.0 0.0
A12A **Yaak River Ran** 74.15 333 ⇑P P 01 04 45.6 +0.7
baz=74
G05A **Wamic** 74.24 327 ⇓P P 01 04 46.5 +1.0
baz=74
NEW **Newport** 74.31 332 P P 01 04 45.4 -0.5
F06A **Goldendale** 74.32 328 ⇑P P 01 04 46.2 +0.2
baz=74
E07A **Sunnyside** 74.40 329 ⇑P P 01 04 46.8 +0.4
baz=74
OD2 **Odessa Site #2** 74.43 330 P P 01 04 46.7 +0.2
A11A **Hall Mountain,** 74.48 333 ⇓P P 01 04 47.4 +0.5
baz=74
D07A **Quincy** 74.90 329 ⇓P P 01 04 49.4 +0.1
baz=75
B09A **Rice** 74.90 331 ⇓P P 01 04 49.5 +0.2
baz=75
EBG **Ellensburg** 75.00 329 P P 01 04 50.9 +1.1
WTV **Waterville** 75.24 330 P P 01 04 51.6 +0.3
F04A **Amboy** 75.27 327 ⇓P P 01 04 51.7 +0.3
baz=75
C07A **Waterville** 75.29 330 ⇑P P 01 04 52.2 +0.7
baz=75
D06A **Cle Elum** 75.33 329 ⇑P P 01 04 52.5 +0.7
baz=75
ETW **Entiat** 75.36 330 P P 01 04 52.6 +0.7
B08A **Colville Reser** 75.41 331 ⇓P P 01 04 52.2 +0.1
baz=75
A08A **Turner Farm, O** 75.80 331 ⇑P P 01 04 54.5 +0.1
baz=76
B07A **Winthrop** 75.85 330 ⇑P P 01 04 54.6 -0.1
baz=76
D05A **Enumclaw** 75.90 329 ⇓P P 01 04 55.6 +0.6
baz=76
A07A **Ashnola River,** 76.39 331 ⇑P P 01 04 58.4 +0.7
baz=76
EDM **Edmonton** 76.49 337 eP P 01 04 57.1 -1.1
EDM e*PP pP 01 05 16.1 -8.4
B05A **Bryant** 76.68 329 ⇑P P 01 04 59.9 +0.5
baz=77
TOA0 **Torodi Ar. Sit** 80.15 73 eP P 01 05 19.7 +0.4
TORD **Torodi Ar. Bea** 80.15 73 P P 01 05 19.5 +0.3
comp=Z,22nm,0.7s,mb5.1,baz=262,slow=5.4,SNR=246
TORD pP pP 01 05 37.8 -7.9
comp=Z,5.0nm,0.8s,baz=270,slow=5.5,SNR=3.9
TORD LR LR 01 40 02.5
comp=Z,72nm,18.2s,baz=280,slow=35
TORD **Torodi Ar. Bea** 80.15 73 P P 01 05 19.5 +0.3
TORD pP pP 01 05 37.8 -7.9
TORD LR LR 01 40 02.5
PBEJ **Beja** 81.77 47 eP P 01 05 29.0 +1.6
comp=Z,22nm,1.7s,mb4.7
EVO **Evora** 81.90 46 eP P 01 05 28.2 +0.2
comp=Z,16nm,1.0s,mb4.5
EVO eMLR MLR
comp=Z,85nm,19.8s
PBAR **Barrancos** 82.42 47 eP P 01 05 32.5 +1.7
comp=Z,20nm,1.7s,mb4.7
PCBR **Castelo Branco** 82.87 45 eP P 01 05 34.3 +1.3
comp=Z,15nm,1.6s,mb4.6
MTE **Manteigas** 83.08 45 eP P 01 05 35.6 +1.5
comp=Z,32nm,1.8s,mb4.8
PCAB **Cabril** 83.35 44 eP P 01 05 36.6 +1.1

comp=Z,36nm,1.4s,mb5.0
PVRL Vila Real 83.36 44 *e*P **P 01 05 36.6 +1.1**
comp=Z,17nm,1.2s,mb4.7
MVO Moncorvo 83.77 44 *e*P **P 01 05 39.0 +1.4**
comp=Z,16nm,1.4s,mb4.7
YKA Yellowknife Ar 84.14 342 P **P 01 05 38.0 -1.0**
comp=Z,9.1nm,0.7s,mb4.7,baz=140,slow=5.8,SNR=28
YKA pP pP 01 05 56.8 -8.9
comp=Z,2.5nm,0.8s,baz=136,slow=5.6,SNR=3.8
YKA Yellowknife Ar 84.14 342 P **P 01 05 38.0 -1.0**
YKA *PP pP 01 05 56.8 -8.9
YKA pmax pmax
comp=Z,9.0nm,0.7s
YKA pmax pmax
comp=Z,3.0nm,0.8s
YKA Yellowknife Ar 84.14 342 P **P 01 05 38.0 -1.0**
YKA pP pP 01 05 56.9 -8.8
PBRG Braganca 84.25 44 *e*P **P 01 05 41.5 +1.4**
comp=Z,24nm,1.6s,mb4.8
PAB San Pablo 84.91 47 *e*P **P 01 05 43.8 +0.4**
PAB *e* 01 06 03.9
PAB pmax pmax
comp=Z,16nm,1.1s,mb4.9
PAB San Pablo 84.91 47 *e*P **P 01 05 43.8 +0.4**
comp=Z,16nm,1.1s,mb4.9
PAB *e* 01 06 03.9
ESDC Sonseca Array 85.23 47 P **P 01 05 46.1 +1.0**
comp=Z,2.9nm,0.7s,mb4.3,baz=254,slow=5.6,SNR=15
ESDC pP pP 01 06 04.9 -6.9
comp=Z,0.7nm,0.4s,baz=255,slow=5.4,SNR=5.9
ESLA Sonseca Array 85.23 47 *e*P **P 01 05 46.2 +1.1**
TSUM Tsumeb 86.43 109 *e*P **P 01 05 51.6 +0.1**
TAM Tamanrasset 86.67 65 *e*P **P 01 05 53.3 +0.8**
TAM *e**PP pP 01 06 18.2 -1.1
DLBC Dease Lake 86.84 334 *e*P **P 01 05 52.5 0.0**
SJPF Ste Jean 88.50 44 *e*P **P 01 06 01.4 +0.6**
ETSF Etsaut 88.87 45 *e*P **P 01 06 03.2 +0.7**
EPF Esparros 89.53 45 *e*P **P 01 06 09.4 +3.8**
BOSA Boshof 90.49 120 P **P 01 06 10.3 -0.2**
comp=Z,5.2nm,1.0s,mb4.6,baz=298,slow=2.4,SNR=5.5
BOSA Boshof 90.49 120 P **P 01 06 10.4 -0.2**
BOSA pmax pmax
comp=Z,5.0nm,1.0s,mb4.6
LFF La Frestale 90.51 43 *e*P **P 01 06 10.1 0.0**
comp=Z,16nm,0.8s,mb4.9
LFF La Frestale 90.51 43 *e*P **P 01 06 10.1 0.0**
LFF pmax pmax
comp=Z,8.0nm,0.8s,mb4.9
LFF La Frestale 90.51 43 *e*P **P 01 06 10.1 0.0**
comp=Z,7.9nm,0.8s,mb4.9
MFF Saint Martin d 90.56 41 *e*P **P 01 06 10.1 -0.2**
comp=Z,9.0nm,0.6s,mb4.8
MFF Saint Martin d 90.56 41 *e*P **P 01 06 10.1 -0.2**
MFF pmax pmax
comp=Z,5.0nm,0.6s,mb4.8
MFF Saint Martin d 90.56 41 *e*P **P 01 06 10.1 -0.2**
comp=Z,4.5nm,0.6s,mb4.8
GRR Gorron 90.80 40 *e*P **P 01 06 10.9 -0.5**
comp=Z,7.6nm,0.7s,mb4.7
GRR Gorron 90.80 40 *e*P **P 01 06 10.9 -0.5**
GRR pmax pmax
comp=Z,4.0nm,0.7s,mb4.7
GRR Gorron 90.80 40 *e*P **P 01 06 10.9 -0.5**
comp=Z,3.8nm,0.7s,mb4.6
MTLF Montolieu 90.93 45 *e*P **P 01 06 11.9 -0.2**
SUMG Summit 91.13 10 *e*P **P 01 06 13.5 +1.1**
SUMG *e*pP pP 01 06 31.7 -7.6
RJF Les Rejaudoux 91.16 43 *e*P **P 01 06 12.8 -0.3**
comp=Z,6.3nm,0.7s,mb4.5
RJF *e*MLR MLR
comp=Z,106nm,22.8s
RJF Les Rejaudoux 91.16 43 *e*P **P 01 06 12.8 -0.3**
RJF pmax pmax
comp=Z,3.0nm,0.7s,mb4.5
RJF MLR MLR
comp=Z,110nm,22.8s
RJF Les Rejaudoux 91.16 43 *e*P **P 01 06 12.8 -0.3**
comp=Z,3.2nm,0.7s,mb4.6
RJF LR LR
comp=Z,110nm,22.8s
MAW Mawson 91.24 165 *e*P **P 01 06 13.3 +0.1**
comp=Z,5.3nm,0.8s,mb4.7
MAW Mawson 91.24 165 P **P 01 06 13.2 0.0**
comp=Z,5.7nm,0.8s,mb4.8,baz=219,slow=5.7,SNR=19
MAW pP pP 01 06 31.7 -8.5
comp=Z,2.0nm,0.7s,baz=166,slow=8.8,SNR=3.2
MAW LR LR 01 43 12.3
comp=Z,66nm,21.8s,baz=66,slow=33
MAW Mawson 91.24 165 P **P 01 06 13.2 0.0**
MAW *PP pP 01 06 31.7 -8.5
MAW pmax pmax
comp=Z,6.0nm,0.8s
MAW pmax pmax
comp=Z,2.0nm,0.7s
LDF La Druitiere 91.33 40 *e*P **P 01 06 13.4 -0.4**
comp=Z,16nm,0.9s,mb4.8
LDF La Druitiere 91.33 40 *e*P **P 01 06 13.4 -0.4**
LDF pmax pmax
comp=Z,8.0nm,0.9s,mb4.8
LDF La Druitiere 91.33 40 *e*P **P 01 06 13.4 -0.4**
comp=Z,8.1nm,0.9s,mb4.8
CAF Calviac 91.38 44 *e*P **P 01 06 14.0 -0.2**
comp=Z,7.5nm,0.8s,mb4.6
CAF Calviac 91.38 44 *e*P **P 01 06 14.0 -0.2**
CAF pmax pmax
comp=Z,4.0nm,0.8s,mb4.6
CAF Calviac 91.38 44 *e*P **P 01 06 14.0 -0.2**
comp=Z,3.8nm,0.8s,mb4.6
LBTB Lobatse 91.90 116 *e*P **P 01 06 17.0 -0.2**
BGF Bois d'Agland 92.47 42 *e*P **P 01 06 18.9 -0.3**
comp=Z,13nm,0.9s,mb4.9
BGF Bois d'Agland 92.47 42 *e*P **P 01 06 18.9 -0.3**
BGF pmax pmax
comp=Z,7.0nm,0.9s,mb4.9
BGF Bois d'Agland 92.47 42 *e*P **P 01 06 18.9 -0.3**
comp=Z,6.7nm,0.9s,mb4.9
SMF Signal de Mont 93.14 42 *e*P **P 01 06 21.9 -0.4**
comp=Z,5.0nm,0.8s,mb4.6
SMF Signal de Mont 93.14 42 *e*P **P 01 06 21.9 -0.4**
SMF pmax pmax
comp=Z,3.0nm,0.8s,mb4.7
SMF Signal de Mont 93.14 42 *e*P **P 01 06 21.9 -0.4**
comp=Z,2.5nm,0.8s,mb4.6
LOR Lormes 93.36 42 *e*P **P 01 06 23.1 -0.2**
comp=Z,6.1nm,0.9s,mb4.6
LOR *e*MLR MLR
comp=Z,79nm,23.0s
LOR Lormes 93.36 42 *e*P **P 01 06 23.1 -0.2**
LOR pmax pmax
comp=Z,3.0nm,0.9s,mb4.6
LOR MLR MLR
comp=Z,80nm,23.0s
LOR Lormes 93.36 42 *e*P **P 01 06 23.1 -0.2**
comp=Z,3.0nm,0.9s,mb4.6
LOR LR LR
comp=Z,80nm,23.0s
KEST Kesra 93.74 54 P **P 01 06 26.3 +1.0**
comp=Z,1.7nm,0.9s,mb4.4,baz=217,slow=5.1,SNR=4.0
KEST LR LR 01 48 36.8
comp=Z,20nm,18.1s,baz=254,slow=35
ORIF Oris-en-Rattie 93.94 45 *e*P **P 01 06 26.7 +0.7**
comp=Z,5.8nm,0.6s,mb4.8
ORIF *e*MLR MLR
comp=Z,99nm,22.8s
ORIF Oris-en-Rattie 93.94 45 *e*P **P 01 06 26.7 +0.7**
ORIF pmax pmax
comp=Z,3.0nm,0.6s,mb4.8
ORIF Oris-en-Rattie 93.94 45 *e*P **P 01 06 26.7 +0.7**
comp=Z,2.9nm,0.6s,mb4.8
LPL La Plagne 94.69 44 *e*P **P 01 06 30.3 +0.9**
comp=Z,12nm,1.1s,mb5.0
LPL La Plagne 94.69 44 *e*P **P 01 06 30.3 +0.9**
LPL pmax pmax
comp=Z,6.0nm,1.1s,mb4.9
LPL La Plagne 94.69 44 *e*P **P 01 06 30.3 +0.9**
comp=Z,6.3nm,1.1s,mb5.0
LPG La Plagne 94.70 44 *e*P **P 01 06 30.6 +1.1**
GIVF Givet 94.88 39 *e*P **P 01 06 30.1 -0.1**
LSZ Lusaka 97.25 108 P **P 01 06 41.8 0.0**
COLA College 97.36 336 *e*P **P 01 06 39.1 -2.0**
GERES GERESS Array B 100.14 42 P Pdif 01 06 53.6 -0.3
comp=Z,1.1nm,0.9s,baz=255,slow=5.1,SNR=3.8
GERES GERESS Array B 100.14 42 P Pdif 01 06 53.6 -0.3
GERES pmax pmax
comp=Z,1.0nm,0.9s
CLL Collm 100.21 40 *e*Pdif Pdif 01 06 55.0 +0.7

STKA Stephens Creek 121.69 216 PKP PKPdf 01 12 01.9 -0.4
comp=Z,1.8nm,0.5s,baz=128,slow=1.5,SNR=5.4
CTAO Charters Tower 126.82 229 *e*PKIKP PKPdf 01 12 11.7 -0.6
AKTK Aktyubinsk 128.22 37 PKP PKPdf 01 12 13.9 -0.1
AKTO Aktyubinsk 128.22 37 PKP PKPdf 01 12 13.9 -0.1
comp=Z,2.9nm,0.8s,baz=300,slow=4.2,SNR=12
AKTO Aktyubinsk 128.22 37 PKIKP PKPdf 01 12 13.9 -0.1
AKTO pmax pmax
comp=Z,3.0nm,0.8s
ASAR Alice Springs 132.33 215 PKP PKPdf 01 12 22.0 -0.7
comp=Z,2.5nm,0.6s,baz=126,slow=1.8,SNR=33
ASAR pPKP pPKPdf 01 12 41.8 -9.1
comp=Z,0.8nm,0.5s,baz=126,slow=1.4,SNR=3.2
ASAR Alice Springs 132.33 215 PKIKP PKPdf 01 12 22.0 -0.7
ASAR 01 12 41.8
ASAR pmax pmax
comp=Z,3.0nm,0.6s
ASAR pmax pmax
comp=Z,1.0nm,0.5s
BVAR Borovoye Array 133.39 29 PKP PKPdf 01 12 24.1 +0.4
comp=Z,0.6nm,0.6s,baz=318,slow=2.0,SNR=6.1
BVAR Borovoye Array 133.39 29 PKIKP PKPdf 01 12 24.1 +0.4
BVAR pmax pmax
comp=Z,1.0nm,0.6s
WRA Warramunga Arr 134.96 219 PKP PKPdf 01 12 27.4 -0.3
comp=Z,7.7nm,0.7s,baz=148,slow=1.6,SNR=34
WRA pPKP pPKPdf 01 12 47.9 -7.9
comp=Z,1.2nm,0.5s,baz=141,slow=1.9,SNR=2.8
WRA Warramunga Arr 134.96 219 PKIKP PKPdf 01 12 27.4 -0.3
WRA 01 12 47.9
WRA pmax pmax
comp=Z,8.0nm,0.7s
WRA pmax pmax
comp=Z,1.0nm,0.5s
WRAB Tennant Creek 134.96 219 *e*PKPdf PKPdf 01 12 27.1 -0.6
WRAB *e*PKPdf PKPdf 01 12 27.4 -0.3
NVS Novosibirsk 137.11 19 *e*PKIKP PKPdf 01 12 29.0 -1.6
ZAA0 Zalesovo Array 138.37 19 *e*PKPdf PKPdf 01 12 33.8 +0.9
ZALV Zalesovo Beam 138.37 19 PKP PKPdf 01 12 33.2 +0.2
comp=Z,9.8nm,0.9s,baz=300,slow=2.9,SNR=24
ZALV pPKP pPKPdf 01 12 53.7 -7.4
comp=Z,7.0nm,0.9s,baz=302,slow=2.8,SNR=5.7
ZALV Zalesovo Beam 138.37 19 PKIKP PKPdf 01 12 33.2 +0.2
ZALV 01 12 53.7
ZALV pmax pmax
comp=Z,10.0nm,0.9s
ZALV pmax pmax
comp=Z,7.0nm,0.9s
ZALV Zalesovo Beam 138.37 19 PKP PKPdf 01 12 33.2 +0.2
ZALV pPKP pPKPdf 01 12 53.7 -7.4
KURK Kurchatov 138.67 26 PKP PKPdf 01 12 34.5 +0.9
comp=Z,1.0nm,0.2s,baz=320,slow=2.6,SNR=6.1
KURK Kurchatov 138.67 26 PKIKP PKPdf 01 12 34.5 +0.9
KURK pmax pmax
comp=Z,1.0nm,0.2s
KURK Kurchatov 138.67 26 PKP PKPdf 01 12 34.5 +0.8
FITZ Fitzroy Crossi 141.27 211 *e*PKPdf PKPdf 01 12 35.1 -4.2
FITZ *e*PKPdf PKPdf 01 12 35.8 -3.6
AML Almayashu 141.72 40 *e*PKPdf PKPdf 01 12 36.5 -2.9
UCH Uchtor 142.17 39 *e*PKPdf PKPdf 01 12 38.2 -2.0
MK31 Makanchi Array 143.22 27 *e*PKIKP PKPdf 01 12 39.1 -2.8
MKAR Makanchi Array 143.22 27 PKhKP 01 12 38.9
comp=Z,1.7nm,0.7s,baz=336,slow=3.3,SNR=12
MKAR Makanchi Array 143.22 27 PKIKP PKPdf 01 12 38.9 -3.0
MKAR pmax pmax
comp=Z,2.0nm,0.7s
MKAR Makanchi Array 143.22 27 PKP PKPdf 01 12 38.9 -3.0
MJAR Matsushiro Arr 144.62 312 PKP PKPdf 01 12 42.3 -2.4
comp=Z,3.8nm,0.8s,baz=114,slow=2.0,SNR=12
MJAR pPKP pPKPdf 01 13 01.7 -11
comp=Z,5.0nm,0.9s,baz=104,slow=3.5,SNR=4.0
MJAR Matsushiro Arr 144.62 312 PKIKP PKPdf 01 12 42.3 -2.4
MJAR 01 13 01.7
MJAR pmax pmax
comp=Z,4.0nm,0.8s
MJAR pmax pmax
comp=Z,5.0nm,0.9s
MAJO Matsushiro 144.62 312 *e*PKIKP PKPdf 01 12 42.6 -2.1
MAT Matsushiro 144.62 312 PKP PKPdf 01 12 42.3 -2.4
MDJ Mudanjiang 144.91 330 PKP PKPdf 01 12 44.8 -0.1
MDJ XPKP 01 13 22.4
MDJ PP PP 01 16 03.8 +0.8
MDJ PP PP
comp=Z,65nm,5.4s
MDJ LR LR
comp=N,54nm,27.4s
MDJ LR LR
comp=E,76nm,25.9s
MDJ LR LR
comp=Z,63nm,26.7s
BHJ Bhuj 144.99 72 *e*PKP PKPdf 01 12 43.7 -2.0
BHJ AMb AMB 01 12 48.7
comp=Z,94nm,1.0s
ZAK Zakamensk 145.30 3 *e*PKIKP PKPdf 01 12 45.8 +0.4
ZAK *e* 01 13 05.0
ZAK pmax pmax
comp=Z,15nm,1.1s
CN2 Changchun 147.43 333 *e*PKP PKPdf 01 12 48.8 -0.4
CN2 PP PP 01 16 21.3 +3.5
WMQ Urumqi 147.90 25 PKP PKPdf 01 12 50.6 +0.6
WMQ PKP2 PKPab 01 12 58.4 +2.5
WMQ APKP 01 13 17.6
WMQ PP PP 01 16 25.1 +4.6
WMQ PP PP
comp=Z,148nm,6.1s
SONM Songino Array 147.92 359 PKP PKPdf 01 12 50.6 +0.7
comp=Z,8.2nm,0.7s,baz=312,slow=0.3,SNR=44
SONM PKPbc PKPbc 01 12 53.3 +0.3
comp=Z,12nm,0.9s,baz=332,slow=1.4,SNR=37
SONM pPKPbc pPKPbc 01 13 12.8 -8.2
comp=Z,5.8nm,0.8s,baz=325,slow=2.0,SNR=9.8
SONM sPKPbc 01 13 21.2
comp=Z,9.9nm,0.7s,baz=328,slow=1.7,SNR=12
SONM Songino Array 147.92 359 PKIKP PKPdf 01 12 50.6 +0.7
SONM 01 12 53.3
SONM 01 13 12.8
SONM pmax pmax
comp=Z,8.0nm,0.7s
SONM pmax pmax
comp=Z,12nm,1.0s
SONM pmax pmax
comp=Z,6.0nm,0.8s
SONM pmax pmax
comp=Z,10.0nm,0.7s
KAD Karad 149.48 82 *e*P PKPdf 01 12 54.3 +0.9
SMLA Simla 149.52 55 *e*P PKPdf 01 12 50.9 -2.2
TRD Trivandrum 150.76 101 *e*P PKPdf 01 12 53.9 -1.6
TRD AMb AMB 01 12 55.8
comp=Z,48nm,0.9s
KSRS Korea Array 150.88 322 PKPbc PKPbc 01 13 01.0 +0.3
comp=Z,8.4nm,0.9s,baz=357,slow=1.6,SNR=15
KSRS pPKPbc pPKPbc 01 13 19.6 -9.1
comp=Z,6.1nm,0.9s,baz=354,slow=1.2,SNR=5.6
KSRS Korea Array 150.88 322 PKIKP PKPbc 01 13 01.0 +0.3
KSRS 01 13 19.7
KSRS pmax pmax
comp=Z,8.0nm,0.9s
KSRS pmax pmax
comp=Z,6.0nm,0.9s
KOD Kodaikanal 151.70 98 *e*P PKPdf 01 12 56.5 -0.4
HYB Hyderabad 153.65 82 *e*PKIKP PKPbc 01 13 08.0 +0.5
HHC Hu-ho-hao-te 154.44 350 *e*PKP PKPdf 01 13 00.1 0.0
HHC APKP 01 13 27.1
HHC XPKP 01 13 37.8
HHC PKS 01 16 33.1
HHC PP PP 01 17 01.8 +4.3
HHC SKS SKSdf 01 19 55.8 -1.8
HHC SKKS SKKSac 01 23 38.4 -0.5
HHC SS SS 01 36 31.8 +3.0
HHC PP PP
comp=Z,41nm,5.1s
HHC LR LR
comp=N,80nm,21.0s
HHC LR LR
comp=E,279nm,24.3s
HHC LR LR
comp=Z,106nm,22.4s
MDRS Chennai 154.94 93 *e*P PKPdf 01 13 00.8 -0.8
GTA Gaotai 155.73 12 *e*PKP PKPdf 01 13 03.3 +1.4
GTA APKP 01 13 30.6
GTA PKP2 PKPab 01 13 34.4 +5.8
GTA XPKP 01 13 40.6
GTA PP PP 01 17 10.3 +5.5
GTA SS SS 01 36 46.0 +3.2
GTA PP PP
comp=Z,93nm,5.1s
GTA LR LR
comp=N,70nm,14.4s
GTA LR LR
comp=E,81nm,13.2s
GTA LR LR
comp=Z,136nm,13.2s
VIS Vishakhapatnam 158.20 81 *e*P PKPdf 01 13 04.4 -1.3
BOK Bokaro 159.44 64 *e*P PKPdf 01 13 04.7 -2.3
LZH Lanzhou 159.57 5 *e*PKP PKPdf 01 13 04.9 -1.9
LZH APKP 01 13 33.5
LZH XPKP 01 13 43.6
LZH PP PP 01 17 25.8 +0.1
LZH SKKS SKKSac 01 24 03.0 -3.1
LZH SS SS 01 37 22.0 -1.5
LZH PP PP
comp=Z,80nm,4.0s
LZH LR LR
comp=N,86nm,19.3s
LZH LR LR
comp=Z,92nm,20.5s
NJ2 Nanjing 159.91 327 *e*PKP PKPdf 01 13 08.3 +1.0
CD2 Chengdu 164.68 7 *e*PKP PKPdf 01 13 11.4 -0.7
CD2 APKP 01 13 38.3
CD2 XPKP 01 13 49.0
CD2 PKP2 PKPab 01 14 09.0 +1.2
CD2 PP PP 01 17 55.8 +2.9
CD2 SKS SKSdf 01 20 04.3 -3.0
CD2 SKKS SKKSac 01 24 31.6 -0.9
CD2 SS SS 01 38 16.8 +0.1
CD2 PP PP
comp=Z,140nm,10.8s
CD2 LR LR
comp=N,190nm,20.4s
CD2 LR LR
comp=Z,210nm,16.8s
GYA Guiyang 169.24 357 *e*PKP PKPdf 01 13 14.8 -0.8
GYA APKP 01 13 42.9
GYA XPKP 01 13 54.3
GYA PKP2 PKPab 01 14 29.0 +1.0
GYA PKS 01 16 46.3
GYA PP PP 01 18 19.4 +3.1
GYA PP PP
comp=Z,120nm,8.9s
KMI Kunming 170.11 17 PKP PKPdf 01 13 17.8 +1.6
CMAR Chiang Mai Arr 172.71 67 PKP PKPdf 01 13 16.2 -1.4
comp=Z,0.8nm,0.3s,baz=298,slow=1.8,SNR=6.5
CMAR PKPab PKPab 01 14 42.5 -1.4
comp=Z,0.9nm,0.3s,baz=294,slow=5.5,SNR=5.4
CMAR Chiang Mai Arr 172.71 67 PKIKP PKPdf 01 13 16.2 -1.4
CMAR 01 14 42.5
CMAR pmax pmax
comp=Z,1.0nm,0.3s
CMAR pmax pmax
comp=Z,1.0nm,0.3s

NIED ***18*** *01:59:00,4690N×15290E,h11km,Mw4.0 Best double couple: M0 1.30000×10^15 NP1:φs313.00000°,δ84.00000°, λ61.00000°. NP2:φs213.00000°,δ30.00000°,λ168.00000°.*
JMA ***18*** *01:59:38.7±0.6, 4690N×15294E, h30km, M4.7*
SKHL ***18*** *01:59:40.3±3.5, 4680N×15270E, h42km±21km, mb4.6/3, msh5.8/1*
IDC ***18*** *01:59:40.8±6.7, 4689N×15274E, h43km±61km, mb3.9/21, mb1 4.1/21, mb1mx4.0/27, mbtmp3.9/21, MS3.4/5, Ms1 3.4/5, ms1mx3.0/35, Error ellipse: s-maj=18.1km s-min=17.6km az=115.0*
ISCJB ***18*** *01:59:40.3±0.7, 4669N±006×15271E±007, h57km±5km, mb4.5/40, MS3.6/3, Error ellipse: s-maj=11.8km s-min=4.7km az=140.2*
MOS ***18*** *01:59:41.4±1.2, 4681N×15272E, h64km, mb4.5/18, Error ellipse: s-maj=10.3km s-min=7.8km az=80.5*
NEIC ***18*** *01:59:46.1±0.8, 4697N×15273E, h87km±6km, mb4.6/17, Error ellipse: s-maj=9.9km s-min=5.2km az=143.0*
BJI ***18*** *01:59:46.1, 4700N×15270E, h87km, mB4.2, mb4.4*
ISC 18 01:59:42.6±0.6, 4669N±006×15272E±007, h60km±5km, n139,σ1§27/148, mb4.5/40, 5C-3D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KUR	**Kuril'sk**	**3.68**	**249**	⇑*i*PN	**Pn**	**02 00 34.6**	**-2.3**
KUR				*i* S	**Sn**	**02 01 18.0**	**-1.1**
KUR				pmax	pmax		
	comp=N,70nm,0.5s						
KUR				pmax	pmax		
	comp=E,50nm,0.5s						
KUR				pmax	pmax		
	comp=Z,120nm,0.5s						
KUR				smax			
	comp=N,540nm,0.5s						
KUR				smax			
	comp=E,460nm,0.5s						
KUR	**Kuril'sk**	**3.68**	**249**	⇑*i*P	**Pn**	**02 00 34.6**	**-2.3**
KUR				AMB	AMB	02 00 39.7	
	comp=E,68nm,0.5s						
KUR				AMB	AMB	02 00 39.7	
	comp=E,53nm,0.5s						
KUR				AMB	AMB	02 00 39.7	
	comp=E,122nm,0.5s						
KUR				*i* S	**Sn**	**02 01 18.0**	**-1.1**
KUR				A		02 01 35.0	
	comp=E,540nm,0.5s						
KUR				A		02 01 35.0	
	comp=E,456nm,0.5s						
SKR	**Severo-Kuril's**	**4.59**	**28**	*e*PN	**Pn**	**02 00 50.0**	**+0.7**
SKR				*e*S	**Sn**	**02 01 35.0**	**-6.2**
SKR				pmax	pmax		
	comp=E,40nm,0.5s						
SKR				pmax	pmax		
	comp=Z,50nm,0.5s						
SKR				smax			
	comp=N,80nm,0.5s						
SKR				smax			
	comp=E,150nm,0.5s						
SKR				smax			
	comp=Z,50nm,0.5s						
YUK	**Yuzh-Kuril'sk**	**5.51**	**244**	*e*P	**Pn**	**02 01 03.8**	**+1.8**
YUK				A		02 02 26.5	
	comp=Z,690nm,0.5s						
YUK				A		02 02 26.5	
	comp=Z,460nm,0.5s						
YUK				A		02 02 29.0	
	comp=Z,3μm,2.0s						
YUK				A		02 02 29.0	
	comp=Z,3μm,2.0s						
NEM2	**Nemuro 2**	**5.96**	**239**	P	**Pn**	**02 01 07.0**	**-1.1**
NEM2				*e*S	**Sn**	**02 02 12.4**	**-2.5**
JRA	**Rausu**	**6.02**	**246**	P	**Pn**	**02 01 11.4**	**+2.5**
JNK	**Nakash**	**6.45**	**244**	P	**Pn**	**02 01 16.1**	**+1.3**
JNK				*e*S	**Sn**	**02 02 28.2**	**+1.2**
JTKR	**Abashiri--Toko**	**6.78**	**250**	P	**Pn**	**02 01 21.5**	**+2.2**
JAK	**Akkeshi**	**6.79**	**240**	P	**Pn**	**02 01 18.6**	**-0.9**
JAK				*e*S	**Sn**	**02 02 33.1**	**-2.3**
YSS	**Yuzh-Sakhalins**	**6.84**	**276**	*e*PN	**Pn**	**02 01 23.0**	**+2.8**
YSS				*e*S	**Sn**	**02 02 37.4**	**+0.8**
YSS				pmax	pmax		
	comp=E,60nm,1.0s						
YSS				pmax	pmax		
	comp=Z,40nm,1.0s						
YSS				MLR	MLR		
	comp=Z,200nm,15.0s						
YSS	**Yuzh-Sakhalins**	**6.84**	**276**	*e*P	**Pn**	**02 01 23.0**	**+2.8**
YSS				AMB	AMB	02 01 27.2	
	comp=Z,40nm,1.0s						
YSS				AMB	AMB	02 01 27.2	
	comp=Z,60nm,1.0s						
YSS				*e*S	**Sn**	**02 02 37.4**	**+0.8**
YSS				*e*LQ		02 03 30.0	
YSS				AMS	AMS	02 03 53.0	
	comp=Z,200nm,15.0s						
YSS	**Yuzh-Sakhalins**	**6.84**	**276**	*e*Pn	**Pn**	**02 01 22.8**	**+2.6**
JMP	**Maruseppu**	**7.12**	**251**	P	**Pn**	**02 01 26.9**	**+2.9**
PEA0B	**Petropavlovsk-**	**7.19**	**25**	*e*Pn	**Pn**	**02 01 25.1**	**+0.2**
PETK	**Petropavlovsk-**	**7.19**	**25**	P	**Pn**	**02 01 25.6**	**+0.8**
	comp=Z,1.3nm,0.3s,baz=196,slow=13,SNR=15						
JAR	**Ashorobuto**	**7.19**	**245**	P	**Pn**	**02 01 26.2**	**+1.2**
JAR				*e*S	**Sn**	**02 02 46.3**	**+1.1**
JOB	**Onbets**	**7.37**	**242**	P	**Pn**	**02 01 27.6**	**+0.3**
JOB				*e*S	**Sn**	**02 02 48.3**	**-1.1**
PET	**Petropavlovsk**	**7.41**	**29**	*e*PN	**Pn**	**02 01 26.9**	**-1.0**
ASAJ	**Asahikawa**	**7.58**	**254**	P	**Pn**	**02 01 33.5**	**+3.3**
	comp=Z,3.3nm,0.3s,baz=75,slow=18,SNR=9.1						

ASAJ					LR	LR	02 04 19.0		
	comp=Z,104nm,21.4s,baz=53,slow=36								
ASAJ	**Asahikawa**	**7.58**	**254**		P	**Pn**	**02 01 33.6**	**+3.4**	
ASAJ	**Asahikawa**	**7.58**	**254**		PN	**Pn**	**02 01 33.5**	**+3.3**	
ASAJ					pmax	pmax			
	comp=Z,3.0nm,0.3s								
ASAJ					MLR	MLR			
	comp=Z,104nm,21.4s								
JKK2	**Kamakawa 2**	**7.58**	**252**		P	**Pn**	**02 01 32.8**	**+2.6**	
JCH	**Churui**	**7.81**	**242**		P	**Pn**	**02 01 33.2**	**-0.3**	
JCH					*e*S	**Sn**	**02 02 57.5**	**-2.9**	
TYV	**Tymovskoe**	**7.85**	**306**		*e*P	**Pn**	**02 01 33.5**	**-0.4**	
ERM	**Erimo**	**8.29**	**239**		*e*PN	**Pn**	**02 01 44.3**	**+4.3**	
ERM	**Erimo**	**8.29**	**239**		*e*P	**Pn**	**02 01 44.2**	**+4.2**	
JNBK	**Urakawa-nobuka**	**8.38**	**242**		P	**Pn**	**02 01 40.3**	**-0.9**	
JNBK					*e*S	**Sn**	**02 03 10.8**	**-3.4**	
JNB	**Noboribetsu**	**9.34**	**247**		P	**Pn**	**02 01 54.8**	**+0.5**	
JNB					*e*S	**Sn**	**02 03 36.3**	**-1.5**	
JKB	**Kayabe**	**9.65**	**244**		P	**Pn**	**02 01 57.5**	**-1.1**	
JKB					*e*S	**Sn**	**02 03 39.8**	**-5.7**	
JSH	**Shimam**	**9.89**	**250**		P	**Pn**	**02 02 03.5**	**+1.6**	
JYM2	**Yakumo 2**	**9.95**	**247**		P	**Pn**	**02 02 02.4**	**-0.2**	
JTM	**Tenmabayashi**	**10.28**	**239**		P	**Pn**	**02 02 05.4**	**-1.8**	
JTM					*e*S	**Sn**	**02 03 53.3**	**-7.6**	
JANG	**Nango**	**10.29**	**236**		P	**Pn**	**02 02 03.9**	**-3.4**	
JANG					*e*S	**Sn**	**02 03 51.6**	**-9.5**	
JOSM	**Okushiri--Mats**	**10.54**	**249**		P	**Pn**	**02 02 10.7**	**0.0**	
OFUJ	**Ofunato**	**11.11**	**231**		*e*S	**Sn**	**02 04 10.4**	**-11**	
JRG	**Rokugo**	**11.45**	**235**		P	**Pn**	**02 02 21.1**	**-2.1**	
MAJO	**Matsushiro**	**14.83**	**232**		*e*P	**Pn**	**02 03 14.5**	**+5.9**	
MAJO					pmax	pmax			
	comp=Z,8.0nm,0.5s								
MAJO	**Matsushiro**	**14.83**	**232**		*e*Pn	**Pn**	**02 03 14.5**	**+5.9**	
	comp=Z,7.5nm,0.5s								
MJAR	**Matsushiro Arr**	**14.83**	**232**		P	**Pn**	**02 03 14.5**	**+5.9**	
	comp=Z,0.9nm,0.3s,baz=34,slow=8.9,SNR=8.1								
MJAR					LR	LR	02 08 54.7		
	comp=Z,115nm,19.1s,baz=290,slow=37								
MJAR	**Matsushiro Arr**	**14.83**	**232**		P	**Pn**	**02 03 14.5**	**+5.9**	
MJAR					pmax	pmax			
	comp=Z,1.0nm,0.3s								
MJAR					MLR	MLR			
	comp=Z,115nm,19.1s								
SEY	**Seymchan**	**16.28**	**359**		*e*P	**Pn**	**02 03 27.8**	**+0.8**	
KSRS	**Korea Array**	**20.52**	**252**		P	**P**	**02 04 17.0**	**+1.3**	
	comp=Z,4.2nm,0.8s,baz=57,slow=10,SNR=9.9								
KSRS	**Korea Array**	**20.52**	**252**		P	**P**	**02 04 17.0**	**+1.3**	
KSRS					pmax	pmax			
	comp=Z,4.0nm,0.8s								
SONM	**Songino Array**	**31.10**	**289**		P	**P**	**02 05 54.3**	**-0.6**	
	comp=Z,0.7nm,0.6s,mb3.6,baz=88,slow=7.8,SNR=2.9								
SONM					LR	LR	02 18 58.4		
	comp=Z,89nm,18.6s,baz=89,slow=37								
SONM	**Songino Array**	**31.10**	**289**		P	**P**	**02 05 54.3**	**-0.6**	
SONM					pmax	pmax			
	comp=Z,1.0nm,0.6s								
SONM					MLR	MLR			
	comp=Z,89nm,18.6s								
COLA	**College**	**36.35**	**38**		*e*P	**P**	**02 06 38.6**	**-1.6**	
COLA					pmax	pmax			
	comp=Z,3.0nm,0.7s,mb4.3								
COLA	**College**	**36.35**	**38**		*e*P	**P**	**02 06 38.6**	**-1.6**	
	comp=Z,3.4nm,0.7s,mb4.4								
GTA	**Gaotai**	**38.71**	**279**		*e*P	**P**	**02 07 03.3**	**+2.8**	
GTA					AMB	AMB			
	comp=Z,5.0nm,0.8s,mb4.3								
ZALV	**Zalesovo Beam**	**42.43**	**306**		P	**P**	**02 07 29.2**	**-1.7**	
	comp=Z,0.7nm,0.5s,mb3.6,baz=83,slow=4.6,SNR=3.8								
ZALV					PcP	PcP	02 09 22.6	-0.3	
	comp=Z,1.2nm,0.7s,baz=53,slow=5.6,SNR=5.1								
ZALV	**Zalesovo Beam**	**42.43**	**306**		P	**P**	**02 07 29.2**	**-1.8**	
ZALV					PcP	PcP	02 09 22.6	-0.3	
MK31	**Makanchi Array**	**46.73**	**297**		*e*P	**P**	**02 08 04.0**	**-1.3**	
MKAR	**Makanchi Array**	**46.73**	**297**		P	**P**	**02 08 03.7**	**-1.6**	
	comp=Z,1.0nm,0.6s,mb4.0,baz=71,slow=8.1,SNR=7.1								
MKAR					PcP	PcP	02 09 37.5	-0.3	
	comp=Z,0.8nm,0.6s,baz=87,slow=1.9,SNR=4.4								
MKAR					LR	LR	02 28 51.5		
	comp=Z,77nm,18.3s,baz=174,slow=38								
MKAR	**Makanchi Array**	**46.73**	**297**		P	**P**	**02 08 03.7**	**-1.6**	
MKAR							02 09 37.5		
MKAR					pmax	pmax			
	comp=Z,1.0nm,0.6s								
MKAR					pmax	pmax			
	comp=Z,1.0nm,0.6s								
MKAR					MLR	MLR			
	comp=Z,77nm,18.3s								
MKAR	**Makanchi Array**	**46.73**	**297**		P	**P**	**02 08 03.7**	**-1.6**	
MKAR					PcP	PcP	02 09 37.5	-0.3	
MKAR					LR	LR	02 28 51.5		
KURK	**Kurchatov**	**47.17**	**304**		P	**P**	**02 08 08.0**	**-0.7**	
	comp=Z,1.8nm,0.6s,mb4.2,baz=70,slow=8.5,SNR=13								
KURK	**Kurchatov**	**47.17**	**304**		P	**P**	**02 08 08.0**	**-0.7**	
KURK					pmax	pmax			
	comp=Z,2.0nm,0.6s,mb4.2								
KURK	**Kurchatov**	**47.17**	**304**		*e*P	**P**	**02 08 07.1**	**-1.6**	
	comp=Z,1.7nm,0.6s,mb4.2								
LSA	**Lhasa**	**50.01**	**273**		*e*P	**P**	**02 08 32.9**	**+2.2**	
LSA					pmax	pmax			
	comp=Z,8.0nm,0.5s,mb5.0								
LSA	**Lhasa**	**50.01**	**273**		*e*P	**P**	**02 08 32.9**	**+2.2**	
	comp=Z,8.5nm,0.5s,mb5.0								
BVAR	**Borovoye Array**	**50.69**	**309**		P	**P**	**02 08 36.1**	**+0.6**	
	comp=Z,1.1nm,0.4s,mb4.1,baz=51,slow=6.6,SNR=4.9								
BVAR					PcP	PcP	02 09 52.0	0.0	
	comp=Z,1.0nm,0.5s,baz=93,slow=2.9,SNR=2.9								
BVAR					LR	LR	02 30 52.3		
	comp=Z,68nm,18.0s,baz=226,slow=37								
BVAR	**Borovoye Array**	**50.69**	**309**		P	**P**	**02 08 36.1**	**+0.6**	
BVAR							02 09 52.0		
BVAR					pmax	pmax			
	comp=Z,1.0nm,0.4s								
BVAR					pmax	pmax			
	comp=Z,1.0nm,0.5s								
BVAR					MLR	MLR			
	comp=Z,68nm,18.0s								
BRVK	**Borovoye**	**50.73**	**309**		*e*P	**P**	**02 08 35.7**	**-0.1**	
BRVK					pmax	pmax			
	comp=Z,7.0nm,0.8s,mb4.6								
BRVK	**Borovoye**	**50.73**	**309**		*e*P	**P**	**02 08 35.7**	**-0.2**	
	comp=Z,7.2nm,0.8s,mb4.7								
KKM	**Kota Kinabalu**	**51.23**	**229**		*e*P	**P**	**02 08 38.7**	**-1.3**	
CHTO	**Chiang Mai**	**51.84**	**256**		*e*P	**P**	**02 08 45.6**	**+1.0**	
CHTO					pmax	pmax			
	comp=Z,2.0nm,0.6s,mb4.2								
CHTO	**Chiang Mai**	**51.84**	**256**		*e*P	**P**	**02 08 45.6**	**+1.1**	
	comp=Z,2.4nm,0.6s,mb4.3								
CMAR	**Chiang Mai Arr**	**52.09**	**256**		P	**P**	**02 08 48.4**	**+1.9**	
	comp=Z,1.8nm,0.6s,mb4.2,baz=38,slow=7.6,SNR=9.1								
CMAR	**Chiang Mai Arr**	**52.09**	**256**		P	**P**	**02 08 48.4**	**+1.9**	
CMAR					pmax	pmax			
	comp=Z,2.0nm,0.6s								
TAPN	**Taplejung**	**53.83**	**273**		*e*P	**P**	**02 09 00.5**	**+1.3**	
ODAN	**Odare**	**54.36**	**273**		*e*P	**P**	**02 09 04.4**	**+1.3**	
	comp=Z,6.4nm,0.5s,mb4.8								
JIRN	**Jiri**	**54.68**	**274**		*e*P	**P**	**02 09 06.8**	**+1.4**	
GUN	**Gumba**	**54.74**	**275**		*e*P	**P**	**02 09 07.2**	**+1.4**	
RAMN	**Ramite**	**54.85**	**273**		*e*P	**P**	**02 09 07.5**	**+0.9**	
	comp=Z,17nm,0.5s,mb5.3								
KKN	**Kakani**	**55.22**	**275**		*e*P	**P**	**02 09 10.6**	**+1.3**	
PKI	**Pulchoki**	**55.27**	**275**		*e*P	**P**	**02 09 10.5**	**+0.9**	
DMN	**Daman**	**55.46**	**275**		*e*P	**P**	**02 09 12.1**	**+1.1**	
	comp=Z,24nm,0.8s,mb5.3								
GKN	**Gorkha**	**55.53**	**276**		*e*P	**P**	**02 09 12.4**	**+0.9**	
DANN	**Dangsing**	**55.91**	**277**		*e*P	**P**	**02 09 15.4**	**+1.2**	
	comp=Z,14nm,0.5s,mb5.3								
KOLN	**Koldanda**	**56.39**	**276**		*e*P	**P**	**02 09 18.6**	**+1.0**	
	comp=Z,13nm,0.7s,mb5.1								
KEV	**Kevo**	**57.31**	**340**		*e*p	**P**	**02 09 21.8**	**-1.7**	
ARCES	**ARCESS Array B**	**57.82**	**341**		P	**P**	**02 09 24.9**	**-2.2**	
	comp=Z,1.0nm,0.7s,mb3.9,baz=46,slow=6.9,SNR=5.5								
ARCES	**ARCESS Array B**	**57.82**	**341**		P	**P**	**02 09 24.9**	**-2.2**	
ARCES					pmax	pmax			
	comp=Z,1.0nm,0.7s								
FFC	**Flin Flon**	**60.96**	**40**		*e*P	**P**	**02 09 48.3**	**-0.7**	
FFC					pmax	pmax			
	comp=Z,5.0nm,1.0s,mb4.6								
FFC	**Flin Flon**	**60.96**	**40**		*e*P	**P**	**02 09 48.3**	**-0.7**	
	comp=Z,4.8nm,1.0s,mb4.6								
JOF	**Joensuu**	**61.27**	**334**		*e*p	**P**	**02 09 49.8**	**-1.1**	
	comp=Z,3.1nm,0.6s,mb4.6								
JOF	**Joensuu**	**61.27**	**334**		*e*P	**P**	**02 09 49.8**	**-1.1**	
JOF					pmax	pmax			
	comp=Z,3.0nm,0.6s,mb4.6								
NVAR	**Mina Array Bea**	**62.70**	**62**		P	**P**	**02 10 01.3**	**+0.3**	
	comp=Z,0.3nm,0.3s,mb3.9,baz=299,slow=8.6,SNR=2.2								
KAF	**Kangasniemi**	**63.39**	**335**		*e*p	**P**	**02 10 03.2**	**-1.9**	
	comp=Z,4.2nm,0.8s,mb4.6								
KAF	**Kangasniemi**	**63.39**	**335**		*e*P	**P**	**02 10 03.2**	**-1.9**	
KAF					pmax	pmax			
	comp=Z,4.0nm,0.8s,mb4.6								
TPAW	**Teton Pass**	**63.76**	**54**		*e*P	**P**	**02 10 08.8**	**+1.0**	
	comp=Z,1.8nm,0.7s,mb4.2								
PDAR	**Pinedale Array**	**65.00**	**54**		P	**P**	**02 10 15.6**	**-0.4**	
	comp=Z,1.0nm,0.8s,mb3.9,baz=72,slow=0.6,SNR=7.1								
NB2	**NORSAR Subarra**	**68.20**	**341**		P	**P**	**02 10 35.0**	**-1.0**	
	comp=Z,2.4nm,0.5s,mb4.5,baz=28,slow=6.5								
NOA	**NORSAR Array B**	**68.20**	**341**		P	**P**	**02 10 35.2**	**-0.9**	
	comp=Z,2.8nm,0.5s,mb4.5,baz=28,slow=6.4,SNR=17								
NOA	**NORSAR Array B**	**68.20**	**341**		P	**P**	**02 10 35.2**	**-0.8**	
NOA					pmax	pmax			
	comp=Z,3.0nm,0.5s								
NOA	**NORSAR Array B**	**68.20**	**341**		P	**P**	**02 10 35.2**	**-0.9**	
WRA	**Warramunga Arr**	**68.36**	**199**		P	**P**	**02 10 37.5**	**+0.1**	
	comp=Z,0.3nm,0.5s,mb3.6,baz=22,slow=7.2,SNR=4.8								
HFS	**Hagfors**	**68.42**	**339**		P	**P**	**02 10 36.4**	**-1.0**	
	comp=Z,7.0nm,0.4s,mb5.0,baz=48,slow=6.6,SNR=37								
HFS	**Hagfors**	**68.42**	**339**		P	**P**	**02 10 36.4**	**-1.0**	
HFS					pmax	pmax			
	comp=Z,7.0nm,0.4s								
AKASG	**Malin Array Be**	**71.45**	**326**		P	**P**	**02 10 54.9**	**-1.3**	
	comp=Z,3.0nm,0.3s,mb4.7,baz=33,slow=6.3,SNR=12								
AKASG	**Malin Array Be**	**71.45**	**326**		P	**P**	**02 10 54.9**	**-1.3**	
AKASG					pmax	pmax			
	comp=Z,3.0nm,0.3s								
ASAR	**Alice Springs**	**72.06**	**198**		P	**P**	**02 11 01.4**	**+1.3**	
	comp=Z,1.4nm,0.6s,mb4.0,baz=12,slow=5.6,SNR=15								
ASAR	**Alice Springs**	**72.06**	**198**		P	**P**	**02 11 01.4**	**+1.4**	
ASAR					pmax	pmax			
	comp=Z,1.0nm,0.6s								
STHS	**Stebnicka Huta**	**75.44**	**330**		*e*P	**P**	**02 11 19.0**	**-0.6**	
BUR08	**Bucovina Ar. S**	**75.47**	**326**		*e*P	**P**	**02 11 19.2**	**-0.6**	
BURAR	**Bucovina Array**	**75.49**	**326**	⇓	P	**P**	**02 11 19.8**	**-0.2**	
TLCR		**76.04**	**323**	⇑	P	**P**	**02 11 23.0**	**-0.1**	
MORC	**Moravsky Berou**	**76.37**	**332**		*e*P	**P**	**02 11 24.2**	**-0.7**	
MORC					pmax	pmax			
	comp=Z,3.0nm,0.8s,mb4.3								
MORC	**Moravsky Berou**	**76.37**	**332**		*e*P	**P**	**02 11 24.2**	**-0.7**	
	comp=Z,2.6nm,0.8s,mb4.2								
CLL	**Collm**	**76.41**	**335**		*i* P	**P**	**02 11 24.2**	**-0.9**	
MLR	**Muntele Rosu**	**76.96**	**325**		P	**P**	**02 11 28.8**	**+0.5**	
	comp=Z,3.8nm,0.7s,mb4.5,baz=219,slow=4.3,SNR=9.8								
MLR	**Muntele Rosu**	**76.96**	**325**		P	**P**	**02 11 28.8**	**+0.5**	
MLR					pmax	pmax			
	comp=Z,4.0nm,0.7s								
MLR	**Muntele Rosu**	**76.96**	**325**	⇑	P	**P**	**02 11 29.4**	**+1.0**	
VRAC	**Vranov**	**77.08**	**332**	⇓	P	**P**	**02 11 28.6**	**-0.3**	
VOIR		**77.36**	**325**	⇑	P	**P**	**02 11 31.1**	**+0.5**	
TXAR	**Lajitas Array**	**77.76**	**60**		P	**P**	**02 11 33.0**	**0.0**	
	comp=Z,0.5nm,0.6s,mb3.6,baz=298,slow=4.9,SNR=7.8								
TXAR	**Lajitas Array**	**77.76**	**60**		P	**P**	**02 11 33.1**	**0.0**	
TXAR					pmax	pmax			
	comp=Z,1.0nm,0.6s								
GERES	**GERESS Array B**	**78.39**	**334**		P	**P**	**02 11 35.3**	**-1.0**	
	comp=Z,1.0nm,0.7s,mb3.8,baz=25,slow=5.5,SNR=2.7								
GERES	**GERESS Array B**	**78.39**	**334**		P	**P**	**02 11 35.3**	**-0.9**	
GERES					pmax	pmax			
	comp=Z,1.0nm,0.7s								
UMR	**Umm Al-Rimmam**	**78.43**	**301**		*e*P	**P**	**02 11 37.0**	**+0.2**	
UMR					AMb	AMB	02 11 38.5		
	comp=Z,26nm,0.9s,mb5.2								
MIB	**Mutribah**	**78.47**	**301**		*e*P	**P**	**02 11 37.2**	**+0.2**	
MIB					AMb	AMB	02 11 38.0		
	comp=Z,24nm,0.7s,mb5.2								
BZS	**Buzias**	**78.52**	**327**	⇓	P	**P**	**02 11 36.2**	**-0.8**	
KBD	**Kabd**	**78.72**	**301**		AMb	AMB	02 11 44.6		
	comp=Z,11nm,0.9s,mb4.8								
MMAI	**Mount Meron Ar**	**82.65**	**311**		P	**P**	**02 12 00.1**	**+0.7**	
	comp=Z,2.1nm,0.5s,mb4.5,baz=36,slow=16,SNR=5.9								
SMF	**Signal de Mont**	**83.13**	**339**		*e*P	**P**	**02 12 02.0**	**+0.5**	
	comp=Z,44nm,1.5s,mb5.0								
SMF	**Signal de Mont**	**83.13**	**339**		*e*P	**P**	**02 12 02.0**	**+0.5**	
SMF					pmax	pmax			
	comp=Z,22nm,1.5s,mb5.0								
SMF	**Signal de Mont**	**83.13**	**339**		*e*P	**P**	**02 12 02.0**	**+0.5**	
	comp=Z,22nm,1.5s,mb5.0								
LPL	**La Plagne**	**83.42**	**337**		*e*P	**P**	**02 12 04.0**	**+0.9**	
	comp=Z,6.5nm,1.0s,mb4.3								
LPL	**La Plagne**	**83.42**	**337**		*e*P	**P**	**02 12 04.0**	**+0.9**	
LPL					pmax	pmax			
	comp=Z,3.0nm,1.0s,mb4.3								
LPL	**La Plagne**	**83.42**	**337**		*e*P	**P**	**02 12 04.0**	**+0.9**	
	comp=Z,3.3nm,1.0s,mb4.3								
BGF	**Bois d'Agland**	**83.45**	**340**		*e*P	**P**	**02 12 03.7**	**+0.5**	
ORIF	**Oris-en-Rattie**	**84.21**	**337**		*e*P	**P**	**02 12 07.3**	**+0.2**	
EIL	**Elat**	**85.52**	**309**		P	**P**	**02 12 13.5**	**-0.5**	
	comp=Z,4.6nm,0.9s,mb4.7,baz=31,slow=12,SNR=3.1								
IDI	**Anoyia**	**85.89**	**320**		P	**P**	**02 12 13.9**	**-1.8**	
	comp=Z,8.6nm,0.9s,mb5.0,baz=73,slow=11,SNR=3.3								
TORD	**Torodi Ar. Bea**	**115.01**	**329**		PKP	PKiKP	02 18 15.8	-1.1	
	comp=Z,0.2nm,0.6s,baz=14,slow=1.5,SNR=4.1								
PLCA	**Paso Flores**	**148.47**	**95**		PKPbc	PKPbc	02 19 22.0	+0.2	
	comp=Z,2.3nm,0.8s,baz=290,slow=2.5,SNR=4.3								
PLCA	**Paso Flores**	**148.47**	**95**		PKP2	PKPbc	02 19 22.0	+0.2	
PLCA					pmax	pmax			
	comp=Z,2.0nm,0.8s								
SNAA	**Sanae**	**152.42**	**196**		*e*PKPdf	PKPbc	02 19 30.2	0.0	
SNAA					*e*		02 19 41.6		
VNA2	**Neumayer--Watz**	**153.87**	**195**		*e*PKPdf	PKPbc	02 19 33.3	-0.1	
	baz=100,slow=0.3								
VNA2					*e*		02 19 47.7		
VNA3	**Neumayer Olymp**	**153.97**	**193**		*e*PKPdf	PKPbc	02 19 33.6	0.0	
VNA3					*e*		02 19 47.8		

CSEM ***18*** *02:01:27.7±0.1,4089N×2194E,h15km,ML3.3/3,Error ellipse: s-maj=3.8km s-min=2.5km az=15.0*
SKO ***18*** *02:01:28.0,4085N×2194E,h15km,M1.6,ML1.7*
ISCJB ***18*** *02:01:28.2±0.5,4085N±003×2195E±003,h7km±6km, Error ellipse: s-maj=5.5km s-min=3.4km az=176.5*
THE ***18*** *02:01:28.6,4088N×2195E,h6km±1km,ML3.3/3,Error ellipse: s-maj=1.7km s-min=0.4km az=352.0*

ISC 18 02:01:28.7±0.4**,4085N**±003×**2195E**±003**,h11**km±5km**,n27,**
σ0§70/44,4C,Greece

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h m s		ISC
GRG	**Griva**	**0.36**	**72**	P	**Pg**	**02 01 36.0**	**+0.3**	
GRG				S	**Sg**	**02 01 41.0**	**+0.5**	
FNA	**Florina**	**0.44**	**262**	P	**Pg**	**02 01 37.4**	**+0.1**	
FNA				S	**Sg**	**02 01 43.6**	**+0.4**	
BIA	**Bitola**	**0.51**	**290**	P	**Pg**	**02 01 37.9**	**-0.6**	
BIA				S	**Sg**	**02 01 45.5**	**+0.3**	
BIA	**Bitola**	**0.51**	**290**	*i* Pg	**Pg**	**02 01 37.9**	**-0.7**	
BIA				*i* Sg	**Sg**	**02 01 45.3**	**0.0**	
BIA				*e*Lg		02 01 46.2		
	comp=N,66nm,0.2s							
BIA				*e*Lg		02 01 46.3		
	comp=E,72nm,0.3s							
BIA	**Bitola**	**0.51**	**290**	*i* Pg	**Pg**	**02 01 37.8**	**-0.7**	
BIA				*i* Sg	**Sg**	**02 01 45.2**	**0.0**	
VAY	**Valandovo**	**0.66**	**44**	P	**Pg**	**02 01 40.6**	**-0.9**	
VAY				S	**Sg**	**02 01 49.7**	**-0.5**	
VAY	**Valandovo**	**0.66**	**44**	⇑ *i* Pg	**Pg**	**02 01 40.6**	**-0.9**	
VAY				*e*Lg		02 01 49.7		
	comp=N,31nm,0.4s							
VAY				*i* Sg	**Sg**	**02 01 49.9**	**-0.3**	
VAY				*e*Lg		02 01 50.4		
	comp=E,20nm,0.2s							
VAY	**Valandovo**	**0.66**	**44**	⇑ *i* Pg	**Pg**	**02 01 40.6**	**-0.9**	
VAY				*i* Sg	**Sg**	**02 01 49.9**	**-0.3**	
KRUS	**Krusevo**	**0.74**	**315**	⇑ *i* Pg	**Pg**	**02 01 43.1**	**0.0**	
KRUS				*i* Sg	**Sg**	**02 01 52.8**	**0.0**	
KRUS				*e*Lg		02 01 53.0		
	comp=N,35nm,0.3s							
KRUS				*e*Lg		02 01 53.5		
	comp=E,24nm,0.3s							
KRUS	**Krusevo**	**0.74**	**315**	⇑ *i* Pg	**Pg**	**02 01 43.1**	**0.0**	
KRUS				*i* Sg	**Sg**	**02 01 52.7**	**-0.1**	
KNT	**Kendrikon**	**0.78**	**66**	P	**Pg**	**02 01 43.6**	**-0.1**	
KNT				S	**Sg**	**02 01 54.2**	**+0.3**	
THE	**Thessaloniki**	**0.80**	**105**	P	**Pg**	**02 01 43.6**	**-0.5**	
LIT	**Litokhoron**	**0.85**	**151**	P	**Pg**	**02 01 44.6**	**-0.5**	
LIT				S	**Sg**	**02 01 57.6**	**+1.4**	
STIP	**Stip**	**0.86**	**12**	*i* Pg	**Pg**	**02 01 45.8**	**+0.5**	
STIP				*i* Sg	**Sg**	**02 01 57.5**	**+0.9**	
STIP				*e*Lg		02 01 58.2		
	comp=E,9.3nm,0.5s							
STIP				*e*Lg		02 01 58.3		
	comp=N,6.2nm,0.2s							
STIP	**Stip**	**0.86**	**12**	*i* Pg	**Pg**	**02 01 45.8**	**+0.5**	
STIP				*i* Sg	**Sg**	**02 01 57.5**	**+0.9**	
HORT	**Hortiatis**	**0.91**	**106**	P	**Pg**	**02 01 45.6**	**-0.5**	
OHR	**Ohrid**	**0.91**	**287**	P	**Pg**	**02 01 45.2**	**-1.0**	
OHR				S	**Sg**	**02 01 58.4**	**+0.3**	
OHR	**Ohrid**	**0.91**	**287**	*i* Pg	**Pg**	**02 01 45.1**	**-1.2**	
OHR				*i* Sg	**Sg**	**02 01 58.5**	**+0.4**	
OHR				*e*Lg		02 01 58.8		
	comp=N,30nm,0.3s							
OHR				*e*Lg		02 01 59.0		
	comp=E,43nm,0.4s							
OHR	**Ohrid**	**0.91**	**287**	*i* Pg	**Pg**	**02 01 45.0**	**-1.2**	
OHR				*i* Sg	**Sg**	**02 01 58.5**	**+0.4**	
SOH	**Sokhos**	**1.06**	**91**	P	**Pb**	**02 01 47.9**	**-1.2**	
PLG	**Polygyros**	**1.23**	**112**	P	**Pn**	**02 01 51.3**	**-0.5**	
THL	**Klokotos Trika**	**1.28**	**178**	P	**Pn**	**02 01 52.7**	**+0.2**	
PAIG	**Paliouri**	**1.61**	**124**	P	**Pn**	**02 01 57.0**	**0.0**	
OUR	**Ouranopolis**	**1.63**	**108**	P	**Pn**	**02 01 57.2**	**-0.1**	
AGG	**Agios Georgios**	**1.85**	**171**	P	**Pn**	**02 02 00.7**	**+0.4**	
BARS	**Barje**	**1.97**	**357**	*e*Pn	**Pn**	**02 02 01.8**	**-0.2**	
VTS	**Vitosha**	**1.98**	**28**	*e*Pn	**Pn**	**02 02 04.9**	**+2.8**	

IDC ***18*** *02:03:11.1±1.4,3941N×4185E,h0km,mb3.9/9, mb1 3.9/13,mb1mx3.8/26,mbtmp3.9/13,ML3.9/3,MS3.4/7, Ms1 3.4/7,ms1mx3.0/38,Error ellipse: s-maj=30.6km s-min=10.2km az=179.0*
ISK ***18*** *02:03:12.6,3993N×4180E,h5km,MD3.8,ML3.9*
MOS ***18*** *02:03:12.8±1.5,3971N×4183E,h8km,mb4.4/15,Error ellipse: s-maj=9.4km s-min=6.3km az=114.1*
DDA ***18*** *02:03:12.8,3989N×4176E,h16km±2km,Md3.7,Ml3.9*
CSEM ***18*** *02:03:12.6±0.1,3993N×4183E,h2km,mb4.1/15,Error ellipse: s-maj=1.4km s-min=1.1km az=18.0*
NEIC ***18*** *02:03:12.0,3994N×4181E,h5km,mb4.2/10,ML3.9(ISK), After ISK.*
ISCJB ***18*** *02:03:14.1±0.2,3989N±002×4181E±002,h10km, mb3.9/23,MS3.6/6,Error ellipse: s-maj=2.5km s-min=2.3km az=13.4*

ISC 18 02:03:15.1±0.2**,3992N**±002×**4184E**±002**,h10**km**,n146,**
σ1§40/173,mb3.9/23,MS3.6/6,Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h m s		ISC
ERZM	**Erzurum**	**0.36**	**268**	*i* P	**Pg**	**02 03 19.7**	**-2.5**	
EZM	**Erzurum**	**0.37**	**268**	PG	**Pg**	**02 03 19.8**	**-2.5**	
TUTA	**Tutak**	**0.91**	**124**	*i* P	**Pg**	**02 03 30.4**	**-2.2**	
TUTA				*i* S	**Sg**	**02 03 46.5**	**+2.1**	
AGRB	**Hanur-Agry**	**0.95**	**111**	PG	**Pg**	**02 03 32.1**	**-1.3**	
AGRB				*e*SG	**Sg**	**02 03 47.1**	**+1.4**	
DDEM	**Demirkent**	**0.98**	**356**	*i* P	**Pg**	**02 03 32.6**	**-1.3**	
DDEM				*i* S	**Sg**	**02 03 48.0**	**+1.5**	
DDEM	**Demirkent**	**0.98**	**356**	*i* P	**Pg**	**02 03 32.6**	**-1.3**	
DDEM				*i* S	**Sg**	**

BR131	**Keskin Array S**	**6.32**	**271**	*e*Pb		**Pb**	**02 05 01.9**	**-3.1**
	comp=Z,4.0nm,0.7s							
BR131				*e*Pg		**Pg**	**02 05 11.2**	**-4.8**
BHD	**Baghdad**	**6.94**	**162**	*ex*		x	02 05 01.0	
BHD				*ex*		x	02 06 22.0	
ANTO	**Ankara**	**6.96**	**273**	*e*Pg		Px	02 05 19.2	
	comp=Z,26nm,1.3s							
SUDU	**Sudak**	**7.09**	**317**	*e*P		**Pn**	**02 05 00.4**	**+1.6**
SUDU				*e*S		**Sn**	**02 06 22.7**	**+3.3**
ALU	**Alushta**	**7.28**	**313**	*e*P		**Pn**	**02 05 04.9**	**+3.5**
ALU				*e*S		**Sn**	**02 06 28.2**	**+4.1**
YAL	**Yalta**	**7.31**	**311**	*e*P		**Pn**	**02 05 01.4**	**-0.3**
YAL				*e*S		**Sn**	**02 06 26.9**	**+2.2**
SEV	**Sevastopol'**	**7.62**	**310**	*e*P		**Pn**	**02 05 07.2**	**+1.1**
SEV				*e*S		**Sn**	**02 06 33.0**	**+0.5**
MMAI	**Mount Meron Ar**	**8.62**	**219**	Pn		**Pn**	**02 05 23.3**	**+3.5**
	comp=Z,0.9nm,0.3s,baz=67,slow=16,SNR=4.9							
ASF	**Jabal al Asfar**	**8.70**	**209**	Pn		**Pn**	**02 05 19.8**	**-1.1**
	comp=Z,0.1nm,0.3s,baz=242,slow=11,SNR=2.5							
ASF				Lg			02 07 39.5	
	comp=Z,0.1nm,0.3s,baz=272,slow=22,SNR=2.8							
EIL	**Elat**	**11.68**	**211**	LR		LR	02 10 42.7	
	comp=Z,78nm,19.2s,baz=282,slow=40							
MLR	**Muntele Rosu**	**12.94**	**301**	Pn		**Pn**	**02 06 23.3**	**+4.4**
	comp=Z,0.1nm,0.3s,baz=90,slow=5.1,SNR=2.7							
AKASG	**Malin Array Be**	**13.94**	**325**	Pn		**Pn**	**02 06 33.2**	**+0.6**
	comp=Z,0.9nm,0.3s,baz=133,slow=13,SNR=9.1							
AKASG	**Malin Array Be**	**13.94**	**325**	*e*P		**Pn**	**02 06 35.4**	**+2.8**
AKASG				pmax		pmax		
	comp=Z,1.0nm,0.3s							
AKASG	**Malin Array Be**	**13.94**	**325**	*e*P		**Pn**	**02 06 35.4**	**+2.8**
	comp=Z,1.0nm,0.3s							
AKTK	**Aktyubinsk**	**15.48**	**42**	P		**Pn**	**02 06 54.1**	**+0.8**
	comp=Z,68nm,19.0s							
AKTK	**Aktyubinsk**	**15.48**	**42**	Pn		**Pn**	**02 06 54.1**	**+0.8**
AKTK				LR		LR	02 14 31.1	
AKTO	**Aktyubinsk**	**15.48**	**42**	Pn		**Pn**	**02 06 54.1**	**+0.8**
	comp=Z,0.3nm,0.3s,baz=228,slow=14,SNR=6.2							
AKTO				LR		LR	02 14 31.1	
	comp=Z,68nm,19.0s,baz=58,slow=43							
OBN	**Obninsk**	**15.61**	**349**	*e*P		**Pn**	**02 06 58.5**	**+3.6**
OBN				pmax		pmax		
	comp=Z,9.0nm,1.2s							
ARU	**Arti**	**19.84**	**28**	P		**Pn**	**02 07 43.8**	**-3.6**
KLMR	**Klimovskoe**	**21.01**	**357**	*e*P		**P**	**02 07 57.1**	**-1.4**
KLMR				pmax		pmax		
	comp=Z,29nm,1.1s,mb4.5							
GERES	**GERESS Array B**	**21.90**	**303**	P		**P**	**02 08 09.7**	**+1.6**
	comp=Z,0.8nm,0.5s,mb3.4,baz=93,slow=8.4,SNR=5.0							
GERES				LR		LR	02 17 09.7	
	comp=Z,22nm,18.3s,MS2.6,baz=123,slow=38							
GERES	**GERESS Array B**	**21.90**	**303**	P		**P**	**02 08 09.7**	**+1.6**
GERES				pmax		pmax		
	comp=Z,1.0nm,0.5s							
GERES				MLR		MLR		
	comp=Z,22nm,18.3s							
KHC	**Kasperske Hory**	**22.05**	**304**	*e*P		**P**	**02 08 08.7**	**-1.0**
CLL	**Collm**	**23.01**	**309**	*e*P		**P**	**02 08 17.0**	**-2.9**
CLL				*i* (PP)			02 08 37.7	
	comp=Z,7.0nm,1.2s							
BVAR	**Borovoye Array**	**23.45**	**47**	P		**P**	**02 08 24.8**	**+0.3**
	comp=Z,2.1nm,0.7s,mb3.7,baz=232,slow=7.3,SNR=7.4							
JOF	**Joensuu**	**23.89**	**348**	*e*p		**P**	**02 08 28.0**	**-0.5**
	comp=Z,2.5nm,0.5s,mb3.9							
JOF	**Joensuu**	**23.89**	**348**	*e*P		**P**	**02 08 28.0**	**-0.5**
JOF				pmax		pmax		
	comp=Z,3.0nm,0.5s,mb4.0							
AML	**Almayashu**	**24.07**	**74**	*e*P		**P**	**02 08 28.1**	**-2.3**
	comp=Z,2.3nm,0.8s,mb3.7							
AML	**Almayashu**	**24.07**	**74**	*e*P		**P**	**02 08 28.1**	**-2.2**
	comp=Z,2.3nm,0.8s,mb3.7							
DAVOX	**Davos/Dischmat**	**24.11**	**297**	P		**P**	**02 08 34.4**	**+3.7**
	comp=Z,2.1nm,0.6s,mb3.8,baz=168,slow=22,SNR=6.4							
KAF	**Kangasniemi**	**24.15**	**342**	*e*p		**P**	**02 08 37.1**	**+6.2**
	comp=Z,16nm,1.2s,mb4.3							
KAF	**Kangasniemi**	**24.15**	**342**	*e*P		**P**	**02 08 37.1**	**+6.2**
KAF				pmax		pmax		
	comp=Z,16nm,1.2s,mb4.3							
DAVOS	**Davos**	**24.18**	**297**	P		**P**	**02 08 34.4**	**+3.0**
PGF	**Pioggiola**	**24.75**	**287**	*e*P		**P**	**02 08 37.4**	**+0.8**
TKM2	**Tokmak 2**	**25.40**	**72**	*e*P		**P**	**02 08 41.3**	**-1.2**
TKM2				pmax		pmax		
	comp=Z,8.0nm,1.1s,mb4.2							
TKM2	**Tokmak 2**	**25.40**	**72**	*e*P		**P**	**02 08 41.3**	**-1.2**
	comp=Z,8.3nm,1.1s,mb4.2							
TKM2	**Tokmak 2**	**25.40**	**72**	*e*P		**P**	**02 08 41.3**	**-1.2**
	comp=Z,8.3nm,1.1s,mb4.2							
SBF	**Sospel**	**25.80**	**290**	*e*P		**P**	**02 08 46.9**	**+0.8**
	comp=Z,17nm,1.0s,mb4.2							
SBF	**Sospel**	**25.80**	**290**	*e*P		**P**	**02 08 46.9**	**+0.8**
SBF				pmax		pmax		
	comp=Z,8.0nm,1.0s,mb4.2							
SBF	**Sospel**	**25.80**	**290**	*e*P		**P**	**02 08 46.9**	**+0.8**
	comp=Z,8.3nm,1.0s,mb4.2							
KEST	**Kesra**	**25.92**	**271**	P		**P**	**02 08 49.1**	**+1.8**
	comp=Z,1.6nm,0.9s,mb3.5,baz=140,slow=21,SNR=7.5							
LPG	**La Plagne**	**26.24**	**294**	*e*P		**P**	**02 08 51.7**	**+1.6**
	comp=Z,5.3nm,0.7s,mb3.9							
LPG	**La Plagne**	**26.24**	**294**	*e*P		**P**	**02 08 51.7**	**+1.6**
LPG				pmax		pmax		
	comp=Z,3.0nm,0.7s,mb3.9							
LPG	**La Plagne**	**26.24**	**294**	*e*P		**P**	**02 08 51.7**	**+1.6**
	comp=Z,2.7nm,0.7s,mb3.9							
MBDF	**Montbardon**	**26.24**	**292**	*e*P		**P**	**02 08 51.9**	**+1.8**
	comp=Z,7.5nm,0.9s,mb3.9							
MBDF	**Montbardon**	**26.24**	**292**	*e*P		**P**	**02 08 51.9**	**+1.8**
MBDF				pmax		pmax		
	comp=Z,4.0nm,0.9s,mb4.0							
MBDF	**Montbardon**	**26.24**	**292**	*e*P		**P**	**02 08 51.9**	**+1.8**
	comp=Z,3.8nm,0.9s,mb3.9							
LPL	**La Plagne**	**26.25**	**294**	*e*P		**P**	**02 08 52.1**	**+1.9**
	comp=Z,6.4nm,0.9s,mb3.9							
LPL	**La Plagne**	**26.25**	**294**	*e*P		**P**	**02 08 52.1**	**+1.9**
LPL				pmax		pmax		
	comp=Z,3.0nm,0.9s,mb3.8							
LPL	**La Plagne**	**26.25**	**294**	*e*P		**P**	**02 08 52.1**	**+1.9**
	comp=Z,3.2nm,0.9s,mb3.9							
BNI	**Bardonecchia**	**26.30**	**293**	*e*P		**P**	**02 08 48.5**	**-2.1**
BNI				pmax		pmax		
	comp=Z,3.0nm,0.7s,mb3.9							
BNI	**Bardonecchia**	**26.30**	**293**	*e*P		**P**	**02 08 48.5**	**-2.1**
	comp=Z,2.8nm,0.7s,mb3.9							
CABF	**La Chapelle**	**26.71**	**296**	*e*P		**P**	**02 08 55.7**	**+1.4**
	comp=Z,26nm,1.3s,mb4.3							
CABF	**La Chapelle**	**26.71**	**296**	*e*P		**P**	**02 08 55.7**	**+1.4**
CABF				pmax		pmax		
	comp=Z,13nm,1.3s,mb4.3							
CABF	**La Chapelle**	**26.71**	**296**	*e*P		**P**	**02 08 55.7**	**+1.4**
	comp=Z,13nm,1.3s,mb4.3							
HFS	**Hagfors**	**26.78**	**328**	P		**P**	**02 08 54.4**	**-0.4**
	comp=Z,2.8nm,0.8s,mb3.9,baz=173,slow=14,SNR=3.2							
HFS	**Hagfors**	**26.78**	**328**	P		**P**	**02 08 54.4**	**-0.4**
HFS				pmax		pmax		
	comp=Z,3.0nm,0.8s							
KURK	**Kurchatov**	**27.75**	**55**	P		**P**	**02 09 03.4**	**-0.3**
	comp=Z,4.2nm,0.6s,mb4.2,baz=265,slow=9.1,SNR=17							
KURK	**Kurchatov**	**27.75**	**55**	*e*P		**P**	**02 09 04.7**	**+1.0**
KURK				pmax		pmax		
	comp=Z,7.0nm,0.8s,mb4.3							
KURK	**Kurchatov**	**27.75**	**55**	*e*P		**P**	**02 09 04.7**	**+1.0**
	comp=Z,7.0nm,0.8s,mb4.3							
KURK	**Kurchatov**	**27.75**	**55**	*e*P		**P**	**02 09 03.8**	**+0.1**
	comp=Z,5.3nm,0.8s,mb4.2							
NOA	**NORSAR Array B**	**28.30**	**328**	LR		LR	02 20 39.0	
	comp=Z,72nm,18.6s,MS3.3,baz=115,slow=36							
MK31	**Makanchi Array**	**29.95**	**63**	*e*P		**P**	**02 09 23.9**	**+0.7**
MK31	**Makanchi Array**	**29.95**	**63**	*e*P		**P**	**02 09 23.9**	**+0.7**
MKAR	**Makanchi Array**	**29.95**	**63**	P		**P**	**02 09 24.2**	**+1.0**
	comp=Z,1.3nm,0.6s,mb3.8,baz=265,slow=7.3,SNR=7.0							
MKAR	**Makanchi Array**	**29.95**	**63**	*e*P		**P**	**02 09 24.2**	**+1.0**
MKAR				pmax		pmax		
	comp=Z,1.0nm,0.6s							
MKAR	**Makanchi Array**	**29.95**	**63**	*e*P		**P**	**02 09 24.2**	**+1.0**
	comp=Z,1.0nm,0.8s,mb3.7							
ARCES	**ARCESS Array B**	**30.92**	**349**	LR		LR	02 24 40.0	
	comp=Z,53nm,18.1s,MS3.2,baz=197,slow=41							
NVS	**Novosibirsk**	**31.23**	**48**	*e*P		**P**	**02 09 32.3**	**-2.1**
ZALV	**Zalesovo Beam**	**31.99**	**50**	P		**P**	**02 09 41.0**	**-0.1**
	comp=Z,1.6nm,0.5s,mb4.1,baz=260,slow=9.6,SNR=6.5							
ZALV	**Zalesovo Beam**	**31.99**	**50**	P		**P**	**02 09 41.1**	**0.0**
ZALV				pmax		pmax		
	comp=Z,2.0nm,0.5s,mb4.2							
ESDC	**Sonseca Array**	**34.89**	**285**	P		**P**	**02 10 05.4**	**-1.2**
	comp=Z,0.6nm,0.7s,mb3.6,baz=68,slow=7.2,SNR=2.8							
TOA0	**Torodi Ar. Sit**	**44.18**	**244**	*e*P		**P**	**02 11 24.1**	**-0.1**
TOA0	**Torodi Ar. Sit**	**44.18**	**244**	*e*P		**P**	**02 11 24.1**	**0.0**
TORD	**Torodi Ar. Bea**	**44.18**	**244**	P		**P**	**02 11 19.9**	**-4.3**
	comp=Z,0.7nm,0.9s,mb3.4,baz=24,slow=6.4,SNR=3.7							
SONM	**Songino Array**	**45.98**	**58**	P		**P**	**02 11 38.4**	**+0.3**
	comp=Z,0.5nm,0.5s,mb3.7,baz=272,slow=7.1,SNR=3.5							
SONM	**Songino Array**	**45.98**	**58**	P		**P**	**02 11 38.4**	**+0.2**
SONM				pmax		pmax		
	comp=Z,1.0nm,0.5s							
BOD	**Bodaibo**	**48.24**	**43**	*e*P		**P**	**02 11 54.8**	**-0.9**
BOD				pmax		pmax		
	comp=Z,4.0nm,1.0s,mb4.4							
BOD	**Bodaibo**	**48.24**	**43**	*e*P		**P**	**02 11 54.8**	**-0.9**
	comp=Z,4.0nm,1.0s,mb4.4							
HIA	**Hailar**	**53.95**	**52**	*e*P		**P**	**02 12 41.2**	**+2.5**
YKA	**Yellowknife Ar**	**76.19**	**349**	LR		LR	02 53 37.8	
	comp=Z,39nm,19.9s,MS3.7,baz=60,slow=40							
PDAR	**Pinedale Array**	**97.53**	**339**	LR		LR	02 56 50.1	
	comp=Z,92nm,19.9s,MS4.2,baz=264,slow=34							
YBH	**Yreka Blue Hor**	**97.53**	**348**	LR		LR	03 08 06.4	
	comp=Z,210nm,21.4s,MS4.6,baz=102,slow=40							

ISCJB ***18*** *02:27:38.3±0.3,2355N±002×12163E±002,h30km±2km, Error ellipse: s-maj=4.0km s-min=2.6km az=143.7*
TAP ***18*** *02:27:38.2,2356N×12160E,h28km,ML3.7,D*
JMA ***18*** *02:27:39.7±0.8,2344N×12194E,h6km,M3.2*

ISC 18 02:27:38.7±0.4**,2355N**±002×**12162E**±002**,h28**km±2km**,**
n47,σ0°70/76,7D,Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
TEGC	**Jichi Village**	**0.17**	**337**	P		**Pb**		**02 27 45.0**	**+0.7**
	baz=340								
TEGC				S		**Sb**		**02 27 50.0**	**+1.9**
	baz=340								
EHY	**Hungye**	**0.27**	**261**	*i* P		**Pb**		**02 27 45.4**	**-0.2**
	baz=257								
EHY				S		**Sb**		**02 27 50.2**	**0.0**
	baz=257								
ESL	**Shilin**	**0.31**	**328**	*i* P		**Pb**		**02 27 45.8**	**-0.3**
	baz=328								
ESF	**Shoufeng Towns**	**0.33**	**343**	*e*P		**Pb**		**02 27 46.3**	**-0.1**
	baz=345								
ESF				*e*S		**Sb**		**02 27 52.2**	**+0.5**
	baz=345								
TWF1	**Yuli**	**0.35**	**236**	↓*i* P		**Pb**		**02 27 46.6**	**-0.1**
	baz=232								
HWA	**Hwalien**	**0.42**	**359**	*e*P		**Pb**		**02 27 47.4**	**-0.4**
	baz=1.0								
CHKT	**Chengkung**	**0.51**	**207**	P		**Pb**		**02 27 49.3**	**+0.2**
	baz=204								
CHKT				*e*S		**Sb**		**02 27 56.5**	**+0.4**
	baz=204								
TWD	**Chiawan**	**0.53**	**358**	*i* P		**Pb**		**02 27 49.0**	**-0.4**
	baz=359								
TWD				*e*S		**Sb**		**02 27 58.2**	**+1.4**
	baz=359								
YUS	**Yu-Shan**	**0.61**	**264**	↓*i* P		**Pb**		**02 27 50.8**	**0.0**
	baz=262								
YUS				*i* S		**Sb**		**02 27 58.7**	**-0.4**
	baz=262								
ELDTW	**Lidau**	**0.66**	**237**	↓*i* P		**Pb**		**02 27 50.4**	**-1.2**
	baz=235								
WHF	**Hehuan Shan**	**0.67**	**332**	↓*i* P		**Pb**		**02 27 50.9**	**-1.0**
	baz=332								
WHF				*i* S		**Sb**		**02 27 59.8**	**-1.1**
	baz=332								
SMLT	**Sun Moon Lake**	**0.73**	**297**	*i* P		**Pb**		**02 27 52.7**	**-0.1**
	baz=296								
SMLT				S		**Sb**		**02 28 02.5**	**-0.1**
	baz=296								
ALS	**Alishan**	**0.74**	**267**	↓*i* P		**Pb**		**02 27 52.9**	**-0.2**
	baz=265								
ALS				*e*S		**Sb**		**02 28 02.9**	**0.0**
	baz=265								
CHN5	**Tsauling**	**0.86**	**273**	*i* P		**Pn**		**02 27 54.6**	**-0.3**
	baz=272								
CHN5				*i* S		**Sb**		**02 28 06.4**	**+0.2**
	baz=272								
STYT	**Tauyuan**	**0.88**	**244**	*i* P		**Pn**		**02 27 54.5**	**-0.6**
	baz=242								
STYT				S		**Sb**		**02 28 05.9**	**-0.7**
	baz=242								
ENA	**Nanau**	**0.88**	**8**	*e*P		**Pn**		**02 27 55.6**	**+0.4**
	baz=8.0								
TWG	**Pinlang**	**0.88**	**215**	*e*P		**Pn**		**02 27 53.0**	**-2.2**
	baz=213								
NNS	**Nan Shan**	**0.91**	**346**	*e*P		**Pn**		**02 27 54.5**	**-1.1**
	baz=346								
NNS				*e*S		**Sb**		**02 28 06.0**	**-1.6**
	baz=346								
WNT	**Mingjian**	**0.91**	**291**	*e*P		**Pn**		**02 27 55.3**	**-0.4**
	baz=290								
WTP	**Ta-pu**	**0.97**	**252**	P		**Pn**		**02 27 56.1**	**-0.3**
	baz=250								
WTP				S		**Sb**		**02 28 09.1**	**-0.1**
	baz=250								
WGK	**Gukeng**	**0.97**	**278**	P		**Pn**		**02 27 56.2**	**-0.3**
	baz=277								
WGK				*e*S		**Sn**		**02 28 09.2**	**-0.2**
	baz=277								
TCU	**Taichung**	**1.04**	**305**	*e*P		**Pn**		**02 27 57.9**	**+0.5**
	baz=304								
CHN2	**Minshiung**	**1.05**	**269**	*e*P		**Pn**		**02 27 57.5**	**0.0**
	baz=268								
CHN2				*e*S		**Sn**		**02 28 12.2**	**+1.1**
	baz=268								
SGST	**Jiashian**	**1.06**	**244**	P		**Pn**		**02 27 58.1**	**+0.5**
	baz=242								
SGST				S		**Sn**		**02 28 12.3**	**+0.9**
	baz=242								
CHN1	**Nanshi**	**1.06**	**250**	P		**Pn**		**02 27 57.9**	**+0.2**
	baz=249								
CHN1				*e*S		**Sn**		**02 28 12.5**	**+1.0**
	baz=249								
TWK	**Hsinying**	**1.07**	**255**	P		**Pn**		**02 27 58.1**	**+0.3**
	baz=253								
TWK				*e*S		**Sn**		**02 28 12.0**	**+0.2**
	baz=253								
TWC	**Suao**	**1.07**	**11**	*e*P		**Pn**		**02 27 57.8**	**0.0**
	baz=12								
TWQ1	**Liyutan**	**1.11**	**316**	↓*i* P		**Pn**		**02 27 58.9**	**+0.6**
	baz=316								
TWQ1				S		**Sn**		**02 28 13.4**	**+0.8**
	baz=316								
NSK	**Sanguang**	**1.14**	**348**	*i* P		**Pn**		**02 27 58.2**	**-0.6**
	baz=348								
NSK				S		**Sn**		**02 28 12.3**	**-1.3**
	baz=348								
NSY	**Sanyi**	**1.16**	**318**	P		**Pn**		**02 27 59.5**	**+0.4**
	baz=318								
NSY				S		**Sn**		**02 28 15.4**	**+1.4**
	baz=318								
SSD	**Sandimen**	**1.21**	**229**	*e*P		**Pn**		**02 28 00.2**	**+0.5**
	baz=227								
NSTT	**Nanjuang**	**1.21**	**333**	*e*P		**Pn**		**02 27 59.8**	**0.0**
	baz=332								
NSTT				*e*S		**Sn**		**02 28 14.3**	**-0.9**
	baz=332								
WTCT	**Ta-ch'eng**	**1.26**	**285**	*e*P		**Pn**		**02 28 00.3**	**-0.2**
	baz=283								
WTCT				*e*S		**Sn**		**02 28 17.1**	**+0.6**
	baz=283								
CHN8	**Yiju**	**1.30**	**261**	*e*P		**Pn**		**02 28 00.9**	**-0.1**
	baz=260								
CHN8				*e*S		**Sn**		**02 28 17.9**	**+0.4**
	baz=260								
EAST	**Anshuo**	**1.36**	**211**	*e*P		**Pn**		**02 28 01.6**	**-0.2**
	baz=210								
TWA	**Mucha**	**1.42**	**359**	*e*P		**Pn**		**02 28 03.6**	**+1.0**
	baz=359								
SCZT	**Fangliau**	**1.49**	**218**	*e*P		**Pn**		**02 28 04.5**	**+0.9**
	baz=217								
TWB1	**Santiao Chiao**	**1.49**	**13**	*e*P		**Pn**		**02 28 03.7**	**+0.1**
	baz=13								
NWF	**Wu-fen Shan**	**1.52**	**6**	*e*P		**Pn**		**02 28 04.9**	**+0.9**
	baz=6.0								
NWF				*e*S		**Sn**		**02 28 23.2**	**+0.3**
	baz=6.0								
YOJ	**Yonaguni jima**	**1.57**	**54**	S		**Sn**		**02 28 24.5**	**+0.5**
TWK1	**Hengchun**	**1.77**	**205**	*e*P		**Pn**		**02 28 06.9**	**-0.5**
	baz=204								
PNG	**Penghu**	**1.89**	**271**	*e*P		**Pn**		**02 28 08.5**	**-0.6**
	baz=270								
PNG				*e*S		**Sn**		**02 28 30.6**	**-1.4**
	baz=270								
HATJ	**Hateruma jima**	**2.07**	**75**	S		**Sn**		**02 28 36.3**	**-0.1**
IRIF	**Iriomote-Funau**	**2.09**	**68**	P		**Pn**		**02 28 12.6**	**+0.8**
IRIF				*e*S		**Sn**		**02 28 36.2**	**-0.7**
JKRS	**Kuro-shima**	**2.30**	**72**	P		**Pn**		**02 28 15.6**	**+0.9**
JKRS				S		**Sn**		**02 28 42.0**	**0.0**
JIJ	**Ishigaki jima**	**2.45**	**70**	P		**Pn**		**02 28 17.0**	**+0.2**
JIJ				S		**Sn**		**02 28 44.9**	**-0.9**
KNM	**Kinmen**	**3.04**	**287**	*e*P		**Pn**		**02 28 24.9**	**+0.1**
	baz=285								

IDC ***18*** *03:05:27.5±1.1,3402N×25.13E,h0km,mb4.1/7, mb1 4.0/11,mb1mx3.9/23,mbtmp4.0/11,ML3.9/4, Error ellipse: s-maj=22.0km s-min=20.6km az=47.0*
ATH ***18*** *03:05:28.9,3393N×25.13E,h13km,MD3.9/4*
NEIC ***18*** *03:05:28.9,3393N×25.13E,h13km,MD3.9(ATH), After ATH.*
CSEM ***18*** *03:05:29.0±0.2,3395N×2530E,h29km±1km,mb4.2/5, Error ellipse: s-maj=2.6km s-min=1.7km az=65.0*
MOS ***18*** *03:05:29.6±1.1,3387N×2502E,h33km,mb4.3/7, Error ellipse: s-maj=25.2km s-min=11.1km az=90.7*
ISCJB ***18*** *03:05:31.7±0.5,3394N±003×2548E±003,h66km±8km, mb4.0/8, Error ellipse: s-maj=5.2km s-min=3.9km az=138.0*
HLW ***18*** *03:05:34.6,3375N×2574E,h13km,Mb3.6*
GII ***18*** *03:05:39.0±0.0,3366N×2603E,h0km±1km,ML2.9/2*

ISC 18 03:05:33.1±0.5**,3395N**±003×**2540E**±004**,h45**km±7km**,n74,**
σ1°35/93,mb4.0/8,Eastern Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
NPS	**Neapolis**	**1.32**	**8**	*e*Pb		**Pn**		**03 05 54.8**	**-0.2**
NPS	**Neapolis**	**1.32**	**8**	*e*PB		**Pn**		**03 05 54.8**	**-0.2**
IDI	**Anoyia**	**1.40**	**343**	Pn		**Pn**		**03 05 53.6**	**-2.5**
	15nm,0.3s,baz=175,slow=14,SNR=109								
IDI						Sn		**03 06 15.2**	**+1.9**
	22nm,0.3s,baz=323,slow=23,SNR=9.2								
GVD	**Gavdhos**	**1.40**	**310**	*e*Pb		**Pn**		**03 05 52.5**	**-3.6**
GVD	**Gavdhos**	**1.40**	**310**	*e*PB		**Pn**		**03 05 52.5**	**-3.6**
VAM	**Vamos**	**1.76**	**326**	*e*Pb		**Pn**		**03 06 00.0**	**-1.0**
VAM	**Vamos**	**1.76**	**326**	*e*PB		**Pn**		**03 06 00.0**	**-1.0**
KARP	**Karpathos**	**2.15**	**42**	*e*Pn		**Pn**		**03 06 09.2**	**+2.7**
KARP	**Karpathos**	**2.15**	**42**	*e*PN		**Pn**		**03 06 09.2**	**+2.7**
SLUM		**2.46**	**184**	P		**Pn**		**03 06 11.6**	**+0.9**
SLUM				S		**Sn**		**03 06 38.2**	**-1.2**
BDRM	**Kayabasi**	**3.53**	**28**	*i* P		**Pn**		**03 06 25.6**	**+0.3**
TURN	**Turunc**	**3.92**	**41**	*i* P		**Pn**		**03 06 27.4**	**-3.3**
AKAS	**Kas**	**4.13**	**55**	*i* P		**Pn**		**03 06 32.9**	**-0.7**
AKAS	**Kas**	**4.13**	**55**	*i* P		**Pn**		**03 06 32.9**	**-0.7**
AKAS				*i* S		**Sn**		**03 07 21.7**	**+1.0**
AYDN	**Tasoluk**	**4.21**	**28**	*i* P		**Pn**		**03 06 35.3**	**+0.6**
AYDN	**Tasoluk**	**4.21**	**28**	*i* P		**Pn**		**03 06 35.3**	**+0.6**
AYDN				*i* S		**Sn**		**03 07 20.6**	**-2.1**
GOLH	**Golhisar**	**4.72**	**45**	*i* P		**Pn**		**03 06 43.2**	**+1.6**
GOLH	**Golhisar**	**4.72**	**45**	*i* P		**Pn**		**03 06 43.2**	**+1.6**
GOLH				*i* S		**Sn**		**03 07 34.7**	**-0.3**
DNZL	**Cakiroluk**	**4.76**	**37**	*i* P		**Pn**		**03 06 34.8**	**-7.5**
GLL	**Jalalah**	**6.92**	**127**	P		**Pn**		**03 07 11.0**	**-0.8**
HFRF	**Wahat Farafira**	**7.23**	**159**	P		**Pn**		**03 07 16.2**	**+0.1**
HFRF	**Wahat Farafira**	**7.23**	**159**	P		**Pn**		**03 07 16.2**	**+0.1**
AMAG	**Maghara**	**7.39**	**114**	P		**Pn**		**03 07 17.4**	**-0.9**
AMAG				S		**Sn**		**03 08 32.9**	**-7.9**
RSH		**7.64**	**111**	P		**Pn**		**03 07 20.9**	**-0.8**
OFRI	**'Ofer**	**8.13**	**97**	Sn		**Sn**		**03 08 58.2**	**-1.0**
SLTI	**Sal'it**	**8.27**	**99**	Sn		**Sn**		**03 09 01.6**	**-0.8**
RTMI	**Retamim**	**8.36**	**108**	Pn		**Pn**		**03 07 33.8**	**+2.1**
RTMI				Sn		**Sn**		**03 09 03.4**	**-1.3**
MMAI	**Mount Meron Ar**	**8.41**	**94**	Pn		**Pn**		**03 07 33.5**	**+1.2**
	1.3nm,0.3s,baz=255,slow=13,SNR=5.9								
MMAI						Sn		**03 09 05.2**	**-0.6**
	3.9nm,0.3s,baz=254,slow=21,SNR=8.6								
GRB	**Gharib**	**8.49**	**130**	P		**Pn**		**03 07 32.6**	**-0.8**
MMLI	**Mount Malkishu**	**8.53**	**97**	Pn		**Pn**		**03 07 36.0**	**+2.0**
MMLI				Sn

mb3.4/10, mb1 3.5/10, mb1mx3.4/19, mbtmp3.4/10, Error ellipse: s-maj=47.4km s-min=16.8km az=82.0
NEIC ***18*** *03:13:10.6±0.4, 4.50N×12770E, h200km, mb4.0/2, Error ellipse: s-maj=30.3km s-min=7.9km az=74.0*

ISC 18 03:13:10.6±0.6, 452N±010×1278E±03, h200km, n14, σ0°47/14, mb3.6/12, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**22.57**	**185**	P	**P**	**03 17 54.3**	**+0.2**
	0.8nm,0.6s,mb3.5,baz=15,slow=16,SNR=2.0						
WRAB	**Tennant Creek**	**25.14**	**165**	*e*P	**P**	**03 18 18.3**	**+0.8**
	3.0nm,0.7s,mb4.0						
WRA	**Warramunga Arr**	**25.15**	**165**	P	**P**	**03 18 17.3**	**-0.2**
	1.1nm,0.3s,mb4.0,baz=342,slow=10,SNR=6.5						
ASAR	**Alice Springs**	**28.64**	**168**	P	**P**	**03 18 48.2**	**-0.5**
	0.2nm,0.4s,mb3.1,baz=359,slow=8.4,SNR=5.0						
KSRS	**Korea Array**	**32.78**	**0**	P	**P**	**03 19 24.2**	**-0.6**
	1.7nm,0.6s,mb3.8,baz=174,slow=10,SNR=5.5						
STKA	**Stephens Creek**	**38.52**	**161**	P	**P**	**03 20 13.4**	**-0.3**
	1.5nm,0.4s,mb3.9,baz=319,slow=11,SNR=2.3						
SONM	**Songino Array**	**46.89**	**340**	P	**P**	**03 21 20.6**	**-0.2**
	0.4nm,0.6s,mb2.9,baz=146,slow=9.1,SNR=3.3						
PETK	**Petropavlovsk-**	**54.33**	**22**	P	**P**	**03 22 17.1**	**+0.8**
	1.0nm,0.6s,mb3.5,baz=205,slow=6.4,SNR=2.1						
MK31	**Makanchi Array**	**57.50**	**325**	*e*P	**P**	**03 22 39.0**	**+0.1**
MKAR	**Makanchi Array**	**57.50**	**325**	P	**P**	**03 22 39.2**	**+0.3**
	1.3nm,0.5s,mb3.9,baz=118,slow=8.3,SNR=8.8						
KURK	**Kurchatov**	**61.64**	**327**	*e*P	**P**	**03 23 06.7**	**-0.4**
	1.1nm,0.5s,mb3.7						
AKTK	**Aktyubinsk**	**73.69**	**321**	P	**P**	**03 24 22.8**	**+0.4**
AKTO	**Aktyubinsk**	**73.69**	**321**	P	**P**	**03 24 22.8**	**+0.4**
	0.9nm,0.4s,mb3.7,baz=107,slow=7.8,SNR=3.8						
ARCES	**ARCESS Array B**	**90.07**	**340**	P	**P**	**03 25 46.6**	**-0.7**
	1.2nm,0.7s,mb3.8,baz=67,slow=6.7,SNR=4.1						

IDC 18 03:14:25.4±1.2, 1290N×14486E, h0km, mb3.5/2, mb1 3.8/2, mb1mx3.4/19, mbtmp3.5/2, MS3.2/1, Ms1 3.2/1, ms1mx2.4/28, Error ellipse: s-maj=91.3km s-min=14.6km az=95.0, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**0.69**	**1**	Pn	Pg	03 14 43.2	+4.7
	417nm,0.3s,baz=177,slow=5.2,SNR=38						
GUMO				Sn	Sg	03 14 52.7	+5.3
	baz=322,slow=19						
WRA	**Warramunga Arr**	**34.24**	**198**	P	P	03 21 12.3	-0.8
	1.0nm,0.8s,baz=18,slow=9.0,SNR=3.7						
WRA				LR	LR	03 34 38.3	
	comp=Z,37nm,19.1s,baz=235,slow=35						
ASAR	**Alice Springs**	**37.89**	**196**	P	P	03 21 45.0	+0.7
	0.4nm,0.5s,baz=18,slow=12,SNR=5.6						
LPAZ	**La Paz**	**147.92**	**100**	PKPbc	PKPbc	03 34 12.9	-0.6
	0.6nm,0.3s,baz=330,slow=0.7,SNR=4.8						

IDC ***18*** *03:15:08.9±1.0, 1303N×14446E, h0km, mb3.6/3, mb1 3.9/3, mb1mx3.6/19, mbtmp3.6/3, MS3.5/2, Ms1 3.5/2, ms1mx2.7/37, Error ellipse: s-maj=40.2km s-min=14.6km az=119.0*
ISCJB ***18*** *03:15:12.1±1.0, 130N±02×1444E±02, h33km, mb3.8/3, MS3.4/2, Error ellipse: s-maj=36.5km s-min=10.2km az=37.5*

ISC 18 03:15:14.0±1.0, 130N±02×1445E±03, h35km, n7, σ0°41/5, mb3.8/3, MS3.4/2, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**0.68**	**33**	Pn	**Pn**	**03 15 27.0**	**-0.1**
	778nm,0.3s,baz=175,slow=6.0,SNR=6.1						
GUMO				Sn	**Sn**	03 15 36.5	+0.1
	2μm,0.3s,baz=327,slow=22,SNR=28						
MJAR	**Matsushiro Arr**	**24.09**	**348**	LR	LR	03 28 43.3	
	comp=Z,132nm,19.6s,MS3.4,baz=85,slow=34						
ASAJ	**Asahikawa**	**31.03**	**357**	LR	LR	03 32 25.9	
	comp=Z,62nm,18.9s,MS3.3,baz=320,slow=33						
WRA	**Warramunga Arr**	**34.25**	**197**	P	**P**	**03 21 56.3**	**-0.4**
	1.8nm,0.7s,mb4.1,baz=22,slow=9.8,SNR=6.7						
ASAR	**Alice Springs**	**37.90**	**196**	P	**P**	**03 22 28.4**	**+0.5**
	0.5nm,0.5s,mb3.5,baz=19,slow=12,SNR=8.2						
MKAR	**Makanchi Array**	**61.64**	**316**	P	**P**	**03 25 28.3**	**0.0**
	0.3nm,0.6s,mb3.6,baz=89,slow=8.6,SNR=3.2						
LPAZ	**La Paz**	**148.30**	**100**	PKPbc	PKPbc	03 34 57.9	+0.4
	1.1nm,0.6s,baz=338,slow=1.7,SNR=6.1						

ISCJB ***18*** *03:29:01.8±0.4, 4177N±009×13097E±007, h586km±10km, mb3.9/22, Error ellipse: s-maj=13.3km s-min=8.2km az=170.1*
JMA ***18*** *03:29:02.1±0.4, 4172N×13142E, h651km, M4.1*
MOS ***18*** *03:29:02.4±0.8, 4181N×13087E, h596km, mb3.7/10, Error ellipse: s-maj=17.7km s-min=15.6km az=122.2*
IDC ***18*** *03:29:03.3±1.2, 4179N×13083E, h584km±16km, mb3.1/13, mb1 3.3/17, mb1mx3.2/26, mbtmp3.1/17, Error ellipse: s-maj=14.2km s-min=13.6km az=66.0*
NEIC ***18*** *03:29:03.1±0.9, 4181N×13081E, h581km±12km, mb4.4/8, Error ellipse: s-maj=10.9km s-min=7.3km az=169.0*
BJI ***18*** *03:29:03.0, 4195N×13084E, h588km, mB4.4, mb4.4*

ISC 18 03:29:02.6±0.4, 4179N±009×13093E±008, h576km±9km, n57, σ0°92/60, mb3.9/22, North Korea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSRS	**Korea Array**	**4.91**	**209**	P	**P**	**03 30 34.8**	**+1.4**
	4.6nm,0.3s,baz=18,slow=8.2,SNR=83						
KSRS	**Korea Array**	**4.91**	**209**	P	**P**	**03 30 34.8**	**+1.5**
KSRS				pmax	pmax		
	comp=Z,5.0nm,0.3s						
JOSM	**Okushiri–Mats**	**6.38**	**85**	P	**P**	**03 30 46.0**	**+0.2**
JSD	**Sado**	**6.76**	**121**	P	**P**	**03 30 50.3**	**+0.9**
JSD				*e*S	**S**	**03 32 15.0**	**-1.8**
JHS	**Saijyo**	**6.99**	**165**	P	**P**	**03 30 52.6**	**+1.0**
JAW	**Awa shima**	**7.19**	**115**	P	**P**	**03 30 53.3**	**0.0**
JKB	**Kayabe**	**7.54**	**86**	P	**P**	**03 30 56.8**	**+0.2**
JOT	**Ohata**	**7.60**	**90**	P	**P**	**03 30 56.7**	**-0.4**
MJAR	**Matsushiro Arr**	**7.70**	**130**	P	**P**	**03 30 59.4**	**+1.1**
	comp=Z,0.3nm,0.3s,baz=328,slow=10,SNR=6.7						
JRG	**Rokugo**	**7.76**	**105**	P	**P**	**03 30 58.0**	**-0.7**
JMM	**Marumori**	**8.54**	**114**	P	**P**	**03 31 04.6**	**-1.7**
JMM				*e*S	**S**	**03 32 42.3**	**-5.5**
JFK	**Kawauchi**	**8.85**	**117**	P	**P**	**03 31 07.7**	**-1.8**
JFK				*e*S	**S**	**03 32 48.3**	**-5.2**
ASAJ	**Asahikawa**	**8.87**	**71**	P	**P**	**03 31 10.7**	**+1.2**
	comp=Z,2.6nm,0.3s,baz=263,slow=11,SNR=10						
ASAJ	**Asahikawa**	**8.87**	**71**	P	**P**	**03 31 10.7**	**+1.3**
ASAJ				pmax	pmax		
	comp=Z,3.0nm,0.3s						
SONM	**Songino Array**	**18.39**	**298**	P	**P**	**03 32 43.5**	**+0.9**
	comp=Z,0.3nm,0.3s,baz=109,slow=8.9,SNR=24						
GTA	**Gaotai**	**23.68**	**275**	*e*P	**P**	**03 33 31.3**	**+1.1**
GTA				AMB	AMB		
	comp=Z,6.0nm,0.6s,mb4.4						
MK31	**Makanchi Array**	**34.73**	**295**	*e*P	**P**	**03 35 04.3**	**-1.0**
MKAR	**Makanchi Array**	**34.73**	**295**	P	**P**	**03 35 04.8**	**-0.5**
	comp=Z,0.6nm,0.7s,mb3.3,baz=83,slow=9.9,SNR=4.2						
MKAR	**Makanchi Array**	**34.73**	**295**	P	**P**	**03 35 04.8**	**-0.5**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
MKAR	**Makanchi Array**	**34.73**	**295**	P	**P**	**03 35 04.8**	**-0.5**
CHTO	**Chiang Mai**	**35.55**	**240**	*e*P	**P**	**03 35 12.3**	**-0.2**
CHTO				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.0						
CHTO	**Chiang Mai**	**35.55**	**240**	*e*P	**P**	**03 35 12.3**	**-0.2**
	comp=Z,3.0nm,0.6s,mb4.0						
CMAR	**Chiang Mai Arr**	**35.81**	**239**	P	**P**	**03 35 14.9**	**+0.3**
	comp=Z,1.1nm,0.4s,mb3.7,baz=30,slow=6.7,SNR=5.6						
CMAR	**Chiang Mai Arr**	**35.81**	**239**	P	**P**	**03 35 14.9**	**+0.3**
CMAR				pmax	pmax		
	comp=Z,1.0nm,0.4s						
KURK	**Kurchatov**	**36.57**	**302**	*e*P	**P**	**03 35 19.1**	**-1.3**
KURK				pmax	pmax		
	comp=Z,4.0nm,1.0s,mb3.9						
KURK	**Kurchatov**	**36.57**	**302**	*e*P	**P**	**03 35 19.1**	**-1.3**
	comp=Z,3.7nm,1.0s,mb3.9						
TAPN	**Taplejung**	**37.99**	**262**	*e*P	**P**	**03 35 32.7**	**+0.3**
	comp=Z,5.2nm,0.5s,mb4.3						
JIRN	**Jiri**	**38.95**	**263**	*e*P	**P**	**03 35 40.6**	**+0.5**
RAMN	**Ramite**	**39.03**	**262**	*e*P	**P**	**03 35 40.5**	**-0.3**
	comp=Z,13nm,0.8s,mb4.5						
GUN	**Gumba**	**39.04**	**264**	*e*P	**P**	**03 35 41.0**	**+0.1**
	comp=Z,22nm,0.4s,mb5.0						
KKN	**Kakani**	**39.55**	**264**	*e*P	**P**	**03 35 44.5**	**-0.5**
PKI	**Pulchoki**	**39.58**	**264**	*e*P	**P**	**03 35 44.8**	**-0.3**
DMN	**Daman**	**39.78**	**264**	*e*P	**P**	**03 35 46.7**	**-0.1**
GKN	**Gorkha**	**39.92**	**265**	*e*P	**P**	**03 35 47.5**	**-0.4**
	comp=Z,13nm,0.5s,mb4.7						
DANN	**Dangsing**	**40.39**	**266**	*e*P	**P**	**03 35 51.8**	**+0.2**
	comp=Z,47nm,0.6s,mb5.2						
KOLN	**Koldanda**	**40.82**	**265**	*e*P	**P**	**03 35 55.0**	**0.0**
AKTK	**Aktyubinsk**	**49.39**	**306**	P	**P**	**03 36 60.0**	**-0.1**
AKTO	**Aktyubinsk**	**49.39**	**306**	P	**P**	**03 36 60.0**	**-0.1**
	comp=Z,0.9nm,0.6s,mb3.4,baz=101,slow=6.1,SNR=3.4						
AKTO	**Aktyubinsk**	**49.39**	**306**	P	**P**	**03 37 00.0**	**-0.1**
AKTO				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb3.4						
COLA	**College**	**49.53**	**34**	*e*P	**P**	**03 37 01.9**	**+1.1**
COLA				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb3.9						
COLA	**College**	**49.53**	**34**	*e*P	**P**	**03 37 01.9**	**+1.1**
	comp=Z,3.5nm,0.6s,mb4.0						
ARCES	**ARCESS Array B**	**56.53**	**336**	P	**P**	**03 37 49.6**	**-0.8**
	comp=Z,1.6nm,0.7s,mb3.3,baz=53,slow=9.2,SNR=4.4						
ARCES	**ARCESS Array B**	**56.53**	**336**	P	**P**	**03 37 49.6**	**-0.8**
ARCES				pmax	pmax		
	comp=Z,2.0nm,0.7s						
WRA	**Warramunga Arr**	**61.49**	**176**	P	**P**	**03 38 23.8**	**-0.4**
	comp=Z,0.5nm,0.5s,mb3.0,baz=354,slow=7.2,SNR=10.0						
WRA	**Warramunga Arr**	**61.49**	**176**	P	**P**	**03 38 23.8**	**-0.4**
WRA				pmax	pmax		
	comp=Z,1.0nm,0.5s						
YKA	**Yellowknife Ar**	**63.63**	**28**	P	**P**	**03 38 37.7**	**+0.3**
	comp=Z,1.0nm,0.4s,mb3.5,baz=314,slow=5.8,SNR=8.6						
YKA	**Yellowknife Ar**	**63.63**	**28**	P	**P**	**03 38 37.7**	**+0.3**
YKA				pmax	pmax		
	comp=Z,1.0nm,0.4s						
YKA	**Yellowknife Ar**	**63.63**	**28**	P	**P**	**03 38 37.7**	**+0.3**
ASAR	**Alice Springs**	**65.18**	**177**	P	**P**	**03 38 47.9**	**+0.2**
	comp=Z,0.5nm,0.5s,mb3.2,baz=357,slow=7.7,SNR=5.5						
ASAR	**Alice Springs**	**65.18**	**177**	P	**P**	**03 38 47.9**	**+0.3**
ASAR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
HFS	**Hagfors**	**66.21**	**331**	P	**P**	**03 38 52.3**	**-1.3**
	comp=Z,7.5nm,1.1s,mb4.0,baz=42,slow=4.6,SNR=4.5						
HFS	**Hagfors**	**66.21**	**331**	P	**P**	**03 38 52.3**	**-1.3**
HFS				pmax	pmax		
	comp=Z,8.0nm,1.1s						
NVAR	**Mina Array Bea**	**78.31**	**49**	P	**P**	**03 40 05.7**	**+1.9**
	comp=Z,1.0nm,0.7s,mb3.4,baz=301,slow=5.4,SNR=6.0						
ULM	**Lac du Bonnet**	**79.61**	**28**	P	**P**	**03 40 10.0**	**-0.4**
	comp=Z,1.3nm,0.7s,mb3.4,baz=329,slow=5.9,SNR=3.0						
PDAR	**Pinedale Array**	**79.75**	**41**	P	**P**	**03 40 12.3**	**+1.0**
	comp=Z,0.8nm,0.7s,mb3.2,baz=309,slow=1.1,SNR=7.5						
ESDC	**Sonseca Array**	**89.16**	**327**	P	**P**	**03 40 55.3**	**-2.0**
	comp=Z,0.7nm,0.4s,mb3.8,baz=338,slow=15,SNR=6.4						
TXAR	**Lajitas Array**	**93.14**	**45**	P	**P**	**03 41 17.6**	**+1.6**
	comp=Z,0.4nm,0.8s,mb3.5,baz=298,slow=2.7,SNR=3.9						

ISCJB ***18*** *03:32:41.7±0.6, 5142N±003×1607E±003, h0km, Error ellipse: s-maj=4.1km s-min=2.2km az=15.2*
IPEC ***18*** *03:32:41.1±0.4, 5158N×1618E, h0km±1km, ML2.4/4, Error ellipse: s-maj=2.4km s-min=1.6km az=16.0*
NEIC ***18*** *03:32:42.9±1.1, 5150N×1606E, h5km, ML2.6(BRA), ML2.8(SZGRF), Error ellipse: s-maj=13.5km s-min=5.0km az=202.0*
WAR ***18*** *03:32:43.6, 5150N×1609E, Mw2.6*
PRU ***18*** *03:32:43.7, 5147N×1606E, h0km*
CSEM ***18*** *03:32:44.3±0.3, 5146N×1600E, h2km, ML3.2/10, Error ellipse: s-maj=6.0km s-min=3.3km az=24.0*
VIE ***18*** *03:32:44.2±0.4, 5130N×1611E, h0km, mb2.3/3, ML2.8/4, Error ellipse: s-maj=2.5km s-min=2.2km az=11.0, Suspected Mining induced.*

ISC 18 03:32:42.2±0.6, 5150N±003×1609E±003, h0km, n35, σ0°92/70, 3C-1D, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.67**	**169**	*e*Pg	**Pg**	**03 32 55.7**	**+0.8**
KSP				*e*Sg	**Sg**	**03 33 04.7**	**+1.0**
KSP	**Ksiaz**	**0.67**	**169**	*e*Pg	**Pg**	**03 32 55.6**	**+0.6**
KSP				*e*Sg	**Sg**	**03 33 04.2**	**+0.5**
KSP	**Ksiaz**	**0.67**	**169**	*e*Pg	**Pg**	**03 32 55.7**	**+0.7**
KSP				*e*Sg	**Sg**	**03 33 04.6**	**+0.9**
UPC	**Upice**	**0.99**	**183**	*e*PG	**Pg**	**03 33 01.7**	**+0.5**
DPC	**Dobruska-Polom**	**1.16**	**173**	*e*Pg	**Pg**	**03 33 04.6**	**+0.2**
DPC				*e*Sg	**Sg**	**03 33 19.6**	**+0.2**
DPC	**Dobruska-Polom**	**1.16**	**173**	*e*PG	**Pg**	**03 33 04.5**	**+0.1**
DPC				*e*SG	**Sg**	**03 33 19.2**	**-0.2**
	71nm,0.6s						
PVCC	**Panska Ves**	**1.36**	**225**	*e*Pn	**Pn**	**03 33 08.5**	**+0.1**
PVCC				Sg	**Sg**	**03 33 26.1**	**+0.1**
	107nm,0.4s						
PVCC	**Panska Ves**	**1.36**	**225**	*e*PG	**Pg**	**03 33 08.4**	**+0.1**
PVCC				*e*SG	**Sg**	**03 33 26.1**	**+0.1**
	107nm,0.4s						
BRG	**Berggiesshubel**	**1.49**	**246**	PN	**Pn**	**03 33 10.0**	**-0.1**
BRG				PG	**Pg**	**03 33 11.2**	**+0.6**
BRG				SG	**Sg**	**03 33 31.2**	**+1.3**
	72nm,0.5s						
PRU	**Pruhonice**	**1.80**	**214**	*e*PN	**Pn**	**03 33 14.0**	**-0.4**
PRU				*e*PG	**Pg**	**03 33 15.7**	**-1.0**
PRU				*e*SG	**Sg**	**03 33 39.5**	**-0.6**
	33nm,0.4s						
CLL	**Collm**	**1.94**	**266**	*i* Pn	**Pn**	**03 33 15.6**	**-0.7**
CLL				*e*Pg	**Pg**	**03 33 19.0**	**-0.3**
CLL				*e*Sg	**Sg**	**03 33 45.0**	**+0.5**
	comp=Z,28nm,0.8s						
MORC	**Moravsky Berou**	**1.96**	**151**	*e*Pn	**Pn**	**03 33 16.2**	**-0.4**
MORC				*e*Sg	**Sg**	**03 33 43.8**	**-1.2**
	comp=Z,22nm,0.4s						
MORC	**Moravsky Berou**	**1.96**	**151**	*e*Pn	**Pn**	**03 33 15.7**	**-0.9**
MORC				*e*Sn	**Sn**	**03 33 42.1**	**+0.3**
OKC	**Ostrava-Krasne**	**2.12**	**141**	*e*PG	**Pg**	**03 33 22.3**	**-0.4**
OKC				*e*SG	**Sg**	**03 33 48.1**	**-2.1**
	comp=Z,20nm,0.5s						
VRAC	**Vranov**	**2.22**	**171**	*e*Pn	**Pn**	**03 33 20.2**	**+0.1**
VRAC				*e*Sg	**Sg**	**03 33 52.7**	**-0.7**
	comp=Z,16nm,0.6s						
TREC	**Trest**	**2.24**	**190**	*e*PN	**Pn**	**03 33 20.8**	**+0.3**
TREC				*e*PG	**Pg**	**03 33 24.4**	**-0.7**
KRUC	**Moravsky**	**2.45**	**175**	*e*Pn	**Pn**	**03 33 23.5**	**+0.2**
KRUC				*e*Sg	**Sg**	**03 34 00.1**	**-0.7**
	comp=Z,17nm,0.6s						
NKC	**Novy Kostel**	**2.63**	**243**	*e*PN	**Pn**	**03 33 26.5**	**+0.7**
NKC				*e*PG	**Pg**	**03 33 31.8**	**-0.8**
NKC				*e*SG	**Sg**	**03 34 06.8**	**+0.2**
	comp=Z,77nm,0.9s						
OJC	**Ojcow**	**2.68**	**117**	*e*Pg	**Pg**	**03 33 33.0**	**-0.5**
OJC				*e*Sn	**Sn**	**03 33 57.8**	**-1.8**
OJC				*e*Sg	**Sg**	**03 34 08.6**	**+0.4**
JAVC	**Velka Javorina**	**2.83**	**158**	*e*Pn	**Pn**	**03 33 29.3**	**+0.7**
JAVC				*e*Sg	**Sg**	**03 34 14.3**	**+1.2**
	comp=Z,22nm,1.0s						
KHC	**Kasperske Hory**	**2.87**	**215**	*e*PN	**Pn**	**03 33 29.2**	**+0.2**
KHC				*e*PG	**Pg**	**03 33 34.7**	**-2.3**
KHC				*e*SN	**Sn**	**03 34 04.1**	**-0.1**
KHC				*e*SG	**Sg**	**03 34 12.9**	**-1.2**
	comp=Z,9.2nm,0.4s						
MOX	**Moxa**	**2.95**	**255**	*e*PG	**Pg**	**03 33 38.9**	**+0.3**
MOX				*e*SG	**Sg**	**03 34 18.3**	**+1.5**
GEC2	**GERESS Array S**	**3.07**	**211**	*e*Pn	**Pn**	**03 33 32.8**	**+1.0**
GEC2				*e*Sg	**Sg**	**03 34 19.3**	**-1.4**
SMOL	**Smolenice**	**3.11**	**163**	*e*Sg	**Sg**	**03 34 23.3**	**+1.2**
SMOL	**Smolenice**	**3.11**	**163**	*e*SG	**Sg**	**03 34 23.3**	**+1.2**
WET	**Wettzell**	**3.13**	**222**	*e*Pn	**Pn**	**03 33 33.1**	**+0.4**
WET				*e*Sg	**Sg**	**03 34 21.6**	**-1.0**
MODS	**Modra-Piesok**	**3.22**	**166**	*e*SG	**Sg**	**03 34 26.8**	**+1.2**
KOLL	**Kolacno**	**3.28**	**152**	*e*SG	**Sg**	**03 34 29.9**	**+2.3**
ZST	**Bratislava**	**3.37**	**168**	*e*SG	**Sg**	**03 34 32.6**	**+2.2**
NIE	**Niedzica**	**3.41**	**126**	*e*P	**Pg**	**03 33 46.7**	**-0.8**
NIE				*e*S	**Sg**	**03 34 30.8**	**-0.9**
VYHS	**Vyhne**	**3.49**	**148**	*e*PG	**Pg**	**03 33 50.4**	**+1.3**
VYHS				*e*SG	**Sg**	**03 34 34.6**	**+0.3**
CONA	**Conrad Observa**	**3.58**	**182**	⇓*i* Pn	**Pn**	**03 33 38.3**	**-0.5**
CONA				⇑*i* Sg	**Sg**	**03 34 36.3**	**-0.8**
	comp=Z,14nm,0.5s						
MOA	**Molln**	**3.84**	**199**	⇑*i* Pn	**Pn**	**03 33 41.9**	**-0.5**
MOA				⇑*i* Sg	**Sg**	**03 34 45.3**	**-0.1**
	comp=Z,9.9nm,0.5s						
STHS	**Stebnicka Huta**	**3.90**	**120**	*e*PG	**Pg**	**03 33 58.2**	**+1.3**
STHS				*e*SG	**Sg**	**03 34 51.5**	**+4.1**
CRVS	**Cervenica-Dubn**	**4.32**	**125**	*e*SG	**Sg**	**03 35 05.5**	**+4.6**

IDC 18 03:33:14.1±2.4, 626S×12994E, h0km, mb3.8/1, mb1 3.6/4, mb1mx3.5/15, mbtmp3.5/4, ML3.3/3, Error ellipse: s-maj=94.5km s-min=29.5km az=76.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**12.50**	**199**	Pn	Pn	03 36 13.5	+0.1
	0.1nm,0.3s,baz=21,slow=14,SNR=6.0						
FITZ				Sn	Sn	03 38 18.9	-15
	0.3nm,0.3s,baz=117,slow=21,SNR=6.5						
WRA	**Warramunga Arr**	**14.26**	**163**	Pn	Pn	03 36 37.6	+0.2
	0.1nm,0.3s,baz=346,slow=13,SNR=7.5						
WRA				Sn	Sn	03 39 01.6	-15
	0.1nm,0.3s,baz=150,slow=10,SNR=3.8						
ASAR	**Alice Springs**	**17.73**	**168**	P	Pn	03 37 22.2	-0.2
	0.2nm,0.3s,baz=346,slow=11,SNR=13						
MKAR	**Makanchi Array**	**67.58**	**327**	P	P	03 44 12.6	+0.2
	0.5nm,0.5s,baz=125,slow=7.6,SNR=3.7						

MOS 18 03:37:38.8±1.1, 4315N×4720E, h10km, mb3.7/1, 3C, Error ellipse: s-maj=51.1km s-min=19.1km az=20.3, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MAK	**Makhachkala**	**0.29**	**130**	⇑*i* PG	Pg	03 37 46.2	+1.6
MAK				*i*		03 37 54.3	
MAK				pmax	pmax		
	comp=Z,29nm,0.1s						
MAK				smax			
	comp=N,1.0nm,0.5s						
KUBR	**Kubataba**	**2.83**	**285**	⇑*e*PN	Pn	03 38 26.9	+2.8
DOMR	**Dombai**	**4.08**	**274**	*i* PN	Pn	03 38 42.9	+1.7
SOC	**Sochi**	**5.47**	**277**	⇑*i* Pn	Pn	03 39 00.2	-0.1
ANN	**Anapa**	**7.24**	**287**	*e*P	Pn	03 39 28.6	+4.1
ANN				pmax	pmax		
	comp=Z,72nm,1.1s						
APE	**Apeiranthos**	**17.63**	**257**	*e*P	Pn	03 41 46.8	+2.3

BJI 18 03:39:16.0, 4492N×12390E, h15km, ML3.6, Northeastern China

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CN2	**Changchun**	**1.58**	**135**	*e*PG	Pg	03 39 43.5	-2.8
CN2				*e*SG	Sg	03 40 04.8	-1.9
CN2				Smax			
	comp=N,350nm,0.8s						
CN2				Smax			
	comp=E,270nm,0.8s						
MDJ	**Mudanjiang**	**4.07**	**92**	PG	Pg	03 40 28.6	-5.2
MDJ				SG	Sg	03 41 21.0	-5.5
MDJ				Smax			
	comp=N,41nm,1.4s						
MDJ				Smax			
	comp=E,42nm,1.1s						

NEIC ***18*** *03:43:28.3, 36.17S×7138W, h112km, MD3.3(GUC), After GUC.*

GUC 18 03:43:28.3±0.6, 3617S×7138W, h112km±3km, MD3.3, ML3.6, 13C-3D, Central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LNCH	**Linares**	**0.37**	**330**	⇑*i* P	Pn	03 43 44.5	-0.2
LNCH				*i* S	Sn	03 43 57.2	+0.2
LNCH				AML	AML	03 43 58.0	
	comp=E,4μm,0.2s						
LNCH	**Linares**	**0.37**	**330**	⇑*i* P	Pn	03 43 44.5	-0.2
LNCH				*i* S	Sn	03 43 57.2	+0.2
CCHI	**Chillan**	**0.71**	**233**	⇑*i* P	Pn	03 43 47.1	+0.2
CCHI				*i* S	Sn	03 44 01.5	+0.4
CCHI				AML	AML	03 44 02.0	
	comp=E,964nm,0.3s						
CCHI	**Chillan**	**0.71**	**233**	⇑*i* P	Pn	03 43 47.1	+0.2
CCHI				*i* S	Sn	03 44 01.5	+0.4
CNCO	**Chanco**	**1.03**	**295**	⇑*i* P	Pn	03 43 50.2	+0.2
CNCO				*i* S	Sn	03 44 06.8	+0.4
COCH	**Cobquecura**	**1.15**	**272**	⇑*i* P	Pn	03 43 51.4	+0.3
COCH				*i* S	Sn	03 44 08.6	+0.1
SFDO	**San Fernando**	**1.58**	**11**	⇓*i* P	Pn	03 43 56.7	+0.5
SFDO				*i* S	Sn	03 44 18.1	+0.7
CICH	**Cipreses**	**2.00**	**23**	⇑*i* P	Pn	03 44 02.2	+0.7
CICH				*i* S	Sn	03 44 27.7	+0.9
CACH	**El Canelo**	**2.15**	**17**	⇓*i* P	Pn	03 44 04.1	+0.8
CACH				*i* S	Sn	03 44 31.1	+1.1
LNV	**Longovilo**	**2.21**	**359**	⇑*i* P	Pn	03 44 04.5	+0.4
LNV				*i* S	Sn	03 44 32.0	+0.6
CHCH	**Chadas Angostu**	**2.31**	**15**	⇑*

GKN	**Gorkha**	**14.00**	**126**	*e*P		**Pn**	**04 13 49.3**	**-0.1**
	12nm,0.3s							
KKN	**Kakani**	**14.56**	**125**	*e*P		**Pn**	**04 13 55.8**	**-0.6**
DMN	**Daman**	**14.57**	**126**	*e*P		**Pn**	**04 13 55.8**	**-0.7**
	6.2nm,0.3s							
PKI	**Pulchoki**	**14.79**	**126**	*e*P		**Pn**	**04 13 59.7**	**+0.5**
GUN	**Gumba**	**14.88**	**124**	*e*P		**Pn**	**04 14 00.4**	**+0.2**
	4.3nm,0.3s							
AB31	**Akbulak array**	**14.99**	**328**	P		**Pn**	**04 14 01.3**	**-0.1**
	0.2nm,0.3s,baz=141,slow=13,SNR=16							
AB31				⇓S		**Sn**	**04 16 36.4**	**-12**
	2.3nm,0.7s,baz=153,slow=22,SNR=7.9							
JIRN	**Jiri**	**15.25**	**124**	*e*P		**Pn**	**04 14 05.6**	**+0.8**
	7.1nm,0.3s							
RAMN	**Ramite**	**15.99**	**125**	*e*P		**Pn**	**04 14 13.9**	**0.0**
	4.8nm,0.3s							
TAPN	**Taplejung**	**16.47**	**121**	*e*P		**Pn**	**04 14 20.3**	**+0.5**
	5.3nm,0.3s							
AKTO	**Aktyubinsk**	**16.70**	**328**	⇑P		**Pn**	**04 14 23.0**	**+0.8**
	0.2nm,0.5s							
AKTO				⇓S		**S**	**04 17 18.1**	**-9.3**
	0.3nm,0.8s							

*ISCJB **18** 04:16:02.2±2.8,271N±007×1277E±0.1,h44km±26km, mb4.3/19,MS2.6/4, Error ellipse: s-maj=21.7km s-min=9.2km az=157.7*
*NEIC **18** 04:16:04.5±1.3,269N×12770E,h50km±11km, mb4.4/9, Error ellipse: s-maj=12.7km s-min=5.0km az=67.0*
*IDC **18** 04:16:04.7±3.3,269N×12756E,h48km±33km, mb4.0/14, mb1 4.1/15,mb1mx4.0/20,mbtmp4.0/15,ML4.0/1,MS2.7/5, Ms1 2.8/5,ms1mx2.7/21, Error ellipse: s-maj=29.7km s-min=11.8km az=82.0*

ISC 18 04:16:04.8±2.0,267N±007×1277E±01,h52km±19km,n37, σ0°68/28,mb4.3/19,MS2.6/4,Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**4.85**	**334**	LR	LR	04 18 30.2	
	comp=Z,90nm,20.9s,baz=144,slow=30						
KAPI	**Kappang**	**11.01**	**226**	P	**Pn**	**04 18 39.7**	**0.0**
	1.1nm,0.3s,baz=44,slow=7.1,SNR=4.2						
KKM	**Kota Kinabalu**	**11.92**	**287**	*e*Pn	**Pn**	**04 18 53.0**	**+0.8**
KAKA	**Kakadu**	**15.99**	**163**	*e*P	**Pn**	**04 19 44.7**	**-1.7**
	9.8nm,0.6s						
GUMO	**Guam**	**20.15**	**56**	LR	LR	04 26 56.9	
	comp=Z,49nm,21.9s,MS2.8,baz=269,slow=32						
FITZ	**Fitzroy Crossi**	**20.74**	**186**	*e*P	**P**	**04 20 41.0**	**-0.2**
	6.1nm,0.8s						
FITZ	**Fitzroy Crossi**	**20.74**	**186**	P	**P**	**04 20 40.8**	**-0.5**
	2.4nm,0.6s,baz=28,slow=9.5,SNR=12						
WRAB	**Tennant Creek**	**23.39**	**164**	*e*P	**P**	**04 21 09.4**	**+0.2**
	5.5nm,0.4s,mb4.3						
WRA	**Warramunga Arr**	**23.40**	**164**	P	**P**	**04 21 09.5**	**+0.2**
	3.9nm,0.3s,mb4.3,baz=334,slow=11,SNR=74						
WRA				PcP	PcP	04 24 55.3	+0.6
	0.5nm,0.5s,baz=337,slow=2.1,SNR=5.6						
WB2	**Warramunga Arr**	**23.40**	**164**	*e*P	**P**	**04 21 09.7**	**+0.3**
MBWA	**Marble Bar**	**24.93**	**198**	*e*P	**P**	**04 21 23.3**	**0.0**
	17nm,0.9s,mb4.6						
ASAR	**Alice Springs**	**26.86**	**167**	P	**P**	**04 21 41.5**	**+0.7**
	0.8nm,0.3s,mb3.7,baz=348,slow=8.0,SNR=18						
ASAR				PcP	PcP	04 25 03.2	+0.8
	0.9nm,0.4s,baz=355,slow=2.2,SNR=8.3						
CBIJ	**Chichi jima**	**27.98**	**28**	LR	LR	04 31 24.3	
	comp=Z,9.9nm,21.0s,MS2.4,baz=30,slow=33						
CMAR	**Chiang Mai Arr**	**32.24**	**301**	LR	LR	04 36 25.5	
	comp=Z,10nm,19.7s,MS2.5,baz=260,slow=38						
CHTO	**Chiang Mai**	**32.39**	**302**	*e*P	**P**	**04 22 29.1**	**-0.8**
	2.5nm,0.6s,mb4.2						
KSRS	**Korea Array**	**34.62**	**0**	P	**P**	**04 22 50.4**	**+1.4**
	2.6nm,0.6s,mb4.3,baz=176,slow=11,SNR=8.1						
KSRS				LR	LR	04 35 43.3	
	comp=Z,17nm,18.8s,MS2.8,baz=185,slow=34						
MJAR	**Matsushiro Arr**	**35.08**	**15**	P	**P**	**04 22 52.4**	**-0.6**
	0.9nm,0.4s,mb4.0,baz=184,slow=9.2,SNR=3.8						
NWAO	**Narrogin (SRO)**	**36.76**	**195**	P	**P**	**04 23 07.3**	**-0.1**
	5.8nm,0.5s,mb4.6,baz=324,slow=3.0,SNR=4.2						
STKA	**Stephens Creek**	**36.80**	**160**	*e*P	**P**	**04 23 08.4**	**+0.6**
	4.9nm,0.6s,mb4.5						
STKA	**Stephens Creek**	**36.80**	**160**	P	**P**	**04 23 08.7**	**+0.9**
	9.1nm,0.7s,mb4.7,baz=332,slow=9.4,SNR=21						
SONM	**Songino Array**	**48.61**	**341**	P	**P**	**04 24 43.2**	**0.0**
	0.6nm,0.6s,mb3.8,baz=155,slow=8.0,SNR=5.2						
PETK	**Petropavlovsk-**	**56.05**	**21**	P	**P**	**04 25 38.9**	**+0.6**
	1.9nm,0.7s,mb4.2,baz=207,slow=5.8,SNR=3.1						
MK31	**Makanchi Array**	**58.97**	**325**	*e*P	**P**	**04 25 58.6**	**-0.4**
MKAR	**Makanchi Array**	**58.97**	**325**	P	**P**	**04 25 59.0**	**+0.1**
	5.7nm,0.7s,mb4.7,baz=125,slow=8.2,SNR=24						
UCH	**Uchtor**	**61.60**	**317**	*e*P	**P**	**04 26 17.9**	**+0.8**
	1.0nm,0.6s,mb4.1						
ZALV	**Zalesovo Beam**	**61.96**	**333**	P	**P**	**04 26 18.1**	**-1.2**
	0.5nm,0.4s,mb4.0,baz=101,slow=7.6,SNR=2.6						
AML	**Almayashu**	**62.12**	**317**	*e*P	**P**	**04 26 21.3**	**+0.7**
	5.1nm,0.9s,mb4.7						
KURK	**Kurchatov**	**63.15**	**327**	*e*P	**P**	**04 26 26.7**	**-0.6**
	4.8nm,0.8s,mb4.7						
BVAR	**Borovoye Array**	**68.73**	**327**	P	**P**	**04 27 02.6**	**-0.5**
	2.3nm,0.8s,mb4.2,baz=121,slow=5.5,SNR=7.9						
AKTK	**Aktyubinsk**	**75.08**	**322**	P	**P**	**04 27 40.6**	**-0.6**
AKTO	**Aktyubinsk**	**75.08**	**322**	P	**P**	**04 27 40.6**	**-0.6**
	1.7nm,0.7s,mb4.1,baz=104,slow=13,SNR=4.0						
MAW	**Mawson**	**83.10**	**200**	P	**P**	**04 28 25.3**	**+0.7**
	3.4nm,0.7s,mb4.5,baz=59,slow=6.5,SNR=9.1						
TXAR	**Lajitas Array**	**121.48**	**53**	PKP	PKPdf	04 34 53.8	+0.6
	0.3nm,0.7s,baz=158,slow=0.7,SNR=4.2						
JCT	**Junction City**	**124.01**	**50**	*e*PKPdf	PKPdf	04 34 58.7	+0.7
TOA0	**Torodi Ar. Sit**	**124.16**	**288**	*e*PKPdf	PKPdf	04 34 58.5	-0.2
TORD	**Torodi Ar. Bea**	**124.16**	**288**	PKP	PKPdf	04 34 58.2	-0.5
	0.4nm,0.6s,baz=49,slow=1.7,SNR=9.4						
TORD	**Torodi Ar. Bea**	**124.16**	**288**	PKP	PKPdf	04 34 58.2	-0.5

*MOS **18** 04:51:48.0±0.7,5028N×157.11E,h10km, mb4.2/1, Error ellipse: s-maj=38.8km s-min=13.3km az=76.5*
*KRSC **18** 04:51:50.3±1.5,5045N×15702E,h5km±5km,ML4.0*

ISC 18 04:51:52.2±1.9,505N±01×15703E±009,h10km,n9, σ0°78/15,1D,Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**0.61**	**288**	⇓*i*PN	**Pg**	**04 52 03.4**	**-0.6**
SKR				*e*S	**Sg**	**04 52 12.0**	**+0.1**
SKR				pmax	pmax		
	comp=N,160nm,0.4s						
SKR				pmax	pmax		
	comp=Z,320nm,0.4s						
SKR				pmax	pmax		
	comp=E,260nm,0.2s						
SKR				smax			
	comp=N,3μm,1.0s						
SKR				smax			
	comp=E,6μm,1.0s						
SKR				smax			
	comp=N,540nm,0.5s						
SKR				smax			
	comp=E,650nm,0.5s						
MIPR	**Malaya Ipel'ka**	**1.78**	**355**	P	**Pn**	**04 52 22.6**	**-0.4**
RUS	**Russkaya**	**2.15**	**25**	*e*P	**Pn**	**04 52 27.5**	**-0.5**
RUS				*i* S	**Sn**	**04 52 54.5**	**-0.2**
PET	**Petropavlovsk**	**2.72**	**21**	P	**Pn**	**04 52 36.8**	**+0.9**
PET				*i* S	**Sn**	**04 53 10.3**	**+1.5**
NLC	**Nalytchevo**	**3.04**	**27**	P	**Pn**	**04 52 39.4**	**-0.8**
NLC				*i* S	**Sn**	**04 53 15.2**	**-1.4**
SPN	**Mys Shipunski**	**3.20**	**34**	P	**Pn**	**04 52 42.7**	**+0.2**
SPN				*i* S	**Sn**	**04 53 20.9**	**+0.3**
GNL	**Ganaly**	**3.25**	**10**	P	**Pn**	**04 52 44.5**	**+1.4**
MKZ	**Mys Kozlova**	**4.97**	**33**	P	**Pn**	**04 53 07.2**	**+0.4**
MKZ				*i* S	**Sn**	**04 54 03.4**	**-0.9**
KBTR	**Krutoberegovo**	**6.68**	**29**	P	**Pn**	**04 53 30.4**	**+0.1**

NEIC 18 05:05:47.4,3778S×17681E,h5km,ML4.0(WEL),After WEL.,North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MARZ	**Manawahe**	**0.23**	**207**	P	Pg	05 05 52.5	+0.5
EDRZ	**Edgecumbe**	**0.33**	**190**	P	Pg	05 05 54.3	+0.5
WIZ	**White Island**	**0.39**	**50**	P	Pg	05 05 55.3	+0.3
LIRZ	**Lichensteins R**	**0.41**	**236**	P	Pg	05 05 55.9	+0.7
TGRZ	**Tauranga**	**0.44**	**276**	P	Pg	05 05 56.2	+0.4
MKRZ	**Makatiti**	**0.45**	**217**	P	Pg	05 05 57.1	+1.0
KARZ	**Kaharoa**	**0.51**	**241**	P	Pg	05 05 57.9	+0.7
TAZ	**Tarawera**	**0.51**	**208**	P	Pg	05 05 58.2	+0.9
URZ	**Urewera**	**0.54**	**154**	P	Pg	05 05 57.8	+0.1
MWZ	**Matawai**	**0.79**	**135**	P	Pg	05 06 02.4	-0.2
TOZ	**Tahuroa Road**	**1.04**	**272**	P	Pg	05 06 05.7	-1.6
PUZ	**Puketiti**	**1.18**	**105**	P	Pg	05 06 09.6	-0.4
MXZ	**Matakaoa Point**	**1.21**	**80**	P	Pg	05 06 09.7	-0.8
KUZ	**Kuaotunu**	**1.35**	**320**	P	Pn	05 06 09.6	-3.3
BKZ	**Black Stump Fm**	**1.41**	**190**	P	Pn	05 06 11.7	-2.0
KNZ	**Kokohu**	**1.41**	**152**	P	Pn	05 06 13.5	-0.3
MKAZ	**Moumakai**	**1.47**	**297**	P	Pn	05 06 11.7	-2.8
OTAZ	**Otara**	**1.71**	**298**	P	Pn	05 06 19.5	+1.6
WNVZ	**Wahianoa**	**1.81**	**211**	P	Pn	05 06 20.1	+0.8
WCZ	**Waipu Caves**	**2.70**	**312**	P	Pn	05 06 29.2	-2.2

*BJI **18** 05:38:56.7, 1349N×14527E, h135km, mB4.8, mb4.8*
*DJA **18** 05:39:00, 14.14N×145.12E, h143km, Mw5.4/4*
*ISCJB **18** 05:39:01.8±0.2, 1377N±003×14470E±003, h141km, mb4.6/60, Error ellipse: s-maj=4.8km s-min=4.8km az=148.6*
*MOS **18** 05:39:01.1±1.0, 1383N×14488E, h142km, mb4.6/7, Error ellipse: s-maj=29.4km s-min=13.8km az=95.7*
*NEIC **18** 05:39:02.8±0.1, 1381N×14477E, mb4.9/33, Error ellipse: s-maj=6.1km s-min=3.9km az=103.0*
NEIC Felt [V] at Santa Rita and [III] at Hagatna and Yigo. Also felt at Barrigada and Hagatna Heights.
*IDC **18** 05:39:02.5±0.3, 1384N×14493E, h137km±2km, mb4.1/17, mb1 4.3/18, mb1mx4.3/22, mbtmp4.2/18, MS3.5/3, Ms1 3.5/3, ms1mx2.8/26, Error ellipse: s-maj=16.9km s-min=10.3km az=88.0*

ISC 18 05:39:03.4±0.2,1379N±003×14476E±003,h142km, h142km±1.5km:pP-P,n420,σ0°62/411,mb4.6/59, 147C-148D,Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**0.22**	**153**	P	**Pn**	**05 39 22.4**	**-0.4**
	2μm,0.3s,baz=43,slow=0.7,SNR=437						
GUMO				S	**Sn**	**05 39 36.9**	**-0.7**
	10μm,0.3s,baz=4.4,slow=21,SNR=117						
GUMO	**Guam**	**0.22**	**153**	*e*Pn	**Pn**	**05 39 22.4**	**-0.5**
GUMO				*e*Sn	**Sn**	**05 39 36.0**	**-1.6**
CBIJ	**Chichi jima**	**13.46**	**350**	P	**Pn**	**05 42 09.8**	**+1.1**
	17nm,0.3s,baz=243,slow=8.8,SNR=13						
JOW	**Kunigami**	**20.16**	**313**	P	**P**	**05 43 26.6**	**-0.1**
	26nm,0.5s,baz=126,slow=8.6,SNR=5.0						
PMG	**Port Moresby**	**23.16**	**174**	⇑*e*P	**P**	**05 43 56.8**	**-0.7**
PMG	**Port Moresby**	**23.16**	**174**	*e*P	**P**	**05 43 57.3**	**-0.2**
	39nm,0.8s,mb4.9						
MJAR	**Matsushiro Arr**	**23.41**	**347**	P	**P**	**05 43 57.3**	**-2.2**
	7.5nm,0.7s,mb4.2,baz=169,slow=9.9,SNR=21						
MJAR				LR	LR	05 52 47.9	
	comp=Z,97nm,19.6s,baz=85,slow=35						
MAJO	**Matsushiro**	**23.41**	**347**	*e*P	**P**	**05 43 58.2**	**-1.4**
	20nm,0.6s,mb4.7						
MAT	**Matsushiro**	**23.41**	**347**	P	**P**	**05 43 58.4**	**-1.1**
MAT				*e*S	**S**	**05 47 55.6**	**-6.4**
KSRS	**Korea Array**	**27.94**	**331**	P	**P**	**05 44 39.6**	**-0.8**
	3.3nm,0.5s,mb4.3,baz=146,slow=9.2,SNR=11						
KAKA	**Kakadu**	**29.02**	**205**	⇓*i*P	**P**	**05 44 46.3**	**-3.9**
	41nm,0.6s,mb5.3						
NJ2	**Nanjing**	**29.87**	**312**	*e*P	**P**	**05 44 59.3**	**+1.8**
NJ2				AMB	AMB		
	comp=Z,20nm,0.6s,mb5.0						
ASAJ	**Asahikawa**	**30.28**	**357**	LR	LR	05 55 48.7	
	comp=Z,59nm,21.6s,baz=350,slow=33						
YSS	**Yuzh-Sakhalins**	**33.10**	**357**	⇑*i*P	**P**	**05 45 25.4**	**-0.3**
YSS				pmax	pmax		
	comp=Z,11nm,1.0s,mb4.5						
MDJ	**Mudanjiang**	**33.34**	**340**	P	**P**	**05 45 26.9**	**-0.8**
MDJ				XP	sP	05 46 11.0	-3.8
MDJ				S	**S**	**05 50 37.5**	**-0.3**
MDJ				XS	sS	05 51 27.6	-3.9
MDJ				AMB	AMB		
	comp=Z,68nm,3.0s						
MDJ				LR	LR		
	comp=N,63nm,31.5s						
MDJ				LR	LR		
	comp=E,75nm,28.8s						
MDJ				LR	LR		
	comp=Z,53nm,30.1s						
CTA	**Charters Tower**	**33.70**	**177**	*e*P	**P**	**05 45 31.3**	**+0.2**
	comp=Z,7.7nm,0.5s,mb4.7						
CTAO	**Charters Tower**	**33.70**	**177**	*e*P	**P**	**05 45 30.7**	**-0.4**
	comp=Z,10nm,0.8s,mb4.6						
CN2	**Changchun**	**34.19**	**335**	*e*P	**P**	**05 45 39.9**	**+4.8**
WRAB	**Tennant Creek**	**35.04**	**197**	*d*/*i*P	**P**	**05 45 41.8**	**-0.9**
WRAB				*i* *PP	pP	05 46 10.4	-3.1
WRAB	**Tennant Creek**	**35.04**	**197**	*e*P	**P**	**05 45 42.3**	**-0.3**
	comp=Z,60nm,1.0s,mb5.2						
WB2	**Warramunga Arr**	**35.05**	**197**	*e*P	**P**	**05 45 42.2**	**-0.5**
WRA	**Warramunga Arr**	**35.05**	**197**	P	**P**	**05 45 42.4**	**-0.4**
	comp=Z,27nm,0.6s,mb5.1,baz=16,slow=9.2,SNR=119						
WRA				ScP	ScP	05 51 42.7	-1.4
	comp=Z,2.9nm,0.9s,baz=16,slow=3.9,SNR=9.2						
KSM	**Kuching**	**36.21**	**253**	*e*P	**P**	**05 45 52.4**	**-0.4**
BJT	**Baijiatuau**	**36.22**	**322**	*e*P	**P**	**05 45 52.4**	**-0.1**
	comp=Z,18nm,0.4s,mb5.1						
BJI	**Beijing**	**36.23**	**322**	P	**P**	**05 45 52.6**	**0.0**
BJI				XP	sP	05 46 37.1	-2.8
BJI				S	**S**	**05 51 24.6**	**+2.3**
BJI				AMB	AMB		
	comp=Z,29nm,0.6s,mb5.1						
BJI				AMB	AMB		
	comp=Z,157nm,3.3s						
FITZ	**Fitzroy Crossi**	**36.88**	**211**	*e*P	**P**	**05 45 58.2**	**-0.1**
	comp=Z,49nm,0.9s,mb5.1						
GYA	**Guiyang**	**37.78**	**295**	P	**P**	**05 46 06.3**	**+0.3**
GYA				AP	pP	05 46 38.4	+1.3
GYA				XP	sP	05 46 54.6	+1.2
GYA				PP	PP	05 47 39.5	+4.3
GYA				PCP	PcP	05 48 21.3	+1.4
GYA				S	**S**	**05 51 46.9**	**+0.6**
GYA				SCP	ScP	05 51 53.8	-0.4
GYA				PCS	PcS	05 52 09.4	+0.5
GYA				SCS	ScS	05 56 01.0	-2.6
GYA				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.6						
GYA				AMB	AMB		
	comp=Z,90nm,4.9s						
ASAR	**Alice Springs**	**38.71**	**196**	P	**P**	**05 46 13.4**	**-0.2**
	comp=Z,8.4nm,0.7s,mb4.5,baz=18,slow=11,SNR=90						
ASAR				PcP	PcP	05 48 23.3	+0.6
	comp=Z,2.7nm,0.9s,baz=15,slow=3.9,SNR=4.9						
ASAR				ScP	ScP	05 51 56.5	-1.1
	comp=Z,0.7nm,0.7s,baz=0.2,slow=3.1,SNR=4.7						
EIDS	**Eidsvold**	**39.40**	**171**	*e*P	**P**	**05 46 15.3**	**-4.1**
HHC	**Hu-ho-hao-te**	**39.55**	**319**	*e*P	**P**	**05 46 21.1**	**+0.6**
HHC				AP	pP	05 46 52.6	+0.7
HHC				XP	sP	05 47 07.5	-0.6
HHC				PP	PP	05 47 57.9	+3.6
HHC				PCP	PcP	05 48 25.9	+0.8
HHC				SCP	ScP	05 51 58.8	-1.9
HHC				S	**S**	**05 52 13.9**	**+1.4**
HHC				XS	sS	05 53 08.0	+0.8
HHC				SCS	ScS	05 56 12.4	-1.0
HHC				AMB	AMB		
	comp=Z,22nm,1.2s,mb4.7						
HHC				AMB	AMB		
	comp=Z,95nm,6.8s						
HHC				LR	LR		
	comp=N,179nm,12.2s						
HHC				LR	LR		
	comp=E,512nm,14.5s						
HHC				LR	LR		
	comp=Z,105nm,13.9s						
PETK	**Petropavlovsk-**	**40.55**	**12**	P	**P**	**05 46 27.4**	**-1.2**
	comp=Z,0.6nm,0.4s,mb3.6,baz=125,slow=6.7,SNR=5.5						
PETK				PcP	PcP	05 48 26.7	-1.3
	comp=Z,3.2nm,0.7s,baz=130,slow=2.3,SNR=4.6						
HIA	**Hailar**	**40.92**	**335**	⇓*i*P	**P**	**05 46 32.1**	**+0.5**
HIA	**Hailar**	**40.92**	**335**	*e*P	**P**	**05 46 32.0**	**+0.4**
	comp=Z,5.2nm,0.3s,mb4.6						
KMI	**Kunming**	**41.04**	**292**	P	**P**	**05 46 34.6**	**+1.6**
KMI				AMB	AMB		
	comp=Z,8.0nm,0.9s,mb4.3						
CD2	**Chengdu**	**41.30**	**301**	*e*P	**P**	**05 46 34.8**	**-0.3**
CD2				AP	pP	05 47 06.0	-0.7
CD2				XP	sP	05 47 22.3	-0.5
CD2				PP	PP	05 48 15.6	+2.2
CD2				S	**S**	**05 52 37.9**	**-0.9**
CD2				XS	sS	05 53 32.8	-1.0
CD2				AMB	AMB		
	comp=Z,20nm,1.0s,mb4.7						
CD2				AMB	AMB		
	comp=Z,50nm,4.2s						
CD2				LR	LR		
	comp=N,150nm,12.0s						
CD2				LR	LR		
	comp=E,110nm,12.0s						
CD2				LR	LR		
	comp=Z,90nm,12.0s						
DZM	**Mont Dzumac**	**41.50**	**149**	*e*P	**P**	**05 46 36.6**	**-0.1**
DZM	**Mont Dzumac**	**41.50**	**149**	*e*P	**P**	**05 46 36.4**	**-0.2**
MBWA	**Marble Bar**	**42.55**	**216**	*e*P	**P**	**05 46 44.5**	**-0.7**
	comp=Z,19nm,0.7s,mb4.8						
LZH	**Lanzhou**	**42.82**	**309**	*e*P	**P**	**05 46 48.0**	**+0.7**
LZH				AP	pP	05 47 20.3	+1.2
LZH				XP	sP	05 47 36.5	+1.3
LZH				PP	PP	05 48 32.0	+2.5
LZH				PCP	PcP	05 48 36.5	+0.6
LZH				*e*S	**S**	**05 53 01.0**	**+0.1**
LZH				XS	sS	05 53 57.0	+0.9
LZH				AMB	AMB		
	comp=Z,26nm,1.1s,mb4.8						
LZH				AMB	AMB		
	comp=Z,100nm,5.0s						
CMAR	**Chiang Mai Arr**	**44.18**	**282**	P	**P**	**05 46 59.6**	**+1.2**
	comp=Z,2.8nm,0.6s,mb4.1,baz=87,slow=5.9,SNR=12						
CMAR				PcP	PcP	05 48 42.5	+1.6
	comp=Z,2.5nm,0.7s,baz=102,slow=1.5,SNR=7.5						
CMAR	**Chiang Mai Arr**	**44.18**	**282**	⇑*e*P	**P**	**05 46 59.5**	**+1.1**
ARMA	**Armidale**	**44.44**	**172**	*e*P	**P**	**05 47 00.5**	**+0.3**
STKA	**Stephens Creek**	**45.50**	**184**	*e*P	**P**	**05 47 07.8**	**-0.8**
	comp=Z,12nm,0.7s,mb4.6						
STKA	**Stephens Creek**	**45.50**	**184**	P	**P**	**05 47 08.3**	**-0.3**
	comp=Z,15nm,0.7s,mb4.7,baz=352,slow=9.0,SNR=24						
SONM	**Songino Array**	**46.51**	**325**	P	**P**	**05 47 17.0**	**+0.7**
	comp=Z,1.9nm,0.8s,mb3.8,baz=142,slow=8.4,SNR=12						
GTA	**Gaotai**	**46.97**	**312**	⇑P	**P**	**05 47 21.8**	**+1.8**
GTA				AP	pP	05 47 53.5	+1.2
GTA				XP	sP	05 48 09.4	+1.1
GTA				S	**S**	**05 54 04.3**	**+3.7**
GTA				XS	sS	05 54 59.9	+3.3
GTA				SS	SS	05 57 28.8	-0.5
GTA				AMB	AMB		
	comp=Z,6.0nm,1.0s,mb4.2						
GTA				AMB	AMB		
	comp=Z,52nm,4.8s						
GTA				LR	LR		
	comp=N,62nm,14.4s						
GTA				LR	LR		
	comp=E,103nm,15.6s						
GTA				LR	LR		
	comp=Z,103nm,15.9s						
FORT	**Forrest**	**47.13**	**200**	*e*P	**P**	**05 47 21.6**	**+0.3**
	comp=Z,62nm,0.6s,mb5.4						
CNB	**Canberra Magne**	**49.03**	**175**	*e*P	**P**	**05 47 36.3**	**+0.5**
SEY	**Seymchan**	**49.37**	**5**	⇑*e*P	**P**	**05 47 36.7**	**-1.4**
YAK	**Yakutsk**	**49.37**	**351**	⇑*e*P	**P**	**05 47 37.5**	**-0.6**
YAK				pmax	pmax		
	comp=Z,25nm,0.7s,mb5.0						
YAK	**Yakutsk**	**49.37**	**351**	*e*P	**P**	**05 47 37.9**	**-0.3**
	comp=Z,22nm,0.4s,mb5.2						
ZAK	**Zakamensk**	**49.62**	**326**	*e*P	**P**	**05 47 33.7**	**-6.5**
ZAK				*e*	pP	05 48 07.9	-4.9
ZAK				pmax	pmax		
	comp=Z,3.0nm,1.0s,mb3.9						
TOO	**Toolangi**	**51.09**	**179**	*e*P	**P**	**05 47 52.6**	**+1.3**
LSA	**Lhasa**	**51.82**	**297**	*e*P	**P**	**05 47 57.4**	**+0.3**
	comp=Z,7.4nm,0.6s,mb4.5						
KLBR	**Kellerberrin**	**52.03**	**209**	*e*P	**P**	**05 47 57.3**	**-1.2**
	comp=Z,12nm,0.6s,mb4.7						
MUN	**Mundaring**	**53.10**	**211**	*e*P	**P**	**05 48 05.2**	**-1.1**
NWAO	**Narrogin (SRO)**	**53.38**	**209**	*e*P	**P**	**05 48 07.6**	**-0.8**
BILL	**Bilibino**	**55.98**	**10**	⇑*i*P	**P**	**05 48 24.7**	**-1.9**
BILL				pmax	pmax		
	comp=Z,40nm,2.5s,mb4.8						
WMQ	**Urumqi**	**56.93**	**314**	*e*P	**P**	**05 48 35.0**	**+1.3**
WMQ				AP	pP	05 49 08.0	+0.8
WMQ				XP	sP	05 49 24.0	+1.2
WMQ				PCP	PcP	05 49 28.3	+0.8
WMQ				PP	PP	05 50 45.1	+3.4
WMQ				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb4.6						
WMQ				AMB	AMB		
	comp=Z,102nm,4.6s						
WMQ				LR	LR		
	comp=N,89nm,22.1s						
WMQ				LR	LR		
	comp=E,70nm,23.1s						
WMQ				LR	LR		
	comp=Z,105nm,21.3s						
MK31	**Makanchi Array**	**61.28**	**316**	*e*P	**P**	**05 49 04.2**	**+0.5**
MKAR	**Makanchi Array**	**61.28**	**316**	P	**P**	**05 49 04.8**	**+1.2**
	comp=Z,1.3nm,0.4s,mb4.1,baz=95,slow=9.0,SNR=18						
ZALV	**Zalesovo Beam**	**61.40**	**324**	P	**P**	**05 49 03.9**	**-0.4**
	comp=Z,1.2nm,0.6s,mb3.9,baz=110,slow=6.9,SNR=3.8						
SNZO	**South Karori**	**61.41**	**155**	*e*P	**P**	**05 49 03.6**	**-0.9**
	comp=Z,38nm,0.8s,mb5.3						
NVS	**Novosibirsk**	**62.54**	**325**	*e*P	**P**	**05 49 12.0**	**+0.1**
KDAK	**Kodiak Island**	**63.96**	**32**	P	**P**	**05 49 19.1**	**-2.0**
	comp=Z,8.0nm,0.6s,mb4.7,baz=270,slow=4.3,

E06A Yakima 83.02 44 ⇑P P 05 51 13.1 +0.3
baz=83
BUOR Burton Butte 83.04 48 P P 05 51 13.4 +0.3
G05A Wamic 83.07 45 ⇓P P 05 51 12.9 -0.2
baz=83
B07A Winthrop 83.16 42 ⇓P P 05 51 13.1 -0.4
baz=83
WDC Whiskeytown Da 83.19 50 ⇑P P 05 51 14.2 +0.3
baz=83
GASB Alder Springs 83.25 51 ⇓P P 05 51 15.4 +1.2
baz=83
H05A Madras 83.26 46 ⇑P P 05 51 13.8 -0.4
baz=83
L04A Klamath Falls 83.32 48 ⇓P P 05 51 14.6 +0.1
baz=83,SNR=7.2
I05A Bend 83.34 46 ⇑P P 05 51 14.4 -0.1
baz=83
K04A Chiloquin 83.34 48 ⇓P P 05 51 15.1 +0.5
baz=83
M03C McCloud 83.35 49 ⇓P P 05 51 14.7 +0.1
baz=83,SNR=6.9
CROR Criterion Ridg 83.35 45 P P 05 51 14.5 -0.1
C07A Waterville 83.37 43 ⇑P P 05 51 13.8 -0.8
baz=83
M04C Macdoel 83.44 49 ⇑P P 05 51 15.2 +0.1
baz=83,SNR=7.5
G06A Carlson Farm, 83.54 45 ⇓P P 05 51 15.2 -0.4
baz=83
D07A Quincy 83.55 43 ⇓P P 05 51 15.2 -0.3
baz=83
J05A Fort Rock 83.55 47 ⇑P P 05 51 16.0 +0.3
baz=84,SNR=12
A08A Turner Farm, O 83.60 41 ⇓P P 05 51 15.2 -0.6
baz=84,SNR=5.2
MNRC McLaughlin Nat 83.62 52 ⇑P P 05 51 16.5 +0.4
baz=84
B08A Colville Reser 83.70 42 ⇑P P 05 51 15.6 -0.7
baz=84,SNR=8.1
VIPM Ingram Point 83.71 46 P P 05 51 16.3 -0.2
CVS Carmenet Viney 83.72 52 ⇑P P 05 51 16.4 -0.2
baz=84
EPH Ephrata 83.76 43 P P 05 51 16.1 -0.5
E07A Sunnyside 83.77 44 ⇑P P 05 51 16.7 0.0
baz=84
H06A Lindquist Farm 83.86 46 ⇓P P 05 51 16.7 -0.5
baz=84,SNR=5.2
F07A Phinny Hill Vi 83.87 44 ⇓P P 05 51 17.1 -0.1
baz=84
K05A Summer Lake 83.92 48 ⇑P P 05 51 17.9 +0.3
baz=84,SNR=5.9
LBCM Butte Creek Ri 84.01 50 P P 05 51 18.1 +0.1
C08A Higginbotham F 84.02 42 ⇓P P 05 51 17.1 -0.8
baz=84,SNR=7.2
HAWA Hanford 84.03 44 eP P 05 51 17.1 -0.9
A09A Danville 84.03 41 ⇑P P 05 51 17.5 -0.5
baz=84,SNR=6.0
L05A Lakeview 84.12 48 ⇓P P 05 51 18.3 -0.3
baz=84
I06A Prineville 84.13 46 ⇑P P 05 51 18.6 0.0
baz=84,SNR=5.1
ORV Oroville 84.19 51 ⇑P P 05 51 18.4 -0.6
baz=84,SNR=8.1
BDM Black Diamond 84.27 52 ⇓P P 05 51 18.3 -1.1
baz=84
D08A Wollman Farm, 84.28 43 ⇑P P 05 51 18.5 -0.7
baz=84,SNR=5.2
O04C Chester 84.33 50 ⇓P P 05 51 19.7 0.0
baz=84,SNR=7.8
J06A Christmas Vall 84.33 47 ⇑P P 05 51 18.9 -0.7
baz=84
K06A Valley Falls 84.37 47 ⇓P P 05 51 19.4 -0.4
baz=84,SNR=5.6
B09A Rice 84.45 42 ⇑P P 05 51 19.5 -0.6
baz=84,SNR=5.4
C09A Chrisman Ranch 84.52 42 ⇑P P 05 51 20.0 -0.5
baz=84
O05C Quincy 84.53 50 ⇓P P 05 51 20.7 0.0
baz=84
MOD Modoc 84.54 48 ⇓P P 05 51 20.7 0.0
baz=84
MOD Modoc 84.54 48 eP P 05 51 20.8 +0.1
M06C Likely Place G 84.57 49 ⇑P P 05 51 20.9 0.0
baz=84
I07A Izee 84.59 46 ⇑P P 05 51 20.5 -0.4
baz=84
G08A Pilot Rock 84.68 45 ⇓P P 05 51 21.0 -0.3
baz=85
F08A Pendleton 84.68 44 ⇑P P 05 51 21.0 -0.3
baz=85,SNR=7.8
D09A Jones Farm, Ri 84.68 43 ⇓P P 05 51 20.9 -0.4
baz=85,SNR=7.6
A10A Northport 84.68 41 ⇓P P 05 51 21.2 -0.1
baz=85
J07A Hines 84.90 47 ⇑P P 05 51 22.7 +0.2
baz=85,SNR=12
R04C Big Horse Ranc 84.91 52 ⇓P P 05 51 22.4 -0.3
baz=85
E09A Wood Farm, Sta 84.93 43 ⇑P P 05 51 22.1 -0.4
baz=85
PACP Pacheco Peak 84.93 53 ⇓P P 05 51 23.2 +0.5
baz=85
LAVA Lava Cap Winer 84.95 51 ⇓P P 05 51 22.7 -0.1
baz=85,SNR=6.6
BEKR Beckwourth 84.97 50 ⇓P P 05 51 22.9 0.0
baz=85,SNR=21
H08A Prairie City 85.07 46 ⇑P P 05 51 22.9 -0.4
baz=85
K07A Rock Creek Ran 85.11 47 ⇑P P 05 51 23.3 -0.2
baz=85,SNR=7.6
NEW Newport 85.15 42 eP P 05 51 22.9 -0.7
N06A Buffalo Meadow 85.15 49 ⇑P P 05 51 23.6 -0.2
baz=85,SNR=6.7
V03C Hunter Liggett 85.20 54 ⇓P P 05 51 24.6 +0.4
baz=85
L07A Adell 85.21 48 ⇑P P 05 51 24.3 +0.3
baz=85,SNR=10
F09A S2 Ranch, Elgi 85.29 44 ⇑P P 05 51 24.3 0.0
baz=85
I08A Drewsey 85.29 46 ⇓P P 05 51 24.3 -0.1
baz=85
O06A Flanigan 85.30 50 ⇓P P 05 51 24.8 +0.2
baz=85
P06A Stead Airport, 85.36 50 ⇓P P 05 51 24.9 0.0
baz=85
CMB Columbia Colle 85.39 52 ⇓P P 05 51 25.0 0.0
baz=85,SNR=6.7
A11A Hall Mountain, 85.45 41 ⇑P P 05 51 25.5 +0.4
baz=85
U04C Hernandez Rese 85.47 54 ⇑P P 05 51 26.1 +0.6
baz=85
G09A Cove 85.49 45 ⇑P P 05 51 25.1 -0.3
baz=85,SNR=5.1
J08A Circle Bar Ran 85.49 47 ⇑P P 05 51 25.4 -0.1
baz=85,SNR=9.0
WCN Washoe City 85.56 51 ⇑P P 05 51 26.1 +0.2
baz=86
B11A Sandpoint 85.59 41 ⇑P P 05 51 25.0 -0.8
baz=86
WVOR Wild Horse Val 85.61 48 eP P 05 51 25.6 -0.5
comp=Z,7.5nm,0.9s,mb4.4
K08A Mann Creek Ran 85.64 47 ⇓P P 05 51 25.8 -0.3
baz=86,SNR=8.4
F10A Beach Ranch, E 85.68 44 ⇑P P 05 51 25.9 -0.4
baz=86,SNR=6.1
PKD Parkfield 85.76 54 ⇓P P 05 51 27.4 +0.4
baz=86
N07B Gerlach 85.78 49 ⇑P P 05 51 26.8 -0.1
baz=86,SNR=7.7
C11A Tepee Creek (N 85.82 42 ⇑P P 05 51 26.3 -0.6
baz=86,SNR=6.3
I09A Lost Marbles R 85.85 46 ⇑P P 05 51 27.0 -0.2
baz=86
L08A Fields 85.88 48 ⇓P P 05 51 27.3 -0.1
baz=86,SNR=13
A12A Yaak River Ran 85.91 41 ⇓P P 05 51 27.3 0.0
baz=86
BMO Blue Mountains 85.92 45 eP P 05 51 26.9 -0.6
comp=Z,17nm,0.9s,mb4.8
G10A Bishop Farm, J 85.93 44 ⇑P P 05 51 27.0 -0.6
baz=86,SNR=18
R06C Coleville 85.98 51 ⇑P P 05 51 28.4 +0.5
baz=86
D11A Klaveano Farm, 85.99 43 ⇓P P 05 51 27.0 -0.8
baz=86,SNR=7.9
WAKR Walker 86.00 51 eP P 05 51 28.5 +0.5
J09A Fry Pan Ranch, 86.00 46 ⇓P P 05 51 27.5 -0.5
baz=86,SNR=9.6
O07A Toulon 86.00 50 ⇓P P 05 51 27.8 -0.3
baz=86,SNR=6.7
EDM Edmonton 86.05 36 eP P 05 51 27.0 -1.0
T06C Millerton Lake 86.16 53 ⇑P P 05 51 28.5 -0.3
baz=86,SNR=7.7
K09A Rome 86.19 47 ⇓P P 05 51 28.5 -0.4
baz=86,SNR=6.4
E11A Bogner Ranch, 86.26 43 ⇑P P 05 51 28.2 -0.9
baz=86,SNR=7.9
KEV Kevo 86.30 342 ep P 05 51 26.9 -2.0
comp=Z,16nm,1.0s,mb4.7
KEV Kevo 86.30 342 eP P
KEV pmax pmax
comp=Z,17nm,1.0s,mb4.7
C12B Naegeli Ranch, 86.36 42 ⇓P P 05 51 29.2 -0.4
baz=86
H10A Noah's Angus R 86.38 45 ⇑P P 05 51 28.8 -1.0
baz=86,SNR=22
KCC Kaiser Creek 86.38 53 ⇓P P 05 51 29.5 -0.4
baz=86
N08A GE Springer Mi 86.40 49 ⇑P P 05 51 29.8 -0.1
baz=86,SNR=9.9
L09A Wilkinson Ranc 86.41 48 ⇓P P 05 51 30.4 +0.4
baz=86
F11A Grangeville 86.42 44 ⇓P P 05 51 28.6 -1.3
baz=86,SNR=7.2
I10A Payette 86.47 46 ⇑P P 05 51 30.1 -0.1
baz=86,SNR=5.3
G11A Walters Elk Ra 86.48 44 ⇓P P 05 51 29.3 -0.9
baz=86,SNR=32
O08A Rochester Mine 86.51 50 ⇓P P 05 51 30.6 +0.1
baz=86,SNR=11
D12A Red Ives Fores 86.63 42 ⇑P P 05 51 30.4 -0.6
baz=86
E12A Beaver Dam Sad 86.67 43 ⇑P P 05 51 30.9 -0.2
baz=87,SNR=26
J10A Berg Farm, Mel 86.68 46 ⇓P P 05 51 30.9 -0.4
baz=87
A13A Flathead Natio 86.69 40 ⇑P P 05 51 31.3 +0.1
baz=87
BSMT Bassoo Peak 86.77 42 eP P 05 51 31.7 +0.1
K10A MacKenzie Ranc 86.78 47 ⇓P P 05 51 31.9 +0.1
baz=87,SNR=20
B13A Whitefish 86.82 41 ⇓P P 05 51 31.3 -0.5
baz=87
N09A Rock Creek Ran 86.82 49 ⇑P P 05 51 32.0 0.0
baz=87,SNR=5.8
H11A Donnelly 86.85 45 ⇓P P 05 51 31.2 -0.8
baz=87,SNR=18
ARCES ARCESS Array B 86.87 342 P P 05 51 31.1 -0.5
comp=Z,2.6nm,0.6s,mb4.2,baz=67,slow=6.7,SNR=12
NVAR Mina Array Bea 86.88 51 P P 05 51 32.5 +0.2
comp=Z,9.4nm,0.8s,mb4.7,baz=264,slow=6.2,SNR=55
VES Vestal, Richgr 86.94 54 ⇓P P 05 51 31.9 -0.7
baz=87
C13A Hot Springs 86.96 42 ⇓P P 05 51 31.8 -0.7
baz=87
Q08A Gabbs 87.05 51 ⇓P P 05 51 32.9 -0.2
baz=87,SNR=5.7
F12A Elk City 87.06 44 ⇑P P 05 51 32.2 -0.8
baz=87
I11A Placerville 87.11 46 ⇑P P 05 51 33.1 -0.2
baz=87,SNR=18
D13A Huson 87.20 42 ⇓P P 05 51 33.0 -0.7
baz=87
L10A Juniper Basin 87.25 47 ⇑P P 05 51 34.3 +0.2
baz=87,SNR=18
A14A Double T Ranch 87.30 40 ⇓P P 05 51 34.2 +0.1
baz=87,SNR=6.7
MFID Camas Ranch 87.34 46 ⇓P P 05 51 34.3 -0.1
baz=87,SNR=32
M10A I.L. Ranch, Tu 87.36 48 ⇓P P 05 51 34.8 +0.2
baz=87
K11A Parker Ranch, 87.37 47 ⇓P P 05 51 34.4 -0.3
baz=87,SNR=14
ISA Isabella 87.46 54 ⇑P P 05 51 34.6 -0.6
baz=87
C14A Swan Lake 87.46 41 ⇑P P 05 51 34.1 -0.8
baz=87
CWC Cottonwood Cre 87.57 53 ⇓P P 05 51 35.3 -0.4
baz=88
E13A Victor 87.58 43 ⇓P P 05 51 34.6 -0.8
baz=88
B14A Marquette Ranc 87.58 41 ⇓P P 05 51 35.2 -0.3
baz=88
N10A Dunphy 87.60 49 ⇑P P 05 51 35.9 +0.2
baz=88
F13A Darby 87.67 43 ⇓P P 05 51 35.2 -0.7
baz=88,SNR=9.7
H12A Diamond D Ranc 87.69 45 ⇓P P 05 51 35.6 -0.5
baz=88,SNR=8.7
O10A Cortez Mining, 87.73 49 ⇑P P 05 51 36.8 +0.4
baz=88
A15A Johnson Ranch, 87.73 40 ⇓P P 05 51 35.9 -0.3
baz=88
L11A Cat Creek Ranc 87.74 47 ⇑P P 05 51 36.3 0.0
baz=88,SNR=8.5
D14A Greenough 87.83 42 ⇑P P 05 51 36.3 -0.3
baz=88
R09A Tonopah 87.86 51 ⇓P P 05 51 37.4 +0.4
baz=88,SNR=17
S09A Goldfield 87.88 52 ⇑P P 05 51 37.3 +0.1
baz=88,SNR=14
J12A Stokes Ranch, 87.89 46 ⇓P P 05 51 36.9 -0.2
baz=88,SNR=8.9
M11A Holland Ranch, 87.92 48 ⇓P P 05 51 37.5 +0.2
baz=88
P10A Eureka 87.94 50 ⇑P P 05 51 37.7 +0.3
baz=88
G13A Cobalt 87.95 44 ⇑P P 05 51 36.9 -0.4
baz=88,SNR=32
EDW2 Edwards Air Fo 88.05 55 ⇑P P 05 51 38.6 +0.6
baz=88
B15A Bradely Ranch, 88.05 41 ⇓P P 05 51 37.2 -0.5
baz=88
JOF Joensuu 88.08 335 ep P 05 51 36.9 -0.6
comp=Z,2.9nm,0.5s,mb4.4
JOF Joensuu 88.08 335 eP P 05 51 36.9 -0.6
JOF pmax pmax
comp=Z,3.0nm,0.5s,mb4.4
H13A Challis 88.09 45 ⇓P P 05 51 37.6 -0.4
baz=88,SNR=12
LRMC Laurel Mountai 88.13 54 ⇓P P 05 51 39.0 +0.6
baz=88
MPMC Manual Prospec 88.13 53 ⇓P P 05 51 39.0 +0.6
baz=88,SNR=11
C15A Salmond Ranch, 88.19 41 ⇑P P 05 51 38.5 +0.2
baz=88
K12A Draper Farm, C 88.21 47 ⇑P P 05 51 38.8 +0.2
baz=88,SNR=14
L12A House Creek Ra 88.27 47 ⇓P P 05 51 39.1 +0.2
baz=88,SNR=13
HLID Hailey 88.28 46 ⇑P P 05 51 39.0 +0.1
baz=88,SNR=22
S10A Tonopah Range, 88.31 51 ⇓P P 05 51 39.4 +0.3
baz=88,SNR=19
I13A Wildhorse Cree 88.38 45 ⇓P P 05 51 39.3 0.0
baz=88,SNR=16
O11A Cowboy Ranch, 88.39 49 ⇓P P 05 51 39.5 0.0
baz=88,SNR=9.3
G14A Jackson 88.42 44 ⇓P P 05 51 38.8 -0.8
baz=88
R10A Warm Springs 88.43 51 ⇑P P 05 51 40.2 +0.5
baz=88,SNR=5.2
A16A West Butte Ran 88.45 40 ⇓P P 05 51 39.7 +0.2
baz=88
J13A Cove Ranch, Pi 88.50 46 ⇑P P 05 51 40.0 +0.1
baz=88,SNR=18
FURC Furnace Creek, 88.51 53 ⇓P P 05 51 40.6 +0.5
baz=88
ELK Elko 88.52 48 eP P 05 51 40.3 +0.2
comp=Z,19nm,0.9s,mb5.0
M12A Wells 88.56 48 ⇓P P 05 51 40.3 +0.1
baz=88,SNR=9.7
E15A Deer Lodge 88.60 42 ⇓P P 05 51 39.9 -0.4
baz=88,SNR=6.6
N12A Clover Valley, 88.63 48 ⇓P P 05 51 40.7 0.0
baz=88,SNR=8.2
H14A Leadore 88.68 44 ⇑P P 05 51 40.7 0.0
baz=89,SNR=8.3
C16A Fuhringer Ranc 88.73 41 ⇑P P 05 51 40.7 -0.2
baz=89
Q11A Duckwater 88.76 50 ⇓P P 05 51 41.3 0.0
baz=89,SNR=6.5
K13A Stover Farm, H 88.78 46 ⇑P P 05 51 41.7 +0.4
baz=89
I14A Mackay 88.83 45 ⇓P P 05 51 41.7 +0.2
baz=89,SNR=13
TPNV Topopah Spring 88.84 52 ⇓P P 05 51 41.8 +0.1
baz=89,SNR=13
TPNV Topopah Spring 88.84 52 eP P 05 51 42.1 +0.4
comp=Z,11nm,0.8s,mb4.8
GSC Goldstone 88.87 54 ⇑P P 05 51 42.2 +0.3
baz=89,SNR=6.5
GSC Goldstone 88.87 54 eP P 05 51 42.4 +0.5
comp=Z,10nm,0.9s,mb4.8
F15A Butte 88.88 43 ⇓P P 05 51 41.4 -0.3
baz=89
U10A Ash Meadows, A 88.93 53 ⇑P P 05 51 42.6 +0.5
baz=89,SNR=6.9
R11A Troy Canyon, C 88.95 51 ⇑P P 05 51 42.3 +0.1
baz=89,SNR=7.2
MCMT McKenzie Canyo 88.96 44 eP P 05 51 42.1 0.0
J14A Carey 88.97 46 ⇑P P 05 51 42.7 +0.6
baz=89,SNR=20
O12A Currie 89.02 49 ⇓P P 05 51 42.6 +0.2
baz=89,SNR=11
S11A Rachel 89.03 52 ⇓P P 05 51 43.1 +0.5
baz=89,SNR=6.0
HRY Holter Researc 89.03 42 eP P 05 51 42.3 -0.1
L13A Double Diamond 89.05 47 ⇓P P 05 51 42.9 +0.3
baz=89,SNR=7.0
G15A Dillon 89.10 44 ⇓P P 05 51 42.4 -0.3
baz=89,SNR=5.6
D16A Dana Ranch, Ca 89.11 42 ⇓P P 05 51 42.5 -0.3
baz=89
SHOC Shoshone 89.11 53 ⇓P P 05 51 43.4 +0.4
baz=89,SNR=5.6
P12A McGill 89.13 50 ⇓P P 05 51 43.3 +0.3
baz=89,SNR=5.2
H15A Lima 89.17 44 ⇓P P 05 51 42.9 -0.2
baz=89,SNR=6.2
E16A East Helena 89.19 42 ⇑P P 05 51 43.1 0.0
baz=89
N13A Wendover, West 89.24 48 ⇑P P 05 51 43.9 +0.4
baz=89
Q12A Willow Creek R 89.32 50 ⇑P P 05 51 44.1 +0.3
baz=89,SNR=7.0
HEC Hector,Ludlow 89.38 54 ⇓P P 05 51 44.7 +0.4
baz=89
C17A Wharram Farm, 89.42 41 ⇑P P 05 51 44.0 -0.1
baz=89
K14A Jones Ranch, D 89.45 46 ⇓P P 05 51 44.7 +0.3
baz=89,SNR=6.5
I15A Monteview 89.47 45 ⇓P P 05 51 44.9 +0.4
baz=89
TUQ Turquoise Moun 89.52 54 ⇑P P 05 51 45.1 +0.2
baz=89,SNR=6.4
G16A Moss Hill, Enn 89.54 43 ⇓P P 05 51 44.5 -0.3
baz=89,SNR=5.2
T11A Corn Creek, Al 89.55 52 ⇑P P 05 51 45.3 +0.4
baz=90
L14A Malta 89.57 47 ⇓P P 05 51 45.5 +0.5
baz=90,SNR=11
PFO Pinyon Flat Ob 89.62 56 ⇑P P 05 51 45.6 +0.2
baz=90
O13A Hicks Ranch, I 89.62 49 ⇓P P 05 51 45.3 0.0
baz=90
M14A Sheep Mountain 89.66 47 ⇓P P 05 51 45.3 -0.1
baz=90,SNR=8.1
R12A Pony Springs, 89.69 51 ⇓P P 05 51 46.0 +0.4
baz=90,SNR=6.3
J15A Blackfoot 89.70 45 ⇓P P 05 51 46.0 +0.4
baz=90,SNR=17
V11A Goodsprings 89.79 53 ⇑P P 05 51 46.7 +0.6
baz=90,SNR=6.1
P13A Bates Ranch, G 89.80 49 ⇑P P 05 51 46.4 +0.2
baz=90,SNR=9.4
SHPR Sheep Range 89.81 52 eP P 05 51 47.1 +0.8
K15A Arbon 89.86 46 ⇑P P 05 51 47.2 +0.9
baz=90
BELC Belle Mtn. 89.87 55 ⇓P P 05 51 46.9 +0.3
baz=90,SNR=5.7
GMRC Granite Mounta 89.92 54 ⇓P P 05 51 47.6 +0.8
baz=90,SNR=8.1
QLMT Earthquake Lak 89.92 44 eP P 05 51 46.5 0.0
QLMT epP pP 05 52 21.6 -1.2
Q13A Wheeler Ranch, 89.95 50 ⇓P P 05 51 47.0 +0.2
baz=90
N14A Grayback Hills 89.97 48 ⇓P P 05 51 46.9 0.0
baz=90
HVU Hansel Valley 89.98 47 eP P 05 51 47.9 +1.0
H16A Russell Place, 90.08 44 ⇑P P 05 51 48.0 +0.7
baz=90
L15A Malad City 90.18 47 ⇑P P 05 51 47.9 0.0
baz=90,SNR=5.6
I16A Newdale 90.20 45 ⇑P P 05 51 48.4 +0.5
baz=90,SNR=5.6
R13A O'Grain Ranch, 90.22 51 ⇑P P 05 51 48.7 +0.6
baz=90,SNR=5.2
LDFC Landfair 90.27 54 eP P 05 51 48.7 +0.3
comp=Z,20nm,0.8s,mb5.1
LDFC epP pP 05 52 25.4 +0.7
V12A Nelson 90.28 53 ⇓P P 05 51 48.9 +0.4
baz=90,SNR=12
YMR Madison River 90.28 44 eP P 05 51 48.8 +0.5
comp=Z,6.5nm,0.8s,mb4.6
J16A Bone 90.31 45 ⇑P P 05 51 49.1 +0.7
baz=90,SNR=10.0
BC3 Big Chuckw Mtn 90.41 55 ⇓P P 05 51 49.7 +0.7
baz=90,SNR=5.4
DUG Dugway 90.45 48 ⇓P P 05 51 49.1 0.0
baz=90
DUG Dugway 90.45 48 eP P 05 51 49.4 +0.3
P14A Drum Mountains 90.45 49 ⇓P P 05 51 49.3 +0.1
baz=90,SNR=6.3
K16A Soda Springs 90.47 46 ⇓P P 05 51 50.1 +0.9
baz=90,SNR=7.1
S13A Holt Ranch, En 90.48 51 ⇓P P 05 51 50.0 +0.7
baz=90
RRI2 Red Ridge 90.49 45 eP P 05 51 49.6 +0.4
comp=Z,5.0nm,0.8s,mb4.5
Q14A Sevier Lake (B 90.49 50 ⇓P P 05 51 49.4 +0.1
baz=90,SNR=6.9
IMW Indian Meadow 90.56 44 eP P 05 51 50.3 +0.8
comp=Z,4.7nm,0.7s,mb4.6
T13A Saint George 90.62 52 ⇑P P 05 51 50.3 +0.3
baz=90
H17A Grant Village 90.64 44 ⇑P P 05 51 51.4 +1.5
baz=90
F18A Big Timber 90.69 42 ⇑P P 05 51 50.2 +0.1
baz=91
MOOW Moose Ponds 90.75 45 eP P 05 51 50.9 +0.5
U13A Pakoon Wash 90.76 52 ⇓P P 05 51 51.0 +0.3
baz=91,SNR=5.0
I17A Pilgram Creek 90.80 44 ⇑P P 05 51 50.7 0.0
baz=91
L16A Fish Haven 90.85 46 ⇓P P 05 51 50.9 0.0
baz=91
LOHW Long Hollow 90.89 45 eP P 05 51 51.4 +0.3
comp=Z,14nm,1.7s,mb4.7
V13A Grand Canyon W 90.91 53 ⇑P P 05 51 51.7 +0.3
baz=91,SNR=5.4
M16A Huntsville 90.94 47 ⇑P P 05 51 50.8 -0.6
baz=91
GLA Glamis 91.08 56 ⇑P P 05 51 53.1 +0.9
baz=91
Y12C Blythe 91.12 55 ⇑P P 05 51 53.3 +0.9
baz=91
W13A Hualapai Mount 91.22 54 ⇑P P 05 51 53.2 +0.4
baz=91,SNR=5.8
T14A Hurricane 91.23 51 ⇓P P 05 51 53.5 +0.7
baz=91
PDMCI Parker Dam,Lak 91.26 54 ⇑P P 05 51 54.1 +1.1
baz=91
RLMT Red Lodge 91.26 43 ⇑P P 05 51 53.7 +0.9
baz=91
RLMT Red Lodge 91.26 43 eP P 05 51 52.8 0.0
comp=Z,8.6nm,1.1s,mb4.7
JLU Jordanelle 91.30 48 eP P 05 51 53.0 -0.1
U14A Mt Trumbull 91.36 52 ⇑P P 05 51 53.8 +0.4
baz=91,SNR=7.8
O16A Springville 91.40 48 ⇑P P 05 51 53.6 +0.1
baz=91
X13A Yucca 91.41 54 ⇑P P 05 51 54.1 +0.4
baz=91,SNR=5.3
112A Yuma 91.43 56 ⇓P P 05 51 55.0 +1.1
baz=91
V14A Boquillas Ranc 91.66 53 ⇓P P 05 51 55.5 +0.7
baz=92,SNR=5.5
W14A Seligman 91.81 53 ⇑P P 05 51 56.3 +0.8
baz=92
BW06 Boulder Array 91.90 45 ⇑P P 05 51 55.4 -0.4
baz=92
PDAR Pinedale Array 91.90 45 P P 05 51 54.9 -0.9
comp=Z,1.2nm,0.7s,mb4.0,baz=240,slow=2.6,SNR=12
TMUT Trail Mountain 91.91 49 eP P 05 52 02.1 +6.2

O17A	**Robinson Place**	**91.95**	**48**	⇑P		**P**	**05 51 56.2**	**+0.1**
	baz=92,SNR=5.2								
113A	**Mohawk Valley,**	**92.02**	**56**	⇑P		**P**	**05 51 57.2**	**+0.6**
	baz=92								
U15A	**North Rim**	**92.03**	**52**	⇓P		**P**	**05 51 57.5**	**+0.9**
	baz=92								
R16A	**Teasdale**	**92.04**	**50**	⇓P		**P**	**05 51 57.4**	**+0.8**
	baz=92								
Q16A	**Castle Valley**	**92.06**	**49**	⇑P		**P**	**05 51 57.2**	**+0.6**
	baz=92								
S16A	**Weppner Ranch,**	**92.14**	**50**	⇓P		**P**	**05 51 57.7**	**+0.7**
	baz=92								
X14A	**Yava**	**92.19**	**54**	⇑P		**P**	**05 51 58.2**	**+0.9**
	baz=92								
P17A	**Butcher Ranch,**	**92.19**	**49**	⇓P		**P**	**05 51 57.8**	**+0.6**
	baz=92								
Y14A	**Wickenburg**	**92.27**	**54**	⇓P		**P**	**05 51 58.0**	**+0.4**
	baz=92,SNR=7.5								
V15A	**Kaibab Nationa**	**92.32**	**52**	⇑P		**P**	**05 51 58.9**	**+1.0**
	baz=92								
N18A	**Larsen Ranch,**	**92.45**	**47**	⇑P		**P**	**05 51 57.9**	**-0.4**
	baz=92								
O18A	**Roosevelt**	**92.45**	**48**	⇓P		**P**	**05 51 58.6**	**+0.2**
	baz=92								
SRU	**San Rafael**	**92.47**	**49**	⇑P		**P**	**05 51 58.2**	**-0.3**
	baz=92								
SRU	**San Rafael**	**92.47**	**49**	*e*P		**P**	**05 51 58.8**	**+0.3**
Z14A	**Wintersburg**	**92.49**	**55**	⇑P		**P**	**05 51 59.3**	**+0.6**
	baz=92								
R17A	**Hanksville Air**	**92.57**	**50**	⇓P		**P**	**05 51 58.9**	**-0.1**
	baz=92								
X15A	**Humboldt**	**92.70**	**54**	⇑P		**P**	**05 52 00.0**	**+0.4**
	baz=93,SNR=5.8								
Y15A	**Casa Rosa Ranc**	**92.79**	**54**	⇓P		**P**	**05 52 00.8**	**+0.7**
	baz=93,SNR=6.5								
N19A	**John Jarvie Ra**	**92.83**	**47**	⇑P		**P**	**05 51 59.8**	**-0.3**
	baz=93								
T17A	**Navajo Res., N**	**92.98**	**51**	⇑P		**P**	**05 52 00.9**	**0.0**
	baz=93								
U16A	**Tuba City**	**93.02**	**52**	⇑P		**P**	**05 52 01.6**	**+0.5**
	baz=93								
WUAZ	**Wupatki**	**93.03**	**52**	⇓P		**P**	**05 52 02.2**	**+1.0**
	baz=93								
214A	**Organ Pipe Nat**	**93.04**	**56**	⇑P		**P**	**05 52 02.2**	**+1.0**
	baz=93,SNR=5.6								
W16A	**Flagstaff**	**93.05**	**53**	⇓P		**P**	**05 52 02.1**	**+0.9**
	baz=93								
O19A	**Miners Draw (B**	**93.08**	**47**	⇓P		**P**	**05 52 01.4**	**+0.2**
	baz=93								
U17A	**Shonto**	**93.22**	**51**	⇓P		**P**	**05 52 02.5**	**+0.5**
	baz=93								
115A	**Sonoran Desert**	**93.27**	**55**	⇓P		**P**	**05 52 02.9**	**+0.6**
	baz=93								
X16A	**Lo Mia Camp, P**	**93.34**	**54**	⇓P		**P**	**05 52 03.1**	**+0.5**
	baz=93								
P19A	**Cripple Cowboy**	**93.41**	**48**	⇑P		**P**	**05 52 02.5**	**-0.3**
	baz=93,SNR=5.6								
Y16A	**Circle Bar Ran**	**93.49**	**54**	⇑P		**P**	**05 52 04.4**	**+1.1**
	baz=93,SNR=6.4								
T18A	**Mexican Hat**	**93.63**	**51**	⇑P		**P**	**05 52 03.3**	**-0.6**
	baz=94								
Z16A	**Peralta Trail,**	**93.70**	**55**	⇓P		**P**	**05 52 05.1**	**+0.8**
	baz=94								
116A	**Eloy**	**93.73**	**55**	⇑P		**P**	**05 52 05.0**	**+0.6**
	baz=94								
U18A	**Rough Rock, Ch**	**93.88**	**51**	⇓P		**P**	**05 52 05.2**	**+0.1**
	baz=94								
RWWY	**Rawlins**	**93.91**	**46**	*e*P		**P**	**05 52 13.4**	**+8.3**
Y17A	**Roosevelt**	**94.05**	**54**	⇑P		**P**	**05 52 06.4**	**+0.6**
	baz=94								
V18A	**Ganado**	**94.08**	**52**	⇑P		**P**	**05 52 06.7**	**+0.7**
	baz=94								
T19A	**Beclabito**	**94.38**	**51**	⇓P		**P**	**05 52 07.3**	**0.0**
	baz=94								
117A	**Oracle**	**94.50**	**55**	⇑P		**P**	**05 52 08.4**	**+0.4**
	baz=94								
Y18A	**Canyon Day Jun**	**94.65**	**54**	⇑P		**P**	**05 52 09.6**	**+0.9**
	baz=95								
217A	**Green Valley**	**94.70**	**56**	⇓P		**P**	**05 52 09.9**	**+1.0**
	baz=95								
118A	**Homack Ranch,**	**95.09**	**55**	⇑P		**P**	**05 52 11.4**	**+0.8**
	baz=95								
218A	**Dragoon**	**95.25**	**55**	⇓P		**P**	**05 52 12.3**	**+0.9**
	baz=95								
ANMO	**Albuquerque**	**97.00**	**52**	⇑*e*P		**P**	**05 52 19.1**	**-0.2**
MAW	**Mawson**	**99.57**	**203**	P		Pdif	05 52 30.2	-0.1
	comp=Z,0.9nm,0.7s,baz=91,slow=5.1,SNR=4.9								
TXAR	**Lajitas Array**	**101.33**	**56**	P		Pdif	05 52 37.9	-0.3
	comp=Z,0.4nm,0.9s,baz=328,slow=3.2,SNR=3.0								
TXAR	**Lajitas Array**	**101.33**	**56**	P		Pdif	05 52 37.9	-0.3
SNAA	**Sanae**	**118.96**	**191**	*e*PKPdf		PKPdf	05 57 34.0	-0.4
SNAA				*e*			05 57 38.2		
VNA2	**Neumayer--Watz**	**120.40**	**190**	*e*PKPdf		PKPdf	05 57 37.6	+0.4
	baz=313,slow=0.8								
VNA2				*e*			05 57 41.4		
VNA3	**Neumayer Olymp**	**120.50**	**189**	*e*PKPdf		PKPdf	05 57 36.7	-0.7
VNA3				*e*			05 57 41.1		
VNA1	**Neumayer--Stat**	**120.79**	**190**	*e*PKPdf		PKPdf	05 57 38.5	+0.5
VNA1				*e*			05 57 42.2		
TORD	**Torodi Ar. Bea**	**134.67**	**305**	PKP		PKPdf	05 58 07.1	+1.1
	comp=Z,0.8nm,0.6s,baz=45,slow=2.5,SNR=15								
TORD				SKPbc		SKPbc	06 01 21.9	-1.3	
	comp=Z,1.8nm,0.7s,baz=39,slow=2.8,SNR=9.9								
PLCA	**Paso Flores**	**139.15**	**138**	PKP		PKPdf	05 58 14.9	+1.3
	comp=Z,1.0nm,0.7s,baz=162,slow=3.2,SNR=3.8								
PLCA				SKPbc		SKPbc	06 01 35.3	-0.3	
	comp=Z,1.2nm,0.8s,baz=249,slow=8.6,SNR=3.1								
DBIC	**Dimbokro**	**143.63**	**302**	PKP		PKPdf	05 58 19.9	-2.5
	comp=Z,5.3nm,0.6s,baz=43,slow=4.5,SNR=11								
DBIC	**Dimbokro**	**143.63**	**302**	*e*PKPdf		PKPdf	05 58 19.9	-2.5
KIC	**Kosan Boka**	**143.71**	**302**	*e*P		PKPdf	05 58 18.4	-4.2
	comp=Z,238nm,2.0s								
TIC	**Toumodi**	**143.78**	**302**	*e*P		PKPdf	05 58 20.5	-2.2
	comp=Z,14nm,0.2s								
LIC	**Lamto**	**144.02**	**302**	*e*P		PKPdf	05 58 20.7	-2.4
	comp=Z,40nm,0.7s								
LVC	**Limon Verde**	**146.89**	**110**	*e*PKPbc		PKPbc	05 58 31.1	+1.2
LPAZ	**La Paz**	**148.15**	**99**	PKPbc		PKPbc	05 58 35.0	+1.6
	comp=Z,4.1nm,0.8s,baz=298,slow=3.4,SNR=20								
LPAZ	**La Paz**	**148.15**	**99**	*e*PKPbc		PKPbc	05 58 34.6	+1.2

MOS ***18*** *05:49:14.3±1.3,5226N×10648E,h9km,mb4.4/1,Error ellipse: s-maj=26.3km s-min=19.3km az=170.0*

BYKL 18 05:49:14.2±0.2,5234N×10641E,h14km±4km,6C,Lake Baykal region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KAB	**Kabansk**	**0.33**	**153**	*e*PG	Pg	05 49 20.8	-0.1
KAB				*e*		05 49 25.5	
KAB				pmax	pmax		
	comp=Z,676nm,0.1s						
KAB				smax			
	comp=N,6μm,0.8s						
KAB	**Kabansk**	**0.33**	**153**	*e*Pg	Pg	05 49 20.7	-0.2
KAB				*e*Sg	Sg	05 49 25.4	0.0
KAB				Pmax			
	comp=N,623nm,0.1s						
KAB				Smax			
	comp=N,6μm,0.4s						
FFNB	**Fofonovo**	**0.37**	**143**	⇑*i*Pg	Pg	05 49 21.0	-0.6
FFNB				*e*Sg	Sg	05 49 25.8	-0.7
FFNB				Pmax			
	comp=N,618nm,0.1s						
FFNB				Smax			
	comp=N,7μm,0.2s						
TRTB	**Turuntaevo**	**0.76**	**98**	⇑*i*Pg	Pg	05 49 28.1	-0.8
TRTB				*e*Sg	Sg	05 49 38.2	-0.6
TRTB				Pmax			
	comp=N,308nm,0.3s						
TRTB				Smax			
	comp=N,946nm,0.1s						
HRMR	**Khuramsha**	**0.79**	**154**	⇑*i*Pg	Pg	05 49 28.4	-1.1
HRMR				*e*Sg	Sg	05 49 38.6	-1.2
HRMR				*e*Sb	Sb	05 49 42.3	+2.1
HRMR				Pmax			
	comp=N,392nm,0.2s						
HRMR				max			
	comp=N,6μm,0.2s						
UUDB	**Ulan-Yde**	**0.91**	**121**	⇑*i*Pg	Pg	05 49 30.4	-1.3
UUDB				*e*Sg	Sg	05 49 42.1	-1.5
UUDB				Pmax			
	comp=N,355nm,0.5s						
UUDB				Smax			
	comp=N,854nm,0.7s						
LSTR	**Listvyanka**	**1.08**	**245**	*e*PG	Pg	05 49 34.1	-0.9
LSTR				*e*		05 49 48.2	
LSTR				pmax	pmax		
	comp=Z,93nm,0.4s						
LSTR				smax			
	comp=N,593nm,0.7s						
LSTR	**Listvyanka**	**1.08**	**245**	*e*Pg	Pg	05 49 34.2	-0.8
LSTR				*e*Sg	Sg	05 49 48.2	-0.9
LSTR				Pmax			
	comp=N,52nm,0.2s						
LSTR				Smax			
	comp=N,592nm,0.4s						
IRK	**Irkutsk**	**1.32**	**267**	*e*PG	Pg	05 49 39.2	-0.3
IRK				*e*		05 49 55.3	
IRK				pmax	pmax		
	comp=Z,257nm,0.2s						
IRK				smax			
	comp=N,3μm,0.5s						
IRK	**Irkutsk**	**1.32**	**267**	*e*Pg	Pg	05 49 39.2	-0.3
IRK				*e*Sg	Sg	05 49 56.1	-0.5
IRK				Pmax			
	comp=N,251nm,0.2s						
IRK				Smax			
	comp=N,2μm,0.6s						
OGRR	**Ongureny**	**1.49**	**28**	⇑*i*Pg	Pg	05 49 41.2	-1.6
OGRR				*e*Sg	Sg	05 50 00.5	-1.6
OGRR				Pmax			
	comp=N,14nm,0.2s						
OGRR				Smax			
	comp=N,135nm,0.2s						
TLY	**Talaya**	**1.83**	**250**	*e*PN	Pn	05 49 47.0	+1.8
TLY				*e*		05 50 10.9	
TLY				pmax	pmax		
	comp=Z,54nm,0.4s						
TLY				smax			
	comp=E,284nm,0.4s						
TLY	**Talaya**	**1.83**	**250**	*e*Pg	Pg	05 49 47.3	-2.0
TLY				*e*Sg	Sg	05 50 10.9	-2.2
TLY				Pmax			
	comp=E,52nm,0.3s						
TLY				Smax			
	comp=E,255nm,0.2s						
ARS	**Arshan**	**2.49**	**262**	*e*PN	Pn	05 49 58.6	+4.3
ARS				*e*		05 50 30.5	
ARS				pmax	pmax		
	comp=Z,39nm,0.2s						
ARS				smax			
	comp=E,747nm,0.3s						
ARS	**Arshan**	**2.49**	**262**	*e*Pg	Pg	05 49 58.9	-3.0
ARS				*e*Sg	Sg	05 50 30.5	-3.7
ARS				Pmax			
	comp=E,55nm,0.2s						
ARS				Smax			
	comp=E,749nm,0.6s						
SYVR	**Suvo**	**2.54**	**57**	*e*Pn	Pn	05 49 54.9	0.0
SYVR				*e*Pg	Pg	05 49 59.7	-3.1
SYVR				*e*Sn	Sn	05 50 25.5	-0.1
SYVR				*e*Sg	Sg	05 50 33.6	-2.1
SYVR				Pmax			
	comp=E,8.0nm,0.3s						
SYVR				Smax			
	comp=E,72nm,0.4s						
ZAK	**Zakamensk**	**2.77**	**226**	*e*Pn	Pn	05 49 59.2	+1.1
ZAK				*e*Pg	Pg	05 50 03.9	-3.4
ZAK				*e*Sg	Sg	05 50 40.3	-2.9
ZAK				Pmax			
	comp=E,5.0nm,0.1s						
ZAK				Smax			
	comp=E,48nm,0.4s						
MOY	**Mondy**	**3.42**	**261**	*e*PN	Pn	05 50 10.5	+3.6
MOY				*e*		05 50 17.3	
MOY				*e*S	Sn	05 50 48.4	+1.2
MOY				*e*		05 50 58.3	
MOY				pmax	pmax		
	comp=Z,38nm,0.4s						
MOY				smax			
	comp=E,141nm,0.6s						
MOY	**Mondy**	**3.42**	**261**	*e*	Pn	05 50 10.5	+3.6
MOY				*e*		05 50 16.9	
MOY				*e*		05 50 52.4	
MOY				*e*Sg	Sg	05 50 58.5	-5.3
MOY				*e*		05 51 03.3	
MOY				max			
	comp=E,142nm,0.8s						
YLYR	**Ulyunkhan**	**3.80**	**46**	*e*Pn	Pn	05 50 12.5	+0.2
YLYR				*e*Pg	Pg	05 50 22.9	-4.1
YLYR				*e*Sg	Sg	05 51 12.9	-3.3
YLYR				Pmax			
	comp=E,3.0nm,0.3s						
YLYR				Smax			
	comp=E,18nm,0.6s						
NIZ	**Nizh Angarsk**	**3.91**	**27**	*e*Pn	Pn	05 50 14.3	+0.6
NIZ				*e*Pg	Pg	05 50 24.0	-4.9
NIZ				*e*Sg	Sg	05 51 15.0	-4.5
NIZ				Pmax			
	comp=E,6.0nm,0.3s						
NIZ				Smax			
	comp=E,32nm,0.4s						
ORL	**Orlik**	**4.04**	**275**	*e*PN	Pn	05 50 17.4	+1.8
ORL				*e*		05 50 27.5	
ORL				*e*S	Sn	05 51 04.2	+1.5
ORL				*e*		05 51 18.8	
ORL				pmax	pmax		
	comp=Z,11nm,0.6s						
ORL				smax			
	comp=N,154nm,1.0s						
ORL	**Orlik**	**4.04**	**275**	⇑*i*Pn	Pn	05 50 17.7	+2.1
ORL				Pg	Pg	05 50 27.5	-4.1
ORL				*e*Sn	Sn	05 51 03.8	+1.1
ORL				*e*Sg	Sg	05 51 19.2	-4.7
ORL				Pmax			
	comp=N,10.0nm,0.7s						
ORL				Smax			
	comp=N,155nm,0.8s						
KPC	**Khapcheranga**	**4.60**	**123**	*e*Pn	Pn	05 50 22.6	-0.6
KPC				*e*Pg	Pg	05 50 36.5	-5.7
KPC				*e*Sg	Sg	05 51 36.2	-5.6
KPC				Pmax			
	comp=N,16nm,0.6s						
KPC				Smax			
	comp=N,33nm,0.8s						
TDJR	**Todzha**	**6.32**	**275**	*e*Sg	Sg	05 52 28.0	-8.7

IDC ***18*** *05:54:38.0±1.0,28.14N×7765E,h0km,mb3.9/7,mb1 4.0/7, mb1mx3.8/22,mbtmp3.9/7,Error ellipse: s-maj=35.7km s-min=20.4km az=53.0*

ISCJB ***18*** *05:54:40.0±0.7,28.18N±003×7779E±003,h20km±6km, mb3.7/7,Error ellipse: s-maj=4.9km s-min=3.7km az=171.1*

NDI ***18*** *05:54:41.3±3.9,2829N×7768E,h10km,ML3.5*

NEIC ***18*** *05:54:42.4,2779N×7761E,h10km,ML4.7(DMN), After DMN.*

ISC 18 05:54:41.3±0.7,2824N±003×7775E±003,h15km±5km,n44, σ1°27/64,mb3.7/7,4C,Northern India

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SONA	**Sohna**	**0.58**	**271**	⇑*i*P	**Pg**	**05 54 51.5**	**-1.3**
SONA				*e*S	**Sg**	**05 54 58.5**	**-2.1**
SONA				AML	AML	05 54 59.0	
	comp=N,2μm,0.1s						
SONA				AML	AML	05 54 59.2	
	comp=E,3μm,0.3s						
AYAN	**Aya Nagar**	**0.59**	**294**	⇑*i*P	**Pg**	**05 54 50.9**	**-2.1**
AYAN				*e*S	**Sg**	**05 55 00.5**	**-0.5**
NDI	**New Delhi**	**0.64**	**313**	*ex*	x	05 54 48.5	
NDI				*e*PG	**Pg**	**05 54 50.9**	**-2.9**
NDI				*ex*	x	05 54 55.3	
NDI				AML	AML	05 54 55.4	
	comp=N,915nm,0.1s						
NDI				AML	AML	05 54 55.5	
	comp=E,1μm,0.2s						
BHGR	**Bahadurgarh**	**0.84**	**302**	*e*P	**Pg**	**05 54 58.3**	**+0.7**
BHGR				*e*S	**Sg**	**05 55 08.3**	**-0.3**
AGRA	**Agra**	**1.02**	**170**	⇑*i*P	**Pb**	**05 55 02.6**	**+1.9**
AGRA				*e*S	**Sb**	**05 55 16.2**	**+2.2**
AGRA				AML	AML	05 55 19.2	
	comp=E,2μm,0.2s						
AGRA				AML	AML	05 55 19.4	
	comp=N,2μm,0.2s						
KALG	**Kalgarh**	**1.54**	**35**	*e*P	**Pn**	**05 55 04.0**	**-4.3**
KALG				*e*S	**Sn**	**05 55 23.0**	**-5.0**
KALG				AML	AML	05 55 25.8	
	comp=E,908nm,0.2s						
KALG				AML	AML	05 55 27.3	
	comp=N,146nm,0.1s						
KHET	**Khetri**	**1.72**	**265**	⇑*i*P	**Pn**	**05 55 11.1**	**+0.4**
KHET				*e*S	**Sn**	**05 55 32.5**	**0.0**
KHET				AML	AML	05 55 34.0	
	comp=N,443nm,0.5s						
KHET				AML	AML	05 55 34.2	
	comp=E,348nm,0.1s						
DDI	**Dehra Dun**	**2.09**	**7**	*e*P	**Pn**	**05 55 17.5**	**+1.7**
DDI				*e*S	**Sn**	**05 55 42.6**	**+1.0**
LGTI	**Lohaghat**	**2.50**	**61**	*e*P	**Pn**	**05 55 20.2**	**-1.3**
LGTI				*e*S	**Sn**	**05 55 50.2**	**-1.5**
PTH	**Pithoragarh**	**2.53**	**58**	*e*P	**Pn**	**05 55 23.0**	**+1.2**
PTH				*e*S	**Sn**	**05 55 53.5**	**+1.1**
JOSI	**Joshimath**	**2.79**	**34**	*e*P	**Pn**	**05 55 26.2**	**+0.7**
JOSI				*e*S	**Sn**	**05 55 59.7**	**+0.7**
JOSI				AML	AML	05 56 08.1	
	comp=E,226nm,0.2s						
JOSI				AML	AML	05 56 08.3	
	comp=N,389nm,0.3s						
SMLA	**Simla**	**2.92**	**350**	*i*P	**Pn**	**05 55 27.9**	**+0.7**
SMLA				*i*x	x	05 56 07.3	
SMLA				*ex*	x	05 56 10.9	
	comp=N,2μm,0.2s						
SMLA				*ex*	x	05 56 11.6	
	comp=E,2μm,0.3s						
AJM	**Ajmer**	**3.27**	**238**	*e*P	**Pn**	**05 55 32.7**	**+0.6**
AJM				*e*S	**Sn**	**05 56 10.2**	**-0.5**
AJM				AML	AML	05 56 25.1	
	comp=E,188nm,0.1s						
AJM				AML	AML	05 56 27.0	
	comp=N,284nm,1.6s						
SDNR	**Sundarnagar**	**3.31**	**348**	*e*P	**Pn**	**05 55 33.6**	**+0.9**
SDNR				*ex*	x	05 56 24.6	
BHK	**Bhakra**	**3.37**	**340**	*ex*	x	05 55 50.6	
BHK				*e*SB	**Sb**	**05 56 21.8**	**+0.3**
PONG	**Pong**	**4.01**	**338**	*ex*	x	05 56 00.0	
THN	**Thein Dam**	**4.53**	**338**	*e*PB	**Pb**	**05 56 01.5**	**+1.0**
THN				*ex*	x	05 57 00.8	
BHPL	**Bhopal**	**4.99**	**183**	*e*S	**Sn**	**05 56 53.3**	**+0.1**
BHPL				AML	AML	05 57 19.8	
	comp=E,99nm,0.2s						
BHPL				AML	AML	05 57 20.7	
	comp=N,27nm,0.2s						
KOLN	**Koldanda**	**5.20**	**94**	*e*Pn	**Pn**	**05 56 00.7**	**+2.1**
KOLN				*e*Sn	**Sn**	**05 56 57.5**	**-0.8**
	comp=N,148nm,0.4s						
DANN	**Dangsing**	**5.30**	**87**	*e*Pn	**Pn**	**05 56 02.8**	**+2.8**
DANN				*e*Sn	**Sn**	**05 57 01.5**	**+0.6**
	comp=N,90nm,0.3s						
SARP	**Sargodha**	**5.72**	**311**	P	**Pn**	**05 56 07.3**	**+1.5**
GKN	**Gorkha**	**6.09**	**91**	*e*Pn	**Pn**	**05 56 12.4**	**+1.6**
GKN				*e*Sn	**Sn**	**05 57 17.9**	**-2.4**
	comp=N,113nm,0.3s						
DMN	**Daman**	**6.54**	**94**	*e*Pn	**Pn**	**05 56 18.1**	**+1.0**
DMN				*e*Sn	**Sn**	**05 57 29.7**	**-1.7**
	comp=N,47nm,0.3s						
CHCP	**Chirah Chowk**	**6.63**	**326**	P	**Pn**	**05 56 18.8**	**+0.6**
KKN	**Kakani**	**6.67**	**92**	*e*Pn	**Pn**	**05 56 19.7**	**+0.8**
KKN				*e*Sn	**Sn**	**05 57 33.6**	**-1.1**
	comp=N,84nm,0.3s						
PKI	**Pulchoki**	**6.81**	**94**	*e*Pn	**Pn**	**05 56 21.3**	**+0.5**
PKI				*e*Sn	**Sn**	**05 57 36.1**	**-2.0**
	comp=N,76nm,0.3s						
NGP	**Nagpur**	**7.16**	**170**	*e*P	**Pn**	**05 56 24.9**	**-0.7**
NGP				*ex*	x	05 57 28.2	
NGP				AML	AML	05 58 23.6	
	comp=N,53nm,0.3s						
NGP				AML	AML	05 58 23.7	
	comp=E,84nm,0.8s						
GUN	**Gumba**	**7.19**	**91**	*e*Pn	**Pn**	**05 56 26.8**	**+0.8**
GUN				*e*Sn	**Sn**	**05 57 45.3**	**-2.2**
	comp=E,107nm,0.3s						
CEP	**Cherat**	**7.48**	**319**	P	**Pn**	**05 56 29.6**	**-0.3**
CEP				S	**Sn**	**05 57 51.0**	**-3.6**
JIRN	**Jiri**	**7.49**	**92**	*e*Pn	**Pn**	**05 56 31.0**	**+0.9**
JIRN				*e*Sn	**Sn**	**05 57 51.9**	**-2.9**
	comp=E,78nm,0.2s						
RAMN	**Ramite**	**7.96**	**97**	*e*Pn	**Pn**	**05 56 36.8**	**+0.3**
RAMN				*e*Sn	**Sn**	**05 58 03.1**	**-3.3**
	comp=E,167nm,0.3s						
ODAN	**Odare**	**8.67**	**97**	*e*Pn	**Pn**	**05 56 47.6**	**+1.3**
ODAN				*e*Sn	**Sn**	**05 58 20.2**	**-3.6**
	comp=E,87nm,0.4s						
TAPN	**Taplejung**	**8.87**	**93**	*e*Pn	**Pn**	**05 56 49.2**	**+0.2**
TAPN				*e*Sn	**Sn**	**05 58 24.4**	**-4.3**
	comp=E,26nm,0.3s						
KBL	**Kabul**	**9.73**	**312**	Pn	**Pn**	**05 57 08.0**	**+7.2**
LATR	**Latur**	**9.84**	**187**	*ex*	x	05 59 31.5	
POO	**Poona**	**10.31**	**201**	*e*P	**Pn**	**05 57 09.5**	**+0.7**
POO				*i*x	x	05 59 02.0	
SHL	**Shillong**	**12.89**	**99**	*ex*	x	06 00 06.0	
SHL				*ex*	x	06 01 45.0	
CMAR	**Chiang Mai Arr**	**21.73**	**112**	P	**P**	**05 59 32.5**	**+0.3**
	comp=E,0.8nm,0.3s,mb3.6,baz=298,slow=9.9,SNR=4.2						
KURK	**Kurchatov**	**22.45**	**1**	P	**P**	**05 59 38.1**	**-1.5**
	comp=E,2.0nm,0.6s,mb3.7,baz=192,slow=9.6,SNR=12						
ZALV	**Zalesovo Beam**	**26.20**	**9**	P	**P**	**06 00 15.3**	**+0.1**
	comp=E,3.2nm,0.3s,mb4.3,baz=198,slow=9.1,SNR=3.9						
ARCES	**ARCESS Array B**	**50.90**	**339**	P	**P**	**06 03 41.1**	**-0.4**
	comp=E,2.3nm,1.0s,mb4.0,baz=107,slow=8.0,SNR=4.5						
TORD	**Torodi Ar. Bea**	**71.73**	**275**	P	**P**	**06 06 02.1**	**-1.2**
	comp=E,0.5nm,0.6s,mb3.6,baz=68,slow=4.2,SNR=7.3						
WRA	**Warramunga Arr**	**72.70**	**125**	P	**P**	**06 06 08.0**	**-0.9**
	comp=E,0.4nm,0.5s,mb3.6,baz=321,slow=5.6,SNR=15						
ASAR	**Alice Springs**	**74.78**	**128**	P	**P**	**06 06 19.9**	**-1.1**
	comp=E,0.3nm,0.6s,mb3.4,baz=308,slow=5.9,SNR=7.3						

NIED ***18*** *05:59:00,2650N×143.10E,h17km,Mw3.9 Best double couple: M08.01000×1014 NP1:φ8172.00000°,δ84.00000°, λ-92.00000°. NP2:φ811.00000°,δ6.00000°,λ-71.00000°.*

JMA 18 05:59:45.7±0.3,2654N×14309E,h0km,M4.5,Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JHHJ	**Haha-jima-NKT**	**0.82**	**276**	P	Pg	06 00 01.9	+0.4
CBIJ	**Chichi jima**	**0.98**	**305**	P	Pg	06 00 05.2	+0.7
CBIJ				*e*S	Sg	06 00 18.3	+1.1
JRY	**Ryogami san**	**10.10**	**340**	P	Pn	06 02 13.7	+1.7
JHO	**Hitachi**	**10.27**	**349**	*e*S	Sn	06 04 08.5	-1.6
JAG	**Ashikaga**	**10.33**	**343**	P	Pn	06 02 16.4	+1.3
JAG				*e*S	Sn	06 04 06.5	-5.2

IDC ***18*** *06:13:08.7±6.0,1940S×170.10E,h0km,mb4.0/4, mb1 4.2/4,mb1mx3.9/15,mbtmp4.0/4,Error ellipse: s-maj=204.9km s-min=40.9km az=142.0*

ISC 18 06:13:14.2±5.2,188S±04×1695E±08,h10km,n6,σ0°49/5, mb4.0/4,Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res

0.1nm,0.3s,baz=150,slow=22,SNR=3.8
WRA Warramunga Arr 11.09 341 Pn Pn 06 17 34.8 -0.4
0.1nm,0.3s,baz=163,slow=12,SNR=5.3

JMA ***18*** *06:20:35.7±0.1, 2994N×13923E, h474km, M3.9*
MOS ***18*** *06:20:35.8±0.6, 2992N×13884E, h445km, mb4.0/19, Error ellipse: s-maj=22.0km s-min=9.4km az=116.9*
ISCJB ***18*** *06:20:36.1±0.3, 2989N±004×13904E±009, h456km±5km, mb4.1/31, Error ellipse: s-maj=12.5km s-min=5.8km az=165.7*
IDC ***18*** *06:20:36.5±0.8, 2993N×13889E, h432km±10km, mb3.5/14, mb1 3.5/19, mb1mx3.4/27, mbtmp3.4/19, Error ellipse: s-maj=18.8km s-min=8.3km az=68.0*
NEIC ***18*** *06:20:37.4±0.7, 2998N×13888E, h444km±7km, mb4.4/5, Error ellipse: s-maj=10.8km s-min=7.8km az=95.0*
ISC 18 06:20:36.9±0.3**, 2991N**±004×**13908E**±009**, h450**km±5km**, n83, σ0.77**/90**, mb4.1**/31**, Southeast of Honshu**

Code Station Name Δ° AZ° Phase ID (Op ISC) Time (h m s) Res ISC
JHJ2 Mitsune 3.26 11 P P 06 21 47.7 +2.0
JHJ2 S S 06 22 42.4 +0.6
JHJ Hachijo jima 2 3.26 10 S S 06 22 41.0 -0.9
55nm,0.3s,baz=67,slow=23,SNR=6.1
CBIJ Chichi jima 3.91 135 P P 06 21 51.5 +0.2
37nm,0.3s,baz=274,slow=23,SNR=24
CBIJ S S 06 22 50.5 -1.2
73nm,0.3s,baz=291,slow=22,SNR=18
CBIJ Chichi jima 3.91 135 P P 06 21 51.5 +0.2
CBIJ S S 06 22 50.8 -1.0
JHHJ Haha-jima-NKT 4.26 139 P P 06 21 54.8 +0.4
JHHJ eS S 06 22 56.3 -1.1
JIE Ise 4.90 336 P P 06 22 02.0 +1.8
JIE S S 06 23 09.0 +0.8
JKN2 Miekihoku 4.93 332 P P 06 22 01.5 +1.0
BSO1 Boso 1 5.00 18 P P 06 22 02.1 +1.0
BSO1 S S 06 23 09.0 -0.9
BSO3 Boso 3 5.03 14 S S 06 23 08.6 -1.8
BSO4 Boso 4 5.18 12 S S 06 23 12.8 -0.3
JOD2 Odawara 2 5.34 0 P P 06 22 05.2 +0.8
JNY Yasuok 5.53 350 P P 06 22 07.6 +1.3
JHU Hanno 5.93 2 P P 06 22 09.6 -0.8
JRY Ryogami san 6.10 359 P P 06 22 12.2 +0.2
JYT Yasato 6.37 8 S S 06 23 30.9 -4.2
JAG Ashikaga 6.51 3 P P 06 22 15.3 -1.0
JAG S S 06 23 32.4 -5.3
MJAR Matsushiro Arr 6.66 354 P P 06 22 17.2 -0.7
2.9nm,0.3s,baz=241,slow=26,SNR=17
MJAR S S 06 23 40.2 -0.3
0.6nm,0.3s,baz=144,slow=19,SNR=3.9
MJAR Matsushiro Arr 6.66 354 P P 06 22 17.2 -0.7
MJAR S S 06 23 40.2 -0.3
MJAR pmax pmax
comp=Z,3.0nm,0.3s
MJAR smax
comp=N,1.0nm,0.3s
MJAR Matsushiro Arr 6.66 354 P P 06 22 17.2 -0.7
MJAR S S 06 23 40.2 -0.3
MAJO Matsushiro 6.66 354 eP P 06 22 17.5 -0.4
MAJO pmax pmax
comp=Z,21nm,0.4s
MAJO Matsushiro 6.66 354 eP P 06 22 17.4 -0.4
comp=Z,21nm,0.4s
MAT Matsushiro 6.66 354 P P 06 22 17.8 -0.1
MAT S S 06 23 41.0 +0.4
JHO Hitachi 6.80 10 P P 06 22 19.9 +0.5
JOW Kunigami 10.00 255 P P 06 22 53.0 -1.0
comp=Z,2.5nm,0.3s,baz=113,slow=9.6,SNR=4.6
KSRS Korea Array 11.95 312 P P 06 23 14.4 -0.7
comp=Z,0.3nm,0.3s,baz=128,slow=10.0,SNR=3.8
ASAJ Asahikawa 14.46 10 P P 06 23 43.8 +1.7
comp=Z,1.6nm,0.3s,baz=204,slow=10.0,SNR=6.4
ASAJ Asahikawa 14.46 10 P P 06 23 43.8 +1.8
ASAJ pmax pmax
comp=Z,2.0nm,0.3s
SONM Songino Array 30.80 315 P P 06 26 14.4 +0.3
comp=Z,0.4nm,0.4s,mb3.2,baz=127,slow=9.1,SNR=3.5
CMAR Chiang Mai Arr 38.17 262 P P 06 27 16.4 -0.1
comp=Z,2.1nm,0.5s,mb3.9,baz=68,slow=4.9,SNR=13
CMAR Chiang Mai Arr 38.17 262 P P 06 27 16.4 -0.1
CMAR pmax pmax
comp=Z,2.0nm,0.5s
TAPN Taplejung 44.86 280 eP P 06 28 09.7 -0.1
comp=Z,9.5nm,0.3s,mb4.7
ODAN Odare 45.27 279 eP P 06 28 12.4 -0.6
comp=Z,15nm,0.4s,mb4.7
ZALV Zalesovo Beam 45.58 318 P P 06 28 14.6 -0.3
comp=Z,1.3nm,0.3s,mb3.8,baz=110,slow=7.5,SNR=5.9
ZALV PcP PcP 06 29 44.5 +0.2
comp=Z,1.0nm,0.4s,baz=94,slow=5.8,SNR=4.1
ZALV Zalesovo Beam 45.58 318 P P 06 28 14.6 -0.3
ZALV pP 06 29 44.6 +3.5
ZALV pmax pmax
comp=Z,1.0nm,0.3s,mb3.7
ZALV pmax pmax
comp=Z,1.0nm,0.4s,mb3.6
RAMN Ramite 45.92 280 eP P 06 28 17.8 -0.2
comp=Z,16nm,0.4s,mb4.8
JIRN Jiri 46.07 281 eP P 06 28 19.5 +0.4
comp=Z,6.2nm,0.3s,mb4.6
GUN Gumba 46.27 281 eP P 06 28 21.0 +0.4
comp=Z,17nm,0.5s,mb4.8
MKAR Makanchi Array 46.59 308 P P 06 28 22.4 -0.4
comp=Z,0.9nm,0.4s,mb3.6,baz=82,slow=10,SNR=14
MKAR PcP PcP 06 29 48.5 +0.5
comp=Z,0.8nm,0.5s,baz=80,slow=9.1,SNR=4.4
MKAR Makanchi Array 46.59 308 P P 06 28 22.4 -0.4
MKAR pP 06 29 48.5 -0.9
MKAR pmax pmax
comp=Z,1.0nm,0.4s
MKAR pmax pmax
comp=Z,1.0nm,0.5s
PKI Pulchoki 46.76 281 eP P 06 28 24.1 -0.3
KKN Kakani 46.81 281 eP P 06 28 24.9 +0.1
DMN Daman 47.01 281 eP P 06 28 26.0 -0.3
GKN Gorkha 47.30 282 eP P 06 28 28.3 -0.2
DANN Dangsing 47.95 283 eP P 06 28 33.6 +0.2
comp=Z,20nm,0.4s,mb4.8
KOLN Koldanda 48.25 282 eP P 06 28 35.5 -0.1
comp=Z,16nm,0.6s,mb4.5
KURK Kurchatov 49.08 313 P P 06 28 41.4 0.0
comp=Z,3.2nm,0.3s,mb4.1,baz=104,slow=11,SNR=24
KURK Kurchatov 49.08 313 P P 06 28 41.4 0.0
KURK pmax pmax
comp=Z,3.0nm,0.3s,mb4.1
WRA Warramunga Arr 49.77 186 P P 06 28 47.8 +0.9
comp=Z,3.4nm,0.7s,mb3.8,baz=0.6,slow=7.9,SNR=93
WRA PcP PcP 06 30 01.9 +2.0
comp=Z,0.5nm,0.3s,baz=358,slow=4.0,SNR=7.2
WRA Warramunga Arr 49.77 186 P P 06 28 47.8 +0.9
WRA 06 30 01.9
WRA pmax pmax
comp=Z,3.0nm,0.7s
WRA pmax pmax
comp=Z,1.0nm,0.3s
ASAR Alice Springs 53.49 186 P P 06 29 15.2 +1.3
comp=Z,1.3nm,0.4s,mb3.6,baz=0.8,slow=6.2,SNR=21
ASAR PcP PcP 06 30 16.0 +2.1
comp=Z,0.2nm,0.5s,baz=9.8,slow=4.1,SNR=3.0
ASAR Alice Springs 53.49 186 P P 06 29 15.2 +1.3
ASAR 06 30 16.0
ASAR pmax pmax
comp=Z,1.0nm,0.4s
VOSK Vostochnaya 53.79 316 P P 06 29 15.8 +0.1
VOSK pmax pmax
comp=Z,3.0nm,0.8s,mb3.7
BVA0 Borovoye Array 54.13 316 iP P 06 29 17.9 -0.2
BVA0 pmax pmax
comp=Z,1.0nm,0.4s,mb3.5
BVAR Borovoye Array 54.13 316 P P 06 29 18.1 0.0
comp=Z,5.9nm,0.4s,mb4.2,baz=90,slow=7.5,SNR=23
BVAR Borovoye Array 54.13 316 P P 06 29 18.1 0.0
BVAR pmax pmax
comp=Z,6.0nm,0.4s
KK31 Karatay Array 55.24 304 iP P 06 29 25.7 -0.4
KK31 pmax pmax
comp=Z,2.0nm,0.3s,mb3.9
AB31 Akbulak array 61.19 313 iP P 06 30 06.2 -0.3
AB31 pmax pmax
comp=Z,3.0nm,0.4s,mb4.1
STKA Stephens Creek 61.49 178 P P 06 30 10.2 +1.6
comp=Z,1.4nm,0.4s,mb3.7,baz=2.3,slow=10,SNR=4.9
AKTK Aktyubinsk 62.12 314 P P 06 30 12.3 -0.3
AKTO Aktyubinsk 62.12 314 P P 06 30 12.3 -0.3
comp=Z,2.6nm,0.6s,mb3.8,baz=92,slow=5.9,SNR=9.1
AKTO Aktyubinsk 62.12 314 P P 06 30 12.3 -0.3
AKTO pmax pmax
comp=Z,3.0nm,0.6s,mb3.9
KEV Kevo 69.42 340 ep P 06 30 58.1 0.0
comp=Z,3.2nm,0.6s,mb4.0
KEV Kevo 69.42 340 eP P 06 30 58.1 0.0
KEV pmax pmax
comp=Z,3.0nm,0.6s,mb4.0
ARCES ARCESS Array B 69.99 340 P P 06 31 02.8 +1.2
comp=Z,1.8nm,0.5s,mb3.8,baz=61,slow=8.5,SNR=14
ARCES ARCESS Array B 69.99 340 P P 06 31 02.8 +1.3
ARCES pmax pmax
comp=Z,2.0nm,0.5s
JOF Joensuu 71.35 333 ep P 06 31 08.6 -1.1
comp=Z,3.9nm,0.6s,mb4.1
JOF Joensuu 71.35 333 eP P 06 31 08.6 -1.1
JOF pmax pmax
comp=Z,4.0nm,0.6s,mb4.1
KAF Kangasniemi 73.75 333 ep P 06 31 23.2 -0.5
comp=Z,2.5nm,0.5s,mb4.0
KAF Kangasniemi 73.75 333 eP P 06 31 23.2 -0.5
KAF pmax pmax
comp=Z,3.0nm,0.5s,mb4.1
RDF Al-Radifah 77.39 296 eP P 06 31 43.9 -0.7
baz=44
RDF AMb AMB 06 31 54.5
comp=Z,31nm,1.3s,mb4.7,baz=44
NAY Al-Naaiem 77.48 297 eP P 06 31 44.5 -0.6
baz=43
NAY AMb AMB 06 31 45.5
comp=Z,9.0nm,0.9s,mb4.3,baz=43
RST Umm Al-Ruwaisa 77.55 297 eP P 06 31 44.6 -0.9
baz=43
RST AMb AMB 06 31 45.2
comp=Z,16nm,0.7s,mb4.6,baz=43
AKASG Malin Array Be 78.74 322 P P 06 31 51.4 -0.2
comp=Z,1.3nm,0.5s,mb3.8,baz=53,slow=5.4,SNR=6.9
AKASG Malin Array Be 78.74 322 P P 06 31 51.4 -0.1
AKASG pmax pmax
comp=Z,1.0nm,0.5s
NB2 NORSAR Subarra 79.98 337 P P 06 31 58.1 +0.2
comp=Z,2.1nm,0.4s,mb4.0,baz=45,slow=5.1
NOA NORSAR Array B 79.98 337 P P 06 31 58.5 +0.5
comp=Z,2.1nm,0.5s,mb3.9,baz=45,slow=5.1,SNR=6.4
NOA NORSAR Array B 79.98 337 P P 06 31 58.5 +0.6
NOA pmax pmax
comp=Z,2.0nm,0.5s
GERES GERESS Array B 87.69 327 P P 06 32 36.6 +0.1
comp=Z,0.5nm,0.4s,mb3.6,baz=46,slow=5.6,SNR=3.0
GERES GERESS Array B 87.69 327 P P 06 32 36.6 +0.1
GERES pmax pmax
comp=Z,1.0nm,0.4s
TORD Torodi Ar. Bea 120.69 310 PKP PKPdf 06 38 37.9 +0.4
comp=Z,0.4nm,0.5s,baz=78,slow=0.9,SNR=8.7
TORD Torodi Ar. Bea 120.69 310 PKP PKPdf 06 38 37.9 +0.4
LPAZ La Paz 151.63 68 PKPbc PKPbc 06 39 43.8 +3.7
comp=Z,0.7nm,0.6s,baz=292,slow=5.4,SNR=5.0
LPAZ La Paz 151.63 68 PKIKP PKPbc 06 39 43.8 +3.8
LPAZ pmax pmax
comp=Z,1.0nm,0.6s

IDC ***18*** *06:31:16.0±1.2, 4136N×8006E, h0km, mb3.8/3, mb1 3.8/7, mb1mx3.6/25, mbtmp3.6/7, ML3.5/4, Error ellipse: s-maj=28.1km s-min=16.6km az=97.0*
ISCJB ***18*** *06:31:16.0±0.9, 4133N±007×8041E±005, h10km, mb3.7/3, Error ellipse: s-maj=10.8km s-min=5.3km az=163.4*
BJI ***18*** *06:31:17.6, 4161N×7990E, h7km, ML3.5*
NNC ***18*** *06:31:22.1±2.8, 4157N×7992E, h11km±12km, mb4.0, mpv3.7, Error ellipse: s-maj=18.7km s-min=7.5km az=139.0*
NEIC ***18*** *06:31:23.9±1.7, 4161N×80.12E, h59km±16km, Error ellipse: s-maj=22.4km s-min=8.5km az=151.0*
ISC 18 06:31:18.0±0.8**, 4127N**±007×**8031E**±006**, h10**km**, n27, σ1.37**/33**, mb3.7**/3**, 8C-6D, Southern Xinjiang**

Code Station Name Δ° AZ° Phase ID (Op ISC) Time (h m s) Res ISC
TKM2 Tokmak 2 3.87 297 ⇑Pn Pn 06 32 16.5 -1.1
9.1nm,0.4s
TKM2 ⇓Lg 06 33 11.5
86nm,1.1s
TKM2 Tokmak 2 3.87 297 ePn Pn 06 32 16.6 -1.0
TKM2 eSn Sn 06 33 03.8 +0.8
UCH Uchtor 4.44 284 ePn Pn 06 32 27.1 +1.8
AML Almayashu 5.03 282 Pn Pn 06 32 34.2 +0.8
AML eSn Sg 06 33 49.0 -10
EKS2 Erkin-Say 5.06 288 ePn Pb 06 32 46.5 -0.1
EKS2 eSn Sg 06 33 52.6 -7.9
MK31 Makanchi Array 5.70 14 ⇑Pn Pn 06 32 42.7 0.0
3.9nm,0.5s,baz=191,slow=13,SNR=70
MK31 ⇓Sn Sn 06 33 47.7 -0.5
24nm,0.9s,baz=202,slow=25,SNR=7.6
MK31 ⇑Lg 06 34 18.0
23nm,0.7s,baz=192,slow=28,SNR=7.6
MK31 Makanchi Array 5.70 14 ePn Pn 06 32 42.8 +0.1
MK31 eSn Sn 06 33 51.7 +3.6
MKAR Makanchi Array 5.70 14 Pn Pn 06 32 42.8 +0.1
3.9nm,0.3s,baz=194,slow=13,SNR=50
MKAR Sn Sn 06 33 49.6 +1.4
2.3nm,0.3s,baz=190,slow=31,SNR=3.7
MKAR Lg 06 34 14.9
1.8nm,0.3s,baz=189,slow=28,SNR=3.3
WMQ Urumqi 6.02 63 ePG Pg 06 33 05.6 -7.7
WMQ SG Sg 06 34 33.0 +1.7
WMQ Smax
comp=N,29nm,0.6s
WMQ Smax
comp=E,45nm,0.9s
KK31 Karatay Array 7.50 287 ⇑Pg Pg 06 33 32.3 -9.2
comp=E,4.9nm,0.7s,baz=99,slow=15,SNR=7.4
KK31 ⇓Lg 06 35 09.7
comp=E,20nm,1.1s,baz=101,slow=29,SNR=4.0
KURBB Kurchatov Arra 9.44 353 ⇑Pn Pn 06 33 34.3 +0.5
comp=E,0.4nm,0.3s,baz=304,slow=14
KURBB ⇑Lg 06 36 12.0
comp=E,3.6nm,0.9s
KURK Kurchatov 9.52 354 ⇑Pn Pn 06 33 35.5 +0.5
comp=E,5.6nm,0.8s
KURK ⇓Lg 06 36 15.9
comp=E,22nm,1.2s
KURK Kurchatov 9.52 354 Pn Pn 06 33 32.0 -3.0
comp=E,0.1nm,0.3s,baz=178,slow=13,SNR=3.6
KURK Lg 06 36 10.6
comp=E,0.2nm,0.3s,baz=173,slow=31,SNR=3.6
ZAA0 Zalesovo Array 13.04 12 Pn Pn 06 34 21.4 -1.7
ZALV Zalesovo Beam 13.04 12 Pn Pn 06 34 21.6 -1.6
comp=E,0.5nm,0.3s,baz=200,slow=14,SNR=5.2
ZALV Sn Sn 06 36 44.7 -3.4
comp=E,0.5nm,0.3s,baz=204,slow=26,SNR=4.3
VOSK Vostochnaya 13.09 334 ⇓Lg 06 38 05.3
BVA0 Borovoye Array 13.54 334 ⇓Lg 06 38 19.5
comp=E,0.5nm,0.9s,baz=146,slow=26,SNR=4.1
BVAR Borovoye Array 13.54 334 Pn Pn 06 34 31.7 +1.7
comp=E,0.4nm,0.3s,baz=233,slow=42,SNR=3.6
BVAR Lg 06 38 15.2
comp=E,0.3nm,0.3s,baz=147,slow=38,SNR=2.8
GTA Gaotai 14.99 91 eP Pn 06 34 59.5 +10
GTA AP pP 06 35 03.0 +4.8
AB31 Akbulak array 16.38 306 ⇑Pn Pn 06 35 07.3 -0.4
comp=E,1.1nm,0.7s,baz=111,slow=11,SNR=7.7
AKTK Aktyubinsk 17.97 308 P Pn 06 35 31.1 +3.4
AKTO Aktyubinsk 17.97 308 P Pn 06 35 31.1 +3.4
comp=E,0.1nm,0.3s,baz=101,slow=9.7,SNR=4.0
SONM Songino Array 19.66 62 P Pn 06 35 47.4 -0.9
comp=E,0.1nm,0.3s,baz=254,slow=11,SNR=3.2
ARCES ARCESS Array B 39.83 333 P P 06 38 48.9 -2.1
comp=E,4.6nm,1.0s,mb4.2,baz=99,slow=12,SNR=3.1
TORD Torodi Ar. Bea 72.93 273 P P 06 42 46.1 -1.6
comp=E,0.6nm,1.0s,mb3.5,baz=51,slow=5.7,SNR=2.9
TORD Torodi Ar. Bea 72.93 273 P P 06 42 46.1 -1.6
WRA Warramunga Arr 78.83 129 P P 06 43 22.2 +1.1
comp=E,0.4nm,0.8s,mb3.4,baz=314,slow=7.0,SNR=3.0

IDC 18 06:57:03.7±2.5**, 1263S**×**9901W, h0**km**, mb3.9**/5**, mb1 4.3**/5**, mb1mx4.0**/12**, mbtmp3.9**/5**, Error ellipse: s-maj=172.2km s-min=27.5km az=67.0, Southwest of Galapagos Islands**

Code Station Name Δ° AZ° Phase ID (Op ISC) Time (h m s) Res ISC
PLCA Paso Flores 37.50 144 P P 07 04 19.9 +0.6
1.5nm,0.9s,baz=290,slow=12,SNR=3.2
TXAR Lajitas Array 41.95 354 P P 07 04 58.1 +1.7
1.3nm,0.8s,baz=173,slow=10.0,SNR=18
NVAR Mina Array Bea 53.90 341 P P 07 06 29.4 +0.6
1.3nm,0.8s,baz=180,slow=9.9,SNR=10
PDAR Pinedale Array 55.96 351 P P 07 06 43.3 -0.4
0.6nm,0.8s,baz=161,slow=5.7,SNR=5.0
ULM Lac du Bonnet 62.66 2 P P 07 07 28.8 -1.2
1.1nm,0.6s,baz=200,slow=8.9,SNR=4.7
VNA3 Neumayer Olymp 77.93 161 e P 07 09 02.3 -0.9
VNA3 e 07 09 08.3
VNA2 Neumayer--Watz 78.69 160 e P 07 09 06.6 -0.8
baz=299,slow=6.1
VNA2 e 07 09 12.6
SNAA Sanae 80.05 161 e P 07 09 13.2 -1.6
SNAA e 07 09 19.9
MKAR Makanchi Array 145.93 358 PKPbc PKPbc 07 16 43.7 -1.6
1.8nm,0.7s,baz=21,slow=3.6,SNR=13

ISCJB ***18*** *08:02:06.5±0.4, 1174N±006×8628W±008, h152km±3km, mb3.8/6, Error ellipse: s-maj=16.7km s-min=4.4km az=142.9*
IDC ***18*** *08:02:06.2±3.5, 1173N×86.19W, h143km±36km, mb3.6/6, mb1 3.8/8, mb1mx3.5/22, mbtmp3.6/8, Error ellipse: s-maj=40.6km s-min=13.4km az=43.0*
CASC ***18*** *08:02:07.5±2.4, 1163N×8643W, h135km±8km, MD4.0, ML3.7, mb3.5(NEIC)*
NEIC ***18*** *08:02:07.8±1.0, 1180N×8623W, h162km±12km, mb3.5/2, Error ellipse: s-maj=24.9km s-min=8.3km az=218.0*
ISC 18 08:02:07.4±0.4**, 1174N**±006×**8629W**±008**, h148**km±3km**, n57, σ0.83**/55**, mb3.8**/6**, 11C-12D, Near coast of Nicaragua**

Code Station Name Δ° AZ° Phase ID (Op ISC) Time (h m s) Res ISC
CRUN El Crucero 0.24 357⇓iP Pn 08 02 28.4 +0.8
APON Apoyo 0.27 51⇑eP Pn 08 02 27.9 +0.3
MASN Masaya 0.28 28 eP Pn 08 02 27.3 -0.3
TICN Ticuantepe 0.29 10 eP Pn 08 02 27.7 0.0
TISN Laguna Tiscapa 0.40 2 eP Pn 08 02 28.1 0.0
MGAN Managua 0.40 5⇑iP Pn 08 02 28.0 -0.1
MGAN AML AML 08 02 29.0
comp=N,1μm,0.5s
MGAN eS Sn 08 02 44.3 +0.4
XAVN Gruta Xavier 0.40 354 eP Pn 08 02 28.0 -0.1
WILN Americas 2 0.42 13 eP Pn 08 02 27.9 -0.4
CSAN 0.46 343⇓iP Pn 08 02 28.4 0.0
APYN Apoyeque 0.49 353⇓eP Pn 08 02 28.4 -0.1
COPN Copaltepe 0.53 325⇓iP Pn 08 02 28.3 -0.4
SSN San Juan del S 0.61 136⇑iP Pn 08 02 29.1 -0.1
SSN eS Sn 08 02 45.4 -0.4
CONN Concepcion 0.67 105⇓eP Pn 08 02 29.8 +0.2
CONN eS Sn 08 02 46.3 0.0
MOMN Momotombo 0.70 339⇑eP Pn 08 02 30.0 +0.2
MIRN Miramar 0.81 329⇓eP Pn 08 02 30.5 0.0
CNGN Cerro Negro 0.85 332⇑eP Pn 08 02 30.6 -0.3
CNGN eS Sn 08 02 46.5 -2.2
TEL3 Telica 3 0.99 326 eP Pn 08 02 32.1 +0.2
CUI Cuipilapa 1.53 134⇓iP Pn 08 02 37.2 0.0
CUI eS Sn 08 03 00.1 +0.2
2RIO Dos Rios de Up 1.59 139⇓eP Pn 08 02 40.0 +2.2
2RIO eS Sn 08 03 00.1 -1.0
VCR Vista de Mar 1.73 158⇓eP Pn 08 02 39.7 +0.3
VCR eS Sn 08 03 03.3 -0.6
CNCH Conchagua 2.15 315⇑eP x 08 02 44.3
CNCH eS x 08 03 11.4
JCR Jicaral 2.21 148⇓eP Pn 08 02 45.2 +0.3
JCR eS Sn 08 03 13.0 -0.8
CGA2 Cerro Gallo 2 2.48 134 eP Pn 08 02 48.4 +0.2
CGA2 eS Sn 08 03 18.6 -1.0
TGUH Tegucigalpa,Un 2.49 337⇑iP Pn 08 02 49.0 +0.7
TGUH eS Sn 08 03 21.8 +1.8
TGUH Tegucigalpa,Un 2.49 337 ePn Pn 08 02 49.2 +0.8
TGUH eSn Sn 08 03 19.7 -0.2
BLLM Bellamira 2.55 312 eP x 08 02 49.6
VSM San Miguel 2.56 311 eP x 08 02 50.2
VSM eS x 08 03 21.5
PRS1 Puriscal 2.61 132⇑eP Pn 08 02 51.4 +1.6
CAHU Cacacuatique 2.75 317⇑eP x 08 02 52.3
CAHU eS x 08 03 25.3
URSC Urasca 3.11 127⇑eP Pn 08 02 56.2 +0.1
LFRS El Faro 3.29 305 eP x 08 02 59.2
LFRS eS x 08 03 36.9
BUS Buena Vista 3.30 131 eP Pn 08 02 59.4 +0.8
BUS eS Sn 08 03 38.6 +0.5
LBRS Las Brisas 3.34 307 eP x 08 03 00.0
LBRS eS x 08 03 38.2
SNET Serv Nac Est T 3.46 304 eP x 08 03 00.4
SNET eS x 08 03 41.1
BOQS Boqueron 3.53 304 eP x 08 03 03.0
BOQS eS x 08 03 43.4
BAR1 3.84 130 eP Pn 08 03 06.6 +1.1
SBLS San Blas 3.87 303 eP x 08 03 07.2
SBLS eS x 08 03 51.2
SNJE San Jose 3.87 303 eP x 08 03 07.7
SNJE eS x 08 03 51.1
RBDL Robledal 4.07 306 eP x 08 03 09.4
RBDL eS x 08 03 56.9
ACR Cerro Adams 4.34 135⇑eP Pn 08 03 12.0 -0.2
BCIP Isla Barro Col 6.84 111 ePn Pn 08 03 44.9 -0.5
CMIG Matias Romero 9.88 304 P Pn 08 04 25.7 -0.2
comp=N,2.0nm,0.3s,baz=124,slow=9.9,SNR=32
CMIG S Sn 08 06 06.7 -8.6
comp=N,0.5nm,0.3s,baz=57,slow=18,SNR=3.5
ROSC El Rosal 13.66 119 P Pn 08 05 17.9 +2.7
comp=N,0.4nm,0.3s,baz=255,slow=12,SNR=4.3
OTAV Otavalo 13.83 145 ePn Pn 08 05 18.0 +0.7
LAPE La Pedrera 15.08 105⇓eP Px 08 02 34.0
LAPE ⇓eP Px 08 02 34.2
LAPE eS Sx 08 02 54.1
SDV Santo Domingo 15.66 99 P Pn 08 05 38.4 -1.7
comp=N,0.3nm,0.3s,baz=294,slow=8.4,SNR=7.5
SDV Santo Domingo 15.66 99 ePn Pn 08 05 38.3 -1.9
comp=N,2.8nm,0.7s
PCRV Puerto La Cruz 21.31 92 P P 08 06 41.7 -0.9
comp=N,2.8nm,0.5s,mb3.8,baz=259,slow=5.2,SNR=3.0
TXAR Lajitas Array 23.84 320 P P 08 07 06.5 -0.5
comp=N,5.1nm,0.6s,mb4.2,baz=144,slow=9.6,SNR=65
TXAR PcP PcP 08 10 45.6 -0.6
comp=N,0.4nm,0.8s,baz=140,slow=6.0,SNR=4.8
LPM Los Pinos Moun 29.13 324 eP P 08 07 47.0 -7.4
LPAZ La Paz 33.14 147 P P 08 08 30.4 +0.6
comp=N,0.5nm,0.6s,mb3.4,baz=297,slow=14,SNR=3.4
SIV San Ignacio 37.17 137 P P 08 09 02.1 -2.2
comp=N,4.8nm,0.6s,mb4.3,baz=316,slow=8.4,SNR=36
NVAR Mina Array Bea 38.98 319 P P 08 09 19.8 +0.6
comp=N,0.4nm,0.6s,mb3.2,baz=123,slow=6.5,SNR=1.7
PLCA Paso Flores 54.20 165 P P 08 11 16.6 -0.9
comp=N,1.3nm,0.7s,mb3.8,baz=333,slow=9.0,SNR=3.0
ASAR Alice Springs 140.06 247 PKP PKPdf 08 21 18.1 -1.0
comp=N,1.2nm,0.6s,baz=106,slow=3.2,SNR=5.1
WRA Warramunga Arr 140.16 253 PKhKP 08 21 12.3
comp=N,0.3nm,0.7s,baz=90,slow=2.2,SNR=8.8
WRA PKP PKPdf 08 21 18.1 -1.2
comp=N,1.4nm,0.6s,baz=92,slow=2.2,SNR=33
WRA Warramunga Arr 140.16 253 PKP PKPdf 08 21 18.1 -1.2

ISCJB ***18*** *09:04:58.4±1.0, 1763S±010×17877W±009, h518km±15km, mb4.3/18, Error ellipse: s-maj=15.8km s-min=12.4km az=160.4*
IDC ***18*** *09:04:59.7±1.6, 1765S×17873W, h520km±20km, mb3.8/10, mb1 3.9/11, mb1mx3.7/19, mbtmp3.9/11, Error ellipse: s-maj=18.8km s-min=14.5km az=111.0*
NEIC ***18*** *09:04:59.9±0.9, 1767S×17870W, h526km±12km, mb4.4/12, Error ellipse: s-maj=12.5km s-min=9.6km az=143.0*
ISC 18 09:04:59.1±0.9**, 176S**±01×**17869W**±009**, h517**km±14km**, n36, σ0.88**/38**, mb4.3**/18**, Fiji Islands region**

Code Station Name Δ° AZ° Phase ID (Op ISC) Time (h m s) Res ISC
AFI Afiamalu 7.61 62 P P 09 06 53.3 +1.2
12nm,0.3s,baz=275,slow=5.8,SNR=19
AFI S S 09 08 23.2 -1.4
0.7nm,0.3s,baz=254,slow=20,SNR=1.7
URZ Urewera 20.87 189 P P 09 09 04.1 -0.5
4.7nm,0.2s,baz=356,slow=7.3,SNR=11
RPZ Rata Peaks 27.41 196 P P 09 10 02.8 +0.2
13nm,0.9s,mb4.5,baz=27,slow=16,SNR=4.8
ARMA Armidale 29.85 239 eP P 09 10 25.9 +1.7

ARMA	**Armidale**	**29.85**	**239**	*eP*	**P**		**09 10 25.6**	**+1.4**
	0.3nm,0.6s							
CTA	**Charters Tower**	**33.23**	**260**	*eP*	**P**		**09 10 53.3**	**+0.1**
	9.1nm,0.9s,mb4.3							
CTAO	**Charters Tower**	**33.23**	**260**	*eP*	**P**		**09 10 53.4**	**+0.1**
	16nm,0.9s,mb4.5							
PMG	**Port Moresby**	**34.15**	**279**	*eP*	**P**		**09 11 02.3**	**+1.2**
	25nm,0.7s,mb4.9							
COEN	**Coen**	**36.84**	**270**	*eP*	**P**		**09 11 24.1**	**+0.6**
	6.4nm,0.6s,mb4.3							
STKA	**Stephens Creek**	**38.53**	**241**	*eP*	**P**		**09 11 37.9**	**+0.9**
	6.5nm,0.5s,mb4.4							
STKA	**Stephens Creek**	**38.53**	**241**	P	**P**		**09 11 38.1**	**+1.0**
	7.9nm,0.5s,mb4.5,baz=92,slow=9.5,SNR=23							
STKA				S	**S**		**09 16 44.6**	**-11**
	1.7nm,0.6s,baz=36,slow=9.5,SNR=8.3							
STKA	**Stephens Creek**	**38.53**	**241**	*eP*	**P**		**09 11 37.9**	**+0.9**
	11nm,0.6s,mb4.6							
WB2	**Warramunga Arr**	**44.41**	**259**	*eP*	**P**		**09 12 22.9**	**-0.9**
WRAB	**Tennant Creek**	**44.41**	**259**	*eP*	**P**		**09 12 23.0**	**-0.8**
	4.8nm,0.6s,mb4.2							
WRA	**Warramunga Arr**	**44.42**	**259**	P	**P**		**09 12 22.9**	**-1.0**
	4.8nm,0.6s,mb4.2,baz=97,slow=7.4,SNR=132							
WRA				ScP	ScP		09 16 58.3	-1.1
	0.7nm,0.8s,baz=93,slow=3.9,SNR=5.4							
WRA				S	**S**		**09 18 17.7**	**-3.3**
	0.4nm,0.8s,baz=101,slow=12,SNR=2.6							
ASAR	**Alice Springs**	**44.61**	**254**	P	**P**		**09 12 25.4**	**0.0**
	49nm,0.6s,mb5.2,baz=87,slow=8.2,SNR=736							
ASAR				S	**S**		**09 18 19.4**	**-4.2**
	1.2nm,0.9s,baz=88,slow=16,SNR=6.9							
KAKA	**Kakadu**	**47.32**	**269**	*eP*	**P**		**09 12 42.6**	**-3.5**
	8.9nm,0.3s,mb4.8							
KAKA	**Kakadu**	**47.32**	**269**	*eP*	**P**		**09 12 42.4**	**-3.7**
	19nm,0.3s,mb5.1							
GUMO	**Guam**	**47.50**	**308**	P	**P**		**09 12 47.9**	**+0.6**
	46nm,0.8s,mb5.1,baz=206,slow=21,SNR=6.2							
GUMO	**Guam**	**47.50**	**308**	*eP*	**P**		**09 12 47.8**	**+0.4**
	32nm,0.7s,mb5.0							
FORT	**Forrest**	**49.88**	**244**	*eP*	**P**		**09 13 04.5**	**-0.5**
	2.9nm,0.6s,mb3.9							
FITZ	**Fitzroy Crossi**	**52.81**	**260**	*eP*	**P**		**09 13 26.3**	**-0.1**
	4.7nm,0.6s,mb4.0							
FITZ	**Fitzroy Crossi**	**52.81**	**260**	*eP*	**P**		**09 13 26.4**	**+0.1**
	5.9nm,0.6s,mb4.1							
MBWA	**Marble Bar**	**57.88**	**256**	*eP*	**P**		**09 14 00.9**	**-0.8**
	6.3nm,0.6s,mb4.0							
MJAR	**Matsushiro Arr**	**67.53**	**323**	P	**P**		**09 15 03.0**	**-0.6**
	0.9nm,0.6s,mb3.5,baz=156,slow=5.3,SNR=5.1							
PETK	**Petropavlovsk-**	**73.35**	**345**	P	**P**		**09 15 37.3**	**-0.4**
	2.2nm,0.8s,mb3.6,baz=138,slow=9.1,SNR=3.6							
MAW	**Mawson**	**84.02**	**200**	P	**P**		**09 16 34.7**	**+0.1**
	0.5nm,0.4s,mb3.4,baz=165,slow=6.6,SNR=6.2							
TXAR	**Lajitas Array**	**86.08**	**58**	P	**P**		**09 16 46.9**	**+1.6**
	0.2nm,0.6s,baz=211,slow=5.2,SNR=4.4							
CMAR	**Chiang Mai Arr**	**88.54**	**290**	P	**P**		**09 16 57.8**	**+0.8**
	1.0nm,0.3s,mb4.1,baz=101,slow=2.7,SNR=6.8							
SNAA	**Sanae**	**90.87**	**179**	*e*	**P**		**09 17 05.9**	**-0.9**
SNAA	**Sanae**	**90.87**	**179**	*eP*	**P**		**09 17 06.1**	**-0.8**
	1.1nm,0.5s,mb4.0							
VNA3	**Neumayer Olymp**	**91.03**	**176**	*e*	**P**		**09 17 07.4**	**-0.1**
VNA2	**Neumayer--Watz**	**91.46**	**177**	*e*	**P**		**09 17 09.5**	**0.0**
	baz=217,slow=2.9							
VNA1	**Neumayer--Stat**	**91.69**	**177**	*e*	**P**		**09 17 11.1**	**+0.5**
GERES	**GERESS Array B**	**147.28**	**345**	PKPbc	PKPbc		09 23 44.0	-0.2
	1.3nm,0.5s,baz=347,slow=5.5,SNR=5.2							
TORD	**Torodi Ar. Bea**	**175.52**	**185**	PKPab	PKPab		09 25 50.8	-0.3
	0.6nm,0.9s,baz=180,slow=4.3,SNR=2.4							

PRU ***18*** *09:14:42.9, 5020N×1908E, h0km*
NEIC ***18*** *09:14:43.2±1.0, 5013N×1911E, h5km, MG2.6(WAR), Error ellipse: s-maj=17.5km s-min=7.2km az=181.0*

WAR 18 09:14:42.7, 5011N×1921E, ML2.6, Mining Induced, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OJC	**Ojcow**	**0.40**	**74**	*e*Pg	Pg	09 14 50.4	+0.1
OJC				*e*Sg	Sg	09 14 56.5	+1.1
OKC	**Ostrava-Krasne**	**0.74**	**249**	*e*PG	Pg	09 14 56.5	-0.3
OKC				*e*SG	Sg	09 15 05.4	-1.0
	23nm,0.5s						
NIE	**Niedzica**	**0.99**	**134**	*e*Pg	Pg	09 15 02.0	+0.3
NIE				*e*Sg	Sg	09 15 17.4	+2.8
MORC	**Moravsky Berou**	**1.13**	**253**	*e*Pg	Pg	09 15 03.3	-1.0
MORC				*e*Sg	Sg	09 15 18.4	-0.5
STHS	**Stebnicka Huta**	**1.49**	**117**	*e*PN	Pn	09 15 11.6	+0.9
STHS				*e*SN	Sn	09 15 35.7	+4.9
KOLL	**Kolacno**	**1.62**	**199**	*e*PN	Pn	09 15 13.0	+0.5
KOLL				*e*SN	Sn	09 15 34.3	+0.3
VYHS	**Vyhne**	**1.64**	**189**	*e*PN	Pn	09 15 11.5	-1.2
VYHS				*e*SN	Sn	09 15 32.8	-1.6
DPC	**Dobruska-Polom**	**1.87**	**279**	*e*PG	Pg	09 15 14.9	-3.6
DPC				*e*SG	Sg	09 15 39.4	-3.3
	20nm,0.6s						
CRVS	**Cervenica-Dubn**	**1.90**	**129**	*e*PN	Pn	09 15 18.1	+1.8
CRVS				*e*SN	Sn	09 15 42.3	+1.4
UPC	**Upice**	**2.09**	**282**	*e*SG	Sg	09 15 47.1	-2.6
KOLS	**Kolonicke sedl**	**2.32**	**119**	*e*PN	Pn	09 15 25.9	+3.8
KOLS				*e*SN	Sn	09 15 51.5	+0.3
PRU	**Pruhonice**	**3.01**	**269**	*e*SG	Sg	09 16 15.5	-3.9
	8.8nm,0.7s						
BRG	**Berggiesshubel**	**3.45**	**285**	SG	Sg	09 16 27.6	-5.8
	15nm,1.2s						
KHC	**Kasperske Hory**	**3.79**	**257**	*e*SG	Sg	09 16 41.0	-3.4
	7.1nm,0.9s						
CLL	**Collm**	**4.12**	**289**	*e*Sg	Sg	09 16 58.0	+2.9
ECH	**Echery**	**8.12**	**261**	*e*Pn	Pn	09 16 41.6	-0.1

NEIC ***18*** *09:39:27.2, 1669N×9981W, h2km, MD3.7(MEX), After MEX.*

MEX 18 09:39:27.1±0.5, 1668N×9982W, h3km±7km, MD3.7, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ACX	**Acapulco**	**0.20**	**334**	*i* P	Pg	09 39 30.6	-0.5
ACX				*i* S	Sg	09 39 34.0	+0.3
CAIG	**El Cayaco**	**0.56**	**311**	*i* P	Pg	09 39 37.7	-0.1
CAIG				*i* S	Sg	09 39 45.5	+0.4
PNIG	**Pinotepa**	**1.65**	**100**	*i* P	Pn	09 39 54.0	-3.0
PNIG				*i* S	Sn	09 40 12.9	-5.8
PLIG	**Platanillo**	**1.73**	**10**	*i* P	Pn	09 39 55.4	-2.6
PLIG				*i* S	Sn	09 40 15.6	-5.0
ZIIG	**Zihuatanejo**	**1.82**	**301**	*e*P	Pn	09 39 56.3	-3.0
ZIIG				*i* S	Sn	09 40 17.6	-5.3
ZIIG	**Zihuatanejo**	**1.82**	**301**	*e*P	Pn	09 39 56.3	-3.0
ZIIG				*i* S	Sn	09 40 18.6	-4.3
UTMO	**Huajuapan**	**2.24**	**59**	*i* P	Pn	09 40 01.1	-3.2
UTMO				*i* S	Sn	09 40 29.4	-3.9
MZVM		**2.56**	**13**	*i* P	Pn	09 40 06.2	-3.2
MZVM				*i* S	Sn	09 40 37.2	-3.9
PPM	**Popocatepetl**	**2.63**	**25**	*e*P	Pn	09 40 06.8	-3.7
PPM				*i* S	Sn	09 40 40.1	-2.8
VHO	**Vista Hermosa**	**2.98**	**82**	*e*P	Pn	09 40 15.2	-0.1
VHO				*i* S	Sn	09 40 47.5	-4.2
VHO	**Vista Hermosa**	**2.98**	**82**	*e*P	Pn	09 40 15.2	-0.1
VHO				*i* S	Sn	09 40 46.1	-5.6

ISCJB ***18*** *09:41:27.8±0.8, 156S±0.1×7057W±0.10, h204km±10km, mb3.0/3, Error ellipse: s-maj=24.5km s-min=10.0km az=32.1*
IDC ***18*** *09:41:29.1±1.3, 1558S×7046W, h199km±14km, mb2.9/3, mb1 3.3/6, mb1mx3.1/20, mbtmp3.1/6, Error ellipse: s-maj=24.7km s-min=18.9km az=38.0*

ISC 18 09:41:28.7±0.8, 156S±01×7060W±010, h194km±10km, n7, σ1°01/9, mb3.0/3, Southern Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**2.48**	**107**	P	**Pn**	**09 42 12.8**	**+0.8**
	1.1nm,0.3s,baz=291,slow=9.7,SNR=43						
LPAZ				S	**Sn**	**09 42 45.5**	**-0.2**
	1.5nm,0.3s,baz=221,slow=25,SNR=24						
NNA	**Nana**	**7.03**	**300**	P	**Pn**	**09 43 10.6**	**+1.3**
	3.3nm,0.3s,baz=150,slow=8.7,SNR=4.3						
NNA				S	**Sn**	**09 44 27.9**	**-1.2**
	1.5nm,0.3s,baz=22,slow=19,SNR=2.0						
LVC	**Limon Verde**	**7.18**	**167**	P	**Pn**	**09 43 10.6**	**-0.6**
	4.0nm,0.3s,baz=347,slow=8.2,SNR=36						
LVC				S	**Sn**	**09 44 25.9**	**-6.8**
	5.9nm,0.3s,baz=220,slow=20,SNR=19						
PLCA	**Paso Flores**	**25.07**	**180**	P	**P**	**09 46 35.6**	**+0.5**
	0.8nm,0.5s,mb3.6,baz=357,slow=8.0,SNR=3.8						
TXAR	**Lajitas Array**	**54.88**	**324**	P	**P**	**09 50 40.3**	**+1.1**
	0.1nm,0.5s,mb2.6,baz=133,slow=7.9,SNR=2.8						
TORD	**Torodi Ar. Bea**	**76.99**	**72**	P	**P**	**09 52 58.8**	**-1.7**
	0.1nm,0.5s,mb2.7,baz=264,slow=5.2,SNR=2.9						
WRA	**Warramunga Arr**	**137.03**	**216**	PKP	PKPdf	10 00 30.0	+0.7
	0.3nm,0.9s,baz=135,slow=2.1,SNR=4.6						

NIED ***18*** *09:43:00, 3620N×13720E, h300km, Mw4.2 Best double couple: M0 1.90000×10^15 NP1:φs 123.00000°, δ73.00000°, λ-46.00000°. NP2:φs 230.00000°, δ46.00000°, λ-157.00000°.*
ISCJB ***18*** *09:43:05.8±0.3, 3624N±004×137.11E±006, h275km±2km, mb3.7/23, Error ellipse: s-maj=8.4km s-min=5.7km az=28.4*
MOS ***18*** *09:43:05.3±1.2, 3628N×13707E, h272km, mb4.0/10, Error ellipse: s-maj=16.0km s-min=10.4km az=81.8*
IDC ***18*** *09:43:06.4±0.4, 3624N×13705E, h269km±3km, mb3.6/16, mb1 3.8/17, mb1mx3.7/24, mbtmp3.5/17, Error ellipse: s-maj=12.9km s-min=10.3km az=91.0*
JMA ***18*** *09:43:06.4±0.1, 3623N×137.17E, h273km±1km, M3.8*
NEIC ***18*** *09:43:06.2±0.6, 3623N×13708E, h266km±5km, mb4.1/9, Error ellipse: s-maj=10.3km s-min=8.2km az=99.0*

ISC 18 09:43:06.7±0.2, 3624N±004×13712E±006, h270km±2km, n77, σ0°80/95, mb3.7/23, 2C-8D, Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JGN	**Niukaw**	**0.16**	**96**	⇓P	**Pn**	**09 43 41.4**	**+0.2**
JGN				S	**S**	**09 44 08.4**	**-0.1**
JGM	**Miyama**	**0.63**	**211**	⇓P	**Pn**	**09 43 42.4**	**+0.1**
JGM				S	**S**	**09 44 10.2**	**-0.2**
JKG	**Kaga**	**0.64**	**274**	⇓P	**Pn**	**09 43 42.7**	**+0.5**
JKG				S	**S**	**09 44 11.0**	**+0.7**
MAJO	**Matsushiro**	**0.93**	**71**	*e*P	**Pn**	**09 43 43.1**	**-0.3**
MAJO				*e*S	**S**	**09 44 12.7**	**+0.2**
MAT	**Matsushiro**	**0.93**	**71**	P	**Pn**	**09 43 43.6**	**+0.2**
MAT				S	**S**	**09 44 12.8**	**+0.3**
MAT	**Matsushiro**	**0.93**	**71**	P	**Pn**	**09 43 43.4**	**0.0**
MAT				S	**S**	**09 44 13.0**	**+0.5**
MJAR	**Matsushiro Arr**	**0.93**	**71**	P	**Pn**	**09 43 43.7**	**+0.3**
	10nm,0.3s,baz=271,slow=15,SNR=82						
MJAR				S	**S**	**09 44 13.1**	**+0.6**
	2.8nm,0.3s,baz=255,slow=12,SNR=20						
MJAR	**Matsushiro Arr**	**0.93**	**71**	P	**Pn**	**09 43 43.7**	**+0.3**
MJAR				S	**S**	**09 44 13.1**	**+0.6**
MJAR				pmax	pmax		
	comp=Z,10.0nm,0.3s						
MJAR				smax			
	comp=N,3.0nm,0.3s						
JSZ	**Suzu**	**1.22**	**9**	P	**Pn**	**09 43 45.2**	**+0.2**
JSZ				S	**S**	**09 44 15.3**	**-0.1**
JYN	**Shimob**	**1.38**	**122**	P	**Pn**	**09 43 45.7**	**-0.4**
JRY	**Ryogami san**	**1.46**	**98**	P	**Pn**	**09 43 47.0**	**+0.4**
JRY				*e*S	**S**	**09 44 17.3**	**-0.9**
JHG	**Hegura jima**	**1.61**	**354**	P	**Pn**	**09 43 48.3**	**+0.7**
JWT	**Wachi**	**1.69**	**236**	⇓P	**Pn**	**09 43 48.4**	**+0.1**
JIE	**Ise**	**1.87**	**190**	⇓P	**Pn**	**09 43 50.3**	**+0.5**
JIE				S	**S**	**09 44 23.9**	**-0.1**
JOD2	**Odawara 2**	**1.88**	**121**	⇓P	**Pn**	**09 43 50.0**	**+0.2**
JOD2				S	**S**	**09 44 24.4**	**+0.5**
JAG	**Ashikaga**	**1.90**	**84**	P	**Pn**	**09 43 49.5**	**-0.4**
JSD	**Sado**	**2.01**	**27**	⇑P	**Pn**	**09 43 51.1**	**+0.2**
JSD				*e*S	**S**	**09 44 25.1**	**-0.8**
JNS	**Sasagawa**	**2.36**	**48**	⇑P	**Pn**	**09 43 54.1**	**+0.1**
JWY	**Kouya**	**2.37**	**212**	⇓P	**Pn**	**09 43 54.6**	**+0.4**
JWY				S	**S**	**09 44 31.7**	**-0.2**
JWZ	**Kozaga**	**2.94**	**204**	P	**Pn**	**09 43 59.6**	**-0.2**
JWZ				S	**S**	**09 44 41.3**	**-0.7**
ERM	**Erimo**	**7.43**	**37**	*e*P	**Pn**	**09 44 50.9**	**-2.0**
ERM				*e*S	**S**	**09 46 08.4**	**-10**
ERM				pmax	pmax		
	comp=Z,62nm,1.1s						
ERM	**Erimo**	**7.43**	**37**	*e*Pn	**Pn**	**09 44 50.9**	**-2.0**
	comp=Z,62nm,1.1s						
ERM				*e*S	**S**	**09 46 08.4**	**-10**
KSRS	**Korea Array**	**7.47**	**282**	P	**Pn**	**09 44 53.9**	**+0.5**
	comp=Z,0.4nm,0.3s,baz=102,slow=13,SNR=9.3						
ASAJ	**Asahikawa**	**8.91**	**26**	P	**Pn**	**09 45 09.0**	**-2.3**
	comp=Z,12nm,0.3s,baz=228,slow=13,SNR=112						
ASAJ				S	**S**	**09 46 43.5**	**-8.8**
	comp=Z,1.7nm,0.3s,baz=66,slow=19,SNR=6.1						
ASAJ	**Asahikawa**	**8.91**	**26**	P	**Pn**	**09 45 09.0**	**-2.3**
ASAJ				S	**S**	**09 46 43.6**	**-8.7**
ASAJ				pmax	pmax		
	comp=Z,12nm,0.3s						
ASAJ				smax			
	comp=N,2.0nm,0.3s						
CBIJ	**Chichi jima**	**10.08**	**153**	P	**Pn**	**09 45 16.6**	**-9.5**
	comp=N,5.6nm,0.3s,baz=270,slow=20,SNR=5.4						
CBIJ				S	**S**	**09 47 04.3**	**-15**
	comp=N,21nm,0.3s,baz=240,slow=21,SNR=9.1						
MDJ	**Mudanjiang**	**10.14**	**328**	*e*Pn	**Pn**	**09 45 27.7**	**+1.1**
	comp=N,16nm,0.8s						
YSS	**Yuzh-Sakhalins**	**11.50**	**20**	*i*P	**Pn**	**09 45 41.0**	**-2.5**
YSS				*e*S	**S**	**09 47 42.0**	**-10**
YSS				pmax	pmax		
	comp=N,60nm,0.6s						
YSS				pmax	pmax		
	comp=Z,70nm,0.6s						
YSS				smax			
	comp=E,30nm,0.9s						
YSS	**Yuzh-Sakhalins**	**11.50**	**20**	*e*Pn	**Pn**	**09 45 41.1**	**-2.3**
	comp=E,48nm,0.6s						
PETK	**Petropavlovsk-**	**22.20**	**34**	P	**P**	**09 47 39.1**	**-1.4**
	comp=E,3.1nm,0.9s,mb3.6,baz=240,slow=6.4,SNR=3.8						
GUMO	**Guam**	**23.60**	**161**	P	**P**	**09 47 54.8**	**+1.1**
	comp=E,57nm,0.6s,baz=206,slow=5.9,SNR=12						
GUMO	**Guam**	**23.60**	**161**	P	**P**	**09 47 54.8**	**+1.1**
GUMO				pmax	pmax		
	comp=Z,57nm,0.6s						
GUMO	**Guam**	**23.60**	**161**	P	**P**	**09 47 54.8**	**+1.1**
SONM	**Songino Array**	**25.42**	**307**	P	**P**	**09 48 09.5**	**-0.3**
	comp=Z,0.6nm,0.5s,mb3.3,baz=110,slow=10,SNR=3.5						
SONM	**Songino Array**	**25.42**	**307**	P	**P**	**09 48 09.5**	**-0.3**
SONM				pmax	pmax		
	comp=Z,1.0nm,0.5s						
CMAR	**Chiang Mai Arr**	**37.96**	**253**	P	**P**	**09 49 57.8**	**-1.1**
	comp=Z,0.8nm,0.3s,mb3.6,baz=54,slow=10,SNR=4.9						
CMAR	**Chiang Mai Arr**	**37.96**	**253**	P	**P**	**09 49 57.8**	**-1.1**
CMAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
MKAR	**Makanchi Array**	**41.62**	**302**	P	**P**	**09 50 29.0**	**+0.5**
	comp=Z,0.3nm,0.6s,mb2.7,baz=95,slow=11,SNR=3.0						
KURK	**Kurchatov**	**43.71**	**308**	P	**P**	**09 50 45.6**	**+0.5**
	comp=Z,0.7nm,0.5s,mb3.1,baz=86,slow=8.1,SNR=3.5						
KURK	**Kurchatov**	**43.71**	**308**	P	**P**	**09 50 45.6**	**+0.4**
KURK				pmax	pmax		
	comp=Z,1.0nm,0.5s,mb3.3						
BVAR	**Borovoye Array**	**48.55**	**312**	P	**P**	**09 51 21.9**	**-0.8**
	comp=Z,0.4nm,0.4s,mb3.1,baz=82,slow=10,SNR=3.0						
MCK	**McKinley**	**51.20**	**33**	*e*P	**P**	**09 51 43.0**	**+0.6**
MCK				pmax	pmax		
	comp=Z,3.0nm,0.7s,mb3.7						
MCK	**McKinley**	**51.20**	**33**	*e*P	**P**	**09 51 43.0**	**+0.6**
	comp=Z,2.7nm,0.7s,mb3.7						
COLA	**College**	**51.58**	**32**	*e*P	**P**	**09 51 47.1**	**+1.9**
COLA				pmax	pmax		
	comp=Z,3.0nm,0.5s,mb3.9						
COLA	**College**	**51.58**	**32**	*e*P	**P**	**09 51 47.1**	**+1.9**
	comp=Z,2.6nm,0.5s,mb3.8						
FITZ	**Fitzroy Crossi**	**55.12**	**193**	P	**P**	**09 52 10.8**	**-0.5**
	comp=Z,1.3nm,0.5s,mb3.6,baz=14,slow=13,SNR=7.0						
WRAB	**Tennant Creek**	**55.93**	**183**	*e*P	**P**	**09 52 16.1**	**-0.9**
WRAB				pmax	pmax		
	comp=Z,5.0nm,0.5s,mb4.2						
WRAB	**Tennant Creek**	**55.93**	**183**	*e*P	**P**	**09 52 16.1**	**-0.8**
	comp=Z,4.9nm,0.5s,mb4.2						
WB2	**Warramunga Arr**	**55.94**	**183**	*e*P	**P**	**09 52 16.0**	**-1.0**
WB2				*e*		09 52 21.4	
WRA	**Warramunga Arr**	**55.94**	**183**	P	**P**	**09 52 16.3**	**-0.7**
	comp=Z,11nm,0.5s,mb4.6,baz=359,slow=7.6,SNR=330						
WRA	**Warramunga Arr**	**55.94**	**183**	P	**P**	**09 52 16.3**	**-0.8**
WRA				pmax	pmax		
	comp=Z,11nm,0.5s						
ASAR	**Alice Springs**	**59.66**	**183**	P	**P**	**09 52 42.3**	**-0.5**
	comp=Z,1.6nm,0.4s,mb3.9,baz=359,slow=6.0,SNR=52						
ASAR	**Alice Springs**	**59.66**	**183**	P	**P**	**09 52 42.3**	**-0.5**
ASAR				pmax	pmax		
	comp=Z,2.0nm,0.4s						
ARCES	**ARCESS Array B**	**63.50**	**339**	P	**P**	**09 53 07.5**	**-0.3**
	comp=Z,2.9nm,0.8s,mb4.0,baz=70,slow=7.1,SNR=6.1						
ARCES	**ARCESS Array B**	**63.50**	**339**	P	**P**	**09 53 07.5**	**-0.3**
ARCES				pmax	pmax		
	comp=Z,3.0nm,0.8s						
YKA	**Yellowknife Ar**	**66.20**	**29**	P	**P**	**09 53 25.1**	**-0.1**
	comp=Z,1.4nm,1.0s,mb3.7,baz=304,slow=6.1,SNR=6.3						
YKA	**Yellowknife Ar**	**66.20**	**29**	P	**P**	**09 53 25.1**	**-0.1**
YKA				pmax	pmax		
	comp=Z,1.0nm,1.0s						
YKA	**Yellowknife Ar**	**66.20**	**29**	P	**P**	**09 53 25.1**	**-0.1**
AKASG	**Malin Array Be**	**72.77**	**321**	P	**P**	**09 54 04.7**	**-0.7**
	comp=Z,0.4nm,0.3s,mb3.5,baz=52,slow=5.7,SNR=5.3						
NB2	**NORSAR Subarra**	**73.54**	**336**	P	**P**	**09 54 09.5**	**-0.2**
	comp=Z,0.3nm,0.7s,mb3.0,baz=50,slow=5.9						
NOA	**NORSAR Array B**	**73.54**	**336**	P	**P**	**09 54 09.7**	**-0.1**
	comp=Z,1.7nm,0.7s,mb3.8,baz=45,slow=5.7,SNR=4.7						
NOA	**NORSAR Array B**	**73.54**	**336**	P	**P**	**09 54 09.7**	**0.0**
NOA				pmax	pmax		
	comp=Z,2.0nm,0.7s						
CMB	**Columbia Colle**	**77.11**	**52**	*e*P	**P**	**09 54 31.3**	**+0.8**
CMB				pmax	pmax		
	comp=Z,2.0nm,0.4s,mb4.2						
CMB	**Columbia Colle**	**77.11**	**52**	*e*P	**P**	**09 54 31.3**	**+0.9**
	comp=Z,2.2nm,0.4s,mb4.2						
NVAR	**Mina Array Bea**	**78.20**	**51**	P	**P**	**09 54 37.9**	**+1.5**
	comp=Z,1.7nm,0.6s,mb3.9,baz=302,slow=4.8,SNR=15						
NVAR	**Mina Array Bea**	**78.20**	**51**	P	**P**	**09 54 37.9**	**+1.5**
TPNV	**Topopah Spring**	**80.39**	**51**	*e*P	**P**	**09 54 49.2**	**+0.9**
TPNV				pmax	pmax		
	comp=Z,2.0nm,0.7s,mb4.0						
TPNV	**Topopah Spring**	**80.39**	**51**	*e*P	**P**	**09 54 49.2**	**+0.9**
	comp=Z,1.5nm,0.7s,mb3.8						
BW06	**Boulder Array**	**80.65**	**43**	*e*P	**P**	**09 54 50.1**	**+0.6**
	comp=Z,2.7nm,0.9s,mb4.0						
PDAR	**Pinedale Array**	**80.65**	**43**	P	**P**	**09 54 49.8**	**+0.2**
	comp=Z,1.9nm,0.8s,mb3.9,baz=293,slow=0.8,SNR=17						
ULM	**Lac du Bonnet**	**82.02**	**31**	P	**P**	**09 54 55.9**	**-0.7**
	comp=Z,1.8nm,0.7s,mb3.9,baz=309,slow=7.8,SNR=4.1						
PV10	**Paradox Valley**	**83.86**	**46**	*e*P	**P**	**09 55 07.8**	**+1.6**
TXAR	**Lajitas Array**	**93.31**	**50**	P	**P**	**09 55 52.2**	**+1.1**
	comp=Z,2.0nm,0.6s,mb4.2,baz=295,slow=3.2,SNR=34						
TXAR	**Lajitas Array**	**93.31**	**50**	P	**P**	**09 55 52.3**	**+1.1**
TXAR				pmax	pmax		
	comp=Z,2.0nm,0.6s						
LPAZ	**La Paz**	**150.03**	**55**	PKPbc	PKPbc	10 02 26.2	+0.5
	comp=Z,0.7nm,0.6s,baz=32,slow=6.1,SNR=4.9						
LPAZ	**La Paz**	**150.03**	**55**	PKIKP	PKPbc	10 02 26.2	+0.5
LPAZ				pmax	pmax		
	comp=Z,1.0nm,0.6s						
LPAZ	**La Paz**	**150.03**	**55**	*e*PKPdf	PKPdf	10 02 21.9	+1.4

SZGRF ***18*** *10:00:55.6, 352S×10672E, h33km, mb5.3, Southern Sumatera, Indonesia*
BJI ***18*** *10:01:03.2, 407S×10162E, h30km, mB4.9, mb5.1, Ms4.4, Ms4.2*
MOS ***18*** *10:01:09.5±0.9, 322S×10182E, h33km, mb5.5/40, Error ellipse: s-maj=10.5km s-min=5.2km az=114.6*
GCMT ***18*** *10:01:11.4±0.4, 366S×10137E, h66km±2km, MW4.9/50, Moment Tensor Solution. s34,c42; s50,c73; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr 1.80±.14; Mθθ -1.17±.12; Mφφ -0.63±.17; Mrθ 1.01±.07; Mrφ 1.55±.10; Mθφ -0.22±.10; Best double couple: Mo 2.40300×10^16 NP1:φs 329.00000°, δ36.00000°, λ120.00000°. NP2: φs 114.00000°, δ59.00000°, λ70.00000°. Principal axes: T 2.1390, Plg69.0000°, Azm341.0000°; N 0.5210, Plg17.0000°, Azm125.0000°; P -2.6670, Plg12.0000°, Azm218.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
NEIC ***18*** *10:01:11.4±0.9, 342S×10169E, h39km±8km, mb5.3/48 Error ellipse: s-maj=6.2km s-min=3.9km az=50.0*
NEIC Felt [III] at Bengkulu and [II] at Kapahiang.
ISCJB ***18*** *10:01:13.4±0.5, 343S±003×10163E±003, h71km±4km, mb5.2/119, Error ellipse: s-maj=6.2km s-min=3.9km az=42.6*
IDC ***18*** *10:01:13.9±1.6, 330S×10179E, h60km±13km, mb4.8/21, mb1 4.9/22, mb1mx4.9/22, mbtmp4.8/22, MS4.0/17, Ms1 4.0/17, ms1mx3.9/25, Error ellipse: s-maj=15.6km s-min=10.1km

NST **Nakhon Sawan** 19.08 356 P Pn 10 05 30.0 -3.4
KKTK **Khon Kaen** 19.71 3 P Pn 10 05 37.0 -3.9
370nm,0.7s
KDI **Kendari** 20.94 92 P P 10 05 53.1 +0.8
80nm,1.0s,7µm
CMAR **Chiang Mai Arr** 21.95 353 P P 10 05 59.2 -3.7
23nm,0.8s,mb4.6,baz=186,slow=10,SNR=40
CMAR PcP PcP 10 10 00.6 +1.1
3.9nm,0.8s,baz=204,slow=3.3,SNR=10.0
CMAR LR LR 10 15 29.8
comp=Z,311nm,19.2s,baz=171,slow=39
CMAR **Chiang Mai Arr** 21.95 353 P P 10 05 59.2 -3.7
CMAR 10 10 00.6
CHTO **Chiang Mai** 22.30 353 *e*P P 10 06 05.0 -1.6
CHTO pmax pmax
comp=Z,17nm,0.9s,mb4.4
CHTO **Chiang Mai** 22.30 353 *e*P P 10 06 05.0 -1.6
comp=Z,17nm,0.9s,mb4.4
BATI **Baumata** 22.86 108 P P 10 06 11.8 -0.9
comp=Z,47nm,0.4s,mb5.2,baz=298,slow=18,SNR=5.2
BATI S S 10 10 12.3 -4.6
comp=Z,46nm,0.6s,baz=116,slow=19,SNR=7.0
MNI **Manado** 23.70 78 P P 10 06 21.9 +1.3
comp=Z,197nm,0.9s,mb5.4
QIZ **Qiongzhong** 23.77 20 P P 10 06 19.3 -1.8
QIZ *e*S S 10 10 29.9 -1.6
QIZ AMB AMB
comp=Z,33nm,1.2s,mb4.5
QIZ LR LR
comp=N,389nm,20.4s
QIZ LR LR
comp=Z,388nm,22.6s
QIZ **Qiongzhong** 23.77 20 *e*P P 10 06 21.2 +0.1
comp=Z,26nm,0.9s,mb4.6
MBWA **Marble Bar** 24.88 136 *e*P P 10 06 30.6 -0.6
comp=Z,26nm,1.3s,mb4.5
FITZ **Fitzroy Crossi** 27.64 123 *e*P P 10 06 55.5 -0.7
comp=Z,22nm,0.8s,mb4.7
FITZ **Fitzroy Crossi** 27.64 123 P P 10 06 55.7 -0.5
comp=Z,14nm,0.7s,mb4.6,baz=298,slow=7.6,SNR=17
FITZ LR LR 10 17 31.4
comp=Z,146nm,19.5s,baz=294,slow=35
VIS **Vishakhapatnam** 27.74 320 *e*P P 10 06 56.1 -0.9
VIS AMb AMB 10 07 06.1
comp=Z,22nm,1.6s,mb4.4
KMI **Kunming** 28.44 2 P P 10 07 03.8 +0.6
KMI AP pP 10 07 12.3 -7.9
KMI S S 10 11 47.8 +2.3
KMI AMB AMB
comp=Z,15nm,0.5s,mb4.8
KMI AMB AMB
comp=Z,122nm,5.1s
KMI LR LR
comp=N,353nm,19.5s
KMI LR LR
comp=E,334nm,13.0s
KMI LR LR
comp=Z,426nm,15.9s
GYA **Guiyang** 30.14 9⇑*i*P P 10 07 18.4 +0.1
GYA AP pP 10 07 29.3 -6.1
GYA XP sP 10 07 33.4 -10
GYA PP PP 10 08 20.8 -6.8
GYA PCP PcP 10 10 19.3 +1.1
GYA S S 10 12 13.4 +1.2
GYA SCP ScP 10 13 57.8 +3.4
GYA SCS ScS 10 17 52.6 +2.4
GYA AMB AMB
comp=Z,30nm,0.6s,mb5.1
GYA AMB AMB
comp=Z,130nm,5.2s
GYA LR LR
comp=N,750nm,11.6s
GYA LR LR
comp=E,550nm,11.2s
GYA LR LR
comp=Z,690nm,10.8s
SHL **Shillong** 30.37 342 *e*P P 10 07 20.3 0.0
BOK **Bokaro** 31.14 331 *e*P P 10 07 27.5 +0.4
BOK AMb AMB 10 07 29.9
comp=Z,236nm,0.7s,mb6.0
KAKA **Kakadu** 31.81 109 *e*P P 10 07 27.6 -5.6
comp=Z,16nm,0.5s,mb5.0
NWAO **Narrogin (SRO)** 32.74 155 P P 10 07 42.4 +1.3
comp=Z,10.0nm,1.0s,mb4.6,baz=259,slow=5.2,SNR=2.9
NWAO LR LR 10 19 22.4
comp=Z,385nm,21.6s,baz=302,slow=33
ODAN **Odare** 33.15 336 *e*P P 10 07 44.6 0.0
comp=Z,183nm,1.0s,mb5.9
TAPN **Taplejung** 33.46 337 *e*P P 10 07 47.6 +0.2
comp=Z,218nm,0.8s,mb6.0
RAMN **Ramite** 33.55 335 *e*P P 10 07 48.5 +0.3
comp=Z,62nm,0.6s,mb5.6
KAD **Karad** 34.06 308 *e*P P 10 07 53.7 +1.0
KAD AMb AMB 10 07 54.2
comp=Z,26nm,0.7s,mb5.2
CD2 **Chengdu** 34.24 3 P P 10 07 53.1 -1.0
CD2 AP pP 10 08 02.5 -8.9
CD2 XP sP 10 08 07.0 -13
CD2 PP PP 10 09 09.8 -3.2
CD2 PCP PcP 10 10 28.9 -0.5
CD2 S S 10 13 18.3 +2.4
CD2 XS sS 10 13 34.3 -11
CD2 PCS PcS 10 14 13.9 -1.8
CD2 SCS ScS 10 18 10.8 0.0
CD2 AMB AMB
comp=Z,50nm,0.6s,mb5.5
CD2 AMB AMB
comp=Z,130nm,4.8s
CD2 LR LR
comp=N,590nm,19.2s
CD2 LR LR
comp=E,290nm,15.6s
CD2 LR LR
comp=Z,620nm,16.8s
JIRN **Jiri** 34.34 335 *e*P P 10 07 55.6 +0.6
LSA **Lhasa** 34.48 344 P P 10 07 56.8 +0.6
LSA **Lhasa** 34.48 344 *e*P P 10 07 56.1 -0.1
LSA pmax pmax
comp=Z,16nm,0.6s,mb5.0
LSA **Lhasa** 34.48 344 *e*P P 10 07 56.1 -0.1
comp=Z,16nm,0.6s,mb5.0
PKI **Pulchoki** 34.60 334 *e*P P 10 07 57.4 +0.1
comp=Z,51nm,0.7s,mb5.5
PKI **Pulchoki** 34.60 334 *e*P P 10 07 57.4 +0.1
PKI pmax pmax
comp=Z,51nm,0.7s,mb5.5
GUN **Gumba** 34.70 335 *e*P P 10 07 58.7 +0.6
comp=Z,289nm,0.7s,mb6.2
DMN **Daman** 34.77 334 *e*P P 10 07 58.9 +0.2
comp=Z,106nm,0.9s,mb5.7
KKN **Kakani** 34.85 334 *e*P P 10 07 59.5 +0.1
comp=Z,166nm,0.7s,mb6.0
KKN **Kakani** 34.85 334 *e*P P 10 07 59.5 +0.1
KKN pmax pmax
comp=Z,166nm,0.7s,mb6.0
POO **Poona** 35.03 310 *e*P P 10 08 00.5 -0.6
GKN **Gorkha** 35.31 333 *e*P P 10 08 03.6 +0.2
comp=Z,201nm,0.9s,mb6.0
BHPL **Bhopal** 35.53 320 *e*P P 10 08 06.4 +1.1
BHPL AMb AMB 10 08 10.8
comp=Z,22nm,0.6s,mb5.3
KOLN **Koldanda** 35.59 332 *e*P P 10 08 06.3 +0.5
comp=Z,211nm,0.8s,mb6.1
WRA **Warramunga Arr** 35.85 120 P P 10 08 07.0 -1.1
comp=Z,12nm,0.3s,mb5.3,baz=298,slow=11,SNR=262
WRA PcP PcP 10 10 34.4 +0.1
comp=Z,2.7nm,0.8s,baz=309,slow=2.4,SNR=4.4
WRA S S 10 13 35.8 -5.2
comp=Z,6.7nm,1.0s,baz=295,slow=16,SNR=10
WRA LR LR 10 25 01.4
comp=Z,102nm,18.0s,baz=325,slow=40
WRA **Warramunga Arr** 35.85 120 P P 10 08 07.0 -1.1
WRA 10 10 34.4
WRA S S 10 13 35.8 -5.1
WRAB **Tennant Creek** 35.85 120 P P 10 08 07.6 -0.6
comp=Z,381nm,0.4s,SNR=41
WRAB **Tennant Creek** 35.85 120 *c i*P P 10 08 07.4 -0.8
WRAB **Tennant Creek** 35.85 120 *e*P P 10 08 07.4 -0.8
comp=Z,29nm,0.6s,mb5.4
WB2 **Warramunga Arr** 35.86 120 *e*P P 10 08 07.6 -0.6
WHN **Wuhan** 35.94 19 ⇓P P 10 08 09.3 +0.6
DANN **Dangsing** 36.01 333 *e*P P 10 08 09.7 +0.4
comp=Z,315nm,0.9s,mb6.2
ASAR **Alice Springs** 37.07 126 P P 10 08 18.4 -0.1
comp=Z,11nm,0.3s,mb5.2,baz=300,slow=7.9,SNR=269
ASAR PcP PcP 10 10 38.4 +0.4
comp=Z,1.7nm,0.7s,baz=310,slow=4.1,SNR=4.4
ASAR S S 10 13 57.2 -2.3
comp=Z,4.8nm,0.9s,baz=292,slow=16,SNR=14
XAN **Xi'an** 37.93 10 P P 10 08 24.5 -1.1
XAN AP pP 10 08 34.4 -8.6
XAN XP sP 10 08 38.5 -13
XAN PP PP 10 09 53.4 -0.2
XAN PCP PcP 10 10 42.1 +1.8
XAN S S 10 14 11.1 -1.1
XAN SCP ScP 10 14 25.4 +3.6
XAN PCS PcS 10 14 28.5 -0.7
XAN SCS ScS 10 18 31.8 +0.8
XAN AMB AMB
comp=Z,58nm,0.7s,mb5.5
XAN AMB AMB
comp=Z,61nm,8.7s
XAN LR LR
comp=N,77nm,19.1s
XAN LR LR
comp=E,211nm,22.2s
XAN LR LR
comp=Z,316nm,23.3s
PTH **Pithoragarh** 38.72 329 *e*P P 10 08 32.7 +0.4
NJ2 **Nanjing** 38.93 24 *e*P P 10 08 34.4 +0.4
NJ2 AMB AMB
comp=Z,20nm,0.6s,mb5.1
SSE **Sheshan** 39.10 27 P P 10 08 34.6 -0.8
SSE AP pP 10 08 46.0 -6.9
SSE PP PP 10 10 04.3 -2.1
SSE S S 10 14 31.1 +1.2
SSE AMB AMB
comp=Z,35nm,0.7s,mb5.3
SSE AMB AMB
comp=Z,102nm,6.2s
SSE LR LR
comp=N,171nm,25.8s
SSE LR LR
comp=E,109nm,25.8s
SSE LR LR
comp=Z,223nm,20.0s
LZH **Lanzhou** 39.40 3 *e*P P 10 08 37.5 -0.4
LZH AP pP 10 08 48.5 -6.9
LZH XP sP 10 08 52.9 -11
LZH PP PP 10 10 13.0 +3.3
LZH *e*S S 10 14 36.1 +1.8
LZH XS sS 10 14 53.9 -10
LZH AMB AMB
comp=Z,48nm,1.0s,mb5.3
LZH AMB AMB
comp=Z,140nm,4.0s
AJM **Ajmer** 39.60 320 *e*P P 10 08 40.8 +1.1
AJM AMb AMB 10 08 42.2
comp=Z,22nm,0.8s,mb5.1
JOW **Kunigami** 39.62 39 P P 10 08 40.9 +1.1
comp=Z,19nm,0.7s,mb5.0,baz=219,slow=8.4,SNR=6.1
NDI **New Delhi** 39.66 325 *e*P P 10 08 38.5 -1.6
NDI *ex* x 10 14 38.5
DDI **Dehra Dun** 40.46 328 *e*P P 10 08 45.8 -0.9
SMLA **Simla** 41.57 328 ⇓*i*P P 10 08 55.9 0.0
SMLA *ex* x 10 09 03.3
comp=Z,73nm,0.4s
SMLA *i* x x 10 15 02.1
GTA **Gaotai** 42.70 358 ⇑P P 10 09 04.8 -0.1
GTA AP pP 10 09 14.9 -7.7
GTA XP sP 10 09 19.1 -12
GTA PCP PcP 10 10 56.4 +0.9
GTA S S 10 15 25.1 +1.9
GTA XS sS 10 15 41.3 -12
GTA AMB AMB
comp=Z,18nm,1.0s,mb4.8
GTA AMB AMB
comp=Z,116nm,4.5s
GTA LR LR
comp=N,377nm,18.0s
GTA LR LR
comp=E,205nm,19.2s
GTA LR LR
comp=Z,528nm,18.6s
THN **Thein Dam** 43.35 327 *e*P P 10 09 08.8 -1.5
HHC **Hu-ho-hao-te** 45.03 11 *e*P P 10 09 24.4 +0.9
HHC AP pP 10 09 34.8 -6.6
HHC XP sP 10 09 38.3 -11
HHC PP PP 10 11 11.0 +0.9
HHC SCP ScP 10 14 53.5 +3.7
HHC S S 10 16 01.9 +4.8
HHC XS sS 10 16 17.9 -10
HHC SS SS 10 19 15.5 -5.6
HHC AMB AMB
comp=Z,37nm,1.1s,mb5.0
HHC AMB AMB
comp=Z,113nm,6.2s
HHC LR LR
comp=N,202nm,16.6s
HHC LR LR
comp=E,183nm,13.4s
HHC LR LR
comp=Z,208nm,14.5s
BJT **Baijiatuau** 45.29 16 *e*P P 10 09 25.2 -0.4
BJT pmax pmax
comp=Z,42nm,0.6s
BJT **Baijiatuau** 45.29 16 *e*P P 10 09 25.2 -0.4
comp=Z,42nm,0.6s,mb5.3
BJI **Beijing** 45.31 16 P P 10 09 25.5 -0.3
BJI PP PP 10 11 09.8 -3.3
BJI S S 10 16 06.4 +5.3
BJI AMB AMB
comp=Z,63nm,0.6s,mb5.5
BJI LR LR
comp=N,190nm,22.0s
BJI LR LR
comp=E,241nm,19.4s
BJI LR LR
comp=Z,132nm,30.3s
GUMO **Guam** 46.12 68 P P 10 09 29.4 -3.2
comp=Z,24nm,0.4s,mb5.3,baz=24,slow=2.3,SNR=11
GUMO **Guam** 46.12 68 *e*P P 10 09 29.9 -2.7
GUMO pmax pmax
comp=Z,19nm,0.4s,mb5.2
GUMO **Guam** 46.12 68 *e*P P 10 09 29.9 -2.7
comp=Z,19nm,0.4s,mb5.2
CTA **Charters Tower** 46.50 114 *e*P P 10 09 35.0 -0.5
comp=Z,22nm,1.0s,mb4.8
CTA **Charters Tower** 46.50 114 P P 10 09 35.0 -0.5
comp=Z,27nm,0.9s,mb5.0,baz=293,slow=10,SNR=13
CTA LR LR 10 30 42.2
comp=Z,133nm,18.5s,baz=52,slow=38
CTA **Charters Tower** 46.50 114 *e*P P 10 09 35.0 -0.5
CTA pmax pmax
comp=Z,22nm,1.0s
CTAO **Charters Tower** 46.50 114 *e*P P 10 09 35.1 -0.4
CTAO pmax pmax
comp=Z,52nm,1.1s,mb5.2
CTAO **Charters Tower** 46.50 114 *e*P P 10 09 35.1 -0.4
comp=Z,52nm,1.1s,mb5.2
STKA **Stephens Creek** 46.96 132 *e*P P 10 09 39.4 +0.5
comp=Z,17nm,0.6s,mb5.0
STKA **Stephens Creek** 46.96 132 P P 10 09 39.5 +0.6
comp=Z,30nm,0.8s,mb5.1,baz=307,slow=7.6,SNR=51
STKA LR LR 10 28 47.3
comp=Z,208nm,18.5s,baz=298,slow=35
STKA **Stephens Creek** 46.96 132 *e*P P 10 09 39.2 +0.3
comp=Z,26nm,0.7s,mb5.1
KSRS **Korea Array** 47.48 29 P P 10 09 41.4 -1.5
comp=Z,4.8nm,0.7s,mb4.3,baz=225,slow=7.8,SNR=18
KSRS PcP PcP 10 11 11.6 -0.6
comp=Z,2.9nm,0.9s,baz=213,slow=2.7,SNR=6.0
KSRS LR LR 10 28 15.1
comp=Z,60nm,22.0s,baz=76,slow=34
KBL **Kabul** 48.68 324 *e*P P 10 09 51.5 -0.6
KBL pmax pmax
comp=Z,13nm,0.6s,mb5.0
KBL **Kabul** 48.68 324 *e*P P 10 09 51.5 -0.6
comp=Z,13nm,0.6s,mb5.0
WMQ **Urumqi** 48.72 347 ⇑P P 10 09 52.9 +0.6
WMQ AP pP 10 10 02.9 -7.4
WMQ XP sP 10 10 06.9 -12
WMQ PCP PcP 10 11 17.8 +1.4
WMQ PP PP 10 11 45.9 -0.2
WMQ S S 10 16 52.3 +2.8
WMQ XS sS 10 17 08.9 -11
WMQ LR LR
comp=N,100nm,26.5s
WMQ LR LR
comp=E,85nm,17.5s
WMQ LR LR
comp=Z,99nm,19.0s
RBK **Rabkut** 51.22 296 P P 10 10 13.1 +1.5
SNR=5.2
SONM **Songino Array** 51.26 4 P P 10 10 12.0 +0.5
comp=Z,46nm,0.7s,mb5.7,baz=188,slow=9.4,SNR=210
SONM PcP PcP 10 11 25.4 -0.2
comp=Z,4.8nm,0.7s,baz=185,slow=1.9,SNR=2.5
SONM LR LR 10 33 58.0
comp=Z,182nm,18.9s,baz=57,slow=38
SONM **Songino Array** 51.26 4 P P 10 10 12.0 +0.6
SONM 10 11 25.4
CN2 **Changchun** 51.70 22 ⇑P P 10 10 13.9 -0.9
CN2 *e*AP pP 10 10 23.8 -9.2
CN2 *e*XP sP 10 10 27.6 -14
CN2 *e*S S 10 17 31.9 +0.9
CN2 AMB AMB
comp=Z,40nm,0.9s,mb5.5
CN2 AMB AMB
comp=Z,300nm,4.0s
CN2 LR LR
comp=N,300nm,16.0s
CN2 LR LR
comp=E,300nm,16.0s
CN2 LR LR
comp=Z,400nm,18.0s
UCH **Uchtor** 51.71 334 P P 10 10 15.5 +0.5
SNR=21
UCH **Uchtor** 51.71 334 *e*P P 10 10 15.2 +0.2
comp=Z,8.8nm,0.5s,mb5.0
UCH *e*PcP PcP 10 11 28.7 +1.2
WHFO **Wadi Hawf** 51.74 296 P P 10 10 16.1 +0.5
SNR=5.2
TKM2 **Tokmak 2** 51.83 336 *e*P P 10 10 15.6 -0.2
TKM2 pmax pmax
comp=Z,40nm,0.6s,mb5.6
TKM2 **Tokmak 2** 51.83 336 P P 10 10 15.9 +0.1
SNR=80
TKM2 **Tokmak 2** 51.83 336 *e*P P 10 10 15.6 -0.2
comp=Z,40nm,0.6s,mb5.6
KBK **Karagaybulak** 51.88 335 P P 10 10 16.8 +0.6
SNR=17
ABTO **Aybut** 51.99 295 P P 10 10 18.4 +1.0
SNR=5.8
AML **Almayashu** 51.99 334 P P 10 10 17.6 +0.5
SNR=16
AML **Almayashu** 51.99 334 *e*P P 10 10 17.3 +0.3
comp=Z,20nm,0.6s,mb5.3
AAK **Ala-Archa** 52.05 335 P P 10 10 17.9 +0.5
SNR=14
FRU **Bishkek** 52.16 335 *e*P P 10 10 17.5 -0.8
FRU *e* pP 10 10 35.0 -1.5
CHMS **Chumysh** 52.24 335 P P 10 10 18.9 0.0
SNR=5.9
EKS2 **Erkin-Say** 52.38 334 P P 10 10 20.4 +0.5
SNR=76
EKS2 **Erkin-Say** 52.38 334 *e*P P 10 10 20.2 +0.3
comp=Z,64nm,0.8s,mb5.7
MAJO **Matsushiro** 52.41 37 *e*P P 10 10 18.6 -1.7
MAJO pmax pmax
comp=Z,5.0nm,0.4s,mb4.9
MAJO **Matsushiro** 52.41 37 *e*P P 10 10 18.6 -1.6
comp=Z,4.8nm,0.4s,mb4.9
MAT **Matsushiro** 52.41 37 P P 10 10 18.8 -1.5
MJAR **Matsushiro Arr** 52.41 37 P P 10 10 19.0 -1.3
comp=Z,7.3nm,0.7s,mb4.8,baz=206,slow=7.9,SNR=24
MJAR PcP PcP 10 11 30.0 -0.2
comp=Z,2.3nm,0.8s,baz=188,slow=5.5,SNR=2.7
MJAR ScP ScP 10 15 21.6 +0.3
comp=Z,2.4nm,0.9s,baz=227,slow=5.4,SNR=4.8
MJAR **Matsushiro Arr** 52.41 37 P P 10 10 19.0 -1.3
MJAR 10 11 30.0
USP **Ospenovka** 52.57 335 P P 10 10 20.9 -0.3
SNR=14
MK31 **Makanchi Array** 52.88 343 *i*P P 10 10 22.9 -0.6
MK31 pmax pmax
comp=Z,58nm,0.4s,mb6.0
MK31 **Makanchi Array** 52.88 343 *i*P P 10 10 22.0 -1.5
MKAR **Makanchi Array** 52.88 343 P P 10 10 23.0 -0.5
comp=Z,76nm,0.5s,mb6.0,baz=150,slow=7.9,SNR=471
MKAR S S 10 17 47.2 +0.1
comp=Z,0.6nm,0.9s,baz=129,slow=15,SNR=3.2
MKAR LR LR 10 35 02.3
comp=Z,61nm,18.7s,baz=150,slow=38
MKAR **Makanchi Array** 52.88 343 ⇑*e*P P 10 10 23.0 -0.5
MDJ **Mudanjiang** 54.01 24 P P 10 10 31.6 -0.2
MDJ AP pP 10 10 40.8 -9.3
MDJ XP sP 10 10 44.5 -14
MDJ PCS PcS 10 15 35.3 0.0
MDJ S S 10 18 07.8 +5.4
MDJ SS SS 10 21 51.0 +6.0
MDJ AMB AMB
comp=Z,14nm,0.9s,mb5.0
MDJ AMB AMB
comp=Z,90nm,3.9s
MDJ LR LR
comp=N,97nm,26.7s
MDJ LR LR
comp=E,78nm,28.1s
MDJ LR LR
comp=Z,173nm,26.7s
MDJ **Mudanjiang** 54.01 24 *e*P P 10 10 32.1 +0.2
comp=Z,11nm,0.8s,mb4.9
KK31 **Karatay Array** 54.20 332 *i*P P 10 10 32.4 -0.9
KK31 pmax pmax
comp=Z,2.0nm,0.3s,mb4.6
KK31 **Karatay Array** 54.20 332 *i*P P 10 10 32.5 -0.8
ARMA **Armidale** 54.22 125 *e*P P 10 10 35.3 +1.6
ARMA **Armidale** 54.22 125 *e*P P 10 10 35.2 +1.5
comp=Z,0.4nm,0.8s
HIA **Hailar** 54.82 14 *e*P P 10 10 36.8 -0.8
HIA pmax pmax
comp=Z,15nm,1.0s
HIA **Hailar** 54.82 14 *e*P P 10 10 36.8 -0.8
comp=Z,15nm,1.0s,mb5.0
MOY **Mondy** 54.93 360 *e*P P 10 10 38.3 0.0
TLY **Talaya** 54.97 2 P P 10 10 39.2 +0.6
comp=Z,204nm,0.8s,mb6.2,SNR=5.8
TLY **Talaya** 54.97 2 P P 10 10 39.6 +0.9
SNR=8.1
TLY **Talaya** 54.97 2 *e*P P 10 10 38.2 -0.4
TLY *e*S S 10 18 15.4 +0.4
TLY pmax pmax
comp=Z,26nm,0.8s,mb5.3
TLY MLR MLR
comp=Z,162nm,18.0s
TLY **Talaya** 54.97 2 ⇑*i*P P 10 10 38.0 -0.6
KURK **Kurchatov** 57.48 343 P P 10 10 55.9 -0.6
comp=Z,369nm,0.7s,SNR=8.8
KURK **Kurchatov** 57.48 343 P P 10 10 56.2 -0.4
SNR=20
KURK **Kurchatov** 57.48 343 ⇑*e*P P 10 10 55.7 -0.8
KURK pmax pmax
comp=Z,62nm,1.1s,mb5.5
KURK **Kurchatov** 57.48 343 ⇑*e*P P 10 10 55.8 -0.7
ABKT **Ailbek** 57.62 320 P P 10 10 57.6 -0.2
comp=Z,154nm,0.9s,mb6.0,SNR=8.0
KLR **Kul'dur** 58.62 23 *e*P P 10 11 00.0 -4.6
ERM **Erimo** 58.88 35 ⇓*i*P P 10 11 05.3 -1.2
ZAA0 **Zalesovo Array** 58.91 348 *e*P P 10 11 05.6 -0.9
ZALV **Zalesovo Beam** 58.91 348 P P 10 11 05.7 -0.8
comp=Z,81nm,0.8s,mb5.8,baz=166,slow=5.3,SNR=218
ZALV LR LR 10 40 03.5
comp=Z,101nm,19.6s,baz=134,slow=40
HABR **Khabarovsk** 59.36 25 *e*P P 10 11 06.5 -3.2
HABR *e* 10 11 53.8
HABR *e* 10 13 16.7
HABR *e* 10 20 51.6
HABR *e* 10 23 05.1
NVS **Novosibirsk** 60.08 348 *e*P P 10 11 12.8 -1.7
NVS *e* pP 10 11 31.3 -1.8
NVS *e*S S 10 19 19.3 -2.6
NVS pmax pmax
comp=Z,33nm,1.2s,mb5.2
NVS pmax pmax
comp=N,34nm,1.8s
NVS pmax pmax
comp=E,14nm,1.2s
NVS smax
comp=E,35nm,2.3s
NAY **Al-Naaiem** 61.40 306 *e*P P 10 11 23.7 -0.3
baz=306
NAY AMb AMB 10 11 33.3
comp=Z,22nm,0.5s,mb5.4,baz=306
MIB **Mutribah** 61.54 307 *e*P P 10 11 24.8 -0.1
baz=306
MIB AMb AMB 10 11 26.3

comp=Z,54nm,1.1s,mb5.5,baz=306
VOSK Vostochnaya 61.67 339 P **P** **10 11 24.6 -0.7**
VOSK pmax pmax
comp=Z,14nm,0.6s,mb5.2
RST Umm Al-Ruwaisa 61.70 306 *eP* **P** **10 11 25.5 -0.5**
baz=306
RST AMb AMB 10 11 26.7
comp=Z,33nm,1.3s,mb5.2,baz=306
YSS Yuzh-Sakhalins 61.88 31⇑ *iP* **P** **10 11 26.0 -0.8**
YSS pmax pmax
comp=E,30nm,1.0s
YSS pmax pmax
comp=Z,90nm,1.0s,mb5.8
YSS Yuzh-Sakhalins 61.88 31 *eP* **P** **10 11 26.7 -0.1**
comp=Z,72nm,0.9s,mb5.7
BOD Bodaibo 61.90 7 *eP* **P** **10 11 26.0 -0.8**
BOD pmax pmax
comp=Z,25nm,0.8s,mb5.3
BVA0 Borovoye Array 62.12 339 *i* P **P** **10 11 26.9 -1.5**
BVA0 pmax pmax
comp=Z,1.0nm,0.3s,mb4.3
BRVK Borovoye 62.19 339 P **P** **10 11 27.6 -1.2**
comp=Z,139nm,0.5s,mb6.2,SNR=11
BRVK Borovoye 62.19 339 ⇓P **P** **10 11 28.3 -0.4**
SNR=5.9
BRVK Borovoye 62.19 339 *eP* **P** **10 11 27.3 -1.5**
BRVK pmax pmax
comp=Z,18nm,0.5s,mb5.4
BRVK Borovoye 62.19 339 *eP* **P** **10 11 27.3 -1.5**
comp=Z,18nm,0.5s,mb5.4
CLNS Chul'man 63.01 14 *eP* **P** **10 11 34.2 0.0**
CLNS pmax pmax
comp=Z,17nm,0.9s,mb5.0
CLNS pmax pmax
comp=E,8.0nm,1.0s
CLNS pmax pmax
comp=N,10.0nm,0.9s
AB31 Akbulak array 63.71 331 *i* P **P** **10 11 37.7 -1.3**
AB31 pmax pmax
comp=Z,38nm,0.7s,mb5.3
AB31 Akbulak array 63.71 331⇑ *eP* **P** **10 11 37.8 -1.2**
KMBO Kilima Mbogo 64.36 270 P **P** **10 11 45.0 +1.0**
comp=Z,0.5nm,0.3s,baz=44,slow=12,SNR=5.2
KMBO Kilima Mbogo 64.36 270 *i* P **P** **10 11 46.9 +2.9**
KMBO pmax pmax
comp=Z,1.0nm,0.3s
MAK Makhachkala 67.14 320 *eP* **P** **10 12 00.7 -0.6**
MAK pmax pmax
comp=Z,60nm,0.9s,mb5.4
SVE Sverdlovsk 68.66 337⇓ *eP* **P** **10 12 10.1 -0.4**
SVE *e*PPP 10 16 28.7
SVE *e*S S 10 21 00.0 -7.7
SVE pmax pmax
comp=Z,37nm,0.8s,mb5.3
YAK Yakutsk 68.75 14 *c iP* **P** **10 12 09.4 -1.6**
YAK pmax pmax
comp=Z,60nm,0.7s,mb5.5
YAK pmax pmax
comp=E,10.0nm,0.8s
YAK pmax pmax
comp=N,32nm,1.5s
YAK Yakutsk 68.75 14 *eP* **P** **10 12 09.4 -1.6**
comp=N,84nm,0.8s,mb5.6
ARU Arti 69.20 336⇑ *eP* **P** **10 12 12.8 -1.1**
ARU pmax pmax
comp=Z,20nm,1.0s,mb4.9
ARU Arti 69.20 336⇑ *eP* **P** **10 12 12.9 -1.0**
MAW Mawson 69.28 195 P **P** **10 12 15.8 +1.5**
comp=Z,1.4nm,0.8s,baz=34,slow=7.7,SNR=4.7
MAW LR LR 10 36 31.3
comp=Z,219nm,18.1s,baz=64,slow=30
MAW PKP2ab 10 40 21.6
comp=Z,3.6nm,1.2s,baz=263,slow=8.1,SNR=3.5
KIV Kislovodsk 70.72 319 P **P** **10 12 24.3 +0.8**
SNR=6.6
KIV Kislovodsk 70.72 319 *d iP* **P** **10 12 23.9 +0.4**
KIV pmax pmax
comp=Z,44nm,1.0s,mb5.2
KIV Kislovodsk 70.72 319 *i* P **P** **10 12 23.9 +0.4**
SOC Sochi 72.53 318 *i* P **P** **10 12 34.7 +0.3**
RPZ Rata Peaks 72.79 135 LR LR 10 41 33.4
comp=Z,137nm,19.7s,baz=332,slow=33
PETK Petropavlovsk- 73.26 31 P **P** **10 12 37.6 -0.8**
comp=Z,13nm,0.7s,mb4.8,baz=219,slow=2.3,SNR=16
PETK LR LR 10 41 15.3
comp=Z,35nm,21.8s,baz=121,slow=33
PET Petropavlovsk 73.72 32 *eP* **P** **10 12 40.4 -0.8**
PET *e*S S 10 22 07.8 +1.4
PET pmax pmax
comp=Z,56nm,0.5s,mb5.5
PET Petropavlovsk 73.72 32⇑ *eP* **P** **10 12 40.3 -0.9**
ANN Anapa 74.51 318 *eP* **P** **10 12 38.7 -7.3**
ANN pmax pmax
comp=Z,51nm,1.3s,mb5.1
BR131 Keskin Array S 75.51 312 *eP* **P** **10 12 51.1 -0.7**
comp=Z,11nm,0.6s,mb4.8
VSR Storozhevoye 75.91 325 *ceP* **P** **10 12 52.7 -1.2**
VSR pmax pmax
comp=Z,20nm,1.1s,mb4.8
VSR pmax pmax
comp=N,4.0nm,0.5s
VSR pmax pmax
comp=E,20nm,1.3s
SEY Seymchan 76.38 21⇑ *eP* **P** **10 12 56.1 -0.2**
BOSA Boshof 76.39 242 P **P** **10 12 58.1 +1.0**
comp=E,2.8nm,1.0s,mb4.0,baz=325,slow=16,SNR=5.6
BOSA LR LR 10 39 56.8
comp=E,130nm,18.8s,baz=162,slow=30
TIXI Tiksi 77.05 9 *eP* **P** **10 12 58.0 -1.9**
TIXI pmax pmax
comp=Z,23nm,1.3s,mb4.8
TIXI Tiksi 77.05 9⇑ *eP* **P** **10 12 57.9 -2.0**
MOS Moscow 78.59 329 *eP* **P** **10 13 07.2 -1.6**
MOS pmax pmax
comp=Z,88nm,0.9s,mb5.6
OBN Obninsk 78.90 328 ⇑ *iP* **P** **10 13 10.0 -0.5**
OBN *e* 10 13 18.8
OBN *i* 10 16 08.8
OBN pmax pmax
comp=Z,55nm,1.2s,mb5.3
OBN Obninsk 78.90 328⇑ *iP* **P** **10 13 10.1 -0.4**
KLMR Klimovskoe 79.86 334 *eP* **P** **10 13 15.0 -0.5**
KLMR pmax pmax
comp=Z,32nm,1.2s,mb5.0
TIRR Tirgusor 80.54 316 ⇓P **P** **10 13 19.4 -0.2**
KIS Kishinev 80.91 319 *eP* **P** **10 13 21.0 -0.5**
KIS Kishinev 80.91 319 *e*UNK 10 13 21.0
APE Apeiranthos 81.05 308 ⇑P **P** **10 13 22.5 0.0**
AKASG Malin Array Be 81.64 322 P **P** **10 13 24.4 -0.8**
comp=Z,7.7nm,0.6s,mb4.7,baz=88,slow=4.9,SNR=27
AKBB Malin Array Si 81.64 322 *eP* **P** **10 13 24.6 -0.7**
VRI Vrincioaia 82.03 317 ⇑P **P** **10 13 28.2 +0.7**
PLOR Plostina 82.08 317 ⇓P **P** **10 13 28.6 +0.9**
MLR Muntele Rosu 82.48 317 ⇑P **P** **10 13 30.5 +0.7**
VOIR 83.09 316 ⇑P **P** **10 13 32.5 -0.5**
BURAR Bucovina Array 83.44 319 ⇑P **P** **10 13 35.9 +1.2**
BUR08 Bucovina Ar. S 83.45 319 *eP* **P** **10 13 35.7 +0.9**
MNK Minsk 83.48 326 *eP* **P** **10 13 31.0 -3.8**
VTS Vitosha 83.84 313 ⇓P **P** **10 13 36.6 -0.3**
JOF Joensuu 84.24 334 *ep* **P** **10 13 38.0 -0.5**
comp=Z,10nm,0.7s,mb4.8
JOF Joensuu 84.24 334 *eP* **P** **10 13 38.0 -0.5**
JOF pmax pmax
comp=Z,10.0nm,0.7s,mb4.8
DRGR 84.95 317 ⇓P **P** **10 13 43.3 +0.9**
KWP Kalwaria 85.47 320 *eP* **P** **10 13 44.7 -0.2**
KWP Kalwaria 85.47 320 ⇓P **P** **10 13 45.9 +1.0**
BZS Buzias 85.49 316 ⇑P **P** **10 13 45.3 +0.1**
KOLS Kolonicke sedl 85.62 319 *eP* **P** **10 13 46.7 +1.0**
KOLS *e* 10 13 51.5
CRVS Cervenica-Dubn 86.14 319 *eP* **P** **10 13 49.0 +0.7**
KAF Kangasniemi 86.23 333 *ep* **P** **10 13 47.3 -1.1**
comp=Z,16nm,0.7s,mb5.0,baz=99,slow=4.5
KAF Kangasniemi 86.23 333 *eP* **P** **10 13 47.3 -1.1**
KAF pmax pmax
comp=Z,16nm,0.7s,mb5.1
STHS Stebnicka Huta 86.37 320 *eP* **P** **10 13 49.9 +0.5**
STHS pmax pmax
comp=Z,11nm,0.8s,mb4.8
STHS Stebnicka Huta 86.37 320 *eP* **P** **10 13 49.9 +0.5**
comp=Z,11nm,0.8s,mb4.8
PSZ Piszkesteto 87.02 318 ⇑P **P** **10 13 52.8 +0.2**
VYHS Vyhne 87.80 319 *eP* **P** **10 13 55.3 -1.1**
KEV Kevo 87.95 340 *ep* **P** **10 13 55.3 -1.3**
comp=Z,15nm,0.7s,mb5.1
KEV Kevo 87.95 340 *eP* **P** **10 13 55.3 -1.3**
KEV pmax pmax
comp=Z,15nm,0.7s,mb5.1
KOLL Kolacno 88.10 319 *eP* **P** **10 13 58.2 +0.4**
TIP Timpagrande 88.20 309 *eP* **P** **10 13 59.3 +0.8**
comp=Z,9.3nm,1.0s,mb4.8
ARCES ARCESS Array B 88.40 340 P **P** **10 13 58.8 0.0**
comp=Z,20nm,0.8s,mb5.2,baz=102,slow=5.1,SNR=28
ARCES LR LR 11 01 00.5
comp=Z,160nm,18.0s,baz=98,slow=41
OKC Ostrava-Krasne 88.42 320 *eP* **P** **10 13 59.7 +0.4**
MORC Moravsky Berou 88.81 320 ⇓P **P** **10 14 02.1 +1.0**
MODS Modra-Piesok 88.82 318 *eP* **P** **10 14 00.5 -0.7**
MODS pmax pmax
comp=Z,4.0nm,0.9s,mb4.5
MODS Modra-Piesok 88.82 318 *eP* **P** **10 14 00.5 -0.7**
comp=Z,3.7nm,0.9s,mb4.4
ZST Bratislava 88.91 318 *eP* **P** **10 14 01.9 +0.3**
ZST pmax pmax
comp=Z,16nm,1.0s,mb5.0
ZST Bratislava 88.91 318 *eP* **P** **10 14 01.9 +0.3**
comp=Z,16nm,1.0s,mb5.0
CUC Castrocucco 89.00 310 *eP* **P** **10 14 01.8 -0.4**
comp=Z,16nm,0.9s,mb5.0
KOGS Kog 89.31 316 *i* P **P** **10 14 04.1 +0.6**
DPC Dobruska-Polom 89.65 320 *eP* **P** **10 14 06.2 +1.2**
GCIS Gornji Cirnik 89.68 316 *i* P **P** **10 14 05.9 +0.7**
CONA Conrad Observa 89.72 318⇑ *iP* **P** **10 14 04.9 -0.5**
comp=Z,5.9nm,1.0s,mb4.7
CSNA Conrad Observa 89.72 318⇑ *iP* **P** **10 14 04.9 -0.5**
comp=Z,5.0nm,0.8s,mb4.7
KSP Ksiaz 89.72 321 *eP* **P** **10 14 06.4 +1.1**
KSP Ksiaz 89.72 321 *eP* **P** **10 14 06.2 +0.9**
UPC Upice 89.86 320 *eP* **P** **10 14 06.9 +0.9**
BOJS Bojanci 89.91 315 *i* P **P** **10 14 06.9 +0.6**
PERS Pernice 90.10 317 *i* P **P** **10 14 07.9 +0.7**
SOKA Soboth 90.17 317⇑ *i*PcP PcP 10 14 08.1 -0.6
VISS Visnje 90.23 316 *i* P **P** **10 14 08.5 +0.7**
LJU Ljubljana 90.46 316 *i* P **P** **10 14 09.7 +0.8**
OBKA Obir 90.48 316⇑ *iP* **P** **10 14 09.2 +0.3**
comp=Z,9.8nm,1.0s,mb4.9
PRU Pruhonice 90.76 320 *eP* **P** **10 14 10.8 +0.6**
MOA Molln 90.78 318⇑ *iP* **P** **10 14 09.9 -0.4**
comp=Z,9.0nm,1.0s,mb4.9
BRG Berggiesshubel 91.21 321 *eP* **P** **10 14 12.7 +0.5**
BRG *e* pP 10 14 30.4 -1.6
BRG pmax pmax
comp=Z,5.0nm,0.8s,mb4.7
BRG pmax pmax
comp=Z,3.0nm,0.9s,mb4.4
BRG Berggiesshubel 91.21 321 *eP* **P** **10 14 13.0 +0.8**
comp=Z,9.0nm,0.8s,mb5.0
BRG Berggiesshubel 91.21 321 *eP* **P** **10 14 12.7 +0.5**
comp=Z,8.7nm,0.8s,mb4.9
BRG *e* pP 10 14 30.4 -1.6
comp=Z,5.5nm,0.9s
GERES GERESS Array B 91.22 319 P **P** **10 14 13.1 +0.8**
comp=Z,4.2nm,0.8s,mb4.6,baz=91,slow=5.6,SNR=22
KHC Kasperske Hory 91.32 319 *eP* **P** **10 14 12.9 +0.1**
KHC Kasperske Hory 91.32 319⇑ *eP* **P** **10 14 12.8 0.0**
FBE Freiberg 91.58 321 *eP* **P** **10 14 14.8 +0.8**
comp=Z,9.0nm,0.8s,mb5.0
WET Wettzell 91.78 319 *eP* **P** **10 14 15.3 +0.3**
WET pmax pmax
comp=Z,9.0nm,1.1s,mb4.9
WET Wettzell 91.78 319 *eP* **P** **10 14 15.3 +0.3**
comp=Z,9.0nm,1.1s,mb4.9
CLL Collm 91.83 321⇑ *iP* **P** **10 14 15.0 -0.1**
CLL pmax pmax
comp=Z,7.0nm,1.0s,mb4.8
CLL Collm 91.83 321⇑ *iP* **P** **10 14 15.0 -0.1**
comp=Z,7.0nm,1.0s,mb4.8
WERN Wernitzgruen 92.17 320 *eP* **P** **10 14 17.9 +1.2**
comp=Z,11nm,1.1s,mb5.0
ROTZ Rotenmuhle 92.25 320 *eP* **P** **10 14 17.6 +0.5**
comp=Z,7.0nm,1.0s,mb4.8
MANZ Manzenberg 92.33 320 *eP* **P** **10 14 18.1 +0.7**
comp=Z,8.0nm,1.1s,mb4.9
WTTA Wattenberg 92.52 317⇑ *iP* **P** **10 14 18.2 -0.2**
comp=Z,12nm,0.9s,mb5.2
MOX Moxa 92.67 320 *eP* **P** **10 14 19.3 +0.3**
MOX Moxa 92.67 320 *eP* **P** **10 14 19.9 +0.9**
comp=Z,54nm,2.5s,mb5.4
MOTA Moosalm 92.89 317⇑ *iP* **P** **10 14 19.7 -0.4**
comp=Z,13nm,1.1s,mb5.2
GRA1 Grafenberg Arr 92.89 319 *eP* **P** **10 14 20.3 +0.2**
comp=Z,7.0nm,0.6s,mb5.2
GRF Grafenberg Arr 92.89 319 *eP* **P** **10 14 20.3 +0.2**
GRF pmax pmax
comp=Z,7.0nm,0.6s,mb5.2
GRF Grafenberg Arr 92.89 319 *eP* **P** **10 14 20.3 +0.2**
GRF pmax pmax
comp=Z,7.0nm,0.6s,mb5.2
GRF Grafenberg Arr 92.89 319 *eP* **P** **10 14 20.3 +0.2**
comp=Z,7.0nm,0.6s,mb5.2
RETA Reutte 93.12 317⇑ *iP* **P** **10 14 21.2 0.0**
comp=Z,8.5nm,0.9s,mb5.1
NOA NORSAR Array B 93.22 331 P **P** **10 14 20.9 -0.4**
comp=Z,5.1nm,0.9s,mb4.9,baz=92,slow=4.7,SNR=6.1
NOA LR LR 11 00 04.7
comp=Z,68nm,18.1s,baz=5.0,slow=38
CLZ Clausthal 93.49 322 *eP* **P** **10 14 21.9 -0.8**
CLZ pmax pmax
comp=Z,8.0nm,1.0s,mb5.0
CLZ Clausthal 93.49 322 *eP* **P** **10 14 21.9 -0.8**
comp=Z,8.0nm,1.0s,mb5.0
DAVA Damuels 93.72 317⇑ *i*PcP PcP 10 14 24.6 +0.2
comp=Z,12nm,0.8s
KEST Kesra 93.86 305 P **P** **10 14 25.1 +0.2**
comp=Z,1.5nm,0.9s,mb4.3,baz=344,slow=2.0,SNR=4.4
TNS Taunus Mts 94.69 320 *eP* **P** **10 14 28.0 -0.3**
TNS pmax pmax
comp=Z,12nm,1.0s,mb5.3
TNS Taunus Mts 94.69 320 *eP* **P** **10 14 28.0 -0.3**
comp=Z,12nm,1.0s,mb5.3
TBI Tubuai 105.87 115 *e*LR LR 10 50 19.6
comp=Z,116nm,31.5s
PPT Papeete 106.78 109 *e*LR LR 10 50 43.5
comp=Z,74nm,23.8s
C04A Brinnon 121.61 34 ⇑P PKPdf 10 20 00.8 +0.2
baz=122
B05A Bryant 121.78 33 ⇑P PKPdf 10 20 01.0 +0.1
baz=122
D04A Cobbs Creek Ra 122.05 34 ⇑P PKPdf 10 20 02.1 +0.5
baz=122
A07A Ashnola River, 122.22 31 ⇑P PKPdf 10 20 01.2 -0.5
baz=122
F04A Amboy 122.94 35 ⇓P PKPdf 10 20 03.5 +0.2
baz=123
B08A Colville Reser 123.19 32 ⇑P PKPdf 10 20 03.0 -0.7
baz=123
C07A Waterville 123.22 32 ⇓P PKPdf 10 20 03.4 -0.3
baz=123
E06A Yakima 123.40 34 ⇓P PKPdf 10 20 04.1 0.0
baz=123
D07A Quincy 123.57 33 ⇑P PKPdf 10 20 04.4 0.0
baz=123
A10A Northport 123.70 30 ⇓P PKPdf 10 20 04.7 0.0
baz=124
C08A Higginbotham F 123.70 32 ⇑P PKPdf 10 20 04.9 +0.3
baz=124
B09A Rice 123.77 31 ⇑P PKPdf 10 20 04.8 0.0
baz=124
H04A Detroit Lake 123.77 36 ⇓P PKPdf 10 20 05.0 +0.1
baz=124
F06A Goldendale 123.97 35 ⇓P PKPdf 10 20 05.2 0.0
baz=124
I04A Tendick Farm, 124.12 37 ⇓P PKPdf 10 20 05.4 -0.2
baz=124
D08A Wollman Farm, 124.22 33 ⇑P PKPdf 10 20 05.7 0.0
baz=124
A11A Hall Mountain, 124.31 29 ⇓P PKPdf 10 20 06.3 +0.5
baz=124
H05A Madras 124.36 36 ⇓P PKPdf 10 20 06.2 +0.2
baz=124
F07A Phinny Hill Vi 124.38 34 ⇓P PKPdf 10 20 06.1 +0.1
baz=124
HUMO Hull Mountain 124.42 39 ⇓P PKPdf 10 20 06.3 +0.1
baz=124
E08A Dider Farm, El 124.50 33 ⇓P PKPdf 10 20 06.4 +0.2
baz=124
D09A Jones Farm, Ri 124.55 32 ⇑P PKPdf 10 20 06.2 -0.1
baz=124
E09A Wood Farm, Sta 124.98 33 ⇑P PKPdf 10 20 07.1 0.0
baz=125
F08A Pendleton 125.08 34 ⇓P PKPdf 10 20 07.4 +0.1
baz=125
J05A Fort Rock 125.12 37 ⇑P PKPdf 10 20 07.7 +0.1
baz=125
M02C Callahan 125.12 40 ⇓P PKPdf 10 20 07.8 +0.2
baz=125
A13A Flathead Natio 125.27 28 ⇓P PKPdf 10 20 07.9 +0.3
baz=125
G08A Pilot Rock 125.28 34 ⇑P PKPdf 10 20 08.1 +0.3
baz=125
L04A Klamath Falls 125.32 39 ⇑P PKPdf 10 20 07.9 0.0
baz=125
H07A Lands Inn, Kim 125.36 35 ⇑P PKPdf 10 20 08.0 0.0
baz=125
I06A Prineville 125.36 36 ⇑P PKPdf 10 20 07.9 -0.1
baz=125
E10A Myers Farm, Un 125.55 32 ⇓P PKPdf 10 20 07.9 -0.3
baz=125
D11A Klaveano Farm, 125.59 31 ⇓P PKPdf 10 20 08.3 0.0
baz=125
F09A S2 Ranch, Elgi 125.61 33 ⇑P PKPdf 10 20 08.4 0.0
baz=125
B13A Whitefish 125.63 29 ⇓P PKPdf 10 20 08.7 +0.4
baz=125
K05A Summer Lake 125.64 38 ⇓P PKPdf 10 20 08.8 +0.2
baz=126
I07A Izee 125.69 36 ⇑P PKPdf 10 20 08.7 +0.1
baz=126
WDC Whiskeytown Da 125.75 41 ⇑P PKPdf 10 20 08.7 -0.1
baz=126
J06A Christmas Vall 125.79 37 ⇑P PKPdf 10 20 09.6 +0.7
baz=126
F10A Beach Ranch, E 125.81 33 ⇓P PKPdf 10 20 09.1 +0.3
baz=126
G09A Cove 125.95 34 ⇓P PKPdf 10 20 08.8 -0.2
baz=126
K06A Valley Falls 125.99 37 ⇑P PKPdf 10 20 09.7 +0.5
baz=126
A15A Johnson Ranch, 126.02 27 ⇓P PKPdf 10 20 09.3 +0.2
baz=126
L05A Lakeview 126.05 38 ⇓P PKPdf 10 20 10.1 +0.7
baz=126
C13A Hot Springs 126.05 30 ⇓P PKPdf 10 20 09.5 +0.3
baz=126
D12A Red Ives Fores 126.09 31 ⇑P PKPdf 10 20 08.6 -0.7
baz=126
GASB Alder Springs 126.10 42 ⇓P PKPdf 10 20 10.3 +0.8
baz=126
E11A Bogner Ranch, 126.11 32 ⇑P PKPdf 10 20 09.7 +0.4
baz=126
J07A Hines 126.22 36 ⇑P PKPdf 10 20 09.9 +0.2
baz=126
G10A Bishop Farm, J 126.30 33 ⇑P PKPdf 10 20 10.9 +1.1
baz=126
I08A Drewsey 126.34 35 ⇑P PKPdf 10 20 10.3 +0.5
baz=126
H09A Durkee 126.39 34 ⇓P PKPdf 10 20 10.3 +0.4
baz=126
C14A Swan Lake 126.40 29 ⇓P PKPdf 10 20 10.0 +0.2
baz=126
F11A Grangeville 126.44 32 ⇓P PKPdf 10 20 10.3 +0.3
baz=126
MOD Modoc 126.46 38 ⇑P PKPdf 10 20 10.6 +0.4
baz=126
D13A Huson 126.51 30 ⇓P PKPdf 10 20 09.9 -0.2
baz=126
A16A West Butte Ran 126.56 27 ⇓P PKPdf 10 20 10.2 +0.1
baz=126
B15A Bradely Ranch, 126.58 28 ⇑P PKPdf 10 20 10.0 -0.2
baz=126
K07A Rock Creek Ran 126.66 37 ⇑P PKPdf 10 20 11.2 +0.7
baz=126
G11A Walters Elk Ra 126.69 33 ⇑P PKPdf 10 20 11.2 +0.8
baz=126
J08A Circle Bar Ran 126.72 36 ⇑P PKPdf 10 20 10.9 +0.3
baz=127
MCCM Marconi Confer 126.74 44 ⇑P PKPdf 10 20 11.9 +1.1
baz=127
I09A Lost Marbles R 126.77 35 ⇓P PKPdf 10 20 11.2 +0.5
baz=127
O04C Chester 126.83 40 ⇑P PKPdf 10 20 11.3 +0.4
baz=127
C15A Salmond Ranch, 126.94 28 ⇑P PKPdf 10 20 10.8 -0.1
baz=127
H10A Noah's Angus R 126.95 34 ⇓P PKPdf 10 20 11.0 0.0
baz=127
ORV Oroville 126.96 41 ⇑P PKPdf 10 20 11.2 0.0
baz=127
L07A Adell 126.99 38 ⇑P PKPdf 10 20 11.8 +0.7
baz=127
D14A Greenough 126.99 30 ⇑P PKPdf 10 20 11.0 0.0
baz=127
F12A Elk City 127.00 32 ⇑P PKPdf 10 20 11.1 0.0
baz=127
K08A Mann Creek Ran 127.09 37 ⇑P PKPdf 10 20 11.9 +0.6
baz=127
E13A Victor 127.09 30 ⇓P PKPdf 10 20 11.4 +0.1
baz=127
O05C Quincy 127.13 41 ⇑P PKPdf 10 20 11.6 +0.1
baz=127
J09A Fry Pan Ranch, 127.15 36 ⇓P PKPdf 10 20 11.5 +0.1
baz=127
H11A Donnelly 127.28 33 ⇓P PKPdf 10 20 11.7 +0.1
baz=127
C16A Fuhringer Ranc 127.32 28 ⇓P PKPdf 10 20 11.5 -0.1
baz=127
N06A Buffalo Meadow 127.40 39 ⇓P PKPdf 10 20 12.6 +0.6
baz=127
E14A Clinton 127.46 30 ⇓P PKPdf 10 20 12.2 +0.3
baz=127
F13A Darby 127.46 31 ⇑P PKPdf 10 20 11.9 0.0
baz=127
L08A Fields 127.49 37 ⇓P PKPdf 10 20 12.9 +0.8
baz=127
BEKR Beckwourth 127.54 41 ⇓P PKPdf 10 20 12.5 +0.2
baz=127
JRSC Jasper Ridge 127.54 44 ⇑P PKPdf 10 20 12.5 +0.2
baz=127
K09A Rome 127.56 36 ⇑P PKPdf 10 20 12.9 +0.7
baz=127
O06A Flanigan 127.72 40 ⇓P PKPdf 10 20 13.4 +0.7
baz=128
I11A Placerville 127.82 34 ⇑P PKPdf 10 20 13.0 +0.3
baz=128
E15A Deer Lodge 127.88 30 ⇓P PKPdf 10 20 13.1 +0.4
baz=128
LAVA Lava Cap Winer 127.88 42 ⇑P PKPdf 10 20 13.5 +0.6
baz=128
C17A Wharram Farm, 127.90 27 ⇑P PKPdf 10 20 12.9 +0.2
baz=128
M08A Happy Creek Ra 127.90 38 ⇑P PKPdf 10 20 13.3 +0.4
baz=128
N07B Gerlach 127.92 39 ⇓P PKPdf 10 20 13.6 +0.6
baz=128
F14A Wisdom 127.94 31 ⇑P PKPdf 10 20 13.3 +0.5
baz=128
L09A Wilkinson Ranc 128.00 37 ⇑P PKPdf 10 20 14.4 +1.3
baz=128
K10A MacKenzie Ranc 128.01 36 ⇑P PKPdf 10 20 13.9 +0.8
baz=128
H12A Diamond D Ranc 128.01 33 ⇑P PKPdf 10 20 13.4 +0.3
baz=128
EGMT Eagleton 128.06 26 ⇓P PKPdf 10 20 13.1 0.0
baz=128
MFID Camas Ranch 128.21 34 ⇑P PKPdf 10 20 13.9 +0.4
baz=128
WCN Washoe City 128.24 41 ⇓P PKPdf 10 20 13.6 0.0
baz=128
E16A East Helena 128.27 29 ⇑P PKPdf 10 20 13.6 +0.1
baz=128
G14A Jackson 128.28 31 ⇓P PKPdf 10 20 14.0 +0.5
baz=128
H13A Challis 128.32 32 ⇓P PKPdf 10 20 13.7 +0.1
baz=128
O07A Toulon 128.33 39 ⇓P PKPdf 10 20 14.0 +0.2
baz=128
F15A Butte 128.36 30 ⇑P PKPdf 10 20 13.9 +0.2
baz=128
PACP Pacheco Peak 128.40 44 ⇓P PKPdf 10 20 14.3 +0.3
baz=128
N08A GE Springer Mi 128.44 38 ⇑P PKPdf 10 20 14.6 +0.6
baz=128
CMB Columbia Colle 128.49 42 ⇑P PKPdf 10 20 14.5 +0.3
baz=128
K11A Parker Ranch, 128.50 35 ⇑P PKPdf 10 20 14.3 +0.3
baz=128
DLMT Dillon 128.64 31 *e*PKPdf PKPdf 10 20 15.1 +0.9
L10A Juniper Basin 128.67 36 ⇑P PKPdf 10 20 15.2 +0.9
baz=128
O08A Rochester Mine 128.71 39 ⇓P PKPdf 10 20 15.6 +1.1

	baz=128								
E17A	**Martinsdale**	**128.71**	**28**	⇓P		PKPdf	10 20 14.4	+0.1
	baz=128								
J12A	**Stokes Ranch,**	**128.72**	**34**	⇓P		PKPdf	10 20 15.1	+0.7
	baz=128								
H14A	**Leadore**	**128.76**	**32**	⇑P		PKPdf	10 20 15.0	+0.6
	baz=129								
N09A	**Rock Creek Ran**	**128.78**	**38**	⇓P		PKPdf	10 20 15.3	+0.7
	baz=129								
I13A	**Wildhorse Cree**	**128.83**	**33**	⇑P		PKPdf	10 20 15.3	+0.7
	baz=129								
G15A	**Dillon**	**128.83**	**31**	⇓P		PKPdf	10 20 15.3	+0.7
	baz=129								
R06C	**Coleville**	**128.86**	**41**	⇓P		PKPdf	10 20 15.8	+0.9
	baz=129								
S05C	**Merced**	**128.89**	**43**	⇑P		PKPdf	10 20 15.6	+0.6
	baz=129								
HLID	**Hailey**	**128.90**	**33**	⇓P		PKPdf	10 20 15.8	+1.0
	baz=129								
L11A	**Cat Creek Ranc**	**129.03**	**36**	⇓P		PKPdf	10 20 15.9	+0.9
	baz=129								
H15A	**Lima**	**129.13**	**31**	⇑P		PKPdf	10 20 16.0	+0.8
	baz=129								
G16A	**Moss Hill, Enn**	**129.13**	**30**	⇑P		PKPdf	10 20 16.1	+0.9
	baz=129								
J13A	**Cove Ranch, Pi**	**129.14**	**33**	⇓P		PKPdf	10 20 15.9	+0.7
	baz=129								
I14A	**Mackay**	**129.18**	**32**	⇑P		PKPdf	10 20 16.2	+0.9
	baz=129								
K12A	**Draper Farm, C**	**129.23**	**35**	⇑P		PKPdf	10 20 16.3	+0.9
	baz=129								
M11A	**Holland Ranch,**	**129.47**	**36**	⇓P		PKPdf	10 20 17.0	+1.1
	baz=129								
L12A	**House Creek Ra**	**129.47**	**35**	⇑P		PKPdf	10 20 16.6	+0.7
	baz=129								
T06C	**Millerton Lake**	**129.49**	**43**	⇓P		PKPdf	10 20 16.6	+0.5
	baz=129								
J14A	**Carey**	**129.54**	**33**	⇑P		PKPdf	10 20 17.0	+1.0
	baz=129								
KCC	**Kaiser Creek**	**129.59**	**43**	⇑P		PKPdf	10 20 16.8	+0.5
	baz=129								
F18A	**Big Timber**	**129.66**	**28**	⇓P		PKPdf	10 20 16.4	+0.3
	baz=130								
NVAR	**Mina Array Bea**	**129.66**	**41**	PKP		PKPdf	10 20 17.0	+0.6
	comp=Z,1.7nm,0.6s,baz=286,slow=2.4,SNR=13								
NVAR				SKPbc			10 23 33.3		
	comp=Z,1.7nm,0.8s,baz=268,slow=4.6,SNR=9.5								
K13A	**Stover Farm, H**	**129.68**	**34**	⇑P		PKPdf	10 20 17.4	+1.1
	baz=130								
O10A	**Cortez Mining,**	**129.74**	**38**	⇓P		PKPdf	10 20 17.6	+1.2
	baz=130								
H16A	**Russell Place,**	**129.78**	**30**	⇓P		PKPdf	10 20 17.2	+0.8
	baz=130								
M12A	**Wells**	**130.00**	**36**	⇑P		PKPdf	10 20 18.0	+1.1
	baz=130								
J15A	**Blackfoot**	**130.08**	**32**	⇑P		PKPdf	10 20 18.0	+1.0
	baz=130								
L13A	**Double Diamond**	**130.12**	**34**	⇓P		PKPdf	10 20 18.5	+1.3
	baz=130								
P10A	**Eureka**	**130.16**	**39**	⇑P		PKPdf	10 20 18.7	+1.4
	baz=130								
ELK	**Elko**	**130.22**	**37**	*e*PKIKP		PKPdf	10 20 18.5	+1.1
I16A	**Newdale**	**130.25**	**31**	⇑P		PKPdf	10 20 18.4	+1.1
	baz=130								
K14A	**Jones Ranch, D**	**130.25**	**34**	⇓P		PKPdf	10 20 18.5	+1.1
	baz=130								
N12A	**Clover Valley,**	**130.28**	**36**	⇑P		PKPdf	10 20 18.3	+0.8
	baz=130								
H17A	**Grant Village**	**130.34**	**30**	⇑P		PKPdf	10 20 18.9	+1.4
	baz=130								
O11A	**Cowboy Ranch,**	**130.35**	**38**	⇑P		PKPdf	10 20 18.7	+1.0
	baz=130								
L14A	**Malta**	**130.55**	**34**	⇑P		PKPdf	10 20 18.7	+0.7
	baz=130								
S09A	**Goldfield**	**130.76**	**41**	⇑P		PKPdf	10 20 19.8	+1.4
	baz=131								
M14A	**Sheep Mountain**	**130.84**	**35**	⇓P		PKPdf	10 20 19.4	+0.9
	baz=131								
ULM	**Lac du Bonnet**	**131.09**	**15**	PKP		PKPdf	10 20 18.0	-0.7
	comp=Z,3.6nm,0.8s,baz=338,slow=6.8,SNR=6.1								
Q11A	**Duckwater**	**131.12**	**39**	⇑P		PKPdf	10 20 20.2	+1.1
	baz=131								
P12A	**McGill**	**131.21**	**38**	⇑P		PKPdf	10 20 20.6	+1.4
	baz=131								
R11A	**Troy Canyon, C**	**131.46**	**39**	⇑P		PKPdf	10 20 21.3	+1.5
	baz=131								
MPMC	**Manual Prospec**	**131.50**	**43**	⇑P		PKPdf	10 20 20.9	+0.9
	baz=131								
Q12A	**Willow Creek R**	**131.52**	**38**	⇑P		PKPdf	10 20 20.9	+1.0
	baz=131								
DUG	**Dugway**	**132.00**	**36**	⇓P		PKPdf	10 20 21.9	+1.1
	baz=132								
DUG	**Dugway**	**132.00**	**36**	*e*PKPdf		PKPdf	10 20 22.5	+1.7
DUG				*e*SKPbc		SKPbc	10 23 42.4	+1.6
PDAR	**Pinedale Array**	**132.02**	**31**	PKP		PKPdf	10 20 20.5	-0.2
	comp=Z,0.8nm,0.5s,baz=110,slow=1.7,SNR=7.2								
PDAR				SKPbc		SKPbc	10 23 40.3	-0.5
	comp=Z,1.4nm,0.8s,baz=49,slow=1.0,SNR=7.8								
O17A	**Robinson Place**	**133.19**	**34**	⇑P		PKPdf	10 20 23.6	+0.6
	baz=133								
S14A	**Cedar City**	**133.33**	**38**	⇓P		PKPdf	10 20 24.7	+1.3
	baz=133								
GMRC	**Granite Mounta**	**133.45**	**43**	⇓P		PKPdf	10 20 24.1	+0.5
	baz=133								
MSU	**Marysvale**	**133.46**	**37**	*e*PKPdf		PKPdf	10 20 25.2	+1.7
MSU				*e*SKPbc		SKPbc	10 23 48.1	+2.2
O18A	**Roosevelt**	**133.55**	**34**	⇓P		PKPdf	10 20 24.3	+0.6
	baz=133								
V13A	**Grand Canyon W**	**133.97**	**41**	⇓P		PKPdf	10 20 25.5	+0.9
	baz=134								
S16A	**Weppner Ranch,**	**134.32**	**37**	⇓P		PKPdf	10 20 26.1	+0.9
	baz=134								
R17A	**Hanksville Air**	**134.40**	**36**	⇓P		PKPdf	10 20 26.2	+0.9
	baz=134								
P19A	**Cripple Cowboy**	**134.55**	**34**	⇓P		PKPdf	10 20 27.3	+1.7
	baz=134								
V14A	**Boquillas Ranc**	**134.67**	**41**	⇑P		PKPdf	10 20 27.2	+1.3
	baz=134								
U15A	**North Rim**	**134.71**	**39**	⇑P		PKPdf	10 20 27.2	+1.3
	baz=134								
Q19A	**Hogan Spring (**	**134.87**	**34**	⇓P		PKPdf	10 20 27.7	+1.6
	baz=135								
R18A	**Canyonlands Na**	**134.89**	**35**	⇓P		PKPdf	10 20 27.9	+1.7
	baz=135								
W14A	**Seligman**	**134.94**	**41**	⇑P		PKPdf	10 20 27.9	+1.5
	baz=135								
V15A	**Kaibab Nationa**	**135.16**	**40**	⇓P		PKPdf	10 20 28.8	+1.9
	baz=135								
T17A	**Navajo Res., N**	**135.27**	**38**	⇑P		PKPdf	10 20 29.0	+2.0
	baz=135								
S18A	**Hurst Farm, Bl**	**135.30**	**36**	⇓P		PKPdf	10 20 29.1	+2.1
	baz=135								
PV10	**Paradox Valley**	**135.39**	**35**	*e*PKPdf		PKPdf	10 20 28.8	+1.6
U16A	**Tuba City**	**135.62**	**39**	⇓P		PKPdf	10 20 29.3	+1.6
	baz=135								
Y14A	**Wickenburg**	**135.74**	**43**	⇓P		PKPdf	10 20 29.2	+1.2
	baz=136								
T18A	**Mexican Hat**	**135.74**	**37**	⇓P		PKPdf	10 20 28.7	+0.9
	baz=136								
S19A	**Harvey Farm, M**	**135.77**	**36**	⇓P		PKPdf	10 20 29.6	+1.7
	baz=136								
WUAZ	**Wupatki**	**135.86**	**40**	⇑P		PKPdf	10 20 29.7	+1.6
	baz=136								
X15A	**Humboldt**	**135.93**	**41**	⇓P		PKPdf	10 20 29.9	+1.6
	baz=136								
Y15A	**Casa Rosa Ranc**	**136.18**	**42**	⇓P		PKPdf	10 20 30.0	+1.2
	baz=136								
X16A	**Lo Mia Camp, P**	**136.49**	**41**	⇑P		PKPdf	10 20 31.3	+2.0
	baz=136								
V18A	**Ganado**	**136.64**	**38**	⇑P		PKPdf	10 20 30.5	+1.0
	baz=136								
X17A	**Forest Lakes**	**136.96**	**41**	⇑P		PKPdf	10 20 31.0	+0.8
	baz=137								
Y17A	**Roosevelt**	**137.32**	**41**	⇓P		PKPdf	10 20 32.5	+1.5
	baz=137								
219A	**White Tail Can**	**139.42**	**42**	⇓P		PKPdf	10 20 35.5	+0.7
	baz=139								
BDFB	**Brasilia**	**144.47**	**237**	PKP		PKPdf	10 20 44.1	-0.1
	comp=Z,4.1nm,0.7s,baz=180,slow=9.2,SNR=12								
SIUC	**Southern Illin**	**144.50**	**15**	*e*PKPdf		PKPdf	10 20 41.5	-2.1
WCI	**Wyandotte Cave**	**144.65**	**11**	*e*PKIKP		PKPdf	10 20 41.5	-2.4
TXAR	**Lajitas Array**	**144.81**	**40**	PKP		PKPdf	10 20 44.0	-0.5
	comp=Z,32nm,0.6s,baz=285,slow=1.0,SNR=473								
TXAR				SKPbc		SKPbc	10 24 17.8	+0.1
	comp=Z,0.6nm,0.7s,baz=216,slow=0.8,SNR=5.4								
TXAR	**Lajitas Array**	**144.81**	**40**	PKP		PKPdf	10 20 44.0	-0.5
TXAR				SKPbc		SKPbc	10 24 17.8	+0.1
UTMT	**University of**	**145.88**	**15**	*e*PKPdf		PKPdf	10 20 46.7	+0.6
GNAR	**Gosnell**	**145.92**	**17**	*e*PKPdf		PKPdf	10 20 46.8	+0.6
MIAR	**Mount Ida**	**146.00**	**23**	*e*PKP2		PKPdf	10 20 46.6	+0.2
URVA	**University of**	**146.05**	**359**	*e*PKPdf		PKPdf	10 20 46.5	+0.2
HALT	**Halls**	**146.16**	**16**	*e*PKPdf		PKPdf	10 20 47.1	+0.5
UALR	**University of**	**146.25**	**21**	*e*PKPdf		PKPdf	10 20 47.0	+0.2
WVT	**Waverly**	**146.34**	**14**	*e*PKP2		PKPdf	10 20 47.1	+0.2
JCT	**Junction City**	**146.35**	**35**	*e*PKP2		PKPdf	10 20 47.6	+0.5
BLA	**Blacksburg**	**146.37**	**3**	*e*PKP2		PKPdf	10 20 46.7	-0.2
TZTN	**Tazewell**	**146.74**	**8**	*e*PKPdf		PKPdf	10 20 47.3	-0.3
OXF	**Oxford**	**147.45**	**17**	*e*PKP2		PKPbc	10 20 50.1	-1.3
TKL	**Tuckaleechee C**	**147.58**	**8**	*e*PKP2		PKPbc	10 20 50.6	-1.1
SWET	**Sewanee**	**147.64**	**12**	*e*PKPdf		PKPdf	10 20 50.2	+1.1
CPCT	**Cooper Cave**	**147.67**	**9**	*e*PKPbc		PKPbc	10 20 51.2	-0.8
NATX	**Nacogdoches**	**147.95**	**27**	*e*PKPdf		PKPbc	10 20 53.0	+0.2
BBSR	**BB Station**	**148.52**	**337**	*e*PKPbc		PKPbc	10 20 54.2	0.0
HKT	**Hockley**	**148.90**	**30**	*e*PKP2		PKPbc	10 20 55.6	+0.3
VBMS	**Vicksburg**	**149.21**	**20**	*e*PKPbc		PKPbc	10 20 55.9	-0.1
JSC	**Jenkinsville**	**149.22**	**5**	*e*PKP2		PKPbc	10 20 55.2	-0.8
LRAL	**Lakeview Retre**	**149.50**	**14**	*e*PKPbc		PKPbc	10 20 55.5	-1.2
GOGA	**Godfrey**	**149.83**	**9**	*e*PKPbc		PKPbc	10 20 56.4	-1.2
GOGA				*e*PKPab		PKPab	10 21 02.3	-0.7
LPAZ	**La Paz**	**157.92**	**207**	PKP		PKPdf	10 21 05.9	+1.4
	comp=Z,1.4nm,0.9s,baz=41,slow=8.5,SNR=5.8								

ATH ***18*** *10:28:17.3, 38.13N×2126E, h44km±3km, MD2.9/3*
CSEM ***18*** *10:28:18.2±0.1, 3791N×2113E, h15km, MD2.9, Error ellipse: s-maj=2.9km s-min=1.6km az=42.0*
ISCJB ***18*** *10:28:19.9±0.7, 3795N±005×2116E±006, h26km±8km, Error ellipse: s-maj=9.7km s-min=5.2km az=42.9*
THE ***18*** *10:28:19.1, 3791N×2120E, h9km±6km, ML2.6/1, Error ellipse: s-maj=7.4km s-min=0.7km az=275.0*

ISC 18 10:28:19.9±0.6, 3792N±005×2116E±005, h16km±6km, n11, σ0$94/20, Southern Greece

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
RLS	**Riolos of Patr**	**0.28**	**61**	*e*P		**Pg**	**10 28 25.8**	**-0.1**
RLS	**Riolos of Patr**	**0.28**	**61**	*e*P		**Pg**	**10 28 25.8**	**-0.1**
RLS				*e*S		**Sg**	**10 28 30.7**	**+0.7**
KFL	**Anninata**	**0.35**	**303**	P		**Pg**	**10 28 26.4**	**-0.7**
KFL				S		**Sg**	**10 28 32.0**	**+0.1**
VLS	**Valsamata**	**0.52**	**300**	P		**Pg**	**10 28 29.0**	**-1.1**
VLS				*S*		**Sg**	**10 28 38.1**	**+1.0**
VLS	**Valsamata**	**0.52**	**300**	*e*P		**Pg**	**10 28 29.3**	**-0.8**
VLS				*e*S		**Sg**	**10 28 38.7**	**+1.6**
VLS	**Valsamata**	**0.52**	**300**	*e*P		**Pg**	**10 28 29.3**	**-0.8**
VLS				*e*S		**Sg**	**10 28 38.7**	**+1.6**
LKD	**Levkas**	**0.88**	**333**	P		**Pb**	**10 28 36.4**	**-0.4**
LKD				S		**Sb**	**10 28 49.3**	**+0.9**
ITM	**Ithomi**	**0.96**	**140**	*e*P		**Pb**	**10 28 37.4**	**-0.8**
ITM				*e*S		**Sb**	**10 28 51.8**	**+1.2**
ITM	**Ithomi**	**0.96**	**140**	*e*P		**Pb**	**10 28 37.4**	**-0.8**
ITM				*e*S		**Sb**	**10 28 51.8**	**+1.2**
PYL	**PYLOS**	**1.12**	**155**	P		**Pb**	**10 28 39.4**	**-1.6**
PYL				S		**Sb**	**10 28 56.5**	**+1.2**
AGG	**Agios Georgios**	**1.44**	**40**	P		**Pn**	**10 28 44.3**	**-1.0**

IDC 18 10:42:47.8±3.2, 475S×15289E, h0km, mb3.7/3, mb1 3.9/3, mb1mx3.6/16, mbtmp3.7/3, Error ellipse: s-maj=127.8km s-min=45.3km az=124.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
WRA	**Warramunga Arr**	**23.55**	**229**	P		P	10 47 59.7	-0.4
	1.7nm,0.5s,baz=53,slow=9.9,SNR=30							
ASAR	**Alice Springs**	**26.25**	**222**	P		P	10 48 25.3	+0.5
	0.3nm,0.6s,baz=58,slow=8.6,SNR=6.0							
FITZ	**Fitzroy Crossi**	**29.76**	**241**	P		P	10 48 56.1	-0.2
	1.3nm,0.6s,baz=84,slow=9.3,SNR=6.6							
TORD	**Torodi Ar. Bea**	**150.38**	**288**	PKPbc		PKPbc	11 02 42.0	-0.2
	0.3nm,0.6s,baz=54,slow=4.0,SNR=2.5							

NIED ***18*** *10:46:00, 4030N×14200E, h65km, Mw3.6 Best double couple: M0 3.30000×10^14 NP1:φs333.00000°, δ86.00000°, λ-47.00000°. NP2:φs67.00000°, δ43.00000°, λ-174.00000°.*
ISCJB ***18*** *10:46:28.6±1.6, 4029N±006×1420E±0.1, h63km±12km, Error ellipse: s-maj=17.2km s-min=8.9km az=170.3*
JMA ***18*** *10:46:28.6, 4025N×14198E, h62km±1km, M3.5*
JMA Felt I J1.

ISC 18 10:46:28.4±1.6, 4028N±006×1420E±01, h62km±12km, n8, σ0$16/15, 4C-4D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
JTH	**Tanohata**	**0.36**	**197**	⇑P		**Pn**	**10 46 39.3**	**+0.1**
JTH				S		**Sn**	**10 46 47.1**	**+0.1**
JANG	**Nango**	**0.38**	**284**	⇑P		**Pn**	**10 46 39.5**	**+0.1**
JANG				S		**Sn**	**10 46 47.4**	**0.0**
JKZ	**Kuzumaki**	**0.59**	**240**	⇑P		**Pn**	**10 46 41.7**	**+0.2**
JKZ				S		**Sn**	**10 46 51.0**	**-0.1**
JTM	**Tenmabayashi**	**0.87**	**306**	⇓P		**Pn**	**10 46 44.8**	**-0.1**
JTM				S		**Sn**	**10 46 56.9**	**-0.2**
JOM	**Ohasama**	**0.97**	**214**	⇑P		**Pn**	**10 46 46.1**	**-0.1**
JOM				S		**Sn**	**10 46 59.0**	**-0.3**
JAH	**Hinai**	**1.05**	**265**	⇓P		**Pn**	**10 46 47.1**	**-0.1**
JAH				S		**Sn**	**10 47 01.4**	**+0.3**
JOT	**Ohata**	**1.32**	**327**	⇓P		**Pn**	**10 46 50.6**	**-0.1**
JOT				S		**Sn**	**10 47 07.3**	**-0.1**
JIW	**Iwasaki**	**1.56**	**282**	⇓P		**Pn**	**10 46 54.1**	**+0.3**

GRAL ***18*** *11:20:56.3±0.3, 3360N×3702E, h15km±999km, MD3.3*
GII ***18*** *11:20:56.5±0.0, 3390N×3667E, h0km, ML2.4/3, EXPLOSION*
CSEM ***18*** *11:20:57.9±0.5, 3371N×3668E, h2km, ML3.3, Error ellipse: s-maj=11.9km s-min=6.3km az=68.0*

ISC 18 11:20:56.1±1.4, 3368N±005×3692E±009, h0km, n15, σ1$04/20, Jordan - Syria region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
RCY	**Rachaya**	**0.94**	**258**	*e*P		**Pg**	**11 21 13.6**	**-0.6**
RCY				*e*S		**Sg**	**11 21 26.3**	**0.0**
HWQ	**Hawqa**	**1.00**	**307**	*e*P		**Pg**	**11 21 15.5**	**+0.2**
HWQ				*e*S		**Sg**	**11 21 29.8**	**+1.5**
HRI	**Mount Hermon**	**1.07**	**248**	Pg		**Pg**	**11 21 16.0**	**-0.7**
HRI				Sg		**Sg**	**11 21 29.5**	**-1.2**
BHL	**Bhannes**	**1.08**	**282**	*e*P		**Pg**	**11 21 16.5**	**-0.2**
KSHT	**Keshet**	**1.16**	**233**	Pg		**Pg**	**11 21 18.2**	**-0.1**
KSDI	**Kefar Szold**	**1.16**	**245**	Pg		**Pg**	**11 21 17.0**	**-1.4**
MMC4	**Mount Meron ar**	**1.43**	**242**	Pn		**Pn**	**11 21 22.0**	**-1.3**
MMC5	**Mount Meron ar**	**1.43**	**242**	Pn		**Pn**	**11 21 22.3**	**-1.0**
MMA0B	**Mount Meron ar**	**1.43**	**243**	Pn		**Pn**	**11 21 22.8**	**-0.6**
MMA3	**Mount Meron ar**	**1.44**	**243**	Pn		**Pn**	**11 21 22.3**	**-1.1**
HNTI	**Hanita**	**1.58**	**248**	Pn		**Pn**	**11 21 25.9**	**+0.6**
MMLI	**Mount Malkishu**	**1.77**	**226**	Pn		**Pn**	**11 21 29.1**	**+1.2**
MMLI				Sn		**Sn**	**11 21 52.9**	**+1.8**
HMDT	**Nahal Hemdat**	**1.85**	**220**	Pn		**Pn**	**11 21 29.3**	**+0.3**
HMDT				Sn		**Sn**	**11 21 56.9**	**+3.8**
OFRI	**'Ofer**	**1.94**	**237**	Pn		**Pn**	**11 21 31.0**	**+0.7**
SLTI	**Sal'it**	**2.14**	**228**	Sn		**Sn**	**11 22 02.4**	**+2.2**

BJI ***18*** *11:29:49.2, 2121S×17373W, h10km, mB5.2, mb5.0, Ms5.1, Msz4.7*
IDC ***18*** *11:29:50.8±0.6, 2112S×17421W, h0km, mb4.4/13, mb1 4.7/14, mb1mx4.5/20, mbtmp4.5/14, ML4.6/1, MS3.8/5, Ms1 3.8/5, ms1mx3.3/30, Error ellipse: s-maj=22.8km s-min=16.3km az=120.0*
ISCJB ***18*** *11:29:54.6±0.2, 2109S±007×17428W±006, h33km, mb4.8/37, MS4.2/9, Error ellipse: s-maj=11.2km s-min=5.6km az=141.9*
NEIC ***18*** *11:29:56.5±0.3, 2096S×17432W, h35km, mb4.8/16, Error ellipse: s-maj=16.4km s-min=8.6km az=130.0*
MOS ***18*** *11:29:57.2±3.0, 2085S×17450W, h33km, mb4.9/19, Error ellipse: s-maj=16.6km s-min=14.3km az=73.2*

ISC 18 11:29:56.5±0.2, 2110S±007×17425W±006, h35km, (h11km±3.5km:pP-P), n262, σ0$55/227, mb4.8/37, MS4.2/9, 88C-68D, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
AFI	**Afiamalu**	**7.53**	**19**	Pn		**Pn**	**11 31 36.7**	**-7.1**
	6.6nm,0.3s,baz=88,slow=13,SNR=12							
AFI				Sn		**Sn**	**11 32 56.3**	**-12**
	7.8nm,0.3s,baz=233,slow=20,SNR=2.9							
AFI	**Afiamalu**	**7.53**	**19**	*e*Pn		**Pn**	**11 31 37.2**	**-6.6**
	44nm,0.5s							
RAR	**Rarotonga**	**13.51**	**93**	Pn		**Pn**	**11 32 55.5**	**-10**
	3.0nm,0.3s,baz=303,slow=12,SNR=9.8							
RAR				Sn		Sn	11 35 09.2	-25
	2.0nm,0.3s,baz=30,slow=16,SNR=2.6							
URZ	**Urewera**	**18.66**	**202**	P		**Pn**	**11 34 10.6**	**-1.3**
	1.9nm,0.3s,baz=29,slow=5.2,SNR=13							
URZ				S		**S**	**11 37 23.6**	**-19**
	0.4nm,0.3s,baz=79,slow=16,SNR=3.2							
TBI	**Tubuai**	**23.05**	**100**	*e*LQ			11 39 14.6	
	206nm,26.5s							
TBI				*e*LR		LR	11 39 57.8	
	216nm,34.8s,baz=286							
PPT	**Papeete**	**23.54**	**86**	*e*LQ			11 39 08.3	
	354nm,25.5s							
PPT				*e*LR		LR	11 40 27.8	
	198nm,21.0s,baz=258							
PPT	**Papeete**	**23.54**	**86**	LR		LR	11 42 38.1	
	comp=Z,467nm,18.4s,MS4.0,baz=173,slow=33							
RPZ	**Rata Peaks**	**25.66**	**205**	P		**P**	**11 35 22.1**	**-0.8**
	13nm,0.7s,mb4.6,baz=19,slow=5.8,SNR=7.3							
RKT	**Rikitea**	**36.38**	**101**	*e*LR		LR	11 46 41.3	
	171nm,28.0s							
STKA	**Stephens Creek**	**40.71**	**245**	P		**P**	**11 37 33.0**	**-0.8**
	5.8nm,1.1s,mb4.1,baz=95,slow=9.2,SNR=7.3							
STKA	**Stephens Creek**	**40.71**	**245**	*e*P		**P**	**11 37 34.1**	**+0.3**
	5.1nm,0.8s,mb4.2							
ASAR	**Alice Springs**	**47.80**	**257**	P		**P**	**11 38 29.9**	**-0.8**
	8.3nm,0.8s,mb4.8,baz=100,slow=7.6,SNR=73							
ASAR				PcP		PcP	11 39 59.2	-0.2
	2.4nm,0.8s,baz=101,slow=5.2,SNR=4.6							
ASAR	**Alice Springs**	**47.80**	**257**	P		**P**	**11 38 30.0**	**-0.7**
ASAR							11 39 59.2	
ASAR				pmax		pmax		
	comp=Z,8.0nm,0.8s							
ASAR				pmax		pmax		
	comp=Z,2.0nm,0.8s							
WB2	**Warramunga Arr**	**47.98**	**262**	*e*P		**P**	**11 38 31.3**	**-0.9**
WB2				*e*			11 39 39.5	
WRAB	**Tennant Creek**	**47.98**	**262**	*e*P		**P**	**11 38 31.1**	**-1.1**
WRAB				pmax		pmax		
	comp=Z,7.0nm,0.7s,mb4.8							
WRAB	**Tennant Creek**	**47.98**	**262**	*e*P		**P**	**11 38 31.1**	**-1.1**
	comp=Z,6.9nm,0.7s,mb4.8							
WRAB				*e*			11 39 39.4	
WRA	**Warramunga Arr**	**47.99**	**262**	P		**P**	**11 38 30.8**	**-1.5**
	comp=Z,6.4nm,0.7s,mb4.7,baz=97,slow=7.0,SNR=60							
WRA				PcP		PcP	11 40 00.4	+0.3
	comp=Z,1.6nm,0.8s,baz=97,slow=3.7,SNR=3.3							
WRA	**Warramunga Arr**	**47.99**	**262**	P		**P**	**11 38 30.8**	**-1.5**
WRA							11 40 00.4	
WRA				pmax		pmax		
	comp=Z,6.0nm,0.7s							
WRA				pmax		pmax		
	comp=Z,2.0nm,0.8s							
FORT	**Forrest**	**52.28**	**247**	*e*P		**P**	**11 39 05.0**	**+0.3**
	comp=Z,23nm,0.7s,mb5.2							
FORT	**Forrest**	**52.28**	**247**	*e*P		**P**	**11 39 05.5**	**+0.8**
	comp=Z,3.0nm,0.6s,mb4.4							
SBA	**Scott Base**	**57.54**	**185**	*e*P		**P**	**11 39 44.7**	**+2.7**
SBA				pmax		pmax		
	comp=Z,3.0nm,0.9s,mb4.3							
SBA	**Scott Base**	**57.54**	**185**	*e*P		**P**	**11 39 44.7**	**+2.7**
	comp=Z,3.4nm,0.9s,mb4.4							
KLBR	**Kellerrin**	**60.98**	**245**	*e*P		**P**	**11 40 06.4**	**-0.1**
	comp=Z,80nm,2.0s,mb5.5							
MBWA	**Marble Bar**	**61.14**	**257**	*e*P		**P**	**11 40 07.0**	**-0.8**
	comp=Z,6.2nm,0.6s,mb4.9							
CASY	**Casey**	**64.93**	**206**	*e*P		**P**	**11 40 33.1**	**+0.9**
QSPA	**South Pole Qui**	**68.98**	**180**	P		**P**	**11 40 58.7**	**+1.1**
	comp=Z,3.1nm,0.9s,mb4.2,baz=5.8,slow=3.5,SNR=14							
MJAR	**Matsushiro Arr**	**72.81**	**322**	P		**P**	**11 41 22.0**	**+0.5**
	comp=Z,5.4nm,0.8s,mb4.5,baz=162,slow=5.9,SNR=8.5							
MJAR	**Matsushiro Arr**	**72.81**	**322**	P		**P**

baz=80
O08A Rochester Mine 80.33 40 ⇑P P 11 42 04.5 +0.5
baz=80
T11A Corn Creek, Al 80.34 44 ⇓P P 11 42 04.5 +0.4
baz=80
Y15A Casa Rosa Ranc 80.42 48 ⇓P P 11 42 04.1 -0.5
baz=80
Q10A Clear Creek Ra 80.52 42 ⇑P P 11 42 05.5 +0.4
baz=81
W14A Seligman 80.60 47 ⇓P P 11 42 05.7 +0.1
baz=81
N08A GE Springer Mi 80.65 40 ⇑P P 11 42 05.9 +0.2
baz=81
U13A Pakoon Wash 80.69 45 ⇑P P 11 42 06.0 0.0
baz=81
K06A Valley Falls 80.69 37 ⇑P P 11 42 06.1 +0.2
baz=81
L07A Adell 80.71 38 ⇑P P 11 42 06.1 +0.1
baz=81
X15A Humboldt 80.78 48 ⇓P P 11 42 07.0 +0.5
baz=81
S12A Delamar Landin 80.79 44 ⇑P P 11 42 07.2 +0.6
baz=81
V14A Boquillas Ranc 80.82 46 ⇑P P 11 42 07.0 +0.3
baz=81
Q11A Duckwater 81.00 42 ⇑P P 11 42 07.8 +0.2
baz=81
N09A Rock Creek Ran 81.06 40 ⇓P P 11 42 08.2 +0.3
baz=81
K07A Rock Creek Ran 81.19 38 ⇑P P 11 42 08.5 -0.1
baz=81
U14A Mt Trumbull 81.21 46 ⇑P P 11 42 08.9 +0.1
baz=81
X16A Lo Mia Camp, P 81.29 48 ⇑P P 11 42 09.5 +0.2
baz=81
Y17A Roosevelt 81.32 49 ⇓P P 11 42 10.1 +0.6
baz=81
R12A Pony Springs, 81.36 43 ⇓P P 11 42 09.8 +0.3
baz=81
L08A Fields 81.40 38 ⇓P P 11 42 09.1 -0.6
baz=81
S13A Holt Ranch, En 81.42 44 ⇑P P 11 42 09.6 -0.2
baz=82
I06A Prineville 81.45 36 ⇓P P 11 42 09.7 -0.2
baz=82
K08A Mann Creek Ran 81.65 38 ⇑P P 11 42 11.2 +0.2
baz=82
X17A Forest Lakes 81.69 48 ⇓P P 11 42 11.4 0.0
baz=82
U15A North Rim 81.81 46 ⇓P P 11 42 12.2 +0.3
baz=82
H06A Lindquist Farm 81.89 36 ⇓P P 11 42 12.1 -0.1
baz=82
Y18A Canyon Day Jun 81.94 49 ⇓P P 11 42 12.7 0.0
baz=82
J08A Circle Bar Ran 82.05 38 ⇓P P 11 42 13.1 +0.1
baz=82
M10A I.L. Ranch, Tu 82.05 40 ⇑P P 11 42 13.0 -0.1
baz=82
K09A Rome 82.07 38 ⇓P P 11 42 13.1 -0.1
baz=82
MAW Mawson 82.17 199 eP P 11 42 14.3 +0.9
comp=Z,2.8nm,0.7s,mb4.3
MAW Mawson 82.17 199 P P 11 42 12.9 -0.5
comp=Z,3.1nm,0.7s,mb4.4,baz=146,slow=6.2,SNR=12
MAW Mawson 82.17 199 eP P 11 42 14.3 +0.9
MAW pmax pmax
comp=Z,3.0nm,0.7s
P13A Bates Ranch, G 82.39 43 ⇑P P 11 42 14.8 -0.1
baz=82
O12A Currie 82.40 42 ⇓P P 11 42 15.1 +0.2
baz=82
L10A Juniper Basin 82.43 39 ⇑P P 11 42 14.7 -0.3
baz=82
S15A Panguitch 82.45 45 ⇑P P 11 42 15.6 +0.3
baz=82
J09A Fry Pan Ranch, 82.46 38 ⇓P P 11 42 15.4 +0.2
baz=82
Y19A Nutrioso 82.58 49 ⇑P P 11 42 16.1 0.0
baz=83
Q14A Sevier Lake (B 82.59 43 ⇓P P 11 42 15.7 -0.3
baz=83,SNR=5.9
K10A MacKenzie Ranc 82.62 39 ⇓P P 11 42 16.1 +0.1
baz=83
L11A Cat Creek Ranc 82.91 40 ⇑P P 11 42 17.7 +0.2
baz=83
M12A Wells 82.97 41 ⇑P P 11 42 17.9 0.0
baz=83
NJ2 Nanjing 82.98 308 eP P 11 42 18.4 +0.2
NJ2 AMB AMB
comp=Z,20nm,0.5s,mb5.4
G08A Pilot Rock 83.00 36 ⇑P P 11 42 17.8 -0.2
baz=83
V18A Ganado 83.03 48 ⇑P P 11 42 18.2 -0.1
baz=83
MSU Marysvale 83.04 44 eP P 11 42 19.6 +1.3
MDJ Mudanjiang 83.05 323 P P 11 42 21.3 +3.1
MDJ XP sP 11 42 25.8 -7.5
MDJ AMB AMB
comp=Z,11nm,1.8s,mb4.6
MDJ AMB AMB
comp=Z,77nm,4.2s
P14A Drum Mountains 83.07 43 ⇓P P 11 42 18.4 -0.1
baz=83
K11A Parker Ranch, 83.11 39 ⇓P P 11 42 18.7 +0.2
baz=83
T17A Navajo Res., N 83.12 46 ⇑P P 11 42 18.9 +0.1
baz=83
H09A Durkee 83.32 37 ⇑P P 11 42 20.1 +0.4
baz=83
E07A Sunnyside 83.33 34 ⇑P P 11 42 19.7 +0.1
baz=83
L12A House Creek Ra 83.34 40 ⇑P P 11 42 20.1 +0.3
baz=83
R16A Teasdale 83.37 45 ⇑P P 11 42 20.3 +0.3
baz=83
F08A Pendleton 83.42 35 ⇓P P 11 42 20.4 +0.3
baz=84
U18A Rough Rock, Ch 83.45 47 ⇑P P 11 42 20.4 -0.1
baz=84
I10A Payette 83.45 38 ⇑P P 11 42 20.6 +0.3
baz=84
S17A Black Ridge (B 83.47 46 ⇑P P 11 42 20.6 0.0
baz=84
DUG Dugway 83.57 43 ⇓P P 11 42 20.9 -0.1
baz=84
MFID Camas Ranch 83.61 39 ⇓P P 11 42 21.2 0.0
baz=84
G09A Cove 83.64 36 ⇑P P 11 42 21.1 -0.2
baz=84
BMO Blue Mountains 83.64 37 eP P 11 42 20.9 -0.3
comp=Z,49nm,2.3s,mb5.2
K12A Draper Farm, C 83.69 40 ⇓P P 11 42 21.4 -0.2
baz=84
H10A Noah's Angus R 83.79 37 ⇑P P 11 42 21.4 -0.7
baz=84,SNR=6.4
T18A Mexican Hat 83.82 46 ⇓P P 11 42 22.1 -0.3
baz=84,SNR=7.9
I11A Placerville 83.83 38 ⇑P P 11 42 21.6 -0.7
baz=84
F09A S2 Ranch, Elgi 83.84 36 ⇑P P 11 42 22.2 -0.1
baz=84
J12A Stokes Ranch, 83.94 39 ⇓P P 11 42 22.6 -0.2
baz=84,SNR=6.4
R17A Hanksville Air 83.95 45 ⇓P P 11 42 23.1 +0.1
baz=84
L13A Double Diamond 83.95 41 ⇓P P 11 42 23.1 +0.2
baz=84
C07A Waterville 83.95 33 ⇑P P 11 42 22.6 -0.2
baz=84
M14A Sheep Mountain 83.98 41 ⇓P P 11 42 23.1 0.0
baz=84
G10A Bishop Farm, J 84.02 37 ⇑P P 11 42 23.2 +0.1
baz=84
D08A Wollman Farm, 84.14 34 ⇑P P 11 42 23.8 +0.1
baz=84
K13A Stover Farm, H 84.19 40 ⇓P P 11 42 24.3 +0.2
baz=84
E09A Wood Farm, Sta 84.21 35 ⇑P P 11 42 24.3 +0.2
baz=84
H11A Donnelly 84.28 38 ⇑P P 11 42 24.0 -0.6
baz=84,SNR=7.8
LAZ Ladron 84.32 50 eP P 11 42 25.6 +0.6
L14A Malta 84.35 41 ⇑P P 11 42 25.0 0.0
baz=84
F10A Beach Ranch, E 84.38 36 ⇑P P 11 42 24.4 -0.6
baz=84,SNR=6.9
O16A Springville 84.41 43 ⇓P P 11 42 25.0 -0.4
baz=84
SRU San Rafael 84.45 45 ⇑P P 11 42 25.7 +0.1
baz=84
SRU San Rafael 84.45 45 eP P 11 42 26.6 +1.1
TXAR Lajitas Array 84.45 56 P P 11 42 25.2 -0.6
comp=Z,0.7nm,0.8s,mb3.8,baz=210,slow=7.2,SNR=6.9
TXAR LR LR 12 13 41.3
comp=Z,69nm,18.9s,MS4.1,baz=55,slow=31
D09A Jones Farm, Ri 84.47 35 ⇑P P 11 42 25.1 -0.3
baz=84
R18A Canyonlands Na 84.47 45 ⇓P P 11 42 25.7 0.0
baz=84
M15A Larsen Ranch, 84.52 42 ⇓P P 11 42 25.6 -0.2
baz=85
HLID Hailey 84.53 39 ⇓P P 11 42 25.9 0.0
baz=85,SNR=7.4
HLID Hailey 84.53 39 eP P 11 42 26.4 +0.6
G11A Walters Elk Ra 84.56 37 ⇑P P 11 42 25.5 -0.4
baz=85,SNR=8.5
J13A Cove Ranch, Pi 84.58 39 ⇑P P 11 42 26.0 -0.1
baz=85,SNR=7.4
S19A Harvey Farm, M 84.64 46 ⇑P P 11 42 26.7 +0.1
baz=85
A07A Ashnola River, 84.67 32 ⇑P P 11 42 26.4 -0.1
baz=85
E10A Myers Farm, Un 84.75 36 ⇓P P 11 42 26.6 -0.3
baz=85
B08A Colville Reser 84.76 33 ⇓P P 11 42 26.3 -0.6
baz=85
H12A Diamond D Ranc 84.85 38 ⇓P P 11 42 27.1 -0.3
baz=85,SNR=6.0
L15A Malad City 84.86 41 ⇓P P 11 42 27.1 -0.5
baz=85
O17A Robinson Place 84.90 43 ⇓P P 11 42 27.8 0.0
baz=85,SNR=5.2
I13A Wildhorse Cree 84.91 39 ⇑P P 11 42 28.0 +0.3
baz=85
F11A Grangeville 84.92 37 ⇓P P 11 42 26.6 -1.1
baz=85
J14A Carey 84.92 40 ⇓P P 11 42 28.0 +0.2
baz=85,SNR=6.7
M16A Huntsville 84.94 42 ⇓P P 11 42 27.7 -0.2
baz=85
C09A Chrisman Ranch 84.95 34 ⇑P P 11 42 27.4 -0.4
baz=85
ANMO Albuquerque 85.07 50 eP P 11 42 29.4 +0.6
ANMO pmax pmax
comp=Z,11nm,1.4s
ANMO Albuquerque 85.07 50 eP P 11 42 29.4 +0.6
comp=Z,11nm,1.4s,mb4.8
K15A Arbon 85.15 41 ⇓P P 11 42 28.6 -0.3
baz=85
A08A Turner Farm, O 85.17 33 ⇓P P 11 42 28.5 -0.4
baz=85
Q19A Hogan Spring (85.19 45 ⇓P P 11 42 29.2 -0.1
baz=85
H13A Challis 85.21 38 ⇑P P 11 42 29.0 -0.2
baz=85,SNR=5.7
N17A Moffit Pass 85.24 43 ⇓P P 11 42 29.1 -0.4
baz=85
I14A Mackay 85.31 39 ⇑P P 11 42 29.6 -0.1
baz=85
F12A Elk City 85.34 37 ⇑P P 11 42 29.5 -0.3
baz=85,SNR=5.1
B09A Rice 85.41 34 ⇓P P 11 42 29.6 -0.6
baz=85
A09A Danville 85.53 33 ⇑P P 11 42 30.9 +0.2
baz=86
E12A Beaver Dam Sad 85.56 36 ⇓P P 11 42 31.0 0.0
baz=86
J15A Blackfoot 85.61 40 ⇓P P 11 42 31.3 0.0
baz=86
H14A Leadore 85.75 39 ⇑P P 11 42 32.2 +0.3
baz=86
K16A Soda Springs 85.81 41 ⇑P P 11 42 32.3 0.0
baz=86
F13A Darby 85.88 37 ⇓P P 11 42 32.4 -0.1
baz=86
J16A Bone 86.04 41 ⇑P P 11 42 32.9 -0.5
baz=86
D12A Red Ives Fores 86.06 36 ⇑P P 11 42 33.3 -0.1
baz=86
G14A Jackson 86.06 38 ⇑P P 11 42 33.3 -0.1
baz=86
H15A Lima 86.18 39 ⇓P P 11 42 33.4 -0.6
baz=86
PLCA Paso Flores 86.30 132 LR LR 12 13 01.4
comp=Z,742nm,19.1s,MS5.1,baz=51,slow=30
TRF Thorofare Moun 86.34 11 eP P 11 42 33.8 -0.6
comp=Z,18nm,1.0s,mb5.3
E13A Victor 86.34 37 ⇑P P 11 42 34.6 -0.2
baz=86
C12B Naegeli Ranch, 86.39 35 ⇑P P 11 42 34.9 -0.1
baz=86
I16A Newdale 86.45 40 ⇑P P 11 42 35.2 -0.2
baz=86
D13A Huson 86.58 36 ⇑P P 11 42 35.8 -0.1
baz=87
G15A Dillon 86.58 39 ⇓P P 11 42 35.9 -0.1
baz=87
A11A Hall Mountain, 86.67 34 ⇑P P 11 42 36.1 -0.2
baz=87
E14A Clinton 86.72 37 ⇑P P 11 42 36.2 -0.5
baz=87
MCK McKinley 86.84 11 eP P 11 42 36.9 +0.1
MCK e*PP pP 11 42 50.2 +2.3
MCK pmax pmax
comp=Z,7.0nm,0.9s,mb4.9
MCK McKinley 86.84 11 eP P 11 42 36.9 +0.1
comp=Z,7.5nm,0.9s,mb4.9
MCK epP pP 11 42 50.1 +2.2
G16A Moss Hill, Enn 87.02 39 ⇓P P 11 42 38.0 -0.1
baz=87
PDAR Pinedale Array 87.03 42 P P 11 42 37.6 -0.6
comp=Z,1.2nm,0.8s,mb4.2,baz=196,slow=3.3,SNR=9.0
VNA3 Neumayer Olymp 87.28 175 eP P 11 42 38.8 -0.3
VNA3 e 11 42 42.6
VNA3 e 11 42 44.5
SNAA Sanae 87.29 177 eP P 11 42 39.1 0.0
SNAA e 11 42 42.9
SNAA e 11 42 44.5
SNAA Sanae 87.29 177 eP P 11 42 38.9 -0.2
SNAA pmax pmax
comp=Z,4.0nm,1.0s
SNAA Sanae 87.29 177 eP P 11 42 38.9 -0.2
comp=Z,4.0nm,1.0s,mb4.6
VNA2 Neumayer--Watz 87.77 176 eP P 11 42 41.7 +0.2
VNA2 e 11 42 45.0
VNA2 e 11 42 46.7
SEY Seymchan 87.79 345 i P P 11 42 41.9 +0.5
COLA College 88.08 11 eP P 11 42 40.7 -2.0
COLA pmax pmax
comp=Z,13nm,1.5s,mb4.9
COLA College 88.08 11 eP P 11 42 40.6 -2.1
comp=Z,13nm,1.5s,mb4.9
A14A Double T Ranch 88.24 35 ⇑P P 11 42 43.7 -0.2
baz=88
A15A Johnson Ranch, 88.61 35 ⇓P P 11 42 45.8 +0.1
baz=89
BJI Beijing 88.80 314 P P 11 42 48.8 +2.0
BJI AMB AMB
comp=Z,12nm,0.5s,mb5.5
C17A Wharram Farm, 88.95 37 ⇓P P 11 42 47.2 -0.1
baz=89
DAWY Dawson 89.11 15 eP P 11 42 48.6 +1.0
A16A West Butte Ran 89.21 36 ⇓P P 11 42 48.2 -0.2
baz=89
GYA Guiyang 90.00 298 P P 11 42 53.8 +1.1
GYA PP PP 11 46 28.3 +1.9
GYA SKS 11 53 22.9
GYA S S 11 53 43.5 0.0
GYA SS SS 11 59 44.0 +1.3
GYA AMB AMB
comp=Z,10.0nm,1.0s,mb5.1
GYA AMB AMB
comp=Z,110nm,5.7s
GYA LR LR
comp=N,350nm,19.6s,MS4.9
GYA LR LR
comp=E,250nm,20.2s,MS4.9
GYA LR LR
comp=Z,390nm,21.8s,MS4.8
HHC Hu-ho-hao-te 92.30 313 eP P 11 43 03.1 +0.1
HHC AP pP 11 43 08.0 -6.2
HHC XP sP 11 43 11.8 -6.4
HHC PP PP 11 46 45.1 +0.9
HHC SKS 11 53 34.0
HHC S S 11 54 03.3 -0.4
HHC SS SS 12 00 16.6 +1.4
HHC AMB AMB
comp=Z,28nm,1.1s,mb5.5
HHC AMB AMB
comp=Z,105nm,6.7s
HHC LR LR
comp=N,129nm,19.7s,MS4.5
HHC LR LR
comp=E,119nm,19.7s,MS4.5
HHC LR LR
comp=Z,113nm,20.5s,MS4.3
KMI Kunming 92.75 296 P P 11 43 05.9 +0.4
KMI AMB AMB
comp=Z,8.0nm,1.0s,mb5.1
DGMT Dagmar 93.16 39 ⇓P P 11 43 06.6 -0.2
baz=93
CMAR Chiang Mai Arr 93.62 288 P P 11 43 11.3 +1.7
comp=Z,4.4nm,0.8s,mb4.9,baz=125,slow=3.1,SNR=17
CMAR Chiang Mai Arr 93.62 288 P P 11 43 11.4 +1.7
CMAR pmax pmax
comp=Z,4.0nm,0.8s
CHTO Chiang Mai 93.75 289 eP P 11 43 12.5 +2.3
YAK Yakutsk 94.00 337 ⇑i P P 11 43 09.2 -1.2
YAK pmax pmax
comp=Z,7.0nm,0.5s,mb5.3
CD2 Chengdu 94.08 301 eP P 11 43 11.0 -0.5
CD2 AP pP 11 43 15.9 -6.7
CD2 XP sP 11 43 18.3 -8.3
CD2 PP PP 11 46 59.8 +1.4
CD2 SKS 11 53 43.9
CD2 S S 11 54 18.1 -1.8
CD2 SS SS 12 00 42.0 +0.9
CD2 AMB AMB
comp=Z,10.0nm,0.8s,mb5.3
CD2 AMB AMB
comp=Z,30nm,6.8s
CD2 LR LR
comp=N,210nm,18.2s,MS4.8
CD2 LR LR
comp=E,180nm,16.4s,MS4.8
CD2 LR LR
comp=Z,170nm,20.0s,MS4.5
LZH Lanzhou 95.93 306 eP P 11 43 22.0 +2.1
LZH AP pP 11 43 26.0 -5.0
LZH XP sP 11 43 28.5 -6.5
LZH AMB AMB
comp=Z,13nm,1.0s,mb5.3
LZH AMB AMB
comp=Z,66nm,5.0s
ZALV Zalesovo Beam 113.16 321 PKiKP PKiKP 11 48 29.0 -0.9
comp=Z,0.6nm,0.5s,baz=90,slow=4.5,SNR=3.8
ZALV Zalesovo Beam 113.16 321 i PKiKP PKiKP 11 48 29.0 -0.9
ZALV pmax pmax
comp=Z,1.0nm,0.5s
ZALV Zalesovo Beam 113.16 321 PKPdf PKiKP 11 48 29.0 -0.9
KURK Kurchatov 116.81 317 ⇑i PKiKP PKPdf 11 48 36.6 -0.4
ARU Arti 127.67 326 i PKiKP PKPdf 11 48 57.7 0.0
ARU e 11 50 55.6
ARU 11 56 00.4
ARU SS SS 12 08 00.4 -7.8
SOC Sochi 143.96 316 i PKiKP PKPdf 11 49 29.2 +0.9
SOC ePPP 11 55 58.6
SOC eSSS 12 16 47.1
SOC pmax pmax
comp=Z,14nm,0.6s
SUW Suwalki 144.55 342 ePKP PKPdf 11 49 28.9 -0.1
SUW Suwalki 144.55 342 ePKP PKPdf 11 49 28.9 0.0
AKASG Malin Array Be 145.17 334 PKPbc PKPbc 11 49 29.6 -0.2
comp=Z,4.1nm,0.5s,baz=40,slow=4.2,SNR=35
AKASG Malin Array Be 145.17 334 PKiKP PKPdf 11 49 29.6 -0.5
AKASG pmax pmax
comp=Z,4.0nm,0.5s
AKBB Malin Array Si 145.17 334 ePKiKP PKPdf 11 49 29.3 -0.8
LVV L'vov 147.88 338 ePKiKP PKPbc 11 49 37.2 -0.5
KWP Kalwaria 148.50 339 ePKP PKPbc 11 49 42.9 +3.5
KWP Kalwaria 148.50 339 ePKP PKPbc 11 49 42.9 +3.6
KSP Ksiaz 149.18 347 ePKP PKPbc 11 49 44.0 +3.0
BUR08 Bucovina Ar. S 149.21 334 ePKPbc PKPbc 11 49 42.8 +1.6
CLL Collm 149.32 351 ⇑i PKPbc PKPbc 11 49 41.7 +0.3
comp=Z,10.0nm,1.2s
CLL ePKPab PKPab 11 49 46.0 0.0
comp=Z,16nm,1.1s
CLL esPKPab 11 50 03.0
UZH Uzhgorod 149.50 338 ⇑i PKP2 PKPbc 11 49 42.9 +1.0
UPC Upice 149.55 347 ePKPbc PKPbc 11 49 41.7 -0.3
BRG Berggiesshubel 149.59 350 ePKP PKPbc 11 49 42.6 +0.6
comp=Z,19nm,1.5s
DPC Dobruska-Polom 149.63 347 ePKPbc PKPbc 11 49 43.4 +1.2
DPC epPKP pPKPdf 11 49 54.9 +5.9
BR31 Keskin Array S 149.80 314 ePKPbc PKPbc 11 49 43.1 +0.2
PVCC Panska Ves 149.81 349 ePKPbc PKPbc 11 49 43.2 +0.6
TIRR Tirgusor 150.09 326 ePKP2 PKPbc 11 49 44.1 +0.6
PRU Pruhonice 150.34 348 ePKPbc PKPbc 11 49 44.7 +0.8
PRU epPKP pPKPdf 11 49 57.3 +7.1
NKC Novy Kostel 150.44 351 ePKPbc PKPbc 11 49 44.7 +0.6
GRF Grafenberg Arr 151.14 353 ePKP PKPab 11 49 54.8 +1.3
KHC Kasperske Hory 151.34 349 ePKPbc PKPbc 11 49 45.8 -0.5
KHC ePKPab PKPab 11 49 55.2 +0.8
GERES GERESS Array B 151.59 349 PKPbc PKPbc 11 49 47.2 +0.4
comp=Z,0.4nm,0.3s,baz=67,slow=3.5,SNR=4.5
TORD Torodi Ar. Bea 171.20 153 PKP PKPdf 11 50 01.0 -1.1
comp=Z,0.5nm,0.9s,baz=194,slow=3.0,SNR=3.2
TORD PKPab PKPab 11 51 20.9 -0.7
comp=Z,0.9nm,0.9s,baz=214,slow=4.8,SNR=4.6

IDC 18 11:40:53.7±13.0, 424S×10131E, h0km, mb3.3/3, mb1 3.6/3, mb1mx3.4/18, mbtmpg3.3/3, Error ellipse: s-maj=463.7km s-min=30.6km az=61.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMAR	Chiang Mai Arr	22.68	354	P	P	11 45 57.0	0.0
	0.3nm,0.3s,baz=183,slow=7.7,SNR=4.3						
WRA	Warramunga Arr	35.76	119	P	P	11 47 54.9	+0.2
	0.2nm,0.8s,baz=284,slow=8.6,SNR=3.8						
ASAR	Alice Springs	36.90	125	P	P	11 48 04.2	-0.2
	0.7nm,1.0s,baz=300,slow=7.9,SNR=4.1						

MAN 18 12:00:46, 1672N×12264E, h6km, mb4.3, ML3.2, MS3.0, 3C-2D, Luzon

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PALP	Palanan	0.40	329	⇓i P	Pg	12 00 54.9	+1.2
PALP				i S	Sg	12 01 01.6	+2.7
PALP	Palanan	0.40	329	eP	Pg	12 00 55.3	+1.6
PALP				eS	Sg	12 01 03.5	+4.5
CAUP	Cauayan	0.81	286	eP	Pg	12 01 02.1	+0.4
CVP	Callao Caves	1.25	322	⇑i P	Pb	12 01 09.8	-0.2
CVP				i S	Sg	12 01 27.8	+1.5
BALP	Baler	1.41	227	eP	Pn	12 01 12.5	+0.3
BALP				eS	Sb	12 01 28.9	-2.1
SGCP	Mt. Cagua	1.62	340	eP	Pn	12 01 15.5	+0.4
PCPH	Palayan	1.88	232	⇓eP	Pn	12 01 20.0	+1.4
PCPH				eS	Sn	12 01 44.3	+1.7
BCPH	Baguio City Da	2.00	261	⇑i P	Pn	12 01 20.8	+0.4
BCPH				eS	Sn	12 01 47.0	+1.2
ABRA	Dolores	2.06	297	eP	Pn	12 01 22.1	+0.9
ABRA				eS	Sn	12 01 49.2	+2.0
POLP	Polillo Island	2.09	199	eP	Pn	12 01 22.1	+0.5
POLP				eS	Sn	12 01 47.5	-0.5
BOLP	Bolinao	2.64	263	eP	Pn	12 01 32.3	+3.2
BOLP				eS	Sn	12 02 07.5	+6.1
GQP	Guinayangan	2.81	184	⇑eP	Pn	12 01 33.4	+2.0
GQP				eS	Sn	12 02 16.0	+10
PVCP	Virac	3.43	155	eP	Pn	12 01 44.5	+4.4
LUBP	Lubang	3.76	218	eP	Pn	12 01 54.8	+10

*DDA **18** 12:07:17.9, 4042N×2602E, h7km±1km, Md2.7*
*CSEM **18** 12:07:18.3±0.4, 4037N×2610E, h10km, MD2.7, Error ellipse: s-maj=12.9km s-min=10.0km az=132.0*
*ISCJB **18** 12:07:19.6±0.8, 4038N±004×2609E±007, h10km, Error ellipse: s-maj=8.0km s-min=5.5km az=36.3*
*ATH **18** 12:07:20.0, 4033N×2605E, h10km, MD2.8/3*
ISC 18 12:07:19.5±0.8, 4039N±005×2608E±006, h10km, n8, σ0°74/12, 1C, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BOZC	**Bozcaada**	**0.55**	**183**	⇑*i*P	**Pg**	**12 07 29.1**	**-1.0**
BOZC				*i* S	**Sg**	**12 07 37.7**	**+0.4**
LIA	**Limnos Island**	**0.85**	**235**	*e*P	**Pg**	**12 07 35.1**	**-0.7**
LIA				*e*S	**Sg**	**12 07 47.5**	**+0.7**
LIA	**Limnos Island**	**0.85**	**235**	*e*PB	**Pg**	**12 07 35.1**	**-0.7**
RDO	**Rodhopi**	**0.86**	**331**	*e*P	**Pb**	**12 07 37.1**	**+0.5**
RDO	**Rodhopi**	**0.86**	**331**	*e*PB	**Pb**	**12 07 37.1**	**+0.5**
SART	**Tekirdag**	**0.89**	**70**	*e*P	**Pg**	**12 07 35.8**	**-0.8**
SART				*e*S	**Sg**	**12 07 49.0**	**+0.8**
PRK	**Paraskevi**	**1.15**	**173**	*e*P	**Pb**	**12 07 40.7**	**-0.7**
PRK				*e*S	**Sb**	**12 07 57.2**	**+0.8**
PRK	**Paraskevi**	**1.15**	**173**	*e*PB	**Pb**	**12 07 40.7**	**-0.7**

MAN 18 12:19:25, 1700N×12249E, h51km, mb4.2, ML3.0, MS2.7, 1D, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALP	**Palanan**	**0.09**	**314**	*e*P	Pn	12 19 34.3	+1.4
PALP				*e*S	Sn	12 19 40.4	+1.9
PALP	**Palanan**	**0.09**	**314**	⇓*i*P	Pn	12 19 34.5	+1.6
PALP				*i* S	Sn	12 19 40.5	+2.0
CAUP	**Cauayan**	**0.64**	**265**	*e*P	Pn	12 19 41.3	+3.3
BALP	**Baler**	**1.53**	**215**	*e*P	Pn	12 19 51.1	+1.2
BALP				*e*S	Sn	12 20 10.6	+1.9

*ISCJB **18** 12:53:29.1±1.1, 34.34N±005×320E±0.1, h31km±9km, Error ellipse: s-maj=20.5km s-min=6.9km az=17.4*
*CSEM **18** 12:53:29.0±0.2, 34.34N×3201E, h31km±2km, Mw3.2, Error ellipse: s-maj=8.0km s-min=2.0km az=113.0*
*NIC **18** 12:53:31.1±0.2, 34.38N×3201E, h25km, ML2.8, MW3.2*
*NEIC **18** 12:53:31.1, 34.38N×3201E, h25km, ML2.8(NIC), After NIC.*
*HLW **18** 12:53:33.4, 34.15N×3190E, h33km, Mb2.8*

ISC 18 12:53:30.4±1.1, 3440N±006×320E±02, h32km±9km, n14, σ0§31/19, Cyprus region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PPCY	**Paphos** 11nm,0.1s	**0.56**	**31**	P	**Pb**	**12 53 41.8**	**-0.1**
PPCY				S	**Sb**	**12 53 49.8**	**0.0**
AKMC	**Akamas** 3.6nm,0.3s	**0.68**	**24**	P	**Pn**	**12 53 43.7**	**-0.1**
AKMC				S	**Sb**	**12 53 53.1**	**+0.1**
SZAC	**Souni-Zanaja**	**0.81**	**64**	P	**Pn**	**12 53 45.0**	**-0.6**
SZAC				S	**Sn**	**12 53 56.4**	**-0.2**
ALFC	**Alevga** 15nm,0.1s	**0.90**	**33**	P	**Pn**	**12 53 47.0**	**+0.2**
ALFC				S	**Sn**	**12 53 59.1**	**+0.3**
HRSH	**Kfar Ka'horesh**	**3.23**	**121**	P	**Pn**	**12 54 26.1**	**+7.3**
RSH		**3.73**	**157**	P	**Pn**	**12 54 26.1**	**+0.4**
AMAG	**Maghara**	**3.89**	**164**	P	**Pn**	**12 54 28.2**	**+0.3**
AMAG				S	**Sn**	**12 55 07.8**	**-4.6**
HHAG	**Hagoal**	**4.44**	**179**	P	**Pn**	**12 54 34.9**	**-0.5**
KOT	**Kottamia**	**4.46**	**182**	P	**Pn**	**12 54 35.7**	**-0.1**
GLL	**Jalalah**	**4.82**	**183**	P	**Pn**	**12 54 40.3**	**-0.3**
HKAT	**Jabal Katrina**	**6.11**	**163**	P	**Pn**	**12 54 58.7**	**+0.3**
TR2		**6.18**	**166**	P	**Pn**	**12 54 59.5**	**+0.1**
TR2	475nm,0.1s	**6.18**	**166**	P	**Pn**	**12 54 59.5**	**+0.2**
HHRG	**Al Ghardaqah**	**7.29**	**169**	P	**Pn**	**12 55 14.7**	**+0.1**

*NEIC **18** 13:01:14.7±1.0, 694S×129 43E, h100km, mb4.7/1, Error ellipse: s-maj=37.3km s-min=12.8km az=71.0*
*IDC **18** 13:01:17.0±7.5, 701S×129 48E, h126km±82km, mb3.2/2, mb1 3.4/6, mb1mx3.3/16, mbtmp3.3/6, Error ellipse: s-maj=63.8km s-min=26.7km az=39.0*
*ISCJB **18** 13:01:19.8±1.8, 733S±009×129 42E±009, h185km±20km, mb3.4/2, Error ellipse: s-maj=17.8km s-min=10.1km az=44.6*

ISC 18 13:01:18.1±1.8, 73S±01×12957E±009, h141km±20km, n8, σ1§56/14, mb3.4/2, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	**Kakadu** 18nm,0.4s	**6.11**	**153**	*e*Pn	**Pn**	**13 02 47.4**	**+1.2**
KAKA				*e*Sn	**Sn**	**13 03 53.2**	**-1.8**
BATI	**Baumata** 2.1nm,0.3s,baz=275,slow=15,SNR=4.4	**6.53**	**243**	P	**Pn**	**13 02 52.9**	**+1.1**
BATI	2.8nm,0.3s,baz=335,slow=23,SNR=4.2			S	**Sn**	**13 04 04.4**	**-0.8**
FITZ	**Fitzroy Crossi** 0.2nm,0.3s,baz=29,slow=15,SNR=9.9	**11.44**	**199**	P	**Pn**	**13 03 58.2**	**+1.0**
FITZ	0.4nm,0.3s,baz=34,slow=23,SNR=7.3			S	**Sn**	**13 05 59.9**	**-3.7**
WRAB	**Tennant Creek**	**13.42**	**160**	*e*Pn	**Pn**	**13 04 24.2**	**+1.1**
WRAB				*e*Sn	**Sn**	**13 06 48.8**	**-2.7**
WRA	**Warramunga Arr** 0.6nm,0.3s,baz=347,slow=13,SNR=39	**13.43**	**160**	P	**Pn**	**13 04 25.0**	**+1.9**
WRA	1.1nm,0.3s,baz=333,slow=22,SNR=9.5			S	**Sn**	**13 06 49.0**	**-2.6**
ASAR	**Alice Springs** 0.8nm,0.3s,baz=351,slow=11,SNR=92	**16.83**	**166**	P	**Pn**	**13 05 10.2**	**+4.8**
ASAR	0.3nm,0.3s,baz=356,slow=29,SNR=7.4			S	**S**	**13 08 14.4**	**+1.5**
SONM	**Songino Array** 0.2nm,0.5s,mb3.2,baz=157,slow=7.4,SNR=2.0	**58.55**	**342**	P	**P**	**13 10 59.0**	**-0.7**
MKAR	**Makanchi Array** 0.4nm,0.4s,mb3.5,baz=115,slow=7.1,SNR=6.1	**68.21**	**327**	P	**P**	**13 12 01.8**	**-1.5**

*CASC **18** 13:07:51.4±0.7, 382N×8251W, h33km±999km, mb4.4(NEIC)*
*IDC **18** 13:07:53.9±0.9, 405N×8261W, h0km, mb4.0/7, mb1 4.3/8, mb1mx4.1/17, mbtmp4.1/8, ML3.9/1, MS3.5/1, Ms1 3.5/1, ms1mx2.8/17, Error ellipse: s-maj=42.8km s-min=19.0km az=60.0*
*NEIC **18** 13:07:54.1±0.6, 381N×8264W, h10km, mb4.4/6, Error ellipse: s-maj=16.1km s-min=10.7km az=47.0*
*ISCJB **18** 13:07:58.0±0.7, 424N±008×8264W±009, h33km, mb4.1/12, Error ellipse: s-maj=14.5km s-min=8.3km az=141.2*

ISC 18 13:07:59.9±0.6, 415N±008×8267W±009, h35km, n29, σ1§49/27, mb4.1/12, 1C-2D, South of Panama

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ACR	**Cerro Adams**	**4.50**	**354**	*e*P	**Pn**	**13 09 02.1**	**-3.5**
BUS	**Buena Vista**	**5.48**	**349**	⇓*e*P	**Pn**	**13 09 17.1**	**-1.9**
BUS				*e*S	**Sn**	**13 10 23.9**	**+3.0**
BCIP	**Isla Barro Col** 40nm,0.8s	**5.72**	**29**	*e*Pn	**Pn**	**13 09 22.3**	**-0.1**
OTAV	**Otavalo** 4.3nm,0.5s	**5.74**	**133**	*e*Pn	**Pn**	**13 09 15.7**	**-6.9**
URSC	**Urasca**	**5.75**	**349**	⇓*e*P	**Pn**	**13 09 20.9**	**-1.9**
PRS1	**Puriscal**	**6.02**	**344**	⇓*e*P	**Pn**	**13 09 22.9**	**-3.6**
JCR	**Jicaral**	**6.16**	**337**	*e*P	**Pn**	**13 09 25.7**	**-2.7**
ROSC	**El Rosal** 2.2nm,0.3s,baz=70,slow=24,SNR=4.6	**8.35**	**85**	Pn	**Pn**	**13 10 00.8**	**+2.4**
ROSC	comp=Z,360nm,20.8s,baz=95,slow=38			LR	LR	13 13 08.9	
ROSC	**El Rosal**	**8.35**	**85**	*e*P	**Pn**	**13 09 59.6**	**+1.2**
ROSC				LR	LR	13 13 08.9	
SDV	**Santo Domingo** 0.6nm,0.3s,baz=261,slow=12,SNR=4.7	**12.85**	**68**	Pn	**Pn**	**13 10 60.0**	**-0.2**
LPAZ	**La Paz** 4.1nm,0.7s,mb4.0,baz=336,slow=9.1,SNR=15	**24.88**	**145**	P	**P**	**13 13 19.4**	**-0.2**
LPAZ	**La Paz** 25nm,1.4s,mb4.5	**24.88**	**145**	*e*P	**P**	**13 13 18.4**	**-1.1**
SIV	**San Ignacio** 1.0nm,0.9s,mb3.5,baz=331,slow=9.8,SNR=3.2	**29.28**	**134**	P	**P**	**13 14 01.1**	**+2.0**
ANMO	**Albuquerque** 2.5nm,0.9s,mb3.9	**37.75**	**327**	*e*P	**P**	**13 15 12.7**	**+0.2**
SDCO	**Great Sand Dun** 24nm,1.8s,mb4.6	**39.41**	**331**	*e*P	**P**	**13 15 28.4**	**+2.0**
PDAR	**Pinedale Array** 0.5nm,0.8s,mb3.4,baz=134,slow=6.4,SNR=4.6	**45.27**	**332**	P	**P**	**13 16 14.7**	**+0.7**
HWUT	**Hardware Ranch** 3.3nm,0.9s,mb4.2	**45.38**	**329**	*e*P	**P**	**13 16 15.8**	**+0.9**
HWUT				*e*PcP	PcP	13 17 53.9	0.0
PLCA	**Paso Flores** 3.3nm,1.1s,mb4.2,baz=351,slow=11,SNR=4.0	**46.03**	**167**	P	**P**	**13 16 17.5**	**-2.5**
PLCA	**Paso Flores** 3.9nm,1.0s,mb4.3	**46.03**	**167**	*e*P	**P**	**13 16 16.8**	**-3.2**
NVAR	**Mina Array Bea** 1.6nm,0.7s,mb4.1,baz=134,slow=7.9,SNR=13	**47.06**	**321**	P	**P**	**13 16 30.1**	**+1.9**
ULM	**Lac du Bonnet** 3.3nm,0.8s,mb4.3,baz=158,slow=12,SNR=3.3	**47.27**	**348**	P	**P**	**13 16 28.4**	**-1.2**
HLID	**Hailey** 2.9nm,1.1s,mb4.2	**48.24**	**329**	*e*P	**P**	**13 16 37.7**	**+0.5**
EDM	**Edmonton**	**55.02**	**338**	*e*P	**P**	**13 17 27.5**	**-0.2**
YKA	**Yellowknife Ar** 2.7nm,0.8s,mb4.4,baz=135,slow=6.8,SNR=7.4	**62.83**	**344**	P	**P**	**13 18 21.6**	**-0.1**
DLBC	**Dease Lake**	**65.38**	**335**	*e*P	**P**	**13 18 40.0**	**+1.4**
TORD	**Torodi Ar. Bea** 1.1nm,1.1s,mb3.9,baz=290,slow=5.6,SNR=4.2	**83.59**	**77**	P	**P**	**13 20 23.9**	**-1.4**
SONM	**Songino Array** 0.5nm,0.9s,baz=129,slow=2.1,SNR=3.8	**127.62**	**352**	PKP	PKPdf	13 27 00.6	-0.9
ASAR	**Alice Springs** 0.6nm,0.9s,baz=126,slow=4.7,SNR=3.6	**139.74**	**238**	PKhKP		13 27 21.0	
WRA	**Warramunga Arr** 0.5nm,0.9s,baz=110,slow=2.5,SNR=7.1	**140.68**	**243**	PKhKP		13 27 19.3	
WRA	0.4nm,0.5s,baz=99,slow=2.2,SNR=6.8			PKP	PKPdf	13 27 24.5	-2.3

*CSEM **18** 13:26:47.9±0.2, 3501N×363W, h10km, ML3.4/8, Error ellipse: s-maj=4.0km s-min=3.0km az=116.0*
*NEIC **18** 13:26:48.0, 3502N×384W, h0km, MG3.5(MDD), After MDD.*
*INMG **18** 13:26:48.0±1.2, 3503N×384W, h0km±9km, ML2.6, Error ellipse: s-maj=9.8km s-min=4.0km az=156.0*
*ISCJB **18** 13:26:48.8±0.4, 3509N±002×389W±002, h20km±3km, Error ellipse: s-maj=3.4km s-min=2.7km az=20.1*
*MDD **18** 13:26:49.3±0.3, 3505N×379W, h6km±3km, mb3.6/21, Error ellipse: s-maj=3.3km s-min=2.7km az=81.0, PRIMO*
*CNRM **18** 13:26:49.8, 3504N×379W, h4km, MD3.7*

ISC 18 13:26:48.9±0.4, 3507N±002×384W±002, h14km±3km, n90, σ1§23/159, 3C, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TOU	**Touzarine**	**0.13**	**149**	P	**Pg**	**13 26 51.0**	**-1.4**
TOU				S	**Sg**	**13 26 53.0**	**-1.8**
TOU	**Touzarine**	**0.13**	**149**	*i* P	**Pg**	**13 26 51.0**	**-1.4**
MPAL	**Palemas**	**0.17**	**330**	P	**Pg**	**13 26 53.5**	**+0.5**
MPAL				S	**Sg**	**13 26 57.0**	**+1.1**
MPAL	**Palemas**	**0.17**	**330**	*i* P	**Pg**	**13 26 53.5**	**+0.5**
EMEL	**Melilla** SNR=18	**0.76**	**72**	⇑P	**Pg**	**13 27 02.0**	**-1.6**
EMEL	2µm,0.2s,SNR=7.9			S	**Sg**	**13 27 13.5**	**0.0**
EMLI	**Melilla** SNR=18	**0.76**	**72**	P	**Pg**	**13 27 02.0**	**-1.7**
EMLI	2µm,0.2s,SNR=7.9			S	**Sg**	**13 27 13.5**	**-0.2**
ZAI	**Zaio**	**0.90**	**96**	*i* P	**Pb**	**13 27 05.0**	**-1.3**
ZAI				*i* S	**Sg**	**13 27 18.0**	**-0.1**
TZK	**Tazeka**	**1.02**	**196**	*i* P	**Pb**	**13 27 08.0**	**-0.4**
TZK				*i* S	**Sb**	**13 27 22.0**	**+0.4**
EALB	**Alboran** 22nm,0.2s,SNR=18	**1.08**	**37**	⇑P	**Pb**	**13 27 08.1**	**-1.3**
EALB	182nm,0.2s,SNR=6.3			S	**Sb**	**13 27 22.5**	**-1.0**
EALB	**Alboran** 22nm,0.2s,SNR=18	**1.08**	**37**	P	**Pb**	**13 27 08.1**	**-1.3**
EALB	182nm,0.2s,SNR=6.3			S	**Sb**	**13 27 22.2**	**-1.2**
EALB	**Alboran**	**1.08**	**37**	⇑P	**Pb**	**13 27 08.1**	**-1.3**
EALB				S	**Sb**	**13 27 22.2**	**-1.2**
DKH	**Dar Kharkhour**	**1.31**	**289**	P	**Pn**	**13 27 14.0**	**+1.2**
DKH				S	**Sb**	**13 27 30.0**	**0.0**
DKH	**Dar Kharkhour**	**1.31**	**289**	*i* P	**Pn**	**13 27 14.0**	**+1.2**
ECEU	**Ceuta** 6.6nm,0.1s,SNR=7.0	**1.50**	**304**	P	**Pn**	**13 27 14.1**	**-1.3**
ECEU	30nm,0.1s,SNR=6.5			S	**Sn**	**13 27 31.9**	**-2.8**
RSA	**Sarsar**	**1.65**	**264**	P	**Pn**	**13 27 20.0**	**+2.6**
RSA				S	**Sn**	**13 27 40.0**	**+1.7**
RSA	**Sarsar**	**1.65**	**264**	*i* P	**Pn**	**13 27 20.0**	**+2.6**
EMIJ	**Mijas** 1.3nm,0.1s,SNR=8.8	**1.67**	**333**	P	**Pn**	**13 27 17.5**	**-0.3**
EMIJ	19nm,0.1s,SNR=4.5			S	**Sn**	**13 27 37.4**	**-1.5**
EJIF	**Jimena Fronter** 3.2nm,0.2s,SNR=4.0	**1.91**	**316**	P	**Pn**	**13 27 22.7**	**+1.6**
EJIF	8.2nm,0.3s,SNR=4.0			S	**Sn**	**13 27 45.9**	**+1.0**
EJIF	**Jimena Fronter** 3.2nm,0.2s,SNR=4.0	**1.91**	**316**	P	**Pn**	**13 27 23.2**	**+2.2**
EJIF	8.2nm,0.3s,SNR=4.0			S	**Sn**	**13 27 46.7**	**+1.8**
EJIF	**Jimena Fronter**	**1.91**	**316**	P	**Pn**	**13 27 23.2**	**+2.2**
EJIF				S	**Sn**	**13 27 46.7**	**+1.8**
ERON	**Agron** 1.9nm,0.1s,SNR=4.0	**1.94**	**1**	P	**Pn**	**13 27 22.9**	**+1.4**
ERON	11nm,0.3s,SNR=4.0			S	**Sn**	**13 27 46.5**	**+0.8**
EBER	**Berja** 3.1nm,0.2s,SNR=4.0	**1.98**	**23**	P	**Pn**	**13 27 21.2**	**-0.7**
EBER	46nm,0.5s,SNR=6.1			S	**Sn**	**13 27 46.7**	**+0.3**
EBER	**Berja** 3.1nm,0.2s,SNR=4.0	**1.98**	**23**	P	**Pn**	**13 27 21.2**	**-0.7**
EBER				S	**Sn**	**13 27 46.8**	**+0.3**
MIF	**Mishlifen**	**2.02**	**215**	*i* P	**Pn**	**13 27 23.0**	**+0.5**
MIF				*i* S	**Sn**	**13 27 48.0**	**+0.4**
ELOJ	**Sierra Loja** 2.1nm,0.2s,SNR=4.0	**2.09**	**353**	P	**Pn**	**13 27 23.7**	**+0.3**
ELOJ	7.2nm,0.2s,SNR=4.0			S	**Sn**	**13 27 50.3**	**+1.1**
ELOJ	**Sierra Loja** 2.1nm,0.2s,SNR=4.0	**2.09**	**353**	P	**Pn**	**13 27 23.7**	**+0.3**
ELOJ	7.2nm,0.2s,SNR=4.0			S	**Sn**	**13 27 51.7**	**+2.5**
ELOJ	**Sierra Loja**	**2.09**	**353**	P	**Pn**	**13 27 23.7**	**+0.3**
ELOJ				S	**Sn**	**13 27 51.7**	**+2.5**
EQUE	**Quentar** 2.9nm,0.2s,SNR=5.3	**2.15**	**8**	P	**Pn**	**13 27 25.4**	**+1.1**
EQUE	3.3nm,0.1s,SNR=4.6			S	**Sn**	**13 27 50.8**	**0.0**
CZD	**Col de Zad**	**2.27**	**207**	*e*P	**Pn**	**13 27 27.0**	**+1.1**
CZD				*i* S	**Sn**	**13 27 53.0**	**-0.7**
ENIJ	**Nijar** 3.2nm,0.3s,SNR=4.0	**2.31**	**34**	P	**Pn**	**13 27 26.4**	**0.0**
ENIJ	**Nijar** 3.2nm,0.3s,SNR=4.0	**2.31**	**34**	P	**Pn**	**13 27 26.4**	**-0.1**
ESPR	**Espera** 4.0nm,0.2s,SNR=4.0	**2.43**	**318**	P	**Pn**	**13 27 28.7**	**+0.6**
ESPR	5.3nm,0.2s,SNR=4.0			S	**Sn**	**13 27 58.1**	**+0.5**
ESPR	**Espera** 4.0nm,0.2s,SNR=4.0	**2.43**	**318**	P	**Pn**	**13 27 31.2**	**+3.1**
ESPR	13nm,0.3s,SNR=4.0			S	**Sn**	**13 28 02.3**	**+4.7**
ESPR	**Espera**	**2.43**	**318**	P	**Pn**	**13 27 31.2**	**+3.1**
ESPR				S	**Sn**	**13 28 02.3**	**+4.7**
ELUQ	**Luque** 5.9nm,0.1s,SNR=4.0	**2.51**	**352**	P	**Pn**	**13 27 34.1**	**+4.9**
ELUQ	**Luque**	**2.51**	**352**	P	**Pn**	**13 27 34.1**	**+4.9**
EQES	**Quesada** 2.4nm,0.1s,SNR=4.0	**2.79**	**13**	P	**Pn**	**13 27 35.1**	**+2.0**
EQES	13nm,0.2s,SNR=4.5			S	**Sn**	**13 28 09.1**	**+2.5**
EQES	**Quesada** 2.4nm,0.1s,SNR=4.0	**2.79**	**13**	P	**Pn**	**13 27 35.6**	**+2.5**
EQES	13nm,0.2s,SNR=4.5			S	**Sn**	**13 28 09.1**	**+2.5**
EQES	**Quesada**	**2.79**	**13**	P	**Pn**	**13 27 35.6**	**+2.5**
EQES				S	**Sn**	**13 28 09.1**	**+2.5**
EHUE	**Huescar** 0.9nm,0.2s,SNR=7.9	**2.91**	**20**	P	**Pn**	**13 27 37.1**	**+2.3**
EHUE	2.8nm,0.3s,SNR=7.9			S	**Sn**	**13 28 12.6**	**+2.9**
ZFT	**Errachidia**	**3.06**	**188**	*i* P	**Pn**	**13 27 38.0**	**+1.2**
ZFT				*i* S	**Sn**	**13 28 12.5**	**-0.8**
EBAN	**Banos Encina** 0.9nm,0.2s,SNR=4.0	**3.08**	**1**	P	**Pn**	**13 27 37.8**	**+0.6**
EBAN	2.9nm,0.2s,SNR=4.0			S	**Sn**	**13 28 15.0**	**+1.2**
EBAN	**Banos Encina**	**3.08**	**1**	P	**Pn**	**13 27 37.9**	**+0.7**
EBAN				S	**Sn**	**13 28 15.0**	**+1.1**
KIB	**El Ksiba**	**3.09**	**217**	P	**Pn**	**13 27 39.0**	**+1.7**
KIB				S	**Sn**	**13 28 14.0**	**0.0**
KIB	**El Ksiba**	**3.09**	**217**	*e*P	**Pn**	**13 27 39.0**	**+1.7**
EADA	**Adamuz** 1.7nm,0.2s,SNR=7.9	**3.15**	**349**	P	**Pn**	**13 27 38.4**	**+0.4**
EADA	3.2nm,0.2s,SNR=7.9			S	**Sn**	**13 28 15.9**	**+0.6**
EADA	**Adamuz**	**3.15**	**349**	P	**Pn**	**13 27 38.4**	**+0.4**
EADA	1.7nm,0.2s,SNR=7.9			S	**Sn**	**13 28 15.9**	**+0.6**
ECAB	**El Cabril** 0.8nm,0.2s,SNR=4.0	**3.26**	**337**	P	**Pn**	**13 27 41.1**	**+1.6**
ECAB	15nm,0.4s,SNR=6.7			S	**Sn**	**13 28 17.5**	**-0.5**
EMUR	**La Murta** 1.7nm,0.3s,SNR=4.0	**3.47**	**36**	P	**Pn**	**13 27 43.0**	**+0.6**
EMUR	6.0nm,0.4s,SNR=7.9			S	**Sn**	**13 28 22.1**	**-1.2**
EMUR	**La Murta** 1.7nm,0.3s,SNR=4.0	**3.47**	**36**	P	**Pn**	**13 27 43.0**	**+0.6**
EMUR				S	**Sn**	**13 28 20.8**	**-2.4**
EMUR	**La Murta**	**3.47**	**36**	P	**Pn**	**13 27 43.0**	**+0.6**
EMUR				S	**Sn**	**13 28 20.8**	**-2.5**
EMIN	**Mina Concepcio** 1.0nm,0.2s,SNR=11	**3.53**	**320**	P	**Pn**	**13 27 43.1**	**-0.1**
EMIN	1.7nm,0.1s			S	**Sn**	**13 28 23.9**	**-0.9**
EMIN	**Mina Concepcio** 1.0nm,0.2s,SNR=11	**3.53**	**320**	P	**Pn**	**13 27 43.1**	**-0.2**
TZC	**Tazercounte**	**3.66**	**218**	P	**Pn**	**13 27 45.0**	**-0.1**
TZC				S	**Sn**	**13 28 26.0**	**-2.1**
TZC	**Tazercounte**	**3.66**	**218**	*e*P	**Pn**	**13 27 45.0**	**-0.1**
EVIA	**Vianos** 0.3nm,0.1s,SNR=4.0	**3.72**	**16**	P	**Pn**	**13 27 49.7**	**+3.9**
EVIA	**Vianos** 1.7nm,0.1s,SNR=8.0	**3.72**	**16**	P	**Pn**	**13 27 49.7**	**+3.8**
EGRO	**El Granado** 1.7nm,0.1s,SNR=8.0	**3.83**	**311**	P	**Pn**	**13 27 47.4**	**-0.1**
EGRO				S	**Sn**	**13 28 31.3**	**-1.0**
EGRO	**El Granado** 1.7nm,0.1s,SNR=8.0	**3.83**	**311**	P	**Pn**	**13 27 47.3**	**-0.2**
EGRO	**El Granado**	**3.83**	**311**	P	**Pn**	**13 27 47.3**	**-0.1**
EGRO				S	**Sn**	**13 28 30.5**	**-1.8**
PVAQ	**Vaqueiros** 13nm,0.3s	**3.91**	**308**	*e*Pn	**Pn**	**13 27 48.4**	**0.0**
PVAQ				*e*Sn	**Sn**	**13 28 31.9**	**-2.1**
PVAQ	**Vaqueiros** 13nm,0.3s	**3.91**	**308**	*e*Pn	**Pn**	**13 27 48.4**	**0.0**
PVAQ				*e*Sn	**Sn**	**13 28 31.9**	**-2.1**
PBDV	**Barranco-do-Ve** 7.7nm,0.3s	**3.96**	**304**	*e*Pn	**Pn**	**13 27 49.6**	**+0.4**
PBDV				*e*Sn	**Sn**	**13 28 34.7**	**-0.7**
PBDV	**Barranco-do-Ve** 7.7nm,0.3s	**3.96**	**304**	*e*Pn	**Pn**	**13 27 49.6**	**+0.4**
PBDV				*e*Sn	**Sn**	**13 28 34.7**	**-0.7**
ETOB	**Tobarra** 1.5nm,0.2s,SNR=6.5	**4.01**	**27**	P	**Pn**	**13 27 51.5**	**+1.6**
ETOB	1.3nm,0.2s			S	**Sn**	**13 28 36.0**	**-0.6**
ETOB	**Tobarra** 1.5nm,0.2s,SNR=6.5	**4.01**	**27**	P	**Pn**	**13 27 51.7**	**+1.8**
ETOB	1.3nm,0.2s			S	**Sn**	**13 28 36.0**	**-0.6**
ETOB	**Tobarra**	**4.01**	**27**	P	**Pn**	**13 27 51.7**	**+1.8**
ETOB				S	**Sn**	**13 28 36.0**	**-0.6**
PBAR	**Barrancos** 6.1nm,0.3s	**4.03**	**321**	*e*Pn	**Pn**	**13 27 49.9**	**-0.2**
PBAR				*e*Sn	**Sn**	**13 28 36.0**	**-1.1**
PBAR	**Barrancos** 6.1nm,0.3s	**4.03**	**321**	*e*Pn	**Pn**	**13 27 49.9**	**-0.2**
PBAR				*e*Sn	**Sn**	**13 28 36.0**	**-1.1**
PBEJ	**Beja** 6.2nm,0.2s	**4.38**	**313**	*e*Sn	**Sn**	**13 28 44.5**	**-1.3**
EBAD	**Badajoz** 0.6nm,0.1s,SNR=8.6	**4.47**	**326**	P	**Pn**	**13 27 56.5**	**+0.3**
EBAD				S	**Sn**	**13 28 47.0**	**-1.0**
EBAD	**Badajoz** 0.6nm,0.1s,SNR=8.6	**4.47**	**326**	P	**Pn**	**13 27 56.5**	**+0.3**
MORF	**Marmelete** 8.4nm,0.3s	**4.49**	**301**	*e*Pn	**Pn**	**13 27 57.4**	**+1.0**
MORF				*e*Sn	**Sn**	**13 28 48.3**	**-0.1**
MORF	**Marmelete** 8.4nm,0.3s	**4.49**	**301**	*e*Pn	**Pn**	**13 27 57.4**	**+1.0**
MORF				*e*Sn	**Sn**	**13 28 48.3**	**-0.1**
PFVI	**Vila Bisbo** 7.0nm,0.5s	**4.53**	**298**	*e*Pn	**Pn**	**13 27 57.6**	**+0.5**
PFVI				*e*Sn	**Sn**	**13 28 47.1**	**-2.4**
PFVI	**Vila Bisbo** 7.0nm,0.5s	**4.53**	**298**	*e*Pn	**Pn**	**13 27 57.6**	**+0.5**
PFVI				*e*Sn	**Sn**	**13 28 47.1**	**-2.4**
PTEO	**Sao Teotonio** 9.5nm,0.9s	**4.66**	**303**	*e*Pn	**Pn**	**13 27 59.8**	**+1.1**
PTEO				*e*Sn	**Sn**	**13 28 51.8**	**-0.7**
PTEO	**Sao Teotonio** 9.5nm,0.9s	**4.66**	**303**	*e*Pn	**Pn**	**13 27 59.8**	**+1.1**
PTEO				*e*Sn	**Sn**	**13 28 51.8**	**-0.7**
EVO	**Evora** 6.5nm,0.2s	**4.81**	**317**	*e*Pn	**Pn**	**13 28 01.4**	**+0.5**
EVO				*e*Sn	**Sn**	**13 28 54.7**	**-1.7**
EVO	**Evora** 6.5nm,0.2s	**4.81**	**317**	*e*Pn	**Pn**	**13 28 01.4**	**+0.5**
EVO				*e*Sn	**Sn**	**13 28 54.7**	**-1.7**
PESTR	**Estremoz** 5.2nm,0.3s	**4.83**	**323**	*e*Pn	**Pn**	**13 28 01.4**	**+0.2**
PESTR				*e*Sn	**Sn**	**13 28 55.6**	**-1.4**
PESTR	**Estremoz** 5.2nm,0.3s	**4.83**	**323**	*e*Pn	**Pn**	**13 28 01.4**	**+0.2**
PESTR				*e*Sn	**Sn**	**13 28 55.6**	**-1.4**
MOE	**Montemor** 4.7nm,0.3s,SNR=4.0	**5.00**	**315**	*e*Sn	**Sn**	**13 29 00.3**	**-0.7**
EPLA	**Plasencia** 0.6nm,0.2s,SNR=7.9	**5.29**	**341**	S	**Sn**	**13 29 06.9**	**-1.3**
EIBI	**Ibiza** 3.8nm,0.3s,SNR=4.0	**5.72**	**45**	S	**Sn**	**13 29 15.8**	**-3.0**
EIBI	**Ibiza** 3.8nm,0.3s,SNR=4.0	**5.72**	**45**	S	**Sn**	**13 29 17.9**	**-0.9**
ECAL	**Calabor** 0.6nm,0.2s,SNR=7.9	**7.22**	**343**	P	**Pn**	**13 28 35.7**	**+1.7**
ECAL	1.1nm,0.3s,SNR=4.0			S	**Sn**	**13 29 51.9**	**-3.9**
ECAL	**Calabor** 0.6nm,0.2s,SNR=7.9	**7.22**	**343**	P	**Pn**	**13 28 36.7**	**+2.7**
ECAL	**Calabor**	**7.22**	**343**	P	**Pn**	**13 28 36.7**	**+2.7**
ECAL				S	**Sn**	**13 29 54.7**	**-1.1**
ELOB	**Lobios** 0.3nm,0.1s,SNR=7.9	**7.55**	**335**	P	**Pn**	**13 28 39.0**	**+0.5**
ELOB	1.1nm,0.3s,SNR=7.9			S	**Sn**	**13 30 01.1**	**-2.6**

**MEX 18 14:29:57.9±0.6, 1721N×10057W, h17

Error ellipse: s-maj=51.0km s-min=6.2km az=67.0
*SOF **18** 14:52:52.6, 39.35N×21.44E, h13km, MD4.0*
*TIR **18** 14:52:54.4±0.3, 39.91N×21.20E, h7km±25km*
ISC 18 14:52:26.4±0.6,**3753N**±002×**2047E**±003,**h4**km±4km,**n134,**
σ1§**01**/164,**mb3.9**/10,**16C-8D,Ionian Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KFL	**Anninata**	**0.63**	**23**	P	**Pg**	**14 52 38.4**	**-0.1**
VLS	**Valsamata**	**0.65**	**8**	P	**Pg**	**14 52 38.9**	**-0.1**
VLS				S	**Sg**	**14 52 47.6**	**+0.2**
VLS	**Valsamata**	**0.65**	**8**	⇑*i* Pn	**Pg**	**14 52 38.9**	**-0.1**
VLS				*e*Sb		14 52 49.1	
VLS	**Valsamata**	**0.65**	**8**	⇑*i* PB	**Pg**	**14 52 38.9**	**-0.1**
VLS				*e*SB		14 52 49.1	
RLS	**Riolos of Patr**	**0.94**	**56**	⇑*i* Pg	**Pg**	**14 52 43.8**	**-0.8**
RLS				*e*Sb	**Sb**	**14 53 00.1**	**+1.9**
RLS	**Riolos of Patr**	**0.94**	**56**	⇑*i* PG	**Pg**	**14 52 43.8**	**-0.8**
RLS				*e*SB	**Sb**	**14 53 00.1**	**+1.9**
LKD	**Levkas**	**1.18**	**7**	P	**Pg**	**14 52 48.6**	**-0.5**
LKD				S	**Sg**	**14 53 06.2**	**+1.8**
PYL	**PYLOS**	**1.20**	**122**	P	**Pg**	**14 52 48.5**	**-0.8**
PYL				S	**Sg**	**14 53 05.0**	**+0.2**
ITM	**Ithomi**	**1.21**	**106**	*e*Pb	**Pb**	**14 52 48.4**	**-1.5**
ITM	**Ithomi**	**1.21**	**106**	*e*PB	**Pb**	**14 52 48.4**	**-1.5**
VLX	**Vlachokerasia**	**1.52**	**95**	P	**Pn**	**14 52 53.8**	**-0.6**
EVR	**Evrytania**	**1.74**	**37**	⇓*i* Pg	**Pg**	**14 52 58.7**	**-1.0**
EVR				*e*Sn	**Sn**	**14 53 21.5**	**+1.6**
EVR	**Evrytania**	**1.74**	**37**	⇓*i* PG	**Pg**	**14 52 58.7**	**-1.0**
EVR				*e*SN	**Sn**	**14 53 21.5**	**+1.6**
IGT	**Igoumenitsa**	**2.00**	**357**	P	**Pn**	**14 53 01.2**	**+0.2**
LTK	**Loutraki**	**2.04**	**75**	P	**Pn**	**14 53 00.8**	**-0.6**
VLI	**Veliai**	**2.13**	**112**	*e*Pn	**Pn**	**14 53 03.1**	**+0.4**
VLI	**Veliai**	**2.13**	**112**	*e*PN	**Pn**	**14 53 03.1**	**+0.4**
JAN	**Janina**	**2.14**	**8**	*e*Pn	**Pn**	**14 53 03.5**	**+0.6**
JAN	**Janina**	**2.14**	**8**	*e*PN	**Pn**	**14 53 03.5**	**+0.6**
DID	**Didima**	**2.20**	**90**	P	**Pn**	**14 53 02.9**	**-0.8**
KEK	**Kerkira**	**2.24**	**347**	*e*Pn	**Pn**	**14 53 04.2**	**-0.1**
KEK	**Kerkira**	**2.24**	**347**	*e*PN	**Pn**	**14 53 04.2**	**-0.1**
LKR	**Lokris**	**2.28**	**60**	*e*Pb	**Pb**	**14 53 04.8**	**-3.4**
LKR	**Lokris**	**2.28**	**60**	*e*PB	**Pb**	**14 53 04.8**	**-3.4**
THL	**Klokotos Trika**	**2.36**	**30**	*e*Pb	**Pb**	**14 53 06.3**	**-3.2**
THL				*e*Sn	**Sn**	**14 53 37.9**	**+2.6**
THL	**Klokotos Trika**	**2.36**	**30**	*e*PB	**Pb**	**14 53 06.3**	**-3.2**
THL				*e*SN	**Sn**	**14 53 37.9**	**+2.6**
SRN	**Sarande**	**2.37**	**351**	*e*PG	**Pg**	**14 53 12.6**	**+0.7**
KYTH	**Kithira**	**2.40**	**121**	*e*Pn	**Pn**	**14 53 06.5**	**0.0**
KYTH	**Kithira**	**2.40**	**121**	*e*PN	**Pn**	**14 53 06.5**	**0.0**
NAIG	**Nisos Aigina**	**2.40**	**84**	*e*Pn	**Pn**	**14 53 07.0**	**+0.5**
NAIG	**Nisos Aigina**	**2.40**	**84**	*e*PN	**Pn**	**14 53 07.0**	**+0.5**
ATH	**Athens Observa**	**2.61**	**79**	*e*Pb	**Pb**	**14 53 10.2**	**-3.5**
ATH	**Athens Observa**	**2.61**	**79**	*e*PB	**Pb**	**14 53 10.2**	**-3.5**
KVR	**Kavouri**	**2.63**	**83**	*e*Pn	**Pn**	**14 53 10.0**	**+0.4**
KVR	**Kavouri**	**2.63**	**83**	*e*PN	**Pn**	**14 53 10.0**	**+0.4**
PTL	**Penteli**	**2.73**	**78**	*e*Pn	**Pn**	**14 53 11.1**	**0.0**
PTL	**Penteli**	**2.73**	**78**	P	**Pn**	**14 53 05.9**	**-5.2**
PTL				*e*Pn	**Pn**	**14 53 11.1**	**0.0**
PTL	**Penteli**	**2.73**	**78**	*e*PN	**Pn**	**14 53 11.1**	**0.0**
NEO	**Neokhori**	**2.79**	**50**	*e*Pn	**Pn**	**14 53 12.5**	**+0.6**
NEO	**Neokhori**	**2.79**	**50**	*e*PN	**Pn**	**14 53 12.5**	**+0.6**
XOR	**Xorichti**	**2.81**	**49**	P	**Pn**	**14 53 11.7**	**-0.4**
KZN	**Kozani**	**2.95**	**20**	*e*Pb	**Pb**	**14 53 15.6**	**-3.9**
KZN	**Kozani**	**2.95**	**20**	*e*PB	**Pb**	**14 53 15.6**	**-3.9**
LIT	**Litokhoron**	**3.01**	**31**	P	**Pn**	**14 53 14.6**	**-0.2**
KBN	**Korca**	**3.10**	**4**	*e*PN	**Pg**	**14 53 24.3**	**-1.5**
AOS	**Alonnisos**	**3.14**	**58**	P	**Pn**	**14 53 16.1**	**-0.5**
FNA	**Florina**	**3.32**	**12**	P	**Pn**	**14 53 19.5**	**+0.4**
TIP	**Timpagrande**	**3.35**	**301**	P	**Pn**	**14 53 20.0**	**+0.5**
OHR	**Ohrid**	**3.58**	**4**	*i* Pn	**Pn**	**14 53 24.1**	**+1.4**
OHR	**Ohrid**	**3.58**	**4**	*i* Pn	**Pn**	**14 53 24.0**	**+1.3**
PLG	**Polygyros**	**3.66**	**38**	*e*Pn	**Pn**	**14 53 24.0**	**+0.2**
PLG	**Polygyros**	**3.66**	**38**	*e*PN	**Pn**	**14 53 24.0**	**+0.2**
VAM	**Vamos**	**3.68**	**124**	*e*Pn	**Pn**	**14 53 24.5**	**+0.5**
VAM	**Vamos**	**3.68**	**124**	*e*PN	**Pn**	**14 53 24.5**	**+0.5**
HORT	**Hortiatis**	**3.68**	**33**	P	**Pn**	**14 53 23.9**	**-0.2**
TIR	**Tirane**	**3.84**	**353**	*e*Pn	**Pn**	**14 53 27.0**	**+0.8**
TIR	**Tirane**	**3.84**	**353**	*e*PG	**Pn**	**14 53 28.7**	**+2.5**
TIR	**Tirane**	**3.84**	**353**	*e*PN	**Pn**	**14 53 26.8**	**+0.6**
TIR	**Tirane**	**3.84**	**353**	*e*PN	**Pn**	**14 53 26.8**	**+0.6**
GVD	**Gavdhos**	**3.97**	**132**	*e*Pn	**Pn**	**14 53 28.0**	**0.0**
GVD	**Gavdhos**	**3.97**	**132**	*e*PN	**Pn**	**14 53 28.0**	**0.0**
PE1	**Pezze di Greco**	**4.04**	**325**	*e*Pn	**Pn**	**14 53 28.9**	**-0.1**
APE	**Apeiranthos**	**4.06**	**95**	*e*Pn	**Pn**	**14 53 29.9**	**+0.7**
APE	**Apeiranthos**	**4.06**	**95**	*e*PN	**Pn**	**14 53 29.9**	**+0.7**
KNT	**Kendrikon**	**4.08**	**27**	P	**Pn**	**14 53 29.5**	**-0.1**
VAY	**Valandovo**	**4.12**	**23**	*i* Pn	**Pn**	**14 53 29.4**	**-0.7**
VAY	**Valandovo**	**4.12**	**23**	*i* Pn	**Pn**	**14 53 29.3**	**-0.8**
IDI	**Anoyia**	**4.21**	**121**	P	**Pn**	**14 53 33.5**	**+2.2**
	1.2nm,0.3s,baz=292,slow=13,SNR=5.8						
IDI				S	**Sn**	**14 54 20.0**	**-0.8**
	5.6nm,0.3s,baz=38,slow=21,SNR=9.5						
IDI				LR	LR	14 55 23.3	
	comp=Z,108nm,19.5s,baz=297,slow=41						
IDI	**Anoyia**	**4.21**	**121**	P	**Pn**	**14 53 33.5**	**+2.2**
IDI				S	**Sn**	**14 54 20.0**	**-0.8**
STIP	**Stip**	**4.36**	**17**	*i* Pn	**Pn**	**14 53 33.3**	**-0.1**
STIP	**Stip**	**4.36**	**17**	*i* Pn	**Pn**	**14 53 33.2**	**-0.2**
LIA	**Limnos Island**	**4.38**	**56**	*e*Pn	**Pn**	**14 53 35.0**	**+1.4**
LIA	**Limnos Island**	**4.38**	**56**	*e*PN	**Pn**	**14 53 35.0**	**+1.4**
CUC	**Castrocucco**	**4.39**	**305**	*e*Pn	**Pn**	**14 53 34.3**	**+0.5**
CUC	**Castrocucco**	**4.39**	**305**	*e*PN	**Pn**	**14 53 34.4**	**+0.5**
SG1	**Sgolgore (BA)**	**4.43**	**319**	*e*Pn	**Pn**	**14 53 33.3**	**-1.0**
ULC	**Ulcinj**	**4.53**	**348**	⇑*i* Pn	**Pn**	**14 53 36.8**	**+1.1**
ULC				*e*Sn	**Sn**	**14 54 28.9**	**+0.2**
PUK	**Puka**	**4.53**	**355**	*e*PN	**Pn**	**14 53 37.0**	**+1.3**
MMB	**Musomiste**	**4.77**	**31**	*i* P	**Pn**	**14 53 38.6**	**-0.4**
KKB	**Krupnik**	**4.77**	**24**	*i* P	**Pn**	**14 53 39.2**	**+0.1**
VAE	**Valguarnera**	**4.82**	**271**	P	**Pn**	**14 53 41.1**	**+1.4**
	1.5nm,0.3s,baz=160,slow=15,SNR=1.9						
VAE				S	**Sn**	**14 54 36.7**	**+0.7**
	7.1nm,0.3s,baz=118,slow=3.3,SNR=3.7						
BCI	**Bajram Curri**	**4.84**	**356**	*e*PN	**Pn**	**14 53 40.7**	**+0.7**
BUM	**Brajici-Budva**	**4.92**	**346**	⇑*i* Pn	**Pn**	**14 53 41.9**	**+0.9**
BUM				*e*Sn	**Sn**	**14 54 37.9**	**-0.4**
PDG	**Podgorica**	**4.98**	**350**	⇑*i* Pn	**Pn**	**14 53 43.1**	**+1.2**
TTG	**Podgorica**	**4.98**	**350**	⇑*i* Pn	**Pn**	**14 53 43.1**	**+1.2**
TTG				*e*Sn	**Sn**	**14 54 39.9**	**0.0**
PVY	**Plav**	**5.07**	**356**	⇓*i* Pn	**Pn**	**14 53 44.3**	**+1.1**
PVY				*e*Sn	**Sn**	**14 54 42.0**	**-0.1**
HCY	**Herceg Novi**	**5.14**	**343**	⇓*i* Pn	**Pn**	**14 53 44.6**	**+0.5**
HCY				*e*Sn	**Sn**	**14 54 42.9**	**-0.9**
RZN	**Rozhen**	**5.29**	**37**	*i* P	**Pn**	**14 53 46.8**	**+0.7**
BEY	**Berane**	**5.35**	**355**	⇓*i* Pn	**Pn**	**14 53 47.8**	**+0.8**
BEY				*e*Sn	**Sn**	**14 54 48.0**	**-1.1**
IVA	**Berane**	**5.35**	**355**	⇓*i* Pn	**Pn**	**14 53 47.8**	**+0.8**
IVA				*e*Sn	**Sn**	**14 54 48.0**	**-1.1**
BARS	**Barje**	**5.38**	**11**	*e*Pn	**Pn**	**14 53 47.2**	**-0.2**
NKY	**Niksic**	**5.39**	**348**	⇑*i* Pn	**Pn**	**14 53 48.7**	**+1.1**
NKY				*e*Sn	**Sn**	**14 54 49.5**	**-0.6**
TREB	**Trebinje**	**5.43**	**343**	*e*Pn	**Pn**	**14 53 47.7**	**-0.4**
VTS	**Vitosha**	**5.47**	**22**	*i* P	**Pn**	**14 53 48.6**	**-0.1**
VTS	**Vitosha**	**5.47**	**22**	*e*Pn	**Pn**	**14 53 48.9**	**+0.2**
BRY	**Bratogost**	**5.56**	**345**	⇓*i* Pn	**Pn**	**14 53 50.2**	**+0.3**
BRY				*e*Sn	**Sn**	**14 54 53.6**	**-0.6**
KDZ	**Kurdzhali**	**5.61**	**41**	*i* P	**Pn**	**14 53 52.3**	**+1.7**
KARP	**Karpathos**	**5.74**	**108**	*e*Pn	**Pn**	**14 53 53.0**	**+0.7**
KARP	**Karpathos**	**5.74**	**108**	*e*PN	**Pn**	**14 53 53.0**	**+0.7**
STON	**Ston**	**5.74**	**339**	*e*Pn	**Pn**	**14 53 50.8**	**-1.6**
STON				Sn	**Sn**	**14 54 52.1**	**-6.5**
PGB	**Panagyurishte**	**5.76**	**28**	*i* P	**Pn**	**14 53 52.9**	**+0.3**
UPM	**Unac-Piva**	**5.79**	**349**	⇑*i* Pn	**Pn**	**14 53 54.5**	**+1.5**
UPM				*e*Sn	**Sn**	**14 54 59.1**	**-0.7**
PLE	**Pljevlja**	**5.85**	**352**	⇑*i* Pn	**Pn**	**14 53 54.6**	**+0.7**
PLE				*e*Sn	**Sn**	**14 55 00.1**	**-1.2**
ZAPS	**Zavoj**	**5.97**	**15**	*e*Pn	**Pn**	**14 53 55.3**	**-0.2**
GRUS	**Gruza**	**6.35**	**2**	*e*Pn	**Pn**	**14 54 00.7**	**-0.1**
BBLS	**Lazići**	**6.38**	**353**	*e*Pn	**Pn**	**14 53 59.8**	**-1.3**
DIVS	**Divibare**	**6.57**	**357**	*e*Pn	**Pn**	**14 54 03.0**	**-0.7**
SZH	**Strazhica**	**7.08**	**34**	*i* P	**Pn**	**14 54 15.2**	**+4.4**
NVLJ	**Novalja**	**8.20**	**331**	*e*Pn	**Pn**	**14 54 26.7**	**+0.6**
NVLJ				Sn	**Sn**	**14 55 52.5**	**-6.7**
NVLJ	**Novalja**	**8.20**	**331**	*e*PN	**Pn**	**14 54 26.6**	**+0.5**
MLR	**Muntele Rosu**	**8.95**	**26**	P	**Pn**	**14 54 37.0**	**+0.7**
	0.3nm,0.3s,baz=119,slow=19,SNR=11						
CRES	**Cresnjev**	**9.10**	**337**	*i* Pn	**Pn**	**14 54 38.1**	**-0.3**
CRES				*i* Sn	**Sn**	**14 56 14.5**	**-6.7**
KEST	**Kesra**	**9.12**	**262**	P	**Pn**	**14 54 40.5**	**+1.7**
	0.1nm,0.3s,baz=68,slow=19,SNR=2.4						
VOY	**Vojsko**	**9.81**	**332**	*e*Pn	**Pn**	**14 54 48.6**	**+0.5**
VOY				*e*		14 54 54.3	
VOY				*e*		14 55 01.7	
VOY				*e*		14 55 06.4	
OBKA	**Obir**	**9.99**	**336**	⇑*i* Pn	**Pn**	**14 54 50.2**	**-0.5**
OBKA				⇑*i* Sn	**Sn**	**14 56 38.3**	**-4.8**
SOKA	**Soboth**	**9.99**	**338**	⇑*i* Pn	**Pn**	**14 54 50.6**	**-0.1**
SOKA				⇓*i* Sn	**Sn**	**14 56 37.3**	**-5.8**
MOA	**Molln**	**11.27**	**338**	⇑*i* Pn	**Pn**	**14 55 08.2**	**0.0**
MOA				⇑*i* Sn	**Sn**	**14 57 08.5**	**-6.0**
GERES	**GERESS Array B**	**12.33**	**339**	P	**Pn**	**14 55 22.1**	**-0.6**
	0.1nm,0.3s,baz=159,slow=15,SNR=4.4						
AKASG	**Malin Array Be**	**14.57**	**23**	P	**Pn**	**14 55 51.0**	**-2.3**
	0.3nm,0.3s,baz=212,slow=12,SNR=2.7						
HFS	**Hagfors**	**23.03**	**351**	P	**P**	**14 57 29.7**	**-2.6**
	2.5nm,0.5s,mb3.9,baz=156,slow=11,SNR=6.9						
RST	**Umm Al-Ruwaisa**	**23.46**	**102**	*e*P	**P**	**14 57 32.4**	**-4.7**
	9.3nm,1.0s,mb4.2						
RST	**Umm Al-Ruwaisa**	**23.46**	**102**	*e*P	**P**	**14 57 32.4**	**-4.7**
	baz=102						
RST				AMb	AMB	14 57 43.1	
	comp=Z,9.0nm,1.0s,mb4.2,baz=102						
MIB	**Mutribah**	**23.60**	**101**	*e*P	**P**	**14 57 34.1**	**-4.4**
	comp=Z,9.0nm,0.6s,mb4.4						
MIB	**Mutribah**	**23.60**	**101**	*e*P	**P**	**14 57 34.1**	**-4.4**
	baz=101						
MIB				AMb	AMB	14 57 36.9	
	comp=Z,9.0nm,0.6s,mb4.4,baz=101						
NAY	**Al-Naaiem**	**23.77**	**102**	*e*P	**P**	**14 57 35.0**	**-5.1**
	comp=Z,7.2nm,1.8s,mb3.8						
NAY	**Al-Naaiem**	**23.77**	**102**	*e*P	**P**	**14 57 35.0**	**-5.0**
	baz=102						
NAY				AMb	AMB	14 57 40.0	
	comp=Z,7.0nm,1.8s,mb3.8,baz=102						
EKA	**Eskdalemuir Ar**	**23.94**	**326**	P	**P**	**14 57 38.4**	**-2.9**
	comp=Z,2.7nm,0.9s,mb3.7,baz=131,slow=8.9,SNR=4.2						
NOA	**NORSAR Array B**	**24.24**	**349**	P	**P**	**14 57 41.7**	**-2.3**
	comp=Z,1.0nm,0.8s,mb3.3,baz=160,slow=9.1,SNR=3.2						
TORD	**Torodi Ar. Bea**	**29.51**	**220**	P	**P**	**14 58 29.8**	**-2.0**
	comp=Z,1.2nm,0.6s,mb3.8,baz=31,slow=9.5,SNR=14						
ARCES	**ARCESS Array B**	**32.18**	**3**	P	**P**	**14 58 52.0**	**-2.9**
	comp=Z,2.5nm,1.0s,mb4.0,baz=184,slow=12,SNR=2.5						
ARCES	**ARCESS Array B**	**32.18**	**3**	P	**P**	**14 58 52.0**	**-2.9**
MKAR	**Makanchi Array**	**45.67**	**58**	P	**P**	**15 00 44.1**	**-4.0**
	comp=Z,0.3nm,0.4s,mb3.6,baz=274,slow=7.8,SNR=3.7						
ZALV	**Zalesovo Beam**	**46.15**	**48**	P	**P**	**15 00 47.2**	**-4.5**
	comp=Z,0.8nm,0.4s,mb4.0,baz=266,slow=7.8,SNR=4.1						
ZALV	**Zalesovo Beam**	**46.15**	**48**	P	**P**	**15 00 47.2**	**-4.6**

*IDC **18** 15:07:02.0±5.3, 3168S×17992E, h333km±41km, mb3.5/6, mb1 3.6/7, mb1mx3.4/18, mbtmp3.5/7, Error ellipse: s-maj=55.0km s-min=17.9km az=45.0*
*NEIC **18** 15:07:02.0±3.7, 3155S×17998W, h341km±30km, mb3.8/1, Error ellipse: s-maj=47.9km s-min=19.4km az=214.0*
ISC 18 15:07:08.9±5.0,**322S**±03×**1794E**±04,**h377**km±34km,**n12,**
σ0§**81**/11,**mb3.6/7,South of Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**6.38**	**197**	P	**Pn**	**15 08 45.2**	**+0.4**
	5.8nm,0.3s,baz=338,slow=2.6,SNR=44						
URZ				S	**S**	**15 10 02.4**	**-0.5**
	11nm,0.3s,baz=240,slow=23,SNR=16						
STKA	**Stephens Creek**	**31.96**	**260**	P	**P**	**15 13 03.3**	**+1.9**
	0.9nm,0.4s,mb3.4,baz=94,slow=13,SNR=5.2						
CTA	**Charters Tower**	**31.98**	**284**	P	**P**	**15 13 02.1**	**+0.4**
	2.9nm,0.3s,mb3.9,baz=110,slow=12,SNR=3.4						
ASAR	**Alice Springs**	**40.85**	**270**	P	**P**	**15 14 15.5**	**-0.3**
	1.0nm,0.4s,mb3.4,baz=107,slow=7.2,SNR=41						
WRAB	**Tennant Creek**	**42.00**	**276**	*e*P	**P**	**15 14 24.1**	**-0.9**
	2.9nm,0.4s,mb3.8						
WRA	**Warramunga Arr**	**42.00**	**276**	P	**P**	**15 14 24.4**	**-0.6**
	3.7nm,0.3s,mb4.0,baz=111,slow=8.0,SNR=188						
FITZ	**Fitzroy Crossi**	**50.18**	**273**	P	**P**	**15 15 27.7**	**-0.3**
	0.9nm,0.6s,mb3.2,baz=176,slow=13,SNR=5.2						
QSPA	**South Pole Qui**	**57.96**	**180**	P	**P**	**15 16 23.9**	**+1.2**
	2.1nm,0.9s,mb3.5,baz=67,slow=3.0,SNR=22						
VNA3	**Neumayer Olymp**	**76.70**	**177**	*e*	**P**	**15 18 18.2**	**-0.7**
VNA3				*e*		15 18 19.6	
VNA2	**Neumayer--Watz**	**77.10**	**178**	*e*	**P**	**15 18 20.8**	**-0.4**
	baz=180,slow=5.5						
VNA2				*e*		15 18 22.2	
KAF	**Kangasniemi**	**145.40**	**338**	*e*p	PKPdf	15 25 58.3	-3.3
	2.9nm,0.5s						
AKASG	**Malin Array Be**	**151.25**	**319**	PKPbc	PKPbc	15 26 14.4	-3.4
	0.5nm,0.4s,baz=51,slow=1.9,SNR=3.5						

*ISK **18** 15:08:41.6, 37.41N×28.36E, h11km, MD2.6*
*CSEM **18** 15:08:43.9±0.3, 37.21N×28.21E, h25km, MD2.6, Error ellipse: s-maj=11.1km s-min=6.8km az=12.0*
*ISCJB **18** 15:08:45.5±0.7, 37.26N±004×28.23E±005, h11km±6km, Error ellipse: s-maj=8.1km s-min=5.2km az=31.5*
*DDA **18** 15:08:45.4, 37.19N×28.15E, h7km±7km, Md2.9*
ISC 18 15:08:45.6±1.1,**3726N**±005×**2824E**±004,**h15**km±12km,**n8,**
σ1§**02**/15,**2C,Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YER	**Yerkesik**	**0.13**	**164**	*e*PG	**Pg**	**15 08 47.9**	**-1.3**
YER				*e*SG	**Sg**	**15 08 51.9**	**+0.3**
MLSB	**Milas**	**0.37**	**276**	*e*PG	**Pg**	**15 08 51.3**	**-1.8**
MLSB				*e*SG	**Sg**	**15 08 58.5**	**+0.3**
TURN	**Turunc**	**0.48**	**143**	*e*P	**Pg**	**15 08 54.5**	**-0.7**
TURN				*e*S	**Sg**	**15 09 03.1**	**+1.4**
AYDN	**Tasoluk**	**0.49**	**325**	⇑*i* P	**Pg**	**15 08 55.5**	**0.0**
AYDN				*i* S	**Sg**	**15 09 02.8**	**+0.7**
BDRM	**Kayabasi**	**0.66**	**254**	*e*P	**Pg**	**15 08 57.8**	**-0.7**
BDRM				*e*S	**Sg**	**15 09 07.9**	**+0.6**
BODT	**Bodrum**	**0.77**	**256**	*e*PG	**Pg**	**15 08 59.3**	**-1.2**
BODT				*e*SG	**Sg**	**15 09 12.4**	**+1.8**
DNZL	**Cakiroluk**	**0.78**	**56**	⇑*i* P	**Pg**	**15 09 01.3**	**+0.6**
DNZL				*e*S	**Sg**	**15 09 16.1**	**+5.1**
KULA	**Kula-Manisa**	**1.30**	**15**	*e*PN	**Pn**	**15 09 03.7**	**-5.6**

*NIED **18** 15:09:00, 24.10N×12630E, h5km, Mw4.5 Best double couple: M0 6.21000×10^15 NP1:φ=266.00000°, δ=63.00000°, λ=135.00000°. NP2:φ=20.00000°, δ=51.00000°, λ=35.00000°.*
*IDC **18** 15:09:12.3±0.6, 24.18N×12626E, h0km, mb4.3/17, mb1 4.3/20, mb1mx4.3/26, mbtmp4.2/20, ML3.4/3, MS3.6/14, Ms1 3.6/14, ms1mx3.4/38, Error ellipse: s-maj=19.3km s-min=12.9km az=77.0*
*NEIC **18** 15:09:12.6±2.4, 24.17N×12629E, h2km±15km, mb4.8/31, MW4.5(NIED), Error ellipse: s-maj=6.2km s-min=4.9km az=165.0*
*BJI **18** 15:09:13.0, 24.24N×12628E, h10km, mB4.6, mb4.5, Ms4.4, Ms2.4*
*MOS **18** 15:09:13.4±0.9, 24.22N×12630E, h18km, mb4.8/25, Error ellipse: s-maj=10.0km s-min=6.5km az=104.4*
*ISCJB **18** 15:09:13.5±0.8, 24.19N±003×12634E±003, h19km±5km, mb4.6/57, MS3.8/20, Error ellipse: s-maj=5.3km s-min=3.6km az=153.6*
*JMA **18** 15:09:14.5±0.3, 24.05N×12631E, h64km, M4.7*
ISC 18 15:09:15.3±1.1,**2420N**±003×**12633E**±003,**h19**km±7km,
n152,σ1§**03**/169,**mb4.6**/57,**MS3.8**/20,**8C-4D,Ryukyu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JOGS	**Gusukube**	**1.01**	**304**	P	**Pb**	**15 09 34.0**	**-0.1**
JOGS				*e*S	**Sb**	**15 09 48.7**	**+1.7**
JMJ	**Miyako jima 2**	**1.12**	**303**	P	**Pn**	**15 09 35.6**	**-0.4**
JTJ	**Tarama**	**1.54**	**287**	P	**Pn**	**15 09 40.6**	**-1.2**
JTJ				*e*S	**Sn**	**15 10 00.6**	**-0.7**
JIJ	**Ishigaki jima**	**2.00**	**275**	P	**Pn**	**15 09 46.9**	**-1.2**
JKRS	**Kuro-shima**	**2.12**	**271**	P	**Pn**	**15 09 48.5**	**-1.2**
JKRS				*e*S	**Sn**	**15 10 13.6**	**-1.9**
JKE	**Kume jima 2**	**2.15**	**11**	P	**Pn**	**15 09 50.1**	**-0.1**
JKE				*e*S	**Sn**	**15 10 15.5**	**-0.8**
HATJ	**Hateruma jima**	**2.31**	**267**	P	**Pn**	**15 09 50.7**	**-1.6**
JJT2	**Tamagusuku 2**	**2.32**	**33**	P	**Pn**	**15 09 53.8**	**+1.4**
NAH1	**Naha**	**2.34**	**31**	*e*S	**Sn**	**15 10 20.0**	**-1.0**
IRIF	**Iriomote-Funau**	**2.38**	**274**	P	**Pn**	**15 09 51.8**	**-1.4**
JAGN	**Aguni-jima**	**2.51**	**19**	P	**Pn**	**15 09 56.7**	**+1.6**
YOJ	**Yonaguni jima**	**3.04**	**276**	P	**Pn**	**15 10 02.2**	**-0.1**
JOW	**Kunigami**	**3.15**	**33**	Pn	**Pn**	**15 10 04.5**	**+0.5**
	15nm,0.3s,baz=201,slow=13,SNR=52						
JOW				Sn	**Sn**	**15 10 39.2**	**-1.8**
	23nm,0.3s,baz=123,slow=27,SNR=8.1						
JOW	**Kunigami**	**3.15**	**33**	P	**Pn**	**15 10 04.5**	**+0.6**
JOW				*e*S	**Sn**	**15 10 40.2**	**-0.8**
JIH	**Iheya**	**3.18**	**27**	P	**Pn**	**15 10 04.6**	**+0.3**
JTK	**Tokunoshima**	**4.28**	**33**	P	**Pn**	**15 10 19.6**	**+0.2**
JTK				*e*S	**Sn**	**15 11 06.4**	**-2.3**
NACB	**Ninganchiao**	**4.32**	**271**	*e*Pn	**Pn**	**15 10 17.0**	**-3.0**
TATO	**Taipei**	**4.47**	**281**	*e*Pn	**Pn**	**15 10 20.9**	**-1.1**
YHNB	**Yeheng**	**4.54**	**277**	*e*Pn	**Pn**	**15 10 21.8**	**-1.1**
JMZ	**Minamidaito 2**	**4.72**	**69**	P	**Pn**	**15 10 23.5**	**-2.0**
JMZ				*e*S	**Sn**	**15 11 13.1**	**-6.6**
JAM	**Amami Oshima**	**5.12**	**34**	P	**Pn**	**15 10 30.4**	**-0.5**
JAM				*e*S	**Sn**	**15 11 25.9**	**-3.6**
QZH	**Quanzhou**	**7.08**	**278**	*e*PG	**Pb**	**15 11 14.0**	**-3.7**
QZH				LR	LR		
	comp=Z,2μm,12.8s						
SSE	**Sheshan**	**8.24**	**328**	P	**Pn**	**15 11 13.3**	**-0.5**
SSE				S	**Sn**	**15 12 48.3**	**+1.9**
SSE				AMB	AMB		
	comp=Z,38nm,0.7s						
SSE				AMB	AMB		
	comp=Z,97nm,8.4s						
SSE				LR	LR		
	comp=N,1μm,11.0s						
SSE				LR	LR		
	comp=E,1μm,11.0s						
SSE				LR	LR		
	comp=Z,2μm,10.1s						
NJ2	**Nanjing**	**10.23**	**322**	*e*P	**Pn**	**15 11 42.1**	**+1.1**
NJ2				AP		15 11 46.0	
NJ2				XP		15 11 48.3	
NJ2				PP		15 11 49.8	
NJ2				S	**Sn**	**15 13 37.0**	**+1.8**
NJ2				XS		15 13 44.5	
NJ2				AMB	AMB		
	comp=Z,110nm,1.0s						
NJ2				AMB	AMB		
	comp=Z,220nm,4.4s						
NJ2				LR	LR		
	comp=N,460nm,16.4s						
NJ2				LR	LR		
	comp=E,810nm,12.8s						
NJ2				LR	LR		
	comp=Z,800nm,12.8s						
KSRS	**Korea Array**	**13.28**	**6**	Pn	**Pn**	**15 12 21.9**	**-0.9**
	comp=Z,0.0nm,0.3s,baz=182,slow=13,SNR=9.6						
JHJ	**Hachijo jima 2**	**14.77**	**50**	LR	LR	15 17 55.4	
	comp=Z,210nm,18.2s,baz=238,slow=35						
MAJO	**Matsushiro**	**15.99**	**37**	P	**Pn**

comp=Z,1μm,13.2s,MS4.4
KMI Kunming 21.45 277 P **P** 15 14 04.0 +1.4
KMI AP 15 14 10.9
KMI PP 15 14 28.4
KMI S **S** 15 17 56.1 -3.8
KMI XS sS 15 18 07.0 -1.6
KMI SS 15 18 31.6
KMI LR LR
comp=N,502nm,14.2s
KMI LR LR
comp=E,385nm,9.6s
KMI LR LR
comp=Z,385nm,12.3s,MS4.0
LZH Lanzhou 22.71 307 *e*P **P** 15 14 15.4 -0.5
LZH AP 15 14 18.0
LZH XP sP 15 14 19.3 -4.5
LZH PP 15 14 43.5
LZH *e*S **S** 15 18 15.0 -8.8
LZH SS 15 19 01.0
LZH AMB AMB
comp=Z,25nm,1.0s,mb4.6
LZH AMB AMB
comp=Z,140nm,4.4s
LZH LR LR
comp=E,709nm,9.8s
LZH LR LR
comp=Z,830nm,12.1s,MS4.4
ASAJ Asahikawa 23.91 30 P **P** 15 14 28.3 +0.4
comp=Z,5.6nm,0.7s,mb4.1,baz=217,slow=6.5,SNR=8.8
ASAJ LR LR 15 24 00.9
comp=Z,149nm,19.2s,MS3.5,baz=164,slow=37
ASAJ Asahikawa 23.91 30 P **P** 15 14 28.3 +0.4
ASAJ pmax pmax
comp=Z,6.0nm,0.7s
ASAJ MLR MLR
comp=Z,149nm,19.3s
HABR Khabarovsk 25.18 14 *e*P **P** 15 14 38.0 -1.4
HABR *e* 15 14 47.1
HABR *e* 15 15 21.3
HABR *e*S **S** 15 19 02.3 -1.3
HABR *e* 15 25 35.9
KLR Kul'dur 25.34 8 *e*P **P** 15 14 35.7 -5.1
CHTO Chiang Mai 26.01 263 *e*P **P** 15 14 46.8 -0.5
CHTO pmax pmax
comp=Z,3.0nm,0.7s,mb3.9
CHTO Chiang Mai 26.01 263 *e*P **P** 15 14 46.8 -0.5
comp=Z,2.9nm,0.7s,mb3.9
CMAR Chiang Mai Arr 26.12 263 P **P** 15 14 48.6 +0.4
comp=Z,2.7nm,0.8s,mb3.8,baz=62,slow=8.2,SNR=27
CMAR LR LR 15 26 56.2
comp=Z,221nm,19.1s,MS3.7,baz=75,slow=41
CMAR Chiang Mai Arr 26.12 263 P **P** 15 14 48.6 +0.4
CMAR pmax pmax
comp=Z,3.0nm,0.8s
CMAR MLR MLR
comp=Z,221nm,19.1s
YSS Yuzh-Sakhalins 26.23 26⇑ *e*P **P** 15 14 50.6 +1.6
YSS pmax pmax
comp=Z,57nm,1.4s,mb4.9
YSS Yuzh-Sakhalins 26.23 26 *e*P **P** 15 14 50.1 +1.1
comp=Z,36nm,0.9s,mb4.9
GTA Gaotai 27.03 310 *e*P **P** 15 14 56.0 -0.2
GTA AP pP 15 14 59.8 -2.2
GTA XP sP 15 15 01.1 -3.3
GTA S **S** 15 19 34.4 +1.4
GTA XS sS 15 19 41.6 -0.9
GTA AMB AMB
comp=Z,10.0nm,1.0s,mb4.3
GTA AMB AMB
comp=Z,56nm,4.5s
GTA LR LR
comp=N,308nm,14.1s,MS4.3
GTA LR LR
comp=E,595nm,14.1s,MS4.3
GTA LR LR
comp=Z,522nm,13.5s,MS4.3
KSM Kuching 27.40 217 *e*P **P** 15 15 01.5 +1.7
SONM Songino Array 28.40 331 P **P** 15 15 08.1 -0.4
comp=Z,2.8nm,0.6s,mb4.0,baz=149,slow=9.8,SNR=31
SONM LR LR 15 27 12.1
comp=Z,93nm,18.7s,MS3.4,baz=306,slow=38
SONM Songino Array 28.40 331 P **P** 15 15 08.1 -0.3
SONM pmax pmax
comp=Z,3.0nm,0.6s
SONM MLR MLR
comp=Z,93nm,18.7s
SHL Shillong 31.23 280 *e*P **P** 15 15 40.0 +6.3
LSA Lhasa 31.75 288 P **P** 15 15 40.0 +1.7
LSA Lhasa 31.75 288 *e*P **P** 15 15 39.7 +1.4
LSA pmax pmax
comp=Z,12nm,1.4s,mb4.5
LSA Lhasa 31.75 288 *e*P **P** 15 15 39.7 +1.4
comp=Z,12nm,1.4s,mb4.5
TAPN Taplejung 34.83 284 *e*P **P** 15 16 05.8 +0.7
comp=Z,39nm,1.1s,mb5.2
ODAN Odare 35.15 283 *e*P **P** 15 16 08.4 +0.5
comp=Z,32nm,0.8s,mb5.3
RAMN Ramite 35.84 283 *e*P **P** 15 16 14.2 +0.3
comp=Z,9.9nm,0.8s,mb4.8
GUN Gumba 36.41 285 *e*P **P** 15 16 19.5 +0.7
comp=Z,31nm,0.9s,mb5.2
PKI Pulchoki 36.85 284 *e*P **P** 15 16 22.7 +0.2
KKN Kakani 36.95 285 *e*P **P** 15 16 23.6 +0.2
comp=Z,14nm,0.8s,mb4.9
KKN Kakani 36.95 285 *e*P **P** 15 16 23.6 +0.2
KKN pmax pmax
comp=Z,15nm,0.8s,mb4.9
WMQ Urumqi 37.10 311 P **P** 15 16 24.5 +0.1
WMQ AP pP 15 16 29.0 -1.3
WMQ XP sP 15 16 31.5 -1.2
DMN Daman 37.12 284 *e*P **P** 15 16 24.9 +0.1
comp=Z,12nm,0.8s,mb4.8
PETK Petropavlovsk- 37.32 31 P **P** 15 16 27.0 +0.9
comp=Z,2.1nm,0.9s,mb4.0,baz=237,slow=19,SNR=3.8
PETK LR LR 15 31 29.8
comp=Z,66nm,19.2s,MS3.4,baz=230,slow=36
PETK Petropavlovsk- 37.32 31 P **P** 15 16 27.0 +0.9
PETK pmax pmax
comp=Z,2.0nm,0.9s,mb4.0
PETK MLR MLR
comp=Z,66nm,19.2s,MS3.5
GKN Gorkha 37.50 285 *e*P **P** 15 16 28.1 +0.1
comp=Z,11nm,0.7s,mb4.7
YAK Yakutsk 37.88 3 *e*P **P** 15 16 30.7 -0.1
YAK pmax pmax
comp=E,3.0nm,0.9s
YAK pmax pmax
comp=Z,21nm,1.0s,mb4.8
YAK pmax pmax
comp=N,11nm,1.5s
YAK Yakutsk 37.88 3 *e*P **P** 15 16 29.9 -0.9
comp=N,20nm,0.8s,mb4.9
DANN Dangsing 38.25 286 *e*P **P** 15 16 35.0 +0.6
comp=N,19nm,0.8s,mb4.9
KOLN Koldanda 38.43 285 *e*P **P** 15 16 36.1 +0.2
comp=N,15nm,0.8s,mb4.8
KRAR Krasnoyarsk 40.08 331⇑ *i*P **P** 15 16 48.5 -0.7
KRAR pmax pmax
comp=Z,23nm,0.4s,mb5.3
MK31 Makanchi Array 41.65 314 *i* P **P** 15 17 02.0 -0.3
MK31 pmax pmax
comp=Z,2.0nm,0.4s,mb4.1
MKAR Makanchi Array 41.65 314 P **P** 15 17 02.2 -0.2
comp=Z,4.2nm,0.7s,mb4.2,baz=97,slow=10,SNR=34
MKAR LR LR 15 35 58.9
comp=Z,97nm,18.5s,MS3.7,baz=312,slow=39
MKAR Makanchi Array 41.65 314 P **P** 15 17 02.2 -0.1
MKAR pmax pmax
comp=Z,4.0nm,0.7s
MKAR MLR MLR
comp=Z,97nm,18.5s
MKAR Makanchi Array 41.65 314 P **P** 15 17 02.2 -0.2
MKAR LR LR 15 35 58.9
FITZ Fitzroy Crossi 42.05 181 *e*P **P** 15 17 04.5 -1.4
comp=Z,3.8nm,0.8s,mb4.1
FITZ Fitzroy Crossi 42.05 181 P **P** 15 17 04.7 -1.1
comp=Z,1.5nm,0.6s,mb3.8,baz=8.1,slow=13,SNR=6.2
FITZ LR LR 15 34 02.9
comp=Z,49nm,18.4s,MS3.4,baz=279,slow=36
SEY Seymchan 42.45 17⇑ *e*P **P** 15 17 09.8 +1.1
ZALV Zalesovo Beam 42.86 325 P **P** 15 17 11.2 -0.9
comp=Z,5.2nm,0.6s,mb4.4,baz=114,slow=8.1,SNR=23
ZALV LR LR 15 37 04.5
comp=Z,68nm,19.4s,MS3.5,baz=143,slow=39
ZALV Zalesovo Beam 42.86 325 P **P** 15 17 11.2 -0.9
ZALV pmax pmax
comp=Z,5.0nm,0.6s,mb4.4
ZALV MLR MLR
comp=Z,68nm,19.4s,MS3.5
NVS Novosibirsk 44.09 325 *e*P **P** 15 17 21.9 -0.1
WRAB Tennant Creek 44.56 169 *e*P **P** 15 17 25.6 -0.5
WRAB pmax pmax
comp=Z,13nm,1.0s,mb4.7
WRAB Tennant Creek 44.56 169 *e*P **P** 15 17 25.6 -0.5
comp=Z,13nm,1.0s,mb4.7
WRA Warramunga Arr 44.57 169 P **P** 15 17 25.6 -0.5
comp=Z,4.0nm,0.7s,mb4.3,baz=349,slow=8.6,SNR=31
WRA Warramunga Arr 44.57 169 P **P** 15 17 25.6 -0.5
WRA pmax pmax
comp=Z,4.0nm,0.7s
KURK Kurchatov 45.14 318⇑ *e*P **P** 15 17 29.9 -0.6
KURK pmax pmax
comp=Z,14nm,1.9s,mb4.5
KURK Kurchatov 45.14 318 *e*P **P** 15 17 29.8 -0.7
comp=Z,5.1nm,0.7s,mb4.5
TKM2 Tokmak 2 45.48 307 *e*P **P** 15 17 34.4 +1.1
TKM2 pmax pmax
comp=Z,17nm,0.9s,mb4.9
TKM2 Tokmak 2 45.48 307 *e*P **P** 15 17 34.4 +1.2
comp=Z,17nm,0.9s,mb4.9
UCH Uchtor 46.19 306 *e*P **P** 15 17 40.5 +1.6
comp=Z,19nm,1.0s,mb5.0
EKS2 Erkin-Say 46.78 307 *e*P **P** 15 17 42.4 -1.2
comp=Z,3.6nm,0.9s,mb4.3
AML Almayashu 46.79 306 *e*P **P** 15 17 44.9 +1.3
comp=Z,6.2nm,0.9s,mb4.5
HNR Honiara 46.85 132 LR LR 15 34 25.2
comp=Z,61nm,18.1s,MS3.6,baz=66,slow=32
TIXI Tiksi 47.50 1⇑ *e*P **P** 15 17 48.3 -0.4
TIXI pmax pmax
comp=Z,9.0nm,1.4s,mb4.5
TIXI Tiksi 47.50 1 *e*P **P** 15 17 48.5 -0.2
comp=Z,2.2nm,0.6s,mb4.3
CTA Charters Tower 49.11 155 LR LR 15 35 02.6
comp=Z,63nm,21.4s,MS3.6,baz=47,slow=32
ASAR Alice Springs 48.15 171 P **P** 15 17 54.4 +0.1
comp=Z,1.2nm,0.5s,mb4.2,baz=354,slow=7.1,SNR=22
ASAR Alice Springs 48.15 171 P **P** 15 17 54.4 +0.1
ASAR pmax pmax
comp=Z,1.0nm,0.5s
VOSK Vostochnaya 50.25 319 P **P** 15 18 10.4 +0.3
VOSK pmax pmax
comp=Z,3.0nm,0.9s,mb4.3
BVA0 Borovoye Array 50.67 320 *i* P **P** 15 18 13.7 +0.5
BRVK Borovoye 50.74 320 *e*P **P** 15 18 14.0 +0.3
BRVK pmax pmax
comp=Z,9.0nm,0.9s,mb4.7
BRVK Borovoye 50.74 320 *e*P **P** 15 18 14.0 +0.3
comp=Z,8.8nm,0.9s,mb4.7
AB31 Akbulak array 56.79 314 *i* P **P** 15 18 58.2 0.0
AB31 pmax pmax
comp=Z,4.0nm,0.5s,mb4.7
SVE Sverdlovsk 56.83 323⇑ *e*P **P** 15 18 59.2 +1.0
SVE pmax pmax
comp=Z,22nm,1.0s,mb5.1
STKA Stephens Creek 57.64 165 P **P** 15 19 03.6 -0.7
comp=Z,2.6nm,0.9s,mb4.3,baz=4.8,slow=12,SNR=3.1
ARU Arti 57.93 323*c i*P **P** 15 19 06.0 -0.1
ARU 15 21 13.5
ARU *e*S **S** 15 27 03.9 -1.1
ARU *e*SS SS 15 30 50.1 -5.6
ARU pmax pmax
comp=Z,19nm,1.2s,mb5.0
ARU Arti 57.93 323 *e*P **P** 15 19 05.5 -0.6
comp=Z,14nm,1.1s,mb4.9
AKTK Aktyubinsk 58.05 316 P **P** 15 19 07.0 +0.1
AKTO Aktyubinsk 58.05 316 P **P** 15 19 07.0 +0.1
comp=Z,2.7nm,0.7s,mb4.4,baz=100,slow=15,SNR=12
AKTO Aktyubinsk 58.05 316 *i* P **P** 15 19 07.2 +0.2
AKTO pmax pmax
comp=Z,1.0nm,0.9s,mb3.9
MCK McKinley 66.27 29 P **P** 15 20 00.5 -1.4
MCK pmax pmax
comp=Z,26nm,1.6s,mb5.0
MCK McKinley 66.27 29 P **P** 15 20 00.5 -1.5
comp=Z,26nm,1.6s,mb5.0
GNI Garni 68.64 305 LR LR 15 55 12.5
comp=Z,51nm,18.2s,MS3.8,baz=86,slow=40
KIV Kislovodsk 69.21 310 *e*P **P** 15 20 21.6 +0.8
KIV pmax pmax
comp=Z,26nm,1.2s,mb5.0
KIV MLR MLR
comp=Z,74nm,19.0s,MS4.0
KIV Kislovodsk 69.21 310 *e*P **P** 15 20 21.2 +0.4
comp=Z,9.7nm,0.8s,mb4.8
MIB Mutribah 69.32 294 *e*P **P** 15 20 21.4 -0.4
baz=294
MIB AMb AMB 15 20 22.5
comp=Z,16nm,0.9s,mb5.0,baz=294
RDF Al-Radifah 69.39 293 *e*P **P** 15 20 21.8 -0.5
baz=293
RDF AMb AMB 15 20 23.5
comp=Z,21nm,1.2s,mb4.9,baz=293
NAY Al-Naaiem 69.56 294 *e*P **P** 15 20 22.5 -0.7
baz=294
NAY AMb AMB 15 20 23.9
comp=Z,9.0nm,0.9s,mb4.7,baz=294
OBN Obninsk 70.37 322⇓ *i*P **P** 15 20 28.7 +0.9
OBN pmax pmax
comp=Z,22nm,0.8s,mb5.1
OBN MLR MLR
comp=Z,200nm,15.0s,MS4.5
JOF Joensuu 70.98 331 *ep* **P** 15 20 30.5 -0.8
ARCES ARCESS Array B 71.26 339 P **P** 15 20 34.0 +1.1
comp=Z,5.3nm,0.8s,mb4.5,baz=54,slow=6.8,SNR=3.3
ARCES ARCESS Array B 71.26 339 P **P** 15 20 34.0 +1.1
ARCES pmax pmax
comp=Z,5.0nm,0.9s
AKASG Malin Array Be 75.95 319 P **P** 15 21 00.9 +0.1
comp=Z,3.4nm,0.6s,mb4.4,baz=57,slow=6.2,SNR=15
AKASG Malin Array Be 75.95 319 P **P** 15 21 00.9 +0.1
AKASG pmax pmax
comp=Z,3.0nm,0.6s
ASF Jabal al Asfar 77.07 300 LR LR 16 00 43.0
comp=Z,28nm,18.3s,MS3.6,baz=58,slow=40
SUW Suwalki 78.08 324 *e*P **P** 15 21 13.8 +1.1
SUW Suwalki 78.08 324 *e*P **P** 15 21 13.0 +0.3
SUW pmax pmax
comp=Z,27nm,0.4s,mb5.5
SUW Suwalki 78.08 324 *e*P **P** 15 21 13.0 +0.2
comp=Z,27nm,0.4s,mb5.5
KWP Kalwaria 80.22 320 *e*P **P** 15 21 25.7 +1.2
KWP Kalwaria 80.22 320 *e*P **P** 15 21 25.4 +0.9
KWP pmax pmax
comp=Z,11nm,0.8s,mb4.8
KWP Kalwaria 80.22 320 *e*P **P** 15 21 25.4 +0.9
comp=Z,11nm,0.8s,mb4.8
NOA NORSAR Array B 80.36 333 P **P** 15 21 25.6 +0.5
comp=Z,4.9nm,0.8s,mb4.5,baz=55,slow=5.4,SNR=9.7
NOA NORSAR Array B 80.36 333 P **P** 15 21 25.6 +0.6
NOA pmax pmax
comp=Z,5.0nm,0.8s
YKA Yellowknife Ar 81.08 24 P **P** 15 21 29.0 +0.2
comp=Z,1.5nm,0.8s,mb4.0,baz=293,slow=5.1,SNR=3.7
YKA Yellowknife Ar 81.08 24 P **P** 15 21 29.0 +0.1
YKA pmax pmax
comp=Z,2.0nm,0.8s
SUMG Summit 82.92 355 P **P** 15 21 38.9 +0.5
comp=Z,5.2nm,1.0s,mb4.5
CLL Collm 84.81 325 *e*P **P** 15 21 49.0 +0.6
KHC Kasperske Hory 85.67 323⇑ *e*P **P** 15 21 52.2 -0.6
GERES GERESS Array B 85.76 322 P **P** 15 21 52.7 -0.5
comp=Z,0.5nm,0.6s,mb3.9,baz=44,slow=4.5,SNR=4.2
GERES GERESS Array B 85.76 322 P **P** 15 21 52.7 -0.5
GERES pmax pmax
comp=Z,1.0nm,0.6s
STU Stuttgart 88.27 324 *e*P **P** 15 22 01.3 -4.1
comp=Z,92nm,1.0s,mb6.0
FFC Flin Flon 91.16 26 P **P** 15 22 19.5 +0.7
FFC pmax pmax
comp=Z,8.0nm,1.1s,mb5.0
FFC Flin Flon 91.16 26 P **P** 15 22 19.5 +0.7
comp=Z,7.8nm,1.1s,mb5.0

*SZGRF **18** 15:41:16.3, 4277N×18.12E, h10km, Northwestern Balkan Peninsula*
*BJI **18** 15:41:16.4, 4378N×1762E, h6km, mB4.8, mb4.8, Ms4.7, Msz4.4*
*IDC **18** 15:41:18.8±0.7, 4322N×1801E, h0km, mb3.8/9, mb1 4.0/18, mb1mx3.9/30, mbtmp3.9/18, ML4.1/9, MS3.2/5, Ms1 3.2/5, ms1mx2.7/41, Error ellipse: s-maj=10.8km s-min=10.0km az=160.0*
*ISCJB **18** 15:41:19.8±0.1, 43280N±0.009×1781E±001, h10km, mb4.2/19, MS3.8/4, Error ellipse: s-maj=1.4km s-min=1.1km az=34.7*
*PDG **18** 15:41:20.9±0.9, 4323N×1783E, h14km±2km, MD4.2/10, Error ellipse: s-maj=0.8km s-min=1.0km az=0.0*
*NEIC **18** 15:41:20.9, 4323N×1783E, h14km, mb4.5/7, ML4.2(PDG), After PDG.*
NEIC Felt [IV] at Mostar. Felt at Cim.
*BEO **18** 15:41:21.0±0.4, 4325N×1770E, h16km±3km, ML4.2/9*
*CSEM **18** 15:41:21.0±0.0, 4326N×1784E, h15km, mb4.0/5, ML4.4/15, Ms4.4, Error ellipse: s-maj=1.0km s-min=0.7km az=22.0*
*PRU **18** 15:41:22.1, 4337N×1784E, h0km, M4.5*
*LDG **18** 15:41:22.3, 4324N×1785E, h30km*
*MOS **18** 15:41:22.1±1.1, 4323N×1774E, h53km, mb4.3/9, Error ellipse: s-maj=3.6km s-min=2.3km az=121.1*
*VIE **18** 15:41:23.6±0.5, 4343N×1785E, h10km, mb4.1/16, ML4.2/8, Ms4.4/7, Error ellipse: s-maj=3.9km s-min=3.2km az=163.0*
*STR **18** 15:41:31.2±0.7, 4352N×1688E, h10km, Ml4.9, Error ellipse: s-maj=0.0km s-min=0.0km az=0.0*

ISC 18 15:41:21.6±0.1, 43253N±0009×1782E±001, h10km, (h15km±1.4km; pP-P), n516, σ1§24/656, mb4.2/19, MS3.8/4, 70C-31D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
STON	**Ston**	**0.39**	**193**	⇓ *i*	Pg	**Pg**	**15 41 29.2**	**-0.1**
STON					Sg	**Sg**	**15 41 35.5**	**+1.1**
BRY	**Bratogost**	**0.64**	**123**	⇓ *i*	Pg	**Pg**	**15 41 32.5**	**-1.4**
BRY				*e*	Sg	**Sg**	**15 41 42.4**	**+0.2**
TREB	**Trebinje**	**0.66**	**144**	*e*	Pg	**Pg**	**15 41 33.7**	**-0.7**
TREB				*e*	Sg	**Sg**	**15 41 44.7**	**+1.7**
UPM	**Unac-Piva**	**0.80**	**93**	*e*	Pg	**Pg**	**15 41 35.9**	**-1.1**
UPM				*e*	Sg	**Sg**	**15 41 48.4**	**+1.0**
HCY	**Herceg Novi**	**0.95**	**148**	⇑ *i*	Pg	**Pg**	**15 41 38.1**	**-1.7**
HCY				*e*	Sg	**Sg**	**15 41 52.6**	**+0.5**
NKY	**Niksic**	**0.97**	**117**	*e*	Pg	**Pg**	**15 41 38.6**	**-1.6**
NKY				*e*	Sg	**Sg**	**15 41 53.8**	**+1.0**
PLE	**Pljevlja**	**1.15**	**86**	⇑ *i*	Pg	**Pg**	**15 41 42.8**	**-0.9**
PLE				*e*	Sg	**Sg**	**15 42 00.3**	**+1.6**
BUM	**Brajici-Budva**	**1.24**	**140**	*e*	Pg	**Pn**	**15 41 43.4**	**-1.5**
BUM				*e*	Sg	**Sg**	**15 42 03.0**	**+1.5**
BBLS	**Lazići**	**1.30**	**61**	*e*	Pg	**Pn**	**15 41 45.4**	**-0.4**
BBLS				*e*	Sg	**Sg**	**15 42 06.1**	**+2.5**
BBLS	**Lazići**	**1.30**	**61**	P		**Pn**	**15 41 44.9**	**-0.9**
BBLS	**Lazići**	**1.30**	**61**	*e*	Pg	**Pn**	**15 41 45.4**	**-0.4**
BBLS				*e*	Sg	**Sg**	**15 42 06.1**	**+2.5**
PDG	**Podgorica**	**1.34**	**127**	*e*	Sg	**Sg**	**15 42 06.3**	**+1.6**
TTG	**Podgorica**	**1.34**	**127**	⇓ *i*	Pg	**Pn**	**15 41 44.9**	**-1.4**
TTG				*e*	Sg	**Sg**	**15 42 06.3**	**+1.6**
BLY	**Banja Luka**	**1.56**	**343**	*e*	Pg	**Pn**	**15 41 50.3**	**+0.9**
BLY				*e*	Sg	**Sg**	**15 42 11.5**	**-0.4**
BEY	**Berane**	**1.57**	**103**	⇑ *i*	Pg	**Pn**	**15 41 49.7**	**+0.2**
BEY				*e*	Sg	**Sg**	**15 42 12.1**	**+0.1**
IVA	**Berane**	**1.57**	**103**	⇑ *i*	Pg	**Pn**	**15 41 49.7**	**+0.2**
IVA				*e*	Sg	**Sg**	**15 42 12.1**	**+0.1**
SJES	**Sjenica**	**1.57**	**89**	*e*	Pg	**Pn**	**15 41 50.4**	**+0.9**
SJES				*e*	Sg	**Sg**	**15 42 12.6**	**+0.5**
SJES	**Sjenica**	**1.57**	**89**	*e*	Pn	**Pn**	**15 41 49.8**	**+0.3**
SJES	**Sjenica**	**1.57**	**89**	*e*	Pg	**Pn**	**15 41 50.4**	**+0.9**
SJES				*e*	Sn	**Sn**	**15 42 10.4**	**+0.5**
SJES				*e*	Sg	**Sg**	**15 42 12.6**	**+0.5**
ULC	**Ulcinj**	**1.67**	**140**	⇓ *i*	Pn	**Pn**	**15 41 50.7**	**-0.1**
ULC				*e*	Sn	**Sn**	**15 42 14.1**	**+1.9**
PVY	**Plav**	**1.71**	**112**	⇑ *i*	Pn	**Pn**	**15 41 51.9**	**+0.5**
PVY				*e*	Sn	**Sn**	**15 42 15.8**	**+2.4**
DIVS	**Divibare**	**1.79**	**61**	P		**Pn**	**15 41 52.0**	**-0.5**
DIVS				S		**Sn**	**15 42 19.7**	**+4.5**
DIVS	**Divibare**	**1.79**	**61**	*e*	Pn	**Pn**	**15 41 52.0**	**-0.5**
DIVS				*e*	Sn	**Sn**	**15 42 15.1**	**-0.1**
DIVS				*e*	Sg	**Sg**	**15 42 20.1**	**+1.1**
FGMS	**Monte Sant'Ang**	**2.07**	**222**	P		**Pn**	**15 41 55.0**	**-1.4**
MS1	**Monte Sant'Ang**	**2.08**	**223**	*e*	Pn	**Pn**	**15 41 55.1**	**-1.4**
MSAG	**Monte S. Angel**	**2.09**	**223**	P		**Pn**	**15 41 55.2**	**-1.4**
SGRT	**San Giovanni R**	**2.15**	**226**	P		**Pn**	**15 41 56.0**	**-1.4**
GRUS	**Gruza**	**2.20**	**72**	*e*	Pn	**Pn**	**15 41 57.5**	**-0.6**
GRUS				*e*	Sg	**Sg**	**15 42 33.1**	**+0.9**
GRUS	**Gruza**	**2.20**	**72**	P		**Pn**	**15 41 57.3**	**-0.8**
BAI	**Bari**	**2.26**	**198**	*e*	Pn	**Pn**	**15 41 59.9**	**+1.0**
RGNG	**Rignano Grg**	**2.29**	**227**	P		**Pn**	**15 41 57.8**	**-1.5**
FGSL	**Fruska Gora**	**2.38**	**36**	*e*	Pn	**Pn**	**15 41 59.6**	**-1.0**
FGSL				*e*	Sn	**Sn**	**15 42 28.9**	**-1.0**
FGSL				*e*	Sg	**Sg**	**15 42 38.9**	**+0.8**
TIR	**Tirane**	**2.43**	**141**	P		**Pn**	**15 42 01.6**	**+0.2**
TIR	**Tirane**	**2.43**	**141**	*e*	Pn	**Pn**	**15 42 02.0**	**+0.6**
TIR				*e*	Sg	**Sg**	**15 42 40.4**	**+0.6**
FG2	**Serracapriola**	**2.44**	**235**	P		**Pn**	**15 42 00.8**	**-0.7**
SISC	**Sisak**	**2.45**	**335**	*e*	Pn	**Pn**	**15 42 02.8**	**+1.2**
SISC					Sn	**Sn**	**15 42 33.0**	**+1.5**
SISC	**Sisak**	**2.45**	**335**	*e*	Pn	**Pn**	**15 42 02.7**	**+1.1**
SISC					Sn	**Sn**	**15 42 33.0**	**+1.5**
PE1	**Pezze di Greco**	**2.46**	**187**	*e*	Pn	**Pn**	**15 42 00.3**	**-1.5**
BEO	**Beograd**	**2.46**	**50**	*e*	Pn	**Pn**	**15 42 01.4**	**-0.4**
BEO				*e*	Sg	**Sg**	**15 42 41.8**	**+1.1**
BEO	**Beograd**	**2.46**	**50**	P		**Pn**	**15 42 01.2**	**-0.6**
NVLJ	**Novalja**	**2.50**	**303**	*e*	Pn	**Pn**	**15 42 03.1**	**+0.8**
NVLJ					Sn	**Sn**	**15 42 36.0**	**+3.2**
NVLJ	**Novalja**	**2.50**	**303**	*e*	Pn	**Pn**	**15 42 03.0**	**+0.7**
NVLJ					Sn	**Sn**	**15 42 36.0**	**+3.2**
SG1	**Sgolgore (BA)**	**2.56**	**200**	*e*	Pn	**Pn**	**15 42 01.4**	**-1.6**
RHK3	**Tenkes**	**2.65**	**7**⇑	*e*	Pn	**Pn**	**15 42 03.8**	**-0.6**
SVIS	**Svilajnac**	**2.66**	**66**	*e*	Pn	**Pn**	**15 42 03.6**	**-0.9**
SVIS				*e*	Sg	**Sg**	**15 42 50.0**	**+3.0**
CIGN	**Sant'Elia a Pi**	**2.69**	**234**	P		**Pn**	**15 42 04.5**	**-0.3**
FG5	**Orsara di Pugl**	**2.73**	**225**	P		**Pn**	**15 42 05.0**	**-0.5**
LTRZ	**Laterza**	**2.75**	**196**	P		**Pn**	**15 42 04.3**	**-1.4**
ACER	**Acerenza**	**2.83**	**210**	P		**Pn**	**15 42 06.4**	**-0.5**
BARS	**Barje**	**2.96**	**97**	*e*	Pn	**Pn**	**15 42 09.4**	**+0.8**
BARS	**Barje**	**2.96**	**97**	*e*	Pn	**Pn**	**15 42 09.3**	**+0.7**
SKO	**Skopje**	**2.96**	**114**	⇑ *i*	Pn	**Pn**	**15 42 10.8**	**+2.2**
SKO	**Skopje**	**2.96**	**114**	⇑ *i*	Pn	**Pn**	**15 42 10.7**	**+2.1**
SKO	**Skopje**	**2.96**	**114**	P		**Pn**	**15 42 11.0**	**+2.4**
PKSM	**Moragy**	**3.02**	**11**	⇓ P		**Pn**	**15 42 08.6**	**-0.7**
PKSM	**Moragy**	**3.02**	**11**	⇓ *e*	Pn	**Pn**	**15 42 08.5**	**-0.8**
PKSM					eSn	**Sn**	**15 42 43.4**	**-2.1**
PSB1	**Pescosannita**	**3.02**	**229**	P		**Pn**	**15 42 10.0**	**+0.6**
PTRP	**Pietrapertosa**	**3.03**	**206**	P		**Pn**	**15 42 08.8**	**-0.7**
OFFI	**Offida**	**3.04**	**265**	P		**Pn**	**15 42 11.5**	**+1.7**
GCIS	**Gornji Cirnik**	**3.05**	**330**	*e*	Pn	**Pn**	**15 42 10.2**	**+0.5**
GCIS	**Gornji Cirnik**	**3.05**	**330**	*e*	Pn	**Pn**	**15 42 10.2**	**+0.4**
BOLS	**Boljevac**	**3.06**	**78**	*e*	Pn	**Pn**	**15 42 09.3**	**-0.7**
BOLS				*e*	Sg	**Sg**	**15 42 59.8**	**0.0**
CRES	**Cresnjev**	**3.08**	**328**	*e*	Pn	**Pn**	**15 42 11.0**	**+0.8**
CRES				*e*	Sn	**Sn**	**15 42 48.1**	**+1.1**
OHR	**Ohrid**	**3.08**	**133**	⇑ *i*	Pn	**Pn**	**15 42 11.1**	**+0.9**
OHR				*i*	Sn	**Sn**	**15 42 46.5**	**-0.6**
OHR	**Ohrid**	**3.08**	**133**	⇑ *i*	Pn	**Pn**	**15 42 11.1**	**+0.9**
OHR				*i*	Sn	**Sn**	**15 42 46.4**	**-0.7**
AOI	**Ancona**	**3.09**	**277**	P		**Pn**	**15 42 11.4**	**+1.1**
MIDA	**Miranda**	**3.09**	**240**	P		**Pn**	**15 42 10.4**	**0.0**
RNI2	**Rionero Sannit**	**3.12**	**242**	P		**Pn**	**15 42 11.3**	**+0.5**
INTR	**Introdacqua**	**3.15**	**248**	P		**Pn**	**15 42 11.1**	**0.0**
TERO	**Teramo**	**3.16**	**260**	P		**Pn**	**15 42 11.7**	**+0.4**
SGG	**Gregorio Mates**	**3.16**	**235**	P		**Pn**	**15 42 11.1**	**-0.2**
KRUS	**Krusevo**	**3.16**	**125**	⇑ *i*	Pn	**Pn**	**15 42 13.1**	**+1.7**
KRUS	**Krusevo**	**3.16**	**125**	⇑ *i*	Pn	**Pn**	**15 42 13.0**	**+1.6**
CSSN	**Cassano Irpino**	**3.17**	**222**	P		**Pn**	**15 42 10.7**	**-0.8**
SGO	**Sicignano**	**3.28**	**216**	P		**Pn**	**15 42 12.1**	**-0.9**
SDI	**San Donato**	**3.34**	**244**	P		**Pn**	**15 42 13.7**	**-0.2**
ORI	**Oriolo Calabro**	**3.35**	**198**	P		**Pn**	**15 42 13.9**	**0.0**
AQU	**L'Aquila**	**3.37**	**256**	P		**Pn**	**15 42 15.1**	**+0.8**
CING	**Cingoli**	**3.38**	**274**	P		**Pn**	**15 42 15.4**	**+1.1**
KOGS	**Kog**	**3.38**	**341**	*i*	Pn	**Pn**	**15 42 14.7**	**+0.3**
KOGS					eSn	**Sn**	**15 42 52.9**	**-1.7**
KOGS	**Kog**	**3.38**	**341**	*e*	Pn	**Pn**	**15 42 14.5**	**+0.1**
KOGS					eSn	**Sn**	**15 42 52.8**	**-1.8**
VVLD	**Villa Vallelon**	**3.40**	**247**	P		**Pn**	**15 42 14.3**	**-0.3**
BIA	**Bitola**	**3.43**	**129**	P		**Pn**	**15 42 15.9**	**+0.8**
BIA	**Bitola**	**3.43**	**129**	*i*	Pn	**Pn**	**15 42 15.6**	**+0.6**
RFI	**Roccamonfina**	**3.45**	**237**	P		**Pn**	**15 42 16.2**	**+0.9**
CEY	**Cerknica**	**3.47**	**317**	*e*	Pn	**Pn**	**15 42 17.1**	**+1.5**
CEY				*e*	Sn	**Sn**	**15 42 57.2**	**+0.4**
NRCA	**Norcia**	**3.48**	**265**	P		**Pn**	**15 42 16.2**	**+0.5**
PTQR	**Pietraquaria**	**3.48**	**251**	P		**Pn**	**15 42 17.0**	**+1.2**
ZAPS	**Zavoj**	**3.52**	**88**	*e*	Pn	**Pn**	**15 42 17.0**	**+0.8**
Z

SNTG Esanatoglia 3.56 272 P Pn 15 42 17.7 +0.8
PKS6 Bocsa 3.57 20 ePn Pn 15 42 14.2 -2.7
PKS6 eSn Sn 15 42 58.7 -0.4
STIP Stip 3.59 114 P Pn 15 42 17.9 +0.7
STIP Stip 3.59 114 i Pn Pn 15 42 17.8 +0.6
STIP Stip 3.59 114 i Pn Pn 15 42 17.7 +0.5
CUC Castrocucco 3.59 205 ePn Pn 15 42 16.7 -0.5
CUC Castrocucco 3.59 205 ePg Pg 15 42 29.7 -0.6
CUC Castrocucco 3.59 205 ePn Pn 15 42 16.7 -0.5
CUC ePg Pg 15 42 29.7 -0.6
CUC eSn Sn 15 42 52.5 -7.2
FIAM Fiamignano 3.60 256 P Pn 15 42 18.6 +1.2
BZS Buzias 3.60 48 ePn Pn 15 42 16.2 -1.2
BZS Buzias 3.60 48 ⇑P Pn 15 42 16.4 -1.1
FNA Florina 3.62 132 P Pn 15 42 18.8 +1.1
LJU Ljubljana 3.65 321 i Pn Pn 15 42 19.4 +1.3
LJU e 15 42 26.5
LJU eSn Sn 15 43 00.0 -1.1
LJU Ljubljana 3.65 321 ePn Pn 15 42 18.8 +0.8
LJU Ljubljana 3.65 321 i P Pn 15 42 19.4 +1.4
LJU eSn Sn 15 43 00.8 -0.3
DJES Djerdap 3.67 66 P Pn 15 42 18.7 +0.3
PESA Pesaro 3.68 282 P Pn 15 42 19.9 +1.4
FSSB Fossombrone 3.70 279 P Pn 15 42 19.0 +0.3
ZAVS Zavodnje 3.75 329 ePn Pn 15 42 17.0 -2.4
ZAVS eSn Sn 15 42 57.5 -6.1
ZAVS Zavodnje 3.75 329 P Pn 15 42 16.9 -2.5
ASS Assisi 3.79 269 P Pn 15 42 20.7 +0.8
CERT Cerreto 3.80 252 P Pn 15 42 20.9 +0.7
TRI Trieste 3.80 312 ePn Pn 15 42 20.3 +0.2
TRI Trieste 3.80 312 ePg Pg 15 42 32.9 -1.5
TRI Trieste 3.80 312 ePn Pn 15 42 20.3 +0.1
TRI ePg Pg 15 42 32.9 -1.5
TRI eSg Sg 15 43 21.3 -2.3
KEK Kerkira 3.84 157 eP Pn 15 42 18.9 -1.7
KEK Kerkira 3.84 157 P Pn 15 42 21.5 +0.9
KEK Kerkira 3.84 157 eP Pn 15 42 18.9 -1.7
PIEI Pieia 3.86 276 P Pn 15 42 21.3 +0.3
MURB Monte Urbino 3.87 272 P Pn 15 42 22.3 +1.2
MNS Montasola 3.88 259 P Pn 15 42 22.1 +0.9
BISS Bistriski jare 3.90 332 ⇑iPn Pn 15 42 22.2 +0.8
BISS i Sn Sn 15 43 05.8 -1.4
MTCE Montecelio 3.94 254 P Pn 15 42 23.8 +1.7
VOY Vojsko 3.95 316 ⇑iPn Pn 15 42 23.2 +1.1
VOY eSn Sn 15 43 10.7 +2.3
VOY e 15 43 11.5
VOY Vojsko 3.95 316 ⇑iPn Pn 15 42 23.2 +1.1
VOY eSn Sn 15 43 10.7 +2.3
SOKA Soboth 3.96 331 ⇑iPn Pn 15 42 23.1 +0.9
SOKA ⇑iSn Sn 15 43 08.5 -0.1
RSM Repubblica di 3.96 282 P Pn 15 42 23.1 +0.8
OBKA Obir 4.00 326 ⇑iPn Pn 15 42 23.9 +1.0
SNR=68
OBKA ⇑iSn Sn 15 43 09.4 -0.3
OBKA Obir 4.00 326 P Pn 15 42 24.5 +1.6
OBKA Sn Sn 15 43 09.4 -0.4
OBKA Obir 4.00 326 P Pn 15 42 24.5 +1.6
VTS Vitosha 4.01 98 ePn Pn 15 42 24.0 +1.0
VTS eSn Sn 15 43 10.1 0.0
VTS Vitosha 4.01 98 P Pn 15 42 24.7 +1.7
VTS eSn Sn 15 43 10.1 0.0
VTS Vitosha 4.01 98 P Pn 15 42 24.7 +1.7
VTS ⇓P 15 42 32.1
VAY Valandovo 4.02 117 P Pn 15 42 23.6 +0.5
VAY Valandovo 4.02 117 ⇑iPn Pn 15 42 23.8 +0.4
RDP Rocca di Papa 4.06 250 P Pn 15 42 24.8 +1.1
BADI Badiali 4.07 276 P Pn 15 42 22.1 -1.8
MA9 Marino 4.09 251 P Pn 15 42 25.5 +1.3
VENT Ventotene 4.09 235 P Pn 15 42 23.2 -1.0
LAV9 Lanuvio 4.10 249 P Pn 15 42 25.8 +1.5
GRG Griva 4.11 122 P Pn 15 42 25.4 +1.0
TIP Timpagrande 4.15 191 ePn Pn 15 42 23.5 -1.4
TIP Timpagrande 4.15 191 ePn Pn 15 42 23.5 -1.4
GZR Gura Zlata 4.15 57 ⇑P Pn 15 42 24.6 -0.3
GZR Gura Zlata 4.15 57 ⇑P Pn 15 42 24.6 -0.3
PKSG 4.16 5⇑ePn Pn 15 42 24.9 -0.1
PKSG eSn Sn 15 43 12.2 -1.5
CADS Cadrg 4.16 317 ⇑iPn Pn 15 42 26.0 +0.9
CADS i Sn Sn 15 43 18.8 +5.1
CADS comp=Z,878nm,0.8s
CADS Cadrg 4.16 317 ⇑iPn Pn 15 42 26.0 +0.9
CADS i Sn Sn 15 43 18.8 +5.1
DRE Drenchia 4.17 316 ⇑ePn Pn 15 42 26.3 +1.1
DRE Drenchia 4.17 316 ⇑iP Pn 15 42 26.0 +0.8
IGT Igoumenitsa 4.17 152 P Pn 15 42 24.4 -0.8
KZN Kozani 4.17 134 eP Pn 15 42 25.8 +0.6
KZN Kozani 4.17 134 eP Pn 15 42 25.8 +0.6
JAN Janina 4.25 147 eP Pn 15 42 26.2 -0.1
JAN Janina 4.25 147 eP Pn 15 42 26.2 -0.1
COLI Coloredo 4.28 314 ⇑ePn Pn 15 42 27.5 +0.8
COLI Coloredo 4.28 314 ⇑eP Pn 15 42 27.0 +0.3
CRE Caprese Michel 4.29 277 P Pn 15 42 29.3 +2.4
TLI Talmassons 4.30 310 ⇑ePn Pn 15 42 27.3 +0.4
MEV Metsovon 4.31 142 P Pn 15 42 28.9 +1.8
KNT Kendrikon 4.31 117 P Pn 15 42 28.1 +0.9
ARSA Arzberg 4.31 339 ⇑iPn Pn 15 42 27.5 +0.3
SNR=165
ARSA ⇓iSn Sn 15 43 16.2 -1.3
ARSA Arzberg 4.31 339 P Pn 15 42 27.9 +0.7
BUD Budapest 4.32 11⇓ePn Pn 15 42 26.3 -0.9
BUD eSB Sg 15 43 39.3 -0.8
BUD Budapest 4.32 11 P Pn 15 42 26.7 -0.5
SFI Santa Sofia 4.39 281 P Pn 15 42 28.8 +0.6
BAD Bernadia 4.42 314 ⇑ePn Pn 15 42 29.1 +0.5
BAD Bernadia 4.42 314 ⇑iP Pn 15 42 29.0 +0.4
LSR Lussari 4.44 318 ⇑ePn Pn 15 42 30.1 +1.2
LSR Lussari 4.44 318 ⇑iP Pn 15 42 30.0 +1.1
GMNA Gemona 4.45 314 P Pn 15 42 30.1 +1.1
TOLF Tolfa 4.45 257 P Pn 15 42 29.8 +0.7
LATE Laterza 4.46 264 P Pn 15 42 30.6 +1.4
BUA Buia 4.47 313 ⇑ePn Pn 15 42 30.3 +0.9
BUA Buia 4.47 313 ⇓eP Pn 15 42 30.0 +0.7
PTCC Patocco-Chiusa 4.47 316 P Pn 15 42 30.3 +0.9
MYKA Terra Mystica 4.49 320 ⇑iPn Pn 15 42 30.6 +1.0
MYKA ⇑iSn Sn 15 42 22.6 +0.7
BOO Bordano 4.55 314 ⇑ePn Pn 15 42 30.6 +0.2
GRI Girifalco 4.55 194 P Pn 15 42 29.8 -0.7
MPRI Monte Prat 4.56 313 ⇑ePn Pn 15 42 30.9 +0.4
VMG Vicchio 4.61 281 P Pn 15 42 32.7 +1.4
PENC Penc 4.65 12⇑ePn Pn 15 42 31.3 -0.5
PENC eSn Sn 15 43 21.9 -3.9
PLRO Paularo 4.68 316 ⇑ePn Pn 15 42 33.6 +1.4
PLRO Paularo 4.68 316 ⇓iP Pn 15 42 33.0 +0.8
PLRO Paularo 4.68 316 ePn Pn 15 42 33.6 +1.4
LIT Litokhoron 4.71 130 P Pn 15 42 32.5 -0.1
MLNI Malnisio 4.71 310 ⇑ePn Pn 15 42 32.8 +0.1
CAE Caneva 4.73 307 ⇑ePn Pn 15 42 33.3 +0.5
CAE Caneva 4.73 307 ⇑iP Pn 15 42 33.0 +0.1
SEI Scarperia 4.76 282 P Pn 15 42 34.5 +1.2
CSNT Castellina Chi 4.77 275 P Pn 15 42 35.0 +1.6
ZOU Zoufplan 4.77 315 ⇑ePn Pn 15 42 34.3 +0.9
ZOU Zoufplan 4.77 315 ⇑iP Pn 15 42 35.0 +1.5
ZOU Zoufplan 4.77 315 ⇓iP Pn 15 42 35.0 +1.5
SOH Sokhos 4.78 119 P Pn 15 42 34.5 +0.8
THL Klokotos Trika 4.85 138 eP Pn 15 42 33.8 -0.8
THL Klokotos Trika 4.85 138 P Pn 15 42 34.2 -0.4
THL Klokotos Trika 4.85 138 eP Pn 15 42 33.8 -0.8
NVR Nevrokopi 4.87 111 eP Pn 15 42 36.4 +1.6
NVR Nevrokopi 4.87 111 eP Pn 15 42 36.4 +1.6
CONA Conrad Observa 4.87 344 ⇑iPn Pn 15 42 34.9 +0.1
SNR=23
CONA ⇓iSn Sn 15 43 29.8 -1.5
CSNA Conrad Observa 4.87 344 ⇓iPn Pn 15 42 34.8 0.0
CSNA ⇓iSn Sn 15 43 29.6 -1.7
PSZ Piszkesteto 4.89 17⇓ePn Pn 15 42 34.1 -1.0
PSZ eSB Sg 15 43 57.7 -0.7
PSZ Piszkesteto 4.89 17 ePn Pn 15 42 33.9 -1.2
PSZ Piszkesteto 4.89 17 P Pn 15 42 34.4 -0.7
PSZ Piszkesteto 4.89 17 ePn Pn 15 42 33.9 -1.1
TEOL Teolo 4.89 298 ⇑ePn Pn 15 42 34.9 -0.2
FVI Forni Avoltri 4.90 315 P Pn 15 42 36.2 +1.0
CSMI Casera Mimoias 4.91 313 ⇑ePn Pn 15 42 35.8 +0.4
CSMI Casera Mimoias 4.91 313 ⇑iP Pn 15 42 35.0 -0.4
CSMI Casera Mimoias 4.91 313 ePn Pn 15 42 35.8 +0.4
FNVD Fontana Vidola 4.94 283 P Pn 15 42 38.0 +2.2
CSO Casso 4.94 310 ⇑ePn Pn 15 42 35.6 -0.3
DRGR 4.95 43 P Pn 15 42 36.1 +0.1
DRGR 4.95 43 ⇑P Pn 15 42 36.1 +0.2
KBA Koelnbreinsper 4.96 322 ⇑iPn Pn 15 42 38.0 +1.9
SNR=11
KBA ⇑iSn Sn 15 43 34.1 +0.6
KBA Koelnbreinsper 4.96 322 P Pn 15 42 38.1 +2.0
ZST Bratislava 4.97 354 ePN Pn 15 42 36.3 +0.1
ZST eSN Sn 15 43 29.9 -3.7
GRFL Gerfalco 5.00 271 P Pn 15 42 38.1 +1.4
LKD Levkas 5.02 154 P Pn 15 42 35.0 -1.9
CGRP Cima Grappa 5.04 303 ⇓ePn Pn 15 42 37.0 -0.1
PLG Polygyros 5.09 122 ⇑iP Pn 15 42 38.6 +0.7
PLG Polygyros 5.09 122 ⇑iP Pn 15 42 38.6 +0.7
FAU Forcella Aurin 5.12 308 ⇑ePn Pn 15 42 38.2 0.0
ABTA Abfaltersbach 5.13 315 ⇓iPn Pn 15 42 39.0 +0.5
SNR=32
ABTA ⇑iSn Sn 15 43 38.9 +1.2
MODS Modra-Piesok 5.13 356 ePn Pn 15 42 38.7 +0.2
comp=Z,40nm,0.5s
MODS eSn Sn 15 43 34.3 -3.4
AFL Alpe Faloria 5.18 311 ⇑ePn Pn 15 42 39.3 +0.3
CTI Castel Tesino 5.21 305 P Pn 15 42 39.5 0.0
MOA Molln 5.23 333 ⇑iPn Pn 15 42 41.0 +1.3
SNR=152
MOA ⇑iSn Sn 15 43 40.2 +0.1
MOA Molln 5.23 333 P Pn 15 42 41.3 +1.5
SMOL Smolenice 5.27 357 ePN Pn 15 42 40.8 +0.5
SMOL eSN Sn 15 43 39.7 -1.3
EVR Evrytania 5.28 144 eP Pn 15 42 40.4 0.0
EVR Evrytania 5.28 144 eP Pn 15 42 40.4 0.0
VYHS Vyhne 5.29 7 ePN Pn 15 42 40.5 -0.1
VYHS eSN Sn 15 43 38.2 -3.3
SEST Monte Rota 5.29 313 P Pn 15 42 41.5 +0.9
BDI Bagni Di Lucca 5.30 281 P Pn 15 42 41.3 +0.5
PII Pisa 5.33 278 P Pn 15 42 42.0 +0.9
KOLL Kolacno 5.34 4 ePN Pn 15 42 41.5 +0.2
KOLL eSN Sn 15 43 39.1 -3.7
KOLL Kolacno 5.34 4 ePn Pn 15 42 41.6 +0.3
KOLL eSn Sn 15 43 39.1 -3.7
SOI Samo 5.35 195 P Pn 15 42 40.5 -0.9
GSCL Gusciola 5.35 284 P Pn 15 42 43.5 +2.1
AGG Agios Georgios 5.43 140 P Pn 15 42 42.1 -0.4
OUR Ouranopolis 5.45 120 P Pn 15 42 44.5 +1.7
VLC Villacollemand 5.46 282 ePn Pn 15 42 43.0 0.0
comp=Z,33nm,0.5s
VLC Villacollemand 5.46 282 ePn Pn 15 42 43.0 0.0
comp=Z,33nm,0.5s
ERBM Eremo 5.48 285 P Pn 15 42 45.4 +2.1
MTTG Motta San Giov 5.49 198 P Pn 15 42 43.2 -0.2
VLS Valsamata 5.49 157 P Pn 15 42 41.3 -2.1
VLS Valsamata 5.49 157 eP Pn 15 42 41.5 -1.9
VLS Valsamata 5.49 157 eP Pn 15 42 41.5 -1.9
PAIG Paliouri 5.51 125 P Pn 15 42 43.7 +0.1
XOR Xorichti 5.61 132 P Pn 15 42 44.3 -0.7
JAVC Velka Javorina 5.61 359 P Pn 15 42 46.5 +1.6
KFL Anninata 5.61 155 P Pn 15 42 43.1 -1.9
VOIR 5.62 65 P Pn 15 42 47.0 +1.8
VOIR 5.62 65 P Pn 15 42 48.0 +2.8
NEO Neokhori 5.67 132 eP Pn 15 42 44.9 -0.9
NEO Neokhori 5.67 132 eP Pn 15 42 44.9 -0.9
APPI Appiano 5.69 307 P Pn 15 42 46.7 +0.7
MAGA Magasa 5.73 299 P Pn 15 42 46.0 -0.6
MNO Monte Soro 5.82 205 P Pn 15 42 48.5 +0.6
RLS Riolos of Patr 5.88 151 eP Pn 15 42 48.0 -0.8
RLS Riolos of Patr 5.88 151 eP Pn 15 42 48.0 -0.8
KRUC Moravsky 5.89 351 P Pn 15 42 49.4 +0.5
MABI Malga Bissina 5.92 301 P Pn 15 42 49.4 +0.2
WTTA Wattenberg 5.93 315 ⇑iPn Pn 15 42 50.3 +1.0
SNR=105
WTTA ⇓iSn Sn 15 43 58.4 +1.2
WTTA Wattenberg 5.93 315 P Pn 15 42 50.5 +1.2
GIB Gibilmanna 6.00 210 P Pn 15 42 50.7 +0.4
WATA Walderalm 6.00 315 ⇓iPn Pn 15 42 52.0 +1.6
SNR=26
WATA Walderalm 6.00 315 P Pn 15 42 52.1 +1.7
LKR Lokris 6.04 138 eP Pn 15 42 50.1 -0.8
LKR Lokris 6.04 138 P Pn 15 42 50.2 -0.7
LKR Lokris 6.04 138 eP Pn 15 42 50.1 -0.8
RDO Rodhopi 6.11 108 eP Pn 15 42 53.7 +1.9
RDO Rodhopi 6.11 108 P Pn 15 42 53.5 +1.7
RDO Rodhopi 6.11 108 eP Pn 15 42 53.7 +1.9
VRAC Vranov 6.12 352 Pn Pn 15 42 52.4 +0.5
comp=Z,1.3nm,0.3s,baz=190,slow=15,SNR=3.8
VRAC Sn Sn 15 44 02.2 +0.3
comp=Z,4.2nm,0.3s,baz=112,slow=10.0,SNR=9.4
VRAC LR LR 15 45 01.4
comp=Z,103nm,18.5s,baz=292,slow=36
VRAC Vranov 6.12 352 P Pn 15 42 52.4 +0.5
VRAC 15 44 02.2
VRAC pmax pmax
comp=Z,1.0nm,0.3s
VRAC smax
comp=N,4.0nm,0.3s
VRAC MLR MLR
comp=Z,103nm,18.5s
VRAC Vranov 6.12 352 ⇑P Pn 15 42 52.5 +0.6
VRAC eSn Sn 15 43 58.1 -3.8
VRAC S Sn 15 44 02.2 +0.3
comp=Z,103nm,18.5s
VRAC Vranov 6.12 352 ⇑P Pn 15 42 52.5 +0.5
AOS Alonnisos 6.12 130 P Pn 15 42 51.6 -0.5
CRVS Cervenica-Dubn 6.19 23 eSN Sn 15 43 59.2 -4.5
BRMO Bormio 6.20 304 P Pn 15 42 54.3 +1.3
BOB Bobbio (Coli) 6.22 287 P Pn 15 42 55.2 +1.8
MLR Muntele Rosu 6.24 66 Pn Pn 15 42 53.5 -0.1
comp=Z,0.7nm,0.3s,baz=188,slow=5.0,SNR=9.2
MLR Sn Sn 15 43 59.6 -5.3
comp=Z,0.7nm,0.3s,baz=73,slow=11,SNR=3.8
MLR Lg 15 44 33.2
comp=Z,0.2nm,0.3s,baz=164,slow=12,SNR=3.3
MLR Muntele Rosu 6.24 66 P Pn 15 42 53.5 -0.1
MLR 15 43 59.6
MLR pmax pmax
comp=Z,1.0nm,0.3s
MLR smax
comp=N,1.0nm,0.3s
MLR Muntele Rosu 6.24 66 P Pn 15 42 56.1 +2.5
TREC Trest 6.25 346 ePN Pn 15 42 53.7 -0.1
TREC eSN Sn 15 44 02.3 -3.0
MOTA Moosalm 6.26 313 ⇑iPn Pn 15 42 55.3 +1.4
SNR=222
MOTA Moosalm 6.26 313 P Pn 15 42 55.5 +1.6
FETA Feichten 6.27 309 ⇑iPn Pn 15 42 55.0 +0.9
SNR=59
GEC2 GERESS Array S 6.28 334 eP Pn 15 42 55.0 +0.8
GEC2 pmax pmax
comp=Z,25nm,0.5s
GEC2 GERESS Array S 6.28 334 ePn Pn 15 42 55.0 +0.8
comp=Z,25nm,0.5s
GERES GERESS Array B 6.28 334 Pn Pn 15 42 55.1 +0.9
comp=Z,13nm,0.3s,baz=156,slow=14,SNR=155
GERES Sn Sn 15 44 03.5 -2.5
comp=Z,11nm,0.3s,baz=145,slow=21,SNR=8.4
GERES GERESS Array B 6.28 334 P Pn 15 42 55.1 +0.9
GERES 15 44 03.5
GERES pmax pmax
comp=Z,13nm,0.3s
GERES smax
comp=N,11nm,0.3s
VAE Valguarnera 6.33 205 LR LR 15 45 42.9
comp=N,325nm,18.7s,baz=293,slow=41
NIE Niedzica 6.40 15 ePn Pn 15 42 57.0 +1.1
NIE eSn Sn 15 44 06.5 -2.5
CORF Corte 6.45 264 P Pn 15 42 57.3 +0.8
LIA Limnos Island 6.46 119 eP Pn 15 42 56.2 -0.4
LIA Limnos Island 6.46 119 eP Pn 15 42 56.2 -0.4
KOLS Kolonicke sedl 6.47 27 ePN Pn 15 42 56.7 -0.1
PGF Pioggiola 6.52 267 ePn Pn 15 42 57.7 +0.3
SNR=1.0
PGF eSn Sn 15 44 03.9 -7.9
comp=N,18nm,0.6s
RETA Reutte 6.53 313 ⇓iPn Pn 15 42 58.9 +1.3
SNR=14
RETA ⇑iSn Sn 15 44 13.1 +1.1
MORC Moravsky Berou 6.53 358 eP Pn 15 42 56.2 -1.4
MORC e 15 44 08.6
MORC pmax pmax
comp=Z,15nm,0.6s
MORC Moravsky Berou 6.53 358 eP Pn 15 42 56.2 -1.4
comp=Z,15nm,0.6s
MORC eSn Sn 15 44 08.6 -3.4
MORC Moravsky Berou 6.53 358 ePn Pn 15 42 56.2 -1.4
comp=Z,15nm,0.6s
MORC eSn Sn 15 44 08.6 -3.4
KHC Kasperske Hory 6.57 335 ePN Pn 15 42 59.0 +0.8
KHC eSN Sn 15 44 10.8 -2.4
OKC Ostrava-Krasne 6.59 2 eSN Sn 15 44 09.8 -3.8
STHS Stebnicka Huta 6.60 20 ePN Pn 15 42 59.8 +1.2
DAVOX Davos/Dischmat 6.64 305 Pn Pn 15 43 00.7 +1.6
comp=Z,15nm,0.3s,baz=126,slow=13,SNR=44
DAVOX Sn Sn 15 44 19.0 +4.2
comp=Z,11nm,0.3s,baz=318,slow=22,SNR=4.0
DAVOX LR LR 15 46 10.3
comp=Z,130nm,18.2s,baz=260,slow=43
FUR Furstenfeldbru 6.71 319 eP Pn 15 43 00.7 +0.5
FUR pmax pmax
comp=Z,32nm,0.4s
FUR Furstenfeldbru 6.71 319 ePn Pn 15 43 00.7 +0.5
comp=Z,32nm,0.4s
DAVOS Davos 6.72 305 P Pn 15 43 00.7 +0.5
DAVOS S Sn 15 44 19.0 +2.2
VDL Val di Lei 6.77 301 P Pn 15 43 02.5 +1.6
BURAR Bucovina Array 6.79 47 ⇓P Pn 15 43 01.9 +0.7
BURAR Bucovina Array 6.79 47 P Pn 15 43 03.0 +1.8
WET Wettzell 6.82 332 eP Pn 15 43 02.3 +0.8
WET pmax pmax
comp=Z,23nm,0.7s
WET Wettzell 6.82 332 ePn Pn 15 43 02.3 +0.8
comp=Z,23nm,0.7s
PLOR Plostina 6.82 65 P Pn 15 43 04.1 +2.5
TUE Stuetta 6.83 301 ePn Pn 15 43 02.7 +1.0
comp=Z,61nm,0.6s
TUE Stuetta 6.83 301 ePn Pn 15 43 02.6 +1.0
comp=Z,61nm,0.6s
VLX Vlachokerasia 6.83 148 P Pn 15 43 01.1 -0.7
ITM Ithomi 6.83 151 eP Pn 15 43 00.4 -1.4
ITM Ithomi 6.83 151 P Pn 15 43 02.6 +0.8
ITM Ithomi 6.83 151 eP Pn 15 43 00.4 -1.4
DAVA Damuels 6.90 308 i Pn Pn 15 43 05.2 +2.5
SNR=18
DAVA ⇓iSn Sn 15 44 22.2 +1.0
DAVA Damuels 6.90 308 P Pn 15 43 05.5 +2.8
QLNO Quiliano 6.94 282 P Pn 15 43 02.8 -0.5
VAI Varese 6.97 295 P Pn 15 43 03.5 -0.2
UBR Ueberruh 7.00 312 P Pn 15 43 04.9 +0.9
FIN Finale Ligure 7.03 281 P Pn 15 43 03.4 -1.1
DID Didima 7.07 142 P Pn 15 43 03.1 -2.0
OJC Ojcow 7.10 10 ePn Pn 15 43 06.3 +0.9
OJC eSn Sn 15 44 21.6 -4.5
PRU Pruhonice 7.10 343 ePN Pn 15 43 06.3 +0.8
PRU eSN Sn 15 44 22.5 -3.7
DPC Dobruska-Polom 7.17 352 ePN Pn 15 43 05.9 -0.5
LLS Linth-Limmern 7.20 303 ⇓P Pn 15 43 10.3 +3.5
IMI Imperia 7.24 279 P Pn 15 43 07.1 -0.3
UPC Upice 7.36 351 ePN Pn 15 43 08.5 -0.5
VSL Villasalto 7.38 242 ePn Pn 15 43 08.9 -0.3
comp=Z,14nm,0.6s
VSL eSn Sn 15 44 28.7 -4.2
VSL Villasalto 7.38 242 ePn Pn 15 43 08.9 -0.3
comp=Z,14nm,0.6s
VSL eSn Sn 15 44 28.7 -4.2
MUO Muotathal 7.48 303 ⇑P Pn 15 43 13.1 +2.4
SAOF Saorge 7.49 279 P Pn 15 43 10.1 -0.6
HDH Heidenheim-Cha 7.52 318 P Pn 15 43 10.9 -0.3
WILA Wila 7.53 307 ⇓P Pn 15 43 13.0 +1.6
MMK Mattmark 7.56 295 P Pn 15 43 11.5 -0.3
SBF Sospel 7.57 278 ePn Pn 15 43 10.4 -1.5
SNR=1.0
SBF eSn Sn 15 44 29.3 -8.4
comp=Z,70nm,0.5s
ROTZ Rotzenmuhle 7.58 331 ePn Pn 15 43 12.2 +0.2
comp=Z,17nm,0.7s
AUTN L'Aution 7.58 279 P Pn 15 43 11.8 -0.2
LUCF Luceram 7.63 278 P Pn 15 43 12.0 -0.8
SISB Singen-Schiene 7.64 309 P Pn 15 43 16.8 +4.0
KSP Ksiaz 7.66 353 ePn Pn 15 43 15.7 +2.5
KSP eSn Sn 15 44 36.3 -3.7
TOUF Mont Tournerai 7.71 279 P Pn 15 43 13.9 +0.1
DOI San Damiano 7.74 283 P Pn 15 43 13.7 -0.6
TIRR Tirgusor 7.75 77 Pn Pn 15 43 08.2 -6.2
TIRR eSg Sg 15 45 27.8 -2.5
GUT Gutenstein 7.77 311 P Pn 15 43 14.7 +0.1
MVIF Mont Vial 7.77 278 P Pn 15 43 15.2 +0.5
MANZ Manzenberg 7.80 332 ePn Pn 15 43 15.1 +0.1
comp=Z,27nm,0.8s
BUCH Bad Urach 7.87 314 P Pn 15 43 16.2 +0.2
GRA1 Grafenberg Arr 7.88 327 eP Pn 15 43 16.4 +0.2
comp=Z,70nm,1.1s
GRF Grafenberg Arr 7.88 327 eP Pn 15 43 16.4 +0.2
GRF pmax pmax
comp=Z,70nm,1.1s
GRF Grafenberg Arr 7.88 327 eP Pn 15 43 16.4 +0.2
GRF pmax pmax
comp=Z,70nm,1.1s
GRF Grafenberg Arr 7.88 327 ePn Pn 15 43 16.4 +0.2
comp=Z,70nm,1.1s
GRFO Grafenberg 7.88 327 P Pn 15 43 17.1 +0.9
LKBD Leukerbad 7.89 297 ⇓P Pn 15 43 16.4 +0.1
LKBD Leukerbad 7.89 297 ⇓P Pn 15 43 16.1 -0.2
LKBD ⇓P 15 43 16.4
NKC Novy Kostel 7.89 334 ePN Pn 15 43 16.6 +0.3
DIX Grande Dixence 7.94 294 P Pn 15 43 18.6 +1.6
SLE Schleitheim 7.95 308 P Pn 15 43 16.9 -0.2
SPAK Spaichingen-Ko 7.97 311 P Pn 15 43 17.2 -0.1
TANN Tannenbergstha 8.05 335 ePn Pn 15 43 19.5 +1.1
comp=Z,13nm,1.0s
TUBL Tuebingen-Lenn 8.05 314 P Pn 15 43 20.7 +2.2
SULZ Cheisacher 8.06 305 ⇓P Pn 15 43 19.7 +1.1
BRG Berggiesshubel 8.07 342 ePn Pn 15 43 20.1 +1.4
comp=Z,6.0nm,0.6s
BRG Berggiesshubel 8.07 342 PG Pn 15 43 18.7 0.0
BRG SG Sn 15 45 07.2 +17
comp=Z,18nm,0.6s
BRG Berggiesshubel 8.07 342 Pg Pn 15 43 18.7 0.0
comp=Z,11nm,0.6s
BRG Sg Sn 15 45 07.2 +17
MBDF Montbardon 8.10 284 ePn Pn 15 43 16.6 -2.6
SNR=1.0
MBDF eSn Sn 15 44 42.2 -8.6
comp=Z,54nm,0.5s,SNR=1.0
FRF La Foret Royal 8.14 276 ePn Pn 15 43 18.3 -1.5
SNR=1.0
FRF eSn Sn 15 44 42.8 -9.0
comp=Z,32nm,0.6s
STU Stuttgart 8.15 316 eP Pn 15 43 20.7 +0.8
STU pmax pmax
comp=Z,58nm,1.0s
STU Stuttgart 8.15 316 ePn Pn 15 43 20.7 +0.8
comp=Z,58nm,1.0s
BNI Bardonecchia 8.21 286 eP Pn 15 43 18.6 -2.1
BNI e 15 44 45.0
BNI pmax pmax
comp=Z,11nm,0.4s
BNI Bardonecchia 8.21 286 ePn Pn 15 43 18.6 -2.1
comp=Z,11nm,0.4s
BNI P 15 43 21.7
BNI eSn Sn 15 44 45.0 -8.5
LPG La Plagne 8.24 290 ePn Pn 15 43 18.7 -2.4
SNR=1.0
LPG eSn Sn 15 44 45.8 -8.4
comp=Z,150nm,0.7s
LMR La Mourre 8.25 274 ePn Pn 15 43 20.4 -0.9
SNR=1.0
LMR eSn Sn 15 44 45.4 -9.1
comp=Z,10nm,0.4s,SNR=1.0
LPL La Plagne 8.26 290 ePn Pn 15 43 18.7 -2.6
LPL eSn Sn 15 44 46.0 -8.6
comp=Z,93nm,0.4s
EMV Vieux Emosson 8.28 294 ⇓P Pn 15 43 22.4 +0.8
LBG Lerchenberg 8.29 314 P Pn 15 43 22.4 +0.6
FELD Feldberg im Sc 8.29 307 P Pn 15 43 21.2 -0.6
FELD S Sn 15 44 55.2 -0.2
SIND Sindeldorf 8.33 320 P Pn 15 43 22.7 +0.4
BFO Black Forest 8.35 311 eP Pn 15 43 22.4 -0.2
BFO pmax pmax
comp=Z,35nm,0.5s
BFO Black Forest 8.35 311 ePn Pn 15 43 22.4 -0.2
comp=Z,35nm,0.5s
RSL Roselend 8.37 291 P Pn 15 43 22.3 -0.5
KIZ Kirchzarten 8.38 308 P Pn 15 43 22.9 -0.1
BBS Basel-Blauen 8.39 304 P Pn 15 43 22.8 -0.3
MOX Moxa 8.52 332 ePn Pn 15 43 25.0 +0.1
comp=Z,31nm,0.7s
MOX Moxa 8.52 332 eP Pn 15 43 25.4 +0.5
APE Apeiranthos 8.54 134 eP Pn 15 43 24.2 -1.1
APE Apeiranthos 8.54 134 P Pn 15 43 23.9 -1.3
APE Apeiranthos 8.54 134 P Pn 15 43 23.9 -1.3
APE Apeiranthos 8.54 134 eP Pn 15 43 24.2 -1.1
LIBD Limburg 8.66 308 P Pn 15 43 29.2 +2.3
CLL Collm 8.70 340 ePn Pn 15 43 29.1 +1.8

comp=Z,6.0nm,0.6s
CLL Collm 8.70 340 *e*Pn **Pn** **15 43 29.0 +1.7**
CLL *e*Sb Sn 15 45 29.0 +24
comp=Z,44nm,1.0s
CLL *e*Sg Sn 15 46 05.0 +60
CLL Collm 8.70 340 *e*Pn **Pn** **15 43 29.0 +1.7**
CLL *e*Sg Sn 15 45 29.0 +24
ORIF Oris-en-Rattie 8.76 285 *e*Pn **Pn** **15 43 26.8 -1.4**
SNR=1.0
ORIF *e*Sn **Sn** **15 44 57.6 -9.2**
comp=Z,73nm,0.6s,SNR=1.0
LOMF Lomont 8.76 302 P **Pn** **15 43 31.8 +3.6**
MOF Molkenrain 8.79 305 P **Pn** **15 43 28.1 -0.6**
MOF S **Sn** **15 45 05.6 -2.2**
SWS Schriesheim-Wi 8.86 318 P **Pn** **15 43 30.7 +1.1**
TOD Tromm 8.89 319 P **Pn** **15 43 30.3 +0.3**
SMRF Simiane la Rot 8.91 279 *e*Pn **Pn** **15 43 27.4 -2.9**
SMRF *e*Sn **Sn** **15 45 01.4 -9.4**
comp=Z,8.4nm,0.5s
SMRF Simiane la Rot 8.91 279 *e*Pn **Pn** **15 43 27.4 -2.9**
SMRF *e*Sn **Sn** **15 45 01.4 -9.4**
comp=Z,4.2nm,0.5s
HINF Hinteralfeld 8.95 304 *e*Pn **Pn** **15 43 29.5 -1.2**
SNR=1.0
HINF *e*Sn **Sn** **15 45 02.4 -9.1**
comp=Z,68nm,0.6s,SNR=1.0
HINF Hinteralfeld 8.95 304 *e*Pn **Pn** **15 43 29.5 -1.2**
SNR=1.0
HINF *e*Sn **Sn** **15 45 02.4 -9.1**
comp=Z,34nm,0.6s,SNR=1.0
ECH Echery 8.95 307 P **Pn** **15 43 29.9 -1.0**
ECH Echery 8.95 307 *e*Pn **Pn** **15 43 29.5 -1.4**
ECH *e*Sn **Sn** **15 45 06.1 -5.6**
CABF La Chapelle 8.97 296 *e*Pn **Pn** **15 43 29.4 -1.7**
SNR=1.0
CABF *e*Sn **Sn** **15 45 03.0 -9.2**
comp=Z,68nm,0.7s
CABF La Chapelle 8.97 296 *e*Pn **Pn** **15 43 29.4 -1.7**
SNR=1.0
CABF *e*Sn **Sn** **15 45 03.0 -9.2**
comp=Z,34nm,0.7s
CDF Champ du Feu 8.99 309 *e*Pn **Pn** **15 43 29.7 -1.6**
SNR=1.0
LANF Langenberg 9.01 313 P **Pn** **15 43 31.7 +0.1**
OG05 Jujurieux 9.24 292 P **Pn** **15 43 33.4 -1.4**
UBBA Unterbreizbach 9.26 328 *e*Pn **Pn** **15 43 35.5 +0.5**
comp=Z,10.0nm,0.6s
HAU Haudompre 9.33 305 *e*Pn **Pn** **15 43 34.1 -2.0**
SNR=1.0
HAU *e*Sn **Sn** **15 45 11.7 -9.3**
comp=Z,101nm,0.6s
HAU Haudompre 9.33 305 *e*Pn **Pn** **15 43 34.1 -2.0**
SNR=1.0
HAU *e*Sn **Sn** **15 45 11.7 -9.3**
comp=Z,50nm,0.6s
TNS Taunus Mts 9.48 321 *e*P **Pn** **15 43 39.3 +1.2**
TNS pmax pmax
comp=Z,32nm,0.6s
TNS Taunus Mts 9.48 321 *e*Pn **Pn** **15 43 39.3 +1.2**
comp=Z,32nm,0.6s
VIVF Saint-Julien-l 9.60 284 *e*Pn **Pn** **15 43 36.6 -3.2**
SNR=1.0
VIVF *e*Sn **Sn** **15 45 17.8 -10**
comp=Z,27nm,0.6s
VIVF Saint-Julien-l 9.60 284 *e*Pn **Pn** **15 43 36.6 -3.2**
SNR=1.0
VIVF *e*Sn **Sn** **15 45 17.8 -10**
comp=Z,13nm,0.6s
THEF They Montfort 9.65 305 P **Pn** **15 43 40.1 -0.3**
IDI Anoyia 9.66 143 Pn **Pn** **15 43 35.8 -4.7**
comp=Z,0.9nm,0.3s,baz=327,slow=15,SNR=7.5
IDI Sn **Sn** **15 45 20.9 -8.1**
comp=Z,0.9nm,0.3s,baz=306,slow=23,SNR=3.9
IDI Anoyia 9.66 143 Sn **Sn** **15 45 20.9 -8.1**
ABH Alteburg 9.69 317 P **Pn** **15 43 42.5 +1.6**
SSB Saint Sauveur 9.74 287 *e*Pn **Pn** **15 43 39.0 -2.7**
SSB *e*Sn **Sn** **15 45 25.6 -5.4**
RUP Ruppelstein 9.83 315 P **Pn** **15 43 44.1 +1.3**
KEST Kesra 9.96 224 Pn **Pn** **15 43 45.6 +1.0**
comp=Z,0.3nm,0.3s,baz=216,slow=2.1,SNR=7.1
LASF Ste Croix 10.15 279 *e*Pn **Pn** **15 43 44.3 -3.0**
LASF *e*Sn **Sn** **15 45 31.1 -10**
comp=Z,24nm,0.8s
LASF Ste Croix 10.15 279 *e*Pn **Pn** **15 43 44.3 -3.0**
LASF *e*Sn **Sn** **15 45 31.1 -10**
comp=Z,12nm,0.8s
SFTF Sexfontaines 10.21 303 *e*Pn **Pn** **15 43 45.0 -3.1**
WLF Walferdange 10.29 313 *e*P **Pn** **15 43 51.0 +1.9**
WLF Walferdange 10.29 313 *e*Pn **Pn** **15 43 51.0 +1.9**
MEZF Maizieres J'vi 10.33 305 *e*Pn **Pn** **15 43 46.4 -3.3**
SMF Signal de Mont 10.47 294 *e*Pn **Pn** **15 43 49.7 -2.0**
SNR=1.0
SMF *e*Sn **Sn** **15 45 38.1 -11**
comp=Z,77nm,0.6s
SMF Signal de Mont 10.47 294 *e*Pn **Pn** **15 43 49.7 -2.0**
SNR=1.0
SMF *e*Sn **Sn** **15 45 38.1 -11**
comp=Z,38nm,0.6s
PLDF La Plantade 10.48 290 P **Pn** **15 43 49.2 -2.6**
LOR Lormes 10.63 297 *e*Pn **Pn** **15 43 51.8 -2.0**
SNR=1.0
LOR *e*Sn **Sn** **15 45 42.7 -10**
comp=Z,51nm,0.4s
LOR Lormes 10.63 297 *e*Pn **Pn** **15 43 51.8 -2.0**
SNR=1.0
LOR *e*Sn **Sn** **15 45 42.7 -10**
comp=Z,25nm,0.4s
AKASG Malin Array Be 10.77 42 Pn **Pn** **15 43 53.5 -2.2**
comp=Z,0.6nm,0.3s,baz=233,slow=12,SNR=4.3
AKASG Malin Array Be 10.77 42 *i* P **Pn** **15 43 56.7 +1.0**
AKASG pmax pmax
comp=Z,2.0nm,0.7s
AKASG Malin Array Be 10.77 42 *i* P **Pn** **15 43 56.7 +1.0**
comp=Z,2.0nm,0.7s
SSF Saint Saulge 10.80 296 *e*Pn **Pn** **15 43 53.7 -2.5**
SNR=1.0
SSF *e*Sn **Sn** **15 45 46.2 -11**
comp=Z,31nm,0.7s
SSF Saint Saulge 10.80 296 *e*Pn **Pn** **15 43 53.7 -2.5**
SNR=1.0
SSF *e*Sn **Sn** **15 45 46.2 -11**
comp=Z,15nm,0.7s
AVF Avril sur Loir 10.83 294 *e*Pn **Pn** **15 43 55.4 -1.2**
SNR=1.0
AVF *e*Sn **Sn** **15 45 47.1 -11**
comp=Z,27nm,0.7s
AVF Avril sur Loir 10.83 294 *e*Pn **Pn** **15 43 55.4 -1.2**
SNR=1.0
AVF *e*Sn **Sn** **15 45 47.1 -11**
comp=Z,13nm,0.7s
BUG Bochum--Univer 10.87 323 *e*P **Pn** **15 43 58.7 +1.7**
BUG pmax pmax
comp=Z,19nm,0.8s
BUG Bochum--Univer 10.87 323 *e*Pn **Pn** **15 43 58.7 +1.7**
comp=Z,19nm,0.8s
BGF Bois d'Agland 11.12 292 *e*Pn **Pn** **15 43 58.3 -2.3**
SNR=1.0
BGF *e*Sn **Sn** **15 45 53.4 -11**
comp=Z,53nm,0.5s,SNR=1.0
BGF Bois d'Agland 11.12 292 *e*Pn **Pn** **15 43 58.3 -2.3**
SNR=1.0
BGF *e*Sn **Sn** **15 45 53.4 -11**
comp=Z,27nm,0.5s,SNR=1.0
GIVF Givet 11.24 312 *e*Pn **Pn** **15 43 59.0 -3.2**
MTLF Montolieu 11.38 276 *e*Pn **Pn** **15 44 01.1 -2.9**
MTLF *e*Sn **Sn** **15 46 00.1 -11**
HYF Humbligny 11.43 296 *e*Pn **Pn** **15 44 02.4 -2.3**
HYF *e*Sn **Sn** **15 46 01.7 -11**
CAF Calviac 11.46 284 *e*Pn **Pn** **15 44 02.9 -2.2**
SNR=1.0
CAF *e*Sn **Sn** **15 46 02.1 -11**
comp=Z,4.5nm,0.5s,SNR=1.0
CAF Calviac 11.46 284 *e*Pn **Pn** **15 44 02.9 -2.2**
SNR=1.0
CAF *e*Sn **Sn** **15 46 02.1 -11**
comp=Z,2.2nm,0.5s,SNR=1.0
TCF Toulx Ste Croi 11.51 291 *e*Pn **Pn** **15 44 03.8 -2.0**
SNR=1.0
BAIF Baives 11.56 311 *e*Pn **Pn** **15 44 03.4 -3.1**
EPF Esparros 12.77 275 *e*Pn **Pn** **15 44 21.5 -1.6**
MFF Saint Martin d 13.16 291 *e*Pn **Pn** **15 44 25.2 -3.2**
LDF La Druitiere 13.57 299 *e*Pn **Pn** **15 44 30.8 -3.2**
LDF *e*Sn **Sn** **15 46 52.6 -12**
comp=Z,7.8nm,0.6s
LDF La Druitiere 13.57 299 *e*Pn **Pn** **15 44 30.8 -3.2**
LDF *e*Sn **Sn** **15 46 52.6 -12**
comp=Z,3.9nm,0.6s
FLN La Foliniere 13.85 300 *e*Pn **Pn** **15 44 34.5 -3.3**
FLN *e*Sn **Sn** **15 46 59.1 -12**
comp=Z,3.4nm,0.4s
FLN La Foliniere 13.85 300 *e*Pn **Pn** **15 44 34.5 -3.3**
FLN *e*Sn **Sn** **15 46 59.1 -12**
comp=Z,1.7nm,0.4s
CART Cartagena 15.40 255 P **Pn** **15 44 53.6 -5.2**
comp=Z,67nm,1.0s
OBN Obninsk 16.99 39 ⇑*i*P **Pn** **15 45 20.0 +0.9**
OBN pmax pmax
comp=Z,76nm,1.2s
OBN Obninsk 16.99 39 *i* P **Pn** **15 45 20.0 +0.9**
comp=Z,76nm,1.2s
OBN Obninsk 16.99 39 *e*P **Pn** **15 45 16.7 -2.4**
comp=Z,68nm,1.2s
MMAI Mount Meron Ar 17.17 121 P **Pn** **15 45 20.0 -1.5**
comp=Z,1.0nm,0.3s,baz=199,slow=38,SNR=2.7
MOS Moscow 17.85 39 *e*P **Pn** **15 45 26.4 -3.4**
MOS pmax pmax
comp=Z,86nm,1.1s
KIV Kislovodsk 18.01 79 *e*P **Pn** **15 45 31.6 -0.2**
KIV pmax pmax
comp=Z,5.0nm,1.1s
KIV Kislovodsk 18.01 79 *e*P **Pn** **15 45 31.6 -0.2**
comp=Z,5.0nm,1.1s
EKA Eskdalemuir Ar 18.17 319 P **Pn** **15 45 31.9 -1.9**
comp=Z,0.2nm,0.3s,baz=118,slow=11,SNR=4.1
KAF Kangasniemi 19.55 12 *ep* **Pn** **15 45 43.1 -7.2**
GNI Garni 20.31 90 ⇑*i*P **P** **15 45 57.8 +0.3**
GNI pmax pmax
comp=Z,10.0nm,1.3s
GNI Garni 20.31 90 *i* P **P** **15 45 57.8 +0.3**
comp=Z,10.0nm,1.3s
GNI Garni 20.31 90 P **P** **15 45 56.1 -1.4**
comp=Z,12nm,0.8s
MDT Midelt 20.45 247 P **P** **15 46 00.3 +1.1**
comp=Z,7.7nm,0.9s,baz=72,slow=12,SNR=14
JOF Joensuu 21.21 17 *ep* **P** **15 46 06.0 -1.1**
comp=Z,4.8nm,0.5s,mb4.1
JOF Joensuu 21.21 17 *e*P **P** **15 46 06.0 -1.1**
JOF pmax pmax
comp=Z,5.0nm,0.5s,mb4.1
ARCES ARCESS Array B 26.64 6 P **P** **15 46 57.8 -2.2**
comp=Z,5.2nm,1.0s,mb4.0,baz=197,slow=12,SNR=3.4
ARCES ARCESS Array B 26.64 6 P **P** **15 46 57.8 -2.2**
ARCES pmax pmax
comp=Z,5.0nm,1.0s
ARU Arti 28.93 49 ⇑*i*P **P** **15 47 19.1 -1.4**
ARU pmax pmax
comp=Z,5.0nm,1.4s,mb4.0
ARU Arti 28.93 49 *i* P **P** **15 47 19.1 -1.4**
comp=Z,5.0nm,1.4s,mb4.0
TORD Torodi Ar. Bea 33.07 210 P **P** **15 47 55.0 -2.4**
comp=Z,0.3nm,0.8s,mb3.3,baz=11,slow=8.9,SNR=3.2
TORD LR LR 16 02 53.5
comp=Z,45nm,19.1s,MS3.2,baz=190,slow=39
BRVK Borovoye 35.60 55 P **P** **15 48 16.7 -2.3**
BRVK pmax pmax
comp=Z,5.0nm,0.6s,mb4.6
BRVK Borovoye 35.60 55 P **P** **15 48 16.7 -2.3**
comp=Z,5.0nm,0.6s,mb4.6
BRVK Borovoye 35.60 55 P **P** **15 48 16.6 -2.4**
comp=Z,4.6nm,0.6s,mb4.6
EKS2 Erkin-Say 40.30 71 P **P** **15 48 56.9 -1.9**
comp=Z,2.6nm,0.8s,mb4.0
EKS2 Erkin-Say 40.30 71 P **P** **15 48 56.9 -1.9**
comp=Z,2.6nm,0.8s,mb4.0
DBIC Dimbokro 41.55 215 P **P** **15 49 09.5 +0.2**
comp=Z,1.6nm,0.6s,mb3.8,baz=347,slow=9.4,SNR=2.7
DBIC LR LR 16 08 32.3
comp=Z,43nm,18.2s,MS3.4,baz=208,slow=39
DBIC Dimbokro 41.55 215 P **P** **15 49 09.5 +0.2**
DBIC pmax pmax
comp=Z,2.0nm,0.6s
DBIC MLR MLR
comp=Z,43nm,18.2s
ZALV Zalesovo Beam 43.99 52 P **P** **15 49 26.2 -2.5**
comp=Z,0.5nm,0.4s,mb3.6,baz=275,slow=7.3,SNR=3.4
ZALV Zalesovo Beam 43.99 52 P **P** **15 49 26.2 -2.5**
ZALV pmax pmax
comp=Z,1.0nm,0.4s,mb3.9
MKAR Makanchi Array 44.57 62 P **P** **15 49 30.7 -2.7**
comp=Z,0.3nm,0.6s,mb3.3,baz=294,slow=11,SNR=3.6
WMQ Urumqi 49.23 64 P **P** **15 50 08.0 -1.9**
WMQ AP pP 15 50 12.5 -0.6
WMQ XP sP 15 50 15.0 +0.7
SONM Songino Array 58.88 52 P **P** **15 51 17.6 -2.7**
comp=Z,0.4nm,0.5s,mb3.7,baz=295,slow=8.1,SNR=4.6
ACCN Adirondack Com 63.03 305 *e*P **P** **15 51 49.0 +0.4**
comp=Z,24nm,0.9s,mb5.3
ACCN Adirondack Com 63.03 305 *e*P **P** **15 51 49.0 +0.4**
comp=Z,24nm,0.9s,mb5.3
LZH Lanzhou 63.80 64 *e*P **P** **15 51 49.5 -4.4**
LZH AP pP 15 51 52.5 -4.6
LZH AMB AMB
comp=Z,13nm,1.0s,mb4.9
LZH AMB AMB
comp=Z,62nm,4.6s
HHC Hu-ho-hao-te 65.88 56 *e*P **P** **15 52 05.5 -1.8**
HHC AP pP 15 52 10.6 +0.1
HHC XP sP 15 52 13.1 +1.4
HHC PCP PcP 15 52 36.6 -1.6
HHC PP PP 15 54 32.6 +0.7
HHC SCP 15 56 37.8
HHC S S 16 00 49.0 -5.2
HHC XS sS 16 00 58.3 -1.3
HHC SS SS 16 05 04.9 -3.4
HHC AMB AMB
comp=Z,10.0nm,1.0s,mb4.8
HHC AMB AMB
comp=Z,78nm,8.0s
HHC LR LR
comp=N,92nm,13.7s,MS4.4
HHC LR LR
comp=E,121nm,13.5s,MS4.4
HHC LR LR
comp=Z,92nm,14.5s,MS4.1
CD2 Chengdu 66.83 69 *e*P **P** **15 52 12.3 -1.2**
CD2 AP pP 15 52 17.0 +0.2
CD2 XP sP 15 52 19.5 +1.5
CD2 PP PP 15 54 40.6 +0.2
CD2 S S 16 01 01.6 -4.5
CD2 XS sS 16 01 09.3 -2.1
CD2 SS SS 16 05 18.4 -5.2
CD2 AMB AMB
comp=Z,10.0nm,0.8s,mb4.9
CD2 AMB AMB
comp=Z,20nm,5.2s
CD2 LR LR
comp=N,130nm,14.6s
CD2 LR LR
comp=Z,150nm,16.2s,MS4.3
CHTO Chiang Mai 71.00 82 *e*P **P** **15 52 36.4 -3.2**
CHTO pmax pmax
comp=Z,2.0nm,0.9s,mb4.0
CHTO Chiang Mai 71.00 82 *e*P **P** **15 52 36.4 -3.2**
comp=Z,2.3nm,0.9s,mb4.1
CHTO Chiang Mai 71.00 82 *e*P **P** **15 52 36.4 -3.2**
comp=Z,2.4nm,0.9s,mb4.1
CMAR Chiang Mai Arr 71.22 82 P **P** **15 52 38.6 -2.3**
comp=Z,0.9nm,0.7s,mb3.8,baz=309,slow=7.0,SNR=9.1
CMAR Chiang Mai Arr 71.22 82 *i* P **P** **15 52 38.7 -2.3**
CMAR pmax pmax
comp=Z,1.0nm,0.7s
CMAR Chiang Mai Arr 71.22 82 *i* P **P** **15 52 38.7 -2.3**
comp=Z,1.0nm,0.7s,mb3.9
GYA Guiyang 71.59 71 P **P** **15 52 41.8 -1.3**
GYA AMB AMB
comp=Z,10.0nm,1.0s,mb4.7
CN2 Changchun 71.90 47 *e*P **P** **15 52 42.4 -2.3**
NJ2 Nanjing 76.00 59 *e*P **P** **15 53 03.4 -5.5**
NJ2 AMB AMB
comp=Z,10.0nm,0.5s,mb5.0
TXAR Lajitas Array 90.03 312 P **P** **15 54 20.5 -1.0**
comp=Z,0.2nm,0.7s,mb3.5,baz=257,slow=11,SNR=2.7
ASAR Alice Springs 124.55 91 PKP PKPdf 16 00 20.8 -0.4
comp=Z,0.2nm,0.6s,baz=304,slow=0.7,SNR=4.7

*LDG **18** 15:56:07.2±0.4, 1448S×16773E, h10km, Mb4.8/4, Error ellipse: s-maj=51.3km s-min=11.1km az=88.0*
*IDC **18** 15:56:25.0±2.7, 1592S×16794E, h182km±22km, mb3.9/14, mb1 4.0/15, mb1mx3.9/23, mbtmp3.9/15, MS3.1/1, Ms1 3.0/1, ms1mx2.2/28, Error ellipse: s-maj=21.4km s-min=13.7km az=84.0*
*ISCJB **18** 15:56:25.4±1.5, 1596S×1679E±0.1, h201km±12km, mb4.1/20, Error ellipse: s-maj=20.5km s-min=9.8km az=162.2*
*NEIC **18** 15:56:25.8±1.2, 1592S×16790E, h191km±10km, mb4.3/11, Error ellipse: s-maj=12.7km s-min=7.4km az=67.0*

ISC 18 15:56:26.0±1.5, 1596S×007×1679E±01, h191km±12km, n51, σ0°80/39, mb4.2/20, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**6.23**	**193**	*e*Pn		**Pn**		**15 57 56.2**	**0.0**
DZM				*e*Sn		**Sn**		**15 59 05.6**	**-1.3**
NOUC	**Port Laguerre**	**6.29**	**194**	*e*P		**Pn**		**15 57 57.9**	**+1.0**
NOUC				*e*S		**Sn**		**15 59 09.0**	**+0.7**
HNR	**Honiara**	**10.11**	**309**	P		**Pn**		**15 58 48.0**	**+1.1**
	16nm,0.3s,baz=182,slow=3.4,SNR=11								
HNR	**Honiara**	**10.11**	**309**	*e*Pn		**Pn**		**15 58 47.0**	**+0.1**
ARMA	**Armidale**	**20.71**	**223**	*e*P		**P**		**16 00 54.4**	**+2.8**
CTA	**Charters Tower**	**20.98**	**255**	P		**P**		**16 00 55.0**	**+0.5**
	4.6nm,0.7s,baz=316,slow=15,SNR=6.0								
CTAO	**Charters Tower**	**20.98**	**255**	*e*P		**P**		**16 00 55.0**	**+0.4**
	5.9nm,0.7s								
URZ	**Urewera**	**23.65**	**162**	P		**P**		**16 01 20.9**	**+0.9**
	4.6nm,0.5s,mb4.3,baz=60,slow=4.5,SNR=4.3								
RPZ	**Rata Peaks**	**27.80**	**175**	P		**P**		**16 01 56.6**	**-0.5**
	9.6nm,0.6s,mb4.7,baz=348,slow=21,SNR=7.5								
STKA	**Stephens Creek**	**28.68**	**232**	*e*P		**P**		**16 02 05.9**	**+0.7**
	5.2nm,0.6s,mb4.4								
STKA	**Stephens Creek**	**28.68**	**232**	P		**P**		**16 02 06.3**	**+1.1**
	7.9nm,0.7s,mb4.6,baz=55,slow=8.7,SNR=28								
STKA				PcP		PcP		16 05 11.1	+0.2
	1.5nm,0.6s,baz=255,slow=4.2,SNR=5.0								
STKA				LR		LR		16 12 49.5	
	comp=Z,41nm,21.5s,baz=201,slow=34								
STKA	**Stephens Creek**	**28.68**	**232**	*e*P		**P**		**16 02 05.6**	**+0.5**
	9.4nm,0.8s,mb4.6								
RAR	**Rarotonga**	**31.05**	**105**	LR		LR		16 12 43.5	
	comp=Z,2μm,20.0s,baz=268,slow=32								
WRAB	**Tennant Creek**	**32.13**	**258**	P		**P**		**16 02 34.9**	**-0.7**
WRA	**Warramunga Arr**	**32.14**	**258**	P		**P**		**16 02 34.7**	**-1.0**
	0.5nm,0.4s,mb3.6,baz=83,slow=7.9,SNR=18								
WRA				PcP		PcP		16 05 20.4	+0.2
	0.4nm,0.5s,baz=84,slow=3.5,SNR=6.7								
ASAR	**Alice Springs**	**32.83**	**251**	P		**P**		**16 02 41.5**	**-0.2**
	4.2nm,0.5s,mb4.4,baz=79,slow=8.9,SNR=116								
ASAR				PcP		PcP		16 05 22.2	+0.2
	0.8nm,0.7s,baz=98,slow=2.5,SNR=6.3								
ASAR				ScP		ScP		16 08 49.8	+1.7
	1.1nm,1.0s,baz=99,slow=4.0,SNR=6.9								
GUMO	**Guam**	**37.15**	**321**	P		**P**		**16 03 17.8**	**-0.9**
	9.6nm,0.5s,mb4.7,baz=183,slow=18,SNR=3.1								
FITZ	**Fitzroy Crossi**	**40.40**	**261**	*e*P		**P**		**16 03 45.8**	**+0.1**
	6.7nm,0.7s,mb4.4								
FITZ	**Fitzroy Crossi**	**40.40**	**261**	P		**P**		**16 03 45.8**	**+0.1**
	3.0nm,0.5s,mb4.2,baz=98,slow=11,SNR=17								
MBWA	**Marble Bar**	**45.82**	**256**	*e*P		**P**		**16 04 29.2**	**+0.1**
	7.0nm,0.8s,mb4.3								
NWAO	**Narrogin (SRO)**	**48.65**	**240**	P		**P**		**16 04 50.9**	**0.0**
	9.0nm,0.9s,mb4.4								
KKM	**Kota Kinabalu**	**55.63**	**289**	*e*P		**P**		**16 05 41.4**	**-1.1**
MJAR	**Matsushiro Arr**	**59.27**	**332**	P		**P**		**16 06 06.3**	**-1.2**
	2.2nm,0.7s,mb4.1,baz=170,slow=7.3,SNR=7.6								
MAJO	**Matsushiro**	**59.27**	**332**	*e*P		**P**		**16 06 06.7**	**-0.8**
	4.4nm,0.6s,mb4.5								
YHNB	**Yeheng**	**60.74**	**311**	*e*P		**P**		**16 06 17.3**	**-0.4**
	20nm,0.7s								
SBA	**Scott Base**	**61.91**	**180**	*e*P		**P**		**16 06 25.7**	**+1.0**
	7.2nm,0.9s,mb4.5								
ASAJ	**Asahikawa**	**64.10**	**340**	P		**P**		**16 06 39.4**	**-0.1**
	3.8nm,0.9s,mb4.2,baz=217,slow=10,SNR=6.1								
KSRS	**Korea Array**	**65.09**	**326**	P		**P**		**16 06 46.8**	**+0.7**
	1.5nm,0.8s,mb3.9,baz=161,slow=8.0,SNR=4.5								
CMAR	**Chiang Mai Arr**	**76.00**	**294**	P		**P**		**16 07 53.5**	**+0.9**
	1.4nm,0.7s,mb3.7,baz=132,slow=4.4,SNR=11								
CHTO	**Chiang Mai**	**76.14**	**294**	*e*P		**P**		**16 07 53.3**	**+0.1**
	1.8nm,0.7s,mb3.8								
SONM	**Songino Array**	**83.84**	**323**	P		**P**		**16 08 34.4**	**+0.5**
	2.8nm,0.9s,mb4.0,baz=154,slow=7.9,SNR=17								
LSA	**Lhasa**	**86.72**	**302**	*e*P		**P**		**16 08 49.5**	**+0.8**
	3.9nm,0.6s,mb4.4								
SNAA	**Sanae**	**92.36**	**183**	*e*		**P**		**16 09 13.5**	**-0.8**
SNAA				*e*				16 09 18.8	
SNAA	**Sanae**	**92.36**	**183**	*e*P		**P**		**16 09 13.6**	**-0.7**
	0.8nm,0.6s,mb3.9								
VNA3	**Neumayer Olymp**	**93.00**	**181**	*e*		**P**		**16 09 16.4**	**-0.8**
VNA3				*e*				16 09 18.0	
VNA3				*e*				16 09 21.6	
VNA2	**Neumayer--Watz**	**93.28**	**182**	*e*		**P**		**16 09 18.2**	**-0.3**
	baz=199,slow=4.8								
VNA2				*e*				16 09 19.9	
VNA2				*e*				16 09 22.8	
MKAR	**Makanchi Array**	**98.51**	**316**	P		**P**		**16 09 43.2**	**+0.6**
	0.8nm,0.8s,mb4.2,baz=84,slow=6.9,SNR=4.9								
MKAR	**Makanchi Array**	**98.51**	**316**	P		**P**		**16 09 43.2**	**+0.6**
ARCES	**ARCESS Array B**	**121.59**	**345**	PKP		PKPdf		16 14 55.0	-1.2
	5.6nm,0.9s,baz=9.5,slow=3.7,SNR=6.6								
ARCES	**ARCESS Array B**	**121.59**	**345**	PKP		PKPdf		16 14 55.0	-1.2
TIP	**Timpagrande**	**145.77**	**318**	*e*PKPdf		PKPdf		16 15 42.8	+0.8
FLN	**La Foliniere**	**145.93**	**346**	*e*PKP1		PKPbc		16 15 42.5	-0.4
	4.5nm,0.4s								
LDF	**La Druitiere**	**146.00**	**346**	*e*PKP1		PKPbc		16 15 42.6	-0.6
	7.1nm,0.7s								
LOR	**Lormes**	**146.09**	**340**	*e*PKP1		PKPbc		16 15 43.5	0.0
	5.0nm,0.6s								
GRR	**Gorron**	**146.37**	**346**	*e*PKP1		PKPbc		16 15 44.0	-0.2
	8.7nm,0.6s								
SSF	**Saint Saulge**	**146.39**	**341**	*e*PKP1		PKPbc		16 15 44.4	+0.1
	7.2nm,0.6s								
LPL	**La Plagne**	**146.56**	**336**	*e*PKP1		PKPbc		16 15 45.4	+0.5
LPG	**La Plagne**	**146.57**	**336**	*e*PKP1		PKPbc		16 15 45.5	+0.6
SMF	**Signal de Mont**	**146.65**	**340**	*e*PKP1		PKPbc		16 15 44.8	-0.3
ORIF	**Oris-en-Rattie**	**147.39**	**336**	*e*PKP1		PKPbc		16 15 47.0	-0.2
	17nm,1.1s								
ETSF	**Etsaut**	**151.39**	**342**	*e*PKP1		PKPbc		16 15 58.0	+0.8
	7.1nm,0.7s								

IDC 18 15:59:01.4±3.8, 627S×15149E, h0km, mb3.8/3, mb1 4.1/3, mb1mx3.6/15, mbtmp3.8/3, Error ellipse: s-maj=125.9km s-min=52.6km az=123.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**19.84**	**250**	*e*P		Pn		16 03 31.6	-4.0
	5.3nm,0.8s								
WRA	**Warramunga Arr**	**21.50**	**229**	P		P		16 03 52.1	0.0
	1.9nm,0.9s,baz=55,slow=11,SNR=8.5								
ASAR	**Alice Springs**	**24.20**	**223**	P		P		16 04 19.9	+0.1
	2.1nm,0.8s,baz=46,slow=11,SNR=8.6								
FITZ	**Fitzroy Crossi**	**27.83**	**243**	P		P		16 04 52.9	+0.1
	1.0nm,0.5s,baz=52,slow=10,SNR=6.4								
TORD	**Torodi Ar. Bea**	**149.48**	**285**	PKPbc		PKPbc		16 18 53.1	-0.6
	0.6nm,0.6s,baz=82,slow=2.5,SNR=3.6								

*MOS **18** 16:05:31.2±1.0, 4948N×15584E, h49km, mb4.7/24, Error ellipse: s-maj=11.3km s-min=5.5km az=71.7*
*KRSC **18** 16:05:31.7±1.3, 4938N×15707E, h5km±5km, ML5.0*
*ISCJB **18** 16:05:32.3±0.2, 4949N±003×15584E±004, h53km, mb4.5/54, MS3.6/5, Error ellipse: s-maj=4.1km s-min=2.7km az=140.7*
*IDC **18** 16:05:33.0±0.6, 4947N×15577E, h46km±6km, mb4.0/16, mb1 4.3/18, mb1mx4.2/23, mbtmp4.0/18, ML4.0/2, MS3.4/5, Ms1 3.4/5, ms1mx3.0/38, Error ellipse: s-maj=17.0km s-min=11.9km az=138.0*
*BJI **18** 16:05:33.9, 4963N×15590E, h73km, mB4.7, mb4.6, Ms4.2, Msz3.8*
*NEIC **18** 16:05:35.1±0.8, 4954N×15578E, h66km±7km, mb4.5/23, Error ellipse: s-maj=8.4km s-min=4.6km az=145.0*

ISC 18 16:05:34.5±0.2, 4953N±003×15574E±004, h55km, h55km±3.2km: pP-P, n306, σ0°82/320, mb4.5/54, MS3.6/5, 81C-76D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**1.18**	**12**	⇓*i*PN		**Pn**		**16 05 53.0**	**-1.8**
SKR				*e*S		**Sn**		**16 06 08.0**	**-1.8**
SKR				pmax	pmax				
	comp=Z,390nm,0.5s								
SKR				pmax	pmax				
	comp=N,510nm,0.3s								
SKR				pmax	pmax				

comp=E,300nm,0.3s
SKR pmax pmax
comp=N,1µm,2.0s
SKR pmax pmax
comp=E,1µm,2.0s
SKR pmax pmax
comp=Z,1µm,2.0s
SKR smax
comp=N,5µm,2.0s
SKR smax
comp=E,8µm,2.0s
SKR smax
comp=N,4µm,0.3s
SKR smax
comp=E,6µm,0.3s
MIPR Malaya Ipel'ka 2.83 13 *e*P **Pn 16 06 16.8 -0.3**
GRL Gorelyy 3.37 25 P **Pn 16 06 25.1 +0.6**
GRL *i* S **Sn 16 07 03.3 +0.1**
RUS Russkaya 3.39 30 *e*P **Pn 16 06 23.6 -1.3**
RUS *i* S **Sn 16 07 01.0 -2.9**
PEA0B Petropavlovsk- 3.79 18 *e*Pn **Pn 16 06 31.6 +1.3**
PETK Petropavlovsk- 3.79 18 P **Pn 16 06 30.6 +0.3**
comp=E,8.1nm,0.3s,baz=171,slow=12,SNR=271
PETK LR LR 16 08 19.1
comp=E,402nm,19.3s,baz=357,slow=43
PET Petropavlovsk 3.95 26 *e*P **Pn 16 06 32.3 -0.2**
PET *i* S **Sn 16 07 17.2 -0.3**
PET Petropavlovsk 3.95 26 *e*Pn **Pn 16 06 32.0 -0.5**
PET *e*Sn **Sn 16 07 17.9 +0.4**
INSR Institute 3.97 26 *e*P **Pn 16 06 32.3 -0.5**
INSR *i* S **Sn 16 07 17.4 -0.6**
AVH Avacha 4.18 25 *i* P **Pn 16 06 37.1 +1.4**
AVH *i* S **Sn 16 07 24.7 +1.4**
NLC Nalytchevo 4.29 30 *e*P **Pn 16 06 35.2 -2.0**
NLC *i* S **Sn 16 07 21.9 -3.9**
GNL Ganaly 4.39 17 *e*P **Pn 16 06 40.3 +1.7**
SPN Mys Shipunski 4.47 35 *e*P **Pn 16 06 38.3 -1.3**
SPN *i* S **Sn 16 07 27.4 -2.9**
MKZ Mys Kozlova 6.24 34 *i* P **Pn 16 07 01.6 -2.3**
MKZ *i* S **Sn 16 08 07.9 -5.9**
TUMR Tumrok 6.36 23 *e*P **Pn 16 07 07.1 +1.6**
TUMR *i* S **Sn 16 08 15.7 -1.0**
KMNR Kamenistaya 6.81 22 P **Pn 16 07 13.1 +1.4**
KUR Kuril'sk 6.86 234 PN **Pn 16 07 10.0 -2.4**
KUR pmax pmax
comp=N,80nm,0.8s
KUR pmax pmax
comp=E,50nm,0.8s
KUR pmax pmax
comp=Z,140nm,0.8s
KPT Kopyto 7.00 21 P **Pn 16 07 14.8 +0.6**
KOZ Kozyrevsk 7.00 19 P **Pn 16 07 15.4 +1.1**
KIRR Kirishev 7.01 22 P **Pn 16 07 15.6 +1.2**
KOZR Kozyr 7.01 19 PN **Pn 16 07 15.4 +0.9**
BZMR Bezymyannaya 7.03 22 P **Pn 16 07 15.9 +1.2**
BZWR Bezymyannyi-We 7.06 22 P **Pn 16 07 17.0 +1.9**
SRDR Sredinnyy 7.21 18 P **Pn 16 07 19.1 +1.9**
KLY Klyuchi 7.41 22 P **Pn 16 07 20.9 +1.0**
KBTR Krutoberegovo 7.94 30 *e*P **Pn 16 07 25.6 -1.5**
KBTR *i* S **Sn 16 08 50.5 -4.9**
YSS Yuzh-Sakhalins 9.04 258 *e*PN **Pn 16 07 44.7 +2.4**
YSS pmax pmax
comp=Z,30nm,1.0s
YSS Yuzh-Sakhalins 9.04 258 *e*Pn **Pn 16 07 44.6 +2.4**
comp=Z,20nm,0.9s
ASAJ Asahikawa 10.51 244 P **Pn 16 08 03.8 +1.5**
comp=Z,2.7nm,0.3s,baz=76,slow=11,SNR=26
ASAJ LR LR 16 11 30.2
comp=Z,220nm,21.7s,baz=163,slow=34
ASAJ Asahikawa 10.51 244 PN **Pn 16 08 03.8 +1.5**
ASAJ pmax pmax
comp=Z,3.0nm,0.3s
ASAJ MLR MLR
comp=Z,220nm,21.7s
SEY Seymchan 13.56 353 ǁ *i*P **Pn 16 08 44.1 +0.3**
HABR Khabarovsk 13.63 273 P **Pn 16 08 48.3 +3.5**
KLR Kul'dur 15.62 278 *e*P **Pn 16 09 11.6 +0.7**
KLR pmax pmax
comp=E,42nm,1.8s
KLR pmax pmax
comp=Z,40nm,1.8s
MAJO Matsushiro 18.18 231 *e*P **Pn 16 09 40.6 -2.3**
MAJO pmax pmax
comp=Z,11nm,0.7s
MAJO Matsushiro 18.18 231 *e*P **Pn 16 09 40.6 -2.2**
comp=Z,11nm,0.7s
MAT Matsushiro 18.18 231 P **Pn 16 09 42.1 -0.8**
MJAR Matsushiro Arr 18.18 231 P **Pn 16 09 41.7 -1.2**
comp=Z,0.6nm,0.3s,baz=42,slow=8.1,SNR=12
MJAR LR LR 16 17 10.3
comp=Z,120nm,19.0s,baz=55,slow=38
MJAR Matsushiro Arr 18.18 231 P **Pn 16 09 41.7 -1.2**
MJAR pmax pmax
comp=Z,1.0nm,0.3s
MJAR MLR MLR
comp=Z,120nm,19.0s
MDJ Mudanjiang 18.43 265 P **Pn 16 09 44.9 -1.0**
MDJ AMB AMB
comp=Z,14nm,2.1s
MDJ AMB AMB
comp=Z,59nm,3.3s
MDJ LR LR
comp=Z,104nm,22.3s
YAK Yakutsk 19.10 321 *e*P **Pn 16 09 51.5 -2.2**
YAK pmax pmax
comp=Z,10.0nm,1.0s
YAK Yakutsk 19.10 321 *e*P **Pn 16 09 51.8 -1.9**
comp=Z,12nm,0.8s
BILL Bilibino 19.30 12 *d i*P **Pn 16 09 53.5 -2.5**
BILL pmax pmax
comp=Z,26nm,1.7s
BILL Bilibino 19.30 12 *e*P **Pn 16 09 53.1 -2.9**
CLNS Chul'man 19.75 303 *e*P **Pn 16 10 04.1 +2.7**
CLNS pmax pmax
comp=Z,23nm,0.8s
CLNS pmax pmax
comp=E,18nm,0.9s
CLNS pmax pmax
comp=N,13nm,1.0s
CN2 Changchun 21.48 266 *e*P **P 16 10 18.3 0.0**
HIA Hailar 23.30 283 ǁ *i*P **P 16 10 38.9 +1.5**
KSRS Korea Array 23.37 249 P **P 16 10 37.8 -0.4**
comp=N,3.6nm,0.8s,mb3.8,baz=52,slow=10,SNR=12
KSRS LR LR 16 19 04.9
comp=N,76nm,19.5s,MS3.2,baz=50,slow=35
KSRS Korea Array 23.37 249 P **P 16 10 37.8 -0.3**
KSRS pmax pmax
comp=Z,4.0nm,0.9s,mb3.9
KSRS MLR MLR
comp=Z,76nm,19.5s,MS3.2
TIXI Tiksi 25.36 340 *e*P **P 16 10 55.5 -0.5**
TIXI pmax pmax
comp=Z,4.0nm,0.5s,mb4.2
TIXI Tiksi 25.36 340 *e*P **P 16 10 54.2 -1.7**
comp=Z,5.5nm,0.6s,mb4.3
TIXI *e* pP 16 11 05.5 -4.1
BOD Bodaibo 25.71 305 *e*P **P 16 11 03.5 +4.3**
BOD pmax pmax
comp=Z,5.0nm,0.8s,mb4.1
BJI Beijing 29.34 266 P **P 16 11 30.3 -1.6**
BJI S **S 16 16 18.3 -3.0**
BJI AMB AMB
comp=Z,14nm,0.5s,mb5.0
BJI LR LR
comp=N,108nm,15.0s,MS3.8
BJI LR LR
comp=E,143nm,17.0s,MS3.8
BJI LR LR
comp=Z,83nm,19.5s,MS3.4
TRF Thorofare Moun 31.80 44 *e*P **P 16 11 52.4 -0.9**
comp=Z,6.5nm,0.9s,mb4.5
HHC Hu-ho-hao-te 31.93 271 *e*P **P 16 11 55.0 +0.3**
HHC AP pP 16 12 10.0 +1.4
HHC PP PP 16 13 02.3 -5.1
HHC PCP PcP 16 14 45.0 +1.2
HHC S **S 16 17 00.8 -0.9**
HHC SCP ScP 16 18 21.4 -0.9
HHC SS SS 16 18 53.3 -27
HHC SCS ScS 16 22 19.1 -1.6
HHC AMB AMB
comp=Z,20nm,1.0s,mb4.9
HHC AMB AMB
comp=Z,100nm,5.7s
HHC LR LR
comp=N,167nm,15.0s,MS4.0
HHC LR LR
comp=E,157nm,13.5s,MS4.0
HHC LR LR
comp=Z,133nm,17.5s,MS3.7
SONM Songino Array 32.16 286 P **P 16 11 57.8 +1.1**
comp=Z,0.2nm,0.7s,baz=100,slow=4.4,SNR=2.8
SONM PcP PcP 16 14 43.0 -1.3
comp=Z,0.8nm,0.8s,baz=105,slow=2.8,SNR=6.0
SONM LR LR 16 26 24.6
comp=Z,84nm,18.1s,MS3.5,baz=97,slow=39
SONM Songino Array 32.16 286 P **P 16 11 57.8 +1.1**
SONM 16 14 43.0
SONM pmax pmax
comp=Z,1.0nm,0.8s
SONM MLR MLR
comp=Z,85nm,18.1s
SONM Songino Array 32.16 286 P **P 16 11 57.8 +1.1**
SONM PcP PcP 16 14 43.0 -1.3
MCK McKinley 32.40 43 *e*P **P 16 11 57.2 -1.4**
MCK pmax pmax
comp=Z,10.0nm,0.9s,mb4.7
MCK McKinley 32.40 43 *e*P **P 16 11 57.2 -1.4**
comp=Z,9.7nm,0.9s,mb4.6
NJ2 Nanjing 32.53 251 *e*P **P 16 12 02.4 +2.4**
NJ2 AMB AMB
comp=Z,30nm,0.5s,mb5.5
TLY Talaya 32.56 294 P **P 16 11 54.1 -6.0**
COLA College 32.87 41 *e*P **P 16 12 02.3 -0.4**
COLA pmax pmax
comp=Z,12nm,0.8s,mb4.9
COLA College 32.87 41 *e*P **P 16 12 02.3 -0.4**
comp=Z,12nm,0.8s,mb4.9
ZAK Zakamensk 33.19 292 *e*P **P 16 12 04.0 -1.6**
ZAK pmax pmax
comp=Z,2.0nm,1.6s,mb3.8
ZAK pmax pmax
comp=Z,2.0nm,1.7s,mb3.8
EGAK Eagle 35.73 41 *e*P **P 16 12 26.1 -1.3**
comp=Z,14nm,0.8s,mb4.9
DAWY Dawson 36.58 42 *e*P **P 16 12 33.4 -1.2**
LZH Lanzhou 39.60 270 *e*P **P 16 13 03.3 +2.9**
LZH AP pP 16 13 20.0 +5.4
LZH XP sP 16 13 26.0 +5.0
LZH AMB AMB
comp=Z,13nm,1.0s,mb4.6
LZH AMB AMB
comp=Z,50nm,4.2s
ZALV Zalesovo Beam 42.46 304 P **P 16 13 22.6 -1.0**
comp=Z,0.3nm,0.3s,mb3.4,baz=92,slow=8.7,SNR=2.2
ZALV PcP PcP 16 15 15.9 +0.3
comp=Z,1.4nm,0.5s,baz=64,slow=3.4,SNR=7.2
ZALV Zalesovo Beam 42.46 304 P **P 16 13 22.6 -1.1**
ZALV 16 15 15.9
ZALV pmax pmax
comp=Z,1.0nm,0.5s,mb3.7
CD2 Chengdu 42.89 264 *e*P **P 16 13 27.3 -0.1**
CD2 AP pP 16 13 43.9 +2.1
CD2 XP sP 16 13 52.3 +4.2
CD2 PP PP 16 15 10.0 +2.3
CD2 S **S 16 19 46.6 -1.5**
CD2 SS SS 16 22 53.1 -7.9
CD2 AMB AMB
comp=Z,10.0nm,0.6s,mb4.7
CD2 AMB AMB
comp=Z,20nm,4.2s
CD2 LR LR
comp=N,160nm,14.2s
CD2 LR LR
comp=Z,180nm,12.8s,MS4.2
GYA Guiyang 44.05 257 P **P 16 13 38.8 +2.0**
GYA AP pP 16 13 53.9 +2.8
GYA XP sP 16 14 02.4 +4.9
GYA PP PP 16 15 22.0 +1.9
GYA SCP ScP 16 19 06.4 -1.9
GYA PCS PcS 16 19 14.8 +0.2
GYA S **S 16 20 03.8 -1.3**
GYA SCS ScS 16 23 26.4 -3.9
GYA AMB AMB
comp=Z,10.0nm,0.9s,mb4.5
GYA AMB AMB
comp=Z,50nm,5.4s
WMQ Urumqi 45.60 290 P **P 16 13 51.0 +2.1**
WMQ AP pP 16 14 07.0 +3.7
WMQ XP sP 16 14 15.0 +5.3
MKAR Makanchi Array 47.26 296 P **P 16 14 00.7 -1.2**
comp=Z,0.9nm,0.7s,mb3.8,baz=60,slow=7.2,SNR=6.9
MKAR PcP PcP 16 15 31.2 -1.0
comp=Z,0.2nm,0.5s,baz=38,slow=6.1,SNR=4.1
MKAR Makanchi Array 47.26 296 P **P 16 14 00.7 -1.2**
MKAR 16 15 31.2
MKAR pmax pmax
comp=Z,1.0nm,0.7s
KURK Kurchatov 47.32 303 P **P 16 14 02.4 0.0**
comp=Z,3.7nm,0.2s,mb4.9,baz=67,slow=8.1,SNR=3.6
KURK PcP PcP 16 15 32.5 +0.1
comp=Z,2.0nm,0.3s,baz=60,slow=3.2,SNR=3.7
KURK Kurchatov 47.32 303 P **P 16 14 02.4 +0.1**
KURK 16 15 32.5
KURK pmax pmax
comp=Z,4.0nm,0.3s,mb4.8
KURK pmax pmax
comp=Z,2.0nm,0.3s,mb4.5
KURK Kurchatov 47.32 303 *e*P **P 16 14 00.8 -1.6**
KURK *e*PcP PcP 16 15 31.2 -1.2
YKA Yellowknife Ar 47.65 39 P **P 16 14 04.2 -0.5**
comp=Z,1.6nm,0.8s,mb4.1,baz=299,slow=7.6,SNR=3.8
YKA Yellowknife Ar 47.65 39 P **P 16 14 04.2 -0.5**
YKA pmax pmax
comp=Z,2.0nm,0.8s
B05A Bryant 51.41 58 ⇑P **P 16 14 33.1 -0.4**
baz=51
A09A Danville 52.91 55 ⇓P **P 16 14 44.1 -0.6**
baz=53
EDM Edmonton 53.14 49 *e*P **P 16 14 45.5 -0.7**
C08A Higginbotham F 53.36 57 ⇑P **P 16 14 48.9 +0.9**
baz=53
ARU Arti 54.16 317 *d i*P **P 16 14 52.6 -1.1**
ARU *e* 16 15 54.5
ARU *e* 16 16 52.8
ARU *e*S **S 16 22 26.1 -0.1**
ARU *e*SS SS 16 26 04.7 -3.0
ARU pmax pmax
comp=Z,6.0nm,0.8s,mb4.6
ARU Arti 54.16 317 *e*P **P 16 14 52.3 -1.4**
comp=Z,7.5nm,0.8s,mb4.7
CHTO Chiang Mai 54.47 257 *e*P **P 16 14 56.8 +0.4**
CHTO pmax pmax
comp=Z,7.0nm,0.8s,mb4.6
CHTO Chiang Mai 54.47 257 *e*P **P 16 14 56.8 +0.4**
comp=Z,6.5nm,0.8s,mb4.6
KKM Kota Kinabalu 54.61 231 *e*P **P 16 14 57.6 +0.1**
CMAR Chiang Mai Arr 54.73 257 P **P 16 14 59.1 +0.8**
comp=Z,4.5nm,0.8s,mb4.6,baz=32,slow=7.1,SNR=48
CMAR Chiang Mai Arr 54.73 257 *i* P **P 16 14 59.5 +1.2**
CMAR pmax pmax
comp=Z,5.0nm,0.8s
J05A Fort Rock 54.83 62 ⇓P **P 16 14 59.1 +0.3**
baz=55
C11A Tepee Creek (N 54.84 55 ⇑P **P 16 14 58.1 -0.6**
baz=55
L04A Klamath Falls 55.13 64 ⇓P **P 16 15 00.7 -0.2**
baz=55
A13A Flathead Natio 55.15 53 ⇓P **P 16 15 00.8 -0.1**
baz=55
WALA Waterton Lakes 55.34 53 *e*P **P 16 15 01.2 -1.0**
comp=Z,5.0nm,0.9s,mb4.5
K05A Summer Lake 55.37 63 ⇓P **P 16 15 02.6 0.0**
baz=55
M04C Macdoel 55.40 64 ⇑P **P 16 15 02.5 -0.3**
baz=55
J06A Christmas Vall 55.47 62 ⇓P **P 16 15 03.7 +0.3**
baz=55
K06A Valley Falls 55.69 62 ⇓P **P 16 15 05.8 +0.8**
baz=56
ARCES ARCESS Array B 55.80 341 P **P 16 15 04.3 -1.1**
comp=Z,4.4nm,0.9s,mb4.5,baz=31,slow=7.4,SNR=5.0
ARCES PcP PcP 16 16 03.9 +0.2
comp=Z,2.9nm,0.8s,baz=0.0,slow=4.9,SNR=5.1
ARCES ARCESS Array B 55.80 341 P **P 16 15 04.3 -1.0**
ARCES 16 16 03.9
ARCES pmax pmax
comp=Z,4.0nm,0.9s
ARCES pmax pmax
comp=Z,3.0nm,0.8s
ARCES ARCESS Array B 55.80 341 P **P 16 15 04.3 -1.1**
ARCES PcP PcP 16 16 03.9 +0.2
L05A Lakeview 55.82 63 ⇑P **P 16 15 06.2 +0.3**
baz=56
J07A Hines 55.88 61 ⇓P **P 16 15 06.9 +0.6**
baz=56
G10A Bishop Farm, J 55.92 58 ⇓P **P 16 15 06.5 -0.1**
baz=56
H09A Durkee 56.01 59 ⇑P **P 16 15 06.9 -0.3**
baz=56
E12A Beaver Dam Sad 56.08 56 ⇑P **P 16 15 07.6 -0.1**
baz=56
MOD Modoc 56.22 63 ⇑P **P 16 15 09.0 +0.2**
baz=56
K07A Rock Creek Ran 56.34 62 ⇑P **P 16 15 10.0 +0.4**
baz=56
J08A Circle Bar Ran 56.37 61 ⇑P **P 16 15 09.9 +0.1**
baz=56
B15A Bradely Ranch, 56.50 53 ⇑P **P 16 15 10.3 -0.3**
baz=56
A16A West Butte Ran 56.60 52 ⇓P **P 16 15 10.8 -0.5**
baz=56
F12A Elk City 56.66 57 ⇑P **P 16 15 11.9 +0.1**
baz=56
D14A Greenough 56.77 55 ⇑P **P 16 15 12.0 -0.6**
baz=56
J09A Fry Pan Ranch, 56.78 61 ⇓P **P 16 15 12.9 +0.2**
baz=56
C15A Salmond Ranch, 56.81 54 ⇓P **P 16 15 13.2 +0.3**
baz=56
H11A Donnelly 56.91 58 ⇑P **P 16 15 13.8 +0.2**
baz=57
ORV Oroville 57.00 66 ⇓P **P 16 15 13.5 -0.8**
baz=57
G12A Big Creek, Yel 57.02 58 ⇑P **P 16 15 14.1 -0.2**
baz=57
L08A Fields 57.17 62 ⇑P **P 16 15 16.1 +0.6**
baz=57
M07A Soldier Meadow 57.20 63 ⇓P **P 16 15 15.9 +0.2**
baz=57
N06A Buffalo Meadow 57.22 64 ⇓P **P 16 15 15.8 -0.1**
baz=57
C16A Fuhringer Ranc 57.25 53 ⇓P **P 16 15 16.0 +0.1**
baz=57
D15A Lincoln 57.32 54 ⇑P **P 16 15 16.8 +0.3**
baz=57
BEKR Beckwourth 57.48 65 ⇑P **P 16 15 17.7 0.0**
baz=57
FFC Flin Flon 57.49 42 P **P 16 15 15.6 -1.9**
E15A Deer Lodge 57.65 55 ⇓P **P 16 15 18.9 +0.1**
baz=57
SUMG Summit 57.79 5 *e*P **P 16 15 19.1 -0.2**
comp=Z,3.2nm,0.8s,mb4.4
C17A Wharram Farm, 57.87 53 ⇑P **P 16 15 19.8 -0.5**
baz=58
H13A Challis 57.96 57 ⇓P **P 16 15 20.9 -0.1**
baz=58
LAVA Lava Cap Winer 57.97 66 ⇑P **P 16 15 20.6 -0.5**
baz=58
I12A Atlanta 57.97 59 ⇑P **P 16 15 20.5 -0.5**
baz=58
K11A Parker Ranch, 58.12 60 ⇓P **P 16 15 22.2 +0.1**
baz=58
O07A Toulon 58.16 64 ⇑P **P 16 15 22.6 +0.2**
baz=58
N08A GE Springer Mi 58.20 63 ⇓P **P 16 15 22.7 +0.1**
baz=58
D17A Six Diamond Ra 58.22 53 ⇓P **P 16 15 22.5 -0.2**
baz=58
L10A Juniper Basin 58.32 61 ⇑P **P 16 15 23.7 +0.1**
baz=58
J12A Stokes Ranch, 58.34 59 ⇓P **P 16 15 23.9 +0.2**
baz=58
I13A Wildhorse Cree 58.46 58 ⇑P **P 16 15 24.9 +0.5**
baz=58
N09A Rock Creek Ran 58.50 63 ⇓P **P 16 15 25.0 +0.2**
baz=58
HLID Hailey 58.52 58 ⇓P **P 16 15 25.4 +0.5**
baz=58
HLID Hailey 58.52 58 *e*P **P 16 15 24.6 -0.3**
comp=Z,2.4nm,1.1s,mb4.1
E17A Martinsdale 58.57 54 ⇓P **P 16 15 26.0 +0.8**
baz=58
M10A I.L. Ranch, Tu 58.64 61 ⇓P **P 16 15 26.1 +0.4**
baz=58
CMB Columbia Colle 58.64 67 P **P 16 15 25.0 -0.8**
CMB pmax pmax
comp=Z,4.0nm,1.1s,mb4.4
CMB Columbia Colle 58.64 67 P **P 16 15 24.9 -0.9**
comp=Z,4.0nm,1.1s,mb4.4
L11A Cat Creek Ranc 58.67 60 ⇑P **P 16 15 26.4 +0.4**
baz=58
J13A Cove Ranch, Pi 58.76 58 ⇓P **P 16 15 27.1 +0.5**
baz=58
PACP Pacheco Peak 58.77 68 ⇑P **P 16 15 26.8 +0.1**
baz=59
I14A Mackay 58.81 58 ⇓P **P 16 15 27.6 +0.7**
baz=59,SNR=5.2
G16A Moss Hill, Enn 58.87 56 ⇑P **P 16 15 27.6 +0.3**
baz=59,SNR=5.8
R06C Coleville 58.88 66 ⇑P **P 16 15 27.7 +0.2**
baz=59
J14A Carey 59.17 58 ⇑P **P 16 15 30.0 +0.6**
baz=59,SNR=5.9
U04C Hernandez Rese 59.50 69 ⇓P **P 16 15 31.8 0.0**
baz=59
H16A Russell Place, 59.51 56 ⇑P **P 16 15 32.3 +0.6**
baz=59
F18A Big Timber 59.54 54 ⇑P **P 16 15 32.7 +0.8**
baz=59
Q08A Gabbs 59.56 65 ⇓P **P 16 15 32.0 -0.1**
baz=59
NVAR Mina Array Bea 59.62 65 P **P 16 15 32.8 +0.1**
comp=Z,3.8nm,0.7s,mb4.5,baz=293,slow=7.2,SNR=30
NVAR pP pP 16 15 45.4 -2.2
comp=Z,0.8nm,0.6s,baz=310,slow=6.4,SNR=3.8
M12A Wells 59.63 61 ⇑P **P 16 15 32.6 0.0**
baz=59
KCC Kaiser Creek 59.75 67 ⇑P **P 16 15 33.4 0.0**
baz=60
K14A Jones Ranch, D 59.87 59 ⇑P **P 16 15 33.8 -0.4**
baz=60
H17A Grant Village 60.07 56 ⇓P **P 16 15 37.1 +1.5**
baz=60
K15A Arbon 60.14 58 ⇓P **P 16 15 36.7 +0.6**
baz=60
L14A Malta 60.17 59 ⇑P **P 16 15 37.1 +0.8**
baz=60
J16A Bone 60.25 57 ⇑P **P 16 15 37.9 +1.1**
baz=60
RLMT Red Lodge 60.29 54 ⇓P **P 16 15 38.2 +1.1**
baz=60
M14A Sheep Mountain 60.46 60 ⇓P **P 16 15 38.6 +0.3**
baz=60
R09A Tonopah 60.48 65 ⇑P **P 16 15 38.2 -0.2**
baz=60,SNR=6.7
Q10A Clear Creek Ra 60.48 64 ⇑P **P 16 15 38.8 +0.4**
baz=60
O12A Currie 60.49 62 ⇓P **P 16 15 38.4 -0.1**
baz=60
TPH Tonopah 60.50 65 P **P 16 15 38.5 -0.1**
TPH pmax pmax
comp=Z,4.0nm,0.6s,mb4.6
TPH Tonopah 60.50 65 P **P 16 15 38.5 -0.1**
comp=Z,4.0nm,0.6s,mb4.6
K16A Soda Springs 60.56 58 ⇑P **P 16 15 40.1 +1.2**
baz=60
S09A Goldfield 60.73 65 ⇓P **P 16 15 40.1 -0.1**
baz=60
Q11A Duckwater 60.91 63 ⇑P **P 16 15 41.2 -0.1**
baz=61
S10A Tonopah Range, 60.97 65 ⇓P **P 16 15 41.8 0.0**
baz=61
M15A Larsen Ranch, 60.99 59 ⇑P **P 16 15 42.5 +0.5**
baz=61
CWC Cottonwood Cre 61.08 67 ⇑P **P 16 15 42.0 -0.6**
baz=61
Q12A Willow Creek R 61.25 63 ⇑P **P 16 15 44.0 +0.2**
baz=61
R11A Troy Canyon, C 61.28 64 ⇓P **P 16 15 43.5 -0.4**
baz=61,SNR=6.6
HWUT Hardware Ranch 61.39 59 *e*P **P 16 15 44.0 -0.5**
comp=Z,2.9nm,0.8s,mb4.5
DUG Dugway 61.64 60 *e*P **P 16 15 45.9 -0.4**
DUG pmax pmax
comp=Z,4.0nm,0.8s,mb4.6
DUG Dugway 61.64 60 *e*P **P 16 15 45.9 -0.4**
comp=Z,4.0nm,0.8s,mb4.6
MPMC Manual Prospec 61.68 67 ⇓P **P 16 15 46.6 -0.1**

	baz=62									
BW06	**Boulder Array**	**61.71**	**56**	⇑P		**P**		**16 15 47.0**	**+0.2**
	baz=61									
PDAR	**Pinedale Array**	**61.71**	**56**	P		**P**		**16 15 46.9**	**+0.1**
	comp=Z,3.6nm,0.9s,mb4.5,baz=325,slow=2.4,SNR=22									
O15A	**The Old Anders**	**61.77**	**60**	⇓P		**P**		**16 15 47.9**	**+0.7**
	baz=62									
Q13A	**Wheeler Ranch,**	**61.78**	**62**	⇓P		**P**		**16 15 47.4**	**+0.1**
	baz=62									
FURC	**Furnace Creek,**	**61.78**	**66**	⇑P		**P**		**16 15 47.3**	**-0.1**
	baz=62									
TPNV	**Topopah Spring**	**61.83**	**65**	*e*P		**P**		**16 15 46.9**	**-0.7**
TPNV					pmax	pmax				
	comp=Z,3.0nm,0.8s,mb4.5									
TPNV	**Topopah Spring**	**61.83**	**65**	⇑P		**P**		**16 15 47.3**	**-0.3**
	baz=62									
TPNV	**Topopah Spring**	**61.83**	**65**	*e*P		**P**		**16 15 46.9**	**-0.7**
	comp=Z,3.1nm,0.8s,mb4.5									
R12A	**Pony Springs,**	**61.86**	**63**	⇓P		**P**		**16 15 47.7**	**-0.1**
	baz=62									
P14A	**Drum Mountains**	**61.90**	**61**	⇑P		**P**		**16 15 48.6**	**+0.5**
	baz=62									
LRMC	**Laurel Mountai**	**61.96**	**67**	⇓P		**P**		**16 15 47.8**	**-0.7**
	baz=62									
U10A	**Ash Meadows, A**	**62.13**	**66**	⇑P		**P**		**16 15 49.6**	**-0.1**
	baz=62									
EDW2	**Edwards Air Fo**	**62.18**	**68**	⇓P		**P**		**16 15 49.4**	**-0.6**
	baz=62									
Q14A	**Sevier Lake (B**	**62.18**	**62**	⇑P		**P**		**16 15 50.1**	**+0.2**
	baz=62,SNR=5.4									
S12A	**Delamar Landin**	**62.20**	**64**	⇑P		**P**		**16 15 50.6**	**+0.5**
	baz=62									
T11A	**Corn Creek, Al**	**62.23**	**64**	⇑P		**P**		**16 15 50.1**	**-0.3**
	baz=62,SNR=5.3									
N17A	**Moffit Pass**	**62.24**	**59**	⇓P		**P**		**16 15 50.5**	**+0.2**
	baz=62									
R13A	**O'Grain Ranch,**	**62.33**	**63**	⇓P		**P**		**16 15 51.3**	**+0.4**
	baz=62									
GSC	**Goldstone**	**62.61**	**67**	⇑P		**P**		**16 15 52.3**	**-0.5**
	baz=62									
TUQ	**Turquoise Moun**	**63.04**	**66**	⇓P		**P**		**16 15 55.4**	**-0.3**
	baz=63									
T13A	**Saint George**	**63.16**	**64**	⇑P		**P**		**16 15 56.9**	**+0.5**
	baz=63									
HEC	**Hector,Ludlow**	**63.21**	**67**	⇓P		**P**		**16 15 56.5**	**-0.3**
	baz=63									
V12A	**Nelson**	**63.48**	**65**	⇑P		**P**		**16 15 58.6**	**-0.1**
	baz=63									
U13A	**Pakoon Wash**	**63.53**	**64**	⇓P		**P**		**16 15 59.3**	**+0.3**
	baz=63									
O19A	**Miners Draw (B**	**63.63**	**58**	⇓P		**P**		**16 15 59.8**	**+0.2**
	baz=63									
GMRC	**Granite Mounta**	**63.65**	**67**	⇓P		**P**		**16 15 59.4**	**-0.3**
	baz=63									
SRU	**San Rafael**	**63.67**	**60**	*e*P		**P**		**16 16 00.1**	**+0.3**
SRU					pmax	pmax				
	comp=Z,7.0nm,0.8s,mb4.7									
SRU	**San Rafael**	**63.67**	**60**	⇓P		**P**		**16 16 00.3**	**+0.5**
	baz=63									
SRU	**San Rafael**	**63.67**	**60**	*e*P		**P**		**16 16 00.1**	**+0.3**
	comp=Z,7.2nm,0.8s,mb4.8									
R16A	**Teasdale**	**63.69**	**61**	⇑P		**P**		**16 16 00.6**	**+0.7**
	baz=63									
Q18A	**Rafter H Ranch**	**63.89**	**60**	⇑P		**P**		**16 16 01.3**	**0.0**
	baz=64									
V13A	**Grand Canyon W**	**63.91**	**65**	⇑P		**P**		**16 16 01.4**	**-0.1**
	baz=64,SNR=5.6									
U14A	**Mt Trumbull**	**63.99**	**64**	⇑P		**P**		**16 16 02.3**	**+0.3**
	baz=64									
S16A	**Weppner Ranch,**	**64.01**	**62**	⇓P		**P**		**16 16 02.6**	**+0.5**
	baz=64									
R17A	**Hanksville Air**	**64.04**	**61**	⇑P		**P**		**16 16 02.5**	**+0.2**
	baz=64									
P19A	**Cripple Cowboy**	**64.17**	**59**	⇓P		**P**		**16 16 03.3**	**+0.2**
	baz=64									
IRM	**Iron Mountain**	**64.38**	**67**	⇓P		**P**		**16 16 04.2**	**-0.4**
	baz=64									
Q19A	**Hogan Spring (**	**64.48**	**59**	⇑P		**P**		**16 16 04.8**	**-0.4**
	baz=64,SNR=6.4									
W13A	**Hualapai Mount**	**64.48**	**65**	⇓P		**P**		**16 16 05.2**	**-0.1**
	baz=64									
U15A	**North Rim**	**64.50**	**63**	⇓P		**P**		**16 16 05.4**	**+0.1**
	baz=64									
R18A	**Canyonlands Na**	**64.52**	**60**	⇓P		**P**		**16 16 05.1**	**-0.4**
	baz=64,SNR=5.6									
S17A	**Black Ridge (B**	**64.53**	**61**	⇓P		**P**		**16 16 05.4**	**0.0**
	baz=64,SNR=13									
V14A	**Boquillas Ranc**	**64.58**	**64**	⇑P		**P**		**16 16 06.1**	**+0.3**
	baz=64,SNR=7.1									
X13A	**Yucca**	**64.87**	**66**	⇑P		**P**		**16 16 07.6**	**-0.2**
	baz=65									
W14A	**Seligman**	**64.88**	**65**	⇓P		**P**		**16 16 08.0**	**+0.2**
	baz=65,SNR=5.9									
R19A	**Curley Farm, L**	**64.95**	**60**	⇓P		**P**		**16 16 08.3**	**+0.1**
	baz=65									
S18A	**Hurst Farm, Bl**	**64.95**	**61**	⇑P		**P**		**16 16 07.9**	**-0.3**
	baz=65,SNR=6.1									
V15A	**Kaibab Nationa**	**64.99**	**64**	⇓P		**P**		**16 16 09.1**	**+0.6**
	baz=65									
U16A	**Tuba City**	**65.38**	**63**	⇑P		**P**		**16 16 11.4**	**+0.4**
	baz=65									
S19A	**Harvey Farm, M**	**65.40**	**60**	⇑P		**P**		**16 16 11.5**	**+0.3**
	baz=65									
T18A	**Mexican Hat**	**65.41**	**61**	⇓P		**P**		**16 16 10.7**	**-0.5**
	baz=65									
X14A	**Yava**	**65.51**	**65**	⇓P		**P**		**16 16 12.1**	**+0.2**
	baz=65									
WUAZ	**Wupatki**	**65.67**	**63**	⇑P		**P**		**16 16 13.3**	**+0.3**
	baz=65									
Y14A	**Wickenburg**	**65.81**	**66**	⇑P		**P**		**16 16 13.6**	**-0.3**
	baz=66									
X15A	**Humboldt**	**65.89**	**65**	⇓P		**P**		**16 16 14.4**	**+0.1**
	baz=66									
U18A	**Rough Rock, Ch**	**65.91**	**62**	⇑P		**P**		**16 16 14.3**	**-0.2**
	baz=66									
T19A	**Beclabito**	**66.10**	**61**	⇑P		**P**		**16 16 15.9**	**+0.2**
	baz=66									
Y15A	**Casa Rosa Ranc**	**66.20**	**65**	⇑P		**P**		**16 16 16.3**	**-0.1**
	baz=66									
V18A	**Ganado**	**66.37**	**62**	⇑P		**P**		**16 16 17.7**	**+0.3**
	baz=66									
X16A	**Lo Mia Camp, P**	**66.40**	**64**	⇓P		**P**		**16 16 18.2**	**+0.6**
	baz=66									
W19A	**Sanders**	**67.11**	**62**	⇓P		**P**		**16 16 22.1**	**0.0**
	baz=67									
115A	**Sonoran Desert**	**67.14**	**66**	⇓P		**P**		**16 16 22.8**	**+0.5**
	baz=67									
X18A	**Snowflake**	**67.19**	**63**	⇑P		**P**		**16 16 23.0**	**+0.4**
	baz=67									
Y17A	**Roosevelt**	**67.26**	**64**	⇑P		**P**		**16 16 23.0**	**-0.2**
	baz=67									
X19A	**St. Johns**	**67.65**	**63**	⇑P		**P**		**16 16 25.9**	**+0.4**
	baz=67									
216A	**Three Points,**	**68.10**	**66**	⇓P		**P**		**16 16 28.1**	**-0.3**
	baz=68									
117A	**Oracle**	**68.12**	**65**	⇑P		**P**		**16 16 28.4**	**-0.1**
	baz=68									
Z19A	**T-Link Ranch,**	**68.47**	**64**	⇓P		**P**		**16 16 30.9**	**+0.1**
	baz=68									
118A	**Homack Ranch,**	**68.53**	**65**	⇓P		**P**		**16 16 31.1**	**0.0**
	baz=68									
119A	**Ashpeak Ranch,**	**68.83**	**64**	⇓P		**P**		**16 16 33.1**	**+0.1**
	baz=69									
ANMO	**Albuquerque**	**68.90**	**61**	P		**P**		**16 16 33.4**	**0.0**
ANMO					pmax	pmax				
	comp=Z,2.0nm,0.8s									
ANMO	**Albuquerque**	**68.90**	**61**	P		**P**		**16 16 33.4**	**0.0**
	comp=Z,1.6nm,0.8s,mb4.0									
318A	**Bisbee**	**69.37**	**66**	⇑P		**P**		**16 16 36.2**	**-0.1**
	baz=69									
219A	**White Tail Can**	**69.40**	**65**	⇑P		**P**		**16 16 36.7**	**+0.1**
	baz=69									
319A	**Douglas**	**69.84**	**65**	⇑P		**P**		**16 16 39.0**	**-0.2**
	baz=70									
AKASG	**Malin Array Be**	**70.19**	**327**	P		**P**		**16 16 39.6**	**-1.4**
	comp=Z,1.0nm,0.4s,mb4.1,baz=33,slow=6.7,SNR=3.1									
AKASG	**Malin Array Be**	**70.19**	**327**	P		**P**		**16 16 39.6**	**-1.5**
AKASG					pmax	pmax				
	comp=Z,1.0nm,0.4s									
WRAB	**Tennant Creek**	**71.72**	**201**	*e*P		**P**		**16 16 49.0**	**-1.5**
WRAB					pmax	pmax				
	comp=Z,4.0nm,0.8s,mb4.4									
WRAB	**Tennant Creek**	**71.72**	**201**	*e*P		**P**		**16 16 49.0**	**-1.6**
	comp=Z,4.0nm,0.8s,mb4.4									
WRA	**Warramunga Arr**	**71.73**	**201**	P		**P**		**16 16 49.2**	**-1.4**
	comp=Z,4.3nm,0.8s,mb4.4,baz=16,slow=6.4,SNR=29									
WRA					pP	pP		16 17 02.5	-3.4	
	comp=Z,1.7nm,0.6s,baz=15,slow=6.1,SNR=6.6									
WRA	**Warramunga Arr**	**71.73**	**201**	P		**P**		**16 16 49.2**	**-1.4**
WRA					*PP	pP		16 17 02.5	-3.4	
WRA					pmax	pmax				
	comp=Z,4.0nm,0.8s									
WRA					pmax	pmax				
	comp=Z,2.0nm,0.6s									
GNI	**Garni**	**72.05**	**311**	⇑*i*P		**P**		**16 16 55.5**	**+3.0**
GNI					pmax	pmax				
	comp=Z,12nm,1.7s									
FITZ	**Fitzroy Crossi**	**72.43**	**210**	*e*P		**P**		**16 16 54.5**	**-0.3**
	comp=Z,4.7nm,0.8s,mb4.5									
FITZ	**Fitzroy Crossi**	**72.43**	**210**	P		**P**		**16 16 54.0**	**-0.8**
	comp=Z,3.3nm,0.9s,mb4.2,baz=3.3,slow=6.5,SNR=8.7									
FITZ					pP	pP		16 17 07.2	-3.0	
	comp=Z,1.6nm,0.7s,baz=262,slow=23,SNR=3.3									
TXAR	**Lajitas Array**	**74.62**	**63**	P		**P**		**16 17 07.5**	**-0.3**
	comp=Z,4.4nm,0.6s,mb4.6,baz=300,slow=4.3,SNR=59									
TXAR	**Lajitas Array**	**74.62**	**63**	P		**P**		**16 17 07.5**	**-0.3**
TXAR					pmax	pmax				
	comp=Z,4.0nm,0.6s									
CLL	**Collm**	**74.64**	**337**	*i* P		**P**		**16 17 07.7**	**+0.2**
CLL					pmax	pmax				
	comp=Z,4.0nm,0.5s,mb4.6									
CLL	**Collm**	**74.64**	**337**	*i* P		**P**		**16 17 07.7**	**+0.2**
	comp=Z,4.0nm,0.5s,mb4.6									
MORC	**Moravsky Berou**	**74.77**	**333**	*e*P		**P**		**16 17 08.7**	**+0.4**
MORC					pmax	pmax				
	comp=Z,3.0nm,0.8s,mb4.3									
MORC	**Moravsky Berou**	**74.77**	**333**	*e*P		**P**		**16 17 08.7**	**+0.4**
	comp=Z,2.9nm,0.8s,mb4.3									
ASAR	**Alice Springs**	**75.42**	**201**	P		**P**		**16 17 11.8**	**-0.4**
	comp=Z,2.4nm,0.7s,mb4.2,baz=13,slow=5.6,SNR=52									
ASAR					pP	pP		16 17 25.4	-2.2	
	comp=Z,1.2nm,0.5s,baz=15,slow=5.4,SNR=7.5									
ASAR	**Alice Springs**	**75.42**	**201**	P		**P**		**16 17 11.8**	**-0.4**
ASAR					*PP	pP		16 17 25.4	-2.2	
ASAR					pmax	pmax				
	comp=Z,2.0nm,0.7s									
ASAR					pmax	pmax				
	comp=Z,1.0nm,0.5s									
KHC	**Kasperske Hory**	**76.47**	**336**	⇑*i*P		**P**		**16 17 18.8**	**+0.8**
GERES	**GERESS Array B**	**76.70**	**335**	P		**P**		**16 17 19.9**	**+0.5**
	comp=Z,0.2nm,0.4s,mb3.4,baz=147,slow=25,SNR=5.7									
CDF	**Champ du Feu**	**78.72**	**339**	*e*P		**P**		**16 17 30.5**	**-0.1**
FLN	**La Foliniere**	**79.97**	**344**	*e*P		**P**		**16 17 37.2**	**-0.2**
LDF	**La Druitiere**	**80.07**	**344**	*e*P		**P**		**16 17 37.6**	**-0.3**
GRR	**Gorron**	**80.40**	**344**	*e*P		**P**		**16 17 39.7**	**0.0**
	comp=Z,18nm,0.8s,mb4.8									
LOR	**Lormes**	**80.56**	**341**	*e*P		**P**		**16 17 40.3**	**-0.3**
SGMF	**Saint Gilles**	**80.81**	**346**	*e*P		**P**		**16 17 42.0**	**+0.1**
	comp=Z,8.7nm,0.6s,mb4.5									
SSF	**Saint Saulge**	**80.83**	**341**	*e*P		**P**		**16 17 41.9**	**-0.1**
ROSF	**Rostrenen**	**80.85**	**346**	*e*P		**P**		**16 17 41.5**	**-0.6**
	comp=Z,19nm,0.9s,mb4.7									
AVF	**Avril sur Loir**	**81.12**	**341**	*e*P		**P**		**16 17 43.5**	**-0.1**
SMF	**Signal de Mont**	**81.15**	**341**	*e*P		**P**		**16 17 44.0**	**+0.2**
	comp=Z,9.3nm,0.9s,mb4.4									
QUIF	**Quistinic**	**81.24**	**346**	*e*P		**P**		**16 17 44.3**	**+0.1**
BGF	**Bois d'Agland**	**81.45**	**341**	*e*P		**P**		**16 17 45.4**	**+0.1**
LPL	**La Plagne**	**81.57**	**339**	*e*P		**P**		**16 17 46.8**	**+0.8**
	comp=Z,10nm,0.7s,mb4.6									
LPG	**La Plagne**	**81.58**	**339**	*e*P		**P**		**16 17 47.1**	**+1.1**
	comp=Z,8.3nm,0.6s,mb4.5									
TCF	**Toulx Ste Croi**	**81.83**	**342**	*e*P		**P**		**16 17 47.5**	**+0.1**
	comp=Z,22nm,1.2s,mb4.7									
MFF	**Saint Martin d**	**81.99**	**343**	*e*P		**P**		**16 17 48.4**	**+0.2**
	comp=Z,16nm,0.9s,mb4.7									
STKA	**Stephens Creek**	**82.02**	**192**	P		**P**		**16 17 47.1**	**-1.1**
	comp=Z,2.0nm,0.9s,mb4.0,baz=144,slow=7.3,SNR=4.1									
MBDF	**Montbardon**	**82.30**	**338**	*e*P		**P**		**16 17 50.0**	**+0.2**
ORIF	**Oris-en-Rattie**	**82.33**	**339**	*e*P		**P**		**16 17 49.4**	**-0.6**
	comp=Z,12nm,0.8s,mb4.6									
VIVF	**Saint-Julien-l**	**82.67**	**340**	*e*P		**P**		**16 17 51.5**	**-0.3**
	comp=Z,6.3nm,0.7s,mb4.4									
CAF	**Calviac**	**83.17**	**342**	*e*P		**P**		**16 17 54.9**	**+0.6**
LFF	**La Frestale**	**83.42**	**342**	*e*P		**P**		**16 17 55.6**	**0.0**
LMR	**La Mourre**	**83.68**	**338**	*e*P		**P**		**16 17 56.9**	**-0.1**
PGF	**Pioggiola**	**83.78**	**336**	*e*P		**P**		**16 17 57.3**	**-0.2**
MTLF	**Montolieu**	**84.65**	**341**	*e*P		**P**		**16 18 02.4**	**+0.5**
SNAA	**Sanae**	**155.72**	**196**	*e*PKPdf		PKPab		16 25 46.6	-0.7
SNAA				*e*				16 26 00.1		
VNA2	**Neumayer--Watz**	**157.13**	**194**	*e*PKPdf		PKPab		16 25 52.9	-0.5
VNA2				*e*				16 26 06.8		
VNA3	**Neumayer Olymp**	**157.19**	**192**	*e*PKPdf		PKPab		16 25 52.6	-1.0
VNA3				*e*				16 26 06.5		

BJI ***18*** *16:13:11.4,3021N×4356W,h10km,mB5.7,mb5.4,Ms6.6, Msz5.3*

IDC ***18*** *16:13:12.4±0.4,3018N×4269W,h0km,mb4.9/27, mb1 5.0/27,mb1mx5.0/27,mbtmp4.9/27,MS5.2/25, Ms1 5.2/25,ms1mx5.1/29,Error ellipse: s-maj=14.0km s-min=11.1km az=139.0*

ISCJB ***18*** *16:13:13.0±0.8,3018N×003×4262W×001,h12km±5km, mb5.3/313,MS5.3/227,Error ellipse: s-maj=4.6km s-min=1.8km az=173.4*

MOS ***18*** *16:13:13.2±0.9,3020N×4263W,h13km,mb5.6/129, MS5.2/71,Error ellipse: s-maj=5.6km s-min=3.2km az=137.6*

IGIL ***18*** *16:13:14.0,3010N×4254W,h10km,MS5.2*

GCMT ***18*** *16:13:14.1±0.1,3021N×4265W,h12km,MW5.8/106, Moment Tensor Solution. s94,c162; s106,c304; Duration: 1ŝ8 Moment tensor: Scale 10¹⁷Nm; Mrr=1.77±.05; Mθφ2.40±.05; Mθθ-0.62±.05; Mφφ-1.03±.13; Mθφ4.60±.04; Mθr-1.56±.13; Best double couple: M◎5.14200×10¹⁷ NP1:φ◎280.00000°,δ68.00000°, λ-4.00000°. NP2:φ◎11.00000°,δ87.00000°,λ-158.00000°. Principal axes: T 6.1190, Plg13.0000°, Azm143.0000°; N -1.9510, Plg68.0000°, Azm19.0000°; P -4.1660, Plg18.0000°, Azm237.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*

NEIC ***18*** *16:13:14.1±0.1,3013N×4259W,h10km,mb5.5/232, MS5.3/185,MW5.7 Error ellipse: s-maj=3.7km s-min=1.8km az=171.0,Moment Tensor Solution. s58 Moment tensor: Scale 10¹⁷Nm; Mrr0.08; Mθφ1.73; Mφφ-1.81; Mθθ0.46; Mφθ3.14; Mφr1.02; Best double couple: M◎3.80000×10¹⁷ NP1:φ◎105.00000°,δ73.00000°, λ3.00000°. NP2:φ◎14.00000°,δ87.00000°,λ163.00000°. Principal axes: T 3.7900, Plg13.0000°, Azm328.0000°; N -0.0300, Plg72.0000°, Azm185.0000°; P -3.7600, Plg9.0000°, Azm60.0000°;*

SZGRF ***18*** *16:13:19.0,3044N×4220W,h33km,mb5.3,MS5.4, Northern Mid-Atlantic Ridge*

ISC 18 16:13:15.7±0.9,3016N×003×4259W×001,h17km±5km, h15km±2.9km:pP-P,n1234,σ◎89/1198,mb5.3/313, MS5.3/227,193C-184D,Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h	m	s	Res ISC
PDA	**Ponta Delgada**	**15.94**	**57**	*e*P	**Pn**	**16 17 02.0**			**+2.8**
PDA				eLQ		16 20 00.0			
PDA				eS	Sn	16 20 26.9			+31
PDA				eLR	LR	16 20 34.0			
CMLA	**Cha da Macela** 1μm,1.6s	**16.05**	**57**	*e*P	**Pn**	**16 17 01.1**			**+0.5**
CMLA				eLR	LR	16 20 01.0			
CMLA				*e*S	**Sn**	**16 20 13.4**			**+15**
CMLA				eLQ		16 20 20.4			
CMLA	**Cha da Macela** 2μm,2.1s	**16.05**	**57**	*e*Pn	**Pn**	**16 16 58.0**			**-2.6**
BBSR	**BB Station** 536nm,1.4s	**19.02**	**282**	*e*P	**Pn**	**16 17 36.9**			**-0.6**
ANWB	**Willy Bob**	**21.46**	**239**	⇓P	**P**	**16 18 02.6**			**-0.7**
EHIG	**Higuera** 947nm,3.0s	**21.66**	**88**	P	**P**	**16 18 05.8**			**+0.4**
CHIE	**El Hierro** 158nm,1.4s,mb5.2	**21.68**	**90**	P	**P**	**16 18 06.3**			**+0.6**
DEG	**La Desirade**	**21.82**	**235**	*e*P	**P**	**16 18 06.1**			**-1.1**
BPA	**Boggy Peak**	**21.91**	**238**	*e*	**P**	**16 18 07.8**			**-0.3**
EGOM	**La Gomera** 1μm,4.3s	**22.25**	**89**	P	**P**	**16 18 10.9**			**-0.8**
MGG	**Marie-Galante**	**22.26**	**235**	*e*P	**P**	**16 18 11.8**			**-0.1**
DOG	**Dongo Capester**	**22.40**	**235**	*e*P	**P**	**16 18 13.5**			**+0.1**
LZG	**Guadaloupe-1**	**22.44**	**236**	*e*P	**P**	**16 18 13.8**			**-0.1**
HMG	**Houelmont**	**22.49**	**235**	*e*P	**P**	**16 18 14.5**			**+0.1**
TBG	**Guadaloupe-3**	**22.54**	**235**	*e*P	**P**	**16 18 14.6**			**-0.2**
EBAJ	**Bajamar** 1μm,4.1s	**22.93**	**87**	P	**P**	**16 18 19.6**			**+0.7**
FDF	**Fort de France**	**22.96**	**232**	*e*P	**P**	**16 18 18.3**			**-1.1**
FDF	**Fort de France**	**22.96**	**232**	⇓*i*P	**P**	**16 18 17.9**			**-1.4**
BIM	**Bigot**	**23.06**	**232**	*e*P	**P**	**16 18 20.1**			**-0.3**
BBGH	**Gun Hill** 454nm,1.1s,mb5.8	**23.08**	**226**	*e*P	**P**	**16 18 21.2**			**+0.6**
BBGH				LR	LR				
	comp=Z,4μm,20.0s,MS4.9								
EOSO	**Osorio**	**23.70**	**88**	P	**P**	**16 18 24.1**			**-2.7**
	comp=Z,707nm,3.6s								
MTP	**Monte Pirata**	**24.09**	**245**	⇓*i*P	**P**	**16 18 27.3**			**-3.1**
SJG	**San Juan**	**24.56**	**246**	⇓*e*P	**P**	**16 18 33.4**			**-1.3**
	comp=Z,273nm,1.2s,mb5.7								
SJG				LR	LR				
	comp=Z,8μm,20.0s,MS5.2								
GRCU	**Cariacou**	**24.80**	**229**	*e*	**P**	**16 18 37.8**			**+0.9**
GRIC	**Isle de Caille**	**25.02**	**229**	*e*	**P**	**16 18 42.1**			**+3.1**
GRSS	**Sisters**	**25.03**	**229**	*e*	**P**	**16 18 40.2**			**+1.2**
GRHS	**Sauteurs**	**25.11**	**229**	*e*	**P**	**16 18 42.5**			**+2.8**
AGPR	**Aguadilla, PR**	**25.13**	**248**	⇓*e*P	**P**	**16 18 38.1**			**-1.8**
AGPR				*e*		16 18 46.5			
GRW	**Mount Saint Ca**	**25.17**	**229**	*e*P	**P**	**16 18 41.0**			**+0.7**
GRW	**Mount Saint Ca**	**25.17**	**229**	*e*	**P**	**16 18 41.9**			**+1.7**
GRGR	**Grenville**	**25.18**	**229**	⇓*e*P	**P**	**16 18 39.7**			**-0.7**
	comp=Z,1μm,1.2s,mb6.3								
GRGR				LR	LR				
	comp=Z,3μm,22.0s,MS4.8								
TPR	**Prospect**	**25.34**	**226**	*e*P	**P**	**16 18 42.6**			**+0.8**
PKME	**Peaks-Kenny Pk**	**25.80**	**313**	*e*P	**P**	**16 18 43.9**			**-1.8**
	comp=Z,52nm,0.7s,mb5.2								
PKME				LR	LR				
	comp=Z,9μm,20.0s,MS5.3								
WES	**Weston**	**26.05**	**306**	*e*P	**P**	**16 18 47.5**			**-0.5**
	comp=Z,113nm,1.1s,mb5.3								
WES				LR	LR				
	comp=Z,5μm,20.0s,MS5.1								
BRYW	**Bryant College**	**26.06**	**305**	*e*P	**P**	**16 18 49.3**			**+1.2**
	comp=Z,1μm,1.8s,mb6.2								
TBH	**Brigand Hill**	**26.06**	**225**	*e*P	**P**	**16 18 50.8**			**+2.4**
HRV	**Adam Dziewonsk**	**26.25**	**306**	*e*P	**P**	**16 18 50.9**			**+1.1**
	comp=Z,138nm,1.1s,mb5.4								
HRV				LR	LR				
	comp=Z,8μm,21.0s,MS5.3								
TCE	**Chacachacare**	**26.33**	**227**	*e*P	**P**	**16 18 49.3**			**-1.4**
TPP	**Pointe-a-Pierr**	**26.43**	**226**	*e*	**P**	**16 18 52.5**			**+0.8**
FFD	**Franklin Falls**	**26.64**	**308**	⇑*e*P	**P**	**16 18 55.3**			**+1.9**
	comp=Z,564nm,1.3s,mb5.9								
QUA2	**Belchertown**	**26.74**	**305**	*e*P	**P**	**16 18 53.5**			**-0.8**
	comp=Z,307nm,1.5s,mb5.6								
LBNH	**Lisbon**	**27.10**	**309**	*e*P	**P**	**16 18 57.2**			**-0.2**
	comp=Z,152nm,1.4s,mb5.3								
LBNH				LR	LR				
	comp=Z,8μm,22.0s,MS5.2								
HNH	**Hanover**	**27.15**	**308**	*e*P	**P**	**16 18 58.6**			**+0.7**
	comp=Z,124nm,1.2s,mb5.3								
CPNY	**Central Park**	**27.53**	**301**	*e*P	**P**	**16 19 01.5**			**+0.1**
	comp=Z,73nm,1.0s,mb5.3								
PAL	**Palisades**	**27.54**	**302**	P	**P**	**16 19 03.3**			**+1.9**
PAL					pmax	pmax			
	comp=Z,55nm,1.0s,mb5.1								
PAL	**Palisades**	**27.54**	**302**	*e*P	**P**	**16 18 58.8**			**-2.7**
	comp=Z,55nm,1.0s,mb5.1								
MDV	**Middlebury**	**27.86**	**308**	*e*P	**P**	**16 19 05.0**			**+0.7**
BRNJ	**Basking Ridge**	**27.95**	**301**	*e*P	**P**	**16 19 03.9**			**-1.3**
	comp=Z,138nm,1.1s,mb5.5								
ACCN	**Adirondack Com**	**28.00**	**307**	*e*P	**P**	**16 19 06.2**			**+0.7**
	comp=Z,151nm,1.6s,mb5.4								
FRNY	**Flat Rock**	**28.42**	**310**	*e*P	**P**	**16 19 08.7**			**-0.5**
	comp=Z,76nm,1.4s,mb5.1								
BBTS	**Babate**	**28.51**	**117**	P	**P**	**16 19 06.6**			**-3.7**
	comp=Z,8.2nm,0.5s,mb4.7,baz=270,slow=8.1,SNR=2.1								
BBTS					LR	LR		16 28 00.9	
	comp=Z,8μm,19.3s,MS5.4,baz=145,slow=31

PVRL **Vila Real** 30.23 59 *e*P P 16 19 26.3 +1.0
comp=Z,66nm,1.7s,mb5.1
PBAR **Barrancos** 30.34 65 *e*P P 16 19 26.2 -0.2
comp=Z,30nm,1.5s,mb4.8
PBAR *e*LQ 16 25 50.8
PBAR *e*LR LR 16 27 13.0
comp=Z,6µm,20.0s
EBAD **Badajoz** 30.41 64 P P 16 19 26.4 -0.7
comp=Z,309nm,2.4s,mb5.6
RTC **Rabat Centre** 30.43 73 PFAKE 16 19 40.0 +13
RTC LR LR
comp=Z,5µm,21.0s,MS5.2
SSPA **Standing Stone** 30.43 300 *e*P P 16 19 24.7 -2.5
comp=Z,63nm,1.0s,mb5.3
SSPA LR LR
comp=Z,3µm,19.0s,MS5.0
EMIN **Mina Concepcio** 30.61 66 P P 16 19 27.9 -0.8
comp=Z,243nm,3.2s
MOAC **Moa** 30.64 260 *e*P P 16 19 29.5 +0.3
MVO **Moncorvo** 30.72 59 *e*P P 16 19 29.9 +0.2
comp=Z,24nm,1.0s,mb5.0
MVO *e*LR LR 16 27 16.3
comp=Z,4µm,20.0s
SFS **San Fernando** 30.93 69 PFAKE 16 19 40.0 +8.4
SFS LR LR
comp=Z,5µm,22.0s,MS5.1
PBRG **Braganca** 31.04 58 *e*P P 16 19 31.0 -1.5
ECAL **Calabor** 31.07 58 P P 16 19 34.1 +1.3
comp=Z,397nm,3.2s
ESPR **Espera** 31.21 68 P P 16 19 34.5 +0.3
comp=Z,268nm,3.0s
EPLA **Plasencia** 31.27 62 P P 16 19 33.9 -0.7
EPLA pmax pmax
comp=Z,716nm,4.2s
EPLA **Plasencia** 31.27 62 P P 16 19 33.9 -0.8
comp=Z,716nm,4.2s
EJIF **Jimena Fronter** 31.52 69 P P 16 19 37.3 +0.5
EJIF pmax pmax
comp=Z,2.0nm,0.8s,mb4.0
EJIF **Jimena Fronter** 31.52 69 P P 16 19 37.3 +0.5
comp=Z,1.7nm,0.8s,mb3.9
RCC **Rio Carpintero** 31.54 259 *e*P P 16 19 35.6 -1.6
ECAB **El Cabril** 31.61 65 P P 16 19 36.2 -1.4
comp=Z,947nm,5.7s
MCWV **Mont Chateau** 31.80 298 PFAKE 16 19 50.0 +11
MCWV LR LR
comp=Z,4µm,19.0s,MS5.2
NHSC **New Hope** 32.02 285 PFAKE 16 19 50.0 +8.7
NHSC LR LR
comp=Z,3µm,19.0s,MS5.0
EMIJ **Mijas** 32.08 68 P P 16 19 40.3 -1.4
comp=Z,304nm,4.9s
BLA **Blacksburg** 32.09 293 *e*P P 16 19 42.6 +0.7
BLA MLR MLR
comp=Z,5µm,21.0s,MS5.2
ERPA **Erie** 32.23 302 *e*P P 16 19 43.5 +0.5
comp=Z,46nm,0.7s,mb5.4
ERPA LR LR
comp=Z,4µm,19.0s,MS5.1
ALLY **Alegheny Colle** 32.27 301 *e*P P 16 19 44.2 +0.9
comp=Z,128nm,1.2s,mb5.6
EADA **Adamuz** 32.28 65 P P 16 19 42.3 -1.1
comp=Z,250nm,3.3s
ELN **Prospectdale** 32.36 293 *e*P P 16 19 45.5 +1.3
EARI **Arriondas** 32.43 56 P P 16 19 48.0 +3.2
comp=Z,406nm,2.9s,mb5.8
PAB **San Pablo** 32.55 63 P P 16 19 46.0 +0.2
PAB pmax pmax
comp=Z,14nm,1.0s,mb4.8
PAB **San Pablo** 32.55 63 *e*P P 16 19 42.8 -3.0
comp=Z,14nm,0.9s,mb4.9
PAB LR LR
comp=Z,4µm,21.0s,MS5.1
ELOJ **Sierra Loja** 32.58 67 P P 16 19 47.8 +1.6
ELOJ pmax pmax
comp=Z,2.0nm,0.4s,mb4.4
ELOJ **Sierra Loja** 32.58 67 P P 16 19 47.8 +1.7
comp=Z,2.3nm,0.4s,mb4.5
GUD **Guadarrama** 32.80 61 P P 16 19 47.7 -0.3
GUD pmax pmax
comp=Z,16nm,0.9s,mb5.0
GUD **Guadarrama** 32.80 61 P P 16 19 47.7 -0.3
comp=Z,16nm,0.9s,mb4.9
JSC **Jenkinsville** 32.84 287 *e*P P 16 19 48.2 -0.2
ESDC **Sonseca Array** 32.86 63 P P 16 19 47.6 -0.9
comp=Z,1.4nm,0.5s,mb4.2,baz=259,slow=8.5,SNR=9.1
ESDC LR LR 16 29 56.7
comp=Z,3µm,20.1s,MS5.0,baz=285,slow=30
ESDC **Sonseca Array** 32.86 63 P P 16 19 47.9 -0.6
comp=Z,6.6nm,2.4s,mb4.1
EALB **Alboran** 33.49 69 P P 16 19 53.0 -1.1
comp=Z,450nm,3.0s
EBER **Berja** 33.59 68 P P 16 19 53.1 -1.9
comp=Z,271nm,3.3s
SDV **Santo Domingo** 33.69 237 *e*P P 16 19 56.6 +0.6
comp=Z,328nm,1.0s,mb6.2
SDV *e* 16 20 03.8
SDV LR LR
comp=Z,810nm,21.0s,MS4.4
ELAN **Lanestosa** 33.70 56 P P 16 19 55.4 -0.4
comp=Z,146nm,2.8s,mb5.4
DWPF **Disney** 33.88 276 *e*P P 16 19 58.0 +0.4
comp=Z,135nm,0.9s,mb5.9
DWPF *e* 16 20 05.5
DWPF LR LR
comp=Z,2µm,20.0s,MS4.8
EVIA **Vianos** 33.93 65 P P 16 19 57.4 -0.5
EVIA pmax pmax
comp=Z,31nm,1.2s,mb5.1
EVIA **Vianos** 33.93 65 P P 16 19 57.4 -0.4
comp=Z,31nm,1.2s,mb5.1
ENIJ **Nijar** 34.14 68 P P 16 20 00.8 +1.1
ENIJ pmax pmax
comp=Z,22nm,1.4s,mb4.9
ENIJ **Nijar** 34.14 68 P P 16 20 00.8 +1.1
comp=Z,22nm,1.4s,mb4.9
ACSO **Alum Creek Sta** 34.25 298 *e*P P 16 20 01.1 +0.4
comp=Z,114nm,1.1s,mb5.7
ACSO LR LR
comp=Z,3µm,19.0s,MS5.1
ETOR **Torete** 34.41 61 P P 16 20 03.2 +1.2
ETOR pmax pmax
comp=Z,17nm,1.2s,mb4.8
ETOR **Torete** 34.41 61 P P 16 20 03.2 +1.2
comp=Z,17nm,1.2s,mb4.8
DCN **Croghan** 34.53 38 *e*P P 16 20 06.8 +3.9
TZTN **Tazewell** 34.60 292 *e*P P 16 20 04.2 +0.5
comp=Z,27nm,1.0s,mb5.1
TZTN LR LR
comp=Z,4µm,20.0s,MS5.2
ETOB **Tobarra** 34.68 65 P P 16 20 03.5 -0.8
comp=Z,528nm,3.1s
GOGA **Godfrey** 34.74 286 P P 16 20 04.6 -0.4
GOGA pmax pmax
comp=Z,68nm,1.2s,mb5.5
GOGA MLR MLR
comp=Z,3µm,19.0s,MS5.0
GOGA **Godfrey** 34.74 286 P P 16 20 04.6 -0.4
comp=Z,68nm,1.2s,mb5.5
GOGA LR LR
comp=Z,3µm,19.0s,MS5.0
EMUR **La Murta** 34.91 66 P P 16 20 06.1 -0.3
comp=Z,270nm,2.2s,mb5.8
DLF **Lyons Farm** 34.91 38 *e*P P 16 20 05.9 -0.3
QUIF **Quistinic** 34.93 48 *e*P P 16 20 06.2 -0.2
comp=Z,134nm,1.5s,mb5.4
QUIF **Quistinic** 34.93 48 *e*P P 16 20 06.2 -0.2
QUIF pmax pmax
comp=Z,67nm,1.5s,mb5.3
QUIF **Quistinic** 34.93 48 *e*P P 16 20 06.2 -0.2
comp=Z,67nm,1.5s,mb5.3
ROSF **Rostrenen** 34.98 48 *e*P P 16 20 06.8 0.0
comp=Z,110nm,1.3s,mb5.3
ROSF **Rostrenen** 34.98 48 *e*P P 16 20 06.8 0.0
ROSF pmax pmax
comp=Z,55nm,1.3s,mb5.3
ROSF **Rostrenen** 34.98 48 *e*P P 16 20 06.8 0.0
comp=Z,55nm,1.3s,mb5.3
EALK **Alkurruntz** 35.09 57 P P 16 20 02.6 -5.2
comp=Z,192nm,3.5s
SJPF **Ste Jean** 35.28 57 *e*P P 16 20 09.7 +0.2
comp=Z,126nm,1.3s,mb5.4
SJPF **Ste Jean** 35.28 57 *e*P P 16 20 09.7 +0.2
SJPF pmax pmax
comp=Z,63nm,1.3s,mb5.4
SJPF **Ste Jean** 35.28 57 *e*P P 16 20 09.7 +0.2
comp=Z,63nm,1.3s,mb5.4

SGMF **Saint Gilles** 35.41 48 *e*P P 16 20 10.7 +0.1
comp=Z,210nm,1.4s,mb5.6
SGMF **Saint Gilles** 35.41 48 *e*P P 16 20 10.7 +0.1
SGMF pmax pmax
comp=Z,105nm,1.4s,mb5.6
SGMF **Saint Gilles** 35.41 48 *e*P P 16 20 10.7 +0.1
comp=Z,105nm,1.4s,mb5.6
CPCT **Cooper Cave** 35.44 290 *e*P P 16 20 10.1 -0.9
EBEN **Beniarda** 35.71 65 P P 16 20 20.8 +7.5
comp=Z,280nm,2.1s,mb5.8
ETSF **Etsaut** 35.73 57 *e*P P 16 20 14.3 +0.9
comp=Z,195nm,1.6s,mb5.5
ETSF **Etsaut** 35.73 57 *e*P P 16 20 14.3 +0.9
ETSF pmax pmax
comp=Z,97nm,1.6s,mb5.5
ETSF **Etsaut** 35.73 57 *e*P P 16 20 14.3 +0.9
comp=Z,97nm,1.6s,mb5.5
REYF **Montagne du Re** 35.88 57 *e*P P 16 20 12.5 -2.1
GLMI **Grayling** 36.00 306 PFAKE 16 20 30.0 +14
GLMI LR LR
comp=Z,8µm,22.0s,MS5.4
EBIE **Bielsa** 36.22 58 P P 16 20 17.3 -0.3
comp=Z,432nm,4.2s
ERTA **Horta de San J** 36.22 61 P P 16 20 17.5 -0.2
comp=Z,360nm,3.2s
RCBR **Riachuelo** 36.35 169 *e*P P 16 20 15.1 -3.8
comp=Z,55nm,1.0s,mb5.4
RCBR LR LR
comp=Z,5µm,20.0s,MS5.3
EPF **Esparros** 36.40 57 *e*P P 16 20 19.8 +0.6
comp=Z,247nm,1.6s,mb5.6
EPF **Esparros** 36.40 57 *e*P P 16 20 19.8 +0.6
EPF pmax pmax
comp=Z,124nm,1.6s,mb5.6
EPF **Esparros** 36.40 57 *e*P P 16 20 19.8 +0.6
comp=Z,124nm,1.6s,mb5.6
GRR **Gorron** 36.54 48 *e*P P 16 20 20.2 0.0
comp=Z,173nm,1.3s,mb5.4
GRR **Gorron** 36.54 48 *e*P P 16 20 20.2 0.0
GRR pmax pmax
comp=Z,86nm,1.3s,mb5.4
GRR **Gorron** 36.54 48 *e*P P 16 20 20.2 0.0
comp=Z,86nm,1.3s,mb5.4
SWET **Sewanee** 36.61 290 *e*P P 16 20 21.1 +0.2
MFF **Saint Martin d** 36.61 51 *e*P P 16 20 21.1 +0.2
comp=Z,115nm,0.9s,mb5.4
MFF **Saint Martin d** 36.61 51 *e*P P 16 20 21.1 +0.2
MFF pmax pmax
comp=Z,57nm,0.9s,mb5.4
MFF **Saint Martin d** 36.61 51 *e*P P 16 20 21.1 +0.2
comp=Z,58nm,0.9s,mb5.4
WCI **Wyandotte Cave** 36.76 295 *e*P P 16 20 22.3 +0.1
WCI *e* 16 20 31.6
WCI pmax pmax
comp=Z,64nm,1.0s,mb5.4
WCI MLR MLR
comp=Z,5µm,21.0s,MS5.2
WCI **Wyandotte Cave** 36.76 295 *e*P P 16 20 22.3 +0.1
comp=Z,64nm,1.0s,mb5.4
WCI *e*
WCI LR LR 16 20 31.6
comp=Z,5µm,21.0s,MS5.2
SOR **Soroa** 36.77 268 *e*P P 16 20 22.4 -0.1
EPOB **Poblet** 36.81 60 P P 16 20 22.6 0.0
comp=Z,172nm,2.9s,mb5.4
EANR **'Ain N'Sour** 36.84 69 P P 16 20 26.0 +3.0
FLN **La Foliniere** 36.88 48 *e*P P 16 20 23.1 0.0
comp=Z,140nm,1.5s,mb5.3
FLN *e*MLR MLR
comp=Z,9µm,21.0s,MS5.2
FLN **La Foliniere** 36.88 48 *e*P P 16 20 23.1 0.0
FLN pmax pmax
comp=Z,70nm,1.5s,mb5.3
FLN MLR MLR
comp=Z,9µm,21.0s,MS5.5
FLN **La Foliniere** 36.88 48 *e*P P 16 20 23.1 0.0
comp=Z,70nm,1.5s,mb5.3
FLN LR LR
comp=Z,9µm,21.0s,MS5.5
BLO **Bloomington** 36.93 296 *e*P P 16 20 24.2 +0.5
BLO *e* 16 20 31.4
BLO pmax pmax
comp=Z,77nm,0.9s,mb5.5
BLO **Bloomington** 36.93 296 *e*P P 16 20 24.2 +0.5
comp=Z,76nm,0.9s,mb5.5
BLO *e*
16 20 31.4
LFF **La Frestale** 36.94 54 *e*P P 16 20 23.5 -0.2
comp=Z,119nm,0.9s,mb5.4
LFF **La Frestale** 36.94 54 *e*P P 16 20 23.5 -0.2
LFF pmax pmax
comp=Z,59nm,0.9s,mb5.4
LFF **La Frestale** 36.94 54 *e*P P 16 20 23.5 -0.2
comp=Z,60nm,0.9s,mb5.4
ETRT **Tiaret** 37.05 70 P P 16 20 28.5 +3.8
LDF **La Druitiere** 37.07 48 *e*P P 16 20 24.5 -0.2
comp=Z,137nm,1.2s,mb5.4
LDF **La Druitiere** 37.07 48 *e*P P 16 20 24.5 -0.2
LDF pmax pmax
comp=Z,68nm,1.2s,mb5.3
LDF **La Druitiere** 37.07 48 *e*P P 16 20 24.5 -0.2
comp=Z,68nm,1.2s,mb5.4
BORG **Borgarnes** 37.08 15 P P 16 20 24.3 -0.4
comp=Z,44nm,0.9s,mb5.3,baz=179,slow=4.9,SNR=7.9
BORG **Borgarnes** 37.08 15 *e*P P 16 20 24.2 -0.4
comp=Z,99nm,0.9s,mb5.6
BORG LR LR
comp=Z,4µm,20.0s,MS5.2
EBNR **Beni Rached** 37.17 69 P P 16 20 32.0 +6.2
SFJD **Kangerlussuaq** 37.18 355 P P 16 20 23.0 -2.4
comp=Z,16nm,0.7s,mb5.0,baz=128,slow=15,SNR=4.1
SFJD LR LR 16 32 01.4
comp=Z,5µm,20.9s,MS5.3,baz=154,slow=30
SFJD **Kangerlussuaq** 37.18 355 *e*P P 16 20 24.0 -1.5
SFJD *i* S S 16 26 16.6 +5.5
SFJD pmax pmax
comp=Z,23nm,1.1s,mb4.9
SFJD MLR MLR
comp=Z,4µm,19.0s,MS5.2
SFJD **Kangerlussuaq** 37.18 355 *i* P P 16 20 24.0 -1.5
comp=Z,23nm,1.1s,mb4.9
SFJD *i* S S 16 26 16.6 +5.5
SFJD LR LR
comp=Z,4µm,19.0s
SFJD **Kangerlussuaq** 37.18 355 *e*P P 16 20 24.0 -1.5
comp=Z,23nm,1.1s,mb4.9
SFJD *i* S S 16 26 16.6 +5.5
SFJD LR LR
comp=Z,4µm,19.0s,MS5.2
RJF **Les Rejaudoux** 37.53 54 *e*P P 16 20 28.5 -0.2
comp=Z,218nm,1.6s,mb5.3
RJF *e*MLR MLR
comp=Z,6µm,20.0s,MS5.1
RJF **Les Rejaudoux** 37.53 54 *e*P P 16 20 28.5 -0.2
RJF pmax pmax
comp=Z,109nm,1.6s,mb5.3
RJF MLR MLR
comp=Z,6µm,20.0s,MS5.4
RJF **Les Rejaudoux** 37.53 54 *e*P P 16 20 28.5 -0.2
comp=Z,109nm,1.6s,mb5.3
RJF LR LR
comp=Z,6µm,20.0s,MS5.4
ESK **Eskdalemuir** 37.55 37 *e*P P 16 20 28.6 -0.2
ESK pmax pmax
comp=Z,22nm,0.8s,mb4.9
ESK MLR MLR
comp=Z,3µm,21.0s,MS5.1
ESK **Eskdalemuir** 37.55 37 *e*P P 16 20 28.6 -0.1
comp=Z,22nm,0.8s,mb4.9
ESK LR LR
comp=Z,3µm,21.0s,MS5.1
LRAL **Lakeview Retre** 37.72 286 *e*P P 16 20 30.1 -0.3
comp=Z,40nm,0.9s,mb5.2
LRAL LR LR
comp=Z,3µm,20.0s,MS5.0
MTLF **Montolieu** 37.80 57 *e*P P 16 20 30.9 -0.1
comp=Z,83nm,1.1s,mb5.1
MTLF **Montolieu** 37.80 57 *e*P P 16 20 30.9 -0.1
MTLF pmax pmax
comp=Z,42nm,1.1s,mb5.1
MTLF **Montolieu** 37.80 57 *e*P P 16 20 30.9 -0.1
comp=Z,42nm,1.1s,mb5.1
USIN **University of** 37.85 294 *e*P P 16 20 31.2 -0.3
comp=Z,129nm,1.2s,mb5.5
CAF **Calviac** 37.87 54 *e*P P 16 20 31.5 0.0
comp=Z,173nm,1.6s,mb5.2
CAF **Calviac** 37.87 54 *e*P P 16 20 31.5 0.0
CAF pmax pmax
comp=Z,86nm,1.6s,mb5.2
CAF **Calviac** 37.87 54 *e*P P 16 20 31.5 0.0
comp=Z,86nm,1.6s,mb5.2
WVT **Waverly** 38.08 291 *e*P P 16 20 31.7 -1.7
WVT pmax pmax
comp=Z,88nm,0.9s,mb5.5
WVT MLR MLR
comp=Z,3µm,20.0s,MS5.2
WVT **Waverly** 38.08 291 *e*P P 16 20 31.7 -1.7
comp=Z,88nm,0.9s,mb5.5
WVT LR LR
comp=Z,3µm,20.0s,MS5.2
ETOS **Mallorca** 38.08 63 P P 16 20 36.2 +2.8
comp=Z,408nm,2.8s,mb5.7
BRAL **Brewton** 38.09 283 *e*P P 16 20 33.7 0.0
BRAL LR LR
comp=Z,3µm,20.0s,MS5.1
TCF **Toulx Ste Croi** 38.16 52 *e*P P 16 20 34.0 0.0
comp=Z,118nm,1.0s,mb5.3
TCF **Toulx Ste Croi** 38.16 52 *e*P P 16 20 34.0 0.0
TCF pmax pmax
comp=Z,59nm,1.0s,mb5.3
TCF **Toulx Ste Croi** 38.16 52 *e*P P 16 20 34.0 0.0
comp=Z,59nm,1.0s,mb5.3
OLIL **Olney** 38.17 295 *e*P P 16 20 34.1 -0.1
comp=Z,156nm,1.1s,mb5.7
EJON **La Jonquera** 38.23 59 P P 16 20 35.1 +0.5
comp=Z,139nm,1.8s,mb5.4
EMHD **Djebel Mahouad** 38.32 69 P P 16 20 36.0 +0.5
PYM **Petit Puy Mans** 38.63 53 *e*P P 16 20 36.7 -1.3
BGF **Bois d'Agland** 38.64 52 *e*P P 16 20 37.6 -0.4
comp=Z,49nm,1.0s,mb4.9
BGF **Bois d'Agland** 38.64 52 *e*P P 16 20 37.6 -0.4
BGF pmax pmax
comp=Z,25nm,1.0s,mb4.9
BGF **Bois d'Agland** 38.64 52 *e*P P 16 20 37.6 -0.4
comp=Z,25nm,1.0s,mb4.9
LBL **Lubilhac** 38.73 54 *e*P P 16 20 38.6 -0.2
MENF **Mencas** 38.98 46 *e*P P 16 20 41.4 +0.5
AVF **Avril sur Loir** 39.02 52 *e*P P 16 20 40.9 -0.3
comp=Z,249nm,1.9s,mb5.3
AVF **Avril sur Loir** 39.02 52 *e*P P 16 20 40.9 -0.3
AVF pmax pmax
comp=Z,124nm,1.9s,mb5.3
AVF **Avril sur Loir** 39.02 52 *e*P P 16 20 40.9 -0.3
comp=Z,124nm,1.9s,mb5.3
LASF **Ste Croix** 39.05 56 *e*P P 16 20 41.9 +0.4
comp=Z,95nm,1.0s,mb5.2
HDIL **Hopedale** 39.08 298 *e*P P 16 20 43.3 +1.5
comp=Z,99nm,1.4s,mb5.3
HDIL *e*PP PP 16 22 10.5 -0.8
HDIL LR LR
comp=Z,3µm,21.0s,MS5.2
SIUC **Southern Illin** 39.08 294 *e*P P 16 20 41.1 -0.8
comp=Z,107nm,1.0s,mb5.5
PLDF **La Plantade** 39.09 53 *e*P P 16 20 41.9 +0.1
ROSC **El Rosal** 39.10 236 P P 16 20 41.7 -0.6
comp=Z,39nm,0.8s,mb5.2,baz=103,slow=5.8,SNR=20
ROSC LR LR 16 36 09.0
comp=Z,2µm,18.9s,MS5.0,baz=11,slow=35
SSF **Saint Saulge** 39.16 51 *e*P P 16 20 42.1 -0.3
comp=Z,81nm,1.1s,mb5.0
SSF **Saint Saulge** 39.16 51 *e*P P 16 20 42.1 -0.3
SSF pmax pmax
comp=Z,41nm,1.1s,mb5.1
SSF **Saint Saulge** 39.16 51 *e*P P 16 20 42.1 -0.3
comp=Z,40nm,1.1s,mb5.1
SMF **Signal de Mont** 39.33 52 *e*P P 16 20 43.8 0.0
comp=Z,229nm,1.1s,mb5.5
SMF **Signal de Mont** 39.33 52 *e*P P 16 20 43.8 0.0
SMF pmax pmax
comp=Z,115nm,1.1s,mb5.5
SMF **Signal de Mont** 39.33 52 *e*P P 16 20 43.8 0.0
comp=Z,115nm,1.1s,mb5.5
COWI **Conover** 39.33 307 *e*P P 16 20 43.3 -0.5
comp=Z,42nm,0.9s,mb5.2
COWI *e*PP PP 16 22 16.4 +2.3
COWI LR LR
comp=Z,6µm,22.0s,MS5.3
LOR **Lormes** 39.43 51 *e*P P 16 20 44.4 -0.2
comp=Z,69nm,1.0s,mb5.0
LOR *e*MLR MLR
comp=Z,3µm,20.2s,MS4.8
LOR **Lormes** 39.43 51 *e*P P 16 20 44.4 -0.2
LOR pmax pmax
comp=Z,35nm,1.0s,mb5.0
LOR MLR MLR
comp=Z,3µm,20.3s,MS5.1
LOR **Lormes** 39.43 51 *e*P P 16 20 44.4 -0.2
comp=Z,35nm,1.0s,mb5.0
LOR LR LR
comp=Z,3µm,20.3s,MS5.1
OXF **Oxford** 39.52 289 *e*P P 16 20 45.0 -0.6
OXF pmax pmax
comp=Z,105nm,0.9s,mb5.6
OXF MLR MLR
comp=Z,2µm,20.0s,MS4.9
OXF **Oxford** 39.52 289 *e*P P 16 20 45.0 -0.6
comp=Z,105nm,0.9s,mb5.6
OXF LR LR
comp=Z,2µm,20.0s,MS4.9
SSB **Saint Sauveur** 39.65 54 P P 16 20 46.2 -0.3
VIVF **Saint-Julien-l** 39.70 55 *e*P P 16 20 47.6 +0.7
comp=Z,139nm,1.7s,mb5.1
VIVF **Saint-Julien-l** 39.70 55 *e*P P 16 20 47.6 +0.7
VIVF pmax pmax
comp=Z,69nm,1.7s,mb5.1
VIVF **Saint-Julien-l** 39.70 55 *e*P P 16 20 47.6 +0.7
comp=Z,69nm,1.7s,mb5.1
SLM **Saint Louis** 39.84 295 *e*P P 16 20 47.9 -0.3
SLM pmax pmax
comp=Z,179nm,1.1s,mb5.7
SLM **Saint Louis** 39.84 295 *e*P P 16 20 47.9 -0.3
comp=Z,179nm,1.1s,mb5.7
JFWS **Jewell Farm** 39.85 302 *e*P P 16 20 47.4 -0.8
JFWS pmax pmax
comp=Z,46nm,0.8s,mb5.3
JFWS MLR MLR
comp=Z,6µm,20.0s,MS5.4
JFWS **Jewell Farm** 39.85 302 *e*P P 16 20 47.4 -0.8
comp=Z,46nm,0.8s,mb5.3
JFWS LR LR
comp=Z,6µm,20.0s,MS5.4
GNAR **Gosnell** 39.86 291 *e*P P 16 20 45.4 -2.9
comp=Z,4µm,1.0s
FVM **French Village** 40.02 294 *e*P P 16 20 49.7 0.0
FVM pmax pmax
comp=Z,41nm,0.8s,mb5.2
FVM **French Village** 40.02 294 *e*P P 16 20 49.7 0.0
comp=Z,41nm,0.8s,mb5.2
BAIF **Baives** 40.16 47 *e*P P 16 20 50.3 -0.3
comp=Z,59nm,0.9s,mb5.0
BAIF **Baives** 40.16 47 *e*P P 16 20 50.3 -0.3
BAIF pmax pmax
comp=Z,30nm,0.9s,mb5.0
BAIF **Baives** 40.16 47 *e*P P 16 20 50.3 -0.3
comp=Z,30nm,0.9s,mb5.0
SMRF **Simiane la Rot** 40.28 56 *e*P P 16 20 51.5 -0.2
comp=Z,181nm,1.4s,mb5.3
SMRF **Simiane la Rot** 40.28 56 *e*P P 16 20 51.5 -0.2
comp=Z,181nm,1.4s,mb5.6
SET **Setif** 40.29 68 P P 16 20 53.0 +1.0
SNF **Seneffe** 40.30 46 P P 16 20 54.9 +3.1
comp=Z,15nm,1.1s,mb4.6
CKHR **Kef el Ahmar** 40.40 69 P P 16 20 56.0 +3.1
UCC **Uccle** 40.41 46 P P 16 20 57.3 +4.6
DOU **Dourbes** 40.41 47 P P 16 20 57.4 +4.7
comp=Z,9.0nm,1.5s,mb4.3
MEZF **Maizieres J'vi** 40.42 49 *e*P P 16 20 52.7 -0.1
comp=Z,116nm,0.8s,mb5.3
MEZF **Maizieres J'vi** 40.42 49 *e*P P 16 20 52.7 -0.1
comp=Z,116nm,0.8s,mb5.7
HBAR **Harrisburg** 40.42 291 *e*P P 16 20 53.0 0.0
BCIP **Isla Barro Col** 40.54 247 *e*P P 16 20 53.0 -1.3
comp=Z,28nm,0.9s,mb4.9
BCIP LR LR
comp=Z,1µm,19.0s,MS4.7
GIVF **Givet** 40.55 47 *e*P P 16 20 53.3 -0.6
comp=Z,51nm,0.8s,mb4.9
GIVF **Givet** 40.55 47 *e*P P 16 20 53.3 -0.6
GIVF pmax pmax
comp=Z,25nm,0.8s,mb4.9
GIVF **Givet** 40.55 47 *e*P P 16 20 53.3 -0.6
comp=Z,25nm,0.8s,mb4.9
ORIF **Oris-en-Rattie** 40.56 55 *e*P P 16 20 56.4 +2.3
comp=Z,95nm,1.3s,mb5.0
ORIF *e*MLR MLR

comp=Z,4µm,18.0s,MS5.0
ORIF Oris-en-Rattie 40.56 55 *e*P **P 16 20 56.4 +2.3**
ORIF pmax pmax
comp=Z,48nm,1.3s,mb5.0
ORIF Oris-en-Rattie 40.56 55 *e*P **P 16 20 56.4 +2.3**
comp=Z,48nm,1.3s,mb5.0
DFRA Djebel Bou Aff 40.64 68 P **P 16 20 55.0 +0.1**
VBMS Vicksburg 40.78 286 *e*P **P 16 20 56.5 +0.4**
comp=Z,196nm,1.2s,mb5.6
VBMS *e* 16 21 04.5
VBMS LR LR
comp=Z,2µm,19.0s,MS5.0
CABF La Chapelle 40.86 52 *e*P **P 16 20 56.9 +0.4**
comp=Z,152nm,1.2s,mb5.2
CABF La Chapelle 40.86 52 *e*P **P 16 20 56.9 +0.4**
CABF pmax pmax
comp=Z,76nm,1.2s,mb5.2
CABF La Chapelle 40.86 52 *e*P **P 16 20 56.9 +0.4**
comp=Z,76nm,1.2s,mb5.2
BCLA Clavier 40.91 46 P **P 16 20 59.5 +2.6**
THEF They Montfort 40.99 50 *e*P **P 16 20 57.3 -0.3**
FRF La Foret Royal 41.03 57 *e*P **P 16 20 58.3 +0.3**
comp=Z,133nm,1.2s,mb5.2
FRF La Foret Royal 41.03 57 *e*P **P 16 20 58.3 +0.3**
FRF pmax pmax
comp=Z,66nm,1.2s,mb5.1
FRF La Foret Royal 41.03 57 *e*P **P 16 20 58.3 +0.3**
comp=Z,66nm,1.2s,mb5.1
BNI Bardonecchia 41.14 55 *e*P **P 16 20 59.2 +0.4**
BNI pmax pmax
comp=Z,44nm,1.1s,mb5.0
BNI MLR MLR
comp=Z,3µm,19.0s,MS5.2
BNI Bardonecchia 41.14 55 *e*P **P 16 20 59.2 +0.4**
comp=Z,44nm,1.1s,mb5.0
BNI LR LR
comp=Z,3µm,19.0s,MS5.2
RSL Roselend 41.15 54 *e*P **P 16 20 58.8 -0.1**
CASM Ain Smara 41.16 68 P **P 16 21 02.0 +2.8**
EYMN Ely 41.17 310 P **P 16 20 58.5 -0.5**
comp=Z,60nm,1.0s,mb5.2
EYMN LR LR
comp=Z,4µm,20.0s,MS5.3
MBDF Montbardon 41.18 55 *e*P **P 16 21 00.3 +1.1**
comp=Z,172nm,1.3s,mb5.2
MBDF Montbardon 41.18 55 *e*P **P 16 21 00.3 +1.1**
MBDF pmax pmax
comp=Z,86nm,1.3s,mb5.2
MBDF Montbardon 41.18 55 *e*P **P 16 21 00.3 +1.1**
comp=Z,86nm,1.3s,mb5.2
HAU Haudompre 41.20 50 *e*P **P 16 20 59.0 -0.3**
comp=Z,56nm,0.9s,mb4.9
HAU *e*MLR MLR
comp=Z,4µm,17.8s,MS5.0
HAU Haudompre 41.20 50 *e*P **P 16 20 59.0 -0.3**
HAU pmax pmax
comp=Z,28nm,0.9s,mb4.9
HAU MLR MLR
comp=Z,4µm,17.8s,MS5.3
HAU Haudompre 41.20 50 *e*P **P 16 20 59.0 -0.3**
comp=Z,28nm,0.9s,mb4.9
HAU LR LR
comp=Z,4µm,17.8s,MS5.3
LPL La Plagne 41.21 54 *e*P **P 16 21 00.4 +1.0**
comp=Z,160nm,1.5s,mb5.1
LPL La Plagne 41.21 54 *e*P **P 16 21 00.4 +1.0**
LPL pmax pmax
comp=Z,80nm,1.5s,mb5.1
LPL La Plagne 41.21 54 *e*P **P 16 21 00.4 +1.0**
comp=Z,80nm,1.5s,mb5.1
CALN Calern 41.22 57 *e*P **P 16 21 02.7 +3.2**
LPG La Plagne 41.22 54 *e*P **P 16 21 00.7 +1.2**
comp=Z,139nm,1.4s,mb5.1
LPG La Plagne 41.22 54 *e*P **P 16 21 00.7 +1.2**
LPG pmax pmax
comp=Z,69nm,1.4s,mb5.1
LPG La Plagne 41.22 54 *e*P **P 16 21 00.7 +1.2**
comp=Z,69nm,1.4s,mb5.1
BEBN Eben Emael 41.22 46 P **P 16 21 04.1 +4.7**
WLF Walferdange 41.32 48 P **P 16 21 03.3 +3.1**
comp=Z,39nm,1.6s,mb4.8
WLF Walferdange 41.32 48 *e*P **P 16 21 00.4 +0.2**
WLF pmax pmax
comp=Z,46nm,1.2s,mb5.0
WLF MLR MLR
comp=Z,6µm,20.0s,MS5.4
WLF Walferdange 41.32 48 *e*P **P 16 20 59.9 -0.3**
comp=Z,69nm,1.5s,mb5.1
WLF *e*S **S 16 27 09.0 -4.7**
WLF Walferdange 41.32 48 *e*P **P 16 21 00.4 +0.2**
comp=Z,46nm,1.2s,mb5.0
WLF LR LR
comp=Z,6µm,20.0s,MS5.4
CKFL Kef-Lekhel 41.33 68 P **P 16 21 03.5 +2.9**
MEM Membach 41.39 46 P **P 16 21 03.5 +2.7**
CAEH 'Ain El Ouahch 41.40 67 P **P 16 21 05.0 +3.9**
MVIF Mont Vial 41.41 57 *e*P **P 16 21 04.2 +3.1**
LOMF Lomont 41.44 51 *e*P **P 16 21 01.6 +0.3**
HINF Hinteralfeld 41.51 51 *e*P **P 16 21 01.7 -0.2**
comp=Z,144nm,1.5s,mb5.1
HINF Hinteralfeld 41.51 51 *e*P **P 16 21 01.7 -0.2**
HINF pmax pmax
comp=Z,72nm,1.5s,mb5.1
HINF Hinteralfeld 41.51 51 *e*P **P 16 21 01.7 -0.2**
comp=Z,72nm,1.5s,mb5.1
AUTN L'Aution 41.62 56 *e*P **P 16 21 02.9 +0.1**
SBF Sospel 41.62 57 *e*P **P 16 21 03.2 +0.4**
SAOF Saorge 41.71 56 *e*P **P 16 21 03.7 +0.2**
ECH Echery 41.77 50 P **P 16 21 06.0 +2.1**
ECH Echery 41.77 50 *e*P **P 16 20 59.6 -4.3**
ECH *e*P pP 16 21 03.3 -6.1
CDF Champ du Feu 41.87 50 *e*P **P 16 21 04.5 -0.3**
comp=Z,124nm,1.2s,mb5.1
CDF Champ du Feu 41.87 50 *e*P **P 16 21 04.5 -0.3**
CDF pmax pmax
comp=Z,62nm,1.2s,mb5.1
CDF Champ du Feu 41.87 50 *e*P **P 16 21 04.5 -0.3**
comp=Z,62nm,1.2s,mb5.1
CMAH Djebel Manchou 41.87 67 P **P 16 21 08.0 +3.0**
UALR University of 41.89 290 *e*P **P 16 21 04.5 -0.6**
comp=Z,160nm,1.0s,mb5.6
RUP Ruppelstein 41.91 48 *e*P **P 16 21 05.7 +0.7**
ABSA Djebel Ababsia 41.96 68 P **P 16 21 10.0 +4.3**
SCIA State Center 42.03 300 *e*P **P 16 21 06.1 -0.1**
comp=Z,83nm,0.9s,mb5.4
SCIA LR LR
comp=Z,5µm,22.0s,MS5.4
TEIG Tepich 42.27 267 *e*P **P 16 21 08.6 +0.2**
comp=Z,85nm,1.0s,mb5.3
TEIG LR LR
comp=Z,3µm,19.0s,MS5.1
LANF Langenberg 42.29 49 *e*P **P 16 21 08.7 +0.5**
FELD Feldberg im Sc 42.29 51 *e*P **P 16 21 06.8 -1.4**
TIC Toumodi 42.32 116 *e*P **P 16 21 07.0 -1.9**
comp=Z,120nm,0.9s,mb5.5
TIC Toumodi 42.32 116 *e*P **P 16 21 07.0 -1.9**
TIC pmax pmax
comp=Z,120nm,0.9s,mb5.5
BUG Bochum--Univer 42.33 45 *e*S **S 16 27 29.1 +0.5**
DBIC Dimbokro 42.44 116 P **P 16 21 06.0 -3.8**
comp=Z,34nm,1.2s,mb4.9,baz=284,slow=9.1,SNR=13
DBIC LR LR 16 35 54.9
comp=Z,7µm,21.6s,MS5.5,baz=283,slow=32
SUMG Summit 42.53 2 *e*P **P 16 21 09.1 -0.8**
comp=Z,51nm,0.9s,mb5.3
BFO Black Forest 42.56 50 P **P 16 21 10.7 +0.3**
comp=Z,219nm,1.5s,mb5.7,SNR=7.0
BFO Black Forest 42.56 50 *e*P **P 16 21 09.7 -0.7**
BFO *e*S **S 16 27 27.7 -4.3**
BFO pmax pmax
comp=Z,103nm,1.5s,mb5.3
BFO Black Forest 42.56 50 *e*P **P 16 21 09.7 -0.7**
comp=Z,103nm,1.5s,mb5.3
BFO *e*S **S 16 27 27.7 -4.3**
LIC Lamto 42.58 116 *e*P **P 16 21 08.7 -2.2**
comp=Z,167nm,1.1s,mb5.4
LIC *e*MLR MLR
comp=Z,11µm,20.0s,MS5.4
LIC Lamto 42.58 116 *e*P **P 16 21 09.9 -1.0**
comp=Z,209nm,1.1s,mb5.8
LIC Lamto 42.58 116 *e*P **P 16 21 08.7 -2.2**
comp=Z,84nm,1.1s,mb5.4
LIC LR LR
comp=Z,5µm,20.0s,MS5.4
KIC Kosan Boka 42.72 116 *e*P **P 16 21 10.9 -1.2**
comp=Z,147nm,0.9s,mb5.7

IBBN Ibbenburen 42.79 44 *e*P **P 16 21 12.0 -0.2**
comp=Z,50nm,0.9s,mb5.2
SPAK Spaichingen-Ko 42.84 50 *e*P **P 16 21 12.6 0.0**
CORF Corte 42.86 59 *e*P **P 16 21 15.6 +2.7**
TNS Taunus Mts 42.87 47 *e*P **P 16 21 13.1 +0.2**
TNS *e*S **S 16 27 34.4 -2.2**
TNS pmax pmax
comp=Z,100nm,1.5s,mb5.3
TNS Taunus Mts 42.87 47 *e*P **P 16 21 13.1 +0.2**
comp=Z,100nm,1.5s,mb5.3
TNS *e*S **S 16 27 34.4 -2.2**
MIAR Mount Ida 42.92 290 *e*P **P 16 21 13.3 -0.2**
MIAR pmax pmax
comp=Z,37nm,0.9s,mb5.1
MIAR MLR MLR
comp=Z,3µm,21.0s,MS5.1
MIAR Mount Ida 42.92 290 *e*P **P 16 21 13.3 -0.2**
comp=Z,37nm,0.9s,mb5.1
MIAR LR LR
comp=Z,3µm,21.0s,MS5.1
TOD Tromm 43.02 48 *e*P **P 16 21 13.9 -0.2**
TUE Stuetta 43.09 53 *e*P **P 16 21 13.5 -1.2**
comp=Z,44nm,1.0s,mb5.2
TUE LR LR
comp=Z,2µm,20.0s,MS5.1
VSL Villasalto 43.16 63 *e*P **P 16 21 12.2 -3.2**
comp=Z,178nm,1.8s,mb5.5
VSL LR LR
comp=Z,4µm,19.0s,MS5.3
STU Stuttgart 43.17 49 *e*P **P 16 21 14.2 -1.2**
STU pmax pmax
comp=Z,56nm,1.0s,mb5.2
STU Stuttgart 43.17 49 *e*P **P 16 21 14.8 -0.6**
comp=Z,59nm,1.0s,mb5.3
STU *e*S **S 16 27 37.4 -3.7**
STU Stuttgart 43.17 49 *e*P **P 16 21 14.2 -1.2**
comp=Z,56nm,1.0s,mb5.2
TAM Tamanrasset 43.44 88 P **P 16 21 19.5 +1.7**
TAM Tamanrasset 43.44 88 *e*P **P 16 21 19.6 +1.7**
DAVA Damuels 43.51 52⇑*i*p**P P 16 21 18.5 +0.4**
comp=Z,77nm,1.4s,mb5.2
KEST Kesra 43.53 68 P **P 16 21 18.5 +0.1**
comp=Z,24nm,1.1s,mb4.8,baz=199,slow=3.3,SNR=14
KEST LR LR 16 36 19.9
comp=Z,652nm,20.6s,MS4.5,baz=200,slow=32
VLC Villacollemand 43.75 56 *e*P **P 16 21 20.8 +0.7**
comp=Z,57nm,1.1s,mb5.2
VLC LR LR
comp=Z,971nm,19.0s,MS4.7
UBBA Unterbreizbach 43.93 47 *e*P **P 16 21 20.1 -1.4**
comp=Z,45nm,1.5s,mb5.0
TGUH Tegucigalpa,Un 44.09 259 *e*P **P 16 21 24.1 +1.0**
comp=Z,28nm,0.6s,mb5.2
TGUH LR LR
comp=Z,2µm,20.0s,MS5.1
AGMN Agassiz Refuge 44.11 310 *e*P **P 16 21 22.3 -0.7**
comp=Z,60nm,1.2s,mb5.2
AGMN LR LR
comp=Z,5µm,22.0s,MS5.4
RETA Reutte 44.12 51⇑*i*P **P 16 21 23.1 +0.1**
comp=Z,72nm,1.3s,mb5.2
TORD Torodi Ar. Bea 44.20 103 P **P 16 21 23.3 -0.8**
comp=Z,33nm,1.0s,mb5.0,baz=300,slow=7.2,SNR=42
TORD LR LR 16 37 24.2
comp=Z,2µm,19.7s,MS5.1,baz=285,slow=33
TORD Torodi Ar. Bea 44.20 103 P **P 16 21 23.3 -0.8**
TORD LR LR 16 37 24.2
ULM Lac du Bonnet 44.30 313 P **P 16 21 22.6 -1.8**
comp=Z,16nm,0.7s,mb4.9,baz=89,slow=8.7,SNR=13
ULM PcP PcP 16 23 07.7 -0.8
comp=Z,17nm,1.0s,baz=78,slow=6.8,SNR=5.0
ULM LR LR 16 38 29.1
comp=Z,3µm,20.0s,MS5.3,baz=85,slow=34
CLZ Clausthal 44.30 45 *e*P **P 16 21 24.5 +0.1**
CLZ *e*S **S 16 27 58.5 +1.0**
CLZ pmax pmax
comp=Z,50nm,0.9s,mb5.2
CLZ Clausthal 44.30 45 *e*P **P 16 21 24.5 +0.1**
comp=Z,50nm,0.9s,mb5.2
CLZ *e*S **S 16 27 58.5 +1.0**
NATX Nacogdoches 44.33 286 *e*P **P 16 21 25.3 +0.4**
comp=Z,178nm,0.9s,mb5.8
NATX LR LR
comp=Z,3µm,21.0s,MS5.1
MOTA Moosalm 44.34 52⇓*i*P **P 16 21 24.8 0.0**
comp=Z,79nm,1.4s,mb5.2
MUD Monsted U'grnd 44.49 38 *e*P **P 16 21 28.5 +2.6**
MUD pmax pmax
comp=Z,15nm,1.0s,mb4.7
MUD Monsted U'grnd 44.49 38 *i* P **P 16 21 28.5 +2.6**
comp=Z,15nm,1.0s,mb4.7
MUD *i* S **S 16 28 11.1 +11**
MUD
comp=Z,2µm,21.0s
MUD Monsted U'grnd 44.49 38 *e*P **P 16 21 28.5 +2.6**
comp=Z,15nm,1.0s,mb4.7
MUD *i* S **S 16 28 11.1 +11**
ECSD EROS,Sioux Fal 44.51 303 *e*P **P 16 21 24.2 -1.9**
comp=Z,97nm,1.4s,mb5.4
ECSD LR LR
comp=Z,7µm,20.0s,MS5.6
FUR Furstenfeldbru 44.51 50 *e*S **S 16 27 57.7 -2.8**
GRA1 Grafenberg Arr 44.59 48 *e*P **P 16 21 26.5 -0.2**
comp=Z,33nm,1.0s,mb5.1
GRA1 *e*S **S 16 28 00.8 -0.9**
GRA1 LR LR
comp=Z,4µm,18.0s,MS5.4
GRF Grafenberg Arr 44.59 48 *e*P **P 16 21 26.5 -0.2**
GRF *e*S **S 16 28 00.8 -0.9**
GRF pmax pmax
comp=Z,33nm,1.0s,mb5.1
GRF MLR MLR
comp=Z,4µm,18.0s,MS5.4
GRF Grafenberg Arr 44.59 48 *e*P **P 16 21 26.5 -0.2**
comp=Z,33nm,1.0s,mb5.1
GRF *e*S **S 16 28 00.8 -0.9**
GRF *e*L 16 37 30.2
comp=Z,4µm,18.0s
BSEG Bad Segeberg 44.61 42 *e*P **P 16 21 26.2 -0.6**
BSEG *e*S **S 16 28 03.4 +1.6**
BSEG pmax pmax
comp=Z,114nm,0.8s,mb5.8
BSEG Bad Segeberg 44.61 42 *e*P **P 16 21 26.2 -0.6**
comp=Z,114nm,0.8s,mb5.8
BSEG *e*S **S 16 28 03.4 +1.6**
WATA Walderalm 44.66 52⇑*i*P **P 16 21 27.4 +0.1**
comp=Z,50nm,1.1s,mb5.3
WTTA Wattenberg 44.70 52⇑*i*P **P 16 21 27.9 +0.3**
comp=Z,136nm,1.4s,mb5.6
KSU1 Kansas State U 44.77 297 *e*P **P 16 21 27.2 -1.1**
comp=Z,100nm,0.7s,mb5.8
KSU1 LR LR
comp=Z,4µm,20.0s,MS5.4
MOX Moxa 44.93 47 *e*P **P 16 21 29.3 -0.1**
comp=Z,48nm,1.5s,mb5.1
MOX
comp=Z,6µm,19.0s
MOX Moxa 44.93 47 *e*P **P 16 21 29.3 -0.1**
MOX pmax pmax
comp=Z,48nm,1.5s,mb5.1
MOX MLR MLR
comp=Z,6µm,19.0s,MS5.5
MOX Moxa 44.93 47 *e*P **P 16 21 29.2 -0.2**
comp=Z,37nm,1.3s,mb5.0
MOX *e*S **S 16 28 06.6 -0.1**
FCC Fort Churchill 44.96 325 P **P 16 21 29.2 -0.3**
FCC pmax pmax
comp=Z,89nm,0.9s,mb5.6
FCC Fort Churchill 44.96 325 *e*P **P 16 21 28.4 -1.1**
comp=Z,89nm,0.9s,mb5.6
JMIC Jan Mayen 44.98 15 LR LR 16 36 21.7
comp=Z,1µm,18.2s,MS4.8,baz=40,slow=31
MANZ Manzenberg 45.19 48 *e*P **P 16 21 31.4 -0.1**
comp=Z,72nm,1.4s,mb5.3
MANZ *e*S **S 16 28 10.5 +0.2**
ROTZ Rotzenmuhle 45.23 48 *e*P **P 16 21 31.6 -0.2**
comp=Z,48nm,1.6s,mb5.1
ROTZ *e*S **S 16 28 10.8 -0.2**
OTAV Otavalo 45.25 236 *e*P **P 16 21 32.8 +0.4**
comp=Z,272nm,1.4s,mb5.9
OTAV LR LR
comp=Z,2µm,21.0s,MS5.0
ABTA Abfaltersbach 45.28 53 *i* P **P 16 21 32.1 -0.2**
comp=Z,96nm,1.0s,mb5.6,SNR=15
NKC Novy Kostel 45.42 48 *e*P **P 16 21 33.4 0.0**
NKC *ex* x 16 21 42.6

NKC *e*S **S 16 28 18.2 +4.4**
NKC AMS AMS 16 37 30.0
comp=Z,6µm,18.4s
NKC Novy Kostel 45.42 48 *e*P **P 16 21 33.4 0.0**
NKC *e* 16 21 42.6
NKC *e*S **S 16 28 18.2 +4.4**
TANN Tannenbergstha 45.45 47 *e*P **P 16 21 33.0 -0.5**
comp=Z,25nm,1.3s,mb4.9
TANN *e*S **S 16 28 13.3 -0.8**
KONO Kongsberg 45.55 34⇑*e*P **P 16 21 34.5 +0.3**
WET Wettzell 45.62 49 *e*P **P 16 21 34.5 -0.5**
WET *e*S **S 16 28 13.5 -3.2**
WET pmax pmax
comp=Z,77nm,1.6s,mb5.4
WET Wettzell 45.62 49 *e*P **P 16 21 34.5 -0.5**
comp=Z,77nm,1.6s,mb5.4
WET *e*S **S 16 28 13.5 -3.2**
HKT Hockley 45.72 284 *e*P **P 16 21 36.2 +0.2**
HKT pmax pmax
comp=Z,87nm,1.5s,mb5.5
HKT MLR MLR
comp=Z,1µm,20.0s,MS4.9
HKT Hockley 45.72 284 *e*P **P 16 21 36.2 +0.2**
comp=Z,87nm,1.5s,mb5.5
HKT LR LR
comp=Z,1µm,20.0s,MS4.9
BDFB Brasilia 45.83 187 P **P 16 21 37.3 +0.5**
comp=Z,13nm,0.8s,mb5.0,baz=355,slow=14,SNR=34
BDFB LR LR 16 38 51.9
comp=Z,2µm,18.3s,MS5.0,baz=202,slow=34
CLL Collm 45.87 46 *i* P **P 16 21 36.7 -0.2**
CLL *e* 16 21 46.0
CLL *e*S **S 16 28 24.0 +3.8**
CLL pmax pmax
comp=Z,29nm,1.2s,mb5.1
CLL MLR MLR
comp=Z,4µm,21.4s,MS5.4
CLL Collm 45.87 46 *e*P **P 16 21 36.5 -0.4**
comp=Z,28nm,0.8s,mb5.2
CLL *e*S **S 16 28 23.8 +3.6**
CLL Collm 45.87 46 *i* P **P 16 21 36.7 -0.2**
comp=Z,29nm,1.2s,mb5.1
CLL *ex* x 16 21 46.0
comp=Z,30nm,0.9s
CLL *e*S **S 16 28 24.0 +3.8**
CLL *e*S **S 16 28 24.0 +3.8**
CLL *e*SS SS 16 31 48.0 +3.4
CLL Collm 45.87 46 *i* P **P 16 21 36.7 -0.2**
comp=Z,29nm,1.2s,mb5.1
CLL *e* 16 21 46.0
CLL *e*S **S 16 28 24.0 +3.8**
CLL LR LR
comp=Z,4µm,21.4s,MS5.4
KHC Kasperske Hory 46.08 49 *e*P **P 16 21 38.4 -0.2**
KHC *e*pP pP 16 21 46.3 +2.3
KHC *e*S **S 16 28 22.9 -0.4**
KHC AMS AMS 16 37 10.0
comp=Z,2µm,16.6s
CADS Cadrg 46.12 53 *e*P **P 16 21 38.2 -0.7**
TRI Trieste 46.15 54 PFAKE 16 21 50.0 +11
TRI LR LR
comp=Z,1µm,20.0s,MS4.9
GEC2 GERESS Array S 46.15 50 *e*P **P 16 21 38.8 -0.3**
GEC2 *e*S **S 16 28 23.6 -0.7**
GEC2 pmax pmax
comp=Z,98nm,1.7s,mb5.5
GEC2 GERESS Array S 46.15 50 *e*P **P 16 21 38.8 -0.3**
comp=Z,98nm,1.7s,mb5.5
GEC2 *e*S **S 16 28 23.6 -0.7**
GERES GERESS Array B 46.15 50 P **P 16 21 38.7 -0.4**
comp=Z,2.9nm,0.5s,mb4.4,baz=258,slow=6.7,SNR=23
GERES LR LR 16 37 47.2
comp=Z,2µm,18.4s,MS5.1,baz=253,slow=32
VOJS Vojsko 46.23 54 *e*P **P 16 21 39.5 -0.2**
JAVS Javornik 46.35 54 *e*P **P 16 21 36.1 -4.7**
JAVS *e*S **S 16 28 29.5 +2.3**
BRG Berggiesshubel 46.42 47 *e*P **P 16 21 40.7 -0.5**
BRG S **S 16 28 33.0 +4.8**
BRG pmax pmax
comp=Z,17nm,1.7s,mb4.7
BRG pmax pmax
comp=Z,30nm,1.5s,mb5.0
BRG MLR MLR
BRG MLR MLR
comp=E,3µm,17.1s
BRG MLR MLR
comp=Z,4µm,17.1s,MS5.5
BRG Berggiesshubel 46.42 47 *e*P **P 16 21 41.0 -0.2**
comp=Z,51nm,1.5s,mb5.2
BRG *e*S **S 16 28 31.9 +3.7**
BRG Berggiesshubel 46.42 47 *e*P **P 16 21 40.7 -0.5**
comp=Z,29nm,1.6s,mb4.9
BRG *i* 16 21 52.0
comp=Z,50nm,1.5s
BRG S **S 16 28 33.0 +4.8**
BRG SS SS 16 31 59.0 +5.3
BRG
comp=N,2µm,18.5s
BRG
comp=E,5µm,17.1s
BRG
comp=Z,7µm,17.1s
BRG Berggiesshubel 46.42 47 *e*P **P 16 21 40.7 -0.5**
comp=Z,17nm,1.6s,mb4.7
BRG *i* 16 21 52.0
BRG S **S 16 28 33.0 +4.8**
BRG SS SS 16 31 59.0 +5.3
BRG LR LR
comp=Z,4µm,17.1s,MS5.5
RUE Ruedersdorf 46.46 45 P **P 16 21 42.0 +0.4**
comp=Z,25nm,0.3s,mb5.6
MOA Molln 46.50 51⇑*i*P **P 16 21 41.2 -0.7**
comp=Z,78nm,1.8s,mb5.3,SNR=7.1
ASCN Ascension 46.58 140 PFAKE 16 21 50.0 +7.1
ASCN LR LR
comp=Z,4µm,20.0s,MS5.4
OBKA Obir 46.68 53⇑*i*P **P 16 21 42.6 -0.7**
comp=Z,100nm,0.8s,mb5.8,SNR=26
NB2 NORSAR Subarra 46.72 33 P **P 16 21 43.3 -0.1**
comp=Z,194nm,1.7s,mb5.8,baz=254,slow=7.9
NOA NORSAR Array B 46.72 33 P **P 16 21 43.0 -0.4**
comp=Z,11nm,0.9s,mb4.8,baz=255,slow=7.9,SNR=10
NOA NORSAR Array B 46.72 33 P **P 16 21 43.0 -0.4**
PRU Pruhonice 46.75 48 *e*P **P 16 21 46.3 +2.5**
PRU *ex* x 16 21 53.8
PRU *e*S **S 16 28 35.1 +2.2**
PRU AMS AMS 16 39 20.0
comp=Z,4µm,16.9s
PVCC Panska Ves 46.80 47 *e*P **P 16 21 44.2 0.0**
PVCC *ex* x 16 21 51.8
PVCC *e*S **S 16 21 41.8 +8.3**
PVCC AMS AMS 16 38 40.0
comp=Z,6µm,16.9s
PERS Pernice 47.07 53 *e*P **P 16 21 44.8 -1.6**
PERS *e*S **S 16 28 37.6 0.0**
BOJS Bojanci 47.19 54 *e*P **P 16 21 47.6 +0.3**
CBKS Cedar Bluff 47.22 297 *e*P **P 16 21 48.0 +0.3**
CBKS pmax pmax
comp=Z,76nm,0.8s,mb5.7
CBKS MLR MLR
comp=Z,4µm,20.0s,MS5.4
CBKS Cedar Bluff 47.22 297 *e*P **P 16 21 48.0 +0.3**
comp=Z,76nm,0.8s,mb5.7
CBKS LR LR
comp=Z,4µm,20.0s,MS5.4
TREC Trest 47.34 49 *e*P **P 16 21 50.4 +2.0**
TREC *ex* x 16 21 57.6
TREC AMS AMS 16 38 30.0
comp=Z,2µm,19.0s
ARSA Arzberg 47.35 52⇑*i*P **P 16 21 47.3 -1.2**
comp=Z,53nm,1.1s,mb5.4,SNR=15
CONA Conrad Observa 47.57 51⇑*i*P **P 16 21 48.5 -1.8**
comp=Z,34nm,1.3s,mb5.2
WDD Wield Dalam 47.66 67 PFAKE 16 22 00.0 +8.9
WDD LR LR
comp=Z,2µm,20.0s,MS5.0
UPC Upice 47.72 47 *e*P **P 16 21 51.2 -0.1**
KSP Ksiaz 47.91 47 *e*P **P 16 21 53.7 +0.8**
KSP *e*pP pP 16 21 56.6 -1.7
KSP *e*S **S 16 28 55.0 +5.7**
KSP LMZ 16 38 52.0
comp=Z,12µm,19.3s
KSP Ksiaz 47.91 47 *e*P **P 16 21 53.1 +0.3**
KSP *e*pP pP 16 21 55.6 -2.7
KSP *e*S **S 16 28 48.0 -1.3**

KSP LR LR
comp=Z,13µm,19.3s,MS5.9
DPC Dobruska-Polom 47.91 48 *e*P **P 16 21 52.8 0.0**
DPC *e*S **S 16 28 54.2 +4.8**
DPC AMS AMS 16 39 20.0
comp=Z,4µm,17.6s
DAG Danmarks Havn 48.03 7⇑ *i*P **P 16 21 52.6 -0.8**
DAG pmax pmax
comp=Z,37nm,1.0s,mb5.4
DAG MLR MLR
comp=Z,2µm,18.0s,MS5.2
DAG Danmarks Havn 48.03 7⇑ *i*P **P 16 21 52.6 -0.8**
comp=Z,37nm,1.0s,mb5.4
DAG
comp=Z,2µm,18.0s
CUC Castrocucco 48.05 62 *e*P **P 16 21 52.7 -1.3**
comp=Z,44nm,0.9s,mb5.5
CUC LR LR
comp=Z,4µm,20.0s,MS5.4
KVTX Kingsville 48.11 281 PFAKE 16 22 10.0 +15
KVTX LR LR
comp=Z,3µm,22.0s,MS5.3
CEL Celeste 48.35 64 PFAKE 16 22 10.0 +14
CEL LR LR
comp=Z,40µm,22.0s,MS6.3
ZST Bratislava 48.40 51 *e*P **P 16 21 55.4 -1.3**
comp=Z,253nm,2.4s,mb5.8
ZST LR LR
comp=Z,700nm,15.3s,MS4.8
FFC Flin Flon 48.47 318 P **P 16 21 56.6 -0.5**
comp=Z,305nm,0.7s,mb6.4,SNR=12
FFC Flin Flon 48.47 318 *e*P **P 16 21 55.7 -1.4**
FFC pmax pmax
comp=Z,40nm,0.8s,mb5.5
FFC MLR MLR
comp=Z,6µm,20.0s,MS5.6
FFC Flin Flon 48.47 318 *e*P **P 16 21 55.7 -1.4**
comp=Z,40nm,0.8s,mb5.5
FFC LR LR
comp=Z,6µm,20.0s,MS5.6
MODS Modra-Piesok 48.52 50 *e*P **P 16 21 59.1 +1.5**
MORC Moravsky Berou 48.69 48 *e*P **P 16 21 57.8 -1.0**
MORC pmax pmax
comp=Z,19nm,0.9s,mb5.1
MORC Moravsky Berou 48.69 48 *e*P **P 16 21 57.8 -1.1**
comp=Z,19nm,0.9s,mb5.1
OGNE Ogallala 48.71 300 *e*P **P 16 22 00.1 +0.9**
comp=Z,213nm,1.0s,mb6.1
OGNE LR LR
comp=Z,3µm,21.0s,MS5.3
TIP Timpagrande 48.88 63 *e*P **P 16 21 58.7 -1.7**
TIP LR LR
comp=Z,4µm,22.0s,MS5.3
JCT Junction City 48.91 286 *e*P **P 16 22 00.1 -0.8**
comp=Z,132nm,0.9s,mb6.0
JCT LR LR
comp=Z,1µm,19.0s,MS4.9
OKC Ostrava-Krasne 49.08 48 *e*P **P 16 22 01.8 0.0**
OKC *e*S **S 16 29 17.1 +11**
OKC AMS AMS 16 41 30.0
comp=Z,2µm,17.3s
OKC Ostrava-Krasne 49.08 48 *e*P **P 16 22 01.8 0.0**
OKC *e*S **S 16 29 17.1 +11**
KOLL Kolacno 49.26 50 *e*P **P 16 22 02.0 -1.3**
AMTX Amarillo 49.43 292 *e*P **P 16 22 04.7 0.0**
comp=Z,184nm,1.2s,mb6.0
AMTX LR LR
comp=Z,2µm,19.0s,MS5.2
PKSM Moragy 49.53 53 ⇓P **P 16 22 06.4 +1.1**
VYHS Vyhne 49.55 50 *e*P **P 16 22 05.0 -0.5**
DGMT Dagmar 49.67 310 ⇓P **P 16 22 06.9 +0.5**
baz=50
DGMT Dagmar 49.67 310 *e*P **P 16 22 05.5 -0.8**
comp=Z,64nm,1.1s,mb5.6
DGMT LR LR
comp=Z,5µm,21.0s,MS5.5
BUD Budapest 49.72 51⇑ *e*P **P 16 22 09.0 +2.2**
OJC Ojcow 50.14 48 *e*P **P 16 22 10.2 +0.3**
OJC *e*S **S 16 29 19.5 -1.2**
OJC L 16 40 52.4
comp=Z,4.2nm,18.0s
PSZ Piszkesteto 50.28 51 *e*P **P 16 22 10.5 -0.6**
PSZ pmax pmax
comp=Z,32nm,1.2s,mb5.2
PSZ MLR MLR
comp=Z,2µm,20.0s,MS5.0
PSZ Piszkesteto 50.28 51⇑ *e*P **P 16 22 13.5 +2.4**
PSZ Piszkesteto 50.28 51 *e*P **P 16 22 10.5 -0.6**
comp=Z,32nm,1.2s,mb5.2
PSZ LR LR
comp=Z,2µm,20.0s,MS5.0
NIE Niedzica 50.49 49 *e*P **P 16 22 13.9 +1.3**
CAM3 Guarapari 50.63 177 (P) **P 16 22 13.4 -0.4**
CAM3 *i* 16 22 20.9
CAM3 *i* 16 22 24.9
CAM3 *i* 16 22 31.0
TIR Tirane 50.91 59 *e*P **P 16 22 16.3 +0.4**
TIR MLR MLR
comp=Z,2µm,19.0s,MS5.1
STHS Stebnicka Huta 51.10 49 *e*P **P 16 22 17.6 +0.4**
STHS pmax pmax
comp=Z,17nm,1.0s,mb4.9
STHS Stebnicka Huta 51.10 49 *e*P **P 16 22 17.6 +0.4**
comp=Z,17nm,1.0s,mb4.9
KEK Kerkira 51.12 61 *e*P **P 16 22 18.8 +1.3**
KEK Kerkira 51.12 61 *e*P **P 16 22 18.8 +1.3**
LAO LASA Array 51.14 308 PFAKE 16 22 30.0 +12
LAO LR LR
comp=Z,3µm,21.0s,MS5.3
CRVS Cervenica-Dubn 51.27 50 *e*P **P 16 22 16.1 -2.4**
ISCO Idaho Springs 51.58 299 *e*P **P 16 22 21.6 +0.6**
ISCO pmax pmax
comp=Z,20nm,0.8s,mb5.1
ISCO MLR MLR
comp=Z,4µm,20.0s,MS5.5
ISCO Idaho Springs 51.58 299 *e*P **P 16 22 21.6 +0.6**
comp=Z,20nm,0.8s,mb5.1
ISCO LR LR
comp=Z,4µm,20.0s,MS5.5
BZS Buzias 51.65 54 P **P 16 22 21.6 +0.3**
OHR Ohrid 51.65 59 *i* P **P 16 22 21.9 +0.5**
KOLS Kolonicke sedl 51.80 49 *e*P **P 16 22 22.6 +0.1**
UZH Uzhgorod 51.84 50 *e*P **P 16 22 23.7 +1.0**
UZH *e* pP 16 22 28.3 +0.1
UZH *e* 16 24 23.0
UZH *i* S **S 16 29 46.0 +1.7**
UZH *e* 16 32 16.0
UZH MLR MLR
comp=N,1µm,15.0s,MS5.3
UZH MLR MLR
comp=E,2µm,15.0s,MS5.3
UZH MLR MLR
comp=Z,1µm,15.0s,MS5.0
SDCO Great Sand Dun 51.87 296 *e*P **P 16 22 23.7 +0.5**
comp=Z,28nm,0.9s,mb5.2
SDCO LR LR
comp=Z,4µm,19.0s,MS5.5
SKO Skopje 51.99 58 *i* P **P 16 22 25.8 +1.9**
VLS Valsamata 52.00 63 *e*P **P 16 22 25.4 +1.3**
VLS Valsamata 52.00 63 *e*P **P 16 22 25.4 +1.3**
KWP Kalwaria 52.04 49 *e*P **P 16 22 24.7 +0.5**
KWP *e*S **S 16 30 02.1 +15**
KWP LMZ 16 38 47.4
comp=Z,3µm,34.0s
KWP Kalwaria 52.04 49 *e*P **P 16 22 24.7 +0.5**
KWP *e*S **S 16 30 02.1 +15**
SUW Suwalki 52.17 43 *e*P **P 16 22 24.8 -0.3**
SUW *ep*P pP 16 22 27.3 -3.3
SUW *e*S **S 16 29 53.4 +4.7**
SUW LMZ 16 40 50.6
comp=Z,5µm,24.0s
SUW Suwalki 52.17 43 *e*P **P 16 22 24.8 -0.3**
SUW *ep*P pP 16 22 27.3 -3.4
SUW *e*S **S 16 29 53.4 +4.7**
DRGR 52.28 52 P **P 16 22 26.2 +0.2**
LPAZ La Paz 52.32 212 P **P 16 22 26.7 +0.1**
comp=Z,37nm,0.8s,mb5.4,baz=22,slow=8.1,SNR=84
LPAZ LR LR 16 42 39.1
comp=Z,3µm,21.5s,MS5.3,baz=215,slow=34
TXAR Lajitas Array 52.45 285 P **P 16 22 26.3 -1.3**
comp=Z,11nm,0.9s,mb4.8,baz=97,slow=8.4,SNR=70
TXAR LR LR 16 43 23.0
comp=Z,1µm,19.4s,MS5.0,baz=175,slow=35
RWWY Rawlins 52.46 301 *e*P **P 16 22 27.3 -0.2**
comp=Z,109nm,1.5s,mb5.6

GZR Gura Zlata 52.48 54 P **P 16 22 27.8 +0.3**
KZN Kozani 52.51 60 *e*P **P 16 22 29.9 +2.1**
KZN Kozani 52.51 60 *e*P **P 16 22 29.9 +2.1**
RLS Riolos of Patr 52.70 63 *e*P **P 16 22 29.1 -0.2**
RLS Riolos of Patr 52.70 63 *e*P **P 16 22 29.1 -0.2**
EVR Evrytania 52.80 62 *e*P **P 16 22 32.3 +2.3**
EVR Evrytania 52.80 62 *e*P **P 16 22 32.3 +2.3**
THL Klokotos Trika 52.83 61 *e*P **P 16 22 32.1 +1.9**
THL Klokotos Trika 52.83 61 *e*P **P 16 22 32.1 +1.9**
LVV L'vov 52.89 48 *e*P **P 16 22 31.0 +0.5**
LVV *e*S **S 16 29 57.0 -1.6**
LVV MLR MLR
comp=Z,2µm,18.4s,MS5.1
VAY Valandovo 52.93 59 *i* P **P 16 22 31.5 +0.6**
ALE Alert 52.94 357 P **P 16 22 29.5 -1.0**
comp=Z,224nm,1.2s,mb6.0,SNR=5.0
VAO Valinhos 53.02 185 *e*P **P 16 22 31.9 +0.2**
VAO *i* 16 22 39.8
VTS Vitosha 53.19 57 *i* P **P 16 22 34.7 +1.9**
VTS Vitosha 53.19 57 ⇓P **P 16 22 34.7 +1.9**
KKB Krupnik 53.22 58 *i* P **P 16 22 35.6 +2.5**
ANMO Albuquerque 53.24 293 *e*P **P 16 22 34.2 +0.8**
ANMO pmax pmax
comp=Z,57nm,1.1s
ANMO MLR MLR
comp=Z,3µm,22.0s
ANMO Albuquerque 53.24 293 *e*P **P 16 22 34.2 +0.8**
comp=Z,57nm,1.1s,mb5.4
ANMO LR LR
comp=Z,3µm,22.0s,MS5.3
ITM Ithomi 53.25 64 *e*P **P 16 22 29.1 -4.2**
ITM Ithomi 53.25 64 *e*P **P 16 22 29.1 -4.2**
NNA Nana 53.32 223 *e*P **P 16 22 31.9 -2.1**
comp=Z,89nm,1.0s,mb5.7
NNA LR LR
comp=Z,2µm,20.0s,MS5.2
EGMT Eagleton 53.40 310 ⇑P **P 16 22 34.1 -0.2**
baz=53
EGMT Eagleton 53.40 310 *e*P **P 16 22 33.2 -1.1**
comp=Z,178nm,1.2s,mb5.9
EGMT LR LR
comp=Z,5µm,22.0s,MS5.5
RLMT Red Lodge 53.43 306 ⇑P **P 16 22 34.5 -0.1**
baz=53
RLMT Red Lodge 53.43 306 *e*P **P 16 22 30.0 -4.5**
comp=Z,51nm,1.0s,mb5.4
RLMT LR LR
comp=Z,5µm,22.0s,MS5.5
LPM Los Pinos Moun 53.54 292 *e*P **P 16 22 36.3 +0.8**
BNM Barren Site 53.57 292 *e*P **P 16 22 36.6 +0.8**
GCMT Greycliff 53.62 307 *e*P **P 16 22 35.8 -0.2**
F18A Big Timber 53.63 307 ⇑P **P 16 22 36.6 +0.5**
baz=54,SNR=28
SPB Sao Paulo 53.64 186 *e*P **P 16 22 35.1 -1.1**
SPB *e* 16 22 44.7
E18A Harlowton 53.68 308 ⇓P **P 16 22 36.2 -0.2**
baz=54
MMB Musomiste 53.74 58 *i* P **P 16 22 37.3 +0.4**
PLG Polygyros 53.76 60 *e*P **P 16 22 38.7 +1.6**
PLG Polygyros 53.76 60 *e*P **P 16 22 38.7 +1.6**
LKR Lokris 53.76 62 *e*P **P 16 22 33.9 -3.2**
LKR Lokris 53.76 62 *e*P **P 16 22 33.9 -3.2**
NEO Neokhori 53.80 61 *e*P **P 16 22 36.3 -1.1**
NEO Neokhori 53.80 61 *e*P **P 16 22 36.3 -1.1**
Y22D IRIS PASSCAL I 53.83 292 ⇓P **P 16 22 37.1 -0.6**
baz=54
LENM Lemitar 53.85 292 *e*P **P 16 22 38.6 +0.8**
NVR Nevrokopi 53.88 59 *e*P **P 16 22 40.3 +2.3**
NVR Nevrokopi 53.88 59 *e*P **P 16 22 40.3 +2.3**
BURAR Bucovina Array 53.89 51 ⇓P **P 16 22 38.7 +0.8**
PGB Panagyurishte 53.89 57 *i* P **P 16 22 28.7 -9.3**
LAZ Ladron 53.92 293 *e*P **P 16 22 39.3 +0.9**
BW06 Boulder Array 54.00 303 ⇓P **P 16 22 38.2 -0.6**
baz=54
BW06 Boulder Array 54.00 303 *e*P **P 16 22 38.2 -0.6**
comp=Z,161nm,1.1s,mb5.9
BW06 LR LR
comp=Z,8µm,20.0s,MS5.8
KAF Kangasniemi 54.00 33 *ep* **P 16 22 38.0 -0.5**
comp=Z,50nm,1.0s,mb5.4
KAF Kangasniemi 54.00 33 *e*P **P 16 22 38.0 -0.5**
KAF pmax pmax
comp=Z,50nm,1.0s,mb5.4
PDAR Pinedale Array 54.00 303 P **P 16 22 38.4 -0.5**
comp=Z,54nm,0.8s,mb5.5,baz=83,slow=8.1,SNR=119
PDAR LR LR 16 43 56.9
comp=Z,7µm,19.8s,MS5.7,baz=90,slow=34
KBS Kingsbay 54.01 11 *e*P **P 16 22 38.3 -0.1**
KBS pmax pmax
comp=Z,37nm,1.0s,mb5.3
KBS MLR MLR
comp=Z,1µm,20.0s,MS4.9
KBS Kingsbay 54.01 11 *e*P **P 16 22 38.3 -0.1**
comp=Z,37nm,1.0s,mb5.3
KBS LR LR
comp=Z,1µm,20.0s,MS4.9
N19A John Jarvie Ra 54.06 301 ⇑P **P 16 22 39.4 +0.2**
baz=54,SNR=11
VOIR 54.06 54 ⇓P **P 16 22 40.0 +0.8**
VOIR 54.06 54 P **P 16 22 41.9 +2.7**
ARE Arequipa 54.07 215 P **P 16 22 40.0 +0.5**
C17A Wharram Farm, 54.12 309 ⇑P **P 16 22 39.0 -0.6**
baz=54
VSU Vasula 54.13 37⇑ *i*P **P 16 22 37.7 -1.8**
O19A Miners Draw (B 54.14 300 ⇑P **P 16 22 39.9 +0.1**
baz=54
P19A Cripple Cowboy 54.16 299 ⇓P **P 16 22 39.9 -0.1**
baz=54,SNR=14
PV01 Paradox Valley 54.17 297 *e*P **P 16 22 40.7 +0.7**
LKWY Lake 54.31 305 *e*P **P 16 22 42.4 +1.4**
LKWY pmax pmax
comp=Z,58nm,0.9s,mb5.5
LKWY MLR MLR
comp=Z,9µm,19.0s,MS5.8
LKWY Lake 54.31 305 *e*P **P 16 22 42.4 +1.4**
comp=Z,58nm,0.9s,mb5.5
LKWY LR LR
comp=Z,9µm,19.0s,MS5.8
MVCO Mesa Verde 54.32 296 ⇓P **P 16 22 42.1 +0.9**
baz=54
MVCO Mesa Verde 54.32 296 *e*P **P 16 22 42.3 +1.1**
comp=Z,73nm,0.9s,mb5.6
MVCO LR LR
comp=Z,4µm,21.0s,MS5.4
E17A Martinsdale 54.34 308 ⇑P **P 16 22 41.2 0.0**
baz=54
N18A Larsen Ranch, 54.41 301 ⇓P **P 16 22 41.9 +0.1**
baz=54,SNR=25
ARCES ARCESS Array B 54.44 24 P **P 16 22 42.0 +0.4**
comp=Z,18nm,0.7s,mb5.1,baz=269,slow=4.5,SNR=17
ARCES LR LR 16 40 08.2
comp=Z,2µm,19.5s,MS5.2,baz=266,slow=30
ARCES ARCESS Array B 54.44 24 P **P 16 22 42.0 +0.4**
ARCES LR LR 16 40 08.2
RZN Rozhen 54.45 58 *i* P **P 16 22 42.6 +0.5**
H17A Grant Village 54.46 305 ⇑P **P 16 22 42.8 +0.7**
baz=54,SNR=12
PV10 Paradox Valley 54.47 298 P **P 16 22 41.4 -1.0**
YNR Norris Junctio 54.48 306 *e*P **P 16 22 40.8 -1.5**
A16A West Butte Ran 54.52 311 ⇑P **P 16 22 42.2 -0.2**
baz=54
Q19A Hogan Spring (54.52 298 ⇑P **P 16 22 43.2 +0.5**
baz=54,SNR=12
I17A Pilgram Creek 54.54 305 ⇓P **P 16 22 43.5 +0.8**
baz=54,SNR=17
LOHW Long Hollow 54.61 304 *e*P **P 16 22 42.8 -0.4**
comp=Z,64nm,1.2s,mb5.5
YFT Old Faithful 54.63 305 *e*P **P 16 22 45.1 +1.7**
B16A M & M Farms, S 54.66 310 ⇑P **P 16 22 43.6 +0.1**
baz=55
R19A Curley Farm, L 54.66 298 ⇑P **P 16 22 44.2 +0.5**
baz=55
MLR Muntele Rosu 54.68 53 ⇓P **P 16 22 44.7 +1.0**
MLR Muntele Rosu 54.68 53 P **P 16 22 45.2 +1.6**
MOOW Moose Ponds 54.69 304 *e*P **P 16 22 43.1 -0.7**
comp=Z,31nm,1.1s,mb5.2
S19A Harvey Farm, M 54.69 297 ⇓P **P 16 22 44.5 +0.6**
baz=55,SNR=7.1
YMR Madison River 54.69 306 *e*P **P 16 22 44.4 +0.6**
comp=Z,211nm,1.2s,mb6.0
YMR LR LR
comp=Z,4µm,20.0s,MS5.5
D16A Dana Ranch, Ca 54.73 309 ⇓P **P 16 22 44.1 0.0**
baz=55
SNOW Snow King Moun 54.74 304 *e*P **P 16 22 43.8 -0.4**

comp=Z,121nm,0.9s,mb5.9
PAYG Puerto Ayora 54.75 245 *e*P **P 16 22 44.4 -0.2**
PAYG LR LR
comp=Z,1µm,21.0s,MS5.0
C16A Fuhringer Ranc 54.76 310 ⇓P **P 16 22 44.0 -0.2**
baz=55
IMW Indian Meadow 54.80 305 *e*P **P 16 22 44.7 +0.1**
comp=Z,75nm,0.9s,mb5.7
O18A Roosevelt 54.81 300 ⇑P **P 16 22 44.9 +0.2**
baz=55
T19A Beclabito 54.82 296 ⇓P **P 16 22 44.7 -0.2**
baz=55,SNR=10
REDW Red Top Meadow 54.83 304 *e*P **P 16 22 44.0 -0.8**
comp=Z,86nm,1.1s,mb5.7
TPAW Teton Pass 54.88 304 *e*P **P 16 22 44.7 -0.5**
comp=Z,99nm,1.0s,mb5.8
MNK Minsk 54.88 42 *e*P **P 16 22 43.0 -2.0**
MNK *e*S **S 16 30 21.0 -4.4**
MNK pmax pmax
comp=Z,3µm,1.0s
MNK pmax pmax
comp=E,380nm,1.5s
H16A Russell Place, 54.88 306 ⇓P **P 16 22 45.9 +0.7**
baz=55,SNR=33
E16A East Helena 54.89 308 ⇑P **P 16 22 45.3 +0.1**
baz=55
KDZ Kurdzhali 54.97 58 *i* P **P 16 22 45.4 -0.5**
HRY Holter Researc 54.97 308 *e*P **P 16 22 44.8 -1.0**
QLMT Earthquake Lak 54.99 306 *e*P **P 16 22 46.8 +0.9**
KEV Kevo 54.99 23 *ep* **P 16 22 44.8 -0.8**
comp=E,11nm,0.6s,mb5.1
KEV Kevo 54.99 23 *e*P **P 16 22 44.8 -0.8**
KEV pmax pmax
comp=Z,11nm,0.6s,mb5.1
DCID1 Drake Creek 55.03 304 *e*P **P 16 22 46.4 +0.2**
comp=Z,102nm,1.0s,mb5.8
SZH Strazhica 55.04 56 *i* P **P 16 22 46.4 0.0**
V19A Window Rock 55.10 295 ⇓P **P 16 22 46.9 0.0**
baz=55
PLOR Plostina 55.11 53 ⇓P **P 16 22 47.8 +1.0**
P18A Preston Nutter 55.12 299 ⇑P **P 16 22 46.7 -0.2**
baz=55,SNR=44
AHID Auburn Hatcher 55.12 303 PFAKE 16 23 00.0 +13
AHID LR LR
comp=Z,6µm,19.0s,MS5.7
R18A Canyonlands Na 55.13 298 ⇓P **P 16 22 46.9 -0.1**
baz=55,SNR=23
Q18A Rafter H Ranch 55.15 299 ⇑P **P 16 22 47.2 0.0**
baz=55,SNR=31
LIA Limnos Island 55.16 60 *e*P **P 16 22 45.0 -2.2**
LIA Limnos Island 55.16 60 *e*P **P 16 22 45.0 -2.2**
RDO Rodhopi 55.16 59 *e*P **P 16 22 47.7 +0.5**
RDO Rodhopi 55.16 59 *e*P **P 16 22 47.7 +0.5**
RRI2 Red Ridge 55.17 304 *e*P **P 16 22 46.9 -0.4**
comp=Z,84nm,0.9s,mb5.8
EDM Edmonton 55.18 316 *e*P **P 16 22 45.6 -1.6**
G16A Moss Hill, Enn 55.19 306 ⇑P **P 16 22 47.1 -0.3**
baz=55
I16A Newdale 55.20 305 ⇑P **P 16 22 47.5 +0.1**
baz=55,SNR=8.5
B15A Bradely Ranch, 55.23 310 ⇑P **P 16 22 47.2 -0.5**
baz=55
A15A Johnson Ranch, 55.26 311 ⇑P **P 16 22 47.1 -0.7**
baz=55
N17A Moffit Pass 55.28 301 ⇓P **P 16 22 47.5 -0.7**
baz=55
C15A Salmond Ranch, 55.34 310 ⇑P **P 16 22 47.9 -0.5**
baz=55
S18A Hurst Farm, BI 55.36 297 ⇓P **P 16 22 48.6 -0.2**
baz=55,SNR=22
O17A Robinson Place 55.37 300 ⇑P **P 16 22 48.7 -0.1**
baz=55,SNR=8.8
D15A Lincoln 55.39 309 ⇓P **P 16 22 48.4 -0.4**
baz=55
J16A Bone 55.39 304 ⇑P **P 16 22 49.2 +0.3**
baz=55,SNR=14
T18A Mexican Hat 55.40 296 ⇑P **P 16 22 49.0 0.0**
baz=55,SNR=20
SRU San Rafael 55.44 299 *e*P **P 16 22 49.3 0.0**
SRU pmax pmax
comp=Z,74nm,1.0s,mb5.7
SRU San Rafael 55.44 299 ⇓P **P 16 22 49.2 -0.1**
baz=55,SNR=66
SRU San Rafael 55.44 299 *e*P **P 16 22 49.3 0.0**
comp=Z,74nm,1.0s,mb5.7
K16A Soda Springs 55.46 304 ⇑P **P 16 22 49.3 -0.1**
baz=55,SNR=15
YKA Yellowknife Ar 55.47 328 P **P 16 22 47.7 -1.4**
comp=Z,17nm,0.9s,mb5.1,baz=88,slow=7.4,SNR=25
YKA PcP PcP 16 23 49.6 +0.5
comp=Z,5.8nm,0.7s,baz=91,slow=4.9,SNR=6.9
YKA LR LR 16 46 02.4
comp=Z,2µm,19.2s,MS5.3,baz=65,slow=36
YKA Yellowknife Ar 55.47 328 P **P 16 22 47.7 -1.4**
YKA 16 23 49.6
YKA Yellowknife Ar 55.47 328 P **P 16 22 47.7 -1.4**
YKA PcP PcP 16 23 49.6 +0.6
YKA LR LR 16 46 02.4
L16A Fish Haven 55.51 303 ⇓P **P 16 22 49.9 +0.2**
baz=55
P17A Butcher Ranch, 55.53 299 ⇑P **P 16 22 50.2 +0.3**
baz=56,SNR=6.1
W19A Sanders 55.53 294 ⇑P **P 16 22 50.3 +0.3**
baz=56,SNR=12
F15A Butte 55.56 307 ⇑P **P 16 22 49.4 -0.7**
baz=56
E15A Deer Lodge 55.57 308 ⇓P **P 16 22 49.8 -0.3**
baz=56
U18A Rough Rock, Ch 55.57 296 ⇓P **P 16 22 50.7 +0.4**
baz=56,SNR=22
X19A St. Johns 55.63 293 ⇑P **P 16 22 51.3 +0.6**
baz=56,SNR=8.6
G15A Dillon 55.67 306 ⇑P **P 16 22 51.5 +0.6**
baz=56,SNR=14
HWUT Hardware Ranch 55.69 302 *e*P **P 16 22 51.1 +0.1**
comp=Z,67nm,0.9s,mb5.7
HWUT LR LR
comp=Z,6µm,20.0s,MS5.7
B14A Marquette Ranc 55.70 310 ⇑P **P 16 22 50.3 -0.7**
baz=56
A14A Double T Ranch 55.71 311 ⇑P **P 16 22 50.2 -0.8**
baz=56
DAU Daniels Canyon 55.71 301 *e*P **P 16 22 51.5 +0.3**
DLMT Dillon 55.72 307 *e*P **P 16 22 51.2 +0.1**
comp=Z,48nm,1.0s,mb5.5
Y19A Nutrioso 55.73 293 ⇑P **P 16 22 52.2 +0.7**
baz=56,SNR=13
N16A Rees Ranch, Co 55.74 301 ⇓P **P 16 22 51.6 +0.2**
baz=56
R17A Hanksville Air 55.74 298 ⇑P **P 16 22 51.1 -0.4**
baz=56,SNR=51
M16A Huntsville 55.79 302 ⇓P **P 16 22 50.7 -1.1**
baz=56
W18A Petrified Fore 55.80 294 ⇑P **P 16 22 52.3 +0.4**
baz=56
V18A Ganado 55.80 295 ⇑P **P 16 22 52.4 +0.5**
baz=56,SNR=21
JLU Jordanelle 55.81 301 *e*P **P 16 22 52.2 +0.2**
BOZC Bozcaada 55.82 60 *i* P **P 16 22 44.0 -8.0**
H15A Lima 55.88 306 ⇓P **P 16 22 53.2 +0.8**
baz=56,SNR=8.5
I15A Monteview 55.88 305 ⇑P **P 16 22 52.9 +0.5**
baz=56
CHMT Chamberlain Mo 55.91 309 *e*P **P 16 22 51.9 -0.6**
TMUT Trail Mountain 55.92 299 *e*P **P 16 22 50.8 -2.0**
Z19A T-Link Ranch, 55.92 292 ⇓P **P 16 22 53.4 +0.6**
baz=56,SNR=6.7
O16A Springville 55.94 300 ⇓P **P 16 22 52.9 +0.1**
baz=56
J15A Blackfoot 55.96 304 ⇑P **P 16 22 53.4 +0.4**
baz=56,SNR=18
Q16A Castle Valley 55.98 299 ⇓P **P 16 22 53.3 +0.1**
baz=56,SNR=16
MCMT McKenzie Canyo 55.98 306 *e*P **P 16 22 52.8 -0.4**
S17A Black Ridge (B 56.00 297 ⇑P **P 16 22 53.7 +0.4**
baz=56,SNR=30
WALA Waterton Lakes 56.02 311 *e*P **P 16 22 52.0 -1.2**
comp=Z,66nm,0.9s,mb5.7
D14A Greenough 56.05 309 ⇓P **P 16 22 53.1 -0.4**
baz=56
APE Apeiranthos 56.07 63 ⇓*i*P **P 16 22 53.5 -0.4**
APE Apeiranthos 56.07 63 ⇑P **P 16 22 56.2 +2.3**
MPU Maple Canyon 56.08 300 *e*P **P 16 22 52.2 -1.6**
comp=Z,72nm,1.0s,mb5.7
MPU LR LR
comp=Z,6µm,20.0s,MS5.7
119A Ashpeak Ranch, 56.10 291 ⇑P **P 16 22 54.4 +0.3**

baz=56,SNR=12
C14A **Swan Lake** 56.10 310 ⇓P P 16 22 53.4 -0.4
baz=56
AKASG **Malin Array Be** 56.11 47 P P 16 22 53.4 -0.5
comp=Z,15nm,0.8s,mb5.1,baz=274,slow=6.3,SNR=21
AKASG LR LR 16 44 60.0
comp=Z,4μm,18.1s,MS5.6,baz=265,slow=34
AKASG **Malin Array Be** 56.11 47 P P 16 22 53.4 -0.5
AKASG LR LR 16 44 60.0
PRD **Provadia** 56.11 56 *i* P P 16 22 53.1 -0.9
PRK **Paraskevi** 56.12 61 *eP* P 16 22 53.0 -1.2
PRK **Paraskevi** 56.12 61 *eP* P 16 22 53.0 -1.2
X18A **Snowflake** 56.13 293 ⇓P P 16 22 54.6 +0.2
baz=56
U17A **Shonto** 56.15 296 ⇓P P 16 22 54.8 +0.4
baz=56,SNR=6.7
T17A **Navajo Res., N** 56.16 296 ⇓P P 16 22 55.1 +0.6
baz=56,SNR=8.5
K15A **Arbon** 56.17 304 ⇓P P 16 22 55.1 +0.7
baz=56,SNR=14
F14A **Wisdom** 56.17 307 ⇑P P 16 22 54.3 -0.1
baz=56
P16A **Fountain Green** 56.19 300 ⇓P P 16 22 55.0 +0.3
baz=56
HARR **Harsova** 56.20 54 ⇑P P 16 22 56.6 +2.0
L15A **Malad City** 56.20 303 ⇑P P 16 22 54.6 -0.1
baz=56,SNR=18
219A **White Tail Can** 56.28 290 ⇓P P 16 22 55.6 +0.2
baz=56,SNR=22
NOQ **North Oquirrh** 56.30 301 *eP* P 16 22 55.7 +0.3
comp=Z,138nm,1.2s,mb5.9
JOF **Joensuu** 56.34 32 *ep* P 16 22 54.9 -0.4
comp=Z,30nm,1.1s,mb5.2
JOF **Joensuu** 56.34 32 *eP* P 16 22 54.9 -0.4
JOF pmax pmax
comp=Z,30nm,1.1s,mb5.2
M15A **Larsen Ranch,** 56.36 302 ⇑P P 16 22 55.8 0.0
baz=56
R16A **Teasdale** 56.37 298 ⇓P P 16 22 56.4 +0.5
baz=56,SNR=11
MSO **Missoula** 56.38 309 *eP* P 16 22 54.8 -1.1
comp=Z,48nm,1.2s,mb5.4
MSO LR LR
comp=Z,4μm,21.0s,MS5.5
SPUT **South Promonto** 56.40 302 *eP* P 16 22 55.5 -0.6
KIS **Kishinev** 56.40 51 *eP* P 16 22 56.0 0.0
KIS *e* pP 16 23 00.0 -1.6
KIS *eS* S 16 30 45.0 -0.9
KIS *ePS* 16 31 00.0
KIS *eSS* SS 16 34 36.0 +3.3
KIS **Kishinev** 56.40 51 *eP* P 16 22 56.0 0.0
KIS *eS* S 16 30 45.0 -0.9
Y18A **Canyon Day Jun** 56.40 293 ⇓P P 16 22 56.7 +0.5
baz=56,SNR=10
NLU **North Lily Min** 56.42 300 *eP* P 16 22 56.4 0.0
SART **Tekirdag** 56.47 59 *i* P P 16 22 54.1 -2.6
B13A **Whitefish** 56.48 311 ⇓P P 16 22 56.4 -0.2
baz=56
319A **Douglas** 56.48 290 ⇑P P 16 22 57.1 +0.2
baz=56,SNR=7.0
HVU **Hansel Valley** 56.53 302 *eP* P 16 22 56.1 -1.0
HVU pmax pmax
comp=Z,42nm,1.1s,mb5.4
HVU **Hansel Valley** 56.53 302 *eP* P 16 22 56.1 -1.0
comp=Z,42nm,1.1s,mb5.4
N15A **Stansbury Isla** 56.54 301 ⇓P P 16 22 57.1 -0.1
baz=56
URLA **Izmir** 56.58 62 *i* P P 16 22 54.1 -3.3
I14A **Mackay** 56.58 305 ⇑P P 16 22 57.8 +0.4
baz=56,SNR=13
TIRR **Tirgusor** 56.58 54 P P 16 22 56.7 -0.7
TIRR pmax pmax
comp=Z,41nm,1.3s,mb5.3
TIRR **Tirgusor** 56.58 54 P P 16 22 56.7 -0.7
comp=Z,41nm,1.3s,mb5.3
W17A **Winslow** 56.58 294 ⇑P P 16 22 57.9 +0.4
baz=56
S16A **Weppner Ranch,** 56.59 298 ⇑P P 16 22 57.9 +0.4
baz=56
Z18A **Geronimo** 56.60 292 ⇑P P 16 22 58.0 +0.4
baz=56
E13A **Victor** 56.62 308 ⇑P P 16 22 57.4 -0.2
baz=56
U16A **Tuba City** 56.63 296 ⇑P P 16 22 58.2 +0.3
baz=57,SNR=29
K14A **Jones Ranch, D** 56.66 303 ⇑P P 16 22 58.3 +0.3
baz=57
118A **Homack Ranch,** 56.67 291 ⇑P P 16 22 58.4 +0.2
baz=57,SNR=18
D13A **Huson** 56.69 309 ⇑P P 16 22 58.7 +0.6
baz=57,SNR=6.4
J14A **Carey** 56.75 304 ⇓P P 16 22 58.9 +0.3
baz=57,SNR=14
BSMT **Bassoo Peak** 56.78 310 P P 16 22 58.1 -0.6
L14A **Malta** 56.82 303 ⇑P P 16 22 59.0 -0.1
baz=57
F13A **Darby** 56.84 307 ⇑P P 16 22 59.5 +0.3
baz=57,SNR=19
MSU **Marysvale** 56.84 299 *eP* P 16 23 00.3 +1.0
X17A **Forest Lakes** 56.86 293 ⇓P P 16 23 00.3 +0.7
baz=57
MVU **Marysvale** 56.87 299 PFAKE 16 23 10.0 +10
MVU LR LR
comp=Z,3μm,19.0s,MS5.5
Q15A **Fillmore** 56.87 299 ⇓P P 16 23 00.2 +0.7
baz=57
Z17A **San Carlos Hig** 56.89 292 ⇓P P 16 23 00.1 +0.3
baz=57,SNR=5.8
G13A **Cobalt** 56.90 307 ⇑P P 16 23 00.3 +0.6
baz=57
BGU **Big Grassy Mou** 56.91 302 *eP* P 16 22 58.9 -0.9
DUG **Dugway** 56.92 301 ⇓P P 16 23 00.5 +0.7
baz=57
DUG **Dugway** 56.92 301 *eP* P 16 22 59.7 -0.1
DUG LR LR
comp=Z,4μm,20.0s,MS5.5
218A **Dragoon** 56.93 291 ⇑P P 16 23 00.4 +0.3
baz=57,SNR=18
WUAZ **Wupatki** 56.99 295 ⇑P P 16 23 01.0 +0.6
baz=57
WUAZ **Wupatki** 56.99 295 *eP* P 16 23 01.0 +0.6
comp=Z,84nm,1.0s,mb5.7
WUAZ LR LR
comp=Z,4μm,19.0s,MS5.5
M14A **Sheep Mountain** 57.01 302 ⇑P P 16 23 00.0 -0.5
baz=57
BALY **Balya** 57.02 60 *i* P P 16 22 58.6 -1.9
H13A **Challis** 57.02 306 ⇑P P 16 23 01.1 +0.6
baz=57,SNR=15
N14A **Grayback Hills** 57.04 301 ⇑P P 16 23 00.7 0.0
baz=57,SNR=9.8
318A **Bisbee** 57.05 290 ⇑P P 16 23 01.1 +0.2
baz=57,SNR=25
I13A **Wildhorse Cree** 57.05 305 ⇓P P 16 23 01.0 +0.3
baz=57,SNR=23
Y17A **Roosevelt** 57.07 293 ⇑P P 16 23 01.2 +0.2
baz=57,SNR=10
KDAG **Bornova** 57.08 61 *i* P P 16 22 59.2 -1.8
APA **Apatity** 57.18 26 ⇓*i*P P 16 23 03.7 +2.5
APA pmax pmax
comp=Z,39nm,1.0s,mb5.4
S15A **Panguitch** 57.19 298 ⇓P P 16 23 02.2 +0.4
baz=57,SNR=9.7
J13A **Cove Ranch, Pi** 57.20 305 ⇓P P 16 23 01.9 +0.1
baz=57
B12A **Libby** 57.20 311 ⇓P P 16 23 01.3 -0.4
baz=57
W16A **Flagstaff** 57.23 294 ⇓P P 16 23 02.6 +0.5
baz=57,SNR=7.4
P14A **Drum Mountains** 57.25 300 ⇓P P 16 23 02.5 +0.3
baz=57,SNR=66
C12B **Naegeli Ranch,** 57.26 310 ⇑P P 16 23 01.6 -0.5
baz=57
K13A **Stover Farm, H** 57.30 304 ⇓P P 16 23 02.4 0.0
baz=57
D12A **Red Ives Fores** 57.30 309 ⇑P P 16 23 01.6 -0.8
baz=57
117A **Oracle** 57.31 291 ⇓P P 16 23 02.7 -0.1
baz=57,SNR=11
L13A **Double Diamond** 57.32 303 ⇓P P 16 23 02.3 -0.3
baz=57,SNR=8.4
HLID **Hailey** 57.34 305 ⇓P P 16 23 02.8 +0.1
baz=57,SNR=12
HLID **Hailey** 57.34 305 *eP* P 16 23 02.7 0.0
comp=Z,24nm,1.2s,mb5.1
HLID LR LR
comp=Z,4μm,22.0s,MS5.5
X16A **Lo Mia Camp, P** 57.34 294 ⇓P P 16 23 03.8 +0.8
baz=57,SNR=12
AKHS **Akhisar** 57.37 61 *i* P P 16 23 00.4 -2.7
T15A **Red Dirt Ranch** 57.37 297 ⇑P P 16 23 03.2 +0.1
baz=57,SNR=11
TUC **Tucson** 57.43 291 *eP* P 16 23 03.4 -0.2
TUC pmax pmax
comp=Z,107nm,1.9s,mb5.5
TUC MLR MLR
comp=Z,1μm,22.0s,MS5.0
TUC **Tucson** 57.43 291 *eP* P 16 23 03.4 -0.1
comp=Z,107nm,1.9s,mb5.5
TUC LR LR
comp=Z,1μm,22.0s,MS5.0
H12A **Diamond D Ranc** 57.44 306 ⇑P P 16 23 04.3 +0.8
baz=57,SNR=45
U15A **North Rim** 57.46 296 ⇑P P 16 23 04.1 +0.3
baz=57,SNR=38
F12A **Elk City** 57.48 308 ⇑P P 16 23 03.3 -0.4
baz=57
Y16A **Circle Bar Ran** 57.52 293 ⇓P P 16 23 04.7 +0.4
baz=58,SNR=10
V15A **Kaibab Nationa** 57.53 295 ⇑P P 16 23 04.6 +0.3
baz=58,SNR=24
BDRM **Kayabasi** 57.55 63 *i* P P 16 23 03.8 -0.6
Q14A **Sevier Lake (B** 57.55 299 ⇑P P 16 23 04.7 +0.4
baz=58,SNR=33
E12A **Beaver Dam Sad** 57.56 308 ⇑P P 16 23 04.7 +0.4
baz=58,SNR=12
217A **Green Valley** 57.61 291 ⇑P P 16 23 04.8 -0.1
baz=58,SNR=16
A11A **Hall Mountain,** 57.62 311 ⇓P P 16 23 04.4 -0.3
baz=58
Z16A **Peralta Trail,** 57.64 292 ⇑P P 16 23 05.3 +0.2
baz=58
LVZ **Lovozero** 57.65 26 PFAKE 16 23 20.0 +15
LVZ LR LR
comp=Z,2μm,21.0s,MS5.2
B11A **Sandpoint** 57.72 311 ⇓P P 16 23 05.4 0.0
baz=58,SNR=7.9
AYDN **Tasoluk** 57.73 62 *i* P P 16 23 07.4 +1.8
W15A **Williams** 57.78 295 ⇓P P 16 23 05.9 -0.1
baz=58
S14A **Cedar City** 57.78 298 ⇑P P 16 23 06.1 +0.1
baz=58,SNR=6.6
N13A **Wendover, West** 57.79 302 ⇓P P 16 23 06.0 0.0
baz=58,SNR=5.8
O13A **Hicks Ranch, I** 57.80 301 ⇑P P 16 23 06.1 0.0
baz=58,SNR=6.5
K12A **Draper Farm, C** 57.89 304 ⇑P P 16 23 06.7 +0.1
baz=58,SNR=6.0
J12A **Stokes Ranch,** 57.89 305 ⇓P P 16 23 07.7 +1.0
baz=58,SNR=14
T14A **Hurricane** 57.90 297 ⇓P P 16 23 06.7 -0.1
baz=58
X15A **Humboldt** 57.95 294 ⇑P P 16 23 07.7 +0.5
baz=58,SNR=16
D11A **Klaveano Farm,** 57.96 309 ⇑P P 16 23 06.5 -0.5
baz=58
ARUT **Antelope Range** 57.98 298 *eP* P 16 23 07.7 +0.3
SHEL **Horse Pasture** 57.99 137 PFAKE 16 23 20.0 +12
SHEL LR LR
comp=Z,3μm,21.0s,MS5.3
CCUT **Cedar City** 57.99 298 *eP* P 16 23 08.1 +0.7
P13A **Bates Ranch, G** 57.99 300 ⇑P P 16 23 07.7 +0.2
baz=58,SNR=26
E11A **Bogner Ranch,** 58.01 308 ⇓P P 16 23 07.0 -0.4
baz=58
MANT **Manisa** 58.03 61 *i* P P 16 23 05.7 -2.0
ULDT **Uludag** 58.05 59 *i* P P 16 23 06.8 -1.1
216A **Three Points,** 58.06 291 ⇑P P 16 23 08.3 +0.2
baz=58
F11A **Grangeville** 58.07 308 ⇑P P 16 23 07.5 -0.3
baz=58
L12A **House Creek Ra** 58.08 303 ⇑P P 16 23 08.2 +0.2
baz=58,SNR=9.9
116A **Eloy** 58.09 292 ⇑P P 16 23 08.4 +0.1
baz=58
Q13A **Wheeler Ranch,** 58.12 300 ⇓P P 16 23 08.6 +0.2
baz=58,SNR=53
U14A **Mt Trumbull** 58.15 296 ⇑P P 16 23 08.7 +0.1
baz=58,SNR=28
M12A **Wells** 58.18 303 ⇓P P 16 23 08.2 -0.5
baz=58,SNR=20
Y15A **Casa Rosa Ranc** 58.18 293 ⇑P P 16 23 09.1 +0.2
baz=58,SNR=15
H11A **Donnelly** 58.22 306 ⇓P P 16 23 09.1 +0.2
baz=58,SNR=17
LVC **Limon Verde** 58.25 209 LR LR 16 47 32.2
comp=Z,2μm,18.2s,MS5.2,baz=14,slow=35
LVC **Limon Verde** 58.25 209 *eP* P 16 23 08.6 -0.6
comp=Z,69nm,0.9s,mb5.7
LVC LR LR
comp=Z,3μm,21.0s,MS5.4
NEW **Newport** 58.25 311 *eP* P 16 23 08.2 -0.8
NEW pmax pmax
comp=Z,85nm,0.8s
NEW MLR MLR
comp=Z,3μm,20.0s
NEW **Newport** 58.25 311 *eP* P 16 23 08.2 -0.9
comp=Z,85nm,0.8s,mb5.8
NEW LR LR
comp=Z,3μm,20.0s,MS5.4
G11A **Walters Elk Ra** 58.25 307 ⇑P P 16 23 08.8 -0.3
baz=58
R13A **O'Grain Ranch,** 58.29 299 ⇓P P 16 23 09.9 +0.4
baz=58,SNR=28
B10A **Chitwood Farm,** 58.31 311 ⇑P P 16 23 09.3 -0.2
baz=58
V14A **Boquillas Ranc** 58.31 296 ⇓P P 16 23 10.4 +0.7
baz=58,SNR=43
O12A **Currie** 58.34 301 ⇑P P 16 23 10.1 +0.3
baz=58,SNR=6.8
I11A **Placerville** 58.35 306 ⇓P P 16 23 10.7 +0.8
baz=58,SNR=9.0
S13A **Holt Ranch, En** 58.36 298 ⇓P P 16 23 10.5 +0.5
baz=58,SNR=6.3
MFID **Camas Ranch** 58.37 305 ⇑P P 16 23 10.2 +0.2
baz=58,SNR=48
A10A **Northport** 58.39 312 ⇑P P 16 23 09.7 -0.3
baz=58
N12A **Clover Valley,** 58.41 302 ⇑P P 16 23 10.2 -0.1
baz=58
W14A **Seligman** 58.41 295 ⇑P P 16 23 11.0 +0.6
baz=58,SNR=20
C10A **Spilker Farm,** 58.45 310 ⇓P P 16 23 10.4 -0.1
baz=58
115A **Sonoran Desert** 58.47 292 ⇓P P 16 23 10.9 0.0
baz=58
X14A **Yava** 58.48 294 ⇓P P 16 23 11.0 +0.1
baz=58,SNR=14
TURN **Turunc** 58.50 63 *i* P P 16 23 08.9 -2.1
T13A **Saint George** 58.55 297 ⇑P P 16 23 11.6 +0.2
baz=58,SNR=8.9
GDZ **Gediz** 58.58 60 *i* P P 16 23 10.1 -1.4
ELK **Elko** 58.58 302 *eP* P 16 23 11.4 -0.1
ELK pmax pmax
comp=Z,30nm,1.3s
ELK MLR MLR
comp=Z,5μm,19.0s
ELK **Elko** 58.58 302 *eP* P 16 23 11.3 -0.2
comp=Z,30nm,1.3s,mb5.2
ELK LR LR
comp=Z,5μm,19.0s,MS5.7
E10A **Myers Farm, Un** 58.59 309 ⇓P P 16 23 11.3 -0.2
baz=58
L11A **Cat Creek Ranc** 58.61 304 ⇓P P 16 23 11.7 0.0
baz=58,SNR=8.9
P12A **McGill** 58.66 300 ⇑P P 16 23 12.3 +0.2
baz=59,SNR=16
K11A **Parker Ranch,** 58.67 304 ⇓P P 16 23 12.4 +0.3
baz=59,SNR=25
Q12A **Willow Creek R** 58.71 300 ⇓P P 16 23 12.4 0.0
baz=59,SNR=13
Y14A **Wickenburg** 58.72 294 ⇓P P 16 23 12.8 +0.2
baz=59,SNR=17
R12A **Pony Springs,** 58.73 299 ⇓P P 16 23 12.7 +0.1
baz=59,SNR=20
H10A **Noah's Angus R** 58.76 306 ⇓P P 16 23 12.1 -0.6
baz=59
U13A **Pakoon Wash** 58.76 297 ⇓P P 16 23 13.3 +0.5
baz=59,SNR=12
F10A **Beach Ranch, E** 58.78 308 ⇑P P 16 23 12.4 -0.4
baz=59
M11A **Holland Ranch,** 58.82 303 ⇓P P 16 23 13.2 +0.1
baz=59
G10A **Bishop Farm, J** 58.86 307 ⇑P P 16 23 13.8 +0.4
baz=59,SNR=8.6
B09A **Rice** 58.89 311 ⇓P P 16 23 13.4 -0.2
baz=59
I10A **Payette** 58.91 306 ⇓P P 16 23 14.0 +0.2
baz=59
V13A **Grand Canyon W** 58.94 296 ⇑P P 16 23 14.5 +0.5
baz=59,SNR=16
O11A **Cowboy Ranch,** 59.05 301 ⇓P P 16 23 15.7 +0.9
baz=59
A09A **Danville** 59.06 312 ⇑P P 16 23 14.4 -0.3
baz=59
W13A **Hualapai Mount** 59.08 295 ⇑P P 16 23 15.6 +0.6
baz=59,SNR=14
BMO **Blue Mountains** 59.08 307 PFAKE 16 23 30.0 +15
BMO LR LR
comp=Z,2μm,19.0s,MS5.3
C09A **Chrisman Ranch** 59.10 310 ⇑P P 16 23 14.7 -0.2
baz=59
BORA **Eskisehir** 59.10 59 *i* P P 16 23 16.3 +1.1
S12A **Delamar Landin** 59.11 298 ⇑P P 16 23 15.6 +0.3
baz=59,SNR=17
GOLH **Golhisar** 59.14 62 *i* P P 16 23 15.2 -0.2
L10A **Juniper Basin** 59.15 304 ⇓P P 16 23 15.8 +0.4
baz=59,SNR=48
214A **Organ Pipe Nat** 59.17 291 ⇑P P 16 23 16.0 +0.2
baz=59,SNR=9.5
X13A **Yucca** 59.18 295 ⇑P P 16 23 16.4 +0.6
baz=59,SNR=26
U12A **Valley of Fire** 59.20 297 ⇓P P 16 23 16.6 +0.7
baz=59,SNR=7.4
K10A **MacKenzie Ranc** 59.27 304 ⇓P P 16 23 16.8 +0.6
baz=59
P11A **Circle Ranch,** 59.27 301 ⇓P P 16 23 16.7 +0.4
baz=59
D09A **Jones Farm, Ri** 59.28 310 ⇓P P 16 23 15.9 -0.3
baz=59
E09A **Wood Farm, Sta** 59.29 309 ⇑P P 16 23 17.6 +1.3
baz=59,SNR=6.8
F09A **S2 Ranch, Elgi** 59.30 308 ⇓P P 16 23 16.3 -0.1
baz=59
G09A **Cove** 59.31 307 ⇓P P 16 23 16.4 -0.1
baz=59
M10A **I.L. Ranch, Tu** 59.34 303 ⇓P P 16 23 17.2 +0.4
baz=59,SNR=17
H09A **Durkee** 59.38 307 ⇓P P 16 23 17.1 +0.2
baz=59,SNR=6.7
Q11A **Duckwater** 59.38 300 ⇑P P 16 23 17.7 +0.6
baz=59,SNR=9.2
Y13A **Salome** 59.41 294 ⇑P P 16 23 17.6 +0.2
baz=59
R11A **Troy Canyon, C** 59.47 299 ⇓P P 16 23 17.9 +0.2
baz=59,SNR=28
OD2 **Odessa Site #2** 59.47 310 P P 16 23 17.7 +0.1
ESKT **Eskisehir** 59.49 59 *i* P P 16 23 16.2 -1.6
TKTP **Tekketepe** 59.49 61 *i* P P 16 23 18.7 +0.8
T11A **Corn Creek, Al** 59.50 298 ⇑P P 16 23 18.3 +0.3
baz=59,SNR=24
A08A **Turner Farm, O** 59.51 312 ⇓P P 16 23 18.0 +0.2
baz=59
PDMCI **Parker Dam,Lak** 59.51 294 ⇑P P 16 23 18.3 +0.2
baz=59
I09A **Lost Marbles R** 59.59 306 ⇑P P 16 23 18.3 -0.2
baz=60,SNR=29
C08A **Higginbotham F** 59.61 311 ⇑P P 16 23 18.0 -0.5
baz=60
V12A **Nelson** 59.65 296 ⇑P P 16 23 19.6 +0.6
baz=60,SNR=17
B08A **Colville Reser** 59.67 311 ⇑P P 16 23 18.3 -0.6
baz=60
113A **Mohawk Valley,** 59.69 293 ⇓P P 16 23 19.8 +0.5
baz=60
D08A **Wollman Farm,** 59.69 310 ⇓P P 16 23 18.9 -0.2
baz=60
J09A **Fry Pan Ranch,** 59.75 305 ⇑P P 16 23 19.8 +0.2
baz=60
P10A **Eureka** 59.78 301 ⇓P P 16 23 19.7 -0.1
baz=60
S11A **Rachel** 59.78 298 ⇓P P 16 23 20.5 +0.6
baz=60
W12A **Cal Nev Ari** 59.79 296 ⇑P P 16 23 20.7 +0.7
baz=60
OBN **Obninsk** 59.82 41 ⇓*i*P P 16 23 19.1 -0.8
OBN *i* 16 23 27.5
OBN *i* 16 24 04.5
OBN *i* S S 16 31 34.2 +3.8
OBN *e*SS SS 16 35 28.3 +2.3
OBN pmax pmax
comp=Z,107nm,1.8s,mb5.6
OBN **Obninsk** 59.82 41 *eP* P 16 23 18.8 -1.1
comp=Z,99nm,1.1s,mb5.8
OBN LR LR
comp=Z,4μm,20.0s,MS5.5
F08A **Pendleton** 59.88 308 ⇑P P 16 23 19.9 -0.5
baz=60
K09A **Rome** 59.90 305 ⇑P P 16 23 21.5 +0.9
baz=60,SNR=9.2
E08A **Dider Farm, El** 59.91 309 ⇑P P 16 23 20.2 -0.4
baz=60
Q10A **Clear Creek Ra** 59.95 300 ⇓P P 16 23 21.4 +0.4
baz=60,SNR=19
Y12C **Blythe** 59.98 294 ⇓P P 16 23 21.9 +0.6
baz=60
R10A **Warm Springs** 60.02 299 ⇑P P 16 23 21.9 +0.4
baz=60,SNR=9.2
M09A **Marrel Ranch,** 60.02 303 ⇑P P 16 23 22.2 +0.7
baz=60
EPH **Ephrata** 60.07 310 P P 16 23 21.1 -0.6
H08A **Prairie City** 60.11 307 ⇑P P 16 23 22.2 +0.2
baz=60,SNR=12
BMN **Battle Mountai** 60.12 302 *eP* P 16 23 21.9 -0.3
BMN pmax pmax
comp=Z,22nm,1.0s,mb5.1
BMN MLR MLR
comp=Z,5μm,19.0s,MS5.7
BMN **Battle Mountai** 60.12 302 *eP* P 16 23 21.9 -0.3
comp=Z,22nm,1.0s,mb5.2
BMN LR LR
comp=Z,5μm,19.0s,MS5.7
G08A **Pilot Rock** 60.12 308 ⇓P P 16 23 21.5 -0.6
baz=60
B07A **Winthrop** 60.16 311 ⇑P P 16 23 21.6 -0.7
baz=60
A07A **Ashnola River,** 60.20 312 ⇓P P 16 23 22.7 +0.1
baz=60,SNR=13
N09A **Rock Creek Ran** 60.23 302 ⇓P P 16 23 22.4 -0.5
baz=60
HAWA **Hanford** 60.25 309 *eP* P 16 23 22.2 -0.8
comp=Z,42nm,0.9s,mb5.5
HAWA LR LR
comp=Z,3μm,20.0s,MS5.4
C07A **Waterville** 60.30 311 ⇓P P 16 23 22.4 -0.8
baz=60
MOS **Moscow** 60.30 40 *eP* P 16 23 22.8 -0.3
MOS *e* 16 25 41.2
MOS pmax pmax
comp=Z,116nm,2.1s,mb5.5
S10A **Tonopah Range,** 60.35 299 ⇑P P 16 23 23.9 +0.1
baz=60,SNR=46
IRM **Iron Mountain** 60.35 294 ⇑P P 16 23 23.8 -0.1
baz=60,SNR=12
D07A **Quincy** 60.35 310 ⇓P P 16 23 23.1 -0.6
baz=60
TPNV **Topopah Spring** 60.37 298 *eP* P 16 23 25.2 +1.3
TPNV pmax pmax
comp=Z,66nm,1.0s,mb5.6
TPNV MLR MLR
comp=Z,4μm,20.0s,MS5.6
TPNV **Topopah Spring** 60.37 298 ⇓P P 16 23 24.8 +0.9
baz=60
TPNV **Topopah Spring** 60.37 298 *eP* P 16 23 25.1 +1.2
comp=Z,66nm,1.0s,mb5.6
TPNV LR LR
comp=Z,4μm,20.0s,MS5.6
KLMR **Klimovskoe** 60.39 34 *eP* P 16 23 20.4 -3.3
KLMR pmax pmax
comp=Z,129nm,1.5s,mb5.7
E07A **Sunnyside** 60.42 309 ⇑P P 16 23 24.0 -0.2
baz=60,SNR=10
K08A **Mann Creek Ran** 60.43 305 ⇑P P 16 23 24.3 0.0
baz=60,SNR=14
SIM **Simferopol'** 60.44 53 *eP* P 16 23 27.8 +3.5
SIM *eS* S 16 31 50.0 +11
SIM pmax pmax
comp=Z,21nm,1.2s,mb5.0
SIM MLR MLR
comp=Z,2μm,18.0s,MS5.2
GLA **Glamis** 60.44 293 *eP* P 16 23 25.1 +0.6
GLA pmax pmax

comp=Z,113nm,1.5s,mb5.7
GLA MLR MLR
comp=Z,2µm,19.0s,MS5.2
GLA Glamis 60.44 293 ⇑P **P 16 23 24.7 +0.2**
baz=60
GLA Glamis 60.44 293 *e*P **P 16 23 25.1 +0.6**
comp=Z,113nm,1.5s,mb5.7
GLA LR LR
comp=Z,2µm,19.0s,MS5.2
L08A Fields 60.47 304 ⇑P **P 16 23 24.8 +0.3**
baz=60,SNR=14
ETW Entiat 60.49 311 P **P 16 23 23.7 -0.9**
Q09A Carvers 60.53 300 ⇓P **P 16 23 24.9 -0.1**
baz=60,SNR=8.8
GMRC Granite Mounta 60.56 295 ⇑P **P 16 23 25.2 -0.1**
baz=60,SNR=13
TUQ Turquoise Moun 60.57 296 ⇓P **P 16 23 25.3 0.0**
baz=60,SNR=28
U10A Ash Meadows, A 60.59 297 ⇑P **P 16 23 25.8 +0.3**
baz=60,SNR=33
WVOR Wild Horse Val 60.61 304 *e*P **P 16 23 25.2 -0.3**
WVOR pmax pmax
comp=Z,56nm,1.2s,mb5.6
WVOR MLR MLR
comp=Z,5µm,20.0s,MS5.6
WVOR Wild Horse Val 60.61 304 *e*P **P 16 23 25.2 -0.3**
comp=Z,56nm,1.2s,mb5.6
WVOR LR LR
comp=Z,5µm,20.0s,MS5.6
R09A Tonopah 60.62 299 ⇑P **P 16 23 25.3 -0.3**
baz=60,SNR=36
F07A Phinny Hill Vi 60.63 309 ⇑P **P 16 23 25.4 -0.1**
baz=60
M08A Happy Creek Ra 60.69 303 ⇓P **P 16 23 26.2 +0.2**
baz=61
N08A GE Springer Mi 60.70 303 ⇓P **P 16 23 25.6 -0.5**
baz=61
H07A Lands Inn, Kim 60.71 307 ⇓P **P 16 23 25.5 -0.6**
baz=61,SNR=8.1
MXC Moxie City 60.71 309 P **P 16 23 26.3 +0.2**
BC3 Big Chuckw Mtn 60.75 294 ⇓P **P 16 23 26.4 -0.2**
baz=61,SNR=6.7
TBM Table Mountain 60.77 310 P **P 16 23 26.3 -0.2**
TPH Tonopah 60.78 299 *e*P **P 16 23 26.6 -0.1**
TPH pmax pmax
comp=Z,52nm,1.1s,mb5.6
TPH MLR MLR
comp=Z,3µm,22.0s,MS5.5
TPH Tonopah 60.78 299 *e*P **P 16 23 26.6 -0.1**
comp=Z,52nm,1.1s,mb5.6
TPH LR LR
comp=Z,3µm,22.0s,MS5.5
C06A Tall Timber Ra 60.79 311 ⇓P **P 16 23 26.0 -0.6**
baz=61
I07A Izee 60.80 306 ⇓P **P 16 23 27.0 +0.3**
baz=61,SNR=6.4
BALT Daday 60.81 57 *i* P **P 16 23 26.2 -0.7**
EBG Ellensburg 60.82 310 P **P 16 23 26.9 +0.1**
ANTO Ankara 60.84 59 P **P 16 23 28.1 +1.0**
SNR=10
ANTO Ankara 60.84 59 *e*P **P 16 23 28.0 +0.9**
ANTO pmax pmax
comp=Z,172nm,1.8s,mb5.9
ANTO MLR MLR
comp=Z,2µm,19.0s,MS5.2
ANTO Ankara 60.84 59 *e*P **P 16 23 28.0 +0.9**
comp=Z,172nm,1.8s,mb5.9
ANTO LR LR
comp=Z,2µm,19.0s,MS5.2
J07A Hines 60.84 306 ⇓P **P 16 23 27.5 +0.4**
baz=61
S09A Goldfield 60.88 299 ⇓P **P 16 23 27.1 -0.3**
baz=61,SNR=20
A06A Chilliwack 60.89 312 ⇑P **P 16 23 27.6 +0.3**
baz=61
D06A Cle Elum 60.93 310 ⇓P **P 16 23 27.1 -0.4**
baz=61
FURC Furnace Creek, 60.98 297 ⇑P **P 16 23 28.4 +0.3**
baz=61
K07A Rock Creek Ran 60.98 305 ⇓P **P 16 23 27.5 -0.5**
baz=61
B06A Marblemount 61.03 312 ⇑P **P 16 23 28.5 +0.3**
baz=61
RPW Rockport 61.07 312 P **P 16 23 26.9 -1.6**
BELC Belle Mtn. 61.07 295 ⇑P **P 16 23 28.9 +0.2**
baz=61,SNR=9.4
HEC Hector,Ludlow 61.07 296 ⇑P **P 16 23 29.2 +0.5**
baz=61,SNR=7.0
Q08A Gabbs 61.09 300 ⇓P **P 16 23 28.5 -0.2**
baz=61
ILGA Ilgaz 61.18 57 *i* P **P 16 23 30.9 +1.5**
H06A Lindquist Farm 61.20 307 ⇓P **P 16 23 30.0 +0.5**
baz=61,SNR=5.1
GRAC Grapevine Rang 61.21 298 ⇑P **P 16 23 30.2 +0.6**
baz=61,SNR=5.2
L07A Adell 61.23 304 ⇑P **P 16 23 30.1 +0.4**
baz=61,SNR=8.7
F06A Goldendale 61.24 309 ⇑P **P 16 23 30.2 +0.5**
baz=61
SWSC Sam W. Stewart 61.25 293 ⇓P **P 16 23 30.1 +0.1**
baz=61
G06A Carlson Farm, 61.28 308 ⇑P **P 16 23 29.2 -0.8**
baz=61
GSC Goldstone 61.29 296 *e*P **P 16 23 30.2 -0.1**
GSC pmax pmax
comp=Z,18nm,0.8s,mb5.2
GSC MLR MLR
comp=Z,3µm,19.0s,MS5.5
GSC Goldstone 61.29 296 ⇑P **P 16 23 29.9 -0.4**
baz=61
GSC Goldstone 61.29 296 *e*P **P 16 23 30.2 -0.1**
comp=Z,18nm,0.8s,mb5.2
GSC LR LR
comp=Z,3µm,19.0s,MS5.5
N07B Gerlach 61.31 303 ⇓P **P 16 23 30.2 0.0**
baz=61,SNR=13
R08A Mina 61.37 300 ⇑P **P 16 23 30.7 0.0**
baz=61
O07A Toulon 61.41 302 ⇓P **P 16 23 31.1 +0.1**
baz=61,SNR=24
J06A Christmas Vall 61.47 306 ⇑P **P 16 23 30.4 -0.9**
baz=61
B05A Bryant 61.49 312 ⇓P **P 16 23 30.4 -0.9**
baz=61
NVAR Mina Array Bea 61.49 300 P **P 16 23 31.4 -0.2**
comp=Z,13nm,0.8s,mb5.1,baz=75,slow=6.3,SNR=57
NVAR PKPPKP 16 53 00.7
comp=Z,1.7nm,1.0s,baz=242,slow=4.7,SNR=4.9
PFO Pinyon Flat Ob 61.55 294 P **P 16 23 32.8 +0.8**
PFO pmax pmax
comp=Z,17nm,1.0s,mb5.1
PFO Pinyon Flat Ob 61.55 294 ⇓P **P 16 23 31.2 -0.9**
baz=62
PFO Pinyon Flat Ob 61.55 294 *e*P **P 16 23 29.4 -2.7**
comp=Z,17nm,1.0s,mb5.1
PFO LR LR
comp=Z,3µm,20.0s,MS5.4
DVTC Desert V Tower 61.58 293 ⇑P **P 16 23 32.0 -0.3**
baz=62
MPMC Manual Prospec 61.59 297 ⇓P **P 16 23 32.3 +0.1**
baz=62,SNR=26
DAC Darwin (Calif) 61.60 297 PFAKE 16 23 40.0 +7.7
DAC LR LR
comp=Z,3µm,19.0s,MS5.5
K06A Valley Falls 61.66 305 ⇓P **P 16 23 32.3 -0.3**
baz=62
F05A White Salmon 61.67 309 ⇑P **P 16 23 32.7 +0.1**
baz=62,SNR=5.5
G05A Wamic 61.74 308 ⇓P **P 16 23 33.6 +0.5**
baz=62
MONP Monument Peak 61.76 293 ⇓P **P 16 23 33.6 +0.2**
baz=62,SNR=7.0
H05A Madras 61.84 307 ⇑P **P 16 23 33.6 -0.2**
baz=62,SNR=6.5
TIN Tinemaha 61.85 298 ⇓P **P 16 23 34.1 +0.1**
baz=62,SNR=8.3
PAHR Pah Rah Range 61.92 302 *e*P **P 16 23 34.3 -0.1**
comp=Z,73nm,1.0s,mb5.8
CWC Cottonwood Cre 61.92 298 ⇓P **P 16 23 34.6 +0.1**
baz=62,SNR=22
LRMC Laurel Mountai 61.92 297 ⇓P **P 16 23 34.1 -0.4**
baz=62
N06A Buffalo Meadow 61.94 303 ⇑P **P 16 23 34.9 +0.4**
baz=62,SNR=7.6
MOD Modoc 61.95 304 ⇓P **P 16 23 34.7 +0.1**
baz=62,SNR=15
MOD Modoc 61.95 304 *e*P **P 16 23 34.0 -0.6**
comp=Z,42nm,0.9s,mb5.6
MOD *e* 16 23 42.8
MOD LR LR
comp=Z,5µm,20.0s,MS5.7
MTUM Tungsten Hills 62.01 299 *e*P **P 16 23 36.1 +1.0**
BAR Barrett 62.03 293 *e*P **P 16 23 35.4 +0.1**
comp=Z,38nm,1.3s,mb5.4
BAR LR LR
comp=Z,2µm,20.0s,MS5.3
CDAG Cicekdag 62.07 58 *i* P **P 16 23 33.2 -2.2**
VOR Voronezh 62.08 44 P **P 16 23 36.0 +0.8**
VOR pmax pmax
comp=Z,150nm,2.0s,mb5.8
O06A Flanigan 62.11 302 ⇑P **P 16 23 35.4 -0.2**
baz=62
K05A Summer Lake 62.14 305 ⇑P **P 16 23 36.3 +0.5**
baz=62
VSR Storozhevoye 62.18 45 *e*P **P 16 23 35.0 -0.9**
VSR pmax pmax
comp=Z,5.0nm,0.7s,mb4.8
VSR pmax pmax
comp=N,4.0nm,0.5s
VSR pmax pmax
comp=E,5.0nm,0.6s
J05A Fort Rock 62.22 306 ⇓P **P 16 23 36.7 +0.3**
baz=62
M06C Likely Place G 62.28 304 ⇓P **P 16 23 36.9 +0.1**
baz=62,SNR=12
L05A Lakeview 62.29 305 ⇑P **P 16 23 37.1 +0.3**
baz=62
WCN Washoe City 62.31 301 ⇓P **P 16 23 37.2 +0.1**
baz=62
R06C Coleville 62.32 300 ⇓P **P 16 23 37.4 +0.3**
baz=62
EDW2 Edwards Air Fo 62.35 296 ⇓P **P 16 23 37.5 +0.1**
baz=62,SNR=8.8
B04A Port Angeles 62.45 312 ⇑P **P 16 23 38.2 +0.4**
baz=62
ISA Isabella 62.47 297 *e*P **P 16 23 39.3 +1.1**
ISA pmax pmax
comp=Z,65nm,1.3s,mb5.6
ISA MLR MLR
comp=Z,2µm,20.0s,MS5.3
ISA Isabella 62.47 297 ⇓P **P 16 23 38.5 +0.3**
baz=62,SNR=16
ISA Isabella 62.47 297 *e*P **P 16 23 39.3 +1.1**
comp=Z,65nm,1.3s,mb5.6
ISA LR LR
comp=Z,2µm,20.0s,MS5.3
H04A Detroit Lake 62.49 308 ⇓P **P 16 23 38.5 +0.3**
baz=62
G04A Mulino 62.54 308 ⇑P **P 16 23 39.4 +0.9**
baz=62
BEKR Beckwourth 62.59 302 ⇑P **P 16 23 38.9 0.0**
baz=62
KCC Kaiser Creek 62.59 299 ⇓P **P 16 23 38.8 -0.2**
baz=62,SNR=23
MWC Mount Wilson 62.62 295 PFAKE 16 23 50.0 +11
MWC LR LR
comp=Z,3µm,21.0s,MS5.5
AVNT Avonos 62.68 59 *i* P **P 16 23 36.3 -3.2**
ANN Anapa 62.75 52 *e*P **P 16 23 37.2 -2.7**
ANN *e*S **S 16 32 05.5 -2.5**
ANN pmax pmax
comp=Z,83nm,2.1s,mb5.5
ANN MLR MLR
comp=N,950nm,18.0s,MS5.2
ANN MLR MLR
comp=E,1µm,18.0s,MS5.2
ANN MLR MLR
comp=Z,2µm,18.0s,MS5.3
J04A Umpqua Nationa 62.85 306 ⇓P **P 16 23 40.7 +0.2**
baz=63
RCTC Rector, Farmer 62.85 298 ⇓P **P 16 23 41.1 +0.4**
baz=63
NLWA Neilton Lookou 62.87 311 ⇑P **P 16 23 40.3 -0.3**
baz=63,SNR=11
NLWA Neilton Lookou 62.87 311 *e*P **P 16 23 40.5 -0.1**
comp=Z,158nm,0.9s,mb6.1
NLWA LR LR
comp=Z,4µm,20.0s,MS5.6
D03A Wishkah Elem. 62.88 311 ⇑P **P 16 23 41.4 +0.7**
baz=63
I04A Tendick Farm, 62.90 307 ⇑P **P 16 23 41.2 +0.3**
baz=63
E03A Lebam 62.90 310 ⇑P **P 16 23 40.9 +0.1**
baz=63
T06C Millerton Lake 62.99 299 ⇓P **P 16 23 40.6 -1.0**
baz=63,SNR=8.9
L04A Klamath Falls 63.00 305 ⇑P **P 16 23 41.5 -0.1**
baz=63
LBCM Butte Creek Ri 63.02 303 P **P 16 23 41.7 0.0**
M04C Macdoel 63.08 305 ⇓P **P 16 23 41.8 -0.3**
baz=63
GULE Gulek 63.09 61 *i* P **P 16 23 26.6 -16**
CMB Columbia Colle 63.17 300 ⇓P **P 16 23 42.9 +0.1**
baz=63,SNR=8.1
CMB Columbia Colle 63.17 300 *e*P **P 16 23 42.7 -0.1**
comp=Z,67nm,1.4s,mb5.6
CMB LR LR
comp=Z,4µm,21.0s,MS5.5
COR Corvallis 63.28 308 PFAKE 16 24 00.0 +17
COR LR LR
comp=Z,4µm,21.0s,MS5.6
S05C Merced 63.35 299 ⇓P **P 16 23 44.4 +0.4**
baz=63
M03C McCloud 63.44 304 ⇓P **P 16 23 44.4 -0.1**
baz=63
ORV Oroville 63.52 302 ⇓P **P 16 23 44.8 -0.3**
baz=63,SNR=9.5
DLBC Dease Lake 63.54 324 P **P 16 23 44.6 -0.3**
comp=Z,24nm,0.8s,mb5.2,baz=90,slow=5.2,SNR=26
DLBC Dease Lake 63.54 324 *e*P **P 16 23 44.1 -0.7**
OHCM Honcut 63.58 302 *e*P **P 16 23 45.1 -0.3**
HUMO Hull Mountain 63.63 306 ⇓P **P 16 23 45.5 -0.2**
baz=64
HUMO Hull Mountain 63.63 306 *e*P **P 16 23 43.1 -2.6**
comp=Z,24nm,0.8s,mb5.3
HUMO LR LR
comp=Z,3µm,22.0s,MS5.5
VRHR Novokhopersk 63.71 44 *e*P **P 16 23 46.6 +0.5**
VRHR pmax pmax
comp=N,20nm,0.5s
VRHR pmax pmax
comp=Z,20nm,0.5s,mb5.4
VRHR pmax pmax
comp=E,10.0nm,0.6s
YBH Yreka Blue Hor 63.72 305 ⇑P **P 16 23 46.5 +0.2**
baz=64
YBH Yreka Blue Hor 63.72 305 PFAKE 16 24 00.0 +14
YBH LR LR
comp=Z,3µm,22.0s,MS5.5
PTRM Twissleman Ran 63.81 298 *e*P **P 16 23 47.5 +0.4**
PINB Pinarbasi 63.87 59 *i* P **P 16 23 46.5 -0.8**
M02C Callahan 63.93 304 ⇑P **P 16 23 48.0 +0.3**
baz=64
K02A Glendale 63.95 306 ⇓P **P 16 23 48.0 +0.2**
baz=64
WDC Whiskeytown Da 63.96 303 ⇓P **P 16 23 48.1 +0.1**
baz=64
WDC Whiskeytown Da 63.96 303 PFAKE 16 24 00.0 +12
WDC LR LR
comp=Z,4µm,21.0s,MS5.6
U04C Hernandez Rese 64.01 298 ⇑P **P 16 23 47.7 -0.7**
baz=64,SNR=18
SNCC San Nicolas Is 64.09 295 PFAKE 16 24 00.0 +11
SNCC LR LR
comp=Z,2µm,19.0s,MS5.3
PACP Pacheco Peak 64.18 299 ⇓P **P 16 23 49.3 -0.1**
baz=64
L02A Cave Junction 64.22 305 ⇓P **P 16 23 49.6 -0.1**
baz=64
BDM Black Diamond 64.30 300 ⇑P **P 16 23 50.4 +0.1**
baz=64
SAO San Andreas Ge 64.38 299 *e*P **P 16 23 51.7 +0.9**
SAO pmax pmax
comp=Z,31nm,0.9s,mb5.3
SAO MLR MLR
comp=Z,3µm,19.0s,MS5.4
SAO San Andreas Ge 64.38 299 *e*P **P 16 23 51.7 +0.9**
comp=Z,31nm,0.9s,mb5.3
SAO LR LR
comp=Z,3µm,19.0s,MS5.4
MNRC McLaughlin Nat 64.43 302 ⇓P **P 16 23 51.6 +0.5**
baz=64
N02C Big Bar 64.43 304 ⇑P **P 16 23 51.4 +0.3**
baz=64
V03C Hunter Liggett 64.47 298 ⇑P **P 16 23 52.4 +1.0**
baz=64
CVS Carmenet Viney 64.62 301 ⇓P **P 16 23 51.8 -0.5**
baz=64
LCO Las Campanas 64.66 207 *e*P **P 16 23 52.3 -0.2**
LCO LR LR
comp=Z,3µm,21.0s,MS5.4
NSHM Saint Helena R 64.67 301 *e*P **P 16 23 54.2 +1.5**
SOC Sochi 64.69 53 *d* P **P 16 23 54.7 +2.0**
SOC *e* 16 23 55.8
SOC *e* 16 24 25.1
SOC *e*S **S 16 32 38.7 +6.7**
SOC *e* 16 33 40.3
SOC *e*SS SS 16 36 45.5 +2.9
SOC pmax pmax
comp=Z,69nm,1.2s,mb5.6
SOC MLR MLR
comp=Z,527nm,17.0s,MS4.8
M01C Crescent City 64.69 305 ⇑P **P 16 23 52.1 -0.6**
baz=65
HOPS Hopland 64.86 302 ⇑P **P 16 23 54.4 +0.5**
baz=65
HOPS Hopland 64.86 302 *e*P **P 16 23 55.0 +1.1**
comp=Z,135nm,1.3s,mb5.8
HOPS LR LR
comp=Z,3µm,19.0s,MS5.6
JCC Jacoby Creek 64.95 304 ⇓P **P 16 23 55.1 +0.6**
baz=65
MCCM Marconi Confer 65.00 301 ⇓P **P 16 23 55.0 +0.2**
baz=65
MCCM Marconi Confer 65.00 301 PFAKE 16 24 10.0 +15
MCCM LR LR
comp=Z,3µm,19.0s,MS5.5
O01C Eel River Cons 65.02 303 ⇓P **P 16 23 55.1 +0.1**
baz=65
GZT Gaziantep 65.17 60 *i* P **P 16 23 56.2 +0.3**
KEMA Kemaliye 65.21 58 *i* P **P 16 23 55.2 -0.9**
WRAK Wrangell Islan 65.31 322 PFAKE 16 24 10.0 +14
WRAK LR LR
comp=Z,4µm,20.0s,MS5.7
TLL Tololo Astrono 65.73 207 *e*P **P 16 23 59.2 -0.2**
SKAG Skagway 65.88 326 *e*P **P 16 23 58.6 -1.5**
comp=Z,33nm,1.2s,mb5.2
DAWY Dawson 66.18 331 *e*P **P 16 24 01.3 -0.7**
HYT Haines Junctio 66.46 328 *e*P **P 16 24 04.0 +0.3**
KIV Kislovodsk 66.60 52 P **P 16 24 08.0 +3.0**
comp=Z,211nm,1.4s,mb6.0,SNR=7.4
KIV Kislovodsk 66.60 52 P **P 16 24 06.8 +1.8**
SNR=18
KIV Kislovodsk 66.60 52 *e*P **P 16 24 06.2 +1.2**
KIV *e* 16 24 39.6
KIV *e*S S 16 32 57.7 +2.3
KIV *e*SS SS 16 37 16.6 +4.4
KIV pmax pmax
comp=Z,46nm,1.1s,mb5.4
KIV pmax pmax
comp=Z,54nm,6.3s
KIV Kislovodsk 66.60 52 *e*P **P 16 24 05.4 +0.4**
comp=Z,55nm,1.2s,mb5.5
KIV LR LR
comp=Z,819nm,19.0s,MS5.0
SIT Sitka 66.67 324 PFAKE 16 24 20.0 +15
SIT LR LR
comp=Z,10µm,20.0s,MS6.0
DBOC Borcka 66.79 55 *i* P **P 16 24 05.7 -0.5**
DIYA Diyarbakir 66.87 59 *i* P **P 16 24 06.8 -0.1**
DBAD Bademkaya 66.92 55 *i* P **P 16 23 59.7 -7.4**
ARTV Artvin 67.03 55 *i* P **P 16 24 06.3 -1.5**
DAGI Agillar 67.06 55 *i* P **P 16 24 05.8 -2.2**
HOMI Horasan 67.41 56 *i* P **P 16 24 08.5 -1.7**
MARD Mardin 67.58 59 *i* P **P 16 24 10.6 -0.8**
TUTA Tutak 68.30 56 *i* P **P 16 24 16.6 +0.8**
DIGO Kars 68.33 55 *i* P **P 16 24 15.8 -0.2**
FCH Farellones 68.36 205 *e*P **P 16 24 16.4 +0.3**
LMEL Las Melosas 68.80 204 *e*P **P 16 24 18.1 -0.7**
COLD Coldfoot 69.00 337 *e*P **P 16 24 19.9 +0.2**
comp=Z,46nm,1.2s,mb5.3
SOKR Solikamsk 69.00 33 *d* P **P 16 24 18.1 -1.7**
SOKR SS SS 16 37 48.4 -0.3
SOKR pmax pmax
comp=Z,50nm,1.3s,mb5.3
SOKR MLR MLR
comp=Z,780nm,21.0s,MS4.9
COLA College 69.22 334 *e*P **P 16 24 20.7 -0.5**
COLA pmax pmax
comp=Z,81nm,1.3s,mb5.5
COLA MLR MLR
comp=Z,6µm,20.0s,MS5.8
COLA College 69.22 334 *e*P **P 16 24 20.7 -0.5**
comp=Z,81nm,1.3s,mb5.5
COLA LR LR
comp=Z,6µm,20.0s,MS5.8
GNI Garni 69.40 55 P **P 16 24 24.6 +1.9**
SNR=27
GNI Garni 69.40 55 *e*P **P 16 24 24.2 +1.5**
GNI *e* 16 24 32.8
GNI pmax pmax
comp=Z,104nm,1.1s
GNI MLR MLR
comp=Z,591nm,19.0s
GNI Garni 69.40 55 *e*P **P 16 24 24.2 +1.5**
comp=Z,104nm,1.1s,mb5.7
GNI *e* 16 24 32.8
GNI LR LR
comp=Z,591nm,19.0s,MS4.8
HAKT HAKKARI 69.65 58 *i* P **P 16 24 24.4 +0.2**
MCK McKinley 70.17 333 P **P 16 24 26.9 -0.1**
MCK pmax pmax
comp=Z,62nm,1.1s,mb5.5
MCK McKinley 70.17 333 *e*P **P 16 24 26.3 -0.7**
comp=Z,62nm,1.2s,mb5.4
MAK Makhachkala 70.22 51 *e*P **P 16 24 28.3 +0.6**
MAK *e* 16 24 49.2
MAK *e*PPP 16 28 41.2
MAK *e*S S 16 33 38.9 +0.3
MAK pmax pmax
comp=Z,19nm,0.3s,mb5.5
MAK MLR MLR
comp=Z,757nm,15.0s,MS5.1
TRQA Tornquist 70.24 196 *e*P **P 16 24 27.0 -0.6**
comp=Z,29nm,1.0s,mb5.2
TRQA LR LR
comp=Z,2µm,20.0s,MS5.4
IMA2 Indian Mountai 70.78 336 *e*P **P 16 24 30.1 -0.6**
BPAW Bear Paw Mtn. 70.79 334 *e*P **P 16 24 29.4 -1.4**
comp=Z,122nm,1.7s,mb5.5
TRF Thorofare Moun 70.84 333 *e*P **P 16 24 30.4 -0.7**
comp=Z,133nm,1.6s,mb5.6
KTH Kantishna Hill 71.03 333 *e*P **P 16 24 31.6 -0.7**
comp=Z,114nm,1.2s,mb5.7
ARU Arti 71.18 35 ⇑ *e*P **P 16 24 34.3 +1.0**
ARU pmax pmax
comp=Z,75nm,2.6s,mb5.2
ARU Arti 71.18 35 *e*P **P 16 24 30.9 -2.4**
comp=Z,22nm,0.9s,mb5.1
ARU LR LR
comp=Z,1µm,19.0s,MS5.2
PMR Palmer 71.27 331 P **P 16 24 35.8 +2.1**
PMR pmax pmax
comp=Z,56nm,1.2s,mb5.4
PMR Palmer 71.27 331 *e*P **P 16 24 32.9 -0.8**
comp=Z,47nm,1.1s,mb5.3
CHUM Lake Minchumin 71.41 334 *e*P **P 16 24 33.0 -1.4**
comp=Z,96nm,1.1s,mb5.6
RC01 Rabbit Creek A 71.77 331 *e*P **P 16 24 36.0 -0.7**
comp=Z,52nm,1.1s,mb5.4
PPLA Purkeypile 71.86 333 *e*P **P 16 24 36.4 -0.9**
comp=Z,141nm,1.2s,mb5.8
SVE Sverdlovsk 72.03 34 *e*P **P 16 24 39.7 +1.3**
SVE *e*S S 16 34 03.8 +4.8
SVE *e*SS SS 16 38 33.7 -1.5
SVE pmax pmax
comp=Z,49nm,1.1s,mb5.3
SEW Seward 72.13 330 *e*P **P 16 24 37.8 -1.1**
SLKM Skilak Lake 72.27 330 P **P 16 24 40.0 +0.3**
SLKM Skilak Lake 72.27 330 *e*P **P 16 24 38.7 -1.1**
TRIS Tristan da Cun 72.65 155 PFAKE 16 24 50.0 +7.8
TRIS LR LR
comp=Z,3µm,22.0s,MS5.5
SVW2 Sparrevohn 74.18 332 *e*P **P 16 24 49.9 -1.1**
KDAK Kodiak Island 74.72 329 *e*P **P 16 24 54.9 +0.6**
comp=Z,123nm,1.4s,mb5.6
KDAK LR LR
comp=Z,2µm,22.0s,MS5.3
PLCA Paso Flores 75.14 202 P **P 16 24 55.9 -0.8**
comp=Z,11nm,0.8s,mb4.8,baz=17,slow=8.6,SNR=16

PLCA LR LR 16 59 11.5
comp=Z,1μm,18.2s,MS5.2,baz=282,slow=37
PLCA Paso Flores 75.14 202 P **P** **16 24 55.9 -0.8**
PLCA LR LR 16 59 11.5
AB31 Akbulak array 75.26 41⇑ *eP* **P** **16 24 57.8 +0.3**
TSUM Tsumeb 75.90 122 *eP* **P** **16 25 01.3 -0.3**
comp=Z,15nm,1.0s,mb4.9
TSUM LR LR
comp=Z,2μm,22.0s,MS5.3
CHGN Chignik 78.19 329 *eP* **P** **16 25 13.3 -0.6**
TIXI Tiksi 78.30 3 *c iP* **P** **16 25 14.0 -0.3**
TIXI *e* 16 28 12.6
TIXI *eS* S 16 35 11.6 +3.3
TIXI *eSS* SS 16 40 19.7 +10
TIXI pmax pmax
comp=Z,63nm,1.3s,mb5.4
TIXI MLR MLR
comp=Z,500nm,16.0s,MS4.9
TIXI Tiksi 78.30 3 *eP* **P** **16 25 13.9 -0.4**
comp=Z,58nm,1.1s,mb5.4
TIXI *ePP* PP 16 28 12.7 +2.1
TIXI LR LR
comp=Z,652nm,20.0s,MS5.0
BRVK Borovoye 78.74 35 P **P** **16 25 17.3 +0.3**
comp=Z,206nm,0.8s,mb6.1,SNR=5.1
BRVK Borovoye 78.74 35 ⇑P **P** **16 25 19.9 +2.9**
SNR=13
BRVK Borovoye 78.74 35 *eP* **P** **16 25 16.6 -0.4**
BRVK pmax pmax
comp=Z,49nm,0.9s,mb5.4
BRVK MLR MLR
comp=Z,2μm,19.0s,MS5.5
BRVK Borovoye 78.74 35 *eP* **P** **16 25 16.6 -0.5**
comp=Z,49nm,0.9s,mb5.4
BRVK LR LR
comp=Z,2μm,19.0s,MS5.5
VOSK Vostochnaya 79.28 35 P **P** **16 25 21.2 +1.2**
VOSK pmax pmax
comp=Z,25nm,0.9s,mb5.1
SDPT Sand Point 79.69 329 *eP* **P** **16 25 22.2 +0.1**
comp=Z,98nm,1.1s,mb5.7
ABKT Ailbek 79.71 52 P **P** **16 25 27.7 +5.1**
comp=Z,108nm,1.0s,mb5.7,SNR=5.2
BILL Bilibino 79.76 349 *d iP* **P** **16 25 22.1 -0.2**
BILL pmax pmax
comp=Z,16nm,1.0s,mb4.9
BILL Bilibino 79.76 349 *eP* **P** **16 25 21.8 -0.5**
comp=Z,37nm,1.1s,mb5.2
BILL LR LR
comp=Z,2μm,20.0s,MS5.4
LSZ Lusaka 81.70 113 P **P** **16 25 35.1 +1.6**
SNR=7.1
LSZ Lusaka 81.70 113 *eP* **P** **16 25 32.1 -1.4**
LSZ *e* 16 28 42.0
LSZ pmax pmax
comp=Z,26nm,1.1s,mb5.1
LSZ MLR MLR
comp=Z,1μm,19.0s,MS5.3
LSZ Lusaka 81.70 113 *eP* **P** **16 25 32.1 -1.4**
comp=Z,26nm,1.1s,mb5.1
LSZ *ePP* PP 16 28 42.0 +1.2
LSZ LR LR
comp=Z,1μm,19.0s,MS5.3
KMBO Kilima Mbogo 81.78 96 ⇑P **P** **16 25 35.4 +1.3**
SNR=6.2
KMBO Kilima Mbogo 81.78 96 P **P** **16 25 36.0 +1.9**
comp=Z,5.3nm,0.9s,mb4.5,baz=259,slow=7.3,SNR=9.1
KMBO Kilima Mbogo 81.78 96 *eP* **P** **16 25 35.6 +1.5**
KMBO pmax pmax
comp=Z,22nm,1.4s
KMBO MLR MLR
comp=Z,2μm,19.0s
KMBO Kilima Mbogo 81.78 96 *eP* **P** **16 25 35.6 +1.5**
comp=Z,22nm,1.4s,mb4.9
KMBO *e* 16 25 51.2
KMBO LR LR
comp=Z,2μm,19.0s,MS5.4
EFI East Falkland 82.61 190 *eP* **P** **16 25 36.6 -0.8**
EFI *e* 16 25 45.8
EFI pmax pmax
comp=Z,72nm,0.9s,mb5.7
EFI MLR MLR
comp=Z,2μm,19.0s,MS5.5
EFI East Falkland 82.61 190 *eP* **P** **16 25 36.6 -0.8**
comp=Z,72nm,0.9s,mb5.7
EFI *e* 16 25 45.8
EFI LR LR
comp=Z,2μm,19.0s,MS5.5
UNV Unalaska Valle 83.32 330 *eP* **P** **16 25 39.8 -1.6**
comp=Z,99nm,1.3s,mb5.7
NVS Novosibirsk 83.43 28 *eP* **P** **16 25 41.2 -0.7**
NVS pmax pmax
comp=Z,78nm,2.1s,mb5.4
NVS pmax pmax
comp=N,31nm,2.4s
KURK Kurchatov 84.23 33 ⇓P **P** **16 25 49.3 +3.1**
SNR=14
KURK Kurchatov 84.23 33 P **P** **16 25 46.0 -0.1**
comp=N,12nm,0.8s,mb5.1,baz=312,slow=5.2,SNR=11
KURK Kurchatov 84.23 33⇑ *eP* **P** **16 25 44.7 -1.4**
KURK pmax pmax
comp=Z,22nm,1.2s,mb5.2
KURK Kurchatov 84.23 33 *eP* **P** **16 25 44.6 -1.6**
KURK LR LR
comp=Z,858nm,21.0s,MS5.1
ZAA0 Zalesovo Array 84.71 28 *eP* **P** **16 25 47.4 -1.1**
ZALV Zalesovo Beam 84.71 28 P **P** **16 25 48.2 -0.3**
comp=Z,11nm,0.9s,mb5.0,baz=279,slow=6.3,SNR=22
ZALV LR LR 17 02 43.0
comp=Z,576nm,19.8s,MS5.0,baz=314,slow=35
KK31 Karatay Array 84.76 43 *i P* **P** **16 25 49.5 +0.5**
KK31 pmax pmax
comp=Z,7.0nm,0.7s,mb4.9
KK31 Karatay Array 84.76 43 *i P* **P** **16 25 49.6 +0.6**
HATD Hatta, Dubai 84.88 64 P **P** **16 25 50.4 +0.5**
SNR=12
KRAR Krasnoyarsk 86.17 23 ⇓*iP* **P** **16 25 56.3 +0.6**
KRAR pmax pmax
comp=Z,62nm,2.5s,mb5.4
ABTO Aybut 86.37 72 P **P** **16 25 58.9 +1.4**
SNR=17
HOQ Hoqain 86.44 65 P **P** **16 25 58.7 +1.0**
SNR=13
SEY Seymchan 86.46 353⇑ *eP* **P** **16 25 56.5 -0.5**
SUR Sutherland 86.46 131 PFAKE 16 26 10.0 +13
SUR LR LR
comp=Z,3μm,22.0s,MS5.6
WHFO Wadi Hawf 86.48 71 ⇓P **P** **16 25 59.4 +1.4**
SNR=18
EKS2 Erkin-Say 86.92 41 *eP* **P** **16 25 59.3 -0.4**
EKS2 LR LR
comp=Z,2μm,20.0s,MS5.6
BOSA Boshof 87.19 125 P **P** **16 26 01.6 +0.5**
comp=Z,7.2nm,0.9s,mb4.9,baz=334,slow=15,SNR=2.0
BOSA LR LR 17 01 16.3
comp=Z,1μm,18.2s,MS5.4,baz=314,slow=33
BOSA Boshof 87.19 125 P **P** **16 26 01.6 +0.5**
BOSA LR LR 17 01 16.3
AML Almayashu 87.21 42 *eP* **P** **16 26 02.4 +1.3**
comp=Z,23nm,0.8s,mb5.5
AML LR LR
comp=Z,2μm,20.0s,MS5.5
FRU Bishkek 87.29 41 *eP* **P** **16 26 04.0 +2.5**
FRU *e* 16 29 29.0
FRU pmax pmax
comp=Z,80nm,2.0s,mb5.6
UCH Uchtor 87.62 41 *eP* **P** **16 26 04.9 +1.8**
UCH LR LR
comp=Z,2μm,20.0s,MS5.6
TKM2 Tokmak 2 87.79 40 *eP* **P** **16 26 04.7 +0.8**
TKM2 MLR MLR
comp=Z,2μm,22.0s,MS5.5
YAK Yakutsk 87.93 4 *eP* **P** **16 26 03.6 -0.5**
YAK *e* 16 26 05.7
YAK *e*PP* pP 16 26 13.6 +3.7
YAK *e* 16 29 27.9
YAK *eS* S 16 36 28.2 -18
YAK *e*SS* sS 16 36 43.0 -13
YAK *eSS* SS 16 42 30.5 -1.7
YAK pmax pmax
comp=N,11nm,1.2s
YAK pmax pmax
comp=E,5.0nm,1.4s
YAK pmax pmax
comp=Z,37nm,1.2s,mb5.5
YAK pmax pmax
comp=N,84nm,3.4s
YAK pmax pmax
comp=E,34nm,2.4s
YAK pmax pmax
comp=Z,68nm,2.2s,mb5.5
YAK smax
comp=E,84nm,5.8s
YAK smax
comp=N,51nm,4.2s
YAK MLR MLR
comp=N,435nm,16.0s
YAK MLR MLR
comp=Z,444nm,16.0s,MS5.0
YAK Yakutsk 87.93 4 *eP* **P** **16 26 02.9 -1.3**
YAK LR LR
comp=Z,1μm,22.0s,MS5.2
MKAR Makanchi Array 88.69 34 P **P** **16 26 07.5 -0.5**
comp=Z,4.4nm,0.8s,mb4.8,baz=311,slow=4.1,SNR=20
MKAR PKKPbc PKKPbc 16 43 54.0 +5.5
comp=Z,1.2nm,1.0s,baz=177,slow=2.6,SNR=4.7
MKAR LR LR 17 05 17.2
comp=Z,2μm,19.4s,MS5.6,baz=316,slow=35
MKAR Makanchi Array 88.69 34 *i P* **P** **16 26 07.5 -0.6**
MKAR pmax pmax
comp=Z,4.0nm,0.8s
MKAR Makanchi Array 88.69 34 P **P** **16 26 07.5 -0.5**
MKAR PKKPbc PKKPbc 16 43 54.0 +5.5
MKAR LR LR 17 05 17.2
ADK Adak 88.93 334 PFAKE 16 26 20.0 +11
ADK LR LR
comp=Z,4μm,20.0s,MS5.8
BOD Bodaibo 90.18 12 *eP* **P** **16 26 13.1 -1.7**
BOD pmax pmax
comp=Z,80nm,0.9s,mb6.0
SMY Shemya 91.47 339 PFAKE 16 26 30.0 +9.1
SMY LR LR
comp=Z,2μm,20.0s,MS5.6
MOY Mondy 92.47 22 *eP* **P** **16 26 28.2 +2.7**
TLY Talaya 93.28 20 ⇑P **P** **16 26 33.1 +3.8**
SNR=6.0
TLY Talaya 93.28 20 *eP* **P** **16 26 32.3 +3.0**
TLY *eS* S 16 37 39.8 +4.0
TLY pmax pmax
comp=Z,12nm,1.3s,mb5.2
TLY MLR MLR
comp=Z,842nm,20.0s,MS5.2
TLY Talaya 93.28 20 *eP* **P** **16 26 29.5 +0.2**
TLY LR LR
comp=Z,850nm,20.0s,MS5.2
WMQ Urumqi 93.47 34 P **P** **16 26 32.3 +2.0**
WMQ AP pP 16 26 36.8 +0.6
WMQ XP sP 16 26 39.3 +1.1
WMQ PP PP 16 30 19.8 +5.9
WMQ SKS 16 37 04.8
WMQ S S 16 37 37.5 -0.3
WMQ XS sS 16 37 45.8 -1.6
WMQ AMB AMB
comp=Z,8.0nm,1.2s,mb5.0
WMQ AMB AMB
comp=Z,20nm,2.8s,mb5.0
WMQ LR LR
comp=N,100nm,26.5s
WMQ LR LR
comp=E,85nm,17.5s
WMQ LR LR
comp=Z,99nm,19.0s
ZAK Zakamensk 94.30 21 *eP* **P** **16 26 33.2 -0.8**
ZAK pmax pmax
comp=Z,4.0nm,1.2s,mb4.7
PET Petropavlovsk 95.12 347⇑ *iP* **P** **16 26 40.0 +2.3**
PET pmax pmax
comp=Z,28nm,1.0s,mb5.7
PETK Petropavlovsk- 95.22 348 P **P** **16 26 37.4 -0.7**
comp=Z,2.1nm,0.7s,mb4.7,baz=34,slow=11,SNR=4.1
PETK LR LR 17 10 54.6
comp=Z,572nm,18.1s,MS5.1,baz=30,slow=36
DDI Dehra Dun 97.51 49 *ex* x 16 27 51.6
SONM Songino Array 97.51 20 P **P** **16 26 48.5 -0.2**
comp=Z,0.7nm,0.7s,mb4.3,baz=318,slow=4.2,SNR=5.6
SONM PP PP 16 30 47.6 +2.6
comp=Z,0.9nm,0.9s,baz=319,slow=7.1,SNR=3.8
SONM LR LR 17 12 23.3
comp=Z,868nm,18.2s,MS5.3,baz=255,slow=36
SONM Songino Array 97.51 20 P **P** **16 26 48.5 -0.2**
SONM 16 30 47.6
ABPO Ambohimpanom 99.17 107 PFAKE 16 27 10.0 +13
ABPO LR LR
comp=Z,2μm,20.0s,MS5.6
MSEY Mahe Island 99.31 90 PFAKE 16 27 10.0 +13
MSEY LR LR
comp=Z,1μm,21.0s,MS5.4
HIA Hailar 99.38 12 PFAKE 16 27 10.0 +13
HIA LR LR
comp=Z,796nm,19.0s,MS5.2
KIP Kipapa 99.49 301 PFAKE 16 27 10.0 +12
KIP LR LR
comp=Z,3μm,19.0s,MS5.8
GTA Gaotai 102.45 29 *eP* Pdif 16 27 13.8 +3.1
GTA AP 16 27 18.1
GTA XP 16 27 20.8
GTA PP PP 16 31 24.9 +2.2
GTA S Sdif 16 38 48.3 -5.9
GTA AMB AMB
comp=Z,4.0nm,1.7s
GTA AMB AMB
comp=Z,146nm,4.5s
GTA LR LR
comp=N,697nm,17.8s,MS5.3
GTA LR LR
comp=E,419nm,17.8s,MS5.3
GTA LR LR
comp=Z,915nm,16.9s,MS5.4
YSS Yuzh-Sakhalins 103.10 356 PFAKE 16 27 20.0 +6.4
YSS LR LR
comp=Z,100nm,21.0s,MS4.3
RKT Rikitea 103.19 251 *eLR* LR 17 00 35.1
comp=Z,931nm,36.2s
MDJ Mudanjiang 105.25 6 PFAKE 16 31 50.0 +13
MDJ LR LR
comp=Z,773nm,20.0s,MS5.2
HHC Hu-ho-hao-te 105.41 20 *e*PDIF Pdif 16 27 25.6 +1.7
HHC PP PP 16 31 49.8 +5.3
HHC SS SS 16 46 43.8 +4.3
HHC PP PP
comp=Z,110nm,7.5s
HHC LR LR
comp=N,751nm,19.8s,MS5.3
HHC LR LR
comp=E,584nm,19.0s,MS5.3
HHC LR LR
comp=Z,713nm,19.8s,MS5.2
CN2 Changchun 105.59 9 *e*PDIF Pdif 16 27 25.9 +1.2
CN2 PP PP 16 31 50.0 +4.3
CN2 SS SS 16 46 43.9 +2.1
CN2 LR LR
comp=N,700nm,19.0s,MS5.3
CN2 LR LR
comp=E,600nm,19.0s,MS5.3
CN2 LR LR
comp=Z,800nm,20.0s,MS5.3
LSA Lhasa 105.94 41 PFAKE 16 31 50.0 +11
LSA LR LR
comp=Z,462nm,20.0s,MS5.0
BJI Beijing 107.43 17 PDIF Pdif 16 27 27.1 -5.8
BJI S Sdif 16 39 37.5 +1.8
BJI LR LR
comp=N,1μm,22.7s
BJI LR LR
comp=E,375nm,16.3s
BJI LR LR
comp=Z,1μm,22.0s,MS5.5
BJT Baijiatuan 107.45 17 PFAKE 16 31 50.0 +8.5
BJT LR LR
comp=Z,2μm,20.0s,MS5.6
ERM Erimo 107.99 355 PFAKE 16 31 50.0 +7.5
ERM LR LR
comp=Z,1μm,22.0s,MS5.5
SHL Shillong 109.48 43 *ex* x 16 32 10.0
CD2 Chengdu 111.36 31 PDIF Pdif 16 27 49.3 -1.0
CD2 PP PP 16 32 30.8 +2.6
CD2 SKS SKSdf 16 38 58.4 -2.2
CD2 S Sdif 16 40 05.1 -3.4
CD2 SS SS 16 48 01.3 +0.8
CD2 PP PP
comp=Z,240nm,10.2s
CD2 LR LR
comp=N,1μm,20.4s,MS5.5
CD2 LR LR
comp=E,730nm,19.2s,MS5.5
CD2 LR LR
comp=Z,2μm,18.0s,MS5.7
INCN Inchon 111.96 9 PFAKE 16 32 00.0 +10
INCN LR LR
comp=Z,802nm,20.0s,MS5.3
KSRS Korea Array 112.16 8 PKKPbc PKKPbc 16 42 57.4 +16
comp=Z,1.8nm,0.9s,baz=183,slow=5.4,SNR=4.3
PPT Papeete 113.03 262 *eP* PS 16 42 14.9 -2.2
comp=Z,397nm,25.4s
PPT *eSS* SS 16 48 27.6 +2.0
comp=Z,802nm,32.2s
PPT Papeete 113.03 262 *eLR* LR 17 05 48.1
comp=Z,801nm,27.0s
MAJO Matsushiro 113.65 359 PFAKE 16 32 00.0 +6.7
MAJO LR LR
comp=Z,629nm,21.0s,MS5.2
MJAR Matsushiro Arr 113.65 359 PKiKP PKiKP 16 31 54.7 +1.4
comp=Z,0.5nm,0.6s,baz=54,slow=6.2,SNR=3.2
MJAR Matsushiro Arr 113.65 359 PKPdf PKiKP 16 31 54.7 +1.4
TBI Tubuai 115.34 257 *eP* PS 16 42 37.2 -0.9
comp=Z,246nm,27.0s
TBI *eSS* SS 16 48 57.4 +1.4
comp=Z,259nm,34.8s
TBI Tubuai 115.34 257 *eLR* LR 17 06 29.5
comp=Z,744nm,29.8s
KMI Kunming 115.77 35 PKP PKPdf 16 31 55.3 -2.4
KMI PP PP 16 33 00.3 +0.6
KMI SS SS 16 48 59.5 +0.5
KMI LR LR
comp=Z,603nm,32.0s,MS5.0
GYA Guiyang 116.47 31 PDIF Pdif 16 28 12.0 -1.1
GYA PKP PKPdf 16 31 57.3 -1.7
GYA PP PP 16 33 07.6 +3.0
GYA PKS 16 35 33.4
GYA SKS SKSdf 16 39 06.8 -3.8
GYA SKKS SKKSac 16 39 58.8 -7.4
GYA SS SS 16 49 08.3 +0.2
GYA PP PP
comp=Z,190nm,8.4s
GYA LR LR
comp=N,950nm,22.6s,MS5.5
GYA LR LR
comp=E,650nm,21.2s,MS5.5
GYA LR LR
comp=Z,890nm,20.8s,MS5.4
SSE Sheshan 117.16 16 PKP PKPdf 16 31 59.0 -1.2
SSE PP PP 16 33 11.1 +2.1
SSE PP PP
comp=Z,152nm,5.4s
SSE LR LR
comp=N,472nm,21.5s,MS5.2
SSE LR LR
comp=E,434nm,21.5s,MS5.2
SSE LR LR
comp=Z,600nm,20.4s,MS5.2
CHTO Chiang Mai 118.83 42 *e*PKIKP PKPdf 16 32 00.5 -3.2
CHTO MLR MLR
comp=Z,342nm,19.0s,MS5.0
CMAR Chiang Mai Arr 119.11 43 PKP PKPdf 16 32 03.6 -0.6
comp=Z,4.6nm,0.8s,baz=301,slow=3.2,SNR=26
CMAR PP PP 16 33 23.9 +0.6
comp=Z,1.4nm,1.0s,baz=314,slow=8.3,SNR=4.2
CMAR PKKPbc PKKPbc 16 42 25.6 +8.5
comp=Z,0.9nm,0.8s,baz=169,slow=3.6,SNR=8.6
CMAR Chiang Mai Arr 119.11 43 PKIKP PKPdf 16 32 03.6 -0.6
CMAR 16 33 23.9
QSPA South Pole Qui 120.06 180 PKP PKPdf 16 32 03.3 -0.9
comp=Z,3.3nm,0.9s,baz=222,slow=1.4,SNR=12
YHNB Yeheng 123.36 18 PFAKE 16 32 20.0 +7.7
YHNB LR LR
comp=Z,1μm,20.0s,MS5.5
MAW Mawson 123.38 154 *e*PKP PKPdf 16 32 10.0 -0.9
comp=Z,5.4nm,0.8s
MAW Mawson 123.38 154 PKP PKPdf 16 32 09.9 -0.9
comp=Z,2.7nm,0.8s,baz=272,slow=11,SNR=6.0
QIZ Qiongzhong 124.36 32 PKP PKPdf 16 32 10.1 -4.2
QIZ PP PP 16 34 01.8 +3.1
QIZ LR LR
comp=E,522nm,27.4s
QIZ LR LR
comp=Z,568nm,17.5s
QIZ Qiongzhong 124.36 32 PFAKE 16 32 30.0 +16
QIZ LR LR
comp=Z,536nm,20.0s,MS5.2
SBA Scott Base 130.42 188 *e*PKIKP PKPdf 16 32 23.6 -0.5
SBA MLR MLR
comp=Z,751nm,22.0s,MS5.3
GUMO Guam 135.92 350 PKhKP 16 32 32.5
comp=Z,16nm,0.8s,baz=180,slow=20,SNR=3.4
GUMO Guam 135.92 350 PKP PKPdf 16 32 32.5 -3.8
GUMO LR LR
comp=Z,395nm,19.0s,MS5.2
COCO West Island 138.43 73 PFAKE 16 32 50.0 +9.1
COCO LR LR
comp=Z,227nm,19.0s,MS4.9
KKM Kota Kinabalu 138.66 33 PFAKE 16 32 50.0 +8.5
KKM LR LR
comp=Z,531nm,20.0s,MS5.3
CASY Casey 140.33 163 PFAKE 16 32 50.0 +7.2
CASY LR LR
comp=Z,634nm,20.0s,MS5.4
DAV Davao City (W) 141.28 19 PFAKE 16 33 00.0 +14
DAV LR LR
comp=Z,817nm,20.0s,MS5.5
MNI Manado 146.37 23 P PKPdf 16 32 54.6 -0.5
URZ Urewera 146.39 245 PKPbc PKPbc 16 32 54.8 -0.8
comp=Z,12nm,0.9s,baz=166,slow=4.2,SNR=4.1
PCI Palu 146.46 33 P PKPdf 16 32 58.6 +3.3
SNZO South Karori 147.97 239 PFAKE 16 33 10.0 +13
SNZO LR LR
comp=Z,691nm,19.0s,MS5.5
LBMI Labuha 149.17 20 P PKPdf 16 33 02.5 +2.8
KAPI Kappang 149.95 37 *e*PKPdf PKPdf 16 33 00.9 -0.1
KAPI *e*PKPbc PKPbc 16 33 05.8 0.0
KAPI LR LR
comp=Z,477nm,21.0s,MS5.3
RPZ Rata Peaks 150.11 234 PKPbc PKPbc 16 33 04.3 -1.0
comp=Z,16nm,0.9s,baz=53,slow=10.0,SNR=4.4
KDI Kendari 150.43 31 P PKPdf 16 33 08.4 +6.7
HNR Honiara 150.53 310 PKPbc PKPbc 16 33 04.5 -2.7
comp=Z,16nm,0.7s,baz=329,slow=5.9,SNR=1.9
HNR Honiara 150.53 310 PFAKE 16 33 10.0 +8.2
HNR LR LR
comp=Z,1μm,20.0s,MS5.7
MBWA Marble Bar 161.74 65 PFAKE 16 33 30.0 +14
MBWA LR LR
comp=Z,820nm,20.0s
NWAO Narrogin (SRO) 162.59 104 PFAKE 16 33 30.0 +13
NWAO LR LR
comp=Z,1μm,22.0s
FITZ Fitzroy Crossi 163.91 44 *e*PKP PKPdf 16 33 22.7 +4.2
comp=Z,5.9nm,1.0s
FITZ Fitzroy Crossi 163.91 44 *e*PKPdf PKPdf 16 33 19.3 +0.8
FITZ *e*PKP PKPdf 16 33 22.7 +4.2
FITZ *e*PKPab PKPab 16 34 10.7 -0.4
TAU Tasmania Unive 165.00 209 PFAKE 16 33 30.0 +11
TAU LR LR
comp=Z,797nm,19.0s
CTAO Charters Tower 167.17 319 PFAKE 16 33 30.0 +8.9
CTAO LR LR
comp=Z,2μm,20.0s
WRAB Tennant Creek 169.45 16 PFAKE 16 33 30.0 +7.4
WRAB LR LR
comp=Z,2μm,21.0s
WRA Warramunga Arr 169.46 16 PKP PKPdf 16 33 22.2 -0.5
comp=Z,1.3nm,0.8s,baz=297,slow=1.1,SNR=5.5
WRA PKPab PKPab 16 34 35.2 -0.2
comp=Z,2.9nm,1.0s,baz=348,slow=5.6,SNR=7.6
WRA PP PP 16 38 21.5 -2.4
comp=Z,6.4nm,1.0s,baz=348,slow=5.6,SNR=14
ASAR Alice Springs 172.82 27 PKP PKPdf 16 33 24.4 +0.1
comp=Z,2.8nm,0.9s,baz=56,slow=0.3,SNR=14
ASAR PKPab PKPab 16 34 50.0 -0.3
comp=Z,1.6nm,0.8s,baz=339,slow=4.1,SNR=4.5
ASAR PP PP 16 38 40.2 -0.6
comp=Z,2.5nm,0.9s,baz=353,slow=5.2,SNR=5.6
STKA Stephens Creek 176.02 243 *e*PKP PKPdf 16 33 30.1 +5.0
comp=Z,10nm,1.0s
STKA Stephens Creek 176.02 243 PKP PKPdf 16 33 25.5 +0.4
comp=Z,1.0nm,0.5s,baz=211,slow=5.9,SNR=2.4

IDC 18 16:15:11.4±8.0, 2120S×17790W, h0km, mb3.9/5, mb1 4.1/5, mb1mx3.9/16, mbtmp3.9/5, Error ellipse: s-maj=216.2km s-min=77.9km az=127.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**37.58**	**245**	P	P	16 22 27.9	+0.1
	2.4nm,1.0s,baz=79,slow=11,SNR=4.2						
ASAR	**Alice Springs**	**44.45**	**257**	P	P	16 23 24.6	0.0
	0.9nm,0.7s,baz=106,slow=6.8,SNR=15						
WRA	**Warramunga Arr**	**44.60**	**263**	P	P	16 23 26.2	+0.4
	0.5nm,0.3s,baz=96,slow=8.2,SNR=25						
FITZ	**Fitzroy Crossi**	**53.03**	**263**	P	P	16 24 29.4	-1.2
	1.0nm,0.6s,baz=63,slow=14,SNR=5.6						
CMAR	**Chiang Mai Arr**	**90.44**	**290**	P	P	16 28 15.8	+0.3
	0.6nm,0.8s,baz=124,slow=3.1,SNR=5.4						

IDC 18 16:34:53.4±2.4, 2201N×14332E, h244km±48km, mb2.9/5, mb1 3.0/6, mb1mx2.9/21, mbtmp2.9/6, MS3.2/1, Ms1 3.2/1, ms1mx2.2/8, Error ellipse: s-maj=143.8km s-min=17.5km az=74.0, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**5.16**	**349**	P	Pn	16 36 12.5	+1.5
	4.6nm,0.3s,baz=276,slow=14,SNR=3.3						
CBIJ				S	S	16 37 11.9	-0.9
	0.8nm,0.3s,baz=287,slow=11,SNR=2.6						
MJAR	**Matsushiro Arr**	**15.14**	**344**	LR	LR	16 43 53.8	
	comp=Z,82nm,18.4s,baz=5.0,slow=36						
KSRS	**Korea Array**	**20.34**	**323**	P	P	16 39 12.3	+0.9
	1.3nm,0.6s,baz=146,slow=8.4,SNR=8.4						
SONM	**Songino Array**	**39.18**	**320**	P	P	16 41 57.4	-0.4
	0.3nm,0.4s,baz=131,slow=9.5,SNR=6.0						
WRA	**Warramunga Arr**	**42.61**	**193**	P	P	16 42 25.9	-0.1
	0.4nm,0.5s,baz=8.1,slow=7.7,SNR=9.3						
FITZ	**Fitzroy Crossi**	**43.46**	**205**	P	P	16 42 32.7	-0.1
	1.5nm,0.8s,baz=7.1,slow=8.1,SNR=2.9						
ASAR	**Alice Springs**	**46.32**	**192**	P	P	16 42 55.0	-0.2
	0.5nm,0.9s,baz=15,slow=8.4,SNR=4.6						

*ISCJB **18** 16:36:10.3±0.9, 324N±0.1×1379E±0.1, h403km±11km, mb2.7/2, Error ellipse: s-maj=20.7km s-min=13.2km az=153.5*
*IDC **18** 16:36:10.8±4.9, 3218N×13749E, h371km±131km, mb2.6/2, mb1 2.7/3, mb1mx2.4/21, mbtmp2.5/3, Error ellipse: s-maj=241.2km s-min=24.7km az=62.0*
*JMA **18** 16:36:11.8±0.3, 3254N×13774E, h404km, M3.3*
ISC 18 16:36:11.8±0.9, 325N±01×1379E±01, h398km±11km, n14, σ0§92/22, mb2.7/2, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JWY	**Kouya**	**2.61**	**313**	P	Pn	16 37 11.7	0.0
JAI	**Aioi**	**3.18**	**296**	P	Pn	16 37 15.3	-1.0
BSO3	**Boso 3**	**3.19**	**42**	P	Pn	16 37 17.1	+0.7
BSO3				*e*S	S	16 38 08.4	-0.3
BSO4	**Boso 4**	**3.24**	**38**	P	Pn	16 37 17.1	+0.3
BSO4				*e*S	S	16 38 09.9	+0.5
JWT	**Wachi**	**3.50**	**324**	P	Pn	16 37 18.8	-0.2
JHU	**Hanno**	**3.57**	**18**	P	Pn	16 37 19.5	-0.2
JHU				*e*S	S	16 38 14.7	0.0
MJAR	**Matsushiro Arr**	**4.08**	**3**	P	Pn	16 37 26.3	+2.0
	0.4nm,0.3s,baz=182,slow=10,SNR=5.5						
MJAR				S	S	16 38 24.4	+1.1
	0.3nm,0.3s,baz=202,slow=28,SNR=4.1						
JAG	**Ashikaga**	**4.16**	**18**	P	Pn	16 37 26.5	+1.4
JAG				S	S	16 38 23.8	-0.9
JYT	**Yasato**	**4.21**	**26**	P	Pn	16 37 25.8	+0.1
JYT				*e*S	S	16 38 25.2	-0.4
JHO	**Hitachi**	**4.69**	**27**	P	Pn	16 37 30.6	+0.2
JHO				S	S	16 38 32.1	-2.2
JHS	**Saijyo**	**4.72**	**304**	P	Pn	16 37 30.3	-0.5
JFK	**Kawauchi**	**5.47**	**26**	P	Pn	16 37 40.0	+1.5
JFK				S	S	16 38 47.9	-1.2
MKAR	**Makanchi Array**	**44.26**	**306**	P	P	16 43 43.9	+0.2
	0.2nm,0.4s,mb2.8,baz=92,slow=10.0,SNR=3.8						
WRA	**Warramunga Arr**	**52.22**	**184**	P	P	16 44 42.7	-1.1
	0.4nm,1.0s,mb2.6,baz=0.6,slow=7.6,SNR=3.0						

IDC 18 16:51:13.9±5.5, 1905S×17824W, h0km, mb3.8/4, mb1 4.0/4, mb1mx3.7/17, mbtmp3.8/4, Error ellipse: s-maj=237.5km s-min=48.4km az=146.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**44.60**	**261**	P	P	16 59 28.3	+0.1
	1.8nm,1.1s,baz=96,slow=7.6,SNR=23						
ASAR	**Alice Springs**	**44.65**	**255**	P	P	16 59 28.2	-0.3
	0.3nm,0.4s,baz=91,slow=8.3,SNR=7.1						
FITZ	**Fitzroy Crossi**	**53.01**	**261**	P	P	17 00 32.5	-0.4
	1.0nm,1.0s,baz=55,slow=12,SNR=3.8						
CMAR	**Chiang Mai Arr**	**89.42**	**290**	P	P	17 04 13.7	+0.6
	0.4nm,0.3s,baz=90,slow=2.7,SNR=3.6						
AKASG	**Malin Array B**	**141.64**	**332**	PKhKP		17 10 41.1	
	0.5nm,0.4s,baz=42,slow=3.8,SNR=5.6						
GERES	**GERESS Array B**	**148.75**	**345**	PKPbc	PKPbc	17 11 02.4	-0.7
	0.5nm,0.6s,baz=40,slow=1.7,SNR=4.2						

*ISCJB **18** 16:56:28.4±2.1, 1014S±009×1610E±02, h108km±12km, mb4.2/21, Error ellipse: s-maj=29.9km s-min=13.6km az=15.6*
*NEIC **18** 16:56:28.7±2.2, 1009S×16104E, h94km±15km, mb4.3/11, Error ellipse: s-maj=28.7km s-min=11.7km az=106.0*
*IDC **18** 16:56:29.2±3.8, 1020S×16105E, h95km±21km, mb3.8/11, mb1 3.9/12, mb1mx3.8/19, mbtmp3.8/12, Error ellipse: s-maj=45.3km s-min=18.0km az=103.0*
ISC 18 16:56:29.0±2.2, 1014S±009×1611E±02, h98km±14km, n27, σ1§14/29, mb4.2/21, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**1.31**	**302**	P	Pn	16 56 51.6	-1.2
	1µm,0.3s,baz=155,slow=7.0,SNR=721						
HNR				S	Sn	16 57 11.6	+0.8
	441nm,0.3s,baz=132,slow=10,SNR=5.0						
HNR	**Honiara**	**1.31**	**302**	*e*P	Pn	16 56 51.4	-1.4
HNR				P		16 56 51.6	
HNR				S	Sn	16 57 11.6	+0.8
CTA	**Charters Tower**	**17.37**	**234**	P	Pn	17 00 26.4	+1.1
	0.4nm,0.3s,baz=69,slow=15,SNR=5.7						
CTAO	**Charters Tower**	**17.37**	**234**	P	Pn	17 00 26.5	+1.2
	8.7nm,0.9s						
WRAB	**Tennant Creek**	**27.54**	**246**	*e*P	P	17 02 05.7	-1.0
	5.9nm,1.0s,mb4.1						
WRAB				*e*pP	pP	17 02 26.5	-2.1
WRA	**Warramunga Arr**	**27.55**	**246**	P	P	17 02 07.3	+0.5
	1.0nm,0.6s,mb3.5,baz=76,slow=9.3,SNR=14						
STKA	**Stephens Creek**	**28.16**	**217**	P	P	17 02 13.3	+1.3
	2.9nm,0.6s,mb4.0,baz=55,slow=7.3,SNR=3.9						
STKA	**Stephens Creek**	**28.16**	**217**	*e*P	P	17 02 11.7	-0.4
	3.1nm,0.7s,mb4.0						
ASAR	**Alice Springs**	**29.19**	**239**	P	P	17 02 20.7	-0.7
	0.7nm,0.8s,mb3.4,baz=60,slow=9.9,SNR=4.5						
TAU	**Tasmania Unive**	**34.78**	**198**	P	P	17 03 16.9	+6.8
	66nm,1.2s,mb5.3						
FITZ	**Fitzroy Crossi**	**35.21**	**253**	P	P	17 03 13.8	-0.3
	1.1nm,0.7s,mb3.8,baz=66,slow=10,SNR=5.4						
BATI	**Baumata**	**36.80**	**266**	P	P	17 03 28.5	+0.8
	7.8nm,0.5s,mb4.9,baz=180,slow=5.1,SNR=3.9						
MBWA	**Marble Bar**	**41.17**	**249**	P	P	17 04 00.9	-3.1
	11nm,1.1s,mb4.6						
MJAR	**Matsushiro Arr**	**51.17**	**336**	P	P	17 05 22.1	-0.1
	2.1nm,0.8s,mb4.2,baz=166,slow=9.5,SNR=5.8						
MAJO	**Matsushiro**	**51.17**	**336**	*e*P	P	17 05 20.4	-1.7
	6.7nm,0.8s,mb4.7						
KSRS	**Korea Array**	**56.62**	**329**	P	P	17 06 03.7	+1.9
	1.2nm,0.9s,mb3.9,baz=134,slow=6.9,SNR=4.2						
BJT	**Baijiatuan**	**64.94**	**323**	P	P	17 06 57.3	-0.9
	35nm,0.8s,mb5.2						
CMAR	**Chiang Mai Arr**	**67.55**	**295**	P	P	17 07 14.0	-1.3
	0.8nm,0.3s,mb4.0,baz=124,slow=6.1,SNR=6.5						
CHTO	**Chiang Mai**	**67.67**	**295**	*e*P	P	17 07 17.2	+1.2
	2.7nm,1.2s,mb4.0						
SBA	**Scott Base**	**67.76**	**179**	*e*P	P	17 07 15.7	0.0
	3.9nm,1.2s,mb4.1						
SONM	**Songino Array**	**75.26**	**325**	P	P	17 08 03.7	+2.6
	2.6nm,0.6s,mb4.1,baz=143,slow=5.8,SNR=18						
YAK	**Yakutsk**	**75.99**	**345**	*e*P	P	17 08 06.5	+1.5
	11nm,0.9s,mb4.6						
MCK	**McKinley**	**82.82**	**20**	*e*P	P	17 08 42.2	+0.2
	8.7nm,1.2s,mb4.5						
MAW	**Mawson**	**83.81**	**202**	P	P	17 08 47.5	+0.3
	1.2nm,0.8s,mb3.8,baz=98,slow=7.1,SNR=2.8						
MK31	**Makanchi Array**	**89.74**	**318**	P	P	17 09 14.6	-1.7
MKAR	**Makanchi Array**	**89.74**	**318**	P	P	17 09 16.1	-0.2
	0.8nm,0.6s,mb4.0,baz=91,slow=6.9,SNR=6.0						
KURK	**Kurchatov**	**93.02**	**321**	*e*P	P	17 09 31.2	-0.2
	1.3nm,0.9s,mb4.3						

*CSEM **18** 17:25:02.9±0.2, 8022N×083W, h10km, mb4.2/2, Error ellipse: s-maj=8.8km s-min=6.9km az=160.0*
*ISCJB **18** 17:25:03.1±0.7, 7986N±009×09W±0.3, h10km, mb3.7/10, Error ellipse: s-maj=13.7km s-min=7.8km az=10.3*
*IDC **18** 17:25:03.5±1.0, 8009N×099W, h0km, mb3.5/8, mb1 3.8/10, mb1mx3.7/23, mbtmp3.6/10, ML4.0/2, Error ellipse: s-maj=26.3km s-min=18.9km az=25.0*
*NEIC **18** 17:25:05.2±0.7, 8002N×059W, h10km, mb4.2/2, Error ellipse: s-maj=15.1km s-min=11.3km az=190.0*
ISC 18 17:25:05.5±0.7, 7996N±010×03W±04, h10km, n27, σ1§10/30, mb3.7/10, 1D, Greenland Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBS	**Kingsbay**	**2.48**	**109**	*e*P	Pn	17 25 44.6	-1.1
KBS	**Kingsbay**	**2.48**	**109**	*e*P	Pn	17 25 44.6	-1.1
SPB4	**Spitsbergen Ar**	**3.63**	**111**	*e*P	Pn	17 26 01.5	0.0
SPB4	**Spitsbergen Ar**	**3.63**	**111**	*e*P	Pn	17 26 01.5	0.0
SPITS	**Spitsbergen Ar**	**3.63**	**111**	Pn	Pn	17 26 01.7	+0.1
	baz=125,slow=7.2,SNR=202						
SPITS				Sn	Sn	17 26 43.0	-1.4
	baz=134,slow=17,SNR=4.7						
SPITS	**Spitsbergen Ar**	**3.63**	**111**	Pn	Pn	17 26 01.7	+0.1
SPITS				Sn	Sn	17 26 43.0	-1.4
HSP	**Hornsund**	**4.33**	**125**	*e*Pn	Pn	17 26 11.9	+0.8
HSP				*e*Sn	Sn	17 27 00.3	-1.2
DAG	**Danmarks Havn**	**4.88**	**239**	*i*P	Pn	17 26 14.0	-4.8
	12nm,0.4s						
JMIC	**Jan Mayen**	**9.24**	**197**	Pn	Pn	17 27 18.4	-0.1
SUMG	**Summit**	**11.39**	**251**	*e*P	Pn	17 27 40.1	-7.8
	12nm,0.4s						
SUMG	**Summit**	**11.39**	**251**	*e*P	Pn	17 27 40.1	-7.8
	12nm,0.4s						
ARCES	**ARCESS Array B**	**12.27**	**134**	Pn	Pn	17 28 01.6	+1.7
	0.6nm,0.3s,baz=348,slow=11,SNR=11						
ARCES	**ARCESS Array B**	**12.27**	**134**	Pn	Pn	17 28 01.5	+1.6
SFJD	**Kangerlussuaq**	**18.33**	**254**	P	Pn	17 29 10.9	-8.4
	2.2nm,0.3s,baz=353,slow=14,SNR=7.1						
AKASG	**Malin Array Be**	**31.03**	**143**	P	P	17 31 23.4	+0.6
	0.6nm,0.5s,mb3.6,baz=335,slow=8.2,SNR=3.4						
GERES	**GERESS Array B**	**31.62**	**162**	P	P	17 31 30.0	+2.0
	0.3nm,0.5s,mb3.4,baz=8.8,slow=8.9,SNR=3.2						
ZALV	**Zalesovo Beam**	**36.59**	**81**	P	P	17 32 11.4	+0.5
	0.4nm,0.4s,mb3.6,baz=3.8,slow=8.9,SNR=3.7						
KURK	**Kurchatov**	**38.61**	**89**	*e*P	P	17 32 28.8	+0.7
KURK	**Kurchatov**	**38.61**	**89**	*e*P	P	17 32 28.8	+0.7
	7.0nm,1.2s,mb4.3						
MKAR	**Makanchi Array**	**43.04**	**87**	P	P	17 33 05.5	+0.8
	1.6nm,0.7s,mb3.9,baz=343,slow=7.5,SNR=11						
MKAR	**Makanchi Array**	**43.04**	**87**	P	P	17 33 05.5	+0.8
UCH	**Uchtor**	**46.10**	**96**	*e*P	P	17 33 32.0	+2.9
UCH	**Uchtor**	**46.10**	**96**	*e*P	P	17 33 32.0	+2.9
	2.9nm,1.2s,mb4.1						
NVAR	**Mina Array Bea**	**57.00**	**304**	P	P	17 34 50.2	-0.5
	0.2nm,0.4s,mb3.5,baz=19,slow=5.7,SNR=1.8						
TXAR	**Lajitas Array**	**63.62**	**289**	P	P	17 35 35.0	-1.1
	0.5nm,0.9s,mb3.5,baz=1.9,slow=2.7,SNR=3.2						
TORD	**Tordi Ar. Bea**	**66.84**	**178**	P	P	17 35 56.3	-0.8
	0.6nm,0.8s,mb3.6,baz=5.7,slow=7.2,SNR=2.3						
CMAR	**Chiang Mai Arr**	**73.55**	**78**	P	P	17 36 36.9	-1.3
	0.3nm,0.8s,mb3.3,baz=332,slow=5.4,SNR=3.3						

IDC 18 18:06:23.4±2.0, 887S×12698E, h0km, mb3.4/1, mb1 3.5/5, mb1mx3.3/16, mbtmp3.3/5, ML3.3/4, MS3.5/2, Ms1 3.5/2, ms1mx3.0/18, Error ellipse: s-maj=35.8km s-min=29.3km az=64.0, Timor region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	**Baumata**	**3.53**	**248**	Pn	Pn	18 07 21.1	+1.6
	4.2nm,0.3s,baz=165,slow=3.4,SNR=14						
BATI				Sn	Sn	18 08 02.6	+0.7
	4.4nm,0.3s,baz=142,slow=22,SNR=7.1						
BATI				LR	LR	18 08 33.5	
	comp=Z,238nm,19.1s,baz=183,slow=37						
FITZ	**Fitzroy Crossi**	**9.27**	**188**	Pn	Pn	18 08 38.7	+0.3
	0.2nm,0.3s,baz=340,slow=17,SNR=18						
FITZ				Sn	Sn	18 10 15.5	-7.9
	0.6nm,0.3s,baz=297,slow=22,SNR=8.1						
WRA	**Warramunga Arr**	**13.11**	**148**	Pn	Pn	18 09 30.7	-0.3
	0.1nm,0.3s,baz=316,slow=14,SNR=14						
WRA				Sn	Sn	18 11 48.5	-9.2
	0.3nm,0.3s,baz=316,slow=27,SNR=8.3						
ASAR	**Alice Springs**	**16.14**	**157**	Pn	Pn	18 10 11.2	-0.6
	0.1nm,0.3s,baz=324,slow=10,SNR=14						
ASAR				Sn	Sn	18 13 03.0	-8.5
	0.1nm,0.3s,baz=316,slow=18,SNR=5.2						
AFI	**Afiamalu**	**60.12**	**101**	LR	LR	18 37 55.5	
	comp=Z,103nm,18.2s,baz=26,slow=32						
MKAR	**Makanchi Array**	**68.20**	**329**	P	P	18 17 25.4	-0.3
	0.2nm,0.4s,baz=126,slow=6.7,SNR=2.6						

*JMA **18** 18:24:27.6±0.3, 2488N×12183E, h47km, M3.2*
*ISCJB **18** 18:24:28.4±0.4, 2445N±002×12195E±002, h9km±2km, Error ellipse: s-maj=2.9km s-min=2.4km az=135.6*
*TAP **18** 18:24:29.0, 2447N×12186E, h18km, ML3.9, B*
ISC 18 18:24:28.9±0.3, 2445N±002×12193E±002, h10km±2km, n62, σ0§90/94, 6C-8D, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWC	**Suao**	**0.17**	**334**	*i*P	Pg	18 24 33.3	+0.7
	baz=355						
ENA	**Nanau**	**0.18**	**262**	*i*P	Pg	18 24 33.0	+0.3
	baz=250						
ENA				*i* S	Sg	18 24 35.5	+0.2
	baz=250						
EHP	**Heping Village**	**0.23**	**231**	*i* P	Pg	18 24 33.8	+0.2
	baz=208						
EHP				S	Sg	18 24 37.6	+0.9
	baz=208						
ILA	**Ilan**	**0.35**	**331**	*i* P	Pg	18 24 36.5	+0.6
	baz=333						
ILA				*i* S	Sg	18 24 41.3	+0.7
	baz=333						
TWE	**Neicheng**	**0.36**	**318**	*i*P	Pg	18 24 36.2	+0.2
	baz=325						
TWE				*i* S	Sg	18 24 40.0	-0.8
	baz=325						
TWD	**Chiawan**	**0.48**	**220**	⇑P	Pg	18 24 38.0	-0.3
	baz=218						
TWD				S	Sg	18 24 44.8	+0.1
	baz=218						
NNS	**Nan Shan**	**0.51**	**269**	*i*P	Pg	18 24 38.5	-0.3
	baz=259						
NNS				*e*S	Sg	18 24 44.4	-1.1
	baz=259						
TWB1	**Santiao Chiao**	**0.55**	**5**	⇑*i*P	Pg	18 24 40.2	+0.5
	baz=13						
TWB1				*i* S	Sg	18 24 47.0	+0.1
	baz=13						
HWA	**Hwalien**	**0.56**	**212**	P	Pg	18 24 40.2	+0.4
	baz=210						
NSK	**Sanguang**	**0.57**	**293**	*i*P	Pg	18 24 39.7	-0.2
	baz=294						
NSK				*i* S	Sg	18 24 46.4	-1.0
	baz=294						
TWA	**Mucha**	**0.61**	**329**	P	Pg	18 24 40.9	+0.1
	baz=323						
TWA				*i* S	Sg	18 24 48.9	+0.1
	baz=323						
NWF	**Wu-fen Shan**	**0.63**	**347**	⇑*i*P	Pg	18 24 41.5	+0.4
	baz=343						
NWF				*i* S	Sg	18 24 49.5	+0.2
	baz=343						
WHF	**Hehuan Shan**	**0.68**	**243**	⇑*i*P	Pg	18 24 41.6	-0.4
	baz=239						
WHF				S	Sg	18 24 50.4	-0.7
	baz=239						
TAP1	**Taipei**	**0.69**	**327**	*e*P	Pg	18 24 42.0	-0.3
	baz=324						
TAP1				S	Sg	18 24 51.2	-0.1
	baz=324						
ESF	**Shoufeng Towns**	**0.70**	**214**	*e*P	Pg	18 24 42.5	+0.1
	baz=219						
ESL	**Shilin**	**0.78**	**216**	⇓*i*P	Pg	18 24 43.2	-0.8
	baz=217						
ESL				*e*S	Sg	18 24 54.4	+0.2
	baz=217						
NCU	**National Centr**	**0.85**	**307**	P	Pg	18 24 45.6	+0.3
	baz=316						
NCU				S	Sg	18 24 58.0	+1.6
	baz=316						
NSTT	**Nanjuang**	**0.87**	**282**	P	Pg	18 24 45.1	-0.5
	baz=274						
NSTT				*i* S	Sg	18 24 55.6	-1.3
	baz=274						
TWY	**Chenhua**	**0.87**	**340**	⇑P	Pg	18 24 46.0	+0.3
	baz=343						
TWY				*e*S	Sg	18 24 56.7	-0.4
	baz=343						
HSN	**Hsinchu**	**0.94**	**292**	*e*P	Pg	18 24 46.8	-0.2
	baz=289						
HSN				*e*S	Sg	18 24 59.5	+0.1
	baz=289						
YOJ	**Yonaguni jima**	**0.98**	**89**	P	Pg	18 24 47.6	-0.2
YOJ				S	Sg	18 25 02.5	+1.9
YOJ	**Yonaguni jima**	**0.98**	**89**	*e*P	Pg	18 24 47.7	-0.1
	baz=81						
YOJ				*e*S	Sg	18 25 01.7	+1.1
	baz=81						
TWQ1	**Liyutan**	**1.06**	**265**	*i* P	Pb	18 24 49.3	0.0
	baz=254						
TWQ1				*i* S	Sg	18 25 02.4	-0.8
	baz=254						
NSY	**Sanyi**	**1.07**	**268**	*e*P	Pb	18 24 48.7	-0.7
	baz=272						
NSY				*e*S	Sg	18 25 03.0	-0.3
	baz=272						
EHY	**Hungye**	**1.10**	**211**	*e*P	Pb	18 24 48.0	-1.9
	baz=218						
SMLT	**Sun Moon Lake**	**1.10**	**239**	⇓*i*P	Pb	18 24 49.5	-0.5
	baz=230						
SMLT				*e*S	Sb	18 25 03.0	-1.4
	baz=230						
TYC	**Yuchr**	**1.12**	**241**	⇓*i*P	Pb	18 24 49.6	-0.8
	baz=233						
TYC				*e*S	Sb	18 25 03.1	-1.9
	baz=233						
PCYT	**Pengchaiyu**	**1.18**	**6**	⇑*e*P	Pb	18 24 49.9	-1.4
	baz=9.0						
PCYT				*e*S	Sb	18 25 06.4	-0.2
	baz=9.0						
TCU	**Taichung**	**1.19**	**255**	*e*P	Pb	18 24 52.5	+1.0
	baz=253						
TCU				*e*S	Sb	18 25 08.0	+1.2
	baz=253						
TWF1	**Yuli**	**1.24**	**208**	*e*P	Pn	18 24 49.8	-2.4
	baz=218						
WNT	**Mingjian**	**1.28**	**244**	*e*P	Pn	18 24 53.4	+0.7
	baz=237						
WNT				*e*S	Sb	18 25 11.3	+1.9
	baz=237						
YUS	**Yu-Shan**	**1.31**	**223**	P	Pn	18 24 52.9	-0.3
	baz=229						
ALS	**Alishan**	**1.40**	**228**	*e*P	Pn	18 24 54.4	0.0
	baz=218						
CHN5	**Tsauling**	**1.43**	**234**	P	Pn	18 24 55.7	+0.9
	baz=231						
CHKT	**Chengkung**	**1.45**	**201**	*e*P	Pn	18 24 53.6	-1.5
	baz=182						
WGK	**Gukeng**	**1.47**	**239**	*e*P	Pn	18 24 56.0	+0.6
	baz=237						
ELDTW	**Lidau**	**1.51**	**214**	*e*P	Pn	18 24 54.5	-1.5
	baz=198						
CHN2	**Minshiung**	**1.62**	**236**	*e*P	Pn	18 24 59.1	+1.7
	baz=219						
WTCT	**Ta-ch'eng**	**1.62**	**249**	*e*P	Pn	18 24 57.1	-0.3
	baz=247						
IRIF	**Iriomote-Funau**	**1.64**	**94**	P	Pn	18 24 56.7	-1.1
IRIF				S	Sn	18 25 18.3	-0.6
CHN4	**Tsaushan**	**1.65**	**228**	P	Pn	18 24 59.2	+1.4
	baz=226						
STYT	**Tauyuan**	**1.68**	**220**	*e*P	Pn	18 24 58.2	0.0
	baz=218						
WTP	**Ta-pu**	**1.71**	**225**	P	Pn	18 24 59.6	+1.0
	baz=210						
HATJ	**Hateruma jima**	**1.75**	**103**	P	Pn	18 24 59.7	+0.4
HATJ				*e*S	Sn	18 25 23.3	+1.6
WSF	**Szhu**	**1.76**	**243**	*e*P	Pn	18 24 59.8	+0.4
	baz=241						
TWK	**Hsinying**	**1.77**	**229**	*e*P	Pn	18 25 00.8	+1.3
	baz=227						
CHN1	**Nanshi**	**1.80**	**226**	*e*P	Pn	18 25 00.9	+0.9
	baz=224						
TWG	**Pinlang**	**1.81**	**206**	*e*P	Pn	18 24 58.9	-1.1
	baz=190						
TTN	**Taitung**	**1.84**	**203**	*e*P	Pn	18 24 59.4	-1.1
	baz=201						
SGST	**Jiashian**	**1.84**	**222**	*e*P	Pn	18 25 02.1	+1.6
	baz=213						
SGST				*e*S	Sn	18 25 27.4	+3.6
	baz=213						
JKRS	**Kuro-shima**	**1.91**	**96**	P	Pn	18 25 00.9	-0.5
JKRS				S	Sn	18 25 25.2	-0.2
CHN8	**Yiju**	**1.92**	**235**	*e*P	Pn	18 25 01.1	-0.5
	baz=234						
CHN3	**Shinhua**	**1.99**	**227**	*e*P	Pn	18 25 03.1	+0.6
	baz=225						
JIJ	**Ishigaki jima**	**2.02**	**92**	P	Pn	18 25 02.2	-0.7
JIJ				S	Sn	18 25 26.7	-1.4
ECL	**Taimali**	**2.06**	**206**	*e*P	Pn	18 25 03.5	0.0
	baz=192						
SSD	**Sandimen**	**2.08**	**215**	*e*P	Pn	18 25 05.2	+1.5
	baz=213						
TWM1	**Shoushan**	**2.13**	**221**	*e*P	Pn	18 25 05.2	+0.7
	baz=219						
EAST	**Anshuo**	**2.29**	**206**	*e*P	Pn	18 25 07.4	+0.7
	baz=194						
PNG	**Penghu**	**2.35**	**248**	*e*P	Pn	18 25 07.4	0.0
	baz=247						
SCZT	**Fangliau**	**2.40**	**210**	*e*P	Pn	18 25 09.3	+1.2
	baz=194						
JTJ	**Tarama**	**2.53**	**85**	P	Pn	18 25 09.7	-0.2
JTJ				S	Sn	18 25 39.7	-1.1
KNM	**Kinmen**	**3.19**	**270**	*e*P	Pn	18 25 20.5	+1.4
	baz=269						

*JMA **18** 18:34:22.0±0.1, 2522N×12205E, h25km, M2.6*
TAP 18 18:34:23.9, 2447N×12187E, h17km, ML3.7, 2C-5D, B, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ENA	**Nanau**	**0.12**	**250**	⇓*i*P	Pg	18 34 27.8	+0.2
	baz=250						
ENA

	baz=13								
TWB1				*i* S		Sg	18 34 41.9	-0.2	
	baz=13								
HWA	**Hwalien**	**0.55**	**206**	*e*P		Pg	18 34 35.0	+0.2	
	baz=211								
HWA				*e*S		Sg	18 34 43.3	+1.2	
	baz=211								
TWA	**Mucha**	**0.57**	**333**	P		Pg	18 34 36.4	+1.2	
	baz=322								
TWA				S		Sg	18 34 43.3	+0.5	
	baz=322								
NWF	**Wu-fen Shan**	**0.60**	**352**	*i* P		Pg	18 34 36.5	+0.7	
	baz=343								
NWF				*i* S		Sg	18 34 44.6	+0.7	
	baz=343								
WHF	**Hehuan Shan**	**0.64**	**240**	⇑*i* P		Pg	18 34 36.5	+0.1	
	baz=239								
WHF				S		Sg	18 34 45.2	+0.2	
	baz=239								
TAP1	**Taipei**	**0.65**	**331**	*e*P		Pg	18 34 36.4	-0.2	
	baz=322								
TAP1				*e*S		Sg	18 34 46.2	+1.0	
	baz=322								
ESF	**Shoufeng Towns**	**0.68**	**209**	*e*P		Pg	18 34 37.1	-0.2	
	baz=215								
ESL	**Shilin**	**0.77**	**211**	P		Pb	18 34 38.0	-0.7	
	baz=219								
NCU	**National Centr**	**0.79**	**309**	*e*P		Pb	18 34 41.0	+1.7	
	baz=316								
NCU				S		Sb	18 34 52.9	+3.2	
	baz=316								
NSTT	**Nanjuang**	**0.81**	**282**	P		Pb	18 34 40.1	+0.7	
	baz=273								
NSTT				S		Sb	18 34 50.6	+0.5	
	baz=273								
TWY	**Chenhua**	**0.84**	**343**	*i* P		Pb	18 34 41.5	+1.5	
	baz=343								
TWY				S		Sb	18 34 51.5	+0.5	
	baz=343								
HSN	**Hsinchu**	**0.88**	**292**	P		Pb	18 34 42.1	+1.4	
	baz=288								
HSN				S		Sb	18 34 54.4	+2.1	
	baz=288								
TWQ1	**Liyutan**	**1.01**	**263**	P		Pb	18 34 44.2	+1.4	
	baz=253								
TWQ1				S		Sb	18 34 56.9	+1.1	
	baz=253								
NSY	**Sanyi**	**1.01**	**267**	P		Pb	18 34 44.5	+1.6	
	baz=272								
NSY				*e*S		Sb	18 34 57.7	+1.8	
	baz=272								
YOJ	**Yonaguni jima**	**1.04**	**90**	P		Pb	18 34 42.6	-0.9	
YOJ				S		Sb	18 34 57.5	+0.7	
YOJ	**Yonaguni jima**	**1.04**	**90**	*e*P		Pb	18 34 41.5	-2.0	
	baz=80								
YOJ				*e*S		Sb	18 34 56.0	-0.8	
	baz=80								
SMLT	**Sun Moon Lake**	**1.06**	**237**	P		Pb	18 34 43.8	0.0	
	baz=236								
TYC	**Yuchr**	**1.08**	**239**	*i* P		Pb	18 34 44.5	+0.3	
	baz=238								
TYC				S		Sb	18 34 58.4	+0.4	
	baz=238								
EHY	**Hungye**	**1.08**	**208**	*e*P		Pb	18 34 43.1	-1.0	
	baz=219								
TCU	**Taichung**	**1.13**	**254**	*e*P		Pn	18 34 47.1	+2.1	
	baz=252								
PCYT	**Pengchaiyu**	**1.17**	**9**	*e*P		Pn	18 34 44.8	-0.7	
	baz=9.0								
TWF1	**Yuli**	**1.23**	**205**	*e*P		Pn	18 34 45.3	-1.0	
	baz=218								
WNT	**Mingjian**	**1.23**	**242**	P		Pn	18 34 48.5	+2.1	
	baz=237								
WNT				S		Sb	18 35 06.4	+4.1	
	baz=237								
YUS	**Yu-Shan**	**1.29**	**221**	*e*P		Pn	18 34 47.9	+0.8	
	baz=212								
YUS				*e*S		Sb	18 35 07.4	+3.5	
	baz=212								
ALS	**Alishan**	**1.36**	**226**	*e*P		Pn	18 34 49.9	+1.8	
	baz=217								
CHN5	**Tsauling**	**1.39**	**232**	*e*P		Pn	18 34 50.4	+1.8	
	baz=240								
CHN5				*e*S		Sn	18 35 11.7	+5.1	
	baz=240								
WGK	**Gukeng**	**1.43**	**237**	*e*P		Pn	18 34 50.0	+1.0	
	baz=238								
WGK				*e*S		Sn	18 35 13.1	+5.7	
	baz=238								
CHKT	**Chengkung**	**1.44**	**199**	*e*P		Pn	18 34 49.1	-0.1	
	baz=182								
ELDTW	**Lidau**	**1.50**	**212**	*e*P		Pn	18 34 49.7	-0.2	
	baz=197								
WTCT	**Ta-ch'eng**	**1.57**	**248**	*e*P		Pn	18 34 53.1	+2.1	
	baz=247								
CHN2	**Minshiung**	**1.58**	**234**	*e*P		Pn	18 34 53.9	+2.8	
	baz=234								
CHN2				*e*S		Sn	18 35 17.5	+6.3	
	baz=234								
CHN4	**Tsaushan**	**1.61**	**227**	*e*P		Pn	18 34 54.2	+2.6	
	baz=213								
CHN4				*e*S		Sn	18 35 17.4	+5.4	
	baz=213								
STYT	**Tauyuan**	**1.65**	**218**	*e*P		Pn	18 34 53.7	+1.6	
	baz=213								
STYT				*e*S		Sn	18 35 16.4	+3.4	
	baz=213								
WTP	**Ta-pu**	**1.68**	**224**	P		Pn	18 34 54.5	+2.1	
	baz=225								
WTP				*e*S		Sn	18 35 18.3	+4.8	
	baz=225								
IRIF	**Iriomote-Funau**	**1.70**	**94**	P		Pn	18 34 51.8	-1.0	
IRIF				S		Sn	18 35 13.7	-0.5	
WSF	**Szhu**	**1.72**	**241**	*e*P		Pn	18 34 54.9	+1.9	
	baz=240								
WSF				*e*S		Sn	18 35 19.2	+4.6	
	baz=240								
TWK	**Hsinying**	**1.74**	**227**	*e*P		Pn	18 34 55.8	+2.5	
	baz=213								
TWK				*e*S		Sn	18 35 20.1	+4.9	
	baz=213								
CHN1	**Nanshi**	**1.77**	**224**	P		Pn	18 34 56.0	+2.3	
	baz=224								
TWG	**Pinlang**	**1.80**	**204**	*e*P		Pn	18 34 52.9	-1.3	
	baz=189								
HATJ	**Hateruma jima**	**1.81**	**103**	*e*S		Sn	18 35 18.4	+1.4	
SGST	**Jiashian**	**1.82**	**221**	*e*P		Pn	18 34 56.3	+1.9	
	baz=208								
CHN3	**Shinhua**	**1.96**	**225**	*e*P		Pn	18 34 57.3	+1.0	
	baz=225								
JKRS	**Kuro-shima**	**1.97**	**96**	P		Pn	18 34 55.8	-0.6	
JKRS				S		Sn	18 35 20.2	-0.5	
ECL	**Taimali**	**2.04**	**204**	*e*P		Pn	18 34 59.7	+2.2	
	baz=192								
SSD	**Sandimen**	**2.06**	**214**	*e*P		Pn	18 34 59.7	+2.0	
	baz=215								
SSD				*e*S		Sn	18 35 27.9	+4.9	
	baz=215								
JIJ	**Ishigaki jima**	**2.08**	**92**	P		Pn	18 34 56.6	-1.4	
JIJ				S		Sn	18 35 21.9	-1.6	
TWM1	**Shoushan**	**2.11**	**219**	*e*P		Pn	18 35 00.2	+1.8	
	baz=219								
EAST	**Anshuo**	**2.28**	**204**	*e*P		Pn	18 35 02.6	+1.8	
	baz=194								

IDC ***18*** *18:35:17.0±0.8, 1536S×17325W, h0km, mb4.1/7, mb1 4.4/8, mb1mx4.1/20, mbtmp4.1/8, ML2.5/1, MS3.2/2, Ms1 3.2/2, ms1mx2.9/21, Error ellipse: s-maj=52.9km s-min=16.7km az=142.0*

ISCJB ***18*** *18:35:18.7±5.5, 153S±02×1733W±02, h21km±40km, mb4.0/7, MS3.1/2, Error ellipse: s-maj=50.3km s-min=14.6km az=138.5*

NEIC ***18*** *18:35:18.6±0.5, 1532S×17325W, h10km, Error ellipse: s-maj=30.7km s-min=9.4km az=139.0*

ISC 18 18:35:17.4±8.4, 153S±02×1733W±02, h2km±53km, n14, σ0§32/13, mb4.0/7, MS3.1/2, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**2.02**	**46**	Pn	**Pn**	**18 35 52.5**	**0.0**
	91nm,0.3s,baz=25,slow=1.2,SNR=124						
AFI				Sn	**Sn**	**18 36 13.3**	**-5.0**
	175nm,0.3s,baz=37,slow=22,SNR=19						
AFI	**Afiamalu**	**2.02**	**46**	Pn	**Pn**	**18 35 52.5**	**0.0**
AFI				Sn	**Sn**	**18 36 13.3**	**-5.0**

PPT	**Papeete**	**22.82**	**99**	LR		LR	18 46 53.3		
	comp=Z,110nm,18.9s,MS3.3,baz=4.6,slow=30								
URZ	**Urewera**	**24.37**	**199**	P		**P**	**18 40 36.7**	**-0.2**	
	8.7nm,0.6s,mb4.4,baz=28,slow=12,SNR=6.3								
HNR	**Honiara**	**26.80**	**279**	LR		LR	18 48 57.9		
	comp=Z,31nm,20.1s,MS2.9,baz=102,slow=31								
STKA	**Stephens Creek**	**44.19**	**240**	P		**P**	**18 43 27.6**	**-0.4**	
	2.2nm,0.8s,mb3.9,baz=49,slow=11,SNR=2.8								
STKA	**Stephens Creek**	**44.19**	**240**	P		**P**	**18 43 28.9**	**+0.8**	
WRA	**Warramunga Arr**	**49.99**	**257**	P		**P**	**18 44 13.4**	**-0.2**	
	0.5nm,0.8s,mb3.6,baz=92,slow=7.1,SNR=6.9								
ASAR	**Alice Springs**	**50.26**	**252**	P		**P**	**18 44 15.4**	**-0.2**	
	1.4nm,0.6s,mb4.2,baz=86,slow=8.2,SNR=32								
NVAR	**Mina Array Bea**	**74.19**	**42**	P		**P**	**18 46 56.3**	**+0.5**	
	2.6nm,0.9s,mb4.2,baz=227,slow=9.4,SNR=13								
TXAR	**Lajitas Array**	**80.46**	**56**	P		**P**	**18 47 31.4**	**+0.2**	
	2.6nm,1.1s,mb4.1,baz=217,slow=6.1,SNR=12								
TXAR	**Lajitas Array**	**80.46**	**56**	P		**P**	**18 47 31.4**	**+0.2**	
PDAR	**Pinedale Array**	**82.12**	**42**	P		**P**	**18 47 39.8**	**0.0**	
	1.5nm,0.9s,mb3.9,baz=223,slow=3.3,SNR=9.4								
GERES	**GERESS Array B**	**146.10**	**352**	PKPbc		PKPbc	18 54 58.6	-0.5	
	1.6nm,1.0s,baz=324,slow=9.6,SNR=7.4								

NNC 18 18:37:30.4±2.4, 4172N×7983E, h17km±10km, mb3.6, mpv3.2, 4C-6D, Error ellipse: s-maj=16.5km s-min=6.3km az=139.0, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TKM2	**Tokmak 2**	**3.36**	**292**	⇑Pn	Pn	18 38 22.7	+0.5
	3.8nm,0.3s						
TKM2				⇑Lg		18 39 16.5	
	20nm,0.6s						
MK31	**Makanchi Array**	**5.37**	**18**	⇓Pn	Pn	18 38 49.0	-0.6
	0.5nm,0.2s,baz=187,slow=12,SNR=76						
MK31				⇓Sn	Sn	18 39 52.1	+1.1
	2.3nm,0.5s,baz=194,slow=22,SNR=8.4						
MK31				⇓Lg		18 40 22.7	
	4.7nm,0.7s						
KK31	**Karatay Array**	**7.04**	**284**	⇑Pg	Pn	18 39 39.4	+27
	1.5nm,0.6s,baz=102,slow=15,SNR=13						
KK31				⇓Lg		18 41 13.8	
	2.6nm,0.6s,baz=101,slow=28,SNR=5.6						
KURBB	**Kurchatov Arra**	**8.95**	**355**	⇓Lg		18 42 14.7	
	1.5nm,1.2s						
KURK	**Kurchatov**	**9.03**	**355**	⇑Lg		18 42 18.2	
	6.5nm,1.1s						
VOSK	**Vostochnaya**	**12.53**	**334**	⇓Lg		18 44 09.0	
	5.0nm,1.2s						

SKO ***18*** *18:41:48.1, 41.13N×2030E, h25km, M2.0, ML2.4*

PDG ***18*** *18:41:49.3±0.1, 4120N×2033E, h8km, ML3.0/10, Error ellipse: s-maj=0.8km s-min=0.9km az=0.0*

ISCJB ***18*** *18:41:49.9±0.5, 4123N±003×2034E±003, h10km, Error ellipse: s-maj=5.1km s-min=2.2km az=30.0*

THE ***18*** *18:41:49.8, 4133N×2038E, h0km±3km, ML3.3/1, Error ellipse: s-maj=3.3km s-min=1.0km az=243.0*

NEIC ***18*** *18:41:49.3, 4120N×2033E, h8km, ML3.0(PDG), After PDG.*

CSEM ***18*** *18:41:49.0±0.2, 4122N×2034E, h1km±4km, ML2.4, Error ellipse: s-maj=6.3km s-min=3.5km az=59.0*

TIR ***18*** *18:41:49.9±3.8, 4116N×2018E, h30km±37km, ML3.0*

ISC 18 18:41:49.7±0.6, 4117N±004×2032E±003, h1km±4km, n37, σ1§21/67, 13C-5D, Albania

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OHR	**Ohrid**	**0.37**	**99**	P	**Pg**	**18 41 56.8**	**0.0**
OHR				S	**Sg**	**18 42 03.3**	**+1.8**
OHR	**Ohrid**	**0.37**	**99**	⇑*i*Pg	**Pg**	**18 41 56.7**	**0.0**
OHR				*i* Sg	**Sg**	**18 42 03.0**	**+1.5**
	comp=N,197nm,0.5s						
OHR				*e*Lg		18 42 03.2	
	comp=N,221nm,0.6s						
OHR				*e*Lg		18 42 03.6	
	comp=E,312nm,0.8s						
TIR	**Tirane**	**0.38**	**298**	P	**Pg**	**18 41 57.0**	**0.0**
TIR				S	**Sg**	**18 42 03.3**	**+1.3**
TIR	**Tirane**	**0.38**	**298**	*e*PG	**Pg**	**18 41 57.1**	**+0.1**
QSH	**Qafa e Shtames**	**0.47**	**319**	*e*PG	**Pg**	**18 41 58.5**	**-0.1**
LACI	**Lac**	**0.65**	**316**	*e*PG	**Pg**	**18 42 01.3**	**-0.9**
KBN	**Korca**	**0.65**	**147**	*e*PG	**Pg**	**18 42 06.8**	**+4.6**
KRUS	**Krusevo**	**0.73**	**74**	⇑*i*Pg	**Pg**	**18 42 03.3**	**-0.4**
KRUS				*i* Sg	**Sg**	**18 42 13.9**	**+0.7**
KRUS				*e*Lg		18 42 15.4	
	comp=N,48nm,0.5s						
KRUS				*e*Lg		18 42 16.2	
	comp=E,42nm,0.4s						
KRUS	**Krusevo**	**0.73**	**74**	⇑*i*Pg	**Pg**	**18 42 03.2**	**-0.5**
KRUS				*i* Sg	**Sg**	**18 42 13.8**	**+0.6**
BIA	**Bitola**	**0.78**	**101**	P	**Pg**	**18 42 03.3**	**-1.3**
BIA				S	**Sg**	**18 42 16.4**	**+1.8**
BIA	**Bitola**	**0.78**	**101**	⇑*i*Pg	**Pg**	**18 42 03.6**	**-1.0**
BIA	**Bitola**	**0.78**	**101**	⇑*i*Pg	**Pg**	**18 42 03.5**	**-1.1**
BIA				S	**Sg**	**18 42 16.4**	**+1.8**
FNA	**Florina**	**0.89**	**115**	P	**Pg**	**18 42 06.8**	**+0.1**
FNA				S	**Sg**	**18 42 20.8**	**+2.5**
PUK	**Puka**	**0.93**	**340**	*e*PG	**Pg**	**18 42 06.7**	**-0.8**
PUK				*i* SG	**Sg**	**18 42 20.5**	**+1.0**
ULC	**Ulcinj**	**1.13**	**315**	⇓*i*Pg	**Pg**	**18 42 09.8**	**-1.5**
ULC				*e*Sg	**Sg**	**18 42 27.4**	**+1.5**
ULC	**Ulcinj**	**1.13**	**315**	*i* PG	**Pg**	**18 42 09.8**	**-1.5**
ULC				*i* SG	**Sg**	**18 42 27.4**	**+1.5**
SKO	**Skopje**	**1.16**	**46**	P	**Pg**	**18 42 10.5**	**-1.5**
SKO				S	**Sg**	**18 42 25.5**	**-1.6**
SKO	**Skopje**	**1.16**	**46**	⇑*i*Pg	**Pg**	**18 42 10.6**	**-1.4**
SKO				*i* Sg	**Sg**	**18 42 25.7**	**-1.3**
SKO				*e*Lg		18 42 26.6	
	comp=N,133nm,0.4s						
SKO				*e*Lg		18 42 26.7	
	comp=E,61nm,0.3s						
SKO	**Skopje**	**1.16**	**46**	⇑*i*Pg	**Pg**	**18 42 10.6**	**-1.4**
SKO				S	**Sg**	**18 42 25.5**	**-1.6**
BCI	**Bajram Curri**	**1.21**	**351**	*e*PG	**Pg**	**18 42 15.0**	**+2.1**
PVY	**Plav**	**1.45**	**350**	⇑*i*Pg	**Pg**	**18 42 15.2**	**-2.2**
PVY				*e*Sg	**Sg**	**18 42 37.9**	**+1.7**
PVY	**Plav**	**1.45**	**350**	*i* PG	**Pg**	**18 42 15.2**	**-2.2**
PVY				*i* SG	**Sg**	**18 42 37.9**	**+1.7**
PDG	**Podgorica**	**1.48**	**328**	*i* PG	**Pg**	**18 42 16.0**	**-2.1**
PDG				*i* SG	**Sg**	**18 42 39.0**	**+1.6**
PDG	**Podgorica**	**1.48**	**328**	⇑*i*Pg	**Pg**	**18 42 16.0**	**-2.1**
PDG				*e*Sg	**Sg**	**18 42 39.2**	**+1.8**
TTG	**Podgorica**	**1.48**	**328**	⇑*i*Pg	**Pg**	**18 42 16.0**	**-2.1**
TTG				*e*Sg	**Sg**	**18 42 39.2**	**+1.8**
BUM	**Brajici-Budva**	**1.55**	**317**	⇑*i*Pg	**Pg**	**18 42 17.7**	**-1.7**
BUM				*e*Sg	**Sg**	**18 42 40.9**	**+1.4**
GRG	**Griva**	**1.59**	**97**	P	**Pn**	**18 42 18.5**	**-0.5**
VAY	**Valandovo**	**1.71**	**84**	P	**Pn**	**18 42 20.1**	**-0.5**
VAY				S	**Sn**	**18 42 41.6**	**-1.4**
BEY	**Berane**	**1.73**	**350**	*i* PG	**Pn**	**18 42 20.5**	**-0.4**
BEY				*i* SG	**Sg**	**18 42 45.2**	**0.0**
IVA	**Berane**	**1.73**	**350**	⇓*i*Pn	**Pn**	**18 42 20.5**	**-0.4**
IVA				*e*Sn	**Sg**	**18 42 45.2**	**0.0**
HCY	**Herceg Novi**	**1.86**	**314**	⇓*i*Pn	**Pn**	**18 42 22.6**	**-0.1**
HCY				*e*Sn	**Sg**	**18 42 48.5**	**-1.1**
HCY	**Herceg Novi**	**1.86**	**314**	*i* PG	**Pn**	**18 42 22.6**	**-0.1**
HCY				*i* SG	**Sg**	**18 42 48.5**	**-1.1**
NKY	**Niksic**	**1.91**	**330**	⇑*i*Pn	**Pn**	**18 42 22.7**	**-0.7**
NKY				*e*Sn	**Sg**	**18 42 49.7**	**-1.4**
NKY	**Niksic**	**1.91**	**330**	*i* PG	**Pn**	**18 42 22.7**	**-0.7**
NKY				*i* SG	**Sg**	**18 42 49.7**	**-1.4**
BRY	**Bratogost**	**2.17**	**323**	⇓*i*Pn	**Pn**	**18 42 27.0**	**0.0**
BRY				*e*Sn	**Sn**	**18 42 55.8**	**+1.2**
PLE	**Pljevlja**	**2.26**	**343**	⇑*i*Pn	**Pn**	**18 42 27.8**	**-0.4**
PLE				*e*Sn	**Sn**	**18 42 58.1**	**+1.3**
UPM	**Unac-Piva**	**2.28**	**333**	⇓*i*Pn	**Pn**	**18 42 28.1**	**-0.4**
UPM				*e*Sn	**Sn**	**18 42 58.5**	**+1.2**

TIR ***18*** *18:42:22.7±1.0, 4102N×2010E, h40km±22km*

ISCJB ***18*** *18:42:24.2±0.8, 4107N±005×2022E±005, h29km±6km, Error ellipse: s-maj=9.9km s-min=5.1km az=25.7*

SKO ***18*** *18:42:24.5, 4121N×2032E, h23km, M2.2, ML2.6*

CSEM ***18*** *18:42:24.8±0.3, 4117N×2030E, h7km±3km, ML3.5/1, Error ellipse: s-maj=9.7km s-min=5.6km az=17.0*

THE ***18*** *18:42:25.8, 4121N×2033E, h0km±2km, ML3.5/1, Error ellipse: s-maj=2.8km s-min=0.6km az=16.0*

ISC 18 18:42:26.0±0.8, 4121N±005×2032E±004, h11km±10km, n17, σ0§83/29, 2C, Albania

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TIR	**Tirane**	**0.37**	**292**	P	**Pg**	**18 42 33.0**	**-0.2**
TIR				S	**Sg**	**18 42 39.2**	**+1.0**
TIR	**Tirane**	**0.37**	**292**	*e*PG	**Pg**	**18 42 32.8**	**-0.4**
TIR				*i* SG	**Sg**	**18 42 38.9**	**+0.7**
OHR	**Ohrid**	**0.38**	**105**	P	**Pg**	**18 42 32.8**	**-0.6**
OHR				S	**Sg**	**18 42 38.7**	**+0.3**
OHR	**Ohrid**	**0.38**	**105**	⇑*i*Pg	**Pg**	**18 42 32.8**	**-0.6**
OHR				*i* Sg	**Sg**	**18 42 39.7**	**+1.3**
OHR				*e*Lg		18 42 40.3	
	comp=N,270nm,0.5s						
OHR				*e*Lg		18 42 40.5	
	comp=E,323nm,0.4s						
OHR	**Ohrid**	**0.38**	**105**	⇑*i*Pg	**Pg**	**18 42 32.7**	**-0.7**
OHR				*i* Sg	**Sg**	**18 42 39.6**	**+1.2**
QSH	**Qafa e Shtames**	**0.44**	**315**	*e*PG	**Pg**	**18 42 34.5**	**-0.1**
LACI	**Lac**	**0.62**	**313**	*e*PG	**Pg**	**18 42 37.1**	**-1.0**
KRUS	**Krusevo**	**0.72**	**77**	*i* Pg	**Pg**	**18 42 39.5**	**-0.3**
KRUS				*i* Sg	**Sg**	**18 42 49.9**	**+0.6**
KRUS				*e*Lg		18 42 51.2	
	comp=E,64nm,0.3s						
KRUS				*e*Lg		18 42 51.4	
	comp=N,70nm,0.3s						
KRUS	**Krusevo**	**0.72**	**77**	*i* Pg	**Pg**	**18 42 39.5**	**-0.3**
KRUS				*i* Sg	**Sg**	**18 42 49.8**	**+0.6**
BIA	**Bitola**	**0.78**	**104**	P	**Pg**	**18 42 39.7**	**-1.4**
BIA				S	**Sg**	**18 42 51.7**	**+0.4**
BIA	**Bitola**	**0.78**	**104**	*i* Pg	**Pg**	**18 42 39.9**	**-1.2**
PUK	**Puka**	**0.89**	**339**	*e*PG	**Pg**	**18 42 42.9**	**-0.2**
PUK				*i* SG	**Sg**	**18 42 56.3**	**+1.6**
FNA	**Florina**	**0.91**	**118**	P	**Pg**	**18 42 43.0**	**-0.4**
FNA				S	**Sg**	**18 42 56.4**	**+1.2**
SKO	**Skopje**	**1.13**	**48**	*e*Pg	**Pg**	**18 42 46.3**	**-1.4**
SKO				*i* Sg	**Sg**	**18 43 01.9**	**-0.6**
SKO				*e*Lg		18 43 02.8	
	comp=E,82nm,0.3s						
SKO				*e*Lg		18 43 03.4	
	comp=N,181nm,0.4s						
SKO	**Skopje**	**1.13**	**48**	P	**Pb**	**18 42 48.3**	**+0.7**
SKO				*i* Sg	**Sg**	**18 43 01.8**	**-0.7**
SRN	**Sarande**	**1.35**	**190**	*e*PG	**Pg**	**18 42 43.8**	**-8.1**
STIP	**Stip**	**1.48**	**70**	P	**Pn**	**18 42 52.8**	**+0.2**

ISCJB ***18*** *18:47:58.1±0.8, 2412S±005×669W±0.1, h165km±14km, mb3.8/2, Error ellipse: s-maj=22.1km s-min=8.3km az=6.2*

IDC ***18*** *18:47:59.2±1.3, 2411S×6693W, h167km±13km, mb3.6/2, mb1 3.6/8, mb1mx3.5/19, mbtmp3.6/8, Error ellipse: s-maj=18.7km s-min=17.3km az=164.0*

NEIC ***18*** *18:47:59.2±0.8, 2414S×6694W, h172km±10km, mb4.6/2, Error ellipse: s-maj=19.5km s-min=9.8km az=102.0*

ISC 18 18:47:58.7±0.8, 2415S±005×668W±01, h146km±14km, n20, σ1§15/18, mb3.8/2, Salta Province

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LVC	**Limon Verde**	**2.49**	**308**	P	**Pn**	**18 48 41.2**	**+1.8**
	33nm,0.3s,baz=127,slow=6.5,SNR=405						
LVC				S	**Sn**	**18 49 11.2**	**+0.4**
	152nm,0.3s,baz=260,slow=21,SNR=94						
LCO	**Las Campanas**	**5.98**	**215**	*e*P	**Pn**	**18 49 23.5**	**-1.5**
	42nm,0.8s						
CFAA	**Coronel Fontan**	**7.54**	**190**	P	**Pn**	**18 49 45.8**	**0.0**
	0.3nm,0.3s,baz=18,slow=13,SNR=16						
CFAA				S	**Sn**	**18 51 06.5**	**-3.3**
	0.2nm,0.3s,baz=310,slow=14,SNR=3.2						
LPAZ	**La Paz**	**7.93**	**351**	P	**Pn**	**18 49 51.9**	**+0.7**
	6.9nm,0.3s,baz=153,slow=10,SNR=106						
LPAZ				S	**Sn**	**18 51 17.4**	**-2.1**
	0.4nm,0.3s,baz=315,slow=20,SNR=2.3						
SIV	**San Ignacio**	**9.73**	**34**	P	**Pn**	**18 50 15.1**	**-0.1**
	0.8nm,0.3s,baz=217,slow=14,SNR=19						
SIV				S	**Sn**	**18 51 52.2**	**-11**
	0.2nm,0.3s,baz=233,slow=14,SNR=4.5						
TRQA	**Tornquist**	**14.45**	**165**	*e*P	**Pn**	**18 51 16.8**	**+0.5**
	13nm,0.6s						
PLCA	**Paso Flores**	**16.83**	**190**	P	**Pn**	**18 51 45.5**	**-0.1**
	0.3nm,0.3s,baz=7.8,slow=13,SNR=7.2						
BDFB	**Brasilia**	**19.56**	**68**	P	**P**	**18 52 16.6**	**+1.3**
	1.1nm,0.3s,baz=230,slow=18,SNR=31						
VNA3	**Neumayer Olymp**	**56.94**	**161**	*e*	**P**	**18 57 28.7**	**+0.5**
VNA3				*e*		18 57 31.6	
VNA1	**Neumayer--Stat**	**57.14**	**160**	*e*	**P**	**18 57 30.9**	**+1.3**
VNA1				*e*		18 57 33.7	
VNA2	**Neumayer--Watz**	**57.51**	**160**	*e*	**P**	**18 57 32.9**	**+0.7**
	baz=287,slow=7.4						
VNA2				*e*		18 57 35.4	
SNAA	**Sanae**	**59.14**	**161**	*e*	**P**	**18 57 43.8**	**+0.3**
SNAA				*e*		18 57 46.1	
DBIC	**Dimbokro**	**67.66**	**71**	P	**P**	**18 58 39.1**	**-1.3**
	1.7nm,0.7s,mb3.9,baz=253,slow=8.3,SNR=3.1						
TORD	**Torodi Ar. Bea**	**76.44**	**69**	P	**P**	**18 59 30.9**	**-1.8**
	0.6nm,0.4s,mb3.6,baz=264,slow=6.2,SNR=28						
ARU	**Arti**	**129.19**	**36**	*e*PKPdf	PKPdf	19 06 47.5	-1.5
WRA	**Warramunga Arr**	**131.58**	**207**	PKP	PKPdf	19 06 52.8	-2.0
	0.3nm,0.9s,baz=158,slow=1.6,SNR=5.7						
WRA				SKPbc	SKPbc	19 10 01.4	-5.5
	0.4nm,0.7s,baz=150,slow=3.4,SNR=5.3						
ZALV	**Zalesovo Beam**	**143.43**	**28**	PKP	PKPdf	19 07 11.1	-4.4
	0.4nm,0.3s,baz=342,slow=3.8,SNR=4

Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GNL	**Ganaly**	**0.95**	**201**	*e*P	Pn	19 03 40.2	+1.9
GNL				*i* S	S	19 04 09.2	+0.9
AVH	**Avacha**	**1.32**	**174**	P	Pn	19 03 42.2	+1.8
NLC	**Nalytchevo**	**1.50**	**160**	*e*P	Pn	19 03 43.4	+1.9
NLC				*i* S	S	19 04 14.9	+0.8
SPN	**Mys Shipunski**	**1.73**	**148**	*e*P	Pn	19 03 44.8	+1.6
SPN				*i* S	S	19 04 17.4	+0.2
RUS	**Russkaya**	**2.15**	**180**	*e*P	Pn	19 03 47.6	+1.0
RUS				*i* S	S	19 04 22.2	-1.1
MIPR	**Malaya Ipel'ka**	**2.54**	**205**	P	Pn	19 03 51.0	+0.9
KBTR	**Krutoberegovo**	**2.95**	**55**	P	Pn	19 03 55.6	+1.6
KBTR				*i* S	S	19 04 36.0	-0.8

ISK ***18*** *19:05:27.5, 4093N×3098E, h9km, MD3.0*
CSEM ***18*** *19:05:27.5±0.1, 4092N×3098E, h10km, MD2.8, Error ellipse: s-maj=1.9km s-min=1.5km az=138.0*
DDA ***18*** *19:05:27.3, 4091N×3094E, h19km±1km, Md2.8*
ISCJB ***18*** *19:05:28.0±0.6, 4093N±003×3097E±004, h7km±4km, Error ellipse: s-maj=5.5km s-min=4.2km az=141.3*

ISC 18 19:05:28.3±0.6, 4091N±003×3100E±004, h9km±3km, n22, σ0°75/36, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HENT	**Hendek**	**0.12**	**222**	*i* P	**Pg**	**19 05 31.2**	**+0.2**
HENT				*i* S	**Sg**	**19 05 34.2**	**+1.4**
KDZE	**Karadeniz Ereo**	**0.52**	**39**	*e*PG	**Pg**	**19 05 38.4**	**0.0**
KDZE				*e*SG	**Sg**	**19 05 45.7**	**+0.5**
GULT	**Gulveren**	**0.61**	**218**	*e*PG	**Pg**	**19 05 39.4**	**-0.6**
GULT				*e*SG	**Sg**	**19 05 48.4**	**+0.5**
HRT	**Hereke**	**1.02**	**265**	*e*PG	**Pg**	**19 05 47.1**	**-0.7**
HRT				*e*SG	**Sg**	**19 06 00.8**	**-0.2**
SILT	**Sile**	**1.06**	**284**	*e*PG	**Pg**	**19 05 48.2**	**-0.4**
SILT				*e*SG	**Sg**	**19 06 02.9**	**+0.6**
ADVT	**Abdulvahap**	**1.07**	**244**	*e*PG	**Pg**	**19 05 48.6**	**-0.3**
ADVT				*e*SG	**Sg**	**19 06 03.9**	**+1.0**
BORA	**Eskisehir**	**1.11**	**202**	*i* P	**Pg**	**19 05 47.9**	**-1.7**
BORA				*i* S	**Sg**	**19 06 02.8**	**-1.3**
YLV	**Yalova**	**1.29**	**255**	*e*PN	**Pn**	**19 05 52.1**	**-0.3**
YLV				*e*SN	**Sn**	**19 06 10.2**	**+0.4**
ESKT	**Eskisehir**	**1.40**	**185**	*i* P	**Pn**	**19 05 53.6**	**-0.3**
ESKT				*i* S	**Sb**	**19 06 13.0**	**+0.6**
SEYT	**Eskypehyr**	**1.40**	**185**	*i* P	**Pn**	**19 05 53.6**	**-0.3**
SEYT				*i* S	**Sb**	**19 06 13.0**	**+0.6**
GEMT	**Gemlik**	**1.46**	**252**	*e*PN	**Pn**	**19 05 54.3**	**-0.5**
GEMT				*e*SN	**Sn**	**19 06 14.7**	**+0.6**
ISK	**Istanbul-Kandi**	**1.48**	**277**	*e*PN	**Pn**	**19 05 55.1**	**0.0**
ISK				*e*SN	**Sn**	**19 06 14.2**	**-0.3**
KLYT	**Kilyos**	**1.52**	**284**	*e*PN	**Pn**	**19 05 54.9**	**-0.8**
ULDT	**Uludag**	**1.62**	**242**	*i* P	**Pn**	**19 05 55.9**	**-1.1**
ULDT				*i* S	**Sn**	**19 06 20.2**	**+2.2**
BGKT	**Bogazkoy**	**1.71**	**280**	*e*PN	**Pn**	**19 05 57.8**	**-0.5**
BALT	**Daday**	**1.90**	**70**	*i* P	**Pn**	**19 06 02.0**	**+1.1**
BALT				*i* S	**Sn**	**19 06 29.2**	**+4.2**
CTKS	**Kestanelik-??a**	**1.92**	**281**	*e*PN	**Pn**	**19 06 00.5**	**-0.6**
ALT	**Altintas**	**1.98**	**201**	*e*PN	**Pn**	**19 06 02.3**	**+0.4**
CTYL	**Yal??k??y-??at**	**2.12**	**286**	*e*PN	**Pn**	**19 06 04.0**	**+0.1**
SLVT	**Silivri**	**2.14**	**279**	*e*PN	**Pn**	**19 06 03.7**	**-0.4**
DST	**Dursunbey**	**2.24**	**235**	*e*PN	**Pn**	**19 06 05.7**	**+0.2**
MRMT	**Marmara Adasi**	**2.61**	**264**	*e*PN	**Pn**	**19 06 10.9**	**+0.3**

NEIC 18 19:18:53.7, 4491S×16726E, h5km, ML3.9(WEL), After WEL., South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSZ	**Milford Sound**	**0.53**	**64**	P	Pg	19 19 04.2	+0.3
MLZ	**Mavora Lakes**	**0.78**	**124**	P	Pg	19 19 08.6	-0.1
MLZ				S	Sg	19 19 18.8	0.0
WHZ	**Wether Hill Ro**	**1.10**	**154**	P	Pg	19 19 13.5	-1.2
WKZ	**Wanaka**	**1.25**	**87**	P	Pg	19 19 17.4	-0.3
EAZ	**Earnscleugh**	**1.49**	**103**	P	Pn	19 19 21.0	-0.1
TUZ	**Tuapeka**	**1.97**	**123**	P	Pn	19 19 27.5	-0.2
LBZ	**Lake Benmore**	**2.15**	**77**	P	Pn	19 19 31.6	+1.4
FOZ	**Fox Glacier**	**2.20**	**53**	P	Pn	19 19 30.7	-0.2
ODZ	**Otahua Downs**	**2.41**	**94**	P	Pn	19 19 34.2	+0.5
RPZ	**Rata Peaks**	**2.97**	**68**	P	Pn	19 19 41.8	+0.3
WVZ	**Waitaha Valley**	**3.11**	**55**	P	Pn	19 19 42.2	-1.1
MQZ	**McQueen's Vall**	**4.05**	**75**	P	Pn	19 19 56.4	+0.1
DSZ	**Denniston Nort**	**4.58**	**48**	P	Pn	19 20 01.9	-1.7
THZ	**Tophouse**	**5.18**	**55**	P	Pn	19 20 12.0	+0.2
QRZ	**Quartz Range**	**5.62**	**45**	P	Pn	19 20 16.1	-1.8
TCW	**Tory Channel**	**6.33**	**57**	P	Pn	19 20 28.5	+0.9

IDC 18 19:34:59.6±2.1, 1837S×17586E, h0km, mb3.7/4, mb1 4.0/4, mb1mx3.8/15, mbtmp3.7/4, MS3.5/7, Ms1 3.4/7, ms1mx3.1/29, Error ellipse: s-maj=128.7km s-min=31.1km az=159.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**17.81**	**298**	LR	LR	19 45 11.7	
	comp=Z,34nm,18.6s,baz=189,slow=34						
CTA	**Charters Tower**	**28.00**	**262**	LR	LR	19 50 16.7	
	comp=Z,93nm,21.4s,baz=53,slow=33						
PPT	**Papeete**	**32.86**	**94**	LR	LR	19 50 45.0	
	comp=Z,142nm,21.5s,baz=267,slow=29						
STKA	**Stephens Creek**	**33.66**	**240**	LR	LR	19 52 50.6	
	comp=Z,266nm,19.3s,baz=185,slow=32						
WRA	**Warramunga Arr**	**39.19**	**261**	P	P	19 42 29.9	+0.2
	0.7nm,0.9s,baz=95,slow=7.7,SNR=3.8						
ASAR	**Alice Springs**	**39.42**	**255**	P	P	19 42 31.4	-0.1
	0.8nm,0.7s,baz=87,slow=9.4,SNR=11						
GUMO	**Guam**	**44.07**	**314**	LR	LR	19 57 54.3	
	comp=Z,42nm,18.7s,baz=121,slow=31						
BATI	**Baumata**	**51.09**	**272**	LR	LR	20 04 37.6	
	comp=Z,163nm,18.6s,baz=307,slow=35						
KSRS	**Korea Array**	**71.54**	**321**	LR	LR	20 11 53.7	
	comp=Z,14nm,20.9s,baz=15,slow=31						
CMAR	**Chiang Mai Arr**	**83.95**	**292**	P	P	19 47 32.3	+0.1
	1.6nm,1.1s,baz=115,slow=3.6,SNR=7.8						
TXAR	**Lajitas Array**	**90.88**	**59**	P	P	19 48 05.8	+0.2
	0.2nm,0.7s,baz=211,slow=8.2,SNR=2.7						
GERES	**GERESS Array B**	**146.34**	**339**	PKPbc	PKPbc	19 54 41.4	-0.9
	1.4nm,0.9s,baz=46,slow=3.9,SNR=7.7						

IDC 18 19:50:00.5±7.3, 770S×15797E, h0km, mb3.9/3, mb1 4.0/4, mb1mx3.6/16, mbtmp3.9/4, ML4.2/1, MS3.0/1, Ms1 3.0/1, ms1mx2.5/21, Error ellipse: s-maj=141.1km s-min=26.7km az=18.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**2.61**	**131**	Pn	Pn	19 50 43.7	-0.2
	43nm,0.3s,baz=240,slow=4.4,SNR=9.5						
HNR				Sn	Sn	19 51 18.3	+2.0
	46nm,0.3s,baz=110,slow=19,SNR=3.7						
CTA	**Charters Tower**	**16.74**	**221**	LR	LR	19 59 28.4	
	comp=Z,53nm,19.4s,baz=54,slow=34						
WRA	**Warramunga Arr**	**25.92**	**240**	P	P	19 55 36.0	+1.4
	1.3nm,0.7s,baz=66,slow=9.4,SNR=13						
ASAR	**Alice Springs**	**28.00**	**233**	P	P	19 55 52.0	-1.4
	0.6nm,1.0s,baz=61,slow=9.4,SNR=4.2						
STKA	**Stephens Creek**	**28.48**	**210**	P	P	19 55 57.1	-0.3
	2.7nm,0.8s,baz=51,slow=14,SNR=3.9						

IDC ***18*** *19:55:47.7±2.6, 281S×101.17E, h0km, mb4.0/7, mb1 4.1/7, mb1mx3.9/19, mbtmp4.0/7, Error ellipse: s-maj=117.3km s-min=17.2km az=58.0*
ISCJB ***18*** *19:55:52.9±1.2, 24S±03×1018E±03, h33km, mb4.6/12, Error ellipse: s-maj=63.0km s-min=11.2km az=142.2*
NEIC ***18*** *19:55:54.5±1.1, 253S×101 65E, h35km, mb4.9/3, Error ellipse: s-maj=54.5km s-min=10.2km az=54.0*

ISC 18 19:55:55.2±1.2, 25S±03×1018E±03, h35km, n18, σ0°76/17, mb4.6/12, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**20.96**	**352**	P	**P**	**20 00 33.8**	**-1.5**
	0.6nm,0.7s,baz=184,slow=9.9,SNR=5.9						
ODAN	**Odare**	**32.27**	**335**	*e*P	**P**	**20 02 21.1**	**+0.4**
	10nm,0.6s,mb4.9						
TAPN	**Taplejung**	**32.58**	**336**	*e*P	**P**	**20 02 24.2**	**+0.9**
	31nm,1.0s,mb5.2						
RAMN	**Ramite**	**32.69**	**334**	*e*P	**P**	**20 02 24.9**	**+0.6**
	3.7nm,0.5s,mb4.6						
JIRN	**Jiri**	**33.48**	**334**	*e*P	**P**	**20 02 32.1**	**+0.8**
	2.5nm,0.2s,mb4.8						
GUN	**Gumba**	**33.84**	**334**	*e*P	**P**	**20 02 34.4**	**+0.1**
	16nm,0.4s,mb5.3						
KKN	**Kakani**	**34.00**	**333**	*e*P	**P**	**20 02 35.5**	**-0.2**
GKN	**Gorkha**	**34.47**	**333**	*e*P	**P**	**20 02 39.4**	**-0.4**
KOLN	**Koldanda**	**34.76**	**331**	*e*P	**P**	**20 02 41.9**	**-0.5**
DANN	**Dangsing**	**35.17**	**332**	*e*P	**P**	**20 02 45.7**	**-0.2**
	15nm,0.4s,mb5.3						
WRA	**Warramunga Arr**	**36.24**	**121**	P	**P**	**20 02 55.2**	**0.0**
	1.1nm,0.4s,mb4.1,baz=302,slow=8.9,SNR=25						
ASAR	**Alice Springs**	**37.56**	**127**	P	**P**	**20 03 06.5**	**0.0**
	0.4nm,0.4s,mb3.5,baz=300,slow=7.8,SNR=10						
STKA	**Stephens Creek**	**47.54**	**132**	P	**P**	**20 04 27.1**	**-0.2**
	1.6nm,0.7s,mb4.2,baz=293,slow=7.7,SNR=3.6						
STKA	**Stephens Creek**	**47.54**	**132**	*e*P	**P**	**20 04 27.1**	**-0.2**
SONM	**Songino Array**	**50.23**	**4**	P	**P**	**20 04 49.7**	**+2.0**
	1.4nm,0.5s,mb4.3,baz=184,slow=9.6,SNR=21						
MKAR	**Makanchi Array**	**51.95**	**343**	P	**P**	**20 04 59.6**	**-1.0**
	1.9nm,0.6s,mb4.2,baz=160,slow=8.9,SNR=28						
ZALV	**Zalesovo Beam**	**57.95**	**348**	P	**P**	**20 05 43.3**	**-0.5**
	5.6nm,0.7s,mb4.7,baz=168,slow=5.1,SNR=26						
TXAR	**Lajitas Array**	**143.95**	**40**	PKP	PKPdf	20 15 25.7	-2.0
	0.6nm,0.5s,baz=225,slow=0.9,SNR=5.9						

IDC 18 20:03:42.2±7.9, 742S×12899E, h102km±86km, mb3.3/1, mb1 3.2/5, mb1mx3.1/16, mbtmp3.1/5, ML3.2/4, Error ellipse: s-maj=71.4km s-min=26.2km az=26.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	**Baumata**	**5.94**	**242**	P	Pn	20 05 08.9	+1.1
	2.0nm,0.3s,baz=129,slow=8.1,SNR=4.3						
BATI				S	Sn	20 06 14.5	0.0
	3.2nm,0.3s,baz=82,slow=21,SNR=8.7						
FITZ	**Fitzroy Crossi**	**11.11**	**197**	P	Pn	20 06 17.2	-0.7
	0.0nm,0.3s,baz=78,slow=21,SNR=4.8						
FITZ				S	Sn	20 08 13.8	-6.3
	0.1nm,0.3s,baz=93,slow=21,SNR=4.7						
WRA	**Warramunga Arr**	**13.49**	**158**	P	Pn	20 06 48.7	-0.7
	0.2nm,0.3s,baz=342,slow=13,SNR=13						
WRA				S	Sn	20 09 08.4	-9.4
	0.4nm,0.3s,baz=331,slow=23,SNR=8.6						
ASAR	**Alice Springs**	**16.83**	**164**	P	Pn	20 07 33.0	+1.3
	0.1nm,0.3s,baz=336,slow=10,SNR=10.0						
ASAR				S	S	20 10 32.5	-10
	0.1nm,0.3s,baz=352,slow=25,SNR=3.8						
MKAR	**Makanchi Array**	**68.03**	**327**	P	P	20 14 30.7	+0.1
	0.3nm,0.4s,baz=122,slow=5.1,SNR=11						

NEIC ***18*** *20:12:30.9, 1802N×6883W, h146km, MD3.8(RSPR), After RSPR.*

RSPR 18 20:12:30.9, 1802N×6883W, h147km±3km, MD3.8/12, MD3.8/12, 10C-2D, Mona Passage

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IMO	**Isla Mona**	**0.88**	**84**	*e*P	Pn	20 12 53.0	-1.3
IMO				*e*S	Sn	20 13 12.0	-0.2
CRPR	**Cabo Rojo, PR**	**1.64**	**90**	*e*P	Pn	20 13 01.5	-0.2
CRPR				*e*S	Sn	20 13 26.0	+0.7
LSP	**Las Mesas**	**1.67**	**84**	*i* P	Pn	20 13 02.4	+0.4
LSP				*e*S	Sn	20 13 26.2	+0.4
AGPR	**Aguadilla, PR**	**1.69**	**75**	*e*P	Pn	20 13 01.9	-0.4
AGPR				*e*S	Sn	20 13 26.9	+0.6
AOPR	**Arecibo Observ**	**2.00**	**80**	*e*P	Pn	20 13 06.1	+0.3
AOPR				*e*S	Sn	20 13 32.9	+0.2
OBIP	**Obispado Ponce**	**2.12**	**89**	*e*P	Pn	20 13 07.2	0.0
OBIP				*e*S	Sn	20 13 35.6	+0.5
CELP	**Cerrillos**	**2.14**	**88**	*e*P	Pn	20 13 06.9	-0.6
ICM	**Isla Caja Muer**	**2.20**	**93**	*e*P	Pn	20 13 08.2	0.0
ICM				*e*S	Sn	20 13 37.9	+1.1
CPD	**Cerro la Pandu**	**2.77**	**89**	*e*P	Pn	20 13 15.3	0.0
CPD				*e*S	Sn	20 13 49.9	+0.4
CBYP	**Canovanas**	**2.84**	**85**	*e*P	Pn	20 13 14.4	-1.6
CBYP				*e*S	Sn	20 13 50.4	-0.6
HUMP	**Col San Antoni**	**2.84**	**87**	*e*S	Sn	20 13 52.0	+1.1
HUMP	**Col San Antoni**	**2.84**	**87**	*e*P	Pn	20 13 16.5	+0.4
MTP	**Monte Pirata**	**3.12**	**88**	*e*P	Pn	20 13 17.7	-2.0
MTP				*e*S	Sn	20 13 57.3	0.0

CSEM ***18*** *20:18:57.5±0.1, 3745N×2701E, h20km, MD3.0, Error ellipse: s-maj=2.2km s-min=1.4km az=69.0*
ATH ***18*** *20:18:57.2, 3738N×2690E, h8km±4km, MD3.0/3*
NEIC ***18*** *20:18:57.2, 3738N×2690E, h8km, MD3.0(ATH), After ATH.*
DDA ***18*** *20:18:57.7, 3740N×2688E, h7km±8km, Md2.5*
ISK ***18*** *20:18:57.1, 3738N×2689E, h26km, MD3.0*
ISCJB ***18*** *20:18:58.2±0.5, 3742N±003×2689E±004, h25km±6km, Error ellipse: s-maj=5.9km s-min=4.7km az=149.5*

ISC 18 20:18:58.2±0.5, 3742N±003×2689E±004, h23km±6km, n19, σ0°97/32, 2C, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMG	**Samos**	**0.29**	**351**	*i* Pb	**Pb**	**20 19 04.1**	**-0.8**
SMG				*e*Sb	**Sb**	**20 19 08.2**	**-1.3**
SMG	**Samos**	**0.29**	**351**	*i* PB	**Pb**	**20 19 04.1**	**-0.8**
SMG				*e*SB	**Sb**	**20 19 08.2**	**-1.3**
BODT	**Bodrum**	**0.49**	**137**	*e*PG	**Pb**	**20 19 07.6**	**-0.5**
BODT				*e*SG	**Sb**	**20 19 14.6**	**-0.3**
BDRM	**Kayabasi**	**0.57**	**129**	*i* P	**Pb**	**20 19 08.9**	**-0.5**
BDRM				*i* S	**Sb**	**20 19 17.9**	**+0.8**
BDRM	**Kayabasi**	**0.57**	**129**	*i* P	**Pb**	**20 19 08.9**	**-0.6**
BDRM				*i* S	**Sb**	**20 19 17.9**	**+0.8**
MLSB	**Milas**	**0.72**	**100**	*e*PG	**Pb**	**20 19 11.5**	**-0.5**
MLSB				*e*SG	**Sb**	**20 19 22.8**	**+1.4**
AYDN	**Tasoluk**	**0.82**	**73**	*i* P	**Pb**	**20 19 13.5**	**-0.3**
AYDN				*i* S	**Sb**	**20 19 25.5**	**+1.1**
BLCB	**Balcova**	**0.97**	**7**	*e*PG	**Pn**	**20 19 16.5**	**+0.1**
BLCB				*e*SG	**Sb**	**20 19 29.8**	**+1.1**
IZM	**Izmir**	**1.02**	**17**	*e*PG	**Pn**	**20 19 16.7**	**-0.4**
IZM				*e*SG	**Sb**	**20 19 30.5**	**+0.4**
KDAG	**Bornova**	**1.02**	**17**	*i* P	**Pn**	**20 19 17.4**	**+0.2**
KDAG				*i* S	**Sb**	**20 19 34.2**	**+3.9**
APE	**Apeiranthos**	**1.14**	**252**	*e*Pb	**Pb**	**20 19 19.1**	**-0.2**
APE				*e*Sb	**Sb**	**20 19 34.5**	**+0.8**
APE	**Apeiranthos**	**1.14**	**252**	*e*PB	**Pb**	**20 19 19.1**	**-0.2**
APE				*e*SB	**Sb**	**20 19 34.5**	**+0.8**
YER	**Yerkesik**	**1.15**	**104**	*e*PN	**Pn**	**20 19 17.8**	**-1.0**
TURN	**Turunc**	**1.47**	**111**	*i* P	**Pn**	**20 19 22.2**	**-1.2**
TURN				*i* S	**Sn**	**20 19 37.9**	**-4.0**
KULA	**Kula-Manisa**	**1.77**	**51**	*e*PN	**Pn**	**20 19 26.4**	**-1.0**
KARP	**Karpathos**	**1.88**	**173**	*e*Pn	**Pn**	**20 19 31.0**	**+2.0**
KARP	**Karpathos**	**1.88**	**173**	*e*PN	**Pn**	**20 19 31.0**	**+2.0**
PRK	**Paraskevi**	**1.89**	**345**	*e*Pn	**Pn**	**20 19 32.6**	**+3.6**
PRK	**Paraskevi**	**1.89**	**345**	*e*PN	**Pn**	**20 19 32.6**	**+3.6**

MAN 18 20:29:13, 1311N×12244E, h5km, mb4.2, ML3.0, MS2.8, 1C, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AUQP	**San Andres**	**0.31**	**47**	*e*P	Pg	20 29 19.7	+0.6
AUQP				*e*S	Sg	20 29 26.7	+3.6
GQP	**Guinayangan**	**0.79**	**0**	*e*P	Pg	20 29 27.4	-0.8
GQP				*e*S	Sg	20 29 38.4	-0.1
OTRP	**Odiongan**	**0.85**	**209**	*e*P	Pg	20 29 31.2	+1.9
OTRP				*e*S	Sg	20 29 44.5	+4.2
POLP	**Polilio Island**	**1.68**	**343**	*e*P	Pn	20 29 42.6	-0.4
POLP				*e*S	Sn	20 30 06.4	+1.3
PVCP	**Virac**	**1.73**	**74**	*e*P	Pn	20 29 44.0	+0.2
LUBP	**Lubang**	**2.23**	**286**	*e*P	Pn	20 29 50.9	+0.3
BALP	**Baler**	**2.75**	**342**	*e*P	Pn	20 29 58.2	+0.5

MAN 18 20:36:45, 1313N×12250E, h6km, mb4.0, ML2.7, MS2.4, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AUQP	**San Andres**	**0.26**	**41**	*e*P	Pg	20 36 50.6	+0.6
AUQP				*e*S	Sg	20 36 57.4	+4.0
OTRP	**Odiongan**	**0.90**	**212**	*e*P	Pg	20 37 02.3	0.0
OTRP				*e*S	Sg	20 37 15.1	+1.2
SJMP	**San Jose**	**1.50**	**244**	*e*P	Pn	20 37 12.1	-0.4
SJMP				*e*S	Sn	20 37 33.3	+0.8
PVCP	**Virac**	**1.67**	**74**	*e*P	Pn	20 37 14.9	0.0
POLP	**Polilio Island**	**1.68**	**341**	*e*P	Pn	20 37 15.5	+0.6
LUBP	**Lubang**	**2.28**	**286**	*e*P	Pn	20 37 23.0	-0.1

IDC ***18*** *20:44:17.7±1.1, 2818N×5663E, h0km, mb3.7/11, mb1 3.8/12, mb1mx3.7/26, mbtmp3.7/12, ML3.7/1, MS3.0/2, Ms1 3.1/2, ms1mx2.6/36, Error ellipse: s-maj=25.8km s-min=20.3km az=168.0*
CSEM ***18*** *20:44:21.2±0.2, 2833N×5657E, h0km±1km, ML3.7, Error ellipse: s-maj=3.0km s-min=2.6km az=54.0*
NEIC ***18*** *20:44:21.8, 2833N×5653E, h14km, ML3.7(THR), After THR.*
ISCJB ***18*** *20:44:23.7±0.4, 2823N±003×5656E±005, h59km±6km, mb3.6/11, MS3.0/2, Error ellipse: s-maj=7.1km s-min=5.2km az=179.0*
THR ***18*** *20:44:23.0±0.3, 2822N×5653E, h27km±9km, ML3.7*

ISC 18 20:44:25.1±0.4, 2819N±003×5657E±005, h56km±6km, n60, σ0°96/60, mb3.6/11, MS3.0/2, 1D, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IBND	**Bandar-abas**	**0.74**	**182**	*e*Pg	**Pn**	**20 44 38.6**	**-1.0**
BNDS	**Bandar-Abbas**	**0.86**	**204**	*e*Pg	**Pn**	**20 44 39.6**	**-1.6**
BNDS				AML	AML	20 44 59.9	
	comp=E,3μm,0.5s						
BNDS				AML	AML	20 45 01.0	
	comp=N,2μm,0.6s						
BNDS	**Bandar-Abbas**	**0.86**	**204**	*e*Pg	**Pn**	**20 44 40.0**	**-1.2**
BNDS				*e*Sg	**Sn**	**20 44 53.0**	**0.0**
BANOM	**Banah**	**2.27**	**186**	↓P	**Pn**	**20 44 59.5**	**-0.7**
	SNR=35						
BANOM	**Banah**	**2.27**	**186**	Pn	**Pn**	**20 44 59.6**	**-0.6**
	SNR=20						
BANOM				Sn	**Sn**	**20 45 29.5**	**+2.5**
GHIR	**Ghir-Karzin**	**3.17**	**273**	*e*Pn	**Pn**	**20 45 12.8**	**+0.4**
GHIR				AML	AML	20 46 28.7	
	comp=N,155nm,0.6s						
GHIR	**Ghir-Karzin**	**3.17**	**273**	*e*P	**Pn**	**20 45 12.0**	**-0.4**
ISRV	**Sarvestan**	**3.26**	**292**	*e*Pn	**Pn**	**20 45 14.8**	**+1.1**
NAZ	**Nazwa, Dubai**	**3.29**	**195**	Pn	**Pn**	**20 45 14.8**	**+0.7**
HATD	**Hatta, Dubai**	**3.37**	**187**	Pn	**Pn**	**20 45 15.7**	**+0.4**
IMOK	**Mouk**	**3.50**	**285**	*e*Pn	**Pn**	**20 45 17.7**	**+0.8**
IPAR	**Pars**	**3.50**	**299**	*e*Pn	**Pn**	**20 45 18.6**	**+1.6**
FAQ	**Al Faqa, Dubai**	**3.54**	**195**	Pn	**Pn**	**20 45 17.9**	**+0.3**
	SNR=23						
IMEH	**Mehriz**	**3.62**	**332**	*e*Pn	**Pn**	**20 45 18.7**	**+0.1**
ASUD	**Al Ashush, Dub**	**3.72**	**198**	Pn	**Pn**	**20 45 20.7**	**+0.7**
	SNR=68						
ZHSF	**Zahedan**	**3.95**	**68**	*e*Pn	**Pn**	**20 45 24.6**	**+1.5**
ZHSF	**Zahedan**	**3.95**	**68**	*e*P	**Pn**	**20 45 24.0**	**+0.9**
ZHSF	**Zahedan**	**3.95**	**68**	*e*Pn	**Pn**	**20 45 24.6**	**+1.5**
	SNR=54						
ICHK	**Chekchek**	**4.46**	**336**	*e*Pn	**Pn**	**20 45 30.4**	**+0.3**
ISAD	**Sadrabad**	**4.48**	**327**	*e*Pn	**Pn**	**20 45 31.1**	**+0.7**
IKOO	**Kooshah**	**4.71**	**26**	*e*Pn	**Pn**	**20 45 32.8**	**-0.8**
ITEG	**Tejag**	**5.05**	**21**	*e*Pn	**Pn**	**20 45 37.9**	**-0.4**
IDAH	**Dahanechah**	**5.35**	**31**	*e*Pn	**Pn**	**20 45 42.3**	**-0.1**
NASN	**Na'in**	**5.63**	**326**	*e*Pn	**Pn**	**20 45 46.9**	**+0.8**
NASN	**Na'in**	**5.63**	**326**	*e*P	**Pn**	**20 45 45.0**	**-1.1**
IMON	**Monand**	**5.65**	**27**	*e*Pn	**Pn**	**20 45 46.3**	**-0.2**
IZEF	**Zefreh**	**5.95**	**323**	*e*Pn	**Pn**	**20 45 50.1**	**-0.4**
SLWS		**6.29**	**239**	P	**Pn**	**20 45 55.6**	**+0.3**
BTHS		**6.60**	**233**	S	**Sn**	**20 47 11.2**	**+2.1**
BTHS		**6.60**	**233**	P	**Pn**	**20 45 57.8**	**-1.6**
IPIR	**Pirpir**	**6.64**	**314**	*e*Pn	**Pn**	**20 46 00.7**	**+0.7**
IKLH	**Kolahrood**	**6.68**	**321**	*e*Pn	**Pn**	**20 46 01.1**	**+0.6**
UMR	**Umm Al-Rimmam**	**7.88**	**282**	*e*P	**Pn**	**20 46 15.9**	**-1.2**
	baz=282						
UMR				AML	AML	20 47 46.2	
	comp=Z,15nm,0.5s,baz=282						
MIB	**Mutribah**	**8.24**	**283**	*e*P	**Pn**	**20 46 20.6**	**-1.4**
	baz=283						
MIB				AML	AML	20 47 57.0	
	comp=Z,16nm,0.5s,baz=283						
NAY	**Al-Naaiem**	**8.26**	**280**	*e*P	**Pn**	**20 46 21.0**	**-1.2**
	baz=279						
NAY				AML	AML	20 47 59.3	
	comp=Z,10.0nm,0.5s,baz=279						
ASAO	**Ashtian**	**8.45**	**320**	*e*Pn	**Pn**	**20 46 25.9**	**+1.0**
ASAO	**Ashtian**	**8.45**	**320**	*e*P	**Pn**	**20 46 24.0**	**-0.8**
IKOM	**Komasi**	**9.79**	**310**	*e*Pn	**Pn**	**20 46 43.5**	**+0.4**
ASF	**Jabal al Asfar**	**17.47**

IDC 18 21:23:54.2±8.0, 2204N×14269E, h0km, mb3.4/5, mb1 3.5/5, mb1mx3.4/20, mbtmp3.4/5, Error ellipse: s-maj=320.1km s-min=23.2km az=75.0, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SONM	**Songino Array**	**38.78**	**320**	P	P	21 31 21.3	+0.9
	0.2nm,0.6s,baz=111,slow=6.5,SNR=3.1						
WRA	**Warramunga Arr**	**42.51**	**192**	P	P	21 31 52.0	+0.5
	0.2nm,0.3s,baz=12,slow=8.6,SNR=17						
ASAR	**Alice Springs**	**46.23**	**191**	P	P	21 32 20.3	-0.9
	0.1nm,0.4s,baz=19,slow=12,SNR=3.5						
MKAR	**Makanchi Array**	**54.13**	**313**	P	P	21 33 21.3	+0.3
	0.2nm,0.5s,baz=87,slow=9.9,SNR=4.0						
KURK	**Kurchatov**	**56.91**	**317**	P	P	21 33 40.5	-0.5
	0.7nm,0.5s,baz=92,slow=7.9,SNR=6.0						

*ISCJB **18** 21:24:18.6±0.5, 5982N×153.1W±0.1, h128km±6km, mb3.8/2, Error ellipse: s-maj=10.4km s-min=6.2km az=23.5*
*NEIC **18** 21:24:21.3, 5985N×153.18W, h116km, MG3.0(AEIC), After AEIC.*
*IDC **18** 21:24:22.1±4.3, 5945N×15298W, h157km±87km, mb3.3/2, mb1 3.5/3, mb1mx3.0/21, mbtmp3.3/3, Error ellipse: s-maj=113.5km s-min=30.7km az=166.0*

ISC 18 21:24:19.9±0.5, 5982N±004×1531W±01, h119km±6km, n31, σ0§68/34, mb3.8/2, Southern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AUL	**Augustine Lava**	**0.47**	**201**	P	**Pn**	**21 24 38.3**	**+0.8**
AUL				S	**Sn**	**21 24 51.5**	**+0.7**
SLKM	**Skilak Lake**	**1.60**	**63**	P	**Pn**	**21 24 49.1**	**+0.8**
SVW2	**Sparrevohn**	**1.78**	**317**	P	**Pn**	**21 24 49.7**	**-0.8**
SEW	**Seward**	**1.86**	**80**	P	**Pn**	**21 24 52.3**	**+0.8**
FIB	**Fire Island**	**1.98**	**46**	P	**Pn**	**21 24 54.6**	**+1.6**
KDAK	**Kodiak Island**	**2.06**	**172**	P	**Pn**	**21 24 53.9**	**-0.1**
	10nm,0.3s,baz=16,slow=9.9,SNR=57						
KDAK				S	**Sn**	**21 25 18.9**	**-1.2**
	23nm,0.3s,baz=125,slow=23,SNR=30						
KDAK	**Kodiak Island**	**2.06**	**172**	P	**Pn**	**21 24 54.0**	**-0.1**
RC01	**Rabbit Creek A**	**2.10**	**51**	P	**Pn**	**21 24 54.7**	**+0.3**
RC01				S	**Sn**	**21 25 20.4**	**-0.5**
SKT	**Skwentna**	**2.30**	**19**	P	**Pn**	**21 24 57.3**	**+0.3**
OHAK	**Old Harbor**	**2.61**	**182**	P	**Pn**	**21 25 00.5**	**-0.4**
PMR	**Palmer**	**2.64**	**46**	*eP*	**Pn**	**21 25 01.2**	**-0.2**
GHO	**Glory Hole Cre**	**2.83**	**44**	P	**Pn**	**21 25 03.6**	**-0.2**
SML	**Sawmill**	**3.07**	**47**	P	**Pn**	**21 25 06.6**	**-0.4**
PPLA	**Purkeypile**	**3.12**	**8**	P	**Pn**	**21 25 08.5**	**+0.9**
TTO1	**Tatalina**	**3.40**	**337**	P	**Pn**	**21 25 10.7**	**-0.7**
TRF	**Thorofare Moun**	**3.88**	**19**	P	**Pn**	**21 25 17.8**	**0.0**
KTH	**Kantishna Hill**	**3.89**	**15**	P	**Pn**	**21 25 17.6**	**-0.2**
CHUM	**Lake Minchumin**	**4.10**	**5**	P	**Pn**	**21 25 20.7**	**+0.2**
MCK	**McKinley**	**4.40**	**25**	P	**Pn**	**21 25 24.9**	**+0.3**
BPAW	**Bear Paw Mtn.**	**4.41**	**12**	P	**Pn**	**21 25 24.3**	**-0.5**
CHGN	**Chignik**	**4.52**	**221**	*eP*	**Pn**	**21 25 26.2**	**0.0**
PAX	**Paxson**	**4.84**	**46**	P	**Pn**	**21 25 30.6**	**+0.1**
COLA	**College**	**5.63**	**23**	*eP*	**Pn**	**21 25 39.7**	**-1.4**
	6.9nm,0.4s						
IL1	**Eielson Array**	**5.75**	**28**	P	**Pn**	**21 25 41.9**	**-0.9**
ILB	**Eielson Array**	**5.75**	**28**	P	**Pn**	**21 25 42.1**	**-0.6**
IM3	**Indian Mountai**	**6.20**	**358**	P	**Pn**	**21 25 49.0**	**+0.3**
IMA2	**Indian Mountai**	**6.28**	**358**	*eP*	**Pn**	**21 25 50.3**	**+0.4**
EGAK	**Eagle**	**7.46**	**43**	*eP*	**Pn**	**21 26 04.7**	**-1.1**
	2.9nm,0.6s						
YKA	**Yellowknife Ar**	**18.57**	**65**	P	**P**	**21 28 28.0**	**+0.8**
	0.4nm,0.3s,baz=277,slow=10.0,SNR=9.9						
SONM	**Songino Array**	**54.86**	**306**	P	**P**	**21 33 38.2**	**+0.9**
	0.5nm,0.8s,mb3.6,baz=34,slow=5.9,SNR=4.6						
ZALV	**Zalesovo Beam**	**57.49**	**324**	P	**P**	**21 33 56.0**	**+0.1**
	1.0nm,0.5s,mb4.1,baz=19,slow=8.2,SNR=4.6						

IDC 18 21:28:21.8±1.3, 192N×12741E, h0km, mb3.7/6, mb1 3.9/7, mb1mx3.7/16, mbtmp3.7/7, Error ellipse: s-maj=74.1km s-min=16.6km az=67.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**19.97**	**185**	P	Pn	21 32 56.3	-1.1
	0.2nm,0.3s,baz=13,slow=14,SNR=4.4						
WRA	**Warramunga Arr**	**22.77**	**163**	P	P	21 33 26.3	+0.4
	2.8nm,0.4s,baz=341,slow=10,SNR=46						
ASAR	**Alice Springs**	**26.21**	**166**	P	P	21 33 57.9	-0.5
	0.6nm,0.6s,baz=352,slow=7.2,SNR=11						
CMAR	**Chiang Mai Arr**	**32.38**	**302**	P	P	21 34 53.3	-0.1
	0.2nm,0.3s,baz=101,slow=8.4,SNR=5.5						
STKA	**Stephens Creek**	**36.21**	**159**	P	P	21 35 26.4	0.0
	1.8nm,0.5s,baz=333,slow=10.0,SNR=7.0						
SONM	**Songino Array**	**49.22**	**341**	P	P	21 37 12.1	+0.3
	0.4nm,0.8s,baz=134,slow=4.2,SNR=3.2						
MKAR	**Makanchi Array**	**59.42**	**326**	P	P	21 38 26.2	0.0
	0.2nm,0.3s,baz=114,slow=7.9,SNR=7.9						

*NIED **18** 21:42:00, 3560N×13880E, h155km, Mw3.7 Best double couple: M₀4.69000×10¹⁴ NP1:φ266.00000°, δ49.00000°, λ84.00000°. NP2:φ96.00000°, δ41.00000°, λ97.00000°.*
*ISCJB **18** 21:42:27.7±0.5, 3570N±006×13875E±008, h170km±3km, mb3.4/7, Error ellipse: s-maj=11.9km s-min=8.6km az=31.7*
*IDC **18** 21:42:27.9±0.9, 3548N×13864E, h155km±7km, mb3.2/7, mb1 3.5/7, mb1mx3.3/21, mbtmp3.2/7, Error ellipse: s-maj=30.7km s-min=18.1km az=69.0*
*JMA **18** 21:42:28.6±0.1, 3562N×13875E, h167km±2km, M3.5*
*NEIC **18** 21:42:28.6, 3562N×13875E, h167km, MG3.5(JMA), After JMA.*

ISC 18 21:42:28.7±0.5, 3572N±005×13874E±008, h167km±3km, n19, σ0§94/29, mb3.4/7, Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYN	**Shimob**	**0.27**	**216**	P	**Pn**	**21 42 51.0**	**-0.1**
JRY	**Ryogami san**	**0.33**	**24**	P	**Pn**	**21 42 52.0**	**+0.7**
JRY				S	**Sn**	**21 43 09.4**	**+0.7**
JOD2	**Odawara 2**	**0.54**	**148**	P	**Pn**	**21 42 51.7**	**-0.4**
JOD2				S	**Sn**	**21 43 10.9**	**+0.9**
SHZ3	**Shizuoka 3**	**0.78**	**214**	P	**Pn**	**21 42 52.2**	**-1.3**
SHZ3				S	**Sn**	**21 43 12.4**	**0.0**
JAG	**Ashikaga**	**0.91**	**39**	P	**Pn**	**21 42 54.7**	**+0.3**
JAG				S	**Sn**	**21 43 14.2**	**+0.1**
MJAR	**Matsushiro Arr**	**0.93**	**333**	P	**Pn**	**21 42 54.8**	**+0.3**
	8.3nm,0.3s,baz=168,slow=9.1,SNR=91						
MJAR				S	**Sn**	**21 43 14.1**	**-0.2**
	8.1nm,0.3s,baz=175,slow=15,SNR=19						
MAJO	**Matsushiro**	**0.93**	**333**	*e*Pn	**Pn**	**21 42 55.0**	**+0.5**
MAJO					**Sn**	**21 43 14.4**	**+0.1**
MAT	**Matsushiro**	**0.93**	**333**	P	**Pn**	**21 42 55.0**	**+0.5**
MAT				S	**Sn**	**21 43 14.5**	**+0.1**
MAT	**Matsushiro**	**0.93**	**333**	P	**Pn**	**21 42 54.9**	**+0.4**
MAT				S	**Sn**	**21 43 14.5**	**+0.1**
JGM	**Miyama**	**1.65**	**270**	P	**Pn**	**21 43 01.0**	**0.0**
JGM				S	**Sn**	**21 43 24.9**	**-0.9**
ERM	**Erimo**	**7.17**	**27**	*e*Pn	**Pn**	**21 44 09.9**	**-1.0**
ERM					**Sn**	**21 45 30.2**	**-1.2**
ASAJ	**Asahikawa**	**8.89**	**18**	P	**Pn**	**21 44 32.0**	**-1.7**
	2.0nm,0.3s,baz=238,slow=12,SNR=12						
SONM	**Songino Array**	**26.79**	**307**	P	**P**	**21 47 56.2**	**+3.2**
	0.2nm,0.4s,mb3.1,baz=100,slow=8.1,SNR=2.9						
ZALV	**Zalesovo Beam**	**41.23**	**314**	P	**P**	**21 49 57.3**	**+0.4**
	0.4nm,0.3s,mb3.5,baz=94,slow=5.8,SNR=3.2						
ZALV				PcP	PcP	21 51 52.4	-0.1
	0.2nm,0.3s,baz=81,slow=2.0,SNR=4.5						
MKAR	**Makanchi Array**	**43.00**	**303**	P	**P**	**21 50 12.0**	**+0.6**
	0.3nm,0.5s,mb3.2,baz=86,slow=8.7,SNR=7.0						
WRA	**Warramunga Arr**	**55.51**	**185**	P	**P**	**21 51 44.9**	**-1.5**
	1.4nm,0.4s,mb4.1,baz=0.5,slow=7.6,SNR=41						
ASAR	**Alice Springs**	**59.24**	**185**	P	**P**	**21 52 11.4**	**-1.1**
	0.2nm,0.5s,mb3.2,baz=16,slow=12,SNR=6.0						
NVAR	**Mina Array Bea**	**77.50**	**52**	P	**P**	**21 54 08.6**	**+2.7**
	0.2nm,0.3s,mb3.2,baz=305,slow=5.4,SNR=2.3						
TXAR	**Lajitas Array**	**92.63**	**51**	P	**P**	**21 55 22.9**	**+1.2**
	0.2nm,0.6s,mb3.4,baz=298,slow=3.8,SNR=3.1						

*IDC **18** 22:09:16.9±2.0, 2358N×92.43E, h0km, mb3.6/4, mb1 3.9/5, mb1mx3.6/22, mbtmp3.7/5, ML3.9/1, Error ellipse: s-maj=76.0km s-min=23.1km az=67.0*
*ISCJB **18** 22:09:18.5±0.9, 2347N±006×9204E±004, h39km±14km, mb3.5/5, Error ellipse: s-maj=10.0km s-min=5.9km az=14.0.*
*NEIC **18** 22:09:21.0±0.5, 2350N×92.16E, h35km, mb3.5/1, Error ellipse: s-maj=18.1km s-min=5.8km az=217.0*

ISC 18 22:09:21.1±0.7, 2354N±005×9210E±004, h35km±12km, n22, σ1§22/31, mb3.5/5, India-Bangladesh border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHL	**Shillong**	**2.02**	**354**	*e*P	**Pn**	**22 09 52.0**	**-0.7**
SHL				*i* S	**Sn**	**22 10 17.0**	**+0.3**
IMP	**Imphal**	**2.08**	**53**	*e*P	**Pn**	**22 09 52.0**	**-1.5**
IMP				*e*S	**Sn**	**22 10 19.0**	**+0.9**
ODAN	**Odare**	**5.39**	**309**	*e*Pn	**Pn**	**22 10 40.2**	**+1.2**
ODAN				*e*Sn	**Sn**	**22 11 40.1**	**+0.2**
	126nm,0.4s						
TAPN	**Taplejung**	**5.49**	**315**	*e*Pn	**Pn**	**22 10 41.4**	**+1.1**
BOK	**Bokaro**	**5.70**	**274**	*e*P	**Pn**	**22 10 45.3**	**+2.0**
BOK				*e*S	**Sn**	**22 11 45.9**	**-1.6**
BOK				AML	AML	22 11 50.9	
	comp=N,86nm,0.3s						
BOK				AML	AML	22 11 51.3	
	comp=E,43nm,0.4s						
RAMN	**Ramite**	**6.02**	**305**	*e*Pn	**Pn**	**22 10 48.7**	**+1.0**
LSA	**Lhasa**	**6.19**	**352**	*e*Pn	**Pn**	**22 10 51.0**	**+1.1**
	comp=E,9.7nm,0.6s						
LSA				Sn	**Sn**	**22 11 57.9**	**-1.6**
JIRN	**Jiri**	**6.73**	**309**	*e*Pn	**Pn**	**22 10 58.6**	**+1.3**
JIRN				*e*Sn	**Sn**	**22 12 10.9**	**-1.8**
GUN	**Gumba**	**7.10**	**309**	*e*Pn	**Pn**	**22 11 03.3**	**+0.9**
GUN				*e*Sn	**Sn**	**22 12 20.8**	**-1.0**
	comp=E,99nm,0.5s						
PKI	**Pulchoki**	**7.25**	**305**	*e*Pn	**Pn**	**22 11 05.7**	**+1.2**
KKN	**Kakani**	**7.46**	**306**	*e*Pn	**Pn**	**22 11 08.1**	**+0.6**
DMN	**Daman**	**7.50**	**304**	*e*Pn	**Pn**	**22 11 08.8**	**+0.9**
DMN				*e*Sn	**Sn**	**22 12 29.7**	**-2.0**
	comp=E,38nm,0.4s						
CHTO	**Chiang Mai**	**7.93**	**125**	Pn	**Pn**	**22 11 12.7**	**-1.2**
GKN	**Gorkha**	**8.06**	**305**	*e*Pn	**Pn**	**22 11 16.2**	**+0.6**
GKN				*e*Sn	**Sn**	**22 12 42.6**	**-2.9**
	comp=E,87nm,0.4s						
CMAR	**Chiang Mai Arr**	**8.15**	**127**	Pn	**Pn**	**22 11 15.5**	**-1.4**
	comp=E,0.4nm,0.3s,baz=307,slow=13,SNR=13						
DANN	**Dangsing**	**8.90**	**304**	*e*Pn	**Pn**	**22 11 26.8**	**-0.4**
AKL	**Akola**	**14.26**	**261**	*e*S	**Sn**	**22 15 04.8**	**-13**
KBL	**Kabul**	**22.89**	**304**	P	**P**	**22 14 25.4**	**+3.7**
	comp=E,1.7nm,1.0s,mb3.4						
MKAR	**Makanchi Array**	**24.50**	**344**	P	**P**	**22 14 38.8**	**+1.9**
	comp=E,0.3nm,0.5s,mb3.1,baz=165,slow=10.0,SNR=4.4						
SONM	**Songino Array**	**26.79**	**22**	P	**P**	**22 14 57.2**	**-0.3**
	comp=E,0.3nm,0.5s,mb3.0,baz=202,slow=6.2,SNR=3.7						
WRA	**Warramunga Arr**	**59.70**	**133**	P	**P**	**22 19 21.9**	**-0.4**
	comp=E,1.0nm,0.6s,mb4.0,baz=322,slow=7.3,SNR=18						
ASAR	**Alice Springs**	**62.05**	**136**	P	**P**	**22 19 38.0**	**-0.2**
	comp=E,0.6nm,0.4s,mb4.1,baz=318,slow=6.9,SNR=6.9						

IDC 18 22:11:30.9±1.5, 538N×9419E, h0km, mb3.8/8, mb1 4.0/9, mb1mx3.8/22, mbtmp3.8/9, ML4.5/1, Error ellipse: s-maj=60.8km s-min=19.8km az=58.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**13.80**	**19**	Pn	Pn	22 14 50.0	+1.9
	0.7nm,0.3s,baz=209,slow=15,SNR=4.1						
MKAR	**Makanchi Array**	**42.52**	**348**	P	P	22 19 27.9	-0.2
	1.6nm,0.6s,baz=172,slow=7.8,SNR=20						
SONM	**Songino Array**	**43.58**	**12**	P	P	22 19 35.4	-1.2
	0.3nm,0.5s,baz=189,slow=11,SNR=3.9						
WRA	**Warramunga Arr**	**46.81**	**124**	P	P	22 20 02.2	-0.6
	0.4nm,0.4s,baz=303,slow=9.3,SNR=5.3						
KURK	**Kurchatov**	**47.03**	**347**	P	P	22 20 04.0	0.0
	2.6nm,0.7s,baz=171,slow=6.9,SNR=16						
ASAR	**Alice Springs**	**48.31**	**128**	P	P	22 20 15.1	+0.6
	0.4nm,0.5s,baz=310,slow=7.2,SNR=2.9						
ZALV	**Zalesovo Beam**	**49.02**	**353**	P	P	22 20 19.5	+0.1
	1.1nm,0.5s,baz=195,slow=5.9,SNR=7.3						
BVAR	**Borovoye Array**	**51.36**	**342**	P	P	22 20 37.2	+0.1
	0.7nm,0.5s,baz=137,slow=10,SNR=5.8						
GERES	**GERESS Array B**	**79.71**	**319**	P	P	22 23 40.7	0.0
	0.2nm,0.4s,baz=98,slow=3.0,SNR=3.6						

*CSEM **18** 22:18:05.9±0.1, 4056N×2353E, h2km, ML2.5/4, Error ellipse: s-maj=4.1km s-min=2.9km az=93.0*
*ISCJB **18** 22:18:06.1±0.6, 4061N±003×2357E±004, h14km±4km, Error ellipse: s-maj=5.7km s-min=4.6km az=167.3*
*ATH **18** 22:18:06.1, 4059N×2360E, h16km±1km, MD3.0/4*
*NEIC **18** 22:18:06.1, 4059N×2360E, h16km, MD3.0(ATH), After ATH.*
*THE **18** 22:18:06.5, 4058N×2354E, h12km±1km, ML2.5/4, Error ellipse: s-maj=1.5km s-min=0.5km az=55.0*

ISC 18 22:18:06.3±0.5, 4061N±003×2357E±005, h14km±4km, n19, σ0§88/29, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLG	**Polygyros**	**0.26**	**201**	P	**Pg**	**22 18 11.5**	**-0.2**
PLG				S	**Sg**	**22 18 14.8**	**-0.6**
PLG	**Polygyros**	**0.26**	**201**	*e*Pb	**Pg**	**22 18 11.4**	**-0.3**
PLG				*e*Sb	**Sg**	**22 18 14.7**	**-0.7**
PLG	**Polygyros**	**0.26**	**201**	*e*PB	**Pg**	**22 18 11.4**	**-0.3**
PLG				*e*SB	**Sg**	**22 18 14.7**	**-0.7**
SOH	**Sokhos**	**0.26**	**322**	P	**Pg**	**22 18 12.2**	**+0.4**
SOH				S	**Sg**	**22 18 16.5**	**+0.9**
HORT	**Hortiatis**	**0.36**	**268**	P	**Pg**	**22 18 13.4**	**-0.1**
HORT				S	**Sg**	**22 18 18.1**	**-0.2**
OUR	**Ouranopolis**	**0.42**	**131**	P	**Pg**	**22 18 14.6**	**-0.1**
OUR				S	**Sg**	**22 18 21.1**	**+0.8**
PAIG	**Paliouri**	**0.69**	**173**	P	**Pg**	**22 18 19.0**	**-0.7**
PAIG				S	**Sg**	**22 18 28.0**	**-0.8**
KNT	**Kendrikon**	**0.75**	**317**	P	**Pg**	**22 18 20.7**	**-0.1**
NVR	**Nevrokopi**	**0.77**	**17**	*e*Pn	**Pn**	**22 18 21.5**	**-1.2**
NVR				*e*Sn	**Sn**	**22 18 32.0**	**-2.1**
NVR	**Nevrokopi**	**0.77**	**17**	*e*PN	**Pn**	**22 18 21.5**	**-1.2**
NVR				*e*SN	**Sn**	**22 18 32.0**	**-2.1**
LIT	**Litokhoron**	**0.97**	**238**	P	**Pb**	**22 18 24.1**	**-0.7**
LIT				S	**Sb**	**22 18 38.0**	**+0.5**
NEO	**Neokhori**	**1.33**	**192**	*e*Pn	**Pn**	**22 18 31.0**	**+0.5**
NEO	**Neokhori**	**1.33**	**192**	*e*PN	**Pn**	**22 18 31.0**	**+0.5**
LIA	**Limnos Island**	**1.43**	**120**	*e*Pn	**Pn**	**22 18 32.0**	**+0.2**
LIA	**Limnos Island**	**1.43**	**120**	*e*PN	**Pn**	**22 18 32.0**	**+0.2**
RDO	**Rodhopi**	**1.59**	**70**	*e*Pn	**Pn**	**22 18 35.8**	**+1.8**
RDO	**Rodhopi**	**1.59**	**70**	*e*PN	**Pn**	**22 18 35.8**	**+1.8**
THL	**Klokotos Trika**	**1.59**	**229**	*e*Pn	**Pn**	**22 18 35.4**	**+1.4**
THL	**Klokotos Trika**	**1.59**	**229**	*e*PN	**Pn**	**22 18 35.4**	**+1.4**

*IDC **18** 22:18:55.4±1.0, 2979N×82.16E, h0km, mb3.8/8, mb1 4.0/10, mb1mx3.8/24, mbtmp3.8/10, ML4.1/2, Error ellipse: s-maj=28.4km s-min=20.7km az=55.0*
*ISCJB **18** 22:18:58.5±0.9, 2980N±005×8206E±004, h35km±12km, mb3.7/8, Error ellipse: s-maj=8.9km s-min=6.3km az=8.7*
*NEIC **18** 22:19:00.6±0.8, 2983N×8207E, h35km, mb4.2/1, Error ellipse: s-maj=17.3km s-min=10.1km az=39.0*
*NDI **18** 22:19:03.1±3.1, 2982N×8199E, h35km, ML3.9, mb4.2(NEIC)*

ISC 18 22:19:01.6±0.6, 2987N±005×8205E±004, h43km±9km, n28, σ1§15/35, mb3.6/7, 1D, Nepal

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LGTI	**Lohaghat**	**1.62**	**256**	*e*P	**Pn**	**22 19 29.3**	**+1.6**
PTH	**Pithoragarh**	**1.62**	**259**	*e*P	**Pn**	**22 19 29.1**	**+1.4**
PTH				*ex*	**Sn**	**22 19 54.8**	**+7.4**
DDI	**Dehra Dun**	**3.49**	**278**	*e*P	**Pn**	**22 19 53.0**	**-0.3**
DDI				*ex*	**Sn**	**22 20 29.0**	**-4.3**
NDI	**New Delhi**	**4.38**	**256**	*ex*	x	22 20 20.0	
SMLA	**Simla**	**4.39**	**288**	*i*P	**Pn**	**22 20 07.3**	**+1.6**
SMLA				*e*S	**Sn**	**22 20 55.6**	**-0.1**
SMLA				*ex*	x	22 21 02.5	
	comp=N,361nm,0.4s						
SMLA				*ex*	x	22 21 05.9	
	comp=E,367nm,0.4s						
AJM	**Ajmer**	**7.35**	**244**	*e*P	**Pn**	**22 20 45.0**	**-1.4**
AJM				*ex*	**Sn**	**22 22 08.0**	**-0.6**
LSA	**Lhasa**	**7.92**	**89**	*e*Pn	**Pn**	**22 20 54.9**	**+0.8**
	comp=E,5.1nm,0.4s						
LSA				Sn	**Sn**	**22 22 21.7**	**-0.7**
NGP	**Nagpur**	**9.09**	**198**	*e*P	**Pn**	**22 21 10.3**	**+0.1**
NGP				*e*S	**Sn**	**22 22 44.0**	**-7.3**
THW	**Thamme Wali**	**9.28**	**291**	P	**Pn**	**22 21 12.4**	**-0.4**
CEP	**Cherat**	**9.48**	**297**	P	**Pn**	**22 21 15.7**	**+0.2**
SHL	**Shillong**	**9.71**	**114**	*e*P	**Pn**	**22 21 20.0**	**+1.3**
SHL				*e*S	**Sn**	**22 23 00.0**	**-6.5**
AKL	**Akola**	**10.19**	**208**	*e*P	**Pn**	**22 21 24.5**	**-0.9**
AKL				*e*S	**Sn**	**22 23 10.4**	**-8.0**
KBL	**Kabul**	**11.96**	**296**	*e*Pn	**Pn**	**22 21 49.2**	**-0.2**
	comp=E,1.7nm,0.5s						
KBL				*e*Sn	**Sn**	**22 23 58.6**	**-2.8**
POO	**Poona**	**13.53**	**215**	*ex*	x	22 22 28.5	
UCH	**Uchtor**	**13.75**	**336**	*e*Pn	**Pn**	**22 22 11.7**	**-2.1**
	comp=E,5.0nm,0.8s						
AML	**Almayashu**	**13.97**	**333**	Pn	**Pn**	**22 22 17.7**	**+0.8**
	comp=E,3.1nm,1.5s						
MKAR	**Makanchi Array**	**16.90**	**1**	Pn	**Pn**	**22 22 53.4**	**-1.5**
	comp=E,0.4nm,0.3s,baz=179,slow=11,SNR=18						
MK31	**Makanchi Array**	**16.90**	**1**	*e*P	**Pn**	**22 22 56.3**	**+1.4**
CMAR	**Chiang Mai Arr**	**19.12**	**123**	P	**Pn**	**22 23 18.9**	**-3.4**
	comp=E,0.4nm,0.3s,baz=309,slow=10.0,SNR=19						
KURK	**Kurchatov**	**20.98**	**354**	P	**P**	**22 23 39.0**	**-2.0**
	comp=E,9.4nm,0.9s,baz=179,slow=10.0,SNR=60						
KURK	**Kurchatov**	**20.98**	**354**	*e*P	**P**	**22 23 40.5**	**-0.5**
	comp=E,9.8nm,0.8s						
ZALV	**Zalesovo Beam**	**24.15**	**4**	P	**P**	**22 24 12.4**	**-0.9**
	comp=E,1.8nm,0.6s,mb3.7,baz=194,slow=8.9,SNR=8.7						
BVAR	**Borovoye Array**	**24.67**	**343**	P	**P**	**22 24 18.7**	**+0.5**
	comp=E,0.6nm,0.5s,mb3.4,baz=153,slow=10.0,SNR=4.6						
SONM	**Songino Array**	**25.93**	**39**	P	**P**	**22 24 30.3**	**+0.6**
	comp=E,0.8nm,0.5s,mb3.5,baz=231,slow=10,SNR=9.9						
ARCES	**ARCESS Array B**	**50.78**	**338**	P	**P**	**22 27 58.3**	**+1.2**
	comp=E,2.9nm,0.8s,mb4.3,baz=78,slow=7.6,SNR=5.5						
ESDC	**Sonseca Array**	**68.79**	**304**	P	**P**	**22 30 02.3**	**+0.9**
	comp=E,0.2nm,0.5s,mb3.3,baz=86,slow=4.9,SNR=2.7						
WRA	**Warramunga Arr**	**70.62**	**128**	P	**P**	**22 30 11.7**	**-1.0**
	comp=E,0.9nm,0.9s,mb3.7,baz=320,slow=6.2,SNR=5.9						
TORD	**Torodi Ar. Bea**	**75.30**	**277**	P	**P**	**22 30 41.8**	**+1.1**
	comp=E,0.9nm,0.9s,mb3.7,baz=57,slow=4.1,SNR=11						

*SOF **18** 22:49:37.7, 3970N×2558E, h1km, MD3.1*
*ISK **18** 22:49:37.8, 3964N×2548E, h2km, MD3.6*
*ISCJB **18** 22:49:39.0±0.5, 3966N±001×2553E±002, h4km±3km, Error ellipse: s-maj=2.5km s-min=2.0km az=18.9*
*CSEM **18** 22:49:39.6±0.0, 3968N×2555E, h10km, ML3.8, Error ellipse: s-maj=0.9km s-min=0.8km az=15.0*
*DDA **18** 22:49:39.8, 3967N×2561E, h27km±1km, Md3.4*
*ATH **18** 22:49:39.4, 3970N×2557E, h27km, MD3.8/16, ML3.8*
*THE **18** 22:49:40.6, 3967N×2558E, h10km±1km, ML4.0/9, Error ellipse: s-maj=1.4km s-min=0.7km az=100.0*
*NEIC **18** 22:49:41.0, 3972N×2566E, h10km, MD3.4(ISK), ML3.8(ATH), After ATH.*
*BEO **18** 22:49:42.5, 3948N×2510E, ML3.7/3*

ISC 18 22:49:40.2±0.4, 3966N±001×2553E±002, h7km±3km, n176, σ1§00/223, 10C-15D, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LIA	**Limnos Island**	**0.36**	**312**	P	**Pg**	**22 49 48.1**	**+0.9**
LIA				S	**Sg**	**22 49 53.3**	**+1.3**
LIA	**Limnos Island**	**0.36**	**312**	⇓*i*Pb	**Pg**	**22 49 48.1**	**+0.9**
LIA				*e*Sb	**Sg**	**22 49 53.0**	**+1.0**
LIA	**Limnos Island**	**0.36**	**312**	⇓*i*PB	**Pg**	**22 49 48.1**	**+0.9**
LIA				*e*SB	**Sg**	**22 49 53.0**	**+1.0**
BOZC	**Bozcaada**	**0.44**	**65**	*i* P	**Pg**	**22 49 48.0**	**-0.7**
BOZC				*i* S	**Sg**	**22 49 53.8**	**-0.7**
LOS	**Limnos**	**0.44**	**308**	P	**Pg**	**22 49 50.1**	**+1.3**
GADA	**Gvkgeada**	**0.60**	**28**	*e*PG	**Pg**	**22 49 51.0**	**-0.8**
GADA				*e*SG	**Sg**	**22 49 59.7**	**+0.1**
EZN	**Ezine**	**0.63**	**75**	*e*PG	**Pg**	**22 49 51.6**	**-0.8**
PRK	**Paraskevi**	**0.71**	**126**	P	**Pg**	**22 49 54.1**	**+0.3**
PRK				S	**Sg**	**22 50 03.4**	**+0.4**
PRK	**Paraskevi**	**0.71**	**126**	⇓*i*Pn	**Pn**	**22 49 54.0**	**-2.6**
PRK				*e*Sn	**Sg**	**22 50 03.5**	**+0.5**
PRK	**Paraskevi**	**0.71**	**126**	⇓*i*PN	**Pn**	**22 49 54.0**	**-2.6**
PRK				*e*SN	**Sg**	**22 50 03.5**	**+0.5**
AYVA	**Ayvalik**	**0.96**	**111**	*i* P	**Pg**	**22 49 58.5**	**-0.2**
AYVA				*i* S	**Sg**	**22 50 12.6**	**+1.4**
ENEZ	**

MANT				*i* S		**Sn**	**22 51 00.7**	**+5.5**
CTT	**Catalca**	**2.66**	**55**	*e*PN		**Pn**	**22 50 22.9**	**-0.6**
ELBA	**Catalca**	**2.67**	**55**	*i* P		**Pn**	**22 50 22.3**	**-1.2**
ELBA				*i* S		**Sn**	**22 50 53.9**	**-2.2**
KULA	**Kula-Manisa**	**2.69**	**114**	*e*PN		**Pn**	**22 50 23.9**	**0.0**
AYDN	**Tasoluk**	**2.71**	**137**	*i* P		**Pn**	**22 50 23.9**	**-0.3**
AYDN				*i* S		**Sn**	**22 51 04.2**	**+6.9**
THL	**Klokotos Trika**	**2.72**	**269**	P		**Pn**	**22 50 24.1**	**-0.2**
THL	**Klokotos Trika**	**2.72**	**269**	*e*Pn		**Pn**	**22 50 24.0**	**-0.3**
THL	**Klokotos Trika**	**2.72**	**269**	*e*PN		**Pn**	**22 50 24.0**	**-0.3**
GRG	**Griva**	**2.72**	**299**	P		**Pn**	**22 50 25.1**	**+0.8**
CTYL	**Yal??k??y-??at**	**2.77**	**48**	*e*PN		**Pn**	**22 50 25.4**	**+0.4**
VAY	**Valandovo**	**2.80**	**307**	*i* Pn		**Pn**	**22 50 33.3**	**+7.8**
DID	**Didima**	**2.80**	**221**	P		**Pn**	**22 50 24.8**	**-0.7**
ULDT	**Uludag**	**2.81**	**79**	*i* P		**Pn**	**22 50 25.9**	**+0.4**
ULDT				*i* S		**Sn**	**22 51 05.8**	**+6.0**
BGKT	**Bogazkoy**	**2.90**	**57**	*e*PN		**Pn**	**22 50 27.1**	**+0.3**
GEMT	**Gemlik**	**2.91**	**73**	*e*PN		**Pn**	**22 50 27.1**	**+0.2**
MLSB	**Milas**	**2.94**	**143**	*e*PN		**Pn**	**22 50 26.8**	**-0.6**
BODT	**Bodrum**	**2.95**	**151**	*e*PN		**Pn**	**22 50 27.1**	**-0.3**
KZN	**Kozani**	**2.96**	**284**	*e*Pn		**Pn**	**22 50 28.2**	**+0.6**
KZN	**Kozani**	**2.96**	**284**	*e*PN		**Pn**	**22 50 28.2**	**+0.6**
EVR	**Evrytania**	**2.98**	**257**	*e*Pn		**Pn**	**22 50 28.7**	**+0.8**
EVR	**Evrytania**	**2.98**	**257**	*e*PN		**Pn**	**22 50 28.7**	**+0.8**
BDRM	**Kayabasi**	**3.00**	**149**	*i* P		**Pn**	**22 50 27.5**	**-0.6**
BDRM				*i* S		**Sg**	**22 51 17.8**	**+1.3**
ISK	**Istanbul-Kandi**	**3.04**	**61**	*e*PN		**Pn**	**22 50 29.4**	**+0.7**
PGB	**Panagyurishte**	**3.07**	**341**	*e*P		**Pn**	**22 50 29.0**	**-0.1**
YLV	**Yalova**	**3.08**	**72**	*e*PN		**Pn**	**22 50 30.3**	**+1.0**
GDZ	**Gediz**	**3.11**	**99**	*i* P		**Pn**	**22 50 30.2**	**+0.4**
GDZ				*i* S		**Sn**	**22 51 12.8**	**+5.6**
KLYT	**Kilyos**	**3.11**	**58**	*e*PN		**Pn**	**22 50 28.9**	**+0.1**
STIP	**Stip**	**3.26**	**310**	*i*Pn		**Pg**	**22 50 40.7**	**-1.9**
ADVT	**Abdulvahap**	**3.32**	**75**	*e*PN		**Pn**	**22 50 33.1**	**+0.5**
YER	**Yerkesik**	**3.32**	**139**	*e*PN		**Pn**	**22 50 32.2**	**-0.4**
CAVI	**Cavuskoy**	**3.36**	**79**	*e*PN		**Pn**	**22 50 33.1**	**0.0**
VLX	**Vlachokerasia**	**3.37**	**228**	P		**Pn**	**22 50 33.1**	**-0.1**
HRT	**Hereke**	**3.37**	**69**	*e*PN		**Pn**	**22 50 34.2**	**+0.9**
FNA	**Florina**	**3.37**	**291**	P		**Pn**	**22 50 33.8**	**+0.5**
DNZL	**Cakiroluk**	**3.38**	**124**	*i* P		**Pn**	**22 50 29.5**	**-3.9**
DNZL				*i* S		**Sn**	**22 51 17.1**	**+3.3**
DNZL	**Cakiroluk**	**3.38**	**124**	*i* P		**Pn**	**22 50 29.5**	**-3.9**
DNZL				*i* S		**Sn**	**22 51 17.0**	**+3.2**
KHL	**Karahalli**	**3.38**	**112**	*e*PN		**Pn**	**22 50 34.1**	**+0.7**
VTS	**Vitosha**	**3.41**	**330**	*e*Pn		**Pn**	**22 50 38.3**	**+4.4**
VTS				*e*Sg		**Sg**	**22 51 30.2**	**+0.3**
VTS	**Vitosha**	**3.41**	**330**	*i* P		**Pn**	**22 50 37.5**	**+3.6**
VTS				*e*Sg		**Sg**	**22 51 30.2**	**+0.3**
SILT	**Sile**	**3.47**	**63**	*e*PN		**Pn**	**22 50 34.2**	**+0.2**
RLS	**Riolos of Patr**	**3.56**	**245**	*e*Pn		**Pn**	**22 50 37.6**	**+1.8**
RLS	**Riolos of Patr**	**3.56**	**245**	*e*PN		**Pn**	**22 50 37.6**	**+1.8**
ALT	**Altintas**	**3.60**	**98**	*e*PN		**Pn**	**22 50 36.8**	**+0.4**
KRUS	**Krusevo**	**3.69**	**299**	*i* Pn		**Pn**	**22 50 38.5**	**+0.9**
KRUS	**Krusevo**	**3.69**	**299**	*i* Pn		**Pn**	**22 50 38.4**	**+0.8**
TURN	**Turunc**	**3.69**	**138**	*i* P		**Pn**	**22 50 36.1**	**-1.5**
TURN				*i* S		**Sg**	**22 51 34.5**	**-4.1**
ITM	**Ithomi**	**3.76**	**230**	*e*Pn		**Pn**	**22 50 39.9**	**+1.3**
ITM	**Ithomi**	**3.76**	**230**	*e*PN		**Pn**	**22 50 39.9**	**+1.3**
BORA	**Eskisehir**	**3.80**	**85**	*i* P		**Pn**	**22 50 38.7**	**-0.4**
BORA				*i* S		**Sg**	**22 51 36.2**	**-6.0**
PRD	**Provadia**	**3.81**	**21**	*i* P		**Pn**	**22 50 38.2**	**-1.0**
GULT	**Gulveren**	**3.90**	**77**	*e*PN		**Pn**	**22 50 41.4**	**+0.8**
GOLH	**Golhisar**	**3.98**	**126**	*i* P		**Pn**	**22 50 43.3**	**+1.6**
GOLH				*i* S		**Sg**	**22 51 47.5**	**-0.6**
ARG	**Arkhangelos**	**4.00**	**148**	*e*Pn		**Pn**	**22 50 41.7**	**-0.3**
ARG	**Arkhangelos**	**4.00**	**148**	*e*PN		**Pn**	**22 50 41.7**	**-0.3**
SHUT	**Suhut-Afyon**	**4.06**	**104**	*e*PN		**Pn**	**22 50 43.7**	**+1.0**
TKTP	**Tekketepe**	**4.07**	**112**	*i* P		**Pn**	**22 50 43.1**	**+0.2**
ESKT	**Eskisehir**	**4.11**	**90**	*i* P		**Pn**	**22 50 44.3**	**+0.8**
ESKT				*i* S		**Sn**	**22 51 32.1**	**+0.4**
SEYT	**Eskypehyr**	**4.11**	**90**	*i* P		**Pn**	**22 50 44.3**	**+0.9**
SEYT				*i* S		**Sn**	**22 51 32.2**	**+0.5**
VLS	**Valsamata**	**4.13**	**251**	*e*Pn		**Pn**	**22 50 45.8**	**+2.1**
VLS	**Valsamata**	**4.13**	**251**	*e*PN		**Pn**	**22 50 45.8**	**+2.1**
ZAPS	**Zavoj**	**4.22**	**330**	*e*Pn		**Pn**	**22 50 48.6**	**+3.7**
ZAPS				*e*Sg		**Sg**	**22 51 57.3**	**+1.7**
BARS	**Barje**	**4.22**	**320**	*e*Pn		**Pn**	**22 50 45.9**	**+1.0**
BARS				*e*Sg		**Sg**	**22 51 54.1**	**-1.6**
KARP	**Karpathos**	**4.30**	**162**	*e*Pn		**Pn**	**22 50 45.7**	**-0.4**
KARP	**Karpathos**	**4.30**	**162**	*e*PN		**Pn**	**22 50 45.7**	**-0.4**
VAM	**Vamos**	**4.38**	**194**	*e*Pn		**Pn**	**22 50 48.6**	**+1.5**
VAM	**Vamos**	**4.38**	**194**	*e*PN		**Pn**	**22 50 48.6**	**+1.5**
NPS	**Neapolis**	**4.39**	**179**	*e*Pn		**Pn**	**22 50 46.9**	**-0.4**
NPS	**Neapolis**	**4.39**	**179**	*e*PN		**Pn**	**22 50 46.9**	**-0.4**
KEK	**Kerkira**	**4.42**	**273**	*e*Pn		**Pn**	**22 50 48.6**	**+0.9**
KEK	**Kerkira**	**4.42**	**273**	*e*PN		**Pn**	**22 50 48.6**	**+0.9**
ELL	**Elmali**	**4.51**	**129**	*e*PN		**Pn**	**22 50 49.6**	**+0.7**
SIVA	**Sivas**	**4.67**	**187**	P		**Pn**	**22 50 56.0**	**+4.9**
KIZT	**Kizilcal**	**4.99**	**97**	*e*PN		**Pn**	**22 50 56.7**	**+1.2**
TIRR	**Tirgusor**	**5.25**	**23**	*e*Pn		**Pn**	**22 50 58.3**	**-0.8**
TIRR	**Tirgusor**	**5.25**	**23** ⇑	*i*P		**Pn**	**22 50 58.5**	**-0.6**
TIRR	**Tirgusor**	**5.25**	**23**	*e*Pn		**Pn**	**22 50 58.3**	**-0.8**
HARR	**Harsova**	**5.33**	**19**	⇓P		**Pn**	**22 50 59.7**	**-0.5**
HARR	**Harsova**	**5.33**	**19**	⇓P		**Pn**	**22 50 59.7**	**-0.5**
VOIR		**5.78**	**357**	⇓P		**Pn**	**22 51 06.8**	**+0.4**
VOIR		**5.78**	**357**	⇓P		**Pn**	**22 51 06.8**	**+0.4**
MLR	**Muntele Rosu**	**5.83**	**3**	⇓*i*P		**Pn**	**22 51 08.7**	**+1.6**
MLR	**Muntele Rosu**	**5.83**	**3**	P		**Pn**	**22 51 11.6**	**+4.4**
TLCR		**6.03**	**23**	⇑P		**Pn**	**22 51 09.7**	**-0.1**
TLCR		**6.03**	**23**	⇑P		**Pn**	**22 51 09.7**	**-0.1**
DIVS	**Divibare**	**6.06**	**319**	*e*Pn		**Pn**	**22 51 11.8**	**+1.6**
GZR	**Gura Zlata**	**6.08**	**341**	P		**Pn**	**22 51 13.7**	**+3.2**
GZR	**Gura Zlata**	**6.08**	**341**	P		**Pn**	**22 51 13.7**	**+3.2**
ODB	**Odobesti**	**6.21**	**10**	⇑*i*P		**Pn**	**22 51 15.9**	**+3.6**
PLOR	**Plostina**	**6.24**	**7**	⇑*i*P		**Pn**	**22 51 14.4**	**+1.7**
BR131	**Keskin Array S** 2.4nm,0.4s	**6.25**	**87**	*e*Pn		**Pn**	**22 51 14.0**	**+1.1**
BR131	**Keskin Array S** 2.4nm,0.4s	**6.25**	**87**	*e*Pn		**Pn**	**22 51 14.0**	**+1.1**
BR131				*e*Sn		**Sn**	**22 52 21.5**	**-3.1**
VRI	**Vrincioaia**	**6.26**	**8**	⇑P		**Pn**	**22 51 14.2**	**+1.2**
VRI	**Vrincioaia**	**6.26**	**8**	⇑P		**Pn**	**22 51 14.2**	**+1.2**
KAMT	**Kaman**	**6.33**	**90**	*e*PN		**Pn**	**22 51 15.2**	**+1.2**
BZS	**Buzias**	**6.62**	**335**	*e*Pn		**Pn**	**22 51 18.6**	**+0.8**
BZS	**Buzias**	**6.62**	**335**	P		**Pn**	**22 51 21.0**	**+3.2**
BZS	**Buzias**	**6.62**	**335**	P		**Pn**	**22 51 21.0**	**+3.2**
TIP	**Timpagrande**	**6.81**	**269**	*e*Pn		**Pn**	**22 51 22.2**	**+1.7**
DRGR		**7.42**	**345**	⇓P		**Pn**	**22 51 31.0**	**+2.2**
DRGR		**7.42**	**345**	⇓P		**Pn**	**22 51 31.0**	**+2.1**
CUC	**Castrocucco** 8.5nm,0.8s	**7.49**	**276**	*e*Pn		**Pn**	**22 51 32.7**	**+2.9**
BURAR	**Bucovina Array**	**7.96**	**358**	⇓P		**Pn**	**22 51 37.6**	**+1.4**
BURAR	**Bucovina Array**	**7.96**	**358**	⇓P		**Pn**	**22 51 37.6**	**+1.4**

IDC ***18*** *23:08:49.0±1.3, 156S×12897E, h0km, mb4.1/5, mb1 4.6/9, mb1mx4.3/17, mbtmp4.4/9, ML4.6/4, MS3.5/7, Ms1 3.4/7, ms1mx3.2/27, Error ellipse: s-maj=41.3km s-min=17.7km az=77.0*

ISCJB ***18*** *23:08:52.1±1.3, 163S±005×12874E±009, h33km±12km, mb4.2/8, MS3.6/5, Error ellipse: s-maj=14.8km s-min=8.3km az=161.0*

NEIC ***18*** *23:08:54.7±0.8, 168S×12874E, h35km, mb4.5/3, Error ellipse: s-maj=19.9km s-min=9.8km az=66.0*

DJA ***18*** *23:08:55, 157S×12858E, h20km, MLv4.7/8*

BJI ***18*** *23:09:01.6, 170S×12870E, h35km, mB4.9, mb4.4*

ISC 18 23:08:52.0±2.7, 164S±006×12882E±008, h20km±22km, n43, σ1°28/45, mb4.2/8, MS3.6/5, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LBMI	**Labuha**	**1.65**	**307**	P	**Pn**	**23 09 17.6**	**-2.3**
MSAI	**Masohi**	**1.70**	**176**	P	**Pn**	**23 09 25.4**	**+4.9**
AAI	**Ambon**	**2.13**	**197**	P	**Pn**	**23 09 28.1**	**+1.7**
AAI	**Ambon**	**2.13**	**197**	P	**Pn**	**23 09 28.2**	**+1.8**
SWI	**Sorong**	**2.56**	**72**	P	**Pn**	**23 09 40.1**	**+7.8**
TNTI	**Ternate**	**2.80**	**329**	P	**Pn**	**23 09 36.1**	**+0.4**
MNI	**Manado**	**5.02**	**308**	P	**Pn**	**23 10 04.8**	**-1.5**
KDI	**Kendari** 177nm,0.9s,0.6nm	**6.61**	**249**	P	**Pn**	**23 10 27.7**	**-0.4**
PCI	**Palu** 148nm,0.7s,2μm	**9.01**	**275**	P	**Pn**	**23 10 59.5**	**-1.6**
KAPI	**Kappang** 15nm,0.3s,baz=71,slow=5.6,SNR=68	**9.65**	**249**	Pn	**Pn**	**23 11 10.9**	**+1.0**
KAPI	0.9nm,0.3s,baz=74,slow=20,SNR=2.6			*e*Sn	**Sn**	**23 12 53.1**	**-4.8**
KAPI	comp=Z,246nm,18.0s,baz=79,slow=43			LR	LR	23 15 47.6	
KAPI	**Kappang**	**9.65**	**249**	P	**Pn**	**23 11 10.8**	**+0.9**
	204nm,0.9s,2μm						
KAPI	**Kappang** 98nm,1.0s	**9.65**	**249**	*e*Pn	**Pn**	**23 11 10.6**	**+0.7**
KAPI				*e*Sn	**Sn**	**23 12 58.0**	**+0.1**
KAPI				LR	LR	23 15 47.6	
BATI	**Baumata** 2.1nm,0.3s,baz=137,slow=1.0,SNR=5.1	**9.94**	**211**	Pn	**Pn**	**23 11 17.4**	**+3.6**
BATI	comp=Z,392nm,18.3s,baz=22,slow=40			LR	LR	23 15 30.2	
BATI	**Baumata** 23nm,0.8s	**9.94**	**211**	P	**Pn**	**23 11 17.2**	**+3.5**
KAKA	**Kakadu** 14nm,0.4s	**11.57**	**162**	*e*P	**Pn**	**23 11 33.0**	**-3.1**
KAKA	**Kakadu**	**11.57**	**162**	P	**Pn**	**23 11 31.9**	**-4.2**
MYLDM	**Lahad Datu**	**12.34**	**303**	P	**Pn**	**23 11 48.1**	**+1.5**
FITZ	**Fitzroy Crossi** 17nm,0.6s	**16.66**	**191**	*e*P	**Pn**	**23 12 44.2**	**-0.2**
FITZ	**Fitzroy Crossi** 1.0nm,0.3s,baz=15,slow=12,SNR=36	**16.66**	**191**	Pn	**Pn**	**23 12 44.4**	**+0.1**
FITZ	0.2nm,0.3s,baz=126,slow=19,SNR=2.5			Sn	**Sn**	**23 15 52.8**	**+3.9**
FITZ	comp=Z,104nm,20.5s,baz=13,slow=38			LR	LR	23 19 20.5	
FITZ	**Fitzroy Crossi** 28nm,0.7s	**16.66**	**191**	P	**Pn**	**23 12 48.7**	**+4.3**
FITZ	**Fitzroy Crossi** 33nm,0.6s	**16.66**	**191**	*e*Pn	**Pn**	**23 12 45.4**	**+1.0**
SJI	**Sawahan**	**18.04**	**250**	P	**Pn**	**23 13 03.1**	**+1.5**
WRAB	**Tennant Creek** 32nm,1.1s	**18.97**	**164**	P	**Pn**	**23 13 12.7**	**-0.2**
WRAB	**Tennant Creek** 16nm,0.5s	**18.97**	**164**	*e*P	**Pn**	**23 13 12.9**	**0.0**
WRA	**Warramunga Arr** 3.0nm,0.3s,baz=347,slow=13,SNR=74	**18.97**	**164**	P	**Pn**	**23 13 11.5**	**-1.5**
WRA	0.4nm,0.3s,baz=328,slow=23,SNR=4.3			S	**Sn**	**23 16 35.1**	**-10**
WB2	**Warramunga Arr**	**18.98**	**164**	*e*P	**Pn**	**23 13 12.6**	**-0.4**
WB2				*e*Sn	**Sn**	**23 16 28.0**	**-17**
BJII	**Banjamegara**	**19.87**	**253**	P	**Pn**	**23 13 22.7**	**-1.1**
MBWA	**Marble Bar**	**21.33**	**204**	*e*P	**P**	**23 13 36.5**	**-1.4**
GUMO	**Guam** comp=Z,56nm,21.7s,MS2.9,baz=266,slow=32	**21.96**	**46**	LR	LR	23 20 22.2	
ASAR	**Alice Springs** 30nm,0.7s,mb4.8,baz=346,slow=11,SNR=300	**22.44**	**168**	P	**P**	**23 13 51.3**	**+1.5**
ASAR	9.3nm,0.8s,baz=348,slow=22,SNR=19			S	**S**	**23 17 52.0**	**-3.7**
JOW	**Kunigami** comp=Z,92nm,20.8s,MS3.4,baz=27,slow=33	**28.31**	**359**	LR	LR	23 24 16.1	
FORT	**Forrest** 18nm,1.0s,mb4.8	**28.99**	**181**	*e*P	**P**	**23 14 51.1**	**+0.7**
STKA	**Stephens Creek** 3.9nm,1.1s,mb4.2	**32.40**	**159**	*e*P	**P**	**23 15 23.4**	**+2.9**
STKA	**Stephens Creek** 3.3nm,1.1s,mb4.1,baz=326,slow=8.6,SNR=2.8	**32.40**	**159**	P	**P**	**23 15 18.0**	**-2.6**
STKA	comp=Z,149nm,20.1s,MS3.7,baz=21,slow=38			LR	LR	23 29 16.3	
STKA	**Stephens Creek**	**32.40**	**159**	*e*P	**P**	**23 15 23.4**	**+2.9**
STKA				LR	LR	23 29 16.3	
CMAR	**Chiang Mai Arr** 0.8nm,0.3s,mb4.1,baz=123,slow=6.4,SNR=8.0	**35.54**	**306**	P	**P**	**23 15 48.5**	**+0.6**
JHJ	**Hachijo jima 2** comp=Z,1μm,21.6s,MS4.7,baz=331,slow=31	**36.09**	**16**	LR	LR	23 27 11.5	
KSRS	**Korea Array** comp=Z,43nm,19.1s,MS3.3,baz=325,slow=34	**38.90**	**359**	LR	LR	23 30 39.2	
SONM	**Songino Array** 0.7nm,0.7s,mb3.7,baz=156,slow=7.8,SNR=3.3	**53.02**	**341**	P	**P**	**23 18 13.2**	**+5.8**
MKAR	**Makanchi Array** 1.0nm,0.7s,mb4.1,baz=119,slow=7.9,SNR=10	**63.14**	**326**	P	**P**	**23 19 19.0**	**+0.7**
MKAR	**Makanchi Array**	**63.14**	**326**	P	**P**	**23 19 19.0**	**+0.7**
ZALV	**Zalesovo Beam** 0.2nm,0.3s,mb3.7,baz=116,slow=3.4,SNR=2.1	**66.29**	**333**	P	**P**	**23 19 39.5**	**+0.7**
KURK	**Kurchatov** 1.2nm,0.5s,mb4.2,baz=129,slow=6.0,SNR=2.6	**67.37**	**328**	P	**P**	**23 19 45.3**	**-0.3**

CSEM ***18*** *23:10:19.9±0.1, 4061N×2356E, h10km, ML2.6/5, Error ellipse: s-maj=2.7km s-min=2.3km az=53.0*

ISCJB ***18*** *23:10:20.3±0.5, 4061N±003×2361E±004, h12km±4km, Error ellipse: s-maj=5.3km s-min=4.2km az=140.7*

ATH ***18*** *23:10:20.2, 4054N×2374E, h17km±3km, MD3.0/3*

NEIC ***18*** *23:10:20.2, 4054N×2374E, h17km, MD3.0(ATH), After ATH.*

THE ***18*** *23:10:21.3, 4059N×2355E, h6km±2km, ML2.6/5, Error ellipse: s-maj=2.0km s-min=0.4km az=292.0*

ISC 18 23:10:20.5±0.5, 4062N±003×2361E±004, h13km±4km, n25, σ0°75/37, Greece

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PLG	**Polygyros**	**0.28**	**207**	P	**Pg**	**23 10 26.1**	**-0.2**
PLG				*e*Sb	**Sg**	**23 10 29.3**	**-0.8**
PLG	**Polygyros**	**0.28**	**207**	*e*Pb	**Pg**	**23 10 25.8**	**-0.5**
PLG				*e*Sb	**Sg**	**23 10 29.3**	**-0.8**
PLG	**Polygyros**	**0.28**	**207**	*e*PB	**Pg**	**23 10 25.8**	**-0.5**
PLG				*e*SB	**Sg**	**23 10 29.3**	**-0.8**
SOH	**Sokhos**	**0.28**	**316**	P	**Pg**	**23 10 26.8**	**+0.5**
SOH				S	**Sg**	**23 10 31.0**	**+0.8**
HORT	**Hortiatis**	**0.39**	**267**	P	**Pg**	**23 10 28.0**	**-0.2**
HORT				S	**Sg**	**23 10 32.7**	**-0.8**
OUR	**Ouranopolis**	**0.41**	**135**	P	**Pg**	**23 10 29.2**	**+0.6**
OUR				S	**Sg**	**23 10 35.3**	**+1.3**
THE	**Thessaloniki**	**0.49**	**271**	P	**Pg**	**23 10 29.5**	**-0.6**
THE				S	**Sg**	**23 10 36.1**	**-0.6**
PAIG	**Paliouri**	**0.70**	**175**	P	**Pg**	**23 10 33.5**	**-0.5**
PAIG				S	**Sg**	**23 10 42.5**	**-0.7**
NVR	**Nevrokopi**	**0.75**	**15**	*e*Pn	**Pn**	**23 10 36.1**	**-0.7**
NVR				*e*Sn	**Sn**	**23 10 47.0**	**-1.0**
NVR	**Nevrokopi**	**0.75**	**15**	*e*PN	**Pn**	**23 10 36.1**	**-0.7**
NVR				*e*SN	**Sn**	**23 10 47.0**	**-1.0**
KNT	**Kendrikon**	**0.76**	**315**	P	**Pg**	**23 10 35.3**	**0.0**
GRG	**Griva**	**0.97**	**290**	P	**Pb**	**23 10 39.1**	**-0.1**
GRG				S	**Sg**	**23 10 53.0**	**+1.0**
LIT	**Litokhoron**	**1.00**	**239**	P	**Pb**	**23 10 39.4**	**-0.2**
LIT				S	**Sb**	**23 10 53.1**	**+0.5**
VAY	**Valandovo**	**1.05**	**312**	P	**Pb**	**23 10 40.6**	**+0.1**
XOR	**Xorichti**	**1.29**	**194**	P	**Pn**	**23 10 44.5**	**+0.3**
NEO	**Neokhori**	**1.35**	**193**	*e*Pn	**Pn**	**23 10 45.3**	**+0.4**
NEO	**Neokhori**	**1.35**	**193**	*e*PN	**Pn**	**23 10 45.3**	**+0.4**
LIA	**Limnos Island**	**1.41**	**120**	*e*Pn	**Pn**	**23 10 43.9**	**-1.8**
LIA	**Limnos Island**	**1.41**	**120**	*e*PN	**Pn**	**23 10 43.9**	**-1.8**
RDO	**Rodhopi**	**1.56**	**70**	*e*Pn	**Pn**	**23 10 48.2**	**+0.4**
RDO	**Rodhopi**	**1.56**	**70**	*e*PN	**Pn**	**23 10 48.2**	**+0.4**
THL	**Klokotos Trika**	**1.61**	**230**	*e*Pn	**Pn**	**23 10 49.5**	**+0.9**
THL	**Klokotos Trika**	**1.61**	**230**	*e*PN	**Pn**	**23 10 49.5**	**+0.9**
EVR	**Evrytania**	**2.19**	**220**	*e*Pn	**Pn**	**23 10 58.0**	**+1.4**
EVR	**Evrytania**	**2.19**	**220**	*e*PN	**Pn**	**23 10 58.0**	**+1.4**

ISCJB ***18*** *23:11:20.2±0.5, 299N±01×4244W±009, h10km, mb4.2/17, MS3.7/17, Error ellipse: s-maj=16.0km s-min=11.5km az=1.7*

IDC ***18*** *23:11:20.4±0.7, 2994N×4245W, h0km, mb3.9/13, mb1 4.1/13, mb1mx4.0/23, mbtmp3.9/13, MS3.7/17, Ms1 3.7/17, ms1mx3.5/35, Error ellipse: s-maj=25.1km s-min=16.3km az=4.0*

NEIC ***18*** *23:11:22.0±0.5, 2993N×4244W, h10km, mb4.4/1, Error ellipse: s-maj=18.3km s-min=12.4km az=170.0*

ISC 18 23:11:22.1±0.5, 299N±01×4241W±009, h10km, n30, σ0°78/19, mb4.2/17, MS3.7/17, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BBTS	**Babate** comp=Z,202nm,21.2s,MS3.7,baz=302,slow=30	**28.26**	**117**	LR	LR	23 25 34.4	
MDT	**Midelt** comp=Z,80nm,18.3s,MS3.4,baz=311,slow=31	**32.28**	**75**	LR	LR	23 27 51.0	
ESDC	**Sonseca Array** 0.7nm,0.7s,mb3.7,baz=256,slow=12,SNR=3.3	**32.82**	**62**	P	**P**	**23 17 55.8**	**+0.1**
ESDC	comp=Z,118nm,21.0s,MS3.6,baz=295,slow=29			LR	LR	23 27 26.8	
SDV	**Santo Domingo** 3.7nm,0.7s,mb4.4	**33.70**	**237**	*e*P	**P**	**23 18 03.6**	**0.0**
ROSC	**El Rosal** comp=Z,66nm,18.3s,MS3.5,baz=140,slow=36	**39.11**	**237**	LR	LR	23 34 48.7	
TIC	**Toumodi** 55nm,1.1s,mb5.1	**42.08**	**116**	*e*P	**P**	**23 19 14.3**	**-0.1**
DBIC	**Dimbokro** 3.6nm,0.6s,mb4.2,baz=256,slow=7.0,SNR=9.0	**42.19**	**116**	P	**P**	**23 19 15.4**	**+0.1**
DBIC	comp=Z,165nm,20.9s,MS3.9,baz=283,slow=32			LR	LR	23 33 59.7	
LIC	**Lamto** 59nm,1.5s,mb5.0	**42.33**	**116**	*e*P	**P**	**23 19 15.9**	**-0.6**
KIC	**Kosan Boka** 35nm,0.9s,mb5.0	**42.47**	**116**	*e*P	**P**	**23 19 17.6**	**0.0**
KEST	**Kesra** 1.0nm,0.7s,mb3.6,baz=121,slow=6.8,SNR=6.1	**43.46**	**68**	P	**P**	**23 19 25.0**	**-0.5**
DAVOX	**Davos/Dischmat** comp=Z,95nm,18.2s,MS3.7,baz=255,slow=31	**43.48**	**52**	LR	LR	23 33 38.4	
TORD	**Torodi Ar. Bea** 3.6nm,1.0s,mb4.0,baz=307,slow=9.9,SNR=22	**43.99**	**103**	P	**P**	**23 19 29.1**	**-0.9**
TORD	comp=Z,79nm,21.4s,MS3.6,baz=130,slow=33			LR	LR	23 35 18.2	
ULM	**Lac du Bonnet** comp=Z,147nm,19.1s,MS3.9,baz=95,slow=34	**44.58**	**313**	LR	LR	23 36 45.4	
CLL	**Collm**	**45.91**	**46**	*e*P	**P**	**23 19 45.0**	**+0.2**
GERES	**GERESS Array B** comp=Z,78nm,18.5s,MS3.7,baz=241,slow=33	**46.17**	**49**	LR	LR	23 36 31.0	
HFS	**Hagfors** comp=Z,182nm,18.5s,MS4.1,baz=245,slow=32	**47.77**	**34**	LR	LR	23 37 02.7	
VRAC	**Vranov** comp=Z,76nm,18.4s,MS3.7,baz=1.7,slow=33	**48.09**	**49**	LR	LR	23 38 00.4	
LPAZ	**La Paz** 0.9nm,0.5s,mb4.0,baz=344,slow=6.1,SNR=6.7	**52.22**	**212**	P	**P**	**23 20 33.9**	**+0.4**
LPAZ	comp=Z,69nm,19.7s,MS3.7,baz=240,slow=34			LR	LR	23 41 18.1	
TXAR	**Lajitas Array** 0.7nm,0.8s,mb3.6,baz=96,slow=8.9,SNR=6.7	**52.67**	**286**	P	**P**	**23 20 37.0**	**+0.1**
TXAR	comp=Z,76nm,19.9s,MS3.7,baz=75,slow=36			LR	LR	23 42 32.0	
KTK1	**Kautokeino**	**53.70**	**24**	*i* P	**P**	**23 20 49.0**	**+5.3**
PDAR	**Pinedale Array** 2.0nm,0.8s,mb4.1,baz=82,slow=8.0,SNR=13	**54.27**	**303**	P	**P**	**23 20 47.0**	**-1.4**
PDAR	comp=Z,157nm,18.5s,MS4.1,baz=85,slow=33			LR	LR	23 40 48.0	
ARCES	**ARCESS Array B** 7.3nm,0.9s,mb4.7,baz=318,slow=20,SNR=2.6	**54.58**	**24**	P	**P**	**23 20 50.8**	**+0.6**
YKA	**Yellowknife Ar** comp=Z,38nm,18.4s,MS3.5,baz=85,slow=35	**55.75**	**328**	LR	LR	23 43 37.0	
AKASG	**Malin Array Be** 0.3nm,0.3s,mb3.8,baz=292,slow=5.9,SNR=3.1	**56.15**	**47**	P	**P**	**23 21 00.1**	**-1.7**
NVAR	**Minna Array Bea** 0.3nm,0.4s,mb3.7,baz=87,slow=5.5,SNR=3.3	**61.75**	**300**	P	**P**	**23 21 40.7**	**-0.2**
KMBO	**Kilima Mbogo** 1.7nm,0.7s,mb4.1,baz=333,slow=18,SNR=4.7	**81.60**	**96**	P	**P**	**23 23 42.3**	**+1.5**
KURK	**Kurchatov** 0.7nm,0.7s,mb3.9,baz=315,slow=4.8,SNR=3.9	**84.33**	**33**	P	**P**	**23 23 55.2**	**+0.9**
ZALV	**Zalesovo Beam** 0.2nm,0.3s,mb3.7,baz=287,slow=5.9,SNR=2.6	**84.84**	**28**	P	**P**	**23 23 57.9**	**+1.1**
BOSA	**Boshof** comp=Z,44nm,18.8s,MS3.9,baz=165,slow=32	**86.93**	**125**	LR	LR	23 57 19.5	
PETK	**Petropavlovsk-** comp=Z,39nm,19.5s,MS3.9,baz=41,slow=35	**95.48**	**348**	LR	LR	00 06 37.0	

MOS

	3µm,0.4s									
MRVN	**Minervino Murg**	1.26	121		Pn		Pn	23	26	07.8 -1.4
	3µm,0.4s									
TRTR	**Tortoreto Alta**	1.26	330		Pn		Pn	23	26	11.2 +2.0
	14µm,1.0s									
ACER	**Acerenza**	1.28	136		Pn		Pn	23	26	08.6 -0.9
	27nm,0.4s									
CDRU	**Civita di Ruta**	1.29	162		Pn		Pn	23	26	09.4 -0.3
	2µm,0.3s									
CAMP	**Campotosto**	1.30	309		Pn		Pn	23	26	09.1 -0.6
	172nm,0.5s									
FIAM	**Fiamignano**	1.35	294		Pn		Pn	23	26	11.7 +1.3
	2µm,0.7s									
CERT	**Cerreto**	1.36	280		Pn		Pn	23	26	11.8 +1.3
	1µm,0.7s									
VENT	**Ventotene**	1.38	228		Pn		Pn	23	26	09.8 -1.0
	1µm,0.6s									
CMPR	**Campora**	1.46	164		Pn		Pn	23	26	11.5 -0.4
	2µm,0.7s									
RDP	**Rocca di Papa**	1.54	272		Pn		Pn	23	26	13.7 +0.7
	2µm,0.7s									
PTRP	**Pietrapertosa**	1.54	141		Pn		Pn	23	26	12.6 -0.5
MTCE	**Montecelio**	1.55	282		Pn		Pn	23	26	14.1 +1.0
	1µm,1.1s									
LAV9	**Lanuvio**	1.55	269		Pn		Pn	23	26	14.2 +1.0
	546nm,0.3s									
MA9	**Marino**	1.58	272		Pn		Pn	23	26	14.5 +0.9
	268nm,0.4s									
MCEL	**Monticello**	1.60	150		Pn		Pn	23	26	12.8 -1.0
	1µm,0.7s									
AMUR	**Altamura**	1.60	120		Pn		Pn	23	26	13.0 -0.9
	2µm,0.3s									
MTSN	**Montesano sull**	1.63	153		Pn		Pn	23	26	13.7 -0.6
	2µm,0.6s									
MIGL	**Miglionico**	1.68	131		Pn		Pn	23	26	14.2 -0.8
	5µm,0.5s									
SG1	**Sgolgore (BA)**	1.69	121	*i*	Pg		Pn	23	26	14.0 -1.0
SG1					*e*Sg		Sn	23	26	36.8 +0.3
MNS	**Montasola**	1.69	294		Pn		Pn	23	26	17.2 +2.1
	1µm,1.0s									
BAI	**Bari**	1.70	110		*e*Pg		Pn	23	26	14.7 -0.5
BAI					*e*Sg		Sn	23	26	39.4 +2.6
SIRI	**Monte Sirino -**	1.75	151		Pn		Pn	23	26	15.2 -0.7
	945nm,0.7s									
SCHR	**S. Chirico Rap**	1.81	147		Pn		Pn	23	26	15.9 -0.9
	456nm,0.7s									
CRAC	**Craco**	1.85	137		Pn		Pn	23	26	16.8 -0.5
	3µm,0.7s									
CUC	**Castrocucco**	1.90	155		Pn		Pn	23	26	17.9 -0.1
	726nm,0.5s									
CUC					Sn		Sn	23	26	39.8 -1.9
CUC	**Castrocucco**	1.90	155		*e*Pn		Pn	23	26	18.1 +0.1
CUC					Sn		Sn	23	26	39.8 -1.9
LTRZ	**Laterza**	1.91	125		Pn		Pn	23	26	17.2 -0.9
	2µm,0.5s									
NOCI	**Noci**	1.96	118		Pn		Pn	23	26	17.9 -0.9
	2µm,0.3s									
AOI	**Ancona**	2.02	335		Pn		Pn	23	26	18.6 -1.0
ORI	**Oriolo Calabro**	2.09	142		Pn		Pn	23	26	20.9 +0.3
	1µm,0.5s									
TOLF	**Tolfa**	2.10	280		Pn		Pn	23	26	21.9 +1.2
	326nm,0.8s									
PE1	**Pezze di Greco**	2.20	114	*i*	Pn		Pn	23	26	21.3 -0.8
SACS	**San Casciano d**	2.40	299		Pn		Pn	23	26	27.1 +2.2
FSSB	**Fossombrone**	2.46	324		Pn		Pn	23	26	24.5 -1.1
	149nm,0.4s									
STON	**Ston**	2.46	61		*e*Pn		Pn	23	26	26.4 +0.8
STON					Sn		Sn	23	26	56.9 +1.4
STON	**Ston**	2.46	61		*e*Pn		Pn	23	26	26.4 +0.8
STON					Sn		Sn	23	26	56.8 +1.3
BADI	**Badiali**	2.58	315		Pn		Pn	23	26	26.0 -1.4
	306nm,0.8s									
CAFI	**Castiglion Fio**	2.62	309		Pn		Pn	23	26	28.1 +0.2
ARCI	**Arcidosso**	2.69	296		Pn		Pn	23	26	31.8 +2.9
CARO	**Carolei**	2.70	155		Pn		Pn	23	26	28.5 -0.5
	297nm,0.7s									
CRE	**Caprese Michel**	2.81	313		Pn		Pn	23	26	32.2 +1.6
	159nm,1.3s									
TREB	**Trebinje**	2.84	68		*e*Pn		Pn	23	26	31.1 +0.2
TREB	**Trebinje**	2.84	68		*e*Pn		Pn	23	26	30.9 0.0
TREB					*e*Sn		Sn	23	27	03.5 -1.4
NVLJ	**Novalja**	2.84	1		*e*Pn		Pn	23	26	31.3 +0.4
NVLJ					Sn		Sn	23	27	05.0 +0.1
NVLJ	**Novalja**	2.84	1		*e*Pn		Pn	23	26	31.2 +0.3
NVLJ					Sn		Sn	23	27	05.0 0.0
HCY	**Herceg Novi**	2.87	74	⇑	*i*Pn		Pn	23	26	32.1 +0.8
HCY					*e*Sn		Sn	23	27	06.2 +0.6
TIP	**Timpagrande**	2.96	149		Pn		Pn	23	26	33.1 +0.6
TIP	**Timpagrande**	2.96	149		*e*Pn		Pn	23	26	33.0 +0.5
TIP	**Timpagrande**	2.96	149		*e*Pn		Pn	23	26	33.0 +0.5
BRY	**Bratogost**	3.04	66	⇑	*i*Pn		Pn	23	26	34.4 +0.8
BRY					*e*Sn		Sn	23	27	10.6 +0.8
SERS	**Sersale**	3.06	151		Pn		Pn	23	26	35.2 +1.3
	112nm,0.7s									
SFI	**Santa Sofia**	3.06	316		Pn		Pn	23	26	36.6 +2.6
	279nm,1.1s									
CSNT	**Castellina Chi**	3.11	305		Pn		Pn	23	26	35.4 +0.8
	161nm,1.4s									
BUM	**Brajici-Budva**	3.13	78	⇑	*i*Pn		Pn	23	26	35.4 +0.5
BUM					*e*Sn		Sn	23	27	13.1 +1.0
SLNA	**Salina**	3.15	179		Pn		Pn	23	26	36.1 +0.9
	48nm,0.3s									
GRI	**Girifalco**	3.16	156		Pn		Pn	23	26	35.3 0.0
	242nm,0.7s									
JOPP	**Joppolo**	3.23	164		Pn		Pn	23	26	35.8 -0.4
	126nm,0.5s									
SCTE	**Santa Cesarea**	3.25	119		Pn		Pn	23	26	36.1 -0.4
	1µm,0.5s									
VMG	**Vicchio**	3.26	314		Pn		Pn	23	26	39.1 +2.4
	174nm,0.9s									
NKY	**Niksic**	3.32	69	⇑	*i*Pn		Pn	23	26	38.0 +0.5
NKY					*e*Sn		Sn	23	27	17.7 +0.9
VPL	**Vulcano Piano**	3.34	177		Pn		Pn	23	26	39.2 +1.4
	92nm,0.6s									
ULC	**Ulcinj**	3.35	84	⇓	*i*Pn		Pn	23	26	37.7 -0.3
ULC					*e*Sn		Sn	23	27	18.2 +0.6
UPM	**Unac-Piva**	3.40	63	⇑	*i*Pn		Pn	23	26	39.4 +0.8
UPM					*e*Sn		Sn	23	27	20.2 +1.4
PDG	**Podgorica**	3.42	77	⇓	*i*Pn		Pn	23	26	39.5 +0.7
PDG					*e*Sn		Sn	23	27	19.8 +0.7
TTG	**Podgorica**	3.42	77	⇓	*i*Pn		Pn	23	26	39.5 +0.7
TTG					*e*Sn		Sn	23	27	19.8 +0.7
SEI	**Scarperia**	3.42	314		Pn		Pn	23	26	41.9 +3.0
	141nm,0.3s									
BLY	**Banja Luka**	3.50	29		*e*Pn		Pn	23	26	41.4 +1.4
MSRU	**Castanea**	3.50	170		Pn		Pn	23	26	39.8 -0.2
	166nm,0.8s									
PLAC	**Placanica**	3.51	158		Pn		Pn	23	26	40.7 +0.6
	57nm,0.6s									
FNVD	**Fontana Vidola**	3.63	314		Pn		Pn	23	26	44.5 +2.8
PLE	**Pljevlja**	3.77	63	⇓	*i*Pn		Pn	23	26	44.6 +0.9
PLE					*e*Sn		Sn	23	27	28.6 +0.6
SOI	**Samo**	3.78	164		Pn		Pn	23	26	44.2 +0.4
	33nm,0.4s									
MTTG	**Motta San Giov**	3.78	169		Pn		Pn	23	26	44.2 +0.3
	107nm,0.5s									
MMME	**Mongiuffi-Meli**	3.80	174		Pn		Pn	23	26	44.7 +0.6
CSLB	**Castelbuono**	3.82	189		Pn		Pn	23	26	45.9 +1.5
	75nm,0.6s									
TIR	**Tirane**	3.84	94	⇑	*i*Pn		Pn	23	26	44.9 +0.2
TIR	**Tirane**	3.84	94		Pn		Pn	23	26	45.0 +0.3
	279nm,0.9s									
MPAZ	**Palizzi**	3.88	165		Pn		Pn	23	26	45.6 +0.4
	101nm,0.6s									
SISC	**Sisak**	3.92	17		*e*Pn		Pn	23	26	48.2 +2.4
SISC	**Sisak**	3.92	17		*e*Pn		Pn	23	26	48.1 +2.3
PVY	**Plav**	3.96	76	⇑	*i*Pn		Pn	23	26	47.0 +0.7
PVY					*e*Sn		Sn	23	27	33.4 +0.7
BEY	**Berane**	3.97	71	⇓	*i*Pn		Pn	23	26	47.4 +0.9
BEY					*e*Sn		Sn	23	27	33.3 +0.4
IVA	**Berane**	3.97	71	⇓	*i*Pn		Pn	23	26	47.4 +0.9
IVA					*e*Sn		Sn	23	27	33.3 +0.4
CORL	**Corleone**	3.99	197		Pn		Pn	23	26	48.8 +2.1
	1µm,3.5s									
CEY	**Cerknica**	4.02	357	*i*	Pn		Pn	23	26	48.3 +1.1
CEY				*i*	Sn		Sn	23	27	34.4 +0.3
CEY	**Cerknica**	4.02	357		*e*Pn		Pn	23	26	48.3 +1.1
CEY					*e*Sn		Sn	23	27	34.5 +0.4
BBLS	**Lazići**	4.03	56	⇑	*i*Pn		Pn	23	26	49.2 +2.0
VLC	**Villacollemand**	4.04	309		*e*Pn		Pn	23	26	49.2 +1.9
VLC	**Villacollemand**	4.04	309		*e*Pn		Pn	23	26	49.2 +1.8
TRI	**Trieste**	4.05	350		*e*Pn		Pn	23	26	47.4 -0.1
TRI	**Trieste**	4.05	350		*e*Pn		Pn	23	26	47.4 -0.2
CRES	**Cresnjev**	4.13	7		*e*Pn		Pn	23	26	49.7 +1.0
CRES					*e*Sn		Sn	23	27	36.4 -0.4
SJES	**Sjenica**	4.14	66		*e*Pn		Pn	23	26	49.1 +0.3
VAE	**Valguarnera**	4.25	184		Pn		Pn	23	26	54.5 +4.2
	3.2nm,0.3s,baz=229,slow=6.0,SNR=6.7									
KEK	**Kerkira**	4.32	116		*e*P		Pn	23	26	51.0 -0.1
KEK	**Kerkira**	4.32	116		Pn		Pn	23	26	51.2 0.0
	453nm,0.5s									
KEK	**Kerkira**	4.32	116		*e*P		Pn	23	26	51.0 -0.1
LJU	**Ljubljana**	4.32	358		*e*Pn		Pn	23	26	52.0 +0.7
LJU					*e*Sn		Sn	23	27	41.5 0.0
VOY	**Vojsko**	4.36	352		*e*Pn		Pn	23	26	51.9 +0.2
VOY					*e*Sn		Sn	23	27	42.1 -0.2
PGF	**Pioggiola**	4.37	283		*e*P		Pn	23	26	53.7 +1.8
	SNR=1.0									
DIVS	**Divibare**	4.51	56	⇑	*i*Pn		Pn	23	26	54.7 +0.9
DIVS	**Divibare**	4.51	56		*e*Pn		Pn	23	26	54.6 +0.8
DIVS					*e*Sn		Sn	23	27	43.7 -2.4
OHR	**Ohrid**	4.57	96		P		Pn	23	26	55.3 +0.6
OHR	**Ohrid**	4.57	96		*i* Pn		Pn	23	26	55.2 +0.5
OHR	**Ohrid**	4.57	96		*i* Pn		Pn	23	26	55.1 +0.4
VSL	**Villasalto**	4.67	243		Pn		Pn	23	26	55.3 -0.7
	50nm,1.1s									
VSL	**Villasalto**	4.67	243		*e*Pn		Pn	23	26	55.4 -0.6
VSL	**Villasalto**	4.67	243		*e*Pn		Pn	23	26	55.4 -0.7
IGT	**Igoumenitsa**	4.76	116		P		Pn	23	26	57.5 +0.2
OBKA	**Obir**	4.79	358	⇓	*i*Pn		Pn	23	26	57.8 +0.1
	SNR=11									
OBKA					*i*Sn		Sn	23	27	50.7 -2.3
KOGS	**Kog**	4.84	12		*e*Pn		Pn	23	26	58.6 +0.2
KOGS					*e*Sn		Sn	23	27	54.0 -0.3
RHK3	**Tenkes**	4.87	30		*e*P		Pn	23	26	58.9 +0.2
KRUS	**Krusevo**	4.87	92		*i* Pn		Pn	23	26	58.9 +0.1
GRUS	**Gruza**	4.88	62	⇑	*i*Pn		Pn	23	26	59.4 +0.5
MYKA	**Terra Mystica**	4.97	351	⇑	*i*Pn		Pn	23	27	00.3 +0.1
MYKA				⇑	*i*Sn		Sn	23	27	56.4 -1.2
BIA	**Bitola**	4.98	96		P		Pn	23	27	00.9 +0.6
BIA	**Bitola**	4.98	96		*e*Pn		Pn	23	27	00.8 +0.5
BIA	**Bitola**	4.98	96		*e*Pn		Pn	23	27	00.7 +0.4
SKO	**Skopje**	4.99	85		*i* Pn		Pn	23	27	00.9 +0.5
FGSL	**Fruska Gora**	5.02	45	⇑	*i*Pn		Pn	23	27	00.7 -0.2
FGSL	**Fruska Gora**	5.02	45		*e*Pn		Pn	23	27	00.0 -0.9
FGSL					*e*Sn		Sn	23	27	56.2 -2.6
MAGA	**Magasa**	5.04	325		Pn		Pn	23	27	00.0 -1.1
	237nm,0.4s									
JAN	**Janina**	5.06	112		*e*P		Pn	23	27	02.1 +0.7
JAN	**Janina**	5.06	112		*e*P		Pn	23	27	02.1 +0.7
FNA	**Florina**	5.07	98		P		Pn	23	27	02.0 +0.5
FVI	**Forni Avoltri**	5.08	344		Pn		Pn	23	27	01.4 -0.3
	76nm,0.8s									
MEV	**Metsovon**	5.27	109		P		Pn	23	27	06.2 +1.9
ABTA	**Abfaltersbach**	5.28	343	⇑	*i*Pn		Pn	23	27	04.7 +0.3
	SNR=11									
ABTA				⇑	*i*Sn		Sn	23	28	04.1 -0.9
PKSM	**Moragy**	5.29	31		*e*Pn		Pn	23	27	04.4 -0.1
PKSM	**Moragy**	5.29	31	⇑	P		Pn	23	27	04.4 -0.1
BARS	**Barje**	5.34	76	⇑	*i*Pn		Pn	23	27	05.6 +0.4
LKD	**Levkas**	5.41	122		P		Pn	23	27	06.3 0.0
KBA	**Koelnbreinsper**	5.45	350	⇑	*i*Pn		Pn	23	27	07.8 +1.1
KBA				⇑	*i*Sn		Sn	23	28	07.6 -1.7
MDI	**Monti di Nese**	5.46	320		Pn		Pn	23	27	06.6 -0.3
	42nm,0.3s									
KZN	**Kozani**	5.48	103		*e*P		Pn	23	27	08.0 +0.9
KZN	**Kozani**	5.48	103		*e*P		Pn	23	27	08.0 +0.9
STIP	**Stip**	5.55	88		*i* Pn		Pn	23	27	08.3 +0.1
STIP	**Stip**	5.55	88		*i* Pn		Pn	23	27	08.2 +0.1
ARSA	**Arzberg**	5.55	5	⇑	*i*Pn		Pn	23	27	08.0 -0.2
ARSA				⇑	*i*Sn		Sn	23	28	07.4 -4.5
BOLS	**Boljevac**	5.69	66		*e*Pn		Pn	23	27	10.2 +0.2
VLS	**Valsamata**	5.70	126		*e*P		Pn	23	27	10.1 -0.1
VLS	**Valsamata**	5.70	126		P		Pn	23	27	10.2 0.0
VLS	**Valsamata**	5.70	126		*e*P		Pn	23	27	10.1 -0.1
BRMO	**Bormio**	5.71	328		Pn		Pn	23	27	11.3 +1.0
	23nm,0.5s									
GRG	**Griva**	5.79	95		P		Pn	23	27	11.6 +0.1
SBF	**Sospel**	5.81	294		*e*P		Pn	23	27	14.0 +2.3
KFL	**Anninata**	5.87	126		P		Pn	23	27	12.7 +0.2
VAY	**Valandovo**	5.87	91		*e*Pn		Pn	23	27	11.6 -0.9
THL	**Klokotos Trika**	5.92	109		P		Pn	23	27	13.9 +0.7
WTTA	**Wattenberg**	5.98	339	⇑	*i*Pn		Pn	23	27	14.8 +0.8
ZAPS	**Zavoj**	6.01	72		*e*Pn		Pn	23	27	16.0 +1.5
FETA	**Feichten**	6.04	333	⇑	*i*Pn		Pn	23	27	16.4 +1.6
WATA	**Walderalm**	6.06	339	⇓	*i*Pn		Pn	23	27	15.7 +0.6
EVR	**Evrytania**	6.06	115		*e*P		Pn	23	27	16.3 +1.1
EVR	**Evrytania**	6.06	115		*e*P		Pn	23	27	16.3 +1.1
LIT	**Litokhoron**	6.07	103		P		Pn	23	27	15.4 +0.2
SOP	**Sopron**	6.09	11		*e*Sn		Sn	23	28	22.3 -2.8
KNT	**Kendrikon**	6.13	93		P		Pn	23	27	16.0 -0.1
MOA	**Molln**	6.14	357	⇓	*i*Pn		Pn	23	27	16.8 +0.6
	SNR=20									
MOA				⇓	*i*Sn		Sn	23	28	25.8 -0.4
TUE	**Stuetta**	6.15	322		Pn		Pn	23	27	17.2 +0.9
	18nm,0.4s									
TUE					*e*Sn		Sn	23	28	24.5 -1.9
TUE	**Stuetta**	6.15	322		*e*Pn		Pn	23	27	17.2 +0.9
	18nm,0.4s									
TUE					*e*Sn		Sn	23	28	24.5 -2.0
DAVOX	**Davos/Dischmat**	6.16	327		Pn		Pn	23	27	16.1 -0.3
	3.1nm,0.3s,baz=142,slow=13,SNR=29									
DAVOX					Sn		Sn	23	28	24.0 -2.6
	1.8nm,0.3s,baz=330,slow=22,SNR=2.1									
MOTA	**Moosalm**	6.20	336	⇑	*i*Pn		Pn	23	27	18.3 +1.3
MOTA				⇓	*i*Sn		Sn	23	28	27.4 -0.4
PKSG		6.23	23		*e*P		Pn	23	27	19.1 +1.7
DAVOS	**Davos**	6.24	327		P		Pn	23	27	16.1 -1.5
DAVOS								23	28	24.0
CONA	**Conrad Observa**	6.25	7	⇑	*i*Pn		Pn	23	27	17.9 +0.1
CONA				⇓	*i*Sn		Sn	23	28	26.4 -2.7
CSNA	**Conrad Observa**	6.25	7	⇑	*i*Pn		Pn	23	27	17.8 +0.1
CSNA				⇑	*i*Sn		Sn	23	28	26.4 -2.6
FRF	**La Foret Royal**	6.27	296		*e*Pn		Pn	23	27	18.3 +0.3
THE	**Thessaloniki**	6.28	97		P		Pn	23	27	17.6 -0.5
BZS	**Buzias**	6.31	50	⇑	*i*Pn		Pn	23	27	18.8 +0.3
BZS	**Buzias**	6.31	50		P		Pn	23	27	19.3 +0.8
BZS	**Buzias**	6.31	50	⇑	P		Pn	23	27	19.3 +0.8
LMR	**La Mourre**	6.31	288		*e*Pn		Pn	23	27	19.4 +0.8
RLS	**Riolos of Patr**	6.32	123		*e*P		Pn	23	27	19.5 +0.8
RLS	**Riolos of Patr**	6.32	123		*e*P		Pn	23	27	19.5 +0.8
VTS	**Vitosha**	6.33	79	⇑	*i*Pn		Pn	23	27	19.7 +0.9
VTS	**Vitosha**	6.33	79		P		Pn	23	27	20.2 +1.4
VTS	**Vitosha**	6.33	79	⇓	P		Pn	23	27	20.2 +1.4
AGG	**Agios Georgios**	6.37	113		P		Pn	23	27	20.3 +0.9
HORT	**Hortiatis**	6.38	97		P		Pn	23	27	18.9 -0.7
RETA	**Reutte**	6.43	335	⇓	*i*Pn		Pn	23	27	21.6 +1.4
	SNR=8.3									
RETA				⇑	*i*Sn		Sn	23	28	33.8 +0.3
SOH	**Sokhos**	6.53	95		P		Pn	23	27	21.3 -0.3
DAVA	**Damuels**	6.57	330	⇑	*i*Pn		Pn	23	27	23.9 +1.7
	SNR=6.4									
MBDF	**Montbardon**	6.57	300		*e*Pn		Pn	23	27	19.7 -2.4
MBDF					*e*Sn		Sn	23	28	30.3 -6.6
	28nm,1.0s									
PLG	**Polygyros**	6.69	99		*e*P		Pn	23	27	23.6 -0.2
PLG	**Polygyros**	6.69	99		P		Pn	23	27	23.7 -0.1
PLG	**Polygyros**	6.69	99		*e*P		Pn	23	27	23.6 -0.2
GZR	**Gura Zlata**	6.88	55	⇑	P		Pn	23	27	27.3 +1.0
GZR	**Gura Zlata**	6.88	55	⇑	P		Pn	23	27	27.3 +1.0
NEO	**Neokhori**	6.88	108		*e*P		Pn	23	27	26.0 -0.4
NEO	**Neokhori**	6.88	108		*e*P		Pn	23	27	26.0 -0.4
MODS	**Modra-Piesok**	6.88	14		*e*SN		Sn	23	28	39.9 -4.6
LPG	**La Plagne**	6.94	306		*e*Pn		Pn	23	27	26.9 -0.3
LPG					*e*Sn		Sn	23	28	39.4 -6.5
	15nm,0.5s									
LPL	**La Plagne**	6.96	306		*e*Pn		Pn	23	27	26.3 -1.1
	SNR=1.0									
LPL					*e*Sn		Sn	23	28	39.8 -6.6
	12nm,0.4s									
PAIG	**Paliouri**	6.99	102		P		Pn	23	27	26.8 -1.1
LKR	**Lokris**	7.01	113		*e*P		Pn	23	27	28.3 +0.1
LKR	**Lokris**	7.01	113		P		Pn	23	27	28.5 +0.4
LKR	**Lokris**	7.01	113		*e*P		Pn	23	27	28.3 +0.1
SMOL	**Smolenice**	7.05	15		*e*SN		Sn	23	28	45.3 -3.3
OUR	**Ouranopolis**	7.10	98		P		Pn	23	27	28.6 -0.8
ITM	**Ithomi**	7.16	127		*e*P		Pn	23	27	30.1 -0.1
ITM	**Ithomi**	7.16	127		*e*P		Pn	23	27	30.1 -0.1
GEC2	**GERESS Array S**	7.16	354		*e*P		Pn	23	27	29.9 -0.3
GEC2					*e*Sn		Sn	23	28	49.0 -2.4
GERES	**GERESS Array B**	7.16	354		Pn		Pn	23	27	29.7 -0.6
	1.4nm,0.3s,baz=166,slow=13,SNR=29									
GERES					Sn		Sn	23	28	48.5 -2.9
	5.2nm,0.3s,baz=166,slow=23,SNR=9.1									
GERES	**GERESS Array B**	7.16	354		P		Pn	23	27	29.7 -0.6
GERES								23	28	48.5
GERES					pmax		pmax			
	comp=Z,1.0nm,0.3s									
GERES					smax					
	comp=N,5.0nm,0.3s									
ORIF	**Oris-en-Rattie**	7.23	299		*e*Pn		Pn	23	27	30.6 -0.6
	SNR=1.0									
ORIF					*e*Sn		Sn	23	28	46.3 -6.8
	comp=N,4.3nm,0.5s									
PYL	**PYLOS**	7.24	129		P		Pn	23	27	30.8 -0.5
LTK	**Loutraki**	7.30	118		P		Pn	23	27	31.5 -0.7
VLX	**Vlachokerasia**	7.31	124		P		Pn	23	27	33.1 +0.8
KOLL	**Kolacno**	7.32	19		*e*PN		Pn	23	27	33.0 +0.6
KOLL					*e*SN		Sn	23	28	49.9 -5.4
KEST	**Kesra**	7.33	217		Pn		Pn	23	27	35.6 +3.0
	comp=N,1.6nm,0.3s,baz=332,slow=4.2,SNR=63									
VYHS	**Vyhne**	7.36	22		*e*PN		Pn	23	27	33.2 +0.3
VYHS					*e*SN		Sn	23	28	51.9 -4.3
AOS	**Alonnisos**	7.40	107		P		Pn	23	27	33.1 -0.4
KHC	**Kasperske Hory**	7.46	354		*e*PN		Pn	23	27	33.9 -0.4
KHC		

BJI ***18*** *23:27:28.4, 222N×12759E, h45km, mB4.8, mb4.8, Ms4.6, Msz4.3*
IDC ***18*** *23:27:28.5±0.6, 282N×12721E, h0km, mb4.4/14, mb1 4.5/14, mb1mx4.4/20, mbtmp4.4/14, MS3.4/3, Ms1 3.4/3, ms1mx2.9/29, Error ellipse: s-maj=31.2km s-min=12.3km az=78.0*
MOS ***18*** *23:27:31.2±1.1, 284N×12721E, h33km, mb4.8/22, Error ellipse: s-maj=19.2km s-min=8.1km az=111.9*
ISCJB ***18*** *23:27:31.1±0.3, 287N±004×127.17E±007, h30km, mb4.8/54, MS3.9/5, Error ellipse: s-maj=10.6km s-min=5.0km az=162.1*
NEIC ***18*** *23:27:33.4±0.3, 281N×127.12E, h35km, mb4.9/28, Error ellipse: s-maj=9.5km s-min=4.2km az=69.0*
DJA ***18*** *23:27:37.5±2.0, 3N±8×127E±, h20km±18km, Mjma3.9/4, MLv4.4/4, Mwp4.5/2*

ISC 18 23:27:33.6±0.3, 283N±004×12721E±007, h34km, h34km±3.3km:pP-P,n107,σ1§16/106, mb4.8/54, MS3.9/5, 8C, Northern Moluccas Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TNTI	**Ternate**	**2.05**	**176**	P	**Pn**	**23 28 07.2**	**+1.4**
MNI	**Manado**	**2.74**	**240**	P	**Pn**	**23 28 18.4**	**+3.2**
LBMI	**Labuha**	**3.46**	**175**	P	**Pn**	**23 28 28.7**	**+3.6**
DAV	**Davao City (W)**	**4.51**	**339**	LR	LR	23 30 28.9	
	comp=Z,256nm,21.8s,baz=151,slow=40						
SWI	**Sorong**	**5.47**	**132**	P	**Pn**	**23 28 53.8**	**+1.1**
	49nm,1.4s,0.2nm						
KDI	**Kendari**	**8.16**	**214**	P	**Pn**	**23 29 32.9**	**+3.2**
	25nm,0.8s						
MYLDM	**Lahad Datu**	**8.99**	**285**	P	**Pn**	**23 29 50.3**	**+9.1**
BATI	**Baumata**	**13.43**	**195**	LR	LR	23 35 31.0	
	comp=Z,155nm,19.8s,baz=168,slow=36						
SBUM	**Sibu**	**14.98**	**269**	P	**Pn**	**23 31 10.4**	**+7.5**
MTNI	**Mataram**	**15.84**	**224**	P	**Pn**	**23 31 20.1**	**+5.9**
KHKI	**Kahang-Kahang**	**16.05**	**226**	P	**Pn**	**23 31 22.8**	**+5.9**
KAKA	**Kakadu**	**16.29**	**162**	*e*P	**Pn**	**23 31 20.4**	**+0.4**
	10nm,0.6s						
KSM	**Kuching**	**16.94**	**266**	*e*Pn	**Pn**	**23 31 26.6**	**-1.6**
FITZ	**Fitzroy Crossi**	**20.86**	**184**	*e*P	**P**	**23 32 12.6**	**-0.1**
	8.3nm,0.6s						
FITZ	**Fitzroy Crossi**	**20.86**	**184**	P	**P**	**23 32 12.5**	**-0.2**
	3.0nm,0.6s,baz=23,slow=9.6,SNR=19						
FITZ	**Fitzroy Crossi**	**20.86**	**184**	P	**P**	**23 32 17.0**	**+4.3**
	18nm,0.9s						
WRAB	**Tennant Creek**	**23.69**	**163**	*e*P	**P**	**23 32 41.3**	**-1.1**
WRAB				*e**PP		23 32 52.1	
WRAB				pmax	pmax		
	comp=Z,15nm,1.0s,mb4.4						
WRAB	**Tennant Creek**	**23.69**	**163**	P	**P**	**23 32 42.9**	**+0.5**
WRAB	**Tennant Creek**	**23.69**	**163**	*e*P	**P**	**23 32 41.3**	**-1.1**
	comp=Z,15nm,1.0s,mb4.4						
WRAB				*e*pP		23 32 52.1	
WRA	**Warramunga Arr**	**23.69**	**163**	P	**P**	**23 32 41.3**	**-1.2**
	comp=Z,9.7nm,0.8s,mb4.3,baz=339,slow=10,SNR=53						
WRA				S	**S**	**23 36 55.3**	**+0.2**
	comp=Z,0.9nm,0.8s,baz=334,slow=16,SNR=3.7						
WRA	**Warramunga Arr**	**23.69**	**163**	P	**P**	**23 32 41.3**	**-1.2**
WRA				S	**S**	**23 36 55.3**	**+0.1**
WRA				pmax	pmax		
	comp=Z,10.0nm,0.8s						
WRA				smax			
	comp=N,1.0nm,0.8s						
WB2	**Warramunga Arr**	**23.70**	**163**	*e*P	**P**	**23 32 41.8**	**-0.7**
WB2				*e*pP		23 32 52.4	
MBWA	**Marble Bar**	**24.94**	**197**	*e*P	**P**	**23 32 53.5**	**-0.4**
	comp=N,46nm,1.2s,mb4.9						
MBWA				*e*pP		23 33 03.3	
ASAR	**Alice Springs**	**27.13**	**166**	P	**P**	**23 33 12.8**	**-0.8**
	comp=N,1.0nm,0.5s,mb3.6,baz=343,slow=6.9,SNR=15						
ASAR				PcP	PcP		
	comp=N,1.3nm,0.7s,baz=352,slow=2.8,SNR=8.5						
ASAR				ScP	ScP	23 40 16.9	+4.9
	comp=N,0.2nm,0.5s,baz=349,slow=2.8,SNR=4.1						
ASAR	**Alice Springs**	**27.13**	**166**	P	**P**	**23 33 12.9**	**-0.8**
ASAR						23 36 34.6	
ASAR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
ASAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
NJ2	**Nanjing**	**30.11**	**346**	*e*P	**P**	**23 33 43.6**	**+3.5**
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.5s,mb4.8						
GYA	**Guiyang**	**30.66**	**322**	P	**P**	**23 33 48.3**	**+3.2**
GYA				AP	pP	23 33 58.6	+3.6
GYA				XP	sP	23 34 03.3	+4.2
GYA				PP	PP	23 34 50.8	-3.9
GYA				S	**S**	**23 38 48.5**	**+3.0**
GYA				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.7						
GYA				AMB	AMB		
	comp=Z,80nm,4.9s						
GYA				LR	LR		
	comp=N,450nm,17.6s,MS4.4						
GYA				LR	LR		
	comp=E,550nm,18.2s,MS4.4						
GYA				LR	LR		
	comp=Z,490nm,19.8s,MS4.2						
CMAR	**Chiang Mai Arr**	**31.74**	**301**	P	**P**	**23 33 54.0**	**-0.6**
	comp=Z,1.4nm,0.7s,mb3.9,baz=122,slow=7.4,SNR=12						
CMAR	**Chiang Mai Arr**	**31.74**	**301**	P	**P**	**23 33 54.1**	**-0.6**
CMAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
CHTO	**Chiang Mai**	**31.89**	**302**	*e*P	**P**	**23 33 55.1**	**-0.9**
CHTO				pmax	pmax		
	comp=Z,3.0nm,0.7s,mb4.2						
CHTO	**Chiang Mai**	**31.89**	**302**	*e*P	**P**	**23 33 55.1**	**-1.0**
	comp=Z,3.0nm,0.7s,mb4.2						
FORT	**Forrest**	**33.43**	**179**	*e*P	**P**	**23 34 08.7**	**-0.6**
	comp=Z,16nm,0.7s,mb5.0						
KSRS	**Korea Array**	**34.46**	**1**	P	**P**	**23 34 18.4**	**+0.2**
	comp=Z,3.3nm,0.8s,mb4.3,baz=175,slow=10.0,SNR=9.1						
KSRS	**Korea Array**	**34.46**	**1**	P	**P**	**23 34 18.4**	**+0.2**
KSRS				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.3						
MJAR	**Matsushiro Arr**	**35.05**	**16**	P	**P**	**23 34 22.2**	**-1.1**
	comp=Z,1.0nm,0.4s,mb4.1,baz=180,slow=9.0,SNR=4.6						
MJAR	**Matsushiro Arr**	**35.05**	**16**	P	**P**	**23 34 22.2**	**-1.1**
MJAR				pmax	pmax		
	comp=Z,1.0nm,0.4s						
KLBR	**Kellerberrin**	**35.40**	**194**	*e*P	**P**	**23 34 26.1**	**-0.2**
	comp=Z,15nm,0.8s,mb5.0						
XAN	**Xi'an**	**35.43**	**333**	P	**P**	**23 34 25.5**	**-1.1**
XAN				AP	pP	23 34 35.9	-0.6
XAN				XP	sP	23 34 41.8	+1.1
XAN				AMB	AMB		
	comp=Z,7.0nm,0.8s,mb4.6						
XAN				AMB	AMB		
	comp=Z,63nm,6.8s						
CD2	**Chengdu**	**35.64**	**324**	*e*P	**P**	**23 34 30.8**	**+2.3**
CD2				AP	pP	23 34 40.5	+2.0
CD2				XP	sP	23 34 44.4	+1.8
CD2				PP	PP	23 35 52.3	+2.4
CD2				S	**S**	**23 40 05.3**	**+2.6**
CD2				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.9						
CD2				AMB	AMB		
	comp=Z,30nm,4.2s						
CD2				LR	LR		
	comp=N,130nm,10.8s						
CD2				LR	LR		
	comp=Z,120nm,12.0s,MS3.9						
NWAO	**Narrogin (SRO)**	**36.80**	**194**	P	**P**	**23 34 38.2**	**-0.1**
	comp=Z,5.1nm,0.5s,mb4.6,baz=25,slow=8.8,SNR=7.4						
NWAO	**Narrogin (SRO)**	**36.80**	**194**	P	**P**	**23 34 38.2**	**-0.1**
NWAO				pmax	pmax		
	comp=Z,5.0nm,0.5s						
STKA	**Stephens Creek**	**37.13**	**159**	⇑*i*P	**P**	**23 34 41.2**	**+0.1**
	comp=Z,14nm,0.8s,mb4.8						
STKA	**Stephens Creek**	**37.13**	**159**	P	**P**	**23 34 41.1**	**0.0**
	comp=Z,14nm,0.7s,mb4.9,baz=330,slow=8.7,SNR=24						
BJT	**Baijiatuan**	**38.34**	**346**	*e*P	**P**	**23 34 52.1**	**+0.8**
BJT				pmax	pmax		
	comp=Z,103nm,1.0s						
BJT	**Baijiatuan**	**38.34**	**346**	*e*P	**P**	**23 34 52.1**	**+0.8**
	comp=Z,103nm,1.0s,mb5.5						
BJI	**Beijing**	**38.36**	**346**	P	**P**	**23 34 52.1**	**+0.6**
BJI				S	**S**	**23 40 40.1**	**-3.8**
BJI				AMB	AMB		
	comp=Z,118nm,1.1s,mb5.5						
BJI				LR	LR		
	comp=N,92nm,18.9s,MS3.8						
BJI				LR	LR		
	comp=E,101nm,22.8s,MS3.8						
LZH	**Lanzhou**	**39.51**	**330**	*e*P	**P**	**23 35 04.5**	**+3.3**
LZH				AP	pP	23 35 14.5	+3.3
LZH				XP	sP	23 35 18.0	+2.7
LZH				AMB	AMB		
	comp=Z,13nm,1.0s,mb4.6						
LZH				AMB	AMB		
	comp=Z,55nm,4.0s						
HHC	**Hu-ho-hao-te**	**40.39**	**342**	*e*P	**P**	**23 35 10.3**	**+1.9**
HHC				AP	pP	23 35 20.0	+1.5
HHC				XP	sP	23 35 24.0	+1.4
HHC				PP	PP	23 36 47.8	+6.0
HHC				PCP	PcP	23 37 12.6	+1.5
HHC				S	**S**	**23 41 17.5**	**+3.2**
HHC				XS	sS	23 41 35.9	+5.0
HHC				SS	SS	23 44 15.5	+1.2
HHC				SCS	ScS	23 45 11.1	-0.9
HHC				AMB	AMB		
	comp=Z,20nm,1.0s,mb4.8						
HHC				AMB	AMB		
	comp=Z,95nm,7.5s						
HHC				LR	LR		
	comp=N,133nm,14.2s,MS4.0						
HHC				LR	LR		
	comp=E,116nm,15.6s,MS4.0						
HHC				LR	LR		
	comp=Z,128nm,15.9s,MS3.9						
SHL	**Shillong**	**40.79**	**307**	*e*P	**P**	**23 35 15.0**	**+3.1**
LSA	**Lhasa**	**43.39**	**312**	P	**P**	**23 35 34.0**	**+0.9**
LSA	**Lhasa**	**43.39**	**312**	*e*P	**P**	**23 35 33.3**	**+0.2**
LSA				pmax	pmax		
	comp=Z,8.0nm,0.8s,mb4.5						
LSA	**Lhasa**	**43.39**	**312**	*e*P	**P**	**23 35 33.3**	**+0.3**
	comp=Z,8.2nm,0.8s,mb4.5						
TAPN	**Taplejung**	**44.93**	**307**	*e*P	**P**	**23 35 45.0**	**-0.5**
	comp=Z,36nm,1.1s,mb5.1						
ODAN	**Odare**	**44.98**	**306**	*e*P	**P**	**23 35 44.8**	**-1.0**
	comp=Z,24nm,0.8s,mb5.1						
RAMN	**Ramite**	**45.65**	**306**	*e*P	**P**	**23 35 50.4**	**-0.8**
	comp=Z,26nm,0.8s,mb5.2						
GUN	**Gumba**	**46.64**	**306**	*e*P	**P**	**23 35 58.0**	**-0.9**
	comp=Z,44nm,0.8s,mb5.5						
HIA	**Hailar**	**46.70**	**353**	⇑*i*P	**P**	**23 36 00.2**	**+1.2**
PKI	**Pulchoki**	**46.88**	**306**	*e*P	**P**	**23 35 59.5**	**-1.3**
	comp=Z,18nm,0.9s,mb5.0						
PKI	**Pulchoki**	**46.88**	**306**	*e*P	**P**	**23 35 59.5**	**-1.3**
PKI				pmax	pmax		
	comp=Z,18nm,0.9s,mb5.0						
KKN	**Kakani**	**47.07**	**306**	*e*P	**P**	**23 36 01.1**	**-1.2**
	comp=Z,31nm,1.0s,mb5.2						
KKN	**Kakani**	**47.07**	**306**	*e*P	**P**	**23 36 01.1**	**-1.2**
KKN				pmax	pmax		
	comp=Z,31nm,1.0s,mb5.2						
DMN	**Daman**	**47.14**	**306**	*e*P	**P**	**23 36 01.8**	**-1.1**
	comp=Z,36nm,1.0s,mb5.2						
GKN	**Gorkha**	**47.67**	**306**	*e*P	**P**	**23 36 05.9**	**-1.1**
	comp=Z,21nm,0.9s,mb5.2						
SONM	**Songino Array**	**48.29**	**341**	P	**P**	**23 36 12.5**	**+1.0**
	comp=Z,8.5nm,0.6s,mb4.9,baz=156,slow=8.7,SNR=65						
SONM				PcP	PcP	23 37 38.6	+0.6
	comp=Z,1.4nm,0.7s,baz=154,slow=3.4,SNR=3.9						
SONM	**Songino Array**	**48.29**	**341**	P	**P**	**23 36 12.5**	**+1.0**
SONM						23 37 38.6	
SONM				pmax	pmax		
	comp=Z,9.0nm,0.6s						
SONM				pmax	pmax		
	comp=Z,1.0nm,0.7s						
DANN	**Dangsing**	**48.52**	**306**	*e*P	**P**	**23 36 12.5**	**-1.1**
	comp=Z,61nm,0.7s,mb5.7						
ZAK	**Zakamensk**	**51.52**	**341**	*e*P	**P**	**23 36 37.3**	**+1.4**
ZAK				*e*		23 37 43.6	
ZAK				pmax	pmax		
	comp=Z,5.0nm,1.2s,mb4.3						
WMQ	**Urumqi**	**53.73**	**325**	*e*P	**P**	**23 36 54.5**	**+2.1**
WMQ				AP	pP	23 37 10.5	+7.7
BOD	**Bodaibo**	**55.81**	**352**	*e*P	**P**	**23 37 07.4**	**+0.2**
BOD				pmax	pmax		
	comp=Z,8.0nm,0.9s,mb4.8						
PETK	**Petropavlovsk-**	**56.08**	**22**	P	**P**	**23 37 09.6**	**+0.4**
	comp=Z,3.7nm,0.6s,mb4.6,baz=190,slow=3.3,SNR=6.0						
PETK	**Petropavlovsk-**	**56.08**	**22**	P	**P**	**23 37 09.6**	**+0.4**
PETK				pmax	pmax		
	comp=Z,4.0nm,0.6s,mb4.6						
MKAR	**Makanchi Array**	**58.56**	**325**	P	**P**	**23 37 26.6**	**-0.2**
	comp=Z,2.0nm,0.5s,mb4.4,baz=122,slow=8.1,SNR=28						
MKAR	**Makanchi Array**	**58.56**	**325**	P	**P**	**23 37 26.7**	**-0.2**
MKAR				pmax	pmax		
	comp=Z,2.0nm,0.5s						
YAK	**Yakutsk**	**59.09**	**1**	⇑*e*P	**P**	**23 37 29.2**	**-1.0**
YAK				pmax	pmax		
	comp=Z,26nm,0.8s,mb5.3						
YAK	**Yakutsk**	**59.09**	**1**	*e*P	**P**	**23 37 29.5**	**-0.7**
	comp=Z,12nm,0.8s,mb5.0						
UCH	**Uchtor**	**61.15**	**318**	P	**P**	**23 37 45.5**	**+0.7**
	comp=Z,1.8nm,0.8s,mb4.2						
ZALV	**Zalesovo Beam**	**61.60**	**333**	P	**P**	**23 37 47.2**	**-0.3**
	comp=Z,2.3nm,0.6s,mb4.5,baz=116,slow=6.8,SNR=9.3						
ZALV	**Zalesovo Beam**	**61.60**	**333**	P	**P**	**23 37 47.2**	**-0.3**
ZALV				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.4						
ZALV	**Zalesovo Beam**	**61.60**	**333**	P	**P**	**23 37 47.2**	**-0.3**
AML	**Almayashu**	**61.67**	**317**	*e*P	**P**	**23 37 48.9**	**+0.7**
	comp=Z,2.7nm,0.7s,mb4.5						
EKS2	**Erkin-Say**	**61.83**	**318**	*e*P	**P**	**23 37 49.3**	**-0.1**
	comp=Z,1.1nm,0.8s,mb4.0						
KBL	**Kabul**	**62.44**	**308**	*e*P	**P**	**23 37 53.2**	**-0.4**
KBL				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.6						
KBL	**Kabul**	**62.44**	**308**	*e*P	**P**	**23 37 53.2**	**-0.5**
	comp=Z,4.1nm,0.8s,mb4.6						
KURK	**Kurchatov**	**62.75**	**328**	*e*P	**P**	**23 37 54.8**	**-0.5**
KURK				*e**PP	pP	23 38 01.1	-4.8
KURK				pmax	pmax		
	comp=Z,9.0nm,1.0s,mb4.8						
KURK	**Kurchatov**	**62.75**	**328**	*e*P	**P**	**23 37 54.8**	**-0.6**
	comp=Z,8.9nm,1.0s,mb4.8						
KURK				*e*pP	pP	23 38 01.1	-4.8
SEY	**Seymchan**	**62.80**	**13**	⇑*e*P	**P**	**23 37 53.2**	**-2.2**
NVS	**Novosibirsk**	**62.88**	**333**	*e*P	**P**	**23 37 55.3**	**-0.8**
NVS				*e*	pP	23 38 08.0	+1.3
NVS				pmax	pmax		
	comp=Z,11nm,1.0s,mb4.9						
NVS				pmax	pmax		
	comp=N,3.0nm,0.7s						
NVS				pmax	pmax		
	comp=E,4.0nm,0.6s						
BRVK	**Borovoye**	**68.40**	**327**	*e*P	**P**	**23 38 32.4**	**+0.6**
BRVK				pmax	pmax		
	comp=Z,22nm,1.3s,mb5.0						
BRVK	**Borovoye**	**68.40**	**327**	*e*P	**P**	**23 38 32.4**	**+0.6**
	comp=Z,22nm,1.3s,mb5.0						
TIXI	**Tiksi**	**68.73**	**1**	*e*P	**P**	**23 38 33.3**	**-0.2**
TIXI				pmax	pmax		
	comp=Z,8.0nm,0.8s,mb4.7						
TIXI	**Tiksi**	**68.73**	**1**	*e*P	**P**	**23 38 32.9**	**-0.6**
	comp=Z,6.4nm,0.7s,mb4.7						
SVE	**Sverdlovsk**	**74.97**	**329**	⇑*e*P	**P**	**23 39 11.6**	**+0.4**
SVE				pmax	pmax		
	comp=Z,7.0nm,0.6s,mb4.8						
ARU	**Arti**	**75.94**	**328**	*c i*P	**P**	**23 39 16.2**	**-0.6**
ARU				*e*		23 42 09.3	
ARU				*e*PPP		23 43 58.0	
ARU				*e*S	S	23 48 58.1	+0.9
ARU				*e*SS	SS	23 53 48.9	-1.2
ARU				pmax	pmax		
	comp=Z,20nm,1.7s,mb4.8						
ARU	**Arti**	**75.94**	**328**	*e*P	**P**	**23 39 16.4**	**-0.5**
	comp=Z,8.3nm,0.7s,mb4.8						
ARU				*e*pP	pP	23 39 22.1	-5.5
MIB	**Mutribah**	**79.81**	**300**	*e*P	**P**	**23 39 37.6**	**-1.3**
	baz=300						
MIB				AMb	AMB	23 39 39.1	
	comp=Z,14nm,0.7s,mb5.0,baz=300						
NAY	**Al-Naaiem**	**79.87**	**299**	*e*P	**P**	**23 39 37.6**	**-1.7**
	baz=299						
NAY				AMb	AMB	23 39 50.6	
	comp=Z,6.0nm,0.9s,mb4.5,baz=299						
RST	**Umm Al-Ruwaisa**	**80.09**	**299**	*e*P	**P**	**23 39 38.6**	**-1.9**
	baz=299						
RST				AMb	AMB	23 39 40.0	
	comp=Z,15nm,0.6s,mb5.1,baz=299						
MAW	**Mawson**	**83.08**	**200**	LR	LR	00 14 03.6	
	comp=Z,41nm,21.9s,MS3.8,baz=199,slow=34						
KIV	**Kislovodsk**	**84.10**	**314**	*e*P	**P**	**23 40 00.7**	**-0.5**
KIV				pmax	pmax		
	comp=Z,7.0nm,1.2s,mb4.7						
OBN	**Obninsk**	**88.06**	**325**	⇑*e*P	**P**	**23 40 21.3**	**+0.8**
OBN				pmax	pmax		
	comp=Z,24nm,1.6s,mb5.2						
ASF	**Jabal al Asfar**	**88.77**	**302**	P	**P**	**23 40 25.5**	**+1.2**
	comp=Z,3.1nm,0.7s,mb4.7,baz=21,slow=7.8,SNR=5.5						
ASF	**Jabal al Asfar**	**88.77**	**302**	P	**P**	**23 40 25.5**	**+1.1**
ASF				pmax	pmax		
	comp=Z,3.0nm,0.7s						
MMAI	**Mount Meron Ar**	**89.99**	**303**	P	**P**	**23 40 30.7**	**+0.6**
	comp=Z,3.8nm,0.9s,mb4.7,baz=98,slow=8.9,SNR=3.0						
SYO	**Syowa Base**	**91.77**	**201**	⇑*e*PKiKP	PKiKP	23 45 27.6	-0.6
TOA0	**Torodi Ar. Sit**	**123.65**	**288**	PKPdf	PKPdf	23 46 29.0	+0.2
TORD	**Torodi Ar. Bea**	**123.65**	**288**	PKP	PKPdf	23 46 28.5	-0.3
	comp=Z,0.6nm,0.7s,baz=56,slow=1.7,SNR=6.0						
LCO	**Las Campanas**	**148.89**	**149**	*e*PKPbc	PKPab	23 47 20.6	-1.8

ISCJB ***18*** *23:27:38.2±0.3, 2373N±002×12175E±002, h29km±2km, Error ellipse: s-maj=3.3km s-min=2.2km az=141.1*
JMA ***18*** *23:27:38.5±0.3, 2386N×12170E, h69km, M3.4*
TAP ***18*** *23:27:38.5, 2376N×12166E, h39km, ML3.9, B*

ISC 18 23:27:38.5±0.3, 2374N±002×12174E±002, h28km±2km, n61,σ0§88/108, 10C-1D, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TEGC	**Jichi Village**	**0.18**	**261**	P	**Pb**	**23 27 45.4**	**+1.0**
	baz=245						
TEGC				*e*S	**Sb**	**23 27 50.6**	**+2.3**
	baz=245						
ESF	**Shoufeng Towns**	**0.25**	**303**	*e*P	**Pb**	**23 27 45.3**	**+0.2**
	baz=308						
ESF				*e*S	**Sb**	**23 27 51.0**	**+1.4**
	baz=308						
HWA	**Hwalien**	**0.27**	**334**	P	**Pb**	**23 27 46.0**	**+0.7**
	baz=354						
HWA				S	**Sb**	**23 27 52.6**	**+2.6**
	baz=354						
ESL	**Shilin**	**0.29**	**285**	⇑*i*P	**Pb**	**23 27 45.9**	**+0.3**
	baz=284						
ESL				S	**Sb**	**23 27 50.8**	**+0.3**
	baz=284						
TWD	**Chiawan**	**0.36**	**340**	⇓*i*P	**Pb**	**23 27 46.9**	**+0.2**
	baz=355						
TWD				S	**Sb**	**23 27 53.3**	**+1.0**
	baz=355						
EHY	**Hungye**	**0.44**	**239**	⇑*i*P	**Pb**	**23 27 47.6**	**-0.3**
	baz=239						
EHY				*e*S	**Sb**	**23 27 53.7**	**-0.6**
	baz=239						
TWF1	**Yuli**	**0.56**	**226**	⇑*i*P	**Pb**	**23 27 49.3**	**-0.5**
	baz=230						
TWF1				*e*S	**Sb**	**23 27 56.9**	**-0.5**
	baz=230						
WHF	**Hehuan Shan**	**0.59**	**313**	⇑*i*P	**Pb**	**23 27 49.9**	**-0.5**
	baz=309						
WHF				S	**Sb**	**23 27 58.0**	**-0.4**
	baz=309						
ENA	**Nanau**	**0.69**	**0**	*e*P	**Pb**	**23 27 51.3**	**-0.7**
	baz=14						
CHKT	**Chengkung**	**0.72**	**208**	*e*P	**Pb**	**23 27 51.5**	**-1.0**
	baz=192						
CHKT				*e*S	**Sb**	**23 28 01.0**	**-1.1**
	baz=192						
YUS	**Yu-Shan**	**0.76**	**251**	⇑*i*P	**Pb**	**23 27 53.1**	**-0.1**
	baz=246						
YUS				S	**Sb**	**23 28 02.5**	**-0.7**
	baz=246						
NNS	**Nan Shan**	**0.77**	**335**	P	**Pb**	**23 27 52.7**	**-0.8**
	baz=340						
NNS				*e*S	**Sb**	**23 28 02.5**	**-1.1**
	baz=340						
SMLT	**Sun Moon Lake**	**0.78**	**281**	⇑*i*P	**Pb**	**23 27 52.8**	**-0.7**
	baz=284						
SMLT				S	**Sb**	**23 28 02.8**	**-0.9**
	baz=284						
TYC	**Yuchr**	**0.82**	**282**	⇑*i*P	**Pn**	**23 27 53.2**	**-1.0**
	baz=285						
TYC				S	**Sb**	**23 28 04.2**	**-0.7**
	baz=285						
ELDTW	**Lidau**	**0.86**	**230**	*e*P	**Pn**	**23 27 53.4**	**-1.3**
	baz=221						
ELDTW				*e*S	**Sb**	**23 28 03.8**	**-2.1**
	baz=221						
TWC	**Suao**	**0.87**	**7**	*e*P	**Pn**	**23 27 54.4**	**-0.6**
	baz=13						
TWC				*e*S	**Sb**	**23 28 06.1**	**-0.3**
	baz=13						
ALS	**Alishan**	**0.88**	**255**	⇑*i*P	**Pn**	**23 27 54.9**	**-0.2**
	baz=251						
ALS				S	**Sb**	**23 28 05.7**	**-0.9**
	baz=251						
WNT	**Mingjian**	**0.97**	**278**	*i* P	**Pn**	**23 27 56.5**	**+0.2**
	baz=277						
WNT				S	**Sn**	**23 28 09.4**	**+0.2**
	baz=277						
CHN5	**Tsauling**	**0.98**	**262**	P	**Pn**	**23 27 56.3**	**-0.1**
	baz=259						
CHN5				*e*S	**Sn**	**23 28 09.2**	**-0.1**
	baz=259						
TWE	**Neicheng**	**0.98**	**356**	P	**Pn**	**23 27 55.7**	**-0.7**
	baz=351						
NSK	**Sanguang**	**1.00**	**340**	⇑*i*P	**Pn**	**23 27 56.1**	**-0.5**
	baz=345						
NSK				S	**Sn**	**23 28 07.6**	**-2.1**
	baz=345						
TCU	**Taichung**	**1.05**	**293**	P	**Pn**	**23 27 57.7**	**+0.3**
	baz=293						
TCU				*e*S	**Sn**	**23 28 12.2**	**+1.1**
	baz=293						
STYT	**Tauyuan**	**1.06**	**238**	P	**Pn**	**23 27 57.1**	**-0.5**
	baz=229						
STYT				*e*S	**Sn**	**23 28 10.9**	**-0.5**
	baz=229						
TWQ1	**Liyutan**	**1.07**	**305**	⇑*i*P	**Pn**	**23 27 57.8**	**+0.2**
	baz=306						
TWQ1				S	**Sn**	**23 28 11.5**	**0.0**
	baz=306						
WGK	**Gukeng**	**1.08**	**268**	*e*P	**Pn**	**23 27 57.4**	**-0.3**
	baz=265						
WGK				*e*S	**Sn**	**23 28 12.5**	**+0.7**
	baz=265						
TWG	**Pinlang**	**1.10**	**214**	*e*P	**Pn**	**23 27 56.4**	**-1.6**
	baz=201						
NSTT	**Nanjuang**	**1.11**	**323**	*i* P	**Pn**	**23 27 58.5**	**+0.2**
	baz=313						
NSTT				S	**Sn**	**23 28 11.9**	**-0.8**
	baz=313						

	baz=328								
NWF	**Wu-fen Shan**	**1.33**	**2**	*e*P		**Pn**	**23 27 59.4**	**-1.9**
	baz=352								
WTCT	**Ta-ch'eng**	**1.34**	**276**	*e*P		**Pn**	**23 28 01.4**	**+0.1**
	baz=274								
WTCT				*e*S		**Sn**	**23 28 19.2**	**+1.1**
	baz=274								
ECL	**Taimali**	**1.34**	**212**	*e*P		**Pn**	**23 27 59.9**	**-1.6**
	baz=201								
YOJ	**Yonaguni jima**	**1.37**	**58**	P		**Pn**	**23 28 01.6**	**-0.2**
YOJ				S		**Sn**	**23 28 18.9**	**-0.1**
YOJ	**Yonaguni jima**	**1.37**	**58**	*e*P		**Pn**	**23 28 01.8**	**0.0**
	baz=61								
YOJ				*e*S		**Sn**	**23 28 19.3**	**+0.3**
	baz=61								
SSD	**Sandimen**	**1.42**	**226**	*e*P		**Pn**	**23 28 02.7**	**+0.3**
	baz=208								
SSD				*e*S		**Sn**	**23 28 20.8**	**+0.7**
	baz=208								
CHN8	**Yiju**	**1.45**	**255**	*e*P		**Pn**	**23 28 02.8**	**-0.1**
	baz=251								
CHN8				*e*S		**Sn**	**23 28 21.1**	**+0.1**
	baz=251								
TWM1	**Shoushan**	**1.51**	**233**	*e*P		**Pn**	**23 28 04.9**	**+1.2**
	baz=241								
TWM1				*e*S		**Sn**	**23 28 25.8**	**+3.3**
	baz=241								
SCLT	**Jiali**	**1.52**	**249**	*e*S		**Sn**	**23 28 23.7**	**+1.0**
	baz=245								
TWY	**Chenhua**	**1.54**	**355**	*e*P		**Pn**	**23 28 03.5**	**-0.6**
	baz=358								
EAST	**Anshuo**	**1.58**	**211**	*e*P		**Pn**	**23 28 03.8**	**-0.9**
	baz=203								
LAY	**Lan-yu**	**1.70**	**186**	*e*P		**Pn**	**23 28 04.4**	**-1.9**
	baz=176								
SCZT	**Fangliau**	**1.70**	**217**	*e*P		**Pn**	**23 28 07.4**	**+1.1**
	baz=213								
SCZT				*e*S		**Sn**	**23 28 28.9**	**+1.7**
	baz=213								
IRIF	**Iriomote-Funau**	**1.92**	**72**	P		**Pn**	**23 28 09.9**	**+0.6**
IRIF				*e*S		**Sn**	**23 28 33.4**	**+0.9**
HATJ	**Hateruma jima**	**1.92**	**80**	P		**Pn**	**23 28 09.7**	**+0.3**
HATJ				S		**Sn**	**23 28 32.8**	**+0.2**
TWK1	**Hengchun**	**1.98**	**206**	*e*P		**Pn**	**23 28 09.8**	**-0.4**
	baz=193								
TSEB	**Hengchuen, Pin**	**1.98**	**203**	*e*P		**Pn**	**23 28 13.3**	**+3.0**
	baz=194								
PNG	**Penghu**	**2.01**	**266**	*e*P		**Pn**	**23 28 09.7**	**-0.9**
	baz=264								
PNG				*e*S		**Sn**	**23 28 33.2**	**-1.5**
	baz=264								
JKRS	**Kuro-shima**	**2.14**	**76**	P		**Pn**	**23 28 13.0**	**+0.6**
JKRS				S		**Sn**	**23 28 39.1**	**+1.1**
JIJ	**Ishigaki jima**	**2.29**	**74**	P		**Pn**	**23 28 14.3**	**-0.1**
JIJ				S		**Sn**	**23 28 40.9**	**-0.8**
JTJ	**Tarama**	**2.85**	**71**	P		**Pn**	**23 28 22.2**	**0.0**
JTJ				S		**Sn**	**23 28 55.7**	**0.0**
KNM	**Kinmen**	**3.09**	**283**	*e*P		**Pn**	**23 28 25.4**	**-0.1**
	baz=281								
KNM				*e*S		**Sn**	**23 29 00.2**	**-1.3**
	baz=281								

IDC **18** *23:36:49.2±1.8, 883S×10997E, h0km, mb3.8/4, mb1 3.9/4, mb1mx3.6/16, mbtmp3.8/4, Error ellipse: s-maj=108.2km s-min=27.0km az=48.0*

DJA **18** *23:36:50, 908S×110.10E, h10km, MLv4.1/9*

ISCJB **18** *23:36:52.4±0.5, 9.10S±004×11002E±004, h33km, mb3.8/6, Error ellipse: s-maj=5.9km s-min=5.6km az=136.7*

NEIC **18** *23:36:54.0±0.9, 894S×10999E, h35km, mb4.1/3, Error ellipse: s-maj=27.6km s-min=13.7km az=200.0*

ISC 18 23:36:54.1±0.5, 903S±004×11002E±004, h35km, n22, σ1§34/23, mb3.8/6, South of Jawa

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
UGM	**Wanagama**	**1.22**	**24**	P		**Pn**	**23 37 11.9**	**-2.8**
UGM	**Wanagama**	**1.22**	**24**	S		**Sn**	**23 37 30.0**	**0.0**
CLJI	**Cilicap**	**1.64**	**323**	P		**Pn**	**23 37 21.2**	**+0.8**
CLJI	**Cilicap**	**1.64**	**323**	S		**Sn**	**23 37 43.6**	**+3.3**
BJII	**Banjamegara**	**1.71**	**350**	P		**Pn**	**23 37 19.9**	**-1.6**
BJII	**Banjamegara**	**1.71**	**350**	S		**Sn**	**23 37 45.0**	**+2.8**
SMRI	**Semarang**	**2.01**	**12**	P		**Pn**	**23 37 25.2**	**-0.4**
SMRI	**Semarang**	**2.01**	**12**	S		**Sn**	**23 37 50.6**	**+1.0**
SJI	**Sawahan**	**2.16**	**54**	P		**Pn**	**23 37 26.1**	**-1.5**
KRKI	**Karangkates**	**2.56**	**70**	P		**Pn**	**23 37 31.8**	**-1.3**
KRKI	**Karangkates**	**2.56**	**70**	S		**Sn**	**23 38 03.4**	**+0.3**
JCJI	**Jatiwangi**	**3.06**	**325**	P		**Pn**	**23 37 39.2**	**-0.8**
LEM	**Lembang**	**3.23**	**313**	P		**Pn**	**23 37 43.8**	**+1.4**
XMIS	**Christmas Isla**	**4.54**	**251**	Pn		**Pn**	**23 38 01.3**	**+1.0**
XMIS				Sn		**Sn**	**23 38 50.6**	**-1.3**
MBWA	**Marble Bar**	**15.27**	**143**	*e*Pn		**Pn**	**23 40 25.9**	**-1.2**
	18nm,1.4s							
WRA	**Warramunga Arr**	**25.89**	**117**	P		**P**	**23 42 24.2**	**+1.3**
	1.3nm,0.5s,mb3.8,baz=289,slow=12,SNR=12							
WRA				PcP		PcP	23 45 52.4	+0.8
	0.3nm,0.8s,baz=307,slow=1.7,SNR=5.0							
WRAB	**Tennant Creek**	**25.89**	**117**	*e*P		**P**	**23 42 24.6**	**+1.7**
	4.5nm,1.3s,mb3.8							
ASAR	**Alice Springs**	**27.09**	**125**	P		**P**	**23 42 35.0**	**+1.3**
	0.4nm,0.4s,mb3.3,baz=307,slow=8.9,SNR=5.8							
ASAR				PcP		PcP	23 45 56.0	+1.8
	0.2nm,0.4s,baz=309,slow=1.4,SNR=3.3							
STKA	**Stephens Creek**	**37.07**	**132**	P		**P**	**23 44 02.5**	**+1.4**
	0.8nm,0.3s,mb4.0,baz=322,slow=11,SNR=4.2							
STKA	**Stephens Creek**	**37.07**	**132**	P		**P**	**23 44 02.5**	**+1.4**
MKAR	**Makanchi Array**	**60.83**	**339**	P		**P**	**23 47 01.3**	**-1.5**
	0.3nm,0.3s,mb3.8,baz=152,slow=8.0,SNR=3.7							
KMBO	**Kilima Mbogo**	**72.80**	**272**	*e*P		**P**	**23 48 19.1**	**-0.7**
	3.7nm,1.7s,mb4.0							

ISCJB **18** *23:40:07.6±0.2, 4933N±001×670E±002, h0km, Error ellipse: s-maj=1.6km s-min=1.4km az=145.1*

BNS **18** *23:40:10.7±1.4, 4937N×685E, h1km, ML2.4*

CSEM **18** *23:40:10.2±0.0, 4938N×681E, h1km, ML3.5/52, Error ellipse: s-maj=0.6km s-min=0.5km az=11.0*

STR **18** *23:40:10.0±0.2, 4937N×678E, h1km, Ml3.0, Error ellipse: s-maj=0.0km s-min=0.0km az=0.0*

LEDBW **18** *23:40:10.7±0.4, 4937N±002×684E±004, h1km, ML2.8, Error ellipse: s-maj=12.0km s-min=6.0km az=99.0*

BGR **18** *23:40:10.4±0.2, 4938N×682E, h1km, ML3.0/13, Error ellipse: s-maj=2.2km s-min=2.2km az=110.0*

LDG **18** *23:40:10.4±0.0, 4937N×680E, h1km, Md3.6/3, Ml3.4/62, Error ellipse: s-maj=0.8km s-min=0.7km az=146.0, Suspected Mining induced.*

NEIC **18** *23:40:10.0, 4937N×678E, h1km, ML3.0(SZGRF), ML3.0(STR), After STR.*

PRU **18** *23:40:12.5, 4937N×697E, h8km*

ISC 18 23:40:08.8±0.1, 49359N±0009×672E±001, h0km, n202, σ1§27/419, 3C-7D, Germany

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
RUP	**Ruppelstein**	**0.41**	**32**	P*		**Pg**	**23 40 17.5**	**+0.9**
RUP	**Ruppelstein**	**0.41**	**32**	Pg		**Pg**	**23 40 17.3**	**+0.7**
RUP				Sg		**Sg**	**23 40 23.0**	**+1.2**
WLF	**Walferdange**	**0.48**	**310**	*e*Pg		**Pg**	**23 40 20.8**	**+2.8**
	SNR=57							
WLF				*e*Sg		**Sg**	**23 40 27.1**	**+2.9**
	SNR=5.5							
WLF	**Walferdange**	**0.48**	**310**	P		**Pg**	**23 40 20.9**	**+2.9**
WLF	**Walferdange**	**0.48**	**310**	*e*Pg		**Pg**	**23 40 20.9**	**+2.9**
WLF				Sg		**Sg**	**23 40 28.5**	**+4.3**
WLF	**Walferdange**	**0.48**	**310**	*e*Pg		**Pg**	**23 40 20.9**	**+2.9**
WLF				Sg		**Sg**	**23 40 28.4**	**+4.2**
ABH	**Alteburg**	**0.75**	**45**	P*		**Pb**	**23 40 23.2**	**-1.5**
ABH	**Alteburg**	**0.75**	**45**	Pg		**Pg**	**23 40 22.9**	**-0.2**
ABH				Sg		**Sg**	**23 40 34.1**	**+1.3**
LANF	**Langenberg**	**0.80**	**118**	Pg		**Pg**	**23 40 24.3**	**+0.1**
LANF				Sg		**Sg**	**23 40 36.0**	**+1.4**
LANF	**Langenberg**	**0.80**	**118**	Pg		**Pg**	**23 40 24.4**	**+0.3**
KTD	**Kalmit**	**0.89**	**92**	P*		**Pg**	**23 40 26.5**	**-0.5**
KTD	**Kalmit**	**0.89**	**92**	Pg		**Pg**	**23 40 26.2**	**+0.4**
HILG	**Hillesheim**	**0.93**	**358**	*e*Pg		**Pg**	**23 40 27.4**	**+0.7**
BGG	**Burgeitz**	**0.94**	**25**	*e*Pg		**Pg**	**23 40 27.8**	**+1.1**
CDF	**Champ du Feu**	**1.01**	**159**	*e*Pg		**Pg**	**23 40 28.9**	**+0.7**
	SNR=1.0							
CDF				*e*Sg		**Sg**	**23 40 42.5**	**+1.2**
	224nm,0.4s,SNR=1.0							
CDF	**Champ du Feu**	**1.01**	**159**	*e*Pg		**Pg**	**23 40 28.9**	**+0.7**
	SNR=1.0							
CDF				*e*Sg		**Sg**	**23 40 42.5**	**+1.2**
	112nm,0.4s,SNR=1.0							
STR	**Strasbourg**	**1.03**	**138**	*e*Pg		**Pg**	**23 40 30.5**	**+1.9**
	SNR=2.6							
RFYF	**Reffroy**	**1.10**	**229**	*e*Pg		**Pg**	**23 40 32.8**	**+3.0**
RFYF				*e*Sg		**Sg**	**23 40 47.0**	**+2.9**
	417nm,0.3s							
RFYF	**Reffroy**	**1.10**	**229**	*e*Pg		**Pg**	**23 40 32.8**	**+3.0**
RFYF				*e*Sg		**Sg**	**23 40 47.0**	**+2.9**
	208nm,0.3s							
ECH	**Echery**	**1.18**	**166**	Pg		**Pg**	**23 40 32.9**	**+1.6**
ECH	**Echery**	**1.18**	**166**	P		**Pg**	**23 40 32.2**	**+0.8**
ECH				Sg		**Sg**	**23 40 49.0**	**+2.4**
ECH	**Echery**	**1.18**	**166**	*e*Pg		**Pg**	**23 40 32.6**	**+1.3**
ECH				*e*Sg		**Sg**	**23 40 48.0**	**+1.4**
ECH	**Echery**	**1.18**	**166**	*e*Pg		**Pg**	**23 40 32.6**	**+1.2**
ECH				*e*Sg		**Sg**	**23 40 48.0**	**+1.4**
THEF	**They Montfort**	**1.23**	**204**	Pg		**Pg**	**23 40 33.9**	**+1.5**
THEF				Sg		**Sg**	**23 40 50.4**	**+2.0**
THEF	**They Montfort**	**1.23**	**204**	Pn		**Pn**	**23 40 34.0**	**+0.8**
STB	**Steinbach**	**1.24**	**3**	*e*Pg		**Pg**	**23 40 33.8**	**+1.3**
STB				*e*Sg		**Sg**	**23 40 50.4**	**+1.8**
	70nm,0.5s							
KOE	**Koeppel**	**1.25**	**31**	*e*Pg		**Pg**	**23 40 32.3**	**-0.4**
SWS	**Schriesheim-Wi**	**1.30**	**84**	P		**Pg**	**23 40 33.6**	**0.0**
SWS				Sg		**Sg**	**23 40 51.5**	**+1.1**
KLL	**Kalltalsperre**	**1.32**	**348**	*e*Pg		**Pg**	**23 40 34.5**	**+0.6**
MEM	**Membach**	**1.33**	**340**	P		**Pg**	**23 40 35.0**	**+0.6**
MEM	**Membach**	**1.33**	**340**	P		**Pg**	**23 40 34.9**	**+0.6**
LIBD	**Limburg**	**1.34**	**154**	P		**Pg**	**23 40 36.0**	**+1.5**
LIBD	**Limburg**	**1.34**	**154**	Pg		**Pg**	**23 40 35.8**	**+1.3**
LIBD				Sg		**Sg**	**23 40 53.7**	**+1.9**
DREG	**Dreilaegerbach**	**1.34**	**347**	*e*Pg		**Pg**	**23 40 35.4**	**+0.9**
HAU	**Haudompre**	**1.38**	**191**	*e*Pg		**Pg**	**23 40 36.5**	**+1.4**
	SNR=1.0							
HAU				*e*Sg		**Sg**	**23 40 54.8**	**+1.8**
	315nm,0.4s							
HAU	**Haudompre**	**1.38**	**191**	*e*Pg		**Pg**	**23 40 36.5**	**+1.4**
	SNR=1.0							
HAU				*e*Sg		**Sg**	**23 40 54.8**	**+1.8**
	157nm,0.4s							
HAU	**Haudompre**	**1.38**	**191**	*e*Pn		**Pn**	**23 40 35.4**	**+0.2**
HAU				*e*Pg		**Pg**	**23 40 36.5**	**+1.4**
HAU				*e*Sg		**Sg**	**23 40 54.8**	**+1.8**
TOD	**Tromm**	**1.38**	**79**	P		**Pg**	**23 40 34.6**	**-0.5**
TOD				Sg		**Sg**	**23 40 52.9**	**-0.1**
TOD	**Tromm**	**1.38**	**79**	Pg		**Pg**	**23 40 34.5**	**-0.7**
TOD				Sg		**Sg**	**23 40 52.8**	**-0.2**
MEZF	**Maizieres J'vi**	**1.40**	**233**	*e*Pg		**Pg**	**23 40 37.0**	**+1.5**
	SNR=1.0							
MEZF				*e*Sg		**Sg**	**23 40 55.7**	**+2.1**
	177nm,0.4s							
MEZF	**Maizieres J'vi**	**1.40**	**233**	*e*Pg		**Pg**	**23 40 37.0**	**+1.5**
	SNR=1.0							
MEZF				*e*Sg		**Sg**	**23 40 55.7**	**+2.1**
	89nm,0.4s							
BCLA	**Clavier**	**1.40**	**320**	P		**Pn**	**23 40 36.9**	**+1.3**
BCLA	**Clavier**	**1.40**	**320**	P		**Pn**	**23 40 36.8**	**+1.2**
TNS	**Taunus Mts**	**1.41**	**52**	P		**Pn**	**23 40 34.7**	**-1.0**
TNS				*e*Pg		**Pg**	**23 40 36.0**	**+0.1**
	SNR=14							
TNS				Sg		**Sg**	**23 40 54.1**	**0.0**
TNS	**Taunus Mts**	**1.41**	**52**	Pg		**Pg**	**23 40 36.0**	**+0.2**
	SNR=14							
TNS				Sg		**Sg**	**23 40 54.1**	**0.0**
TNS	**Taunus Mts**	**1.41**	**52**	*e*Pg		**Pg**	**23 40 34.9**	**-0.9**
TNS				*e*Sg		**Sg**	**23 40 55.0**	**+0.9**
GIVF	**Givet**	**1.44**	**302**	*e*Pn		**Pn**	**23 40 36.6**	**+0.5**
	SNR=1.0							
GIVF				*e*Sg		**Sg**	**23 40 57.1**	**+2.1**
	303nm,0.7s,SNR=1.0							
GIVF	**Givet**	**1.44**	**302**	*e*Pn		**Pn**	**23 40 36.6**	**+0.5**
	SNR=1.0							
GIVF				*e*Sg		**Sg**	**23 40 57.1**	**+2.1**
	151nm,0.7s,SNR=1.0							
BFO	**Black Forest**	**1.48**	**134**	P		**Pn**	**23 40 36.3**	**-0.3**
BFO				Pg		**Pg**	**23 40 38.0**	**+1.0**
BFO				Sg		**Sg**	**23 40 57.2**	**+1.0**
BFO	**Black Forest**	**1.48**	**134**	P		**Pg**	**23 40 38.0**	**+1.0**
BFO				S		**Sg**	**23 40 57.2**	**+1.0**
BFO	**Black Forest**	**1.48**	**134**	*e*Pn		**Pn**	**23 40 36.4**	**-0.2**
BFO	**Black Forest**	**1.48**	**134**	*e*Pg		**Pg**	**23 40 35.9**	**-1.2**
BFO				*e*Pn		**Pn**	**23 40 36.4**	**-0.2**
BFO				*e*Sg		**Sg**	**23 40 57.3**	**+1.1**
BFO				*e*Sg		**Sg**	**23 40 58.1**	**+1.9**
LBG	**Lerchenberg**	**1.53**	**116**	Pg		**Pg**	**23 40 38.2**	**+0.1**
LBG				Sg		**Sg**	**23 40 57.5**	**-0.4**
MOF	**Molkenrain**	**1.53**	**170**	*e*Pn		**Pn**	**23 40 38.4**	**+1.0**
	SNR=25							
MOF				P			23 40 39.3	
MOF				Sg		**Sg**	**23 41 00.6**	**+2.6**
MOF	**Molkenrain**	**1.53**	**170**	Pn		**Pn**	**23 40 39.3**	**+2.0**
MOF				S		**Sg**	**23 41 00.6**	**+2.6**
MOF	**Molkenrain**	**1.53**	**170**	Pg		**Pg**	**23 40 39.0**	**+0.9**
MOF				Sg		**Sg**	**23 40 59.3**	**+1.3**
HINF	**Hinteralfeld**	**1.55**	**177**	*e*Pg		**Pg**	**23 40 39.4**	**+1.0**
HINF				*e*Sg		**Sg**	**23 40 59.6**	**+1.2**
	244nm,0.4s							
HINF	**Hinteralfeld**	**1.55**	**177**	*e*Pg		**Pg**	**23 40 39.4**	**+1.0**
HINF				*e*Sg		**Sg**	**23 40 59.6**	**+1.2**
	122nm,0.4s							
HINF	**Hinteralfeld**	**1.55**	**177**	*e*Pn		**Pn**	**23 40 37.8**	**+0.3**
HINF				*e*Pg		**Pg**	**23 40 39.4**	**+1.0**
HINF				*e*Sg		**Sg**	**23 40 59.6**	**+1.2**
DOU	**Dourbes**	**1.57**	**299**	P		**Pn**	**23 40 39.4**	**+1.6**
DOU	**Dourbes**	**1.57**	**299**	P		**Pn**	**23 40 39.3**	**+1.5**
BEBN	**Eben Emael**	**1.59**	**335**	P		**Pn**	**23 40 40.5**	**+2.4**
SFTF	**Sexfontaines**	**1.60**	**225**	*e*Pn		**Pn**	**23 40 39.3**	**+1.0**
SFTF				*e*Sn		**Sn**	**23 40 59.5**	**-0.2**
	33nm,0.4s							
SFTF				*e*Sg		**Sg**	**23 41 02.4**	**+2.1**
	98nm,0.4s							
SFTF	**Sexfontaines**	**1.60**	**225**	*e*Pn		**Pn**	**23 40 39.3**	**+1.0**
SFTF				*e*Sn		**Sn**	**23 40 59.5**	**-0.2**
	16nm,0.4s							
SFTF				*e*Sg		**Sg**	**23 41 02.4**	**+2.1**
	49nm,0.4s							
KIZ	**Kirchzarten**	**1.61**	**150**	P		**Pn**	**23 40 40.0**	**+1.6**
KIZ				S		**Sn**	**23 40 57.0**	**-2.9**
KIZ				Sg		**Sg**	**23 41 01.6**	**+1.1**
FELD	**Feldberg im Sc**	**1.71**	**150**	*e*Pn		**Pn**	**23 40 39.8**	**0.0**
	SNR=8.6							
FELD				Pg		**Pg**	**23 40 42.2**	**+0.7**
FELD				Sg		**Sg**	**23 41 04.5**	**+0.9**
FELD	**Feldberg im Sc**	**1.71**	**150**	Pg		**Pg**	**23 40 42.1**	**+0.6**
FELD				Sg		**Sg**	**23 41 04.8**	**+1.2**
STU	**Stuttgart**	**1.73**	**109**	*e*Pg		**Pg**	**23 40 42.3**	**+0.5**
	SNR=2.5							
STU	**Stuttgart**	**1.73**	**109**	*e*Pn		**Pn**	**23 40 39.2**	**-0.8**
STU	**Stuttgart**	**1.73**	**109**	Pg		**Pg**	**23 40 42.3**	**+0.4**
	SNR=2.5							
STU	**Stuttgart**	**1.73**	**109**	*e*Pn		**Pn**	**23 40 39.2**	**-0.8**
TUBL	**Tuebingen-Lenn**	**1.77**	**117**	Pg		**Pg**	**23 40 42.6**	**0.0**
TUBL	**Tuebingen-Lenn**	**1.77**	**117**	Px		**Px**	23 40 42.6	
BAIF	**Baives**	**1.78**	**294**	*e*Pg		**Pg**	**23 40 44.2**	**+1.4**
BAIF				*e*Sg		**Sg**	**23 41 07.5**	**+1.7**
	146nm,0.6s							
BAIF	**Baives**	**1.78**	**294**	*e*Pg		**Pg**	**23 40 44.2**	**+1.4**
BAIF				*e*Sg		**Sg**	**23 41 07.5**	**+1.7**
	73nm,0.6s							
BAIF	**Baives**	**1.78**	**294**	*e*Pn		**Pn**	**23 40 40.8**	**+0.1**
BAIF				*e*Pg		**Pg**	**23 40 44.2**	**+1.4**
BAIF				*e*Sg		**Sg**	**23 41 07.5**	**+1.7**
SPAK	**Spaichingen-Ko**	**1.86**	**132**	Pg		**Pg**	**23 40 44.5**	**+0.2**
SPAK				Sg		**Sg**	**23 41 10.5**	**+2.2**
SPAK	**Spaichingen-Ko**	**1.86**	**132**	Pg		**Pg**	**23 40 44.4**	**+0.1**
SPAK				Sg		**Sg**	**23 41 10.7**	**+2.4**
SIND	**Sindeldorf**	**1.88**	**89**	P		**Pn**	**23 40 40.8**	**-1.4**
SNF	**Seneffe**	**1.95**	**307**	P		**Pn**	**23 40 46.5**	**+3.4**
SNF	**Seneffe**	**1.95**	**307**	P		**Pn**	**23 40 46.5**	**+3.4**
BUCH	**Bad Urach**	**1.96**	**117**	Pg		**Pg**	**23 40 46.4**	**+0.1**
BBS	**Basel-Blauen**	**1.97**	**164**	Pg		**Pg**	**23 40 47.2**	**+0.8**
BBS	**Basel-Blauen**	**1.97**	**164**	Pg		**Pg**	**23 40 47.1**	**+0.7**
LOMF	**Lomont**	**2.01**	**178**	Pg		**Pg**	**23 40 47.5**	**+0.2**
LOMF	**Lomont**	**2.01**	**178**	Pg		**Pg**	**23 40 48.1**	**+0.9**
LOMF				Sg		**Sg**	**23 41 15.1**	**+1.8**
GUT	**Gutenstein**	**2.04**	**128**	P		**Pn**	**23 40 44.3**	**-0.1**
GUT				Pg		**Pg**	**23 40 48.0**	**+0.1**
GUT				S		**Sn**	**23 41 08.9**	**-1.6**
GUT				Sg		**Sg**	**23 41 14.0**	**-0.3**
GUT	**Gutenstein**	**2.04**	**128**	Pn		**Pn**	**23 40 44.3**	**-0.1**
GUT				Sx		Sx	23 41 08.9	
GUT	**Gutenstein**	**2.04**	**128**	P		**Pg**	**23 40 48.0**	**+0.1**
GUT				S		**Sg**	**23 41 14.0**	**-0.3**
UCC	**Uccle**	**2.10**	**314**	P		**Pn**	**23 40 51.4**	**+6.3**
UCC	**Uccle**	**2.10**	**314**	P		**Pn**	**23 40 51.3**	**+6.2**
BUG	**Bochum--Univer**	**2.11**	**9**	*e*Pg		**Pg**	**23 40 49.2**	**-0.1**
	SNR=1.8							
BUG				*e*Sg		**Sg**	**23 41 16.0**	**-0.7**
	SNR=3.6							
SISB	**Singen-Schiene**	**2.24**	**137**	P*		**Pb**	**23 40 52.2**	**+2.2**
SISB				S*		**Sb**	**23 41 20.9**	**+2.6**
HDH	**Heidenheim-Cha**	**2.42**	**107**	Sg		**Sg**	**23 41 25.8**	**-0.7**
UBBA	**Unterbreizbach**	**2.57**	**54**	*e*Sg		**Sg**	**23 41 31.7**	**+0.5**
	SNR=3.4							
CABF	**La Chapelle**	**2.78**	**189**	*e*Pg		**Pg**	**23 41 02.4**	**+0.3**
CABF				*e*Sg		**Sg**	**23 41 38.5**	**+0.4**
	97nm,0.6s,SNR=1.0							
CABF	**La Chapelle**	**2.78**	**189**	*e*Pg		**Pg**	**23 41 02.4**	**+0.3**
CABF				*e*Sg		**Sg**	**23 41 38.5**	**+0.4**
	48nm,0.6s,SNR=1.0							
CABF	**La Chapelle**	**2.78**	**189**	*e*Pn		**Pn**	**23 40 54.5**	**0.0**
CABF				*e*Pg		**Pg**	**23 41 02.4**	**+0.3**
CABF				*e*Sg		**Sg**	**23 41 38.5**	**+0.4**
UBR	**Ueberruh**	**2.81**	**125**	P*		**Pb**	**23 41 04.4**	**+4.7**
UBR				S*		**Sb**	**23 41 40.7**	**+6.1**
UBR	**Ueberruh**	**2.81**	**125**	P		**Pn**	**23 40 56.1**	**+1.3**
UBR				S		**Sb**	**23 41 40.7**	**+6.1**
UBR	**Ueberruh**	**2.81**	**125**	P		**Pb**	**23 41 04.4**	**+4.7**
LOR	**Lormes**	**2.83**	**224**	*e*Pn		**Pn**	**23 40 55.3**	**+0.1**
	SNR=1.0							
LOR				*e*Sn		**Sn**	**23 41 28.7**	**-1.3**
	87nm,0.4s,SNR=1.0							
LOR				*e*Sg		**Sg**	**23 41 40.9**	**+1.1**
	64nm,0.4s,SNR=1.0							
LOR	**Lormes**	**2.83**	**224**	*e*Pn		**Pn**	**23 40 55.3**	**+0.1**
	SNR=1.0							
LOR				*e*Sn		**Sn**	**23 41 28.7**	**-1.3**
	44nm,0.4s,SNR=1.0							
LOR				*e*Sg		**Sg**	**23 41 40.9**	**+1.1**
	32nm,0.4s,SNR=1.0							
GRA1	**Grafenberg Arr**	**2.95**	**82**	Sg		**Sg**	**23 41 42.8**	**-0.7**
GRF	**Grafenberg Arr**	**2.95**	**82**	*e*Sg		**Sg**	**23 41 42.8**	**-0.7**
DAVA	**Damuels**	**2.96**	**133**	⇓*i*Pn		**Pn**	**23 40 58.2**	**+1.3**
DAVA				⇓*i*Pg		**Pg**	**23 41 06.7**	**+1.3**
DAVA				⇓*i*Sg		**Sg**	**23 41 44.2**	**+0.6**
	25nm,0.5s							
IBBN	**Ibbenburen**	**3.02**	**12**	*e*Sg		**Sg**	**23 41 45.4**	**-0.5**
	SNR=2.1							
SSF	**Saint Saulge**	**3.15**	**224**	*e*Pn		**Pn**	**23 41 00.0**	**+0.5**
	SNR=1.0							
SSF				*e*Sn		**Sn**	**23 41 36.4**	**-1.4**
	36nm,0.6s,SNR=1.0							
SSF				*e*Sg		**Sg**	**23 41 50.6**	**+0.7**
	57nm,0.4s,SNR=1.0							
SSF	**Saint Saulge**	**3.15**	**224**	*e*Pn		**Pn**	**23 41 00.0**	**+0.5**
	SNR=1.0							
SSF				*e*Sn		**Sn**	**23 41 36.4**	**-1.4**
	18nm,0.6s,SNR=1.0							
SSF				*e*Sg		**Sg**	**23 41 50.6**	**+0.7**
	29nm,0.4s,SNR=1.0							
FUR	**Furstenfeldbru**	**3.24**	**110**	*e*Sg		**Sg**	**23 41 52.2**	**-0.6**
	SNR=1.7							
SMF	**Signal de Mont**	**3.33**	**217**	*e*Pg		**Pg**	**23 41 13.1**	**+0.5**
	SNR=1.0							
SMF				*e*Sn		**Sn**	**23 41 40.7**	**-1.7**
	52nm,0.5s,SNR=1.0							
SMF				*e*Sg		**Sg**	**23 41 56.1**	**+0.3**
	50nm,0.5s,SNR=1.0							
SMF	**Signal de Mont**	**3.33**	**217**	*e*Pg		**Pg**	**23 41 13.1**	**+0.5**
	SNR=1.0							
SMF				*e*Sn		**Sn**	**23

	27nm,0.8s							
LPG	**La Plagne**	**3.86**	**180**	*e*Pg	**Pg**	**23 41 22.4**	**-0.4**
LPG				*e*Sn	**Sn**	**23 41 52.9**	**-2.5**
	3.9nm,0.4s							
LPG				*e*Sg	**Sg**	**23 42 12.1**	**-0.7**
	14nm,0.8s							
LPG	**La Plagne**	**3.86**	**180**	*e*Pn	**Pn**	**23 41 09.6**	**+0.2**
LPG				*e*Pg	**Pg**	**23 41 22.4**	**-0.4**
LPG				*e*Sn	**Sn**	**23 41 52.9**	**-2.5**
LPG				*e*Sg	**Sg**	**23 42 12.1**	**-0.7**
WET	**Wettzell**	**4.04**	**91**	*e*Pn	**Pn**	**23 41 12.3**	**+0.6**
WET				*e*Sg	**Sg**	**23 42 17.5**	**-0.9**
	SNR=3.7							
BNI	**Bardonecchia**	**4.31**	**180**	*e*Pn	**Pn**	**23 41 17.7**	**+2.2**
BNI	**Bardonecchia**	**4.31**	**180**	*e*Pn	**Pn**	**23 41 17.7**	**+2.2**
TCF	**Toulx Ste Croi**	**4.32**	**226**	*e*Pg	**Pg**	**23 41 31.3**	**-0.3**
TCF				*e*Sg	**Sg**	**23 42 27.4**	**-0.2**
	55nm,0.7s,SNR=1.0							
TCF	**Toulx Ste Croi**	**4.32**	**226**	*e*Pg	**Pg**	**23 41 31.3**	**-0.3**
TCF				*e*Sg	**Sg**	**23 42 27.4**	**-0.2**
	27nm,0.7s,SNR=1.0							
TCF	**Toulx Ste Croi**	**4.32**	**226**	*e*Pn	**Pn**	**23 41 16.1**	**+0.4**
TCF				*e*Pg	**Pg**	**23 41 31.3**	**-0.3**
TCF				*e*Sg	**Sg**	**23 42 27.4**	**-0.2**
SSB	**Saint Sauveur**	**4.34**	**201**	Pn	**Pn**	**23 41 15.7**	**-0.3**
SSB	**Saint Sauveur**	**4.34**	**201**	Pn	**Pn**	**23 41 15.7**	**-0.2**
CLL	**Collm**	**4.47**	**62**	*e*Sg	**Sg**	**23 42 29.0**	**-3.3**
	SNR=2.6							
ORIF	**Oris-en-Rattie**	**4.48**	**188**	*e*Pn	**Pn**	**23 41 17.8**	**0.0**
ORIF				*e*Sg	**Sg**	**23 42 31.6**	**-1.0**
	32nm,0.7s							
ORIF	**Oris-en-Rattie**	**4.48**	**188**	*e*Pn	**Pn**	**23 41 17.8**	**0.0**
ORIF				*e*Sg	**Sg**	**23 42 31.6**	**-1.0**
	16nm,0.7s							
KHC	**Kasperske Hory**	**4.50**	**90**	*e*PN	**Pn**	**23 41 18.1**	**0.0**
KHC				*e*SN	**Sn**	**23 42 07.8**	**-3.2**
KHC				*e*SG	**Sg**	**23 42 30.3**	**-2.8**
LDF	**La Druitiere**	**4.57**	**263**	*e*Pn	**Pn**	**23 41 20.0**	**+0.9**
	SNR=1.0							
LDF				*e*Sn	**Sn**	**23 42 10.6**	**-2.3**
	11nm,0.5s,SNR=1.0							
LDF				*e*Sg	**Sg**	**23 42 35.3**	**-0.3**
	23nm,0.5s,SNR=1.0							
LDF	**La Druitiere**	**4.57**	**263**	*e*Pn	**Pn**	**23 41 20.0**	**+0.9**
	SNR=1.0							
LDF				*e*Sn	**Sn**	**23 42 10.6**	**-2.3**
	5.4nm,0.5s,SNR=1.0							
LDF				*e*Sg	**Sg**	**23 42 35.3**	**-0.3**
	12nm,0.5s,SNR=1.0							
GEC2	**GERESS Array S**	**4.61**	**94**	*e*Pn	**Pn**	**23 41 19.9**	**+0.2**
GEC2	**GERESS Array S**	**4.61**	**94**	Pn	**Pn**	**23 41 19.9**	**+0.2**
GEC2				*e*Sn	**Sn**	**23 42 13.4**	**-0.5**
GEC2	**GERESS Array S**	**4.61**	**94**	*e*Pn	**Pn**	**23 41 20.1**	**+0.4**
GEC2				*e*Sn	**Sn**	**23 42 13.4**	**-0.5**
MBDF	**Montbardon**	**4.63**	**180**	*e*Pg	**Pg**	**23 41 36.6**	**-0.9**
MBDF				*e*Sn	**Sn**	**23 42 11.2**	**-3.2**
	7.6nm,0.7s							
MBDF				*e*Sg	**Sg**	**23 42 36.0**	**-1.6**
	41nm,1.2s							
MBDF	**Montbardon**	**4.63**	**180**	*e*Pg	**Pg**	**23 41 36.6**	**-0.9**
MBDF				*e*Sn	**Sn**	**23 42 11.2**	**-3.2**
	3.8nm,0.7s							
MBDF				*e*Sg	**Sg**	**23 42 36.0**	**-1.6**
	21nm,1.2s							
MBDF	**Montbardon**	**4.63**	**180**	*e*Pn	**Pn**	**23 41 19.5**	**-0.5**
MBDF				*e*Pg	**Pg**	**23 41 36.6**	**-0.9**
MBDF				*e*Sn	**Sn**	**23 42 11.2**	**-3.2**
MBDF				*e*Sg	**Sg**	**23 42 36.0**	**-1.6**
VIVF	**Saint-Julien-l**	**4.72**	**198**	*e*Pn	**Pn**	**23 41 20.5**	**-0.6**
VIVF				*e*Sn	**Sn**	**23 42 13.5**	**-3.0**
	3.6nm,0.3s,SNR=1.0							
VIVF				*e*Sg	**Sg**	**23 42 39.1**	**-1.1**
	33nm,0.8s,SNR=1.0							
VIVF	**Saint-Julien-l**	**4.72**	**198**	*e*Pn	**Pn**	**23 41 20.5**	**-0.6**
VIVF				*e*Sn	**Sn**	**23 42 13.5**	**-3.0**
	1.8nm,0.3s,SNR=1.0							
VIVF				*e*Sg	**Sg**	**23 42 39.1**	**-1.1**
	16nm,0.8s,SNR=1.0							
FLN	**La Foliniere**	**4.78**	**266**	*e*Pg	**Pg**	**23 41 39.6**	**-0.6**
	SNR=1.0							
FLN				*e*Sn	**Sn**	**23 42 15.5**	**-2.4**
	19nm,0.4s,SNR=1.0							
FLN				*e*Sg	**Sg**	**23 42 41.6**	**-0.5**
	22nm,0.4s,SNR=1.0							
FLN	**La Foliniere**	**4.78**	**266**	*e*Pg	**Pg**	**23 41 39.6**	**-0.6**
	SNR=1.0							
FLN				*e*Sn	**Sn**	**23 42 15.5**	**-2.4**
	9.6nm,0.4s,SNR=1.0							
FLN				*e*Sg	**Sg**	**23 42 41.6**	**-0.5**
	11nm,0.4s,SNR=1.0							
FLN	**La Foliniere**	**4.78**	**266**	*e*Pn	**Pn**	**23 41 22.3**	**+0.4**
FLN				*e*Pg	**Pg**	**23 41 39.6**	**-0.6**
FLN				*e*Sn	**Sn**	**23 42 15.5**	**-2.4**
FLN				*e*Sg	**Sg**	**23 42 41.6**	**-0.5**
BRG	**Berggiesshubel**	**4.89**	**69**	Pg	**Pg**	**23 41 38.9**	**-3.4**
BRG				Sg	**Sg**	**23 42 41.7**	**-3.9**
BRG				SG	**Sg**	**23 42 41.7**	**-3.9**
	7.7nm,0.9s							
BRG	**Berggiesshubel**	**4.89**	**69**	PG	**Pg**	**23 41 38.9**	**-3.4**
GRR	**Gorron**	**5.10**	**262**	*e*Pg	**Pg**	**23 41 45.5**	**-0.9**
	SNR=1.0							
GRR				*e*Sn	**Sn**	**23 42 22.9**	**-2.9**
	16nm,0.3s,SNR=1.0							
GRR				*e*Sg	**Sg**	**23 42 51.4**	**-1.0**
	21nm,0.6s							
GRR	**Gorron**	**5.10**	**262**	*e*Pg	**Pg**	**23 41 45.5**	**-0.9**
	SNR=1.0							
GRR				*e*Sn	**Sn**	**23 42 22.9**	**-2.9**
	7.9nm,0.3s,SNR=1.0							
GRR				*e*Sg	**Sg**	**23 42 51.4**	**-1.0**
	10nm,0.6s							
GRR	**Gorron**	**5.10**	**262**	*e*Pn	**Pn**	**23 41 26.9**	**+0.6**
GRR				*e*Pg	**Pg**	**23 41 45.5**	**-0.9**
GRR				*e*Sn	**Sn**	**23 42 22.9**	**-2.9**
GRR				*e*Sg	**Sg**	**23 42 51.4**	**-1.0**
PRU	**Pruhonice**	**5.12**	**80**	*e*SG	**Sg**	**23 42 50.2**	**-2.8**
	42nm,2.0s							
PVCC	**Panska Ves**	**5.20**	**74**	*e*SG	**Sg**	**23 42 52.1**	**-3.6**
	17nm,0.9s							
MOA	**Molln**	**5.23**	**104**	*i*Pn	**Pn**	**23 41 28.3**	**+0.2**
MOA				*i*Sn	**Sn**	**23 42 27.0**	**-2.0**
MFF	**Saint Martin d**	**5.37**	**242**	*e*Pn	**Pn**	**23 41 30.5**	**+0.4**
MFF				*e*Sn	**Sn**	**23 42 29.8**	**-2.8**
	5.6nm,0.6s							
MFF				*e*Sg	**Sg**	**23 43 00.2**	**-1.1**
	35nm,0.8s							
MFF	**Saint Martin d**	**5.37**	**242**	*e*Pn	**Pn**	**23 41 30.5**	**+0.4**
MFF				*e*Sn	**Sn**	**23 42 29.8**	**-2.8**
	2.8nm,0.6s							
MFF				*e*Sg	**Sg**	**23 43 00.2**	**-1.1**
	18nm,0.8s							
RJF	**Les Rejaudoux**	**5.38**	**223**	*e*Pn	**Pn**	**23 41 30.4**	**+0.2**
RJF				*e*Sn	**Sn**	**23 42 29.8**	**-3.1**
	8.9nm,0.5s							
RJF				*e*Sg	**Sg**	**23 43 00.4**	**-1.2**
	21nm,0.6s,SNR=1.0							
RJF	**Les Rejaudoux**	**5.38**	**223**	*e*Pn	**Pn**	**23 41 30.4**	**+0.2**
RJF				*e*Sn	**Sn**	**23 42 29.8**	**-3.1**
	4.4nm,0.5s							
RJF				*e*Sg	**Sg**	**23 43 00.4**	**-1.2**
	10nm,0.6s,SNR=1.0							
SMRF	**Simiane la Rot**	**5.44**	**189**	*e*Pn	**Pn**	**23 41 31.6**	**+0.5**
SMRF				*e*Sg	**Sg**	**23 43 01.4**	**-2.1**
	75nm,1.3s							
SMRF	**Simiane la Rot**	**5.44**	**189**	*e*Pn	**Pn**	**23 41 31.6**	**+0.5**
SMRF				*e*Sg	**Sg**	**23 43 01.4**	**-2.1**
	38nm,1.3s							
CAF	**Calviac**	**5.46**	**217**	*e*Pn	**Pn**	**23 41 31.2**	**0.0**
	SNR=1.0							
CAF				*e*Sn	**Sn**	**23 42 31.4**	**-3.3**
	6.6nm,0.6s							
CAF				*e*Sg	**Sg**	**23 43 02.5**	**-1.4**
	16nm,0.5s,SNR=1.0							
CAF	**Calviac**	**5.46**	**217**	*e*Pn	**Pn**	**23 41 31.2**	**0.0**
	SNR=1.0							
CAF				*e*Sn	**Sn**	**23 42 31.4**	**-3.3**
	3.3nm,0.6s							
CAF				*e*Sg	**Sg**	**23 43 02.5**	**-1.4**
	7.8nm,0.5s,SNR=1.0							
SBF	**Sospel**	**5.52**	**175**	*e*Pn	**Pn**	**23 41 31.6**	**-0.5**
SBF				*e*Sn	**Sn**	**23 42 32.0**	**-4.2**
	15nm,0.7s							
SBF	**Sospel**	**5.52**	**175**	*e*Pn	**Pn**	**23 41 31.6**	**-0.5**
SBF				*e*Sn	**Sn**	**23 42 32.0**	**-4.2**
	7.4nm,0.7s							
LASF	**Ste Croix**	**5.64**	**202**	*e*Pn	**Pn**	**23 41 33.4**	**-0.4**
LASF				*e*Sg	**Sg**	**23 43 07.8**	**-2.0**
	23nm,0.7s							
LASF	**Ste Croix**	**5.64**	**202**	*e*Pn	**Pn**	**23 41 33.4**	**-0.4**
LASF				*e*Sg	**Sg**	**23 43 07.8**	**-2.0**
	12nm,0.7s							
FRF	**La Foret Royal**	**5.80**	**181**	*e*Pn	**Pn**	**23 41 35.3**	**-0.7**
FRF				*e*Sn	**Sn**	**23 42 38.4**	**-4.8**
	0.9nm,0.3s							
FRF	**La Foret Royal**	**5.80**	**181**	*e*Pn	**Pn**	**23 41 35.3**	**-0.7**
FRF				*e*Sn	**Sn**	**23 42 38.4**	**-4.8**
	0.4nm,0.3s							
LFF	**La Frestale**	**6.02**	**225**	*e*Pn	**Pn**	**23 41 39.0**	**+0.1**
LFF				*e*Sn	**Sn**	**23 42 44.7**	**-3.8**
	3.6nm,0.4s							
LFF				*e*Sg	**Sg**	**23 43 20.1**	**-1.8**
	38nm,0.6s							
LFF	**La Frestale**	**6.02**	**225**	*e*Pn	**Pn**	**23 41 39.0**	**+0.1**
LFF				*e*Sn	**Sn**	**23 42 44.7**	**-3.8**
	1.8nm,0.4s							
LFF				*e*Sg	**Sg**	**23 43 20.1**	**-1.8**
	19nm,0.6s							
LMR	**La Mourre**	**6.03**	**181**	*e*Pn	**Pn**	**23 41 38.5**	**-0.6**
LMR				*e*Sn	**Sn**	**23 42 44.3**	**-4.5**
	2.2nm,0.5s							
LMR	**La Mourre**	**6.03**	**181**	*e*Pn	**Pn**	**23 41 38.5**	**-0.6**
LMR				*e*Sn	**Sn**	**23 42 44.3**	**-4.5**
	1.1nm,0.5s							
SGMF	**Saint Gilles**	**6.23**	**263**	*e*Pn	**Pn**	**23 41 42.1**	**+0.2**
	SNR=1.0							
SGMF				*e*Sn	**Sn**	**23 42 49.6**	**-4.1**
	7.7nm,0.5s,SNR=1.0							
SGMF				*e*Sg	**Sg**	**23 43 27.0**	**-1.8**
	20nm,0.6s,SNR=1.0							
SGMF	**Saint Gilles**	**6.23**	**263**	*e*Pn	**Pn**	**23 41 42.1**	**+0.2**
	SNR=1.0							
SGMF				*e*Sn	**Sn**	**23 42 49.6**	**-4.1**
	3.8nm,0.5s,SNR=1.0							
SGMF				*e*Sg	**Sg**	**23 43 27.0**	**-1.8**
	9.8nm,0.6s,SNR=1.0							
DPC	**Dobruska-Polom**	**6.29**	**77**	*e*SG	**Sg**	**23 43 26.6**	**-4.0**
VRAC	**Vranov**	**6.45**	**87**	*e*Sg	**Sg**	**23 43 33.7**	**-2.2**
ROSF	**Rostrenen**	**6.68**	**265**	*e*Pn	**Pn**	**23 41 48.3**	**+0.3**
ROSF				*e*Sn	**Sn**	**23 43 00.2**	**-4.5**
	6.3nm,0.4s							
ROSF				*e*Sg	**Sg**	**23 43 41.4**	**-1.7**
	88nm,1.4s							
ROSF	**Rostrenen**	**6.68**	**265**	*e*Pn	**Pn**	**23 41 48.3**	**+0.3**
ROSF				*e*Sn	**Sn**	**23 43 00.2**	**-4.5**
	3.2nm,0.4s							
ROSF				*e*Sg	**Sg**	**23 43 41.4**	**-1.7**
	44nm,1.4s							
QUIF	**Quistinic**	**6.71**	**261**	*e*Pn	**Pn**	**23 41 48.6**	**+0.1**
QUIF				*e*Sn	**Sn**	**23 43 00.3**	**-5.3**
	14nm,0.7s,SNR=1.0							
QUIF				*e*Sg	**Sg**	**23 43 42.0**	**-2.2**
	44nm,0.9s							
QUIF	**Quistinic**	**6.71**	**261**	*e*Pn	**Pn**	**23 41 48.6**	**+0.1**
QUIF				*e*Sn	**Sn**	**23 43 00.3**	**-5.3**
	6.8nm,0.7s,SNR=1.0							
QUIF				*e*Sg	**Sg**	**23 43 42.0**	**-2.2**
	22nm,0.9s							
MTLF	**Montolieu**	**6.78**	**209**	*e*Pn	**Pn**	**23 41 49.1**	**-0.3**
MTLF				*e*Sg	**Sg**	**23 43 43.5**	**-2.8**
	38nm,1.2s							
MTLF	**Montolieu**	**6.78**	**209**	*e*Pn	**Pn**	**23 41 49.1**	**-0.3**
MTLF				*e*Sg	**Sg**	**23 43 43.5**	**-2.8**
	19nm,1.2s							
EPF	**Esparros**	**7.72**	**217**	*e*Pn	**Pn**	**23 42 01.7**	**-0.7**
EPF				*e*Sg	**Sg**	**23 44 13.2**	**-3.4**
	14nm,0.8s							
ETSF	**Etsaut**	**8.20**	**221**	*e*Pn	**Pn**	**23 42 08.6**	**-0.3**
ETSF				*e*Sn	**Sn**	**23 43 36.5**	**-5.8**
ETSF				*e*Sg	**Sg**	**23 44 28.4**	**-3.6**
	8.4nm,0.7s							
SJPF	**Ste Jean**	**8.33**	**224**	*e*Pn	**Pn**	**23 42 10.4**	**-0.2**
SJPF				*e*Sn	**Sn**	**23 43 40.5**	**-4.8**
	0.8nm,0.4s							
SJPF				*e*Sg	**Sg**	**23 44 31.9**	**-4.1**
	1.1nm,0.4s							

*KISR **18** 23:40:48.5,2680N×5654E,h33km,ML3.5*
*CSEM **18** 23:40:52.7±0.6,2640N×5659E,h30km,ML3.5, Error ellipse: s-maj=17.3km s-min=3.5km az=65.0*

ISC 18 23:40:53.2±3.0,263N±01×566E±02,h10km,n10,σ0°49/14, Southern Iran

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FAQ	**Al Faqa, Dubai**	**1.77**	**210**	P	**Pn**	**23 41 23.5**	**-0.4**
	SNR=22						
ASUD	**Al Ashush, Dub**	**2.00**	**214**	P	**Pn**	**23 41 26.7**	**-0.4**
	SNR=75						
SLWS		**5.55**	**256**	P	**Pn**	**23 42 17.1**	**+1.1**
BTHS		**5.64**	**248**	P	**Pn**	**23 42 17.3**	**+0.1**
NAY	**Al-Naaiem**	**8.77**	**292**	*e*P	**Pn**	**23 43 00.5**	**+0.4**
NAY				*e*S	**Sn**	**23 44 39.2**	**+0.1**
	2.2nm,0.6s						
NAY	**Al-Naaiem**	**8.77**	**292**	*e*P	**Pn**	**23 43 00.5**	**+0.3**
	baz=289						
NAY				*e*S	**Sn**	**23 44 39.2**	**+0.1**
	baz=289						
NAY				AML	AML	23 44 44.7	
	comp=Z,2.0nm,0.6s,baz=289						
MIB	**Mutribah**	**8.87**	**295**	*e*P	**Pn**	**23 43 01.5**	**0.0**
MIB				*e*S	**Sn**	**23 44 40.9**	**-0.7**
MIB	**Mutribah**	**8.87**	**295**	*e*P	**Pn**	**23 43 01.5**	**-0.1**
	baz=292						
MIB				*e*S	**Sn**	**23 44 40.9**	**-0.7**
	baz=292						
MIB				AML	AML	23 44 45.0	
	comp=Z,3.0nm,0.5s,baz=292						
RST	**Umm Al-Ruwaisa**	**9.05**	**293**	*e*P	**Pn**	**23 43 03.8**	**-0.2**
RST	**Umm Al-Ruwaisa**	**9.05**	**293**	*e*P	**Pn**	**23 43 03.9**	**-0.1**
	baz=290						
RST				AML	AML	23 44 48.4	
	comp=Z,3.0nm,0.4s,baz=290						

*ISCJB **18** 23:55:18.6±1.0,3802N±006×9896E±008,h13km, Error ellipse: s-maj=10.2km s-min=7.5km az=140.2*
*BJI **18** 23:55:22.5,3812N×9893E,h13km,ML3.7,Ms3.6,Msz3.3*
*IDC **18** 23:55:29.3±10.0,3870N×9870E,h0km,mb1 3.6/4, mb1mx3.4/25,mbtmp3.6/4,ML3.5/4, Error ellipse: s-maj=123.6km s-min=38.6km az=155.0*

ISC 18 23:55:19.6±2.1,3802N±008×9890E±010,h4km±13km,n6, σ0°99/10,Qinghai

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GTA	**Gaotai**	**1.56**	**27**	PG	**Pg**	**23 55 48.8**	**-0.8**
GTA				SG	**Sg**	**23 56 09.8**	**-0.1**
GTA				Smax			
	comp=N,135nm,1.3s						
GTA				Smax			
	comp=E,148nm,0.6s						
LZH	**Lanzhou**	**4.40**	**114**	P	**Pn**	**23 56 33.3**	**+6.2**
LZH				PG	**Pg**	**23 56 44.6**	**+0.7**
LZH				S	**Sn**	**23 57 18.0**	**-0.8**
LZH				SG	**Sg**	**23 57 31.0**	**-10**
LZH				Smax			
	comp=N,97nm,0.8s						
LZH				Smax			
	comp=E,132nm,1.1s						
LZH				LR	LR		
	comp=N,314nm,4.4s						
LZH				LR	LR		
	comp=Z,318nm,5.9s						
SONM	**Songino Array**	**11.24**	**27**	Pn	**Pn**	**23 58 04.0**	**+3.1**
	comp=Z,0.6nm,0.3s,baz=210,slow=14,SNR=27						
SONM				Lg		00 01 10.6	
	comp=Z,0.1nm,0.3s,baz=218,slow=30,SNR=3.0						
MKAR	**Makanchi Array**	**15.06**	**311**	Pn	**Pn**	**23 58 51.8**	**-1.2**
	comp=Z,0.1nm,0.3s,baz=119,slow=12,SNR=4.1						
ZALV	**Zalesovo Beam**	**18.64**	**333**	Pn	**Pn**	**23 59 39.1**	**+0.8**
	comp=Z,0.1nm,0.3s,baz=138,slow=10,SNR=6.4						
ZALV				Lg		00 05 07.5	
	comp=Z,0.3nm,0.3s,baz=356,slow=32,SNR=3.0						
KURK	**Kurchatov**	**19.19**	**318**	Pn	**Pn**	**23 59 45.1**	**+0.1**
KURK				Lg		00 05 33.3	
	comp=Z,0.0nm,0.3s,baz=29,slow=6.0,SNR=2.1						

*ISCJB **18** 23:59:56.0±0.6,3068S×003×6891W±005,h10km, Error ellipse: s-maj=5.9km s-min=4.0km az=173.1*
*NEIC **18** 23:59:57.5,3078S×69.16W,h0km,MD4.0(SJA), ML4.3(GUC),After GUC.*
NEIC Felt [III] at San Juan.
*IDC **18** 23:59:57.2±4.3,3071S×6882W,h12km±24km,mb3.9/1, mb1 3.6/3,mb1mx3.5/16,mbtmp3.6/3,ML4.1/2,MS2.9/1, Ms1 2.9/1,ms1mx2.1/16, Error ellipse: s-maj=55.4km s-min=14.6km az=75.0*
*GUC **18** 23:59:57.5±0.4,3078S×69.16W,h0km±2km,MD4.1,ML4.3*

ISC 18 23:59:57.7±0.6,3067S±003×6897W±005,h10km,n37, σ0°93/42,2C-6D,San Juan Province

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CFAA	**Coronel Fontan**	**1.13**	**146**	Pg	**Pg**	**00 00 16.3**	**-3.0**
	11nm,0.3s,baz=316,slow=16,SNR=744						
CFAA				Lg		00 00 31.7	
	69nm,0.3s,baz=218,slow=18,SNR=64						
TLL	**Tololo Astrono**	**1.66**	**287**	*i*P	**Pn**	**00 00 26.0**	**-0.8**
TLL				*i* S	**Sn**	**00 00 47.5**	**-0.6**
TLL				AML	AML	00 00 50.2	
	comp=E,2μm,0.6s						
TLL	**Tololo Astrono**	**1.66**	**287**	*i*P	**Pn**	**00 00 26.0**	**-0.8**
TLL				*i* S	**Sn**	**00 00 47.5**	**-0.6**
OVCH	**Ovalle**	**1.92**	**271**	*i*P	**Pn**	**00 00 29.0**	**-1.4**
OVCH				*i* S	**Sn**	**00 00 53.0**	**-1.6**
OVCH				AML	AML	00 00 58.6	
	comp=N,5μm,0.5s						
OVCH	**Ovalle**	**1.92**	**271**	*i*P	**Pn**	**00 00 29.0**	**-1.4**
OVCH				*i* S	**Sn**	**00 00 53.0**	**-1.6**
LSCH	**La Serena**	**2.11**	**290**	*i*P	**Pn**	**00 00 32.9**	**0.0**
LSCH				*e*S	**Sn**	**00 00 59.6**	**+0.4**
LCO	**Las Campanas**	**2.23**	**317**	*e*P	**Pn**	**00 00 36.7**	**+2.0**
LCO				*i* S	**Sn**	**00 01 06.4**	**+4.1**
LCO	**Las Campanas**	**2.23**	**317**	*e*Pn	**Pn**	**00 00 36.9**	**+2.3**
LCO				Sn	**Sn**	**00 01 03.8**	**+1.5**
JACH	**Jahuel**	**2.44**	**214**	*e*P	**Pn**	**00 00 37.1**	**-0.4**
JACH				*i* S	**Sn**	**00 01 07.1**	**-0.3**
CHNG	**Los Chungos**	**2.48**	**240**	*i*P	**Pn**	**00 00 37.3**	**-0.8**
CHNG				AML	AML	00 01 15.6	
	comp=N,1μm,0.3s						
VACH	**Vallenar**	**2.60**	**323**	AML	AML	00 01 22.2	
	comp=N,2μm,0.4s						
PACH	**Papudo**	**2.81**	**228**	*e*P	**Pn**	**00 00 42.6**	**-0.1**
PACH				*i* S	**Sn**	**00 01 16.4**	**-0.2**
PEL	**Peldehue**	**2.87**	**210**	AML	AML	00 01 25.4	
	comp=N,3μm,0.3s						
FCH	**Farellones**	**2.88**	**203**	*e*P	**Pn**	**00 00 44.4**	**+0.8**
FCH				*i* S	**Sn**	**00 01 19.9**	**+1.6**
FCH				AML	AML	00 01 28.2	
	comp=E,605nm,0.4s						
CLCH	**Cerro Calan**	**3.03**	**206**	AML	AML	00 01 32.2	
	comp=N,2μm,0.5s						
CLCH				AML	AML	00 01 32.8	
	comp=N,2μm,0.3s						
RCDM	**Rinconada Maip**	**3.22**	**208**	*i* P	**Pn**	**00 00 48.3**	**+0.1**
RCDM				*i* S	**Sn**	**00 01 26.9**	**+0.3**
RCDM				AML	AML	00 01 32.8	
	comp=E,672nm,0.4s						
RCDM	**Rinconada Maip**	**3.22**	**208**	*i* P	**Pn**	**00 00 48.3**	**+0.1**
RCDM				*i* S	**Sn**	**00 01 26.9**	**+0.3**
ANTU	**Antumapu**	**3.22**	**206**	AML	AML	00 01 34.7	
	comp=N,936nm,0.4s						
PCH	**Pirque**	**3.22**	**204**	*e*P	**Pn**	**00 00 48.2**	**-0.1**
PCH				*i* S	**Sn**	**00 01 27.2**	**+0.5**
LMEL	**Las Melosas**	**3.34**	**198**	AML	AML	00 01 46.6	
	comp=N,343nm,0.1s						
TACH	**Talagante**	**3.41**	**209**	*i* P	**Pn**	**00 00 50.6**	**-0.3**
CHCH	**Chadas Angostu**	**3.56**	**203**	*e*P	**Pn**	**00 00 52.9**	**+0.1**
CHCH				*e*S	**Sn**	**00 01 35.0**	**+0.1**
CACH	**El Canelo**	**3.71**	**201**	*i* P	**Pn**	**00 00 55.5**	**+0.6**
CACH				*i* S	**Sn**	**00 01 39.8**	**+1.1**
CICH	**Cipreses**	**3.84**	**198**	*i*P	**Pn**	**00 00 57.2**	**+0.3**
CICH				*i* S	**Sn**	**00 01 42.6**	**+0.5**
SFDO	**San Fernando**	**4.30**	**203**	*i*P	**Pn**	**00 01 03.1**	**0.0**
SFDO				*i* S	**Sn**	**00 01 52.7**	**-0.5**
LVC	**Limon Verde**	**8.02**	**0**	Pn	**Pn**	**00 01 56.2**	**+2.0**
	comp=N,0.6nm,0.3s,baz=186,slow=10,SNR=6.3						
LVC				Lg		00 04 12.3	
	comp=N,2.1nm,0.3s,baz=7.1,slow=14,SNR=4.5						
LVC	**Limon Verde**	**8.02**	**0**	Pn	**Pn**	**00 01 55.8**	**+1.5**
LVC				Lg		00 04 12.3	
TRQA	**Tornquist**	**9.36**	**144**	*e*Pn	**Pn**	**00 02 11.8**	**-0.8**
	comp=N,8.6nm,0.5s						
PLCA	**Paso Flores**	**10.13**	**187**	Lg		00 05 11.8	
	comp=N,0.3nm,0.3s,baz=86,slow=8.7,SNR=3.0						
PLCA				LR	LR	00 06 29.7	
	comp=N,70nm,18.8s,baz=360,slow=39						
SIV	**San Ignacio**	**16.30**	**28**	Pn	**Pn**	**00 03 47.0**	**+0.3**
	comp=N,0.1nm,0.3s,baz=212,slow=15,SNR=4.4						
USHA	**Ushuaia**	**24.16**	**179**	pP	pP	00 05 20.5	+3.8
	comp=N,20nm,0.8s,baz=337,slow=8.2,SNR=11						
TORD	**Torodi Ar. Bea**	**80.61**	**69**	P	**P**	**00 12 09.2**	**-1.6**
	comp=N,1.0nm,0.7s,baz=235,slow=5.7,SNR=11						
WRA	**Warramunga Arr**	**124.92**	**207**	PKP	PKPdf	00 18 58.0	-0.5
	comp=N,1.0nm,1.2s,baz=165,slow=1.6,SNR=2.7						
WRA	**Warramunga Arr**	**124.92**	**207**	PKP	PKPdf	00 18 58.0

*DDA **19** 00:25:20.6, 3998N×4177E, h7km±5km, Md3.1*

ISC 19 00:25:19.0±0.6, 3985N±003×4180E±003, h11km±4km, n19, σ0s97/32, Turkey

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
HOMI	**Horasan**	**0.21**	**22**	*i* P		**Pg**	**00 25 22.5**	**-0.9**
HOMI				*i* S		**Sg**	**00 25 26.6**	**+0.2**
ERZM	**Erzurum**	**0.34**	**279**	*i* P		**Pg**	**00 25 25.0**	**-0.8**
ERZM				*i* S		**Sg**	**00 25 32.3**	**+1.9**
EZM	**Erzurum**	**0.34**	**279**	*e*PG		**Pg**	**00 25 24.8**	**-1.0**
EZM				*e*SG		**Sg**	**00 25 30.9**	**+0.4**
AGRB	**Hanur-Agry**	**0.96**	**106**	*e*PG		**Pg**	**00 25 37.0**	**-0.4**
AGRB				*e*SG		**Sg**	**00 25 52.2**	**+2.4**
KOPT	**Kop Dagi**	**1.02**	**280**	*i* P		**Pb**	**00 25 37.5**	**-1.1**
KOPT				*i* S		**Sb**	**00 25 53.5**	**+1.5**
DDEM	**Demirkent**	**1.04**	**358**	*i* P		**Pb**	**00 25 37.3**	**-1.7**
DDEM				*i* S		**Sb**	**00 25 54.0**	**+1.4**
DBAD	**Bademkaya**	**1.17**	**356**	*i* P		**Pb**	**00 25 40.2**	**-1.0**
DBAD				*i* S		**Sb**	**00 25 55.8**	**-0.5**
DAGI	**Agillar**	**1.23**	**4**	*i* P		**Pn**	**00 25 40.8**	**-1.2**
DAGI				*i* S		**Sb**	**00 25 59.3**	**+1.3**
KARS	**Kars**	**1.25**	**52**	*e*PN		**Pn**	**00 25 42.1**	**-0.2**
KARS				*e*SN		**Sn**	**00 25 58.7**	**-0.3**
DIGO	**Kars**	**1.33**	**64**	*i* P		**Pn**	**00 25 42.8**	**-0.6**
DIGO				*i* S		**Sb**	**00 26 04.2**	**+3.3**
PZAR	**Pazar-Rize**	**1.49**	**333**	*e*PN		**Pn**	**00 25 45.2**	**-0.5**
PZAR				*e*SN		**Sn**	**00 26 04.9**	**-0.3**
DBOC	**Borcka**	**1.50**	**356**	*i* P		**Pn**	**00 25 45.6**	**-0.1**
DBOC				*i* S		**Sn**	**00 26 06.7**	**+1.5**
BCA	**Borcka**	**1.60**	**355**	*e*PN		**Pn**	**00 25 46.8**	**-0.3**
BCA				*e*SN		**Sn**	**00 26 07.7**	**0.0**
CLDR	**Caldiran**	**1.78**	**113**	*e*PN		**Pn**	**00 25 49.9**	**+0.2**
VANT	**Van**	**1.87**	**138**	*e*PN		**Pn**	**00 25 50.4**	**-0.4**
GUMT	**Gumushane**	**1.88**	**290**	*e*PN		**Pn**	**00 25 51.0**	**-0.1**
PTK	**Pertek**	**2.10**	**244**	*e*PN		**Pn**	**00 25 54.5**	**+0.4**
SVRC	**Sivrice-ELAZID**	**2.44**	**234**	*e*PN		**Pn**	**00 25 59.1**	**+0.4**
ESPY	**Espiye-Giresun**	**2.58**	**295**	*e*PN		**Pn**	**00 26 00.2**	**-0.4**

KRSC 19 00:37:29.5±1.5, 5031N×15668E, h5km±5km, ML3.7, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
MIPR	**Malaya Ipel'ka**	**1.97**	**1**	P		Pn	00 38 04.7	+1.2
RUS	**Russkaya**	**2.42**	**28**	*e*P		Pn	00 38 09.8	+0.2
RUS				*e*S		Sn	00 38 39.1	-0.4
NLC	**Nalytchevo**	**3.31**	**29**	P		Pn	00 38 22.1	+0.2
NLC				S		Sn	00 39 00.9	-0.7
SPN	**Mys Shipunski**	**3.48**	**35**	S		Sn	00 39 07.4	+1.6
MKZ	**Mys Kozlova**	**5.26**	**34**	P		Pn	00 38 47.5	-1.1
KBTR	**Krutoberegovo**	**6.96**	**30**	P		Pn	00 39 13.3	+1.3

NEIC 19 00:38:34.1, 3949S×17431E, h161km, MG3.9(WEL), After WEL., North Island

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
VRZ	**Vera Road**	**0.50**	**44**	P		Pn	00 38 56.3	-0.4
VRZ				S		Sn	00 39 12.4	-1.5
WAZ	**Wanganui**	**0.59**	**117**	P		Pn	00 38 57.5	+0.4
WAZ				S		Sn	00 39 14.6	-0.1
WNVZ	**Wahianoa**	**1.01**	**81**	P		Pn	00 39 00.1	+0.1
NGZ	**Ngauruhoe**	**1.05**	**73**	P		Pn	00 39 00.4	+0.1
WTVZ	**West Tongariro**	**1.06**	**70**	P		Pn	00 39 00.3	-0.1
HIZ	**Hauiti**	**1.06**	**24**	P		Pn	00 39 00.3	-0.1
TUVZ	**Tukino**	**1.06**	**78**	P		Pn	00 39 00.6	+0.2
MOVZ	**Moawhango**	**1.12**	**86**	P		Pn	00 39 00.5	-0.4
KATZ	**Kakaramea**	**1.19**	**65**	P		Pn	00 39 01.9	+0.4
TSZ	**Takapari Road**	**1.39**	**115**	P		Pn	00 39 03.4	0.0
KIW	**Kapiti Island**	**1.45**	**162**	P		Pn	00 39 03.9	0.0
MRZ	**Mangatainoka R**	**1.52**	**141**	P		Pn	00 39 04.6	-0.1
CAW	**Cannon Point**	**1.72**	**161**	P		Pn	00 39 06.7	0.0
TCW	**Tory Channel**	**1.72**	**181**	P		Pn	00 39 06.9	+0.2
BKZ	**Black Stump Fm**	**1.72**	**80**	P		Pn	00 39 06.4	-0.4
MRW	**Makara Radio**	**1.76**	**170**	P		Pn	00 39 07.2	0.0
SNZO	**South Karori**	**1.84**	**171**	P		Pn	00 39 07.9	-0.2
NNZ	**Nelson**	**1.87**	**202**	P		Pn	00 39 08.3	0.0
MTW	**Mount Morrison**	**1.90**	**152**	P		Pn	00 39 08.4	-0.3
QRZ	**Quartz Range**	**1.91**	**225**	P		Pn	00 39 08.6	-0.2
MSWZ	**Moikau Station**	**2.05**	**160**	P		Pn	00 39 10.1	-0.3
PAWZ	**Paruwai Farm**	**2.07**	**156**	P		Pn	00 39 10.4	-0.3
THZ	**Tophouse**	**2.51**	**205**	P		Pn	00 39 15.4	-0.4
KHZ	**Kahutara**	**2.98**	**191**	P		Pn	00 39 21.2	-0.4

*TIF **19** 00:49:19.3, 4207N×4598E, h12km±4km*

MOS 19 00:49:23.5±0.3, 4183N×4553E, h8km, mb3.6/1, 1D, Error ellipse: s-maj=63.0km s-min=10.1km az=120.4, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
SNJR	**Sundja**	**1.35**	**337**	*e*PG		Pg	00 49 48.1	-1.2
SNJR				*e*S		Sb	00 50 07.8	+1.5
LACR	**Lac**	**1.35**	**318**	⇓*i*PG		Pg	00 49 48.1	-1.3
LACR				*e*S		Sb	00 50 07.5	+1.0
ZEI	**Tsey**	**1.53**	**308**	*e*PG		Pg	00 49 51.6	-1.3
ZEI				*e*S		Sn	00 50 13.8	+2.6
ARNR	**Ardon**	**1.64**	**326**	*e*PN		Pn	00 49 53.2	+0.6
ARNR				*e*S		Sn	00 50 16.6	+2.7
KORR	**Kora**	**1.66**	**320**	*e*PN		Pn	00 49 53.6	+0.8
KORR				*e*S		Sn	00 50 17.0	+2.7
BTKR	**Batakoyurt**	**1.70**	**335**	*e*PN		Pn	00 49 54.6	+1.1
BTKR				*e*S		Sn	00 50 18.9	+3.4
DIGR	**Digorskoe uzhe**	**1.80**	**307**	*e*PN		Pn	00 49 55.7	+0.9
DIGR				*e*S		Sn	00 50 20.7	+3.0
LSNR	**Lesken**	**1.92**	**319**	*e*PN		Pn	00 49 57.7	+1.3
LSNR				*e*S		Sn	00 50 24.2	+3.4

IDC 19 01:36:31.0±8.7, 2419S×17980W, h514km±99km, mb3.3/6, mb1 3.4/6, mb1mx3.2/16, mbtmp3.3/6, Error ellipse: s-maj=48.9km s-min=26.3km az=42.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
RPZ	**Rata Peaks**	**20.88**	**199**	P		P	01 40 36.3	-0.3
	4.6nm,0.5s,baz=358,slow=2.7,SNR=6.5							
CTA	**Charters Tower**	**31.66**	**271**	P		P	01 42 12.6	+0.7
	5.9nm,0.4s,baz=103,slow=11,SNR=8.3							
STKA	**Stephens Creek**	**34.79**	**249**	P		P	01 42 38.0	-0.2
	0.9nm,0.3s,baz=90,slow=8.1,SNR=3.8							
ASAR	**Alice Springs**	**42.17**	**261**	P		P	01 43 38.5	+0.2
	0.8nm,0.5s,baz=95,slow=7.2,SNR=13							
WRA	**Warramunga Arr**	**42.57**	**266**	P		P	01 43 40.8	-0.7
	2.3nm,0.4s,baz=98,slow=8.3,SNR=21							
TXAR	**Lajitas Array**	**90.43**	**58**	P		P	01 48 38.0	+0.5
	0.3nm,0.8s,baz=208,slow=6.5,SNR=3.8							
TORD	**Torodi Ar. Bea**	**168.93**	**188**	PKPab		PKPab	01 56 53.2	-0.7
	0.3nm,0.7s,baz=169,slow=4.8,SNR=4.2							

*NEIC **19** 01:40:50.6, 1759N×10054W, h16km, MD3.8(MEX), After MEX.*

MEX 19 01:40:50.7±0.6, 1758N×10055W, h16km±9km, MD3.8, Guerrero

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
CAIG	**El Cayaco**	**0.59**	**153**	*i* P		Pg	01 41 00.6	-1.8
CAIG				*i* S		Sg	01 41 07.4	-2.9
ZIIG	**Zihuatanejo**	**0.88**	**272**	*i* P		Pb	01 41 04.5	-3.1
ZIIG				*i* S		Sb	01 41 14.8	-4.2
ACX	**Acapulco**	**0.93**	**140**	*i* P		Pb	01 41 03.9	-4.6
ACX				*i* S		Sb	01 41 17.1	-3.5
ACX	**Acapulco**	**0.93**	**140**	*i* P		Pb	01 41 03.9	-4.6
ACX				*i* S		Sb	01 41 17.5	-3.1
PPM	**Popocatepetl**	**2.35**	**51**	*e*P		Pn	01 41 25.5	-3.1
PPM				*i* S		Sn	01 41 52.9	-4.3
PPM	**Popocatepetl**	**2.35**	**51**	*e*P		Pn	01 41 25.5	-3.1
PPM				*i* S		Sn	01 41 51.7	-5.4
PNIG	**Pinotepa**	**2.60**	**117**	*e*P		Pn	01 41 30.0	-2.1
PNIG				*i* S		Sn	01 41 59.2	-4.2
PNIG	**Pinotepa**	**2.60**	**117**	*e*P		Pn	01 41 30.3	-1.7
PNIG				*i* S		Sn	01 41 58.0	-5.3
UTMO	**Huajuapan**	**2.63**	**84**	*e*P		Pn	01 41 30.3	-2.2
UTMO				*i* S		Sn	01 42 02.4	-1.6

*ISCJB **19** 01:41:01.4±0.5, 4815N±002×1545E±004, h10km, Error ellipse: s-maj=4.0km s-min=2.8km az=164.2*
*VIE **19** 01:41:02.2±0.3, 4812N×1548E, h11km±8km, ML1.9/4, Error ellipse: s-maj=1.7km s-min=1.3km az=178.0 10 km W of Wilhelmsburg*
*CSEM **19** 01:41:02.9±0.1, 4811N×1548E, h2km, ML2.9/5, Error ellipse: s-maj=1.1km s-min=0.8km az=62.0*
*IPEC **19** 01:41:03.0±0.1, 4810N×1551E, h0km, ML1.7/2, Error ellipse: s-maj=1.4km s-min=0.7km az=116.0*
*PRU **19** 01:41:04.7, 4821N×1541E, h0km*

ISC 19 01:41:02.4±0.5, 4814N±002×1546E±004, h5km±10km, n16, σ0s56/26, 6C-2D, Austria

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
CSNA	**Conrad Observa**	**0.34**	**128**	⇑*i*Pg		**Pg**	**01 41 09.1**	**+0.1**
	1.5nm,0.1s							
CSNA				⇑*i*Sg		**Sg**	**01 41 13.5**	**+0.1**
	18nm,0.1s							
CONA	**Conrad Observa**	**0.34**	**127**	⇑*i*Pg		**Pg**	**01 41 09.1**	**+0.1**
	0.4nm,0.0s							
CONA				⇑*i*Sg		**Sg**	**01 41 13.6**	**+0.1**
	3.7nm,0.1s							
MOA	**Molln**	**0.85**	**251**	⇑*i*Pg		**Pg**	**01 41 19.3**	**+0.6**
	1.0nm,0.1s							
MOA				⇑*i*Sg		**Sg**	**01 41 30.6**	**+0.9**
	5.2nm,0.1s							
MOA	**Molln**	**0.85**	**251**	Pg		**Pg**	**01 41 19.3**	**+0.6**
	1.0nm,0.1s							
MOA				*e*Sg		**Sg**	**01 41 30.5**	**+0.8**
ARSA	**Arzberg**	**0.89**	**177**	⇓*i*Pg		**Pg**	**01 41 18.9**	**-0.5**
	0.8nm,0.1s							
ARSA				⇓*i*Sg		**Sg**	**01 41 30.0**	**-0.9**
	3.0nm,0.2s							
KRUC	**Moravsky**	**1.12**	**33**	*e*Pg		**Pg**	**01 41 23.9**	**+0.1**
KRUC				*e*Sg		**Sg**	**01 41 38.8**	**+0.5**
	7.4nm,0.1s							
TREC	**Trest**	**1.16**	**1**	*e*Pg		**Pn**	**01 41 25.9**	**+0.7**
TREC				Sg		**Sg**	**01 41 40.2**	**+0.5**
	12nm,0.2s							
VRAC	**Vranov**	**1.39**	**32**	*e*Pn		**Pg**	**01 41 28.8**	**-0.3**
VRAC				*e*Sg		**Sg**	**01 41 47.4**	**+0.2**
	7.1nm,0.2s							
KHC	**Kasperske Hory**	**1.60**	**309**	*e*PG		**Pg**	**01 41 33.1**	**+0.1**
KHC				*e*SG		**Sg**	**01 41 54.1**	**+0.4**
	8.4nm,0.3s							
PRU	**Pruhonice**	**1.95**	**342**	Sg		**Sg**	**01 42 05.6**	**+0.6**
PRU	**Pruhonice**	**1.95**	**342**	*e*SN		**Sb**	**01 42 02.9**	**0.0**
PRU				*e*SG		**Sg**	**01 42 05.6**	**+0.6**
MORC	**Moravsky Berou**	**2.14**	**39**	*e*Pn		**Pb**	**01 41 41.1**	**-0.5**
DPC	**Dobruska-Polom**	**2.29**	**14**	*e*SG		**Sg**	**01 42 15.4**	**-0.5**
PVCC	**Panska Ves**	**2.46**	**347**	*e*SG		**Sg**	**01 42 21.2**	**-0.3**
	6.7nm,0.2s							
NKC	**Novy Kostel**	**2.88**	**318**	*e*SG		**Sg**	**01 42 33.3**	**-1.6**
BRG	**Berggiesshubel**	**2.91**	**341**	SG		**Sg**	**01 42 35.4**	**-0.5**
	2.3nm,0.2s							

ISC 19 02:15:28.0±2.7, 241N±02×940E±02, h10km, n10, σ0s78/12, Myanmar-India border region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
IMP	**Imphal**	**0.67**	**357**	*e*P		**Pg**	**02 15 41.0**	**0.0**
IMP				*e*S		**Sg**	**02 15 43.0**	**-6.8**
SHL	**Shillong**	**2.39**	**308**	*e*PN		**Pn**	**02 16 06.7**	**-0.5**
SHL				*e*SN		**Sn**	**02 16 36.5**	**0.0**
TAPN	**Taplejung**	**6.50**	**301**	*e*P		**Pn**	**02 17 04.5**	**+0.8**
ODAN	**Odare**	**6.55**	**296**	*e*P		**Pn**	**02 17 04.6**	**+0.3**
	5.6nm,0.2s							
RAMN	**Ramitte**	**7.24**	**295**	*e*P		**Pn**	**02 17 15.7**	**+1.9**
	5.8nm,0.3s							
JIRN	**Jiri**	**7.85**	**298**	*e*P		**Pn**	**02 17 22.7**	**+0.5**
	4.8nm,0.2s							
GUN	**Gumba**	**8.20**	**299**	*e*P		**Pn**	**02 17 26.8**	**-0.3**
	7.6nm,0.4s							
DMN	**Daman**	**8.71**	**295**	*e*P		**Pn**	**02 17 33.4**	**-0.7**
GKN	**Gorkha**	**9.24**	**297**	*e*P		**Pn**	**02 17 40.3**	**-1.1**
	8.5nm,0.3s							
KOLN	**Koldanda**	**10.02**	**294**	*e*P		**Pn**	**02 17 51.2**	**-0.8**

*SOF **19** 02:23:32.8, 3934N×2737E, h12km, MD3.1*
*ATH **19** 02:24:24.9, 3910N×2795E, h24km±4km, MD3.8/9*
*CSEM **19** 02:24:26.1±0.0, 3905N×2777E, h10km, MD3.5, Error ellipse: s-maj=1.0km s-min=0.9km az=86.0*
*NEIC **19** 02:24:26.0, 3904N×2779E, h12km, MD3.8(ATH), ML3.6(ISK), After ISK.*
*ISK **19** 02:24:26.4, 3905N×2776E, h13km, MD3.5*
*DDA **19** 02:24:26.7, 3908N×2775E, h7km±5km, Md3.7*
*ISCJB **19** 02:24:26.6±0.4, 3906N±001×2776E±002, h9km±3km, Error ellipse: s-maj=2.5km s-min=2.3km az=156.3*
*THE **19** 02:24:27.5, 3901N×2768E, h0km±3km, ML3.5/4, Error ellipse: s-maj=5.2km s-min=1.6km az=88.0*

ISC 19 02:24:27.4±0.3, 3905N±001×2777E±002, h10km±2km, n130, σ0s85/156, 8C-5D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
AKHS	**Akhisar**	**0.17**	**169**	*i* P		**Pg**	**02 24 31.3**	**+0.2**
AKHS				*i* S		**Sg**	**02 24 34.7**	**+1.1**
AKS	**Akhisar**	**0.17**	**169**	PG		**Pg**	**02 24 31.4**	**+0.3**
BALB	**Balikesir**	**0.60**	**8**	*e*PG		**Pg**	**02 24 38.6**	**-0.4**
BALB				*e*SG		**Sg**	**02 24 47.9**	**+1.0**
BALY	**Balya**	**0.70**	**350**	*i* P		**Pg**	**02 24 40.5**	**-0.5**
BALY				*i* S		**Sg**	**02 24 50.2**	**+0.1**
DEMI	**Demirci**	**0.73**	**90**	*i* P		**Pg**	**02 24 41.7**	**+0.1**
DEMI				*i* S		**Sg**	**02 24 51.9**	**+0.7**
KDAG	**Bornova**	**0.76**	**212**	*i* P		**Pg**	**02 24 41.5**	**-0.5**
KDAG				*i* S		**Sg**	**02 24 54.0**	**+2.1**
IZM	**Izmir**	**0.76**	**212**	*e*PG		**Pg**	**02 24 41.2**	**-0.9**
MANT	**Manisa**	**0.83**	**132**	*i* P		**Pg**	**02 24 43.2**	**-0.2**
MANT				*i* S		**Sg**	**02 24 55.3**	**+1.1**
DST	**Dursunbey**	**0.86**	**50**	*e*PG		**Pg**	**02 24 43.6**	**-0.5**
BLCB	**Balcova**	**0.88**	**221**	*e*PG		**Pg**	**02 24 43.4**	**-0.8**
BLCB				*e*SG		**Sg**	**02 24 55.9**	**+0.3**
KULA	**Kula-Manisa**	**0.88**	**127**	*e*PG		**Pg**	**02 24 44.0**	**-0.3**
KULA				*e*SG		**Sg**	**02 24 55.9**	**+0.2**
AYVA	**Ayvalik**	**0.88**	**287**	*i* P		**Pg**	**02 24 43.9**	**-0.4**
AYVA				*i* S		**Sg**	**02 24 56.0**	**+0.1**
URLA	**Izmir**	**1.15**	**234**	*i* P		**Pb**	**02 24 48.1**	**-1.2**
URLA				*i* S		**Sb**	**02 25 03.4**	**-1.0**
PRK	**Paraskevi**	**1.18**	**280**	P		**Pb**	**02 24 49.0**	**-0.9**
PRK				S		**Sb**	**02 25 04.8**	**-0.5**
PRK	**Paraskevi**	**1.18**	**280**	⇓*i*Pn		**Pn**	**02 24 50.2**	**+0.2**
PRK				S		**Sb**	**02 25 04.8**	**-0.5**
PRK	**Paraskevi**	**1.18**	**280**	⇓*i*PN		**Pn**	**02 24 50.2**	**+0.2**
KCT	**Karacabey**	**1.30**	**20**	*e*PN		**Pn**	**02 24 50.9**	**-0.7**
EDC	**Edincik**	**1.30**	**3**	*e*PN		**Pn**	**02 24 50.5**	**-1.1**
BNT	**Bandirma**	**1.31**	**5**	*e*PN		**Pn**	**02 24 51.0**	**-0.8**
GDZ	**Gediz**	**1.33**	**88**	*i* P		**Pn**	**02 24 53.1**	**+1.0**
GDZ				*i* S		**Sb**	**02 25 10.6**	**+1.1**
EZN	**Ezine**	**1.36**	**305**	*e*PN		**Pn**	**02 24 51.7**	**-0.8**
AYDN	**Tasoluk**	**1.39**	**176**	*i* P		**Pn**	**02 24 51.8**	**-1.0**
AYDN				*i* S		**Sb**	**02 25 10.8**	**-0.4**
CHOS	**Chios island**	**1.50**	**244**	P		**Pn**	**02 24 53.4**	**-0.9**
CHOS				S		**Sn**	**02 25 13.9**	**0.0**
SMG	**Samos**	**1.53**	**209**	*e*Pn		**Pn**	**02 24 54.1**	**-0.6**
SMG				*e*Sn		**Sn**	**02 25 16.1**	**+1.5**
SMG	**Samos**	**1.53**	**209**	*e*PN		**Pn**	**02 24 54.1**	**-0.6**
SMG				*e*SN		**Sn**	**02 25 16.1**	**+1.5**
BOZC	**Bozcaada**	**1.55**	**301**	*i* P		**Pn**	**02 24 54.2**	**-0.9**
BOZC				*i* S		**Sn**	**02 25 16.9**	**+1.7**
KHL	**Karahalli**	**1.55**	**117**	*e*PN		**Pn**	**02 24 54.6**	**-0.5**
MRMT	**Marmara Adasi**	**1.56**	**355**	*e*PN		**Pn**	**02 24 54.0**	**-1.1**
DENT	**Denizli**	**1.63**	**142**	*e*PN		**Pn**	**02 24 55.6**	**-0.6**
DNZL	**Cakiroluk**	**1.69**	**143**	*i* P		**Pn**	**02 24 56.6**	**-0.3**
DNZL				*i* S		**Sn**	**02 25 23.9**	**+5.3**
RKY	**Sarkoy-Tekirda**	**1.70**	**345**	*e*PN		**Pn**	**02 24 56.7**	**-0.4**
SART	**Tekirdag**	**1.70**	**345**	*i* P		**Pn**	**02 24 56.5**	**-0.6**
SART				*i* S		**Sn**	**02 25 17.7**	**-1.3**
MLSB	**Milas**	**1.75**	**180**	*e*PN		**Pn**	**02 24 57.8**	**0.0**
GEMT	**Gemlik**	**1.76**	**38**	*e*PN		**Pn**	**02 24 57.6**	**-0.4**
MFT	**Murefte**	**1.78**	**348**	*e*PN		**Pn**	**02 24 58.1**	**-0.1**
ALT	**Altintas**	**1.82**	**89**	*e*PN		**Pn**	**02 24 58.5**	**-0.3**
GADA	**Gvkgeada**	**1.84**	**309**	*e*PN		**Pn**	**02 24 58.9**	**-0.2**
TKR	**Tekirdag**	**1.95**	**355**	*e*PN		**Pn**	**02 25 00.3**	**-0.2**
YLV	**Yalova**	**1.95**	**39**	*e*PN		**Pn**	**02 24 59.9**	**-0.7**
YER	**Yerkesik**	**1.95**	**168**	*e*PN		**Pn**	**02 25 00.1**	**-0.5**
CAVI	**Cavuskoy**	**1.97**	**54**	*e*PN		**Pn**	**02 25 01.2**	**+0.4**
BODT	**Bodrum**	**2.02**	**191**	*e*PN		**Pn**	**02 25 00.4**	**-1.1**
ADVT	**Abdulvahap**	**2.05**	**47**	*e*PN		**Pn**	**02 25 01.7**	**-0.3**
CRLT	**Corlu**	**2.08**	**359**	*e*PN		**Pn**	**02 25 01.4**	**-0.9**
ENEZ	**Enez**	**2.10**	**324**	*e*PN		**Pn**	**02 25 03.1**	**+0.6**
LIA	**Limnos Island**	**2.18**	**294**	*e*Pn		**Pn**	**02 25 03.1**	**-0.6**
LIA				*e*Sn		**Sn**	**02 25 31.6**	**+0.9**
LIA	**Limnos Island**	**2.18**	**294**	*e*PN		**Pn**	**02 25 03.1**	**-0.6**
LIA				*e*SN		**Sn**	**02 25 31.6**	**+0.9**
SLVT	**Silivri**	**2.20**	**9**	*e*PN		**Pn**	**02 25 03.0**	**-1.1**
SHUT	**Suhut-Afyon**	**2.23**	**102**	*e*PN		**Pn**	**02 25 04.5**	**+0.1**
ISK	**Istanbul-Kandi**	**2.24**	**26**	*e*PN		**Pn**	**02 25 04.5**	**-0.1**
CTKS	**Kestanelik-??a**	**2.26**	**14**	*e*PN		**Pn**	**02 25 04.9**	**+0.1**
LOS	**Limnos**	**2.26**	**294**	P		**Pn**	**02 25 04.4**	**-0.5**
BGKT	**Bogazkoy**	**2.26**	**20**	*e*PN		**Pn**	**02 25 05.4**	**+0.5**
ALN	**Alexandroupoli**	**2.27**	**325**	P		**Pn**	**02 25 04.7**	**-0.3**
HRT	**Hereke**	**2.29**	**39**	*e*PN		**Pn**	**02 25 04.8**	**-0.5**
GPA	**Golpazari**	**2.32**	**57**	*e*PN		**Pn**	**02 25 05.8**	**+0.2**
KLYT	**Kilyos**	**2.41**	**23**	*e*PN		**Pn**	**02 25 06.3**	**-0.6**
CTYL	**Yal??k??y-??at**	**2.46**	**9**	*e*PN		**Pn**	**02 25 06.5**	**-1.0**
NISR	**Nisiros**	**2.49**	**192**	*e*Pb		**Pb**	**02 25 08.0**	**-4.2**
NISR	**Nisiros**	**2.49**	**192**	*e*PB		**Pb**	**02 25 08.0**	**-4.2**
GULT	**Gulveren**	**2.53**	**56**	*e*PN		**Pn**	**02 25 08.6**	**+0.1**
SILT	**Sile**	**2.54**	**34**	*e*PN		**Pn**	**02 25 08.8**	**+0.1**
APE	**Apeiranthos**	**2.65**	**223**	P		**Pn**	**02 25 08.6**	**-1.6**
APE	**Apeiranthos**	**2.65**	**223**	*e*Pn		**Pn**	**02 25 10.3**	**+0.1**
APE	**Apeiranthos**	**2.65**	**223**	*e*PN		**Pn**	**02 25 10.3**	**+0.1**
RDO	**Rodhopi**	**2.71**	**321**	*e*Pb		**Pb**	**02 25 11.0**	**-4.9**
RDO				*e*Sn		**Sn**	**02 25 42.8**	**-1.0**
RDO	**Rodhopi**	**2.71**	**321**	*e*PB		**Pb**	**02 25 11.0**	**-4.9**
RDO				*e*SN		**Sn**	**02 25 42.8**	**-1.0**
BCK	**Bucak**	**2.73**	**125**	*e*PN		**Pn**	**02 25 11.7**	**+0.5**
ARG	**Arkhangelos**	**2.84**	**174**	*e*Pn		**Pn**	**02 25 12.0**	**-0.8**
ARG	**Arkhangelos**	**2.84**	**174**	*e*PN		**Pn**	**02 25 12.0**	**-0.8**
ELL	**Elmali**	**2.85**	**143**	*e*PN		**Pn**	**02 25 13.2**	**+0.2**
EDRB	**Edirne**	**2.90**	**345**	*e*PN		**Pn**	**02 25 13.2**	**-0.5**
KDZ	**Kurdzhali**	**3.16**	**326**	*i* P		**Pn**	**02 25 17.3**	**+0.1**
OUR	**Ouranopolis**	**3.19**	**295**	P		**Pn**	**02 25 17.0**	**-0.7**
KIZT	**Kizilcal**	**3.21**	**92**	*e*PN		**Pn**	**02 25 17.8**	**0.0**
PAIG	**Paliouri**	**3.29**	**287**	P		**Pn**	**02 25 18.6**	**-0.3**
RZN	**Rozhen**	**3.52**	**319**	*i* P		**Pn**	**02 25 24.0**	**+1.8**
KARP	**Karpathos**	**3.53**	**188**	*e*Pn		**Pn**	**02 25 21.3**	**-1.0**
KARP	**Karpathos**	**3.53**	**188**	*e*PN		**Pn**	**02 25 21.3**	**-1.0**
JMB	**Yambol**	**3.53**	**346**	P		**Pn**	**02 25 24.4**	**+2.1**
NEO	**Neokhori**	**3.54**	**276**	*e*Pn		**Pn**	**02 25 22.7**	**+0.2**
NEO	**Neokhori**	**3.54**	**276**	*e*PN		**Pn**	**02 25 22.7**	**+0.2**
PLG	**Polygyros**	**3.59**	**293**	P		**Pn**	**02 25 23.1**	**0.0**
PLG	**Polygyros**	**3.59**	**293**	*e*Pn		**Pn**	**02 25 23.3**	**+0.2**
PLG	**Polygyros**	**3.59**	**293**	*e*PN		**Pn**	**02 25 23.3**	**+0.2**
LADK	**Ladik-KONYA**	**3.70**	**102**	*e*PN		**Pn**	**02 25 25.2**	**+0.6**
KONT	**Konya-Tatoy**	**3.77**	**106**	*e*PN		**Pn**	**02 25 25.6**	**+0.1**
NVR	**Nevrokopi**	**3.77**	**309**	*e*Pn		**Pn**	**02 25 25.7**	**+0.1**
NVR	**Nevrokopi**	**3.77**	**309**	*e*PN		**Pn**	**02 25 25.7**	**+0.1**
SOH	**Sokhos**	**3.83**	**299**	P		**Pn**	**02 25 26.3**	**-0.1**
PLD	**Plovdiv**	**3.84**	**324**	P		**Pn**	**02 25 26.3**	**-0.3**
HORT	**Hortiatis**

MBWA	**Marble Bar**	**42.39**	**216**	*e*P		**P**	02 48 02.4	-0.3
	1.3nm,0.4s,mb4.0							
CMAR	**Chiang Mai Arr**	**44.37**	**283**	P		**P**	02 48 19.6	+0.8
	2.0nm,0.7s,mb4.0,baz=86,slow=6.0,SNR=5.5							
SONM	**Songino Array**	**46.83**	**325**	P		**P**	02 48 37.5	-0.2
	0.3nm,0.6s,mb3.2,baz=122,slow=4.4,SNR=4.3							
SONM				PcP	PcP		02 50 07.9	-1.2
	1.0nm,0.6s,baz=141,slow=3.0,SNR=6.9							
MKAR	**Makanchi Array**	**61.58**	**316**	P		**P**	02 50 25.0	+0.3
	0.8nm,0.5s,mb4.0,baz=93,slow=10,SNR=5.9							
MKAR				pP	pP		02 50 51.5	+1.5
	0.3nm,0.3s,baz=216,slow=40,SNR=1.7							
MKAR	**Makanchi Array**	**61.58**	**316**	P		**P**	02 50 25.0	+0.3
MKAR				pP	pP		02 50 51.5	+1.5
KURK	**Kurchatov**	**64.68**	**320**	*e*P		**P**	02 50 44.3	-0.8
	1.8nm,0.6s,mb4.1							
YKA	**Yellowknife Ar**	**82.93**	**27**	P		**P**	02 52 30.6	-0.9
	0.2nm,0.4s,mb3.3,baz=286,slow=5.2,SNR=3.9							
NVAR	**Mina Array Bea**	**86.96**	**51**	P		**P**	02 52 53.2	+1.1
	0.6nm,0.5s,mb3.8,baz=268,slow=5.8,SNR=5.2							
TORD	**Torodi Ar. Bea**	**134.94**	**304**	PKP	PKPdf		02 59 26.8	+0.5
	0.5nm,0.8s,baz=37,slow=1.2,SNR=7.0							
DBIC	**Dimbokro**	**143.90**	**302**	PKP	PKPdf		02 59 40.4	-2.2
	5.8nm,0.5s,baz=42,slow=4.4,SNR=24							
KIC	**Kosan Boka**	**143.97**	**301**	*e*PKP1	PKPdf		02 59 40.4	-2.3
	26nm,0.5s							
TIC	**Toumodi**	**144.05**	**302**	*e*PKP1	PKPdf		02 59 40.5	-2.3
	24nm,0.3s							
LIC	**Lamto**	**144.29**	**301**	*e*PKP1	PKPdf		02 59 41.3	-2.0
	39nm,0.5s							

JMA 19 02:47:18.1±0.2, 2820N×13960E, h408km, M4.0, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**2.54**	**115**	P	Pn	02 48 18.7	+0.2
CBIJ				*e*S	S	02 49 06.5	-0.7
JHHJ	**Haha-jima-NKT**	**2.77**	**124**	P	Pn	02 48 20.6	+0.4
JHHJ				*e*S	S	02 49 09.7	-0.7
BSO1	**Boso 1**	**6.54**	**10**	P	Pn	02 48 58.0	+1.2
BSO1				*e*S	S	02 50 14.5	-2.9
BSO3	**Boso 3**	**6.63**	**7**	P	Pn	02 48 58.4	+0.7
BSO3				*e*S	S	02 50 18.1	-1.0

*IDC **19** 03:08:33.9±2.0, 6035×13043E, h0km, mb4.3/1, mb1 4.2/5, mb1mx3.8/15, mbtmp4.1/5, ML4.0/4, Error ellipse: s-maj=55.3km s-min=26.8km az=83.0*
*NEIC **19** 03:08:48.1±3.1, 6605×13013E, h136km±33km, mb3.7/2, Error ellipse: s-maj=27.1km s-min=24.0km az=84.0*
*ISCJB **19** 03:08:49.8±1.9, 6845±009×13001E±008, h171km±19km, Error ellipse: s-maj=17.6km s-min=9.7km az=37.9*
ISC 19 03:08:48.4±2.0, 67S±01×13009E±009, h136km±19km, n10, σ0§99/16, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**6.40**	**159**	*e*Pn	**Pn**	03 10 21.2	+0.9
	34nm,0.4s						
KAKA				*e*Sn	**Sn**	03 11 30.8	-1.4
BATI	**Baumata**	**7.25**	**241**	Pn	**Pn**	03 10 31.8	+0.1
	4.1nm,0.3s,baz=0.0,slow=0.0,SNR=3.9						
BATI				Sn	**Sn**	03 11 52.2	-0.4
	14nm,0.3s,baz=254,slow=21,SNR=9.2						
FITZ	**Fitzroy Crossi**	**12.13**	**201**	Pn	**Pn**	03 11 38.6	+1.8
	1.2nm,0.3s,baz=26,slow=13,SNR=29						
FITZ				Sn	**Sn**	03 13 44.5	-6.2
	0.9nm,0.3s,baz=278,slow=20,SNR=4.8						
WRAB	**Tennant Creek**	**13.78**	**163**	*e*Pn	**Pn**	03 11 58.5	+0.3
	2.9nm,0.5s						
WRAB				*e*Sn	**Sn**	03 14 24.9	-5.7
WRA	**Warramunga Arr**	**13.79**	**163**	Pn	**Pn**	03 11 58.5	+0.3
	0.3nm,0.3s,baz=341,slow=13,SNR=5.0						
WRA				Sn	**Sn**	03 14 27.3	-3.4
	1.7nm,0.3s,baz=332,slow=22,SNR=11						
ASAR	**Alice Springs**	**17.26**	**168**	P	**Pn**	03 12 42.5	+1.4
	0.3nm,0.3s,baz=346,slow=12,SNR=15						
ASAR				S	**S**	03 15 53.5	+0.3
	0.4nm,0.3s,baz=358,slow=23,SNR=6.5						
MBWA	**Marble Bar**	**17.52**	**214**	*e*P	**Pn**	03 12 43.7	-0.6
	2.3nm,0.8s						
MK31	**Makanchi Array**	**68.03**	**327**	*e*P	**P**	03 19 32.1	-0.9
MKAR	**Makanchi Array**	**68.03**	**327**	P	**P**	03 19 32.7	-0.4
	1.4nm,0.5s,baz=123,slow=8.3,SNR=11						
MKAR	**Makanchi Array**	**68.03**	**327**	P	**P**	03 19 32.7	-0.4

*MDD **19** 03:19:05.8±1.0, 3433N×1503W, h101km±38km, mb3.3/16, Error ellipse: s-maj=13.7km s-min=8.7km az=111.0, PRIMO*
*CNRM **19** 03:19:10.9, 3461N×1448W, h30km, MD3.8*
*INMG **19** 03:19:13.1±1.8, 3462N×1474W, h10km, ML2.6, Error ellipse: s-maj=10.4km s-min=7.7km az=134.0*
CSEM 19 03:19:12.6±0.7, 3423N×1400W, h10km, ML3.6/7, 1C, Error ellipse: s-maj=14.8km s-min=6.8km az=80.0, Madeira Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMPS	**Porto Santo**	**2.27**	**240**	*i* P	Pn	03 19 34.8	-15
PMPS				*i* S	Sn	03 19 53.5	-25
PMPS				A		03 19 55.4	
	53nm,0.1s						
PMPS	**Porto Santo**	**2.27**	**240**	⇑P	Pn	03 19 34.8	-15
PMPS				S	Sn	03 19 53.5	-25
	26nm,0.1s						
PFVI	**Vila Bisbo**	**5.11**	**54**	*e*Pn	Pn	03 20 27.2	-2.0
PFVI				*e*Sn	Sn	03 21 23.4	-4.8
PFVI				A		03 21 25.7	
	4.4nm,0.2s						
PFVI	**Vila Bisbo**	**5.11**	**54**	*e*Pn	Pn	03 20 27.2	-2.0
PFVI				*e*Sn	Sn	03 21 23.4	-4.8
	4.4nm,0.2s						
CIA	**Chichaoua**	**5.15**	**120**	*i* P	Pn	03 20 33.0	+3.3
CIA				*i* S	Sn	03 21 34.0	+4.8
PTEO	**Sao Teotonio**	**5.41**	**51**	*e*Pn	Pn	03 20 31.9	-1.4
PTEO				*e*Sn	Sn	03 21 30.0	-5.6
CFUE	**Fuerteventura**	**5.57**	**179**	P	Pn	03 20 28.8	-6.7
	2.0nm,0.2s,SNR=7.9						
CFUE				S	Sn	03 21 24.8	-15
	5.9nm,0.2s,SNR=7.9						
PBDV	**Barranco-do-Ve**	**5.78**	**57**	*e*Pn	Pn	03 20 37.6	-0.8
PBDV				*e*Sn	Sn	03 21 40.5	-4.2
PBDV				A		03 21 48.7	
	3.7nm,0.2s						
PBDV	**Barranco-do-Ve**	**5.78**	**57**	*e*Pn	Pn	03 20 37.6	-0.8
PBDV				*e*Sn	Sn	03 21 40.5	-4.2
	3.7nm,0.2s						
CFTV	**Fuerteventura**	**5.80**	**181**	P	Pn	03 20 31.6	-7.1
	0.4nm,0.2s,SNR=7.9						
CFTV				S	Sn	03 21 29.1	-16
	0.6nm,0.2s,SNR=7.9						
OUK	**Oukaimeden**	**5.98**	**119**	*e*P	Pn	03 20 44.0	+2.8
OUK				*i* S	Sn	03 21 53.0	+3.2
PVAQ	**Vaqueiros**	**6.01**	**56**	*e*Pn	Pn	03 20 40.0	-1.5
PVAQ				*e*Sn	Sn	03 21 45.3	-5.0
PVAQ				A		03 21 54.4	
	4.0nm,0.1s						
PVAQ	**Vaqueiros**	**6.01**	**56**	*e*Pn	Pn	03 20 40.0	-1.5
PVAQ				*e*Sn	Sn	03 21 45.3	-5.0
	4.0nm,0.1s						
PMAFR	**Mafra**	**6.05**	**37**	*e*Pn	Pn	03 20 38.3	-3.8
PMAFR				*e*Sn	Sn	03 21 41.6	-10
PMAFR				A		03 21 48.4	
	11nm,0.2s						
EGRO	**El Granado**	**6.23**	**56**	P	Pn	03 20 43.7	-0.9
	1.4nm,0.2s,SNR=7.9						
EGRO				S	Sn	03 21 52.0	-3.9
	1.5nm,0.2s,SNR=7.9						
EOSO	**Osorio**	**6.28**	**193**	S	Sn	03 21 38.8	-18
	3.3nm,0.2s,SNR=7.9						
CHIO	**Chio**	**6.44**	**203**	S	Sn	03 21 36.9	-24
	2.9nm,0.1s,SNR=7.9						
EVO	**Evora**	**6.46**	**47**	*e*Pn	Pn	03 20 44.9	-2.8
EVO				*e*Sn	Sn	03 21 53.5	-8.0
EVO				A		03 22 00.8	
	3.0nm,0.1s						
EVO	**Evora**	**6.46**	**47**	*e*Pn	Pn	03 20 44.9	-2.8
EVO				*e*Sn	Sn	03 21 53.5	-8.0
	3.0nm,0.1s						
TZC	**Tazercounte**	**6.63**	**106**	*e*P	Pn	03 20 53.0	+2.9
TZC				*i* S	Sn	03 22 08.0	+2.3
EGOM	**La Gomera**	**6.65**	**205**	P	Pn	03 20 37.0	-13
	0.8nm,0.1s,SNR=7.9						
EGOM				S	Sn	03 21 42.6	-24
	3.7nm,0.1s,SNR=7.9						
KIB	**El Ksiba**	**6.86**	**102**	*i* P	Pn	03 20 56.0	+2.8
KIB				*i* S	Sn	03 22 13.0	+1.6
PBAR	**Barrancos**	**6.87**	**53**	*e*Pn	Pn	03 20 51.6	-1.7
PBAR				*e*Sn	Sn	03 22 05.7	-5.8
PBAR				A		03 22 11.0	
	1.6nm,0.2s						
PBAR	**Barrancos**	**6.87**	**53**	*e*Pn	Pn	03 20 51.6	-1.7
PBAR				*e*Sn	Sn	03 22 05.7	-5.8
	1.6nm,0.2s						
EMIN	**Mina Concepcio**	**6.91**	**57**	P	Pn	03 20 52.3	-1.6
	0.5nm,0.1s,SNR=12						
EMIN				S	Sn	03 22 07.2	-5.4
	0.5nm,0.1s						
EMIN	**Mina Concepcio**	**6.91**	**57**	P	Pn	03 20 52.3	-1.6
	0.5nm,0.1s,SNR=12						
PESTR	**Estremoz**	**6.93**	**46**	*e*Pn	Pn	03 20 52.5	-1.7
PESTR				*e*Sn	Sn	03 22 06.6	-6.4
ESPR	**Espera**	**7.14**	**66**	P	Pn	03 20 57.2	+0.2
	1.0nm,0.2s,SNR=8.0						
ESPR				S	Sn	03 22 15.6	-2.7
	2.5nm,0.3s						
ESPR	**Espera**	**7.14**	**66**	P	Pn	03 20 57.2	+0.1
	1.0nm,0.2s,SNR=8.0						
EBAD	**Badajoz**	**7.21**	**49**	P	Pn	03 20 55.6	-2.5
	0.4nm,0.1s,SNR=12						
EBAD				S	Sn	03 22 13.2	-6.9
	2.1nm,0.2s						
EBAD	**Badajoz**	**7.21**	**49**	P	Pn	03 20 55.6	-2.5
	0.4nm,0.1s,SNR=12						
CHIE	**El Hierro**	**7.32**	**209**	P	Pn	03 20 47.1	-13
	2.0nm,0.1s,SNR=7.9						
PMRV	**Marv??o**	**7.41**	**44**	*e*Pn	Pn	03 20 57.2	-3.6
PMRV				*e*Sn	Sn	03 22 16.4	-8.6
PMRV				A		03 22 21.4	
	1.1nm,0.2s						
PMRV	**Marv??o**	**7.41**	**44**	*e*Pn	Pn	03 20 57.2	-3.6
PMRV				*e*Sn	Sn	03 22 16.4	-8.6
	1.1nm,0.2s						
CZD	**Col de Zad**	**7.57**	**97**	*e*P	Pn	03 21 05.0	+2.1
CZD				*i* S	Sn	03 22 29.0	+0.2
PCBR	**Castelo Branco**	**7.65**	**41**	*e*Pn	Pn	03 21 00.1	-4.0
PCBR				*e*Sn	Sn	03 22 20.5	-10
PCBR				A		03 22 29.4	
	1.1nm,0.2s						
PCBR	**Castelo Branco**	**7.65**	**41**	*e*Pn	Pn	03 21 00.1	-4.0
PCBR				*e*Sn	Sn	03 22 20.5	-10
	1.1nm,0.2s						
ECAB	**El Cabril**	**7.93**	**59**	P	Pn	03 21 06.3	-1.6
	1.2nm,0.1s,SNR=8.0						
ECAB				S	Sn	03 22 33.3	-4.4
	1.1nm,0.2s						
ECAB	**El Cabril**	**7.93**	**59**	P	Pn	03 21 06.3	-1.6
	1.2nm,0.1s,SNR=8.0						
MTE	**Manteigas**	**8.02**	**38**	*e*Pn	Pn	03 21 04.9	-4.2
MTE				*e*Sn	Sn	03 22 30.4	-9.5
ZFT	**Errachidia**	**8.38**	**102**	*e*P	Pn	03 21 17.0	+2.8
ZFT				*i* S	Sn	03 22 52.0	+3.1
EADA	**Adamuz**	**8.57**	**60**	P	Pn	03 21 15.4	-1.3
	0.8nm,0.2s,SNR=7.9						
EADA				S	Sn	03 22 48.7	-4.7
	0.7nm,0.2s,SNR=7.9						
EADA	**Adamuz**	**8.57**	**60**	P	Pn	03 21 15.4	-1.3
	0.8nm,0.2s,SNR=7.9						
EPLA	**Plasencia**	**8.59**	**45**	P	Pn	03 21 12.7	-4.3
	0.5nm,0.1s,SNR=7.9						
EPLA				S	Sn	03 22 46.2	-7.7
	0.8nm,0.2s,SNR=7.9						
PVRL	**Vila Real**	**8.61**	**33**	*e*Pn	Pn	03 21 12.4	-4.8
MVO	**Moncorvo**	**8.85**	**37**	*e*Pn	Pn	03 21 15.6	-4.9
MVO				*e*Sn	Sn	03 22 47.6	-13
ELOB	**Lobios**	**8.95**	**30**	P	Pn	03 21 16.6	-5.2
	0.5nm,0.2s,SNR=7.9						
ELOB				S	Sn	03 22 50.5	-12
	0.4nm,0.1s,SNR=7.9						
EQES	**Quesada**	**9.54**	**65**	P	Pn	03 21 30.5	+0.4
	0.1nm,0.1s,SNR=7.9						
EQES				S	Sn	03 23 12.6	-4.7
	0.4nm,0.4s,SNR=7.9						
EMAZ	**Mazaricos**	**9.55**	**23**	P	Pn	03 21 22.6	-7.5
	0.4nm,0.2s,SNR=7.9						
EMAZ				S	Sn	03 22 60.0	-17
	0.5nm,0.2s,SNR=7.9						
ECAL	**Calabor**	**9.59**	**34**	P	Pn	03 21 26.1	-4.5
	1.0nm,0.2s,SNR=4.5						
ECAL				S	Sn	03 23 07.4	-11
	0.5nm,0.2s,SNR=7.9						
ECAL	**Calabor**	**9.59**	**34**	P	Pn	03 21 26.1	-4.5
	1.0nm,0.2s,SNR=4.5						
ESDC	**Sonseca Array**	**9.70**	**53**	P	Pn	03 21 29.8	-2.3
	0.3nm,0.2s,baz=243,slow=13,SNR=10						
ESDC	**Sonseca Array**	**9.70**	**53**	P	Pn	03 21 29.8	-2.3
	0.3nm,0.2s,SNR=10						

DJA 19 03:34:04, 685S×11289E, h77km, MLv4.0/7, 1D, Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMMI	**Kalianget**	**1.09**	**101**	P	Pn	03 34 23.4	-0.5
KMMI	**Kalianget**	**1.09**	**101**	S	Sn	03 34 41.1	+2.2
KRKI	**Karangkates**	**1.37**	**198**	⇓*e*P	Pn	03 34 29.5	+2.0
KRKI	**Karangkates**	**1.37**	**198**	P	Pn	03 34 29.4	+1.9
SJI	**Sawahan**	**1.42**	**232**	P	Pn	03 34 29.2	+1.0
SMRI	**Semarang**	**2.44**	**265**	P	Pn	03 34 41.6	-0.1
UGM	**Wanagama**	**2.57**	**246**	P	Pn	03 34 45.1	+1.6
UGM	**Wanagama**	**2.57**	**246**	S	Sn	03 35 14.4	+0.5
KHKI	**Kahang-Kahang**	**3.09**	**119**	P	Pn	03 34 52.2	+1.7
KHKI	**Kahang-Kahang**	**3.09**	**119**	S	Sn	03 35 27.4	+1.1

*IDC **19** 04:01:01.4±3.0, 3309S×179.15W, h0km, mb3.8/3, mb1 4.0/4, mb1mx3.8/16, mbtmp3.8/4, ML3.9/1, Error ellipse: s-maj=72.1km s-min=33.7km az=46.0*
ISC 19 04:01:05.5±7.1, 332S±01×1792W±02, h24km±49km, n8, σ0§87/8, mb3.7/3, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**5.87**	**209**	Pn	**Pn**	04 02 30.8	-0.1
	2.9nm,0.3s,baz=292,slow=0.8,SNR=17						
URZ				Sn	**Sn**	04 03 37.3	0.0
	3.3nm,0.3s,baz=127,slow=20,SNR=4.1						
ASAR	**Alice Springs**	**42.00**	**271**	P	**P**	04 08 55.5	+0.5
	0.5nm,0.4s,mb3.5,baz=106,slow=7.7,SNR=9.6						
WRA	**Warramunga Arr**	**43.24**	**276**	P	**P**	04 09 04.7	-0.4
	1.0nm,0.7s,mb3.7,baz=119,slow=7.4,SNR=5.4						
QSPA	**South Pole Qui**	**56.92**	**180**	P	**P**	04 10 49.5	+1.4
	0.8nm,0.5s,mb4.0,baz=359,slow=2.4,SNR=4.1						
SNAA	**Sanae**	**75.40**	**179**	*e*	**P**	04 12 46.0	-0.7
SNAA				*e*		04 12 50.9	
VNA3	**Neumayer Olymp**	**75.59**	**177**	*e*	**P**	04 12 47.3	-0.5
VNA3				*e*		04 12 52.4	
VNA2	**Neumayer--Watz**	**76.01**	**177**	*e*	**P**	04 12 50.1	-0.1
VNA2				*e*		04 12 55.1	
TORD	**Torodi Ar. Bea**	**160.03**	**183**	PKPab	PKPab	04 21 42.0	-0.8
	0.5nm,0.8s,baz=193,slow=3.1,SNR=5.7						

*ISCJB **19** 04:04:57.0±0.4, 3955N±002×2800E±003, h9km±4km, Error ellipse: s-maj=4.4km s-min=4.0km az=164.1*
*ISK **19** 04:04:56.5, 3955N×2800E, h6km, MD2.8*
*CSEM **19** 04:04:56.5±0.1, 3954N×2799E, h12km, MD2.8, Error ellipse: s-maj=3.5km s-min=2.5km az=88.0*
*DDA **19** 04:04:57.2, 3957N×2798E, h7km±2km, Md2.9*
ISC 19 04:04:57.3±0.4, 3956N±002×2799E±003, h10km±4km, n19, σ0§58/28, 1C-1D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BALB	**Balikesir**	**0.12**	**315**	*e*PG	**Pg**	04 04 59.9	-0.2
BALB				*e*SG	**Sg**	04 05 02.7	+0.6
BALY	**Balya**	**0.34**	**303**	⇓*i*P	**Pg**	04 05 03.6	-0.3
BALY				*i* S	**Sg**	04 05 08.6	+0.1
DURS	**Dursunbey**	**0.38**	**83**	⇑*i*P	**Pg**	04 05 04.5	-0.2
DURS				*i* S	**Sg**	04 05 10.5	+0.7
DST	**Dursunbey**	**0.50**	**84**	*e*PG	**Pg**	04 05 06.7	-0.3
DST				*e*SG	**Sg**	04 05 13.4	-0.2
AKHS	**Akhisar**	**0.69**	**191**	*e*P	**Pg**	04 05 10.1	-0.6
AKHS				*e*S	**Sg**	04 05 20.8	+1.1
AKS	**Akhisar**	**0.69**	**191**	*e*PG	**Pg**	04 05 10.1	-0.6
AKS				*e*SG	**Sg**	04 05 20.0	+0.3
EDC	**Edincik**	**0.79**	**353**	*e*PG	**Pg**	04 05 12.1	-0.5
BNT	**Bandirma**	**0.80**	**356**	*e*PG	**Pg**	04 05 12.2	-0.5
AYVA	**Ayvalik**	**1.03**	**256**	*e*P	**Pg**	04 05 16.9	-0.3
AYVA				*e*S	**Sg**	04 05 30.4	-0.3
MRMT	**Marmara Adasi**	**1.08**	**344**	*e*PN	**Pn**	04 05 17.8	-0.8
MRMT				*e*SN	**Sn**	04 05 32.7	-1.0
KULA	**Kula-Manisa**	**1.17**	**153**	*e*PN	**Pn**	04 05 18.9	-0.9
RKY	**Sarkoy-Tekirda**	**1.29**	**331**	*e*PN	**Pn**	04 05 21.5	+0.1
SART	**Tekirdag**	**1.29**	**332**	*e*P	**Pn**	04 05 21.4	0.0
SART				*e*S	**Sb**	04 05 39.7	+1.4
MFT	**Murefte**	**1.34**	**336**	*e*PN	**Pn**	04 05 22.5	+0.4
BLCB	**Balcova**	**1.38**	**212**	*e*PN	**Pn**	04 05 22.7	0.0
YLV	**Yalova**	**1.47**	**46**	*e*PN	**Pn**	04 05 24.2	+0.4
SLVT	**Silivri**	**1.68**	**6**	*e*PN	**Pn**	04 05 27.1	+0.4
CTKS	**Kestanelik-??a**	**1.72**	**13**	*e*PN	**Pn**	04 05 28.0	+0.7
MLSB	**Milas**	**2.27**	**184**	*e*PN	**Pn**	04 05 35.4	+0.6

IDC 19 04:18:24.1±2.5, 414S×12980E, h0km, mb3.7/1, mb1 3.9/3, mb1mx3.6/15, mbtmp3.7/3, ML3.6/2, Error ellipse: s-maj=162.9km s-min=30.4km az=70.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**16.31**	**165**	Pn	Pn	04 22 14.9	+0.2
	0.2nm,0.3s,baz=348,slow=13,SNR=2.2						
WRA				Sn	Sn	04 25 02.0	-15
	0.2nm,0.3s,baz=320,slow=24,SNR=3.5						
ASAR	**Alice Springs**	**19.81**	**169**	P	Pn	04 22 56.4	-1.4
	0.3nm,0.3s,baz=343,slow=9.4,SNR=20						
MKAR	**Makanchi Array**	**65.75**	**326**	P	P	04 29 11.0	+0.1
	0.4nm,0.5s,baz=120,slow=9.0,SNR=3.8						

*ISCJB **19** 04:41:56.4±0.3, 5080N±002×1194E±002, h10km, Error ellipse: s-maj=2.2km s-min=1.8km az=11.8*
*BGR **19** 04:41:58.7±0.2, 5079N×1209E, h5km, ML3.1/16, Error ellipse: s-maj=2.2km s-min=2.2km az=47.0*
*LDG **19** 04:41:58.0±0.1, 5084N×1218E, h2km, Md3.5/3, Ml3.4/15, Error ellipse: s-maj=2.1km s-min=1.2km az=159.0*
*CSEM **19** 04:41:58.7±0.1, 5082N×1213E, h10km, ML3.5/18, Error ellipse: s-maj=0.9km s-min=0.6km az=8.0*
*IPEC **19** 04:41:58.8±0.1, 5081N×1213E, h4km±1km, ML2.6/7, Error ellipse: s-maj=0.9km s-min=0.6km az=20.0*
*PRU **19** 04:41:59.2, 5079N×1218E, h0km, Tectonic Event Near Gera*
*NEIC **19** 04:42:01.4, 5056N×1209E, h10km, ML3.0(SZGRF), ML3.3(STR), ML3.4(LDG), ML3.6(FUR), After STR.*
*VIE **19** 04:42:01.5±0.4, 5049N×1191E, h1km, mb2.3/1, ML2.9/5, Error ellipse: s-maj=3.3km s-min=2.3km az=36.0*
*STR **19** 04:42:01.4±0.9, 5056N×1209E, h10km, Ml3.3, Error ellipse: s-maj=0.0km s-min=0.0km az=0.0*
ISC 19 04:41:57.9±0.3, 5079N±001×1203E±002, h9km±2km, n126, σ1§31/250, 16C-7D, Germany

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MOX	**Moxa**	**0.30**	**241**	*e*Pg	**Pg**	04 42 05.5	+1.6
	SNR=201						
MOX				*e*Sg	**Sg**	04 42 10.7	+2.8
	SNR=8.4						
MOX	**Moxa**	**0.30**	**241**	*e*Pg	**Pg**	04 42 05.9	+2.0
MOX				*e*Sg	**Sg**	04 42 10.6	+2.7
MOX	**Moxa**	**0.30**	**241**	*i* Pg	**Pg**	04 42 06.1	+2.2
MOX				*i* Sg	**Sg**	04 42 10.8	+2.9
MOX	**Moxa**	**0.30**	**241**	*i* PG	**Pg**	04 42 06.1	+2.2
MOX				*i* SG	**Sg**	04 42 10.8	+2.9
	693nm,0.4s						
WERD	**Werda**	**0.39**	**153**	*e*Pg	**Pg**	04 42 06.3	+0.8
	SNR=56						
WERD				*e*Sg	**Sg**	04 42 11.0	+0.3
	SNR=5.8						
WERD	**Werda**	**0.39**	**153**	Pg	**Pg**	04 42 06.3	+0.8
	SNR=56						
WERD				Sg	**Sg**	04 42 11.0	+0.4
	SNR=5.8						
NEUB	**Neuenburg**	**0.45**	**339**	*e*Pg	**Pg**	04 42 08.3	+1.7
	SNR=15						
NEUB				*e*Sg	**Sg**	04 42 13.5	+1.0
	SNR=8.8						
TANN	**Tannenbergstha**	**0.47**	**144**	*e*Pg	**Pg**	04 42 07.7	+0.6
	SNR=118						
TANN				*e*Sg	**Sg**	04 42 13.6	+0.4
	SNR=25						
GUNZ	**Gunzen**	**0.47**	**156**	*e*Pg	**Pg**	04 42 07.9	+0.8
	SNR=28						
GUNZ				*e*Sg	**Sg**	04 42 13.6	+0.4
	SNR=9.4						
POCA	**Pocatky**	**0.54**	**151**	*e*Pg	**Pg**	04 42 09.3	+0.9
POCA				*e*Sg	**Sg**	04 42 16.0	+0.6
	181nm,0.2s						
WERN	**Wernitzgruen**	**0.55**	**156**	*e*Pg	**Pg**	04 42 09.8	+1.2
WERN				*e*Sg	**Sg**	04 42 16.7	+0.9
LUBY	**Luby**	**0.57**	**158**	*e*Pg	**Pg**	04 42 10.1	+1.1
LUBY				*e*Sg	**Sg**	04 42 17.5	+1.0
	324nm,0.1s						
VIEL	**Selb-Vielitz**	**0.61**	**175**	⇑*i*Pg	**Pg**	04 42 10.9	+1.2
VIEL				⇑*i*Sg	**Sg**	04 42 19.1	+1.5
NKC	**Novy Kostel**	**0.62**	**154**	*e*Pg	**Pg**	04 42 10.9	+1.0
NKC	**Novy Kostel**	**0.62**	**154**	*e*Pg	**Pg**	04 42 10.5	+0.6
NKC				Sg	**Sg**	04 42 18.2	+0.2
	751nm,0.3s						
NKC	**Novy Kostel**	**0.62**	**154**	*e*PG	**Pg**	04 42 10.8	+0.9
NKC				*e*SG	**Sg**	04 42 18.2	+0.2
	751nm,0.3s

SNR=26
CLZ eSg Sg 04 42 46.3 +0.9
SNR=5.8
CLZ Clausthal 1.48 316 ePn Pn 04 42 26.6 +2.0
CLZ Clausthal 1.48 316 ePn Pn 04 42 25.2 +0.6
CLZ eSg Sg 04 42 46.5 +1.1
PVCC Panska Ves 1.64 98 ePn Pn 04 42 28.1 +1.3
PVCC Panska Ves 1.64 98 Pg Pg 04 42 28.5 -0.8
PVCC eSg Sg 04 42 49.5 -1.1
PVCC Panska Ves 1.64 98 ePG Pg 04 42 28.5 -0.8
PVCC eSG Sg 04 42 49.6 -1.0
comp=Z,294nm,0.4s
WET Wettzell 1.74 161 ePn Pn 04 42 29.2 +1.0
SNR=4.8
WET ePg Pg 04 42 31.3 +0.1
SNR=5.9
WET eSg Sg 04 42 53.3 -0.5
SNR=7.4
PRU Pruhonice 1.80 116 ePn Pn 04 42 30.9 +1.9
PRU Pruhonice 1.80 116 Pg Pg 04 42 31.2 -1.2
PRU Sg Sg 04 42 53.5 -2.2
comp=Z,34nm,0.3s
PRU Pruhonice 1.80 116 ePG Pg 04 42 31.2 -1.2
PRU eSG Sg 04 42 53.5 -2.2
comp=Z,34nm,0.3s
KHC Kasperske Hory 1.94 148 ePn Pn 04 42 32.0 +1.0
KHC Kasperske Hory 1.94 148 ePN Pn 04 42 32.5 +1.5
KHC ePG Pg 04 42 34.1 -1.0
KHC ex x 04 42 52.0
KHC eSG Sg 04 42 58.4 -1.8
comp=Z,70nm,0.2s
RUE Ruedersdorf 2.01 32 eSg Sg 04 43 02.4 -0.2
SNR=2.2
GEC2 GERESS Array S 2.23 150 ePn Pn 04 42 36.6 +1.6
SNR=4.3
GEC2 eSg Sg 04 43 07.5 -2.0
SNR=5.6
GEC2 GERESS Array S 2.23 150 ePn Pn 04 42 36.3 +1.4
GEC2 GERESS Array S 2.23 150 ePg Pg 04 42 40.2 -0.4
GEC2 Sg Sg 04 43 07.5 -2.0
SNR=5.6
GEC2 GERESS Array S ePn Pn 04 42 36.4 +1.4
GEC2 ePg Pg 04 42 40.1 -0.5
GEC2 eSn Sn 04 43 00.5 -2.1
GEC2 eSg Sg 04 43 05.9 -3.6
TNS Taunus Mts 2.36 257 eSg Sg 04 43 13.7 +0.2
SNR=5.9
TNS Taunus Mts 2.36 257 Sg Sg 04 43 13.7 +0.1
SNR=5.9
TOD Tromm 2.39 241 Pn Pn 04 42 39.2 +2.1
TOD Pg Pg 04 42 44.4 +0.8
UPC Upice 2.55 95 ePG Pg 04 42 44.9 -1.9
FUR Furstenfeldbru 2.67 191 eSg Sg 04 43 24.0 +0.2
SNR=7.2
TREC Trest 2.69 123 ePG Pg 04 42 46.8 -2.6
KSP Ksiaz 2.71 87 ePg Pg 04 42 47.8 -1.9
KSP eSg Sg 04 43 21.6 -3.2
STU Stuttgart 2.73 223 ePg Pg 04 42 50.6 +0.4
SNR=3.3
STU eSg Sg 04 43 26.7 +1.1
SNR=3.7
STU Stuttgart 2.73 223 Pg Pg 04 42 50.6 +0.4
SNR=3.3
STU eSn Sn 04 43 15.0 +0.1
STU Sg Sg 04 43 26.7 +1.1
SNR=3.7
STU Stuttgart 2.73 223 ePg Pg 04 42 50.1 -0.1
STU eSn Sn 04 43 15.0 +0.1
STU eSg Sg 04 43 25.9 +0.3
DPC Dobruska-Polom 2.77 98 ePG Pg 04 42 48.6 -2.4
DPC eSG Sg 04 43 24.5 -2.5
comp=Z,29nm,0.3s
LANF Langenberg 3.28 238 Pg Pg 04 43 01.0 +0.3
MOA Molln 3.29 153 ⇑*i*Pn Pn 04 42 50.5 +1.0
MOA ⇓*i*Sg Sg 04 43 43.5 +0.1
comp=Z,27nm,0.3s
MOA Molln 3.29 153 Pn Pn 04 42 50.5 +1.0
MOA Sg Sg 04 43 43.5 0.0
comp=Z,27nm,0.3s
VRAC Vranov 3.30 115 ePn Pn 04 42 49.9 +0.3
VRAC eSg Sg 04 43 39.2 -4.5
comp=Z,14nm,0.3s
KRUC Moravsky 3.31 120 ePn Pn 04 42 50.5 +0.7
KRUC eSg Sg 04 43 38.7 -5.5
comp=Z,14nm,0.2s
SPAK Spaichingen-Ko 3.42 219 Pn Pn 04 42 50.5 -0.8
SPAK Pg Pg 04 43 03.6 +0.1
BFO Black Forest 3.44 226 ePg Pg 04 43 03.9 0.0
SNR=8.1
BFO eSg Sg 04 43 48.0 -0.5
SNR=4.5
BFO Black Forest 3.44 226 ePg Pg 04 43 03.5 -0.4
BFO eSg Sg 04 43 47.6 -0.8
MOTA Moosalm 3.50 190 ⇑*i*Pn Pn 04 42 52.7 +0.2
MOTA ⇓*i*Sn Sn 04 43 32.5 -1.4
MOTA ⇑*i*Sg Sg 04 43 47.6 -2.7
comp=Z,18nm,0.3s
WTTA Wattenberg 3.54 184 ⇑*i*Pn Pn 04 42 53.4 +0.5
WTTA ⇑*i*Sg Sg 04 43 48.6 -3.0
comp=Z,25nm,0.4s
MORC Moravsky Berou 3.68 104 ePn Pn 04 42 56.6 +1.7
MORC Moravsky Berou 3.68 104 ePn Pn 04 42 56.6 +1.8
MORC eSg Sg 04 43 50.3 -5.7
DAVA Damuels 3.78 203 ⇓*i*Pn Pn 04 42 55.6 -0.7
DAVA ⇑*i*Sg Sg 04 43 57.2 -2.1
comp=Z,9.7nm,0.3s
FETA Feichten 3.87 193 ⇑*i*Pn Pn 04 42 57.2 -0.3
FETA ⇓*i*Sn Sn 04 43 41.4 -1.6
FETA ⇓*i*Sg Sg 04 43 59.4 -2.7
comp=Z,4.5nm,0.3s
FETA Feichten 3.87 193 Pn Pn 04 42 57.2 -0.3
FETA Sn Sn 04 43 41.4 -1.6
CDF Champ du Feu 3.90 234 ePg Pg 04 43 12.2 -0.4
CDF eSg Sg 04 44 03.9 +0.8
comp=Z,27nm,0.5s
CDF Champ du Feu 3.90 234 ePg Pg 04 43 12.2 -0.4
CDF eSg Sg 04 44 03.9 +0.8
comp=Z,14nm,0.5s
CDF Champ du Feu 3.90 234 ePn Pn 04 42 58.6 +0.7
CDF ePg Pg 04 43 12.2 -0.4
CDF eSg Sg 04 44 03.9 +0.8
FELD Feldberg im Sc 3.93 224 Pn Pn 04 42 57.9 -0.4
FELD Pg Pg 04 43 12.7 -0.4
WLF Walferdange 3.94 256 eSg Sg 04 44 03.4 -0.9
SNR=4.5
OKC Ostrava-Krasne 4.04 101 eSG Sg 04 44 06.0 -1.5
ECH Echery 4.09 233 Pg Pg 04 43 17.3 +1.1
ECH Echery 4.09 233 ePg Pg 04 43 19.6 -0.2
ECH eSg Sg 04 44 09.6 +0.5
ECH Echery 4.09 233 ePG Pg 04 43 16.0 -0.2
ECH eSG Sg 04 44 09.7 +0.5
MOF Molkenrain 4.35 229 Pg Pg 04 43 20.6 -0.6
MOF Sg Sg 04 44 20.1 +2.7
BBS Basel-Blauen 4.46 223 Pg Pg 04 43 23.3 0.0
HINF Hinteralfeld 4.51 231 ePg Pg 04 43 23.5 -0.7
HINF eSg Sg 04 44 22.6 0.0
comp=Z,14nm,0.3s
HINF Hinteralfeld 4.51 231 ePg Pg 04 43 23.5 -0.7
HINF eSg Sg 04 44 22.6 0.0
comp=Z,7.1nm,0.3s
HINF Hinteralfeld 4.51 231 ePn Pn 04 43 06.7 +0.5
HINF ePg Pg 04 43 23.5 -0.7
HINF eSg Sg 04 44 22.6 0.0
HAU Haudompre 4.64 235 ePg Pg 04 43 25.8 -0.9
HAU eSg Sg 04 44 26.7 -0.1
comp=Z,14nm,0.3s
HAU Haudompre 4.64 235 ePg Pg 04 43 25.8 -0.9
HAU eSg Sg 04 44 26.7 -0.1
comp=Z,6.8nm,0.3s
HAU Haudompre 4.64 235 ePn Pn 04 43 08.8 +0.7
HAU ePg Pg 04 43 25.8 -0.9
HAU eSg Sg 04 44 26.7 -0.1
GIVF Givet 4.66 264 ePg Pg 04 43 25.6 -1.4
GIVF eSg Sg 04 44 26.8 -0.5
comp=Z,6.2nm,0.3s
GIVF Givet 4.66 264 ePg Pg 04 43 25.6 -1.4
GIVF eSg Sg 04 44 26.8 -0.5
comp=Z,3.1nm,0.3s
GIVF Givet 4.66 264 ePn Pn 04 43 09.1 +0.8
GIVF ePg Pg 04 43 25.6 -1.4
GIVF eSg Sg 04 44 26.8 -0.5
THEF They Montfort 4.70 239 Pn Pn 04 43 11.7 +2.8
BAIF Baives 5.05 265 ePg Pg 04 43 33.1 -1.5
BAIF eSg Sg 04 44 38.9 -1.1
comp=Z,5.5nm,0.3s
BAIF Baives 5.05 265 ePg Pg 04 43 33.1 -1.5
BAIF eSg Sg 04 44 38.9 -1.1
comp=Z,2.8nm,0.3s
BAIF Baives 5.05 265 ePn Pn 04 43 13.8 +0.1
BAIF ePg Pg 04 43 33.1 -1.5
BAIF eSg Sg 04 44 38.9 -1.1
MEZF Maizieres J'vi 5.08 246 ePg Pg 04 43 34.0 -1.1
MEZF eSg Sg 04 44 40.1 -0.8
comp=Z,9.8nm,0.4s
MEZF Maizieres J'vi 5.08 246 ePg Pg 04 43 34.0 -1.1
MEZF eSg Sg 04 44 40.1 -0.8
comp=Z,4.9nm,0.4s
MEZF Maizieres J'vi 5.08 246 ePn Pn 04 43 14.3 +0.2
MEZF ePg Pg 04 43 34.0 -1.1
MEZF eSg Sg 04 44 40.1 -0.8
SFTF Sexfontaines 5.24 243 ePg Pg 04 43 36.7 -1.5
SFTF eSg Sg 04 44 45.3 -0.7
comp=Z,12nm,0.5s
SFTF Sexfontaines 5.24 243 ePg Pg 04 43 36.7 -1.5
SFTF eSg Sg 04 44 45.3 -0.7
comp=Z,6.1nm,0.5s
SFTF Sexfontaines 5.24 243 ePn Pn 04 43 16.7 +0.4
SFTF ePg Pg 04 43 36.7 -1.5
SFTF eSg Sg 04 44 45.3 -0.7
LPL La Plagne 6.36 216 ePg Pg 04 43 56.9 -2.7
LPL eSg Sg 04 45 20.5 -1.3
comp=Z,3.7nm,0.6s
LPL La Plagne 6.36 216 ePg Pg 04 43 56.9 -2.7
LPL eSg Sg 04 45 20.5 -1.3
comp=Z,1.9nm,0.6s
LOR Lormes 6.42 240 ePg Pg 04 43 58.6 -2.3
LOR eSg Sg 04 45 22.5 -1.5
comp=Z,4.7nm,0.3s
LOR Lormes 6.42 240 ePg Pg 04 43 58.6 -2.3
LOR eSg Sg 04 45 22.5 -1.5
comp=Z,2.3nm,0.3s
LOR Lormes 6.42 240 ePn Pn 04 43 33.1 +0.5
LOR ePg Pg 04 43 58.6 -2.3
LOR eSg Sg 04 45 22.5 -1.5
SMF Signal de Mont 6.82 236 ePg Pg 04 44 05.8 -2.7
SMF eSg Sg 04 45 34.8 -1.9
comp=Z,7.7nm,0.4s
SMF Signal de Mont 6.82 236 ePg Pg 04 44 05.8 -2.7
SMF eSg Sg 04 45 34.8 -1.9
comp=Z,3.8nm,0.4s
SMF Signal de Mont 6.82 236 ePn Pn 04 43 38.5 +0.5
SMF ePg Pg 04 44 05.8 -2.7
SMF eSg Sg 04 45 34.8 -1.9
MBDF Montbardon 7.03 212 ePg Pg 04 44 09.3 -3.1
HYF Humbligny 7.11 244 ePn Pn 04 43 41.9 0.0
HYF ePg Pg 04 44 11.0 -2.9
HYF eSg Sg 04 45 43.7 -2.2
ORIF Oris-en-Rattie 7.18 217 ePg Pg 04 44 12.6 -2.8
ORIF eSg Sg 04 45 45.7 -2.7
comp=Z,4.6nm,0.4s
ORIF Oris-en-Rattie 7.18 217 ePg Pg 04 44 12.6 -2.8
ORIF eSg Sg 04 45 45.7 -2.7
comp=Z,2.3nm,0.4s
BGF Bois d'Agland 7.41 239 ePg Pg 04 44 16.4 -3.3
BGF eSg Sg 04 45 52.9 -2.6
comp=Z,32nm,1.0s
BGF Bois d'Agland 7.41 239 ePg Pg 04 44 16.4 -3.3
BGF eSg Sg 04 45 52.9 -2.6
comp=Z,16nm,1.0s
BGF Bois d'Agland 7.41 239 ePn Pn 04 43 46.6 +0.6
BGF ePg Pg 04 44 16.4 -3.3
BGF eSg Sg 04 45 52.9 -2.6
VIVF Saint-Julien-l 7.73 223 ePg Pg 04 44 22.9 -2.9
VIVF eSg Sg 04 46 02.9 -2.9
comp=Z,3.6nm,0.4s
VIVF Saint-Julien-l 7.73 223 ePg Pg 04 44 22.9 -2.9
VIVF eSg Sg 04 46 02.9 -2.9
comp=Z,1.8nm,0.4s

*MOS **19** 05:00:54.3±1.5, 4695N×15100E, h167km, mb3.7/4, Error ellipse: s-maj=23.1km s-min=15.5km az=57.4*
*ISCJB **19** 05:00:57.3±1.0, 464N±0.1×1508E±0.1, h187km±8km, mb4.0/17, Error ellipse: s-maj=20.8km s-min=10.2km az=146.2*
*NEIC **19** 05:00:57.3±1.0, 4687N×15095E, h174km±10km, mb4.8/4, Error ellipse: s-maj=14.2km s-min=8.0km az=147.0*
*IDC **19** 05:00:58.5±2.3, 4690N×15083E, h188km±21km, mb3.3/10, mb1 3.5/12, mb1mx3.4/21, mbtmp3.3/12, Error ellipse: s-maj=19.1km s-min=15.0km az=141.0*

ISC 19 05:00:56.0±0.8, 467N±01×1509E±01, h158km±7km, n53, σ1°35/61, mb4.0/17, 1C-1D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
KUR	**Kuril'sk**	**2.56**	**237**	⇑*i*PN		**Pn**	**05 01 38.0**	**-0.2**
KUR				*i* S		**Sn**	**05 02 12.0**	**+1.3**
KUR				pmax		pmax		
	comp=Z,160nm,4.0s							
KUR				pmax		pmax		
	comp=N,80nm,0.4s							
KUR				smax				
	comp=N,200nm,0.4s							
KUR				smax				
	comp=E,160nm,0.4s							
KUR				smax				
	comp=N,2μm,2.0s							
KUR				smax				
	comp=E,2μm,2.0s							
NEM2	**Nemuro 2**	**4.93**	**230**	P		**Pn**	**05 02 08.6**	**0.0**
NEM2				eS		**Sn**	**05 03 02.7**	**-2.5**
JAK	**Akkeshi**	**5.74**	**232**	P		**Pn**	**05 02 19.8**	**+0.5**
JAK				eS		**Sn**	**05 03 22.7**	**-1.8**
JAR	**Ashorobuto**	**6.08**	**239**	P		**Pn**	**05 02 26.3**	**+2.5**
JOB	**Onbets**	**6.28**	**236**	eS		**Sn**	**05 03 36.1**	**-1.3**
ASAJ	**Asahikawa**	**6.38**	**249**	P		**Pn**	**05 02 31.8**	**+4.0**
	comp=E,3.9nm,0.3s,baz=71,slow=16,SNR=8.8							
ASAJ	**Asahikawa**	**6.38**	**249**	P		**Pn**	**05 02 31.6**	**+3.9**
ASAJ	**Asahikawa**	**6.38**	**249**	PN		**Pn**	**05 02 31.8**	**+4.1**
ASAJ				pmax		pmax		
	comp=Z,4.0nm,0.3s							
JKK2	**Kamakawa 2**	**6.39**	**247**	P		**Pn**	**05 02 31.2**	**+3.2**
JCH	**Churui**	**6.74**	**236**	P		**Pn**	**05 02 33.0**	**+0.5**
JCH				eS		**Sn**	**05 03 45.0**	**-3.2**
JBT2	**Biratori 2**	**7.22**	**240**	P		**Pn**	**05 02 40.4**	**+1.5**
JEM	**Erimo**	**7.24**	**233**	eS		**Sn**	**05 03 54.8**	**-5.6**
ERM	**Erimo**	**7.24**	**233**	ePn		**Pn**	**05 02 42.0**	**+2.7**
ERM				eSn		**Sn**	**05 03 56.3**	**-4.1**
JNBK	**Urakawa-nobuka**	**7.29**	**236**	P		**Pn**	**05 02 40.3**	**+0.4**
JNBK				eS		**Sn**	**05 03 56.8**	**-4.8**
PETK	**Petropavlovsk-**	**7.79**	**32**	P		**Pn**	**05 02 45.7**	**-0.7**
	comp=Z,0.4nm,0.3s,baz=188,slow=9.2,SNR=8.6							
JNB	**Noboribetsu**	**8.20**	**243**	P		**Pn**	**05 02 54.0**	**+2.1**
JNB				eS		**Sn**	**05 04 20.9**	**-2.3**
JKB	**Kayabe**	**8.54**	**239**	eS		**Sn**	**05 04 25.8**	**-5.7**
JYM2	**Yakumo 2**	**8.80**	**243**	P		**Pn**	**05 03 01.6**	**+1.6**
JTM	**Tenmabayashi**	**9.23**	**234**	P		**Pn**	**05 03 04.2**	**-1.4**
JTM				eS		**Sn**	**05 04 39.3**	**-8.8**
JOSM	**Okushiri--Mats**	**9.38**	**245**	P		**Pn**	**05 03 09.2**	**+1.7**
JTH	**Tanohata**	**9.41**	**228**	eS		**Sn**	**05 04 44.5**	**-8.0**
OFUJ	**Ofunato**	**10.17**	**225**	eS		**Sn**	**05 05 03.0**	**-7.7**
JRG	**Rokugo**	**10.45**	**230**	eS		**Sn**	**05 05 11.5**	**-6.0**
BILL	**Bilibino**	**22.83**	**15**	⇓*e*P		**P**	**05 05 40.9**	**-4.1**
BILL				pmax		pmax		
	comp=Z,32nm,1.6s,mb4.5							
SONM	**Songino Array**	**29.91**	**289**	P		**P**	**05 06 48.0**	**-0.7**
	comp=Z,0.3nm,0.3s,mb3.5,baz=79,slow=9.0,SNR=4.1							
MKAR	**Makanchi Array**	**45.61**	**296**	P		**P**	**05 08 58.7**	**-1.4**
	comp=Z,0.4nm,0.3s,mb3.5,baz=60,slow=5.6,SNR=9.3							
MKAR	**Makanchi Array**	**45.61**	**296**	P		**P**	**05 08 58.7**	**-1.4**
TAPN	**Taplejung**	**52.58**	**272**	*e*P		**P**	**05 09 54.0**	**+0.7**
	comp=Z,5.8nm,0.5s,mb4.5							
ODAN	**Odare**	**53.10**	**271**	*e*P		**P**	**05 09 58.3**	**+1.1**
JIRN	**Jiri**	**53.42**	**273**	*e*P		**P**	**05 10 00.1**	**+0.5**
	comp=Z,2.5nm,0.2s,mb4.6							
GUN	**Gumba**	**53.48**	**274**	*e*P		**P**	**05 10 00.5**	**+0.5**
RAMN	**Ramite**	**53.59**	**272**	*e*P		**P**	**05 10 01.4**	**+0.6**
	comp=Z,18nm,0.4s,mb5.1							
KKN	**Kakani**	**53.97**	**274**	*e*P		**P**	**05 10 04.2**	**+0.7**
	comp=Z,13nm,0.6s,mb4.8							
KKN	**Kakani**	**53.97**	**274**	*e*P		**P**	**05 10 04.2**	**+0.7**
KKN				pmax		pmax		
	comp=Z,13nm,0.6s,mb4.8							
PKI	**Pulchoki**	**54.02**	**274**	*e*P		**P**	**05 10 04.4**	**+0.5**
DMN	**Daman**	**54.20**	**274**	*e*P		**P**	**05 10 06.0**	**+0.8**
	comp=Z,9.6nm,0.6s,mb4.7							
GKN	**Gorkha**	**54.28**	**274**	*e*P		**P**	**05 10 06.3**	**+0.6**
DANN	**Dangsing**	**54.66**	**275**	*e*P		**P**	**05 10 09.5**	**+1.0**
KOLN	**Koldanda**	**55.13**	**275**	*e*P		**P**	**05 10 12.5**	**+0.6**
	comp=Z,12nm,0.7s,mb4.8							
NVAR	**Mina Array Bea**	**63.81**	**61**	P		**P**	**05 11 10.4**	**-0.8**
	comp=Z,0.2nm,0.4s,mb3.3,baz=292,slow=5.5,SNR=4.4							
PDAR	**Pinedale Array**	**66.01**	**53**	P		**P**	**05 11 24.8**	**-0.6**
	comp=Z,0.5nm,0.6s,mb3.5,baz=320,slow=1.6,SNR=5.0							
NB2	**NORSAR Subarra**	**67.78**	**340**	P		**P**	**05 11 33.9**	**-2.3**
	comp=Z,0.4nm,0.3s,mb3.6,baz=30,slow=6.5							
NOA	**NORSAR Array B**	**67.78**	**340**	P		**P**	**05 11 33.8**	**-2.4**
	comp=Z,1.1nm,0.6s,mb3.7,baz=29,slow=6.4,SNR=5.7							
NOA	**NORSAR Array B**	**67.78**	**340**	P		**P**	**05 11 33.8**	**-2.4**
NOA				pmax		pmax		
	comp=Z,1.0nm,0.6s							
WRA	**Warramunga Arr**	**67.98**	**197**	P		**P**	**05 11 37.4**	**-0.5**
	comp=Z,0.6nm,0.6s,mb3.5,baz=19,slow=6.9,SNR=3.6							
WRA	**Warramunga Arr**	**67.98**	**197**	P		**P**	**05 11 37.4**	**-0.5**
WRA				pmax		pmax		
	comp=Z,1.0nm,0.6s							
AKASG	**Malin Array Be**	**70.74**	**325**	P		**P**	**05 11 52.0**	**-2.6**
	comp=Z,0.6nm,0.3s,mb3.8,baz=36,slow=6.0,SNR=4.9							
AKASG	**Malin Array Be**	**70.74**	**325**	P		**P**	**05 11 52.0**	**-2.6**
AKASG				pmax		pmax		
	comp=Z,1.0nm,0.3s							
AKASG	**Malin Array Be**	**70.74**	**325**	P		**P**	**05 11 52.0**	**-2.6**
ASAR	**Alice Springs**	**71.69**	**196**	P		**P**	**05 12 01.4**	**+1.0**
	comp=Z,0.5nm,0.5s,mb3.5,baz=24,slow=4.7,SNR=6.0							
ASAR	**Alice Springs**	**71.69**	**196**	P		**P**	**05 12 01.5**	**+1.1**
ASAR				pmax		pmax		
	comp=Z,1.0nm,0.5s							
GERES	**GERESS Array B**	**77.83**	**333**	P		**P**	**05 12 33.8**	**-1.8**
	comp=Z,0.2nm,0.3s,mb3.2,baz=32,slow=5.8,SNR=2.9							
TXAR	**Lajitas Array**	**78.85**	**59**	P		**P**	**05 12 40.8**	**-0.8**
	comp=Z,0.4nm,0.5s,mb3.3,baz=319,slow=5.5,SNR=6.8							

IDC 19 05:12:51.0±3.5, 2173S×17532W, h0km, mb4.3/3, mb1 4.5/3, mb1mx3.9/18, mbtmp4.3/3, MS4.2/1, Ms1 4.2/1, ms1mx2.8/25, Error ellipse: s-maj=163.8km s-min=50.2km az=153.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
CTA	**Charters Tower**	**35.87**	**265**	P		P	05 19 53.6	+0.7
	5.7nm,0.9s,baz=101,slow=10,SNR=4.2							
CTA				LR		LR	05 31 02.2	
	comp=Z,362nm,22.0s,baz=51,slow=30							
ASAR	**Alice Springs**	**46.68**	**257**	P		P	05 21 22.1	+0.3
	2.5nm,0.5s,baz=93,slow=7.9,SNR=31							
ASAR				PcP		PcP	05 22 55.0	-0.7
	0.4nm,0.6s,baz=101,slow=4.5,SNR=5.0							
WRA	**Warramunga Arr**	**46.91**	**263**	P		P	05 21 22.4	-1.2
	0.9nm,0.3s,baz=97,slow=7.2,SNR=14							
AKASG	**Malin Array Be**	**145.28**	**332**	PKPbc		PKPbc	05 32 30.4	+0.1
	1.7nm,0.5s,baz=42,slow=4.0,SNR=8.1							

*NEIC **19** 05:13:34.4, 1764N×9461W, h183km, MD4.2(MEX), After MEX.*

MEX 19 05:13:34.0±1.2, 1762N×9459W, h184km±11km, MD4.1, Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
TUIG	**Tuzandepetl**	**0.44**	**22**	*i* P		Pn	05 13 57.7	-1.3
TUIG				*i* S		Sn	05 14 15.8	-2.7
TGIG		**1.64**	**121**	*i* P		Pn	05 14 07.0	-0.6
TGIG				*i* S		Sn	05 14 32.2	-1.4
SCX	**San Cristobal**	**2.07**	**115**	*i* P		Pn	05 14 10.1	-2.0
SCX				*i* S		Sn	05 14 38.6	-3.0
SCX	**San Cristobal**	**2.07**	**115**	*i* P		Pn	05 14 10.0	-2.1
SCX				*i* S		Sn	05 14 38.5	-3.1
OXX	**Oaxaca**	**2.10**	**255**	*i* P		Pn	05 14 09.4	-3.0
OXX				*i* S		Sn	05 14 39.4	-2.8
OXX	**Oaxaca**	**2.10**	**255**	*i* P		Pn	05 14 09.4	-3.1
OXX				*i* S		Sn	05 14 39.4	-2.8
VHO	**Vista Hermosa**	**2.12**	**255**	*i* P		Pn	05 14 12.6	0.0
VHO				*i* S		Sn	05 14 41.8	-0.7
HUIG	**Huatulco**	**2.35**	**218**	*i* P		Pn	05 14 13.7	-1.5
HUIG				*i* S		Sn	05 14 45.1	-2.1
CCIG	**Comitan**	**2.70**	**119**	*i* P		Pn	05 14 19.5	+0.1
CCIG				*i* S		Sn	05 14 52.6	-1.9
TPIG	**Tehuac#an**	**2.75**	**287**	*i* P		Pn	05 14 19.5	-0.3
TPIG				*i* S		Sn	05 14 53.8	-1.6
UTMO	**Huajuapan**	**3.07**	**274**	*e*P		Pn	05 14 22.0	-1.6
UTMO				*i* S		Sn	05 14 59.8	-2.5
PNIG	**Pinotepa**	**3.59**	**251**	*i* P		Pn	05 14 28.1	-2.1
PNIG				*i* S		Sn	05 15 11.2	-2.8
PPM	**Popocatepetl**	**4.09**	**291**	*i* P		Pn	05 14 36.5	+0.1
PPM				*i* S		Sn	05 15 23.4	-1.8
IIO	**Organos**	**4.38**	**297**	*i* P		Pn	05 14 39.9	-0.2
IIO				*i* S		Sn	05 15 30.8	-0.9
MZVM		**4.67**	**290**	*i* P		Pn	05 14 49.0	+5.3
MZVM				*i* S		Sn	05 15 38.2	-0.3
PTVM	**Pico Tres Padr**	**4.71**	**295**	*i* P		Pn	05 14 45.2	+0.9
PTVM				*i* S		Sn	05 15 37.6	-1.8
CAIG	**El Cayaco**	**5.45**	**265**	*e*P		Pn	05 14 52.4	-1.5
CAIG				*i* S		Sn	05 15 55.4	-1.3
TEIG	**Tepich**	**6.52**	**66**	*i* P		Pn	05 15 06.3	-1.5
TEIG				*i* S		Sn	05 16 19.7	-2.1

MAN 19 05:28:47, 1386N×11974E, h16km, mb3.9, ML2.7, MS2.3, 2C, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
LUBP	**Lubang**	**0.50**	**104**	*e*P		Pg	05 28 57.2	+0.1
LUBP				*e*S		Sg	05 29 03.8	-0.1
NBP	**Mount Natib**	**1.10**	**36**	⇑*e*P		Pb	05 29 05.9	-1.7
NBP				*e*S		Sb	05 29 10.7	-11
TGY	**Tagaytay City**	**1.19**	**78**	⇑*e*P		Pn	05 29 09.1	+0.1
TGY				*e*S		Sb	05 29 21.1	-3.2
BUSP	**Coron**	**1.90**	**166**	*e*P		Pn	05 29 19.4	+0.6
BUSP				*e*S		Sn	05 29 42.4	+0.1
SJMP	**San Jose**	**1.93**	**136**	*e*P		Pn	05 29 20.6	+1.4
POLP	**Polilio Island**	**2.30**	**68**	*e*P		Pn	05 29 25.2	+0.9
BALP	**Baler**	**2.58**	**43**	*e*P		Pn	05 29 28.6	+0.5
ENPP	**El Nido**	**2.65**	**187**	*e*P		Pn	05 29 30.3	+1.2
OTRP	**Odiongan**	**2.67**	**124**	*e*P		Pn	05 29 33.7	+4.3

*NIED **19** 05:34:00, 2650N×14300E, h17km, Mw4.0 Best double couple: M0 1.10000×10^15 NP1:φ0=154.00000°, δ66.00000°, λ-78.00000°. NP2:φ0=307.00000°, δ27.00000°, λ-115.00000°.*
*IDC **19** 05:34:56.7±0.9, 2651N×14252E, h0km, mb3.8/6, mb1 4.1/6, mb1mx3.7/20, mbtmp3.8/6, MS2.9/5, Ms1 3.0/5, ms1mx2.7/25, Error ellipse: s-maj=36.7km s-min=15.8km az=73.0*
*ISCJB **19** 05:34:59.8±0.9, 264N±0.1×1425E±03, h33km, mb3.9/6, MS3.0/2, Error ellipse: s-maj=39.2km s-min=14.0km az=168.3*

ISC 19 05:35:01.9±0.9, 265N±01×1425E±03, h35km, n13, σ0°74/7, mb3.9/6, MS3.0/2, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
CBIJ	**Chichi jima**	**0.63**	**335**	Pn		**Pn**	**05 35 13.1**	**-1.3**
	118nm,0.3s,baz=99,slow=24,SNR=40							
JHJ	**Hachijo jima 2**	**6.98**	**341**	LR		LR	05 39 18.3	
	comp=Z,117nm,19.5s,baz=87,slow=37							
GUMO	**Guam**	**13.06**	**170**	LR		LR	05 42 38.2	
	comp=Z,17nm,19.8s,baz=298,slow=35							
KSRS	**Korea Array**	**16.45**	**315**	LR		LR	05 44 51.3	
	comp=Z,62nm,19.9s,baz=120,slow=36							
CMAR	**Chiang Mai Arr**	**40.87**	**268**	LR		LR	05 58 26.1	
	comp=Z,15nm,20.9s,MS2.8,baz=30,slow=34							
WRA	**Warramunga Arr**	**46.86**	**191**	P		**P**	**05 43 28.9**	**+0.3**
	2.0nm,0.4s,mb4.4,baz=12,slow=8.7,SNR=13							
ASAR	**Alice Springs**	**50.58**	**190**	P		**P**	**05 43 56.5**	**-0.6**
	0.5nm,0.7s,mb3.6,baz=15,slow=13,SNR=5.7							
MKAR	**Makanchi Array**	**51.05**	**310**	LR		LR	06 06 32.8	
	comp=Z,23nm,19.1s,MS3.2,baz=169,slow=37							
KURK	**Kurchatov**	**53.58**	**315**	P		**P**	**05 44 20.2**	**+0.9**
	0.5nm,0.5s,mb3.7,baz=91,slow=8.4,SNR=2.5							
STKA	**Steph

0.9nm,0.7s,baz=338,slow=2.5,SNR=5.2

ISCJB ***19*** *05:44:40.5±1.2,3739N±004×2357E±006, h4km±7km, Error ellipse: s-maj=9.1km s-min=4.2km az=35.1*
CSEM ***19*** *05:44:41.6±0.3,3744N×2343E, h5km, ML2.6, Error ellipse: s-maj=8.8km s-min=3.7km az=126.0*
THE ***19*** *05:44:41.6, 3742N×2350E, h0km±3km, Error ellipse: s-maj=4.1km s-min=1.4km az=105.0*
ATH ***19*** *05:44:42.0, 3743N×2344E, h10km±3km, MD2.9/8, ML2.6*
NEIC ***19*** *05:44:42.0, 3743N×2344E, h10km, ML2.6(ATH), After ATH.*

ISC 19 05:44:40.9±1.1, 3737N±004×2357E±006, h9km±6km, n20, σ0s84/35, Southern Greece

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res ISC
DID	**Didima**	**0.29**	**297**	P		**Pg**	**05 44 46.0**	**-0.7**
DID				S		**Sg**	**05 44 50.0**	**-0.7**
NAIG	**Nisos Aigina**	**0.39**	**351**	*e*Pg		**Pg**	**05 44 48.5**	**0.0**
NAIG				*e*Sb		**Sg**	**05 44 54.0**	**+0.4**
NAIG	**Nisos Aigina**	**0.39**	**351**	*e*PG		**Pg**	**05 44 48.5**	**0.0**
NAIG				*e*SB		**Sg**	**05 44 54.0**	**+0.4**
KVR	**Kavouri**	**0.48**	**19**	*e*Pb		**Pg**	**05 44 51.0**	**+0.8**
KVR				*e*Sb		**Sg**	**05 44 58.5**	**+2.0**
KVR	**Kavouri**	**0.48**	**19**	*e*PB		**Pg**	**05 44 51.0**	**+0.8**
KVR				*e*SB		**Sg**	**05 44 58.5**	**+2.0**
ATH	**Athens Observa**	**0.61**	**11**	*e*Pb		**Pb**	**05 44 53.7**	**0.0**
ATH				*e*Sb		**Sb**	**05 45 01.0**	**-1.4**
ATH	**Athens Observa**	**0.61**	**11**	*e*PB		**Pb**	**05 44 53.7**	**0.0**
ATH				*e*SB		**Sb**	**05 45 01.0**	**-1.4**
PTL	**Penteli**	**0.71**	**19**	*e*Pb		**Pb**	**05 44 54.5**	**-1.0**
PTL				*e*Sb		**Sb**	**05 45 05.0**	**-0.4**
PTL	**Penteli**	**0.71**	**19**	*e*PB		**Pb**	**05 44 54.5**	**-1.0**
PTL				*e*SB		**Sb**	**05 45 05.0**	**-0.4**
LTK	**Loutraki**	**0.80**	**324**	P		**Pg**	**05 44 56.0**	**-0.3**
LTK				S		**Sg**	**05 45 07.5**	**+0.7**
VLI	**Veliai**	**0.83**	**218**	*e*Pb		**Pb**	**05 44 56.5**	**-0.9**
VLI				*e*Sb		**Sb**	**05 45 09.0**	**+0.4**
VLI	**Veliai**	**0.83**	**218**	*e*PB		**Pb**	**05 44 56.5**	**-0.9**
VLI				*e*SB		**Sb**	**05 45 09.0**	**+0.4**
VLX	**Vlachokerasia**	**0.95**	**270**	P		**Pg**	**05 44 58.5**	**-0.6**
VLX				S		**Sg**	**05 45 11.2**	**-0.2**
ITM	**Ithomi**	**1.32**	**262**	*e*Pb		**Pb**	**05 45 05.4**	**-0.4**
ITM	**Ithomi**	**1.32**	**262**	*e*PB		**Pb**	**05 45 05.4**	**-0.4**
LKR	**Lokris**	**1.35**	**341**	*e*Pn		**Pn**	**05 45 05.3**	**-0.6**
LKR				S		**Sb**	**05 45 24.0**	**+0.3**
LKR	**Lokris**	**1.35**	**341**	*e*PN		**Pn**	**05 45 05.3**	**-0.6**
PYL	**PYLOS**	**1.54**	**252**	P		**Pn**	**05 45 09.4**	**+1.0**
PYL				S		**Sn**	**05 45 30.4**	**+1.9**
APE	**Apeiranthos**	**1.60**	**100**	*e*Pn		**Pn**	**05 45 14.2**	**+4.9**
APE	**Apeiranthos**	**1.60**	**100**	*e*PN		**Pn**	**05 45 14.2**	**+4.9**

NIED ***19*** *06:13:00, 4640N×15200E, h41km, Mw4.1 Best double couple: M0 1.55000×10^15 NP1:φs134.00000°, δ86.00000°, λ-29.00000°. NP2:φs226.00000°, δ61.00000°, λ-176.00000°.*
JMA ***19*** *06:13:11.4±0.8, 4639N×15197E, h30km, M4.7*
MOS ***19*** *06:13:11.8±2.2, 4611N×15203E, h57km, mb4.4/6, Error ellipse: s-maj=21.0km s-min=14.3km az=49.8*
ISCJB ***19*** *06:13:12.0±1.0, 4620N±0.1×1519E±0.1, h55km±10km, mb3.9/10, MS3.2/4, Error ellipse: s-maj=26.5km s-min=7.3km az=142.6*
IDC ***19*** *06:13:16.8±3.1, 4640N×15184E, h75km±27km, mb3.5/9, mb1 3.8/12, mb1mx3.6/22, mbtmp3.5/12, MS3.1/7, Ms1 3.1/7, ms1mx2.8/27, Error ellipse: s-maj=34.7km s-min=16.1km az=160.0*
NEIC ***19*** *06:13:16.3±1.9, 4653N×15150E, h56km±17km, mb3.9/1, Error ellipse: s-maj=58.8km s-min=12.6km az=138.0*

ISC 19 06:13:14.6±0.9, 4620N±01×1518E±01, h60km±9km, n44, σ1s27/46, mb3.9/10, MS3.2/4, 1C, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res ISC
KUR	**Kuril'sk**	**2.92**	**252**	⇑*e*PN		**Pn**	**06 13 56.0**	**-2.6**
KUR				*i* S		**Sn**	**06 14 32.4**	**0.0**
KUR					pmax	pmax		
	comp=N,70nm,0.4s							
KUR					pmax	pmax		
	comp=E,70nm,0.4s							
KUR					pmax	pmax		
	comp=Z,160nm,0.4s							
KUR					smax			
	comp=N,530nm,0.5s							
KUR					smax			
	comp=E,150nm,0.5s							
KUR					smax			
	comp=N,2μm,4.0s							
KUR					smax			
	comp=E,2μm,4.0s							
NEM2	**Nemuro 2**	**5.16**	**239**	P		**Pn**	**06 14 28.2**	**-1.0**
NEM2				*e*S		**Sn**	**06 15 25.4**	**-2.0**
JRA	**Rausu**	**5.25**	**247**	P		**Pn**	**06 14 32.6**	**+2.3**
SKR	**Severo-Kuril's**	**5.33**	**31**	*e*PN		**Pn**	**06 14 30.0**	**-1.4**
JNK	**Nakash**	**5.67**	**245**	P		**Pn**	**06 14 37.4**	**+1.2**
JAK	**Akkeshi**	**6.00**	**240**	P		**Pn**	**06 14 39.9**	**-0.8**
JTKR	**Abashiri--Toko**	**6.02**	**251**	P		**Pn**	**06 14 42.9**	**+2.0**
JMP	**Maruseppu**	**6.37**	**253**	P		**Pn**	**06 14 48.7**	**+3.0**
JAR	**Ashoro8uto**	**6.41**	**246**	P		**Pn**	**06 14 47.5**	**+1.1**
JOB	**Onbets**	**6.58**	**243**	P		**Pn**	**06 14 48.1**	**-0.5**
JOB				*e*S		**Sn**	**06 16 01.0**	**-1.1**
JKK2	**Kamakawa 2**	**6.83**	**253**	P		**Pn**	**06 14 54.9**	**+2.9**
ASAJ	**Asahikawa**	**6.83**	**256**	P		**Pn**	**06 14 55.9**	**+3.8**
	comp=E,4.2nm,0.3s,baz=82,slow=22,SNR=4.7							
ASAJ					LR	LR	06 17 30.0	
	comp=E,140nm,20.5s,baz=180,slow=37							
ASAJ	**Asahikawa**	**6.83**	**256**	PN		**Pn**	**06 14 55.9**	**+3.8**
ASAJ					pmax	pmax		
	comp=Z,4.0nm,0.3s							
ASAJ					MLR	MLR		
	comp=Z,140nm,20.5s							
JCH	**Churui**	**7.03**	**242**	P		**Pn**	**06 14 54.2**	**-0.5**
JFR	**Furan**	**7.23**	**249**	P		**Pn**	**06 14 59.2**	**+1.7**
ERM	**Erimo**	**7.50**	**239**	*e*PN		**Pn**	**06 15 02.7**	**+1.5**
ERM					pmax	pmax		
	comp=Z,29nm,0.4s							
ERM	**Erimo**	**7.50**	**239**	*e*Pn		**Pn**	**06 15 02.7**	**+1.5**
	comp=Z,29nm,0.4s							
ERM				*e*Sn		**Sn**	**06 16 22.9**	**-1.8**
JEM	**Erimo**	**7.50**	**239**	P		**Pn**	**06 15 02.0**	**+0.8**
JBT2	**Biratori 2**	**7.57**	**247**	P		**Pn**	**06 15 02.5**	**+0.4**
JNBK	**Urakawa-nobuka**	**7.59**	**242**	P		**Pn**	**06 15 01.2**	**-1.2**
PETK	**Petropavlovsk-**	**7.90**	**27**	P		**Pn**	**06 15 05.9**	**-0.7**
	comp=Z,0.3nm,0.3s,baz=176,slow=11,SNR=6.0							
PETK					LR	LR	06 18 10.7	
	comp=Z,41nm,21.7s,baz=208,slow=38							
JNB	**Noboribetsu**	**8.57**	**248**	P		**Pn**	**06 15 16.4**	**+0.6**
JKB	**Kayabe**	**8.87**	**245**	P		**Pn**	**06 15 19.6**	**-0.4**
JYM2	**Yakumo 2**	**9.17**	**248**	P		**Pn**	**06 15 24.3**	**+0.2**
JTM	**Tenmabayashi**	**9.49**	**239**	P		**Pn**	**06 15 26.5**	**-1.9**
KSRS	**Korea Array**	**19.77**	**252**	P		**Pn**	**06 17 41.5**	**-0.1**
	comp=Z,0.3nm,0.3s,baz=61,slow=12,SNR=3.4							
KSRS					LR	LR	06 25 60.0	
	comp=Z,35nm,18.1s,baz=180,slow=38							
YAK	**Yakutsk**	**20.32**	**329**	*e*P		**P**	**06 17 51.0**	**+5.7**
YAK					pmax	pmax		
	comp=Z,25nm,1.1s							
YAK					pmax	pmax		
	comp=N,10.0nm,1.0s							
YAK					pmax	pmax		
	comp=E,7.0nm,1.4s							
GUMO	**Guam**	**33.03**	**192**		LR	LR	06 32 33.6	
	comp=E,29nm,18.5s,MS3.0,baz=267,slow=35							
COLD	**Coldfoot**	**36.30**	**34**	*e*P		**P**	**06 20 13.7**	**+1.9**
	comp=E,0.9nm,0.6s,mb3.9							
ZALV	**Zalesovo Beam**	**42.20**	**306**		LR	LR	06 39 47.8	
	comp=E,54nm,18.8s,MS3.5,baz=33,slow=38							
MKAR	**Makanchi Array**	**46.39**	**297**	P		**P**	**06 21 33.9**	**-0.9**
	comp=E,1.6nm,1.1s,mb3.9,baz=81,slow=11,SNR=4.6							
MKAR					LR	LR	06 41 46.9	
	comp=E,45nm,21.0s,MS3.4,baz=356,slow=37							
MKAR	**Makanchi Array**	**46.39**	**297**	P		**P**	**06 21 33.9**	**-0.8**
MKAR					pmax	pmax		
	comp=Z,2.0nm,1.1s							
MKAR					MLR	MLR		
	comp=Z,45nm,21.0s							
CMAR	**Chiang Mai Arr**	**51.36**	**256**	P		**P**	**06 22 15.0**	**+1.9**
	comp=Z,0.8nm,0.4s,mb4.0,baz=38,slow=7.8,SNR=5.1							
CMAR					LR	LR	06 47 12.2	
	comp=Z,16nm,18.9s,MS3.1,baz=190,slow=40							

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**51.36**	**256**	P		**P**	**06 22 15.0**	**+1.9**
CMAR					pmax	pmax		
	comp=Z,1.0nm,0.4s							
CMAR					MLR	MLR		
	comp=Z,17nm,18.9s							
YKA	**Yellowknife Ar**	**51.91**	**36**	P		**P**	**06 22 16.4**	**-0.2**
	comp=Z,0.3nm,0.4s,mb3.5,baz=299,slow=6.7,SNR=3.2							
ARCES	**ARCESS Array B**	**58.08**	**340**	P		**P**	**06 23 01.1**	**+0.1**
	comp=Z,7.3nm,1.0s,mb4.7,baz=23,slow=4.9,SNR=3.5							
ARCES	**ARCESS Array B**	**58.08**	**340**	P		**P**	**06 23 01.1**	**+0.1**
ARCES					pmax	pmax		
	comp=Z,7.0nm,1.0s							
NVAR	**Mina Array Bea**	**63.49**	**61**	P		**P**	**06 23 38.8**	**+0.5**
	comp=Z,0.2nm,0.5s,mb3.5,baz=328,slow=6.4,SNR=2.5							
PDAR	**Pinedale Array**	**65.80**	**53**	P		**P**	**06 23 52.3**	**-0.9**
	comp=Z,0.8nm,0.9s,mb3.8,baz=318,slow=2.0,SNR=5.5							
NOA	**NORSAR Array B**	**68.46**	**341**	P		**P**	**06 24 09.3**	**-0.4**
	comp=Z,1.6nm,0.8s,mb4.1,baz=27,slow=6.2,SNR=7.8							
NOA	**NORSAR Array B**	**68.46**	**341**	P		**P**	**06 24 09.3**	**-0.4**
NOA					pmax	pmax		
	comp=Z,2.0nm,0.9s							
AKASG	**Malin Array Be**	**71.50**	**326**	P		**P**	**06 24 27.7**	**-0.8**
	comp=Z,0.9nm,0.3s,mb4.1,baz=36,slow=6.5,SNR=4.7							
AKASG	**Malin Array Be**	**71.50**	**326**	P		**P**	**06 24 27.7**	**-0.9**
AKASG					pmax	pmax		
	comp=Z,1.0nm,0.3s							
TXAR	**Lajitas Array**	**78.55**	**60**	P		**P**	**06 25 09.2**	**-0.3**
	comp=Z,0.4nm,0.5s,mb3.6,baz=305,slow=5.1,SNR=7.8							

IDC ***19*** *06:22:39.0±10.0, 6795×12943E, h75km±108km, mb3.6/3, mb1 3.6/5, mb1mx3.4/14, mbtmp3.5/5, ML3.9/1, Error ellipse: s-maj=136.0km s-min=39.6km az=62.0*
ISCJB ***19*** *06:22:40.6±3.6, 72S±02×1286E±02, h105km±38km, mb3.6/3, Error ellipse: s-maj=29.4km s-min=27.2km az=23.6*
NEIC ***19*** *06:22:42.1±2.8, 725S×12864E, h101km±29km, Error ellipse: s-maj=23.9km s-min=20.9km az=213.0*

ISC 19 06:22:41.9±2.8, 72S±02×1286E±02, h99km±30km, n11, σ0s85/13, mb3.6/3, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res ISC
KAKA	**Kakadu**	**6.60**	**146**	*e*Pn		**Pn**	**06 24 16.6**	**+0.3**
	87nm,0.2s							
KAKA				*e*Sn		**Sn**	**06 25 25.1**	**-5.0**
FITZ	**Fitzroy Crossi**	**11.18**	**195**	*e*Pn		**Pn**	**06 25 19.4**	**+0.6**
FITZ				*e*Sn		**Sn**	**06 27 14.8**	**-7.0**
WRAB	**Tennant Creek**	**13.78**	**157**	*e*Pn		**Pn**	**06 25 52.2**	**-0.9**
WRAB				*e*Sn		Sx	06 28 16.9	
WRA	**Warramunga Arr**	**13.78**	**157**	P		**Pn**	**06 25 51.7**	**-1.4**
	0.6nm,0.3s,baz=343,slow=13,SNR=9.3							
WRA				S		Sx	06 28 14.8	
	1.4nm,0.3s,baz=340,slow=22,SNR=8.9							
WB2	**Warramunga Arr**	**13.79**	**157**	*e*Pn		**Pn**	**06 25 52.4**	**-0.8**
WB2				*e*Sn		Sx	06 28 14.7	
COEN	**Coen**	**15.76**	**116**	Pn		**Pn**	**06 26 19.1**	**+0.8**
ASAR	**Alice Springs**	**17.09**	**163**	P		**Pn**	**06 26 36.3**	**+1.5**
	0.2nm,0.3s,baz=336,slow=10,SNR=13							
ASAR				S		Sx	06 29 37.1	
	0.3nm,0.3s,baz=348,slow=25,SNR=6.9							
STKA	**Stephens Creek**	**27.32**	**155**	P		**P**	**06 28 17.9**	**+0.4**
	1.3nm,0.5s,mb3.7,baz=334,slow=10,SNR=3.9							
MKAR	**Makanchi Array**	**67.70**	**327**	P		**P**	**06 33 28.8**	**+0.3**
	0.4nm,0.5s,mb3.5,baz=110,slow=8.3,SNR=3.6							
ZALV	**Zalesovo Beam**	**71.21**	**334**	P		**P**	**06 33 49.4**	**-0.6**
	0.7nm,0.6s,mb3.7,baz=159,slow=4.3,SNR=3.8							
ZALV	**Zalesovo Beam**	**71.21**	**334**	P		**P**	**06 33 49.4**	**-0.6**

NEIC ***19*** *06:31:15.7, 1729N×10143W, h19km, MD3.8(MEX), After MEX.*

MEX 19 06:31:15.8±0.9, 1729N×10142W, h16km±25km, MD3.8, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res ISC
ZIIG	**Zihuatanejo**	**0.32**	**352**	*i* P		Pg	06 31 21.6	-1.0
ZIIG				*i* S		Sg	06 31 25.9	-1.2
CAIG	**El Cayaco**	**1.13**	**102**	*i* P		Pb	06 31 33.9	-3.0
CAIG				*i* S		Sb	06 31 46.8	-4.6
ACX	**Acapulco**	**1.50**	**106**	*e*P		Pn	06 31 37.2	-4.8
ACX				*e*S		Sn	06 31 56.1	-5.1
ACX	**Acapulco**	**1.50**	**106**	*e*P		Pn	06 31 37.6	-4.4
ACX				*i* S		Sn	06 31 56.1	-5.1
MZVM		**2.81**	**47**	*e*P		Pn	06 31 58.0	-2.1
MZVM				*i* S		Sn	06 32 29.1	-4.6
PBVM	**Pinon**	**3.08**	**46**	*e*P		Pn	06 32 01.8	-2.0
PBVM				*i* S		Sn	06 32 33.0	-7.4
PPM	**Popocatepetl**	**3.19**	**56**	*e*P		Pn	06 32 05.4	+0.2
PPM				*i* S		Sn	06 32 39.8	-3.1
IIO	**Organos**	**3.43**	**48**	*e*P		Pn	06 32 06.8	-1.8
UTMO	**Huajuapan**	**3.49**	**81**	*i* P		Pn	06 32 08.4	-1.0
UTMO				*i* S		Sn	06 32 45.3	-5.1

NEIC ***19*** *06:43:50.2, 3240S×6932W, h5km, ML2.6(GUC), After GUC.*

GUC 19 06:43:50.2±1.0, 3240S×6932W, h5km±23km, MD3.5, ML2.6, 1C-4D, Mendoza Province

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res ISC
FCH	**Farellones**	**1.24**	**221**	⇓*i* P		Pg	06 44 13.4	-0.5
FCH				*i* S		Sg	06 44 31.1	+1.0
FCH					AML	AML	06 44 31.5	
	comp=N,254nm,0.3s							
PEL	**Peldehue**	**1.37**	**237**	⇑*i* P		Pn	06 44 15.2	-0.9
PEL				*i* S		Sb	06 44 35.2	+1.0
PEL					AML	AML	06 44 37.3	
	comp=E,172nm,0.3s							
CLCH	**Cerro Calan**	**1.43**	**226**	⇓*i* P		Pn	06 44 16.8	0.0
CLCH				*i* S		Sb	06 44 37.0	+1.1
CLCH					AML	AML	06 44 38.1	
	comp=N,370nm,0.7s							
PCH	**Pirque**	**1.58**	**219**	⇓*i* P		Pn	06 44 19.6	+0.7
PCH				*i* S		Sn	06 44 40.9	+1.2
LMEL	**Las Melosas**	**1.63**	**207**	*i* S		Sn	06 44 43.5	+2.7
LMEL					AML	AML	06 44 47.0	
	comp=N,86nm,0.2s							
RCDM	**Rinconada Maip**	**1.66**	**229**	*e*P		Pn	06 44 20.9	+0.9
RCDM				*i* S		Sn	06 44 44.1	+2.4
RCDM					AML	AML	06 44 45.4	
	comp=N,97nm,0.2s							
RCDM	**Rinconada Maip**	**1.66**	**229**	*e*P		Pn	06 44 20.9	+0.9
RCDM				*i* S		Sn	06 44 44.1	+2.4
TACH	**Talagante**	**1.85**	**227**	⇓*i* P		Pn	06 44 24.1	+1.5
TACH				*i* S		Sn	06 44 49.3	+2.9
LCO	**Las Campanas**	**3.58**	**340**	*e*Pn		Pn	06 44 46.7	+0.3
LCO				*e*Sn		Sn	06 45 29.3	+0.2
TRQA	**Tornquist**	**8.24**	**135**	*e*Pn		Pn	06 45 47.9	-2.4

IDC ***19*** *07:19:50.1±0.5, 2860N×6618E, h0km, mb4.6/27, mb1 4.7/27, mb1mx4.7/30, mbtmp4.6/27, MS5.0/36, Ms1 5.0/36, ms1mx4.9/42, Error ellipse: s-maj=13.1km s-min=11.4km az=150.0*
ISCJB ***19*** *07:19:51.8±0.1, 2851N±002×6622E±001, h29km, mb4.9/129, MS5.2/245, Error ellipse: s-maj=3.0km s-min=1.8km az=8.0*
MOS ***19*** *07:19:53.2±1.2, 2857N×6622E, h37km, mb5.1/76, MS5.0/59, Error ellipse: s-maj=6.4km s-min=3.7km az=124.1*
BJI ***19*** *07:19:54.5, 2876N×6636E, h27km, mB5.2, mb5.0, Ms5.6, Msz5.2*
NEIC ***19*** *07:19:54.8±0.2, 2865N×6629E, h35km, mb5.1/62, MS5.3/188, MW5.4, Error ellipse: s-maj=6.8km s-min=4.3km az=15.0, Moment Tensor Solution. s10 Moment tensor: Scale 10^17Nm; Mrr0.31; Mθθ-0.73; Mφφ0.42; Mrθ0.03; Mθφ-1.31; Mφr0.10; Best double couple: M0 1.50000×10^17 NP1:φs282.00000°, δ86.00000°, λ179.00000°. NP2:φs12.00000°, δ89.00000°, λ4.00000°. Principal axes: T 1.2800, Plg3.0000°, Azm236.0000°; N 0.3100, Plg85.0000°, Azm25.0000°; P -1.5900, Plg2.0000°, Azm146.0000°;*
NEIC Felt at Khuzdar and Sorab.
GCMT ***19*** *07:19:54.8±0.1, 2838N×6614E, h17km, MW5.5/102, Moment Tensor Solution. s80,c137; s102,c198; Duration: 1s3 Moment tensor: Scale 10^17Nm;*
Mrr-0.20±.02; Mθθ-0.97±.03; Mφφ1.17±.03; Mrθ0.13±.06; Mθφ-1.57±.02; Mφr0.02±.06; Best double couple: M0 1.90500×10^17 NP1:φs197.00000°, δ86.00000°, λ-2.00000°. NP2:φs287.00000°, δ88.00000°, λ-176.00000°. Principal axes: T 2.0000, Plg1.0000°, Azm62.0000°; N -0.1910, Plg86.0000°, Azm317.0000°; P -1.8100, Plg4.0000°, Azm152.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.
SZGRF ***19*** *07:19:55.1, 2778N×6519E, h33km, mb4.9, MS5.0, Pakistan*
DJA ***19*** *07:20:10, 2841N×6620E, h140km, mb4.9/11*

ISC 19 07:19:54.1±0.1, 2852N±002×6620E±001, h31km, h31km±1.5km: pP-P, n621, σ1s35/520, mb4.9/129, MS5.2/245, 59C-12D, Pakistan

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res ISC
JASL	**Jaisalmer**	**4.46**	**110**	*e*P		**Pn**	**07 21 01.9**	**+2.3**
BHJ	**Bhuj**	**6.09**	**149**	*e*P		**Pn**	**07 21 22.4**	**+0.3**
BHJ				*e*S		**Sn**	**07 22 32.0**	**+1.3**
BHJ					AML	AML	07 22 36.1	
	comp=N,1μm,0.5s							
THW	**Thamme Wali**	**6.40**	**47**	⇓P		**Pn**	**07 21 25.1**	**-1.1**
KBL	**Kabul**	**6.48**	**21**	⇑*e*P		**Pn**	**07 21 27.2**	**-0.1**
KBL					pmax	pmax		
	comp=Z,334nm,1.0s							
KBL	**Kabul**	**6.48**	**21**	⇑*e*Pn		**Pn**	**07 21 27.2**	**-0.1**
	comp=Z,334nm,1.0s							
SARP	**Sargodha**	**6.55**	**57**	⇑P		**Pn**	**07 21 28.3**	**+0.1**
CEP	**Cherat**	**7.20**	**41**	⇑P		**Pn**	**07 21 37.1**	**-0.1**
CEP				S		**Sn**	**07 23 03.0**	**+5.0**
AJM	**Ajmer**	**7.77**	**103**	*e*P		**Pn**	**07 21 45.4**	**+0.4**
AJM				*e*S		**Sn**	**07 23 10.5**	**-1.5**
CHCP	**Chirah Chowk**	**7.93**	**48**	P		**Pn**	**07 21 47.2**	**-0.1**
KHET	**Khetri**	**8.48**	**91**	*e*P		**Pn**	**07 21 56.4**	**+1.6**
KHET				*e*x		x	07 23 26.6	
JMU	**Jammu**	**8.58**	**59**	*e*x		**Sn**	**07 23 33.0**	**+1.0**
WBK	**Wadi Bani Khal**	**8.79**	**230**	⇓P		**Pn**	**07 21 58.0**	**-1.1**
	SNR=43							
BIDO	**Bidbid**	**8.80**	**237**	⇓P		**Pn**	**07 21 58.0**	**-1.3**
	SNR=33							
THN	**Thein Dam**	**9.09**	**62**	*e*P		**Pn**	**07 22 01.0**	**-2.1**
THN				*e*x		**Sn**	**07 23 47.5**	**+3.1**
PONG	**Pong**	**9.10**	**66**	*e*P		**Pn**	**07 22 04.0**	**+0.7**
PONG				*e*x		**Sn**	**07 23 47.0**	**+2.3**
SMDO	**Samad**	**9.14**	**235**	⇑P		**Pn**	**07 22 02.4**	**-1.4**
	SNR=48							
BANOM	**Banah**	**9.19**	**256**	⇑P		**Pn**	**07 22 03.1**	**-1.4**
	SNR=177							
BHK	**Bhakra**	**9.32**	**69**	*e*P		**Pn**	**07 22 04.6**	**-1.7**
BHK				*e*x		x	07 23 46.8	
HOQ	**Hoqain**	**9.38**	**240**	⇑P		**Pn**	**07 22 06.0**	**-1.2**
	SNR=19							
KKR	**Kurukshetra**	**9.39**	**79**	*e*P		**Pn**	**07 22 06.4**	**-0.8**
JMDO	**Jabal Madar**	**9.54**	**232**	⇑P		**Pn**	**07 22 08.4**	**-0.9**
	SNR=41							
SONA	**Sohna**	**9.59**	**89**	*e*P		**Pn**	**07 22 08.9**	**-1.1**
SONA				*e*x		**Sn**	**07 23 54.1**	**-2.6**
NDI	**New Delhi**	**9.68**	**86**	*e*P		**Pn**	**07 22 10.0**	**-1.3**
NDI				*e*x		x	07 23 55.0	
HATD	**Hatta, Dubai**	**9.73**	**250**	⇓P		**Pn**	**07 22 10.1**	**-1.8**
	SNR=179							
SDNR	**Sundarnagar**	**9.80**	**70**	*e*P		**Pn**	**07 22 12.0**	**-0.8**
SDNR				*e*x		**Sn**	**07 24 00.0**	**-1.8**
SMLA	**Simla**	**9.87**	**72**	⇑*i*P		**Pn**	**07 22 13.3**	**-0.6**
SMLA				*i* x		**Sn**	**07 23 58.5**	**-5.2**
SMLA				*e*x		x	07 24 08.5	
	comp=E,2μm,0.4s							
SMLA				*e*x		x	07 24 10.1	
	comp=N,2μm,0.2s							
BSY	**Bisya**	**9.95**	**237**	⇑P		**Pn**	**07 22 14.0**	**-1.0**
	SNR=130							
AGRA	**Agra**	**10.47**	**94**	*e*P		**Pn**	**07 22 26.6**	**+0.5**
AGRA				*e*x		**Sn**	**07 24 22.8**	**+4.5**
DDI	**Dehra Dun**	**10.49**	**77**	*e*P		**Pn**	**07 22 19.8**	**-2.6**
DDI				*e*x		**Sn**	**07 24 21.4**	**+2.5**
KALG	**Kalgarh**	**11.03**	**82**	*e*x		x	07 22 23.1	
KALG				*e*x		x	07 24 26.5	
BHPL	**Bhopal**	**11.39**	**115**	*e*P		**Pn**	**07 22 35.5**	**+0.9**
BHPL				*e*x		x	07 24 33.0	
JOSI	**Joshimath**	**11.81**	**77**	*e*P		**Pn**	**07 22 40.7**	**+0.3**
JOSI				*e*x		**Sn**	**07 24 54.8**	**+3.7**
POO	**Poona**	**12.16**	**143**	*e*x		**Pn**	**07 22 46.1**	**+0.9**
POO				*i* x		x	07 25 12.0	
PTH	**Pithoragarh**	**12.31**	**82**	*e*P		**Pn**	**07 22 46.4**	**-0.8**
PTH				*e*x		**Sn**	**07 25 04.8**	**+1.4**
AKL	**Akola**	**12.54**	**126**	*e*P		**Pn**	**07 22 50.7**	**+0.3**
KAD	**Karad**	**13.36**	**145**	*e*P		**Pn**	**07 23 01.8**	**+0.2**
KAD				*e*x		x	07 25 43.5	
JBP	**Jabalpur**	**13.50**	**110**	*e*P		**Pn**	**07 23 04.8**	**+1.2**
JBP				*e*x		x	07 25 23.8	
KSH	**Kashi**	**13.63**	**34**	*e*P		**Pn**	**07 23 04.5**	**-0.7**
KSH				*e*AP			07 23 12.4	
KSH				*e*PP			07 23 15.3	
KSH				*e*XP			07 23 18.8	
KSH				*e*S		**Sn**	**07 25 31.5**	**-4.0**
KSH				*e*XS			07 25 42.4	
KSH				*e*SS			07 25 46.8	
KSH					AMB	AMB		
	comp=Z,2.0nm,0.2s							
KSH					AMB	AMB		
	comp=Z,2μm,3.4s							
KSH					LR	LR		
	comp=Z,88μ

SNR=20
GKN Gorkha 16.25 87 *e*P **Pn** **07 23 38.7 -1.5**
comp=Z,455nm,1.0s
RDF Al-Radifah 16.37 276 *e*P **Pn** **07 23 37.2 -4.4**
baz=275
RDF AMb AMB 07 23 47.2
comp=Z,126nm,0.5s,baz=275
MIB Mutribah 16.53 279 *e*P **Pn** **07 23 38.9 -4.8**
baz=278
MIB AMb AMB 07 23 53.5
comp=Z,151nm,0.7s,baz=278
NAY Al-Naaiem 16.62 277 *e*P **Pn** **07 23 40.5 -4.4**
baz=276
NAY AMb AMB 07 23 49.5
comp=Z,56nm,0.7s,baz=276
DMN Daman 16.71 89 *e*P **Pn** **07 23 44.7 -1.3**
comp=Z,228nm,0.9s
RST Umm Al-Ruwaisa 16.83 278 *e*P **Pn** **07 23 42.1 -5.4**
baz=277
RST AML AML 07 24 00.1
comp=Z,68nm,0.5s,baz=277
KKN Kakani 16.84 88 *e*P **Pn** **07 23 46.0 -1.6**
comp=Z,184nm,0.7s
KKN Kakani 16.84 88 *e*P **Pn** **07 23 46.0 -1.6**
KKN pmax pmax
comp=Z,184nm,0.7s
PKI Pulchoki 16.99 89 *e*P **Pn** **07 23 47.0 -2.4**
AAA Alma-Ata 17.08 28 *e*P **Pn** **07 23 52.5 +2.0**
AAA *e*S **Sn** **07 27 02.3 +2.9**
AAA pmax pmax
comp=Z,1μm,3.6s
AAA smax
comp=E,2μm,7.4s
AAA MLR MLR
comp=Z,24μm,12.0s
GUN Gumba 17.36 87 *e*P **Pn** **07 23 52.0 -2.0**
JIRN Jiri 17.66 88 *e*P **Pn** **07 23 57.1 -0.7**
RAMN Ramite 18.13 90 *e*P **Pn** **07 24 02.5 -1.0**
comp=Z,188nm,0.7s
BOK Bokaro 18.28 100 *e*P **Pn** **07 24 05.8 +0.3**
ODAN Odare 18.84 90 *e*P **Pn** **07 24 11.5 -0.7**
TAPN Taplejung 19.04 88 *e*P **Pn** **07 24 14.1 -0.5**
comp=Z,200nm,0.7s
VIS Vishakhapatnam 19.05 121 *e*P **Pn** **07 24 14.4 -0.3**
VIS *i* x x 07 27 53.8
BHD Baghdad 19.31 290 *ex* x 07 24 24.0
BHD *i* x x 07 27 49.0
BWNR Bhubaneshwar 19.62 110 *ex* **Pn** **07 24 23.7 +2.1**
BWNR *ex* **Sn** **07 27 58.4 -2.8**
MDRS Chennai 20.18 137 *ex* **P** **07 24 29.4 +3.1**
MDRS *ex* x 07 27 41.5
CAL Calcutta 20.82 102 *ex* x 07 28 41.4
CAL *ex* x 07 31 17.8
MAK Makhachkala 20.86 319*c i*P **P** **07 24 33.1 -0.3**
MAK *e* 07 25 01.1
MAK *i*S **S** **07 28 24.5 +0.1**
MAK *i*SS 07 28 41.3
MAK *e*SSS 07 29 02.7
MAK pmax pmax
comp=Z,111nm,0.8s
MSL Mosul 20.98 298 *ex* **P** **07 24 37.0 +2.3**
MSL *ex* **S** **07 28 32.0 +5.2**
GNI Garni 21.12 309 P **P** **07 24 38.4 +2.1**
comp=Z,40nm,0.7s,mb4.8,baz=25,slow=3.5,SNR=19
GNI Garni 21.12 309 P **P** **07 24 38.4 +2.1**
GNI pmax pmax
comp=Z,40nm,0.7s
MUKL Al Mukalla 21.18 232 *e*P **P** **07 24 35.2 -1.9**
AB31 Akbulak array 21.26 349 *i*P **P** **07 24 37.5 -0.1**
AB31 pmax pmax
comp=Z,69nm,1.0s,mb4.9
DGRG David-gareji 21.33 313 P **P** **07 24 40.2 +1.8**
DGRG S **S** **07 28 44.8 +11**
LSA Lhasa 21.82 81 P **P** **07 24 46.0 +2.1**
LSA S **S** **07 28 46.0 +2.5**
LSA LR LR
comp=N,11μm,19.0s,MS5.3
LSA LR LR
comp=E,5μm,19.0s,MS5.3
LSA LR LR
comp=Z,6μm,20.6s,MS5.0
LSA Lhasa 21.82 81 *e*P **P** **07 24 46.0 +2.1**
LSA pmax pmax
comp=Z,78nm,0.9s,mb5.1
LSA MLR MLR
comp=Z,6μm,20.0s,MS5.0
LSA Lhasa 21.82 81 *e*P **P** **07 24 46.0 +2.1**
comp=Z,78nm,0.9s,mb5.1
LSA LR LR
comp=Z,6μm,20.0s,MS5.0
MTA Mtatsminda 21.83 313 P **P** **07 24 46.6 +2.8**
MTA S **S** **07 28 46.3 +2.9**
TBLG Delisi 21.88 313 P **P** **07 24 45.7 +1.4**
MK31 Makanchi Array 22.17 30 *i*P **P** **07 24 45.7 -1.7**
MK31 pmax pmax
comp=Z,51nm,0.8s,mb5.0
MK31 Makanchi Array 22.17 30 *e*P **P** **07 24 46.0 -1.5**
MKAR Makanchi Array 22.17 30 P **P** **07 24 45.9 -1.6**
comp=Z,11nm,0.7s,mb4.4,baz=218,slow=8.4,SNR=40
MKAR LR LR 07 34 29.8
comp=Z,5μm,20.2s,MS5.0,baz=222,slow=40
MKAR Makanchi Array 22.17 30 P **P** **07 24 45.9 -1.5**
MKAR pmax pmax
comp=Z,11nm,0.7s
MKAR MLR MLR
comp=Z,5μm,20.3s
DIGO Kars 22.18 308 *i*P **P** **07 24 43.9 -3.7**
TRD Trivandrum 22.34 151 *e*P **P** **07 24 50.7 +1.3**
TRD *ex* x 07 29 12.0
GOR Gori 22.41 313 P **P** **07 24 56.6 +6.6**
AKTK Aktyubinsk 22.75 346 P **P** **07 24 54.0 +0.5**
AKTK LR LR 07 35 09.2
AKTO Aktyubinsk 22.75 346 P **P** **07 24 54.0 +0.5**
comp=Z,17nm,0.8s,mb4.5,baz=150,slow=9.0,SNR=17
AKTO LR LR 07 35 09.2
comp=Z,3μm,18.5s,MS4.8,baz=157,slow=40
AKTO Aktyubinsk 22.75 346 P **P** **07 24 54.1 +0.5**
AKTO pmax pmax
comp=Z,17nm,0.8s,mb4.5
AKTO MLR MLR
comp=Z,3μm,18.5s,MS4.8
WMQ Urumqi 23.02 43 P **P** **07 24 58.0 +1.6**
WMQ AP 07 25 07.3
WMQ XP sP 07 25 11.6 +3.0
WMQ PP 07 25 28.3
WMQ PCP PcP 07 28 48.5 +3.2
WMQ S **S** **07 29 02.0 -3.0**
WMQ XS sS 07 29 17.1 -2.3
WMQ AMB AMB
comp=Z,93nm,1.1s,mb5.1
WMQ AMB AMB
comp=Z,957nm,4.7s
WMQ LR LR
comp=N,20μm,21.6s,MS5.6
WMQ LR LR
comp=E,10μm,22.3s,MS5.6
WMQ LR LR
comp=Z,6μm,21.5s,MS5.0
MARD Mardin 23.02 299 *i*P **P** **07 24 56.3 -0.2**
SHL Shillong 23.05 91 *e*P **P** **07 24 56.5 -0.4**
SHL *e*S **S** **07 29 08.5 +2.7**
HOMI Horasan 23.06 306 *i*P **P** **07 24 57.9 +1.0**
ONI Oni 23.13 313 P **P** **07 24 59.9 +2.2**
ONI S **S** **07 29 10.9 +4.0**
DDEM Demirkent 23.50 308 *i*P **P** **07 25 03.0 +1.6**
DBAD Bademkaya 23.59 308 *i*P **P** **07 24 57.6 -4.7**
DBOC Borcka 23.75 309 *i*P **P** **07 25 05.7 +2.0**
KURK Kurchatov 24.08 20 P **P** **07 25 06.7 +0.1**
comp=Z,167nm,1.1s,mb5.4,SNR=17
KURK Kurchatov 24.08 20 ⇑P **P** **07 25 09.2 +2.6**
SNR=19
KURK Kurchatov 24.08 20 P **P** **07 25 04.4 -2.2**
comp=Z,12nm,1.0s,mb4.3,baz=212,slow=9.5,SNR=26
KURK LR LR 07 35 29.7
comp=Z,6μm,20.6s,MS5.1,baz=215,slow=39
KURK Kurchatov 24.08 20 P **P** **07 25 04.4 -2.2**
KURK pmax pmax
comp=Z,12nm,1.0s,mb4.3
KURK MLR MLR
comp=Z,6μm,20.6s,MS5.1
KURK Kurchatov 24.08 20 *e*P **P** **07 25 05.4 -1.2**
comp=Z,35nm,1.0s,mb4.7
KURK LR LR
comp=Z,8μm,20.0s,MS5.2
KIV Kislovodsk 24.32 316 ⇑P **P** **07 25 10.0 +1.2**
SNR=10.0
KIV Kislovodsk 24.32 316 *e*P **P** **07 25 11.6 +2.8**
KIV pmax pmax
comp=Z,51nm,1.1s,mb4.9
KIV MLR MLR
comp=Z,1μm,16.0s,MS4.5
KIV Kislovodsk 24.32 316 *e*P **P** **07 25 09.7 +0.8**
KIV LR LR
comp=Z,1μm,21.0s,MS4.3
BVA0 Borovoye Array 24.68 6 P **P** **07 25 12.3 +0.3**
BVA0 pmax pmax
comp=Z,12nm,1.3s,mb4.3
BVAR Borovoye Array 24.68 6 P **P** **07 25 11.7 -0.3**
comp=Z,23nm,0.5s,mb5.0,baz=177,slow=9.1,SNR=35
BVAR LR LR 07 35 09.4
comp=Z,2μm,19.3s,MS4.7,baz=2.5,slow=37
BVAR Borovoye Array 24.68 6 P **P** **07 25 11.7 -0.3**
BVAR pmax pmax
comp=Z,23nm,0.5s
BVAR MLR MLR
comp=Z,2μm,19.3s
BRVK Borovoye 24.70 6 P **P** **07 25 13.9 +1.7**
comp=Z,408nm,0.9s,mb6.0,SNR=15
BRVK Borovoye 24.70 6 ⇑P **P** **07 25 14.6 +2.4**
SNR=30
BRVK Borovoye 24.70 6 *e*P **P** **07 25 12.0 -0.2**
BRVK LR LR
comp=Z,5μm,20.0s,MS5.0
IMP Imphal 25.04 92 *ex* **P** **07 25 18.0 +2.4**
IMP *ex* x 07 30 26.0
KEMA Kemaliye 25.28 302 *i*P **P** **07 25 15.3 -2.4**
ASF Jabal al Asfar 25.51 285 P **P** **07 25 20.4 +0.5**
comp=Z,11nm,0.8s,mb4.4,baz=326,slow=9.7,SNR=9.5
ASF LR LR 07 36 42.8
comp=Z,1μm,18.4s,MS4.4,baz=327,slow=40
ASF Jabal al Asfar 25.51 285 P **P** **07 25 20.4 +0.5**
ASF pmax pmax
comp=Z,11nm,0.8s
ASF MLR MLR
comp=Z,1μm,18.4s
ASF Jabal al Asfar 25.51 285 P **P** **07 25 20.4 +0.5**
ASF LR LR 07 36 42.8
GZT Gaziantep 25.52 298 *i*P **P** **07 25 17.4 -2.5**
GRSN GIRESUNGRSN 25.96 306 *i*P **P** **07 25 19.7 -4.2**
SOC Sochi 26.02 312 *e*P **P** **07 25 26.8 +2.5**
SOC *e**SP sP 07 25 39.7 +2.8
SOC *e* 07 26 00.8
SOC *e* 07 28 52.1
SOC *e*S **S** **07 29 56.5 +3.4**
SOC *e**SS sS 07 30 09.3 +1.5
SOC *e*SS 07 30 57.3
SOC pmax pmax
comp=Z,39nm,1.0s,mb4.9
SOC MLR MLR
comp=Z,1μm,15.0s,MS4.6
MMAI Mount Meron Ar 26.79 287 P **P** **07 25 33.2 +1.8**
comp=Z,1.1nm,0.3s,mb3.9,baz=67,slow=11,SNR=2.5
MMAI LR LR 07 37 33.2
comp=Z,2μm,19.3s,MS4.8,baz=70,slow=40
EIL Elat 27.29 280 P **P** **07 25 39.0 +3.1**
comp=Z,12nm,0.9s,mb4.4,baz=64,slow=5.2,SNR=9.6
ANN Anapa 28.03 313 *e*P **P** **07 25 44.7 +2.3**
ANN *e*S **S** **07 30 26.9 +2.1**
ANN pmax pmax
comp=Z,36nm,1.3s,mb4.8
ARU Arti 28.42 351 *e*P **P** **07 25 46.9 +1.2**
ARU pmax pmax
comp=Z,22nm,1.2s,mb4.7
ARU MLR MLR
comp=Z,4μm,15.0s,MS5.2
ARU Arti 28.42 351 *e*P **P** **07 25 44.7 -1.0**
comp=Z,22nm,1.1s,mb4.7
ARU LR LR
comp=Z,4μm,21.0s,MS5.0
SVE Sverdlovsk 28.57 354 *e*P **P** **07 25 48.9 +1.9**
SVE *e*S **S** **07 30 30.0 -3.0**
SVE pmax pmax
comp=Z,20nm,1.2s,mb4.7
SVE MLR MLR
comp=Z,4μm,12.0s,MS5.3
CSS Prodhromos 28.60 291 P **P** **07 25 47.4 -0.1**
CSS LR LR
comp=Z,6μm,19.0s,MS5.2
ZALV Zalesovo Beam 28.83 23 P **P** **07 25 49.3 -0.1**
comp=Z,7.3nm,0.5s,mb4.7,baz=222,slow=8.8,SNR=17
ZALV LR LR 07 38 37.6
comp=Z,5μm,20.4s,MS5.1,baz=222,slow=39
ZALV Zalesovo Beam 28.83 23 P **P** **07 25 49.3 -0.1**
ZALV pmax pmax
comp=Z,7.0nm,0.5s,mb4.7
ZALV MLR MLR
comp=Z,5μm,20.4s,MS5.1
BR131 Keskin Array S 29.03 301 *e*P **P** **07 25 50.8 -0.6**
comp=Z,2.3nm,0.7s,mb4.0
BR131 LR LR
comp=Z,2μm,20.0s,MS4.7
NVS Novosibirsk 29.06 20 *e*P **P** **07 25 52.7 +1.3**
NVS pmax pmax
comp=Z,54nm,2.2s,mb4.9
NVS pmax pmax
comp=N,46nm,2.0s
ANTO Ankara 29.70 301 PFAKE 07 26 10.0 +13
ANTO LR LR
comp=Z,3μm,22.0s,MS4.8
GTA Gaotai 29.76 60 *e*P **P** **07 25 59.8 +1.9**
GTA AP pP 07 26 10.1 +3.4
GTA XP sP 07 26 13.8 +3.3
GTA PP PP 07 26 59.1 -6.1
GTA S **S** **07 30 55.8 +3.6**
GTA XS sS 07 31 10.4 +3.5
GTA AMB AMB
comp=Z,8.0nm,0.8s,mb4.5
GTA AMB AMB
comp=Z,176nm,4.2s
GTA LR LR
comp=N,8μm,18.0s,MS5.5
GTA LR LR
comp=E,4μm,15.6s,MS5.5
GTA LR LR
comp=Z,4μm,14.7s,MS5.2
VSR Storozhevoye 30.43 326 *e*P **P** **07 26 02.0 -1.6**
VSR pmax pmax
comp=Z,2.0nm,0.9s,mb3.9
VSR pmax pmax
comp=N,6.0nm,0.5s
VSR pmax pmax
comp=E,10.0nm,1.1s
CHTO Chiang Mai 31.42 101 P **P** **07 26 15.2 +2.6**
SNR=7.2
CHTO Chiang Mai 31.42 101 *e*P **P** **07 26 13.4 +0.7**
CHTO pmax pmax
comp=Z,17nm,0.9s,mb4.9
CHTO MLR MLR
comp=Z,3μm,20.0s,MS4.9
CHTO Chiang Mai 31.42 101 *e*P **P** **07 26 13.4 +0.8**
comp=Z,17nm,0.9s,mb4.9
CHTO LR LR
comp=Z,3μm,20.0s,MS4.9
CM31 Chiang Mai Arr 31.57 101 PFAKE 07 26 30.0 +16
CM31 LR LR
comp=Z,2μm,20.0s,MS4.8
CMAR Chiang Mai Arr 31.57 101 P **P** **07 26 15.3 +1.4**
comp=Z,5.3nm,0.8s,mb4.4,baz=299,slow=7.8,SNR=19
CMAR LR LR 07 40 06.1
comp=Z,2μm,19.7s,MS4.9,baz=295,slow=38
CMAR Chiang Mai Arr 31.57 101 P **P** **07 26 15.4 +1.5**
CMAR pmax pmax
comp=Z,5.0nm,0.8s
CMAR MLR MLR
comp=Z,2μm,19.7s
SOKR Solikamsk 31.71 351⇓*i*P **P** **07 26 16.1 +1.4**
SOKR S **S** **07 31 26.2 +4.0**
SOKR pmax pmax
comp=Z,40nm,1.0s,mb5.2
SOKR MLR MLR
comp=Z,3μm,14.0s,MS5.1
GOLH Golhisar 31.82 295 *i*P **P** **07 26 10.9 -5.1**
LZH Lanzhou 32.55 67 *e*P **P** **07 26 20.0 -2.4**
LZH AP pP 07 26 30.3 -1.0
LZH XP sP 07 26 34.3 -0.7
LZH PP PP 07 27 28.5 -7.7
LZH *e*S **S** **07 31 32.0 -3.9**
LZH XS sS 07 31 47.3 -3.3
LZH SS SS 07 33 27.4 -29
LZH AMB AMB
comp=Z,31nm,1.1s,mb5.2
LZH AMB AMB
comp=Z,228nm,4.2s
LZH LR LR
comp=E,3μm,12.5s
LZH LR LR
comp=Z,7μm,18.1s
CD2 Chengdu 32.61 76 P **P** **07 26 23.5 +0.5**
CD2 AP pP 07 26 33.8 +1.9
CD2 XP sP 07 26 37.0 +1.4
CD2 PP PP 07 27 32.9 -4.0
CD2 PCP PcP 07 29 09.3 +0.5
CD2 S **S** **07 31 35.9 -1.0**
CD2 XS sS 07 31 51.3 -0.3
CD2 SS SS 07 33 33.6 -24
CD2 SCS ScS 07 36 47.6 -2.7
CD2 AMB AMB
comp=Z,40nm,0.5s,mb5.6
CD2 AMB AMB
comp=Z,130nm,5.1s
CD2 LR LR
comp=N,20μm,18.8s
CD2 LR LR
comp=E,4μm,13.2s
CD2 LR LR
comp=Z,3μm,16.2s,MS5.1
KMI Kunming 32.70 87 P **P** **07 26 25.4 +1.5**
KMI AP pP 07 26 35.1 +2.3
KMI XP sP 07 26 39.3 +2.8
KMI PP PP 07 27 33.9 -4.2
KMI S **S** **07 31 36.6 -1.9**
KMI XS sS 07 31 53.3 +0.1
KMI SS SS 07 33 32.9 -27
KMI AMB AMB
comp=Z,19nm,0.7s,mb5.1
KMI LR LR
comp=N,3μm,17.1s,MS5.2
KMI LR LR
comp=E,3μm,20.5s,MS5.2
KMI LR LR
comp=Z,4μm,17.1s,MS5.2
SLAT Slait 33.38 255 *i*P **P** **07 26 30.7 +0.8**
SLAT AMb AMB 07 29 05.7
comp=Z,28nm,1.9s,mb4.9
SLAT *i*S **S** **07 31 50.7 +1.6**
TIRR Tirgusor 33.95 308 ⇑P **P** **07 26 35.4 +0.9**
MOS Moscow 34.03 331 *e*P **P** **07 26 33.4 -1.7**
MOS MLR MLR
comp=Z,3μm,15.0s,MS5.2
OBN Obninsk 34.09 330 P **P** **07 26 36.2 +0.6**
OBN *e* pP 07 26 43.4 -1.1
OBN *e* 07 28 03.6
OBN 07 29 18.0
OBN *e*S **S** **07 32 03.3 +4.1**
OBN pmax pmax
comp=Z,33nm,1.4s,mb5.1
OBN MLR MLR
comp=Z,3μm,20.0s,MS5.0
OBN Obninsk 34.09 330 PFAKE 07 26 50.0 +14
OBN LR LR
comp=Z,3μm,21.0s,MS5.0
KIS Kishinev 34.42 313 *e*P **P** **07 26 44.0 +5.4**
KIS *e* pP 07 26 52.0 +4.4
KIS *e* 07 27 03.0
KIS *e*S **S** **07 32 12.0 +7.3**
KIS *e*SS SS 07 34 16.0 -18
KIS *e* 07 36 56.0
KIS MLR MLR
comp=Z,1μm,18.0s,MS4.7
KIS MLR MLR
comp=N,1μm,20.0s,MS4.8
KIS MLR MLR
comp=E,900nm,16.0s,MS4.8
KIS MLR MLR
comp=Z,1μm,18.0s
KIS Kishinev 34.42 313 *e*P **P** **07 26 44.0 +5.4**
KIS *e*S **S** **07 32 12.0 +7.3**
KIS *e*SS SS 07 34 16.0 -18
KIS *e*ScS ScS 07 36 56.0 -3.1
KIS *e*L 07 38 12.0
KIS LRM 07 44 16.0
comp=Z,1μm,18.0s
MSEY Mahe Island 34.58 199 PFAKE 07 26 50.0 +10
MSEY LR LR
comp=Z,2μm,20.0s,MS4.9
ZAK Zakamensk 35.48 42 *e*P **P** **07 26 48.5 +0.8**
ZAK pmax pmax
comp=Z,10.0nm,1.2s,mb4.6
PLOR Plostina 35.52 310 ⇑P **P** **07 26 51.4 +3.3**
AKASG Malin Array Be 35.55 319 P **P** **07 26 47.3 -1.0**
comp=Z,10nm,0.8s,mb4.8,baz=110,slow=7.4,SNR=17
AKASG PcP PcP 07 29 18.8 +1.9
comp=Z,2.0nm,0.7s,baz=89,slow=2.8,SNR=4.4
AKASG LR LR 07 43 59.6
comp=Z,1μm,18.6s,MS4.7,baz=125,slow=41
AKASG Malin Array Be 35.55 319 P **P** **07 26 47.3 -1.0**
AKASG 07 29 18.8
AKASG pmax pmax
comp=Z,10.0nm,0.8s
AKASG pmax pmax
comp=Z,2.0nm,0.7s
AKASG MLR MLR
comp=Z,1μm,18.6s
AKBB Malin Array Si 35.55 319 *e*P **P** **07 26 47.8 -0.5**
GYA Guiyang 35.84 84 P **P** **07 26 51.5 +0.4**
GYA AP pP 07 27 02.9 +2.9
GYA XP sP 07 27 09.8 +6.1
GYA PP PP 07 28 14.6 +1.9
GYA S **S** **07 32 25.8 -1.1**
GYA XS sS 07 32 44.4 +2.7
GYA SS SS 07 34 48.3 -15
GYA AMB AMB
comp=Z,10.0nm,0.6s,mb4.9
GYA AMB AMB
comp=Z,300nm,8.6s
GYA LR LR
comp=N,3μm,16.2s,MS5.2
GYA LR LR
comp=E,2μm,18.6s,MS5.2
GYA LR LR
comp=Z,2μm,17.4s,MS4.9
MLR Muntele Rosu 35.91 309 ⇓P **P** **07 26 54.3 +2.9**
DGAR Diego Garcia 36.23 169 PFAKE 07 27 10.0 +16
DGAR LR LR
comp=Z,3μm,20.0s,MS5.0
TLY Talaya 36.23 40 *e*P **P** **07 26 53.4 -0.7**
TLY *e* 07 28 20.8
TLY *e*S **S** **07 32 34.5 +2.2**
TLY *e*SS SS 07 35 31.6 +21
TLY pmax pmax
comp=Z,10.0nm,0.9s,mb4.8
TLY MLR MLR
comp=Z,6μm,22.0s,MS5.3
TLY Talaya 36.23 40 P **P** **07 26 51.6 -2.4**
TLY LR LR
comp=Z,6μm,21.0s,MS5.4
SONM Songino Array 36.50 47 P **P** **07 26 58.1 +1.6**
comp=Z,12nm,0.9s,mb4.8,baz=251,slow=8.5,SNR=46
SONM LR LR 07 45 01.0
comp=Z,6μm,18.5s,MS5.4,baz=244,slow=41
SONM Songino Array 36.50 47 P **P** **07 26 58.1 +1.7**
SONM pmax pmax
comp=Z,12nm,0.9s
SONM MLR MLR
comp=Z,6μm,18.5s
VOIR 36.51 309 ⇑P **P** **07 26 58.5 +2.0**
XAN Xi'an 36.73 70 P **P** **07 26 59.3 +0.7**
XAN AP pP 07 27 09.8 +2.3
XAN XP sP 07 27 13.3 +2.1
XAN PP PP 07 28 24.3 +1.9
XAN PCP PcP 07 29 22.1 +1.4
XAN S **S** **07 32 38.4 -1.9**
XAN SCP ScP 07 33 05.4 +0.1
XAN PCS PcS 07 33 09.9 +1.2
XAN SS SS 07 35 05.0 -16
XAN SCS ScS 07 37 10.5 -1.7
XAN AMB AMB
comp=Z,13nm,1.0s,mb4.7
XAN AMB AMB
comp=Z,110nm,10.0s
XAN LR LR
comp=N,2μm,21.8s,MS5.1
XAN LR LR
comp=E,3μm,18.9s,MS5.1
XAN LR LR

comp=Z,6µm,19.2s,MS5.4
BURAR **Bucovina Array 36.95 312** ⇓P **P** **07 27 02.2 +1.9**
KLMR Klimovskoe 36.96 339 *eP* **P** **07 26 59.8 -0.4**
KLMR pmax pmax
comp=Z,30nm,1.2s,mb5.0
BUR08 Bucovina Ar. S 36.97 312 *eP* **P** **07 27 00.2 -0.2**
LVV L'vov 38.34 315 *e* **P** **07 27 09.7 -2.3**
DRGR 38.40 310 ⇓P **P** **07 27 14.5 +2.0**
HHC Hu-ho-hao-te 38.88 59 *eP* **P** **07 27 19.8 +3.2**
HHC AP pP 07 27 29.8 +4.1
HHC XP sP 07 27 33.4 +4.1
HHC PP PP 07 28 53.1 +7.2
HHC PCP PcP 07 29 31.0 +3.8
HHC S **S** **07 33 14.8 +2.0**
HHC XS sS 07 33 32.3 +4.7
HHC AMB AMB
comp=Z,11nm,1.1s,mb4.5
HHC AMB AMB
comp=Z,197nm,6.9s
HHC LR LR
comp=N,2µm,12.3s,MS5.3
HHC LR LR
comp=E,3µm,12.9s,MS5.3
HHC LR LR
comp=Z,2µm,13.1s,MS5.2
BZS Buzias 38.90 308 ⇓P **P** **07 27 18.4 +1.6**
UZH Uzhgorod 39.10 313 *eP* **P** **07 27 22.7 +4.3**
UZH *i* 07 27 35.5
UZH *eS* **S** **07 33 19.7 +3.7**
KWP Kalwaria 39.11 315 *eP* **P** **07 27 18.1 -0.4**
KWP MLR MLR
comp=Z,2µm,20.0s,MS4.8
KOLS Kolonicke sedl 39.20 314 *eP* **P** **07 27 19.2 0.0**
TIR Tirane 39.64 301 PFAKE 07 27 30.0 +7.0
TIR LR LR
comp=Z,2µm,20.0s,MS4.8
CRVS Cervenica-Dubn 39.71 313 *eP* **P** **07 27 24.0 +0.6**
STHS Stebnicka Huta 39.97 314 *eP* **P** **07 27 25.3 -0.3**
STHS pmax pmax
comp=Z,3.0nm,0.7s,mb4.1
STHS Stebnicka Huta 39.97 314 *eP* **P** **07 27 25.3 -0.3**
comp=Z,3.0nm,0.7s,mb4.1
KMBO Kilima Mbogo 40.48 228 ⇑P **P** **07 27 32.0 +1.7**
SNR=6.2
KMBO Kilima Mbogo 40.48 228 P **P** **07 27 31.6 +1.4**
comp=Z,5.0nm,0.7s,mb4.3,baz=38,slow=12,SNR=9.3
KMBO LR LR 07 45 11.1
comp=Z,1µm,19.5s,MS4.8,baz=283,slow=38
KMBO Kilima Mbogo 40.48 228 P **P** **07 27 31.7 +1.5**
KMBO pmax pmax
comp=Z,5.0nm,0.7s
KMBO MLR MLR
comp=Z,1µm,19.5s
KMBO Kilima Mbogo 40.48 228 *eP* **P** **07 27 30.7 +0.5**
KMBO LR LR
comp=Z,1µm,20.0s,MS4.8
PSZ Piszkesteto 40.51 312 *eP* **P** **07 27 29.8 -0.3**
PSZ pmax pmax
comp=Z,37nm,1.4s,mb4.8
PSZ MLR MLR
comp=Z,1µm,20.0s,MS4.8
PSZ Piszkesteto 40.51 312⇑ *eP* **P** **07 27 30.4 +0.3**
PSZ Piszkesteto 40.51 312 *eP* **P** **07 27 29.8 -0.3**
comp=Z,37nm,1.4s,mb4.8
PSZ LR LR
comp=Z,1µm,20.0s,MS4.8
NIE Niedzica 40.56 314 *eP* **P** **07 27 31.5 +1.0**
QIZ Qiongzhong 40.85 94 P **P** **07 27 35.4 +2.1**
QIZ S **S** **07 33 43.9 +1.1**
QIZ SS SS 07 36 40.6 -4.1
QIZ LR LR
comp=N,2µm,19.0s
QIZ LR LR
comp=Z,1µm,16.6s,MS4.9
QIZ Qiongzhong 40.85 94 PFAKE 07 27 40.0 +6.7
QIZ LR LR
comp=Z,1µm,19.0s,MS4.8
PKSM Moragy 41.05 309 ⇑P **P** **07 27 34.8 +0.2**
OJC Ojcow 41.08 315 *eP* **P** **07 27 34.8 0.0**
JOF Joensuu 41.18 337 *ep* **P** **07 27 35.3 -0.1**
comp=Z,12nm,0.7s,mb4.6
JOF Joensuu 41.18 337 *eP* **P** **07 27 35.3 -0.1**
JOF pmax pmax
comp=Z,12nm,0.7s,mb4.6
VYHS Vyhne 41.31 312 *eP* **P** **07 27 36.8 +0.1**
KOLL Kolacno 41.61 312 *eP* **P** **07 27 40.3 +1.1**
WHN Wuhan 41.69 75 P **P** **07 27 42.0 +1.9**
WHN S **S** **07 34 02.9 +7.8**
WHN LR LR
comp=N,17µm,17.9s
WHN LR LR
comp=E,17µm,8.3s
WHN LR LR
comp=Z,8µm,14.1s,MS5.7
TIP Timpagrande 41.96 298 PFAKE 07 27 50.0 +7.8
TIP LR LR
comp=Z,2µm,19.0s,MS4.9
OKC Ostrava-Krasne 42.03 314 *eP* **P** **07 27 41.9 -0.7**
OKC AMS AMS 07 47 40.0
comp=Z,1µm,16.7s
MODS Modra-Piesok 42.31 312 *eP* **P** **07 27 42.7 -2.2**
BJT Baijiatuau 42.36 61 PFAKE 07 28 00.0 +15
BJT LR LR
comp=Z,4µm,20.0s,MS5.3
BJI Beijing 42.37 61 P **P** **07 27 43.3 -2.2**
BJI PP PP 07 29 22.8 -1.0
BJI S **S** **07 34 03.8 -1.0**
BJI AMB AMB
comp=Z,13nm,0.5s,mb4.8
BJI AMB AMB
comp=Z,118nm,3.5s
BJI LR LR
comp=N,7µm,15.5s,MS5.8
BJI LR LR
comp=E,2µm,11.1s,MS5.8
BJI LR LR
comp=Z,2µm,20.4s
ZST Bratislava 42.40 311 *eP* **P** **07 27 45.0 -0.6**
ZST Bratislava 42.40 311 *eP* **P** **07 27 45.1 -0.5**
MORC Moravsky Berou 42.40 314 *eP* **P** **07 27 44.4 -1.2**
KAF Kangasniemi 42.55 334 *ep* **P** **07 27 46.4 -0.3**
comp=Z,19nm,0.7s,mb4.9,baz=122,slow=8.0
KAF Kangasniemi 42.55 334 *eP* **P** **07 27 46.4 -0.3**
KAF pmax pmax
comp=Z,19nm,0.7s,mb4.9
CEL Celeste 42.66 297 PFAKE 07 28 00.0 +12
CEL LR LR
comp=Z,30µm,22.0s,MS6.1
CUC Castrocucco 42.68 299 *eP* **P** **07 27 47.2 -0.9**
comp=Z,74nm,1.0s,mb5.4
CUC LR LR
comp=Z,2µm,20.0s,MS5.0
KOGS Kog 42.72 309 *eP* **P** **07 27 47.7 -0.6**
TIA Tai'an 43.28 66 *eP* **P** **07 27 54.6 +1.6**
TIA LR LR
comp=N,2µm,16.0s,MS5.2
TIA LR LR
comp=E,1µm,14.0s,MS5.2
DPC Dobruska-Polom 43.28 314 *eP* **P** **07 27 53.3 +0.6**
DPC *ep*P pP 07 27 59.8 -2.0
DPC *eS* **S** **07 34 18.6 +0.6**
DPC AMS AMS 07 50 10.0
comp=E,1µm,16.7s
ARSA Arzberg 43.32 310⇑ *iP* **P** **07 27 52.8 -0.3**
comp=E,21nm,1.4s,mb4.7
UPC Upice 43.51 315 *eP* **P** **07 27 55.2 +0.6**
UPC *ep*P pP 07 28 01.8 -1.9
PERS Pernice 43.52 309 *eP* **P** **07 27 54.5 -0.2**
PDKS Podkum 43.55 308 *eP* **P** **07 27 54.3 -0.7**
SOKA Soboth 43.58 309⇑ *iP* **P** **07 27 55.4 +0.1**
TREC Trest 43.63 313 *eP* **P** **07 27 55.6 0.0**
TREC AMS AMS 07 48 20.0
comp=E,1µm,22.0s
LVZ Lovozero 43.66 343 PFAKE 07 28 10.0 +14
LVZ LR LR
comp=Z,3µm,22.0s,MS5.2
APA Apatity 43.74 343⇑ *eP* **P** **07 27 58.2 +2.0**
APA *i* pP 07 28 07.8 +2.5
APA *eS* **S** **07 34 22.0 -2.2**
APA pmax pmax
comp=Z,20nm,0.8s,mb4.9
APA MLR MLR
comp=Z,4µm,22.0s,MS5.3
OBKA Obir 43.90 309⇑ *iP* **P** **07 27 57.8 0.0**
comp=Z,20nm,0.9s,mb4.8

WDD Wield Dalam 43.92 293 PFAKE 07 28 10.0 +12
WDD LR LR
comp=Z,816nm,19.0s,MS4.7
BOD Bodaibo 44.15 35 *eP* **P** **07 27 59.8 +0.2**
BOD pmax pmax
comp=Z,11nm,1.1s,mb4.5
MOA Molln 44.23 311⇑ *iP* **P** **07 27 58.4 -2.0**
comp=Z,11nm,1.0s,mb4.5
PRU Pruhonice 44.35 314 *eP* **P** **07 28 02.2 +0.9**
PRU *eS* **S** **07 34 31.7 -1.8**
PRU AMS AMS 07 48 50.0
comp=Z,2µm,20.6s
TRI Trieste 44.38 307 PFAKE 07 28 10.0 +8.4
TRI LR LR
comp=Z,772nm,21.0s,MS4.6
PVCC Panska Ves 44.42 314 *eP* **P** **07 28 00.8 -1.1**
PVCC AMS AMS 07 52 40.0
comp=Z,1µm,15.4s
GEC2 GERESS Array S 44.73 312 *eP* **P** **07 28 04.0 -0.4**
GEC2 *eS* **S** **07 34 40.4 +1.3**
GEC2 pmax pmax
comp=Z,43nm,1.6s,mb5.0
GEC2 GERESS Array S 44.73 312 *eP* **P** **07 28 04.0 -0.4**
comp=Z,43nm,1.6s,mb5.0
GEC2 *eS* **S** **07 34 40.4 +1.3**
GERES GERESS Array B 44.73 312 P **P** **07 28 03.1 -1.2**
comp=Z,6.5nm,0.8s,mb4.5,baz=103,slow=5.8,SNR=19
GERES LR LR 07 50 48.4
comp=Z,1µm,19.1s,MS4.9,baz=107,slow=42
GERES GERESS Array B 44.73 312 P **P** **07 28 03.1 -1.3**
GERES pmax pmax
comp=Z,7.0nm,0.8s
GERES MLR MLR
comp=Z,1µm,19.1s
KHC Kasperske Hory 44.84 312 *eP* **P** **07 28 04.6 -0.7**
KHC *ep*P pP 07 28 11.4 -3.0
KHC AMS AMS 07 51 20.0
comp=Z,1µm,16.7s
BRG Berggiesshubel 44.87 315 *eP* **P** **07 28 06.0 +0.6**
BRG *i* pP 07 28 12.8 -1.8
BRG 07 29 47.4
BRG S **S** **07 34 42.0 +1.0**
BRG SS SS 07 37 59.0 -3.5
BRG pmax pmax
comp=Z,8.0nm,1.3s,mb4.4
BRG pmax pmax
comp=Z,15nm,0.9s,mb4.8
BRG MLR MLR
comp=N,2µm,16.4s,MS5.0
BRG MLR MLR
comp=E,757nm,17.9s,MS5.0
BRG MLR MLR
comp=Z,876nm,23.8s
BRG Berggiesshubel 44.87 315 *eP* **P** **07 28 05.1 -0.3**
comp=Z,43nm,1.5s,mb5.1
BRG Berggiesshubel 44.87 315 *eP* **P** **07 28 06.0 +0.5**
comp=Z,14nm,1.3s,mb4.6
BRG *i* pP 07 28 12.8 -1.7
BRG comp=Z,42nm,1.4s PP PP 07 29 47.4 -3.0
BRG comp=Z,26nm,0.9s S **S** **07 34 42.0 +1.0**
BRG SS SS 07 37 59.0 -3.5
BRG comp=N,3µm,16.4s
BRG comp=E,1µm,17.9s
BRG comp=Z,2µm,23.8s
RJOB Jochberg 45.21 310 *eP* **P** **07 28 06.7 -1.5**
comp=Z,9.0nm,1.0s,mb4.5
NJ2 Nanjing 45.24 72 *eP* **P** **07 28 11.3 +2.6**
NJ2 AP pP 07 28 20.4 +2.6
NJ2 XP sP 07 28 24.9 +3.4
NJ2 S **S** **07 34 47.5 +0.6**
NJ2 AMB AMB
comp=Z,20nm,0.6s,mb5.1
NJ2 AMB AMB
comp=Z,120nm,6.2s
NJ2 LR LR
comp=N,3µm,20.7s,MS5.3
NJ2 LR LR
comp=E,2µm,16.6s,MS5.3
NJ2 LR LR
comp=Z,2µm,16.6s,MS5.0
WET Wettzell 45.30 312 *eS* **S** **07 34 48.7 +1.3**
ABTA Abfaltersbach 45.32 309⇓ *iP* **P** **07 28 08.6 -0.5**
comp=Z,16nm,0.9s,mb4.8
HIA Hailar 45.46 48 *eP* **P** **07 28 10.3 +0.1**
HIA pmax pmax
comp=Z,22nm,1.2s
HIA MLR MLR
comp=Z,4µm,19.0s
HIA Hailar 45.46 48 *eP* **P** **07 28 10.3 +0.2**
comp=Z,22nm,1.2s,mb4.9
HIA LR LR
comp=Z,4µm,19.0s,MS5.4
CLL Collm 45.52 315 *eP* **P** **07 28 13.0 +2.4**
CLL *eS* **S** **07 34 49.0 -1.5**
CLL pmax pmax
comp=Z,10.0nm,1.0s,mb4.7
CLL MLR MLR
comp=Z,2µm,19.1s,MS5.0
CLL Collm 45.52 315 *eS* **S** **07 34 53.9 +3.4**
CLL Collm 45.52 315 *eP* **P** **07 28 11.0 +0.4**
comp=Z,10.0nm,1.0s,mb4.7
CLL *es*P sP 07 28 26.0 +2.6
CLL *eS* **S** **07 34 49.0 -1.5**
comp=N,300nm,11.9s
CLL *eS* **S** **07 34 49.0 -1.5**
comp=E,400nm,21.8s
CLL *eS*S SS 07 38 30.0 +16
CLL LmH 07 49 00.0
comp=N,3µm,19.9s
CLL LmH 07 49 00.0
comp=E,1µm,20.7s
CLL LmV 07 52 00.0
comp=Z,2µm,19.1s
CLL Collm 45.52 315 *eP* **P** **07 28 13.0 +2.4**
comp=Z,10.0nm,1.0s,mb4.7
CLL *eS* **S** **07 34 49.0 -1.5**
CLL LR LR
comp=Z,2µm,19.1s,MS5.0
NKC Novy Kostel 45.72 314 *eP* **P** **07 28 12.2 0.0**
NKC *ep*P pP 07 28 19.2 -2.1
NKC *eS* **S** **07 34 52.6 -0.7**
NKC AMS AMS 07 53 20.0
comp=Z,2µm,13.7s
NKC Novy Kostel 45.72 314 *eP* **P** **07 28 12.2 0.0**
NKC *e* pP 07 28 19.2 -2.1
NKC *eS* **S** **07 34 52.6 -0.7**
TANN Tannenbergstha 45.73 314 *eS* **S** **07 34 56.6 +3.1**
ROTZ Rotzenmuhle 45.81 313 *eP* **P** **07 28 12.9 0.0**
comp=Z,10.0nm,1.1s,mb4.7
ROTZ *eS* **S** **07 34 57.3 +2.6**
MANZ Manzenberg 45.90 313 *eP* **P** **07 28 14.6 +0.9**
comp=Z,12nm,1.2s,mb4.7
WTTA Wattenberg 45.95 309⇑ *iP* **P** **07 28 13.1 -1.0**
comp=Z,22nm,1.0s,mb5.0
FUR Furstenfeldbru 46.26 311 *eS* **S** **07 35 01.1 -0.1**
MOX Moxa 46.30 314 *eP* **P** **07 28 17.5 +0.7**
MOX *e* 07 28 23.8
MOX comp=Z,1µm,22.0s
MOX Moxa 46.30 314 *eP* **P** **07 28 17.0 +0.2**
comp=Z,33nm,1.3s,mb5.1
MOX *eS* **S** **07 35 01.3 -0.4**
MOTA Moosalm 46.32 310⇓ *iP* **P** **07 28 15.8 -1.2**
comp=Z,23nm,1.1s,mb5.0
GRA1 Grafenberg Arr 46.44 313 *eP* **P** **07 28 17.9 0.0**
comp=Z,20nm,0.9s,mb5.0
GRA1 *eS* **S** **07 35 03.1 -0.6**
GRA1 LR LR
comp=Z,2µm,18.8s,MS5.0
GRF Grafenberg Arr 46.44 313 *eP* **P** **07 28 17.9 0.0**
GRF *eS* **S** **07 35 03.1 -0.6**
GRF pmax pmax
comp=Z,20nm,0.9s,mb5.0
GRF MLR MLR
comp=Z,2µm,18.8s,MS5.0
GRF Grafenberg Arr 46.44 313 *eP* **P** **07 28 17.9 0.0**
GRF *eS* **S** **07 35 03.1 -0.6**
GRF pmax pmax
comp=Z,20nm,0.9s,mb5.0
GRF MLR MLR
comp=Z,2µm,18.8s,MS5.0

GRF Grafenberg Arr 46.44 313 *eP* **P** **07 28 17.9 0.0**
comp=Z,20nm,0.9s,mb5.0
GRF *eS* **S** **07 35 03.1 -0.6**
GRF *eL* 07 52 12.2
comp=Z,2µm,18.8s
FETA Feichten 46.56 309⇑ *iP* **P** **07 28 16.5 -2.3**
comp=Z,28nm,1.0s,mb5.1
QZH Quanzhou 46.63 82 *eP* **P** **07 28 21.5 +1.8**
QZH S **S** **07 35 05.5 -1.6**
QZH LR LR
comp=N,11µm,17.3s,MS5.9
QZH LR LR
comp=E,3µm,18.3s,MS5.9
QZH LR LR
comp=Z,5µm,18.0s,MS5.5
VLC Villacollemand 46.72 305 PFAKE 07 28 30.0 +10
VLC LR LR
comp=Z,1µm,22.0s,MS4.9
KEV Kevo 46.95 342 *ep* **P** **07 28 28.6 +7.0**
comp=Z,10nm,0.7s,mb4.9
KEV Kevo 46.95 342 P **P** **07 28 23.2 +1.6**
KEV pmax pmax
comp=Z,21nm,0.8s,mb5.1
KEV MLR MLR
comp=Z,3µm,22.0s,MS5.3
KEV Kevo 46.95 342 P **P** **07 28 23.1 +1.6**
comp=Z,21nm,0.8s,mb5.1
KEV LR LR
comp=Z,3µm,22.0s,MS5.3
DAVA Damuels 47.15 309⇑ *iP* **P** **07 28 22.6 -0.9**
comp=Z,22nm,0.9s,mb5.1
ARCES ARCESS Array B 47.21 342 P **P** **07 28 24.2 +0.5**
comp=Z,6.6nm,0.5s,mb4.8,baz=136,slow=7.0,SNR=25
ARCES LR LR 07 50 14.8
comp=Z,3µm,19.4s,MS5.2,baz=131,slow=39
ARCES ARCESS Array B 47.21 342 P **P** **07 28 24.2 +0.6**
ARCES pmax pmax
comp=Z,7.0nm,0.5s
ARCES MLR MLR
comp=Z,3µm,19.4s
ARCES ARCESS Array B 47.21 342 P **P** **07 28 24.2 +0.5**
ARCES LR LR 07 50 14.8
ARE0 ARCESS Array S 47.21 342 *eP* **P** **07 28 24.2 +0.5**
CLZ Clausthal 47.22 316 *eP* **P** **07 28 24.5 +0.5**
CLZ pmax pmax
comp=Z,15nm,1.3s,mb4.8
CLZ Clausthal 47.22 316 *eP* **P** **07 28 24.5 +0.5**
comp=Z,15nm,1.3s,mb4.8
UBBA Unterbreizbach 47.34 314 *eP* **P** **07 28 25.0 +0.1**
comp=Z,7.0nm,1.0s,mb4.5
UBBA *eS* **S** **07 35 16.2 -0.3**
SSE Sheshan 47.37 73 P **P** **07 28 24.3 -1.2**
SSE S **S** **07 35 16.6 -1.0**
SSE XS sS 07 35 36.6 +3.9
SSE AMB AMB
comp=Z,21nm,0.7s,mb5.2
SSE AMB AMB
comp=Z,106nm,6.9s
SSE LR LR
comp=N,7µm,21.3s,MS5.6
SSE LR LR
comp=E,2µm,21.3s,MS5.6
SSE LR LR
comp=Z,3µm,19.0s,MS5.2
TUE Stuetta 47.48 308 *eP* **P** **07 28 26.9 +0.8**
comp=Z,17nm,0.8s,mb5.0
TUE LR LR
comp=Z,1µm,20.0s,MS4.8
BSEG Bad Segeberg 47.56 318 *eS* **S** **07 35 19.4 -0.1**
VSL Villasalto 47.66 299 *eP* **P** **07 28 20.4 -7.2**
comp=Z,25nm,0.9s,mb5.2
VSL LR LR
comp=Z,649nm,19.0s,MS4.6
KEST Kesra 48.12 294 P **P** **07 28 32.2 +1.0**
comp=Z,4.7nm,0.7s,mb4.6,baz=356,slow=2.5,SNR=10
KEST LR LR 07 51 34.9
comp=Z,326nm,20.9s,MS4.3,baz=235,slow=40
BFO Black Forest 48.24 311 *eS* **S** **07 35 27.1 -2.3**
BFO Black Forest 48.24 311 PFAKE 07 28 40.0 +8.1
BFO LR LR
comp=Z,851nm,20.0s,MS4.7
TNS Taunus Mts 48.27 313 *eP* **P** **07 28 33.1 +1.0**
TNS *eS* **S** **07 35 27.0 -2.8**
TNS pmax pmax
comp=Z,25nm,1.3s,mb5.1
TNS Taunus Mts 48.27 313 *eP* **P** **07 28 33.1 +1.0**
comp=Z,25nm,1.3s,mb5.1
TNS *eS* **S** **07 35 27.0 -2.8**
NB2 NORSAR Subarra 48.65 328 P **P** **07 28 35.1 +0.2**
comp=Z,16nm,1.0s,mb5.0,baz=106,slow=7.9
NOA NORSAR Array B 48.65 328 P **P** **07 28 35.6 +0.7**
comp=Z,7.6nm,0.8s,mb4.8,baz=108,slow=7.5,SNR=17
NOA LR LR 07 52 29.2
comp=Z,2µm,20.4s,MS5.1,baz=100,slow=40
NOA NORSAR Array B 48.65 328 P **P** **07 28 35.6 +0.7**
NOA pmax pmax
comp=Z,8.0nm,0.8s
NOA MLR MLR
comp=Z,2µm,20.4s
CDF Champ du Feu 48.94 311 *eP* **P** **07 28 38.1 +0.8**
comp=Z,12nm,0.9s,mb4.6
CDF Champ du Feu 48.94 311 *eP* **P** **07 28 38.1 +0.8**
CDF pmax pmax
comp=Z,6.0nm,0.9s,mb4.6
CDF Champ du Feu 48.94 311 *eP* **P** **07 28 38.1 +0.8**
comp=Z,5.9nm,0.9s,mb4.6
ECH Echery 49.02 311 *eP* **P** **07 28 35.8 -2.1**
KONO Kongsberg 49.07 326 AMS AMS 07 53 19.6
comp=Z,2µm,18.8s,MS5.0
KONO Kongsberg 49.07 326 *eP* **P** **07 28 40.6 +2.5**
BUG Bochum--Univer 49.11 315 *eS* **S** **07 35 44.1 +2.6**
YHNB Yeheng 49.13 81 PFAKE 07 28 50.0 +11
YHNB LR LR
comp=Z,2µm,21.0s,MS5.0
TATO Taipei 49.14 81 PFAKE 07 28 50.0 +11
TATO LR LR
comp=Z,2µm,19.0s,MS5.2
TRO Tromso 49.16 340 *eS* **S** **07 35 40.2 -1.6**
TRO AMS AMS 07 51 28.9
comp=Z,1µm,20.2s,MS4.9
CN2 Changchun 49.20 55 *eP* **P** **07 28 37.6 -1.8**
CN2 *eXP* sP 07 28 51.5 -0.7
CN2 *eS* **S** **07 35 37.0 -6.1**
CN2 AMB AMB
comp=Z,10.0nm,0.8s,mb4.9
CN2 AMB AMB
comp=Z,180nm,3.0s
CN2 LR LR
comp=N,2µm,15.0s,MS5.4
CN2 LR LR
comp=E,2µm,15.0s,MS5.4
CN2 LR LR
comp=Z,3µm,15.0s,MS5.4
HINF Hinteralfeld 49.21 310 *eP* **P** **07 28 39.5 +0.1**
LPG La Plagne 49.29 307 *eP* **P** **07 28 39.4 -0.6**
comp=Z,36nm,1.0s,mb5.1
LPG La Plagne 49.29 307 *eP* **P** **07 28 39.4 -0.6**
LPG pmax pmax
comp=Z,18nm,1.0s,mb5.1
LPG La Plagne 49.29 307 *eP* **P** **07 28 39.4 -0.6**
comp=Z,18nm,1.0s,mb5.1
MBDF Montbardon 49.30 306⇑ *iP* **P** **07 28 39.0 -1.1**
comp=Z,42nm,1.0s,mb5.1
MBDF Montbardon 49.30 306⇑ *iP* **P** **07 28 39.0 -1.1**
MBDF pmax pmax
comp=Z,21nm,1.0s,mb5.1
MBDF Montbardon 49.30 306⇑ *iP* **P** **07 28 39.0 -1.1**
comp=Z,21nm,1.0s,mb5.1
LPL La Plagne 49.30 307 *eP* **P** **07 28 39.5 -0.6**
BNI Bardonecchia 49.35 306 *eP* **P** **07 28 37.6 -2.9**
BNI pmax pmax
comp=Z,19nm,0.8s,mb5.2
BNI MLR MLR
comp=Z,1µm,21.0s,MS4.8
BNI Bardonecchia 49.35 306 *eP* **P** **07 28 37.6 -2.9**
comp=Z,19nm,0.8s,mb5.2
BNI LR LR
comp=Z,1µm,21.0s,MS4.8
NSS Namsos 49.41 332 *eS*S SS 07 39 26.0 +9.0
NSS AMS AMS 07 54 18.4
comp=Z,1µm,17.9s,MS5.0
FRF La Foret Royal 49.44 304 *eP* **P** **07 28 39.6 -1.6**
HAU Haudompre 49.56 310 *eP* **P** **07 28 42.5 +0.5**
HAU *e*MLR MLR
comp=Z,1µm,23.0s,MS4.5
HAU Haudompre 49.56 310 *eP* **P** **07 28 42.5 +0.5**

HAU LR LR
comp=Z,1µm,23.0s,MS4.8
CLNS Chul'man 49.60 38 *e*P **P** **07 28 44.1 +1.9**
CLNS *e**PP pP 07 28 52.6 +1.2
CLNS *e* 07 30 04.6
CLNS *e*PPP 07 31 29.9
CLNS *e*S **S** **07 35 48.9 +0.6**
CLNS *e* 07 38 30.3
CLNS pmax pmax
comp=N,8.0nm,1.0s
CLNS pmax pmax
comp=Z,17nm,1.0s,mb5.0
CLNS pmax pmax
comp=E,15nm,1.0s
CLNS pmax pmax
comp=Z,7.0nm,0.9s,mb4.7
CLNS pmax pmax
comp=N,8.0nm,1.0s
CLNS pmax pmax
comp=E,6.0nm,0.9s
CLNS smax
comp=N,83nm,11.8s
CLNS smax
comp=E,91nm,14.1s
CLNS MLR MLR
comp=N,2µm,14.0s,MS5.5
CLNS MLR MLR
comp=E,3µm,13.0s,MS5.5
CLNS MLR MLR
comp=Z,5µm,16.0s,MS5.6
WLF Walferdange 49.72 312 *e*S **S** **07 35 45.7 -4.5**
WLF Walferdange 49.72 312 PFAKE 07 29 00.0 +17
WLF LR LR
comp=Z,1µm,19.0s,MS4.9
CABF La Chapelle 49.73 308⇑ *i*P **P** **07 28 43.3 -0.1**
comp=Z,96nm,1.2s,mb5.4
CABF La Chapelle 49.73 308⇑ *i*P **P** **07 28 43.3 -0.1**
CABF pmax pmax
comp=Z,48nm,1.2s,mb5.4
CABF La Chapelle 49.73 308⇑ *i*P **P** **07 28 43.3 -0.1**
comp=Z,48nm,1.2s,mb5.4
MEM Membach 49.85 314 AP pP 07 28 51.7 -1.8
MEM XP sP 07 28 55.1 -2.0
COCO West Island 50.16 140 PFAKE 07 29 00.0 +13
COCO LR LR
comp=Z,1µm,20.0s,MS4.8
OPO Ambohidratompo 50.29 204 P **P** **07 28 49.3 +1.4**
comp=Z,6.8nm,0.8s,mb4.7,baz=11,slow=7.2,SNR=8.2
MEZF Maizieres J'vi 50.42 311 *e*P **P** **07 28 48.7 +0.1**
GIVF Givet 50.59 313⇑ *i*P **P** **07 28 50.7 +0.8**
comp=Z,59nm,1.2s,mb5.1
GIVF Givet 50.59 313⇑ *i*P **P** **07 28 50.7 +0.8**
GIVF pmax pmax
comp=Z,29nm,1.2s,mb5.1
GIVF Givet 50.59 313⇑ *i*P **P** **07 28 50.7 +0.8**
comp=Z,30nm,1.2s,mb5.1
ABPO Ambohimpanom 50.69 203 *e*P **P** **07 28 51.1 +0.2**
comp=Z,38nm,1.7s,mb5.1
ABPO LR LR
comp=Z,2µm,19.0s,MS5.1
INCN Inchon 50.71 63 PFAKE 07 29 00.0 +9.1
INCN LR LR
comp=Z,2µm,20.0s,MS5.1
MOL Molde 50.73 329 AMS AMS 07 52 42.5
comp=Z,1µm,19.5s,MS5.0
DOU Dourbes 50.74 313 P **P** **07 28 51.3 +0.3**
DOU AP pP 07 28 57.9 -2.3
SNF Seneffe 50.95 313 P **P** **07 28 53.7 +1.1**
BAIF Baives 50.99 313 *e*P **P** **07 28 53.5 +0.7**
comp=Z,44nm,0.9s,mb5.1
BAIF Baives 50.99 313 *e*P **P** **07 28 53.5 +0.7**
BAIF pmax pmax
comp=Z,22nm,0.9s,mb5.1
BAIF Baives 50.99 313 *e*P **P** **07 28 53.5 +0.7**
comp=Z,22nm,0.9s,mb5.1
SET Setif 51.21 295 P **P** **07 29 03.0 +8.3**
LOR Lormes 51.25 309⇑ *i*P **P** **07 28 53.9 -0.9**
comp=Z,35nm,1.2s,mb4.8
LOR *e*MLR MLR
comp=Z,2µm,21.5s,MS4.7
LOR Lormes 51.25 309⇑ *i*P **P** **07 28 53.9 -0.9**
LOR pmax pmax
comp=Z,17nm,1.2s,mb4.8
LOR MLR MLR
comp=Z,2µm,21.5s,MS5.0
LOR Lormes 51.25 309⇑ *i*P **P** **07 28 53.9 -0.9**
comp=Z,18nm,1.2s,mb4.9
LOR LR LR
comp=Z,2µm,21.5s,MS5.0
SMF Signal de Mont 51.28 309⇑ *i*P **P** **07 28 54.4 -0.7**
comp=Z,43nm,0.9s,mb5.1
SMF Signal de Mont 51.28 309⇑ *i*P **P** **07 28 54.4 -0.7**
SMF pmax pmax
comp=Z,22nm,0.9s,mb5.1
SMF Signal de Mont 51.28 309⇑ *i*P **P** **07 28 54.4 -0.7**
comp=Z,22nm,0.9s,mb5.1
BER Bergen 51.32 326 AMS AMS 07 54 38.7
comp=Z,2µm,18.3s,MS5.3
SSF Saint Saulge 51.49 309⇑ *i*P **P** **07 28 56.1 -0.6**
comp=Z,38nm,1.0s,mb5.0
SSF Saint Saulge 51.49 309⇑ *i*P **P** **07 28 56.1 -0.6**
SSF pmax pmax
comp=Z,19nm,1.0s,mb5.0
SSF Saint Saulge 51.49 309⇑ *i*P **P** **07 28 56.1 -0.6**
comp=Z,19nm,1.0s,mb5.0
AVF Avril sur Loir 51.61 309⇑ *i*P **P** **07 28 56.8 -0.7**
comp=Z,27nm,1.1s,mb4.8
AVF Avril sur Loir 51.61 309⇑ *i*P **P** **07 28 56.8 -0.7**
AVF pmax pmax
comp=Z,13nm,1.1s,mb4.8
AVF Avril sur Loir 51.61 309⇑ *i*P **P** **07 28 56.8 -0.7**
comp=Z,13nm,1.1s,mb4.8
KSRS Korea Array 51.73 63 P **P** **07 28 58.8 +0.2**
comp=Z,5.0nm,0.8s,mb4.5,baz=274,slow=7.7,SNR=12
KSRS LR LR 07 53 25.3
comp=Z,1µm,18.4s,MS5.0,baz=282,slow=39
KSRS Korea Array 51.73 63 P **P** **07 28 58.8 +0.2**
KSRS pmax pmax
comp=Z,5.0nm,0.9s,mb4.4
KSRS MLR MLR
comp=Z,1µm,18.4s,MS5.0
BJO Bjornoya 51.77 346 *e*SS SS 07 39 55.1 +0.8
BJO AMS AMS 07 53 08.7
comp=Z,1µm,18.2s,MS5.0
BGF Bois d'Agland 51.97 308 *e*P **P** **07 28 59.5 -0.7**
HYF Humbligny 52.08 309 *e*P **P** **07 29 01.1 +0.1**
MDJ Mudanjiang 52.12 54 PFAKE 07 29 10.0 +8.6
MDJ LR LR
comp=Z,3µm,21.0s,MS5.3
TCF Toulx Ste Croi 52.42 308 *e*P **P** **07 29 02.3 -1.3**
comp=Z,39nm,1.2s,mb4.9
TCF Toulx Ste Croi 52.42 308 *e*P **P** **07 29 02.3 -1.3**
TCF pmax pmax
comp=Z,20nm,1.2s,mb4.9
TCF Toulx Ste Croi 52.42 308 *e*P **P** **07 29 02.3 -1.3**
comp=Z,20nm,1.2s,mb4.9
CAF Calviac 52.63 306 *e*P **P** **07 29 03.8 -1.4**
comp=Z,34nm,1.1s,mb4.9
CAF Calviac 52.63 306 *e*P **P** **07 29 03.8 -1.4**
CAF pmax pmax
comp=Z,17nm,1.1s,mb4.9
CAF Calviac 52.63 306 *e*P **P** **07 29 03.8 -1.4**
comp=Z,17nm,1.1s,mb4.9
YAK Yakutsk 52.84 32 *e*P **P** **07 29 06.3 -0.1**
YAK *e**PP pP 07 29 13.6 -2.1
YAK *e* 07 30 17.3
YAK *e* 07 31 07.5
YAK *e*S **S** **07 36 31.6 -1.2**
YAK *e*SS SS 07 40 08.9 -2.5
YAK pmax pmax
comp=Z,19nm,0.9s,mb5.0
YAK pmax pmax
comp=N,4.0nm,0.9s
YAK pmax pmax
comp=E,8.0nm,1.1s
YAK pmax pmax
comp=Z,14nm,0.5s,mb5.2
YAK pmax pmax
comp=N,16nm,1.1s
YAK pmax pmax
comp=E,7.0nm,1.1s
YAK smax
comp=N,55nm,2.8s
YAK smax
comp=E,118nm,3.0s
YAK MLR MLR
comp=E,2µm,16.0s,MS5.3
YAK MLR MLR
comp=Z,3µm,19.0s,MS5.4
YAK MLR MLR
comp=N,669nm,14.0s,MS5.3
YAK Yakutsk 52.84 32 PFAKE 07 29 20.0 +14
YAK LR LR
comp=Z,3µm,19.0s,MS5.4
RJF Les Rejaudoux 52.98 307 *e*P **P** **07 29 06.6 -1.2**
RJF *e*MLR MLR
comp=Z,978nm,22.5s,MS4.5
RJF Les Rejaudoux 52.98 307 *e*P **P** **07 29 06.6 -1.2**
RJF LR LR
comp=Z,980nm,22.5s,MS4.8
KLR Kul'dur 53.31 48 *e*P **P** **07 29 07.0 -3.1**
KLR *e*S **S** **07 36 40.5 +0.8**
KLR *e* 07 38 54.0
KLR *e* 07 40 18.0
KLR MLR MLR
comp=Z,8µm,12.0s,MS6.0
LFF La Frestale 53.56 307 *e*P **P** **07 29 10.8 -1.2**
LDF La Druitiere 53.86 311⇑ *i*P **P** **07 29 13.6 -0.5**
MFF Saint Martin d 54.02 309 *e*P **P** **07 29 14.7 -0.7**
comp=Z,86nm,1.6s,mb5.1
MFF Saint Martin d 54.02 309 *e*P **P** **07 29 14.7 -0.7**
MFF pmax pmax
comp=Z,43nm,1.6s,mb5.1
MFF Saint Martin d 54.02 309 *e*P **P** **07 29 14.7 -0.7**
comp=Z,43nm,1.6s,mb5.1
FLN La Foliniere 54.09 311 *e*P **P** **07 29 15.3 -0.5**
comp=Z,90nm,1.2s,mb5.3
FLN *e*MLR MLR
comp=Z,1µm,21.0s,MS4.7
FLN La Foliniere 54.09 311 *e*P **P** **07 29 15.3 -0.5**
FLN pmax pmax
comp=Z,45nm,1.2s,mb5.3
FLN MLR MLR
comp=Z,1µm,21.0s,MS5.0
FLN La Foliniere 54.09 311 *e*P **P** **07 29 15.3 -0.5**
comp=Z,45nm,1.2s,mb5.3
FLN LR LR
comp=Z,1µm,21.0s,MS5.0
GRR Gorron 54.36 311 *e*P **P** **07 29 17.5 -0.3**
TAM Tamanrasset 54.50 279 *e*P **P** **07 29 21.8 +2.6**
TIXI Tiksi 54.66 20 *e*P **P** **07 29 13.2 -6.4**
TIXI pmax pmax
comp=Z,4.0nm,0.4s,mb4.8
TIXI MLR MLR
comp=Z,2µm,20.0s,MS5.1
TIXI Tiksi 54.66 20 PFAKE 07 29 30.0 +10
TIXI LR LR
comp=Z,2µm,20.0s,MS5.1
ETSF Etsaut 54.74 304 *e*P **P** **07 29 18.4 -2.3**
comp=Z,33nm,1.0s,mb5.0
ETSF Etsaut 54.74 304 *e*P **P** **07 29 18.4 -2.3**
ETSF pmax pmax
comp=Z,16nm,1.0s,mb5.0
ETSF Etsaut 54.74 304 *e*P **P** **07 29 18.4 -2.3**
comp=Z,16nm,1.0s,mb5.0
ESK Eskdalemuir 55.48 320 PFAKE 07 29 40.0 +14
ESK LR LR
comp=Z,1µm,19.0s,MS5.1
SGMF Saint Gilles 55.50 311⇑ *i*P **P** **07 29 26.0 -0.1**
comp=Z,33nm,1.0s,mb5.0
SGMF Saint Gilles 55.50 311⇑ *i*P **P** **07 29 26.0 -0.1**
SGMF pmax pmax
comp=Z,17nm,1.0s,mb5.0
SGMF Saint Gilles 55.50 311⇑ *i*P **P** **07 29 26.0 -0.1**
comp=Z,17nm,1.0s,mb5.0
HABR Khabarovsk 55.54 49 *e*P **P** **07 29 25.3 -1.0**
HABR *e* 07 31 27.8
HABR *e* 07 32 40.0
HABR *e*S **S** **07 37 07.4 -2.3**
HABR *e* 07 37 24.1
KBS Kingsbay 55.57 349 *e*P **P** **07 29 21.2 -4.9**
KBS *e*SS SS 07 40 56.5 +2.4
KBS *e* 07 41 48.3
KBS AMS AMS 07 58 30.8
comp=Z,1µm,16.7s,MS5.1
KBS Kingsbay 55.57 349 PFAKE 07 29 40.0 +14
KBS LR LR
comp=Z,2µm,19.0s,MS5.2
QUIF Quistinic 55.94 311 *e*P **P** **07 29 28.7 -0.5**
comp=Z,64nm,1.2s,mb5.2
QUIF Quistinic 55.94 311 *e*P **P** **07 29 28.7 -0.5**
QUIF pmax pmax
comp=Z,32nm,1.2s,mb5.2
QUIF Quistinic 55.94 311 *e*P **P** **07 29 28.7 -0.5**
comp=Z,32nm,1.2s,mb5.2
ROSF Rostrenen 55.97 311⇑ *i*P **P** **07 29 29.0 -0.4**
comp=Z,50nm,1.1s,mb5.1
ROSF Rostrenen 55.97 311⇑ *i*P **P** **07 29 29.0 -0.4**
ROSF pmax pmax
comp=Z,25nm,1.1s,mb5.2
ROSF Rostrenen 55.97 311⇑ *i*P **P** **07 29 29.0 -0.4**
comp=Z,25nm,1.1s,mb5.2
LSZ Lusaka 56.99 225 P **P** **07 29 38.7 +1.7**
comp=Z,2.4nm,0.6s,mb4.4,baz=73,slow=3.8,SNR=4.1
LSZ LR LR 07 56 11.5
comp=Z,1µm,18.9s,MS5.0,baz=197,slow=38
LSZ Lusaka 56.99 225 P **P** **07 29 38.7 +1.7**
LSZ pmax pmax
comp=Z,2.0nm,0.6s,mb4.3
LSZ MLR MLR
comp=Z,1µm,19.0s,MS5.0
LSZ Lusaka 56.99 225 *e*P **P** **07 29 37.1 +0.1**
comp=Z,24nm,1.6s,mb5.0
LSZ LR LR
comp=Z,1µm,20.0s,MS5.0
ESDC Sonseca Array 57.83 301 P **P** **07 29 42.0 -0.7**
comp=Z,1.0nm,0.5s,mb4.2,baz=58,slow=6.8,SNR=3.1
ESDC LR LR 07 58 02.7
comp=Z,454nm,19.5s,MS4.6,baz=60,slow=40
ESLA Sonseca Array 57.83 301 P **P** **07 29 40.6 -2.2**
comp=Z,7.6nm,1.4s,mb4.5
ESLA LR LR
comp=Z,4µm,20.0s,MS5.5
PAB San Pablo 58.15 301 *e*P **P** **07 29 44.1 -0.9**
PAB pmax pmax
comp=Z,17nm,1.2s,mb5.0
PAB MLR MLR
comp=Z,546nm,19.0s,MS4.7
PAB San Pablo 58.15 301 *e*P **P** **07 29 44.0 -0.9**
comp=Z,17nm,1.2s,mb5.0
PAB LR LR
comp=Z,546nm,19.0s,MS4.7
JMIC Jan Mayen 58.35 338 AMS AMS 07 56 36.3
comp=Z,1µm,21.4s,MS4.9
MVO Moncorvo 59.79 303 *e*S **S** **07 38 07.7 +2.0**
MVO *e*LQ 07 45 07.4
MVO *e*LR LR 07 49 33.0
comp=Z,571nm,18.0s
DAV Davao City (W) 59.80 99 LR LR 07 56 55.9
comp=Z,817nm,20.8s,MS4.8,baz=305,slow=37
DAV Davao City (W) 59.80 99 PFAKE 07 30 10.0 +13
DAV LR LR
comp=Z,993nm,21.0s,MS4.9
MAJO Matsushiro 59.97 62 PFAKE 07 30 10.0 +12
MAJO LR LR
comp=Z,2µm,22.0s,MS5.3
MAT Matsushiro 59.97 62 S **S** **07 38 10.2 +2.1**
MJAR Matsushiro Arr 59.97 62 LR LR 07 57 59.5
comp=Z,2µm,21.4s,MS5.2,baz=295,slow=38
MDT Midelt 60.02 293 LR LR 07 59 40.9
comp=Z,760nm,18.1s,MS4.9,baz=87,slow=40
SFS San Fernando 60.30 298 PFAKE 07 30 10.0 +10
SFS LR LR
comp=Z,1µm,21.0s,MS5.0
MTE Manteigas 60.35 302 *e*S **S** **07 38 13.4 +0.5**
MTE *e*LR LR 07 50 30.6
comp=Z,568nm,18.0s
MTE Manteigas 60.35 302 PFAKE 07 30 10.0 +10
MTE LR LR
comp=Z,635nm,19.0s,MS4.8
PMRV Marv?2o 60.47 301 *e*P **P** **07 30 05.6 +4.6**
comp=Z,28nm,1.6s,mb5.0
PMRV *e*S **S** **07 38 15.6 +1.2**
PMRV *e*LQ 07 47 03.2
PMRV *e*LR LR 07 50 33.2
comp=Z,437nm,18.0s
PBAR Barrancos 60.51 300 *e*P **P** **07 30 05.4 +4.1**
comp=Z,41nm,1.3s,mb5.4
PBAR *e*S **S** **07 38 14.4 -0.6**
PBAR *e*LQ 07 46 58.1
PBAR *e*LR LR 07 50 52.8
comp=Z,482nm,20.0s
PESTR Estremoz 60.75 301 *e*S **S** **07 38 20.7 +2.6**
PESTR *e*LR LR 07 49 33.2
comp=Z,449nm,18.0s
YSS Yuzh-Sakhalins 60.91 50 *e*P **P** **07 30 04.0 +0.1**
YSS *e* 07 30 51.0
YSS *e*S **S** **07 38 22.0 +2.2**
YSS pmax pmax
comp=Z,30nm,1.0s,mb5.4
YSS MLR MLR
comp=Z,2µm,17.0s,MS5.3
YSS Yuzh-Sakhalins 60.91 50 *e*P **P** **07 30 04.2 +0.3**
YSS LR LR
comp=Z,667nm,19.0s,MS4.8
EVO Evora 61.16 301 *e*P **P** **07 30 03.0 -2.7**
comp=Z,28nm,1.0s,mb5.1
EVO *e*MLR MLR
comp=Z,870nm,20.0s,MS4.6
EVO Evora 61.16 301 *e*P **P** **07 30 07.6 +1.9**
comp=Z,30nm,1.8s,mb5.1
PBEJ Beja 61.18 300 *e*P **P** **07 30 10.2 +4.3**
PVAQ Vaqueiros 61.22 299 *e*S **S** **07 38 24.2 +0.1**
PVAQ *e*LQ 07 47 31.1
PVAQ *e*LR LR 07 51 31.4
comp=Z,379nm,20.0s
DAG Danmarks Havn 61.29 345 *i* P **P** **07 30 05.0 -1.0**
DAG Danmarks Havn 61.29 345 *e*P **P** **07 30 05.0 -1.0**
KAPI Kappang 61.34 114 LR LR 07 58 51.5
comp=Z,715nm,20.6s,MS4.8,baz=120,slow=38
KAPI Kappang 61.34 114 PFAKE 07 30 20.0 +13
KAPI LR LR
comp=Z,894nm,21.0s,MS4.9
PBDV Barranco-do-Ve 61.43 299 *e*S **S** **07 38 30.7 +3.9**
PBDV *e*LQ 07 47 31.2
PBDV *e*LR LR 07 51 31.2
comp=Z,316nm,20.0s
RTC Rabat Centre 61.49 295 PFAKE 07 30 20.0 +12
RTC LR LR
comp=Z,613nm,19.0s,MS4.8
TOA0 Torodi Ar. Sit 61.56 270 *e*P **P** **07 30 07.0 -1.8**
TORD Torodi Ar. Bea 61.56 270 P **P** **07 30 07.7 -1.0**
comp=Z,10nm,0.8s,mb5.0,baz=58,slow=6.1,SNR=28
TORD LR LR 08 00 22.2
comp=Z,3µm,18.2s,MS5.5,baz=75,slow=40
MORF Marmelete 61.97 299 *e*S **S** **07 38 32.1 -1.4**
MORF *e*LR LR 07 51 45.7
comp=Z,455nm,18.0s
PMAFR Mafra 62.01 301 *e*LQ 07 47 55.4
PMAFR *e*LR LR 07 51 30.8
PFVI Vila Bisbo 62.15 299 *e*S **S** **07 38 35.3 -0.6**
PFVI *e*LQ 07 47 58.9
PFVI *e*LR LR 07 51 48.3
comp=Z,378nm,18.0s
ERM Erimo 62.31 55 PFAKE 07 30 20.0 +6.6
ERM LR LR
comp=Z,2µm,21.0s,MS5.3
SEY Seymchan 63.31 31 *e*P **P** **07 30 20.4 +0.7**
BORG Borgarnes 63.56 331 PFAKE 07 30 30.0 +8.7
BORG LR LR
comp=Z,3µm,19.0s,MS5.4
LBTB Lobatse 66.02 220 LR LR 07 58 19.4
comp=Z,2µm,19.5s,MS5.3,baz=45,slow=35
LBTB Lobatse 66.02 220 *e*P **P** **07 30 37.9 +0.1**
LBTB pmax pmax
comp=Z,22nm,1.0s,mb5.1
LBTB MLR MLR
comp=Z,2µm,20.0s,MS5.3
LBTB Lobatse 66.02 220 *e*P **P** **07 30 37.9 0.0**
comp=Z,22nm,1.0s,mb5.1
LBTB LR LR
comp=Z,2µm,20.0s,MS5.3
TSUM Tsumeb 66.76 231 LR LR 08 03 20.3
comp=Z,960nm,18.4s,MS5.0,baz=321,slow=39
TSUM Tsumeb 66.76 231 *e*P **P** **07 30 43.4 +0.6**
comp=Z,7.9nm,1.0s,mb4.7
TSUM LR LR
comp=Z,971nm,19.0s,MS5.0
SUMG Summit 67.31 342 *e*P **P** **07 30 46.5 +1.1**
BILL Bilibino 67.53 24 P **P** **07 30 53.0 +6.1**
BILL *e* pP 07 31 03.3 +6.9
BILL *e* 07 31 22.1
BILL *e* 07 39 45.5
BILL pmax pmax
comp=Z,7.0nm,0.9s,mb4.7
BILL MLR MLR
comp=Z,3µm,16.0s,MS5.6
BILL Bilibino 67.53 24 PFAKE 07 31 00.0 +13
BILL LR LR
comp=Z,4µm,19.0s,MS5.6
PETK Petropavlovsk- 68.59 40 P **P** **07 30 53.5 -0.4**
comp=Z,1.8nm,0.6s,mb4.2,baz=256,slow=4.2,SNR=2.7
PETK LR LR 08 04 31.8
comp=Z,2µm,20.5s,MS5.4,baz=291,slow=39
BOSA Boshof 69.01 218 P **P** **07 30 57.1 +0.4**
comp=Z,12nm,0.8s,mb4.9,baz=62,slow=6.7,SNR=13
BOSA LR LR 07 59 20.1
comp=Z,2µm,20.3s,MS5.4,baz=42,slow=34
BOSA Boshof 69.01 218 *e*P **P** **07 30 57.5 +0.8**
BOSA pmax pmax
comp=Z,27nm,1.2s,mb5.0
BOSA MLR MLR
comp=Z,2µm,21.0s,MS5.4
BOSA Boshof 69.01 218 *e*P **P** **07 30 57.5 +0.8**
comp=Z,27nm,1.2s,mb5.0
BOSA LR LR
comp=Z,2µm,21.0s,MS5.4
PET Petropavlovsk 69.16 40 *e*P **P** **07 31 01.7 +4.3**
PET *e*S S 07 40 02.2 +1.3
PET *e*PS 07 40 29.1
PET *e*SS SS 07 44 29.7 +2.8
PET pmax pmax
comp=Z,100nm,16.1s
PET MLR MLR
comp=Z,3µm,20.0s,MS5.5
PET MLR MLR
comp=Z,2µm,21.0s
PET Petropavlovsk 69.16 40 PFAKE 07 31 10.0 +13
PET LR LR
comp=Z,3µm,21.0s,MS5.4
DBIC Dimbokro 70.21 267 P **P** **07 31 05.1 +0.6**
comp=Z,5.4nm,0.8s,mb4.5,baz=71,slow=7.2,SNR=9.3
DBIC LR LR 08 05 33.1
comp=Z,1µm,19.6s,MS5.1,baz=38,slow=39
DBIC Dimbokro 70.21 267 P **P** **07 31 05.1 +0.6**
DBIC pmax pmax
comp=Z,5.0nm,0.8s
DBIC MLR MLR
comp=Z,1µm,19.6s
DBIC Dimbokro 70.21 267 *e*P **P** **07 31 04.2 -0.3**
comp=Z,28nm,1.3s,mb5.0
DBIC LR LR
comp=Z,2µm,22.0s,MS5.2
LIC Lamto 70.57 267 *e*P **P** **07 31 08.7 +2.0**
comp=Z,37nm,1.1s,mb4.9
LIC *e*MLR MLR
comp=Z,2µm,22.2s,MS5.0
LIC Lamto 70.57 267 *e*P **P** **07 31 08.7 +2.0**
comp=Z,18nm,1.1s,mb4.9
LIC LR LR
comp=Z,840nm,22.3s,MS4.9
MBWA Marble Bar 71.47 128 PFAKE 07 31 20.0 +8.1
MBWA LR LR
comp=Z,2µm,20.0s,MS5.3
GUMO Guam 73.80 83 PFAKE 07 31 40.0 +14
GUMO LR LR
comp=Z,490nm,20.0s,MS4.8
FITZ Fitzroy Crossi 73.80 121 *e*P **P** **07 31 27.3 +1.4**
comp=Z,6.4nm,0.7s,mb4.7
FITZ Fitzroy Crossi 73.80 121 LR LR 08 06 06.4
comp=Z,277nm,19.7s,MS4.5,baz=312,slow=38
SUR Sutherland 74.35 219 P **P** **07 31 28.6 -0.1**
SUR LR LR
comp=Z,2µm,22.0s,MS5.5
CMLA Cha da Macela 74.42 305 *e*LQ 07 50 47.5
CMLA *e*LR LR 07 55 49.0
KAKA Kakadu 75.98 113 *e*P **P** **07 31 35.9 -2.7**
comp=Z,9.9nm,0.6s,mb4.9
BBTS Babate 76.87 280 LR LR 08 05 47.7
comp=Z,897nm,18.2s,MS5.1,baz=246,slow=36
SMY Shemya 77.73 36 PFAKE 07 32 00.0 +12
SMY LR LR
comp=Z,1µm,20.0s,MS5.3
NWAO Narrogin (SRO) 77.97 138 *e*P **P** **07 31 49.6 +0.3**
NWAO pmax pmax
comp=Z,12nm,0.9s
NWAO MLR MLR
comp=Z,883nm,21.0s

NWAO Narrogin (SRO) 77.97 138 *e*P P 07 31 49.6 +0.3
comp=Z,12nm,0.9s,mb4.8
NWAO LR LR
comp=Z,883nm,21.0s,MS5.1
COLD Coldfoot 80.69 14 *e*P **P 07 32 05.2 +1.5**
IMA2 Indian Mountai 80.90 15 *e*P **P 07 32 06.0 +1.1**
WRA Warramunga Arr 81.53 118 P **P 07 32 09.3 +0.4**
comp=Z,14nm,1.0s,mb4.9,baz=318,slow=4.7,SNR=31
WRA LR LR 08 10 40.9
comp=Z,584nm,20.3s,MS4.9,baz=300,slow=37
WRA Warramunga Arr 81.53 118 P **P 07 32 09.3 +0.4**
WRA pmax pmax
comp=Z,14nm,1.0s
WRA MLR MLR
comp=Z,584nm,20.3s
WRAB Tennant Creek 81.53 118 P **P 07 32 10.0 +1.0**
comp=Z,131nm,1.4s,mb5.7,SNR=7.7
WRAB Tennant Creek 81.53 118 *e*P **P 07 32 09.8 +0.8**
WRAB pmax pmax
comp=Z,16nm,0.8s,mb5.0
WRAB MLR MLR
comp=Z,1μm,20.0s,MS5.2
WRAB Tennant Creek 81.53 118 *e*P **P 07 32 09.8 +0.8**
comp=Z,16nm,0.8s,mb5.0
WRAB LR LR
comp=Z,1μm,20.0s,MS5.2
WB2 Warramunga Arr 81.54 118 *e*P **P 07 32 09.8 +0.8**
INK Inuvik 82.36 7 P **P 07 32 11.5 -1.1**
SHEL Horse Pasture 82.38 247 PFAKE 07 32 30.0 +17
SHEL LR LR
comp=Z,2μm,20.0s,MS5.4
ADK Adak 82.87 34 PFAKE 07 32 30.0 +14
ADK LR LR
comp=Z,2μm,21.0s,MS5.4
COLA College 83.21 14 *e*P **P 07 32 16.4 -0.6**
COLA MLR MLR
comp=Z,2μm,22.0s,MS5.3
ASAR Alice Springs 83.31 121 P **P 07 32 18.9 +0.7**
comp=Z,9.4nm,0.7s,mb5.0,baz=308,slow=5.4,SNR=72
ASAR Alice Springs 83.31 121 P **P 07 32 18.9 +0.8**
ASAR pmax pmax
comp=Z,9.0nm,0.7s
FORT Forrest 83.37 130 *e*P **P 07 32 21.5 +3.2**
comp=Z,21nm,0.6s,mb5.3
DAWY Dawson 85.55 11 *e*P **P 07 32 27.2 -1.7**
PMR Palmer 85.77 16 PFAKE 07 32 40.0 +10
PMR LR LR
comp=Z,1μm,19.0s,MS5.3
PMG Port Moresby 86.60 103 P **P 07 32 35.8 +0.9**
PMG pmax pmax
comp=Z,35nm,1.0s
PMG MLR MLR
comp=Z,420nm,20.0s
PMG Port Moresby 86.60 103 P **P 07 32 35.8 +0.9**
comp=Z,35nm,1.0s,mb5.5
PMG LR LR
comp=Z,420nm,20.0s,MS4.8
KDAK Kodiak Island 88.08 20 PFAKE 07 32 50.0 +8.7
KDAK LR LR
comp=Z,338nm,19.0s,MS4.8
YKA Yellowknife Ar 89.31 0 P **P 07 32 47.3 +0.3**
comp=Z,3.8nm,0.7s,mb4.8,baz=350,slow=4.9,SNR=21
YKA LR LR 08 17 32.2
comp=Z,277nm,18.2s,MS4.7,baz=90,slow=39
YKA Yellowknife Ar 89.31 0 P **P 07 32 47.3 +0.3**
YKA pmax pmax
comp=Z,4.0nm,0.7s
CTAO Charters Tower 91.11 112 PFAKE 07 33 10.0 +14
CTAO LR LR
comp=Z,558nm,19.0s,MS5.0
SIT Sitka 92.84 12 PFAKE 07 33 10.0 +6.5
SIT LR LR
comp=Z,2μm,20.0s,MS5.6
STKA Stephens Creek 93.48 124 *e*P **P 07 33 09.8 +3.0**
comp=Z,3.2nm,0.8s,mb4.8
STKA Stephens Creek 93.48 124 P **P 07 33 09.1 +2.2**
comp=Z,2.5nm,0.7s,mb4.7,baz=334,slow=19,SNR=4.4
STKA LR LR 08 17 15.4
comp=Z,896nm,19.6s,MS5.2,baz=296,slow=37
WRAK Wrangell Islan 93.94 10 PFAKE 07 33 20.0 +11
WRAK LR LR
comp=Z,1μm,19.0s,MS5.4
MAW Mawson 95.86 181 LR LR 08 10 25.3
comp=Z,1μm,18.2s,MS5.3,baz=10,slow=32
PKME Peaks-Kenny Pk 96.14 330 PFAKE 07 33 30.0 +11
PKME LR LR
comp=Z,1μm,21.0s,MS5.3
FFC Flin Flon 96.48 353 PFAKE 07 33 30.0 +10
FFC LR LR
comp=Z,1μm,21.0s,MS5.4
HNR Honiara 97.70 97 LR LR 08 20 11.7
comp=Z,302nm,21.5s,MS4.8,baz=313,slow=37
HNR Honiara 97.70 97 PFAKE 07 33 40.0 +13
HNR LR LR
comp=Z,406nm,21.0s,MS4.9
LBNH Lisbon 98.09 331 PFAKE 07 33 40.0 +12
LBNH LR LR
comp=Z,1μm,22.0s,MS5.3
LONY Lake Ozonia 98.89 333 PFAKE 07 33 40.0 +8.7
LONY LR LR
comp=Z,789nm,20.0s,MS5.2
NCB Newcomb 99.27 332 PFAKE 07 33 40.0 +7.0
NCB LR LR
comp=Z,1μm,20.0s,MS5.4
WES Weston 99.32 330 PFAKE 07 33 40.0 +6.7
WES LR LR
comp=Z,2μm,20.0s,MS5.5
HRV Adam Dziewonsk 99.33 330 PFAKE 07 33 40.0 +6.7
HRV LR LR
comp=Z,714nm,22.0s,MS5.1
ULM Lac du Bonnet 99.99 348 LR LR 08 20 59.0
comp=Z,1μm,21.3s,MS5.4,baz=209,slow=37
CASY Casey 100.35 163 PFAKE 07 33 50.0 +12
CASY LR LR
comp=Z,1μm,20.0s,MS5.3
EYMN Ely 101.29 345 PFAKE 07 33 50.0 +8.1
EYMN LR LR
comp=Z,1μm,20.0s,MS5.4
BINY Binghamton 101.46 332 PFAKE 07 33 50.0 +7.3
BINY LR LR
comp=Z,1μm,21.0s,MS5.4
AGMN Agassiz Refuge 101.86 348 PFAKE 07 34 00.0 +16
AGMN LR LR
comp=Z,1μm,20.0s,MS5.4
GLMI Grayling 102.31 339 PFAKE 07 34 00.0 +14
GLMI LR LR
comp=Z,1μm,19.0s,MS5.4
COWI Conover 102.44 343 PFAKE 07 34 00.0 +13
COWI LR LR
comp=Z,1μm,21.0s,MS5.3
DGMT Dagmar 102.88 353 PFAKE 07 34 00.0 +11
DGMT LR LR
comp=Z,1μm,21.0s,MS5.3
ERPA Erie 103.10 335 PFAKE 07 34 00.0 +10
ERPA LR LR
comp=Z,1μm,21.0s,MS5.5
RCBR Riachuelo 103.38 271 PFAKE 07 34 00.0 +8.8
RCBR LR LR
comp=Z,856nm,19.0s,MS5.3
NEW Newport 103.51 2 PFAKE 07 34 00.0 +8.2
NEW LR LR
comp=Z,1μm,21.0s,MS5.4
SSPA Standing Stone 103.55 333 PFAKE 07 34 00.0 +8.0
SSPA LR LR
comp=Z,783nm,21.0s,MS5.2
BBSR BB Station 103.56 319 PFAKE 07 34 00.0 +8.0
BBSR LR LR
comp=Z,462nm,21.0s,MS5.0
EGMT Eagleton 103.73 357 PFAKE 07 34 00.0 +7.2
EGMT LR LR
comp=Z,1μm,20.0s,MS5.4
LAO LASA Array 104.83 355 PFAKE 07 34 10.0 +12
LAO LR LR
comp=Z,830nm,20.0s,MS5.3
MSO Missoula 105.01 0 PFAKE 07 34 10.0 +12
MSO LR LR
comp=Z,909nm,20.0s,MS5.3
MCWV Mont Chateau 105.17 333 PFAKE 07 38 20.0 +6.4
MCWV LR LR
comp=Z,2μm,22.0s,MS5.5
HAWA Hanford 105.26 4 PFAKE 07 38 20.0 +6.4
HAWA LR LR
comp=Z,1μm,20.0s,MS5.4
CBN Corbin 105.39 331 PFAKE 07 38 30.0 +16
CBN LR LR
comp=Z,867nm,19.0s,MS5.3

JFWS Jewell Farm 105.69 342 PFAKE 07 38 30.0 +16
JFWS LR LR
comp=Z,908nm,21.0s,MS5.3
ACSO Alum Creek Sta 105.85 336 PFAKE 07 38 30.0 +15
ACSO LR LR
comp=Z,1μm,21.0s,MS5.4
ECSD EROS,Sioux Fal 106.39 347 PFAKE 07 38 30.0 +14
ECSD LR LR
comp=Z,767nm,20.0s,MS5.2
RLMT Red Lodge 106.60 357 PFAKE 07 38 30.0 +14
RLMT LR LR
comp=Z,879nm,19.0s,MS5.3
BMO Blue Mountains 106.92 3 PFAKE 07 38 30.0 +13
BMO LR LR
comp=Z,1μm,20.0s,MS5.4
YMR Madison River 107.12 358 PFAKE 07 38 30.0 +13
YMR LR LR
comp=Z,1μm,22.0s,MS5.4
LKWY Lake 107.21 357 PFAKE 07 38 30.0 +13
LKWY LR LR
comp=Z,1μm,20.0s,MS5.5
SCIA State Center 107.39 344 PFAKE 07 38 30.0 +12
SCIA LR LR
comp=Z,1μm,22.0s,MS5.4
BLA Blacksburg 107.50 333 PFAKE 07 38 30.0 +12
BLA LR LR
comp=Z,1μm,22.0s,MS5.4
HDIL Hopedale 107.61 341 PFAKE 07 38 30.0 +12
HDIL LR LR
comp=Z,932nm,19.0s,MS5.4
CNNC Cliffs of the 108.10 330 PFAKE 07 38 30.0 +11
CNNC LR LR
comp=Z,887nm,21.0s,MS5.3
HLID Hailey 108.27 0 PFAKE 07 38 30.0 +11
HLID LR LR
comp=Z,1μm,21.0s,MS5.4
HUMO Hull Mountain 108.73 7 PFAKE 07 38 30.0 +10
HUMO LR LR
comp=Z,1μm,19.0s,MS5.5
WCI Wyandotte Cave 108.79 337 PFAKE 07 38 30.0 +10
WCI LR LR
comp=Z,875nm,19.0s,MS5.3
BW06 Boulder Array 108.96 357 PFAKE 07 38 30.0 +9.4
BW06 LR LR
comp=Z,997nm,19.0s,MS5.4
AHID Auburn Hatcher 109.03 358 PFAKE 07 38 30.0 +9.3
AHID LR LR
comp=Z,761nm,20.0s,MS5.3
WVOR Wild Horse Val 109.26 4 PFAKE 07 38 30.0 +8.9
WVOR LR LR
comp=Z,946nm,21.0s,MS5.3
TZTN Tazewell 109.31 335 PFAKE 07 38 30.0 +8.6
TZTN LR LR
comp=Z,1μm,21.0s,MS5.5
YBH Yreka Blue Hor 109.62 7 PFAKE 07 38 30.0 +8.2
YBH LR LR
comp=Z,881nm,19.0s,MS5.3
MOD Modoc 109.68 5 PFAKE 07 38 30.0 +8.1
MOD LR LR
comp=Z,1μm,20.0s,MS5.4
DRV Dumont d'Urvil 109.75 156 SS SS 07 54 05.0 -10
DRV R 08 12 00.0
OGNE Ogallala 110.03 351 PFAKE 07 38 30.0 +7.4
OGNE LR LR
comp=Z,901nm,20.0s,MS5.3
HWUT Hardware Ranch 110.20 358 PFAKE 07 38 30.0 +7.1
HWUT LR LR
comp=Z,1μm,20.0s,MS5.4
WDC Whiskeytown Da 110.78 7 PFAKE 07 38 40.0 +16
WDC LR LR
comp=Z,951nm,22.0s,MS5.3
KSU1 Kansas State U 110.84 346 PFAKE 07 38 40.0 +16
KSU1 LR LR
comp=Z,1μm,21.0s,MS5.5
NHSC New Hope 110.91 330 PFAKE 07 38 40.0 +15
NHSC LR LR
comp=Z,757nm,19.0s,MS5.3
ELK Elko 111.08 1 PFAKE 07 38 40.0 +15
ELK LR LR
comp=Z,1μm,21.0s,MS5.4
WVT Waverly 111.20 338 PFAKE 07 38 40.0 +15
WVT LR LR
comp=Z,1μm,20.0s,MS5.4
BMN Battle Mountain 111.33 3 PFAKE 07 38 40.0 +15
BMN LR LR
comp=Z,1μm,20.0s,MS5.5
VNA2 Neumayer--Watz 111.52 200 *e*PKiKP PKiKP 07 38 27.6 +3.2
baz=19,slow=5.0
VNA2 *e* 07 38 36.0
VNA2 *e* 07 38 48.3
ISCO Idaho Springs 111.61 353 PFAKE 07 38 40.0 +14
ISCO LR LR
comp=Z,729nm,20.0s,MS5.3
DUG Dugway 111.63 359 PFAKE 07 38 40.0 +14
DUG LR LR
comp=Z,875nm,20.0s,MS5.3
CBKS Cedar Bluff 111.74 348 PFAKE 07 38 40.0 +14
CBKS LR LR
comp=Z,1μm,20.0s,MS5.5
MPU Maple Canyon 111.79 358 PFAKE 07 38 40.0 +14
MPU LR LR
comp=Z,1μm,21.0s,MS5.5
GOGA Godfrey 112.03 333 PFAKE 07 38 40.0 +13
GOGA LR LR
comp=Z,1μm,22.0s,MS5.5
HOPS Hopland 112.28 8 PFAKE 07 38 40.0 +13
HOPS LR LR
comp=Z,847nm,21.0s,MS5.3
VNA3 Neumayer Olymp 112.33 200 *e*PKiKP PKiKP 07 38 28.8 +2.9
VNA3 *e* 07 38 37.4
VNA3 *e* 07 38 49.2
MCCM Marconi Confer 113.14 8 PFAKE 07 38 40.0 +11
MCCM LR LR
comp=Z,537nm,19.0s,MS5.2
OXF Oxford 113.20 338 PFAKE 07 38 40.0 +11
OXF LR LR
comp=Z,1μm,20.0s,MS5.4
NVAR Mina Array Bea 113.27 4 PKiKP PKiKP 07 38 33.5 +4.6
comp=Z,0.4nm,0.7s,baz=344,slow=1.3,SNR=3.3
MVU Marysvale 113.31 359 PFAKE 07 38 40.0 +11
MVU LR LR
comp=Z,566nm,20.0s,MS5.2
CMB Columbia Colle 113.51 6 PFAKE 07 38 40.0 +11
CMB LR LR
comp=Z,611nm,19.0s,MS5.2
SDCO Great Sand Dun 113.63 353 PFAKE 07 38 40.0 +10
SDCO LR LR
comp=Z,739nm,19.0s,MS5.3
TPH Tonopah 113.68 3 PFAKE 07 38 40.0 +10
TPH LR LR
comp=Z,784nm,21.0s,MS5.3
LRAL Lakeview Retre 113.71 336 PFAKE 07 38 40.0 +10
LRAL LR LR
comp=Z,2μm,22.0s,MS5.6
FUNA Funafuti 114.20 87 PFAKE 07 38 40.0 +8.8
FUNA LR LR
comp=Z,7μm,20.0s,MS6.2
MIAR Mount Ida 114.43 342 PFAKE 07 38 40.0 +8.8
MIAR LR LR
comp=Z,966nm,20.0s,MS5.4
MVCO Mesa Verde 114.43 355 PFAKE 07 38 40.0 +8.9
MVCO LR LR
comp=Z,1μm,20.0s,MS5.5
SJG San Juan 114.65 309 PFAKE 07 38 40.0 +8.0
SJG LR LR
comp=Z,330nm,19.0s,MS5.0
TPNV Topopah Spring 114.84 2 PFAKE 07 38 40.0 +8.1
TPNV LR LR
comp=Z,1μm,19.0s,MS5.5
GRGR Grenville 115.40 301 PFAKE 07 38 50.0 +16
GRGR LR LR
comp=Z,315nm,20.0s,MS4.9
DAC Darwin (Calif) 115.45 3 PFAKE 07 38 40.0 +6.9
DAC LR LR
comp=Z,2μm,22.0s,MS5.6
BRAL Brewton 115.55 335 PFAKE 07 38 40.0 +6.6
BRAL LR LR
comp=Z,1μm,22.0s,MS5.5
VBMS Vicksburg 115.67 338 PFAKE 07 38 50.0 +16
VBMS LR LR
comp=Z,804nm,20.0s,MS5.3
DWPF Disney 115.72 328 PFAKE 07 38 50.0 +16
DWPF LR LR
comp=Z,717nm,20.0s,MS5.3
AMTX Amarillo 115.91 349 PFAKE 07 38 50.0 +16
AMTX LR LR
comp=Z,1μm,20.0s,MS5.4
ISA Isabella 116.01 4 PFAKE 07 38 50.0 +16
ISA LR LR
comp=Z,1μm,19.0s,MS5.5
WUAZ Wupatki 116.27 358 PFAKE 07 38 50.0 +15
WUAZ LR LR
comp=Z,893nm,21.0s,MS5.4
GSC Goldstone 116.46 3 PFAKE 07 38 50.0 +15
GSC LR LR
comp=Z,667nm,19.0s,MS5.3
ANMO Albuquerque 116.50 353 PFAKE 07 38 50.0 +15
ANMO LR LR
comp=Z,1μm,20.0s,MS5.4
NATX Nacogdoches 117.35 342 PFAKE 07 38 50.0 +13
NATX LR LR
comp=Z,669nm,19.0s,MS5.3
MWC Mount Wilson 117.47 4 PFAKE 07 38 50.0 +13
MWC LR LR
comp=Z,1μm,21.0s,MS5.6
PFO Pinyon Flat Ob 118.16 3 PFAKE 07 38 50.0 +12
PFO LR LR
comp=Z,669nm,20.0s,MS5.3
BDFB Brasilia 118.36 267 PFAKE 07 38 50.0 +11
BDFB LR LR
comp=Z,607nm,19.0s,MS5.2
GLA Glamis 118.76 1 PFAKE 07 38 50.0 +10
GLA LR LR
comp=Z,719nm,20.0s,MS5.3
BAR Barrett 119.08 3 PFAKE 07 38 50.0 +10
BAR LR LR
comp=Z,894nm,20.0s,MS5.4
HKT Hockley 119.38 342 PFAKE 07 38 50.0 +9.1
HKT LR LR
comp=Z,880nm,21.0s,MS5.4
TUC Tucson 119.44 357 PFAKE 07 38 50.0 +9.1
TUC LR LR
comp=Z,649nm,20.0s,MS5.3
JCT Junction City 119.83 346 PFAKE 07 38 50.0 +8.3
JCT LR LR
comp=Z,794nm,20.0s,MS5.3
SBA Scott Base 119.89 166 PFAKE 07 38 50.0 +10
SBA LR LR
comp=Z,777nm,20.0s,MS5.3
SNZO South Karori 121.52 123 PFAKE 07 39 00.0 +16
SNZO LR LR
comp=Z,493nm,22.0s,MS5.1
TXAR Lajitas Array 121.67 350 PKP PKPdf 07 38 47.9 +2.7
comp=Z,0.4nm,0.7s,baz=53,slow=1.7,SNR=6.4
TXAR Lajitas Array 121.67 350 PKP PKPdf 07 38 47.9 +2.7
KVTX Kingsville 122.21 343 PFAKE 07 39 00.0 +14
KVTX LR LR
comp=Z,802nm,21.0s,MS5.3
SDV Santo Domingo 124.15 305 PFAKE 07 39 00.0 +10
SDV LR LR
comp=Z,145nm,21.0s,MS4.6
TEIG Tepich 125.63 330 PFAKE 07 39 00.0 +6.9
TEIG LR LR
comp=Z,511nm,22.0s,MS5.2
SIV San Ignacio 129.99 273 PKP PKPdf 07 39 04.4 +3.0
comp=Z,2.1nm,0.9s,baz=105,slow=3.2,SNR=7.5
BCIP Isla Barro Col 130.21 314 PFAKE 07 39 10.0 +8.1
BCIP LR LR
comp=Z,385nm,21.0s,MS5.1
TGUH Tegucigalpa,Un 130.50 325 PFAKE 07 39 10.0 +7.5
TGUH LR LR
comp=Z,364nm,19.0s,MS5.1
OTAV Otavalo 135.71 304 PFAKE 07 39 20.0 +7.7
OTAV LR LR
comp=Z,374nm,19.0s,MS5.1
TRQA Tornquist 136.13 244 PFAKE 07 39 20.0 +7.7
TRQA LR LR
comp=Z,1μm,20.0s,MS5.6
LPAZ La Paz 136.30 276 PKP PKPdf 07 39 16.4 +3.2
comp=Z,1.6nm,0.8s,baz=59,slow=12,SNR=7.6
LPAZ La Paz 136.30 276 PKP PKPdf 07 39 16.4 +3.2
LPAZ LR LR
comp=Z,959nm,19.0s,MS5.5
LVC Limon Verde 139.26 268 PFAKE 07 39 30.0 +11
LVC LR LR
comp=Z,707nm,22.0s,MS5.4
CFAA Coronel Fontan 140.66 254 PKP PKPdf 07 39 22.1 +1.3
comp=Z,0.1nm,0.6s,baz=84,slow=9.2,SNR=3.0
LCO Las Campanas 142.37 259 PFAKE 07 39 40.0 +16
LCO LR LR
comp=Z,607nm,19.0s,MS5.4
PLCA Paso Flores 142.73 239 PKP PKPdf 07 39 25.3 +1.0
comp=Z,1.7nm,0.8s,baz=134,slow=2.0,SNR=2.2
PLCA Paso Flores 142.73 239 PKP PKPdf 07 39 25.3 +1.0
PLCA LR LR
comp=Z,600nm,20.0s,MS5.3

*NEIC **19** 07:30:58.9, 3235S×6929W, h12km, MD4.0(GUC), After GUC.*

GUC 19 07:30:58.9±0.9, 3235S×6929W, h12km±5km, MD4.0, ML3.3, 6C-6D, Mendoza Province

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FCH	**Farellones**	**1.29**	**221**	⇓*i*P	Pn	07 31 21.2	-1.6
FCH				*i* S	Sb	07 31 38.7	-1.0
FCH				AML	AML	07 31 39.5	
	comp=N,986nm,0.3s						
PEL	**Peldehue**	**1.42**	**236**	⇑*i*P	Pn	07 31 23.1	-1.4
PEL				*i* S	Sn	07 31 42.3	-0.9
PEL				AML	AML	07 31 45.0	
	comp=E,559nm,0.4s						
YECH	**El Yeso**	**1.48**	**207**	⇑*i*P	Pn	07 31 24.7	-0.6
YECH				*i* S	Sn	07 31 44.8	+0.3
YECH				AML	AML	07 31 46.3	
	comp=N,345nm,0.3s						
CLCH	**Cerro Calan**	**1.48**	**225**	⇓*i*P	Pn	07 31 24.8	-0.6
CLCH				*i* S	Sn	07 31 44.2	-0.5
CLCH				AML	AML	07 31 46.4	
	comp=N,1μm,0.8s						
FSR	**Penalolen**	**1.54**	**222**	⇑*i*P	Pn	07 31 25.8	-0.3
FSR				*i* S	Sn	07 31 46.5	+0.4
FSR				AML	AML	07 31 47.2	
	comp=E,757nm,0.3s						
FSR	**Penalolen**	**1.54**	**222**	⇑*i*P	Pn	07 31 25.8	-0.3
FSR				*i* S	Sn	07 31 46.5	+0.4
SJCH	**San Jose de Ma**	**1.57**	**215**	*e*P	Pn	07 31 25.8	-0.8
SJCH				*i* S	Sn	07 31 47.1	+0.2
SJCH				AML	AML	07 31 48.0	
	comp=E,868nm,0.5s						
PCH	**Pirque**	**1.64**	**219**	*e*P	Pn	07 31 27.3	-0.2
PCH				*i* S	Sn	07 31 48.7	+0.2
ANTU	**Antumapu**	**1.66**	**223**	⇓*i*P	Pn	07 31 27.7	-0.2
ANTU				*i* S	Sn	07 31 49.7	+0.6
ANTU				AML	AML	07 31 50.6	
	comp=E,584nm,0.5s						
ANTU	**Antumapu**	**1.66**	**223**	⇓*i*P	Pn	07 31 27.7	-0.2
ANTU				*i* S	Sn	07 31 49.7	+0.6
LMEL	**Las Melosas**	**1.68**	**207**	*e*P	Pn	07 31 28.1	-0.1
LMEL				*i* S	Sn	07 31 50.4	+0.8
LMEL				AML	AML	07 31 54.9	
	comp=N,370nm,0.2s						
LMEL	**Las Melosas**	**1.68**	**207**	*e*P	Pn	07 31 28.1	-0.1
LMEL				*i* S	Sn	07 31 50.4	+0.8
RCDM	**Rinconada Maip**	**1.71**	**228**	⇓*i*P	Pn	07 31 28.8	+0.3
RCDM				*i* S	Sn	07 31 51.2	+0.9
RCDM				AML	AML	07 31 53.1	
	comp=N,428nm,0.4s						
RCDM	**Rinconada Maip**	**1.71**	**228**	⇓*i*P	Pn	07 31 28.8	+0.3
RCDM				*i* S	Sn	07 31 51.2	+0.9
PACH	**Papudo**	**1.83**	**263**	⇑*i*P	Pn	07 31 30.2	0.0
PACH				*i* S	Sn	07 31 54.1	+0.9
TACH	**Talagante**	**1.90**	**226**	*e*P	Pn	07 31 31.8	+0.6
TACH				*i* S	Sn	07 31 56.6	+1.5
CHNG	**Los Chungos**	**1.94**	**283**	*e*P	Pn	07 31 31.8	+0.2
CHNG				*i* S	Sn	07 31 56.4	+0.6
CHCH	**Chadas Angostu**	**1.95**	**216**	*e*P	Pn	07 31 32.2	+0.4
CHCH				*e*S	Sn	07 31 57.2	+0.9
LNV	**Longovilo**	**2.40**	**227**	*e*P	Pn	07 31 38.6	+0.6
TLL	**Tololo Astrono**	**2.53**	**329**	*e*P	Pn	07 31 41.6	+1.7
TLL				*e*S	Sn	07 32 13.7	+3.1
TLL				AML	AML	07 32 21.8	
	comp=N,306nm,0.5s						
TLL	**Tololo Astrono**	**2.53**	**329**	*e*P	Pn	07 31 41.6	+1.7
TLL				*e*S	Sn	07 32 13.7	+3.1
SFDO	**San Fernando**	**2.68**	**212**	⇑*i*P	Pn	07 31 43.1	+1.2
LCO	**Las Campanas**	**3.54**	**340**	*e*Pn	Pn	07 31 54.2	+0.5
LCO				*e*Sn	Sn	07 32 37.0	+1.4

IDC 19 07:36:45.5±2.0, 391S×10035E, h28km±5km, mb3.7/8, mb1 3.8/8, mb1mx3.7/20, mbtmp3.7/8, Error ellipse: s-maj=83.2km s-min=17.1km az=56.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**22.27**	**356**	P	P	07 41 40.9	+0.4
	0.9nm,0.3s,baz=186,slow=9.8,SNR=5.2						
WRA	**Warramunga Arr**	**36.75**	**118**	P	P	07 43 49.7	-1.1
	0.5nm,0.3s,baz=303,slow=9.0,SNR=5.1						
WRA				PcP	PcP	07 46 12.8	-0.2
	0.3nm,0.6s,baz=320,slow=2.6,SNR=5.1						
ASAR	**Alice Springs**	**37.87**	**124**	P	P	07 44 00.1	-0.2
	0.4nm,0.4s,baz=299,slow=7.7,SNR=9.1						
STKA	**Stephens Creek**	**47.63**	**131**	pP	pP	07 45 26.0	-1.8
	0.8nm,0.5s,baz=315,slow=11,SNR=1.4						
SONM	**Songino Array**	**51.80**	**5**	P	P	07 45 51.1	+0.4
	1.2nm,0.5s,baz=182,slow=8.8,SNR=6.6						
SONM				pP	pP	07 45 59.1	-0.2
	2.7nm,0.8s,baz=189,slow=8.6,SNR=8.6						
MKAR	**Makanchi Array**	**52.95**	**345**	P	P	07 45 59.9	+0.5
	0.7nm,0.7s,baz=134,slow=8.7,SNR=6.1						
MKAR				pP	pP	07 46 07.4	-0.5
	0.7nm,0.6s,baz=147,slow=8.2,SNR=3.0						
KURK	**Kurchatov**	**57.53**	**344**	P	P	07 46 31.6	-0.6
	0.9nm,0.8s,baz=171,slow=6.2,SNR=3.6						
ZALV	**Zalesovo Beam**	**59.10**	**349**	P	P	07 46 41.5	-1.6
	1.0nm,0.4s,baz=152,slow=6.6,SNR=6.0						
BVAR	**Borovoye Array**	**62.09**	**340**	P	P	07 47 03.5	-0.1
	1.1nm,0.5s,baz=128,slow=9.6,SNR=5.9						
TXAR	**Lajitas Array**	**145.97**	**39**	PKPbc	PKPbc	07 56 24.2	+1.0
	1.6nm,0.7s,baz=304,slow=1.0,SNR=23						
TXAR				pPKPbc	pPKPbc	07 56 32.2	-0.2
	1.1nm,0.7s,baz=290,slow=1.0,SNR=9.4						

*ISCJB **19** 07:59:50.2±0.7, 3937N×003×2025E±008, h21km±6km, Error ellipse: s-maj=10.2km s-min=5.1km az=170.2*
*ATH **19** 07:59:50.4, 3929N×2024E, h24km, MD2.8/4*
*CSEM **19** 07:59:50.7±0.1, 3923N×2027E, h2km, ML2.1/1, Error ellipse: s-maj=2.2km s-min=1.2km az=71.0*
*THE **19** 07:59:50.7, 3931N×2031E, h12km±1km, ML2.1/1, Error ellipse: s-maj=8.7km s-min=0.6km az=78.0*

ISC 19 07:59:50.8±0.6, 3930N±004×2026E±007, h11km±8km, n12, σ0§53/20, Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IGT	**Igoumenitsa**	**0.24**	**14**	P	**Pg**	**07 59 55.0**	**-0.9**
IGT				S	**Sg**	**07 59 59.0**	**-0.2**
KEK	**Kerkira**	**0.55**	**320**	*e*Pn	**Pg**	**08 00 01.5**	**0.0**
KEK				*e*Sn	**Sg**	**08 00 09.5**	**+0.8**
KEK	**Kerkira**	**0.55**	**320**	*e*PN	**Pg**	**08 00 01.5**	**0.0**
JAN	**Janina**	**0.58**	**52**	*e*Pn	**Pg**	**08 00 02.3**	**+0.1**
JAN				*e*Sn	**Sg**	**08 00 10.2**	**+0.4**
JAN	**Janina**	**0.58**	**52**	*e*PN	**Pg**	**08 00 02.3**	**+0.1**
LKD	**Levkas**	**0.66**	**152**	P	**Pg**	**08 00 02.8**	**-0.8**
LKD				S	**Sg**	**08 00 13.2**	**+0.9**
VLS	**Valsamata**	**1.15**	**167**	P	**Pb**	**08 00 12.2**	**-0.5**
VLS				S	**Sb**	**08 00 28.1**	**+0.6**
VLS	**Valsamata**	**1.15**	**167**	*e*Pn	**Pn**	**08 00 12.6**	**-0.2**
VLS				S	**Sb**	**08 00 28.1**	**+0.6**
VLS				*e*Sn	**Sn**	**08 00 28.5**	**0.0**
VLS	**Valsamata**	**1.15**	**167**	*e*PN	**Pn**	**08 00 12.6**	**-0.2**
KFL	**Anninata**	**1.25**	**161**	P	**Pn**	**08 00 13.7**	**-0.6**
KFL				S	**Sb**	**08 00 30.7**	**0.0**
THL	**Klokotos Trika**	**1.39**	**78**	*e*Pn	**Pn**	**08 00 16.6**	**+0.5**
THL	**Klokotos Trika**	**1.39**	**78**	*e*PN	**Pn**	**08 00 16.6**	**+0.5**

*IDC **19** 08:03:50.8±9.1, 5114N×170.11E, h0km, mb3.5/2, mb1 3.8/3, mb1mx3.5/22, mbtmp3.7/3, ML4.0/1, Error ellipse: s-maj=266.7km s-min=31.2km az=171.0*
*MOS **19** 08:04:00.9±0.9, 5269N×169.37E, h33km, mb3.9/1, Error ellipse: s-maj=35.0km s-min=16.1km az=29.4*
*KRSC **19** 08:04:04.2±2.9, 5275N×168.78E, h51km±50km, ML4.1*
*ISCJB **19** 08:04:08.3±1.4, 5278N±007×1685E±01, h42km±23km, mb3.3/2, Error ellipse: s-maj=12.0km s-min=11.3km az=42.5*

ISC 19 08:04:09.4±1.3, 5274N±007×1687E±01, h46km±21km, n21, σ0§90/33, mb3.3/2, South of Aleutian Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KBTR	**Krutoberegovo**	**4.87**	**318**	P	**Pn**	**08 05 18.0**	**-1.9**
KBTR				*i* S	**Sn**	**08 06 11.8**	**-3.1**
SPN	**Mys Shipunski**	**5.24**	**277**	P	**Pn**	**08 05 24.4**	**-0.6**
SPN				*i* S	**Sn**	**08 06 22.9**	**-1.1**
TUMR	**Tumrok**	**5.63**	**300**	P	**Pn**	**08 05 31.6**	**+1.2**
TUMR				*i* S	**Sn**	**08 06 35.4**	**+1.8**
NLC	**Nalytchevo**	**5.64**	**278**	P	**Pn**	**08 05 30.1**	**-0.5**
NLC				*i* S	**Sn**	**08 06 32.9**	**-1.2**
KII	**Karymskiy**	**5.66**	**287**	P	**Pn**	**08 05 30.9**	**+0.1**
KII				*i* S	**Sn**	**08 06 34.4**	**-0.1**
BZWR	**Bezymyannyi-We**	**5.76**	**307**	P	**Pn**	**08 05 32.5**	**+0.3**
BZWR				*i* S	**Sn**	**08 06 37.5**	**+0.6**
KMNR	**Kamenistaya**	**5.79**	**305**	P	**Pn**	**08 05 32.8**	**+0.2**
KMNR				*i* S	**Sn**	**08 06 37.8**	**+0.3**
KIRR	**Kirishev**	**5.83**	**307**	P	**Pn**	**08 05 33.3**	**+0.1**
SRKR	**Sorokina**	**5.85**	**315**	P	**Pn**	**08 05 33.0**	**-0.4**
SRKR				*i* S	**Sn**	**08 06 38.1**	**-1.0**
KRSR	**Krestovskiy**	**5.86**	**310**	P	**Pn**	**08 05 33.7**	**+0.1**
KRSR				*i* S	**Sn**	**08 06 39.5**	**+0.1**
KPT	**Kopyto**	**5.90**	**307**	P	**Pn**	**08 05 34.6**	**+0.6**
KPT				*i* S	**Sn**	**08 06 40.8**	**+0.6**
AVH	**Avacha**	**6.01**	**279**	P	**Pn**	**08 05 36.0**	**+0.4**
KOZR	**Kozyr**	**6.10**	**307**	P	**Pn**	**08 05 36.8**	**-0.1**
KOZ	**Kozyrevsk**	**6.11**	**306**	P	**Pn**	**08 05 36.8**	**-0.2**
RUS	**Russkaya**	**6.19**	**271**	P	**Pn**	**08 05 37.8**	**-0.3**
RUS				*i* S	**Sn**	**08 06 46.2**	**-1.3**
GNL	**Ganaly**	**6.51**	**283**	P	**Pn**	**08 05 43.3**	**+0.9**
PETK	**Petropavlovsk-**	**6.64**	**278**	Pn	**Pn**	**08 05 45.1**	**+0.9**
	1.9nm,0.3s,baz=82,slow=19,SNR=25						
PETK				Sn	**Sn**	**08 07 00.5**	**+2.1**
	0.7nm,0.3s,baz=89,slow=14,SNR=3.4						
SONM	**Songino Array**	**38.98**	**289**	P	**P**	**08 11 30.7**	**-0.1**
	0.5nm,0.5s,mb3.5,baz=58,slow=8.0,SNR=4.5						
SONM	**Songino Array**	**38.98**	**289**	P	**P**	**08 11 30.7**	**-0.1**
SONM				pmax	pmax		
	comp=Z,1.0nm,0.5s						
YKA	**Yellowknife Ar**	**39.84**	**45**	P	**P**	**08 11 29.4**	**-8.3**
	comp=Z,0.3nm,0.7s,mb3.2,baz=289,slow=7.3,SNR=5.7						
YKA	**Yellowknife Ar**	**39.84**	**45**	P	**P**	**08 11 29.4**	**-8.3**

*BJI **19** 08:05:48.2, 2360S×6664W, h183km, mB4.9*
*ISCJB **19** 08:05:49.7±0.5, 2410S±003×6651W±004, h192km±4km, mb4.5/52, Error ellipse: s-maj=6.5km s-min=4.6km az=148.0*
*NEIC **19** 08:05:50.8±0.5, 2408S×6656W, h194km±4km, mb4.7/43, Error ellipse: s-maj=7.3km s-min=5.0km az=66.0*
*GUC **19** 08:05:50.4±1.0, 2437S×6706W, h226km±14km, ML4.8*
*IDC **19** 08:05:50.5±0.9, 2413S×6660W, h191km±8km, mb4.2/15, mb1 4.3/22, mb1mx4.2/24, mbtmp4.2/22, Error ellipse: s-maj=12.6km s-min=9.8km az=62.0*

ISC 19 08:05:50.3±0.5, 2410S±003×6648W±004, h183km±3km, n426, σ0§69/427, mb4.6/52, 127C-162D, Salta Province

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SPCH	**San Pedro de A**	**1.97**	**307**	*e*P	**Pn**	**08 06 31.0**	**+3.7**
SPCH				*i* S	**Sn**	**08 07 01.7**	**+5.8**
SPCH				AML	AML	08 07 04.2	
	comp=E,2μm,0.5s						
SPCH	**San Pedro de A**	**1.97**	**307**	*e*P	**Pn**	**08 06 31.0**	**+3.7**
SPCH				*i* S	**Sn**	**08 07 01.7**	**+5.8**
LVC	**Limon Verde**	**2.68**	**303**	P	**Pn**	**08 06 37.1**	**+1.8**
	comp=E,333nm,0.3s,baz=130,slow=6.6,SNR=3173						
LVC				S	**Sn**	**08 07 10.0**	**-0.3**
	comp=E,206nm,0.3s,baz=251,slow=23,SNR=24						
LVC	**Limon Verde**	**2.68**	**303**	*i* P	**Pn**	**08 06 37.2**	**+1.9**
LVC	**Limon Verde**	**2.68**	**303**	*e*Pn	**Pn**	**08 06 36.7**	**+1.4**
LVC				*e*Sn	**Sn**	**08 07 11.1**	**+0.9**
CEN1	**Los Morros**	**3.48**	**281**	⇓*i*P	**Pn**	**08 06 46.2**	**+1.2**
CEN1				*i* S	**Sn**	**08 07 26.2**	**-1.5**
CEN1				AML	AML	08 07 29.1	
	comp=N,3μm,0.5s						
ANCH	**Antofagasta**	**3.62**	**276**	⇑*i*P	**Pn**	**08 06 45.6**	**-1.2**
ANCH				*i* S	**Sn**	**08 07 26.2**	**-4.6**
VACH	**Vallenar**	**5.88**	**220**	*i* S	**Sn**	**08 08 17.0**	**-6.1**
LCO	**Las Campanas**	**6.18**	**217**	*e*P	**Pn**	**08 07 18.1**	**-1.6**
LCO				*i* S	**Sn**	**08 08 24.6**	**-5.5**
LCO	**Las Campanas**	**6.18**	**217**	⇓*e*Pn	**Pn**	**08 07 17.4**	**-2.2**
	comp=N,59nm,0.8s						
LCO				*e*Sn	**Sn**	**08 08 16.9**	**-13**
CFAA	**Coronel Fontan**	**7.64**	**191**	P	**Pn**	**08 07 37.7**	**-1.0**
	comp=N,1.0nm,0.3s,baz=14,slow=14,SNR=162						
CFAA				S	**Sn**	**08 08 58.0**	**-6.6**
	comp=N,2.6nm,0.3s,baz=278,slow=23,SNR=19						
LPAZ	**La Paz**	**7.92**	**348**	P	**Pn**	**08 07 44.2**	**+1.6**
	comp=N,9.3nm,0.3s,baz=159,slow=7.2,SNR=213						
LPAZ				S	**Sn**	**08 09 09.8**	**-1.9**
	comp=N,2.8nm,0.3s,baz=291,slow=21,SNR=7.7						
LPAZ	**La Paz**	**7.92**	**348**	⇓*i*Pn	**Pn**	**08 07 44.1**	**+1.5**
	comp=N,25nm,0.4s						
LPAZ				*e*Sn	**Sn**	**08 09 11.1**	**-0.5**
ARE	**Arequipa**	**8.93**	**327**	*e*P	**Pn**	**08 07 56.0**	**+0.1**
ARE				*e*S	**Sn**	**08 09 31.0**	**-4.8**
SIV	**San Ignacio**	**9.53**	**33**	P	**Pn**	**08 08 05.3**	**+1.6**
	comp=N,4.1nm,0.3s,baz=221,slow=14,SNR=47						
SIV				S	**Sn**	**08 09 51.3**	**+1.3**
	baz=322,slow=16,SNR=2.9						
TRQA	**Tornquist**	**14.43**	**166**	*e*Pn	**Pn**	**08 09 07.2**	**+1.1**
TRQA				*e*S	**Sn**	**08 11 43.1**	**-4.0**
NNA	**Nana**	**15.55**	**319**	P	**Pn**	**08 09 20.6**	**+0.6**
	comp=N,2.4nm,0.3s,baz=62,slow=18,SNR=8.6						
NNA	**Nana**	**15.55**	**319**	*e*Pn	**Pn**	**08 09 19.9**	**-0.2**
	comp=N,21nm,0.8s						
PLCA	**Paso Flores**	**16.93**	**191**	P	**Pn**	**08 09 35.5**	**-1.0**
	comp=N,0.4nm,0.3s,baz=16,slow=15,SNR=16						
PLCA	**Paso Flores**	**16.93**	**191**	*e*P	**Pn**	**08 09 34.9**	**-1.6**
	comp=N,11nm,0.7s						
SPB	**Sao Paulo**	**17.43**	**92**	*e*P	**Pn**	**08 09 43.0**	**+0.4**
VAO	**Valinhos**	**17.93**	**90**	⇑*i*P	**Pn**	**08 09 48.6**	**+0.2**
VAO				*i*		08 09 49.9	
VAO				*i*		08 09 51.6	
VAO				*i*		08 10 03.2	
VAO				*i*		08 10 30.4	
BDFB	**Brasilia**	**19.28**	**68**	P	**P**	**08 10 03.7**	**+2.5**
	comp=N,4.1nm,0.3s,baz=233,slow=16,SNR=101						
BDFB	**Brasilia**	**19.28**	**68**	*e*P	**P**	**08 10 02.8**	**+1.6**
	comp=N,64nm,0.8s						
ATAH	**Atahualpa**	**20.49**	**324**	P	**P**	**08 10 13.9**	**-0.2**
	comp=N,13nm,0.7s,baz=167,slow=4.0,SNR=8.3						
CAM3	**Guarapari**	**24.22**	**87**	⇑*i*P	**P**	**08 10 50.8**	**+0.6**
CAM3				*i*		08 10 52.7	
CAM3				*i*		08 10 54.7	
CAM3				*i*		08 10 57.4	
OTAV	**Otavalo**	**26.84**	**333**	*e*P	**P**	**08 11 13.3**	**-0.6**
	comp=N,4.7nm,0.8s,mb4.2						
EFI	**East Falkland**	**28.28**	**169**	P	**P**	**08 11 26.8**	**+0.5**
ROSC	**El Rosal**	**29.78**	**344**	P	**P**	**08 11 41.6**	**+1.7**
	comp=N,4.4nm,0.5s,mb4.5,baz=198,slow=3.8,SNR=7.3						
ROSC	**El Rosal**	**29.78**	**344**	*e*P	**P**	**08 11 39.1**	**-0.8**
USHA	**Ushuaia**	**30.73**	**182**	P	**P**	**08 11 47.8**	**-0.1**
	comp=N,7.1nm,0.7s,mb4.5,baz=354,slow=9.2,SNR=4.4						
SDV	**Santo Domingo**	**33.03**	**352**	*e*P	**P**	**08 12 05.4**	**-3.0**
	comp=N,8.4nm,0.7s,mb4.6						
PCRV	**Puerto La Cruz**	**34.11**	**3**	P	**P**	**08 12 18.0**	**+0.3**
	comp=N,9.9nm,0.6s,mb4.7,baz=288,slow=4.0,SNR=5.7						
RCBR	**Riachuelo**	**34.54**	**63**	*e*P	**P**	**08 12 21.9**	**+0.4**
	comp=N,9.9nm,0.5s,mb4.7						
GRGR	**Grenville**	**36.32**	**8**	*e*P	**P**	**08 12 34.6**	**-1.9**
	comp=N,37nm,0.5s,mb5.3						
FDF	**Fort de France**	**38.94**	**8**	*e*P	**P**	**08 12 57.4**	**-1.2**
FDF	**Fort de France**	**38.94**	**8**	*e*P	**P**	**08 12 57.1**	**-1.5**
ANWB	**Willy Bob**	**41.76**	**7**	*e*P	**P**	**08 13 18.3**	**-3.4**
SJG	**San Juan**	**41.95**	**0**	*e*P	**P**	**08 13 20.6**	**-2.6**
TGUH	**Tegucigalpa,Un**	**43.02**	**330**	P	**P**	**08 13 31.5**	**-0.4**
	comp=N,55nm,1.4s,mb5.0						
TEIG	**Tepich**	**48.91**	**332**	*e*P	**P**	**08 14 16.5**	**-1.3**
	comp=N,20nm,0.6s,mb4.9						
BBSR	**BB Station**	**56.18**	**2**	*e*P	**P**	**08 15 09.4**	**-1.6**
	comp=N,11nm,0.7s,mb4.8						
VNA3	**Neumayer Olymp**	**56.91**	**161**	*e*P	**P**	**08 15 16.1**	**+0.4**
VNA3				*e*		08 15 18.1	
VNA3				*e*		08 15 25.1	
VNA1	**Neumayer--Stat**	**57.09**	**160**	*e*P	**P**	**08 15 18.1**	**+1.1**
VNA1				*e*		08 15 19.8	
VNA1				*e*		08 15 26.2	
VNA2	**Neumayer--Watz**	**57.47**	**160**	*e*P	**P**	**08 15 20.3**	**+0.7**
	baz=285,slow=7.5						
VNA2				*e*		08 15 22.3	
VNA2				*e*		08 15 29.1	
SNAA	**Sanae**	**59.10**	**161**	*e*P	**P**	**08 15 31.0**	**+0.1**
SNAA				*e*		08 15 33.0	
SNAA				*e*		08 15 40.2	
SNAA	**Sanae**	**59.10**	**161**	*e*P	**P**	**08 15 30.9**	**0.0**
	comp=N,8.8nm,0.8s,mb4.6						
LRAL	**Lakeview Retre**	**60.09**	**340**	*e*P	**P**	**08 15 36.1**	**-2.0**
CPCT	**Cooper Cave**	**61.64**	**343**	*e*P	**P**	**08 15 46.7**	**-1.8**
SWET	**Sewanee**	**61.80**	**342**	*e*P	**P**	**08 15 47.5**	**-2.1**
OXF	**Oxford**	**62.22**	**339**	*e*P	**P**	**08 15 49.4**	**-3.0**
	comp=N,53nm,0.8s,mb5.4						
JCT	**Junction City**	**62.98**	**328**	*e*P	**P**	**08 15 56.4**	**-1.2**
WVT	**Waverly**	**63.21**	**341**	⇓*i*P	**P**	**08 15 56.6**	**-2.4**
MIAR	**Mount Ida**	**63.74**	**335**	*e*P	**P**	**08 16 01.1**	**-1.4**
	comp=N,12nm,0.8s,mb4.8						
TXAR	**Lajitas Array**	**64.03**	**324**	P	**P**	**08 16 03.5**	**-0.9**
	comp=N,3.1nm,0.7s,mb4.3,baz=150,slow=8.8,SNR=11						
WCI	**Wyandotte Cave**	**64.73**	**343**	⇓*e*P	**P**	**08 16 06.2**	**-2.6**
SIUC	**Southern Illin**	**65.10**	**340**	*e*P	**P**	**08 16 08.5**	**-2.7**
	comp=N,15nm,0.8s,mb4.9						
BLO	**Bloomington**	**65.67**	**343**	*e*P	**P**	**08 16 12.7**	**-2.1**
FVM	**French Village**	**65.72**	**339**	⇓*i*P	**P**	**08 16 13.2**	**-1.9**
ACSO	**Alum Creek Sta**	**65.82**	**346**	*e*P	**P**	**08 16 14.0**	**-1.8**
	comp=N,8.2nm,0.7s,mb4.7						
BRYW	**Bryant College**	**65.85**	**356**	*e*P	**P**	**08 16 14.7**	**-1.2**
BINY	**Binghamton**	**66.55**	**352**	*e*P	**P**	**08 16 19.6**	**-0.7**
	comp=N,13nm,0.8s,mb4.8						
LIC	**Lamto**	**67.02**	**72**	*e*P	**P**	**08 16 22.9**	**-1.1**
	comp=N,9.6nm,0.4s,mb5.0						
TIC	**Toumodi**	**67.23**	**71**	*e*P	**P**	**08 16 25.5**	**+0.2**
	comp=N,12nm,0.2s,mb5.3						
KIC	**Kosan Boka**	**67.33**	**72**	*e*P	**P**	**08 16 25.2**	**-0.7**
	comp=N,40nm,0.6s,mb5.4						
DBIC	**Dimbokro**	**67.38**	**71**	P	**P**	**08 16 25.6**	**-0.6**
	comp=N,5.2nm,0.4s,mb4.8,baz=229,slow=7.2,SNR=20						
DBIC	**Dimbokro**	**67.38**	**71**	*e*P	**P**	**08 16 25.4**	**-0.9**
	comp=N,5.3nm,0.4s,mb4.7						
HDIL	**Hoedale**	**67.74**	**341**	*e*P	**P**	**08 16 26.0**	**-1.9**
319A	**Douglas**	**68.71**	**321**	⇑P	**P**	**08 16 34.2**	**+0.1**
	baz=69,SNR=8.8						
KSU1	**Kansas State U**	**68.90**	**335**	P	**P**	**08 16 33.2**	**-1.9**
	comp=N,17nm,0.7s,mb4.9						
PKME	**Peaks-Kenny Pk**	**69.07**	**358**	*e*P	**P**	**08 16 34.9**	**-1.2**
	comp=N,5.6nm,0.6s,mb4.5						
219A	**White Tail Can**	**69.16**	**322**	⇓P	**P**	**08 16 36.7**	**-0.2**
	baz=69,SNR=6.7						
318A	**Bisbee**	**69.16**	**321**	⇓P	**P**	**08 16 36.7**	**-0.2**
	baz=69,SNR=14						
LPM	**Los Pinos Moun**	**69.49**	**325**	*e*P	**P**	**08 16 38.5**	**-0.4**
218A	**Dragoon**	**69.59**	**321**	⇑P	**P**	**08 16 39.6**	**+0.1**
	baz=70						
119A	**Ashpeak Ranch,**	**69.75**	**322**	⇓P	**P**	**08 16 40.8**	**+0.3**
	baz=70						
217A	**Green Valley**	**69.88**	**321**	⇓P	**P**	**08 16 41.3**	**0.0**
	baz=70,SNR=9.6						
ANMO	**Albuquerque**	**69.90**	**326**	*e*P	**P**	**08 16 41.3**	**0.0**
	comp=N,5.7nm,0.7s,mb4.4						
118A	**Homack Ranch,**	**70.03**	**322**	⇓P	**P**	**08 16 42.2**	**0.0**
	baz=70,SNR=6.8						
Z19A	**T-Link Ranch,**	**70.13**	**323**	⇓P	**P**	**08 16 43.1**	**+0.3**
	baz=70						
JFWS	**Jewell Farm**	**70.19**	**342**	*e*P	**P**	**08 16 41.5**	**-1.4**
Z18A	**Geronimo**	**70.40**	**322**	⇓P	**P**	**08 16 44.5**	**0.0**
	baz=71						
216A	**Three Points,**	**70.42**	**320**	⇑P	**P**	**08 16 44.6**	**0.0**
	baz=71						
117A	**Oracle**	**70.42**	**321**	⇓P	**P**	**08 16 44.8**	**+0.2**
	baz=71,SNR=5.3						
Y19A	**Nutrioso**	**70.62**	**323**	⇑P	**P**	**08 16 46.2**	**+0.5**
	baz=71,SNR=6.6						
Z17A	**San Carlos Hig**	**70.80**	**322**	⇑P	**P**	**08 16 47.0**	**+0.1**
	baz=71						
Y18A	**Canyon Day Jun**	**70.92**	**323**	⇓P	**P**	**08 16 47.7**	**+0.1**
	baz=71						
116A	**Eloy**	**70.97**	**321**	⇑P	**P**	**08 16 47.9**	**0.0**
	baz=71						
X19A	**St. Johns**	**70.99**	**324**	⇑P	**P**	**08 16 48.1**	**+0.1**
	baz=71						
214A	**Organ Pipe Nat**	**71.18**	**319**	⇓P	**P**	**08 16 49.3**	**+0.2**
	baz=71						
Y17A	**Roosevelt**	**71.31**	**322**	⇑P	**P**	**08 16 50.2**	**+0.4**
	baz=72,SNR=14						
115A	**Sonoran Desert**	**71.38**	**320**	⇑P	**P**	**08 16 50.6**	**+0.3**
	baz=72						
Z16A	**Peralta Trail,**	**71.38**	**321**	⇓P	**P**	**08 16 50.6**	**+0.3**
	baz=72						
X18A	**Snowflake**	**71.43**	**323**	⇓P	**P**	**08 16 51.0**	**+0.4**
	baz=72						
W19A	**Sanders**	**71.56**	**324**	⇓P	**P**	**08 16 51.7**	**+0.4**
	baz=72						
SDCO	**Great Sand Dun**	**71.62**	**328**	*e*P	**P**	**08 16 51.9**	**+0.2**
W18A	**Petrified Fore**	**71.75**	**324**	⇓P	**P**	**08 16 53.0**	**+0.5**
	baz=72						
X17A	**Forest Lakes**	**71.76**	**322**	⇓P	**P**	**08 16 52.9**	**+0.4**
	baz=72,SNR=5.5						
Z15A	**Gila River Ind**	**71.76**	**321**	⇑P	**P**	**08 16 52.6**	**0.0**
	baz=72						
Y16A	**Circle Bar Ran**	**71.80**	**322**	⇓P	**P**	**08 16 52.9**	**+0.1**
	baz=72,SNR=5.7						
V19A	**Window Rock**	**71.83**	**325**	⇑P	**P**	**08 16 53.3**	**+0.3**
	baz=72,SNR=5.2						
X16A	**Lo Mia Camp, P**	**72.17**	**322**	⇓P	**P**	**08 16 55.3**	**+0.3**
	baz=72,SNR=6.3						
W17A	**Winslow**	**72.26**	**323**	⇓P	**P**	**08 16 55.9**	**+0.4**
	baz=72						
Z14A	**Wintersburg**	**72.27**	**320**	⇓P	**P**	**08 16 55.6**	**-0.1**
	baz=72						
V18A	**Ganado**	**72.31**	**324**	⇑P	**P**	**08 16 55.8**	**0.0**
	baz=72						
113A	**Mohawk Valley,**	**72.33**	**319**	⇓P	**P**	**08 16 55.9**	**-0.1**
	baz=72						
Y15A	**Casa Rosa Ranc**	**72.34**	**321**	⇑P	**P**	**08 16 56.2**	**+0.1**
	baz=72						
T19A	**Beclabito**	**72.67**	**325**	⇑P	**P**	**08 16 58.0**	**+0.1**
	baz=73,SNR=7.8						
X15A	**Humboldt**	**72.67**	**322**	⇓P	**P**	**08 16 58.2**	**+0.2**
	baz=73,SNR=7.0						
MVCO	**Mesa Verde**	**72.69**	**326**	⇑P	**P**	**08 16 58.5**	**+0.4**
	baz=73						
MVCO	**Mesa Verde**	**72.69**	**326**	*e*P	**P**	**08 16 57.9**	**-0.2**
Y14A	**Wickenburg**	**72.72**	**321**	⇑P	**P**	**08 16 58.3**	**0.0**
	baz=73						
W16A	**Flagstaff**	**72.72**	**323**	⇓P	**P**	**08 16 58.7**	**+0.5**
	baz=73,SNR=5.9						
U18A	**Rough Rock, Ch**	**72.80**	**325**	⇑P	**P**	**08 16 59.1**	**+0.4**
	baz=73,SNR=5.8						
WUAZ	**Wupatki**	**72.94**	**323**	⇓P	**P**	**08 16 59.8**	**+0.2**
	baz=73,SNR=6.2						
WUAZ	**Wupatki**	**72.94**	**323**	*e*P	**P**	**08 16 59.6**	**0.0**
	comp=N,8.8nm,0.8s,mb4.5						
ECSD	**EROS,Sioux Fal**	**72.95**	**338**	*e*P	**P**	**08 16 57.9**	**-1.4**
	comp=N,34nm,1.3s,mb4.9						
X14A	**Yava**	**73.03**	**321**	⇓P	**P**	**08 17 00.3**	**+0.2**
	baz=73,SNR=5.7						
Y13A	**Salome**	**73.11**	**320**	⇓P	**P**	**08 17 00.8**	**+0.3**
	baz=73						
GLA	**Glamis**	**73.16**	**319**	⇑P	**P**	**08 17 01.0**	**+0.1**
	baz=73						
W15A	**Williams**	**73.19**	**322**	⇓P	**P**	**08 17 01.6**	**+0.6**
	baz=73						
U16A	**Tuba City**	**73.27**	**324**	⇑P	**P**	**08 17 01.7**	**+0.3**
	baz=74,SNR=5.3						
SYO	**Syowa Base**	**73.29**	**159**	⇓*e*PcP	PcP	08 17 13.2	-3.3
ISCO	**Idaho Springs**	**73.31**	**329**	*e*P	**P**	**08 17 01.3**	**-0.3**
T18A	**Mexican Hat**	**73.34**	**325**	⇑P	**P**	**08 17 02.0**	**+0.1**
	baz=74,SNR=7.2						
U17A	**Shonto**	**73.36**	**324**	⇑P	**P**	**08 17 02.3**	**+0.4**
	baz=74,SNR=5.2						
S19A	**Harvey Farm, M**	**73.42**	**326**	⇓P	**P**	**08 17 02.4**	**+0.1**
	baz=74,SNR=6.5						
PV01	**Paradox Valley**	**73.43**	**327**	*e*P	**P**	**08 17 02.6**	**+0.2**
Y12C	**Blythe**	**73.47**	**320**	⇑P	**P**	**08 17 03.1**	**+0.4**
	baz=74						
V15A	**Kaibab Nationa**	**73.61**	**323

baz=76,SNR=9.1
N19A John Jarvie Ra 75.85 328 ⇓P P 08 17 16.1 -0.2
baz=76,SNR=9.3
R14A James Farms, M 75.88 324 ⇓P P 08 17 16.9 +0.5
baz=76
GSC Goldstone 75.90 320 ⇓P P 08 17 17.0 +0.4
baz=76
GSC Goldstone 75.90 320 eP P 08 17 17.1 +0.5
SHOC Shoshone 76.00 320 ⇑P P 08 17 17.3 +0.1
baz=76
Q15A Fillmore 76.05 325 ⇑P P 08 17 17.9 +0.6
baz=76
O17A Robinson Place 76.09 327 ⇓P P 08 17 18.4 +0.8
baz=76,SNR=12
RSSD Black Hills 76.11 333 eP P 08 17 16.7 -0.8
comp=N,5.9nm,0.8s,mb4.3
N18A Larsen Ranch, 76.16 328 ⇑P P 08 17 17.9 0.0
baz=76
TOA0 Torodi Ar. Sit 76.16 69 eP P 08 17 17.7 -0.8
TORD Torodi Ar. Bea 76.16 69 P P 08 17 17.9 -0.6
TORD pP pP 08 18 08.7 +5.9
comp=N,8.8nm,0.5s,mb4.6,baz=257,slow=5.7,SNR=123
TORD pP pP 08 18 08.7 +5.9
comp=N,1.9nm,0.6s,baz=249,slow=5.0,SNR=2.5
TORD Torodi Ar. Bea 76.16 69 P P 08 17 17.9 -0.6
TORD pP pP 08 18 08.7 +5.9
R13A O'Grain Ranch, 76.31 323 ⇓P P 08 17 19.7 +0.8
baz=76,SNR=5.2
EDW2 Edwards Air Fo 76.32 319 ⇑P P 08 17 18.8 -0.2
baz=76
T11A Corn Creek, Al 76.33 322 ⇓P P 08 17 19.4 +0.4
baz=76,SNR=8.9
S12A Delamar Landin 76.38 322 ⇑P P 08 17 19.7 +0.5
baz=77
U10A Ash Meadows, A 76.39 321 ⇓P P 08 17 19.8 +0.5
baz=77
MPU Maple Canyon 76.41 326 eP P 08 17 19.3 -0.1
O16A Springville 76.49 326 ⇑P P 08 17 20.2 +0.4
baz=77
Q14A Sevier Lake (B 76.52 324 ⇑P P 08 17 20.5 +0.5
baz=77,SNR=8.5
DAU Daniels Canyon 76.52 326 P P 08 17 20.5 +0.6
LRMC Laurel Mountai 76.55 319 ⇑P P 08 17 20.4 +0.1
baz=77
N17A Moffit Pass 76.70 327 ⇓P P 08 17 21.7 +0.6
baz=77,SNR=11
TPNV Topopah Spring 76.71 321 ⇓P P 08 17 21.7 +0.6
baz=77,SNR=8.0
TPNV Topopah Spring 76.71 321 eP P 08 17 21.4 +0.2
AGMN Agassiz Refuge 76.73 340 eP P 08 17 19.8 -1.1
comp=N,10nm,0.8s,mb4.5
FURC Furnace Creek, 76.73 320 ⇑P P 08 17 21.7 +0.4
baz=77
R12A Pony Springs, 76.76 323 ⇓P P 08 17 22.2 +0.8
baz=77,SNR=12
MPMC Manual Prospec 76.82 320 ⇓P P 08 17 21.8 0.0
baz=77
P14A Drum Mountains 76.85 325 ⇓P P 08 17 22.5 +0.6
baz=77,SNR=5.7
Q13A Wheeler Ranch, 76.89 324 ⇓P P 08 17 22.7 +0.6
baz=77,SNR=7.4
S11A Rachel 76.91 322 ⇓P P 08 17 22.9 +0.6
baz=77
N16A Rees Ranch, Co 76.96 327 ⇓P P 08 17 22.8 +0.3
baz=77
O15A The Old Anders 77.04 326 ⇓P P 08 17 23.7 +0.8
baz=77
ISA Isabella 77.14 319 ⇓P P 08 17 23.8 +0.2
baz=77
ISA Isabella 77.14 319 eP P 08 17 23.5 -0.1
DUG Dugway 77.16 325 ⇓P P 08 17 24.0 +0.5
baz=77
DUG Dugway 77.16 325 eP P 08 17 23.5 0.0
TSUM Tsumeb 77.17 105 eP P 08 17 23.8 -0.4
comp=N,6.1nm,0.6s,mb4.4
P13A Bates Ranch, G 77.25 324 ⇑P P 08 17 24.8 +0.7
baz=77,SNR=7.5
R11A Troy Canyon, C 77.32 322 ⇑P P 08 17 25.0 +0.5
baz=78,SNR=8.8
M16A Huntsville 77.38 327 ⇑P P 08 17 25.1 +0.3
baz=78
Q12A Willow Creek R 77.39 323 ⇑P P 08 17 25.4 +0.5
baz=78
GRAC Grapevine Rang 77.40 320 ⇓P P 08 17 25.1 +0.2
baz=78
CWC Cottonwood Cre 77.43 320 ⇑P P 08 17 25.6 +0.4
baz=78
PKM Peak Mountain 77.45 318 ⇓P P 08 17 25.7 +0.4
baz=78
BW06 Boulder Array 77.47 329 ⇓P P 08 17 25.1 -0.1
baz=78
BW06 Boulder Array 77.47 329 eP P 08 17 24.8 -0.4
PDAR Pinedale Array 77.47 329 P P 08 17 24.8 -0.5
comp=N,2.1nm,0.5s,mb4.0,baz=129,slow=8.0,SNR=17
N15A Stansbury Isla 77.52 326 ⇓P P 08 17 26.0 +0.4
baz=78
HWUT Hardware Ranch 77.57 327 eP P 08 17 25.6 -0.2
S10A Tonopah Range, 77.59 322 ⇑P P 08 17 26.2 +0.2
baz=78,SNR=6.9
VES Vestal, Richgr 77.62 319 ⇑P P 08 17 26.2 0.0
baz=78
R10A Warm Springs 77.68 322 ⇓P P 08 17 27.2 +0.7
baz=78,SNR=9.9
Q11A Duckwater 77.71 323 ⇓P P 08 17 26.9 +0.3
baz=78,SNR=7.9
O13A Hicks Ranch, I 77.72 325 ⇑P P 08 17 27.0 +0.3
baz=78
P12A McGill 77.74 324 ⇓P P 08 17 27.2 +0.4
baz=78
L16A Fish Haven 77.81 327 ⇑P P 08 17 27.6 +0.5
baz=78
S09A Goldfield 77.81 321 ⇓P P 08 17 27.3 0.0
baz=78
N14A Grayback Hills 77.83 326 ⇓P P 08 17 27.4 +0.2
baz=78
M15A Larsen Ranch, 77.90 326 ⇓P P 08 17 27.9 +0.3
baz=78
RCTC Rector, Farmer 78.03 319 ⇓P P 08 17 28.1 -0.4
baz=78
TPH Tonopah 78.05 321 eP P 08 17 27.9 -0.6
Q10A Clear Creek Ra 78.11 322 ⇓P P 08 17 29.4 +0.5
baz=78
AHID Auburn Hatcher 78.21 328 eP P 08 17 29.1 -0.2
comp=N,12nm,0.8s,mb4.6
O12A Currie 78.22 324 ⇑P P 08 17 29.8 +0.4
baz=78
L15A Malad City 78.27 327 ⇓P P 08 17 29.5 -0.1
baz=78,SNR=12
HVU Hansel Valley 78.30 326 eP P 08 17 29.6 -0.3
N13A Wendover, West 78.36 325 ⇑P P 08 17 30.4 +0.2
baz=78
M14A Sheep Mountain 78.39 326 ⇓P P 08 17 30.8 +0.5
baz=79
ULM Lac du Bonnet 78.47 341 P P 08 17 29.4 -1.1
comp=N,14nm,0.6s,mb4.7,baz=145,slow=5.8,SNR=21
ULM Lac du Bonnet 78.47 341 P P 08 17 29.4 -1.1
K16A Soda Springs 78.50 328 ⇓P P 08 17 31.5 +0.7
baz=79,SNR=5.8
REDW Red Top Meadow 78.54 329 eP P 08 17 31.1 0.0
comp=N,6.9nm,0.8s,mb4.3
SNOW Snow King Moun 78.57 329 eP P 08 17 31.1 -0.2
comp=N,7.8nm,0.8s,mb4.4
PKD Parkfield 78.58 318 ⇓P P 08 17 31.4 -0.2
baz=79
LOHW Long Hollow 78.61 329 eP P 08 17 31.6 +0.1
comp=N,6.2nm,0.6s,mb4.4
O11A Cowboy Ranch, 78.62 324 ⇑P P 08 17 31.9 +0.3
baz=79,SNR=5.2
TPAW Teton Pass 78.69 329 eP P 08 17 30.6 -1.3
comp=N,5.9nm,0.8s,mb4.3
P10A Eureka 78.70 323 ⇑P P 08 17 32.5 +0.5
baz=79
L14A Malta 78.72 326 ⇓P P 08 17 32.2 0.0
baz=79,SNR=7.1
KCC Kaiser Creek 78.76 320 ⇓P P 08 17 32.1 -0.4
baz=79
T06C Millerton Lake 78.78 319 ⇓P P 08 17 32.8 +0.2
baz=79
I17A Pilgram Creek 78.84 329 ⇑P P 08 17 33.3 +0.6
baz=79,SNR=5.3
J16A Bone 78.84 328 ⇓P P 08 17 33.1 +0.3
baz=79
K15A Arbon 78.85 327 ⇑P P 08 17 32.9 +0.1
baz=79
NVAR Mina Array Bea 78.91 321 P P 08 17 33.2 0.0
comp=N,1.6nm,0.6s,mb3.8,baz=156,slow=5.9,SNR=12
IMW Indian Meadow 78.99 329 eP P 08 17 33.8 +0.3
comp=N,9.9nm,0.8s,mb4.5
Q08A Gabbs 78.99 322 ⇑P P 08 17 33.7 0.0
baz=79,SNR=8.6
U04C Hernandez Rese 79.00 318 ⇑P P 08 17 34.0 +0.2
baz=79
V03C Hunter Liggett 79.06 318 ⇓P P 08 17 34.4 +0.3
baz=79
LAO LASA Array 79.09 333 eP P 08 17 33.6 -0.4
comp=N,14nm,0.8s,mb4.7
L13A Double Diamond 79.12 326 ⇓P P 08 17 34.6 +0.3
baz=79,SNR=8.9
M12A Wells 79.14 325 ⇓P P 08 17 34.7 +0.3
baz=79,SNR=5.6
RLMT Red Lodge 79.16 331 eP P 08 17 34.5 0.0
O10A Cortez Mining, 79.19 323 ⇑P P 08 17 35.0 +0.3
baz=79
I16A Newdale 79.23 329 ⇓P P 08 17 35.3 +0.4
baz=79,SNR=7.3
J15A Blackfoot 79.33 328 ⇓P P 08 17 35.7 +0.3
baz=80,SNR=9.4
S05C Merced 79.38 319 ⇑P P 08 17 35.9 +0.1
baz=80
YMR Madison River 79.59 329 eP P 08 17 37.5 +0.7
comp=N,47nm,1.4s,mb4.9
K13A Stover Farm, H 79.60 326 ⇓P P 08 17 37.0 +0.2
baz=80
M11A Holland Ranch, 79.61 325 ⇑P P 08 17 37.5 +0.5
baz=80,SNR=5.4
R06C Coleville 79.64 320 ⇑P P 08 17 38.0 +0.8
baz=80
P08A Dixie Valley 79.65 322 ⇑P P 08 17 37.7 +0.5
baz=80
L12A House Creek Ra 79.71 326 ⇓P P 08 17 38.1 +0.6
baz=80,SNR=5.7
PACP Pacheco Peak 79.73 318 ⇓P P 08 17 38.0 +0.2
baz=80
DGMT Dagmar 79.74 336 ⇑P P 08 17 37.7 +0.2
baz=80,SNR=8.9
DGMT Dagmar 79.74 336 eP P 08 17 37.6 +0.1
H16A Russell Place, 79.74 329 ⇑P P 08 17 38.1 +0.5
baz=80,SNR=5.3
I15A Monteview 79.80 328 ⇓P P 08 17 38.6 +0.7
baz=80,SNR=7.4
J14A Carey 79.81 327 ⇑P P 08 17 38.5 +0.5
baz=80,SNR=6.7
GCMT Greycliff 79.86 331 eP P 08 17 38.0 -0.2
F18A Big Timber 79.97 331 ⇓P P 08 17 38.6 -0.2
baz=80,SNR=12
K12A Draper Farm, C 80.01 326 ⇑P P 08 17 39.6 +0.5
baz=80,SNR=11
L11A Cat Creek Ranc 80.11 325 ⇓P P 08 17 39.9 +0.3
baz=80,SNR=5.8
J13A Cove Ranch, Pi 80.19 327 ⇑P P 08 17 40.3 +0.3
baz=80,SNR=5.2
I14A Mackay 80.22 328 ⇑P P 08 17 40.7 +0.5
baz=80,SNR=12
BOSA Boshof 80.27 117 P P 08 17 40.7 -0.2
comp=N,2.6nm,0.3s,mb4.3,baz=283,slow=3.0,SNR=18
BOSA Boshof 80.27 117 P P 08 17 40.7 -0.2
H15A Lima 80.34 328 ⇓P P 08 17 41.9 +1.1
baz=80
PAHR Pah Rah Range 80.39 321 eP P 08 17 41.3 +0.1
comp=N,13nm,0.9s,mb4.6
L10A Juniper Basin 80.43 325 ⇑P P 08 17 41.4 +0.1
baz=81,SNR=9.0
HLID Hailey 80.43 327 ⇑P P 08 17 41.7 +0.4
baz=81
HLID Hailey 80.43 327 eP P 08 17 41.2 -0.1
comp=N,12nm,0.8s,mb4.6
M09A Marrel Ranch, 80.49 324 ⇓P P 08 17 42.2 +0.5
baz=81
I13A Wildhorse Cree 80.54 327 ⇑P P 08 17 42.3 +0.4
baz=81,SNR=9.4
LAVA Lava Cap Winer 80.55 320 ⇓P P 08 17 41.9 -0.1
baz=81
J12A Stokes Ranch, 80.55 326 ⇓P P 08 17 42.3 +0.3
baz=81,SNR=9.9
E18A Harlowton 80.56 331 ⇓P P 08 17 41.8 -0.2
baz=81
MCMT McKenzie Canyo 80.59 329 eP P 08 17 42.7 +0.5
G15A Dillon 80.67 329 ⇓P P 08 17 42.6 +0.1
baz=81,SNR=6.3
H14A Leadore 80.69 328 ⇑P P 08 17 42.9 +0.3
baz=81,SNR=5.2
K11A Parker Ranch, 80.69 325 ⇑P P 08 17 42.9 +0.2
baz=81
DLMT Dillon 80.87 329 eP P 08 17 43.8 +0.2
comp=N,16nm,1.3s,mb4.5
N07B Gerlach 80.89 322 ⇑P P 08 17 43.8 0.0
baz=81
E17A Martinsdale 80.90 331 ⇓P P 08 17 43.9 +0.1
baz=81,SNR=7.2
L09A Wilkinson Ranc 81.02 324 ⇓P P 08 17 44.3 -0.2
baz=81
MFID Camas Ranch 81.04 326 ⇑P P 08 17 44.6 0.0
baz=81
BEKR Beckwourth 81.06 321 ⇑P P 08 17 44.8 0.0
baz=81
H13A Challis 81.08 328 ⇓P P 08 17 45.4 +0.7
baz=81,SNR=18
LRM Limekiln Ridge 81.15 329 eP P 08 17 45.5 +0.4
F15A Butte 81.18 329 ⇑P P 08 17 45.8 +0.6
baz=81,SNR=7.8
G14A Jackson 81.19 328 ⇑P P 08 17 45.6 +0.3
baz=81
MAW Mawson 81.20 163 P P 08 17 44.9 -0.2
comp=N,11nm,0.6s,mb4.6,baz=222,slow=7.3,SNR=18
MAW Mawson 81.20 163 eP P 08 17 45.2 +0.1
comp=N,16nm,0.9s,mb4.7
Q03C Winters 81.22 319 ⇓P P 08 17 46.0 +0.4
baz=81
E16A East Helena 81.32 330 ⇑P P 08 17 46.3 +0.3
baz=82
N06A Buffalo Meadow 81.35 322 ⇑P P 08 17 46.2 0.0
baz=82
H12A Diamond D Ranc 81.36 327 ⇓P P 08 17 46.6 +0.4
baz=82,SNR=6.9
O05C Quincy 81.44 321 ⇑P P 08 17 46.7 -0.1
baz=82
G13A Cobalt 81.45 328 ⇓P P 08 17 47.4 +0.7
baz=82,SNR=35
I11A Placerville 81.46 326 ⇑P P 08 17 46.6 -0.1
baz=82
ORV Oroville 81.52 320 ⇓P P 08 17 47.0 -0.2
baz=82
K09A Rome 81.53 324 ⇓P P 08 17 47.1 0.0
baz=82
HRY Holter Researc 81.53 330 eP P 08 17 47.0 0.0
F14A Wisdom 81.57 329 ⇓P P 08 17 47.9 +0.7
baz=82,SNR=11
EGMT Eagleton 81.62 332 ⇓P P 08 17 47.2 -0.3
baz=82
EGMT Eagleton 81.62 332 eP P 08 17 46.9 -0.6
comp=N,18nm,1.0s,mb4.7
D16A Dana Ranch, Ca 81.64 331 ⇓P P 08 17 47.8 +0.2
baz=82,SNR=8.7
E15A Deer Lodge 81.68 330 ⇑P P 08 17 48.1 +0.3
baz=82,SNR=5.8
C17A Wharram Farm, 81.75 331 ⇓P P 08 17 47.6 -0.6
baz=82,SNR=7.8
LBTB Lobatse 81.91 114 eP P 08 17 49.1 -0.7
L07A Adell 81.93 323 ⇑P P 08 17 48.3 -0.9
baz=82
J09A Fry Pan Ranch, 81.99 325 ⇑P P 08 17 50.0 +0.5
baz=82
F13A Darby 82.01 328 ⇓P P 08 17 49.8 +0.2
baz=82,SNR=22
H11A Donnelly 82.05 327 ⇑P P 08 17 49.6 -0.2
baz=82,SNR=5.0
E14A Clinton 82.07 329 ⇑P P 08 17 50.4 +0.5
baz=82
D15A Lincoln 82.09 330 ⇑P P 08 17 50.2 +0.3
baz=82,SNR=5.4
C16A Fuhringer Ranc 82.31 331 ⇓P P 08 17 50.8 -0.3
baz=82,SNR=5.2
K07A Rock Creek Ran 82.33 324 ⇑P P 08 17 51.9 +0.5
baz=82
J08A Circle Bar Ran 82.38 325 ⇑P P 08 17 51.8 +0.3
baz=83,SNR=8.6
MOD Modoc 82.38 323 ⇓P P 08 17 51.6 0.0
baz=83
I09A Lost Marbles R 82.42 325 ⇓P P 08 17 51.6 -0.1
baz=83,SNR=7.4
E13A Victor 82.42 329 ⇑P P 08 17 52.0 +0.3
baz=83,SNR=22
D14A Greenough 82.57 330 ⇑P P 08 17 52.4 0.0
baz=83
G11A Walters Elk Ra 82.67 327 ⇑P P 08 17 53.2 +0.1
baz=83,SNR=8.0
C15A Salmond Ranch, 82.68 331 ⇑P P 08 17 52.8 -0.2
baz=83,SNR=11
B16A M & M Farms, S 82.76 332 ⇓P P 08 17 52.8 -0.6
baz=83
L05A Lakeview 82.78 322 ⇓P P 08 17 54.1 +0.5
baz=83
K06A Valley Falls 82.95 323 ⇑P P 08 17 54.4 -0.1
baz=83
F11A Grangeville 82.96 328 ⇓P P 08 17 54.0 -0.5
baz=83,SNR=5.3
D13A Huson 83.02 329 ⇑P P 08 17 54.5 -0.3
baz=83,SNR=6.7
G10A Bishop Farm, J 83.02 327 ⇓P P 08 17 55.3 +0.5
baz=83
E12A Beaver Dam Sad 83.06 328 ⇓P P 08 17 54.5 -0.5
baz=83,SNR=6.5
B15A Bradely Ranch, 83.06 331 ⇑P P 08 17 54.0 -0.9
baz=83
A16A West Butte Ran 83.12 332 ⇑P P 08 17 54.8 -0.5
baz=83,SNR=15
C14A Swan Lake 83.19 330 ⇑P P 08 17 55.5 -0.1
baz=83
J06A Christmas Vall 83.20 324 ⇓P P 08 17 55.5 -0.3
baz=83
K05A Summer Lake 83.26 323 ⇓P P 08 17 56.4 +0.3
baz=83
H08A Prairie City 83.28 325 ⇓P P 08 17 55.8 -0.4
baz=84
E11A Bogner Ranch, 83.32 328 ⇓P P 08 17 55.8 -0.5
baz=84
G09A Cove 83.34 326 ⇑P P 08 17 56.4 -0.1
baz=84
N02C Big Bar 83.39 320 ⇑P P 08 17 56.6 -0.2
baz=84
D12A Red Ives Fores 83.41 329 ⇓P P 08 17 57.1 +0.4
baz=84
I07A Izee 83.42 325 ⇑P P 08 17 56.4 -0.5
baz=84
C13A Hot Springs 83.50 330 ⇓P P 08 17 56.9 -0.3
baz=84
F10A Beach Ranch, E 83.55 327 ⇓P P 08 17 57.6 +0.1
baz=84
E10A Myers Farm, Un 83.86 328 ⇓P P 08 17 58.6 -0.5
baz=84,SNR=5.4
D11A Klaveano Farm, 83.88 328 ⇑P P 08 17 58.2 -1.0
baz=84
C12B Naegeli Ranch, 83.94 329 ⇑P P 08 17 59.1 -0.3
baz=84
G08A Pilot Rock 83.95 326 ⇓P P 08 17 59.2 -0.4
baz=84
B13A Whitefish 83.96 330 ⇓P P 08 17 59.2 -0.3
baz=84
TAM Tamanrasset 84.02 62 eP P 08 18 00.7 +0.3
G07A Ruggs Ranch, H 84.31 325 ⇓P P 08 18 01.3 -0.1
baz=84
HUMO Hull Mountain 84.33 322 ⇓P P 08 18 00.7 -0.9
baz=84
D10A Wagner Farm, O 84.34 328 ⇑P P 08 18 00.5 -1.0
baz=84
A13A Flathead Natio 84.34 331 ⇓P P 08 18 01.5 +0.1
baz=84
I05A Bend 84.41 324 ⇓P P 08 18 02.1 +0.2
baz=85
D09A Jones Farm, Ri 84.85 327 ⇑P P 08 18 03.5 -0.5
baz=85,SNR=5.4
C10A Spilker Farm, 84.89 328 ⇓P P 08 18 03.8 -0.4
baz=85
A12A Yaak River Ran 84.91 330 ⇓P P 08 18 03.9 -0.3
baz=85
NEW Newport 85.11 329 eP P 08 18 03.1 -2.2
D08A Wollman Farm, 85.15 327 ⇓P P 08 18 05.3 -0.2
baz=85
A11A Hall Mountain, 85.25 330 ⇑P P 08 18 05.6 -0.4
baz=85,SNR=6.7
C09A Chrisman Ranch 85.34 328 ⇓P P 08 18 06.1 -0.3
baz=86,SNR=8.0
B09A Rice 85.72 328 ⇑P P 08 18 07.8 -0.5
baz=86
D07A Quincy 85.77 327 ⇑P P 08 18 08.5 -0.1
baz=86
A10A Northport 85.83 329 ⇑P P 08 18 08.1 -0.7
baz=86
ESDC Sonseca Array 86.14 43 P P 08 18 12.1 +1.5
comp=N,0.5nm,0.3s,mb3.7,baz=234,slow=4.6,SNR=5.5
C07A Waterville 86.15 327 ⇑P P 08 18 10.0 -0.5
baz=86,SNR=5.3
F04A Amboy 86.19 325 ⇓P P 08 18 10.1 -0.6
baz=86
B08A Colville Reser 86.24 328 ⇑P P 08 18 10.2 -0.7
baz=86
A09A Danville 86.31 329 ⇓P P 08 18 10.3 -0.9
baz=86
A08A Turner Farm, O 86.62 328 ⇓P P 08 18 12.1 -0.6
baz=87,SNR=6.8
B07A Winthrop 86.70 328 ⇓P P 08 18 12.3 -0.8
baz=87,SNR=6.0
C05A Tolt Reservoir 86.97 326 ⇓P P 08 18 13.4 -1.0
baz=87
EDM Edmonton 87.06 334 eP P 08 18 12.8 -1.9
A07A Ashnola River, 87.22 328 ⇑P P 08 18 15.0 -0.6
baz=87
B06A Marblemount 87.41 327 ⇓P P 08 18 15.5 -1.0
baz=88
B05A Bryant 87.55 326 ⇓P P 08 18 16.0 -1.1
baz=88
LSZ Lusaka 88.02 106 eP P 08 18 20.8 +0.5
comp=N,19nm,1.5s,mb4.7
A05A Maple Falls 88.03 327 ⇑P P 08 18 18.6 -0.8
baz=88
CASY Casey 89.88 179 eP P 08 18 28.1 +0.1
comp=N,18nm,1.0s,mb5.0
YKA Yellowknife Ar 94.38 340 P P 08 18 47.3 -1.2
comp=N,3.2nm,0.6s,mb4.7,baz=136,slow=4.7,SNR=46
ASAR Alice Springs 128.56 204 PKP PKPdf 08 24 35.0 -1.1
comp=N,0.8nm,0.9s,baz=123,slow=1.3,SNR=8.4
WRA Warramunga Arr 131.75 207 PKP PKPdf 08 24 40.8 -1.4
comp=N,0.4nm,0.3s,baz=156,slow=1.8,SNR=8.4
MK31 Makanchi Array 146.30 40 ePKPdf PKPdf 08 25 07.0 -0.7
MKAR Makanchi Array 146.30 40 PKPbc PKPbc 08 25 07.6 -1.6
comp=N,3.1nm,0.6s,baz=324,slow=2.6,SNR=16
MKAR pPKPbc pPKPbc 08 26 05.2 +8.8
comp=N,1.0nm,0.6s,baz=321,slow=1.7,SNR=2.3
WMQ Urumqi 151.11 41 ePKP PKPdf 08 25 14.0 -1.5
WMQ APKP 08 26 01.5
WMQ XPKP 08 26 21.5
SONM Songino Array 155.64 12 PKPab PKPab 08 25 49.0 0.0
comp=N,1.2nm,0.7s,baz=326,slow=5.0,SNR=5.9
MDJ Mudanjiang 155.69 331 PKP PKPdf 08 25 20.3 -1.8
MDJ PP PP 08 29 25.1 -1.3
MDJ PP PP
comp=Z,64nm,18.7s
HHC Hu-ho-hao-te 163.22 5 ePKP PKPdf 08 25 28.9 -1.9
HHC PKS 08 29 00.0
HHC SKS SKSdf 08 32 08.3 -10
HHC PP PP
comp=Z,88nm,6.8s
HHC LR LR
comp=N,92nm,20.2s
HHC LR LR
comp=E,93nm,23.3s
HHC LR LR
comp=Z,82nm,22.1s
CMAR Chiang Mai Arr 165.30 110 PKPab PKPab 08 26 32.6 +0.5
comp=Z,3.8nm,0.7s,baz=246,slow=5.0,SNR=11
LZH Lanzhou 165.42 33 PKP PKPdf 08 25 31.0 -1.9
LZH XPKP 08 26 42.3
LZH LR LR
comp=N,35nm,19.3s
LZH LR LR
comp=Z,78nm,20.5s
CD2 Chengdu 169.00 50 ePKP PKPdf 08 25 33.3 -2.4
GYA Guiyang 173.36 68 PKP PKPdf 08 25 36.4 -1.6
GYA APKP 08 26 26.9
GYA XPKP 08 26 45.8
GYA PKP2 PKPab 08 27 06.6 -1.0
GYA PKS 08 29 06.4
GYA PP PP 08 31 02.1 +2.2
GYA PP PP
comp=Z,70nm,8.9s

*NEIC **19** 08:10:11.6, 1878N×6848W, h132km, MD3.8(RSPR), After RSPR.*

RSPR 19 08:10:11.6, 1878N×6848W, h132km↓4km, MD3.8/18, MD3.8/18, 15C-3D, Mona Passage

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

IMO	**Isla Mona**	**0.86**	**141**⇓	*e*P	Pn	08 10 31.8	-1.7
IMO				*e*S	Sn	08 10 49.3	-0.7
AGPR	**Aguadilla, PR**	**1.33**	**103**⇓	*e*P	Pn	08 10 38.5	+0.5
AGPR				*e*S	Sn	08 10 58.5	+0.4
MPR	**Mayaguez**	**1.39**	**114**⇑	*e*P	Pn	08 10 37.8	-0.8
MPR				*e*S	Sn	08 10 58.8	-0.4
LSP	**Las Mesas**	**1.45**	**114**⇑	*e*P	Pn	08 10 39.1	-0.2
LSP				*e*S	Sn	08 11 00.2	-0.2
CRPR	**Cabo Rojo, PR**	**1.51**	**120**⇓	*e*P	Pn	08 10 39.0	-1.0
CRPR				*e*S	Sn	08 11 02.2	+0.7
AOPR	**Arecibo Observ**	**1.69**	**105**⇑	*e*P	Pn	08 10 42.1	+0.1
AOPR				*e*S	Sn	08 11 05.8	+0.6
GBPR	**Guanica, Bosqu**	**1.72**	**118**⇑	*e*P	Pn	08 10 42.5	+0.2
GBPR	**Guanica, Bosqu**	**1.72**	**118**	*e*S	Sn	08 11 06.7	+0.9
OBIP	**Obispado Ponce**	**1.92**	**112**⇑	*e*P	Pn	08 10 45.0	+0.2
OBIP				*e*S	Sn	08 11 10.3	+0.2
CELP	**Cerrillos**	**1.93**	**111**⇑	*e*P	Pn	08 10 45.2	+0.3
CELP				*e*S	Sn	08 11 10.9	+0.5
ICM	**Isla Caja Muer**	**2.06**	**115**⇑	*e*P	Pn	08 10 45.7	-0.7
ICM				*e*S	Sn	08 11 13.1	0.0
SJG	**San Juan**	**2.31**	**106**⇑	*e*P	Pn	08 10 50.0	+0.6
SJG				*e*S	Sn	08 11 19.4	+0.9
SJG	**San Juan**	**2.31**	**106**⇑	*e*P	Pn	08 10 50.1	+0.6
SJG				*e*S	Sn	08 11 19.4	+0.9
CBYP	**Canovanas**	**2.54**	**101**⇑	*e*P	Pn	08 10 51.3	-1.0
CBYP				*e*S	Sn	08 11 23.2	-0.5
CPD	**Cerro la Pandu**	**2.54**	**107**⇑	*e*P	Pn	08 10 52.4	-0.1
CPD				*e*S	Sn	08 11 25.0	+1.2
HUMP	**Col San Antoni**	**2.57**	**104**⇑	*e*P	Pn	08 10 52.7	-0.1
HUMP				*e*S	Sn	08 11 24.8	+0.3
MTP	**Monte Pirata**	**2.86**	**103**⇑	*e*P	Pn	08 10 55.7	-0.7
MTP				*e*S	Sn	08 11 30.8	-0.3
STVI	**Saint Thomas**	**3.37**	**97**⇑	*e*P	Pn	08 11 03.5	+0.4
STVI				*e*S	Sn	08 11 43.3	+0.3
TBVI	**Tortola**	**3.68**	**95**⇑	*e*P	Pn	08 11 07.9	+0.7
TBVI				*e*S	Sn	08 11 50.8	+0.6

NNC 19 08:15:56.9±8.0, 4689N×8459E, h18km±84km, mb3.5, mpv3.1,6C-2D, Error ellipse: s-maj=68.9km s-min=49.7km az=70.0, Kazakhstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MK31	**Makanchi Array**	**1.58**	**267**	⇑P	Pn	08 16 25.5	+1.5
	3.1nm,0.2s,baz=88,slow=15,SNR=6.5						
MK31				⇑S	Sn	08 16 46.3	+2.3
	24nm,0.3s,baz=93,slow=36,SNR=5.9						
KURBB	**Kurchatov Arra**	**5.48**	**315**	⇑Pn	Pn	08 17 17.6	+0.1
	0.2nm,0.3s						
KURBB				⇓Lg		08 18 47.6	
	5.7nm,0.6s						
KURK	**Kurchatov**	**5.50**	**316**	⇑Pn	Pn	08 17 17.6	-0.2
	4.1nm,1.2s						
KURK				⇑Lg		08 18 45.6	
	15nm,0.4s						
TKM2	**Tokmak 2**	**7.52**	**241**	⇓Pn	Pn	08 17 46.3	+0.8
	1.6nm,0.5s						
TKM2				⇑Sn	Sn	08 19 10.2	-0.1
	1.1nm,0.6s						

*ISCJB **19** 08:46:02.4±1.0, 2972N±006×1408E±02, h50km±13km, mb3.7/4, Error ellipse: s-maj=33.8km s-min=5.7km az=165.3*
*JMA **19** 08:46:02.6, 2987N×14144E, h32km, M4.1*
*IDC **19** 08:46:06.3±2.5, 2953N×14082E, h70km±21km, mb3.4/4, mb1 3.7/6, mb1mx3.4/20, mbtmp3.4/6, Error ellipse: s-maj=38.6km s-min=16.9km az=79.0*
ISC 19 08:46:04.3±0.8, 2970N±006×1409E±02, h52km±11km, n16, σ1§18/20, mb3.7/4, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CBIJ	**Chichi jima**	**2.84**	**156**	P	**Pn**	**08 46 47.6**	**+0.5**
	15nm,0.3s,baz=263,slow=18,SNR=12						
CBIJ				S	**Sn**	**08 47 19.7**	**-0.4**
	27nm,0.3s,baz=277,slow=22,SNR=7.2						
CBIJ	**Chichi jima**	**2.84**	**156**	P	**Pn**	**08 46 47.4**	**+0.2**
CBIJ				S	**Sn**	**08 47 19.8**	**-0.3**
JHJ	**Hachijo jima 2**	**3.53**	**345**	S	**Sn**	**08 47 36.0**	**-1.2**
	32nm,0.3s,baz=253,slow=23,SNR=3.7						
BSO1	**Boso 1**	**4.94**	**1**	P	**Pn**	**08 47 15.6**	**-0.3**
BSO1				*e*S	**Sn**	**08 48 09.9**	**-1.8**
BSO3	**Boso 3**	**5.09**	**357**	P	**Pn**	**08 47 17.3**	**-0.8**
BSO4	**Boso 4**	**5.29**	**355**	S	**Sn**	**08 48 19.6**	**-0.9**
TATJ	**Tateyama 2**	**5.38**	**351**	S	**Sn**	**08 48 22.5**	**-0.1**
JHU	**Hanno**	**6.28**	**348**	P	**Pn**	**08 47 35.6**	**+1.3**
JHU				S	**Sn**	**08 48 46.4**	**+1.7**
JRY	**Ryogami san**	**6.51**	**346**	P	**Pn**	**08 47 39.7**	**+2.2**
JRY				S	**Sn**	**08 48 49.8**	**-0.7**
JAG	**Ashikaga**	**6.81**	**350**	P	**Pn**	**08 47 42.5**	**+0.9**
MJAR	**Matsushiro Arr**	**7.18**	**342**	P	**Pn**	**08 47 50.2**	**+3.6**
	1.0nm,0.3s,baz=172,slow=6.1,SNR=7.3						
WRA	**Warramunga Arr**	**49.76**	**188**	P	**P**	**08 54 51.1**	**-0.5**
	0.7nm,0.5s,mb4.0,baz=5.5,slow=7.7,SNR=12						
ASAR	**Alice Springs**	**53.48**	**188**	P	**P**	**08 55 17.4**	**-2.0**
	0.1nm,0.3s,mb3.2,baz=359,slow=5.5,SNR=5.8						
NVAR	**Mina Array Bea**	**79.81**	**52**	P	**P**	**08 58 08.3**	**+1.1**
	0.5nm,0.6s,mb3.7,baz=288,slow=5.9,SNR=5.3						
TXAR	**Lajitas Array**	**94.94**	**52**	P	**P**	**08 59 22.1**	**+0.8**
	0.3nm,0.8s,mb3.8,baz=284,slow=3.6,SNR=3.6						
TORD	**Torodi Ar. Bea**	**122.01**	**311**	PKP	PKPdf	09 04 53.3	-0.4
	0.3nm,0.7s,baz=69,slow=1.3,SNR=3.9						

THE 19 09:11:57.3, 4080N×2298E, h14km±1km, ML2.2/3, Error ellipse: s-maj=2.0km s-min=0.7km az=236.0, Greece

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
THE	**Thessaloniki**	**0.17**	**184**	P	Pg	09 12 01.1	-0.2
THE				S	Sg	09 12 03.9	-0.3
THE	**Thessaloniki**	**0.17**	**184**	S	Sg	09 12 03.9	-0.3
HORT	**Hortiatis**	**0.23**	**156**	P	Pg	09 12 02.1	-0.1
HORT				S	Sg	09 12 06.3	+0.7
HORT	**Hortiatis**	**0.23**	**156**	S	Sg	09 12 06.3	+0.7
SOH	**Sokhos**	**0.28**	**86**	P	Pg	09 12 03.2	-0.1
SOH				S	Sg	09 12 08.5	+1.2
KNT	**Kendrikon**	**0.36**	**350**	P	Pg	09 12 04.3	-0.4
KNT				S	Sg	09 12 09.4	-0.2
GRG	**Griva**	**0.46**	**289**	P	Pg	09 12 06.4	-0.1
GRG				S	Sg	09 12 14.3	+1.6
VAY	**Valandovo**	**0.60**	**329**	P	Pg	09 12 08.2	-0.9
VAY				S	Sg	09 12 18.3	+1.2
VAY	**Valandovo**	**0.60**	**329**	*e*Pg	Pg	09 12 08.8	-0.2
VAY				*i* Sg	Sg	09 12 17.8	+0.7
OUR	**Ouranopolis**	**0.90**	**121**	P	Pb	09 12 13.9	-0.7
OUR				S	Sg	09 12 27.4	+1.0

*CSEM **19** 09:12:20.1, 3999N×2020E, h18km, MD3.0/3, After ATH*
ATH 19 09:12:20.1, 3999N×2020E, h18km±1km, MD3.1/3, 2C, Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KEK	**Kerkira**	**0.41**	**228**⇑	*i* Pb	Pb	09 12 28.7	-0.2
KEK				*e*Sb	Sb	09 12 34.6	-0.2
KEK	**Kerkira**	**0.41**	**228**⇑	*i* PB	Pb	09 12 28.7	-0.2
KEK				*e*SB	Sb	09 12 34.6	-0.2
JAN	**Janina**	**0.60**	**123**	*e*Pb	Pb	09 12 31.6	-0.5
JAN				*e*Sn	Sg	09 12 40.2	+0.1
JAN	**Janina**	**0.60**	**123**	*e*PB	Pb	09 12 31.6	-0.5
JAN				*e*SN	Sg	09 12 40.2	+0.1
KRUS	**Krusevo**	**1.59**	**30**	*e*Pn	Pn	09 12 56.7	+9.4
KRUS				*i* Sn	Sn	09 13 24.1	+17
VLS	**Valsamata**	**1.83**	**170**	*e*Pn	Pn	09 12 52.6	+1.9
VLS				*e*Sn	Sn	09 13 17.5	+4.1
VLS	**Valsamata**	**1.83**	**170**	*e*PN	Pn	09 12 52.6	+1.9
VLS				*e*SN	Sn	09 13 17.5	+4.1

*NEIC **19** 09:17:14.8±1.3, 3959N×9327E, h10km, mb3.8/2, Error ellipse: s-maj=22.6km s-min=14.4km az=199.0*
*IDC **19** 09:17:14.0±1.8, 3958N×9342E, h0km, mb3.3/1, mb1 3.5/4, mb1mx3.3/24, mbtmp3.5/4, ML3.5/3, MS3.2/1, Ms1 3.2/1, ms1mx2.5/20, Error ellipse: s-maj=55.0km s-min=23.3km az=49.0*
*MOS **19** 09:17:15.0±2.6, 3967N×9322E, h27km, mb4.0/1, Error ellipse: s-maj=30.9km s-min=14.5km az=121.1*
*ISCJB **19** 09:17:18.1±2.4, 399N±002×932E±01, h53km±29km, Error ellipse: s-maj=29.4km s-min=11.6km az=23.4*
*BJI **19** 09:17:18.0, 4006N×9369E, h16km, ML3.6*
ISC 19 09:17:19.0±1.8, 398N±02×932E±01, h37km±23km, n17, σ1§32/22, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GTA	**Gaotai**	**5.13**	**92**	P	**Pn**	**09 18 33.6**	**+0.3**
GTA				PG	**Pn**	**09 18 44.6**	**+11**
GTA				S	**Sn**	**09 19 26.3**	**-5.0**
GTA				SG	**Sn**	**09 19 43.5**	**+12**
GTA				Smax			
	comp=N,57nm,0.6s						
GTA				Smax			
	comp=E,40nm,0.6s						
WMQ	**Urumqi**	**5.78**	**317**	P	**Pn**	**09 18 48.0**	**+5.7**
WMQ				Smax			
	comp=N,114nm,0.7s						
WMQ				Smax			
	comp=E,154nm,0.8s						
MK31	**Makanchi Array**	**10.61**	**315**	*e*Pn	**Pn**	**09 19 50.7**	**+2.2**
MK31				*e*Sn	**Sn**	**09 21 40.5**	**-5.4**
MKAR	**Makanchi Array**	**10.61**	**315**	Pn	**Pn**	**09 19 47.2**	**-1.2**
	comp=E,0.2nm,0.3s,baz=116,slow=13,SNR=4.3						
MKAR				Sn	**Sn**	**09 21 43.9**	**-2.0**
	comp=E,0.3nm,0.3s,baz=128,slow=23,SNR=4.4						
MKAR				Lg		09 23 00.7	
	comp=E,0.4nm,0.3s,baz=160,slow=29,SNR=4.5						
MKAR	**Makanchi Array**	**10.61**	**315**	P	**Pn**	**09 19 47.2**	**-1.2**
MKAR						09 21 43.9	
MKAR	**Makanchi Array**	**10.61**	**315**	Pn	**Pn**	**09 19 47.2**	**-1.2**
MKAR				Sn	**Sn**	**09 21 43.9**	**-2.0**
MKAR				Lg		09 23 00.7	
SONM	**Songino Array**	**12.49**	**45**	Pn	**Pn**	**09 20 13.0**	**-1.2**
	comp=E,0.2nm,0.3s,baz=227,slow=16,SNR=2.5						
SONM				Lg		09 23 36.9	
	comp=E,0.5nm,0.3s,baz=235,slow=31,SNR=11						
TKM2	**Tokmak 2**	**13.60**	**289**	*e*P	**Pn**	**09 20 28.9**	**-0.3**
TKM2				pmax	pmax		
	comp=Z,1.0nm,0.5s						
TKM2	**Tokmak 2**	**13.60**	**289**	*e*Pn	**Pn**	**09 20 28.9**	**-0.4**
	comp=Z,1.1nm,0.5s						
KURK	**Kurchatov**	**14.99**	**322**	*e*P	**Pn**	**09 20 49.4**	**+1.4**
KURK				pmax	pmax		
	comp=Z,3.0nm,0.8s						
KURK	**Kurchatov**	**14.99**	**322**	*e*Pn	**Pn**	**09 20 49.4**	**+1.3**
	comp=Z,3.2nm,0.8s						
ZALV	**Zalesovo Beam**	**15.30**	**341**	Pn	**Pn**	**09 20 53.9**	**+1.9**
	comp=Z,0.5nm,0.3s,baz=158,slow=12,SNR=3.0						
ZALV	**Zalesovo Beam**	**15.30**	**341**	P	**Pn**	**09 20 53.9**	**+1.8**
ZALV				pmax	pmax		
	comp=Z,1.0nm,0.3s						
BVAR	**Borovoye Array**	**20.47**	**318**	LR	LR	09 30 25.2	
	comp=Z,66nm,19.8s,baz=66,slow=38						
BRVK	**Borovoye**	**20.54**	**318**	*e*P	**P**	**09 21 54.2**	**+0.1**
BRVK				pmax	pmax		
	comp=Z,3.0nm,0.5s						
BRVK	**Borovoye**	**20.54**	**318**	*e*P	**P**	**09 21 54.2**	**+0.1**
	comp=Z,3.2nm,0.5s						
ASAR	**Alice Springs**	**73.64**	**141**	P	**P**	**09 28 48.1**	**-0.6**
	comp=Z,0.2nm,0.6s,baz=331,slow=6.4,SNR=5.1						

NEIC 19 09:23:23.8, 4482S×16738E, h5km, ML3.8(WEL), After WEL., South Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MSZ	**Milford Sound**	**0.42**	**70**	P	Pg	09 23 31.9	+0.1
MSZ				S	Sg	09 23 35.6	-1.7
DCZ	**Deep Cove**	**0.68**	**194**	P	Pg	09 23 36.5	-0.3
DCZ				S	Sg	09 23 45.3	-0.3
MLZ	**Mavora Lakes**	**0.77**	**134**	P	Pg	09 23 38.3	-0.3
WHZ	**Wether Hill Ro**	**1.15**	**160**	P	Pg	09 23 45.2	-0.6
WKZ	**Wanaka**	**1.17**	**91**	P	Pg	09 23 45.8	-0.3
JCZ	**Jackson Bay**	**1.24**	**53**	P	Pg	09 23 47.0	-0.5
EAZ	**Earnscleugh**	**1.43**	**107**	P	Pn	09 23 50.0	-0.3
TUZ	**Tuapeka**	**1.95**	**126**	P	Pn	09 23 58.4	+0.9
LBZ	**Lake Benmore**	**2.05**	**79**	P	Pn	09 24 00.0	+1.1
FOZ	**Fox Glacier**	**2.08**	**54**	P	Pn	09 24 00.3	+1.0
ODZ	**Otahua Downs**	**2.33**	**97**	P	Pn	09 24 03.8	+1.1
RPZ	**Rata Peaks**	**2.86**	**69**	P	Pn	09 24 11.2	+1.2
WVZ	**Waitaha Valley**	**2.98**	**55**	P	Pn	09 24 11.6	-0.1
DSZ	**Denniston Nort**	**4.46**	**48**	P	Pn	09 24 31.5	-0.5
THZ	**Tophouse**	**5.06**	**55**	P	Pn	09 24 41.1	+0.9
QRZ	**Quartz Range**	**5.50**	**45**	P	Pn	09 24 45.9	-0.4

MEX 19 09:29:38.2±0.3, 1982N×10570W, h28km±32km, MD3.8, Near coast of Jalisco

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ANIG	**Ahuacatlan**	**1.66**	**42**	*i* P	Pn	09 30 03.7	-1.6
ANIG				*i* S	Sn	09 30 23.6	-2.1
SFJM	**Santa Fe**	**2.59**	**75**	*i* P	Pn	09 30 16.2	-2.0
SFJM				*i* S	Sn	09 30 46.8	-1.9
MMIG	**Aquila**	**2.70**	**124**	*i* P	Pn	09 30 18.0	-1.7
MMIG				*i* S	Sn	09 30 48.8	-2.7

*ISCJB **19** 09:46:03.8±0.8, 5931N±003×271E±01, h0km, Error ellipse: s-maj=8.9km s-min=4.1km az=9.7*
*HEL **19** 09:46:04.3, 5928N×2717E, h0km, ML1.9, Explosion*
*NAO **19** 09:46:04.3±1.2, 5929N×2716E, ML2.4*
*BER **19** 09:46:05.1±2.7, 5930N×2715E, h0km, ML2.4(NAO), Suspected explosion*
ISC 19 09:46:04.3±0.8, 5933N±003×271E±01, h0km, n15, σ1§12/29, Baltic States - Belarus - Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
VSU	**Vasula**	**0.90**	**193**	*i* P	**Pg**	**09 46 20.7**	**-0.7**
VSU				*i* S	**Sg**	**09 46 32.1**	**-2.9**
VJF	**Virojoki**	**1.23**	**10**	*e*P	**Pg**	**09 46 27.6**	**-0.3**
VJF				*e*SB	**Sb**	**09 46 44.5**	**-0.2**
PVF	**Pernaja**	**1.37**	**333**	*e*P	**Pg**	**09 46 30.0**	**-0.5**
PVF				*e*S	**Sg**	**09 46 48.0**	**-0.2**
MEF	**Metsahovi**	**1.64**	**304**	*e*P	**Pn**	**09 46 34.2**	**-0.1**
MEF				*e*S	**Sn**	**09 46 55.6**	**-0.4**
MEF				MSG		09 46 55.6	
	comp=Z,10nm,0.2s						
MTSE	**Matsula**	**1.81**	**251**	*e*PN	**Pn**	**09 46 37.4**	**+0.7**
MTSE				*e*SN	**Sn**	**09 47 00.9**	**+0.5**
FIA0	**FINESS Array S**	**2.18**	**347**	*e*PB	**Pb**	**09 46 43.5**	**-1.0**
	baz=163						
FIA0				*e*SG	**Sg**	**09 47 13.7**	**-0.5**
FIA0				MSG		09 47 13.7	
	comp=Z,6.2nm,0.2s						
FIA0	**FINESS Array S**	**2.18**	**347**	Pn	**Pn**	**09 46 42.7**	**+1.0**
	baz=164,slow=18						
FIA0				Lg		09 47 14.0	
	baz=165,slow=28						
FIA0				Rg		09 47 26.2	
	baz=164,slow=37						
FIA1	**FINESS Array S**	**2.18**	**347**	*e*P	**Pn**	**09 46 42.9**	**+1.2**
FIA1				*e*SG	**Sg**	**09 47 12.6**	**-1.6**
KAF	**Kangasniemi**	**2.82**	**352**	*e*P	**Pn**	**09 46 51.9**	**+1.4**
KAF				*e*S	**Sn**	**09 47 27.0**	**+1.9**
KAF				MSG		09 47 27.0	
	comp=Z,2.0nm,0.2s						
KEF	**Keuruu**	**3.05**	**340**	*e*P	**Pn**	**09 46 55.1**	**+1.5**
KEF				*e*SG	**Sg**	**09 47 38.2**	**-3.9**
KEF				MSG		09 47 38.2	
	comp=Z,4.3nm,0.2s						
RAF	**Rauma**	**3.17**	**305**	*e*P	**Pn**	**09 46 57.7**	**+2.4**
HFS	**Hagfors**	**6.83**	**282**	Pn	**Pn**	**09 47 45.0**	**-0.5**
	baz=108,slow=18						
HFS				Sn	**Sn**	**09 48 59.5**	**-4.4**
	baz=99,slow=28						
HFS				Lg		09 49 36.3	
	baz=93,slow=37						
HFS	**Hagfors**	**6.83**	**282**	*e*P	**Pn**	**09 47 45.0**	**-0.5**
HFS				*e*S	**Sn**	**09 48 59.5**	**-4.4**
HFS				*e*SG	**Sg**	**09 49 36.3**	**-7.2**
ARA0	**ARCESS Array S**	**10.27**	**357**	Pn	**Pn**	**09 48 30.4**	**-2.1**
	baz=174,slow=16						
ARA0				Sn	**Sn**	**09 50 22.3**	**-5.9**
	baz=180,slow=22						
ARA0	**ARCESS Array S**	**10.27**	**357**	*e*P	**Pn**	**09 48 30.4**	**-2.1**
ARA0				*e*S	**Sn**	**09 50 22.3**	**-5.9**

IDC 19 09:50:05.3±7.5, 697S×15568E, h0km, mb3.6/4, mb1 3.8/4, mb1mx3.6/16, mbtmp3.6/4, Error ellipse: s-maj=218.1km s-min=43.6km az=114.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**24.39**	**236**	P	P	09 55 26.1	+0.7
	0.6nm,0.5s,baz=65,slow=10,SNR=15						
ASAR	**Alice Springs**	**26.70**	**229**	P	P	09 55 46.1	-0.3
	0.2nm,0.4s,baz=58,slow=10.0,SNR=7.6						
FITZ	**Fitzroy Crossi**	**31.29**	**246**	P	P	09 56 27.1	-0.2
	1.1nm,0.6s,baz=55,slow=10,SNR=5.9						
MKAR	**Makanchi Array**	**83.83**	**319**	P	P	10 02 36.8	0.0
	0.1nm,0.4s,baz=111,slow=6.6,SNR=3.6						

*HLW **19** 10:14:10.9, 2993N×3655E, h22km, Mb2.9*
*ISCJB **19** 10:14:11.5±0.9, 2985N±004×3616E±007, h0km, Error ellipse: s-maj=8.9km s-min=5.2km az=176.3*
*GII **19** 10:14:11.7±0.8, 2987N×3616E, h0km, ML1.8/3, EXPLOSION*
*CSEM **19** 10:14:11.7±0.5, 2989N×3619E, h10km, ML2.9, Error ellipse: s-maj=12.7km s-min=5.6km az=72.0*
*SGS **19** 10:14:13.0, 2998N×3609E, h5km*
ISC 19 10:14:11.6±0.9, 2984N±004×3621E±007, h0km, n20, σ0§55/23, 2D, Western Arabian Peninsula

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AQBJ	**Aqaba**	**1.02**	**264**	Pg	**Pg**	**10 14 31.3**	**+0.3**
HRFI	**Mount Harif**	**1.04**	**281**	Pg	**Pg**	**10 14 31.4**	**-0.1**
MBRI	**Mt Berech**	**1.13**	**268**	Pg	**Pg**	**10 14 33.2**	**0.0**
HQLS		**1.14**	**242**	P	**Pg**	**10 14 33.5**	**+0.1**
ZFRI	**Zfri**	**1.15**	**309**	Pg	**Pg**	**10 14 32.8**	**-0.8**
PRNI	**Paran**	**1.17**	**296**	Pg	**Pg**	**10 14 33.4**	**-0.5**
JLOS		**1.27**	**210**	P	**Pg**	**10 14 36.5**	**+0.7**
KRMI	**Paran Flat**	**1.32**	**283**	Pg	**Pg**	**10 14 36.3**	**-0.6**
KRMI				Sg	**Sg**	**10 14 55.4**	**+1.4**
HBST	**Basata**	**1.43**	**245**	⇓P	**Pn**	**10 14 38.3**	**-0.5**
MZDA	**Masada**	**1.64**	**334**	Pn	**Pn**	**10 14 41.5**	**-0.1**
TBKS	**Tabuk**	**1.64**	**170**	P	**Pn**	**10 14 42.8**	**+1.1**
BDAS	**Al Bad'**	**1.71**	**215**	S	**Sn**	**10 15 04.5**	**-0.7**
BDAS	**Al Bad'**	**1.71**	**215**	P	**Pn**	**10 14 42.5**	**-0.1**
DSI	**Dead Sea**	**1.87**	**338**	Pn	**Pn**	**10 14 44.8**	**0.0**
DSI				Sn	**Sn**	**10 15 09.9**	**+0.8**
RSHS		**1.97**	**219**	P	**Pn**	**10 14 45.8**	**-0.4**
HKAT	**Jabal Katrina**	**2.34**	**236**	⇓P	**Pn**	**10 14 51.6**	**+0.3**
HKAT				S	**Sn**	**10 15 20.9**	**+0.1**
TR2		**2.62**	**237**	P	**Pn**	**10 14 54.9**	**-0.2**
AMAG	**Maghara**	**2.72**	**288**	P	**Pn**	**10 14 56.0**	**-0.5**
AMAG	**Maghara**	**2.72**	**288**	P	**Pn**	**10 14 56.0**	**-0.5**
SUZ		**2.94**	**271**	P	**Pn**	**10 14 59.2**	**-0.3**

JMA 19 10:31:18.1±0.3, 3010N×14318E, h0km, M4.0, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CBIJ	**Chichi jima**	**3.12**	**197**	P	Pn	10 32 09.9	+1.4
CBIJ				*e*S	Sn	10 32 48.0	+1.5
BSO1	**Boso 1**	**4.91**	**338**	P	Pn	10 32 35.2	+2.1
BSO1				*e*S	Sn	10 33 28.1	-2.5
BSO3	**Boso 3**	**5.20**	**335**	P	Pn	10 32 40.2	+3.0
BSO3				*e*S	Sn	10 33 37.0	-0.9
JOD2	**Odawara 2**	**6.20**	**327**	P	Pn	10 32 53.2	+2.4
JHU	**Hanno**	**6.60**	**331**	P	Pn	10 32 59.3	+2.9
JHO	**Hitachi**	**6.85**	**342**	P	Pn	10 33 02.4	+2.6
JHO				*e*S	Sn	10 34 12.9	-5.6
JRY	**Ryogami san**	**6.91**	**330**	P	Pn	10 33 03.2	+2.6
JRY				*e*S	Sn	10 34 16.7	-3.2
JFT	**Otama**	**7.77**	**343**	P	Pn	10 33 15.2	+2.8
JFT				*e*S	Sn	10 34 34.8	-6.2
JMM	**Marumori**	**8.00**	**346**	P	Pn	10 33 18.6	+3.1

*ISCJB **19** 10:35:00.6±1.5, 4261N±005×13919E±007, h9km±9km, mb3.5/6, Error ellipse: s-maj=10.7km s-min=7.2km az=42.1*
*JMA **19** 10:35:00.7±0.2, 4254N×13908E, h26km±2km, M3.6*
*IDC **19** 10:35:06.4±3.3, 4292N×13903E, h37km±30km, mb3.3/6, mb1 3.6/9, mb1mx3.5/23, mbtmp3.4/9, ML3.2/3, Error ellipse: s-maj=28.5km s-min=19.7km az=126.0*
ISC 19 10:35:02.9±1.7, 4259N±006×1393E±01, h13km±10km, n16, σ1§37/20, mb3.5/6, 2D, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JOSM	**Okushiri--Mats**	**0.51**	**169**	⇓P	**Pg**	**10 35 11.4**	**-1.6**
JOSM				*e*S	**Sg**	**10 35 18.7**	**-1.1**
JSH	**Shimam**	**0.52**	**84**	P	**Pg**	**10 35 14.2**	**+1.1**
JSH				*e*S	**Sg**	**10 35 23.2**	**+3.2**
JYM2	**Yakumo 2**	**0.89**	**121**	⇓P	**Pg**	**10 35 19.8**	**-0.4**
JYM2				*e*S	**Sg**	**10 35 33.4**	**+1.6**
JSK	**Shakotan**	**1.13**	**47**	P	**Pb**	**10 35 22.9**	**-1.4**
JSK				*e*S	**Sb**	**10 35 37.8**	**-1.1**
JNB	**Noboribetsu**	**1.26**	**95**	P	**Pn**	**10 35 25.1**	**-1.1**
JSR	**Shiriuchi**	**1.32**	**143**	P	**Pn**	**10 35 25.2**	**-1.9**
JKB	**Kayabe**	**1.44**	**119**	P	**Pn**	**10 35 28.3**	**-0.3**
ASAJ	**Asahikawa**	**2.82**	**56**	Pn	**Pn**	**10 35 48.6**	**+0.9**
	1.6nm,0.3s,baz=38,slow=19,SNR=11						
MJAR	**Matsushiro Arr**	**6.10**	**189**	Pn	**Pn**	**10 36 38.2**	**+5.5**
	0.4nm,0.3s,baz=10,slow=13,SNR=6.1						
KSRS	**Korea Array**	**10.15**	**243**	Pn	**Pn**	**10 37

*ISK **19** 11:40:46.8, 3828N×2725E, h11km, MD2.8*
*CSEM **19** 11:40:46.8±0.1, 3831N×2722E, h15km, MD2.8, Error ellipse: s-maj=2.2km s-min=2.0km az=114.0*
*ISCJB **19** 11:40:47.4±0.5, 3831N±003×2722E±004, h12km±4km, Error ellipse: s-maj=5.7km s-min=5.0km az=14.4*
*DDA **19** 11:40:47.2, 3831N×2722E, h7km±5km, Md2.9*

ISC 19 11:40:47.6±0.5, 3831N±003×2722E±004, h13km±4km, n15, σ0§78/24, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
IZM	**Izmir**	**0.09**	**23**	PG	**Pg**	**11 40 50.2**	**-0.3**
IZM				eSG	**Sg**	**11 40 52.6**	**-0.1**
BLCB	**Balcova**	**0.16**	**298**	PG	**Pg**	**11 40 51.5**	**+0.1**
BLCB				eSG	**Sg**	**11 40 54.0**	**0.0**
URLA	**Izmir**	**0.49**	**276**	*i* P	**Pg**	**11 40 57.5**	**+0.3**
URLA				*i* S	**Sg**	**11 41 04.6**	**+0.8**
URLA	**Izmir**	**0.49**	**276**	*i* P	**Pg**	**11 40 57.5**	**+0.2**
URLA				*i* S	**Sg**	**11 41 04.6**	**+0.8**
AKHS	**Akhisar**	**0.73**	**39**	*i* P	**Pg**	**11 41 01.6**	**-0.3**
AKHS				*i* S	**Sg**	**11 41 12.2**	**+0.7**
AKS	**Akhisar**	**0.73**	**39**	*e*PG	**Pg**	**11 41 01.5**	**-0.3**
AKS				*e*SG	**Sg**	**11 41 12.3**	**+0.8**
AYDN	**Tasoluk**	**0.83**	**141**	*i* P	**Pg**	**11 41 03.8**	**0.0**
AYDN				*i* S	**Sg**	**11 41 14.5**	**-0.2**
AYVA	**Ayvalik**	**1.08**	**338**	*i* P	**Pb**	**11 41 04.9**	**-3.1**
AYVA				*i* S	**Sb**	**11 41 21.4**	**-0.6**
MLSB	**Milas**	**1.11**	**156**	*e*PG	**Pg**	**11 41 07.7**	**-1.3**
KULA	**Kula-Manisa**	**1.15**	**79**	*e*PN	**Pn**	**11 41 08.7**	**-0.7**
BODT	**Bodrum**	**1.25**	**177**	*e*PN	**Pn**	**11 41 10.4**	**-0.3**
BDRM	**Kayabasi**	**1.26**	**172**	*i* P	**Pn**	**11 41 04.6**	**-6.2**
BDRM				*i* S	**Sb**	**11 41 28.7**	**+1.5**
DEMI	**Demirci**	**1.38**	**58**	*i* P	**Pn**	**11 41 14.0**	**+1.5**
BALB	**Balikesir**	**1.42**	**21**	*e*PN	**Pn**	**11 41 13.1**	**+0.1**
YER	**Yerkesik**	**1.45**	**144**	*e*PN	**Pn**	**11 41 13.1**	**-0.4**

IDC 19 12:07:35.0±57.0, 2031S×17782W, h0km, mb3.9/3, mb1 4.1/3, mb1mx3.7/15, mbtmp3.9/3, Error ellipse: s-maj=1040.0km s-min=167.4km az=82.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**38.02**	**244**	P	P	12 14 54.3	-0.7
	0.8nm,0.4s,baz=90,slow=9.1,SNR=2.6						
ASAR	**Alice Springs**	**44.73**	**257**	P	P	12 15 50.2	0.0
	1.9nm,0.8s,baz=90,slow=8.6,SNR=18						
WRA	**Warramunga Arr**	**44.79**	**262**	P	P	12 15 51.1	+0.3
	0.4nm,0.3s,baz=96,slow=8.0,SNR=32						

*NIED **19** 12:20:00, 2650N×14290E, h14km, Mw4.2 Best double couple: M○2.65000×10^15 NP1:φ§11.00000°, δ§88.00000°, λ99.00000°. NP2:φ§113.00000°, δ10.00000°, λ12.00000°.*
*JMA **19** 12:20:18.4±0.2, 2654N×14288E, h43km, M4.4*
*IDC **19** 12:20:20.9±3.0, 2652N×14261E, h21km±18km, mb3.9/16, mb1 4.2/18, mb1mx4.1/21, mbtmp3.9/18, ML3.7/2, MS3.7/9, Ms1 3.7/9, ms1mx3.2/46, Error ellipse: s-maj=17.7km s-min=10.9km az=77.0*
*MOS **19** 12:20:20.2±1.1, 2661N×14262E, h32km, mb4.4/11, Error ellipse: s-maj=21.9km s-min=10.3km az=105.6*
*ISCJB **19** 12:20:21.2±1.1, 2672N±004×14263E±0.10, h38km±9km, mb4.2/26, MS3.8/9, Error ellipse: s-maj=15.0km s-min=6.3km az=8.2*
*NEIC **19** 12:20:22.7±0.4, 2659N×14254E, h35km, mb4.6/9, MW4.2(NIED), Error ellipse: s-maj=13.1km s-min=8.7km az=86.0*

ISC 19 12:20:22.6±1.1, 2663N±003×14264E±009, h35km±7km, n72, σ1§03/74, mb4.2/26, MS3.8/9, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JHHJ	**Haha-jima-NKT**	**0.42**	**270**	P	**Pb**	**12 20 31.2**	**-0.8**
JHHJ				eS	**Sb**	**12 20 39.7**	**+1.2**
CBIJ	**Chichi jima**	**0.62**	**319**	Pn	**Pn**	**12 20 34.0**	**-0.9**
	748nm,0.3s,baz=288,slow=23,SNR=301						
CBIJ				Sn	**Sn**	**12 20 46.5**	**+2.8**
	2μm,0.3s,baz=270,slow=20,SNR=30						
CBIJ	**Chichi jima**	**0.62**	**319**	P	**Pn**	**12 20 33.8**	**-1.1**
CBIJ				eS	**Sn**	**12 20 46.3**	**+2.7**
BSO1	**Boso 1**	**8.12**	**350**	P	**Pn**	**12 22 17.9**	**-0.1**
BSO3	**Boso 3**	**8.35**	**348**	P	**Pn**	**12 22 21.9**	**+0.8**
JOD2	**Odawara 2**	**9.13**	**341**	P	**Pn**	**12 22 31.9**	**+0.1**
JHU	**Hanno**	**9.63**	**343**	P	**Pn**	**12 22 38.3**	**-0.4**
JHU				eS	**Sn**	**12 24 24.0**	**-1.6**
JYT	**Yasato**	**9.79**	**348**	P	**Pn**	**12 22 41.1**	**+0.2**
JRY	**Ryogami san**	**9.89**	**342**	P	**Pn**	**12 22 42.6**	**+0.4**
JRY				S	**Sn**	**12 24 31.3**	**-0.6**
JHO	**Hitachi**	**10.11**	**350**	P	**Pn**	**12 22 43.8**	**-1.4**
JAG	**Ashikaga**	**10.14**	**345**	P	**Pn**	**12 22 45.2**	**-0.4**
JAG				S	**Sn**	**12 24 37.8**	**-0.2**
MJAR	**Matsushiro Arr**	**10.58**	**340**	Pn	**Pn**	**12 22 51.4**	**-0.3**
	0.7nm,0.3s,baz=157,slow=11,SNR=8.2						
MJAR	**Matsushiro Arr**	**10.58**	**340**	P	**Pn**	**12 22 51.4**	**-0.2**
MJAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
MAJO	**Matsushiro**	**10.58**	**340**	*e*P	**Pn**	**12 22 49.1**	**-2.6**
MAJO				pmax	pmax		
	comp=Z,8.0nm,0.3s						
MAJO	**Matsushiro**	**10.58**	**340**	*e*Pn	**Pn**	**12 22 49.1**	**-2.5**
	comp=Z,8.5nm,0.3s						
MAT	**Matsushiro**	**10.58**	**340**	P	**Pn**	**12 22 52.4**	**+0.7**
MAT				eS	**Sn**	**12 24 44.5**	**-4.4**
MAT	**Matsushiro**	**10.58**	**340**	P	**Pn**	**12 22 52.7**	**+1.0**
JMK	**Ichinoseki**	**12.35**	**355**	P	**Pn**	**12 23 15.2**	**-0.6**
KSRS	**Korea Array**	**16.48**	**315**	LR	LR	12 30 23.3	
	comp=Z,306nm,18.4s,baz=157,slow=36						
ASAJ	**Asahikawa**	**17.45**	**360**	P	**Pn**	**12 24 23.7**	**+0.6**
	comp=Z,0.4nm,0.3s,baz=232,slow=17,SNR=2.7						
YHNB	**Yeheng**	**19.27**	**269**	*e*P	**Pn**	**12 24 41.7**	**-3.8**
	comp=Z,14nm,0.8s						
KLR	**Kul'dur**	**24.09**	**342**	*e*P	**P**	**12 25 32.8**	**-1.9**
KLR				MLR	MLR		
	comp=E,500nm,14.0s						
KLR				MLR	MLR		
	comp=Z,800nm,14.0s,MS4.3						
SONM	**Songino Array**	**35.33**	**316**	P	**P**	**12 27 16.0**	**+1.6**
	comp=Z,0.4nm,0.4s,mb3.7,baz=123,slow=7.7,SNR=3.7						
SONM				PcP	PcP	12 29 45.4	+1.2
	comp=Z,0.3nm,0.4s,baz=117,slow=1.6,SNR=3.4						
SONM				LR	LR	12 42 52.6	
	comp=Z,72nm,18.1s,MS3.5,baz=355,slow=38						
BOD	**Bodaibo**	**37.15**	**335**	*e*P	**P**	**12 27 30.6**	**+0.8**
BOD				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb4.2						
ZAK	**Zakamensk**	**38.23**	**319**	*e*P	**P**	**12 27 35.1**	**-3.9**
ZAK				pmax	pmax		
	comp=Z,2.0nm,1.2s,mb3.7						
CHTO	**Chiang Mai**	**40.90**	**268**	*e*P	**P**	**12 28 01.4**	**-0.2**
CHTO				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb3.9						
CHTO	**Chiang Mai**	**40.90**	**268**	*e*P	**P**	**12 28 01.4**	**-0.2**
	comp=Z,2.0nm,0.6s,mb3.9						
CMAR	**Chiang Mai Arr**	**41.01**	**268**	P	**P**	**12 28 03.1**	**+0.5**
	comp=Z,1.2nm,0.4s,mb3.9,baz=59,slow=8.2,SNR=12						
CMAR				LR	LR	12 45 49.1	
	comp=Z,60nm,18.2s,MS3.5,baz=244,slow=37						
CMAR	**Chiang Mai Arr**	**41.01**	**268**	P	**P**	**12 28 03.2**	**+0.6**
CMAR				pmax	pmax		
	comp=Z,1.0nm,0.4s						
CMAR				MLR	MLR		
	comp=Z,60nm,18.2s						
WRAB	**Tennant Creek**	**46.98**	**191**	*e*P	**P**	**12 28 50.0**	**-0.3**
WRAB				pmax	pmax		
	comp=Z,14nm,0.6s,mb5.1						
WRAB	**Tennant Creek**	**46.98**	**191**	*e*P	**P**	**12 28 50.0**	**-0.3**
	comp=Z,14nm,0.6s,mb5.1						
WB2	**Warramunga Arr**	**46.99**	**191**	*e*P	**P**	**12 28 49.7**	**-0.7**
WRA	**Warramunga Arr**	**46.99**	**191**	P	**P**	**12 28 50.2**	**-0.2**
	comp=Z,4.1nm,0.3s,mb4.8,baz=11,slow=8.7,SNR=81						
WRA				S	**S**	**12 35 38.2**	**-1.5**
	comp=Z,1.6nm,1.0s,baz=7.1,slow=14,SNR=4.8						
WRA	**Warramunga Arr**	**46.99**	**191**	P	**P**	**12 28 50.2**	**-0.2**
WRA				S	**S**	**12 35 38.2**	**-1.4**
WRA				pmax	pmax		
	comp=Z,4.0nm,0.3s						
WRA				smax			
	comp=N,2.0nm,1.0s						
FITZ	**Fitzroy Crossi**	**47.43**	**202**	*e*P	**P**	**12 28 53.9**	**+0.1**
	comp=N,6.5nm,0.9s,mb4.6						
FITZ	**Fitzroy Crossi**	**47.43**	**202**	P	**P**	**12 28 53.5**	**-0.3**
	baz=37,slow=14						
ZALV	**Zalesovo Beam**	**50.11**	**319**	P	**P**	**12 29 14.8**	**+0.7**
	comp=N,0.5nm,0.4s,mb3.9,baz=84,slow=5.9,SNR=2.8						
ZALV				PcP	PcP	12 30 33.5	+0.3
	comp=N,0.5nm,0.3s,baz=94,slow=5.8,SNR=2.3						
ZALV				LR	LR	12 50 47.6	
	comp=N,38nm,18.1s,MS3.4,baz=72,slow=36						
ZALV	**Zalesovo Beam**	**50.11**	**319**	P	**P**	**12 29 14.8**	**+0.7**
ZALV						12 30 33.5	
ZALV				pmax	pmax		
	comp=Z,1.0nm,0.4s,mb4.2						
ZALV				pmax	pmax		
	comp=Z,1.0nm,0.3s,mb4.3						
ZALV				MLR	MLR		
	comp=Z,38nm,18.1s,MS3.4						
ASAR	**Alice Springs**	**50.71**	**190**	P	**P**	**12 29 18.4**	**-0.5**
	comp=Z,1.1nm,0.5s,mb4.0,baz=14,slow=9.0,SNR=22						
ASAR	**Alice Springs**	**50.71**	**190**	P	**P**	**12 29 18.4**	**-0.5**
ASAR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
MKAR	**Makanchi Array**	**51.09**	**310**	P	**P**	**12 29 21.9**	**+0.3**
	comp=Z,0.3nm,0.4s,mb3.5,baz=92,slow=10,SNR=5.3						
MKAR				PcP	PcP	12 30 37.8	+0.7
	comp=Z,0.7nm,0.8s,baz=108,slow=3.6,SNR=3.2						
MKAR				ScP	ScP	12 34 34.9	+4.1
	comp=Z,0.2nm,0.5s,baz=99,slow=5.4,SNR=2.8						
MKAR				LR	LR	12 52 12.3	
	comp=Z,86nm,18.0s,MS3.8,baz=357,slow=37						
KDAK	**Kodiak Island**	**54.49**	**37**	P	**P**	**12 29 47.5**	**+1.0**
	comp=Z,2.5nm,0.6s,mb4.3,baz=288,slow=6.4,SNR=5.4						
STKA	**Stephens Creek**	**58.19**	**181**	*e*P	**P**	**12 30 12.3**	**-0.8**
	comp=Z,3.3nm,0.9s,mb4.4						
STKA	**Stephens Creek**	**58.19**	**181**	P	**P**	**12 30 12.8**	**-0.3**
	comp=Z,2.5nm,0.7s,mb4.4,baz=3.2,slow=6.8,SNR=4.7						
STKA	**Stephens Creek**	**58.19**	**181**	*e*P	**P**	**12 30 11.2**	**-1.9**
	comp=Z,7.5nm,0.9s,mb4.7						
FORT	**Forrest**	**58.76**	**195**	*e*P	**P**	**12 30 16.8**	**-0.3**
	comp=Z,15nm,0.6s,mb5.2						
ARU	**Arti**	**65.04**	**322**	*e*P	**P**	**12 30 58.1**	**-1.0**
ARU				pmax	pmax		
	comp=Z,3.0nm,0.4s,mb4.7						
ARU	**Arti**	**65.04**	**322**	*e*P	**P**	**12 30 58.1**	**-1.0**
	comp=Z,2.9nm,0.4s,mb4.7						
YKA	**Yellowknife Ar**	**72.36**	**28**	P	**P**	**12 31 45.3**	**+0.8**
	comp=Z,1.6nm,0.9s,mb4.0,baz=289,slow=6.2,SNR=5.6						
YKA	**Yellowknife Ar**	**72.36**	**28**	P	**P**	**12 31 45.3**	**+0.7**
YKA				pmax	pmax		
	comp=Z,2.0nm,0.9s						
ARCES	**ARCESS Array B**	**74.11**	**341**	P	**P**	**12 31 56.1**	**+1.3**
	comp=Z,6.6nm,0.9s,mb4.5,baz=32,slow=5.7,SNR=4.2						
ARCES				LR	LR	13 08 30.9	
	comp=Z,64nm,18.3s,MS4.0,baz=27,slow=39						
ARCES	**ARCESS Array B**	**74.11**	**341**	P	**P**	**12 31 56.1**	**+1.3**
ARCES				pmax	pmax		
	comp=Z,7.0nm,0.9s						
ARCES				MLR	MLR		
	comp=Z,64nm,18.3s						
JOF	**Joensuu**	**75.68**	**334**	*e*p	**P**	**12 32 05.0**	**+1.0**
	comp=Z,6.5nm,0.6s,mb4.7						
JOF	**Joensuu**	**75.68**	**334**	*e*P	**P**	**12 32 05.0**	**+1.0**
JOF				pmax	pmax		
	comp=Z,7.0nm,0.6s,mb4.8						
KAF	**Kangasniemi**	**78.07**	**334**	*e*p	**P**	**12 32 15.7**	**-1.8**
	comp=Z,5.0nm,0.7s,mb4.5						
KAF	**Kangasniemi**	**78.07**	**334**	*e*P	**P**	**12 32 15.7**	**-1.8**
KAF				pmax	pmax		
	comp=Z,5.0nm,0.7s,mb4.5						
NVAR	**Mina Array Bea**	**80.48**	**52**	P	**P**	**12 32 32.5**	**+1.4**
	comp=Z,0.8nm,0.6s,mb3.8,baz=284,slow=5.9,SNR=7.8						
RLMT	**Red Lodge**	**83.22**	**43**	*e*P	**P**	**12 32 46.6**	**+1.3**
	comp=Z,1.6nm,0.8s,mb4.1						
AKASG	**Malin Array Be**	**83.23**	**324**	P	**P**	**12 32 47.9**	**+2.5**
	comp=Z,0.8nm,0.3s,mb4.2,baz=51,slow=5.5,SNR=6.5						
AKASG	**Malin Array Be**	**83.23**	**324**	P	**P**	**12 32 47.9**	**+2.6**
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.4s						
NB2	**NORSAR Subarra**	**84.19**	**338**	P	**P**	**12 32 50.0**	**0.0**
	comp=Z,2.4nm,0.9s,mb4.3,baz=42,slow=4.6						
NOA	**NORSAR Array B**	**84.19**	**338**	P	**P**	**12 32 50.2**	**+0.2**
	comp=Z,0.7nm,0.7s,mb3.9,baz=44,slow=4.6,SNR=2.9						
NOA				LR	LR	13 13 51.2	
	comp=Z,36nm,18.1s,MS3.8,baz=160,slow=38						
NOA	**NORSAR Array B**	**84.19**	**338**	P	**P**	**12 32 50.2**	**+0.2**
NOA				pmax	pmax		
	comp=Z,1.0nm,0.7s						
NOA				MLR	MLR		
	comp=Z,36nm,18.1s						
PDAR	**Pinedale Array**	**84.25**	**45**	P	**P**	**12 32 51.5**	**+0.7**
	comp=Z,0.2nm,0.5s,mb3.5,baz=311,slow=8.2,SNR=3.2						
EIL	**Elat**	**90.99**	**304**	LR	LR	13 20 55.3	
	comp=Z,37nm,19.5s,MS3.8,baz=96,slow=40						
GERES	**GERESS Array B**	**92.12**	**329**	P	**P**	**12 33 28.2**	**-0.1**
	comp=Z,0.3nm,0.4s,mb4.0,baz=25,slow=5.4,SNR=3.0						
GERES				LR	LR	13 20 20.2	
	comp=Z,34nm,18.7s,MS3.8,baz=100,slow=39						
TXAR	**Lajitas Array**	**95.55**	**53**	P	**P**	**12 33 43.6**	**-0.8**
	comp=Z,0.3nm,0.8s,mb3.8,baz=328,slow=3.3,SNR=4.2						
QSPA	**South Pole Qui**	**116.40**	**180**	PKP	PKPdf	12 39 01.2	-0.3
	comp=Z,1.5nm,1.1s,baz=0.0,slow=0.0,SNR=6.2						
PLCA	**Paso Flores**	**149.21**	**126**	PKPbc	PKPbc	12 40 07.3	-0.1
	comp=Z,2.2nm,0.7s,baz=285,slow=2.5,SNR=5.0						
PLCA	**Paso Flores**	**149.21**	**126**	PKP2	PKPbc	12 40 07.3	-0.1
PLCA				pmax	pmax		
	comp=Z,2.0nm,0.7s						
LPAZ	**La Paz**	**149.64**	**76**	PKPbc	PKPbc	12 40 11.4	+2.3
	comp=Z,2.7nm,0.7s,baz=332,slow=1.9,SNR=14						
LPAZ	**La Paz**	**149.64**	**76**	PKP2	PKPbc	12 40 11.5	+2.3
LPAZ				pmax	pmax		
	comp=Z,3.0nm,0.7s						

*IDC **19** 12:21:51.2±3.2, 2279S×17069E, h0km, mb4.0/6, mb1 4.2/6, mb1mx4.1/13, mbtmp4.0/6, MS3.5/9, Ms1 3.5/9, ms1mx3.3/23, Error ellipse: s-maj=141.9km s-min=30.7km az=158.0*
*ISCJB **19** 12:21:53.5±4.6, 2265S±02×17053E±009, h20km±31km, mb4.0/6, MS3.5/6, Error ellipse: s-maj=34.6km s-min=12.5km az=11.4*
*NEIC **19** 12:21:57.3±1.6, 2258S×17053E, h35km, Error ellipse: s-maj=71.7km s-min=18.4km az=167.0*

ISC 19 12:21:54.7±4.6, 2275S±02×17056E±008, h18km±28km, n24, σ0§59/13, mb4.0/6, MS3.5/6, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**3.85**	**278**	*e*Pn	**Pn**	**12 22 53.1**	**0.0**
DZM				*e*Sn	**Sn**	**12 23 37.8**	**-0.1**
NOUC	**Port Laguerre**	**3.98**	**277**	*e*P	**Pn**	**12 22 54.7**	**-0.1**
NOUC				*e*S	**Sn**	**12 23 40.9**	**-0.1**
URZ	**Urewera**	**16.52**	**162**	LR	LR	12 29 35.6	
	comp=Z,82nm,21.4s,baz=350,slow=28						
HNR	**Honiara**	**16.64**	**321**	LR	LR	12 31 15.7	
	comp=Z,102nm,21.1s,baz=75,slow=34						
AFI	**Afiamalu**	**18.89**	**66**	LR	LR	12 32 01.4	
	comp=Z,74nm,20.6s,baz=222,slow=32						
RPZ	**Rata Peaks**	**20.99**	**179**	LR	LR	12 33 06.5	
	comp=Z,196nm,18.9s,MS3.5,baz=245,slow=32						
CTA	**Charters Tower**	**22.77**	**272**	LR	LR	12 34 46.0	
	comp=Z,75nm,20.5s,MS3.1,baz=58,slow=34						
STKA	**Stephens Creek**	**27.26**	**244**	LR	LR	12 37 48.0	
	comp=Z,211nm,19.9s,MS3.7,baz=203,slow=35						
ASAR	**Alice Springs**	**33.65**	**261**	P	**P**	**12 28 35.5**	**+0.9**
	1.8nm,1.0s,mb4.0,baz=87,slow=8.9,SNR=8.4						
WRA	**Warramunga Arr**	**33.80**	**268**	P	**P**	**12 28 35.4**	**-0.5**
	0.8nm,0.8s,mb3.7,baz=97,slow=8.5,SNR=8.4						
TBI	**Tubuai**	**36.73**	**99**	*e*LR	LR	12 38 46.9	
	41nm,29.8s						
PPT	**Papeete**	**37.70**	**90**	*e*LR	LR	12 39 14.6	
	40nm,24.0s						
FITZ	**Fitzroy Crossi**	**42.23**	**268**	P	**P**	**12 29 46.6**	**-0.5**
	2.3nm,0.8s,mb3.8,baz=131,slow=9.3,SNR=2.2						
NWAO	**Narrogin (SRO)**	**47.83**	**246**	LR	LR	12 48 39.3	
	comp=Z,148nm,19.5s,MS4.0,baz=302,slow=34						
MAW	**Mawson**	**75.73**	**202**	LR	LR	13 03 41.1	
	comp=Z,21nm,18.1s,MS3.5,baz=140,slow=33						
PETK	**Petropavlovsk-**	**76.28**	**352**	LR	LR	13 01 09.7	
	comp=Z,26nm,19.7s,MS3.5,baz=73,slow=31						
CMAR	**Chiang Mai Arr**	**81.03**	**294**	P	**P**	**12 34 10.6**	**+1.7**
	2.3nm,0.9s,mb4.1,baz=138,slow=4.2,SNR=11						
SNAA	**Sanae**	**85.80**	**182**	*e*	**P**	**12 34 32.6**	**0.0**
SNAA				*e*		12 34 43.7	
VNA3	**Neumayer Olymp**	**86.34**	**180**	*e*	**P**	**12 34 34.8**	**-0.5**
VNA3				*e*	pP	12 34 39.7	-1.5
VNA3				*e*		12 34 46.1	
VNA2	**Neumayer--Watz**	**86.65**	**181**	*e*	**P**	**12 34 37.0**	**+0.2**
	baz=137,slow=3.6						
VNA2				*e*	pP	12 34 41.7	-1.0
VNA2				*e*		12 34 48.0	
NVAR	**Mina Array Bea**	**90.16**	**48**	P	**P**	**12 34 53.4**	**-0.5**
	0.6nm,0.8s,mb4.0,baz=242,slow=7.1,SNR=3.5						
SONM	**Songino Array**	**90.69**	**323**	P	**P**	**12 34 55.8**	**-0.3**
	1.5nm,1.0s,mb4.3,baz=142,slow=4.5,SNR=7.2						
BRG	**Berggiesshubel**	**146.47**	**333**	*e*P	PKPbc	12 41 35.3	+0.8
	4.3nm,0.7s						
GERES	**GERESS Array B**	**148.08**	**331**	PKPbc	PKPbc	12 41 38.9	-0.2
	0.7nm,0.6s,baz=22,slow=1.1,SNR=6.1						

*IDC **19** 12:29:18.2±4.4, 2656N×14265E, h0km, mb3.5/4, mb1 3.7/4, mb1mx3.5/19, mbtmp3.5/4, Error ellipse: s-maj=162.3km s-min=15.5km az=67.0*
*ISCJB **19** 12:29:19.9±1.8, 2667N±02×1430E±03, h33km, mb3.5/4, Error ellipse: s-maj=50.6km s-min=12.3km az=139.2*

ISC 19 12:29:22.8±2.2, 2666N±03×1428E±04, h35km, n5, σ1§12/6, mb3.5/4, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CBIJ	**Chichi jima**	**0.74**	**312**	Pn	**Pn**	**12 29 35.0**	**-1.7**
	109nm,0.3s,baz=281,slow=22,SNR=31						
CBIJ				Sn	**Sn**	**12 29 47.3**	**+0.6**
	413nm,0.3s,baz=277,slow=22,SNR=17						
WRA	**Warramunga Arr**	**46.98**	**191**	P	**P**	**12 37 50.8**	**+0.3**
	0.9nm,0.6s,mb3.9,baz=12,slow=8.7,SNR=8.4						
ASAR	**Alice Springs**	**50.70**	**191**	P	**P**	**12 38 18.6**	**-0.3**
	0.3nm,0.7s,mb3.3,baz=18,slow=7.2,SNR=4.2						
MKAR	**Makanchi Array**	**51.21**	**310**	P	**P**	**12 38 23.0**	**+0.3**
	0.1nm,0.3s,mb3.2,baz=88,slow=8.8,SNR=2.7						
KURK	**Kurchatov**	**53.72**	**315**	P	**P**	**12 38 41.8**	**+0.6**
	0.2nm,0.3s,mb3.5,baz=84,slow=6.8,SNR=2.5						

*CSEM **19** 12:32:06.7±0.2, 4046N×2163E, h2km, MD3.2, Error ellipse: s-maj=8.8km s-min=3.7km az=68.0*

ATH 19 12:32:05.3, 4048N×2152E, h6km, MD3.2/3, 4C, Greece

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KZN	**Kozani**	**0.26**	**132**	↑*i*Pg	Pg	12 32 10.1	-0.2
KZN	**Kozani**	**0.26**	**132**	↑*i*PG	Pg	12 32 10.1	-0.2
KRUS	**Krusevo**	**0.91**	**347**	*e*Pn	Pn	12 32 27.4	+2.8
KRUS				*e*Sn	Sn	12 32 47.7	+10
KRUS	**Krusevo**	**0.91**	**347**	*e*Pn	Pn	12 32 27.4	+2.8
KRUS				*e*Sn	Sn	12 32 47.6	+10
THL	**Klokotos Trika**	**0.99**	**157**	↑*i*Pb	Pb	12 32 24.2	-0.6
THL				*e*Sb	Sb	12 32 37.4	-0.7
THL	**Klokotos Trika**	**0.99**	**157**	↑*i*PB	Pb	12 32 24.2	-0.6
THL				*e*SB	Sb	12 32 37.4	-0.7
PLG	**Polygyros**	**1.47**	**94**	*e*Pb	Pb	12 32 32.5	-0.6
PLG	**Polygyros**	**1.47**	**94**	*e*PB	Pb	12 32 32.5	-0.6

IDC 19 12:56:41.1±7.1, 1748S×17842W, h614km±80km, mb2.9/4, mb1 3.2/4, mb1mx2.9/16, mbtmp2.9/4, Error ellipse: s-maj=126.9km s-min=39.7km az=157.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**38.83**	**241**	P	P	13 03 15.1	-0.3
	1.3nm,0.8s,baz=108,slow=9.6,SNR=3.2						
WRA	**Warramunga Arr**	**44.70**	**259**	P	P	13 04 01.6	0.0
	0.8nm,0.4s,baz=94,slow=7.1,SNR=58						
WRA				PcP	PcP	13 05 30.2	-0.1
	0.1nm,0.4s,baz=88,slow=3.3,SNR=4.1						
ASAR	**Alice Springs**	**44.90**	**254**	P	P	13 04 03.2	+0.2
	2.7nm,0.6s,baz=88,slow=8.6,SNR=64						
ASAR				PcP	PcP	13 05 30.6	-0.4
	0.3nm,0.5s,baz=102,slow=3.9,SNR=5.5						
TXAR	**Lajitas Array**	**85.77**	**58**	P	P	13 08 17.2	+0.2
	0.2nm,0.6s,baz=216,slow=4.5,SNR=3.7						

*ISCJB **19** 13:14:18.7±0.9, 4029N±006×1419E±01, h74km±6km, mb3.3/2, Error ellipse: s-maj=15.2km s-min=9.6km az=176.9*
*JMA **19** 13:14:20.7, 4027N×14186E, h63km±1km, M3.1*
*IDC **19** 13:14:21.6±4.7, 4044N×14175E, h97km±67km, mb3.0/2, mb1 3.0/4, mb1mx2.9/21, mbtmp2.8/4, ML2.4/2, Error ellipse: s-maj=220.1km s-min=30.4km az=113.0*

ISC 19 13:14:19.9±0.9, 4029N±006×1419E±01, h67km±6km, n10, σ0§61/16, mb3.3/2, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JANG	**Nango**	**0.30**	**286**	P	**

*ATH **19** 14:09:42.8, 37.94N -2762E, h5km, MD3.2/3*
*ISCJB **19** 14:09:43.8±0.5, 37.86N±0.002-2754E±0.004, h2km±6km, Error ellipse: s-maj=5.4km s-min=3.3km az=145.1*
*CSEM **19** 14:09:43.5±0.1, 37.89N-2757E, h2km, MD3.2, Error ellipse: s-maj=2.8km s-min=1.5km az=57.0*
*DDA **19** 14:09:43.9, 37.85N-2756E, h7km±7km, Md3.2*
*ISK **19** 14:09:44.1, 37.89N-2753E, h5km, MD2.8*

ISC 19 14:09:44.4±0.4, 3786N±002×2755E±004, h8km±6km, n22, σ0§81/32, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AYDN	**Tasoluk**	**0.33**	**128**	*i* P	**Pg**	**14 09 50.8**	**-0.1**
AYDN				*i* S	**Sg**	**14 09 55.1**	**-0.2**
IZM	**Izmir**	**0.58**	**337**	*e*PG	**Pg**	**14 09 55.2**	**-0.4**
IZM				*e*SG	**Sg**	**14 10 03.4**	**+0.2**
KDAG	**Bornova**	**0.58**	**337**	*i* P	**Pg**	**14 09 55.6**	**-0.1**
KDAG				*i* S	**Sg**	**14 10 03.0**	**-0.3**
SMG	**Samos**	**0.59**	**255**	*e*Pb	**Pb**	**14 09 55.5**	**-1.5**
SMG				*e*Sb	**Sg**	**14 10 05.0**	**+1.6**
SMG	**Samos**	**0.59**	**255**	*e*PB	**Pb**	**14 09 55.6**	**-1.5**
SMG				*e*SB	**Sg**	**14 10 05.0**	**+1.6**
MLSB	**Milas**	**0.59**	**163**	*e*PG	**Pg**	**14 09 55.6**	**-0.3**
BLCB	**Balcova**	**0.66**	**322**	*e*PG	**Pg**	**14 09 57.3**	**+0.2**
BLCB				*e*SG	**Sg**	**14 10 05.3**	**-0.4**
BDRM	**Kayabasi**	**0.80**	**186**	*i* P	**Pg**	**14 09 59.2**	**-0.6**
BDRM				*i* S	**Sg**	**14 10 10.6**	**+0.3**
BODT	**Bodrum**	**0.82**	**194**	*e*PG	**Pg**	**14 10 01.2**	**+1.0**
URLA	**Izmir**	**0.90**	**304**	*i* P	**Pg**	**14 10 02.4**	**+0.6**
URLA				*i* S	**Sg**	**14 10 14.4**	**+0.8**
YER	**Yerkesik**	**0.93**	**141**	*e*PG	**Pg**	**14 10 02.4**	**+0.1**
AKS	**Akhisar**	**1.03**	**11**	*e*PG	**Pg**	**14 10 03.9**	**-0.4**
KULA	**Kula-Manisa**	**1.09**	**53**	*e*PN	**Pn**	**14 10 05.6**	**-0.4**
DENT	**Denizli**	**1.18**	**95**	*e*PN	**Pn**	**14 10 07.7**	**+0.4**
DNZL	**Cakiroluk**	**1.20**	**98**	*i* P	**Pb**	**14 10 07.5**	**+0.1**
DNZL				*i* S	**Sn**	**14 10 25.8**	**+1.8**
TURN	**Turunc**	**1.30**	**139**	*i* P	**Pn**	**14 10 07.8**	**-1.1**
TURN				*i* S	**Sb**	**14 10 24.7**	**-1.1**
KHL	**Karahalli**	**1.62**	**73**	*e*PN	**Pn**	**14 10 14.5**	**+1.2**
PRK	**Paraskevi**	**1.71**	**324**	*e*Pb	**Pb**	**14 10 14.5**	**-1.6**
PRK	**Paraskevi**	**1.71**	**324**	*e*PB	**Pb**	**14 10 14.5**	**-1.6**
APE	**Apeiranthos**	**1.79**	**244**	*e*Pn	**Pg**	**14 10 18.4**	**-0.4**
APE	**Apeiranthos**	**1.79**	**244**	*e*PN	**Pg**	**14 10 18.4**	**-0.4**
DST	**Dursunbey**	**1.93**	**25**	*e*PN	**Pn**	**14 10 18.3**	**+0.7**

IDC 19 14:10:05.5±4.6, 481S×15114E, h0km, mb3.0/2, mb1 3.3/2, mb1mx3.2/14, mbtmp3.1/2, Error ellipse: s-maj=198.7km s-min=54.7km az=116.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**22.23**	**226**	P	P	14 15 05.0	+1.2
	0.2nm,0.6s,baz=50,slow=10,SNR=3.2						
ASAR	**Alice Springs**	**25.06**	**220**	P	P	14 15 30.9	-0.8
	0.4nm,0.6s,baz=53,slow=9.7,SNR=10						
TORD	**Torodi Ar. Bea**	**148.73**	**287**	PKPbc	PKPbc	14 29 55.7	-0.2
	0.2nm,0.6s,baz=80,slow=3.4,SNR=2.3						

*IDC **19** 14:25:17.9±1.1, 2270N×12063E, h0km, mb3.7/8, mb1 3.9/8, mb1mx3.7/21, mbtmp3.7/8, MS3.9/1, Ms1 3.9/1, ms1mx2.6/33, Error ellipse: s-maj=51.2km s-min=16.2km az=64.0*
*NEIC **19** 14:25:18.9±0.8, 2278N×12086E, h10km, mb4.5/1, ML4.6(TAP), Error ellipse: s-maj=20.0km s-min=11.6km az=100.0*
NEIC Recorded [3 TAP] in P'ing-tung; [2 TAP] in Cha-i, Kao-hsiung, T'ai-nan and Yun-lin; [1 TAP] in T'ai-tung Counties.
*JMA **19** 14:25:19.4±0.4, 2289N×12075E, h0km, M4.1*
*TAP **19** 14:25:20.5, 2296N×12063E, h19km, ML4.3, B*
*ISCJB **19** 14:25:21.8±0.2, 2294N±001×12062E±002, h23km±2km, mb3.9/6, Error ellipse: s-maj=2.9km s-min=2.1km az=165.9*
*BJI **19** 14:25:25.3, 2367N×12078E, h15km, mB4.7, mb4.2, ML3.6, Ms4.3, Msz4.1*

ISC 19 14:25:21.8±0.2, 2295N±001×12062E±002, h17km±1km, n81, σ1§03/135, mb3.9/6, 10C-13D, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SGST	**Jiashian**	**0.14**	**348**	⇓*i* P	**Pg**	**14 25 25.4**	**-0.5**
	baz=341						
SGST				*e*S	**Sg**	**14 25 28.6**	**0.0**
	baz=341						
SSD	**Sandimen**	**0.20**	**176**	⇓*i* P	**Pg**	**14 25 26.2**	**-0.4**
	baz=180						
SSD				S	**Sg**	**14 25 30.0**	**0.0**
	baz=180						
TWM1	**Shoushan**	**0.21**	**236**	⇑*i* P	**Pg**	**14 25 27.3**	**+0.4**
	baz=236						
CHN1	**Nanshi**	**0.25**	**341**	⇓*i* P	**Pg**	**14 25 27.2**	**-0.4**
	baz=338						
CHN1				*e*S	**Sg**	**14 25 31.8**	**+0.4**
	baz=338						
STYT	**Tauyuan**	**0.25**	**31**	⇑*i* P	**Pg**	**14 25 26.9**	**-0.7**
	baz=36						
STYT				*i* S	**Sg**	**14 25 31.4**	**-0.1**
	baz=36						
CHN3	**Shinhua**	**0.27**	**300**	*i* P	**Pg**	**14 25 28.5**	**+0.8**
	baz=296						
CHN3				*e*S	**Sg**	**14 25 34.8**	**+3.1**
	baz=296						
WTP	**Ta-pu**	**0.30**	**360**	⇓*i* P	**Pg**	**14 25 27.8**	**-0.6**
	baz=357						
TWK	**Hsinying**	**0.34**	**340**	⇓*i* P	**Pg**	**14 25 28.5**	**-0.5**
	baz=348						
TWK				*e*S	**Sg**	**14 25 34.5**	**+0.6**
	baz=348						
TAI1	**Yung-k'ang**	**0.37**	**285**	*e*P	**Pg**	**14 25 29.5**	**0.0**
	baz=283						
TWG	**Pinlang**	**0.44**	**106**	⇑*i* P	**Pg**	**14 25 30.4**	**-0.4**
	baz=100						
TWG				S	**Sg**	**14 25 37.1**	**+0.4**
	baz=100						
ELDTW	**Lidau**	**0.44**	**57**	⇑*i* P	**Pg**	**14 25 30.0**	**-0.8**
	baz=50						
ELDTW				*e*S	**Sg**	**14 25 36.1**	**-0.7**
	baz=50						
SCLT	**Jiali**	**0.45**	**301**	⇓*i* P	**Pg**	**14 25 31.0**	**+0.1**
	baz=299						
SCLT				S	**Sg**	**14 25 39.8**	**+2.6**
	baz=299						
ECL	**Taimali**	**0.47**	**138**	⇓*i* P	**Pg**	**14 25 30.7**	**-0.5**
	baz=140						
ECL				S	**Sg**	**14 25 37.6**	**+0.1**
	baz=140						
KAU	**Kaohsiung**	**0.47**	**217**	*e*P	**Pg**	**14 25 31.8**	**+0.5**
	baz=217						
TTN	**Taitung**	**0.53**	**111**	*i* P	**Pg**	**14 25 32.3**	**0.0**
	baz=113						
TTN				S	**Sg**	**14 25 41.5**	**+2.1**
	baz=113						
CHN8	**Yiju**	**0.55**	**317**	⇓*i* P	**Pg**	**14 25 32.3**	**-0.4**
	baz=327						
CHN8				S	**Sg**	**14 25 41.9**	**+1.8**
	baz=327						
SCZT	**Fangliau**	**0.57**	**180**	⇓*i* P	**Pg**	**14 25 32.5**	**-0.6**
	baz=176						
SCZT				*e*S	**Sg**	**14 25 43.0**	**+2.2**
	baz=176						
ALS	**Alishan**	**0.59**	**17**	⇑*i* P	**Pg**	**14 25 32.6**	**-0.9**
	baz=16						
ALS				*i* S	**Sg**	**14 25 41.5**	**0.0**
	baz=16						
CHN2	**Minshiung**	**0.60**	**348**	*i* P	**Pg**	**14 25 33.2**	**-0.4**
	baz=346						
CHN2				*i* S	**Sg**	**14 25 42.6**	**+0.9**
	baz=346						
EAST	**Anshuo**	**0.60**	**159**	⇓*i* P	**Pg**	**14 25 33.1**	**-0.5**
	baz=156						
EAST				*e*S	**Sg**	**14 25 42.6**	**+0.9**
	baz=156						
YUS	**Yu-Shan**	**0.62**	**30**	⇑*i* P	**Pg**	**14 25 33.5**	**-0.7**
	baz=29						
YUS				*i* S	**Sg**	**14 25 42.4**	**-0.1**
	baz=29						
TAW	**Tawu**	**0.64**	**156**	⇓*i* P	**Pg**	**14 25 33.9**	**-0.5**
	baz=155						
TAW				S	**Sg**	**14 25 42.6**	**-0.3**
	baz=155						
TWP	**Hsiaoliuchiu**	**0.64**	**201**	*e*P	**Pg**	**14 25 35.8**	**+1.4**
	baz=201						
TWP				S	**Sg**	**14 25 48.1**	**+5.1**
	baz=201						
CHN5	**Tsauling**	**0.65**	**5**	*e*P	**Pg**	**14 25 33.2**	**-1.4**
	baz=13						
CHN5				*e*S	**Sg**	**14 25 43.4**	**0.0**
	baz=13						
CHKT	**Chengkung**	**0.71**	**77**	⇑*i* P	**Pb**	**14 25 35.1**	**-0.6**
	baz=70						
CHKT				S	**Sb**	**14 25 45.8**	**+0.7**
	baz=70						
WGK	**Gukeng**	**0.74**	**356**	P	**Pb**	**14 25 35.5**	**-0.7**
	baz=355						
WGK				S	**Sb**	**14 25 47.1**	**+1.1**
	baz=355						
TWF1	**Yuli**	**0.75**	**57**	⇑*i* P	**Pb**	**14 25 35.3**	**-1.0**
	baz=57						
TWF1				*i* S	**Sb**	**14 25 45.2**	**-1.0**
	baz=57						
WSF	**Szhu**	**0.78**	**332**	*e*P	**Pb**	**14 25 35.6**	**-1.2**
	baz=331						
WSF				*e*S	**Sb**	**14 25 48.0**	**+0.8**
	baz=331						
EHY	**Hungye**	**0.86**	**49**	⇑*i* P	**Pb**	**14 25 37.1**	**-1.1**
	baz=56						
EHY				*e*S	**Sb**	**14 25 50.2**	**+0.8**
	baz=56						
WNT	**Mingjian**	**0.93**	**4**	P	**Pb**	**14 25 38.5**	**-1.0**
	baz=351						
WNT				S	**Sb**	**14 25 52.1**	**+0.5**
	baz=351						
HEN	**Hengchun**	**0.94**	**173**	⇓*i* P	**Pb**	**14 25 39.6**	**0.0**
	baz=170						
HEN				S	**Sb**	**14 25 53.6**	**+1.8**
	baz=170						
WTCT	**Ta-ch'eng**	**0.96**	**342**	*e*P	**Pb**	**14 25 38.5**	**-1.5**
	baz=341						
WTCT				*e*S	**Sb**	**14 25 52.5**	**0.0**
	baz=341						
SMLT	**Sun Moon Lake**	**0.97**	**16**	P	**Pb**	**14 25 39.4**	**-0.8**
	baz=15						
SMLT				S	**Sb**	**14 25 54.0**	**+1.4**
	baz=15						
TYC	**Yuchr**	**0.98**	**13**	*e*P	**Pb**	**14 25 39.3**	**-1.0**
	baz=12						
TYC				*e*S	**Sb**	**14 25 54.4**	**+1.4**
	baz=12						
TWK1	**Hengchun**	**1.01**	**170**	⇓*i* P	**Pb**	**14 25 40.4**	**-0.4**
	baz=163						
TWK1				S	**Sb**	**14 25 55.4**	**+1.6**
	baz=163						
TSEB	**Hengchuen, Pin**	**1.07**	**166**	*e*P	**Pb**	**14 25 40.8**	**-1.1**
	baz=168						
TSEB				*e*S	**Sb**	**14 25 57.3**	**+1.8**
	baz=168						
ESL	**Shilin**	**1.15**	**41**	⇑*i* P	**Pn**	**14 25 42.2**	**-0.8**
	baz=41						
ESL				S	**Sb**	**14 25 57.1**	**-0.6**
	baz=41						
PNG	**Penghu**	**1.16**	**303**	*e*P	**Pn**	**14 25 40.7**	**-2.4**
	baz=302						
PNG				*e*S	**Sb**	**14 25 55.8**	**-2.2**
	baz=302						
TCU	**Taichung**	**1.20**	**3**	*e*P	**Pn**	**14 25 42.5**	**-1.2**
	baz=352						
TCU				*e*S	**Sb**	**14 25 59.0**	**-0.3**
	baz=352						
LAY	**Lan-yu**	**1.25**	**136**	*e*P	**Pn**	**14 25 42.7**	**-1.7**
	baz=128						
WHF	**Hshuan Shan**	**1.34**	**26**	*e*P	**Pn**	**14 25 45.2**	**-0.4**
	baz=11						
WHF				*e*S	**Sn**	**14 26 03.8**	**+0.8**
	baz=11						
HWA	**Hwalien**	**1.37**	**41**	*e*P	**Pn**	**14 25 46.4**	**+0.2**
	baz=41						
HWA				*e*S	**Sn**	**14 26 05.7**	**+1.8**
	baz=41						
TWQ1	**Liyutan**	**1.41**	**6**	*e*P	**Pn**	**14 25 46.1**	**-0.5**
	baz=5.0						
TWQ1				*e*S	**Sn**	**14 26 05.2**	**+0.5**
	baz=5.0						
TWD	**Chiawan**	**1.45**	**38**	*e*P	**Pn**	**14 25 46.9**	**-0.3**
	baz=38						
TWD				*e*S	**Sn**	**14 26 05.8**	**+0.1**
	baz=38						
NSY	**Sanyi**	**1.47**	**5**	*e*P	**Pn**	**14 25 46.7**	**-0.8**
	baz=355						
NSY				*e*S	**Sn**	**14 26 07.0**	**+0.7**
	baz=355						
NACB	**Ninganchiao**	**1.52**	**36**	*e*P	**Pn**	**14 25 46.4**	**-1.7**
NACB				*e*Sn	**Sn**	**14 26 07.9**	**+0.4**
NNS	**Nan Shan**	**1.64**	**25**	P	**Pn**	**14 25 50.3**	**+0.4**
	baz=10.0						
NSTT	**Nanjuang**	**1.72**	**12**	*e*P	**Pn**	**14 25 50.2**	**-0.6**
	baz=355						
NSTT				*e*S	**Sn**	**14 26 11.6**	**-0.7**
	baz=355						
ENA	**Nanau**	**1.80**	**35**	*e*P	**Pn**	**14 25 51.4**	**-0.7**
	baz=35						
NSK	**Sanguang**	**1.85**	**21**	*e*P	**Pn**	**14 25 52.7**	**-0.1**
	baz=4.0						
NSK				*e*S	**Sn**	**14 26 17.7**	**+1.9**
	baz=4.0						
YHNB	**Yeheng**	**1.85**	**22**	*e*Pn	**Pn**	**14 25 52.5**	**-0.2**
YHNB				*e*Sn	**Sn**	**14 26 20.5**	**+4.8**
HSN	**Hsinchu**	**1.88**	**10**	*e*P	**Pn**	**14 25 55.2**	**+2.1**
	baz=356						
TWC	**Suao**	**2.01**	**34**	*e*P	**Pn**	**14 25 55.2**	**+0.4**
	baz=33						
TWC				*e*S	**Sn**	**14 26 21.5**	**+2.0**
	baz=33						
TWE	**Neicheng**	**2.01**	**28**	*e*P	**Pn**	**14 25 55.4**	**+0.5**
	baz=28						
TATO	**Taipei**	**2.17**	**21**	*e*Pn	**Pn**	**14 25 57.1**	**-0.1**
TATO				*e*Sn	**Sn**	**14 26 31.5**	**+7.9**
TWA	**Mucha**	**2.21**	**23**	*e*P	**Pn**	**14 25 59.6**	**+1.9**
	baz=23						
TAP1	**Taipei**	**2.24**	**22**	*e*P	**Pn**	**14 25 59.6**	**+1.5**
	baz=21						
NWF	**Wu-fen Shan**	**2.37**	**26**	*e*P	**Pn**	**14 26 00.7**	**+0.9**
	baz=9.0						
NWF				*e*S	**Sn**	**14 26 32.9**	**+4.4**
	baz=9.0						
TWB1	**Santiao Chiao**	**2.41**	**31**	*e*P	**Pn**	**14 26 01.3**	**+0.9**
	baz=31						
KNM	**Kinmen**	**2.48**	**307**	*e*P	**Pn**	**14 26 00.6**	**-0.8**
	baz=304						
TWY	**Chenhua**	**2.49**	**21**	*e*P	**Pn**	**14 26 02.6**	**+1.1**
	baz=20						
YOJ	**Yonaguni jima**	**2.67**	**55**	P	**Pn**	**14 26 03.6**	**-0.3**
YOJ				S	**Sn**	**14 26 36.6**	**+0.8**
YOJ	**Yonaguni jima**	**2.67**	**55**	*e*P	**Pn**	**14 26 04.1**	**+0.2**
	baz=55						
YOJ				*e*S	**Sn**	**14 26 35.6**	**-0.2**
	baz=55						
QZH	**Quanzhou**	**2.72**	**317**	P	**Pn**	**14 26 04.0**	**-0.6**
QZH				S	**Sn**	**14 26 33.0**	**-4.1**
QZH				Smax			
	comp=N,590nm,1.0s						
QZH				Smax			
	comp=E,410nm,0.8s						
HATJ	**Hateruma jima**	**3.13**	**69**	P	**Pn**	**14 26 10.1**	**-0.2**
HATJ				S	**Sn**	**14 26 46.7**	**-0.6**
IRIF	**Iriomote-Funau**	**3.17**	**64**	P	**Pn**	**14 26 11.0**	**+0.1**
IRIF				S	**Sn**	**14 26 49.1**	**+0.8**
JKRS	**Kuro-shima**	**3.37**	**67**	P	**Pn**	**14 26 13.6**	**0.0**
JKRS				S	**Sn**	**14 26 53.7**	**+0.5**
JIJ	**Ishigaki jima**	**3.53**	**66**	P	**Pn**	**14 26 15.1**	**-0.7**
JIJ				S	**Sn**	**14 26 56.3**	**-0.8**
JTJ	**Tarama**	**4.11**	**65**	P	**Pn**	**14 26 23.8**	**+0.1**
JTJ				S	**Sn**	**14 27 11.3**	**-0.1**
INCN	**Inchon**	**15.39**	**18**	Pn	**Pn**	**14 28 54.9**	**-3.2**
	comp=E,13nm,0.5s						
CMAR	**Chiang Mai Arr**	**20.75**	**262**	P	**P**	**14 30 00.1**	**-1.7**
	comp=E,0.4nm,0.4s,baz=90,slow=8.3,SNR=4.5						
SONM	**Songino Array**	**27.32**	**339**	P	**P**	**14 31 06.5**	**+1.0**
	comp=E,0.2nm,0.6s,baz=152,slow=6.4,SNR=2.3						
MK31	**Makanchi Array**	**38.88**	**317**	P	**P**	**14 32 49.7**	**+3.6**
MKAR	**Makanchi Array**	**38.88**	**317**	P	**P**	**14 32 46.5**	**+0.4**
	comp=E,1.2nm,0.9s,mb3.6,baz=113,slow=11,SNR=5.0						
ZALV	**Zalesovo Beam**	**41.01**	**328**	P	**P**	**14 33 04.3**	**+0.6**
	comp=E,0.8nm,0.4s,mb3.7,baz=140,slow=11,SNR=2.8						
ZALV	**Zalesovo Beam**	**41.01**	**328**	P	**P**	**14 33 04.3**	**+0.6**
FITZ	**Fitzroy Crossi**	**41.09**	**173**	P	**P**	**14 33 01.3**	**-3.4**
	comp=E,0.5nm,0.5s,mb3.4,baz=4.0,slow=14,SNR=5.5						
WRA	**Warramunga Arr**	**44.68**	**161**	P	**P**	**14 33 30.2**	**-3.6**
	comp=E,2.7nm,0.6s,mb4.3,baz=345,slow=8.7,SNR=39						
ASAR	**Alice Springs**	**48.10**	**164**	P	**P**	**14 33 58.1**	**-2.5**
	comp=E,0.7nm,0.3s,mb4.1,baz=343,slow=7.6,SNR=52						
NWAO	**Narrogin (SRO)**	**55.65**	**183**	LR	LR	15 00 08.8	
	comp=E,102nm,19.1s,baz=221,slow=38						
STKA	**Stephens Creek**	**58.09**	**159**	P	**P**	**14 35 11.3**	**-2.8**
	comp=E,1.0nm,0.5s,mb4.1,baz=336,slow=5.6,SNR=4.5						

JSN 19 14:26:49.6±1.1, 1954N×7814W, h31km±999km, MD3.6, 3C-1D, Cuba region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BBJ	**Bamboo Saint A**	**1.41**	**144**	⇓*e*P	Pn	14 27 12.3	-0.9
BBJ				*e*S	Sn	14 27 28.8	-1.9
CVJ	**Coleyville**	**1.42**	**156**	⇑*i*P	Pn	14 27 12.0	-1.4
MCJ	**Malvern**	**1.66**	**165**	*e*S	Sn	14 27 35.4	-1.5
STH	**Stony Hill**	**1.92**	**139**	⇑*i*P	Pn	14 27 19.7	-0.5
PCJ	**Portland Cotta**	**2.01**	**152**	⇑*e*P	Pn	14 27 21.1	-0.4
PCJ				*e*S	Sn	14 27 45.1	-0.5

*NEIC **19** 14:52:17.6±3.6, 349S×10071E, h35km, Error ellipse: s-maj=154.0km s-min=17.0km az=54.0*

IDC 19 14:52:14.2±4.2, 319S×10106E, h0km, mb3.4/5, mb1 3.5/5, mb1mx3.4/19, mbtmp3.4/5, Error ellipse: s-maj=178.2km s-min=24.6km az=55.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**36.49**	**120**	P	P	14 59 20.0	-1.4
	0.4nm,0.9s,baz=300,slow=8.5,SNR=3.4						
WB2	**Warramunga Arr**	**36.50**	**120**	*e*P	P	14 59 20.7	-0.8
ASAR	**Alice Springs**	**37.70**	**126**	P	P	14 59 32.8	+1.0
	0.3nm,0.7s,baz=300,slow=7.6,SNR=4.1						
SONM	**Songino Array**	**51.02**	**5**	P	P	15 01 19.5	+1.6
	0.4nm,0.6s,baz=178,slow=8.1,SNR=3.4						
MKAR	**Makanchi Array**	**52.45**	**344**	P	P	15 01 28.4	-0.2
	0.3nm,0.4s,baz=145,slow=8.5,SNR=3.5						
ZALV	**Zalesovo Beam**	**58.53**	**349**	P	P	15 02 11.1	-1.1
	0.3nm,0.4s,baz=184,slow=5.8,SNR=2.9						

*BEO **19** 14:59:28.5±1.8, 3957N×21.11E*
*THE **19** 14:59:29.9, 3945N×2043E, h2km±1km, ML3.4/7, Error ellipse: s-maj=1.3km s-min=0.6km az=263.0*
*CSEM **19** 14:59:29.1±0.1, 3946N×2039E, h5km, ML3.4/7, Error ellipse: s-maj=2.6km s-min=2.0km az=36.0*
*ISCJB **19** 14:59:29.4±0.6, 3947N±002×2038E±004, h7km±4km, Error ellipse: s-maj=4.8km s-min=3.7km az=173.9*
*ATH **19** 14:59:29.4, 3957N×2033E, h39km±16km, MD3.4/6*
*NEIC **19** 14:59:29.4, 3957N×2033E, h39km, MD3.4(ATH), After ATH.*

ISC 19 14:59:29.8±0.5, 3945N±002×2041E±004, h5km±4km, n32, σ0§93/56, Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IGT	**Igoumenitsa**	**0.10**	**325**	P	**Pg**	**14 59 31.7**	**-0.2**
IGT				S	**Sg**	**14 59 33.9**	**+0.7**
KEK	**Kerkira**	**0.54**	**299**	*e*Pb	**Pg**	**14 59 39.2**	**-0.9**
KEK				*e*Sb	**Sg**	**14 59 47.6**	**+0.5**
KEK	**Kerkira**	**0.54**	**299**	*e*PB	**Pg**	**14 59 39.2**	**-0.9**
KEK				*e*SB	**Sg**	**14 59 47.6**	**+0.5**
MEV	**Metsovon**	**0.72**	**62**	P	**Pg**	**14 59 42.6**	**-1.0**
MEV				S	**Sg**	**14 59 53.8**	**+0.9**
LKD	**Levkas**	**0.77**	**165**	P	**Pg**	**14 59 43.5**	**-1.0**
LKD				S	**Sg**	**14 59 56.1**	**+1.7**
EVR	**Evrytania**	**1.21**	**116**	*e*Pn	**Pn**	**14 59 53.4**	**-0.1**
EVR				*e*Sn	**Sn**	**15 00 10.2**	**-0.1**
EVR	**Evrytania**	**1.21**	**116**	*e*PN	**Pn**	**14 59 53.4**	**-0.1**
EVR				*e*SN	**Sn**	**15 00 10.2**	**-0.1**
THL	**Klokotos Trika**	**1.25**	**84**	P	**Pg**	**14 59 52.6**	**-1.2**
THL				S	**Sg**	**15 00 11.3**	**+1.3**
THL	**Klokotos Trika**	**1.25**	**84**	*e*Pb	**Pb**	**14 59 52.3**	**-1.6**
THL				S	**Sg**	**15 00 11.3**	**+1.3**
THL	**Klokotos Trika**	**1.25**	**84**	*e*PB	**Pb**	**14 59 52.3**	**-1.6**
THL				*e*SN	**Sn**	**15 00 09.6**	**-1.6**
VLS	**Valsamata**	**1.28**	**173**	P	**Pg**	**14 59 53.4**	**-0.9**
VLS				S	**Sg**	**15 00 12.4**	**+1.5**
VLS	**Valsamata**	**1.28**	**173**	*e*Pb	**Pb**	**14 59 53.6**	**-0.8**
VLS				S	**Sg**	**15 00 12.4**	**+1.5**
VLS	**Valsamata**	**1.28**	**173**	*e*PB	**Pb**	**14 59 53.6**	**-0.8**
KZN	**Kozani**	**1.35**	**50**	*e*Pn	**Pn**	**14 59 54.0**	**-1.4**
KZN				*e*Sn	**Sn**	**15 00 10.2**	**-3.6**
KZN	**Kozani**	**1.35**	**50**	*e*PN	**Pn**	**14 59 54.0**	**-1.4**
KZN				*e*SN	**Sn**	**15 00 10.2**	**-3.6**
KFL	**Anninata**	**1.37**	**167**	P	**Pn**	**14 59 55.5**	**-0.1**
KFL				S	**Sb**	**15 00 14.8**	**+1.0**
FNA	**Florina**	**1.52**	**29**	P	**Pn**	**14 59 57.1**	**-0.6**
FNA				S	**Sn**	**15 00 19.2**	**+1.2**
AGG	**Agios Georgios**	**1.56**	**105**	P	**Pn**	**14 59 57.9**	**-0.2**
AGG				S	**Sn**	**15 00 19.0**	**+0.3**
RLS	**Riolos of Patr**	**1.62**	**149**	*e*Pb	**Pb**	**14 59 59.7**	**-0.5**
RLS	**Riolos of Patr**	**1.62**	**149**	*e*PB	**Pb**	**14 59 59.7**	**-0.5**
BIA	**Bitola**	**1.72**	**24**	P	**Pn**	**15 00 00.5**	**+0.1**
LIT	**Litokhoron**	**1.73**	**67**	P	**Pn**	**15 00 00.8**	**+0.2**
LIT				S	**Sn**	**15 00 23.2**	**+0.1**
TIR	**Tirane**	**1.94**	**348**	*e*Pn	**Pn**	**15 00 03.0**	**-0.4**
TIR				*e*Sg	**Sg**	**15 00 32.4**	**+0.3**
KRUS	**Krusevo**	**2.02**	**18**	*i* Pn	**Pn**	**15 00 06.7**	**+2.1**
KRUS				*i* Sn	**Sn**	**15 00 31.9**	**+1.7**
KRUS	**Krusevo**	**2.02**	**18**	*i* Pn	**Pn**	**15 00 06.6**	**+2.0**
KRUS				*i* Sn	**Sn**	**15 00 31.9**	**+1.7**
GRG	**Griva**	**2.15**	**45**	P	**Pn**	**15 00 06.5**	**+0.2**
GRG				S	**Sn**	**15 00 34.0**	**+0.7**
PLG	**Polygyros**	**2.51**	**68**	P	**Pn**	**15 00 10.9**	**-0.4**
PLG				S	**Sn**	**15 00 42.3**	**-0.1**
PAIG	**Paliouri**	**2.57**	**78**	P	**Pn**	**15 00 12.0**	**-0.1**
DID	**Didima**	**2.95**	**130**	P	**Pn**	**15 00 17.5**	**+0.2**
DID				S	**Sn**	**15 00 53.8**	**+0.6**
BARS	**Barje**	**3.53**	**17**	*e*Pn	**Pn**	**15 00 21.2**	**-4.1**
VTS	**Vitosha**	**3.79**	**33**	*e*Pn	**Pn**	**15 00 22.4**	**-6.4**
DIVS	**Divibare**	**4.65**	**356**	*

STKA	**Stephens Creek**	**35.11**	**251**	*e*P		**P**	**15 16 05.9**	**+0.9**
	4.9nm,0.8s,mb4.1							
PMG	**Port Moresby**	**36.41**	**291**	*e*P		**P**	**15 16 16.9**	**+0.7**
	31nm,0.8s,mb4.9							
ASAR	**Alice Springs**	**42.93**	**263**	P		**P**	**15 17 09.3**	**-0.1**
	3.7nm,0.3s,mb4.0,baz=90,slow=7.3,SNR=109							
ASAR				PcP		PcP	15 18 53.5	-0.3
	0.7nm,0.5s,baz=106,slow=4.1,SNR=3.5							
ASAR				S		**S**	**15 23 06.7**	**-4.0**
	1.0nm,0.8s,baz=100,slow=16,SNR=6.0							
WB2	**Warramunga Arr**	**43.52**	**268**	*e*P		**P**	**15 17 13.6**	**-0.5**
WRAB	**Tennant Creek**	**43.52**	**268**	*e*P		**P**	**15 17 13.2**	**-0.9**
	8.6nm,0.3s,mb4.5							
WRA	**Warramunga Arr**	**43.53**	**268**	P		**P**	**15 17 12.7**	**-1.5**
	7.4nm,0.3s,mb4.4,baz=102,slow=6.0,SNR=359							
WRA				PcP		PcP	15 18 55.1	-0.8
	0.4nm,0.4s,baz=107,slow=3.4,SNR=4.7							
WRA				S		**S**	**15 23 14.2**	**-5.1**
	0.7nm,0.9s,baz=110,slow=12,SNR=4.1							
FORT	**Forrest**	**46.73**	**251**	*e*P		**P**	**15 17 38.1**	**-1.0**
	15nm,0.5s,mb4.6							
KAKA	**Kakadu**	**47.77**	**277**	*e*P		**P**	**15 17 42.7**	**-4.5**
	26nm,0.5s,mb4.8							
FITZ	**Fitzroy Crossi**	**51.91**	**267**	*e*P		**P**	**15 18 18.4**	**+0.2**
	8.9nm,0.6s,mb4.3							
FITZ	**Fitzroy Crossi**	**51.91**	**267**	P		**P**	**15 18 18.4**	**+0.2**
	5.3nm,0.6s,mb4.1,baz=152,slow=9.1,SNR=27							
MBWA	**Marble Bar**	**56.23**	**261**	*e*P		**P**	**15 18 47.5**	**-1.6**
	27nm,1.4s,mb4.5							
CASY	**Casey**	**58.66**	**207**	*e*P		**P**	**15 19 05.3**	**+0.1**
	761nm,1.2s							
MJAR	**Matsushiro Arr**	**74.43**	**325**	P		**P**	**15 20 44.3**	**-0.3**
	6.1nm,0.8s,mb4.3,baz=160,slow=5.7,SNR=12							
MAT	**Matsushiro**	**74.43**	**325**	P		**P**	**15 20 44.6**	**0.0**
MAW	**Mawson**	**76.10**	**200**	P		**P**	**15 20 54.3**	**+0.6**
	1.4nm,0.6s,mb3.8,baz=166,slow=4.2,SNR=2.7							
KSRS	**Korea Array**	**80.74**	**320**	P		**P**	**15 21 20.1**	**+0.8**
	3.7nm,0.7s,mb4.2,baz=131,slow=5.9,SNR=14							
PETK	**Petropavlovsk-**	**81.55**	**346**	P		**P**	**15 21 23.2**	**+0.1**
	3.8nm,0.7s,mb4.2,baz=119,slow=6.0,SNR=14							
SNAA	**Sanae**	**82.42**	**179**	*e*		**P**	**15 21 27.4**	**-0.2**
SNAA				*e*			15 21 30.8	
SNAA				*e*			15 22 53.0	
SNAA	**Sanae**	**82.42**	**179**	*e*P		**P**	**15 21 27.1**	**-0.5**
	1.9nm,1.2s,mb3.7							
VNA3	**Neumayer Olymp**	**82.59**	**176**	*e*		**P**	**15 21 28.8**	**+0.3**
VNA3				*e*			15 21 31.7	
VNA3				*e*			15 22 53.7	
VNA2	**Neumayer--Watz**	**83.02**	**177**	*e*		**P**	**15 21 31.4**	**+0.7**
	baz=188,slow=5.2							
VNA2				*e*			15 21 34.4	
VNA2				*e*			15 22 56.8	
NVAR	**Mina Array Bea**	**85.51**	**43**	P		**P**	**15 21 44.3**	**+0.8**
	0.9nm,0.6s,mb3.8,baz=218,slow=8.9,SNR=9.7							
TXAR	**Lajitas Array**	**90.57**	**57**	P		**P**	**15 22 08.0**	**+0.3**
	0.8nm,0.9s,mb3.6,baz=235,slow=4.4,SNR=5.8							
PPLA	**Purkeypile**	**91.19**	**12**	*e*P		**P**	**15 22 07.6**	**-2.1**
	56nm,1.8s,mb5.1							
CMAR	**Chiang Mai Arr**	**91.45**	**290**	P		**P**	**15 22 13.4**	**+1.4**
	1.2nm,0.9s,mb3.7,baz=153,slow=3.6,SNR=8.0							
CMAR				PP		PP	15 25 55.0	+0.2
	0.5nm,1.0s,baz=138,slow=5.6,SNR=4.2							
ARCES	**ARCESS Array B**	**134.31**	**348**	PKP		PKPdf	15 28 19.3	-1.1
	8.0nm,1.0s,baz=236,slow=0.3,SNR=3.0							
NB2	**NORSAR Subarra**	**144.46**	**352**	PKP		PKPdf	15 28 37.6	-1.4
	comp=Z,1.5nm,0.5s,baz=14,slow=3.1							
NOA	**NORSAR Array B**	**144.46**	**352**	PKP		PKPdf	15 28 37.8	-1.2
	comp=Z,3.0nm,0.8s,baz=19,slow=2.5,SNR=13							
AKASG	**Malin Array Be**	**147.51**	**326**	PKPbc		PKPbc	15 28 46.6	-1.0
	comp=Z,1.8nm,0.3s,baz=45,slow=4.6,SNR=12							

IDC ***19*** *15:52:58.9±0.9, 40.13N×7029E, h0km, mb3.9/6, mb1 4.0/11, mb1mx3.8/26, mbtmp3.9/11, ML3.7/5, Error ellipse: s-maj=16.4km s-min=13.8km az=48.0*
NNC ***19*** *15:52:58.5±3.0, 4027N×7015E, h0km, mb3.9, mpv4.0, Error ellipse: s-maj=30.0km s-min=17.2km az=22.0*
BJI ***19*** *15:53:02.8, 3998N×7037E, h9km, mb3.6, ML3.6*
MOS ***19*** *15:53:02.6±1.4, 4040N×7012E, h33km, mb4.2/5, Error ellipse: s-maj=15.3km s-min=6.6km az=86.3*
NEIC ***19*** *15:53:04.6±0.6, 4040N×7020E, h35km, mb4.0/2, Error ellipse: s-maj=10.6km s-min=9.7km az=105.0*
ISCJB ***19*** *15:53:04.1±0.8, 4050N±004×7011E±006, h44km±10km, mb3.8/9, Error ellipse: s-maj=8.2km s-min=6.4km az=153.8*

ISC 19 15:53:06.1±0.7,**4047N**±005×**7016E**±006,**h47**km±8km,**n59,**
σ1§30/67,mb3.8/9,11C-10D,Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KK31	**Karatay Array**	**2.65**	**6**	⇑Pn	**Pn**	**15 53 48.8**	**+2.6**
	16nm,0.2s,baz=171,slow=11,SNR=634						
KK31				⇓Lg		15 54 29.3	
	418nm,0.6s,baz=182,slow=28,SNR=20						
KK31	**Karatay Array**	**2.65**	**6**	*e*PN	**Pn**	**15 53 48.2**	**+2.0**
KK31						15 54 28.3	
KK31				pmax	pmax		
	comp=Z,72nm,0.2s						
KK31				pmax	pmax		
	comp=N,266nm,0.3s						
AML	**Almayashu**	**3.14**	**57**	P	**Pn**	**15 53 53.2**	**+0.3**
	SNR=29						
AML	**Almayashu**	**3.14**	**57**	*e*Pn	**Pn**	**15 53 52.8**	**-0.2**
EKS2	**Erkin-Say**	**3.49**	**50**	P	**Pn**	**15 53 58.6**	**+0.8**
	SNR=10						
UCH	**Uchtor**	**3.72**	**60**	P	**Pn**	**15 54 01.1**	**+0.2**
	SNR=40						
UCH	**Uchtor**	**3.72**	**60**	⇑*i*Pn	**Pn**	**15 54 00.9**	**0.0**
AAK	**Ala-Archa**	**3.91**	**55**	P	**Pn**	**15 54 04.0**	**+0.5**
	SNR=32						
KBK	**Karagaybulak**	**4.21**	**57**	P	**Pn**	**15 54 08.7**	**+1.1**
	SNR=21						
CHMS	**Chumysh**	**4.27**	**52**	P	**Pn**	**15 54 08.8**	**+0.4**
	SNR=8.0						
USP	**Ospenovka**	**4.28**	**48**	P	**Pn**	**15 54 08.2**	**-0.4**
	SNR=7.5						
TKM2	**Tokmak 2**	**4.75**	**57**	⇓Pn	**Pn**	**15 54 15.3**	**+0.2**
	comp=N,8.0nm,0.3s						
TKM2				⇑Lg		15 55 28.3	
	comp=N,29nm,0.6s						
TKM2	**Tokmak 2**	**4.75**	**57**	PN	**Pn**	**15 54 15.2**	**+0.1**
TKM2						15 55 33.5	
TKM2				pmax	pmax		
	comp=Z,14nm,0.4s						
TKM2				pmax	pmax		
	comp=N,50nm,0.8s						
TKM2	**Tokmak 2**	**4.75**	**57**	P	**Pn**	**15 54 15.5**	**+0.4**
	SNR=39						
TKM2	**Tokmak 2**	**4.75**	**57**	*e*Pn	**Pn**	**15 54 14.8**	**-0.2**
KBL	**Kabul**	**5.98**	**189**	*e*PN	**Pn**	**15 54 32.1**	**+0.1**
KBL				*e*		15 55 42.1	
KBL				pmax	pmax		
	comp=Z,11nm,0.5s						
KBL	**Kabul**	**5.98**	**189**	*e*Pn	**Pn**	**15 54 32.1**	**+0.1**
	comp=Z,11nm,0.5s						
KBL				*e*Sn	**Sn**	**15 55 42.1**	**+3.0**
MK31	**Makanchi Array**	**10.82**	**50**	⇑Pn	**Pn**	**15 55 37.7**	**-0.5**
	comp=Z,0.7nm,0.5s,baz=243,slow=13,SNR=9.6						
MK31				⇑Lg		15 58 47.3	
	comp=Z,3.2nm,0.6s						
MK31	**Makanchi Array**	**10.82**	**50**	*e*Pn	**Pn**	**15 55 37.5**	**-0.7**
MK31				Sn	**Sn**	**15 57 52.8**	**+15**
MKAR	**Makanchi Array**	**10.82**	**50**	Pn	**Pn**	**15 55 37.3**	**-0.9**
	comp=Z,0.4nm,0.3s,baz=235,slow=15,SNR=7.8						
MKAR				Lg		15 58 47.8	
	comp=Z,0.3nm,0.3s,baz=234,slow=27,SNR=4.2						
AB31	**Akbulak array**	**11.38**	**324**	⇑Pn	**Pn**	**15 55 44.7**	**-1.1**
	comp=Z,1.7nm,0.3s,baz=133,slow=14,SNR=110						
AB31				⇓Sn	**Sn**	**15 57 49.5**	**-2.0**
	comp=Z,2.8nm,0.4s,baz=127,slow=25,SNR=5.2						
AB31	**Akbulak array**	**11.38**	**324**	*e*P	**Pn**	**15 55 44.7**	**-1.2**
AB31				pmax	pmax		
	comp=Z,3.0nm,0.3s						
KURBB	**Kurchatov Arra**	**11.72**	**27**	⇑Pn	**Pn**	**15 55 47.7**	**-2.7**
	comp=Z,0.2nm,0.8s						
KURBB				⇑Lg		15 59 17.3	
	comp=Z,7.4nm,0.8s						
KURK	**Kurchatov**	**11.83**	**27**	⇓Pn	**Pn**	**15 55 50.7**	**-1.3**
	comp=Z,6.6nm,1.8s						
KURK				⇓Lg		15 59 21.9	
	comp=Z,33nm,1.0s						
KURK	**Kurchatov**	**11.83**	**27**	Pn	**Pn**	**15 55 47.9**	**-4.1**
	comp=Z,0.0nm,0.3s,baz=222,slow=12,SNR=3.0						
KURK				Lg		15 59 12.7	
	comp=Z,0.2nm,0.3s,baz=216,slow=30,SNR=4.3						
KURK	**Kurchatov**	**11.83**	**27**	*e*P	**Pn**	**15 55 53.9**	**+2.0**
KURK	**Kurchatov**	**11.83**	**27**	*e*Pn	**Pn**	**15 55 47.6**	**-4.4**
	comp=Z,3.5nm,1.0s						
VOSK	**Vostochnaya**	**12.28**	**2**	⇑Pn	**Pn**	**15 55 59.8**	**+1.8**
	comp=Z,0.9nm,0.3s						
VOSK				⇓Lg		15 59 33.4	
	comp=Z,28nm,1.4s						
VOSK	**Vostochnaya**	**12.28**	**2**	P	**Pn**	**15 55 59.6**	**+1.6**
VOSK				pmax	pmax		
	comp=Z,3.0nm,0.9s						
BVA0	**Borovoye Array**	**12.56**	**1**	⇑Pn	**Pn**	**15 56 00.7**	**-1.3**
	comp=Z,0.7nm,0.8s,baz=289,slow=34,SNR=11						
BVA0				⇓Lg		15 59 40.9	
	comp=Z,2.4nm,1.3s,baz=165,slow=30,SNR=3.7						
BVA0	**Borovoye Array**	**12.56**	**1**	P	**Pn**	**15 56 02.0**	**0.0**
BVA0				pmax	pmax		
	comp=Z,1.0nm,0.8s						
BVAR	**Borovoye Array**	**12.56**	**1**	Pn	**Pn**	**15 56 01.3**	**-0.7**
	comp=Z,0.9nm,0.3s,baz=172,slow=12,SNR=11						
BVAR				Lg		15 59 37.7	
	comp=Z,0.5nm,0.3s,baz=174,slow=27,SNR=3.5						
BRVK	**Borovoye**	**12.60**	**0**	*e*P	**Pn**	**15 56 01.4**	**-1.0**
BRVK				pmax	pmax		
	comp=Z,4.0nm,0.4s						
BRVK	**Borovoye**	**12.60**	**0**	*e*Pn	**Pn**	**15 56 01.4**	**-1.0**
	comp=Z,4.3nm,0.4s						
AKTK	**Aktyubinsk**	**13.10**	**324**	Pn	**Pn**	**15 56 08.4**	**-0.9**
AKTK				Sn	**Sn**	**15 58 34.5**	**+1.2**
AKTO	**Aktyubinsk**	**13.10**	**324**	⇓Pn	**Pn**	**15 56 08.1**	**-1.1**
	comp=Z,1.1nm,0.7s						
AKTO				⇓Sn	**Sn**	**15 58 35.5**	**+2.2**
	comp=Z,1.6nm,0.8s						
AKTO	**Aktyubinsk**	**13.10**	**324**	Pn	**Pn**	**15 56 08.4**	**-0.9**
	comp=Z,0.9nm,0.3s,baz=129,slow=14,SNR=12						
AKTO				Sn	**Sn**	**15 58 34.5**	**+1.2**
	baz=183,slow=19						
AKTO	**Aktyubinsk**	**13.10**	**324**	P	**Pn**	**15 56 08.4**	**-0.9**
AKTO						15 58 34.6	
AKTO				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ZALV	**Zalesovo Beam**	**16.72**	**31**	Pn	**Pn**	**15 56 56.6**	**-0.1**
	comp=Z,0.3nm,0.3s,baz=225,slow=11,SNR=7.8						
NVS	**Novosibirsk**	**16.82**	**27**	*e*P	**Pn**	**15 57 04.9**	**+6.9**
SVE	**Sverdlovsk**	**17.51**	**342**	⇑*e*P	**Pn**	**15 57 05.9**	**-0.6**
SVE				*e*S	**S**	**16 00 27.6**	**+1.2**
SVE				pmax	pmax		
	comp=Z,18nm,0.9s						
ARU	**Arti**	**17.69**	**338**	*d i*P	**Pn**	**15 57 08.2**	**-0.5**
ARU				*e*S	**S**	**16 00 27.1**	**-2.9**
ARU				pmax	pmax		
	comp=Z,9.0nm,1.0s						
ARU	**Arti**	**17.69**	**338**	*e*Pn	**Pn**	**15 57 07.4**	**-1.3**
	comp=Z,9.0nm,0.6s						
GTA	**Gaotai**	**22.72**	**83**	*e*P	**P**	**15 58 04.6**	**+0.9**
GTA				AP		15 58 10.3	
GTA				XP	sP	15 58 12.9	-8.0
GTA				AMB	AMB		
	comp=Z,2.0nm,0.8s,mb3.6						
CMAR	**Chiang Mai Arr**	**33.05**	**123**	P	**P**	**15 59 34.2**	**-2.9**
	comp=Z,0.4nm,0.7s,mb3.5,baz=304,slow=8.2,SNR=5.1						
CMAR	**Chiang Mai Arr**	**33.05**	**123**	*e*P	**P**	**15 59 34.9**	**-2.2**
ARCES	**ARCESS Array B**	**37.25**	**336**	P	**P**	**16 00 14.8**	**+2.2**
	comp=Z,2.2nm,0.6s,mb4.2,baz=90,slow=7.3,SNR=4.5						
ARCES	**ARCESS Array B**	**37.25**	**336**	P	**P**	**16 00 14.8**	**+2.2**
ARCES				pmax	pmax		
	comp=Z,2.0nm,0.6s						
ARCES	**ARCESS Array B**	**37.25**	**336**	P	**P**	**16 00 14.8**	**+2.2**
NOA	**NORSAR Array B**	**40.86**	**320**	P	**P**	**16 00 44.8**	**+1.9**
	comp=Z,0.6nm,0.7s,mb3.3,baz=94,slow=8.2,SNR=3.0						
NOA	**NORSAR Array B**	**40.86**	**320**	P	**P**	**16 00 44.8**	**+1.9**
NOA				pmax	pmax		
	comp=Z,1.0nm,0.7s						
YAK	**Yakutsk**	**41.19**	**38**	*e*P	**P**	**16 00 47.8**	**+2.2**
YAK				pmax	pmax		
	comp=Z,5.0nm,0.9s,mb4.1						
TIXI	**Tiksi**	**42.38**	**24**	*e*P	**P**	**16 00 55.1**	**-0.1**
TIXI				pmax	pmax		
	comp=Z,7.0nm,2.9s,mb3.8						
TIXI	**Tiksi**	**42.38**	**24**	*e*P	**P**	**16 00 55.1**	**-0.1**
	comp=Z,1.5nm,0.6s,mb3.8						
TORD	**Torodi Ar. Bea**	**65.23**	**266**	P	**P**	**16 03 43.0**	**+0.1**
	comp=Z,0.5nm,0.4s,mb3.9,baz=54,slow=5.7,SNR=10						
WRA	**Warramunga Arr**	**84.64**	**122**	P	**P**	**16 05 33.5**	**-1.6**
	comp=Z,0.4nm,0.3s,mb4.0,baz=325,slow=5.0,SNR=9.0						
WRA	**Warramunga Arr**	**84.64**	**122**	*e*P	**P**	**16 05 33.5**	**-1.1**
ASAR	**Alice Springs**	**87.05**	**125**	P	**P**	**16 05 44.7**	**-1.8**
	comp=Z,0.9nm,1.0s,mb4.0,baz=328,slow=5.3,SNR=5.6						
ASAR	**Alice Springs**	**87.05**	**125**	P	**P**	**16 05 44.7**	**-1.8**
ASAR				pmax	pmax		
	comp=Z,1.0nm,1.0s						

ISCJB ***19*** *16:00:52.6±3.9, 3253N±010×478E±02, h12km±27km, Error ellipse: s-maj=28.3km s-min=10.2km az=29.7*
CSEM ***19*** *16:00:52.8, 3239N×4772E, h42km, ML3.2, After THR*
THR ***19*** *16:00:52.8±0.3, 3239N×4772E, h42km±5km, ML3.1*

ISC 19 16:00:53.0±4.5,**325N**±01×**478E**±02,**h5**km±30km,**n9,**
σ0§33/11,Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SHGR	**Shooshtar-Gavs**	**0.97**	**115**	*e*Pg	**Pg**	**16 01 11.2**	**-0.4**
SHGR				*e*Sg	**Sg**	**16 01 24.6**	**+0.4**
SHGR				AML	AML	16 01 41.0	
	comp=N,670nm,0.8s						
SHGR				AML	AML	16 01 48.2	
	comp=E,575nm,0.6s						
SHGR	**Shooshtar-Gavs**	**0.97**	**115**	*e*Pg	**Pg**	**16 01 11.2**	**-0.4**
	SNR=108						
SHGR				*e*Sg	**Sg**	**16 01 24.6**	**+0.4**
	comp=E,36nm,0.6s,SNR=108						
MIB	**Mutribah**	**2.73**	**188**	*e*P	**Pn**	**16 01 37.8**	**+0.3**
	baz=189						
MIB				AML	AML	16 02 17.8	
	comp=Z,35nm,0.7s,baz=189						
RST	**Umm Al-Ruwaisa**	**3.08**	**193**	*e*P	**Pn**	**16 01 42.3**	**0.0**
	baz=193						
RST				AML	AML	16 02 28.3	
	comp=Z,30nm,0.6s,baz=193						
NAY	**Al-Naaiem**	**3.29**	**188**	*e*P	**Pn**	**16 01 45.0**	**-0.2**
	baz=189						
NAY				AML	AML	16 02 25.4	
	comp=Z,11nm,0.6s,baz=189						
RDF	**Al-Radifah**	**3.59**	**183**	*e*P	**Pn**	**16 01 49.3**	**0.0**
	baz=184						
RDF				AML	AML	16 02 34.8	
	comp=Z,26nm,0.3s,baz=184						
THKV	**Tehran--Karaj**	**4.26**	**36**	*e*Pn	**Pn**	**16 01 58.8**	**+0.3**
NASN	**Na'in**	**4.26**	**85**	*e*Pn	**Pn**	**16 01 57.9**	**-0.6**
NASN				AML	AML	16 02 48.3	
	comp=N,11nm,0.5s						
DAMV	**Damavand**	**4.67**	**47**	*e*Pn	**Pn**	**16 02 04.2**	**+0.1**

NEIC 19 16:06:31.7, 4000S×17688E, h48km, ML3.9(WEL)**, After WEL., North Island**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TSZ	**Takapari Road**	**0.71**	**265**	P	Pn	16 06 44.7	-0.7
TSZ				S	Sn	16 06 54.0	-1.4
BKZ	**Black Stump Fm**	**0.88**	**340**	P	Pn	16 06 46.8	-1.0
MOVZ	**Moawhango**	**1.05**	**304**	P	Pn	16 06 49.4	-0.6
KNZ	**Kokohu**	**1.15**	**32**	P	Pn	16 06 51.3	-0.1
MRZ	**Mangatainoka R**	**1.19**	**236**	P	Pn	16 06 51.8	-0.2
WNVZ	**Wahianoa**	**1.20**	**304**	P	Pn	16 06 51.9	-0.1
TUVZ	**Tukino**	**1.20**	**307**	P	Pn	16 06 52.1	+0.1
NGZ	**Ngauruhoe**	**1.29**	**309**	P	Pn	16 06 53.1	-0.1
RITZ	**Rihia Road**	**1.29**	**322**	P	Pn	16 06 53.1	-0.2
WTVZ	**West Tongariro**	**1.33**	**311**	P	Pn	16 06 53.7	-0.1
RATZ	**Rangitukua**	**1.42**	**322**	P	Pn	16 06 54.5	-0.5
TWVZ	**Taurewa**	**1.45**	**309**	P	Pn	16 06 55.2	-0.3
WAZ	**Wanganui**	**1.48**	**279**	P	Pn	16 06 56.7	+0.9
MTW	**Mount Morrison**	**1.56**	**222**	P	Pn	16 06 56.2	-0.8
KIW	**Kapiti Island**	**1.73**	**240**	P	Pn	16 06 58.9	-0.4
MWZ	**Matawai**	**1.74**	**17**	P	Pn	16 06 58.6	-0.8
URZ	**Urewera**	**1.75**	**6**	P	Pn	16 06 58.5	-1.0
CAW	**Cannon Point**	**1.77**	**231**	P	Pn	16 06 59.2	-0.6
TAZ	**Tarawera**	**1.79**	**351**	P	Pn	16 06 59.4	-0.7
VRZ	**Vera Road**	**1.86**	**297**	P	Pn	16 07 00.7	-0.3
MSWZ	**Moikau Station**	**1.88**	**221**	P	Pn	16 07 00.4	-1.0
EDRZ	**Edgecumbe**	**1.89**	**357**	P	Pn	16 07 00.8	-0.7
WEL	**Wellington**	**2.06**	**231**	P	Pn	16 07 02.9	-0.9
MRW	**Makara Radio**	**2.06**	**233**	P	Pn	16 07 03.0	-0.9
HIZ	**Hauiti**	**2.16**	**313**	P	Pn	16 07 04.4	-0.8
PUZ	**Puketiti**	**2.20**	**30**	P	Pn	16 07 04.6	-1.2
TCW	**Tory Channel**	**2.32**	**238**	P	Pn	16 07 06.1	-1.3
PKE	**Pukeiti**	**2.38**	**289**	P	Pn	16 07 08.5	+0.4
MXZ	**Matakaoa Point**	**2.68**	**25**	P	Pn	16 07 11.7	-0.6
NNZ	**Nelson**	**2.93**	**244**	P	Pn	16 07 14.5	-1.2
QRZ	**Quartz Range**	**3.42**	**255**	P	Pn	16 07 21.0	-1.5
THZ	**Tophouse**	**3.49**	**238**	P	Pn	16 07 21.5	-1.9
DSZ	**Denniston Nort**	**4.23**	**244**	P	Pn	16 07 31.4	-2.1
MQZ	**McQueen's Vall**	**4.87**	**219**	P	Pn	16 07 40.3	-2.0
FOZ	**Fox Glacier**	**6.45**	**234**	P	Pn	16 08 00.5	-3.5
LBZ	**Lake Benmore**	**6.63**	**226**	P	Pn	16 08 04.7	-1.7
ODZ	**Otahua Downs**	**6.83**	**220**	P	Pn	16 08 07.1	-2.1

ISCJB ***19*** *16:20:21.3±3.4, 280S±010×1295E±02, h16km±26km, mb4.0/4, Error ellipse: s-maj=43.4km s-min=10.2km az=162.9*
IDC ***19*** *16:20:21.9±1.4, 276S×12930E, h0km, mb4.0/4, mb1 4.1/6, mb1mx3.8/16, mbtmp4.0/6, ML3.9/2, MS2.9/1, Ms1 2.9/1, ms1mx2.5/26, Error ellipse: s-maj=100.2km s-min=20.0km az=71.0*
NEIC ***19*** *16:20:26.2±0.9, 280S×12941E, h35km, mb3.8/3, Error ellipse: s-maj=36.6km s-min=10.2km az=74.0*

ISC 19 16:20:25.2±3.3,**283S**±009×**1295E**±02,**h28**km±26km,**n13,**
σ1§07/15,mb4.0/4,Seram

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KAKA	**Kakadu**	**10.25**	**164**	*e*Pn	**Pn**	**16 22 50.0**	**-0.5**
	12nm,0.6s						
KAKA				*e*Sn	**Sn**	**16 24 43.3**	**-1.2**
DAV	**Davao City (W)**	**10.57**	**338**	*e*Pn	**Pn**	**16 22 53.8**	**-1.2**
	177nm,0.4s						
FITZ	**Fitzroy Crossi**	**15.64**	**194**	*e*P	**Pn**	**16 24 05.2**	**+1.4**
	3.7nm,0.6s						
FITZ	**Fitzroy Crossi**	**15.64**	**194**	Pn	**Pn**	**16 24 04.8**	**+1.1**
	0.3nm,0.3s,baz=22,slow=13,SNR=7.8						
WRAB	**Tennant Creek**	**17.65**	**165**	*e*Pn	**Pn**	**16 24 29.0**	**-0.2**
	3.3nm,0.7s						
WRA	**Warramunga Arr**	**17.66**	**165**	P	**Pn**	**16 24 29.4**	**+0.1**
	0.5nm,0.3s,baz=346,slow=12,SNR=14						
WRA				S	**Sn**	**16 27 40.9**	**-4.4**
	0.1nm,0.3s,baz=354,slow=22,SNR=3.2						
MBWA	**Marble Bar**	**20.54**	**207**	P	**P**	**16 25 00.7**	**-0.9**
	5.3nm,0.8s						
ASAR	**Alice Springs**	**21.15**	**169**	P	**P**	**16 25 11.2**	**+2.9**
	8.5nm,0.6s,mb4.3,baz=348,slow=11,SNR=41						
ASAR				S	**S**	**16 29 01.4**	**-0.8**
	2.5nm,0.8s,baz=349,slow=19,SNR=12						
STKA	**Stephens Creek**	**31.06**	**160**	P	**P**	**16 26 42.5**	**+1.6**
	0.5nm,0.3s,mb3.8,baz=353,slow=8.1,SNR=4.1						
KSRS	**Korea Array**	**40.10**	**358**	LR	LR	16 43 12.5	
	comp=Z,1.5nm,20.6s,baz=175,slow=34						
MKAR	**Makanchi Array**	**64.48**	**326**	P	**P**	**16 30 59.7**	**+0.4**
	1.1nm,0.7s,mb4.0,baz=128,slow=7.0,SNR=8.1						
MKAR	**Makanchi Array**	**64.48**	**326**	P	**P**	**16 30 59.7**	**+0.4**
ZALV	**Zalesovo Beam**	**67.64**	**333**	P	**P**	**16 31 19.4**	**-0.1**
	0.6nm,0.4s,mb4.0,baz=117,slow=4.4,SNR=5.1						

ISCJB ***19*** *16:26:26.9±0.8, 3542N±004×13796E±008, h16km±13km, Error ellipse: s-maj=11.4km s-min=6.9km az=167.8*
JMA ***19*** *16:26:26.7, 3541N×13796E, h18km±1km, M2.7*

ISC 19 16:26:26.6±0.7,**3542N**±005×**13796E**±007,**h18**km±6km,**n9,**
σ0§33/12,1C-4D,Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JNY	**Yasuok**	**0.10**	**231**	⇓P	**Pg**	**16 26 30.3**	**0.0**
JNY				S	**Sg**	**16 26 32.8**	**+0.1**
SHZ3	**Shizuoka 3**	**0.41**	**150**	⇑P	**Pg**	**16 26 34.8**	**-0.3**
SHZ3				*e*S	**Sg**	**16 26 40.4**	**-0.3**
JYN	**Shimob**	**0.48**	**81**	⇓P	**Pg**	**16 26 36.8**	**+0.5**
JOD2	**Odawara 2**	**0.94**	**100**	⇓P	**Pb**	**16 26 44.5**	**+0.2**
JRY	**Ryogami san**	**0.97**	**52**	⇓P	**Pb**	**16 26 44.8**	**0.0**
JIZS	**Izushimoda**	**1.03**	**133**	P	**Pb**	**16 26 45.5**	**-0.4**
TK04	**Tokai 4**	**1.04**	**184**	P	**Pb**	**16 26 46.8**	**+0.7**
JGM	**Mi

JOSI AML AML 17 17 57.3
comp=N,295nm,2.1s
KALG Kalgarh 9.92 149 *e*P **Pn 17 16 08.3 -4.5**
KALG *e*S **Sn 17 17 51.0 -11**
KALG AML AML 17 17 57.8
comp=E,127nm,0.3s
NDI New Delhi 10.14 158 *e*P **Pn 17 16 17.0 +1.2**
NDI *ex* x 17 17 57.0
AYAN Aya Nagar 10.31 159 *e*P **Pn 17 16 19.1 +1.1**
AYAN *e*S **Sn 17 18 02.8 -9.0**
KHET Khetri 10.39 166 *e*S **Sn 17 18 05.0 -8.7**
KHET AML AML 17 18 08.5
comp=N,32nm,0.1s
KUDL Kundal 10.47 163 *e*P **Pn 17 16 20.7 +0.6**
KUDL *e*S **Sn 17 18 06.7 -8.9**
SONA Sohna 10.52 160 *e*P **Pn 17 16 20.5 -0.3**
SONA *e*S **Sn 17 18 09.7 -7.1**
PTH Pithoragarh 10.53 143 *e*S **Sn 17 18 10.4 -6.7**
MK31 Makanchi Array 10.97 36 ⇓P **Pn 17 16 28.4 +1.5**
comp=N,4.6nm,0.6s,baz=218,slow=13,SNR=22
MK31 Makanchi Array 10.97 36 *e*P **Pn 17 16 28.4 +1.4**
MK31 pmax pmax
comp=Z,3.0nm,0.4s
MK31 Makanchi Array 10.97 36 *e*Pn **Pn 17 16 28.3 +1.3**
MKAR Makanchi Array 10.97 36 P **Pn 17 16 27.6 +0.7**
comp=Z,0.8nm,0.3s,baz=215,slow=15,SNR=20
MKAR Makanchi Array 10.97 36 P **Pn 17 16 27.6 +0.6**
MKAR pmax pmax
comp=Z,1.0nm,0.3s
AGRA Agra 11.72 158 *e*S **Sn 17 18 37.9 -8.3**
AGRA *e*S **Sn 17 18 38.3 -7.9**
AJM Ajmer 11.79 173 *e*P **Pn 17 16 38.5 +0.3**
AJM *e*S **Sn 17 18 37.3 -11**
AJM *e*S **Sn 17 18 39.1 -8.7**
WMQ Urumqi 12.44 59 *e*P **Pn 17 16 43.0 -3.8**
KURBB Kurchatov Arra 13.01 16 ⇑P **Pn 17 16 52.5 -1.9**
comp=Z,1.4nm,0.7s
KURK Kurchatov 13.12 16 ⇓P **Pn 17 16 53.5 -2.3**
comp=Z,8.9nm,1.0s
KURK Kurchatov 13.12 16 P **Pn 17 16 52.7 -3.1**
comp=Z,0.2nm,0.3s,baz=205,slow=12,SNR=15
KURK Kurchatov 13.12 16 *e*P **Pn 17 16 53.4 -2.4**
KURK pmax pmax
comp=Z,6.0nm,0.6s
KURK Kurchatov 13.12 16 *e*Pn **Pn 17 16 53.4 -2.4**
comp=Z,5.8nm,0.6s
KURK *e*P 17 17 02.5
AB31 Akbulak array 14.48 324 ⇓P **Pn 17 17 11.9 -1.6**
comp=Z,6.6nm,0.4s,baz=131,slow=13,SNR=195
AB31 ⇓S **Sn 17 19 40.6 -12**
comp=Z,10nm,0.6s,baz=131,slow=25,SNR=11
AB31 Akbulak array 14.48 324 P **Pn 17 17 11.9 -1.7**
AB31 pmax pmax
comp=Z,7.0nm,0.3s
VOSK Vostochnaya 14.57 355 ⇑P **Pn 17 17 15.5 +0.8**
comp=Z,1.0nm,0.6s
VOSK ⇓S **Sn 17 19 46.5 -8.4**
comp=Z,4.8nm,1.2s
BVA0 Borovoye Array 14.92 354 ⇑P **Pn 17 17 18.6 -0.5**
comp=Z,0.5nm,0.6s,baz=167,slow=14,SNR=22
BVA0 ⇑S **Sn 17 19 54.7 -8.5**
comp=Z,1.1nm,0.9s,baz=164,slow=23,SNR=8.9
BVA0 Borovoye Array 14.92 354 *i* P **Pn 17 17 19.0 -0.1**
BVA0 pmax pmax
comp=Z,1.0nm,0.9s
BVAR Borovoye Array 14.92 354 P **Pn 17 17 18.2 -0.9**
comp=Z,0.6nm,0.3s,baz=156,slow=13,SNR=10
BVAR S **Sn 17 19 53.6 -10**
comp=Z,0.8nm,0.3s,baz=164,slow=22,SNR=7.7
BVAR Borovoye Array 14.92 354 P **Pn 17 17 18.2 -0.9**
BVAR S **Sn 17 19 53.6 -10**
BVAR pmax pmax
comp=Z,1.0nm,0.3s
BVAR smax
comp=N,1.0nm,0.3s
BRVK Borovoye 14.96 354 *e*P **Pn 17 17 18.7 -0.9**
BRVK *e* 17 19 52.8
BRVK pmax pmax
comp=Z,5.0nm,0.6s
BRVK Borovoye 14.96 354 *e*Pn **Pn 17 17 18.7 -1.0**
comp=Z,5.4nm,0.6s
BRVK *e*Sn **Sn 17 19 52.8 -12**
BHPL Bhopal 15.41 164 *ex* x 17 20 02.7
AKTK Aktyubinsk 16.20 324 P **Pn 17 17 34.8 -0.5**
AKTK S **Sn 17 20 22.6 -12**
AKTO Aktyubinsk 16.20 324 ⇑P **Pn 17 17 35.1 -0.2**
comp=Z,2.7nm,0.7s
AKTO ⇓S **Sn 17 20 23.7 -11**
comp=Z,1.3nm,0.6s
AKTO Aktyubinsk 16.20 324 P **Pn 17 17 34.8 -0.5**
comp=Z,2.6nm,0.3s,baz=128,slow=15,SNR=32
AKTO S **Sn 17 20 22.6 -12**
comp=Z,1.1nm,0.3s,baz=353,slow=20,SNR=9.6
AKTO Aktyubinsk 16.20 324 P **Pn 17 17 34.8 -0.5**
AKTO S **Sn 17 20 22.6 -12**
AKTO pmax pmax
comp=Z,3.0nm,0.3s
AKTO smax
comp=N,1.0nm,0.3s
LSA Lhasa 17.28 114 P **Pn 17 17 47.0 -1.8**
LSA Lhasa 17.28 114 *e*P **Pn 17 17 50.0 +1.2**
LSA pmax pmax
comp=Z,6.0nm,0.7s
LSA Lhasa 17.28 114 *e*Pn **Pn 17 17 50.0 +1.2**
comp=Z,6.4nm,0.7s
ZAA0 Zalesovo Array 17.70 23 *e*P **Pn 17 17 52.7 -1.0**
ZALV Zalesovo Beam 17.70 23 P **Pn 17 17 52.8 -0.9**
comp=Z,3.6nm,0.3s,baz=212,slow=11,SNR=110
ZALV Zalesovo Beam 17.70 23 P **Pn 17 17 52.8 -0.9**
ZALV pmax pmax
comp=Z,4.0nm,0.3s
NVS Novosibirsk 18.03 19 *i* P **Pn 17 17 56.9 -0.7**
NVS *e*S **S 17 21 08.8 -10**
NVS pmax pmax
comp=N,8.0nm,0.8s
NVS pmax pmax
comp=Z,11nm,0.8s
NVS pmax pmax
comp=E,2.0nm,0.4s
NVS smax
comp=N,10.0nm,1.6s
NVS smax
comp=E,3.0nm,0.8s
ARU Arti 20.60 337 *d i* P **P 17 18 24.7 -0.2**
ARU *e*S **S 17 22 03.7 -6.4**
ARU pmax pmax
comp=Z,11nm,1.2s
ARU Arti 20.60 337 *e*P **P 17 18 23.9 -0.9**
comp=Z,8.9nm,0.8s
GTA Gaotai 20.92 78 *e*P **P 17 18 32.0 +3.5**
GTA AMB AMB
comp=Z,3.0nm,0.9s
GNI Garni 21.94 284 P **P 17 18 39.4 0.0**
comp=Z,10nm,0.6s,mb4.3,baz=147,slow=17,SNR=4.0
GNI Garni 21.94 284 *e*P **P 17 18 43.5 +4.1**
GNI pmax pmax
comp=Z,24nm,1.0s
GNI Garni 21.94 284 *e*P **P 17 18 42.3 +2.9**
comp=Z,29nm,1.0s,mb4.6
KIV Kislovodsk 23.46 294 P **P 17 19 00.1 +5.4**
ZAK Zakamensk 24.68 51 *e*P **P 17 19 06.5 +0.9**
ZAK pmax pmax
comp=Z,3.0nm,1.6s,mb3.5
SONM Songino Array 26.07 58 P **P 17 19 19.7 +1.4**
comp=Z,1.7nm,0.8s,mb3.5,baz=253,slow=9.7,SNR=14
SONM Songino Array 26.07 58 P **P 17 19 19.7 +1.4**
SONM pmax pmax
comp=Z,2.0nm,0.8s
CMAR Chiang Mai Arr 29.99 124 P **P 17 19 54.0 +0.5**
comp=Z,0.2nm,0.4s,mb3.1,baz=304,slow=9.2,SNR=2.7
BR131 Keskin Array S 30.46 285 P **P 17 19 59.1 +1.6**
AKASG Malin Array Be 33.15 306 P **P 17 20 20.6 -0.2**
comp=Z,1.5nm,0.3s,mb4.2,baz=78,slow=8.9,SNR=9.5
AKASG Malin Array Be 33.15 306 P **P 17 20 20.7 -0.2**
AKASG pmax pmax
comp=Z,2.0nm,0.4s
JOF Joensuu 35.21 328 *ep* **P 17 20 38.9 +0.4**
comp=Z,1.5nm,0.3s,mb4.3
JOF Joensuu 35.21 328 *e*P **P 17 20 38.9 +0.4**
JOF pmax pmax
comp=Z,2.0nm,0.3s,mb4.4
ARCES ARCESS Array B 40.18 336 P **P 17 21 20.6 +0.3**
comp=Z,3.8nm,0.6s,mb4.4,baz=111,slow=9.3,SNR=14
ARCES ARCESS Array B 40.18 336 P **P 17 21 20.6 +0.3**
ARCES pmax pmax
comp=Z,4.0nm,0.6s
GERES GERESS Array B 43.25 304 P **P 17 21 47.0 +1.4**
comp=Z,0.3nm,0.4s,mb3.4,baz=92,slow=8.6,SNR=3.8
TIXI Tiksi 43.59 22 *e*P **P 17 21 48.0 0.0**
TIXI pmax pmax
comp=Z,2.0nm,0.9s,mb3.9
TIXI Tiksi 43.59 22 *e*P **P 17 21 47.8 -0.2**
comp=Z,2.4nm,0.6s,mb4.1
NB2 NORSAR Subarra 43.98 322 P **P 17 21 51.1 -0.2**
comp=Z,1.1nm,0.5s,mb3.8,baz=92,slow=8.6
NOA NORSAR Array B 43.98 322 P **P 17 21 51.4 +0.1**
comp=Z,1.6nm,0.6s,mb3.9,baz=92,slow=7.7,SNR=7.8
NOA NORSAR Array B 43.98 322 P **P 17 21 51.4 +0.1**
NOA pmax pmax
comp=Z,2.0nm,0.6s
VSL Villasalto 48.60 292 P **P 17 22 28.3 +0.5**
comp=Z,30nm,1.1s,mb5.1
KEST Kesra 50.00 288 P **P 17 22 39.2 +0.7**
comp=Z,0.8nm,0.6s,mb3.8,baz=5.7,slow=10,SNR=3.8
TOA0 Torodi Ar. Sit 67.33 269 P **P 17 24 36.9 -2.2**
TORD Torodi Ar. Bea 67.33 269 P **P 17 24 38.1 -1.0**
comp=Z,2.0nm,0.5s,mb4.2,baz=50,slow=5.7,SNR=18
YKA Yellowknife Ar 79.45 4 P **P 17 25 49.3 -0.1**
comp=Z,0.4nm,0.3s,mb3.7,baz=348,slow=5.7,SNR=6.7
YKA Yellowknife Ar 79.45 4 *e*P **P 17 25 49.4 0.0**
WRA Warramunga Arr 81.59 123 P **P 17 26 00.7 -0.7**
comp=Z,0.3nm,0.6s,mb3.3,baz=320,slow=4.2,SNR=11
WRA Warramunga Arr 81.59 123 *e*P **P 17 26 02.8 +1.4**

*SZGRF **19** 17:33:33.1, 1687S×17882W, h33km, Fiji Islands region*
*ISCJB **19** 17:34:21.5±0.9, 1515S±008×17921W±006, h425km±10km, mb4.2/27, Error ellipse: s-maj=12.5km s-min=8.8km az=155.9*
*IDC **19** 17:34:21.1±1.6, 1518S×17922W, h407km±16km, mb3.8/14, mb1 4.0/15, mb1mx3.9/20, mbtmp3.8/15, Error ellipse: s-maj=20.7km s-min=11.5km az=148.0*
*NEIC **19** 17:34:21.4±0.8, 1526S×179.16W, h414km±8km, mb4.4/16, Error ellipse: s-maj=9.4km s-min=6.5km az=155.0*
ISC 19 17:34:23.1±0.8,**1516S**±008×**17921W**±006,**h430**km±9km, **n88**,σ**1s00**/51,**mb4.2**/27,**Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
FUNA	**Funafuti**	**6.78**	**347**	*e*Pn		**P**		**17 36 04.6**	**-0.5**
	144nm,0.6s								
AFI	**Afiamalu**	**7.30**	**81**	P		**P**		**17 36 08.9**	**-1.9**
	16nm,0.3s,baz=39,slow=1.6,SNR=28								
AFI				S		**S**		**17 37 40.5**	**+1.7**
	2.3nm,0.3s,baz=258,slow=23,SNR=1.9								
AFI	**Afiamalu**	**7.30**	**81**	*e*Pn		**P**		**17 36 08.3**	**-2.5**
AFI				S		**S**		**17 37 40.5**	**+1.7**
DZM	**Mont Dzumac**	**15.23**	**241**	*e*P		**P**		**17 37 39.5**	**+2.3**
NOUC	**Port Laguerre**	**15.36**	**241**	*e*P		**P**		**17 37 40.0**	**+1.3**
RAR	**Rarotonga**	**19.41**	**111**	P		**P**		**17 38 19.4**	**-1.0**
HNR	**Honiara**	**21.14**	**283**	P		**P**		**17 38 36.4**	**+0.1**
	63nm,0.9s,mb5.0,baz=135,slow=4.3,SNR=3.6								
URZ	**Urewera**	**23.24**	**187**	P		**P**		**17 38 51.2**	**-3.7**
	4.3nm,0.3s,mb4.4,baz=153,slow=12,SNR=13								
RPZ	**Rata Peaks**	**29.65**	**194**	P		**P**		**17 39 50.4**	**-1.2**
	9.7nm,0.6s,mb4.3,baz=5.2,slow=11,SNR=3.3								
CTA	**Charters Tower**	**33.24**	**256**	*e*P		**P**		**17 40 22.9**	**0.0**
	5.7nm,0.4s,mb4.2								
CTA	**Charters Tower**	**33.24**	**256**	P		**P**		**17 40 22.3**	**-0.6**
	9.0nm,0.6s,mb4.3,baz=86,slow=12,SNR=9.7								
CTAO	**Charters Tower**	**33.24**	**256**	*e*P		**P**		**17 40 22.6**	**-0.4**
	14nm,0.8s,mb4.3								
PMG	**Port Moresby**	**33.33**	**276**	*e*P		**P**		**17 40 23.5**	**-0.3**
	24nm,0.8s,mb4.6								
STKA	**Stephens Creek**	**39.35**	**238**	*e*P		**P**		**17 41 13.9**	**+0.2**
	19nm,0.8s,mb4.5								
STKA	**Stephens Creek**	**39.35**	**238**	P		**P**		**17 41 13.5**	**-0.2**
	21nm,0.7s,mb4.6,baz=66,slow=8.1,SNR=11								
STKA	**Stephens Creek**	**39.35**	**238**	*e*P		**P**		**17 41 13.6**	**-0.2**
	28nm,0.8s,mb4.7								
WRAB	**Tennant Creek**	**44.43**	**257**	*e*P		**P**		**17 41 52.7**	**-1.6**
	4.8nm,1.0s,mb3.8								
WRA	**Warramunga Arr**	**44.44**	**257**	P		**P**		**17 41 53.4**	**-1.0**
	2.0nm,0.4s,mb3.8,baz=94,slow=8.2,SNR=120								
WRA				PcP		PcP		17 43 29.4	0.0
	0.5nm,0.4s,baz=87,slow=3.5,SNR=2.7								
WRA				ScP		ScP		17 46 41.6	+1.8
	0.4nm,0.7s,baz=90,slow=4.4,SNR=3.1								
WRA				S		**S**		**17 47 53.3**	**-3.6**
	0.8nm,0.7s,baz=90,slow=15,SNR=7.2								
ASAR	**Alice Springs**	**44.86**	**252**	P		**P**		**17 41 57.3**	**-0.3**
	18nm,0.4s,mb4.8,baz=84,slow=8.6,SNR=604								
ASAR				ScP		ScP		17 46 44.4	+2.8
	0.5nm,0.8s,baz=85,slow=5.0,SNR=3.7								
ASAR				S		**S**		**17 47 59.3**	**-3.5**
	2.3nm,0.8s,baz=80,slow=17,SNR=9.8								
KAKA	**Kakadu**	**46.92**	**267**	*e*P		**P**		**17 42 10.1**	**-3.5**
	12nm,0.7s,mb4.3								
FORT	**Forrest**	**50.54**	**243**	*e*P		**P**		**17 42 39.7**	**-0.7**
	17nm,0.7s,mb4.4								
FITZ	**Fitzroy Crossi**	**52.77**	**259**	*e*P		**P**		**17 42 57.1**	**+0.2**
	2.5nm,0.4s,mb3.8								
KLBR	**Kellerberrin**	**59.40**	**242**	*e*P		**P**		**17 43 46.5**	**+3.6**
	27nm,1.3s,mb4.4								
NWAO	**Narrogin (SRO)**	**59.85**	**241**	*e*P		**P**		**17 43 49.1**	**+3.2**
	26nm,1.1s,mb4.6								
SBA	**Scott Base**	**63.10**	**183**	*e*P		**P**		**17 44 07.6**	**+1.1**
	2.9nm,0.9s,mb3.8								
MJAR	**Matsushiro Arr**	**65.26**	**323**	P		**P**		**17 44 20.5**	**-0.4**
	6.0nm,0.8s,mb4.3,baz=158,slow=6.3,SNR=9.9								
MAJO	**Matsushiro**	**65.26**	**323**	*e*P		**P**		**17 44 20.5**	**-0.5**
	6.1nm,0.6s,mb4.4								
KKM	**Kota Kinabalu**	**67.35**	**283**	*e*P		**P**		**17 44 34.8**	**+0.3**
PEA0B	**Petropavlovsk-**	**70.84**	**346**	*e*P		**P**		**17 44 54.8**	**0.0**
PETK	**Petropavlovsk-**	**70.84**	**346**	P		**P**		**17 44 55.0**	**+0.2**
	7.0nm,0.8s,mb4.3,baz=126,slow=8.3,SNR=13								
KSM	**Kuching**	**71.59**	**277**	*e*P		**P**		**17 45 01.4**	**+1.3**
KSRS	**Korea Array**	**72.15**	**318**	P		**P**		**17 45 03.4**	**+0.5**
	3.7nm,0.8s,mb3.9,baz=130,slow=7.0,SNR=7.8								
CMB	**Columbia Colle**	**76.39**	**44**	*e*P		**P**		**17 45 27.5**	**+0.5**
	5.1nm,0.9s,mb4.2								
ISA	**Isabella**	**76.49**	**47**	*e*P		**P**		**17 45 27.8**	**+0.2**
	2.9nm,0.9s,mb3.9								
NVAR	**Mina Array Bea**	**78.00**	**45**	P		**P**		**17 45 36.5**	**+0.7**
	1.7nm,0.7s,mb3.8,baz=223,slow=8.3,SNR=11								
TPH	**Tonopah**	**78.56**	**45**	P		**P**		**17 45 38.0**	**-0.9**
LDFC	**Landfair**	**78.62**	**49**	*e*P		**P**		**17 45 39.2**	**-0.1**
	14nm,1.0s,mb4.5								
TMUT	**Trail Mountain**	**83.30**	**46**	P		**P**		**17 46 02.6**	**-0.8**
ANMO	**Albuquerque**	**85.01**	**52**	P		**P**		**17 46 11.6**	**-0.5**
TXAR	**Lajitas Array**	**85.19**	**58**	P		**P**		**17 46 14.6**	**+1.5**
	0.5nm,0.6s,mb3.4,baz=225,slow=7.7,SNR=8.4								
PDAR	**Pinedale Array**	**85.90**	**44**	P		**P**		**17 46 16.4**	**+0.1**
	1.5nm,0.7s,mb3.9,baz=218,slow=2.6,SNR=11								
CMAR	**Chiang Mai Arr**	**87.24**	**290**	P		**P**		**17 46 23.8**	**+0.6**
	1.5nm,0.9s,mb3.7,baz=92,slow=2.7,SNR=12								
SONM	**Songino Array**	**90.98**	**320**	P		**P**		**17 46 40.3**	**+0.4**
	0.9nm,0.8s,mb3.6,baz=117,slow=2.6,SNR=6.9								
SNAA	**Sanae**	**93.35**	**179**	*e*		**P**		**17 46 49.8**	**-0.7**
SNAA				*e*				17 46 54.8	
VNA3	**Neumayer Olymp**	**93.51**	**177**	*e*		**P**		**17 46 51.2**	**0.0**
VNA3				*e*				17 46 55.9	
VNA2	**Neumayer--Watz**	**93.94**	**177**	*e*		**P**		**17 46 53.2**	**0.0**
VNA2				*e*				17 46 57.8	
VNA1	**Neumayer--Stat**	**94.18**	**177**	*e*		**P**		**17 46 55.1**	**+0.8**
VNA1				*e*				17 46 59.6	
MKAR	**Makanchi Array**	**106.67**	**315**	PKiKP		PKiKP		17 51 57.7	-0.6
	0.4nm,0.8s,baz=62,slow=2.8,SNR=4.0								
ARCES	**ARCESS Array B**	**123.49**	**350**	PKP		PKPdf		17 52 29.4	-0.4
	5.1nm,0.9s,baz=26,slow=3.1,SNR=9.2								
AKASG	**Malin Array Be**	**137.78**	**333**	PKP		PKPdf		17 52 58.4	+1.1
	0.6nm,0.5s,baz=43,slow=2.9,SNR=2.5								
STHS	**Stebnicka Huta**	**141.97**	**338**	*e*PKP		PKPdf		17 53 05.7	+0.8
VYHS	**Vyhne**	**143.59**	**340**	*e*PKP		PKPdf		17 53 05.8	-2.0
GUNZ	**Gunzen**	**143.66**	**348**	*e*PKPbc		PKPdf		17 53 06.9	-1.0
WERN	**Wernitzgruen**	**143.73**	**347**	*e*PKPbc		PKPdf		17 53 07.0	-1.0
ROTZ	**Rotzenmuhle**	**144.25**	**347**	*e*PKPbc		PKPdf		17 53 09.3	+0.4
TNS	**Taunus Mts**	**144.48**	**352**	*e*PKPbc		PKPdf		17 53 09.2	-0.1
GRA1	**Grafenberg Arr**	**144.53**	**348**	*e*PKPbc		PKPdf		17 53 10.2	+0.8
GRF	**Grafenberg Arr**	**144.53**	**348**	*e*PKPbc		PKPdf		17 53 10.2	+0.8
KHC	**Kasperske Hory**	**144.54**	**345**	*e*PKP		PKPdf		17 53 09.5	0.0
WET	**Wettzell**	**144.69**	**346**	*e*PKPbc		PKPdf		17 53 10.0	+0.3
GEC2	**GERESS Array S**	**144.78**	**345**	*e*PKPbc		PKPdf		17 53 10.5	+0.6
GERES	**GERESS Array B**	**144.78**	**345**	PKP		PKPdf		17 53 10.2	+0.4
	2.8nm,0.6s,baz=24,slow=3.3,SNR=27								
GIVF	**Givet**	**145.00**	**355**	*e*PKP1		PKPbc		17 53 10.7	+0.1
BAIF	**Baives**	**145.08**	**356**	*e*PKP1		PKPbc		17 53 11.1	+0.2
	7.6nm,0.6s								
RJOB	**Jochberg**	**146.03**	**345**	*e*PKPbc		PKPbc		17 53 14.2	+0.5
BFO	**Black Forest**	**146.34**	**351**	*e*PKPbc		PKPbc		17 53 14.9	+0.3
CDF	**Champ du Feu**	**146.41**	**352**	*e*PKP1		PKPbc		17 53 15.1	+0.3
	16nm,0.8s								
FLN	**La Foliniere**	**146.48**	**2**	*e*PKP1		PKPbc		17 53 14.6	-0.3
	10nm,0.5s								
MEZF	**Maizieres J'vi**	**146.57**	**355**	*e*PKP1		PKPbc		17 53 15.6	+0.4
LDF	**La Druitiere**	**146.65**	**1**	*e*PKP1		PKPbc		17 53 15.0	-0.4
	6.1nm,0.5s								
GRR	**Gorron**	**146.84**	**2**	*e*PKP1		PKPbc		17 53 15.8	-0.1
	10.0nm,0.6s								
SGMF	**Saint Gilles**	**146.89**	**4**	*e*PKP1		PKPbc		17 53 15.7	-0.4
HAU	**Haudompre**	**146.93**	**353**	*e*PKP1		PKPbc		17 53 17.2	+1.0
	5.7nm,0.5s								
HINF	**Hinteralfeld**	**147.05**	**352**	*e*PKP1		PKPbc		17 53 17.2	+0.7
	4.1nm,0.6s								
LOR	**Lormes**	**147.89**	**356**	*e*PKP1		PKPbc		17 53 18.9	+0.2
	4.2nm,0.5s								
SSF	**Saint Saulge**	**148.12**	**356**	*e*PKP1		PKPbc		17 53 19.7	+0.4
	11nm,0.8s								
CABF	**La Chapelle**	**148.33**	**353**	*e*PKP1		PKPbc		17 53 20.6	+0.7
	27nm,1.1s								
AVF	**Avril sur Loir**	**148.39**	**357**	*e*PKP1		PKPbc		17 53 19.9	-0.2
	4.0nm,0.6s								
SMF	**Signal de Mont**	**148.51**	**356**	*e*PKP1		PKPbc		17 53 20.3	0.0
BGF	**Bois d'Agland**	**148.65**	**357**	*e*PKP1		PKPbc		17 53 20.9	+0.2
	6.2nm,0.6s								
TCF	**Toulx Ste Croi**	**148.95**	**358**	*e*PKP1		PKPbc		17 53 21.4	0.0
LPL	**La Plagne**	**149.33**	**352**	*e*PKP1		PKPbc		17 53 23.5	+1.1
	6.4nm,0.9s								
LPG	**La Plagne**	**149.34**	**352**	*e*PKP1		PKPbc		17 53 23.7	+1.3
RJF	**Les Rejaudoux**	**149.95**	**359**	*e*PKP1		PKPbc		17 53 24.0	+0.1
	3.8nm,0.5s								
ORIF	**Oris-en-Rattie**	**150.03**	**353**	*e*PKP1		PKPbc		17 53 24.8	+0.7
MBDF	**Montbardon**	**150.10**	**351**	*e*PKP1		PKPbc		17 53 24.8	+0.5
	8.7nm,0.8s								
VIVF	**Saint-Julien-l**	**150.22**	**354**	*e*PKP1		PKPbc		17 53 25.0	+0.5
CAF	**Calviac**	**150.31**	**358**	*e*PKP1		PKPbc		17 53 25.1	+0.3
	3.8nm,0.6s								

*JMA **19** 17:52:05.3±0.2, 2449N×12229E, h22km, M2.9*
*ISCJB **19** 17:52:06.2±0.5, 2457N±003×12248E±002, h3km±4km, Error ellipse: s-maj=5.3km s-min=2.7km az=3.6*
*TAP **19** 17:52:06.8, 2462N×12244E, h11km, ML3.1, D*
ISC 19 17:52:06.5±0.4,**2458N**±003×**12250E**±002,**h4**km±3km,**n35**, σ**0992**/69,**Taiwan region**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
YOJ	**Yonaguni jima**	**0.48**	**103**	P		**P**	**Pg**	**17 52 17.8**	**+2.0**
YOJ				S		S	**Sg**	**17 52 26.6**	**+4.5**
TWC	**Suao**	**0.59**	**273**	*i* P		**P**	**Pg**	**17 52 17.1**	**-0.8**
	baz=268								
TWC				S		**S**	**Sg**	**17 52 25.6**	**+0.1**
	baz=268								
TWB1	**Santiao Chiao**	**0.63**	**313**	P		**P**	**Pg**	**17 52 18.9**	**+0.3**
	baz=313								
TWB1				S		**S**	**Sg**	**17 52 26.4**	**-0.5**
	baz=313								
ENA	**Nanau**	**0.70**	**258**	P		**P**	**Pg**	**17 52 19.7**	**-0.3**
	baz=262								
ENA				*e*S		**S**	**Sg**	**17 52 28.9**	**-0.2**
	baz=262								
ILA	**Ilan**	**0.71**	**286**	*e*P		**P**	**Pg**	**17 52 19.8**	**-0.3**
	baz=271								
ILA				*e*S		**S**	**Sg**	**17 52 30.6**	**+1.3**
	baz=271								
TWE	**Neicheng**	**0.77**	**281**	*i* P		**P**	**Pg**	**17 52 20.6**	**-0.7**
	baz=269								
TWE				S		**S**	**Sg**	**17 52 31.4**	**+0.2**
	baz=269								
NWF	**Wu-fen Shan**	**0.82**	**307**	P		**P**	**Pg**	**17 52 22.9**	**+0.7**
	baz=306								
NWF				S		**S**	**Sg**	**17 52 33.6**	**+0.8**
	baz=306								
TWA	**Mucha**	**0.92**	**296**	*e*P		**P**	**Pg**	**17 52 23.9**	**-0.3**
	baz=294								
TWA				*e*S		**S**	**Sg**	**17 52 36.1**	**-0.1**
	baz=294								
TWD	**Chiawan**	**0.96**	**239**	*e*P		**P**	**Pg**	**17 52 25.2**	**+0.3**
	baz=243								
TWD				S		**S**	**Sg**	**17 52 39.2**	**+1.9**
	baz=243								
NNS	**Nan Shan**	**1.03**	**263**	P		**P**	**Pg**	**17 52 25.7**	**-0.6**
	baz=259								
NNS				*e*S		**S**	**Sg**	**17 52 38.4**	**-1.4**
	baz=259								
NSK	**Sanguang**	**1.04**	**276**	P		**P**	**Pg**	**17 52 26.1**	**-0.4**
	baz=265								
NSK				S		**S**	**Sg**	**17 52 38.6**	**-1.4**
	baz=265								
TWY	**Chenhua**	**1.07**	**311**	*e*P		**P**	**Pg**	**17 52 26.8**	**-0.3**
	baz=310								
TWY				*e*S		**S**	**Sg**	**17 52 41.3**	**+0.2**
	baz=310								
IRIF	**Iriomote-Funau**	**1.15**	**102**	P		**P**	**Pg**	**17 52 28.3**	**-0.3**
IRIF				S		**S**	**Sg**	**17 52 46.5**	**+3.0**
WHF	**Hehuan Shan**	**1.20**	**249**	*e*P		**P**	**Pg**	**17 52 28.6**	**-1.0**
	baz=254								
WHF				*e*S		**S**	**Sg**	**17 52 45.6**	**+0.4**
	baz=254								
ESL	**Shilin**	**1.23**	**232**	*e*P		**P**	**Pg**	**17 52 29.4**	**-0.8**
	baz=228								
ESL				*e*S		**S**	**Sg**	**17 52 46.5**	**+0.3**
	baz=228								
HATJ	**Hateruma jima**	**1.30**	**113**	P		**P**	**Pn**	**17 52 30.8**	**-0.6**
HATJ				S		**S**	**Sg**	**17 52 48.2**	**-0.2**
NSTT	**Nanjuang**	**1.36**	**273**	*e*P		**P**	**Pn**	**17 52 32.1**	**-0.2**
	baz=261								
NSTT				*e*S		**S**	**Sb**	**17 52 50.6**	**+0.3**
	baz=261								
JKRS	**Kuro-shima**	**1.42**	**103**	P		**P**	**Pn**	**17 52 32.6**	**-0.4**
JKRS				S		**S**	**Sb**	**17 52 52.1**	**+0.2**
EHY	**Hungye**	**1.51**	**225**	*e*P		**P**	**Pn**	**17 52 33.1**	**-1.2**
	baz=222								
EHY				*e*S		**S**	**Sn**	**17 52 51.2**	**-3.2**
	baz=222								
JIJ	**Ishigaki jima**

baz=214
CHN1 Nanshi 2.27 233 *e*P **Pn** **17 52 44.6 -0.1**
baz=230
CHN1 *e*S **Sn** **17 53 14.1 +0.9**
baz=230
SSD Sandimen 2.50 224 *e*P **Pn** **17 52 48.6 +0.8**
baz=221
SSD *e*S **Sn** **17 53 20.4 +1.7**
baz=221

IDC 19 18:03:15.4±2.8, 1398S×16719E, h0km, mb3.8/3, mb1 4.0/3, mb1mx3.6/16, mbtmp3.8/3, Error ellipse: s-maj=111.5km s-min=46.1km az=140.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**29.43**	**228**	P	P	18 09 20.6	-0.1
	1.6nm,0.6s,baz=53,slow=9.9,SNR=7.9						
WRA	**Warramunga Arr**	**31.95**	**255**	P	P	18 09 43.4	+0.2
	0.4nm,0.7s,baz=85,slow=9.0,SNR=11						
ASAR	**Alice Springs**	**32.88**	**248**	P	P	18 09 51.3	0.0
	0.5nm,0.4s,baz=77,slow=9.4,SNR=33						
SNAA	**Sanae**	**94.29**	**183**	*e*	P	18 16 31.3	-5.0
SNAA				*e*		18 16 33.1	
VNA3	**Neumayer Olymp**	**94.96**	**181**	*e*	P	18 16 34.1	-5.3
VNA3				*e*		18 16 35.9	
VNA2	**Neumayer--Watz**	**95.23**	**182**	*e*	P	18 16 36.1	-4.5
	baz=186,slow=5.0						
VNA2				*e*		18 16 37.9	
ARCES	**ARCESS Array B**	**119.51**	**345**	PKP	PKPdf	18 22 06.3	-0.1
	4.9nm,1.1s,baz=48,slow=1.3,SNR=5.2						

*ISCJB **19** 18:11:57.8±0.8, 2641S×003×2727E±003, h7km±5km, mb3.6/2, Error ellipse: s-maj=5.1km s-min=4.7km az=169.9*
*PRE **19** 18:11:57.7±1.0, 2640S×2729E, h2km, ML2.5*
*IDC **19** 18:11:58.3±2.4, 2648S×2723E, h0km, mb3.8/2, mb1 3.6/3, mb1mx3.4/20, mbtmp3.7/3, ML2.9/1, Error ellipse: s-maj=62.7km s-min=15.9km az=119.0*
ISC 19 18:11:58.0±0.7, 2641S×003×2727E±003, h1km±5km, n13, σ0≥89/24, mb3.9/2, South Africa

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PRYS	**Parys**	**0.52**	**171**	*e*P	**Pg**	**18 12 08.1**	**+0.1**
PRYS				*e*S	**Sg**	**18 12 15.3**	**+0.5**
PRYS				AML	AML	18 12 18.9	
	comp=Z,149nm,0.5s						
KSR	**Koster**	**0.65**	**329**	*e*P	**Pg**	**18 12 10.6**	**+0.2**
KSR				*e*S	**Sg**	**18 12 18.9**	**0.0**
KSR				AML	AML	18 12 22.9	
	comp=Z,119nm,0.3s						
ERPM	**east rand prop**	**0.89**	**79**	*e*P	**Pg**	**18 12 15.0**	**-0.1**
ERPM				*e*S	**Sg**	**18 12 26.2**	**-0.3**
ERPM				AML	AML	18 12 32.6	
	comp=Z,63nm,0.2s						
SLR	**Silverton**	**1.13**	**54**	*e*P	**Pg**	**18 12 19.0**	**-0.7**
SLR				*e*S	**Sg**	**18 12 34.4**	**0.0**
SLR				AML	AML	18 12 39.5	
	comp=Z,196nm,0.4s						
SEK	**Senekal**	**1.93**	**171**	*e*P	**Pn**	**18 12 32.4**	**+0.4**
SEK				*e*S	**Sn**	**18 12 57.8**	**+0.8**
SEK				AML	AML	18 12 58.9	
	comp=Z,103nm,0.7s						
LBTB	**Lobatse**	**2.05**	**312**	*e*P	**Pn**	**18 12 34.7**	**+1.0**
LBTB				*e*S	**Sn**	**18 12 59.8**	**-0.1**
LBTB				AML	AML	18 13 23.4	
	comp=Z,12nm,0.5s						
BOSA	**Boshof**	**2.83**	**219**	Pn	**Pn**	**18 12 44.9**	**+0.5**
	comp=Z,1.3nm,0.3s,baz=42,slow=13,SNR=37						
BOSA				Pg	**Pg**	**18 12 49.4**	**-2.9**
	comp=Z,2.2nm,0.3s,baz=42,slow=16,SNR=29						
BOSA				Lg		18 13 24.6	
	comp=Z,6.8nm,0.3s,baz=316,slow=11,SNR=15						
BOSA	**Boshof**	**2.83**	**219**	*e*P	**Pn**	**18 12 44.5**	**+0.1**
BOSA				*e*S	**Sn**	**18 13 18.8**	**-0.4**
BOSA				AML	AML	18 13 25.5	
	comp=Z,20nm,0.3s						
POGA	**Pongola**	**4.00**	**105**	*e*P	**Pn**	**18 13 01.7**	**+1.3**
POGA				*e*S	**Sn**	**18 13 47.3**	**-0.6**
POGA				AML	AML	18 14 05.1	
	comp=Z,11nm,0.4s						
MOPA	**Mopani**	**4.73**	**53**	*e*P	**Pn**	**18 13 11.0**	**+0.5**
MOPA				*e*S	**Sn**	**18 14 03.2**	**-2.7**
MOPA				AML	AML	18 14 25.2	
	comp=Z,68nm,8.6s						
PKA	**Prieska**	**5.14**	**230**	*e*P	**Pn**	**18 13 16.1**	**-0.1**
PKA				*e*S	**Sn**	**18 14 14.6**	**-1.6**
PKA				AML	AML	18 14 46.3	
	comp=Z,8.8nm,0.4s						
KMBO	**Kilima Mbogo**	**26.91**	**23**	P	**P**	**18 17 42.0**	**+1.1**
	comp=Z,0.7nm,0.3s,mb3.8,baz=251,slow=16,SNR=3.5						
TORD	**Torodi Ar. Bea**	**46.52**	**325**	P	**P**	**18 20 27.8**	**+0.5**
	comp=Z,0.4nm,0.4s,mb3.9,baz=154,slow=6.9,SNR=9.9						

*ISCJB **19** 18:31:24.9±2.3, 1265S±008×1662E±0.1, h45km±18km, mb4.5/23, MS3.7/10, Error ellipse: s-maj=21.6km s-min=11.2km az=153.7*
*BJI **19** 18:31:26.5, 1260S×16630E, h56km, mB4.9, mb4.5*
*IDC **19** 18:31:27.3±6.1, 1258S×16626E, h52km±47km, mb4.0/12, mb1 4.2/13, mb1mx4.1/18, mbtmp4.1/13, ML4.8/1, MS3.7/11, Ms1 3.7/11, ms1mx3.4/26, Error ellipse: s-maj=38.4km s-min=20.8km az=101.0*
*NEIC **19** 18:31:27.1±1.7, 1260S×16631E, h56km±14km, mb4.5/12, Error ellipse: s-maj=16.1km s-min=11.0km az=77.0*
ISC 19 18:31:27.4±1.9, 1263S±008×1663E±01, h53km±15km, n43, σ1≤10/37, mb4.5/23, MS3.7/10, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**6.97**	**297**	P	**Pn**	**18 33 06.6**	**-0.3**
	18nm,0.3s,baz=162,slow=2.3,SNR=38						
HNR				S	**Sn**	**18 34 24.2**	**-0.7**
	29nm,0.3s,baz=44,slow=24,SNR=6.2						
HNR				LR	LR	18 35 19.1	
	comp=Z,157nm,20.5s,baz=289,slow=33						
HNR	**Honiara**	**6.97**	**297**	*e*Pn	**Pn**	**18 33 06.4**	**-0.5**
HNR				P		18 33 06.7	
HNR				*e*Sn	**Sn**	**18 34 20.7**	**-4.2**
HNR				S	**Sn**	**18 34 24.2**	**-0.7**
HNR				LR	LR	18 35 19.1	
DZM	**Mont Dzumac**	**9.39**	**179**	*e*P	**Pn**	**18 33 40.9**	**+0.8**
DZM				*e*Sn	**Sn**	**18 35 40.7**	**+17**
CTA	**Charters Tower**	**20.57**	**246**	*e*P	**P**	**18 36 01.7**	**-0.2**
	8.2nm,1.0s						
CTA	**Charters Tower**	**20.57**	**246**	P	**P**	**18 36 01.9**	**0.0**
	5.6nm,0.9s,baz=76,slow=13,SNR=3.1						
CTA				LR	LR	18 42 42.4	
	comp=Z,229nm,18.6s,MS3.6,baz=65,slow=33						
CTAO	**Charters Tower**	**20.57**	**246**	*e*P	**P**	**18 36 01.5**	**-0.3**
	27nm,1.3s						
AFI	**Afiamalu**	**21.41**	**96**	LR	LR	18 43 19.3	
	comp=Z,182nm,18.8s,MS3.5,baz=261,slow=33						
URZ	**Urewera**	**27.29**	**161**	LR	LR	18 46 05.0	
	comp=Z,144nm,19.8s,MS3.5,baz=156,slow=32						
STKA	**Stephens Creek**	**29.67**	**226**	*e*P	**P**	**18 37 29.1**	**+0.9**
	2.7nm,0.7s,mb4.1						
STKA	**Stephens Creek**	**29.67**	**226**	P	**P**	**18 37 29.2**	**+1.0**
	2.9nm,0.7s,mb4.1,baz=43,slow=9.0,SNR=3.5						
STKA				LR	LR	18 49 12.6	
	comp=Z,181nm,19.6s,MS3.7,baz=26,slow=36						
WRAB	**Tennant Creek**	**31.44**	**252**	P	**P**	**18 37 39.3**	**-4.7**
	4.6nm,1.0s,mb4.3						
WRA	**Warramunga Arr**	**31.45**	**252**	P	**P**	**18 37 43.5**	**-0.6**
	1.1nm,0.7s,mb3.8,baz=75,slow=9.4,SNR=5.5						
ASAR	**Alice Springs**	**32.57**	**246**	P	**P**	**18 37 54.4**	**+0.5**
	2.1nm,0.7s,mb4.2,baz=71,slow=9.8,SNR=13						
GUMO	**Guam**	**33.59**	**320**	LR	LR	18 50 19.7	
	comp=Z,97nm,20.9s,MS3.5,baz=127,slow=34						
FITZ	**Fitzroy Crossi**	**39.49**	**257**	*e*P	**P**	**18 38 59.0**	**+5.9**
	6.7nm,0.8s,mb4.4						
PPT	**Papeete**	**42.84**	**102**	LR	LR	18 53 11.1	
	comp=Z,124nm,18.8s,MS3.8,baz=351,slow=30						
JHJ	**Hachijo jima 2**	**52.05**	**332**	LR	LR	19 00 33.3	
	comp=Z,73nm,18.2s,MS3.8,baz=125,slow=34						
MJAR	**Matsushiro Arr**	**55.60**	**333**	P	**P**	**18 40 57.0**	**-0.8**
	3.7nm,1.0s,mb4.4,baz=164,slow=7.8,SNR=6.2						
ASAJ	**Asahikawa**	**60.45**	**341**	LR	LR	19 06 14.9	
	comp=Z,50nm,18.1s,MS3.7,baz=164,slow=35						
KSRS	**Korea Array**	**61.47**	**326**	P	**P**	**18 41 39.0**	**+0.4**
	1.8nm,0.8s,mb4.2,baz=135,slow=7.5,SNR=7.0						
CASY	**Casey**	**65.09**	**202**	*e*P	**P**	**18 41 59.9**	**-2.2**
	32nm,0.9s,mb5.3						
SBA	**Scott Base**	**65.22**	**180**	*e*P	**P**	**18 42 01.9**	**-1.0**
	5.0nm,1.1s,mb4.5						
KMI	**Kunming**	**72.38**	**302**	P	**P**	**18 42 50.1**	**+1.9**
KMI				AP	pP	18 43 05.0	+1.8
KMI				AMB	AMB		
	comp=Z,8.0nm,1.2s,mb4.5						
CM31	**Chiang Mai Arr**	**73.21**	**294**	*e*P	**P**	**18 42 53.5**	**+0.2**
	comp=Z,6.9nm,1.0s,mb4.5						
CMAR	**Chiang Mai Arr**	**73.21**	**294**	P	**P**	**18 42 54.4**	**+1.1**
	comp=Z,3.6nm,0.8s,mb4.3,baz=120,slow=4.5,SNR=32						
CHTO	**Chiang Mai**	**73.33**	**294**	*e*P	**P**	**18 42 54.5**	**+0.5**
	comp=Z,3.2nm,0.9s,mb4.2						
HIA	**Hailar**	**73.99**	**330**	P	**P**	**18 42 57.0**	**-0.2**
	comp=Z,14nm,1.3s,mb4.7						
LZH	**Lanzhou**	**76.19**	**312**	*e*P	**P**	**18 43 12.3**	**+2.1**
LZH				AMB	AMB		
	comp=Z,22nm,1.4s,mb4.9						
LZH				AMB	AMB		
	comp=Z,87nm,4.5s						
SONM	**Songino Array**	**80.24**	**324**	P	**P**	**18 43 32.3**	**0.0**
	comp=Z,3.1nm,0.8s,mb4.3,baz=134,slow=5.6,SNR=15						
BILL	**Bilibino**	**80.46**	**0**	*e*P	**P**	**18 43 30.2**	**-2.8**
	comp=Z,7.0nm,0.3s,mb5.1						
GTA	**Gaotai**	**80.52**	**314**	*e*P	**P**	**18 43 35.8**	**+1.8**
GTA				AMB	AMB		
	comp=Z,8.0nm,1.2s,mb4.5						
MAW	**Mawson**	**83.45**	**202**	P	**P**	**18 43 48.8**	**-0.1**
	comp=Z,2.2nm,0.9s,mb4.2,baz=218,slow=5.4,SNR=3.7						
TLY	**Talaya**	**83.72**	**326**	*e*P	**P**	**18 43 49.8**	**-0.6**
	comp=Z,9.1nm,0.9s,mb4.9						
NVAR	**Mina Array Bea**	**86.66**	**50**	P	**P**	**18 44 06.7**	**+1.2**
	comp=Z,0.4nm,0.6s,mb3.8,baz=251,slow=5.6,SNR=3.2						
PDAR	**Pinedale Array**	**94.25**	**47**	LR	LR	19 20 01.9	
	comp=Z,49nm,18.8s,MS4.0,baz=228,slow=31						
MK31	**Makanchi Array**	**95.02**	**317**	*e*P	**P**	**18 44 43.8**	**-0.5**
MKAR	**Makanchi Array**	**95.02**	**317**	P	**P**	**18 44 44.0**	**-0.3**
	comp=Z,4.1nm,0.8s,mb4.9,baz=97,slow=6.6,SNR=29						
MKAR				LR	LR	19 27 02.2	
	comp=Z,20nm,18.1s,MS3.6,baz=356,slow=35						
ZALV	**Zalesovo Beam**	**95.13**	**324**	P	**P**	**18 44 43.2**	**-1.5**
	comp=Z,2.5nm,0.7s,mb4.7,baz=101,slow=6.2,SNR=12						
VNA3	**Neumayer Olymp**	**96.28**	**181**	*e*	**P**	**18 44 46.4**	**-3.3**
VNA3				*e*		18 44 52.1	
VNA2	**Neumayer--Watz**	**96.53**	**182**	*e*	**P**	**18 44 50.6**	**-0.2**
	baz=183,slow=4.5						
VNA2				*e*		18 44 55.7	
ARCES	**ARCESS Array B**	**117.99**	**345**	PKP	PKPdf	18 50 05.7	-1.9
	comp=Z,2.6nm,0.9s,baz=63,slow=2.2,SNR=4.0						
KEST	**Kesra**	**148.98**	**322**	PKPbc	PKPbc	18 51 09.4	-0.4
	comp=Z,3.4nm,1.0s,baz=215,slow=2.8,SNR=6.8						
TORD	**Torodi Ar. Bea**	**164.95**	**274**	PKPab	PKPab	18 52 22.9	-0.3
	comp=Z,1.6nm,0.9s,baz=80,slow=4.0,SNR=8.4						

*IDC **19** 19:07:31.9±2.1, 1280S×16671E, h0km, mb3.9/6, mb1 4.0/7, mb1mx3.9/17, mbtmp4.0/7, ML4.5/1, Error ellipse: s-maj=61.1km s-min=38.6km az=137.0*
*NEIC **19** 19:07:32.7±0.9, 1290S×16673E, h10km, Error ellipse: s-maj=25.6km s-min=17.6km az=51.0*
*ISCJB **19** 19:07:38.4±5.4, 1275S±02×1663E±02, h43km±39km, mb3.8/6, Error ellipse: s-maj=40.0km s-min=32.7km az=157.0*
ISC 19 19:07:39.8±5.1, 1275S±02×1664E±03, h45km±37km, n11, σ0≤83/12, mb3.8/6, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**7.10**	**296**	Pn	**Pn**	**19 09 21.6**	**+0.4**
	7.6nm,0.3s,baz=176,slow=5.7,SNR=8.0						
HNR				Sn	**Sn**	**19 10 40.0**	**-0.6**
	7.2nm,0.3s,baz=47,slow=22,SNR=3.3						
HNR	**Honiara**	**7.10**	**296**	*e*Pn	**Pn**	**19 09 21.1**	**-0.1**
HNR				Sn	**Sn**	**19 10 40.0**	**-0.6**
HNR				*e*Sn	**Sn**	**19 10 41.3**	**+0.7**
SNZO	**South Karori**	**29.44**	**167**	P	**P**	**19 13 33.1**	**-6.1**
WRA	**Warramunga Arr**	**31.56**	**253**	P	**P**	**19 13 57.7**	**-0.5**
	0.3nm,0.9s,mb3.1,baz=83,slow=8.6,SNR=2.9						
ASAR	**Alice Springs**	**32.67**	**246**	P	**P**	**19 14 08.1**	**+0.2**
	0.1nm,0.4s,mb3.1,baz=75,slow=9.2,SNR=4.1						
CMAR	**Chiang Mai Arr**	**73.34**	**294**	P	**P**	**19 19 08.8**	**+1.4**
	1.1nm,0.8s,mb3.8,baz=116,slow=4.6,SNR=9.5						
SONM	**Songino Array**	**80.34**	**324**	P	**P**	**19 19 47.0**	**+0.7**
	0.6nm,0.3s,mb3.9,baz=145,slow=6.0,SNR=7.5						
MKAR	**Makanchi Array**	**95.13**	**317**	P	**P**	**19 20 58.0**	**-0.3**
	0.6nm,0.4s,mb4.3,baz=90,slow=5.3,SNR=9.0						
ZALV	**Zalesovo Beam**	**95.24**	**324**	P	**P**	**19 20 57.1**	**-1.5**
	0.4nm,0.4s,mb4.2,baz=134,slow=4.2,SNR=2.7						
ARCES	**ARCESS Array B**	**118.06**	**345**	PKP	PKPdf	19 26 20.6	-0.7
	6.7nm,1.1s,baz=116,slow=2.8,SNR=5.6						
TORD	**Torodi Ar. Bea**	**165.07**	**274**	PKPab	PKPab	19 28 38.0	+0.8
	0.4nm,0.8s,baz=100,slow=4.5,SNR=2.4						

*ISCJB **19** 19:18:02.9±1.0, 695S±0.1×123W±02, h10km, mb3.8/4, MS3.7/9, Error ellipse: s-maj=22.7km s-min=14.5km az=180.0*
*IDC **19** 19:18:04.8±4.8, 668S×1228W, h0km, mb3.8/4, mb1 3.9/5, mb1mx3.6/21, mbtmp3.8/5, ML3.4/1, MS3.6/10, Ms1 3.6/10, ms1mx3.4/22, Error ellipse: s-maj=109.2km s-min=41.5km az=67.0*
*NEIC **19** 19:18:05.0±0.9, 684S×1228W, h10km, mb4.8/3, Error ellipse: s-maj=21.0km s-min=13.3km az=88.0*
ISC 19 19:18:05.2±1.0, 69S±01×123W±02, h10km, n19, σ0≤83/12, mb3.8/4, MS3.7/9, Ascension Island region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SHEL	**Horse Pasture**	**11.09**	**145**	Pn	**Pn**	**19 20 43.1**	**-0.9**
LIC	**Lamto**	**14.87**	**29**	*e*P	**Pn**	**19 21 42.7**	**+7.1**
	31nm,0.8s						
KIC	**Kosan Boka**	**15.12**	**30**	*e*P	**Pn**	**19 21 45.5**	**+6.4**
	154nm,1.6s						
TIC	**Toumodi**	**15.23**	**29**	*e*P	**Pn**	**19 21 46.6**	**+6.1**
	38nm,0.7s						
DBIC	**Dimbokro**	**15.34**	**29**	Pn	**Pn**	**19 21 41.0**	**-0.8**
	0.1nm,0.3s,baz=195,slow=11,SNR=2.8						
DBIC				LR	LR	19 26 24.4	
	comp=Z,96nm,19.1s,baz=261,slow=33						
TOA0	**Torodi Ar. Sit**	**24.24**	**35**	*e*P	**P**	**19 23 21.9**	**-0.5**
TORD	**Torodi Ar. Bea**	**24.24**	**35**	P	**P**	**19 23 22.5**	**+0.1**
	2.8nm,0.5s,mb3.9,baz=212,slow=10,SNR=44						
TORD				LR	LR	19 31 35.1	
	comp=Z,100nm,20.6s,MS3.3,baz=225,slow=34						
TSUM	**Tsumeb**	**31.52**	**116**	LR	LR	19 34 41.3	
	comp=Z,117nm,18.3s,MS3.6,baz=352,slow=32						
LSZ	**Lusaka**	**40.53**	**105**	P	**P**	**19 25 46.6**	**+1.7**
	0.5nm,0.3s,mb3.6,baz=269,slow=9.8,SNR=4.4						
LSZ	**Lusaka**	**40.53**	**105**	*e*P	**P**	**19 25 46.4**	**+1.4**
	2.2nm,0.9s,mb3.8						
LSZ				P		19 25 46.6	
BOSA	**Boshof**	**41.53**	**126**	LR	LR	19 39 07.8	
	comp=Z,72nm,19.0s,MS3.6,baz=198,slow=30						
LPAZ	**La Paz**	**55.36**	**255**	LR	LR	19 50 04.2	
	comp=Z,55nm,20.2s,MS3.6,baz=118,slow=35						
GERES	**GERESS Array B**	**59.95**	**20**	P	**P**	**19 28 12.7**	**+1.2**
	0.2nm,0.3s,mb3.7,baz=226,slow=11,SNR=3.4						
GERES				LR	LR	19 53 34.1	
	comp=Z,52nm,18.4s,MS3.7,baz=348,slow=36						
PLCA	**Paso Flores**	**61.72**	**227**	LR	LR	19 51 20.7	
	comp=Z,146nm,20.0s,MS4.1,baz=9.0,slow=32						
ROSC	**El Rosal**	**63.01**	**279**	LR	LR	19 56 31.0	
	comp=Z,48nm,19.1s,MS3.7,baz=44,slow=37						
NNA	**Nana**	**63.78**	**260**	P	**P**	**19 28 37.9**	**-0.1**
AKASG	**Malin Array Be**	**67.57**	**27**	P	**P**	**19 29 01.4**	**-0.4**
	0.8nm,0.6s,mb4.0,baz=225,slow=7.1,SNR=4.5						
NOA	**NORSAR Array B**	**70.14**	**12**	LR	LR	19 58 01.0	
	comp=Z,22nm,20.2s,MS3.4,baz=300,slow=34						
PDAR	**Pinedale Array**	**99.94**	**312**	LR	LR	20 09 07.8	
	comp=Z,54nm,18.9s,MS4.1,baz=238,slow=31						

*NEIC **19** 19:40:04.9±1.1, 320S×139.19E, h35km, mb3.8/2, Error ellipse: s-maj=39.1km s-min=10.7km az=97.0*
*ISCJB **19** 19:40:11.3±2.4, 347S±008×1394E±02, h131km±25km, mb3.7/5, Error ellipse: s-maj=32.7km s-min=10.9km az=13.4*
*IDC **19** 19:40:11.8±5.7, 333S×139.15E, h100km±45km, mb3.3/5, mb1 3.6/8, mb1mx3.5/14, mbtmp3.5/8, MS3.2/1, Ms1 3.2/1, ms1mx2.5/14, Error ellipse: s-maj=61.0km s-min=14.4km az=91.0*

ISC 19 19:40:11.4±1.9, 336S±008×1385E±02, h73km±17km, n14, σ1≤11/17, mb3.8/5, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KAKA	**Kakadu**	**11.06**	**212**	*e*P	**Pn**	**19 42 45.7**	**-1.0**
	14nm,0.3s						
KAKA				*e*S	**Sn**	**19 44 48.9**	**+0.2**
BATI	**Baumata**	**16.22**	**244**	P	**Pn**	**19 44 01.9**	**+7.1**
	1.0nm,0.3s,baz=65,slow=19,SNR=3.3						
WRAB	**Tennant Creek**	**16.96**	**193**	*e*Pn	**Pn**	**19 44 03.5**	**-0.5**
	4.4nm,0.6s						
WRA	**Warramunga Arr**	**16.97**	**194**	P	**Pn**	**19 44 03.7**	**-0.5**
	0.8nm,0.3s,baz=17,slow=13,SNR=41						
WRA				S	**S**	**19 47 06.6**	**-12**
	0.2nm,0.3s,baz=9.8,slow=24,SNR=4.2						
FITZ	**Fitzroy Crossi**	**19.32**	**220**	*e*P	**Pn**	**19 44 35.2**	**+2.6**
	6.7nm,1.4s						
FITZ				*e*S	**S**	**19 48 04.6**	**-1.2**
FITZ	**Fitzroy Crossi**	**19.32**	**220**	P	**Pn**	**19 44 34.6**	**+2.0**
	0.3nm,0.3s,baz=55,slow=13,SNR=14						
FITZ				LR	LR	19 53 48.6	
	comp=Z,63nm,19.1s,baz=328,slow=41						
ASAR	**Alice Springs**	**20.67**	**192**	P	**P**	**19 44 46.5**	**+1.1**
	2.4nm,0.5s,baz=22,slow=10.0,SNR=67						
ASAR				S	**S**	**19 48 33.3**	**+0.8**
	0.4nm,0.5s,baz=5.8,slow=28,SNR=3.1						
CMAR	**Chiang Mai Arr**	**44.58**	**301**	P	**P**	**19 48 18.4**	**+1.8**
	0.6nm,0.7s,mb3.5,baz=116,slow=8.2,SNR=6.2						
YSS	**Yuzh-Sakhalins**	**50.24**	**4**	P	**P**	**19 48 54.9**	**-5.1**
	59nm,1.3s,mb5.4						
SONM	**Songino Array**	**58.22**	**335**	P	**P**	**19 49 57.4**	**-0.6**
	0.1nm,0.4s,mb3.2,baz=163,slow=7.4,SNR=2.3						
MKAR	**Makanchi Array**	**70.17**	**323**	P	**P**	**19 51 16.5**	**+0.2**
	0.6nm,0.4s,mb3.7,baz=105,slow=8.2,SNR=7.4						
MKAR	**Makanchi Array**	**70.17**	**323**	P	**P**	**19 51 16.5**	**+0.2**
ZALV	**Zalesovo Beam**	**72.39**	**330**	P	**P**	**19 51 28.1**	**-1.4**
	0.3nm,0.5s,mb3.4,baz=103,slow=6.2,SNR=2.7						
TORD	**Torodi Ar. Bea**	**136.23**	**285**	PKP	PKPdf	19 59 25.4	-0.2
	0.3nm,0.7s,baz=97,slow=1.6,SNR=2.9						

PRE 19 20:01:08.5±1.2, 2108S×3329E, h5km, ML4.7, Mozambique

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MSNA	**Messina**	**3.29**	**247**	*e*P	Pn	20 02 02.8	+2.1
MSNA				*e*S	Sn	20 02 41.1	+0.8
MSNA				AML	AML	20 02 57.7	
	comp=Z,430nm,0.4s						
POGA	**Pongola**	**6.45**	**193**	*e*P	Pn	20 02 44.4	+0.2
POGA				*e*S	Sn	20 03 55.1	-3.1
POGA				AML	AML	20 04 40.6	
	comp=Z,82nm,0.6s						
SLR	**Silverton**	**6.53**	**224**	*e*S	Sn	20 03 57.8	-2.5
SLR				AML	AML	20 04 39.4	
	comp=Z,133nm,0.6s						
ERPM	**east rand prop**	**6.92**	**221**	*e*S	Sn	20 04 07.5	-2.2
ERPM				AML	AML	20 04 52.7	
	comp=Z,89nm,0.6s						
PRYS	**Parys**	**7.96**	**222**	*e*P	Pn	20 03 05.9	+1.1
PRYS				*e*S	Sn	20 04 31.6	-3.6
PRYS				AML	AML	20 05 30.3	
	comp=Z,70nm,0.6s						
LBTB	**Lobatse**	**8.10**	**240**	*e*P	Pn	20 03 08.3	+1.5
LBTB				*e*S	Sn	20 04 35.1	-3.7
LBTB				AML	AML	20 05 27.1	
	comp=Z,70nm,0.6s						
SEK	**Senekal**	**8.87**	**214**	*e*S	Sn	20 04 53.2	-4.4
SEK				AML	AML	20 05 58.5	
	comp=Z,63nm,0.7s						
KSD	**Kokstad**	**10.05**	**200**	*e*P	Pn	20 03 34.5	+0.9
KSD				*e*S	Sn	20 05 21.9	-4.8
KSD				AML	AML	20 06 27.0	
	comp=Z,73nm,0.8s						
BOSA	**Boshof**	**10.46**	**223**	*e*P	Pn	20 03 40.0	+0.8
BOSA				*e*S	Sn	20 05 30.9	-6.0
BOSA				AML	AML	20 06 51.2	
	comp=Z,32nm,0.7s						
UPI	**Upington**	**13.12**	**234**	*e*P	Pn	20 04 16.9	+1.4
UPI				*e*S	Sn	20 06 34.8	-7.2
SOE	**Somerset East**	**13.48**	**209**	*e*P	Pn	20 04 21.8	+1.3
SOE				*e*S	Sn	20 06 43.1	-7.6
SUR	**Sutherland**	**15.83**	**222**	*e*P	Pn	20 04 55.4	+3.2
SUR				*e*S	Sn	20 07 41.1	-6.9

*NEIC **19** 20:03:47.9, 1783N×9758W, h72km, MD3.9(MEX), After MEX.*
MEX 19 20:03:47.5±0.6, 1786N×9757W, h73km±5km, MD3.8, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
UTMO	**Huajuapan**	**0.22**	**261**	*i* P	Pn	20 03 57.6	-1.0
UTMO				*i* S	Sn	20 04 05.6	-1.1
TPIG	**Tehuac#an**	**0.59**	**20**	*e*P	Pn	20 04 00.3	-1.1
TPIG				*i* S	Sn	20 04 10.0	-1.8
OXX	**Oaxaca**	**1.12**	**134**	*i* P	Pn	20 04 07.2	-0.5
OXX				*i* S	Sn	20 04 20.7	-2.1
VHO	**Vista Hermosa**	**1.12**	**134**	*i* P	Pn	20 04 06.8	-1.0
VHO				*i* S	Sn	20 04 21.2	-1.6
PNIG	**Pinotepa**	**1.56**	**200**	*e*P	Pn	20 04 11.6	-1.7
PNIG				*i* S	Sn	20 04 31.1	-1.7
PPM	**Popocatepetl**

BSO1	**Boso 1**	**2.69**	**337**	P	Pn	20 37 06.8	+1.4
BSO1				*e*S	Sn	20 37 38.6	+1.8
BSO3	**Boso 3**	**2.99**	**332**	P	Pn	20 37 11.1	+1.5
BSO3				*e*S	Sn	20 37 46.1	+1.9
BSO4	**Boso 4**	**3.23**	**331**	*e*S	Sn	20 37 52.7	+2.7
JYT	**Yasato**	**4.38**	**338**	*e*S	Sn	20 38 21.4	+2.9
JHO	**Hitachi**	**4.64**	**343**	P	Pn	20 37 33.8	+1.6
JAG	**Ashikaga**	**4.83**	**332**	P	Pn	20 37 36.4	+1.6
JFK	**Kawauchi**	**5.30**	**348**	P	Pn	20 37 42.4	+1.1
JMM	**Marumori**	**5.80**	**349**	P	Pn	20 37 50.5	+2.3
JMM				S	Sn	20 38 50.5	-2.9
JMK	**Ichinoseki**	**6.82**	**353**	P	Pn	20 38 04.2	+2.1
JMK				*e*S	Sn	20 39 15.8	-2.6

*NDI **19** 20:45:50.9±0.8, 3386N×7290E, h35km, ML3.9, mb3.8(NEIC)*
*IDC **19** 20:45:54.4±1.2, 3368N×7299E, h0km, mb3.7/1, Error ellipse: s-maj=31.1km s-min=28.7km az=29.0*
*MOS **19** 20:45:56.7±2.9, 3354N×7355E, h33km, mb4.2/2, Error ellipse: s-maj=16.4km s-min=12.4km az=99.1*
*NEIC **19** 20:45:56.9±0.5, 3334N×7348E, h35km, mb3.8/2, Error ellipse: s-maj=10.5km s-min=5.3km az=47.0*
*ISCJB **19** 20:45:58.1±0.9, 3347N±005×7365E±009, h86km±15km, mb3.6/3, Error ellipse: s-maj=12.9km s-min=6.4km az=154.0*

ISC 19 20:45:59.3±0.8, 3347N±005×7361E±009, h69km±15km, n32, σ1°29/34, mb3.6/3, 1C, Pakistan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
THN	**Thein Dam**	**2.05**	**120**	*e*P	**Pn**	**20 46 33.0**	**+1.4**
THN				*e*S	**Sn**	**20 47 03.7**	**+7.4**
SDNR	**Sundarnagar**	**3.46**	**124**	*e*P	**Pn**	**20 46 52.1**	**+1.4**
SDNR				*ex*	x	20 47 55.5	
SMLA	**Simla**	**3.81**	**127**	⇑*i*P	**Pn**	**20 46 57.3**	**+1.8**
SMLA				*ex*	x	20 47 46.1	
	comp=E,243nm,0.2s						
SMLA				*i* x	x	20 47 54.1	
SMLA				*ex*	x	20 47 58.9	
	comp=N,448nm,0.3s						
KBL	**Kabul**	**3.94**	**287**	*e*P	**Pn**	**20 46 55.5**	**-1.7**
KHET	**Khetri**	**5.70**	**160**	*e*S	**Sn**	**20 48 26.9**	**+1.4**
SONA	**Sohna**	**6.00**	**149**	*e*P	**Pn**	**20 47 25.2**	**-0.3**
SONA				*e*S	**Sn**	**20 48 34.4**	**+1.6**
UCH	**Uchtor**	**8.77**	**4**	*e*Pn	**Pn**	**20 48 04.0**	**+0.8**
	comp=N,2.9nm,0.5s						
EKS2	**Erkin-Say**	**9.18**	**1**	*e*Pn	**Pn**	**20 48 09.6**	**+0.9**
	comp=N,5.2nm,0.5s						
TKM2	**Tokmak 2**	**9.56**	**9**	*e*P	**Pn**	**20 48 14.4**	**+0.3**
TKM2				pmax	pmax		
	comp=Z,3.0nm,0.4s						
TKM2	**Tokmak 2**	**9.56**	**9**	*e*Pn	**Pn**	**20 48 14.4**	**+0.4**
	comp=Z,3.3nm,0.4s						
DANN	**Dangsing**	**10.10**	**118**	*e*P	**Pn**	**20 48 21.3**	**-0.2**
	comp=Z,5.4nm,0.2s						
KOLN	**Koldanda**	**10.31**	**121**	*e*P	**Pn**	**20 48 24.0**	**-0.4**
	comp=Z,5.4nm,0.4s						
GKN	**Gorkha**	**10.94**	**117**	*e*P	**Pn**	**20 48 32.4**	**-0.6**
	comp=Z,4.1nm,0.2s						
DMN	**Daman**	**11.50**	**117**	*e*P	**Pn**	**20 48 39.4**	**-1.2**
	comp=Z,5.6nm,0.4s						
KKN	**Kakani**	**11.54**	**116**	*e*P	**Pn**	**20 48 39.9**	**-1.2**
PKI	**Pulchoki**	**11.75**	**117**	*e*P	**Pn**	**20 48 42.7**	**-1.3**
JIRN	**Jiri**	**12.29**	**115**	*e*P	**Pn**	**20 48 50.1**	**-1.2**
RAMN	**Ramite**	**12.97**	**117**	*e*P	**Pn**	**20 48 58.5**	**-2.2**
TAPN	**Taplejung**	**13.61**	**113**	*e*P	**Pn**	**20 49 07.4**	**-1.7**
MK31	**Makanchi Array**	**14.86**	**24**	P	**Pn**	**20 49 25.9**	**+0.6**
MKAR	**Makanchi Array**	**14.86**	**24**	Pn	**Pn**	**20 49 25.9**	**+0.5**
	baz=210,slow=13						
KURK	**Kurchatov**	**17.62**	**11**	P	**Pn**	**20 49 56.9**	**-3.0**
KURK				pmax	pmax		
	comp=Z,3.0nm,0.9s						
KURK	**Kurchatov**	**17.62**	**11**	P	**Pn**	**20 49 56.9**	**-3.0**
	comp=Z,2.7nm,0.9s						
ZALV	**Zalesovo Beam**	**21.96**	**18**	P	**P**	**20 50 49.5**	**+2.4**
	comp=Z,1.7nm,0.4s,mb3.7,baz=215,slow=11,SNR=12						
ZALV	**Zalesovo Beam**	**21.96**	**18**	P	**P**	**20 50 49.5**	**+2.4**
ZALV				pmax	pmax		
	comp=Z,2.0nm,0.4s,mb3.8						
ZALV	**Zalesovo Beam**	**21.96**	**18**	P	**P**	**20 50 49.5**	**+2.4**
GNI	**Garni**	**23.99**	**294**	P	**P**	**20 51 06.2**	**-1.1**
GNI				pmax	pmax		
	comp=Z,7.0nm,1.0s						
GNI	**Garni**	**23.99**	**294**	P	**P**	**20 51 06.2**	**-1.1**
	comp=Z,7.0nm,1.0s,mb4.0						
CMAR	**Chiang Mai Arr**	**27.15**	**117**	P	**P**	**20 51 43.7**	**+7.6**
	comp=Z,0.3nm,0.3s,mb3.3,baz=303,slow=8.3,SNR=4.8						
TORD	**Torodi Ar. Bea**	**67.86**	**271**	P	**P**	**20 56 51.5**	**+1.0**
	baz=39,slow=6.4						
TORD	**Torodi Ar. Bea**	**67.86**	**271**	P	**P**	**20 56 51.5**	**+1.0**
WRA	**Warramunga Arr**	**78.56**	**123**	P	**P**	**20 58 01.6**	**+8.2**
	baz=312,slow=5.3						

*NEIC **19** 20:54:38.4, 1899N×7023W, h134km, mb4.6/1, MD4.3(RSPR), After RSPR.*

RSPR 19 20:54:38.4, 1899N×7023W, h134km±12km, MD4.3/13, MD4.3/13, 17C, Dominican Republic region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
STDO	**Santo Domingo**	**0.61**	**152**	⇑*e*P	Pn	20 54 54.7	-3.8
STDO				*e*S	Sn	20 55 06.0	-7.8
PCDR	**Punta Cana, DR**	**1.81**	**105**	⇑*e*P	Pn	20 55 11.5	+1.2
PCDR	**Punta Cana, DR**	**1.81**	**105**	*e*S	Sn	20 55 35.5	+0.8
IMO	**Isla Mona**	**2.37**	**111**	⇑*e*P	Pn	20 55 19.3	+2.2
IMO	**Isla Mona**	**2.37**	**111**	*e*S	Sn	20 55 48.9	+2.1
AGPR	**Aguadilla, PR**	**3.00**	**99**	⇑*e*P	Pn	20 55 27.0	+1.8
AGPR	**Aguadilla, PR**	**3.00**	**99**	*e*S	Sn	20 56 02.1	+0.9
AGPR	**Aguadilla, PR**	**3.00**	**99**	*e*Pn	Pn	20 55 26.8	+1.7
AGPR				*e*S	Sn	20 56 02.1	+0.9
AGPR				*e*Sn	Sn	20 56 02.8	+1.6
LSP	**Las Mesas**	**3.09**	**105**	⇑*e*P	Pn	20 55 28.9	+2.6
LSP				*e*S	Sn	20 56 05.0	+1.8
CRPR	**Cabo Rojo, PR**	**3.12**	**108**	⇑*e*P	Pn	20 55 28.4	+1.7
CRPR				*e*S	Sn	20 56 05.9	+2.0
GBPR	**Guanica, Bosqu**	**3.33**	**107**	*e*S	Sn	20 56 10.3	+1.3
AOPR	**Arecibo Observ**	**3.35**	**100**	⇑*e*P	Pn	20 55 31.6	+1.9
AOPR				*e*S	Sn	20 56 10.1	+0.7
OBIP	**Obispado Ponce**	**3.56**	**105**	⇑*e*P	Pn	20 55 34.2	+1.7
OBIP				*e*S	Sn	20 56 16.3	+2.0
CELP	**Cerrillos**	**3.58**	**104**	⇑*e*P	Pn	20 55 35.7	+3.0
CELP				*e*S	Sn	20 56 15.0	+0.3
ICM	**Isla Caja Muer**	**3.68**	**107**	⇑*e*P	Pn	20 55 36.7	+2.6
ICM				*e*S	Sn	20 56 20.7	+3.6
SJG	**San Juan**	**3.96**	**102**	⇑*e*P	Pn	20 55 40.0	+2.2
SJG				*e*S	Sn	20 56 21.4	-2.4
SJG	**San Juan**	**3.96**	**102**	⇑*e*P	Pn	20 55 41.4	+3.6
SJG				*e*S	Sn	20 56 25.6	+1.7
CPD	**Cerro la Pandu**	**4.20**	**102**	⇑*e*P	Pn	20 55 42.6	+1.7
CPD				*e*S	Sn	20 56 27.4	-2.0
CBYP	**Canovanas**	**4.20**	**99**	⇑*e*P	Pn	20 55 39.5	-1.5
HUMP	**Col San Antoni**	**4.24**	**101**	⇑*e*P	Pn	20 55 42.8	+1.4
HUMP				*e*S	Sn	20 56 30.8	+0.5
MTP	**Monte Pirata**	**4.52**	**101**	⇑*e*P	Pn	20 55 44.1	-1.1
MTP				*e*S	Sn	20 56 38.1	+1.0
MTP				*e*Sn	Sn	20 56 43.8	+6.7
STVI	**Saint Thomas**	**5.04**	**96**	⇑*e*P	Pn	20 55 51.1	-1.0
STVI				*e*S	Sn	20 56 49.4	-0.1
SDV	**Santo Domingo**	**10.05**	**182**	*e*Pn	Pn	20 57 01.5	+2.0
	7.0nm,0.6s						
SDV				*e*Sn	Sn	20 58 42.6	-8.0

*IDC **19** 20:58:37.3±0.8, 1043N×14586E, h0km, mb3.9/9, mb1 4.1/10, mb1mx4.0/19, mbtmp3.9/10, ML4.2/1, Error ellipse: s-maj=30.2km s-min=17.4km az=84.0*
*NEIC **19** 20:58:38.3±0.6, 1041N×14578E, h10km, mb4.5/5, Error ellipse: s-maj=23.1km s-min=10.9km az=88.0*
*ISCJB **19** 20:58:40.0±0.8, 1039N±008×1457E±02, h33km, mb4.0/14, Error ellipse: s-maj=26.7km s-min=11.0km az=178.5*

ISC 19 20:58:42.0±0.8, 1037N±008×1458E±02, h35km, n18, σ0°88/20, mb4.0/14, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**3.32**	**344**	Pn	**Pn**	**20 59 28.2**	**-3.3**
	26nm,0.3s,baz=37,slow=20,SNR=15						
GUMO				Sn	**Sn**	**21 00 04.5**	**-5.3**
	207nm,0.3s,baz=18,slow=19,SNR=20						
GUMO	**Guam**	**3.32**	**344**	*e*Pn	**Pn**	**20 59 27.4**	**-4.1**
GUMO				Pn	**Pn**	**20 59 28.2**	**-3.3**
GUMO				*e*Sn	**Sn**	**21 00 01.7**	**-8.1**
GUMO				Sn	**Sn**	**21 00 04.5**	**-5.3**
WRAB	**Tennant Creek**	**32.15**	**201**	P	**P**	**21 05 04.9**	**-1.6**
	5.2nm,1.1s,mb4.3						
WRA	**Warramunga Arr**	**32.17**	**201**	P	**P**	**21 05 07.1**	**+0.5**
	0.5nm,0.5s,mb3.6,baz=26,slow=9.5,SNR=10						
WRA				PcP	PcP	21 07 56.4	+1.2
	0.4nm,0.7s,baz=7.6,slow=2.6,SNR=4.8						
ASAR	**Alice Springs**	**35.77**	**199**	P	**P**	**21 05 38.8**	**+0.9**
	1.0nm,0.7s,mb3.9,baz=24,slow=7.5,SNR=14						
MBWA	**Marble Bar**	**40.47**	**219**	*e*P	**P**	**21 06 16.3**	**-1.2**
	18nm,1.1s,mb4.7						
STKA	**Stephens Creek**	**42.20**	**185**	P	**P**	**21 06 31.4**	**-0.2**
	0.9nm,0.6s,mb3.6,baz=21,slow=8.6,SNR=2.9						
CMAR	**Chiang Mai Arr**	**45.98**	**286**	P	**P**	**21 07 03.6**	**+1.5**
	2.0nm,0.7s,mb4.2,baz=85,slow=5.9,SNR=25						
SONM	**Songino Array**	**49.88**	**326**	P	**P**	**21 07 32.6**	**+0.7**
	1.0nm,0.6s,mb4.0,baz=137,slow=6.6,SNR=12						
MKAR	**Makanchi Array**	**64.43**	**317**	P	**P**	**21 09 15.5**	**+0.7**
	0.7nm,0.4s,mb4.0,baz=88,slow=9.1,SNR=7.5						
ZALV	**Zalesovo Beam**	**64.76**	**325**	P	**P**	**21 09 16.5**	**-0.3**
	0.5nm,0.5s,mb3.9,baz=104,slow=6.9,SNR=3.8						
KURK	**Kurchatov**	**67.62**	**321**	*e*P	**P**	**21 09 35.2**	**0.0**
	3.1nm,0.7s,mb4.5						
BRVK	**Borovoye**	**73.07**	**322**	P	**P**	**21 10 08.4**	**-0.1**
	2.3nm,0.6s,mb4.3						
KBL	**Kabul**	**73.32**	**303**	*e*P	**P**	**21 10 10.1**	**-0.2**
	2.1nm,0.9s,mb4.1						
YKA	**Yellowknife Ar**	**85.28**	**27**	P	**P**	**21 11 15.9**	**+0.9**
	0.7nm,0.8s,mb3.8,baz=290,slow=4.5,SNR=2.6						
NVAR	**Mina Array Bea**	**88.21**	**51**	P	**P**	**21 11 29.7**	**-0.1**
	0.5nm,0.6s,mb3.9,baz=290,slow=6.6,SNR=3.7						
DBIC	**Dimbokro**	**146.22**	**299**	PKPbc	PKPbc	21 18 21.4	+1.6
	1.4nm,0.7s,baz=45,slow=7.1,SNR=3.3						
LPAZ	**La Paz**	**146.50**	**104**	PKPbc	PKPbc	21 18 22.5	+1.9
	0.5nm,0.4s,baz=297,slow=2.3,SNR=3.6						

IGQ 19 21:34:44.9, 108S×7875W, h14km±3km, Mb4.0, Ms3.8, 2C-5D, Error ellipse: s-maj=1.1km s-min=0.6km az=161.5, Ecuador

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
QIL2	**Quilotoa**	**0.27**	**321**	⇓P	Pg	21 34 50.9	+0.3
PISA	**Pisayambo**	**0.36**	**87**	⇑P	Pg	21 34 53.3	+1.0
PISA	**Pisayambo**	**0.36**	**87**	⇑S	Sg	21 34 57.9	+0.6
JUI6	**Juive**	**0.44**	**141**	P	Pg	21 34 54.1	+0.4
RUN5	**Runtun**	**0.47**	**136**	P	Pg	21 34 54.6	+0.5
CAMI	**Rancho Maria**	**0.47**	**32**	P	Pg	21 34 55.0	+0.8
ULBA	**Ulba**	**0.50**	**137**	P	Pg	21 34 55.3	+0.4
ULBA	**Ulba**	**0.50**	**137**	S	Sg	21 35 02.1	+0.5
ARRY	**Arrayan**	**0.52**	**145**	⇓P	Pg	21 34 55.4	+0.3
ARRY	**Arrayan**	**0.52**	**145**	⇓S	Sg	21 35 02.5	+0.5
PATA	**Patacocha**	**0.53**	**143**	P	Pg	21 34 56.1	+0.8
PATA	**Patacocha**	**0.53**	**143**	S	Sg	21 35 03.1	+0.8
TAMB	**Tambo**	**0.54**	**45**	P	Pg	21 34 56.3	+0.8
VC1	**Cotopaxi 1**	**0.56**	**39**	⇓P	Pg	21 34 56.7	+0.9
VC1	**Cotopaxi 1**	**0.56**	**39**	⇓S	Sg	21 35 05.1	+1.9
ANTI	**Antisana**	**0.86**	**43**	P	Pg	21 35 01.6	0.0
ANTI	**Antisana**	**0.86**	**43**	S	Sg	21 35 13.1	+0.3
JUA2	**San Juan 2**	**0.87**	**10**	P	Pg	21 35 05.0	+3.2
TERV	**Terraza Guagua**	**0.91**	**9**	P	Pb	21 35 05.4	+2.9
GGP	**Refugio Guagua**	**0.91**	**10**	P	Pb	21 35 02.9	+0.4
PINO	**Pino**	**0.93**	**9**	P	Pb	21 35 05.7	+2.9
YANA	**Yana**	**0.97**	**11**	P	Pb	21 35 03.6	0.0
CAYA	**Cayambe**	**1.37**	**34**	P	Pn	21 35 12.7	+3.0

*ISCJB **19** 21:36:26.9±1.3, 3494N±008×2562E±007, h9km±10km, Error ellipse: s-maj=14.2km s-min=8.6km az=159.9*
*ATH **19** 21:36:26.9, 3492N×2561E, h19km±14km, MD2.9/3*
*CSEM **19** 21:36:26.9, 3492N×2561E, h19km, MD3.0/3, After ATH*
*NEIC **19** 21:36:26.9, 3492N×2561E, h19km, MD2.9(ATH), After ATH.*

ISC 19 21:36:26.4±1.6, 349N±01×2563E±006, h5km±13km, n11, σ0°87/16, 2D, Crete

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LAST	**Lasithi**	**0.32**	**337**	P	**Pg**	**21 36 32.8**	**+0.2**
LAST				S	**Sg**	**21 36 42.5**	**+5.7**
NPS	**Neapolis**	**0.40**	**358**	⇓*i*Pb	**Pg**	**21 36 34.2**	**+0.1**
NPS				*e*Sb	**Sg**	**21 36 38.8**	**-0.5**
NPS	**Neapolis**	**0.40**	**358**	⇓*i*PB	**Pg**	**21 36 34.2**	**+0.1**
NPS				*e*SB	**Sg**	**21 36 38.8**	**-0.5**
ZKR	**Zakros**	**0.54**	**62**	P	**Pg**	**21 36 36.7**	**-0.1**
ZKR				S	**Sg**	**21 36 48.4**	**+4.5**
SIVA	**Sivas**	**0.69**	**283**	P	**Pg**	**21 36 38.0**	**-1.7**
SIVA				S	**Sg**	**21 36 50.5**	**+1.8**
GVD	**Gavdhos**	**1.27**	**269**	*e*Pn	**Pn**	**21 36 50.5**	**-0.3**
GVD	**Gavdhos**	**1.27**	**269**	*e*PN	**Pn**	**21 36 50.5**	**-0.3**
VAM	**Vamos**	**1.29**	**295**	*e*Pn	**Pn**	**21 36 50.7**	**-0.4**
VAM	**Vamos**	**1.29**	**295**	*e*PN	**Pn**	**21 36 50.7**	**-0.4**
KARP	**Karpathos**	**1.43**	**61**	*e*Pn	**Pn**	**21 36 53.6**	**+0.7**
KARP	**Karpathos**	**1.43**	**61**	*e*PN	**Pn**	**21 36 53.6**	**+0.7**

NEIC 19 22:15:00.9, 6513N×16977W, h10km, ML3.7(AEIC), After AEIC., Eastern Siberia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TNA	**Tin City**	**0.89**	**60**	P	Pg	22 15 18.2	+0.2
TNA				S	Sg	22 15 30.3	+0.9
GCSA	**Galena City Sc**	**5.50**	**88**	P	Pn	22 16 23.4	+0.8
GCSA				S	Sn	22 17 27.8	+2.0
TT01	**Tatalina**	**6.44**	**104**	P	Pn	22 16 34.8	-0.8
IM3	**Indian Mountai**	**6.70**	**75**	P	Pn	22 16 38.9	-0.2
IMA2	**Indian Mountai**	**6.73**	**75**	*e*Pb	Pb	22 16 59.9	+2.1
IMA2				*e*Sg	Sg	22 18 29.5	-7.0
SVW2	**Sparrevohn**	**7.59**	**116**	*e*Pn	Pn	22 16 50.6	-0.8
CHUM	**Lake Minchumin**	**7.63**	**91**	P	Pn	22 16 51.2	-0.8
CHUM				S	Sn	22 18 17.4	-0.9
PPLA	**Purkeypile**	**8.03**	**98**	P	Pn	22 16 56.5	-0.9
BPAW	**Bear Paw Mtn.**	**8.13**	**89**	*e*Pn	Pn	22 16 57.8	-1.0
TRF	**Thorofare Moun**	**8.63**	**92**	P	Pn	22 17 05.3	-0.3
SKT	**Skwentna**	**8.72**	**103**	P	Pn	22 17 05.8	-1.1
MCK	**McKinley**	**9.11**	**89**	*e*Pn	Pn	22 17 11.0	-1.1

MAN 19 22:50:33, 1124N×12458E, h14km, mb4.3, ML3.1, MS2.9, 1C-1D, Leyte

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
OCLP	**Ormoc**	**0.19**	**171**	*e*P	Pg	22 50 38.1	+0.8
OCLP				*e*S	Sg	22 50 43.6	+3.2
PLP	**Palo**	**0.40**	**100**	⇓*e*P	Pg	22 50 41.6	+0.5
PLP				*e*S	Sg	22 50 48.1	+1.6
BESP	**Borongan**	**0.92**	**67**	*e*P	Pb	22 50 51.0	+0.3
BESP				*e*S	Sb	22 51 04.2	+1.4
LLP	**Lapu-Lapu**	**1.09**	**213**	*e*P	Pb	22 50 53.6	-0.1
LLP				*e*S	Sb	22 51 09.0	+1.1
MSLP	**Maasin**	**1.13**	**166**	*e*P	Pb	22 50 55.8	+1.4
MSLP				*e*S	Sb	22 51 16.5	+7.6
CNP	**Catarman**	**1.27**	**4**	*e*P	Pn	22 50 55.0	-1.3
CNP				*e*S	Sb	22 51 12.0	-0.9
TBP	**Tagbilaran**	**1.69**	**205**	*e*P	Pn	22 51 01.8	-0.3
TBP				*e*S	Sn	22 51 26.6	+3.0
RCP	**Roxas**	**1.83**	**280**	⇑*e*P	Pn	22 51 05.2	+1.2
RCP				*e*S	Sn	22 51 28.1	+1.1
GUIM	**Jordan**	**2.05**	**253**	*e*P	Pn	22 51 05.0	-2.0
GUIM				*e*S	Sn	22 51 35.3	+2.9
PVCP	**Virac**	**2.38**	**350**	*e*P	Pn	22 51 12.8	+1.1
OTRP	**Odiongan**	**2.74**	**294**	*e*P	Pn	22 51 17.1	+0.5
BUKP	**Musuan**	**3.37**	**172**	*e*P	Pn	22 51 26.2	+1.0

*ISCJB **19** 22:51:49.2±0.5, 3840N±003×3900E±003, h0km±7km, Error ellipse: s-maj=5.0km s-min=3.9km az=40.9*
*DDA **19** 22:51:49.3, 3841N×3902E, h13km±2km, Md3.0*
*CSEM **19** 22:51:49.4±0.1, 3840N×3911E, h2km, MD3.0, Error ellipse: s-maj=2.1km s-min=1.9km az=162.0*
*ISK **19** 22:51:50.1, 3839N×3912E, h5km, MD3.0*

ISC 19 22:51:49.7±0.5, 3843N±003×3901E±003, h12km±5km, n15, σ1°00/26, 2C-1D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ELZG	**Elazig**	**0.07**	**346**	⇑*i*P	**Pg**	**22 51 52.9**	**+0.7**
ELZG				*i* S	**Sg**	**22 51 55.3**	**+1.3**
SVRC	**Sivrice-ELAZID**	**0.24**	**102**	PG	**Pg**	**22 51 53.8**	**-1.0**
SVRC				*e*SG	**Sg**	**22 51 56.4**	**-1.8**
PTK	**Pertek**	**0.55**	**33**	*e*PG	**Pg**	**22 52 00.3**	**-0.2**
PTK				*e*SG	**Sg**	**22 52 09.3**	**+1.5**
AKCD	**Akcadag**	**0.86**	**261**	⇓*i*P	**Pg**	**22 52 06.0**	**-0.4**
AKCD				*i* S	**Sg**	**22 52 18.8**	**+1.2**
AKCD	**Akcadag**	**0.86**	**261**	*i* P	**Pg**	**22 52 05.9**	**-0.5**
AKCD				*i* S	**Sg**	**22 52 18.8**	**+1.2**
KEMA	**Kemaliye**	**0.93**	**335**	⇑*i*P	**Pg**	**22 52 07.6**	**0.0**
KEMA				*i* S	**Sg**	**22 52 20.6**	**+0.8**
URFA	**Urfa**	**1.00**	**188**	*e*PG	**Pg**	**22 52 09.4**	**+0.5**
URFA				*e*SG	**Sg**	**22 52 23.0**	**+1.1**
DIYA	**Diyarbakir**	**1.01**	**120**	*i* P	**Pb**	**22 52 09.2**	**-0.1**
DIYA				*i* S	**Sg**	**22 52 22.7**	**+0.2**
DARE	**Darende-Malaty**	**1.07**	**299**	*e*PN	**Pn**	**22 52 15.3**	**+4.6**
ATAB	**Bozova**	**1.11**	**211**	*i* P	**Pb**	**22 52 11.3**	**+0.4**
ATAB				*i* S	**Sb**	**22 52 26.4**	**+1.1**
EZC	**Erzincan**	**1.46**	**25**	*e*PN	**Pn**	**22 52 16.6**	**+0.7**
GZT	**Gaziantep**	**1.57**	**227**	*i* P	**Pg**	**22 52 19.7**	**-0.1**
GZT				*i* S	**Sg**	**22 52 40.0**	**-0.1**
GAZ	**Gaziantep**	**1.90**	**229**	*e*PN	**Pg**	**22 52 24.9**	**-1.2**
KMRS	**Kahramanmaras**	**1.90**	**242**	*e*PN	**Pg**	**22 52 24.8**	**-1.4**
SVSK	**Karacayir**	**2.15**	**314**	*e*PN	**Pg**	**22 52 29.5**	**-1.6**
SVSK				*e*SN	**Sg**	**22 52 57.1**	**-1.9**

IDC 19 22:59:10.6±2.7, 3335S×17918W, h0km, mb3.6/2, mb1 3.8/3, mb1mx3.7/15, mbtmp3.6/3, ML3.5/1, Error ellipse: s-maj=54.4km s-min=38.9km az=72.0, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera**	**5.76**	**211**	Pn	Pn	23 00 38.2	+0.9
	1.2nm,0.3s,baz=32,slow=2.7,SNR=7.6						
URZ				Sn	Sn	23 01 42.8	-1.2
	1.1nm,0.3s,baz=135,slow=20,SNR=4.2						
ASAR	**Alice Springs**	**42.05**	**271**	P	P	23 07 04.1	0.0
	0.3nm,0.6s,baz=103,slow=7.4,SNR=4.7						
WRA	**Warramunga Arr**	**43.31**	**276**	P	P	23 07 14.3	-0.1
	0.5nm,0.4s,baz=116,slow=7.7,SNR=27						
TORD	**Torodi Ar. Bea**	**159.88**	**182**	PKPab	PKPab	23 19 50.6	-0.5
	0.2nm,0.7s,baz=172,slow=2.9,SNR=3.1						

PRE 19 22:59:23.9±1.1, 2052S×3319E, h5km, ML3.5, Mozambique

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MSNA	**Messina**	**3.46**	**238**	*e*P	Pn	23 00 20.4	+1.9
MSNA				*e*S	Sn	23 01 00.8	+0.8
MSNA				AML	AML	23 01 16.6	
	comp=Z,56nm,0.5s						
MSNA	**Messina**	**3.46**	**238**	*e*P	Pn	23 00 21.6	+3.0
MSNA				*e*S	Sn	23 01 01.4	+1.4
MSNA				AML	AML	23 01 16.4	
	comp=Z,56nm,0.5s						
POGA	**Pongola**	**6.97**	**192**	*e*P	Pn	23 01 06.2	-0.5
POGA				*e*S	Sn	23 02 23.0	-3.5
POGA				AML	AML	23 03 07.6	
	comp=Z,8.3nm,0.6s						
POGA	**Pongola**	**6.97**	**192**	*e*P	Pn	23 01 01.8	-5.0
POGA				*e*S	Sn	23 02 15.8	-11
POGA				AML	AML	23 03 00.0	
	comp=Z,9.0nm,0.6s						
LBTB	**Lobatse**	**8.31**	**236**	*e*P	Pn	23 01 26.7	+1.6
LBTB				*e*S	Sn	23 02 55.1	-4.3
LBTB				AML	AML	23 03 46.7	
	comp=Z,7.9nm,0.6s						
PRYS	**Parys**	**8.32**	**219**	*e*P	Pn	23 01 26.0	+0.8
PRYS				*e*S	Sn	23 02 54.7	-4.8
PRYS				AML	AML	23 03 51.7	
	comp=Z,5.5nm,0.6s						

IDC 19 23:15:05.8±2.0, 2063N×14501E, h0km, mb3.8/4, mb1 4.2/4, mb1mx3.7/19, mbtmp3.8/4, Error ellipse: s-maj=170.5km s-min=25.3km az=114.0, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**41.65**	**195**	P	P	23 22 56.5	+0.4
	0.8nm,0.4s,baz=17,slow=8.8,SNR=23						
ASAR	**Alice Springs**	**45.34**	**194**	P	P	23 23 25.

QSPA	**South Pole Qui**	**53.20 180**	P		**P**		**23 46 01.1**	**+2.0**
	0.5nm,0.4s,mb3.6,baz=320,slow=3.9,SNR=10							
QSPA	**South Pole Qui**	**53.20 180**	P		**P**		**23 46 01.1**	**+2.0**
TORD	**Torodi Ar. Bea**	**156.05 190**	PKPbc	PKPdf			23 56 44.1	+10
	0.3nm,0.9s,baz=160,slow=3.2,SNR=4.6							
TORD			PKPab	PKPab			23 57 01.1	-0.9
	0.2nm,0.4s,baz=170,slow=4.1,SNR=7.1							

IDC 19 23:52:04.5±3.2, 540S×15249E, h0km, mb3.4/3, mb1 3.7/3, mb1mx3.5/16, mbtmp3.4/3, MS3.3/1, Ms1 3.3/1, ms1mx2.5/18, Error ellipse: s-maj=127.1km s-min=44.1km az=124.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
WRA	**Warramunga Arr**	**22.82**	**229**	P		P	23 57 08.2	-1.0
	0.6nm,0.5s,baz=52,slow=9.7,SNR=7.9							
ASAR	**Alice Springs**	**25.50**	**223**	P		P	23 57 34.5	-0.3
	0.4nm,0.6s,baz=57,slow=9.4,SNR=8.3							
FITZ	**Fitzroy Crossi**	**29.11**	**242**	P		P	23 58 08.9	+1.6
	0.6nm,0.7s,baz=54,slow=8.7,SNR=4.0							
PPT	**Papeete**	**57.84**	**107**	LR		LR	00 21 29.2	
	comp=Z,26nm,19.4s,baz=89,slow=30							
TORD	**Torodi Ar. Bea**	**150.20**	**287**	PKPbc		PKPbc	00 11 58.1	-0.5
	0.3nm,0.3s,baz=86,slow=2.1,SNR=18							

IDC 19 23:56:24.4±5.8, 2158N×14327E, h265km±55km, mb3.3/10, mb1 3.5/10, mb1mx3.4/20, mbtmp3.3/10, Error ellipse: s-maj=33.0km s-min=12.2km az=81.0, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
KSRS	**Korea Array**	**20.66**	**323**	P		P	00 00 44.3	+0.1
	2.4nm,0.6s,baz=148,slow=9.0,SNR=6.4							
SONM	**Songino Array**	**39.48**	**321**	P		P	00 03 29.5	+0.2
	0.6nm,0.5s,baz=135,slow=7.8,SNR=4.7							
CMAR	**Chiang Mai Arr**	**41.66**	**274**	P		P	00 03 48.1	+0.5
	0.6nm,0.4s,baz=81,slow=6.5,SNR=3.7							
WRA	**Warramunga Arr**	**42.18**	**193**	P		P	00 03 51.4	-0.1
	1.4nm,0.3s,baz=16,slow=9.6,SNR=43							
FITZ	**Fitzroy Crossi**	**43.05**	**205**	P		P	00 03 58.5	0.0
	6.1nm,1.4s,baz=5.4,slow=20,SNR=5.4							
ASAR	**Alice Springs**	**45.89**	**192**	P		P	00 04 20.4	-0.4
	0.6nm,0.6s,baz=18,slow=12,SNR=11							
ZALV	**Zalesovo Beam**	**54.35**	**322**	P		P	00 05 23.0	-0.7
	0.4nm,0.4s,baz=101,slow=7.7,SNR=4.8							
ZALV				PcP		PcP	00 06 23.0	-1.0
	0.8nm,0.5s,baz=108,slow=3.8,SNR=4.0							
MKAR	**Makanchi Array**	**54.84**	**313**	P		P	00 05 27.7	+0.4
	0.5nm,0.4s,baz=90,slow=9.7,SNR=4.1							
MKAR				PcP		PcP	00 06 25.8	-0.3
	0.4nm,0.4s,baz=96,slow=4.3,SNR=2.7							
YKA	**Yellowknife Ar**	**76.52**	**28**	P		P	00 07 45.4	+0.4
	0.7nm,0.4s,baz=292,slow=8.5,SNR=5.2							
ARCES	**ARCESS Array B**	**79.06**	**342**	P		P	00 07 59.0	+0.1
	2.8nm,0.6s,baz=72,slow=7.9,SNR=12							
JOF	**Joensuu**	**80.45**	**335**	*ep*		P	00 08 05.7	-0.8
	3.2nm,0.3s							
TORD	**Torodi Ar. Bea**	**128.88**	**309**	PKP		PKPdf	00 15 00.8	-0.4
	0.5nm,1.1s,baz=36,slow=0.7,SNR=4.3							
PLCA	**Paso Flores**	**145.62**	**131**	PKPbc		PKPbc	00 15 32.0	0.0
	1.3nm,0.6s,baz=217,slow=3.9,SNR=3.9							

*NIED **20** 00:06:00, 3790N×14240E, h20km, Mw3.8 Best double couple: M₀5.69000×10¹⁴ NP1:φs18.00000°,δ53.00000°, λ89.00000°. NP2:φs200.00000°,δ37.00000°,λ92.00000°.*
*IDC **20** 00:06:17.6±2.2, 3790N×14278E, h0km, mb3.8/5, mb1 3.9/6, mb1mx3.8/20, mbtmp3.8/6, ML3.4/1, Error ellipse: s-maj=64.5km s-min=22.6km az=63.0*
*ISCJB **20** 00:06:21.7±1.2, 3789N±006×14245E±009, h35km±10km, mb3.9/6, Error ellipse: s-maj=12.2km s-min=9.3km az=28.4*
*NEIC **20** 00:06:21.3, 3786N×14240E, h38km, mb4.3/1, After JMA.*
*JMA **20** 00:06:21.3±0.1, 3786N×14240E, h39km±2km, M4.1*

ISC 20 00:06:22.1±1.6, 3793N±007×14239E±007, h23km±11km, n22, σ1§17/30, mb3.9/6, 5D, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
JIO	**Ouri**	**0.97**	**303**	⇓P		**Pb**	**00 06 39.5**	**-0.8**
JIO				*e*S		**Sb**	**00 06 52.6**	**0.0**
JMM	**Marumori**	**1.26**	**267**	⇓P		**Pn**	**00 06 43.0**	**-1.3**
JMM				*e*S		**Sn**	**00 06 58.5**	**-2.1**
JFK	**Kawauchi**	**1.33**	**245**	⇓P		**Pn**	**00 06 43.2**	**-2.0**
JFK				*e*S		**Sn**	**00 06 58.9**	**-3.3**
JMK	**Ichinoseki**	**1.37**	**318**	⇓P		**Pn**	**00 06 45.6**	**-0.2**
JOU	**Okura**	**1.43**	**288**	⇓P		**Pn**	**00 06 46.4**	**-0.2**
JOU				*e*S		**Sn**	**00 07 04.4**	**-0.2**
JFT	**Otama**	**1.68**	**256**	P		**Pn**	**00 06 49.6**	**-0.5**
JFT				*e*S		**Sn**	**00 07 10.6**	**-0.2**
JOM	**Ohasama**	**1.76**	**331**	P		**Pn**	**00 06 51.6**	**+0.4**
JYS	**Shirataka**	**1.85**	**280**	P		**Pn**	**00 06 52.6**	**+0.1**
JYS				*e*S		**Sn**	**00 07 15.6**	**+0.4**
JYK	**Kaneyama**	**1.87**	**302**	P		**Pn**	**00 06 53.1**	**+0.4**
JFY	**Yanaizu**	**2.19**	**257**	P		**Pn**	**00 06 57.0**	**-0.1**
JFY				*e*S		**Sn**	**00 07 23.9**	**+0.4**
JYA	**Atsumi**	**2.21**	**288**	P		**Pn**	**00 06 57.5**	**+0.2**
MJAR	**Matsushiro Arr**	**3.61**	**249**	Pn		**Pn**	**00 07 18.4**	**+1.8**
	2.5nm,0.3s,baz=80,slow=15,SNR=12							
MJAR	**Matsushiro Arr**	**3.61**	**249**	Pn		**Pn**	**00 07 18.4**	**+1.8**
MAJO	**Matsushiro**	**3.61**	**249**	*e*Pn		**Pn**	**00 07 18.7**	**+2.0**
MAT	**Matsushiro**	**3.61**	**249**	P		**Pn**	**00 07 18.5**	**+1.8**
MAT				*e*S		**Sn**	**00 08 01.3**	**+2.7**
SONM	**Songino Array**	**27.94**	**302**	P		**P**	**00 12 12.6**	**+2.0**
	1.1nm,0.8s,mb3.5,baz=106,slow=7.6,SNR=6.2							
ZALV	**Zalesovo Beam**	**41.89**	**312**	P		**P**	**00 14 11.4**	**+1.0**
	0.6nm,0.3s,mb3.8,baz=92,slow=7.4,SNR=5.7							
MKAR	**Makanchi Array**	**44.30**	**301**	P		**P**	**00 14 30.9**	**+0.9**
	0.5nm,0.6s,mb3.4,baz=79,slow=7.6,SNR=3.0							
KURK	**Kurchatov**	**45.99**	**308**	*e*P		**P**	**00 14 42.0**	**-1.4**
	2.8nm,0.7s,mb4.3							
WRA	**Warramunga Arr**	**58.06**	**189**	P		**P**	**00 16 12.2**	**-1.2**
	1.7nm,0.6s,mb4.3,baz=5.9,slow=7.3,SNR=21							
ASAR	**Alice Springs**	**61.79**	**189**	P		**P**	**00 16 38.6**	**-0.3**
	0.6nm,0.7s,mb3.9,baz=13,slow=5.7,SNR=7.3							
CLL	**Collm**	**80.70**	**331**	*e*P		**P**	**00 18 32.0**	**-1.1**

*ISCJB **20** 00:33:05.1±2.2, 32N±02×945E±02, h10km, mb3.9/3, Error ellipse: s-maj=29.7km s-min=16.0km az=38.6*
*IDC **20** 00:33:06.9±3.2, 337N×9420E, h0km, mb3.9/3, mb1 4.0/4, mb1mx3.6/21, mbtmp3.9/4, ML4.1/1, Error ellipse: s-maj=120.4km s-min=31.5km az=59.0*

ISC 20 00:33:08.9±1.6, 34N±01×945E±01, h10km, n7, σ0§89/7, mb3.9/3, 1C-1D, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
BSI	**Banda Aceh**	**2.25**	**21**	⇓*e*P		**Pg**	**00 33 52.5**	**+0.5**
BSI				*e*S		**Sg**	**00 34 32.5**	**+11**
PSI	**Prapat**	**4.45**	**97**	⇑*e*P		**Pg**	**00 34 33.3**	**-0.9**
CMAR	**Chiang Mai Arr**	**15.61**	**16**	Pn		**Pn**	**00 36 49.6**	**+0.6**
	0.2nm,0.3s,baz=188,slow=16,SNR=3.6							
MKAR	**Makanchi Array**	**44.53**	**348**	P		**P**	**00 41 19.6**	**-1.0**
	1.8nm,0.6s,mb4.1,baz=169,slow=8.5,SNR=12							
WRA	**Warramunga Arr**	**45.47**	**122**	P		**P**	**00 41 30.0**	**+1.4**
	0.4nm,0.7s,mb3.4,baz=301,slow=8.4,SNR=3.2							
ZALV	**Zalesovo Beam**	**51.03**	**353**	P		**P**	**00 42 10.5**	**-0.5**
	1.9nm,0.4s,mb4.3,baz=167,slow=7.4,SNR=7.3							
TXAR	**Lajitas Array**	**143.10**	**27**	PKhKP			00 52 39.5	
	0.1nm,0.4s,baz=308,slow=2.1,SNR=4.1							

IDC 20 00:34:04.0±24.0, 463S×12777E, h562km±140km, mb3.1/1, mb1 2.8/4, mb1mx2.6/17, mbtmp2.6/4, Error ellipse: s-maj=325.6km s-min=129.5km az=162.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**13.55**	**189**	P		P	00 36 58.5	+0.1
	0.1nm,0.3s,baz=20,slow=12,SNR=4.3							
WRA	**Warramunga Arr**	**16.51**	**158**	P		P	00 37 27.0	-0.6
	0.3nm,0.3s,baz=335,slow=11,SNR=15							
ASAR	**Alice Springs**	**19.83**	**163**	P		P	00 37 59.0	+1.1
	0.1nm,0.3s,baz=347,slow=6.6,SNR=4.6							
STKA	**Stephens Creek**	**30.05**	**156**	P		P	00 39 26.9	-1.2
	2.4nm,0.7s,baz=337,slow=7.7,SNR=3.2							

*PRU **20** 00:55:09.4, 4372N×1501E, h0km*

*ISCJB **20** 00:55:10.2±0.9, 4376N±004×1518E±006, h5km±5km, Error ellipse: s-maj=8.6km s-min=3.9km az=136.5*
*SZGRF **20** 00:55:11.3, 4382N×1553E, h10km, mb2.9, Adriatic Sea*
*VIE **20** 00:55:12.8±0.8, 4388N×1536E, h10km, mb2.4/5, ML2.6/6, Error ellipse: s-maj=6.1km s-min=4.8km az=153.0 98 km WNW of Split*
*CSEM **20** 00:55:12.4±0.3, 4388N×1518E, h15km, ML2.6/6, Error ellipse: s-maj=6.6km s-min=3.2km az=43.0*
*BEO **20** 00:55:14.6, 4373N×1556E*

ISC 20 00:55:11.2±1.0, 4380N±004×1524E±005, h1km±6km, n36, σ1§09/68, 6C-7D, Adriatic Sea

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
NVLJ	**Novalja**	**0.81**	**341**	*e*Pg		**Pg**	**00 55 26.6**	**-0.1**
NVLJ				Sg		**Sg**	**00 55 37.7**	**+0.5**
NVLJ	**Novalja**	**0.81**	**341**	*e*Pg		**Pg**	**00 55 26.6**	**-0.1**
NVLJ				Sg		**Sg**	**00 55 37.6**	**+0.4**
BLY	**Banja Luka**	**1.69**	**55**	*e*Pn		**Sn**	**00 56 01.9**	**+0.1**
BLY				*e*Sn		**Sn**	**00 56 03.9**	**-0.1**
BLY				*e*Sg		**Sg**	**00 56 04.8**	**-0.6**
BOJS	**Bojanci**	**1.70**	**0**	*i* Pn		**Pn**	**00 55 42.0**	**0.0**
BOJS				*e*Sn		**Sn**	**00 56 04.9**	**+0.5**
BOJS	comp=Z,48nm,0.3s							
BOJS	**Bojanci**	**1.70**	**0**	*i* Pn		**Pn**	**00 55 42.0**	**0.0**
BOJS				*e*Sn		**Sn**	**00 56 04.9**	**+0.5**
SISC	**Sisak**	**1.85**	**25**	*e*Pn		**Pn**	**00 55 44.6**	**+0.5**
SISC				Sn		**Sn**	**00 56 10.6**	**+2.4**
SISC	**Sisak**	**1.85**	**25**	*e*Pn		**Pn**	**00 55 44.6**	**+0.5**
SISC				Sn		**Sn**	**00 56 10.5**	**+2.3**
STON	**Ston**	**2.02**	**117**	*e*Pn		**Pn**	**00 55 45.9**	**-0.4**
STON				Sn		**Sn**	**00 56 12.6**	**+0.3**
STON	**Ston**	**2.02**	**117**	*e*Pn		**Pn**	**00 55 45.9**	**-0.4**
STON				Sn		**Sn**	**00 56 12.5**	**+0.3**
CEY	**Cerknica**	**2.02**	**344**	*e*Pn		**Pn**	**00 55 46.8**	**+0.4**
CEY				*e*Sn		**Sn**	**00 56 12.5**	**+0.2**
CRES	**Cresnjev**	**2.03**	**4**	*e*Pn		**Pn**	**00 55 46.8**	**+0.3**
CRES				*e*Sn		**Sn**	**00 56 13.2**	**+0.7**
LJU	**Ljubljana**	**2.30**	**348**	*e*Pn		**Pn**	**00 55 50.2**	**0.0**
LJU				*e*Sn		**Sn**	**00 56 19.8**	**+0.7**
VOY	**Vojsko**	**2.43**	**337**	*e*Pn		**Pn**	**00 55 51.2**	**-0.8**
VOY				*e*			00 55 56.9	
VOY				*e*(Sn)		**Sn**	**00 56 24.9**	**+2.6**
VOY				*e*			00 56 26.3	
TREB	**Trebinje**	**2.52**	**114**	*e*Pn		**Pn**	**00 55 53.1**	**-0.1**
TREB				*e*Sg		**Sg**	**00 56 26.1**	**-5.9**
TREB	**Trebinje**	**2.52**	**114**	*e*Pn		**Pn**	**00 55 52.3**	**-0.9**
TREB				*e*Sn		**Sn**	**00 56 22.5**	**-2.0**
TREB				*e*Sg		**Sg**	**00 56 26.1**	**-5.9**
KOGS	**Kog**	**2.74**	**15**	*e*Pn		**Pn**	**00 55 56.8**	**+0.5**
KOGS				*e*Sn		**Sn**	**00 56 30.0**	**-0.1**
OBKA	**Obir**	**2.75**	**350**	⇑*i* Pn		**Pn**	**00 55 55.7**	**-0.1**
OBKA				⇑*i* Sn		**Sn**	**00 56 30.1**	**-0.2**
SOKA	**Soboth**	**2.88**	**357**	⇓*i* Pn		**Pn**	**00 55 57.7**	**-0.5**
SOKA				⇑*i* Sn		**Sn**	**00 56 33.5**	**0.0**
BBLS	**Lazići**	**3.01**	**87**	*e*Pn		**Pn**	**00 56 01.6**	**+1.6**
PKSM	**Moragy**	**3.41**	**44**	*e*Pn		**Pn**	**00 56 07.1**	**+1.6**
DIVS	**Divibare**	**3.44**	**83**	*e*Pn		**Pn**	**00 56 07.8**	**+1.8**
ARSA	**Arzberg**	**3.46**	**3**	⇓*i* Pn		**Pn**	**00 56 05.2**	**-0.9**
ARSA	**Arzberg**	**3.46**	**3**	*e*Pn		**Pn**	**00 56 05.0**	**-1.1**
FGSL	**Fruska Gora**	**3.54**	**66**	*e*Pn		**Pn**	**00 56 07.1**	**-0.2**
MOA	**Molln**	**4.11**	**351**	⇓*i* Pn		**Pn**	**00 56 15.0**	**-0.1**
MOA				⇓*i* Sn		**Sn**	**00 57 03.0**	**-0.7**
MOA	**Molln**	**4.11**	**351**	*e*Pn		**Pn**	**00 56 15.1**	**+0.1**
MOA				*e*Sn		**Sn**	**00 57 02.9**	**-0.8**
CONA	**Conrad Observa**	**4.15**	**6**	⇓*i* Pn		**Pn**	**00 56 15.0**	**-0.6**
CONA				⇑*i* Sn		**Sn**	**00 57 02.4**	**-2.3**
CONA	**Conrad Observa**	**4.15**	**6**	Pn		**Pn**	**00 56 15.0**	**-0.7**
CONA				Sn		**Sn**	**00 57 02.4**	**-2.4**
MOTA	**Moosalm**	**4.58**	**322**	⇓*i* Pn		**Pn**	**00 56 22.3**	**+0.7**
MOTA				⇑*i* Sn		**Sn**	**00 57 16.9**	**+1.5**
BZS	**Buzias**	**4.89**	**66**	*e*Pn		**Pn**	**00 56 27.2**	**+1.3**
DAVA	**Damuels**	**5.13**	**315**	⇓*i* Pn		**Pn**	**00 56 30.2**	**+1.1**
DAVA				⇑*i* Sn		**Sn**	**00 57 28.8**	**-0.1**
DAVA	**Damuels**	**5.13**	**315**	*e*Pn		**Pn**	**00 56 30.3**	**+1.2**
DAVA				*e*Sn		**Sn**	**00 57 28.6**	**-0.3**
GEC2	**GERESS Array S**	**5.16**	**349**	*e*Pn		**Pn**	**00 56 28.2**	**-1.3**
GEC2				*e*Sn		**Sn**	**00 57 26.5**	**-3.1**
KHC	**Kasperske Hory**	**5.45**	**348**	Pn		**Pn**	**00 56 32.2**	**-1.4**
KHC				Sn		**Sn**	**00 57 34.2**	**-2.7**
KHC	**Kasperske Hory**	**5.45**	**348**	*e*PN		**Pn**	**00 56 32.2**	**-1.4**
KHC				*e*SN		**Sn**	**00 57 34.2**	**-2.7**
KHC				*ex*		x	00 58 04.0	
KHC				*e*SG		**Sg**	**00 58 13.5**	**+7.2**
WET	**Wettzell**	**5.59**	**344**	*e*Pn		**Pn**	**00 56 32.5**	**-2.9**
WET				*e*Sn		**Sn**	**00 57 35.3**	**-4.9**

*ISK **20** 01:11:36.4, 3905N×2659E, h5km, MD2.8*
*CSEM **20** 01:11:36.8±0.1, 3909N×2669E, h13km±1km, MD2.4, Error ellipse: s-maj=3.5km s-min=1.8km az=72.0*
*ISCJB **20** 01:11:38.0±0.6, 3908N±003×2675E±007, h8km±8km, Error ellipse: s-maj=10.0km s-min=4.1km az=165.9*
*DDA **20** 01:11:38.5, 3908N×2680E, h7km±6km, Md2.4*

ISC 20 01:11:38.4±0.6, 3909N±003×2676E±006, h12km±5km, n14, σ1§04/23, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
AYVA	**Ayvalik**	**0.23**	**347**	*i* P		**Pg**	**01 11 43.9**	**+0.6**
AYVA				*i* S		**Sg**	**01 11 47.8**	**+1.2**
BLCB	**Balcova**	**0.74**	**162**	*e*PG		**Pg**	**01 11 51.5**	**-1.2**
BLCB				*e*SG		**Sg**	**01 12 01.6**	**-0.8**
URLA	**Izmir**	**0.74**	**190**	*i* P		**Pg**	**01 11 52.1**	**-0.6**
URLA				*i* S		**Sg**	**01 12 04.6**	**+2.3**
IZM	**Izmir**	**0.80**	**150**	*e*PG		**Pg**	**01 11 53.2**	**-0.8**
IZM				*e*SG		**Sg**	**01 12 05.2**	**+1.0**
EZN	**Ezine**	**0.81**	**336**	*e*PG		**Pg**	**01 11 52.4**	**-1.7**
EZN				*e*SG		**Sg**	**01 12 03.7**	**-1.0**
AKS	**Akhisar**	**0.85**	**104**	*e*PG		**Pg**	**01 11 55.0**	**+0.2**
AKHS	**Akhisar**	**0.85**	**104**	*i* P		**Pg**	**01 11 54.6**	**-0.3**
AKHS				*i* S		**Sg**	**01 12 05.5**	**-0.5**
BALY	**Balya**	**0.93**	**45**	*i* P		**Pg**	**01 11 56.0**	**-0.5**
BALY				*i* S		**Sg**	**01 12 09.3**	**+0.7**
BALB	**Balikesir**	**1.03**	**57**	*e*PN		**Pn**	**01 11 58.2**	**-0.5**
EDC	**Edincik**	**1.52**	**34**	*e*PN		**Pn**	**01 12 06.1**	**+0.7**
DEMI	**Demirci**	**1.53**	**91**	*i* P		**Pn**	**01 12 05.1**	**-0.4**
DEMI				*i* S		**Sn**	**01 12 23.8**	**-1.4**
DST	**Dursunbey**	**1.54**	**70**	*e*PN		**Pn**	**01 12 07.0**	**+1.3**
KULA	**Kula-Manisa**	**1.59**	**110**	*e*PN		**Pn**	**01 12 07.7**	**+1.3**
ULDT	**Uludag**	**2.12**	**59**	*i* P		**Pn**	**01 12 17.2**	**+3.6**
ULDT				*i* S		**Sn**	**01 12 45.3**	**+5.4**

IDC 20 01:25:09.5±13.0, 4329N×13402E, h447km±104km, mb2.8/4, mb1 2.8/6, mb1mx2.7/21, mbtmp2.7/6, Error ellipse: s-maj=195.8km s-min=17.7km az=61.0, Primorye

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
KSRS	**Korea Array**	**7.46**	**221**	P		P	01 26 59.5	+0.4
	0.7nm,0.3s,baz=39,slow=11,SNR=9.4							
SONM	**Songino Array**	**19.82**	**293**	P		P	01 29 09.7	+0.5
	0.1nm,0.3s,baz=90,slow=9.3,SNR=3.6							
ZALV	**Zalesovo Beam**	**33.58**	**306**	P		P	01 31 10.4	-0.1
	0.7nm,0.5s,baz=85,slow=8.8,SNR=3.3							
MKAR	**Makanchi Array**	**36.18**	**294**	P		P	01 31 32.3	-0.2
	0.6nm,0.7s,baz=92,slow=10,SNR=3.1							
WRA	**Warramunga Arr**	**62.92**	**180**	P		P	01 34 50.5	-0.3
	0.2nm,0.5s,baz=350,slow=7.4,SNR=4.8							
ASAR	**Alice Springs**	**66.62**	**180**	P		P	01 35 14.7	+0.4
	0.3nm,0.4s,baz=3.6,slow=7.1,SNR=5.7							

*BJI **20** 01:50:42.8, 5483N×16880E, h12km, mB5.1, mb4.8, Ms5.2, Msz4.8*
*MOS **20** 01:50:43.7±0.9, 5431N×16894E, h20km, mb5.0/74, MS4.7/35, Error ellipse: s-maj=8.1km s-min=4.8km az=96.7*
*ISCJB **20** 01:50:43.5±0.2, 5431N±003×16892E±002, h19km, mb4.8/156, MS4.7/59, Error ellipse: s-maj=4.9km s-min=1.8km az=1.4*
*GCMT **20** 01:50:43.8±0.2, 5446N×16895E, h15km, MW5.3/105, Moment Tensor Solution. s72,c126; s105,c190; Duration: 1§0 Moment tensor: Scale 10¹⁷Nm; Mrr-0.05±.02; Mθθ-0.82±.02; Mφφ0.87±.02; Mrθ-0.30±.05; Mθφ-0.11±.01; Mφr-0.31±.05; Best double couple: M₀0.95700×10¹⁷ NP1:φs132.00000°,δ63.00000°, λ-177.00000°. NP2:φs40.00000°,δ87.00000°, λ-27.00000°. Principal axes: T 0.9680, Plg17.0000°, Azm89.0000°; N -0.0210, Plg63.0000°, Azm215.0000°; P -0.9460, Plg21.0000°, Azm353.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **20** 01:50:43.8±0.2, 5431N×16892E, h10km, mb4.9/100, MW5.3 Error ellipse: s-maj=4.9km s-min=2.5km az=180.0, Moment Tensor Solution. s27 Moment tensor: Scale 10¹⁶Nm; Mrr0.02; Mθθ-4.15; Mφφ4.13; Mrθ-5.46; Mθφ-1.29; Mφr-6.49; Best double couple: M₀9.50000×10¹⁶ NP1: φs218.00000°,δ90.00000°,λ63.00000°. NP2: φs128.00000°,δ27.00000°,λ179.00000°. Principal axes: T 9.3000, Plg39.0000°, Azm103.0000°; N 0.4400, Plg27.0000°, Azm218.0000°; P -9.7400, Plg38.0000°, Azm332.0000°;*
*KRSC **20** 01:50:45.5±1.6, 5401N×16850E, h16km±16km, ML5.5*
*IDC **20** 01:50:48.1±5.5, 5450N×16890E, h33km±42km, mb4.3/24, mb1 4.5/26, mb1mx4.5/28, mbtmp4.4/26, ML4.4/2, MS4.6/32, Ms1 4.6/32, ms1mx4.3/49, Error ellipse: s-maj=16.2km s-min=9.9km az=165.0*

ISC 20 01:50:45.8±0.2, 5433N±003×16896E±002, h20km, h20km±9km:pP-P, n425, σ0§96/426, mb4.8/156, MS4.7/59, 12C-12D, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
SMY	**Shemya**	**3.46**	**115**	*e*PN		**Pn**	**01 51 35.8**	**-2.6**
SMY	**Shemya**	**3.46**	**115**	*e*P		**Pn**	**01 51 36.1**	**-2.3**
KBTR	**Krutoberegovo**	**3.98**	**301**	*e*P		**Pn**	**01 51 45.8**	**+0.2**
KBTR				*i* S		**Sn**	**01 52 30.4**	**-1.3**
MKZ	**Mys Kozlova**	**4.23**	**276**	*e*P		**Pn**	**01 51 48.1**	**-0.8**
MKZ				*i* S		**Sn**	**01 52 34.1**	**-3.5**
BDR	**Baidarnaya**	**4.95**	**300**	*e*P		**Pn**	**01 52 01.1**	**+2.3**
BDR				*i* S		**Sn**	**01 52 55.4**	**0.0**
ZLN	**Zelenaya**	**4.97**	**293**	*e*P		**Pn**	**01 52 01.0**	**+1.9**
ZLN				*i* S		**Sn**	**01 52 55.7**	**-0.2**
BZMR	**Bezymyannaya**	**5.12**	**292**	*e*P		**Pn**	**01 52 03.0**	**+1.8**
BZMR				*i* S		**Sn**	**01 52 59.2**	**-0.4**
BZWR	**Bezymyannyi-We**	**5.12**	**292**	*e*P		**Pn**	**01 52 03.1**	**+1.9**
BZWR				*i* S		**Sn**	**01 52 59.8**	**+0.1**
KLY	**Klyuchi**	**5.14**	**296**	*e*P		**Pn**	**01 52 01.9**	**+0.4**
KLY				*i* S		**Sn**	**01 52 57.1**	**-3.1**
KRSR	**Krestovskiy**	**5.16**	**295**	*e*P		**Pn**	**01 52 05.1**	**+3.4**
KRSR				*i* S		**Sn**	**01 53 03.1**	**+2.5**
TUMR	**Tumrok**	**5.19**	**284**	*e*P		**Pn**	**01 52 03.1**	**+1.0**
TUMR				*i* S		**Sn**	**01 52 59.5**	**-1.8**
KIRR	**Kirishev**	**5.20**	**292**	*e*P		**Pn**	**01 52 04.2**	**+1.9**
KIRR				*i* S		**Sn**	**01 53 01.4**	**-0.3**
KMNR	**Kamenistaya**	**5.21**	**289**	*e*P		**Pn**	**01 52 05.1**	**+2.6**
KMNR				*i* S		**Sn**	**01 53 02.1**	**+0.1**
KPT	**Kopyto**	**5.27**	**292**	*e*P		**Pn**	**01 52 05.2**	**+1.9**
KPT				*i* S		**Sn**	**01 53 03.5**	**+0.1**
SPN	**Mys Shipunski**	**5.45**	**261**	*e*P		**Pn**	**01 52 04.3**	**-1.4**
SPN				*i* S		**Sn**	**01 53 01.6**	**-6.1**
KOZ	**Kozyrevsk**	**5.49**	**292**	*e*P		**Pn**	**01 52 08.7**	**+2.5**
KOZ				*i* S		**Sn**	**01 53 09.4**	**+0.8**
KII	**Karymskiy**	**5.59**	**271**	*e*P		**Pn**	**01 52 07.2**	**-0.5**
KII				*i* S		**Sn**	**01 53 06.9**	**-4.4**
SRDR	**Sredinnyy**	**5.64**	**294**	*e*P		**Pn**	**01 52 10.2**	**+1.9**
SRDR				*i* S		**Sn**	**01 53 11.9**	**-0.5**
NLC	**Nalytchevo**	**5.82**	**262**	*e*P		**Pn**	**01 52 09.5**	**-1.3**
NLC				*i* S		**Sn**	**01 53 10.7**	**-6.2**
AVH	**Avacha**	**6.15**	**264**	*e*P		**Pn**	**01 52 15.1**	**-0.2**
AVH				*i* S		**Sn**	**01 53 19.5**	**-5.5**
PET	**Petropavlovsk**	**6.26**	**262**	⇓*i* PN		**Pn**	**01 52 16.8**	**-0.1**
PET				pmax	pmax			
	comp=Z,116nm,0.4s							
PET				MLR	MLR			
	comp=Z,6μm,20.0s							
PET				MLR	MLR		

YAK smax
comp=N,455nm,4.4s
YAK smax
comp=E,434nm,4.2s
YAK MLR MLR
comp=Z,1µm,13.0s,MS4.5
YAK MLR MLR
comp=E,662nm,12.0s,MS4.6
YAK MLR MLR
comp=N,1µm,13.0s,MS4.6
YAK Yakutsk 21.79 306 *e*P **P 01 55 35.8 -0.2**
comp=N,59nm,0.8s,mb5.1
HABR Khabarovsk 21.80 268 *e*P **P 01 55 33.7 -2.5**
HABR *e* 01 55 42.5
HABR *e*S **S 01 59 33.3 -2.8**
HABR *e* 02 06 54.5
KTH Kantishna Hill 22.29 50 *e*P **P 01 55 42.2 +0.9**
comp=N,63nm,1.1s,mb5.0
BPAW Bear Paw Mtn. 22.32 48 *e*P **P 01 55 42.0 +0.3**
comp=N,55nm,1.2s,mb4.9
SLKM Skilak Lake 22.54 58 P **P 01 55 44.3 +0.4**
SLKM Skilak Lake 22.54 58 *e*P **P 01 55 43.7 -0.3**
RC01 Rabbit Creek A 22.75 56 *e*P **P 01 55 46.6 +0.3**
comp=N,13nm,0.8s,mb4.4
SEW Seward 22.94 59 *e*P **P 01 55 46.7 -1.5**
PMR Palmer 23.04 55 *e*P **P 01 55 48.7 -0.5**
comp=N,12nm,0.6s,mb4.5
MCK McKinley 23.19 49 P **P 01 55 50.8 0.0**
MCK pmax pmax
comp=Z,29nm,0.8s,mb4.8
MCK McKinley 23.19 49 *e*P **P 01 55 50.1 -0.7**
comp=Z,29nm,0.8s,mb4.8
COLD Coldfoot 23.21 40 *e*P **P 01 55 50.5 -0.5**
comp=Z,46nm,1.2s,mb4.8
COLA College 23.76 46 *e*P **P 01 55 55.9 -0.5**
COLA pmax pmax
comp=Z,25nm,0.6s,mb4.8
COLA College 23.76 46 *e*P **P 01 55 55.9 -0.5**
comp=Z,25nm,0.6s,mb4.8
TIXI Tiksi 24.40 330 *d*P **P 01 56 01.8 -0.4**
TIXI *e*S **S 02 00 23.5 +3.0**
TIXI pmax pmax
comp=Z,62nm,1.0s,mb5.0
TIXI MLR MLR
comp=Z,2µm,15.0s,MS4.7
TIXI Tiksi 24.40 330 *e*P **P 01 56 01.8 -0.4**
comp=Z,75nm,1.2s,mb5.0
CLNS Chul'man 24.71 294 *e*P **P 01 56 04.6 -0.6**
CLNS *e**PP 01 56 14.2
CLNS *e*PPP 01 56 47.1
CLNS *e* 01 59 39.9
CLNS *e*S **S 02 00 25.6 -0.1**
CLNS *e*SS 02 01 33.4
CLNS pmax pmax
comp=E,44nm,2.0s,mb4.6
CLNS pmax pmax
comp=E,24nm,1.3s
CLNS pmax pmax
comp=N,6.0nm,0.8s
CLNS pmax pmax
comp=Z,24nm,1.3s,mb4.6
CLNS pmax pmax
comp=N,14nm,0.8s
CLNS pmax pmax
comp=E,45nm,2.1s
CLNS smax
comp=E,976nm,13.1s
CLNS smax
comp=N,310nm,13.3s
CLNS MLR MLR
comp=Z,2µm,15.0s,MS4.7
CLNS MLR MLR
comp=E,987nm,14.0s,MS4.8
CLNS MLR MLR
comp=N,2µm,14.0s,MS4.8
EYAK Cordova Ski Ar 24.74 57 *e*P **P 01 56 04.0 -1.4**
comp=N,32nm,0.8s,mb4.9
MDJ Mudanjiang 27.04 265 P **P 01 56 28.1 +1.8**
MDJ AP pP 01 56 33.4 +1.0
MDJ XP sP 01 56 35.6 +0.7
MDJ S **S 02 01 08.6 +5.9**
MDJ AMB AMB
comp=Z,22nm,1.6s,mb4.4
MDJ AMB AMB
comp=Z,379nm,4.3s
MDJ LR LR
comp=N,3µm,16.4s,MS5.1
MDJ LR LR
comp=E,2µm,13.0s,MS5.1
MDJ LR LR
comp=Z,2µm,16.8s,MS4.7
DAWY Dawson 27.41 49 *e*P **P 01 56 29.1 -0.4**
MJAR Matsushiro Arr 27.64 243 P **P 01 56 33.8 +2.0**
comp=Z,4.1nm,0.9s,mb4.1,baz=29,slow=9.2,SNR=8.1
MJAR LR LR 02 07 51.7
comp=Z,505nm,19.7s,MS4.1,baz=60,slow=37
MJAR Matsushiro Arr 27.64 243 P **P 01 56 33.8 +2.0**
MJAR pmax pmax
comp=Z,4.0nm,0.9s
MJAR MLR MLR
comp=Z,505nm,19.7s
MAJO Matsushiro 27.64 243 *e*P **P 01 56 31.4 -0.4**
MAJO pmax pmax
comp=Z,52nm,1.2s,mb5.0
MAJO Matsushiro 27.64 243 *e*P **P 01 56 31.4 -0.4**
comp=Z,52nm,1.2s,mb5.0
MAT Matsushiro 27.64 243 P **P 01 56 30.9 -0.9**
MAT S **S 02 01 17.0 +4.6**
PNL Peninsula 28.02 58 *e*P **P 01 56 34.0 -0.9**
comp=Z,15nm,0.7s,mb4.7
HYT Haines Junctio 28.71 55 *e*P **P 01 56 41.2 +0.2**
INK Inuvik 29.62 39 *e*P **P 01 56 49.0 -0.1**
comp=Z,617nm,1.1s,mb6.2
CN2 Changchun 29.93 268 *e*P **P 01 56 52.0 -0.1**
CN2 AMB AMB
comp=Z,10.0nm,0.6s,mb4.7
CN2 AMB AMB
comp=Z,110nm,3.0s
CN2 LR LR
comp=N,2µm,16.0s,MS5.0
CN2 LR LR
comp=E,1µm,16.0s,MS5.0
CN2 LR LR
comp=Z,2µm,21.0s,MS4.7
BOD Bodaibo 30.16 299 *e*P **P 01 56 52.6 -1.3**
BOD pmax pmax
comp=Z,25nm,1.8s,mb4.6
SNY Shenyang 32.22 266 ⇑P **P 01 57 12.6 +0.3**
SNY S **S 02 02 26.6 +2.5**
SNY AMB AMB
comp=Z,26nm,1.6s,mb4.8
SNY AMB AMB
comp=Z,360nm,4.1s
SNY LR LR
comp=N,3µm,16.9s,MS5.1
SNY LR LR
comp=E,2µm,19.4s,MS5.1
SNY LR LR
comp=Z,1µm,20.0s,MS4.6
KSRS Korea Array 32.60 256 P **P 01 57 17.5 +1.8**
comp=Z,3.1nm,0.7s,mb4.4,baz=44,slow=8.9,SNR=5.9
KSRS LR LR 02 12 19.7
comp=Z,622nm,18.2s,MS4.3,baz=49,slow=40
KSRS Korea Array 32.60 256 P **P 01 57 17.5 +1.8**
KSRS pmax pmax
comp=Z,3.0nm,0.7s,mb4.3
KSRS MLR MLR
comp=Z,622nm,18.2s,MS4.3
DLBC Dease Lake 33.01 58 P **P 01 57 21.0 +2.0**
baz=302,slow=11
DLBC Dease Lake 33.01 58 *e*P **P 01 57 20.3 +1.3**
BBB Bella Bella 36.60 67 LR LR 02 11 00.6
comp=Z,1µm,21.6s,MS4.6,baz=304,slow=33
BJI Beijing 37.69 270 P **P 01 57 57.4 -2.0**
BJI LR LR
comp=N,2µm,15.9s,MS5.2
BJI LR LR
comp=E,2µm,18.0s,MS5.2
BJI LR LR
comp=Z,773nm,29.6s
TLY Talaya 38.14 294 *e*P **P 01 58 03.1 0.0**
TLY *e* 01 59 38.8
TLY *e*S **S 02 04 02.0 +7.2**
TLY *e*SS SS 02 06 33.3 -9.0
TLY pmax pmax
comp=Z,33nm,2.9s,mb4.6
TLY MLR MLR
comp=Z,2µm,19.0s,MS5.0
YKA Yellowknife Ar 38.59 46 P **P 01 58 06.9 +0.2**
comp=Z,3.0nm,0.5s,mb4.2,baz=293,slow=8.2,SNR=9.9
YKA Yellowknife Ar 38.59 46 P **P 01 58 06.9 +0.1**
YKA pmax pmax
comp=Z,3.0nm,0.5s
SONM Songino Array 38.67 287 P **P 01 58 08.1 +0.5**
comp=Z,4.8nm,0.8s,mb4.3,baz=58,slow=8.3,SNR=28
SONM LR LR 02 16 27.4
comp=Z,1µm,18.1s,MS4.8,baz=61,slow=40
SONM Songino Array 38.67 287 P **P 01 58 08.1 +0.5**
SONM pmax pmax
comp=Z,5.0nm,0.8s
SONM MLR MLR
comp=Z,1µm,18.1s
SONM Songino Array 38.67 287 P **P 01 58 08.1 +0.5**
SONM LR LR 02 16 27.4
ZAK Zakamensk 39.01 292 *e*P **P**
ZAK pmax pmax
comp=Z,7.0nm,1.4s,mb4.2
MOY Mondy 39.56 295 *e*P **P 01 58 14.8 -0.2**
MOY pmax pmax
comp=Z,42nm,2.5s,mb4.7
HHC Hu-ho-hao-te 39.87 275 *e*P **P 01 58 17.8 +0.1**
HHC AP pP 01 58 23.8 -0.1
HHC XP sP 01 58 26.6 +0.2
HHC PP PP 01 59 53.6 +4.4
HHC PCP PcP 02 00 24.8 +1.7
HHC AMB AMB
comp=Z,17nm,1.1s,mb4.7
HHC AMB AMB
comp=Z,112nm,6.0s
HHC LR LR
comp=N,1µm,16.9s,MS5.0
HHC LR LR
comp=E,1µm,17.1s,MS5.0
HHC LR LR
comp=Z,2µm,15.1s,MS5.0
SSE Sheshan 41.04 255 P **P 01 58 25.9 -1.6**
SSE S **S 02 04 41.9 +3.1**
SSE AMB AMB
comp=Z,30nm,0.7s,mb5.0
SSE AMB AMB
comp=Z,97nm,4.6s
SSE LR LR
comp=N,424nm,27.1s,MS4.2
SSE LR LR
comp=E,276nm,27.1s,MS4.2
SSE LR LR
comp=Z,264nm,17.8s
KRAR Krasnoyarsk 41.43 305 *c i*P **P 01 58 29.8 -0.6**
KRAR pmax pmax
comp=Z,27nm,0.9s,mb4.9
KRAR MLR MLR
comp=Z,800nm,15.0s,MS4.7
NJ2 Nanjing 41.66 259 *e*P **P 01 58 34.0 +1.4**
NJ2 AMB AMB
comp=Z,10.0nm,0.8s,mb4.5
NLW Nelson Butte 43.03 68 P **P 01 58 44.4 +0.9**
ETW Entiat 43.31 69 P **P 01 58 46.2 +0.4**
TBM Table Mountain 43.42 69 P **P 01 58 47.0 +0.3**
EBG Ellensburg 43.59 70 P **P 01 58 49.0 +0.9**
EDM Edmonton 43.73 58 *e*P **P 01 58 49.0 -0.1**
EPH Ephrata 43.86 68 P **P 01 58 50.1 -0.1**
MDW Midway 44.22 69 P **P 01 58 53.5 +0.4**
OD2 Odessa Site #2 44.32 68 *e*P **P 01 58 53.8 -0.1**
NEW Newport 44.65 66 *e*P **P 01 58 56.1 -0.5**
NEW pmax pmax
comp=Z,18nm,1.3s
NEW Newport 44.65 66 *e*P **P 01 58 56.1 -0.5**
comp=Z,18nm,1.3s,mb4.8
GUMO Guam 44.83 214 LR LR 02 14 22.3
comp=Z,259nm,21.4s,MS4.1,baz=24,slow=32
VIPM Ingram Point 45.04 72 P **P 01 59 00.0 +0.3**
WHN Wuhan 45.37 261 P **P 01 59 07.0 +4.5**
YBH Yreka Blue Hor 45.62 77 P **P 01 59 05.3 +0.9**
comp=Z,8.2nm,1.0s,mb4.6,baz=350,slow=2.9,SNR=8.9
YBH LR LR 02 15 16.8
comp=Z,685nm,19.4s,MS4.6,baz=314,slow=32
WALA Waterton Lakes 45.87 63 *e*P **P 01 59 06.1 -0.1**
comp=Z,32nm,1.1s,mb5.2
LHEM Herd Peak 45.97 76 P **P 01 59 08.3 +1.2**
BSMT Bassoo Peak 46.15 65 P **P 01 59 08.8 +0.4**
ZAA0 Zalesovo Array 46.44 306 *e*P **P 01 59 08.8 -1.9**
ZALV Zalesovo Beam 46.44 306 P **P 01 59 09.3 -1.3**
comp=Z,2.0nm,0.8s,mb4.1,baz=64,slow=6.8,SNR=6.8
ZALV LR LR 02 20 42.5
comp=Z,622nm,18.2s,MS4.6,baz=54,slow=39
ZALV Zalesovo Beam 46.44 306 P **P 01 59 09.3 -1.3**
ZALV pmax pmax
comp=Z,2.0nm,0.8s,mb4.1
ZALV MLR MLR
comp=Z,622nm,18.2s,MS4.6
ZALV Zalesovo Beam 46.44 306 P **P 01 59 09.3 -1.3**
ZALV LR LR 02 20 42.5
NVS Novosibirsk 46.65 308 *i*P **P 01 59 10.8 -1.5**
NVS pmax pmax
comp=Z,52nm,1.6s,mb5.2
NVS pmax pmax
comp=N,38nm,1.8s
NVS pmax pmax
comp=E,50nm,1.9s
BMO Blue Mountains 46.66 70 *e*P **P 01 59 12.3 -0.2**
comp=E,24nm,1.8s,mb4.8
MOD Modoc 46.88 75 *e*P **P 01 59 14.8 +0.6**
comp=E,7.0nm,0.6s,mb4.8
MSO Missoula 47.23 66 *e*P **P 01 59 16.6 -0.3**
comp=E,9.1nm,1.2s,mb4.6
WVOR Wild Horse Val 47.47 73 *e*P **P 01 59 19.4 +0.5**
WVOR pmax pmax
comp=Z,2.0nm,0.9s,mb4.0
WVOR Wild Horse Val 47.47 73 *e*P **P 01 59 19.4 +0.5**
comp=Z,2.4nm,0.9s,mb4.1
CHMT Chamberlain Mo 47.55 65 *e*P **P 01 59 18.9 -0.5**
LZH Lanzhou 47.55 275 ⇑P **P 01 59 20.0 +0.5**
LZH AP pP 01 59 26.3 +0.4
LZH XP sP 01 59 29.1 +0.8
LZH PP PP 02 01 11.3 +0.5
LZH AMB AMB
comp=Z,31nm,1.1s,mb5.2
LZH AMB AMB
comp=Z,153nm,5.3s
LZH LR LR
comp=N,2µm,14.8s
LZH LR LR
comp=Z,2µm,17.3s,MS5.2
GTA Gaotai 47.62 281 *e*P **P 01 59 20.5 +0.5**
GTA AP pP 01 59 27.4 +1.0
GTA XP sP 01 59 30.3 +1.5
GTA PP PP 02 01 12.4 +1.0
GTA AMB AMB
comp=Z,15nm,1.0s,mb5.0
GTA AMB AMB
comp=Z,192nm,5.6s
GTA LR LR
comp=N,2µm,15.8s,MS5.3
GTA LR LR
comp=E,2µm,16.4s,MS5.3
GTA LR LR
comp=Z,2µm,21.1s,MS5.0
FFC Flin Flon 48.26 51 *e*P **P 01 59 25.9 +1.1**
FFC pmax pmax
comp=Z,12nm,1.2s,mb4.8
FFC Flin Flon 48.26 51 *e*P **P 01 59 25.9 +1.1**
comp=Z,12nm,1.2s,mb4.8
HRY Holter Researc 48.43 65 *e*P **P 01 59 26.3 +0.1**
HLID Hailey 49.08 69 *e*P **P 01 59 30.9 -0.3**
comp=Z,13nm,1.4s,mb4.8
FCC Fort Churchill 49.10 43 *e*P **P 01 59 30.2 -1.0**
FCC pmax pmax
comp=Z,27nm,0.8s,mb5.3
FCC Fort Churchill 49.10 43 *e*P **P 01 59 30.1 -1.0**
comp=Z,27nm,0.8s,mb5.3
MCMT McKenzie Canyo 49.10 67 *e*P **P 01 59 30.6 -0.8**
QLMT Earthquake Lak 49.86 66 *e*P **P 01 59 36.0 -1.2**
NVAR Mina Array Bea 50.34 77 P **P 01 59 41.6 +0.7**
comp=Z,6.3nm,0.8s,mb4.7,baz=296,slow=7.6,SNR=38
YFT Old Faithful 50.43 66 *e*P **P 01 59 43.5 +2.0**
ELK Elko 50.50 73 LR LR 02 18 40.6
comp=Z,832nm,18.1s,MS4.8,baz=316,slow=33
ELK Elko 50.50 73 *e*P **P 01 59 42.0 -0.1**
ELK pmax pmax
comp=Z,5.0nm,0.7s
ELK Elko 50.50 73 *e*P **P 01 59 42.0 -0.1**
comp=Z,5.4nm,0.7s,mb4.7
IMW Indian Meadow 50.74 67 *e*P **P 01 59 44.5 +0.6**
comp=Z,21nm,1.3s,mb4.9
RLMT Red Lodge 50.82 65 *e*P **P 01 59 44.5 +0.1**
comp=Z,18nm,0.9s,mb5.0
MTUM Tungsten Hills 50.94 78 *e*P **P 01 59 46.0 +0.6**
MOOW Moose Ponds 50.95 67 *e*P **P 01 59 45.6 +0.2**
comp=Z,4.2nm,0.9s,mb4.4
TPAW Teton Pass 51.01 67 *e*P **P 01 59 46.0 +0.1**
comp=Z,5.2nm,1.0s,mb4.4
LOHW Long Hollow 51.12 67 *e*P **P 01 59 47.2 +0.5**
comp=Z,3.4nm,0.7s,mb4.4
SNOW Snow King Moun 51.13 67 *e*P **P 01 59 47.3 +0.5**
comp=Z,5.1nm,0.9s,mb4.5
TPH Tonopah 51.20 77 *e*P **P 01 59 47.6 +0.2**
TPH *e* 01 59 57.3
TPH pmax pmax
comp=Z,27nm,1.4s,mb5.0
TPH Tonopah 51.20 77 *e*P **P 01 59 47.6 +0.2**
comp=Z,27nm,1.4s,mb5.0
TPH *e* 01 59 57.3
DGMT Dagmar 51.22 58 *e*P **P 01 59 46.9 -0.5**
CD2 Chengdu 51.28 271 P **P 01 59 48.8 +0.7**
CD2 AP pP 01 59 54.0 -0.5
CD2 XP sP 01 59 56.8 -0.1
CD2 PP PP 02 01 46.9 +2.0
CD2 AMB AMB
comp=Z,20nm,0.9s,mb5.0
CD2 AMB AMB
comp=Z,50nm,5.4s
CD2 LR LR
comp=N,200nm,14.8s
CD2 LR LR
comp=Z,180nm,16.2s,MS4.2
LAO LASA Array 51.37 61 *e*P **P 01 59 48.7 +0.1**
comp=Z,25nm,1.1s,mb5.1
LAO *e* 01 59 58.3
WMQ Urumqi 51.42 294 *e*P **P 01 59 50.5 +1.6**
WMQ AP pP 01 59 56.5 +1.2
WMQ XP sP 01 59 59.5 +1.7
WMQ PCP PcP 02 01 05.0 +1.8
WMQ PP PP 02 01 48.5 +2.7
WMQ AMB AMB
comp=Z,16nm,1.9s,mb4.6
WMQ AMB AMB
comp=Z,154nm,4.0s
WMQ LR LR
comp=Z,114nm,21.0s,MS3.9
KURK Kurchatov 51.43 306 P **P 01 59 48.3 -0.6**
comp=Z,12nm,0.8s,mb4.9,baz=53,slow=7.6,SNR=35
KURK LR LR 02 23 36.7
comp=Z,862nm,18.0s,MS4.8,baz=15,slow=38
KURK Kurchatov 51.43 306 *d i*P **P 01 59 47.7 -1.2**
KURK pmax pmax
comp=Z,29nm,1.4s,mb5.0
KURK MLR MLR
comp=Z,1µm,15.0s,MS5.0
KURK Kurchatov 51.43 306 *e*P **P 01 59 47.5 -1.4**
comp=Z,35nm,1.1s,mb5.2
HWUT Hardware Ranch 51.95 69 *e*P **P 01 59 53.4 +0.4**
comp=Z,5.3nm,0.8s,mb4.5
SUMG Summit 51.96 10 *e*P **P 01 59 52.4 -0.2**
comp=Z,7.9nm,1.1s,mb4.6
DUG Dugway 52.23 72 *e*P **P 01 59 55.2 +0.2**
DUG pmax pmax
comp=Z,8.0nm,1.1s,mb4.6
DUG Dugway 52.23 72 *e*P **P 01 59 55.2 +0.1**
comp=Z,8.2nm,1.1s,mb4.6
MK31 Makanchi Array 52.24 300 *e*P **P 01 59 53.0 -2.1**
MKAR Makanchi Array 52.24 300 P **P 01 59 53.5 -1.6**
comp=Z,4.6nm,0.8s,mb4.5,baz=57,slow=7.8,SNR=15
MKAR LR LR 02 23 39.0
comp=Z,628nm,18.6s,MS4.7,baz=36,slow=38
MKAR Makanchi Array 52.24 300 P **P 01 59 53.5 -1.6**
MKAR pmax pmax
comp=Z,5.0nm,0.8s
MKAR MLR MLR
comp=Z,628nm,18.6s
MKAR Makanchi Array 52.24 300 P **P 01 59 53.5 -1.6**
MKAR LR LR 02 23 39.0
BW06 Boulder Array 52.25 67 *e*P **P 01 59 55.1 0.0**
comp=Z,16nm,1.2s,mb4.8
PDAR Pinedale Array 52.25 67 P **P 01 59 55.4 +0.2**
comp=Z,13nm,1.0s,mb4.8,baz=313,slow=3.9,SNR=54
PDAR LR LR 02 21 49.7
comp=Z,568nm,20.8s,MS4.6,baz=332,slow=36
TPNV Topopah Spring 52.54 77 *e*P **P 01 59 57.9 +0.5**
TPNV pmax pmax
comp=Z,16nm,1.0s,mb4.9
TPNV Topopah Spring 52.54 77 *e*P **P 01 59 57.9 +0.4**
comp=Z,16nm,1.0s,mb4.9
JLU Jordanelle 52.70 70 *e*P **P 01 59 58.4 -0.1**
GYA Guiyang 52.89 264 P **P 02 00 01.3 +1.2**
GYA AP pP 02 00 08.4 +1.9
GYA XP sP 02 00 11.8 +2.9
GYA PP PP 02 02 01.6 +2.1
GYA SCP ScP 02 05 08.3 +3.3
GYA S **S 02 07 26.0 -1.9**
GYA AMB AMB
comp=Z,10.0nm,0.9s,mb4.8
GYA AMB AMB
comp=Z,240nm,8.3s
GYA LR LR
comp=N,1µm,18.9s,MS5.1
GYA LR LR
comp=E,1µm,19.2s,MS5.1
GYA LR LR
comp=Z,940nm,18.9s,MS4.9
GSC Goldstone 53.39 79 *e*P **P 02 00 03.8 +0.2**
GSC pmax pmax
comp=Z,14nm,1.0s,mb4.8
GSC Goldstone 53.39 79 *e*P **P 02 00 03.8 +0.1**
comp=Z,14nm,1.0s,mb4.8
ARUT Antelope Range 53.55 74 *e*P **P 02 00 04.6 -0.2**
ARCES ARCESS Array B 53.62 345 P **P 02 00 03.9 -0.9**
comp=Z,7.6nm,0.8s,mb4.7,baz=20,slow=9.3,SNR=17
ARCES LR LR 02 26 42.2
comp=Z,496nm,18.6s,MS4.6,baz=16,slow=40
ARCES ARCESS Array B 53.62 345 P **P 02 00 03.9 -0.9**
ARCES pmax pmax
comp=Z,8.0nm,0.9s
ARCES MLR MLR
comp=Z,496nm,18.6s
ARCES ARCESS Array B 53.62 345 P **P 02 00 03.9 -0.9**
ARCES LR LR 02 26 42.2
BVAR Borovoye Array 53.62 312 P **P 02 00 04.4 -0.7**
comp=Z,18nm,0.7s,mb5.1,baz=51,slow=7.8,SNR=82
BVAR LR LR 02 24 50.4
comp=Z,1µm,20.9s,MS5.0,baz=204,slow=38
BVAR Borovoye Array 53.62 312 P **P 02 00 04.4 -0.7**
BVAR pmax pmax
comp=Z,18nm,0.7s
BVAR MLR MLR
comp=Z,1µm,20.9s
BRVK Borovoye 53.64 312 *e*P **P 02 00 04.4 -0.8**
BRVK pmax pmax
comp=Z,25nm,0.6s,mb5.3
BRVK Borovoye 53.64 312 *e*P **P 02 00 04.4 -0.8**
comp=Z,25nm,0.6s,mb5.3
TMUT Trail Mountain 53.74 71 *e*P **P 02 00 07.3 +1.1**
MSU Marysvale 53.75 73 *e*P **P 02 00 07.3 +1.0**
APA Apatity 53.99 341 ⇑*e*P **P 02 00 07.6 0.0**
APA pmax pmax
comp=Z,64nm,1.5s,mb5.3
APA MLR MLR
comp=Z,900nm,18.0s,MS4.9
ULM Lac du Bonnet 54.02 52 P **P 02 00 07.8 -0.3**
comp=Z,9.6nm,1.0s,mb4.7,baz=336,slow=7.6,SNR=6.8
ULM LR LR 02 25 09.4
comp=Z,625nm,20.5s,MS4.7,baz=142,slow=38
ULM Lac du Bonnet 54.02 52 *e*P **P 02 00 07.6 -0.4**
RSSD Black Hills 54.25 62 *e*P **P 02 00 09.8 0.0**
RSSD pmax pmax
comp=Z,5.0nm,0.5s,mb4.7
RSSD Black Hills 54.25 62 *e*P **P 02 00 09.8 0.0**
comp=Z,5.2nm,0.5s,mb4.7
SRU San Rafael 54.25 71 *e*P **P 02 00 10.5 +0.6**
SRU pmax pmax
comp=Z,20nm,0.8s,mb5.1
SRU San Rafael 54.25 71 *e*P **P 02 00 10.5 +0.6**
comp=Z,20nm,0.8s,mb5.1
LDFC Landfair 54.52 78 *e*P **P 02 00 11.9 -0.1**
comp=Z,20nm,0.9s,mb5.2
PFO Pinyon Flat Ob 54.80 80 LR LR 02 21 59.9
comp=Z,657nm,18.6s,MS4.7,baz=307,slow=34
SVE Sverdlovsk 54.84 320 ⇑*e*P **P 02 00 13.7 -0.3**
SVE *e* 02 01 13.1

SVE pmax pmax
comp=Z,25nm,1.6s,mb5.0
SVE MLR MLR
comp=Z,1µm,20.0s,MS4.9
JMIC Jan Mayen 54.97 359 LR LR 02 23 40.7
comp=Z,370nm,19.7s,MS4.5,baz=34,slow=36
AGMN Agassiz Refuge 55.39 54 *eP* **P 02 00 17.9 -0.1**
comp=Z,10nm,0.8s,mb4.9
SFJD Kangerlussuaq 55.40 18 LR LR 02 28 42.7
comp=Z,453nm,18.4s,MS4.6,baz=307,slow=41
PV10 Paradox Valley 55.59 71 *eP* **P 02 00 20.6 +1.0**
ARU Arti 55.91 321 ⇓*iP* **P 02 00 20.8 -0.8**
ARU pmax pmax
comp=Z,19nm,1.2s,mb5.0
ARU MLR MLR
comp=Z,1µm,21.0s,MS4.9
ARU Arti 55.91 321 *eP* **P 02 00 20.0 -1.6**
comp=Z,12nm,0.8s,mb5.0
PV01 Paradox Valley 56.02 71 *eP* **P 02 00 22.8 +0.1**
SMCO Snowmass 56.15 69 *eP* **P 02 00 21.2 -2.4**
comp=Z,5.6nm,0.8s,mb4.7
KMI Kunming 56.20 267 P **P 02 00 25.0 +0.9**
KMI AP pP 02 00 30.8 +0.3
KMI XP sP 02 00 33.4 +0.4
KMI PCP PcP 02 01 22.8 +1.1
KMI PP PP 02 02 30.0 +0.8
KMI PCS PcS 02 05 21.8 -0.5
KMI AMB AMB
comp=Z,10.0nm,1.2s,mb4.7
KMI AMB AMB
comp=Z,151nm,4.3s
KMI LR LR
comp=N,1µm,13.7s,MS5.2
KMI LR LR
comp=E,953nm,15.6s,MS5.2
KMI LR LR
comp=Z,795nm,19.2s,MS4.8
WUAZ Wupatki 56.33 75 *eP* **P 02 00 25.6 +0.7**
comp=Z,19nm,1.1s,mb5.0
ISCO Idaho Springs 56.45 67 *eP* **P 02 00 26.4 +0.7**
ISCO pmax pmax
comp=Z,14nm,0.8s,mb5.0
ISCO Idaho Springs 56.45 67 *eP* **P 02 00 26.4 +0.6**
comp=Z,14nm,0.8s,mb5.0
MVCO Mesa Verde 56.72 71 *eP* **P 02 00 28.4 +0.7**
comp=Z,8.9nm,0.9s,mb4.8
SDCO Great Sand Dun 57.98 69 *eP* **P 02 00 37.2 +0.6**
comp=Z,22nm,1.5s,mb5.0
ECSD EROS,Sioux Fal 58.30 58 *eP* **P 02 00 37.7 -1.0**
comp=Z,10nm,1.0s,mb4.8
TKM2 Tokmak 2 58.35 301 *eP* **P 02 00 38.1 -1.0**
KLMR Klimovskoe 58.36 334 *eP* **P 02 00 36.5 -2.4**
KLMR pmax pmax
comp=Z,57nm,1.5s,mb5.4
JOF Joensuu 58.50 339 *ep* **P 02 00 38.9 -0.9**
comp=Z,8.5nm,0.6s,mb5.0
JOF Joensuu 58.50 339 *eP* **P 02 00 38.9 -0.9**
JOF pmax pmax
comp=Z,9.0nm,0.6s,mb5.0
TUC Tucson 59.00 77 *eP* **P 02 00 44.4 +0.6**
TUC pmax pmax
comp=Z,9.0nm,1.3s,mb4.6
TUC Tucson 59.00 77 *eP* **P 02 00 44.4 +0.6**
comp=Z,9.4nm,1.3s,mb4.7
UCH Uchtor 59.40 301 *eP* **P 02 00 46.3 -0.1**
comp=Z,9.4nm,1.2s,mb4.7
EKS2 Erkin-Say 59.45 301 *eP* **P 02 00 46.1 -0.6**
comp=Z,13nm,1.4s,mb4.8
ANMO Albuquerque 59.49 72 LR LR 02 24 23.6
comp=Z,352nm,18.9s,MS4.5,baz=96,slow=34
ANMO Albuquerque 59.49 72 *eP* **P 02 00 47.5 +0.3**
ANMO pmax pmax
comp=Z,6.0nm,0.8s
ANMO Albuquerque 59.49 72 *eP* **P 02 00 47.5 +0.3**
comp=Z,5.6nm,0.8s,mb4.7
LAZ Ladron 59.52 73 *eP* **P 02 00 48.3 +1.0**
LSA Lhasa 59.52 279 *eP* **P 02 00 47.7 +0.3**
LENM Lemitar 59.78 73 *eP* **P 02 00 49.8 +0.6**
LPM Los Pinos Moun 59.87 72 *eP* **P 02 00 50.6 +0.8**
BNM Barren Site 59.99 72 *eP* **P 02 00 51.4 +0.8**
KAF Kangasniemi 60.24 341 *ep* **P 02 00 57.3 +5.4**
comp=Z,3.4nm,0.5s,mb4.6
KAF Kangasniemi 60.24 341 *eP* **P 02 00 57.3 +5.4**
KAF pmax pmax
comp=Z,3.0nm,0.5s,mb4.6
CBKS Cedar Bluff 60.30 64 *eP* **P 02 00 52.7 +0.1**
SCIA State Center 61.33 57 *eP* **P 02 00 59.2 -0.4**
comp=Z,26nm,0.8s,mb5.4
AMTX Amarillo 62.17 68 *eP* **P 02 01 05.4 +0.1**
NANT Nan 62.28 264 ⇑P **P 02 01 04.0 -2.3**
comp=Z,81nm,0.9s,mb5.9
MOS Moscow 63.28 332 *eP* **P 02 01 10.7 -1.7**
MOS *e* 02 01 44.4
MOS pmax pmax
comp=Z,60nm,1.3s,mb5.6
MOS MLR MLR
comp=Z,1µm,15.0s,MS5.2
CHG Chiang Mai 63.29 265 ⇓P **P 02 01 13.5 +0.5**
comp=Z,15nm,1.0s,mb5.1
CHTO Chiang Mai 63.29 265 *eP* **P 02 01 13.4 +0.4**
CHTO pmax pmax
comp=Z,13nm,1.1s,mb5.0
CHTO Chiang Mai 63.29 265 *eP* **P 02 01 13.4 +0.4**
comp=Z,13nm,1.1s,mb5.0
CMAR Chiang Mai Arr 63.57 265 P **P 02 01 15.6 +0.7**
comp=Z,7.3nm,0.9s,mb4.7,baz=21,slow=7.5,SNR=25
CMAR LR LR 02 29 42.3
comp=Z,389nm,18.6s,MS4.6,baz=240,slow=37
CMAR Chiang Mai Arr 63.57 265 P **P 02 01 15.6 +0.7**
CMAR pmax pmax
comp=Z,7.0nm,0.9s
CMAR MLR MLR
comp=Z,389nm,18.6s
NB2 NORSAR Subarra 63.63 348 P **P 02 01 13.9 -0.7**
comp=Z,33nm,1.2s,mb5.2,baz=15,slow=6.9
NOA NORSAR Array B 63.63 348 P **P 02 01 14.2 -0.5**
comp=Z,7.2nm,0.6s,mb4.9,baz=16,slow=6.7,SNR=22
NOA NORSAR Array B 63.63 348 P **P 02 01 14.2 -0.4**
NOA pmax pmax
comp=Z,7.0nm,0.6s
HNR Honiara 63.97 190 LR LR 02 23 31.3
comp=Z,472nm,21.1s,MS4.7,baz=11,slow=31
OBN Obninsk 64.12 332 *e iP* **P 02 01 17.9 -0.1**
OBN *e**PP pP 02 01 25.0 +0.5
OBN pmax pmax
comp=Z,18nm,1.4s,mb4.9
OBN MLR MLR
comp=Z,500nm,15.0s,MS4.8
HFS Hagfors 64.19 347 P **P 02 01 17.5 -0.8**
comp=Z,2.6nm,0.5s,mb4.5,baz=57,slow=5.5,SNR=6.8
HFS Hagfors 64.19 347 P **P 02 01 17.5 -0.8**
HFS pmax pmax
comp=Z,3.0nm,0.5s
HDIL Hopedale 64.28 56 *eP* **P 02 01 18.5 -0.7**
comp=Z,20nm,0.5s,mb5.4
KONO Kongsberg 65.18 349 *eP* **P 02 01 24.1 -0.7**
TXAR Lajitas Array 65.26 74 P **P 02 01 26.1 +0.3**
comp=Z,9.4nm,0.7s,mb4.9,baz=300,slow=4.2,SNR=142
TXAR Lajitas Array 65.26 74 P **P 02 01 26.1 +0.3**
TXAR pmax pmax
comp=Z,9.0nm,0.7s
LPIG La Paz 65.46 83 LR LR 02 23 58.3
comp=Z,319nm,21.6s,MS4.5,baz=324,slow=30
PMG Port Moresby 66.11 204 *eP* **P 02 01 30.2 -1.1**
PMG pmax pmax
comp=Z,40nm,1.1s
PMG Port Moresby 66.11 204 *eP* **P 02 01 30.2 -1.1**
comp=Z,40nm,1.1s,mb5.4
JCT Junction City 66.54 70 *eP* **P 02 01 33.8 -0.2**
JCT pmax pmax
comp=Z,13nm,0.9s,mb5.0
JCT Junction City 66.54 70 *eP* **P 02 01 33.8 -0.2**
comp=Z,13nm,0.9s,mb5.0
MIAR Mount Ida 66.76 63 *eP* **P 02 01 34.4 -1.0**
MIAR pmax pmax
comp=Z,9.0nm,0.9s,mb4.8
MIAR Mount Ida 66.76 63 *eP* **P 02 01 34.4 -0.9**
comp=Z,9.3nm,0.9s,mb4.8
VSR Storozhevoye 66.78 328 *eP* **P 02 01 34.5 -0.7**
VSR pmax pmax
comp=Z,3.0nm,0.5s,mb4.6
VSR pmax pmax
comp=N,2.0nm,0.4s
VSR pmax pmax
comp=E,2.0nm,0.4s
WCI Wyandotte Cave 67.54 55 *eP* **P 02 01 39.4 -0.9**
WCI pmax pmax
comp=Z,9.0nm,0.7s,mb4.9
WCI Wyandotte Cave 67.54 55 *eP* **P 02 01 39.4 -0.9**
comp=Z,9.4nm,0.7s,mb4.9
KBL Kabul 68.03 299 *eP* **P 02 01 41.7 -1.7**
KBL pmax pmax
comp=Z,13nm,1.0s,mb4.9
KBL Kabul 68.03 299 *eP* **P 02 01 41.7 -1.7**
comp=Z,13nm,1.0s,mb4.9
NATX Nacogdoches 68.34 66 *eP* **P 02 01 45.1 -0.3**
WVT Waverly 68.44 58 *eP* **P 02 01 45.1 -0.9**
WVT pmax pmax
comp=Z,11nm,1.0s,mb4.8
WVT Waverly 68.44 58 *eP* **P 02 01 45.1 -0.9**
comp=Z,11nm,1.0s,mb4.8
OXF Oxford 68.93 60 *eP* **P 02 01 48.3 -0.7**
OXF pmax pmax
comp=Z,33nm,0.9s,mb5.3
OXF Oxford 68.93 60 *eP* **P 02 01 48.2 -0.8**
comp=Z,33nm,0.9s,mb5.3
HKT Hockley 69.12 68 *eP* **P 02 01 49.2 -1.1**
HKT pmax pmax
comp=Z,5.0nm,1.1s,mb4.4
HKT Hockley 69.12 68 *eP* **P 02 01 49.2 -1.1**
comp=Z,5.5nm,1.1s,mb4.4
AKASG Malin Array Be 70.05 334 P **P 02 01 55.1 -0.5**
comp=Z,3.6nm,0.7s,mb4.4,baz=26,slow=5.9,SNR=19
AKASG LR LR 02 36 19.2
comp=Z,736nm,19.4s,MS4.9,baz=15,slow=39
AKASG Malin Array Be 70.05 334 P **P 02 01 55.1 -0.6**
AKASG pmax pmax
comp=Z,4.0nm,0.7s
AKASG MLR MLR
comp=Z,736nm,19.5s
AKBB Malin Array Si 70.05 334 *eP* **P 02 01 55.1 -0.6**
KIEV Kiev 70.06 334 *eP* **P 02 01 55.0 -0.7**
KIEV pmax pmax
comp=Z,7.0nm,0.9s,mb4.6
KIEV Kiev 70.06 334 *eP* **P 02 01 55.0 -0.8**
comp=Z,6.9nm,0.9s,mb4.6
SWET Sewanee 70.11 57 *eP* **P 02 01 54.3 -2.0**
ESK Eskdalemuir 70.53 355 *eP* **P 02 01 57.9 -0.6**
ESK pmax pmax
comp=Z,22nm,1.3s,mb4.9
ESK Eskdalemuir 70.53 355 *eP* **P 02 01 57.9 -0.6**
comp=Z,22nm,1.3s,mb4.9
GOF Gofitskoye 70.84 323 *eP* **P 02 02 00.7 +0.1**
MAK Makhachkala 70.97 319 *eP* **P 02 02 08.1 +6.6**
LRAL Lakeview Retre 71.32 59 *eP* **P 02 02 02.1 -1.6**
comp=Z,6.2nm,0.7s,mb4.7
KIV Kislovodsk 71.92 322 *eP* PcP 02 02 24.3 -1.5
KIV pmax pmax
comp=Z,9.0nm,1.1s,mb4.6
LVV L'vov 72.12 337 *eP* **P 02 02 03.7 -4.6**
KWP Kalwaria 72.60 338 *eP* **P 02 02 12.4 +1.3**
KWP Kalwaria 72.60 338 ⇓P **P 02 02 12.1 +1.0**
KWP Kalwaria 72.60 338 *eP* **P 02 02 12.5 +1.4**
OJC Ojcow 72.66 340 *eP* **P 02 02 11.7 +0.2**
CLZ Clausthal 72.70 346 *eP* **P 02 02 11.2 -0.5**
CLZ pmax pmax
comp=Z,29nm,1.8s,mb4.9
CLZ Clausthal 72.70 346 *eP* **P 02 02 11.2 -0.5**
comp=Z,29nm,1.8s,mb4.9
KSP Ksiaz 72.73 342 *eP* **P 02 02 12.5 +0.6**
KSP *e* 02 02 28.4
CLL Collm 72.83 344 *eP* **P 02 02 13.0 +0.5**
CLL *i* *PP pP 02 02 17.9 -1.1
CLL pmax pmax
comp=Z,15nm,1.7s,mb4.7
CLL Collm 72.83 344 *eP* **P 02 02 11.2 -1.3**
comp=Z,15nm,1.7s,mb4.7
CLL Collm 72.83 344 *eP* **P 02 02 13.0 +0.5**
comp=Z,15nm,1.7s,mb4.7
CLL *i* sP sP 02 02 17.9 -3.6
comp=Z,11nm,1.4s
CLL *e*PcP PcP 02 02 29.0 -0.6
CLL *e*S S 02 11 36.0 -1.0
CLL *e*SS SS 02 16 22.0 +6.2
CLL Collm 72.83 344 *eP* **P 02 02 13.0 +0.5**
comp=Z,15nm,1.7s,mb4.7
CLL *i* pP pP 02 02 17.9 -1.1
BRG Berggiesshubel 73.10 344 *eP* **P 02 02 14.0 -0.1**
BRG S S 02 11 46.0 +5.9
BRG SS SS 02 16 20.0 +0.1
BRG pmax pmax
comp=Z,4.0nm,1.3s,mb4.2
BRG MLR MLR
comp=N,145nm,14.7s,MS4.7
BRG MLR MLR
comp=E,216nm,14.4s,MS4.7
BRG MLR MLR
comp=Z,346nm,15.2s,MS4.8
BRG Berggiesshubel 73.10 344 *eP* **P 02 02 14.0 -0.1**
comp=Z,7.2nm,1.3s,mb4.4
BRG S S 02 11 46.0 +5.9
BRG SS SS 02 16 20.0 +0.1
BRG
comp=N,242nm,14.7s
BRG
comp=E,361nm,14.4s
BRG
comp=Z,578nm,15.2s
UPC Upice 73.10 342 *eP* **P 02 02 20.3 +6.2**
UPC Upice 73.10 342 *ep*P pP 02 02 20.3 -0.4
STHS Stebnicka Huta 73.12 339 *eP* **P 02 02 13.8 -0.4**
STHS *e* 02 02 21.9
STHS pmax pmax
comp=Z,9.0nm,0.9s,mb4.7
STHS Stebnicka Huta 73.12 339 *eP* **P 02 02 13.8 -0.4**
comp=Z,8.8nm,0.9s,mb4.7
STHS *e* 02 02 21.9
DPC Dobruska-Polom 73.20 342 *eP* **P 02 02 14.8 +0.2**
DPC *ep*P pP 02 02 20.5 -0.7
DPC *e*PCP PcP 02 02 29.3 -1.8
DPC AMS AMS 02 40 00.0
comp=Z,400nm,15.0s
PVCC Panska Ves 73.33 343 *eP* **P 02 02 15.6 +0.2**
PVCC AMS AMS 02 44 20.0
comp=Z,600nm,13.6s
OKC Ostrava-Krasne 73.35 341 *eP* **P 02 02 15.7 +0.2**
OKC *ep*P pP 02 02 20.9 -1.2
OKC AMS AMS 02 41 10.0
comp=Z,500nm,15.6s
OKC Ostrava-Krasne 73.35 341 *eP* **P 02 02 15.7 +0.2**
OKC *e* pP 02 02 20.9 -1.2
KOLS Kolonicke sedl 73.35 338 *eP* **P 02 02 16.5 +0.9**
MORC Moravsky Berou 73.52 341 *eP* **P 02 02 16.5 -0.1**
MORC pmax pmax
comp=Z,6.0nm,1.3s,mb4.4
MORC Moravsky Berou 73.52 341 *eP* **P 02 02 16.4 -0.1**
comp=Z,6.2nm,1.3s,mb4.4
CRVS Cervenica-Dubn 73.56 338 *eP* **P 02 02 17.0 +0.2**
KAKA Kakadu 73.61 217 *eP* **P 02 02 14.7 -2.8**
comp=Z,31nm,0.9s,mb5.2
UZH Uzhgorod 73.63 338 *eP* **P 02 02 17.7 +0.5**
UZH *e* pP 02 02 24.0 +0.2
UZH *i* 02 02 35.7
UZH *e*S S 02 11 47.0 +0.8
UZH MLR MLR
comp=N,300nm,15.0s,MS4.8
UZH MLR MLR
comp=E,200nm,15.0s,MS4.8
UZH MLR MLR
comp=Z,150nm,15.0s,MS4.4
MOX Moxa 73.69 345 *e*(P) **P 02 02 17.5 0.0**
MOX
comp=Z,200nm,18.0s
MOX Moxa 73.69 345 *eP* **P 02 02 17.0 -0.5**
comp=Z,12nm,1.5s,mb4.6
UBBA Unterbreizbach 73.75 346 *eP* **P 02 02 18.3 +0.4**
comp=Z,24nm,1.9s,mb4.8
TANN Tannenbergstha 73.78 345 *eP* **P 02 02 17.5 -0.6**
comp=Z,15nm,1.7s,mb4.7
PRU Pruhonice 73.86 343 *eP* **P 02 02 18.6 +0.1**
PRU *ep*P pP 02 02 23.5 -1.6
PRU *e*PCP PcP 02 02 35.1 +1.1
PRU AMS AMS 02 44 30.0
comp=Z,600nm,13.7s
BUR08 Bucovina Ar. S 73.88 335 *eP* **P 02 02 19.0 +0.3**
BURAR Bucovina Array 73.90 335 ⇓P **P 02 02 18.9 +0.1**
NKC Novy Kostel 73.96 345 *eP* **P 02 02 19.0 -0.1**
NKC *ep*P pP 02 02 25.6 -0.1
VRAC Vranov 74.15 342 LR LR 02 38 40.9
comp=Z,354nm,19.8s,MS4.7,baz=270,slow=39
VRAC Vranov 74.15 342 ⇑P **P 02 02 21.2 +1.0**
MANZ Manzenberg 74.26 345 *eP* **P 02 02 20.1 -0.8**
comp=Z,12nm,1.6s,mb4.6
GNI Garni 74.45 319 LR LR 02 39 17.1
comp=Z,658nm,20.2s,MS4.9,baz=238,slow=39
GNI Garni 74.45 319 *eP* **P 02 02 21.0 -1.2**
GNI pmax pmax
comp=Z,7.0nm,1.3s
GNI MLR MLR
comp=Z,700nm,19.0s
GNI Garni 74.45 319 *eP* **P 02 02 20.8 -1.4**
comp=Z,11nm,0.9s,mb4.8
ROTZ Rotzenmuhle 74.45 345 *eP* **P 02 02 21.6 -0.4**
comp=Z,14nm,1.5s,mb4.7
VYHS Vyhne 74.50 340 *eP* **P 02 02 22.9 +0.6**
KOLL Kolacno 74.50 340 *eP* **P 02 02 23.4 +1.1**
KOLL *ep*P pP 02 02 28.8 -0.1
KOLL Kolacno 74.50 340 *eP* **P 02 02 23.5 +1.2**
KOLL *e* pP 02 02 28.8 -0.1
GRA1 Grafenberg Arr 74.68 345 *eP* **P 02 02 23.5 +0.2**
comp=Z,147nm,2.9s,mb5.4
GRA1 LR LR
comp=Z,300nm,22.0s,MS4.5
GRF Grafenberg Arr 74.68 345 *eP* **P 02 02 23.5 +0.2**
GRF pmax pmax
comp=Z,147nm,2.9s,mb5.4
GRF MLR MLR
comp=Z,300nm,22.0s,MS4.5
GRF Grafenberg Arr 74.68 345 *eP* **P 02 02 23.5 +0.2**
GRF pmax pmax
comp=Z,147nm,2.9s,mb5.4
GRF MLR MLR
comp=Z,300nm,22.0s,MS4.5
GRF Grafenberg Arr 74.68 345 *eP* **P 02 02 23.5 +0.2**
comp=Z,147nm,2.9s,mb5.4
GRF *eL* 02 38 10.9
comp=Z,267nm,22.0s
PSZ Piszkesteto 74.83 339 *eP* **P 02 02 24.7 +0.5**
PSZ pmax pmax
comp=Z,31nm,1.5s,mb5.0
PSZ Piszkesteto 74.83 339 *eP* **P 02 02 24.7 +0.5**
comp=Z,31nm,1.5s,mb5.0
KHC Kasperske Hory 74.85 344 *eP* **P 02 02 24.8 +0.5**
KHC *ep*P pP 02 02 30.2 -0.7
KHC *e*PCP PcP 02 02 38.7 +0.5
KHC AMS AMS 02 41 30.0
comp=Z,400nm,20.4s
WET Wettzell 74.95 344 *eP* **P 02 02 24.7 -0.2**
WET pmax pmax
comp=Z,20nm,1.5s,mb4.8
WET Wettzell 74.95 344 *eP* **P 02 02 24.7 -0.2**
comp=Z,20nm,1.5s,mb4.8
GIVF Givet 75.09 350 *eP* **P 02 02 26.2 +0.5**
GEC2 GERESS Array S 75.11 343 *eP* **P 02 02 25.2 -0.6**
GEC2 pmax pmax
comp=Z,10.0nm,1.2s,mb4.6
GEC2 GERESS Array S 75.11 343 *eP* **P 02 02 25.2 -0.6**
comp=Z,10.0nm,1.2s,mb4.6
GERES GERESS Array B 75.11 343 P **P 02 02 26.0 +0.2**
comp=Z,2.1nm,0.9s,mb4.0,baz=62,slow=3.2,SNR=8.2
GERES LR LR 02 42 16.4
comp=Z,297nm,18.1s,MS4.6,baz=170,slow=41
ZST Bratislava 75.12 341 *eP* **P 02 02 27.3 +1.4**
ZST *e* pP 02 02 31.6 -0.9
ZST pmax pmax
comp=Z,89nm,2.4s,mb5.3
ZST MLR MLR
comp=Z,100nm,16.5s,MS4.2
ZST Bratislava 75.12 341 *eP* **P 02 02 27.2 +1.3**
ZST *ep*P pP 02 02 31.6 -0.9
ZST Bratislava 75.12 341 *eP* **P 02 02 27.3 +1.4**
comp=Z,89nm,2.4s,mb5.3
ZST *e* pP 02 02 31.6 -0.9
ZST LR LR
comp=Z,100nm,16.5s,MS4.2
BAIF Baives 75.20 350 *eP* **P 02 02 26.8 +0.5**
WLF Walferdange 75.38 349 *eP* **P 02 02 27.1 -0.2**
WLF pmax pmax
comp=Z,13nm,1.2s,mb4.7
WLF Walferdange 75.38 349 *eP* **P 02 02 27.1 -0.3**
comp=Z,13nm,1.2s,mb4.7
CONA Conrad Observa 75.61 342 ⇓*ip*P pP 02 02 29.9 -5.4
comp=Z,23nm,1.5s
CSNA Conrad Observa 75.61 342 ⇓*ip*P pP 02 02 30.0 -5.4
comp=Z,20nm,1.4s
MLR Muntele Rosu 75.70 334 ⇑P **P 02 02 31.0 +1.7**
VOIR 75.98 335 ⇓P **P 02 02 32.3 +1.4**
TAOE Nuku Hiva Isla 76.04 128 *eLR* LR 02 25 50.3
comp=Z,2µm,23.7s,baz=335
FUR Furstenfeldbru 76.16 345 *eP* **P 02 02 31.2 -0.6**
FUR pmax pmax
comp=Z,18nm,1.5s,mb4.8
FUR Furstenfeldbru 76.16 345 *eP* **P 02 02 31.2 -0.6**
comp=Z,18nm,1.5s,mb4.8
RJOB Jochberg 76.33 344 *eP* **P 02 02 32.2 -0.6**
comp=Z,10.0nm,1.3s,mb4.6
GZR Gura Zlata 76.57 336 ⇑P **P 02 02 34.8 +0.6**
BZS Buzias 76.63 337 ⇑P **P 02 02 35.0 +0.4**
CTAO Charters Tower 76.63 202 *eP* **P 02 02 34.7 0.0**
CTAO pmax pmax
comp=Z,15nm,1.1s,mb4.8
CTAO Charters Tower 76.63 202 *eP* **P 02 02 34.7 0.0**
comp=Z,16nm,1.1s,mb4.8
FLN La Foliniere 76.90 353 *eP* **P 02 02 36.2 +0.2**
comp=Z,14nm,0.9s,mb4.6
FLN *e*MLR MLR
comp=Z,387nm,20.5s,MS4.4
FLN La Foliniere 76.90 353 *eP* **P 02 02 36.2 +0.2**
FLN pmax pmax
comp=Z,7.0nm,0.9s,mb4.6
FLN MLR MLR
comp=Z,390nm,20.5s,MS4.7
FLN La Foliniere 76.90 353 *eP* **P 02 02 36.2 +0.2**
comp=Z,7.2nm,0.9s,mb4.6
FLN LR LR
comp=Z,390nm,20.5s,MS4.7
SOKA Soboth 76.97 342 ⇑*ip*P pP 02 02 37.9 -5.1
comp=Z,29nm,1.4s
PERS Pernice 76.99 342 *i* P **P 02 02 36.9 +0.3**
LDF La Druitiere 77.04 353 *eP* **P 02 02 36.9 +0.1**
comp=Z,14nm,0.9s,mb4.6
LDF La Druitiere 77.04 353 *eP* **P 02 02 36.9 +0.1**
LDF pmax pmax
comp=Z,7.0nm,0.9s,mb4.6
LDF La Druitiere 77.04 353 *eP* **P 02 02 36.9 +0.1**
comp=Z,6.9nm,0.9s,mb4.6
GRR Gorron 77.30 353 *eP* **P 02 02 38.4 +0.1**
DAVOX Davos/Dischmat 77.72 345 LR LR 02 41 25.0
comp=Z,255nm,18.2s,MS4.6,baz=86,slow=39
JAVS Javornik 77.90 342 *i* P **P 02 02 40.0 -1.7**
QUIF Quistinic 77.91 355 *eP* **P 02 02 41.7 0.0**
LOR Lormes 78.00 350 *eP* **P 02 02 42.3 +0.1**
LOR *e*MLR MLR
comp=Z,255nm,17.8s,MS4.3
LOR Lormes 78.00 350 *eP* **P 02 02 42.3 +0.1**
LOR LR LR
comp=Z,260nm,17.8s,MS4.6
BOJS Bojanci 78.06 341 *i* P **P 02 02 47.9 +5.4**
SSF Saint Saulge 78.24 350 *eP* **P 02 02 43.7 +0.2**
CABF La Chapelle 78.39 348 *eP* **P 02 02 44.8 +0.4**
AVF Avril sur Loir 78.52 350 *eP* **P 02 02 45.4 +0.3**
BR131 Keskin Array S 78.77 326 *eP* **P 02 02 46.6 0.0**
comp=Z,2.7nm,0.8s,mb4.2
ANTO Ankara 78.91 327 *eP* **P 02 02 47.1 -0.3**
ANTO *e* pP 02 02 54.3 +0.3
ANTO pmax pmax
comp=Z,11nm,0.9s,mb4.8
ANTO Ankara 78.91 327 *eP* **P 02 02 47.1 -0.3**
comp=Z,12nm,0.9s,mb4.8
ANTO *e* pP 02 02 54.3 +0.3
TCF Toulx Ste Croi 79.13 351 *eP* **P 02 02 48.7 +0.2**
comp=Z,53nm,1.7s,mb4.9
TCF Toulx Ste Croi 79.13 351 *eP* **P 02 02 48.7 +0.2**
TCF pmax pmax
comp=Z,27nm,1.7s,mb4.9
TCF Toulx Ste Croi 79.13 351 *eP* **P 02 02 48.7 +0.2**
comp=Z,27nm,1.7s,mb4.9
LPL La Plagne 79.39 347 *eP* **P 02 02 50.1 +0.2**
comp=Z,41nm,1.6s,mb4.8
LPL La Plagne 79.39 347 *eP* **P 02 02 50.1 +0.2**
LPL pmax pmax
comp=Z,21nm,1.6s,mb4.8
LPL La Plagne 79.39 347 *eP* **P 02 02 50.1 +0.2**
comp=Z,21nm,1.6s,mb4.8
LPG La Plagne 79.41 347 *eP* **P 02 02 50.5 +0.5**
comp=Z,46nm,1.4s,mb4.9
LPG La Plagne 79.41 347 *eP* **P 02 02 50.5 +0.5**

LPG					pmax	pmax			
	comp=Z,23nm,1.4s,mb4.9								
LPG	**La Plagne**	**79.41**	**347**	*e*P	**P**		**02 02 50.5**	**+0.5**	
	comp=Z,23nm,1.4s,mb4.9								
WRAB	**Tennant Creek**	**79.69**	**213**	*e*P	**P**		**02 02 52.1**	**+0.4**	
WRAB					pmax	pmax			
	comp=Z,19nm,1.1s,mb4.9								
WRAB	**Tennant Creek**	**79.69**	**213**	*e*P	**P**		**02 02 52.1**	**+0.5**	
	comp=Z,19nm,1.1s,mb4.9								
WRA	**Warramunga Arr**	**79.71**	**213**	P	**P**		**02 02 52.3**	**+0.6**	
	comp=Z,4.0nm,0.9s,mb4.4,baz=28,slow=5.7,SNR=10								
WRA					LR	LR	02 35 37.1		
	comp=Z,161nm,21.2s,MS4.3,baz=210,slow=34								
PPT	**Papeete**	**79.89**	**140**	*e*S	S		02 12 46.8	-8.2	
	comp=Z,72nm,27.0s								
PPT	**Papeete**	**79.89**	**140**	*e*LR	LR		02 27 41.1		
	comp=Z,761nm,22.5s,baz=339								
PPT	**Papeete**	**79.89**	**140**	LR	LR		02 29 40.7		
	comp=Z,526nm,21.1s,MS4.8,baz=341,slow=29								
ORIF	**Oris-en-Rattie**	**80.08**	**348**	*e*P	**P**		**02 02 53.8**	**+0.1**	
	comp=Z,18nm,1.1s,mb4.6								
ORIF				*e*MLR	MLR				
	comp=Z,323nm,22.2s,MS4.3								
ORIF	**Oris-en-Rattie**	**80.08**	**348**	*e*P	**P**		**02 02 53.8**	**+0.1**	
ORIF				pmax	pmax				
	comp=Z,9.0nm,1.1s,mb4.6								
ORIF	**Oris-en-Rattie**	**80.08**	**348**	*e*P	**P**		**02 02 53.8**	**+0.1**	
	comp=Z,8.9nm,1.1s,mb4.6								
CAF	**Calviac**	**80.49**	**351**	*e*P	**P**		**02 02 55.5**	**-0.4**	
	comp=Z,29nm,1.1s,mb4.8								
CAF	**Calviac**	**80.49**	**351**	*e*P	**P**		**02 02 55.5**	**-0.4**	
CAF				pmax	pmax				
	comp=Z,15nm,1.1s,mb4.8								
CAF	**Calviac**	**80.49**	**351**	*e*P	**P**		**02 02 55.5**	**-0.4**	
	comp=Z,15nm,1.1s,mb4.8								
FITZ	**Fitzroy Crossi**	**81.08**	**221**	*e*P	**P**		**02 02 59.4**	**+0.3**	
	comp=Z,20nm,1.1s,mb5.0								
PGF	**Pioggiola**	**81.99**	**345**	*e*P	**P**		**02 03 03.4**	**-0.4**	
SJPF	**Ste Jean**	**82.57**	**353**	*e*P	**P**		**02 03 07.0**	**+0.1**	
CSS	**Prodhromos**	**83.20**	**325**	*e*P	**P**		**02 03 08.9**	**-1.4**	
	comp=Z,17nm,1.1s,mb5.0								
ASAR	**Alice Springs**	**83.33**	**212**	P	**P**		**02 03 11.8**	**+1.0**	
	comp=Z,3.6nm,0.8s,mb4.5,baz=18,slow=4.7,SNR=30								
ASAR	**Alice Springs**	**83.33**	**212**	P	**P**		**02 03 11.8**	**+1.0**	
ASAR				pmax	pmax				
	comp=Z,4.0nm,0.8s								
TIP	**Timpagrande**	**83.84**	**339**	*e*P	**P**		**02 03 14.3**	**+0.8**	
	comp=Z,46nm,1.4s,mb5.4								
TBI	**Tubuai**	**85.22**	**142**	*e*LR	LR		02 30 02.3		
	comp=Z,466nm,21.5s,baz=342								
ESDC	**Sonseca Array**	**86.17**	**355**	P	**P**		**02 03 25.8**	**+0.6**	
	comp=Z,0.7nm,0.5s,mb4.2,baz=357,slow=4.9,SNR=4.9								
KEST	**Kesra**	**88.60**	**344**	LR	LR		02 49 10.8		
	comp=Z,96nm,19.2s,MS4.2,baz=341,slow=40								
STKA	**Stephens Creek**	**89.05**	**203**	P	**P**		**02 03 39.9**	**+1.2**	
	comp=Z,3.0nm,0.8s,mb4.7,baz=352,slow=5.5,SNR=6.5								
STKA				LR	LR		02 42 05.7		
	comp=Z,266nm,18.2s,MS4.7,baz=20,slow=34								
STKA	**Stephens Creek**	**89.05**	**203**	*e*P	**P**		**02 03 38.7**	**0.0**	
RKT	**Rikitea**	**90.88**	**130**	*e*LR	LR		02 32 46.1		
	comp=Z,271nm,22.8s,baz=333								
BOSA	**Boshof**	**143.24**	**300**	PKP	PKPdf		02 10 17.1	-0.9	
	comp=Z,3.3nm,0.8s,baz=318,slow=12,SNR=2.5								
BOSA	**Boshof**	**143.24**	**300**	PKIKP	PKPdf		02 10 17.1	-0.9	
BOSA				pmax	pmax				
	comp=Z,3.0nm,0.8s								
QSPA	**South Pole Qui**	**144.08**	**180**	PKhKP			02 10 15.2		
	comp=Z,7.1nm,0.7s,baz=347,slow=1.0,SNR=25								
QSPA	**South Pole Qui**	**144.08**	**180**	PKP	PKPdf		02 10 15.2	-2.7	
MAW	**Mawson**	**144.18**	**219**	PKP	PKPdf		02 10 16.8	-1.5	
	comp=Z,3.9nm,0.8s,baz=81,slow=2.1,SNR=8.9								
MAW	**Mawson**	**144.18**	**219**	PKIKP	PKPdf		02 10 16.8	-1.6	
MAW				pmax	pmax				
	comp=Z,4.0nm,0.8s								
MAW	**Mawson**	**144.18**	**219**	*e*PKPdf	PKPdf		02 10 16.7	-1.7	
USHA	**Ushuaia**	**147.53**	**115**	PKPbc	PKPbc		02 10 26.5	-0.6	
	comp=Z,4.1nm,0.8s,baz=220,slow=5.2,SNR=4.5								
PMSA	**Palmer Station**	**152.05**	**133**	*e*PKPbc	PKPbc		02 10 36.8	-1.1	
SNAA	**Sanae**	**162.23**	**189**	*e*PKPdf	PKPab		02 11 30.1	-1.1	
VNA3	**Neumayer Olymp**	**163.01**	**182**	*e*PKPdf	PKPab		02 11 33.9	-0.8	
VNA3				*e*			02 11 40.1		
VNA2	**Neumayer--Watz**	**163.26**	**184**	*e*PKPdf	PKPab		02 11 35.0	-0.8	
	baz=217,slow=3.9								
VNA2				*e*			02 11 41.1		

KRSC ***20*** *01:55:45.1±2.3,5394N×16890E,h5km±5km,ML4.7*
MOS ***20*** *01:55:48.4±1.1,5426N×16888E,h10km,mb4.7/47,Error ellipse: s-maj=9.7km s-min=7.4km az=84.5*
ISCJB ***20*** *01:55:48.3±1.2,5424N±005×16888E±004,h9km±7km, mb4.6/90,MS4.8/5,Error ellipse: s-maj=8.5km s-min=3.5km az=176.3*
BJI ***20*** *01:55:48.3,5463N×16908E,h14km,mB5.0,mb4.7,Ms5.1, Msz4.9*
IDC ***20*** *01:55:49.0±0.5,5442N×16887E,h0km,mb4.2/25, mb1 4.4/26,mb1mx4.4/31,mbtmp4.2/26,ML4.2/1,MS4.4/1, Ms1 4.4/1,ms1mx3.0/39,Error ellipse: s-maj=17.9km s-min=10.7km az=170.0*
GCMT ***20*** *01:55:50.3±0.3,5445N×16900E,h23km±1km,MW5.1/93, Moment Tensor Solution. s33,c43; s93,c150; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr-0.54±.24; Mθθ-4.70±.19; Mφφ5.24±.21; Mrθ-0.42±.32; Mθφ-0.92±.17; Mφr-0.52±.28; Best double couple: M₀5.09900×10¹⁶ NP1:φs130.00000°,δ82.00000°,λ-179.00000°. NP2: φs40.00000°,δ89.00000°,λ-8.00000°. Principal axes: T 5.3630, Plg5.0000°, Azm85.0000°; N -0.5230, Plg82.0000°, Azm212.0000°; P -4.8360, Plg6.0000°, Azm354.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
NEIC ***20*** *01:55:50.3±0.2,5426N×16888E,h10km,mb4.8/57 Error ellipse: s-maj=6.9km s-min=3.0km az=174.0*

ISC 20 01:55:51.2±1.4,5427N±005×16889E±004,h14km±8km, h17km±.9km:pP-P,n218,σ0s93/223,mb4.6/90,MS4.8/5,1D, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMY	**Shemya**	**3.48**	**114**	*e*PN	**Pn**	**01 56 42.6**	**-2.2**
KBTR	**Krutoberegovo**	**3.98**	**302**	*e*P	**Pn**	**01 56 51.6**	**-0.1**
KBTR				*e*S	**Sn**	**01 57 40.4**	**+2.3**
MKZ	**Mys Kozlova**	**4.19**	**277**	P	**Pn**	**01 56 53.6**	**-1.0**
MKZ				S	**Sn**	**01 57 43.1**	**-0.2**
BDR	**Baidarnaya**	**4.94**	**301**	P	**Pn**	**01 57 04.8**	**-0.1**
BDR				S	**Sn**	**01 58 02.6**	**+0.8**
SPN	**Mys Shipunski**	**5.40**	**261**	P	**Pn**	**01 57 06.1**	**-5.1**
PET	**Petropavlovsk**	**6.21**	**263**	*e*PN	**Pn**	**01 57 25.2**	**+2.8**
PET	**Petropavlovsk**	**6.21**	**263**	*e*Pn	**Pn**	**01 57 22.9**	**+0.5**
RUS	**Russkaya**	**6.48**	**258**	P	**Pn**	**01 57 24.4**	**-1.6**
RUS				S	**Sn**	**01 58 36.4**	**-3.2**
PETK	**Petropavlovsk-**	**6.75**	**265**	Pn	**Pn**	**01 57 31.2**	**+1.5**
	5.0nm,0.3s,baz=81,slow=20,SNR=14						
SKR	**Severo-Kuril's**	**8.58**	**250**	*e*PN	**Pn**	**01 57 53.5**	**-1.3**
SKR				pmax	pmax		
	comp=Z,40nm,0.5s						
SKR				MLR	MLR		
	comp=N,4μm,12.0s						
SKR				MLR	MLR		
	comp=E,4μm,12.0s						
SKR				MLR	MLR		
	comp=Z,3μm,12.0s						
ADK	**Adak**	**9.01**	**100**	*e*PN	**Pn**	**01 57 59.6**	**-1.1**
UNV	**Unalaska Valle**	**14.44**	**82**	*e*P	**Pn**	**01 59 21.8**	**+6.9**
AKUT	**Akutan**	**14.81**	**80**	*e*P	**Pn**	**01 59 25.7**	**+5.8**
	comp=Z,218nm,1.1s						
FALS	**False Pass**	**16.04**	**77**	*e*Pn	**Pn**	**01 59 39.7**	**+3.7**
	comp=Z,69nm,0.6s						
CHGN	**Chignik**	**18.64**	**70**	*e*P	**Pn**	**02 00 09.0**	**+0.5**
SVW2	**Sparrevohn**	**19.98**	**56**	*e*P	**Pn**	**02 00 24.1**	**-0.5**
KDAK	**Kodiak Island**	**21.61**	**65**	P	**P**	**02 00 37.9**	**-2.6**
	comp=Z,3.7nm,0.4s,mb4.2,baz=241,slow=10,SNR=12						
IMA2	**Indian Mountai**	**21.65**	**42**	*e*P	**P**	**02 00 42.2**	**+1.5**
PPLA	**Purkeypile**	**21.73**	**51**	*e*P	**P**	**02 00 43.3**	**+1.7**
	comp=Z,11nm,1.4s,mb5.1						
CHUM	**Lake Minchumin**	**21.79**	**48**	*e*P	**P**	**02 00 43.5**	**+1.3**
	comp=Z,102nm,1.6s,mb5.0						
YAK	**Yakutsk**	**21.79**	**307**	*e*P	**P**	**02 00 42.9**	**+0.6**
YAK				pmax	pmax		
	comp=Z,21nm,0.8s,mb4.6						
KTH	**Kantishna Hill**	**22.36**	**49**	*e*P	**P**	**02 00 49.7**	**+1.3**
	comp=Z,50nm,1.4s,mb4.8						
BPAW	**Bear Paw Mtn.**	**22.39**	**48**	*e*P	**P**	**02 00 49.1**	**+0.4**
	comp=Z,0.6nm,1.0s						
SLKM	**Skilak Lake**	**22.60**	**57**	*e*P	**P**	**02 00 51.1**	**+0.2**
TRF	**Thorofare Moun**	**22.64**	**50**	*e*P	**P**	**02 00 51.7**	**+0.4**
	comp=Z,33nm,0.7s,mb4.9						
SEW	**Seward**	**23.01**	**58**	*e*P	**P**	**02 00 53.9**	**-1.3**
MCK	**McKinley**	**23.26**	**49**	*e*P	**P**	**02 00 57.9**	**0.0**
MCK				pmax	pmax		
	comp=Z,19nm,0.9s,mb4.5						
MCK	**McKinley**	**23.26**	**49**	*e*P	**P**	**02 00 57.9**	**0.0**
	comp=Z,19nm,0.9s,mb4.5						
COLD	**Coldfoot**	**23.28**	**40**	*e*P	**P**	**02 00 57.6**	**-0.5**
COLA	**College**	**23.83**	**46**	*e*P	**P**	**02 01 02.9**	**-0.5**
COLA	**College**	**23.83**	**46**	*e*P	**P**	**02 01 02.8**	**-0.6**
TIXI	**Tiksi**	**24.43**	**330**	*e*P	**P**	**02 01 08.0**	**-0.8**
TIXI				pmax	pmax		
	comp=Z,25nm,1.5s,mb4.4						
TIXI	**Tiksi**	**24.43**	**330**	*e*P	**P**	**02 01 08.3**	**-0.5**
	comp=Z,18nm,1.0s,mb4.5						
DAWY	**Dawson**	**27.48**	**48**	*e*P	**P**	**02 01 36.2**	**-0.3**
MAJO	**Matsushiro**	**27.58**	**243**	*e*P	**P**	**02 01 36.6**	**-1.0**
MAJO				pmax	pmax		
	comp=Z,12nm,0.8s,mb4.6						
MAJO	**Matsushiro**	**27.58**	**243**	*e*P	**P**	**02 01 36.6**	**-1.0**
	comp=Z,12nm,0.8s,mb4.6						
MAT	**Matsushiro**	**27.58**	**243**	P	**P**	**02 01 39.5**	**+1.9**
MJAR	**Matsushiro Arr**	**27.58**	**243**	P	**P**	**02 01 37.6**	**0.0**
	comp=Z,0.8nm,0.4s,mb3.7,baz=19,slow=12,SNR=3.2						
MJAR	**Matsushiro Arr**	**27.58**	**243**	P	**P**	**02 01 37.6**	**0.0**
MJAR				pmax	pmax		
	comp=Z,1.0nm,0.4s						
HYT	**Haines Junctio**	**28.77**	**55**	*e*P	**P**	**02 01 47.9**	**-0.2**
INK	**Inuvik**	**29.69**	**39**	*e*P	**P**	**02 01 57.0**	**+1.0**
	comp=Z,231nm,0.8s						
CN2	**Changchun**	**29.89**	**268**	*e*P	**P**	**02 01 58.5**	**+0.4**
BOD	**Bodaibo**	**30.15**	**299**	*e*P	**P**	**02 01 59.7**	**-0.5**
BOD				pmax	pmax		
	comp=Z,10.0nm,1.4s,mb4.3						
KSRS	**Korea Array**	**32.55**	**256**	P	**P**	**02 02 23.0**	**+1.4**
	comp=Z,3.5nm,1.0s,mb4.2,baz=32,slow=9.0,SNR=4.3						
KSRS	**Korea Array**	**32.55**	**256**	P	**P**	**02 02 23.0**	**+1.4**
KSRS				pmax	pmax		
	comp=Z,4.0nm,1.0s,mb4.3						
DLBC	**Dease Lake**	**33.07**	**58**	P	**P**	**02 02 27.2**	**+1.2**
	baz=297,slow=10						
DLBC	**Dease Lake**	**33.07**	**58**	P	**P**	**02 02 27.2**	**+1.2**
BJI	**Beijing**	**37.65**	**270**	P	**P**	**02 03 02.8**	**-2.7**
BJI				AMB	AMB		
	comp=Z,9.0nm,0.7s,mb4.6						
SONM	**Songino Array**	**38.65**	**287**	P	**P**	**02 03 13.1**	**-0.7**
	comp=Z,1.7nm,0.6s,mb3.9,baz=58,slow=9.4,SNR=5.7						
SONM	**Songino Array**	**38.65**	**287**	P	**P**	**02 03 13.1**	**-0.7**
SONM				pmax	pmax		
	comp=Z,2.0nm,0.6s						
YKA	**Yellowknife Ar**	**38.66**	**46**	P	**P**	**02 03 13.6**	**-0.2**
	comp=Z,2.8nm,0.6s,mb4.2,baz=292,slow=7.6,SNR=8.8						
YKA				LR	LR	02 20 12.9	
	comp=Z,478nm,18.6s,MS4.3,baz=145,slow=38						
YKA	**Yellowknife Ar**	**38.66**	**46**	P	**P**	**02 03 13.6**	**-0.2**
YKA				pmax	pmax		
	comp=Z,3.0nm,0.6s						
YKA				MLR	MLR		
	comp=Z,478nm,18.6s						
HHC	**Hu-ho-hao-te**	**39.83**	**275**	*e*P	**P**	**02 03 23.4**	**-0.4**
HHC				AP	pP	02 03 27.9	-0.2
HHC				XP	sP	02 03 30.4	+0.5
HHC				PP	PP	02 04 58.6	+3.4
HHC				PCP	PcP	02 05 30.1	+0.6
HHC				SCP	ScP	02 09 16.8	-0.9
HHC				S	**S**	**02 09 26.6**	**-0.9**
HHC				XS	sS	02 09 35.3	+0.6
HHC				SS	SS	02 12 16.1	-7.3
HHC				AMB	AMB		
	comp=Z,18nm,1.1s,mb4.7						
HHC				AMB	AMB		
	comp=Z,113nm,6.0s						
HHC				LR	LR		
	comp=N,1μm,16.2s,MS5.0						
HHC				LR	LR		
	comp=E,1μm,16.8s,MS5.0						
HHC				LR	LR		
	comp=Z,2μm,15.8s,MS5.0						
NJ2	**Nanjing**	**41.61**	**259**	*e*P	**P**	**02 03 40.0**	**+1.4**
NJ2				AP	pP	02 03 44.5	+1.6
NJ2				XP	sP	02 03 47.0	+2.3
NJ2				PP	PP	02 05 19.4	+4.8
NJ2				S	**S**	**02 09 55.5**	**+1.3**
NJ2				XS	sS	02 10 03.5	+2.1
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.6						
NJ2				AMB	AMB		
	comp=Z,1μm,4.2s						
NJ2				LR	LR		
	comp=N,330nm,18.0s,MS4.6						
NJ2				LR	LR		
	comp=E,590nm,13.0s,MS4.6						
ETW	**Entiat**	**43.37**	**69**	*e*P	**P**	**02 03 52.7**	**0.0**
EDM	**Edmonton**	**43.79**	**58**	*e*P	**P**	**02 03 55.9**	**-0.1**
NEW	**Newport**	**44.71**	**66**	*e*P	**P**	**02 04 02.8**	**-0.6**
NEW				pmax	pmax		
	comp=Z,5.0nm,0.8s						
NEW	**Newport**	**44.71**	**66**	*e*P	**P**	**02 04 02.8**	**-0.7**
	comp=Z,4.6nm,0.8s,mb4.4						
YBH	**Yreka Blue Hor**	**45.68**	**77**	P	**P**	**02 04 09.3**	**-1.9**
	comp=Z,3.5nm,0.7s,mb4.4,baz=12,slow=5.3,SNR=6.7						
YBH	**Yreka Blue Hor**	**45.68**	**77**	P	**P**	**02 04 09.3**	**-1.9**
YBH				pmax	pmax		
	comp=Z,4.0nm,0.7s						
WALA	**Waterton Lakes**	**45.94**	**63**	*e*P	**P**	**02 04 13.3**	**+0.2**
	comp=Z,13nm,0.7s,mb5.0						
BSMT	**Basso Peak**	**46.21**	**65**	*e*P	**P**	**02 04 15.3**	**0.0**
MOD	**Modoc**	**46.94**	**75**	*e*P	**P**	**02 04 21.7**	**+0.6**
LZH	**Lanzhou**	**47.51**	**275**	*e*P	**P**	**02 04 26.4**	**+0.7**
LZH				AP	pP	02 04 32.5	+2.4
LZH				XP	sP	02 04 35.6	+3.8
LZH				*e*PP	PP	02 06 17.5	+0.7
LZH				*e*S	**S**	**02 11 18.6**	**-1.2**
LZH				XS	sS	02 11 28.8	+1.7
LZH				*e*SS	SS	02 14 42.0	-5.4
LZH				AMB	AMB		
	comp=Z,24nm,1.0s,mb5.2						
LZH				AMB	AMB		
	comp=Z,128nm,6.1s						
LZH				LR	LR		
	comp=N,875nm,15.0s						
LZH				LR	LR		
	comp=Z,1μm,17.5s,MS4.9						
WVOR	**Wild Horse Val**	**47.53**	**73**	*e*P	**P**	**02 04 26.0**	**+0.3**
WVOR				pmax	pmax		
	comp=Z,5.0nm,0.9s,mb4.5						
WVOR	**Wild Horse Val**	**47.53**	**73**	*e*P	**P**	**02 04 26.0**	**+0.3**
	comp=Z,4.5nm,0.9s,mb4.5						
GTA	**Gaotai**	**47.59**	**281**	*e*P	**P**	**02 04 27.1**	**+0.9**
GTA				AP	pP	02 04 32.5	+1.9
GTA				XP	sP	02 04 35.3	+2.9
GTA				PP	PP	02 06 18.8	+1.3
GTA				S	**S**	**02 11 21.3**	**+0.4**
GTA				XS	sS	02 11 32.4	+4.3
GTA				SS	SS	02 14 43.4	-5.1
GTA				AMB	AMB		
	comp=Z,6.0nm,1.0s,mb4.6						
GTA				AMB	AMB		
	comp=Z,96nm,7.5s						
GTA				LR	LR		
	comp=N,1μm,14.7s,MS5.1						
GTA				LR	LR		
	comp=E,1μm,14.1s,MS5.1						
GTA				LR	LR		
	comp=Z,2μm,14.4s,MS5.1						
HRY	**Holter Researc**	**48.49**	**65**	*e*P	**P**	**02 04 33.4**	**+0.3**
HLID	**Hailey**	**49.14**	**69**	*e*P	**P**	**02 04 37.8**	**-0.3**
MCMT	**McKenzie Canyo**	**49.16**	**67**	*e*P	**P**	**02 04 37.3**	**-0.9**
FCC	**Fort Churchill**	**49.17**	**43**	*e*P	**P**	**02 04 38.6**	**+0.5**
FCC				pmax	pmax		
	comp=Z,13nm,0.7s,mb5.1						
FCC	**Fort Churchill**	**49.17**	**43**	*e*P	**P**	**02 04 38.6**	**+0.5**
	comp=Z,13nm,0.7s,mb5.1						
QLMT	**Earthquake Lak**	**49.92**	**66**	*e*P	**P**	**02 04 44.1**	**+0.1**
NVAR	**Mina Array Bea**	**50.40**	**77**	P	**P**	**02 04 46.4**	**-1.4**
	comp=Z,4.1nm,0.8s,mb4.5,baz=293,slow=7.1,SNR=16						
ELK	**Elko**	**50.56**	**73**	P	**P**	**02 04 49.6**	**+0.7**
	comp=Z,2.5nm,0.7s,mb4.3,baz=297,slow=8.3,SNR=12						
ELK	**Elko**	**50.56**	**73**	P	**P**	**02 04 49.6**	**+0.7**
ELK				pmax	pmax		
	comp=Z,3.0nm,0.7s						
ELK	**Elko**	**50.56**	**73**	*e*P	**P**	**02 04 49.5**	**+0.6**
	comp=Z,1.6nm,0.7s,mb4.1						
RLMT	**Red Lodge**	**50.89**	**65**	*e*P	**P**	**02 04 51.2**	**-0.1**
	comp=Z,11nm,0.9s,mb4.8						
MOOW	**Moose Ponds**	**51.01**	**67**	*e*P	**P**	**02 04 52.7**	**+0.4**
	comp=Z,2.4nm,0.8s,mb4.2						
TPAW	**Teton Pass**	**51.07**	**67**	*e*P	**P**	**02 04 53.1**	**+0.3**
LOHW	**Long Hollow**	**51.18**	**67**	*e*P	**P**	**02 04 53.9**	**+0.3**
	comp=Z,3.0nm,0.7s,mb4.3						
CD2	**Chengdu**	**51.24**	**271**	*e*P	**P**	**02 04 54.8**	**+0.6**
CD2				AP	pP	02 04 59.1	+0.4
CD2				XP	sP	02 05 02.1	+1.7
CD2				PP	PP	02 06 52.3	+1.4
CD2				S	**S**	**02 12 10.4**	**-1.8**
CD2				SS	SS	02 15 43.8	-3.6
CD2				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.9						
CD2				AMB	AMB		
	comp=Z,30nm,3.8s						
WMQ	**Urumqi**	**51.40**	**294**	*e*P	**P**	**02 04 57.4**	**+2.2**
WMQ				AP	pP	02 05 02.4	+2.7
WMQ				XP	sP	02 05 05.4	+4.0
WMQ				PCP	PcP	02 06 12.3	+2.7
WMQ				PP	PP	02 06 55.4	+3.3
WMQ				S	**S**	**02 12 14.6**	**+0.5**
WMQ				AMB	AMB		
	comp=Z,7.0nm,1.2s,mb4.5						
WMQ				AMB	AMB		
	comp=Z,94nm,3.8s						
KURK	**Kurchatov**	**51.43**	**306**	P	**P**	**02 04 55.3**	**-0.1**
	comp=Z,3.8nm,0.8s,mb4.3,baz=56,slow=7.6,SNR=8.5						
KURK	**Kurchatov**	**51.43**	**306**	*e*P	**P**	**02 04 54.0**	**-1.3**
KURK				pmax	pmax		
	comp=Z,9.0nm,1.4s,mb4.5						
KURK	**Kurchatov**	**51.43**	**306**	*e*P	**P**	**02 04 53.5**	**-1.8**
HWUT	**Hardware Ranch**	**52.01**	**69**	*e*P	**P**	**02 04 59.6**	**-0.2**
	comp=Z,3.8nm,0.9s,mb4.3						
MK31	**Makanchi Array**	**52.24**	**300**	*e*P	**P**	**02 05 00.4**	**-1.0**
MKAR	**Makanchi Array**	**52.24**	**300**	P	**P**	**02 05 00.1**	**-1.4**
	comp=Z,1.0nm,0.6s,mb3.9,baz=68,slow=8.0,SNR=4.2						
MKAR	**Makanchi Array**	**52.24**	**300**	P	**P**	**02 05 00.1**	**-1.3**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
DUG	**Dugway**	**52.28**	**71**	*e*P	**P**	**02 05 01.7**	**-0.2**
DUG				pmax	pmax		
	comp=Z,2.0nm,0.7s,mb4.2						
DUG	**Dugway**	**52.28**	**71**	*e*P	**P**	**02 05 01.7**	**-0.2**
	comp=Z,2.1nm,0.7s,mb4.2						
BW06	**Boulder Array**	**52.31**	**67**	*e*P	**P**	**02 05 01.7**	**-0.3**
	comp=Z,5.8nm,0.9s,mb4.5						
PDAR	**Pinedale Array**	**52.31**	**67**	P	**P**	**02 05 02.1**	**+0.1**
	comp=Z,5.1nm,0.8s,mb4.5,baz=312,slow=3.9,SNR=22						
TPNV	**Topopah Spring**	**52.60**	**77**	*e*P	**P**	**02 05 03.8**	**-0.4**
TPNV				pmax	pmax		
	comp=Z,7.0nm,0.9s,mb4.6						
TPNV	**Topopah Spring**	**52.60**	**77**	*e*P	**P**	**02 05 03.8**	**-0.5**
	comp=Z,6.9nm,0.9s,mb4.6						
GSC	**Goldstone**	**53.44**	**79**	*e*P	**P**	**02 05 11.2**	**+0.8**
BVAR	**Borovoye Array**	**53.62**	**312**	P	**P**	**02 05 10.7**	**-0.8**
	comp=Z,4.8nm,0.7s,mb4.5,baz=54,slow=7.5,SNR=12						
BVAR	**Borovoye Array**	**53.62**	**312**	P	**P**	**02 05 10.7**	**-0.8**
BVAR				pmax	pmax		
	comp=Z,5.0nm,0.7s						
BRVK	**Borovoye**	**53.65**	**312**	*e*P	**P**	**02 05 10.6**	**-1.1**
BRVK				pmax	pmax		
	comp=Z,18nm,0.7s,mb5.1						
BRVK	**Borovoye**	**53.65**	**312**	*e*P	**P**	**02 05 10.6**	**-1.1**
	comp=Z,18nm,0.7s,mb5.1						
ARCES	**ARCESS Array B**	**53.66**	**345**	P	**P**	**02 05 10.0**	**-1.6**
	comp=Z,1.9nm,0.6s,mb4.2,baz=20,slow=9.6,SNR=10						
ARCES	**ARCESS Array B**	**53.66**	**345**	P	**P**	**02 05 10.0**	**-1.6**
ARCES				pmax	pmax		
	comp=Z,2.0nm,0.6s						
ULM	**Lac du Bonnet**	**54.09**	**52**	*e*P	**P**	**02 05 14.8**	**-0.2**
	comp=Z,5.2nm,0.8s,mb4.5						
SRU	**San Rafael**	**54.31**	**71**	*e*P	**P**	**02 05 17.6**	**+0.9**
SRU				pmax	pmax		
	comp=Z,12nm,0.8s,mb4.9						
SRU	**San Rafael**	**54.31**	**71**	*e*P	**P**	**02 05 17.6**	**+0.8**
	comp=Z,12nm,0.8s,mb4.9						
RSSD	**Black Hills**	**54.31**	**62**	*e*P	**P**	**02 05 16.1**	**-0.6**
RSSD				pmax	pmax		
	comp=Z,5.0nm,0.7s,mb4.5						
RSSD	**Black Hills**	**54.31**	**62**	*e*P	**P**	**02 05 16.1**	**-0.6**
	comp=Z,5.5nm,0.7s,mb4.6						
LDFC	**Landfair**	**54.57**	**78**	*e*P	**P**	**02 05 18.9**	**+0.2**
	comp=Z,13nm,0.8s,mb5.0						
PV10	**Paradox Valley**	**55.65**	**71**	*e*P	**P**	**02 05 27.1**	**+0.6**
ARU	**Arti**	**55.93**	**321**	*d*iP	**P**	**02 05 27.6**	**-0.6**
ARU

RAMN	**Ramite**	**64.19**	**281**	*e*P		**P**	02 06 25.2	-0.1
	comp=Z,48nm,0.8s,mb5.6							
HFS	**Hagfors**	**64.24**	**347**	P		**P**	02 06 23.7	-1.4
	comp=Z,1.9nm,0.8s,mb4.2,baz=25,slow=7.4,SNR=7.4							
HFS	**Hagfors**	**64.24**	**347**	P		**P**	02 06 23.7	-1.4
HFS				pmax	pmax			
	comp=Z,2.0nm,0.8s							
KKN	**Kakani**	**64.31**	**282**	*e*P		**P**	02 06 26.4	+0.3
PKI	**Pulchoki**	**64.40**	**282**	*e*P		**P**	02 06 26.6	-0.1
	comp=Z,24nm,0.8s,mb5.3							
PKI	**Pulchoki**	**64.40**	**282**	*e*P		**P**	02 06 26.6	-0.1
PKI				pmax	pmax			
	comp=Z,24nm,0.8s,mb5.3							
GKN	**Gorkha**	**64.52**	**283**	*e*P		**P**	02 06 27.6	+0.2
	comp=Z,20nm,0.8s,mb5.2							
DMN	**Daman**	**64.55**	**282**	*e*P		**P**	02 06 27.6	0.0
	comp=Z,14nm,0.8s,mb5.0							
DANN	**Dangsing**	**64.75**	**284**	*e*P		**P**	02 06 28.9	-0.1
	comp=Z,24nm,0.9s,mb5.2							
KOLN	**Koldanda**	**65.29**	**284**	*e*P		**P**	02 06 32.0	-0.4
	comp=Z,9.8nm,0.8s,mb4.9							
TXAR	**Lajitas Array**	**65.32**	**74**	P		**P**	02 06 32.6	0.0
	comp=Z,6.7nm,0.7s,mb4.8,baz=300,slow=3.9,SNR=39							
TXAR	**Lajitas Array**	**65.32**	**74**	P		**P**	02 06 32.7	+0.1
TXAR				pmax	pmax			
	comp=Z,7.0nm,0.7s							
JCT	**Junction City**	**66.60**	**70**	*e*P		**P**	02 06 40.6	-0.2
JCT				pmax	pmax			
	comp=Z,5.0nm,0.7s,mb4.7							
JCT	**Junction City**	**66.60**	**70**	*e*P		**P**	02 06 40.6	-0.2
	comp=Z,5.0nm,0.7s,mb4.7							
WCI	**Wyandotte Cave**	**67.61**	**55**	*e*P		**P**	02 06 45.7	-1.4
WCI				pmax	pmax			
	comp=Z,7.0nm,0.8s,mb4.7							
WCI	**Wyandotte Cave**	**67.61**	**55**	*e*P		**P**	02 06 45.7	-1.4
	comp=Z,7.2nm,0.8s,mb4.8							
WVT	**Waverly**	**68.51**	**58**	*e*P		**P**	02 06 52.4	-0.4
WVT				pmax	pmax			
	comp=Z,3.0nm,0.7s,mb4.3							
WVT	**Waverly**	**68.51**	**58**	*e*P		**P**	02 06 52.4	-0.5
	comp=Z,2.9nm,0.7s,mb4.3							
HKT	**Hockley**	**69.18**	**68**	*e*P		**P**	02 06 56.1	-1.0
HKT				pmax	pmax			
	comp=Z,5.0nm,1.1s,mb4.4							
HKT	**Hockley**	**69.18**	**68**	*e*P		**P**	02 06 56.0	-1.0
	comp=Z,4.8nm,1.1s,mb4.3							
AKASG	**Malin Array Be**	**70.08**	**334**	P		**P**	02 07 01.9	-0.5
	comp=Z,0.3nm,0.3s,mb3.8,baz=26,slow=6.3,SNR=4.3							
EKA	**Eskdalemuir Ar**	**70.57**	**355**	P		**P**	02 07 05.5	+0.3
	comp=Z,1.0nm,0.8s,mb3.8,baz=8,slow=5.7,SNR=3.6							
EKA	**Eskdalemuir Ar**	**70.57**	**355**	P		**P**	02 07 05.5	+0.3
EKA				pmax	pmax			
	comp=Z,1.0nm,0.8s							
ESK	**Eskdalemuir**	**70.58**	**355**	*e*P		**P**	02 07 05.3	0.0
ESK				pmax	pmax			
	comp=Z,7.0nm,0.8s,mb4.6							
ESK	**Eskdalemuir**	**70.58**	**355**	*e*P		**P**	02 07 05.3	0.0
	comp=Z,7.3nm,0.8s,mb4.7							
CLL	**Collm**	**72.88**	**344**	*e*(P)		**P**	02 07 22.0	+2.8
STHS	**Stebnicka Huta**	**73.16**	**339**	*e*P		**P**	02 07 20.7	-0.2
STHS				pmax	pmax			
	comp=Z,4.0nm,0.9s,mb4.3							
STHS	**Stebnicka Huta**	**73.16**	**339**	*e*P		**P**	02 07 20.7	-0.2
	comp=Z,3.7nm,0.9s,mb4.3							
MORC	**Moravsky Berou**	**73.56**	**341**	*e*P		**P**	02 07 22.7	-0.5
MORC				pmax	pmax			
	comp=Z,4.0nm,1.1s,mb4.3							
MORC	**Moravsky Berou**	**73.56**	**341**	*e*P		**P**	02 07 22.7	-0.5
	comp=Z,3.5nm,1.1s,mb4.2							
GNI	**Garni**	**74.47**	**319**	*e*P		**P**	02 07 29.7	+1.0
GNI				pmax	pmax			
	comp=Z,6.0nm,1.4s							
GNI	**Garni**	**74.47**	**319**	*e*P		**P**	02 07 29.9	+1.2
VYHS	**Vyhne**	**74.53**	**340**	*e*P		**P**	02 07 30.0	+1.1
KHC	**Kasperske Hory**	**74.89**	**343**	*e*P		**P**	02 07 31.5	+0.5
KHC				*e*PCP		PcP	02 07 41.0	-3.9
GERES	**GERESS Array B**	**75.15**	**343**	P		**P**	02 07 33.0	+0.5
	comp=Z,0.7nm,0.7s,mb3.7,baz=64,slow=6.1,SNR=3.8							
GERES	**GERESS Array B**	**75.15**	**343**	P		**P**	02 07 33.0	+0.5
GERES				pmax	pmax			
	comp=Z,1.0nm,0.7s							
WLF	**Walferdange**	**75.42**	**349**	*e*P		**P**	02 07 34.0	-0.1
WLF				pmax	pmax			
	comp=Z,4.0nm,0.7s,mb4.5							
WLF	**Walferdange**	**75.42**	**349**	*e*P		**P**	02 07 34.0	0.0
	comp=Z,4.4nm,0.7s,mb4.5							
CDF	**Champ du Feu**	**76.52**	**348**	*e*P		**P**	02 07 40.8	+0.5
	comp=Z,16nm,1.2s,mb4.5							
CDF	**Champ du Feu**	**76.52**	**348**	*e*P		**P**	02 07 40.8	+0.5
CDF				pmax	pmax			
	comp=Z,8.0nm,1.3s,mb4.5							
CDF	**Champ du Feu**	**76.52**	**348**	*e*P		**P**	02 07 40.8	+0.5
	comp=Z,8.1nm,1.3s,mb4.5							
HAU	**Haudompre**	**77.03**	**348**	*e*P		**P**	02 07 43.6	+0.4
LDF	**La Druitiere**	**77.09**	**353**	*e*P		**P**	02 07 43.4	-0.2
	comp=Z,43nm,1.5s,mb4.9							
LDF	**La Druitiere**	**77.09**	**353**	*e*P		**P**	02 07 43.4	-0.2
LDF				pmax	pmax			
	comp=Z,21nm,1.5s,mb4.8							
LDF	**La Druitiere**	**77.09**	**353**	*e*P		**P**	02 07 43.4	-0.2
	comp=Z,21nm,1.5s,mb4.8							
GRR	**Gorron**	**77.35**	**353**	*e*P		**P**	02 07 45.5	+0.5
LOR	**Lormes**	**78.05**	**350**	*e*P		**P**	02 07 49.0	+0.1
CABF	**La Chapelle**	**78.44**	**348**	*e*P		**P**	02 07 51.0	-0.1
	comp=Z,16nm,1.1s,mb4.6							
CABF	**La Chapelle**	**78.44**	**348**	*e*P		**P**	02 07 51.0	-0.1
CABF				pmax	pmax			
	comp=Z,8.0nm,1.1s,mb4.6							
CABF	**La Chapelle**	**78.44**	**348**	*e*P		**P**	02 07 51.0	-0.1
	comp=Z,8.1nm,1.1s,mb4.6							
BR131	**Keskin Array S**	**78.80**	**326**	*e*P		**P**	02 07 53.2	0.0
	comp=Z,2.1nm,0.8s,mb4.1							
TCF	**Toulx Ste Croi**	**79.18**	**351**	*e*P		**P**	02 07 56.1	+0.9
WRAB	**Tennant Creek**	**79.62**	**213**	*e*P		**P**	02 07 59.4	+1.7
WRA	**Warramunga Arr**	**79.64**	**213**	P		**P**	02 07 58.9	+1.1
	comp=Z,2.8nm,0.8s,mb4.3,baz=27,slow=5.8,SNR=7.6							
WRA	**Warramunga Arr**	**79.64**	**213**	P		**P**	02 07 58.9	+1.1
WRA				pmax	pmax			
	comp=Z,3.0nm,0.8s							
ORIF	**Oris-en-Rattie**	**80.13**	**348**	*e*P		**P**	02 08 01.1	+0.7
	comp=Z,55nm,1.8s,mb4.9							
ORIF	**Oris-en-Rattie**	**80.13**	**348**	*e*P		**P**	02 08 01.1	+0.7
ORIF				pmax	pmax			
	comp=Z,27nm,1.8s,mb4.9							
ORIF	**Oris-en-Rattie**	**80.13**	**348**	*e*P		**P**	02 08 01.1	+0.7
	comp=Z,27nm,1.8s,mb4.9							
MBDF	**Montbardon**	**80.21**	**347**	*e*P		**P**	02 08 01.1	+0.3
PGF	**Pioggiola**	**82.03**	**345**	*e*P		**P**	02 08 10.7	+0.2
	comp=Z,60nm,1.2s,mb5.1							
PGF	**Pioggiola**	**82.03**	**345**	*e*P		**P**	02 08 10.7	+0.2
PGF				pmax	pmax			
	comp=Z,30nm,1.2s,mb5.1							
PGF	**Pioggiola**	**82.03**	**345**	*e*P		**P**	02 08 10.7	+0.2
	comp=Z,30nm,1.2s,mb5.1							
ASAR	**Alice Springs**	**83.26**	**212**	P		**P**	02 08 18.7	+1.8
	comp=Z,1.9nm,0.8s,mb4.2,baz=18,slow=5.0,SNR=11							
ASAR	**Alice Springs**	**83.26**	**212**	P		**P**	02 08 18.7	+1.8
ASAR				pmax	pmax			
	comp=Z,2.0nm,0.8s							
STKA	**Stephens Creek**	**88.98**	**203**	P		**P**	02 08 45.3	+0.4
	comp=Z,2.7nm,0.8s,mb4.7,baz=299,slow=7.3,SNR=3.2							
STKA	**Stephens Creek**	**88.98**	**203**	*e*P		**P**	02 08 45.9	+1.0
	comp=Z,7.3nm,1.1s,mb4.9							
QSPA	**South Pole Qui**	**144.02**	**180**	PKhKP			02 15 21.1	
	comp=Z,3.9nm,0.8s,baz=327,slow=1.1,SNR=9.1							
MAW	**Mawson**	**144.10**	**219**	PKP		PKPdf	02 15 23.3	-1.5
	comp=Z,0.9nm,0.3s,baz=243,slow=2.3,SNR=3.0							
MAW	**Mawson**	**144.10**	**219**	PKIKP		PKPdf	02 15 23.3	-1.4
MAW				pmax	pmax			
	comp=Z,1.0nm,0.3s							
SNAA	**Sanae**	**162.17**	**189**	*e*PKPdf		PKPab	02 16 36.9	-0.5
SNAA				*e*			02 16 42.9	
VNA3	**Neumayer Olymp**	**162.95**	**182**	*e*PKPdf		PKPab	02 16 40.8	-0.1
VNA3				*e*			02 16 45.6	
VNA2	**Neumayer--Watz**	**163.20**	**184**	*e*PKPdf		PKPab	02 16 40.7	-1.3
	baz=186,slow=3.1							
VNA2				*e*			02 16 46.3	

KRSC 20 02:07:14.6±0.9, 5302N×16278E, h42km±41km, ML3.9, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKZ	**Mys Kozlova**	**1.66**	**338**	*e*P	Pn	02 07 42.2	+1.0
MKZ				*i* S	Sn	02 08 02.5	+1.3
SPN	**Mys Shipunski**	**1.67**	**274**	*e*P	Pn	02 07 43.2	+2.0
SPN				*i* S	Sn	02 08 04.0	+2.6
NLC	**Nalytchevo**	**2.08**	**276**	*e*P	Pn	02 07 49.0	+2.1
NLC				*i* S	Sn	02 08 13.7	+2.2
AVH	**Avacha**	**2.45**	**277**	*e*P	Pn	02 07 55.0	+3.0
AVH				*i* S	Sn	02 08 24.4	+3.8
PET	**Petropavlovsk**	**2.49**	**272**	P	Pn	02 07 54.4	+1.8
PET				*i* S	Sn	02 08 23.7	+2.0
RUS	**Russkaya**	**2.66**	**259**	*e*P	Pn	02 07 57.0	+2.1
RUS				*i* S	Sn	02 08 27.4	+1.5
TUMR	**Tumrok**	**2.75**	**327**	P	Pn	02 07 58.8	+2.7
GNL	**Ganaly**	**2.98**	**285**	*e*P	Pn	02 08 02.7	+3.5
GNL				*i* S	Sn	02 08 38.2	+4.6
KBTR	**Krutoberegovo**	**3.19**	**0**	P	Pn	02 08 02.7	+0.5
KPT	**Kopyto**	**3.31**	**334**	P	Pn	02 08 07.2	+0.4
MIPR	**Malaya Ipel'ka**	**3.74**	**261**	P	Pn	02 08 12.4	+2.7

*ISCJB **20** 02:08:22.0±0.8, 3694N±005×2177E±005, h1km±8km, Error ellipse: s-maj=8.5km s-min=6.3km az=149.8*
*THE **20** 02:08:22.1, 3690N×2180E, h0km±4km, ML3.3/1, Error ellipse: s-maj=7.8km s-min=0.7km az=177.0*
*CSEM **20** 02:08:22.5±0.1, 3692N×2179E, h5km, MD3.1, Error ellipse: s-maj=1.7km s-min=0.8km az=29.0*
*ATH **20** 02:08:24.3, 3707N×2193E, h19km±6km, MD3.1/5*
*NEIC **20** 02:08:24.3, 3707N×2193E, h19km, MD3.1(ATH), After ATH.*

ISC 20 02:08:22.3±0.7, 3691N±006×2177E±005, h5km±4km, n17, σ1§03/23, Southern Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PYL	**PYLOS**	**0.03**	**233**	P	**Pg**	**02 08 22.8**	**-0.4**
PYL				S	**Sg**	**02 08 23.8**	**-0.1**
ITM	**Ithomi**	**0.29**	**25**	*e*Pb	**Pg**	**02 08 27.8**	**-0.2**
ITM	**Ithomi**	**0.29**	**25**	*e*PB	**Pg**	**02 08 27.8**	**-0.2**
VLX	**Vlachokerasia**	**0.67**	**47**	P	**Pg**	**02 08 34.6**	**-0.5**
VLX				S	**Sg**	**02 08 44.4**	**+0.7**
VLI	**Veliai**	**0.96**	**101**	*e*Pn	**Pn**	**02 08 41.0**	**-1.4**
VLI	**Veliai**	**0.96**	**101**	*e*PN	**Pn**	**02 08 41.0**	**-1.4**
RLS	**Riolos of Patr**	**1.17**	**348**	*e*Pn	**Pn**	**02 08 44.4**	**-0.9**
RLS				*e*Sn	**Sn**	**02 08 59.5**	**-2.1**
RLS	**Riolos of Patr**	**1.17**	**348**	*e*PN	**Pn**	**02 08 44.4**	**-0.9**
RLS				*e*SN	**Sn**	**02 08 59.5**	**-2.1**
KYTH	**Kithira**	**1.20**	**121**	*e*Pn	**Pn**	**02 08 47.5**	**+1.8**
KYTH	**Kithira**	**1.20**	**121**	*e*PN	**Pn**	**02 08 47.5**	**+1.8**
DID	**Didima**	**1.31**	**63**	P	**Pn**	**02 08 46.3**	**-1.0**
DID				S	**Sg**	**02 09 05.3**	**+0.9**
KFL	**Anninata**	**1.43**	**327**	P	**Pn**	**02 08 49.3**	**+0.4**
LTK	**Loutraki**	**1.46**	**40**	P	**Pn**	**02 08 48.2**	**-1.1**
VLS	**Valsamata**	**1.57**	**324**	*e*Pn	**Pn**	**02 08 52.5**	**+1.6**
VLS	**Valsamata**	**1.57**	**324**	*e*PN	**Pn**	**02 08 52.5**	**+1.6**
LKR	**Lokris**	**1.99**	**29**	P	**Pn**	**02 08 57.0**	**+0.4**
LKD	**Levkas**	**2.00**	**334**	P	**Pn**	**02 08 57.4**	**+0.7**
LKD				S	**Sn**	**02 09 23.2**	**+1.1**

*ISK **20** 02:18:20.8, 3956N×2908E, h5km, MD3.4*
*CSEM **20** 02:18:21.5±0.0, 3956N×2909E, h5km, MD3.4, Error ellipse: s-maj=1.0km s-min=1.0km az=129.0*
*NEIC **20** 02:18:21.0, 3956N×2908E, h3km, MD3.3(ISK), MD3.6(ATH), After ISK.*
*ISCJB **20** 02:18:22.3±0.3, 3956N±002×2907E±003, h10km, Error ellipse: s-maj=3.2km s-min=2.8km az=136.9*
*ATH **20** 02:18:35.0, 3959N×2802E, h46km, MD3.6/4*

ISC 20 02:18:21.9±0.5, 3954N±002×2908E±003, h2km±4km, n58, σ0§81/65, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DST	**Dursunbey**	**0.35**	**281**	*e*PG	**Pg**	**02 18 28.9**	**+0.2**
CAVI	**Cavuskoy**	**0.88**	**41**	*e*PG	**Pg**	**02 18 38.6**	**-0.3**
CAVI				*e*SG	**Sg**	**02 18 51.2**	**+0.9**
GEMT	**Gemlik**	**0.90**	**5**	*e*PG	**Pg**	**02 18 38.8**	**-0.4**
GEMT				*e*SG	**Sg**	**02 18 51.7**	**+0.9**
KCT	**Karacabey**	**0.91**	**323**	*e*PG	**Pg**	**02 18 39.0**	**-0.4**
BALB	**Balikesir**	**0.93**	**276**	*e*PG	**Pg**	**02 18 39.7**	**-0.1**
BALB				*e*SG	**Sg**	**02 18 53.4**	**+1.6**
ALT	**Altintas**	**0.94**	**121**	*e*PG	**Pg**	**02 18 39.9**	**0.0**
ADVT	**Abdulvahap**	**1.02**	**29**	*e*PG	**Pg**	**02 18 41.2**	**-0.3**
ADVT				*e*SG	**Sg**	**02 18 56.0**	**+1.1**
YLV	**Yalova**	**1.05**	**12**	*e*PG	**Pg**	**02 18 41.2**	**-0.8**
YLV				*e*SG	**Sg**	**02 18 57.2**	**+1.6**
KULA	**Kula-Manisa**	**1.08**	**198**	*e*PN	**Pn**	**02 18 41.8**	**-2.2**
AKS	**Akhisar**	**1.19**	**236**	*e*PN	**Pn**	**02 18 44.7**	**-0.8**
GPA	**Golpazari**	**1.21**	**51**	*e*PN	**Pn**	**02 18 44.8**	**-1.0**
GPA				*e*SN	**Sn**	**02 19 02.2**	**-0.5**
BNT	**Bandirma**	**1.21**	**313**	*e*PN	**Pn**	**02 18 44.7**	**-1.1**
EDC	**Edincik**	**1.23**	**311**	*e*PN	**Pn**	**02 18 45.0**	**-1.1**
KHL	**Karahalli**	**1.27**	**164**	*e*PN	**Pn**	**02 18 45.7**	**-0.9**
HRT	**Hereke**	**1.36**	**19**	*e*PN	**Pn**	**02 18 46.6**	**-1.2**
GULT	**Gulveren**	**1.42**	**51**	*e*PN	**Pn**	**02 18 48.2**	**-0.5**
SHUT	**Suhut-Afyon**	**1.51**	**130**	*e*PN	**Pn**	**02 18 49.9**	**-0.1**
ISK	**Istanbul-Kandi**	**1.52**	**359**	*e*PN	**Pn**	**02 18 49.7**	**-0.5**
MRMT	**Marmara Adasi**	**1.56**	**313**	*e*PN	**Pn**	**02 18 51.0**	**+0.4**
BGKT	**Bogazkoy**	**1.65**	**352**	*e*PN	**Pn**	**02 18 51.6**	**-0.4**
SILT	**Sile**	**1.67**	**15**	*e*PN	**Pn**	**02 18 51.9**	**-0.2**
CTT	**Catalca**	**1.68**	**343**	*e*PN	**Pn**	**02 18 52.2**	**-0.1**
KLYT	**Kilyos**	**1.71**	**359**	*e*PN	**Pn**	**02 18 52.5**	**-0.2**
CTKS	**Kestanelik-??a**	**1.75**	**346**	*e*PN	**Pn**	**02 18 53.3**	**0.0**
DENT	**Denizli**	**1.79**	**181**	*e*PN	**Pn**	**02 18 54.4**	**+0.6**
SLVT	**Silivri**	**1.81**	**339**	*e*PN	**Pn**	**02 18 54.2**	**0.0**
IZM	**Izmir**	**1.82**	**232**	*e*PN	**Pn**	**02 18 54.7**	**+0.4**
RKY	**Sarkoy-Tekirda**	**1.85**	**309**	*e*PN	**Pn**	**02 18 54.6**	**-0.1**
TKR	**Tekirdag**	**1.87**	**321**	*e*PN	**Pn**	**02 18 54.6**	**-0.3**
CRLT	**Corlu**	**1.89**	**328**	*e*PN	**Pn**	**02 18 55.2**	**0.0**
BLCB	**Balcova**	**1.96**	**235**	*e*PN	**Pn**	**02 18 56.8**	**+0.5**
CTYL	**Yal??k??y-??at**	**2.02**	**343**	*e*PN	**Pn**	**02 18 56.8**	**-0.2**
EZN	**Ezine**	**2.14**	**278**	*e*PN	**Pn**	**02 18 59.0**	**+0.3**
PRK	**Paraskevi**	**2.19**	**263**	*e*P	**Pn**	**02 18 59.0**	**-0.4**
PRK	**Paraskevi**	**2.19**	**263**	*e*P	**Pn**	**02 18 59.0**	**-0.4**
KIZT	**Kizilcal**	**2.27**	**106**	*e*PN	**Pn**	**02 19 00.9**	**+0.4**
BCK	**Bucak**	**2.39**	**150**	*e*PN	**Pn**	**02 19 01.8**	**-0.3**
MLSB	**Milas**	**2.46**	**205**	*e*PN	**Pn**	**02 19 04.2**	**+1.1**
YER	**Yerkesik**	**2.48**	**195**	*e*PN	**Pn**	**02 19 04.4**	**+1.0**
KDZE	**Karadeniz Ereo**	**2.53**	**45**	*e*PN	**Pn**	**02 19 04.4**	**+0.4**
GADA	**Gvkgeada**	**2.53**	**286**	*e*PN	**Pn**	**02 19 03.5**	**-0.5**
SMG	**Samos**	**2.54**	**225**	*e*P	**Pg**	**02 19 09.2**	**-1.3**
SMG	**Samos**	**2.54**	**225**	*e*P	**Pg**	**02 19 09.2**	**-1.3**
ENEZ	**Enez**	**2.54**	**299**	*e*PN	**Pn**	**02 19 04.0**	**-0.2**
BODT	**Bodrum**	**2.84**	**210**	*e*PN	**Pn**	**02 19 09.4**	**+1.1**
LOD	**Lodumlu**	**2.86**	**82**	*e*PN	**Pn**	**02 19 09.3**	**+0.7**
ELL	**Elmali**	**2.87**	**167**	*e*PN	**Pn**	**02 19 09.5**	**+0.9**
ANTO	**Ankara**	**2.88**	**82**	*e*PN	**Pn**	**02 19 10.2**	**+1.3**
ANTO	**Ankara**	**2.88**	**82**	Pn	**Pg**	**02 19 16.1**	**-1.1**
ANTO				Sn	**Sg**	**02 20 01.0**	**+6.5**
LADK	**Ladik-KONYA**	**2.89**	**117**	*e*PN	**Pn**	**02 19 10.0**	**+1.0**
EDRB	**Edirne**	**2.91**	**323**	*e*PN	**Pn**	**02 19 08.9**	**-0.3**
KONT	**Konya--Tatoy**	**3.02**	**121**	*e*PN	**Pn**	**02 19 11.3**	**+0.6**
LIA	**Limnos Island**	**3.03**	**278**	*e*P	**Pn**	**02 19 11.4**	**+0.6**
LIA	**Limnos Island**	**3.03**	**278**	*e*P	**Pn**	**02 19 11.4**	**+0.6**
RDO	**Rodhopi**	**3.15**	**302**	*e*P	**Pn**	**02 19 13.4**	**+0.9**
RDO	**Rodhopi**	**3.15**	**302**	*e*P	**Pn**	**02 19 13.4**	**+0.9**
BR131	**Keskin Array S**	**3.53**	**86**	Pn	**Pg**	**02 19 27.4**	**-2.1**
KAMT	**Kaman**	**3.59**	**91**	*e*PN	**Pn**	**02 19 19.7**	**+1.1**

*ISCJB **20** 02:34:12.6±0.7, 839N±004×7125W±003, h25km±6km, mb3.8/6, Error ellipse: s-maj=7.3km s-min=4.9km az=149.2*
*FUNV **20** 02:34:12.7, 842N×7130W, h5km, MW3.8*
*NEIC **20** 02:34:12.6, 839N×7129W, h5km, MD3.7(CAR), After CAR.*
*IDC **20** 02:34:13.9±2.2, 856N×7113W, h30km±17km, mb3.5/6, mb1 3.9/8, mb1mx3.7/20, mbtmp3.6/8, ML2.9/2, Error ellipse: s-maj=23.1km s-min=19.3km az=95.0*

ISC 20 02:34:11.9±0.8, 845N±004×7129W±003, h6km±6km, n31, σ0§92/42, mb3.8/6, 2C-3D, Venezuela

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SOCV	**Socops**	**0.46**	**111**	*i* P	**Pg**	**02 34 20.8**	**+0.1**
SOCV				*e*S	**Sg**	**02 34 27.6**	**+0.9**
SDV	**Santo Domingo**	**0.78**	**56**	Pg	**Pg**	**02 34 25.4**	**-1.4**
	97nm,0.3s,baz=330,slow=12,SNR=314						
SDV				Lg		02 34 35.0	
CAPV	**Capacho**	**1.17**	**240**	*i* P	**Pg**	**02 34 33.9**	**-0.4**
CAPV				*e*S	**Sg**	**02 34 50.1**	**+0.5**
QARV	**Quebrada Arrib**	**1.90**	**23**	*i* P	**Pn**	**02 34 45.3**	**+0.5**
QARV				*e*S	**Sn**	**02 35 10.2**	**+1.2**
CURV	**Curarigua**	**2.03**	**40**	*e*P	**Pn**	**02 34 47.3**	**+0.7**
CURV				*e*S	**Sn**	**02 35 12.9**	**+0.6**
ELOV	**Elorza**	**2.30**	**129**	*e*P	**Pn**	**02 34 50.9**	**+0.7**
DABV	**Dabajuro**	**2.54**	**15**	*e*P	**Pn**	**02 34 53.7**	**+0.1**
DABV				*e*S	**Sn**	**02 35 24.8**	**0.0**
TEPV	**Terepaima**	**2.56**	**54**	*e*P	**Pn**	**02 34 54.5**	**+0.6**
TEPV				*e*S	**Sn**	**02 35 26.3**	**+1.1**
SIQV	**Siquisique**	**2.63**	**34**	*e*P	**Pn**	**02 34 55.6**	**+0.8**
SIQV				*e*S	**Sn**	**02 35 27.9**	**+0.9**
BAUV	**El Baul**	**3.25**	**81**	*e*P	**Pn**	**02 35 02.8**	**-0.5**
BAUV				*e*S	**Sn**	**02 35 41.1**	**-1.2**
JACV	**Jacura**	**3.57**	**43**	*e*P	**Pn**	**02 35 07.5**	**-0.2**
IMOV	**Isla Los Monje**	**3.90**	**6**	*e*P	**Pn**	**02 35 11.6**	**-0.8**
TURV	**Turiamo**	**3.94**	**59**	*e*P	**Pn**	**02 35 13.3**	**+0.4**
ROSC	**El Rosal**	**4.68**	**220**	Pn	**Pn**	**02 35 25.3**	**+2.3**
	2.6nm,0.3s,baz=96,slow=19,SNR=8.8						
ROSC				Sn	**Sn**	**02 36 22.4**	**+4.7**
	2.4nm,0.3s,baz=87,slow=22,SNR=3.6						
ROSC	**El Rosal**	**4.68**	**220**	*e*Pn	**Pn**	**02 35 24.5**	**+1.5**
ROSC				Sn	**Sn**	**02 36 22.4**	**+4.7**
MERV	**Las Mercedes**	**5.00**	**80**	*e*P	**Pn**	**02 35 27.2**	**-0.1**
CAOV	**Caicara del Or**	**5.04**	**102**	*e*P	**Pn**	**02 35 27.7**	**-0.4**
BIRV	**Birongo**	**5.34**	**67**	*i* eP	**Pn**	**02 35 32.0**	**-0.2**
BIRV				*e*S	**Sn**	**02 36 30.3**	**-3.7**
CUPV	**Cœpira**	**5.66**	**73**	*i* eP	**Pn**	**02 35 36.4**	**-0.1**
PRGV	**PARIAGUAN**	**6.58**	**87**	*e*P	**Pn**	**02 35 47.9**	**-1.2**
PCRV	**Puerto La Cruz**	**6.79**	**75**	Pn	**Pn**	**02 35 51.2**	**-0.8**
	2.1nm,0.3s,baz=22,slow=20,SNR=11						
PCRV				Sn	**Sn**	**02 37 09.5**	**-0.1**
	4.1nm,0.3s,baz=149,slow=22,SNR=7.7						
PCRV	**Puerto La Cruz**	**6.79**	**75**	*e*P	**Pn**	**02 35 52.1**	**+0.1**
LPAZ	**La Paz**	**24.78**	**173**	P	**P**	**02 39 36.1**	**+1.6**
	0.4nm,0.4s,mb3.3,baz=18,slow=6.4,SNR=2.2						
TXAR	**Lajitas Array**	**36.81**	**309**	P	**P**	**02 41 19.6**	**-1.1**
	0.3nm,0.7s,mb3.2,baz=122,slow=10,SNR=3.8						
PDAR	**Pinedale Array**	**47.88**	**322**	P	**P**	**02 42 50.2**	**-0.4**
	1.3nm,0.5s,mb4.2,baz=126,slow=10,SNR=14						
PLCA	**Paso Flores**	**48.94**	**179**	P	**P**	**02 42 58.0**	**-0.8**
	1.7nm,0.7s,mb4.2,baz=20,slow=9.6,SNR=3.6						
PLCA	**Paso Flores**	**48.94**	**179**	P	**P**	**02 42 58.0**	**-0.8**
YKA	**Yellowknife Ar**	**62.39**	**339**	P	**P**	**02 44 33.6**	**-1.6**
	1.8nm,0.6s,mb4.4,baz=124,slow=6.8,SNR=6.8						
TORD	**Torodi Ar. Bea**	**71.64**	**79**	P	**P**	**02 45 31.9**	**-3.0**
	0.2nm,0.5s,mb3.3,baz=279,slow=6.9,SNR=5.5						
TORD	**Torodi Ar. Bea**	**71.64**	**79**	P	**P**	**02 45 31.9**	**-3.0**
WRA	**Warramunga Arr**	**152.70**	**243**	PKPbc	PKPbc	02 54 07.9	-2.5
	0.4nm,0.3s,baz=

DJA ***20*** *02:59:19.6±1.4,2N±9×127E±1,h98km±29km*
IDC ***20*** *02:59:20.7±11.0,139N×127.15E,h170km±115km,mb3.4/4, mb1 3.6/5,mb1mx3.3/16,mbtmp3.5/5,Error ellipse: s-maj=91.1km s-min=19.3km az=56.0*
ISC 20 02:59:18.2±1.2,**15N**±01×**12723E**±009,**h147**km±9km,**n9,** σ0§89/10,**mb3.8/4,Halmahera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**0.73**	**169**	P	**Pn**	**02 59 38.7**	**-1.9**
LBMI	**Labuha**	**2.13**	**173**	P	**Pn**	**02 59 55.2**	**+0.4**
LBMI	**Labuha**	**2.13**	**173**	S	**Sn**	**03 00 24.0**	**+1.1**
MNI	**Manado**	**2.39**	**269**	P	**Pn**	**02 59 58.3**	**+0.5**
KAPI	**Kappang** 2.1nm,0.3s,baz=51,slow=5.7,SNR=6.0	**9.88**	**229**	P	**Pn**	**03 01 37.7**	**+1.0**
KAPI				S	**Sn**	**03 03 25.2**	**-1.0**
WRA	**Warramunga Arr** 1.3nm,0.5s,mb3.6,baz=343,slow=10,SNR=6.5	**22.41**	**162**	P	**P**	**03 04 04.1**	**-0.8**
ASAR	**Alice Springs** 0.4nm,0.5s,mb3.3,baz=349,slow=7.4,SNR=6.0	**25.84**	**166**	P	**P**	**03 04 35.9**	**-0.1**
STKA	**Stephens Creek** 1.9nm,0.3s,mb4.2,baz=334,slow=11,SNR=8.3	**35.87**	**159**	P	**P**	**03 06 04.1**	**+0.1**
MKAR	**Makanchi Array** 0.9nm,0.4s,mb4.0,baz=117,slow=8.6,SNR=6.9	**59.67**	**326**	P	**P**	**03 09 07.5**	**+0.5**

NIED ***20*** *03:14:00,41.30N×142.70E,h41km,Mw4.6 Best double couple: M0 7.84000×10^15 NP1:φs30.00000°,δ74.00000°, λ94.00000°. NP2:φs197.00000°,δ17.00000°,λ78.00000°.*
BJI ***20*** *03:14:48.8,41.34N×142.98E,h49km,mB5.0,mb4.8,Ms4.2, Msz4.0*
MOS ***20*** *03:14:50.9±0.8,41.47N±142.51E,h40km,mb5.0/79,Error ellipse: s-maj=8.1km s-min=4.9km az=109.4*
ISCJB ***20*** *03:14:51.9±0.2,41.37N±0.02×142.57E±0.03,h51km, mb4.7/142,MS3.9/31,Error ellipse: s-maj=4.1km s-min=2.6km az=136.2*
JMA ***20*** *03:14:51.3±0.1,41.30N×142.67E,h38km±4km,M4.4*
JMA Felt I J1.
NEIC ***20*** *03:14:53.4±0.5,41.42N×142.49E,h50km±4km,mb4.8/87, MW4.5(NIED),Error ellipse: s-maj=5.1km s-min=3.2km az=159.0*
NEIC Recorded [1 JMA] in the Tomakomai area and in south-central and southwestern Hokkaido. Also recorded [1 JMA] in Aomori and Iwate Prefectures, Honshu.
IDC ***20*** *03:14:56.2±1.7,41.33N×142.50E,h79km±14km,mb4.2/14, mb1 4.4/17,mb1mx4.3/23,mbtmp4.2/17,MS3.7/19, Ms1 3.8/19,ms1mx3.6/33,Error ellipse: s-maj=15.6km s-min=10.8km az=116.0*
SZGRF ***20*** *03:14:59.8,42.82N×141.46E,h33km,mb4.8,Hokkaido, Japan, region*
ISC 20 03:14:53.8±0.2,**4142N**±003×**14253E**±003,**h53**km, **h53**km±2.0km**:pP-P,n354,**σ0§85/358,**mb4.7**/142,**MS3.9**/30, **53C-11D,Hokkaido region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ERM	**Erimo**	**0.76**	**38**	*e*Pn	**Pn**	**03 15 06.0**	**-2.5**
ERM				*e*Sn	**Sn**	**03 15 17.6**	**-1.5**
JEM	**Erimo**	**0.76**	**38**	P	**Pn**	**03 15 05.9**	**-2.5**
JEM				S	**Sn**	**03 15 17.3**	**-1.8**
JNBK	**Urakawa-nobuka**	**0.87**	**11**	⇓P	**Pn**	**03 15 08.9**	**-1.0**
JNBK				S	**Sn**	**03 15 21.5**	**-0.3**
JOT	**Ohata**	**1.11**	**268**	⇓P	**Pn**	**03 15 12.3**	**-0.8**
JOT				*e*S	**Sn**	**03 15 27.8**	**+0.4**
JKB	**Kayabe**	**1.21**	**293**	⇓P	**Pn**	**03 15 13.8**	**-0.6**
JKB				S	**Sn**	**03 15 31.2**	**+1.4**
JTM	**Tenmabayashi**	**1.27**	**241**	⇓P	**Pn**	**03 15 14.5**	**-0.7**
JTM				S	**Sn**	**03 15 31.3**	**+0.1**
JANG	**Nango**	**1.30**	**217**	P	**Pn**	**03 15 13.1**	**-2.5**
JANG				*e*S	**Sn**	**03 15 29.8**	**-2.1**
JCH	**Churui**	**1.34**	**27**	⇑P	**Pn**	**03 15 15.0**	**-1.2**
JCH				S	**Sn**	**03 15 32.6**	**-0.4**
JBT2	**Biratori 2**	**1.36**	**355**	⇓P	**Pn**	**03 15 16.4**	**-0.1**
JBT2				S	**Sn**	**03 15 34.2**	**+0.8**
JEW	**Eniwo**	**1.63**	**331**	⇓P	**Pn**	**03 15 20.6**	**+0.5**
JEW				*e*S	**Sn**	**03 15 41.7**	**+1.8**
JFR	**Furan**	**1.74**	**2**	P	**Pn**	**03 15 21.9**	**+0.3**
JFR				*e*S	**Sn**	**03 15 43.6**	**+0.9**
JAR	**Ashorobuto**	**2.09**	**26**	P	**Pn**	**03 15 24.8**	**-1.6**
JAR				S	**Sn**	**03 15 50.2**	**-1.0**
JOM	**Ohasama**	**2.16**	**206**	P	**Pn**	**03 15 26.2**	**-1.2**
ASAJ	**Asahikawa** 58nm,0.3s,baz=219,slow=11,SNR=89	**2.69**	**1**	P	**Pn**	**03 15 36.6**	**+2.0**
ASAJ				S	**Sn**	**03 16 12.2**	**+6.1**
ASAJ	**Asahikawa** 63nm,0.3s,baz=327,slow=21,SNR=11	**2.69**	**1**	P	**Pn**	**03 15 36.6**	**+2.0**
ASAJ				S	**Sn**	**03 16 12.2**	**+6.2**
ASAJ	comp=Z,58nm,0.3s			pmax	pmax		
ASAJ	comp=N,63nm,0.3s			smax			
YUK	**Yuzh-Kuril'sk**	**3.58**	**42**	⇓*i*P	**Pn**	**03 15 45.0**	**-1.8**
YUK				*i* S	**Sn**	**03 16 24.0**	**-3.9**
KUR	**Kuril'sk**	**5.45**	**44**	⇑*i*P	**Pn**	**03 16 07.5**	**-4.9**
KUR				*i* S	**Sn**	**03 17 08.0**	**-5.7**
KUR	comp=N,130nm,0.5s			pmax	pmax		
KUR	comp=Z,340nm,0.5s			pmax	pmax		
KUR	comp=N,430nm,0.8s			smax			
KUR	comp=E,220nm,0.8s			smax			
YSS	**Yuzh-Sakhalins**	**5.53**	**2**	*e*P	**Pn**	**03 16 17.0**	**+3.5**
YSS	comp=Z,50nm,0.8s			pmax	pmax		
YSS	**Yuzh-Sakhalins**	**5.53**	**2**	*e*Pn	**Pn**	**03 16 14.1**	**+0.5**
MAJO	**Matsushiro**	**5.92**	**216**	*e*P	**Pn**	**03 16 19.2**	**+0.3**
MAT	**Matsushiro**	**5.92**	**216**	P	**Pn**	**03 16 18.0**	**-0.9**
MAT				S	**Sn**	**03 17 19.0**	**-6.4**
MJAR	**Matsushiro Arr** comp=Z,3.1nm,0.3s,baz=32,slow=12,SNR=49	**5.92**	**216**	P	**Pn**	**03 16 19.8**	**+0.9**
MJAR				LR	LR	03 18 58.8	
MJAR	**Matsushiro Arr** comp=Z,470nm,20.8s,baz=30,slow=42	**5.92**	**216**	P	**Pn**	**03 16 19.8**	**+0.9**
MJAR	comp=Z,3.0nm,0.3s			pmax	pmax		
MJAR	comp=Z,471nm,20.8s			MLR	MLR		
MJAR	**Matsushiro Arr**	**5.92**	**216**	P	**Pn**	**03 16 19.8**	**+0.9**
MJAR				LR	LR	03 18 58.8	
HABR	**Khabarovsk**	**8.82**	**326**	*e*P	**Pn**	**03 16 53.0**	**-5.5**
MDJ	**Mudanjiang**	**10.00**	**293**	P	**Pn**	**03 17 17.9**	**+3.3**
MDJ	comp=Z,25nm,0.9s			AMB	AMB		
MDJ	comp=Z,86nm,3.0s			AMB	AMB		
MDJ	comp=E,300nm,20.4s			LR	LR		
MDJ	comp=Z,399nm,20.1s			LR	LR		
MDJ	**Mudanjiang** comp=Z,24nm,1.0s	**10.00**	**293**	*e*Pn	**Pn**	**03 17 13.3**	**-1.3**
KSRS	**Korea Array** comp=Z,1.4nm,0.3s,baz=64,slow=14,SNR=14	**11.97**	**255**	P	**Pn**	**03 17 44.0**	**+2.5**
KSRS				LR	LR	03 21 51.3	
KSRS	**Korea Array** comp=Z,399nm,19.0s,baz=260,slow=35	**11.97**	**255**	P	**Pn**	**03 17 44.1**	**+2.5**
KSRS	comp=Z,1.0nm,0.3s			pmax	pmax		
KSRS	comp=Z,399nm,19.0s			MLR	MLR		
CBIJ	**Chichi jima** comp=Z,142nm,22.0s,baz=118,slow=33	**14.29**	**181**	LR	LR	03 22 48.3	
PETK	**Petropavlovsk-** comp=Z,0.1nm,0.3s,baz=214,slow=10,SNR=3.2	**15.54**	**36**	P	**Pn**	**03 18 33.3**	**+4.0**
DL2	**Dalian**	**16.17**	**268**	*e*P	**Pn**	**03 18 39.1**	**+1.7**
HIA	**Hailar**	**17.79**	**304**	*e*P	**Pn**	**03 18 56.0**	**-1.4**
HIA	comp=Z,9.0nm,0.6s			pmax	pmax		
HIA	**Hailar** comp=Z,8.8nm,0.6s	**17.79**	**304**	*e*P	**Pn**	**03 18 56.0**	**-1.5**
CLNS	**Chul'man**	**19.17**	**330**	*e*P	**Pn**	**03 19 12.4**	**-1.6**
CLNS				*e*S	**S**	**03 22 44.6**	**-2.4**
CLNS	comp=Z,27nm,0.8s			pmax	pmax		
CLNS	comp=E,7.0nm,0.5s			pmax	pmax		
CLNS	comp=N,11nm,0.7s			pmax	pmax		
CLNS	comp=N,465nm,14.4s			smax			
CLNS	comp=E,116nm,16.4s			smax			
BJI	**Beijing**	**20.00**	**275**	P	**Pn**	**03 19 20.4**	**-3.6**
BJI				S	**S**	**03 23 03.6**	**-0.1**
BJI	comp=Z,37nm,0.7s			AMB	AMB		
BJI	comp=Z,132nm,3.9s			AMB	AMB		
BJI	comp=N,254nm,16.9s			LR	LR		
BJI	comp=E,293nm,21.1s			LR	LR		
BJI	comp=Z,194nm,23.2s			LR	LR		
BJT	**Baijiatuau**	**20.01**	**275**	*e*P	**P**	**03 19 20.5**	**-1.5**
BJT	comp=Z,24nm,0.6s			pmax	pmax		
BJT	**Baijiatuau** comp=Z,24nm,0.6s	**20.01**	**275**	*e*P	**P**	**03 19 20.5**	**-1.4**
YAK	**Yakutsk**	**22.04**	**344**	*e*P	**P**	**03 19 39.1**	**-4.5**
YAK				*e**PP		03 19 54.0	
YAK				*e*S	**S**	**03 23 36.9**	**-6.5**
YAK	comp=Z,18nm,0.9s,mb4.5			pmax	pmax		
YAK	comp=N,3.0nm,1.0s			pmax	pmax		
YAK	comp=E,3.0nm,0.9s			pmax	pmax		
YAK	comp=N,32nm,1.8s			smax			
YAK	comp=E,23nm,1.8s			smax			
SEY	**Seymchan**	**22.32**	**12**	*e*P	**P**	**03 19 41.9**	**-4.7**
HHC	**Hu-ho-hao-te**	**23.27**	**279**	*e*P	**P**	**03 19 56.6**	**-0.1**
HHC				AP		03 20 07.9	
HHC				XP	sP	03 20 13.8	-1.9
HHC				PP		03 20 28.5	
HHC				PCP	PcP	03 23 44.8	+2.3
HHC				S	**S**	**03 24 01.5**	**-3.3**
HHC				XS	sS	03 24 20.3	-6.9
HHC				SS		03 24 49.0	
HHC	comp=Z,8.0nm,1.0s,mb4.1			AMB	AMB		
HHC	comp=Z,120nm,6.8s			AMB	AMB		
HHC	comp=N,151nm,10.7s,MS4.0			LR	LR		
HHC	comp=E,282nm,14.9s,MS4.0			LR	LR		
HHC	comp=Z,301nm,13.3s,MS3.9			LR	LR		
BOD	**Bodaibo**	**24.44**	**322**	*e*P	**P**	**03 20 06.7**	**-0.5**
BOD	comp=Z,20nm,0.7s,mb4.7			pmax	pmax		
WHN	**Wuhan**	**25.15**	**253**	⇑P	**P**	**03 20 13.1**	**-0.8**
SONM	**Songino Array** comp=Z,11nm,0.7s,mb4.5,baz=84,slow=8.4,SNR=52	**26.33**	**296**	P	**P**	**03 20 24.5**	**+0.1**
SONM				LR	LR	03 31 21.8	
SONM	**Songino Array** comp=Z,241nm,20.9s,MS3.7,baz=154,slow=37	**26.33**	**296**	P	**P**	**03 20 24.5**	**+0.1**
SONM	comp=Z,11nm,0.7s			pmax	pmax		
SONM	comp=Z,241nm,21.0s			MLR	MLR		
XAN	**Xi'an**	**27.46**	**265**	P	**P**	**03 20 31.9**	**-2.8**
XAN				AP	pP	03 20 43.6	-4.5
XAN				XP	sP	03 20 48.9	-5.5
XAN				PP		03 21 19.3	
XAN				S	**S**	**03 25 05.0**	**-6.5**
XAN				SCP	ScP	03 27 28.5	+0.5
XAN				PCS	PcS	03 27 33.3	-0.6
XAN				SCS	ScS	03 31 17.3	-2.4
XAN	comp=Z,6.0nm,0.6s,mb4.3			AMB	AMB		
XAN	comp=Z,55nm,5.0s			AMB	AMB		
XAN	comp=E,124nm,18.7s			LR	LR		
XAN	comp=Z,153nm,20.2s,MS3.6			LR	LR		
GUMO	**Guam** comp=Z,106nm,18.7s,MS3.5,baz=73,slow=34	**27.80**	**175**	LR	LR	03 30 25.2	
TLY	**Talaya**	**28.33**	**305**	*e*P	**P**	**03 20 42.5**	**+0.2**
TLY				*e*		03 21 52.3	
TLY	comp=Z,18nm,1.5s,mb4.5			pmax	pmax		
TLY	comp=Z,138nm,19.0s,MS3.6			MLR	MLR		
TLY	**Talaya**	**28.33**	**305**	*e*P	**P**	**03 20 42.6**	**+0.3**
ZAK	**Zakamensk** comp=Z,6.0nm,1.4s,mb4.0	**28.46**	**302**	*e*P	**P**	**03 20 43.4**	**-0.1**
ZAK				pmax	pmax		
BILL	**Bilibino**	**29.59**	**18**	*e*P	**P**	**03 20 51.6**	**-1.7**
BILL				*e*		03 23 57.2	
BILL				*e*S	**S**	**03 25 38.4**	**-5.9**
BILL	comp=Z,10.0nm,1.5s,mb4.3			pmax	pmax		
LZH	**Lanzhou**	**30.45**	**273**	*e*P	**P**	**03 21 01.6**	**+0.3**
LZH				AP	pP	03 21 13.8	-1.0
LZH				XP	sP	03 21 19.3	-1.8
LZH				PP	PP	03 22 02.0	-8.7
LZH	comp=Z,18nm,1.3s,mb4.6			AMB	AMB		
LZH	comp=Z,83nm,4.8s			AMB	AMB		
LZH	comp=N,475nm,13.4s			LR	LR		
LZH	comp=Z,613nm,17.0s,MS4.3			LR	LR		
TIXI	**Tiksi**	**31.06**	**352**	*e*P	**P**	**03 21 01.1**	**-5.2**
TIXI	comp=Z,1.0nm,0.8s,mb3.7			pmax	pmax		
GTA	**Gaotai**	**32.34**	**281**	*e*P	**P**	**03 21 17.8**	**-0.1**
GTA				AP	pP	03 21 30.3	-1.1
GTA				XP	sP	03 21 34.8	-2.9
GTA				PP	PP	03 22 26.3	-5.3
GTA				S	**S**	**03 26 28.4**	**+0.3**
GTA				XS	sS	03 26 48.8	-2.1
GTA	comp=Z,8.0nm,0.9s,mb4.5			AMB	AMB		
GTA	comp=Z,107nm,4.8s			AMB	AMB		
GTA	comp=N,149nm,12.9s,MS4.0			LR	LR		
GTA	comp=E,198nm,17.1s,MS4.0			LR	LR		
GTA	comp=Z,289nm,18.0s,MS4.0			LR	LR		
CD2	**Chengdu**	**32.77**	**264**	*e*P	**P**	**03 21 23.0**	**+1.3**
CD2				AP	pP	03 21 34.9	-0.4
CD2				XP	sP	03 21 40.8	-0.7
CD2				PP	PP	03 22 33.5	-3.0
CD2				S	**S**	**03 26 35.0**	**+0.2**
CD2				XS	sS	03 26 55.5	-2.2
CD2				SS	SS	03 28 35.3	-22
CD2	comp=Z,10.0nm,0.5s,mb5.0			AMB	AMB		
CD2	comp=Z,30nm,4.2s			AMB	AMB		
CD2	comp=N,180nm,14.2s			LR	LR		
CD2	comp=Z,160nm,15.2s,MS3.8			LR	LR		
GYA	**Guiyang**	**33.02**	**255**	P	**P**	**03 21 25.3**	**+1.3**
GYA	comp=Z,10.0nm,0.8s,mb4.8			AMB	AMB		
KRAR	**Krasnoyarsk**	**35.04**	**312**	*e*P	**P**	**03 21 40.0**	**-1.1**
KRAR	comp=Z,26nm,1.0s,mb5.1			pmax	pmax		
KMI	**Kunming**	**36.66**	**256**	P	**P**	**03 21 55.4**	**0.0**
KMI				AP	pP	03 22 08.8	-0.3
KMI				XP	sP	03 22 14.1	-1.2
KMI				S	**S**	**03 27 33.4**	**-1.5**
KMI				XS	sS	03 27 56.4	-1.6
KMI				SS	SS	03 30 02.1	-15
KMI	comp=Z,17nm,0.6s,mb5.0			AMB	AMB		
KMI	comp=Z,99nm,3.1s			AMB	AMB		
KMI	comp=N,165nm,9.9s			LR	LR		
KMI	comp=E,144nm,14.2s			LR	LR		
KMI				LR	LR		
KMI	comp=Z,186nm,19.1s,MS3.9			LR	LR		
ZAA0	**Zalesovo Array**	**39.73**	**309**	*e*P	**P**	**03 22 20.8**	**0.0**
ZAA0				*e*	pP	03 22 36.1	+1.6
ZALV	**Zalesovo Beam** comp=Z,20nm,0.7s,mb5.0,baz=89,slow=8.1,SNR=32	**39.73**	**309**	P	**P**	**03 22 21.0**	**+0.2**
ZALV				PcP	PcP	03 24 26.2	-0.1
ZALV	comp=Z,4.0nm,0.7s,baz=101,slow=3.0,SNR=3.6			LR	LR	03 39 48.0	
ZALV	comp=Z,126nm,19.4s,MS3.8,baz=67,slow=38 **Zalesovo Beam**	**39.73**	**309**	P	**P**	**03 22 21.0**	**+0.2**
ZALV						03 24 26.2	
ZALV	comp=Z,20nm,0.7s,mb5.0			pmax	pmax		
ZALV	comp=Z,4.0nm,0.7s,mb4.3			pmax	pmax		
ZALV	comp=Z,127nm,19.4s,MS3.8			MLR	MLR		
WMQ	**Urumqi**	**39.80**	**292**	P	**P**	**03 22 23.3**	**+1.8**
WMQ				AP	pP	03 22 35.8	+0.5
WMQ				XP	sP	03 22 41.3	-0.2
WMQ				PP	PP	03 23 59.8	+6.2
WMQ	comp=Z,8.0nm,0.9s,mb4.5			AMB	AMB		
WMQ	comp=Z,24nm,5.2s			AMB	AMB		
WMQ	comp=N,32nm,23.5s,MS3.3			LR	LR		
WMQ	comp=E,42nm,23.5s,MS3.3			LR	LR		
WMQ	comp=Z,54nm,21.0s,MS3.4			LR	LR		
NVS	**Novosibirsk**	**40.56**	**310**	*i* P	**P**	**03 22 27.1**	**-0.5**
IMA2	**Indian Mountai**	**42.50**	**33**	*e*P	**P**	**03 22 43.2**	**-0.2**
MK31	**Makanchi Array**	**42.66**	**298**	*i* P	**P**	**03 22 44.8**	**-0.2**
MK31	comp=Z,12nm,0.6s,mb4.8			pmax	pmax		
MK31	**Makanchi Array**	**42.66**	**298**	*e*P	**P**	**03 22 45.1**	**+0.2**
MKAR	**Makanchi Array** comp=Z,14nm,0.7s,mb4.8,baz=82,slow=9.4,SNR=51	**42.66**	**298**	P	**P**	**03 22 45.0**	**0.0**
MKAR				LR	LR	03 41 57.6	
MKAR	**Makanchi Array** comp=Z,93nm,18.3s,MS3.7,baz=266,slow=38	**42.66**	**298**	P	**P**	**03 22 45.0**	**0.0**
MKAR	comp=Z,14nm,0.7s			pmax	pmax		
MKAR	comp=Z,93nm,18.3s			MLR	MLR		
MKAR	**Makanchi Array**	**42.66**	**298**	P	**P**	**03 22 45.0**	**0.0**
MKAR				LR	LR	03 41 57.6	
PPLA	**Purkeypile** comp=Z,17nm,1.3s,mb4.6	**43.12**	**37**	*e*P	**P**	**03 22 49.5**	**+1.0**
KDAK	**Kodiak Island** comp=Z,10nm,0.9s,mb4.5,baz=348,slow=8.6,SNR=7.5	**43.32**	**45**	P	**P**	**03 22 49.0**	**-1.2**
KDAK	**Kodiak Island**	**43.32**	**45**	P	**P**	**03 22 49.0**	**-1.2**
CHTO	**Chiang Mai**	**43.34**	**252**	*e*P	**P**	**03 22 50.9**	**+0.1**
CHTO	comp=Z,6.0nm,0.6s,mb4.5			pmax	pmax		
CHTO	**Chiang Mai** comp=Z,6.3nm,0.6s,mb4.5	**43.34**	**252**	*e*P	**P**	**03 22 50.9**	**+0.1**
CM31	**Chiang Mai Arr** comp=Z,7.6nm,0.6s,mb4.6	**43.57**	**252**	*e*P	**P**	**03 22 51.4**	**-1.3**
CMAR	**Chiang Mai Arr** comp=Z,1.5nm,0.5s,mb4.0,baz=44,slow=7.9,SNR=9.5	**43.57**	**252**	P	**P**	**03 22 53.0**	**+0.3**
CMAR				LR	LR	03 40 41.9	
CMAR	**Chiang Mai Arr** comp=Z,62nm,20.9s,MS3.5,baz=254,slow=36	**43.57**	**252**	P	**P**	**03 22 53.0**	**+0.3**
CMAR	comp=Z,2.0nm,0.5s			pmax	pmax		
CMAR	comp=Z,62nm,20.9s			MLR	MLR		
BPAW	**Bear Paw Mtn.** comp=Z,4.5nm,0.9s,mb4.2	**43.62**	**36**	*e*P	**P**	**03 22 53.2**	**+0.7**
KTH	**Kantishna Hill** comp=Z,13nm,1.0s,mb4.6	**43.67**	**37**	*e*P	**P**	**03 22 53.6**	**+0.7**
COLD	**Coldfoot** comp=Z,7.8nm,1.1s,mb4.3	**43.93**	**31**	*e*P	**P**	**03 22 54.4**	**-0.5**
KURK	**Kurchatov**	**44.02**	**305**	*e*P	**P**	**03 22 55.7**	**-0.2**
KURK	comp=Z,30nm,0.7s,mb5.1			pmax	pmax		
KURK	**Kurchatov** comp=Z,30nm,0.7s,mb5.1	**44.02**	**305**	*e*P	**P**	**03 22 55.7**	**-0.2**
MCK	**McKinley**	**44.55**	**36**	*e*P	**P**	**03 23 00.5**	**+0.6**
PMR	**Palmer**	**44.64**	**39**	*e*P	**P**	**03 23 00.3**	**-0.3**
PMR	comp=Z,75nm,2.4s,mb5.1			pmax	pmax		
PMR	**Palmer** comp=Z,75nm,2.4s,mb5.1	**44.64**	**39**	*e*P	**P**	**03 23 00.3**	**-0.4**
COLA	**College**	**44.94**	**35**	*e*P	**P**	**03 23 03.3**	**+0.3**
COLA	comp=Z,18nm,0.9s,mb4.9			pmax	pmax		
COLA	**College** comp=Z,18nm,0.9s,mb4.2	**44.94**	**35**	*e*P	**P**	**03 23 03.2**	**+0.2**
TAPN	**Taplejung** comp=Z,20nm,0.6s,mb5.2	**46.64**	**270**	*e*P	**P**	**03 23 17.6**	**+0.7**
ODAN	**Odare** comp=Z,20nm,0.6s,mb5.2	**47.14**	**270**	*e*P	**P**	**03 23 21.1**	**+0.3**
RAMN	**Ramite** comp=Z,53nm,0.6s,mb5.8	**47.69**	**271**	*e*P	**P**	**03 23 25.3**	**+0.2**
GUN	**Gumba** comp=Z,98nm,0.5s	**47.72**	**272**	*e*P	**P**	**03 23 25.8**	**+0.5**
VOSK	**Vostochnaya** comp=Z,9.0nm,0.7s,mb4.9	**48.09**	**309**	P	**P**	**03 23 28.1**	**+0.2**
VOSK				pmax	pmax		
KKN	**Kakani** comp=Z,44nm,0.6s,mb5.6	**48.23**	**273**	*e*P	**P**	**03 23 29.5**	**+0.2**
KKN	**Kakani**	**48.23**	**273**	*e*P	**P**	**03 23 29.5**	**+0.2**
KKN	comp=Z,44nm,0.6s,mb5.7			pmax	pmax		
PKI	**Pulchoki** comp=Z,16nm,0.5s,mb5.3	**48.25**	**272**	*e*P	**P**	**03 23 29.5**	**+0.1**
PKI	**Pulchoki**	**48.25**	**272**	*e*P	**P**	**03 23 29.5**	**+0.1**
PKI	comp=Z,16nm,0.5s,mb5.3			pmax	pmax		
BVA0	**Borovoye Array**	**48.35**	**310**	*i* P	**P**	**03 23 29.8**	**0.0**
BVA0	comp=Z,2.0nm,0.5s,mb4.4			pmax	pmax		
BRVK	**Borovoye** comp=Z,14nm,0.8s,mb5.0	**48.40**	**310**	*e*P	**P**	**03 23 30.8**	**+0.6**
BRVK				pmax	pmax		
BRVK	**Borovoye** comp=Z,14nm,0.8s,mb5.0	**48.40**	**310**	*e*P	**P**	**03 23 30.8**	**+0.5**
TKM2	**Tokmak 2**	**48.42**	**295**	*e*P	**P**	**03 23 31.0**	**+0.5**
TKM2	comp=Z,34nm,1.9s,mb5.0			pmax	pmax		
TKM2	**Tokmak 2** comp=Z,34nm,1.9s,mb5.0	**48.42**	**295**	*e*P	**P**	**03 23 31.0**	**+0.5**
DMN	**Daman** comp=Z,24nm,0.7s,mb5.3	**48.46**	**272**	*e*P	**P**	**03 23 31.2**	**+0.2**
GKN	**Gorkha** comp=Z,15nm,0.4s,mb5.4	**48.60**	**273**	*e*P	**P**	**03 23 32.1**	**0.0**
DANN	**Dangsing** comp=Z,116nm,0.7s,mb6.0	**49.08**	**274**	*e*P	**P**	**03 23 36.4**	**+0.6**
KOLN	**Koldanda** comp=Z,29nm,0.6s,mb5.5	**49.50**	**274**	*e*P	**P**	**03 23 39.2**	**+0.2**
EKS2	**Erkin-Say** comp=Z,8.5nm,0.6s,mb5.0	**49.75**	**296**	*e*P	**P**	**03 23 40.6**	**-0.2**
INK	**Inuvik** comp=Z,453nm,0.7s	**50.11**	**29**	*e*P	**P**	**03 23 42.8**	**-0.3**
HYT	**Haines Junctio**	**50.30**	**39**	*e*P	**P**	**03 23 46.5**	**+1.9**
KK31	**Karatay Array** comp=Z,10.0nm,0.8s,mb4.8	**51.77**	**298**	*i* P	**P**	**03 23 55.2**	**-0.7**
KK31				pmax	pmax		
SVE	**Sverdlovsk**	**52.49**	**317**	⇓*e*P	**P**	**03 24 01.2**	**+0.2**
SVE	comp=Z,26nm,0.9s,mb5.2			pmax	pmax		
SOKR	**Solikamsk** comp=Z,10.0nm,1.0s,mb4.7	**53.43**	**321**	*e*P	**P**	**03 24 08.8**	**+0.9**
SOKR				pmax	pmax		
ARU	**Arti**	**53.70**	**317**	*d i*P	**P**	**03 24 09.3**	**-0.7**
ARU				*e**PP	pP	03 24 24.3	0.0
ARU				*e*		03 26 06.6	
ARU				*e*S	**S**	**03 31 37.3**	**-2.5**
ARU				*e*SS	SS	03 35 15.0	-5.5
ARU	comp=Z,8.0nm,1.2s,mb4.5			pmax	pmax		
ARU	**Arti** comp=Z,13nm,1.1s,mb4.8	**53.70**	**317**	*e*P	**P**	**03 24 10.1**	**+0.1**
AB31	**Akbulak array** comp=Z,3.0nm,0.4s,mb4.7	**55.84**	**308**	*i* P	**P**	**03 24 25.2**	**-0.3**
AB31				pmax	pmax		
SPITS	**Spitsbergen Ar** comp=Z,99nm,19.0s,MS3.9,baz=110,slow=36	**56.40**	**348**	LR	LR	03 48 37.8	
KBL	**Kabul** comp=Z,6.0nm,0.6s,mb4.8	**56.74**	**289**	*e*P	**P**	**03 24 31.5**	**-0.6**
KBL				pmax	pmax		
KBL	**Kabul**	**56.74**	**289**	*e*P	**P**	**03 24 31.5**	**-0.6**

comp=Z,6.4nm,0.6s,mb4.8
RES Resolute Bay 58.15 15 *e*P P **03 24 40.6 -0.9**
comp=Z,370nm,0.6s
YKA Yellowknife Ar 59.60 32 LR LR 03 51 08.0
comp=Z,28nm,20.0s,MS3.4,baz=130,slow=36
KEV Kevo 59.66 339 *ep* P **03 24 51.0 -1.0**
comp=Z,1.0nm,0.4s,mb4.2
KEV Kevo 59.66 339 *e*P P **03 24 51.0 -1.0**
KEV pmax pmax
comp=Z,1.0nm,0.4s,mb4.2
ARCES ARCESS Array B 60.21 339 P P **03 24 55.5 -0.2**
comp=Z,2.4nm,0.5s,mb4.5,baz=47,slow=7.4,SNR=23
ARCES LR LR 03 53 42.0
comp=Z,106nm,19.3s,MS4.0,baz=198,slow=39
ARCES ARCESS Array B 60.21 339 P P **03 24 55.6 -0.2**
ARCES pmax pmax
comp=Z,2.0nm,0.5s
ARCES MLR MLR
comp=Z,106nm,19.3s
WRAB Tennant Creek 61.51 189 *e*P P **03 25 04.7 -0.4**
WRAB pmax pmax
comp=Z,5.0nm,0.9s,mb4.6
WRAB Tennant Creek 61.51 189 *e*P P **03 25 04.7 -0.4**
comp=Z,4.7nm,0.9s,mb4.6
WRA Warramunga Arr 61.52 189 P P **03 25 03.7 -1.5**
comp=Z,2.0nm,0.7s,mb4.3,baz=7.6,slow=7.0,SNR=12
WRA Warramunga Arr 61.52 189 P P **03 25 03.7 -1.5**
WRA pmax pmax
comp=Z,2.0nm,0.7s
JOF Joensuu 62.52 331 *ep* P **03 25 10.4 -1.1**
comp=Z,2.4nm,0.4s,mb4.7
JOF Joensuu 62.52 331 *e*P P **03 25 10.4 -1.1**
JOF pmax pmax
comp=Z,2.0nm,0.4s,mb4.6
KAF Kangasniemi 64.82 332 *ep* P **03 25 25.5 -1.1**
comp=Z,1.6nm,0.4s,mb4.4,baz=46,slow=6.2
KAF Kangasniemi 64.82 332 *e*P P **03 25 25.5 -1.1**
KAF pmax pmax
comp=Z,2.0nm,0.4s,mb4.5
OBN Obninsk 65.12 322 *e*P P **03 25 28.0 -0.7**
OBN *e* pP 03 25 45.8 +2.4
OBN *e*SS SS 03 38 17.4 -1.9
OBN pmax pmax
comp=Z,10.0nm,1.0s,mb4.8
ASAR Alice Springs 65.25 189 P P **03 25 28.9 -0.8**
comp=Z,1.8nm,0.8s,mb4.2,baz=11,slow=7.0,SNR=17
ASAR Alice Springs 65.25 189 P P **03 25 29.0 -0.8**
ASAR pmax pmax
comp=Z,2.0nm,0.8s
MBWA Marble Bar 65.75 203 *e*P P **03 25 33.0 -0.1**
comp=Z,12nm,1.0s,mb4.9
VSR Storozhevoye 66.23 318 *e*P P **03 25 35.5 -0.4**
VSR pmax pmax
comp=Z,2.0nm,0.5s,mb4.4
VSR pmax pmax
comp=N,8.0nm,0.6s
VSR pmax pmax
comp=E,2.0nm,0.4s
SUMG Summit 66.30 0 *e*P P **03 25 36.7 +0.7**
comp=E,6.5nm,0.7s,mb4.8
NEW Newport 66.42 46 *e*P P **03 25 37.4 +0.2**
NEW pmax pmax
comp=Z,3.0nm,0.8s
NEW Newport 66.42 46 *e*P P **03 25 37.4 +0.2**
comp=Z,3.0nm,0.8s,mb4.4
KIV Kislovodsk 68.71 310 *e*P P **03 25 52.0 +0.3**
KIV *i* pP 03 26 04.8 -1.7
KIV *e* 03 28 21.8
KIV pmax pmax
comp=Z,25nm,1.0s,mb5.1
KIV MLR MLR
comp=Z,100nm,17.0s,MS4.1
KIV Kislovodsk 68.71 310 *e*P P **03 25 52.8 +1.1**
comp=Z,19nm,0.8s,mb5.1
WVOR Wild Horse Val 69.05 52 *e*P P **03 25 54.1 +0.3**
WVOR pmax pmax
comp=Z,1.0nm,0.5s,mb4.0
WVOR Wild Horse Val 69.05 52 *e*P P **03 25 54.1 +0.3**
comp=Z,1.3nm,0.5s,mb4.1
FFC Flin Flon 69.57 34 *e*P P **03 25 56.2 -0.6**
FFC pmax pmax
comp=Z,6.0nm,0.8s,mb4.6
FFC Flin Flon 69.57 34 *e*P P **03 25 56.1 -0.7**
comp=Z,5.9nm,0.8s,mb4.6
GNI Garni 69.81 306 LR LR 03 59 20.6
comp=Z,34nm,19.6s,MS3.6,baz=298,slow=38
GNI Garni 69.81 306 *e*P P **03 25 59.0 +0.5**
GNI pmax pmax
comp=Z,9.0nm,1.5s
GNI Garni 69.81 306 *e*P P **03 25 58.6 +0.1**
PAHR Pah Rah Range 70.26 54 *e*P P **03 26 02.4 +1.1**
comp=Z,7.6nm,0.8s,mb4.7
LRM Limekiln Ridge 70.44 46 *e*P P **03 26 03.1 +0.8**
HFS Hagfors 70.45 336 LR LR 03 58 24.3
comp=Z,83nm,18.3s,MS4.0,baz=68,slow=37
NB2 NORSAR Subarra 70.48 337 P P **03 26 01.4 -0.9**
comp=Z,10nm,0.8s,mb4.8,baz=37,slow=6.2
NOA NORSAR Array B 70.48 337 P P **03 26 01.9 -0.4**
comp=Z,9.6nm,0.8s,mb4.8,baz=37,slow=6.1,SNR=31
NOA LR LR 04 00 09.6
comp=Z,63nm,19.4s,MS3.9,baz=0.0,slow=38
NOA NORSAR Array B 70.48 337 P P **03 26 01.9 -0.4**
NOA pmax pmax
comp=Z,10.0nm,0.8s
NOA MLR MLR
comp=Z,63nm,19.4s
DLMT Dillon 70.65 46 *e*P P **03 26 04.7 +1.1**
comp=Z,13nm,1.4s,mb4.7
CMB Columbia Colle 70.66 56 *e*P P **03 26 04.3 +0.5**
HLID Hailey 70.79 49 *e*P P **03 26 05.2 +0.7**
comp=Z,2.2nm,0.9s,mb4.1
ANN Anapa 71.13 313 *e*P P **03 26 01.3 -5.2**
ANN *e* pP 03 26 16.9 -4.5
ANN pmax pmax
comp=Z,72nm,1.2s,mb5.5
AKASG Malin Array Be 71.37 322 P P **03 26 07.3 -0.5**
comp=Z,3.9nm,0.4s,mb4.7,baz=44,slow=6.1,SNR=30
AKASG Malin Array Be 71.37 322 P P **03 26 07.3 -0.6**
AKASG pmax pmax
comp=Z,4.0nm,0.4s
AKASG Malin Array Be 71.37 322 P P **03 26 07.3 -0.5**
AKBB Malin Array Si 71.37 322 *e*P P **03 26 07.0 -0.9**
KIEV Kiev 71.38 322 *e*P P **03 26 07.0 -0.9**
KIEV pmax pmax
comp=Z,11nm,0.8s,mb4.8
KIEV Kiev 71.38 322 *e*P P **03 26 07.0 -0.9**
comp=Z,11nm,0.8s,mb4.8
NVAR Mina Array Bea 71.71 55 P P **03 26 11.3 +1.2**
comp=Z,5.9nm,0.8s,mb4.6,baz=290,slow=6.3,SNR=31
NVAR Mina Array Bea 71.71 55 P P **03 26 11.3 +1.2**
IMW Indian Meadow 72.50 47 *e*P P **03 26 16.6 +1.8**
comp=Z,5.7nm,0.8s,mb4.5
RRI2 Red Ridge 72.65 47 *e*P P **03 26 17.4 +1.7**
comp=Z,7.5nm,0.8s,mb4.7
MOOW Moose Ponds 72.71 47 *e*P P **03 26 17.5 +1.6**
TPAW Teton Pass 72.76 47 *e*P P **03 26 17.7 +1.4**
LOHW Long Hollow 72.87 47 *e*P P **03 26 17.7 +0.7**
comp=Z,1.6nm,0.7s,mb4.1
SNOW Snow King Moun 72.89 47 *e*P P **03 26 18.0 +0.9**
comp=Z,2.5nm,0.6s,mb4.3
BORG Borgarnes 73.41 353 LR LR 03 59 52.3
comp=Z,104nm,19.1s,MS4.1,baz=34,slow=37
HWUT Hardware Ranch 73.66 49 *e*P P **03 26 22.2 +0.5**
comp=Z,4.4nm,0.9s,mb4.4
DUG Dugway 73.87 50 *e*P P **03 26 23.2 +0.3**
DUG pmax pmax
comp=Z,4.0nm,0.9s,mb4.3
DUG Dugway 73.87 50 *e*P P **03 26 23.2 +0.3**
comp=Z,4.0nm,0.9s,mb4.3
BW06 Boulder Array 74.01 47 *e*P P **03 26 23.7 0.0**
comp=Z,3.6nm,0.6s,mb4.5
PDAR Pinedale Array 74.01 47 P P **03 26 23.9 +0.2**
comp=Z,4.4nm,0.6s,mb4.6,baz=264,slow=1.9,SNR=42
NLU North Lily Min 74.45 50 *e*P P **03 26 27.3 +1.0**
KWP Kalwaria 75.08 324 *e*P P **03 26 30.4 +0.6**
KWP Kalwaria 75.08 324 *e*P P **03 26 30.4 +0.7**
BUR08 Bucovina Ar. S 75.40 322 *e*P P **03 26 31.7 +0.1**
BURAR Bucovina Array 75.41 322 ⇑P P **03 26 31.9 +0.2**
KOLS Kolonicke sedl 75.78 324 *e*P P **03 26 33.9 +0.1**
STHS Stebnicka Huta 75.87 325 *e*P P **03 26 34.9 +0.6**
STHS pmax pmax
comp=Z,5.0nm,0.8s,mb4.5
STHS Stebnicka Huta 75.87 325 *e*P P **03 26 34.9 +0.6**
comp=Z,5.4nm,0.8s,mb4.5
OJC Ojcow 75.88 326 *e*P P **03 26 34.5 +0.2**
SRU San Rafael 75.91 50 *e*P P **03 26 34.9 +0.2**
SRU pmax pmax
comp=Z,4.0nm,0.9s,mb4.3
SRU San Rafael 75.91 50 *e*P P **03 26 34.9 +0.2**
comp=Z,3.6nm,0.9s,mb4.3
RSSD Black Hills 76.01 43 *e*P P **03 26 33.8 -1.4**
RSSD pmax pmax
comp=Z,3.0nm,0.8s,mb4.3
RSSD Black Hills 76.01 43 *e*P P **03 26 33.8 -1.4**
comp=Z,3.0nm,0.8s,mb4.3
CRVS Cervenica-Dubn 76.16 324 *e*P P **03 26 36.5 +0.5**
NIE Niedzica 76.27 325 *e*P P **03 26 37.4 +0.8**
BSEG Bad Segeberg 76.54 333 *e*P P **03 26 38.0 0.0**
comp=Z,17nm,1.1s,mb4.9
BR131 Keskin Array S 76.60 311 *e*P P **03 26 38.6 0.0**
comp=Z,0.8nm,0.6s,mb3.8
OKC Ostrava-Krasne 76.86 327 *e*P P **03 26 40.2 +0.3**
VOIR 77.07 320 ⇑P P **03 26 42.4 +1.2**
MORC Moravsky Berou 77.16 327 *e*P P **03 26 41.4 -0.2**
MORC pmax pmax
comp=Z,11nm,0.9s,mb4.8
MORC Moravsky Berou 77.16 327 *e*P P **03 26 41.4 -0.2**
comp=Z,11nm,0.9s,mb4.8
UPC Upice 77.20 328 *e*P P **03 26 42.4 +0.6**
UPC *e*pP pP 03 26 59.0 +2.2
DPC Dobruska-Polom 77.20 328 *e*P P **03 26 42.7 +0.9**
DPC *e*pP pP 03 26 58.8 +2.0
PV10 Paradox Valley 77.26 50 *e*P P **03 26 43.4 +1.0**
PSZ Piszkesteto 77.59 325 *e*P P **03 26 44.3 +0.3**
PSZ pmax pmax
comp=Z,4.0nm,0.8s,mb4.4
PSZ Piszkesteto 77.59 325 *e*P P **03 26 44.3 +0.3**
comp=Z,3.6nm,0.8s,mb4.3
VYHS Vyhne 77.61 325 *e*P P **03 26 43.8 -0.3**
PV01 Paradox Valley 77.69 50 *e*P P **03 26 45.5 +0.8**
BRG Berggiesshubel 77.72 330 *e*P P **03 26 44.5 -0.2**
BRG pmax pmax
comp=Z,9.0nm,1.5s,mb4.5
BRG Berggiesshubel 77.72 330 *e*P P **03 26 44.5 -0.2**
comp=Z,14nm,1.5s,mb4.7
CLL Collm 77.72 330 *e*P P **03 26 44.1 -0.6**
comp=Z,9.0nm,0.9s,mb4.7
CLL Collm 77.72 330 *i* P P **03 26 44.3 -0.4**
comp=Z,9.0nm,1.0s,mb4.7
CLL *e*pP pP 03 26 58.0 -1.7
CLL *e*sP sP 03 27 03.0 -2.6
CLL *e*PP PP 03 29 40.0 +0.2
CLL LmV 04 03 00.0
comp=Z,100nm,21.8s
KOLL Kolacno 77.73 326 *e*P P **03 26 43.5 -1.3**
PVCC Panska Ves 77.75 329 *e*P P **03 26 44.7 -0.2**
FBE Freiberg 77.90 330 *e*P P **03 26 45.6 -0.1**
comp=Z,7.0nm,0.9s,mb4.6
VRAC Vranov 77.91 327 ⇓P P **03 26 46.7 +0.9**
PRU Pruhonice 78.19 329 *e*P P **03 26 47.1 -0.2**
CLZ Clausthal 78.24 332 *e*P P **03 26 47.4 -0.2**
CLZ pmax pmax
comp=Z,12nm,0.8s,mb4.9
CLZ Clausthal 78.24 332 *e*P P **03 26 47.4 -0.2**
comp=Z,12nm,0.8s,mb4.9
TREC Trest 78.37 328 *e*P P **03 26 48.3 0.0**
TANN Tannenbergstha 78.65 330 *e*P P **03 26 49.8 0.0**
comp=Z,20nm,2.2s,mb4.7
GUNZ Gunzen 78.74 330 *e*P P **03 26 50.3 0.0**
comp=Z,13nm,1.5s,mb4.6
MOX Moxa 78.78 331 *e*P P **03 26 50.4 -0.1**
comp=Z,6.0nm,1.3s,mb4.4
WERN Wernitzgruen 78.78 330 *e*P P **03 26 50.7 +0.1**
comp=Z,4.0nm,0.8s,mb4.4
MANZ Manzenberg 79.13 330 *e*P P **03 26 52.3 -0.2**
comp=Z,4.0nm,0.9s,mb4.3
KHC Kasperske Hory 79.26 329 *e*P P **03 26 53.4 +0.2**
KHC *e*pP pP 03 27 05.3 -2.9
ROTZ Rotzenmuhle 79.27 330 *e*P P **03 26 53.6 +0.4**
comp=Z,5.0nm,1.0s,mb4.4
GEC2 GERESS Array S 79.44 328 *e*P P **03 26 54.3 +0.1**
GEC2 pmax pmax
comp=Z,5.0nm,1.2s,mb4.3
GEC2 GERESS Array S 79.44 328 *e*P P **03 26 54.3 +0.1**
comp=Z,5.0nm,1.2s,mb4.3
GERES GERESS Array B 79.44 328 P P **03 26 54.4 +0.2**
comp=Z,1.8nm,0.6s,mb4.2,baz=39,slow=5.3,SNR=15
GERES LR LR 04 02 20.1
comp=Z,55nm,19.5s,MS3.9,baz=87,slow=36
GERES GERESS Array B 79.44 328 P P **03 26 54.4 +0.2**
GERES pmax pmax
comp=Z,2.0nm,0.6s
GERES MLR MLR
comp=Z,55nm,19.5s
WET Wettzell 79.52 329 *e*P P **03 26 54.8 +0.2**
WET pmax pmax
comp=Z,7.0nm,1.0s,mb4.5
WET Wettzell 79.52 329 *e*P P **03 26 54.8 +0.2**
comp=Z,7.0nm,1.0s,mb4.5
GRA1 Grafenberg Arr 79.70 330 *e*P P **03 26 56.0 +0.4**
comp=Z,13nm,1.0s,mb4.8
GRF Grafenberg Arr 79.70 330 *e*P P **03 26 56.0 +0.4**
GRF pmax pmax
comp=Z,13nm,1.0s,mb4.8
GRF Grafenberg Arr 79.70 330 *e*P P **03 26 56.0 +0.4**
GRF pmax pmax
comp=Z,13nm,1.0s,mb4.8
GRF Grafenberg Arr 79.70 330 *e*P P **03 26 56.0 +0.4**
comp=Z,13nm,1.0s,mb4.8
SDCO Great Sand Dun 79.71 48 *e*P P **03 26 56.5 +0.7**
comp=Z,2.3nm,1.0s,mb4.1
ECSD EROS,Sioux Fal 79.96 39 *e*P P **03 26 56.0 -1.1**
comp=Z,6.4nm,0.8s,mb4.6
VTS Vitosha 80.07 319 ⇓P P **03 26 58.7 +1.0**
MMAI Mount Meron Ar 80.13 305 LR LR 04 06 04.5
comp=Z,54nm,21.4s,MS3.9,baz=140,slow=38
SOKA Soboth 80.63 326 ⇑*i*P P **03 27 01.0 +0.3**
comp=Z,18nm,1.0s,mb5.0
RJOB Jochberg 80.69 328 *e*P P **03 27 01.1 +0.2**
comp=Z,7.0nm,0.8s,mb4.6
FUR Furstenfeldbru 80.93 329 *e*P P **03 27 02.5 +0.3**
FUR pmax pmax
comp=Z,35nm,1.5s,mb5.1
FUR Furstenfeldbru 80.93 329 *e*P P **03 27 02.5 +0.3**
comp=Z,35nm,1.5s,mb5.1
KBA Koelnbreinsper 81.00 328 ⇑*i*P P **03 27 03.9 +1.3**
comp=Z,12nm,1.0s,mb4.8
ANMO Albuquerque 81.12 51 *e*P P **03 27 04.3 +0.8**
ANMO pmax pmax
comp=Z,2.0nm,1.2s
ANMO Albuquerque 81.12 51 *e*P P **03 27 04.3 +0.8**
comp=Z,2.1nm,1.2s,mb3.9
STU Stuttgart 81.21 331 *e*P P **03 27 03.8 +0.1**
comp=Z,12nm,1.0s,mb4.8
STU Stuttgart 81.21 331 *e*P P **03 27 03.7 0.0**
WLF Walferdange 81.53 333 *e*P P **03 27 04.4 -1.0**
WLF pmax pmax
comp=Z,4.0nm,0.8s,mb4.4
WLF Walferdange 81.53 333 *e*P P **03 27 04.4 -0.9**
comp=Z,3.9nm,0.8s,mb4.4
BNM Barren Site 81.59 52 *e*P P **03 27 07.0 +1.0**
GIVF Givet 81.61 334 *e*P P **03 27 05.1 -0.6**
MOTA Moosalm 81.67 329 ⇑*i*P P **03 27 06.4 +0.2**
comp=Z,14nm,0.8s,mb4.9
RETA Reutte 81.69 329 ⇑*i*P P **03 27 06.5 +0.3**
comp=Z,15nm,1.0s,mb4.9
BAIF Baives 81.84 334 *e*P P **03 27 06.5 -0.5**
comp=Z,18nm,1.1s,mb4.6
BAIF Baives 81.84 334 *e*P P **03 27 06.5 -0.5**
BAIF pmax pmax
comp=Z,9.0nm,1.1s,mb4.6
BAIF Baives 81.84 334 *e*P P **03 27 06.5 -0.5**
comp=Z,9.1nm,1.1s,mb4.6
FETA Feichten 82.08 329 ⇑*i*P P **03 27 08.4 +0.1**
comp=Z,9.9nm,0.8s,mb4.8
DAVA Damuels 82.19 330 ⇑*i*P P **03 27 08.7 -0.1**
comp=Z,15nm,0.9s,mb4.9
CDF Champ du Feu 82.21 332 ⇑*i*P P **03 27 08.7 -0.2**
comp=Z,4.7nm,0.7s,mb4.3
CDF Champ du Feu 82.21 332 ⇑*i*P P **03 27 08.7 -0.2**
CDF pmax pmax
comp=Z,2.0nm,0.6s,mb4.2
CDF Champ du Feu 82.21 332 ⇑*i*P P **03 27 08.7 -0.2**
comp=Z,2.3nm,0.6s,mb4.3
EIL Elat 82.71 303 LR LR 04 10 31.0
comp=Z,62nm,20.1s,MS4.0,baz=46,slow=40
HINF Hinteralfeld 82.86 332 *e*P P **03 27 11.6 -0.8**
HAU Haudompre 82.88 332 ⇑*i*P P **03 27 12.0 -0.5**
comp=Z,8.8nm,0.8s,mb4.5
HAU *e*MLR MLR
comp=Z,81nm,19.8s,MS3.8
HAU Haudompre 82.88 332 ⇑*i*P P **03 27 12.0 -0.5**
HAU pmax pmax
comp=Z,4.0nm,0.8s,mb4.5
HAU MLR MLR
comp=Z,80nm,19.8s,MS4.1
HAU Haudompre 82.88 332 ⇑*i*P P **03 27 12.0 -0.5**
comp=Z,4.4nm,0.8s,mb4.5
HAU LR LR
comp=Z,80nm,19.8s,MS4.1
MEZF Maizieres J'vi 82.90 333 *e*P P **03 27 12.5 -0.1**
LOR Lormes 84.38 333 ⇑*i*P P **03 27 19.7 -0.4**
comp=Z,18nm,0.9s,mb4.9
LOR *e*MLR MLR
comp=Z,120nm,20.0s,MS4.0
LOR Lormes 84.38 333 ⇑*i*P P **03 27 19.7 -0.4**
LOR pmax pmax
comp=Z,9.0nm,0.9s,mb4.9
LOR MLR MLR
comp=Z,120nm,20.0s,MS4.3
LOR Lormes 84.38 333 ⇑*i*P P **03 27 19.7 -0.4**
comp=Z,9.2nm,0.9s,mb4.9
LOR LR LR
comp=Z,120nm,20.0s,MS4.3
FLN La Foliniere 84.45 336 *e*P P **03 27 19.9 -0.6**
FLN *e*MLR MLR
comp=Z,86nm,23.0s,MS3.8
FLN La Foliniere 84.45 336 *e*P P **03 27 19.9 -0.6**
FLN LR LR
comp=Z,90nm,23.0s,MS4.1
LDF La Druitiere 84.49 336 ⇑*i*P P **03 27 20.6 -0.1**
comp=Z,11nm,0.8s,mb4.8
LDF La Druitiere 84.49 336 ⇑*i*P P **03 27 20.6 -0.1**
LDF pmax pmax
comp=Z,5.0nm,0.8s,mb4.7
LDF La Druitiere 84.49 336 ⇑*i*P P **03 27 20.6 -0.1**
comp=Z,5.4nm,0.8s,mb4.7
SSF Saint Saulge 84.67 333 ⇑*i*P P **03 27 21.3 -0.3**
comp=Z,13nm,0.9s,mb4.8
SSF Saint Saulge 84.67 333 ⇑*i*P P **03 27 21.3 -0.3**
SSF pmax pmax
comp=Z,7.0nm,0.9s,mb4.8
SSF Saint Saulge 84.67 333 ⇑*i*P P **03 27 21.3 -0.3**
comp=Z,6.7nm,0.9s,mb4.8
LPL La Plagne 84.86 331 ⇑*i*P P **03 27 23.0 +0.4**
comp=Z,20nm,0.9s,mb5.0
LPL La Plagne 84.86 331 ⇑*i*P P **03 27 23.0 +0.4**
LPL pmax pmax
comp=Z,10.0nm,0.9s,mb5.0
LPL La Plagne 84.86 331 ⇑*i*P P **03 27 23.0 +0.4**
comp=Z,10nm,0.9s,mb5.0
LPG La Plagne 84.87 330 ⇑*i*P P **03 27 23.1 +0.5**
comp=Z,32nm,0.9s,mb5.2
LPG La Plagne 84.87 330 ⇑*i*P P **03 27 23.1 +0.5**
LPG pmax pmax
comp=Z,16nm,0.9s,mb5.2
LPG La Plagne 84.87 330 ⇑*i*P P **03 27 23.1 +0.5**
comp=Z,16nm,0.9s,mb5.2
GRR Gorron 84.90 336 ⇑*i*P P **03 27 22.5 -0.2**
comp=Z,10nm,0.8s,mb4.7
GRR Gorron 84.90 336 ⇑*i*P P **03 27 22.5 -0.2**
GRR pmax pmax
comp=Z,5.0nm,0.8s,mb4.7
GRR Gorron 84.90 336 ⇑*i*P P **03 27 22.5 -0.2**
comp=Z,5.2nm,0.8s,mb4.7
SMF Signal de Mont 84.92 333 *e*P P **03 27 22.7 -0.2**
comp=Z,35nm,1.0s,mb5.1
SMF Signal de Mont 84.92 333 *e*P P **03 27 22.7 -0.2**
SMF pmax pmax
comp=Z,17nm,1.0s,mb5.1
SMF Signal de Mont 84.92 333 *e*P P **03 27 22.7 -0.2**
comp=Z,18nm,1.0s,mb5.1
AVF Avril sur Loir 84.96 333 ⇑*i*P P **03 27 22.9 -0.2**
comp=Z,22nm,0.8s,mb5.1
AVF Avril sur Loir 84.96 333 ⇑*i*P P **03 27 22.9 -0.2**
AVF pmax pmax
comp=Z,11nm,0.8s,mb5.0
AVF Avril sur Loir 84.96 333 ⇑*i*P P **03 27 22.9 -0.2**
comp=Z,11nm,0.8s,mb5.0
PMOR Pomariorio Ree 85.18 115 *e*T 05 00 50.2
comp=Z,4.3nm,0.2s
BNI Bardonecchia 85.27 330 *e*P P **03 27 23.4 -1.3**
BNI pmax pmax
comp=Z,10.0nm,1.0s,mb4.9
BNI Bardonecchia 85.27 330 *e*P P **03 27 23.4 -1.3**
comp=Z,9.9nm,1.0s,mb4.9
MBDF Montbardon 85.52 330 *e*P P **03 27 25.5 -0.4**
comp=Z,17nm,0.7s,mb5.0
MBDF Montbardon 85.52 330 *e*P P **03 27 25.5 -0.4**
MBDF pmax pmax
comp=Z,8.0nm,0.7s,mb5.1
MBDF Montbardon 85.52 330 *e*P P **03 27 25.5 -0.4**
comp=Z,8.3nm,0.7s,mb5.1
SGMF Saint Gilles 85.52 337 *e*P P **03 27 25.8 0.0**
comp=Z,66nm,1.4s,mb5.4
SGMF Saint Gilles 85.52 337 *e*P P **03 27 25.8 0.0**
SGMF pmax pmax
comp=Z,33nm,1.4s,mb5.4
SGMF Saint Gilles 85.52 337 *e*P P **03 27 25.8 0.0**
comp=Z,33nm,1.4s,mb5.4
ROSF Rostrenen 85.65 338 *e*P P **03 27 26.6 +0.1**
comp=Z,49nm,1.1s,mb5.3
ROSF Rostrenen 85.65 338 *e*P P **03 27 26.6 +0.1**
ROSF pmax pmax
comp=Z,24nm,1.1s,mb5.3
ROSF Rostrenen 85.65 338 *e*P P **03 27 26.6 +0.1**
comp=Z,24nm,1.1s,mb5.3
ORIF Oris-en-Rattie 85.68 331 ⇑*i*P P **03 27 26.8 +0.1**
comp=Z,16nm,0.8s,mb5.0
ORIF *e*MLR MLR
comp=Z,75nm,19.0s,MS3.8
ORIF Oris-en-Rattie 85.68 331 ⇑*i*P P **03 27 26.8 +0.1**
ORIF pmax pmax
comp=Z,8.0nm,0.8s,mb5.0
ORIF Oris-en-Rattie 85.68 331 ⇑*i*P P **03 27 26.8 +0.1**
comp=Z,8.1nm,0.8s,mb5.0
TCF Toulx Ste Croi 85.79 334 ⇑*i*P P **03 27 27.3 +0.1**
comp=Z,21nm,1.1s,mb5.0
TCF Toulx Ste Croi 85.79 334 ⇑*i*P P **03 27 27.3 +0.1**
TCF pmax pmax
comp=Z,10.0nm,1.1s,mb5.0
TCF Toulx Ste Croi 85.79 334 ⇑*i*P P **03 27 27.3 +0.1**
comp=Z,10nm,1.1s,mb5.0
TIP Timpagrande 85.81 321 *e*P P **03 27 27.2 -0.3**
comp=Z,7.1nm,0.8s,mb5.0
PPT Papeete 85.86 118 *e*LR LR 03 53 44.5
comp=Z,107nm,21.8s
PPT Papeete 85.86 118 LR LR 04 00 59.3
comp=Z,86nm,20.2s,MS4.1,baz=313,slow=32
SBF Sospel 86.00 329 ⇑*i*P P **03 27 28.1 -0.2**
comp=Z,56nm,1.1s,mb5.4
SBF Sospel 86.00 329 ⇑*i*P P **03 27 28.1 -0.2**
SBF pmax pmax
comp=Z,28nm,1.1s,mb5.4
SBF Sospel 86.00 329 ⇑*i*P P **03 27 28.1 -0.2**
comp=Z,28nm,1.1s,mb5.4
VIVF Saint-Julien-l 86.18 331 ⇑*i*P P **03 27 29.2 0.0**
comp=Z,15nm,0.8s,mb5.0
VIVF Saint-Julien-l 86.18 331 ⇑*i*P P **03 27 29.2 0.0**
VIVF pmax pmax
comp=Z,8.0nm,0.8s,mb5.0
VIVF Saint-Julien-l 86.18 331 ⇑*i*P P **03 27 29.2 0.0**
comp=Z,7.7nm,0.8s,mb5.0
MFF Saint Martin d 86.27 335 *e*P P **03 27 29.8 +0.2**
comp=Z,38nm,1.0s,mb5.3
MFF Saint Martin d 86.27 335 *e*P P **03 27 29.8 +0.2**
MFF pmax pmax
comp=Z,19nm,1.0s,mb5.3
MFF Saint Martin d 86.27 335 *e*P P **03 27 29.8 +0.2**
comp=Z,19nm,1.0s,mb5.3
TXAR Lajitas Array 86.78 53 P P **03 27 33.2 +0.8**
comp=Z,2.0nm,0.8s,mb4.4,baz=291,slow=3.9,SNR=26
TXAR Lajitas Array 86.78 53 P P **03 27 33.3 +0.9**
TXAR pmax pmax
comp=Z,2.0nm,0.8s
RJF Les Rejaudoux 86.88 334 *e*P P **03 27 32.8 +0.2**
comp=Z,40nm,1.2s,mb5.2
RJF *e*MLR MLR
comp=Z,139nm,20.8s,MS4.0
RJF Les Rejaudoux 86.88 334 *e*P P **03 27 32.8 +0.2**
RJF pmax pmax
comp=Z,20nm,1.2s,mb5.2
RJF MLR MLR
comp=Z,140nm,20.8s,MS4.3
RJF Les Rejaudoux 86.88 334 *e*P P **03 27 32.8 +0.2**
comp=Z,20nm,1.2s,mb5.2
RJF LR LR
comp=Z,140nm,20.8s,MS4.3
CAF Calviac 87.03 333 ⇑*i*P P **03 27 33.9 +0.6**

comp=Z,30nm,0.9s,mb5.2
CAF Calviac 87.03 333 ⇑*i* P **P 03 27 33.9 +0.6**
CAF pmax pmax
comp=Z,15nm,0.9s,mb5.2
CAF Calviac 87.03 333 ⇑*i* P **P 03 27 33.9 +0.6**
comp=Z,15nm,0.9s,mb5.2
LFF La Frestale 87.46 334 *e*P **P 03 27 36.1 +0.7**
comp=Z,44nm,1.1s,mb5.3
LFF La Frestale 87.46 334 *e*P **P 03 27 36.1 +0.7**
LFF pmax pmax
comp=Z,22nm,1.1s,mb5.3
LFF La Frestale 87.46 334 *e*P **P 03 27 36.1 +0.7**
comp=Z,22nm,1.1s,mb5.3
WCI Wyandotte Cave 89.07 36 *e*P **P 03 27 43.2 0.0**
WCI pmax pmax
comp=Z,6.0nm,0.7s,mb5.0
WCI Wyandotte Cave 89.07 36 *e*P **P 03 27 43.1 0.0**
comp=Z,6.0nm,0.7s,mb5.0
EPF Esparros 89.29 333 *e*P **P 03 27 44.9 +0.8**
ETSF Etsaut 89.71 334 *e*P **P 03 27 46.7 +0.6**
comp=Z,8.3nm,0.7s,mb4.9
ETSF Etsaut 89.71 334 *e*P **P 03 27 46.7 +0.6**
ETSF pmax pmax
comp=Z,4.0nm,0.6s,mb4.9
ETSF Etsaut 89.71 334 *e*P **P 03 27 46.7 +0.6**
comp=Z,4.2nm,0.6s,mb5.0
TBI Tubuai 90.05 122 *e*T 05 06 50.7
comp=Z,4.4nm,0.3s
WVT Waverly 90.09 39 *e*P **P 03 27 47.7 -0.3**
WVT pmax pmax
comp=Z,2.0nm,0.7s,mb4.6
WVT Waverly 90.09 39 *e*P **P 03 27 47.7 -0.3**
comp=Z,2.5nm,0.7s,mb4.7
TORD Torodi Ar. Bea 114.77 317 PKP PKiKP 03 33 26.5 -2.3
comp=Z,0.4nm,0.8s,baz=8.2,slow=2.7,SNR=4.8
TORD Torodi Ar. Bea 114.77 317 PKP PKiKP 03 33 26.5 -2.3
LPAZ La Paz 143.61 56 PKP PKPdf 03 34 21.0 -2.0
comp=Z,0.6nm,0.6s,baz=37,slow=4.5,SNR=4.2
LPAZ La Paz 143.61 56 PKiKP PKPdf 03 34 21.0 -2.0
LPAZ pmax pmax
comp=Z,1.0nm,0.6s
LPAZ La Paz 143.61 56 PKP PKPdf 03 34 21.0 -2.0
LPAZ *e*PKPdf PKPdf 03 34 24.4 +1.4
SNAA Sanae 145.19 198 *e*PKPdf PKPdf 03 34 22.3 -1.7
SNAA *e* 03 34 25.5
SNAA *e* 03 34 39.0
SNAA Sanae 145.19 198 *e*PKPbc PKPbc 03 34 22.7 -1.1
VNA2 Neumayer--Watz 146.76 197 *e*PKPdf PKPdf 03 34 27.9 +1.2
baz=121,slow=1.9
VNA2 *e* 03 34 31.0
VNA2 *e* 03 34 40.1
VNA2 *e* 03 34 44.5
VNA3 Neumayer Olymp 147.02 196 *e*PKPdf PKPdf 03 34 28.1 +0.9
VNA3 *e* 03 34 31.0
VNA3 *e* 03 34 39.8
VNA3 *e* 03 34 43.7
VNA1 Neumayer--Stat 147.16 197 *e*PKPdf pPKPdf 03 34 44.5 +1.2

*NEIC **20** 03:14:58.2, 3345S×7050W, h92km, MD3.5(GUC), After GUC.*
NEIC Felt [II] at Melipilla, San Jose de Maipo and Santiago.
GUC 20 03:14:58.2±0.7, 3345S×7050W, h92km±2km, MD3.5, ML3.7, 8C-15D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FSR	**Penalolen**	**0.03**	**218**	⇓*i* P	Pn	03 15 11.8	+0.7
FSR				*i* S	Sn	03 15 21.7	+1.0
FSR				AML	AML	03 15 22.1	
	comp=N,2μm,0.3s						
FSR				AML	AML	03 15 22.2	
	comp=E,3μm,0.3s						
FSR	**Penalolen**	**0.03**	**218**	⇓*i* P	Pn	03 15 11.8	+0.7
FSR				*i* S	Sn	03 15 21.7	+1.0
CLCH	**Cerro Calan**	**0.06**	**334**	⇓*i* P	Pn	03 15 11.6	+0.5
CLCH				*i* S	Sn	03 15 21.8	+1.1
CLCH				AML	AML	03 15 22.4	
	comp=N,7μm,0.2s						
CLCH				AML	AML	03 15 23.1	
	comp=N,10μm,0.4s						
CLCH				AML	AML	03 15 23.2	
	comp=E,13μm,0.3s						
CLCH				AML	AML	03 15 23.8	
	comp=E,14μm,0.4s						
SAN	**Santiago**	**0.13**	**270**	*i* P	Pn	03 15 11.7	+0.4
SAN				*i* S	Sn	03 15 21.6	+0.6
SAN				AML	AML	03 15 21.9	
	comp=N,6μm,0.2s						
SAN				AML	AML	03 15 22.1	
	comp=E,6μm,0.3s						
SAN	**Santiago**	**0.13**	**270**	*i* P	Pn	03 15 11.7	+0.4
SAN				*i* S	Sn	03 15 21.6	+0.6
ANTU	**Antumapu**	**0.16**	**223**	*e*P	Pn	03 15 11.6	+0.3
ANTU				*i* S	Sn	03 15 21.9	+0.9
ANTU				AML	AML	03 15 22.5	
	comp=E,5μm,0.3s						
ANTU				AML	AML	03 15 23.0	
	comp=N,3μm,0.1s						
ANTU	**Antumapu**	**0.16**	**223**	*e*P	Pn	03 15 11.6	+0.3
ANTU				*i* S	Sn	03 15 21.9	+0.9
PCH	**Pirque**	**0.17**	**183**	⇑*i* P	Pn	03 15 11.7	+0.3
PCH				*e*S	Sn	03 15 21.7	+0.6
FCH	**Farellones**	**0.22**	**55**	⇓*i* P	Pn	03 15 12.4	+0.9
FCH				*i* S	Sn	03 15 23.1	+1.7
FCH				AML	AML	03 15 23.9	
	comp=N,9μm,0.2s						
FCH				AML	AML	03 15 24.6	
	comp=E,10μm,0.2s						
SJCH	**San Jose de Ma**	**0.23**	**146**	⇓*i* P	Pn	03 15 11.4	-0.2
SJCH				*i* S	Sn	03 15 21.9	+0.4
SJCH				AML	AML	03 15 22.0	
	comp=E,3μm,0.3s						
SJCH				AML	AML	03 15 22.2	
	comp=N,2μm,0.4s						
SJCH	**San Jose de Ma**	**0.23**	**146**	⇓*i* P	Pn	03 15 11.4	-0.2
SJCH				*i* S	Sn	03 15 21.9	+0.4
RCDM	**Rinconada Maip**	**0.26**	**262**	⇑*i* P	Pn	03 15 12.0	+0.3
RCDM				*i* S	Sn	03 15 22.4	+0.7
RCDM				AML	AML	03 15 22.7	
	comp=N,18μm,0.1s						
RCDM				AML	AML	03 15 23.1	
	comp=E,42μm,5.2s						
RCDM	**Rinconada Maip**	**0.26**	**262**	⇑*i* P	Pn	03 15 12.0	+0.3
RCDM				*i* S	Sn	03 15 22.4	+0.7
PEL	**Peldehue**	**0.34**	**334**	⇓*i* P	Pn	03 15 12.6	+0.5
PEL				*i* S	Sn	03 15 23.3	+0.8
PEL				AML	AML	03 15 24.1	
	comp=N,11μm,0.2s						
PEL				AML	AML	03 15 24.9	
	comp=E,7μm,0.3s						
YECH	**El Yeso**	**0.41**	**121**	*e*P	Pn	03 15 13.1	+0.6
YECH				*i* S	Sn	03 15 24.6	+1.5
YECH				AML	AML	03 15 25.7	
	comp=N,3μm,0.5s						
YECH				AML	AML	03 15 27.0	
	comp=E,2μm,0.4s						
TACH	**Talagante**	**0.41**	**241**	⇓*i* P	Pn	03 15 12.8	+0.3
TACH				*i* S	Sn	03 15 23.8	+0.6
LMEL	**Las Melosas**	**0.47**	**148**	⇓*i* P	Pn	03 15 13.4	+0.5
LMEL				*i* S	Sn	03 15 25.4	+1.5
ROCH	**El Roble**	**0.64**	**318**	⇑*i* P	Pn	03 15 14.9	+0.6
ROCH				*i* S	Sn	03 15 27.6	+1.3
CACH	**El Canelo**	**0.67**	**187**	⇓*i* P	Pn	03 15 15.6	+1.0
CACH				*i* S	Sn	03 15 28.4	+1.6
JACH	**Jahuel**	**0.77**	**354**	⇓*i* P	Pn	03 15 16.1	+0.5
JACH				*i* S	Sn	03 15 29.6	+1.0
CICH	**Cipreses**	**0.87**	**175**	⇑*i* P	Pn	03 15 17.4	+0.8
LCCH	**Las Cruces**	**0.89**	**268**	⇓*i* P	Pn	03 15 17.4	+0.5
LNV	**Longovilo**	**0.91**	**236**	⇑*i* P	Pn	03 15 16.9	-0.1
LNV				*e*S	Sn	03 15 31.3	+0.2
IHA	**Instituto Hidr**	**1.04**	**294**	⇑*i* P	Pn	03 15 19.1	+0.5
IHA				*e*S	Sn	03 15 34.4	+0.6
PACH	**Papudo**	**1.20**	**319**	⇑*i* P	Pn	03 15 20.4	0.0
PACH				*i* S	Sn	03 15 36.7	-0.5
SFDO	**San Fernando**	**1.23**	**200**	⇓*i* P	Pn	03 15 21.3	+0.5
SFDO				*e*S	Sn	03 15 38.2	+0.5
CHNG	**Los Chungos**	**1.78**	**332**	⇓*i* P	Pn	03 15 27.9	+0.4
CHNG				*i* S	Sn	03 15 50.1	+0.2
CHNG				AML	AML	03 15 51.1	
	comp=N,262nm,0.4s						
CHNG				AML	AML	03 15 54.0	
	comp=E,244nm,0.7s						
LCO	**Las Campanas**	**4.43**	**358**	*e*Pn	Pn	03 16 02.5	-0.6
LCO				*e*Sn	Sn	03 16 52.2	-1.3
TRQA	**Tornquist**	**8.31**	**126**	*e*Pn	Pn	03 16 56.0	+0.1

*ISCJB **20** 03:46:19.2±0.7, 5143N±004×1609E±003, h0km, Error ellipse: s-maj=6.2km s-min=2.7km az=12.0*
*WAR **20** 03:46:21.3, 5147N×1610E, ML2.5, Mining Induced*
*NEIC **20** 03:46:21.5±1.1, 5140N×1610E, h5km, MG2.5(WAR), Error ellipse: s-maj=13.2km s-min=5.3km az=196.0*
ISC 20 03:46:21.0±0.8, 5143N±004×1607E±003, h0km, n19, σ1s08/40, 1D, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.60**	**166**	*e*Pg	**Pg**	**03 46 32.9**	**+0.4**
KSP				*e*Sg	**Sg**	**03 46 41.5**	**+1.2**
KSP	**Ksiaz**	**0.60**	**166**	⇓*i* Pg	**Pg**	**03 46 33.0**	**+0.5**
KSP				*e*Sg	**Sg**	**03 46 41.3**	**+1.0**
UPC	**Upice**	**0.92**	**182**	*e*PG	**Pg**	**03 46 39.0**	**+0.3**
DPC	**Dobruska-Polom**	**1.09**	**172**	*e*PG	**Pg**	**03 46 41.8**	**-0.1**
DPC				*e*SG	**Sg**	**03 46 56.0**	**0.0**
	14nm,0.3s						
PVCC	**Panska Ves**	**1.31**	**227**	*e*PG	**Pg**	**03 46 46.1**	**0.0**
PVCC				*e*SG	**Sg**	**03 47 04.5**	**+1.5**
	80nm,0.2s						
BRG	**Berggiesshubel**	**1.45**	**248**	PG	**Pg**	**03 46 48.6**	**-0.2**
BRG				SG	**Sg**	**03 47 08.2**	**+0.6**
	41nm,0.4s						
PRU	**Pruhonice**	**1.74**	**215**	*e*PN	**Pn**	**03 46 52.5**	**+0.1**
PRU				*e*PG	**Pg**	**03 46 53.6**	**-0.7**
PRU				*e*SG	**Sg**	**03 47 16.8**	**0.0**
	21nm,0.5s						
MORC	**Moravsky Berou**	**1.90**	**150**	*e*Pn	**Pn**	**03 46 53.5**	**-1.1**
CLL	**Collm**	**1.93**	**268**	*e*Pn	**Pn**	**03 46 54.0**	**-1.0**
CLL				*e*Pg	**Pg**	**03 46 56.0**	**-1.9**
CLL				*ex*	x	03 46 59.0	
CLL				*e*Sg	**Sg**	**03 47 24.0**	**+1.1**
	comp=Z,10.0nm,0.4s						
CLL	**Collm**	**1.93**	**268**	*e*Pn	**Pn**	**03 46 54.0**	**-1.0**
CLL				*e*Pg	**Pg**	**03 46 56.0**	**-1.9**
CLL				*e*Sg	**Sg**	**03 47 24.0**	**+1.1**
OKC	**Ostrava-Krasne**	**2.07**	**139**	*e*SG	**Sg**	**03 47 25.6**	**-1.8**
NKC	**Novy Kostel**	**2.59**	**244**	*e*PN	**Pn**	**03 47 04.4**	**+0.3**
NKC				*e*PG	**Pg**	**03 47 09.9**	**-0.7**
NKC				*e*SG	**Sg**	**03 47 44.7**	**+0.5**
	comp=Z,16nm,0.3s						
OJC	**Ojcow**	**2.66**	**116**	*e*Pg	**Pg**	**03 47 12.1**	**+0.2**
OJC				*e*Sg	**Sg**	**03 47 47.4**	**+1.1**
KHC	**Kasperske Hory**	**2.80**	**216**	*e*PN	**Pn**	**03 47 07.2**	**+0.2**
KHC				*e*PG	**Pg**	**03 47 12.7**	**-1.9**
KHC				*e*SN	**Sn**	**03 47 41.0**	**-0.4**
KHC				*e*SG	**Sg**	**03 47 50.0**	**-0.9**
	comp=Z,4.7nm,0.5s						
MOX	**Moxa**	**2.92**	**256**	*e*PG	**Pg**	**03 47 17.8**	**+0.9**
MOX				*e*SG	**Sg**	**03 47 56.1**	**+1.4**
GEC2	**GERESS Array S**	**3.00**	**211**	Pn	**Pn**	**03 47 09.5**	**-0.3**
KOLL	**Kolacno**	**3.22**	**151**	*e*PG	**Pg**	**03 47 22.1**	**-0.7**
KOLL				*e*SG	**Sg**	**03 48 03.3**	**-1.2**
VYHS	**Vyhne**	**3.44**	**148**	*e*PG	**Pg**	**03 47 24.5**	**-2.3**
VYHS				*e*SG	**Sg**	**03 48 14.0**	**+2.7**
STHS	**Stebnicka Huta**	**3.87**	**119**	*e*PG	**Pg**	**03 47 36.4**	**+1.2**
STHS				*e*SG	**Sg**	**03 48 27.7**	**+2.4**

*IDC **20** 04:24:36.6±0.8, 2006N×12150E, h0km, mb3.9/9, mb1 4.1/11, mb1mx4.0/21, mbtmp4.0/11, ML3.9/2, MS3.4/5, Ms1 3.5/5, ms1mx2.9/31, Error ellipse: s-maj=26.8km s-min=15.8km az=75.0*
*ISCJB **20** 04:24:39.9±1.0, 2005N±004×1216E±0.1, h38km±11km, mb3.9/11, MS3.3/5, Error ellipse: s-maj=16.5km s-min=6.5km az=9.8*
*BJI **20** 04:24:39.1, 2000N×12150E, h41km, mB4.4, mb4.4, Ms3.6, Msz3.2*
*NEIC **20** 04:24:42.1±1.7, 2004N×12153E, h41km±18km, mb4.2/1, Error ellipse: s-maj=18.1km s-min=11.9km az=67.0*
ISC 20 04:24:41.8±0.9, 2005N±004×1215E±01, h38km±10km, n23, σ0s95/25, mb3.9/11, MS3.3/5, 2C, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PIP	**Pasuquin**	**1.91**	**206**	⇑*i* P	**Pn**	**04 25 11.4**	**-0.4**
PIP				*e*S	**Sn**	**04 25 34.3**	**-0.2**
CVP	**Callao Caves**	**2.35**	**173**	⇑*e*P	**Pn**	**04 25 25.6**	**+7.7**
CVP				*e*S	**Sn**	**04 25 29.6**	**-16**
NACB	**Ninganchiao**	**4.11**	**1**	*e*Pn	**Pn**	**04 25 43.1**	**+1.0**
NACB					**Sn**	**04 26 28.2**	**-0.7**
YHNB	**Yeheng**	**4.60**	**359**	Pn	**Pn**	**04 25 50.2**	**+1.3**
JOW	**Kunigami**	**9.18**	**41**	Pn	**Pn**	**04 26 50.8**	**-0.9**
	2.9nm,0.3s,baz=280,slow=11,SNR=3.6						
JOW				LR	LR	04 30 18.6	
	comp=Z,204nm,20.9s,baz=280,slow=37						
KSRS	**Korea Array**	**18.23**	**17**	P	**Pn**	**04 28 51.4**	**-0.3**
	0.3nm,0.3s,baz=197,slow=11,SNR=5.0						
BJI	**Beijing**	**20.45**	**348**	P	**P**	**04 29 15.3**	**-0.6**
BJI				S	**S**	**04 33 01.9**	**-0.8**
BJI				AMB	AMB		
	comp=Z,22nm,0.7s						
BJI				AMB	AMB		
	comp=Z,106nm,3.3s						
BJI				LR	LR		
	comp=N,120nm,20.2s,MS3.4						
BJI				LR	LR		
	comp=E,123nm,19.3s,MS3.4						
BJI				LR	LR		
	comp=Z,89nm,19.9s,MS3.1						
CMAR	**Chiang Mai Arr**	**21.36**	**270**	P	**P**	**04 29 25.1**	**-0.8**
	comp=Z,1.4nm,0.6s,mb3.5,baz=74,slow=9.8,SNR=5.4						
CMAR				LR	LR	04 37 46.2	
	comp=Z,87nm,19.4s,MS3.2,baz=85,slow=37						
LZH	**Lanzhou**	**22.26**	**320**	*e*P	**P**	**04 29 39.3**	**+3.9**
LZH				AP		04 29 45.3	
LZH				XP	sP	04 29 47.5	-2.6
LZH				AMB	AMB		
	comp=Z,16nm,1.2s,mb4.3						
LZH				AMB	AMB		
	comp=Z,81nm,4.7s						
KAPI	**Kappang**	**24.96**	**184**	LR	LR	04 39 13.4	
	comp=Z,68nm,21.3s,MS3.1,baz=120,slow=35						
SONM	**Songino Array**	**30.31**	**340**	P	**P**	**04 30 51.6**	**+2.2**
	comp=Z,0.5nm,0.5s,mb3.5,baz=158,slow=9.5,SNR=4.6						
SONM				LR	LR	04 44 05.6	
	comp=Z,74nm,20.2s,MS3.3,baz=152,slow=39						
MKAR	**Makanchi Array**	**41.58**	**319**	P	**P**	**04 32 26.6**	**+0.8**
	comp=Z,0.7nm,0.6s,mb3.5,baz=112,slow=9.5,SNR=2.6						
WRAB	**Tennant Creek**	**41.68**	**162**	*e*P	**P**	**04 32 26.5**	**-0.3**
	comp=Z,7.9nm,1.5s,mb4.1						
WRA	**Warramunga Arr**	**41.68**	**162**	P	**P**	**04 32 26.4**	**-0.5**
	comp=Z,2.2nm,0.6s,mb4.0,baz=343,slow=9.1,SNR=12						
WB2	**Warramunga Arr**	**41.69**	**162**	*e*P	**P**	**04 32 26.6**	**-0.3**
PETK	**Petropavlovsk-**	**43.17**	**31**	P	**P**	**04 32 38.7**	**0.0**
	comp=Z,2.5nm,0.7s,mb4.1,baz=231,slow=0.9,SNR=4.0						
PETK	**Petropavlovsk-**	**43.17**	**31**	P	**P**	**04 32 38.7**	**0.0**
ZALV	**Zalesovo Beam**	**43.91**	**329**	P	**P**	**04 32 43.5**	**-1.0**
	comp=Z,1.6nm,0.8s,mb3.8,baz=101,slow=7.5,SNR=4.1						
ASAR	**Alice Springs**	**45.10**	**164**	P	**P**	**04 32 54.9**	**+0.5**
	comp=Z,1.2nm,0.4s,mb4.1,baz=345,slow=7.1,SNR=22						
STKA	**Stephens Creek**	**55.10**	**159**	P	**P**	**04 34 12.0**	**+2.0**
	comp=Z,0.8nm,0.7s,mb3.9,baz=340,slow=15,SNR=2.7						
STKA	**Stephens Creek**	**55.10**	**159**	P	**P**	**04 34 12.0**	**+1.9**
NOA	**NORSAR Array B**	**82.01**	**333**	LR	LR	05 16 03.9	
	comp=Z,40nm,18.8s,MS3.8,baz=110,slow=38						
YKA	**Yellowknife Ar**	**86.65**	**23**	P	**P**	**04 37 20.1**	**-1.1**
	comp=Z,0.3nm,0.4s,mb3.9,baz=307,slow=4.4,SNR=4.9						

KRSC 20 05:14:31.3±1.8, 5319N×15700E, h315km±54km, ML3.6, Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GNL	**Ganaly**	**0.76**	**48**	P	Pn	05 15 13.7	+1.5
MIPR	**Malaya Ipel'ka**	**0.93**	**189**	P	Pn	05 15 13.6	+0.6
RUS	**Russkaya**	**1.19**	**129**	P	Pn	05 15 15.2	+1.0
RUS				S	S	05 15 47.2	-1.2
NLC	**Nalytchevo**	**1.41**	**90**	S	S	05 15 53.0	+2.5
SPN	**Mys Shipunski**	**1.82**	**92**	P	Pn	05 15 19.4	+1.4
SPN				S	S	05 15 54.4	-0.9
MKZ	**Mys Kozlova**	**3.12**	**62**	P	Pn	05 15 30.8	+1.7
MKZ				S	S	05 16 14.2	-1.2
KBTR	**Krutoberegovo**	**4.53**	**46**	P	Pn	05 15 45.7	+1.8
KBTR				S	S	05 16 40.1	-2.3

*BJI **20** 05:21:43.3, 402N×14144E, h10km, mB5.1, mb4.9, Ms4.7, Msz4.2*
*ISCJB **20** 05:21:47.2±1.5, 454N±004×14100E±005, h2km±9km, mb4.9/77, MS3.8/26, Error ellipse: s-maj=8.2km s-min=6.3km az=177.6*
*IDC **20** 05:21:48.7±0.5, 454N×14092E, h0km, mb4.7/20, mb1 4.8/21, mb1mx4.8/24, mbtmp4.7/21, ML4.6/1, MS3.6/19, Ms1 3.6/19, ms1mx3.4/27, Error ellipse: s-maj=20.0km s-min=10.9km az=86.0*
*NEIC **20** 05:21:49.9±0.2, 451N×14096E, h10km, mb5.1/38, Error ellipse: s-maj=6.4km s-min=4.6km az=89.0*
*MOS **20** 05:21:50.8±0.9, 460N×14098E, h26km, mb5.1/30, Error ellipse: s-maj=12.1km s-min=6.3km az=106.6*
*DJA **20** 05:21:58, 434N×14148E, h53km, mb4.9/11*
ISC 20 05:21:50.9±1.6, 451N±004×14101E±005, h15km±10km, h15km±1.5km: pP-P, n177, σ0s80/157, mb4.9/77, MS3.8/26, 6C-2D, Western Caroline Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**9.79**	**23**	Pn	**Pn**	**05 24 12.0**	**+0.7**
	4.9nm,0.3s,baz=189,slow=16,SNR=3.5						
GUMO	**Guam**	**9.79**	**23**	Pn	**Pn**	**05 24 12.0**	**+0.7**
DAV	**Davao City (W)**	**15.56**	**280**	LR	LR	05 30 19.2	
	comp=Z,137nm,21.8s,baz=127,slow=33						
KAKA	**Kakadu**	**19.11**	**206**	*e*P	**Pn**	**05 26 10.4**	**-4.0**
	122nm,0.8s						
BATI	**Baumata**	**22.64**	**230**	LR	LR	05 35 16.5	
	comp=Z,174nm,20.4s,MS3.5,baz=132,slow=36						
TSM	**Tawau**	**23.07**	**270**	⇓P	**P**	**05 26 56.4**	**+0.1**
KAPI	**Kappang**	**23.25**	**246**	P	**P**	**05 26 57.0**	**-1.1**
	3.8nm,0.3s,mb4.3,baz=93,slow=6.7,SNR=2.8						
KAPI				LR	LR	05 34 20.4	
	comp=Z,151nm,20.0s,MS3.5,baz=75,slow=32						
HNR	**Honiara**	**23.41**	**126**	LR	LR	05 35 09.2	
	comp=Z,427nm,20.4s,MS3.9,baz=325,slow=34						
HNR	**Honiara**	**23.41**	**126**	*e*P	**P**	**05 26 59.2**	**-0.6**
HNR				pmax	pmax		
	comp=Z,74nm,1.1s,mb5.0						
HNR	**Honiara**	**23.41**	**126**	*e*P	**P**	**05 26 59.2**	**-0.7**
	comp=Z,74nm,1.1s,mb5.0						
SDKM	**Sandakan**	**23.75**	**274**	⇑P	**P**	**05 27 10.8**	**+7.6**
KKM	**Kota Kinabalu**	**24.74**	**275**	⇓P	**P**	**05 27 19.2**	**+7.0**
KKM	**Kota Kinabalu**	**24.74**	**275**	*e*P	**P**	**05 27 12.4**	**+0.3**
CTA	**Charters Tower**	**24.98**	**168**	*e*P	**P**	**05 27 15.9**	**+1.7**
	comp=Z,27nm,0.8s,mb4.8						
CTA	**Charters Tower**	**24.98**	**168**	P	**P**	**05 27 15.5**	**+1.3**
	comp=Z,37nm,0.8s,mb4.9,baz=335,slow=12,SNR=20						
CTA				LR	LR	05 36 35.8	
	comp=Z,135nm,20.9s,MS3.4,baz=51,slow=35						
CTA	**Charters Tower**	**24.98**	**168**	*e*P	**P**	**05 27 15.9**	**+1.7**
CTA				pmax	pmax		
	comp=Z,27nm,0.8s						
CTAO	**Charters Tower**	**24.98**	**168**	*e*P	**P**	**05 27 15.9**	**+1.7**
CTAO				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb3.9						
CTAO	**Charters Tower**	**24.98**	**168**	*e*P	**P**	**05 27 15.9**	**+1.6**
	comp=Z,2.6nm,0.8s,mb3.8						
WRAB	**Tennant Creek**	**25.16**	**195**	P	**P**	**05 27 15.9**	**+0.1**
	comp=Z,161nm,0.6s,mb5.7,SNR=13						
WRAB	**Tennant Creek**	**25.16**	**195**	*e*P	**P**	**05 27 15.1**	**-0.7**
WRAB				pmax	pmax		
	comp=Z,28nm,1.1s,mb4.7						
WRAB	**Tennant Creek**	**25.16**	**195**	*e*P	**P**	**05 27 15.1**	**-0.8**
	comp=Z,28nm,1.1s,mb4.7						
WB2	**Warramunga Arr**	**25.17**	**195**	*e*P	**P**	**05 27 15.3**	**-0.6**
WRA	**Warramunga Arr**	**25.17**	**195**	P	**P**	**05 27 15.4**	**-0.6**
	comp=Z,15nm,0.7s,mb4.6,baz=17,slow=9.9,SNR=25						
JOW	**Kunigami**	**25.31**	**333**	LR	LR	05 34 44.1	
	comp=Z,188nm,20.0s,MS3.6,baz=60,slow=31						
FITZ	**Fitzroy Crossi**	**27.11**	**214**	*e*P	**P**	**05 27 32.8**	**-0.7**
	comp=Z,10nm,0.9s,mb4.4						
FITZ	**Fitzroy Crossi**	**27.11**	**214**	P	**P**	**05 27 32.4**	**-1.1**
	comp=Z,5.6nm,0.9s,mb4.1,baz=35,slow=12,SNR=9.0						
FITZ				LR	LR	05 38 20.4	
	comp=Z,61nm,21.5s,MS3.1,baz=210,slow=37						
YHNB	**Yeheng**	**27.54**	**319**	*e*P	**P**	**05 27 36.7**	**-0.6**
	comp=Z,93nm,0.9s,mb5.4						
JHJ	**Hachijo jima 2**	**28.48**	**358**	LR	LR	05 36 29.2	
	comp=Z,70nm,21.8s,MS3.2,baz=311,slow=31						
SBUM	**Sibu**	**28.81**	**267**	⇑P	**P**	**05 27 50.8**	**+1.9**
ASAR	**Alice Springs**	**28.85**	**194**	P	**P**	**05 27 49.3**	**+0.3**
	comp=Z,1.4nm,0.5s,mb4.0,baz=19,slow=11,SNR=41						
ASAR				PcP	PcP	05 30 59.2	+0.7
	comp=Z,2.0nm,1.0s,baz=352,slow=1.2,SNR=4.2						
KSM	**Kuching**	**30.80**	**265**	*e*P	**P**	**05 28 05.6**	**-0.9**
MJAR	**Matsushiro Arr**	**31.98**	**356**	P	**P**	**05 28 14.4**	**-2.2**
	comp=Z,5.5nm,1.0s,mb4.4,baz=189,slow=10,SNR=6.8						
MJAR				PcP	PcP	05 31 06.7	+0.2
	comp=Z,3.4nm,0.7s,baz=166,slow=2.8,SNR=6.0						
MJAR				LR	LR	05 39 44.5	
	comp=Z,54nm,18.8s,MS3.2,baz=165,slow=34						
MJAR	**Matsushiro Arr**	**31.98**	**356**	P	**P**	**05 28 14.4**	**-2.1**
MJAR						05 31 06.7	
MAJO	**Matsushiro**	**31.98**	**356**	*e*P	**P**	**05 28 15.7**	**-0.9**
MAJO				pmax	pmax		
	comp=Z,10.0nm,0.8s,mb4.7						
MAJO	**Matsushiro**	**31.98**	**356**	*e*P	**P**	**05 28 15.7**	**-0.9**
	comp=Z,10.0nm,0.8s,mb4.7						
NJ2	**Nanjing**	**34.38**	**325**	*e*P	**P**	**05 28 38.8**	**+1.2**
NJ2				AMB	AMB		
	comp=Z,120nm,0.8s,mb5.9						
KSRS	**Korea Array**	**34.91**	**342**	P	**P**	**05 28 41.8**	**-0.3**
	comp=Z,9.2nm,0.8s,mb4.8,baz=160,slow=9.9,SNR=16						
KSRS				PcP	PcP	05 31 15.2	+0.4
	comp=Z,3.2nm,0.9s,baz=108,slow=4.1,SNR=4.3						
KSRS				LR	LR	05 41 10.2	
	comp=Z,76nm,18.5s,MS3.5,baz=17,slow=33						
WHN	**Wuhan**	**36.08**	**319**	⇑P	**P**	**05 28 53.6**	**+1.3**
WHN				S	**S**	**05 34 35.8**	**+4.5**
WHN				LR	LR		
	comp=Z,398nm,15.8s,MS4.3						
ARMA	**Armidale**	**36.19**	**164**	*e*P	**P**	**05 28 53.4**	**+0.2**
STKA	**Stephens Creek**	**36

comp=Z,13nm,0.4s
BJT Baijiatuau 41.85 331 *e*P **P** **05 29 40.6 +0.1**
comp=Z,13nm,0.4s,mb4.9
BJI Beijing 41.87 331 P **P** **05 29 40.5 -0.1**
BJI S **S** **05 35 56.5 -1.7**
BJI AMB AMB
comp=Z,16nm,1.1s,mb4.6
BJI AMB AMB
comp=Z,135nm,3.8s
BJI LR LR
comp=N,125nm,23.9s,MS3.9
BJI LR LR
comp=E,131nm,19.9s,MS3.9
BJI LR LR
comp=Z,110nm,25.8s
KMI Kunming 42.05 303 P **P** **05 29 44.4 +2.0**
KMI AP pP 05 29 46.8 -0.1
KMI PP PP 05 31 24.3 +4.4
KMI S **S** **05 36 02.8 +1.4**
KMI SS SS 05 39 03.9 -5.0
KMI AMB AMB
comp=Z,8.0nm,0.5s,mb4.6
KMI AMB AMB
comp=Z,71nm,3.6s
KMI LR LR
comp=N,187nm,10.5s,MS4.3
KMI LR LR
comp=E,149nm,10.5s,MS4.3
KMI LR LR
comp=Z,141nm,18.7s
TOO Toolangi 42.08 175 *e*P **P** **05 29 43.6 +1.3**
CMAR Chiang Mai Arr 43.36 292 P **P** **05 29 53.4 +0.3**
comp=Z,6.3nm,0.9s,mb4.4,baz=115,slow=6.2,SNR=33
CMAR PcP PcP 05 31 41.8 0.0
comp=Z,1.4nm,0.7s,baz=105,slow=1.9,SNR=4.7
CMAR LR LR 05 49 09.8
comp=Z,45nm,18.5s,MS3.4,baz=136,slow=38
CMAR Chiang Mai Arr 43.36 292 P **P** **05 29 53.4 +0.3**
CMAR 05 31 41.8
CHTO Chiang Mai 43.44 293 *e*P **P** **05 29 53.3 -0.4**
NWAO Narrogin (SRO) 43.53 209 P **P** **05 29 54.3 +0.1**
NWAO pmax pmax
comp=Z,26nm,1.4s
NWAO Narrogin (SRO) 43.53 209 P **P** **05 29 54.3 +0.1**
comp=Z,26nm,1.4s,mb4.8
CD2 Chengdu 43.78 311 P **P** **05 29 56.6 +0.3**
CD2 AP pP 05 30 01.3 +0.4
CD2 XP sP 05 30 03.8 +1.2
CD2 PP PP 05 31 40.3 +2.0
CD2 PCS PcS 05 35 35.1 -0.8
CD2 S **S** **05 36 25.5 -1.1**
CD2 SCS ScS 05 39 52.8 -2.9
CD2 AMB AMB
comp=Z,30nm,0.9s,mb5.0
CD2 AMB AMB
comp=Z,80nm,5.2s
CD2 LR LR
comp=N,230nm,13.2s,MS4.4
CD2 LR LR
comp=E,190nm,10.8s,MS4.4
CD2 LR LR
comp=Z,150nm,16.8s
HABR Khabarovsk 44.09 354 *e*P **P** **05 29 57.1 -1.4**
HABR *e*S **S** **05 36 28.2 -2.4**
HABR *e* 05 36 44.6
HABR *e* 05 39 48.4
HHC Hu-ho-hao-te 44.80 328 *e*P **P** **05 30 05.1 +0.8**
HHC AP pP 05 30 09.8 +0.9
HHC XP sP 05 30 11.6 +0.9
HHC PP PP 05 31 52.3 +3.2
HHC S **S** **05 36 43.0 +1.8**
HHC XS sS 05 36 50.9 +2.2
HHC SS SS 05 39 55.6 -6.7
HHC AMB AMB
comp=Z,20nm,1.0s,mb4.9
HHC AMB AMB
comp=Z,96nm,6.3s
HHC LR LR
comp=N,167nm,13.1s,MS4.3
HHC LR LR
comp=E,209nm,17.0s,MS4.3
HHC LR LR
comp=Z,166nm,17.4s,MS4.0
LZH Lanzhou 46.42 318 *e*P **P** **05 30 17.5 +0.3**
LZH AP pP 05 30 22.3 +0.5
LZH XP sP 05 30 24.6 +1.0
LZH *e*PP PP 05 32 07.3 +1.0
LZH *e*S **S** **05 37 05.6 +0.9**
LZH AMB AMB
comp=Z,29nm,1.4s,mb5.0
LZH AMB AMB
comp=Z,128nm,6.1s
LZH LR LR
comp=N,903nm,14.9s
LZH LR LR
comp=Z,1μm,18.1s,MS4.8
HIA Hailar 48.12 341 *e*P **P** **05 30 30.0 -0.2**
HIA *e* 05 31 58.4
HIA pmax pmax
comp=Z,14nm,0.7s
HIA Hailar 48.12 341 *e*P **P** **05 30 30.0 -0.2**
comp=Z,14nm,0.7s,mb5.1
HIA *e*PcP PcP 05 31 58.4 +0.7
PETK Petropavlovsk- 50.35 13 P **P** **05 30 47.0 -0.2**
comp=Z,8.2nm,0.9s,mb4.8,baz=186,slow=5.8,SNR=11
PETK LR LR 05 53 38.4
comp=Z,36nm,18.1s,MS3.4,baz=201,slow=38
PET Petropavlovsk 50.49 14 *e*P **P** **05 30 48.5 +0.2**
PET pmax pmax
comp=Z,30nm,1.1s,mb5.2
GTA Gaotai 50.91 319 *e*P **P** **05 30 52.3 +0.6**
GTA AP pP 05 30 55.5 -0.8
GTA XP sP 05 30 59.1 +1.0
GTA S **S** **05 38 06.9 -1.0**
GTA SS SS 05 41 39.3 -3.6
GTA AMB AMB
comp=Z,15nm,1.0s,mb4.9
GTA AMB AMB
comp=Z,92nm,3.9s
GTA LR LR
comp=N,82nm,11.1s
GTA LR LR
comp=E,224nm,16.2s
SONM Songino Array 52.37 331 P **P** **05 31 03.1 +0.6**
comp=E,4.5nm,0.9s,mb4.4,baz=144,slow=6.6,SNR=24
SONM LR LR 05 52 34.8
comp=E,83nm,18.4s,MS3.8,baz=92,slow=35
LSA Lhasa 53.30 304 *e*P **P** **05 31 10.3 +0.7**
LSA pmax pmax
comp=Z,12nm,0.9s,mb4.8
LSA Lhasa 53.30 304 *e*P **P** **05 31 10.3 +0.7**
comp=Z,12nm,0.9s,mb4.8
CLNS Chul'man 53.72 349 *e*P **P** **05 31 09.7 -2.6**
CLNS pmax pmax
comp=Z,14nm,0.9s,mb4.9
CLNS pmax pmax
comp=N,12nm,0.8s
CLNS pmax pmax
comp=E,4.0nm,0.6s
TAPN Taplejung 55.55 300 *e*P **P** **05 31 26.3 +0.2**
comp=E,14nm,0.8s,mb5.0
ZAK Zakamensk 55.61 332⇑ *i*P **P** **05 31 26.6 +0.5**
ZAK pmax pmax
comp=Z,15nm,1.1s,mb4.9
ODAN Odare 55.71 299 *e*P **P** **05 31 27.3 0.0**
comp=Z,36nm,0.9s,mb5.4
TLY Talaya 56.33 333 *e*P **P** **05 31 31.4 +0.2**
TLY pmax pmax
comp=Z,13nm,1.0s,mb4.9
RAMN Ramite 56.42 299 *e*P **P** **05 31 32.2 -0.1**
comp=Z,36nm,1.1s,mb5.3
IRK Irkutsk 56.44 334 *e*P **P** **05 31 32.4 +0.4**
IRK pmax pmax
comp=Z,29nm,2.0s,mb5.0
BOD Bodaibo 57.22 343 *e*P **P** **05 31 37.4 0.0**
GUN Gumba 57.26 300 *e*P **P** **05 31 38.5 +0.2**
comp=Z,74nm,0.8s,mb5.8
PKI Pulchoki 57.59 300 *e*P **P** **05 31 40.3 -0.3**
KKN Kakani 57.75 300 *e*P **P** **05 31 41.6 -0.2**
comp=Z,33nm,0.8s,mb5.4
KKN Kakani 57.75 300 *e*P **P** **05 31 41.6 -0.2**
KKN pmax pmax
comp=Z,33nm,0.8s,mb5.4
DMN Daman 57.86 300 *e*P **P** **05 31 42.4 -0.1**
comp=Z,35nm,0.8s,mb5.5
YAK Yakutsk 58.01 354 *e*P **P** **05 31 42.6 -0.3**
YAK pmax pmax
comp=Z,20nm,0.8s,mb5.2
GKN Gorkha 58.35 300 *e*P **P** **05 31 45.7 -0.3**
comp=Z,53nm,1.1s,mb5.5
SEY Seymchan 58.89 6 *e*P **P** **05 31 49.5 +0.4**
DANN Dangsing 59.19 300 *e*P **P** **05 31 51.7 -0.1**
comp=Z,40nm,0.8s,mb5.5
KOLN Koldanda 59.20 300 *e*P **P** **05 31 51.3 -0.6**
comp=Z,20nm,0.8s,mb5.2
WMQ Urumqi 60.99 318 P **P** **05 32 04.0 +0.2**
WMQ AP pP 05 32 08.5 0.0
WMQ XP sP 05 32 11.0 +0.7
WMQ PCP PcP 05 32 47.0 -0.1
WMQ PP PP 05 34 20.4 +2.2
WMQ AMB AMB
comp=Z,18nm,0.7s,mb5.3
WMQ AMB AMB
comp=Z,64nm,4.2s
WMQ LR LR
comp=N,132nm,21.5s,MS4.1
WMQ LR LR
comp=E,82nm,21.5s,MS4.1
WMQ LR LR
comp=Z,134nm,20.0s,MS4.1
HYB Hyderabad 62.40 287 *i*P **P** **05 32 14.0 +0.2**
HYB Hyderabad 62.40 287 *e*P **P** **05 32 14.0 +0.2**
RAR Rarotonga 63.39 116 *e*P **P** **05 32 19.5 -0.8**
MK31 Makanchi Array 65.64 320 *i*P **P** **05 32 34.4 -0.2**
MK31 pmax pmax
comp=Z,8.0nm,0.8s,mb4.8
MK31 Makanchi Array 65.64 320 *e*P **P** **05 32 34.7 +0.1**
MKAR Makanchi Array 65.64 320 P **P** **05 32 34.5 -0.1**
comp=Z,7.3nm,0.8s,mb4.8,baz=98,slow=8.7,SNR=41
MKAR LR LR 05 59 55.6
comp=Z,37nm,20.1s,MS3.6,baz=169,slow=35
MKAR Makanchi Array 65.64 320 *i*P **P** **05 32 34.9 +0.3**
MKAR pmax pmax
comp=Z,7.0nm,0.8s
BILL Bilibino 65.70 10 *e*P **P** **05 32 34.8 +0.2**
BILL *e* 05 35 01.5
BILL pmax pmax
comp=Z,24nm,1.6s,mb5.0
ZAA0 Zalesovo Array 66.99 328 *e*P **P** **05 32 42.4 -0.7**
ZALV Zalesovo Beam 66.99 328 P **P** **05 32 42.4 -0.7**
comp=Z,4.8nm,0.7s,mb4.7,baz=107,slow=6.5,SNR=19
ZALV LR LR 06 00 28.8
comp=Z,40nm,19.5s,MS3.6,baz=251,slow=35
TIXI Tiksi 67.49 356 *e*P **P** **05 32 44.6 -1.4**
TIXI pmax pmax
comp=Z,2.0nm,1.0s,mb4.1
TIXI Tiksi 67.49 356 *e*P **P** **05 32 45.0 -0.9**
NVS Novosibirsk 68.21 328 *i*P **P** **05 32 50.4 -0.4**
NVS pmax pmax
comp=N,5.0nm,0.8s
NVS pmax pmax
comp=E,15nm,1.1s
SDPT Sand Point 68.80 31 *e*P **P** **05 32 54.1 -0.4**
TKM2 Tokmak 2 69.04 314 *e*P **P** **05 32 57.0 +0.8**
TKM2 pmax pmax
comp=Z,6.0nm,0.8s,mb4.6
TKM2 Tokmak 2 69.04 314 P **P** **05 32 57.2 +1.0**
SNR=5.9
TKM2 Tokmak 2 69.04 314 *e*P **P** **05 32 57.0 +0.8**
comp=Z,5.7nm,0.8s,mb4.5
KURK Kurchatov 69.27 323 P **P** **05 32 57.2 -0.2**
comp=Z,5.2nm,0.5s,mb4.7,baz=112,slow=5.4,SNR=23
KURK LR LR 06 01 22.3
comp=Z,29nm,20.9s,MS3.5,baz=75,slow=34
KURK Kurchatov 69.27 323*c i*P **P** **05 32 57.3 -0.2**
KURK pmax pmax
comp=Z,40nm,1.3s,mb5.2
KURK Kurchatov 69.27 323 *e*P **P** **05 32 57.0 -0.5**
comp=Z,46nm,1.3s,mb5.2
UCH Uchtor 69.66 313 P **P** **05 33 01.7 +1.6**
SNR=6.6
UCH Uchtor 69.66 313 *e*P **P** **05 33 01.4 +1.3**
comp=Z,18nm,1.0s,mb5.0
CHMS Chumysh 69.66 314 P **P** **05 33 00.4 +0.3**
SNR=5.1
USP Ospenovka 69.90 314 P **P** **05 33 02.0 +0.4**
SNR=8.4
EKS2 Erkin-Say 70.28 314 P **P** **05 33 04.5 +0.5**
SNR=5.2
EKS2 Erkin-Say 70.28 314 *e*P **P** **05 33 04.3 +0.4**
comp=Z,8.0nm,1.1s,mb4.6
PPT Papeete 71.88 110 *e*LR LR 05 55 04.2
comp=Z,99nm,23.5s
PPT Papeete 71.88 110 LR LR 05 59 13.8
comp=Z,48nm,18.9s,MS3.8,baz=287,slow=31
KK31 Karatay Array 72.72 314 *i*P **P** **05 33 18.2 -0.5**
KK31 pmax pmax
comp=Z,5.0nm,0.9s,mb4.4
TBI Tubuai 73.16 116 *e*LR LR 05 55 41.5
comp=Z,170nm,27.2s
OHAK Old Harbor 73.22 31 *e*P **P** **05 33 22.0 +0.8**
SVW2 Sparrevohn 73.43 27 *e*P **P** **05 33 23.5 +1.0**
CASY Casey 73.97 192 *e*P **P** **05 33 25.3 -0.2**
VOSK Vostochnaya 74.39 324 P **P** **05 33 28.2 0.0**
VOSK pmax pmax
comp=Z,11nm,1.1s,mb4.7
BVA0 Borovoye Array 74.81 324 *i*P **P** **05 33 30.2 -0.4**
BVA0 pmax pmax
comp=Z,5.0nm,1.1s,mb4.4
BVAR Borovoye Array 74.81 324 P **P** **05 33 30.5 -0.1**
comp=Z,18nm,1.1s,mb4.9,baz=109,slow=6.8,SNR=35
BRVK Borovoye 74.88 324 *e*P **P** **05 33 31.4 +0.4**
BRVK pmax pmax
comp=Z,24nm,1.0s,mb5.1
BRVK Borovoye 74.88 324 *e*P **P** **05 33 31.4 +0.3**
comp=Z,24nm,1.0s,mb5.1
CHUM Lake Minchumin 75.83 25 *e*P **P** **05 33 37.3 +0.9**
comp=Z,28nm,1.0s,mb5.2
CHUM *e*PcP PcP 05 33 49.1 +0.3
IMA2 Indian Mountai 76.04 22 *e*P **P** **05 33 38.0 +0.6**
RC01 Rabbit Creek A 76.12 28 *e*P **P** **05 33 37.8 -0.3**
comp=Z,13nm,0.7s,mb5.0
KTH Kantishna Hill 76.31 25 *e*P **P** **05 33 39.0 -0.1**
comp=Z,25nm,1.0s,mb5.1
BPAW Bear Paw Mtn. 76.45 25 *e*P **P** **05 33 39.9 0.0**
comp=Z,13nm,1.1s,mb4.8
PMR Palmer 76.54 27 *e*P **P** **05 33 40.0 -0.4**
PMR pmax pmax
comp=Z,14nm,0.8s,mb4.9
PMR Palmer 76.54 27 *e*P **P** **05 33 40.0 -0.4**
comp=Z,14nm,0.8s,mb5.0
TRF Thorofare Moun 76.55 25 *e*P **P** **05 33 39.9 -0.5**
comp=Z,24nm,1.5s,mb4.9
MCK McKinley 77.21 25 *e*P **P** **05 33 44.0 -0.2**
COLD Coldfoot 77.74 22 *e*P **P** **05 33 48.0 +1.0**
comp=Z,18nm,1.0s,mb5.0
AB31 Akbulak array 80.77 319 *i*P **P** **05 34 03.3 -0.6**
AB31 pmax pmax
comp=Z,4.0nm,0.6s,mb4.5
SVE Sverdlovsk 80.97 327 *e*P **P** **05 34 04.8 -0.1**
SVE pmax pmax
comp=Z,12nm,1.3s,mb4.7
HYT Haines Junctio 81.92 29 *e*P **P** **05 34 10.2 +0.4**
AKTK Aktyubinsk 82.08 320 P **P** **05 34 10.8 0.0**
AKTO Aktyubinsk 82.08 320 P **P** **05 34 10.8 0.0**
comp=Z,2.9nm,0.7s,mb4.3,baz=92,slow=5.7,SNR=12
AKTO Aktyubinsk 82.08 320 *i*P **P** **05 34 10.2 -0.7**
AKTO pmax pmax
comp=Z,1.0nm,1.0s
ARU Arti 82.08 326 *e*P **P** **05 34 10.1 -0.7**
ARU pmax pmax
comp=Z,18nm,1.1s,mb4.9
ARU Arti 82.08 326 *e*P **P** **05 34 10.0 -0.8**
comp=Z,21nm,1.1s,mb5.0
SKAG Skagway 82.91 31 *e*P **P** **05 34 15.8 +0.8**
SBA Scott Base 83.46 175 *e*P **P** **05 34 17.9 +0.4**
SBA pmax pmax
comp=Z,6.0nm,1.2s,mb4.5
SBA Scott Base 83.46 175 *e*P **P** **05 34 17.9 +0.4**
comp=Z,5.7nm,1.2s,mb4.5
INK Inuvik 84.16 22 *e*P **P** **05 34 21.0 -0.2**
RKT Rikitea 86.26 113 *e*LR LR 06 01 41.0
comp=Z,130nm,24.8s
MAW Mawson 89.64 202 *e*P **P** **05 34 48.1 +0.2**
comp=Z,6.5nm,1.0s,mb4.9
MAW Mawson 89.64 202 P **P** **05 34 47.7 -0.2**
comp=Z,8.2nm,1.0s,mb5.0,baz=66,slow=6.5,SNR=12
MAW Mawson 89.64 202 *e*P **P** **05 34 48.1 +0.2**
MAW pmax pmax
comp=Z,7.0nm,1.0s
YKA Yellowknife Ar 92.62 27 P **P** **05 35 01.7 -0.3**
comp=Z,1.7nm,1.0s,mb4.4,baz=280,slow=3.7,SNR=3.4
ARCES ARCESS Array B 94.46 341 LR LR 06 22 36.5
comp=Z,57nm,18.3s,MS4.1,baz=68,slow=39
PTRM Twissleman Ran 94.50 54 *e*P **P** **05 35 12.2 +1.0**
SOC Sochi 95.06 314 *e*P **P** **05 35 10.6 -3.0**
SOC *e* 05 38 57.4
SOC *e*S SKSac 05 45 43.2 -5.9
SOC *e*SS SS 05 52 46.4 -7.0
SOC *e*SSS 05 56 32.2
SOC pmax pmax
comp=Z,36nm,0.9s,mb5.8
NVAR Mina Array Bea 95.56 51 P **P** **05 35 17.3 +1.4**
comp=Z,3.3nm,0.7s,mb4.9,baz=272,slow=5.4,SNR=21
CLL Collm 108.94 328 *e*PP PP 05 40 43.0 -3.7
PLCA Paso Flores 134.13 146 PKP PKPdf 05 41 08.7 +0.3
comp=Z,2.5nm,0.9s,baz=277,slow=6.1,SNR=3.3
PLCA Paso Flores 134.13 146 PKP PKPdf 05 41 08.7 +0.3
TOA0 Torodi Ar. Sit 135.95 294 *e*PKPdf PKPdf 05 41 12.6 +0.1
TORD Torodi Ar. Bea 135.95 294 PKP PKPdf 05 41 12.4 -0.1
comp=Z,2.2nm,0.9s,baz=42,slow=1.5,SNR=16
ROSC El Rosal 143.49 76 PKP PKPdf 05 41 24.8 -1.4
comp=Z,24nm,0.7s,baz=99,slow=1.9,SNR=24
ROSC El Rosal 143.49 76 *e*PKPdf PKPdf 05 41 24.7 -1.6
KIC Kosan Boka 144.14 287 *e*PKP1 PKPdf 05 41 24.8 -2.6
comp=Z,88nm,1.2s
DBIC Dimbokro 144.16 288 PKP PKPdf 05 41 24.9 -2.6
comp=Z,9.6nm,0.8s,baz=70,slow=5.2,SNR=10
TIC Toumodi 144.32 288 *e*PKP1 PKPdf 05 41 25.4 -2.3
comp=Z,123nm,1.4s
LIC Lamto 144.45 287 *e*PKP1 PKPdf 05 41 25.5 -2.5
comp=Z,88nm,1.7s
SJG San Juan 145.03 49 *e*PKIKP PKPdf 05 41 28.3 -0.5
MTP Monte Pirata 145.49 49 *e*PKPbc PKPbc 05 41 27.2 -2.4
SDV Santo Domingo 145.76 67 *e*PKPbc PKPbc 05 41 30.9 +0.3
LVC Limon Verde 145.93 125 PKPbc PKPbc 05 41 31.1 +0.2
comp=Z,7.4nm,0.7s,baz=240,slow=5.8,SNR=4.9
ARE Arequipa 145.97 113 *e*PKP2 PKPab 05 41 32.0 +0.3
LPAZ La Paz 149.10 114 PKP PKPdf 05 41 36.8 +1.2
comp=Z,7.7nm,0.9s,baz=251,slow=0.4,SNR=11
LPAZ PKPbc PKPbc 05 41 41.3 +1.5
comp=Z,5.8nm,0.7s,baz=252,slow=4.3,SNR=25
LPAZ La Paz 149.10 114 *e*PKPdf PKPdf 05 41 36.6 +0.9
LPAZ *e*PKPbc PKPbc 05 41 41.2 +1.5
SIV San Ignacio 155.49 119 PKPbc PKPdf 05 41 54.2 +9.1
comp=Z,1.4nm,0.8s,baz=249,slow=3.2,SNR=8.6
SIV PKPab PKPab 05 42 11.3 +0.5
comp=Z,2.8nm,0.9s,baz=236,slow=5.5,SNR=9.4

NNC 20 05:32:33.6±1.4, 4988N×8802E, h0km, mb3.8, mpv3.4, 7C-1D, Error ellipse: s-maj=10.5km s-min=7.2km az=72.0, Tuva-Buryatia-Mongolia border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MK31	**Makanchi Array**	**4.92**	**233**	Pn	Pn	05 33 49.3	+0.6
	1.4nm,0.4s,baz=48,slow=12,SNR=47						
MK31				⇓Sn	Sn	05 34 47.2	+1.0
	4.7nm,0.5s,baz=67,slow=26,SNR=4.5						
MK31				⇑Lg		05 35 09.2	
	5.4nm,0.5s,baz=48,slow=34,SNR=5.7						
KURK	**Kurchatov**	**6.08**	**281**	⇑Pn	Pn	05 34 04.1	-0.5
	5.6nm,0.7s						
KURK				⇑Sn	Sn	05 35 16.0	+1.1
	2.9nm,0.3s						
KURK				⇑Lg		05 35 46.3	
	26nm,0.6s						
KURBB	**Kurchatov Arra**	**6.13**	**281**	⇑Pn	Pn	05 34 05.0	-0.4
	1.3nm,0.5s,baz=94,slow=15						
KURBB				⇑Sn	Sn	05 35 18.3	+2.2
	3.0nm,0.5s,baz=89,slow=23						
KURBB				⇑Lg		05 35 49.4	
	5.2nm,0.7s,baz=87,slow=30						

*NEIC **20** 05:34:52.5, 3664N×1107W, h0km, MG3.9(MDD), After MDD.*
*MDD **20** 05:34:53.3±1.6, 3664N×1103W, h0km, mbLg2.5/21, Error ellipse: s-maj=14.2km s-min=12.2km az=42.0, PRIMO*
*INMG **20** 05:34:54.5±0.8, 3659N×1107W, h10km, ML2.1, Error ellipse: s-maj=5.0km s-min=4.0km az=67.0*
*CSEM **20** 05:34:54.5±0.3, 3660N×1108W, h10km, ML3.1/6, Error ellipse: s-maj=7.6km s-min=5.1km az=15.0*

ISC 20 05:34:54.5±1.0, 3674N±005×1095W±006, h10km, n47, σ0s86/87, 1C, Azores-Cape St. Vincent Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PFVI	**Vila Bisbo**	**1.75**	**76**	*i* Pn	**Pn**	**05 35 24.6**	**-0.3**
PFVI				*e*Sn	**Sn**	**05 35 47.3**	**+0.1**
PFVI				A		05 35 48.4	
	6.2nm,0.1s						
PFVI	**Vila Bisbo**	**1.75**	**76**	⇑P	**Pn**	**05 35 24.6**	**-0.3**
PFVI				S	**Sn**	**05 35 47.3**	**+0.1**
	3.1nm,0.1s						
MORF	**Marmelete**	**1.93**	**72**	*e*Pn	**Pn**	**05 35 27.4**	**+0.1**
MORF				*e*Sn	**Sn**	**05 35 52.5**	**+0.9**
MORF				A		05 35 53.7	
	7.9nm,0.2s						
MORF	**Marmelete**	**1.93**	**72**	*e*Pn	**Pn**	**05 35 27.4**	**+0.1**
MORF				*e*Sn	**Sn**	**05 35 52.5**	**+0.9**
	7.9nm,0.2s						
PTEO	**Sao Teotonio**	**1.95**	**65**	*e*Pn	**Pn**	**05 35 27.9**	**+0.2**
PTEO				*e*Sn	**Sn**	**05 35 53.2**	**+1.0**
PTEO				A		05 36 02.4	
	26nm,0.6s						
PTEO	**Sao Teotonio**	**1.95**	**65**	*e*Pn	**Pn**	**05 35 27.9**	**+0.2**
PTEO				*e*Sn	**Sn**	**05 35 53.2**	**+1.0**
	26nm,0.6s						
PBDV	**Barranco-do-Ve**	**2.47**	**77**	*e*Pn	**Pn**	**05 35 34.9**	**+0.1**
PBDV				*e*Sn	**Sn**	**05 36 05.0**	**0.0**
PBDV				A		05 36 10.4	
	2.4nm,0.1s						
PBDV	**Barranco-do-Ve**	**2.47**	**77**	*e*Pn	**Pn**	**05 35 34.9**	**+0.1**
PBDV				*e*Sn	**Sn**	**05 36 05.0**	**0.0**
	2.4nm,0.1s						
PMAFR	**Mafra**	**2.57**	**30**	*e*Pn	**Pn**	**05 35 36.6**	**+0.4**
PMAFR				*e*Sn	**Sn**	**05 36 08.9**	**+1.3**
PMAFR				A		05 36 09.9	
	10nm,0.3s						
PMAFR	**Mafra**	**2.57**	**30**	*e*Pn	**Pn**	**05 35 36.6**	**+0.4**
PMAFR				*e*Sn	**Sn**	**05 36 08.9**	**+1.3**
	10nm,0.3s						
PVAQ	**Vaqueiros**	**2.67**	**75**	*e*Pn	**Pn**	**05 35 37.6**	**0.0**
PVAQ				*e*Sn	**Sn**	**05 36 09.9**	**-0.1**
PVAQ				A		05 36 11.3	
	2.8nm,0.2s						
PVAQ	**Vaqueiros**	**2.67**	**75**	*e*Pn	**Pn**	**05 35 37.6**	**0.0**
PVAQ				*e*Sn	**Sn**	**05 36 09.9**	**-0.1**
	2.8nm,0.2s						
MOE	**Montemor**	**2.73**	**49**	*e*Pn	**Pn**	**05 35 39.1**	**+0.8**
MOE				*e*Sn	**Sn**	**05 36 12.4**	**+1.1**
PBEJ	**Beja**	**2.77**	**62**	*e*Pn	**Pn**	**05 35 38.8**	**-0.2**
PBEJ				*e*Sn	**Sn**	**05 36 13.5**	**+1.0**
PBEJ				A		05 36 18.0	
	1.7nm,0.1s						
PBEJ	**Beja**	**2.77**	**62**	*e*Pn	**Pn**	**05 35 38.8**	**-0.2**
PBEJ				*e*Sn	**Sn**	**05 36 13.5**	**+1.0**
	1.7nm,0.1s						
EGRO	**El Granado**	**2.88**	**73**	P	**Pn**	**05 35 40.6**	**+0.2**
	1.1nm,0.1s,SNR=4.6						
EGRO				S	**Sn**	**05 36 15.6**	**+0.4**
	1.9nm,0.1s						
EGRO	**El Granado**	**2.88**	**73**	P	**Pn**	**05 35 40.6**	**+0.1**
	1.1nm,0.1s,SNR=4.6						
EGRO				S	**Sn**	**05 36 15.6**	**+0.4**
	1.9nm,0.1s						
EVO	**Evora**	**2.94**	**52**	*e*Pn	**Pn**	**05 35 41.7**	**+0.5**
EVO				*e*Sn	**Sn**	**05 36 17.5**	**+0.9**
EVO				A		05 36 21.1	
	4.4nm,0.1s						
EVO	**Evora**	**2.94**	**52**	*e*Pn	**Pn**	**05 35 41.7**	**+0.5**
EVO				*e*Sn	**Sn**	**05 36 17.5**	**+0.9**
	4.4nm,0.1s						
PESTR	**Estremoz**	**3.40**	**50**	*e*Pn	**Pn**	**05 35 48.3**	**+0.7**
PESTR				*e*Sn	**Sn**	**05 36 29.0**	**+0.9**
PBAR	**Barrancos**	**3.43**	**64**	*e*Pn	**Pn**	**05 35 48.4**	**+0.5**
PBAR				*e*Sn	**Sn**	**05 36 29.1**	**+0.5**
PBAR				A		05 36 34.0	
	26nm,0.1s						
PBAR	**Barrancos**	**3.43**	**64**	*e*Pn	**Pn**	**05 35 48.4**	**+0.5**
PBAR				*e*Sn	**Sn**	**05 36 29.1**	**+0.5**
	26nm,0.1s						
PTOM	**Tomar**	**3.50**	**34**	*e*Sn	**Sn**	**05 36 31.6**	**+1.2**

PTOM				A			05 36 33.7		
	2.5nm,0.1s								
PTOM	**Tomar**	**3.50**	**34**	*e*Sn	**Sn**		**05 36 31.6**	**+1.2**	
	2.5nm,0.1s								
EMIN	**Mina Concepcio**	**3.56**	**72**	P	**Pn**		**05 35 49.9**	**+0.1**	
	0.8nm,0.1s,SNR=13								
EMIN				S	**Sn**		**05 36 31.5**	**-0.5**	
	1.5nm,0.1s,SNR=7.9								
EMIN	**Mina Concepcio**	**3.56**	**72**	P	**Pn**		**05 35 49.9**	**+0.1**	
	0.8nm,0.1s,SNR=13								
EMIN				S	**Sn**		**05 36 31.5**	**-0.5**	
	1.5nm,0.1s,SNR=7.9								
EBAD	**Badajoz**	**3.71**	**56**	P	**Pn**		**05 35 52.2**	**+0.3**	
	1.1nm,0.1s,SNR=9.5								
EBAD				S	**Sn**		**05 36 35.4**	**-0.3**	
	2.4nm,0.1s,SNR=7.9								
EBAD	**Badajoz**	**3.71**	**56**	P	**Pn**		**05 35 52.2**	**+0.3**	
	1.1nm,0.1s,SNR=9.5								
EBAD				S	**Sn**		**05 36 35.4**	**-0.3**	
	2.4nm,0.1s,SNR=7.9								
PMRV	**Marv??o**	**3.88**	**45**	*e*Pn	**Pn**		**05 35 54.3**	**+0.1**	
PMRV				*e*Sn	**Sn**		**05 36 39.4**	**-0.5**	
PMRV				A			05 36 43.3		
	1.3nm,0.1s								
PMRV	**Marv??o**	**3.88**	**45**	*e*Pn	**Pn**		**05 35 54.3**	**+0.1**	
PMRV				*e*Sn	**Sn**		**05 36 39.4**	**-0.5**	
	1.3nm,0.1s								
ESPR	**Espera**	**4.09**	**87**	P	**Pn**		**05 35 56.6**	**-0.5**	
	1.7nm,0.1s,SNR=7.9								
ESPR				S	**Sn**		**05 36 43.2**	**-1.8**	
	15nm,0.3s,SNR=7.9								
ESPR	**Espera**	**4.09**	**87**	P	**Pn**		**05 35 55.4**	**-1.7**	
	1.7nm,0.1s,SNR=7.9								
ESPR				S	**Sn**		**05 36 42.6**	**-2.4**	
	15nm,0.3s,SNR=7.9								
ESPR	**Espera**	**4.09**	**87**	P	**Pn**		**05 35 55.4**	**-1.7**	
ESPR				S	**Sn**		**05 36 42.6**	**-2.4**	
ECAB	**El Cabril**	**4.60**	**72**	P	**Pn**		**05 36 04.2**	**+0.1**	
	2.0nm,0.1s,SNR=10								
ECAB				S	**Sn**		**05 36 56.0**	**-1.6**	
	6.1nm,0.4s								
ECAB	**El Cabril**	**4.60**	**72**	P	**Pn**		**05 36 04.2**	**+0.1**	
	2.0nm,0.1s,SNR=10								
ECAB				S	**Sn**		**05 36 56.0**	**-1.6**	
	6.1nm,0.4s								
ECAB	**El Cabril**	**4.60**	**72**	P	**Pn**		**05 36 04.2**	**+0.1**	
ECAB				S	**Sn**		**05 36 56.0**	**-1.6**	
EPLA	**Plasencia**	**5.06**	**48**	S	**Sn**		**05 37 08.3**	**-0.7**	
	1.3nm,0.1s,SNR=7.9								
EADA	**Adamuz**	**5.27**	**72**	P	**Pn**		**05 36 13.4**	**+0.2**	
	1.1nm,0.2s,SNR=7.9								
EADA				S	**Sn**		**05 37 12.7**	**-1.3**	
	2.3nm,0.4s,SNR=7.9								
EADA	**Adamuz**	**5.27**	**72**	P	**Pn**		**05 36 13.4**	**+0.1**	
	1.1nm,0.2s,SNR=7.9								
EADA				S	**Sn**		**05 37 12.7**	**-1.3**	
	2.3nm,0.4s,SNR=7.9								
ELOB	**Lobios**	**5.59**	**23**	P	**Pn**		**05 36 17.2**	**-0.5**	
	0.2nm,0.0s,SNR=7.9								
ELOB				S	**Sn**		**05 37 19.9**	**-1.9**	
	1.1nm,0.1s,SNR=6.3								
ELOB	**Lobios**	**5.59**	**23**	P	**Pn**		**05 36 17.2**	**-0.4**	
	0.2nm,0.0s,SNR=7.9								
ELOB				S	**Sn**		**05 37 19.9**	**-2.0**	
	1.1nm,0.1s,SNR=6.3								
ECAL	**Calabor**	**6.13**	**31**	P	**Pn**		**05 36 25.0**	**-0.1**	
	0.4nm,0.2s,SNR=7.9								
ECAL				S	**Sn**		**05 37 33.3**	**-2.0**	
	2.2nm,0.3s,SNR=7.9								
ESDC	**Sonseca Array**	**6.23**	**60**	P	**Pn**		**05 36 26.7**	**+0.2**	
	0.4nm,0.3s,baz=244,slow=13,SNR=5.0								
ESDC	**Sonseca Array**	**6.23**	**60**	P	**Pn**		**05 36 26.7**	**+0.2**	
	0.4nm,0.3s,SNR=5.0								
EMAZ	**Mazaricos**	**6.38**	**13**	S	**Sn**		**05 37 35.3**	**-6.2**	
	1.1nm,0.2s,SNR=7.9								
EMAZ	**Mazaricos**	**6.38**	**13**	S	**Sn**		**05 37 36.8**	**-4.6**	
	1.1nm,0.2s,SNR=7.9								
EPON	**Pontenova**	**7.19**	**23**	P	**Pn**		**05 36 39.6**	**-0.1**	
	0.2nm,0.1s,SNR=7.9								
EPON				S	**Sn**		**05 37 58.4**	**-3.0**	
	0.3nm,0.1s,SNR=7.9								

IDC ***20*** *05:36:40.1±1.2,* **399N**×**12669E**,**h0**km,**mb3.6**/7,**mb1 3.7**/7,
mb1mx3.7/19,**mbtmp3.7**/7,**Error ellipse:**
s-maj=100.5km s-min=17.6km az=71.0,Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**21.97**	**183**	P	P	05 41 37.4	+1.6
	0.5nm,0.5s,baz=13,slow=14,SNR=3.8						
WRA	**Warramunga Arr**	**24.94**	**163**	P	P	05 42 04.3	-1.0
	1.4nm,0.6s,baz=341,slow=10,SNR=3.9						
ASAR	**Alice Springs**	**28.37**	**166**	P	P	05 42 36.0	-0.2
	0.3nm,0.5s,baz=337,slow=7.0,SNR=6.1						
STKA	**Stephens Creek**	**38.38**	**159**	P	P	05 44 03.5	+0.2
	2.2nm,1.1s,baz=340,slow=12,SNR=3.0						
SONM	**Songino Array**	**47.04**	**341**	P	P	05 45 14.7	+1.4
	0.4nm,0.7s,baz=142,slow=7.3,SNR=3.5						
MKAR	**Makanchi Array**	**57.32**	**325**	P	P	05 46 29.2	-0.7
	0.3nm,0.3s,baz=110,slow=10,SNR=3.6						
AKTO	**Aktyubinsk**	**73.43**	**322**	P	P	05 48 13.7	-0.6
	0.9nm,0.5s,baz=121,slow=3.7,SNR=4.5						

IDC ***20*** *05:50:15.7±0.6,694S×10674E,h0km,mb4.1/10,*
mb1 4.2/10,mb1mx4.0/19,mbtmp4.1/10,MS3.0/1,
Ms1 3.0/1,ms1mx2.5/24,Error ellipse: s-maj=28.5km
s-min=16.8km az=42.0
NEIC ***20*** *05:50:16.9±0.5,7.14S×106.62E,h10km,mb4.4/5,Error*
ellipse: s-maj=13.6km s-min=10.8km az=84.0
NEIC Felt [III] at Cisarua.
ISCJB ***20*** *05:50:21.3±0.8,749S±006×10670E±006,h34km±10km,*
mb4.2/12,Error ellipse: s-maj=11.1km s-min=7.1km
az=44.7
DJA ***20*** *05:50:22,741S×10668E,h30km,MLv4.5/15*
ISC 20 05:50:20.5±1.5,747S±004×10666E±005,h16km±10km,
n49,σ1§05/42,mb4.2/12,**1D,Jawa**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SKJI	**Sukabumi**	**0.47**	**347**	P	**Pg**	**05 50 29.9**	**0.0**
DBJI	**Dramaga**	**0.91**	**5**	P	**Pb**	**05 50 36.6**	**-1.3**
DBJI	**Dramaga**	**0.91**	**5**	S	**Sb**	**05 50 49.3**	**-0.5**
CBJI	**Citeko**	**1.05**	**10**	P	**Pb**	**05 50 36.3**	**-4.1**
LEM	**Lembang**	**1.14**	**56**	⇓*i*P	**Pn**	**05 50 43.4**	**+1.6**
LEM				*i* S	**Sb**	**05 51 08.4**	**+12**
LEM	**Lembang**	**1.14**	**56**	P	**Pn**	**05 50 40.9**	**-0.9**
TNG	**Tangerang**	**1.28**	**359**	P	**Pn**	**05 50 43.4**	**-0.4**
TNG	**Tangerang**	**1.28**	**359**	S	**Sb**	**05 51 00.6**	**0.0**
SBJI	**Serang**	**1.47**	**338**	P	**Pn**	**05 50 45.6**	**-0.3**
JCJI	**Jatiwangi**	**1.87**	**59**	P	**Pn**	**05 50 50.5**	**-1.3**
BLSI	**Bandar Lampung**	**2.52**	**326**	P	**Pn**	**05 51 02.7**	**+2.0**
BJII	**Banjamegara**	**3.02**	**88**	P	**Pn**	**05 51 09.0**	**+1.2**
KLI	**Kotabumi**	**3.15**	**325**	P	**Pn**	**05 51 12.2**	**+2.8**
XMIS	**Christmas Isla**	**3.16**	**198**	P	**Pn**	**05 51 09.0**	**-0.6**
XMIS	**Christmas Isla**	**3.16**	**198**	*e*Pn	**Pn**	**05 51 07.7**	**-1.9**
XMIS				*e*Sn	**Sn**	**05 51 40.7**	**-6.2**
SMRI	**Semarang**	**3.77**	**84**	P	**Pn**	**05 51 19.2**	**+1.2**
UGM	**Wanagama**	**3.85**	**97**	P	**Pn**	**05 51 19.6**	**+0.5**
SJI	**Sawahan**	**5.07**	**93**	P	**Pn**	**05 51 36.5**	**+0.6**
PPBI	**Pangkal Pinang**	**5.29**	**354**	P	**Pn**	**05 51 48.5**	**+10**
KRKI	**Karangkates**	**5.78**	**97**	P	**Pn**	**05 51 46.9**	**+1.3**
KSM	**Kuching**	**9.60**	**22**	*e*Pn	**Pn**	**05 52 31.4**	**-6.6**
KAPI	**Kappang**	**13.24**	**80**	LR	LR	05 59 12.9	
	comp=Z,61nm,19.1s,baz=276,slow=41						
KKM	**Kota Kinabalu**	**16.46**	**36**	*e*Pn	**Pn**	**05 54 04.8**	**-6.1**
MBWA	**Marble Bar**	**18.57**	**138**	P	**Pn**	**05 54 36.4**	**-0.8**
	2.9nm,0.6s						
FITZ	**Fitzroy Crossi**	**21.29**	**122**	*e*P	**P**	**05 55 06.9**	**+0.3**
	5.7nm,0.8s,mb4.0						
FITZ	**Fitzroy Crossi**	**21.29**	**122**	P	**P**	**05 55 06.3**	**-0.2**
	1.3nm,0.7s,mb3.4,baz=316,slow=12,SNR=4.2						
KAKA	**Kakadu**	**25.90**	**104**	*e*P	**P**	**05 55 49.3**	**-2.8**
	10nm,0.6s,mb4.5						
WRA	**Warramunga Arr**	**29.55**	**118**	P	**P**	**05 56 23.3**	**-1.4**
	0.6nm,0.4s,mb3.7,baz=287,slow=8.7,SNR=5.3						
WRA				PcP	PcP	05 59 28.1	-1.7
	0.4nm,0.4s,baz=307,slow=1.9,SNR=3.0						
WRAB	**Tennant Creek**	**29.56**	**118**	P	**P**	**05 56 24.0**	**-0.8**
	5.2nm,0.8s,mb4.3						
ASAR	**Alice Springs**	**30.70**	**125**	P	**P**	**05 56 35.3**	**+0.5**
	0.9nm,0.7s,mb3.7,baz=299,slow=8.3,SNR=11						
ASAR				PcP	PcP	05 59 31.5	-1.2
	0.3nm,0.3s,baz=314,slow=2.5,SNR=4.0						
STKA	**Stephens Creek**	**40.58**	**132**	*e*P	**P**	**05 57 59.3**	**-0.2**
	9.1nm,0.5s,mb4.7						
STKA	**Stephens Creek**	**40.58**	**132**	P	**P**	**05 57 59.5**	**-0.1**
	8.8nm,0.4s,mb4.7,baz=310,slow=8.0,SNR=26						
STKA				PcP	PcP	06 00 00.3	-1.4
	2.0nm,0.5s,baz=348,slow=2.2,SNR=2.9						
SONM	**Songino Array**	**55.06**	**360**	PcP	PcP	06 00 49.6	-3.2
	0.4nm,0.5s,baz=175,slow=4.8,SNR=3.4						
MKAR	**Makanchi Array**	**58.21**	**341**	P	**P**	**06 00 07.6**	**-6.3**
	0.4nm,0.4s,mb3.8,baz=137,slow=6.4,SNR=3.7						
MKAR	**Makanchi Array**	**58.21**	**341**	P	**P**	**06 00 07.6**	**-6.3**
KURK	**Kurchatov**	**62.82**	**340**	P	**P**	**06 00 40.3**	**-5.0**
	0.4nm,0.5s,mb3.8,baz=151,slow=6.0,SNR=2.7						
KURK				PcP	PcP	06 01 19.6	-3.9
	0.7nm,0.5s,baz=145,slow=3.5,SNR=3.7						
MAW	**Mawson**	**66.83**	**197**	P	**P**	**06 01 11.6**	**+0.5**
	1.7nm,0.5s,mb4.3,baz=56,slow=6.3,SNR=7.7						
LSZ	**Lusaka**	**77.00**	**256**	P	**P**	**06 02 12.7**	**-0.5**
	1.7nm,0.6s,mb4.2,baz=69,slow=5.2,SNR=3.9						
BOSA	**Boshof**	**78.94**	**242**	P	**P**	**06 02 23.8**	**-0.1**
	2.4nm,0.5s,mb4.4,baz=121,slow=5.4,SNR=8.9						
SNAA	**Sanae**	**88.98**	**197**	*e*	**P**	**06 03 14.8**	**+0.6**
VNA2	**Neumayer--Watz**	**90.63**	**197**	*e*	**P**	**06 03 22.6**	**+0.7**
	baz=81,slow=3.3						
VNA2				*e*	pP	06 03 26.2	-1.0
ARCES	**ARCESS Array B**	**93.85**	**340**	P	**P**	**06 03 31.4**	**-5.3**
	5.7nm,1.0s,mb5.0,baz=18,slow=4.3,SNR=5.5						
BMW	**Boistfort Moun**	**122.33**	**39**	*e*PKPdf	PKPdf	06 09 09.7	-5.3
PHWY	**Pilot Hill**	**135.86**	**35**	*e*PKPdf	PKPdf	06 09 43.0	+2.2
TXAR	**Lajitas Array**	**144.12**	**49**	PKP	PKPdf	06 09 52.7	-3.6
	0.1nm,0.3s,baz=324,slow=2.6,SNR=8.3						
TXAR	**Lajitas Array**	**144.12**	**49**	PKP	PKPdf	06 09 52.7	-3.6
BDFB	**Brasilia**	**146.00**	**227**	PKPbc	PKPbc	06 09 59.8	-0.8
	2.4nm,0.9s,baz=166,slow=9.0,SNR=5.3						
JCT	**Junction City**	**146.25**	**44**	*e*PKPdf	PKPdf	06 09 58.2	-1.7
WVT	**Waverly**	**148.54**	**23**	*e*PKPbc	PKPbc	06 10 03.7	-3.4

ISCJB ***20*** *06:18:27.9±1.5,979S±007×1206E±0.1,h33km±18km,*
mb4.0/5,MS3.8/2,Error ellipse: s-maj=25.9km
s-min=7.6km az=159.0
NEIC ***20*** *06:18:30.4±1.1,975S×12074E,h41km±13km,mb3.7/1,*
Error ellipse: s-maj=18.1km s-min=8.6km az=66.0
IDC ***20*** *06:18:31.4±3.5,978S×12039E,h40km±33km,mb3.9/5,*
mb1 3.9/9,mb1mx3.8/18,mbtmp3.9/9,ML3.8/4,MS3.2/4,
Ms1 3.2/4,ms1mx2.8/31,Error ellipse: s-maj=41.8km
s-min=16.1km az=67.0
ISC 20 06:18:30.4±1.0,976S±006×1207E±01,h38km±14km,**n23,**
σ1§20/26,mb4.0/5,MS3.8/2,Samoa region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BATI	**Baumata**	**2.91**	**99**	Pn	**Pn**	**06 19 20.1**	**+5.9**
	36nm,0.3s,baz=284,slow=2.2,SNR=23						
BATI				Sn	**Sn**	**06 19 56.8**	**+8.8**
	12nm,0.3s,baz=360,slow=20,SNR=5.7						
BATI				LR	LR	06 21 00.1	
	comp=Z,201nm,20.7s,baz=104,slow=46						
KAPI	**Kappang**	**4.82**	**348**	Pn	**Pn**	**06 19 42.1**	**+1.6**
	5.9nm,0.3s,baz=162,slow=11,SNR=11						
KAPI				Sn	**Sn**	**06 20 35.3**	**+0.2**
	2.0nm,0.3s,baz=72,slow=20,SNR=2.4						
KAPI				LR	LR	06 21 42.2	
	comp=Z,78nm,19.2s,baz=193,slow=40						
FITZ	**Fitzroy Crossi**	**9.55**	**151**	*e*P	**Pn**	**06 20 47.0**	**+1.5**
	3.9nm,0.8s						
FITZ				*e*S	**Sn**	**06 22 27.2**	**-4.4**
FITZ	**Fitzroy Crossi**	**9.55**	**151**	Pn	**Pn**	**06 20 47.0**	**+1.6**
	0.4nm,0.3s,baz=332,slow=9.3,SNR=9.0						
FITZ				Sn	**Sn**	**06 22 26.8**	**-4.8**
	0.7nm,0.3s,baz=190,slow=17,SNR=7.7						
MBWA	**Marble Bar**	**11.37**	**185**	*e*Pn	**Pn**	**06 21 09.3**	**-1.1**
MBWA				*e*Sn	**Sn**	**06 23 06.1**	**-10**
KAKA	**Kakadu**	**11.84**	**105**	*e*P	**Pn**	**06 21 15.1**	**-1.7**
	7.5nm,0.6s						
KAKA				*e*S	**Sn**	**06 23 20.9**	**-6.9**
KKM	**Kota Kinabalu**	**16.34**	**344**	*e*Pn	**Pn**	**06 22 14.8**	**-2.2**
WRA	**Warramunga Arr**	**16.57**	**129**	Pn	**Pn**	**06 22 20.1**	**+0.1**
	0.4nm,0.3s,baz=305,slow=13,SNR=29						
WRA				Sn	**Sn**	**06 25 12.6**	**-11**
	0.1nm,0.3s,baz=304,slow=23,SNR=5.0						
WRAB	**Tennant Creek**	**16.58**	**129**	*e*Pn	**Pn**	**06 22 20.4**	**+0.3**
	4.7nm,0.7s						
WB2	**Warramunga Ar**	**16.58**	**129**	*e*Pn	**Pn**	**06 22 20.5**	**+0.4**
ASAR	**Alice Springs**	**18.69**	**139**	P	**Pn**	**06 22 49.5**	**+3.5**
	0.2nm,0.3s,baz=325,slow=12,SNR=17						
ASAR				S	**S**	**06 26 01.5**	**-15**
	0.1nm,0.3s,baz=315,slow=21,SNR=3.3						
NWAO	**Narrogin (SRO)**	**23.28**	**187**	P	**P**	**06 23 34.8**	**0.0**
	8.9nm,0.8s,mb4.2,baz=34,slow=11,SNR=3.0						
STKA	**Stephens Creek**	**29.28**	**142**	P	**P**	**06 24 32.2**	**+3.0**
	1.9nm,0.5s,mb4.1,baz=317,slow=10,SNR=8.3						
STKA	**Stephens Creek**	**29.28**	**142**	P	**P**	**06 24 32.2**	**+3.0**
SONM	**Songino Array**	**58.74**	**349**	P	**P**	**06 28 24.5**	**+0.2**
	0.7nm,0.8s,mb3.8,baz=169,slow=8.4,SNR=3.5						
MKAR	**Makanchi Array**	**65.92**	**332**	P	**P**	**06 29 12.6**	**+0.3**
	1.0nm,0.5s,mb4.1,baz=141,slow=7.0,SNR=9.7						
ZALV	**Zalesovo Beam**	**70.37**	**338**	P	**P**	**06 29 39.4**	**-0.7**
	0.7nm,0.4s,mb3.9,baz=149,slow=3.5,SNR=4.1						
ZALV	**Zalesovo Beam**	**70.37**	**338**	P	**P**	**06 29 39.4**	**-0.7**
AKTO	**Aktyubinsk**	**80.83**	**325**	LR	LR	07 09 38.6	
	comp=Z,32nm,18.8s,MS3.7,baz=70,slow=38						
EIL	**Elat**	**91.15**	**300**	LR	LR	07 16 28.5	
	comp=Z,32nm,18.2s,MS3.8,baz=104,slow=38						
WVOR	**Wild Horse Val**	**119.01**	**47**	*e*PKPdf	PKPdf	06 37 14.4	-0.8
TORD	**Torodi Ar. Bea**	**120.28**	**280**	PKP	PKPdf	06 37 19.4	+1.0
	0.3nm,0.8s,baz=90,slow=1.4,SNR=2.6						
TORD	**Torodi Ar. Bea**	**120.28**	**280**	PKP	PKPdf	06 37 19.4	+1.0

IDC ***20*** *06:40:04.3±3.3,067N×9971E,h0km,mb3.9/4,mb1 4.0/5,*
mb1mx3.7/19,mbtmp3.9/5,ML4.2/1,Error ellipse:
s-maj=131.5km s-min=25.7km az=58.0
ISCJB ***20*** *06:40:08.1±1.1,0.1S±0.1×99.39E±009,h90km±11km,*
mb3.8/4,Error ellipse: s-maj=24.6km s-min=10.7km
az=27.7
DJA ***20*** *06:40:09.3±0.6,0N±7×99E±,h20km,Mjma3.5/6,MLv4.1/6*
ISC 20 06:40:09.1±1.1,01S±01×9938E±009,h82km±11km,**n14,**
σ1§12/14,mb3.8/4,Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PPI	**Padang Panjang**	**1.08**	**109**	P	**Pn**	**06 40 27.1**	**-2.2**
PPI	**Padang Panjang**	**1.08**	**109**	S	**Sn**	**06 40 43.9**	**-0.5**
PDSI	**Padang**	**1.35**	**127**	P	**Pn**	**06 40 34.5**	**+1.8**
GSI	**Gunungsitoli**	**2.27**	**308**	P	**Pn**	**06 40 45.6**	**+0.8**
RGRI	**Rengat**	**2.97**	**95**	P	**Pn**	**06 40 53.5**	**-0.6**
RGRI	**Rengat**	**2.97**	**95**	S	**Sn**	**06 41 29.2**	**+0.4**
TSI	**Tuntungan**	**3.66**	**347**	P	**Pn**	**06 41 02.0**	**-1.6**
IPM	**Ipoh**	**4.83**	**20**	P	**Pn**	**06 41 20.6**	**+1.1**
MYKOM	**Kota Tinggi**	**4.85**	**67**	P	**Pn**	**06 41 20.9**	**+1.2**
CMAR	**Chiang Mai Arr**	**18.44**	**359**	P	**Pn**	**06 44 13.9**	**-5.4**
	0.3nm,0.3s,baz=179,slow=12,SNR=6.5						
WRA	**Warramunga Arr**	**39.51**	**122**	P	**P**	**06 47 38.2**	**+6.1**
	0.2nm,0.5s,mb3.2,baz=304,slow=8.9,SNR=3.2						
SONM	**Songino Array**	**48.13**	**6**	P	**P**	**06 48 39.6**	**-1.2**
	0.4nm,0.5s,mb3.5,baz=185,slow=9.4,SNR=5.4						
MKAR	**Makanchi Array**	**49.04**	**344**	P	**P**	**06 48 48.0**	**+0.3**
	1.6nm,0.8s,mb4.0,baz=140,slow=7.8,SNR=8.5						
ZALV	**Zalesovo Beam**	**55.20**	**350**	P	**P**	**06 49 33.5**	**+0.2**
	3.8nm,0.7s,mb4.5,baz=172,slow=5.6,SNR=16						

IDC 20 06:40:14.6±2.0,238N×12471E,h0km,**mb3.4**/3,**mb1 3.6**/3,
mb1mx3.4/17,**mbtmp3.4**/3,**Error ellipse:**
s-maj=215.8km s-min=25.8km az=64.0,Celebes Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**24.11**	**157**	P	P	06 45 31.7	-0.5
	0.4nm,0.4s,baz=336,slow=10,SNR=5.2						
ASAR	**Alice Springs**	**27.39**	**161**	P	P	06 46 02.8	+0.9
	0.2nm,0.4s,baz=341,slow=8.1,SNR=5.7						
MKAR	**Makanchi Array**	**57.54**	**327**	P	P	06 50 05.7	-0.2
	0.3nm,0.3s,baz=121,slow=7.7,SNR=6.1						

NNC ***20*** *06:41:35.4±1.9,3862N×7054E,h106km±35km,mb3.2,*
mpv3.9,Error ellipse: s-maj=16.9km s-min=8.9km az=18.0
ISC 20 06:41:35.2±2.4,386N±01×705E±02,h95km±51km,**n12,**
σ0§70/16,3C-3D,Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AML	**Almayashu**	**4.31**	**34**	P	**Pn**	**06 42 38.4**	**-0.1**
	SNR=5.0						
KK31	**Karatay Array**	**4.52**	**0**	P	**Pn**	**06 42 41.0**	**-0.2**
	4.7nm,0.4s,baz=179,slow=13,SNR=103						
KK31				⇑S	**Sn**	**06 43 32.9**	**+0.2**
	13nm,0.5s,baz=180,slow=19,SNR=6.6						
UCH	**Uchtor**	**4.77**	**39**	P	**Pn**	**06 42 45.2**	**+0.5**
	SNR=32						
EKS2	**Erkin-Say**	**4.79**	**31**	P	**Pn**	**06 42 44.9**	**0.0**
	SNR=13						
AAK	**Ala-Archa**	**5.07**	**36**	P	**Pn**	**06 42 48.8**	**0.0**
	SNR=16						
KBK	**Karagaybulak**	**5.30**	**38**	P	**Pn**	**06 42 52.5**	**+0.6**
	SNR=25						
CHMS	**Chumysh**	**5.47**	**35**	P	**Pn**	**06 42 54.2**	**0.0**
	SNR=6.7						
USP	**Ospenovka**	**5.58**	**32**	P	**Pn**	**06 42 55.1**	**-0.6**
	SNR=14						
TKM2	**Tokmak 2**	**5.82**	**40**	⇓P	**Pn**	**06 42 58.7**	**-0.3**
	13nm,0.5s						
TKM2				⇓S	**Sn**	**06 44 04.0**	**-0.3**
	9.2nm,0.6s						
TKM2	**Tokmak 2**	**5.82**	**40**	P	**Pn**	**06 42 59.2**	**+0.2**
	SNR=23						
AB31	**Akbulak array**	**13.09**	**328**	P	**Pn**	**06 44 36.9**	**-0.3**
	1.0nm,0.5s,baz=139,slow=12,SNR=22						
AB31				⇑S	**Sn**	**06 46 59.2**	**-1.7**
	3.8nm,0.8s,baz=152,slow=23,SNR=8.6						
AKTO	**Aktyubinsk**	**14.79**	**327**	⇓P	**Pn**	**06 44 59.4**	**+0.1**
	0.4nm,0.6s						
AKTO				⇑S	**Sn**	**06 47 44.2**	**+1.9**
	0.7nm,0.8s						

IDC ***20*** *06:55:32.7±1.1,2832N×6592E,h0km,mb3.7/9,mb1 3.9/9,*
mb1mx3.7/25,mbtmp3.7/9,MS3.1/1,Ms1 3.1/1,
ms1mx2.5/32,Error ellipse: s-maj=29.9km s-min=22.3km
az=78.0
ISCJB ***20*** *06:55:37.9±0.9,2855N±009×6640E±009,h33km,*
mb3.8/11,Error ellipse: s-maj=13.5km s-min=10.9km
az=158.1
MOS ***20*** *06:55:37.5±1.0,2854N×6610E,h33km,mb3.9/7,Error*
ellipse: s-maj=28.0km s-min=11.1km az=74.7
NEIC ***20*** *06:55:38.4±0.9,2850N×6601E,h35km,mb3.9/4,Error*
ellipse: s-maj=17.4km s-min=14.3km az=99.0
ISC 20 06:55:36.3±3.7,2850N±009×6624E±009,h15km±24km,
n29,σ0§97/32,mb3.8/11,**1C,Pakistan**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
THW	**Thamme Wali**	**6.39**	**47**	P	**Pn**	**06 57 09.3**	**-0.5**
KBL	**Kabul**	**6.48**	**21**	*e*P	**Pn**	**06 57 10.9**	**-0.2**
CEP	**Cherat**	**7.19**	**41**	P	**Pn**	**06 57 20.6**	**-0.3**
CEP				S	**Sn**	**06 58 42.0**	**-0.3**
SMLA	**Simla**	**9.85**	**72**	⇑*i*P	**Pn**	**06 57 56.3**	**-1.0**
SMLA				*i* S	**Sn**	**06 59 38.6**	**-8.9**
SMLA				*i* S	**Sn**	**06 59 46.2**	**-1.3**
SMLA				*ex*	x	06 59 47.1	
	comp=N,119nm,0.3s						
SMLA				*ex*	x	06 59 50.6	
	comp=E,118nm,0.4s						
UCH	**Uchtor**	**15.26**	**24**	*e*Pn	**Pn**	**06 59 11.2**	**+0.1**
	comp=E,2.7nm,0.9s						
TKM2	**Tokmak 2**	**16.25**	**25**	P	**Pn**	**06 59 24.8**	**+0.8**
TKM2				pmax	pmax		
	comp=Z,12nm,1.7s						
TKM2	**Tokmak 2**	**16.25**	**25**	Pn	**Pn**	**06 59 24.8**	**+0.8**
	comp=Z,12nm,1.7s						
LSA	**Lhasa**	**21.79**	**81**	*e*P	**P**	**07 00 30.5**	**+2.8**
LSA				pmax	pmax		
	comp=Z,4.0nm,0.3s,mb4.3						
LSA	**Lhasa**	**21.79**	**81**	*e*P	**P**	**07 00 30.5**	**+2.8**
	comp=Z,4.2nm,0.3s,mb4.3						
MK31	**Makanchi

YUS				*e*S		Sn	07 00 26.8	-0.6
	baz=285							
JIJ	**Ishigaki jima**	**1.70**	**49**	P		Pn	07 00 04.5	-2.9
JIJ				*e*S		Sn	07 00 23.3	-4.8
NNS	**Nan Shan**	**1.73**	**314**	*e*P		Pn	07 00 08.0	+0.2
	baz=314							
NNS				*e*S		Sn	07 00 28.8	-0.1
	baz=314							
ECL	**Taimali**	**1.77**	**249**	*e*P		Pn	07 00 08.8	+0.3
	baz=248							
ECL				*e*S		Sn	07 00 28.9	-1.0
	baz=248							
ALS	**Alishan**	**1.80**	**279**	P		Pn	07 00 10.1	+1.3
	baz=285							
ALS				*e*S		Sn	07 00 30.3	-0.4
	baz=285							
SMLT	**Sun Moon Lake**	**1.81**	**291**	*e*P		Pn	07 00 09.2	+0.3
	baz=291							
SMLT				*e*S		Sn	07 00 30.2	-0.6
	baz=291							
STYT	**Tauyuan**	**1.83**	**268**	*e*P		Pn	07 00 10.0	+0.7
	baz=268							
STYT				*e*S		Sn	07 00 31.0	-0.4
	baz=268							
CHN5	**Tsauling**	**1.93**	**281**	P		Pn	07 00 12.2	+1.7
	baz=286							
EAST	**Anshuo**	**1.95**	**244**	*e*P		Pn	07 00 11.2	+0.4
	baz=243							
EAST				*e*S		Sn	07 00 34.4	+0.2
	baz=243							
CHN1	**Nanshi**	**2.04**	**269**	*e*P		Pn	07 00 14.1	+2.0
	baz=269							
CHN1				*e*S		Sn	07 00 40.2	+3.7
	baz=269							
TWK	**Hsinying**	**2.08**	**271**	*e*P		Pn	07 00 14.7	+2.1
	baz=265							
TWK				*e*S		Sn	07 00 40.6	+3.3
	baz=265							
JTJ	**Tarama**	**2.27**	**52**	P		Pn	07 00 13.0	-2.1
JTJ				*e*S		Sn	07 00 38.0	-4.0

IDC 20 07:34:16.6±66.0, 1860S×16973E, h0km, mb4.5/3, mb1 4.7/3, mb1mx4.1/15, mbtmp4.5/3, Error ellipse: s-maj=1114.0km s-min=119.9km az=73.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**28.58**	**237**	P	P	07 40 15.3	+0.8
	2.7nm,0.7s,baz=71,slow=8.6,SNR=5.9						
WRA	**Warramunga Arr**	**33.40**	**262**	P	P	07 40 56.5	-0.7
	1.3nm,0.4s,baz=97,slow=8.4,SNR=14						
ASAR	**Alice Springs**	**33.74**	**255**	P	P	07 41 00.0	0.0
	11nm,0.4s,baz=82,slow=8.9,SNR=263						

*IDC **20** 07:46:11.5±1.3, 8522N×909E, h0km, mb3.8/8, mb1 4.0/10, mb1mx3.7/26, mbtmp3.9/10, ML3.8/2, MS3.0/9, Ms1 3.1/9, ms1mx2.8/34, Error ellipse: s-maj=28.7km s-min=23.5km az=13.0*

*ISCJB **20** 07:46:13.5±1.5, 8479N±009×10E±1, h10km, mb3.7/8, MS3.0/8, Error ellipse: s-maj=27.3km s-min=12.7km az=10.0*

*NAO **20** 07:46:17.7±6.0, 8484N×1708E, ML2.3*

ISC 20 07:46:16.4±1.6, 848N±01×12E±1, h10km, n18, σ1§03/17, mb3.7/8, MS3.0/8, North of Svalbard

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SPA0	**Spitsbergen Ar**	**6.69**	**172**	Pn	**Pn**	**07 47 54.7**	**+0.2**
	baz=14,slow=11						
SPA0				Sn	**Sn**	**07 49 10.2**	**-0.4**
	baz=26,slow=22						
SPITS	**Spitsbergen Ar**	**6.69**	**172**	Pn	**Pn**	**07 47 54.7**	**+0.3**
	baz=80,slow=12,SNR=23						
SPITS				Sn	**Sn**	**07 49 09.8**	**-0.8**
	baz=40,slow=15,SNR=2.7						
ARA0	**ARCESS Array S**	**15.55**	**162**	P	**Pn**	**07 49 55.8**	**+0.6**
	baz=351,slow=12						
ARA0				Sn	**Sn**	**07 52 42.1**	**-5.0**
	baz=12,slow=22						
ARCES	**ARCESS Array B**	**15.55**	**162**	Pn	**Pn**	**07 49 54.3**	**-0.9**
	0.3nm,0.3s,baz=357,slow=9.8,SNR=7.5						
ARCES				LR	LR	07 56 02.7	
	comp=Z,56nm,21.1s,baz=345,slow=37						
FIA0	**FINESS Array S**	**23.67**	**163**	P	**P**	**07 51 29.9**	**+2.3**
	baz=4.1,slow=11						
NB2	**NORSAR Subarra**	**23.89**	**181**	P	**P**	**07 51 29.8**	**+0.2**
	comp=Z,3.2nm,0.9s,mb3.8,baz=349,slow=7.4						
NOA	**NORSAR Array B**	**23.89**	**181**	P	**P**	**07 51 30.1**	**+0.5**
	comp=Z,1.5nm,0.8s,mb3.5,baz=350,slow=7.3,SNR=4.3						
NOA				LR	LR	07 59 49.1	
	comp=Z,7.9nm,20.2s,MS2.2,baz=235,slow=34						
HFS	**Hagfors**	**24.80**	**178**	LR	LR	08 01 28.1	
	comp=Z,18nm,19.3s,MS2.6,baz=254,slow=36						
BVAR	**Borovoye Array**	**34.67**	**115**	P	**P**	**07 53 06.3**	**+0.9**
	comp=Z,0.7nm,0.7s,mb3.7,baz=348,slow=6.1,SNR=3.6						
BVAR				LR	LR	08 10 01.1	
	comp=Z,36nm,18.3s,MS3.1,baz=85,slow=41						
ZALV	**Zalesovo Beam**	**35.01**	**100**	P	**P**	**07 53 07.5**	**-0.8**
	comp=Z,1.2nm,0.5s,mb4.1,baz=342,slow=6.6,SNR=5.2						
ZALV				LR	LR	08 09 05.6	
	comp=Z,20nm,19.5s,MS2.9,baz=300,slow=39						
GERES	**GERESS Array B**	**36.11**	**178**	LR	LR	08 07 47.3	
	comp=Z,33nm,21.9s,MS3.1,baz=36,slow=36						
AKTO	**Aktyubinsk**	**36.29**	**129**	P	**P**	**07 53 19.4**	**0.0**
	comp=Z,0.3nm,0.4s,mb3.6,baz=2.9,slow=11,SNR=3.9						
AKTO				LR	LR	08 09 21.2	
	comp=Z,26nm,21.2s,MS3.0,baz=179,slow=38						
KURK	**Kurchatov**	**37.66**	**107**	P	**P**	**07 53 32.0**	**+1.1**
	comp=Z,0.6nm,0.2s,mb3.9,baz=0.2,slow=8.6,SNR=3.6						
MKAR	**Makanchi Array**	**41.87**	**104**	P	**P**	**07 54 04.3**	**-1.7**
	comp=Z,1.0nm,0.9s,mb3.4,baz=0.9,slow=7.5,SNR=4.5						
PDAR	**Pinedale Array**	**50.31**	**305**	LR	LR	08 15 03.9	
	comp=Z,73nm,19.5s,MS3.7,baz=162,slow=35						
TXAR	**Lajitas Array**	**63.20**	**298**	P	**P**	**07 56 38.6**	**-5.6**
	comp=Z,0.3nm,0.7s,mb3.5,baz=355,slow=5.7,SNR=4.2						
CMAR	**Chiang Mai Arr**	**71.46**	**91**	LR	LR	08 30 41.5	
	comp=Z,11nm,19.7s,MS3.1,baz=180,slow=37						
TORD	**Torodi Ar. Bea**	**71.79**	**191**	P	**P**	**07 57 37.4**	**-1.2**
	comp=Z,0.7nm,0.7s,mb3.7,baz=347,slow=6.4,SNR=10						

IDC 20 07:48:37.0±1.5, 1355N×14500E, h127km±42km, mb3.4/2, mb1 3.7/2, mb1mx3.1/19, mbtmp3.4/2, Error ellipse: s-maj=204.1km s-min=35.3km az=122.0, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**0.14**	**288**	P	Pn	07 48 55.1	+0.9
	353nm,0.3s,baz=270,slow=1.0,SNR=222						
GUMO				S	Sn	07 49 07.9	+0.6
	2um,0.3s,baz=180,slow=20,SNR=162						
WRA	**Warramunga Arr**	**34.89**	**198**	P	P	07 55 16.4	0.0
	1.6nm,0.6s,baz=19,slow=9.1,SNR=17						
ASAR	**Alice Springs**	**38.54**	**196**	P	P	07 55 47.3	0.0
	0.8nm,0.5s,baz=20,slow=12,SNR=16						
LPAZ	**La Paz**	**147.89**	**99**	PKPbc	PKPbc	08 08 08.0	-0.1
	0.6nm,0.7s,baz=270,slow=3.0,SNR=4.7						

*BJI **20** 07:55:50.1, 2272N×10086E, h15km, mB3.9, ML3.8, Ms3.7, Msz3.5*

*ISCJB **20** 07:55:53.2±0.5, 2295N±004×1012E±0.1, h10km, mb3.7/6, Error ellipse: s-maj=17.5km s-min=5.1km az=12.1*

*IDC **20** 07:55:54.6±0.9, 2304N×101.16E, h0km, mb3.7/6, mb1 3.7/7, mb1mx3.6/22, mbtmp3.6/7, Error ellipse: s-maj=30.4km s-min=15.0km az=85.0*

*NEIC **20** 07:55:56.0±0.7, 2303N×101.16E, h10km, mb3.9/1, Error ellipse: s-maj=24.9km s-min=11.4km az=83.0*

ISC 20 07:55:56.3±0.5, 2303N±005×1011E±01, h10km, n14, σ1§23/17, mb3.7/6, Yunnan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KMI	**Kunming**	**2.56**	**35**	PG	**Pg**	**07 56 43.3**	**-2.0**
KMI				SG	**Sg**	**07 57 13.4**	**-5.0**
KMI				Smax			
	comp=N,170nm,1.2s						
KMI				Smax			
	comp=E,229nm,1.1s						
CHG	**Chiang Mai**	**4.66**	**206**	PG	**Pg**	**07 57 24.3**	**-1.3**
CHG				SG		07 57 24.7	

CMAR	**Chiang Mai Arr**	**4.99**	**205**	Pn		**Pn**	**07 57 11.4**	**+0.2**
	baz=18,slow=12,SNR=5.0							
CMAR				Pg		**Pg**	**07 57 26.9**	**-5.0**
	comp=E,2.1nm,0.3s,baz=20,slow=16,SNR=24							
CMAR				Lg			07 58 35.1	
	comp=E,2.5nm,0.3s,baz=19,slow=35,SNR=5.8							
NST	**Nakhon Sawan**	**7.38**	**187**	P		**Sg**	**07 59 55.1**	**+1.9**
CD2	**Chengdu**	**8.19**	**16**	*e*P		**Pn**	**07 57 56.3**	**+1.1**
CD2				AP			07 57 59.4	
CD2				XP			07 58 03.3	
CD2				S		**Sn**	**07 59 29.8**	**+1.9**
CD2				AMB		AMB		
	comp=Z,20nm,3.8s							
CD2				LR		LR		
	comp=N,270nm,8.4s							
CD2				LR		LR		
	comp=E,260nm,8.4s							
CD2				LR		LR		
	comp=Z,220nm,8.4s							
SONM	**Songino Array**	**25.11**	**8**	P		**P**	**08 01 22.4**	**+1.3**
	comp=Z,0.5nm,0.7s,baz=179,slow=10,SNR=3.3							
SONM	**Songino Array**	**25.11**	**8**	P		**P**	**08 01 22.4**	**+1.3**
MK31	**Makanchi Array**	**28.15**	**332**	*e*P		**P**	**08 01 49.1**	**+0.5**
MKAR	**Makanchi Array**	**28.15**	**332**	P		**P**	**08 01 48.0**	**-0.5**
	comp=Z,0.6nm,0.5s,mb3.5,baz=142,slow=9.7,SNR=16							
TLY	**Talaya**	**28.67**	**3**	*e*P		**P**	**08 01 51.4**	**-1.7**
	comp=Z,1.1nm,0.6s,mb3.8							
ZALV	**Zalesovo Beam**	**33.24**	**342**	P		**P**	**08 02 34.2**	**+0.8**
	comp=Z,0.4nm,0.3s,mb3.8,baz=160,slow=8.8,SNR=2.3							
BVAR	**Borovoye Array**	**37.97**	**330**	P		**P**	**08 03 12.8**	**-1.2**
	comp=Z,0.6nm,0.4s,mb3.6,baz=110,slow=8.4,SNR=3.1							
WRA	**Warramunga Arr**	**53.62**	**140**	P		**P**	**08 05 17.6**	**-0.4**
	comp=Z,0.8nm,0.8s,mb3.7,baz=328,slow=7.9,SNR=3.9							
ASAR	**Alice Springs**	**56.30**	**143**	P		**P**	**08 05 36.8**	**-0.5**
	comp=Z,0.6nm,0.8s,mb3.7,baz=322,slow=6.8,SNR=6.6							

*NEIC **20** 07:57:29.8, 3430N×2662E, h29km, MD3.5(ATH), After ATH.*

*CSEM **20** 07:57:29.8, 3430N×2662E, h29km, MD3.4/4, After ATH*

ATH 20 07:57:29.8, 3430N×2662E, h29km±1km, MD3.5/4, Crete

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
NPS	**Neapolis**	**1.27**	**319**	*e*Pn	Pn	07 57 53.1	+1.5
NPS				*e*Sn	Sn	07 58 10.2	+2.6
NPS	**Neapolis**	**1.27**	**319**	*e*PN	Pn	07 57 53.1	+1.5
NPS				*e*SN	Sn	07 58 10.2	+2.6
KARP	**Karpathos**	**1.32**	**20**	*e*Pn	Pn	07 57 54.1	+1.8
KARP				*e*Sn	Sn	07 58 12.0	+3.1
KARP	**Karpathos**	**1.32**	**20**	*e*PN	Pn	07 57 54.1	+1.8
KARP				*e*SN	Sn	07 58 12.0	+3.1
GVD	**Gavdhos**	**2.16**	**285**	*e*Pn	Pn	07 58 06.0	+2.2
GVD	**Gavdhos**	**2.16**	**285**	*e*PN	Pn	07 58 06.0	+2.2
ARG	**Arkhangelos**	**2.27**	**32**	*e*Pn	Pn	07 58 07.8	+2.4
ARG	**Arkhangelos**	**2.27**	**32**	*e*PN	Pn	07 58 07.8	+2.4

*NIED **20** 08:36:00, 37.10N×14150E, h47km, Mw4.0 Best double couple: M0 1.23000×10^15 NP1:φs24.00000°, δ69.00000°, λ85.00000°. NP2:φs221.00000°, δ21.00000°, λ102.00000°.*

*ISCJB **20** 08:36:34.2±0.8, 3715N±003×14152E±007, h46km±6km, mb4.0/17, Error ellipse: s-maj=9.2km s-min=5.1km az=16.1*

*MOS **20** 08:36:34.5±0.9, 3720N×14149E, h49km, mb4.4/12, Error ellipse: s-maj=14.1km s-min=11.5km az=129.1*

*IDC **20** 08:36:36.2±0.6, 3715N×14159E, h50km±5km, mb3.8/16, mb1 3.9/20, mb1mx3.9/27, mbtmp3.8/20, MS3.0/3, Ms1 3.0/3, ms1mx2.6/34, Error ellipse: s-maj=11.0km s-min=8.3km az=128.0*

*NEIC **20** 08:36:36.4±0.4, 3718N×14146E, mb4.5/2, MW4.0(NIED), Error ellipse: s-maj=10.2km s-min=7.8km az=153.0*

NEIC Recorded [2 JMA] in Fukushima and [1 JMA] in Ibaraki, Miyagi and Tochigi Prefectures.

*JMA **20** 08:36:36.2±0.1, 3716N×14135E, h48km±1km, M4.0*

JMA Felt II J1.

ISC 20 08:36:35.6±0.8, 3716N±003×14147E±007, h39km±6km, h50km±1.7km; pP-P, n57, σ0§78/72, mb4.0/17, 9D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JFK	**Kawauchi**	**0.52**	**294**	⇓P	**Pn**	**08 36 46.3**	**-0.3**
JFK				S	**Sn**	**08 36 53.3**	**-1.0**
ONAJ	**Iwakimizuishiy**	**0.54**	**265**	⇓P	**Pn**	**08 36 46.6**	**-0.3**
ONAJ				S	**Sn**	**08 36 53.9**	**-0.9**
JMM	**Marumori**	**0.89**	**323**	⇓P	**Pn**	**08 36 51.5**	**-0.1**
JMM				S	**Sn**	**08 37 02.5**	**-0.8**
JHO	**Hitachi**	**0.91**	**233**	⇓P	**Pn**	**08 36 51.1**	**-0.7**
JHO				S	**Sn**	**08 37 01.8**	**-1.9**
JFT	**Otama**	**0.98**	**292**	⇓P	**Pn**	**08 36 53.1**	**+0.3**
JFT				S	**Sn**	**08 37 04.9**	**-0.5**
JIO	**Ouri**	**1.30**	**356**	⇓P	**Pn**	**08 36 57.5**	**+0.3**
JIO				S	**Sn**	**08 37 12.6**	**-0.8**
JOU	**Okura**	**1.37**	**332**	⇓P	**Pn**	**08 36 58.4**	**+0.2**
JOU				*e*S	**Sn**	**08 37 16.1**	**+1.1**
JFY	**Yanaizu**	**1.43**	**281**	⇓P	**Pn**	**08 36 59.1**	**+0.1**
JFY				*e*S	**Sn**	**08 37 17.0**	**+0.4**
JYS	**Shirataka**	**1.54**	**314**	⇓P	**Pn**	**08 37 01.1**	**+0.5**
JYS				*e*S	**Sn**	**08 37 19.5**	**+0.1**
MJAR	**Matsushiro Arr**	**2.69**	**258**	P	**Pn**	**08 37 17.0**	**+0.7**
	20nm,0.3s,baz=80,slow=15,SNR=111						
MJAR				S	**Sn**	**08 37 52.5**	**+4.8**
	19nm,0.3s,baz=221,slow=45,SNR=5.8						
MJAR	**Matsushiro Arr**	**2.69**	**258**	P	**Pn**	**08 37 17.0**	**+0.7**
MJAR				S	**Sn**	**08 37 52.5**	**+4.9**
MJAR				pmax	pmax		
	comp=Z,21nm,0.3s						
MJAR				smax			
	comp=N,19nm,0.3s						
MJAR	**Matsushiro Arr**	**2.69**	**258**	P	**Pn**	**08 37 17.0**	**+0.7**
MJAR				S	**Sn**	**08 37 52.5**	**+4.8**
MAJO	**Matsushiro**	**2.69**	**258**	*e*P	**Pn**	**08 37 17.2**	**+0.9**
MAT	**Matsushiro**	**2.69**	**258**	P	**Pn**	**08 37 17.0**	**+0.7**
MAT				S	**Sn**	**08 37 50.2**	**+2.5**
JHJ	**Hachijo jima 2**	**4.26**	**199**	P	**Pn**	**08 37 39.0**	**+1.1**
	comp=N,41nm,0.3s,baz=68,slow=18,SNR=14						
JHJ				S	**Sn**	**08 38 25.4**	**-1.0**
	comp=N,46nm,0.3s,baz=280,slow=23,SNR=4.2						
ASAJ	**Asahikawa**	**7.01**	**7**	P	**Pn**	**08 38 16.0**	**+0.4**
	comp=N,2.4nm,0.3s,baz=117,slow=18,SNR=13						
ASAJ				S	**Sn**	**08 39 33.7**	**-0.2**
	comp=N,1.5nm,0.3s,baz=342,slow=29,SNR=2.3						
ASAJ	**Asahikawa**	**7.01**	**7**	P	**Pn**	**08 38 16.0**	**+0.4**
ASAJ				S	**Sn**	**08 39 33.7**	**-0.2**
ASAJ				pmax	pmax		
	comp=Z,2.0nm,0.3s						
ASAJ				smax			
	comp=N,2.0nm,0.3s						
KSRS	**Korea Array**	**10.80**	**276**	P	**Pn**	**08 39 10.0**	**+2.4**
	comp=N,0.3nm,0.3s,baz=94,slow=15,SNR=3.0						
KSRS				LR	LR	08 43 10.0	
	comp=N,59nm,20.1s,baz=242,slow=36						
JOW	**Kunigami**	**15.19**	**231**	LR	LR	08 46 14.8	
	comp=N,53nm,19.2s,baz=329,slow=38						
BOD	**Bodaibo**	**27.45**	**328**	*e*P	**P**	**08 42 16.0**	**-1.5**
SONM	**Songino Array**	**27.76**	**304**	P	**P**	**08 42 19.9**	**-0.5**
	comp=N,1.9nm,0.5s,mb4.0,baz=130,slow=10,SNR=16						
SONM				LR	LR	08 52 50.9	
	comp=N,32nm,19.4s,baz=36,slow=35						
SONM	**Songino Array**	**27.76**	**304**	P	**P**	**08 42 19.9**	**-0.5**
SONM				pmax	pmax		
	comp=Z,2.0nm,0.5s						
SONM				MLR	MLR		
	comp=Z,32nm,19.4s						
CMAR	**Chiang Mai Arr**	**41.57**	**255**	P	**P**	**08 44 19.8**	**+0.2**
	comp=Z,1.3nm,0.4s,mb3.9,baz=45,slow=6.3,SNR=4.3						
CMAR	**Chiang Mai Arr**	**41.57**	**255**	P	**P**	**08 44 19.8**	**+0.2**
CMAR				pmax	pmax		
	comp=Z,1.0nm,0.4s						
ZAA0	**Zalesovo Array**	**41.87**	**312**	*e*P	**P**	**08 44 21.2**	**-0.4**
ZALV	**Zalesovo Beam**	**41.87**	**312**	P	**P**	**08 44 21.9**	**+0.3**
	comp=Z,2.2nm,0.5s,mb4.1,baz=79,slow=7.7,SNR=10						
ZALV				pP	pP	08 44 34.3	+1.5
	comp=Z,1.2nm,0.5s,baz=84,slow=7.7,SNR=3.4						
ZALV	**Zalesovo Beam**	**41.87**	**312**	P	**P**	**08 44 21.9**	**+0.3**
ZALV				*PP	pP	08 44 34.3	+1.5
ZALV				pmax	pmax		
	comp=Z,2.0nm,0.5s,mb4.0						
ZALV				pmax	pmax		
	comp=Z,1.0nm,0.5s,mb3.7						
MKAR	**Makanchi Array**	**44.09**	**302**	P	**P**	**08 44 39.3**	**-0.4**
	comp=Z,1.1nm,0.5s,mb3.8,baz=87,slow=9.5,SNR=13						
MKAR	**Makanchi Array**	**44.09**	**302**	P	**P**	**08 44 39.3**	**-0.4**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
KURK	**Kurchatov**	**45.90**	**308**	P	**P**	**08 44 54.3**	**+0.3**
	comp=Z,4.3nm,0.6s,mb4.6,baz=82,slow=7.9,SNR=23						
KURK				pP	pP	08 45 06.2	+1.0
	comp=Z,3.6nm,0.7s,baz=83,slow=8.2,SNR=7.3						
KURK	**Kurchatov**	**45.90**	**308**	P	**P**	**08 44 54.3**	**+0.3**
KURK				*PP	pP	08 45 06.2	+1.0
KURK				pmax	pmax		
	comp=Z,4.0nm,0.6s,mb4.5						
KURK				pmax	pmax		
	comp=Z,4.0nm,0.7s,mb4.5						
KURK	**Kurchatov**	**45.90**	**308**	*e*P	**P**	**08 44 53.4**	**-0.6**
	comp=Z,4.8nm,0.7s,mb4.5						
KURK				*e*pP	pP	08 45 05.2	0.0
KDAK	**Kodiak Island**	**46.98**	**42**	P	**P**	**08 45 03.0**	**+0.6**
	comp=Z,3.2nm,0.8s,mb4.3,baz=314,slow=14,SNR=4.5						
KDAK				pP	pP	08 45 15.8	+2.2
	comp=Z,3.8nm,0.7s,baz=204,slow=20,SNR=2.6						
KDAK	**Kodiak Island**	**46.98**	**42**	P	**P**	**08 45 03.0**	**+0.6**
KDAK				pP	pP	08 45 15.8	+2.1
TKM2	**Tokmak 2**	**49.62**	**298**	*e*P	**P**	**08 45 23.7**	**+0.8**
TKM2				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.5						
TKM2	**Tokmak 2**	**49.62**	**298**	*e*P	**P**	**08 45 23.6**	**+0.7**
	comp=Z,3.1nm,0.6s,mb4.5						
BVAR	**Borovoye Array**	**50.53**	**312**	P	**P**	**08 45 29.7**	**0.0**
	comp=Z,1.7nm,0.6s,mb4.2,baz=72,slow=6.8,SNR=8.6						
BVAR	**Borovoye Array**	**50.53**	**312**	P	**P**	**08 45 29.7**	**0.0**
BVAR				pmax	pmax		
	comp=Z,2.0nm,0.6s						
WRA	**Warramunga Arr**	**57.19**	**188**	P	**P**	**08 46 18.3**	**-0.3**
	comp=Z,0.4nm,0.5s,mb3.7,baz=5.5,slow=7.2,SNR=14						
WRA				pP	pP	08 46 31.8	+1.7
	comp=Z,1.4nm,0.6s,baz=4.8,slow=7.4,SNR=8.8						
WRA	**Warramunga Arr**	**57.19**	**188**	P	**P**	**08 46 18.3**	**-0.3**
WRA				*PP	pP	08 46 31.8	+1.7
WRA				pmax	pmax		
	comp=Z,1.0nm,0.6s						
AKTK	**Aktyubinsk**	**58.63**	**312**	P	**P**	**08 46 28.6**	**+0.1**
AKTO	**Aktyubinsk**	**58.63**	**312**	P	**P**	**08 46 28.6**	**+0.1**
	comp=Z,1.9nm,0.7s,mb4.3,baz=77,slow=13,SNR=5.6						
AKTO	**Aktyubinsk**	**58.63**	**312**	P	**P**	**08 46 28.6**	**+0.1**
AKTO				pmax	pmax		
	comp=Z,2.0nm,0.7s,mb4.3						
ASAR	**Alice Springs**	**60.91**	**188**	P	**P**	**08 46 44.6**	**+0.3**
	comp=Z,0.4nm,0.8s,mb3.6,baz=358,slow=5.8,SNR=3.5						
ASAR				pP	pP	08 46 58.0	+2.0
	comp=Z,0.8nm,0.7s,baz=9.1,slow=7.5,SNR=6.5						
ASAR	**Alice Springs**	**60.91**	**188**	P	**P**	**08 46 44.6**	**+0.3**
ASAR				*PP	pP	08 46 58.0	+2.0
ASAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
ARCES	**ARCESS Array B**	**63.90**	**339**	P	**P**	**08 47 03.5**	**-0.3**
	comp=Z,2.5nm,0.8s,mb4.3,baz=74,slow=9.5,SNR=3.2						
ARCES	**ARCESS Array B**	**63.90**	**339**	P	**P**	**08 47 03.5**	**-0.3**
ARCES				pmax	pmax		
	comp=Z,3.0nm,0.8s						
NOA	**NORSAR Array B**	**74.09**	**337**	P	**P**	**08 48 07.2**	**0.0**
	comp=Z,1.2nm,0.8s,mb3.9,baz=39,slow=5.8,SNR=3.7						
NOA	**NORSAR Array B**	**74.09**	**337**	P	**P**	**08 48 07.2**	**0.0**
NOA				pmax	pmax		
	comp=Z,1.0nm,0.8s						
AKASG	**Malin Array Be**	**74.23**	**322**	P	**P**	**08 48 07.3**	**-0.9**
	comp=Z,2.1nm,0.5s,mb4.3,baz=45,slow=6.6,SNR=7.9						
AKASG	**Malin Array Be**	**74.23**	**322**	P	**P**	**08 48 07.3**	**-0.9**
AKASG				pmax	pmax		
	comp=Z,2.0nm,0.5s						
AKASG	**Malin Array Be**	**74.23**	**322**	P	**P**	**08 48 07.3**	**-0.9**
PDAR	**Pinedale Array**	**77.55**	**45**	P	**P**	**08 48 26.2**	**-1.1**
	comp=Z,0.3nm,0.5s,mb3.4,baz=46,slow=4.3,SNR=3.1						
PDAR				pP	pP	08 48 41.4	+2.2
	comp=Z,0.6nm,0.6s,baz=240,slow=3.5,SNR=3.9						
GERES	**GERESS Array B**	**82.64**	**328**	P	**P**	**08 48 54.7**	**+0.1**
	comp=Z,0.6nm,0.4s,mb4.0,baz=56,slow=2.5,SNR=3.3						
GERES	**GERESS Array B**	**82.64**	**328**	P	**P**	**08 48 54.7**	**+0.1**
GERES				pmax	pmax		
	comp=Z,1.0nm,0.4s						
TXAR	**Lajitas Array**	**90.01**	**52**	P	**P**	**08 49 31.8**	**+0.6**
	comp=Z,0.3nm,0.7s,mb3.7,baz=289,slow=3.5,SNR=4.2						
TXAR				pP	pP	08 49 46.4	+3.0
	comp=Z,0.5nm,0.7s,baz=292,slow=2.8,SNR=5.5						
TXAR	**Lajitas Array**	**90.01**	**52**	P	**P**	**08 49 31.8**	**+0.6**
TXAR				*PP	pP	08 49 46.4	+3.1
TXAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						

*IDC **20** 08:52:38.5±2.0, 1511S×7149W, h90km±18km, mb4.2/11, mb1 4.3/14, mb1mx4.2/19, mbtmp4.2/14, MS3.3/3, Ms1 3.3/3, ms1mx2.7/30, Error ellipse: s-maj=20.8km s-min=12.5km az=54.0*

*LDG **20** 08:52:39.6±0.4, 1493S×7155W, h110km, Mb4.9/22, Ms2.6/1, Error ellipse: s-maj=22.3km s-min=9.0km az=50.0*

*ISCJB **20** 08:52:40.6±0.6, 1521S±005×7181W±005, h134km±5km, mb4.5/43, Error ellipse: s-maj=10.5km s-min=5.9km az=138.1*

*BJI **20** 08:52:41.8, 1530S×7170W, h133km, mB5.3*

*NEIC **20** 08:52:41.9±0.3, 1530S×7169W, mb4.7/35, Error ellipse: s-maj=9.7km s-min=5.9km az=60.0*

ISC 20 08:52:40.8±0.7, 1517S±006×7161W±007, h117km±7km, h135km±.5km; pP-P, n123, σ0§99/112, mb4.6/43, 10C, Southern Peru

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

PLCA	**Paso Flores**	**25.48**	**178**	P		**P**	**08 57 58.6**	**+0.6**
	11nm,0.9s,mb4.3,baz=355,slow=8.6,SNR=13							
PLCA	**Paso Flores**	**25.48**	**178**	*e*P		**P**	08 57 58.3	+0.2
	14nm,1.0s,mb4.3							
PLCA				*e*pP		pP	08 58 25.7	+2.5
RCBR	**Riachuelo**	**36.26**	**79**	*e*P		**P**	**08 59 34.5**	**+1.3**
	11nm,0.9s,mb4.8							
MIAR	**Mount Ida**	**53.67**	**337**	*e*P		**P**	**09 01 49.9**	**-0.6**
	5.8nm,1.0s,mb4.6							
TXAR	**Lajitas Array**	**54.00**	**325**	P		**P**	**09 01 53.5**	**+0.6**
	0.6nm,0.8s,mb3.7,baz=150,slow=8.7,SNR=7.6							
SIUC	**Southern Illin**	**55.15**	**343**	*e*P		**P**	**09 02 00.3**	**-0.8**
	15nm,0.6s,mb5.2							
SDCO	**Great Sand Dun**	**61.52**	**330**	*e*P		**P**	**09 02 46.7**	**+1.3**
	1.8nm,0.8s,mb4.2							
SDCO				*e*pP		pP	09 03 19.3	+5.5
PV01	**Paradox Valley**	**63.35**	**328**	*e*P		**P**	**09 02 58.4**	**+0.7**
AGMN	**Agassiz Refuge**	**66.78**	**343**	*e*P		**P**	**09 03 19.8**	**+0.3**
	8.2nm,0.8s,mb4.6							
VNA3	**Neumayer Olymp**	**66.86**	**162**	*e*P		**P**	**09 03 20.9**	**+1.1**
VNA3				*e*		pP	09 03 53.5	+5.0
VNA1	**Neumayer--Stat**	**67.07**	**161**	*e*P		**P**	**09 03 22.9**	**+1.7**
VNA1				*e*		pP	09 03 55.4	+5.5
PDAR	**Pinedale Array**	**67.37**	**331**	P		**P**	**09 03 23.6**	**+0.2**
	0.8nm,0.8s,mb3.6,baz=116,slow=6.8,SNR=5.3							
VNA2	**Neumayer--Watz**	**67.43**	**161**	*e*P		**P**	**09 03 24.6**	**+1.1**
VNA2				*e*		pP	09 03 57.3	+5.1
MTUM	**Tungsten Hills**	**68.41**	**321**	*e*P		**P**	**09 03 26.3**	**-3.7**
ULM	**Lac du Bonnet**	**68.55**	**344**	P		**P**	**09 03 30.5**	**-0.1**
	5.9nm,0.8s,mb4.5,baz=121,slow=5.3,SNR=7.0							
RRI2	**Red Ridge**	**68.66**	**330**	*e*P		**P**	**09 03 32.6**	**+1.1**
IMW	**Indian Meadow**	**68.89**	**331**	*e*P		**P**	**09 03 33.8**	**+0.9**
	48nm,2.6s,mb4.9							
SNAA	**Sanae**	**69.06**	**162**	*e*P		**P**	**09 03 34.8**	**+1.2**
SNAA				*e*		pP	09 04 07.4	+4.9
SNAA	**Sanae**	**69.06**	**162**	*e*P		**P**	**09 03 34.2**	**+0.6**
LIC	**Lamto**	**69.30**	**77**	*e*P		**P**	**09 03 33.4**	**-2.7**
	35nm,1.2s,mb4.8							
LIC	**Lamto**	**69.30**	**77**	*e*P		**P**	**09 03 33.3**	**-2.8**
	39nm,1.2s,mb5.1							
LIC	**Lamto**	**69.30**	**77**	*e*P		**P**	**09 03 33.4**	**-2.7**
	18nm,1.2s,mb4.8							
TIC	**Toumodi**	**69.44**	**77**	*e*P		**P**	**09 03 38.5**	**+1.6**
	122nm,1.4s,mb5.5							
DBIC	**Dimbokro**	**69.60**	**77**	*e*P		**P**	**09 03 36.5**	**-1.4**
	4.8nm,0.6s,mb4.5,baz=231,slow=6.5,SNR=14							
DBIC	**Dimbokro**	**69.60**	**77**	*e*P		**P**	**09 03 37.0**	**-1.0**
	4.7nm,0.6s,mb4.5							
KIC	**Kosan Boka**	**69.61**	**77**	*e*P		**P**	**09 03 36.8**	**-1.2**
	67nm,1.0s,mb5.4							
BMO	**Blue Mountains**	**72.73**	**328**	*e*P		**P**	**09 03 55.8**	**-0.3**
	0.8nm,0.7s,mb3.7							
EDM	**Edmonton**	**76.97**	**336**	*e*P		**P**	**09 04 20.4**	**+0.1**
TOA0	**Torodi Ar. Sit**	**77.79**	**73**	*e*P		**P**	**09 04 24.9**	**-0.9**
TORD	**Torodi Ar. Bea**	**77.79**	**73**	P		**P**	**09 04 24.6**	**-1.1**
	7.4nm,0.8s,mb4.5,baz=257,slow=5.1,SNR=34							
TORD				LR		LR	09 37 60.0	
	comp=Z,28nm,20.7s,baz=205,slow=35							
EVO	**Evora**	**79.90**	**46**	*e*P		**P**	**09 04 37.0**	**+0.2**
	24nm,1.1s,mb4.7							
ESDC	**Sonseca Array**	**83.22**	**46**	P		**P**	**09 04 55.3**	**+1.1**
	6.4nm,0.8s,mb4.5,baz=257,slow=4.9,SNR=17							
SYO	**Syowa Base**	**83.29**	**160**⇑	*e*P		**P**	**09 04 53.0**	**-1.2**
TSUM	**Tsumeb**	**84.38**	**108**	*e*P		**P**	**09 05 01.4**	**+0.7**
	13nm,1.1s,mb4.7							
YKA	**Yellowknife Ar**	**84.40**	**341**	P		**P**	**09 05 00.1**	**+0.4**
	4.1nm,0.7s,mb4.4,baz=136,slow=5.0,SNR=10							
YKA	**Yellowknife Ar**	**84.40**	**341**	P		**P**	**09 05 00.1**	**+0.4**
SJPF	**Ste Jean**	**86.54**	**44**	*e*P		**P**	**09 05 11.2**	**+0.4**
ETSF	**Etsaut**	**86.90**	**44**	*e*P		**P**	**09 05 12.6**	**0.0**
	20nm,1.2s,mb4.6							
ETSF	**Etsaut**	**86.90**	**44**	*e*P		**P**	**09 05 12.6**	**0.0**
	9.9nm,1.2s,mb4.6							
QUIF	**Quistinic**	**87.35**	**39**	*e*P		**P**	**09 05 15.4**	**+0.8**
ROSF	**Rostrenen**	**87.47**	**38**	*e*P		**P**	**09 05 14.7**	**-0.5**
EPF	**Esparros**	**87.56**	**44**	*e*P		**P**	**09 05 15.5**	**-0.2**
	14nm,1.0s,mb4.7							
EPF	**Esparros**	**87.56**	**44**	*e*P		**P**	**09 05 15.5**	**-0.2**
	7.2nm,1.0s,mb4.7							
LFF	**La Frestale**	**88.58**	**43**	*e*P		**P**	**09 05 20.2**	**-0.3**
	23nm,0.7s,mb5.0							
LFF	**La Frestale**	**88.58**	**43**	*e*P		**P**	**09 05 20.2**	**-0.3**
	12nm,0.7s,mb5.0							
MFF	**Saint Martin d**	**88.67**	**41**	*e*P		**P**	**09 05 20.4**	**-0.5**
	20nm,0.8s,mb4.9							
MFF	**Saint Martin d**	**88.67**	**41**	*e*P		**P**	**09 05 20.4**	**-0.5**
	10nm,0.8s,mb4.9							
BOSA	**Boshof**	**88.71**	**119**	P		**P**	**09 05 18.9**	**-2.8**
	4.2nm,1.1s,mb4.4,baz=239,slow=2.6,SNR=3.5							
MTLF	**Montolieu**	**88.95**	**44**	*e*P		**P**	**09 05 22.0**	**-0.3**
	14nm,1.0s,mb4.6							
MTLF	**Montolieu**	**88.95**	**44**	*e*P		**P**	**09 05 22.0**	**-0.3**
	6.8nm,1.0s,mb4.6							
GRR	**Gorron**	**88.95**	**39**	*e*P		**P**	**09 05 21.5**	**-0.6**
	12nm,0.8s,mb4.7							
GRR	**Gorron**	**88.95**	**39**	*e*P		**P**	**09 05 21.5**	**-0.6**
	6.2nm,0.8s,mb4.7							
RJF	**Les Rejaudoux**	**89.22**	**42**	*e*P		**P**	**09 05 23.0**	**-0.5**
	19nm,0.9s,mb4.8							
RJF	**Les Rejaudoux**	**89.22**	**42**	*e*P		**P**	**09 05 23.0**	**-0.5**
	9.5nm,0.9s,mb4.8							
FLN	**La Foliniere**	**89.33**	**39**	*e*P		**P**	**09 05 24.2**	**+0.3**
CAF	**Calviac**	**89.44**	**43**	*e*P		**P**	**09 05 24.2**	**-0.3**
	8.3nm,0.6s,mb4.6							
CAF	**Calviac**	**89.44**	**43**	*e*P		**P**	**09 05 24.2**	**-0.3**
	4.2nm,0.6s,mb4.7							
LDF	**La Druitiere**	**89.48**	**39**⇑	*i*P		**P**	**09 05 24.0**	**-0.6**
	16nm,0.9s,mb4.7							
LDF	**La Druitiere**	**89.48**	**39**⇑	*i*P		**P**	**09 05 24.0**	**-0.6**
	7.8nm,0.9s,mb4.7							
TCF	**Toulx Ste Croi**	**90.05**	**42**	*e*P		**P**	**09 05 26.6**	**-0.7**
	13nm,1.0s,mb4.7							
TCF	**Toulx Ste Croi**	**90.05**	**42**	*e*P		**P**	**09 05 26.6**	**-0.7**
	6.4nm,1.0s,mb4.7							
SUMG	**Summit**	**90.26**	**9**	*e*P		**P**	**09 05 29.5**	**+1.7**
	13nm,1.1s,mb5.0							
LASF	**Ste Croix**	**90.32**	**44**	*e*P		**P**	**09 05 28.9**	**+0.2**
BGF	**Bois d'Agland**	**90.55**	**42**⇑	*i*P		**P**	**09 05 29.2**	**-0.5**
	23nm,0.7s,mb5.1							
BGF	**Bois d'Agland**	**90.55**	**42**⇑	*i*P		**P**	**09 05 29.2**	**-0.5**
	12nm,0.7s,mb5.1							
AVF	**Avril sur Loir**	**90.96**	**42**	*e*P		**P**	**09 05 30.7**	**-0.9**
	11nm,0.9s,mb4.7							
AVF	**Avril sur Loir**	**90.96**	**42**	*e*P		**P**	**09 05 30.7**	**-0.9**
	5.4nm,0.9s,mb4.7							
MAW	**Mawson**	**91.09**	**164**	P		**P**	**09 05 32.1**	**+0.3**
	1.8nm,0.8s,mb4.2,baz=205,slow=6.1,SNR=4.1							
VIVF	**Saint-Julien-l**	**91.14**	**44**	*e*P		**P**	**09 05 32.7**	**+0.2**
SSF	**Saint Saulge**	**91.16**	**41**	*e*P		**P**	**09 05 31.5**	**-1.0**
	10nm,1.0s,mb4.6							
SSF	**Saint Saulge**	**91.16**	**41**	*e*P		**P**	**09 05 31.5**	**-1.0**
	5.1nm,1.0s,mb4.6							
SMF	**Signal de Mont**	**91.22**	**42**⇑	*i*P		**P**	**09 05 32.4**	**-0.4**
	15nm,0.8s,mb4.9							
SMF	**Signal de Mont**	**91.22**	**42**⇑	*i*P		**P**	**09 05 32.4**	**-0.4**
	7.5nm,0.8s,mb4.9							
LOR	**Lormes**	**91.46**	**41**	*e*P		**P**	**09 05 32.9**	**-1.0**
ORIF	**Oris-en-Rattie**	**91.97**	**44**	*e*P		**P**	**09 05 36.9**	**+0.6**
	13nm,0.8s,mb4.9							
ORIF	**Oris-en-Rattie**	**91.97**	**44**	*e*P		**P**	**09 05 36.9**	**+0.6**
	6.7nm,0.8s,mb4.9							
FRF	**La Foret Royal**	**92.05**	**45**	*e*P		**P**	**09 05 35.6**	**-1.1**
CABF	**La Chapelle**	**92.67**	**42**	*e*P		**P**	**09 05 39.2**	**-0.3**
LPL	**La Plagne**	**92.74**	**44**	*e*P		**P**	**09 05 40.6**	**+0.8**
	7.3nm,0.7s,mb4.8							
LPL	**La Plagne**	**92.74**	**44**	*e*P		**P**	**09 05 40.6**	**+0.8**
	3.7nm,0.7s,mb4.8							
LPG	**La Plagne**	**92.74**	**44**	*e*P		**P**	**09 05 40.8**	**+1.0**
	9.0nm,0.7s,mb4.9							
LPG	**La Plagne**	**92.74**	**44**	*e*P		**P**	**09 05 40.8**	**+1.0**
	4.5nm,0.7s,mb4.9							
HINF	**Hinteralfeld**	**93.55**	**41**	*e*P		**P**	**09 05 42.7**	**-0.8**
AKTO	**Aktyubinsk**	**126.42**	**38**	PKP	PKPdf		09 11 31.4	+1.5
	2.5nm,0.7s,baz=2.9,slow=3.3,SNR=9.1							
BVAR	**Borovoye Array**	**131.83**	**30**	PKP	PKPdf		09 11 41.9	+1.8
	1.0nm,0.9s,baz=318,slow=1.9,SNR=4.2							
ASAR	**Alice Springs**	**134.04**	**213**	PKP	PKPdf		09 11 45.8	+0.6
	0.7nm,0.7s,baz=128,slow=2.4,SNR=11							
WRA	**Warramunga Arr**	**136.77**	**217**	PKP	PKPdf		09 11 50.6	+0.2
	2.2nm,1.0s,baz=148,slow=1.8,SNR=12							
ZAA0	**Zalesovo Array**	**137.13**	**20**	*e*PKPdf	PKPdf		09 11 51.3	+1.3
ZALV	**Zalesovo Beam**	**137.13**	**20**	PKhKP			09 11 46.2	
	0.9nm,0.5s,baz=343,slow=4.5,SNR=3.1							
ZALV				PKP	PKPdf		09 11 51.5	+1.5
	4.8nm,0.7s,baz=309,slow=2.9,SNR=17							
KURK	**Kurchatov**	**137.19**	**28**	PKhKP			09 11 42.2	
	0.2nm,0.4s,baz=330,slow=1.9,SNR=2.5							
KURK				PKP	PKPdf		09 11 51.4	+1.2
	0.9nm,0.8s,baz=317,slow=2.4,SNR=4.2							
MKAR	**Makanchi Array**	**141.70**	**29**	PKhKP			09 11 53.0	
	1.4nm,0.7s,baz=312,slow=1.4,SNR=7.6							
MKAR				PKP	PKPdf		09 11 59.7	+1.2
	0.9nm,0.7s,baz=339,slow=3.1,SNR=4.4							
MJAR	**Matsushiro Arr**	**145.98**	**314**	PKPbc	PKPbc		09 12 07.7	+0.4
	7.1nm,0.8s,baz=92,slow=2.6,SNR=9.5							
WMQ	**Urumqi**	**146.44**	**28**	*e*PKP	PKPdf		09 12 02.0	-4.9
SONM	**Songino Array**	**147.39**	**2**	PKPbc	PKPbc		09 12 12.3	+1.4
	8.8nm,0.7s,baz=336,slow=2.9,SNR=49							
HYB	**Hyderabad**	**151.28**	**81**	*i* P	PKPdf		09 12 23.0	+7.6
KSRS	**Korea Array**	**151.85**	**326**	PKPbc	PKPbc		09 12 23.4	+1.2
	9.4nm,0.8s,baz=37,slow=1.8,SNR=16							
HHC	**Hu-ho-hao-te**	**154.27**	**354**	*e*PKP	PKPdf		09 12 17.4	-1.8
HHC				PKS			09 15 50.5	
HHC				PP	PP		09 16 16.1	+0.1
HHC				SKS	SKSdf		09 19 13.4	-1.9
HHC				SKKS	SKKSac		09 22 53.9	-2.0
HHC				SS	SS		09 35 43.1	-2.0
HHC				LR	LR			
	comp=N,118nm,22.6s							
HHC				LR	LR			
	comp=E,102nm,18.6s							
HHC				LR	LR			
	comp=Z,58nm,19.6s							
LZH	**Lanzhou**	**158.78**	**10**	*e*PKP	PKPdf		09 12 25.0	-0.1
LZH				PKP2	PKPab		09 13 04.8	+3.6
LZH				XPKP			09 13 15.1	
LZH				LR	LR			
	comp=N,31nm,19.5s							
LZH				LR	LR			
	comp=Z,75nm,20.3s							
CD2	**Chengdu**	**163.77**	**14**	*e*PKP	PKPdf		09 12 28.3	-2.3
GYA	**Guiyang**	**168.66**	**8**	PKP	PKPdf		09 12 31.8	-2.7
GYA				APKP			09 13 09.0	
GYA				XPKP			09 13 22.4	
GYA				PKP2	PKPab		09 13 45.8	+1.0
GYA				PKS			09 16 02.5	
GYA				PP	PP		09 17 36.8	+4.0
GYA				PP	PP			
	comp=Z,90nm,8.9s							
KMI	**Kunming**	**168.77**	**27**	PKP	PKPdf		09 12 33.8	-0.8
CMAR	**Chiang Mai Arr**	**170.38**	**69**	PKP	PKPdf		09 12 35.5	-0.3
	comp=Z,1.0nm,0.3s,baz=279,slow=1.8,SNR=4.1							
CMAR				PKPab	PKPab		09 13 53.1	+0.2
	comp=Z,0.9nm,0.3s,baz=284,slow=5.9,SNR=8.0							

IDC 20 09:08:42.6±3.0, 3031S×17853W, h0km, mb4.3/4, mb1 4.4/5, mb1mx4.1/16, mbtmp4.2/5, ML3.3/1, Error ellipse: s-maj=58.2km s-min=35.2km az=64.0, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
URZ	**Urewera**	**8.71**	**203**	Pn		Pn	09 10 50.0	+0.1
	0.4nm,0.3s,baz=357,slow=19,SNR=3.5							
URZ				Sn		Sn	09 12 28.8	0.0
	1.3nm,0.3s,baz=50,slow=22,SNR=7.3							
CTA	**Charters Tower**	**33.33**	**279**	P		P	09 15 24.4	+1.9
	7.3nm,1.0s,baz=106,slow=11,SNR=6.0							
STKA	**Stephens Creek**	**34.05**	**257**	P		P	09 15 30.4	+1.8
	1.2nm,0.4s,baz=110,slow=8.8,SNR=5.9							
ASAR	**Alice Springs**	**42.66**	**267**	P		P	09 16 39.3	-1.8
	0.6nm,0.3s,baz=104,slow=7.4,SNR=25							
WRA	**Warramunga Arr**	**43.63**	**272**	P		P	09 16 48.1	-1.0
	2.7nm,0.3s,baz=111,slow=8.1,SNR=26							
TORD	**Torodi Ar. Bea**	**162.92**	**181**	PKPab		PKPab	09 29 36.4	-0.1
	0.2nm,0.4s,baz=171,slow=5.5,SNR=4.7							

*ISCJB **20** 09:14:59.5±0.8, 9.10S±008×11879E±005, h66km±15km, mb3.6/3, Error ellipse: s-maj=13.1km s-min=7.8km az=8.5*
*IDC **20** 09:14:59.9±3.3, 9.11S×118 40E, h73km±36km, mb3.5/3, mb1 3.7/7, mb1mx3.4/20, mbtmp3.6/7, ML3.8/4, Error ellipse: s-maj=52.7km s-min=22.9km az=45.0*
*NEIC **20** 09:15:02.0±1.7, 9.13S×11904E, h40km±20km, mb3.6/3, Error ellipse: s-maj=30.2km s-min=14.3km az=87.0*
*DJA **20** 09:15:02, 907S×11869E, h50km, MLv4.5/5*
ISC 20 09:15:00.8±0.6, 909S±006×11879E±005, h62km±14km, n20, σ1§16/27, mb3.7/3, Sumbawa region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
MTNI	**Mataram**	**2.62**	**280**	P		**Pn**	**09 15 41.3**	**+0.5**
MTNI	**Mataram**	**2.62**	**280**	S		**Sn**	**09 16 11.8**	**+0.3**
KHKI	**Kahang-Kahang**	**3.22**	**283**	P		**Pn**	**09 15 47.4**	**-1.6**
DNP	**Denpasar**	**3.56**	**276**	P		**Pn**	**09 15 53.6**	**0.0**
DNP	**Denpasar**	**3.56**	**276**	S		**Sn**	**09 16 38.5**	**+4.1**
IGBI	**Denpasar**	**3.61**	**274**	P		**Pn**	**09 15 54.5**	**+0.3**
KAPI	**Kappang**	**4.16**	**13**	P		**Pn**	**09 16 03.2**	**+1.3**
	4.9nm,0.3s,baz=200,slow=12,SNR=12							
KAPI				S		**Sn**	**09 16 47.7**	**-1.6**
	12nm,0.3s,baz=18,slow=23,SNR=13							
BATI	**Baumata**	**4.94**	**103**	P		**Pn**	**09 16 17.1**	**+4.7**
	21nm,0.3s,baz=283,slow=10.0,SNR=11							
BATI				S		**Sn**	**09 17 09.0**	**+0.8**
	7.3nm,0.3s,baz=280,slow=20,SNR=2.5							
FITZ	**Fitzroy Crossi**	**11.16**	**144**	*e*P		**Pn**	**09 17 38.8**	**+1.2**
	2.9nm,0.8s							
FITZ				*e*S		**Sn**	**09 19 36.1**	**-4.7**
FITZ	**Fitzroy Crossi**	**11.16**	**144**	P		**Pn**	**09 17 38.8**	**+1.2**
	0.2nm,0.3s,baz=1.6,slow=11,SNR=7.3							
FITZ				S		**Sn**	**09 19 37.0**	**-3.8**
	0.8nm,0.3s,baz=178,slow=22,SNR=11							
MBWA	**Marble Bar**	**12.03**	**176**	*e*Pn		**Pn**	**09 17 49.2**	**-0.3**
MBWA				*e*Sn		**Sn**	**09 19 54.0**	**-8.2**
KAKA	**Kakadu**	**13.88**	**106**	*e*P		**Pn**	**09 18 11.3**	**-3.3**
	6.8nm,0.4s							
WRA	**Warramunga Arr**	**18.50**	**127**	P		**Pn**	**09 19 12.3**	**-0.7**
	0.2nm,0.3s,baz=302,slow=13,SNR=11							
WRA				S		**S**	**09 22 33.9**	**-6.1**
	0.2nm,0.3s,baz=307,slow=22,SNR=4.4							
WRAB	**Tennant Creek**	**18.51**	**127**	*e*P		**Pn**	**09 19 13.5**	**+0.5**
	2.3nm,0.8s							
WB2	**Warramunga Arr**	**18.51**	**127**	*e*Pn		**Pn**	**09 19 12.2**	**-0.8**
ASAR	**Alice Springs**	**20.47**	**137**	P		**P**	**09 19 35.2**	**+1.6**
	1.6nm,0.6s,baz=319,slow=11,SNR=34							
ASAR				S		**S**	**09 23 23.3**	**+3.7**
	0.5nm,0.7s,baz=316,slow=26,SNR=4.8							
COEN	**Coen**	**24.37**	**104**	*e*P		**P**	**09 20 15.0**	**+1.6**
	0.9nm,0.5s,mb3.5							
STKA	**Stephens Creek**	**31.02**	**140**	P		**P**	**09 21 12.8**	**+0.1**
	1.1nm,0.5s,mb3.9,baz=317,slow=12,SNR=5.4							
STKA	**Stephens Creek**	**31.02**	**140**	*e*P		**P**	**09 21 13.2**	**+0.4**
	0.9nm,0.5s,mb3.9							
QSPA	**South Pole Qui**	**80.91**	**180**	P		**P**	**09 27 06.0**	**-1.9**
	1.6nm,1.2s,mb3.8,baz=352,slow=4.2,SNR=8.1							

*ISCJB **20** 09:47:20.2±0.5, 4994N±004×1839E±003, h0km, Error ellipse: s-maj=5.3km s-min=2.9km az=179.0*
*CSEM **20** 09:47:21.5±0.1, 4992N×1845E, h1km, ML2.7/4, Error ellipse: s-maj=2.3km s-min=1.2km az=179.0*
*IPEC **20** 09:47:21.4±0.1, 4984N×1850E, h0km, ML1.5/3, Error ellipse: s-maj=2.1km s-min=0.7km az=163.0*
*PRU **20** 09:47:22.1, 4992N×1838E, h0km*
ISC 20 09:47:21.3±0.5, 4993N±004×1840E±003, h0km, n17, σ1§23/34, Czech and Slovak Republics

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
OKC	**Ostrava-Krasne**	**0.18**	**240**	*e*Pg		**Pg**	**09 47 25.8**	**+1.0**
OKC				Sg		**Sg**	**09 47 28.8**	**+1.6**
	88nm,0.3s							
OKC	**Ostrava-Krasne**	**0.18**	**240**	*e*PG		**Pg**	**09 47 26.3**	**+1.5**
OKC				*e*SG		**Sg**	**09 47 28.8**	**+1.6**
	88nm,0.3s							
MORC	**Moravsky Berou**	**0.57**	**255**	*e*Pg		**Pg**	**09 47 33.1**	**+0.8**
MORC				*e*Sg		**Sg**	**09 47 40.9**	**+1.2**
	15nm,0.3s							
OJC	**Ojcow**	**0.95**	**72**	*e*Pg		**Pg**	**09 47 38.8**	**-0.7**
OJC				*e*Sg		**Sg**	**09 47 52.1**	**+0.3**
OJC	**Ojcow**	**0.95**	**72**	*e*Pg		**Pg**	**09 47 38.8**	**-0.7**
OJC				*e*Sg		**Sg**	**09 47 50.6**	**-1.2**
JAVC	**Velka Javorina**	**1.17**	**204**	*e*Pg		**Pg**	**09 47 44.1**	**+0.4**
JAVC				*e*Sg		**Sg**	**09 48 00.1**	**+1.2**
	2.8nm,0.2s							
VRAC	**Vranov**	**1.33**	**243**	*e*Pg		**Pg**	**09 47 46.7**	**0.0**
VRAC				*e*Sg		**Sg**	**09 48 03.7**	**-0.2**
	10nm,0.3s							
NIE	**Niedzica**	**1.35**	**112**	*e*Pg		**Pg**	**09 47 46.0**	**-1.1**
NIE				*e*Sg		**Sg**	**09 48 05.4**	**+0.8**
DPC	**Dobruska-Polom**	**1.40**	**288**	*e*Pg		**Pg**	**09 47 48.6**	**+0.5**
DPC				Sg		**Sg**	**09 48 07.5**	**+1.3**
	7.8nm,0.3s							
DPC	**Dobruska-Polom**	**1.40**	**288**	*e*PG		**Pg**	**09 47 48.7**	**+0.6**
DPC				*e*SG		**Sg**	**09 48 07.5**	**+1.3**
	7.8nm,0.3s							
VYHS	**Vyhne**	**1.47**	**168**	*e*PN		**Pn**	**09 47 47.4**	**-1.6**
VYHS				*e*SN		**Sn**	**09 48 05.8**	**-3.0**
KRUC	**Moravsky**	**1.57**	**237**	*e*Pg		**Pg**	**09 47 50.1**	**-1.2**
KRUC				*e*Sg		**Sg**	**09 48 10.8**	**-0.8**
UPC	**Upice**	**1.64**	**292**	*e*PG		**Pg**	**09 47 51.7**	**-1.0**
UPC				*e*SG		**Sg**	**09 48 14.5**	**+0.6**
STHS	**Stebnicka Huta**	**1.92**	**104**	*e*PN		**Pn**	**09 47 57.0**	**+1.8**
STHS				*e*SN		**Sn**	**09 48 22.7**	**+2.7**
STHS	**Stebnicka Huta**	**1.92**	**104**	*e*Pn		**Pn**	**09 47 57.1**	**+1.9**
STHS				*e*Sn		**Sn**	**09 48 22.7**	**+2.7**
PRU	**Pruhonice**	**2.49**	**273**	*e*PG		**Pg**	**09 48 08.4**	**-0.6**
PRU				*e*SG		**Sg**	**09 48 40.4**	**-0.8**
KHC	**Kasperske Hory**	**3.24**	**258**	*e*PG		**Pg**	**09 48 20.5**	**-2.8**
KHC				*e*SG		**Sg**	**09 49 03.8**	**-1.5**
	2.5nm,0.4s							

*ISCJB **20** 09:49:30.9±0.4, 3894N±002×2058E±004, h10km, Error ellipse: s-maj=4.2km s-min=2.8km az=166.3*
*CSEM **20** 09:49:30.0±0.1, 3889N×2060E, h2km, ML3.7/7, Error ellipse: s-maj=2.2km s-min=1.5km az=79.0*
*NEIC **20** 09:49:30.6, 3893N×2064E, h15km, MD3.5(ATH), After ATH.*
*ATH **20** 09:49:30.6, 3893N×2064E, h15km±3km, MD3.5/9*
*THE **20** 09:49:31.5, 3895N×2065E, h0km±2km, ML3.7/7, Error ellipse: s-maj=2.6km s-min=1.0km az=260.0*
ISC 20 09:49:31.6±0.4, 3894N±002×2061E±004, h10km, n45, σ1§24/72, 7C-2D, Greece

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
IGT	**Igoumenitsa**	**0.63**	**340**	P		**Pg**	**09 49 42.1**	**-1.7**
IGT				S		**Sg**	**09 49 53.0**	**+0.9**
JAN	**Janina**	**0.74**	**14**⇑	*i*Pn		**Pg**	**09 49 44.8**	**-1.1**
JAN				*e*Sn		**Sg**	**09 49 55.4**	**-0.2**
JAN	**Janina**	**0.74**	**14**⇑	*i*PN		**Pg**	**09 49 44.8**	**-1.1**
JAN				*e*SN		**Sg**	**09 49 55.4**	**-0.2**
VLS	**Valsamata**	**0.76**	**181**	P		**Pg**	**09 49 45.3**	**-0.9**
VLS				*e*Sn		**Sg**	**09 49 56.8**	**+0.8**
VLS				S		**Sg**	**09 49 58.5**	**+2.5**
VLS	**Valsamata**	**0.76**	**181**	*e*Pb		**Pg**	**09 49 44.6**	**-1.6**
VLS				*e*Sn		**Sg**	**09 49 56.8**	**+0.8**
VLS	**Valsamata**	**0.76**	**181**	*e*PB		**Pg**	**09 49 44.6**	**-1.6**
VLS				*e*SN		**Sg**	**09 49 56.8**	**+0.8**
KFL	**Anninata**	**0.84**	**170**	P		**Pg**	**09 49 46.4**	**-1.3**
EVR	**Evrytania**	**0.94**	**91**	*e*Pn		**Pg**	**09 49 48.0**	**-1.5**
EVR				*e*Sn		**Sg**	**09 50 00.8**	**-0.9**
EVR	**Evrytania**	**0.94**	**91**	*e*PN		**Pg**	**09 49 48.0**	**-1.5**
EVR				*e*SN

mb1 4.2/19,mb1mx4.1/26,mbtmp4.1/19,MS3.6/13, Ms1 3.6/13,ms1mx3.4/29,Error ellipse: s-maj=18.5km s-min=13.9km az=87.0

NEIC ***20*** *10:05:54.4±0.7, 40.15N×142.48E, h68km±5km, mb4.8/14, MW4.3(NIED),Error ellipse: s-maj=8.1km s-min=5.8km az=126.0*

NEIC Felt at Misawa. Recorded [2 JMA] in Iwate and [1 JMA] in Aomori and Miyagi Prefectures.

ISC 20 10:05:52.5±0.5,4017N±003×14241E±005,h48km±3km, h60km±3.3km:pP-P,n163,σ0997/170,mb4.6/50,MS3.8/24, 14C-10D,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time h m s	Res
				Op	ISC		
JTH	**Tanohata**	**0.48**	**241**	⇓P	**Pn**	**10 06 01.7**	**-1.6**
JTH				S	**Sn**	**10 06 09.6**	**-1.4**
JANG	**Nango**	**0.71**	**287**	⇓P	**Pn**	**10 06 05.2**	**-1.1**
JANG				S	**Sn**	**10 06 15.4**	**-0.8**
MIYJ	**Miyakonagasawa**	**0.75**	**217**	⇓P	**Pn**	**10 06 05.0**	**-1.7**
MIYJ				S	**Sn**	**10 06 14.9**	**-2.2**
JKZ	**Kuzumaki**	**0.85**	**258**	⇓P	**Pn**	**10 06 07.5**	**-0.6**
JKZ				S	**Sn**	**10 06 19.3**	**-0.2**
JOM	**Ohasama**	**1.11**	**231**	⇓P	**Pn**	**10 06 11.2**	**-0.4**
JOM				S	**Sn**	**10 06 26.2**	**+0.5**
JTM	**Tenmabayashi**	**1.19**	**301**	⇓P	**Pn**	**10 06 12.7**	**0.0**
JTM				*e*S	**Sn**	**10 06 29.0**	**+1.2**
OFUJ	**Ofunato**	**1.23**	**208**	⇓P	**Pn**	**10 06 12.3**	**-1.0**
OFUJ				*e*S	**Sn**	**10 06 28.6**	**-0.1**
JAH	**Hinai**	**1.36**	**271**	⇓P	**Pn**	**10 06 15.4**	**+0.4**
JAH				*e*S	**Sn**	**10 06 33.6**	**+1.8**
JMK	**Ichinoseki**	**1.52**	**217**	⇓P	**Pn**	**10 06 17.0**	**-0.3**
JMK				*e*S	**Sn**	**10 06 36.8**	**+0.9**
ERM	**Erimo**	**1.93**	**17**	Pn	**Pn**	**10 06 22.6**	**-0.2**
	2μm,0.4s,SNR=20						
ERM	**Erimo**	**1.93**	**17**	⇓*e*P	**Pn**	**10 06 22.3**	**-0.5**
ERM	**Erimo**	**1.93**	**17**	*e*Pn	**Pn**	**10 06 24.0**	**+1.2**
ASAJ	**Asahikawa**	**3.94**	**2**	P	**Pn**	**10 06 50.1**	**-0.3**
	7.3nm,0.3s,baz=213,slow=6.9,SNR=29						
ASAJ				LR	LR	10 08 58.3	
	comp=Z,770nm,20.8s,baz=162,slow=47						
ASAJ	**Asahikawa**	**3.94**	**2**	P	**Pn**	**10 06 50.2**	**-0.2**
ASAJ				pmax	pmax		
	comp=Z,7.0nm,0.3s						
ASAJ				MLR	MLR		
	comp=Z,770nm,20.8s						
YUK	**Yuzh-Kuril'sk**	**4.64**	**33**	P	**Pn**	**10 07 08.7**	**+8.8**
MAJO	**Matsushiro**	**4.90**	**224**	*e*P	**Pn**	**10 07 06.2**	**+2.6**
MAT	**Matsushiro**	**4.90**	**224**	P	**Pn**	**10 07 05.9**	**+2.3**
MAT				*e*S	**Sn**	**10 08 10.6**	**+12**
MJAR	**Matsushiro Arr**	**4.90**	**224**	P	**Pn**	**10 07 06.0**	**+2.4**
	comp=Z,7.9nm,0.3s,baz=32,slow=14,SNR=165						
MJAR	**Matsushiro Arr**	**4.90**	**224**	P	**Pn**	**10 07 06.0**	**+2.4**
MJAR				pmax	pmax		
	comp=Z,8.0nm,0.3s						
KUR	**Kuril'sk**	**6.46**	**37**	*e*P	**Pn**	**10 07 20.0**	**-4.9**
KUR				*i* S	**Sn**	**10 08 30.0**	**-7.3**
KUR				smax			
	comp=N,400nm,0.9s						
KUR				smax			
	comp=E,480nm,0.8s						
YSS	**Yuzh-Sakhalins**	**6.78**	**2**	*e*P	**Pn**	**10 07 30.3**	**+0.9**
JHJ	**Hachijo jima 2**	**7.35**	**197**	P	**Pn**	**10 07 38.5**	**+1.4**
	comp=E,21nm,0.3s,baz=245,slow=22,SNR=6.1						
JHJ				S	**Sn**	**10 08 53.3**	**-5.9**
	comp=E,15nm,0.3s,baz=60,slow=23,SNR=4.2						
MDJ	**Mudanjiang**	**10.47**	**299**	P	**Pn**	**10 08 24.8**	**+5.0**
MDJ				S	**Sn**	**10 10 22.9**	**+7.4**
MDJ				AMB	AMB		
	comp=Z,24nm,0.7s						
MDJ				AMB	AMB		
	comp=Z,137nm,4.6s						
MDJ				LR	LR		
	comp=E,221nm,23.6s						
MDJ				LR	LR		
	comp=Z,281nm,20.5s						
MDJ	**Mudanjiang**	**10.47**	**299**	*e*Pn	**Pn**	**10 08 24.7**	**+4.9**
	comp=Z,21nm,0.8s						
KSRS	**Korea Array**	**11.62**	**261**	P	**Pn**	**10 08 40.5**	**+4.8**
	comp=Z,0.4nm,0.3s,baz=91,slow=13,SNR=5.3						
KSRS				LR	LR	10 12 41.8	
	comp=Z,264nm,20.6s,baz=132,slow=35						
PETK	**Petropavlovsk-**	**16.61**	**34**	P	**Pn**	**10 09 36.3**	**-5.6**
	comp=Z,0.1nm,0.3s,baz=209,slow=7.4,SNR=4.8						
HIA	**Hailar**	**18.44**	**307**	*e*P	**Pn**	**10 10 03.5**	**-0.8**
BJI	**Beijing**	**20.05**	**278**	P	**P**	**10 10 21.3**	**-0.2**
BJI				S	**S**	**10 14 04.5**	**+0.4**
BJI				AMB	AMB		
	comp=Z,16nm,0.9s						
BJI				LR	LR		
	comp=N,177nm,21.1s,MS3.5						
BJI				LR	LR		
	comp=E,148nm,25.3s,MS3.5						
BJI				LR	LR		
	comp=Z,94nm,25.3s,MS3.0						
CLNS	**Chul'man**	**20.21**	**331**	*e*P	**P**	**10 10 23.4**	**+0.3**
CLNS				pmax	pmax		
	comp=Z,12nm,0.8s						
CLNS				pmax	pmax		
	comp=N,11nm,0.8s						
CLNS				pmax	pmax		
	comp=E,4.0nm,0.7s						
NJ2	**Nanjing**	**20.64**	**254**	*e*P	**P**	**10 10 30.1**	**+2.1**
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.8s						
YAK	**Yakutsk**	**23.21**	**345**	*c i*P	**P**	**10 10 52.5**	**-2.6**
YAK				pmax	pmax		
	comp=Z,33nm,0.8s,mb4.8						
YAK				MLR	MLR		
	comp=Z,100nm,14.0s,MS3.4						
YAK	**Yakutsk**	**23.21**	**345**	*e*P	**P**	**10 10 52.2**	**-2.9**
	comp=Z,28nm,0.6s,mb4.9						
HHC	**Hu-ho-hao-te**	**23.41**	**282**	*e*P	**P**	**10 10 58.3**	**+1.1**
HHC				AP		10 11 12.8	
HHC				XP	sP	10 11 19.5	+4.8
HHC				PP		10 11 32.1	
HHC				PCP	PcP	10 14 45.5	+3.3
HHC				S	**S**	**10 15 04.6**	**-2.0**
HHC				XS	sS	10 15 27.9	+0.8
HHC				SS		10 15 55.3	
HHC				AMB	AMB		
	comp=Z,25nm,1.0s,mb4.6						
HHC				AMB	AMB		
	comp=Z,115nm,6.4s						
HHC				LR	LR		
	comp=N,143nm,10.2s,MS4.0						
HHC				LR	LR		
	comp=E,197nm,10.3s,MS4.0						
HHC				LR	LR		
	comp=Z,229nm,16.5s						
SEY	**Seymchan**	**23.57**	**11**	*i* P	**P**	**10 10 58.9**	**+0.5**
WHN	**Wuhan**	**24.73**	**256**	⇑P	**P**	**10 11 09.5**	**+0.1**
WHN				S	**S**	**10 15 21.5**	**-6.6**
WHN				LR	LR		
	comp=Z,402nm,12.8s,MS4.1						
BOD	**Bodaibo**	**25.38**	**324**	*e*P	**P**	**10 11 14.3**	**-0.7**
BOD				pmax	pmax		
	comp=Z,17nm,0.7s,mb4.7						
GUMO	**Guam**	**26.57**	**175**	LR	LR	10 20 58.4	
	comp=Z,70nm,18.9s,MS3.2,baz=270,slow=34						
SONM	**Songino Array**	**26.82**	**299**	P	**P**	**10 11 29.0**	**+0.9**
	comp=Z,2.6nm,0.5s,mb4.0,baz=102,slow=8.6,SNR=15						
SONM				LR	LR	10 22 49.1	
	comp=Z,208nm,18.1s,MS3.7,baz=66,slow=38						
SONM	**Songino Array**	**26.82**	**299**	P	**P**	**10 11 29.0**	**+0.9**
SONM				pmax	pmax		
	comp=Z,3.0nm,0.5s						
SONM				MLR	MLR		
	comp=Z,208nm,18.1s						
ZAK	**Zakamensk**	**29.05**	**304**	*e*P	**P**	**10 11 48.2**	**+0.2**
ZAK				*e*	pP	10 11 59.0	-1.4
ZAK				pmax	pmax		
	comp=Z,5.0nm,1.3s,mb4.1						
LZH	**Lanzhou**	**30.45**	**275**	*e*P	**P**	**10 12 05.0**	**+4.5**
LZH				AP	pP	10 12 20.8	+7.9
LZH				XP	sP	10 12 28.0	+9.4
LZH				PP	PP	10 13 06.3	-3.4
LZH				AMB	AMB		
	comp=Z,25nm,1.1s,mb4.9						
LZH				AMB	AMB		
	comp=Z,133nm,5.0s						
LZH				LR	LR		
	comp=E,679nm,13.0s						
LZH				LR	LR		
	comp=Z,907nm,16.9s,MS4.5						
BILL	**Bilibino**	**30.80**	**17**	*e*P	**P**	**10 12 05.1**	**+1.8**
BILL				pmax	pmax		
	comp=Z,5.0nm,1.0s,mb4.3						
TIXI	**Tiksi**	**32.28**	**352**	*i* P	**P**	**10 12 15.2**	**-1.0**
TIXI				pmax	pmax		
	comp=Z,1.0nm,0.4s,mb4.0						
GTA	**Gaotai**	**32.51**	**283**	*e*P	**P**	**10 12 19.8**	**+1.2**
GTA				AP	pP	10 12 35.3	+4.2
GTA				XP	sP	10 12 43.8	+7.1
GTA				PP	PP	10 13 30.8	-1.8
GTA				S	**S**	**10 17 30.8**	**+0.5**
GTA				XS	sS	10 17 55.9	+4.6
GTA				SS	SS	10 19 29.6	-22
GTA				AMB	AMB		
	comp=Z,7.0nm,0.6s,mb4.8						
GTA				AMB	AMB		
	comp=Z,104nm,6.0s						
GTA				LR	LR		
	comp=N,118nm,14.9s						
GTA				LR	LR		
	comp=E,156nm,20.5s						
GTA				LR	LR		
	comp=Z,230nm,17.2s,MS3.9						
CD2	**Chengdu**	**32.56**	**266**	*e*P	**P**	**10 12 20.0**	**+0.8**
CD2				AP	pP	10 12 35.0	+3.4
CD2				XP	sP	10 12 44.0	+6.7
CD2				PP	PP	10 13 30.5	-2.8
CD2				S	**S**	**10 17 31.3**	**0.0**
CD2				SS	SS	10 19 30.0	-23
CD2				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.8						
CD2				AMB	AMB		
	comp=Z,30nm,4.2s						
CD2				LR	LR		
	comp=E,160nm,8.4s						
CD2				LR	LR		
	comp=Z,100nm,4.8s						
GYA	**Guiyang**	**32.62**	**256**	P	**P**	**10 12 21.8**	**+2.1**
GYA				AP	pP	10 12 38.4	+6.2
GYA				XP	sP	10 12 46.8	+9.0
GYA				PP	PP	10 13 32.3	-1.7
GYA				S	**S**	**10 17 31.0**	**-1.2**
GYA				XS	sS	10 18 01.6	+8.4
GYA				SCP	ScP	10 18 42.8	-2.0
GYA				PCS	PcS	10 18 52.6	+2.3
GYA				SS	SS	10 19 32.0	-22
GYA				AMB	AMB		
	comp=Z,30nm,1.0s,mb5.2						
GYA				AMB	AMB		
	comp=Z,140nm,4.9s						
GYA				LR	LR		
	comp=N,170nm,17.4s,MS4.3						
GYA				LR	LR		
	comp=E,550nm,18.0s,MS4.3						
GYA				LR	LR		
	comp=Z,640nm,17.5s,MS4.4						
KMI	**Kunming**	**36.30**	**258**	P	**P**	**10 12 51.6**	**+0.1**
KMI				AP	pP	10 13 09.3	+5.2
KMI				XP	sP	10 13 18.4	+8.7
KMI				PP	PP	10 14 18.3	+3.7
KMI				S	**S**	**10 18 27.0**	**-1.9**
KMI				XS	sS	10 18 55.6	+5.5
KMI				SS	SS	10 20 54.9	-14
KMI				SCS	ScS	10 23 02.0	-2.2
KMI				AMB	AMB		
	comp=Z,11nm,0.8s,mb4.8						
KMI				AMB	AMB		
	comp=Z,64nm,3.1s						
KMI				LR	LR		
	comp=N,198nm,13.5s,MS4.2						
KMI				LR	LR		
	comp=E,177nm,14.7s,MS4.2						
KMI				LR	LR		
	comp=Z,195nm,12.9s,MS4.1						
WMQ	**Urumqi**	**40.20**	**294**	P	**P**	**10 13 25.5**	**+1.4**
WMQ				AP	pP	10 13 41.0	+4.1
WMQ				XP	sP	10 13 48.0	+5.6
WMQ				PP	PP	10 15 02.8	+5.7
WMQ				PCP	PcP	10 15 29.5	+2.1
WMQ				AMB	AMB		
	comp=Z,7.0nm,0.8s,mb4.4						
WMQ				AMB	AMB		
	comp=Z,49nm,2.8s,mb4.7						
WMQ				LR	LR		
	comp=N,31nm,19.0s,MS3.5						
WMQ				LR	LR		
	comp=E,56nm,21.6s,MS3.5						
WMQ				LR	LR		
	comp=Z,41nm,18.0s,MS3.3						
ZAA0	**Zalesovo Array**	**40.44**	**310**	*e*P	**P**	**10 13 26.1**	**+0.2**
ZALV	**Zalesovo Beam**	**40.44**	**310**	P	**P**	**10 13 26.2**	**+0.2**
	comp=Z,5.7nm,0.6s,mb4.5,baz=90,slow=8.2,SNR=27						
ZALV				LR	LR	10 31 03.4	
	comp=Z,98nm,18.5s,MS3.7,baz=65,slow=37						
ZALV	**Zalesovo Beam**	**40.44**	**310**	P	**P**	**10 13 26.2**	**+0.2**
ZALV				pmax	pmax		
	comp=Z,6.0nm,0.6s,mb4.5						
ZALV				MLR	MLR		
	comp=Z,98nm,18.5s,MS3.7						
ZALV	**Zalesovo Beam**	**40.44**	**310**	P	**P**	**10 13 26.2**	**+0.2**
ZALV				LR	LR	10 31 03.5	
NVS	**Novosibirsk**	**41.30**	**311**	*e*P	**P**	**10 13 32.3**	**-0.7**
CMAR	**Chiang Mai Arr**	**43.11**	**253**	P	**P**	**10 13 48.6**	**+0.5**
	comp=Z,0.7nm,0.3s,mb3.8,baz=52,slow=6.4,SNR=6.0						
CMAR				LR	LR	10 31 32.2	
	comp=Z,22nm,19.1s,MS3.1,baz=260,slow=36						
CMAR	**Chiang Mai Arr**	**43.11**	**253**	P	**P**	**10 13 48.7**	**+0.6**
CMAR				pmax	pmax		
	comp=Z,1.0nm,0.4s						
CMAR				MLR	MLR		
	comp=Z,22nm,19.2s						
MK31	**Makanchi Array**	**43.18**	**299**	*e*P	**P**	**10 13 48.8**	**+0.4**
MKAR	**Makanchi Array**	**43.18**	**299**	P	**P**	**10 13 48.5**	**+0.1**
	comp=Z,5.1nm,0.7s,mb4.3,baz=87,slow=11,SNR=23						
MKAR				LR	LR	10 32 38.1	
	comp=Z,90nm,19.4s,MS3.7,baz=357,slow=37						
MKAR	**Makanchi Array**	**43.18**	**299**	P	**P**	**10 13 48.6**	**+0.2**
MKAR				pmax	pmax		
	comp=Z,5.0nm,0.7s						
MKAR				MLR	MLR		
	comp=Z,90nm,19.4s						
IMA2	**Indian Mountai**	**43.60**	**32**	*e*P	**P**	**10 13 52.4**	**+0.9**
KDAK	**Kodiak Island**	**44.28**	**44**	P	**P**	**10 13 55.9**	**-1.2**
	comp=Z,3.7nm,0.7s,mb4.2,baz=309,slow=6.8,SNR=5.3						
KURK	**Kurchatov**	**44.67**	**306**	P	**P**	**10 14 00.8**	**+0.5**
	comp=Z,22nm,0.6s,mb5.1,baz=81,slow=8.5,SNR=41						
KURK				LR	LR	10 34 06.2	
	comp=Z,54nm,18.1s,MS3.5,baz=355,slow=38						
KURK	**Kurchatov**	**44.67**	**306**	P	**P**	**10 14 00.8**	**+0.5**
KURK				pmax	pmax		
	comp=Z,22nm,0.6s,mb5.2						
KURK				MLR	MLR		
	comp=Z,54nm,18.1s,MS3.5						
KURK	**Kurchatov**	**44.67**	**306**	*e*P	**P**	**10 14 00.3**	**0.0**
	comp=Z,21nm,0.7s,mb5.1						
COLA	**College**	**46.03**	**34**	*i* P	**P**	**10 14 16.1**	**+5.2**
TKM2	**Tokmak 2**	**48.88**	**296**	*e*P	**P**	**10 14 34.0**	**+0.7**
TKM2				pmax	pmax		
	comp=Z,12nm,0.8s,mb5.0						
TKM2	**Tokmak 2**	**48.88**	**296**	*e*P	**P**	**10 14 34.0**	**+0.7**
	comp=Z,12nm,0.8s,mb5.0						
BVAR	**Borovoye Array**	**49.08**	**311**	LR	LR	10 36 38.8	
	comp=Z,82nm,18.4s,MS3.8,baz=333,slow=38						
INK	**Inuvik**	**51.25**	**28**	*e*P	**P**	**10 14 51.5**	**+0.6**
INK				pmax	pmax		
	comp=Z,65nm,0.4s						
INK	**Inuvik**	**51.25**	**28**	*e*P	**P**	**10 14 51.5**	**+0.6**
	comp=Z,66nm,0.4s						
HYT	**Haines Junctio**	**51.34**	**38**	*e*P	**P**	**10 14 53.6**	**+1.9**
SVE	**Sverdlovsk**	**53.34**	**317**	⇓*e*P	**P**	**10 15 07.6**	**+1.0**
SVE				pmax	pmax		
	comp=Z,24nm,0.7s,mb5.2						
SOKR	**Solikamsk**	**54.35**	**321**	⇑*i*P	**P**	**10 15 14.1**	**+0.2**
SOKR				pmax	pmax		
	comp=Z,10.0nm,0.9s,mb4.8						
ARU	**Arti**	**54.56**	**317**	*c i*P	**P**	**10 15 15.4**	**0.0**
ARU				*e*S	**S**	**10 22 49.2**	**-1.9**
ARU				*e*SS	SS	10 26 25.0	-8.5
ARU				pmax	pmax		
	comp=Z,12nm,1.0s,mb4.9						
ARU	**Arti**	**54.56**	**317**	*e*P	**P**	**10 15 15.7**	**+0.2**
	comp=Z,29nm,1.1s,mb5.2						
KBL	**Kabul**	**57.06**	**290**	*e*P	**P**	**10 15 33.6**	**-0.1**
KBL				pmax	pmax		
	comp=Z,24nm,0.8s,mb5.3						
KBL	**Kabul**	**57.06**	**290**	*e*P	**P**	**10 15 33.6**	**-0.1**
	comp=Z,24nm,0.8s,mb5.3						
AKTK	**Aktyubinsk**	**57.19**	**311**	P	**P**	**10 15 34.6**	**+0.2**
AKTO	**Aktyubinsk**	**57.19**	**311**	P	**P**	**10 15 34.6**	**+0.2**
	comp=Z,8.4nm,0.8s,mb4.8,baz=72,slow=9.6,SNR=24						
AKTO	**Aktyubinsk**	**57.19**	**311**	P	**P**	**10 15 34.6**	**+0.2**
AKTO				pmax	pmax		
	comp=Z,8.0nm,0.8s,mb4.8						
WRA	**Warramunga Arr**	**60.27**	**189**	P	**P**	**10 15 55.1**	**-0.9**
	comp=Z,1.9nm,0.6s,mb4.3,baz=7.0,slow=6.9,SNR=32						
WRA	**Warramunga Arr**	**60.27**	**189**	P	**P**	**10 15 55.1**	**-0.9**
WRA				pmax	pmax		
	comp=Z,2.0nm,0.6s						
YKA	**Yellowknife Ar**	**60.72**	**31**	LR	LR	10 47 43.3	
	comp=Z,39nm,18.8s,MS3.6,baz=5.0,slow=41						
ARCES	**ARCESS Array B**	**61.34**	**339**	P	**P**	**10 16 01.7**	**-1.1**
	comp=Z,3.8nm,0.9s,mb4.5,baz=46,slow=10,SNR=5.0						
ARCES				LR	LR	10 50 49.1	
	comp=Z,84nm,18.2s,MS3.9,baz=216,slow=44						
ARCES	**ARCESS Array B**	**61.34**	**339**	P	**P**	**10 16 01.7**	**-1.1**
ARCES				LR	LR	10 50 49.1	
JOF	**Joensuu**	**63.57**	**332**	*e*p	**P**	**10 16 17.3**	**-0.4**
	comp=Z,3.8nm,0.7s,mb4.5						
JOF	**Joensuu**	**63.57**	**332**	*e*P	**P**	**10 16 17.3**	**-0.4**
JOF				pmax	pmax		
	comp=Z,4.0nm,0.7s,mb4.6						
ASAR	**Alice Springs**	**64.00**	**189**	P	**P**	**10 16 20.3**	**-0.6**
	comp=Z,1.2nm,0.8s,mb4.0,baz=8.2,slow=5.7,SNR=12						
ASAR	**Alice Springs**	**64.00**	**189**	P	**P**	**10 16 20.3**	**-0.6**
ASAR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
KAF	**Kangasniemi**	**65.89**	**332**	*e*p	**P**	**10 16 32.2**	**-0.6**
	comp=Z,3.3nm,0.7s,mb4.5						
KAF	**Kangasniemi**	**65.89**	**332**	*e*P	**P**	**10 16 32.2**	**-0.6**
KAF				pmax	pmax		
	comp=Z,3.0nm,0.7s,mb4.4						
OBN	**Obninsk**	**66.06**	**323**	*i* P	**P**	**10 16 34.5**	**+0.4**
OBN				*e*		10 17 04.3	
OBN				pmax	pmax		
	comp=Z,6.0nm,0.4s,mb5.0						
FINES	**FINESS Array B**	**66.41**	**332**	*e*P	**P**	**10 16 35.1**	**-1.1**
VSR	**Storozhevoye**	**67.10**	**318**	*e*P	**P**	**10 16 40.4**	**-0.3**
VSR				pmax	pmax		
	comp=Z,6.0nm,0.5s,mb4.9						
VSR				pmax	pmax		
	comp=N,10.0nm,0.6s						
VSR				pmax	pmax		
	comp=E,4.0nm,0.3s						
KIV	**Kislovodsk**	**69.45**	**311**	*i* P	**P**	**10 16 57.1**	**+1.5**
KIV				*i*		10 17 26.6	
KIV				pmax	pmax		
	comp=Z,21nm,0.9s,mb5.1						
HRY	**Holter Researc**	**71.16**	**44**	*e*P	**P**	**10 17 06.9**	**+0.9**
NB2	**NORSAR Subarra**	**71.60**	**337**	P	**P**	**10 17 08.0**	**-0.4**
	comp=Z,5.0nm,0.8s,mb4.5,baz=40,slow=6.2						
NOA	**NORSAR Array B**	**71.60**	**337**	P	**P**	**10 17 08.3**	**-0.1**
	comp=Z,4.7nm,0.8s,mb4.5,baz=39,slow=6.0,SNR=15						
NOA				LR	LR	10 51 18.4	
	comp=Z,43nm,18.9s,MS3.7,baz=0.0,slow=38						
NOA	**NORSAR Array B**	**71.60**	**337**	P	**P**	**10 17 08.3**	**-0.1**
NOA				pmax	pmax		
	comp=Z,5.0nm,0.8s						
NOA				MLR	MLR		
	comp=Z,43nm,18.9s						
ANN	**Anapa**	**71.92**	**314**	*e*P	**P**	**10 17 07.5**	**-3.1**
ANN				*e*S	S	10 26 20.6	-7.4
ANN				pmax	pmax		
	comp=Z,41nm,1.5s,mb5.1						
AKASG	**Malin Array Be**	**72.30**	**322**	P	**P**	**10 17 12.4**	**-0.3**
	comp=Z,2.8nm,0.6s,mb4.4,baz=45,slow=6.1,SNR=13						
AKASG	**Malin Array Be**	**72.30**	**322**	P	**P**	**10 17 12.5**	**-0.2**
AKASG				pmax	pmax		
	comp=Z,3.0nm,0.6s						
PDAR	**Pinedale Array**	**74.93**	**46**	P	**P**	**10 17 28.6**	**+0.2**
	comp=Z,0.5nm,0.5s,mb3.7,baz=318,slow=2.0,SNR=4.3						
MIB	**Mutribah**	**75.00**	**296**	*e*P	**P**	**10 17 27.5**	**-1.4**
	baz=296						
MIB				AMb	AMB	10 17 29.2	
	comp=Z,17nm,0.9s,mb5.0,baz=296						
QRN	**Al-Qurain**	**75.24**	**295**	*e*P	**P**	**10 17 29.6**	**-0.8**
	baz=295						
QRN				AMb	AMB	10 17 35.9	
	comp=Z,50nm,1.4s,mb5.2,baz=295						
RDF	**Al-Radifah**	**75.39**	**295**	*e*P	**P**	**10 17 29.6**	**-1.6**
	baz=295						
RDF				AMb	AMB	10 17 39.6	
	comp=Z,36nm,1.4s,mb5.1,baz=295						
NAY	**Al-Naaiem**	**75.40**	**296**	*e*P	**P**	**10 17 30.4**	**-0.9**
	baz=296						
NAY				AMb	AMB	10 17 31.9	
	comp=Z,10.0nm,0.8s,mb4.8,baz=296						
RST	**Umm Al-Ruwaisa**	**75.42**	**296**	*e*P	**P**	**10 17 29.9**	**-1.4**
	baz=296						
RST				AML	AML	10 17 31.5	
	comp=Z,8.0nm,0.6s,baz=296						
DPC	**Dobruska-Polom**	**78.22**	**328**	*e*P	**P**	**10 17 47.2**	**+0.5**
DPC				*e*pP	pP	10 18 01.0	+0.4
CLL	**Collm**	**78.76**	**330**	*i* P	**P**	**10 17 49.5**	**-0.3**
CLL				pmax	pmax		
	comp=Z,6.0nm,0.9s,mb4.5						
CLL	**Collm**	**78.76**	**330**	*i* P	**P**	**10 17 49.5**	**-0.3**
	comp=Z,6.0nm,0.9s,mb4.5						
PRU	**Pruhonice**	**79.21**	**329**	*e*P	**P**	**10 17 52.9**	**+0.7**
NKC	**Novy Kostel**	**79.84**	**330**	*e*P	**P**	**10 17 55.2**	**-0.4**
KHC	**Kasperske Hory**	**80.28**	**329**	*e*P	**P**	**10 17 54.8**	**-3.2**
KHC				*e*pP	pP	10 18 09.8	-2.1
GERES	**GERESS Array B**	**80.45**	**328**	P	**P**	**10 17 59.5**	**+0.5**
	comp=Z,1.4nm,0.7s,mb4.0,baz=43,slow=6.0,SNR=4.5						
GERES				LR	LR	10 56 46.4	
	comp=Z,52nm,18.6s,MS3.9,baz=50,slow=38						
GERES	**GERESS Array B**	**80.45**	**328**	P	**P**	**10 17 59.5**	**+0.5**
GERES				pmax	pmax		
	comp=Z,1.0nm,0.7s						
GERES				MLR	MLR		
	comp=Z,53nm,18.6s						
GIVF	**Givet**	**82.69**	**334**	*e*P	**P**	**10 18 10.1**	**-0.6**
BAIF	**Baives**	**82.93**	**334**	*e*P	**P**	**10 18 11.9**	**-0.1**
CDF	**Champ du Feu**	**83.26**	**332**	*e*P	**P**	**10 18 13.6**	**-0.2**
	comp=Z,8.6nm,0.9s,mb4.5						
CDF	**Champ du Feu**	**83.26**	**332**	*e*P	**P**	**10 18 13.6**	**-0.2**
CDF				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb4.5						
CDF	**Champ du Feu**	**83.26**	**332**	*e*P	**P**	**10 18 13.6**	**-0.2**
	comp=Z,4.3nm,0.9s,mb4.5						
HAU	**Haudompre**	**83.94**	**332**	*e*P	**P**	**10 18 16.6**	**-0.6**
HAU				*e*MLR	MLR		
	comp=Z,69nm,18.2s,MS3.8						
HAU	**Haudompre**	**83.94**	**332**	*e*P	**P**	**10 18 16.6**	**-0.6**
HAU				LR	LR		
	comp=Z,70nm,18.3s,MS4.1						
PMOR	**

LPL				pmax	pmax			
	comp=Z,8.0nm,1.0s,mb4.9							
LPL	**La Plagne**	**85.90**	**330**	*eP*	**P**	**10**	**18**	**27.3 +0.2**
	comp=Z,7.9nm,1.0s,mb4.9							
LPG	**La Plagne**	**85.91**	**330**	*eP*	**P**	**10**	**18**	**27.5 +0.3**
	comp=Z,22nm,1.0s,mb5.0							
LPG	**La Plagne**	**85.91**	**330**	*eP*	**P**	**10**	**18**	**27.5 +0.3**
LPG				pmax	pmax			
	comp=Z,11nm,1.0s,mb5.0							
LPG	**La Plagne**	**85.91**	**330**	*eP*	**P**	**10**	**18**	**27.5 +0.3**
	comp=Z,11nm,1.0s,mb5.0							
SMF	**Signal de Mont**	**85.99**	**333**	*eP*	**P**	**10**	**18**	**27.2 -0.3**
AVF	**Avril sur Loir**	**86.03**	**333**	⇑*iP*	**P**	**10**	**18**	**27.7 -0.1**
	comp=Z,18nm,0.8s,mb5.1							
AVF	**Avril sur Loir**	**86.03**	**333**	*iP*	**P**	**10**	**18**	**27.7 -0.1**
AVF				pmax	pmax			
	comp=Z,9.0nm,0.8s,mb5.0							
AVF	**Avril sur Loir**	**86.03**	**333**	⇑*iP*	**P**	**10**	**18**	**27.7 -0.1**
	comp=Z,8.9nm,0.8s,mb5.0							
MEH	**Mehetia**	**86.61**	**117**	*eT*		11	53	59.7
	comp=Z,2μm,0.3s							
SGMF	**Saint Gilles**	**86.64**	**337**	*eP*	**P**	**10**	**18**	**30.7 0.0**
TCF	**Toulx Ste Croi**	**86.86**	**334**	*eP*	**P**	**10**	**18**	**31.8 0.0**
VIVF	**Saint-Julien-l**	**87.23**	**331**	*eP*	**P**	**10**	**18**	**33.6 0.0**
MFF	**Saint Martin d**	**87.37**	**335**	*eP*	**P**	**10**	**18**	**34.5 +0.2**
	comp=Z,12nm,0.8s,mb4.9							
MFF	**Saint Martin d**	**87.37**	**335**	*eP*	**P**	**10**	**18**	**34.5 +0.2**
MFF				pmax	pmax			
	comp=Z,6.0nm,0.8s,mb4.9							
MFF	**Saint Martin d**	**87.37**	**335**	*eP*	**P**	**10**	**18**	**34.5 +0.2**
	comp=Z,5.8nm,0.8s,mb4.9							
TXAR	**Lajitas Array**	**87.60**	**53**	P	**P**	**10**	**18**	**35.4 -0.4**
	comp=Z,0.3nm,0.7s,mb3.6,baz=267,slow=1.9,SNR=4.4							
RJF	**Les Rejaudoux**	**87.96**	**334**	*eP*	**P**	**10**	**18**	**37.3 +0.2**
RJF				*e*MLR	MLR			
	comp=Z,66nm,20.2s,MS3.7							
RJF	**Les Rejaudoux**	**87.96**	**334**	*eP*	**P**	**10**	**18**	**37.3 +0.2**
RJF				LR	LR			
	comp=Z,70nm,20.3s,MS4.1							
CAF	**Calviac**	**88.10**	**333**	*eP*	**P**	**10**	**18**	**38.4 +0.6**
LFF	**La Frestale**	**88.54**	**334**	*eP*	**P**	**10**	**18**	**40.3 +0.4**
TBI	**Tubuai**	**89.48**	**121**	*eT*		11	57	32.8
	comp=Z,12nm,0.3s							
TORD	**Torodi Ar. Bea**	**115.63**	**317**	PKP	PKPdf	10	24	28.6 -1.2
	comp=Z,0.2nm,0.5s,baz=17,slow=1.5,SNR=2.8							
SNAA	**Sanae**	**143.97**	**198**	*e*PKPdf	PKPdf	10	25	18.5 -2.8
SNAA				*e*		10	25	21.0
SNAA				*e*		10	25	32.5
SNAA	**Sanae**	**143.97**	**198**	*e*PKPdf	PKPdf	10	25	18.8 -2.5
VNA2	**Neumayer--Watz**	**145.54**	**197**	*e*PKPdf	PKPdf	10	25	23.9 -0.2
VNA2				*e*		10	25	26.3
VNA2				*e*		10	25	38.8
VNA2				*e*		10	25	44.7
VNA3	**Neumayer Olymp**	**145.79**	**196**	*e*PKPdf	PKPdf	10	25	24.3 -0.2
VNA3				*e*		10	25	26.2
VNA3				*e*		10	25	36.9
VNA3				*e*		10	25	42.5
VNA1	**Neumayer--Stat**	**145.94**	**197**	*e*PKPdf	PKPdf	10	25	25.5 +0.8
VNA1				*e*		10	25	27.3
VNA1				*e*		10	25	40.0

*IDC **20** 10:10:18.5±1.7,2366N×9178E,h0km,mb3.8/5,mb1 4.0/6, mb1mx3.7/22,mbtmpb3.8/6,ML3.9/1,Error ellipse: s-maj=70.3km s-min=20.8km az=63.0*

*ISCJB **20** 10:10:20.9±1.0,2368N±007×9168E±010,h33km,mb3.8/5, Error ellipse: s-maj=13.1km s-min=10.7km az=173.0*

ISC 20 10:10:23.3±1.0,2370N±008×917E±01,h35km,n8, σ1§22/10,mb3.8/5,India-Bangladesh border region

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h	m	s ISC
SHL	**Shillong**	**1.86**	**4**	*e*PG	**Pn**	**10**	**10**	**50.5 -2.1**
SHL				*i* x	x	10	10	57.5
SHL				*i* SG	**Sn**	**10**	**11**	**11.7 -3.2**
IMP	**Imphal**	**2.28**	**61**	*e*P	**Pn**	**10**	**10**	**59.0 +0.6**
IMP				*e*S	**Sn**	**10**	**11**	**26.0 +0.7**
CMAR	**Chiang Mai Arr**	**8.52**	**126**	Pn	**Pn**	**10**	**12**	**22.4 -1.8**
	0.4nm,0.3s,baz=306,slow=13,SNR=8.5							
MKAR	**Makanchi Array**	**24.26**	**344**	P	**P**	**10**	**15**	**38.1 +1.3**
	0.5nm,0.4s,mb3.3,baz=158,slow=7.8,SNR=3.7							
SONM	**Songino Array**	**26.77**	**22**	P	**P**	**10**	**16**	**00.3 +0.6**
	0.6nm,0.6s,mb3.3,baz=209,slow=7.7,SNR=3.6							
ARCES	**ARCESS Array B**	**59.72**	**338**	P	**P**	**10**	**20**	**24.8 +0.8**
	4.5nm,0.9s,mb4.5,baz=104,slow=10,SNR=3.7							
WRA	**Warramunga Ar**	**60.06**	**133**	P	**P**	**10**	**20**	**26.9 -0.1**
	0.8nm,0.6s,mb3.9,baz=322,slow=7.3,SNR=8.9							
ASAR	**Alice Springs**	**62.40**	**136**	P	**P**	**10**	**20**	**43.2 +0.4**
	0.8nm,0.8s,mb3.9,baz=317,slow=6.3,SNR=6.4							

*NIED **20** 10:10:00,40.10N×14250E,h53km,Mw3.9 Best double couple: M0 9.29000×10^14 NP1:φs16.00000°,δ71.00000°, λ88.00000°. NP2:φs202.00000°,δ19.00000°,λ95.00000°.*

*JMA **20** 10:10:28.0±0.1,4015N×14248E,h34km±1km,M4.2*

JMA Felt I J1.

*ISCJB **20** 10:10:28.4±0.8,4017N±004×14245E±009,h49km±7km, mb4.0/5,Error ellipse: s-maj=11.0km s-min=6.2km az=4.2*

*IDC **20** 10:10:30.9±1.5,4058N×14125E,h0km,mb3.9/7, mb1 4.0/9,mb1mx3.8/23,mbtmpb3.9/9,ML3.8/2,Error ellipse: s-maj=42.8km s-min=19.5km az=76.0*

*NEIC **20** 10:10:31.2±4.0,4028N×14236E,h56km±64km, MG4.2(JMA),Error ellipse: s-maj=184.0km s-min=9.6km az=119.0*

NEIC Recorded [1 JMA] in Aomori and Iwate Prefectures.

*MOS **20** 10:10:33.2±2.0,4054N×14166E,h49km,mb4.1/5,Error ellipse: s-maj=20.5km s-min=11.7km az=82.3*

ISC 20 10:10:29.5±0.9,4016N±004×14241E±009,h43km±8km, n33,σ1§06/42,mb4.0/5,8D,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h	m	s ISC
JTH	**Tanohata**	**0.47**	**243**	⇓P	**Pn**	**10**	**10**	**38.7 -1.3**
JTH				*e*S	**Sn**	**10**	**10**	**46.5 -0.9**
JANG	**Nango**	**0.72**	**288**	⇓P	**Pn**	**10**	**10**	**42.2 -1.1**
JANG				S	**Sn**	**10**	**10**	**52.1 -1.1**
MIYJ	**Miyakonagasawa**	**0.74**	**218**	⇓P	**Pn**	**10**	**10**	**42.0 -1.5**
MIYJ				*e*S	**Sn**	**10**	**10**	**51.9 -1.7**
JKZ	**Kuzumaki**	**0.85**	**259**	⇓P	**Pn**	**10**	**10**	**44.5 -0.5**
JKZ				S	**Sn**	**10**	**10**	**56.1 -0.2**
JOM	**Ohasama**	**1.10**	**232**	⇓P	**Pn**	**10**	**10**	**48.2 -0.2**
JOM				S	**Sn**	**10**	**11**	**03.2 +0.8**
JTM	**Tenmabayashi**	**1.20**	**302**	⇓P	**Pn**	**10**	**10**	**49.7 -0.1**
JTM				S	**Sn**	**10**	**11**	**05.8 +0.8**
OFUJ	**Ofunato**	**1.22**	**208**	⇓P	**Pn**	**10**	**10**	**49.3 -0.8**
OFUJ				*e*S	**Sn**	**10**	**11**	**05.5 +0.2**
JAH	**Hinai**	**1.36**	**272**	⇓P	**Pn**	**10**	**10**	**52.4 +0.4**
JAH				S	**Sn**	**10**	**11**	**10.6 +1.8**
JMK	**Ichinoseki**	**1.52**	**218**	P	**Pn**	**10**	**10**	**54.1 0.0**
JMK				S	**Sn**	**10**	**11**	**14.0 +1.4**
ERM	**Erimo**	**1.94**	**17**	*e*Pn	**Pn**	**10**	**11**	**00.4 +0.4**
ERM				*e*Sn	**Sn**	**10**	**11**	**29.4 +6.3**
ASAJ	**Asahikawa**	**3.96**	**2**	Pn	**Pn**	**10**	**11**	**29.8 +2.1**
	6.7nm,0.3s,baz=221,slow=6.1,SNR=15							
ASAJ				Sn	**Sn**	**10**	**12**	**20.8 +7.9**
	5.8nm,0.3s,baz=9.0,slow=31,SNR=5.8							
ASAJ	**Asahikawa**	**3.96**	**2**	P	**Pn**	**10**	**11**	**29.8 +2.1**
ASAJ						10	12	20.8
ASAJ				pmax	pmax			
	comp=Z,7.0nm,0.3s							
ASAJ				smax				
	comp=N,6.0nm,0.3s							
MAJO	**Matsushiro**	**4.89**	**224**	*e*P	**Pn**	**10**	**11**	**43.1 +2.6**
MAT	**Matsushiro**	**4.89**	**224**	P	**Pn**	**10**	**11**	**41.8 +1.3**
MAT				*e*S	**Sn**	**10**	**12**	**40.2 +4.4**
MJAR	**Matsushiro Arr**	**4.89**	**224**	Pn	**Pn**	**10**	**11**	**43.0 +2.5**
	comp=N,2.8nm,0.3s,baz=31,slow=14,SNR=22							
MJAR	**Matsushiro Arr**	**4.89**	**224**	P	**Pn**	**10**	**11**	**43.0 +2.5**
MJAR				pmax	pmax			
	comp=Z,3.0nm,0.3s							
BOD	**Bodaibo**	**25.39**	**324**	*e*P	**P**	**10**	**15**	**51.9 -0.7**
SONM	**Songino Array**	**26.83**	**299**	P	**P**	**10**	**16**	**05.4 -0.2**
	comp=Z,0.8nm,0.5s,mb3.5,baz=106,slow=9.4,SNR=4.4							
SONM	**Songino Array**	**26.83**	**299**	P	**P**	**10**	**16**	**05.4 -0.3**
SONM				pmax	pmax			
	comp=Z,1.0nm,0.5s							
SONM	**Songino Array**	**26.83**	**299**	P	**P**	**10**	**16**	**05.4 -0.2**
ZALV	**Zalesovo Beam**	**40.46**	**310**	P	**P**	**10**	**18**	**03.1 -0.4**
	comp=Z,1.5nm,0.5s,mb4.0,baz=94,slow=9.1,SNR=4.0							
ZALV	**Zalesovo Beam**	**40.46**	**310**	P	**P**	**10**	**18**	**03.2 -0.4**
ZALV				pmax	pmax			
	comp=Z,2.0nm,0.5s,mb4.1							
MK31	**Makanchi Array**	**43.19**	**299**	*e*P	**P**	**10**	**18**	**25.8 -0.2**
MKAR	**Makanchi Array**	**43.19**	**299**	P	**P**	**10**	**18**	**25.6 -0.4**
	comp=Z,0.9nm,0.5s,mb3.8,baz=85,slow=9.9,SNR=4.8							
MKAR	**Makanchi Array**	**43.19**	**299**	P	**P**	**10**	**18**	**25.6 -0.4**
MKAR				pmax	pmax			
	comp=Z,1.0nm,0.5s							
KURK	**Kurchatov**	**44.68**	**306**	P	**P**	**10**	**18**	**37.8 -0.1**
	comp=Z,5.2nm,0.6s,mb4.5,baz=81,slow=8.6,SNR=9.4							
KURK	**Kurchatov**	**44.68**	**306**	P	**P**	**10**	**18**	**37.8 -0.1**
KURK				pmax	pmax			
	comp=Z,5.0nm,0.6s,mb4.5							
KURK	**Kurchatov**	**44.68**	**306**	*e*P	**P**	**10**	**18**	**37.3 -0.6**
AKTO	**Aktyubinsk**	**57.20**	**311**	P	**P**	**10**	**20**	**11.3 -0.7**
	comp=Z,1.9nm,0.8s,mb4.2,baz=62,slow=14,SNR=5.5							
AKTO	**Aktyubinsk**	**57.20**	**311**	P	**P**	**10**	**20**	**11.3 -0.7**
AKTO				pmax	pmax			
	comp=Z,2.0nm,0.8s,mb4.2							
WRA	**Warramunga Arr**	**60.26**	**189**	P	pP	10	20	43.1 -2.7
	comp=Z,0.8nm,0.7s,baz=6.3,slow=7.0,SNR=4.9							
WRA	**Warramunga Arr**	**60.26**	**189**	P	pP	10	20	43.1 -2.7
WRA				pmax	pmax			
	comp=Z,1.0nm,0.7s							
ASAR	**Alice Springs**	**63.98**	**189**	P	pP	10	21	08.0 -2.7
	comp=Z,0.4nm,0.8s,baz=2.7,slow=7.7,SNR=3.1							

*KRSC **20** 10:18:11.9±2.2,5408N×16882E,h20km±20km,ML4.6*

*IDC **20** 10:18:12.6±0.7,5452N×16884E,h0km,mb3.9/13, mb1 4.1/14,mb1mx4.0/24,mbtmpb3.9/14,ML4.2/1,MS3.1/3, Ms1 3.1/3,ms1mx2.7/36,Error ellipse: s-maj=26.1km s-min=14.4km az=173.0*

*MOS **20** 10:18:12.8±1.9,5424N×16878E,h20km,mb4.3/10,Error ellipse: s-maj=18.0km s-min=16.2km az=130.8*

*NEIC **20** 10:18:13.7±0.5,5441N×16893E,h10km,mb4.2/2,Error ellipse: s-maj=15.7km s-min=6.5km az=181.0*

*ISCJB **20** 10:18:14.8±0.4,5421N±005×16871E±004,h33km, mb3.9/16,MS3.0/3,Error ellipse: s-maj=7.6km s-min=3.2km az=0.8*

ISC 20 10:18:16.0±1.5,5428N±006×16881E±004,h27km±12km, n52,σ1§15/65,mb3.9/16,MS3.0/3,Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h	m	s ISC
SMY	**Shemya**	**3.52**	**114**	*e*Pn	**Pn**	**10**	**19**	**07.8 -1.1**
SMY				*e*Sn	**Sn**	**10**	**19**	**50.5 +0.9**
KBTR	**Krutoberegovo**	**3.93**	**302**	*e*P	**Pn**	**10**	**19**	**13.3 -1.2**
KBTR				*i* S	**Sn**	**10**	**19**	**58.4 -1.3**
MKZ	**Mys Kozlova**	**4.14**	**277**	*e*P	**Pn**	**10**	**19**	**17.1 -0.3**
MKZ				*i* S	**Sn**	**10**	**20**	**04.3 -0.6**
BZWR	**Bezymyannyi-We**	**5.06**	**293**	P	**Pn**	**10**	**19**	**30.4 +0.4**
BZWR				*i* S	**Sn**	**10**	**20**	**28.3 +0.8**
KLY	**Klyuchi**	**5.09**	**297**	P	**Pn**	**10**	**19**	**30.3 0.0**
KLY				*i* S	**Sn**	**10**	**20**	**27.5 -0.6**
TUMR	**Tumrok**	**5.11**	**285**	*e*P	**Pn**	**10**	**19**	**32.1 +1.4**
TUMR				*i* S	**Sn**	**10**	**20**	**30.2 +1.4**
KIRR	**Kirishev**	**5.14**	**292**	*e*P	**Pn**	**10**	**19**	**32.3 +1.2**
KIRR				*i* S	**Sn**	**10**	**20**	**31.1 +1.7**
SPN	**Mys Shipunski**	**5.35**	**261**	*e*P	**Pn**	**10**	**19**	**33.4 -0.6**
SPN				*i* S	**Sn**	**10**	**20**	**32.7 -2.0**
NLC	**Nalytchevo**	**5.73**	**263**	*e*P	**Pn**	**10**	**19**	**38.9 -0.3**
NLC				*i* S	**Sn**	**10**	**20**	**42.2 -1.7**
AVH	**Avacha**	**6.06**	**264**	*e*P	**Pn**	**10**	**19**	**44.3 +0.6**
AVH				*i* S	**Sn**	**10**	**20**	**51.9 -0.2**
PET	**Petropavlovsk**	**6.17**	**262**	*e*PN	**Pn**	**10**	**19**	**46.0 +0.8**
PET				pmax	pmax			
	comp=Z,35nm,0.4s							
PET				MLR	MLR			
	comp=Z,200nm,21.0s							
PET				MLR	MLR			
	comp=Z,300nm,11.0s							
PET	**Petropavlovsk**	**6.17**	**262**	P	**Pn**	**10**	**19**	**44.9 -0.3**
PET				*i* S	**Sn**	**10**	**20**	**52.9 -1.9**
PET	**Petropavlovsk**	**6.17**	**262**	*e*Pn	**Pn**	**10**	**19**	**46.1 +0.9**
	comp=Z,26nm,0.4s							
PET				*e*Sn	**Sn**	**10**	**20**	**52.4 -2.4**
RUS	**Russkaya**	**6.44**	**257**	P	**Pn**	**10**	**19**	**48.6 -0.3**
RUS				*i* S	**Sn**	**10**	**20**	**58.4 -3.0**
GNL	**Ganaly**	**6.44**	**269**	*e*P	**Pn**	**10**	**19**	**50.3 +1.4**
GNL				*i* S	**Sn**	**10**	**21**	**01.7 +0.3**
PEA0B	**Petropavlovsk-**	**6.70**	**264**	*e*Pn	**Pn**	**10**	**19**	**53.5 +1.0**
PEA0B				*e*Sn	**Sn**	**10**	**21**	**08.6 +0.7**
PETK	**Petropavlovsk-**	**6.70**	**264**	Pn	**Pn**	**10**	**19**	**53.4 +0.8**
	comp=Z,4.3nm,0.3s,baz=75,slow=18,SNR=67							
MIPR	**Malaya Ipel'ka**	**7.50**	**259**	P	**Pn**	**10**	**20**	**04.6 +1.1**
SKR	**Severo-Kuril's**	**8.54**	**250**	*e*PN	**Pn**	**10**	**20**	**16.0 -1.8**
SKR				pmax	pmax			
	comp=Z,40nm,0.5s							
SKR				MLR	MLR			
	comp=N,1μm,16.0s							
SKR				MLR	MLR			
	comp=E,1μm,16.0s							
SKR				MLR	MLR			
	comp=Z,1μm,16.0s							
ADK	**Adak**	**9.06**	**99**	*e*PN	**Pn**	**10**	**20**	**23.2 -1.6**
KDAK	**Kodiak Island**	**21.65**	**65**	P	**P**	**10**	**23**	**01.8 -2.1**
	comp=Z,2.1nm,0.5s,mb3.9,baz=285,slow=11,SNR=6.8							
COLA	**College**	**23.86**	**46**	*i* P	**P**	**10**	**23**	**27.0 +0.3**
TIXI	**Tiksi**	**24.39**	**331**	*i* P	**P**	**10**	**23**	**30.9 -0.6**
TIXI				pmax	pmax			
	comp=Z,4.0nm,0.8s,mb3.9							
TIXI	**Tiksi**	**24.39**	**331**	*e*P	**P**	**10**	**23**	**31.1 -0.4**
	comp=Z,7.0nm,0.9s,mb4.1							
EGAK	**Eagle**	**26.71**	**47**	*e*P	**P**	**10**	**23**	**51.6 -0.9**
	comp=Z,2.8nm,0.8s,mb3.8							
EGAK				*e*S	**S**	**10**	**28**	**26.1 +0.1**
KSRS	**Korea Array**	**32.51**	**256**	LR	LR	10	37	25.6
	comp=Z,18nm,18.1s,MS2.8,baz=20,slow=35							
DLBC	**Dease Lake**	**33.10**	**58**	P	**P**	**10**	**24**	**50.5 +1.3**
	baz=287,slow=14							
SONM	**Songino Array**	**38.60**	**287**	P	**P**	**10**	**25**	**37.9 +1.5**
	comp=Z,0.4nm,0.3s,mb3.6,baz=59,slow=7.7,SNR=4.2							
SONM				LR	LR	10	41	53.5
	comp=Z,43nm,18.9s,MS3.3,baz=60,slow=37							
SONM	**Songino Array**	**38.60**	**287**	*e*P	**P**	**10**	**25**	**37.8 +1.4**
YKA	**Yellowknife Ar**	**38.69**	**46**	P	**P**	**10**	**25**	**40.5 +3.6**
	comp=Z,1.4nm,0.8s,mb3.8,baz=293,slow=8.1,SNR=2.8							
YKA	**Yellowknife Ar**	**38.69**	**46**	P	**P**	**10**	**25**	**40.5 +3.6**
YKA				pmax	pmax			
	comp=Z,1.0nm,0.8s							
ZALV	**Zalesovo Beam**	**46.40**	**306**	LR	LR	10	46	26.1
	comp=Z,19nm,19.6s,MS3.0,baz=54,slow=37							
NVAR	**Mina Array Bea**	**50.44**	**77**	P	**P**	**10**	**27**	**11.7 +0.7**
	comp=Z,0.3nm,0.4s,mb3.7,baz=330,slow=4.5,SNR=3.1							
KURK	**Kurchatov**	**51.39**	**306**	P	**P**	**10**	**27**	**18.1 +0.2**
	comp=Z,1.1nm,0.2s,mb4.4,baz=54,slow=7.6,SNR=2.3							
KURK	**Kurchatov**	**51.39**	**306**	P	**P**	**10**	**27**	**18.1 +0.2**
KURK				pmax	pmax			
	comp=Z,1.0nm,0.2s,mb4.4							
MKAR	**Makanchi Array**	**52.19**	**300**	P	**P**	**10**	**27**	**22.9 -1.0**
	comp=Z,0.3nm,0.3s,mb3.8,baz=72,slow=9.3,SNR=3.6							
PDAR	**Pinedale Array**	**52.35**	**67**	P	**P**	**10**	**27**	**25.0 -0.2**
	comp=Z,0.5nm,0.4s,mb3.8,baz=350,slow=3.8,SNR=5.9							
BVAR	**Borovoye Array**	**53.58**	**312**	P	**P**	**10**	**27**	**33.5 -0.6**
	comp=Z,1.9nm,0.6s,mb4.2,baz=36,slow=6.0,SNR=8.7							
BVAR	**Borovoye Array**	**53.58**	**312**	P	**P**	**10**	**27**	**33.5 -0.6**
BVAR				pmax	pmax			
	comp=Z,2.0nm,0.6s							
ARCES	**ARCESS Array B**	**53.64**	**345**	P	**P**	**10**	**27**	**32.7 -1.6**
	comp=Z,3.8nm,0.8s,mb4.4,baz=15,slow=7.5,SNR=4.7							
ARCES	**ARCESS Array B**	**53.64**	**345**	P	**P**	**10**	**27**	**32.7 -1.6**
ARCES				pmax	pmax			
	comp=Z,4.0nm,0.8s							
CMAR	**Chiang Mai Arr**	**63.48**	**265**	P	**P**	**10**	**28**	**45.6 +2.1**
	comp=Z,0.6nm,0.4s,mb4.1,baz=25,slow=7.0,SNR=4.1							
CMAR	**Chiang Mai Arr**	**63.48**	**265**	P	**P**	**10**	**28**	**45.7 +2.2**
CMAR				pmax	pmax			
	comp=Z,1.0nm,0.4s							
NOA	**NORSAR Array B**	**63.66**	**348**	P	**P**	**10**	**28**	**43.6 -0.5**
	comp=Z,1.2nm,0.7s,mb4.0,baz=16,slow=6.5,SNR=4.1							
NOA	**NORSAR Array B**	**63.66**	**348**	P	**P**	**10**	**28**	**43.6 -0.5**
NOA				pmax	pmax			
	comp=Z,1.0nm,0.7s							
TXAR	**Lajitas Array**	**65.36**	**74**	P	**P**	**10**	**28**	**55.9 +0.1**
	comp=Z,0.9nm,0.6s,mb4.0,baz=304,slow=4.3,SNR=16							
TXAR	**Lajitas Array**	**65.36**	**74**	P	**P**	**10**	**28**	**55.9 +0.2**
TXAR				pmax	pmax			
	comp=Z,1.0nm,0.6s							
POO	**Poona**	**78.01**	**285**	*ex*	x	10	30	49.0
WRA	**Warramunga Arr**	**79.62**	**213**	P	**P**	**10**	**30**	**21.8 +1.2**
	comp=Z,1.1nm,0.9s,mb3.8,baz=26,slow=6.1,SNR=4.8							
WRA	**Warramunga Arr**	**79.62**	**213**	P	**P**	**10**	**30**	**21.8 +1.3**
WRA				pmax	pmax			
	comp=Z,1.0nm,0.9s							
ASAR	**Alice Springs**	**83.25**	**212**	P	**P**	**10**	**30**	**41.8 +2.1**
	comp=Z,0.4nm,0.9s,mb3.4,baz=15,slow=4.8,SNR=2.6							
ASAR	**Alice Springs**	**83.25**	**212**	*e*P	**P**	**10**	**30**	**47.6 +7.9**
ASAR				pmax	pmax			
	comp=Z,2.0nm,0.9s							

IDC 20 10:19:45.4±6.9,1166S×11533E,h0km,mb3.3/3, mb1 3.6/4,mb1mx3.4/16,mbtmpb3.4/4,ML3.2/1,Error ellipse: s-maj=191.2km s-min=83.4km az=25.0,South of Bali

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h	m	s ISC
FITZ	**Fitzroy Crossi**	**11.84**	**124**	Pn	Pn	10	22	35.7 +0.1
	0.1nm,0.3s,baz=307,slow=12,SNR=3.9							
FITZ				Sn	Sn	10	24	47.9 -0.6
	0.1nm,0.3s,baz=135,slow=20,SNR=2.9							
WRA	**Warramunga Arr**	**20.04**	**117**	P	P	10	24	19.5 -0.6
	1.0nm,0.7s,baz=293,slow=12,SNR=4.9							
ASAR	**Alice Springs**	**21.32**	**127**	P	P	10	24	35.6 +1.7
	0.5nm,0.7s,baz=302,slow=9.4,SNR=5.6							
STKA	**Stephens Creek**	**31.47**	**134**	P	P	10	26	08.2 -0.6
	0.8nm,0.5s,baz=315,slow=10.0,SNR=2.9							

JMA 20 10:47:57.9±0.3,4457N×14896E,h30km,M3.9,Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h	m	s ISC
NEM2	**Nemuro 2**	**2.62**	**244**	P	Pn	10	48	37.1 -1.0
NEM2				*e*S	Sn	10	49	06.3 -2.5
JRA	**Rausu**	**2.83**	**258**	P	Pn	10	48	42.4 +1.4
JRA				*e*S	Sn	10	49	15.8 +1.8
JNK	**Nakash**	**3.21**	**254**	P	Pn	10	48	46.8 +0.6
JNK				*e*S	Sn	10	49	23.4 -0.1
JAK	**Akkeshi**	**3.46**	**244**	P	Pn	10	48	48.7 -1.0
JAK				*e*S	Sn	10	49	26.7 -3.0
JTKR	**Abashiri--Toko**	**3.68**	**262**	P	Pn	10	48	54.6 +1.9
JAR	**Ashorobuto**	**3.96**	**253**	P	Pn	10	48	57.4 +0.9
JAR				*e*S	Sn	10	49	42.1 +0.2
JMP	**Maruseppu**	**4.06**	**264**	P	Pn	10	49	00.0 +2.1
JOB	**Onbets**	**4.07**	**248**	P	Pn	10	48	57.9 -0.2
JCH	**Churui**	**4.51**	**246**	P	Pn	10	49	03.6 -0.5
ASAJ	**Asahikawa**	**4.59**	**267**	P	Pn	10	49	07.9 +2.8
JNBK	**Urakawa-nobuka**	**5.07**	**245**	P	Pn	10	49	10.8 -0.9
JBT2	**Biratori 2**	**5.11**	**252**	P	Pn	10	49	12.5 +0.2
JNB	**Noboribetsu**	**6.13**	**253**	P	Pn	10	49	26.6 +0.2
JKB	**Kayabe**	**6.38**	**248**	P	Pn	10	49	29.2 -0.6
JKB				*e*S	Sn	10	50	37.3 -4.3
JYM2	**Yakumo 2**	**6.72**	**252**	P	Pn	10	49	34.5 0.0
JANG	**Nango**	**6.92**	**235**	*e*S	Sn	10	50	45.8 -9.0
JTM	**Tenmabayashi**	**6.94**	**240**	*e*S	Sn	10	50	48.1 -7.1
JTH	**Tanohata**	**7.01**	**231**	*e*S	Sn	10	50	48.0 -9.0
JRG	**Rokugo**	**8.07**	**233**	*e*S	Sn	10	51	16.1 -7.1
JIO	**Ouri**	**8.36**	**226**	*e*S	Sn	10	51	19.5 -11

IDC 20 10:49:45.6±1.2,2706N×14307E,h0km,mb3.7/8, mb1 3.8/9,mb1mx3.7/22,mbtmpb3.7/9,ML3.4/1,MS2.5/2, Ms1 2.5/2,ms1mx2.1/31,Error ellipse: s-maj=25.0km s-min=17.1km az=62.0,Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h	m	s ISC
CBIJ	**Chichi jima**	**0.79**	**273**	Pn	Pn	10	50	04.5 +0.4
	191nm,

$M_{\theta\theta}$-1.13±.01; $M_{\theta r}$-0.01±.04; Best double couple: M_o1.13700×10^17 NP1:ϕ359.00000°,δ84.00000°, λ-2.00000°. NP2:ϕ89.00000°,δ88.00000°,λ-174.00000°. Principal axes: T 1.1910, Plg3.0000°, Azm224.0000°; N -0.1090, Plg84.0000°, Azm103.0000°; P -1.0820, Plg5.0000°, Azm314.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.

*NEIC **20** 11:02:42.6±0.9, 4095S×8960W, h10km, mb4.6/2 Error ellipse: s-maj=18.5km s-min=15.5km az=82.0*

ISC 20 11:02:42.9±0.6, 4097S×009×895W×01, h10km, n35, σ1§30/24, mb4.2/11, MS4.5/11, West Chile Rise

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
PLCA	**Paso Flores**	**14.35**	**95**	Pn		**Pn**	**11 06 04.7**	**-1.2**
	0.0nm,0.3s,baz=262,slow=14,SNR=2.4							
PLCA				LR		LR	11 10 14.6	
	comp=Z,1μm,21.6s,baz=260,slow=32							
CFAA	**Coronel Fontan**	**19.48**	**68**	P		**Pn**	**11 07 09.3**	**-1.7**
	0.0nm,0.3s,baz=265,slow=15,SNR=3.6							
CFAA				LR		LR	11 13 01.7	
	comp=Z,264nm,20.0s,baz=230,slow=32							
CFAA	**Coronel Fontan**	**19.48**	**68**	P		**Pn**	**11 07 09.3**	**-1.8**
CFAA				LR		LR	11 13 01.7	
USHA	**Ushuaia**	**19.69**	**142**	P		**Pn**	**11 07 13.6**	**+0.3**
	0.3nm,0.3s,baz=280,slow=9.1,SNR=5.7							
USHA				LR		LR	11 13 09.1	
	comp=Z,4μm,19.4s,baz=282,slow=32							
TRQA	**Tornquist**	**21.39**	**91**	*e*P		**P**	**11 07 32.3**	**+1.7**
	26nm,1.2s,mb4.4							
LVC	**Limon Verde**	**25.21**	**50**	P		**P**	**11 08 08.2**	**-0.5**
	3.3nm,0.8s,mb3.9,baz=297,slow=3.1,SNR=3.4							
LVC				LR		LR	11 15 37.5	
	comp=Z,1μm,18.6s,MS4.5,baz=208,slow=31							
LVC	**Limon Verde**	**25.21**	**50**	P		**P**	**11 08 08.2**	**-0.5**
LVC				*e*P		pP	11 08 09.3	-2.4
LVC				LR		LR	11 15 37.5	
PMSA	**Palmer Station**	**27.98**	**157**	P		**P**	**11 08 34.3**	**+1.0**
	38nm,1.1s,mb4.9,baz=192,slow=9.3,SNR=3.7							
PMSA				LR		LR	11 16 02.5	
	comp=Z,1μm,21.6s,MS4.5,baz=319,slow=29							
LPAZ	**La Paz**	**30.76**	**43**	P		**P**	**11 09 00.3**	**+1.9**
	2.5nm,0.7s,mb4.1,baz=199,slow=13,SNR=9.3							
LPAZ				LR		LR	11 18 44.6	
	comp=Z,1μm,18.7s,MS4.5,baz=28,slow=31							
LPAZ	**La Paz**	**30.76**	**43**	P		**P**	**11 09 00.3**	**+1.9**
LPAZ				LR		LR	11 18 44.6	
ATAH	**Atahualpa**	**35.24**	**19**	P		**P**	**11 09 43.7**	**+6.1**
	4.1nm,0.8s,mb4.4,baz=142,slow=12,SNR=2.1							
RKT	**Rikitea**	**41.94**	**281**	*e*LQ			11 20 21.8	
	2μm,30.2s							
RKT				*e*LR		LR	11 22 14.4	
	1μm,26.5s,baz=130							
BDFB	**Brasilia**	**43.81**	**67**	P		**P**	**11 10 50.0**	**+1.0**
	0.9nm,0.5s,mb3.8,baz=180,slow=27,SNR=3.0							
BDFB				LR		LR	11 28 32.3	
	comp=Z,723nm,18.2s,MS4.6,baz=8.5,slow=35							
ROSC	**El Rosal**	**47.67**	**21**	LR		LR	11 30 05.0	
	comp=Z,642nm,18.2s,MS4.6,baz=296,slow=34							
VNA3	**Neumayer Olymp**	**48.61**	**155**	*e*		**P**	**11 11 19.9**	**-6.2**
VNA1	**Neumayer--Stat**	**49.14**	**154**	*e*		**P**	**11 11 24.5**	**-5.7**
QSPA	**South Pole Qui**	**49.27**	**180**	P		**P**	**11 11 28.6**	**-2.5**
	3.2nm,1.0s,mb4.3,baz=127,slow=2.6,SNR=5.8							
QSPA				LR		LR	11 29 23.4	
	comp=Z,264nm,18.6s,MS4.3,baz=315,slow=33							
QSPA	**South Pole Qui**	**49.27**	**180**	P		**P**	**11 11 28.6**	**-2.5**
QSPA				LR		LR	11 29 23.4	
VNA2	**Neumayer--Watz**	**49.38**	**155**	*e*		**P**	**11 11 24.8**	**-7.3**
	baz=272,slow=8.8							
SNAA	**Sanae**	**50.69**	**156**	*e*		**P**	**11 11 35.6**	**-6.4**
SNAA	**Sanae**	**50.69**	**156**	*e*P		**P**	**11 11 43.2**	**+1.2**
	12nm,1.4s,mb4.6							
TBI	**Tubuai**	**52.72**	**270**	*e*S		**S**	**11 19 28.7**	**+2.9**
	269nm,27.2s							
TBI				*e*LQ			11 25 02.8	
	935nm,30.8s							
TBI				*e*LR		LR	11 26 59.6	
	1μm,26.8s,baz=127							
PPT	**Papeete**	**56.20**	**276**	*e*S		**S**	**11 20 12.4**	**-0.4**
	183nm,26.0s							
PPT				*e*LQ			11 26 16.7	
	524nm,26.5s							
PPT				*e*LR		LR	11 28 43.8	
	573nm,26.2s							
MAW	**Mawson**	**69.75**	**169**	LR		LR	11 42 39.8	
	comp=Z,443nm,18.7s,MS4.7,baz=310,slow=34							
TXAR	**Lajitas Array**	**71.17**	**347**	P		**P**	**11 14 00.3**	**-1.3**
	1.3nm,1.0s,mb3.8,baz=161,slow=9.2,SNR=7.2							
TXAR				LR		LR	11 38 53.5	
	comp=Z,146nm,21.7s,MS4.2,baz=50,slow=30							
NVAR	**Mina Array Bea**	**83.28**	**338**	P		**P**	**11 15 09.9**	**+0.5**
	0.3nm,0.5s,mb3.6,baz=153,slow=8.1,SNR=2.1							
PDAR	**Pinedale Array**	**85.30**	**345**	P		**P**	**11 15 19.2**	**-0.2**
	0.5nm,0.8s,mb3.7,baz=152,slow=4.0,SNR=3.8							
BOSA	**Boshof**	**88.14**	**127**	LR		LR	11 48 53.4	
	comp=Z,244nm,19.1s,MS4.6,baz=222,slow=32							
DBIC	**Dimbokro**	**90.29**	**81**	LR		LR	11 54 59.7	
	comp=Z,206nm,20.3s,MS4.5,baz=211,slow=35							
TORD	**Torodi Ar. Bea**	**99.38**	**81**	LR		LR	12 01 53.4	
	comp=Z,169nm,18.6s,MS4.6,baz=220,slow=36							
KSRS	**Korea Array**	**150.94**	**275**	PKPbc		PKPbc	11 22 34.9	-0.6
	1.0nm,0.6s,baz=94,slow=3.0,SNR=3.4							
CMAR	**Chiang Mai Arr**	**156.43**	**200**	PKP		PKPdf	11 22 38.6	+0.4
	0.3nm,0.4s,baz=214,slow=1.5,SNR=4.8							
ZALV	**Zalesovo Beam**	**166.46**	**14**	PKP		PKPdf	11 22 46.8	-0.8
	0.4nm,0.4s,baz=352,slow=3.3,SNR=4.2							
SONM	**Songino Array**	**166.74**	**306**	PKPab		PKPab	11 23 52.5	+1.5
	0.3nm,0.7s,baz=100,slow=3.4,SNR=3.3							
KURK	**Kurchatov**	**167.22**	**36**	PKP		PKPdf	11 22 48.5	+0.2
	0.2nm,0.6s,baz=321,slow=1.2,SNR=4.8							
KURK				PKPab		PKPab	11 23 53.1	+0.2
	0.1nm,0.4s,baz=310,slow=4.7,SNR=2.1							

*IDC **20** 11:18:30.3±0.6, 4145S×8944W, h0km, mb4.3/11, mb1 4.4/12, mb1mx4.3/16, mbtmp4.3/12, ML2.7/1, MS4.4/19, Ms1 4.3/19, ms1mx4.2/27, Error ellipse: s-maj=23.4km s-min=17.9km az=112.0*

*ISCJB **20** 11:18:31.0±0.7, 4122S×007×895W±02, h10km, mb4.5/14, MS4.4/16, Error ellipse: s-maj=17.0km s-min=10.7km az=5.0*

*GCMT **20** 11:18:32.2±0.2, 4133S×8960W, h16km±1km, MW5.2/87, Moment Tensor Solution. s50,c65; s87,c145; Duration: 1s0 Moment tensor: Scale 10^16Nm; M_{rr}-1.97±.24; $M_{\theta\theta}$3.85±.20; $M_{\phi\phi}$-1.88±.19; $M_{r\theta}$-0.91±.55; $M_{r\phi}$-7.01±.15; $M_{\theta\phi}$-1.45±.57; Best double couple: M_o7.85500×10^16 NP1:ϕ80.00000°,δ77.00000°,λ-167.00000°. NP2: ϕ347.00000°,δ77.00000°,λ-13.00000°. Principal axes: T 8.5580, Plg0.0000°, Azm34.0000°; N -1.4050, Plg72.0000°, Azm125.0000°; P -7.1530, Plg18.0000°, Azm304.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*NEIC **20** 11:18:32.2±0.6, 4129S×8957W, h10km, mb4.9/4 Error ellipse: s-maj=17.0km s-min=13.4km az=97.0*

ISC 20 11:18:33.0±0.7, 4123S×007×895W×02, h10km, (h8km±.4km:pP-P), n39, σ1§30/23, mb4.5/14, MS4.4/16, Southeast of Easter Island

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
PLCA	**Paso Flores**	**14.30**	**94**	Pn		**Pn**	**11 22 00.0**	**+4.6**
	0.0nm,0.3s,baz=285,slow=13,SNR=8.3							
PLCA				LR		LR	11 25 46.7	
	comp=Z,859nm,21.2s,baz=263,slow=31							
USHA	**Ushuaia**	**19.46**	**141**	P		**Pn**	**11 23 01.6**	**+0.7**
	0.2nm,0.3s,baz=280,slow=8.4,SNR=3.8							
USHA				LR		LR	11 28 49.1	
	comp=Z,2μm,18.6s,baz=284,slow=32							
LCO	**Las Campanas**	**19.55**	**57**	*e*Pn		**Pn**	**11 23 01.9**	**-0.2**
	26nm,1.1s							
CFAA	**Coronel Fontan**	**19.55**	**67**	P		**Pn**	**11 23 00.9**	**-1.2**
	0.0nm,0.3s,baz=232,slow=11,SNR=7.0							
CFAA				LR		LR	11 28 56.2	
	comp=Z,172nm,20.5s,baz=232,slow=32							
TRQA	**Tornquist**	**21.36**	**90**	*e*P		**P**	**11 23 20.7**	**+0.2**
	100nm,1.4s,mb5.0							
EFI	**East Falkland**	**23.84**	**127**	*e*P		**P**	**11 23 46.8**	**+0.6**
	49nm,0.8s,mb5.0							
LVC	**Limon Verde**	**25.36**	**49**	P		**P**	**11 24 01.4**	**+1.1**
	7.2nm,0.6s,mb4.4,baz=234,slow=6.5,SNR=14							
LVC				LR		LR	11 31 30.7	
	comp=Z,1μm,18.6s,MS4.4,baz=214,slow=31							
PMSA	**Palmer Station**	**27.72**	**157**	LR		LR	11 32 02.0	
	comp=Z,618nm,19.0s,MS4.2,baz=154,slow=30							
LPAZ	**La Paz**	**30.94**	**43**	P		**P**	**11 24 50.9**	**+0.7**
	9.0nm,1.0s,mb4.6,baz=199,slow=8.8,SNR=24							
LPAZ				LR		LR	11 34 38.1	
	comp=Z,764nm,19.7s,MS4.4,baz=29,slow=31							
BDFB	**Brasilia**	**43.90**	**67**	P		**P**	**11 26 38.5**	**-1.4**
	3.0nm,0.7s,mb4.1,baz=225,slow=15,SNR=6.0							
BDFB				LR		LR	11 44 17.6	
	comp=Z,506nm,19.6s,MS4.4,baz=40,slow=35							
ROSC	**El Rosal**	**47.91**	**21**	P		**P**	**11 27 13.2**	**+1.7**
	5.1nm,0.4s,mb4.9,baz=98,slow=21,SNR=5.5							
ROSC				LR		LR	11 45 57.7	
	comp=Z,446nm,18.6s,MS4.5,baz=195,slow=34							
VNA3	**Neumayer Olymp**	**48.35**	**155**	*e*		**P**	**11 27 15.3**	**+1.0**
VNA3				*e*		pP	11 27 17.5	0.0
VNA3				*e*			11 27 21.4	
VNA1	**Neumayer--Stat**	**48.89**	**154**	*e*		**P**	**11 27 20.4**	**+2.0**
VNA1				*e*		pP	11 27 22.7	+1.1
VNA1				*e*			11 27 26.1	
QSPA	**South Pole Qui**	**49.00**	**180**	P		**P**	**11 27 17.5**	**-1.7**
	1.9nm,0.9s,mb4.1,baz=180,slow=0.9,SNR=10							
QSPA	**South Pole Qui**	**49.00**	**180**	P		**P**	**11 27 17.5**	**-1.7**
VNA2	**Neumayer--Watz**	**49.13**	**154**	*e*		**P**	**11 27 21.4**	**+1.1**
	baz=278,slow=8.3							
VNA2				*e*		pP	11 27 23.6	+0.1
VNA2				*e*			11 27 27.6	
SNAA	**Sanae**	**50.44**	**156**	*e*		**P**	**11 27 30.0**	**-0.2**
SNAA				*e*		pP	11 27 32.7	-0.7
SNAA				*e*			11 27 36.9	
SNAA	**Sanae**	**50.44**	**156**	*e*P		**P**	**11 27 30.1**	**-0.1**
	21nm,1.5s,mb5.0							
PPT	**Papeete**	**56.26**	**276**	*e*LR		LR	11 44 33.2	
	595nm,26.2s,baz=135							
PPT	**Papeete**	**56.26**	**276**	LR		LR	11 44 36.7	
	comp=Z,225nm,20.3s,MS4.2,baz=300,slow=28							
LPIG	**La Paz**	**67.82**	**339**	LR		LR	11 51 36.8	
	comp=Z,102nm,21.3s,MS4.0,baz=166,slow=29							
URZ	**Urewera**	**68.32**	**238**	LR		LR	11 53 26.7	
	comp=Z,474nm,18.2s,MS4.8,baz=93,slow=31							
MAW	**Mawson**	**69.48**	**169**	P		**P**	**11 29 38.0**	**-3.0**
	2.3nm,0.7s,mb4.2,baz=230,slow=5.2,SNR=7.4							
MAW				LR		LR	11 59 13.3	
	comp=Z,200nm,20.2s,MS4.3,baz=60,slow=35							
TXAR	**Lajitas Array**	**71.43**	**347**	P		**P**	**11 29 52.8**	**-0.5**
	1.2nm,0.8s,mb3.9,baz=167,slow=8.6,SNR=11							
AFI	**Afiamalu**	**75.24**	**264**	LR		LR	11 57 03.9	
	comp=Z,222nm,18.7s,MS4.5,baz=130,slow=31							
NVAR	**Mina Array Bea**	**83.54**	**338**	P		**P**	**11 31 02.9**	**+2.0**
	1.9nm,0.8s,mb4.3,baz=189,slow=5.3,SNR=5.0							
PDAR	**Pinedale Array**	**85.56**	**345**	P		**P**	**11 31 09.9**	**-1.0**
	1.3nm,0.8s,mb4.2,baz=144,slow=5.1,SNR=6.7							
PDAR				LR		LR	12 05 30.4	
	comp=Z,145nm,18.0s,MS4.4,baz=353,slow=33							
BOSA	**Boshof**	**87.96**	**127**	P		**P**	**11 31 21.1**	**-2.3**
	2.6nm,0.9s,mb4.5,baz=127,slow=5.1,SNR=2.4							
BOSA				LR		LR	12 04 34.0	
	comp=Z,163nm,19.6s,MS4.5,baz=189,slow=32							
DBIC	**Dimbokro**	**90.31**	**81**	P		**P**	**11 31 33.0**	**-1.5**
	2.5nm,0.8s,mb4.6,baz=234,slow=1.8,SNR=2.6							
ULM	**Sa du Bonnet**	**91.27**	**356**	LR		LR	12 06 14.3	
	comp=Z,196nm,20.8s,MS4.5,baz=191,slow=31							
STKA	**Stephens Creek**	**93.34**	**222**	LR		LR	12 08 28.5	
	comp=Z,266nm,18.1s,MS4.7,baz=205,slow=32							
HNR	**Honiara**	**98.91**	**249**	LR		LR	12 09 12.3	
	comp=Z,162nm,18.8s,MS4.5,baz=151,slow=31							
CTA	**Charters Tower**	**100.09**	**232**	LR		LR	12 12 36.0	
	comp=Z,218nm,20.1s,MS4.7,baz=232,slow=32							
GERES	**GERESS Array B**	**127.33**	**54**	PKP		PKPdf	11 37 37.3	+0.1
	0.5nm,0.7s,baz=333,slow=1.5,SNR=4.0							
KSRS	**Korea Array**	**150.99**	**275**	PKPbc		PKPbc	11 38 24.6	-1.1
	1.6nm,0.7s,baz=136,slow=3.5,SNR=5.0							
KSRS				PKPab		PKPab	11 38 32.1	-1.2
	1.4nm,0.8s,baz=138,slow=1.1,SNR=3.2							
CMAR	**Chiang Mai Arr**	**156.19**	**200**	PKP		PKPdf	11 38 27.8	-0.2
	0.3nm,0.3s,baz=153,slow=1.0,SNR=4.2							
ZALV	**Zalesovo Beam**	**166.71**	**15**	PKP		PKPdf	11 38 36.6	-1.3
	0.3nm,0.5s,baz=96,slow=1.5,SNR=4.1							
ZALV				PKPab		PKPab	11 39 40.3	-0.3
	0.3nm,0.3s,baz=45,slow=2.3,SNR=2.3							
SONM	**Songino Array**	**166.91**	**306**	PKPab		PKPab	11 39 40.9	-1.0
	0.3nm,0.7s,baz=21,slow=5.4,SNR=3.6							
KURK	**Kurchatov**	**167.42**	**37**	PKP		PKPdf	11 38 36.8	-1.7
	0.6nm,1.0s,baz=310,slow=0.1,SNR=4.3							
KURK				PKPab		PKPab	11 39 43.7	-0.3
	0.4nm,0.7s,baz=309,slow=4.6,SNR=2.6							

*ISCJB **20** 11:25:30.4±1.6, 4358N±007×8390E±008, h3km±10km, mb3.4/4, Error ellipse: s-maj=13.0km s-min=8.7km az=29.3*

*IDC **20** 11:25:31.0±1.2, 4344N×8386E, h0km, mb3.6/4, mb1 3.7/9, mb1mx3.5/26, mbtmp3.5/9, ML3.3/5, Error ellipse: s-maj=34.9km s-min=14.5km az=62.0*

*NNC **20** 11:25:35.5±2.1, 4357N×8378E, h4km±9km, mb3.5, mpv3.2, Error ellipse: s-maj=15.4km s-min=11.0km az=125.0*

*BJI **20** 11:25:35.1, 4350N×8370E, h12km, ML3.5*

ISC 20 11:25:31.9±1.7, 4345N±007×8386E±008, h0km±11km, n15, σ1§17/20, mb3.5/4, 8C-5D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
WMQ	**Urumqi**	**2.81**	**81**	P		**Pn**	**11 26 25.0**	**+7.0**
WMQ				SG		**Sg**	**11 27 02.0**	**-0.1**
WMQ				Smax				
	comp=N,151nm,0.4s							
WMQ				Smax				
	comp=E,111nm,0.5s							
MK31	**Makanchi Array**	**3.52**	**342**	⇑Pn		**Pn**	**11 26 30.0**	**+2.2**
	comp=E,1.1nm,0.3s,baz=160,slow=15,SNR=25							
MK31				⇑Pg		**Pg**	**11 26 37.9**	**-1.5**
	comp=E,5.1nm,0.5s,baz=157,slow=17,SNR=15							
MK31				⇑Sn		**Sn**	**11 27 11.5**	**+1.3**
	comp=E,4.4nm,0.3s,baz=152,slow=18,SNR=5.4							
MK31				⇓Lg			11 27 22.2	
	comp=E,6.7nm,0.2s,baz=160,slow=28,SNR=3.8							
MKAR	**Makanchi Array**	**3.52**	**342**	Pn		**Pn**	**11 26 29.9**	**+2.1**
	comp=E,1.3nm,0.3s,baz=161,slow=14,SNR=14							
MKAR				Lg			11 27 21.5	
	comp=E,23nm,0.3s,baz=155,slow=28,SNR=10							
TKM2	**Tokmak 2**	**6.06**	**268**	⇓Pn		**Pn**	**11 27 04.5**	**+1.8**
TKM2	comp=E,3.5nm,0.5s			⇓Lg			11 28 44.9	
	comp=E,19nm,0.8s							
KURBB	**Kurchatov Arra**	**8.04**	**335**	⇓Pn		**Pn**	**11 27 29.9**	**0.0**
KURBB	comp=E,0.3nm,0.7s,baz=151,slow=12			⇑Sn		**Sn**	**11 29 00.4**	**-1.1**
	comp=E,1.0nm,0.7s,baz=95,slow=32							
KURBB				⇑Lg			11 29 45.6	
	comp=E,4.6nm,0.7s,baz=281,slow=27							
KURK	**Kurchatov**	**8.10**	**336**	⇑Pn		**Pn**	**11 27 30.9**	**+0.3**
	comp=E,3.7nm,1.3s							
KURK				⇓Sn		**Sn**	**11 29 02.1**	**-0.8**
	comp=E,1.4nm,0.5s							
KURK				⇑Lg			11 29 46.9	
	comp=E,13nm,0.9s							
KURK	**Kurchatov**	**8.10**	**336**	Pn		**Pn**	**11 27 29.8**	**-0.8**
	comp=E,0.1nm,0.3s,baz=157,slow=13,SNR=8.1							
KURK				Lg			11 29 45.3	
	comp=E,0.4nm,0.3s,baz=154,slow=31,SNR=5.7							
KK31	**Karatay Array**	**9.74**	**273**	⇑Lg			11 30 42.1	
	comp=E,2.7nm,0.6s,baz=86,slow=26,SNR=4.6							
ZALV	**Zalesovo Beam**	**10.53**	**3**	Pn		**Pn**	**11 28 03.2**	**-0.6**
	comp=E,0.9nm,0.3s,baz=184,slow=14,SNR=11							
ZALV				Sn		**Sn**	**11 29 57.3**	**-5.1**
	comp=E,0.6nm,0.3s,baz=191,slow=21,SNR=6.7							
ZALV				Lg			11 31 02.1	
	baz=183,slow=24,SNR=2.4							
BVAR	**Borovoye Array**	**13.11**	**322**	Pn		**Pn**	**11 28 39.0**	**-0.1**
	comp=E,0.1nm,0.3s,baz=136,slow=13,SNR=2.2							
BVAR				Lg			11 32 26.2	
	comp=E,0.1nm,0.3s,baz=123,slow=28,SNR=4.1							
SONM	**Songino Array**	**16.34**	**67**	Pn		**Pn**	**11 29 23.8**	**+1.3**
	comp=E,0.2nm,0.3s,baz=251,slow=12,SNR=2.9							
ARCES	**ARCESS Array B**	**39.12**	**332**	P		**P**	**11 33 00.2**	**-0.3**
	comp=E,1.0nm,0.7s,mb3.6,baz=102,slow=7.5,SNR=4.0							
NOA	**NORSAR Array B**	**45.22**	**319**	P		**P**	**11 33 49.8**	**-0.5**
	comp=E,0.6nm,0.7s,mb3.6,baz=74,slow=6.0,SNR=2.7							
TORD	**Torodi Ar. Bea**	**75.43**	**274**	P		**P**	**11 37 16.2**	**-1.5**
	comp=E,0.1nm,0.4s,mb3.2,baz=38,slow=5.4,SNR=4.1							
WRA	**Warramunga Arr**	**78.25**	**132**	P		**P**	**11 37 32.2**	**-1.2**
	comp=E,0.4nm,0.7s,mb3.7,baz=338,slow=6.1,SNR=4.3							

*SGS **20** 11:36:34.9, 3014N×3622E, h9km*

*ISCJB **20** 11:36:35.6±0.9, 2981N±004×3623E±005, h0km, Error ellipse: s-maj=7.5km s-min=4.8km az=148.0*

*GII **20** 11:36:36.3±1.0, 2985N×3612E, h0km, ML2.2/4, EXPLOSION*

*CSEM **20** 11:36:38.4±1.1, 2954N×3613E, h2km, ML2.9, Error ellipse: s-maj=26.2km s-min=13.2km az=69.0*

*HLW **20** 11:36:39.3, 2946N×3641E, h22km, Mb2.9*

ISC 20 11:36:35.7±0.9, 2980N±004×3627E±006, h0km, n18, σ0§93/26, 2D, Western Arabian Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
AQBJ	**Aqaba**	**1.07**	**267**	Pg		**Pg**	**11 36 56.0**	**-0.2**
HRFI	**Mount Harif**	**1.10**	**283**	Pg		**Pg**	**11 36 55.9**	**-1.0**
HRFI				Sg		**Sg**	**11 37 11.3**	**+0.2**
EIL	**Elat**	**1.16**	**264**	Pg		**Pg**	**11 36 57.8**	**-0.1**
HQLS		**1.17**	**245**	P		**Pg**	**11 36 57.4**	**-0.7**
HQLS		**1.17**	**245**	P		**Pg**	**11 36 57.4**	**-0.7**
HQLS				S		**Sg**	**11 37 14.2**	**+1.0**
MBRI	**Mt Berech**	**1.18**	**270**	Pg		**Pg**	**11 36 57.7**	**-0.7**
MBRI				Sg		**Sg**	**11 37 14.8**	**+1.1**
ZFRI	**Zfri**	**1.21**	**309**	Pg		**Pg**	**11 36 58.1**	**-1.0**
ZFRI				Sg		**Sg**	**11 37 14.6**	**-0.2**
PRNI	**Paran**	**1.23**	**297**	Pg		**Pg**	**11 36 58.0**	**-1.4**
PRNI				Sg		**Sg**	**11 37 15.6**	**+0.2**
JLOS		**1.26**	**213**	P		**Pg**	**11 37 00.6**	**+0.8**
KRMI	**Paran Flat**	**1.38**	**284**	Pg		**Pg**	**11 37 00.9**	**-1.3**
KRMI				Sg		**Sg**	**11 37 19.6**	**-0.5**
HBST	**Basata**	**1.46**	**247**	⇓*e*P		**Pn**	**11 37 03.6**	**+0.2**
TBKS	**Tabuk**	**1.59**	**171**	P		**Pn**	**11 37 06.1**	**+1.0**
BDAS	**Al Bad'**	**1.70**	**217**	P		**Pn**	**11 37 06.5**	**-0.2**
DSI	**Dead Sea**	**1.93**	**337**	Pn		**Pn**	**11 37 10.3**	**+0.5**
DSI				Sn		**Sn**	**11 37 36.3**	**+1.5**
RSHS		**1.97**	**221**	P		**Pn**	**11 37 09.8**	**-0.6**
HKAT	**Jabal Katrina**	**2.36**	**238**	⇓*e*P		**Pn**	**11 37 15.2**	**-0.6**
TR2		**2.64**	**238**	P		**Pn**	**11 37 18.9**	**-0.6**
AMAG	**Maghara**	**2.78**	**288**	P		**Pn**	**11 37 24.9**	**+3.4**
AMAG				S		**Sn**	**11 37 58.3**	**+2.4**

*ISCJB **20** 11:37:44.8±0.4, 3756N±003×2199E±004, h10km, Error ellipse: s-maj=4.3km s-min=3.7km az=171.3*

*NEIC **20** 11:37:44.1, 3761N×2197E, h14km, ML3.1(ATH), After ATH.*

*CSEM **20** 11:37:44.4±0.2, 3755N×2199E, h8km, ML3.0/2, Error ellipse: s-maj=5.8km s-min=5.1km az=107.0*

*ATH **20** 11:37:44.1, 3761N×2197E, h14km±11km, MD3.1/9, ML3.1*

*THE **20** 11:37:45.7, 3754N×2204E, h3km±2km, ML3.0/2, Error ellipse: s-maj=3.1km s-min=1.2km az=170.0*

ISC 20 11:37:44.8±0.5, 3759N±003×2198E±003, h5km±7km, n28, σ1§08/44, Southern Greece

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
VLX	**Vlachokerasia**	**0.38**	**124**	P		**Pg**	**11 37 52.7**	**+0.5**
VLX				S		**Sg**	**11 37 57.1**	**-0.1**
ITM	**Ithomi**	**0.41**	**186**	*e*Pg		**Pg**	**11 37 52.2**	**-0.4**
ITM				*e*Sb		**Sg**	**11 37 59.1**	**+1.2**
ITM	**Ithomi**	**0.41**	**186**	*e*PG		**Pg**	**11 37 52.2**	**-0.4**
ITM				*e*SB		**Sg**	**11 37 59.1**	**+1.2**
RLS	**Riolos of Patr**	**0.62**	**319**	*e*Pb		**Pb**	**11 37 55.2**	**-1.5**
RLS				*e*Sb		**Sg**	**11 38 04.6**	**-0.2**
RLS	**Riolos of Patr**	**0.62**	**319**	*e*PB		**Pg**	**11 37 55.2**	**-1.5**
RLS				*e*SB		**Sg**	**11 38 04.6**	**-0.2**
PYL	**PYLOS**	**0.71**	**195**	P		**Pg**	**11 37 57.8**	**-0.7**
PYL				S		**Sg**	**11 38 09.2**	**+1.4**
LTK	**Loutraki**	**0.90**	**61**	P		**Pg**	**11 38 02.1**	**+0.2**
LTK				S		**Sg**	**11 38 14.8**	**+1.2**
KFL	**Anninata**	**1.08**	**299**	P		**Pg**	**11 38 06.2**	**+0.7**
KFL				S		**Sg**	**11 38 25.0**	**+5.6**
VLI	**Veliai**	**1.16**	**138**	*e*Pb		**Pb**	**11 38 06.5**	**-0.7**
VLI	**Veliai**	**1.16**	**138**	*e*PB		**Pb**	**11 38 06.5**	**-0.7**
NAIG	**Nisos Aigina**	**1.21**	**81**	*e*Pb		**Pb**	**11 38 07.0**	**-1.1**
NAIG	**Nisos Aigina**	**1.21**	**81**	*e*PB		**Pb**

comp=Z,3.1nm,0.8s,baz=324,slow=3.9,SNR=4.4
COEN Coen 37.47 274 *e*P P **12 04 45.9 +1.3**
comp=Z,40nm,1.1s,mb4.8
ASAR Alice Springs 44.24 257 P P **12 05 39.1 +0.4**
comp=Z,16nm,0.7s,mb4.6,baz=95,slow=8.0,SNR=232
ASAR PcP PcP 12 07 12.4 -1.3
comp=Z,2.5nm,0.7s,baz=90,slow=5.5,SNR=4.3
ASAR ScP ScP 12 10 19.8 -1.6
comp=Z,1.3nm,0.5s,baz=112,slow=4.4,SNR=9.4
ASAR S S **12 11 35.0 -3.1**
comp=Z,5.3nm,0.9s,baz=94,slow=16,SNR=21
ASAR Alice Springs 44.24 257 P P **12 05 39.2 +0.4**
ASAR 12 07 12.4
ASAR S S **12 11 35.0 -3.1**
ASAR pmax pmax
comp=Z,16nm,0.7s
ASAR pmax pmax
comp=Z,3.0nm,0.7s
ASAR pmax pmax
comp=N,1.0nm,0.5s
ASAR smax
comp=N,5.0nm,0.9s
WB2 Warramunga Arr 44.36 263 *e*P P **12 05 39.5 -0.3**
WRAB Tennant Creek 44.37 263 *e*P P **12 05 39.5 -0.3**
WRA Warramunga Arr 44.38 263 P P **12 05 39.6 -0.3**
comp=N,29nm,0.8s,mb4.8,baz=96,slow=7.6,SNR=225
WRA S S **12 11 34.4 -5.6**
comp=N,1.5nm,0.9s,baz=98,slow=14,SNR=4.8
WRA Warramunga Arr 44.38 263 P P **12 05 39.6 -0.3**
WRA S S **12 11 34.4 -5.6**
WRA pmax pmax
comp=Z,29nm,0.8s
WRA smax
comp=N,2.0nm,0.9s
KAKA Kakadu 47.84 272 *e*P P **12 06 02.5 -3.9**
comp=N,30nm,0.4s,mb5.0
FORT Forrest 48.93 247 *e*P P **12 06 13.5 -0.9**
comp=N,13nm,0.5s,mb4.5
GUMO Guam 50.05 310 P P **12 06 23.4 +0.6**
comp=N,181nm,0.8s,mb5.4,baz=146,slow=8.8,SNR=10
GUMO Guam 50.05 310 *e*P P **12 06 23.6 +0.8**
GUMO pmax pmax
comp=Z,276nm,1.1s,mb5.5
GUMO Guam 50.05 310 *e*P P **12 06 23.6 +0.8**
comp=Z,276nm,1.1s,mb5.5
GUMO *e*P 12 06 23.8
FITZ Fitzroy Crossi 52.80 263 *e*P P **12 06 42.5 -0.4**
comp=Z,13nm,1.1s,mb4.2
FITZ Fitzroy Crossi 52.80 263 P P **12 06 43.1 +0.2**
comp=Z,8.8nm,1.1s,mb4.0,baz=92,slow=7.8,SNR=18
BATI Baumata 56.79 271 P P **12 07 12.0 +0.9**
comp=Z,45nm,0.8s,mb4.8,baz=117,slow=4.5,SNR=5.6
SBA Scott Base 57.30 184 *e*P P **12 07 15.8 +2.3**
SBA pmax pmax
comp=Z,33nm,1.0s,mb4.6
SBA Scott Base 57.30 184 *e*P P **12 07 15.8 +2.2**
comp=Z,33nm,1.0s,mb4.6
MBWA Marble Bar 57.58 258 *e*P P **12 07 15.4 -1.0**
comp=Z,23nm,0.8s,mb4.5
CASY Casey 63.39 205 *e*P P **12 07 53.9 -0.3**
JHJ Hachijo jima 2 67.19 322 P P **12 08 18.6 -0.1**
comp=Z,105nm,0.4s,mb5.8,baz=234,slow=24,SNR=8.9
QSPA South Pole Qui 69.00 180 P P **12 08 30.0 +0.9**
comp=Z,34nm,0.9s,mb4.9,baz=62,slow=1.5,SNR=19
MJAR Matsushiro Arr 70.58 324 P P **12 08 38.9 -0.2**
comp=Z,8.7nm,0.5s,mb4.6,baz=156,slow=6.1,SNR=42
MJAR Matsushiro Arr 70.58 324 P P **12 08 38.9 -0.2**
MJAR pmax pmax
comp=Z,9.0nm,0.5s
MAJO Matsushiro 70.58 324 *e*P P **12 08 38.9 -0.2**
MAT Matsushiro 70.58 324 P P **12 08 37.4 -1.7**
JNU Nakatsue 72.58 317 P P **12 08 49.2 -1.8**
KSM Kuching 73.34 278 *e*P P **12 08 55.8 0.0**
ASAJ Asahikawa 74.15 332 P P **12 09 01.3 +1.6**
comp=Z,34nm,0.8s,mb4.9,baz=220,slow=5.6,SNR=15
ASAJ Asahikawa 74.15 332 P P **12 09 01.3 +1.6**
ASAJ pmax pmax
comp=Z,34nm,0.8s
YSS Yuzh-Sakhalins 76.33 334 *i* P P **12 09 13.2 +1.3**
YSS pmax pmax
comp=Z,23nm,0.7s,mb4.8
PEA0B Petropavlovsk- 76.78 345 *e*P P **12 09 14.1 0.0**
PETK Petropavlovsk- 76.78 345 P P **12 09 13.6 -0.6**
comp=Z,20nm,0.8s,mb4.7,baz=128,slow=6.9,SNR=21
PETK Petropavlovsk- 76.78 345 P P **12 09 13.6 -0.6**
PETK pmax pmax
comp=Z,20nm,0.8s,mb4.7
KSRS Korea Array 77.21 319 P P **12 09 17.6 +0.6**
comp=Z,5.5nm,0.6s,mb4.3,baz=125,slow=5.7,SNR=34
KSRS Korea Array 77.21 319 P P **12 09 17.6 +0.7**
KSRS pmax pmax
comp=Z,6.0nm,0.6s,mb4.3
MWC Mount Wilson 79.30 47 *e*P P **12 09 28.8 +0.5**
MWC pmax pmax
comp=Z,16nm,0.9s,mb4.5
MWC Mount Wilson 79.30 47 *e*P P **12 09 28.8 +0.5**
comp=Z,16nm,0.9s,mb4.6
CMB Columbia Colle 79.98 43 *e*P P **12 09 31.8 0.0**
WDC Whiskeytown Da 80.20 40 *e*P P **12 09 33.8 +0.9**
WDC pmax pmax
comp=Z,3.0nm,0.5s,mb4.1
WDC Whiskeytown Da 80.20 40 *e*P P **12 09 33.8 +0.9**
comp=Z,3.2nm,0.5s,mb4.1
YBH Yreka Blue Hor 80.83 39 P P **12 09 36.9 +0.8**
comp=Z,16nm,0.6s,mb4.7,baz=204,slow=1.7,SNR=46
YBH Yreka Blue Hor 80.83 39 P P **12 09 36.9 +0.8**
YBH pmax pmax
comp=Z,16nm,0.6s
YBH Yreka Blue Hor 80.83 39 *e*P P **12 09 36.9 +0.8**
comp=Z,15nm,0.7s,mb4.6
HABR Khabarovsk 80.86 331 *e*P P **12 09 35.2 -0.9**
HABR *e* 12 12 48.4
HABR *e*S S 12 19 01.2 -4.5
HABR *e* 12 19 14.6
HABR *e* 12 24 29.7
MDJ Mudanjiang 80.89 325 P P **12 09 36.9 +0.5**
MDJ AMB AMB
comp=Z,18nm,0.8s,mb4.7
MDJ AMB AMB
comp=Z,181nm,4.3s
GLA Glamis 80.91 49 *e*P P **12 09 37.8 +1.0**
GLA pmax pmax
comp=Z,15nm,1.0s,mb4.5
GLA Glamis 80.91 49 *e*P P **12 09 37.8 +1.0**
comp=Z,15nm,1.0s,mb4.5
MAW Mawson 80.98 200 P P **12 09 36.2 -0.3**
comp=Z,2.6nm,0.7s,mb3.9,baz=108,slow=6.5,SNR=8.9
MAW Mawson 80.98 200 P P **12 09 36.2 -0.4**
MAW pmax pmax
comp=Z,3.0nm,0.7s
HUMO Hull Mountain 81.23 38 *e*P P **12 09 38.8 +0.6**
KDAK Kodiak Island 81.40 14 P P **12 09 38.9 +0.2**
comp=Z,11nm,0.7s,mb4.5,baz=116,slow=7.3,SNR=9.7
KDAK Kodiak Island 81.40 14 P P **12 09 38.9 +0.2**
KDAK pmax pmax
comp=Z,11nm,0.7s,mb4.5
NVAR Mina Array Bea 81.54 43 P P **12 09 40.3 +0.4**
comp=Z,9.0nm,0.8s,mb4.3,baz=224,slow=9.1,SNR=36
PAHR Pah Rah Range 81.60 42 *e*P P **12 09 40.9 +0.7**
comp=Z,17nm,0.9s,mb4.6
TPH Tonopah 82.03 44 *e*P P **12 09 43.1 +0.7**
TPH pmax pmax
comp=Z,12nm,0.8s,mb4.5
TPH Tonopah 82.03 44 *e*P P **12 09 43.1 +0.6**
comp=Z,12nm,0.8s,mb4.5
TPNV Topopah Spring 82.05 46 *e*P P **12 09 43.2 +0.7**
TPNV pmax pmax
comp=Z,10.0nm,0.9s,mb4.3
TPNV Topopah Spring 82.05 46 *e*P P **12 09 43.2 +0.7**
comp=Z,10nm,0.9s,mb4.3
MOD Modoc 82.35 40 *e*P P **12 09 44.3 +0.4**
SHPR Sheep Range 82.53 46 *e*P P **12 09 45.5 +0.5**
CN2 Changchun 82.66 323 *e*P P **12 09 45.8 +0.3**
CN2 AMB AMB
comp=Z,20nm,1.0s,mb4.6
WHN Wuhan 82.66 307 ⇑P P **12 09 46.3 +0.5**
BMN Battle Mountai 83.37 42 *e*P P **12 09 49.3 +0.1**
BMN pmax pmax
comp=Z,14nm,1.0s,mb4.5
BMN Battle Mountai 83.37 42 *e*P P **12 09 49.3 +0.1**
comp=Z,14nm,1.0s,mb4.5
TUC Tucson 83.45 52 *e*P P **12 09 50.5 +0.8**
SVW2 Sparrevohn 83.88 11 *e*P P **12 09 50.2 -0.9**
WUAZ Wupatki 84.63 49 *e*P P **12 09 56.2 +0.7**
RSW Rattlesnake Hi 85.46 36 *e*P P **12 09 59.9 +0.6**
HAWA Hanford 85.49 36 *e*P P **12 09 59.7 +0.3**
comp=Z,14nm,1.0s,mb4.5
PMR Palmer 85.60 13 *e*P P **12 09 58.9 -0.7**
PMR pmax pmax
comp=Z,10.0nm,0.6s,mb4.6
PMR Palmer 85.60 13 *e*P P **12 09 58.9 -0.7**
comp=Z,9.8nm,0.6s,mb4.6
BMO Blue Mountains 85.85 39 *e*P P **12 10 00.6 -0.7**
SYO Syowa Base 86.14 193⇓*e*P P **12 09 59.6 -2.7**
BJI Beijing 86.19 315 P P **12 10 02.9 -0.1**
BJI AMB AMB
comp=Z,13nm,0.9s,mb4.6
TMUT Trail Mountain 86.66 46 *e*P P **12 10 05.8 +0.6**
GYA Guiyang 86.80 300 P P **12 10 05.8 -0.4**
GYA AP pP 12 12 06.4 +17
GYA XP sP 12 12 59.6 +23
GYA PP PP 12 13 40.9 +3.7
GYA SKS 12 19 40.3
GYA S S 12 19 57.8 -7.2
GYA AMB AMB
comp=Z,10.0nm,1.0s,mb4.5
HLID Hailey 86.85 41 *e*P P **12 10 06.2 +0.1**
SEY Seymchan 86.89 347⇑*e*P P **12 10 05.5 -0.2**
KTH Kantishna Hill 87.00 12 *e*P P **12 10 04.6 -1.7**
comp=Z,9.1nm,0.8s,mb4.6
SRU San Rafael 87.02 46 *e*P P **12 10 06.9 -0.1**
TRF Thorofare Moun 87.03 12 *e*P P **12 10 05.2 -1.2**
comp=Z,17nm,0.7s,mb4.9
CHUM Lake Minchumin 87.05 11 *e*P P **12 10 05.0 -1.4**
comp=Z,5.0nm,0.6s,mb4.4
LAZ Ladron 87.13 52 *e*P P **12 10 07.7 +0.2**
SNAA Sanae 87.45 179 *e*P P **12 10 07.0 -1.5**
SNAA *e* 12 10 08.3
SNAA Sanae 87.45 179⇑*e*P P **12 10 06.9 -1.6**
BPAW Bear Paw Mtn. 87.49 12 *e*P P **12 10 06.7 -1.8**
comp=Z,5.7nm,1.0s,mb4.3
TXAR Lajitas Array 87.49 57 P P **12 10 09.8 +0.4**
comp=Z,4.2nm,0.8s,mb4.2,baz=217,slow=6.8,SNR=53
TXAR Lajitas Array 87.49 57 P P **12 10 09.8 +0.4**
TXAR pmax pmax
comp=Z,4.0nm,0.8s
TXAR Lajitas Array 87.49 57 P P **12 10 09.8 +0.4**
MCK McKinley 87.56 13 *e*P P **12 10 07.8 -1.0**
VNA3 Neumayer Olymp 87.59 176 *e*P P **12 10 08.0 -1.1**
VNA3 *e* 12 10 09.3
VNA3 *e* 12 12 01.2
ANMO Albuquerque 87.88 51 *e*P P **12 10 11.1 0.0**
HYT Haines Junctio 87.96 19 *e*P P **12 10 10.9 +0.1**
VNA2 Neumayer--Watz 88.03 177 *e*P P **12 10 10.5 -0.7**
baz=200,slow=3.3
VNA2 *e* 12 10 11.7
VNA2 *e* 12 12 00.1
VNA2 *e* 12 12 04.0
GDL2 Guadalupe Moun 88.20 55 *e*P P **12 10 13.4 +0.8**
VNA1 Neumayer--Stat 88.25 177 *e*P P **12 10 11.7 -0.5**
VNA1 *e* 12 10 13.1
VNA1 *e* 12 12 05.2
XAN Xi'an 88.36 307 P P **12 10 13.8 +0.5**
XAN AMB AMB
comp=Z,16nm,1.0s,mb4.7
XAN AMB AMB
comp=Z,76nm,13.2s
MCMT McKenzie Canyo 88.48 40 *e*P P **12 10 14.1 +0.5**
DLBC Dease Lake 88.63 23 P P **12 10 13.7 -0.3**
baz=225,slow=6.4
RRI2 Red Ridge 88.65 42 *e*P P **12 10 14.7 +0.2**
comp=Z,12nm,0.9s,mb4.7
COLA College 88.79 12 *e*P P **12 10 13.0 -1.6**
COLA pmax pmax
comp=Z,18nm,0.7s,mb5.0
COLA College 88.79 12 *e*P P **12 10 13.0 -1.6**
comp=Z,18nm,0.7s,mb5.0
IMA2 Indian Mountai 88.83 10 *e*P P **12 10 13.9 -0.8**
DLMT Dillon 88.92 40 *e*P P **12 10 16.2 +0.5**
comp=Z,7.8nm,0.9s,mb4.5
REDW Red Top Meadow 88.95 42 *e*P P **12 10 16.0 +0.2**
TPAW Teton Pass 88.96 42 *e*P P **12 10 16.2 +0.3**
comp=Z,5.3nm,0.8s,mb4.4
PLCA Paso Flores 88.99 134 P P **12 10 15.8 -0.5**
comp=Z,1.5nm,0.8s,mb3.9,baz=274,slow=4.4,SNR=3.5
PLCA Paso Flores 88.99 134 P P **12 10 15.8 -0.5**
PLCA pmax pmax
comp=Z,2.0nm,0.8s
PLCA Paso Flores 88.99 134 P P **12 10 15.8 -0.5**
SNOW Snow King Moun 89.06 42 *e*P P **12 10 17.1 +0.7**
IMW Indian Meadow 89.17 42 *e*P P **12 10 17.3 +0.5**
comp=Z,9.1nm,0.9s,mb4.6
MOOW Moose Ponds 89.22 42 *e*P P **12 10 17.4 +0.3**
LOHW Long Hollow 89.24 42 *e*P P **12 10 17.4 +0.2**
QLMT Earthquake Lak 89.34 41 *e*P P **12 10 18.8 +1.2**
CHMT Chamberlain Mo 89.35 38 *e*P P **12 10 17.3 -0.3**
KMI Kunming 89.47 297 P P **12 10 20.3 +1.6**
KMI AP pP 12 12 21.8 +19
KMI PP PP 12 14 02.9 +4.6
KMI S S 12 20 23.0 -6.8
KMI XS sS 12 23 53.0 +18
KMI SS SS 12 26 36.0 -3.1
KMI AMB AMB
comp=Z,13nm,0.8s,mb4.8
BW06 Boulder Array 89.48 43 *e*P P **12 10 18.1 -0.2**
comp=Z,6.1nm,0.8s,mb4.5
PDAR Pinedale Array 89.48 43 P P **12 10 18.1 -0.3**
comp=Z,6.0nm,0.8s,mb4.5,baz=207,slow=2.6,SNR=48
BILL Bilibino 89.58 354 *e*P P **12 10 17.1 -1.1**
BILL *e* 12 14 01.3
BILL *e* 12 19 57.1
BILL *e*SS SS 12 26 36.9 -2.1
BILL pmax pmax
comp=Z,9.0nm,1.0s,mb4.5
HHC Hu-ho-hao-te 89.64 314 *e*P P **12 10 18.9 -0.2**
HHC AP pP 12 12 18.3 +15
HHC XP sP 12 13 10.5 +20
HHC PP PP 12 14 03.8 +4.5
HHC SKS 12 19 57.6
HHC S S 12 20 22.3 -8.4
HHC XS sS 12 23 54.8 +19
HHC SS SS 12 26 38.9 -2.0
HHC AMB AMB
comp=Z,17nm,1.1s,mb4.8
HHC AMB AMB
comp=Z,66nm,7.0s
DAWY Dawson 90.04 16 *e*P P **12 10 20.1 -0.3**
CMAR Chiang Mai Arr 90.16 290 P P **12 10 23.2 +1.2**
comp=Z,9.2nm,0.9s,mb4.6,baz=125,slow=3.0,SNR=44
CMAR PP PP 12 14 04.8 +0.9
comp=Z,1.0nm,0.8s,baz=127,slow=6.8,SNR=7.3
CMAR Chiang Mai Arr 90.16 290 P P **12 10 23.3 +1.2**
CMAR 12 14 04.8
CMAR pmax pmax
comp=Z,9.0nm,0.9s
CMAR pmax pmax
comp=Z,1.0nm,0.8s
CHTO Chiang Mai 90.29 290 *e*P P **12 10 22.9 +0.2**
CHTO pmax pmax
comp=Z,8.0nm,0.8s,mb4.6
CHTO Chiang Mai 90.29 290 *e*P P **12 10 22.9 +0.3**
comp=Z,8.4nm,0.8s,mb4.6
COLD Coldfoot 90.46 11 *e*P P **12 10 22.2 -0.1**
comp=Z,5.3nm,0.7s,mb4.5
CD2 Chengdu 90.97 303 *e*P P **12 10 25.0 -0.5**
CD2 AP pP 12 12 24.8 +15
CD2 XP sP 12 13 17.8 +21
CD2 PP PP 12 14 13.8 +3.8
CD2 SKS 12 20 04.6
CD2 S S 12 20 34.6 -8.4
CD2 XS sS 12 24 06.8 +18
CD2 SS SS 12 26 58.5 -1.8
CD2 AMB AMB
comp=Z,10.0nm,0.8s,mb4.8
CD2 AMB AMB
comp=Z,30nm,6.2s
PHWY Pilot Hill 91.48 46 *e*P P **12 10 23.3 -4.3**
YAK Yakutsk 92.58 338 *i* P P **12 10 30.3 -1.9**
YAK pmax pmax
comp=Z,8.0nm,0.6s,mb4.9
LZH Lanzhou 92.99 307 P P **12 10 35.0 +0.3**
LZH AP pP 12 12 34.8 +16
LZH XP sP 12 13 28.3 +22
LZH PP PP 12 14 30.1 +4.5
LZH AMB AMB
comp=Z,15nm,1.2s,mb4.9
LZH AMB AMB
comp=Z,83nm,5.6s
SONM Songino Array 96.08 319 P P **12 10 47.9 -0.6**
comp=Z,0.4nm,0.7s,mb3.7,baz=119,slow=5.1,SNR=3.3
SONM PP PP 12 14 44.4 -4.6
comp=Z,0.9nm,0.9s,baz=111,slow=8.3,SNR=3.9
SONM Songino Array 96.08 319 P P **12 10 47.9 -0.6**
SONM 12 14 44.4
SONM pmax pmax
comp=Z,1.0nm,0.9s
GTA Gaotai 97.21 309 *e*P P **12 10 53.8 0.0**
GTA PP PP 12 15 04.0 +6.1
GTA AMB AMB
comp=Z,3.0nm,0.7s,mb4.6
ZALV Zalesovo Beam 110.84 321 PKiKP PKiKP 12 15 48.4 -2.5
comp=Z,2.1nm,0.8s,baz=201,slow=1.0,SNR=7.6
ZALV PP PP 12 16 32.8 -4.7
comp=Z,0.4nm,0.3s,baz=108,slow=4.8,SNR=3.5
MKAR Makanchi Array 111.48 313 PKiKP PKiKP 12 15 50.2 -2.2
comp=Z,0.4nm,0.3s,baz=58,slow=2.3,SNR=5.9
MKAR Makanchi Array 111.48 313 *i* PKiKP PKiKP 12 15 50.2 -2.1
KURK Kurchatov 114.31 317 PKP PKiKP 12 15 55.4 -2.2
comp=Z,1.4nm,0.7s,baz=91,slow=1.7,SNR=9.4
KURK PP PP 12 16 56.8 -5.1
comp=Z,1.7nm,0.9s,baz=95,slow=6.9,SNR=4.5
KURK Kurchatov 114.31 317 PKiKP PKiKP 12 15 55.4 -2.2
KURK pmax pmax
comp=Z,1.0nm,0.7s
KURK pmax pmax
comp=Z,2.0nm,0.9s
BVAR Borovoye Array 119.41 320 PKP PKPdf 12 16 05.6 -1.8
comp=Z,2.6nm,0.4s,baz=66,slow=1.8,SNR=13
BVAR Borovoye Array 119.41 320 PKiKP PKPdf 12 16 05.6 -1.8
BVAR pmax pmax
comp=Z,3.0nm,0.4s
BRVK Borovoye 119.48 320 *e*PKiKP PKPdf 12 16 05.9 -1.6
SPITS Spitsbergen Ar 122.42 356 PKP PKPdf 12 16 10.9 -1.7
comp=Z,10.0nm,0.7s,baz=34,slow=6.2,SNR=4.8
SPITS Spitsbergen Ar 122.42 356 PKiKP PKPdf 12 16 10.9 -1.6
SPITS pmax pmax
comp=Z,10.0nm,0.7s
ARU Arti 125.58 325 *i* PKiKP PKPdf 12 16 18.1 -1.0
AKTO Aktyubinsk 127.39 318 PKP PKPdf 12 16 21.3 -1.5
comp=Z,4.2nm,0.8s,baz=90,slow=2.8,SNR=7.7
AKTO Aktyubinsk 127.39 318 PKiKP PKPdf 12 16 21.3 -1.5
AKTO pmax pmax
comp=Z,4.0nm,0.8s
KEV Kevo 129.00 349 *e*p PKPdf 12 16 23.3 -2.0
comp=Z,0.8nm,0.3s
KEV Kevo 129.00 349 *e*PKiKP PKPdf 12 16 23.3 -2.0
KEV pmax pmax
comp=Z,1.0nm,0.3s
ARCES ARCESS Array B 129.45 349 PKP PKPdf 12 16 24.5 -1.7
comp=Z,4.8nm,0.5s,baz=38,slow=0.9,SNR=28
ARCES SKPbc 12 19 01.3
comp=Z,5.7nm,0.9s,baz=350,slow=6.6,SNR=4.0
ARCES ARCESS Array B 129.45 349 PKiKP PKPdf 12 16 24.5 -1.6
ARCES 12 19 01.3
ARCES pmax pmax
comp=Z,5.0nm,0.5s
ARCES pmax pmax
comp=N,6.0nm,1.0s
JOF Joensuu 133.62 342 *e*p PKPdf 12 16 33.2 -1.0
comp=N,1.5nm,0.4s
JOF Joensuu 133.62 342 *e*PKiKP PKPdf 12 16 33.2 -1.0
JOF pmax pmax
comp=Z,2.0nm,0.4s
KAF Kangasniemi 135.65 344 *e*p PKPdf 12 16 37.3 -0.7
comp=Z,1.0nm,0.4s
KAF Kangasniemi 135.65 344 *e*PKiKP PKPdf 12 16 37.3 -0.7
KAF pmax pmax
comp=Z,1.0nm,0.4s
OBN Obninsk 137.18 331 *i* PKiKP PKPdf 12 16 37.4 -3.6
OBN *e* 12 23 01.0
OBN *e*SS SS 12 37 02.6 +2.4
OBN pmax pmax
comp=Z,6.0nm,0.8s
NB2 NORSAR Subarra1 39.53 353 PKP 12 16 35.4
comp=Z,1.7nm,0.6s,baz=14,slow=4.0
NOA NORSAR Array B 139.53 353 PKhKP 12 16 34.8
comp=Z,2.2nm,0.8s,baz=22,slow=2.5,SNR=5.5
NOA PKP PKPdf 12 16 44.6 -0.5
comp=Z,1.9nm,0.7s,baz=16,slow=4.1,SNR=6.1
NOA SKPbc SKPbc 12 19 33.7 -3.1
comp=Z,2.5nm,0.9s,baz=14,slow=4.5,SNR=4.9
NOA NORSAR Array B 139.53 353 PKHKP 12 16 34.8
NOA 12 16 44.6
NOA pmax pmax
comp=Z,2.0nm,0.8s
NOA pmax pmax
comp=Z,2.0nm,0.7s
NOA pmax pmax
comp=N,3.0nm,0.9s
SOC Sochi 141.37 314*c* *i*PKiKP PKPdf 12 16 54.5 +5.5
SOC *e* 12 20 00.7
SOC *e*SS SS 12 37 41.7 -8.3
SOC pmax pmax
comp=Z,28nm,0.9s
KAC Achnashellach 143.24 6 *e*P PKPdf 12 16 48.1 -3.8
SUW Suwalki 143.31 339 *e*PKP PKPdf 12 16 48.9 -3.2
KPL Plockton 143.36 7 *e*P PKPdf 12 16 48.5 -3.6
AKASG Malin Array Be 143.43 331 PKP PKPdf 12 16 49.0 -3.4
comp=Z,25nm,0.6s,baz=43,slow=4.3,SNR=84
AKASG SKPbc SKPbc 12 19 43.4 -3.6
comp=Z,1.1nm,0.7s,baz=38,slow=2.5,SNR=4.7
AKASG Malin Array Be 143.43 331 PKHKP 12 16 49.1
AKASG pmax pmax
comp=Z,25nm,0.6s
AKASG pmax pmax
comp=N,1.0nm,0.7s
KSB Sheil Bridge 143.51 7 *e*P PKPdf 12 16 49.0 -3.3
EAB Aberfoyle 144.63 6 *e*P PKPdf 12 16 52.4 -1.9
EBH Black Hill 144.65 5 *e*P PKPdf 12 16 52.8 -1.5
ESY Stoneypath 145.04 4 *e*P PKPdf 12 16 53.5 -1.5
EAU Auchinoon 145.05 5 *e*P PKPdf 12 16 54.1 -1.0
EBL Broad Law 145.15 5 *e*P PKPdf 12 16 54.0 -1.2
XSO Sourhope Farm 145.49 4 *e*P PKPdf 12 16 55.2 -0.6
ESK Eskdalemuir 145.59 5 *e*P PKPdf 12 16 55.1 -0.9
ECK Cauldkaine Hil 145.74 5 *e*P PKPdf 12 16 54.6 -1.7
XAL Allendale 146.12 4 *e*P PKPdf 12 16 57.3 +0.4
BSEG Bad Segeberg 146.56 351 *e*PKPbc PKPbc 12 16 58.8 -1.2
KWP Kalwaria 147.03 335 *e*PKP PKPbc 12 17 00.7 -0.7
HPK Haverah Park 147.06 4 *e*P PKPdf 12 16 59.9 +1.4
TLCR 147.28 324⇑*e*PKiKP PKPbc 12 17 01.3 -1.0
LHO Holmfirth 147.46 4 *e*P PKPdf 12 17 00.4 +1.2
BURAR Bucovina Array 147.48 330⇑PKiKP PKPbc 12 17 02.4 -0.3
ANTO Ankara 147.63 312⇑PKiKP PKPbc 12 17 03.0 -0.4
OJC Ojcow 147.63 338 *e*PKPdf PKPdf 12 16 57.9 -1.7
OJC *e*PKPab PKPab 12 17 04.8 -1.9
KOLS Kolonicke sedl 147.76 334 *e*PKP PKPbc 12 17 02.9 -0.5
KOLS *e* 12 17 06.5
KBI1 Birley Grange 147.77 4 *e*P PKPbc 12 17 01.6 -1.6
STHS Stebnicka Huta 147.77 336 *e*PKP PKPbc 12 17 02.3 -1.1
STHS *e* 12 17 08.2
TIRR Tirgusor 147.95 323⇑PKiKP PKPbc 12 17 02.8 -1.2
VRI Vrincioaia 147.96 326⇑PKiKP PKPbc 12 17 02.6 -1.4
SBD1 Bryn Du 147.98 6 *e*P PKPbc 12 17 02.4 -1.4
KWE Weaver Farm 147.98 4 *e*P PKPbc 12 17 02.6 -1.3
UZH Uzhgorod 147.99 334⇓*e*PKiKP PKPdf 12 17 01.7 +1.5
UZH *i* 12 17 03.5
PLOR Plostina 148.01 326⇑PKiKP PKPbc 12 17 02.5 -1.6
HARR Harsova 148.08 324⇓PKiKP PKPbc 12 17 03.7 -0.6
CRVS Cervenica-Dubn 148.11 335 *e*PKiKP PKPbc 12 17 03.2 -1.1
CRVS *e* 12 17 08.5
CRVS Cervenica-Dubn 148.11 335 *e*PKP PKPbc 12 17 03.2 -1.1
CRVS *e* 12 17 08.4
NIE Niedzica 148.12 337 *e*PKPab PKPbc 12 17 04.2 -0.1
KSP Ksiaz 148.19 343 *e*PKP PKPbc 12 17 04.0 -0.4
KSP Ksiaz 148.19 343 *e*PKiKP PKPbc 12 17 03.8 -0.6
CWF Charnwood Fore 148.29 4 *e*P PKPbc 12 17 02.9 -1.7
HLM1 Long Mynd 148.40 6 *e*P PKPbc 12 17 03.1 -1.8
IBBN Ibbenburen 148.48 353 *e*PKPbc PKPbc 12 17 04.0 -1.1
OKC Ostrava-Krasne 148.51 340 *e*PKHKP 12 17 04.4
OKC Ostrava-Krasne 148.51 340⇑*e*PKP 12 17 04.4
UPC Upice 148.57 343 *e*PKHKP 12 17 04.6
UPC Upice 148.57 343⇑*e*PKP 12 17 04.6
CLZ Clausthal 148.57 350 *e*PKPbc PKPbc 12 17 04.4 -0.9
CLL Collm 148.58 347⇓*i*PKHKP 12 17 04.4
CLL *i* 12 17 09.6
CLL pmax pmax
comp=Z,33nm,0.8s
CLL pmax pmax
comp=Z,13nm,0.7s
CLL Collm 148.58 347 *e*PKPbc PKPbc 12 17 04.1 -1.3
CLL *e*PKPab PKPab 12 17 09.5 -1.1
CLL Collm 148.58 347⇓*i*PKPbc PKPbc 12 17 04.4 -1.0
comp=Z,33nm,0.8s
CLL *i* PKPab PKPab 12 17 09.6 -1.0

	comp=Z,13nm,0.7s								
CLL				*i*	pPKPbc	pPKPbc	12 19 02.7	+7.9	
CLL					LmV		12 28 00.0		
	comp=Z,200nm,22.0s								
MLR	**Muntele Rosu**	**148.62**	**327**	⇓	PKHKP		12 17 05.2		
DPC	**Dobruska-Polom**	**148.62**	**342**	*e*	PKPDF	PKPdf	12 17 00.2	-1.0	
DPC				⇑*e*	PKP	PKPbc	12 17 04.9	-0.6	
DPC				*e*	PKPAB	PKPab	12 17 10.3	-0.5	
MORC	**Moravsky Berou**	**148.76**	**340**	⇓	PKHKP		12 17 05.4		
BRG	**Berggiesshubel**	**148.77**	**345**	*e*	PKIKP	PKPdf	12 17 01.0	-0.4	
BRG				*i*			12 17 04.9		
BRG				*i*			12 17 10.6		
BRG					pmax	pmax			
	comp=Z,8.0nm,1.6s								
BRG					pmax	pmax			
	comp=Z,9.0nm,0.8s								
BRG					pmax	pmax			
	comp=Z,8.0nm,0.9s								
BRG					pmax	pmax			
	comp=Z,8.0nm,1.6s								
BRG	**Berggiesshubel**	**148.77**	**345**	*e*	PKPbc	PKPbc	12 17 04.8	-1.1	
BRG				*e*	PKPab	PKPab	12 17 10.3	-1.1	
BRG	**Berggiesshubel**	**148.77**	**345**	*e*	PKP	PKPdf	12 17 01.0	-0.4	
	comp=Z,14nm,1.6s								
BRG				*i*			12 17 04.9		
	comp=Z,15nm,0.8s								
BRG				*i*			12 17 10.6		
	comp=Z,12nm,0.9s								
BRG				*e*			12 25 59.6		
	comp=Z,13nm,1.6s								
HTR	**Trewern Hill**	**148.79**	**6**	*e*	P	PKPbc	12 17 04.2	-1.7	
MCH1	**Michaelchurch**	**148.90**	**6**	*e*	P	PKPbc	12 17 04.2	-2.0	
WTSB	**Winterswijk**	**148.92**	**354**	*e*	PKP	PKPbc	12 17 05.1	-1.1	
	comp=Z,38nm,0.6s								
PVCC	**Panska Ves**	**148.93**	**344**	*e*	PKHKP		12 17 05.6		
PVCC	**Panska Ves**	**148.93**	**344**	⇑*e*	PKP		12 17 05.6		
VOIR		**149.11**	**327**		PKHKP		12 17 05.9		
DRGR		**149.24**	**331**	⇑	PKHKP		12 17 05.4		
BUG	**Bochum--Univer**	**149.39**	**353**	*e*	PKPbc	PKPbc	12 17 06.1	-1.2	
VYHS	**Vyhne**	**149.43**	**338**	*e*	PKP	PKPbc	12 17 06.4	-1.1	
VYHS				*e*			12 17 13.2		
PRU	**Pruhonice**	**149.44**	**344**	*e*	PKHKP		12 17 06.5		
PRU				*e*			12 17 13.6		
PRU	**Pruhonice**	**149.44**	**344**	⇑*e*	PKP		12 17 06.5		
PRU				*e*	PKPAB	PKPab	12 17 13.6	-0.5	
VRAC	**Vranov**	**149.47**	**341**	⇑	PKHKP		12 17 06.5		
MOX	**Moxa**	**149.50**	**348**	*e*	PKP	PKPbc	12 17 06.7	-0.9	
	comp=Z,21nm,1.2s								
MOX	**Moxa**	**149.50**	**348**	*e*	PKHKP		12 17 06.7		
MOX					pmax	pmax			
	comp=Z,21nm,1.2s								
MOX	**Moxa**	**149.50**	**348**	*e*	PKPbc	PKPbc	12 17 06.4	-1.2	
KOLL	**Kolacno**	**149.51**	**338**	*e*	PKP	PKPbc	12 17 06.8	-0.9	
KOLL				*e*			12 17 17.2		
TANN	**Tannenbergstha**	**149.54**	**347**	*e*	PKPbc	PKPbc	12 17 06.6	-1.1	
TANN				*e*	PKPab	PKPab	12 17 13.9	-0.6	
UBBA	**Unterbreizbach**	**149.62**	**350**	*e*	PKPbc	PKPbc	12 17 06.4	-1.5	
UBBA				*e*	PKPab	PKPab	12 17 14.8	-0.1	
NKC	**Novy Kostel**	**149.71**	**346**	*e*	PKHKP		12 17 07.5		
NKC				*e*			12 17 14.1		
NKC	**Novy Kostel**	**149.71**	**346**	⇑*e*	PKP	PKPbc	12 17 07.5	-0.7	
NKC				*e*	PKPAB	PKPab	12 17 14.1	-1.2	
TREC	**Trest**	**149.81**	**342**	*e*	PKHKP	PKPbc	12 17 07.2	-1.2	
TREC	**Trest**	**149.81**	**342**	⇑*e*	PKP	PKPbc	12 17 07.2	-1.2	
MANZ	**Manzenberg**	**150.02**	**347**	*e*	PKPbc	PKPbc	12 17 07.7	-1.2	
HGN	**Heimansgroeve**	**150.19**	**355**	*e*	PKP	PKPbc	12 17 08.1	-1.1	
	comp=Z,7.9nm,0.6s								
ROTZ	**Rotzenmuhle**	**150.20**	**346**	*e*	PKPbc	PKPbc	12 17 08.3	-1.0	
GZR	**Gura Zlata**	**150.25**	**330**	⇓	PKIKP	PKPbc	12 17 07.7	-1.9	
MEM	**Membach**	**150.34**	**355**		PKPbc	PKPbc	12 17 08.4	-1.2	
TNS	**Taunus Mts**	**150.44**	**351**	*e*	PKPbc	PKPbc	12 17 08.6	-1.3	
KHC	**Kasperske Hory**	**150.47**	**344**	*e*	PKPbc	PKPdf	12 17 03.9	-0.2	
KHC				⇑*e*	PKP	PKPbc	12 17 08.9	-1.1	
KHC				*e*	PKPAB	PKPab	12 17 18.1	-0.4	
GRF	**Grafenberg Arr**	**150.48**	**348**	*e*	PKPbc	PKPbc	12 17 09.1	-0.9	
BCLA	**Clavier**	**150.58**	**355**		PKPab	PKPab	12 17 17.7	-1.1	
BZS	**Buzias**	**150.62**	**331**	⇑	PKIKP	PKPbc	12 17 07.9	-2.5	
WET	**Wettzell**	**150.63**	**345**	*e*	PKPbc	PKPbc	12 17 09.3	-1.0	
WET				*e*	PKPab	PKPab	12 17 18.5	-0.6	
GEC2	**GERESS Array S**	**150.70**	**344**	*e*	PKPbc	PKPbc	12 17 09.3	-1.2	
GEC2				*e*	PKPab	PKPab	12 17 18.5	-1.0	
GERES	**GERESS Array B**	**150.70**	**344**		PKPbc	PKPbc	12 17 09.5	-1.1	
	comp=Z,7.6nm,0.7s,baz=48,slow=2.0,SNR=39								
GERES					PKPab	PKPab	12 17 18.2	-1.3	
	comp=Z,1.7nm,0.6s,baz=318,slow=1.8,SNR=4.2								
GERES	**GERESS Array B**	**150.70**	**344**		PKIKP	PKPbc	12 17 09.5	-1.0	
GERES							12 17 18.2		
GERES					pmax	pmax			
	comp=Z,8.0nm,0.7s								
GERES					pmax	pmax			
	comp=Z,2.0nm,0.6s								
CONA	**Conrad Observa**	**150.91**	**340**	⇑*i*	PKPbc	PKPbc	12 17 10.1	-1.0	
	comp=Z,22nm,1.1s								
CSNA	**Conrad Observa**	**150.91**	**340**	⇑*i*	PKPbc	PKPbc	12 17 10.0	-1.0	
	comp=Z,21nm,1.1s								
GIVF	**Givet**	**150.93**	**356**	*e*	PKP1	PKPbc	12 17 09.7	-1.3	
	comp=Z,39nm,0.8s								
DOU	**Dourbes**	**150.95**	**356**		PKPbc	PKPbc	12 17 10.2	-0.8	
BAIF	**Baives**	**151.01**	**357**	*e*	PKP1	PKPbc	12 17 10.0	-1.2	
	comp=Z,19nm,0.8s								
WLF	**Walferdange**	**151.26**	**354**		PKPbc	PKPbc	12 17 11.5	-0.3	
WLF	**Walferdange**	**151.26**	**354**	*e*	PKPbc	PKPbc	12 17 11.0	-0.8	
PKSM	**Moragy**	**151.41**	**335**	⇑	PKIKP	PKPbc	12 17 09.9	-2.3	
STU	**Stuttgart**	**151.74**	**350**	*e*	PKPbc	PKPbc	12 17 11.6	-1.3	
FUR	**Furstenfeldbru**	**151.92**	**347**	*e*	PKPbc	PKPbc	12 17 12.3	-1.0	
RJOB	**Jochberg**	**151.96**	**344**	*e*	PKPbc	PKPbc	12 17 12.7	-0.7	
RJOB				*e*	PKPab	PKPab	12 17 24.3	-0.5	
BFO	**Black Forest**	**152.31**	**351**	*e*	PKPbc	PKPbc	12 17 12.5	-1.6	
BFO				*e*	PKPab	PKPab	12 17 25.2	-1.0	
FLN	**La Foliniere**	**152.31**	**3**	*e*	PKP1	PKPbc	12 17 12.3	-1.8	
	comp=Z,14nm,0.6s								
CDF	**Champ du Feu**	**152.37**	**352**	*e*	PKP1	PKPbc	12 17 12.8	-1.5	
	comp=Z,12nm,0.7s								
ROSF	**Rostrenen**	**152.49**	**7**	*e*	PKP1	PKPbc	12 17 13.1	-1.4	
	comp=Z,38nm,1.0s								
LDF	**La Druitiere**	**152.49**	**3**	*e*	PKP1	PKPbc	12 17 12.6	-1.9	
	comp=Z,8.0nm,0.5s								
MEZF	**Maizieres J'vi**	**152.51**	**355**	*e*	PKP1	PKPbc	12 17 13.3	-1.3	
	comp=Z,13nm,0.6s								
SGMF	**Saint Gilles**	**152.65**	**6**	*e*	PKP1	PKPbc	12 17 13.6	-1.3	
GRR	**Gorron**	**152.66**	**4**	*e*	PKP1	PKPbc	12 17 13.2	-1.7	
	comp=Z,14nm,0.6s								
WTTA	**Wattenberg**	**152.69**	**345**	⇓*i*	PKPbc	PKPbc	12 17 13.8	-1.2	
	comp=Z,18nm,0.9s								
HAU	**Haudompre**	**152.88**	**353**	*e*	PKP1	PKPbc	12 17 13.7	-1.7	
	comp=Z,7.1nm,0.5s								
QUIF	**Quistinic**	**152.91**	**7**	*e*	PKP1	PKPbc	12 17 14.3	-1.2	
ABTA	**Abfaltersbach**	**152.95**	**344**	⇓*i*	PKPbc	PKPbc	12 17 13.6	-2.0	
	comp=Z,14nm,0.9s								
HINF	**Hinteralfeld**	**153.01**	**353**	*e*	PKP1	PKPbc	12 17 13.8	-1.9	
	comp=Z,5.8nm,0.6s								
LOR	**Lormes**	**153.81**	**357**	*e*	PKP1	PKPbc	12 17 16.0	-1.4	
SSF	**Saint Saulge**	**154.03**	**357**	*e*	PKP1	PKPbc	12 17 16.4	-1.5	
	comp=Z,8.4nm,0.9s								
MFF	**Saint Martin d**	**154.48**	**3**	*e*	PKP1	PKPbc	12 17 17.1	-1.8	
TCF	**Toulx Ste Croi**	**154.84**	**359**	*e*	PKP1	PKPdf	12 17 17.2	+6.6	
	comp=Z,39nm,1.5s								
EVO	**Evora**	**160.63**	**24**	*e*	PKP2	PKPab	12 18 00.8	-1.7	
	comp=Z,17nm,1.1s								
ESDC	**Sonseca Array**	**160.80**	**14**		PKPab	PKPab	12 18 02.2	-1.0	
	comp=Z,1.2nm,0.8s,baz=350,slow=5.1,SNR=5.8								
LIC	**Lamto**	**163.81**	**155**	*e*	PKP2	PKPab	12 18 16.6	-0.4	
	comp=Z,21nm,0.9s								
LIC	**Lamto**	**163.81**	**155**	*e*	P	PKPab	12 18 16.3	-0.7	
	comp=Z,41nm,1.2s								
DBIC	**Dimbokro**	**164.29**	**155**		PKPab	PKPab	12 18 17.1	-2.0	
	comp=Z,3.7nm,0.6s,baz=185,slow=5.2,SNR=7.2								
DBIC	**Dimbokro**	**164.29**	**155**		PKP2	PKPab	12 18 17.1	-2.0	
DBIC					pmax	pmax			
	comp=Z,4.0nm,0.6s								
TORD	**Torodi Ar. Bea**	**172.12**	**179**		PKP	PKPdf	12 17 25.0	-2.3	
	comp=Z,1.8nm,0.9s,baz=245,slow=0.2,SNR=8.5								
TORD					PKPab	PKPab	12 18 52.7	-0.9	
	comp=Z,1.9nm,0.7s,baz=177,slow=4.1,SNR=11								

*NEIC **20** 14:32:28.7, 17.95N×100.40W, h66km, MD4.1(MEX), After MEX.*

MEX 20 14:32:29.0±0.7, 17.97N×100.42W, h59km±15km, MD4.1, Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAIG	**El Cayaco**	**0.93**	**171**	*i* P	Pn	14 32 44.1	-2.0
CAIG				*e* S	Sn	14 32 57.1	-1.6
PLIG	**Platanillo**	**0.96**	**64**	*i* P	Pn	14 32 44.8	-1.8
PLIG				*e* S	Sn	14 32 57.9	-1.6
ZIIG	**Zihuatanejo**	**1.06**	**250**	*i* P	Pn	14 32 46.2	-1.6
ZIIG				*e* S	Sn	14 33 00.4	-1.4
ACX	**Acapulco**	**1.20**	**156**	*i* P	Pn	14 32 48.3	-1.3
ACX				*i* S	Sn	14 33 02.8	-2.2
PPM	**Popocatepetl**	**2.02**	**57**	*i* P	Pn	14 32 59.9	-0.8
PPM				*i* S	Sn	14 33 24.0	-0.8
PPM	**Popocatepetl**	**2.02**	**57**	*i* P	Pn	14 32 59.9	-0.8
PPM				*e* S	Sn	14 33 24.8	0.0
UTMO	**Huajuapan**	**2.49**	**93**	*e* P	Pn	14 33 06.9	-0.3
UTMO				*i* S	Sn	14 33 34.3	-2.1
PNIG	**Pinotepa**	**2.69**	**125**	*e* P	Pn	14 33 09.1	-0.8
PNIG				*i* S	Sn	14 33 38.9	-2.4
PNIG	**Pinotepa**	**2.69**	**125**	*e* P	Pn	14 33 09.1	-0.8
PNIG				*i* S	Sn	14 33 37.8	-3.5

*NIED **20** 14:38:00, 31.90N×142.00E, h5km, Mw3.6 Best double couple: M0 2.84000×10^14 NP1:φ=159.00000°, δ=70.00000°, λ=-30.00000°. NP2:φ=260.00000°, δ=62.00000°, λ=-157.00000°.*

*IDC **20** 14:38:22.2±1.3, 31.82N×141.91E, h0km, mb3.9/7, mb1 3.9/11, mb1mx3.8/24, mbtmp3.9/11, ML3.5/4, MS3.7/1, Ms1 3.7/1, ms1mx2.3/35, Error ellipse: s-maj=42.3km s-min=14.6km az=65.0*

*JMA **20** 14:38:22.8±0.5, 31.93N×141.96E, h11km, M3.9*

*NEIC **20** 14:38:22.9, 31.93N×141.96E, h11km, MG3.9(JMA), After JMA.*

*ISCJB **20** 14:38:23.8±0.7, 31.90N±0.005×142.1E±0.1, h33km, mb3.9/7, Error ellipse: s-maj=17.5km s-min=4.7km az=160.2*

ISC 20 14:38:26.0±0.7, 31.90N±0.005×142.1E±0.1, h35km, n24, σ1=27/30, mb3.9/7, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ2	**Mitsune**	**2.27**	**303**	P	**Pn**	**14 38 59.4**	**-1.5**
JHJ	**Hachijo jima 2**	**2.29**	**303**	Pn	**Pn**	**14 38 58.0**	**-3.3**
	24nm,0.3s,baz=258,slow=21,SNR=10						
JHJ				LR	LR	14 39 26.2	
	comp=Z,2μm,18.9s,baz=329,slow=29						
JHJ				Sn	**Sn**	**14 39 29.6**	**+1.2**
	44nm,0.3s,baz=76,slow=22,SNR=5.7						
BSO1	**Boso 1**	**2.90**	**342**	P	**Pn**	**14 39 10.4**	**+0.8**
JOD2	**Odawara 2**	**4.18**	**324**	P	**Pn**	**14 39 26.1**	**-1.2**
JHU	**Hanno**	**4.58**	**330**	P	**Pn**	**14 39 31.8**	**-0.9**
CBIJ	**Chichi jima**	**4.79**	**179**	Pn	**Pn**	**14 39 34.9**	**-0.9**
	8.5nm,0.3s,baz=99,slow=23,SNR=8.1						
CBIJ				Sn	**Sn**	**14 40 28.6**	**-1.5**
	15nm,0.3s,baz=277,slow=23,SNR=4.2						
CBIJ	**Chichi jima**	**4.79**	**179**	P	**Pn**	**14 39 36.3**	**+0.6**
JRY	**Ryogami san**	**4.88**	**328**	P	**Pn**	**14 39 36.9**	**0.0**
JRY				*e* S	**Sn**	**14 40 33.9**	**+1.7**
JAG	**Ashikaga**	**5.01**	**335**	P	**Pn**	**14 39 38.1**	**-0.6**
JFK	**Kawauchi**	**5.54**	**350**	P	**Pn**	**14 39 44.2**	**-1.7**
MJAR	**Matsushiro Arr**	**5.63**	**326**	Pn	**Pn**	**14 39 46.7**	**-0.5**
	1.2nm,0.3s,baz=152,slow=11,SNR=13						
MJAR				Sn	**Sn**	**14 40 51.5**	**+0.8**
	0.7nm,0.3s,baz=152,slow=14,SNR=4.4						
MJAR	**Matsushiro Arr**	**5.63**	**326**	Pn	**Pn**	**14 39 46.7**	**-0.5**
MJAR				Sn	**Sn**	**14 40 51.5**	**+0.8**
MAJO	**Matsushiro**	**5.63**	**326**	*e*Pn	**Pn**	**14 39 44.7**	**-2.6**
	13nm,0.8s						
MAT	**Matsushiro**	**5.63**	**326**	P	**Pn**	**14 39 46.2**	**-1.0**
MAT				*e* S	**Sn**	**14 40 49.3**	**-1.4**
MAT	**Matsushiro**	**5.63**	**326**	P	**Pn**	**14 39 46.1**	**-1.1**
KSRS	**Korea Array**	**12.90**	**299**	Pn	**Pn**	**14 41 27.4**	**+0.6**
	0.1nm,0.3s,baz=115,slow=12,SNR=2.9						
SONM	**Songino Array**	**31.34**	**311**	P	**P**	**14 44 45.7**	**+2.7**
	0.9nm,0.7s,mb3.7,baz=114,slow=9.6,SNR=5.3						
ZALV	**Zalesovo Beam**	**45.89**	**316**	P	**P**	**14 46 45.0**	**+0.2**
	0.4nm,0.4s,mb3.7,baz=83,slow=6.0,SNR=2.5						
MK31	**Makanchi Array**	**47.46**	**306**	*e*Pn	**P**	**14 46 58.0**	**+0.8**
MKAR	**Makanchi Array**	**47.46**	**306**	P	**P**	**14 46 58.1**	**+0.9**
	1.8nm,0.7s,mb4.1,baz=90,slow=9.5,SNR=14						
KURK	**Kurchatov**	**49.65**	**312**	P	**P**	**14 47 14.8**	**+0.9**
	1.2nm,0.5s,mb4.2,baz=88,slow=7.0,SNR=3.9						
WRA	**Warramunga Arr**	**52.08**	**189**	P	**P**	**14 47 33.5**	**+1.0**
	1.7nm,0.8s,mb4.0,baz=6.5,slow=7.6,SNR=32						
ASAR	**Alice Springs**	**55.81**	**189**	P	**P**	**14 48 00.2**	**+0.6**
	0.3nm,0.4s,mb3.6,baz=6.8,slow=7.8,SNR=8.8						
TXAR	**Lajitas Array**	**92.79**	**53**	P	**P**	**14 51 37.8**	**+2.7**
	0.6nm,0.9s,mb4.0,baz=222,slow=1.7,SNR=3.4						

CASC 20 14:40:19.0±2.5, 1522N×8970W, h0km±6km, MD4.0, ML3.0, 2C-1D, Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MRL	**Marmol**	**0.15**	**178**	⇑*e*P	Pg	14 40 23.0	+1.0
NBG	**Las Nubes**	**0.89**	**225**	*e*P	Pg	14 40 36.7	+0.6
NBG				*e* S	Sg	14 40 51.1	+3.5
RBDL	**Robledal**	**1.10**	**179**	*e*P	x	14 40 40.1	
RBDL				*e* S	x	14 40 56.4	
RTR	**El Retiro**	**1.32**	**178**	*e*P	x	14 40 43.9	
RTR				*e* S	x	14 41 03.5	
FG6		**1.32**	**240**	⇑*e*P	Pg	14 40 44.4	0.0
FG6				*e* S	Sg	14 41 03.8	+2.3
FUG	**Fuego 3**	**1.35**	**235**	*e*P	Pg	14 40 44.5	-0.3
FUG				*e* S	Sg	14 41 04.2	+1.9
SNJE	**San Jose**	**1.35**	**176**	*e*P	x	14 40 44.2	
SNJE				*e* S	x	14 41 04.1	
SBLS	**San Blas**	**1.38**	**177**	*e*P	x	14 40 44.7	
SBLS				*e* S	x	14 41 05.1	
SNET	**Serv Nac Est T**	**1.59**	**163**	*e* S	x	14 41 10.6	
LFRS	**El Faro**	**1.71**	**159**	*e*P	x	14 40 49.4	
LFRS				*e* S	x	14 41 14.1	
CAHU	**Cacacuatique**	**2.04**	**135**	⇓*e*P	x	14 40 55.3	
CAHU				*e* S	x	14 41 24.6	
CNCH	**Conchagua**	**2.65**	**137**	*e*P	x	14 41 04.8	
CNCH				AML	x	14 41 49.5	
	comp=Z,85nm,0.6s						

*ISCJB **20** 15:14:44.3±0.4, 16.24N±0.003×95.72W±0.002, h46km±4km, mb4.2/20, MS3.8/10, Error ellipse: s-maj=5.5km s-min=3.2km az=13.9*

*MEX **20** 15:14:45.6±0.8, 16.19N×95.77W, h56km±12km, MD4.5*

*BJI **20** 15:14:45.5, 16.10N×95.60W, h26km, mB5.4, Ms4.9, Msz4.8*

*NEIC **20** 15:14:46.5, 16.09N×95.60W, h26km, mb4.5/12, MD4.5(MEX), After MEX.*

*IDC **20** 15:14:49.7±1.7, 16.53N×95.50W, h78km±11km, mb3.7/12, mb1 3.9/14, mb1mx3.8/25, mbtmp3.8/14, MS3.5/8, Ms1 3.5/8, ms1mx3.2/36, Error ellipse: s-maj=25.4km s-min=12.7km az=47.0*

*CASC **20** 15:14:56.0±2.5, 16.68N×94.89W, h35km±999km, MD4.8, mb4.5(NEIC)*

ISC 20 15:14:45.6±0.4, 1625N±0.003×9571W±0.002, h39km±5km, n98, σ1=38/108, mb4.2/20, MS3.8/10, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HUIG	**Huatulco**	**0.61**	**219**	*i* P	**Pn**	**15 14 55.6**	**-2.2**
HUIG				*e* S	**Sn**	**15 15 04.7**	**-1.8**
CMIG	**Matias Romero**	**1.15**	**43**	P	**Pn**	**15 15 05.0**	**-0.2**
	381nm,0.3s,baz=226,slow=12,SNR=4014						
CMIG				S	**Sn**	**15 15 20.4**	**+0.7**
	2μm,0.3s,baz=174,slow=13,SNR=47						
CMIG	**Matias Romero**	**1.15**	**43**	*i* P	**Pn**	**15 15 05.0**	**-0.2**
CMIG				*i* S	**Sn**	**15 15 20.4**	**+0.6**
OXX	**Oaxaca**	**1.28**	**311**	*i* P	**Pn**	**15 15 05.9**	**-1.1**
OXX				*i* S	**Sn**	**15 15 20.8**	**-2.2**
OXX	**Oaxaca**	**1.28**	**311**	*i* P	**Pn**	**15 15 05.7**	**-1.2**
VHO	**Vista Hermosa**	**1.28**	**310**	*i* P	**Pn**	**15 15 05.9**	**-1.1**
VHO				*i* S	**Sn**	**15 15 21.8**	**-1.2**
VHO	**Vista Hermosa**	**1.28**	**310**	*i* P	**Pn**	**15 15 05.9**	**-1.1**
VHO				*i* S	**Sn**	**15 15 22.7**	**-0.3**
TUIG	**Tuzandepetl**	**2.16**	**34**	*e*P	**Pn**	**15 15 19.0**	**0.0**
TUIG				*i* S	**Sn**	**15 15 45.6**	**+0.9**
TUIG	**Tuzandepetl**	**2.16**	**34**	*i* P	**Pn**	**15 15 19.9**	**+0.9**
TUIG				*i* S	**Sn**	**15 15 46.6**	**+1.9**
PNIG	**Pinotepa**	**2.33**	**274**	*i* P	**Pn**	**15 15 18.8**	**-2.6**
PNIG				*i* S	**Sn**	**15 15 46.4**	**-2.4**
PNIG	**Pinotepa**	**2.33**	**274**	*i* P	**Pn**	**15 15 22.9**	**+1.5**
PNIG				*i* S	**Sn**	**15 15 51.8**	**+3.0**
TGIG		**2.53**	**78**	*e*P	**Pn**	**15 15 25.3**	**+1.1**
TGIG				*i* S	**Sn**	**15 15 52.6**	**-1.2**
TPIG	**Tehuac#an**	**2.68**	**324**	*e*P	**Pn**	**15 15 26.2**	**0.0**
TPIG				*i* S	**Sn**	**15 15 57.3**	**-0.1**
SCX	**San Cristobal**	**2.99**	**80**	*i* P	**Pn**	**15 15 30.7**	**+0.3**
SCX				*i* S	**Sn**	**15 16 04.7**	**-0.3**
CCIG	**Comitan**	**3.43**	**89**	*i* P	**Pn**	**15 15 38.4**	**+1.9**
CCIG				*i* S	**Sn**	**15 16 18.9**	**+3.0**
CCIG	**Comitan**	**3.43**	**89**	*i* P	**Pn**	**15 15 38.4**	**+1.9**
CCIG				*i* S	**Sn**	**15 16 19.2**	**+3.4**
THIG		**3.57**	**111**	*i* P	**Pn**	**15 15 37.2**	**-1.3**
THIG				*i* S	**Sn**	**15 16 18.3**	**-1.2**
PPM	**Popocatepetl**	**3.95**	**316**	*e*P	**Pn**	**15 15 43.4**	**-0.4**
PPM				*e*P		15 15 43.4	
PPM				*i* S	**Sn**	**15 16 28.4**	**-0.5**
PPM				*i* S	**Sn**	**15 16 33.2**	**+4.4**
PPM	**Popocatepetl**	**3.95**	**316**	*e*P	**Pn**	**15 15 47.0**	**+3.3**
PPM				*e*P	**Sn**	**15 16 34.8**	**+5.9**
ACX	**Acapulco**	**4.09**	**279**	*i* P	**Pn**	**15 15 41.7**	**-3.9**
ACX				*i* S	**Sn**	**15 16 33.0**	**+0.9**
ACX	**Acapulco**	**4.09**	**279**	*i* P	**Pn**	**15 15 40.8**	**-4.7**
PLIG	**Platanillo**	**4.21**	**301**	*i* P	**Pn**	**15 15 50.1**	**+2.9**
PLIG				*e* S	**Sn**	**15 16 40.1**	**+5.0**
JAT	**Jato**	**4.37**	**115**	*e*P	**Pn**	**15 15 53.5**	**+4.1**
CAIG	**El Cayaco**	**4.45**	**281**	*e*P	**Pn**	**15 15 48.4**	**-2.1**
CAIG				*i* S	**Sn**	**15 16 42.4**	**+1.4**
FG6		**4.94**	**109**	*e*P	**Pn**	**15 16 01.6**	**+4.2**
FUG	**Fuego 3**	**5.02**	**110**	*e*P	**Pn**	**15 16 02.1**	**+3.7**
SCIG	**Sabancuy**	**5.09**	**57**	*i* P	**Pn**	**15 15 58.9**	**-0.5**
SCIG				*i* S	**Sn**	**15 16 55.6**	**-1.3**
MRL	**Marmol**	**5.91**	**101**	*e*P	**Pn**	**15 16 12.7**	**+2.1**
RBDL	**Robledal**	**6.18**	**109**	*e*P	x	15 16 18.4	
RTR	**El Retiro**	**6.30**	**111**	*e*P	x	15 16 17.9	
SBLS	**San Blas**	**6.34**	**111**	*e*P	x	15 16 20.2	
SBLS				*e* S	x	15 17 27.4	
SNJE	**San Jose**	**6.35**	**111**	*e*P	x	15 16 21.0	
LFRS	**El Faro**	**6.93**	**111**	*e*P	x	15 16 28.1	
TEIG	**Tepich**	**8.09**	**60**	P	**Pn**	**15 16 39.9**	**-0.7**
	33nm,0.3s,baz=253,slow=3.3,SNR=57						
TEIG				S	**Sn**	**15 18 05.4**	**-5.4**
	54nm,0.3s,baz=92,slow=20,SNR=12						
TEIG				LR	LR	15 20 26.2	
	comp=Z,234nm,19.1s,baz=146,slow=43						
TEIG	**Tepich**	**8.09**	**60**	*e*Pn	**Pn**	**15 16 39.8**	**-0.8**
TEIG				*e*Sn	**Sn**	**15 18 06.7**	**-4.2**
SFJM	**Santa Fe**	**8.14**	**302**	*e*P	**Pn**	**15 16 44.0**	**+2.8**
SFJM				*i* S	**Sn**	**15 18 15.4**	**+3.4**
TGUH	**Tegucigalpa,Un**	**8.43**	**104**	*e*Pn	**Pn**	**15 16 48.7**	**+3.5**
	62nm,0.8s						
JTS	**JuntasAbangare**	**12.02**	**118**	P	**Pn**	**15 17 35.9**	**+1.4**
	3.1nm,0.3s,baz=282,slow=7.8,SNR=11						
JTS	**JuntasAbangare**	**12.02**	**118**	*e*Pn	**Pn**	**15 17 36.0**	**+1.6**
HKT	**Hockley**	**13.64**	**360**	*e*Pn	**Pn**	**15 17 52.8**	**-3.7**
	18nm,1.4s						
JCT	**Junction City**	**14.66**	**346**	*e*Pn	**Pn**	**15 18 10.2**	**-0.1**
TXAR	**Lajitas Array**	**14.94**	**332**	P	**Pn**	**15 18 14.7**	**+0.6**
	0.1nm,0.3s,baz=154,slow=11,SNR=39						
PAYG	**Puerto Ayora**	**17.64**	**162**	*e*Pn	**Pn**	**15 18 46.7**	**-1.8**
	28nm,1.0s						
GDL2	**Guadalupe Moun**	**17.72**	**335**	*e*Pn	**Pn**	**15 18 50.1**	**+

comp=Z,190nm,10.8s
CD2 LR LR
comp=N,130nm,18.8s
CD2 LR LR
comp=Z,160nm,18.2s,MS4.8
KMI Kunming 135.12 336 PKP PKPdf 15 34 04.3 +2.8
HYB Hyderabad 146.08 10 *i* PKP PKPdf 15 34 24.5 +3.1
HYB Hyderabad 146.08 10 *eP* PKPdf 15 34 24.5 +3.1

*ISCJB **20** 15:23:13.9±0.7, 18.18N±0.08×63.87W±0.03, h100km±7km, Error ellipse: s-maj=13.6km s-min=2.8km az=19.1*
*TRN **20** 15:23:13.9, 18.15N×63.87W, h88km, MD4.2, MA4.4(FDF)*
*NEIC **20** 15:23:16.8, 18.21N×63.95W, h90km, MD3.9(RSPR), After RSPR.*
*RSPR **20** 15:23:16.8, 18.21N×63.95W, h90km±2km, MD3.9/14, MD3.9/14*
ISC 20 15:23:14.8±0.7, 18.19N±0.08×63.86W±0.03, h92km±9km, n43, σ0°83/70, 21C-11D, Leeward Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ABV	**Anegada**	**0.70**	**320**	⇑ *i*	**P**	**15 23 32.4**	**+0.9**
ABV	**Anegada**	**0.70**	**320**	⇑ *i*	**P**	**15 23 32.4**	**+0.9**
TBVI	**Tortola**	**0.75**	**288**	⇓ *i*	**P**	**15 23 32.3**	**+0.3**
TBVI	**Tortola**	**0.75**	**288**	⇓ *i*	**P**	**15 23 32.2**	**+0.2**
CDVI	**St. Croix**	**0.96**	**243**	⇓ *i*	**P**	**15 23 34.8**	**+0.5**
CDVI				*e*	**S**	**15 23 49.3**	**+0.4**
STVI	**Saint Thomas**	**1.05**	**279**	⇑ *i*	**P**	**15 23 35.6**	**+0.4**
STVI				*e*	**S**	**15 23 50.3**	**-0.2**
BSK	**Brimstone Hill**	**1.29**	**131**	⇑ *eP*	**P**	**15 23 38.4**	**+0.3**
BSK				*e*	**S**	**15 23 56.2**	**+0.7**
MTP	**Monte Pirata**	**1.61**	**267**	⇓ *i*	**P**	**15 23 40.9**	**-1.2**
MTP				*e*	**S**	**15 23 59.7**	**-3.0**
MTP	**Monte Pirata**	**1.61**	**267**	⇓ *i*	**P**	**15 23 40.1**	**-2.0**
MTP				*e*	**S**	**15 23 59.7**	**-3.0**
HUMP	**Col San Antoni**	**1.89**	**269**	⇑ *eP*	**P**	**15 23 46.1**	**+0.4**
HUMP	**Col San Antoni**	**1.89**	**269**	⇑ *eP*	**P**	**15 23 46.9**	**+1.2**
HUMP				*e*	**S**	**15 24 09.7**	**+0.6**
HUMP	**Col San Antoni**	**1.89**	**269**	⇑ *eP*	**P**	**15 23 46.1**	**+0.4**
HUMP				*e*	**S**	**15 24 09.7**	**+0.6**
CBYP	**Canovanas**	**1.90**	**273**	⇑ *eP*	**P**	**15 23 44.3**	**-1.4**
CPD	**Cerro la Pandu**	**1.96**	**266**	⇓ *eP*	**P**	**15 23 46.4**	**-0.1**
CPD				*e*	**S**	**15 24 10.3**	**-0.4**
ANWB	**Willy Bob**	**2.05**	**104**	*eP*	**P**	**15 23 46.4**	**-1.3**
ANWB				*eS*	**S**	**15 24 09.0**	**-3.8**
MBGB		**2.13**	**133**	⇑ *iP*	**P**	**15 23 49.2**	**+0.3**
MBGB				*eS*	**S**	**15 24 14.3**	**-0.5**
MBWH		**2.15**	**132**	⇑ *iP*	**P**	**15 23 49.4**	**+0.2**
MLYT	**Lee's Yard**	**2.16**	**132**	⇑ *iP*	**P**	**15 23 49.5**	**+0.2**
MLYT				*eS*	**S**	**15 24 14.2**	**-1.4**
SJG	**San Juan**	**2.17**	**268**	⇓ *iP*	**P**	**15 23 50.2**	**+0.8**
SJG				*eS*	**S**	**15 24 15.1**	**-0.7**
SJG	**San Juan**	**2.17**	**268**	⇓ *iP*	**P**	**15 23 50.2**	**+0.8**
SJG	**San Juan**	**2.17**	**268**	⇓ *eP*	**P**	**15 23 50.2**	**+0.8**
SJG				*eS*	**S**	**15 24 15.1**	**-0.7**
SJG				*eS*	**S**	**15 24 16.6**	**+0.7**
MBLG		**2.18**	**132**	⇑ *iP*	**P**	**15 23 49.6**	**+0.1**
MBLG				*eS*	**S**	**15 24 18.0**	**+1.9**
MBRY		**2.20**	**132**	⇑ *iP*	**P**	**15 23 49.6**	**-0.2**
MBRY				*eS*	**S**	**15 24 16.8**	**+0.3**
BPA	**Boggy Peak**	**2.23**	**120**	*eP*	**P**	**15 23 50.4**	**+0.3**
BPA				*eS*	**S**	**15 24 16.6**	**-0.5**
ICM	**Isla Caja Muer**	**2.55**	**264**	⇓ *eP*	**P**	**15 23 54.7**	**+0.4**
ICM				*eS*	**S**	**15 24 24.4**	**-0.3**
CELP	**Cerrillos**	**2.58**	**268**	⇑ *eP*	**P**	**15 23 55.6**	**+0.8**
CELP				*eS*	**S**	**15 24 26.3**	**+0.7**
AOPR	**Arecibo Observ**	**2.75**	**274**	⇑ *eP*	**P**	**15 23 57.5**	**+0.4**
AOPR				*eS*	**S**	**15 24 28.9**	**-0.7**
LZG	**Guadaloupe-1**	**2.85**	**135**	⇑ *eP*	**P**	**15 23 57.8**	**-0.6**
GBPR	**Guanica, Bosqu**	**2.88**	**266**	⇑ *eP*	**P**	**15 23 59.2**	**+0.5**
GBPR				*eS*	**S**	**15 24 31.7**	**-0.8**
SCG	**Saint Claude**	**3.00**	**136**	*eP*	**P**	**15 24 00.7**	**+0.3**
HMG	**Houelmont**	**3.02**	**136**	*eP*	**P**	**15 24 01.0**	**+0.4**
LSP	**Las Mesas**	**3.06**	**270**	⇑ *eP*	**P**	**15 24 02.4**	**+1.1**
LSP				*eS*	**S**	**15 24 36.6**	**-0.5**
CRPR	**Cabo Rojo, PR**	**3.09**	**267**	⇓ *iP*	**P**	**15 24 02.2**	**+0.6**
CRPR				*eS*	**S**	**15 24 37.9**	**+0.1**
AGPR	**Aguadilla, PR**	**3.10**	**276**	⇑ *eP*	**P**	**15 24 01.4**	**-0.3**
AGPR				*eS*	**S**	**15 24 37.8**	**-0.1**
AGPR	**Aguadilla, PR**	**3.10**	**276**	⇑ *eP*	**P**	**15 24 01.4**	**-0.3**
AGPR				*eS*	**S**	**15 24 37.1**	**-0.8**
TBG	**Guadaloupe-3**	**3.15**	**137**	*eP*	**P**	**15 24 02.8**	**-0.1**
DEG	**La Desirade**	**3.27**	**124**	⇑ *eP*	**P**	**15 24 02.8**	**-1.2**
DEG				⇑ *eS*	**S**	**15 24 40.0**	**-1.9**
FDF	**Fort de France**	**4.31**	**142**	*eP*	**P**	**15 24 17.8**	**-0.4**
FDF	**Fort de France**	**4.31**	**142**	*ePn*	**P**	**15 24 17.7**	**-0.5**
SLB	**Belfond**	**5.12**	**148**	*eP*	**P**	**15 24 29.9**	**+0.8**
SVV	**Soufriere Volc**	**5.47**	**152**	*eP*	**P**	**15 24 35.4**	**+1.4**
SSV	**Crater Summit**	**5.48**	**152**	*eP*	**P**	**15 24 35.1**	**+1.1**
SDV	**Santo Domingo**	**11.35**	**216**	*ePn*	**P**	**15 25 53.1**	**-0.9**
SDV				*eSn*	**S**	**15 27 53.6**	**-5.3**

*IDC **20** 15:54:40.2±41.0, 17.82S×168.26E, h0km, mb3.8/4, mb1 4.0/4, mb1mx3.7/15, mbtmp3.8/4, Error ellipse: s-maj=713.1km s-min=115.0km az=75.0*
*NEIC **20** 15:54:58.2±3.8, 18.27S×166.31E, h10km, mb3.9/2, Error ellipse: s-maj=86.0km s-min=17.9km az=213.0*
ISC 20 15:55:02.7±4.7, 18.45S±0.06×166.2E±0.04, h35km, n9, σ0°12/9, mb3.6/4, Vanuatu Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CTAO	**Charters Tower**	**18.92**	**262**	P	**Pn**	**15 59 21.3**	**-0.1**
	8.4nm,0.9s						
SNZO	**South Karori**	**23.98**	**164**	*eP*	**P**	**16 00 13.8**	**0.0**
	198nm,1.3s						
STKA	**Stephens Creek**	**25.94**	**234**	P	**P**	**16 00 31.8**	**0.0**
	1.0nm,0.6s,mb3.5,baz=81,slow=9.0,SNR=3.2						
STKA	**Stephens Creek**	**25.94**	**234**	P	**P**	**16 00 31.8**	**0.0**
WB2	**Warramunga Arr**	**30.11**	**262**	P	**P**	**16 01 09.0**	**-0.1**
WRA	**Warramunga Arr**	**30.12**	**262**	P	**P**	**16 01 09.3**	**0.0**
	0.4nm,0.9s,mb3.1,baz=82,slow=6.1,SNR=7.4						
ASAR	**Alice Springs**	**30.57**	**254**	P	**P**	**16 01 13.4**	**+0.3**
	1.3nm,0.5s,mb4.0,baz=81,slow=8.6,SNR=63						
FITZ	**Fitzroy Crossi**	**38.47**	**264**	P	**P**	**16 02 21.6**	**0.0**
	1.3nm,0.9s,mb3.6,baz=133,slow=14,SNR=6.2						
FITZ	**Fitzroy Crossi**	**38.47**	**264**	*eP*	**P**	**16 02 21.6**	**0.0**
	1.3nm,0.6s,mb3.8						

*NEIC **20** 16:40:37.3±5.7, 11.31S×175.07E, h10km, mb4.2/5, Error ellipse: s-maj=133.0km s-min=22.5km az=211.0*
IDC 20 16:41:13.7±64.0, 1332S×17102E, h0km, mb4.3/3, mb1 4.5/3, mb1mx3.9/16, mbtmp4.3/3, MS2.9/1, Ms1 2.9/1, ms1mx2.2/24, Error ellipse: s-maj=1095.0km s-min=118.3km az=66.0, Vanuatu Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**11.52**	**288**	LR	LR	16 47 29.7	
	comp=Z,60nm,18.0s,baz=154,slow=33						
HNR	**Honiara**	**11.52**	**288**	*ePn*	Pn	16 44 07.7	+8.1
	7.5nm,0.5s						
STKA	**Stephens Creek**	**32.69**	**231**	*eP*	P	16 47 47.4	-0.4
	1.8nm,0.3s						
STKA	**Stephens Creek**	**32.69**	**231**	P	P	16 47 47.6	-0.2
	2.1nm,0.3s,baz=42,slow=8.2,SNR=11						
STKA	**Stephens Creek**	**32.69**	**231**	*eP*	P	16 47 46.9	-1.0
	2.5nm,0.3s						
WB2	**Warramunga Arr**	**35.69**	**254**	*eP*	P	16 48 14.0	-0.1
WRAB	**Tennant Creek**	**35.69**	**254**	*eP*	P	16 48 13.4	-0.7
	1.0nm,0.5s						
WRA	**Warramunga Arr**	**35.70**	**254**	P	P	16 48 14.5	+0.4
	1.0nm,0.4s,baz=86,slow=8.5,SNR=34						
ASAR	**Alice Springs**	**36.57**	**248**	P	P	16 48 21.4	-0.2
	3.0nm,0.6s,baz=75,slow=9.6,SNR=37						
FITZ	**Fitzroy Crossi**	**43.86**	**258**	*eP*	P	16 49 19.0	-3.1
	2.2nm,0.7s						

MAN 20 16:54:12, 1231N×12551E, h61km, mb4.4, ML3.2, MS3.0, 1C, Samar

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CNP	**Catarman**	**0.85**	**284**	*eP*	Pn	16 54 23.4	-4.9
CNP				*eS*	Sn	16 54 49.7	+9.5
PLP	**Palo**	**1.25**	**205**	⇑ *eP*	Pn	16 54 34.3	+0.9
PLP				*i* S	Sn	16 54 51.4	+2.1
OCLP	**Ormoc**	**1.53**	**215**	*eP*	Pn	16 54 39.5	+2.4
OCLP				*eS*	Sn	16 54 48.3	-7.8
PVCP	**Virac**	**1.84**	**314**	*eP*	Pn	16 54 44.1	+2.7
PVCP				*eS*	Sn	16 55 03.9	+0.2
MSLP	**Maasin**	**2.25**	**197**	*eP*	Pn	16 54 48.4	+1.5
MSLP				*eS*	Sn	16 55 25.4	+12

*NIED **20** 17:09:00, 32.20N×132.00E, h23km, Mw4.4 Best double couple: M0 4.42000×10^15 NP1:φs32.00000°, δ74.00000°, λ85.00000°. NP2:φs230.00000°, δ17.00000°, λ108.00000°.*
*BJI **20** 17:09:16.6, 31.56N×132.54E, h10km, mB4.5, mb4.3, Ms4.1, Msz3.9*
*IDC **20** 17:09:22.9±0.6, 32.20N×131.76E, h0km, mb4.1/14, mb1 4.2/17, mb1mx4.2/26, mbtmp4.1/17, ML3.7/3, MS3.7/10, Ms1 3.7/10, ms1mx3.4/42, Error ellipse: s-maj=17.8km s-min=14.9km az=77.0*
*NEIC **20** 17:09:24.5±0.3, 32.18N×131.73E, h10km, mb4.5/14, MW4.4(NIED), Error ellipse: s-maj=7.1km s-min=5.6km az=120.0*
NEIC Recorded [2 JMA] in Miyazaki, Oita and Kagoshima Prefectures.
*MOS **20** 17:09:25.5±1.2, 32.15N×131.83E, h33km, mb4.5/16, Error ellipse: s-maj=13.3km s-min=9.1km az=109.3*
*ISCJB **20** 17:09:26.9±0.6, 32.17N×134×131.93E±0.05, h44km±5km, mb4.2/30, MS3.8/10, Error ellipse: s-maj=7.9km s-min=6.4km az=30.6*
*JMA **20** 17:09:27.3±0.1, 32.19N×131.97E, h21km±2km, M4.3 Broadband fault plane solution: P waves. NP1: φs223.00000°, δ29.00000°, λ102.00000°. NP2: φs29.00000°, δ61.00000°, λ83.00000°. Principal axes: T Plg73.0000°, Azm283.0000°; N Plg6.0000°, Azm32.0000°; P Plg16.0000°, Azm124.0000°;*
JMA Felt II J1.
ISC 20 17:09:27.6±0.8, 32.16N×134×131.88E±0.05, h31km±5km, n81, σ1°09/80, mb4.2/30, MS3.8/10, 1C-4D, Kyushu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JTSN	**Tsuno**	**0.33**	**286**	⇓ P	**Pb**	**17 09 35.2**	**-0.4**
JTSN				S	**Sb**	**17 09 41.4**	**+0.4**
JKIT	**Kitakata**	**0.59**	**322**	⇓ P	**Pb**	**17 09 39.3**	**-0.3**
JTZ	**Takazaki**	**0.72**	**250**	⇓ P	**Pn**	**17 09 42.2**	**+0.5**
JTZ				S	**Sn**	**17 09 53.7**	**+2.0**
JNAR	**Kushima--Naru**	**0.81**	**220**	⇑ P	**Pn**	**17 09 44.7**	**+1.7**
JUS	**Usuki**	**0.91**	**353**	⇓ P	**Pn**	**17 09 43.9**	**-0.4**
JUS				*eS*	**Sn**	**17 09 56.4**	**0.0**
JIU2	**Izumi 2**	**0.98**	**294**	P	**Pn**	**17 09 46.4**	**+1.1**
JOW	**Kunigami**	**6.17**	**212**	Pn	**Pn**	**17 10 54.2**	**-2.3**
	2.3nm,0.3s,baz=82,slow=15,SNR=2.5						
KSRS	**Korea Array**	**6.21**	**329**	Pn	**Pn**	**17 10 59.1**	**+2.1**
	1.5nm,0.3s,baz=146,slow=14,SNR=21						
KSRS				Sn	**Sn**	**17 12 09.1**	**+2.1**
	baz=140,slow=34,SNR=2.6						
KSRS				LR	LR	17 13 32.2	
	comp=Z,643nm,21.0s,baz=169,slow=41						
KSRS	**Korea Array**	**6.21**	**329**	P	**Pn**	**17 10 59.2**	**+2.1**
KSRS						17 12 09.1	
KSRS				*pmax*	*pmax*		
	comp=Z,2.0nm,0.3s						
KSRS				MLR	MLR		
	comp=Z,643nm,21.0s						
JHJ	**Hachijo jima 2**	**6.73**	**80**	Pn	**Pn**	**17 11 03.3**	**-1.0**
	comp=Z,21nm,0.3s,baz=269,slow=23,SNR=4.3						
JHJ				LR	LR	17 13 02.5	
	comp=Z,174nm,20.2s,baz=86,slow=32						
MAJO	**Matsushiro**	**6.82**	**48**	*eP*	**Pn**	**17 11 04.6**	**-0.9**
MAJO				*pmax*	*pmax*		
	comp=Z,11nm,0.7s						
MAJO	**Matsushiro**	**6.82**	**48**	*ePn*	**P**	**17 11 04.5**	**-0.9**
	comp=Z,11nm,0.7s						
MJAR	**Matsushiro Arr**	**6.82**	**48**	Pn	**Pn**	**17 11 06.0**	**+0.5**
	comp=Z,0.9nm,0.3s,baz=240,slow=14,SNR=16						
MJAR	**Matsushiro Arr**	**6.82**	**48**	P	**Pn**	**17 11 06.0**	**+0.5**
MJAR				*pmax*	*pmax*		
	comp=Z,1.0nm,0.3s						
BJT	**Baijiatuao**	**14.92**	**306**	P	**Pn**	**17 13 03.6**	**+7.3**
BJT				*pmax*	*pmax*		
	comp=Z,18nm,0.4s						
BJT	**Baijiatuao**	**14.92**	**306**	P	**Pn**	**17 13 03.6**	**+7.4**
	comp=Z,18nm,0.4s						
XAN	**Xi'an**	**19.33**	**282**	P	**Pn**	**17 13 50.8**	**-0.7**
XAN				AP	pP	17 13 59.8	+1.3
XAN				XP	sP	17 14 04.3	+1.9
XAN				AMB	AMB		
	comp=Z,5.0nm,0.8s						
XAN				AMB	AMB		
	comp=Z,92nm,11.3s						
XAN				LR	LR		
	comp=N,44nm,9.0s						
XAN				LR	LR		
	comp=E,256nm,17.7s						
XAN				LR	LR		
	comp=Z,552nm,14.1s						
HIA	**Hailar**	**19.37**	**335**	*eP*	**Pn**	**17 13 51.8**	**-0.1**
HIA				*pmax*	*pmax*		
	comp=Z,32nm,1.1s						
HIA	**Hailar**	**19.37**	**335**	*eP*	**Pn**	**17 13 51.8**	**-0.1**
	comp=Z,32nm,1.1s						
GUMO	**Guam**	**21.98**	**144**	LR	LR	17 20 54.9	
	comp=Z,70nm,21.9s,MS3.0,baz=137,slow=31						
GYA	**Guiyang**	**22.69**	**262**	P	**P**	**17 14 26.0**	**-0.6**
GYA				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.3						
CD2	**Chengdu**	**23.98**	**275**	P	**P**	**17 14 39.0**	**-0.4**
CD2				AP		17 14 48.3	
CD2				XP	sP	17 14 52.1	+0.1
CD2				PP		17 15 16.6	
CD2				S	**S**	**17 18 58.8**	**+4.5**
CD2				AMB	AMB		
	comp=Z,30nm,0.5s,mb5.0						
CD2				AMB	AMB		
	comp=Z,80nm,5.2s						
CD2				LR	LR		
	comp=N,370nm,13.8s,MS4.5						
CD2				LR	LR		
	comp=E,940nm,10.8s,MS4.5						
SONM	**Songino Array**	**24.87**	**316**	P	**P**	**17 14 47.3**	**0.0**
	comp=E,9.9nm,0.8s,mb4.4,baz=132,slow=9.6,SNR=45						
SONM				PcP	PcP	17 18 22.5	-0.1
	comp=E,0.7nm,0.8s,baz=57,slow=2.2,SNR=3.8						
SONM				LR	LR	17 25 06.2	
	comp=E,210nm,19.4s,MS3.6,baz=318,slow=38						
SONM	**Songino Array**	**24.87**	**316**	P	**P**	**17 14 47.3**	**0.0**
SONM						17 18 22.5	
SONM				*pmax*	*pmax*		
	comp=Z,10.0nm,0.8s						
SONM				*pmax*	*pmax*		
	comp=Z,1.0nm,0.8s						
SONM				MLR	MLR		
	comp=Z,210nm,19.5s						
GTA	**Gaotai**	**26.91**	**295**	*eP*	**P**	**17 15 06.4**	**+0.5**
GTA				AP	pP	17 15 11.8	-2.9
GTA				XP	sP	17 15 15.1	-3.4
GTA				AMB	AMB		
	comp=Z,4.0nm,1.2s,mb3.8						
GTA				AMB	AMB		
	comp=Z,58nm,3.8s						
GTA				LR	LR		
	comp=N,161nm,16.1s,MS4.1						
GTA				LR	LR		
	comp=E,362nm,15.8s,MS4.1						
GTA				LR	LR		
	comp=Z,418nm,14.9s,MS4.1						
ZAK	**Zakamensk**	**27.91**	**319**	*eP*	**P**	**17 15 11.6**	**-3.2**
ZAK				*pmax*	*pmax*		
	comp=Z,4.0nm,1.2s,mb3.9						
CHTO	**Chiang Mai**	**32.43**	**254**	*eP*	**P**	**17 15 54.3**	**-0.7**
CHTO				*pmax*	*pmax*		
	comp=Z,2.0nm,0.6s,mb4.1						
CHTO	**Chiang Mai**	**32.43**	**254**	*eP*	**P**	**17 15 54.2**	**-0.7**
	comp=Z,1.6nm,0.6s,mb4.0						
CM31	**Chiang Mai Arr**	**32.61**	**253**	P	**P**	**17 15 55.5**	**-1.1**
	comp=Z,1.4nm,0.5s,mb4.2						
CMAR	**Chiang Mai Arr**	**32.61**	**253**	P	**P**	**17 15 56.4**	**-0.2**
	comp=Z,0.8nm,0.5s,mb3.9,baz=55,slow=7.4,SNR=10						
CMAR				LR	LR	17 30 28.7	
	comp=Z,128nm,18.8s,MS3.6,baz=55,slow=39						
CMAR	**Chiang Mai Arr**	**32.61**	**253**	P	**P**	**17 15 56.4**	**-0.2**
CMAR				*pmax*	*pmax*		
	comp=Z,1.0nm,0.5s						
CMAR				MLR	MLR		
	comp=Z,128nm,18.8s						

ZALV	**Zalesovo Beam**	**39.76**	**317**	P	**P**	**17 16 55.9**	**-1.4**
	comp=Z,0.4nm,0.6s,mb3.4,baz=105,slow=11,SNR=2.2						
ZALV				PcP	PcP	17 19 02.4	-0.8
	comp=Z,0.9nm,0.6s,baz=100,slow=4.4,SNR=4.7						
ZALV				LR	LR	17 34 33.3	
	comp=Z,130nm,18.4s,MS3.8,baz=230,slow=38						
ZALV	**Zalesovo Beam**	**39.76**	**317**	P	**P**	**17 16 55.9**	**-1.4**
ZALV						17 19 02.4	
ZALV				*pmax*	*pmax*		
	comp=Z,1.0nm,0.6s,mb3.7						
ZALV				MLR	MLR		
	comp=Z,130nm,18.4s,MS3.8						
ZALV	**Zalesovo Beam**	**39.76**	**317**	P	**P**	**17 16 55.9**	**-1.4**
ZALV				PcP	PcP	17 19 02.4	-0.8
ZALV				LR	LR	17 34 33.3	
MK31	**Makanchi Array**	**40.30**	**306**	*eP*	**P**	**17 17 00.9**	**-1.0**
MKAR	**Makanchi Array**	**40.30**	**306**	P	**P**	**17 17 01.2**	**-0.7**
	comp=Z,0.9nm,0.4s,mb3.8,baz=94,slow=10,SNR=12						
MKAR				LR	LR	17 35 04.3	
	comp=Z,124nm,18.7s,MS3.8,baz=128,slow=38						
MKAR	**Makanchi Array**	**40.30**	**306**	P	**P**	**17 17 01.3**	**-0.6**
MKAR				*pmax*	*pmax*		
	comp=Z,1.0nm,0.4s						
MKAR				MLR	MLR		
	comp=Z,124nm,18.7s						
BILL	**Bilibino**	**41.06**	**19**	*eP*	**P**	**17 17 10.1**	**+2.3**
BILL				*pmax*	*pmax*		
	comp=Z,8.0nm,1.0s,mb4.3						
KURK	**Kurchatov**	**43.00**	**312**	P	**P**	**17 17 23.4**	**-0.5**
	comp=Z,2.1nm,0.8s,mb3.9,baz=99,slow=9.1,SNR=11						
KURK	**Kurchatov**	**43.00**	**312**	*eP*	**P**	**17 17 22.8**	**-1.1**
KURK				*pmax*	*pmax*		
	comp=Z,7.0nm,1.1s,mb4.3						
KURK	**Kurchatov**	**43.00**	**312**	*eP*	**P**	**17 17 22.8**	**-1.1**
	comp=Z,7.0nm,1.1s,mb4.3						
TKM2	**Tokmak 2**	**45.15**	**300**	*eP*	**P**	**17 17 41.0**	**-0.3**
TKM2				*pmax*	*pmax*		
	comp=Z,4.0nm,0.7s,mb4.4						
TKM2	**Tokmak 2**	**45.15**	**300**	*eP*	**P**	**17 17 41.0**	**-0.4**
	comp=Z,3.8nm,0.7s,mb4.3						
UCH	**Uchtor**	**46.02**	**300**	*eP*	**P**	**17 17 49.0**	**+0.7**
	comp=Z,6.4nm,1.2s,mb4.4						
BRVK	**Borovoye**	**48.26**	**315**	*eP*	**P**	**17 18 04.6**	**-0.8**
BRVK				*pmax*	*pmax*		
	comp=Z,7.0nm,0.6s,mb4.9						
BRVK	**Borovoye**	**48.26**	**315**	*eP*	**P**	**17 18 04.6**	**-0.9**
	comp=Z,6.8nm,0.6s,mb4.8						
FITZ	**Fitzroy Crossi**	**50.33**	**188**	*eP*	**P**	**17 18 22.2**	**+0.6**
	comp=Z,2.6nm,0.6s,mb4.4						
WRAB	**Tennant Creek**	**51.85**	**177**	P	**P**	**17 18 32.7**	**-0.2**
WRAB				*pmax*	*pmax*		
	comp=Z,4.0nm,0.7s,mb4.5						
WRAB	**Tennant Creek**	**51.85**	**177**	P	**P**	**17 18 32.7**	**-0.2**
	comp=Z,4.4nm,0.7s,mb4.5						
WRA	**Warramunga Arr**	**51.85**	**177**	P	**P**	**17 18 33.3**	**+0.3**
	comp=Z,1.9nm,0.7s,mb4.1,baz=357,slow=8.2,SNR=17						
WRA	**Warramunga Arr**	**51.85**	**177**	P	**P**	**17 18 33.3**	**+0.3**
WRA				*pmax*	*pmax*		
	comp=Z,2.0nm,0.7s						
MBWA	**Marble Bar**	**54.27**	**194**	P	**P**	**17 18 51.0**	**+0.2**
	comp=Z,18nm,1.3s,mb4.8						
ARU	**Arti**	**54.85**	**319**	*eP*	**P**	**17 18 52.4**	**-2.3**
ARU				*pmax*	*pmax*		
	comp=Z,2.0nm,0.7s,mb4.3						
ARU	**Arti**	**54.85**	**319**	*eP*	**P**	**17 18 52.4**	**-2.3**
	comp=Z,2.1nm,0.7s,mb4.3						
ASAR	**Alice Springs**	**55.54**	**178**	P	**P**	**17 19 00.5**	**+0.6**
	comp=Z,1.2nm,0.8s,mb4.0,baz=12,slow=12,SNR=13						
ASAR	**Alice Springs**	**55.54**	**178**	P	**P**	**17 19 00.5**	**+0.6**
ASAR				*pmax*	*pmax*		
	comp=Z,1.0nm,0.8s						
KDAK	**Kodiak Island**	**55.89**	**39**	P	**P**	**17 19 03.0**	**+0.8**
	comp=Z,4.6nm,0.8s,mb4.5,baz=73,slow=16,SNR=3.5						
KDAK	**Kodiak Island**	**55.89**	**39**	P	**P**	**17 19 03.0**	**+0.8**
AKTO	**Aktyubinsk**	**56.09**	**312**	LR	LR	17 45 34.1	
	comp=Z,67nm,18.4s,MS3.8,baz=257,slow=39						
INK	**Inuvik**	**62.20**	**25**	*eP*	**P**	**17 19 46.6**	**+0.9**
	comp=Z,301nm,1.0s						
HYT	**Haines Junctio**	**62.79**	**33**	*eP*	**P**	**17 19 50.6**	**+0.8**
STKA	**Stephens Creek**	**64.34**	**171**	*eP*	**P**	**17 20 03.0**	**+2.7**
	comp=Z,3.5nm,1.3s,mb4.2						
STKA				*e*		17 20 09.8	
STKA	**Stephens Creek**	**64.34**	**171**	P	**P**	**17 20 00.8**	**+0.5**
	comp=Z,1.6nm,0.4s,mb4.4,baz=333,slow=12,SNR=4.3						
STKA	**Stephens Creek**	**64.34**	**171**	P	**P**	**17 20 00.7**	**+0.5**
	comp=Z,6.6nm,0.6s,mb4.8						
STKA				*eP*		17 20 03.0	
STKA				*e*	pP	17 20 09.8	0.0
ARCES	**ARCESS Array B**	**65.69**	**338**	LR	LR	17 50 29.6	
	comp=Z,78nm,18.4s,MS3.9,baz=66,slow=38						
AREO	**ARCESS Array S**	**65.69**	**338**	P	**P**	**17 20 04.4**	**-4.2**
KIV	**Kislovodsk**	**67.98**	**309**	P	**P**	**17 20 22.5**	**-1.2**
KIV				*pmax*	*pmax*		
	comp=Z,8.0nm,1.0s,mb4.7						
KIV	**Kislovodsk**	**67.98**	**309**	P	**P**	**17 20 22.5**	**-1.1**
	comp=Z,8.4nm,1.0s,mb4.7						
YKA	**Yellowknife Ar**	**71.82**	**27**	P	**P**	**17 20 46.8**	**-0.1**
	comp=Z,1.7nm,0.8s,mb4.0,baz=310,slow=4.8,SNR=3.8						
YKA	**Yellowknife Ar**	**71.82**	**27**	P	**P**	**17 20 46.8**	**-0.1**
YKA				*pmax*	*pmax*		
	comp=Z,2.0nm,0.8s						
AKASG	**Malin Array Be**	**73.11**	**320**	P	**P**	**17 20 53.2**	**-1.6**
	comp=Z,3.6nm,0.6s,mb4.5,baz=54,slow=6.5,SNR=14	

IDC 20 18:10:48.2±8.7, 583S×12886E, h249km±92km, mb2.8/1, mb1 2.8/4, mb1mx2.7/15, mbtmp2.7/4, Error ellipse: s-maj=103.4km s-min=24.9km az=51.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BATI	**Baumata**	**6.73**	**229**	P	Pn	18 12 24.8	-0.7
	12nm,0.3s,baz=77,slow=3.7,SNR=24						
BATI				S	S	18 13 35.0	-8.6
	2.0nm,0.3s,baz=275,slow=17,SNR=4.9						
FITZ	**Fitzroy Crossi**	**12.59**	**194**	P	Pn	18 13 40.2	+1.0
	0.1nm,0.3s,baz=23,slow=15,SNR=3.8						
FITZ				S	S	18 15 52.1	-7.3
	0.0nm,0.3s,baz=335,slow=17,SNR=1.6						
WRA	**Warramunga Arr**	**15.01**	**160**	P	Pn	18 14 08.5	0.0
	0.2nm,0.3s,baz=340,slow=11,SNR=13						
WRA				S	S	18 16 44.9	-9.3
	0.0nm,0.3s,baz=339,slow=20,SNR=3.3						
ASAR	**Alice Springs**	**18.39**	**165**	P	P	18 14 44.8	-0.3
	0.2nm,0.3s,baz=343,slow=12,SNR=18						
MKAR	**Makanchi Array**	**66.63**	**327**	P	P	18 21 12.4	+0.4
	0.2nm,0.5s,baz=120,slow=8.5,SNR=4.8						

*NEIC **20** 18:44:31.0±5.4, 3044N×14372E, h10km, MG4.1(JMA), Error ellipse: s-maj=212.0km s-min=12.6km az=71.0*
*IDC **20** 18:44:32.6±7.5, 3014N×14287E, h0km, mb3.5/5, mb1 3.7/7, mb1mx3.6/20, mbtmp3.6/7, ML3.3/2, Error ellipse: s-maj=285.9km s-min=19.7km az=70.0*
*ISCJB **20** 18:44:35.5±0.9, 3036N±008×1427E±02, h33km, mb3.6/5, Error ellipse: s-maj=26.9km s-min=7.0km az=158.1*
*JMA **20** 18:44:37.6±0.6, 3064N×14271E, h19km, M4.1*

ISC 20 18:44:37.8±0.9, 3033N±008×1427E±02, h35km, n18, σ1s04/24, mb3.6/5, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CBIJ	**Chichi jima**	**3.25**	**188**	Sn	**Sn**	**18 45 56.8**	**-7.0**
	18nm,0.3s,baz=268,slow=19,SNR=3.3						
JHJ2	**Mitsune**	**3.70**	**319**	P	**Pn**	**18 45 32.4**	**-0.1**
JHJ	**Hachijo jima 2**	**3.72**	**319**	Pn	**Pn**	**18 45 32.7**	**-0.1**
	2.3nm,0.3s,baz=313,slow=9.2,SNR=4.4						
JHJ				Sn	**Sn**	**18 46 14.5**	**-0.9**
	13nm,0.3s,baz=73,slow=20,SNR=3.8						
BSO1	**Boso 1**	**4.55**	**342**	P	**Pn**	**18 45 43.3**	**-0.9**
BSO3	**Boso 3**	**4.83**	**338**	P	**Pn**	**18 45 48.3**	**+0.4**
BSO4	**Boso 4**	**5.05**	**338**	eS	**Sn**	**18 46 49.3**	**+1.1**
JOD2	**Odawara 2**	**5.78**	**329**	P	**Pn**	**18 46 01.2**	**+0.2**
JOD2				eS	**Sn**	**18 47 04.8**	**-1.3**
JRY	**Ryogami san**	**6.50**	**332**	P	**Pn**	**18 46 11.6**	**+0.7**
JRY				eS	**Sn**	**18 47 23.1**	**-0.7**
MJAR	**Matsushiro Arr**	**7.24**	**330**	Pn	**Pn**	**18 46 21.5**	**+0.4**
	1.4nm,0.3s,baz=158,slow=11,SNR=28						
MJAR				Sn	**Sn**	**18 47 41.8**	**-0.2**
	0.7nm,0.3s,baz=194,slow=19,SNR=5.1						
MAJO	**Matsushiro**	**7.24**	**330**	ePn	**Pn**	**18 46 21.5**	**+0.4**
MAT	**Matsushiro**	**7.24**	**330**	P	**Pn**	**18 46 21.9**	**+0.8**
MAT				eS	**Sn**	**18 47 42.0**	**-0.1**
JMK	**Ichinoseki**	**8.69**	**352**	P	**Pn**	**18 46 39.3**	**-1.7**
JMK				eS	**Sn**	**18 48 10.6**	**-7.1**
SONM	**Songino Array**	**32.77**	**313**	P	**P**	**18 51 10.6**	**+3.2**
	0.3nm,0.4s,mb3.6,baz=125,slow=7.8,SNR=6.2						
ZALV	**Zalesovo Beam**	**47.38**	**317**	P	**P**	**18 53 10.4**	**+2.1**
	0.3nm,0.3s,mb3.6,baz=100,slow=6.3,SNR=2.2						
MKAR	**Makanchi Array**	**48.81**	**307**	P	**P**	**18 53 21.4**	**+1.9**
	0.6nm,0.7s,mb3.8,baz=84,slow=10,SNR=5.9						
WRA	**Warramunga Arr**	**50.62**	**190**	P	**P**	**18 53 31.9**	**-1.5**
	0.5nm,0.5s,mb3.7,baz=7.7,slow=7.8,SNR=15						
ASAR	**Alice Springs**	**54.34**	**190**	P	**P**	**18 53 59.9**	**-1.1**
	0.4nm,0.8s,mb3.4,baz=3.2,slow=5.5,SNR=7.0						
BRVK	**Borovoye**	**56.06**	**316**	P	**P**	**18 54 13.3**	**+0.2**

*NEIC **20** 19:00:09.5, 3271S×71.13W, h2km, ML2.6(GUC), After GUC.*

GUC 20 19:00:09.5±0.7, 3271S×7113W, h2km±2km, MD3.5, ML2.6, 4C, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PEL	**Peldehue**	**0.57**	**139**	*i* P	Pg	19 00 21.3	+0.9
PEL				*i* S	Sg	19 00 30.1	+2.3
PEL				AML	AML	19 00 33.6	
	comp=N,480nm,0.7s						
CLCH	**Cerro Calan**	**0.84**	**144**	⇑*i* P	Pg	19 00 26.1	+0.4
CLCH				*i* S	Sg	19 00 39.1	+2.5
CLCH				AML	AML	19 00 46.4	
	comp=N,206nm,0.7s						
FCH	**Farellones**	**0.93**	**131**	⇑*i* P	Pg	19 00 27.1	-0.4
FCH				*i* S	Sg	19 00 41.5	+1.9
TACH	**Talagante**	**0.95**	**170**	*i* P	Pg	19 00 28.0	+0.2
TACH				*i* S	Sg	19 00 42.1	+2.0
PCH	**Pirque**	**1.04**	**151**	*i* P	Pg	19 00 29.4	-0.1
PCH				*i* S	Sg	19 00 45.2	+2.1
LMEL	**Las Melosas**	**1.37**	**146**	⇑*i* P	Pn	19 00 34.7	-1.0
LMEL				*i* S	Sg	19 00 54.2	+0.6
LMEL				AML	AML	19 00 59.2	
	comp=N,174nm,0.8s						
LMEL	**Las Melosas**	**1.37**	**146**	⇑*i* P	Pn	19 00 34.7	-1.0
LMEL				*i* S	Sg	19 00 54.2	+0.6
TLL	**Tololo Astrono**	**2.55**	**6**	*i* P	Pn	19 00 54.0	+2.1
TLL				*i* S	Sn	19 01 27.0	+3.4
TLL				AML	AML	19 01 33.3	
	comp=N,136nm,0.7s						
TLL	**Tololo Astrono**	**2.55**	**6**	*i* P	Pn	19 00 54.0	+2.1
TLL				*i* S	Sn	19 01 27.0	+3.4

MAN 20 19:03:28, 865N×12270E, h128km, mb4.0, ML2.8, MS2.5, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PAGZ	**Pagadian**	**1.05**	**140**	*e*P	Pn	19 03 52.5	+1.4
PAGZ				*e*S	Sn	19 04 10.7	+1.9
TBP	**Tagbilaran**	**1.54**	**48**	*e*P	Pn	19 03 58.0	+1.5
GUIM	**Jordan**	**1.96**	**357**	*e*P	Pn	19 04 03.3	+1.8
GUIM				*e*S	Sn	19 04 28.5	+1.4
CUYO	**Cuyo Island**	**2.74**	**323**	*e*P	Pn	19 04 13.7	+2.4
ENPP	**El Nido**	**4.10**	**308**	*e*P	Pn	19 04 30.4	+1.3

*IDC **20** 19:16:21.9±0.7, 1276N×14366E, h0km, mb3.8/8, mb1 4.0/8, mb1mx3.9/19, mbtmp3.8/8, Error ellipse: s-maj=21.5km s-min=16.0km az=81.0*
*BJI **20** 19:16:23.1, 1280N×14360E, h10km, mB5.0, mb4.7, Ms4.6, Msz4.5*
*NEIC **20** 19:16:23.1±0.4, 1277N×14363E, h10km, mb4.7/4, Error ellipse: s-maj=13.1km s-min=9.7km az=90.0*
*ISCJB **20** 19:16:24.7±0.5, 1275N±007×14352E±007, h33km, mb4.2/15, Error ellipse: s-maj=11.6km s-min=8.4km az=139.2*

ISC 20 19:16:26.8±0.5, 1276N±007×14358E±007, h35km, n23, σ1s10/24, mb4.2/15, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**1.50**	**57**	Pn	**Pn**	**19 16 49.7**	**-1.7**
	22nm,0.3s,baz=7.6,slow=19,SNR=10						
GUMO				Sn	**Sn**	**19 17 10.6**	**+0.9**
	55nm,0.3s,baz=32,slow=23,SNR=11						
GUMO	**Guam**	**1.50**	**57**	*e*Pn	**Pn**	**19 16 49.4**	**-1.9**
GUMO				Pn	**Pn**	**19 16 49.6**	**-1.7**
GUMO				Sn	**Sn**	**19 17 10.6**	**+0.9**
MJAR	**Matsushiro Arr**	**24.16**	**349**	P	**P**	**19 21 37.9**	**-1.8**
	0.9nm,0.8s,mb3.2,baz=163,slow=8.5,SNR=3.0						
WRAB	**Tennant Creek**	**33.73**	**196**	*e*P	**P**	**19 23 05.0**	**-0.1**
	5.5nm,0.8s,mb4.5						
WRA	**Warramunga Arr**	**33.75**	**196**	P	**P**	**19 23 05.1**	**-0.1**
	2.6nm,0.7s,mb4.2,baz=19,slow=9.5,SNR=18						
ASAR	**Alice Springs**	**37.42**	**195**	P	**P**	**19 23 37.1**	**+0.4**
	0.9nm,0.7s,mb3.7,baz=16,slow=12,SNR=14						
ASAR				PcP	PcP	19 25 56.6	+1.5
	0.4nm,0.8s,baz=36,slow=4.8,SNR=4.2						
LZH	**Lanzhou**	**42.57**	**310**	*e*P	**P**	**19 24 17.0**	**-2.4**
LZH				AMB	AMB		
	comp=Z,16nm,1.1s,mb4.7						
LZH				AMB	AMB		
	comp=Z,83nm,5.0s						
LZH				LR	LR		
	comp=E,342nm,11.7s						
LZH				LR	LR		
	comp=Z,507nm,16.2s						

CMAR	**Chiang Mai Arr**	**43.27**	**283**	P	**P**	**19 24 26.7**	**+1.3**
	comp=Z,2.0nm,1.0s,mb3.8,baz=91,slow=6.4,SNR=6.2						
STKA	**Stephens Creek**	**44.42**	**182**	P	**P**	**19 24 33.7**	**-0.6**
	comp=Z,2.2nm,1.0s,mb3.8,baz=5.7,slow=10,SNR=2.6						
STKA	**Stephens Creek**	**44.42**	**182**	P	**P**	**19 24 33.7**	**-0.6**
SONM	**Songino Array**	**46.69**	**326**	P	**P**	**19 24 54.2**	**+2.1**
	comp=Z,1.9nm,0.9s,mb4.0,baz=148,slow=7.8,SNR=7.2						
GTA	**Gaotai**	**46.79**	**313**	*e*P	**P**	**19 24 59.3**	**+6.3**
GTA				AP	pP	19 25 04.9	+1.5
GTA				XP	sP	19 25 07.8	+0.2
GTA				AMB	AMB		
	comp=Z,5.0nm,1.1s,mb4.4						
YAK	**Yakutsk**	**50.20**	**352**	P	**P**	**19 25 19.3**	**+0.4**
	comp=Z,19nm,1.0s,mb5.1						
AFI	**Afiamalu**	**51.57**	**119**	P	**P**	**19 25 30.2**	**+0.2**
	comp=Z,5.7nm,0.2s,mb5.1,baz=89,slow=8.2,SNR=3.4						
MK31	**Makanchi Array**	**61.21**	**317**	P	**P**	**19 26 37.0**	**-1.2**
MKAR	**Makanchi Array**	**61.21**	**317**	P	**P**	**19 26 39.4**	**+1.1**
	comp=Z,0.3nm,0.5s,mb3.7,baz=98,slow=7.0,SNR=5.5						
ZALV	**Zalesovo Beam**	**61.56**	**325**	P	**P**	**19 26 40.5**	**0.0**
	comp=Z,0.6nm,0.5s,mb4.0,baz=114,slow=7.8,SNR=3.7						
ZALV	**Zalesovo Beam**	**61.56**	**325**	P	**P**	**19 26 40.5**	**0.0**
KURK	**Kurchatov**	**64.41**	**320**	*e*P	**P**	**19 26 59.8**	**+0.4**
	comp=Z,6.7nm,0.9s,mb4.7						
PMR	**Palmer**	**68.11**	**28**	P	**P**	**19 27 24.0**	**+1.1**
ARU	**Arti**	**76.72**	**325**	P	**P**	**19 28 13.8**	**-0.6**
	comp=Z,3.9nm,1.0s,mb4.3						
LPAZ	**La Paz**	**149.13**	**100**	PKPbc	PKPbc	19 36 13.1	+0.6
	comp=Z,0.6nm,0.4s,baz=309,slow=1.0,SNR=4.6						
LPAZ	**La Paz**	**149.13**	**100**	PKPbc	PKPbc	19 36 13.1	+0.6

*BJI **20** 19:25:31.8, 508N×12636E, h65km, mB5.2, mb5.1, Ms4.7, Msz4.5*
*MOS **20** 19:25:31.2±1.1, 535N×12626E, h42km, mb5.4/36, MS4.4/12, Error ellipse: s-maj=13.5km s-min=5.4km az=113.3*
*IDC **20** 19:25:32.3±1.5, 532N×12628E, h32km±9km, mb4.7/19, mb1 4.7/20, mb1mx4.7/23, mbtmp4.7/20, ML4.1/1, MS4.4/22, Ms1 4.4/22, ms1mx4.3/33, Error ellipse: s-maj=22.0km s-min=8.8km az=76.0*
*DJA **20** 19:25:33, 542N×12665E, h22km, Mw5.4/21*
*ISCJB **20** 19:25:33.7±0.4, 535N±002×12642E±004, h65km±3km, mb5.1/108, Error ellipse: s-maj=6.0km s-min=3.5km az=171.8*
*NEIC **20** 19:25:35.0±0.8, 534N×12630E, h59km±7km, mb5.2/58, Error ellipse: s-maj=6.5km s-min=3.6km az=74.0*
*GCMT **20** 19:25:35.0±0.2, 542N×12669E, h31km, MW5.3/83, Moment Tensor Solution. s69,c113; s83,c156; Duration: 1s1 Moment tensor: Scale 10^{17}Nm; M_{rr}0.83±.02; $M_{\theta\theta}$0.15±.01; $M_{\phi\phi}$-0.97±.02; $M_{r\theta}$0.28±.02; $M_{\theta\phi}$-0.04±.01; $M_{r\phi}$0.60±.03; Best double couple: $M_0$1.12800×10^{17} NP1:ϕs166.00000°, δ30.00000°, λ63.00000°. NP2:ϕs17.00000°, δ64.00000°, λ105.00000°. Principal axes: T 1.0850, Plg68.0000°, Azm315.0000°; N 0.0860, Plg13.0000°, Azm190.0000°; P -1.1700, Plg17.0000°, Azm96.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*MAN **20** 19:25:37, 556N×126.14E, h33km, mb5.6, ML4.7, MS5.1*

ISC 20 19:25:35.5±0.4, 535N±002×12642E±004, h66km±3km, h60km±2.7km:pP-P, n311, σ1s15/311, mb5.0/108, 24C-25D, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MATI	**Mati**	**1.60**	**354**	*e*P	**Pn**	**19 26 00.2**	**-1.6**
MATI				*e*S	**Sn**	**19 26 26.1**	**+4.7**
DAV	**Davao City (W)**	**1.91**	**334**	Pn	**Pn**	**19 26 03.7**	**-2.2**
	124nm,0.3s,baz=202,slow=2.2,SNR=111						
DAV				Sn	**Sn**	**19 26 28.9**	**0.0**
	542nm,0.3s,baz=283,slow=21,SNR=9.4						
DAV				LR	LR	19 27 00.9	
	comp=Z,20μm,19.5s,baz=165,slow=47						
DAV	**Davao City (W)**	**1.91**	**334**	*e*Pn	**Pn**	**19 26 03.8**	**-2.1**
DMPH	**Davao City--Mi**	**1.95**	**332**	⇑*e*P	**Pn**	**19 26 04.9**	**-1.5**
DMPH				*e*S	**Sn**	**19 26 24.2**	**-5.8**
KCP	**Kidapawan**	**2.12**	**321**	⇑*e*P	**Pn**	**19 26 08.0**	**-0.8**
KCP				*i* S	**Sn**	**19 26 36.2**	**+2.2**
BIPH	**Bislig**	**2.82**	**359**	⇓*i* P	**Pn**	**19 26 16.0**	**-2.3**
BIPH				*i* S	**Sn**	**19 26 57.7**	**+6.6**
CTBH	**Cotabato--PC H**	**2.86**	**311**	*e*P	**Pn**	**19 26 16.9**	**-1.9**
CTBH				*i* S	**Sn**	**19 26 51.3**	**-0.7**
BUKP	**Musuan**	**2.86**	**332**	*e*P	**Pn**	**19 26 17.1**	**-1.7**
BUKP				*e*S	**Sn**	**19 26 34.2**	**-1.8**
BUTP	**Butuan**	**3.69**	**348**	*e*P	**Pn**	**19 26 30.1**	**0.0**
BUTP				*e*S	**Sn**	**19 27 02.4**	**-10**
PAGZ	**Pagadian**	**3.91**	**310**	*e*P	**Pn**	**19 26 32.3**	**-0.9**
PAGZ				*e*S	Sn	19 26 51.1	-27
MNI	**Manado**	**4.18**	**202**	⇓*e*P	**Pn**	**19 26 37.5**	**+0.6**
MNI				*e*S	**Sn**	**19 27 05.5**	**-19**
SCPH	**Surigao**	**4.50**	**348**	*e*P	**Pn**	**19 26 40.1**	**-1.2**
SCPH				*e*S	**Sn**	**19 27 32.6**	**+0.2**
ZMPH	**Zamboanga City**	**4.62**	**290**	⇓*e*P	**Pn**	**19 26 41.3**	**-1.5**
TNE	**Ternate**	**4.63**	**168**	⇓*e*P	**Pn**	**19 26 41.0**	**-2.0**
TNE	**Ternate**	**4.63**	**168**	⇓*e*P	**Pn**	**19 26 42.0**	**-1.0**
TNE				*e*S	**Sn**	**19 27 54.0**	**+19**
MSLP	**Maasin**	**5.00**	**342**	*e*P	**Pn**	**19 26 48.3**	**+0.2**
TBP	**Tagbilaran**	**5.01**	**330**	*e*P	**Pn**	**19 26 46.6**	**-1.6**
LLP	**Lapu-Lapu**	**5.51**	**334**	⇑*i* P	**Pn**	**19 26 53.8**	**-1.2**
LLP				*e*S	**Sn**	**19 27 48.8**	**-8.2**
OCLP	**Ormoc**	**5.95**	**343**	*e*P	**Pn**	**19 26 59.8**	**-1.2**
PLP	**Palo**	**5.96**	**346**	⇑*e*P	**Pn**	**19 27 02.5**	**+1.3**
GUIM	**Jordan**	**6.48**	**324**	*e*P	**Pn**	**19 27 09.6**	**+1.3**
RCP	**Roxas**	**7.17**	**330**	⇑*e*P	**Pn**	**19 27 17.6**	**-0.2**
CUYO	**Cuyo Island**	**7.65**	**316**	*e*P	**Pn**	**19 27 24.6**	**+0.2**
MYLDM	**Lahad Datu**	**7.89**	**269**	⇓P	**Pn**	**19 27 29.0**	**+1.3**
OTRP	**Odiongan**	**8.22**	**328**	*e*P	**Pn**	**19 27 32.9**	**+0.8**
PVCP	**Virac**	**8.50**	**345**	*e*P	**Pn**	**19 27 38.8**	**+2.8**
TSM	**Tawau**	**8.59**	**263**	⇑P	**Pn**	**19 27 38.3**	**+1.1**
SJMP	**San Jose**	**8.80**	**324**	*e*P	**Pn**	**19 27 42.7**	**+2.6**
BUSP	**Coron**	**9.03**	**317**	*e*P	**Pn**	**19 27 43.7**	**+0.4**
PCI	**Palu**	**9.05**	**227**	⇓*e*P	**Pn**	**19 27 45.2**	**+1.7**
ENPP	**El Nido**	**9.05**	**311**	*e*P	**Pn**	**19 27 44.0**	**+0.6**
SDKM	**Sandakan**	**9.19**	**272**	⇑P	**Pn**	**19 27 47.0**	**+1.6**
BATP	**Bataraza**	**9.22**	**292**	*e*P	**Pn**	**19 27 48.0**	**+2.2**
KDM	**Kudat**	**9.66**	**280**	⇓P	**Pn**	**19 27 56.5**	**+4.6**
KDI	**Kendari**	**9.99**	**202**	⇑*e*P	**Pn**	**19 27 55.7**	**-0.7**
KDI				*e*S	**Sn**	**19 29 43.2**	**-3.8**
KKM	**Kota Kinabalu**	**10.18**	**274**	⇓P	**Pn**	**19 28 02.6**	**+3.6**
KKM	**Kota Kinabalu**	**10.18**	**274**	*e*Pn	**Pn**	**19 28 00.3**	**+1.3**
LUBP	**Lubang**	**10.32**	**324**	*e*P	**Pn**	**19 28 03.0**	**+2.1**
SCZP	**Santa Cruz**	**12.18**	**329**	*e*P	**Pn**	**19 28 27.9**	**+1.6**
KAPI	**Kappang**	**12.26**	**213**	Pn	**Pn**	**19 28 27.6**	**+0.3**
	2.2nm,0.3s,baz=46,slow=8.7,SNR=7.8						
KAPI	**Kappang**	**12.26**	**213**	*e*Pn	**Pn**	**19 28 26.7**	**-0.7**
	147nm,1.3s						
CAUP	**Cauayan**	**12.38**	**339**	*e*P	**Pn**	**19 28 29.2**	**+0.3**
ABRA	**Dolores**	**13.44**	**336**	*e*P	**Pn**	**19 28 44.2**	**+0.8**
BTM	**Bintulu**	**13.47**	**261**	⇑P	**Pn**	**19 28 47.3**	**+3.5**
SBUM	**Sibu**	**14.46**	**259**	⇑P	**Pn**	**19 28 59.5**	**+2.7**
BATI	**Baumata**	**15.69**	**190**	Pn	**Pn**	**19 29 12.4**	**-0.3**
	0.7nm,0.3s,baz=17,slow=4.3,SNR=3.5						
BATI				Sn	**Sn**	**19 32 12.3**	**+6.5**
	1.8nm,0.3s,baz=342,slow=24,SNR=2.0						
KSM	**Kuching**	**16.54**	**257**	⇓P	**Pn**	**19 29 26.6**	**+3.2**
KSM	**Kuching**	**16.54**	**257**	*e*Pn	**Pn**	**19 29 26.3**	**+2.9**
KAKA	**Kakadu**	**18.91**	**162**	*e*P	**Pn**	**19 29 44.9**	**-7.4**
	37nm,0.6s						
NACB	**Ninganchiao**	**19.29**	**347**	P	**Pn**	**19 29 54.9**	**-1.9**
YHNB	**Yeheng**	**19.82**	**346**	*e*P	**Pn**	**19 30 00.7**	**-2.3**
	54nm,0.9s						
GUMO	**Guam**	**19.94**	**64**	LR	LR	19 36 21.6	
	comp=Z,2μm,20.7s,baz=226,slow=32						
TATO	**Taipei**	**20.09**	**347**	*e*P	**P**	**19 30 03.7**	**-0.1**
TPI	**Tanjungpandan**	**20.40**	**247**	⇓*e*P	**P**	**19 30 10.0**	**+2.6**
QZH	**Quanzhou**	**20.89**	**340**	P	**P**	**19 30 12.4**	**0.0**
QZH				S	**S**	**19 34 05.1**	**+3.3**
QZH				AMB	AMB		
	comp=Z,240nm,1.1s						
QZH				LR	LR		
	comp=Z,4μm,29.4s						
QIZ	**Qiongzhong**	**21.13**	**311**	P	**P**	**19 30 16.3**	**+1.2**
QIZ				AP		19 30 29.8	
QIZ				S	**S**	**19 34 01.8**	**-4.8**
QIZ				XS	sS	19 34 23.3	-6.3
QIZ				SS		19 34 43.8	
QIZ				AMB	AMB		
	comp=Z,48nm,1.2s,mb4.7						
QIZ				LR	LR		

	comp=N,886nm,18.3s						
QIZ				LR	LR		
	comp=E,893nm,18.6s						
QIZ				LR	LR		
	comp=Z,2μm,21.8s						
QIZ	**Qiongzhong**	**21.13**	**311**	*e*P	**P**	**19 30 16.1**	**+1.0**
	comp=Z,95nm,1.2s,mb5.0						
JOW	**Kunigami**	**21.44**	**5**	P	**P**	**19 30 19.9**	**+1.5**
	comp=Z,85nm,0.9s,mb5.1,baz=206,slow=6.4,SNR=6.9						
JOW				LR	LR	19 38 57.5	
	comp=Z,1μm,19.4s,baz=114,slow=38						
MYKOM	**Kota Tinggi**	**22.80**	**262**	⇓P	**P**	**19 30 35.8**	**+2.8**
KTGM	**Kuala Trenggan**	**23.19**	**271**	⇓P	**P**	**19 30 38.5**	**+1.5**
KGM	**Kluang**	**23.29**	**263**	⇓P	**P**	**19 30 39.7**	**+1.8**
FITZ	**Fitzroy Crossi**	**23.31**	**182**	*e*P	**P**	**19 30 37.5**	**-0.4**
	comp=Z,50nm,1.1s,mb4.8						
FITZ				*e*S	**S**	**19 34 42.8**	**-2.8**
FITZ	**Fitzroy Crossi**	**23.31**	**182**	P	**P**	**19 30 37.8**	**-0.1**
	comp=Z,10nm,0.7s,mb4.3,baz=5.4,slow=10,SNR=28						
IPM	**Ipoh**	**25.32**	**269**	⇑P	**P**	**19 30 57.7**	**+1.3**
KKTK	**Khon Kaen**	**25.59**	**297**	P	**P**	**19 31 02.0**	**+3.2**
	comp=Z,432nm,0.7s,mb6.0						
KULM	**Kulim**	**25.66**	**271**	⇓P	**P**	**19 31 01.9**	**+2.4**
SSE	**Sheshan**	**26.08**	**350**	P	**P**	**19 31 02.4**	**-0.7**
SSE				S	**S**	**19 35 30.3**	**+0.6**
SSE				XS	sS	19 35 56.6	-0.3
SSE				AMB	AMB		
	comp=Z,57nm,1.0s,mb5.0						
SSE				AMB	AMB		
	comp=Z,245nm,2.6s,mb5.2						
SSE				LR	LR		
	comp=N,377nm,15.2s						
SSE				LR	LR		
	comp=E,497nm,15.4s						
SSE				LR	LR		
	comp=Z,498nm,19.1s						
WRAB	**Tennant Creek**	**26.30**	**163**	P	**P**	**19 31 06.9**	**+1.8**
	comp=Z,388nm,0.7s,mb5.9,SNR=12						
WRAB	**Tennant Creek**	**26.30**	**163**	*e*P	**P**	**19 31 04.1**	**-1.0**
WRAB				pmax	pmax		
	comp=Z,39nm,0.7s,mb5.0						
WRAB	**Tennant Creek**	**26.30**	**163**	*e*P	**P**	**19 31 04.1**	**-1.1**
	comp=Z,39nm,0.7s,mb5.0						
WRA	**Warramunga Arr**	**26.31**	**163**	P	**P**	**19 31 05.6**	**+0.4**
	comp=Z,34nm,0.8s,mb4.9,baz=341,slow=10,SNR=59						
WRA				S	**S**	**19 35 36.9**	**+3.5**
	comp=Z,1.6nm,1.0s,baz=339,slow=14,SNR=3.2						
WRA				ScP	ScP	19 38 08.7	+4.3
	comp=Z,6.9nm,0.9s,baz=340,slow=3.3,SNR=14						
WRA	**Warramunga Arr**	**26.31**	**163**	P	**P**	**19 31 05.6**	**+0.4**
WRA				S	**S**	**19 35 36.9**	**+3.5**
WB2	**Warramunga Arr**	**26.31**	**163**	*e*P	**P**	**19 31 05.3**	**0.0**
MBWA	**Marble Bar**	**27.14**	**194**	*e*P	**P**	**19 31 11.6**	**-1.1**
	comp=Z,40nm,0.9s,mb4.9						
NJ2	**Nanjing**	**27.50**	**346**	*e*P	**P**	**19 31 17.8**	**+2.0**
NJ2				AMB	AMB		
	comp=Z,110nm,1.0s,mb5.3						
WHN	**Wuhan**	**27.52**	**337**	⇓P	**P**	**19 31 16.0**	**0.0**
WHN				AP	pP	19 31 30.0	-1.9
WHN				LR	LR		
	comp=N,2μm,20.8s						
WHN				LR	LR		
	comp=E,3μm,18.9s						
WHN				LR	LR		
	comp=Z,4μm,22.6s						
NST	**Nakhon Sawan**	**27.77**	**294**	P	**P**	**19 31 17.5**	**-1.0**
GYA	**Guiyang**	**28.23**	**320**	P	**P**	**19 31 22.4**	**0.0**
GYA				AP	pP	19 31 38.3	0.0
GYA				XP	sP	19 31 49.4	+3.4
GYA				PP	PP	19 32 16.6	-11
GYA				PCP	PcP	19 34 35.8	+1.1
GYA				S	**S**	**19 36 05.8**	**+2.1**
GYA				XS	sS	19 36 31.3	+0.4
GYA				PCS	PcS	19 38 18.6	+1.5
GYA				AMB	AMB		
	comp=Z,30nm,1.0s,mb4.8						
GYA				AMB	AMB		
	comp=Z,200nm,5.6s						
GYA				LR	LR		
	comp=N,770nm,17.4s						
GYA				LR	LR		
	comp=E,830nm,18.6s						
GYA				LR	LR		
	comp=Z,1μm,18.6s						
NANT	**Nan**	**28.43**	**300**	P	**P**	**19 31 20.0**	**-4.3**
ASAR	**Alice Springs**	**29.74**	**166**	P	**P**	**19 31 35.5**	**-0.4**
	comp=Z,5.8nm,0.6s,mb4.4,baz=353,slow=6.1,SNR=35						
ASAR				PcP	PcP	19 34 39.0	+0.6
	comp=Z,3.6nm,0.7s,baz=352,slow=2.2,SNR=5.0						
ASAR				ScP	ScP	19 38 19.6	+4.6
	comp=Z,5.4nm,0.9s,baz=350,slow=3.1,SNR=13	

comp=Z,188nm,14.1s
XAN LR LR
comp=N,287nm,28.6s
XAN LR LR
comp=E,432nm,26.0s
XAN LR LR
comp=Z,2µm,25.4s
MAJO Matsushiro 32.88 18 *e*P **P 19 32 02.2 -1.1**
MAJO pmax pmax
comp=Z,17nm,1.0s,mb4.8
MAJO Matsushiro 32.88 18 *e*P **P 19 32 02.2 -1.1**
comp=Z,17nm,1.0s,mb4.8
MAT Matsushiro 32.88 18 P **P 19 32 03.1 -0.2**
MAT S **S 19 37 11.0 -5.2**
MJAR Matsushiro Arr 32.88 18 P **P 19 32 03.0 -0.3**
comp=Z,3.5nm,0.8s,mb4.2,baz=190,slow=8.8,SNR=10.0
MJAR PcP PcP 19 34 48.1 +1.4
comp=Z,3.8nm,0.8s,baz=187,slow=2.3,SNR=7.5
MJAR ScP ScP 19 38 29.6 +4.3
comp=Z,8.7nm,1.0s,baz=190,slow=3.9,SNR=12
MJAR LR LR 19 44 24.7
comp=Z,638nm,21.4s,baz=200,slow=34
MJAR Matsushiro Arr 32.88 18 P **P 19 32 03.0 -0.3**
MJAR 19 34 48.1
CD2 Chengdu 33.17 323⇓ *i*P **P 19 32 05.8 -0.2**
CD2 AP pP 19 32 19.5 -2.5
CD2 XP sP 19 32 27.3 -2.4
CD2 PP PP 19 33 17.5 -4.6
CD2 PCP PcP 19 34 45.9 -1.7
CD2 S **S 19 37 20.4 -0.6**
CD2 XS sS 19 37 45.0 -3.3
CD2 PCS PcS 19 38 31.3 -1.9
CD2 SS SS 19 39 24.0 -22
CD2 SCS ScS 19 42 24.3 -2.8
CD2 AMB AMB
comp=Z,40nm,1.3s,mb5.1
CD2 AMB AMB
comp=Z,1µm,5.3s
CD2 LR LR
comp=N,1µm,16.8s
CD2 LR LR
comp=E,640nm,20.4s
CD2 LR LR
comp=Z,1µm,19.8s
DL2 Dalian 33.69 353 *i*P **P 19 32 11.8 +1.5**
DL2 AMB AMB
comp=Z,80nm,0.9s,mb5.5
BJT Baijiatuau 35.73 346 *e*P **P 19 32 28.2 +0.3**
BJT pmax pmax
comp=Z,91nm,0.8s
BJT Baijiatuau 35.73 346 *e*P **P 19 32 28.2 +0.2**
comp=Z,91nm,0.8s,mb5.8
BJI Beijing 35.76 346 P **P 19 32 28.4 +0.3**
BJI PP PP 19 33 54.1 +3.6
BJI S **S 19 38 02.4 +1.9**
BJI AMB AMB
comp=Z,107nm,0.8s,mb5.8
BJI LR LR
comp=N,260nm,28.7s
BJI LR LR
comp=E,477nm,27.1s
BJI LR LR
comp=Z,338nm,24.1s
FORT Forrest 35.95 178 *e*P **P 19 32 29.6 -0.3**
comp=Z,38nm,0.7s,mb5.4
HNR Honiara 36.49 114 LR LR 19 46 14.1
comp=Z,553nm,19.9s,baz=24,slow=34
LZH Lanzhou 36.97 329⇓P **P 19 32 39.4 +0.9**
LZH PP PP 19 34 05.5 +1.6
LZH PCP PcP 19 35 00.0 +1.4
LZH AMB AMB
comp=Z,35nm,1.1s,mb5.2
LZH AMB AMB
comp=Z,159nm,4.3s
LZH LR LR
comp=N,845nm,16.2s
LZH LR LR
comp=Z,1µm,17.7s
KLBR Kellerberrin 37.65 192 *e*P **P 19 32 43.8 -0.5**
comp=Z,37nm,1.1s,mb5.1
HHC Hu-ho-hao-te 37.78 341 *e*P **P 19 32 45.5 +0.2**
HHC AP pP 19 33 01.0 -0.5
HHC XP sP 19 33 07.9 -1.3
HHC PP PP 19 34 16.8 +4.1
HHC PCP PcP 19 35 00.5 -0.5
HHC S **S 19 38 33.3 +2.0**
HHC SCP ScP 19 38 42.4 -0.5
HHC PCS PcS 19 38 47.8 -1.8
HHC XS sS 19 39 00.3 +1.3
HHC SCS ScS 19 42 50.3 -1.5
HHC AMB AMB
comp=Z,41nm,1.1s,mb5.2
HHC AMB AMB
comp=Z,215nm,5.5s
HHC LR LR
comp=N,422nm,17.6s
HHC LR LR
comp=E,537nm,15.3s
HHC LR LR
comp=Z,536nm,16.2s
BTO Baotou 38.07 340 *e*P **P 19 32 46.9 -0.9**
CN2 Changchun 38.31 359 *e*P **P 19 32 49.6 -0.1**
CN2 PCP PcP 19 35 03.5 +1.0
CN2 *e*S **S 19 38 40.8 +1.5**
CN2 AMB AMB
comp=Z,20nm,1.0s,mb4.9
CN2 AMB AMB
comp=Z,270nm,4.0s
CN2 LR LR
comp=N,270nm,16.0s
CN2 LR LR
comp=E,330nm,16.0s
CN2 LR LR
comp=Z,310nm,18.0s
MUN Mundaring 38.37 194 *e*P **P 19 32 50.2 -0.2**
SHL Shillong 38.69 305 *e*P **P 19 32 52.5 -0.7**
SHL *ex* x 19 34 04.0
SHL *e*S **S 19 38 44.0 -1.6**
NWAO Narrogin (SRO) 39.05 192 LR LR 19 48 15.6
comp=Z,341nm,21.6s,baz=135,slow=35
NWAO Narrogin (SRO) 39.05 192 *e*P **P 19 32 55.3 -0.7**
NWAO pmax pmax
comp=Z,77nm,1.4s
NWAO Narrogin (SRO) 39.05 192 *e*P **P 19 32 55.3 -0.8**
comp=Z,78nm,1.4s,mb5.3
MDJ Mudanjiang 39.21 4 P **P 19 32 58.5 +1.2**
MDJ PP PP 19 34 29.8 +1.4
MDJ PCP PcP 19 35 05.6 +0.3
MDJ S **S 19 38 56.3 +3.5**
MDJ XS sS 19 39 22.5 +1.9
MDJ SCS ScS 19 43 01.0 +1.1
MDJ AMB AMB
comp=Z,63nm,0.8s,mb5.5
MDJ AMB AMB
comp=Z,83nm,3.3s
MDJ LR LR
comp=N,327nm,23.1s
MDJ LR LR
comp=Z,350nm,23.3s
MDJ Mudanjiang 39.21 4 *e*P **P 19 32 58.0 +0.7**
comp=Z,67nm,1.0s,mb5.4
STKA Stephens Creek 39.74 160 *e*P **P 19 33 01.5 -0.3**
comp=Z,20nm,0.6s,mb5.1
STKA Stephens Creek 39.74 160 P **P 19 33 02.1 +0.3**
comp=Z,28nm,0.7s,mb5.2,baz=336,slow=8.0,SNR=60
STKA PcP PcP 19 35 07.9 +0.7
comp=Z,6.5nm,0.7s,baz=346,slow=4.9,SNR=2.4
STKA ScP ScP 19 38 53.8 +3.2
comp=Z,3.3nm,0.9s,baz=54,slow=4.8,SNR=3.4
ASAJ Asahikawa 41.15 18 P **P 19 33 13.3 0.0**
comp=Z,15nm,0.8s,mb4.9,baz=65,slow=8.9,SNR=6.9
LSA Lhasa 41.16 310 P **P 19 33 15.6 +2.0**
LSA Lhasa 41.16 310 *e*P **P 19 33 14.6 +1.0**
LSA *e* 19 35 13.8
LSA pmax pmax
comp=Z,45nm,1.3s,mb5.1
LSA Lhasa 41.16 310 *e*P **P 19 33 14.6 +0.9**
comp=Z,45nm,1.3s,mb5.1
LSA *e*PcP PcP 19 35 13.8 +1.9
GTA Gaotai 41.57 328 *e*P **P 19 33 16.9 +0.1**
GTA AP pP 19 33 32.4 -0.8
GTA XP sP 19 33 40.0 -0.8
GTA PP PP 19 34 56.1 +2.1
GTA PCP PcP 19 35 14.9 +1.8
GTA PCS PcS 19 39 03.8 -0.6
GTA S **S 19 39 27.8 -0.3**
GTA XS sS 19 39 53.1 -2.9
GTA SS SS 19 42 29.6 -5.7
GTA AMB AMB
comp=Z,15nm,1.5s,mb4.5
GTA AMB AMB
comp=Z,249nm,4.5s
GTA LR LR
comp=N,578nm,21.1s
GTA LR LR
comp=E,565nm,16.9s
GTA LR LR
comp=Z,934nm,17.0s
TAPN Taplejung 42.83 305 *e*P **P 19 33 27.5 +0.2**
ODAN Odare 42.90 304 *e*P **P 19 33 27.8 -0.1**
comp=Z,44nm,0.6s,mb5.4
ARMA Armidale 42.98 147 *e*P **P 19 33 29.4 +1.0**
ARMA *e*SCP ScP 19 39 09.1 +5.6
RAMN Ramite 43.59 304 *e*P **P 19 33 33.7 +0.3**
comp=Z,47nm,0.6s,mb5.4
HABR Khabarovsk 43.60 8⇑ *e*P **P 19 33 32.2 -0.9**
HABR *e* pP 19 33 45.6 -4.1
HABR *e* 19 35 13.1
HABR *e* 19 35 20.4
HABR *e*S **S 19 39 59.9 +2.2**
HABR *e* 19 40 16.4
HABR *e* 19 43 28.2
YSS Yuzh-Sakhalins 43.78 16⇓ *e*P **P 19 33 36.8 +2.2**
YSS pmax pmax
comp=Z,21nm,1.0s,mb4.8
YSS MLR MLR
comp=Z,100nm,25.0s
YSS Yuzh-Sakhalins 43.78 16 *e*P **P 19 33 35.9 +1.3**
comp=Z,21nm,0.8s,mb4.9
HIA Hailar 44.13 354 *e*P **P 19 33 37.7 +0.3**
HIA *e* 19 35 21.8
HIA pmax pmax
comp=Z,113nm,1.3s
HIA Hailar 44.13 354 *e*P **P 19 33 37.7 +0.3**
comp=Z,113nm,1.3s,mb5.4
HIA *e*PcP PcP 19 35 21.8 +0.3
JIRN Jiri 44.20 305 *e*P **P 19 33 38.4 +0.1**
comp=Z,73nm,0.6s,mb5.6
GUN Gumba 44.55 305 *e*P **P 19 33 41.1 0.0**
comp=Z,76nm,0.5s,mb5.7
PKI Pulchoki 44.80 304 *e*P **P 19 33 42.5 -0.6**
KKN Kakani 44.99 304 *e*P **P 19 33 44.0 -0.6**
comp=Z,42nm,0.9s,mb5.2
KKN Kakani 44.99 304 *e*P **P 19 33 44.0 -0.6**
KKN pmax pmax
comp=Z,42nm,0.9s,mb5.2
DMN Daman 45.07 304 *e*P **P 19 33 44.7 -0.5**
comp=Z,79nm,1.1s,mb5.4
GKN Gorkha 45.60 304 *e*P **P 19 33 49.1 -0.3**
comp=Z,12nm,0.5s,mb4.9
SONM Songino Array 45.68 341 P **P 19 33 50.0 +0.3**
comp=Z,13nm,0.8s,mb4.7,baz=159,slow=7.1,SNR=55
SONM PcP PcP 19 35 27.1 +0.2
comp=Z,7.6nm,0.9s,baz=161,slow=5.6,SNR=6.1
SONM ScP ScP 19 39 18.3 +4.1
comp=Z,1.7nm,0.9s,baz=173,slow=4.0,SNR=6.3
SONM LR LR 19 54 56.4
comp=Z,459nm,21.5s,baz=155,slow=39
SONM Songino Array 45.68 341 P **P 19 33 50.0 +0.3**
SONM 19 35 27.1
SONM Songino Array 45.68 341 P **P 19 33 50.0 +0.3**
SONM PcP PcP 19 35 27.1 +0.2
SONM ScP ScP 19 39 18.3 +4.0
SONM LR LR 19 54 56.4
CAN Canberra 45.69 154 *e*P **P 19 33 50.1 +0.2**
CNB Canberra Magne 45.84 154 *e*P **P 19 33 52.6 +1.4**
TOO Toolangi 46.24 159 *e*P **P 19 33 55.8 +1.5**
KOLN Koldanda 46.37 304 *e*P **P 19 33 55.0 -0.5**
comp=Z,76nm,0.6s,mb5.6
DANN Dangsing 46.44 304 *e*P **P 19 33 55.6 -0.5**
comp=Z,102nm,0.7s,mb5.7
HYB Hyderabad 48.30 289 *i*P **P 19 34 12.5 +1.8**
HYB Hyderabad 48.30 289 *e*P **P 19 34 12.5 +1.8**
ZAK Zakamensk 48.91 340 *e*P **P 19 34 13.7 -1.1**
ZAK *e* 19 35 34.6
ZAK *e* 19 37 09.1
ZAK pmax pmax
comp=Z,9.0nm,1.4s,mb4.5
TLY Talaya 49.91 342 P **P 19 34 23.7 +1.3**
comp=Z,145nm,0.9s,mb5.9,SNR=6.4
TLY Talaya 49.91 342 *e*P **P 19 34 23.1 +0.7**
TLY *e*S **S 19 41 38.1 +10**
TLY pmax pmax
comp=Z,25nm,1.0s,mb5.1
TLY MLR MLR
comp=Z,318nm,22.0s
TLY Talaya 49.91 342 *e*P **P 19 34 22.6 +0.2**
comp=Z,19nm,0.8s,mb5.1
IRK Irkutsk 50.21 342 *e*P **P 19 34 25.0 +0.4**
IRK *e* pP 19 34 45.3 +3.8
IRK pmax pmax
comp=Z,50nm,1.6s,mb5.2
MOY Mondy 50.77 340 *e*P **P 19 34 29.7 +0.8**
MOY pmax pmax
comp=Z,66nm,2.1s,mb5.3
WMQ Urumqi 51.24 324 P **P 19 34 32.4 -0.1**
CLNS Chul'man 51.37 359 *e*P **P 19 34 34.6 +1.4**
CLNS *e* 19 35 46.2
CLNS pmax pmax
comp=Z,28nm,1.0s,mb5.2
CLNS pmax pmax
comp=E,7.0nm,0.9s
CLNS pmax pmax
comp=N,15nm,0.9s
CLNS pmax pmax
comp=Z,14nm,1.3s,mb4.8
CLNS pmax pmax
comp=N,8.0nm,1.0s
CLNS pmax pmax
comp=E,4.0nm,0.8s
CLNS MLR MLR
comp=Z,456nm,18.0s
CLNS MLR MLR
comp=N,129nm,21.0s
CLNS MLR MLR
comp=E,318nm,18.0s
DDI Dehra Dun 51.80 305 *e*P **P 19 34 34.0 -3.0**
BOD Bodaibo 53.23 352 *e*P **P 19 34 47.6 +0.5**
BOD pmax pmax
comp=Z,106nm,0.9s,mb5.9
PEA0B Petropavlovsk- 54.06 23 P **P 19 34 54.0 +0.7**
PETK Petropavlovsk- 54.06 23 P **P 19 34 54.5 +1.3**
comp=Z,10nm,0.8s,mb4.9,baz=186,slow=4.0,SNR=16
PETK LR LR 19 58 24.1
comp=Z,148nm,19.3s,baz=77,slow=36
PET Petropavlovsk 54.37 23 *e*P **P 19 34 59.9 +4.4**
PET *e*S **S 19 42 30.2 +1.5**
PET pmax pmax
comp=Z,25nm,1.1s,mb5.2
PET MLR MLR
comp=Z,200nm,22.0s
MK31 Makanchi Array 56.06 325 *e*P **P 19 35 07.1 -0.7**
MK31 *e* 19 36 04.7
MK31 Makanchi Array 56.06 325 *e*P **P 19 35 07.1 -0.7**
MK31 *e*PcP PcP 19 36 04.7 -0.6
MK31 *e*ScP ScP 19 40 01.5 +2.6
MKAR Makanchi Array 56.06 325 P **P 19 35 07.3 -0.5**
comp=Z,13nm,0.6s,mb5.2,baz=125,slow=8.2,SNR=142
MKAR PcP PcP 19 36 05.4 +0.1
comp=Z,13nm,0.8s,baz=116,slow=5.5,SNR=7.1
MKAR ScP ScP 19 40 02.8 +3.8
comp=Z,2.6nm,0.8s,baz=116,slow=5.5,SNR=6.6
MKAR LR LR 19 59 51.6
comp=Z,764nm,21.4s,baz=114,slow=37
MKAR Makanchi Array 56.06 325 P **P 19 35 07.3 -0.5**
MKAR 19 36 05.4
YAK Yakutsk 56.61 2*d i*P **P 19 35 11.5 +0.1**
YAK *e*PP pP 19 35 22.5 -6.1
YAK *e* 19 36 07.5
YAK *e*S **S 19 43 01.4 +3.1**
YAK *e* 19 44 55.9
YAK pmax pmax
comp=Z,155nm,0.9s,mb6.0
YAK pmax pmax
comp=E,12nm,1.1s
YAK pmax pmax
comp=N,66nm,1.1s
YAK smax
comp=E,151nm,2.6s
YAK smax
comp=N,69nm,2.5s
YAK MLR MLR
comp=Z,249nm,21.0s
YAK MLR MLR
comp=N,165nm,20.0s
YAK MLR MLR
comp=E,127nm,23.0s
YAK Yakutsk 56.61 2 *e*P **P 19 35 11.4 0.0**
comp=E,179nm,0.8s,mb6.2
KRAR Krasnoyarsk 57.14 338⇑ *e*P **P 19 35 15.6 +0.4**
KRAR pmax pmax
comp=Z,23nm,0.4s,mb5.6
KRAR MLR MLR
comp=Z,500nm,18.0s
TKM2 Tokmak 2 58.34 318 *e*P **P 19 35 22.9 -1.1**
TKM2 pmax pmax
comp=Z,37nm,1.4s,mb5.2
TKM2 Tokmak 2 58.34 318 P **P 19 35 24.2 +0.2**
SNR=10
TKM2 Tokmak 2 58.34 318 *e*P **P 19 35 22.9 -1.0**
comp=Z,37nm,1.4s,mb5.2
KBK Karagaybulak 58.67 317 P **P 19 35 26.7 +0.5**
SNR=16
UCH Uchtor 58.79 317 P **P 19 35 27.5 +0.5**
SNR=28
UCH Uchtor 58.79 317 *e*P **P 19 35 27.5 +0.5**
comp=Z,50nm,1.1s,mb5.5
CHMS Chumysh 58.94 318 P **P 19 35 27.8 -0.3**
SNR=6.9
AAK Ala-Archa 58.97 317 P **P 19 35 30.0 +1.7**
SNR=6.8
ZAA0 Zalesovo Array 59.02 333 *e*P **P 19 35 26.9 -1.5**
ZALV Zalesovo Beam 59.02 333 P **P 19 35 26.8 -1.7**
comp=Z,4.3nm,0.4s,mb4.9,baz=132,slow=6.9,SNR=25
ZALV PcP PcP 19 36 15.6 -1.1
comp=Z,8.4nm,0.8s,baz=151,slow=3.4,SNR=5.4
ZALV ScP ScP 19 40 15.6 +3.8
comp=Z,0.3nm,0.5s,baz=160,slow=4.6,SNR=2.6
ZALV LR LR 20 02 21.0
comp=Z,210nm,21.9s,baz=134,slow=38
ZALV Zalesovo Beam 59.02 333 P **P 19 35 26.8 -1.6**
ZALV 19 36 15.6
USP Ospenovka 59.22 318 P **P 19 35 29.8 -0.2**
SNR=18
AML Almayashu 59.31 316 P **P 19 35 31.6 +0.9**
SNR=12
AML Almayashu 59.31 316 *e*P **P 19 35 30.4 -0.3**
comp=Z,40nm,1.1s,mb5.4
EKS2 Erkin-Say 59.46 317 P **P 19 35 32.2 +0.4**
SNR=14
EKS2 Erkin-Say 59.46 317 *e*P **P 19 35 31.6 -0.1**
comp=Z,26nm,1.1s,mb5.2
KURK Kurchatov 60.23 327 P **P 19 35 36.5 -0.3**
comp=Z,251nm,0.6s,mb6.4,SNR=23
KURK Kurchatov 60.23 327⇑ *e*P **P 19 35 35.9 -0.9**
KURK pmax pmax
comp=Z,46nm,0.9s,mb5.5
KURK MLR MLR
comp=Z,300nm,18.0s
KURK Kurchatov 60.23 327 *e*P **P 19 35 35.0 -1.7**
comp=Z,72nm,1.1s,mb5.6
NVS Novosibirsk 60.30 333⇑ *i*P **P 19 35 34.5 -2.7**
NVS *e*PPP 19 39 24.2
NVS *e*S **S 19 43 42.0 -4.5**
NVS pmax pmax
comp=N,25nm,1.7s
NVS pmax pmax
comp=E,25nm,1.7s
NVS pmax pmax
comp=Z,39nm,1.7s,mb5.2
NVS pmax pmax
comp=N,10.0nm,1.5s
NVS pmax pmax
comp=Z,17nm,1.5s,mb4.8
NVS pmax pmax
comp=E,15nm,1.7s
NVS smax
comp=N,11nm,1.9s
NVS smax
comp=E,18nm,1.9s
KBL Kabul 60.31 307 *e*P **P 19 35 37.0 -0.7**
KBL pmax pmax
comp=Z,18nm,0.8s,mb5.2
KBL Kabul 60.31 307 *e*P **P 19 35 37.0 -0.7**
comp=Z,18nm,0.8s,mb5.1
SEY Seymchan 60.54 13 *i*P **P 19 35 40.2 +1.5**
KK31 Karatay Array 61.85 317 *i*P **P 19 35 46.4 -1.6**
KK31 pmax pmax
comp=Z,16nm,0.9s,mb5.0
URZ Urewera 63.92 137 LR LR 20 01 36.2
comp=Z,516nm,20.1s,baz=312,slow=34
VOSK Vostochnaya 65.36 327 P **P 19 36 10.5 -0.4**
VOSK pmax pmax
comp=Z,31nm,1.3s,mb5.0
BVA0 Borovoye Array 65.81 327 *i*P **P 19 36 12.0 -1.8**
BVA0 pmax pmax
comp=Z,12nm,1.1s,mb4.6
BRVK Borovoye 65.88 327 P **P 19 36 13.1 -1.1**
comp=Z,322nm,0.8s,mb6.2,SNR=22
BRVK Borovoye 65.88 327 *e*P **P 19 36 13.2 -1.0**
BRVK pmax pmax
comp=Z,102nm,1.0s,mb5.6
BRVK Borovoye 65.88 327 *e*P **P 19 36 13.2 -1.1**
comp=Z,102nm,1.0s,mb5.6
TIXI Tiksi 66.24 1 *e*P **P 19 36 15.9 -0.3**
TIXI pmax pmax
comp=Z,69nm,2.0s,mb5.1
TIXI MLR MLR
comp=Z,321nm,16.0s
TIXI Tiksi 66.24 1 *e*P **P 19 36 16.1 -0.2**
comp=Z,26nm,0.9s,mb5.1
TIXI *e*PP PP 19 38 40.2 -2.5
AB31 Akbulak array 70.72 320 *i*P **P 19 36 43.1 -1.4**
AB31 pmax pmax
comp=Z,9.0nm,0.7s,mb4.7
AKTO Aktyubinsk 72.21 321 P **P 19 36 52.5 -1.0**
AKTO pmax pmax
comp=Z,2.0nm,0.7s,mb4.1
CASY Casey 72.37 187 *e*P **P 19 36 55.1 +1.0**
SVE Sverdlovsk 72.43 328⇑ *e*P **P 19 36 54.4 -0.3**
SVE *e* pP 19 37 09.3 -3.2
SVE *e*PPP 19 41 14.6
SVE *e*S S 19 46 22.8 +9.4
SVE pmax pmax
comp=Z,35nm,0.9s,mb5.2
SVE MLR MLR
comp=Z,353nm,19.0s
DRV Dumont d'Urvil 72.50 174 S SKSac 19 46 59.0 +5.4
DRV R 20 00 00.0
ARU Arti 73.42 328 P **P 19 36 59.6 -0.9**
comp=Z,172nm,0.6s,mb6.1,SNR=14
ARU Arti 73.42 328*c i*P **P 19 36 59.1 -1.4**
ARU *e* pP 19 37 15.5 -2.9
ARU *e* 19 39 38.5
ARU *e*PPP 19 41 29.3
ARU *e*S S 19 46 25.9 +1.3
ARU *e*SS SS 19 51 07.4 -0.6
ARU pmax pmax
comp=Z,28nm,1.0s,mb5.0
ARU Arti 73.42 328 *e*P **P 19 36 59.0 -1.5**
comp=Z,24nm,0.8s,mb5.1
MIR Mirnyy 75.65 193 *e*P **P 19 37 12.0 -1.2**
MIR pmax pmax
comp=Z,100nm,1.2s,mb5.4
RDF Al-Radifah 77.70 298 *e*P **P 19 37 24.1 -1.6**
baz=298
RDF AMb AMB 19 37 27.6
comp=Z,26nm,1.3s,mb4.8,baz=298
NAY Al-Naaiem 77.98 299 *e*P **P 19 37 25.6 -1.6**
baz=299
NAY AMb AMB 19 37 29.0
comp=Z,11nm,1.4s,mb4.4,baz=299
RST Umm Al-Ruwaisa 78.19 299 *e*P **P 19 37 26.7 -1.7**
baz=299
RST AMb AMB 19 37 30.0
comp=Z,25nm,1.3s,mb4.8,baz=299
MAK Makhachkala 78.27 313 *e*P **P 19 37 26.6 -1.9**
MAK *e*PPP 19 42 17.4
MAK *e*S S 19 47 16.7 -1.9
MAK pmax pmax
comp=Z,290nm,1.2s,mb5.9
MAK MLR MLR
comp=Z,565nm,21.0s
SVW2 Sparrevohn 79.54 29 P **P 19 37 37.8 +2.7**
DGRG David-gareji 79.78 311 P **P 19 37 35.8 -1.0**
GNI Garni 80.22 310 LR LR 20 19 48.7

comp=Z,88nm,19.1s,baz=246,slow=41
GNI Garni 80.22 310⇓*e*P **P** 19 37 39.5 **+0.3**
KDAK Kodiak Island 80.70 32 P **P** 19 37 42.3 **+0.9**
comp=Z,7.1nm,0.8s,mb4.5,baz=211,slow=6.4,SNR=7.1
KDAK Kodiak Island 80.70 32 *e*P **P** 19 37 41.9 **+0.5**
comp=Z,18nm,0.9s,mb4.9
HAKT HAKKARI 81.00 307 *i*P **P** 19 37 43.2 **-0.2**
IMA2 Indian Mountai 81.04 24 *e*P **P** 19 37 44.0 **+1.0**
ONI Oni 81.24 312 P **P** 19 37 43.5 **-1.1**
ABPO Ambohimpanom 81.57 250 *e*P **P** 19 37 45.0 **-1.8**
comp=Z,5.4nm,0.7s,mb4.5
KIV Kislovodsk 81.81 314 *e*P **P** 19 37 47.9 **+0.3**
KIV pmax pmax
comp=Z,9.0nm,1.2s,mb4.5
KIV MLR MLR
comp=Z,100nm,18.0s
KIV Kislovodsk 81.81 314 *e*P **P** 19 37 47.3 **-0.3**
comp=Z,7.5nm,0.8s,mb4.6
KTH Kantishna Hill 81.97 27 *e*P **P** 19 37 49.8 **+1.8**
comp=Z,21.1nm,1.2s,mb4.8
BPAW Bear Paw Mtn. 81.98 26 *e*P **P** 19 37 48.9 **+0.9**
comp=Z,45nm,1.4s,mb5.1
TRF Thorofare Moun 82.24 27 *e*P **P** 19 37 49.3 **-0.2**
comp=Z,27nm,1.2s,mb5.0
RC01 Rabbit Creek A 82.37 29 P **P** 19 37 49.2 **-0.9**
comp=Z,8.4nm,0.7s,mb4.7
SEW Seward 82.47 30 *e*P **P** 19 37 51.6 **+1.0**
DDEM Demirkent 82.51 310 *i*P **P** 19 37 51.9 **+0.6**
COLD Coldfoot 82.53 23 *e*P **P** 19 37 52.0 **+1.1**
comp=Z,10nm,0.8s,mb4.7
VRHR Novokhopersk 82.60 321 *e*P **P** 19 37 50.4 **-1.2**
VRHR pmax pmax
comp=Z,30nm,0.6s,mb5.3
VRHR pmax pmax
comp=N,10.0nm,0.8s
VRHR pmax pmax
comp=E,10.0nm,0.4s
MCK McKinley 82.86 27 *e*P **P** 19 37 52.7 **+0.1**
MCK pmax pmax
comp=Z,26nm,1.0s,mb5.0
MCK McKinley 82.86 27 *e*P **P** 19 37 52.6 **0.0**
comp=Z,26nm,1.0s,mb5.0
COLA College 83.38 25 *e*P **P** 19 37 57.1 **+1.8**
COLA pmax pmax
comp=Z,6.0nm,0.8s,mb4.5
COLA College 83.38 25 *e*P **P** 19 37 57.1 **+1.8**
comp=Z,6.0nm,0.8s,mb4.5
KLMR Klimovskoe 83.86 331 *e*P **P** 19 37 50.7 **-7.1**
KLMR pmax pmax
comp=Z,70nm,1.3s,mb5.3
VSR Storozhevoye 84.15 321 *e*P **P** 19 37 58.7 **-0.8**
VSR e*PP pP 19 38 07.3 -10
VSR pmax pmax
comp=Z,8.0nm,1.0s,mb4.5
VSR pmax pmax
comp=N,3.0nm,0.8s
VSR pmax pmax
comp=E,10.0nm,1.0s
MOS Moscow 84.94 325 *e*P **P** 19 38 01.4 **-2.0**
MOS *e* 19 41 18.5
MOS pmax pmax
comp=Z,43nm,1.1s,mb5.3
KEMA Kemaliye 85.05 309 *i*P **P** 19 38 04.5 **+0.2**
MAW Mawson 85.16 200 *e*P **P** 19 38 04.8 **+0.6**
comp=Z,4.1nm,0.9s,mb4.4
MAW Mawson 85.16 200 P **P** 19 38 04.3 **+0.1**
comp=Z,4.5nm,0.9s,mb4.4,baz=52,slow=7.1,SNR=7.5
MAW Mawson 85.16 200 *e*P **P** 19 38 04.8 **+0.6**
MAW pmax pmax
comp=Z,4.0nm,0.9s
OBN Obninsk 85.57 325⇓*e*P **P** 19 38 06.0 **-0.6**
OBN pmax pmax
comp=Z,80nm,1.3s,mb5.5
OBN MLR MLR
comp=Z,200nm,20.0s
OBN Obninsk 85.57 325 *e*P **P** 19 38 06.2 **-0.4**
comp=Z,48nm,0.9s,mb5.4
GZT Gaziantep 85.89 307 *i*P **P** 19 38 10.0 **+1.5**
PPT Papeete 85.90 108 *e*S S 19 48 50.3 +13
comp=Z,140nm,26.5s
PPT *e*SS SS 19 54 37.8 +21
comp=Z,172nm,27.5s
PPT Papeete 85.90 108 *e*LR LR 20 05 54.4
comp=Z,555nm,26.2s
SBA Scott Base 85.97 172 P **P** 19 38 08.5 **+0.5**
SBA pmax pmax
comp=Z,8.0nm,1.0s,mb4.6
SBA Scott Base 85.97 172 P **P** 19 38 08.5 **+0.5**
comp=Z,8.5nm,1.0s,mb4.6
APA Apatity 86.25 337⇑*i*P **P** 19 38 09.4 **-0.3**
APA pmax pmax
comp=Z,36nm,1.2s,mb5.2
APA MLR MLR
comp=Z,1μm,21.0s
TBI Tubuai 86.71 114 *e*SS SS 19 54 44.1 +16
comp=Z,244nm,33.0s
TBI Tubuai 86.71 114 *e*LR LR 20 06 19.3
comp=Z,454nm,26.2s
JOF Joensuu 87.61 333 *e*p **P** 19 38 15.1 **-1.3**
comp=Z,20nm,1.0s,mb5.1
JOF Joensuu 87.61 333 *e*P **P** 19 38 15.1 **-1.3**
JOF pmax pmax
comp=Z,20nm,1.0s,mb5.1
KEV Kevo 88.28 340 *e*p **P** 19 38 20.1 **+0.7**
comp=Z,1.2nm,0.3s,mb4.4
KEV Kevo 88.28 340 *e*P **P** 19 38 20.1 **+0.7**
KEV pmax pmax
comp=Z,1.0nm,0.3s,mb4.3
HYT Haines Junctio 88.33 29 *e*P **P** 19 38 21.4 **+1.5**
BR131 Keskin Array S 88.76 310 *e*P **P** 19 38 21.0 **-1.4**
comp=Z,4.0nm,0.9s,mb4.5
ARCES ARCESS Array B 88.84 340 P **P** 19 38 22.2 **+0.2**
comp=Z,29nm,0.8s,mb5.3,baz=84,slow=6.0,SNR=53
ARCES LR LR 20 22 26.5
comp=Z,153nm,18.4s,baz=265,slow=38
ARE0 ARCESS Array S 88.84 340 *e*P **P** 19 38 21.6 **-0.4**
SPITS Spitsbergen Ar 88.85 349 LR LR 20 20 06.9
comp=Z,168nm,19.6s,baz=60,slow=37
KMBO Kilima Mbogo 89.28 269 LR LR 20 22 00.7
comp=Z,72nm,18.1s,baz=25,slow=38
KAF Kangasniemi 90.03 332 *e*p **P** 19 38 26.7 **-1.1**
comp=Z,7.4nm,0.7s,mb4.9,baz=75,slow=4.3
KAF Kangasniemi 90.03 332 *e*P **P** 19 38 26.7 **-1.1**
KAF pmax pmax
comp=Z,7.0nm,0.7s,mb4.9
AKASG Malin Array Be 90.45 321 P **P** 19 38 29.0 **-1.0**
comp=Z,0.8nm,0.5s,mb4.1,baz=71,slow=4.4,SNR=11
AKASG LR LR 20 21 23.0
comp=Z,196nm,21.2s,baz=60,slow=37
VRI Vrincioaia 92.92 316⇑P **P** 19 38 41.7 **+0.2**
SUW Suwalki 93.44 325 *e*P **P** 19 38 42.9 **-0.8**
SUW Suwalki 93.44 325 *e*P **P** 19 38 42.9 **-0.8**
MLR Muntele Rosu 93.53 316⇑P **P** 19 38 43.3 **-1.1**
BURAR Bucovina Array 93.60 318⇓P **P** 19 38 43.7 **-0.9**
BUR08 Bucovina Ar. S 93.61 318 *e*P **P** 19 38 43.3 **-1.3**
SYO Syowa Base 93.81 201⇑*e*P **P** 19 38 44.5 **-0.6**
TAOE Nuku Hiva Isla 94.19 98 *e*LR LR 20 09 31.0
comp=Z,2μm,25.9s
KWP Kalwaria 94.77 321⇓P **P** 19 38 50.2 **+0.2**
UZH Uzhgorod 95.28 320 *e*P **P** 19 38 50.7 **-1.6**
UZH *e* 19 39 02.0
DAG Danmarks Havn 95.62 352⇑*i*P **P** 19 38 53.0 **-0.3**
DAG pmax pmax
comp=Z,22nm,0.6s,mb5.8
DAG Danmarks Havn 95.62 352⇑*i*P **P** 19 38 53.0 **-0.3**
comp=Z,22nm,0.6s,mb5.8
HFS Hagfors 96.46 332 LR LR 20 26 05.7
comp=Z,227nm,19.2s,baz=64,slow=38
BZS Buzias 96.47 317⇑P **P** 19 38 57.2 **-0.6**
NB2 NORSAR Subarra 97.21 334 P **P** 19 38 59.6 **-1.2**
comp=Z,8.9nm,0.8s,mb5.2,baz=65,slow=4.6
NOA NORSAR Array B 97.21 334 P **P** 19 38 60.0 **-0.8**
comp=Z,6.2nm,0.7s,mb5.1,baz=66,slow=4.6,SNR=26
NOA LR LR 20 27 04.8
comp=Z,322nm,22.0s,baz=50,slow=38
NOA NORSAR Array B 97.21 334 P **P** 19 38 60.0 **-0.8**
NOA LR LR 20 27 04.8
JMIC Jan Mayen 98.23 346 LR LR 20 28 19.0
comp=Z,201nm,18.9s,baz=68,slow=38
VRAC Vranov 98.69 321 LR LR 20 26 16.8
comp=Z,259nm,21.7s,baz=67,slow=37
BRG Berggiesshubel 99.77 324 *e*P Pdif 19 39 12.5 +0.2
BRG pmax pmax
comp=Z,4.0nm,1.2s,mb4.9
BRG Berggiesshubel 99.77 324 *e*(P) Pdif 19 39 12.5 +0.2
comp=Z,7.2nm,1.1s

RKT Rikitea 99.98 112 *e*LR LR 20 12 23.7
comp=Z,459nm,26.5s
GERES GERESS Array B 100.64 322 P Pdif 19 39 16.7 +0.5
comp=Z,0.5nm,0.6s,baz=46,slow=5.8,SNR=5.2
PDAR Pinedale Array 110.34 41 PKiKP PKiKP 19 44 04.1 +3.6
comp=Z,0.3nm,0.4s,baz=95,slow=3.9,SNR=3.8
TXAR Lajitas Array 120.84 51 PKP PKPdf 19 44 22.3 +1.3
comp=Z,0.4nm,0.5s,baz=338,slow=0.8,SNR=9.3
TORD Tomodi Ar. Bea 122.12 289 PKP PKPdf 19 44 23.9 +0.1
comp=Z,5.0nm,0.7s,baz=70,slow=1.6,SNR=40
KIC Kosan Boka 129.88 283 *e*PKP1 PKPdf 19 44 39.9 +1.2
comp=Z,65nm,1.2s
DBIC Dimbokro 129.93 283 PKP PKPdf 19 44 40.0 +1.2
comp=Z,5.8nm,0.9s,baz=84,slow=4.1,SNR=5.4
TIC Toumodi 130.09 283 *e*PKP1 PKPdf 19 44 40.9 +1.8
comp=Z,8.8nm,0.2s
LIC Lamto 130.19 283 *e*PKP1 PKPdf 19 44 40.3 +1.0
comp=Z,28nm,1.0s
PLCA Paso Flores 141.62 159 PKP PKPdf 19 45 00.8 +1.0
comp=Z,3.9nm,0.8s,baz=228,slow=4.5,SNR=7.4
PLCA Paso Flores 141.62 159 PKP PKPdf 19 45 00.8 +1.0
JTS JuntasAbangare 145.10 64 *e*PKiKP PKPdf 19 45 07.7 +1.1
TRQA Tornquist 146.55 168 *e*PKPdf PKPdf 19 45 10.2 +1.8
BCIP Isla Barro Col 150.12 61 *e*PKPbc PKPbc 19 45 20.5 +0.5
LCO Las Campanas 151.42 147 *e*PKPbc PKPbc 19 45 23.6 +1.0
MTP Monte Pirata 153.88 27 *e*PKPdf PKPdf 19 45 20.5 +0.1
MTP *e*PKPbc PKPbc 19 45 26.9 -1.4
ROSC El Rosal 156.93 64 PKP PKPdf 19 45 25.3 +0.6
comp=Z,3.1nm,0.3s,baz=98,slow=20,SNR=4.3
SDV Santo Domingo 157.89 50 *e*PKPdf PKPdf 19 45 26.8 +0.9
LPAZ La Paz 162.06 128 PKP PKPdf 19 45 32.6 +2.1
comp=Z,1.6nm,0.8s,baz=236,slow=1.5,SNR=7.8

MEX 20 19:25:54.2±0.8, 1948N×10220W, h75km±18km, MD3.7, Michoacan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MOIG	**Morelia**	**0.97**	**78**	*i* P		Pn	19 26 11.2	-1.4
MOIG				*i* S		Sn	19 26 25.3	-1.1
SFJM	**Santa Fe**	**1.28**	**322**	*i* P		Pn	19 26 15.5	-1.0
SFJM				*i* S		Sn	19 26 31.7	-1.5
EZ5V		**1.32**	**270**	*i* P		Pn	19 26 15.4	-1.6
EZ5V				*i* S		Sn	19 26 32.8	-1.4
R15V		**1.71**	**260**	*i* P		Pn	19 26 21.6	-0.5
R15V				*i* S		Sn	19 26 41.7	-1.6

IDC 20 19:42:30.2±3.3, 169S×9907E, h0km, mb3.6/6, mb1 3.7/6, mb1mx3.6/19, mbtmp3.6/6, Error ellipse: s-maj=130.9km s-min=20.9km az=59.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**20.02**	**360**	P		P	19 47 04.5	-0.2
	0.7nm,0.8s,baz=186,slow=10.0,SNR=9.9							
WRA	**Warramunga Arr**	**38.96**	**120**	P		P	19 49 57.7	-0.6
	1.3nm,0.9s,baz=300,slow=9.2,SNR=5.9							
ASAR	**Alice Springs**	**40.19**	**126**	P		P	19 50 08.7	+0.1
	0.5nm,0.8s,baz=298,slow=8.4,SNR=6.8							
SONM	**Songino Array**	**49.73**	**6**	P		P	19 51 24.4	+0.3
	0.2nm,0.3s,baz=184,slow=9.3,SNR=2.6							
MKAR	**Makanchi Array**	**50.48**	**345**	P		P	19 51 30.2	+0.3
	0.5nm,0.4s,baz=150,slow=7.7,SNR=5.9							
ZALV	**Zalesovo Beam**	**56.70**	**350**	P		P	19 52 14.4	-1.0
	1.2nm,0.7s,baz=167,slow=7.2,SNR=6.3							
TXAR	**Lajitas Array**	**145.01**	**36**	PKPbc	PKPbc		20 02 10.1	+0.6
	0.3nm,0.5s,baz=318,slow=1.2,SNR=4.2							

IDC 20 19:49:54.2±3.1, 009N×9706E, h0km, mb3.4/5, mb1 3.6/6, mb1mx3.4/20, mbtmp3.4/6, ML3.6/1, Error ellipse: s-maj=117.4km s-min=20.9km az=60.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**18.34**	**6**	P		Pn	19 54 10.2	0.0
	0.1nm,0.3s,baz=197,slow=12,SNR=9.0							
WRA	**Warramunga Arr**	**41.58**	**121**	P		P	19 57 43.6	-0.5
	0.3nm,0.5s,baz=303,slow=8.8,SNR=7.0							
ASAR	**Alice Springs**	**42.85**	**126**	P		P	19 57 54.8	+0.4
	0.3nm,0.7s,baz=300,slow=7.8,SNR=3.7							
SONM	**Songino Array**	**48.24**	**8**	P		P	19 58 36.9	+0.2
	0.3nm,0.4s,baz=174,slow=4.3,SNR=2.7							
MKAR	**Makanchi Array**	**48.28**	**346**	P		P	19 58 37.4	+0.4
	0.2nm,0.2s,baz=170,slow=8.8,SNR=1.9							
ZALV	**Zalesovo Beam**	**54.62**	**351**	P		P	19 59 23.9	-0.6
	0.5nm,0.3s,baz=182,slow=4.3,SNR=3.0							

*MOS **20** 19:56:17.7±1.0, 3642S×7298W, h21km, mb5.4/27, Error ellipse: s-maj=19.2km s-min=7.9km az=102.6*
*BJI **20** 19:56:18.2, 3677S×7353W, h26km, mB5.0, Ms5.1, Msz5.0*
*ISCJB **20** 19:56:18.5±0.2, 3650S±002×7316W±003, h30km, mb5.2/68, MS4.8/15, Error ellipse: s-maj=4.1km s-min=2.7km az=27.4*
*IDC **20** 19:56:19.1±5.5, 3650S×7307W, h22km±35km, mb4.8/16, mb1 4.9/20, mb1mx4.9/21, mbtmp4.8/20, ML4.6/4, MS4.7/16, Ms1 4.7/16, ms1mx4.6/20, Error ellipse: s-maj=17.3km s-min=12.3km az=77.0*
*GUC **20** 19:56:19.0±1.3, 3652S×7318W, h24km±4km, ML5.3*
*GCMT **20** 19:56:21.3±0.2, 3650S×7351W, h41km±1km, MW5.2/66, Moment Tensor Solution. s50,c74; s66,c96; Duration: 1s0 Moment tensor: Scale 10^{16}Nm; M_{rr}5.18±.25; $M_{\theta\theta}$1.01±.19; $M_{\phi\phi}$-6.18±.18; $M_{r\theta}$0.47±.17; $M_{r\phi}$-0.48±.14; $M_{\theta\phi}$-5.56±.22; Best double couple: $M_0$7.98100×10^{16} NP1:ϕs177.00000°, δ67.00000°, λ84.00000°. Principal axes: T 7.5060, Plg67.0000°, Azm76.0000°; N 0.9600, Plg6.0000°, Azm179.0000°; P -8.4560, Plg22.0000°, Azm272.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **20** 19:56:21.3±0.5, 3647S×7301W, h41km±4km, mb5.2/57 Error ellipse: s-maj=6.9km s-min=3.7km az=76.0*
NEIC Felt [V] at Concepcion; [IV] at Cauquenes, Los Angeles and Parral; [III] at Linares; [II] at Constitucion and Talca. Felt at Chillan.
*DJA **20** 19:56:53, 3752S×7228W, h269km, mb5.1/7*
ISC 20 19:56:20.5±0.2, 3649S±002×7309W±003, h32km, h32km±.6km:pP-P, n290, σ1°03/209, mb5.2/68, MS4.8/15, 19C-15D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
COCH	**Cobquecura**	**0.43**	**34**⇑*i*P		**Pb**	**19 56 28.9**	**-1.0**
COCH				*i* S	**Sb**	**19 56 36.0**	**-0.5**
COCH				AML	AML	19 56 37.5
	comp=E,113μm,0.5s						
COCH	**Cobquecura**	**0.43**	**34**⇑*i*P		**Pb**	**19 56 28.9**	**-1.0**
COCH				*i* S	**Sb**	**19 56 36.0**	**-0.5**
CCHI	**Chillan**	**0.82**	**98**⇓*i*P		**Pn**	**19 56 35.1**	**-0.8**
CCHI				*i* S	**Sn**	**19 56 45.8**	**-1.2**
CCHI				AML	AML	19 56 55.3
	comp=E,42μm,0.3s						
CCHI	**Chillan**	**0.82**	**98**⇓*i*P		**Pn**	**19 56 35.1**	**-0.8**
CCHI				S	**Sn**	**19 56 45.8**	**-1.2**
CNCO	**Chanco**	**0.88**	**31**	*e*P	**Pn**	**19 56 35.7**	**-1.0**
CNCO				*e*S	**Sn**	**19 56 48.5**	**+0.2**
CTCH	**Constitucion**	**1.28**	**26**	*e*P	**Pn**	**19 56 42.4**	**+0.2**
CTCH				*e*S	**Sn**	**19 56 59.3**	**+1.0**
CTCH				AML	AML	19 57 08.1
	comp=E,307μm,0.8s						
CTCH	**Constitucion**	**1.28**	**26**	*e*P	**Pn**	**19 56 42.4**	**+0.2**
CTCH				*e*S	**Sn**	**19 56 59.3**	**+1.0**
LNCH	**Linares**	**1.37**	**62**⇓*i*P		**Pn**	**19 56 43.7**	**+0.4**
LNCH				*i* S	**Sn**	**19 57 02.3**	**+2.0**
LNCH				AML	AML	19 57 10.3
	comp=N,90μm,0.6s						
LNCH	**Linares**	**1.37**	**62**⇓*i*P		**Pn**	**19 56 43.7**	**+0.4**
LNCH				*i* S	**Sn**	**19 57 02.3**	**+2.0**
TMU	**Temuco**	**2.27**	**170**	*e*P	**Pn**	**19 56 55.8**	**-0.1**
TMU				*e*S	**Sn**	**19 57 24.8**	**+2.1**
SFDO	**San Fernando**	**2.52**	**43**	*e*P	**Pn**	**19 56 59.0**	**-0.3**
CACH	**El Canelo**	**3.12**	**41**⇓*e*P		**Pn**	**19 57 08.5**	**+0.9**
CHCH	**Chadas Angostu**	**3.24**	**39**	*e*P	**Pn**	**19 57 09.8**	**+0.7**
TACH	**Talagante**	**3.34**	**33**	*e*P	**Pn**	**19 57 09.9**	**-0.6**
RCDM	**Rinconada Maip**	**3.53**	**33**	*e*P	**Pn**	**19 57 13.2**	**+0.1**
RCDM				*e*S	**Sn**	**19 57 54.4**	**+0.5**
RCDM				AML	AML	19 58 21.1
	comp=E,6μm,0.6s						
RCDM	**Rinconada Maip**	**3.53**	**33**	*e*P	**Pn**	**19 57 13.2**	**+0.1**
RCDM				*e*S	**Sn**	**19 57 54.4**	**+0.5**
LMEL	**Las Melosas**	**3.54**	**43**⇓*e*P		**Pn**	**19 57 14.8**	**+1.6**
LMEL				*e*S	**Sn**	**19 57 57.9**	**+3.8**
ANTU	**Antumapu**	**3.54**	**35**	*e*P	**Pn**	**19 57 13.8**	**+0.5**
PCH	**Pirque**	**3.56**	**37**	*e*P	**Pn**	**19 57 13.3**	**-0.2**
SJCH	**San Jose de Ma**	**3.62**	**39**	*e*P	**Pn**	**19 57 14.5**	**+0.2**
SJCH				*e*S	**Sn**	**19 58 01.1**	**+5.1**
SJCH				AML	AML	19 58 16.0
	comp=E,8μm,0.5s						
SJCH	**San Jose de Ma**	**3.62**	**39**	P	**Pn**	**19 57 14.5**	**+0.2**
SJCH				S	**Sn**	**19 58 01.1**	**+5.1**
FSR	**Penalolen**	**3.67**	**36**	*e*P	**Pn**	**19 57 15.1**	**+0.1**
FSR				*i* S	**Sn**	**19 58 00.1**	**+3.0**
CLCH	**Cerro Calan**	**3.73**	**35**	*e*P	**Pn**	**19 57 15.6**	**-0.3**
CLCH				*e*S	**Sn**	**19 57 59.5**	**+0.8**
YECH	**El Yeso**	**3.75**	**42**⇓*e*P		**Pn**	**19 57 18.1**	**+2.0**
YECH				*i* S	**Sn**	**19 58 03.3**	**+4.2**
PEL	**Peldehue**	**3.88**	**31**	*e*P	**Pn**	**19 57 17.3**	**-0.6**
PEL				*i* S	**Sn**	**19 58 03.8**	**+1.4**
FCH	**Farellones**	**3.91**	**37**⇑*e*P		**Pn**	**19 57 18.2**	**-0.1**
FCH				*e*S	**Sn**	**19 58 05.1**	**+2.1**
PLCA	**Paso Flores**	**4.68**	**156**	Pn	**Pn**	**19 57 29.7**	**+0.8**
	comp=E,5.6nm,0.3s,baz=323,slow=13,SNR=121						
PLCA				Sn	**Sn**	**19 58 24.4**	**+2.3**
PLCA	comp=E,21nm,0.3s,baz=290,slow=17,SNR=3.3						
PLCA				LR	LR	19 59 30.0
	comp=E,5μm,18.6s,baz=328,slow=41						
PLCA	**Paso Flores**	**4.68**	**156**	*e*Pn	**Pn**	**19 57 29.4**	**+0.5**
PLCA				*e*Sn	**Sn**	**19 58 37.3**	**+15**
CFAA	**Coronel Fontan**	**6.32**	**41**	Pn	**Pn**	**19 57 51.4**	**-0.1**
	comp=E,5.0nm,0.3s,baz=215,slow=12,SNR=87						
CFAA				Sn	**Sn**	**19 59 02.6**	**0.0**
	comp=E,4.8nm,0.3s,baz=198,slow=10,SNR=3.0						
CFAA				LR	LR	20 00 31.4
	comp=E,1μm,19.0s,baz=222,slow=40						
LCO	**Las Campanas**	**7.72**	**16**⇑*i*Pn		**Pn**	**19 58 08.9**	**-1.8**
	comp=E,164nm,0.7s						
LCO				*e*Sn	**Sn**	**19 59 35.2**	**-2.0**
TRQA	**Tornquist**	**9.00**	**103**⇑*i*Pn		**Pn**	**19 58 28.7**	**+0.5**
	comp=E,133nm,0.8s						
TRQA				*e*Sn	**Sn**	**20 00 17.9**	**+10**
LPA	**La Plata**	**12.43**	**87***c**e*P		**Pn**	**19 59 12.0**	**-3.1**
LPA				*e*PP		19 59 23.0
LPA				*e*sP		19 59 25.0
LVC	**Limon Verde**	**14.30**	**16**	Pn	**Pn**	**19 59 40.5**	**-0.2**
	comp=E,2.2nm,0.3s,baz=201,slow=6.7,SNR=7.1						
LVC				Sn	**Sn**	**20 02 16.6**	**-1.6**
	comp=E,0.4nm,0.3s,baz=284,slow=14,SNR=1.8						
LVC	**Limon Verde**	**14.30**	**16**	*e*Pn	**Pn**	**19 59 39.4**	**-1.3**
LVC				*e*Sn	Sn	20 02 54.9	+37
EFI	**East Falkland**	**18.57**	**150**	Pn	**Pn**	**20 00 35.0**	**0.0**
	comp=E,430nm,0.5s,SNR=5.9						
EFI	**East Falkland**	**18.57**	**150**	*i* P	**Pn**	**20 00 33.2**	**-1.8**
EFI	**East Falkland**	**18.57**	**150**	*e*P	**Pn**	**20 00 33.1**	**-1.8**
	comp=E,30nm,0.5s						
USHA	**Ushuaia**	**18.62**	**172**	P	**Pn**	**20 00 36.2**	**+0.6**
	comp=E,1.5nm,0.3s,baz=315,slow=7.1,SNR=10						
USHA				S	**Sn**	**20 04 01.9**	**-0.8**
	baz=295,slow=13,SNR=2.1						
USHA				LR	LR	20 08 59.5
	comp=E,2μm,19.1s,baz=330,slow=41						
ARE	**Arequipa**	**20.00**	**4**	*e*P	**P**	**20 00 52.0**	**+1.6**
LPAZ	**La Paz**	**20.60**	**14**	P	**P**	**20 00 58.8**	**+1.9**
	comp=E,51nm,1.1s,baz=192,slow=8.0,SNR=58						
LPAZ				S	**S**	**20 04 47.2**	**+1.6**
	comp=E,1.4nm,0.8s,baz=228,slow=12,SNR=1.3						
LPAZ	**La Paz**	**20.60**	**14**⇑*e*P		**P**	**20 00 58.4**	**+1.4**
LPAZ				pmax	pmax	
	comp=E,65nm,0.9s						
LPAZ	**La Paz**	**20.60**	**14**⇑*e*P		**P**	**20 00 58.4**	**+1.5**
	comp=E,65nm,0.9s						
SIV	**San Ignacio**	**23.05**	**31**	P	**P**	**20 01 22.1**	**-1.0**
	comp=Z,26nm,0.9s,mb4.7,baz=228,slow=6.8,SNR=49						
SIV				S	**S**	**20 05 36.6**	**+4.8**
	comp=Z,2.0nm,0.8s,baz=28,slow=19,SNR=1.8						
NNA	**Nana**	**24.63**	**351**	P	**P**	**20 01 38.2**	**+0.1**
	comp=Z,16nm,0.7s,mb4.7,baz=191,slow=9.7,SNR=10.0						
NNA				LR	LR	20 09 41.4
	comp=Z,826nm,18.9s,MS4.2,baz=174,slow=33						
NNA	**Nana**	**24.63**	**351**	*e*P	**P**	**20 01 36.4**	**-1.7**
	comp=Z,53nm,1.1s,mb5.0						
SPB	**Sao Paulo**	**25.57**	**67**⇑*e*P		**P**	**20 01 44.8**	**-1.9**
VAO	**Valinhos**	**26.27**	**66**⇓*i*P		**P**	**20 01 51.0**	**-1.9**
VAO				*i*		20 01 54.0
VAO				*i*		20 01 56.5
VAO				*i*		20 02 02.2
VAO				*i*		20 02 07.2
VAO				*i*		20 02 09.5
VAO				*i*		20 02 29.3
PMSA	**Palmer Station**	**28.83**	**172**	LR	LR	20 13 18.8
	comp=Z,1μm,19.1s,MS4.5,baz=347,slow=35						
ATAH	**Atahualpa**	**29.75**	**349**	P	**P**	**20 02 25.7**	**+1.6**
	comp=Z,5.7nm,0.8s,mb4.4,baz=98,slow=7.2,SNR=4.4						
ATAH				S	**S**	**20 07 24.6**	**+6.3**
	comp=Z,3.6nm,0.6s,baz=294,slow=11,SNR=2.4						
ATAH				LR	LR	20 12 17.5
	comp=Z,595nm,19.1s,MS4.2,baz=7.7,slow=32						
BDFB	**Brasilia**	**30.47**	**54**	P	**P**	**20 02 28.9**	**-1.6**
	comp=Z,11nm,0.9s,mb4.6,baz=200,slow=13,SNR=17						
BDFB				S	**S**	**20 07 28.9**	**-0.9**
	comp=Z,3.2nm,0.9s,baz=314,slow=24,SNR=2.2						
BDFB				LR	LR	20 15 53.5
	comp=Z,2μm,19.2s,MS4.8,baz=219,slow=38						
BDFB	**Brasilia**	**30.47**	**54**	*e*P	**P**	**20 02 28.2**	**-2.3**
BDFB				pmax	pmax	
	comp=Z,1.0nm,1.0s						
BDFB	**Brasilia**	**30.47**	**54**	*e*P	**P**	**20 02 28.2**	**-2.3**
	comp=Z,1.0nm,1.0s,mb3.5						
OTAV	**Otavalo**	**36.88**	**351**⇑*e*P		**P**	**20 03 27.6**	**+1.4**
	comp=Z,31nm,1.2s,mb5.0						
ROSC	**El Rosal**	**41.15**	**358**	P	**P**	**20 04 03.4**	**+1.6**
	comp=Z,8.4nm,0.4s,mb4.7,baz=188,slow=3.3,SNR=8.4						
ROSC				S	**S**	**20 10 17.8**	**+4.7**
	comp=Z,4.2nm,0.3s,baz=94,slow=22,SNR=1.8						
ROSC	**El Rosal**	**41.15**	**358**	*e*P	**P**	**20 04 03.8**	**+2.0**
SDV	**Santo Domingo**	**45.19**	**3**⇑*i*P		**P**	**20 04 33.6**	**-0.9**
	comp=Z,29nm,0.8s,mb5.2						
RCBR	**Riachuelo**	**45.70**	**57**	*e*P	**P**	**20 04 37.7**	**-1.0**
	comp=Z,56nm,1.2s,mb5.4						
BCIP	**Isla Barro Col**	**45.85**	**351**⇑*i*P		**P**	**20 04 39.7**	**-0.1**
	comp=Z,68nm,1.3s,mb5.4						
VNA3	**Neumayer Olymp**	**47.40**	**157**	*e*P	**P**	**20 04 51.6**	**+0.3**
VNA3				*e*	pP	20 05 01.0	+0.2
VNA3				*e*		20 05 05.8	
VNA3				*e*		20 06 22.0	
VNA3				*e*		20 06 42.9	
VNA1	**Neumayer--Stat**	**47.74**	**156**	*e*P	**P**	**20 04 54.4**	**+0.5**
VNA1				*e*	pP	20 05 03.8	+0.3
VNA1				*e*		20 05 08.9	
VNA1				*e*		20 06 23.4	
VNA1				*e*		20 06 45.5	
JTS	**JuntasAbangare**	**47.85**	**344**	P	**P**	**20 04 55.7**	**+0.3**
	comp=Z,13n

NVL N'lazarevskaya 54.39 156 *e*P **P** **20 05 45.1 +1.3**
NVL pmax pmax
comp=Z,57nm,1.1s,mb5.4
RKT Rikitea 54.49 266 *e*S **S** **20 13 22.5 +0.2**
comp=Z,459nm,26.5s
RKT *e*LR LR 20 21 39.7
comp=Z,1μm,27.8s
SJG San Juan 54.70 8 *e*P **P** **20 05 44.4 -2.2**
SJG pmax pmax
comp=Z,28nm,0.8s
SJG San Juan 54.70 8 *e*P **P** **20 05 44.4 -2.3**
comp=Z,28nm,0.8s,mb5.3
TEIG Tepich 58.21 343↑ *e*P **P** **20 06 10.6 -1.0**
comp=Z,24nm,0.8s,mb5.3
SBA Scott Base 60.47 192 *e*P **P** **20 06 27.6 +1.0**
SBA pmax pmax
comp=Z,7.0nm,1.0s,mb4.7
SBA Scott Base 60.47 192 *e*P **P** **20 06 27.6 +1.0**
comp=Z,6.9nm,1.0s,mb4.6
SYO Syowa Base 63.88 158↓ *e*P **P** **20 06 47.4 -2.1**
SYO Syowa Base 63.88 158↓ *i*X 20 06 54.8
TBI Tubuai 65.93 258 *e*S S 20 15 52.4 +3.4
comp=Z,760nm,29.5s
TBI Tubuai 65.93 258 *e*LR LR 20 26 55.7
comp=Z,2μm,26.8s,baz=127
PPT Papeete 69.07 263 *e*S S 20 16 27.3 +0.5
comp=Z,426nm,22.8s
PPT Papeete 69.07 263 *e*LR LR 20 28 22.0
comp=Z,2μm,24.0s,baz=118
PPT Papeete 69.07 263 LR LR 20 29 52.0
comp=Z,1μm,19.0s,MS5.1,baz=130,slow=29
GOGA Godfrey 70.21 351 *e*P **P** **20 07 28.9 -1.2**
GOGA pmax pmax
comp=Z,67nm,1.5s,mb5.3
GOGA Godfrey 70.21 351 *e*P **P** **20 07 28.9 -1.2**
comp=Z,67nm,1.5s,mb5.3
NATX Nacogdoches 70.84 341 *e*P **P** **20 07 33.8 -0.1**
comp=Z,59nm,1.0s,mb5.5
NATX *e* pP 20 07 43.4 -0.4
MAW Mawson 71.04 164 *e*P **P** **20 07 34.8 0.0**
comp=Z,20nm,0.9s,mb5.0
MAW Mawson 71.04 164 P **P** **20 07 35.2 +0.4**
comp=Z,23nm,0.8s,mb5.1,baz=216,slow=7.2,SNR=51
MAW LR LR 20 38 23.4
comp=Z,559nm,19.9s,MS4.8,baz=330,slow=36
MAW Mawson 71.04 164 *e*P **P** **20 07 34.8 0.0**
MAW pmax pmax
comp=Z,20nm,0.9s
JCT Junction City 71.18 336 *e*P **P** **20 07 35.7 -0.3**
JCT pmax pmax
comp=Z,26nm,1.1s,mb5.1
JCT Junction City 71.18 336 *e*P **P** **20 07 35.7 -0.3**
comp=Z,26nm,1.1s,mb5.1
TXAR Lajitas Array 71.50 332 P **P** **20 07 38.6 +0.6**
comp=Z,4.9nm,0.6s,mb4.6,baz=151,slow=8.6,SNR=63
TXAR LR LR 20 34 42.2
comp=Z,435nm,18.0s,MS4.8,baz=175,slow=32
OXF Oxford 72.26 346 *e*P **P** **20 07 41.6 -0.8**
OXF *e* pP 20 07 50.3 -2.1
OXF pmax pmax
comp=Z,30nm,1.0s,mb5.2
OXF Oxford 72.26 346 *e*P **P** **20 07 41.6 -0.8**
comp=Z,30nm,1.0s,mb5.2
OXF *e* pP 20 07 50.3 -2.1
SWET Sewanee 72.33 349 *e*P **P** **20 07 42.1 -0.7**
CPCT Cooper Cave 72.36 350 *e*P **P** **20 07 42.1 -0.9**
TKL Tuckaleechee C 72.47 351 *e*P **P** **20 07 42.1 -1.5**
TZTN Tazewell 73.31 351 *e*P **P** **20 07 46.9 -1.7**
comp=Z,51nm,1.4s,mb5.3
WVT Waverly 73.54 348 *e*P **P** **20 07 48.9 -1.1**
WVT *e* pP 20 07 58.3 -1.6
WVT pmax pmax
comp=Z,35nm,1.0s,mb5.2
WVT Waverly 73.54 348 *e*P **P** **20 07 48.9 -1.1**
comp=Z,35nm,1.0s,mb5.2
WVT *e* pP 20 07 58.3 -1.6
SUR Sutherland 74.39 119 P **P** **20 07 56.2 +0.9**
comp=Z,442nm,0.9s,mb6.4,SNR=9.0
SUR Sutherland 74.39 119 *e*P **P** **20 07 56.3 +0.9**
comp=Z,65nm,0.9s,mb5.6
PARMO Parma 74.41 346 *e*P **P** **20 07 54.9 -0.1**
USIN University of 75.30 348 *e*P **P** **20 07 58.8 -1.3**
comp=Z,28nm,0.8s,mb5.2
USIN *e* pP 20 08 08.2 -2.0
FVM French Village 75.82 346 *e*P **P** **20 08 01.8 -1.3**
FVM pmax pmax
comp=Z,23nm,1.1s,mb5.0
FVM French Village 75.82 346 *e*P **P** **20 08 01.8 -1.4**
comp=Z,23nm,1.1s,mb5.0
CCM Cathedral Cave 76.05 345 *e*P **P** **20 08 04.0 -0.5**
CCM pmax pmax
comp=Z,54nm,1.0s,mb5.4
CCM Cathedral Cave 76.05 345 *e*P **P** **20 08 04.0 -0.5**
comp=Z,54nm,1.0s,mb5.4
LIC Lamto 76.38 72 *e*P **P** **20 08 06.6 -0.3**
comp=Z,208nm,1.2s,mb5.9
SLM Saint Louis 76.41 346 P **P** **20 08 05.7 -0.8**
SLM pmax pmax
comp=Z,45nm,0.9s,mb5.4
SLM Saint Louis 76.41 346 P **P** **20 08 05.7 -0.8**
comp=Z,45nm,0.9s,mb5.4
TIC Toumodi 76.65 71 *e*P **P** **20 08 08.2 -0.3**
comp=Z,335nm,1.3s,mb6.1
TIC Toumodi 76.65 71 *e*P **P** **20 08 08.2 -0.3**
TIC pmax pmax
comp=Z,335nm,1.3s,mb6.1
KIC Kosan Boka 76.68 72 *e*P **P** **20 08 08.4 -0.3**
comp=Z,280nm,0.9s,mb6.2
DBIC Dimbokro 76.79 71 P **P** **20 08 09.3 0.0**
comp=Z,28nm,0.7s,mb5.3,baz=205,slow=5.4,SNR=47
DBIC LR LR 20 38 15.0
comp=Z,663nm,20.9s,MS4.9,baz=168,slow=33
DBIC Dimbokro 76.79 71 *e*P **P** **20 08 08.9 -0.4**
DBIC pmax pmax
comp=Z,84nm,1.1s
DBIC Dimbokro 76.79 71 *e*P **P** **20 08 08.9 -0.3**
comp=Z,84nm,1.1s,mb5.6
ACSO Alum Creek Sta 76.89 352 *e*P **P** **20 08 08.0 -1.1**
comp=Z,26nm,0.8s,mb5.2
BNM Barren Site 76.92 332 *e*P **P** **20 08 10.6 +1.1**
TUC Tucson 76.99 328 *e*P **P** **20 08 10.6 +0.7**
TUC pmax pmax
comp=Z,13nm,1.4s,mb4.7
TUC Tucson 76.99 328 *e*P **P** **20 08 10.6 +0.7**
comp=Z,13nm,1.4s,mb4.7
LPM Los Pinos Moun 77.07 332 *e*P **P** **20 08 11.2 +0.9**
LPM *e* pP 20 08 20.0 -0.3
LAZ Ladron 77.34 332 *e*P **P** **20 08 12.6 +0.8**
CASY Casey 77.52 182 *e*P **P** **20 08 12.2 -0.4**
comp=Z,10nm,0.7s,mb4.9
ANMO Albuquerque 77.57 332 *e*P **P** **20 08 13.8 +0.7**
ANMO *e* pP 20 08 23.1 -0.1
ANMO pmax pmax
comp=Z,15nm,1.1s
ANMO Albuquerque 77.57 332 *e*P **P** **20 08 13.8 +0.7**
comp=Z,15nm,1.1s,mb4.8
ANMO *e* pP 20 08 23.1 -0.1
TSUM Tsumeb 79.36 106 *e*P **P** **20 08 23.6 0.0**
comp=Z,18nm,0.8s,mb5.0
TSUM *e* pP 20 08 34.6 +1.1
ACCN Adirondack Com 79.50 360 *e*P **P** **20 08 22.0 -1.5**
comp=Z,120nm,1.8s,mb5.5
BOSA Boshof 79.68 118 P **P** **20 08 25.1 0.0**
comp=Z,66nm,0.9s,mb5.6,baz=236,slow=3.8,SNR=52
BOSA LR LR 20 39 45.5
comp=Z,371nm,19.0s,MS4.8,baz=227,slow=33
BOSA Boshof 79.68 118 *e*P **P** **20 08 24.5 -0.6**
BOSA pmax pmax
comp=Z,90nm,1.0s,mb5.7
BOSA Boshof 79.68 118 *e*P **P** **20 08 24.5 -0.6**
comp=Z,90nm,1.0s,mb5.7
MVCO Mesa Verde 80.34 332 *e*P **P** **20 08 28.6 +0.4**
comp=Z,22nm,1.2s,mb5.0
PFO Pinyon Flat Ob 80.63 324 *e*P **P** **20 08 31.2 +1.3**
PFO *e* pP 20 08 40.6 +0.6
PFO pmax pmax
comp=Z,16nm,1.1s,mb4.9
PFO Pinyon Flat Ob 80.63 324 *e*P **P** **20 08 31.2 +1.3**
comp=Z,16nm,1.1s,mb4.9
PFO *e* pP 20 08 40.6 +0.6
PV01 Paradox Valley 81.17 332 *e*P **P** **20 08 30.9 -1.8**
PV10 Paradox Valley 81.56 332 *e*P **P** **20 08 35.1 +0.3**
PV10 *e* pP 20 08 44.4 -0.4
LBTB Lobatse 82.04 115 *e*P **P** **20 08 37.6 -0.2**
LBTB *e* pP 20 08 48.2 +0.3
LBTB pmax pmax
comp=Z,74nm,0.7s,mb5.7
LBTB Lobatse 82.04 115 *e*P **P** **20 08 37.6 -0.2**
comp=Z,74nm,0.7s,mb5.7
LBTB *e* pP 20 08 48.2 +0.3
CCUT Cedar City 82.57 329 *e*P **P** **20 08 41.4 +1.4**
ECSD EROS,Sioux Fal 82.66 343 *e*P **P** **20 08 39.6 -0.7**
comp=Z,23nm,0.8s,mb5.3
ECSD *e* pP 20 08 48.8 -1.6
SRU San Rafael 82.77 332 *e*P **P** **20 08 41.4 +0.4**
SRU pmax pmax
comp=Z,7.0nm,0.8s,mb4.7
SRU San Rafael 82.77 332 *e*P **P** **20 08 41.4 +0.4**
comp=Z,6.6nm,0.8s,mb4.7
MSU Marysvale 82.90 330 *e*P **P** **20 08 43.0 +1.3**
TMUT Trail Mountain 83.19 331 *e*P **P** **20 08 44.3 +1.1**
ISA Isabella 83.27 324 *e*P **P** **20 08 44.9 +1.2**
ISA pmax pmax
comp=Z,17nm,1.1s,mb5.0
ISA Isabella 83.27 324 *e*P **P** **20 08 44.9 +1.2**
comp=Z,17nm,1.1s,mb5.0
TPNV Topopah Spring 83.31 327 *e*P **P** **20 08 45.3 +1.4**
TPNV *e* pP 20 08 55.4 +1.4
TPNV pmax pmax
comp=Z,12nm,1.0s,mb4.9
TPNV Topopah Spring 83.31 327 *e*P **P** **20 08 45.3 +1.4**
comp=Z,12nm,1.0s,mb4.9
TPNV *e* pP 20 08 55.4 +1.4
MPU Maple Canyon 83.98 331 *e*P **P** **20 08 47.5 +0.3**
comp=Z,22nm,1.0s,mb5.2
MPU *e* pP 20 08 55.5 -1.8
JLU Jordanelle 84.42 332 *e*P **P** **20 08 50.1 +0.6**
JLU *e* **20 08 57.0**
DUG Dugway 84.60 331 *e*P **P** **20 08 50.7 +0.3**
DUG pmax pmax
comp=Z,9.0nm,0.9s,mb4.9
DUG Dugway 84.60 331 *e*P **P** **20 08 50.7 +0.3**
comp=Z,9.3nm,0.9s,mb4.9
TPH Tonopah 84.67 327 *e*P **P** **20 08 52.1 +1.3**
TPH pmax pmax
comp=Z,17nm,1.0s,mb5.1
TPH Tonopah 84.67 327 *e*P **P** **20 08 52.1 +1.3**
comp=Z,17nm,1.0s,mb5.1
RSSD Black Hills 85.01 338 *e*P **P** **20 08 52.4 +0.1**
RSSD *e* 20 08 59.0
HWUT Hardware Ranch 85.33 332 *e*P **P** **20 08 54.3 +0.3**
comp=Z,38nm,1.0s,mb5.5
NVAR Mina Array Bea 85.45 326 P **P** **20 08 56.1 +1.4**
comp=Z,3.1nm,0.7s,mb4.6
NVAR Mina Array Bea 85.45 326 P **P** **20 08 56.1 +1.4**
PDAR Pinedale Array 85.60 334 P **P** **20 08 56.5 +1.1**
comp=Z,3.7nm,1.0s,mb4.6,baz=148,slow=3.9,SNR=17
PDAR LR LR 20 42 44.0
comp=Z,401nm,18.7s,MS4.8,baz=149,slow=32
TOA0 Torodi Ar. Sit 85.86 70 *e*P **P** **20 08 56.4 -0.9**
TORD Torodi Ar. Bea 85.86 70 P **P** **20 08 56.6 -0.7**
comp=Z,19nm,0.9s,mb5.3,baz=246,slow=4.3,SNR=85
TORD PP PP 20 12 20.2 +2.8
comp=Z,1.7nm,0.8s,baz=235,slow=7.2,SNR=3.8
TORD LR LR 20 48 22.3
comp=Z,506nm,18.1s,MS5.0,baz=260,slow=36
HVU Hansel Valley 85.94 331 *e*P **P** **20 08 56.9 -0.1**
HVU *e* pP 20 09 06.2 -1.0
HVU pmax pmax
comp=Z,15nm,0.9s,mb5.2
HVU Hansel Valley 85.94 331 *e*P **P** **20 08 56.9 -0.1**
comp=Z,16nm,0.9s,mb5.2
HVU *e* pP 20 09 06.2 -0.9
CMB Columbia Colle 86.08 324 *e*P **P** **20 08 58.6 +0.8**
CMB pmax pmax
comp=Z,7.0nm,1.1s,mb4.8
CMB Columbia Colle 86.08 324 *e*P **P** **20 08 58.6 +0.8**
comp=Z,7.4nm,1.1s,mb4.8
REDW Red Top Meadow 86.58 333 *e*P **P** **20 08 59.8 -0.4**
comp=Z,14nm,1.1s,mb5.1
SNOW Snow King Moun 86.64 334 *e*P **P** **20 09 00.4 0.0**
comp=Z,4.6nm,0.7s,mb4.8
SNOW *e* pP 20 09 10.1 -0.5
LOHW Long Hollow 86.71 334 *e*P **P** **20 08 59.9 -0.9**
comp=Z,11nm,1.1s,mb5.0
TPAW Teton Pass 86.73 333 *e*P **P** **20 09 00.7 -0.2**
comp=Z,20nm,1.0s,mb5.3
DCID1 Drake Creek 86.91 333 *e*P **P** **20 09 02.8 +1.1**
comp=Z,44nm,1.3s,mb5.5
IMW Indian Meadow 87.08 334 *e*P **P** **20 09 02.7 +0.1**
comp=Z,9.0nm,1.0s,mb5.0
IMW *e* 20 09 09.9
LAO LASA Array 87.99 338 *e*P **P** **20 09 05.4 -1.5**
comp=Z,6.6nm,0.9s,mb4.9
QLMT Earthquake Lak 88.06 334 *e*P **P** **20 09 07.7 +0.4**
HLID Hailey 88.09 331 *e*P **P** **20 09 07.3 -0.2**
comp=Z,19nm,1.5s,mb5.1
MCMT McKenzie Canyo 88.58 333 *e*P **P** **20 09 10.8 +1.1**
MCMT *e* pP 20 09 20.0 +0.1
ULM Lac du Bonnet 88.68 346 P **P** **20 09 09.6 -0.5**
comp=Z,8.0nm,0.8s,mb5.1,baz=154,slow=1.9,SNR=9.3
LSZ Lusaka 89.83 109 LR LR 20 48 19.3
comp=Z,942nm,18.0s,MS5.3,baz=187,slow=35
LSZ Lusaka 89.83 109 *e*P **P** **20 09 17.7 +1.2**
LSZ pmax pmax
comp=Z,25nm,1.1s,mb5.5
LSZ Lusaka 89.83 109 *e*P **P** **20 09 17.7 +1.2**
comp=Z,26nm,1.1s,mb5.5
OD2 Odessa Site #2 92.95 331 *e*P **P** **20 09 30.1 +0.1**
OD2 *e* pP 20 09 39.3 -0.9
NEW Newport 93.06 332 *e*P **P** **20 09 29.7 -0.8**
TAM Tamanrasset 94.66 65 *e*P **P** **20 09 38.3 -0.2**
ESDC Sonseca Array 98.91 47 P **P** **20 09 57.4 +0.1**
comp=Z,1.6nm,0.9s,mb4.6,baz=248,slow=4.1,SNR=7.1
ESDC LR LR 20 56 54.9
comp=Z,319nm,18.2s,MS4.9,baz=270,slow=37
GERES GERESS Array B 114.50 46 PKP PKiKP 20 14 56.6 -0.1
comp=Z,1.8nm,0.8s,baz=205,slow=2.5,SNR=15
ASAR Alice Springs 114.96 207 PKP PKiKP 20 14 57.0 -1.5
comp=Z,0.3nm,0.8s,baz=131,slow=2.6,SNR=3.6
ASAR PKKPbc PKKPbc 20 25 33.9 0.0
comp=Z,0.8nm,0.7s,baz=330,slow=2.7,SNR=8.3
MORC Moravsky Berou 117.17 47↓ PKIKP PKPdf 20 15 01.9 +0.1
BZS Buzias 117.92 52↓ PKIKP PKPdf 20 15 03.0 -0.3
WRA Warramunga Arr 118.17 209 PKP PKPdf 20 15 03.6 -1.2
comp=Z,1.1nm,0.9s,baz=161,slow=1.7,SNR=13
WRA PKKPbc PKKPbc 20 25 22.6 0.0
comp=Z,0.7nm,1.0s,baz=342,slow=3.7,SNR=5.0
KWP Kalwaria 120.18 48 *e*PKP PKPdf 20 15 07.3 -0.2
KWP Kalwaria 120.18 48 *e*PKP PKPdf 20 15 07.4 -0.2
MLR Muntele Rosu 120.66 54↑ PKIKP PKPdf 20 15 08.0 -0.6
BUR08 Bucovina Ar. S 120.98 51 *e*PKPdf PKPdf 20 15 08.3 -0.9
BURAR Bucovina Array 120.98 51↓ PKIKP PKPdf 20 15 09.2 0.9
VRI Vrincioaia 121.31 54↑ PKIKP PKPdf 20 15 08.6 -1.3
SUW Suwalki 122.00 44 *e*PKP PKPdf 20 15 10.4 -0.5
SUW Suwalki 122.00 44 *e*PKP PKPdf 20 15 10.4 -0.5
FITZ Fitzroy Crossi 122.89 201 PKP PKPdf 20 15 12.0 -1.9
comp=Z,1.6nm,1.1s,baz=259,slow=5.2,SNR=3.5
BR131 Keskin Array S 123.77 63 *e*PKPdf PKPdf 20 15 14.2 -0.6
KIEV Kiev 124.48 49 *e*PKIKP PKPdf 20 15 14.1 -1.7
AKASG Malin Array Be 124.49 49 PKP PKPdf 20 15 14.6 -1.2
comp=Z,2.9nm,0.7s,baz=256,slow=3.1,SNR=16
AKASG PP PP 20 16 58.8 -4.2
comp=Z,0.3nm,0.4s,baz=252,slow=7.8,SNR=9.5
AKASG Malin Array Be 124.49 49 PKP PKPdf 20 15 14.6 -1.2
AKASG PP PP 20 16 58.8 -4.2
OBN Obninsk 129.82 45↓ *i* PKIKP PKPdf 20 15 26.6 +0.8
OBN pmax pmax
comp=Z,10.0nm,1.0s
OBN MLR MLR
comp=Z,200nm,18.0s,MS4.8
RST Umm Al-Ruwaisa 129.96 80 *e*P PKPdf 20 15 26.1 -0.8
baz=80
RST AMb AMB 20 15 27.8
comp=Z,34nm,1.0s,baz=80
NAY Al-Naaiem 130.05 80 *e*P PKPdf 20 15 26.2 -1.0
baz=80
NAY AMb AMB 20 15 28.4
comp=Z,9.0nm,1.3s,baz=80
UMR Umm Al-Rimmam 130.55 80 *e*P PKPdf 20 15 27.6 -0.5
baz=80
UMR AMb AMB 20 15 29.1
comp=Z,27nm,1.1s,baz=80
VSR Storozhevoye 130.72 50 *e*PKIKP PKPdf 20 15 27.2 -0.5
VSR pmax pmax
comp=Z,4.0nm,1.2s
VSR pmax pmax
comp=N,8.0nm,1.1s
VSR pmax pmax
comp=E,2.0nm,0.5s
KIV Kislovodsk 131.50 60↓ *i* PKIKP PKPdf 20 15 29.4 0.0
KIV pmax pmax
comp=Z,18nm,1.2s
KIV MLR MLR
comp=Z,100nm,20.0s,MS4.5
KIV Kislovodsk 131.50 60 *e*PKPdf PKPdf 20 15 29.6 +0.2
KLMR Klimovskoe 131.91 37 *e*PKIKP PKPdf 20 15 28.3 -1.3
GNI Garni 131.97 66↑ *i* PKIKP PKPdf 20 15 30.0 -0.4
GOF Gofitskoye 132.00 59 *e*PKHKP 20 15 21.0
VRHR Novokhopersk 132.22 51 *e*PKIKP PKPdf 20 15 31.2 +0.7
VRHR pmax pmax
comp=Z,9.0nm,0.4s
VRHR pmax pmax
comp=N,10.0nm,0.5s
VRHR pmax pmax
comp=E,9.0nm,0.5s
PETK Petropavlovsk- 141.22 312 PKP PKPdf 20 15 46.3 -0.8
comp=E,2.4nm,0.8s,baz=52,slow=2.4,SNR=6.1
SEY Seymchan 141.72 328 *i* PKIKP PKPdf 20 15 47.1 -0.6
ARU Arti 142.17 43 *i* PKIKP PKPdf 20 15 46.3 -2.4
ARU Arti 142.17 43 *e*PKPpre 20 15 43.2
AKTK Aktyubinsk 142.56 52 PKP PKPdf 20 15 44.4 -5.2
AKTO Aktyubinsk 142.56 52 PKHKP 20 15 44.4
comp=E,3.7nm,1.0s,baz=277,slow=3.4,SNR=9.0
AKTO Aktyubinsk 142.56 52 PKHKP 20 15 43.3
AKTO pmax pmax
comp=Z,2.0nm,1.3s
TIXI Tiksi 142.97 349 *i* PKHKP 20 15 44.2
TIXI pmax pmax
comp=Z,5.0nm,1.0s
TIXI Tiksi 142.97 349 *e*PKPpre 20 15 43.5
AB31 Akbulak array 143.87 54 *i* PKIKP PKPdf 20 15 48.1 -3.8
AB31 pmax pmax
comp=Z,18nm,0.8s
KSM Kuching 145.02 186 *e*PKPdf PKPdf 20 15 53.6 -1.5
BHJ Bhuj 145.32 102 *e*P PKPbc 20 15 55.6 +0.5
KAD Karad 145.36 115 *e*P PKPbc 20 15 54.3 -1.1
KAD *e*P 20 15 54.5
KAD AMb AMB 20 15 55.8
comp=Z,67nm,0.9s
PSI Prapat 145.68 166↑ *e*P PKPdf 20 15 55.4 -0.9
POO Poona 145.88 113 *e*P PKPdf 20 15 55.5 -0.9
POO *e*P 20 15 55.7
POO AMb AMB 20 16 07.4
comp=Z,67nm,2.5s
MDRS Chennai 146.59 127 *ex* x 20 15 23.2
JASL Jaisalmer 148.07 97 *ex* x 20 16 02.0
HYB Hyderabad 148.56 120 *i* PKP PKPbc 20 16 04.0 -0.5
comp=Z,100nm,1.0s
HYB Hyderabad 148.56 120 *e*PKP PKPbc 20 16 04.0 -0.5
KBL Kabul 149.25 82 *e*PKIKP PKPdf 20 16 01.5 0.0
KBL *e* 20 16 05.6
AKL Akola 149.56 113 *e*P PKPdf 20 16 02.2 -0.2
BRVK Borovoye 149.59 45 *e*PKPdf PKPdf 20 16 01.4 0.0
BRVK *e*PKPbc PKPbc 20 16 05.9 -0.2
BVA0 Borovoye Array 149.66 45 PKP2 PKPbc 20 16 05.9 -0.3
BVA0 pmax pmax
comp=Z,6.0nm,1.3s
BVAR Borovoye Array 149.66 45 PKP PKPdf 20 16 02.0 +0.5
comp=Z,10nm,0.8s,baz=278,slow=2.2,SNR=9.1
BVAR PKPbc PKPbc 20 16 06.6 +0.3
comp=Z,10.0nm,0.8s,baz=0.0,slow=0.4,SNR=44
VOSK Vostochnaya 150.10 46 PKP2 PKPbc 20 16 08.0 +0.7
VOSK pmax pmax
comp=Z,30nm,1.0s
YAK Yakutsk 150.75 338 *e*PKIKP PKPbc 20 16 07.6 -0.9
YAK *e* 20 16 16.4
YAK pmax pmax
comp=Z,65nm,1.0s
YAK pmax pmax
comp=N,4.0nm,1.1s
YAK pmax pmax
comp=E,4.0nm,0.9s
YAK Yakutsk 150.75 338 *e*PKPbc PKPbc 20 16 07.5 -1.0
YAK *e* 20 16 16.9
AJM Ajmer 150.85 101 *e*P PKPdf 20 16 02.5 -1.8
AJM AMb AMB 20 16 10.4
comp=Z,42nm,2.2s
NGP Nagpur 151.34 115 *ex* x 20 16 06.8
BHPL Bhopal 151.35 109 *ex* x 20 16 08.5
KK31 Karatay Array 151.43 65 PKIKP PKPbc 20 16 09.5 -1.3
KK31 pmax pmax
comp=Z,11nm,0.8s
VIS Vishakhapatnam 152.02 126 *e*P PKPdf 20 16 05.7 -0.6
VIS AMb AMB 20 16 22.6
comp=Z,36nm,0.4s
KHET Khetri 152.49 99 *e*P PKPdf 20 16 05.6 -1.1
SONA Sohna 153.58 100 *e*P PKPdf 20 16 05.5 -2.8
AYAN Aya Nagar 153.72 99 *ex* x 20 16 13.9
AML Almayashu 153.80 67 *e*PKPdf PKPdf 20 16 07.4 -0.8
EKS2 Erkin-Say 153.84 66 *e*PKPdf PKPdf 20 16 09.3 +1.1
EKS2 *e*PKPbc PKPbc 20 16 13.3 +0.1
NDI New Delhi 153.87 99 *ex* x 20 16 15.0
THN Thein Dam 154.03 90 *e*P PKPdf 20 16 07.8 -1.0
UCH Uchtor 154.40 67 *e*PKPdf PKPdf 20 16 09.5 +0.5
UCH *e*PKPbc PKPbc 20 16 18.1 +0.8
SMLA Simla 154.77 94 *e*P PKPdf 20 16 08.5 -1.4
TKM2 Tokmak 2 155.16 65 *e*PKIKP PKPdf 20 16 09.5 -0.5
TKM2 *e* 20 16 18.8
TKM2 *e* 20 16 34.5
TKM2 *e* 20 20 08.9
DDI Dehra Dun 155.19 96 *ex* x 20 16 18.6
KURK Kurchatov 155.25 46 PKP PKPdf 20 16 09.7 -0.2
comp=Z,3.1nm,0.9s,baz=297,slow=2.1,SNR=5.6
KURK PKPab PKPab 20 16 35.1 0.0
comp=Z,11nm,0.9s,baz=290,slow=4.5,SNR=8.1
KURK Kurchatov 155.25 46 PKIKP PKPdf 20 16 09.2 -0.7
KURK pmax pmax
comp=Z,16nm,1.1s
KURK Kurchatov 155.25 46 *e*PKPdf PKPdf 20 16 09.0 -0.8
NVS Novosibirsk 155.49 34 *e*PKIKP PKPdf 20 16 09.2 -0.9
NVS pmax pmax
comp=N,6.0nm,1.3s
NVS pmax pmax
comp=Z,13nm,1.3s
NVS pmax pmax
comp=E,12nm,1.7s
ZAA0 Zalesovo Array 156.78 34 *e*PKPdf PKPdf 20 16 10.4 -1.4
ZAA0 *e*PKPab PKPab 20 16 41.0 -0.5
ZALV Zalesovo Beam 156.78 34 PKP PKPdf 20 16 10.9 -0.9
comp=E,7.3nm,0.8s,baz=304,slow=7,SNR=34
ZALV PKPab PKPab 20 16 41.2 -0.3
comp=E,12nm,0.9s,baz=299,slow=5.0,SNR=9.3
ZALV Zalesovo Beam 156.78 34 PKP PKPdf 20 16 10.9 -0.9
ZALV PKPab PKPab 20 16 41.2 -0.3
BOD Bodaibo 158.15 350 *e*PKP2 PKPab 20 16 45.8 -1.4
BOD pmax pmax
comp=Z,7.0nm,1.4s
KOLN Koldanda 158.47 107 *e*P PKPab 20 16 46.1 -3.6
comp=Z,58nm,0.9s
DANN Dangsing 158.88 106 *e*P PKPab 20 16 48.3 -3.1
comp=Z,112nm,0.9s
MK31 Makanchi Array 159.00 53 *e*PKIKP PKPdf 20 16 14.3 -0.5
MK31 *e* 20 16 25.7
MK31 *e* 20 16 51.1
MK31 *e* 20 20 31.6
MKAR Makanchi Array 159.00 53 PKP PKPdf 20 16 14.7 -0.1
comp=Z,3.2nm,0.8s,baz=337,slow=1.2,SNR=23
MKAR PKPab PKPab 20 16 51.3 -0.1
comp=Z,11nm,0.9s,baz=288,slow=4.3,SNR=19
MKAR PP PP 20 20 32.5 -0.2
comp=Z,3.5nm,0.9s,baz=298,slow=5.1,SNR=9.4
GKN Gorkha 159.38 108 *e*P PKPab 20 16 50.3 -3.3
comp=Z,106nm,1.0s
DMN Daman 159.54 109 *e*P PKPab 20 16 51.2 -3.1
comp=Z,87nm,1.4s
PKI Pulchoki 159.75 110 *e*P PKPab 20 16 52.8 -2.4
comp=Z,62nm,1.2s
KKN Kakani 159.77 109 *e*P PKPab 20 16 52.1 -3.2
comp=Z,117nm,1.4s
GUN Gumba 160.28 110 *e*P PKPab 20 16 56.4 -1.1
comp=Z,98nm,1.4s
RAMN Ramite 160.31 113 *e*P PKPab 20 16 54.2 -3.5
comp=Z,31nm,0.9s
JIRN Jiri 160.39 111 *e*P PKPab 20 16 56.9 -1.1
comp=Z,36nm,0.9s
CMAR Chiang Mai Arr 160.71 157 PKP PKPdf 20 16 17.4 -0.1
comp=Z,1.0nm,0.9s,baz=240,slow=2.8,SNR=8.0
CMAR PKPab PKPab 20 16 58.6 -0.8
comp=Z,3.4nm,1.0s,baz=226,slow=4.3,SNR=12
ODAN Odare 160.84 115 *e*P PKPab 20 16 56.3 -3.7
comp=Z,32nm,0.9s
TAPN Taplejung 161.35 114 *e*P PKPab 20 17 01.2 -1.0
comp=Z,12nm,0.8s
SHL Shillong 163.16 126 *ex* x 20 17 06.5
CN2 Changchun 164.07 303 *e*PKP PKPdf 20 16 21.3 +1.1

TLY	**Talaya**	**164.64**	**8**	*i* PKP2	PKPab	20 17 16.0	+0.3		
TLY				pmax	pmax				
	comp=Z,9.0nm,1.3s								
KMI	**Kunming**	**168.12**	**161**	PKP	PKPdf	20 16 22.5	-1.5		
KMI				XPKP		20 16 39.1			
KMI				PKS		20 19 54.6			
KMI				PP	PP	20 21 19.3	-0.5		
KMI				SKKS	SKKSac	20 28 02.5	-3.0		
KMI				PP	PP				
	comp=Z,116nm,6.3s								
KMI				LR	LR				
	comp=N,168nm,20.6s								
KMI				LR	LR				
	comp=E,142nm,19.4s								
KMI				LR	LR				
	comp=Z,249nm,18.3s								
SONM	**Songino Array**	**168.66**	**2**	PKP	PKPdf	20 16 22.3	-1.3		
	comp=Z,0.2nm,0.4s,baz=197,slow=4.6,SNR=2.4								
SONM				PKPab	PKPab	20 17 34.1	+0.5		
	comp=Z,2.3nm,0.8s,baz=338,slow=4.5,SNR=11								
NJ2	**Nanjing**	**169.17**	**249**	*e*PKP	PKPdf	20 16 24.4	-0.1		
GYA	**Guiyang**	**170.00**	**179**	PKP	PKPdf	20 16 23.8	-1.3		
GYA				APKP		20 16 36.0			
GYA				PKP2	PKPab	20 17 41.3	+1.3		
GYA				PKS		20 19 55.4			
GYA				PP	PP	20 21 33.0	+3.9		
GYA				SKKS	SKKSac	20 28 15.3	+0.7		
GYA				PP	PP				
	comp=Z,140nm,7.6s								
GYA				LR	LR				
	comp=N,590nm,23.4s								
GYA				LR	LR				
	comp=E,430nm,25.6s								
GYA				LR	LR				
	comp=Z,540nm,25.0s								
BJI	**Beijing**	**171.90**	**299**	PKP	PKPdf	20 16 24.6	-1.1		
BJI				PP	PP	20 21 40.4	+0.5		
BJI				LR	LR				
	comp=N,211nm,19.7s								
BJI				LR	LR				
	comp=E,235nm,18.7s								
BJI				LR	LR				
	comp=Z,225nm,22.1s								
GTA	**Gaotai**	**173.68**	**60**	*e*PKP	PKPdf	20 16 26.4	0.0		
GTA				APKP		20 16 32.9			
GTA				XPKP		20 16 35.8			
CD2	**Chengdu**	**173.85**	**154**	*e*PKP	PKPdf	20 16 25.4	-1.4		
CD2				APKP		20 16 35.0			
CD2				XPKP		20 16 40.8			
CD2				PKP2	PKPab	20 17 57.6	+0.5		
CD2				PP	PP	20 21 50.8	+2.3		
CD2				SKS	SKSdf	20 23 23.3	-4.3		
CD2				SKKS	SKKSac	20 28 31.0	-2.1		
CD2				PP	PP				
	comp=Z,180nm,10.8s								
CD2				LR	LR				
	comp=N,240nm,16.8s								
CD2				LR	LR				
	comp=Z,270nm,18.4s								
HHC	**Hu-ho-hao-te**	**174.32**	**321**	*e*PKP	PKPdf	20 16 25.4	-1.2		
HHC				APKP		20 16 35.6			
HHC				XPKP		20 16 39.8			
HHC				PKS		20 19 55.6			
HHC				PP	PP	20 21 54.3	+3.2		
HHC				SKS	SKSdf	20 23 23.0	-4.2		
HHC				SKKS	SKKSac	20 28 35.4	+0.3		
HHC				PP	PP				
	comp=Z,128nm,9.8s								
HHC				LR	LR				
	comp=N,163nm,22.5s								
HHC				LR	LR				
	comp=E,127nm,22.6s								
HHC				LR	LR				
	comp=Z,239nm,23.9s								
LZH	**Lanzhou**	**177.49**	**98**	*e*PKP	PKPdf	20 16 27.5	0.0		
LZH				APKP		20 16 38.3			
LZH				XPKP		20 16 42.5			
LZH				*e*PP	PP	20 22 08.6	+1.3		
LZH				SKKS	SKKSac	20 28 49.6	-1.0		
LZH				PP	PP				
	comp=Z,185nm,9.2s								
LZH				LR	LR				
	comp=E,285nm,18.5s								
LZH				LR	LR				
	comp=Z,412nm,20.3s								

ATH ***20*** *20:16:33.2,40.40N×25.67E,h45km*
ISCJB ***20*** *20:16:34.1±1.5,40.41N±0.10×257.5E±0.2,h45km, Error ellipse: s-maj=24.9km s-min=13.4km az=14.0*
ISC 20 20:16:34.2±1.5**,404N**±01×**257E**±02**,h45**km**,n3,σ0**s**16**/4**,**
Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LIA	**Limnos Island**	**0.65**	**217**	*e*P	**Pn**	**20 16 46.9**	**-0.1**
LIA				*e*S	**Sn**	**20 16 56.3**	**+0.1**
RDO	**Rodhopi**	**0.74**	**351**	*e*P	**Pn**	**20 16 48.3**	**0.0**
PRK	**Paraskevi**	**1.25**	**159**	*e*P	**Pn**	**20 16 55.3**	**0.0**

ISCJB ***20*** *20:16:49.7±0.5,40.36N±0.002×258.7E±0.004,h10km±3km, Error ellipse: s-maj=5.0km s-min=3.7km az=170.7*
CSEM ***20*** *20:16:49.9±0.1,40.37N×25.92E,h10km,MD2.9, Error ellipse: s-maj=1.6km s-min=1.4km az=97.0*
NEIC ***20*** *20:16:49.3,40.35N×25.91E,h26km,MD3.1(ATH), After ATH.*
ATH ***20*** *20:16:49.3,40.35N×25.91E,h26km±1km,MD3.1/4*
ISK ***20*** *20:16:50.1,40.36N×25.98E,h6km,MD2.9*
DDA ***20*** *20:16:52.0,40.31N×26.06E,h7km±5km,Md2.9*
SOF ***20*** *20:16:53.3,40.54N×25.75E,h20km,MD2.5*
ISC 20 20:16:50.2±0.5**,4036N**±002×**2588E**±004**,h11**km±3km**,n27,**
σ0s80/42,Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GADA	**Gvkgeada**	**0.17**	**176**	*e*PG	**Pg**	**20 16 54.4**	**+0.3**
GADA				*e*SG	**Sg**	**20 16 57.1**	**+0.4**
ENEZ	**Enez**	**0.43**	**29**	*e*PG	**Pg**	**20 16 58.1**	**-0.5**
ENEZ				*e*SG	**Sg**	**20 17 04.9**	**+0.6**
BOZC	**Bozcaada**	**0.54**	**166**	*i* P	**Pg**	**20 17 01.0**	**+0.3**
BOZC				*i* S	**Sg**	**20 17 08.4**	**+0.7**
EZN	**Ezine**	**0.64**	**148**	*e*PG	**Pg**	**20 17 01.8**	**-0.7**
EZN				*e*SG	**Sg**	**20 17 10.6**	**-0.3**
LIA	**Limnos Island**	**0.71**	**229**	*e*Pn	**Pn**	**20 17 04.0**	**-2.1**
LIA				*e*Sn	**Sg**	**20 17 13.8**	**+0.5**
LIA	**Limnos Island**	**0.71**	**229**	*e*PN	**Pn**	**20 17 04.0**	**-2.1**
LIA				*e*SN	**Sg**	**20 17 13.8**	**+0.5**
RDO	**Rodhopi**	**0.83**	**342**	*e*Pn	**Pn**	**20 17 05.8**	**-2.0**
RDO	**Rodhopi**	**0.83**	**342**	*e*PN	**Pn**	**20 17 05.8**	**-2.0**
RKY	**Sarkoy-Tekirda**	**1.04**	**71**	*e*PG	**Pg**	**20 17 09.0**	**-1.3**
RKY				*e*SG	**Sg**	**20 17 22.9**	**-0.8**
PRK	**Paraskevi**	**1.16**	**165**	*e*Pn	**Pn**	**20 17 10.9**	**-1.4**
PRK				*e*Sn	**Sn**	**20 17 27.0**	**-1.0**
PRK	**Paraskevi**	**1.16**	**165**	*e*PN	**Pn**	**20 17 10.9**	**-1.4**
PRK				*e*SN	**Sn**	**20 17 27.0**	**-1.0**
AYVA	**Ayvalik**	**1.22**	**149**	*i* P	**Pn**	**20 17 13.5**	**+0.3**
AYVA				*i* S	**Sb**	**20 17 30.1**	**+1.0**
KDZ	**Kurdzhali**	**1.33**	**345**	*i* P	**Pn**	**20 17 14.3**	**-0.4**
TKR	**Tekirdag**	**1.40**	**63**	*e*PN	**Pn**	**20 17 15.9**	**+0.1**
TKR				*e*SN	**Sn**	**20 17 34.9**	**+0.7**
BALY	**Balya**	**1.47**	**114**	*i* P	**Pn**	**20 17 17.1**	**+0.5**
BALY				*i* S	**Sn**	**20 17 34.9**	**-0.9**
EDC	**Edincik**	**1.51**	**90**	*e*PN	**Pn**	**20 17 17.4**	**+0.2**
EDC				*e*SN	**Sn**	**20 17 37.3**	**+0.4**
RZN	**Rozhen**	**1.59**	**327**	P	**Pn**	**20 17 19.8**	**+1.5**
EDRB	**Edirne**	**1.62**	**23**	*e*PN	**Pn**	**20 17 19.2**	**+0.6**
BALB	**Balikesir**	**1.69**	**115**	*e*PN	**Pn**	**20 17 19.7**	**0.0**
DIM	**Dimitrovgrad**	**1.71**	**351**	P	**Pn**	**20 17 20.8**	**+0.9**
NVR	**Nevrokopi**	**1.82**	**303**	*e*Pn	**Pn**	**20 17 21.4**	**-0.1**
NVR	**Nevrokopi**	**1.82**	**303**	*e*PN	**Pn**	**20 17 21.4**	**-0.1**
PLD	**Plovdiv**	**1.96**	**333**	P	**Pn**	**20 17 23.5**	**+0.2**
MMB	**Musomiste**	**2.04**	**308**	P	**Pn**	**20 17 24.5**	**0.0**
AKHS	**Akhisar**	**2.10**	**134**	*i* P	**Pn**	**20 17 30.1**	**+4.8**
AKHS				*i* S	**Sn**	**20 17 52.1**	**+0.7**
DURS	**Dursunbey**	**2.13**	**110**	*i* P	**Pn**	**20 17 26.1**	**+0.4**
DURS				*i* S	**Sn**	**20 17 58.4**	**+6.3**
CTKS	**Kestanelik-??a**	**2.17**	**65**	*e*PN	**Pn**	**20 17 26.8**	**+0.5**

BJI ***20*** *20:30:13.3,189S×99.52E,h10km,mB5.0,mb4.8,Ms4.6, Msz4.3*
IDC ***20*** *20:30:17.4±0.5,145S×99.38E,h0km,mb4.5/18, mb1 4.6/19,mb1mx4.6/21,mbtmp4.5/19,ML4.6/1,MS3.7/2, Ms1 3.8/2,ms1mx3.3/24,Error ellipse: s-maj=18.0km s-min=11.8km az=43.0*
MOS ***20*** *20:30:21.9±1.0,126S×99.53E,h39km,mb5.0/40,MS4.1/9, Error ellipse: s-maj=12.6km s-min=6.1km az=112.5*
DJA ***20*** *20:30:21,139S×99.22E,h10km,Mw5.0/4*
ISCJB ***20*** *20:30:21.6±0.7,142S±004×99.28E±004,h38km±6km, mb4.8/93,MS4.3/13,Error ellipse: s-maj=7.5km s-min=4.8km az=137.9*
NEIC ***20*** *20:30:22.3±0.2,148S×99.44E,h35km,mb4.9/44,Error ellipse: s-maj=8.7km s-min=5.3km az=47.0*
ISC 20 20:30:25.2±0.7**,144S**±004×**9935E**±004**,h55**km±6km**,**
h14km±4.9km**:pP-P,n232,**σ1**s09/**235**,mb4.8/**93**,MS4.3/**13**,**
15C-17D,Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PDSI	**Padang**	**1.23**	**65**	P	**Pn**	**20 30 42.6**	**-3.5**
PPI	**Padang Panjang**	**1.43**	**47**	P	**Pn**	**20 30 45.6**	**-3.2**
RGRI	**Rengat**	**3.17**	**70**	P	**Pn**	**20 31 10.9**	**-1.8**
KSI	**Kapahiang**	**3.92**	**124**	P	**Pn**	**20 31 21.3**	**-1.5**
PSI	**Prapat**	**4.23**	**354**	⇓*e*P	**Pn**	**20 31 23.4**	**-3.8**
JMBI	**JAMBI**	**4.30**	**93**	P	**Pn**	**20 31 29.4**	**+1.4**
TSI	**Tuntungan**	**4.97**	**351**	P	**Pn**	**20 31 35.5**	**-1.8**
KGM	**Kluang**	**5.25**	**49**	⇑P	**Pn**	**20 31 42.9**	**+1.9**
MYKOM	**Kota Tinggi**	**5.53**	**55**	⇑P	**Pn**	**20 31 49.9**	**+4.9**
MYKOM	**Kota Tinggi**	**5.53**	**55**	P	**Pn**	**20 31 44.7**	**-0.2**
IPM	**Ipoh**	**6.11**	**16**	P	**Pn**	**20 31 53.4**	**+0.4**
	123nm,1.2s,1μm0.5nm						
KLI	**Kotabumi**	**6.47**	**122**	P	**Pn**	**20 31 57.0**	**-0.8**
	201nm,0.9s,2μm0.6nm						
KULM	**Kulim**	**6.81**	**11**	⇓P	**Pn**	**20 32 01.9**	**-0.6**
PPBI	**Pangkal Pinang**	**6.82**	**96**	P	**Pn**	**20 32 03.1**	**+0.4**
KTGM	**Kuala Trenggan**	**7.71**	**29**	⇓P	**Pn**	**20 32 15.6**	**+0.7**
BSI	**Banda Aceh**	**7.99**	**330**	P	**Pn**	**20 32 14.5**	**-4.2**
	41nm,0.8s,0.2nm						
TPI	**Tanjungpandan**	**8.40**	**99**	⇓*e*P	**Pn**	**20 32 26.0**	**+1.7**
TPI	**Tanjungpandan**	**8.40**	**99**	P	**Pn**	**20 32 27.0**	**+2.7**
	50nm,0.9s,0.1nm						
DBJI	**Dramaga**	**8.96**	**125**	P	**Pn**	**20 32 31.3**	**-0.7**
	72nm,0.8s						
CBJI	**Citeko**	**8.97**	**124**	P	**Pn**	**20 32 33.2**	**+1.1**
	304nm,0.9s						
LEM	**Lembang**	**9.83**	**123**	P	**Pn**	**20 32 45.2**	**+1.3**
	101nm,1.1s						
KSM	**Kuching**	**11.33**	**75**	⇓P	**Pn**	**20 33 07.0**	**+2.6**
SBUM	**Sibu**	**13.44**	**73**	⇓P	**Pn**	**20 33 35.7**	**+2.5**
SBUM	**Sibu**	**13.44**	**73**	P	**Pn**	**20 33 35.3**	**+2.1**
PLKI	**Palangkaraya**	**14.61**	**93**	P	**Pn**	**20 33 53.9**	**+5.0**
KMMI	**Kalianget**	**15.60**	**111**	P	**Pn**	**20 34 03.3**	**+1.6**
BBKI	**Banjar Baru**	**15.61**	**98**	P	**Pn**	**20 34 02.8**	**+1.0**
	49nm,1.4s						
KKM	**Kota Kinabalu**	**18.41**	**66**	⇑P	**Pn**	**20 34 38.5**	**+1.9**
KKM	**Kota Kinabalu**	**18.41**	**66**	P	**Pn**	**20 34 36.4**	**-0.2**
	46nm,0.8s						
KKM	**Kota Kinabalu**	**18.41**	**66**	*e*P	**Pn**	**20 34 35.6**	**-0.9**
SDKM	**Sandakan**	**19.16**	**68**	⇑P	**Pn**	**20 34 46.0**	**+0.4**
KDM	**Kudat**	**19.32**	**64**	⇑P	**Pn**	**20 34 48.3**	**+0.8**
TSM	**Tawau**	**19.37**	**73**	⇓P	**Pn**	**20 34 47.9**	**-0.2**
CMAR	**Chiang Mai Arr**	**19.77**	**359**	P	**Pn**	**20 34 48.3**	**-4.5**
	0.8nm,0.3s,baz=186,slow=10,SNR=59						
CMAR				PcP	PcP	20 39 09.6	+2.0
	baz=208,slow=3.4,SNR=5.3						
CMAR				LR	LR	20 41 51.2	
	comp=Z,183nm,21.9s,baz=182,slow=35						
CMAR	**Chiang Mai Arr**	**19.77**	**359**	P	**Pn**	**20 34 48.3**	**-4.5**
CMAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
CMAR				MLR	MLR		
	comp=Z,183nm,21.9s						
CHG	**Chiang Mai**	**20.13**	**359**	⇓P	**P**	**20 34 59.0**	**+4.3**
	comp=Z,21nm,1.1s						
CHTO	**Chiang Mai**	**20.13**	**359**	*e*P	**P**	**20 34 52.1**	**-2.6**
CHTO				pmax	pmax		
	comp=Z,22nm,1.0s						
CHTO	**Chiang Mai**	**20.13**	**359**	P	**P**	**20 34 55.0**	**+0.3**
	comp=Z,25nm,1.0s						
CHTO	**Chiang Mai**	**20.13**	**359**	*e*P	**P**	**20 34 52.1**	**-2.6**
	comp=Z,22nm,1.0s						
NANT	**Nan**	**20.16**	**4**	⇑P	**P**	**20 34 53.0**	**-2.0**
	comp=Z,125nm,1.0s						
MYLDM	**Lahad Datu**	**20.23**	**71**	⇓P	**P**	**20 34 59.2**	**+3.3**
MYLDM	**Lahad Datu**	**20.23**	**71**	P	**P**	**20 34 57.6**	**+1.7**
PCI	**Palu**	**20.49**	**89**	P	**P**	**20 34 59.3**	**+0.5**
KAPI	**Kappang**	**20.68**	**100**	P	**P**	**20 34 58.9**	**-1.8**
	comp=Z,260nm,1.0s,SNR=8.7						
KAPI	**Kappang**	**20.68**	**100**	P	**P**	**20 34 58.2**	**-2.5**
	comp=Z,47nm,1.0s,baz=269,slow=8.9,SNR=11						
KAPI	**Kappang**	**20.68**	**100**	*e*P	**P**	**20 34 58.0**	**-2.7**
	comp=Z,64nm,1.1s						
CHRT	**Chiangrai**	**21.18**	**1**	⇑P	**P**	**20 35 06.0**	**-0.1**
	comp=Z,440nm,1.0s,mb5.7						
KDI	**Kendari**	**23.38**	**97**	⇓*e*P	**P**	**20 35 25.5**	**-3.8**
KDI				*e*S	**S**	**20 39 36.8**	**-1.5**
KMI	**Kunming**	**26.61**	**7**	P	**P**	**20 35 58.8**	**+0.3**
KMI				AP	pP	20 36 02.0	-10
KMI				XP	sP	20 36 03.1	-16
KMI				PP		20 36 43.6	
KMI				PCP	PcP	20 39 22.1	+0.4
KMI				S	**S**	**20 40 30.3**	**+0.8**
KMI				SS		20 41 44.3	
KMI				AMB	AMB		
	comp=Z,14nm,1.1s,mb4.4						
KMI				AMB	AMB		
	comp=Z,76nm,3.9s						
KMI				LR	LR		
	comp=N,397nm,9.5s						
KMI				LR	LR		
	comp=E,369nm,10.3s						
KMI				LR	LR		
	comp=Z,301nm,9.4s						
GYA	**Guiyang**	**28.62**	**14**	P	**P**	**20 36 15.8**	**-0.7**
GYA				PP	PP	20 37 12.4	-10
GYA				PCP	PcP	20 39 28.3	+1.8
GYA				S	**S**	**20 41 05.8**	**+4.6**
GYA				SS	SS	20 42 33.6	-31
GYA				SCP	ScP	20 43 07.0	+3.7
GYA				SCS	ScS	20 47 01.3	+4.5
GYA				AMB	AMB		
	comp=Z,30nm,1.0s,mb5.0						
GYA				AMB	AMB		
	comp=Z,140nm,4.9s						
GYA				LR	LR		
	comp=N,790nm,18.4s,MS4.4						
GYA				LR	LR		
	comp=E,530nm,17.6s,MS4.4						
GYA				LR	LR		
	comp=Z,840nm,18.0s,MS4.4						
ODAN	**Odare**	**30.41**	**339**	*e*P	**P**	**20 36 32.8**	**+0.5**
	comp=Z,32nm,1.0s,mb5.0						
FITZ	**Fitzroy Crossi**	**30.66**	**124**	*e*P	**P**	**20 36 33.5**	**-1.2**
	comp=Z,18nm,1.0s,mb4.8						
TAPN	**Taplejung**	**30.74**	**339**	*e*P	**P**	**20 36 36.2**	**+1.0**
	comp=Z,32nm,0.9s,mb5.2						
RAMN	**Ramite**	**30.78**	**337**	*e*P	**P**	**20 36 36.7**	**+1.1**
	comp=Z,17nm,0.8s,mb4.9						
JIRN	**Jiri**	**31.58**	**337**	*e*P	**P**	**20 36 43.6**	**+1.0**
	comp=Z,37nm,0.8s,mb5.3						
PKI	**Pulchoki**	**31.81**	**336**	*e*P	**P**	**20 36 45.1**	**+0.5**
GUN	**Gumba**	**31.92**	**337**	*e*P	**P**	**20 36 46.4**	**+0.7**
	comp=Z,36nm,0.7s,mb5.3						
LSA	**Lhasa**	**31.94**	**346**	P	**P**	**20 36 47.0**	**+1.2**
LSA	**Lhasa**	**31.94**	**346**	*e*P	**P**	**20 36 46.4**	**+0.6**
LSA				pmax	pmax		
	comp=Z,10.0nm,0.6s,mb4.8						
LSA	**Lhasa**	**31.94**	**346**	*e*P	**P**	**20 36 46.4**	**+0.6**
	comp=Z,9.7nm,0.6s,mb4.8						
DMN	**Daman**	**31.97**	**336**	*e*P	**P**	**20 36 46.4**	**+0.4**
	comp=Z,9.7nm,0.8s,mb4.7						
KKN	**Kakani**	**32.05**	**336**	*e*P	**P**	**20 36 47.3**	**+0.5**
	comp=Z,22nm,0.8s,mb5.0						
KKN	**Kakani**	**32.05**	**336**	*e*P	**P**	**20 36 47.3**	**+0.5**
KKN				pmax	pmax		
	comp=Z,22nm,0.8s,mb5.0						
CD2	**Chengdu**	**32.44**	**7**	*e*P	**P**	**20 36 48.8**	**-1.4**
CD2				AP	pP	20 36 53.4	-11
CD2				XP	sP	20 36 57.0	-14
CD2				PP	PP	20 37 57.4	-7.0
CD2				S	**S**	**20 42 03.3**	**+2.3**
CD2				SS	SS	20 44 00.3	-22
CD2				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.7						
CD2				AMB	AMB		
	comp=Z,30nm,4.2s						
CD2				LR	LR		
	comp=N,280nm,10.8s,MS4.5						
CD2				LR	LR		
	comp=E,530nm,10.8s,MS4.5						
CD2				LR	LR		
	comp=Z,370nm,10.8s,MS4.3						
GKN	**Gorkha**	**32.51**	**335**	*e*P	**P**	**20 36 50.9**	**+0.1**
	comp=Z,48nm,1.1s,mb5.3						
KOLN	**Koldanda**	**32.75**	**334**	*e*P	**P**	**20 36 53.2**	**+0.3**
	comp=Z,32nm,0.6s,mb5.4						
DANN	**Dangsing**	**33.18**	**334**	*e*P	**P**	**20 36 57.0**	**+0.3**
	comp=Z,34nm,0.9s,mb5.3						
NACB	**Ninganchiao**	**33.39**	**39**	*e*P	**P**	**20 36 56.9**	**-1.7**
XAN	**Xi'an**	**36.42**	**13**	P	**P**	**20 37 22.8**	**-1.7**
XAN				AP	pP	20 37 27.3	-11
XAN				XP	sP	20 37 29.8	-15
XAN				PP	PP	20 38 46.8	-1.6
XAN				PCP	PcP	20 39 47.5	-0.4
XAN				S	**S**	**20 43 03.9**	**+1.6**
XAN				SCP	ScP	20 43 32.3	+2.4
XAN				SS	SS	20 45 29.5	-14
XAN				SCS	ScS	20 47 36.1	-0.2
XAN				AMB	AMB		
	comp=Z,19nm,0.9s,mb5.0						
XAN				AMB	AMB		
	comp=Z,96nm,5.1s						
XAN				LR	LR		
	comp=N,219nm,12.3s,MS4.2						
XAN				LR	LR		
	comp=E,129nm,13.0s,MS4.2						
XAN				LR	LR		
	comp=Z,549nm,15.1s,MS4.5						
LZH	**Lanzhou**	**37.57**	**6**	*e*P	**P**	**20 37 34.5**	**+0.3**
LZH				AP	pP	20 37 39.3	-9.1
LZH				XP	sP	20 37 41.6	-13
LZH				*e*PP	PP	20 39 01.3	+0.4
LZH				*e*S	**S**	**20 43 19.0**	**-0.7**
LZH				AMB	AMB		
	comp=Z,23nm,1.3s,mb4.8						
LZH				AMB	AMB		
	comp=Z,135nm,4.6s						
LZH				LR	LR		
	comp=E,776nm,13.2s						
LZH				LR	LR		
	comp=Z,997nm,17.0s,MS4.7						
NJ2	**Nanjing**	**38.09**	**27**	*e*P	**P**	**20 37 38.3**	**-0.4**
NJ2				AMB	AMB		
	comp=Z,40nm,0.8s,mb5.2						
WRA	**Warramunga Arr**	**38.84**	**121**	P	**P**	**20 37 43.8**	**-1.4**
	comp=Z,21nm,0.8s,mb4.9,baz=301,slow=9.4,SNR=92						
WRA				PcP	PcP	20 39 56.1	+0.5
	comp=Z,0.8nm,0.6s,baz=308,slow=2.2,SNR=5.4						
WRA	**Warramunga Arr**	**38.84**	**121**	P	**P**	**20 37 43.8**	**-1.4**
WRA						20 39 56.1	
WRA				pmax	pmax		
	comp=Z,21nm,0.8s						
WRA				pmax	pmax		
	comp=Z,1.0nm,0.6s						
WRAB	**Tennant Creek**	**38.84**	**121**	P	**P**	**20 37 44.3**	**-0.9**
	comp=Z,203nm,0.9s,mb5.8,SNR=14						
WRAB	**Tennant Creek**	**38.84**	**121**	*e*P	**P**	**20 37 44.0**	**-1.2**
WRAB				pmax	pmax		
	comp=Z,32nm,1.0s,mb5.0						
WRAB	**Tennant Creek**	**38.84**	**121**	*e*P	**P**	**20 37 44.0**	**-1.2**
	comp=Z,32nm,1.0s,mb5.0						
WB2	**Warramunga Arr**	**38.85**	**121**	*e*P	**P**	**20 37 44.0**	**-1.3**
ASAR	**Alice Springs**	**40.11**	**126**	P	**P**	**20 37 54.7**	**-1.0**
	comp=Z,5.0nm,0.7s,mb4.3,baz=299,slow=7.6,SNR=51						
ASAR				PcP	PcP	20 40 00.8	+1.2
	comp=Z,1.7nm,0.8s,baz=320,slow=2.2,SNR=6.2						
ASAR				S	**S**	**20 44 03.0**	**+4.6**
	comp=Z,0.7nm,1.0s,baz=298,slow=15,SNR=4.3						
ASAR	**Alice Springs**	**40.11**	**126**	P	**P**	**20 37 54.7**	**-1.0**
ASAR						20 40 00.8	
ASAR				S	**S**	**20 44 03.0**	**+4.7**
ASAR				pmax	pmax		
	comp=Z,5.0nm,0.7s						
ASAR				pmax	pmax		
	comp=Z,2.0nm,0.8s						
ASAR				smax			
	comp=N,1.0nm,1.0s						
GTA	**Gaotai**	**40.65**	**1**	*e*P	**P**	**20 37 59.8**	**-0.1**
GTA				AP	pP	20 38 03.3	-11
GTA				XP	sP	20 38 05.9	-15
GTA				AMB	AMB		
	comp=Z,12nm,1.2s,mb4.4						
HHC	**Hu-ho-hao-te**	**43.53**	**13**	*e*P	**P**	**20 38 24.3**	**+0.9**
HHC				AP	pP	20 38 28.9	-8.9
HHC				XP	sP	20 38 31.1	-13
HHC				PP	PP	20 40 07.5	+1.9
HHC				PCP	PcP	20 40 12.0	+1.5
HHC				SCP	ScP	20 44 01.3	+3.8
HHC				S	**S**	**20 44 53.8**	**+5.3**
HHC				XS	sS	20 45 02.9	-10
HHC				SS	SS	20 48 03.0	-2.0
HHC				SCS	ScS	20 48 20.4	+2.3
HHC				AMB	AMB		
	comp=Z,14nm,1.0s,mb4.7						
HHC				AMB	AMB		
	comp=Z,71nm,5.6s						
HHC				LR	LR		
	comp=N,309nm,13.1s,MS4.6						
HHC				LR	LR		
	comp=E,373nm,12.6s,MS4.6						
HHC				LR	LR		
	comp=Z,269nm,13.0s,MS4.3						
BJT	**Baijiatuao**	**44.03**	**19**	*e*P	**P**	**20 38 26.8**	**-0.7**
BJT				pmax	pmax		
	comp=Z,24nm,0.9s						
BJT	**Baijiatuao**	**44.03**	**19**	*e*P	**P**	**20 38 26.8**	**-0.7**
	comp=Z,24nm,0.9s,mb4.9						
BJI	**Beijing**	**44.06**	**19**	P	**P**	**20 38 27.1**	**-0.5**
BJI				AMB	AMB		
	comp=Z,29nm,0.9s,mb5.0						
KBL	**Kabul**	**45.70**	**324**	*e*P	**P**	**20 38 39.9**	**-0.9**
KBL				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb4.1						
KBL	**Kabul**	**45.70**	**324**	*e*P	**P**	**20 38 39.9**	**-0.9**
	comp=Z,2.2nm,0.8s,mb4.1						
WMQ	**Urumqi**	**46.25**	**348**	P	**P**	**20 38 46.1**	**+1.1**
KSRS	**Korea Array**	**46.88**	**31**	P	**P**	**20 38 48.9**	**-1.1**
	comp=Z,7.7nm,0.7s,mb4.8,baz=224,slow=8.4,SNR=28						
KSRS	**Korea Array**	**46.88**	**31**	P	**P**	**20 38 48.9

comp=Z,3.0nm,0.6s
SONM MLR MLR

comp=Z,96nm,18.5s
EKS2 Erkin-Say 49.58 335 P **P** **20 39 12.1 +1.3**
SNR=7.9
EKS2 Erkin-Say 49.58 335 *e*P **P** **20 39 11.6 +0.8**
comp=Z,10.0nm,0.7s,mb5.0
USP Ospenovka 49.79 336 P **P** **20 39 12.8 +0.4**
SNR=11
STKA Stephens Creek 50.01 132 *e*P **P** **20 39 14.2 0.0**
comp=Z,7.8nm,0.9s,mb4.7
STKA Stephens Creek 50.01 132 P **P** **20 39 14.3 +0.1**
comp=Z,7.9nm,0.8s,mb4.8,baz=297,slow=8.2,SNR=17
MK31 Makanchi Array 50.32 345 *e*P **P** **20 39 16.0 -0.3**
MK31 pmax pmax
comp=Z,9.0nm,0.6s,mb5.0
MK31 Makanchi Array 50.32 345 *e*P **P** **20 39 16.2 -0.1**
MKAR Makanchi Array 50.32 345 P **P** **20 39 16.4 +0.1**
comp=Z,8.2nm,0.6s,mb5.0,baz=148,slow=8.0,SNR=96
MKAR Makanchi Array 50.32 345 P **P** **20 39 16.4 +0.1**
MKAR pmax pmax
comp=Z,8.0nm,0.6s
CN2 Changchun 50.74 24 *e*P **P** **20 39 20.8 +1.3**
KK31 Karatay Array 51.36 333 P **P** **20 39 24.0 -0.2**
KK31 pmax pmax
comp=Z,1.0nm,0.5s,mb4.0
ZAK Zakamensk 51.73 3 *e*P **P** **20 39 19.6 -7.2**
ZAK pmax pmax
comp=Z,3.0nm,1.2s,mb4.1
MJAR Matsushiro Arr 52.26 40 P **P** **20 39 29.9 -1.1**
comp=Z,4.3nm,1.0s,mb4.3,baz=223,slow=8.2,SNR=8.0
MJAR Matsushiro Arr 52.26 40 P **P** **20 39 29.9 -1.1**
MJAR pmax pmax
comp=Z,4.0nm,1.0s
TLY Talaya 53.05 3 *e*P **P** **20 39 36.9 +0.4**
TLY pmax pmax
comp=Z,1.0nm,1.0s,mb3.7
TLY MLR MLR
comp=Z,126nm,15.0s,MS4.1
TLY Talaya 53.05 3 *e*P **P** **20 39 36.1 -0.4**
comp=Z,4.3nm,0.9s,mb4.4
KURK Kurchatov 54.89 344⇑ *e*P **P** **20 39 50.1 +0.1**
KURK pmax pmax
comp=Z,14nm,1.3s,mb4.8
KURK MLR MLR
comp=Z,100nm,16.0s,MS4.0
KURK Kurchatov 54.89 344 *e*P **P** **20 39 48.5 -1.5**
comp=Z,18nm,0.8s,mb5.1
ZAA0 Zalesovo Array 56.50 350 *e*P **P** **20 40 00.9 -0.5**
ZALV Zalesovo Beam 56.50 350 P **P** **20 40 01.4 0.0**
comp=Z,22nm,0.8s,mb5.3,baz=176,slow=5.7,SNR=64
ZALV Zalesovo Beam 56.50 350 P **P** **20 40 01.4 -0.1**
ZALV pmax pmax
comp=Z,22nm,0.8s,mb5.2
ZALV Zalesovo Beam 56.50 350 P **P** **20 40 01.4 0.0**
ARMA Armidale 57.26 126 *e*P **P** **20 40 10.7 +3.4**
KRAR Krasnoyarsk 57.51 356⇓ *e*P **P** **20 40 08.9 +0.4**
KRAR pmax pmax
comp=Z,25nm,0.9s,mb5.2
KRAR MLR MLR
comp=Z,100nm,15.0s,MS4.0
NVS Novosibirsk 57.64 349 *e*P **P** **20 40 07.8 -1.7**
NVS pmax pmax
comp=N,10.0nm,1.2s
NVS pmax pmax
comp=Z,11nm,1.2s,mb4.8
NVS pmax pmax
comp=E,5.0nm,1.1s
RDF Al-Radifah 58.00 306 *e*P **P** **20 40 11.9 -0.7**
baz=306
RDF AMb AMB 20 40 17.4
comp=Z,26nm,0.9s,mb5.3,baz=306
UMR Umm Al-Rimmam 58.10 306 *e*P **P** **20 40 12.5 -0.7**
baz=306
UMR AMb AMB 20 40 16.1
comp=Z,22nm,0.9s,mb5.2,baz=306
NAY Al-Naaiem 58.37 306 *e*P **P** **20 40 14.0 -1.1**
baz=306
NAY AMb AMB 20 40 17.4
comp=Z,10.0nm,0.8s,mb4.9,baz=306
MIB Mutribah 58.50 307 *e*P **P** **20 40 15.5 -0.5**
baz=307
MIB AMb AMB 20 40 21.2
comp=Z,24nm,0.8s,mb5.3,baz=307
RST Umm Al-Ruwaisa 58.66 306 *e*P **P** **20 40 16.1 -1.1**
baz=306
RST AMb AMB 20 40 21.7
comp=Z,14nm,0.7s,mb5.1,baz=306
BVA0 Borovoye Array 59.44 340 P **P** **20 40 21.0 -1.0**
BVA0 pmax pmax
comp=Z,1.0nm,0.6s,mb4.0
BRVK Borovoye 59.50 340 *e*P **P** **20 40 21.1 -1.4**
BRVK pmax pmax
comp=Z,12nm,1.0s,mb4.9
BRVK Borovoye 59.50 340 *e*P **P** **20 40 21.1 -1.4**
comp=Z,12nm,1.0s,mb4.9
BOD Bodaibo 60.23 9 *e*P **P** **20 40 27.2 -0.2**
BOD pmax pmax
comp=Z,14nm,1.1s,mb4.9
HNR Honiara 60.77 100 P **P** **20 40 29.9 -2.1**
HNR pmax pmax
comp=Z,51nm,1.1s,mb5.6
HNR Honiara 60.77 100 P **P** **20 40 29.9 -2.0**
comp=Z,51nm,1.1s,mb5.6
AB31 Akbulak array 60.84 332 *i* P **P** **20 40 30.4 -1.3**
AB31 pmax pmax
comp=Z,6.0nm,0.7s,mb4.8
YSS Yuzh-Sakhalins 61.36 32⇑ *e*P **P** **20 40 34.9 -0.4**
YSS pmax pmax
comp=Z,143nm,2.2s,mb5.7
YSS Yuzh-Sakhalins 61.36 32 P **P** **20 40 35.4 +0.1**
comp=Z,49nm,1.0s,mb5.6
KMBO Kilima Mbogo 62.08 269 P **P** **20 40 42.5 +1.7**
comp=Z,1.5nm,0.6s,mb4.3,baz=35,slow=10,SNR=5.6
KMBO Kilima Mbogo 62.08 269 P **P** **20 40 42.5 +1.7**
KMBO pmax pmax
comp=Z,2.0nm,0.6s
KMBO Kilima Mbogo 62.08 269 P **P** **20 40 42.0 +1.1**
GNI Garni 64.67 316 *i* P **P** **20 40 57.5 +0.1**
GNI pmax pmax
comp=Z,7.0nm,1.3s
GNI MLR MLR
comp=Z,200nm,18.0s
GNI Garni 64.67 316 P **P** **20 40 57.6 +0.1**
comp=Z,6.4nm,0.9s,mb4.7
DGRG David-gareji 64.82 318 P **P** **20 40 59.0 +0.7**
CASY Casey 65.19 175 *e*P **P** **20 41 01.4 +1.1**
comp=Z,7.8nm,1.3s,mb4.6
SVE Sverdlovsk 65.92 338⇑ *e*P **P** **20 41 05.1 -0.1**
SVE *e* pP 20 41 21.6 +1.2
SVE *e*S S 20 49 49.0 +0.8
SVE pmax pmax
comp=Z,14nm,0.8s,mb5.0
ARU Arti 66.44 337⇑ *i*P **P** **20 41 07.4 -1.1**
ARU Arti 66.44 337 *e*P **P** **20 41 06.9 -1.6**
comp=Z,5.4nm,0.8s,mb4.6
ONI Oni 66.60 318 P **P** **20 41 02.6 -7.2**
YAK Yakutsk 67.37 15 *d i*P **P** **20 41 13.1 -1.2**
YAK pmax pmax
comp=Z,35nm,1.2s,mb5.3
YAK MLR MLR
comp=Z,100nm,17.0s,MS4.1
YAK Yakutsk 67.37 15 *e*P **P** **20 41 13.0 -1.3**
comp=Z,36nm,1.0s,mb5.4
KIV Kislovodsk 67.69 319 *e*P **P** **20 41 17.3 +0.6**
KIV *e* 20 41 42.9
KIV pmax pmax
comp=Z,15nm,1.3s,mb4.9
KIV Kislovodsk 67.69 319 *e*P **P** **20 41 15.7 -1.1**
comp=Z,15nm,1.0s,mb5.0
SOC Sochi 69.50 318 *i* P **P** **20 41 29.3 +1.3**
MAW Mawson 70.67 194 *e*P **P** **20 41 31.9 -2.8**
MAW pmax pmax
comp=Z,55nm,2.2s
MAW Mawson 70.67 194 *e*P **P** **20 41 31.9 -2.8**
comp=Z,55nm,2.2s,mb5.1
LSZ Lusaka 71.45 254 P **P** **20 41 40.3 -0.1**
comp=Z,4.3nm,0.8s,mb4.4,baz=59,slow=6.4,SNR=10
LSZ Lusaka 71.45 254 *e*P **P** **20 41 40.9 +0.5**
ANN Anapa 71.49 319 *e*P **P** **20 41 35.1 -5.0**
ANN *e**PP pP 20 41 45.5 -10
ANN *e*S S 20 50 49.3 -5.4
ANN pmax pmax
comp=Z,16nm,1.5s,mb4.7
ANN MLR MLR
comp=Z,256nm,22.0s,MS4.4

VRHR Novokhopersk 71.50 326 *e*P **P** **20 41 38.6 -1.4**
VRHR pmax pmax
comp=N,10.0nm,0.6s
VRHR pmax pmax
comp=Z,10.0nm,0.6s,mb4.9
VRHR pmax pmax
comp=E,20nm,0.5s
BR131 Keskin Array S 72.47 313 *e*P **P** **20 41 44.6 -1.5**
comp=E,1.1nm,0.6s,mb4.0
PETK Petropavlovsk- 72.76 33 P **P** **20 41 47.1 -0.4**
comp=E,4.0nm,0.8s,mb4.4,baz=170,slow=4.0,SNR=5.9
PETK Petropavlovsk- 72.76 33 P **P** **20 41 47.2 -0.3**
PETK pmax pmax
comp=Z,4.0nm,0.8s,mb4.4
VSR Storozhevoye 72.95 325 *e*P **P** **20 41 47.1 -1.6**
VSR pmax pmax
comp=Z,4.0nm,0.8s,mb4.4
VSR pmax pmax
comp=N,3.0nm,0.7s
VSR pmax pmax
comp=E,6.0nm,0.7s
SEY Seymchan 75.36 22⇑ *e*P **P** **20 42 02.5 +0.1**
BOSA Boshof 75.36 241 P **P** **20 42 01.7 -1.6**
comp=E,2.2nm,0.7s,mb4.2,baz=97,slow=14,SNR=3.9
BOSA Boshof 75.36 241 P **P** **20 42 01.7 -1.5**
BOSA pmax pmax
comp=Z,2.0nm,0.7s,mb4.2
BOSA Boshof 75.36 241 P **P** **20 42 01.7 -1.6**
TIXI Tiksi 75.41 9 *e*P **P** **20 42 01.3 -1.3**
TIXI pmax pmax
comp=Z,13nm,1.2s,mb4.7
TIXI Tiksi 75.41 9 *e*P **P** **20 42 01.2 -1.4**
comp=Z,15nm,1.1s,mb4.8
OBN Obninsk 75.98 328⇓ *e*P **P** **20 42 05.9 -0.3**
OBN *e* 20 44 56.2
OBN pmax pmax
comp=Z,24nm,1.6s,mb4.9
OBN MLR MLR
comp=Z,100nm,14.0s,MS4.3
KLMR Klimovskoe 77.04 334 *e*P **P** **20 42 14.9 +2.8**
KLMR pmax pmax
comp=Z,16nm,1.5s,mb4.7
AKASG Malin Array Be 78.64 322 P **P** **20 42 20.3 -0.9**
comp=Z,2.7nm,0.9s,mb4.2,baz=92,slow=4.5,SNR=7.9
AKASG Malin Array Be 78.64 322 *i* P **P** **20 42 20.2 -1.0**
AKASG pmax pmax
comp=Z,3.0nm,0.9s
VRI Vrincioaia 79.00 317⇑ P **P** **20 42 20.7 -2.6**
MLR Muntele Rosu 79.45 317⇑ P **P** **20 42 26.7 +1.0**
BURAR Bucovina Array 80.41 319⇓ P **P** **20 42 31.5 +0.6**
BUR08 Bucovina Ar. S 80.43 319 *e*P **P** **20 42 31.1 +0.2**
VTS Vitosha 80.79 313⇓ P **P** **20 42 33.7 +0.7**
BZS Buzias 82.45 316⇓ P **P** **20 42 41.6 -0.1**
KOLS Kolonicke sedl 82.61 320 *e*P **P** **20 42 43.6 +1.2**
SUW Suwalki 83.05 325 *e*P **P** **20 42 44.6 0.0**
SUW Suwalki 83.05 325 *e*P **P** **20 42 44.6 0.0**
CRVS Cervenica-Dubn 83.13 319 *e*P **P** **20 42 46.0 +0.9**
STHS Stebnicka Huta 83.36 320 *i* P **P** **20 42 47.5 +1.2**
STHS pmax pmax
comp=Z,5.0nm,0.8s,mb4.6
STHS Stebnicka Huta 83.36 320 *i* P **P** **20 42 47.5 +1.2**
comp=Z,4.8nm,0.8s,mb4.6
SBA Scott Base 83.93 169 *e*P **P** **20 42 50.6 +1.9**
SBA pmax pmax
comp=Z,3.0nm,1.1s,mb4.3
SBA Scott Base 83.93 169 *e*P **P** **20 42 50.6 +1.8**
comp=Z,3.4nm,1.1s,mb4.4
PKSM Moragy 84.60 316⇓ P **P** **20 42 52.1 -0.6**
VYHS Vyhne 84.78 319 *e*P **P** **20 42 54.0 +0.4**
ARCES ARCESS Array B 85.73 340 P **P** **20 42 58.2 +0.3**
comp=Z,7.7nm,1.0s,mb4.9,baz=99,slow=5.6,SNR=2.2
ARCES ARCESS Array B 85.73 340 P **P** **20 42 58.2 +0.3**
ARCES pmax pmax
comp=Z,8.0nm,1.0s
ARCES ARCESS Array B 85.73 340 P **P** **20 42 58.2 +0.3**
MORC Moravsky Berou 85.79 320⇑ P **P** **20 42 57.8 -0.8**
ZST Bratislava 85.89 318 *e*P **P** **20 42 57.8 -1.3**
ZST pmax pmax
comp=Z,4.0nm,0.7s,mb4.8
ZST MLR MLR
comp=Z,100nm,16.9s,MS4.3
ZST Bratislava 85.89 318 *e*P **P** **20 42 57.8 -1.3**
comp=Z,3.8nm,0.7s,mb4.7
ZST LR LR
comp=Z,100nm,16.9s,MS4.3
DPC Dobruska-Polom 86.64 320 *e*P **P** **20 43 03.8 +1.0**
UPC Upice 86.85 321 *e*P **P** **20 43 04.6 +0.8**
PRU Pruhonice 87.74 320 *e*P **P** **20 43 08.5 +0.4**
BRG Berggiesshubel 88.20 321 *e*P **P** **20 43 11.0 +0.8**
BRG pmax pmax
comp=Z,2.0nm,0.7s,mb4.5
BRG Berggiesshubel 88.20 321 *e*P **P** **20 43 11.0 +0.7**
comp=Z,2.5nm,0.7s,mb4.6
GEC2 GERESS Array S 88.20 319 *e*P **P** **20 43 09.2 -1.1**
GERES GERESS Array B 88.20 319 P **P** **20 43 10.9 +0.6**
comp=Z,1.4nm,0.7s,mb4.3,baz=86,slow=4.4,SNR=14
GERES GERESS Array B 88.20 319 P **P** **20 43 10.9 +0.6**
GERES pmax pmax
comp=Z,1.0nm,0.7s
KHC Kasperske Hory 88.30 319 *e*P **P** **20 43 11.0 +0.2**
FBE Freiberg 88.57 321 *e*P **P** **20 43 13.2 +1.2**
comp=Z,9.0nm,1.2s,mb5.0
WET Wettzell 88.76 319 *e*P **P** **20 43 13.8 +0.9**
WET pmax pmax
comp=Z,5.0nm,0.7s,mb5.0
WET Wettzell 88.76 319 *e*P **P** **20 43 13.8 +0.9**
comp=Z,5.0nm,0.7s,mb5.0
CLL Collm 88.82 321 *i* P **P** **20 43 13.4 +0.2**
comp=Z,5.0nm,1.1s,mb4.8
CLL *e*pP pP 20 43 23.0 -6.0
CLL Lm 21 01 00.0
comp=N,100nm,21.1s
CLL Lm 21 01 00.0
comp=E,300nm,20.7s
CLL Lm 21 01 00.0
comp=Z,300nm,21.4s
GUNZ Gunzen 89.19 320 *e*P **P** **20 43 15.6 +0.7**
comp=Z,6.0nm,1.2s,mb4.8
WERD Werda 89.21 320 *e*P **P** **20 43 15.8 +0.8**
comp=Z,6.0nm,1.5s,mb4.7
ROTZ Rotzenmuhle 89.24 320 *e*P **P** **20 43 16.1 +0.9**
comp=Z,5.0nm,1.1s,mb4.8
MANZ Manzenberg 89.31 320 *e*P **P** **20 43 16.4 +0.9**
comp=Z,8.0nm,1.0s,mb5.0
NEUB Neuenburg 89.58 321 *e*P **P** **20 43 17.4 +0.6**
comp=Z,13nm,0.9s,mb5.3
MOX Moxa 89.66 320 *e*P **P** **20 43 17.7 +0.6**
comp=Z,15nm,1.6s,mb5.1
GRA1 Grafenberg Arr 89.87 320 *e*P **P** **20 43 18.7 +0.6**
comp=Z,9.0nm,1.0s,mb5.0
GRF Grafenberg Arr 89.87 320 *e*P **P** **20 43 18.7 +0.6**
GRF pmax pmax
comp=Z,9.0nm,1.0s,mb5.0
GRF Grafenberg Arr 89.87 320 *e*P **P** **20 43 18.7 +0.6**
GRF pmax pmax
comp=Z,9.0nm,1.0s,mb5.0
GRF Grafenberg Arr 89.87 320 *e*P **P** **20 43 18.7 +0.6**
comp=Z,9.0nm,1.0s,mb5.0
KEST Kesra 90.83 306 P **P** **20 43 23.9 +0.9**
comp=Z,2.0nm,0.7s,mb4.5,baz=270,slow=4.0,SNR=3.9
TORD Torodi Ar. Bea 97.78 283 P **P** **20 43 55.0 -0.2**
comp=Z,0.3nm,0.9s,mb3.8,baz=72,slow=4.7,SNR=2.5
IMA2 Indian Mountai 98.15 23 P **P** **20 43 59.7 +4.0**
TXAR Lajitas Array 144.65 36 PKP PKPdf 20 49 55.7 -0.7
comp=Z,7.5nm,0.7s,baz=272,slow=1.0,SNR=78
TXAR Lajitas Array 144.65 36 PKIKP PKPdf 20 49 55.7 -0.7
TXAR pmax pmax
comp=Z,8.0nm,0.7s
MIAR Mount Ida 144.92 19 *e*PKIKP PKPdf 20 49 55.5 -1.2
JCT Junction City 145.88 30 *e*PKP2 PKPab 20 49 58.9 -0.7
SWET Sewanee 146.04 8 *e*PKPdf PKPdf 20 49 57.8 -0.8
OXF Oxford 146.10 13 *e*PKP2 PKPab 20 49 59.3 -0.9

*ISCJB **20** 20:49:03.2±0.6,38.30N±004×28.34E±003,h9km±5km, Error ellipse: s-maj=6.0km s-min=4.5km az=169.3*
*DDA **20** 20:49:03.4,38.30N×28.36E,h7km±4km, Md2.9*
*CSEM **20** 20:49:03.2±0.1,38.32N×28.37E,h15km, MD2.9, Error ellipse: s-maj=1.9km s-min=1.6km az=177.0*
*ISK **20** 20:49:03.1,38.33N×28.35E,h10km, MD2.8*
ISC 20 20:49:03.6±0.6,3830N±004×2835E±003,h12km±6km,n15, σ0°40/22,Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
MANT	**Manisa**	**0.25**	**42**	*i* P		**Pg**		**20 49 08.9**	**+0.1**
MANT				*i* S		**Sg**		**20 49 12.3**	**-0.1**
KULA	**Kula-Manisa**	**0.32**	**50**	*e*PG		**Pg**		**20 49 10.2**	**+0.1**
KULA				*e*SG		**Sg**		**20 49 14.4**	**-0.1**
AKHS	**Akhisar**	**0.71**	**324**	*i* P		**Pg**		**20 49 17.9**	**+0.5**
AKHS				*i* S		**Sg**		**20 49 27.5**	**+0.8**
AKS	**Akhisar**	**0.71**	**324**	*e*PG		**Pg**		**20 49 17.3**	**-0.1**
AKS				*e*SG		**Sg**		**20 49 26.5**	**-0.2**
DENT	**Denizli**	**0.77**	**135**	*e*PG		**Pg**		**20 49 18.7**	**+0.1**
DEMI	**Demirci**	**0.79**	**21**	*i* P		**Pg**		**20 49 18.8**	**-0.1**
DEMI				*i* S		**Sg**		**20 49 29.7**	**+0.4**
KDAG	**Bornova**	**0.85**	**277**	*i* P		**Pg**		**20 49 19.9**	**-0.2**
KDAG				*i* S		**Sg**		**20 49 30.4**	**-0.9**
IZM	**Izmir**	**0.86**	**277**	*e*PG		**Pg**		**20 49 20.2**	**0.0**
KHL	**Karahalli**	**0.93**	**88**	*e*PG		**Pg**		**20 49 21.2**	**-0.2**
BLCB	**Balcova**	**1.03**	**275**	*e*PG		**Pg**		**20 49 23.4**	**0.0**
MLSB	**Milas**	**1.10**	**204**	*e*PN		**Pn**		**20 49 24.9**	**+0.1**
YER	**Yerkesik**	**1.17**	**183**	*e*PN		**Pn**		**20 49 26.1**	**+0.4**
GDZ	**Gediz**	**1.18**	**48**	*i* P		**Pn**		**20 49 26.4**	**+0.5**
GDZ				*i* S		**Sb**		**20 49 40.2**	**-1.0**
BALB	**Balikesir**	**1.38**	**345**	*e*PN		**Pn**		**20 49 28.6**	**-0.1**
ALT	**Altintas**	**1.57**	**61**	*e*PN		**Pn**		**20 49 31.4**	**+0.1**

*IDC **20** 21:13:47.0±0.9,1704N×147.18E,h0km,mb3.8/11, mb1 4.0/12,mb1mx4.0/22,mbtmp3.9/12,ML4.2/1,MS3.3/2, Ms1 3.3/2,ms1mx2.9/34, Error ellipse: s-maj=32.5km s-min=15.5km az=88.0*
*ISCJB **20** 21:13:52.4±3.1,1702N±009×1470E±02,h49km±25km, mb3.8/11, Error ellipse: s-maj=34.5km s-min=14.7km az=2.2*
*NEIC **20** 21:13:53.5±2.2,1700N×147.13E,h47km±18km,mb4.2/1, Error ellipse: s-maj=25.5km s-min=11.2km az=88.0*
ISC 20 21:13:53.6±2.9,1700N±009×1471E±02,h47km±24km,n14, σ0°71/14,mb3.8/11,Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**4.01**	**213**	Pn		**Pn**		**21 14 53.0**	**+0.4**
	15nm,0.3s,baz=310,slow=4.1,SNR=14								
GUMO				Sn		**Sn**		**21 15 38.2**	**-0.2**
	12nm,0.3s,baz=196,slow=20,SNR=3.8								
GUMO				LR		LR		21 16 31.3	
	comp=Z,121nm,18.3s,baz=30,slow=40								
MJAR	**Matsushiro Arr**	**20.99**	**340**	P		**P**		**21 18 32.8**	**-0.2**
	3.4nm,0.7s,baz=171,slow=11,SNR=9.9								
KSRS	**Korea Array**	**26.46**	**324**	P		**P**		**21 19 25.4**	**-0.9**
	0.9nm,0.7s,mb3.4,baz=145,slow=7.5,SNR=3.7								
WRA	**Warramunga Arr**	**38.79**	**199**	P		**P**		**21 21 13.8**	**-0.2**
	1.6nm,0.7s,mb3.9,baz=37,slow=9.6,SNR=67								
WRA				PcP		PcP		21 23 25.7	+0.9
	0.6nm,0.6s,baz=15,slow=3.4,SNR=5.0								
FITZ	**Fitzroy Crossi**	**40.77**	**212**	P		**P**		**21 21 30.1**	**-0.4**
	0.8nm,0.9s,mb3.3,baz=23,slow=14,SNR=4.0								
FITZ				LR		LR		21 39 01.4	
	comp=Z,95nm,19.6s,baz=26,slow=37								
ASAR	**Alice Springs**	**42.42**	**198**	P		**P**		**21 21 43.5**	**-0.4**
	0.5nm,0.6s,mb3.3,baz=20,slow=9.2,SNR=13								
ASAR				PcP		PcP		21 23 37.4	+0.9
	0.5nm,0.6s,baz=27,slow=2.7,SNR=6.8								
SONM	**Songino Array**	**45.29**	**322**	P		**P**		**21 22 07.1**	**+0.5**
	0.6nm,0.5s,mb3.6,baz=122,slow=5.4,SNR=3.8								
CMAR	**Chiang Mai Arr**	**45.77**	**279**	P		**P**		**21 22 12.4**	**+1.5**
	1.1nm,0.7s,mb3.9,baz=69,slow=6.6,SNR=11								
ZALV	**Zalesovo Beam**	**60.16**	**323**	P		**P**		**21 23 55.0**	**-1.4**
	0.8nm,0.5s,mb4.0,baz=110,slow=8.1,SNR=5.9								
MKAR	**Makanchi Array**	**60.59**	**314**	P		**P**		**21 23 59.6**	**+0.2**
	0.4nm,0.3s,mb4.0,baz=95,slow=8.2,SNR=7.7								
KBL	**Kabul**	**70.87**	**301**	*e*P		**P**		**21 25 06.8**	**+0.7**
	1.6nm,0.6s,mb4.1								
ARCES	**ARCESS Array B**	**84.50**	**342**	P		**P**		**21 26 20.9**	**-0.4**
	5.1nm,0.9s,mb4.6,baz=30,slow=8.4,SNR=4.3								
ELK	**Elko**	**84.73**	**49**	P		**P**		**21 26 23.8**	**+0.9**
	0.3nm,0.3s,mb4.0,baz=274,slow=13,SNR=2.9								
TORD	**Torodi Ar. Bea**	**134.54**	**309**	PKP		PKPdf		21 33 08.4	+0.7
	0.1nm,0.5s,baz=164,slow=1.5,SNR=4.1								

*IDC **20** 21:19:54.1±1.4,176S×9958E,h0km,mb4.2/11, mb1 4.3/11,mb1mx4.1/20,mbtmp4.2/11, Error ellipse: s-maj=47.6km s-min=15.8km az=59.0*
*ISCJB **20** 21:19:58.0±0.9,16S±0.1×997E±02,h33km,mb4.5/22, Error ellipse: s-maj=28.9km s-min=9.2km az=139.0*
*NEIC **20** 21:19:59.8±0.6,169S×9969E,h35km,mb4.7/11, Error ellipse: s-maj=22.1km s-min=6.4km az=49.0*
ISC 20 21:20:00.3±0.9,17S±01×997E±02,h35km,n34,σ0°65/29, mb4.5/22,1C,Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**4.50**	**350**⇑	*e*P		**Pn**		**21 21 04.6**	**-1.4**
CMAR	**Chiang Mai Arr**	**20.00**	**358**	P		**Pn**		**21 24 28.2**	**-3.7**
	1.9nm,0.6s,baz=187,slow=10,SNR=20								
KAPI	**Kappang**	**20.26**	**100**	P		**P**		**21 24 33.7**	**+0.8**
	4.3nm,0.6s,baz=248,slow=5.4,SNR=3.4								
ODAN	**Odare**	**30.75**	**338**	*e*P		**P**		**21 26 12.5**	**+0.1**
	9.8nm,0.7s,mb4.8								
TAPN	**Taplejung**	**31.08**	**339**	*e*P		**P**		**21 26 15.4**	**+0.2**
	15nm,0.8s,mb4.9								
RAMN	**Ramite**	**31.13**	**337**	*e*P		**P**		**21 26 16.5**	**+0.8**
	11nm,0.7s,mb4.8								
JIRN	**Jiri**	**31.93**	**337**	*e*P		**P**		**21 26 23.5**	**+0.8**
	20nm,0.7s,mb5.0								
LSA	**Lhasa**	**32.24**	**346**	*e*P		**P**		**21 26 26.2**	**+0.7**
	2.0nm,0.4s,mb4.3								
GUN	**Gumba**	**32.27**	**337**	*e*P		**P**		**21 26 25.9**	**+0.1**
	16nm,0.6s,mb5.0								
DMN	**Daman**	**32.32**	**335**	*e*P		**P**		**21 26 26.5**	**+0.3**
	4.2nm,0.7s,mb4.4								
KKN	**Kakani**	**32.41**	**336**	*e*P		**P**		**21 26 26.9**	**-0.1**
	9.8nm,0.8s,mb4.7								
GKN	**Gorkha**	**32.87**	**335**	*e*P		**P**		**21 26 30.6**	**-0.4**
	6.9nm,0.6s,mb4.7								
KOLN	**Koldanda**	**33.12**	**333**	*e*P		**P**		**21 26 33.0**	**-0.2**
	10nm,0.7s,mb4.9								
DANN	**Dangsing**	**33.55**	**334**	*e*P		**P**		**21 26 36.4**	**-0.5**
WRA	**Warramunga Arr**	**38.40**	**121**	P		**P**		**21 27 17.8**	**-0.8**
	4.8nm,0.7s,mb4.3,baz=300,slow=9.0,SNR=29								
ASAR	**Alice Springs**	**39.67**	**126**	P		**P**		**21 27 28.8**	**-0.4**
	2.3nm,0.7s,mb4.0,baz=300,slow=7.5,SNR=34								
KSRS	**Korea Array**	**46.87**	**31**	P		**P**		**21 28 27.5**	**+0.4**
	1.1nm,0.7s,mb3.9,baz=209,slow=6.8,SNR=3.6								
STKA	**Stephens Creek**	**49.58**	**132**	*e*P		**P**		**21 28 48.2**	**+0.1**
	4.4nm,0.8s,mb4.5								
STKA	**Stephens Creek**	**49.58**	**132**	P		**P**		**21 28 48.0**	**-0.2**
	4.3nm,0.7s,mb4.6,baz=314,slow=6.9,SNR=13								
SONM	**Songino Array**	**49.63**	**6**	P		**P**		**21 28 49.6**	**+1.4**
	3.0nm,0.7s,mb4.4,baz=185,slow=8.6,SNR=18								
SONM				PcP		PcP		21 30 08.9	-0.5
	0.7nm,0.7s,baz=174,slow=3.8,SNR=2.7								
MK31	**Makanchi Array**	**50.63**	**345**	*e*P		**P**		**21 28 55.9**	**+0.1**
MKAR	**Makanchi Array**	**50.63**	**345**	P		**P**		**21 28 55.9**	**0.0**
	3.4nm,0.7s,mb4.4,baz=152,slow=8.0,SNR=36								
MJAR	**Matsushiro Arr**	**52.18**	**39**	P		**P**		**21 29 07.9**	**+0.3**
	0.4nm,0.4s,mb3.7,baz=218,slow=8.0,SNR=5.3								
ZAA0	**Zalesovo Array**	**56.78**	**350**	*e*P		**P**		**21 29 40.4**	**-0.4**
ZALV	**Zalesovo Beam**	**56.78**	**350**	P		**P**		**21 29 40.5**	**-0.3**
	8.5nm,0.7s,mb4.9,baz=179,slow=5.7,SNR=45								
NAY	**Al-Naaiem**	**58.81**	**306**	*e*P		**P**		**21 30 01.4**	**+5.9**
	baz=307								
NAY				AMb		AMB		21 30 02.1	
	comp=Z,5.0nm,0.8s,mb4.6,baz=307								
MIB	**Mutribah**	**58.94**	**307**	*e*P		**P**		**21 30 02.5**	**+6.2**
	baz=307								
MIB				AMb		AMB		21 30 03.7	
	comp=Z,9.0nm,0.9s,mb4.8,baz=307								
RST	**Umm Al-Ruwaisa**	**59.10**	**306**	*e*P		**P**		**21 30 03.0**	**+5.5**
	baz=307								
RST				AMb		AMB		21 30 04.2	
	comp=Z,6.0nm,0.8s,mb4.7,baz=307								
PETK	**Petropavlovsk-**	**72.74**	**32**	P		**P**		**21 31 23.9**	**-0.9**
	comp=Z,3.0nm,0.8s,mb4.3,baz=194,slow=2.4,SNR=5.1								
TXAR	**Lajitas Array**	**144.59**	**37**	PKP		PKPdf		21 39 33.0	-0.9
	comp=Z,4.0nm,0.6s,baz=261,slow=1.0,SNR=65								
MIAR	**Mount Ida**	**145.00**	**19**	*e*PKPbc		PKPdf		21 39 33.2	-1.2
JCT	**Junction City**	**145.87**	**31**	*e*PKPdf		PKPdf		21 39 36.5	+0.4
TKL	**Tuckaleechee C**	**146.01**	**5**	PKPbc		PKPbc		21 39 35.5	-1.4
	comp=Z,3.5nm,0.8s,baz=149,slow=7.1,SNR=4.9								
TKL	**Tuckaleechee C**	**146.01**	**5**	PKPbc		PKPbc		21 39 35.5	-1.4

*ISCJB **20** 21:25:27.7±1.6,765S±009×12901E±008,h197km±17km, mb3.5/4, Error ellipse: s-maj=17.6km s-min=9.7km*

az=41.1
NEIC ***20*** *21:25:27.8±2.2, 751S×129.24E, h188km±25km, mb3.9/1, Error ellipse: s-maj=34.2km s-min=16.5km az=55.0*
IDC ***20*** *21:25:29.4±5.2, 761S×128.91E, h195km±52km, mb3.1/3, mb1 3.4/7, mb1mx3.2/17, mbtmp3.3/7, Error ellipse: s-maj=53.7km s-min=19.0km az=48.0*

ISC 20 21:25:27.1±1.4, 766S±009×12907E±008, h173km±15km, n13, σ1958/20, mb3.6/4, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BATI	**Baumata**	**5.92**	**244**	P	**Pn**	**21 26 55.0**	**+2.0**
	15nm,0.3s,baz=94,slow=3.1,SNR=19						
BATI				S	**Sn**	**21 27 59.4**	**-1.0**
	27nm,0.3s,baz=58,slow=19,SNR=10						
KAKA	**Kakadu**	**6.02**	**147**	*e*P	**Pn**	**21 26 54.0**	**-0.3**
	34nm,0.2s						
KAKA				*e*S	**Sn**	**21 28 00.1**	**-2.7**
KAKA	**Kakadu**	**6.02**	**147**	*e*Pn	**Pn**	**21 26 54.2**	**-0.1**
KAKA				*e*Sn	**Sn**	**21 28 01.3**	**-1.5**
FITZ	**Fitzroy Crossi**	**10.91**	**198**	*e*P	**Pn**	**21 28 01.5**	**+2.8**
	3.3nm,0.8s						
FITZ				*e*S	**Sn**	**21 29 58.0**	**-1.8**
FITZ	**Fitzroy Crossi**	**10.91**	**198**	P	**Pn**	**21 28 01.2**	**+2.5**
	0.2nm,0.3s,baz=34,slow=14,SNR=13						
FITZ				S	**Sn**	**21 29 57.7**	**-2.1**
	1.3nm,0.3s,baz=265,slow=20,SNR=7.7						
WRA	**Warramunga Arr**	**13.24**	**158**	P	**Pn**	**21 28 29.8**	**+1.2**
	1.4nm,0.3s,baz=341,slow=12,SNR=36						
WRA				S	**Sn**	**21 30 53.8**	**-1.9**
	1.8nm,0.3s,baz=323,slow=24,SNR=9.5						
WB2	**Warramunga Arr**	**13.24**	**158**	*e*Pn	**Pn**	**21 28 30.1**	**+1.4**
ASAR	**Alice Springs**	**16.58**	**164**	P	**Pn**	**21 29 12.2**	**+2.4**
	0.7nm,0.3s,baz=340,slow=9.8,SNR=41						
ASAR				S	**S**	**21 32 15.6**	**+1.7**
	0.4nm,0.3s,baz=318,slow=16,SNR=7.2						
KSM	**Kuching**	**20.80**	**295**	*e*P	**P**	**21 29 55.7**	**+0.5**
CMAR	**Chiang Mai Arr**	**39.46**	**311**	P	**P**	**21 32 40.5**	**-0.3**
	0.2nm,0.5s,mb3.0,baz=137,slow=6.8,SNR=4.4						
CASY	**Casey**	**59.92**	**189**	*e*P	**P**	**21 35 12.7**	**-1.9**
	5.6nm,0.6s,mb4.6						
MKAR	**Makanchi Array**	**68.27**	**327**	P	**P**	**21 36 09.0**	**-0.3**
	0.2nm,0.3s,mb3.3,baz=117,slow=6.9,SNR=5.4						
KURK	**Kurchatov**	**72.60**	**329**	P	**P**	**21 36 33.5**	**-2.0**
	0.3nm,0.3s,mb3.5,baz=120,slow=5.2,SNR=2.4						

IDC 20 21:31:09.0±15.0, 433N×12344E, h166km±149km, mb3.6/5, mb1 3.8/6, mb1mx3.4/20, mbtmp3.7/6, ML4.7/1, Error ellipse: s-maj=155.9km s-min=19.8km az=59.0, Celebes Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BATI	**Baumata**	**14.44**	**179**	P	Pn	21 34 26.1	+0.1
	3.3nm,0.3s,baz=312,slow=18,SNR=3.5						
FITZ	**Fitzroy Crossi**	**22.39**	**174**	P	P	21 35 53.4	-0.5
	0.8nm,0.7s,baz=0.5,slow=16,SNR=3.1						
WRA	**Warramunga Arr**	**26.39**	**156**	P	P	21 36 30.6	+0.4
	2.3nm,0.3s,baz=336,slow=9.6,SNR=20						
ASAR	**Alice Springs**	**29.64**	**160**	P	P	21 36 59.4	+0.3
	1.1nm,0.3s,baz=339,slow=7.6,SNR=17						
STKA	**Stephens Creek**	**39.94**	**156**	P	P	21 38 26.6	-0.6
	1.5nm,0.4s,baz=1.4,slow=6.0,SNR=5.7						
MKAR	**Makanchi Array**	**55.22**	**327**	P	P	21 40 24.8	0.0
	1.1nm,0.4s,baz=125,slow=7.7,SNR=18						

SZGRF ***20*** *21:40:02.6, 1673S×174.20W, h33km, Tonga Islands*
ISCJB ***20*** *21:40:05.5±1.4, 1650S±006×174.15W±006, h68km±12km, mb4.7/60, Error ellipse: s-maj=11.8km s-min=6.3km az=139.0*
MOS ***20*** *21:40:07.0±1.6, 1647S×174.14W, h73km, mb5.0/19, Error ellipse: s-maj=12.6km s-min=9.0km az=52.0*
GCMT ***20*** *21:40:07.7±0.3, 1650S×173.74W, h140km±3km, MW5.0/80, Moment Tensor Solution. s30,c33; s80,c115; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}2.59±.18; $M_{\theta\theta}$-2.68±.23; $M_{\phi\phi}$0.09±.24; $M_{r\theta}$-1.63±.15; $M_{\theta\phi}$-1.69±.20; $M_{\phi r}$-2.84±.13; Best double couple: $M_0$4.53000×10^{16} NP1:ϕ_s91.00000°,δ30.00000°,λ138.00000°. NP2: ϕ_s219.00000°,δ70.00000°,λ67.00000°. Principal axes: T 4.4740, Plg58.0000°, Azm98.0000°; N 0.1120, Plg22.0000°, Azm227.0000°; P -4.5850, Plg22.0000°, Azm327.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
IDC ***20*** *21:40:08.2±2.4, 1654S×174.08W, h82km±20km, mb4.3/21, mb1 4.4/23, mb1mx4.4/25, mbtmp4.3/23, MS3.8/10, Ms1 3.8/10, ms1mx3.6/24 Error ellipse: s-maj=15.8km s-min=9.9km az=131.0*
NEIC ***20*** *21:40:09.6±0.1, 1652S×174.12W, mb4.9/40, Error ellipse: s-maj=8.3km s-min=4.5km az=143.0*
BJI ***20*** *21:40:12.3, 1660S×175.00W, h95km, mB5.2, mb5.0*
DJA ***20*** *21:40:50, 1805S×175.59W, h389km, mb4.5/6*

ISC 20 21:40:07.9±1.3, 1653S±006×17413W±006, h76km±11km, h100km±3.5km; pP-P, n273, σ078/145, mb4.7/60, 17C-6D, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**3.46**	**41**	P	**Pn**	**21 40 59.4**	**0.0**
	234nm,0.3s,baz=185,slow=0.5,SNR=256						
AFI				S	**Sn**	**21 41 34.7**	**-4.5**
	429nm,0.3s,baz=46,slow=21,SNR=17						
AFI	**Afiamalu**	**3.46**	**41**	P	**Pn**	**21 40 59.4**	**0.0**
AFI				S	**Sn**	**21 41 34.7**	**-4.5**
AFI				pmax	pmax		
	comp=Z,234nm,0.3s						
AFI				smax			
	comp=N,429nm,0.3s						
AFI	**Afiamalu**	**3.46**	**41**	P	**Pn**	**21 40 59.4**	**0.0**
AFI				S	**Sn**	**21 41 34.7**	**-4.5**
RAR	**Rarotonga**	**14.36**	**111**	P	**Pn**	**21 43 27.4**	**0.0**
	comp=N,11nm,0.3s,baz=256,slow=8.2,SNR=23						
RAR				S	**Sn**	**21 45 56.0**	**-9.4**
	comp=N,1.0nm,0.3s,baz=120,slow=16,SNR=2.3						
RAR				LR	LR	21 48 02.6	
	comp=N,219nm,19.9s,baz=155,slow=33						
RAR	**Rarotonga**	**14.36**	**111**	*e*Pn	**Pn**	**21 43 28.4**	**+1.1**
URZ	**Urewera**	**22.97**	**198**	P	**P**	**21 45 05.7**	**-0.3**
	comp=N,19nm,0.5s,mb4.7,baz=356,slow=6.0,SNR=16						
URZ				S	**S**	**21 49 10.8**	**+0.4**
	comp=N,6.4nm,0.8s,baz=202,slow=19,SNR=2.5						
PPT	**Papeete**	**23.49**	**96**	*e*LR	LR	21 50 36.8	
	comp=N,399nm,31.8s						
PPT	**Papeete**	**23.49**	**96**	LR	LR	21 51 34.2	
	comp=N,145nm,20.6s,baz=256,slow=29						
TBI	**Tubuai**	**24.14**	**110**	*e*LQ		21 50 16.7	
	comp=N,680nm,29.2s						
TBI				*e*LR	LR	21 51 02.8	
	comp=N,511nm,35.2s						
HNR	**Honiara**	**26.21**	**282**	LR	LR	21 54 19.3	
	comp=N,352nm,21.5s,baz=109,slow=32						
RPZ	**Rata Peaks**	**29.87**	**202**	P	**P**	**21 46 09.2**	**+1.1**
	comp=N,31nm,1.1s,mb4.8,baz=13,slow=16,SNR=3.7						
EIDS	**Eidsvold**	**33.58**	**249**	*e*P	**P**	**21 46 45.2**	**+4.3**
ARMA	**Armidale**	**34.17**	**240**	*e*P	**P**	**21 46 46.5**	**+0.6**
RKT	**Rikitea**	**37.33**	**107**	*e*LR	LR	21 57 06.2	
	comp=N,208nm,34.8s						
CNB	**Canberra Magne**	**37.51**	**233**	*e*P	**P**	**21 47 14.1**	**-0.4**
CTA	**Charters Tower**	**37.72**	**258**	P	**P**	**21 47 16.4**	**-0.1**
	comp=N,6.1nm,0.9s,mb4.5,baz=113,slow=9.2,SNR=3.2						
CTA	**Charters Tower**	**37.72**	**258**	P	**P**	**21 47 16.4**	**0.0**
CTA				pmax	pmax		
	comp=Z,6.0nm,0.9s						
TOO	**Toolangi**	**41.21**	**231**	*e*P	**P**	**21 47 44.6**	**-0.7**
STKA	**Stephens Creek**	**42.87**	**241**	*e*P	**P**	**21 47 58.7**	**-0.2**
	comp=Z,12nm,1.0s,mb4.6						
STKA	**Stephens Creek**	**42.87**	**241**	P	**P**	**21 47 58.9**	**0.0**
	comp=Z,20nm,1.0s,mb4.8,baz=89,slow=8.2,SNR=22						
WB2	**Warramunga Arr**	**48.90**	**258**	*e*P	**P**	**21 48 45.9**	**-0.6**
WRAB	**Tennant Creek**	**48.91**	**258**	*e*P	**P**	**21 48 46.6**	**+0.1**
WRAB				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.4						
WRAB	**Tennant Creek**	**48.91**	**258**	*e*P	**P**	**21 48 45.9**	**-0.6**
	comp=Z,3.3nm,0.6s,mb4.4						
WRA	**Warramunga Arr**	**48.91**	**258**	P	**P**	**21 48 45.5**	**-1.1**
	comp=Z,2.6nm,0.5s,mb4.4,baz=94,slow=7.4,SNR=44						
WRA	**Warramunga Arr**	**48.91**	**258**	P	**P**	**21 48 45.5**	**-1.1**
WRA				pmax	pmax		
	comp=Z,3.0nm,0.5s						
ASAR	**Alice Springs**	**49.10**	**253**	P	**P**	**21 48 47.2**	**-0.7**
	comp=Z,9.9nm,0.6s,mb4.9,baz=86,slow=8.2,SNR=100						
ASAR	**Alice Springs**	**49.10**	**253**	P	**P**	**21 48 47.3**	**-0.7**
ASAR				pmax	pmax		
	comp=Z,10.0nm,0.6s						
KAKA	**Kakadu**	**51.73**	**267**	*e*P	**P**	**21 49 04.4**	**-3.5**
	comp=Z,7.6nm,0.6s,mb4.9						
FITZ	**Fitzroy Crossi**	**57.30**	**259**	*e*P	**P**	**21 49 48.6**	**+0.4**
	comp=Z,7.6nm,2.0s,mb4.4						
FITZ	**Fitzroy Crossi**	**57.30**	**259**	P	**P**	**21 49 48.2**	**-0.1**
	comp=Z,1.2nm,0.5s,mb4.2,baz=90,slow=8.1,SNR=11						
FITZ				LR	LR	22 10 35.7	
	comp=Z,59nm,21.8s,baz=287,slow=32						
SBA	**Scott Base**	**62.07**	**185**	*e*P	**P**	**21 50 22.1**	**+2.0**
SBA				pmax	pmax		
	comp=Z,19nm,1.0s,mb5.1						
SBA	**Scott Base**	**62.07**	**185**	*e*P	**P**	**21 50 22.1**	**+2.0**
	comp=Z,19nm,1.0s,mb5.1						
MBWA	**Marble Bar**	**62.38**	**254**	*e*P	**P**	**21 50 22.6**	**-0.5**
	comp=Z,5.5nm,0.6s,mb4.8						
CASY	**Casey**	**69.09**	**205**	*e*P	**P**	**21 51 05.3**	**-0.1**
	comp=Z,11nm,1.2s,mb4.6						
MJAR	**Matsushiro Arr**	**69.36**	**320**	P	**P**	**21 51 07.0**	**-0.5**
	comp=Z,1.3nm,0.5s,mb4.0,baz=147,slow=6.1,SNR=11						
MJAR				LR	LR	22 22 16.4	
	comp=Z,60nm,18.4s,baz=240,slow=36						
MJAR	**Matsushiro Arr**	**69.36**	**320**	P	**P**	**21 51 07.0**	**-0.5**
MJAR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
MJAR				MLR	MLR		
	comp=Z,60nm,18.4s						
JOW	**Kunigami**	**70.59**	**307**	LR	LR	22 20 31.2	
	comp=Z,67nm,19.8s,baz=30,slow=34						
KKM	**Kota Kinabalu**	**72.42**	**282**	*e*P	**P**	**21 51 27.1**	**+0.6**
	comp=Z,7.2nm,0.8s,mb4.5						
PETK	**Petropavlovsk-**	**73.49**	**343**	P	**P**	**21 51 32.0**	**0.0**
	comp=Z,2.2nm,0.6s,mb4.2,baz=132,slow=8.6,SNR=2.4						
PETK	**Petropavlovsk-**	**73.49**	**343**	P	**P**	**21 51 32.0**	**0.0**
PETK				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.1						
ISA	**Isabella**	**73.95**	**44**	*e*P	**P**	**21 51 35.7**	**+0.6**
ISA				pmax	pmax		
	comp=Z,25nm,1.5s,mb4.7						
ISA	**Isabella**	**73.95**	**44**	*e*P	**P**	**21 51 35.7**	**+0.6**
	comp=Z,25nm,1.5s,mb4.7						
CMB	**Columbia Colle**	**74.07**	**41**	*e*P	**P**	**21 51 35.6**	**-0.2**
CMB				pmax	pmax		
	comp=Z,23nm,1.5s,mb4.7						
CMB	**Columbia Colle**	**74.07**	**41**	*e*P	**P**	**21 51 35.6**	**-0.2**
	comp=Z,23nm,1.5s,mb4.7						
OHCM	**Honcut**	**74.17**	**40**	*e*P	**P**	**21 51 35.3**	**-1.0**
WDC	**Whiskeytown Da**	**74.30**	**38**	*e*P	**P**	**21 51 37.5**	**+0.5**
MTUM	**Tungsten Hills**	**74.85**	**43**	*e*P	**P**	**21 51 41.0**	**+0.7**
YBH	**Yreka Blue Hor**	**74.92**	**37**	P	**P**	**21 51 40.8**	**+0.2**
	comp=Z,9.1nm,0.5s,mb4.8,baz=187,slow=5.4,SNR=35						
YBH	**Yreka Blue Hor**	**74.92**	**37**	P	**P**	**21 51 40.8**	**+0.2**
YBH				pmax	pmax		
	comp=Z,9.0nm,0.5s						
WAKR	**Walker**	**74.95**	**42**	*e*P	**P**	**21 51 41.3**	**+0.4**
NVAR	**Mina Array Bea**	**75.63**	**42**	P	**P**	**21 51 45.0**	**+0.3**
	comp=Z,2.4nm,0.7s,mb4.0,baz=228,slow=7.6,SNR=8.5						
TPH	**Tonopah**	**76.13**	**43**	*e*P	**P**	**21 51 47.8**	**+0.2**
TPH				pmax	pmax		
	comp=Z,34nm,1.7s,mb4.8						
TPH	**Tonopah**	**76.13**	**43**	*e*P	**P**	**21 51 47.8**	**+0.1**
	comp=Z,34nm,1.7s,mb4.8						
TPNV	**Topopah Spring**	**76.15**	**44**	*e*P	**P**	**21 51 48.1**	**+0.3**
KDAK	**Kodiak Island**	**76.17**	**12**	P	**P**	**21 51 46.5**	**-0.8**
	comp=Z,7.3nm,0.8s,mb4.5,baz=186,slow=9.2,SNR=4.4						
KDAK	**Kodiak Island**	**76.17**	**12**	P	**P**	**21 51 46.5**	**-0.8**
KDAK				pmax	pmax		
	comp=Z,7.0nm,0.8s,mb4.4						
KDAK	**Kodiak Island**	**76.17**	**12**	P	**P**	**21 51 46.5**	**-0.8**
MOD	**Modoc**	**76.44**	**38**	*e*P	**P**	**21 51 49.4**	**+0.2**
KSRS	**Korea Array**	**76.48**	**316**	P	**P**	**21 51 50.8**	**+1.2**
	comp=Z,2.1nm,0.8s,mb3.9,baz=116,slow=5.7,SNR=6.2						
KSRS				LR	LR	22 22 43.6	
	comp=Z,31nm,19.8s,baz=97,slow=33						
KSRS	**Korea Array**	**76.48**	**316**	P	**P**	**21 51 50.8**	**+1.2**
KSRS				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb3.9						
KSRS				MLR	MLR		
	comp=Z,31nm,19.8s						
KSM	**Kuching**	**76.60**	**276**	*e*P	**P**	**21 51 50.8**	**0.0**
	comp=Z,34nm,1.4s,mb4.9						
SHPR	**Sheep Range**	**76.65**	**45**	*e*P	**P**	**21 51 51.0**	**+0.5**
WVOR	**Wild Horse Val**	**77.75**	**39**	*e*P	**P**	**21 51 52.6**	**-4.0**
WVOR				pmax	pmax		
	comp=Z,31nm,0.8s,mb5.1						
WVOR	**Wild Horse Val**	**77.75**	**39**	*e*P	**P**	**21 51 52.6**	**-4.0**
	comp=Z,31nm,0.8s,mb5.1						
CCUT	**Cedar City**	**78.42**	**45**	*e*P	**P**	**21 52 00.7**	**+0.3**
	comp=Z,23nm,1.6s,mb4.7						
ARUT	**Antelope Range**	**78.49**	**45**	*e*P	**P**	**21 52 01.1**	**+0.2**
	comp=Z,7.9nm,0.7s,mb4.5						
ELK	**Elko**	**78.89**	**42**	*e*P	**P**	**21 52 03.0**	**+0.1**
MSU	**Marysvale**	**79.72**	**45**	*e*P	**P**	**21 52 08.5**	**+1.0**
BMO	**Blue Mountains**	**79.94**	**37**	*e*P	**P**	**21 52 08.3**	**-0.3**
PMR	**Palmer**	**80.37**	**12**	*e*P	**P**	**21 52 10.7**	**+0.3**
PMR				pmax	pmax		
	comp=Z,38nm,1.7s,mb5.0						
PMR	**Palmer**	**80.37**	**12**	*e*P	**P**	**21 52 10.7**	**+0.3**
	comp=Z,38nm,1.7s,mb4.9						
HLID	**Hailey**	**80.94**	**39**	*e*P	**P**	**21 52 14.3**	**+0.4**
CN2	**Changchun**	**81.51**	**320**	*e*P	**P**	**21 52 20.8**	**+3.9**
BNM	**Barren Site**	**81.58**	**51**	*e*P	**P**	**21 52 13.4**	**-4.2**
	comp=Z,9.9nm,0.7s,mb4.8						
LPM	**Los Pinos Moun**	**81.65**	**51**	*e*P	**P**	**21 52 18.5**	**+0.6**
	comp=Z,22nm,1.7s,mb4.7						
HWUT	**Hardware Ranch**	**81.70**	**42**	*e*P	**P**	**21 52 17.7**	**-0.3**
	comp=Z,3.2nm,0.7s,mb4.3						
PV10	**Paradox Valley**	**81.80**	**46**	*e*P	**P**	**21 52 18.7**	**+0.1**
TXAR	**Lajitas Array**	**81.82**	**56**	P	**P**	**21 52 19.2**	**+0.3**
	comp=Z,0.8nm,0.6s,mb3.7,baz=224,slow=7.0,SNR=17						
TXAR				LR	LR	22 20 03.2	
	comp=Z,72nm,20.9s,baz=0.0,slow=29						
TXAR	**Lajitas Array**	**81.82**	**56**	P	**P**	**21 52 19.2**	**+0.3**
TXAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
TXAR				MLR	MLR		
	comp=Z,72nm,21.0s						
TRF	**Thorofare Moun**	**81.86**	**11**	*e*P	**P**	**21 52 17.4**	**-0.9**
	comp=Z,11nm,0.9s,mb4.7						
PV01	**Paradox Valley**	**82.00**	**46**	*e*P	**P**	**21 52 19.6**	**-0.1**
	comp=Z,2μm,0.8s						
NEW	**Newport**	**82.03**	**34**	*e*P	**P**	**21 52 18.6**	**-1.0**
NEW				pmax	pmax		
	comp=Z,2.0nm,0.7s						
NEW	**Newport**	**82.03**	**34**	*e*P	**P**	**21 52 18.6**	**-1.0**
	comp=Z,1.8nm,0.7s,mb4.0						
ANMO	**Albuquerque**	**82.06**	**50**	*e*P	**P**	**21 52 20.4**	**+0.3**
ANMO				pmax	pmax		
	comp=Z,10.0nm,1.2s						
ANMO	**Albuquerque**	**82.06**	**50**	*e*P	**P**	**21 52 20.4**	**+0.3**
	comp=Z,10.0nm,1.2s,mb4.5						
MCK	**McKinley**	**82.36**	**11**	*e*P	**P**	**21 52 20.3**	**-0.6**
GDL2	**Guadalupe Moun**	**82.45**	**53**	*e*P	**P**	**21 52 22.8**	**+0.7**
MCMT	**McKenzie Canyo**	**82.57**	**39**	*e*P	**P**	**21 52 22.9**	**+0.4**
	comp=Z,3.5nm,0.8s,mb4.2						
RRI2	**Red Ridge**	**82.74**	**41**	*e*P	**P**	**21 52 23.4**	**0.0**
	comp=Z,30nm,1.3s,mb5.0						
MSO	**Missoula**	**83.00**	**37**	*e*P	**P**	**21 52 24.5**	**-0.2**
DLMT	**Dillon**	**83.00**	**39**	*e*P	**P**	**21 52 24.5**	**-0.2**
	comp=Z,40nm,1.6s,mb5.0						
REDW	**Red Top Meadow**	**83.04**	**41**	*e*P	**P**	**21 52 25.1**	**+0.1**
BSMT	**Bassoo Peak**	**83.08**	**36**	*e*P	**P**	**21 52 24.5**	**-0.6**
SNOW	**Snow King Moun**	**83.16**	**41**	*e*P	**P**	**21 52 25.9**	**+0.4**
IMW	**Indian Meadow**	**83.26**	**41**	*e*P	**P**	**21 52 26.1**	**+0.1**
	comp=Z,10nm,0.6s,mb4.8						
MOOW	**Moose Ponds**	**83.31**	**41**	*e*P	**P**	**21 52 26.5**	**+0.2**
	comp=Z,33nm,1.8s,mb4.9						
LOHW	**Long Hollow**	**83.33**	**41**	*e*P	**P**	**21 52 26.1**	**-0.3**
	comp=Z,30nm,1.6s,mb4.9						
QLMT	**Earthquake Lak**	**83.43**	**40**	*e*P	**P**	**21 52 27.7**	**+0.7**
BW06	**Boulder Array**	**83.57**	**42**	*e*P	**P**	**21 52 26.9**	**-0.8**
	comp=Z,50nm,1.9s,mb5.0						
PDAR	**Pinedale Array**	**83.57**	**42**	P	**P**	**21 52 26.9**	**-0.8**
	comp=Z,5.1nm,0.6s,mb4.6,baz=212,slow=3.3,SNR=55						
PDAR				LR	LR	22 26 44.5	
	comp=Z,66nm,19.0s,baz=171,slow=34						
SMCO	**Snowmass**	**83.60**	**46**	*e*P	**P**	**21 52 25.4**	**-2.5**
COLA	**College**	**83.60**	**11**	*e*P	**P**	**21 52 26.5**	**-0.8**
COLA				pmax	pmax		
	comp=Z,13nm,0.8s,mb4.8						
COLA	**College**	**83.60**	**11**	*e*P	**P**	**21 52 26.5**	**-0.8**
	comp=Z,13nm,0.8s,mb4.8						
YFT	**Old Faithful**	**83.60**	**40**	*e*P	**P**	**21 52 28.3**	**+0.5**
YMR	**Madison River**	**83.64**	**40**	*e*P	**P**	**21 52 28.3**	**+0.3**
	comp=Z,16nm,0.7s,mb5.0						
IMA2	**Indian Mountai**	**83.78**	**8**	*e*P	**P**	**21 52 27.3**	**-0.8**
YNR	**Norris Junctio**	**83.83**	**40**	*e*P	**P**	**21 52 29.7**	**+0.7**
HRY	**Holter Researc**	**84.17**	**38**	*e*P	**P**	**21 52 30.5**	**-0.2**
WALA	**Waterton Lakes**	**84.24**	**35**	*e*P	**P**	**21 52 30.8**	**-0.2**
	comp=Z,13nm,1.3s,mb4.6						
DAWY	**Dawson**	**84.69**	**15**	*e*P	**P**	**21 52 32.8**	**-0.1**
ISCO	**Idaho Springs**	**84.82**	**46**	*e*P	**P**	**21 52 35.0**	**+0.9**
RLMT	**Red Lodge**	**84.91**	**40**	*e*P	**P**	**21 52 34.6**	**+0.2**
	comp=Z,34nm,1.8s,mb5.0						
CMIG	**Matias Romero**	**84.92**	**71**	P	**P**	**21 52 34.4**	**-0.7**
	comp=Z,2.4nm,0.8s,mb4.2,baz=302,slow=8.7,SNR=3.2						
BJI	**Beijing**	**85.74**	**314**	P	**P**	**21 52 39.9**	**+1.2**
BJI				S	S	22 03 01.6	-3.8
BJI				SS	SS	22 08 43.3	-0.8
BJI				AMB	AMB		
	comp=Z,18nm,0.9s,mb5.0						
BJI				AMB	AMB		
	comp=Z,104nm,3.6s						
BJI	**Beijing**	**85.74**	**314**	P	**P**	**21 52 39.9**	**+1.2**
	comp=Z,18nm,0.9s,mb5.0						
BJI				S	S	22 03 01.6	-3.8
BJI				SS	SS	22 08 43.2	-0.9
MAW	**Mawson**	**86.50**	**199**	P	**P**	**21 52 41.7**	**-0.3**
	comp=Z,2.9nm,0.4s,mb4.5,baz=142,slow=4.9,SNR=23						
MAW	**Mawson**	**86.50**	**199**	P	**P**	**21 52 41.7**	**-0.3**
MAW				pmax	pmax		
	comp=Z,3.0nm,0.4s						
MAW	**Mawson**	**86.50**	**199**	*e*P	**P**	**21 52 41.6**	**-0.4**
	comp=Z,0.6nm,0.5s,mb3.8						
EDM	**Edmonton**	**86.81**	**32**	*e*P	**P**	**21 52 42.7**	**-0.9**
GYA	**Guiyang**	**87.96**	**298**	P	**P**	**21 52 49.8**	**0.0**
GYA				AP	pP	21 53 17.3	+6.8
GYA				XP	sP	21 53 26.0	+7.3
GYA				PP	PP	21 56 20.4	+3.1
GYA				SKS		22 03 07.9	
GYA				AMB	AMB		
	comp=Z,20nm,1.0s,mb5.1						
GYA				AMB	AMB		
	comp=Z,120nm,5.2s						
GYA				LR	LR		
	comp=N,490nm,20.4s						
GYA				LR	LR		
	comp=E,330nm,21.6s						
GYA				LR	LR		
	comp=Z,440nm,20.0s						
PLCA	**Paso Flores**	**89.27**	**132**	P	**P**	**21 52 54.3**	**-1.5**
	comp=Z,4.4nm,1.2s,mb4.4,baz=297,slow=4.5,SNR=3.0						
PLCA				LR	LR	22 25 55.9	
	comp=Z,76nm,19.3s,baz=16,slow=31						
PLCA	**Paso Flores**	**89.27**	**132**	*e*P	**P**	**21 52 55.5**	**-0.3**
PLCA				pmax	pmax		
	comp=Z,66nm,2.3s						
PLCA	**Paso Flores**	**89.27**	**132**	*e*P	**P**	**21 52 55.5**	**-0.3**
	comp=Z,66nm,2.3s,mb5.3						
HHC	**Hu-ho-hao-te**	**89.28**	**313**	*e*P	**P**	**21 52 57.0**	**+1.3**
HHC				AP	pP	21 53 23.9	+7.5
HHC				XP	sP	21 53 33.5	+8.9
HHC				PP	PP	21 56 31.0	+3.4
HHC				SKS		22 03 16.1	
HHC				S	S	22 03 37.8	-1.4
HHC				XS	sS	22 04 21.9	+7.3
HHC				AMB	AMB		
	comp=Z,24nm,1.0s,mb5.2						
HHC				AMB	AMB		
	comp=Z,114nm,6.4s						
HHC				LR	LR		
	comp=N,132nm,18.5s						
HHC				LR	LR		
	comp=E,108nm,16.6s						
HHC				LR	LR		
	comp=Z,92nm,20.0s						
INK	**Inuvik**	**89.53**	**14**	*e*P	**P**	**21 52 56.0**	**-0.2**
	comp=Z,200nm,1.1s						
YAK	**Yakutsk**	**89.87**	**337**	*e*P	**P**	**21 52 58.1**	**+0.2**
YAK				pmax	pmax		
	comp=Z,5.0nm,0.5s,mb4.9						
YAK	**Yakutsk**	**89.87**	**337**	*e*P	**P**	**21 52 58.0**	**+0.1**
	comp=Z,4.8nm,0.5s,mb4.9						
KMI	**Kunming**	**90.89**	**296**	P	**P**	**21 53 04.9**	**+1.4**
KMI				AP	pP	21 53 28.5	+4.2
KMI				S	S	22 03 50.5	-4.2
KMI				AMB	AMB		
	comp=Z,6.0nm,0.9s,mb4.7						
KMI				LR	LR		
	comp=N,143nm,11.7s						
KMI				LR	LR		
	comp=E,179nm,11.7s						
KMI				LR	LR		
	comp=Z,179nm,13.2s						
KMI	**Kunming**

comp=Z,1.0nm,0.5s
KURK Kurchatov 113.53 319 ⇑iPKIKP PKiKP 21 58 38.9 +1.8
KBL Kabul 121.13 301 ePKIKP PKPdf 21 58 52.2 -0.1
ARU Arti 123.93 328 ePKIKP PKPdf 21 58 56.3 -0.6
ARU Arti 123.93 328 ePKPdf PKPdf 21 58 56.3 -0.7
ARCES ARCESS Array B 125.63 352 PKP PKPdf 21 58 59.2 -0.6
comp=Z,5.9nm,0.9s,baz=18,slow=3.7,SNR=6.3
ARCES ARCESS Array B 125.63 352 PKIKP PKPdf 21 58 59.2 -0.6
ARCES pmax pmax
comp=Z,6.0nm,0.9s
ARCES ARCESS Array B 125.63 352 PKP PKPdf 21 58 59.2 -0.6
BOSA Boshof 131.36 203 PKP PKPdf 21 59 12.5 +0.4
comp=Z,1.9nm,0.6s,baz=213,slow=1.8,SNR=4.3
BOSA Boshof 131.36 203 PKIKP PKPdf 21 59 12.5 +0.4
BOSA pmax pmax
comp=Z,2.0nm,0.6s
KIV Kislovodsk 138.61 319 ePKIKP PKPdf 21 59 25.3 +0.2
KIV Kislovodsk 138.61 319 ePKPdf PKPdf 21 59 25.3 +0.3
GNI Garni 138.94 313 ePKIKP PKPdf 21 59 26.3 +0.5
AKASG Malin Array Be 141.10 336 PKhKP 21 59 23.8
comp=Z,0.6nm,0.4s,baz=36,slow=4.2,SNR=3.7
AKASG Malin Array Be 141.10 336 PKHKP 21 59 23.8
AKASG pmax pmax
comp=Z,1.0nm,0.4s
KWP Kalwaria 144.28 341 ⇑PKHKP 21 59 31.5
IBBN Ibbenburen 144.28 358 ePKPbc PKPdf 21 59 32.8 -2.1
KMBO Kilima Mbogo 144.41 243 PKhKP 21 59 31.5
comp=Z,1.4nm,0.4s,baz=229,slow=24,SNR=7.9
KMBO PKP PKPdf 21 59 35.6 -0.8
comp=Z,1.4nm,0.4s,baz=79,slow=4.8,SNR=7.8
KMBO Kilima Mbogo 144.41 243 PKHKP 21 59 31.5
KMBO 21 59 35.6
KMBO pmax pmax
comp=Z,1.0nm,0.4s
KMBO pmax pmax
comp=Z,1.0nm,0.4s
KMBO Kilima Mbogo 144.41 243 PKP PKPdf 21 59 31.5 -4.9
KMBO ePKPdf PKPdf 21 59 35.7 -0.7
OJC Ojcow 144.57 345 ePKP PKPdf 21 59 34.1 -1.4
CLZ Clausthal 144.59 355 ePKPbc PKPdf 21 59 33.7 -1.8
WTSB Winterswijk 144.64 359 eP PKPdf 21 59 33.8 -1.8
comp=Z,19nm,2.0s
KSP Ksiaz 144.77 349 ePKIKP PKPdf 21 59 34.3 -1.5
CLL Collm 144.84 352 ePKIKP PKPdf 21 59 34.2 -1.8
CLL Collm 144.84 352 ePKPdf PKPdf 21 59 35.0 -1.0
comp=Z,5.0nm,0.7s
STHS Stebnicka Huta 144.90 342 ePKP PKPdf 21 59 34.7 -1.4
KOLS Kolonicke sedl 145.03 341 ePKP PKPdf 21 59 34.6 -1.7
BUR08 Bucovina Ar. S 145.13 337 ePKPbc PKPbc 21 59 36.1 -0.1
BRG Berggiesshubel 145.14 351 ePKP2 PKPab 21 59 33.5 -2.7
BRG pmax pmax
comp=Z,5.0nm,1.2s
BRG Berggiesshubel 145.14 351 ePKPbc PKPbc 21 59 36.1 0.0
BRG Berggiesshubel 145.14 351 eP PKPbc 21 59 33.5 -2.6
comp=Z,8.0nm,1.2s
UPC Upice 145.14 349 ePKP PKPdf 21 59 35.6 -0.9
BURAR Bucovina Array 145.14 337 ⇓PKIKP PKPdf 21 59 36.0 -0.6
BUG Bochum–Univer 145.16 358 ePKPbc PKPbc 21 59 36.3 +0.1
NIE Niedzica 145.16 343 ePKP PKPdf 21 59 36.3 -0.3
DPC Dobruska-Polom 145.23 348 ePKP PKPdf 21 59 36.2 -0.5
UZH Uzhgorod 145.29 341 ⇑iPKP2 PKPab 21 59 36.0 -0.8
CRVS Cervenica-Dubn 145.30 342 ePKP PKPdf 21 59 35.9 -0.9
OKC Ostrava-Krasne 145.33 346 ePKP PKPdf 21 59 36.5 -0.3
PVCC Panska Ves 145.37 350 ePKP PKPdf 21 59 36.2 -0.7
MORC Moravsky Berou 145.52 347 ePKP2 PKPab 21 59 36.7 -0.9
MORC Moravsky Berou 145.52 347 ePKP PKPdf 21 59 37.1 -0.1
UBBA Unterbreizbach 145.64 355 ePKPbc PKPbc 21 59 37.3 -0.4
MOX Moxa 145.66 354 iPKP PKPdf 21 59 37.8 +0.4
comp=Z,37nm,1.6s
MOX Moxa 145.66 354 ePKPbc PKPbc 21 59 37.1 -0.7
TANN Tannenbergstha 145.79 352 ePKPbc PKPbc 21 59 37.5 -0.7
BEBN Eben Emael 145.82 0 PKP PKPdf 21 59 37.7 +0.1
HGN Heimansgroeve 145.85 360 eP PKPdf 21 59 38.3 +0.6
comp=Z,26nm,1.7s
PRU Pruhonice 145.90 350 ePKP PKPdf 21 59 38.0 +0.2
NKC Novy Kostel 145.97 352 ePKP PKPdf 21 59 38.0 +0.1
PLOR Plostina 146.00 334 ⇓PKP2 PKPab 21 59 38.8 -0.8
MEM Membach 146.01 360 PKP PKPdf 21 59 38.4 +0.4
SNF Seneffe 146.09 2 PKP PKPdf 21 59 38.5 +0.4
VRAC Vranov 146.17 347 ⇑PKIKP PKPdf 21 59 38.5 +0.2
VRAC Vranov 146.17 347 ePKP PKPdf 21 59 37.7 -0.6
BCLA Clavier 146.20 1 PKP PKPdf 21 59 38.8 +0.5
MANZ Manzenberg 146.25 353 ePKPbc PKPbc 21 59 38.5 -1.1
TNS Taunus Mts 146.33 357 ePKPbc PKPbc 21 59 39.1 -0.7
VYHS Vyhne 146.40 344 ePKP PKPdf 21 59 39.0 +0.3
KOLL Kolacno 146.44 345 ePKP PKPdf 21 59 38.5 -0.3
KOLL Kolacno 146.44 345 ePKP PKPdf 21 59 38.6 -0.2
ROTZ Rotzenmuhle 146.46 353 ePKPbc PKPbc 21 59 39.0 -1.2
GIVF Givet 146.51 1 ⇑iPKP1 PKPbc 21 59 39.5 -0.8
comp=Z,101nm,1.6s
DOU Dourbes 146.51 1 PKP PKPdf 21 59 39.7 +0.9
BAIF Baives 146.53 2 ⇑iPKP1 PKPbc 21 59 39.8 -0.6
comp=Z,13nm,0.8s
BR131 Keskin Array S 146.57 319 ePKPbc PKPbc 21 59 40.5 -0.4
PSZ Piszkesteto 146.64 343 ⇓PKP2 PKPab 21 59 40.4 -1.6
GRA1 Grafenberg Arr 146.64 354 ePKPbc PKPbc 21 59 40.7 0.0
GRF Grafenberg Arr 146.64 354 ePKPbc PKPbc 21 59 40.7 0.0
KHC Kasperske Hory 146.89 351 ⇓iPKP2 PKPab 21 59 41.5 -1.4
KHC Kasperske Hory 146.89 351 ePKP PKPdf 21 59 40.9 +1.4
MODS Modra-Piesok 146.90 346 ePKP PKPdf 21 59 36.2 -3.4
WLF Walferdange 146.95 360 PKPbc PKPbc 21 59 41.6 0.0
WLF Walferdange 146.95 360 ePKPbc PKPbc 21 59 41.4 -0.2
WLF Walferdange 146.95 360 ePKPbc PKPbc 21 59 41.6 0.0
WET Wettzell 146.98 352 ePKPbc PKPbc 21 59 41.2 -0.5
VOIR 147.00 335 ⇓PKP2 PKPab 21 59 41.0 -2.5
ZST Bratislava 147.10 346 ePKP PKPbc 21 59 42.1 0.0
GEC2 GERESS Array S 147.15 350 ePKPbc PKPbc 21 59 41.8 -0.4
GERES GERESS Array B 147.15 350 PKPbc PKPbc 21 59 41.8 -0.4
comp=Z,1.7nm,0.5s,baz=24,slow=3.4,SNR=24
GERES GERESS Array B 147.15 350 PKP2 PKPbc 21 59 41.8 -0.4
GERES pmax pmax
comp=Z,2.0nm,0.5s
ROSF Rostrenen 147.41 11 ePKP1 PKPbc 21 59 41.6 -1.3
comp=Z,23nm,0.7s
FLN La Foliniere 147.44 8 ⇑iPKP1 PKPbc 21 59 41.9 -1.1
comp=Z,50nm,0.7s
SGMF Saint Gilles 147.62 11 ePKP1 PKPbc 21 59 42.3 -1.2
comp=Z,56nm,0.8s
LDF La Druitiere 147.65 7 ⇑iPKP1 PKPbc 21 59 42.4 -1.2
comp=Z,25nm,0.7s
STU Stuttgart 147.73 356 ePKPbc PKPbc 21 59 43.7 -0.1
GRR Gorron 147.76 8 ePKP1 PKPbc 21 59 43.0 -0.9
comp=Z,48nm,0.6s
QUIF Quistinic 147.83 11 ePKP1 PKPbc 21 59 42.9 -1.2
comp=Z,40nm,1.0s
MEZF Maizieres J'vi 148.11 1 ePKP1 PKPbc 21 59 44.2 -0.6
FUR Furstenfeldbru 148.15 353 ePKPbc PKPbc 21 59 44.5 -0.4
CDF Champ du Feu 148.19 358 ePKP1 PKPbc 21 59 44.3 -0.7
comp=Z,40nm,1.4s
BFO Black Forest 148.23 357 ePKPbc PKPbc 21 59 44.2 -0.9
RJOB Jochberg 148.37 351 ePKPbc PKPbc 21 59 44.6 -0.9
ECH Echery 148.39 358 ePKP2 PKPbc 21 59 45.8 +0.2
PKSM Moragy 148.55 343 ⇑PKP2 PKPbc 21 59 45.2 -0.9
HAU Haudompre 148.61 359 ⇑iPKP1 PKPbc 21 59 45.6 -0.5
comp=Z,13nm,0.5s
HINF Hinteralfeld 148.79 359 ⇑iPKP1 PKPbc 21 59 45.6 -1.0
comp=Z,4.9nm,0.6s
LOR Lormes 149.31 3 ⇑iPKP1 PKPbc 21 59 47.3 -0.6
SSF Saint Saulge 149.50 3 ⇑iPKP1 PKPbc 21 59 47.9 -0.5
comp=Z,80nm,1.4s
MFF Saint Martin d 149.60 8 ePKP1 PKPbc 21 59 47.7 -1.0
comp=Z,110nm,1.5s
AVF Avril sur Loir 149.76 3 ⇑iPKP1 PKPbc 21 59 48.1 -0.9
comp=Z,31nm,1.2s
SMF Signal de Mont 149.93 3 ePKP1 PKPbc 21 59 48.4 -1.1
BGF Bois d'Agland 149.96 4 ePKP1 PKPbc 21 59 48.8 -0.7
comp=Z,48nm,1.2s
CABF La Chapelle 150.01 360 ⇑iPKP1 PKPbc 21 59 49.6 -0.1
comp=Z,99nm,1.4s
TUE Stuetta 150.01 355 ePKPbc PKPbc 21 59 49.8 +0.1
TCF Toulx Ste Croi 150.18 5 ⇑iPKP1 PKPbc 21 59 49.1 -1.0
comp=Z,82nm,1.6s
RJF Les Rejaudoux 151.09 6 ePKP1 PKPbc 21 59 51.5 -0.8
LPL La Plagne 151.10 359 ePKP1 PKPbc 21 59 52.5 +0.2
comp=Z,12nm,0.8s
LPG La Plagne 151.12 359 ePKP1 PKPbc 21 59 52.7 +0.4
comp=Z,15nm,0.8s
CAF Calviac 151.51 6 ePKP1 PKPbc 21 59 52.6 -0.7
comp=Z,36nm,1.3s
ORIF Oris-en-Rattie 151.70 360 ePKP1 PKPbc 21 59 53.3 -0.4
VIVF Saint-Julien-l 151.75 2 ⇑iPKP1 PKPbc 21 59 53.4 -0.4
comp=Z,13nm,0.8s
MBDF Montbardon 151.88 359 ePKP1 PKPbc 21 59 53.7 -0.4
comp=Z,12nm,0.8s
LASF Ste Croix 152.49 3 ePKP1 PKPbc 21 59 54.9 -0.6
comp=Z,11nm,0.7s
SMRF Simiane la Rot 152.65 0 ePKP1 PKPbc 21 59 55.4 -0.4
FRF La Foret Royal 153.05 359 ePKP1 PKPbc 21 59 55.7 -1.1
comp=Z,74nm,1.3s
MTLF Montolieu 153.10 6 ePKP1 PKPbc 21 59 56.5 -0.4
ETSF Etsaut 153.15 11 ePKP1 PKPbc 21 59 56.9 -0.1
comp=Z,14nm,0.7s
EPF Esparros 153.17 9 ePKP1 PKPbc 21 59 56.1 -0.9
LMR La Mourre 153.28 359 ePKP1 PKPbc 21 59 56.2 -1.1
comp=Z,193nm,1.6s
ESDC Sonseca Array 155.40 18 PKPbc PKPdf 22 00 00.1 +7.3
comp=Z,0.3nm,0.5s,baz=321,slow=2.1,SNR=4.5
ESDC PKPab PKPab 22 00 17.5 -0.9
comp=Z,0.5nm,0.5s,baz=342,slow=4.5,SNR=7.8
DBIC Dimbokro 165.64 132 PKP PKPdf 22 00 02.7 -2.1
comp=Z,1.8nm,0.8s,baz=58,slow=3.7,SNR=4.7
DBIC Dimbokro 165.64 132 PKIKP PKPdf 22 00 02.7 -2.1
DBIC pmax pmax
comp=Z,2.0nm,0.8s
TOA0 Torodi Ar. Sit 174.74 129 ePKPdf PKPdf 22 00 08.7 -1.1
TORD Torodi Ar. Bea 174.74 129 PKP PKPdf 22 00 07.7 -2.1
comp=Z,2.5nm,1.1s,baz=2.3,slow=0.9,SNR=15
TORD PKPab PKPab 22 01 43.5 -0.6
comp=Z,1.7nm,0.6s,baz=265,slow=4.6,SNR=19

IDC 20 22:14:33.2±34.0, 976N×12283E, h0km, mb4.0/4, mb1 4.2/4, mb1mx3.7/19, mbtmp4.0/4, Error ellipse: s-maj=596.7km s-min=162.2km az=155.0, Negros

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	Fitzroy Crossi	27.82	174	P	P	22 20 25.4	+1.1
	0.4nm,0.3s,baz=11,slow=16,SNR=4.7						
WRA	Warramunga Arr	31.61	159	P	P	22 20 57.6	-0.3
	0.9nm,0.5s,baz=331,slow=10,SNR=16						
ASAR	Alice Springs	34.94	162	P	P	22 21 27.1	+0.1
	1.6nm,0.8s,baz=340,slow=7.7,SNR=46						
STKA	Stephens Creek	45.12	157	P	P	22 22 50.6	-0.9
	1.6nm,1.0s,baz=339,slow=8.6,SNR=2.8						

ISCJB 20 22:23:07.0±0.6, 18.14N±0.07×94.36E±0.05, h35km, mb4.1/15, Error ellipse: s-maj=11.2km s-min=5.3km az=22.7
NEIC 20 22:23:08.7±0.6, 18.06N×94.34E, mb4.4/1, Error ellipse: s-maj=15.7km s-min=6.1km az=214.0
IDC 20 22:23:09.0±0.7, 17.93N×94.35E, h35km±5km, mb3.7/10, mb1 3.8/11, mb1mx3.6/23, mbtmp3.7/11, ML4.3/1, Error ellipse: s-maj=24.9km s-min=13.7km az=48.0

ISC 20 22:23:08.7±0.6, 18.05N±0.07×94.35E±0.05, h35km, (h38km±.6km:pP-P), n37, σ0.9 90/36, mb4.1/15, 1D, Myanmar

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMAR	Chiang Mai Arr	4.38	84	Pn	Pn	22 24 11.9	-0.9
	4.4nm,0.3s,baz=262,slow=14,SNR=146						
CMAR				Lg		22 25 33.3	
	baz=268,slow=32,SNR=5.5						
CHG	Chiang Mai	4.42	79	PG	Pn	22 24 13.0	-0.4
CHG				SG	Sn	22 25 04.9	+1.2
CHTO	Chiang Mai	4.42	79	ePn	Pn	22 24 13.2	-0.2
CHRT	Chiangrai	5.45	70	⇓P	Pn	22 24 28.0	+0.5
	263nm,0.3s						
NANT	Nan	6.07	82	P	Pn	22 24 34.5	-1.6
IMP	Imphal	6.71	357	eP	Pn	22 24 48.0	+3.2
SHL	Shillong	7.82	343	eP	Pn	22 25 00.4	+0.3
SHL				iS	Sn	22 26 26.5	-0.9
ODAN	Odare	10.87	325	eP	Pn	22 25 41.5	-0.4
	26nm,0.3s						
TAPN	Taplejung	11.10	328	eP	Pn	22 25 44.9	-0.1
	15nm,0.4s						
RAMN	Ramite	11.39	322	eP	Pn	22 25 48.6	-0.4
	24nm,0.4s						
LSA	Lhasa	11.96	346	ePn	Pn	22 25 57.0	+0.3
	8.7nm,0.6s						
JIRN	Jiri	12.16	323	eP	Pn	22 25 59.8	+0.2
	18nm,0.3s						
GUN	Gumba	12.53	323	eP	Pn	22 26 04.6	0.0
	14nm,0.4s						
PKI	Pulchoki	12.55	321	eP	Pn	22 26 05.3	+0.4
	12nm,0.3s						
DMN	Daman	12.77	320	eP	Pn	22 26 06.8	-1.0
	29nm,0.5s						
KKN	Kakani	12.79	321	eP	Pn	22 26 07.3	-0.9
	5.1nm,0.3s						
GKN	Gorkha	13.34	320	eP	Pn	22 26 14.9	-0.7
	16nm,0.3s						
KOLN	Koldanda	13.84	316	eP	Pn	22 26 21.4	-1.0
	13nm,0.3s						
DANN	Dangsing	14.13	318	eP	Pn	22 26 25.4	-1.0
	16nm,0.6s						
MKAR	Makanchi Array	30.34	343	P	P	22 29 17.8	+0.7
	0.9nm,0.6s,mb3.7,baz=155,slow=9.3,SNR=11						
SONM	Songino Array	31.30	16	P	P	22 29 26.1	+0.7
	0.9nm,0.5s,mb3.9,baz=193,slow=8.6,SNR=7.2						
KURK	Kurchatov	34.92	342	P	P	22 29 57.1	+0.1
	2.3nm,0.6s,mb4.3,baz=148,slow=9.0,SNR=15						
ZALV	Zalesovo Beam	36.58	351	P		22 30 11.7	+0.5
	1.4nm,0.3s,mb4.2,baz=169,slow=7.3,SNR=11						
BVAR	Borovoye Array	39.59	337	PcP	PcP	22 32 44.2	+0.9
	0.7nm,0.6s,baz=34,slow=1.0,SNR=2.6						
MIB	Mutribah	44.27	294	eP	P	22 31 16.2	+1.1
	baz=300						
MIB				AMb	AMB	22 31 17.0	
	comp=Z,7.0nm,0.7s,mb4.5,baz=300						
NAY	Al-Naaiem	44.31	294	eP	P	22 31 16.5	+1.0
	baz=299						
NAY				AMb	AMB	22 31 17.8	
	comp=Z,5.0nm,1.1s,mb4.2,baz=299						
RST	Umm Al-Ruwaisa	44.54	294	eP	P	22 31 17.7	+0.3
	baz=299						
RST				AMb	AMB	22 31 19.7	
	comp=Z,6.0nm,0.9s,mb4.4,baz=299						
WRA	Warramunga Arr	54.45	132	P	P	22 32 31.7	-1.3
	comp=Z,0.5nm,0.3s,mb3.9,baz=319,slow=7.3,SNR=4.6						
WRA				pP	pP	22 32 42.5	-1.1
	comp=Z,1.2nm,0.6s,baz=205,slow=16,SNR=1.5						
WRA				sP	sP	22 32 49.0	+1.4
	comp=Z,0.3nm,0.5s,baz=316,slow=7.2,SNR=3.7						
WRA				PcP	PcP	22 33 35.7	-0.6
	comp=Z,0.7nm,0.7s,baz=318,slow=3.5,SNR=6.4						
ASAR	Alice Springs	56.66	136	P	P	22 32 47.9	-0.8
	comp=Z,0.3nm,0.5s,mb3.5,baz=314,slow=6.5,SNR=5.5						
ASAR				pP	pP	22 32 59.0	-0.4
	comp=Z,0.4nm,0.6s,baz=318,slow=7.4,SNR=2.9						
TIXI	Tiksi	57.29	12	eP	P	22 32 51.6	-0.9
	comp=Z,2.8nm,0.8s,mb4.3						
CTA	Charters Tower	63.48	124	P	P	22 33 41.6	+6.0
	comp=Z,7.2nm,0.9s,mb4.8,baz=304,slow=5.5,SNR=2.9						
ARCES	ARCESS Array B	65.86	339	P	P	22 33 51.3	+0.9
	comp=Z,2.5nm,0.6s,mb4.4,baz=89,slow=7.0,SNR=11						
ARCES				pP	pP	22 34 02.6	+1.5
	comp=Z,6.5nm,1.1s,baz=292,slow=16,SNR=2.5						
GERES	GERESS Array B	70.53	316	P	P	22 34 21.1	+1.1
	comp=Z,0.5nm,0.7s,mb3.6,baz=64,slow=11,SNR=3.8						
NOA	NORSAR Array B	71.07	329	P	P	22 34 25.2	+2.1
	comp=Z,1.1nm,0.8s,mb3.8,baz=52,slow=2.1,SNR=1.2						
NOA				pP	pP	22 34 35.9	+2.0
	comp=Z,0.9nm,0.9s,baz=77,slow=16,SNR=2.0						
TORD	Torodi Ar. Bea	88.47	283	P	P	22 35 58.3	+0.1
	comp=Z,0.6nm,1.0s,mb3.8,baz=204,slow=1.7,SNR=2.3						
TXAR	Lajitas Array	129.78	21	PKP	PKPdf	22 42 16.0	+1.0
	comp=Z,0.2nm,0.5s,baz=225,slow=0.2,SNR=4.3						
LPIG	La Paz	131.69	31	PKP	PKPdf	22 42 19.6	+0.9
	comp=Z,11nm,0.3s,baz=121,slow=4.4,SNR=1.2						

IDC 20 22:35:29.4±2.0, 041N×12644E, h0km, mb3.4/3, mb1 3.7/3, mb1mx3.5/15, mbtmp3.5/3, Error ellipse: s-maj=170.7km s-min=26.4km az=65.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	Warramunga Arr	21.66	159	P	P	22 40 20.7	-1.0
	1.0nm,0.6s,baz=338,slow=11,SNR=8.7						
ASAR	Alice Springs	25.00	164	P	P	22 40 56.0	+0.8
	0.5nm,0.4s,baz=344,slow=9.6,SNR=11						
MKAR	Makanchi Array	60.12	327	P	P	22 45 38.7	0.0
	0.3nm,0.4s,baz=108,slow=7.8,SNR=4.9						

IDC 20 23:04:06.6±1.7, 1.94N×127.39E, h0km, mb3.9/4, mb1 4.0/5, mb1mx3.7/16, mbtmp3.8/5, ML3.6/1, Error ellipse: s-maj=101.6km s-min=22.6km az=68.0
NEIC 20 23:04:07.4±1.1, 2.11N×127.87E, h10km, Error ellipse: s-maj=22.8km s-min=16.7km az=63.0
ISCJB 20 23:04:19.9±1.8, 18N±0.1×127.2E±0.1, h133km±13km, mb3.8/4, Error ellipse: s-maj=25.1km s-min=17.6km az=159.0

ISC 20 23:04:21.1±1.7, 17N±0.1×1272E±0.1, h125km±13km, n8, σ0.8 28/9, mb3.8/4, 1D, Halmahera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TNE	Ternate	0.94	172	⇓eP	Pn	23 04 43.0	0.0
KAPI	Kappang	10.04	228	Pn	Pn	23 06 42.1	0.0
	1.2nm,0.3s,baz=39,slow=1.6,SNR=6.2						
KAPI				Sn	Sn	23 08 32.9	-0.1
	1.6nm,0.3s,baz=76,slow=23,SNR=3.7						
FITZ	Fitzroy Crossi	19.76	185	P	P	23 08 41.9	+0.4
	0.1nm,0.3s,baz=3.5,slow=11,SNR=6.7						
WRA	Warramunga Arr	22.63	162	P	P	23 09 11.2	-0.6
	6.3nm,0.6s,mb4.2,baz=340,slow=11,SNR=80						
ASAR	Alice Springs	26.06	166	P	P	23 09 42.9	-0.1
	0.5nm,0.4s,mb3.3,baz=347,slow=7.3,SNR=8.2						
STKA	Stephens Creek	36.08	159	P	P	23 11 11.2	+0.3
	2.4nm,0.7s,mb4.2,baz=318,slow=11,SNR=5.4						
MKAR	Makanchi Array	59.49	326	P	P	23 14 11.0	0.0
	0.2nm,0.3s,mb3.6,baz=114,slow=7.9,SNR=7.8						
MKAR	Makanchi Array	59.49	326	P	P	23 14 11.0	0.0

KRSC 20 23:36:11.8±1.4, 5057N×15661E, h129km±129km, ML4.4, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MIPR	Malaya Ipel'ka	1.71	3	eP	Pn	23 36 46.1	+3.9
RUS	Russkaya	2.21	32	eP	Pn	23 36 50.9	+2.7
RUS				eS	Sn	23 37 19.6	+3.3
NLC	Nalytchevo	3.11	32	eP	Pn	23 37 02.3	+2.6
NLC				eS	Sn	23 37 39.0	+2.3
SPN	Mys Shipunski	3.30	39	eP	Pn	23 37 05.6	+3.4
SPN				eS	Sn	23 37 44.3	+3.1
MKZ	Mys Kozlova	5.07	36	eP	Pn	23 37 28.3	+2.7
MKZ				eS	Sn	23 38 24.2	+1.1

BJI 20 23:40:32.1, 8.60S×111.50E, h10km, mB4.9, mb4.8, Ms4.6, Msz4.0
MOS 20 23:40:35.7±0.9, 8.50S×111.52E, h33km, mb5.0/31, Error ellipse: s-maj=12.8km s-min=7.0km az=119.5
ISCJB 20 23:40:37.3±0.2, 8.85S±0.004×111.31E±0.003, h53km, mb4.9/85, MS3.9/29, Error ellipse: s-maj=5.5km s-min=3.9km az=16.8
NEIC 20 23:40:38.2±0.7, 8.61S×111.48E, h43km±6km, mb4.8/39, Error ellipse: s-maj=5.6km s-min=4.1km az=46.0
NEIC Felt [III] at Pacitan and [II] at Sawahan.
IDC 20 23:40:39.4±0.5, 8.59S×111.56E, h45km±4km, mb4.4/17, mb1 4.5/19, mb1mx4.5/20, mbtmp4.4/19, MS3.7/23, Ms1 3.7/23, ms1mx3.7/27, Error ellipse: s-maj=14.1km s-min=10.2km az=64.0
DJA 20 23:40:41.3±0.3, 9.5S±4×111E±, h48km±5km, mB5.5/13, Mjma4.5/18, MLv5.3/19, Mw(mB)5.2/13, Mwp4.1/16

ISC 20 23:40:39.5±0.2, 882S±0.004×11135E±0.003, h55km, h55km±3.0km:pP-P, n224, σ1.8 18/217, mb4.9/85, MS3.9/29, 16C-7D, Jawa

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SJI	Sawahan	1.16	21	P	Pn	23 41 01.3	+1.8
UGM	Wanagama	1.22	318	P	Pn	23 41 03.6	+3.3
KRKI	Karangkates	1.28	59	⇑iP	Pn	23 41 01.9	+0.8
KRKI				iS	Sn	23 41 18.1	+0.9
KRKI	Karangkates	1.28	59	P	Pn	23 41 01.7	+0.6
SMRI	Semarang	1.98	333	P	Pn	23 41 14.4	+3.8
BJII	Banjamegara	2.19	312	⇑eP	Pn	23 41 18.1	+4.5
BJII				eS	Sn	23 41 46.9	+7.3
BJII	Banjamegara	2.19	312	P	Pn	23 41 17.7	+4.1
KMMI	Kalianget	3.14	56	P	Pn	23 41 27.2	+0.7
NBBI	Negara	3.27	82	P	Pn	23 41 29.9	+1.6
DNP	Denpasar	3.82	88	P	Pn	23 41 37.4	+1.5
JCJI	Jatiwangi	3.83	307	P	Pn	23 41 38.0	+2.0
LEM	Lembang	4.19	298	P	Pn	23 41 45.8	+4.9
KHKI	Kahang-Kahang	4.24	84	P	Pn	23 41 41.4	-0.2
MTNI	Mataram	4.77	88	P	Pn	23 41 49.0	+0.1
CBJI	Citeko	5.05	298	P	Pn	23 41 54.4	+1.6
	897nm,0.5s,8.2nm						
SKJI	Sukabumi	5.08	290	P	Pn	23 42 05.1	+12
DBJI	Dramaga	5.08	296	P	Pn	23 41 57.9	+4.7
	466nm,1.0s,9μm2.4nm						
SBJI	Serang	5.83	297	P	Pn	23 42 22.0	+19
XMIS	Christmas Isla	5.85	253	P	Pn	23 42 05.1	+1.4
	0.0nm,0.7s,0.0nm						
XMIS	Christmas Isla	5.85	253	ePn	Pn	23 42 04.5	+0.8
PBKI	Pangkalan Bun	6.08	3	P	Pn	23 42 10.5	+3.6
	755nm,0.8s,8μm2.6nm						
BBKI	Banjar Baru	6.36	33	P	Pn	23 42 13.4	+2.8
	450nm,0.9s,3μm1.1nm						
PLKI	Palangkaraya	7.04	22	P	Pn	23 42 24.1	+4.0
	337nm,0.8s,1.0nm						
TPI	Tanjungpandan	7.06	328	⇑eP	Pn	23 42 24.5	+4.3
TPI				eS	Sn	23 44 15.0	+36
TPI	Tanjungpandan	7.06	328	P	Pn	23 42 25.6	+5.4
	58nm,1.0s,787nm0.2nm						
KLI	Kotabumi	7.55	301	P	Pn	23 42 36.0	+9.0
	165nm,0.7s,0.5nm						
PPBI	Pangkal Pinang	8.40	322	P	Pn	23 42 44.2	+5.5
	124nm,0.7s,0.4nm						
KAPI	Kappang	9.16	66	P	Pn	23 42 53.2	+4.1
	SNR=7.8						
KAPI	Kappang	9.16	66	P	Pn	23 42 48.2	-0.9
	2.5nm,0.3s,baz=274,slow=16,SNR=4.3						
KAPI				LR	LR	23 46 44.3	
	comp=Z,400nm,20.5s,baz=255,slow=41						
KAPI	Kappang	9.16	66	P	Pn	23 42 52.6	+3.5
	71nm,1.1s,471nm						
KAPI	Kappang	9.16	66	ePn	Pn	23 42 46.0	-3.1
KAPI				LR	LR	23 46 44.3	
KSI	Kapahiang	10.10	300	P	Pn	23 43 06.0	+4.0
	268nm,0.8s						
KSM	Kuching	10.28	354	⇑P	Pn	23 43 09.1	+4.7
KSM	Kuching	10.28	354	P	Pn	23 43 14.6	+10
KSM	Kuching	10.28	354	ePn	Pn	23 43 01.1	-3.2
SBUM	Sibu	11.23	4	⇓P	Pn	23 43 23.0	+5.6
SBUM	Sibu	11.23	4	P	Pn	23 43 22.5	+5.1
PCI	Palu	11.54	48	P	Pn	23 43 27.3	+5.6
	130nm,1.1s,1μm						
BTM	Bintulu	12.07	8	⇑P	Pn	23 43 35.2	+6.4
BATI

comp=Z,146nm,19.1s,MS3.4,baz=69,slow=39
DAV Davao City (W) 21.22 42 P **P** **23 45 17.8 -3.2**
DAV LR LR 23 54 18.3
SWI Sorong 21.34 69 P **P** **23 45 21.8 -0.5**
85nm,0.9s,1µm,mb5.1
KLBR Kellerberrin 23.43 166 *eP* pP 23 45 56.7 -0.1
93nm,1.6s
KLBR *eS* **S** **23 49 54.2 +1.1**
MUN Mundaring 23.48 170 *eP* pP 23 45 58.8 +1.5
MUN *eS* **S** **23 50 01.8 +7.9**
NWAO Narrogin (SRO) 24.60 168 P **P** **23 45 56.4 +1.8**
9.0nm,1.0s,mb4.3,baz=160,slow=11,SNR=1.3
NWAO pP 23 46 10.7
10nm,0.8s,baz=349,slow=16,SNR=1.7
NWAO LR LR 23 55 06.5
comp=Z,426nm,19.5s,MS4.0,baz=325,slow=35
NWAO Narrogin (SRO) 24.60 168 P **P** **23 45 56.4 +1.8**
NWAO *PP 23 46 10.7
NWAO pmax pmax
comp=Z,9.0nm,1.0s
NWAO pmax pmax
comp=Z,10.0nm,0.8s
NWAO MLR MLR
comp=Z,426nm,19.5s
NWAO Narrogin (SRO) 24.60 168 P **P** **23 45 56.4 +1.8**
NWAO pP 23 46 10.7
NWAO LR LR 23 55 06.5
WRA Warramunga Arr 24.83 119 P **P** **23 45 56.6 -0.3**
comp=Z,18nm,0.8s,mb4.6,baz=289,slow=12,SNR=86
WRA pP 23 46 09.2
comp=Z,20nm,0.7s,baz=293,slow=12,SNR=15
WRA PcP PcP 23 49 32.7 +0.6
comp=Z,2.7nm,0.6s,baz=297,slow=2.0,SNR=6.1
WRA LR LR 23 56 54.5
comp=Z,77nm,18.9s,MS3.2,baz=285,slow=39
WRA Warramunga Arr 24.83 119 P **P** **23 45 56.6 -0.2**
WRA *PP 23 46 09.2
WRA 23 49 32.7
WRA pmax pmax
comp=Z,18nm,0.8s
WRA pmax pmax
comp=Z,20nm,0.7s
WRA pmax pmax
comp=Z,3.0nm,0.6s
WRA MLR MLR
comp=Z,77nm,19.0s
WRAB Tennant Creek 24.83 119 *eP* **P** **23 45 55.7 -1.2**
WRAB pmax pmax
comp=Z,29nm,1.1s,mb4.7
WRAB Tennant Creek 24.83 119 P **P** **23 45 57.1 +0.2**
comp=Z,33nm,1.1s,mb4.8
WRAB Tennant Creek 24.83 119 *eP* **P** **23 45 55.7 -1.2**
comp=Z,30nm,1.1s,mb4.7
WB2 Warramunga Ar 24.84 119 *eP* **P** **23 45 55.3 -1.6**
ASAR Alice Springs 26.15 127 P **P** **23 46 09.1 +0.3**
comp=Z,6.8nm,0.7s,mb4.3,baz=303,slow=8.9,SNR=44
ASAR PcP PcP 23 49 35.9 +0.9
comp=Z,4.4nm,0.7s,baz=316,slow=1.9,SNR=8.8
ASAR Alice Springs 26.15 127 P **P** **23 46 09.1 +0.3**
ASAR 23 49 35.9
ASAR pmax pmax
comp=Z,7.0nm,0.7s
ASAR pmax pmax
comp=Z,4.0nm,0.7s
FORT Forrest 26.84 147 *eP* **P** **23 46 15.8 +0.9**
comp=Z,18nm,0.5s,mb4.9
FORT *eS* S 23 51 14.6 +27
CMAR Chiang Mai Arr 29.74 336 P **P** **23 46 40.9 0.0**
comp=Z,5.1nm,0.8s,mb4.3,baz=173,slow=8.1,SNR=26
CMAR sP sP 23 46 59.8 -1.4
comp=Z,2.8nm,0.7s,baz=170,slow=8.5,SNR=3.4
CMAR PcP PcP 23 49 45.6 +1.8
comp=Z,3.2nm,0.5s,baz=189,slow=3.1,SNR=11
CMAR LR LR 23 59 54.5
comp=Z,205nm,18.9s,MS3.8,baz=147,slow=39
CMAR Chiang Mai Arr 29.74 336 P **P** **23 46 40.9 +0.1**
CMAR *SP sP 23 46 59.8 -1.4
CMAR 23 49 45.7
CMAR pmax pmax
comp=Z,5.0nm,0.8s
CMAR pmax pmax
comp=Z,3.0nm,0.7s
CMAR pmax pmax
comp=Z,3.0nm,0.5s
CMAR MLR MLR
comp=Z,205nm,18.9s
CHTO Chiang Mai 30.06 336 *eP* **P** **23 46 42.2 -1.5**
CHTO pmax pmax
comp=Z,2.0nm,0.6s,mb4.0
CHTO Chiang Mai 30.06 336 *eP* **P** **23 46 42.1 -1.5**
comp=Z,1.6nm,0.6s,mb3.9
COEN Coen 31.60 102 P **P** **23 46 57.9 +0.6**
comp=Z,23nm,0.9s,mb5.0
YHNB Yeheng 34.69 16 *eP* **P** **23 47 19.7 -4.5**
comp=Z,50nm,1.3s,mb5.3
KMI Kunming 34.77 346 P **P** **23 47 28.8 +4.0**
KMI S **S** **23 52 57.8 +6.4**
KMI LR LR
comp=N,120nm,9.7s
KMI LR LR
comp=E,167nm,11.9s
KMI LR LR
comp=Z,145nm,15.0s,MS3.8
GYA Guiyang 35.36 353 P **P** **23 47 31.8 +1.9**
GYA AP pP 23 47 36.3 -7.6
GYA PP PP 23 48 51.9 +0.8
GYA S **S** **23 53 03.6 +3.0**
GYA SCP ScP 23 53 46.0 +5.5
GYA AMB AMB
comp=Z,10.0nm,0.8s,mb4.8
GYA AMB AMB
comp=Z,90nm,4.9s
GYA LR LR
comp=N,590nm,18.4s,MS4.5
GYA LR LR
comp=E,530nm,17.6s,MS4.5
GYA LR LR
comp=Z,440nm,18.0s,MS4.3
CTA Charters Tower 35.53 112 *eP* **P** **23 47 32.5 +1.0**
comp=Z,7.3nm,0.9s,mb4.6
CTA Charters Tower 35.53 112 *eP* **P** **23 47 32.5 +1.0**
CTA pmax pmax
comp=Z,7.0nm,0.9s
CTAO Charters Tower 35.53 112 *eP* **P** **23 47 30.4 -1.1**
CTAO pmax pmax
comp=Z,11nm,1.0s,mb4.7
CTAO Charters Tower 35.53 112 *eP* **P** **23 47 30.4 -1.1**
comp=Z,12nm,1.0s,mb4.8
STKA Stephens Creek 36.25 134 *eP* **P** **23 47 38.4 +0.9**
comp=Z,8.0nm,0.5s,mb4.9
STKA Stephens Creek 36.25 134 P **P** **23 47 38.5 +0.9**
comp=Z,6.0nm,0.6s,mb4.7,baz=310,slow=8.2,SNR=13
STKA sP sP 23 47 54.6 -3.4
comp=Z,9.0nm,0.5s,baz=306,slow=9.1,SNR=6.7
STKA PcP PcP 23 50 02.8 +1.0
comp=Z,13nm,0.7s,baz=299,slow=3.5,SNR=5.3
STKA LR LR 00 02 57.2
comp=Z,226nm,20.6s,MS3.9,baz=111,slow=37
SHL Shillong 39.08 331 *eP* **P** **23 48 00.1 -1.3**
CD2 Chengdu 40.17 350 *eP* **P** **23 48 09.8 -0.6**
CD2 AP pP 23 48 14.3 -10
CD2 XP sP 23 48 16.9 -14
CD2 PP PP 23 49 46.6 +2.8
CD2 S **S** **23 54 16.3 +3.0**
CD2 XS sS 23 54 23.4 -14
CD2 SS SS 23 57 08.0 -5.2
CD2 AMB AMB
comp=Z,10.0nm,0.6s,mb4.7
CD2 AMB AMB
comp=Z,30nm,3.8s
CD2 LR LR
comp=N,250nm,10.8s,MS4.4
CD2 LR LR
comp=E,200nm,13.2s,MS4.4
CD2 LR LR
comp=Z,130nm,10.8s,MS4.0
HYB Hyderabad 41.59 309 *i* P **P** **23 48 23.0 +0.6**
HYB Hyderabad 41.59 309 *eP* **P** **23 48 23.0 +0.6**
ODAN Odare 42.41 327 *eP* **P** **23 48 28.2 -0.6**
comp=Z,19nm,0.8s,mb4.8
TAPN Taplejung 42.63 328 *eP* **P** **23 48 30.0 -0.7**
comp=Z,30nm,0.8s,mb5.1
XAN Xi'an 42.69 357 P **P** **23 48 30.6 -0.4**
XAN AMB AMB
comp=Z,9.0nm,1.1s,mb4.4
XAN AMB AMB
comp=Z,37nm,11.8s
RAMN Ramite 42.90 327 *eP* **P** **23 48 33.0 +0.1**
comp=Z,8.3nm,0.6s,mb4.7
LSA Lhasa 42.95 334 P **P** **23 48 34.0 +0.8**
JIRN Jiri 43.69 327 *eP* **P** **23 48 38.6 -0.6**
comp=Z,28nm,0.8s,mb5.0
PKI Pulchoki 44.04 326 *eP* **P** **23 48 41.8 -0.2**
GUN Gumba 44.05 327 *eP* **P** **23 48 41.5 -0.6**
comp=Z,32nm,0.8s,mb5.1
DMN Daman 44.24 326 *eP* **P** **23 48 42.8 -0.8**
comp=Z,19nm,0.7s,mb5.0
KKN Kakani 44.28 326 *eP* **P** **23 48 43.1 -0.9**
comp=Z,17nm,0.9s,mb4.8
KKN Kakani 44.28 326 *eP* **P** **23 48 43.1 -0.9**
KKN pmax pmax
comp=Z,17nm,0.9s,mb4.8
GKN Gorkha 44.80 326 *eP* **P** **23 48 47.0 -1.1**
comp=Z,8.7nm,0.3s,mb5.0
KOLN Koldanda 45.21 324 *eP* **P** **23 48 50.3 -1.1**
comp=Z,26nm,0.6s,mb5.3
LZH Lanzhou 45.22 351 *eP* **P** **23 48 50.6 -0.7**
LZH AP pP 23 48 55.3 -10
LZH XP sP 23 48 57.8 -14
LZH PP PP 23 50 38.0 -0.1
LZH *eS* **S** **23 55 29.5 +2.1**
LZH XS sS 23 55 37.6 -14
LZH *eSS* SS 23 58 44.0 -7.7
LZH AMB AMB
comp=Z,21nm,1.3s,mb4.8
LZH AMB AMB
comp=Z,75nm,5.8s
LZH LR LR
comp=N,512nm,14.0s
LZH LR LR
comp=Z,768nm,18.2s,MS4.7
DANN Dangsing 45.56 325 *eP* **P** **23 48 53.0 -1.2**
comp=Z,28nm,0.6s,mb5.3
POO Poona 45.90 306 *ex* x 23 48 56.0
HNR Honiara 47.96 95 *eP* **P** **23 49 12.8 -0.4**
HNR pmax pmax
comp=Z,36nm,0.6s,mb5.6
HNR Honiara 47.96 95 *eP* **P** **23 49 12.8 -0.4**
comp=Z,36nm,0.6s,mb5.6
KSRS Korea Array 48.58 18 P **P** **23 49 17.2 -0.2**
comp=Z,4.2nm,0.8s,mb4.5,baz=204,slow=8.0,SNR=12
KSRS PcP PcP 23 50 43.2 +0.7
comp=Z,2.9nm,0.8s,baz=196,slow=3.6,SNR=6.0
KSRS LR LR 00 10 36.7
comp=Z,35nm,18.5s,MS3.4,baz=75,slow=37
KSRS Korea Array 48.58 18 P **P** **23 49 17.3 -0.2**
KSRS 23 50 43.3
KSRS pmax pmax
comp=Z,4.0nm,0.8s,mb4.5
KSRS pmax pmax
comp=Z,3.0nm,0.8s,mb4.4
KSRS MLR MLR
comp=Z,35nm,18.5s,MS3.4
BJI Beijing 48.82 5 P **P** **23 49 18.5 -0.8**
BJI S **S** **23 56 21.5 +2.9**
BJI AMB AMB
comp=Z,36nm,0.6s,mb5.6
BJI AMB AMB
comp=Z,146nm,4.9s
BJI LR LR
comp=Z,111nm,32.4s,MS3.6
GTA Gaotai 49.16 348 *eP* **P** **23 49 22.9 +1.0**
GTA AP pP 23 49 27.4 -9.1
GTA XP sP 23 49 29.9 -13
GTA PCP PcP 23 50 45.8 +1.2
GTA SCP ScP 23 54 39.3 +4.0
GTA S **S** **23 56 30.1 +6.6**
GTA XS sS 23 56 38.8 -9.2
GTA AMB AMB
comp=Z,10.0nm,0.6s,mb5.0
GTA AMB AMB
comp=Z,40nm,4.2s
GTA LR LR
comp=N,76nm,15.5s,MS4.1
GTA LR LR
comp=E,136nm,17.8s,MS4.1
GTA LR LR
comp=Z,156nm,23.5s
HHC Hu-ho-hao-te 49.42 0 *eP* **P** **23 49 24.8 +0.9**
HHC AP pP 23 49 29.3 -9.1
HHC XP sP 23 49 31.6 -13
HHC PCP PcP 23 50 46.8 +1.3
HHC PP PP 23 51 19.4 +0.8
HHC SCP ScP 23 54 40.3 +3.9
HHC S **S** **23 56 31.8 +4.8**
HHC XS sS 23 56 40.5 -11
HHC SCS ScS 23 59 13.6 +2.8
HHC AMB AMB
comp=Z,17nm,1.1s,mb5.0
HHC AMB AMB
comp=Z,68nm,5.1s
HHC LR LR
comp=N,128nm,14.9s,MS4.2
HHC LR LR
comp=E,127nm,14.4s,MS4.2
HHC LR LR
comp=Z,127nm,14.9s,MS4.0
SMLA Simla 51.48 322 ⇓ *ix* **P** **23 49 39.0 -0.7**
MAJO Matsushiro 51.70 28 *eP* **P** **23 49 38.8 -2.4**
MAJO pmax pmax
comp=Z,7.0nm,0.6s,mb4.8
MAJO Matsushiro 51.70 28 *eP* **P** **23 49 38.8 -2.4**
comp=Z,7.1nm,0.6s,mb4.8
MJAR Matsushiro Arr 51.70 28 P **P** **23 49 39.0 -2.2**
comp=Z,6.5nm,0.8s,mb4.6,baz=206,slow=8.1,SNR=15
MJAR pP pP 23 49 51.9 -4.0
comp=Z,2.8nm,0.5s,baz=200,slow=7.8,SNR=3.9
MJAR PcP PcP 23 50 54.9 +0.8
comp=Z,4.9nm,0.8s,baz=206,slow=4.4,SNR=4.4
MJAR LR LR 00 11 10.8
comp=Z,94nm,20.9s,MS3.8,baz=65,slow=36
MJAR Matsushiro Arr 51.70 28 P **P** **23 49 39.0 -2.2**
MJAR *PP pP 23 49 51.9 -3.9
MJAR 23 50 54.9
MJAR pmax pmax
comp=Z,7.0nm,0.8s
MJAR pmax pmax
comp=Z,3.0nm,0.5s
MJAR pmax pmax
comp=Z,5.0nm,0.8s
MJAR MLR MLR
comp=Z,94nm,20.9s
MJAR Matsushiro Arr 51.70 28 P **P** **23 49 39.0 -2.2**
MJAR pP pP 23 49 51.9 -4.0
MJAR PcP PcP 23 50 54.9 +0.8
MJAR LR LR 00 11 10.8
SONM Songino Array 56.58 356 P **P** **23 50 15.9 -0.5**
comp=Z,7.4nm,0.7s,mb4.9,baz=174,slow=8.4,SNR=32
SONM pP pP 23 50 29.7 -1.5
comp=Z,2.1nm,0.5s,baz=172,slow=8.8,SNR=3.9
SONM PcP PcP 23 51 12.5 +0.1
comp=Z,9.7nm,0.7s,baz=174,slow=3.3,SNR=17
SONM ScP ScP 23 55 07.3 0.0
comp=Z,0.9nm,0.8s,baz=50,slow=4.5,SNR=3.1
SONM LR LR 00 17 27.6
comp=Z,65nm,18.0s,MS3.8,baz=342,slow=39
SONM Songino Array 56.58 356 P **P** **23 50 15.9 -0.5**
SONM *PP pP 23 50 29.7 -1.6
SONM 23 51 12.5
SONM pmax pmax
comp=Z,7.0nm,0.7s
SONM pmax pmax
comp=Z,2.0nm,0.5s
SONM pmax pmax
comp=Z,10.0nm,0.7s
SONM pmax pmax
comp=N,1.0nm,0.8s
SONM MLR MLR
comp=Z,65nm,18.0s
WMQ Urumqi 56.62 340 P **P** **23 50 16.6 -0.2**
WMQ AP pP 23 50 21.1 -11
WMQ XP sP 23 50 23.8 -14
WMQ PCP PcP 23 51 13.3 +0.6
WMQ PP PP 23 52 23.9 +0.5
WMQ AMB AMB
comp=Z,9.0nm,1.1s,mb4.7
WMQ AMB AMB
comp=Z,89nm,3.6s
WMQ LR LR
comp=N,51nm,21.4s,MS3.7
WMQ LR LR
comp=E,36nm,21.6s,MS3.7
WMQ LR LR
comp=Z,61nm,19.4s,MS3.7
CASY Casey 57.38 180 *eP* **P** **23 50 22.9 +1.0**
comp=Z,2.0nm,0.8s,mb4.2
KBL Kabul 58.84 320 *eP* **P** **23 50 31.1 -1.5**
KBL pmax pmax
comp=Z,7.0nm,0.8s,mb4.7
KBL Kabul 58.84 320 *eP* **P** **23 50 31.1 -1.5**
comp=Z,7.3nm,0.8s,mb4.8
ZAK Zakamensk 59.37 354 *eP* **P** **23 50 35.3 -0.7**
ZAK *i* 23 51 23.5
ZAK pmax pmax
comp=Z,1.0nm,1.0s,mb3.8
WBK Wadi Bani Khal 60.05 302 P **P** **23 50 41.8 +0.6**
SNR=5.5
JMDO Jabal Madar 60.67 302 P **P** **23 50 46.2 +0.7**
SNR=9.1
TKM2 Tokmak 2 60.93 331 *eP* **P** **23 50 46.1 -0.7**
TKM2 pmax pmax
comp=Z,7.0nm,0.6s,mb5.0
TKM2 Tokmak 2 60.93 331 *eP* **P** **23 50 46.1 -0.7**
comp=Z,6.5nm,0.6s,mb4.9
SMDO Samad 61.01 302 P **P** **23 50 48.4 +0.7**
SNR=9.9
MK31 Makanchi Array 61.12 338 P **P** **23 50 46.9 -1.1**
MK31 pmax pmax
comp=Z,10.0nm,0.6s,mb5.1
MK31 Makanchi Array 61.12 338 *eP* **P** **23 50 47.0 -1.0**
MKAR Makanchi Array 61.12 338 P **P** **23 50 47.1 -0.9**
comp=Z,14nm,0.6s,mb5.3,baz=147,slow=7.3,SNR=114
MKAR PcP PcP 23 51 31.3 +0.8
comp=Z,3.1nm,0.6s,baz=132,slow=5.7,SNR=1.5
MKAR LR LR 00 20 30.1
comp=Z,71nm,21.5s,MS3.8,baz=136,slow=39
MKAR Makanchi Array 61.12 338 P **P** **23 50 47.2 -0.8**
MKAR 23 51 31.3
MKAR pmax pmax
comp=Z,15nm,0.6s
MKAR pmax pmax
comp=Z,3.0nm,0.6s
MKAR MLR MLR
comp=Z,71nm,21.5s
BIDO Bidbid 61.14 303 ⇑ P **P** **23 50 49.1 +0.5**
SNR=20
AML Almayashu 61.30 329 *eP* **P** **23 50 48.5 -0.8**
comp=Z,4.1nm,0.6s,mb4.7
BSY Bisya 61.59 302 P **P** **23 50 52.4 +0.8**
SNR=6.6
EKS2 Erkin-Say 61.64 329 *eP* **P** **23 50 51.3 -0.3**
comp=Z,4.5nm,0.7s,mb4.7
HOQ Hoqain 61.84 303 P **P** **23 50 53.9 +0.5**
SNR=7.3
YSS Yuzh-Sakhalins 62.17 24 ⇑ *eP* **P** **23 50 53.8 -1.3**
YSS pmax pmax
comp=Z,21nm,0.5s,mb5.5
WHFO Wadi Hawf 62.74 295 P **P** **23 50 59.5 0.0**
SNR=5.1
OPO Amboholdratompo 62.81 254 P **P** **23 51 03.3 +3.3**
comp=Z,3.1nm,0.8s,mb4.5,baz=85,slow=3.5,SNR=4.7
OPO sP sP 23 51 20.0 -1.3
comp=Z,3.3nm,0.8s,baz=353,slow=14,SNR=2.8
ABTO Aybut 62.98 295 P **P** **23 51 01.8 +0.7**
SNR=6.3
HATD Hatta, Dubai 63.34 303 P **P** **23 51 03.9 +0.6**
SNR=6.2
KK31 Karatay Array 63.64 328 P **P** **23 51 03.3 -1.6**
KK31 pmax pmax
comp=Z,1.0nm,0.5s,mb4.1
URZ Urewera 65.59 128 LR LR 00 20 48.8
comp=Z,104nm,21.5s,MS4.0,baz=125,slow=37
KURK Kurchatov 65.73 338 *d iP* **P** **23 51 17.7 -0.7**
KURK pmax pmax
comp=Z,4.0nm,0.8s,mb4.5
KURK MLR MLR
comp=Z,100nm,33.0s,MS3.8
KURK Kurchatov 65.73 338 *eP* **P** **23 51 17.4 -1.0**
comp=Z,6.1nm,0.7s,mb4.7
ZALV Zalesovo Beam 66.43 343 P **P** **23 51 21.4 -1.4**
comp=Z,10nm,0.6s,mb5.1,baz=161,slow=4.8,SNR=71
ZALV PcP PcP 23 51 50.9 -1.2
comp=Z,2.7nm,0.6s,baz=151,slow=5.8,SNR=2.1
ZALV LR LR 00 22 42.3
comp=Z,53nm,19.4s,MS3.8,baz=142,slow=38
ZALV Zalesovo Beam 66.43 343 P **P** **23 51 21.4 -1.4**
ZALV 23 51 50.9
ZALV pmax pmax
comp=Z,10.0nm,0.6s,mb5.0
ZALV pmax pmax
comp=Z,3.0nm,0.6s,mb4.5
ZALV MLR MLR
comp=Z,53nm,19.4s,MS3.8
MAW Mawson 66.93 198 P **P** **23 51 27.7 +1.9**
comp=Z,2.0nm,0.8s,mb4.2,baz=302,slow=18,SNR=3.0
MAW pP pP 23 51 42.0 +1.0
comp=Z,1.8nm,0.6s,baz=3.7,slow=7.1,SNR=3.2
MAW LR LR 00 13 36.9
comp=Z,152nm,20.5s,MS4.2,baz=147,slow=29
MAW Mawson 66.93 198 P **P** **23 51 27.7 +1.8**
MAW *PP pP 23 51 42.0 +1.0
MAW pmax pmax
comp=Z,2.0nm,0.8s
MAW pmax pmax
comp=Z,2.0nm,0.6s
MAW Mawson 66.93 198 *eP* **P** **23 51 27.3 +1.4**
comp=Z,4.1nm,1.0s,mb4.4
VOSK Vostochnaya 70.30 335 P **P** **23 51 46.3 -0.7**
VOSK pmax pmax
comp=Z,3.0nm,0.6s,mb4.4
BVA0 Borovoye Array 70.77 335 *i* P **P** **23 51 48.1 -1.7**
BVA0 pmax pmax
comp=Z,1.0nm,0.5s,mb4.0
BVAR Borovoye Array 70.77 335 LR LR 00 25 15.2
comp=Z,71nm,20.1s,MS3.9,baz=145,slow=38
BRVK Borovoye 70.83 335 *eP* **P** **23 51 49.2 -1.0**
BRVK pmax pmax
comp=Z,7.0nm,0.8s,mb4.6
BRVK Borovoye 70.83 335 *eP* **P** **23 51 49.1 -1.1**
comp=Z,6.7nm,0.8s,mb4.6
QRN Al-Qurain 71.62 304 *eP* **P** **23 51 55.0 -0.6**
baz=304
QRN AMb AMB 23 51 55.9
comp=Z,83nm,0.8s,mb5.7,baz=304
KBD Kabd 71.96 304 *eP* **P** **23 51 56.8 -0.8**
baz=304
KBD AMb AMB 23 51 58.0
comp=Z,48nm,0.8s,mb5.5,baz=304
RDF Al-Radifah 71.99 304 *eP* **P** **23 51 57.1 -0.7**
baz=304
RDF AMb AMB 23 51 58.1
comp=Z,71nm,0.8s,mb5.7,baz=304
YAK Yakutsk 72.06 9 *c iP* **P** **23 51 56.0 -1.5**
YAK pmax pmax
comp=Z,29nm,0.6s,mb5.4
UMR Umm Al-Rimmam 72.08 305 *eP* **P** **23 51 57.8 -0.5**
baz=305
UMR AMb AMB 23 51 58.7
comp=Z,110nm,0.6s,mb6.0,baz=305
NAY Al-Naaiem 72.35 304 *eP* **P** **23 51 59.1 -0.8**
baz=304
NAY AMb AMB 23 52 00.1
comp=Z,37nm,0.7s,mb5.4,baz=304
RST Umm Al-Ruwaisa 72.64 305 *eP* **P** **23 52 00.8 -0.8**
baz=304
RST AMb AMB 23 52 02.1
comp=Z,125nm,0.7s,mb6.0,baz=304
PETK Petropavlovsk- 73.16 27 P **P** **23 52 03.4 -0.8**
comp=Z,13nm,0.7s,mb5.0,baz=130,slow=1.3,SNR=30
PETK LR LR 00 23 03.5
comp=Z,29nm,20.0s,MS3.6,baz=82,slow=35
AB31 Akbulak array 73.21 328 *i* P **P** **23 52 03.9 -0.7**
AB31 pmax pmax
comp=Z,32nm,0.7s,mb5.4
KMBO Kilima Mbogo 74.11 271 P **P** **23 52 13.6 +3.0**
comp=Z,4.4nm,0.8s,mb4.4,baz=61,slow=7.9,SNR=12
KMBO Kilima Mbogo 74.11 271 P **P** **23 52 13.6 +2.9**
KMBO pmax pmax
comp=Z,4.0nm,0.8s
KMBO Kilima Mbogo 74.11 271 *eP* **P** **23 52 12.1 +1.5**
comp=Z,4.1nm,0.7s,mb4.5
AKTO Aktyubinsk 74.91 328 LR LR 00 29 51.8
comp=Z,45nm,20.5s,MS3.8,baz=304,slow=40
AKTO Aktyubinsk 74.91 328 P **P** **23 52 13.8 -0.7**
AKTO pmax pmax
comp=Z,1.0nm,0.7s,mb3.9
SYO Syowa Base 75.31 201 ⇑ *eP* **P** **23 52 16.8 +0.3**
SVE Sverdlovsk 77.48 334 ⇓ *eP* **P** **23 52 28.4 -0.5**
SVE *eS* S 00 02 07.8 -7.7

SVE				pmax	pmax		
	comp=Z,16nm,0.9s,mb5.0						
SEY	**Seymchan**	**78.14**	**18**↑	*e*P	**P**	**23 52 31.9**	**-0.5**
ARU	**Arti**	**78.15**	**333**	*c i*P	**P**	**23 52 31.7**	**-0.9**
ARU				*e*		23 55 33.2	
ARU				*e*S	S	00 02 25.9	+3.2
ARU				pmax	pmax		
	comp=Z,11nm,1.0s,mb4.7						
ARU	**Arti**	**78.15**	**333**	*e*P	**P**	**23 52 31.9**	**-0.7**
	comp=Z,6.9nm,0.9s,mb4.6						
GNI	**Garni**	**78.29**	**314**	LR	LR	00 28 57.0	
	comp=Z,41nm,19.0s,MS3.8,baz=79,slow=37						
GNI	**Garni**	**78.29**	**314**↓	*e*P	**P**	**23 52 34.6**	**+0.8**
GNI				pmax	pmax		
	comp=Z,18nm,1.7s						
GNI	**Garni**	**78.29**	**314**	*e*P	**P**	**23 52 33.9**	**+0.1**
	comp=Z,9.4nm,0.8s,mb4.8						
KIV	**Kislovodsk**	**81.12**	**317**	*e*P	**P**	**23 52 49.4**	**+0.3**
KIV				*e*		23 52 58.8	
KIV				*e*		23 55 54.3	
KIV				*e*S	S	00 03 00.5	+5.8
KIV				*e*SS	SS	00 08 14.5	+3.6
KIV				pmax	pmax		
	comp=Z,14nm,0.8s,mb4.9						
KIV	**Kislovodsk**	**81.12**	**317**	*e*P	**P**	**23 52 49.3**	**+0.2**
TIXI	**Tiksi**	**81.14**	**6**	*e*P	**P**	**23 52 46.9**	**-1.7**
LSZ	**Lusaka**	**81.17**	**256**	*e*P	**P**	**23 52 51.5**	**+1.5**
LSZ				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.5						
LSZ	**Lusaka**	**81.17**	**256**	*e*P	**P**	**23 52 51.5**	**+1.5**
	comp=Z,4.6nm,0.8s,mb4.5						
BOSA	**Boshof**	**82.42**	**242**	P	**P**	**23 52 59.0**	**+2.6**
	comp=Z,2.6nm,0.5s,mb4.4,baz=117,slow=6.4,SNR=16						
BOSA				LR	LR	00 23 10.7	
	comp=Z,109nm,18.1s,MS4.3,baz=152,slow=31						
BOSA	**Boshof**	**82.42**	**242**	*e*P	**P**	**23 52 58.0**	**+1.6**
	comp=Z,3.4nm,0.7s,mb4.4						
LBTB	**Lobatse**	**82.50**	**246**	*e*P	**P**	**23 52 58.5**	**+1.7**
LBTB				pmax	pmax		
	comp=Z,8.0nm,1.0s,mb4.7						
LBTB	**Lobatse**	**82.50**	**246**	*e*P	**P**	**23 52 58.5**	**+1.7**
	comp=Z,7.7nm,1.0s,mb4.7						
SOC	**Sochi**	**83.01**	**316**	*c i*P	**P**	**23 52 58.3**	**-0.7**
SOC				*e*S	S	00 03 17.0	+2.9
SOC				*e*SSS		00 12 08.5	
SOC				pmax	pmax		
	comp=Z,46nm,0.8s,mb5.6						
VRHR	**Novokhopersk**	**84.39**	**324**	*e*P	**P**	**23 53 05.2**	**-0.7**
VRHR				pmax	pmax		
	comp=Z,20nm,0.7s,mb5.4						
VRHR				pmax	pmax		
	comp=N,6.0nm,0.6s						
VRHR				pmax	pmax		
	comp=E,9.0nm,0.8s						
ANN	**Anapa**	**84.95**	**317**	*e*P	**P**	**23 53 08.2**	**-0.6**
ANN				*e*		23 53 15.4	
ANN				pmax	pmax		
	comp=Z,44nm,1.8s,mb5.3						
SUR	**Sutherland**	**85.79**	**238**	*e*P	**P**	**23 53 12.9**	**-0.5**
	comp=Z,78nm,1.8s,mb5.6						
VSR	**Storozhevoye**	**85.88**	**323**	*e*P	**P**	**23 53 12.7**	**-0.6**
VSR				pmax	pmax		
	comp=Z,9.0nm,0.7s,mb5.1						
VSR				pmax	pmax		
	comp=N,5.0nm,0.8s						
VSR				pmax	pmax		
	comp=E,9.0nm,0.8s						
BR131	**Keskin Array S**	**86.26**	**311**	*e*P	**P**	**23 53 15.5**	**+0.1**
	comp=E,7.2nm,0.8s,mb5.0						
OBN	**Obninsk**	**88.60**	**326**↓	*e*P	**P**	**23 53 26.2**	**-0.2**
OBN				*e*	pP	23 53 43.0	+0.9
OBN				pmax	pmax		
	comp=Z,85nm,0.8s,mb6.1						
OBN	**Obninsk**	**88.60**	**326**	*e*P	**P**	**23 53 26.3**	**0.0**
	comp=Z,42nm,0.7s,mb5.9						
KLMR	**Klimovskoe**	**88.97**	**332**	*e*P	**P**	**23 53 24.3**	**-3.6**
KLMR				pmax	pmax		
	comp=Z,28nm,1.5s,mb5.4						
SNAA	**Sanae**	**89.06**	**197**	*e*P	**P**	**23 53 29.5**	**+1.2**
SNAA				pmax	pmax		
	comp=Z,12nm,1.1s						
SNAA	**Sanae**	**89.06**	**197**	*e*P	**P**	**23 53 29.5**	**+1.2**
	comp=Z,12nm,1.1s,mb5.2						
AKASG	**Malin Array Be**	**91.80**	**321**	P	**P**	**23 53 40.5**	**-0.8**
	comp=Z,3.9nm,0.8s,mb4.8,baz=92,slow=4.1,SNR=14						
AKASG				pP	pP	23 53 56.9	-0.3
	comp=Z,2.6nm,0.7s,baz=85,slow=4.5,SNR=5.1						
AKASG				LR	LR	00 41 11.2	
	comp=Z,23nm,18.3s,MS3.7,baz=280,slow=40						
AKASG	**Malin Array Be**	**91.80**	**321**	P	**P**	**23 53 40.6**	**-0.8**
AKASG				*PP	pP	23 53 56.9	-0.3
AKASG				pmax	pmax		
	comp=Z,4.0nm,0.8s						
AKASG				pmax	pmax		
	comp=Z,3.0nm,0.7s						
AKASG	**Malin Array Be**	**91.80**	**321**	P	**P**	**23 53 40.5**	**-0.8**
AKASG				pP	pP	23 53 56.9	-0.3
AKASG				LR	LR	00 41 11.2	
JOF	**Joensuu**	**93.28**	**333**	*e*p	**P**	**23 53 47.2**	**-0.7**
	comp=Z,5.7nm,0.7s,mb5.1						
KAF	**Kangasniemi**	**95.41**	**332**	*e*p	**P**	**23 53 56.1**	**-1.6**
	comp=Z,5.3nm,0.8s,mb5.0						
KAF	**Kangasniemi**	**95.41**	**332**	*e*P	**P**	**23 53 56.1**	**-1.6**
KAF				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb5.0						
PPT	**Papeete**	**95.91**	**109**	LR	LR	00 33 45.3	
	comp=Z,56nm,20.9s,MS4.0,baz=29,slow=33						
ARCES	**ARCESS Array B**	**96.74**	**339**	P	**P**	**23 54 02.3**	**-1.4**
	comp=Z,5.1nm,1.0s,mb4.9,baz=72,slow=8.6,SNR=4.0						
ARCES				LR	LR	00 40 21.3	
	comp=Z,24nm,20.3s,MS3.7,baz=65,slow=37						
ARCES	**ARCESS Array B**	**96.74**	**339**	P	**P**	**23 54 02.3**	**-1.3**
ARCES				pmax	pmax		
	comp=Z,5.0nm,1.0s						
ARCES				MLR	MLR		
	comp=Z,24nm,20.3s						
PAB	**San Pablo**	**115.34**	**310**	*e*PKIKP	PKPdf	23 59 15.9	+0.6
DBIC	**Dimbokro**	**116.81**	**273**	*e*PKIKP	PKPdf	23 59 19.2	+0.3
NVAR	**Mina Array Bea**	**126.65**	**48**	PKP	PKPdf	23 59 39.1	+2.0
	comp=Z,0.9nm,0.5s,baz=279,slow=1.1,SNR=4.4						
PDAR	**Pinedale Array**	**130.78**	**40**	PKhKP		23 59 40.2	
	comp=Z,0.7nm,0.4s,baz=274,slow=12,SNR=1.4						
PDAR				PKP	PKPdf	23 59 46.6	+1.8
	comp=Z,0.6nm,0.4s,baz=268,slow=13,SNR=2.1						
TXAR	**Lajitas Array**	**141.36**	**53**	PKhKP		23 59 58.0	
	comp=Z,0.8nm,0.6s,baz=232,slow=3.5,SNR=12						
TXAR				PKP	PKPdf	00 00 05.0	+0.2
	comp=Z,0.8nm,0.6s,baz=158,slow=0.8,SNR=9.4						
TXAR	**Lajitas Array**	**141.36**	**53**	PKIKP	PKPdf	00 00 05.0	+0.1
BDFB	**Brasilia**	**148.24**	**220**	PKPbc	PKPbc	00 00 22.2	+1.7
	comp=Z,3.6nm,0.8s,baz=108,slow=4.1,SNR=11						
BDFB	**Brasilia**	**148.24**	**220**	PKP2	PKPbc	00 00 22.2	+1.7
BDFB				pmax	pmax		
	comp=Z,4.0nm,0.8s						
CMIG	**Matias Romero**	**153.18**	**70**	PKPbc	PKPbc	00 00 33.0	+0.8
LPAZ	**La Paz**	**155.05**	**181**	PKP	PKPdf	00 00 29.3	+1.9
	comp=Z,1.1nm,0.4s,baz=11,slow=6.8,SNR=6.3						
LPAZ	**La Paz**	**155.05**	**181**	PKIKP	PKPdf	00 00 29.3	+1.9
LPAZ				pmax	pmax		
	comp=Z,1.0nm,0.4s						

*NEIC **21** 00:14:38.3, 32.65S×71.63W, h29km, ML2.9(GUC), After GUC.*

GUC 21 00:14:38.3±0.7, 32.65S×71.63W, h29km±4km, MD3.6, ML2.9, 4C-5D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PACH	**Papudo**	**0.20**	**55**↓	*i*P	Pb	00 14 44.8	+0.5
PACH				*i* S	Sb	00 14 49.1	+0.8
IHA	**Instituto Hidr**	**0.38**	**182**↓	*i*P	Pb	00 14 46.4	-0.3
IHA				*i* S	Sb	00 14 52.3	-0.2
ROCH	**El Roble**	**0.61**	**122**↑	*i*P	Pb	00 14 50.4	0.0
ROCH				*i* S	Sb	00 14 59.3	+0.6
CHNG	**Los Chungos**	**0.77**	**8**↑	*i*P	Pb	00 14 52.4	-0.8
CHNG				*i* S	Sb	00 15 02.8	-0.5
JACH	**Jahuel**	**0.87**	**92**↑	*i*P	Pn	00 14 54.3	-0.3
JACH				*i* S	Sb	00 15 06.2	+0.1
PEL	**Peldehue**	**0.93**	**122**↑	*i*P	Pn	00 14 55.6	+0.1
PEL				*i* S	Sn	00 15 07.8	-0.1
PEL				AML	AML	00 15 10.9	
	comp=E,1μm,0.3s						
RCDM	**Rinconada Maip**	**1.08**	**141**	*e*P	Pn	00 14 57.4	-0.1
RCDM				*i* S	Sn	00 15 11.9	+0.3
RCDM				AML	AML	00 15 13.5	
	comp=E,501nm,0.1s						
RCDM	**Rinconada Maip**	**1.08**	**141**	*e*P	Pn	00 14 57.4	-0.1
RCDM				*i* S	Sn	00 15 11.9	+0.3
TACH	**Talagante**	**1.16**	**150**↓	*i*P	Pn	00 14 58.9	+0.3
CLCH	**Cerro Calan**	**1.18**	**129**	*e*P	Pn	00 14 59.2	+0.4
CLCH				*i* S	Sn	00 15 15.0	+1.0
CLCH				AML	AML	00 15 18.2	
	comp=E,266nm,0.4s						
ANTU	**Antumapu**	**1.24**	**138**	*i* S	Sn	00 15 16.7	+1.3
ANTU				AML	AML	00 15 20.0	
	comp=N,299nm,0.5s						
FCH	**Farellones**	**1.31**	**121**↓	*i*P	Pn	00 15 01.3	+0.7
FCH				*i* S	Sn	00 15 19.0	+1.8
FCH				AML	AML	00 15 19.8	
	comp=E,332nm,0.2s						
LNV	**Longovilo**	**1.31**	**172**	*e*P	Pn	00 15 00.6	-0.1
LNV				*i* S	Sn	00 15 17.9	+0.6
PCH	**Pirque**	**1.34**	**136**↓	*i*P	Pn	00 15 01.8	+0.7
PCH				*i* S	Sn	00 15 19.8	+1.8
CHCH	**Chadas Angostu**	**1.52**	**148**	*e*P	Pn	00 15 04.5	+1.0
CHCH				*i* S	Sn	00 15 24.0	+1.7
LMEL	**Las Melosas**	**1.69**	**135**	*e*P	Pn	00 15 07.2	+1.4
LMEL				*i* S	Sn	00 15 29.6	+3.2
LMEL				AML	AML	00 15 34.0	
	comp=N,318nm,0.1s						
LMEL	**Las Melosas**	**1.69**	**135**	*e*P	Pn	00 15 07.2	+1.4
LMEL				*i* S	Sn	00 15 29.6	+3.2
CACH	**El Canelo**	**1.70**	**150**	*e*P	Pn	00 15 08.2	+2.3
CACH				*i* S	Sn	00 15 30.5	+3.8
CICH	**Cipreses**	**1.95**	**149**	*e*P	Pn	00 15 11.0	+1.6

*CSEM **21** 00:37:18.4±0.2, 3987N×4322E, h25km, MD2.8, Error ellipse: s-maj=5.4km s-min=3.1km az=86.0*
*DDA **21** 00:37:19.6, 3991N×4319E, h7km±5km, Md2.8*
*ISCJB **21** 00:37:20.3±0.5, 3987N±003×4322E±005, h10km±7km, Error ellipse: s-maj=6.0km s-min=4.4km az=2.9*
*ISK **21** 00:37:20.0, 3987N×4324E, h8km, ML1.9*

ISC 21 00:37:20.8±0.5, 3987N±003×4321E±005, h13km±6km, n12, σ0§94/19, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AGRB	**Hanur-Agry**	**0.34**	**210**	*e*PG	**Pg**	**00 37 26.9**	**-0.7**
AGRB				*e*SG	**Sg**	**00 37 32.9**	**+0.6**
DYDN	**Diyadin**	**0.49**	**131**	*i* P	**Pg**	**00 37 30.0**	**-0.4**
DYDN				*i* S	**Sg**	**00 37 37.9**	**+1.0**
DIGO	**Kars**	**0.56**	**13**	*i* P	**Pg**	**00 37 30.4**	**-1.3**
DIGO				*i* S	**Sg**	**00 37 40.1**	**+1.0**
TUTA	**Tutak**	**0.56**	**213**	*i* P	**Pg**	**00 37 30.9**	**-0.8**
TUTA				*i* S	**Sg**	**00 37 39.6**	**+0.5**
KARS	**Kars**	**0.75**	**353**	*e*PG	**Pg**	**00 37 34.7**	**-0.6**
KARS				*e*SG	**Sg**	**00 37 46.1**	**+1.0**
CLDR	**Caldiran**	**0.91**	**143**	*e*PG	**Pg**	**00 37 37.2**	**-1.0**
CLDR				*e*SG	**Sg**	**00 37 50.7**	**+0.5**
HOMI	**Horasan**	**1.02**	**280**	*i* P	**Pb**	**00 37 38.0**	**-2.3**
HOMI				*i* S	**Sb**	**00 37 54.3**	**+0.8**
GNI	**Garni**	**1.21**	**76**	*e*PN	**Pn**	**00 37 43.4**	**0.0**
ERZM	**Erzurum**	**1.42**	**272**	*i* P	**Pn**	**00 37 47.4**	**+1.2**
EZM	**Erzurum**	**1.42**	**272**	*e*PN	**Pn**	**00 37 47.1**	**+0.8**
DDEM	**Demirkent**	**1.51**	**313**	*i* P	**Pn**	**00 37 42.6**	**-4.9**
DAGI	**Agillar**	**1.56**	**321**	*i* P	**Pn**	**00 37 47.4**	**-0.8**

MEX 21 01:01:14.7±1.1, 1787N×10352W, h19km±52km, MD3.9, Near coast of Michoacan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
R15V		**1.36**	**341**	*e*P	Pn	01 01 35.4	-3.2
R15V				*i* S	Sn	01 01 52.0	-4.2
EZ5V		**1.60**	**357**	*e*P	Pn	01 01 38.7	-3.2
EZ5V				*i* S	Sn	01 01 57.5	-4.6
SFJM	**Santa Fe**	**2.64**	**10**	*i* P	Pn	01 01 55.3	-0.9
SFJM				*i* S	Sn	01 02 25.3	-2.4
MOIG	**Morelia**	**2.84**	**51**	*i* P	Pn	01 01 56.7	-2.4
MOIG				*i* S	Sn	01 02 28.8	-4.0

IDC 21 01:17:20.2±6.2, 642S×12885E, h224km±55km, mb1 3.1/4, mb1mx3.0/16, mbtmp3.0/4, Error ellipse: s-maj=66.2km s-min=39.5km az=48.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BATI	**Baumata**	**6.36**	**233**	P	Pn	01 18 51.8	-0.7
	4.3nm,0.3s,baz=40,slow=5.3,SNR=4.2						
FITZ	**Fitzroy Crossi**	**12.03**	**195**	P	Pn	01 20 04.6	-0.2
	0.1nm,0.3s,baz=17,slow=14,SNR=4.0						
FITZ				S	S	01 22 21.8	+2.7
	0.0nm,0.3s,baz=288,slow=19,SNR=3.2						
WRA	**Warramunga Arr**	**14.46**	**159**	P	Pn	01 20 34.8	-0.2
	0.1nm,0.3s,baz=340,slow=12,SNR=8.9						
ASAR	**Alice Springs**	**17.82**	**165**	P	P	01 21 11.7	-0.9
	0.2nm,0.3s,baz=344,slow=12,SNR=11						
LPAZ	**La Paz**	**151.87**	**144**	PKPbc	PKPbc	01 36 51.0	+1.6
	0.9nm,1.0s,baz=172,slow=7.1,SNR=3.6						

*IDC **21** 01:22:03.8±1.2, 5.018N×8766E, h0km, mb3.7/4, mb1 4.1/9, mb1mx3.8/26, mbtmp4.0/9, ML4.2/5, Error ellipse: s-maj=14.2km s-min=12.7km az=82.0*
*BJI **21** 01:22:04.5, 5.022N×8747E, h11km, mB4.9, mb4.9, ML4.0, Msz4.4*
*ASRS **21** 01:22:04.8±0.9, 5.012N×8754E, h15km, Ms3.3*
*MOS **21** 01:22:05.0±1.4, 5.019N×8728E, h8km, mb4.4/5, Error ellipse: s-maj=10.5km s-min=9.0km az=124.6*
*ISCJB **21** 01:22:05.5±0.4, 5.027N±003×87.16E±004, h10km, mb4.0/9, Error ellipse: s-maj=4.8km s-min=3.6km az=145.0*
*NEIC **21** 01:22:06.1±1.0, 5.020N×8748E, h10km, mb3.9/3, Error ellipse: s-maj=15.8km s-min=9.6km az=96.0*
*NNC **21** 01:22:10.1±3.4, 5.003N×8699E, h22km±25km, mb4.0, mpv4.0, Error ellipse: s-maj=29.1km s-min=15.7km az=80.0*

ISC 21 01:22:07.3±0.4, 5024N±002×8722E±004, h10km, n59, σ1§23/86, mb4.0/9, 13C-11D, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AKAR	**Aktash**	**0.27**	**72**	*e*Pg	**Pg**	**01 22 08.4**	**-4.3**
AKAR				*e*Sg	**Sg**	**01 22 11.5**	**-4.8**
UKR	**Ust'-Kan**	**1.71**	**295**	*e*Pg	**Pg**	**01 22 39.7**	**-0.4**
UKR				*e*Sg	**Sg**	**01 23 05.8**	**+3.5**
TASR	**Tashtagol**	**2.56**	**9**	*e*Pg	**Pg**	**01 22 54.2**	**-2.1**
TASR				*e*Sg	**Sg**	**01 23 28.2**	**-1.2**
CERR	**Cheremushki**	**3.70**	**43**	*e*Pg	**Pb**	**01 23 12.5**	**-0.2**
CERR				*e*Sg	**Sb**	**01 23 58.0**	**+0.5**
ZAA0	**Zalesovo Array**	**4.00**	**339**	*e*Pn	**Pn**	**01 23 10.1**	**+1.6**
ZAA0				*e*Sg	**Sg**	**01 24 14.9**	**-0.7**
ZALV	**Zalesovo Beam**	**4.00**	**339**	Pn	**Pn**	**01 23 10.3**	**+1.8**
	12nm,0.3s,baz=158,slow=14,SNR=87						
ZALV				Pg	**Pg**	**01 23 22.4**	**-1.5**
	10.0nm,0.3s,baz=154,slow=15,SNR=16						
ZALV				Sn	**Sn**	**01 23 57.9**	**+2.5**
	9.6nm,0.3s,baz=145,slow=18,SNR=4.1						
ZALV				Lg		01 24 18.2	
	24nm,0.3s,baz=155,slow=25,SNR=10						
ZALV	**Zalesovo Beam**	**4.00**	**339**	PN	**Pn**	**01 23 10.4**	**+1.9**
ZALV						01 23 22.4	
ZALV						01 23 57.9	
ZALV						01 24 18.2	
ZALV				pmax	pmax		
	comp=Z,12nm,0.3s						
ZALV				smax			
	comp=N,10.0nm,0.3s						
BLRR	**Bol'shaya Rech**	**4.28**	**47**	*i* PN	**Pn**	**01 23 11.9**	**-0.6**
BLRR				*e*		01 23 22.9	
MK31	**Makanchi Array**	**4.76**	**225**	↑Pn	**Pn**	**01 23 21.0**	**+2.1**
	comp=N,41nm,0.6s,baz=52,slow=13,SNR=500						
MK31				↓Sn	**Sn**	**01 24 16.3**	**+2.1**
	comp=N,27nm,0.5s,baz=52,slow=28,SNR=5.0						
MK31				↑Lg		01 24 36.7	
	comp=N,84nm,0.6s,baz=59,slow=30,SNR=10						
MK31	**Makanchi Array**	**4.76**	**225**	*e*Pn	**Pn**	**01 23 20.6**	**+1.6**
MK31				*e*		01 23 34.8	
MK31	**Makanchi Array**	**4.76**	**225**	*e*Pn	**Pn**	**01 23 20.6**	**+1.7**
MK31				*e*Pg	**Pg**	**01 23 34.8**	**-3.5**
MK31				*e*Sg	**Sg**	**01 24 38.3**	**-1.7**
MKAR	**Makanchi Array**	**4.76**	**225**	Pn	**Pn**	**01 23 20.9**	**+1.9**
	comp=N,15nm,0.3s,baz=46,slow=13,SNR=373						
MKAR				Pg	**Pg**	**01 23 33.8**	**-4.5**
	comp=N,14nm,0.3s,baz=46,slow=18,SNR=20						
MKAR				Sn	**Sn**	**01 24 17.9**	**+3.8**
	comp=N,22nm,0.3s,baz=52,slow=30,SNR=9.5						
MKAR				Lg		01 24 38.8	
	comp=N,29nm,0.3s,baz=47,slow=30,SNR=16						
MKAR	**Makanchi Array**	**4.76**	**225**	PN	**Pn**	**01 23 20.9**	**+1.9**
MKAR						01 23 33.8	
MKAR						01 24 17.9	
MKAR				pmax	pmax		
	comp=Z,15nm,0.3s						
MKAR				smax			
	comp=N,22nm,0.3s						
MKAR	**Makanchi Array**	**4.76**	**225**	Pn	**Pn**	**01 23 20.9**	**+1.9**
MKAR				Pg	**Pg**	**01 23 33.8**	**-4.5**
MKAR				Sn	**Sn**	**01 24 17.9**	**+3.8**
MKAR				Lg		01 24 38.8	
KZLR	**Kyzyl**	**4.80**	**69**↓	*e*PN	**Pn**	**01 23 18.9**	**-0.6**
KZLR						01 23 30.1	
KZLR				*e*		01 24 15.6	
KZLR						01 24 35.0	
NVS	**Novosibirsk**	**5.21**	**334**	*e*PN	**Pn**	**01 23 27.0**	**+1.8**
NVS				*e*		01 23 43.0	
NVS	**Novosibirsk**	**5.21**	**334**	*e*Pg	**Pg**	**01 23 43.0**	**-4.0**
NVS				*e*Sg	**Sg**	**01 24 53.5**	**-0.9**
KURK	**Kurchatov**	**5.51**	**278**	↑Pn	**Pn**	**01 23 31.1**	**+1.7**
	comp=N,9.6nm,0.4s						
KURK				↑Sn	**Sn**	**01 24 32.4**	**-0.3**
	comp=N,20nm,0.6s						
KURK				↑Lg		01 25 00.8	
	comp=N,114nm,0.7s						
KURK	**Kurchatov**	**5.51**	**278**	Pn	**Pn**	**01 23 31.8**	**+2.4**
	comp=N,3.8nm,0.3s,baz=92,slow=15,SNR=132						
KURK				Sn	**Sn**	**01 24 40.1**	**+7.3**
	comp=N,1.8nm,0.3s,baz=87,slow=20,SNR=4.0						
KURK				Lg		01 25 05.9	
	comp=N,3.8nm,0.3s,baz=93,slow=36,SNR=11						
KURK	**Kurchatov**	**5.51**	**278**	PN	**Pn**	**01 23 31.8**	**+2.4**
KURK						01 24 40.1	
KURK				pmax	pmax		
	comp=Z,4.0nm,0.3s						
KURK				smax			
	comp=N,2.0nm,0.3s						
KURK	**Kurchatov**	**5.51**	**278**	*e*Pn	**Pn**	**01 23 30.8**	**+1.4**
KURK				*e*Sg	**Sg**	**01 25 02.9**	**-1.3**
KURK				Lg		01 25 05.9	
KURBB	**Kurchatov Arra**	**5.57**	**277**	↑Pn	**Pn**	**01 23 32.1**	**+2.0**
	comp=N,3.8nm,0.5s						
KURBB				↓Sn	**Sn**	**01 24 34.1**	**0.0**
	comp=N,10nm,0.7s						
KURBB				↓Lg		01 25 05.8	
	comp=N,42nm,0.7s						
WMQ	**Urumqi**	**6.43**	**177**	*e*P	**Pn**	**01 23 41.5**	**-0.4**
WMQ				Smax			
	comp=N,72nm,0.9s						
WMQ				Smax			
	comp=E,85nm,0.9s						
KRAR	**Krasnoyarsk**	**6.71**	**28**	*i* PN	**Pn**	**01 23 47.5**	**+1.8**
VOSK	**Vostochnaya**	**10.43**	**290**	↓Pn	**Pn**	**01 24 37.3**	**+0.5**
	comp=E,2.3nm,0.6s						
VOSK				↑Sn	**Sn**	**01 26 33.1**	**-0.5**
	comp=E,7.5nm,0.7s						
VOSK				↓Lg		01 27 41.8	
	comp=E,21nm,1.2s						
VOSK	**Vostochnaya**	**10.43**	**290**	P	**Pn**	**01 24 37.2**	**+0.4**
VOSK						01 26 33.1	
VOSK				pmax	pmax		
	comp=Z,2.0nm,0.6s						
VOSK				smax			
	comp=N,8.0nm,0.7s						
BVA0	**Borovoye Array**	**10.83**	**291**	↓Pn	**Pn**	**01 24 42.4**	**+0.2**
	comp=N,0.9nm,1.0s,baz=101,slow=13,SNR=3.8						
BVA0				↓Sn	**Sn**	**01 26 42.6**	**-0.7**
	comp=N,0.9nm,0.5s,baz=44,slow=56,SNR=6.5						
BVA0	**Borovoye Array**	**10.83**	**291**	*i* P	**Pn**	**01 24 42.3**	**+0.1**
BVA0						01 26 42.6	
BVA0				pmax	pmax		
	comp=Z,1.0nm,0.4s						
BVA0				smax			
	comp=N,1.0nm,0.4s						
BVAR	**Borovoye Array**	**10.83**	**291**	Pn	**Pn**	**01 24 42.4**	**+0.2**
	comp=N,1.3nm,0.3s,baz=104,slow=14,SNR=12						
BVAR				Sn	**Sn**	**01 26 43.6**	**+0.3**
	comp=N,1.5nm,0.3s,baz=104,slow=23,SNR=7.1						
BVAR	**Borovoye Array**	**10.83**	**291**	P	**Pn**	**01 24 42.4**	**+0.2**
BVAR						01 26 43.6	
BVAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
BVAR				smax			
	comp=N,2.0nm,0.3s						
TKM2	**Tokmak 2**	**10.84**	**232**	↑Pn	**Pn**	**01 24 41.5**	**-0.8**
	comp=N,2.5nm,0.5s						
TKM2				↓Sn	**Sn**	**01 26 40.2**	**-3.4**
	comp=N,5.4nm,0.7s						
TKM2				↑Lg		01 27 46.2	
	comp=N,18nm,1.1s						
TKM2	**Tokmak 2**	**10.84**	**232**	*i* P	**Pn**	**01 24 42.5**	**+0.2**
TKM2				pmax	pmax		
	comp=Z,3.0nm,0.5s						
TKM2	**Tokmak 2**	**10.84**	**232**	*e*Pn	**Pn**	**01 24 42.8**	**+0.5**
	comp=Z,3.8nm,0.5s						
BRVK	**Borovoye**	**10.90**	**292**	*e*Pn	**Pn**	**01 24 43.4**	**+0.2**
BRVK				*e*Sn	**Sn**	**01 26 45.5**	**+0.5**
EKS2	**Erkin-Say**	**11.96**	**236**	*e*Pn	**Pn**	**01 24 57.6**	**-0.2**
	comp=Z,3.9nm,0.6s						
SONM	**Songino Array**	**12.81**	**93**	Lg		01 28 37.7	
	comp=Z,0.2nm,0.3s,baz=276,slow=30,SNR=3.1						
KK31	**Karatay Array**	**13.50**	**244**	Pn	**Pn**	**01 25 16.3**	**-2.4**
	comp=Z,1.2nm,0.5s,baz=52,slow=13,SNR=36						
KK31				↑Sn	**Sn**	**01 27 47.0**	**-1.7**
	comp=Z,2.5nm,0.6s						
KK31			

WRA	**Warramunga Arr**	**81.30**	**136**	*e*P	**P**	**01 34 24.2**	**+0.6**
WRA				pmax	pmax		

comp=Z,1.0nm,1.0s

DDA ***21*** *01:34:03.8, 3979N×2677E, h6km±5km, Md2.9*
ISCJB ***21*** *01:34:04.8±0.4, 3979N±003×2671E±003, h10km, Error ellipse: s-maj=5.0km s-min=3.2km az=19.9*
ISK ***21*** *01:34:04.2, 3976N×2673E, h5km, MD3.0*
CSEM ***21*** *01:34:04.2±0.1, 3977N×2673E, h5km, MD3.0, Error ellipse: s-maj=1.7km s-min=1.1km az=31.0*

ISC 21 01:34:04.8±0.5,**3978N**±003×**2675E**±003,**h0**km±5km,**n21,** σ0**§85**/30,**Turkey**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
EZN	**Ezine**	**0.33**	**278**	*e*PG	**Pg**	**01 34 11.0**	**-0.1**
EZN				*e*SG	**Sg**	**01 34 15.7**	**+0.4**
AYVA	**Ayvalik**	**0.47**	**185**	*i* P	**Pg**	**01 34 13.9**	**+0.1**
AYVA				*i* S	**Sg**	**01 34 20.3**	**+0.3**
BOZC	**Bozcaada**	**0.54**	**277**	*i* P	**Pg**	**01 34 14.3**	**-0.8**
BOZC				*i* S	**Sg**	**01 34 22.5**	**+0.4**
BALY	**Balya**	**0.68**	**93**	*i* P	**Pg**	**01 34 17.4**	**-0.3**
BALY				*i* S	**Sg**	**01 34 26.3**	**-0.1**
BALY	**Balya**	**0.68**	**93**	*i* S	**Sg**	**01 34 26.3**	**-0.2**
BALY	**Balya**	**0.68**	**93**	*i* P	**Pg**	**01 34 17.4**	**-0.3**
GADA	**Gvkgeada**	**0.77**	**303**	*e*PG	**Pg**	**01 34 19.5**	**0.0**
BALB	**Balikesir**	**0.89**	**99**	*e*PG	**Pg**	**01 34 21.8**	**0.0**
ENEZ	**Enez**	**1.06**	**335**	*e*PG	**Pg**	**01 34 25.1**	**0.0**
BNT	**Bandirma**	**1.07**	**57**	*e*PG	**Pg**	**01 34 24.9**	**-0.4**
AKS	**Akhisar**	**1.22**	**137**	*e*PN	**Pn**	**01 34 28.0**	**-1.1**
AKS				*e*SN	**Sn**	**01 34 44.8**	**-1.5**
AKHS	**Akhisar**	**1.22**	**137**	*i* P	**Pg**	**01 34 27.9**	**-0.3**
AKHS				*i* S	**Sg**	**01 34 45.2**	**+1.1**
KCT	**Karacabey**	**1.33**	**68**	*e*PN	**Pn**	**01 34 30.2**	**-0.3**
BLCB	**Balcova**	**1.41**	**170**	*e*PN	**Pn**	**01 34 31.3**	**-0.4**
DST	**Dursunbey**	**1.46**	**96**	*e*PN	**Pn**	**01 34 32.0**	**-0.4**
DEMI	**Demirci**	**1.69**	**115**	*i* P	**Pn**	**01 34 33.2**	**-2.3**
DEMI				*i* S	**Sn**	**01 34 57.0**	**-1.0**
ULDT	**Uludag**	**1.87**	**78**	*i* P	**Pn**	**01 34 39.3**	**+1.2**
ULDT				*i* S	**Sn**	**01 35 03.8**	**+1.4**
MANT	**Manisa**	**1.91**	**132**	*i* P	**Pn**	**01 34 39.9**	**+1.4**
MANT				*i* S	**Sn**	**01 35 05.0**	**+1.8**
KULA	**Kula-Manisa**	**1.95**	**130**	*e*PN	**Pn**	**01 34 39.1**	**-0.1**
EDRB	**Edirne**	**2.06**	**360**	*e*PN	**Pn**	**01 34 40.8**	**+0.1**
YLV	**Yalova**	**2.16**	**68**	*e*PN	**Pn**	**01 34 42.4**	**+0.4**

ISK ***21*** *01:40:56.4, 3837N×3930E, h10km, MD3.0*
DDA ***21*** *01:40:56.7, 3838N×3927E, h7km±3km, Md3.1*
CSEM ***21*** *01:40:56.1±0.1, 3838N×3928E, h8km, MD3.0, Error ellipse: s-maj=2.9km s-min=2.0km az=104.0*
ISCJB ***21*** *01:40:57.1±0.5, 3838N±003×3928E±004, h5km±5km, Error ellipse: s-maj=5.4km s-min=4.2km az=141.0*

ISC 21 01:40:57.5±0.5,**3839N**±003×**3927E**±004,**h5**km±5km,**n14,** σ0**§83**/23,**Turkey**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SVRC	**Sivrice-ELAZID**	**0.03**	**106**	PG	**Pg**	**01 40 58.3**	**-0.3**
ELZG	**Elazig**	**0.25**	**296**	*i* P	**Pg**	**01 41 02.5**	**0.0**
ELZG				*i* S	**Sg**	**01 41 06.6**	**+0.8**
PTK	**Pertek**	**0.51**	**10**	*e*PG	**Pg**	**01 41 07.2**	**-0.3**
PTK				*e*SG	**Sg**	**01 41 15.0**	**+0.9**
DIYA	**Diyarbakir**	**0.81**	**124**	*i* P	**Pg**	**01 41 13.7**	**+0.6**
DIYA				*i* S	**Sg**	**01 41 24.7**	**+1.1**
URFA	**Urfa**	**1.01**	**201**	*e*PG	**Pg**	**01 41 16.0**	**-0.8**
URFA				*e*SG	**Sg**	**01 41 30.3**	**+0.4**
AKCD	**Akcadag**	**1.07**	**266**	*i* P	**Pg**	**01 41 16.8**	**-1.2**
AKCD				*i* S	**Sg**	**01 41 32.0**	**+0.1**
KEMA	**Kemaliye**	**1.07**	**326**	*i* P	**Pg**	**01 41 16.8**	**-1.3**
KEMA				*i* S	**Sg**	**01 41 32.5**	**+0.5**
ATAB	**Bozova**	**1.20**	**221**	*i* P	**Pg**	**01 41 19.9**	**-0.6**
ATAB				*i* S	**Sg**	**01 41 36.6**	**+0.6**
DARE	**Darende-Malaty**	**1.28**	**297**	*e*PN	**Pn**	**01 41 23.3**	**+1.2**
MARD	**Mardin**	**1.60**	**131**	*i* P	**Pn**	**01 41 26.1**	**-0.4**
MARD				*i* S	**Sn**	**01 41 47.4**	**0.0**
GZT	**Gaziantep**	**1.70**	**233**	*i* P	**Pn**	**01 41 27.0**	**-0.8**
GZT				*i* S	**Sn**	**01 41 52.6**	**+2.8**
GAZ	**Gaziantep**	**2.04**	**234**	*e*PN	**Pn**	**01 41 31.8**	**-0.6**
SVSK	**Karacayir**	**2.34**	**312**	*e*PN	**Pn**	**01 41 36.2**	**-0.4**
SIRT	**Sirnak**	**2.65**	**108**	*e*PN	**Pn**	**01 41 40.1**	**-0.8**

IDC ***21*** *01:56:53.1±1.4, 690S×12950E, h0km, mb4.0/2, mb1 4.2/4, mb1mx3.9/14, mbtmp4.0/4, ML4.0/2, Error ellipse: s-maj=107.9km s-min=21.5km az=70.0*
ISCJB ***21*** *01:56:56.8±1.4, 650S±006×1315E±02, h82km±20km, Error ellipse: s-maj=25.7km s-min=9.3km az=0.2*
NEIC ***21*** *01:57:02.3±1.6, 689S×131.13E, h35km, mb4.0/1, Error ellipse: s-maj=22.7km s-min=18.5km az=118.0*

ISC 21 01:56:58.1±1.3,**650S**±005×**1315E**±01,**h77**km±16km,**n11,** σ1**§15**/17,**1C, Tanimbar Islands region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TLE	**Tual**	**1.48**	**55⇑**	*e*P	**Pn**	**01 57 22.5**	**-0.5**
TLE				*e*S	**Sn**	**01 57 41.5**	**-0.3**
KAKA	**Kakadu**	**6.24**	**172**	*e*Pn	**Pn**	**01 58 27.8**	**+0.3**
45nm,0.4s							
KAKA				*e*Sn	**Sn**	**01 59 38.9**	**+1.5**
FITZ	**Fitzroy Crossi**	**12.88**	**206**	*e*Pn	**Pn**	**01 59 56.3**	**-1.9**
10.0nm,0.4s							
FITZ				*e*Sn	**Sn**	**02 02 12.2**	**-7.6**
WRAB	**Tennant Creek**	**13.63**	**169**	*e*Pn	**Pn**	**02 00 09.7**	**+1.6**
5.1nm,0.6s							
WRAB				*e*Sn	**Sn**	**02 02 36.7**	**-1.2**
WRA	**Warramunga Arr**	**13.64**	**169**	Pn	**Pn**	**02 00 08.5**	**+0.3**
0.7nm,0.3s,baz=343,slow=13,SNR=42							
WRA				Sn	**Sn**	**02 02 38.0**	**-0.1**
1.3nm,0.3s,baz=333,slow=11,SNR=6.6							
WB2	**Warramunga Arr**	**13.64**	**169**	*e*Pn	**Pn**	**02 00 09.2**	**+1.0**
WB2				*e*Sn	**Sn**	**02 02 36.5**	**-1.6**
ASAR	**Alice Springs**	**17.22**	**173**	P	**Pn**	**02 00 56.2**	**+2.5**
0.9nm,0.3s,baz=347,slow=9.8,SNR=30							
ASAR				S	**S**	**02 04 08.8**	**-0.6**
0.3nm,0.3s,baz=360,slow=28,SNR=4.6							
CTAO	**Charters Tower**	**19.67**	**135**	*e*P	**Pn**	**02 01 29.2**	**+6.1**
5.9nm,0.8s							
STKA	**Stephens Creek**	**26.94**	**161**	P	**P**	**02 02 38.2**	**+5.9**
2.5nm,1.0s,baz=333,slow=14,SNR=3.0							
MKAR	**Makanchi Array**	**68.65**	**326**	P	**P**	**02 07 53.0**	**-0.1**
0.3nm,0.3s,baz=114,slow=7.3,SNR=4.8							
LPAZ	**La Paz**	**150.15**	**140**	PKPbc	PKPab	02 16 51.0	+3.8
0.4nm,0.5s,baz=194,slow=4.2,SNR=2.9							

ISK ***21*** *02:03:26.3, 3829N×2588E, h5km, MD3.3*
ATH ***21*** *02:03:27.6, 3831N×2597E, h33km±5km, MD3.3/8, ML3.3*
NEIC ***21*** *02:03:27.6, 3831N×2597E, h33km, ML3.3(ATH), After ATH.*
ISCJB ***21*** *02:03:27.5±0.9, 3829N±003×2590E±003, h13km±7km, Error ellipse: s-maj=5.3km s-min=4.3km az=4.9*
CSEM ***21*** *02:03:27.5±0.1, 3831N×2594E, h15km, MD2.9, Error ellipse: s-maj=2.3km s-min=1.8km az=2.0*
DDA ***21*** *02:03:28.6, 3833N×2600E, h12km±2km, Md2.9*

ISC 21 02:03:27.8±0.9,**3830N**±003×**2590E**±004,**h11**km±6km,**n46,** σ0**§95**/59,**Aegean Sea**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
URLA	**Izmir**	**0.55**	**84**	*i* P	**Pg**	**02 03 38.2**	**-0.3**
URLA				*i* S	**Sg**	**02 03 45.2**	**-0.6**
BLCB	**Balcova**	**0.90**	**84**	*e*PG	**Pg**	**02 03 44.5**	**-0.7**
BLCB				*e*SG	**Sg**	**02 03 57.9**	**+1.0**
SMG	**Samos**	**0.95**	**128**	*e*Pn	**Pn**	**02 03 45.6**	**-1.4**
SMG				*e*Sn	**Sn**	**02 03 57.7**	**-2.8**
SMG	**Samos**	**0.95**	**128**	*e*PN	**Pn**	**02 03 45.6**	**-1.4**
SMG				*e*SN	**Sn**	**02 03 57.7**	**-2.8**
PRK	**Paraskevi**	**0.99**	**17**	*e*Pn	**Pn**	**02 03 46.0**	**-1.5**
PRK				*e*Sn	**Sn**	**02 03 59.3**	**-2.2**
PRK	**Paraskevi**	**0.99**	**17**	*e*PN	**Pn**	**02 03 46.0**	**-1.5**
PRK				*e*SN	**Sn**	**02 03 59.3**	**-2.2**
IZM	**Izmir**	**1.08**	**84**	*e*PN	**Pn**	**02 03 47.9**	**-0.9**
IZM				*e*SN	**Sn**	**02 04 02.6**	**-1.1**
KDAG	**Bornova**	**1.08**	**84**	*i* P	**Pb**	**02 03 47.7**	**-0.7**
KDAG				*i* S	**Sb**	**02 04 03.1**	**+0.6**
AYVA	**Ayvalik**	**1.18**	**31**	*i* P	**Pb**	**02 03 49.0**	**-1.2**
AYVA				*i* S	**Sb**	**02 04 04.8**	**-0.6**
EZN	**Ezine**	**1.56**	**12**	*e*PN	**Pn**	**02 03 54.6**	**-0.7**
EZN				*e*SN	**Sn**	**02 04 17.1**	**+1.5**
AKS	**Akhisar**	**1.61**	**68**	*e*PN	**Pn**	**02 03 57.0**	**+0.9**
PTL	**Penteli**	**1.62**	**262**	*e*Pn	**Pn**	**02 03 56.0**	**-0.3**
PTL	**Penteli**	**1.62**	**262**	*e*PN	**Pn**	**02 03 56.0**	**-0.3**
BODT	**Bodrum**	**1.67**	**137**	*e*PN	**Pn**	**02 03 56.7**	**-0.2**
LIA	**Limnos Island**	**1.69**	**341**	*e*Pb	**Pb**	**02 03 57.5**	**-1.3**
LIA				*e*Sn	**Sn**	**02 04 18.0**	**-0.8**
LIA	**Limnos Island**	**1.69**	**341**	*e*PB	**Pb**	**02 03 57.5**	**-1.3**
LIA				*e*SN	**Sn**	**02 04 18.0**	**-0.8**
KVR	**Kavouri**	**1.75**	**255**	*e*Pn	**Pn**	**02 03 58.0**	**0.0**
KVR	**Kavouri**	**1.75**	**255**	*e*PN	**Pn**	**02 03 58.0**	**0.0**
ATH	**Athens Observa**	**1.75**	**260**	*e*Pn	**Pn**	**02 03 58.0**	**0.0**
ATH	**Athens Observa**	**1.75**	**260**	*e*PN	**Pn**	**02 03 58.0**	**0.0**
MLSB	**Milas**	**1.79**	**123**	*e*PN	**Pn**	**02 03 58.9**	**+0.3**
GADA	**Gvkgeada**	**1.89**	**360**	*e*PN	**Pn**	**02 03 59.5**	**-0.4**
BALY	**Balya**	**1.96**	**42**	*i* P	**Pn**	**02 04 00.6**	**-0.4**
BALY				*i* S	**Sn**	**02 04 30.2**	**+4.6**
NAIG	**Nisos Aigina**	**1.98**	**255**	*e*Pn	**Pn**	**02 04 01.0**	**-0.2**
NAIG	**Nisos Aigina**	**1.98**	**255**	*e*PN	**Pn**	**02 04 01.0**	**-0.2**
BALB	**Balikesir**	**2.04**	**49**	*e*PN	**Pn**	**02 04 02.3**	**+0.3**
KULA	**Kula-Manisa**	**2.18**	**84**	*e*PN	**Pn**	**02 04 05.0**	**+1.1**
YER	**Yerkesik**	**2.22**	**121**	*e*PN	**Pn**	**02 04 04.8**	**+0.4**
YER	**Yerkesik**	**2.22**	**121**	*e*Pn	**Pn**	**02 04 04.8**	**+0.3**
LKR	**Lokris**	**2.30**	**280**	*e*Pn	**Pn**	**02 04 06.3**	**+0.7**
LKR	**Lokris**	**2.30**	**280**	*e*PN	**Pn**	**02 04 06.3**	**+0.7**
DEMI	**Demirci**	**2.33**	**71**	*i* P	**Pn**	**02 04 12.3**	**+6.4**
ENEZ	**Enez**	**2.44**	**5**	*e*PN	**Pn**	**02 04 07.5**	**0.0**
DST	**Dursunbey**	**2.49**	**58**	*e*PN	**Pn**	**02 04 09.4**	**+1.2**
EDC	**Edincik**	**2.55**	**36**	*e*PN	**Pn**	**02 04 10.0**	**+1.0**
RKY	**Sarkoy-Tekirda**	**2.58**	**22**	*e*PN	**Pn**	**02 04 10.2**	**+0.8**
BNT	**Bandirma**	**2.58**	**37**	*e*PN	**Pn**	**02 04 09.0**	**-0.4**
MRMT	**Marmara Adasi**	**2.65**	**29**	*e*PN	**Pn**	**02 04 11.3**	**+0.9**
MFT	**Murefte**	**2.70**	**23**	*e*PN	**Pn**	**02 04 12.2**	**+1.1**
VLI	**Veliai**	**2.84**	**237**	*e*Pn	**Pn**	**02 04 13.5**	**+0.6**
VLI	**Veliai**	**2.84**	**237**	*e*PN	**Pn**	**02 04 13.5**	**+0.6**
KHL	**Karahalli**	**2.85**	**88**	*e*PN	**Pn**	**02 04 14.2**	**+1.1**
RDO	**Rodhopi**	**2.85**	**355**	*e*Pn	**Pn**	**02 04 13.6**	**+0.4**
RDO	**Rodhopi**	**2.85**	**355**	*e*PN	**Pn**	**02 04 13.6**	**+0.4**
YLV	**Yalova**	**3.51**	**49**	*e*PN	**Pn**	**02 04 23.7**	**+1.5**
ADVT	**Abdulvahap**	**3.66**	**53**	*e*PN	**Pn**	**02 04 25.9**	**+1.6**

IDC ***21*** *02:05:56.2±1.5, 2407S×17689W, h0km, mb4.0/5, mb1 4.3/6, mb1mx4.0/18, mbtmp4.2/6, ML3.2/1, Error ellipse: s-maj=46.1km s-min=29.6km az=142.0*
ISCJB ***21*** *02:05:58.5±1.4, 239S±02×1768W±02, h33km, mb4.0/6, Error ellipse: s-maj=41.8km s-min=16.2km az=44.9*
NEIC ***21*** *02:06:01.4±1.1, 2391S×17693W, h35km, mb4.2/1, Error ellipse: s-maj=36.7km s-min=14.1km az=137.0*

ISC 21 02:06:00.7±1.4,**239S**±02×**1769W**±02,**h35**km,**n10,** σ0**§76**/8, **mb4.0/6, South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**11.07**	**27**	Pn	**Pn**	**02 08 36.7**	**0.0**
9.4nm,0.3s,baz=196,slow=2.8,SNR=7.6							
CTA	**Charters Tower**	**34.35**	**269**	P	**P**	**02 12 46.3**	**+1.8**
3.2nm,0.5s,mb4.5,baz=90,slow=8.1,SNR=3.5							
STKA	**Stephens Creek**	**37.38**	**248**	P	**P**	**02 13 10.3**	**0.0**
0.7nm,0.5s,mb3.8,baz=90,slow=5.4,SNR=2.7							
ASAR	**Alice Springs**	**44.87**	**260**	P	**P**	**02 14 11.8**	**-0.2**
0.4nm,0.4s,mb3.6,baz=101,slow=6.3,SNR=7.2							
WB2	**Warramunga Arr**	**45.26**	**265**	*e*P	**P**	**02 14 14.8**	**-0.4**
WRAB	**Tennant Creek**	**45.27**	**265**	*e*P	**P**	**02 14 15.0**	**-0.2**
1.7nm,0.6s,mb4.0							
WRA	**Warramunga Arr**	**45.27**	**265**	P	**P**	**02 14 14.1**	**-1.2**
0.8nm,0.4s,mb3.9,baz=102,slow=8.5,SNR=34							
MAW	**Mawson**	**78.70**	**200**	P	**P**	**02 17 59.2**	**+0.2**
0.9nm,0.5s,mb3.9,baz=65,slow=7.3,SNR=7.3							
ARCES	**ARCESS Array B**	**132.48**	**350**	PKP	PKPdf	02 25 12.4	+1.8
3.3nm,0.9s,baz=29,slow=2.1,SNR=3.7							
AKASG	**Malin Array Be**	**146.52**	**330**	PKPbc	PKPbc	02 25 39.4	+1.3
0.9nm,0.5s,baz=40,slow=5.5,SNR=4.4							

ISCJB ***21*** *02:15:30.6±0.9, 3405N±004×14134E±008, h49km±8km, mb3.8/5, Error ellipse: s-maj=11.0km s-min=6.3km az=172.7*
JMA ***21*** *02:15:30.5±0.2, 3407N×14134E, h45km±3km, M3.3*
IDC ***21*** *02:15:32.3±2.8, 3403N×14134E, h44km±24km, mb3.5/4, mb1 3.8/6, mb1mx3.5/23, mbtmp3.7/6, ML4.2/2, Error ellipse: s-maj=23.7km s-min=10.4km az=91.0*
NEIC ***21*** *02:15:32.6±2.7, 3400N×14123E, h47km±19km, mb3.9/1, Error ellipse: s-maj=47.9km s-min=18.9km az=69.0*

ISC 21 02:15:31.7±1.0,**3405N**±004×**14132E**±008,**h38**km±10km, **n20,** σ0**§90**/30,**mb3.8/5, Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BSO1	**Boso 1**	**0.66**	**335**	P	**Pn**	**02 15 43.4**	**-1.2**
BSO1				*e*S	**Sn**	**02 15 53.2**	**-0.6**
BSO3	**Boso 3**	**1.00**	**318**	P	**Pn**	**02 15 48.8**	**-0.5**
BSO3				*e*S	**Sn**	**02 16 02.7**	**+0.5**
BSO4	**Boso 4**	**1.24**	**319**	P	**Pn**	**02 15 52.8**	**+0.3**
BSO4				*e*S	**Sn**	**02 16 06.2**	**-1.7**
TATJ	**Tateyama 2**	**1.53**	**310**	P	**Pn**	**02 15 57.1**	**+0.6**
TATJ				*e*S	**Sn**	**02 16 16.1**	**+0.9**
JHJ2	**Mitsune**	**1.57**	**234**	P	**Pn**	**02 15 57.2**	**+0.2**
JHJ2				*e*S	**Sn**	**02 16 17.2**	**+1.1**
JHJ	**Hachijo jima 2**	**1.58**	**234**	P	**Pn**	**02 15 57.5**	**+0.2**
87nm,0.3s,baz=260,slow=6.1,SNR=22							
JHJ				S	**Sn**	**02 16 16.6**	**0.0**
241nm,0.3s,baz=34,slow=23,SNR=24							
JIM2	**Oshima 3**	**1.70**	**293**	P	**Pn**	**02 15 57.8**	**-1.0**
JKO	**Kozu shima**	**1.81**	**275**	P	**Pn**	**02 16 00.7**	**+0.3**
JKO				*e*S	**Sn**	**02 16 21.1**	**-1.1**
KTJJ	**Kamata 2**	**2.06**	**296**	P	**Pn**	**02 16 03.0**	**-0.7**
KTJJ				S	**Sn**	**02 16 25.8**	**-2.3**
JOD2	**Odawara 2**	**2.20**	**304**	P	**Pn**	**02 16 05.0**	**-0.7**
JOD2				*e*S	**Sn**	**02 16 32.0**	**+0.3**
MJAR	**Matsushiro Arr**	**3.55**	**315**	P	**Pn**	**02 16 24.2**	**-0.1**
2.8nm,0.3s,baz=139,slow=11,SNR=26							
MJAR				S	**Sn**	**02 17 06.1**	**+1.1**
2.9nm,0.3s,baz=36,slow=23,SNR=4.4							
MAJO	**Matsushiro**	**3.56**	**315**	*e*Pn	**Pn**	**02 16 25.9**	**+1.5**
MAT	**Matsushiro**	**3.56**	**315**	P	**Pn**	**02 16 25.9**	**+1.5**
MAT				S	**Sn**	**02 17 06.7**	**+1.6**
CBIJ	**Chichi jima**	**6.98**	**174**	P	**Pn**	**02 17 11.3**	**-0.1**
29nm,0.3s,baz=287,slow=23,SNR=6.2							
CHTO	**Chiang Mai**	**40.57**	**259**	*e*P	**P**	**02 23 06.7**	**-0.9**
0.9nm,0.4s,mb3.8							
MKAR	**Makanchi Array**	**45.69**	**305**	P	**P**	**02 23 48.9**	**+0.2**
0.3nm,0.2s,mb3.8,baz=92,slow=8.8,SNR=2.2							
KURK	**Kurchatov**	**47.75**	**310**	P	**P**	**02 24 05.2**	**+0.4**
0.4nm,0.3s,mb3.9,baz=83,slow=7.5,SNR=3.2							
WRA	**Warramunga Arr**	**54.10**	**188**	P	**P**	**02 24 52.7**	**0.0**
0.6nm,0.4s,mb3.9,baz=4.7,slow=7.6,SNR=16							
ASAR	**Alice Springs**	**57.83**	**188**	P	**P**	**02 25 19.2**	**-0.2**
0.2nm,0.4s,mb3.5,baz=1.5,slow=7.2,SNR=3.6							
TORD	**Torodi Ar. Bea**	**119.35**	**314**	PKP	PKPdf	02 34 17.1	-0.4
0.3nm,0.5s,baz=23,slow=0.9,SNR=7.8							

ISCJB ***21*** *02:33:38.3±0.4, 5140N±002×16.11E±002, h0km, Error ellipse: s-maj=3.5km s-min=2.0km az=16.7*
IDC ***21*** *02:33:39.5±0.9, 5152N×1602E, h0km, mb1 3.4/6, mb1mx3.2/25, mbtmp3.2/6, ML3.1/6, Error ellipse: s-maj=12.9km s-min=8.5km az=100.0*
NEIC ***21*** *02:33:40.8±0.5, 5137N×1610E, h5km, ML2.7(BRA), ML2.8(SZGRF), ML3.0(FUR), Error ellipse: s-maj=6.1km s-min=4.4km az=206.0*
WAR ***21*** *02:33:40.3, 5148N×1611E, ML2.7, Mining Induced*
IPEC ***21*** *02:33:40.3±0.3, 5144N×1660E, h0km, ML2.2/4, Error ellipse: s-maj=2.8km s-min=1.9km az=100.0*
PRU ***21*** *02:33:40.7, 5142N×1609E, h0km, Felt In Harrachov*
CSEM ***21*** *02:33:41.6±0.1, 5142N×1606E, h1km, ML3.5/9, Error ellipse: s-maj=2.6km s-min=1.7km az=20.0*
VIE ***21*** *02:33:41.3±0.6, 5130N×1617E, h0km, mb2.5/3, ML2.9/4, Error ellipse: s-maj=3.6km s-min=3.4km az=106.0, Suspected Mining induced.*
LDG ***21*** *02:33:42.5±0.2, 5122N×1586E, h1km, Ml3.4/1, Error ellipse: s-maj=5.9km s-min=3.8km az=7.0, Suspected Mining induced.*

ISC 21 02:33:38.6±0.4,**5149N**±002×**1613E**±002,**h0**km,**n53,** σ0**§94**/99,**4C-4D, Poland**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KSP	**Ksiaz**	**0.66**	**171**	*e*Pg	**Pg**	**02 33 52.1**	**+0.9**
KSP				*e*Sg	**Sg**	**02 34 00.9**	**+1.1**
KSP	**Ksiaz**	**0.66**	**171**	*e*Pg	**Pg**	**02 33 52.1**	**+0.8**
KSP				*e*Sg	**Sg**	**02 33 59.8**	**0.0**
KSP	**Ksiaz**	**0.66**	**171**	*i*Pg	**Pg**	**02 33 52.1**	**+0.8**
KSP				*e*Sg	**Sg**	**02 34 00.8**	**+1.0**
KSP				*e*		02 34 04.0	
UPC	**Upice**	**0.99**	**184**	*e*PG	**Pg**	**02 33 58.2**	**+0.6**
DPC	**Dobruska-Polom**	**1.15**	**174**	Pg	**Pg**	**02 34 01.0**	**+0.3**
DPC				*e*Sg	**Sg**	**02 34 15.1**	**-0.5**
DPC	**Dobruska-Polom**	**1.15**	**174**	*e*PG	**Pg**	**02 34 01.0**	**+0.3**
DPC				*e*SG	**Sg**	**02 34 15.5**	**-0.1**
43nm,0.4s							
PVCC	**Panska Ves**	**1.38**	**226**	*e*PG	**Pg**	**02 34 05.2**	**+0.1**
PVCC				*e*SG	**Sg**	**02 34 22.7**	**-0.3**
218nm,0.2s							
BRG	**Berggiesshubel**	**1.51**	**247**	PN	**Pn**	**02 34 06.4**	**-0.5**
BRG				PG	**Pg**	**02 34 07.8**	**+0.2**
BRG				SG	**Sg**	**02 34 28.1**	**+1.0**
70nm,0.4s							
RUE	**Ruedersdorf**	**1.76**	**305**	*e*Pn	**Pn**	**02 34 12.9**	**+2.6**
RUE	**Ruedersdorf**	**1.76**	**305**	*e*Pn	**Pn**	**02 34 12.9**	**+2.6**
PRU	**Pruhonice**	**1.81**	**214**	*e*PN	**Pn**	**02 34 10.8**	**-0.3**
PRU				*e*PG	**Pg**	**02 34 12.6**	**-0.8**
PRU				*e*SG	**Sg**	**02 34 35.9**	**-1.0**
26nm,0.3s							
GKP	**Gorka Klasztor**	**1.90**	**20**	*e*Pg	**Pg**	**02 34 21.3**	**+6.2**
RAC	**Raciborz**	**1.93**	**136**	*e*Pg	**Pg**	**02 34 14.9**	**-0.6**
RAC				*e*Sg	**Sg**	**02 34 40.2**	**-0.3**
MORC	**Moravsky Berou**	**1.94**	**152**	*e*Pn	**Pn**	**02 34 12.7**	**-0.1**
MORC	**Moravsky Berou**	**1.94**	**152**	*e*Pn	**Pn**	**02 34 12.3**	**-0.5**
MORC				*e*Sn	**Sn**	**02 34 37.3**	**-0.6**
CLL	**Collm**	**1.97**	**266**	*i* Pn	**Pn**	**02 34 12.8**	**-0.4**
CLL				*i* Pg	**Pg**	**02 34 15.2**	**-1.1**
CLL				*e*Sn	**Sn**	**02 34 37.0**	**-1.5**
CLL				*e*Sg	**Sg**	**02 34 43.0**	**+1.2**
comp=Z,27nm,0.6s							
CLL	**Collm**	**1.97**	**266**	*i* Pn	**Pn**	**02 34 12.8**	**-0.4**
CLL				*i* Pg	**Pg**	**02 34 15.2**	**-1.1**
CLL				*e*Sg	**Sg**	**02 34 43.0**	**+1.2**
OKC	**Ostrava-Krasne**	**2.10**	**141**	*e*PG	**Pg**	**02 34 18.5**	**-0.3**
OKC				*e*SG	**Sg**	**02 34 44.5**	**-1.5**
VRAC	**Vranov**	**2.21**	**172**	Pn	**Pn**	**02 34 18.1**	**+1.6**
comp=Z,4.1nm,0.3s,baz=352,slow=14,SNR=7.9							
VRAC				Pg	**Pg**	**02 34 21.5**	**+0.6**
comp=Z,4.1nm,0.3s,baz=355,slow=16,SNR=7.3							
VRAC				Lg		02 34 49.2	
comp=Z,6.2nm,0.3s,baz=259,slow=21,SNR=8.9							
VRAC	**Vranov**	**2.21**	**172**	*e*Pn	**Pn**	**02 34 17.6**	**+1.1**
VRAC	**Vranov**	**2.21**	**172**	Pg	**Pg**	**02 34 21.5**	**+0.6**
VRAC				*e*Sg	**Sg**	**02 34 47.9**	**-1.6**
comp=Z,14nm,0.2s							
TREC	**Trest**	**2.24**	**191**	*e*PN	**Pn**	**02 34 17.7**	**+0.8**
TREC				*e*PG	**Pg**	**02 34 20.9**	**-0.6**
KRUC	**Moravsky**	**2.44**	**176**	*e*Pn	**Pn**	**02 34 20.9**	**+1.2**
KRUC				*e*Sg	**Sg**	**02 34 55.8**	**-1.2**
comp=Z,9.1nm,0.2s							
OJC	**Ojcow**	**2.65**	**117**	*e*Pn	**Pn**	**02 34 21.6**	**-1.0**
OJC				*e*Pg	**Pg**	**02 34 30.8**	**+1.4**
OJC				*e*Sn	**Sn**	**02 34 53.7**	**-1.7**
OJC				*e*Sg	**Sg**	**02 35 05.4**	**+1.6**
NKC	**Novy Kostel**	**2.65**	**243**	*e*PN	**Pn**	**02 34 23.0**	**+0.4**
NKC				*e*PG	**Pg

1.9nm,0.8s,mb4.0,baz=184,slow=8.7,SNR=4.1
TORD Torodi Ar. Bea 144.79 285 PKPbc PKPdf 02 53 49.9 -3.8
0.3nm,0.5s,baz=77,slow=3.5,SNR=5.8
SIV San Ignacio 145.15 128 PKP PKPdf 02 53 50.4 -3.8
1.8nm,0.5s,baz=256,slow=5.5,SNR=13

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*IDC **21** 03:55:35.4±1.0, 4242N×1306E, h0km, mb3.8/4, mb1 3.9/12, mb1mx3.8/28, mbtmp3.8/12, ML3.7/6, MS3.1/10, Ms1 3.1/10, ms1mx2.8/32, Error ellipse: s-maj=21.1km s-min=11.8km az=95.0*
*CSEM **21** 03:55:35.2±0.0, 4238N×1294E, h5km, mb4.2/10, ML3.7/5, Ms3.5, Error ellipse: s-maj=1.0km s-min=1.0km az=100.0*
*ISCJB **21** 03:55:36.2±0.2, 4244N±001×1293E±001, h11km±1km, mb4.2/14, MS3.4/5, Error ellipse: s-maj=1.9km s-min=1.5km az=41.6*
*LDG **21** 03:55:36.4±0.2, 4241N×1307E, h10km, Ml3.5/8, Error ellipse: s-maj=5.1km s-min=3.8km az=54.0*
*PDG **21** 03:55:36.6±1.0, 4241N×1297E, h8km±1km, MD4.2/1, ML4.2/9, Error ellipse: s-maj=1.1km s-min=1.7km az=0.0*
*ROM **21** 03:55:36.4±0.1, 4240N×1296E, h8km, Ml3.9/62, Error ellipse: s-maj=1.5km s-min=1.3km az=70.0*
*NEIC **21** 03:55:36.4, 4241N×1307E, h10km, mb4.3/5, ML4.2(PDG), ML4.3(STR), After LDG.*
*MOS **21** 03:55:36.4±1.2, 4241N×1290E, h16km, mb4.4/12, Error ellipse: s-maj=4.3km s-min=3.1km az=104.7*
*VIE **21** 03:55:39.7±0.4, 4255N×1307E, h10km, mb3.7/16, ML3.7/16, Ms3.5/1, Error ellipse: s-maj=3.4km s-min=3.3km az=93.0*
*SZGRF **21** 03:55:39.7, 4240N×1309E, h10km, mb3.2, Central Italy*
*PRU **21** 03:55:40.3, 4259N×1310E, h0km, M4.3*
*STR **21** 03:55:44.5±1.4, 4274N×1235E, h10km, Ml3.5, Error ellipse: s-maj=0.0km s-min=0.0km az=0.0*
*BEO **21** 03:55:46.8±1.2, 4260N×1367E, h16km±3km*
ISC 21 03:55:37.0±0.3, 4242N±001×1292E±001, h5km±2km, n357, σ1§15/444, mb4.2/14, MS3.4/5, 43C-13D, Central Italy

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res ISC
MNS	**Montasola**	**0.18**	**259**	*i*Pg		**Pg**	**03 55 41.3**	**+0.7**
MNS						Sg	**Sg**	**03 55 44.9**	**+1.9**
	26μm,0.6s							
LNSS	**Leonessa**	**0.20**	**26**	*i*Pg		**Pg**	**03 55 41.1**	**+0.1**
LNSS						Sg	**Sg**	**03 55 44.7**	**+1.0**
	64μm,0.8s							
FIAM	**Fiamignano**	**0.21**	**136**	Pg		**Pg**	**03 55 40.3**	**-0.9**
FIAM						Sg	**Sg**	**03 55 42.9**	**-1.0**
	120μm,0.4s							
AQU	**L'Aquila**	**0.36**	**100**	*i*Pg		**Pg**	**03 55 42.8**	**-1.2**
CAMP	**Campotosto**	**0.38**	**72**	*i*Pg		**Pg**	**03 55 43.3**	**-1.1**
CAMP						Sg	**Sg**	**03 55 48.8**	**-0.5**
	3μm,0.6s							
MTCE	**Montecelio**	**0.42**	**198**	*i*Pg		**Pg**	**03 55 44.3**	**-0.8**
MTCE						Sg	**Sg**	**03 55 50.5**	**0.0**
	16μm,0.6s							
NRCA	**Norcia**	**0.44**	**19**	*i*Pg		**Pg**	**03 55 45.0**	**-0.5**
	78nm,0.4s							
CERT	**Cerreto**	**0.47**	**174**	*i*Pg		**Pg**	**03 55 44.8**	**-1.3**
CERT						Sg	**Sg**	**03 55 51.4**	**-0.9**
	25μm,0.8s							
FAGN	**Fagnano**	**0.52**	**107**	Pg		**Pg**	**03 55 45.2**	**-1.8**
	29μm,0.5s							
PTQR	**Pietraquaria**	**0.54**	**138**	*i*Pg		**Pg**	**03 55 45.4**	**-1.9**
TERO	**Teramo**	**0.54**	**68**	*i*Pg		**Pg**	**03 55 45.8**	**-1.7**
TERO						Sg	**Sg**	**03 55 53.6**	**-1.0**
	10μm,0.6s							
CESI	**CESI - Serrava**	**0.58**	**359**	*i*Pg		**Pg**	**03 55 47.9**	**-0.4**
CESI						Sg	**Sg**	**03 55 58.1**	**+2.2**
	2μm,0.5s							
ROM9	**Roma**	**0.66**	**207**	Pg		**Pg**	**03 55 49.1**	**-0.7**
ROM9						Sg	**Sg**	**03 56 00.6**	**+2.2**
	12μm,0.6s							
ASS	**Assisi**	**0.67**	**343**	*i*Pg		**Pg**	**03 55 49.7**	**-0.2**
MA9	**Marino**	**0.68**	**197**	*i*Pg		**Pg**	**03 55 48.6**	**-1.5**
RDP	**Rocca di Papa**	**0.68**	**193**	*i*Pg		**Pg**	**03 55 48.7**	**-1.4**
RDP						Sg	**Sg**	**03 56 00.1**	**+1.2**
	26μm,0.5s							
VCEL	**Villa Celiera**	**0.68**	**92**	Pg		**Pg**	**03 55 49.2**	**-0.9**
VCEL						Sg	**Sg**	**03 55 58.8**	**-0.2**
	11μm,0.5s							
VVLD	**Villa Vallelon**	**0.76**	**136**	Pn		**Pn**	**03 55 50.4**	**-4.0**
	21μm,0.4s							
LAV9	**Lanuvio**	**0.76**	**193**	*i*Pg		**Pg**	**03 55 50.2**	**-1.4**
OFFI	**Offida**	**0.76**	**47**	*i*Pn		**Pn**	**03 55 51.1**	**-3.4**
OFFI						Sn	**Sg**	**03 56 03.7**	**+2.1**
	19μm,0.6s							
TOLF	**Tolfa**	**0.77**	**243**	*i*Pn		**Pn**	**03 55 51.4**	**-3.2**
TOLF						Sn	**Sg**	**03 56 05.0**	**+3.2**
	5μm,0.9s							
TRTR	**Tortoreto Alta**	**0.83**	**62**	Pn		**Pn**	**03 55 52.7**	**-2.7**
	14μm,0.6s							
SNTG	**Esanatoglia**	**0.83**	**1**	*i*Pn		**Pn**	**03 55 52.2**	**-3.3**
INTR	**Introdacqua**	**0.84**	**119**	Pg		**Pg**	**03 55 50.4**	**-2.7**
LATE	**Laterza**	**0.85**	**284**	Pn		**Pn**	**03 55 54.0**	**-1.7**
SACS	**San Casciano d**	**0.86**	**300**	Pn		**Pn**	**03 55 54.3**	**-1.5**
	7μm,1.4s							
MURB	**Monte Urbino**	**0.89**	**341**	*i*Pn		**Pn**	**03 55 53.8**	**-2.5**
	9μm,0.7s							
POFI	**Posta Fibreno**	**0.92**	**140**	Pn		**Pn**	**03 55 52.9**	**-3.7**
	9μm,0.8s							
SDI	**San Donato**	**0.97**	**137**	Pn		**Pn**	**03 55 53.8**	**-3.6**
CING	**Cingoli**	**0.97**	**12**	*i*Pn		**Pn**	**03 55 54.5**	**-2.9**
	4μm,1.0s							
CAFR	**Castel Frentan**	**1.08**	**100**	Pn		**Pn**	**03 55 56.0**	**-2.8**
ARVD	**Arcevia**	**1.08**	**1**	Pn		**Pn**	**03 55 56.5**	**-2.3**
	3μm,1.0s							
CAFI	**Castiglion Fio**	**1.15**	**323**	Pn		**Pn**	**03 55 59.1**	**-0.7**
	1μm,0.8s							
ARCI	**Arcidosso**	**1.15**	**292**	Pn		**Pn**	**03 55 59.6**	**-0.2**
	821nm,1.2s							
PIEI	**Pieia**	**1.15**	**346**	Pn		**Pn**	**03 55 58.2**	**-1.6**
	2μm,1.0s							
CDCA	**Citt' di Caste**	**1.15**	**334**	Pn		**Pn**	**03 55 59.0**	**-0.9**
	2μm,0.8s							
CERA	**Filignano**	**1.16**	**135**	Pn		**Pn**	**03 55 59.1**	**-0.9**
	5μm,0.6s							
RNI2	**Rionero Sannit**	**1.17**	**128**	Pn		**Pn**	**03 55 59.2**	**-0.8**
	11μm,1.1s							
BADI	**Badiali**	**1.20**	**336**	Pn		**Pn**	**03 55 59.9**	**-0.6**
	1μm,0.6s							
AOI	**Ancona**	**1.23**	**24**	Pn		**Pn**	**03 55 59.3**	**-1.7**
	3μm,1.1s							
MIDA	**Miranda**	**1.26**	**128**	Pn		**Pn**	**03 55 59.2**	**-2.2**
	4μm,0.8s							
FSSB	**Fossombrone**	**1.27**	**355**	Pn		**Pn**	**03 56 00.0**	**-1.6**
	648nm,0.7s							
SENI	**Senigallia**	**1.30**	**10**	Pn		**Pn**	**03 56 01.0**	**-1.0**
	2μm,0.6s							
MAON	**Monte Argentar**	**1.32**	**271**	Pn		**Pn**	**03 56 00.6**	**-1.6**
	974nm,1.1s							
RFI	**Roccamonfina**	**1.37**	**144**	Pn		**Pn**	**03 56 01.8**	**-1.1**
	121nm,0.4s							
FRES	**Fresagrandinar**	**1.37**	**108**	Pn		**Pn**	**03 56 04.6**	**+1.7**
TRIV	**Trivento**	**1.38**	**118**	Pn		**Pn**	**03 56 03.2**	**+0.2**
	2μm,0.9s							
CRE	**Caprese Michel**	**1.39**	**330**	Pn		**Pn**	**03 56 03.0**	**-0.2**
	1μm,1.7s							
MOCO	**Biccari - m.te**	**1.40**	**138**	Pn		**Pn**	**03 56 13.1**	**+10**
VAGA	**Valle Agricola**	**1.40**	**135**	Pn		**Pn**	**03 56 02.6**	**-0.7**
	2μm,0.6s							
MODR	**Mondragone**	**1.46**	**150**	Pn		**Pn**	**03 56 02.4**	**-1.7**
	1μm,1.2s							
SGG	**Gregorio Mates**	**1.50**	**133**	Pn		**Pn**	**03 56 04.7**	**0.0**
PESA	**Pesaro**	**1.52**	**358**	Pn		**Pn**	**03 56 05.9**	**+1.0**
BSSO	**Busso**	**1.52**	**124**	Pn		**Pn**	**03 56 05.7**	**+0.7**
	4μm,1.1s							
RSM	**Repubblica di**	**1.55**	**347**	Pn		**Pn**	**03 56 06.9**	**+1.6**
	2μm,1.9s							
CASP	**Castiglione de**	**1.56**	**284**	Pn		**Pn**	**03 56 04.5**	**-1.0**
CSNT	**Castellina Chi**	**1.59**	**312**	Pn		**Pn**	**03 56 05.6**	**-0.3**
	807nm,1.4s							
PTRJ	**Pietraroja**	**1.60**	**131**	Pn		**Pn**	**03 56 06.7**	**+0.7**
	2μm,0.7s							
CIGN	**Sant'Elia a Pi**	**1.67**	**117**	Pn		**Pn**	**03 56 08.0**	**+1.1**
	2μm,1.3s							
VENT	**Ventotene**	**1.67**	**167**	Pn		**Pn**	**03 56 05.5**	**-1.4**
	2μm,0.9s							
SFI	**Santa Sofia**	**1.68**	**332**	Pn		**Pn**	**03 56 08.5**	**+1.4**
	2μm,1.4s							
SACR	**S. Croce Del S**	**1.68**	**127**	Pn		**Pn**	**03 56 08.6**	**+1.5**
	3μm,1.5s							
FG2	**Serracapriola**	**1.78**	**110**	Pn		**Pn**	**03 56 09.6**	**+1.2**
	603nm,0.3s							
VMG	**Vicchio**	**1.84**	**327**	Pn		**Pn**	**03 56 10.0**	**+0.7**
	492nm,0.7s							
PSB1	**Pescosannita**	**1.85**	**130**	Pn		**Pn**	**03 56 09.8**	**+0.3**
	2μm,1.0s							
FG5	**Orsara di Pugl**	**2.09**	**122**	Pn		**Pn**	**03 56 14.1**	**+1.3**
	509nm,0.5s							
RGNG	**Rignano Grg**	**2.12**	**110**	Pn		**Pn**	**03 56 13.7**	**+0.5**
SGRT	**San Giovanni R**	**2.20**	**107**	Pn		**Pn**	**03 56 15.2**	**+0.9**
	1μm,0.8s							
CSSN	**Cassano Irpino**	**2.22**	**134**	Pn		**Pn**	**03 56 13.8**	**-0.7**
	109nm,0.4s							
CAFE	**Carife**	**2.22**	**128**	Pn		**Pn**	**03 56 15.1**	**+0.5**
	647nm,0.7s							
SGTA	**Sant Agata di**	**2.23**	**124**	Pn		**Pn**	**03 56 16.1**	**+1.4**
	316nm,0.6s							
SNAL	**S. Angelo Dei**	**2.27**	**130**	Pn		**Pn**	**03 56 15.3**	**0.0**
	1μm,0.9s							
MSAG	**Monte S. Angel**	**2.34**	**107**	Pn		**Pn**	**03 56 16.3**	**+0.2**
MCRV	**Calabrutti - M**	**2.35**	**133**	Pn		**Pn**	**03 56 15.9**	**-0.4**
	547nm,0.6s							
MS1	**Monte Sant'Ang**	**2.36**	**107**	*e*Pn		**Pn**	**03 56 18.1**	**+1.6**
FGMS	**Monte Sant'Ang**	**2.37**	**106**	Pn		**Pn**	**03 56 17.2**	**+0.6**
	395nm,0.6s							
ZCCA	**Zocca**	**2.39**	**324**	Pn		**Pn**	**03 56 20.2**	**+3.3**
VULT	**Monte Vulture**	**2.49**	**125**	Pn		**Pn**	**03 56 19.0**	**+0.7**
	2μm,1.4s							
VLC	**Villacollemand**	**2.54**	**314**	*e*Pn		**Pn**	**03 56 18.7**	**-0.2**
VLC	**Villacollemand**	**2.54**	**314**	*e*Pg		**Pg**	**03 56 25.7**	**0.0**
VLC	**Villacollemand**	**2.54**	**314**	*e*Pn		**Pn**	**03 56 18.7**	**-0.2**
VLC				*e*Pg		**Pg**	**03 56 25.7**	**+0.1**
NVLJ	**Novalja**	**2.57**	**33**	*e*Pn		**Pn**	**03 56 19.1**	**-0.3**
NVLJ						Sn	**Sn**	**03 56 50.0**	**-1.0**
PALZ	**Palazzo San Ge**	**2.71**	**122**	Pn		**Pn**	**03 56 21.8**	**+0.5**
CORF	**Corte**	**2.79**	**269**	P		**Pn**	**03 56 21.5**	**-0.9**
CORF						S	**Sn**	**03 56 56.3**	**-0.2**
MRVN	**Minervino Murg**	**2.80**	**118**	Pn		**Pn**	**03 56 22.5**	**0.0**
	322nm,1.0s							
PGF	**Pioggiola**	**2.90**	**274**	*e*Pn		**Pn**	**03 56 23.1**	**-0.8**
MCEL	**Monticello**	**3.01**	**133**	Pn		**Pn**	**03 56 26.3**	**+0.8**
	300nm,1.0s							
MTSN	**Montesano sull**	**3.03**	**134**	Pn		**Pn**	**03 56 26.5**	**+0.8**
AMUR	**Altamura**	**3.15**	**117**	Pn		**Pn**	**03 56 27.0**	**-0.3**
	314nm,0.8s							
SIRI	**Monte Sirino -**	**3.15**	**134**	Pn		**Pn**	**03 56 27.5**	**+0.2**
SKDS	**Skadanscina**	**3.22**	**14**	*e*Pn		**Pn**	**03 56 27.6**	**-0.7**
SG1	**Sgolgore (BA)**	**3.23**	**118**	*e*Pn		**Pn**	**03 56 28.2**	**-0.2**
BAI	**Bari**	**3.24**	**113**	*e*Pn		**Pn**	**03 56 31.1**	**+2.5**
SCHR	**S. Chirico Rap**	**3.25**	**132**	Pn		**Pn**	**03 56 29.5**	**+0.8**
	96nm,0.9s							
CUC	**Castrocucco**	**3.26**	**137**	Pn		**Pn**	**03 56 29.2**	**+0.3**
	285nm,1.0s							
CUC	**Castrocucco**	**3.26**	**137**	*e*Pn		**Pn**	**03 56 24.8**	**-4.1**
CUC	**Castrocucco**	**3.26**	**137**	*e*Pg		**Pg**	**03 56 35.4**	**-4.2**
CUC	**Castrocucco**	**3.26**	**137**	*e*Pn		**Pn**	**03 56 24.8**	**-4.1**
CUC				*e*Pg		**Pg**	**03 56 35.4**	**-4.2**
TRI	**Trieste**	**3.34**	**10**	*e*Pn		**Pn**	**03 56 28.5**	**-1.4**
TRI				*e*Pg		**Pg**	**03 56 39.0**	**-2.0**
CRAC	**Craco**	**3.35**	**127**	Pn		**Pn**	**03 56 30.4**	**+0.4**
	1μm,1.3s							
LTRZ	**Laterza**	**3.44**	**121**	Pn		**Pn**	**03 56 31.6**	**+0.2**
	203nm,0.7s							
CEY	**Cerknica**	**3.49**	**18**	*e*Pn		**Pn**	**03 56 32.0**	**0.0**
CEY				*e*Sn		**Sn**	**03 57 13.6**	**-0.1**
BOJS	**Bojanci**	**3.51**	**28**	*i* Pn		**Pn**	**03 56 32.5**	**+0.2**
STON	**Ston**	**3.56**	**81**	*e*Pn		**Pn**	**03 56 32.3**	**-0.5**
STON						Sn	**Sn**	**03 57 12.9**	**-2.4**
STON	**Ston**	**3.56**	**81**	*e*Pn		**Pn**	**03 56 32.3**	**-0.6**
STON						Sn	**Sn**	**03 57 12.8**	**-2.5**
SALO	**Salr**	**3.63**	**332**	Pn		**Pn**	**03 56 34.8**	**+0.8**
VOY	**Vojsko**	**3.68**	**11**	*e*Pn		**Pn**	**03 56 33.7**	**-0.9**
CTI	**Castel Tesino**	**3.74**	**346**	Pn		**Pn**	**03 56 35.3**	**-0.1**
	195nm,1.1s							
LJU	**Ljubljana**	**3.80**	**17**	*e*Pn		**Pn**	**03 56 36.2**	**-0.1**
LJU				*e*Sn		**Sn**	**03 57 21.7**	**+0.3**
CADS	**Cadrg**	**3.85**	**8**	*e*Pn		**Pn**	**03 56 36.0**	**-0.9**
CRES	**Cresnjev**	**3.86**	**27**	*e*Pn		**Pn**	**03 56 37.5**	**+0.4**
CRES				*e*Sn		**Sn**	**03 57 23.0**	**+0.1**
BLY	**Banja Luka**	**3.87**	**52**	*e*Pn		**Pn**	**03 56 39.6**	**+2.3**
BLY	**Banja Luka**	**3.87**	**52**	*e*Pn		**Pn**	**03 56 38.5**	**+1.2**
SISC	**Sisak**	**3.94**	**38**	*e*Pn		**Pn**	**03 56 38.3**	**+0.1**
SISC	**Sisak**	**3.94**	**38**	*e*Pn		**Pn**	**03 56 38.2**	**+0.1**
VSL	**Villasalto**	**3.97**	**224**	Pn		**Pn**	**03 56 37.7**	**-0.8**
	339nm,1.8s							
VSL	**Villasalto**	**3.97**	**224**	*e*Pn		**Pn**	**03 56 37.4**	**-1.1**
TREB	**Trebinje**	**4.02**	**84**	*e*Pn		**Pn**	**03 56 39.8**	**+0.5**
TREB	**Trebinje**	**4.02**	**84**	*e*Pn		**Pn**	**03 56 39.1**	**-0.2**
TREB				*e*Sn		**Sn**	**03 57 25.6**	**-1.2**
MABI	**Malga Bissina**	**4.02**	**335**	Pn		**Pn**	**03 56 39.8**	**+0.5**
	42nm,0.6s							
CARO	**Carolei**	**4.03**	**141**	Pn		**Pn**	**03 56 39.0**	**-0.5**
	96nm,0.7s							
MDI	**Monti di Nese**	**4.07**	**327**	Pn		**Pn**	**03 56 40.2**	**+0.2**
	68nm,0.6s							
HCY	**Herceg Novi**	**4.13**	**88**	*e*Pn		**Pn**	**03 56 41.2**	**+0.4**
HCY				*e*Sn		**Sn**	**03 57 28.9**	**-0.5**
BRY	**Bratogost**	**4.17**	**82**	*e*Pn		**Pn**	**03 56 41.5**	**+0.1**
BRY				*e*Sn		**Sn**	**03 57 31.3**	**+0.7**
FVI	**Forni Avoltri**	**4.18**	**359**	Pn		**Pn**	**03 56 41.4**	**0.0**
	123nm,0.9s							
SAOF	**Saorge**	**4.22**	**294**	P		**Pn**	**03 56 42.1**	**0.0**
APPI	**Appiano**	**4.23**	**344**	Pn		**Pn**	**03 56 42.3**	**+0.1**
MYKA	**Terra Mystica**	**4.24**	**7**	*i*Pn		**Pn**	**03 56 42.4**	**+0.1**
MYKA				*i*Sn		**Sn**	**03 57 31.5**	**-0.7**
OBKA	**Obir**	**4.25**	**15**	*i*Pn		**Pn**	**03 56 42.4**	**0.0**
SBF	**Sospel**	**4.26**	**292**	*e*Pn		**Pn**	**03 56 41.7**	**-0.9**
AUTN	**L'Aution**	**4.31**	**293**	P		**Pn**	**03 56 43.3**	**0.0**
ABTA	**Abfaltersbach**	**4.34**	**356**	*i*Pn		**Pn**	**03 56 43.7**	**+0.1**
	SNR=38							
ABTA				*i*Sn		**Sn**	**03 57 34.7**	**+0.1**
TIP	**Timpagrande**	**4.36**	**137**	*e*Pn		**Pn**	**03 56 41.1**	**-2.8**
TIP	**Timpagrande**	**4.36**	**137**	*e*Pn		**Pn**	**03 56 41.1**	**-2.8**
SEST	**Monte Rota**	**4.36**	**354**	Pn		**Pn**	**03 56 44.7**	**+0.8**
	216nm,0.8s							
BUM	**Brajici-Budva**	**4.43**	**90**	*i*Pn		**Pn**	**03 56 45.1**	**+0.2**
BUM				*e*Sn		**Sn**	**03 57 36.9**	**0.0**
TOUF	**Mont Tournerai**	**4.44**	**293**	P		**Pn**	**03 56 45.1**	**0.0**
UPM	**Unac-Piva**	**4.47**	**78**	*i*Pn		**Pn**	**03 56 46.3**	**+0.8**
UPM				*e*Sn		**Sn**	**03 57 38.5**	**+0.5**
NKY	**Niksic**	**4.50**	**83**	*i*Pn		**Pn**	**03 56 46.3**	**+0.4**
NKY				*e*Sn		**Sn**	**03 57 38.9**	**+0.2**
SOKA	**Soboth**	**4.52**	**19**	*i*Pn		**Pn**	**03 56 45.9**	**-0.2**
SOKA				*i*Sn		**Sn**	**03 57 38.8**	**-0.2**
KBA	**Koelnbreinsper**	**4.67**	**4**	*e*Pn		**Pn**	**03 56 48.5**	**+0.3**
	SNR=16							
KBA				*i*Sn		**Sn**	**03 57 43.3**	**+0.6**
KOGS	**Kog**	**4.68**	**29**	*e*Pn		**Pn**	**03 56 48.6**	**+0.3**
KOGS				*e*Sn		**Sn**	**03 57 42.6**	**-0.4**
PDG	**Podgorica**	**4.69**	**88**	*e*Pn		**Pn**	**03 56 48.9**	**+0.4**
PDG				*e*Sn		**Sn**	**03 57 43.4**	**0.0**
TTG	**Podgorica**	**4.69**	**88**	*e*Pn		**Pn**	**03 56 48.9**	**+0.4**
TTG				*e*Sn		**Sn**	**03 57 43.4**	**0.0**
SCE	**Schlegeis**	**4.70**	**350**	*i*Pn		**Pn**	**03 56 49.7**	**+1.1**
ULC	**Ulcinj**	**4.72**	**93**	*i*Pn		**Pn**	**03 56 48.8**	**-0.2**
ULC				*e*Sn		**Sn**	**03 57 43.5**	**-0.6**
FRF	**La Foret Royal**	**4.74**	**286**	*e*Pn		**Pn**	**03 56 48.0**	**-1.2**
TUE	**Stuetta**	**4.79**	**329**	*e*Pn		**Pn**	**03 56 49.6**	**-0.3**
TUE				*e*Sn		**Sn**	**03 57 43.2**	**-2.5**
TUE	**Stuetta**	**4.79**	**329**	*e*Pn		**Pn**	**03 56 49.6**	**-0.2**
TUE				*e*Sn		**Sn**	**03 57 43.2**	**-2.5**
LMR	**La Mourre**	**4.80**	**283**	*e*Pn		**Pn**	**03 56 48.6**	**-1.4**
LMR				*e*Sn		**Sn**	**03 57 42.5**	**-3.5**
	5.8nm,0.4s							
LMR	**La Mourre**	**4.80**	**283**	*e*Pn		**Pn**	**03 56 48.6**	**-1.4**
LMR				*e*Sn		**Sn**	**03 57 42.5**	**-3.5**
	2.9nm,0.4s							
PLE	**Pljevlja**	**4.84**	**77**	*i*Pn		**Pn**	**03 56 51.2**	**+0.6**
PLE				*e*Sn		**Sn**	**03 57 47.2**	**+0.1**
FETA	**Feichten**	**4.86**	**342**	*i* Pn		**Pn**	**03 56 51.8**	**+1.1**
	SNR=41							
FETA				*i*Sn		**Sn**	**03 57 47.3**	**-0.1**
DAVOX	**Davos/Dischmat**	**4.87**	**335**	Pn		**Pn**	**03 56 52.8**	**+1.9**
	3.3nm,0.3s,baz=164,slow=22,SNR=38							
DAVOX				Sn		**Sn**	**03 57 47.4**	**-0.3**
	0.9nm,0.3s,baz=192,slow=19,SNR=3.2							
DAVOX	**Davos/Dischmat**	**4.87**	**335**	Sn		**Sn**	**03 57 47.4**	**-0.3**
WTTA	**Wattenberg**	**4.93**	**350**	*i* Pn		**Pn**	**03 56 53.2**	**+1.4**
	SNR=24							
DAVOS	**Davos**	**4.95**	**334**	P		**Pn**	**03 56 52.8**	**+0.8**
DAVOS				S		**Sn**	**03 57 47.4**	**-2.2**
BBLS	**Lazići**	**4.96**	**71**	*e*Pn		**Pn**	**03 56 52.8**	**+0.6**
WATA	**Walderalm**	**5.01**	**349**	*i*Pn		**Pn**	**03 56 54.4**	**+1.6**
	SNR=24							
WATA				*i*Sn		**Sn**	**03 57 51.8**	**+0.7**
MBDF	**Montbardon**	**5.03**	**299**	*e*Pn		**Pn**	**03 56 53.6**	**+0.5**
VAE	**Valguarnera**	**5.07**	**166**	Pn		**Pn**	**03 56 53.0**	**-0.7**
	0.2nm,0.3s,baz=323,slow=20,SNR=2.0							
MOTA	**Moosalm**	**5.09**	**346**	*i*Pn		**Pn**	**03 56 55.2**	**+1.2**
	SNR=27							
BEY	**Berane**	**5.17**	**83**	*i*Pn		**Pn**	**03 56 56.1**	**+1.1**
BEY				*e*Sn		**Sn**	**03 57 54.9**	**-0.1**
IVA	**Berane**	**5.17**	**83**	*i*Pn		**Pn**	**03 56 56.1**	**+1.1**
IVA				*e*Sn		**Sn**	**03 57 54.9**	**-0.1**
ARSA	**Arzberg**	**5.17**	**20**	*i* Pn		**Pn**	**03 56 54.6**	**-0.5**
	SNR=17							
ARSA				*i*Sn		**Sn**	**03 57 54.5**	**-0.7**
PVY	**Plav**	**5.22**	**86**	*i*Pn		**Pn**	**03 56 56.6**	**+0.9**
PVY				*e*Sn		**Sn**	**03 57 56.8**	**+0.5**
BNI	**Bardonecchia**	**5.23**	**302**	*e*Pn		**Pn**	**03 56 57.3**	**+1.4**
BNI				pmax	pmax			
	comp=Z,23nm,0.8s							
BNI	**Bardonecchia**	**5.23**	**302**	*e*Pn		**Pn**	**03 56 57.3**	**+1.4**
	comp=Z,23nm,0.8s							
SJES	**Sjenica**	**5.25**	**78**	*e*Pn		**Pn**	**03 56 56.2**	**0.0**
SJES				*e*Sn		**Sn**	**03 57 54.9**	**-2.3**
RETA	**Reutte**	**5.29**	**344**	*i*Pn		**Pn**	**03 56 58.2**	**+1.5**
	SNR=7.1							
RETA				*i*Sn		**Sn**	**03 57 59.0**	**+0.9**
TIR	**Tirane**	**5.29**	**99**	P		**Pn**	**03 56 57.5**	**+0.7**
TIR				S		**Sn**	**03 57 53.5**	**-4.7**
TIR	**Tirane**	**5.29**	**99**	*e*Pn		**Pn**	**03 56 57.3**	**+0.5**
DAVA	**Damuels**	**5.32**	**337**	*i*Pn		**Pn**	**03 56 58.9**	**+1.8**
	SNR=7.3							
DAVA				*i*Sn		**Sn**	**03 57 60.0**	**+1.1**
DIVS	**Divibare**	**5.43**	**70**	*e*Pn		**Pn**	**03 56 58.6**	**0.0**
DIVS	**Divibare**	**5.43**	**70**	P		**Pn**	**03 56 59.0**	**+0.4**
DIVS	**Divibare**	**5.43**	**70**	*e*Pn		**Pn**	**03 56 58.7**	**+0.1**
LPL	**La Plagne**	**5.43**	**307**	*e*Pn		**Pn**	**03 57 00.8**	**+2.1**
MOA	**Molln**	**5.51**	**9**	*i*Pn		**Pn**	**03 56 59.8**	**+0.1**
	SNR=28							
MOA				*i*Sn		**Sn**	**03 58 03.9**	**+0.4**
PKSM	**Moragy**	**5.59**	**45**	*e*Pn		**Pn**	**03 57 01.9**	**+1.1**
RSL	**Roselend**	**5.59**	**308**	P		**Pn**	**03 57 01.8**	**+1.0**
SMRF	**Simiane la Rot**	**5.59**	**289**	*e*Pn		**Pn**	**03 57 01.3**	**+0.5**
ORIF	**Oris-en-Rattie**	**5.68**	**298**	*e*Pn		**Pn**	**03 57 06.5**	**+4.4**
FGSL	**Fruska Gora**	**5.69**	**59**	*e*Pn		**Pn**	**03 57 01.8**	**-0.4**
FGSL	**Fruska Gora**	**5.69**	**59**	*e*Pn		**Pn**	**03 57 01.7**	**-0.5**
FUR	**Furstenfeldbru**	**5.86**	**349**	*e*Pn		**Pn**	**03 57 06.7**	**+2.2**
CSNA	**Conrad Observa**	**5.88**	**20**	*i*Pn		**Pn**	**03 57 05.0**	**+0.1**
CSNA				*i*Sn		**Sn**	**03 58 10.9**	**-1.8**
CONA	**Conrad Observa**	**5.89**	**20**	*i*Pn		**Pn**	**03 57 04.3**	**-

LANF	**Langenberg**	**7.47**	**333**	P		**Pn**	**03 57 25.8**	**-0.9**
KNT	**Kendrikon**	**7.56**	**96**	P		**Pn**	**03 57 28.8**	**+0.9**
LIT	**Litokhoron**	**7.57**	**105**	P		**Pn**	**03 57 29.1**	**+1.0**
LIT				S		**Sn**	**03 58 49.9**	**-4.4**
KKB	**Krupnik**	**7.57**	**91**	*e*P		**Pn**	**03 57 29.7**	**+1.6**
THEF	**They Montfort**	**7.59**	**322**	P		**Pn**	**03 57 28.0**	**-0.2**
VTS	**Vitosha**	**7.61**	**85**	*e*Pn		**Pn**	**03 57 29.4**	**+0.9**
VTS	**Vitosha**	**7.61**	**85**	*i* P		**Pn**	**03 57 29.0**	**+0.5**
PRU	**Pruhonice**	**7.65**	**8**	*e*PN		**Pn**	**03 57 28.0**	**-1.1**
PRU				*e*SN		**Sn**	**03 58 51.2**	**-5.0**
PRU				AMS		AMS	04 00 40.0	
	comp=Z,300nm,11.8s							
PRU	**Pruhonice**	**7.65**	**8**	*e*Pn		**Pn**	**03 57 28.0**	**-1.1**
PRU				*e*Sn		**Sn**	**03 58 51.2**	**-5.0**
SMF	**Signal de Mont**	**7.74**	**306**	*e*Pn		**Pn**	**03 57 30.3**	**0.0**
SMF				*e*Sn		**Sn**	**03 58 52.0**	**-6.3**
	comp=Z,7.3nm,0.5s							
NKC	**Novy Kostel**	**7.82**	**358**	*e*PN		**Pn**	**03 57 33.3**	**+1.9**
NKC				*e*SN		**Sn**	**03 58 56.2**	**-4.1**
NKC				AMS		AMS	04 00 50.0	
	comp=Z,400nm,11.9s							
NKC	**Novy Kostel**	**7.82**	**358**	*e*Pn		**Pn**	**03 57 33.3**	**+1.9**
NKC				*e*Sn		**Sn**	**03 58 56.2**	**-4.1**
AGG	**Agios Georgios**	**7.91**	**112**	P		**Pn**	**03 57 34.7**	**+2.0**
MTLF	**Montolieu**	**7.92**	**280**	*e*Pn		**Pn**	**03 57 33.3**	**+0.5**
MTLF				*e*Sn		**Sn**	**03 58 57.5**	**-5.2**
	comp=Z,3.8nm,0.6s							
TANN	**Tannenbergstha**	**8.00**	**358**	*e*Pn		**Pn**	**03 57 33.7**	**-0.2**
MORC	**Moravsky Berou**	**8.03**	**22**	*e*P		**Pn**	**03 57 33.5**	**-0.8**
MORC				pmax	pmax			
	comp=Z,18nm,0.9s							
MORC	**Moravsky Berou**	**8.03**	**22**	*e*Pn		**Pn**	**03 57 33.5**	**-0.8**
	comp=Z,18nm,0.9s							
MORC	**Moravsky Berou**	**8.03**	**22**	⇑*i*P		**Pn**	**03 57 34.5**	**+0.2**
MORC	**Moravsky Berou**	**8.03**	**22**	*e*Pn		**Pn**	**03 57 33.5**	**-0.8**
	comp=Z,18nm,0.9s							
LOR	**Lormes**	**8.06**	**310**	*e*Pn		**Pn**	**03 57 36.3**	**+1.6**
LOR				*e*Sn		**Sn**	**03 58 59.9**	**-6.2**
	comp=Z,8.7nm,0.7s							
MMB	**Musomiste**	**8.09**	**92**	*i* P		**Pn**	**03 57 36.8**	**+1.6**
AVF	**Avril sur Loir**	**8.10**	**306**	*e*Pn		**Pn**	**03 57 36.4**	**+1.1**
SSF	**Saint Saulge**	**8.15**	**308**	*e*Pn		**Pn**	**03 57 35.0**	**-0.9**
SSF				*e*Sn		**Sn**	**03 59 03.0**	**-5.4**
	comp=Z,2.4nm,0.6s							
PLG	**Polygyros**	**8.17**	**101**	P		**Pn**	**03 57 37.9**	**+1.6**
PVCC	**Panska Ves**	**8.19**	**7**	AMS		AMS	04 01 00.0	
	comp=Z,300nm,11.1s							
MEZF	**Maizieres J'vi**	**8.22**	**320**	*e*Pn		**Pn**	**03 57 36.8**	**-0.1**
OKC	**Ostrava-Krasne**	**8.26**	**24**	*e*PN		**Pn**	**03 57 37.6**	**+0.2**
CAF	**Calviac**	**8.26**	**291**	*e*Pn		**Pn**	**03 57 37.3**	**-0.2**
DPC	**Dobruska-Polom**	**8.27**	**15**	*e*PN		**Pn**	**03 57 39.5**	**+1.9**
DPC				AMS		AMS	04 01 00.0	
	comp=Z,400nm,13.6s							
MOX	**Moxa**	**8.28**	**354**	*e*(P)		**Pn**	**03 57 37.3**	**-0.4**
MOX				*e*			03 59 08.0	
MOX				*e*			03 59 54.0	
MOX								
	comp=Z,400nm,16.0s							
MOX	**Moxa**	**8.28**	**354**	*e*P		**Pn**	**03 57 37.3**	**-0.4**
MOX				*e*			03 59 08.0	
MOX				MLR		MLR		
	comp=Z,400nm,16.0s							
MOX	**Moxa**	**8.28**	**354**	P		**Pn**	**03 57 37.3**	**-0.4**
MOX				*e*			03 59 08.0	
MOX				*e*			03 59 54.0	
BGF	**Bois d'Agland**	**8.30**	**303**	*e*Pn		**Pn**	**03 57 38.7**	**+0.6**
PGB	**Panagyurishte**	**8.31**	**85**	*i* P		**Pn**	**03 57 39.3**	**+1.1**
XOR	**Xorichti**	**8.36**	**108**	P		**Pn**	**03 57 38.6**	**-0.2**
UPC	**Upice**	**8.37**	**14**	*e*PN		**Pn**	**03 57 39.6**	**+0.7**
TNS	**Taunus Mts**	**8.39**	**340**	*e*Pn		**Pn**	**03 57 43.6**	**+4.3**
BRG	**Berggiesshubel**	**8.48**	**4**	P		**Pn**	**03 57 44.8**	**+4.3**
BRG				MLR		MLR		
	comp=N,178nm,9.5s							
BRG				MLR		MLR		
	comp=E,138nm,11.3s							
BRG				MLR		MLR		
	comp=Z,187nm,11.5s							
BRG	**Berggiesshubel**	**8.48**	**4**	*e*Sn		**Sn**	**03 59 16.0**	**-0.6**
BRG	**Berggiesshubel**	**8.48**	**4**	P		**Pn**	**03 57 44.8**	**+4.3**
	comp=Z,187nm,11.5s							
BRG	**Berggiesshubel**	**8.48**	**4**	PN		**Pn**	**03 57 44.8**	**+4.3**
BRG				*i*			03 59 04.5	
BRG	**Berggiesshubel**	**8.48**	**4**	SG		**Sg**	**03 59 29.3**	**-40**
	comp=Z,11nm,1.0s							
BRG								
	comp=N,297nm,9.5s							
BRG								
	comp=E,230nm,11.3s							
BRG								
	comp=Z,312nm,11.5s							
TCF	**Toulx Ste Croi**	**8.59**	**300**	*e*Pn		**Pn**	**03 57 43.1**	**+1.1**
WLF	**Walferdange**	**8.64**	**329**	*e*P		**Pn**	**03 57 44.5**	**+1.9**
WLF				pmax	pmax			
	comp=Z,22nm,1.0s							
WLF	**Walferdange**	**8.64**	**329**	*e*Pn		**Pn**	**03 57 46.6**	**+4.0**
WLF	**Walferdange**	**8.64**	**329**	*e*P		**Pn**	**03 57 44.5**	**+1.9**
	comp=Z,22nm,1.0s							
WLF	**Walferdange**	**8.64**	**329**	*e*Pn		**Pn**	**03 57 44.5**	**+1.8**
	comp=Z,22nm,1.0s							
NIE	**Niedzica**	**8.69**	**34**	*e*P		**Pn**	**03 57 47.0**	**+3.7**
PYL	**PYLOS**	**8.76**	**126**	P		**Pn**	**03 57 44.7**	**+0.4**
CRVS	**Cervenica-Dubn**	**8.81**	**40**	*e*PN		**Pn**	**03 57 46.4**	**+1.3**
CRVS				*e*SN		Sn	03 59 04.2	-21
LTK	**Loutraki**	**8.85**	**116**	P		**Pn**	**03 57 47.5**	**+1.9**
CLL	**Collm**	**8.89**	**0**	*e*P		**Pn**	**03 57 49.0**	**+2.9**
CLL				*e*			03 59 32.0	
CLL				pmax	pmax			
	comp=Z,5.0nm,0.9s							
CLL	**Collm**	**8.89**	**0**	*e*Pn		**Pn**	**03 57 46.5**	**+0.4**
CLL	**Collm**	**8.89**	**0**	*e*Pn		**Pn**	**03 57 49.0**	**+2.9**
	comp=Z,5.0nm,0.9s							
CLL				*ex*		x	03 57 57.0	
CLL				*e*(Pg)		Pn	03 58 27.0	+41
CLL				*e*Sn		**Sn**	**03 59 27.0**	**+0.4**
CLL				*e*Sg		Sn	04 00 32.0	+65
CLL	**Collm**	**8.89**	**0**	*e*P		**Pn**	**03 57 49.0**	**+2.9**
	comp=Z,5.0nm,0.9s							
CLL				*e*S		**Sn**	**03 59 32.0**	**+5.4**
STHS	**Stebnicka Huta**	**9.08**	**37**	*e*PN		**Pn**	**03 57 51.8**	**+3.0**
OJC	**Ojcow**	**9.13**	**29**	*e*P		**Pn**	**03 57 51.6**	**+2.2**
PVL	**Pavlikeni**	**9.16**	**81**	*i* P		**Pn**	**03 57 48.5**	**-1.3**
EPF	**Esparros**	**9.28**	**278**	*e*Pn		**Pn**	**03 57 50.3**	**-1.2**
DID	**Didima**	**9.31**	**118**	P		**Pn**	**03 57 53.3**	**+1.3**
DID				S		**Sn**	**03 59 34.9**	**-2.2**
CLZ	**Clausthal**	**9.58**	**350**	*e*Pn		**Pn**	**03 57 57.1**	**+1.5**
MLR	**Muntele Rosu**	**9.88**	**67**	Pn		**Pn**	**03 57 59.1**	**-0.6**
	comp=Z,0.3nm,0.3s,baz=251,slow=10.0,SNR=7.5							
KWP	**Kalwaria**	**9.91**	**40**	*e*P		**Pn**	**03 57 58.8**	**-1.3**
KWP				pmax	pmax			
	comp=Z,27nm,0.8s							
KWP	**Kalwaria**	**9.91**	**40**	*e*Pn		**Pn**	**03 57 58.8**	**-1.3**
	comp=Z,27nm,0.8s							
KWP	**Kalwaria**	**9.91**	**40**	*e*Pn		**Pn**	**03 57 58.8**	**-1.3**
	comp=Z,27nm,0.8s							
ALN	**Alexandroupoli**	**9.94**	**94**	P		**Pn**	**03 58 01.9**	**+1.3**
BUR08	**Bucovina Ar. S**	**10.14**	**55**	*e*Pn		**Pn**	**03 57 59.5**	**-3.7**
LVV	**L'vov**	**10.68**	**42**	*e*P		**Pn**	**03 58 14.6**	**+4.0**
ESDC	**Sonseca Array**	**13.04**	**264**	LR		LR	04 04 16.8	
	comp=Z,18nm,18.4s,baz=315,slow=40							
SIM	**Simferopol'**	**15.54**	**73**	P		**Pn**	**03 59 13.2**	**-3.5**
SIM				*e*S		**Sn**	**04 02 15.5**	**+6.3**
SIM				pmax	pmax			
	comp=Z,27nm,0.3s							
BR131	**Keskin Array S**	**15.85**	**93**	*e*Pn		**Pn**	**03 59 19.3**	**-1.5**
	comp=Z,6.6nm,0.9s							
HFS	**Hagfors**	**17.74**	**1**	P		**Pn**	**03 59 44.5**	**-0.1**
	comp=Z,0.1nm,0.3s,baz=180,slow=15,SNR=3.1							
HFS				LR		LR	04 07 55.1	
	comp=Z,80nm,18.2s,baz=228,slow=42							
VSU	**Vasula**	**18.25**	**24**	*e*P		**Pn**	**03 59 53.0**	**+2.1**
NB2	**NORSAR Subarra**	**18.68**	**357**	P		**Pn**	**03 59 55.1**	**-0.9**
	comp=Z,4.0nm,1.0s,baz=175,slow=12							
NOA	**NORSAR Array B**	**18.68**	**357**	P		**Pn**	**03 59 55.2**	**-0.9**
	comp=Z,0.1nm,0.3s,baz=165,slow=10,SNR=3.9							
NOA				LR		LR	04 07 45.7	
	comp=Z,44nm,19.9s,baz=190,slow=39							
VSR	**Storozhevoye**	**19.91**	**55**	*e*P		**Pn**	**04 00 08.7**	**-2.3**
VSR				pmax	pmax			
	comp=Z,3.0nm,0.5s							
VSR				pmax	pmax			
	comp=N,5.0nm,0.6s							
VSR				pmax	pmax			
	comp=E,3.0nm,0.5s							
OBN	**Obninsk**	**19.98**	**42**	⇑*e*P		**Pn**	**04 00 08.4**	**-3.4**
OBN				*e*S		**Sn**	**04 03 42.6**	**-14**
OBN				pmax	pmax			
	comp=Z,16nm,1.8s							
OBN				MLR	MLR			
	comp=Z,100nm,11.0s							
TAM	**Tamanrasset**	**20.52**	**200**	*e*P		**P**	**04 00 16.7**	**+0.5**
TAM	**Tamanrasset**	**20.52**	**200**	*e*P		**P**	**04 00 16.7**	**+0.5**
MOS	**Moscow**	**20.82**	**42**	*e*P		**P**	**04 00 12.1**	**-7.0**
KAF	**Kangasniemi**	**21.27**	**17**	*e*p		**P**	**04 00 25.5**	**+1.5**
	comp=Z,11nm,1.0s,mb4.2							
KAF	**Kangasniemi**	**21.27**	**17**	*e*P		**P**	**04 00 25.5**	**+1.5**
KAF				pmax	pmax			
	comp=Z,11nm,1.0s,mb4.1							
VRHR	**Novokhopersk**	**21.38**	**56**	*e*P		**P**	**04 00 19.8**	**-5.5**
VRHR				pmax	pmax			
	comp=N,10.0nm,0.4s							
VRHR				pmax	pmax			
	comp=Z,10.0nm,0.4s,mb4.5							
VRHR				pmax	pmax			
	comp=E,8.0nm,0.5s							
KIV	**Kislovodsk**	**21.71**	**76**	*e*P		**P**	**04 00 29.6**	**+0.7**
KIV				*e*S		**S**	**04 04 30.2**	**+0.8**
KIV				pmax	pmax			
	comp=Z,13nm,1.1s,mb4.3							
KIV	**Kislovodsk**	**21.71**	**76**	*e*P		**P**	**04 00 29.6**	**+0.7**
	comp=Z,13nm,1.1s,mb4.3							
KIV	**Kislovodsk**	**21.71**	**76**	*e*P		**P**	**04 00 25.7**	**-3.1**
	comp=Z,13nm,1.0s,mb4.3							
JOF	**Joensuu**	**23.20**	**22**	*e*p		**P**	**04 00 45.5**	**+1.0**
	comp=Z,8.5nm,0.9s,mb4.2							
JOF	**Joensuu**	**23.20**	**22**	*e*P		**P**	**04 00 45.5**	**+1.0**
JOF				pmax	pmax			
	comp=Z,9.0nm,0.9s,mb4.2							
GNI	**Garni**	**23.95**	**85**	*i* P		**P**	**04 00 51.1**	**-1.0**
GNI				pmax	pmax			
	comp=Z,7.0nm,1.2s							
GNI	**Garni**	**23.95**	**85**	*i* P		**P**	**04 00 51.1**	**-1.0**
	comp=Z,7.0nm,1.2s,mb4.0							
KLMR	**Klimovskoe**	**24.47**	**32**	*e*P		**P**	**04 00 55.1**	**-1.6**
KLMR				pmax	pmax			
	comp=Z,12nm,1.1s,mb4.2							
KLMR	**Klimovskoe**	**24.47**	**32**	*e*P		**P**	**04 00 55.1**	**-1.6**
	comp=Z,12nm,1.1s,mb4.2							
TOA0	**Torodi Ar. Sit**	**30.75**	**202**	*e*P		**P**	**04 01 53.3**	**0.0**
TOA0	**Torodi Ar. Sit**	**30.75**	**202**	*e*P		**P**	**04 01 53.3**	**0.0**
TORD	**Torodi Ar. Bea**	**30.75**	**202**	P		**P**	**04 01 52.8**	**-0.5**
	comp=Z,0.9nm,0.8s,mb3.7,baz=17,slow=7.4,SNR=8.7							
TORD				LR		LR	04 15 20.5	
	comp=Z,46nm,21.2s,MS3.1,baz=0.0,slow=38							
ARU	**Arti**	**32.17**	**48**	*d* iP		**P**	**04 02 04.2**	**-1.3**
ARU				*e*			04 03 08.4	
ARU				*e*S		**S**	**04 07 18.6**	**0.0**
ARU				*e*SS		SS	04 09 06.9	-29
ARU				pmax	pmax			
	comp=Z,10.0nm,1.0s,mb4.6							
ARU	**Arti**	**32.17**	**48**	*e*P		**P**	**04 02 04.1**	**-1.4**
	comp=Z,12nm,1.2s,mb4.6							
SVE	**Sverdlovsk**	**33.35**	**48**	*e*P		**P**	**04 02 14.8**	**-1.0**
SVE				*e*S		**S**	**04 07 30.2**	**-6.7**
SVE				pmax	pmax			
	comp=Z,9.0nm,1.0s,mb4.7							
SVE	**Sverdlovsk**	**33.35**	**48**	*e*P		**P**	**04 02 14.8**	**-1.0**
	comp=Z,9.0nm,1.0s,mb4.7							
DBIC	**Dimbokro**	**38.93**	**209**	LR		LR	04 19 24.7	
	comp=Z,41nm,18.7s,MS3.3,baz=199,slow=37							
EKS2	**Erkin-Say**	**43.96**	**68**	*e*P		**P**	**04 03 45.0**	**0.0**
	comp=Z,3.5nm,0.6s,mb4.3							
KURK	**Kurchatov**	**44.56**	**56**	⇑*e*P		**P**	**04 03 48.7**	**-1.0**
KURK				pmax	pmax			
	comp=Z,1.0nm,0.5s,mb3.9							
KURK	**Kurchatov**	**44.56**	**56**	*e*P		**P**	**04 03 48.7**	**-1.0**
	comp=Z,1.0nm,0.5s,mb3.9							
ZALV	**Zalesovo Beam**	**47.30**	**50**	P		**P**	**04 04 08.7**	**-2.6**
	comp=Z,0.4nm,0.4s,mb3.7,baz=313,slow=9.6,SNR=2.6							
ZALV				LR		LR	04 26 09.6	
	comp=Z,50nm,19.1s,MS3.5,baz=147,slow=39							
MKAR	**Makanchi Array**	**48.12**	**60**	P		**P**	**04 04 15.9**	**-1.8**
	comp=Z,1.2nm,0.7s,mb4.0,baz=286,slow=4.9,SNR=6.0							
MKAR				LR		LR	04 28 20.8	
	comp=Z,20nm,18.7s,MS3.1,baz=196,slow=41							
MKAR	**Makanchi Array**	**48.12**	**60**	*i* P		**P**	**04 04 17.5**	**-0.2**
MKAR				pmax	pmax			
	comp=Z,1.0nm,0.7s							
SONM	**Songino Array**	**62.20**	**49**	P		**P**	**04 05 58.8**	**-0.6**
	comp=Z,0.8nm,0.8s,mb3.9,baz=295,slow=8.0,SNR=6.2							
SONM	**Songino Array**	**62.20**	**49**	P		**P**	**04 05 58.8**	**-0.5**
SONM				pmax	pmax			
	comp=Z,1.0nm,0.8s							
BOSA	**Boshof**	**71.59**	**169**	LR		LR	04 43 17.1	
	comp=Z,40nm,18.1s,MS3.7,baz=333,slow=40							
ASAR	**Alice Springs**	**128.15**	**88**	PKP		PKPdf	04 14 41.3	-3.2
	comp=Z,0.2nm,0.7s,baz=208,slow=2.1,SNR=4.1							

NNC 21 03:58:41.6±40.0, 3735N×6970E, h94km±945km, mb3.2, mpv3.6,3C, Error ellipse: s-maj=316.8km s-min=227.8km az=14.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**5.78**	**6**	P		Pn	04 00 06.2	+1.5
	baz=188,slow=15							
KK31				S		Sn	04 01 10.0	+0.4
	1.1nm,0.6s,baz=186,slow=22,SNR=4.4							
TKM2	**Tokmak 2**	**7.17**	**37**	⇑P		Pn	04 00 25.2	+1.6
	8.8nm,2.0s							
TKM2				⇑S		Sn	04 01 41.5	-1.9
	9.3nm,1.5s							
AB31	**Akbulak array**	**13.84**	**332**	P		Pn	04 01 53.5	+0.1
	0.3nm,0.3s,baz=188,slow=15,SNR=18							
AB31				⇑S		Sn	04 04 27.8	+2.3
	0.3nm,0.5s,baz=158,slow=22,SNR=4.7							

IDC 21 04:20:29.6±4.7, 305S×10084E, h0km, mb3.7/4, mb1 3.8/4, mb1mx3.5/19, mbtmp3.7/4, MS3.6/1, Ms1 3.6/1, ms1mx2.7/26, Error ellipse: s-maj=225.1km s-min=26.8km az=55.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
BATI	**Baumata**	**23.74**	**109**	LR		LR	04 36 45.9	
	comp=Z,121nm,18.6s,baz=139,slow=41							
WRA	**Warramunga Arr**	**36.74**	**120**	P		P	04 27 38.5	-0.5
	0.3nm,0.3s,baz=304,slow=9.3,SNR=13							
ASAR	**Alice Springs**	**37.96**	**126**	P		P	04 27 49.0	-0.3
	0.4nm,0.5s,baz=301,slow=8.1,SNR=9.0							
STKA	**Stephens Creek**	**47.83**	**131**	P		P	04 29 09.8	+0.6
	0.8nm,0.6s,baz=307,slow=10,SNR=4.0							
ZALV	**Zalesovo Beam**	**58.35**	**349**	P		P	04 30 26.0	-0.4
	0.8nm,0.8s,baz=165,slow=6.2,SNR=3.8							
TXAR	**Lajitas Array**	**145.00**	**39**	PKPbc		PKPbc	04 40 08.8	-0.1
	0.2nm,0.4s,baz=297,slow=0.7,SNR=19							

IDC 21 04:38:20.6±3.2, 342S×15280E, h0km, mb4.0/3, mb1 4.2/3, mb1mx3.7/16, mbtmp4.0/3, Error ellipse: s-maj=122.4km s-min=44.4km az=120.0, New Ireland region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.37**	**226**	P		P	04 43 41.3	+0.7
	4.3nm,0.3s,baz=52,slow=9.6,SNR=148							
ASAR	**Alice Springs**	**27.18**	**221**	P		P	04 44 06.6	+0.6
	0.3nm,0.5s,baz=54,slow=8.5,SNR=8.6							
FITZ	**Fitzroy Crossi**	**30.34**	**239**	P		P	04 44 33.6	-0.6
	0.9nm,0.6s,baz=41,slow=12,SNR=8.4							
TORD	**Torodi Ar. Bea**	**149.86**	**290**	PKPbc		PKPbc	04 58 13.1	-0.8
	0.2nm,0.3s,baz=69,slow=2.1,SNR=18							

*ISCJB **21** 05:16:19.5±0.7, 3004S×7163W, h41km±7km, mb4.0/3, MS3.6/2, Error ellipse: s-maj=11.3km s-min=3.9km az=7.3*
*NEIC **21** 05:16:19.3, 3002S×7157W, h37km, mb4.4/1, After GUC.*
*GUC **21** 05:16:19.3±0.8, 3002S×7157W, h37km±2km, ML4.3*
*IDC **21** 05:16:22.8±3.3, 3004S×7162W, h60km±28km, mb3.6/2, mb1 3.8/6, mb1mx3.6/17, mbtmp3.6/6, ML3.6/4, MS3.4/4, Ms1 3.3/4, ms1mx2.9/22, Error ellipse: s-maj=39.0km s-min=26.1km az=93.0*
ISC 21 05:16:19.0±1.2, 3002S×7168W, h21km±8km, n42, σ0≤80/52, mb4.0/3, MS3.6/2, 5D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
LSCH	**La Serena**	**0.39**	**74**	⇓*i*P		**Pb**	**05 16 27.4**	**0.0**
LSCH				*i* S		**Sb**	**05 16 33.1**	**+0.2**
OVCH	**Ovalle**	**0.72**	**145**	⇓*i*P		**Pb**	**05 16 31.9**	**-1.0**
OVCH				*i* S		**Sb**	**05 16 41.5**	**-0.9**
TLL	**Tololo Astrono**	**0.78**	**101**	*e*P		**Pb**	**05 16 33.5**	**-0.3**
TLL				*i* S		**Sb**	**05 16 43.5**	**-0.4**
TLL				AML		AML	05 16 44.7	
	comp=E,4μm,0.7s							
TLL	**Tololo Astrono**	**0.78**	**101**	*e*P		**Pb**	**05 16 33.5**	**-0.3**
TLL				*i* S		**Sb**	**05 16 43.5**	**-0.4**
LCO	**Las Campanas**	**1.32**	**41**	⇓*i*P		**Pn**	**05 16 41.7**	**-0.5**
LCO				*i* S		**Sn**	**05 16 59.1**	**0.0**
VACH	**Vallenar**	**1.65**	**30**	⇓*i*P		**Pn**	**05 16 46.4**	**-0.3**
VACH				*i* S		**Sn**	**05 17 07.5**	**+0.2**
VACH				AML		AML	05 17 16.0	
	comp=E,6μm,0.5s							
VACH	**Vallenar**	**1.65**	**30**	⇓*i*P		**Pn**	**05 16 46.4**	**-0.3**
VACH				*i* S		**Sn**	**05 17 07.5**	**+0.2**
CHNG	**Los Chungos**	**1.87**	**175**	*e*P		**Pn**	**05 16 49.4**	**-0.4**
CHNG				*i* S		**Sn**	**05 17 11.9**	**-0.8**
PACH	**Papudo**	**2.52**	**175**	*e*P		**Pn**	**05 16 58.7**	**0.0**
PACH				*i* S		**Sn**	**05 17 29.0**	**+0.1**
CPCH	**Copiapo**	**2.89**	**24**	*e*P		**Pn**	**05 17 03.6**	**-0.3**
PEL	**Peldehue**	**3.23**	**165**	*e*P		**Pn**	**05 17 08.9**	**+0.4**
PEL				*e*S		**Sn**	**05 17 45.6**	**-0.8**
PEL				AML		AML	05 18 08.0	
	comp=E,1μm,0.5s							
CFAA	**Coronel Fontan**	**3.36**	**119**	P		**Pn**	**05 17 11.9**	**+1.6**
	comp=E,0.7nm,0.3s,baz=300,slow=14,SNR=102							
CFAA				S		**Sn**	**05 17 56.4**	**+6.8**
	comp=E,2.2nm,0.3s,baz=204,slow=20,SNR=5.9							
CLCH	**Cerro Calan**	**3.51**	**164**	*e*P		**Pn**	**05 17 12.6**	**+0.2**
CLCH				AML		AML	05 18 11.5	
	comp=E,1μm,0.7s							
FCH	**Farellones**	**3.51**	**161**	*e*P		**Pn**	**05 17 13.6**	**+1.3**
FCH				*i* S		**Sn**	**05 17 53.9**	**+0.7**
FCH				AML		AML	05 18 14.1	
	comp=E,354nm,0.6s							
RCDM	**Rinconada Maip**	**3.54**	**168**	*e*P		**Pn**	**05 17 12.9**	**+0.2**
RCDM				*i* S		**Sn**	**05 17 53.2**	**-0.8**
RCDM				AML		AML	05 18 12.2	
	comp=E,453nm,0.5s							
RCDM	**Rinconada Maip**	**3.54**	**168**	*e*P		**Pn**	**05 17 12.9**	**+0.2**
RCDM				*i* S		**Sn**	**05 17 53.2**	**-0.8**
ANTU	**Antumapu**	**3.65**	**166**	*e*P		**Pn**	**05 17 14.5**	**+0.2**
ANTU				*e*S		**Sn**	**05 17 56.2**	**-0.6**
ANTU				AML		AML	05 18 17.5	
	comp=E,506nm,0.6s							
ANTU	**Antumapu**	**3.65**	**166**	*e*P		**Pn**	**05 17 14.5**	**+0.2**
ANTU				*e*S		**Sn**	**05 17 56.2**	**-0.6**
TACH	**Talagante**	**3.68**	**170**	*e*P		**Pn**	**05 17 15.0**	**+0.3**
PCH	**Pirque**	**3.73**	**165**	*e*P		**Pn**	**05 17 15.5**	**+0.1**
CHCH	**Chadas Angostu**	**4.00**	**168**	*e*P		**Pn**	**05 17 19.2**	**+0.1**
LMEL	**Las Melosas**	**4.02**	**162**	*e*P		**Pn**	**05 17 19.9**	**+0.6**
LMEL				AML		AML	05 18 34.6	
	comp=N,342nm,0.6s							
CACH	**El Canelo**	**4.19**	**168**	*e*P		**Pn**	**05 17 22.6**	**+0.9**
LVC	**Limon Verde**	**7.78**	**19**	P		**Pn**	**05 18 09.3**	**-1.7**
	comp=N,0.5nm,0.3s,baz=212,slow=9.2,SNR=12							
LVC				LR		LR	05 21 05.0	
	comp=N,187nm,18.4s,baz=216,slow=36							
PLCA	**Paso Flores**	**10.73**	**175**	P		**Pn**	**05 18 54.3**	**+2.8**
	comp=N,0.1nm,0.3s,baz=331,slow=12,SNR=3.0							
PLCA				LR		LR	05 23 30.8	
	comp=N,95nm,21.0s,baz=357,slow=40							
TRQA	**Tornquist**	**11.36**	**137**	*e*Pn		**Pn**	**05 19 01.1**	**+1.1**
	comp=N,8.7nm,0.8s							
TRQA				*e*Sn		**Sn**	**05 21 07.0**	**+0.8**
LPAZ	**La Paz**	**14.05**	**14**	P		**Pn**	**05 19 38.3**	**+1.4**
	comp=N,0.2nm,0.3s,baz=182,slow=7.4,SNR=22							
SIV	**San Ignacio**	**17.02**	**37**	P		**Pn**	**05 20 16.8**	**+1.0**
	comp=N,0.3nm,0.3s,baz=217,slow=11,SNR=33							
PCRV	**Puerto La Cruz**	**40.53**	**11**	LR		LR	05 41 35.6	
	comp=N,47nm,20.2s,MS3.3,baz=186,slow=37							
**VN

GRW	**Mount Saint Ca**	**1.66**	**28**	*e*P		**Pn**	**07 02 00.5**	**+0.2**
GRW				*e*S		**Sn**	**07 02 20.2**	**-0.5**
TPR	**Prospect**	**1.71**	**73**	*e*P		**Pn**	**07 02 01.6**	**+0.5**
TPR				*e*S		**Sn**	**07 02 21.0**	**-1.0**
GRHS	**Sauteurs**	**1.72**	**27**	*e*P		**Pn**	**07 02 02.7**	**+1.4**
GRHS				*e*S		**Sn**	**07 02 21.1**	**-1.2**
BOT	**Bacolet**	**1.76**	**74**	*e*P		**Pn**	**07 02 02.1**	**+0.4**
BOT				*e*S		**Sn**	**07 02 21.5**	**-1.7**
GRSS	**Sisters**	**1.80**	**27**	*e*P		**Pn**	**07 02 02.5**	**+0.2**
GRSS				*e*S		**Sn**	**07 02 24.0**	**-0.2**
GRSS	**Sisters**	**1.80**	**27**	*e*P		**Pn**	**07 02 06.4**	**+4.1**
GRSS				*e*S		**Sn**	**07 02 24.0**	**-0.2**
GRIC	**Isle de Caille**	**1.80**	**28**	*e*P		**Pn**	**07 02 01.5**	**-0.8**
GRIC				*e*S		**Sn**	**07 02 23.8**	**-0.4**
ORIV	**Oritupano**	**1.86**	**211**	*e*P		**Pn**	**07 02 04.3**	**+1.2**
ORIV				*e*S		**Sn**	**07 02 26.1**	**+0.4**
PCRV	**Puerto La Cruz**	**2.21**	**257**	*e*P		**Pn**	**07 02 09.1**	**+1.3**
PCRV				*e*S		**Sn**	**07 02 33.1**	**-1.1**
RIOV	**Rio Grande**	**2.67**	**166**	*e*P		**Pn**	**07 02 14.3**	**+0.2**
RIOV				*e*S		**Sn**	**07 02 44.2**	**-1.1**
PRGV	**PARIAGUAN**	**2.89**	**229**	*e*P		**Pn**	**07 02 17.7**	**+0.6**
PRGV				*e*S		**Sn**	**07 02 50.1**	**-0.6**
GURV	**El Guri**	**2.97**	**192**	*e*P		**Pn**	**07 02 19.1**	**+0.9**
GURV				*e*S		**Sn**	**07 02 50.7**	**-2.0**
CUPV	**Cœpira**	**3.35**	**260**	⇓*e*P		**Pn**	**07 02 24.9**	**+1.6**
BIRV	**Birongo**	**3.77**	**267**	*e*P		**Pn**	**07 02 30.4**	**+1.3**
BIRV				*e*S		**Sn**	**07 03 10.9**	**-1.2**
MERV	**Las Mercedes**	**4.05**	**250**	*e*P		**Pn**	**07 02 33.0**	**+0.1**
MERV				*e*S		**Sn**	**07 03 16.7**	**-2.5**
LUEV	**Luepa**	**4.91**	**168**	*e*P		**Pn**	**07 02 43.4**	**-1.3**
CAOV	**Caicara del Or**	**5.08**	**229**	*e*P		**Pn**	**07 02 47.0**	**-0.1**
BAUV	**El Baul**	**5.78**	**253**	*e*P		**Pn**	**07 02 56.8**	**+0.1**

IDC 21 07:13:59.5±6.9, 143S×10151E, h0km, mb3.5/3, mb1 3.7/3, mb1mx3.4/18, mbtmp3.5/3, Error ellipse: s-maj=387.3km s-min=28.3km az=53.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**36.99**	**122**	P	P	07 21 11.5	+0.5
	0.3nm,0.9s,baz=309,slow=9.1,SNR=3.8						
ASAR	**Alice Springs**	**38.38**	**128**	P	P	07 21 22.4	-0.3
	0.5nm,0.5s,baz=303,slow=7.4,SNR=8.3						
MKAR	**Makanchi Array**	**50.91**	**343**	P	P	07 23 02.8	+0.4
	0.4nm,0.4s,baz=154,slow=8.2,SNR=4.8						
TXAR	**Lajitas Array**	**143.33**	**38**	PKP	PKPdf	07 33 33.8	-2.8
	0.1nm,0.4s,baz=289,slow=1.2,SNR=7.2						

*ISCJB **21** 07:26:45.8±0.7, 3759N±003×2091E±006, h1km±5km, Error ellipse: s-maj=9.3km s-min=3.5km az=147.9*
*CSEM **21** 07:26:45.1±0.1, 3759N×2080E, h8km, ML3.6/7, Error ellipse: s-maj=2.8km s-min=1.5km az=57.0*
*NEIC **21** 07:26:46.1, 3760N×2087E, h11km, ML3.7(ATH), After ATH.*
*ATH **21** 07:26:46.1, 3760N×2087E, h11km±2km, MD3.7/8, ML3.7*
*THE **21** 07:26:47.1, 3759N×2093E, h4km±1km, ML3.6/7, Error ellipse: s-maj=2.9km s-min=0.8km az=233.0*

ISC 21 07:26:46.7±0.7, 3758N±003×2091E±006, h4km±4km, n52, σ0s79/75, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KFL	**Anninata**	**0.54**	**350**	P	**Pg**	**07 26 56.5**	**-0.6**
KFL				S	**Sg**	**07 27 05.0**	**+0.9**
VLS	**Valsamata**	**0.65**	**337**	P	**Pg**	**07 26 58.4**	**-0.8**
VLS				*e*Sb	**Sg**	**07 27 07.7**	**+0.1**
VLS				S	**Sg**	**07 27 08.6**	**+1.0**
VLS	**Valsamata**	**0.65**	**337**	*e*Pb	**Pg**	**07 26 58.2**	**-1.0**
VLS				*e*Sb	**Sg**	**07 27 07.7**	**+0.1**
VLS	**Valsamata**	**0.65**	**337**	*e*PB	**Pg**	**07 26 58.2**	**-1.0**
VLS				*e*SB	**Sg**	**07 27 07.7**	**+0.1**
RLS	**Riolos of Patr**	**0.65**	**43**	*e*Pg	**Pg**	**07 26 58.5**	**-0.8**
RLS				*e*Sb	**Sb**	**07 27 08.4**	**-1.7**
RLS	**Riolos of Patr**	**0.65**	**43**	*e*PG	**Pg**	**07 26 58.5**	**-0.8**
RLS				*e*SB	**Sb**	**07 27 08.4**	**-1.7**
ITM	**Ithomi**	**0.90**	**116**	*e*Pg	**Pg**	**07 27 03.6**	**-0.5**
ITM				*e*Sb	**Sb**	**07 27 17.1**	**-0.2**
ITM	**Ithomi**	**0.90**	**116**	*e*PG	**Pg**	**07 27 03.6**	**-0.5**
ITM				*e*SB	**Sb**	**07 27 17.1**	**-0.2**
PYL	**PYLOS**	**0.95**	**135**	P	**Pg**	**07 27 04.8**	**-0.2**
PYL				S	**Sg**	**07 27 18.6**	**+1.2**
LKD	**Levkas**	**1.15**	**350**	P	**Pg**	**07 27 08.9**	**+0.2**
LKD				S	**Sg**	**07 27 25.7**	**+2.2**
VLX	**Vlachokerasia**	**1.19**	**100**	P	**Pg**	**07 27 08.4**	**-1.1**
VLX				S	**Sg**	**07 27 26.7**	**+1.8**
EVR	**Evrytania**	**1.51**	**28**	*e*Pg	**Pn**	**07 27 14.1**	**-0.4**
EVR				*e*Sb	**Sb**	**07 27 35.1**	**+0.3**
EVR	**Evrytania**	**1.51**	**28**	*e*PG	**Pn**	**07 27 14.1**	**-0.4**
EVR				*e*SB	**Sb**	**07 27 35.1**	**+0.3**
LTK	**Loutraki**	**1.69**	**74**	P	**Pn**	**07 27 17.0**	**0.0**
AGG	**Agios Georgios**	**1.82**	**37**	P	**Pn**	**07 27 19.7**	**+0.9**
AGG				S	**Sn**	**07 27 42.1**	**-0.2**
VLI	**Veliai**	**1.83**	**117**	*e*Pg	**Pg**	**07 27 21.1**	**-0.8**
VLI	**Veliai**	**1.83**	**117**	*e*PG	**Pg**	**07 27 21.1**	**-0.8**
DID	**Didima**	**1.85**	**92**	P	**Pg**	**07 27 18.7**	**-0.5**
DID				S	**Sn**	**07 27 43.9**	**+0.9**
LKR	**Lokris**	**1.97**	**56**	P	**Pn**	**07 27 20.7**	**-0.1**
IGT	**Igoumenitsa**	**2.00**	**347**	P	**Pn**	**07 27 21.4**	**+0.1**
IGT				S	**Sn**	**07 27 47.7**	**+1.0**
NAIG	**Nisos Aigina**	**2.06**	**84**	*e*Pn	**Pn**	**07 27 23.0**	**+1.0**
NAIG	**Nisos Aigina**	**2.06**	**84**	*e*PN	**Pn**	**07 27 23.0**	**+1.0**
THL	**Klokotos Trika**	**2.17**	**23**	P	**Pn**	**07 27 23.1**	**-0.4**
THL				S	**Sn**	**07 27 51.6**	**+0.9**
THL	**Klokotos Trika**	**2.17**	**23**	*e*Pn	**Pn**	**07 27 24.0**	**+0.5**
THL				S	**Sn**	**07 27 51.6**	**+0.9**
THL	**Klokotos Trika**	**2.17**	**23**	*e*PN	**Pn**	**07 27 24.0**	**+0.5**
MEV	**Metsovon**	**2.22**	**6**	P	**Pn**	**07 27 25.0**	**+0.8**
ATH	**Athens Observa**	**2.26**	**79**	*e*Pn	**Pn**	**07 27 26.4**	**+1.6**
ATH	**Athens Observa**	**2.26**	**79**	*e*PN	**Pn**	**07 27 26.4**	**+1.6**
KEK	**Kerkira**	**2.30**	**338**	*e*Pn	**Pn**	**07 27 25.8**	**+0.4**
KEK	**Kerkira**	**2.30**	**338**	*e*PN	**Pn**	**07 27 25.8**	**+0.4**
PTL	**Penteli**	**2.39**	**78**	*e*Pb	**Pn**	**07 27 26.8**	**+0.2**
PTL	**Penteli**	**2.39**	**78**	*e*PB	**Pn**	**07 27 26.8**	**+0.2**
XOR	**Xorichti**	**2.53**	**44**	P	**Pn**	**07 27 28.1**	**-0.4**
LIT	**Litokhoron**	**2.81**	**26**	P	**Pn**	**07 27 31.9**	**-0.4**
LIT				S	**Sn**	**07 28 06.0**	**-0.5**
AOS	**Alonnisos**	**2.83**	**55**	P	**Pn**	**07 27 32.2**	**-0.4**
FNA	**Florina**	**3.22**	**6**	P	**Pn**	**07 27 37.8**	**-0.2**
FNA				S	**Sn**	**07 28 16.6**	**-0.2**
PLG	**Polygyros**	**3.42**	**35**	P	**Pn**	**07 27 39.9**	**-0.9**
PLG				S	**Sn**	**07 28 21.4**	**-0.3**
THE	**Thessaloniki**	**3.44**	**27**	P	**Pn**	**07 27 40.5**	**-0.6**
HORT	**Hortiatis**	**3.46**	**29**	P	**Pn**	**07 27 40.6**	**-0.7**
HORT				S	**Sn**	**07 28 24.2**	**+1.4**
GRG	**Griva**	**3.57**	**19**	P	**Pn**	**07 27 42.2**	**-0.6**
OUR	**Ouranopolis**	**3.65**	**40**	P	**Pn**	**07 27 43.3**	**-0.6**
SOH	**Sokhos**	**3.75**	**30**	P	**Pn**	**07 27 45.4**	**+0.1**
KRUS	**Krusevo**	**3.79**	**4**	*e*Pn	**Pn**	**07 27 45.7**	**-0.2**
KNT	**Kendrikon**	**3.90**	**23**	P	**Pn**	**07 27 47.2**	**-0.1**
VAY	**Valandovo**	**3.95**	**18**	*e*Pn	**Pn**	**07 27 46.4**	**-1.7**
VAY	**Valandovo**	**3.95**	**18**	*e*PN	**Pn**	**07 27 46.3**	**-1.8**
VAY	**Valandovo**	**3.95**	**18**	P	**Pn**	**07 27 47.6**	**-0.5**
LIA	**Limnos Island**	**4.07**	**54**	P	**Pn**	**07 27 48.9**	**-0.7**
CHOS	**Chios island**	**4.15**	**77**	P	**Pn**	**07 27 50.3**	**-0.4**
STIP	**Stip**	**4.23**	**13**	*e*Pn	**Pn**	**07 27 51.4**	**-0.5**
STIP	**Stip**	**4.23**	**13**	*e*PN	**Pn**	**07 27 51.3**	**-0.5**
LAST	**Lasithi**	**4.41**	**122**	P	**Pn**	**07 27 55.3**	**+1.0**

IDC 21 07:31:12.6±2.4, 605S×10414E, h0km, mb3.7/5, mb1 3.9/5, mb1mx3.6/19, mbtmp3.7/5, ML5.7/1, Error ellipse: s-maj=108.4km s-min=22.7km az=49.0, Sunda Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	**Baumata**	**19.76**	**103**	P	Pn	07 35 44.5	-1.3
	21nm,0.3s,baz=284,slow=8.3,SNR=11						
FITZ	**Fitzroy Crossi**	**24.16**	**122**	P	P	07 36 30.7	0.0
	1.1nm,0.7s,baz=292,slow=11,SNR=3.0						
WRA	**Warramunga Arr**	**32.42**	**118**	P	P	07 37 43.3	-1.3
	0.3nm,0.3s,baz=286,slow=9.8,SNR=9.3						
ASAR	**Alice Springs**	**33.56**	**125**	P	P	07 37 54.6	+0.1
	0.8nm,0.4s,baz=293,slow=7.9,SNR=13						
STKA	**Stephens Creek**	**43.39**	**131**	P	P	07 39 18.1	+0.9
	0.7nm,0.4s,baz=319,slow=7.2,SNR=5.8						
MKAR	**Makanchi Array**	**56.07**	**342**	P	P	07 40 53.1	-0.3
	0.4nm,0.4s,baz=148,slow=8.4,SNR=2.9						
TXAR	**Lajitas Array**	**145.00**	**45**	PKPbc	PKPbc	07 50 52.1	+0.2
	0.2nm,0.6s,baz=242,slow=1.9,SNR=7.2						

*IDC **21** 08:41:55.8±3.2, 1199S×16588E, h0km, mb4.1/4, mb1 4.2/5, mb1mx3.8/17, mbtmp4.1/5, ML4.3/1, MS3.2/1, Ms1 3.2/1, ms1mx2.6/21, Error ellipse: s-maj=56.4km s-min=42.1km az=71.0*

ISC 21 08:42:03.0±5.5, 120S±02×1658E±03, h49km±41km, n6, σ0s82/6, mb4.0/4, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**6.26**	**293**	Pn	**Pn**	**08 43 32.8**	**-0.2**
	6.7nm,0.3s,baz=165,slow=5.8,SNR=5.1						
HNR				Sn	**Sn**	**08 44 43.4**	**+0.2**
	5.3nm,0.3s,baz=150,slow=20,SNR=2.3						
CTA	**Charters Tower**	**20.41**	**244**	LR	LR	08 52 15.0	
	comp=Z,73nm,20.3s,baz=226,slow=30						
STKA	**Stephens Creek**	**29.80**	**225**	P	**P**	**08 48 06.2**	**+0.8**
	1.2nm,0.6s,mb3.8,baz=56,slow=7.3,SNR=3.0						
WRA	**Warramunga Arr**	**31.21**	**251**	P	**P**	**08 48 17.7**	**-0.3**
	1.0nm,0.6s,mb3.8,baz=83,slow=9.0,SNR=14						
ASAR	**Alice Springs**	**32.42**	**245**	P	**P**	**08 48 27.8**	**-0.7**
	1.6nm,0.7s,mb3.9,baz=70,slow=9.4,SNR=19						
MKAR	**Makanchi Array**	**94.22**	**317**	P	**P**	**08 55 16.9**	**+0.1**
	0.4nm,0.3s,mb4.3,baz=81,slow=8.9,SNR=3.9						

MEX 21 08:53:20.3±0.9, 1668N×9956W, h20km±11km, MD3.5, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ACX	**Acapulco**	**0.39**	**299**	*i* P	Pb	08 53 26.7	-1.8
CAIG	**El Cayaco**	**0.77**	**299**	*i* P	Pb	08 53 33.4	-1.6
CAIG				*i* S	Sb	08 53 42.3	-2.8
PNIG	**Pinotepa**	**1.40**	**101**	*i* P	Pn	08 53 41.9	-2.8
PNIG				*i* S	Sn	08 53 58.3	-4.4
UTMO	**Huajuapan**	**2.03**	**55**	*e*P	Pn	08 53 51.5	-1.9
UTMO				*i* S	Sn	08 54 13.8	-4.4

*CSEM **21** 09:01:30.8, 6726N×1873W, h10km, ML3.6, After REY*
REY 21 09:01:30.8, 6726N×1873W, h10km, ML3.6, ML2.8, Iceland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IGRI	**Grimsey**	**0.78**	**158**	P	Pg	09 01 44.2	-1.5
IGRI				S	Sg	09 01 54.8	-1.0
ISIG	**Siglufjorour**	**1.14**	**184**	P	Pb	09 01 50.0	-2.5
ISIG				S	Sb	09 02 05.6	-1.6
IFLA	**Flatey**	**1.16**	**162**	P	Pb	09 01 51.0	-1.9
IFLA				S	Sb	09 02 06.9	-1.0
IBRE	**Brettingsstaoi**	**1.19**	**164**	P	Pb	09 01 51.0	-2.4
IBRE				S	Sb	09 02 07.0	-1.7
ILEI	**Leirhofn**	**1.23**	**133**	P	Pn	09 01 51.7	-2.3
ILEI				S	Sb	09 02 08.1	-1.9
IHRN	**Hraun**	**1.28**	**206**	P	Pn	09 01 52.1	-2.6
IHRN				S	Sb	09 02 09.5	-1.9
IHED	**Heoinshofoi**	**1.31**	**154**	P	Pn	09 01 52.7	-2.4
IHED				S	Sb	09 02 10.0	-2.3
IGRA	**Granastaoir**	**1.43**	**161**	P	Pn	09 01 54.4	-2.3
IGRA				S	Sn	09 02 12.8	-2.6
IGRS	**Grimsstaoir**	**1.94**	**146**	P	Pn	09 02 02.1	-1.6
ISVA	**Svartarkot**	**2.02**	**162**	P	Pn	09 02 03.3	-1.6
ISVA				S	Sn	09 02 28.8	-1.3

*ISCJB **21** 09:26:10.6±2.1, 2992N±007×364E±0.1, h0km, Error ellipse: s-maj=14.7km s-min=7.8km az=154.9*
*GII **21** 09:26:11.4±0.0, 2989N×3636E, h0km, ML2.0/2, EXPLOSION*
*CSEM **21** 09:26:12.1, 3039N×3594E, h6km, ML2.8, After SNSN*
*SGS **21** 09:26:12.1, 3039N×3594E, h7km*

ISC 21 09:26:11.4±2.2, 2989N±006×364E±01, h0km, n10, σ0s82/14, Western Arabian Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HRFI	**Mount Harif**	**1.18**	**277**	Pg	**Pg**	**09 26 33.5**	**-0.4**
ZFRI	**Zfri**	**1.24**	**303**	Sg	**Sg**	**09 26 51.3**	**+0.2**
EIL	**Elat**	**1.27**	**260**	Pg	**Pg**	**09 26 35.6**	**-0.1**
PRNI	**Paran**	**1.28**	**291**	Pg	**Pg**	**09 26 35.4**	**-0.6**
PRNI				Sg	**Sg**	**09 26 54.0**	**+1.4**
MBRI	**Mt Berech**	**1.28**	**266**	Pg	**Pg**	**09 26 35.1**	**-0.9**
MBRI				Sg	**Sg**	**09 26 52.5**	**-0.1**
HQLS		**1.29**	**243**	P	**Pg**	**09 26 35.1**	**-1.1**
HQLS		**1.29**	**243**	P	**Pg**	**09 26 35.1**	**-1.1**
HQLS				S	**Sg**	**09 26 52.4**	**-0.6**
RSHS		**2.11**	**222**	P	**Pn**	**09 26 48.8**	**+0.8**
RSHS		**2.11**	**222**	P	**Pn**	**09 26 48.8**	**+0.9**
RSHS				S	**Sn**	**09 27 16.2**	**+1.3**
WJHS		**3.15**	**180**	P	**Pn**	**09 27 07.4**	**+5.2**

*HLW **21** 09:29:12.7, 3152N×3556E, h15km, Mb2.9*
*ISCJB **21** 09:29:16.8±0.6, 3112N±004×3521E±007, h0km, Error ellipse: s-maj=8.6km s-min=4.5km az=19.6*
*GII **21** 09:29:16.7±1.0, 3113N×3517E, h0km, ML2.2/4, EXPLOSION*

ISC 21 09:29:17.3±0.5, 3113N±004×3520E±006, h0km, n17, σ0s87/20, 1C, Dead Sea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MZDA	**Masada**	**0.23**	**38**	Pg	**Pg**	**09 29 22.0**	**+0.4**
MZDA				Sg	**Sg**	**09 29 28.4**	**+3.8**
YTIR	**Yattir**	**0.24**	**342**	Pg	**Pg**	**09 29 22.4**	**+0.4**
RTMI	**Retamim**	**0.45**	**260**	Pg	**Pg**	**09 29 26.2**	**+0.5**
DSI	**Dead Sea**	**0.46**	**19**	Pg	**Pg**	**09 29 26.8**	**+0.7**
PRNI	**Paran**	**0.79**	**192**	Pg	**Pg**	**09 29 33.2**	**+0.7**
KRMI	**Paran Flat**	**1.09**	**202**	Pg	**Pg**	**09 29 38.4**	**+0.2**
KRMI				Sg	**Sg**	**09 29 54.4**	**+2.1**
HRFI	**Mount Harif**	**1.10**	**187**	Pg	**Pg**	**09 29 38.4**	**+0.1**
HMDT	**Nahal Hemdat**	**1.15**	**14**	Pg	**Pg**	**09 29 38.7**	**-0.7**
RSH		**1.28**	**263**	P	**Pg**	**09 29 40.7**	**-1.1**
MBRI	**Mt Berech**	**1.35**	**191**	Pn	**Pn**	**09 29 42.4**	**-1.0**
AQBJ	**Aqaba**	**1.40**	**185**	Pn	**Pn**	**09 29 43.4**	**-0.7**
EIL	**Elat**	**1.47**	**189**	Pn	**Pn**	**09 29 44.4**	**-0.6**
HRSH	**Kfar Ka'horesh**	**1.57**	**2**	P	**Pn**	**09 29 40.7**	**-5.7**
AMAG	**Maghara**	**1.78**	**255**	P	**Pn**	**09 29 48.1**	**-1.2**
AMAG				S	**Sn**	**09 30 13.9**	**+1.3**
HBST	**Basata**	**1.95**	**192**	⇑P	**Pn**	**09 29 51.4**	**-0.2**
HKAT	**Jabal Katrina**	**2.80**	**202**	P	**Pn**	**09 30 02.9**	**-0.5**
TR2		**3.02**	**206**	P	**Pn**	**09 30 06.0**	**-0.4**

*CSEM **21** 09:52:03.8, 3239N×321W, h30km, MD3.7, After CNRM*
CNRM 21 09:52:03.8, 3239N×321W, h30km, MD3.7, Morocco

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZFT	**Errachidia**	**1.03**	**250**	*i* P	Pn	09 52 21.0	-1.2
ZFT				*i* S	Sn	09 52 34.0	-1.6
CZD	**Col de Zad**	**1.67**	**293**	*i* P	Pn	09 52 30.0	-1.0
CZD				*i* S	Sn	09 52 49.0	-2.5
TZK	**Tazeka**	**1.88**	**335**	*i* P	Pn	09 52 32.0	-1.9
TZK				*i* S	Sn	09 52 55.0	-1.6
MIF	**Mishlifen**	**1.98**	**301**	*i* P	Pn	09 52 33.0	-2.2
MIF				*i* S	Sn	09 52 56.0	-3.0
KIB	**El Ksiba**	**2.40**	**275**	*e*P	Pn	09 52 40.0	-1.0
KIB				*i* S	Sn	09 53 06.0	-3.4
TZC	**Tazercounte**	**2.79**	**266**	*e*P	Pn	09 52 46.0	-0.4
TZC				*i* S	Sn	09 53 16.0	-3.0

*IDC **21** 09:56:54.7±2.4, 826S×12201E, h0km, mb3.8/2, mb1 3.6/4, mb1mx3.5/15, mbtmp3.5/4, ML3.4/2, Error ellipse: s-maj=203.4km s-min=26.7km az=58.0*
*ISCJB **21** 09:57:04.0±1.3, 893S±01×1217E±0.1, h121km±15km, mb3.8/2, Error ellipse: s-maj=28.2km s-min=11.3km az=138.2*

ISC 21 09:57:04.9±1.2, 893S±01×1217E±01, h108km±13km, n7, σ0s98/11, mb3.8/2, 1C, Flores region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WSI	**Waingapu**	**1.61**	**239**	⇑*e*P	**Pn**	**09 57 32.5**	**-0.4**
BATI	**Baumata**	**2.36**	**125**	Pn	**Pn**	**09 57 42.8**	**+0.3**
	9.9nm,0.3s,baz=238,slow=23,SNR=6.3						
BATI				Sn	**Sn**	**09 58 19.2**	**+8.0**
	16nm,0.3s,baz=261,slow=20,SNR=8.7						
FITZ	**Fitzroy Crossi**	**9.96**	**158**	*e*P	**Pn**	**09 59 26.9**	**+1.8**
	1.3nm,0.4s						
FITZ				*e*S	**Sn**	**10 01 14.5**	**-0.5**
WRA	**Warramunga Arr**	**16.46**	**133**	Pn	**Pn**	**10 00 47.6**	**-2.0**
	0.1nm,0.3s,baz=300,slow=14,SNR=7.2						
WRA				Sn	**Sn**	**10 03 45.6**	**-6.8**
	0.2nm,0.3s,baz=302,slow=22,SNR=6.9						
ASAR	**Alice Springs**	**18.80**	**143**	P	**P**	**10 01 20.3**	**+4.2**
	0.1nm,0.3s,baz=330,slow=14,SNR=10.0						
ASAR				S	**S**	**10 04 44.8**	**+0.4**
	0.1nm,0.3s,baz=318,slow=20,SNR=6.5						
SONM	**Songino Array**	**58.04**	**348**	P	**P**	**10 06 46.5**	**-0.1**
	0.9nm,0.6s,mb4.0,baz=160,slow=8.4,SNR=6.1						
MKAR	**Makanchi Array**	**65.57**	**331**	P	**P**	**10 07 37.5**	**+0.4**
	0.6nm,0.5s,mb3.7,baz=132,slow=8.3,SNR=4.5						

SKHL 21 10:07:08.2±0.2, 4850N×14180E, h10km, mb4.2/4, 1D, Sakhalin Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UGL	**Uglegorsk**	**0.60**	**17**	*e*Pg	Pg	10 07 20.1	+0.2
UGL				AMB	AMB	10 07 23.0	
	360nm,0.4s						
UGL				*e*Sg	Sg	10 07 28.6	+0.8
UGL				A		10 07 32.0	
	2μm,0.7s						
UGL				A		10 07 32.0	
	3μm,0.7s						
UGL				A		10 07 32.0	
	2μm,0.7s						
YSS	**Yuzh-Sakhalins**	**1.68**	**157**	⇓*i*Pg	Pg	10 07 40.5	+0.2
YSS				AMB	AMB	10 07 41.4	
	220nm,0.4s						
YSS				AMB	AMB	10 07 41.4	
	40nm,0.4s						
YSS				AMB	AMB	10 07 41.4	
	210nm,0.4s						
YSS				*e*Sg	Sg	10 08 03.0	+1.0
YSS				A		10 08 06.0	
	320nm,0.4s						
YSS				A		10 08 06.0	
	260nm,0.4s						
GRNR	**Gornyy**	**4.17**	**305**	*e*P	Pn	10 08 14.0	+2.2
GRNR				*e*Pg	Pg	10 08 25.8	-2.2
GRNR				AMB	AMB	10 08 26.8	
	19nm,0.7s						
GRNR				AMB	AMB	10 08 26.8	
	10.0nm,0.7s						
GRNR				AMB	AMB	10 08 26.8	
	14nm,0.7s						
GRNR				*e*S	Sn	10 09 01.5	+1.0
GRNR				*e*Sg	Sg	10 09 27.5	+5.6
GRNR				A		10 09 28.0	
	38nm,0.5s						
NKL	**Nikolayevsk**	**4.71**	**352**	*e*Sg	Sg	10 09 46.8	+7.5
NKL				A		10 09 47.0	
	12nm,0.4s						
TEY	**Ternei**	**4.97**	**228**	*e*Sb	Sb	10 09 32.0	-3.1
TEY				A		10 09 33.0	
	18nm,0.5s						
TEY				*e*Sg	Sg	10 09 55.0	+7.2
TEY				A		10 09 58.0	
	18nm,0.8s						
KLR	**Kul'dur**	**6.67**	**280**	*e*rx	rx	10 10 36.2	
EKMR	**Ekimchan**	**7.24**	**313**	*e*Pg	Pg	10 10 08.0	+41
EKMR				AMB	AMB	10 10 12.5	
	3.0nm,0.4s						
EKMR				*e*Sg	Sg	10 10 58.5	-1.8
EKMR				A		10 11 10.0	
	13nm,0.6s						
EKMR				A		10 11 10.0	
	8.0nm,0.6s						
EKMR				A		10 11 10.0	
	9.0nm,0.6s						

*ISK **21** 10:13:15.3, 3438N×3357E, h21km, MD3.3*
*CSEM **21** 10:13:15.8±0.2, 3444N×3369E, h20km, Mw3.2, Error ellipse: s-maj=4.5km s-min=2.5km az=165.0*
*NIC **21** 10:13:16.5±0.2, 3440N×3364E, h15km, ML3.1, MW3.2*
*NEIC **21** 10:13:16.5, 3440N×3364E, h15km, ML3.1(NIC), After NIC.*

ISC 21 10:13:15.9±1.7, 3434N±008×3367E±006, h23km±8km, n13, σ0s64/23, 1D, Cyprus region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CSS	**Prodhromos**	**0.68**	**336**	*e*PG	**Pb**	**10 13 27.7**	**-1.4**
CSS				*e*SG	**Sb**	**10 13 36.9**	**-1.3**
CSS	**Prodhromos**	**0.68**	**336**	⇓P	**Pb**	**10 13 28.1**	**-1.0**
	11nm,0.2s						
CSS				*e*Sg	**Sb**	**10 13 36.9**	**-1.3**
CSS				S	**Sb**	**10 13 37.7**	**-0.5**
PHNC	**Paralimni**	**0.73**	**24**	P	**Pb**	**10 13 30.0**	**+0.1**
	9.1nm,0.3s						
PHNC				S	**Sb**	**10 13 39.9**	**+0.4**
SZAC	**Souni-Zanaja**	**0.77**	**303**	P	**Pb**	**10 13 30.6**	**-0.1**
SZAC				S	**Sb**	**10 13 41.9**	**+1.2**
MAMC	**Mammari**	**0.91**	**336**	P	**Pb**	**10 13 32.7**	**-0.3**
LFK	**Lefkose**	**0.95**	**353**	*e*PG	**Pb**	**10 13 33.7**	**+0.1**
LFK				*e*SG	**Sb**	**10 13 46.9**	**+1.2**
LEF	**Lefka**	**1.01**	**321**	*e*PG	**

116nm,0.3s,baz=224,slow=2.1,SNR=99
HNR LR LR 10 27 47.0
comp=Z,8µm,21.9s,baz=144,slow=30
HNR Honiara 5.98 122 *e*P **Pn 10 26 20.8 +1.9**
HNR pmax pmax
comp=Z,5µm,0.9s
HNR Honiara 5.98 122 *e*Pn **Pn 10 26 20.8 +2.0**
comp=Z,5µm,0.9s
COEN Coen 13.72 235 *e*Pn **Pn 10 28 05.1 +0.4**
comp=Z,473nm,1.2s
CTA Charters Tower 16.01 210 *e*P **Pn 10 28 36.5 +1.7**
comp=Z,660nm,1.9s
CTA *e*S **S 10 31 46.0 +2.9**
CTA Charters Tower 16.01 210 P **Pn 10 28 36.0 +1.2**
comp=Z,2.9nm,0.3s,baz=36,slow=14,SNR=77
CTA LR LR 10 33 51.6
comp=Z,24µm,21.7s,baz=26,slow=34
CTA Charters Tower 16.01 210 *e*P **Pn 10 28 36.5 +1.7**
CTA pmax pmax
comp=Z,661nm,1.9s
CTAO Charters Tower 16.01 210 *e*P **Pn 10 28 36.6 +1.8**
CTAO pmax pmax
comp=Z,2µm,1.8s
CTAO Charters Tower 16.01 210 *e*P **Pn 10 28 36.6 +1.9**
comp=Z,2µm,1.8s
CTAO *e*S **S 10 31 39.3 -3.8**
NOUC Port Laguerre 19.25 146 *e*P **Pn 10 29 13.0 -1.6**
DZM Mont Dzumac 19.30 145 *e*P **Pn 10 29 14.0 -1.3**
TLE Tual 21.93 271⇑ *e*P **P 10 29 42.0 -0.4**
GUMO Guam 22.08 334 P **P 10 29 44.6 +0.6**
comp=Z,103nm,0.9s,mb5.3,baz=196,slow=10,SNR=6.6
GUMO LR LR 10 37 38.7
comp=Z,4µm,19.7s,MS4.9,baz=153,slow=35
GUMO Guam 22.08 334 *e*P **P 10 29 46.0 +2.1**
GUMO pmax pmax
comp=Z,1µm,1.3s,mb6.2
GUMO MLR MLR
comp=Z,4µm,21.0s,MS4.8
GUMO Guam 22.08 334 *e*P **P 10 29 46.0 +2.0**
comp=Z,1µm,1.3s,mb6.2
GUMO LR LR
comp=Z,4µm,21.0s,MS4.8
KAKA Kakadu 22.92 252 *e*P **P 10 29 48.3 -4.6**
comp=Z,296nm,0.6s,mb5.9
KAKA *e*S **S 10 33 50.5 -9.1**
WRAB Tennant Creek 24.03 234 P **P 10 30 04.0 +0.6**
comp=Z,4µm,1.0s,mb6.8
WRAB Tennant Creek 24.03 234⇑ *i*P **P 10 30 04.1 +0.7**
WRAB Tennant Creek 24.03 234 *e*P **P 10 30 03.9 +0.5**
comp=Z,1µm,1.1s,mb6.2
WRAB *e*S **S 10 34 14.6 -2.8**
WRAB LR LR
comp=Z,17µm,20.0s,MS5.5
WB2 Warramunga Arr 24.03 234 *e*P **P 10 30 04.3 +0.8**
WRA Warramunga Arr 24.04 234 P **P 10 30 03.3 -0.3**
comp=Z,392nm,1.1s,mb5.7,baz=58,slow=9.4,SNR=157
WRA pP 10 30 14.6
comp=Z,493nm,0.9s,baz=56,slow=9.7,SNR=21
WRA PcP PcP 10 33 43.6 -0.9
comp=Z,14nm,0.7s,baz=29,slow=2.2,SNR=4.9
WRA pPcP 10 33 57.3
comp=Z,48nm,0.8s,baz=44,slow=2.5,SNR=7.6
WRA LR LR 10 39 25.0
comp=Z,15µm,19.9s,MS5.5,baz=55,slow=36
ARMA Armidale 24.17 187 *e*P **P 10 30 05.1 +0.5**
ARMA *e*pP 10 30 16.9
ARMA *e*S **S 10 34 19.2 -0.3**
ASAR Alice Springs 26.47 227 P **P 10 30 25.6 -0.1**
comp=Z,49nm,1.0s,mb5.0,baz=56,slow=9.2,SNR=212
ASAR pP pP 10 30 36.5 -1.6
comp=Z,290nm,1.1s,baz=58,slow=7.2,SNR=33
ASAR PcP PcP 10 33 50.1 +0.2
comp=Z,13nm,0.6s,baz=75,slow=2.6,SNR=4.3
ASAR pPcP 10 34 03.5
comp=Z,72nm,1.2s,baz=58,slow=3.0,SNR=5.1
ASAR P3KPbc 11 03 10.1
comp=Z,1.4nm,1.0s,baz=239,slow=4.0,SNR=6.5
ASAR Alice Springs 26.47 227 P **P 10 30 25.6 0.0**
ASAR *PP pP 10 30 36.5 -1.6
ASAR 10 33 50.1
ASAR pmax pmax
comp=Z,49nm,1.0s
ASAR Alice Springs 26.47 227 P **P 10 30 25.6 -0.1**
ASAR pP pP 10 30 36.5 -1.6
ASAR PcP PcP 10 33 50.1 +0.2
ASAR pPcP 10 34 03.5
ASAR *e* 11 03 10.1
TNE Ternate 28.26 283⇓ *e*P **P 10 30 41.5 -0.2**
STKA Stephens Creek 28.27 204 *e*P **P 10 30 40.8 -0.8**
comp=Z,24nm,0.7s,mb4.9
STKA *e*pP pP 10 30 52.0 -2.2
STKA *e*S **S 10 35 22.0 -2.4**
STKA *e*SCP ScP 10 37 55.5 +24
STKA Stephens Creek 28.27 204 P **P 10 30 41.1 -0.5**
comp=Z,41nm,0.9s,mb5.1,baz=11,slow=9.2,SNR=39
STKA LR LR 10 42 08.9
comp=Z,18µm,19.0s,MS5.7,baz=355,slow=37
STKA P3KPbc 11 03 02.3
comp=Z,0.8nm,0.6s,baz=150,slow=8.1,SNR=3.0
CNB Canberra Magne 29.30 189 *e*P **P 10 30 50.7 0.0**
CNB *e*S **S 10 35 39.9 -0.6**
CAN Canberra 29.36 190 *e*P **P 10 30 51.2 0.0**
FITZ Fitzroy Crossi 30.74 245 *e*P **P 10 31 03.2 -0.5**
comp=Z,61nm,0.7s,mb5.5
FITZ *e*pP pP 10 31 13.9 -2.4
FITZ *e*S **S 10 35 59.9 -3.8**
FITZ Fitzroy Crossi 30.74 245 P **P 10 31 03.2 -0.5**
comp=Z,55nm,1.1s,mb5.3,baz=80,slow=11,SNR=47
FITZ pP pP 10 31 14.5 -1.9
comp=Z,191nm,0.9s,baz=70,slow=9.6,SNR=22
FITZ LR LR 10 44 01.4
comp=Z,12µm,19.8s,MS5.5,baz=79,slow=37
MNI Manado 30.87 283⇓ *e*P **P 10 31 06.0 +1.1**
MNI *e*S pP 10 31 19.5 +2.0
BATI Baumata 31.03 261 P **P 10 31 07.2 +0.9**
comp=Z,35nm,0.6s,mb5.4,baz=220,slow=6.8,SNR=7.9
MATI Mati 31.36 294 *e*P **P 10 31 08.6 -0.6**
BIPH Bislig 31.79 297⇑ *e*P **P 10 31 12.1 -0.8**
DAV Davao City (W) 32.02 294⇑ *e*P **P 10 31 12.8 -2.3**
DAV Davao City (W) 32.02 294 PFAKE 10 31 30.0 +15
DAV LR LR
comp=Z,6µm,22.0s,MS5.2
KDI Kendari 32.12 273⇑ *e*P **P 10 31 16.4 +0.5**
KDI *e*S **S 10 36 25.6 +0.4**
ADE Adelaide 32.14 205 *e*P **P 10 31 16.9 +1.1**
TOO Toolangi 32.25 194 *e*P **P 10 31 16.7 0.0**
TOO *e*PCP PcP 10 34 16.9 +13
TOO *e*S **S 10 36 20.0 -6.7**
BUKP Musuan 32.82 295 *e*P **P 10 31 22.2 +0.2**
AFI Afiamalu 33.74 106 P **P 10 31 27.5 -2.5**
comp=Z,51nm,0.9s,mb5.4,baz=318,slow=3.7,SNR=5.2
AFI LR LR 10 43 08.9
comp=Z,7µm,20.6s,MS5.4,baz=283,slow=32
AFI Afiamalu 33.74 106 P **P 10 31 27.5 -2.5**
AFI LR LR 10 43 08.9
MSLP Maasin 33.99 299 *e*P **P 10 31 32.1 -0.1**
WSI Waingapu 34.30 262⇓ *e*P **P 10 31 32.0 -2.9**
PAGZ Pagadian 34.33 294 *e*P **P 10 31 37.7 +2.5**
PLP Palo 34.37 300⇓ *e*P **P 10 31 35.8 +0.3**
RAO Raoul Island 34.41 135 P **P 10 31 34.0 -1.7**
comp=Z,2µm,0.9s,mb7.0
RAO LR LR
comp=Z,6µm,22.0s,MS5.3
OCLP Ormoc 34.63 300 *e*P **P 10 31 34.6 -3.2**
TBP Tagbilaran 34.66 297 *e*P **P 10 31 38.6 +0.5**
TBP *e*S pP 10 31 50.8 +0.1
LLP Lapu-Lapu 34.85 298 *e*P **P 10 31 40.1 +0.5**
KAPI Kappang 34.88 270 P pP 10 31 53.6 +0.9
comp=Z,2µm,0.9s,SNR=5.4
KAPI Kappang 34.88 270 P **P 10 31 39.3 -0.6**
SNR=25
KAPI Kappang 34.88 270 P **P 10 31 39.2 -0.7**
comp=Z,22nm,0.8s,mb5.1,baz=60,slow=3.2,SNR=7.7
KAPI pP pP 10 31 50.6 -2.1
comp=Z,355nm,0.9s,baz=88,slow=3.7,SNR=37
KAPI Kappang 34.88 270 *e*P **P 10 31 38.2 -1.7**
KAPI LR LR
comp=Z,2µm,19.0s,MS4.9
FORT Forrest 34.94 223 *e*P **P 10 31 40.1 -0.2**
comp=Z,126nm,1.0s,mb5.8
FORT *e*pP pP 10 31 51.2 -1.8
FORT *e*PCP PcP 10 34 24.3 +12
GUIM Jordan 36.20 298 *e*P **P 10 31 51.4 +0.2**
PVCP Virac 36.27 303 *e*P **P 10 31 53.1 +1.2**
RCP Roxas 36.48 299⇓ *e*P **P 10 31 55.1 +1.5**

MOO Moorlands 36.61 189 *e*P **P 10 31 55.1 +0.8**
MOO *e*PCP PcP 10 34 30.3 +14
MOO *e*S **S 10 37 35.9 +2.1**
KALP Kalibo 36.89 299⇑ *e*P **P 10 32 04.1 +7.0**
MBWA Marble Bar 36.99 243 *e*P **P 10 31 57.4 -0.5**
comp=Z,152nm,0.9s,mb5.8
MBWA *e*pP pP 10 32 11.1 +0.3
MBWA LR LR
comp=Z,17µm,20.0s,MS5.8
TAU Tasmania Unive 37.04 189 P **P 10 31 59.2 +1.2**
comp=Z,1µm,1.0s,mb6.7,SNR=15
TAU Tasmania Unive 37.04 189 *e*P **P 10 31 58.9 +0.9**
comp=Z,247nm,1.0s,mb6.0
TAU LR LR
comp=Z,6µm,19.0s,MS5.4
OTRP Odiongan 37.48 300 *e*P **P 10 32 02.8 +0.7**
CUYO Cuyo Island 37.69 297 *e*P **P 10 32 04.2 +0.3**
URZ Urewera 37.71 151 P **P 10 32 03.1 -0.6**
comp=Z,116nm,1.0s,mb5.6,baz=5.4,slow=5.9,SNR=18
GQP Guinayangan 37.86 302⇑ *e*P **P 10 32 07.2 +1.9**
MYLDM Lahad Datu 37.97 287⇓ P **P 10 32 08.5 +2.2**
SJMP San Jose 38.31 299 *e*P **P 10 32 10.3 +1.2**
TSM Tawau 38.33 285⇑ P **P 10 32 09.9 +0.6**
POLP Polillo Island 38.70 303 *e*P pP 10 32 23.7 -1.5
BUSP Coron 38.91 298 *e*P pP 10 32 26.0 -1.0
SNZO South Karori 39.12 156 *e*P **P 10 32 15.4 -0.2**
SNZO LR LR
comp=Z,6µm,22.0s,MS5.4
ENPP El Nido 39.25 296 *e*P pP 10 32 30.7 +0.8
PPR Puerto Princes 39.31 294⇑ *e*P **P 10 32 20.0 +2.5**
SDKM Sandakan 39.35 287⇑ P **P 10 32 17.0 -0.9**
BALP Baler 39.51 304 *e*P pP 10 32 30.6 -1.5
PALP Palanan 39.52 306 *e*P pP 10 32 30.7 -1.4
LUBP Lubang 39.65 300 *e*P **P 10 32 19.8 -0.5**
BATP Bataraza 39.80 292 *e*P **P 10 32 22.3 +0.6**
RPZ Rata Peaks 39.91 162 P **P 10 32 21.8 -0.3**
comp=Z,96nm,0.8s,mb5.6,baz=356,slow=1.9,SNR=21
RPZ pP pP 10 32 33.2 -1.8
comp=Z,146nm,0.8s,baz=70,slow=2.3,SNR=8.4
RPZ LR LR 10 47 09.7
comp=Z,8µm,18.9s,MS5.6,baz=324,slow=34
CAUP Cauayan 39.94 306 *e*P **P 10 32 25.1 +2.4**
KDM Kudat 40.08 289⇑ P **P 10 32 26.4 +2.5**
KKM Kota Kinabalu 40.40 287⇓ P **P 10 32 26.7 +0.1**
KKM Kota Kinabalu 40.40 287 *e*P **P 10 32 26.4 -0.2**
KKM *e*pP pP 10 32 40.5 +1.0
KKM LR LR
comp=Z,3µm,22.0s,MS5.1
BOLP Bolinao 41.21 304 *e*P **P 10 32 31.4 -1.8**
ABRA Dolores 41.21 306 *e*P pP 10 32 46.2 0.0
JOW Kunigami 41.77 323 P **P 10 32 38.4 +0.8**
comp=Z,34nm,0.8s,mb5.0,baz=121,slow=12,SNR=1.8
JOW LR LR 10 47 21.5
comp=Z,3µm,21.0s,MS5.2,baz=133,slow=32
JOW Kunigami 41.77 323 P pP 10 32 47.2 -3.4
TRT Tretes 41.84 266⇑ *e*P **P 10 32 41.0 +2.5**
KRKI Karangkates 42.02 265⇓ *e*P **P 10 32 36.9 -3.0**
JAM Amami Oshima 42.20 326 P pP 10 32 54.7 +0.6
BTM Bintulu 42.69 282⇑ P **P 10 32 47.0 +1.6**
KLBR Kellerberrin 42.77 229 *e*P **P 10 32 44.1 -1.6**
comp=Z,130nm,1.0s,mb5.6
KLBR *e*pP pP 10 32 56.7 -2.0
SBUM Sibu 43.38 280⇑ P **P 10 32 52.2 +1.3**
YOJ Yonaguni jima 43.52 316 P pP 10 33 06.0 +1.1
JWZ Kozaga 43.55 337 P **P 10 33 01.0 +9.0**
JWZ S PP 10 34 43.9 +10
MIDW Midway 43.59 37 PFAKE 10 33 00.0 +7.6
MIDW LR LR
comp=Z,12µm,21.0s,MS5.8
NWAO Narrogin (SRO) 43.79 228 P **P 10 32 53.9 -0.1**
comp=Z,54nm,1.1s,mb5.2,baz=76,slow=7.4,SNR=7.9
NWAO pP pP 10 33 04.9 -2.1
comp=Z,60nm,0.8s,baz=61,slow=9.1,SNR=9.0
NWAO LR LR 10 51 12.1
comp=Z,11µm,19.9s,MS5.8,baz=234,slow=36
NWAO Narrogin (SRO) 43.79 228 P **P 10 32 53.9 -0.1**
NWAO *PP pP 10 33 04.9 -2.1
NWAO pmax pmax
comp=Z,54nm,1.1s
NWAO pmax pmax
comp=Z,60nm,0.8s
NWAO MLR MLR
comp=Z,11µm,19.9s
NWAO Narrogin (SRO) 43.79 228 *e*P **P 10 32 53.8 -0.2**
NWAO LR LR
comp=Z,8µm,20.0s,MS5.7
JOD2 Odawara 2 43.91 341 P pP 10 33 05.4 -2.5
JOD2 S 10 34 53.2
JIE Ise 43.94 338 P **P 10 32 56.2 +1.1**
JIE S 10 34 45.9
MUN Mundaring 44.11 230 *e*P **P 10 32 56.6 0.0**
MUN *e*pP pP 10 33 08.1 -1.5
MUN *e*PCP PcP 10 34 47.0 +5.9
MUN *e*PP PP 10 35 04.0 +24
MUN *e*S **S 10 39 26.0 -0.1**
MUN *e*SS SS 10 42 40.9 -4.2
MUN Mundaring 44.11 230 *e*P **P 10 32 56.6 0.0**
MUN *e*PP pP 10 33 08.1 -1.5
MUN *e* 10 34 47.0
MUN *e*S **S 10 39 26.0 -0.1**
MUN *e*SS SS 10 42 40.9 -4.2
JSU Suzuyama 44.20 330 P pP 10 33 10.3 0.0
NACB Ninganchiao 44.33 314 *e*P **P 10 32 59.1 +0.7**
comp=Z,2µm,1.2s,mb6.7
JYT Yasato 44.47 343 P pP 10 33 10.8 -1.6
JMN Monobe 44.47 335 P pP 10 33 12.7 +0.3
JMN S PP 10 34 57.9 +14
JRY Ryogami san 44.66 342 P **P 10 33 01.7 +0.8**
JRY S 10 34 58.9
YHNB Yeheng 44.79 315 *e*P **P 10 33 02.3 +0.3**
comp=Z,483nm,1.2s,mb6.2
YHNB LR LR
comp=Z,3µm,22.0s,MS5.2
TATO Taipei 44.91 315 PFAKE 10 33 10.0 +7.0
TATO LR LR
comp=Z,5µm,21.0s,MS5.4
KSM Kuching 45.07 278⇑ P **P 10 33 05.5 +1.0**
KSM Kuching 45.07 278 *e*P **P 10 33 04.2 -0.3**
JWT Wachi 45.22 338 P **P 10 33 07.3 +2.0**
JNU Nakatsue 45.31 331 P **P 10 33 05.1 -0.9**
MJAR Matsushiro Arr 45.37 341 P **P 10 33 05.2 -1.2**
comp=Z,2.0nm,0.5s,baz=169,slow=7.4,SNR=10
MJAR pPcP PP 10 34 57.0 +3.6
comp=Z,36nm,0.9s,baz=164,slow=3.6,SNR=11
MJAR Matsushiro Arr 45.37 341 P **P 10 33 05.2 -1.2**
MJAR 10 34 57.0
MJAR pmax pmax
comp=Z,2.0nm,0.5s
MJAR pmax pmax
comp=Z,36nm,0.9s
MAJO Matsushiro 45.37 341 *e*P **P 10 33 08.3 +1.9**
MAJO Matsushiro 45.37 341 P **P 10 33 07.7 +1.3**
MAJO LR LR
comp=Z,2µm,20.0s,MS5.1
MAT Matsushiro 45.37 341 P **P 10 33 05.6 -0.8**
MAT S **S 10 39 37.0 -7.0**
MAT Matsushiro 45.37 341 P **P 10 33 06.4 0.0**
MAT S 10 34 57.6
JAD Aida 45.40 336 P **P 10 33 08.2 +1.5**
JHS Saijyo 45.88 335 P **P 10 33 11.1 +0.6**
JHS S 10 35 00.0
JFU Fukue jima 2 45.98 329 P **P 10 33 11.0 -0.4**
RAR Rarotonga 46.37 113 P **P 10 33 12.6 -2.0**
comp=Z,20nm,0.8s,mb5.1,baz=255,slow=8.9,SNR=6.5
RAR LR LR 10 49 41.6
comp=Z,2µm,20.7s,MS5.0,baz=283,slow=32
RAR Rarotonga 46.37 113 *e*P **P 10 33 13.3 -1.4**
RAR Rarotonga 46.37 113 *e*P **P 10 33 11.0 -3.7**
RAR LR LR
comp=Z,1µm,19.0s,MS4.9
JYA Atsumi 46.81 344 P pP 10 33 32.2 +1.3
QZH Quanzhou 46.96 313⇑ *i*P **P 10 33 19.5 +0.3**
QZH S **S 10 40 10.0 +2.7**
QZH AMB AMB
comp=Z,490nm,1.0s,mb6.4
QZH LR LR
comp=N,2µm,12.7s,MS5.5
QZH LR LR
comp=E,4µm,17.4s,MS5.5
QZH LR LR
comp=Z,8µm,27.8s
TPI Tanjungpandan 47.10 272⇑ *e*P **P 10 33 20.5 0.0**
TPI *e*S 10 35 04.0

JTU Tsushima 47.16 331 P **P 10 33 28.8 +8.2**
JOM Ohasama 47.23 346 P pP 10 33 34.8 +0.7
MCQ Macquarie Isla 48.17 177 *e*P **P 10 33 29.2 +1.1**
MCQ *e*PP pP 10 33 40.5 -0.8
JTM Tenmabayashi 48.53 346 P **P 10 33 31.4 +0.4**
XMIS Christmas Isla 48.74 262 *e*pP pP 10 33 47.3 +0.9
JOT Ohata 49.10 346 P pP 10 33 49.5 +0.9
JOT *e*S 10 35 51.6
SSE Sheshan 49.14 321 P **P 10 33 34.8 -1.1**
SSE XP sP 10 33 49.8 -4.9
SSE PCP PcP 10 34 53.8 -5.0
SSE S **S 10 40 36.9 -1.1**
SSE XS sS 10 40 56.6 -3.5
SSE AMB AMB
comp=Z,18nm,0.7s,mb5.2
SSE AMB AMB
comp=Z,639nm,8.7s
SSE LR LR
comp=N,1µm,27.7s,MS5.0
SSE LR LR
comp=E,1µm,28.3s,MS5.0
SSE LR LR
comp=Z,2µm,20.6s
ERM Erimo 49.25 349 PFAKE 10 33 50.0 +13
ERM LR LR
comp=Z,6µm,21.0s,MS5.5
GZH Guangzhou 49.93 307 P **P 10 33 43.4 +1.3**
GZH S **S 10 40 51.0 +1.7**
GZH LR LR
comp=N,897nm,20.4s,MS5.3
GZH LR LR
comp=E,3µm,22.2s,MS5.3
GZH LR LR
comp=Z,5µm,21.3s,MS5.5
KSRS Korea Array 50.23 332 P **P 10 33 43.5 -0.6**
comp=Z,15nm,1.0s,mb5.0,baz=153,slow=8.5,SNR=25
KSRS pPcP 10 35 16.9
comp=Z,14nm,0.7s,baz=146,slow=3.9,SNR=8.2
KSRS LR LR 10 53 17.7
comp=Z,1µm,20.9s,MS4.9,baz=146,slow=34
KS15 Wonju Array Si 50.24 332 *e*P **P 10 33 44.0 -0.1**
JEW Eniwo 50.40 347 P pP 10 34 03.0 +4.5
JSH Shimam 50.53 346 P pP 10 33 59.2 -0.3
INCN Inchon 50.87 331 *e*P **P 10 33 48.2 -0.7**
comp=Z,194nm,1.0s,mb6.0
INCN *e*pP pP 10 34 03.7 +1.5
INCN LR LR
comp=Z,1µm,20.0s,MS5.0
QIZ Qiongzhong 50.93 301 P **P 10 33 49.0 -0.7**
QIZ AP pP 10 34 01.1 -1.9
QIZ XP sP 10 34 06.0 -2.5
QIZ S **S 10 41 03.8 +0.6**
QIZ SS SS 10 44 41.0 +2.2
QIZ AMB AMB
comp=Z,47nm,1.9s,mb5.1
QIZ AMB AMB
comp=Z,909nm,7.3s
QIZ LR LR
comp=E,2µm,20.7s
QIZ LR LR
comp=Z,4µm,29.8s
QIZ Qiongzhong 50.93 301 P **P 10 33 50.6 +0.9**
comp=Z,61nm,0.8s,mb5.6
QIZ LR LR
comp=Z,3µm,22.0s,MS5.3
NJ2 Nanjing 51.25 320 *e*P **P 10 33 52.5 +0.6**
NJ2 AP pP 10 34 05.3 +0.1
NJ2 S **S 10 41 06.5 -0.8**
NJ2 AMB AMB
comp=Z,260nm,0.8s,mb6.2
NJ2 AMB AMB
comp=Z,690nm,10.2s
NJ2 LR LR
comp=N,1µm,27.4s
NJ2 LR LR
comp=E,2µm,22.1s
NJ2 LR LR
comp=Z,2µm,22.1s
ASAJ Asahikawa 51.38 349 P **P 10 33 52.8 +0.1**
comp=Z,9.6nm,0.7s,mb4.8,baz=153,slow=10,SNR=6.4
ASAJ LR LR 10 53 07.0
comp=Z,5µm,21.2s,MS5.5,baz=168,slow=33
MYKOM Kota Tinggi 51.48 277⇓ P **P 10 33 54.5 +0.5**
KGM Kluang 52.04 277⇓ P **P 10 33 58.2 +0.1**
KTGM Kuala Trenggan 52.84 282⇑ P **P 10 34 04.2 +0.2**
WHN Wuhan 53.30 316⇑ P **P 10 34 07.0 -0.1**
WHN AP pP 10 34 21.0 +0.5
WHN S **S 10 41 33.6 -1.9**
WHN XS sS 10 42 00.3 +2.5
WHN AMB AMB
comp=Z,2µm,4.6s
WHN LR LR
comp=N,2µm,16.1s,MS5.6
WHN LR LR
comp=E,4µm,20.2s,MS5.6
WHN LR LR
comp=Z,10µm,30.3s
HON Honolulu 53.84 58 P **P 10 34 13.4 +2.2**
KIP Kipapa 53.87 58 *e*P **P 10 34 13.9 +2.4**
KIP LR LR
comp=Z,5µm,20.0s,MS5.5
YSS Yuzh-Sakhalins 54.09 350⇑ *e*P pP 10 34 27.0 +1.0
YSS *e* 10 34 37.0
YSS *e**SP sP 10 34 45.0 +13
YSS *e*SSS 10 47 26.0
YSS MLR MLR
comp=N,3µm,19.0s,MS5.5
YSS MLR MLR
comp=E,2µm,19.0s,MS5.5
YSS MLR MLR
comp=Z,4µm,19.0s,MS5.5
YSS Yuzh-Sakhalins 54.09 350 PFAKE 10 34 20.0 +7.4
YSS LR LR
comp=Z,2µm,20.0s,MS5.1
DL2 Dalian 54.48 328 P **P 10 34 14.8 -0.7**
DL2 XP sP 10 34 28.3 -6.2
DL2 PP PP 10 36 17.8 -0.5
DL2 S **S 10 41 51.9 +0.9**
DL2 SS SS 10 45 35.1 +0.8
DL2 AMB AMB
comp=Z,30nm,1.2s,mb5.1
DL2 AMB AMB
comp=Z,500nm,3.8s
DL2 LR LR
comp=N,750nm,26.9s
DL2 LR LR
comp=Z,2µm,26.5s,MS5.0
IPM Ipoh 54.73 280⇓ P **P 10 34 17.6 -0.3**
KHU Kahuku 55.05 61 *e*P **P 10 34 20.9 +0.9**
KHU *e**PP pP 10 34 34.6 +1.2
HKL Haleakala 55.07 59 *e*P pP 10 34 35.7 +2.1
HKL Haleakala 55.07 59 *e*pP pP 10 34 35.7 +2.1
TIA Tai'an 55.09 323 *e*P **P 10 34 19.3 -0.8**
KULM Kulim 55.25 281⇓ P **P 10 34 21.4 -0.3**
POHA Pohakuloa 55.32 61 P **P 10 34 23.1 +1.2**
comp=Z,631nm,1.1s,mb6.6
POHA *e*pP pP 10 34 36.6 +1.2
POHA LR LR
comp=Z,8µm,22.0s,MS5.8
PPT Papeete 55.40 107 *e*S **S 10 42 05.0 +0.9**
comp=Z,2µm,24.2s
PPT *e*LQ 10 48 07.8
comp=Z,5µm,28.0s
PPT *e*LR LR 10 50 19.1
comp=Z,5µm,26.5s
PPT Papeete 55.40 107 LR LR 10 53 14.1
comp=Z,2µm,20.1s,MS5.1,baz=276,slow=31
MDJ Mudanjiang 55.53 338 P **P 10 34 23.8 +0.8**
MDJ AP pP 10 34 35.3 -1.1
MDJ XP sP 10 34 39.6 -2.4
MDJ PP PP 10 36 28.9 +1.3
MDJ S **S 10 42 04.8 -0.1**
MDJ XS sS 10 42 27.4 +0.1
MDJ AMB AMB
comp=Z,538nm,5.7s
MDJ LR LR
comp=N,1µm,19.9s,MS5.2
MDJ LR LR
comp=E,2µm,18.9s,MS5.2
MDJ LR LR
comp=Z,2µm,20.4s,MS5.2
MDJ Mudanjiang 55.53 338 *e*P **P 10 34 22.0 -1.1**
comp=Z,48nm,0.9s,mb5.5
MDJ LR LR
comp=Z,2µm,21.0s,MS5.2

SNG	**Songkhla**	**55.67**	**283**	P	pP	10 34 36.0	-2.1	
	comp=Z,500nm,1.0s							
SNY	**Shenyang**	**55.74**	**332**	⇑P	**P**	**10 34 24.3**	**-0.3**	
SNY				S	**S**	**10 42 08.8**	**+0.9**	
SNY				LR	LR			
	comp=N,1μm,18.0s,MS5.3							
SNY				LR	LR			
	comp=E,2μm,17.4s,MS5.3							
SNY				LR	LR			
	comp=Z,2μm,15.7s,MS5.3							
KKTK	**Khon Kaen**	**56.11**	**294**	P	**P**	**10 34 29.0**	**+1.3**	
	comp=Z,679nm,0.5s,mb6.9							
TBI	**Tubuai**	**56.15**	**114**	*e*S	**S**	**10 42 13.0**	**-1.0**	
	comp=Z,2μm,29.0s							
TBI				*e*SS	SS	10 46 02.7	+1.6	
	comp=Z,854nm,26.2s							
TBI				*e*LQ		10 48 31.2		
	comp=Z,5μm,30.8s							
TBI				*e*LR	LR	10 50 49.7		
	comp=Z,15μm,29.0s							
CN2	**Changchun**	**56.48**	**335**	*e*P	**P**	**10 34 28.4**	**-1.5**	
CN2				*e*XP	sP	10 34 46.4	-2.5	
CN2				PCP	PcP	10 35 24.3	-1.9	
CN2				PP	PP	10 36 36.1	0.0	
CN2				*e*S	**S**	**10 42 15.3**	**-2.3**	
CN2				AMB	AMB			
	comp=Z,20nm,1.1s,mb5.1							
CN2				AMB	AMB			
	comp=Z,200nm,5.0s							
CN2				LR	LR			
	comp=N,900nm,23.0s,MS5.0							
CN2				LR	LR			
	comp=E,1μm,23.0s,MS5.0							
CN2				LR	LR			
	comp=Z,2μm,21.0s,MS5.1							
SKR	**Severo-Kuril's**	**56.77**	**1**	*e*P	**P**	**10 34 24.0**	**-7.8**	
SKR				MLR	MLR			
	comp=E,6μm,20.0s							
SKR				MLR	MLR			
	comp=Z,5μm,20.0s,MS5.6							
PMOR	**Pomariorio Ree**	**56.86**	**104**	*e*P	**P**	**10 34 33.6**	**+0.5**	
	comp=Z,150nm,1.2s,mb5.9							
PMOR				*e*pP	pP	10 34 45.4	-1.2	
	comp=Z,514nm,1.0s							
GYA	**Guiyang**	**56.87**	**307**	P	**P**	**10 34 33.4**	**+0.4**	
GYA				AP	pP	10 34 46.3	-0.1	
GYA				XP	sP	10 34 54.4	+2.4	
GYA				PCP	PcP	10 35 30.8	+2.6	
GYA				PP	PP	10 36 43.1	+3.2	
GYA				SCP	ScP	10 39 24.0	0.0	
GYA				S	**S**	**10 42 24.6**	**+1.2**	
GYA				XS	sS	10 42 46.9	+1.0	
GYA				SS	SS	10 46 13.5	+1.0	
GYA				AMB	AMB			
	comp=Z,30nm,1.0s,mb5.3							
GYA				AMB	AMB			
	comp=Z,390nm,7.4s							
GYA				LR	LR			
	comp=N,1μm,21.6s,MS5.2							
GYA				LR	LR			
	comp=E,2μm,19.8s,MS5.2							
GYA				LR	LR			
	comp=Z,2μm,20.7s,MS5.2							
VAH	**Vaihoa**	**57.13**	**104**	*e*P	**P**	**10 34 35.1**	**+0.1**	
	comp=Z,81nm,1.1s,mb5.7							
VAH				*e*pP	pP	10 34 47.0	-1.5	
	comp=Z,267nm,1.0s							
HABR	**Khabarovsk**	**57.23**	**345**	*e*P	**P**	**10 34 31.7**	**-3.4**	
HABR				*e*S	**S**	**10 42 23.2**	**-4.2**	
COCO	**West Island**	**57.41**	**260**	PFAKE		10 34 50.0	+13	
COCO				LR	LR			
	comp=Z,730nm,20.0s,MS4.8							
NNT	**Nongplab**	**57.84**	**289**	P	**P**	**10 34 42.2**	**+2.2**	
BJT	**Baijiatuau**	**58.23**	**326**	*e*P	**P**	**10 34 41.5**	**-0.7**	
BJT				pmax	pmax			
	comp=Z,21nm,0.4s							
BJT				MLR	MLR			
	comp=Z,2μm,21.0s							
BJT	**Baijiatuau**	**58.23**	**326**	*e*P	**P**	**10 34 41.5**	**-0.7**	
	comp=Z,21nm,0.4s,mb5.5							
BJT				LR	LR			
	comp=Z,2μm,21.0s,MS5.2							
BJI	**Beijing**	**58.24**	**326**	P	**P**	**10 34 42.6**	**+0.3**	
BJI				AP	pP	10 34 55.1	-0.7	
BJI				XP	sP	10 35 01.1	-0.3	
BJI				S	**S**	**10 42 37.5**	**-3.3**	
BJI				XS	sS	10 43 02.8	-0.6	
BJI				AMB	AMB			
	comp=Z,20nm,0.8s,mb5.2							
BJI				AMB	AMB			
	comp=Z,857nm,7.5s							
BJI				LR	LR			
	comp=N,806nm,22.2s,MS5.1							
BJI				LR	LR			
	comp=E,2μm,24.7s,MS5.1							
BJI				LR	LR			
	comp=Z,3μm,34.4s							
NST	**Nakhon Sawan**	**58.35**	**293**	P	**P**	**10 34 41.5**	**-2.1**	
	comp=Z,167nm,0.8s,mb6.1							
NANT	**Nan**	**58.84**	**296**	⇑P	**P**	**10 34 55.0**	**+8.1**	
	comp=Z,186nm,1.0s,mb6.1							
KLR	**Kul'dur**	**58.85**	**343**	*e*P	**P**	**10 34 41.2**	**-5.2**	
KLR				*e*S	**S**	**10 42 42.0**	**-6.5**	
KLR				*e*SSS		10 49 05.0		
KLR				pmax	pmax			
	comp=Z,160nm,2.2s,mb5.7							
KLR				pmax	pmax			
	comp=Z,1μm,8.5s							
TIY	**Taiyuan**	**58.92**	**321**	*e*P	**P**	**10 34 46.0**	**-1.2**	
TIY				S	**S**	**10 42 44.9**	**-5.0**	
TIY				LR	LR			
	comp=N,3μm,23.8s							
TIY				LR	LR			
	comp=E,951nm,16.1s							
TIY				LR	LR			
	comp=Z,2μm,20.7s,MS5.3							
XAN	**Xi'an**	**59.07**	**316**	P	**P**	**10 34 47.3**	**-0.9**	
XAN				AP	pP	10 35 00.3	-1.5	
XAN				XP	sP	10 35 05.3	-2.0	
XAN				PP	PP	10 37 00.3	+1.0	
XAN				S	**S**	**10 42 44.4**	**-7.5**	
XAN				XS	sS	10 43 10.3	-4.2	
XAN				SCS	ScS	10 44 29.3	-5.1	
XAN				AMB	AMB			
	comp=Z,842nm,10.8s							
XAN				LR	LR			
	comp=N,408nm,21.0s,MS5.1							
XAN				LR	LR			
	comp=E,1μm,23.9s,MS5.1							
XAN				LR	LR			
	comp=Z,3μm,31.5s							
PET	**Petropavlovsk**	**59.20**	**3**	*e*P	**P**	**10 34 47.9**	**-0.8**	
PET				*e**PP	pP	10 35 03.8	+1.6	
PET				*e*S	**S**	**10 42 52.5**	**-0.3**	
PET				*e*SS	SS	10 46 50.5	+2.4	
PET				pmax	pmax			
	comp=Z,600nm,5.8s							
PET				pmax	pmax			
	comp=Z,1μm,6.0s							
PET				pmax	pmax			
	comp=Z,81nm,0.6s,mb5.9							
PET	**Petropavlovsk**	**59.20**	**3**	*e*P	**P**	**10 34 48.9**	**+0.2**	
	comp=Z,47nm,0.6s,mb5.7							
PET				LR	LR			
	comp=Z,4μm,22.0s,MS5.5							
PETK	**Petropavlovsk-**	**59.24**	**2**	P	**P**	**10 34 49.1**	**+0.1**	
	comp=Z,40nm,0.6s,mb5.6,baz=147,slow=5.9,SNR=29							
PETK				pP	pP	10 35 02.8	+0.3	
	comp=Z,74nm,0.8s,baz=154,slow=6.3,SNR=13							
PETK				LR	LR	10 56 38.9		
	comp=Z,3μm,21.7s,MS5.5,baz=182,slow=32							
KMI	**Kunming**	**59.46**	**304**	⇑P	**P**	**10 34 52.3**	**+1.2**	
KMI				AP	pP	10 35 05.0	+0.4	
KMI				XP	sP	10 35 11.6	+1.4	
KMI				PCP	PcP	10 35 39.4	+1.0	
KMI				PP	PP	10 37 06.0	+3.1	
KMI				S	**S**	**10 42 57.3**	**+0.1**	
KMI				XS	sS	10 43 20.0	+0.1	
KMI				SCS	ScS	10 44 33.0	-4.7	
KMI				SS	SS	10 46 53.3	+0.1	
KMI				AMB	AMB			
	comp=Z,89nm,1.2s,mb5.7							
KMI				AMB	AMB			
	comp=Z,893nm,6.3s							
KMI				LR	LR			
	comp=N,1μm,18.6s							
KMI				LR	LR			
	comp=E,2μm,25.1s							
KMI				LR	LR			
	comp=Z,3μm,22.6s,MS5.4							
CM31	**Chiang Mai Arr**	**60.30**	**295**	*e*P	**P**	**10 34 57.7**	**+0.7**	
	comp=Z,280nm,1.2s,mb6.2							
CM31				*e*pP	pP	10 35 12.8	+2.2	
CM31				LR	LR			
	comp=Z,1μm,20.0s,MS5.0							
CMAR	**Chiang Mai Arr**	**60.30**	**295**	P	**P**	**10 34 57.8**	**+0.8**	
	comp=Z,74nm,0.9s,mb5.7,baz=114,slow=5.2,SNR=192							
CMAR				pP	pP	10 35 10.6	+0.1	
	comp=Z,162nm,1.1s,baz=120,slow=4.3,SNR=18							
CMAR				LR	LR	10 57 22.0		
	comp=Z,1μm,21.9s,MS5.1,baz=268,slow=32							
CMAR				PKPPKP		11 04 19.8		
	comp=Z,0.6nm,0.3s,baz=327,slow=2.5,SNR=4.2							
CHG	**Chiang Mai**	**60.41**	**296**	⇑P	**P**	**10 34 58.2**	**+0.4**	
	comp=Z,269nm,0.7s,mb6.4							
CHTO	**Chiang Mai**	**60.41**	**296**	P	**P**	**10 34 58.1**	**+0.4**	
	SNR=33							
CHTO	**Chiang Mai**	**60.41**	**296**	*e*P	**P**	**10 34 58.0**	**+0.2**	
CHTO				pmax	pmax			
	comp=Z,394nm,1.3s,mb6.3							
CHTO				MLR	MLR			
	comp=Z,2μm,21.0s,MS5.2							
CHTO	**Chiang Mai**	**60.41**	**296**	*e*P	**P**	**10 34 58.0**	**+0.3**	
	comp=Z,394nm,1.3s,mb6.3							
CHTO				LR	LR			
	comp=Z,2μm,21.0s,MS5.2							
SMY	**Shemya**	**61.06**	**13**	*e*P	pP	10 35 15.8	+0.7	
SMY	**Shemya**	**61.06**	**13**	*e*pP	pP	10 35 15.8	+0.8	
SMY				LR	LR			
	comp=Z,8μm,20.0s,MS5.8							
DRV	**Dumont d'Urvil**	**61.12**	**187**	P	**P**	**10 35 05.0**	**+3.3**	
DRV	**Dumont d'Urvil**	**61.12**	**187**	PP	PP	10 37 23.0	+6.3	
DRV				S	**S**	**10 43 18.0**	**+0.8**	
DRV				SS	SS	10 47 16.0	-1.6	
DRV				L		10 50 00.0		
DRV				R		10 54 00.0		
AMKA	**Amchitka**	**61.20**	**17**	*e*P	**P**	**10 35 03.0**	**+0.6**	
AMKA				*e*pP	pP	10 35 18.6	+2.6	
CD2	**Chengdu**	**61.21**	**310**	P	**P**	**10 35 03.4**	**+0.4**	
CD2				AP	pP	10 35 19.8	+3.2	
CD2				PCP	PcP	10 35 45.5	+0.2	
CD2				PP	PP	10 37 21.0	+2.7	
CD2				PCS	PcS	10 39 46.8	-1.4	
CD2				S	**S**	**10 43 17.8**	**-1.7**	
CD2				XS	sS	10 43 44.6	+2.4	
CD2				SCS	ScS	10 44 45.3	-5.2	
CD2				SS	SS	10 47 19.8	-0.7	
CD2				AMB	AMB			
	comp=Z,50nm,0.6s,mb5.8							
CD2				AMB	AMB			
	comp=Z,1μm,5.8s							
CD2				LR	LR			
	comp=N,2μm,20.4s,MS5.4							
CD2				LR	LR			
	comp=E,2μm,24.0s,MS5.4							
CD2				LR	LR			
	comp=Z,3μm,24.6s,MS5.4							
HHC	**Hu-ho-hao-te**	**61.42**	**324**	*e*P	**P**	**10 35 03.8**	**-0.4**	
HHC				AP	pP	10 35 16.5	-1.3	
HHC				XP	sP	10 35 21.8	-1.5	
HHC				PCP	PcP	10 35 44.8	-1.1	
HHC				PP	PP	10 37 21.5	+1.5	
HHC				SCP	ScP	10 39 41.3	-2.5	
HHC				PCS	PcS	10 39 47.1	-1.6	
HHC				S	**S**	**10 43 20.8**	**-0.9**	
HHC				XS	sS	10 43 41.5	-3.0	
HHC				SCS	ScS	10 44 48.0	-3.7	
HHC				SS	SS	10 47 25.1	+1.7	
HHC				AMB	AMB			
	comp=Z,33nm,1.1s,mb5.4							
HHC				AMB	AMB			
	comp=Z,923nm,6.7s							
HHC				LR	LR			
	comp=N,1μm,17.6s,MS5.3							
HHC				LR	LR			
	comp=E,1μm,17.7s,MS5.3							
HHC				LR	LR			
	comp=Z,2μm,18.4s,MS5.3							
BTO	**Baotou**	**62.18**	**323**	*e*P	**P**	**10 35 09.5**	**+0.2**	
ADK	**Adak**	**62.89**	**19**	*e*P	**P**	**10 35 14.9**	**+1.1**	
ADK				pmax	pmax			
	comp=Z,692nm,1.0s,mb6.7							
ADK				MLR	MLR			
	comp=Z,8μm,21.0s,MS5.9							
ADK	**Adak**	**62.89**	**19**	*e*P	**P**	**10 35 14.9**	**+1.1**	
	comp=Z,692nm,1.0s,mb6.7							
ADK				LR	LR			
	comp=Z,8μm,21.0s,MS5.9							
HIA	**Hailar**	**63.21**	**335**	*e*P	**P**	**10 35 15.0**	**-1.0**	
HIA				*e**PP	pP	10 35 28.9	-0.7	
HIA				pmax	pmax			
	comp=Z,101nm,0.9s							
HIA				MLR	MLR			
	comp=Z,2μm,20.0s							
HIA	**Hailar**	**63.21**	**335**	*e*P	**P**	**10 35 15.0**	**-1.0**	
	comp=Z,102nm,0.9s,mb6.0							
HIA				*e*pP	pP	10 35 28.9	-0.8	
HIA				LR	LR			
	comp=Z,2μm,20.0s,MS5.3							
LZH	**Lanzhou**	**63.68**	**315**	⇑P	**P**	**10 35 19.3**	**-0.1**	
LZH				AP	pP	10 35 33.0	0.0	
LZH				XP	sP	10 35 38.0	-0.5	
LZH				PP	PP	10 37 41.6	+1.6	
LZH				S	**S**	**10 43 49.5**	**-0.9**	
LZH				XS	sS	10 44 11.8	-1.4	
LZH				SS	SS	10 47 59.4	+0.4	
LZH				AMB	AMB			
	comp=Z,193nm,1.5s,mb5.9							
LZH				AMB	AMB			
	comp=Z,814nm,5.0s							
LZH				LR	LR			
	comp=N,2μm,16.5s							
LZH				LR	LR			
	comp=Z,3μm,18.3s,MS5.6							
TAOE	**Nuku Hiva Isla**	**64.48**	**97**	*e*LR	LR	10 54 44.0		
	comp=Z,10μm,23.4s							
CASY	**Casey**	**67.18**	**198**	*e*P	**P**	**10 35 40.4**	**-1.0**	
CASY				*e*pP	pP	10 35 52.8	-2.4	
CASY				*e*S	S	10 44 29.2	-3.0	
CLNS	**Chul'man**	**67.51**	**343**	*e*P	pP	10 35 57.3	-0.1	
CLNS				pmax	pmax			
	comp=Z,54nm,1.0s,mb5.5							
CLNS				pmax	pmax			
	comp=N,36nm,1.1s							
CLNS				pmax	pmax			
	comp=E,20nm,1.1s							
CLNS				MLR	MLR			
	comp=N,227nm,17.0s							
CLNS				MLR	MLR			
	comp=N,453nm,16.0s							
CLNS				MLR	MLR			
	comp=Z,411nm,18.0s,MS4.7							
GTA	**Gaotai**	**68.10**	**317**	*e*P	**P**	**10 35 48.0**	**+0.3**	
GTA				AP	pP	10 36 01.0	-0.5	
GTA				XP	sP	10 36 07.5	+0.5	
GTA				PP	PP	10 38 20.8	+2.2	
GTA				S	S	10 44 43.5	-0.5	
GTA				XS	sS	10 45 05.8	-1.3	
GTA				SS	SS	10 49 06.5	-1.0	
GTA				AMB	AMB			
	comp=Z,824nm,8.9s							
GTA				LR	LR			
	comp=N,1μm,20.5s,MS5.3							
GTA				LR	LR			
	comp=E,1μm,24.7s,MS5.3							
GTA				LR	LR			
	comp=Z,2μm,26.5s,MS5.3							
UNV	**Unalaska Valle**	**68.18**	**24**	*e*P	**P**	**10 35 48.3**	**+0.4**	
	comp=Z,308nm,1.0s,mb6.3							
SONM	**Songino Array**	**68.65**	**327**	P	**P**	**10 35 50.7**	**-0.2**	
	comp=Z,9.8nm,0.7s,mb4.8,baz=145,slow=5.5,SNR=41							
SONM				pP	pP	10 36 04.5	-0.3	
	comp=Z,30nm,0.9s,baz=126,slow=5.8,SNR=13							
SONM				PKPPKP		11 04 08.2		
	comp=Z,4.2nm,1.1s,baz=278,slow=2.8,SNR=6.4							
SONM				LR	LR	11 05 45.9		
	comp=Z,602nm,20.3s,MS4.8,baz=133,slow=36							
AKUT	**Akutan**	**68.69**	**24**	*e*P	**P**	**10 35 51.6**	**+0.5**	
SHL	**Shillong**	**68.77**	**300**	⇑*i*P	**P**	**10 35 51.5**	**-0.7**	
SHL				*i* S	S	10 44 50.0	-2.5	
SEY	**Seymchan**	**69.07**	**359**	⇑*e*P	**P**	**10 35 51.7**	**-1.5**	
SEY	**Seymchan**	**69.07**	**359**	⇓*e*P	**P**	**10 35 51.8**	**-1.4**	
RKT	**Rikitea**	**69.39**	**112**	*e*pP	pP	10 36 08.1	-1.9	
	comp=Z,158nm,1.1s							
RKT				*e*S	S	10 44 58.7	-1.4	
	comp=Z,1μm,29.5s							
RKT				*e*SS	SS	10 49 27.2	-0.9	
	comp=Z,1μm,33.5s							
RKT				*e*LQ		10 54 08.5		
	comp=Z,2μm,35.0s							
RKT				*e*LR	LR	10 56 58.1		
	comp=Z,9μm,29.5s							
LSA	**Lhasa**	**70.71**	**304**	P	**P**	**10 36 05.5**	**+1.4**	
LSA				AP	pP	10 36 16.6	-1.3	
LSA				PCP	PcP	10 36 25.9	+1.1	
LSA				S	S	10 45 06.8	-8.4	
LSA				LR	LR			
	comp=E,2μm,25.4s							
LSA				LR	LR			
	comp=Z,2μm,25.2s,MS5.3							
LSA	**Lhasa**	**70.71**	**304**	*e*P	**P**	**10 36 04.4**	**+0.3**	
LSA				*e**PP	pP	10 36 18.5	+0.6	
LSA				pmax	pmax			
	comp=Z,268nm,0.9s,mb6.2							
LSA				MLR	MLR			
	comp=Z,1μm,20.0s,MS5.2							
LSA	**Lhasa**	**70.71**	**304**	*e*P	**P**	**10 36 04.4**	**+0.3**	
	comp=Z,268nm,0.9s,mb6.2							
LSA				*e*pP	pP	10 36 18.5	+0.6	
LSA				LR	LR			
	comp=Z,1μm,20.0s,MS5.2							
YAK	**Yakutsk**	**70.84**	**348**	*e*P	**P**	**10 36 02.2**	**-2.0**	
YAK				*e**PP	pP	10 36 14.1	-3.9	
YAK				*e*		10 36 21.4		
YAK				*e*PPP		10 40 17.9		
YAK				*e*S	S	10 45 10.4	-5.1	
YAK				*e*		10 45 50.1		
YAK				*e*SSS		10 52 58.7		
YAK				pmax	pmax			
	comp=Z,43nm,1.1s,mb5.3							
YAK				pmax	pmax			
	comp=E,5.0nm,1.1s							
YAK				pmax	pmax			
	comp=N,12nm,1.2s							
YAK				smax				
	comp=N,386nm,11.4s							
YAK				smax				
	comp=E,365nm,13.2s							
YAK	**Yakutsk**	**70.84**	**348**	*e*P	**P**	**10 36 03.7**	**-0.5**	
	comp=E,123nm,1.0s,mb5.8							
YAK				*e*pP	pP	10 36 17.2	-0.9	
YAK				LR	LR			
	comp=Z,3μm,22.0s,MS5.5							
CAL	**Calcutta**	**71.00**	**296**	*e*P	**P**	**10 36 07.0**	**+1.1**	
CAL				*e*S	S	10 45 20.9	+2.1	
SDPT	**Sand Point**	**71.72**	**25**	*e*P	**P**	**10 36 10.0**	**+0.4**	
	comp=Z,105nm,1.4s,mb5.6							
SBA	**Scott Base**	**71.78**	**177**	*e*P	**P**	**10 36 10.1**	**+0.4**	
SBA				*e**PP	pP	10 36 23.1	-0.5	
SBA				pmax	pmax			
	comp=Z,458nm,1.4s,mb6.2							
SBA				MLR	MLR			
	comp=Z,2μm,22.0s,MS5.4							
SBA	**Scott Base**	**71.78**	**177**	*e*P	**P**	**10 36 10.1**	**+0.4**	
	comp=Z,458nm,1.4s,mb6.2							
SBA				*e*pP	pP	10 36 23.1	-0.4	
SBA				LR	LR			
	comp=Z,2μm,22.0s,MS5.4							
ZAK	**Zakamensk**	**71.80**	**328**	⇑*i*P	**P**	**10 36 09.7**	**-0.5**	
ZAK				*e*	pP	10 36 22.7	-1.4	
ZAK				pmax	pmax			
	comp=Z,30nm,1.2s,mb5.1							
BOD	**Bodaibo**	**71.90**	**338**	*e*P	**P**	**10 36 08.7**	**-2.0**	
BOD				*e*	pP	10 36 22.6	-1.9	
BOD				pmax	pmax			
	comp=Z,11nm,1.1s,mb4.7							
GTK	**Gangtok**	**72.09**	**301**	*ex*	x	10 36 16.0		
TLY	**Talaya**	**72.37**	**329**	*e*P	**P**	**10 36 12.6**	**-1.0**	
TLY				*e*S	S	10 45 27.8	-5.6	
TLY				*e*		10 46 09.8		
TLY				*e*SS	SS	10 50 06.5	-6.2	
TLY				pmax	pmax			
	comp=Z,88nm,1.8s,mb5.4							
TLY				MLR	MLR			
	comp=Z,1μm,20.0s,MS5.2							
TLY	**Talaya**	**72.37**	**329**	*e*P	**P**	**10 36 12.3**	**-1.2**	
	comp=Z,18nm,1.2s,mb4.9							
TLY				*e*pP	pP	10 36 26.4	-1.0	
TLY				LR	LR			
	comp=Z,1μm,21.0s,MS5.2							
IRK	**Irkutsk**	**72.38**	**330**	⇓*i*P	**P**	**10 36 06.6**	**-7.1**	
IRK				pmax	pmax			
	comp=Z,109nm,1.7s,mb5.5							
BWNR	**Bhubaneshwar**	**72.72**	**293**	*e*P	**P**	**10 36 13.1**	**-3.2**	
TAPN	**Taplejung**	**72.87**	**301**	*e*P	**P**	**10 36 18.1**	**+1.0**	
	comp=Z,2μm,1.1s,mb6.9							
ODAN	**Odare**	**73.00**	**300**	*e*P	**P**	**10 36 19.0**	**+1.1**	
	comp=Z,2μm,0.9s,mb7.0							
MIR	**Mirnyy**	**73.25**	**202**	*α i*P	**P**	**10 36 18.5**	**-0.1**	
MIR				*i*	pP	10 36 30.0	-2.5	
MIR				*i* S	S	10 45 44.0	+0.9	
MIR				*i* PS		10 46 26.0		
MIR				pmax	pmax			
	comp=Z,500nm,2.0s,mb6.1							
MIR				pmax	pmax			
	comp=Z,2μm,4.0s							
BOK	**Bokaro**	**73.50**	**297**	*e*P	**P**	**10 36 20.6**	**-0.3**	
BOK				AMb	AMB	10 36 25.6		
	comp=Z,138nm,1.4s,mb5.7							
RAMN	**Ramite**	**73.70**	**300**	*e*P	**P**	**10 36 22.8**	**+0.8**	
MOY	**Mondy**	**73.72**	**328**	*e*P	**P**	**10 36 21.0**	**-0.6**	
MOY				pmax	pmax			
	comp=Z,69nm,4.0s							
PTCN	**Pitcairn Islan**	**73.89**	**114**	PFAKE		10 36 30.0	+6.8	
PTCN				LR	LR			
	comp=Z,4μm,21.0s,MS5.7							
JIRN	**Jiri**	**74.25**	**301**	*e*P	**P**	**10 36 26.1**	**+0.9**	
	comp=Z,709nm,0.9s,mb6.6							
GAMB	**Gambell**	**74.31**	**15**	*e*P	**P**	**10 36 26.0**	**+1.3**	
	comp=Z,246nm,1.1s,mb6.0							
VIS	**Vishakhapatnam**	**74.43**	**290**	*e*P	**P**	**10 36 25.7**	**-0.8**	
VIS				AMb	AMB	10 36 30.8		
	comp=Z,123nm,1.1s,mb5.7							
VIS				*i* S	S	10 45 57.3	-0.8	
GUN	**Gumba**	**74.58**	**301**	*e*P	**P**	**10 36 28.1**	**+1.0**	
	comp=Z,2μm,0.9s,mb6.9							
BILL	**Bilibino**	**74.62**	**4**	*e*P	**P**	**10 36 26.0**	**-0.5**	
BILL				*e*S	S	10 45 55.7	-2.6	
BILL				pmax	pmax			
	comp=Z,73nm,1.0s,mb5.6							
BILL	**Bilibino**	**74.62**	**4**	*e*P	**P**	**10 36 26.0**	**-0.5**	
	comp=Z,193nm,0.9s,mb6.0							
BILL				*e*pP	pP	10 36 40.1	-0.3	
BILL				LR	LR			
	comp=Z,2μm,22.0s,MS5.3							
PKI	**Pulchoki**	**74.89**	**301**	*e*P	**P**	**10 36 29.5**	**+0.5**	
	comp=Z,1μm,1.1s,mb6.8							
KKN	**Kakani**	**75.06**	**301**	*e*P	**P**	**10 36 30.3**	**+0.4**	
	comp=Z,910nm,0.9s,mb6.7							
KKN	**Kakani**	**75.06**	**301**	*e*P	**P**	**10 36 31.0**	**+1.1**	
KKN	**Kakani**	**75.06**	**301**	*e*P	**P**	**10 36 31.0**	**+1.1**	
DMN	**Daman**	**75.16**	**301**	*e*P	**P**	**10 36 31.5**	**+1.0**	
	comp=Z,2μm,1.0s,mb7.0							
GKN	**Gorkha**	**75.67**	**301**	*e*P	**P**	**10 36 33.8**	**+0.4**	
	comp=Z,2μm,1.0s,mb7.0							
OHAK	**Old Harbor**	**76.00**	**26**	*e*P	**P**	**10 36 35.0**	**+0.3**	
	comp=Z,94nm,1.3s,mb5.6							
KOLN	**Koldanda**	**76.49**	**300**	*e*P	**P**	**10 36 38.8**	**+0.7**	
	comp=Z,984nm,0.8s,mb6.8							
DANN	**Dangsing**	**76.50**	**301**	*e*P	**P**	**10 36 38.2**	**+0.1**	
	comp=Z,876nm,0.9s,mb6.7							
KDAK	**Kodiak Island**	**76.64**	**26**	P	**P**	**10 36 37.8**	**-0.5**	
	com

WMQ SCS ScS 10 46 58.6 -4.8
WMQ XS sS 10 47 03.9 +2.1
WMQ SS SS 10 51 39.9 -1.4
WMQ AMB AMB
comp=Z,77nm,1.2s,mb5.5
WMQ AMB AMB
comp=Z,890nm,5.8s
WMQ LR LR
comp=N,2μm,27.5s,MS5.4
WMQ LR LR
comp=E,1μm,23.4s,MS5.4
WMQ LR LR
comp=Z,1μm,27.5s,MS5.1
HYB Hyderabad 78.85 289 *eP* **P 10 36 50.0 -1.4**
HYB *eS* S 10 46 44.0 -2.4
HYB pmax pmax
comp=Z,90nm,1.0s,mb5.7
HYB Hyderabad 78.85 289 *i P* **P 10 36 50.0 -1.4**
comp=Z,90nm,1.0s,mb5.7
HYB *epP* pP 10 37 03.0 -2.4
HYB *eS* S 10 46 44.0 -2.4
HYB Hyderabad 78.85 289 *eP* **P 10 36 50.0 -1.4**
comp=Z,90nm,1.0s,mb5.7
HYB *eS* S 10 46 44.0 -2.4
TRD Trivandrum 78.97 280 *eP* **P 10 36 52.1 -0.1**
TRD *ex* x 10 36 54.0
SLKM Skilak Lake 79.20 24 *eP* **P 10 36 51.8 -0.6**
SEW Seward 79.30 25 *eP* **P 10 36 51.0 -2.0**
SEW *epP* pP 10 37 06.5 -0.4
TIXI Tiksi 79.65 352 *eP* **P 10 36 52.5 -2.1**
TIXI pmax pmax
comp=Z,113nm,1.7s,mb5.5
TIXI Tiksi 79.65 352 *eP* **P 10 36 54.5 -0.2**
comp=Z,188nm,1.6s,mb5.8
TIXI LR LR
comp=Z,2μm,22.0s,MS5.3
RC01 Rabbit Creek A 79.73 24 *eP* **P 10 36 55.1 -0.1**
comp=Z,20nm,0.4s,mb5.4
RC01 *epP* pP 10 37 07.9 -1.4
PTH Pithoragarh 79.81 301 *eP* **P 10 36 57.4 +1.0**
PTH *ex* x 10 37 58.4
PPLA Purkeypile 79.82 22 *eP* **P 10 36 55.8 +0.1**
comp=Z,331nm,1.5s,mb6.0
PMR Palmer 80.25 24 *eP* **P 10 36 57.8 -0.3**
PMR pmax pmax
comp=Z,46nm,1.3s,mb5.2
PMR Palmer 80.25 24 *eP* **P 10 36 57.8 -0.3**
comp=Z,46nm,1.3s,mb5.2
CHUM Lake Minchumin 80.36 21 *eP* **P 10 36 58.7 +0.1**
comp=Z,639nm,1.5s,mb6.3
CHUM *epP* pP 10 37 12.5 -0.2
KTH Kantishna Hill 80.67 22 *eP* **P 10 36 58.8 -1.5**
comp=Z,3μm,1.1s
KTH *epP* pP 10 37 12.1 -2.2
TRF Thorofare Moun 80.84 22 *eP* **P 10 37 00.4 -0.8**
comp=Z,59nm,0.9s,mb5.5
AKL Akola 80.86 292 *eP* **P 10 37 01.3 -1.0**
AKL *ex* x 10 47 01.7
LATR Latur 80.89 290 *ex* x 10 37 10.0
BHPL Bhopal 80.95 295 *eP* **P 10 37 01.7 -1.0**
BHPL AMb AMB 10 37 16.1
comp=Z,405nm,0.7s,mb6.5
BPAW Bear Paw Mtn. 80.96 21 *eP* **P 10 37 00.7 -1.2**
comp=Z,6μm,0.7s
BPAW *epP* pP 10 37 14.3 -1.6
EYAK Cordova Ski Ar 81.10 26 *eP* **P 10 37 03.0 +0.3**
comp=Z,243nm,0.9s,mb6.1
EYAK *epP* pP 10 37 15.6 -1.1
IMA2 Indian Mountai 81.22 19 *eP* **P 10 37 02.7 -0.5**
MCK McKinley 81.50 22 *eP* **P 10 37 03.6 -1.1**
comp=Z,32μm,0.7s
MCK *epP* pP 10 37 17.4 -1.4
DGAR Diego Garcia 81.63 263 PFAKE 10 37 20.0 +13
DGAR LR LR
comp=Z,2μm,21.0s,MS5.4
DDI Dehra Dun 81.81 302 *eP* **P 10 37 04.1 -3.0**
DDI *ex* x 10 47 33.0
COLA College 82.52 21 *eP* **P 10 37 07.9 -2.1**
COLA *e*PP pP 10 37 22.5 -1.6
COLA pmax pmax
comp=Z,394nm,1.4s,mb6.2
COLA MLR MLR
comp=Z,6μm,22.0s,MS5.9
COLA College 82.52 21 *eP* **P 10 37 07.9 -2.1**
comp=Z,394nm,1.4s,mb6.2
COLA *epP* pP 10 37 22.5 -1.6
COLA LR LR
comp=Z,6μm,22.0s,MS5.9
SMLA Simla 82.72 302 ‖ *iP* **P 10 37 11.6 -0.2**
MK31 Makanchi Array 82.75 319 *i P* **P 10 37 11.6 0.0**
MK31 pmax pmax
comp=Z,84nm,0.8s,mb5.8
MK31 Makanchi Array 82.75 319 *eP* **P 10 37 10.7 -0.9**
MKAR Makanchi Array 82.75 319 P **P 10 37 10.6 -1.1**
comp=Z,22nm,0.7s,mb5.3,baz=100,slow=4.4,SNR=76
MKAR *pP* pP 10 37 24.4 -1.3
comp=Z,58nm,0.8s,baz=100,slow=6.8,SNR=17
MKAR PKKPbc PKKPbc 10 55 34.8 -2.9
comp=Z,0.4nm,0.4s,baz=347,slow=5.0,SNR=3.8
MKAR PKPPKP 11 03 46.3
comp=Z,0.3nm,0.2s,baz=300,slow=2.8,SNR=5.8
MKAR LR LR 11 14 24.8
comp=Z,1μm,21.5s,MS5.2,baz=123,slow=36
MKAR Makanchi Array 82.75 319 P **P 10 37 10.6 -1.0**
MKAR *PP pP 10 37 24.5 -1.3
MKAR pmax pmax
comp=Z,22nm,0.7s
MKAR MLR MLR
comp=Z,1μm,21.5s
KAD Karad 82.94 288 *eP* **P 10 37 10.7 -2.5**
SDNR Sundarnagar 82.96 303 *eP* **P 10 37 13.5 +0.4**
SDNR *ex* x 10 38 46.5
GOA Goa 83.01 286⇑ *eP* **P 10 37 12.5 -1.2**
GOA *eS* S 10 47 27.6 -2.3
COLD Coldfoot 83.03 19 *eP* **P 10 37 12.4 -0.3**
comp=Z,221nm,1.4s,mb6.0
COLD *epP* pP 10 37 26.8 0.0
BHK Bhakra 83.41 303 *ex* x 10 37 45.8
POO Poona 83.44 289 *eP* **P 10 37 14.5 -1.4**
POO AMb AMB 10 37 19.1
comp=Z,121nm,1.4s,mb5.7
PNL Peninsula 83.53 28 *eP* **P 10 37 15.9 +0.5**
comp=Z,858nm,1.6s,mb6.6
PNL *epP* pP 10 37 28.6 -1.0
QSPA South Pole Qui 83.66 180 P **P 10 37 15.4 -0.3**
comp=Z,133nm,1.1s,mb6.0,baz=1.6,slow=1.3,SNR=314
QSPA *pP* pP 10 37 28.8 -1.2
comp=Z,572nm,1.0s,baz=2.7,slow=1.5,SNR=39
QSPA LR LR 11 09 12.7
comp=Z,2μm,19.4s,MS5.4,baz=196,slow=32
PONG Pong 83.90 303 *ex* x 10 37 30.0
AJM Ajmer 84.02 297 *i x* **P 10 37 16.6 -2.0**
THN Thein Dam 84.19 303 *eP* **P 10 37 18.8 -2.6**
BOM Bombay 84.47 290 *eP* **P 10 37 19.1 -2.0**
BOM *ex* x 10 37 26.9
SIT Sitka 84.53 31 PFAKE 10 37 30.0 +9.5
SIT LR LR
comp=Z,5μm,20.0s,MS5.8
NVS Novosibirsk 84.67 327⇑ *iP* **P 10 37 18.8 -2.4**
NVS *e* pP 10 37 33.2 -2.2
NVS pmax pmax
comp=E,41nm,1.3s
NVS pmax pmax
comp=Z,51nm,1.3s,mb5.5
NVS pmax pmax
comp=N,22nm,1.4s
HYT Haines Junctio 84.86 27 *eP* **P 10 37 22.8 +0.7**
HYT *epP* pP 10 37 35.9 -0.4
MAW Mawson 84.94 203 *eP* **P 10 37 21.8 -0.7**
comp=N,32nm,0.6s,mb5.6
MAW *epP* pP 10 37 34.9 -1.7
MAW Mawson 84.94 203 *eS* S 10 47 43.8 -3.6
MAW Mawson 84.94 203 P **P 10 37 21.9 -0.6**
comp=N,36nm,0.5s,mb5.7,baz=90,slow=6.1,SNR=123
MAW *pP* pP 10 37 35.0 -1.7
comp=N,111nm,0.9s,baz=87,slow=6.4,SNR=15
MAW LR LR 11 11 36.2
comp=N,2μm,21.9s,MS5.5,baz=84,slow=33
MAW Mawson 84.94 203 *eP* **P 10 37 21.8 -0.7**
comp=N,32nm,0.6s,mb5.6
MAW *epP* pP 10 37 34.9 -1.7
MAW *eS* S 10 47 43.8 -3.6
EGAK Eagle 84.97 23 *eP* **P 10 37 22.0 -0.5**
comp=N,295nm,1.4s,mb6.2
EGAK *epP* pP 10 37 35.7 -1.0

DAWY Dawson 85.36 24 *eP* **P 10 37 25.1 +0.6**
DAWY *epP* pP 10 37 38.9 +0.2
SKAG Skagway 85.37 29 *eP* **P 10 37 24.8 +0.1**
comp=N,37nm,1.4s,mb5.3
KSH Kashi 85.41 310 *eP* **P 10 37 25.9 +0.6**
KSH *eAP* pP 10 37 39.4 -0.1
KSH *eXP* sP 10 37 44.5 -0.4
KSH *eS* S 10 47 50.5 -2.4
KSH *eXS* sS 10 48 12.8 -4.0
KSH AMB AMB
comp=Z,3.0nm,0.3s,mb4.9
KSH LR LR
comp=N,733nm,4.8s
KSH LR LR
comp=E,955nm,5.7s
KSH LR LR
comp=Z,4μm,26.8s,MS5.7
BHV Bhavnagar 85.52 292 *ex* x 10 38 04.0
BHV *ex* x 10 38 44.0
WRAK Wrangell Islan 85.87 32 *eP* **P 10 37 27.6 +0.4**
comp=Z,64nm,1.2s,mb5.7
WRAK *epP* pP 10 37 41.4 0.0
KURK Kurchatov 86.16 322 P **P 10 37 27.2 -1.6**
comp=Z,388nm,1.3s,mb6.5,SNR=17
KURK Kurchatov 86.16 322 P **P 10 37 27.6 -1.3**
comp=Z,8.7nm,0.5s,mb5.2,baz=97,slow=4.9,SNR=3.6
KURK *pP* pP 10 37 41.0 -2.0
comp=Z,35nm,1.0s,baz=98,slow=4.4,SNR=3.4
KURK Kurchatov 86.16 322‖ *eP* **P 10 37 25.8 -3.0**
KURK pmax pmax
comp=Z,49nm,1.8s,mb5.4
KURK Kurchatov 86.16 322 *eP* **P 10 37 26.2 -2.6**
comp=Z,124nm,1.3s,mb6.0
KURK *epP* pP 10 37 40.6 -2.4
KURK LR LR
comp=Z,1μm,22.0s,MS5.2
TKM2 Tokmak 2 86.39 314 *eP* **P 10 37 29.6 -0.5**
TKM2 pmax pmax
comp=Z,66nm,0.8s,mb5.9
TKM2 MLR MLR
comp=Z,1μm,22.0s,MS5.2
TKM2 Tokmak 2 86.39 314 *eP* **P 10 37 29.6 -0.5**
comp=Z,66nm,0.8s,mb5.9
TKM2 LR LR
comp=Z,1μm,22.0s,MS5.2
UCH Uchtor 87.03 313 *eP* **P 10 37 33.0 -0.3**
comp=Z,6.8nm,0.6s,mb5.0
UCH *pP* pP 10 37 47.6 +0.1
FRU Bishkek 87.08 313 *eP* **P 10 37 33.0 -0.5**
FRU *i* pP 10 37 47.0 -0.7
FRU *e* 10 47 50.0
FRU *e* 10 48 06.0
FRU *e* 10 49 15.0
FRU MLR MLR
comp=Z,2μm,22.0s,MS5.4
BBB Bella Bella 87.10 37 P **P 10 37 33.6 +0.2**
comp=Z,16nm,0.9s,mb5.2,baz=226,slow=14,SNR=2.7
BBB *pP* pP 10 37 46.2 -1.3
comp=Z,35nm,0.9s,baz=210,slow=5.4,SNR=4.3
AML Almayashu 87.61 313 PFAKE 10 37 50.0 +14
AML LR LR
comp=Z,584nm,21.0s,MS5.0
EKS2 Erkin-Say 87.65 313 *eP* **P 10 37 36.5 +0.3**
comp=Z,76nm,0.9s,mb5.9
EKS2 *epP* pP 10 37 49.6 -0.9
EKS2 LR LR
comp=Z,1μm,22.0s,MS5.3
DLBC Dease Lake 87.66 31 P **P 10 37 36.8 +0.9**
comp=Z,16nm,1.0s,mb5.2,baz=242,slow=6.1,SNR=14
DLBC *pP* pP 10 37 49.5 -0.6
comp=Z,133nm,1.2s,baz=256,slow=5.2,SNR=25
DLBC Dease Lake 87.66 31 *eP* **P 10 37 35.8 -0.1**
DLBC *epP* pP 10 37 49.3 -0.9
HOPS Hopland 87.85 51 PFAKE 10 37 50.0 +13
HOPS LR LR
comp=Z,4μm,21.0s,MS5.8
MCCM Marconi Confer 87.86 51 PFAKE 10 37 50.0 +13
MCCM LR LR
comp=Z,4μm,22.0s,MS5.8
BHJ Bhuj 88.00 294 *eP* **P 10 37 37.6 -0.8**
WDC Whiskeytown Da 88.52 49 PFAKE 10 37 50.0 +10
WDC LR LR
comp=Z,3μm,20.0s,MS5.7
HUMO Hull Mountain 88.56 47 *eP* **P 10 37 40.5 -0.1**
comp=Z,78nm,1.0s,mb6.0
HUMO *epP* pP 10 37 54.9 +0.1
HUMO LR LR
comp=Z,7μm,22.0s,MS6.0
YBH Yreka Blue Hor 88.59 48 P **P 10 37 41.5 +0.7**
comp=Z,4.5nm,0.7s,mb4.9,baz=272,slow=8.0,SNR=11
YBH *pP* pP 10 37 54.6 -0.4
comp=Z,19nm,0.9s,baz=195,slow=3.5,SNR=14
YBH LR LR 11 10 48.0
comp=Z,9μm,21.1s,MS6.1,baz=338,slow=31
COR Corvallis 88.65 45 PFAKE 10 37 50.0 +9.1
COR LR LR
comp=Z,10μm,21.0s,MS6.2
SAO San Andreas Ge 88.76 53 PFAKE 10 37 50.0 +8.3
SAO LR LR
comp=Z,4μm,20.0s,MS5.8
OHCM Honcut 89.13 50 *eP* **P 10 37 44.3 +1.0**
OHCM *epP* pP 10 37 57.7 +0.1
INK Inuvik 89.16 21 *eP* **P 10 37 41.9 -0.8**
comp=Z,5μm,1.3s
INK *epP* pP 10 37 55.8 -1.2
PGC Sidney 89.27 41 P **P 10 37 44.1 +0.4**
comp=Z,105nm,1.1s,mb6.1
PGC *epP* pP 10 37 56.6 -1.4
CMB Columbia Colle 89.79 52 *eP* **P 10 37 46.8 +0.4**
CMB *e*PP pP 10 38 00.5 -0.2
CMB pmax pmax
comp=Z,83nm,1.6s,mb5.8
CMB MLR MLR
comp=Z,4μm,20.0s,MS5.9
CMB Columbia Colle 89.79 52 *eP* **P 10 37 46.8 +0.4**
comp=Z,83nm,1.6s,mb5.8
CMB *epP* pP 10 38 00.5 -0.2
CMB LR LR
comp=Z,4μm,20.0s,MS5.9
SNCC San Nicolas Is 89.83 57 PFAKE 10 38 00.0 +13
SNCC LR LR
comp=Z,4μm,21.0s,MS5.9
HOOD Mount Hood Mea 89.93 45 *eP* **P 10 37 46.8 -0.1**
comp=Z,54nm,1.0s,mb5.8
KBL Kabul 90.04 305 *eP* **P 10 37 46.9 -0.8**
KBL *e*PP pP 10 37 59.6 -2.3
KBL pmax pmax
comp=Z,53nm,0.9s,mb5.9
KBL Kabul 90.04 305 *eP* **P 10 37 46.9 -0.8**
comp=Z,54nm,0.9s,mb5.9
KBL *epP* pP 10 37 59.5 -2.4
LON Longmire 90.05 43 *eP* **P 10 37 47.1 -0.3**
LON pmax pmax
comp=Z,74nm,1.5s,mb5.8
LON Longmire 90.05 43 *eP* **P 10 37 47.1 -0.4**
comp=Z,74nm,1.5s,mb5.8
KK31 Karatay Array 90.09 313 *i P* **P 10 37 47.8 +0.1**
KK31 pmax pmax
comp=Z,47nm,0.9s,mb5.8
CMW Cultus Mountai 90.11 41 P **P 10 37 49.3 +1.7**
JCW Jim Creek 90.19 42 *eP* **P 10 37 47.2 -0.8**
JCW *epP* pP 10 38 01.4 -1.0
MOD Modoc 90.39 48 *eP* **P 10 37 48.8 -0.3**
comp=Z,48nm,1.0s,mb5.8
MOD *epP* pP 10 38 03.4 0.0
MOD LR LR
comp=Z,7μm,19.0s,MS6.1
RPW Rockport 90.51 41 *eP* **P 10 37 49.0 -0.5**
RPW *epP* pP 10 38 02.0 -1.7
OSI Osito Adit 90.66 55 P **P 10 37 51.9 +1.3**
comp=Z,216nm,1.5s,mb6.3
PAHR Pah Rah Range 90.79 50 *eP* **P 10 37 51.5 +0.5**
comp=Z,81nm,1.0s,mb6.0
PAHR *epP* pP 10 38 05.7 +0.4
EBG Ellensburg 90.91 43 P **P 10 37 51.7 +0.2**
ISA Isabella 91.00 54 *eP* **P 10 37 52.8 +0.7**
ISA *e*PP pP 10 38 06.8 +0.4
ISA pmax pmax
comp=Z,87nm,1.4s,mb5.9
ISA MLR MLR
comp=Z,4μm,19.0s,MS5.9
ISA Isabella 91.00 54 *eP* **P 10 37 52.8 +0.7**
comp=Z,87nm,1.4s,mb5.9
ISA *epP* pP 10 38 06.8 +0.4
ISA LR LR
comp=Z,4μm,19.0s,MS5.9
MTUM Tungsten Hills 91.13 53 *eP* **P 10 37 53.5 +0.8**
MTUM *epP* pP 10 38 07.2 +0.3
MWC Mount Wilson 91.16 56 *eP* **P 10 37 51.2 -1.7**
MWC pmax pmax
comp=Z,167nm,1.1s,mb6.3
MWC MLR MLR
comp=Z,4μm,19.0s,MS5.8
MWC Mount Wilson 91.16 56 *eP* **P 10 37 51.1 -1.8**
comp=Z,167nm,1.1s,mb6.3
MWC LR LR
comp=Z,4μm,19.0s,MS5.8
ETW Entiat 91.17 42 *eP* **P 10 37 51.9 -0.7**
ETW *epP* pP 10 38 05.6 -1.3
MDW Midway 91.42 43 P **P 10 37 53.8 0.0**
WTV Waterville 91.44 42 P **P 10 37 52.8 -1.1**
NVAR Mina Array Bea 91.46 52 P **P 10 37 54.3 +0.1**
comp=Z,42nm,1.0s,mb5.7,baz=251,slow=5.6,SNR=66
NVAR *pP* pP 10 38 08.6 +0.1
comp=Z,59nm,0.9s,baz=253,slow=4.5,SNR=17
NVAR PKKPbc PKKPbc 10 55 15.1 -1.0
comp=Z,1.3nm,0.9s,baz=70,slow=4.3,SNR=4.7
NVAR PKPPKP 11 03 28.3
comp=Z,0.7nm,0.8s,baz=122,slow=1.9,SNR=4.0
NVAR Mina Array Bea 91.46 52 P **P 10 37 54.3 +0.1**
NVAR *pP* pP 10 38 08.6 +0.1
NVAR PKKPbc PKKPbc 10 55 15.1 -1.0
NVAR P'P' 11 03 28.3
RSW Rattlesnake Hi 91.51 44 *eP* **P 10 37 53.0 -1.2**
RSW *epP* pP 10 38 07.5 -1.0
HAWA Hanford 91.55 44 *eP* **P 10 37 53.5 -0.9**
comp=Z,66nm,1.0s,mb5.9
HAWA *epP* pP 10 38 08.0 -0.7
BVA0 Borovoye Array 91.62 323 *i* P **P 10 37 52.8 -1.8**
BVA0 pmax pmax
comp=Z,25nm,1.1s,mb5.5
BVAR Borovoye Array 91.62 323 P **P 10 37 53.4 -1.2**
comp=Z,11nm,0.8s,mb5.3,baz=105,slow=5.1,SNR=2.8
BVAR *pP* pP 10 38 06.4 -2.4
comp=Z,54nm,0.8s,baz=104,slow=3.5,SNR=5.0
BVAR Borovoye Array 91.62 323 P **P 10 37 53.4 -1.2**
BVAR *PP pP 10 38 06.4 -2.5
BVAR pmax pmax
comp=Z,11nm,0.8s
BVAR Borovoye Array 91.62 323 P **P 10 37 53.4 -1.2**
BVAR *pP* pP 10 38 06.4 -2.4
H2OWA Water 91.62 44 P **P 10 37 54.7 -0.1**
BRVK Borovoye 91.69 323 P **P** 10 38 06.4 -2.8
comp=Z,309nm,1.2s,SNR=6.6
BRVK Borovoye 91.69 323 *eP* **P 10 37 51.8 -3.1**
BRVK *e*PP pP 10 38 06.2 -3.0
BRVK pmax pmax
comp=Z,114nm,1.1s,mb6.1
BRVK MLR MLR
comp=Z,3μm,22.0s,MS5.6
BRVK Borovoye 91.69 323 *eP* **P 10 37 51.8 -3.1**
comp=Z,114nm,1.1s,mb6.1
BRVK *epP* pP 10 38 06.2 -3.0
BRVK LR LR
comp=Z,3μm,22.0s,MS5.6
WVOR Wild Horse Val 91.69 48 *eP* **P 10 37 55.2 0.0**
WVOR pmax pmax
comp=Z,45nm,1.2s,mb5.7
WVOR Wild Horse Val 91.69 48 *eP* **P 10 37 55.2 0.0**
comp=Z,45nm,1.2s,mb5.7
DAC Darwin (Calif) 91.78 54 PFAKE 10 38 10.0 +14
DAC LR LR
comp=Z,4μm,20.0s,MS5.9
BAR Barrett 92.14 58 P **P 10 37 59.3 +1.8**
comp=Z,234nm,1.9s,mb6.2
BAR *epP* pP 10 38 12.3 +0.6
BAR LR LR
comp=Z,4μm,21.0s,MS5.8
OD2 Odessa Site #2 92.23 43 P **P 10 37 57.2 -0.4**
TPH Tonopah 92.27 52 *eP* **P 10 37 58.5 +0.5**
TPH pmax pmax
comp=Z,129nm,1.3s,mb6.1
TPH MLR MLR
comp=Z,4μm,20.0s,MS5.8
TPH Tonopah 92.27 52 *eP* **P 10 37 58.5 +0.5**
comp=Z,129nm,1.3s,mb6.1
TPH LR LR
comp=Z,4μm,20.0s,MS5.8
GSC Goldstone 92.31 55 *eP* **P 10 37 58.8 +0.6**
GSC pmax pmax
comp=Z,162nm,1.8s,mb6.0
GSC MLR MLR
comp=Z,5μm,21.0s,MS5.9
GSC Goldstone 92.31 55 *eP* **P 10 37 58.8 +0.6**
comp=Z,162nm,1.8s,mb6.0
GSC LR LR
comp=Z,5μm,21.0s,MS5.9
LNOR Lincton Mounta 92.35 44 P **P 10 37 57.1 -1.0**
LNOR *e*PP pP 10 38 11.4 -1.0
RPN Rapa Nui 92.37 117 LR LR 11 11 38.1
comp=Z,7729μm,19.2s,baz=254,slow=30
PFO Pinyon Flat Ob 92.42 57 LR LR 11 15 00.3
comp=Z,3μm,18.1s,MS5.8,baz=291,slow=33
PFO Pinyon Flat Ob 92.42 57 *eP* **P 10 37 59.4 +0.6**
PFO pmax pmax
comp=Z,63nm,1.1s,mb5.9
PFO MLR MLR
comp=Z,5μm,22.0s,MS5.9
PFO Pinyon Flat Ob 92.42 57 *eP* **P 10 37 59.4 +0.6**
comp=Z,63nm,1.1s,mb5.9
PFO LR LR
comp=Z,5μm,22.0s,MS5.9
BMN Battle Mountai 92.52 50 *eP* **P 10 37 59.4 +0.3**
BMN *e*PP pP 10 38 13.8 +0.5
BMN pmax pmax
comp=Z,53nm,1.0s,mb5.9
BMN MLR MLR
comp=Z,4μm,20.0s,MS5.8
BMN Battle Mountai 92.52 50 *eP* **P 10 37 59.4 +0.4**
comp=Z,52nm,1.0s,mb5.9
BMN *epP* pP 10 38 13.8 +0.5
BMN LR LR
comp=Z,4μm,20.0s,MS5.8
SYO Syowa Base 92.90 199 ‖ *iP* **P 10 37 57.6 -2.7**
SYO Syowa Base 92.90 199 ‖ *iX* pP 10 38 10.5 -4.0
BMO Blue Mountains 92.92 45 PFAKE 10 38 10.0 +9.2
BMO LR LR
comp=Z,5μm,20.0s,MS6.0
TPNV Topopah Spring 92.92 53 *eP* **P 10 38 01.2 +0.2**
TPNV *e*PP pP 10 38 15.9 +0.6
TPNV pmax pmax
comp=Z,172nm,1.4s,mb6.3
TPNV MLR MLR
comp=Z,3μm,19.0s,MS5.8
TPNV Topopah Spring 92.92 53 *eP* **P 10 38 01.1 +0.1**
comp=Z,172nm,1.4s,mb6.3
TPNV *epP* pP 10 38 15.9 +0.6
TPNV LR LR
comp=Z,3μm,19.0s,MS5.8
NEW Newport 93.39 42 *eP* **P 10 38 01.8 -1.1**
NEW *e*PP pP 10 38 16.0 -1.2
NEW pmax pmax
comp=Z,72nm,1.0s
NEW Newport 93.39 42 *eP* **P 10 38 01.8 -1.1**
comp=Z,72nm,1.0s,mb6.1
NEW *epP* pP 10 38 16.0 -1.1
LDFC Landfair 93.67 55 *eP* **P 10 38 06.1 +1.6**
comp=Z,131nm,0.4s,mb6.7
GLA Glamis 93.72 57 PFAKE 10 38 20.0 +15
GLA LR LR
comp=Z,4μm,22.0s,MS5.8
ELK Elko 94.05 50 *eP* **P 10 38 05.0 -1.1**
ELK *e*PP pP 10 38 20.6 +0.2
ELK pmax pmax
comp=Z,44nm,1.2s
ELK MLR MLR
comp=Z,4μm,20.0s
ELK Elko 94.05 50 *eP* **P 10 38 05.0 -1.1**
comp=Z,44nm,1.2s,mb5.8
ELK *epP* pP 10 38 20.6 +0.2
ELK LR LR
comp=Z,4μm,20.0s,MS5.8
HLID Hailey 94.88 47 *eP* **P 10 38 10.0 +0.1**
comp=Z,9.5nm,0.8s,mb5.3
HLID *epP* pP 10 38 23.3 -0.9
HLID LR LR
comp=Z,8μm,22.0s,MS6.1
ARUT Antelope Range 95.22 53 *eP* **P 10 38 11.8 +0.2**
ARUT *e*PP pP 10 38 26.8 +1.0
CCUT Cedar City 95.27 53 *eP* **P 10 38 12.9 +1.1**

MSO Missoula 95.43 44 PFAKE 10 38 20.0 +7.7
MSO LR LR
comp=Z,3µm,20.0s,MS5.7
WALA Waterton Lakes 95.57 41 *e*P **P** **10 38 12.7 -0.2**
comp=Z,86nm,1.0s,mb6.1
WALA *ep*P pP 10 38 26.8 -0.4
BGU Big Grassy Mou 95.74 50 *e*P **P** **10 38 15.1 +1.2**
YKA Yellowknife Ar 95.83 28 P **P** **10 38 12.9 -0.8**
comp=Z,6.6nm,0.6s,mb5.3,baz=266,slow=4.4,SNR=22
YKA pP pP 10 38 26.4 -1.6
comp=Z,78nm,1.1s,baz=269,slow=4.5,SNR=22
YKA PKKPbc PKKPbc 10 55 02.4 -3.2
comp=Z,1.1nm,0.5s,baz=78,slow=2.3,SNR=6.7
YKA LR LR 11 22 33.1
comp=Z,1µm,18.9s,MS5.3,baz=145,slow=36
YKA Yellowknife Ar 95.83 28 P **P** **10 38 12.9 -0.8**
YKA *PP pP 10 38 26.4 -1.6
YKA pmax pmax
comp=Z,7.0nm,0.6s
YKA MLR MLR
comp=Z,1µm,19.0s
YKA Yellowknife Ar 95.83 28 P **P** **10 38 12.9 -0.8**
YKA pP pP 10 38 26.4 -1.6
YKA PKKPbc PKKPbc 10 55 02.4 -3.2
YKA LR LR 11 22 33.1
DUG Dugway 95.86 50 P **P** **10 38 14.8 +0.4**
DUG *e*PP pP 10 38 27.9 -0.8
DUG pmax pmax
comp=Z,30nm,1.4s,mb5.5
DUG Dugway 95.86 50 P **P** **10 38 14.8 +0.3**
comp=Z,30nm,1.4s,mb5.5
DUG *ep*P pP 10 38 27.9 -0.8
CHMT Chamberlain Mo 95.90 44 *e*P **P** **10 38 13.7 -0.7**
CHMT *ep*P pP 10 38 27.3 -1.5
HVU Hansel Valley 95.98 49 *e*P **P** **10 38 15.0 +0.1**
HVU *e*PP pP 10 38 28.6 -0.6
HVU pmax pmax
comp=Z,28nm,0.9s,mb5.7
HVU Hansel Valley 95.98 49 *e*P **P** **10 38 15.0 +0.1**
comp=Z,28nm,0.9s,mb5.7
HVU *ep*P pP 10 38 28.6 -0.6
MCMT McKenzie Canyo 96.08 46 *e*P **P** **10 38 15.3 +0.1**
MCMT *ep*P pP 10 38 29.1 -0.5
EDM Edmonton 96.12 37 *e*P **P** **10 38 14.6 -0.7**
EDM *e*PP pP 10 38 28.5 -1.1
MVU Marysvale 96.23 52 PFAKE 10 38 30.0 +14
MVU LR LR
comp=Z,3µm,20.0s,MS5.8
MSU Marysvale 96.26 52 *e*P **P** **10 38 18.0 +1.7**
MSU *e*PP pP 10 38 31.8 +1.2
DLMT Dillon 96.28 45 *e*P **P** **10 38 15.9 -0.2**
comp=Z,20nm,1.0s,mb5.5
DLMT *ep*P pP 10 38 29.3 -1.2
NLU North Lily Min 96.41 51 *e*P **P** **10 38 16.1 -0.8**
NLU *ep*P pP 10 38 30.6 -0.6
WUAZ Wupatki 96.75 55 *e*P **P** **10 38 19.5 +0.9**
comp=Z,23nm,1.1s,mb5.5
MPU Maple Canyon 96.76 51 *e*P **P** **10 38 18.6 +0.1**
comp=Z,41nm,1.5s,mb5.6
MPU LR LR
comp=Z,3µm,21.0s,MS5.8
HWUT Hardware Ranch 96.87 49 *e*P **P** **10 38 19.9 +1.0**
comp=Z,12nm,0.8s,mb5.4
HWUT *ep*P pP 10 38 32.5 -0.7
HWUT LR LR
comp=Z,4µm,20.0s,MS5.9
JLU Jordanelle 96.92 50 *e*P **P** **10 38 19.4 +0.2**
LPIG La Paz 97.01 67 LR LR 11 16 23.4
comp=Z,3µm,19.5s,MS5.8,baz=315,slow=32
TUC Tucson 97.07 58 *e*P **P** **10 38 21.9 +1.8**
TUC pmax pmax
comp=Z,6.0nm,1.4s,mb4.8
TUC MLR MLR
comp=Z,3µm,20.0s,MS5.8
TUC Tucson 97.07 58 *e*P **P** **10 38 21.9 +1.8**
comp=Z,6.3nm,1.4s,mb4.8
TUC LR LR
comp=Z,3µm,20.0s,MS5.8
QLMT Earthquake Lak 97.09 46 *e*P **P** **10 38 20.2 +0.4**
QLMT *ep*P pP 10 38 33.9 -0.3
RRI2 Red Ridge 97.12 47 *e*P **P** **10 38 20.3 +0.3**
comp=Z,17nm,0.8s,mb5.5
DCID1 Drake Creek 97.23 47 *e*P **P** **10 38 21.8 +1.3**
comp=Z,28nm,1.0s,mb5.7
AHID Auburn Hatcher 97.26 48 PFAKE 10 38 30.0 +9.3
AHID LR LR
comp=Z,5µm,20.0s,MS6.0
TPAW Teton Pass 97.39 47 P **P** **10 38 21.1 -0.2**
comp=Z,30nm,1.3s,mb5.5
IMW Indian Meadow 97.41 47 *e*P **P** **10 38 21.4 +0.1**
comp=Z,18nm,1.2s,mb5.4
YMR Madison River 97.42 46 *e*P **P** **10 38 21.4 +0.1**
comp=Z,30nm,0.9s,mb5.7
YMR LR LR
comp=Z,7µm,22.0s,MS6.1
YFT Old Faithful 97.50 46 P **P** **10 38 22.7 +1.0**
YFT *ep*P pP 10 38 37.6 +1.5
SVE Sverdlovsk 97.51 326 *e*P pP 10 38 32.8 -3.0
SVE *e* 10 42 16.4
SVE pmax pmax
comp=Z,57nm,1.7s,mb5.8
SVE MLR MLR
comp=Z,2µm,21.0s,MS5.5
SNOW Snow King Moun 97.53 47 *e*P **P** **10 38 21.5 -0.5**
comp=Z,21nm,1.6s,mb5.4
SNOW *ep*P pP 10 38 35.9 -0.3
MOOW Moose Ponds 97.55 47 *e*P **P** **10 38 22.2 +0.2**
comp=Z,13nm,1.0s,mb5.4
MOOW *ep*P pP 10 38 35.5 -0.7
SRU San Rafael 97.58 51 *e*P **P** **10 38 22.2 0.0**
SRU *e*PP pP 10 38 36.4 -0.1
SRU pmax pmax
comp=Z,10.0nm,0.9s,mb5.3
SRU San Rafael 97.58 51 *e*P **P** **10 38 22.2 0.0**
comp=Z,10.0nm,0.9s,mb5.3
SRU *ep*P pP 10 38 36.4 -0.1
WBK Wadi Bani Khal 97.74 292 ⇑P **P** **10 38 32.3 +8.9**
SNR=14
LKWY Lake 97.82 46 PFAKE 10 38 30.0 +6.8
LKWY LR LR
comp=Z,6µm,21.0s,MS6.0
AB31 Akbulak array 97.90 319 *i* P **P** **10 38 20.7 -2.7**
EGMT Eagleton 98.30 42 *e*P **P** **10 38 24.6 -0.7**
comp=Z,24nm,0.9s,mb5.7
GCMT Greycliff 98.35 45 *e*P **P** **10 38 27.0 +1.5**
GCMT *ep*P pP 10 38 39.7 -0.2
BW06 Boulder Array 98.40 48 PFAKE 10 38 40.0 +14
BW06 LR LR
comp=Z,5µm,19.0s,MS6.0
PDAR Pinedale Array 98.40 48 P **P** **10 38 25.0 -0.8**
comp=Z,3.9nm,0.8s,mb5.0,baz=236,slow=1.9,SNR=22
PDAR pP pP 10 38 38.5 -1.6
comp=Z,13nm,1.0s,baz=245,slow=1.9,SNR=16
PDAR PP PP 10 42 33.3 +6.9
comp=Z,2.5nm,1.0s,baz=264,slow=8.9,SNR=3.7
PDAR PKKPbc PKKPbc 10 54 55.9 -1.9
comp=Z,0.6nm,0.6s,baz=119,slow=5.2,SNR=3.8
PDAR LR LR 11 19 24.2
comp=Z,4µm,19.4s,MS5.9,baz=298,slow=33
BIDO Bidbid 98.57 293 ⇑P **P** **10 38 35.4 +8.4**
SNR=13
SMDO Samad 98.62 292 ⇑P **P** **10 38 35.7 +8.4**
SNR=7.2
RLMT Red Lodge 98.63 45 *e*P **P** **10 38 26.3 -0.5**
comp=Z,13nm,0.9s,mb5.5
RLMT *ep*P pP 10 38 41.0 -0.1
RLMT LR LR
comp=Z,3µm,20.0s,MS5.8
ARU Arti 98.66 326 *c i*P **P** **10 38 23.9 -2.7**
ARU 10 42 25.0
ARU S SKSac 10 48 59.2 -1.4
ARU SP SP 10 51 12.1 -4.9
ARU PS PS 10 51 22.6 -1.0
ARU SS SS 10 56 49.1 +11
ARU SSS 11 00 18.0
ARU pmax pmax
comp=Z,7.0nm,1.0s,mb5.2
ARU MLR MLR
comp=Z,1µm,22.0s,MS5.4
ARU Arti 98.66 326 *e*P **P** **10 38 23.4 -3.3**
comp=Z,84nm,1.6s,mb6.0
ARU LR LR
comp=Z,1µm,22.0s,MS5.4
MSEY Mahe Island 98.70 264 PFAKE 10 38 40.0 +12
MSEY LR LR
comp=Z,852nm,20.0s,MS5.2
PV01 Paradox Valley 99.08 52 *e*P **P** **10 38 29.8 +0.8**
PV01 *ep*P pP 10 38 44.5 +1.2
MVCO Mesa Verde 99.12 53 *e*P **P** **10 38 30.3 +1.1**
comp=Z,22nm,0.9s,mb5.7
AKTO Aktyubinsk 99.14 320 P **P** **10 38 22.8 -6.1**
AKTO pmax pmax
comp=Z,3.0nm,1.1s,mb4.7
NVL N'lazarevskaya 99.20 192 P pP 10 38 41.0 -2.2
NVL *e* 10 42 41.0
NVL pmax pmax
comp=Z,36nm,1.5s,mb5.7
NVL MLR MLR
comp=N,4µm,20.0s,MS6.1
NVL MLR MLR
comp=E,5µm,20.0s,MS6.1
NVL MLR MLR
comp=Z,9µm,20.0s,MS6.3
MAIT Maitri 99.22 192 *e*P pP 10 38 40.0 -3.2
HOQ Hoqain 99.32 293 ⇓P **P** **10 38 39.6 +9.2**
SNR=9.2
BSY Bisya 99.38 292 ⇑P **P** **10 38 38.8 +8.1**
SNR=7.1
SMCO Snowmass 100.34 51 *e*Pdif Pdif 10 38 32.5 -1.7
comp=Z,27nm,1.0s
HATD Hatta, Dubai 100.45 294 ⇑P Pdif 10 38 43.4 +8.7
SNR=8.7
LAO LASA Array 100.73 44 *e*Pdif Pdif 10 38 34.8 -1.2
comp=Z,26nm,1.3s
LAO LR LR
comp=Z,3µm,20.0s,MS5.8
ANMO Albuquerque 100.75 56 *e*P Pdif 10 38 36.7 +0.7
ANMO Albuquerque 100.75 56 PFAKE 10 38 50.0 +14
ANMO LR LR
comp=Z,3µm,20.0s,MS5.7
SNAA Sanae 100.79 187 *e*Pdiff Pdif 10 38 35.1 -1.1
SNAA *e* 10 38 44.0
SNAA *e* 10 38 47.8
SNAA *e* 10 38 54.8
SNAA Sanae 100.79 187 *e*P Pdif 10 38 34.3 -1.9
SNAA pmax pmax
comp=Z,40nm,1.3s
SNAA Sanae 100.79 187 *e*Pdif Pdif 10 38 34.3 -1.9
comp=Z,40nm,1.3s
SDCO Great Sand Dun 101.51 53 PFAKE 10 38 50.0 +11
SDCO LR LR
comp=Z,4µm,20.0s,MS5.9
VNA3 Neumayer Olymp 101.92 185 *e*Pdiff Pdif 10 38 40.1 -1.1
VNA3 *e* 10 38 49.4
VNA3 *e* 10 38 52.8
VNA3 *e* 10 39 01.4
RBK Rabkut 101.93 287 ⇓P Pdif 10 38 51.3 +10
SNR=15
DGMT Dagmar 102.00 42 *e*Pdif Pdif 10 38 42.4 +0.8
comp=Z,16nm,1.1s
DGMT *ep*P 10 38 55.0
VNA2 Neumayer--Watz 102.01 186 *e*Pdiff Pdif 10 38 40.0 -1.6
VNA2 *e* 10 38 49.7
VNA2 *e* 10 38 53.8
VNA2 *e* 10 39 01.8
VNA1 Neumayer--Stat 102.36 186 *e*Pdiff Pdif 10 38 43.4 +0.2
VNA1 *e* 10 38 55.3
VNA1 *e* 10 39 03.8
WHFO Wadi Hawf 102.36 287 ⇓P Pdif 10 38 53.0 +10
SNR=14
RSSD Black Hills 102.39 46 *e*P Pdif 10 38 43.4 +0.1
RSSD pmax pmax
comp=Z,12nm,0.8s
RSSD MLR MLR
comp=Z,7µm,21.0s,MS6.1
RSSD Black Hills 102.39 46 *e*Pdif Pdif 10 38 43.4 +0.1
comp=Z,12nm,0.8s
RSSD *ep*P 10 38 56.8
RSSD LR LR
comp=Z,7µm,21.0s,MS6.1
FFC Flin Flon 102.77 35 PFAKE 10 39 00.0 +15
FFC LR LR
comp=Z,4µm,20.0s,MS5.9
ABTO Aybut 102.79 286 ⇓P Pdif 10 38 54.9 +10
SNR=7.4
TXAR Lajitas Array 103.12 61 Pdiff Pdif 10 38 50.8 +4.2
comp=Z,0.7nm,0.8s,baz=240,slow=4.3,SNR=4.1
TXAR PKiKP PKiKP 10 43 06.3 -0.6
comp=Z,1.9nm,1.1s,baz=183,slow=1.8,SNR=3.6
TXAR PKKPbc PKKPbc 10 54 41.9 -1.8
comp=Z,1.6nm,0.7s,baz=128,slow=5.8,SNR=9.5
TXAR PKPPKP 11 02 59.4
comp=Z,0.5nm,1.0s,baz=82,slow=1.9,SNR=3.7
TXAR Lajitas Array 103.12 61 P Pdif 10 38 50.8 +4.2
TXAR *i* 10 43 06.3
TXAR pmax pmax
comp=Z,1.0nm,0.8s
PMSA Palmer Station 103.49 164 PFAKE 10 39 00.0 +12
PMSA LR LR
comp=Z,4µm,20.0s,MS6.0
ABPO Ambohimpanom 104.38 249 PFAKE 10 39 00.0 +7.9
ABPO LR LR
comp=Z,2µm,20.0s,MS5.6
OPO Ambohidratompo 104.50 249 PKiKP PKiKP 10 43 08.6 -1.1
comp=Z,2.2nm,0.9s,baz=59,slow=5.9,SNR=3.3
AMTX Amarillo 104.68 56 PFAKE 10 39 10.0 +17
AMTX LR LR
comp=Z,3µm,21.0s,MS5.8
KBS Kingsbay 105.08 353 *e* PS 10 52 38.2 +7.2
KBS *e*SS SS 10 58 06.9 +0.7
KBS AMS AMS 11 26 55.6
comp=Z,2µm,20.5s,MS5.6
KBS Kingsbay 105.08 353 PFAKE 10 43 20.0 +11
KBS LR LR
comp=Z,2µm,21.0s,MS5.6
CBKS Cedar Bluff 105.99 52 PFAKE 10 43 20.0 +8.2
CBKS LR LR
comp=Z,4µm,21.0s,MS6.0
LVZ Lovozero 106.85 340 PFAKE 10 43 20.0 +7.4
LVZ LR LR
comp=Z,1µm,21.0s,MS5.4
MAK Makhachkala 106.91 313 *e*P Pdif 10 38 59.7 -3.7
MAK *e* 10 43 33.4
MAK *e* 10 49 37.7
MAK *i* SP SP 10 52 44.8 +0.1
MAK *e*SS SS 10 58 32.0 -1.0
MAK pmax pmax
comp=Z,132nm,1.3s
ULM Lac du Bonnet 107.16 39 PFAKE 10 43 20.0 +6.4
ULM LR LR
comp=Z,8µm,21.0s,MS6.3
BJO Bjornoya 107.22 349 AMS AMS 11 27 24.4
comp=Z,1µm,21.8s,MS5.4
APA Apatity 107.42 340 *e*P Pdif 10 39 00.0 -5.7
APA MLR MLR
comp=Z,3µm,24.0s,MS5.8
ECSD EROS,Sioux Fal 107.76 46 PKiKP PKiKP 10 43 13.8 -1.1
MIB Mutribah 108.24 299 *e*P Pdif 10 39 19.3 +10
baz=299
MIB AMb AMB 10 39 23.2
comp=Z,30nm,1.1s,baz=299
KEV Kevo 108.32 343 PFAKE 10 43 30.0 +15
KEV LR LR
comp=Z,2µm,20.0s,MS5.5
NAAY Al-Naaiem 108.35 299 *e*P Pdif 10 39 19.5 +10
baz=299
NAY AMb AMB 10 39 23.6
comp=Z,19nm,1.0s,baz=299
RST Umm Al-Ruwaisa 108.55 299 *e*P Pdif 10 39 20.3 +10
baz=299
RST AMb AMB 10 39 23.5
comp=Z,28nm,1.6s,baz=299
ARCES ARCESS Array B 108.87 343 PKiKP PKiKP 10 43 14.5 -1.8
comp=Z,5.2nm,1.0s,baz=15,slow=3.7,SNR=2.9
GNI Garni 109.34 310 PFAKE 10 43 30.0 +12
GNI LR LR
comp=Z,522nm,20.0s,MS5.1
HKT Hockley 109.91 61 PFAKE 10 43 30.0 +11
HKT LR LR
comp=Z,4µm,19.0s,MS6.0
KIV Kislovodsk 110.21 315 *e*P Pdif 10 39 10.4 -7.7
KIV *e* 10 49 47.2
KIV *e*PS PS 10 53 17.7 -6.7
KIV *e*SS SS 10 59 17.1 -0.3
KIV pmax pmax
comp=Z,8.0nm,0.9s
KIV Kislovodsk 110.21 315 PFAKE 10 43 30.0 +10
KIV LR LR
comp=Z,820nm,21.0s,MS5.3
JOF Joensuu 110.36 336 *ep* Pdif 10 39 28.5 +10
comp=Z,17nm,0.9s
JOF Joensuu 110.36 336 *ep* 10 43 31.0
comp=Z,13nm,1.1s
JOF Joensuu 110.36 336 *e*P Pdif 10 39 28.5 +10
JOF pmax pmax
comp=Z,17nm,0.9s
BHD Baghdad 110.48 303 *ex* x 10 43 17.0
TRO Tromso 110.61 345 *e*PP PP 10 44 00.7 +4.6
TRO AMS AMS 11 29 31.4
comp=Z,1µm,22.7s,MS5.5
NATX Nacogdoches 110.76 59 PFAKE 10 43 30.0 +9.0
NATX LR LR
comp=Z,3µm,20.0s,MS5.8
VSR Storozhevoye 110.80 323 *e*PKIKP 10 43 34.0
VSR pmax pmax
comp=Z,4.0nm,1.0s
VSR pmax pmax
comp=N,3.0nm,0.6s
VSR pmax pmax
comp=E,5.0nm,0.8s
OBN Obninsk 111.06 327 ⇑ *i*PKIKP PKiKP 10 43 28.5 +7.7
OBN *i* 10 43 59.1
OBN *e* 10 49 51.6
OBN pmax pmax
comp=Z,9.0nm,0.5s
OBN Obninsk 111.06 327 PFAKE 10 43 30.0 +9.2
OBN LR LR
comp=Z,2µm,20.0s,MS5.6
SOC Sochi 112.39 315 *i* PKIKP PKiKP 10 43 21.7 -2.0
SOC *e* 10 43 38.8
SOC *e* 10 44 07.7
SOC *e*PPP 10 46 29.9
SOC *e* 10 50 00.2
SOC *e*PS PS 10 53 42.1 -2.4
SOC *e*SS SS 10 59 42.5 -4.0
SOC *e*SSS 11 03 56.5
SOC pmax pmax
comp=Z,3.0nm,0.4s
SOC MLR MLR
comp=Z,617nm,20.0s,MS5.2
CCM Cathedral Cave 112.70 51 PKIKP PKiKP 10 43 23.8 -0.7
CCM *e* 10 43 36.5
CCM MLR MLR
comp=Z,4µm,20.0s,MS6.0
KAF Kangasniemi 112.78 336 *ep* Pdif 10 39 39.9 +10
comp=Z,9.5nm,0.9s
KAF Kangasniemi 112.78 336 *ep* 10 43 36.3
comp=Z,6.1nm,0.8s
KAF Kangasniemi 112.78 336 *e*P Pdif 10 39 39.9 +10
KAF pmax pmax
comp=Z,10.0nm,0.9s
VBMS Vicksburg 114.20 58 PFAKE 10 43 40.0 +12
VBMS LR LR
comp=Z,2µm,20.0s,MS5.8
SIUC Southern Illin 114.33 51 PKiKP PKiKP 10 43 27.2 -0.4
JMIC Jan Mayen 114.53 354 *e*PP PP 10 44 20.9 -3.0
JMIC AMS AMS 11 29 10.0
comp=Z,506nm,22.0s,MS5.1
PAYG Puerto Ayora 114.69 94 PFAKE 10 43 40.0 +11
PAYG LR LR
comp=Z,1µm,19.0s,MS5.5
OXF Oxford 114.77 55 PFAKE 10 43 40.0 +11
OXF LR LR
comp=Z,3µm,21.0s,MS5.9
USIN University of 115.48 51 *e*PKPdf PKPdf 10 43 27.4 -2.4
USIN *ep*PKPdf pPKPdf 10 43 41.7 -2.9
WVT Waverly 115.74 53 *e*PKIKP PKPdf 10 43 28.5 -1.9
WVT MLR MLR
comp=Z,2µm,20.0s,MS5.7
EFI East Falkland 115.76 158 PFAKE 10 43 40.0 +10
EFI LR LR
comp=Z,1µm,20.0s,MS5.5
BLO Bloomington 116.08 49 *e*PKIKP PKPdf 10 43 29.3 -1.6
NSS Namsos 116.16 343 AMS AMS 11 32 39.9
comp=Z,2µm,22.9s,MS5.7
WCI Wyandotte Cave 116.48 50 *e*PKIKP PKPdf 10 43 30.1 -1.6
WCI MLR MLR
comp=Z,4µm,22.0s,MS6.0
AKASG Malin Array Be 116.86 325 PKP PKPdf 10 43 30.7 -1.3
comp=Z,1.4nm,0.6s,baz=60,slow=2.0,SNR=4.6
AKASG pPKP pPKPdf 10 43 45.0 -1.8
comp=Z,14nm,0.8s,baz=65,slow=2.2,SNR=15
AKASG PKKPbc PKKPbc 10 53 57.8 -2.1
comp=Z,0.5nm,0.3s,baz=261,slow=4.1,SNR=4.4
AKASG PKKPab PKKPab 10 54 02.6 +0.3
comp=Z,0.7nm,0.4s,baz=257,slow=3.8,SNR=5.2
AKASG Malin Array Be 116.86 325 PKIKP PKPdf 10 43 30.7 -1.3
AKASG 10 43 45.0
AKASG pmax pmax
comp=Z,1.0nm,0.6s
KIEV Kiev 116.87 325 PFAKE 10 43 40.0 +7.9
KIEV LR LR
comp=Z,2µm,21.0s,MS5.6
ASF Jabal al Asfar 116.88 303 PP PP 10 44 48.1 +6.2
comp=Z,3.5nm,0.8s,baz=126,slow=2.7,SNR=5.1
SFJD Kangerlussuaq 116.95 11 *e*PKIKP PKPdf 10 43 36.4 +4.6
SFJD *i* 10 54 13.7
SFJD *i* S PS 10 54 26.6 +1.6
SFJD pmax pmax
comp=Z,11nm,0.9s
SFJD MLR MLR
comp=Z,2µm,19.0s,MS5.6
SFJD Kangerlussuaq 116.95 11 *i* P PKPdf 10 43 36.4 +4.6
comp=Z,11nm,0.9s
SFJD *i* 10 54 13.7
SFJD *i* S PS 10 54 26.6 +1.6
SFJD
comp=Z,1µm,19.0s
SFJD Kangerlussuaq 116.95 11 PFAKE 10 43 40.0 +8.2
SFJD LR LR
comp=Z,2µm,19.0s,MS5.7
LRAL Lakeview Retre 117.00 56 *e*PKPdf PKPdf 10 43 31.0 -1.9
LRAL *ep*PKPdf pPKPdf 10 43 44.2 -3.4
LRAL LR LR
comp=Z,4µm,20.0s,MS6.0
KMBO Kilima Mbogo 117.21 265 P pPKPdf 10 43 47.9 -0.7
SNR=6.0
KMBO Kilima Mbogo 117.21 265 PKP PKPdf 10 43 32.8 -1.1
comp=Z,1.5nm,0.5s,baz=228,slow=24,SNR=3.2
KMBO pPKP pPKPdf 10 43 47.4 -1.2
comp=Z,14nm,0.9s,baz=20,slow=4.4,SNR=17
KMBO Kilima Mbogo 117.21 265 PKIKP PKPdf 10 43 32.8 -1.0
KMBO 10 43 47.4
KMBO pmax pmax
comp=Z,2.0nm,0.5s
KMBO Kilima Mbogo 117.21 265 PKPdf PKPdf 10 43 31.5 -2.3
KMBO *ep*PKPdf pPKPdf 10 43 46.9 -1.7
KMBO LR LR
comp=Z,1µm,20.0s,MS5.5
AAM Ann Arbor 117.33 45 *e*PKIKP PKPdf 10 43 33.1 -0.1
AAM *e* 10 43 45.2
PLCA Paso Flores 117.39 143 PKP PKPdf 10 43 32.4 -1.1
comp=Z,1.6nm,0.6s,baz=244,slow=2.1,SNR=6.8
PLCA PKKPab PKKPab 10 54 00.8 -0.5
comp=Z,1.3nm,0.9s,baz=155,slow=2.8,SNR=3.0
PLCA Paso Flores 117.39 143 *e*PKPdf PKPdf 10 43 32.4 -1.0
PLCA LR LR
comp=Z,1µm,22.0s,MS5.5
TEIG Tepich 117.42 71 PFAKE 10 43 50.0 +16
TEIG LR LR
comp=Z,2µm,21.0s,MS5.7
SWET Sewanee 117.44 54 *e*PKPdf PKPdf 10 43 32.4 -1.3
SWET *ep*PKPdf pPKPdf 10 43 44.5 -3.9
BR131 Keskin Array S 117.77 312 *e*PKPdf PKPdf 10 43 32.6 -1.6
BR131 LR LR
comp=Z,359nm,20.0s,MS5.0
ANTO Ankara 118.36 312 ⇓P pPKPdf 10 43 49.9 -0.2
SNR=5.3
ANTO Ankara 118.36 312 ⇑PKIKP pPKPdf 10 43 47.3 -2.7
ANTO Ankara 118.36 312 PFAKE 10 43 50.0 +15
ANTO LR LR
comp=Z,451nm,21.0s,MS5.1
ACSO Alum Creek Sta 118.43 47 *e*PKPdf PKPdf 10 43 33.6 -1.8
ACSO *ep*PKPdf pPKPdf 10 43 47.5 -2.7
CPCT Cooper Cave 118.51 53 *e*PKPdf PKPdf 10 43 33.8 -1.9
CPCT *ep*PKPdf pPKPdf 10 43 46.9 -3.6
SUW Suwalki 118.53 330 *e*PKP pPKPdf 10 43 47.6 -2.3
SUW *e*SP SP 10 54 34.0 +1.0
SUW LMZ 11 34 48.3
comp=Z,2µm,23.2s
SUW Suwalki 118.53 330 *e*PKIKP pPKPdf 10 43 47.6 -2.3
SUW *e*SP SP 10 54 34.0 +0.9
SUW MLR MLR
comp=Z,2µm,23.2s,MS5.5
HFS Hagfors 118.79 339 PKP PKPdf 10 43 34.0 -1.5

comp=Z,0.6nm,0.5s,baz=62,slow=15,SNR=3.2
HFS pPKP pPKPdf 10 43 48.7 -1.5
comp=Z,5.1nm,0.8s,baz=126,slow=4.0,SNR=7.4
HFS PKKPbc PKKPbc 10 53 53.1 -0.2
comp=Z,3.2nm,0.9s,baz=118,slow=5.7,SNR=3.7
MOL Molde 118.94 343 AMS AMS 11 36 09.8
comp=Z,1μm,20.9s,MS5.5
NB2 NORSAR Subarra118.98 341 PKPdf pPKPdf 10 43 46.5 -4.1
comp=Z,4.5nm,0.8s,baz=39,slow=1.9
NB2 NORSAR Subarra118.98 341 PKPdf pPKPdf 10 43 46.5 -4.1
baz=39,slow=1.9
NOA NORSAR Array B118.98 341 PKP PKPdf 10 43 34.0 -1.8
comp=Z,0.9nm,0.7s,baz=41,slow=1.9,SNR=3.6
NOA pPKP pPKPdf 10 43 47.8 -2.7
comp=Z,6.8nm,0.8s,baz=46,slow=1.9,SNR=15
NOA NORSAR Array B118.98 341 PKIKP PKPdf 10 43 34.0 -1.8
NOA 10 43 47.8
NOA pmax pmax
comp=Z,1.0nm,0.7s
NOA NORSAR Array B118.98 341 PKP PKPdf 10 43 34.0 -1.8
NOA pPKP pPKPdf 10 43 47.8 -2.7
TZTN Tazewell 119.01 52 *e*PKPdf PKPdf 10 43 35.5 -1.1
TZTN *ep*PKPdf pPKPdf 10 43 48.6 -2.8
TZTN LR LR
comp=Z,4μm,20.0s,MS6.1
TKL Tuckaleechee C 119.05 53 PKP PKPdf 10 43 35.1 -1.6
comp=Z,8.1nm,0.8s,baz=160,slow=5.4,SNR=12
TKL pPKP pPKPdf 10 43 48.9 -2.6
comp=Z,50nm,1.0s,baz=179,slow=3.5,SNR=22
TKL Tuckaleechee C 119.05 53 *e*PKPdf PKPdf 10 43 35.4 -1.4
TKL *ep*PKPdf pPKPdf 10 43 48.4 -3.1
CSS Prodhromos 119.23 307 PFAKE 10 43 50.0 +13
CSS LR LR
comp=Z,1μm,22.0s,MS5.5
NAO01 NORSAR Array S119.24 341 PFAKE 10 43 50.0 +14
NAO01 LR LR
comp=Z,2μm,20.0s,MS5.7
TLCR 119.34 319 ⇑PKIKP pPKPdf 10 43 50.1 -1.6
GOGA Godfrey 119.83 55 *e*PKIKP PKPdf 10 43 36.7 -1.6
GOGA *e* 10 43 49.9
ERPA Erie 119.97 45 PFAKE 10 43 50.0 +12
ERPA LR LR
comp=Z,4μm,22.0s,MS6.0
LVV L'vov 120.23 325 *e*PKIKP pPKPdf 10 43 52.6 -0.7
LVV MLR MLR
comp=N,200nm,24.0s,MS5.2
LVV MLR MLR
comp=E,600nm,24.0s,MS5.2
LVV MLR MLR
comp=Z,900nm,24.0s,MS5.3
BOSA Boshof 120.28 232 PKP PKPdf 10 43 38.4 -1.0
comp=Z,6.8nm,0.6s,baz=64,slow=1.4,SNR=18
BOSA pPKP pPKPdf 10 43 51.6 -2.5
comp=Z,30nm,0.7s,baz=112,slow=1.3,SNR=21
BOSA PKKPab PKKPab 10 53 47.9 -0.8
comp=Z,2.9nm,0.8s,baz=50,slow=4.7,SNR=4.7
BOSA Boshof 120.28 232 *e*PKPdf PKPdf 10 43 38.9 -0.4
BOSA *ep*PKPdf pPKPdf 10 43 52.0 -2.0
BOSA LR LR
comp=Z,3μm,20.0s,MS6.0
VRI Vrincioaia 120.41 320 ⇓PKIKP pPKPdf 10 43 52.9 -0.9
KONO Kongsberg 120.56 340 *e*PP PP 10 45 03.3 -2.7
KONO AMS AMS 11 37 11.6
comp=Z,2μm,22.1s,MS5.6
BURAR Bucovina Array 120.58 323 ⇑PKIKP pPKPdf 10 43 53.5 -0.6
JTS JuntasAbangare 120.83 82 PFAKE 10 43 50.0 +9.3
JTS LR LR
comp=Z,1μm,19.0s,MS5.5
MCWV Mont Chateau 120.90 47 *e*PKPdf PKPdf 10 43 39.9 -0.3
MCWV LR LR
comp=Z,5μm,21.0s,MS6.2
KWP Kalwaria 121.07 326 *e*PKP pPKPdf 10 43 53.0 -1.9
KWP LMZ 11 34 17.0
comp=Z,1μm,26.1s
KWP Kalwaria 121.07 326 PFAKE 10 43 50.0 +10
KWP LR LR
comp=Z,1μm,22.0s,MS5.6
MLR Muntele Rosu 121.07 320 PKP PKPdf 10 43 39.8 -0.5
comp=Z,1.8nm,0.5s,baz=127,slow=17,SNR=4.3
MLR pPKP pPKPdf 10 43 53.2 -1.8
comp=Z,24nm,1.1s,baz=337,slow=3.4,SNR=12
BLA Blacksburg 121.24 50 *e*PKIKP PKPdf 10 43 39.1 -1.8
BLA *e* 10 43 52.4
BER Bergen 121.33 343 *e*PP PP 10 45 11.7 +0.6
BER AMS AMS 11 37 07.9
comp=Z,1μm,21.4s,MS5.4
JSC Jenkinsville 121.40 54 *e*PKIKP PKPdf 10 43 40.4 -0.9
JSC *e* 10 43 53.5
LBTB Lobatse 121.60 236 *e*PKIKP PKPdf 10 43 40.5 -1.5
LBTB *e* 10 43 54.1
LBTB MLR MLR
comp=Z,2μm,21.0s,MS5.8
KOLS Kolonicke sedl 121.67 325 *e*PKP PKPdf 10 43 41.1 -0.3
KOLS *e* 10 43 54.8
KOLS *e* 10 53 53.6
KOLS *e* 10 57 40.2
KOLS *e* 11 06 54.5
KOLS Kolonicke sedl 121.67 325 *e*PKP PKPdf 10 43 41.1 -0.3
KOLS *e* 10 43 54.8
SUR Sutherland 121.72 226 PFAKE 10 43 50.0 +8.0
SUR LR LR
comp=Z,3μm,21.0s,MS5.9
UZH Uzhgorod 121.81 325 *e*PKIKP pPKPdf 10 43 55.5 -0.9
UZH *e* 10 44 06.5
UZH *i* 10 44 11.9
SSPA Standing Stone 121.97 46 *e*PKPdf PKPdf 10 43 40.8 -1.4
SSPA *ep*PKPdf pPKPdf 10 43 54.5 -2.4
SSPA LR LR
comp=Z,3μm,21.0s,MS5.9
STHS Stebnicka Huta 121.99 326 *e*PKP PKPdf 10 43 42.2 +0.2
STHS *e* 10 43 55.0
STHS *e* 10 53 51.5
STHS *e* 10 57 32.4
STHS Stebnicka Huta 121.99 326 *e*PKP PKPdf 10 43 42.2 +0.2
STHS *e* 10 43 55.0
CRVS Cervenica-Dubn 122.14 325 *e*PKP PKPdf 10 43 41.8 -0.5
CRVS *e* 10 43 55.6
CRVS *e* 10 53 48.4
CRVS Cervenica-Dubn 122.14 325 *e*PKP PKPdf 10 43 41.8 -0.5
CRVS *e* 10 43 55.6
OJC Ojcow 122.35 327 *e*PKPdf PKPdf 10 43 41.4 -1.2
OJC *ep*PKPdf pPKPdf 10 43 55.2 -2.2
OJC *e*PP PP 10 45 21.5 +3.0
OJC *e*SP SP 10 55 10.1 +2.8
OJC L 11 39 12.1
comp=Z,1.2nm,22.6s
OJC Ojcow 122.35 327 *e*PKIKP PKPdf 10 43 41.4 -1.2
OJC *e* 10 43 55.2
OJC *e* 10 45 21.5
OJC *e*SP SP 10 55 10.1 +2.8
NIE Niedzica 122.51 326 *e*PKPdf PKPdf 10 43 43.6 +0.7
NIE *ep*PKPdf pPKPdf 10 43 56.7 -1.0
NHSC New Hope 122.57 55 PFAKE 10 43 50.0 +6.4
NHSC LR LR
comp=Z,3μm,20.0s,MS6.0
LONY Lake Ozonia 122.59 40 *e*PKPdf PKPdf 10 43 42.7 -0.5
LONY *ep*PKPdf pPKPdf 10 43 55.2 -2.8
DWPF Disney 122.65 61 PFAKE 10 43 50.0 +6.1
DWPF LR LR
comp=Z,2μm,21.0s,MS5.8
BINY Binghamton 122.70 43 PFAKE 10 43 50.0 +6.5
BINY LR LR
comp=Z,3μm,20.0s,MS6.0
LSZ Lusaka 122.91 247 *e*PKIKP PKPdf 10 43 44.5 -0.2
LSZ *e* 10 43 57.5
LSZ MLR MLR
comp=Z,2μm,21.0s,MS5.8
GZR Gura Zlata 123.10 321 ⇓PKIKP pPKPdf 10 43 57.0 -2.0
NCB Newcomb 123.11 41 *e*PKPdf PKPdf 10 43 43.0 -1.3
NCB LR LR
comp=Z,7μm,21.0s,MS6.3
FRNY Flat Rock 123.13 39 *e*PKPdf PKPdf 10 43 42.7 -1.6
FRNY *ep*PKPdf pPKPdf 10 43 55.7 -3.3
SDMD Soldier's Deli 123.17 47 *e*PKPdf PKPdf 10 43 42.3 -1.3
SDMD *ep*PKPdf pPKPdf 10 43 56.9 -2.4
CBN Corbin 123.21 48 *e*PKPdf PKPdf 10 43 43.0 -1.7
CBN *ep*PKPdf pPKPdf 10 43 56.8 -2.6
CBN LR LR
comp=Z,5μm,20.0s,MS6.2
MVL Millersville 123.30 46 *e*PKPdf PKPdf 10 43 43.9 -0.9
MVL *ep*PKPdf pPKPdf 10 43 57.3 -2.2
URVA University of 123.30 49 *e*PKPdf PKPdf 10 43 43.5 -1.4
URVA *ep*PKPdf pPKPdf 10 43 56.8 -2.8
OKC Ostrava-Krasne 123.44 328 *e*PKIKP pPKPdf 10 43 58.1 -1.4
OKC *e* 10 44 13.2
OKC *e* 10 45 34.3
OKC *e*PS PS 10 55 26.0 +2.3
OKC MLR MLR
comp=Z,1μm,22.5s,MS5.5
OKC Ostrava-Krasne 123.44 328 *ep*PKP pPKPdf 10 43 58.1 -1.4
OKC *ex* x 10 44 13.2
OKC *e*PP PP 10 45 34.3 +8.4
OKC *ex* x 10 53 46.7
OKC *e*PS PS 10 55 26.0 +2.3
OKC *ex* x 11 02 51.9
OKC AMS AMS 11 36 40.0
comp=Z,1μm,22.5s
PSZ Piszkesteto 123.55 325 PKIKP PKPdf 10 43 44.3 -0.7
PSZ *e* 10 43 57.4
PSZ MLR MLR
comp=Z,2μm,22.0s,MS5.6
PSZ Piszkesteto 123.55 325 *ep*PKP pPKPdf 10 43 58.1 -1.6
BZS Buzias 123.71 322 PKIKP pPKPdf 10 43 58.1 -2.0
MDV Middlebury 123.77 40 *e*PKPdf PKPdf 10 43 44.5 -1.0
MDV *ep*PKPdf pPKPdf 10 43 57.7 -2.6
CNNC Cliffs of the 123.79 52 *e*PKPdf PKPdf 10 43 45.0 -0.9
CNNC *ep*PKPdf pPKPdf 10 43 57.9 -2.7
MORC Moravsky Berou 123.80 328 *e*PKIKP PKPdf 10 43 45.3 -0.1
KSP Ksiaz 123.80 330 *e*PKP pPKPdf 10 43 59.7 -0.5
KSP *e*PP PP 10 45 32.4 +4.1
KSP LMZ 11 37 38.5
comp=Z,5μm,23.1s
KSP Ksiaz 123.80 330 *e*PKIKP pPKPdf 10 43 58.4 -1.7
KSP *e* 10 45 26.0
KSP *e*SP SP 10 55 19.0 -1.1
KSP *e*SS SS 11 02 14.0 +0.8
KSP MLR MLR
comp=Z,5μm,23.1s,MS6.1
VYHS Vyhne 123.83 326 *e*PKP PKPdf 10 43 44.4 -1.1
VYHS *e* 10 43 57.9
VYHS *ep*PP PP 10 45 26.0 -2.6
VYHS *e* 10 53 43.7
VYHS Vyhne 123.83 326 *e*PKP PKPdf 10 43 44.4 -1.1
VYHS *e* 10 43 57.9
VYHS *ep*PP PP 10 45 26.0 -2.6
LCO Las Campanas 123.90 131 *e*PKPdf PKPdf 10 43 45.5 -0.9
LCO LR LR
comp=Z,1μm,20.0s,MS5.6
KOLL Kolacno 124.02 326 *e*PKP pPKPdf 10 43 57.6 -3.0
KOLL *e* 10 44 13.7
DPC Dobruska-Polom 124.09 329 *e*PKIKP PKPdf 10 43 46.9 +0.9
DPC *e* 10 43 59.0
DPC *e* 10 45 31.0
DPC *e*PS PS 10 55 25.6 -3.8
DPC MLR MLR
comp=Z,2μm,24.2s,MS5.8
DPC Dobruska-Polom 124.09 329 *e*PKPDF PKPdf 10 43 46.9 +0.9
DPC *ep*PKP pPKPdf 10 43 59.0 -1.7
DPC *ex* x 10 44 14.7
DPC *e*PP PP 10 45 31.0 +0.8
DPC *ex* x 10 53 42.1
DPC *e*PS PS 10 55 25.6 -3.8
DPC *ex* x 11 02 51.5
DPC AMS AMS 11 36 50.0
comp=Z,2μm,24.2s
DPC Dobruska-Polom 124.09 329 *e*PKP PKPdf 10 43 46.9 +0.9
DPC *e* 10 43 59.0
DPC *e* 10 44 14.7
DPC *e*PP PP 10 45 31.0 +0.8
DPC *e*PS PS 10 55 25.6 -3.8
DPC *e*SS SS 11 02 51.5 +35
DPC LR LR
comp=Z,2μm,24.2s,MS5.8
UPC Upice 124.15 329 *e*PKIKP PKPdf 10 43 59.3 -1.5
UPC *e* 10 44 14.8
UPC Upice 124.15 329 *ep*PKP pPKPdf 10 43 59.3 -1.5
UPC *ex* x 10 44 14.8
UPC *ex* x 10 53 44.2
TRQA Tornquist 124.17 145 *e*PKPdf PKPdf 10 43 44.6 -1.9
TRQA *ep*PKPdf pPKPdf 10 43 58.4 -2.9
TRQA LR LR
comp=Z,899nm,19.0s,MS5.5
CFAA Coronel Fontan 124.28 135 PKP PKPdf 10 43 45.5 -1.4
comp=Z,0.5nm,0.6s,baz=264,slow=2.5
LBNH Lisbon 124.46 39 PFAKE 10 44 00.0 +13
LBNH LR LR
comp=Z,4μm,20.0s,MS6.1
HNH Hanover 124.48 40 PKPdf PKPdf 10 43 47.5 +0.5
HNH *ep*PKPdf pPKPdf 10 43 59.8 -1.8
BSEG Bad Segeberg 124.49 335 *e*PKPdf pPKPdf 10 43 59.4 -2.0
VRAC Vranov 124.57 328 PKP PKPdf 10 43 47.1 +0.1
comp=Z,2.4nm,0.4s,baz=90,slow=2.0,SNR=3.1
VRAC pPKP pPKPdf 10 44 00.3 -1.3
comp=Z,4.4nm,0.3s,baz=104,slow=2.8,SNR=5.1
VRAC Vranov 124.57 328 PKIKP PKPdf 10 43 47.1 +0.2
VRAC 10 44 00.3
VRAC pmax pmax
comp=Z,2.0nm,0.4s
MODS Modra-Piesok 124.75 327 *e*PKP pPKPdf 10 44 01.8 -0.2
MODS *e*PP PP 10 45 39.2 +4.5
PVCC Panska Ves 124.86 330 *e*PKIKP pPKPdf 10 44 02.1 -0.1
PVCC *e* 10 44 16.9
PVCC *e* 10 45 37.5
PVCC MLR MLR
comp=Z,1μm,26.3s,MS5.5
PVCC Panska Ves 124.86 330 *ep*PKP pPKPdf 10 44 02.1 -0.1
PVCC *ex* x 10 44 16.9
PVCC *e*PP PP 10 45 37.5 +2.2
PVCC AMS AMS 11 37 50.0
comp=Z,1μm,26.3s
BRG Berggiesshubel 124.94 331 *e*PKIKP PKPdf 10 43 47.6 0.0
BRG *i* 10 43 52.4
BRG S PS 10 55 34.0 -2.9
BRG pmax pmax
comp=Z,5.0nm,1.3s
BRG Berggiesshubel 124.94 331 *e*PKPdf pPKPdf 10 44 00.2 -2.1
BRG Berggiesshubel 124.94 331 *e*PDIF PKPdf 10 43 47.6 0.0
comp=Z,7.5nm,1.3s
BRG *i* 10 43 52.4
comp=Z,9.0nm,0.7s
BRG *i* 10 44 16.7
comp=Z,62nm,1.5s
BRG PP 10 47 57.0
BRG SDIF PS 10 55 34.0 -2.9
BRG SS SS 11 02 35.0 +7.4
BRG
comp=N,2μm,31.6s
BRG
comp=E,818nm,30.9s
BRG
comp=Z,1μm,27.3s
ZST Bratislava 124.95 327 *e*PKIKP pPKPdf 10 44 01.9 -0.5
ZST *e* 10 44 15.3
ZST MLR MLR
comp=Z,300nm,22.3s,MS4.9
ZST Bratislava 124.95 327 *e*PKP pPKPdf 10 44 01.9 -0.5
ZST *e* 10 44 15.3
VAY Valandovo 125.09 317 *e*PKP pPKPdf 10 43 59.8 -3.1
CLL Collm 125.11 332 *i* PKIKP PKPdf 10 43 47.3 -0.6
CLL *e* 10 44 00.0
CLL *e*PS PS 10 55 36.0 -2.3
CLL pmax pmax
comp=Z,4.0nm,0.9s
CLL MLR MLR
comp=Z,2μm,21.4s,MS5.7
CLL Collm 125.11 332 *e*PKPdf PKPdf 10 44 00.1 -2.5
CLL Collm 125.11 332 *e*PKPdf PKPdf 10 43 47.0 -0.9
comp=Z,4.0nm,0.9s
CLL *ex* x 10 44 00.0
CLL *i* pPKPdf pPKPdf 10 44 02.3 -0.3
comp=Z,39nm,0.9s
CLL *e*PP PP 10 45 38.0 +1.0
comp=Z,400nm,21.8s
CLL *e*(PKSdf) 10 47 06.0
CLL *e*PPP 10 48 24.0
CLL *e*SP SP 10 55 34.0 +2.5
CLL *e*PS PS 10 55 36.0 -2.3
CLL *e*PPS 10 57 07.0
CLL *e*PcPP 10 57 23.0
CLL *e*SKKPdf 10 57 38.0
CLL *e*PPPrev 11 00 53.0
CLL *e*SS SS 11 02 54.0 +24
CLL *e*SSS 11 07 24.0
CLL LmV 11 41 00.0
comp=Z,2μm,21.4s
CLL Collm 125.11 332 *i* PKP PKPdf 10 43 47.3 -0.6
CLL *ep*PKP pPKPdf 10 44 00.0 -2.6
CLL *e*PS PS 10 55 36.0 -2.3
CLL LR LR
comp=Z,2μm,21.4s,MS5.7
TREC Trest 125.16 329 *e*PKIKP pPKPdf 10 44 01.1 -1.7
TREC *e* 10 44 15.8
TREC *e* 10 45 41.0
TREC *e*SS SS 11 02 49.4 +19
TREC MLR MLR
comp=Z,2μm,22.4s,MS5.8
TREC Trest 125.16 329 *e*PKP pPKPdf 10 44 01.1 -1.7
TREC *ex* x 10 44 15.8
TREC *e*PP PP 10 45 41.0 +3.6
TREC *ex* x 10 53 40.6
TREC *ex* x 11 02 49.4
TREC AMS AMS 11 41 00.0
comp=Z,2μm,22.4s
PKSM Moragy 125.19 324 ⇓PKIKP pPKPdf 10 43 59.1 -3.8
PRU Pruhonice 125.21 330 *e*PKIKP pPKPdf 10 44 00.4 -2.5
PRU *e* 10 44 16.4
PRU *e* 10 45 39.2
PRU *e*PS PS 10 55 36.6 -2.7
PRU *e*SS SS 11 02 50.4 +19
PRU MLR MLR
comp=Z,1μm,23.1s,MS5.6
PRU Pruhonice 125.21 330 *ep*PKP pPKPdf 10 44 00.4 -2.5
PRU *ex* x 10 44 16.4
PRU *e*PP PP 10 45 39.2 +1.5
PRU *ex* x 10 53 40.2
PRU *e*PS PS 10 55 36.6 -2.7
PRU *ex* x 11 02 50.4
PRU AMS AMS 11 38 10.0
comp=Z,1μm,23.1s
ATAH Atahualpa 125.32 103 PKP PKPdf 10 43 50.2 +0.8
comp=Z,8.3nm,0.8s,baz=13,slow=2.3,SNR=5.9
HRV Adam Dziewonsk125.52 41 PFAKE 10 44 00.0 +11
HRV LR LR
comp=Z,6μm,20.0s,MS6.3
NNA Nana 125.54 109 PKP PKPdf 10 43 49.0 -0.8
comp=Z,6.2nm,0.8s,baz=272,slow=5.8,SNR=3.0
NNA Nana 125.54 109 PKP PKPdf 10 43 49.0 -0.8
NNA LR LR
comp=Z,1μm,21.0s,MS5.5
SKO Skopje 125.56 318 *e*PKP pPKPdf 10 44 02.5 -1.3
PKME Peaks-Kenny Pk 125.56 37 PFAKE 10 44 00.0 +11
PKME LR LR
comp=Z,5μm,20.0s,MS6.2
WES Weston 125.73 41 PKIKP PKPdf 10 43 49.5 +0.1
WES *e* 10 44 02.0
WES MLR MLR
comp=Z,4μm,20.0s,MS6.1
IDI Anoyia 125.75 309 PKP PKPdf 10 43 49.8 +0.1
comp=Z,4.8nm,0.6s,baz=325,slow=12,SNR=4.3
IDI pPKP pPKPdf 10 44 03.6 -0.8
comp=Z,50nm,1.1s,baz=185,slow=7.1,SNR=8.4
BRYW Bryant College 125.80 42 *e*PKPdf PKPdf 10 43 49.2 -0.3
BRYW *ep*PKPdf pPKPdf 10 44 02.5 -1.8
BCIP Isla Barro Col 125.84 83 *e*PKPdf PKPdf 10 43 48.7 -1.7
BCIP *ep*PKPdf pPKPdf 10 44 03.0 -2.1
CLZ Clausthal 125.95 334 *e*PKPdf pPKPdf 10 44 02.4 -1.8
KRUS Krusevo 125.96 318 *e*PKP pPKPdf 10 44 01.9 -2.7
TANN Tannenbergstha 125.96 331 *e*PKPdf pPKPdf 10 44 02.2 -2.1
NKC Novy Kostel 126.08 331 *e*PKIKP pPKPdf 10 44 02.8 -1.7
NKC *e* 10 44 19.4
NKC MLR MLR
comp=Z,2μm,25.3s,MS5.6
NKC Novy Kostel 126.08 331 *ep*PKP pPKPdf 10 44 02.8 -1.7
NKC *ex* x 10 44 19.4
NKC *ex* x 11 02 53.5
NKC AMS AMS 11 35 00.0
comp=Z,2μm,25.3s
MOX Moxa 126.21 332 *e*P pPKPdf 10 44 03.8 -1.0
comp=Z,33nm,1.4s
MOX *e* 10 44 16.6
MOX *e* 10 45 49.0
MOX *e* 10 46 22.9
MOX *e* 10 47 07.0
MOX
comp=Z,1μm,22.0s
MOX Moxa 126.21 332 *e*PKIKP pPKPdf 10 44 03.8 -1.0
MOX *e* 10 44 16.6
MOX *e* 10 45 49.0
MOX pmax pmax
comp=Z,33nm,1.4s
MOX MLR MLR
comp=Z,1μm,22.0s,MS5.5
MOX Moxa 126.21 332 *e*PKPdf pPKPdf 10 44 02.6 -2.2
KHC Kasperske Hory 126.24 329 *e*PKIKP PKPdf 10 43 50.6 +0.5
KHC *e* 10 44 02.6
KHC *e* 10 45 46.9
KHC *e*PS PS 10 55 38.6 -10
KHC *e*SS SS 11 03 12.5 +29
KHC MLR MLR
comp=Z,2μm,25.3s,MS5.7
KHC Kasperske Hory 126.24 329 *e*PKPDF PKPdf 10 43 50.6 +0.5
KHC *ep*PKP pPKPdf 10 44 02.6 -2.3
KHC *ex* x 10 44 18.4
KHC *e*PP PP 10 45 46.9 +2.3
KHC *e*PS PS 10 55 38.6 -10
KHC *ex* x 11 03 12.5
KHC AMS AMS 11 39 00.0
comp=Z,2μm,25.3s
GEC2 GERESS Array S 126.36 329 *e*PKIKP PKPdf 10 43 49.6 -0.8
GEC2 GERESS Array S 126.36 329 *e*PKPdf pPKPdf 10 44 02.9 -2.2
GERES GERESS Array B 126.36 329 PKP PKPdf 10 43 49.4 -1.0
comp=Z,4.7nm,1.0s,baz=45,slow=2.1,SNR=11
GERES pPKP pPKPdf 10 44 04.4 -0.7
comp=Z,16nm,0.8s,baz=48,slow=2.0,SNR=35
GERES GERESS Array B 126.36 329 PKIKP PKPdf 10 43 49.4 -1.0
GERES 10 44 04.4
GERES pmax pmax
comp=Z,5.0nm,1.0s
OHR Ohrid 126.38 318 *e*PKP pPKPdf 10 44 03.2 -2.2
KOGS Kog 126.43 325 *e*PKPdf pPKPdf 10 44 02.3 -3.0
ROTZ Rotzenmuhle 126.51 331 *e*PKPdf pPKPdf 10 44 03.5 -1.9
OTAV Otavalo 126.54 94 *e*PKPdf PKPdf 10 43 50.8 -1.0
OTAV LR LR
comp=Z,1μm,19.0s,MS5.6
WET Wettzell 126.58 330 *e*PKPdf pPKPdf 10 44 03.5 -2.0
IBBN Ibbenburen 126.74 335 *e*PKPdf pPKPdf 10 44 03.7 -2.0
WIT Witteveen 126.80 336 *e*PKIKP pPKPdf 10 44 05.5 -0.3
comp=Z,313nm,1.3s
WIT Witteveen 126.80 336 *ex* x 10 44 21.1
UBBA Unterbreizbach 126.83 333 *e*PKPdf pPKPdf 10 44 03.8 -2.1
TIR Tirane 126.89 318 PFAKE 10 44 00.0 +8.4
TIR LR LR
comp=Z,790nm,20.0s,MS5.4
SOKA Soboth 126.98 326 ⇑*i*pPKPdf pPKPdf 10 44 03.9 -2.4
comp=Z,38nm,1.2s
GRA1 Grafenberg Arr 127.04 331 *e*Pdif Pdif 10 40 35.1 +2.2
GRF Grafenberg Arr 127.04 331 *e*P Pdif 10 40 35.1 +2.2
GRF *e* 10 45 53.2
GRF *e* 10 50 59.8
GRF *e*PS PS 10 55 47.4 -7.9
GRF Grafenberg Arr 127.04 331 *e*Pdiff Pdif 10 40 35.1 +2.2
GRF *ep*PKPdf PKPdf 10 44 04.2 +13
GRF *e* 10 44 21.0
GRF *e*PP PP 10 45 53.2 +3.4
GRF *e*SKSac SKSac 10 50 59.8 +5.9
GRF *e*PS PS 10 55 47.4 -7.9
GRF *e*SS SS 11 03 01.5 +7.8
GRF *e*L 11 45 38.8
comp=Z,1μm,20.2s
WTSB Winterswijk 127.39 336 *e*PKiKP pPKPdf 10 44 05.1 -1.9
comp=Z,75nm,1.3s
WTSB Winterswijk 127.39 336 *ex* x 10 44 21.4
BUG Bochum--Univer 127.58 335 *e*PKPdf pPKPdf 10 44 05.1 -2.3
VISS Visnje 127.61 325 *e*PKPdf pPKPdf 10 44 05.4 -2.2
LJU Ljubljana 127.64 326 *e*PKPdf pPKPdf 10 44 05.7 -2.0
TNS Taunus Mts 127.96 333 *e*PKPdf pPKPdf 10 44 06.1 -2.0
VOJS Vojsko 128.00 326 *e*PKPdf pPKPdf 10 44 07.3 -1.1
VOJS *ep*PKPdf 10 44 22.0
EKA Eskdalemuir Ar 128.02 344 PKP PKPdf 10 43 53.9 +0.6
comp=Z,0.7nm,0.5s,baz=13,slow=7.4,SNR=6.9
EKA pPKP pPKPdf 10 44 06.3 -1.7
comp=Z,9.7nm,1.0s,baz=25,slow=2.2,SNR=9.1
EKA Eskdalemuir Ar 128.02 344 PKIKP PKPdf 10 43 53.9 +0.6
EKA 10 44 06.4
EKA pmax pmax
comp=Z,1.0nm,0.5s
EKA pmax pmax
comp=Z,10.0nm,1.0s
FUR Furstenfeldbru 128.03 330 *e*PKPdf pPKPdf 10 44 06.1 -2.2
ESK Eskdalemuir 128.05 344 PFAKE 10 44 00.0 +6.6

ESK				LR	LR			
	comp=Z,1μm,20.0s,MS5.6							
TRI	**Trieste**	**128.26**	**326**	PFAKE		10 44	10.0	+16
TRI				LR	LR			
	comp=Z,1μm,19.0s,MS5.6							
ABTA	**Abfaltersbach**	**128.31**	**328**	⇑*i*pPKPdf	pPKPdf	10 44	06.2	-2.7
	comp=Z,43nm,1.1s							
WTTA	**Wattenberg**	**128.44**	**329**	⇑*i*pPKPdf	pPKPdf	10 44	07.1	-2.0
	comp=Z,89nm,1.1s							
LVC	**Limon Verde**	**128.49**	**125**	*e*PKPdf	PKPdf	10 43	55.6	+0.4
LVC				LR	LR			
	comp=Z,2μm,20.0s,MS5.7							
ABH	**Alteburg**	**128.61**	**333**	PKP	PKPdf	10 43	55.1	+0.5
STU	**Stuttgart**	**128.64**	**331**	PKIKP	PKPdf	10 43	53.9	-0.8
STU				*e*		10 44	07.4	
STU	**Stuttgart**	**128.64**	**331**	*e*PKPdf	pPKPdf	10 44	07.3	-2.2
HGN	**Heimansgroeve**	**128.65**	**335**	*e*PKiKP	pPKPdf	10 44	07.6	-1.8
	comp=Z,44nm,1.4s							
HGN	**Heimansgroeve**	**128.65**	**335**	*ex*	x	10 44	24.1	
HGN	**Heimansgroeve**	**128.65**	**335**	*e*PP	PP	10 46	00.1	-0.1
MOTA	**Moosalm**	**128.66**	**329**	⇑*i*pPKPdf	pPKPdf	10 44	06.5	-3.0
	comp=Z,38nm,0.9s							
BEBN	**Eben Emael**	**128.73**	**335**	aPKPdf	pPKPdf	10 44	09.2	-0.4
MEM	**Membach**	**128.74**	**335**	PKPdf	PKPdf	10 43	54.1	-0.7
MEM				aPKPdf	pPKPdf	10 44	07.7	-1.9
RUP	**Ruppelstein**	**128.95**	**334**	PKIKP	PKPdf	10 43	55.5	+0.2
BCLA	**Clavier**	**129.17**	**335**	aPKPdf	pPKPdf	10 44	08.7	-1.7
UCC	**Uccle**	**129.27**	**336**	aPKPdf	pPKPdf	10 44	09.1	-1.5
SPAK	**Spaichingen-Ko**	**129.30**	**331**	PKP	PKPdf	10 43	54.6	-1.4
DAVA	**Damuels**	**129.32**	**330**	⇑*i*pPKPdf	pPKPdf	10 44	08.7	-2.1
	comp=Z,30nm,0.9s							
BFO	**Black Forest**	**129.36**	**332**	*e*PKPdf	pPKPdf	10 44	08.7	-2.1
BFO	**Black Forest**	**129.36**	**332**	PFAKE	pPKPdf	10 44	10.0	-0.8
BFO				LR	LR			
	comp=Z,1μm,20.0s,MS5.6							
WLF	**Walferdange**	**129.38**	**334**	*e*PKPdf	pPKPdf	10 44	09.3	-1.5
WLF	**Walferdange**	**129.38**	**334**	PFAKE		10 44	10.0	+14
WLF				LR	LR			
	comp=Z,2μm,21.0s,MS5.8							
SNF	**Seneffe**	**129.52**	**336**	aPKPdf	pPKPdf	10 44	09.7	-1.4
GIVF	**Givet**	**129.62**	**335**	⇑*i*PKP1	PKPdf	10 43	54.9	-1.6
	comp=Z,153nm,1.3s							
DAVOX	**Davos/Dischmat**	**129.66**	**329**	PKP	PKPdf	10 43	57.1	+0.3
	comp=Z,2.1nm,0.6s,baz=209,slow=17,SNR=4.1							
DAVOX				pPKP	pPKPdf	10 44	11.3	-0.2
	comp=Z,18nm,0.9s,baz=251,slow=3.3,SNR=10							
DAVOS	**Davos**	**129.66**	**329**	PKIKP	PKPdf	10 43	57.1	+0.4
DAVOS						10 44	11.3	
CDF	**Champ du Feu**	**129.79**	**332**	⇑*i*PKP1	PKPdf	10 43	54.8	-2.1
	comp=Z,109nm,1.6s							
FELD	**Feldberg im Sc**	**129.83**	**331**	PKP	PKPdf	10 43	56.6	-0.4
BAIF	**Baives**	**129.90**	**336**	⇑*i*PKP1	PKPdf	10 43	55.7	-1.4
	comp=Z,64nm,1.4s							
ECH	**Echery**	**129.99**	**332**	PKP	PKPdf	10 43	58.5	+1.2
TIP	**Timpagrande**	**130.02**	**317**	PFAKE		10 44	10.0	+12
TIP				LR	LR			
	comp=Z,1μm,22.0s,MS5.5							
TUE	**Stuetta**	**130.14**	**329**	*e*PKPdf	PKPdf	10 43	57.6	0.0
TUE				LR	LR			
	comp=Z,1μm,20.0s,MS5.6							
CUC	**Castrocucco**	**130.23**	**319**	PFAKE		10 44	10.0	+12
CUC				LR	LR			
	comp=Z,2μm,21.0s,MS5.7							
MOF	**Molkenrain**	**130.26**	**332**	PKP	PKPdf	10 43	59.2	+1.4
MOF	**Molkenrain**	**130.26**	**332**	PKP	PKPdf	10 43	56.6	-1.2
BBS	**Basel-Blauen**	**130.36**	**331**	PKIKP	PKPdf	10 43	54.6	-3.4
HINF	**Hinteralfeld**	**130.42**	**332**	*e*PKP1	PKPdf	10 43	55.8	-2.3
	comp=Z,145nm,1.4s							
HAU	**Haudompre**	**130.51**	**332**	*e*PKP1	PKPdf	10 43	56.3	-2.0
	comp=Z,133nm,1.4s							
HAU				*e*MLR	MLR			
	comp=Z,1μm,20.8s,MS5.3							
HAU	**Haudompre**	**130.51**	**332**	*e*PKP	PKPdf	10 43	56.3	-2.0
HAU				LR	LR			
	comp=Z,1μm,20.8s,MS5.6							
THEF	**They Montfort**	**130.52**	**333**	PKP	PKPdf	10 43	58.1	-0.2
THEF	**They Montfort**	**130.52**	**333**	PKP	PKPdf	10 43	57.5	-0.8
MEZF	**Maizieres J'vi**	**130.73**	**334**	*e*PKP1	PKPdf	10 43	57.1	-1.6
	comp=Z,249nm,1.5s							
LOMF	**Lomont**	**130.76**	**332**	PKP	PKPdf	10 43	59.2	+0.4
LOMF	**Lomont**	**130.76**	**332**	PKP	PKPdf	10 43	58.5	-0.3
TSUM	**Tsumeb**	**130.81**	**238**	PKPdf	PKPdf	10 43	58.5	-1.2
TSUM				*ep*PKPdf	pPKPdf	10 44	13.5	-1.0
TSUM				LR	LR			
	comp=Z,2μm,20.0s,MS5.9							
CEL	**Celeste**	**131.06**	**317**	PFAKE		10 44	10.0	+10
CEL				LR	LR			
	comp=Z,35μm,21.0s,MS7.0							
VLC	**Villacollemand**	**131.11**	**326**	PFAKE		10 44	10.0	+10
VLC				LR	LR			
	comp=Z,2μm,22.0s,MS5.7							
ROSC	**El Rosal**	**131.11**	**89**	PKP	PKPdf	10 43	59.6	-0.8
	comp=Z,14nm,0.5s,baz=106,slow=5.5,SNR=12							
ROSC				pPKP	pPKPdf	10 44	15.0	-0.2
	comp=Z,39nm,0.6s,baz=87,slow=5.7,SNR=11							
ROSC	**El Rosal**	**131.11**	**89**	*e*PKPdf	PKPdf	10 43	59.4	-1.1
ROSC				*ep*PKPdf	pPKPdf	10 44	14.7	-0.5
CABF	**La Chapelle**	**131.65**	**331**	⇑*i*PKP1	PKPdf	10 43	59.3	-1.2
	comp=Z,169nm,1.5s							
LPAZ	**La Paz**	**131.97**	**118**	PKhKP		10 43	52.1	
	comp=Z,0.8nm,0.4s,baz=325,slow=0.3,SNR=7.7							
LPAZ				PKP	PKPdf	10 44	00.8	-1.2
	comp=Z,6.5nm,1.1s,baz=275,slow=2.7,SNR=12							
LPAZ				pPKP	pPKPdf	10 44	16.8	+0.1
	comp=Z,15nm,0.9s,baz=291,slow=0.6,SNR=16							
LPAZ	**La Paz**	**131.97**	**118**	*e*PKPdf	PKPdf	10 43	59.9	-2.1
LPAZ				*ep*PKPdf	pPKPdf	10 44	15.5	-1.2
LPAZ				LR	LR			
	comp=Z,953nm,21.0s,MS5.5							
LPL	**La Plagne**	**132.12**	**330**	⇑*i*PKP1	PKPdf	10 44	00.6	-0.8
	comp=Z,32nm,1.0s							
LPG	**La Plagne**	**132.12**	**330**	⇑*i*PKP1	PKPdf	10 44	00.4	-1.0
	comp=Z,29nm,0.7s							
LOR	**Lormes**	**132.19**	**333**	⇑*i*PKP1	PKPdf	10 43	59.7	-1.8
	comp=Z,94nm,1.2s							
LOR				*e*MLR	MLR			
	comp=Z,2μm,22.0s,MS5.4							
LOR	**Lormes**	**132.19**	**333**	⇑*i*PKP	PKPdf	10 43	59.7	-1.8
LOR				LR	LR			
	comp=Z,2μm,22.0s,MS5.7							
OG05	**Jujurieux**	**132.36**	**331**	PKP	PKPdf	10 44	06.1	+4.2
BNI	**Bardonecchia**	**132.47**	**329**	*e*PKIKP	PKPdf	10 44	02.7	+0.6
BNI				*e*		10 44	16.5	
BNI				MLR	MLR			
	comp=Z,2μm,22.0s,MS5.8							
SSF	**Saint Saulge**	**132.50**	**334**	⇑*i*PKP1	PKPdf	10 44	00.3	-1.8
	comp=Z,74nm,1.0s							
MBDF	**Montbardon**	**132.65**	**329**	⇑*i*PKP1	PKPdf	10 44	00.6	-1.9
	comp=Z,22nm,0.9s							
SMF	**Signal de Mont**	**132.67**	**333**	⇑*i*PKP1	PKPdf	10 44	00.7	-1.7
	comp=Z,87nm,1.1s							
AVF	**Avril sur Loir**	**132.78**	**333**	⇑*i*PKP1	PKPdf	10 44	00.3	-2.3
	comp=Z,29nm,1.0s							
LDF	**La Druitiere**	**132.78**	**337**	⇑*i*PKP1	PKPdf	10 44	00.9	-1.7
	comp=Z,115nm,1.5s							
ORIF	**Oris-en-Rattie**	**132.97**	**330**	⇑*i*PKP1	PKPdf	10 44	01.4	-1.6
	comp=Z,38nm,0.8s							
ORIF				*e*MLR	MLR			
	comp=Z,2μm,22.0s,MS5.4							
BGF	**Bois d'Agland**	**133.18**	**334**	*e*PKP1	PKPdf	10 44	01.6	-1.8
	comp=Z,85nm,1.2s							
WDD	**Wield Dalam**	**133.20**	**315**	PFAKE		10 44	10.0	+6.2
WDD				LR	LR			
	comp=Z,757nm,20.0s,MS5.4							
SSB	**Saint Sauveur**	**133.36**	**331**	*e*PKIKP	PKPdf	10 44	04.0	+0.2
AGO	**Saint Agoulin**	**133.44**	**333**	PKP	PKPdf	10 44	06.5	+2.6
VIVF	**Saint-Julien-l**	**133.60**	**331**	⇑*i*PKP1	PKPdf	10 44	02.0	-2.2
	comp=Z,58nm,1.0s							
TCF	**Toulx Ste Croi**	**133.67**	**334**	⇑*i*PKP1	PKPdf	10 44	02.3	-2.0
	comp=Z,75nm,1.0s							
PYM	**Petit Puy Mans**	**133.72**	**333**	PKP	PKPdf	10 44	08.6	+4.2
LASF	**Ste Croix**	**134.57**	**331**	⇑*i*PKP1	PKPdf	10 44	04.1	-2.0
	comp=Z,79nm,1.0s							
VSL	**Villasalto**	**134.61**	**322**	PFAKE		10 44	20.0	+14
VSL				LR	LR			
	comp=Z,1μm,19.0s,MS5.6							
SDV	**Santo Domingo**	**134.93**	**84**	PKP	PKPdf	10 44	07.6	0.0
	comp=Z,26nm,0.7s,baz=298,slow=8.2,SNR=11							
SDV				pPKP	pPKPdf	10 44	21.8	-0.5
	comp=Z,107nm,0.7s,baz=275,slow=4.4,SNR=17							
SDV	**Santo Domingo**	**134.93**	**84**	*e*PKPdf	PKPdf	10 44	06.8	-0.8
SDV				*ep*PKPdf	pPKPdf	10 44	22.1	-0.2
SDV				LR	LR			
	comp=Z,389nm,22.0s,MS5.1							
BBSR	**BB Station**	**135.03**	**50**	PFAKE		10 44	20.0	+13
BBSR				LR	LR			
	comp=Z,2μm,21.0s,MS5.8							
SIV	**San Ignacio**	**138.16**	**122**	PKhKP		10 44	02.0	
	comp=Z,1.1nm,0.6s,baz=225,slow=7.0,SNR=5.6							
SIV				PKP	PKPdf	10 44	12.6	-0.9
	comp=Z,8.6nm,1.1s,baz=265,slow=3.2,SNR=8.7							
SIV	**San Ignacio**	**138.16**	**122**	PKP	PKPdf	10 44	12.6	-0.9
SJG	**San Juan**	**138.41**	**70**	*e*PKIKP	PKPdf	10 44	11.6	-2.3
SJG				MLR	MLR			
	comp=Z,2μm,22.0s							
MTP	**Monte Pirata**	**138.97**	**70**	*e*PKPdf	PKPdf	10 44	11.9	-3.1
PCRV	**Puerto La Cruz**	**140.82**	**82**	PKP	PKPdf	10 44	18.1	-0.4
	comp=Z,12nm,0.9s,baz=50,slow=6.8,SNR=2.9							
ECAL	**Calabor**	**140.90**	**338**	PKP	PKPdf	10 44	21.0	+3.2
GUD	**Guadarrama**	**140.96**	**334**	PKIKP	PKPdf	10 44	16.4	-1.6
PBRG	**Braganca**	**141.02**	**338**	*e*P	PKPdf	10 44	27.4	+9.4
ELOB	**Lobios**	**141.44**	**339**	PKP	PKPdf	10 44	21.1	+2.3
PCAB	**Cabril**	**141.57**	**339**	*e*P	PKPdf	10 44	25.0	+6.0
ESDC	**Sonseca Array**	**141.66**	**333**	PKP	PKPdf	10 44	17.7	-1.6
	comp=Z,0.3nm,0.4s,baz=16,slow=3.4,SNR=3.4							
ESLA	**Sonseca Array**	**141.66**	**333**	PFAKE		10 44	30.0	+11
ESLA				LR	LR			
	comp=Z,5μm,20.0s,MS6.3							
MVO	**Moncorvo**	**141.68**	**338**	*e*PKP	PKPdf	10 44	18.5	-0.7
MVO				*eP*		10 44	30.7	
PVRL	**Vila Real**	**141.84**	**338**	*e*P	PKiKP	10 44	25.8	+3.4
PAB	**San Pablo**	**141.94**	**333**	PFAKE		10 44	30.0	+10
PAB				LR	LR			
	comp=Z,1μm,20.0s,MS5.7							
OKGL	**Djebel Kef Gue**	**142.08**	**325**	P	pPKPdf	10 44	30.0	-4.9
PVIS	**Viseu**	**142.39**	**338**	*e*P	PKPdf	10 44	27.5	+7.0
OJGS	**Djebel Guires**	**142.40**	**324**	P	PKPdf	10 44	29.0	+8.3
MTE	**Manteigas**	**142.54**	**338**	*e*P	pPKPdf	10 44	31.6	-4.0
MTE	**Manteigas**	**142.54**	**338**	PFAKE		10 44	30.0	+9.2
MTE				LR	LR			
	comp=Z,1μm,22.0s,MS5.6							
OJBR	**Djebel Berber**	**142.58**	**325**	P	pPKPdf	10 44	31.0	-4.8
PCBR	**Castelo Branco**	**143.00**	**337**	*e*PKP	PKPdf	10 44	17.6	-4.0
PCBR				*eP*		10 44	30.0	
ODJA	**Bouhanifia**	**143.04**	**325**	P	pPKPdf	10 44	35.0	-1.6
EADA	**Adamuz**	**143.17**	**332**	PKP	PKPdf	10 44	24.2	+2.2
PMRV	**Marv??o**	**143.32**	**337**	*e*PKP	PKPdf	10 44	20.3	-1.9
PMRV				*eP*		10 44	30.2	
EBER	**Berja**	**143.35**	**329**	PKP	PKPdf	10 44	22.8	+0.5
PTOM	**Tomar**	**143.54**	**338**	*e*PKP	PKPdf	10 44	23.3	+0.7
PTOM				*eP*		10 44	30.8	
GRGR	**Grenville**	**143.60**	**78**	PFAKE		10 44	30.0	+6.6
GRGR				LR	LR			
	comp=Z,1μm,21.0s,MS5.6							
ECAB	**El Cabril**	**143.62**	**333**	PKP	PKPdf	10 44	22.2	-0.6
ODZI	**Dziouia**	**143.68**	**326**	P	pPKPdf	10 44	40.0	+2.3
FDF	**Fort de France**	**143.74**	**74**	*e*PKIKP	PKPdf	10 44	21.3	-2.3
EBAD	**Badajoz**	**143.74**	**336**	PKP	PKPdf	10 44	22.6	-0.4
ELOJ	**Sierra Loja**	**143.78**	**331**	PKIKP	PKPdf	10 44	21.9	-1.2
PESTR	**Estremoz**	**143.88**	**336**	*e*P	PKPdf	10 44	32.1	+8.9
VAO	**Valinhos**	**143.93**	**145**	(P)	PKPdf	10 44	14.7	-9.1
VAO				*i*		10 44	30.5	
VAO				*i*		10 44	33.2	
VAO				*i*		10 45	01.6	
TPP	**Pointe-a-Pierr**	**143.94**	**81**	*e*	pPKPdf	10 44	34.6	-4.1
TRN	**Trinidad (W)**	**143.97**	**81**	*e*	pPKPdf	10 44	36.0	-2.8
EALB	**Alboran**	**144.17**	**328**	PKP	PKPdf	10 44	26.8	+3.0
PBAR	**Barrancos**	**144.24**	**335**	*e*P	pPKPdf	10 44	34.6	-4.0
TBH	**Brigand Hill**	**144.31**	**81**	*e*	pPKPdf	10 44	36.5	-2.9
EVO	**Evora**	**144.34**	**337**	*e*PKIKP	PKPdf	10 44	21.8	-2.2
	comp=Z,113nm,1.0s							
EVO				*e*MLR	MLR			
	comp=Z,1μm,21.8s,MS5.4							
EVO	**Evora**	**144.34**	**337**	*e*P	pPKPdf	10 44	33.9	-4.9
EMIN	**Mina Concepcio**	**144.43**	**334**	PKP	PKPdf	10 44	21.6	-2.7
PMAFR	**Mafra**	**144.45**	**338**	*e*P	pPKPdf	10 44	36.9	-2.1
TPR	**Prospect**	**144.54**	**80**	*e*	pPKPdf	10 44	35.3	-4.5
EMIJ	**Mijas**	**144.55**	**331**	PKP	PKPdf	10 44	25.5	+1.1
BOT	**Bacolet**	**144.60**	**80**	*e*	pPKPdf	10 44	36.8	-3.1
PBEJ	**Beja**	**144.71**	**336**	*e*PKP	PKPdf	10 44	23.0	-1.7
PBEJ				*eP*		10 44	36.4	
ESPR	**Espera**	**144.81**	**333**	PKP	PKPdf	10 44	22.1	-2.8
EGRO	**El Granado**	**144.97**	**335**	PKP	PKPdf	10 44	23.8	-1.3
EJIF	**Jimena Fronter**	**144.97**	**332**	PKIKP	PKPdf	10 44	23.5	-1.7
PVAQ	**Vaqueiros**	**145.18**	**335**	*e*PKP	PKPdf	10 44	24.5	-1.0
PVAQ				*eP*		10 44	37.8	
SFS	**San Fernando**	**145.30**	**333**	PKIKP	PKPdf	10 44	24.9	-0.9
SFS				*e*		10 44	39.0	
SFS				MLR	MLR			
	comp=Z,2μm,22.0s,MS5.8							
PBDV	**Barranco-do-Ve**	**145.41**	**335**	*e*P	pPKPdf	10 44	39.3	-1.4
PTEO	**Sao Teotonio**	**145.47**	**337**	*e*PKP	PKPdf	10 44	24.8	-1.2
PTEO				*eP*		10 44	38.2	
MORF	**Marmelete**	**145.65**	**336**	*e*PKP	PKPdf	10 44	26.5	+0.2
MORF				*eP*		10 44	39.8	
PFVI	**Vila Bisbo**	**145.87**	**336**	*e*P	pPKPdf	10 44	40.5	-1.0
TAM	**Tamanrasset**	**146.15**	**302**	*e*PKP2	PKPab	10 44	29.2	-0.1
MDT	**Midelt**	**147.39**	**327**	PKPbc	PKPbc	10 44	30.8	-1.1
	comp=Z,16nm,1.1s,baz=112,slow=1.8,SNR=11							
MDT				pPKPbc	pPKPbc	10 44	44.6	-1.9
	comp=Z,72nm,1.0s,baz=44,slow=3.7,SNR=31							
RTC	**Rabat Centre**	**147.63**	**331**	PFAKE		10 44	40.0	+10
RTC				LR	LR			
	comp=Z,943nm,22.0s,MS5.5							
BDFB	**Brasilia**	**148.61**	**134**	PKPbc	PKPbc	10 44	32.4	-3.1
	comp=Z,4.4nm,0.7s,baz=269,slow=1.6,SNR=9.7							
BDFB				pPKPbc	pPKPbc	10 44	49.6	-0.6
	comp=Z,81nm,0.9s,baz=208,slow=6.2,SNR=26							
BDFB	**Brasilia**	**148.61**	**134**	PKIKP	PKPdf	10 44	32.4	+0.6
BDFB						10 44	49.6	
BDFB				pmax	pmax			
	comp=Z,4.0nm,0.7s							
BDFB	**Brasilia**	**148.61**	**134**	PFAKE		10 44	40.0	+8.2
BDFB				LR	LR			
	comp=Z,2μm,21.0s,MS5.9							
CMLA	**Cha da Macela**	**148.69**	**0**	PFAKE		10 44	40.0	+8.6
CMLA				LR	LR			
	comp=Z,1μm,21.0s,MS5.7							
SHEL	**Horse Pasture**	**150.66**	**221**	*e*PKPbc	PKPbc	10 44	41.3	+0.7
SHEL				LR	LR			
	comp=Z,2μm,21.0s,MS5.9							
TOA0	**Torodi Ar. Sit**	**152.63**	**286**	*e*PKPdf	PKPdf	10 44	36.2	-1.9
TOA0				*e*PKPbc	PKPbc	10 44	43.5	-1.6
TORD	**Torodi Ar. Bea**	**152.63**	**286**	PKP	PKPdf	10 44	36.0	-2.1
	comp=Z,2.9nm,0.9s,baz=39,slow=1.5,SNR=15							
TORD				PKPbc	PKPbc	10 44	45.4	+0.2
	comp=Z,7.9nm,0.6s,baz=32,slow=2.2,SNR=27							
TORD				pPKPbc	pPKPbc	10 44	58.2	-1.7
	comp=Z,184nm,0.8s,baz=66,slow=2.1,SNR=57							
TORD				PP	PP	10 48	38.0	+9.2
	comp=Z,13nm,0.9s,baz=77,slow=5.0,SNR=4.1							
TORD	**Torodi Ar. Bea**	**152.63**	**286**	PKP	PKPdf	10 44	36.0	-2.1
TORD				PKPbc	PKPbc	10 44	45.4	+0.2
TORD				pPKPbc	pPKPbc	10 44	58.2	-1.7
TORD				PP	PP	10 48	38.0	+9.2
KIC	**Kosan Boka**	**159.65**	**271**	*e*PKIKP	pPKPdf	10 44	59.0	-3.2
	comp=Z,441nm,1.1s							
KIC	**Kosan Boka**	**159.65**	**271**	*e*PKP1	pPKPab	10 45	38.3	-2.1
DBIC	**Dimbokro**	**159.76**	**272**	PKP	PKPdf	10 44	47.8	+0.3
	comp=Z,1.7nm,0.7s,baz=153,slow=4.5,SNR=3.2							
DBIC				pPKP	pPKPdf	10 44	59.1	-3.2
	comp=Z,33nm,1.2s,baz=149,slow=1.2,SNR=14							
DBIC				PKPab	PKPab	10 45	25.5	-1.1
	comp=Z,26nm,0.8s,baz=76,slow=3.2,SNR=11							
DBIC				pPKPab	pPKPab	10 45	38.8	-2.1
	comp=Z,226nm,0.9s,baz=83,slow=5.3,SNR=23							
DBIC	**Dimbokro**	**159.76**	**272**	*e*PKPdf	PKPdf	10 44	47.7	+0.2
DBIC				*e*PKPab	pPKPab	10 45	38.8	-2.1
DBIC				LR	LR			
	comp=Z,2μm,20.0s,MS5.8							
TIC	**Toumodi**	**159.93**	**272**	*e*PKIKP	pPKPdf	10 44	59.3	-3.2
	comp=Z,276nm,1.2s							
TIC	**Toumodi**	**159.93**	**272**	*e*PKP1	pPKPab	10 45	39.4	-2.2
LIC	**Lamto**	**159.93**	**271**	⇑*i*PKIKP	PKPdf	10 44	44.4	-3.3
	comp=Z,62nm,1.5s							
LIC				*e*MLR	MLR			
	comp=Z,2μm,20.0s,MS5.6							
LIC	**Lamto**	**159.93**	**271**	*e*PKIKP	pPKPdf	10 44	59.3	-3.2
	comp=Z,133nm,1.2s							
LIC	**Lamto**	**159.93**	**271**	*e*PKP1	pPKPab	10 45	39.3	-2.3
LIC	**Lamto**	**159.93**	**271**	⇑*i*PKPdf	PKPdf	10 44	44.4	-3.3
LIC				LR	LR			
	comp=Z,880nm,20.0s,MS5.6							
ASCN	**Ascension**	**162.19**	**218**	PFAKE		10 45	00.0	+10
ASCN				LR	LR			
	comp=Z,2μm,20.0s							
RCBR	**Riachuelo**	**163.91**	**138**	PFAKE		10 45	00.0	+8.2
RCBR				LR	LR			
	comp=Z,2μm,20.0s							
BBTS	**Babate**	**168.09**	**315**	pPKPab	pPKPab	10 46	16.1	-1.1
	comp=Z,44nm,0.9s,baz=58,slow=1.5,SNR=4.8							

IDC 21 10:43:31.4±2.8, 3247S×17933W, h0km, mb3.7/2, mb1 4.0/3, mb1mx3.8/15, mbtmp3.8/3, ML3.4/1, MS4.5/1, Ms1 4.5/1, ms1mx3.7/26, Error ellipse: s-maj=57.0km s-min=36.5km az=69.0, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera**	**6.47**	**206**	Pn	Pn	10 45 08.7	+0.8
	0.8nm,0.3s,baz=46,slow=15,SNR=12						
URZ				Sn	Sn	10 46 21.2	-1.2
	1.4nm,0.3s,baz=146,slow=20,SNR=6.7						
URZ				LR	LR	10 46 46.9	
	comp=Z,4μm,19.6s,baz=316,slow=30						
ASAR	**Alice Springs**	**41.91**	**270**	P	P	10 51 23.9	+0.1
	0.4nm,0.4s,baz=108,slow=7.8,SNR=18						
WRA	**Warramunga Arr**	**43.09**	**275**	P	P	10 51 33.3	-0.1
	0.6nm,0.4s,baz=115,slow=7.9,SNR=32						
TORD	**Torodi Ar. Bea**	**160.75**	**183**	PKPab	PKPab	11 04 15.1	-0.5
	0.3nm,0.6s,baz=183,slow=7.4,SNR=4.0						

CSEM 21 10:43:56.1, 30.12N×3630E, h3km, ML2.6, After SNSN
SGS 21 10:43:56.1, 30.12N×3630E, h3km
GII 21 10:43:58.1±1.1, 2988N×3619E, h0km, ML1.8/2, EXPLOSION

ISC 21 10:43:56.7±1.7, 2986N±006×3634E±010, h0km, n9, σ0°38/11, Western Arabian Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EIL	**Elat**	**1.22**	**261**	Pg	**Pg**	**10 44 20.1**	**+0.1**
MBRI	**Mt Berech**	**1.24**	**267**	Pg	**Pg**	**10 44 19.9**	**-0.5**
MBRI				Sg	**Sg**	**10 44 36.5**	**0.0**
HQLS		**1.24**	**244**	P	**Pg**	**10 44 19.9**	**-0.7**
PRNI	**Paran**	**1.25**	**293**	Pg	**Pg**	**10 44 20.4**	**-0.3**
PRNI				Sg	**Sg**	**10 44 37.4**	**+0.4**
JLOS		**1.34**	**214**	P	**Pg**	**10 44 22.6**	**+0.1**
JLOS		**1.34**	**214**	P	**Pg**	**10 44 22.5**	**+0.1**
MZDA	**Masada**	**1.67**	**330**	Pn	**Pn**	**10 44 27.5**	**+0.3**
BDAS	**Al Bad'**	**1.79**	**217**	S	**Sn**	**10 44 53.0**	**+0.7**
BDAS	**Al Bad'**	**1.79**	**217**	P	**Pn**	**10 44 28.7**	**-0.2**

ATH 21 10:53:24.9, 4038N×2588E, h26km±1km, MD3.3/4
*NEIC 21 10:53:24.9, 4038N×2588

NVR	**Nevrokopi**	**1.80**	**304**	*e*Pn		**Pn**	**11 04 56.8**	**-0.6**
NVR				*e*Sn		**Sn**	**11 05 19.6**	**-0.6**
NVR	**Nevrokopi**	**1.80**	**304**	*e*PN		**Pn**	**11 04 56.8**	**-0.6**
NVR				*e*SN		**Sn**	**11 05 19.6**	**-0.6**
PLG	**Polygyros**	**1.83**	**271**	P		**Pn**	**11 04 57.1**	**-0.7**
PLG				S		**Sn**	**11 05 20.2**	**-0.8**
PLG	**Polygyros**	**1.83**	**271**	*e*Pn		**Pn**	**11 04 56.9**	**-0.9**
PLG				*e*Sn		**Sn**	**11 05 19.4**	**-1.6**
PLG	**Polygyros**	**1.83**	**271**	*e*PN		**Pn**	**11 04 56.9**	**-0.9**
PLG				*e*SN		**Sn**	**11 05 19.4**	**-1.6**
AOS	**Alonnisos**	**1.92**	**233**	P		**Pn**	**11 05 02.5**	**+3.4**
PLD	**Plovdiv**	**1.95**	**334**	P		**Pn**	**11 05 02.2**	**+2.8**
PLD				S		**Sn**	**11 05 27.5**	**+3.6**
SOH	**Sokhos**	**1.95**	**285**	P		**Pn**	**11 04 58.9**	**-0.6**
SOH				S		**Sn**	**11 05 25.5**	**+1.5**
CHOS	**Chios island**	**1.97**	**175**	P		**Pn**	**11 04 59.9**	**+0.1**
CHOS				S		**Sn**	**11 05 24.1**	**-0.3**
SLVT	**Silivri**	**2.00**	**63**	*e*PN		**Pn**	**11 05 00.0**	**-0.1**
MMB	**Musomiste**	**2.02**	**308**	*i* P		**Pn**	**11 04 59.0**	**-1.4**
HORT	**Hortiatis**	**2.11**	**277**	P		**Pn**	**11 05 02.7**	**+1.1**
AKHS	**Akhisar**	**2.12**	**133**	*i* P		**Pn**	**11 05 01.8**	**+0.1**
AKHS				*i* S		**Sn**	**11 05 26.9**	**-1.1**
AKS	**Akhisar**	**2.12**	**133**	*e*PN		**Pn**	**11 05 01.9**	**+0.1**
CTYL	**Yal??k??y-??at**	**2.16**	**58**	*e*PN		**Pn**	**11 05 01.9**	**-0.5**
BLCB	**Balcova**	**2.17**	**154**	*e*PN		**Pn**	**11 05 02.6**	**+0.1**
JMB	**Yambol**	**2.18**	**15**	P		**Pn**	**11 05 05.1**	**+2.5**
JMB				S		**Sn**	**11 05 33.4**	**+3.8**
JMB	**Yambol**	**2.18**	**15**	*e*P		**Pn**	**11 05 07.7**	**+5.1**
CTKS	**Kestanelik-??a**	**2.21**	**66**	*e*PN		**Pn**	**11 05 02.5**	**-0.5**
THE	**Thessaloniki**	**2.21**	**278**	P		**Pn**	**11 05 03.3**	**+0.2**
THE				S		**Sn**	**11 05 30.9**	**+0.5**
IZM	**Izmir**	**2.24**	**150**	*e*PN		**Pn**	**11 05 03.6**	**+0.5**
DST	**Dursunbey**	**2.27**	**108**	*e*PN		**Pn**	**11 05 04.5**	**+0.8**
XOR	**Xorichti**	**2.27**	**245**	P		**Pn**	**11 05 02.6**	**-1.2**
XOR				S		**Sn**	**11 05 30.3**	**-1.4**
NEO	**Neokhori**	**2.27**	**243**	P		**Pn**	**11 05 03.4**	**-0.5**
BGKT	**Bogazkoy**	**2.37**	**69**	*e*PN		**Pn**	**11 05 05.2**	**-0.1**
BGKT				*e*SN		**Sn**	**11 05 34.4**	**+0.1**
KNT	**Kendrikon**	**2.38**	**291**	P		**Pn**	**11 05 05.0**	**-0.3**
KNT				S		**Sn**	**11 05 36.3**	**+1.8**
ISK	**Istanbul-Kandi**	**2.54**	**73**	*e*PN		**Pn**	**11 05 07.4**	**-0.2**
GEMT	**Gemlik**	**2.56**	**87**	*e*PN		**Pn**	**11 05 08.0**	**+0.2**
DEMI	**Demirci**	**2.57**	**120**	*i* P		**Pn**	**11 05 08.8**	**+0.7**
DEMI				*i* S		**Sn**	**11 05 39.7**	**+0.5**
KKB	**Krupnik**	**2.58**	**307**	*i* P		**Pn**	**11 05 09.8**	**+1.8**
LIT	**Litokhoron**	**2.58**	**265**	P		**Pn**	**11 05 07.3**	**-0.8**
LIT				S		**Sn**	**11 05 38.8**	**-0.6**
KLYT	**Kilyos**	**2.59**	**69**	*e*PN		**Pn**	**11 05 08.3**	**+0.1**
VAY	**Valandovo**	**2.67**	**292**	*e*Pn		**Pn**	**11 05 11.0**	**+1.7**
VAY				*e*Sn		**Sn**	**11 05 49.6**	**+8.1**
VAY	**Valandovo**	**2.67**	**292**	P		**Pn**	**11 05 09.4**	**+0.1**
VAY	**Valandovo**	**2.67**	**292**	*e*PN		**Pn**	**11 05 10.9**	**+1.6**
YLV	**Yalova**	**2.70**	**84**	*e*PN		**Pn**	**11 05 10.2**	**+0.4**
SMG	**Samos**	**2.75**	**163**	*e*Pn		**Pn**	**11 05 10.0**	**-0.5**
SMG	**Samos**	**2.75**	**163**	*e*PN		**Pn**	**11 05 10.0**	**-0.5**
LKR	**Lokris**	**2.78**	**233**	P		**Pn**	**11 05 09.9**	**-1.0**
LKR	**Lokris**	**2.78**	**233**	*e*Pn		**Pn**	**11 05 10.1**	**-0.8**
LKR	**Lokris**	**2.78**	**233**	*e*PN		**Pn**	**11 05 10.1**	**-0.8**
KULA	**Kula-Manisa**	**2.85**	**129**	*e*PN		**Pn**	**11 05 12.3**	**+0.5**
PVL	**Pavlikeni**	**2.88**	**353**	*i* P		**Pn**	**11 05 11.1**	**-1.2**
HRT	**Hereke**	**2.95**	**80**	*e*PN		**Pn**	**11 05 13.8**	**+0.7**
ADVT	**Abdulvahap**	**2.98**	**87**	*e*PN		**Pn**	**11 05 13.8**	**+0.3**
VTS	**Vitosha**	**2.99**	**319**	*e*P		**Pn**	**11 05 18.4**	**+4.7**
SILT	**Sile**	**2.99**	**73**	*e*PN		**Pn**	**11 05 14.1**	**+0.3**
AGG	**Agios Georgios**	**3.02**	**245**	P		**Pn**	**11 05 13.5**	**-0.7**
THL	**Klokotos Trika**	**3.05**	**256**	P		**Pn**	**11 05 14.1**	**-0.4**
THL				S		**Sn**	**11 05 51.0**	**0.0**
THL	**Klokotos Trika**	**3.05**	**256**	*e*Pn		**Pn**	**11 05 13.9**	**-0.6**
THL				S		**Sn**	**11 05 51.0**	**0.0**
THL	**Klokotos Trika**	**3.05**	**256**	*e*PN		**Pn**	**11 05 13.9**	**-0.6**
CAVI	**Cavuskoy**	**3.06**	**92**	*e*PN		**Pn**	**11 05 15.0**	**+0.3**
STIP	**Stip**	**3.07**	**297**	*e*Pn		**Pg**	**11 05 22.3**	**-3.1**
STIP				*e*Sn		**Sg**	**11 06 05.8**	**+0.6**
STIP	**Stip**	**3.07**	**297**	P		**Pn**	**11 05 15.7**	**+0.8**
LTK	**Loutraki**	**3.23**	**225**	P		**Pn**	**11 05 16.3**	**-0.7**
ZIMR		**3.32**	**354**	⇑P		**Pn**	**11 05 18.3**	**0.0**
MLSB	**Milas**	**3.41**	**153**	*e*PN		**Pn**	**11 05 20.4**	**+0.9**
FNA	**Florina**	**3.43**	**279**	P		**Pn**	**11 05 20.1**	**+0.3**
BODT	**Bodrum**	**3.48**	**160**	*e*PN		**Pn**	**11 05 20.8**	**+0.3**
DID	**Didima**	**3.50**	**216**	P		**Pn**	**11 05 20.2**	**-0.5**
KHL	**Karahalli**	**3.50**	**124**	*e*PN		**Pn**	**11 05 22.0**	**+1.3**
ALT	**Altintas**	**3.54**	**110**	*e*PN		**Pn**	**11 05 22.0**	**+0.8**
GULT	**Gulveren**	**3.57**	**87**	*e*PN		**Pn**	**11 05 21.6**	**-0.1**
KRUS	**Krusevo**	**3.63**	**288**	*e*Pn		**Pn**	**11 05 22.7**	**+0.2**
KRUS	**Krusevo**	**3.63**	**288**	*e*PN		**Pn**	**11 05 22.6**	**+0.1**
YER	**Yerkesik**	**3.74**	**149**	*e*PN		**Pn**	**11 05 24.3**	**+0.3**
ZAPS	**Zavoj**	**3.78**	**322**	*e*Pn		**Pn**	**11 05 25.6**	**+1.0**
ZAPS				*e*Sn		**Sg**	**11 06 28.7**	**+1.0**
OHR	**Ohrid**	**3.91**	**283**	*e*Pn		**Pb**	**11 05 37.9**	**+2.6**
SHUT	**Suhut-Afyon**	**4.06**	**115**	*e*PN		**Pn**	**11 05 29.7**	**+1.2**
RLS	**Riolos of Patr**	**4.10**	**237**	P		**Pn**	**11 05 22.1**	**-6.9**
VLI	**Veliai**	**4.29**	**213**	*e*Pn		**Pn**	**11 05 30.8**	**-0.8**
VLI	**Veliai**	**4.29**	**213**	*e*PN		**Pn**	**11 05 30.8**	**-0.8**
IGT	**Igoumenitsa**	**4.32**	**261**	P		**Pn**	**11 05 33.1**	**+1.1**
IGT				S		**Sn**	**11 06 22.4**	**+0.2**
LKD	**Levkas**	**4.34**	**249**	P		**Pn**	**11 05 32.4**	**+0.1**
ARG	**Arkhangelos**	**4.50**	**156**	P		**Pn**	**11 05 40.4**	**+5.8**
PYL	**PYLOS**	**4.72**	**224**	P		**Pn**	**11 05 37.8**	**+0.3**
KIZT	**Kizilcal**	**4.89**	**106**	*e*PN		**Pn**	**11 05 40.5**	**+0.7**
KARP	**Karpathos**	**4.91**	**167**	P		**Pn**	**11 05 41.6**	**+1.4**
DJES	**Djerdap**	**4.96**	**331**	*e*Pn		**Pn**	**11 05 39.7**	**-1.1**
MLR	**Muntele Rosu**	**5.13**	**1**	⇓P		**Pn**	**11 05 43.9**	**+0.7**
GRUS	**Gruza**	**5.20**	**314**	*e*Pn		**Pn**	**11 05 43.3**	**-0.6**
TLCR		**5.30**	**23**	⇓P		**Pn**	**11 05 46.3**	**+0.8**
ANTO	**Ankara**	**5.35**	**93**	⇓P		**Pn**	**11 05 51.5**	**+5.3**
GZR	**Gura Zlata**	**5.52**	**337**	⇑P		**Pn**	**11 05 48.0**	**-0.4**
GZR	**Gura Zlata**	**5.52**	**337**	⇑P		**Pn**	**11 05 48.0**	**-0.4**
PLOR	**Plostina**	**5.53**	**6**	⇑*i*P		**Pn**	**11 05 49.7**	**+1.1**
VRI	**Vrincioaia**	**5.55**	**6**	⇑P		**Pn**	**11 05 49.9**	**+1.0**
VRI	**Vrincioaia**	**5.55**	**6**	⇑P		**Pn**	**11 05 49.9**	**+1.0**
BBLS	**Lazići**	**5.94**	**308**	*e*Pn		**Pn**	**11 05 55.3**	**+1.1**
BR131	**Keskin Array S** 6.1nm,0.6s	**6.01**	**93**	*e*Pn		**Pn**	**11 05 55.7**	**+0.4**
BR131	**Keskin Array S** 6.1nm,0.6s	**6.01**	**93**	*e*Pn		**Pn**	**11 05 55.7**	**+0.4**
BZS	**Buzias**	**6.10**	**331**	⇓P		**Pn**	**11 05 55.5**	**-1.0**
BURAR	**Bucovina Array**	**7.27**	**357**	⇑P		**Pn**	**11 06 13.1**	**+0.6**
BURAR	**Bucovina Array**	**7.27**	**357**	⇑P		**Pn**	**11 06 13.1**	**+0.5**
BUR08	**Bucovina Ar. S**	**7.30**	**357**	*e*Pn		**Pn**	**11 06 13.6**	**+0.7**
BUR08	**Bucovina Ar. S**	**7.30**	**357**	*e*PN		**Pn**	**11 06 13.6**	**+0.7**
PKSM	**Moragy**	**7.86**	**320**	⇓P		**Pn**	**11 06 20.0**	**-0.7**
PKSM	**Moragy**	**7.86**	**320**	⇓P		**Pn**	**11 06 20.1**	**-0.6**
VYHS	**Vyhne**	**9.55**	**331**	*e*PN		**Pn**	**11 06 42.5**	**-1.3**
RST	**Umm Al-Ruwaisa** 31nm,0.7s	**20.40**	**115**	*e*P		**P**	**11 09 03.5**	**+0.2**
RST	**Umm Al-Ruwaisa** baz=115	**20.40**	**115**	*e*P		**P**	**11 09 03.5**	**+0.2**
RST				AMb		AMB	11 09 08.4	
	comp=Z,31nm,0.7s,baz=115							
MIB	**Mutribah** comp=Z,30nm,0.7s	**20.45**	**114**	*e*P		**P**	**11 09 04.5**	**+0.6**
MIB	**Mutribah** baz=114	**20.45**	**114**	*e*P		**P**	**11 09 04.5**	**+0.6**
MIB				AMb		AMB	11 09 09.5	
	comp=Z,30nm,0.7s,baz=114							
NAY	**Al-Naaiem** comp=Z,15nm,0.8s	**20.72**	**116**	*e*P		**P**	**11 09 06.6**	**-0.2**
NAY	**Al-Naaiem** baz=116	**20.72**	**116**	*e*P		**P**	**11 09 06.6**	**-0.2**
NAY				AMb		AMB	11 09 12.1	
	comp=Z,15nm,0.8s,baz=116							

*TAP **21** 11:04:32.3,25.17N×122.31E,h173km,ML3.4,C*
*ISCJB **21** 11:04:33.1±1.0,25.10N±0.07×122.35E±0.03,h164km±7km,*
Error ellipse: s-maj=11.8km s-min=4.8km az=172.9
*JMA **21** 11:04:33.6±0.3,25.17N×122.41E,h163km,M2.2*
ISC 21 11:04:33.1±1.0,**2511N**±0.07×**12235E**±0.03,**h167**km±6km,
n26,σ0§**64**/46,**Taiwan region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWB1	**Santiao Chiao** baz=248	**0.34**	**252**	P	**Pn**	**11 04 55.9**	**+0.1**
NWF	**Wu-fen Shan** baz=258	**0.52**	**265**	P	**Pn**	**11 04 56.7**	**+0.2**
NWF				*e*S	**Sn**	**11 05 14.5**	**+0.2**
	baz=258						
TWC	**Suao** baz=213	**0.68**	**222**	*e*P	**Pn**	**11 04 58.1**	**+0.7**
TWA	**Mucha** baz=249	**0.70**	**259**	*e*P	**Pn**	**11 04 55.9**	**-1.6**
TWA				*e*S	**Sn**	**11 05 17.6**	**+1.5**
	baz=249						
TWE	**Neicheng** baz=230	**0.73**	**238**	*e*P	**Pn**	**11 04 58.0**	**+0.4**
TWE				*e*S	**Sn**	**11 05 17.5**	**+1.1**
	baz=230						
ENA	**Nanau** baz=216	**0.88**	**219**	P	**Pn**	**11 04 59.1**	**+0.4**
ENA				*e*S	**Sn**	**11 05 18.9**	**+0.8**
	baz=216						
YOJ	**Yonaguni jima**	**0.89**	**137**	*e*S	**Sn**	**11 05 18.4**	**+0.1**
NSK	**Sanguang** baz=233	**1.00**	**244**	P	**Pn**	**11 04 59.2**	**-0.3**
NSK				*e*S	**Sn**	**11 05 18.6**	**-1.2**
	baz=233						
NNS	**Nan Shan** baz=235	**1.11**	**233**	*i* P	**Pn**	**11 05 00.6**	**+0.2**
NNS				*i* S	**Sn**	**11 05 21.4**	**0.0**
	baz=235						
TWD	**Chiawan** baz=219	**1.23**	**214**	*e*P	**Pn**	**11 05 01.2**	**-0.3**
TWD				*e*S	**Sn**	**11 05 23.1**	**-0.3**
	baz=219						
NSTT	**Nanjuang** baz=250	**1.31**	**249**	P	**Pn**	**11 05 01.8**	**-0.4**
NSTT				*e*S	**Sn**	**11 05 23.5**	**-1.0**
	baz=250						
WHF	**Hehuan Shan** baz=217	**1.38**	**226**	P	**Pn**	**11 05 03.1**	**+0.3**
WHF				S	**Sn**	**11 05 26.0**	**+0.3**
	baz=217						
IRIF	**Iriomote-Funau**	**1.48**	**121**	P	**Pn**	**11 05 03.9**	**+0.1**
IRIF				*e*S	**Sn**	**11 05 26.8**	**-0.5**
ESL	**Shilin** baz=215	**1.54**	**213**	*e*P	**Pn**	**11 05 03.4**	**-1.0**
ESL				*e*S	**Sn**	**11 05 27.3**	**-1.2**
	baz=215						
TWQ1	**Liyutan** baz=234	**1.62**	**242**	*e*P	**Pn**	**11 05 04.5**	**-0.7**
TWQ1				*e*S	**Sn**	**11 05 29.1**	**-0.9**
	baz=234						
HATJ	**Hateruma jima**	**1.69**	**128**	*e*S	**Sn**	**11 05 31.7**	**+0.4**
JKRS	**Kuro-shima**	**1.75**	**120**	P	**Pn**	**11 05 06.9**	**+0.4**
JKRS				*e*S	**Sn**	**11 05 32.3**	**+0.1**
JIJ	**Ishigaki jima**	**1.79**	**114**	P	**Pn**	**11 05 06.9**	**-0.2**
JIJ				S	**Sn**	**11 05 32.4**	**-0.8**
SMLT	**Sun Moon Lake** baz=231	**1.80**	**227**	*e*P	**Pn**	**11 05 07.3**	**+0.2**
SMLT				*e*S	**Sn**	**11 05 33.7**	**+0.4**
	baz=231						
TYC	**Yuchr** baz=232	**1.81**	**229**	*e*P	**Pn**	**11 05 07.3**	**0.0**
TYC				*e*S	**Sn**	**11 05 32.9**	**-0.6**
	baz=232						
TWF1	**Yuli** baz=208	**2.00**	**209**	*e*P	**Pn**	**11 05 09.6**	**+0.3**
YUS	**Yu-Shan** baz=212	**2.06**	**219**	*e*P	**Pn**	**11 05 11.2**	**+1.2**
YUS				*e*S	**Sn**	**11 05 39.2**	**+0.8**
	baz=212						
ALS	**Alishan** baz=226	**2.13**	**222**	*e*P	**Pn**	**11 05 11.4**	**+0.6**
ALS				*e*S	**Sn**	**11 05 40.2**	**+0.4**
	baz=226						
CHN5	**Tsauling** baz=224	**2.14**	**226**	P	**Pn**	**11 05 10.8**	**-0.1**
CHN5				*e*S	**Sn**	**11 05 39.9**	**-0.3**
	baz=224						
JTJ	**Tarama**	**2.19**	**102**	P	**Pn**	**11 05 11.8**	**+0.3**
JTJ				*e*S	**Sn**	**11 05 40.7**	**-0.3**
ELDTW	**Lidau** baz=208	**2.27**	**213**	*e*P	**Pn**	**11 05 12.7**	**+0.3**

*CSEM **21** 11:15:24.7±0.1,40.38N×25.82E,h10km,ML3.9/9,Error*
ellipse: s-maj=1.2km s-min=1.1km az=24.0
*ISK **21** 11:15:24.7,40.38N×25.86E,h6km,ML3.7*
*ATH **21** 11:15:24.6,40.39N×25.85E,h26km,MD3.8/4*
*NEIC **21** 11:15:24.6,40.39N×25.85E,h26km,ML3.8(ATH),*
ML3.9(THE),After ATH.
*ISCJB **21** 11:15:24.6±0.4,40.38N±0.02×25.81E±0.02,h8km±3km,*
Error ellipse: s-maj=2.9km s-min=2.3km az=174.3
*THE **21** 11:15:25.8,40.23N×25.91E,h13km±2km,ML3.9/9,Error*
ellipse: s-maj=2.5km s-min=1.5km az=107.0
*DDA **21** 11:15:25.0,40.38N×25.90E,h7km±3km,Md3.3*
ISC 21 11:15:25.4±0.4,**4036N**±0.02×**2583E**±0.02,**h8**km±2km,**n95,**
σ1§**20**/132,**4C-7D,Aegean Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GADA	**Gvkgeada**	**0.18**	**163**	*e*PG	**Pg**	**11 15 29.5**	**+0.4**
GADA				*e*SG	**Sg**	**11 15 32.5**	**+1.1**
ENEZ	**Enez**	**0.45**	**33**	*e*PG	**Pg**	**11 15 33.4**	**-0.7**
ENEZ				*e*SG	**Sg**	**11 15 39.7**	**-0.3**
BOZC	**Bozcaada**	**0.55**	**162**	*i* P	**Pg**	**11 15 36.1**	**+0.2**
BOZC				*i* S	**Sg**	**11 15 44.0**	**+1.0**
ALN	**Alexandroupoli**	**0.56**	**17**	P	**Pg**	**11 15 35.6**	**-0.6**
ALN				S	**Sg**	**11 15 48.1**	**+4.6**
EZN	**Ezine**	**0.66**	**144**	*e*PG	**Pg**	**11 15 37.6**	**-0.4**
EZN				*e*SG	**Sg**	**11 15 46.5**	**-0.1**
LIA	**Limnos Island**	**0.68**	**227**	P	**Pg**	**11 15 38.9**	**+0.5**
LIA				S	**Sg**	**11 15 47.9**	**+0.6**
LIA	**Limnos Island**	**0.68**	**227**	*e*Pn	**Pn**	**11 15 38.8**	**-2.5**
LIA				S	**Sg**	**11 15 47.9**	**+0.6**
LIA				*e*Sn	**Sg**	**11 15 48.8**	**+1.5**
LIA	**Limnos Island**	**0.68**	**227**	*e*PN	**Pn**	**11 15 38.8**	**-2.5**
LIA				*e*SN	**Sg**	**11 15 48.8**	**+1.5**
LOS	**Limnos**	**0.71**	**234**	P	**Pg**	**11 15 39.6**	**+0.5**
LOS				S	**Sg**	**11 15 50.3**	**+1.9**
RDO	**Rodhopi**	**0.81**	**344**	*e*Pn	**Pn**	**11 15 40.2**	**-3.0**
RDO				*e*Sn	**Sn**	**11 15 51.2**	**-4.3**
RDO	**Rodhopi**	**0.81**	**344**	*e*PN	**Pn**	**11 15 40.2**	**-3.0**
RDO				*e*SN	**Sn**	**11 15 51.2**	**-4.3**
RKY	**Sarkoy-Tekirda**	**1.08**	**72**	*e*PG	**Pg**	**11 15 44.6**	**-1.4**
RKY				*e*SG	**Sg**	**11 16 00.2**	**+0.2**
SART	**Tekirdag**	**1.08**	**72**	*i* P	**Pg**	**11 15 45.2**	**-0.9**
SART				*i* S	**Sg**	**11 16 00.5**	**+0.4**
PRK	**Paraskevi**	**1.17**	**163**	P	**Pg**	**11 15 47.2**	**-0.5**
PRK				S	**Sg**	**11 15 58.5**	**-4.3**
PRK	**Paraskevi**	**1.17**	**163**	*e*Pn	**Pg**	**11 15 47.2**	**-0.5**
PRK				*e*Sn	**Sn**	**11 16 03.7**	**-0.4**
PRK	**Paraskevi**	**1.17**	**163**	*e*PN	**Pg**	**11 15 47.2**	**-0.5**
PRK				*e*SN	**Sn**	**11 16 03.7**	**-0.4**
MFT	**Murefte**	**1.18**	**69**	*e*PN	**Pn**	**11 15 47.2**	**-1.0**
MFT				*e*SN	**Sn**	**11 16 03.6**	**-1.0**
AYVA	**Ayvalik**	**1.24**	**148**	*i* P	**Pn**	**11 15 48.5**	**-0.5**
AYVA				*i* S	**Sb**	**11 16 03.2**	**-2.0**
AYVA	**Ayvalik**	**1.24**	**148**	*i* P	**Pn**	**11 15 48.5**	**-0.6**
AYVA				*i* S	**Sb**	**11 16 03.2**	**-2.1**
OUR	**Ouranopolis**	**1.41**	**270**	P	**Pn**	**11 15 50.3**	**-1.1**
OUR				S	**Sb**	**11 16 11.8**	**+1.6**
TKR	**Tekirdag**	**1.44**	**64**	*e*PN	**Pn**	**11 15 51.4**	**-0.4**
BALY	**Balya**	**1.51**	**114**	*i* P	**Pn**	**11 15 52.7**	**0.0**
BALY				*i* S	**Sn**	**11 16 13.7**	**+1.1**
EDC	**Edincik**	**1.55**	**90**	*e*PN	**Pn**	**11 15 53.3**	**0.0**
BNT	**Bandirma**	**1.60**	**90**	*e*PN	**Pn**	**11 15 53.1**	**-0.9**
EDRB	**Edirne**	**1.64**	**25**	*e*PN	**Pn**	**11 15 53.6**	**-0.9**
CRLT	**Corlu**	**1.64**	**61**	*e*PN	**Pn**	**11 15 54.6**	**+0.1**
PAIG	**Paliouri**	**1.70**	**256**	P	**Pn**	**11 15 54.0**	**-1.4**
PAIG				S	**Sn**	**11 16 18.5**	**+1.1**
BALB	**Balikesir**	**1.73**	**114**	*e*PN	**Pn**	**11 15 55.5**	**-0.3**
NVR	**Nevrokopi**	**1.79**	**304**	*e*Pn	**Pn**	**11 15 55.8**	**-0.8**
NVR	**Nevrokopi**	**1.79**	**304**	*e*PN	**Pn**	**11 15 55.8**	**-0.8**
PLG	**Polygyros**	**1.82**	**271**	P	**Pn**	**11 15 56.1**	**-0.9**
PLG				S	**Sn**	**11 16 21.9**	**+1.6**
PLG	**Polygyros**	**1.82**	**271**	*e*Pn	**Pn**	**11 15 56.0**	**-1.0**
PLG				S	**Sn**	**11 16 21.9**	**+1.6**
PLG	**Polygyros**	**1.82**	**271**	*e*PN	**Pn**	**11 15 56.0**	**-1.0**
AOS	**Alonnisos**	**1.92**	**232**	P	**Pn**	**11 15 57.0**	**-1.3**
AOS				S	**Sn**	**11 16 20.3**	**-2.4**
PLD	**Plovdiv**	**1.94**	**334**	P	**Pn**	**11 16 00.3**	**+1.7**
PLD				S	**Sn**	**11 16 26.5**	**+3.3**
SOH	**Sokhos**	**1.94**	**285**	P	**Pn**	**11 15 58.1**	**-0.6**
SOH				S	**Sn**	**11 16 25.1**	**+1.8**
CHOS	**Chios island**	**1.98**	**175**	P	**Pn**	**11 15 57.9**	**-1.3**
SLVT	**Silivri**	**2.00**	**64**	*e*PN	**Pn**	**11 15 59.2**	**-0.3**
HORT	**Hortiatis**	**2.10**	**277**	P	**Pn**	**11 16 00.0**	**-0.8**
HORT				S	**Sn**	**11 16 29.4**	**+2.3**
CTT	**Catalca**	**2.12**	**67**	*e*PN	**Pn**	**11 16 01.5**	**+0.3**
AKS	**Akhisar**	**2.13**	**133**	*e*PN	**Pn**	**11 16 02.0**	**+0.7**
AKHS	**Akhisar**	**2.13**	**133**	*i* P	**Pn**	**11 16 01.1**	**-0.2**
AKHS				*i* S	**Sn**	**11 16 25.6**	**-2.3**
CTYL	**Yal??k??y-??at**	**2.17**	**58**	*e*PN	**Pn**	**11 16 02.5**	**+0.6**
BLCB	**Balcova**	**2.19**	**154**	*e*PN	**Pn**	**11 16 02.9**	**+0.9**
THE	**Thessaloniki**	**2.20**	**278**	P	**Pn**	**11 16 03.6**	**+1.3**
THE				S	**Sn**	**11 16 31.9**	**+2.2**
CTKS	**Kestanelik-??a**	**2.21**	**66**	*e*PN	**Pn**	**11 16 02.5**	**0.0**
IZM	**Izmir**	**2.25**	**150**	*e*PN	**Pn**	**11 16 02.9**	**-0.1**
XOR	**Xorichti**	**2.26**	**245**	P	**Pn**	**11 16 01.3**	**-1.8**
XOR				S	**Sn**	**11 16 30.4**	**-0.7**
DST	**Dursunbey**	**2.28**	**108**	*e*PN	**Pn**	**11 16 03.4**	**+0.1**
KNT	**Kendrikon**	**2.37**	**291**	P	**Pn**	**11 16 04.2**	**-0.3**
KNT				S	**Sn**	**11 16 36.3**	**+2.5**
BGKT	**Bogazkoy**	**2.38**	**69**	*e*PN	**Pn**	**11 16 04.8**	**0.0**
ISK	**Istanbul-Kandi**	**2.55**	**73**	*e*PN	**Pn**	**11 16 07.3**	**+0.2**
GEMT	**Gemlik**	**2.57**	**87**	*e*PN	**Pn**	**11 16 08.0**	**+0.7**
LIT	**Litokhoron**	**2.57**	**265**	P	**Pn**	**11 16 06.3**	**-1.0**
KLYT	**Kilyos**	**2.60**	**69**	*e*PN	**Pn**	**11 16 08.0**	**+0.3**
VAY	**Valandovo**	**2.65**	**292**	*e*Pn	**Pn**	**11 16 13.4**	**+4.9**
VAY				*e*Sn	**Sn**	**11 16 49.8**	**+9.0**
VAY	**Valandovo**	**2.65**	**292**	P	**Pn**	**11 16 09.7**	**+1.2**
VAY				S	**Sn**	**11 16 42.9**	**+2.1**
GRG	**Griva**	**2.67**	**284**	P	**Pn**	**11 16 08.9**	**+0.1**
YLV	**Yalova**	**2.71**	**85**	*e*PN	**Pn**	**11 16 09.9**	**+0.7**
SMG	**Samos**	**2.76**	**163**	*e*Pn	**Pn**	**11 16 09.5**	**-0.5**
SMG	**Samos**	**2.76**	**163**	*e*PN	**Pn**	**11 16 09.5**	**-0.5**
LKR	**Lokris**	**2.78**	**233**	P	**Pn**	**11 16 07.0**	**-3.2**
KULA	**Kula-Manisa**	**2.87**	**129**	*e*PN	**Pn**	**11 16 12.6**	**+1.2**
HRT	**Hereke**	**2.96**	**80**	*e*PN	**Pn**	**11 16 13.8**	**+1.1**
VTS	**Vitosha**	**2.97**	**319**	⇓P	**Pn**	**11 16 12.9**	**0.0**
VTS	**Vitosha**	**2.97**	**319**	⇓P	**Pn**	**11 16 12.9**	**0.0**
ADVT	**Abdulvahap**	**2.98**	**87**	*e*PN	**Pn**	**11 16 14.0**	**+1.0**
SILT	**Sile**	**3.00**	**73**	*e*PN	**Pn**	**11 16 14.2**	**+1.2**
THL	**Klokotos Trika**	**3.04**	**256**	P	**Pn**	**11 16 04.7**	**-9.1**
THL				S	**Sn**	**11 16 49.0**	**-1.3**
STIP	**Stip**	**3.06**	**297**	*e*Pn	**Pg**	**11 16 21.3**	**-2.7**
STIP				*e*Sn	**Sg**	**11 17 03.9**	**+0.2**
CAVI	**Cavuskoy**	**3.07**	**92**	*e*PN	**Pn**	**11 16 15.8**	**+1.6**
LTK	**Loutraki**	**3.23**	**225**	P	**Pn**	**11 16 13.7**	**-2.6**
FNA	**Florina**	**3.42**	**279**	P	**Pn**	**11 16 18.6**	**-0.4**
BODT	**Bodrum**	**3.49**	**160**	*e*PN	**Pn**	**11 16 21.1**	**+1.1**
DID	**Didima**	**3.50**	**216**	P	**Pn**	**11 16 18.6**	**-1.4**
KHL	**Karahalli**	**3.51**	**124**	*e*PN	**Pn**	**11 16 21.9**	**+1.6**
ALT	**Altintas**	**3.55**	**110**	*e*PN	**Pn**	**11 16 21.9**	**+1.1**
GULT	**Gulveren**	**3.58**	**87**	*e*PN	**Pn**	**11 16 21.9**	**+0.7**
KRUS	**Krusevo**	**3.62**	**288**	*e*Pn	**Pn**	**11 16 21.3**	**-0.4**
KRUS	**Krusevo**	**3

σ1⁹03/36, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AYVA	**Ayvalik**	**0.23**	**348**	*i* P	**Pg**	**11 35 55.1**	**-0.1**
AYVA				*i* S	**Sg**	**11 35 59.6**	**+0.6**
PRK	**Paraskevi**	**0.41**	**294**	P	**Pg**	**11 35 59.1**	**+0.9**
PRK				S	**Sg**	**11 36 04.9**	**+1.0**
BLCB	**Balcova**	**0.73**	**162**	*e*PG	**Pg**	**11 36 01.6**	**-2.4**
BLCB				*e*SG	**Sg**	**11 36 12.8**	**-0.9**
URLA	**Izmir**	**0.73**	**190**	*i* P	**Pb**	**11 36 03.1**	**-0.7**
URLA				*i* S	**Sb**	**11 36 14.8**	**+1.3**
KDAG	**Bornova**	**0.79**	**149**	*i* P	**Pb**	**11 36 04.8**	**-0.1**
KDAG				*i* S	**Sb**	**11 36 16.2**	**+1.1**
KDAG	**Bornova**	**0.79**	**149**	*i* P	**Pb**	**11 36 04.8**	**0.0**
KDAG				*i* S	**Sb**	**11 36 16.2**	**+1.1**
IZM	**Izmir**	**0.79**	**150**	*e*PG	**Pg**	**11 36 04.0**	**-1.2**
IZM				*e*SG	**Sg**	**11 36 15.3**	**-0.2**
AKS	**Akhisar**	**0.85**	**103**	*e*PG	**Pg**	**11 36 05.4**	**-0.9**
AKHS	**Akhisar**	**0.85**	**103**	*i* P	**Pb**	**11 36 06.5**	**+0.6**
AKHS				*i* S	**Sb**	**11 36 17.0**	**0.0**
CHOS	**Chios island**	**0.88**	**219**	P	**Pb**	**11 36 06.6**	**+0.1**
CHOS				S	**Sb**	**11 36 19.7**	**+1.8**
BOZC	**Bozcaada**	**0.94**	**325**	*i* P	**Pb**	**11 36 08.0**	**+0.5**
BOZC				*i* S	**Sb**	**11 36 20.3**	**+0.8**
BALY	**Balya**	**0.94**	**45**	*i* P	**Pb**	**11 36 07.5**	**-0.1**
BALY				*i* S	**Sb**	**11 36 20.9**	**+1.3**
BALY	**Balya**	**0.94**	**45**	*i* P	**Pb**	**11 36 07.4**	**-0.1**
BALY				*i* S	**Sb**	**11 36 20.9**	**+1.3**
BALB	**Balikesir**	**1.04**	**57**	*e*PN	**Pn**	**11 36 08.9**	**-0.5**
LIA	**Limnos Island**	**1.47**	**304**	P	**Pn**	**11 36 15.4**	**+0.2**
LIA				S	**Sn**	**11 36 32.1**	**-1.9**
DST	**Dursunbey**	**1.54**	**70**	*e*PN	**Pn**	**11 36 16.8**	**+0.5**
LOS	**Limnos**	**1.55**	**304**	P	**Pn**	**11 36 15.9**	**-0.5**
LOS				S	**Sn**	**11 36 33.8**	**-2.3**
KULA	**Kula-Manisa**	**1.59**	**110**	*e*PN	**Pn**	**11 36 18.3**	**+1.3**
SART	**Tekirdag**	**1.64**	**11**	*i* P	**Pn**	**11 36 18.8**	**+1.1**
SART				*i* S	**Sn**	**11 36 37.7**	**-0.6**
ALN	**Alexandroupoli**	**1.90**	**344**	P	**Pn**	**11 36 19.3**	**-1.9**
OUR	**Ouranopolis**	**2.48**	**301**	P	**Pn**	**11 36 28.9**	**-0.3**

*THE **21** 11:48:55.9, 40.34N×25.92E, h0km±2km, ML3.7/8, Error ellipse: s-maj=2.4km s-min=1.1km az=109.0*
*NEIC **21** 11:48:55.7, 40.40N×25.86E, h28km, MD3.6(ATH), After ATH.*
*ATH **21** 11:48:55.7, 40.40N×25.86E, h28km±1km, MD3.6/4*
*CSEM **21** 11:48:55.8±0.0, 40.38N×25.86E, h12km, MD3.3, Error ellipse: s-maj=1.3km s-min=1.0km az=179.0*
*ISCJB **21** 11:48:55.8±0.4, 40.38N±002×25.84E±002, h6km±3km, Error ellipse: s-maj=2.7km s-min=2.6km az=173.4*
*ISK **21** 11:48:56.0, 40.38N×25.90E, h10km, MD3.3, ML3.3*
*DDA **21** 11:48:57.2, 40.35N×25.96E, h8km±3km, Md3.0*

ISC 21 11:48:56.6±0.4, 4036N±002×2589E±002, h7km±3km, n62, σ1⁹00/97, 2C-2D, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GADA	**Gvkgeada**	**0.17**	**177**	*e*PG	**Pg**	**11 49 00.5**	**+0.3**
ENEZ	**Enez**	**0.43**	**29**	*e*PG	**Pg**	**11 49 04.1**	**-0.8**
ENEZ				*e*SG	**Sg**	**11 49 11.0**	**+0.5**
BOZC	**Bozcaada**	**0.54**	**166**	*i* P	**Pg**	**11 49 07.3**	**+0.4**
BOZC				*i* S	**Sg**	**11 49 15.2**	**+1.3**
ALN	**Alexandroupoli**	**0.55**	**13**	P	**Pg**	**11 49 06.8**	**-0.4**
ALN				S	**Sg**	**11 49 14.2**	**-0.2**
EZN	**Ezine**	**0.63**	**148**	*e*PG	**Pg**	**11 49 09.0**	**+0.2**
EZN				*e*SG	**Sg**	**11 49 18.2**	**+1.1**
LIA	**Limnos Island**	**0.71**	**230**	P	**Pg**	**11 49 10.2**	**-0.1**
LIA				S	**Sg**	**11 49 19.4**	**-0.1**
LIA	**Limnos Island**	**0.71**	**230**	*e*Pn	**Pg**	**11 49 10.2**	**-0.1**
LIA				S	**Sg**	**11 49 19.4**	**-0.1**
LIA				*e*Sn	**Sg**	**11 49 20.4**	**+0.9**
LIA	**Limnos Island**	**0.71**	**230**	*e*PN	**Pg**	**11 49 10.2**	**-0.1**
LIA				*e*SN	**Sg**	**11 49 20.4**	**+0.9**
LOS	**Limnos**	**0.75**	**236**	P	**Pg**	**11 49 11.0**	**-0.1**
LOS				S	**Sg**	**11 49 21.3**	**+0.5**
RDO	**Rodhopi**	**0.83**	**341**	*e*Pn	**Pn**	**11 49 11.5**	**-3.2**
RDO				*e*Sn	**Sn**	**11 49 22.1**	**-5.0**
RDO	**Rodhopi**	**0.83**	**341**	*e*PN	**Pn**	**11 49 11.5**	**-3.2**
RDO				*e*SN	**Sn**	**11 49 22.1**	**-5.0**
RKY	**Sarkoy-Tekirda**	**1.04**	**71**	*e*PG	**Pg**	**11 49 16.2**	**-0.3**
RKY				*e*SG	**Sg**	**11 49 30.9**	**+0.9**
SART	**Tekirdag**	**1.04**	**71**	*i* P	**Pg**	**11 49 16.5**	**-0.1**
SART				*i* S	**Sg**	**11 49 31.7**	**+1.6**
PRK	**Paraskevi**	**1.15**	**165**	P	**Pg**	**11 49 17.7**	**-1.1**
PRK				S	**Sg**	**11 49 33.4**	**-0.3**
PRK	**Paraskevi**	**1.15**	**165**	*e*Pn	**Pn**	**11 49 18.4**	**-0.8**
PRK				S	**Sg**	**11 49 33.4**	**-0.3**
PRK				*e*Sn	**Sn**	**11 49 34.3**	**-0.9**
PRK	**Paraskevi**	**1.15**	**165**	*e*PN	**Pn**	**11 49 18.4**	**-0.8**
PRK				*e*SN	**Sn**	**11 49 34.3**	**-0.9**
AYVA	**Ayvalik**	**1.22**	**149**	*i* P	**Pb**	**11 49 19.3**	**-0.8**
AYVA				*i* S	**Sg**	**11 49 36.4**	**+0.5**
MRMT	**Marmara Adasi**	**1.33**	**79**	*e*PN	**Pn**	**11 49 20.8**	**-0.8**
TKR	**Tekirdag**	**1.40**	**63**	*e*PN	**Pn**	**11 49 21.8**	**-0.9**
TKR				*e*SN	**Sn**	**11 49 40.9**	**-0.5**
OUR	**Ouranopolis**	**1.46**	**270**	P	**Pn**	**11 49 21.6**	**-1.7**
OUR				S	**Sn**	**11 49 44.5**	**+1.9**
BALY	**Balya**	**1.47**	**114**	*i* Pn	**Pn**	**11 49 23.8**	**+0.3**
BALY				*i* S	**Sn**	**11 49 44.1**	**+1.2**
EDC	**Edincik**	**1.51**	**90**	*e*PN	**Pn**	**11 49 23.4**	**-0.7**
EDC				*e*SN	**Sn**	**11 49 44.1**	**+0.1**
BNT	**Bandirma**	**1.56**	**90**	*e*PN	**Pn**	**11 49 23.9**	**-0.8**
CRLT	**Corlu**	**1.60**	**61**	*e*PN	**Pn**	**11 49 25.3**	**-0.1**
EDRB	**Edirne**	**1.62**	**23**	*e*PN	**Pn**	**11 49 25.7**	**+0.2**
BALB	**Balikesir**	**1.69**	**115**	*e*PN	**Pn**	**11 49 26.1**	**-0.5**
PAIG	**Palioure**	**1.75**	**256**	P	**Pn**	**11 49 25.3**	**-2.0**
PAIG				S	**Sn**	**11 49 51.5**	**+1.7**
NVR	**Nevrokopi**	**1.82**	**303**	*e*Pn	**Pn**	**11 49 27.1**	**-1.3**
NVR				*e*Sn	**Sn**	**11 49 49.3**	**-2.5**
NVR	**Nevrokopi**	**1.82**	**303**	*e*PN	**Pn**	**11 49 27.1**	**-1.3**
NVR				*e*SN	**Sn**	**11 49 49.3**	**-2.5**
PLG	**Polygyros**	**1.86**	**271**	P	**Pn**	**11 49 27.5**	**-1.4**
PLG				S	**Sn**	**11 49 54.4**	**+1.7**
PLG	**Polygyros**	**1.86**	**271**	*e*Pb	**Pb**	**11 49 27.4**	**-3.6**
PLG				S	**Sn**	**11 49 54.4**	**+1.7**
PLG	**Polygyros**	**1.86**	**271**	*e*PB	**Pb**	**11 49 27.4**	**-3.6**
KCT	**Karacabey**	**1.89**	**92**	*e*PN	**Pn**	**11 49 29.4**	**+0.1**
AOS	**Alonnisos**	**1.95**	**233**	P	**Pn**	**11 49 30.4**	**+0.3**
PLD	**Plovdiv**	**1.96**	**333**	P	**Pn**	**11 49 31.2**	**+1.0**
PLD				S	**Sn**	**11 49 57.1**	**+2.1**
SLVT	**Silivri**	**1.97**	**63**	*e*PN	**Pn**	**11 49 30.8**	**+0.4**
CHOS	**Chios island**	**1.98**	**176**	P	**Pn**	**11 49 30.2**	**-0.3**
CHOS				S	**Sn**	**11 49 55.3**	**-0.2**
SOH	**Sokhos**	**1.98**	**284**	P	**Pn**	**11 49 29.3**	**-1.3**
SOH				S	**Sn**	**11 49 57.5**	**+1.9**
URLA	**Izmir**	**2.07**	**164**	*i* P	**Pn**	**11 49 31.8**	**-0.1**
CTT	**Catalca**	**2.09**	**67**	*e*PN	**Pn**	**11 49 31.7**	**-0.3**
AKS	**Akhisar**	**2.10**	**134**	*e*PN	**Pn**	**11 49 32.9**	**+0.7**
HORT	**Hortiatis**	**2.14**	**277**	P	**Pn**	**11 49 31.8**	**-0.9**
HORT				S	**Sn**	**11 50 01.9**	**+2.4**
JMB	**Yambol**	**2.17**	**14**	P	**Pn**	**11 49 33.5**	**+0.4**
JMB				S	**Sn**	**11 50 01.4**	**+1.2**
BLCB	**Balcova**	**2.17**	**155**	*e*PN	**Pn**	**11 49 33.5**	**+0.3**
CTKS	**Kestanelik-??a**	**2.17**	**65**	*e*PN	**Pn**	**11 49 33.1**	**-0.1**
IZM	**Izmir**	**2.23**	**151**	*e*PN	**Pn**	**11 49 34.0**	**0.0**
DST	**Dursunbey**	**2.24**	**109**	*e*PN	**Pn**	**11 49 34.5**	**+0.4**
BGKT	**Bogazkoy**	**2.34**	**69**	*e*PN	**Pn**	**11 49 35.4**	**-0.1**
KNT	**Kendrikon**	**2.41**	**290**	P	**Pn**	**11 49 35.7**	**-0.7**
KNT				S	**Sn**	**11 50 08.7**	**+2.6**
LIT	**Litokhoron**	**2.61**	**265**	P	**Pn**	**11 49 38.7**	**-0.5**
YLV	**Yalova**	**2.67**	**84**	*e*PN	**Pn**	**11 49 40.5**	**+0.5**
VAY	**Valandovo**	**2.69**	**292**	*e*Pn	**Pn**	**11 49 44.4**	**+4.1**
VAY				*e*Sn	**Sn**	**11 50 19.4**	**+6.3**
SMG	**Samos**	**2.75**	**164**	*e*Pn	**Pn**	**11 49 41.2**	**+0.1**
SMG	**Samos**	**2.75**	**164**	*e*PN	**Pn**	**11 49 41.2**	**+0.1**
AGG	**Agios Georgios**	**3.05**	**245**	P	**Pn**	**11 49 43.9**	**-1.4**
STIP	**Stip**	**3.10**	**297**	*e*Pn	**Pg**	**11 49 57.1**	**+1.1**
STIP				*e*Sn	**Sg**	**11 50 35.8**	**-0.3**
LTK	**Loutraki**	**3.25**	**225**	P	**Pn**	**11 49 47.5**	**-0.6**
KRUS	**Krusevo**	**3.66**	**287**	*e*Pn	**Pn**	**11 49 53.7**	**+0.1**
MLR	**Muntele Rosu**	**5.13**	**0**	⇑P	**Pn**	**11 50 15.1**	**+1.3**
GZR	**Gura Zlata**	**5.52**	**337**	⇑P	**Pn**	**11 50 17.6**	**-1.6**
BZS	**Buzias**	**6.11**	**331**	⇓P	**Pn**	**11 50 26.1**	**-1.2**
BZS	**Buzias**	**6.11**	**331**	⇓P	**Pn**	**11 50 26.1**	**-1.2**

JMA 21 12:01:47.5±0.4, 4406N×14807E, h0km, M4.1, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
NEM2	**Nemuro 2**	**1.82**	**248**	P	Pn	12 02 20.3	+0.2
NEM2				*e*S	Sn	12 02 44.2	+0.3
JRA	**Rausu**	**2.13**	**268**	P	Pn	12 02 24.9	+0.6
JRA				*e*S	Sn	12 02 53.0	+1.6
JNK	**Nakash**	**2.47**	**260**	P	Pn	12 02 29.8	+0.8
JNK				*e*S	Sn	12 03 00.8	+1.0
JAK	**Akkeshi**	**2.67**	**248**	P	Pn	12 02 32.5	+0.7
JAK				*e*S	Sn	12 03 06.0	+1.2
JAR	**Ashorobuto**	**3.21**	**258**	P	Pn	12 02 40.7	+1.5
JNBK	**Urakawa-nobuka**	**4.28**	**247**	P	Pn	12 02 55.3	+1.5
JKB	**Kayabe**	**5.60**	**250**	P	Pn	12 03 13.6	+1.6
JKB				*e*S	Sn	12 04 17.4	+0.4

*IDC **21** 12:05:13.9±0.8, 60.97N×151.69W, h0km, mb3.8/7, mb1 4.0/8, mb1mx3.7/21, mbtmp3.9/8, ML3.9/1, Error ellipse: s-maj=30.8km s-min=15.6km az=87.0*
*NEIC **21** 12:05:14.3, 60.71N×151.74W, h19km, mb4.1/1, ML3.5(AEIC), ML3.9(PMR), After AEIC.*
*ISCJB **21** 12:05:15.1±0.5, 60.70N±004×151.80W±007, h19km, mb3.9/10, Error ellipse: s-maj=6.0km s-min=5.1km az=175.2*

ISC 21 12:05:15.5±1.2, 6068N±004×15174W±009, h11km±8km, n44, σ1⁹14/47, mb3.9/10, Kenai Peninsula

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SLKM	**Skilak Lake**	**0.77**	**102**	P	**Pg**	**12 05 29.6**	**-0.8**
FIB	**Fire Island**	**0.91**	**57**	P	**Pg**	**12 05 32.4**	**-0.7**
FIB				S	**Sg**	**12 05 45.7**	**+0.8**
RC01	**Rabbit Creek A**	**1.06**	**66**	P	**Pg**	**12 05 33.8**	**-2.2**
SEW	**Seward**	**1.28**	**116**	P	**Pn**	**12 05 38.3**	**-0.9**
SKT	**Skwentna**	**1.31**	**4**	P	**Pn**	**12 05 38.1**	**-1.6**
PMR	**Palmer**	**1.56**	**53**	P	**Pn**	**12 05 41.6**	**-1.5**
PMR				*e*P		12 05 41.8	
PMR				*e*Sn	**Sn**	**12 06 00.6**	**-2.8**
GHO	**Glory Hole Cre**	**1.75**	**50**	P	**Pn**	**12 05 45.2**	**-0.5**
KNK	**Knik Glacier**	**1.76**	**64**	P	**Pn**	**12 05 46.0**	**+0.1**
SVW2	**Sparrevohn**	**1.92**	**284**	*e*P	**Pn**	**12 05 47.6**	**-0.5**
SML	**Sawmill**	**2.00**	**54**	P	**Pn**	**12 05 49.6**	**+0.4**
PPLA	**Purkeypile**	**2.24**	**355**	P	**Pn**	**12 05 52.9**	**+0.5**
TRF	**Thorofare Moun**	**2.87**	**13**	P	**Pn**	**12 06 01.8**	**+0.7**
KTH	**Kantishna Hill**	**2.91**	**7**	P	**Pn**	**12 06 02.5**	**+0.8**
KDAK	**Kodiak Island**	**2.94**	**189**	Pn	**Pn**	**12 06 03.1**	**+1.1**
	14nm,0.3s,baz=32,slow=12,SNR=94						
KDAK					Sn	**12 06 43.5**	**+6.3**
	31nm,0.3s,baz=271,slow=20,SNR=8.1						
KDAK	**Kodiak Island**	**2.94**	**189**	P	**Pn**	**12 06 02.8**	**+0.7**
EYAK	**Cordova Ski Ar**	**2.96**	**90**	P	**Pn**	**12 06 03.1**	**+0.8**
TT01	**Tatalina**	**3.02**	**320**	P	**Pn**	**12 06 03.0**	**-0.2**
CHUM	**Lake Minchumin**	**3.23**	**356**	*e*Pn	**Pn**	**12 06 06.7**	**+0.7**
MCK	**McKinley**	**3.33**	**22**	P	**Pn**	**12 06 09.1**	**+1.6**
BPAW	**Bear Paw Mtn.**	**3.45**	**6**	P	**Pn**	**12 06 09.5**	**+0.4**
OHAK	**Old Harbor**	**3.56**	**194**	*e*P	**Pn**	**12 06 11.6**	**+1.0**
PAX	**Paxson**	**3.76**	**50**	P	**Pn**	**12 06 15.3**	**+2.0**
MENT	**Mentasta**	**4.43**	**56**	*e*P	**Pn**	**12 06 23.0**	**+0.5**
COLA	**College**	**4.57**	**21**	P	**Pn**	**12 06 24.7**	**+0.2**
IL1	**Eielson Array**	**4.67**	**26**	P	**Pn**	**12 06 26.5**	**+0.6**
ILB	**Eielson Array**	**4.67**	**26**	P	**Pn**	**12 06 26.6**	**+0.8**
GCSA	**Galena City Sc**	**4.72**	**332**	P	**Pn**	**12 06 27.0**	**+0.6**
BCA3	**Beaver Creek A**	**5.29**	**59**	P	**Pn**	**12 06 35.1**	**+0.8**
IM3	**Indian Mountai**	**5.40**	**351**	P	**Pn**	**12 06 36.1**	**+0.3**
IMA2	**Indian Mountai**	**5.48**	**352**	*e*P	**Pn**	**12 06 37.4**	**+0.5**
EGAK	**Eagle**	**6.37**	**45**	P	**Pn**	**12 06 48.6**	**-0.5**
COLD	**Coldfoot**	**6.61**	**5**	P	**Pn**	**12 06 53.1**	**+0.7**
DAWY	**Dawson**	**6.67**	**54**	*e*Pn	**Pn**	**12 06 54.2**	**+1.0**
DAWY				*e*Sn	**Sn**	**12 08 05.2**	**-4.1**
NVAR	**Mina Array Bea**	**30.53**	**122**	P	**P**	**12 11 34.0**	**+5.6**
	0.6nm,0.7s,mb3.5,baz=315,slow=8.6,SNR=4.9						
TXAR	**Lajitas Array**	**44.65**	**112**	P	**P**	**12 13 29.6**	**+1.8**
	0.3nm,0.8s,mb3.2,baz=333,slow=12,SNR=4.0						
ARCES	**ARCESS Array B**	**50.06**	**1**	P	**P**	**12 14 06.8**	**-2.6**
	2.4nm,0.8s,mb4.3,baz=7.1,slow=7.6,SNR=7.2						
ARCES				PcP	PcP	12 15 28.2	-0.7
	3.4nm,0.9s,baz=20,slow=2.9,SNR=2.8						
SONM	**Songino Array**	**54.90**	**306**	P	**P**	**12 14 46.2**	**+0.6**
	2.4nm,0.6s,mb4.4,baz=44,slow=6.9,SNR=19						
JOF	**Joensuu**	**56.70**	**358**	*ep*	**P**	**12 14 55.8**	**-2.5**
	1.0nm,0.5s,mb4.1						
KAF	**Kangasniemi**	**57.52**	**1**	*ep*	**P**	**12 15 00.1**	**-4.0**
	1.0nm,0.5s,mb4.1						
NOA	**NORSAR Array B**	**57.90**	**10**	P	**P**	**12 15 05.2**	**-1.5**
	0.3nm,0.6s,mb3.5,baz=350,slow=7.3,SNR=2.4						
KURK	**Kurchatov**	**61.82**	**326**	P	**P**	**12 15 32.6**	**-1.2**
	0.2nm,0.3s,mb3.7,baz=9.6,slow=3.8,SNR=2.5						
MKAR	**Makanchi Array**	**64.29**	**322**	P	**P**	**12 15 48.9**	**-1.4**
	0.1nm,0.3s,mb3.3,baz=64,slow=6.6,SNR=2.5						
AKASG	**Malin Array Be**	**68.97**	**359**	P	**P**	**12 16 18.2**	**-1.9**
	1.7nm,0.3s,mb4.4,baz=0.5,slow=6.0,SNR=9.0						
BOSA	**Boshof**	**147.87**	**5**	PKPbc	PKPbc	12 24 58.5	-1.4
	3.7nm,1.0s,baz=332,slow=0.5,SNR=4.3						

*SGS **21** 12:07:25.5, 3002N×3624E, h6km*

GII 21 12:07:24.3±0.7, 2991N×3627E, h0km, ML1.9/2, EXPLOSION, Western Arabian Peninsula

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AQBJ	**Aqaba**	**1.07**	**260**	Pg	Pg	12 07 46.0	+1.1
HRFI	**Mount Harif**	**1.08**	**277**	Pg	Pg	12 07 45.2	+0.3
ZFRI	**Zfri**	**1.14**	**304**	Pg	Pg	12 07 47.0	+0.8
EIL	**Elat**	**1.17**	**258**	Pg	Pg	12 07 47.1	+0.3
PRNI	**Paran**	**1.18**	**292**	Pg	Pg	12 07 47.5	+0.6
PRNI				Sg	Sg	12 08 04.9	+2.7
MBRI	**Mt Berech**	**1.18**	**265**	Pg	Pg	12 07 47.9	+0.9
HQLS		**1.22**	**240**	S	Sg	12 08 04.2	+0.8
HQLS		**1.22**	**240**	P	Pg	12 07 47.6	0.0
HQLS		**1.22**	**240**	S	Sg	12 07 56.8	-6.5
HQLS		**1.22**	**240**	P	Pg	12 07 47.6	0.0
KRMI	**Paran Flat**	**1.35**	**279**	Pn	Pn	12 07 50.5	+0.1
JLOS		**1.36**	**210**	S	Sg	12 08 08.7	+0.8
JLOS		**1.36**	**210**	P	Pg	12 07 50.2	-0.1
JLOS		**1.36**	**210**	S	Sg	12 07 59.7	-8.1
JLOS		**1.36**	**210**	P	Pg	12 07 49.0	-1.3
BDAS	**Al Bad'**	**1.80**	**215**	P	Pn	12 07 56.1	-0.4
RSHS		**2.06**	**219**	P	Pn	12 07 58.8	-1.4

*TIF **21** 12:16:16.1, 41.95N×45.93E, h10km±3km*
*CSEM **21** 12:16:17.1, 41.77N×45.87E, h24km, mb3.8, After OBN*
*MOS **21** 12:16:17.9±0.2, 41.77N×45.87E, h24km, mb3.8/1, Error ellipse: s-maj=38.0km s-min=10.5km az=127.0*

ISC 21 12:16:18.7±1.5, 4197N±006×459E±01, h10km, n12, σ0⁹98/16, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DGRG	**David-gareji**	**0.63**	**215**	P	**Pg**	**12 16 30.1**	**-0.8**
DGRG				S	**Sg**	**12 16 40.1**	**+1.0**
MTA	**Mtatsminda**	**0.84**	**251**	P	**Pg**	**12 16 32.8**	**-2.1**
MTA				S	**Sg**	**12 16 46.2**	**+0.4**
TBLG	**Delisi**	**0.87**	**255**	Pg	**Pg**	**12 16 34.1**	**-1.3**
TBLG				Sg	**Sg**	**12 16 47.2**	**+0.5**
SNJR	**Sundja**	**1.34**	**325**	*e*Pg	**Pg**	**12 16 43.9**	**-0.7**
LACR	**Lac**	**1.44**	**307**	*e*Pg	**Pg**	**12 16 44.5**	**-1.9**
ZEI	**Tsey**	**1.66**	**300**	*e*Pn	**Pn**	**12 16 47.9**	**+0.1**
ARNR	**Ardon**	**1.69**	**317**	*e*Pn	**Pn**	**12 16 48.8**	**+0.5**
BTKR	**Batakoyurt**	**1.71**	**326**	*e*Pn	**Pn**	**12 16 49.3**	**+0.8**
KORR	**Kora**	**1.73**	**311**	*e*Pn	**Pn**	**12 16 49.5**	**+0.6**
ONI	**Oni**	**1.89**	**290**	P	**Pn**	**12 16 51.8**	**+0.8**
ONI				S	**Sn**	**12 17 18.7**	**+3.9**
DIGR	**Digorskoe uzhe**	**1.92**	**300**	*e*Pn	**Pn**	**12 16 51.7**	**+0.2**
LSNR	**Lesken**	**1.99**	**312**	*e*Pn	**Pn**	**12 16 53.2**	**+0.7**

*BJI **21** 12:33:58.2, 356S×100.46E, h43km, mB5.2, mb5.1, Ms5.0, Mse4.7*
*ISCJB **21** 12:33:58.2±0.2, 334S±004×100.34E±003, h28km, mb5.0/82, MS4.7/13, Error ellipse: s-maj=5.9km s-min=3.7km az=37.9*
*MOS **21** 12:33:59.6±1.0, 3.11S×100.59E, h33km, mb5.3/25, Error ellipse: s-maj=13.6km s-min=6.3km az=109.2*
*IDC **21** 12:34:00.0±0.6, 329S×100.49E, h25km±3km, mb4.6/21, mb1 4.6/21, mb1mx4.5/25, mbtmp4.6/21, Error ellipse: s-maj=20.1km s-min=8.8km az=50.0*
*NEIC **21** 12:34:01.3±0.2, 325S×100.51E, h35km, mb5.2/24, Error ellipse: s-maj=9.5km s-min=4.7km az=51.0*
NEIC Felt [III] on Sipura. Also felt [III] at Mukomuko, Sumatra.
*DJA **21** 12:34:03.2±0.8, 3.5S±5×100.5E±, h30km, mB5.6/10, Mjma4.4/12, MLv5.2/13, Mw(mB)5.4/10, Mwp4.4/9*

ISC 21 12:34:00.4±0.2, 336S±003×10034E±003, h29km, h29km±1.6km: pP-P, n209, σ1⁹09/200, mb5.0/82, MS4.7/13, 30C-5D, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KSI	**Kapahiang**	**2.27**	**97**	P	**Pn**	**12 34 37.0**	**+1.1**
PDSI	**Padang**	**2.44**	**3**	P	**Pn**	**12 34 37.0**	**-1.2**
PPI	**Padang Panjang**	**2.88**	**1**	P	**Pn**	**12 34 43.4**	**-1.0**
KLI	**Kotabumi**	**4.75**	**108**	P	**Pn**	**12 35 12.5**	**+2.5**
DSRI	**Dabo**	**5.11**	**56**	P	**Pn**	**12 35 15.1**	**+0.1**
	620nm,1.1s,1.5nm						
PPBI	**Pangkal Pinang**	**5.91**	**79**	P	**Pn**	**12 35 27.8**	**+1.8**
	71nm,0.9s,0.5nm						
KGM	**Kluang**	**6.12**	**29**	⇓P	**Pn**	**12 35 29.3**	**+0.5**
MYKOM	**Kota Tinggi**	**6.20**	**35**	⇑P	**Pn**	**12 35 29.6**	**-0.4**
MYKOM	**Kota Tinggi**	**6.20**	**35**	P	**Pn**	**12 35 29.9**	**-0.1**
SBJI	**Serang**	**6.39**	**116**	P	**Pn**	**12 35 44.8**	**+12**
	306nm,1.2s,4μm0.8nm						
TSI	**Tuntungan**	**7.04**	**345**	P	**Pn**	**12 35 44.4**	**+2.9**
	316nm,0.8s						
DBJI	**Dramaga**	**7.13**	**117**	P	**Pn**	**12 35 43.5**	**+0.7**
	235nm,1.3s,0.7nm						
CBJI	**Citeko**	**7.16**	**115**	P	**Pn**	**12 35 46.6**	**+3.4**
	882nm,0.9s,10μm2.5nm						
SKJI	**Sukabumi**	**7.17**	**121**	P	**Pn**	**12 35 44.4**	**+1.1**
	351nm,1.0s,5μm1.1nm						
TPI	**Tanjungpandan**	**7.33**	**86**	⇑*e*P	**Pn**	**12 35 45.5**	**0.0**
TPI				*e*S	**Sn**	**12 37 16.5**	**+8.7**
IPM	**Ipoh**	**7.82**	**5**	P	**Pn**	**12 35 53.5**	**+1.3**
	123nm,1.2s,990nm0.4nm						
LEM	**Lembang**	**8.03**	**116**	P	**Pn**	**12 35 57.7**	**+2.6**
	240nm,1.1s,0.6nm						
KULM	**Kulim**	**8.60**	**2**	⇑P	**Pn**	**12 36 04.0**	**+1.0**
KTGM	**Kuala Trenggan**	**9.07**	**18**	⇑P	**Pn**	**12 36 14.3**	**+4.8**
COCO	**West Island**	**9.43**	**201**	*e*Pn	**Pn**	**12 36 12.2**	**-2.1**
	89nm,0.7s						
KSM	**Kuching**	**11.06**	**64**	⇑P	**Pn**	**12 36 43.4**	**+6.7**
SJI	**Sawahan**	**12.18**	**111**	P	**Pn**	**12 36 51.7**	**-0.2**
SBUM	**Sibu**	**13.20**	**64**	⇓P	**Pn**	**12 37 08.9**	**+2.9**
SBUM	**Sibu**	**13.20**	**64**	P	**Pn**	**12 37 08.3**	**+2.3**
BTM	**Bintulu**	**14.31**	**63**	⇑P	**Pn**	**12 37 25.5**	**+4.4**
BBKI	**Banjar Baru**	**14.48**	**91**	P	**Pn**	**12 37 29.9**	**+6.5**
	188nm,1.3s						
KKM	**Kota Kinabalu**	**18.40**	**60**	⇑P	**Pn**	**12 38 13.6**	**+0.1**
KKM	**Kota Kinabalu**	**18.40**	**60**	P	**Pn**	**12 38 13.0**	**-0.5**
	77nm,1.0s						
KKM	**Kota Kinabalu**	**18.40**	**60**	*e*Pn	**Pn**	**12 38 12.5**	**-1.0**
SDKM	**Sandakan**	**19.06**	**62**	⇓P	**Pn**	**12 38 20.9**	**-0.6**
TSM	**Tawau**	**19.10**	**67**	⇑P	**Pn**	**12 38 21.9**	**0.0**
KDAM	**Kudat**	**19.37**	**58**	⇑P	**Pn**	**12 38 24.5**	**-0.7**

WRA	**Warramunga Arr**	**37.03**	**119**	*i*	P		**P**	**12 41 07.0**	**-0.9**
WRA					pmax		pmax			
	comp=Z,8.0nm,0.5s									
WRAB	**Tennant Creek**	**37.03**	**119**		P		**P**	**12 41 07.3**	**-0.6**
	comp=Z,119nm,0.5s,mb6.0,SNR=27									
WRAB	**Tennant Creek**	**37.03**	**119**	*e*	P		**P**	**12 41 07.0**	**-0.9**
WB2	**Warramunga Arr**	**37.04**	**119**	*e*	P		**P**	**12 41 06.5**	**-1.5**
AGRA	**Agra**	**37.31**	**326**	*e*	P		**P**	**12 41 09.3**	**-0.8**
XAN	**Xi'an**	**38.07**	**12**		P		**P**	**12 41 14.8**	**-1.6**
XAN					AP		pP	12 41 24.8	-0.3
XAN					PP		PP	12 42 44.8	+0.9
XAN					S		**S**	**12 47 03.1**	**-4.2**
XAN					AMB		AMB			
	comp=Z,62nm,0.8s,mb5.4									
XAN					AMB		AMB			
	comp=Z,16nm,3.5s									
XAN					LR		LR			
	comp=N,274nm,15.8s,MS4.5									
XAN					LR		LR			
	comp=E,494nm,16.1s,MS4.5									
XAN					LR		LR			
	comp=Z,978nm,15.0s,MS4.7									
ASAR	**Alice Springs**	**38.19**	**125**		P		**P**	**12 41 17.8**	**+0.1**
	comp=Z,20nm,0.6s,mb5.0,baz=299,slow=8.0,SNR=161									
ASAR					S		**S**	**12 47 09.7**	**+0.1**
	comp=Z,1.8nm,0.6s,baz=295,slow=15,SNR=8.7									
SONA	**Sohna**	**38.58**	**326**	*e*	P		**P**	**12 41 20.2**	**-0.7**
KALG	**Kalgarh**	**38.68**	**329**	*ex*			x	12 41 13.1		
AYAN	**Aya Nagar**	**38.73**	**326**	*e*	P		**P**	**12 41 21.8**	**-0.3**
NDI	**New Delhi**	**38.84**	**327**	*e*	P		**P**	**12 41 21.0**	**-2.0**
JOSI	**Joshimath**	**39.13**	**331**	*e*	P		**P**	**12 41 26.3**	**+0.8**
JOSI					AMb		AMB	12 41 27.5		
	comp=Z,126nm,0.9s,mb5.7									
KHET	**Khetri**	**39.17**	**324**	*e*	P		**P**	**12 41 25.8**	**0.0**
NJ2	**Nanjing**	**39.37**	**25**	*e*	P		**P**	**12 41 28.6**	**+1.2**
NJ2					AP		pP	12 41 37.3	+1.2
NJ2					XP		sP	12 41 42.3	+2.6
NJ2					S		**S**	**12 47 28.5**	**+1.5**
NJ2					AMB		AMB			
	comp=Z,10.0nm,0.6s,mb4.7									
NJ2					AMB		AMB			
	comp=Z,170nm,4.4s									
NJ2					LR		LR			
	comp=N,540nm,23.2s,MS4.5									
NJ2					LR		LR			
	comp=E,540nm,18.9s,MS4.5									
NJ2					LR		LR			
	comp=Z,530nm,18.9s,MS4.4									
LZH	**Lanzhou**	**39.38**	**4**	⇑	P		**P**	**12 41 27.3**	**-0.1**
LZH					AP		pP	12 41 37.3	+1.2
LZH					XP		sP	12 41 41.3	+1.6
LZH					PP		PP	12 43 03.5	+5.4
LZH					AMB		AMB			
	comp=Z,48nm,1.2s,mb5.1									
LZH					AMB		AMB			
	comp=Z,192nm,5.3s									
LZH					LR		LR			
	comp=N,725nm,13.5s									
LZH					LR		LR			
	comp=Z,1μm,16.7s,MS4.8									
SSE	**Sheshan**	**39.61**	**29**		P		**P**	**12 41 29.1**	**-0.3**
SSE					S		**S**	**12 47 32.6**	**+1.9**
SSE					AMB		AMB			
	comp=Z,8.0nm,0.8s,mb4.5									
SSE					LR		LR			
	comp=N,1μm,21.6s,MS4.7									
SSE					LR		LR			
	comp=E,557nm,22.0s,MS4.7									
SSE					LR		LR			
	comp=Z,1μm,19.3s,MS4.7									
GTA	**Gaotai**	**42.56**	**359**	*e*	P		**P**	**12 41 53.6**	**0.0**
GTA					AP		pP	12 42 03.5	+1.1
GTA					XP		sP	12 42 07.4	+1.5
GTA					PP		PP	12 43 35.0	+2.3
GTA					AMB		AMB			
	comp=Z,20nm,1.1s,mb4.8									
GTA					AMB		AMB			
	comp=Z,140nm,5.4s									
GTA					LR		LR			
	comp=N,254nm,18.4s,MS4.3									
GTA					LR		LR			
	comp=E,261nm,14.6s,MS4.3									
GTA					LR		LR			
	comp=Z,271nm,17.7s,MS4.2									
HHC	**Hu-ho-hao-te**	**45.18**	**12**	⇑	*i* P		**P**	**12 42 15.3**	**+0.7**
HHC					AP		pP	12 42 25.1	+1.7
HHC					XP		sP	12 42 29.1	+2.2
HHC					PCP		PcP	12 43 54.3	-0.3
HHC					PP		PP	12 44 03.6	+3.0
HHC					SCP		ScP	12 47 43.5	-1.8
HHC					AMB		AMB			
	comp=Z,60nm,1.1s,mb5.3									
HHC					AMB		AMB			
	comp=Z,183nm,5.5s									
HHC					LR		LR			
	comp=N,794nm,17.2s,MS5.2									
HHC					LR		LR			
	comp=E,2μm,16.3s,MS5.2									
HHC					LR		LR			
	comp=Z,1μm,17.7s,MS4.8									
BJT	**Baijiatuan**	**45.55**	**17**	*e*	P		**P**	**12 42 17.3**	**-0.2**
BJT					pmax		pmax			
	comp=Z,27nm,0.8s									
BJT	**Baijiatuan**	**45.55**	**17**	*e*	P		**P**	**12 42 17.3**	**-0.2**
	comp=Z,27nm,0.8s,mb5.2									
BJI	**Beijing**	**45.57**	**17**		P		**P**	**12 42 17.4**	**-0.3**
BJI					AMB		AMB			
	comp=Z,33nm,0.8s,mb5.3									
BJI					LR		LR			
	comp=N,1μm,17.9s,MS5.0									
BJI					LR		LR			
	comp=E,1μm,19.3s,MS5.0									
BJI					LR		LR			
	comp=Z,590nm,16.1s,MS4.6									
CTA	**Charters Tower**	**47.73**	**114**	*e*	P		**P**	**12 42 34.8**	**-0.2**
	comp=Z,8.2nm,0.8s,mb4.8									
CTA	**Charters Tower**	**47.73**	**114**		P		**P**	**12 42 35.0**	**0.0**
	comp=Z,9.2nm,0.8s,mb4.9,baz=275,slow=12,SNR=12									
CTA	**Charters Tower**	**47.73**	**114**	*e*	P		**P**	**12 42 34.8**	**-0.2**
CTA					pmax		pmax			
	comp=Z,8.0nm,0.8s									
KS15	**Wonju Array Si**	**47.99**	**30**	*e*	P		**P**	**12 42 36.7**	**0.0**
STKA	**Stephens Creek**	**48.00**	**131**	*e*	P		**P**	**12 42 37.7**	**+0.8**
	comp=Z,5.3nm,0.6s,mb4.8									
STKA				*e*				12 42 44.1		
STKA	**Stephens Creek**	**48.00**	**131**		P		**P**	**12 42 37.6**	**+0.7**
	comp=Z,8.9nm,0.9s,mb4.8,baz=304,slow=7.2,SNR=18									
STKA					pP		pP	12 42 44.0	-1.8	
	comp=Z,13nm,0.6s,baz=310,slow=9.4,SNR=16									
KSRS	**Korea Array**	**48.02**	**30**		P		**P**	**12 42 35.9**	**-1.0**
	comp=Z,37nm,1.2s,mb5.3,baz=220,slow=8.4,SNR=34									
WMQ	**Urumqi**	**48.32**	**348**		P		**P**	**12 42 39.8**	**+0.7**
WMQ					AP		pP	12 42 49.8	+1.8
WMQ					XP		sP	12 42 53.8	+2.2
WMQ					PCP		PcP	12 44 06.3	+0.7
WMQ					PP		PP	12 44 32.0	+0.1
WMQ					AMB		AMB			
	comp=Z,50nm,0.8s,mb5.6									
WMQ					AMB		AMB			
	comp=Z,183nm,5.2s									
WMQ					LR		LR			
	comp=N,837nm,22.0s,MS4.9									
WMQ					LR		LR			
	comp=E,1μm,25.0s,MS4.9									
WMQ					LR		LR			
	comp=Z,805nm,23.8s,MS4.6									
UCH	**Uchtor**	**51.06**	**335**		P		**P**	**12 43 01.6**	**+1.5**
	SNR=5.1									
UCH	**Uchtor**	**51.06**	**335**	*e*	P		**P**	**12 43 01.4**	**+1.4**
	comp=Z,28nm,1.4s,mb5.0									
TKM2	**Tokmak 2**	**51.21**	**337**	*e*	P		**P**	**12 43 01.5**	**+0.4**
TKM2					pmax		pmax			
	comp=Z,23nm,0.9s,mb5.1									
TKM2	**Tokmak 2**	**51.21**	**337**		P		**P**	**12 43 01.9**	**+0.8**
	SNR=6.1									
TKM2	**Tokmak 2**	**51.21**	**337**	*e*	P		**P**	**12 43 01.5**	**+0.4**
	comp=Z,23nm,0.9s,mb5.1									
KBK	**Karagaybulak**	**51.24**	**336**		P		**P**	**12 43 02.8**	**+1.4**
	SNR=8.4									
SONM	**Songino Array**	**51.26**	**5**		P		**P**	**12 43 01.8**	**+0.5**
	comp=Z,51nm,0.9s,mb5.4,baz=188,slow=9.3,SNR=266									
SONM					pP		pP	12 43 09.1	-1.2	
	comp=Z,26nm,0.8s,baz=194,slow=8.8,SNR=19									
SONM					PcP		PcP	12 44 16.6	+0.4	
	comp=Z,5.2nm,0.7s,baz=180,slow=4.2,SNR=5.2									
SONM					ScP		ScP	12 48 12.1	+1.2	
	comp=Z,0.4nm,0.8s,baz=193,slow=5.9,SNR=2.6									
SONM	**Songino Array**	**51.26**	**5**		P		**P**	**12 43 01.8**	**+0.4**
SONM					*PP		pP	12 43 09.1	-1.2	
SONM								12 44 16.6		
AML	**Almayashu**	**51.33**	**335**		P		**P**	**12 43 03.5**	**+1.4**
	SNR=6.7									
EKS2	**Erkin-Say**	**51.73**	**335**		P		**P**	**12 43 06.0**	**+1.0**
	SNR=9.4									
EKS2	**Erkin-Say**	**51.73**	**335**	*e*	P		**P**	**12 43 05.6**	**+0.6**
	comp=Z,26nm,0.8s,mb5.1									
USP	**Ospenovka**	**51.93**	**336**		P		**P**	**12 43 08.0**	**+1.4**
	SNR=6.2									
CN2	**Changchun**	**52.09**	**23**	⇑	P		**P**	**12 43 06.5**	**-1.2**
CN2				*e*	XP		sP	12 43 20.4	+0.2	
CN2					AMB		AMB			
	comp=Z,60nm,1.0s,mb5.5									
CN2					AMB		AMB			
	comp=Z,200nm,5.0s									
CN2					LR		LR			
	comp=N,600nm,23.0s,MS4.7									
CN2					LR		LR			
	comp=E,400nm,23.0s,MS4.7									
CN2					LR		LR			
	comp=Z,600nm,22.0s,MS4.6									
MK31	**Makanchi Array**	**52.42**	**344**	*i*	P		**P**	**12 43 10.1**	**0.0**
MK31					pmax		pmax			
	comp=Z,26nm,0.6s,mb5.3									
MK31	**Makanchi Array**	**52.42**	**344**	*e*	P		**P**	**12 43 10.1**	**0.0**
MKAR	**Makanchi Array**	**52.42**	**344**		P		**P**	**12 43 10.2**	**+0.1**
	comp=Z,26nm,0.6s,mb5.3,baz=146,slow=7.8,SNR=259									
MAT	**Matsushiro**	**53.12**	**38**		P		**P**	**12 43 13.4**	**-2.1**
MJAR	**Matsushiro Arr**	**53.12**	**38**		P		**P**	**12 43 14.0**	**-1.5**
	comp=Z,8.7nm,1.0s,mb4.6,baz=219,slow=7.8,SNR=19									
KK31	**Karatay Array**	**53.51**	**333**	*i*	P		**P**	**12 43 17.6**	**-0.6**
ZAK	**Zakamensk**	**53.59**	**2**	⇑	*i* P		**P**	**12 43 18.7**	**+0.1**
ZAK				*e*				12 44 25.3		
ZAK					pmax		pmax			
	comp=Z,5.0nm,1.1s,mb4.4									
MDJ	**Mudanjiang**	**54.46**	**25**		P		**P**	**12 43 25.0**	**-0.1**
MDJ					XP		sP	12 43 36.6	-1.0	
MDJ					PCP		PcP	12 44 28.1	-0.3	
MDJ					PP		PP	12 45 28.0	+0.4	
MDJ					SCP		ScP	12 48 23.9	-1.0	
MDJ					PCS		PcS	12 48 27.6	-0.2	
MDJ					AMB		AMB			
	comp=Z,16nm,1.0s,mb4.9									
MDJ					AMB		AMB			
	comp=Z,90nm,4.6s									
MDJ					LR		LR			
	comp=N,2μm,14.2s,MS5.4									
MDJ					LR		LR			
	comp=E,1μm,12.8s,MS5.4									
MDJ					LR		LR			
	comp=Z,2μm,15.6s,MS5.4									
MDJ	**Mudanjiang**	**54.46**	**25**	*e*	P		**P**	**12 43 24.5**	**-0.6**
	comp=Z,13nm,1.0s,mb4.8									
TLY	**Talaya**	**54.90**	**3**	*e*	P		**P**	**12 43 28.7**	**+0.5**
TLY					pmax		pmax			
	comp=Z,16nm,1.2s,mb4.9									
HIA	**Hailar**	**55.05**	**15**	*e*	P		**P**	**12 43 27.4**	**-1.9**
KURK	**Kurchatov**	**57.00**	**344**		P		**P**	**12 43 43.6**	**+0.4**
	comp=Z,234nm,0.8s,mb6.3,SNR=17									
KURK	**Kurchatov**	**57.00**	**344**		P		**P**	**12 43 42.6**	**-0.5**
	comp=Z,22nm,0.9s,mb5.2,baz=163,slow=6.9,SNR=27									
KURK	**Kurchatov**	**57.00**	**344**	*e*	P		**P**	**12 43 43.1**	**-0.1**
KURK					pmax		pmax			
	comp=Z,37nm,0.9s,mb5.4									
KURK	**Kurchatov**	**57.00**	**344**	*e*	P		**P**	**12 43 43.1**	**-0.1**
	comp=Z,37nm,0.9s,mb5.4									
ZALV	**Zalesovo Beam**	**58.56**	**349**		P		**P**	**12 43 53.7**	**-0.4**
	comp=Z,36nm,0.9s,mb5.4,baz=163,slow=5.6,SNR=132									
ZALV	**Zalesovo Beam**	**58.56**	**349**		P		**P**	**12 43 53.7**	**-0.4**
KLR	**Kul'dur**	**59.03**	**23**	*e*	P		**P**	**12 43 52.4**	**-5.1**
KLR					pmax		pmax			
	comp=E,25nm,1.2s									
KLR					pmax		pmax			
	comp=Z,60nm,1.2s,mb5.5									
HNR	**Honiara**	**59.48**	**99**	*e*	P		**P**	**12 43 59.6**	**-1.7**
HNR					pmax		pmax			
	comp=Z,85nm,1.0s,mb5.7									
HNR	**Honiara**	**59.48**	**99**	*e*	P		**P**	**12 43 59.6**	**-1.7**
	comp=Z,85nm,1.0s,mb5.7									
NVS	**Novosibirsk**	**59.71**	**349**	⇑	*i* P		**P**	**12 44 01.0**	**-1.0**
NVS					pmax		pmax			
	comp=Z,24nm,1.7s,mb5.0									
NVS					pmax		pmax			
	comp=N,24nm,1.5s									
NVS					pmax		pmax			
	comp=E,9.0nm,1.3s									
HABR	**Khabarovsk**	**59.83**	**26**	*e*	P		**P**	**12 43 59.8**	**-3.2**
HABR					*eS		**S**	**12 52 08.4**	**-4.2**
NAY	**Al-Naaiem**	**60.29**	**306**	*e*	P		**P**	**12 44 06.2**	**-0.3**
	baz=306									
NAY					AMb		AMB	12 44 17.0		
	comp=Z,11nm,1.1s,mb4.8,baz=306									
MIB	**Mutribah**	**60.44**	**307**	*e*	P		**P**	**12 44 07.3**	**-0.2**
	baz=307									
MIB					AMb		AMB	12 44 16.1		
	comp=Z,26nm,1.0s,mb5.2,baz=307									
RST	**Umm Al-Ruwaisa**	**60.59**	**307**	*e*	P		**P**	**12 44 08.1**	**-0.5**
	baz=307									
RST					AMb		AMB	12 44 16.6		
	comp=Z,12nm,1.0s,mb5.0,baz=307									
BVA0	**Borovoye Array**	**61.57**	**340**	*i*	P		**P**	**12 44 13.3**	**-1.5**
BVA0					pmax		pmax			
	comp=Z,2.0nm,0.8s,mb4.3									
BRVK	**Borovoye**	**61.63**	**340**		P		**P**	**12 44 14.0**	**-1.2**
	comp=Z,66nm,0.6s,mb5.9,SNR=5.7									
BRVK	**Borovoye**	**61.63**	**340**	*e*	P		**P**	**12 44 13.9**	**-1.3**
BOD	**Bodaibo**	**61.97**	**8**	*e*	P		**P**	**12 44 16.5**	**-0.8**
BOD					pmax		pmax			
	comp=Z,17nm,1.1s,mb5.1									
YSS	**Yuzh-Sakhalins**	**62.45**	**31**	⇑	*e* P		**P**	**12 44 19.9**	**-0.9**
YSS					pmax		pmax			
	comp=Z,44nm,1.4s,mb5.4									
AB31	**Akbulak array**	**62.99**	**332**	*i*	P		**P**	**12 44 23.5**	**-0.8**
AB31					pmax		pmax			
	comp=Z,19nm,0.7s,mb5.3									
AKTK	**Aktyubinsk**	**64.70**	**332**		P		**P**	**12 44 34.9**	**-0.8**
AKTO	**Aktyubinsk**	**64.70**	**332**		P		**P**	**12 44 34.9**	**-0.8**
	comp=Z,4.5nm,0.8s,mb4.5,baz=110,slow=14,SNR=10									
SVE	**Sverdlovsk**	**68.06**	**338**	⇑	*e* P		**P**	**12 44 57.2**	**+0.2**
SVE					pmax		pmax			
	comp=Z,30nm,1.1s,mb5.2									
ARU	**Arti**	**68.58**	**337**	*c*	*i* P		**P**	**12 44 59.4**	**-0.8**
ARU				*e*				12 45 23.2		
ARU				*e*				12 47 29.8		
ARU				*e*	S		S	12 54 01.6	+0.9	
ARU				*e*	SS		SS	12 58 19.7	-5.7	
ARU					pmax		pmax			
	comp=Z,30nm,1.7s,mb5.0									
ARU	**Arti**	**68.58**	**337**	*e*	P		**P**	**12 44 59.4**	**-0.8**
	comp=Z,27nm,1.3s,mb5.0									
YAK	**Yakutsk**	**68.97**	**14**	*e*	P		**P**	**12 44 59.7**	**-2.8**
YAK					pmax		pmax			
	comp=Z,38nm,0.8s,mb5.4									
YAK					pmax		pmax			
	comp=N,6.0nm,0.8s									
YAK					pmax		pmax			
	comp=E,15nm,1.4s									
YAK	**Yakutsk**	**68.97**	**14**	*e*	P		**P**	**12 45 00.5**	**-2.0**
MAW	**Mawson**	**69.06**	**194**		P		**P**	**12 45 03.7**	**+0.6**
	comp=E,1.8nm,0.9s,mb4.0,baz=61,slow=17,SNR=3.3									
ASF	**Jabal al Asfar**	**69.65**	**306**		P		**P**	**12 45 08.9**	**+1.5**
	comp=E,1.4nm,0.5s,mb4.1,baz=97,slow=2.7,SNR=3.8									
KIV	**Kislovodsk**	**69.79**	**319**	*e*	P		**P**	**12 45 08.4**	**+0.4**
KIV					pmax		pmax			
	comp=Z,20nm,1.1s,mb5.0									
SOKR	**Solikamsk**	**71.44**	**338**	*e*	P		**P**	**12 45 19.1**	**+1.3**
SOKR					pmax		pmax			
	comp=Z,30nm,0.9s,mb5.2									
VRHR	**Novokhopersk**	**73.64**	**326**	*e*	P		**P**	**12 45 30.5**	**-0.5**
VRHR					*e*PP		pP	12 45 37.4	-2.9	
VRHR					pmax		pmax			
	comp=Z,20nm,0.6s,mb5.2									
VRHR					pmax		pmax			
	comp=N,20nm,0.7s									
VRHR					pmax		pmax			
	comp=E,20nm,0.7s									
PETK	**Petropavlovsk-**	**73.85**	**32**		P		**P**	**12 45 31.4**	**-0.8**
	comp=E,5.7nm,0.8s,mb4.5,baz=251,slow=2.0,SNR=3.2									
BR131	**Keskin Array S**	**74.48**	**313**	*e*	P		**P**	**12 45 35.1**	**-1.2**
VSR	**Storozhevoye**	**75.08**	**325**	*e*	P		**P**	**12 45 38.8**	**-0.6**
VSR					*e*PP		pP	12 45 45.5	-3.2	
VSR					pmax		pmax			
	comp=N,6.0nm,0.7s									
VSR					pmax		pmax			
	comp=Z,7.0nm,0.7s,mb4.7									
VSR					pmax		pmax			
	comp=E,10.0nm,0.9s									
SEY	**Seymchan**	**76.75**	**22**	⇑	*e* P		**P**	**12 45 47.5**	**-1.2**
TIXI	**Tiksi**	**77.14**	**9**	*e*	P		**P**	**12 45 48.9**	**-1.8**
TIXI					pmax		pmax			
	comp=Z,22nm,1.2s,mb5.0									
TIXI	**Tiksi**	**77.14**	**9**	*e*	P		**P**	**12 45 49.0**	**-1.7**
	comp=Z,16nm,1.0s,mb4.9									
OBN	**Obninsk**	**78.12**	**328**	⇑	*e* P		**P**	**12 45 56.5**	**0.0**
OBN				*e*				12 48 55.3		
OBN				*e*	S		S	12 55 50.2	+1.4	
OBN					pmax		pmax			
	comp=Z,24nm,0.9s,mb5.1									
AKASG	**Malin Array Be**	**80.76**	**322**		P		**P**	**12 46 10.3**	**-0.7**
	comp=Z,2.6nm,0.8s,mb4.2,baz=98,slow=4.5,SNR=8.4									
AKASG					pP		pP	12 46 17.7	-2.7	
	comp=Z,2.6nm,0.8s,baz=85,slow=4.8,SNR=3.8									
AKASG	**Malin Array Be**	**80.76**	**322**	*i*	P		**P**	**12 46 10.3**	**-0.7**
AKASG					pmax		pmax			
	comp=Z,3.0nm,0.8s									
AKASG	**Malin Array Be**	**80.76**	**322**		P		**P**	**12 46 10.3**	**-0.7**
AKASG					pP		pP	12 46 17.7	-2.7	
VRI	**Vrincioaia**	**81.07**	**317**	⇓	P		**P**	**12 46 14.0**	**+1.2**
MLR	**Muntele Rosu**	**81.52**	**317**	⇑	P		**P**	**12 46 16.3**	**+1.2**
SBA	**Scott Base**	**81.86**	**169**	*e*	P		**P**	**12 46 19.1**	**+2.7**
SBA					pmax		pmax			
	comp=Z,104nm,2.8s,mb5.3									
SBA	**Scott Base**	**81.86**	**169**	*e*	P		**P**	**12 46 19.1**	**+2.7**
	comp=Z,104nm,2.8s,mb5.3									
BURAR	**Bucovina Array**	**82.50**	**319**	⇑	P		**P**	**12 46 23.7**	**+3.4**
BUR08	**Bucovina Ar. S**	**82.52**	**319**	*e*	P		**P**	**12 46 21.1**	**+0.7**
BUR08				*e*	pP		pP	12 46 29.0	-0.7	
JOF	**Joensuu**	**83.58**	**335**	*e*	p		**P**	**12 46 25.1**	**-0.4**
	comp=Z,3.8nm,0.7s,mb4.6									
JOF	**Joensuu**	**83.58**	**335**	*e*	P		**P**	**12 46 25.1**	**-0.4**
JOF					pmax		pmax			
	comp=Z,4.0nm,0.7s,mb4.7									
LVZ	**Lovozero**	**84.17**	**340**	⇑	*e* P		**P**	**12 46 27.2**	**-1.2**
LVZ					pmax		pmax			
	comp=Z,16nm,1.0s,mb5.1									
BILL	**Bilibino**	**84.31**	**20**	⇑	*e* P		**P**	**12 46 28.3**	**-0.8**
BILL				*e*				12 49 47.3		
BILL					pmax		pmax			
	comp=Z,9.0nm,1.2s,mb4.8									
BZS	**Buzias**	**84.52**	**316**	⇑	P		**P**	**12 46 31.4**	**+0.7**
SUW	**Suwalki**	**85.18**	**325**	*e*	P		**P**	**12 46 33.6**	**-0.2**
SUW	**Suwalki**	**85.18**	**325**	*e*	P		**P**	**12 46 33.6**	**-0.2**
KAF	**Kangasniemi**	**85.54**	**333**	*e*	p		**P**	**12 46 34.9**	**-0.5**
	comp=Z,4.1nm,0.7s,mb4.8									
KAF	**Kangasniemi**	**85.54**	**333**	*e*	P		**P**	**12 46 34.9**	**-0.5**
KAF					pmax		pmax			
	comp=Z,4.0nm,0.7s,mb4.8									
QSPA	**South Pole Qui**	**86.61**	**180**		P		**P**	**12 46 42.0**	**+1.5**
	comp=Z,0.6nm,0.8s,mb3.9,baz=357,slow=3.4,SNR=4.4									
ARCES	**ARCESS Array B**	**87.86**	**340**		P		**P**	**12 46 46.6**	**0.0**
	comp=Z,5.5nm,0.8s,mb4.8,baz=76,slow=6.7,SNR=7.3									
MORC	**Moravsky Berou**	**87.89**	**320**	*e*	P		**P**	**12 46 47.6**	**+0.4**
GEC2	**GERESS Array S**	**90.29**	**319**	*e*	P		**P**	**12 46 58.3**	**-0.2**
GERES	**GERESS Array B**	**90.29**	**319**		P		**P**	**12 46 59.1**	**+0.7**
	comp=Z,1.4nm,0.9s,mb4.3,baz=76,slow=5.6,SNR=9.7									
GERES					pP		pP	12 47 07.0	-0.9	
	comp=Z,2.1nm,0.9s,baz=97,slow=3.2,SNR=8.0									
KHC	**Kasperske Hory**	**90.39**	**319**	*e*	P		**P**	**12 46 58.8**	**-0.2**
CLL	**Collm**	**90.93**	**321**	*e*	P		**P**	**12 47 02.0**	**+0.6**
CLL					e(pP)		pP	12 47 09.0	-1.9	
	comp=Z,6.0nm,1.3s									
SNAA	**Sanae**	**90.96**	**198**	⇑	*e* P		**P**	**12 47 01.7**	**+0.5**
SPB4	**Spitsbergen Ar**	**92.03**	**348**		P		**P**	**12 47 04.9**	**-1.1**
NB2	**NORSAR Subarra**	**92.49**	**331**		P		**P**	**12 47 06.3**	**-2.1**
	comp=Z,3.7nm,1.1s,mb4.6,baz=90,slow=5.3									
NOA	**NORSAR Array B**	**92.49**	**331**		P		**P**	**12 47 08.1**	**-0.3**
	comp=Z,1.6nm,1.0s,mb4.3,baz=86,slow=5.7,SNR=4.0									
NVAR	**Mina Array Bea**	**130.43**	**40**		PKP		PKPdf	12 53 10.2	+1.6	
	comp=Z,1.2nm,0.7s,baz=293,slow=1.7,SNR=7.3									
PDAR	**Pinedale Array**	**132.59**	**30**		PKP		PKPdf	12 53 13.5	+1.0	
	comp=Z,0.3nm,0.6s,baz=318,slow=1.2,SNR=3.3									
ANMO	**Albuquerque**	**139.92**	**35**	⇑	*i* PKIKP		PKPdf	12 53 19.9	-6.5	
SIUC	**Southern Illin**	**144.71**	**13**	*e*	PKP		PKPdf	12 53 32.9	-1.8	
WCI	**Wyandotte Cave**	**144.77**	**9**	*e*	PKIKP		PKPdf

IPM **Ipoh** 7.76 5 ⇑P Pn 12 42 00.8 +2.1
IPM **Ipoh** 7.76 5 P Pn 12 42 00.3 +1.5
262nm,1.3s,2µm0.9nm
LEM **Lembang** 8.04 116 P Pn 12 42 04.3 +1.7
515nm,0.8s,7µm1.3nm
KULM **Kulim** 8.54 2 ⇓P Pn 12 42 09.4 -0.1
KTGM **Kuala Trenggan** 9.01 18 ⇑P Pn 12 42 21.4 +5.4
COCO **West Island** 9.49 201 *eP* Pn 12 42 20.0 -2.5
SNG **Songkhla** 10.41 1 P Pn 12 42 35.0 -0.2
260nm,1.1s
KSM **Kuching** 11.03 65 ⇑P Pn 12 42 45.9 +2.3
KSM **Kuching** 11.03 65 *e*Pn Pn 12 42 43.9 +0.3
TRT **Tretes** 12.98 110 ⇓*e*P Pn 12 43 11.0 +0.6
SBUM **Sibu** 13.17 64 ⇑P Pn 12 43 16.3 +3.4
BTM **Bintulu** 14.27 63 ⇑P Pn 12 43 32.9 +4.9
KKM **Kota Kinabalu** 18.36 60 ⇓P Pn 12 44 20.9 +0.4
KKM **Kota Kinabalu** 18.36 60 *e*P Pn 12 44 19.7 -0.8
NST **Nakhon Sawan** 18.85 359 P Pn 12 44 21.5 -4.9
SDKM **Sandakan** 19.02 62 ⇓P Pn 12 44 28.3 -0.2
TSM **Tawau** 19.06 67 ⇓P Pn 12 44 29.1 +0.2
KDM **Kudat** 19.33 58 ⇓P Pn 12 44 31.9 -0.3
MYLDM **Lahad Datu** 19.99 65 ⇓P Pn 12 44 40.1 0.0
WSI **Waingapu** 20.79 109 ⇓*e*P P 12 44 45.4 -1.5
CMAR **Chiang Mai Arr** 21.67 356 P P 12 44 53.8 -2.4
12nm,0.6s,mb4.5,baz=186,slow=9.9,SNR=58
CMAR PCP PcP 12 48 58.7 +1.4
2.0nm,0.7s,baz=217,slow=2.9,SNR=4.9
CMAR LR LR 12 54 59.8
comp=Z,3µm,18.9s,MS4.8,baz=170,slow=41
CMAR **Chiang Mai Arr** 21.67 356 P P 12 44 53.8 -2.5
CMAR 12 48 58.7
CHG **Chiang Mai** 22.02 356 ⇓P P 12 44 58.1 -1.9
30nm,0.9s,mb4.7
CHTO **Chiang Mai** 22.02 356 *eP* P 12 44 57.4 -2.6
KDI **Kendari** 22.23 92 ⇓*eP* P 12 45 01.6 -0.8
KDI *eS* S 12 49 04.5 -1.8
CHRT **Chiangrai** 23.04 359 ⇓P P 12 45 09.0 -1.8
416nm,1.1s,mb5.8
QIZ **Qiongzhong** 24.08 22 P P 12 45 20.1 -0.8
QIZ S S 12 49 42.1 +4.9
QIZ AMB AMB
comp=Z,451nm,8.1s
QIZ LR LR
comp=E,3µm,13.3s
QIZ LR LR
comp=Z,4µm,14.7s,MS5.0
BATI **Baumata** 24.13 108 P P 12 45 19.4 -2.1
comp=Z,44nm,0.7s,mb5.0,baz=126,slow=4.4,SNR=7.2
BATI S S 12 49 32.6 -5.6
comp=Z,39nm,0.6s,baz=144,slow=20,SNR=3.9
MDRS **Chennai** 25.75 310 *ex* x 12 46 09.2
MBWA **Marble Bar** 25.89 135 P P 12 45 36.8 -0.7
TRD **Trivandrum** 26.11 297 ⇓*ex* x 12 46 06.0
RCP **Roxas** 26.72 56 ⇓*eP* P 12 45 45.3 +0.3
VIS **Vishakhapatnam** 26.80 322 *eP* P 12 45 44.0 -1.7
VIS AMb AMB 12 45 56.5
comp=Z,38nm,1.3s,mb4.8
VIS *ex* x 12 45 58.6
comp=Z,39nm,2.0s
DAV **Davao City (W)** 27.21 68 P P 12 45 48.7 -0.7
comp=Z,106nm,0.4s,mb5.7,baz=328,slow=7.2,SNR=4.0
CAL **Calcutta** 28.24 336 *ex* x 12 45 49.9
CAL *ex* x 12 51 16.6
KMI **Kunming** 28.35 5 ⇑P P 12 46 00.1 +0.6
KMI AP pP 12 46 04.8 -2.0
KMI XP sP 12 46 06.0 -3.8
KMI PP PP 12 46 53.3 -11
KMI S S 12 50 48.8 +3.9
KMI XS sS 12 50 53.4 -3.5
KMI SCS ScS 12 56 45.5 +0.7
KMI AMB AMB
comp=Z,34nm,1.2s,mb4.8
KMI AMB AMB
comp=Z,296nm,5.8s
KMI LR LR
comp=N,3µm,13.0s
KMI LR LR
comp=E,3µm,18.5s
KMI LR LR
comp=Z,3µm,16.6s,MS5.0
FITZ **Fitzroy Crossi** 28.81 123 *eP* P 12 46 03.0 -0.7
comp=Z,28nm,0.8s,mb5.0
FITZ **Fitzroy Crossi** 28.81 123 P P 12 46 03.2 -0.5
comp=Z,10nm,0.9s,mb4.6,baz=279,slow=4.6,SNR=12
HYB **Hyderabad** 29.77 314 *i* P P 12 46 13.0 +0.7
HYB **Hyderabad** 29.77 314 *eP* P 12 46 13.0 +0.7
SHL **Shillong** 29.85 344 *i* P P 12 46 13.0 +0.2
SHL *i* x x 12 51 06.0
GYA **Guiyang** 30.21 11 ⇑*i*P P 12 46 16.8 +0.8
GYA PP PP 12 47 15.3 -9.2
GYA PCP PcP 12 49 16.5 -0.3
GYA S S 12 51 15.4 +1.3
GYA SCP ScP 12 52 57.8 +0.1
GYA AMB AMB
comp=Z,20nm,0.8s,mb4.9
GYA AMB AMB
comp=Z,190nm,5.8s
GYA LR LR
comp=N,5µm,17.4s,MS5.3
GYA LR LR
comp=E,4µm,18.0s,MS5.3
GYA LR LR
comp=Z,5µm,17.5s,MS5.2
BOK **Bokaro** 30.40 333 *eP* P 12 46 19.2 +1.5
BOK AMb AMB 12 46 25.7
comp=Z,70nm,1.6s,mb5.1
ODAN **Odare** 32.49 338 *eP* P 12 46 37.1 +1.0
comp=Z,53nm,0.7s,mb5.5
TAPN **Taplejung** 32.82 339 *eP* P 12 46 40.4 +1.4
comp=Z,150nm,0.9s,mb5.9
RAMN **Ramite** 32.88 337 *eP* P 12 46 40.5 +1.0
JBP **Jabalpur** 32.97 324 *eP* P 12 46 40.0 -0.3
JBP *eS* S 12 51 56.6 -0.7
KAKA **Kakadu** 33.08 108 *eP* P 12 46 34.8 -6.7
comp=Z,49nm,1.4s,mb5.2
QZH **Quanzhou** 33.20 31 P P 12 46 48.9 +6.6
QZH LR LR
comp=N,3µm,12.6s,MS5.5
QZH LR LR
comp=E,6µm,15.7s,MS5.5
QZH LR LR
comp=Z,4µm,16.8s,MS5.2
NWAO **Narrogin (SRO)** 33.45 154 LR LR 12 59 44.3
comp=Z,3µm,19.9s,MS5.0,baz=328,slow=35
JIRN **Jiri** 33.67 337 *eP* P 12 46 47.7 +1.3
comp=Z,113nm,0.9s,mb5.8
PKI **Pulchoki** 33.91 336 *eP* P 12 46 49.2 +0.8
POO **Poona** 33.94 311 *eP* P 12 46 48.5 -0.3
LSA **Lhasa** 33.98 346 P P 12 46 50.3 +1.3
LSA AP pP 12 46 56.3 -0.1
LSA LR LR
comp=N,900nm,18.2s
LSA LR LR
comp=E,1µm,23.9s
LSA LR LR
comp=Z,1µm,29.1s
LSA **Lhasa** 33.98 346 *eP* P 12 46 49.7 +0.7
LSA pmax pmax
comp=Z,27nm,0.6s,mb5.3
LSA **Lhasa** 33.98 346 *eP* P 12 46 49.7 +0.7
comp=Z,27nm,0.6s,mb5.4
GUN **Gumba** 34.02 337 *eP* P 12 46 50.8 +1.4
comp=Z,158nm,0.7s,mb6.0
DMN **Daman** 34.06 335 *eP* P 12 46 50.7 +0.9
KKN **Kakani** 34.15 336 *eP* P 12 46 51.4 +0.8
CD2 **Chengdu** 34.17 5 *eP* P 12 46 49.1 -1.6
CD2 AP pP 12 46 56.5 -1.6
CD2 XP sP 12 46 59.3 -1.8
CD2 PP PP 12 48 07.8 -0.6
CD2 PCP PcP 12 49 27.8 +0.3
CD2 S S 12 52 18.6 +2.8
CD2 XS sS 12 52 25.9 -2.0
CD2 PCS PcS 12 53 13.0 -0.7
CD2 SCS ScS 12 57 12.9 -0.5
CD2 AMB AMB
comp=Z,60nm,1.3s,mb5.4
CD2 AMB AMB
comp=Z,130nm,4.8s
CD2 LR LR
comp=N,3µm,18.0s,MS5.3
CD2 LR LR
comp=E,3µm,15.6s,MS5.3
CD2 LR LR
comp=Z,4µm,18.0s,MS5.2

BHPL **Bhopal** 34.58 321 *eP* P 12 46 52.1 -2.3
GKN **Gorkha** 34.61 335 *eP* P 12 46 55.2 +0.7
KOLN **Koldanda** 34.85 333 *eP* P 12 46 57.6 +0.9
comp=Z,58nm,0.7s,mb5.6
DANN **Dangsing** 35.28 334 *eP* P 12 47 01.4 +1.0
WHN **Wuhan** 36.21 21 P P 12 47 07.8 -0.5
WHN S S 12 52 47.5 +0.3
WHN AMB AMB
comp=Z,258nm,1.6s,mb5.9
WHN LR LR
comp=N,9µm,14.7s,MS5.7
WHN LR LR
comp=E,3µm,11.3s,MS5.7
WHN LR LR
comp=Z,12µm,14.5s,MS5.8
WRA **Warramunga Arr** 37.04 119 P P 12 47 14.6 -1.0
comp=Z,12nm,0.5s,mb5.0,baz=306,slow=9.2,SNR=68
WRA S S 12 52 58.2 -2.0
comp=Z,13nm,1.0s,baz=293,slow=15,SNR=19
WRAB **Tennant Creek** 37.05 119 P P 12 47 15.0 -0.6
comp=Z,191nm,0.5s,mb6.2,SNR=16
WRAB **Tennant Creek** 37.05 119 *eP* P 12 47 14.5 -1.1
WRAB **Tennant Creek** 37.05 119 *eP* P 12 47 14.1 -1.5
comp=Z,28nm,0.8s,mb5.2
WB2 **Warramunga Arr** 37.05 119 *eP* P 12 47 14.2 -1.4
AGRA **Agra** 37.27 326 *eP* P 12 47 15.3 -2.0
AGRA AMb AMB 12 47 28.0
comp=Z,99nm,0.5s,mb5.9
PTH **Pithoragarh** 37.94 331 *eP* P 12 47 23.7 +0.7
XAN **Xi'an** 38.01 12 P P 12 47 22.4 -1.1
XAN AP pP 12 47 26.5 -4.4
XAN XP sP 12 47 28.8 -5.1
XAN PP PP 12 48 50.3 -0.4
XAN S S 12 53 16.9 +2.5
XAN XS sS 12 53 24.1 -2.6
XAN AMB AMB
comp=Z,104nm,0.8s,mb5.6
XAN AMB AMB
comp=Z,242nm,6.8s
XAN LR LR
comp=N,1µm,14.8s,MS5.2
XAN LR LR
comp=E,2µm,14.8s,MS5.2
XAN LR LR
comp=Z,5µm,15.5s,MS5.4
ASAR **Alice Springs** 38.21 125 P P 12 47 25.4 -0.1
comp=Z,23nm,0.6s,mb5.0,baz=305,slow=6.6,SNR=43
ASAR S S 12 53 15.7 -2.2
comp=Z,4.2nm,1.0s,baz=292,slow=15,SNR=6.8
SONA **Sohna** 38.54 326 *eP* P 12 47 27.4 -0.6
SONA AMb AMB 12 47 39.2
comp=Z,59nm,1.9s,mb5.0
AYAN **Aya Nagar** 38.69 326 *eP* P 12 47 28.7 -0.7
AYAN AMb AMB 12 47 38.9
comp=Z,46nm,1.1s,mb5.1
NDI **New Delhi** 38.80 327 *eP* P 12 47 28.5 -1.7
JOSI **Joshimath** 39.09 331 *eP* P 12 47 33.3 +0.7
JOSI AMb AMB 12 47 40.2
comp=Z,348nm,1.2s,mb6.0
KHET **Khetri** 39.13 324 *eP* P 12 47 33.2 +0.2
NJ2 **Nanjing** 39.31 25 *eP* P 12 47 34.6 +0.1
NJ2 AP pP 12 47 43.3 +1.4
NJ2 XP sP 12 47 48.3 +3.4
NJ2 S S 12 53 35.5 +1.4
NJ2 AMB AMB
comp=Z,10.0nm,0.5s,mb4.8
NJ2 AMB AMB
comp=Z,170nm,4.0s
NJ2 LR LR
comp=N,2µm,23.2s,MS5.0
NJ2 LR LR
comp=E,2µm,18.9s,MS5.0
NJ2 LR LR
comp=Z,2µm,18.9s,MS4.9
LZH **Lanzhou** 39.32 4 ⇑P P 12 47 34.5 0.0
LZH AP pP 12 47 44.6 +2.7
LZH XP sP 12 47 48.5 +3.6
LZH PP PP 12 49 09.8 +4.8
LZH PCP PcP 12 49 44.0 +1.1
LZH S S 12 53 34.4 +0.3
LZH SS SS 12 56 21.6 -6.8
LZH SCS ScS 12 57 39.0 -2.9
LZH AMB AMB
comp=Z,166nm,1.4s,mb5.6
LZH AMB AMB
comp=Z,476nm,5.0s
LZH LR LR
comp=N,2µm,14.2s
LZH LR LR
comp=Z,4µm,17.3s,MS5.3
DDI **Dehra Dun** 39.65 329 *eP* P 12 47 36.2 -1.1
SMLA **Simla** 40.75 329 *i* P P 12 47 46.5 +0.1
TIY **Taiyuan** 42.32 14 *eP* P 12 48 01.8 +2.6
TIY LR LR
comp=N,3µm,13.4s,MS5.3
TIY LR LR
comp=E,1µm,13.8s,MS5.3
TIY LR LR
comp=Z,3µm,14.7s,MS5.3
GTA **Gaotai** 42.50 359 *eP* P 12 48 00.8 +0.1
GTA AP pP 12 48 04.4 -3.7
GTA XP sP 12 48 07.3 -3.8
GTA PCP PcP 12 49 53.8 +0.6
GTA S S 12 54 23.4 +1.9
GTA XS sS 12 54 29.9 -3.9
GTA SS SS 12 57 27.3 -4.4
GTA AMB AMB
comp=Z,34nm,1.3s,mb4.9
GTA AMB AMB
comp=Z,385nm,6.5s
GTA LR LR
comp=N,2µm,15.8s,MS5.3
GTA LR LR
comp=E,3µm,16.6s,MS5.3
GTA LR LR
comp=Z,1µm,16.9s,MS5.0
THN **Thein Dam** 42.53 329 *eP* P 12 47 58.7 -2.3
BTO **Baotou** 44.58 10 *eP* P 12 48 16.1 -1.3
HHC **Hu-ho-hao-te** 45.12 12 ⇑*i*P P 12 48 22.8 +1.1
HHC AP pP 12 48 32.5 +3.3
HHC XP sP 12 48 37.0 +4.8
HHC PCP PcP 12 50 03.3 +1.3
HHC PP PP 12 50 08.0 +0.5
HHC SCP ScP 12 53 52.1 -1.1
HHC S S 12 54 59.8 +0.2
HHC AMB AMB
comp=Z,91nm,1.2s,mb5.5
HHC AMB AMB
comp=Z,371nm,6.3s
HHC LR LR
comp=Z,2µm,15.0s,MS5.2
BJT **Baijiatuau** 45.49 17 *eP* P 12 48 24.2 -0.4
BJT pmax pmax
comp=Z,28nm,0.5s
BJT **Baijiatuau** 45.49 17 *eP* P 12 48 24.2 -0.4
comp=Z,28nm,0.5s,mb5.3
BJI **Beijing** 45.51 17 P P 12 48 24.6 -0.2
BJI PP PP 12 50 13.8 +2.1
BJI S S 12 55 12.0 +6.7
BJI AMB AMB
comp=Z,70nm,1.2s,mb5.5
BJI AMB AMB
comp=Z,494nm,4.5s
BJI LR LR
comp=Z,3µm,16.4s,MS5.3
CTA **Charters Tower** 47.74 114 *eP* P 12 48 42.1 -0.5
comp=Z,19nm,1.3s,mb5.0
CTA **Charters Tower** 47.74 114 P P 12 48 42.2 -0.4
comp=Z,16nm,0.7s,mb5.2,baz=293,slow=8.6,SNR=13
CTA **Charters Tower** 47.74 114 *eP* P 12 48 42.1 -0.5
CTA pmax pmax
comp=Z,19nm,1.3s
CTAO **Charters Tower** 47.74 114 *eP* P 12 48 41.8 -0.8
KS15 **Wonju Array Si** 47.93 30 *eP* P 12 48 43.5 -0.3
KSRS **Korea Array** 47.96 30 P P 12 48 43.2 -0.8
comp=Z,46nm,1.2s,mb5.4,baz=220,slow=8.0,SNR=49
KSRS LR LR 13 11 04.7
comp=Z,857nm,18.7s,MS4.8,baz=246,slow=39
STKA **Stephens Creek** 48.03 131 *eP* P 12 48 45.1 +0.4
comp=Z,21nm,0.7s,mb5.3
STKA **Stephens Creek** 48.03 131 P P 12 48 45.2 +0.5
comp=Z,10nm,0.7s,mb5.0,baz=306,slow=9.0,SNR=18
STKA LR LR 13 10 31.5
comp=Z,2µm,21.4s,MS5.1,baz=291,slow=38
WMQ **Urumqi** 48.27 348 P P 12 48 47.3 +1.0

WMQ AP pP 12 48 51.8 -2.1
WMQ XP sP 12 48 54.3 -2.5
WMQ PCP PcP 12 50 14.0 +0.9
WMQ PP PP 12 50 39.6 +0.6
WMQ S S 12 55 46.3 +1.7
WMQ XS sS 12 55 53.8 -3.3
WMQ SCS ScS 12 58 37.3 -0.5
WMQ AMB AMB
comp=Z,87nm,0.9s,mb5.8
WMQ AMB AMB
comp=Z,453nm,4.8s
WMQ LR LR
comp=N,706nm,21.0s,MS4.8
WMQ LR LR
comp=E,1µm,24.0s,MS4.8
WMQ LR LR
comp=Z,589nm,19.0s,MS4.6
UCH **Uchtor** 51.02 335 P P 12 49 07.0 -0.3
SNR=5.7
TKM2 **Tokmak 2** 51.16 337 *eP* P 12 49 08.9 +0.6
TKM2 pmax pmax
comp=Z,73nm,1.1s,mb5.5
TKM2 **Tokmak 2** 51.16 337 P P 12 49 09.2 +0.9
SNR=16
TKM2 **Tokmak 2** 51.16 337 *eP* P 12 49 08.9 +0.5
comp=Z,73nm,1.1s,mb5.5
KBK **Karagaybulak** 51.20 336 P P 12 49 09.9 +1.3
SNR=11
SONM **Songino Array** 51.20 5 P P 12 49 09.3 +0.8
comp=Z,50nm,0.7s,mb5.5,baz=188,slow=9.2,SNR=272
SONM pP pP 12 49 16.5 +0.4
comp=Z,50nm,0.7s,baz=186,slow=8.5,SNR=23
SONM PcP PcP 12 50 23.1 -0.6
comp=Z,8.4nm,0.8s,baz=178,slow=4.8,SNR=2.7
AML **Almayashu** 51.28 335 P P 12 49 10.1 +0.8
SNR=5.6
AML **Almayashu** 51.28 335 *eP* P 12 49 10.0 +0.7
comp=Z,24nm,0.8s,mb5.2
FRU **Bishkek** 51.48 336 *eP* P 12 49 12.0 +1.3
FRU *eS* S 12 56 31.0 +1.5
FRU *e* 12 56 45.0
FRU MLR MLR
comp=Z,2µm,21.0s,MS5.0
CHMS **Chumysh** 51.56 336 P P 12 49 11.8 +0.4
SNR=6.2
EKS2 **Erkin-Say** 51.68 335 P P 12 49 13.3 +1.1
SNR=15
EKS2 **Erkin-Say** 51.68 335 *eP* P 12 49 13.1 +0.9
USP **Ospenovka** 51.89 336 P P 12 49 14.2 +0.4
SNR=9.7
CN2 **Changchun** 52.03 23 ⇑P P 12 49 13.8 -1.1
CN2 *eS* S 12 56 37.9 +0.8
CN2 AMB AMB
comp=Z,10.0nm,1.3s,mb4.6
CN2 AMB AMB
comp=Z,200nm,5.0s
CN2 LR LR
comp=N,500nm,18.0s,MS4.7
CN2 LR LR
comp=E,400nm,18.0s,MS4.7
CN2 LR LR
comp=Z,500nm,21.0s,MS4.5
MK31 **Makanchi Array** 52.37 344 *eP* P 12 49 17.5 +0.2
MKAR **Makanchi Array** 52.37 344 P P 12 49 17.5 +0.2
comp=Z,40nm,0.7s,mb5.5,baz=146,slow=8.0,SNR=286
MKAR LR LR 13 16 24.0
comp=Z,511nm,18.8s,MS4.6,baz=163,slow=42
MKAR **Makanchi Array** 52.37 344 P P 12 49 17.5 +0.2
MKAR LR LR 13 16 24.0
MAJO **Matsushiro** 53.07 38 *eP* P 12 49 21.0 -1.7
MAJO pmax pmax
comp=Z,61nm,1.4s,mb5.3
MAJO **Matsushiro** 53.07 38 *eP* P 12 49 21.0 -1.7
comp=Z,61nm,1.4s,mb5.3
MAT **Matsushiro** 53.07 38 P P 12 49 20.8 -1.9
MJAR **Matsushiro Arr** 53.07 38 P P 12 49 20.9 -1.8
comp=Z,17nm,1.1s,mb4.9,baz=220,slow=7.8,SNR=27
KK31 **Karatay Array** 53.47 333 *i* P P 12 49 24.7 -0.8
ZAK **Zakamensk** 53.53 2 *eP* P 12 49 25.0 -0.8
ZAK *e* 12 50 27.5
ZAK pmax pmax
comp=Z,12nm,1.9s,mb4.5
TOO **Toolangi** 53.54 136 *eP* P 12 49 26.9 +0.8
MDJ **Mudanjiang** 54.40 25 P P 12 49 31.8 -0.5
MDJ AMB AMB
comp=Z,22nm,1.1s,mb5.0
MDJ AMB AMB
comp=Z,228nm,7.6s
MDJ **Mudanjiang** 54.40 25 *eP* P 12 49 31.3 -0.9
comp=Z,51nm,1.4s,mb5.3
MOY **Mondy** 54.76 0 *eP* P 12 49 35.0 +0.3
MOY pmax pmax
comp=Z,68nm,2.6s,mb5.2
TLY **Talaya** 54.84 3 P P 12 49 36.7 +1.4
comp=Z,114nm,1.4s,mb5.7,SNR=6.1
TLY **Talaya** 54.84 3 *eP* P 12 49 35.8 +0.5
TLY *e* 12 51 37.9
TLY *eS* S 12 57 27.1 +12
TLY pmax pmax
comp=Z,35nm,1.5s,mb5.2
TLY MLR MLR
comp=Z,2µm,15.0s,MS5.2
TLY **Talaya** 54.84 3 *eP* P 12 49 34.9 -0.4
comp=Z,27nm,1.1s,mb5.2
HIA **Hailar** 54.99 15 *eP* P 12 49 34.9 -1.6
HIA pmax pmax
comp=Z,58nm,1.4s
HIA **Hailar** 54.99 15 *eP* P 12 49 34.9 -1.5
comp=Z,58nm,1.4s,mb5.4
ARMA **Armidale** 55.37 125 *eP* P 12 49 41.1 +1.5
IRK **Irkutsk** 55.44 3 ⇑*i*P P 12 49 39.6 0.0
IRK pmax pmax
comp=Z,89nm,2.0s,mb5.5
KURK **Kurchatov** 56.95 344 P P 12 49 50.4 0.0
comp=Z,396nm,0.8s,mb6.5,SNR=6.6
KURK **Kurchatov** 56.95 344 P P 12 49 49.9 -0.6
comp=Z,27nm,0.8s,mb5.3,baz=163,slow=6.8,SNR=24
KURK **Kurchatov** 56.95 344 *eP* P 12 49 50.2 -0.2
ZALV **Zalesovo Beam** 58.50 349 P P 12 50 00.9 -0.4
comp=Z,42nm,0.8s,mb5.5,baz=175,slow=5.2,SNR=146
ZALV pP pP 12 50 10.1 +1.1
comp=Z,24nm,0.8s,baz=179,slow=5.3,SNR=11
ZALV LR LR 13 17 58.2
comp=Z,469nm,21.0s,MS4.6,baz=173,slow=39
ZALV **Zalesovo Beam** 58.50 349 P P 12 50 01.0 -0.3
ZALV *PP pP 12 50 10.1 +1.1
ZALV **Zalesovo Beam** 58.50 349 P P 12 50 00.9 -0.4
ZALV pP pP 12 50 10.1 +1.1
ZALV LR LR 13 17 58.1
KLR **Kul'dur** 58.97 23 *eP* P 12 50 00.0 -4.7
KLR *eS* S 12 58 20.0 +10
KLR pmax pmax
comp=Z,80nm,1.6s,mb5.5
KLR MLR MLR
comp=E,2µm,14.0s
KLR MLR MLR
comp=Z,3µm,14.0s,MS5.6
HNR **Honiara** 59.48 99 *eP* P 12 50 06.6 -2.3
HNR pmax pmax
comp=Z,206nm,1.3s,mb6.0
HNR **Honiara** 59.48 99 *eP* P 12 50 06.6 -2.3
comp=Z,206nm,1.3s,mb6.0
NVS **Novosibirsk** 59.65 349 ⇑*i*P P 12 50 08.2 -1.1
NVS *eS* S 12 58 07.0 -11
NVS pmax pmax
comp=Z,78nm,2.0s,mb5.4
NVS pmax pmax
comp=N,60nm,1.7s
NVS pmax pmax
comp=E,27nm,1.8s
NVS smax
comp=N,38nm,2.0s
HABR **Khabarovsk** 59.77 26 *eP* P 12 50 06.9 -3.3
HABR *eS* S 12 58 14.2 -5.7
RDF **Al-Radifah** 59.90 306 *eP* P 12 50 11.0 -0.5
baz=306
RDF AMb AMB 12 50 21.5
comp=Z,60nm,1.1s,mb5.5,baz=306
NAY **Al-Naaiem** 60.27 306 *eP* P 12 50 13.2 -0.8
baz=306
NAY AMb AMB 12 50 49.1
comp=Z,17nm,1.4s,mb4.9,baz=306
MIB **Mutribah** 60.41 307 *eP* P 12 50 14.3 -0.7
baz=307
MIB AMb AMB 12 50 25.1
comp=Z,57nm,1.3s,mb5.4,baz=307

RST	**Umm Al-Ruwaisa**	**60.56**	**307**	*e*P		**P**	**12 50 14.8**	**-1.2**
	baz=306							
RST				AMb		AMB	12 50 45.3	
	comp=Z,23nm,1.1s,mb5.2,baz=306							
BVA0	**Borovoye Array**	**61.52**	**340**	*i* P		**P**	**12 50 21.0**	**-1.0**
BVA0				pmax		pmax		
	comp=Z,5.0nm,1.0s,mb4.6							
BRVK	**Borovoye**	**61.58**	**340**	P		**P**	**12 50 21.1**	**-1.4**
	comp=Z,55nm,1.0s,mb5.9,SNR=7.9							
BRVK	**Borovoye**	**61.58**	**340**	*e*P		**P**	**12 50 21.4**	**-1.0**
BOD	**Bodaibo**	**61.91**	**8**	*e*P		**P**	**12 50 23.9**	**-0.7**
BOD				pmax		pmax		
	comp=Z,38nm,1.5s,mb5.3							
YSS	**Yuzh-Sakhalins**	**62.40**	**31**⇑	*e*P		**P**	**12 50 26.2**	**-1.9**
AB31	**Akbulak array**	**62.94**	**332**	*e*P		**P**	**12 50 30.7**	**-1.0**
KMBO	**Kilima Mbogo**	**63.08**	**270**	P		**P**	**12 50 36.0**	**+2.6**
	comp=Z,0.5nm,0.3s,mb4.1,baz=45,slow=20,SNR=2.5							
KMBO				LR		LR	13 16 59.7	
	comp=Z,516nm,18.4s,MS4.7,baz=98,slow=35							
CASY	**Casey**	**63.27**	**175**	*e*P		**P**	**12 50 34.7**	**+1.2**
AKTK	**Aktyubinsk**	**64.66**	**332**	P		**P**	**12 50 42.1**	**-0.8**
AKTO	**Aktyubinsk**	**64.66**	**332**	P		**P**	**12 50 42.1**	**-0.8**
	comp=Z,6.1nm,0.8s,mb4.7,baz=132,slow=6.4,SNR=14							
MAK	**Makhachkala**	**66.19**	**320**	*e*P		**P**	**12 50 51.4**	**-1.6**
MAK				*e*			12 53 21.2	
MAK				*e*S		S	12 59 37.8	-2.7
MAK				pmax		pmax		
	comp=Z,128nm,1.4s,mb5.8							
GNI	**Garni**	**66.70**	**316**	P		**P**	**12 50 57.1**	**+0.7**
	comp=Z,6.0nm,0.3s,mb5.1,baz=142,slow=21,SNR=3.2							
DGRG	**David-gareji**	**66.86**	**318**	P		**P**	**12 50 58.5**	**+1.1**
MTA	**Mtatsminda**	**67.36**	**318**	P		**P**	**12 51 00.7**	**+0.2**
SVE	**Sverdlovsk**	**68.01**	**338**⇓	*e*P		**P**	**12 51 03.8**	**-0.5**
SVE				*e*S		S	12 59 55.6	-6.4
SVE				*e*SS		SS	13 04 20.1	-4.5
SVE				pmax		pmax		
	comp=Z,42nm,1.0s,mb5.4							
SVE				MLR		MLR		
	comp=Z,792nm,20.0s,MS4.9							
ARU	**Arti**	**68.53**	**337**	P		**P**	**12 51 07.8**	**+0.2**
	comp=Z,99nm,0.9s,mb5.7,SNR=5.6							
ARU	**Arti**	**68.53**	**337**	*c i* P		**P**	**12 51 06.8**	**-0.8**
ARU				*e*			12 51 31.0	
ARU				*e*S		S	13 00 08.1	-0.1
ARU				*e*SS		SS	13 04 30.5	-2.2
ARU				pmax		pmax		
	comp=Z,42nm,1.7s,mb5.1							
ARU				MLR		MLR		
	comp=Z,800nm,21.0s,MS4.9							
ARU	**Arti**	**68.53**	**337**	*e*P		**P**	**12 51 07.0**	**-0.6**
	comp=Z,54nm,1.5s,mb5.2							
ONI	**Oni**	**68.65**	**318**	P		**P**	**12 51 09.8**	**+1.2**
YAK	**Yakutsk**	**68.91**	**14**	*e*P		**P**	**12 51 07.4**	**-2.4**
MAW	**Mawson**	**69.12**	**194**	*e*P		**P**	**12 51 12.4**	**+1.4**
	comp=Z,4.2nm,1.3s,mb4.2							
MAW	**Mawson**	**69.12**	**194**	P		**P**	**12 51 12.6**	**+1.6**
	comp=Z,1.6nm,0.8s,mb4.0,baz=62,slow=7.1,SNR=3.6							
MAW				LR		LR	13 14 21.9	
	comp=Z,995nm,21.5s,MS5.0,baz=70,slow=30							
MAW	**Mawson**	**69.12**	**194**	*e*P		**P**	**12 51 12.4**	**+1.4**
MAW				pmax		pmax		
	comp=Z,4.0nm,1.3s							
ASF	**Jabal al Asfar**	**69.63**	**306**	P		**P**	**12 51 16.0**	**+1.1**
	comp=Z,1.9nm,0.8s,mb4.1,baz=348,slow=17,SNR=5.5							
KIV	**Kislovodsk**	**69.75**	**319**	*e*P		**P**	**12 51 15.4**	**0.0**
KIV				*e*			12 51 40.3	
KIV				*e*S		S	13 00 22.6	-0.5
KIV				*e*SS		SS	13 04 49.0	-3.0
KIV				pmax		pmax		
	comp=Z,34nm,1.2s,mb5.2							
KIV				MLR		MLR		
	comp=Z,221nm,19.0s,MS4.4							
KIV	**Kislovodsk**	**69.75**	**319**	*e*P		**P**	**12 51 14.7**	**-0.7**
	comp=Z,46nm,1.3s,mb5.2							
SOC	**Sochi**	**71.55**	**318**	*e*P		**P**	**12 51 25.1**	**-1.3**
SOC				*e*			12 51 43.1	
SOC				*e*			12 54 03.5	
SOC				*e*PPP			12 55 53.8	
SOC				*e*S		S	13 00 41.4	-2.7
SOC				*e*			13 01 25.1	
SOC				*e*SS		SS	13 05 20.4	+0.7
SOC				pmax		pmax		
	comp=Z,20nm,0.9s,mb5.0							
SOC				MLR		MLR		
	comp=N,314nm,20.0s							
SOC	**Sochi**	**71.55**	**318**	*i* P		**P**	**12 51 26.5**	**+0.1**
SOC	**Sochi**	**71.55**	**318**	*i* P		**P**	**12 51 26.5**	**+0.1**
LSZ	**Lusaka**	**71.93**	**255**	P		**P**	**12 51 30.2**	**+1.0**
	comp=N,0.9nm,0.5s,mb4.0,baz=40,slow=7.9,SNR=2.4							
ANN	**Anapa**	**73.54**	**319**	*e*P		**P**	**12 51 35.9**	**-2.3**
ANN				*e*S		S	13 01 01.5	-5.2
ANN				pmax		pmax		
	comp=Z,21nm,1.6s,mb4.8							
ANN				MLR		MLR		
	comp=Z,285nm,22.0s,MS4.5							
VRHR	**Novokhopersk**	**73.60**	**326**	*e*P		**P**	**12 51 37.8**	**-0.6**
VRHR				*e**PP		pP	12 51 44.3	-2.0
VRHR				pmax		pmax		
	comp=Z,40nm,0.8s,mb5.4							
VRHR				pmax		pmax		
	comp=N,10.0nm,0.7s							
VRHR				pmax		pmax		
	comp=E,20nm,1.0s							
PETK	**Petropavlovsk-**	**73.79**	**32**	P		**P**	**12 51 38.7**	**-0.8**
	comp=E,11nm,1.0s,mb4.8,baz=234,slow=5.0,SNR=3.6							
PETK	**Petropavlovsk-**	**73.79**	**32**	P		**P**	**12 51 38.7**	**-0.8**
RPZ	**Rata Peaks**	**73.82**	**135**	P		**P**	**12 51 41.2**	**+1.3**
	comp=E,20nm,1.1s,mb5.0,baz=303,slow=18,SNR=1.8							
RPZ	**Rata Peaks**	**73.82**	**135**	P		**P**	**12 51 41.2**	**+1.2**
PET	**Petropavlovsk**	**74.26**	**32**	*e*P		**P**	**12 51 41.5**	**-0.7**
PET				MLR		MLR		
	comp=Z,500nm,20.0s,MS4.8							
BR131	**Keskin Array S**	**74.46**	**313**	*e*P		**P**	**12 51 42.8**	**-0.8**
VSR	**Storozhevoye**	**75.04**	**325**	*e*P		**P**	**12 51 46.2**	**-0.6**
VSR				*e**PP		pP	12 51 52.7	-2.0
VSR				pmax		pmax		
	comp=Z,10.0nm,0.7s,mb4.8							
VSR				pmax		pmax		
	comp=N,2.0nm,0.9s							
VSR				pmax		pmax		
	comp=E,10.0nm,0.7s							
ANTO	**Ankara**	**75.12**	**313**	⇓P		**P**	**12 51 55.2**	**+7.7**
BOSA	**Boshof**	**75.34**	**241**	P		**P**	**12 51 50.5**	**+1.4**
	comp=E,2.8nm,0.8s,mb4.2,baz=64,slow=3.1,SNR=4.5							
BOSA				LR		LR	13 22 05.7	
	comp=E,529nm,18.4s,MS4.9,baz=106,slow=33							
BOSA	**Boshof**	**75.34**	**241**	P		**P**	**12 51 50.5**	**+1.4**
BOSA				LR		LR	13 22 05.7	
SIM	**Simferopol'**	**75.79**	**318**	*e*P		**P**	**12 51 57.2**	**+5.9**
SIM				*e*			12 54 36.0	
SIM				*e*S		S	13 01 33.3	+1.4
SIM				pmax		pmax		
	comp=Z,19nm,1.1s,mb4.9							
SEY	**Seymchan**	**76.70**	**22**⇑	*e*P		**P**	**12 51 56.0**	**0.0**
SYO	**Syowa Base**	**76.76**	**199**⇑	*e*X			12 52 04.8	
TIXI	**Tiksi**	**77.08**	**9**	*e*P		**P**	**12 51 56.1**	**-1.9**
TIXI				pmax		pmax		
	comp=Z,57nm,1.4s,mb5.3							
TIXI	**Tiksi**	**77.08**	**9**	*e*P		**P**	**12 51 56.1**	**-1.9**
	comp=Z,58nm,1.4s,mb5.3							
URZ	**Urewera**	**77.57**	**128**	LR		LR	13 27 32.6	
	comp=Z,934nm,18.3s,MS5.1,baz=251,slow=37							
MOS	**Moscow**	**77.79**	**329**	*e*P		**P**	**12 52 01.0**	**-1.3**
MOS				*e*		pP	12 52 09.7	-0.5
MOS				pmax		pmax		
	comp=Z,300nm,2.0s,mb5.9							
MOS				pmax		pmax		
	comp=Z,101nm,1.5s,mb5.5							
OBN	**Obninsk**	**78.08**	**328**⇑	*e*P		**P**	**12 52 03.6**	**-0.3**
OBN				*e*			12 55 00.7	
OBN				*i* S		S	13 01 55.4	-1.0
OBN				*e*SS		SS	13 06 55.6	-2.7
OBN				pmax		pmax		
	comp=Z,78nm,1.5s,mb5.4							
OBN	**Obninsk**	**78.08**	**328**⇑	*e*P		**P**	**12 52 03.7**	**-0.2**
AKASG	**Malin Array Be**	**80.72**	**322**	P		**P**	**12 52 17.4**	**-1.1**
	comp=Z,2.0nm,0.7s,mb4.1,baz=92,slow=4.8,SNR=12							
AKASG				pP		pP	12 52 25.3	-1.1
	comp=Z,3.7nm,0.8s,baz=89,slow=4.7,SNR=5.5							
AKASG	**Malin Array Be**	**80.72**	**322**	*i* P		**P**	**12 52 17.5**	**-0.9**
AKASG				pmax		pmax		
	comp=Z,2.0nm,0.7s							
VRI	**Vrincioaia**	**81.04**	**317**	P		**P**	**12 52 21.0**	**+0.8**
MLR	**Muntele Rosu**	**81.48**	**317**	⇑P		**P**	**12 52 23.8**	**+1.2**
SBA	**Scott Base**	**81.92**	**169**	*e*P		**P**	**12 52 25.1**	**+0.8**
SBA				pmax		pmax		
	comp=Z,31nm,1.5s,mb5.0							
SBA	**Scott Base**	**81.92**	**169**	*e*P		**P**	**12 52 25.1**	**+0.7**
	comp=Z,31nm,1.5s,mb5.0							
BURAR	**Bucovina Array**	**82.46**	**319**	⇑P		**P**	**12 52 31.0**	**+3.3**
BUR08	**Bucovina Ar. S**	**82.48**	**319**	*e*P		**P**	**12 52 28.3**	**+0.5**
MNK	**Minsk**	**82.62**	**326**	*e*P		**P**	**12 52 27.0**	**-1.4**
MNK				pmax		pmax		
	comp=Z,70nm,1.5s,mb5.5							
JOF	**Joensuu**	**83.53**	**335**	*ep*		**P**	**12 52 32.0**	**-0.9**
	comp=Z,10.0nm,0.8s,mb5.0							
BILL	**Bilibino**	**84.25**	**20**	*e*P		**P**	**12 52 32.0**	**-4.5**
APA	**Apatity**	**84.42**	**339**⇓	*e*P		pP	12 52 46.6	+1.3
APA				pmax		pmax		
	comp=Z,77nm,1.6s,mb5.6							
APA				MLR		MLR		
	comp=Z,800nm,22.0s,MS5.1							
BZS	**Buzias**	**84.48**	**316**	⇓P		**P**	**12 52 37.8**	**-0.3**
KWP	**Kalwaria**	**84.52**	**320**	*e*P		**P**	**12 52 38.6**	**+0.3**
KWP				pmax		pmax		
	comp=Z,19nm,0.8s,mb5.3							
KWP	**Kalwaria**	**84.52**	**320**	*e*P		**P**	**12 52 38.6**	**+0.4**
	comp=Z,19nm,0.8s,mb5.3							
KOLS	**Kolonicke sedl**	**84.66**	**320**	*e*P		**P**	**12 52 39.9**	**+0.9**
SUW	**Suwalki**	**85.14**	**325**	*e*P		**P**	**12 52 39.9**	**-1.4**
SUW	**Suwalki**	**85.14**	**325**	*e*P		**P**	**12 52 39.9**	**-1.4**
CRVS	**Cervenica-Dubn**	**85.18**	**319**	*e*P		**P**	**12 52 40.1**	**-1.5**
STHS	**Stebnicka Huta**	**85.42**	**320**	*e*P		**P**	**12 52 43.6**	**+0.8**
STHS				*e*		pP	12 52 50.6	-0.2
STHS				*e*			12 53 02.4	
STHS				pmax		pmax		
	comp=Z,9.0nm,0.9s,mb4.9							
STHS	**Stebnicka Huta**	**85.42**	**320**	*e*P		**P**	**12 52 43.6**	**+0.8**
	comp=Z,9.0nm,0.9s,mb4.9							
STHS				*e*		pP	12 52 50.6	-0.2
STHS				*e*			12 53 02.4	
KAF	**Kangasniemi**	**85.50**	**333**	*ep*		**P**	**12 52 41.9**	**-0.9**
	comp=Z,11nm,0.8s,mb5.0,baz=102,slow=4.6							
KAF	**Kangasniemi**	**85.50**	**333**	*e*P		**P**	**12 52 41.9**	**-0.9**
KAF				pmax		pmax		
	comp=Z,11nm,0.8s,mb5.0							
NIE	**Niedzica**	**86.02**	**320**	*e*P		**P**	**12 52 46.8**	**+1.1**
PSZ	**Piszkesteto**	**86.04**	**318**	*e*P		**P**	**12 52 45.8**	**-0.1**
PSZ				pmax		pmax		
	comp=Z,29nm,1.4s,mb5.3							
PSZ	**Piszkesteto**	**86.04**	**318**	*e*P		**P**	**12 52 45.8**	**-0.1**
	comp=Z,29nm,1.4s,mb5.3							
OJC	**Ojcow**	**86.48**	**321**	*e*P		**P**	**12 52 45.2**	**-2.8**
OJC				*epP*		pP	12 52 56.8	+0.8
PKSM	**Moragy**	**86.63**	**316**	⇑P		**P**	**12 52 49.0**	**+0.2**
QSPA	**South Pole Qui**	**86.67**	**180**	P		**P**	**12 52 49.8**	**+1.4**
	comp=Z,2.1nm,1.1s,mb4.3,baz=302,slow=3.8,SNR=3.9							
VYHS	**Vyhne**	**86.83**	**319**	*e*P		**P**	**12 52 49.8**	**0.0**
VYHS				*ep*P		pP	12 53 04.2	+6.4
AFI	**Afiamalu**	**87.15**	**104**	LR		LR	13 31 41.2	
	comp=Z,299nm,18.6s,MS4.7,baz=125,slow=36							
KEV	**Kevo**	**87.37**	**340**	*ep*		**P**	**12 52 46.7**	**-5.2**
OKC	**Ostrava-Krasne**	**87.47**	**320**	*e*P		**P**	**12 52 53.5**	**+0.7**
OKC				*epP*		pP	12 53 01.1	+0.2
OKC				*e*S		S	13 03 34.1	+1.7
OKC				AMS		AMS	13 45 00.0	
	comp=Z,200nm,13.8s							
OKC	**Ostrava-Krasne**	**87.47**	**320**	*e*P		**P**	**12 52 53.5**	**+0.7**
OKC				*epP*		pP	12 53 01.1	+0.2
OKC				*e*S		S	13 03 34.1	+1.7
ARCES	**ARCESS Array B**	**87.81**	**340**	P		**P**	**12 52 54.6**	**+0.6**
	comp=Z,9.2nm,0.8s,mb5.1,baz=86,slow=5.3,SNR=11							
ARCES				LR		LR	13 36 35.3	
	comp=Z,648nm,20.6s,MS5.0,baz=102,slow=39							
MODS	**Modra-Piesok**	**87.84**	**319**	*e*P		**P**	**12 52 52.9**	**-1.7**
MORC	**Moravsky Berou**	**87.85**	**320**	⇑P		**P**	**12 52 55.4**	**+0.7**
MORC	**Moravsky Berou**	**87.85**	**320**	*e*P		**P**	**12 52 53.1**	**-1.5**
ZST	**Bratislava**	**87.94**	**318**	*e*P		**P**	**12 52 55.8**	**+0.7**
ZST				*e*			12 53 01.0	
ZST				pmax		pmax		
	comp=Z,8.0nm,1.2s,mb4.8							
ZST	**Bratislava**	**87.94**	**318**	*e*P		**P**	**12 52 55.8**	**+0.7**
	comp=Z,8.3nm,1.2s,mb4.8							
ZST				*e*			12 53 01.0	
DPC	**Dobruska-Polom**	**88.70**	**320**	*e*P		**P**	**12 52 59.3**	**+0.6**
DPC				*epP*		pP	12 53 07.0	+0.3
DPC				*e*S		S	13 03 45.0	+0.9
DPC				AMS		AMS	13 42 20.0	
	comp=Z,400nm,20.9s							
KSP	**Ksiaz**	**88.78**	**321**	*e*P		**P**	**12 52 59.0**	**0.0**
KSP				*e*S		S	13 03 42.0	-2.8
UPC	**Upice**	**88.92**	**321**	*e*P		**P**	**12 53 01.6**	**+1.9**
UPC				*epP*		pP	12 53 08.4	+0.7
TREC	**Trest**	**89.13**	**319**	*e*P		**P**	**12 53 01.6**	**+0.9**
TREC				*epP*		pP	12 53 08.4	-0.3
TREC				*e*S		S	13 03 45.0	-3.1
TREC				AMS		AMS	13 41 20.0	
	comp=Z,300nm,14.8s							
PRU	**Pruhonice**	**89.81**	**320**	*e*P		**P**	**12 53 04.2**	**+0.3**
PRU				*epP*		pP	12 53 11.6	-0.3
PRU				*e*S		S	13 03 52.9	-1.5
PRU				AMS		AMS	13 41 20.0	
	comp=Z,400nm,23.8s							
PVCC	**Panska Ves**	**89.84**	**320**	*e*P		**P**	**12 53 07.0**	**+3.0**
PVCC				*epP*		pP	12 53 12.7	+0.7
PVCC				AMS		AMS	13 44 00.0	
	comp=Z,400nm,15.3s							
GEC2	**GERESS Array S**	**90.25**	**319**	*e*P		**P**	**12 53 06.8**	**+0.8**
GEC2				*e**PP		pP	12 53 13.9	-0.1
GEC2				pmax		pmax		
	comp=Z,31nm,1.8s,mb5.3							
GEC2	**GERESS Array S**	**90.25**	**319**	*e*P		**P**	**12 53 06.8**	**+0.8**
	comp=Z,31nm,1.8s,mb5.3							
GEC2				*epP*		pP	12 53 13.9	-0.1
GERES	**GERESS Array B**	**90.25**	**319**	P		**P**	**12 53 06.4**	**+0.5**
	comp=Z,1.8nm,0.8s,mb4.5,baz=76,slow=5.6,SNR=16							
GERES				*epP*		pP	12 53 14.0	0.0
	comp=Z,5.9nm,1.1s,baz=106,slow=4.3,SNR=12							
GERES				LR		LR	13 40 50.9	
	comp=Z,395nm,20.1s,MS4.8,baz=89,slow=40							
GERES	**GERESS Array B**	**90.25**	**319**	P		**P**	**12 53 06.4**	**+0.4**
GERES				*e**PP		pP	12 53 14.0	0.0
BRG	**Berggiesshubel**	**90.27**	**321**	*e*P		**P**	**12 53 06.5**	**+0.5**
BRG				*e*		pP	12 53 13.5	-0.5
BRG				S		S	13 04 02.0	+3.3
BRG				pmax		pmax		
	comp=Z,7.0nm,1.2s,mb4.9							
BRG				MLR		MLR		
	comp=N,185nm,26.5s							
BRG				MLR		MLR		
	comp=E,113nm,16.5s							
BRG				MLR		MLR		
	comp=Z,217nm,15.6s							
BRG	**Berggiesshubel**	**90.27**	**321**	*e*P		**P**	**12 53 06.7**	**+0.7**
BRG				*epP*		pP	12 53 13.8	-0.2
BRG	**Berggiesshubel**	**90.27**	**321**	*e*P		**P**	**12 53 06.5**	**+0.5**
	comp=Z,11nm,1.1s,mb5.1							
BRG				*e*		pP	12 53 13.5	-0.6
	comp=Z,12nm,1.3s							
BRG				S		S	13 04 02.0	+3.3
BRG								
	comp=N,309nm,26.5s							
BRG								
	comp=E,189nm,16.5s							
BRG								
	comp=Z,362nm,15.6s							
KHC	**Kasperske Hory**	**90.36**	**319**	*e*P		**P**	**12 53 07.1**	**+0.7**
KHC				*epP*		pP	12 53 15.8	+1.3
KHC				*e*S		S	13 03 58.5	-1.1
KHC				AMS		AMS	13 43 30.0	
	comp=Z,300nm,19.2s							
WET	**Wettzell**	**90.82**	**319**	*e*P		**P**	**12 53 08.9**	**+0.3**
WET				*e**PP		pP	12 53 16.5	-0.1
WET				pmax		pmax		
	comp=Z,54nm,2.2s,mb5.5							
WET	**Wettzell**	**90.82**	**319**	*e*P		**P**	**12 53 08.9**	**+0.3**
	comp=Z,54nm,2.2s,mb5.5							
WET				*epP*		pP	12 53 16.5	-0.1
CLL	**Collm**	**90.89**	**321**	*i* P		**P**	**12 53 09.0**	**+0.1**
CLL				*e*S		S	13 04 07.0	+2.6
CLL				pmax		pmax		
	comp=Z,5.0nm,1.2s,mb4.7							
CLL				MLR		MLR		
	comp=Z,300nm,19.5s,MS4.7							
CLL	**Collm**	**90.89**	**321**	*e*P		**P**	**12 53 09.1**	**+0.2**
CLL	**Collm**	**90.89**	**321**	*i* P		**P**	**12 53 09.0**	**+0.1**
	comp=Z,5.0nm,1.2s,mb4.7							
CLL				*epP*		pP	12 53 16.0	-0.9
CLL				*e*S		S	13 04 07.0	+2.6
CLL				*e*PS		PS	13 05 18.0	+2.8
CLL				*e*SS		SS	13 10 00.0	-7.5
CLL				LmV			13 43 00.0	
	comp=Z,300nm,19.5s							
CLL	**Collm**	**90.89**	**321**	*i* P		**P**	**12 53 09.0**	**+0.1**
	comp=Z,5.0nm,1.2s,mb4.7							
CLL				*e*S		S	13 04 07.0	+2.6
CLL				LR		LR		
	comp=Z,300nm,19.5s,MS4.7							
SNAA	**Sanae**	**91.02**	**198**	*e*P		**P**	**12 53 14.6**	**+5.5**
HFS	**Hagfors**	**91.17**	**330**	LR		LR	13 39 22.0	
	comp=Z,523nm,20.3s,MS5.0,baz=220,slow=39							
NKC	**Novy Kostel**	**91.17**	**320**	*e*S		S	13 04 06.7	-0.3
NKC				AMS		AMS	13 41 40.0	
	comp=Z,300nm,19.5s							
TANN	**Tannenbergstha**	**91.17**	**320**	*e*P		**P**	**12 53 10.7**	**+0.5**
ROTZ	**Rotzenmuhle**	**91.30**	**320**	*e*P		**P**	**12 53 11.5**	**+0.7**
	comp=Z,29nm,2.0s,mb5.3							
MOX	**Moxa**	**91.72**	**320**	*e*P		**P**	**12 53 14.0**	**+1.2**
	comp=Z,8.0nm,1.3s,mb4.9							
GRA1	**Grafenberg Arr**	**91.93**	**319**	*e*P		**P**	**12 53 14.4**	**+0.7**
	comp=Z,58nm,2.0s,mb5.6							
GRA1				*ep*P		pP	12 53 22.0	+0.2
GRA1				LR		LR		
	comp=Z,300nm,19.3s,MS4.8							
GRF	**Grafenberg Arr**	**91.93**	**319**	*e*P		**P**	**12 53 14.4**	**+0.7**
GRF				*e**PP		pP	12 53 22.0	+0.2
GRF				pmax		pmax		
	comp=Z,58nm,2.0s,mb5.6							
GRF				MLR		MLR		
	comp=Z,300nm,19.3s,MS4.8							
GRF	**Grafenberg Arr**	**91.93**	**319**	*e*P		**P**	**12 53 14.4**	**+0.7**
	comp=Z,58nm,2.0s,mb5.6							
GRF				*ep*P		pP	12 53 22.0	+0.2
GRF				*e*L			13 42 53.3	
	comp=Z,304nm,19.3s							
SPITS	**Spitsbergen Ar**	**91.97**	**348**	LR		LR	13 41 34.0	
	comp=Z,488nm,18.6s,MS5.0,baz=340,slow=40							
NB2	**NORSAR Subarra**	**92.44**	**331**	P		**P**	**12 53 15.4**	**-0.5**
	comp=Z,0.9nm,0.8s,mb4.2,baz=93,slow=4.8							
NOA	**NORSAR Array B**	**92.44**	**331**	P		**P**	**12 53 15.3**	**-0.6**
	comp=Z,2.2nm,0.9s,mb4.5,baz=92,slow=4.8,SNR=4.8							
NOA				LR		LR	13 40 39.5	
	comp=Z,270nm,20.8s,MS4.7,baz=90,slow=39							
NOA	**NORSAR Array B**	**92.44**	**331**	P		**P**	**12 53 15.3**	**-0.6**
NOA				LR		LR	13 40 39.5	
STU	**Stuttgart**	**93.22**	**319**	*e*P		**P**	**12 53 20.0**	**+0.3**
TNS	**Taunus Mts**	**93.74**	**320**	*e*P		**P**	**12 53 22.8**	**+0.7**
RAR	**Rarotonga**	**98.00**	**112**	LR		LR	13 35 19.9	
	comp=Z,296nm,20.3s,MS4.8,baz=254,slow=34							
TORD	**Torodi Ar. Bea**	**99.17**	**283**	LR		LR	13 35 31.8	
	comp=Z,276nm,20.1s,MS4.8,baz=65,slow=34							
JMIC	**Jan Mayen**	**99.20**	**342**	LR		LR	13 47 40.4	
	comp=Z,295nm,20.3s,MS4.8,baz=68,slow=41							
IMA2	**Indian Mountai**	**99.45**	**23**	*e*P		**P**	**12 53 47.6**	**0.0**
TBI	**Tubuai**	**107.10**	**116**	*e*SS		SS	13 13 56.6	+0.7
	comp=Z,246nm,28.8s							
TBI	**Tubuai**	**107.10**	**116**	*e*LR		LR	13 29 49.5	
	comp=Z,567nm,23.5s							
PPT	**Papeete**	**108.04**	**110**	*e*SS		SS	13 14 06.8	-2.1
	comp=Z,167nm,25.2s							
PPT	**Papeete**	**108.04**	**110**	*e*LR		LR	13 30 13.9	
	comp=Z,475nm,24.2s							
RKT	**Rikitea**	**120.04**	**119**	*e*LR		LR	13 35 38.0	
	comp=Z,528nm,26.8s							
EDM	**Edmonton**	**123.03**	**23**	*e*PKIKP		PKPdf	12 59 01.1	-0.5
NVAR	**Mina Array Bea**	**130.37**	**40**	PKP		PKPdf	12 59 18.0	+1.9
	comp=Z,1.5nm,0.7s,baz=254,slow=1.5,SNR=9.6							
NVAR				SKPab			13 02 38.1	
	comp=Z,1.3nm,0.9s,baz=235,slow=3.2,SNR=4.2							
YMR	**Madison River**	**130.44**	**29**	*e*PKPdf		PKPdf	12 59 17.8	+1.8
ULM	**Lac du Bonnet**	**131.25**	**14**	PKP		PKPdf	12 59 17.5	+0.1
	comp=Z,2.6nm,0.6s,baz=282,slow=22,SNR=3.0							
PDAR	**Pinedale Array**	**132.53**	**30**	PKP		PKPdf	12 59 20.9	+0.9
	comp=Z,0.7nm,0.8s,baz=315,slow=0.8,SNR=4.4							
PDAR				SKP			13 02 53.9	
	comp=Z,0.8nm,0.9s,baz=336,slow=2.0,SNR=3.7							
PV10	**Paradox Valley**	**135.98**	**34**	*e*PKPdf		PKPdf	12 59 26.9	+0.2
ANMO	**Albuquerque**	**139.87**	**35**⇑	*i*PKIKP		PKPdf	12 59 33.0	-0.9
SIUC	**Southern Illin**	**144.65**	**13**	*e*PKP		PKPdf	12 59 40.3	-2.0
WCI	**

MTA				S	Sn	12 43 45.8	-1.5
ONI	**Oni**	**1.92**	**13**	P	Pn	12 43 26.9	-0.5
ONI				S	Sn	12 43 53.3	+1.9
DGRG	**David-gareji**	**2.03**	**68**	P	Pn	12 43 29.8	+0.7
DGRG				S	Sn	12 43 58.9	+4.7

*IDC **21** 13:12:26.0±1.4, 6326S×16439E, h0km, mb4.0/4, mb1 4.2/4, mb1mx4.0/11, mbtmp4.0/4, MS4.4/5, Ms1 4.3/5, ms1mx3.9/21, Error ellipse: s-maj=74.3km s-min=25.3km az=68.0*

NEIC 21 13:12:27.1±1.1, 6324S×16431E, h10km, mb4.3/1, Error ellipse: s-maj=61.7km s-min=15.0km az=75.0, Balleny Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SBA	**Scott Base**	**14.70**	**178**	*e*P	Pn	13 15 54.6	-0.1
	24nm,1.1s						
QSPA	**South Pole Qui**	**26.84**	**180**	P	P	13 18 07.0	0.0
	12nm,1.1s,baz=24,slow=3.5,SNR=15						
STKA	**Stephens Creek**	**34.53**	**325**	LR	LR	13 30 40.2	
	comp=Z,546nm,20.0s,baz=176,slow=32						
MAW	**Mawson**	**37.89**	**218**	LR	LR	13 35 56.5	
	comp=Z,522nm,18.1s,baz=344,slow=37						
ASAR	**Alice Springs**	**44.45**	**318**	P	P	13 20 38.9	+0.9
	2.1nm,0.8s,baz=158,slow=7.9,SNR=11						
CTA	**Charters Tower**	**44.85**	**336**	LR	LR	13 36 35.4	
	comp=Z,624nm,18.2s,baz=236,slow=32						
SNAA	**Sanae**	**45.07**	**186**	*e*	P	13 20 43.9	+1.5
SNAA				*e*		13 20 48.2	
SNAA				*e*		13 20 52.5	
SNAA	**Sanae**	**45.07**	**186**	P	P	13 20 43.3	+0.9
	4.2nm,1.0s						
VNA3	**Neumayer Olymp**	**45.72**	**183**	*e*	P	13 20 48.1	+0.5
VNA3				*e*		13 20 52.7	
VNA3				*e*		13 20 58.5	
VNA2	**Neumayer--Watz**	**45.98**	**184**	*e*	P	13 20 50.6	+1.0
	baz=170,slow=5.1						
VNA2				*e*		13 20 54.9	
VNA2				*e*		13 21 00.3	
VNA1	**Neumayer--Stat**	**46.28**	**183**	*e*	P	13 20 53.6	+1.6
VNA1				*e*		13 20 57.9	
WRA	**Warramunga Arr**	**47.84**	**321**	P	P	13 21 04.2	-0.5
	0.5nm,0.9s,baz=167,slow=6.2,SNR=3.1						
WRA				LR	LR	13 39 19.1	
	comp=Z,346nm,19.1s,baz=210,slow=34						
BOSA	**Boshof**	**82.86**	**215**	LR	LR	14 00 47.7	
	comp=Z,155nm,18.7s,baz=282,slow=35						
CMAR	**Chiang Mai Arr**	**95.83**	**300**	P	P	13 25 54.4	+1.1
	0.2nm,0.5s,baz=143,slow=2.3,SNR=4.1						
TXAR	**Lajitas Array**	**116.65**	**78**	PKP	PKPdf	13 31 12.2	+1.5
	0.4nm,0.9s,baz=200,slow=1.8,SNR=3.2						
MKAR	**Makanchi Array**	**127.21**	**301**	PKP	PKPdf	13 31 29.6	-0.8
	0.7nm,1.0s,baz=65,slow=6.3,SNR=4.6						
ARU	**Arti**	**144.07**	**294**	*e*PKP	PKPdf	13 31 58.5	-2.7
AKASG	**Malin Array Be**	**153.13**	**263**	PKPbc	PKPbc	13 32 24.6	+1.1
	0.1nm,0.3s,baz=153,slow=2.1,SNR=2.9						
AKASG				PKPab	PKPab	13 32 37.4	+2.1
	0.2nm,0.2s,baz=123,slow=3.2,SNR=7.2						

*IDC **21** 13:12:43.4±2.5, 224N×127.14E, h71km±22km, mb3.8/15, mb1 3.9/15, mb1mx3.8/21, mbtmp3.8/15, MS3.4/1, Ms1 3.4/1, ms1mx3.0/23, Error ellipse: s-maj=33.8km s-min=9.6km az=73.0*

*ISCJB **21** 13:12:45.9±0.9, 224N±006×12709E±008, h112km±8km, mb4.2/17, Error ellipse: s-maj=15.5km s-min=7.7km az=146.5*

*NEIC **21** 13:12:45.5±1.4, 224N×12723E, h94km±13km, mb4.4/3, Error ellipse: s-maj=15.4km s-min=5.2km az=69.0*

*DJA **21** 13:12:49.7±0.8, 2N±6×127E±, h65km±8km, Mjma3.5/4, MLv4.2/4*

ISC 21 13:12:46.9±0.9, 222N±007×1272E±01, h105km±8km, n46, σ0§86/46, mb4.2/17, 2D, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNE	**Ternate**	**1.44**	**172**	*e*P	**Pn**	**13 13 13.0**	**+0.2**
TNTI	**Ternate**	**1.45**	**172**	P	**Pn**	**13 13 13.0**	**+0.1**
MNI	**Manado**	**2.45**	**252**	*e*P	**Pn**	**13 13 24.0**	**-1.6**
MNI				*e*S	**Sn**	**13 13 53.0**	**-1.3**
MNI	**Manado**	**2.45**	**252**	P	**Pn**	**13 13 23.6**	**-2.0**
MNI	**Manado**	**2.45**	**252**	S	**Sn**	**13 13 53.2**	**-1.1**
LBMI	**Labuha**	**2.86**	**173**	P	**Pn**	**13 13 31.8**	**+0.8**
LBMI	**Labuha**	**2.86**	**173**	S	**Sn**	**13 14 08.7**	**+4.5**
DAV	**Davao City (W)**	**5.07**	**342**	LR	LR	13 15 59.5	
	comp=Z,372nm,19.4s,baz=80,slow=39						
PCI	**Palu**	**7.96**	**247**	P	**Pn**	**13 14 45.2**	**+5.2**
	31nm,1.0s,0.1nm						
MYLDM	**Lahad Datu**	**9.14**	**289**	P	**Pn**	**13 14 59.5**	**+3.6**
KKM	**Kota Kinabalu**	**11.57**	**290**	P	**Pn**	**13 15 29.9**	**+1.1**
	24nm,1.0s						
KKM	**Kota Kinabalu**	**11.57**	**290**	*e*P	**Pn**	**13 15 29.1**	**+0.3**
BATI	**Baumata**	**12.83**	**196**	P	**Pn**	**13 15 50.9**	**+5.4**
	4.0nm,0.3s,baz=217,slow=10,SNR=5.1						
SBUM	**Sibu**	**14.94**	**271**	P	**Pn**	**13 16 17.4**	**+4.6**
KAKA	**Kakadu**	**15.73**	**161**	*e*P	**Pn**	**13 16 21.2**	**-1.5**
	19nm,0.6s						
FITZ	**Fitzroy Crossi**	**20.25**	**184**	*e*P	**P**	**13 17 13.6**	**-0.4**
	5.9nm,0.5s						
FITZ	**Fitzroy Crossi**	**20.25**	**184**	P	**P**	**13 17 13.8**	**-0.2**
	2.2nm,0.5s,baz=18,slow=12,SNR=20						
FITZ	**Fitzroy Crossi**	**20.25**	**184**	P	**P**	**13 17 20.5**	**+6.5**
	15nm,1.2s						
WRAB	**Tennant Creek**	**23.12**	**163**	*e*P	**P**	**13 17 43.2**	**-0.8**
	19nm,0.8s,mb4.5						
WRA	**Warramunga Arr**	**23.12**	**163**	P	**P**	**13 17 43.4**	**-0.6**
	7.7nm,0.3s,mb4.4,baz=340,slow=11,SNR=183						
WRA				S	**S**	**13 21 49.9**	**+2.6**
	1.0nm,0.8s,baz=337,slow=19,SNR=4.7						
WB2	**Warramunga Arr**	**23.13**	**163**	*e*P	**P**	**13 17 43.3**	**-0.7**
MBWA	**Marble Bar**	**24.35**	**197**	*e*P	**P**	**13 17 55.0**	**-0.2**
ASAR	**Alice Springs**	**26.55**	**166**	P	**P**	**13 18 14.9**	**-0.1**
	1.4nm,0.5s,mb3.8,baz=348,slow=7.5,SNR=68						
ASAR				PcP	PcP	13 21 38.0	+0.9
	1.0nm,0.6s,baz=351,slow=2.5,SNR=7.4						
ASAR				ScP	ScP	13 25 12.6	+4.8
	0.3nm,1.0s,baz=354,slow=2.7,SNR=3.3						
CMAR	**Chiang Mai Arr**	**32.03**	**302**	P	**P**	**13 19 01.8**	**-1.9**
	0.2nm,0.7s,mb3.0,baz=134,slow=8.9,SNR=3.4						
FORT	**Forrest**	**32.83**	**179**	*e*P	**P**	**13 19 09.9**	**-0.6**
	20nm,0.6s,mb5.1						
KLBR	**Kellerberrin**	**34.80**	**194**	*e*P	**P**	**13 19 27.6**	**0.0**
	42nm,1.6s,mb5.0						
MUN	**Mundaring**	**35.57**	**196**	*e*P	**P**	**13 19 34.0**	**-0.2**
MJAR	**Matsushiro Arr**	**35.64**	**15**	P	**P**	**13 19 34.0**	**-0.8**
	0.4nm,0.6s,mb3.6,baz=184,slow=9.9,SNR=3.7						
NWAO	**Narrogin (SRO)**	**36.20**	**194**	P	**P**	**13 19 40.0**	**+0.5**
	5.3nm,0.4s,mb4.8,baz=9.5,slow=6.1,SNR=8.3						
STKA	**Stephens Creek**	**36.57**	**159**	*e*P	**P**	**13 19 43.3**	**+0.6**
	9.0nm,0.8s,mb4.8						
STKA	**Stephens Creek**	**36.57**	**159**	P	**P**	**13 19 43.4**	**+0.7**
	8.0nm,0.4s,mb5.0,baz=348,slow=7.4,SNR=18						
STKA	**Stephens Creek**	**36.57**	**159**	*e*P	**P**	**13 19 43.4**	**+0.6**
SONM	**Songino Array**	**48.86**	**341**	P	**P**	**13 21 22.6**	**+0.9**
	0.6nm,0.5s,mb3.8,baz=158,slow=7.6,SNR=6.4						
SONM				PcP	PcP	13 22 45.5	+0.7
	0.4nm,0.7s,baz=156,slow=5.4,SNR=2.1						
MK31	**Makanchi Array**	**59.04**	**326**	*e*P	**P**	**13 22 36.4**	**+0.6**
MKAR	**Makanchi Array**	**59.04**	**326**	P	**P**	**13 22 36.4**	**+0.6**
	1.2nm,0.4s,mb4.3,baz=116,slow=7.8,SNR=32						
MKAR	**Makanchi Array**	**59.04**	**326**	P	**P**	**13 22 36.4**	**+0.6**
ZALV	**Zalesovo Beam**	**62.12**	**333**	P	**P**	**13 22 55.9**	**-0.7**
	0.5nm,0.4s,mb3.9,baz=113,slow=10,0,SNR=3.6						
KURK	**Kurchatov**	**63.24**	**328**	P	**P**	**13 23 04.3**	**+0.2**
	4.5nm,0.5s,mb4.7,baz=129,slow=6.1,SNR=7.6						
KURK	**Kurchatov**	**63.24**	**328**	*e*P	**P**	**13 23 04.3**	**+0.2**
BVAR	**Borovoye Array**	**68.82**	**327**	P	**P**	**13 23 40.0**	**+0.2**
	1.2nm,0.6s,mb3.9,baz=134,slow=8.5,SNR=6.5						
BRVK	**Borovoye**	**68.89**	**327**	*e*P	**P**	**13 23 40.2**	**0.0**
AKTK	**Aktyubinsk**	**75.11**	**322**	P	**P**	**13 24 17.1**	**-0.3**
AKTO	**Aktyubinsk**	**75.11**	**322**	P	**P**	**13 24 17.1**	**-0.3**
	0.6nm,0.5s,mb3.6,baz=53,slow=10,SNR=2.9						
MAW	**Mawson**	**82.50**	**200**	P	**P**	**13 24 58.2**	**+0.7**
	1.9nm,0.7s,mb4.0,baz=61,slow=6.5,SNR=7.3						
QSPA	**South Pole Qui**	**92.14**	**180**	P	**P**	**13 25 45.2**	**+1.3**
	0.5nm,0.5s,mb4.0,baz=254,slow=1.7,SNR=17						
TORD	**Torodi Ar. Bea**	**123.80**	**287**	PKP	PKPdf	13 31 33.9	+0.4
	0.4nm,0.6s,baz=81,slow=1.9,SNR=4.3						

MAN 21 13:24:57, 1125N×12471E, h23km, mb4.0, ML2.8, MS2.5, 1C-1D, Leyte

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OCLP	**Ormoc**	**0.23**	**206**	*e*P	Pb	13 25 03.2	+0.4
PLP	**Palo**	**0.28**	**109**	⇓*e*P	Pb	13 25 06.3	+2.8
PLP				*i* S	Sb	13 25 12.8	+4.9
MSLP	**Maasin**	**1.12**	**172**	*e*P	Pn	13 25 19.5	+2.2
LLP	**Lapu-Lapu**	**1.18**	**218**	*e*P	Pn	13 25 17.7	-0.4
LLP				*e*S	Sn	13 25 34.0	+0.5
CNP	**Catarman**	**1.25**	**358**	*e*P	Pn	13 25 19.5	+0.4
TBP	**Tagbilaran**	**1.76**	**208**	*e*P	Pn	13 25 27.3	+1.2
TBP				*e*S	Sn	13 25 45.6	-2.3
RCP	**Roxas**	**1.95**	**279**	⇑*e*P	Pn	13 25 29.2	+0.5
GUIM	**Jordan**	**2.17**	**254**	*e*P	Pn	13 25 31.7	-0.1
GUIM				*e*S	Sn	13 25 59.2	+1.2
PVCP	**Virac**	**2.39**	**347**	*e*P	Pn	13 25 35.6	+0.8
OTRP	**Odiongan**	**2.85**	**293**	*e*P	Pn	13 25 41.9	+0.7

*CSEM **21** 13:33:12.1±0.1, 4036N×2587E, h0km±1km, MD3.3, Error ellipse: s-maj=1.9km s-min=1.5km az=66.0*

*ISK **21** 13:33:13.8, 4036N×2597E, h4km, MD3.3*

*BEO **21** 13:33:13.7±0.9, 4044N×2596E, ML3.4/3*

*ISCJB **21** 13:33:13.0±0.5, 4037N±002×2586E±002, h3km±4km, Error ellipse: s-maj=3.1km s-min=2.7km az=173.2*

*DDA **21** 13:33:13.9, 4036N×2592E, h13km±3km, Md3.3*

*THE **21** 13:33:13.3, 4035N×2587E, h0km±2km, ML3.5/5, Error ellipse: s-maj=2.8km s-min=1.1km az=117.0*

ISC 21 13:33:13.5±0.4, 4037N±002×2586E±002, h2km±3km, n57, σ0§89/79, 3D, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GADA	**Gvkgeada**	**0.18**	**170**	*e*PG	**Pg**	**13 33 18.4**	**+1.3**
ENEZ	**Enez**	**0.43**	**32**	*e*PG	**Pg**	**13 33 22.5**	**+0.7**
ENEZ				*e*SG	**Sg**	**13 33 28.3**	**+1.0**
ALN	**Alexandroupoli**	**0.54**	**15**	P	**Pg**	**13 33 24.1**	**+0.2**
ALN				S	**Sg**	**13 33 31.1**	**+0.1**
BOZC	**Bozcaada**	**0.55**	**164**	*i* P	**Pg**	**13 33 24.6**	**+0.5**
BOZC				*i* S	**Sg**	**13 33 32.1**	**+0.9**
EZN	**Ezine**	**0.66**	**146**	*e*PG	**Pg**	**13 33 25.9**	**-0.2**
LIA	**Limnos Island**	**0.70**	**228**	P	**Pg**	**13 33 27.5**	**+0.6**
LIA				S	**Sg**	**13 33 36.4**	**+0.4**
LOS	**Limnos**	**0.74**	**234**	P	**Pg**	**13 33 28.2**	**+0.6**
RKY	**Sarkoy-Tekirda**	**1.06**	**72**	*e*PG	**Pg**	**13 33 32.8**	**-0.9**
RKY				*e*SG	**Sg**	**13 33 47.5**	**+0.1**
SART	**Tekirdag**	**1.06**	**72**	*i* P	**Pg**	**13 33 33.2**	**-0.6**
SART				*i* S	**Sg**	**13 33 48.5**	**+1.0**
MFT	**Murefte**	**1.16**	**69**	*e*PN	**Pn**	**13 33 35.2**	**-1.5**
PRK	**Paraskevi**	**1.17**	**164**	P	**Pg**	**13 33 35.7**	**-0.2**
PRK				S	**Sg**	**13 33 50.8**	**-0.3**
AYVA	**Ayvalik**	**1.24**	**149**	*i* P	**Pg**	**13 33 36.9**	**-0.4**
AYVA				*i* S	**Sg**	**13 33 53.4**	**0.0**
MRMT	**Marmara Adasi**	**1.35**	**80**	*e*PN	**Pn**	**13 33 37.9**	**-1.4**
MRMT				*e*SN	**Sn**	**13 33 52.6**	**-1.5**
TKR	**Tekirdag**	**1.42**	**64**	*e*PN	**Pn**	**13 33 40.0**	**-0.3**
OUR	**Ouranopolis**	**1.43**	**269**	P	**Pn**	**13 33 39.0**	**-1.5**
OUR				S	**Sg**	**13 34 00.8**	**+1.3**
BALY	**Balya**	**1.49**	**114**	*i* P	**Pn**	**13 33 41.0**	**-0.3**
BALY				*i* S	**Sb**	**13 33 59.7**	**-1.6**
EDC	**Edincik**	**1.54**	**90**	*e*PN	**Pn**	**13 33 41.4**	**-0.5**
BNT	**Bandirma**	**1.58**	**90**	*e*PN	**Pn**	**13 33 41.4**	**-1.1**
EDRB	**Edirne**	**1.62**	**24**	*e*PN	**Pn**	**13 33 43.5**	**+0.4**
BALB	**Balikesir**	**1.72**	**115**	*e*PN	**Pn**	**13 33 44.2**	**-0.2**
PAIG	**Paliouri**	**1.73**	**256**	P	**Pn**	**13 33 42.5**	**-2.0**
PAIG				S	**Sn**	**13 34 07.6**	**+0.5**
PLG	**Polygyros**	**1.84**	**271**	P	**Pn**	**13 33 44.7**	**-1.4**
PLG				S	**Sn**	**13 34 11.2**	**+1.3**
PLD	**Plovdiv**	**1.94**	**334**	P	**Pn**	**13 33 47.9**	**+0.5**
PLD				S	**Sn**	**13 34 13.2**	**+0.9**
AOS	**Alonnisos**	**1.94**	**232**	P	**Pn**	**13 33 46.3**	**-1.1**
SOH	**Sokhos**	**1.96**	**284**	P	**Pn**	**13 33 46.4**	**-1.3**
SOH				S	**Sn**	**13 34 13.8**	**+1.0**
SLVT	**Silivri**	**1.98**	**64**	*e*PN	**Pn**	**13 33 48.3**	**+0.2**
CHOS	**Chios island**	**1.99**	**175**	P	**Pn**	**13 33 47.4**	**-0.7**
CTT	**Catalca**	**2.10**	**68**	*e*PN	**Pn**	**13 33 49.2**	**-0.5**
HORT	**Hortiatis**	**2.11**	**277**	P	**Pn**	**13 33 48.7**	**-1.0**
HORT				S	**Sn**	**13 34 17.7**	**+1.0**
AKS	**Akhisar**	**2.12**	**134**	*e*PN	**Pn**	**13 33 50.0**	**0.0**
CTYL	**Yal??k??y-??at**	**2.15**	**58**	*e*PN	**Pn**	**13 33 50.6**	**+0.3**
JMB	**Yambol**	**2.16**	**14**	P	**Pn**	**13 33 51.5**	**+1.0**
JMB				S	**Sn**	**13 34 19.5**	**+1.6**
BLCB	**Balcova**	**2.19**	**155**	*e*PN	**Pn**	**13 33 51.3**	**+0.5**
CTKS	**Kestanelik-??a**	**2.19**	**66**	*e*PN	**Pn**	**13 33 51.5**	**+0.6**
IZM	**Izmir**	**2.25**	**151**	*e*PN	**Pn**	**13 33 51.4**	**-0.4**
DST	**Dursunbey**	**2.26**	**109**	*e*PN	**Pn**	**13 33 52.1**	**+0.2**
BGKT	**Bogazkoy**	**2.36**	**69**	*e*PN	**Pn**	**13 33 53.3**	**+0.1**
KNT	**Kendrikon**	**2.38**	**290**	P	**Pn**	**13 33 52.9**	**-0.6**
ISK	**Istanbul-Kandi**	**2.53**	**73**	*e*PN	**Pn**	**13 33 56.5**	**+1.0**
GEMT	**Gemlik**	**2.55**	**88**	*e*PN	**Pn**	**13 33 56.1**	**+0.3**
KLYT	**Kilyos**	**2.57**	**69**	*e*PN	**Pn**	**13 33 57.0**	**+0.8**
VAY	**Valandovo**	**2.67**	**292**	*e*Pn	**Pn**	**13 34 04.7**	**+7.2**
VAY				*e*Sn	**Sn**	**13 34 34.9**	**+4.6**
YLV	**Yalova**	**2.69**	**85**	*e*PN	**Pn**	**13 33 58.1**	**+0.4**
KULA	**Kula-Manisa**	**2.86**	**130**	*e*PN	**Pn**	**13 34 00.4**	**+0.3**
ADVT	**Abdulvahap**	**2.97**	**88**	*e*PN	**Pn**	**13 34 02.1**	**+0.5**
VTS	**Vitosha**	**2.98**	**319**	*e*Pn	**Pn**	**13 34 03.7**	**+2.0**
VTS				*e*Sg	**Sg**	**13 34 48.4**	**-0.8**
KHL	**Karahalli**	**3.50**	**125**	*e*PN	**Pn**	**13 34 09.5**	**+0.6**
ALT	**Altintas**	**3.54**	**110**	*e*PN	**Pn**	**13 34 09.6**	**+0.2**
KRUS	**Krusevo**	**3.63**	**287**	*e*Pn	**Pn**	**13 34 10.3**	**-0.4**
YER	**Yerkesik**	**3.75**	**149**	*e*PN	**Pn**	**13 34 13.3**	**+1.0**
ZAPS	**Zavoj**	**3.77**	**321**	*e*Pn	**Pn**	**13 34 13.6**	**+1.0**
ZAPS				*e*Sg	**Sg**	**13 35 13.8**	**-0.7**
BARS	**Barje**	**3.89**	**310**	*e*Pn	**Pn**	**13 34 14.2**	**-0.1**
BARS				*e*Sg	**Sg**	**13 35 17.5**	**-1.0**
BOLS	**Boljevac**	**4.51**	**321**	*e*Pn	**Pn**	**13 34 22.0**	**-0.8**
BOLS				*e*Sg	**Sg**	**13 35 36.7**	**-1.7**
MLR	**Muntele Rosu**	**5.12**	**1**	⇓*i*P	**Pn**	**13 34 32.6**	**+1.5**
GZR	**Gura Zlata**	**5.50**	**337**	⇓*i*P	**Pn**	**13 34 35.7**	**-0.7**
BZS	**Buzias**	**6.09**	**331**	*e*Pn	**Pn**	**13 34 43.0**	**-1.5**
BZS	**Buzias**	**6.09**	**331**	⇓*i*P	**Pn**	**13 34 43.6**	**-0.9**

IDC 21 13:40:33.9±3.2, 465S×15293E, h0km, mb3.9/4, mb1 4.1/4, mb1mx3.7/16, mbtmp3.9/4, MS3.8/1, Ms1 3.8/1, ms1mx2.9/29, Error ellipse: s-maj=85.6km s-min=34.8km az=107.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**21.77**	**247**	*e*P	P	13 45 23.9	-3.6
	10nm,0.6s						
WRA	**Warramunga Arr**	**23.64**	**228**	P	P	13 45 47.4	+0.2
	2.9nm,0.5s,baz=53,slow=9.7,SNR=83						
ASAR	**Alice Springs**	**26.35**	**222**	P	P	13 46 12.3	+0.5
	0.6nm,0.3s,baz=56,slow=9.2,SNR=26						
FITZ	**Fitzroy Crossi**	**29.85**	**241**	*e*P	P	13 46 42.3	-0.9
	3.8nm,1.1s						
FITZ	**Fitzroy Crossi**	**29.85**	**241**	P	P	13 46 42.2	-1.0
	0.8nm,0.4s,baz=68,slow=13,SNR=12						
KSRS	**Korea Array**	**47.33**	**333**	LR	LR	14 05 54.6	
	comp=Z,99nm,19.0s,baz=348,slow=32						
CMAR	**Chiang Mai Arr**	**57.93**	**295**	P	P	13 50 29.0	+0.5
	0.4nm,0.7s,baz=118,slow=5.9,SNR=4.7						
TORD	**Torodi Ar. Bea**	**150.39**	**288**	PKPbc	PKPbc	14 00 27.7	-0.7
	0.4nm,0.7s,baz=86,slow=3.4,SNR=3.3						
TORD				PKPab	PKPab	14 00 34.4	-0.4
	0.4nm,0.4s,baz=76,slow=2.2,SNR=7.4						

*BEO **21** 13:45:25.9, 4019N×2574E, ML3.2/3*

*THE **21** 13:45:26.3, 4032N×2595E, h0km±2km, ML3.4/6, Error ellipse: s-maj=2.6km s-min=1.2km az=113.0*

*CSEM **21** 13:45:26.7±0.1, 4036N×2582E, h10km, MD3.3, Error ellipse: s-maj=1.4km s-min=1.2km az=42.0*

*ISCJB **21** 13:45:26.6±0.4, 4038N±002×2580E±002, h8km±3km, Error ellipse: s-maj=3.1km s-min=2.7km az=168.8*

*NEIC **21** 13:45:26.5, 4039N×2587E, h27km, MD3.6(ATH), After ATH.*

*ATH **21** 13:45:26.5, 4039N×2587E, h27km±1km, MD3.6/4*

*ISK **21** 13:45:27.3, 4037N×2590E, h8km, MD3.3*

*DDA **21** 13:45:28.3, 4034N×2600E, h7km±4km, Md3.1*

ISC 21 13:45:27.5±0.3, 4037N±002×2584E±002, h9km±3km, n55, σ0§93/81, 4C, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GADA	**Gvkgeada**	**0.18**	**165**	*e*PG	**Pg**	**13 45 31.6**	**+0.3**
GADA				*e*SG	**Sg**	**13 45 34.8**	**+0.9**
ENEZ	**Enez**	**0.44**	**33**	*e*PG	**Pg**	**13 45 35.6**	**-0.6**
ENEZ				*e*SG	**Sg**	**13 45 42.5**	**+0.5**
BOZC	**Bozcaada**	**0.55**	**162**	*i* P	**Pg**	**13 45 38.0**	**-0.1**
BOZC				*i* S	**Sg**	**13 45 45.8**	**+0.4**
ALN	**Alexandroupoli**	**0.55**	**17**	P	**Pg**	**13 45 37.7**	**-0.6**
ALN				S	**Sg**	**13 45 45.3**	**-0.3**
EZN	**Ezine**	**0.66**	**145**	*e*PG	**Pg**	**13 45 39.5**	**-0.7**
EZN				*e*SG	**Sg**	**13 45 49.1**	**+0.3**
LIA	**Limnos Island**	**0.69**	**227**	P	**Pg**	**13 45 41.0**	**+0.2**
LIA				S	**Sg**	**13 45 50.8**	**+1.1**
LIA	**Limnos Island**	**0.69**	**227**	*e*Pn	**Pn**	**13 45 40.9**	**-2.4**
LIA				*e*Sn	**Sg**	**13 45 51.2**	**+1.5**
LIA	**Limnos Island**	**0.69**	**227**	*e*PN	**Pn**	**13 45 40.9**	**-2.4**
LIA				*e*SN	**Sg**	**13 45 51.2**	**+1.5**
LOS	**Limnos**	**0.72**	**234**	P	**Pg**	**13 45 41.7**	**+0.3**
LOS				S	**Sg**	**13 45 52.2**	**+1.3**
RDO	**Rodhopi**	**0.81**	**344**	⇑*i*Pn	**Pn**	**13 45 42.3**	**-2.8**
RDO				*e*Sn	**Sn**	**13 45 53.4**	**-3.8**
RDO	**Rodhopi**	**0.81**	**344**	⇑*i*PN	**Pn**	**13 45 42.3**	**-2.8**
RDO				*e*SN	**Sn**	**13 45 53.4**	**-3.8**
RKY	**Sarkoy-Tekirda**	**1.07**	**72**	*e*PG	**Pg**	**13 45 47.2**	**-1.0**
RKY				*e*SG	**Sg**	**13 46 02.1**	**+0.1**
SART	**Tekirdag**	**1.07**	**72**	*i* P	**Pg**	**13 45 46.5**	**-1.7**
SART				*i* S	**Sg**	**13 46 02.7**	**+0.6**
PRK	**Paraskevi**	**1.17**	**163**	P	**Pb**	**13 45 46.8**	**-3.0**
PRK	**Paraskevi**	**1.17**	**163**	⇑*i*Pn	**Pn**	**13 45 49.1**	**-0.9**
PRK				*e*Sn	**Sn**	**13 46 05.0**	**-1.0**
PRK	**Paraskevi**	**1.17**	**163**	⇑*i*PN	**Pn**	**13 45 49.1**	**-0.9**
PRK				*e*SN	**Sn**	**13 46 05.0**	**-1.0**
AYVA	**Ayvalik**	**1.25**	**148**	*i* P	**Pn**	**13 45 50.3**	**-0.8**
AYVA				*i* S	**Sb**	**13 46 07.1**	**-0.1**
OUR	**Ouranopolis**	**1.42**	**269**	P	**Pn**	**13 45 52.2**	**-1.2**
OUR				S	**Sn**	**13 46 15.3**	**+3.2**
TKR	**Tekirdag**	**1.44**	**64**	*e*PN	**Pn**	**13 45 53.5**	**-0.2**
BALY	**Balya**	**1.50**	**114**	*i* P	**Pn**	**13 45 54.5**	**-0.1**
BALY				*i* S	**Sn**	**13 46 15.4**	**+1.1**
BNT	**Bandirma**	**1.59**	**90**	*e*PN	**Pn**	**13 45 55.2**	**-0.6**
EDRB	**Edirne**	**1.63**	**25**	*e*PN	**Pn**	**13 45 56.3**	**0.0**
PAIG	**Paliouri**	**1.71**	**256**	P	**Pn**	**13 45 56.2**	**-1.2**
PAIG				S	**Sn**	**13 46 22.4**	**+3.0**
BALB	**Balikesir**	**1.73**	**114**	*e*PN	**Pn**	**13 45 57.6**	**0.0**
NVR	**Nevrokopi**	**1.79**	**304**	*e*Pn	**Pn**	**13 45 58.0**	**-0.5**
NVR	**Nevrokopi**	**1.79**	**304**	*e*PN	**Pn**	**13 45 58.0**	**-0.5**
PLG	**Polygyros**	**1.83**	**271**	P	**Pn**	**13 45 58.3**	**-0.7**
PLG	**Polygyros**	**1.83**	**271**	*e*Pn	**Pn**	**13 45 58.1**	**-0.9**
PLG	**Polygyros**	**1.83**	**271**	*e*PN	**Pn**	**13 45 58.1**	**-0.9**
AOS	**Alonnisos**	**1.92**	**232**	P	**Pn**	**13 45 59.7**	**-0.7**
PLD	**Plovdiv**	**1.94**	**334**	P	**Pn**	**13 46 01.3**	**+0.8**
SOH	**Sokhos**	**1.94**	**284**	P	**Pn**	**13 46 00.3**	**-0.3**
SOH				S	**Sn**	**13 46 28.7**	**+3.6**
CHOS	**Chios island**	**1.98**	**175**	P	**Pn**	**13 46 01.0**	**-0.2**
CHOS				S	**Sn**	**13 46 25.3**	**-0.8**
SLVT	**Silivri**	**2.00**	**64**	*e*PN	**Pn**	**13 46 02.0**	**+0.6**
HORT	**Hortiatis**	**2.10**	**277**	P	**Pn**	**13 46 02.3**	**-0.5**
CTT	**Catalca**	**2.12**	**68**	*e*PN	**Pn**	**13 46 03.4**	**+0.3**
AKS	**Akhisar**	**2.13**	**134**	*e*PN	**Pn**	**13 46 03.1**	**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBK	**Karagaybulak**	**0.29**	**293**	⇓P	**Pg**	**14 08 51.1**	**+0.1**
	867nm,0.1s,SNR=2794						
KBK				⇑S	**Sg**	**14 08 56.0**	**+0.9**
	13μm,0.2s						
TKM2	**Tokmak 2**	**0.43**	**29**	⇑P	**Pg**	**14 08 52.3**	**-1.4**
	292nm,0.3s						
TKM2				⇑S	**Sg**	**14 08 57.7**	**-1.6**
	1μm,0.6s						
TKM2	**Tokmak 2**	**0.43**	**29**	P	**Pg**	**14 08 52.3**	**-1.3**
	764nm,0.2s,SNR=1183						
TKM2				⇓S	**Sg**	**14 08 57.9**	**-1.4**
	4μm,0.2s						
TKM2	**Tokmak 2**	**0.43**	**29**	⇓*i*Pg	**Pg**	**14 08 52.3**	**-1.3**
TKM2				*e*Sg	**Sg**	**14 08 57.2**	**-2.1**
AAK	**Ala-Archa**	**0.61**	**279**	P	**Pg**	**14 08 56.6**	**-0.4**
	215nm,0.2s,SNR=247						
AAK				⇑S	**Sg**	**14 09 04.4**	**-0.7**
	2μm,0.2s						
CHMS	**Chumysh**	**0.62**	**318**	P	**Pg**	**14 08 56.4**	**-0.8**
	354nm,0.3s,SNR=317						
CHMS				⇑S	**Sg**	**14 09 04.9**	**-0.3**
	4μm,0.2s						
UCH	**Uchtor**	**0.67**	**242**	⇓P	**Pg**	**14 08 57.6**	**-0.5**
	106nm,0.2s,SNR=121						
USP	**Ospenovka**	**0.94**	**321**	P	**Pg**	**14 09 02.1**	**-1.2**
	158nm,0.2s,SNR=205						
USP				⇑S	**Sg**	**14 09 14.8**	**-0.7**
	560nm,0.2s						
EKS2	**Erkin-Say**	**1.14**	**277**	P	**Pb**	**14 09 06.7**	**-0.3**
	121nm,0.2s,SNR=65						
EKS2				⇓S	**Sb**	**14 09 22.7**	**+0.8**
	407nm,0.2s						
EKS2	**Erkin-Say**	**1.14**	**277**	*e*P	**Pb**	**14 09 06.5**	**-0.5**
EKS2				*e*S	**Sb**	**14 09 23.1**	**+1.3**
AML	**Almayashu**	**1.27**	**252**	⇑P	**Pn**	**14 09 08.9**	**-0.1**
	77nm,0.2s,SNR=38						
AML				⇓S	**Sb**	**14 09 25.9**	**+0.4**
	866nm,0.6s						
AML	**Almayashu**	**1.27**	**252**	*e*P	**Pn**	**14 09 08.0**	**-1.0**
KNDC	**Almaty**	**1.39**	**60**	⇑P	**Pn**	**14 09 09.8**	**-0.8**
	36nm,0.2s						
KNDC				⇑S	**Sb**	**14 09 28.7**	**-0.3**
	134nm,0.2s						
AAA	**Alma-Ata**	**1.40**	**58**	*e*PG	**Pg**	**14 09 08.8**	**-3.3**
AAA				pmax	pmax		
	comp=Z,289nm,0.1s						
KK31	**Karatay Array**	**3.58**	**281**	⇑Pn	**Pb**	**14 09 51.0**	**+2.5**
	comp=Z,13nm,0.3s,baz=103,slow=17,SNR=115						
KK31				⇑Sn	**Sb**	**14 10 34.3**	**+2.4**
	comp=Z,42nm,0.5s,baz=98,slow=24,SNR=22						
MK31	**Makanchi Array**	**6.54**	**47**	⇑Pn	**Pn**	**14 10 23.2**	**+1.8**
	comp=Z,1.5nm,0.3s,baz=220,slow=15,SNR=28						
MK31				⇑Sn	**Sn**	**14 11 38.2**	**+2.2**
	comp=Z,0.8nm,0.2s,baz=223,slow=26,SNR=4.6						
MK31				⇑Lg		14 12 06.5	
	comp=Z,17nm,0.8s						
MK31	**Makanchi Array**	**6.54**	**47**	*e*P	**Pn**	**14 10 23.3**	**+1.9**
MKAR	**Makanchi Array**	**6.54**	**47**	Pn	**Pn**	**14 10 22.8**	**+1.4**
	comp=Z,0.8nm,0.3s,baz=227,slow=16,SNR=20						
MKAR				Sn	**Sn**	**14 11 37.9**	**+1.9**
	comp=Z,1.6nm,0.3s,baz=226,slow=26,SNR=8.1						
MKAR				Lg		14 12 07.3	
	comp=Z,1.3nm,0.3s,baz=227,slow=26,SNR=5.3						
MKAR	**Makanchi Array**	**6.54**	**47**	PN	**Pn**	**14 10 22.8**	**+1.4**
MKAR						14 11 37.9	
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
MKAR				smax			
	comp=N,2.0nm,0.3s						
KURBB	**Kurchatov Arra**	**8.38**	**14**	⇓Pn	**Pn**	**14 10 46.8**	**+0.3**
KURBB				⇓Sn	**Sn**	**14 12 23.2**	**+2.1**
	comp=N,2.4nm,0.8s						
KURBB				⇓Lg		14 13 07.9	
	comp=N,14nm,0.9s						
KURK	**Kurchatov**	**8.49**	**14**	⇑Pn	**Pn**	**14 10 46.6**	**-1.4**
	comp=N,5.4nm,1.8s						
KURK				⇑Sn	**Sn**	**14 12 26.1**	**+2.4**
	comp=N,5.3nm,1.1s						
KURK				⇑Lg		14 13 11.2	
	comp=N,125nm,1.7s						
KURK	**Kurchatov**	**8.49**	**14**	Pn	**Pn**	**14 10 46.5**	**-1.6**
	comp=N,0.3nm,0.3s,baz=203,slow=13,SNR=10						
KURK				Sn	**Sn**	**14 12 17.9**	**-5.8**
	comp=N,0.4nm,0.3s,baz=193,slow=29,SNR=5.5						
KURK				Lg		14 13 06.2	
	comp=N,0.6nm,0.3s,baz=201,slow=31,SNR=8.3						
KURK	**Kurchatov**	**8.49**	**14**	P	**Pn**	**14 10 46.5**	**-1.5**
KURK						14 12 17.9	
KURK	**Kurchatov**	**8.49**	**14**	Pn	**Pn**	**14 10 46.5**	**-1.6**
KURK				Sn	**Sn**	**14 12 17.9**	**-5.8**
KURK				Lg		14 13 06.2	
VOSK	**Vostochnaya**	**10.60**	**346**	⇑Pn	**Pn**	**14 11 18.0**	**+1.1**
VOSK				⇑Lg		14 14 21.7	
	comp=N,23nm,1.0s						
BVA0	**Borovoye Array**	**11.00**	**344**	Pn	**Pn**	**14 11 26.9**	**+4.5**
	comp=N,0.7nm,0.9s,baz=167,slow=13,SNR=4.3						
BVA0				⇑Sn	**Sn**	**14 13 29.4**	**+4.0**
	comp=N,0.7nm,0.8s,baz=161,slow=19,SNR=4.6						
BVA0				⇓Lg		14 14 32.9	
	comp=N,3.6nm,0.8s,baz=158,slow=26,SNR=5.8						
BVAR	**Borovoye Array**	**11.00**	**344**	Pn	**Pn**	**14 11 23.3**	**+0.9**
	comp=N,0.3nm,0.3s,baz=155,slow=15,SNR=4.3						
BVAR				Sn	**Sn**	**14 13 18.8**	**-6.5**
	comp=N,0.7nm,0.3s,baz=162,slow=25,SNR=4.1						
BVAR				Lg		14 14 31.9	
	comp=N,1.7nm,0.3s,baz=154,slow=28,SNR=5.7						
AB31	**Akbulak array**	**12.63**	**307**	⇑Pn	**Pn**	**14 11 43.1**	**-1.6**
	comp=N,2.4nm,0.8s,baz=118,slow=13,SNR=23						
AB31				⇑Sn	**Sn**	**14 14 01.8**	**-3.5**
	comp=N,1.4nm,0.6s,baz=48,slow=59,SNR=5.0						
AB31				⇑Lg		14 15 28.4	
	comp=N,5.1nm,0.7s						
ZALV	**Zalesovo Beam**	**13.04**	**26**	Pn	**Pn**	**14 11 49.3**	**-1.0**
	comp=N,0.2nm,0.3s,baz=222,slow=16,SNR=2.4						
ZALV				Sn	**Sn**	**14 14 09.5**	**-5.7**
	comp=N,0.3nm,0.3s,baz=218,slow=18,SNR=3.2						
ZALV				Lg		14 15 39.7	
	comp=N,0.1nm,0.3s,baz=228,slow=26,SNR=3.6						
ZALV	**Zalesovo Beam**	**13.04**	**26**	P	**Pn**	**14 11 49.3**	**-1.0**
ZALV						14 14 09.5	
AKTK	**Aktyubinsk**	**14.27**	**310**	Pn	**Pn**	**14 12 06.0**	**-1.1**
AKTO	**Aktyubinsk**	**14.27**	**310**	Pn	**Pn**	**14 12 06.0**	**-1.1**
	comp=N,0.1nm,0.3s,baz=111,slow=14,SNR=2.3						
HIA	**Hailar**	**31.27**	**62**	*e*P	**P**	**14 15 03.9**	**-1.0**
ARCES	**ARCESS Array B**	**37.03**	**334**	P	**P**	**14 15 56.2**	**+1.6**
	comp=N,3.0nm,0.9s,mb4.1,baz=108,slow=8.9,SNR=3.0						
ARCES	**ARCESS Array B**	**37.03**	**334**	P	**P**	**14 15 56.2**	**+1.6**
ARCES				pmax	pmax		
	comp=Z,3.0nm,0.9s						
NB2	**NORSAR Subarra**	**41.79**	**319**	P	**P**	**14 16 35.2**	**+0.8**
	comp=Z,0.1nm,0.4s,mb2.8,baz=86,slow=8.6						
NOA	**NORSAR Array B**	**41.79**	**319**	P	**P**	**14 16 35.2**	**+0.8**
	comp=Z,0.3nm,0.5s,mb3.2,baz=81,slow=6.8,SNR=2.7						
TORD	**Torodi Ar. Bea**	**69.19**	**269**	P	**P**	**14 19 51.8**	**-0.4**
	comp=Z,0.5nm,0.7s,mb3.6,baz=61,slow=4.9,SNR=3.7						
WRA	**Warramunga Arr**	**82.56**	**126**	P	**P**	**14 21 07.8**	**-0.5**
	comp=Z,0.3nm,0.8s,mb3.4,baz=330,slow=4.7,SNR=4.4						

*MOS **21** 14:20:16.9±0.8, 5300N×159.77E, h58km, mb4.8/11, Error ellipse: s-maj=13.6km s-min=6.3km az=85.0*
*ISCJB **21** 14:20:17.1±0.5, 5293N±003×15989E±007, h63km±3km, mb4.2/25, Error ellipse: s-maj=7.8km s-min=3.1km az=36.2*
*KRSC **21** 14:20:17.1±0.8, 5291N×15993E, h53km±32km, ML4.4*
*NEIC **21** 14:20:18.9±1.0, 5302N×15958E, h64km±8km, mb4.5/10, Error ellipse: s-maj=12.9km s-min=9.2km az=160.0*
*IDC **21** 14:20:20.1±1.7, 5324N×15949E, h74km±16km, mb3.7/15, mb1 4.0/15, mb1mx3.9/23, mbtmp3.7/15, Error ellipse: s-maj=26.2km s-min=14.3km az=168.0*

ISC 21 14:20:18.4±0.5, 5293N±003×15982E±007, h61km±3km, n108, σ1§04/130, mb4.2/25, 1C, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	**Mys Shipunski**	**0.21**	**36**	*e*P	**Pn**	**14 20 25.7**	**-2.3**
SPN				*i*S	**Sn**	**14 20 31.7**	**-3.3**
NLC	**Nalytchevo**	**0.38**	**311**	*e*P	**Pn**	**14 20 27.7**	**-1.5**
NLC				*i*S	**Sn**	**14 20 35.3**	**-1.8**
PET	**Petropavlovsk**	**0.71**	**278**	*e*P	**Pn**	**14 20 32.0**	**-0.8**
PET				*i*S	**Sn**	**14 20 43.2**	**-0.1**
PET	**Petropavlovsk**	**0.71**	**278**	*e*Pn	**Pn**	**14 20 31.9**	**-0.9**
AVH	**Avacha**	**0.73**	**298**	*e*P	**Pn**	**14 20 32.6**	**-0.4**
AVH				*i*S	**Sn**	**14 20 44.7**	**+0.9**
INSR	**Institute**	**0.75**	**281**	*e*P	**Pn**	**14 20 32.0**	**-1.2**
INSR				*i*S	**Sn**	**14 20 43.1**	**-1.0**
RUS	**Russkaya**	**0.94**	**239**	*e*P	**Pn**	**14 20 34.8**	**-0.8**
RUS				*i*S	**Sn**	**14 20 47.9**	**-0.4**
GRL	**Gorelyy**	**1.13**	**251**	*e*P	**Pn**	**14 20 38.2**	**+0.2**
GRL				*i*S	**Sn**	**14 20 53.9**	**+1.2**
KII	**Karymskiy**	**1.13**	**349**	*e*P	**Pn**	**14 20 37.3**	**-0.8**
KII				*i*S	**Sn**	**14 20 53.0**	**+0.2**
PETK	**Petropavlovsk-**	**1.29**	**279**	P	**Pn**	**14 20 39.9**	**-0.4**
	290nm,0.3s,baz=92,slow=19,SNR=4350						
PETK				S	**Sn**	**14 20 57.9**	**+1.3**
	233nm,0.3s,baz=101,slow=31,SNR=16						
GNL	**Ganaly**	**1.36**	**305**	*e*P	**Pn**	**14 20 41.3**	**+0.1**
GNL				*i*S	**Sn**	**14 20 59.7**	**+1.4**
MIPR	**Malaya Ipel'ka**	**1.98**	**252**	*e*P	**Pn**	**14 20 50.7**	**+1.2**
MIPR				*i*S	**Sn**	**14 21 15.2**	**+2.1**
MKZ	**Mys Kozlova**	**1.99**	**34**	P	**Pn**	**14 20 48.5**	**-1.1**
TUMR	**Tumrok**	**2.37**	**5**	*e*P	**Pn**	**14 20 55.2**	**+0.4**
TUMR				*i*S	**Sn**	**14 21 23.5**	**+0.9**
KMNR	**Kamenistaya**	**2.84**	**5**	*e*P	**Pn**	**14 21 01.6**	**+0.3**
KMNR				*i*S	**Sn**	**14 21 33.4**	**-0.9**
BZMR	**Bezymyannaya**	**3.04**	**7**	*e*P	**Pn**	**14 21 04.6**	**+0.7**
BZMR				*i*S	**Sn**	**14 21 39.9**	**+0.9**
KIRR	**Kirishev**	**3.05**	**6**	*e*P	**Pn**	**14 21 04.0**	**0.0**
KIRR				*i*S	**Sn**	**14 21 39.1**	**-0.1**
KPT	**Kopyto**	**3.05**	**4**	*e*P	**Pn**	**14 21 04.7**	**+0.6**
KPT				*e*S	**Sn**	**14 21 39.9**	**+0.5**
KOZ	**Kozyrevsk**	**3.14**	**1**	*e*P	**Pn**	**14 21 06.0**	**+0.8**
KOZR	**Kozyr**	**3.14**	**1**	PN	**Pn**	**14 21 06.0**	**+0.6**
ZLN	**Zelenaya**	**3.15**	**10**	*e*P	**Pn**	**14 21 05.7**	**+0.3**
ZLN				*i*S	**Sn**	**14 21 41.7**	**0.0**
SKR	**Severo-Kuril's**	**3.21**	**227**	*e*PN	**Pn**	**14 21 09.2**	**+2.9**
SKR				*e*S	**Sn**	**14 21 44.5**	**+1.1**
SKR				pmax	pmax		
	comp=Z,80nm,0.5s						
SKR				smax			
	comp=N,230nm,0.5s						
SKR				smax			
	comp=E,150nm,0.5s						
KRSR	**Krestovskiy**	**3.32**	**7**	*e*P	**Pn**	**14 21 08.1**	**+0.3**
KRSR				*e*S	**Sn**	**14 21 46.1**	**+0.1**
KLY	**Klyuchi**	**3.43**	**8**	*e*P	**Pn**	**14 21 09.7**	**+0.5**
KLY				*i*S	**Sn**	**14 21 48.7**	**+0.2**
KBTR	**Krutoberegovo**	**3.72**	**27**	*e*P	**Pn**	**14 21 13.2**	**0.0**
KBTR				*i*S	**Sn**	**14 21 55.1**	**-0.6**
SMKR	**Semkarok**	**3.78**	**14**	*e*P	**Pn**	**14 21 15.1**	**+1.0**
SMKR				*i*S	**Sn**	**14 21 58.1**	**+0.8**
SRKR	**Sorokina**	**3.81**	**11**	*e*P	**Pn**	**14 21 15.9**	**+1.4**
SRKR				*i*S	**Sn**	**14 21 58.9**	**+0.9**
BILL	**Bilibino**	**15.47**	**9**	⇑*e*P	**Pn**	**14 23 51.8**	**-0.7**
BILL				*e*S	**S**	**14 26 41.1**	**-14**
BILL				pmax	pmax		
	comp=Z,16nm,1.2s						
HABR	**Khabarovsk**	**16.28**	**264**	*e*P	**Pn**	**14 23 56.8**	**-6.0**
HABR				*e*S	**S**	**14 26 54.0**	**-18**
YAK	**Yakutsk**	**18.42**	**311**	*e*P	**Pn**	**14 24 27.2**	**-1.8**
MAJO	**Matsushiro**	**22.31**	**231**	*e*P	**P**	**14 25 09.8**	**-0.7**
MAJO				pmax	pmax		
	comp=Z,16nm,0.7s,mb4.6						
MAJO	**Matsushiro**	**22.31**	**231**	*e*P	**P**	**14 25 09.8**	**-0.8**
	comp=Z,16nm,0.7s,mb4.6						
MAT	**Matsushiro**	**22.31**	**231**	P	**P**	**14 25 11.6**	**+1.1**
MJAR	**Matsushiro Arr**	**22.31**	**231**	P	**P**	**14 25 10.5**	**0.0**
	comp=Z,7.3nm,0.8s,mb4.2,baz=16,slow=11,SNR=25						
MJAR	**Matsushiro Arr**	**22.31**	**231**	*e*P	**P**	**14 25 11.7**	**+1.2**
MJAR				pmax	pmax		
	comp=Z,7.0nm,0.8s						
TIXI	**Tiksi**	**23.16**	**336**	*e*P	**P**	**14 25 16.7**	**-2.4**
TIXI				pmax	pmax		
	comp=Z,8.0nm,2.5s,mb3.7						
TIXI	**Tiksi**	**23.16**	**336**	*e*P	**P**	**14 25 16.0**	**-3.1**
	comp=Z,1.6nm,0.7s,mb3.6						
HIA	**Hailar**	**25.20**	**278**	*e*P	**P**	**14 25 35.6**	**-2.3**
KSRS	**Korea Array**	**27.00**	**248**	P	**P**	**14 25 56.2**	**+1.9**
	comp=Z,2.1nm,0.8s,mb3.7,baz=42,slow=11,SNR=5.2						
KSRS	**Korea Array**	**27.00**	**248**	P	**P**	**14 25 56.2**	**+1.9**
KSRS				pmax	pmax		
	comp=Z,2.0nm,0.9s,mb3.6						
SONM	**Songino Array**	**33.78**	**283**	P	**P**	**14 26 53.0**	**-0.9**
	comp=Z,0.6nm,0.8s,mb3.6,baz=54,slow=6.1,SNR=4.3						
SONM				PcP	PcP	14 29 31.7	-0.1
	comp=Z,0.8nm,0.5s,baz=56,slow=2.0,SNR=7.3						
SONM	**Songino Array**	**33.78**	**283**	*e*P	**P**	**14 26 53.7**	**-0.2**
SONM				pmax	pmax		
	comp=Z,1.0nm,0.8s						
INK	**Inuvik**	**34.10**	**38**	*e*P	**P**	**14 26 56.4**	**-0.1**
NVS	**Novosibirsk**	**43.07**	**305**	*e*P	**P**	**14 29 09.0**	**-2.7**
YKA	**Yellowknife Ar**	**43.40**	**42**	P	**P**	**14 28 13.3**	**-0.9**
	comp=Z,2.1nm,0.7s,mb4.0,baz=301,slow=7.3,SNR=5.0						
YKA	**Yellowknife Ar**	**43.40**	**42**	*e*P	**P**	**14 28 14.3**	**0.0**
YKA				pmax	pmax		
	comp=Z,2.0nm,0.7s						
KURK	**Kurchatov**	**47.68**	**302**	P	**P**	**14 28 46.0**	**-2.2**
	comp=Z,0.9nm,0.4s,mb4.2,baz=59,slow=7.7,SNR=5.1						
MKAR	**Makanchi Array**	**48.08**	**296**	P	**P**	**14 28 48.8**	**-2.6**
	comp=Z,1.0nm,0.5s,mb4.1,baz=57,slow=7.8,SNR=8.4						
EDM	**Edmonton**	**49.00**	**54**	*e*P	**P**	**14 28 58.7**	**+0.4**
BVAR	**Borovoye Array**	**50.36**	**308**	P	**P**	**14 29 05.4**	**-3.3**
	comp=Z,1.4nm,0.5s,mb4.2,baz=62,slow=10,SNR=7.6						
BVAR				PcP	PcP	14 30 24.3	-2.1
	comp=Z,0.7nm,0.5s,baz=79,slow=3.1,SNR=3.7						
NVAR	**Mina Array Bea**	**55.96**	**70**	P	**P**	**14 29 51.6**	**+1.7**
	comp=Z,0.5nm,0.6s,mb3.7,baz=307,slow=5.4,SNR=4.3						
NVAR				pP	pP	14 30 04.2	-1.9
	comp=Z,1.2nm,0.8s,baz=301,slow=7.4,SNR=6.0						
NVAR	**Mina Array Bea**	**55.96**	**70**	P	**P**	**14 29 51.6**	**+1.7**
NVAR				pP	pP	14 30 04.2	-1.9
BW06	**Boulder Array**	**57.75**	**61**	P	**P**	**14 30 03.6**	**+1.0**
PDAR	**Pinedale Array**	**57.75**	**61**	P	**P**	**14 30 03.5**	**+0.9**
	comp=Z,1.3nm,0.7s,mb4.0,baz=328,slow=2.9,SNR=8.0						
CMAR	**Chiang Mai Arr**	**57.98**	**258**	*i*P	**P**	**14 30 00.5**	**-4.1**
CMAR				pmax	pmax		
	comp=Z,12nm,0.9s						
ULM	**Lac du Bonnet**	**59.06**	**46**	P	**P**	**14 30 10.9**	**-0.7**
	comp=Z,1.5nm,0.3s,mb4.5,baz=308,slow=6.5,SNR=4.8						
NB2	**NORSAR Subarra**	**63.65**	**344**	P	**P**	**14 30 40.8**	**-1.7**
	comp=Z,0.9nm,0.5s,mb4.1,baz=22,slow=6.9						
NOA	**NORSAR Array B**	**63.65**	**344**	P	**P**	**14 30 40.8**	**-1.7**
	comp=Z,1.2nm,0.5s,mb4.2,baz=22,slow=6.5,SNR=7.8						
NOA	**NORSAR Array B**	**63.65**	**344**	*e*P	**P**	**14 30 41.3**	**-1.2**
NOA				pmax	pmax		
	comp=Z,1.0nm,0.5s						
AKASG	**Malin Array Be**	**68.67**	**329**	P	**P**	**14 31 12.5**	**-2.3**
	comp=Z,0.8nm,0.5s,mb3.9,baz=350,slow=39,SNR=4.4						
TXAR	**Lajitas Array**	**70.86**	**67**	P	**P**	**14 31 29.2**	**+0.7**
	comp=Z,1.1nm,0.6s,mb3.9,baz=297,slow=4.6,SNR=13						
TXAR				pP	pP	14 31 43.0	-2.2
	comp=Z,1.1nm,0.7s,baz=303,slow=4.1,SNR=10						
TXAR	**Lajitas Array**	**70.86**	**67**	*e*P	**P**	**14 31 29.2**	**+0.7**
TXAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
TXAR	**Lajitas Array**	**70.86**	**67**	P	**P**	**14 31 29.3**	**+0.8**
TXAR				*PP	pP	14 31 43.1	-2.1
CLL	**Collm**	**72.45**	**339**	*e*P	**P**	**14 31 37.0**	**-0.7**
GERES	**GERESS Array B**	**74.60**	**338**	P	**P**	**14 31 49.4**	**-1.0**
	comp=Z,0.9nm,0.4s,mb4.0,baz=31,slow=5.6,SNR=21						
GIVF	**Givet**	**75.19**	**344**	*e*P	**P**	**14 31 53.2**	**-0.6**
CDF	**Champ du Feu**	**76.37**	**342**	*e*P	**P**	**14 32 01.2**	**+0.7**
HINF	**Hinteralfeld**	**77.02**	**342**	*e*P	**P**	**14 32 04.4**	**+0.2**
FLN	**La Foliniere**	**77.31**	**347**	*e*P	**P**	**14 32 05.0**	**-0.8**
LDF	**La Druitiere**	**77.43**	**347**	*e*P	**P**	**14 32 05.5**	**-1.0**
GRR	**Gorron**	**77.73**	**347**	*e*P	**P**	**14 32 07.6**	**-0.6**
	comp=Z,4.9nm,0.6s,mb4.3						
GRR	**Gorron**	**77.73**	**347**	*e*P	**P**	**14 32 07.6**	**-0.6**
GRR				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.2						
GRR	**Gorron**	**77.73**	**347**	*e*P	**P**	**14 32 07.6**	**-0.6**
	comp=Z,2.5nm,0.6s,mb4.3						
SGMF	**Saint Gilles**	**78.08**	**348**	*e*P	**P**	**14 32 09.7**	**-0.4**
	comp=Z,9.6nm,0.6s,mb4.6						
SGMF	**Saint Gilles**	**78.08**	**348**	*e*P	**P**	**14 32 09.7**	**-0.4**
SGMF				pmax	pmax		
	comp=Z,5.0nm,0.6s,mb4.6						
SGMF	**Saint Gilles**	**78.08**	**348**	*e*P	**P**	**14 32 09.7**	**-0.4**
	comp=Z,4.8nm,0.6s,mb4.6						
ROSF	**Rostrenen**	**78.09**	**349**	*e*P	**P**	**14 32 09.9**	**-0.3**
LOR	**Lormes**	**78.09**	**344**	*e*P	**P**	**14 32 09.8**	**-0.4**
SSF	**Saint Saulge**	**78.36**	**344**	*e*P	**P**	**14 32 12.1**	**+0.5**
AVF	**Avril sur Loir**	**78.64**	**344**	*e*P	**P**	**14 32 13.7**	**+0.5**
	comp=Z,6.0nm,0.8s,mb4.3						
AVF	**Avril sur Loir**	**78.64**	**344**	*e*P	**P**	**14 32 13.7**	**+0.5**
AVF				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.3						
AVF	**Avril sur Loir**	**78.64**	**344**	*e*P	**P**	**14 32 13.7**	**+0.5**
	comp=Z,3.0nm,0.8s,mb4.3						
BGF	**Bois d'Agland**	**78.95**	**344**	*e*P	**P**	**14 32 15.6**	**+0.7**
	comp=Z,5.9nm,0.5s,mb4.5						
BGF	**Bois d'Agland**	**78.95**	**344**	*e*P	**P**	**14 32 15.6**	**+0.7**
BGF				pmax	pmax		
	comp=Z,3.0nm,0.5s,mb4.5						
BGF	**Bois d'Agland**	**78.95**	**344**	*e*P	**P**	**14 32 15.6**	**+0.7**
	comp=Z,3.0nm,0.5s,mb4.5						
LPL	**La Plagne**	**79.26**	**341**	*e*P	**P**	**14 32 17.5**	**+0.9**
LPG	**La Plagne**	**79.27**	**341**	*e*P	**P**	**14 32 17.7**	**+1.0**
TCF	**Toulx Ste Croi**	**79.32**	**344**	*e*P	**P**	**14 32 16.8**	**-0.2**
MFF	**Saint Martin d**	**79.38**	**346**	*e*P	**P**	**14 32 17.1**	**-0.2**
ORIF	**Oris-en-Rattie**	**80.00**	**342**	*e*P	**P**	**14 32 21.3**	**+0.7**
	comp=Z,16nm,0.9s,mb4.6						
ORIF	**Oris-en-Rattie**	**80.00**	**342**	*e*P	**P**	**14 32 21.3**	**+0.7**
ORIF				pmax	pmax		
	comp=Z,8.0nm,0.9s,mb4.7						
ORIF	**Oris-en-Rattie**	**80.00**	**342**	*e*P	**P**	**14 32 21.3**	**+0.7**
	comp=Z,7.8nm,0.9s,mb4.6						
MBDF	**Montbardon**	**80.01**	**341**	*e*P	**P**	**14 32 21.7**	**+1.0**
VIVF	**Saint-Julien-l**	**80.28**	**342**	*e*P	**P**	**14 32 22.6**	**+0.4**
CAF	**Calviac**	**80.67**	**344**	*e*P	**P**	**14 32 24.8**	**+0.5**
	comp=Z,5.1nm,0.6s,mb4.3						
CAF	**Calviac**	**80.67**	**344**	*e*P	**P**	**14 32 24.8**	**+0.5**
CAF				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.4						
CAF	**Calviac**	**80.67**	**344**	*e*P	**P**	**14 32 24.8**	**+0.5**
	comp=Z,2.5nm,0.6s,mb4.3						
MTLF	**Montolieu**	**82.19**	**344**	*e*P	**P**	**14 32 32.8**	**+0.5**
SJPF	**Ste Jean**	**82.95**	**346**	*e*P	**P**	**14 32 37.2**	**+0.9**
	comp=Z,7.9nm,0.8s,mb4.5						
SJPF	**Ste Jean**	**82.95**	**346**	*e*P	**P**	**14 32 37.2**	**+0.9**
SJPF				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.5						
SJPF	**Ste Jean**	**82.95**	**346**	*e*P	**P**	**14 32 37.2**	**+0.9**
	comp=Z,4.0nm,0.8s,mb4.5						
ETSF	**Etsaut**	**83.06**	**346**	*e*P	**P**	**14 32 37.6**	**+0.7**
	comp=Z,17nm,0.9s,mb4.8						
ETSF	**Etsaut**	**83.06**	**346**	*e*P	**P**	**14 32 37.6**	**+0.7**
ETSF				pmax	pmax		
	comp=Z,9.0nm,0.9s,mb4.8						
ETSF	**Etsaut**	**83.06**	**346**	*e*P	**P**	**14 32 37.6**	**+0.7**
	comp=Z,8.6nm,0.9s,mb4.8						
ESDC	**Sonseca Array**	**86.71**	**348**	P	**P**	**14 32 54.5**	**-0.8**
	comp=Z,2.3nm,0.8s,mb4.5,baz=1.4,slow=5.0,SNR=11						
PLCA	**Paso Flores**	**144.17**	**91**	PKP	PKPdf	14 39 45.2	-1.1
	comp=Z,1.4nm,0.6s,baz=252,slow=2.8,SNR=5.9						
PLCA	**Paso Flores**	**144.17**	**91**	PKIKP	PKPdf	14 39 45.2	-1.1
PLCA				pmax	pmax		
	comp=Z,1.0nm,0.6s						
PLCA	**Paso Flores**	**144.17**	**91**	*e*PKP	PKPdf	14 39 45.0	-1.4

MEX 21 14:23:21.7±1.4, 1637N×9932W, h17km±18km, MD3.7, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ACX	**Acapulco**	**0.76**	**311**	*i*P	**Pb**	**14 23 33.5**	**-2.9**
ACX				*i*S	**Sb**	**14 23 42.1**	**-4.4**
CAIG	**El Cayaco**	**1.13**	**307**	*e*P	**Pn**	**

GRG	**Griva**	**2.70**	**284**	P	**Pn**	**14 24 59.2 0.0**
GRG				S	**Sn**	**14 25 33.2 +1.0**
KULA	**Kula-Manisa**	**2.85**	**130**	*e*PN	**Pn**	**14 25 02.7 +1.3**
VTS	**Vitosha**	**2.98**	**319**	*e*Pn	**Pn**	**14 25 02.8 -0.3**
VTS				*e*Sg	**Sg**	**14 25 51.3 +0.2**
ZAPS	**Zavoj**	**3.77**	**321**	*e*Pn	**Pn**	**14 25 12.9 -1.1**
ZAPS				*e*Sg	**Sg**	**14 26 18.1 +1.7**
BARS	**Barje**	**3.89**	**310**	*e*Pn	**Pn**	**14 25 15.3 -0.4**
BARS				*e*Sg	**Sg**	**14 26 20.1 -0.3**
BOLS	**Boljevac**	**4.51**	**321**	*e*Pn	**Pn**	**14 25 23.3 -0.9**
BZS	**Buzias**	**6.09**	**331**	*e*Pn	**Pn**	**14 25 44.9 -1.0**

SZGRF ***21*** *14:24:06.3, 5.50S×103.28E, h27km, mb5.7, Southern Sumatera, Indonesia*
BJI ***21*** *14:24:15.9, 4.18S×100.89E, h35km, mB5.7, mb5.6, Ms5.7, Msz5.6*
ISCJB ***21*** *14:24:17.4±0.1, 3.65S±0.02×100.72E±0.02, h28km, mb5.5/155, MS5.3/177, Error ellipse: s-maj=3.8km s-min=2.8km az=42.1*
IDC ***21*** *14:24:18.7±0.5, 3.62S×100.76E, h26km±2km, mb4.9/37, mb1 4.9/38, mb1mx4.9/38, mbtmp4.9/38, ML5.1/1, MS5.1/18, Ms1 5.1/18, ms1mx4.9/30, Error ellipse: s-maj=11.1km s-min=7.8km az=40.0*
MOS ***21*** *14:24:18.5±1.0, 3.47S×100.89E, h33km, mb5.7/68, MS5.2/35, Error ellipse: s-maj=9.0km s-min=4.5km az=115.9*
NEIC ***21*** *14:24:20.1±0.1, 3.59S×100.80E, h35km, mb5.5/70, MS5.4/130, MW5.4, Error ellipse: s-maj=5.2km s-min=3.6km az=43.0, Moment Tensor Solution. s30 Moment tensor: Scale 10^17 Nm; Mrr 1.28; Mθθ -0.84; Mφφ -0.45; Mrθ 1.04; Mθφ 0.69; Mφr -0.44; Best double couple: M0 1.70000×10^17 NP1: φs 118.00000°, δ65.00000°, λ82.00000°. NP2: φs 317.00000°, δ26.00000°, λ107.00000°. Principal axes: T 1.7200, Plg68.0000°, Azm11.0000°; N 0.0400, Plg7.0000°, Azm121.0000°; P -1.7600, Plg20.0000°, Azm213.0000°;*
NEIC Felt [IV] at Iputh and Mukomuko; [II] at Padang, Sumatra.
GCMT ***21*** *14:24:20.1±0.1, 3.99S×100.45E, h25km, MW5.5/85, Moment Tensor Solution. s83, c137; s85, c152; Duration: 1ˢ4 Moment tensor: Scale 10^17 Nm; Mrr 1.15±.03; Mθθ -0.71±.02; Mφφ -0.43±.02; Mrθ 1.71±.04; Mθφ 0.84±.02; Mφr -1.15±.05; Best double couple: M0 2.43200×10^17 NP1: φs 319.00000°, δ16.00000°, λ104.00000°. NP2: φs 124.00000°, δ74.00000°, λ86.00000°. Principal axes: T 2.3000, Plg61.0000°, Azm29.0000°; N 0.2650, Plg4.0000°, Azm126.0000°; P -2.5650, Plg29.0000°, Azm218.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
DJA ***21*** *14:24:20.7±2.8, 4.5S×101.5E±, h29km±32km, mB6.0/9, Mjma5.4/15, MLv5.7/15, Mw(mB)5.6/9, Mwp5.3/11*
ISC 21 14:24:19.4±0.1, 366S±002×10070E±002, h29km, h29km±.6km: pP-P, n598, σ1ˢ02/478, mb5.5/154, MS5.3/177, 50C-27D, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KSI	**Kapahiang**	**1.89**	**90**	P	**Pn**	**14 24 49.5**	**-0.2**
PDSI	**Padang**	**2.74**	**355**	P	**Pn**	**14 25 00.5**	**-1.0**
PDSI	**Padang**	**2.74**	**355**	S	**Sn**	**14 25 33.7**	**+0.1**
PPI	**Padang Panjang**	**3.20**	**354**	P	**Pn**	**14 25 07.5**	**-0.3**
PPI	**Padang Panjang**	**3.20**	**354**	S	**Sn**	**14 25 45.5**	**+0.6**
RGRI	**Rengat**	**3.67**	**26**	P	**Pn**	**14 25 15.4**	**+1.1**
KLI	**Kotabumi**	**4.31**	**106**	P	**Pn**	**14 25 24.8**	**+1.8**
DSRI	**Dabo**	**5.00**	**51**	P	**Pn**	**14 25 33.5**	**+1.0**
PPBI	**Pangkal Pinang** 176nm,1.1s,5μm2.3nm	**5.63**	**75**	P	**Pn**	**14 25 42.9**	**+1.7**
SBJI	**Serang** 443nm,1.0s,9μm3.8nm	**5.93**	**115**	P	**Pn**	**14 25 48.3**	**+2.9**
KGM	**Kluang**	**6.21**	**25**	⇓P	**Pn**	**14 25 50.4**	**+1.2**
MYKOM	**Kota Tinggi**	**6.26**	**30**	⇑P	**Pn**	**14 25 51.9**	**+2.0**
MYKOM	**Kota Tinggi**	**6.26**	**30**	P	**Pn**	**14 25 50.9**	**+1.0**
DBJI	**Dramaga** 657nm,0.9s,9μm2.5nm	**6.67**	**116**	P	**Pn**	**14 25 56.1**	**+0.6**
CBJI	**Citeko** 3μm,1.0s,6.6nm	**6.71**	**114**	P	**Pn**	**14 25 58.9**	**+2.9**
SKJI	**Sukabumi** 384nm,0.9s,9μm3.4nm	**6.71**	**120**	P	**Pn**	**14 25 58.8**	**+2.8**
TPI	**Tanjungpandan**	**7.00**	**83**	⇑*e*P	**Pn**	**14 26 01.0**	**+1.0**
TPI				*e*S	**Sn**	**14 27 13.0**	**-5.6**
TPI	**Tanjungpandan** 61nm,1.2s,2μm2.4nm	**7.00**	**83**	P	**Pn**	**14 26 01.1**	**+1.1**
LEM	**Lembang** 521nm,0.8s,8μm2.1nm	**7.57**	**115**	P	**Pn**	**14 26 09.7**	**+1.9**
IPM	**Ipoh**	**8.09**	**2**	⇓P	**Pn**	**14 26 16.9**	**+1.8**
KULM	**Kulim**	**8.89**	**360**	⇓P	**Pn**	**14 26 27.2**	**+1.2**
KULM	**Kulim**	**8.89**	**360**	⇓P	**Pn**	**14 26 28.8**	**+2.8**
KULM	**Kulim**	**8.89**	**360**	⇓P	**Pn**	**14 26 30.7**	**+4.7**
KTGM	**Kuala Trenggan**	**9.25**	**15**	⇑P	**Pn**	**14 26 32.0**	**+1.0**
COCO	**West Island**	**9.30**	**204**	*e*Pn	**Pn**	**14 26 29.3**	**-2.3**
SNG	**Songkhla** 280nm,1.0s	**10.77**	**360**	P	**Pn**	**14 26 51.0**	**-0.7**
KSM	**Kuching**	**10.87**	**62**	⇑P	**Pn**	**14 26 56.1**	**+3.0**
KSM	**Kuching**	**10.87**	**62**	*e*Pn	**Pn**	**14 26 53.5**	**+0.4**
TRT	**Tretes**	**12.53**	**109**	⇓*e*P	**Pn**	**14 27 15.0**	**-0.9**
SBUM	**Sibu**	**13.01**	**62**	⇓P	**Pn**	**14 27 26.8**	**+4.3**
BTM	**Bintulu**	**14.12**	**61**	⇑P	**Pn**	**14 27 42.8**	**+5.2**
KKM	**Kota Kinabalu**	**18.24**	**58**	⇓P	**Pn**	**14 28 32.0**	**+1.4**
KKM	**Kota Kinabalu**	**18.24**	**58**	*e*P	**Pn**	**14 28 30.5**	**-0.1**
SDKM	**Sandakan**	**18.89**	**61**	⇓P	**Pn**	**14 28 32.0**	**-6.4**
SDKM	**Sandakan**	**18.89**	**61**	⇓P	**Pn**	**14 28 38.9**	**+0.5**
TSM	**Tawau**	**18.89**	**65**	⇑P	**Pn**	**14 28 39.7**	**+1.2**
KAPI	**Kappang** 858nm,1.2s,SNR=9.5	**19.04**	**95**	Pn	**Pn**	**14 28 38.8**	**-1.5**
KAPI	**Kappang** SNR=9.5	**19.04**	**95**	P	**Pn**	**14 28 38.5**	**-1.9**
KAPI	**Kappang** 5.8nm,0.3s,baz=272,slow=10,SNR=25	**19.04**	**95**	P	**Pn**	**14 28 36.5**	**-3.9**
KAPI	**Kappang** 166nm,1.0s	**19.04**	**95**	*e*P	**Pn**	**14 28 38.1**	**-2.2**
NST	**Nakhon Sawan** 47nm,0.8s	**19.22**	**358**	P	**Pn**	**14 28 36.5**	**-5.9**
KDM	**Kudat**	**19.23**	**57**	⇑P	**Pn**	**14 28 39.7**	**-2.8**
KDM	**Kudat**	**19.23**	**57**	⇓P	**Pn**	**14 28 43.2**	**+0.6**
MYLDM	**Lahad Datu**	**19.83**	**64**	⇓P	**Pn**	**14 28 43.2**	**-6.6**
MYLDM	**Lahad Datu**	**19.83**	**64**	⇓P	**Pn**	**14 28 50.5**	**+0.7**
KKTK	**Khon Kaen** 833nm,0.6s	**19.98**	**6**	P	**Pn**	**14 28 47.0**	**-4.4**
WSI	**Waingapu**	**20.35**	**108**	⇓*e*P	**P**	**14 28 55.0**	**+1.3**
KDI	**Kendari**	**21.87**	**91**	⇑*e*P	**P**	**14 29 09.5**	**-0.6**
KDI				*e*S	**S**	**14 33 09.1**	**-1.3**
CM31	**Chiang Mai Arr**	**22.05**	**356**	PFAKE		14 29 20.0	+8.1
CM31	comp=Z,5μm,19.0s,MS4.9			LR	LR		
CMAR	**Chiang Mai Arr** comp=Z,51nm,0.8s,mb5.0,baz=184,slow=9.2,SNR=81	**22.05**	**356**	P	**P**	**14 29 09.4**	**-2.4**
CMAR	comp=Z,8μm,18.3s,MS5.2,baz=7.5,slow=43			LR	LR	14 40 09.6	
CMAR	**Chiang Mai Arr**	**22.05**	**356**	*i* P	**P**	**14 29 09.5**	**-2.4**
CMAR	comp=Z,51nm,0.8s			pmax	pmax		
NANT	**Nan** comp=Z,288nm,1.0s,mb5.7	**22.32**	**360**	⇑P	**P**	**14 29 11.0**	**-3.8**
CHG	**Chiang Mai** comp=Z,96nm,1.1s,mb5.1	**22.40**	**356**	⇓P	**P**	**14 29 13.8**	**-1.9**
CHTO	**Chiang Mai** SNR=46	**22.40**	**356**	P	**P**	**14 29 13.9**	**-1.7**
CHTO	**Chiang Mai**	**22.40**	**356**	P	**P**	**14 29 12.8**	**-2.9**
CHTO	comp=Z,98nm,1.0s,mb5.2			pmax	pmax		
CHTO	**Chiang Mai** comp=Z,98nm,1.0s,mb5.2	**22.40**	**356**	*e*P	**P**	**14 29 12.5**	**-3.2**
CHTO	comp=Z,3μm,22.0s,MS4.7			LR	LR		
CHRT	**Chiangrai** comp=Z,632nm,1.5s,mb5.8	**23.40**	**358**	⇓P	**P**	**14 29 24.5**	**-1.7**
BATI	**Baumata** comp=Z,42nm,0.7s,mb5.0,baz=301,slow=2.6,SNR=9.7	**23.69**	**107**	P	**P**	**14 29 26.3**	**-2.7**
BATI	comp=Z,26nm,0.7s,baz=236,slow=18,SNR=3.7			S	**S**	**14 33 34.9**	**-7.3**
QIZ	**Qiongzhong**	**24.28**	**21**	P	**P**	**14 29 34.8**	**+0.5**
QIZ				AP		14 29 43.4	
QIZ				S	**S**	**14 33 52.8**	**+1.3**
QIZ	comp=Z,188nm,1.8s,mb5.2			AMB	AMB		
QIZ	comp=Z,1μm,5.6s			AMB	AMB		
QIZ	comp=N,7μm,13.0s			LR	LR		
QIZ	comp=Z,7μm,14.5s,MS5.3			LR	LR		
QIZ	**Qiongzhong**	**24.28**	**21**	PFAKE		14 29 40.0	+5.7
QIZ	comp=Z,6μm,20.0s,MS5.0			LR	LR		
MBWA	**Marble Bar** comp=Z,32nm,1.1s,mb4.8	**25.39**	**135**	*e*P	**P**	**14 29 43.0**	**-1.4**
MBWA	comp=Z,4μm,20.0s,MS5.0			LR	LR		
DAV	**Davao City (W)** comp=Z,74nm,0.4s,mb5.5,baz=285,slow=18,SNR=4.0	**27.02**	**67**	P	**P**	**14 29 58.6**	**-0.7**
DAV	**Davao City (W)**	**27.02**	**67**	⇑*e*P	**P**	**14 29 57.2**	**-2.1**
DAV	**Davao City (W)**	**27.02**	**67**	P	**P**	**14 29 58.6**	**-0.7**
DAV	comp=Z,5μm,20.0s,MS5.1			LR	LR		
VIS	**Vishakhapatnam**	**27.30**	**322**	*i* P	**P**	**14 30 02.5**	**+0.8**
VIS	comp=Z,72nm,1.3s,mb5.0			AMb	AMB	14 30 04.7	
VIS				*i* S	**S**	**14 34 39.4**	**-0.2**
BWNR	**Bhubaneshwar**	**27.94**	**329**	*e*P	**P**	**14 30 07.5**	**+0.1**
BWNR				*e*S	**S**	**14 34 50.3**	**+0.6**
FITZ	**Fitzroy Crossi** comp=Z,22nm,0.6s,mb5.0	**28.32**	**122**	*e*P	**P**	**14 30 10.0**	**-0.9**
FITZ				*e*S	**S**	**14 34 53.0**	**-2.7**
FITZ	**Fitzroy Crossi** comp=Z,8.7nm,0.8s,mb4.5,baz=297,slow=8.3,SNR=12	**28.32**	**122**	P	**P**	**14 30 10.2**	**-0.6**
FITZ	comp=Z,1μm,19.7s,MS4.6,baz=309,slow=38			LR	LR	14 41 58.8	
DGAR	**Diego Garcia**	**28.36**	**261**	PFAKE		14 30 20.0	+8.7
DGAR	comp=Z,4μm,20.0s,MS5.0			LR	LR		
KMI	**Kunming**	**28.68**	**4**	⇑P	**P**	**14 30 14.8**	**+0.9**
KMI				AP	pP	14 30 25.3	+2.8
KMI				XP	sP	14 30 30.8	+4.7
KMI				PP	PP	14 31 11.0	-8.1
KMI				PCP	PcP	14 33 24.9	+0.6
KMI				S	**S**	**14 35 01.8**	**+0.6**
KMI				XS	sS	14 35 19.6	+4.2
KMI				SCS	ScS	14 40 56.4	-0.8
KMI	comp=Z,51nm,1.3s,mb5.1			AMB	AMB		
KMI	comp=Z,537nm,4.0s			AMB	AMB		
KMI	comp=N,9μm,11.3s			LR	LR		
KMI	comp=E,11μm,16.5s			LR	LR		
KMI	comp=Z,12μm,13.0s,MS5.7			LR	LR		
CAL	**Calcutta**	**28.71**	**336**	*e*P	**P**	**14 30 15.3**	**+1.1**
CAL				*ex*	x	14 35 23.2	
HKC	**Hong Kong Obse**	**28.97**	**26**	P	**P**	**14 30 15.0**	**-1.6**
IMP	**Imphal**	**29.03**	**347**	*e*P	**P**	**14 30 17.0**	**-0.1**
IMP				*ex*	x	14 35 02.0	
GZH	**Guangzhou**	**29.31**	**24**	P	**P**	**14 30 25.5**	**+6.0**
GZH	comp=N,4μm,21.9s,MS5.3			LR	LR		
GZH	comp=E,6μm,17.6s,MS5.3			LR	LR		
GZH	comp=Z,8μm,15.1s,MS5.5			LR	LR		
HYB	**Hyderabad**	**30.28**	**314**	*i* P	**P**	**14 30 28.5**	**+0.3**
HYB				*e*pP	pP	14 30 37.5	+0.7
HYB				*e*S	**S**	**14 35 26.0**	**-0.4**
HYB	comp=Z,5.1nm,18.0s			LR	LR	14 42 00.0	
HYB	**Hyderabad**	**30.28**	**314**	*e*P	**P**	**14 30 28.5**	**+0.3**
HYB				*e*	pP	14 30 37.5	+0.7
HYB				*e*S	**S**	**14 35 26.0**	**-0.4**
SHL	**Shillong**	**30.29**	**344**	⇑*i*P	**P**	**14 30 28.0**	**-0.2**
SHL				*i* x	x	14 35 22.0	
GYA	**Guiyang**	**30.49**	**11**	⇑*i*P	**P**	**14 30 30.3**	**+0.3**
GYA				AP	pP	14 30 40.3	+1.7
GYA				XP	sP	14 30 48.6	+6.4
GYA				PP	PP	14 31 31.4	-7.8
GYA				PCP	PcP	14 33 28.8	-0.1
GYA				S	**S**	**14 35 30.6**	**+1.0**
GYA				XS	sS	14 35 45.8	+2.0
GYA				SCP	ScP	14 37 07.4	-2.1
GYA	comp=Z,50nm,0.8s,mb5.3			AMB	AMB		
GYA	comp=Z,240nm,4.9s			AMB	AMB		
GYA	comp=N,7μm,17.2s,MS5.4			LR	LR		
GYA	comp=E,5μm,18.4s,MS5.4			LR	LR		
GYA	comp=Z,8μm,17.6s,MS5.4			LR	LR		
BOK	**Bokaro**	**30.87**	**333**	⇑*i*P	**P**	**14 30 34.5**	**+1.1**
BOK	comp=Z,111nm,1.4s,mb5.5			AMb	AMB	14 30 37.3	
NGP	**Nagpur**	**32.53**	**320**	⇑*i*P	**P**	**14 30 46.9**	**-1.2**
NGP	comp=Z,70nm,1.6s			*ex*	x	14 30 49.7	
NGP				*e*S	**S**	**14 35 59.9**	**-1.8**
KAKA	**Kakadu** comp=Z,35nm,1.2s,mb5.2	**32.64**	**108**	*e*P	**P**	**14 30 42.3**	**-6.8**
ODAN	**Odare** comp=Z,1μm,1.4s,mb6.6	**32.96**	**338**	*e*P	**P**	**14 30 52.5**	**+0.8**
NWAO	**Narrogin (SRO)** comp=Z,5μm,18.8s,MS5.2,baz=330,slow=36	**32.97**	**154**	P	**P**	**14 30 52.0**	**+0.2**
NWAO				LR	LR	14 44 01.8	
NWAO	**Narrogin (SRO)**	**32.97**	**154**	P	**P**	**14 30 52.0**	**+0.3**
NWAO	comp=Z,6.0nm,0.6s			pmax	pmax		
NWAO	comp=Z,5μm,18.8s			MLR	MLR		
NWAO	**Narrogin (SRO)**	**32.97**	**154**	P	**P**	**14 30 52.0**	**+0.2**
NWAO				LR	LR	14 44 01.8	
TAPN	**Taplejung** comp=Z,1μm,1.0s,mb6.7	**33.28**	**339**	*e*P	**P**	**14 30 55.9**	**+1.4**
QZH	**Quanzhou**	**33.32**	**31**	⇑*i*P	**P**	**14 30 54.9**	**0.0**
QZH				S	**S**	**14 36 21.3**	**+7.4**
QZH	comp=Z,240nm,1.3s,mb6.0			AMB	AMB		
QZH	comp=Z,1μm,8.2s			AMB	AMB		
QZH	comp=N,12μm,14.9s,MS5.9			LR	LR		
QZH	comp=E,11μm,15.2s,MS5.9			LR	LR		
QZH	comp=Z,10μm,15.5s,MS5.7			LR	LR		
RAMN	**Ramite**	**33.34**	**337**	*e*P	**P**	**14 30 56.4**	**+1.3**
KAD	**Karad**	**33.46**	**309**	*i* P	**P**	**14 30 57.1**	**+0.9**
JBP	**Jabalpur**	**33.46**	**324**	*e*P	**P**	**14 30 57.1**	**+0.9**
JBP				*e*S	**S**	**14 36 15.9**	**-0.2**
JIRN	**Jiri** comp=Z,286nm,0.7s,mb6.3	**34.14**	**337**	*e*P	**P**	**14 31 03.2**	**+1.2**
NACB	**Ninganchiao** comp=Z,388nm,1.0s,mb6.3	**34.34**	**35**	*e*P	**P**	**14 31 03.6**	**-0.1**
PKI	**Pulchoki**	**34.38**	**335**	*e*P	**P**	**14 31 04.6**	**+0.6**
LSA	**Lhasa**	**34.41**	**345**	P	**P**	**14 31 05.0**	**+0.7**
LSA				AP	pP	14 31 13.4	+0.4
LSA				S	**S**	**14 36 30.8**	**+0.2**
LSA	comp=N,2μm,21.0s			LR	LR		
LSA	comp=E,3μm,38.0s			LR	LR		
LSA	comp=Z,4μm,18.0s,MS5.2			LR	LR		
LSA	**Lhasa**	**34.41**	**345**	*e*P	**P**	**14 31 05.2**	**+0.9**
LSA	comp=Z,171nm,1.4s,mb5.8			pmax	pmax		
LSA	comp=Z,3μm,20.0s,MS5.0			MLR	MLR		
LSA	**Lhasa** comp=Z,171nm,1.4s,mb5.8	**34.41**	**345**	*e*P	**P**	**14 31 05.2**	**+0.9**
LSA	comp=Z,3μm,20.0s,MS5.0			LR	LR		
POO	**Poona**	**34.44**	**311**	*e*P	**P**	**14 31 04.6**	**-0.1**
POO	comp=Z,60nm,1.7s,mb5.2			AMb	AMB	14 31 16.3	
GUN	**Gumba**	**34.49**	**336**	*e*P	**P**	**14 31 06.1**	**+1.1**
CD2	**Chengdu**	**34.50**	**5**	⇑*i*P	**P**	**14 31 04.1**	**-0.9**
CD2				AP	pP	14 31 13.9	+0.2
CD2				XP	sP	14 31 18.3	+1.0
CD2				PCP	PcP	14 33 38.8	-1.0
CD2				S	**S**	**14 36 29.9**	**-2.0**
CD2				PCS	PcS	14 37 24.5	-1.8
CD2				SCS	ScS	14 41 21.8	-4.2
CD2	comp=Z,120nm,0.9s,mb5.8			AMB	AMB		
CD2	comp=Z,790nm,4.1s			AMB	AMB		
CD2	comp=N,9μm,13.2s,MS6.0			LR	LR		
CD2	comp=E,17μm,18.0s,MS6.0			LR	LR		
CD2	comp=Z,11μm,14.4s,MS5.7			LR	LR		
DMN	**Daman**	**34.54**	**335**	*e*P	**P**	**14 31 06.4**	**+1.0**
YHNB	**Yeheng** comp=Z,106nm,1.3s,mb5.6	**34.60**	**34**	*e*P	**P**	**14 31 05.0**	**-0.9**
YHNB	comp=Z,3μm,22.0s,MS4.9			LR	LR		
KKN	**Kakani** comp=Z,466nm,1.2s,mb6.3	**34.62**	**335**	*e*P	**P**	**14 31 06.7**	**+0.5**
KKN	**Kakani** comp=Z,381nm,1.0s,mb6.3	**34.62**	**335**	*e*P	**P**	**14 31 06.7**	**+0.5**
KKN	**Kakani**	**34.62**	**335**	*e*P	**P**	**14 31 06.7**	**+0.5**
KKN	comp=Z,381nm,1.0s,mb6.3			pmax	pmax		
TATO	**Taipei**	**34.90**	**34**	PFAKE		14 31 20.0	+11
TATO	comp=Z,2μm,20.0s,MS5.0			LR	LR		
GKN	**Gorkha** comp=Z,349nm,1.0s,mb6.2	**35.08**	**335**	*e*P	**P**	**14 31 10.7**	**+0.6**
BHPL	**Bhopal**	**35.08**	**321**	⇑*i*P	**P**	**14 31 10.2**	**+0.1**
KOLN	**Koldanda** comp=Z,187nm,0.9s,mb6.0	**35.33**	**333**	*e*P	**P**	**14 31 12.9**	**+0.6**
DANN	**Dangsing** comp=Z,530nm,1.0s,mb6.4	**35.76**	**334**	*e*P	**P**	**14 31 16.5**	**+0.6**
WHN	**Wuhan**	**36.43**	**20**	⇑P	**P**	**14 31 21.8**	**+0.2**
WHN				AP	pP	14 31 29.3	-1.0
WHN				PP	PP	14 32 50.6	+5.7
WHN				S	**S**	**14 37 03.4**	**+1.9**
WHN	comp=Z,169nm,1.1s,mb5.9			AMB	AMB		
WHN	comp=Z,1μm,8.1s			AMB	AMB		
WHN	comp=N,21μm,14.2s,MS6.1			LR	LR		
WHN	comp=E,9μm,14.1s,MS6.1			LR	LR		
WHN	comp=Z,28μm,14.3s,MS6.2			LR	LR		
WRA	**Warramunga Arr** comp=Z,18nm,0.8s,mb5.0,baz=308,slow=9.2,SNR=35	**36.56**	**119**	P	**P**	**14 31 22.2**	**-0.8**
WRA				S	**S**	**14 37 02.2**	**-1.7**
WRA	comp=Z,4.1nm,1.0s,baz=292,slow=17,SNR=5.5			LR	LR	14 47 19.4	
WRA	**Warramunga Arr** comp=Z,2μm,21.3s,MS4.8,baz=300,slow=38	**36.56**	**119**	P	**P**	**14 31 22.2**	**-0.8**
WRA				S	**S**	**14 37 02.2**	**-1.8**
WRA	comp=Z,18nm,0.8s			pmax	pmax		
WRA	comp=N,4.0nm,1.0s			smax			
WRA	comp=Z,2μm,21.3s			MLR	MLR		
WRAB	**Tennant Creek** comp=Z,233nm,0.6s,mb6.2,SNR=14	**36.57**	**119**	P	**P**	**14 31 22.0**	**-1.0**
WRAB	**Tennant Creek**	**36.57**	**119**	⇑*i*P	**P**	**14 31 22.3**	**-0.7**
WRAB	**Tennant Creek** comp=Z,26nm,0.6s,mb5.2	**36.57**	**119**	*e*P	**P**	**14 31 22.1**	**-1.0**
WRAB	comp=Z,5μm,22.0s,MS5.2			LR	LR		
WB2	**Warramunga Arr**	**36.57**	**119**	*e*P	**P**	**14 31 21.6**	**-1.5**
FORT	**Forrest** comp=Z,30nm,0.6s,mb5.3	**37.33**	**139**	*e*P	**P**	**14 31 30.7**	**+1.4**
ASAR	**Alice Springs** comp=Z,10.0nm,0.7s,mb4.6,baz=298,slow=7.2,SNR=74	**37.72**	**125**	P	**P**	**14 31 31.9**	**-0.9**
ASAR				PcP	PcP	14 33 50.2	+0.6
ASAR	comp=Z,3.4nm,0.8s,baz=289,slow=2.6,SNR=4.2			S	**S**	**14 37 22.9**	**+1.4**
ASAR	**Alice Springs**	**37.72**	**125**	P	**P**	**14 31 31.9**	**-0.9**
ASAR						14 33 50.3	
ASAR				S	**S**	**14 37 22.9**	**+1.4**
ASAR	comp=Z,10.0nm,0.7s			pmax	pmax		
ASAR	comp=N,3.0nm,0.9s			smax			
XAN	**Xi'an**	**38.29**	**11**	P	**P**	**14 31 36.3**	**-1.1**
XAN				AP	pP	14 31 45.9	-0.2
XAN				XP	sP	14 31 50.0	+0.3
XAN				S	**S**	**14 37 33.3**	**+3.5**
XAN				XS	sS	14 37 50.5	+6.3
XAN	comp=Z,220nm,0.9s,mb5.9			AMB	AMB		
XAN	comp=Z,616nm,6.3s			AMB	AMB		
XAN	comp=N,4μm,13.6s,MS5.7			LR	LR		
XAN	comp=E,8μm,17.4s,MS5.7			LR	LR		
XAN	comp=Z,10μm,15.3s,MS5.8			LR	LR		
AJM	**Ajmer**	**39.16**	**321**	*e*P	**P**	**14 31 45.2**	**+0.5**
NDI	**New Delhi**	**39.29**	**326**	*e*P	**P**	**14 31 44.0**	**-1.9**
NDI				*ex*	x	14 37 52.0	
NJ2	**Nanjing**	**39.48**	**25**	*e*P	**P**	**14 31 47.8**	**+0.4**
NJ2				AP	pP	14 31 56.6	+0.4
NJ2				XP	sP	14 32 01.9	+2.2
NJ2	comp=Z,20nm,1.0s,mb4.8			AMB	AMB		
NJ2	comp=Z,310nm,8.4s			AMB	AMB		
NJ2	comp=N,3μm,15.8s,MS5.6			LR	LR		
NJ2	comp=E,6μm,17.1s,MS5.6			LR	LR		
NJ2	comp=Z,6μm,17.5s,MS5.5			LR	LR		
LZH	**Lanzhou**	**39.65**	**4**	⇑P	**P**	**14 31 49.0**	**+0.3**
LZH				AP	pP	14 31 59.1	+1.6
LZH				XP	sP	14 32 05.0	+4.0
LZH				PP	PP	14 33 25.6	+5.4
LZH				PCP	PcP	14 33 55.0	-0.4
LZH				S	**S**	**14 37 51.3**	**+1.1**
LZH				XS	sS	14 38 07.3	+2.7
LZH	comp=Z,306nm,1.2s,mb5.9			AMB	AMB		
LZH	comp=Z,662nm,5.6s			AMB	AMB		
LZH	comp=N,7μm,14.6s			LR	LR		
LZH	comp=Z,10μm,15.4s,MS5.8			LR	LR		
SSE	**Sheshan**	**39.70**	**28**	P	**P**	**14 31 49.1**	**-0.1**
SSE				S	**S**	**14 37 54.9**	**+3.8**
SSE	comp=Z,124nm,1.1s,mb5.5			AMB	AMB		
SSE	comp=Z,538nm,5.9s			AMB	AMB		
SSE	comp=N,6μm,14.2s,MS5.6			LR	LR		
SSE	comp=E,3μm,14.2s,MS5.6			LR	LR		
SSE	comp=Z,9μm,12.8s,MS5.8			LR	LR		
DDI	**Dehra Dun**	**40.13**	**329**	*e*P	**P**	**14 31 52.2**	**-0.7**
DDI				*ex*	x	14 37 54.2	
JOW	**Kunigami** comp=Z,41nm,0.5s,mb5.4,baz=215,slow=7.2,SNR=15	**40.36**	**40**	P	**P**	**14 31 54.9**	**+0.1**
BHJ	**Bhuj**	**40.41**	**313**	*e*P	**P**	**14 31 56.2**	**+1.0**
SMLA	**Simla**	**41.24**	**329**	*i* P	**P**	**14 32 02.0**	**+0.1**
SMLA				*ex*	x	14 32 11.1	
SMLA	comp=Z,146nm,0.4s			*i* S	**S**	**14 38 12.9**	**-1.1**
SDNR	**Sundarnagar**	**41.63**	**329**	*e*P	**P**	**14 32 05.0**	**-0.2**
TIY	**Taiyuan**	**42.58**	**14**	P	**P**	**14 32 15.5**	**+2.7**
TIY				S	**S**	**14 38 38.1**	**+4.4**
TIY	comp=N,5μm,15.0s,MS5.5			LR	LR		
TIY	comp=E,2μm,14.9s,MS5.5			LR	LR		
TIY	comp=Z,4μm,14.9s,MS5.5			LR	LR		
GTA	**Gaotai**	**42.87**	**359**	*e*P	**P**	**14 32 15.1**	**0.0**
GTA				AP	pP	14 32 25.3	+1.4
GTA				XP	sP	14 32 29.1	+1.6
GTA				PP	PP	14 33 59.1	+4.1
GTA				S	**S**	**14 38 37.6**	**-0.2**
GTA	comp=Z,124nm,1.2s,mb5.5			AMB	AMB		
GTA	comp=Z,943nm,7.1s			AMB	AMB		

GTA LR LR
comp=N,5μm,14.9s,MS5.7
GTA LR LR
comp=E,7μm,18.7s,MS5.7
GTA LR LR
comp=Z,6μm,14.9s,MS5.6
BTO Baotou 44.87 10 *e*P **P 14 32 31.1 -0.1**
MSEY Mahe Island 45.11 267 PFAKE 14 32 50.0 +16
MSEY LR LR
comp=Z,2μm,20.0s,MS5.1
HHC Hu-ho-hao-te 45.40 12 *e*P **P 14 32 35.9 +0.5**
HHC AP pP 14 32 46.3 +2.1
HHC XP sP 14 32 49.4 +1.6
HHC PCP PcP 14 34 11.1 -3.3
HHC PP PP 14 34 24.9 +2.9
HHC SCP ScP 14 37 59.0 -6.3
HHC S **S** **14 39 16.5 +1.8**
HHC XS sS 14 39 37.5 +8.2
HHC SCS ScS 14 42 25.1 -4.9
HHC AMB AMB
comp=Z,142nm,1.1s,mb5.7
HHC AMB AMB
comp=Z,1μm,7.2s
HHC LR LR
comp=N,7μm,14.6s,MS5.8
HHC LR LR
comp=E,2μm,12.7s,MS5.8
HHC LR LR
comp=Z,7μm,14.9s,MS5.7
BJT Baijiatuau 45.73 17 *e*P **P 14 32 37.6 -0.4**
BJT pmax pmax
comp=Z,93nm,0.8s
BJT MLR MLR
comp=Z,8μm,19.0s
BJT Baijiatuau 45.73 17 *e*P **P 14 32 37.6 -0.4**
comp=Z,92nm,0.8s,mb5.8
BJT LR LR
comp=Z,8μm,19.0s,MS5.7
BJI Beijing 45.75 17 P **P 14 32 38.1 -0.1**
BJI XP sP 14 32 52.1 +1.5
BJI PP PP 14 34 25.8 0.0
BJI S **S** **14 39 21.9 +2.1**
BJI XS sS 14 39 38.0 +3.6
BJI SS SS 14 42 35.3 -9.4
BJI AMB AMB
comp=Z,133nm,1.0s,mb5.8
BJI AMB AMB
comp=Z,1μm,4.3s
BJI LR LR
comp=N,10μm,16.1s,MS5.9
BJI LR LR
comp=E,3μm,15.3s,MS5.9
BJI LR LR
comp=Z,6μm,16.9s,MS5.6
PMG Port Moresby 46.47 99⇑ *e*P **P 14 32 43.3 -1.0**
PMG Port Moresby 46.47 99 PFAKE 14 33 00.0 +16
PMG LR LR
comp=Z,2μm,20.0s,MS5.0
DL2 Dalian 46.56 23 P **P 14 32 43.8 -0.7**
DL2 PP PP 14 34 33.1 -1.2
DL2 S **S** **14 39 31.8 +0.4**
DL2 AMB AMB
comp=Z,50nm,1.2s,mb5.3
DL2 AMB AMB
comp=Z,450nm,7.2s
DL2 LR LR
comp=N,3μm,15.9s
DL2 LR LR
comp=Z,4μm,14.5s,MS5.5
GUMO Guam 47.05 68 P **P 14 32 45.4 -3.4**
comp=Z,28nm,0.4s,mb5.5,baz=207,slow=23,SNR=4.3
GUMO Guam 47.05 68 P **P 14 32 45.4 -3.4**
GUMO LR LR
comp=Z,769nm,20.0s,MS4.7
CTA Charters Tower 47.27 114 *e*P **P 14 32 50.0 -0.5**
comp=Z,25nm,1.2s,mb5.0
CTA *e*S **S** **14 39 41.7 -0.6**
CTA Charters Tower 47.27 114 P **P 14 32 49.9 -0.6**
comp=Z,30nm,1.0s,mb5.2,baz=284,slow=8.3,SNR=9.0
CTA LR LR 14 55 11.8
comp=Z,2μm,20.1s,MS5.1,baz=75,slow=39
CTA Charters Tower 47.27 114 *e*P **P 14 32 50.0 -0.5**
CTA *e*S **S** **14 39 41.7 -0.6**
CTA pmax pmax
comp=Z,25nm,1.2s
CTAO Charters Tower 47.27 114 P **P 14 32 50.2 -0.3**
CTAO pmax pmax
comp=Z,39nm,1.1s,mb5.2
CTAO Charters Tower 47.27 114 *e*P **P 14 32 49.7 -0.8**
comp=Z,39nm,1.1s,mb5.2
CTAO LR LR
comp=Z,2μm,20.0s,MS5.2
INCN Inchon 47.50 28 *e*P **P 14 32 50.9 -1.1**
comp=Z,78nm,1.2s,mb5.6
INCN *e* pP 14 32 58.3 -2.6
INCN LR LR
comp=Z,2μm,21.0s,MS5.0
STKA Stephens Creek 47.53 131 *e*P **P 14 32 52.5 +0.2**
comp=Z,31nm,1.0s,mb5.3
STKA Stephens Creek 47.53 131 P **P 14 32 52.6 +0.2**
comp=Z,13nm,0.7s,mb5.1,baz=298,slow=8.1,SNR=25
STKA LR LR 14 54 15.9
comp=Z,4μm,21.4s,MS5.4,baz=297,slow=38
STKA Stephens Creek 47.53 131 *e*P **P 14 32 52.5 +0.2**
comp=Z,31nm,1.0s,mb5.3
KSRS Korea Array 48.10 29 P **P 14 32 56.2 -0.3**
comp=Z,138nm,1.1s,mb5.9,baz=219,slow=8.1,SNR=165
KSRS pP pP 14 33 04.2 -1.2
comp=Z,94nm,1.0s,baz=234,slow=8.8,SNR=18
KSRS LR LR 14 55 49.2
comp=Z,2μm,18.1s,MS5.1,baz=247,slow=39
KSRS Korea Array 48.10 29 P **P 14 32 56.3 -0.3**
KSRS *PP pP 14 33 04.3 -1.2
KSRS pmax pmax
comp=Z,138nm,1.1s,mb5.9
KSRS pmax pmax
comp=Z,94nm,1.0s,mb5.8
KSRS MLR MLR
comp=Z,2μm,18.1s,MS5.1
KBL Kabul 48.28 325 *e*P **P 14 32 56.4 -1.7**
KBL pmax pmax
comp=Z,21nm,0.8s,mb5.2
KBL Kabul 48.28 325 P **P 14 32 58.1 0.0**
KBL pmax pmax
comp=Z,21nm,0.8s,mb5.2
KBL Kabul 48.28 325 *e*P **P 14 32 56.4 -1.7**
comp=Z,21nm,0.8s,mb5.2
WBK Wadi Bani Khal 48.40 305 P **P 14 33 00.8 +1.6**
SNR=5.4
KSH Kashi 48.63 334⇑ *i*P **P 14 33 01.6 +1.0**
KSH *e*AP pP 14 33 11.8 +2.3
KSH *e*XP sP 14 33 14.5 +1.4
KSH *e*PCP PcP 14 34 29.1 +3.2
KSH *e*PP PP 14 34 54.6 +0.7
KSH *e*SCP ScP 14 38 18.8 -0.1
KSH *e*PCS PcS 14 38 23.4 +1.5
KSH *e*S **S** **14 39 58.6 -2.2**
KSH *e*SCS ScS 14 42 48.9 -2.4
KSH LR LR
comp=N,4μm,11.4s
KSH LR LR
comp=E,4μm,8.7s
KSH LR LR
comp=Z,15μm,19.7s
WMQ Urumqi 48.70 347 P **P 14 33 02.1 +1.0**
WMQ AP pP 14 33 12.1 +2.1
WMQ XP sP 14 33 16.1 +2.6
WMQ PCP PcP 14 34 27.6 +1.6
WMQ PP PP 14 34 54.9 +0.5
WMQ S **S** **14 40 00.6 -1.0**
WMQ SCS ScS 14 42 49.1 -2.4
WMQ AMB AMB
comp=Z,237nm,0.9s,mb6.2
WMQ AMB AMB
comp=Z,867nm,4.1s
WMQ LR LR
comp=N,2μm,22.6s,MS5.1
WMQ LR LR
comp=E,1μm,22.6s,MS5.1
WMQ LR LR
comp=Z,2μm,27.3s,MS5.0
BIDO Bidbid 49.51 305 P **P 14 33 09.1 +1.4**
SNR=11
SNY Shenyang 49.83 22⇑ P **P 14 33 08.6 -1.2**
SNY S **S** **14 40 24.3 +6.7**
SNY AMB AMB
comp=Z,65nm,1.2s,mb5.5
SNY AMB AMB
comp=Z,862nm,3.5s
SNY LR LR
comp=N,5μm,14.9s,MS5.8
SNY LR LR
comp=E,5μm,16.1s,MS5.8
SNY LR LR
comp=Z,7μm,15.0s,MS5.8
BSY Bisya 49.92 304 P **P 14 33 12.5 +1.7**
SNR=16
HOQ Hoqain 50.20 305 P **P 14 33 14.5 +1.6**
SNR=14
CBIJ Chichi jima 50.37 50 LR LR 14 52 54.7
comp=Z,789nm,18.8s,MS4.8,baz=245,slow=34
UCH Uchtor 51.49 335 P **P 14 33 23.3 +1.0**
SNR=14
UCH Uchtor 51.49 335 *e*P **P 14 33 23.2 +1.0**
comp=Z,220nm,1.8s,mb5.8
SONM Songino Array 51.52 5 P **P 14 33 22.9 +0.5**
comp=Z,76nm,0.9s,mb5.6,baz=190,slow=8.1,SNR=328
SONM pP pP 14 33 30.9 -0.5
comp=Z,194nm,1.0s,baz=186,slow=8.0,SNR=39
SONM Songino Array 51.52 5 P **P 14 33 22.9 +0.5**
SONM *PP pP 14 33 30.9 -0.5
SONM pmax pmax
comp=Z,76nm,0.9s
SONM pmax pmax
comp=Z,194nm,1.0s
TKM2 Tokmak 2 51.63 337 *e*P **P 14 33 24.0 +0.7**
TKM2 pmax pmax
comp=Z,110nm,1.0s,mb5.7
TKM2 Tokmak 2 51.63 337 P **P 14 33 23.7 +0.4**
SNR=24
TKM2 Tokmak 2 51.63 337 *e*P **P 14 33 23.9 +0.6**
comp=Z,112nm,1.0s,mb5.8
KBK Karagaybulak 51.67 336 P **P 14 33 24.4 +0.8**
SNR=26
HATD Hatta, Dubai 51.72 306 P **P 14 33 25.8 +1.4**
SNR=9.9
AML Almayashu 51.76 335 P **P 14 33 25.1 +0.8**
SNR=13
AML Almayashu 51.76 335 *e*P **P 14 33 24.6 +0.3**
comp=Z,398nm,1.9s,mb6.0
AML LR LR
comp=Z,1μm,20.0s,MS5.0
AAK Ala-Archa 51.83 336 P **P 14 33 23.0 -1.9**
SNR=9.9
FRU Bishkek 51.95 336 *i* P **P 14 33 26.0 +0.3**
FRU *i* pP 14 33 34.0 -0.7
FRU *e*S **S** **14 40 48.0 +1.0**
FRU *e* 14 41 06.0
FRU pmax pmax
comp=Z,600nm,3.5s
FRU MLR MLR
comp=Z,3μm,20.0s,MS5.3
CHMS Chumysh 52.03 336 P **P 14 33 26.2 -0.2**
SNR=17
EKS2 Erkin-Say 52.16 335 P **P 14 33 27.9 +0.6**
SNR=31
EKS2 Erkin-Say 52.16 335 *e*P **P 14 33 27.7 +0.4**
comp=Z,80nm,0.9s,mb5.7
EKS2 LR LR
comp=Z,2μm,21.0s,MS5.1
CN2 Changchun 52.23 23 *e*P **P 14 33 27.0 -0.8**
CN2 *e*AP pP 14 33 37.0 +0.2
CN2 PP PP 14 35 26.3 -0.2
CN2 AMB AMB
comp=Z,40nm,1.0s,mb5.3
CN2 LR LR
comp=N,3μm,20.0s,MS5.4
CN2 LR LR
comp=E,2μm,20.0s,MS5.4
CN2 LR LR
comp=Z,2μm,19.0s,MS5.2
USP Ospenovka 52.36 336 P **P 14 33 29.2 +0.4**
SNR=34
MK31 Makanchi Array 52.81 344 P **P 14 33 31.6 -0.4**
MK31 Makanchi Array 52.81 344 *e*P **P 14 33 31.4 -0.6**
MKAR Makanchi Array 52.81 344 P **P 14 33 31.6 -0.4**
comp=Z,62nm,0.8s,mb5.6,baz=149,slow=7.2,SNR=335
MKAR LR LR 15 00 51.5
comp=Z,2μm,18.8s,MS5.1,baz=160,slow=42
MKAR Makanchi Array 52.81 344 P **P 14 33 31.6 -0.4**
MKAR pmax pmax
comp=Z,62nm,0.9s
MKAR MLR MLR
comp=Z,2μm,18.8s
MAT Matsushiro 53.13 38 P **P 14 33 33.0 -1.6**
MAT S **S** **14 41 08.0 +4.6**
MAJO Matsushiro 53.13 38 P **P 14 33 33.1 -1.5**
MAJO pmax pmax
comp=Z,100nm,1.2s,mb5.6
MAJO Matsushiro 53.13 38 *e*P **P 14 33 32.9 -1.7**
comp=Z,105nm,1.2s,mb5.6
MAJO LR LR
comp=Z,1μm,20.0s,MS5.0
MJAR Matsushiro Arr 53.13 38 P **P 14 33 33.1 -1.5**
comp=Z,53nm,1.1s,mb5.4,baz=221,slow=7.9,SNR=81
MJAR pP pP 14 33 41.2 -2.4
comp=Z,38nm,1.0s,baz=220,slow=7.4,SNR=13
MJAR LR LR 14 58 23.5
comp=Z,1μm,19.7s,MS4.9,baz=240,slow=38
MJAR Matsushiro Arr 53.13 38 P **P 14 33 33.1 -1.5**
MJAR *PP pP 14 33 41.2 -2.4
MJAR pmax pmax
comp=Z,53nm,1.1s
MJAR pmax pmax
comp=Z,38nm,1.0s
MJAR MLR MLR
comp=Z,1μm,19.7s
ZAK Zakamensk 53.88 2⇓ *i*P **P 14 33 39.9 +0.1**
ZAK pmax pmax
comp=Z,27nm,1.2s,mb5.0
KK31 Karatay Array 53.94 333 *i* P **P 14 33 39.6 -0.8**
KK31 pmax pmax
comp=Z,8.0nm,0.5s,mb4.9
OPO Ambohidratompo 54.34 250 P **P 14 33 44.7 +0.9**
comp=Z,3.2nm,0.8s,mb4.3,baz=56,slow=7.4,SNR=4.1
ABPO Ambohimpanom 54.38 249 P **P 14 33 44.2 +0.1**
comp=Z,13nm,1.1s,mb4.8
ABPO LR LR
comp=Z,2μm,21.0s,MS5.2
MDJ Mudanjiang 54.57 25 P **P 14 33 44.8 -0.2**
MDJ AP pP 14 33 52.8 -1.2
MDJ XP sP 14 33 57.3 -0.2
MDJ PP PP 14 35 47.3 -0.4
MDJ SCP ScP 14 38 43.6 -0.8
MDJ PCS PcS 14 38 46.9 -0.5
MDJ S **S** **14 41 24.4 +1.8**
MDJ XS sS 14 41 37.8 +0.4
MDJ SCS ScS 14 43 31.6 -0.6
MDJ AMB AMB
comp=Z,45nm,1.5s,mb5.3
MDJ AMB AMB
comp=Z,461nm,7.5s
MDJ LR LR
comp=N,5μm,15.6s,MS5.7
MDJ LR LR
comp=E,2μm,13.5s,MS5.7
MDJ LR LR
comp=Z,7μm,12.0s,MS5.9
MDJ Mudanjiang 54.57 25 *e*P **P 14 33 44.6 -0.4**
comp=Z,50nm,1.1s,mb5.5
MDJ LR LR
comp=Z,4μm,21.0s,MS5.4
CAN Canberra 54.59 131 P **P 14 33 46.7 +1.4**
CAN Canberra 54.59 131 *e*P **P 14 33 46.0 +0.7**
ARMA Armidale 54.88 125 *e*P **P 14 33 49.1 +1.6**
MOY Mondy 55.12 0 *e*P **P 14 33 49.4 +0.6**
MOY pmax pmax
comp=Z,162nm,2.4s,mb5.6
TLY Talaya 55.19 2 P **P 14 33 50.8 +1.5**
comp=Z,285nm,1.2s,mb6.2,SNR=24
TLY Talaya 55.19 2 ⇓P **P 14 33 49.4 +0.2**
SNR=36
TLY Talaya 55.19 2 *e*P **P 14 33 50.3 +1.0**
TLY *e*S **S** **14 41 42.6 +12**
TLY pmax pmax
comp=Z,105nm,1.7s,mb5.6
TLY MLR MLR
comp=Z,5μm,16.0s,MS5.7
TLY Talaya 55.19 2 *e*P **P 14 33 49.9 +0.6**
comp=Z,143nm,1.5s,mb5.8
HIA Hailar 55.25 15 *e*P **P 14 33 48.8 -1.0**
HIA pmax pmax
comp=Z,75nm,1.4s
HIA MLR MLR
comp=Z,4μm,20.0s
HIA Hailar 55.25 15 *e*P **P 14 33 48.8 -0.9**
comp=Z,75nm,1.4s,mb5.5
HIA LR LR
comp=Z,4μm,20.0s,MS5.5
IRK Irkutsk 55.77 3⇑ *i*P **P 14 33 53.7 +0.2**
IRK *e* pP 14 34 02.7 +0.2
IRK *e*S **S** **14 41 31.6 -6.8**
IRK pmax pmax
comp=Z,138nm,2.5s,mb5.5
CIT Chita 56.54 9 *e*P **P 14 33 59.9 +0.9**
CIT *e* pP 14 34 07.9 -0.1
CIT *e* 14 34 14.5
CIT pmax pmax
comp=Z,259nm,2.5s,mb5.8
TAU Tasmania Unive 56.86 140 PFAKE 14 34 10.0 +8.5
TAU LR LR
comp=Z,3μm,19.0s,MS5.3
ABKT Ailbek 57.17 320 P **P 14 34 03.3 -0.4**
comp=Z,229nm,1.5s,mb6.0,SNR=12
KURK Kurchatov 57.39 344 P **P 14 34 04.4 -0.6**
comp=Z,709nm,1.1s,mb6.6,SNR=19
KURK Kurchatov 57.39 344 P **P 14 34 05.3 +0.3**
SNR=28
KURK Kurchatov 57.39 344 P **P 14 34 03.9 -1.1**
comp=Z,52nm,0.9s,mb5.6,baz=168,slow=6.6,SNR=119
KURK Kurchatov 57.39 344 P **P 14 34 04.8 -0.2**
KURK pmax pmax
comp=Z,146nm,1.1s,mb5.9
KURK Kurchatov 57.39 344 *e*P **P 14 34 04.3 -0.7**
comp=Z,136nm,1.0s,mb5.9
KURK LR LR
comp=Z,3μm,20.0s,MS5.4
ZALV Zalesovo Beam 58.92 349 P **P 14 34 15.1 -0.6**
comp=Z,155nm,1.1s,mb6.0,baz=160,slow=4.7,SNR=304
ZALV Zalesovo Beam 58.92 349 P **P 14 34 15.1 -0.6**
ZALV pmax pmax
comp=Z,155nm,1.1s,mb6.0
HNR Honiara 59.08 99 P **P 14 34 16.6 -1.0**
comp=Z,138nm,1.0s,mb6.0,baz=201,slow=3.6,SNR=16
HNR Honiara 59.08 99 P **P 14 34 16.6 -1.0**
HNR pmax pmax
comp=Z,138nm,1.0s,mb5.9
HNR Honiara 59.08 99 *e*P **P 14 34 15.9 -1.6**
comp=Z,205nm,1.1s,mb6.1
HNR LR LR
comp=Z,2μm,22.0s,MS5.1
KLR Kul'dur 59.16 23 *e*P **P 14 34 12.8 -4.7**
KLR *e*S **S** **14 42 34.0 +11**
KLR pmax pmax
comp=E,100nm,2.0s
KLR pmax pmax
comp=Z,400nm,2.0s,mb6.1
KLR MLR MLR
comp=E,4μm,14.0s
KLR MLR MLR
comp=Z,7μm,14.0s,MS6.0
ERM Erimo 59.57 36 PFAKE 14 34 30.0 +10
ERM LR LR
comp=Z,471nm,20.0s,MS4.6
KRAR Krasnoyarsk 59.82 355 *e*P **P 14 34 19.3 -2.5**
KRAR pmax pmax
comp=Z,103nm,1.3s,mb5.7
HABR Khabarovsk 59.94 26 *e*P **P 14 34 19.4 -3.4**
HABR *e*S **S** **14 42 29.4 -3.6**
NVS Novosibirsk 60.07 348⇑ *i*P **P 14 34 22.8 -0.8**
NVS *e*S **S** **14 42 30.0 -4.5**
NVS pmax pmax
comp=Z,173nm,1.9s,mb5.8
NVS pmax pmax
comp=N,128nm,1.7s
NVS pmax pmax
comp=E,54nm,1.4s
NVS smax
comp=N,75nm,2.0s
NVS smax
comp=E,43nm,2.3s
KBD Kabd 60.37 307 *e*P **P 14 34 25.1 -1.2**
baz=306
KBD AMb AMB 14 34 36.5
comp=Z,68nm,1.7s,mb5.4,baz=306
RDF Al-Radifah 60.39 306 *e*P **P 14 34 25.9 -0.4**
baz=306
RDF AMb AMB 14 34 36.6
comp=Z,125nm,1.4s,mb5.8,baz=306
UMR Umm Al-Rimmam 60.51 307 *e*P **P 14 34 26.6 -0.6**
baz=307
UMR AMb AMB 14 34 37.5
comp=Z,123nm,1.7s,mb5.8,baz=307
ASAJ Asahikawa 60.59 34 P **P 14 34 26.9 -0.4**
comp=Z,22nm,0.7s,mb5.4,baz=238,slow=13,SNR=18
ASAJ Asahikawa 60.59 34 P **P 14 34 27.0 -0.4**
ASAJ pmax pmax
comp=Z,22nm,0.7s
NAY Al-Naaiem 60.77 306 *e*P **P 14 34 28.1 -0.8**
baz=306
NAY AMb AMB 14 34 38.9
comp=Z,43nm,1.7s,mb5.3,baz=306
MIB Mutribah 60.91 307 *e*P **P 14 34 29.6 -0.2**
baz=307
MIB AMb AMB 14 34 40.3
comp=Z,123nm,1.4s,mb5.8,baz=307
RST Umm Al-Ruwaisa 61.06 307 *e*P **P 14 34 30.1 -0.8**
baz=306
RST AMb AMB 14 34 40.8
comp=Z,53nm,0.8s,mb5.7,baz=306
VOSK Vostochnaya 61.52 340 P **P 14 34 33.5 0.0**
VOSK pmax pmax
comp=Z,59nm,1.0s,mb5.7
BVA0 Borovoye Array 61.98 340 *i* P **P 14 34 35.0 -1.6**
BVA0 pmax pmax
comp=Z,7.0nm,1.1s,mb4.7
BVAR Borovoye Array 61.98 340 P **P 14 34 35.5 -1.0**
comp=Z,31nm,0.7s,mb5.6,baz=144,slow=8.6,SNR=129
BVAR Borovoye Array 61.98 340 P **P 14 34 35.5 -1.1**
BVAR pmax pmax
comp=Z,31nm,0.7s
BRVK Borovoye 62.04 340 P **P 14 34 36.9 -0.1**
comp=Z,286nm,1.3s,mb6.2,SNR=16
BRVK Borovoye 62.04 340⇑ P **P 14 34 37.4 +0.4**
SNR=16
BRVK Borovoye 62.04 340 P **P 14 34 35.5 -1.5**
BRVK pmax pmax
comp=Z,91nm,1.0s,mb5.9
BRVK Borovoye 62.04 340 *e*P **P 14 34 35.4 -1.6**
comp=Z,91nm,1.0s,mb5.9
BRVK LR LR
comp=Z,2μm,20.0s,MS5.4
BOD Bodaibo 62.21 8 *e*P **P 14 34 37.3 -0.8**
BOD pmax pmax
comp=Z,64nm,1.2s,mb5.6
YSS Yuzh-Sakhalins 62.52 31⇑ *i*P **P 14 34 39.5 -0.8**
YSS *e* pP 14 34 46.8 -2.7
YSS pmax pmax
comp=Z,170nm,1.0s,mb6.1
YSS Yuzh-Sakhalins 62.52 31 *e*P **P 14 34 39.4 -0.9**
comp=Z,152nm,1.0s,mb6.1
CASY Casey 62.88 176 *e*P **P 14 34 43.3 +0.9**
MIR Mirnyy 63.00 183⇑ *i*P **P 14 34 44.0 +0.8**
MIR *e* 14 35 22.0
MIR *e*S **S** **14 43 30.0 +19**
MIR *i* PS 14 43 48.0
MIR pmax pmax
comp=Z,100nm,1.0s,mb5.9
MIR MLR MLR
comp=Z,3μm,18.0s,MS5.5
AB31 Akbulak array 63.43 331 *i* P **P 14 34 45.4 -0.9**
CLNS Chul'man 63.43 15 *e*P **P 14 34 46.0 -0.2**
CLNS *e* 14 35 21.1
CLNS *e* 14 37 02.0
CLNS *e*PPP 14 38 36.0
CLNS *e*S **S** **14 43 21.5 +4.6**
CLNS pmax pmax
comp=Z,41nm,1.2s,mb5.4
CLNS pmax pmax
comp=N,17nm,1.0s
CLNS pmax pmax
comp=E,23nm,1.2s
CLNS pmax pmax
comp=Z,8.0nm,1.1s,mb4.8
CLNS pmax pmax
comp=E,10.0nm,1.0s
CLNS pmax pmax

comp=N,12nm,1.3s
CLNS smax
comp=N,324nm,13.5s
CLNS smax
comp=E,243nm,14.9s
CLNS MLR MLR
comp=N,2µm,19.0s,MS5.5
CLNS MLR MLR
comp=E,2µm,16.0s,MS5.5
CLNS MLR MLR
comp=Z,4µm,17.0s,MS5.6
KMBO Kilima Mbogo 63.44 271 P **P** **14 34 47.6 +0.5**
comp=Z,3.9nm,0.9s,mb4.5,baz=50,slow=2.3,SNR=7.4
KMBO LR LR 14 57 12.3
comp=Z,922nm,21.3s,MS4.9,baz=94,slow=31
KMBO Kilima Mbogo 63.44 271 P **P** **14 34 49.0 +1.9**
KMBO pmax pmax
comp=Z,19nm,1.4s
KMBO Kilima Mbogo 63.44 271 *eP* **P** **14 34 48.5 +1.4**
comp=Z,19nm,1.4s,mb5.0
KMBO LR LR
comp=Z,1µm,19.0s,MS5.2
BHD Baghdad 64.60 309 *ex* x 14 34 58.0
BHD *ex* x 14 43 38.0
AKTK Aktyubinsk 65.14 331 P **P** **14 34 56.6 -0.9**
AKTO Aktyubinsk 65.14 331 P **P** **14 34 56.6 -0.9**
comp=Z,19nm,1.0s,mb5.1,baz=134,slow=5.9,SNR=41
AKTO Aktyubinsk 65.14 331 P **P** **14 34 56.6 -0.9**
AKTO pmax pmax
comp=Z,19nm,1.0s,mb5.1
MAK Makhachkala 66.68 320*c i*P **P** **14 35 04.6 -3.0**
MAK *e* 14 35 31.3
MAK *i* S S 14 43 56.1 -1.4
MAK *e* 14 45 02.5
MAK *e*SS SS 14 48 15.8 +0.1
MAK pmax pmax
comp=Z,367nm,2.1s,mb6.0
MAK MLR MLR
comp=Z,878nm,17.0s,MS5.0
MSL Mosul 66.80 312 *ex* x 14 35 11.0
MSL *ex* x 14 43 59.0
GNI Garni 67.20 316 P **P** **14 35 12.5 +1.5**
SNR=18
GNI Garni 67.20 316 P **P** **14 35 11.2 +0.2**
comp=Z,2.6nm,0.4s,mb4.7,baz=359,slow=23,SNR=8.6
GNI Garni 67.20 316 P **P** **14 35 12.1 +1.1**
GNI pmax pmax
comp=Z,44nm,1.1s
GNI Garni 67.20 316 *eP* **P** **14 35 11.5 +0.5**
comp=Z,44nm,1.1s,mb5.4
GNI LR LR
comp=Z,806nm,20.0s,MS4.9
DGRG David-gareji 67.36 318 P **P** **14 35 12.8 +0.8**
DGRG S S 14 44 08.3 +2.5
MTA Mtatsminda 67.86 318 P **P** **14 35 14.9 -0.3**
MTA S S 14 44 13.6 +1.9
TBLG Delisi 67.91 318 P **P** **14 35 15.3 -0.1**
TBLG S S 14 44 13.4 +1.0
SVE Sverdlovsk 68.48 338‖ *eP* **P** **14 35 18.8 +0.1**
SVE *e* 14 37 53.3
SVE *e*PPP 14 39 32.6
SVE *e*S S 14 44 21.5 +3.0
SVE *e*SS SS 14 48 34.0 -8.8
SVE pmax pmax
comp=Z,123nm,1.1s,mb5.8
SVE MLR MLR
comp=Z,3µm,22.0s,MS5.5
MAW Mawson 68.86 195 *eP* **P** **14 35 29.4 +8.5**
comp=Z,7.8nm,1.0s,mb4.6
MAW Mawson 68.86 195 P **P** **14 35 21.6 +0.7**
comp=Z,3.9nm,1.0s,mb4.3,baz=46,slow=11,SNR=6.1
MAW PcP PcP 14 35 45.3 0.0
comp=Z,12nm,1.2s,baz=36,slow=6.4,SNR=4.6
MAW LR LR 14 58 58.4
comp=Z,2µm,21.6s,MS5.4,baz=43,slow=30
MAW PKP2bc 15 03 31.5
comp=Z,3.4nm,0.9s,baz=194,slow=3.4,SNR=6.8
MAW Mawson 68.86 195 P **P** **14 35 21.6 +0.7**
MAW 14 35 45.3
MAW pmax pmax
comp=Z,4.0nm,1.0s
MAW Mawson 68.86 195 *eP* **P** **14 35 21.2 +0.3**
comp=Z,26nm,1.3s,mb5.0
MAW LR LR
comp=Z,4µm,22.0s,MS5.6
ARU Arti 69.00 336 P **P** **14 35 21.7 -0.2**
comp=Z,290nm,1.2s,mb6.1,SNR=15
ARU Arti 69.00 336*c i*P **P** **14 35 21.0 -0.9**
ARU *e* 14 35 44.6
ARU *e* 14 37 52.7
ARU *e*PPP 14 39 32.9
ARU *e*S S 14 44 24.3 -0.4
ARU *e* 14 45 19.7
ARU *e*SS SS 14 48 50.4 -0.6
ARU pmax pmax
comp=Z,127nm,1.7s,mb5.6
ARU MLR MLR
comp=Z,2µm,21.0s,MS5.3
ARU Arti 69.00 336 *eP* **P** **14 35 21.1 -0.8**
comp=Z,85nm,1.3s,mb5.5
ARU LR LR
comp=Z,2µm,20.0s,MS5.3
ONI Oni 69.15 318 P **P** **14 35 22.2 -1.0**
ONI S S 14 44 26.8 -0.3
YAK Yakutsk 69.17 14 *eP* **P** **14 35 21.2 -1.6**
YAK *e* 14 44 26.7
YAK pmax pmax
comp=Z,108nm,1.0s,mb5.7
YAK pmax pmax
comp=N,50nm,1.1s
YAK pmax pmax
comp=E,40nm,1.3s
YAK MLR MLR
comp=Z,4µm,15.0s,MS5.7
YAK MLR MLR
comp=N,4µm,23.0s
YAK MLR MLR
comp=E,2µm,16.0s
YAK Yakutsk 69.17 14 *eP* **P** **14 35 21.2 -1.6**
comp=E,187nm,1.3s,mb5.9
ASF Jabal al Asfar 70.12 306 P **P** **14 35 29.6 +0.2**
comp=E,11nm,0.9s,mb4.8,baz=343,slow=3.1,SNR=26
ASF Jabal al Asfar 70.12 306 P **P** **14 35 29.6 +0.2**
ASF pmax pmax
comp=Z,11nm,1.0s
KIV Kislovodsk 70.25 319 P **P** **14 35 30.8 +0.9**
comp=Z,195nm,0.9s,mb6.0,SNR=11
KIV Kislovodsk 70.25 319 P **P** **14 35 30.4 +0.5**
SNR=20
KIV Kislovodsk 70.25 319 *eP* **P** **14 35 29.3 -0.6**
KIV *e* 14 35 54.6
KIV *e* 14 38 04.3
KIV *e*PPP 14 39 48.2
KIV *e*S S 14 44 39.6 -0.4
KIV *e*SS SS 14 49 10.6 -0.2
KIV pmax pmax
comp=Z,39nm,1.2s,mb5.2
KIV Kislovodsk 70.25 319 *eP* **P** **14 35 29.7 -0.2**
comp=Z,56nm,1.3s,mb5.3
KIV LR LR
comp=Z,864nm,19.0s,MS5.0
HWQ Hawqa 71.53 308 *eP* **P** **14 35 38.7 +0.8**
BHL Bhannes 71.64 307 *eP* **P** **14 35 39.4 +0.8**
SOKR Solikamsk 71.86 338*c iP* **P** **14 35 39.3 0.0**
SOKR S S 14 45 01.1 +3.1
SOKR pmax pmax
comp=Z,110nm,1.2s,mb5.7
SOKR MLR MLR
comp=Z,3µm,22.0s,MS5.5
SOC Sochi 72.05 318*c iP* **P** **14 35 40.0 -0.8**
SOC *e**PP pP 14 35 50.7 +0.6
SOC *e**SP sP 14 35 54.7 +1.1
SOC *e* 14 35 58.0
SOC *e* 14 38 18.5
SOC *e*PPP 14 40 04.3
SOC *i* S S 14 44 57.7 -3.1
SOC *e* 14 45 34.2
SOC pmax pmax
comp=Z,26nm,0.7s,mb5.3
SOC pmax pmax
comp=Z,279nm,7.9s
SOC MLR MLR
comp=Z,859nm,21.0s,MS5.0
SOC Sochi 72.05 318 *i* P **P** **14 35 40.4 -0.4**
LSZ Lusaka 72.18 255 P **P** **14 35 43.1 +0.9**
comp=Z,5.3nm,0.8s,mb4.5,baz=83,slow=6.2,SNR=9.8
LSZ Lusaka 72.18 255 P **P** **14 35 43.1 +0.9**
LSZ pmax pmax
comp=Z,5.0nm,0.8s,mb4.5
LSZ Lusaka 72.18 255 *eP* **P** **14 35 43.0 +0.8**
comp=Z,23nm,1.1s,mb5.0
LSZ LR LR
comp=Z,2µm,19.0s,MS5.3
RPZ Rata Peaks 73.32 135 LR LR 15 07 10.0
comp=Z,3µm,22.0s,MS5.5,baz=275,slow=35
CSS Prodhromos 73.79 308 *eP* **P** **14 35 51.5 +0.2**
comp=Z,112nm,1.6s,mb5.5
CSS LR LR
comp=Z,475nm,21.0s,MS4.8
PETK Petropavlovsk- 73.91 32 P **P** **14 35 49.9 -1.7**
comp=Z,6.5nm,0.7s,mb4.7,baz=64,slow=0.4,SNR=7.4
PETK Petropavlovsk- 73.91 32 P **P** **14 35 49.9 -1.7**
ANN Anapa 74.04 319 *eP* **P** **14 35 50.3 -2.3**
ANN *e* 14 38 35.7
ANN *e*S S 14 45 19.4 -3.9
ANN pmax pmax
comp=Z,22nm,1.4s,mb4.9
ANN MLR MLR
comp=N,526nm,20.0s
ANN MLR MLR
comp=Z,620nm,20.0s,MS4.9
VRHR Novokhopersk 74.09 326 *eP* **P** **14 35 51.7 -1.0**
VRHR *e**PP pP 14 36 00.5 -1.5
VRHR pmax pmax
comp=Z,90nm,0.8s,mb5.8
VRHR pmax pmax
comp=N,30nm,0.9s
VRHR pmax pmax
comp=E,60nm,0.7s
VRHR MLR MLR
comp=Z,1µm,21.0s,MS5.1
VRHR MLR MLR
comp=N,470nm,15.0s
VRHR MLR MLR
comp=E,780nm,19.0s
PET Petropavlovsk 74.37 32 *eP* **P** **14 35 53.5 -0.8**
PET *e* 14 38 39.2
PET MLR MLR
comp=Z,1µm,20.0s,MS5.2
PET Petropavlovsk 74.37 32 *eP* **P** **14 35 53.2 -1.2**
comp=Z,84nm,1.1s,mb5.6
PET LR LR
comp=Z,2µm,19.0s,MS5.3
BR131 Keskin Array S 74.96 313 *eP* **P** **14 35 56.9 -1.1**
comp=Z,11nm,0.8s,mb4.8
BR131 LR LR
comp=Z,1µm,20.0s,MS5.1
LBTB Lobatse 74.97 245 PFAKE 14 36 10.0 +12
LBTB LR LR
comp=Z,2µm,21.0s,MS5.3
BOSA Boshof 75.48 242 P **P** **14 36 01.2 -0.1**
comp=Z,6.6nm,0.7s,mb4.7,baz=107,slow=5.9,SNR=11
BOSA pP pP 14 36 09.1 -1.5
comp=Z,10nm,0.8s,baz=97,slow=8.0,SNR=6.4
BOSA LR LR 15 03 02.7
comp=Z,1µm,20.8s,MS5.2,baz=94,slow=31
VSR Storozhevoye 75.53 325 *eP* **P** **14 35 59.7 -1.4**
VSR *e**PP pP 14 36 09.0 -1.4
VSR pmax pmax
comp=Z,20nm,1.0s,mb5.0
VSR pmax pmax
comp=N,5.0nm,0.4s
VSR pmax pmax
comp=E,20nm,0.8s
VSR MLR MLR
comp=Z,260nm,21.0s,MS4.5
VSR MLR MLR
comp=N,710nm,26.0s,MS5.0
VSR MLR MLR
comp=E,480nm,24.0s,MS5.0
SNZO South Karori 75.58 132 PFAKE 14 36 10.0 +8.3
SNZO LR LR
comp=Z,2µm,22.0s,MS5.5
ANTO Ankara 75.62 313 P **P** **14 36 01.1 -0.8**
ANTO *e* pP 14 36 10.9 -0.3
ANTO pmax pmax
comp=Z,65nm,1.4s,mb5.4
ANTO Ankara 75.62 313 *eP* **P** **14 36 00.7 -1.1**
comp=Z,50nm,1.5s,mb5.2
ANTO *e* pP 14 36 10.6 -0.6
ANTO LR LR
comp=Z,1µm,20.0s,MS5.2
VOR Voronezh 75.73 326 *eP* **P** **14 36 01.0 -1.2**
SIM Simferopol' 76.30 318 *eP* **P** **14 36 06.4 +0.8**
SIM *e* pP 14 36 15.0 +0.1
SIM *i* S S 14 45 49.8 +1.4
SIM pmax pmax
comp=Z,23nm,0.8s,mb5.2
SYO Syowa Base 76.53 199‖ *eP* **P** **14 36 06.0 -0.5**
SYO Syowa Base 76.53 199‖ *eX* 14 36 12.8
SEY Seymchan 76.90 22‖ *eP* **P** **14 36 08.1 -0.5**
URZ Urewera 77.07 128 P **P** **14 36 09.7 -0.4**
comp=Z,7.8nm,1.0s,mb4.6,baz=315,slow=2.9,SNR=2.5
TIXI Tiksi 77.38 9 *eP* **P** **14 36 09.4 -1.7**
TIXI pmax pmax
comp=Z,31nm,0.8s,mb5.3
TIXI MLR MLR
comp=Z,5µm,17.0s,MS5.9
TIXI Tiksi 77.38 9 *eP* **P** **14 36 08.7 -2.4**
comp=Z,45nm,1.0s,mb5.3
TIXI LR LR
comp=Z,4µm,19.0s,MS5.8
MOS Moscow 78.27 329 *eP* **P** **14 36 15.0 -1.4**
MOS *e* pP 14 36 23.8 -2.0
MOS *i* 14 36 32.8
MOS *e*S S 14 46 05.0 -4.5
MOS pmax pmax
comp=Z,500nm,2.0s,mb6.1
MOS pmax pmax
comp=Z,169nm,1.6s,mb5.7
OBN Obninsk 78.57 328 P **P** **14 36 18.0 -0.1**
comp=Z,397nm,2.0s,mb6.0,SNR=6.1
OBN Obninsk 78.57 328‖ *eP* **P** **14 36 17.7 -0.4**
OBN *i* 14 39 16.8
OBN *i* S S 14 46 07.5 -5.2
OBN pmax pmax
comp=Z,148nm,1.5s,mb5.7
OBN Obninsk 78.57 328 *eP* **P** **14 36 17.7 -0.4**
comp=Z,204nm,1.5s,mb5.8
OBN LR LR
comp=Z,1µm,21.0s,MS5.2
SUR Sutherland 79.51 238 PFAKE 14 36 40.0 +16
SUR LR LR
comp=Z,2µm,20.0s,MS5.4
KIS Kishinev 80.44 319 *eP* **P** **14 36 28.0 -0.4**
KIS *e* pP 14 36 38.0 +0.2
KIS Kishinev 80.44 319 *e*PcP PcP 14 36 38.0 +2.6
KIS LRM 15 13 06.0
comp=Z,500nm,18.0s
IDI Anoyia 80.58 306 P **P** **14 36 29.6 +0.1**
comp=Z,16nm,0.8s,mb5.0,baz=112,slow=5.2,SNR=7.2
AKASG Malin Array Be 81.22 322 P **P** **14 36 31.6 -0.9**
comp=Z,7.9nm,0.8s,mb4.7,baz=88,slow=4.9,SNR=34
AKASG pP pP 14 36 39.4 -2.6
comp=Z,2.1nm,0.5s,baz=91,slow=4.6,SNR=4.0
AKASG PP PP 14 39 45.5 +7.2
comp=Z,3.4nm,0.8s,baz=84,slow=6.7,SNR=4.3
AKASG LR LR 15 17 00.2
comp=Z,1µm,21.7s,MS5.2,baz=95,slow=39
AKASG Malin Array Be 81.22 322 P **P** **14 36 31.6 -0.9**
AKASG *PP pP 14 36 39.4 -2.5
AKASG 14 39 45.5
AKASG pmax pmax
comp=Z,8.0nm,0.8s
AKASG MLR MLR
comp=Z,1µm,21.7s
AKASG Malin Array Be 81.22 322 P **P** **14 36 31.6 -0.9**
AKASG pP pP 14 36 39.4 -2.6
AKASG PP PP 14 39 45.5 +7.2
AKASG LR LR 15 17 00.2
AKBB Malin Array Si 81.22 322 *eP* **P** **14 36 31.5 -1.0**
KIEV Kiev 81.23 322 P **P** **14 36 31.7 -0.9**
KIEV *e* pP 14 36 40.1 -1.9
KIEV pmax pmax
comp=Z,61nm,1.8s,mb5.2
KIEV Kiev 81.23 322 *eP* **P** **14 36 31.4 -1.1**
comp=Z,4.6nm,0.8s,mb4.5
KIEV *e* pP 14 36 39.7 -2.3
KIEV LR LR
comp=Z,1µm,22.0s,MS5.2
SBA Scott Base 81.50 169 P **P** **14 36 35.3 +1.7**
SBA pmax pmax
comp=Z,150nm,2.2s,mb5.5
SBA Scott Base 81.50 169 *eP* **P** **14 36 34.2 +0.6**
comp=Z,152nm,2.3s,mb5.5
SBA LR LR
comp=Z,766nm,19.0s,MS5.1
VRI Vrincioaia 81.54 317‖ P **P** **14 36 35.0 +0.7**
PLOR Plostina 81.59 317‖ P **P** **14 36 35.0 +0.4**
MLR Muntele Rosu 81.98 317‖ P **P** **14 36 36.3 -0.4**
TSUM Tsumeb 82.32 251 *eP* **P** **14 36 40.0 +1.0**
comp=Z,20nm,1.2s,mb4.9
TSUM LR LR
comp=Z,1µm,21.0s,MS5.3
BURAR Bucovina Array 82.96 319‖ P **P** **14 36 42.7 +1.0**
BUR08 Bucovina Ar. S 82.98 319 *eP* **P** **14 36 42.4 +0.6**
MNK Minsk 83.11 326‖ *eP* **P** **14 36 39.0 -3.4**
MNK pmax pmax
comp=Z,120nm,1.5s,mb5.7
VAY Valandovo 83.52 312 *eP* **P** **14 36 43.1 -1.7**
JOF Joensuu 84.01 334 *ep* **P** **14 36 45.8 -1.0**
comp=Z,14nm,0.9s,mb5.1
JOF Joensuu 84.01 334 *eP* **P** **14 36 45.8 -1.0**
JOF pmax pmax
comp=Z,14nm,0.9s,mb5.1
GZR Gura Zlata 84.14 316‖ P **P** **14 36 48.1 +0.2**
LVV L'vov 84.22 321 *eP* **P** **14 36 47.8 -0.3**
LVV *e* 14 37 00.4
LVV *e* 14 39 57.4
LVV *e* 14 41 54.6
LVV *e*S S 14 47 11.2 -0.3
LVV *e* 14 48 08.4
LVV *e* 14 56 07.0
BILL Bilibino 84.46 20‖ *eP* **P** **14 36 48.0 -1.0**
BILL *e* 14 40 08.4
BILL *i* S S 14 47 13.8 +0.6
BILL pmax pmax
comp=Z,84nm,2.5s,mb5.4
BILL Bilibino 84.46 20 *eP* **P** **14 36 47.9 -1.1**
comp=Z,20nm,1.0s,mb5.2
BILL LR LR
comp=Z,2µm,20.0s,MS5.4
KRUS Krusevo 84.51 312 *eP* **P** **14 36 48.5 -1.3**
LVZ Lovozero 84.57 340 P **P** **14 36 49.8 +0.3**
comp=Z,160nm,1.2s,mb6.0,SNR=5.2
LVZ Lovozero 84.57 340 *eP* **P** **14 36 47.7 -1.8**
LVZ pmax pmax
comp=Z,24nm,1.3s,mb5.2
APA Apatity 84.88 339‖ *iP* **P** **14 36 46.6 -4.5**
APA pmax pmax
comp=Z,100nm,1.7s,mb5.7
APA MLR MLR
comp=Z,2µm,19.0s,MS5.5
BZS Buzias 84.98 316‖ P **P** **14 36 52.0 -0.1**
KWP Kalwaria 85.02 320 *eP* **P** **14 36 52.7 +0.5**
KWP Kalwaria 85.02 320 *eP* **P** **14 36 52.7 +0.5**
UZH Uzhgorod 85.09 319 *eP* **P** **14 36 52.5 -0.1**
UZH *e* 14 37 04.0
UZH *e* 14 40 11.0
UZH *e*S S 14 47 17.5 -2.7
UZH *e*PS 14 48 18.0
KOLS Kolonicke sedl 85.16 320 *eP* **P** **14 36 53.5 +0.6**
KOLS *e*PP PP 14 40 15.3 +4.7
SUW Suwalki 85.64 325 *eP* **P** **14 36 54.8 -0.3**
SUW Suwalki 85.64 325 P **P** **14 36 55.0 -0.2**
SUW pmax pmax
comp=Z,130nm,1.2s,mb6.0
SUW Suwalki 85.64 325 *eP* **P** **14 36 54.8 -0.4**
CRVS Cervenica-Dubn 85.68 319 *eP* **P** **14 36 55.7 +0.2**
STHS Stebnicka Huta 85.92 320 *i* P **P** **14 36 57.1 +0.4**
STHS pmax pmax
comp=Z,13nm,1.0s,mb5.1
STHS Stebnicka Huta 85.92 320 *i* P **P** **14 36 57.1 +0.4**
comp=Z,12nm,1.0s,mb5.1
KAF Kangasniemi 85.97 333 *ep* **P** **14 36 55.7 -1.0**
comp=Z,22nm,0.9s,mb5.4,baz=99,slow=4.4
KAF Kangasniemi 85.97 333 *eP* **P** **14 36 55.7 -1.0**
KAF pmax pmax
comp=Z,22nm,0.9s,mb5.4
QSPA South Pole Qui 86.31 180 P **P** **14 36 58.4 +0.4**
comp=Z,1.2nm,0.8s,mb4.2,baz=301,slow=3.3,SNR=8.1
NIE Niedzica 86.52 320 *eP* **P** **14 37 00.6 +1.0**
NIE *ep* pP 14 37 08.7 -0.4
PSZ Piszkesteto 86.54 318 P **P** **14 37 00.5 +0.7**
PSZ pmax pmax
comp=Z,55nm,1.6s,mb5.5
PSZ Piszkesteto 86.54 318‖ *eP* **P** **14 37 00.0 +0.2**
PSZ Piszkesteto 86.54 318 *eP* **P** **14 36 59.4 -0.3**
comp=Z,55nm,1.6s,mb5.5
PSZ LR LR
comp=Z,568nm,19.0s,MS5.0
OJC Ojcow 86.98 321 *eP* **P** **14 37 01.9 0.0**
OJC *ep* pP 14 37 10.3 -1.0
OJC *e*SKSac SKSac 14 47 27.3 +0.9
OJC *e*S S 14 47 41.9 +3.3
OJC L 15 28 35.0
comp=Z,0.8nm,18.4s
OJC Ojcow 86.98 321 *eP* **P** **14 37 01.9 0.0**
OJC *e**PP pP 14 37 10.3 -1.0
OJC *e* 14 47 27.9
OJC *e*S S 14 47 41.9 +3.3
BUD Budapest 87.06 318‖ *eP* **P** **14 37 01.5 -0.8**
PKSM Moragy 87.13 316‖ P **P** **14 37 02.4 -0.3**
VYHS Vyhne 87.33 319 *eP* **P** **14 37 03.6 0.0**
VYHS *ep* pP 14 37 12.0 -1.1
VYHS *e*PP PP 14 40 31.9 +3.8
KEV Kevo 87.82 340 *eP* **P** **14 37 03.6 -1.9**
comp=Z,18nm,1.0s,mb5.3
KEV LR LR
comp=Z,2µm,20.0s,MS5.4
OKC Ostrava-Krasne 87.97 320 *eP* **P** **14 37 07.6 +0.9**
OKC *ep* pP 14 37 16.1 0.0
OKC *e*S S 14 47 45.2 -3.0
OKC AMS AMS 15 29 00.0
comp=Z,600nm,18.4s
OKC Ostrava-Krasne 87.97 320 *eP* **P** **14 37 07.6 +0.9**
OKC *ep* pP 14 37 16.1 0.0
OKC *e*S S 14 47 45.2 -3.0
CEL Celeste 88.17 308 PFAKE 14 37 20.0 +12
CEL LR LR
comp=Z,23µm,20.0s,MS6.6
ARCES ARCESS Array B 88.26 340 P **P** **14 37 07.8 +0.2**
comp=Z,22nm,0.9s,mb5.4,baz=98,slow=5.0,SNR=22
ARCES LR LR 15 21 02.0
comp=Z,2µm,20.6s,MS5.5,baz=102,slow=39
ARCES ARCESS Array B 88.26 340 P **P** **14 37 07.8 +0.2**
ARCES LR LR 15 21 02.0
MORC Moravsky Berou 88.35 320‖ P **P** **14 37 09.1 +0.6**
MORC Moravsky Berou 88.35 320 *eP* **P** **14 37 08.3 -0.1**
comp=Z,77nm,1.8s,mb5.6
CUC Castrocucco 88.41 310 PFAKE 14 37 20.0 +11
CUC LR LR
comp=Z,1µm,21.0s,MS5.3
ZST Bratislava 88.44 318 *eP* **P** **14 37 09.0 +0.1**
ZST *ep* pP 14 37 18.4 0.0
ZST *e*PP PP 14 40 34.7 -2.3
ZST Bratislava 88.44 318 *eP* **P** **14 37 09.0 +0.1**
comp=Z,13nm,1.0s,mb5.1
ZST *e* pP 14 37 18.4 0.0
ZST *e*PP PP 14 40 34.7 -2.3
ZST LR LR
comp=Z,200nm,17.9s,MS4.6
KOGS Kog 88.80 316 *eP* **P** **14 37 11.3 +0.6**
GKP Gorka Klasztor 89.00 323 *eP* **P** **14 37 12.3 +0.9**
GCIS Gornji Cirnik 89.17 316 *i* P **P** **14 37 13.2 +0.7**
DPC Dobruska-Polom 89.20 320 *eP* **P** **14 37 13.5 +1.0**
DPC *ep* pP 14 37 22.1 +0.2
DPC *e*S S 14 47 54.5 -5.3
DPC AMS AMS 15 28 10.0
comp=Z,600nm,14.0s
KSP Ksiaz 89.28 321‖ *eP* **P** **14 37 13.6 +0.8**
KSP *e**PP pP 14 37 21.2 -1.1
KSP *e*S S 14 48 00.0 -0.5
KSP MLR MLR
comp=Z,2µm,24.7s,MS5.3
GROS Grobnik 89.32 316 *i* P **P** **14 37 13.5 +0.4**
ARSA Arzberg 89.39 317‖ *iP* **P** **14 37 13.8 +0.4**
comp=Z,21nm,1.1s,mb5.4
UPC Upice 89.42 321 *eP* **P** **14 37 14.7 +1.2**
UPC *ep* pP 14 37 22.9 0.0
PERS Pernice 89.60 317 *eP* **P** **14 37 15.0 +0.6**
PERS *ep* pP 14 37 22.6 -1.3
TREC Trest 89.63 319 *eP* **P** **14 37 15.0 +0.5**
TREC *ep* pP 14 37 23.5 -0.4

TREC eS S 14 47 56.9 -6.8
TREC AMS AMS 15 23 50.0
comp=Z,900nm,21.2s
SOKA Soboth 89.66 317 ⇑*i*PcP PcP 14 37 15.4 -0.6
comp=Z,35nm,1.3s
LJU Ljubljana 89.95 316 *i* P **P** **14 37 16.8 +0.7**
PRU Pruhonice 90.31 320 *e*P **P** **14 37 18.3 +0.7**
PRU *e*pP pP 14 37 25.5 -1.6
PRU *e*S S 14 48 09.8 -0.2
PRU AMS AMS 15 28 30.0
comp=Z,500nm,15.1s
PVCC Panska Ves 90.34 320 *e*P **P** **14 37 19.0 +1.3**
PVCC *e*pP pP 14 37 27.2 0.0
PVCC *e*S S 14 48 09.5 -0.8
PVCC AMS AMS 15 21 20.0
comp=Z,700nm,25.5s
TRI Trieste 90.45 316 PFAKE 14 37 30.0 +12
TRI LR LR
comp=Z,665nm,20.0s,MS5.1
GEC2 GERESS Array S 90.75 319 *e*P **P** **14 37 20.3 +0.6**
GEC2 pmax pmax
comp=Z,79nm,1.7s,mb5.8
GEC2 GERESS Array S 90.75 319 *e*P **P** **14 37 20.3 +0.6**
comp=Z,79nm,1.7s,mb5.8
GERES GERESS Array B 90.75 319 P **P** **14 37 20.2 +0.5**
comp=Z,7.2nm,0.9s,mb5.0,baz=90,slow=5.3,SNR=52
GERES pP pP 14 37 27.8 -1.5
comp=Z,3.3nm,0.9s,baz=108,slow=4.3,SNR=6.1
GERES GERESS Array B 90.75 319 P **P** **14 37 20.2 +0.5**
GERES *PP pP 14 37 27.8 -1.4
GERES pmax pmax
comp=Z,7.0nm,0.9s
GERES pmax pmax
comp=Z,3.0nm,0.9s
BRG Berggiesshubel 90.77 321 *e*P **P** **14 37 20.4 +0.7**
BRG *e* pP 14 37 29.1 -0.1
BRG S S 14 48 16.0 +1.8
BRG pmax pmax
comp=Z,41nm,1.9s,mb5.4
BRG MLR MLR
comp=N,554nm,16.3s,MS5.1
BRG MLR MLR
comp=E,364nm,18.0s,MS5.1
BRG MLR MLR
comp=Z,246nm,15.9s,MS4.7
BRG Berggiesshubel 90.77 321 *e*P **P** **14 37 20.4 +0.7**
BRG *e*pP pP 14 37 28.7 -0.5
BRG Berggiesshubel 90.77 321 *e*P **P** **14 37 20.4 +0.7**
comp=Z,68nm,1.9s,mb5.7
BRG *e* pP 14 37 29.1 -0.1
comp=Z,118nm,2.0s
BRG S S 14 48 16.0 +1.8
BRG
comp=N,925nm,16.3s
BRG
comp=E,608nm,18.0s
BRG
comp=Z,411nm,15.9s
SNAA Sanae 90.79 198 *e*P **P** **14 37 21.4 +1.9**
SNAA *e* 14 37 28.0
SNAA *e* pP 14 37 31.5 +2.5
SNAA *e* 14 37 45.8
SNAA Sanae 90.79 198 P **P** **14 37 21.2 +1.7**
SNAA pmax pmax
comp=Z,7.0nm,1.6s
SNAA Sanae 90.79 198 *e*P **P** **14 37 20.7 +1.3**
comp=Z,7.3nm,1.6s,mb4.8
KHC Kasperske Hory 90.86 319 *e*P **P** **14 37 20.2 0.0**
KHC *e*pP pP 14 37 29.2 -0.5
KHC *e*S S 14 48 15.0 -0.1
KHC AMS AMS 15 24 40.0
comp=Z,1μm,19.6s
WET Wettzell 91.32 319 *e*P **P** **14 37 22.8 +0.5**
WET pmax pmax
comp=Z,81nm,1.9s,mb5.7
WET Wettzell 91.32 319 *e*P **P** **14 37 22.8 +0.5**
comp=Z,81nm,1.9s,mb5.7
CLL Collm 91.39 321 ⇑*i*P **P** **14 37 22.6 0.0**
CLL *e*S S 14 48 18.0 -1.9
CLL pmax pmax
comp=Z,20nm,1.3s,mb5.3
CLL MLR MLR
comp=Z,900nm,19.7s,MS5.2
CLL Collm 91.39 321 *e*P **P** **14 37 22.8 +0.2**
comp=Z,20nm,1.3s,mb5.3
CLL Collm 91.39 321 ⇑*i*P **P** **14 37 22.6 0.0**
comp=Z,20nm,1.3s,mb5.3
CLL LmV 14 29 00.0
comp=Z,900nm,19.7s
CLL *i* pP pP 14 37 31.4 -0.7
CLL *e*PP PP 14 40 58.0 -2.4
CLL *e*S S 14 48 18.0 -1.9
CLL *e*PS PS 14 49 40.0 +7.7
CLL *e*SS SS 14 54 36.0 +10
CLL Collm 91.39 321 ⇑*i*P **P** **14 37 22.6 0.0**
comp=Z,20nm,1.3s,mb5.3
CLL *e*S S 14 48 18.0 -1.9
CLL LR LR
comp=Z,900nm,19.7s,MS5.2
NKC Novy Kostel 91.67 320 *e*P **P** **14 37 24.9 +1.0**
NKC *e*pP pP 14 37 33.1 -0.3
NKC *e*S S 14 48 23.5 +1.1
NKC AMS AMS 15 22 20.0
comp=Z,700nm,16.8s
NKC Novy Kostel 91.67 320 *e*P **P** **14 37 24.9 +1.0**
NKC *e*pP pP 14 37 33.1 -0.3
NKC *e*S S 14 48 23.5 +1.1
TANN Tannenbergstha 91.67 320 *e*P **P** **14 37 24.4 +0.5**
ROTZ Rotzenmuhle 91.80 320 *e*P **P** **14 37 25.5 +1.0**
COP Copenhagen 92.02 325 *e*P **P** **14 37 30.8 +5.4**
COP *e*S S 14 48 24.7 -0.7
COP MLR MLR
comp=Z,390nm,19.0s,MS4.9
COP Copenhagen 92.02 325 *i* P **P** **14 37 30.8 +5.4**
COP *e*S S 14 48 24.7 -0.7
COP *i* 14 48 43.3
COP
comp=Z,380nm,19.0s
COP Copenhagen 92.02 325 *e*P **P** **14 37 30.8 +5.4**
COP *e*S S 14 48 24.7 -0.7
COP *i* 14 48 43.3
COP LR LR
comp=Z,390nm,19.0s,MS4.9
WTTA Wattenberg 92.03 317 ⇑*i*P **P** **14 37 25.5 -0.2**
comp=Z,16nm,1.0s,mb5.3
MOX Moxa 92.22 320 *e*P **P** **14 37 27.0 +0.5**
MOX *e* pP 14 37 35.9 -0.1
comp=Z,71nm,2.1s
MOX
comp=Z,600nm,20.0s
MOX Moxa 92.22 320 *e*P **P** **14 37 26.9 +0.4**
comp=Z,28nm,1.5s,mb5.4
MOX *e*pP pP 14 37 35.0 -1.0
MOX Moxa 92.22 320 *e*P **P** **14 37 27.0 +0.5**
comp=Z,71nm,2.1s,mb5.6
MOX *e* pP 14 37 35.9 -0.1
MOX LR LR
comp=Z,600nm,20.0s,MS5.0
MOTA Moosalm 92.39 317 ⇑*i*P **P** **14 37 27.2 -0.2**
comp=Z,12nm,1.0s,mb5.2
VNA2 Neumayer--Watz 92.41 198 *e*P **P** **14 37 28.8 +1.8**
VNA2 *e* pP 14 37 36.3 -0.2
VNA2 *e* 14 37 40.4
VNA2 *e* 14 37 53.5
GRA1 Grafenberg Arr 92.43 319 *e*P **P** **14 37 28.2 +0.7**
comp=Z,123nm,2.1s,mb5.9
GRA1 *e*pP pP 14 37 36.0 -1.0
GRF Grafenberg Arr 92.43 319 *e*P **P** **14 37 28.2 +0.7**
GRF *e**PP pP 14 37 36.0 -1.0
GRF pmax pmax
comp=Z,123nm,2.1s,mb5.9
GRF Grafenberg Arr 92.43 319 *e*P **P** **14 37 28.2 +0.7**
GRF *e**PP pP 14 37 36.0 -1.0
GRF pmax pmax
comp=Z,123nm,2.1s,mb5.9
GRF Grafenberg Arr 92.43 319 *e*P **P** **14 37 28.2 +0.7**
comp=Z,123nm,2.1s,mb5.9
GRF *e*pP pP 14 37 36.0 -1.0
RETA Reutte 92.63 317 ⇑*i*PcP PcP 14 37 28.6 -0.5
comp=Z,13nm,1.1s
VNA1 Neumayer--Stat 92.77 198 *e*P pP 14 37 38.5 +0.4
NB2 NORSAR Subarra 92.93 331 P **P** **14 37 28.7 -0.8**
comp=Z,14nm,1.1s,mb5.3,baz=94,slow=5.3
NOA NORSAR Array B 92.93 331 P **P** **14 37 28.7 -0.8**
comp=Z,4.4nm,0.9s,mb4.9,baz=94,slow=4.6,SNR=9.1
NOA pP pP 14 37 36.9 -2.1
comp=Z,4.1nm,1.0s,baz=92,slow=4.8,SNR=6.0
NOA PP PP 14 41 08.5 -3.7
comp=Z,2.6nm,1.0s,baz=94,slow=7.4,SNR=3.7
NOA NORSAR Array B 92.93 331 P **P** **14 37 28.7 -0.8**
NOA *PP pP 14 37 36.9 -2.1
NOA 14 41 08.5
NOA pmax pmax
comp=Z,4.0nm,0.9s
NOA pmax pmax
comp=Z,3.0nm,1.0s
NOA NORSAR Array B 92.93 331 P **P** **14 37 28.7 -0.8**
NOA pP pP 14 37 36.9 -2.1
NOA PP PP 14 41 08.5 -3.7
VNA3 Neumayer Olymp 93.00 198 *e*P sP 14 37 42.7 +0.1
CLZ Clausthal 93.06 322 *e*P **P** **14 37 30.8 +0.5**
NAO01 NORSAR Array S 93.08 331 PFAKE 14 37 40.0 +10
NAO01 LR LR
comp=Z,1μm,20.0s,MS5.3
BSEG Bad Segeberg 93.16 324 *e*P **P** **14 37 31.2 +0.5**
KEST Kesra 93.22 305 P **P** **14 37 30.3 -1.2**
comp=Z,5.4nm,1.1s,mb4.9,baz=27,slow=11,SNR=2.9
KEST LR LR 15 22 03.2
comp=Z,465nm,18.3s,MS5.0,baz=9.0,slow=37
DAVA Damuels 93.22 317 ⇑*i*PcP PcP 14 37 31.6 -0.2
comp=Z,16nm,1.0s
KBS Kingsbay 93.33 349 PFAKE 14 37 40.0 +8.9
KBS LR LR
comp=Z,2μm,21.0s,MS5.5
TNS Taunus Mts 94.24 320 *e*P **P** **14 37 36.1 +0.3**
TNS pmax pmax
comp=Z,15nm,1.0s,mb5.4
TNS Taunus Mts 94.24 320 *e*P **P** **14 37 36.1 +0.3**
comp=Z,15nm,1.0s,mb5.4
BFO Black Forest 94.29 318 PFAKE 14 37 50.0 +14
BFO LR LR
comp=Z,412nm,20.0s,MS4.9
IBBN Ibbenburen 94.68 322 *e*P **P** **14 37 37.9 +0.1**
SBF Sospel 94.87 314 *e*P **P** **14 37 37.1 -1.8**
comp=Z,102nm,1.3s,mb5.8
SBF Sospel 94.87 314 *e*P **P** **14 37 37.1 -1.8**
SBF pmax pmax
comp=Z,51nm,1.3s,mb5.8
SBF Sospel 94.87 314 *e*P **P** **14 37 37.1 -1.8**
comp=Z,51nm,1.3s,mb5.8
BUG Bochum--Univer 94.98 321 *e*P **P** **14 37 39.3 +0.1**
BNI Bardonecchia 95.42 315 PFAKE 14 37 50.0 +8.7
BNI LR LR
comp=Z,917nm,22.0s,MS5.2
HAU Haudompre 95.62 318 *e*P **P** **14 37 41.6 -0.6**
comp=Z,38nm,1.4s,mb5.3
HAU Haudompre 95.62 318 *e*P **P** **14 37 41.6 -0.6**
HAU pmax pmax
comp=Z,19nm,1.4s,mb5.3
HAU Haudompre 95.62 318 *e*P **P** **14 37 41.6 -0.6**
comp=Z,19nm,1.4s,mb5.3
MEM Membach 95.80 320 P **P** **14 37 42.7 -0.2**
BAIF Baives 96.97 320 *e*P **P** **14 37 46.2 -2.0**
LOR Lormes 97.32 317 *e*P **P** **14 37 49.4 -0.5**
comp=Z,37nm,1.5s,mb5.3
LOR Lormes 97.32 317 *e*P **P** **14 37 49.4 -0.5**
LOR pmax pmax
comp=Z,19nm,1.5s,mb5.3
LOR Lormes 97.32 317 *e*P **P** **14 37 49.4 -0.5**
comp=Z,18nm,1.5s,mb5.3
SSF Saint Saulge 97.57 317 *e*P **P** **14 37 50.8 -0.3**
TORD Torodi Ar. Bea 99.59 283 P Pdif 14 37 59.5 -0.4
comp=Z,1.1nm,1.1s,baz=81,slow=6.4,SNR=4.7
TORD PP PP 14 42 07.6 +2.6
comp=Z,0.7nm,1.1s,baz=111,slow=8.2,SNR=3.6
TORD LR LR 15 19 33.3
comp=Z,989nm,21.9s,MS5.3,baz=115,slow=33
IMA2 Indian Mountai 99.64 23 *e*Pdif Pdif 14 37 58.1 -2.0
ESK Eskdalemuir 100.91 326 PFAKE 14 38 20.0 +14
ESK LR LR
comp=Z,881nm,21.0s,MS5.2
BPAW Bear Paw Mtn. 101.23 25 *e*Pdif Pdif 14 38 06.5 -0.7
comp=Z,70nm,2.0s
KDAK Kodiak Island 101.96 32 PFAKE 14 38 20.0 +10
KDAK LR LR
comp=Z,448nm,19.0s,MS5.0
COLA College 102.31 24 PFAKE 14 38 20.0 +8.0
COLA LR LR
comp=Z,802nm,19.0s,MS5.3
PMR Palmer 102.72 27 PFAKE 14 38 20.0 +6.2
PMR LR LR
comp=Z,1μm,19.0s,MS5.5
ESLA Sonseca Array 103.61 310 PFAKE 14 38 30.0 +12
ESLA LR LR
comp=Z,2μm,19.0s,MS5.8
PAB San Pablo 103.92 310 PFAKE 14 38 30.0 +11
PAB LR LR
comp=Z,521nm,20.0s,MS5.1
SHEL Horse Pasture 104.75 253 PFAKE 14 38 40.0 +17
SHEL LR LR
comp=Z,2μm,21.0s,MS5.6
SFS San Fernando 105.76 307 PFAKE 14 42 50.0 +9.4
SFS LR LR
comp=Z,1μm,22.0s,MS5.5
DBIC Dimbokro 105.86 276 PFAKE 14 42 50.0 +8.5
DBIC LR LR
comp=Z,699nm,21.0s,MS5.2
MTE Manteigas 106.24 311 PFAKE 14 42 50.0 +8.6
MTE LR LR
comp=Z,707nm,20.0s,MS5.2
RTC Rabat Centre 106.59 304 PFAKE 14 42 50.0 +7.7
RTC LR LR
comp=Z,550nm,19.0s,MS5.1
TBI Tubuai 106.63 116 *e*PS PS 14 52 16.1 -1.3
comp=Z,256nm,27.0s
TBI *e*SS SS 14 57 57.5 -3.0
comp=Z,656nm,25.5s
TBI Tubuai 106.63 116 *e*LR LR 15 13 40.5
comp=Z,2μm,23.0s
PPT Papeete 107.59 110 *e*PS PS 14 52 29.4 +1.9
comp=Z,443nm,25.0s
PPT *e*SS SS 14 58 09.7 -4.1
comp=Z,358nm,25.5s
PPT Papeete 107.59 110 *e*LR LR 15 14 17.6
comp=Z,874nm,21.8s
SIT Sitka 110.97 29 PFAKE 14 43 00.0 +10
SIT LR LR
comp=Z,1μm,19.0s,MS5.5
SFJD Kangerlussuaq 113.73 348 PFAKE 14 43 10.0 +15
SFJD LR LR
comp=Z,1μm,22.0s,MS5.4
ASCN Ascension 114.21 260 PFAKE 14 43 10.0 +13
ASCN LR LR
comp=Z,1μm,19.0s,MS5.5
TAOE Nuku Hiva Isla 118.08 102 *e*LR LR 15 19 10.6
comp=Z,2μm,24.6s
RKT Rikitea 119.56 119 *e*LR LR 15 19 49.2
comp=Z,1μm,26.5s
EFI East Falkland 121.98 195 PFAKE 14 43 20.0 +8.9
EFI LR LR
comp=Z,663nm,20.0s,MS5.3
JCW Jim Creek 122.58 33 *e*PKPdf PKPdf 14 43 12.2 -0.1
PTCN Pitcairn Islan 123.04 123 PFAKE 14 43 30.0 +16
PTCN LR LR
comp=Z,2μm,19.0s,MS5.7
EDM Edmonton 123.22 24 *e*PKIKP PKPdf 14 43 11.8 -1.6
OD2 Odessa Site #2 124.78 32 *e*PKPdf PKPdf 14 43 16.7 +0.2
RSW Rattlesnake Hi 124.93 33 *e*PKPdf PKPdf 14 43 17.0 +0.2
HUMO Hull Mountain 125.16 39 PFAKE 14 43 30.0 +13
HUMO LR LR
comp=Z,803nm,20.0s,MS5.4
FFC Flin Flon 125.86 16 PFAKE 14 43 30.0 +12
FFC LR LR
comp=Z,1μm,19.0s,MS5.6
LNOR Lincton Mounta 125.97 33 *e*PKIKP PKPdf 14 43 18.4 -0.5
BMO Blue Mountains 127.15 33 PFAKE 14 43 30.0 +8.8
BMO LR LR
comp=Z,690nm,21.0s,MS5.3
MOD Modoc 127.19 38 *e*PKPdf PKPdf 14 43 22.2 +0.9
MOD LR LR
comp=Z,923nm,19.0s,MS5.5
MSO Missoula 127.58 30 PFAKE 14 43 30.0 +8.1
MSO LR LR
comp=Z,869nm,21.0s,MS5.4
CHMT Chamberlain Mo 127.86 29 *e*PKPdf PKPdf 14 43 21.9 -0.5
CMB Columbia Colle 129.26 42 PFAKE 14 43 40.0 +15
CMB LR LR
comp=Z,678nm,19.0s,MS5.4
DLMT Dillon 129.28 30 *e*PKPdf PKPdf 14 43 25.9 +0.7
MCMT McKenzie Canyo 129.52 31 *e*PKPdf PKPdf 14 43 27.0 +1.3
HLID Hailey 129.57 33 PFAKE 14 43 40.0 +14
HLID LR LR
comp=Z,952nm,19.0s,MS5.5
BMN Battle Mountai 129.93 38 PFAKE 14 43 40.0 +13
BMN LR LR
comp=Z,1μm,22.0s,MS5.5
QLMT Earthquake Lak 130.23 30 *e*PKPdf PKPdf 14 43 28.9 +1.8
NVAR Mina Array Bea 130.42 40 PKP PKPdf 14 43 28.8 +1.2
comp=Z,5.4nm,0.9s,baz=268,slow=2.1,SNR=16
NVAR pPKP pPKPdf 14 43 36.2 -1.1
comp=Z,1.8nm,0.7s,baz=270,slow=2.5,SNR=4.9
NVAR SKPbc SKPbc 14 46 49.3 +0.3
comp=Z,3.2nm,0.9s,baz=277,slow=4.7,SNR=9.1
NVAR Mina Array Bea 130.42 40 PKP PKPdf 14 43 28.8 +1.2
NVAR pPKP pPKPdf 14 43 36.2 -1.1
NVAR SKPbc SKPbc 14 46 49.3 +0.4
ELK Elko 130.93 36 *e*PKIKP PKPdf 14 43 28.9 +0.4
ELK MLR MLR
comp=Z,873nm,19.0s
LKWY Lake 130.93 29 PFAKE 14 43 40.0 +12
LKWY LR LR
comp=Z,2μm,20.0s,MS5.7
RLMT Red Lodge 131.06 28 PFAKE 14 43 40.0 +11
RLMT LR LR
comp=Z,1μm,19.0s,MS5.6
LAO LASA Array 131.19 24 PFAKE 14 43 40.0 +11
LAO LR LR
comp=Z,897nm,20.0s,MS5.5
TPH Tonopah 131.32 40 PFAKE 14 43 40.0 +11
TPH LR LR
comp=Z,551nm,22.0s,MS5.2
ULM Lac du Bonnet 131.51 14 PKP PKPdf 14 43 28.6 -0.7
comp=Z,4.1nm,0.6s,baz=328,slow=4.2,SNR=4.5
ULM Lac du Bonnet 131.51 14 PKP PKPdf 14 43 28.6 -0.7
ULM LR LR
comp=Z,2μm,20.0s,MS5.7
REDW Red Top Meadow 131.58 31 *e*PKPdf PKPdf 14 43 29.6 0.0
ISA Isabella 131.82 44 PFAKE 14 43 40.0 +10
ISA LR LR
comp=Z,752nm,20.0s,MS5.4
AHID Auburn Hatcher 131.87 31 PFAKE 14 43 40.0 +10
AHID LR LR
comp=Z,678nm,19.0s,MS5.4
DAC Darwin (Calif) 132.09 42 PFAKE 14 43 40.0 +9.2
DAC LR LR
comp=Z,740nm,19.0s,MS5.4
HWUT Hardware Ranch 132.44 33 *e*PKPdf PKPdf 14 43 31.0 -0.3
HWUT LR LR
comp=Z,976nm,20.0s,MS5.5
TPNV Topopah Spring 132.60 41 PFAKE 14 43 40.0 +8.2
TPNV LR LR
comp=Z,561nm,20.0s,MS5.3
BW06 Boulder Array 132.66 30 PFAKE 14 43 40.0 +8.3
BW06 LR LR
comp=Z,848nm,22.0s,MS5.4
PDAR Pinedale Array 132.66 30 PKP PKPdf 14 43 31.0 -0.7
comp=Z,1.5nm,0.8s,baz=52,slow=1.2,SNR=7.4
PDAR PP PP 14 45 50.4 -4.9
comp=Z,2.1nm,1.1s,baz=338,slow=3.2,SNR=3.9
MPU Maple Canyon 133.49 34 PFAKE 14 43 40.0 +6.7
MPU LR LR
comp=Z,2μm,21.0s,MS5.7
MVU Marysvale 134.16 36 PFAKE 14 43 50.0 +15
MVU LR LR
comp=Z,777nm,21.0s,MS5.4
RSSD Black Hills 134.17 25 *e*PKIKP PKPdf 14 43 34.5 0.0
MSU Marysvale 134.17 36 *e*PKIKP PKPdf 14 43 35.7 +1.0
PLCA Paso Flores 135.10 189 PFAKE 14 43 50.0 +14
PLCA LR LR
comp=Z,958nm,20.0s,MS5.5
TRQA Tornquist 135.49 200 PFAKE 14 43 50.0 +13
TRQA LR LR
comp=Z,572nm,21.0s,MS5.3
RCBR Riachuelo 135.65 258 PFAKE 14 43 50.0 +12
RCBR LR LR
comp=Z,943nm,19.0s,MS5.5
PHWY Pilot Hill 135.78 28 *e*PKPdf PKPdf 14 43 37.4 -0.2
PV10 Paradox Valley 136.08 34 *e*PKPdf PKPdf 14 43 39.8 +1.6
PV01 Paradox Valley 136.51 34 *e*PKPdf PKPdf 14 43 40.0 +0.9
ECSD EROS,Sioux Fal 137.25 19 *e*PKPdf PKPdf 14 43 39.8 -0.5
PKME Peaks-Kenny Pk 137.65 350 PFAKE 14 43 50.0 +9.1
PKME LR LR
comp=Z,980nm,19.0s,MS5.6
SDCO Great Sand Dun 138.46 32 PFAKE 14 43 50.0 +7.3
SDCO LR LR
comp=Z,1μm,20.0s,MS5.6
TUC Tucson 138.97 42 PFAKE 14 44 00.0 +16
TUC LR LR
comp=Z,731nm,19.0s,MS5.4
LBNH Lisbon 139.07 352 PFAKE 14 44 00.0 +16
LBNH LR LR
comp=Z,1μm,19.0s,MS5.8
NCB Newcomb 139.61 354 PFAKE 14 44 00.0 +15
NCB LR LR
comp=Z,1μm,21.0s,MS5.6
ANMO Albuquerque 139.96 36 *i* PKHKP 14 43 38.9
ANMO Albuquerque 139.96 36 PFAKE 14 44 00.0 +15
ANMO LR LR
comp=Z,976nm,20.0s,MS5.5
CBKS Cedar Bluff 140.37 25 PFAKE 14 44 00.0 +14
CBKS LR LR
comp=Z,1μm,19.0s,MS5.6
BNM Barren Site 140.42 37 *e*PKPdf PKPdf 14 43 47.1 +0.7
HRV Adam Dziewonsk 140.71 351 PFAKE 14 44 00.0 +13
HRV LR LR
comp=Z,1μm,20.0s,MS5.6
WES Weston 140.79 351 PFAKE 14 44 00.0 +13
WES LR LR
comp=Z,1μm,19.0s,MS5.6
BINY Binghamton 141.52 356 PFAKE 14 44 00.0 +12
BINY LR LR
comp=Z,1μm,19.0s,MS5.6
ERPA Erie 141.71 1 PFAKE 14 44 00.0 +12
ERPA LR LR
comp=Z,1μm,21.0s,MS5.7
AMTX Amarillo 142.63 31 PFAKE 14 44 00.0 +10
AMTX LR LR
comp=Z,1μm,20.0s,MS5.7
SSPA Standing Stone 143.17 358 PFAKE 14 44 00.0 +8.9
SSPA LR LR
comp=Z,955nm,20.0s,MS5.6
ACSO Alum Creek Sta 143.44 5 *e*PKPpre 14 43 47.5
BDFB Brasilia 143.58 237 PKP PKPdf 14 43 51.4 -1.0
comp=Z,1.7nm,0.8s,baz=75,slow=12,SNR=2.4
BDFB Brasilia 143.58 237 PKP PKPdf 14 43 51.4 -1.0
BDFB LR LR
comp=Z,875nm,19.0s,MS5.5
BLO Bloomington 144.05 10 *e*PKIKP PKPdf 14 43 49.3 -3.4
CCM Cathedral Cave 144.07 16 *e*PKIKP PKPdf 14 43 48.8 -3.9
CCM MLR MLR
comp=Z,773nm,19.0s,MS5.5
MCWV Mont Chateau 144.16 1 PFAKE 14 44 00.0 +7.2
MCWV LR LR
comp=Z,1μm,19.0s,MS5.8
OLIL Olney 144.18 12 *e*PKP PKPdf 14 43 49.8 -3.1
FVM French Village 144.35 15 *e*PKIKP PKPdf 14 43 50.3 -2.9
SIUC Southern Illin 144.91 14 *e*PKP PKPdf 14 43 51.9 -2.3
WCI Wyandotte Cave 145.01 10 *e*PKIKP PKPdf 14 43 52.1 -2.3
USIN University of 145.01 12 *e*PKP PKPdf 14 43 52.9 -1.4
TXAR Lajitas Array 145.56 40 PKPbc PKPbc 14 43 55.8 +0.1
comp=Z,74nm,0.9s,baz=280,slow=1.3,SNR=364
TXAR pPKPbc pPKPbc 14 44 04.4 -1.0
comp=Z,28nm,0.7s,baz=324,slow=1.2,SNR=14
TXAR Lajitas Array 145.56 40 PKIKP PKPdf 14 43 55.8 +0.2
TXAR 14 44 04.4
TXAR pmax pmax
comp=Z,74nm,0.9s
TXAR pmax pmax
comp=Z,28nm,0.7s
CBN Corbin 145.57 357 *e*PKP PKPdf 14 43 55.3 -0.1
CBN LR LR
comp=Z,771nm,21.0s,MS5.5
PARMO Parma 145.78 15 *e*PKP PKPdf 14 43 55.4 -0.3
URVA University of 146.21 357 *e*PKPbc PKPbc 14 43 57.0 -0.5
GLAT Glass 146.27 15 *e*PKPdf PKPdf 14 43 57.7 +1.1
LCO Las Campanas 146.48 194 PFAKE 14 44 10.0 +13
LCO LR LR
comp=Z,826nm,20.0s,MS5.5
MIAR Mount Ida 146.53 22 *e*PKP2 PKPbc 14 43 57.3 -1.2
ELN Prospectdale 146.57 2 *e*PKPbc PKPbc 14 43 56.9 -1.6
HBAR Harrisburg 146.57 17 *e*PKPbc PKPbc 14 43 57.8 -0.7
BLA Blacksburg 146.60 2 *e*PKP2 PKPbc 14 43 57.3 -1.3
WVT Waverly 146.74 13 *e*PKIKP PKPdf 14 43 56.4 -1.0
WVT *e* 14 43 58.4

JCT	**Junction City**	**147.03**	**34**	*e*PKP2	PKPbc	14 43 58.0	-2.1
TZTN	**Tazewell**	**147.04**	**6**	*e*PKPdf	PKPdf	14 43 57.9	0.0
TZTN				LR	LR		
	comp=Z,2μm,21.0s,MS5.8						
TKL	**Tuckaleechee C**	**147.89**	**7**	*e*PKP2	PKPbc	14 44 01.2	-1.1
OXF	**Oxford**	**147.90**	**16**	*e*PKP2	PKPbc	14 44 01.3	-1.0
OXF				MLR	MLR		
	comp=Z,1μm,20.0s,MS5.6						
CPCT	**Cooper Cave**	**148.00**	**8**	*e*PKPdf	PKPdf	14 43 58.6	-0.9
CPCT				*e*PKPbc	PKPbc	14 44 01.3	-1.2
SWET	**Sewanee**	**148.00**	**10**	*e*PKPbc	PKPbc	14 44 00.7	-1.9
BBSR	**BB Station**	**148.33**	**336**	PFAKE		14 44 10.0	+10
BBSR				LR	LR		
	comp=Z,572nm,20.0s,MS5.4						
NATX	**Nacogdoches**	**148.54**	**26**	*e*PKPbc	PKPbc	14 44 04.0	-0.1
NATX				LR	LR		
	comp=Z,1μm,20.0s,MS5.7						
CNNC	**Cliffs of the**	**148.55**	**358**	*e*PKPbc	PKPbc	14 44 03.8	-0.2
JSC	**Jenkinsville**	**149.48**	**3**	*e*PKP2	PKPbc	14 44 05.5	-0.9
HKT	**Hockley**	**149.52**	**29**	*e*PKP2	PKPbc	14 44 07.0	+0.4
HKT				MLR	MLR		
	comp=Z,1μm,19.0s,MS5.8						
VBMS	**Vicksburg**	**149.70**	**19**	*e*PKPbc	PKPbc	14 44 06.9	-0.1
VBMS				LR	LR		
	comp=Z,931nm,19.0s,MS5.6						
LRAL	**Lakeview Retre**	**149.90**	**13**	*e*PKPdf	PKPdf	14 44 02.3	-0.3
LRAL				*e*PKPbc	PKPbc	14 44 06.4	-1.0
LRAL				*e*PKPab	PKPab	14 44 11.8	-1.1
LRAL				LR	LR		
	comp=Z,1μm,21.0s,MS5.8						
GOGA	**Godfrey**	**150.15**	**7**	*e*PKP2	PKPbc	14 44 07.5	-0.6
NHSC	**New Hope**	**150.69**	**2**	PFAKE		14 44 10.0	+6.1
NHSC				LR	LR		
	comp=Z,1μm,20.0s,MS5.7						
BRAL	**Brewton**	**151.83**	**14**	*e*PKPbc	PKPbc	14 44 11.3	-0.8
LVC	**Limon Verde**	**151.99**	**201**	*e*PKPbc	PKPbc	14 44 13.2	+0.6
LVC				LR	LR		
	comp=Z,749nm,19.0s,MS5.5						
DWPF	**Disney**	**155.60**	**5**	PFAKE		14 44 20.0	+8.9
DWPF				LR	LR		
	comp=Z,854nm,22.0s,MS5.5						
LPAZ	**La Paz**	**157.31**	**209**	PKP	PKPdf	14 44 13.5	-0.1
	comp=Z,0.8nm,0.8s,baz=27,slow=4.2,SNR=3.5						
LPAZ	**La Paz**	**157.31**	**209**	*e*PKPdf	PKPdf	14 44 14.4	+0.8
LPAZ				LR	LR		
	comp=Z,628nm,19.0s,MS5.5						
GRGR	**Grenville**	**160.62**	**297**	PFAKE		14 44 30.0	+12
GRGR				LR	LR		
	comp=Z,545nm,21.0s						
SJG	**San Juan**	**160.71**	**319**	PFAKE		14 44 30.0	+12
SJG				LR	LR		
	comp=Z,800nm,21.0s						
TEIG	**Tepich**	**161.35**	**27**	PFAKE		14 44 30.0	+12
TEIG				LR	LR		
	comp=Z,968nm,21.0s						
NNA	**Nana**	**164.26**	**189**	PFAKE		14 44 30.0	+8.8
NNA				LR	LR		
	comp=Z,881nm,19.0s						
PAYG	**Puerto Ayora**	**168.20**	**111**	PFAKE		14 44 30.0	+5.6
PAYG				LR	LR		
	comp=Z,623nm,20.0s						
SDV	**Santo Domingo**	**169.95**	**301**	PFAKE		14 44 40.0	+15
SDV				LR	LR		
	comp=Z,279nm,19.0s						
JTS	**JuntasAbangare**	**171.35**	**40**	PFAKE		14 44 40.0	+14
JTS				LR	LR		
	comp=Z,650nm,22.0s						
OTAV	**Otavalo**	**176.50**	**194**	*e*PKPdf	PKPdf	14 44 28.4	+0.3
OTAV				LR	LR		
	comp=Z,999nm,20.0s						

*ISCJB **21** 14:27:21.6±1.1,37S±02×1008E±02,h26km,mb4.5/11, MS5.1/2, Error ellipse: s-maj=32.4km s-min=12.5km az=136.0*
*NEIC **21** 14:27:23.7±0.8,374S×10072E,mb4.4/1, Error ellipse: s-maj=25.3km s-min=9.1km az=49.0*
*IDC **21** 14:27:24.0±1.2,372S×10072E,h27km±4km,mb4.4/11, mb1 4.5/12,mb1mx4.3/22,mbtmp4.4/12,ML4.4/1,MS5.1/2, Ms1 5.1/2,ms1mx4.1/30,Error ellipse: s-maj=36.3km s-min=16.2km az=49.0*

ISC 21 14:27:23.9±1.1,37S±02×1008E±02,h28km, h28km±1.1km:pP-P,n20,σ0s60/16,mb4.5/11,MS5.1/2, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KAPI	**Kappang**	**18.98**	**95**	P	**Pn**	**14 31 43.7**	**-0.5**
	1.1nm,0.3s,baz=107,slow=11,SNR=5.6						
KAPI	**Kappang**	**18.98**	**95**	*e*P	**Pn**	**14 31 43.7**	**-0.4**
CM31	**Chiang Mai Arr**	**22.12**	**355**	*e*P	**P**	**14 32 16.4**	**-1.0**
CMAR	**Chiang Mai Arr**	**22.12**	**355**	P	**P**	**14 32 18.4**	**+1.1**
	6.5nm,0.8s,mb4.1,baz=188,slow=8.0,SNR=6.6						
WRA	**Warramunga Arr**	**36.48**	**119**	P	**P**	**14 34 26.7**	**-0.1**
	3.0nm,0.7s,mb4.3,baz=295,slow=9.1,SNR=4.5						
ASAR	**Alice Springs**	**37.63**	**125**	P	**P**	**14 34 37.4**	**+0.7**
	3.0nm,0.7s,mb4.1,baz=299,slow=6.3,SNR=2.8						
KSRS	**Korea Array**	**48.13**	**29**	P	**P**	**14 36 01.7**	**+0.2**
	11nm,1.0s,mb4.8,baz=241,slow=7.8,SNR=5.4						
KSRS				pP	pP	14 36 09.3	-0.6
	7.2nm,0.9s,baz=220,slow=7.8,SNR=8.0						
SONM	**Songino Array**	**51.59**	**5**	P	**P**	**14 36 28.5**	**+0.9**
	8.4nm,0.8s,mb4.7,baz=188,slow=8.2,SNR=7.3						
SONM				pP	pP	14 36 36.2	+0.1
	13nm,1.0s,baz=191,slow=8.0,SNR=6.4						
SONM				LR	LR	14 59 35.0	
	comp=Z,3μm,18.6s,MS5.3,baz=186,slow=37						
MK31	**Makanchi Array**	**52.89**	**344**	*e*P	**P**	**14 36 37.5**	**+0.2**
MKAR	**Makanchi Array**	**52.89**	**344**	P	**P**	**14 36 37.5**	**+0.2**
	10nm,0.8s,mb4.8,baz=154,slow=8.5,SNR=3.8						
MKAR				pP	pP	14 36 45.4	-0.5
	3.0nm,0.6s,baz=150,slow=8.2,SNR=2.7						
MJAR	**Matsushiro Arr**	**53.15**	**38**	P	**P**	**14 36 38.9**	**-0.5**
	8.5nm,1.1s,mb4.6,baz=207,slow=7.7,SNR=7.2						
KURK	**Kurchatov**	**57.48**	**343**	P	**P**	**14 37 09.6**	**-0.7**
	8.2nm,0.9s,mb4.8,baz=166,slow=6.4,SNR=3.5						
KURK	**Kurchatov**	**57.48**	**343**	P	**P**	**14 37 10.4**	**+0.1**
	2.3nm,0.6s,mb4.4						
ZALV	**Zalesovo Beam**	**59.00**	**349**	P	**P**	**14 37 21.0**	**+0.1**
	14nm,0.8s,mb5.0,baz=160,slow=4.6,SNR=7.2						
HNR	**Honiara**	**59.01**	**99**	LR	LR	15 05 23.1	
	comp=Z,892nm,19.7s,MS4.9,baz=30,slow=39						
BVAR	**Borovoye Array**	**62.06**	**340**	P	**P**	**14 37 41.0**	**-0.8**
	4.8nm,0.7s,mb4.8,baz=149,slow=8.7,SNR=3.9						
BVAR				pP	pP	14 37 48.6	-1.9
	2.3nm,0.5s,baz=145,slow=8.8,SNR=3.1						
GERES	**GERESS Array B**	**90.85**	**319**	P	**P**	**14 40 24.5**	**-0.4**
	1.0nm,0.8s,mb4.2,baz=104,slow=5.6,SNR=3.8						
GERES				pP	pP	14 40 34.3	+0.4
	1.2nm,0.8s,baz=76,slow=5.6,SNR=4.4						
TXAR	**Lajitas Array**	**145.57**	**40**	PKPbc	PKPbc	14 47 01.5	+1.1
	12nm,0.9s,baz=266,slow=0.6,SNR=12						
TXAR				pPKPbc	pPKPbc	14 47 09.8	+0.2
	6.8nm,0.7s,baz=271,slow=0.8,SNR=11						
TXAR	**Lajitas Array**	**145.57**	**40**	PKPbc	PKPbc	14 47 01.5	+1.1
TXAR				pPKPbc	pPKPbc	14 47 09.8	+0.2
JCT	**Junction City**	**147.06**	**34**	*e*PKPbc	PKPbc	14 47 05.0	+0.2

*ISCJB **21** 14:28:14.7±0.6,2945N±004×5182E±007,h10km, Error ellipse: s-maj=8.8km s-min=5.9km az=156.3*
*THR **21** 14:28:16.0±0.3,2955N×5191E,h15km±10km,ML3.2*
*CSEM **21** 14:28:16.9±0.2,2946N×5181E,h35km,ML3.2, Error ellipse: s-maj=5.9km s-min=4.1km az=71.0*

ISC 21 14:28:16.1±2.4,2947N±005×5186E±010,h4km±21km,n13, σ0s67/15,Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GHIR	**Ghir-Karzin**	**1.54**	**140**	*e*Pg	**Pg**	**14 28 45.0**	**-0.6**
GHIR				*e*Sg	**Sg**	**14 29 06.2**	**+0.6**
GHIR				AML	AML	14 29 09.7	
	comp=N,308nm,0.4s						
GHIR				AML	AML	14 29 11.9	
	comp=E,300nm,0.4s						
GHIR	**Ghir-Karzin**	**1.54**	**140**	*e*Pg	**Pg**	**14 28 45.0**	**-0.6**
	SNR=90						
GHIR				*e*Sg	**Sg**	**14 29 06.2**	**+0.6**
	SNR=90						
NASN	**Na'in**	**3.42**	**14**	*e*Pn	**Pn**	**14 29 09.8**	**-0.4**
KFJS		**3.66**	**251**	P	**Pn**	**14 29 15.4**	**+1.9**
KRBR	**Kerman**	**4.30**	**82**	*e*Pn	**Pn**	**14 29 22.5**	**+0.2**
SLWS		**4.78**	**193**	P	**Pn**	**14 29 28.9**	**0.0**
ASAO	**Ashtian**	**5.30**	**343**	*e*Pn	**Pn**	**14 29 36.1**	**0.0**
ASAO				AML	AML	14 30 38.6	
	comp=N,10nm,0.5s						
BTHS		**5.47**	**190**	P	**Pn**	**14 29 38.5**	**0.0**
DAMV	**Damavand**	**6.15**	**1**	*e*Pn	**Pn**	**14 29 47.6**	**-0.1**
SNGE	**Sanandaj**	**6.78**	**327**	*e*Pn	**Pn**	**14 29 56.9**	**+0.4**
HRDDS		**6.86**	**199**	P	**Pn**	**14 29 57.5**	**0.0**
ASYS		**6.90**	**255**	P	**Pn**	**14 29 57.2**	**-0.8**
LYLS		**8.48**	**210**	P	**Pn**	**14 30 18.9**	**-1.0**

*ISCJB **21** 14:31:29.0±3.3,32S±01×1005E±01,h19km±21km, mb4.7/27,Error ellipse: s-maj=23.3km s-min=8.4km az=42.6*
*BJI **21** 14:31:29.9,320S×10060E,h23km,mB5.2,mb5.0*
*IDC **21** 14:31:31.8±0.9,326S×10051E,h25km±3km,mb4.3/15, mb1 4.4/16,mb1mx4.2/24,mbtmp4.3/16,ML4.2/1,Error ellipse: s-maj=32.8km s-min=10.1km az=49.0*
*MOS **21** 14:31:31.5±1.6,304S×10080E,h33km,mb4.9/5,Error ellipse: s-maj=32.5km s-min=10.4km az=112.8*
*NEIC **21** 14:31:31.9±0.6,322S×10061E,mb5.0/3,Error ellipse: s-maj=19.7km s-min=7.5km az=46.0*

ISC 21 14:31:31.7±3.3,33S±01×1006E±01,h23km±21km, h23km±1.5km:pP-P,n60,σ1s11/60,mb4.7/27,Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KKM	**Kota Kinabalu**	**18.14**	**59**	P	**Pn**	**14 35 43.3**	**+0.9**
KAPI	**Kappang**	**19.21**	**96**	P	**Pn**	**14 35 54.4**	**-0.9**
	0.7nm,0.3s,baz=268,slow=19,SNR=4.4						
KAPI	**Kappang**	**19.21**	**96**	*e*P	**Pn**	**14 35 54.0**	**-1.3**
CM31	**Chiang Mai Arr**	**21.63**	**356**	*e*P	**P**	**14 36 19.1**	**-1.3**
CMAR	**Chiang Mai Arr**	**21.63**	**356**	P	**P**	**14 36 19.1**	**-1.4**
	6.3nm,0.8s,mb4.1,baz=187,slow=9.7,SNR=11						
CHTO	**Chiang Mai**	**21.98**	**356**	*e*P	**P**	**14 36 22.9**	**-1.3**
FITZ	**Fitzroy Crossi**	**28.65**	**123**	*e*P	**P**	**14 37 33.9**	**+7.0**
	7.1nm,0.9s,mb4.4						
FITZ	**Fitzroy Crossi**	**28.65**	**123**	P	**P**	**14 37 27.7**	**+0.7**
	1.2nm,0.6s,mb3.8,baz=340,slow=15,SNR=3.2						
ODAN	**Odare**	**32.53**	**338**	*e*P	**P**	**14 38 01.7**	**+0.7**
TAPN	**Taplejung**	**32.85**	**339**	*e*P	**P**	**14 38 04.3**	**+0.4**
	77nm,1.2s,mb5.5						
RAMN	**Ramite**	**32.91**	**337**	*e*P	**P**	**14 38 05.5**	**+1.1**
JIRN	**Jiri**	**33.71**	**337**	*e*P	**P**	**14 38 12.6**	**+1.3**
PKI	**Pulchoki**	**33.95**	**335**	*e*P	**P**	**14 38 16.6**	**+3.2**
LSA	**Lhasa**	**33.98**	**345**	P	**P**	**14 38 14.1**	**+0.4**
LSA	**Lhasa**	**33.98**	**345**	*e*P	**P**	**14 38 14.9**	**+1.2**
GUN	**Gumba**	**34.06**	**336**	*e*P	**P**	**14 38 16.0**	**+1.6**
DMN	**Daman**	**34.11**	**335**	*e*P	**P**	**14 38 17.0**	**+2.2**
KKN	**Kakani**	**34.19**	**335**	*e*P	**P**	**14 38 18.0**	**+2.5**
GKN	**Gorkha**	**34.65**	**335**	*e*P	**P**	**14 38 23.1**	**+3.6**
KOLN	**Koldanda**	**34.91**	**333**	*e*P	**P**	**14 38 25.8**	**+4.1**
DANN	**Dangsing**	**35.33**	**334**	*e*P	**P**	**14 38 29.7**	**+4.3**
WRA	**Warramunga Arr**	**36.88**	**119**	P	**P**	**14 38 38.7**	**-0.1**
	1.4nm,0.3s,mb4.2,baz=298,slow=11,SNR=29						
WRA				S	**S**	**14 44 22.4**	**0.0**
	1.0nm,0.9s,baz=294,slow=16,SNR=5.0						
WRAB	**Tennant Creek**	**36.89**	**119**	*e*P	**P**	**14 38 38.9**	**+0.1**
WB2	**Warramunga Arr**	**36.89**	**119**	*e*P	**P**	**14 38 38.7**	**-0.2**
XAN	**Xi'an**	**37.91**	**11**	P	**P**	**14 38 46.8**	**-0.5**
XAN				AP	pP	14 38 53.5	-0.8
XAN				AMB	AMB		
	comp=Z,29nm,0.8s,mb5.1						
ASAR	**Alice Springs**	**38.07**	**125**	P	**P**	**14 38 49.1**	**+0.3**
	comp=Z,4.6nm,0.5s,mb4.4,baz=299,slow=7.7,SNR=19						
ASAR				S	**S**	**14 44 41.4**	**+1.0**
	comp=Z,0.5nm,0.8s,baz=307,slow=14,SNR=3.2						
LZH	**Lanzhou**	**39.25**	**4**	*e*P	**P**	**14 38 59.5**	**+1.0**
LZH				AP	pP	14 39 04.3	-1.2
LZH				XP	sP	14 39 06.1	-2.3
LZH				AMB	AMB		
	comp=Z,19nm,1.3s,mb4.7						
LZH				AMB	AMB		
	comp=Z,78nm,4.0s						
GTA	**Gaotai**	**42.45**	**359**	*e*P	**P**	**14 39 25.5**	**+0.6**
GTA				AP	pP	14 39 29.3	-2.7
GTA				XP	sP	14 39 31.9	-2.9
GTA				AMB	AMB		
	comp=Z,8.0nm,1.2s,mb4.2						
KSRS	**Korea Array**	**47.80**	**30**	P	**P**	**14 40 07.8**	**+0.3**
	comp=Z,9.9nm,1.1s,mb4.8,baz=217,slow=8.3,SNR=15						
STKA	**Stephens Creek**	**47.90**	**131**	*e*P	**P**	**14 40 15.6**	**+7.3**
	comp=Z,3.9nm,0.9s,mb4.4						
STKA	**Stephens Creek**	**47.90**	**131**	P	**P**	**14 40 09.2**	**+0.9**
	comp=Z,3.8nm,0.7s,mb4.6,baz=315,slow=11,SNR=3.4						
STKA	**Stephens Creek**	**47.90**	**131**	P	**P**	**14 40 09.0**	**+0.7**
UCH	**Uchtor**	**51.06**	**335**	P	**P**	**14 40 30.3**	**-1.9**
SONM	**Songino Array**	**51.12**	**5**	P	**P**	**14 40 33.9**	**+1.4**
	comp=Z,13nm,0.6s,mb5.0,baz=189,slow=9.6,SNR=42						
SONM				pP	pP	14 40 40.8	+0.9
	comp=Z,11nm,0.8s,baz=192,slow=7.3,SNR=14						
SONM				PcP	PcP	14 41 48.0	-0.1
	comp=Z,1.5nm,0.6s,baz=188,slow=4.2,SNR=4.2						
TKM2	**Tokmak 2**	**51.20**	**337**	*e*P	**P**	**14 40 33.9**	**+0.7**
EKS2	**Erkin-Say**	**51.73**	**335**	*e*P	**P**	**14 40 37.6**	**+0.3**
	comp=Z,91nm,1.1s,mb5.6						
CN2	**Changchun**	**51.90**	**23**	*e*P	**P**	**14 40 38.1**	**-0.4**
CN2				AMB	AMB		
	comp=Z,20nm,0.8s,mb5.1						
MK31	**Makanchi Array**	**52.38**	**344**	*i* P	**P**	**14 40 41.9**	**-0.1**
MK31				pmax	pmax		
	comp=Z,8.0nm,0.5s,mb4.9						
MK31	**Makanchi Array**	**52.38**	**344**	*e*P	**P**	**14 40 41.8**	**-0.2**
MK31				*e*	pP	14 40 49.2	0.0
MKAR	**Makanchi Array**	**52.38**	**344**	P	**P**	**14 40 42.0**	**+0.1**
	comp=Z,12nm,0.6s,mb5.0,baz=148,slow=7.8,SNR=44						
MKAR				pP	pP	14 40 49.3	+0.1
	comp=Z,7.1nm,0.7s,baz=142,slow=7.7,SNR=9.2						
MJAR	**Matsushiro Arr**	**52.89**	**38**	P	**P**	**14 40 45.5**	**-0.4**
	comp=Z,3.4nm,1.0s,mb4.2,baz=218,slow=7.6,SNR=7.7						
TLY	**Talaya**	**54.78**	**2**	*e*P	**P**	**14 41 00.6**	**+1.1**
TLY				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.3						
TLY	**Talaya**	**54.78**	**2**	*e*P	**P**	**14 41 00.6**	**+1.1**
	comp=Z,2.0nm,0.6s,mb4.3						
KURK	**Kurchatov**	**56.96**	**344**	P	**P**	**14 41 14.4**	**-0.7**
	comp=Z,7.6nm,0.9s,mb4.7,baz=169,slow=6.9,SNR=15						
KURK				pP	pP	14 41 21.1	-1.3
	comp=Z,3.0nm,0.7s,baz=179,slow=6.4,SNR=6.1						
KURK	**Kurchatov**	**56.96**	**344**	*e*P	**P**	**14 41 14.6**	**-0.6**
KURK				pP	pP	14 41 21.1	-1.3
ZALV	**Zalesovo Beam**	**58.49**	**349**	P	**P**	**14 41 25.6**	**-0.3**
	comp=Z,12nm,0.8s,mb5.0,baz=163,slow=5.6,SNR=26						
ZALV				PcP	PcP	14 42 17.6	+1.4
	comp=Z,6.5nm,1.0s,baz=131,slow=5.9,SNR=2.1						
VOSK	**Vostochnaya**	**61.09**	**340**	P	**P**	**14 41 42.5**	**-1.3**
VOSK				pmax	pmax		
	comp=Z,5.0nm,0.7s,mb4.8						
BVA0	**Borovoye Array**	**61.54**	**340**	*i* P	**P**	**14 41 45.6**	**-1.2**
BVA0				pmax	pmax		
	comp=Z,1.0nm,0.5s,mb4.2						
BVAR	**Borovoye Array**	**61.54**	**340**	P	**P**	**14 41 45.8**	**-1.0**
	comp=Z,3.6nm,0.6s,mb4.7,baz=142,slow=9.8,SNR=10						
BRVK	**Borovoye**	**61.61**	**340**	*e*P	**P**	**14 41 45.8**	**-1.5**
AB31	**Akbulak array**	**63.00**	**331**	*i* P	**P**	**14 41 55.4**	**-1.3**
AB31				pmax	pmax		
	comp=Z,10.0nm,0.7s,mb5.0						
AKTK	**Aktyubinsk**	**64.72**	**331**	P	**P**	**14 42 06.4**	**-1.5**
AKTO	**Aktyubinsk**	**64.72**	**331**	P	**P**	**14 42 06.4**	**-1.5**
	comp=Z,1.3nm,0.5s,mb4.2,baz=124,slow=11,SNR=3.7						
TIXI	**Tiksi**	**76.99**	**9**	*e*P	**P**	**14 43 18.4**	**-3.8**
TIXI				pmax	pmax		
	comp=Z,16nm,2.0s,mb4.6						
TIXI	**Tiksi**	**76.99**	**9**	*e*P	**P**	**14 43 20.7**	**-1.5**
	comp=Z,37nm,1.9s,mb5.0						
ARCES	**ARCESS Array B**	**87.83**	**340**	P	**P**	**14 44 19.1**	**+0.3**
	comp=Z,2.5nm,0.8s,mb4.5,baz=84,slow=8.4,SNR=3.4						
ARCES				pP	pP	14 44 26.8	+0.4
	comp=Z,3.2nm,1.0s,baz=87,slow=6.2,SNR=1.2						
ARCES	**ARCESS Array B**	**87.83**	**340**	P	**P**	**14 44 19.1**	**+0.3**
ARCES				pP	pP	14 44 26.8	+0.4
GERES	**GERESS Array B**	**90.36**	**319**	P	**P**	**14 44 30.6**	**-0.5**
	comp=Z,0.4nm,0.8s,mb3.8,baz=94,slow=3.9,SNR=3.2						
GERES				pP	pP	14 44 38.6	-0.2
	comp=Z,0.8nm,0.8s,baz=73,slow=4.6,SNR=4.2						
TXAR	**Lajitas Array**	**145.32**	**39**	PKPbc	PKPbc	14 51 09.1	+0.9
	comp=Z,9.2nm,0.7s,baz=228,slow=0.8,SNR=57						
TXAR				pPKPbc	pPKPbc	14 51 16.4	+0.4
	comp=Z,2.8nm,0.5s,baz=267,slow=1.3,SNR=9.2						
MIAR	**Mount Ida**	**146.19**	**21**	*e*PKP2	PKPab	14 51 10.2	-1.2

IDC 21 14:41:16.7±29.0,2463S×17568W,h0km,mb4.1/4, mb1 4.2/4,mb1mx3.8/16,mbtmp4.1/4,Error ellipse: s-maj=536.1km s-min=152.7km az=81.0,South of Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CTA	**Charters Tower**	**35.41**	**270**	P	P	14 48 15.8	+1.2
	5.9nm,1.0s,baz=93,slow=10,SNR=4.1						
STKA	**Stephens Creek**	**38.13**	**249**	P	P	14 48 36.8	-0.9
	0.5nm,0.4s,baz=95,slow=11,SNR=3.0						
ASAR	**Alice Springs**	**45.80**	**260**	P	P	14 49 40.0	-0.4
	1.1nm,0.4s,baz=91,slow=7.7,SNR=51						
WRA	**Warramunga Arr**	**46.28**	**265**	P	P	14 49 44.3	0.0
	0.5nm,0.3s,baz=103,slow=8.0,SNR=29						

IDC 21 15:40:59.5±7.2,1814S×17727W,h0km,mb3.7/2, mb1 4.0/2,mb1mx3.6/16,mbtmp3.7/2,Error ellipse: s-maj=277.3km s-min=117.2km az=151.0,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**45.66**	**260**	P	P	15 49 22.6	+0.4
	0.4nm,0.3s,baz=96,slow=7.8,SNR=36						
ASAR	**Alice Springs**	**45.77**	**254**	P	P	15 49 22.6	-0.4
	0.6nm,0.7s,baz=87,slow=8.5,SNR=17						
AKASG	**Malin Array Be**	**141.26**	**333**	PKP	PKPdf	16 00 31.1	-0.9
	0.3nm,0.4s,baz=43,slow=3.9,SNR=4.2						

IDC 21 15:45:55.6±3.2,195N×12411E,h0km,mb3.4/3,mb1 3.6/3, mb1mx3.3/17,mbtmp3.4/3,Error ellipse: s-maj=198.1km s-min=56.4km az=66.0,Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**23.96**	**156**	P	P	15 51 12.6	+0.8
	0.3nm,0.5s,baz=334,slow=10,SNR=52						
ASAR	**Alice Springs**	**27.19**	**160**	P	P	15 51 41.3	+0.3
	0.2nm,0.9s,baz=336,slow=8.2,SNR=4.3						
ASAR				PcP	PcP	15 55 01.1	-0.6
	0.5nm,1.0s,baz=350,slow=2.5,SNR=5.5						
STKA	**Stephens Creek**	**37.51**	**155**	P	P	15 53 10.8	-0.5
	2.1nm,1.0s,baz=333,slow=9.0,SNR=2.9						

*BJI **21** 15:48:17.9,2440N×10980W,h15km,mB4.8,mb4.7,Ms4.6, Msz4.3*
*ISCJB **21** 15:48:21.1±0.7,2447N±006×10979W±008,h10km, mb4.4/4,MS4.1/4,Error ellipse: s-maj=12.7km s-min=5.8km az=39.3*
*IDC **21** 15:48:21.2±1.1,2458N×10987W,h0km,mb4.3/1, mb1 4.2/7,mb1mx3.9/23,mbtmp4.0/7,ML3.5/6,MS4.1/4, Ms1 4.1/4,ms1mx3.5/37,Error ellipse: s-maj=21.5km s-min=7.6km az=126.0*
*NEIC **21** 15:48:21.9±1.7,2442N×10978W,h5km±14km,mb4.2/8, Error ellipse: s-maj=11.7km s-min=10.0km az=66.0*

ISC 21 15:48:21.7±2.1,2441N±009×10973W±010,h4km±17km, n36,σ0s93/33,mb4.4/4,MS4.1/4,Gulf of California

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LPIG	**La Paz**	**0.61**	**240**	Pg	**Pg**	**15 48 33.1**	**-0.3**
	840nm,0.3s,baz=45,slow=14,SNR=291						
LPIG				Lg		15 48 41.8	
	1μm,0.3s,baz=292,slow=18,SNR=45						
LPIG	**La Paz**	**0.61**	**240**	*i* P	**Pg**	**15 48 32.9**	**-0.5**
LPIG				*i* S	**Sg**	**15 48 41.1**	**-0.2**
TXAR	**Lajitas Array**	**7.31**	**47**	Pn	**Pn**	**15 50 08.4**	**-0.8**
	0.4nm,0.3s,baz=227,slow=13,SNR=17						
TXAR				Sn	**Sn**	**15 51 29.9**	**-2.6**
	0.2nm,0.3s,baz=202,slow=24,SNR=3.1						
TXAR				Lg		15 52 11.7	
	0.2nm,0.3s,baz=211,slow=28,SNR=3.7						
TXAR	**Lajitas Array**	**7.31**	**47**	Pn	**Pn**	**15 50 08.4**	**-0.8**
TXAR				Sn	**Sn**	**15 51 29.9**	**-2.6**
TXAR				Lg		15 52 11.7	
TUC	**Tucson**	**7.93**	**354**	*e*Pn	**Pn**	**15 50 17.7**	**0.0**
	2.8nm,0.8s						
BNM	**Barren Site**	**10.08**	**15**	P	**Pn**	**15 50 48.6**	**+1.5**
BAR	**Barrett**	**10.25**	**325**	*e*P	**Pn**	**15 50 48.6**	**-0.9**
ANMO	**Albuquerque**	**10.88**	**14**	Pn	**Pn**	**15 50 58.6**	**+0.4**
	0.1nm,0.3s,baz=208,slow=16,SNR=3.1						
PFO	**Pinyon Flat Ob**	**10.89**	**329**	Pn	**Pn**	**15 50 58.4**	**+0.1**
	0.2nm,0.3s,baz=152,slow=12,SNR=11						
PFO	**Pinyon Flat Ob**	**10.89**	**329**	*e*P	**Pn**	**15 50 58.5**	**+0.2**
	47nm,1.6s						
SMCO	**Snowm

KHZ	Kahutara	5.38	202	P		Pn	16 06 38.5	-2.6
DSZ	Denniston Nort	5.48	217	P		Pn	16 06 39.8	-2.6
LTZ	Lake Taylor	6.13	208	P		Pn	16 06 47.4	-2.8
MQZ	McQueen's Vall	6.82	202	P		Pn	16 06 54.9	-3.8
WVZ	Waitaha Valley	7.01	215	P		Pn	16 06 57.8	-3.3
RPZ	Rata Peaks	7.39	210	P		Pn	16 07 02.3	-3.5
FOZ	Fox Glacier	7.87	217	P		Pn	16 07 07.2	-4.6
LBZ	Lake Benmore	8.30	211	P		Pn	16 07 13.4	-3.6
ODZ	Otahua Downs	8.67	207	P		Pn	16 07 14.3	-7.4
JCZ	Jackson Bay	8.70	218	P		Pn	16 07 17.8	-4.3
WB2	Warramunga Arr	40.27	284	*eP*		P	16 12 26.6	-3.9
WRAB	Tennant Creek	40.27	284	*eP*		P	16 12 26.7	-3.9

IDC ***21*** *16:25:20.8±1.2, 338S×10076E, h0km, mb4.4/14, mb1 4.5/15, mb1mx4.3/24, mbtmp4.4/15, ML4.3/1, Error ellipse: s-maj=39.8km s-min=13.3km az=52.0*

ISCJB ***21*** *16:25:23.4±0.5, 365S±007×10069E±007, h33km, mb4.7/41, MS4.4/2, Error ellipse: s-maj=13.5km s-min=5.7km az=136.6*

NEIC ***21*** *16:25:25.3±0.5, 359S×10080E, h35km, mb4.5/18, Error ellipse: s-maj=18.9km s-min=7.0km az=47.0*

MOS ***21*** *16:25:25.0±2.9, 320S×10050E, h33km, mb5.4/20, MS5.3/13, Error ellipse: s-maj=12.6km s-min=6.9km az=117.8*

BJI ***21*** *16:25:25.4, 350S×10023E, h32km, mB5.1, mb4.7, Ms5.3, Msz5.0*

ISC 21 16:25:25.9±0.5, 361S±007×10076E±007, h35km, n89, σ1§36/83, mb4.7/41, MS4.4/2, 3D, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KSI	**Kapahiang**	**1.83**	**91**	P	**Pn**	**16 25 55.5**	**+0.6**
XMIS	**Christmas Isla**	**8.38**	**145**	*e*Pn	**Pn**	**16 27 26.9**	**+2.0**
BSI	**Banda Aceh**	**10.56**	**329**	⇓*e*P	**Pn**	**16 27 45.0**	**-10**
BSI				*e*S	**Sn**	**16 29 47.0**	**-5.0**
KKM	**Kota Kinabalu**	**18.18**	**58**	*e*P	**Pn**	**16 29 36.6**	**+0.9**
KAPI	**Kappang**	**18.99**	**95**	P	**Pn**	**16 29 43.7**	**-1.9**
	1.0nm,0.3s,baz=292,slow=13,SNR=5.9						
KAPI	**Kappang**	**18.99**	**95**	*e*P	**Pn**	**16 29 43.4**	**-2.2**
	51nm,1.3s						
NST	**Nakhon Sawan**	**19.17**	**358**	P	**Pn**	**16 29 51.0**	**+3.4**
	59nm,1.0s						
CM31	**Chiang Mai Arr**	**22.00**	**355**	*e*P	**P**	**16 30 15.0**	**-2.2**
	4.1nm,0.5s,mb4.1						
CMAR	**Chiang Mai Arr**	**22.00**	**355**	P	**P**	**16 30 14.4**	**-2.8**
	6.8nm,0.6s,mb4.3,baz=186,slow=8.6,SNR=50						
CHG	**Chiang Mai**	**22.36**	**355**	⇓P	**P**	**16 30 21.8**	**+0.9**
	142nm,1.2s,mb5.3						
CHTO	**Chiang Mai**	**22.36**	**355**	*e*P	**P**	**16 30 19.8**	**-1.1**
CHTO				pmax	pmax		
	comp=Z,4.0nm,0.5s,mb4.1						
CHTO	**Chiang Mai**	**22.36**	**355**	*e*P	**P**	**16 30 19.8**	**-1.1**
	comp=Z,3.9nm,0.5s,mb4.1						
CHRT	**Chiangrai**	**23.35**	**358**	⇓P	**P**	**16 30 31.0**	**-0.5**
	comp=Z,763nm,1.2s,mb6.0						
BATI	**Baumata**	**23.66**	**107**	P	**P**	**16 30 35.9**	**+1.5**
	comp=Z,8.9nm,0.6s,mb4.3,baz=246,slow=9.9,SNR=4.3						
FITZ	**Fitzroy Crossi**	**28.30**	**122**	*e*P	**P**	**16 31 15.5**	**-0.9**
	comp=Z,6.1nm,0.6s,mb4.4						
FITZ	**Fitzroy Crossi**	**28.30**	**122**	P	**P**	**16 31 18.4**	**+2.0**
	comp=Z,2.3nm,0.9s,mb3.8,baz=308,slow=8.9,SNR=5.3						
KMI	**Kunming**	**28.63**	**4**	P	**P**	**16 31 20.8**	**+1.6**
KMI				AMB	AMB		
	comp=Z,4.0nm,1.3s,mb4.0						
GYA	**Guiyang**	**30.43**	**10**	P	**P**	**16 31 36.5**	**+1.3**
GYA				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.6						
GYA				AMB	AMB		
	comp=Z,110nm,4.7s						
GYA				LR	LR		
	comp=N,390nm,17.7s,MS4.2						
GYA				LR	LR		
	comp=E,270nm,18.2s,MS4.2						
GYA				LR	LR		
	comp=Z,330nm,17.4s,MS4.0						
KAKA	**Kakadu**	**32.60**	**108**	*e*P	**P**	**16 31 54.6**	**+0.1**
	comp=Z,3.9nm,0.6s,mb4.5						
GTK	**Gangtok**	**32.92**	**340**	*ex*	x	16 31 01.0	
ODAN	**Odare**	**32.93**	**338**	*e*P	**P**	**16 31 58.3**	**+1.1**
	comp=Z,556nm,1.1s						
TAPN	**Taplejung**	**33.26**	**339**	*e*P	**P**	**16 32 01.5**	**+1.5**
	comp=Z,721nm,0.9s						
RAMN	**Ramite**	**33.32**	**337**	*e*P	**P**	**16 32 01.9**	**+1.4**
	comp=Z,407nm,1.2s						
JIRN	**Jiri**	**34.11**	**337**	*e*P	**P**	**16 32 08.8**	**+1.3**
	comp=Z,505nm,1.0s						
PKI	**Pulchoki**	**34.35**	**335**	*e*P	**P**	**16 32 10.0**	**+0.5**
LSA	**Lhasa**	**34.38**	**345**	P	**P**	**16 32 10.5**	**+0.8**
LSA				XP	sP	16 32 23.0	-1.1
LSA				LR	LR		
	comp=E,4μm,35.0s						
LSA				LR	LR		
	comp=Z,5μm,15.9s						
LSA	**Lhasa**	**34.38**	**345**	*e*P	**P**	**16 32 10.6**	**+0.9**
LSA				pmax	pmax		
	comp=Z,4.0nm,0.4s,mb4.7						
LSA	**Lhasa**	**34.38**	**345**	*e*P	**P**	**16 32 10.6**	**+0.9**
	comp=Z,3.7nm,0.4s,mb4.7						
CD2	**Chengdu**	**34.45**	**5**	*e*P	**P**	**16 32 12.5**	**+2.2**
CD2				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.9						
CD2				AMB	AMB		
	comp=Z,20nm,4.2s						
GUN	**Gumba**	**34.46**	**336**	*e*P	**P**	**16 32 11.6**	**+1.1**
DMN	**Daman**	**34.51**	**335**	*e*P	**P**	**16 32 11.8**	**+0.9**
	comp=Z,314nm,1.2s						
KKN	**Kakani**	**34.60**	**335**	*e*P	**P**	**16 32 12.2**	**+0.5**
	comp=Z,405nm,1.1s						
GKN	**Gorkha**	**35.06**	**335**	*e*P	**P**	**16 32 16.3**	**+0.7**
	comp=Z,417nm,1.2s						
KOLN	**Koldanda**	**35.31**	**333**	*e*P	**P**	**16 32 18.6**	**+0.8**
	comp=Z,286nm,1.1s						
DANN	**Dangsing**	**35.74**	**334**	*e*P	**P**	**16 32 22.4**	**+0.9**
WHN	**Wuhan**	**36.36**	**20**	P	**P**	**16 32 27.5**	**+0.7**
WRA	**Warramunga Arr**	**36.54**	**119**	P	**P**	**16 32 29.4**	**+0.9**
	comp=Z,0.8nm,0.3s,mb4.0,baz=307,slow=8.7,SNR=25						
WRAB	**Tennant Creek**	**36.55**	**119**	*e*P	**P**	**16 32 26.9**	**-1.7**
WRAB				pmax	pmax		
	comp=Z,4.0nm,0.6s,mb4.4						
WRAB	**Tennant Creek**	**36.55**	**119**	*e*P	**P**	**16 32 26.9**	**-1.6**
	comp=Z,3.7nm,0.6s,mb4.4						
WB2	**Warramunga Arr**	**36.55**	**119**	*e*P	**P**	**16 32 26.5**	**-2.1**
ASAR	**Alice Springs**	**37.71**	**125**	P	**P**	**16 32 39.4**	**+1.0**
	comp=Z,1.0nm,0.3s,mb4.0,baz=301,slow=8.1,SNR=25						
LZH	**Lanzhou**	**39.60**	**4**	*e*P	**P**	**16 32 55.1**	**+1.1**
LZH				AMB	AMB		
	comp=Z,31nm,1.1s,mb5.0						
LZH				AMB	AMB		
	comp=Z,143nm,4.8s						
LZH				LR	LR		
	comp=N,563nm,13.9s						
LZH				LR	LR		
	comp=Z,805nm,16.7s,MS4.6						
BHK	**Bhakra**	**41.84**	**328**	*ex*	x	16 33 36.2	
GTA	**Gaotai**	**42.82**	**359**	*e*P	**P**	**16 33 20.8**	**+0.4**
GTA				AMB	AMB		
	comp=Z,9.0nm,1.1s,mb4.4						
HHC	**Hu-ho-hao-te**	**45.34**	**12**	*e*P	**P**	**16 33 42.8**	**+2.2**
HHC				AMB	AMB		
	comp=Z,21nm,1.1s,mb4.9						
HHC				AMB	AMB		
	comp=Z,128nm,5.0s						
GUMO	**Guam**	**46.99**	**68**	P	**P**	**16 33 57.3**	**+3.3**
	comp=Z,26nm,0.3s,mb5.6,baz=36,slow=23,SNR=6.7						
GUMO	**Guam**	**46.99**	**68**	P	**P**	**16 33 57.3**	**+3.3**
STKA	**Stephens Creek**	**47.53**	**131**	*e*P	**P**	**16 33 57.4**	**-0.6**
	comp=Z,6.4nm,1.6s,mb4.4						
STKA	**Stephens Creek**	**47.53**	**131**	P	**P**	**16 33 58.2**	**+0.2**
	comp=Z,2.0nm,0.9s,mb4.2,baz=307,slow=10.0,SNR=3.2						
KSRS	**Korea Array**	**48.03**	**29**	P	**P**	**16 33 59.9**	**-1.9**
	comp=Z,9.2nm,1.0s,mb4.8,baz=218,slow=8.4,SNR=21						
WMQ	**Urumqi**	**48.66**	**347**	P	**P**	**16 34 07.0**	**+0.6**
WMQ				AMB	AMB		
	comp=Z,17nm,0.9s,mb5.1						
WMQ				AMB	AMB		
	comp=Z,67nm,4.1s						
UCH	**Uchtor**	**51.47**	**335**	*e*P	**P**	**16 34 28.0**	**+0.2**
SONM	**Songino Array**	**51.47**	**5**	P	**P**	**16 34 26.7**	**-1.0**
	comp=Z,7.0nm,0.8s,mb4.7,baz=186,slow=9.1,SNR=49						
TKM2	**Tokmak 2**	**51.60**	**337**	*e*P	**P**	**16 34 29.4**	**+0.6**
TKM2				pmax	pmax		
	comp=Z,4.0nm,0.4s,mb4.7						
TKM2	**Tokmak 2**	**51.60**	**337**	*e*P	**P**	**16 34 29.4**	**+0.6**
	comp=Z,4.3nm,0.4s,mb4.7						
AML	**Almayashu**	**51.73**	**334**	*e*P	**P**	**16 34 30.6**	**+0.8**
EKS2	**Erkin-Say**	**52.13**	**335**	*e*P	**P**	**16 34 32.9**	**+0.2**
	comp=Z,4.4nm,0.7s,mb4.5						
MK31	**Makanchi Array**	**52.77**	**344**	*i* P	**P**	**16 34 36.9**	**-0.5**
MK31				pmax	pmax		
	comp=Z,102nm,1.0s,mb5.7						
MK31	**Makanchi Array**	**52.77**	**344**	*e*P	**P**	**16 34 37.0**	**-0.5**
MKAR	**Makanchi Array**	**52.77**	**344**	P	**P**	**16 34 36.6**	**-0.8**
	comp=Z,7.5nm,0.8s,mb4.7,baz=151,slow=8.3,SNR=58						
TOO	**Toolangi**	**53.04**	**136**	*e*P	**P**	**16 34 40.2**	**+0.6**
TOO				*e*S	**S**	**16 42 22.2**	**+15**
MAT	**Matsushiro**	**53.06**	**38**	P	**P**	**16 34 38.8**	**-1.0**
MJAR	**Matsushiro Arr**	**53.06**	**38**	P	**P**	**16 34 37.5**	**-2.3**
	comp=Z,4.4nm,0.9s,mb4.4,baz=218,slow=7.1,SNR=10						
KK31	**Karatay Array**	**53.92**	**333**	P	**P**	**16 34 48.0**	**+2.1**
KK31				pmax	pmax		
	comp=Z,33nm,1.1s,mb5.2						
KURK	**Kurchatov**	**57.35**	**343**	P	**P**	**16 35 10.3**	**-0.1**
	comp=Z,580nm,1.1s,SNR=5.6						
KURK	**Kurchatov**	**57.35**	**343**	P	**P**	**16 35 08.8**	**-1.6**
	comp=Z,5.6nm,0.7s,mb4.7,baz=162,slow=6.7,SNR=13						
KURK	**Kurchatov**	**57.35**	**343**	P	**P**	**16 35 10.0**	**-0.4**
KURK				pmax	pmax		
	comp=Z,114nm,1.1s,mb5.8						
KURK	**Kurchatov**	**57.35**	**343**	*e*P	**P**	**16 35 09.8**	**-0.7**
	comp=Z,10nm,0.9s,mb4.9						
ZALV	**Zalesovo Beam**	**58.88**	**349**	P	**P**	**16 35 19.5**	**-1.6**
	comp=Z,13nm,0.9s,mb5.0,baz=174,slow=4.5,SNR=42						
BVA0	**Borovoye Array**	**61.95**	**340**	*i* P	**P**	**16 35 40.5**	**-1.5**
BVA0				pmax	pmax		
	comp=Z,10.0nm,1.1s,mb4.9						
BVAR	**Borovoye Array**	**61.95**	**340**	P	**P**	**16 35 40.8**	**-1.2**
	comp=Z,3.6nm,0.7s,mb4.6,baz=147,slow=8.7,SNR=24						
BRVK	**Borovoye**	**62.01**	**340**	*e*P	**P**	**16 35 40.5**	**-2.0**
BRVK				pmax	pmax		
	comp=Z,4.0nm,0.6s,mb4.7						
BRVK	**Borovoye**	**62.01**	**340**	*e*P	**P**	**16 35 40.5**	**-2.0**
	comp=Z,4.2nm,0.6s,mb4.8						
YSS	**Yuzh-Sakhalins**	**62.45**	**31**	P	**P**	**16 35 45.3**	**-0.2**
	comp=Z,22nm,0.9s,mb5.3						
AB31	**Akbulak array**	**63.41**	**331**	*i* P	**P**	**16 35 50.6**	**-1.2**
AB31				pmax	pmax		
	comp=Z,61nm,0.8s,mb5.8						
ARU	**Arti**	**68.97**	**336**	P	**P**	**16 36 26.0**	**-1.4**
	comp=Z,4.1nm,1.0s,mb4.3						
YAK	**Yakutsk**	**69.11**	**14**	*e*P	**P**	**16 36 25.8**	**-2.3**
	comp=Z,7.8nm,0.8s,mb4.7						
BR131	**Keskin Array S**	**74.96**	**313**	*e*P	**P**	**16 37 02.1**	**-1.6**
	comp=Z,0.9nm,0.7s,mb3.8						
TIXI	**Tiksi**	**77.32**	**9**	*e*P	**P**	**16 37 14.0**	**-2.4**
	comp=Z,1.8nm,0.4s,mb4.3						
BUR08	**Bucovina Ar. S**	**82.98**	**319**	*e*P	**P**	**16 37 47.2**	**-0.3**
KEV	**Kevo**	**87.79**	**340**	*e*p	**P**	**16 38 08.2**	**-2.8**
	comp=Z,5.4nm,0.8s,mb4.8						
KEV	**Kevo**	**87.79**	**340**	*e*P	**P**	**16 38 08.2**	**-2.8**
KEV				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.8						
GERES	**GERESS Array B**	**90.75**	**319**	P	**P**	**16 38 23.9**	**-1.4**
	comp=Z,0.7nm,0.7s,mb4.1,baz=72,slow=4.3,SNR=6.2						
ANMO	**Albuquerque**	**139.89**	**36**	*i* PKIKP	PKPdf	16 44 55.2	+4.2
WCI	**Wyandotte Cave**	**144.95**	**10**	*e*PKIKP	PKPdf	16 44 57.4	-2.4
TXAR	**Lajitas Array**	**145.49**	**40**	PKPbc	PKPbc	16 45 00.8	-0.2
	comp=Z,3.3nm,0.4s,baz=245,slow=0.6,SNR=58						
MIAR	**Mount Ida**	**146.46**	**22**	*e*PKP2	PKPab	16 45 02.7	-2.1
JCT	**Junction City**	**146.96**	**34**	*e*PKIKP	PKPdf	16 45 03.2	-0.3
CPCT	**Cooper Cave**	**147.94**	**8**	*e*PKPbc	PKPbc	16 45 06.4	-1.6

IDC ***21*** *16:25:30.1±0.3, 345S×10097E, h0km, mb5.1/29, mb1 5.1/29, mb1mx5.1/30, mbtmp5.1/29, Error ellipse: s-maj=12.3km s-min=7.9km az=53.0*

BJI ***21*** *16:25:31.2, 4.13S×10071E, h27km, mB5.7, mb5.5, Ms5.8, Msz5.7*

ISCJB ***21*** *16:25:33.6±0.2, 370S±003×10071E±002, h27km, mb5.3/134, MS5.4/187, Error ellipse: s-maj=4.1km s-min=2.9km az=30.5*

DJA ***21*** *16:25:33.4±0.7, 4 S±6×100E±, h10km, mB6.1/14, Mjma5.4/13, MLv5.8/14, Mw(mB)5.8/14, Mwp5.4/18*

MOS ***21*** *16:25:34.5±1.3, 354S×10091E, h33km, mb5.5/69, MS5.2/51, Error ellipse: s-maj=9.3km s-min=4.7km az=119.6*

GCMT ***21*** *16:25:35.2±0.2, 4.06S×100.42E, h23km, MW5.6/85, Moment Tensor Solution. s85,c137; s81,c151; Duration: 1§7 Moment tensor: Scale 1017Nm; Mrr1.62±.04; Mθθ-0.95±.03; Mϕϕ-0.67±.04; Mrθ2.12±.10; Mθϕ0.99±.03; Mϕr-1.07±.07; Best double couple: M◎2.93200×1017 NP1:ϕs324.00000°,δ19.00000°, λ114.00000°. NP2:ϕs119.00000°,δ72.00000°,λ82.00000°. Principal axes: T 2.8780, Plg62.0000°, Azm17.0000°; N 0.1060, Plg8.0000°, Azm122.0000°; P -2.9850, Plg27.0000°, Azm216.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*

NEIC ***21*** *16:25:35.0±0.2, 359S×10086E, mb5.3/54, MS5.4/152, MW5.5 Error ellipse: s-maj=7.0km s-min=5.1km az=218.0, Moment Tensor Solution. s42 Moment tensor: Scale 1017Nm; Mrr1.60; Mθθ-0.57; Mϕϕ-1.03; Mrθ1.32; Mθϕ1.25; Mϕr-0.40; Best double couple: M◎2.30000×1017 NP1: ϕs119.00000°,δ65.00000°,λ67.00000°. NP2: ϕs344.00000°,δ33.00000°,λ129.00000°. Principal axes: T 2.2400, Plg63.0000°, Azm352.0000°; N 0.1800, Plg20.0000°, Azm129.0000°; P -2.4200, Plg16.0000°, Azm225.0000°;*

NEIC Felt [IV] at Ipuh and [II] at Kapahiang, Sumatra.

SZGRF ***21*** *16:25:54.1, 062N×9991E, h30km, mb5.2, Northern Sumatera, Indonesia*

ISC 21 16:25:35.5±0.2, 371S±003×10073E±002, h29km, h29km±.6km:pP-P, n605, σ1§28/472, mb5.3/134, MS5.4/187, 42C-28D, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PDSI	**Padang**	**2.79**	**354**	P	**Pn**	**16 26 18.3**	**+0.1**
PPI	**Padang Panjang**	**3.25**	**354**	P	**Pn**	**16 26 25.2**	**+0.7**
RGRI	**Rengat**	**3.70**	**26**	P	**Pn**	**16 26 33.2**	**+2.4**
KLI	**Kotabumi**	**4.27**	**106**	P	**Pn**	**16 26 39.9**	**+1.3**
PPBI	**Pangkal Pinang**	**5.61**	**74**	P	**Pn**	**16 26 59.7**	**+2.6**
	316nm,1.1s,7μm2.3nm						
SBJI	**Serang**	**5.89**	**114**	P	**Pn**	**16 27 04.3**	**+3.4**
	977nm,1.4s,4.2nm						
KGM	**Kluang**	**6.25**	**25**	⇓P	**Pn**	**16 27 07.2**	**+1.4**
MYKOM	**Kota Tinggi**	**6.29**	**30**	⇓P	**Pn**	**16 27 08.1**	**+1.8**
MYKOM	**Kota Tinggi**	**6.29**	**30**	P	**Pn**	**16 27 08.4**	**+2.0**
DBJI	**Dramaga**	**6.63**	**115**	P	**Pn**	**16 27 12.6**	**+1.6**
	935nm,0.9s,6.2nm						
SKJI	**Sukabumi**	**6.66**	**120**	P	**Pn**	**16 27 12.7**	**+1.2**
	925nm,0.6s,7.5nm						
CBJI	**Citeko**	**6.66**	**114**	P	**Pn**	**16 27 15.5**	**+4.0**
	2μm,0.8s,12nm						
TPI	**Tanjungpandan**	**6.98**	**82**	⇑*e*P	**Pn**	**16 27 14.0**	**-1.8**
TPI				*e*S	**Sn**	**16 28 49.0**	**+15**
TPI	**Tanjungpandan**	**6.98**	**82**	P	**Pn**	**16 27 17.3**	**+1.5**
	104nm,1.1s,3μm3.4nm						
LEM	**Lembang**	**7.53**	**115**	P	**Pn**	**16 27 25.8**	**+2.5**
	821nm,1.1s,3.4nm						
JCJI	**Jatiwangi**	**8.00**	**111**	P	**Pn**	**16 27 32.3**	**+2.4**
	506nm,0.8s,9μm2.4nm						
IPM	**Ipoh**	**8.14**	**2**	⇓P	**Pn**	**16 27 33.9**	**+2.1**
IPM	**Ipoh**	**8.14**	**2**	P	**Pn**	**16 27 34.0**	**+2.2**
	293nm,1.3s,3μm0.8nm						
KULM	**Kulim**	**8.94**	**359**	⇑P	**Pn**	**16 27 44.1**	**+1.4**
COCO	**West Island**	**9.27**	**204**	*e*P	**Pn**	**16 27 44.1**	**-3.1**
	155nm,0.6s						
KTGM	**Kuala Trenggan**	**9.29**	**15**	⇓P	**Pn**	**16 27 49.8**	**+2.2**
BJII	**Banjamegara**	**9.63**	**112**	P	**Pn**	**16 27 54.4**	**+2.1**
BSI	**Banda Aceh**	**10.63**	**329**	P	**Pn**	**16 28 05.1**	**-0.9**
	261nm,1.1s						
SNG	**Songkhla**	**10.81**	**359**	P	**Pn**	**16 28 07.0**	**-1.5**
	360nm,1.1s						
KSM	**Kuching**	**10.87**	**62**	⇑P	**Pn**	**16 28 12.4**	**+3.2**
KSM	**Kuching**	**10.87**	**62**	*e*P	**Pn**	**16 28 05.8**	**-3.4**
PBKI	**Pangkalan Bun**	**10.97**	**85**	P	**Pn**	**16 28 14.9**	**+4.3**
	471nm,1.1s,6μm						
STKI	**Sintang**	**11.38**	**71**	P	**Pn**	**16 28 21.5**	**+5.3**
	124nm,1.3s,6μm						
TRT	**Tretes**	**12.49**	**109**	⇓*e*P	**Pn**	**16 28 31.0**	**-0.4**
SBUM	**Sibu**	**13.01**	**62**	⇑P	**Pn**	**16 28 42.5**	**+4.0**
BTM	**Bintulu**	**14.12**	**61**	⇑P	**Pn**	**16 28 57.8**	**+4.0**
NNT	**Nongplab**	**16.22**	**357**	P	**Pn**	**16 29 19.2**	**-2.3**
KKM	**Kota Kinabalu**	**18.25**	**58**	⇓P	**Pn**	**16 29 47.9**	**+1.2**
KKM	**Kota Kinabalu**	**18.25**	**58**	*e*P	**Pn**	**16 29 47.0**	**+0.2**
TSM	**Tawau**	**18.88**	**65**	⇓P	**Pn**	**16 29 55.9**	**+1.4**
SDKM	**Sandakan**	**18.89**	**61**	⇓P	**Pn**	**16 29 55.5**	**+0.9**
KAPI	**Kappang**	**19.01**	**95**	Pn	**Pn**	**16 29 55.5**	**-0.6**
	1μm,1.0s,SNR=10						
KAPI	**Kappang**	**19.01**	**95**	P	**Pn**	**16 29 54.5**	**-1.5**
	SNR=11						
KAPI	**Kappang**	**19.01**	**95**	P	**Pn**	**16 29 54.2**	**-1.9**
	3.3nm,0.3s,baz=256,slow=10.0,SNR=6.1						
KAPI				S	**Sn**	**16 33 26.2**	**-2.2**
	0.3nm,0.3s,baz=186,slow=20,SNR=1.7						
KAPI	**Kappang**	**19.01**	**95**	*e*P	**Pn**	**16 29 54.3**	**-1.8**
	201nm,0.9s						
KDM	**Kudat**	**19.23**	**57**	⇓P	**Pn**	**16 29 57.4**	**-1.3**
PCI	**Palu**	**19.29**	**82**	⇓*e*P	**Pn**	**16 30 02.0**	**+2.6**
MYLDM	**Lahad Datu**	**19.82**	**64**	⇓P	**Pn**	**16 30 04.9**	**-0.9**
KKTK	**Khon Kaen**	**20.02**	**6**	P	**P**	**16 30 05.0**	**-1.2**
	710nm,0.5s						
WSI	**Waingapu**	**20.31**	**108**	⇓*e*P	**P**	**16 30 12.0**	**+2.6**
KDI	**Kendari**	**21.84**	**91**	⇓*e*P	**P**	**16 30 25.7**	**-0.2**
KDI				*e*S	**S**	**16 34 25.9**	**-0.1**
CM31	**Chiang Mai Arr**	**22.10**	**355**	*e*P	**P**	**16 30 27.9**	**-0.7**
	146nm,1.0s,mb5.4						
CM31				LR	LR		
	comp=Z,5μm,22.0s,MS4.9						
CMAR	**Chiang Mai Arr**	**22.10**	**355**	P	**P**	**16 30 25.2**	**-3.3**
	comp=Z,51nm,1.1s,mb4.9,baz=182,slow=9.7,SNR=25						
CMAR				S	**S**	**16 34 27.4**	**-3.3**
	comp=Z,4.4nm,1.0s,baz=199,slow=2.3,SNR=6.0						
CMAR	**Chiang Mai Arr**	**22.10**	**355**	P	**P**	**16 30 25.3**	**-3.2**
CMAR				S	**S**	**16 34 27.5**	**-3.3**
CMAR				pmax	pmax		
	comp=Z,51nm,1.1s						
CMAR				smax			
	comp=N,4.0nm,1.0s						
NANT	**Nan**	**22.37**	**360**	⇑P	**P**	**16 30 29.0**	**-2.4**
	comp=N,271nm,1.0s,mb5.6						
CHTO	**Chiang Mai**	**22.45**	**356**	*e*P	**P**	**16 30 30.5**	**-1.8**
CHTO				pmax	pmax		
	comp=Z,159nm,1.1s,mb5.4						
CHTO				MLR	MLR		
	comp=Z,5μm,20.0s,MS4.9						
CHTO	**Chiang Mai**	**22.45**	**356**	*e*P	**P**	**16 30 30.4**	**-1.8**
	comp=Z,159nm,1.1s,mb5.4						
CHTO				LR	LR		
	comp=Z,5μm,20.0s,MS4.9						
BATI	**Baumata**	**23.65**	**107**	P	**P**	**16 30 43.5**	**-1.2**
	comp=Z,58nm,0.5s,mb5.3,baz=220,slow=0.9,SNR=12						
BATI				S	**S**	**16 34 54.5**	**-3.2**
	comp=Z,49nm,0.7s,baz=295,slow=7.7,SNR=8.1						
QIZ	**Qiongzhong**	**24.31**	**21**	P	**P**	**16 30 50.8**	**+0.1**
QIZ				S	**S**	**16 35 09.4**	**+1.2**
QIZ				AMB	AMB		
	comp=Z,147nm,1.6s,mb5.2						
QIZ				LR	LR		
	comp=N,7μm,13.3s,MS5.4						
QIZ				LR	LR		
	comp=E,5μm,13.3s,MS5.4						
QIZ				LR	LR		
	comp=Z,8μm,16.5s,MS5.3						
QIZ	**Qiongzhong**	**24.31**	**21**	*e*P	**P**	**16 30 50.4**	**-0.3**
	comp=Z,424nm,1.7s,mb5.6						
QIZ				LR	LR		
	comp=Z,7μm,19.0s,MS5.2						
MBWA	**Marble Bar**	**25.34**	**135**	P	**P**	**16 30 57.2**	**-2.9**
	comp=Z,42nm,0.9s,mb5.0						
MBWA				LR	LR		
	comp=Z,6μm,21.0s,MS5.1						
MDRS	**Chennai**	**26.30**	**310**	*ex*	x	16 30 33.2	
MDRS				*ex*	x	16 35 25.2	
TRD	**Trivandrum**	**26.63**	**297**	*e*P	**P**	**16 31 12.6**	**+0.7**
TRD				AMb	AMB	16 31 25.3	
	comp=Z,50nm,1.2s,mb4.9						
RCP	**Roxas**	**26.64**	**55**	*e*P	**P**	**16 31 12.6**	**+0.7**
TNE	**Ternate**	**27.00**	**81**	⇓*e*P	**P**	**16 31 12.0**	**-3.2**
DAV	**Davao City (W)**	**27.01**	**67**	PFAKE		16 31 30.0	+15
DAV				LR	LR		
	comp=Z,6μm,19.0s,MS5.2						
VIS	**Vishakhapatnam**	**27.35**	**322**	*e*P	**P**	**16 31 17.9**	**-0.3**
VIS				AMb	AMB	16 31 34.6	
	comp=Z,99nm,1.0s,mb5.3						
VIS				*i* S	**S**	**16 35 57.7**	**+1.1**
BWNR	**Bhubaneshwar**	**28.00**	**329**	*e*P	**P**	**16 31 25.0**	**+1.0**
BWNR				*e*S	**S**	**16 36 07.4**	**+0.8**
FITZ	**Fitzroy Crossi**	**28.27**	**122**	*e*P	**P**	**16 31 26.3**	**-0.2**
	comp=Z,31nm,0.6s,mb5.1						
FITZ				*e*pP	pP	16 31 35.7	+0.7
DGAR	**Diego Garcia**	**28.38**	**261**	PFAKE		16 31 40.0	+12
DGAR				LR	LR		
	comp=Z,4μm,21.0s,MS5.0						
KMI	**Kunming**	**28.73**	**4**	⇑P	**P**	**16 31 31.3**	**+0.8**
KMI				AP	pP	16 31 39.3	+0.4
KMI				XP	sP	16 31 41.9	-0.6
KMI				PP	PP	16 32 23.8	-12
KMI				PCP	PcP	16 34

comp=Z,8.0nm,0.7s
NWAO Narrogin (SRO) 32.92 154 *e*P **P** **16 32 08.6 +1.2**
NWAO pmax pmax
comp=Z,75nm,1.4s
NWAO MLR MLR
comp=Z,5μm,20.0s
NWAO Narrogin (SRO) 32.92 154 *e*P **P** **16 32 08.6 +1.2**
comp=Z,75nm,1.4s,mb5.4
NWAO LR LR
comp=Z,5μm,20.0s,MS5.2
QZH Quanzhou 33.35 30 P **P** **16 32 12.1 +0.8**
QZH S **S** **16 37 36.3 +5.9**
QZH AMB AMB
comp=Z,150nm,1.0s,mb5.9
QZH AMB AMB
comp=Z,1μm,7.8s
QZH LR LR
comp=N,9μm,13.5s,MS5.8
QZH LR LR
comp=E,6μm,12.9s,MS5.8
QZH LR LR
comp=Z,11μm,15.9s,MS5.7
KAD Karad 33.51 309 *e*P **P** **16 32 12.8 +0.1**
KAD *e*P 16 32 13.3
KAD AMb AMB 16 32 27.1
comp=Z,31nm,0.7s,mb5.3
JBP Jabalpur 33.52 324 *e*P **P** **16 32 13.2 +0.5**
JBP *e*S **S** **16 37 32.8 -0.2**
NACB Ninganchiao 34.36 35 *e*P **P** **16 32 18.8 -1.2**
LSA Lhasa 34.46 345 *e*P **P** **16 32 22.2 +1.3**
LSA pmax pmax
comp=Z,77nm,1.0s,mb5.6
LSA MLR MLR
comp=Z,3μm,22.0s,MS5.0
LSA Lhasa 34.46 345 *e*P **P** **16 32 22.2 +1.3**
comp=Z,77nm,1.0s,mb5.6
LSA LR LR
comp=Z,3μm,22.0s,MS5.0
POO Poona 34.49 311⇑ *i*P **P** **16 32 20.0 -1.2**
comp=Z,30nm,1.0s,mb5.2
POO *e*P 16 32 21.4
POO AMb AMB 16 32 33.1
comp=Z,39nm,1.2s,mb5.2
CD2 Chengdu 34.55 5⇑ *i*P **P** **16 32 21.8 +0.3**
CD2 AP pP 16 32 27.8 -2.3
CD2 PP PP 16 33 36.8 -3.4
CD2 PCP PcP 16 34 55.3 -0.8
CD2 S **S** **16 37 47.8 -0.9**
CD2 PCS PcS 16 38 40.3 -2.3
CD2 SCS ScS 16 42 40.3 -2.1
CD2 AMB AMB
comp=Z,50nm,0.6s,mb5.6
CD2 AMB AMB
comp=Z,70nm,3.7s
CD2 LR LR
comp=N,17μm,14.4s,MS6.1
CD2 LR LR
comp=E,21μm,18.6s,MS6.1
CD2 LR LR
comp=Z,13μm,14.9s,MS5.8
YHNB Yeheng 34.62 34 *e*P **P** **16 32 19.8 -2.5**
comp=Z,89nm,1.3s,mb5.5
YHNB LR LR
comp=Z,3μm,22.0s,MS5.0
TATO Taipei 34.92 34 PFAKE 16 32 40.0 +15
TATO LR LR
comp=Z,3μm,20.0s,MS5.0
BHPL Bhopal 35.13 321 *e*P **P** **16 32 27.1 +0.3**
BHPL AMb AMB 16 32 36.9
comp=Z,32nm,1.3s,mb5.1
WHN Wuhan 36.46 20⇑ P **P** **16 32 36.0 -2.0**
WHN PP PP 16 34 06.8 +5.4
WHN S **S** **16 38 23.4 +5.2**
WHN AMB AMB
comp=Z,218nm,1.2s,mb6.0
WHN LR LR
comp=N,18μm,16.9s,MS6.0
WHN LR LR
comp=E,12μm,14.8s,MS6.0
WHN LR LR
comp=Z,27μm,14.8s,MS6.2
WRA Warramunga Arr 36.52 119 P **P** **16 32 36.4 -2.3**
comp=Z,45nm,0.9s,mb5.3,baz=303,slow=9.3,SNR=47
WRA PcP PcP 16 35 02.9 +0.8
comp=Z,11nm,1.0s,baz=297,slow=2.5,SNR=5.5
WRA S **S** **16 38 19.0 -0.4**
comp=Z,12nm,1.1s,baz=291,slow=16,SNR=8.7
WRA Warramunga Arr 36.52 119 P **P** **16 32 36.4 -2.3**
WRA 16 35 02.9
WRA S **S** **16 38 19.0 -0.4**
WRA pmax pmax
comp=Z,45nm,0.9s
WRA smax
comp=N,12nm,1.1s
WRA Warramunga Arr 36.52 119 P **P** **16 32 36.4 -2.3**
WRA PcP PcP 16 35 02.9 +0.8
WRA S **S** **16 38 19.0 -0.4**
WRAB Tennant Creek 36.52 119 P **P** **16 32 38.0 -0.8**
comp=N,387nm,0.9s,mb6.2,SNR=13
WRAB Tennant Creek 36.52 119 *e*P **P** **16 32 38.2 -0.6**
WRAB Tennant Creek 36.52 119 *e*P **P** **16 32 36.6 -2.1**
WRAB LR LR
comp=Z,7μm,22.0s,MS5.4
FORT Forrest 37.28 139 *e*P **P** **16 32 46.2 +1.2**
comp=Z,13nm,0.8s,mb4.8
FORT *e*pP pP 16 32 54.0 +0.4
ASAR Alice Springs 37.67 125 P **P** **16 32 47.0 -1.5**
comp=Z,23nm,0.9s,mb4.9,baz=301,slow=7.7,SNR=50
ASAR PcP PcP 16 35 05.6 0.0
comp=Z,8.7nm,1.0s,baz=306,slow=2.6,SNR=3.9
ASAR S **S** **16 38 39.2 +2.3**
comp=Z,9.8nm,1.0s,baz=297,slow=16,SNR=6.6
ASAR Alice Springs 37.67 125 P **P** **16 32 47.0 -1.5**
ASAR 16 35 05.6
ASAR S **S** **16 38 39.3 +2.4**
ASAR pmax pmax
comp=Z,23nm,1.0s
ASAR smax
comp=N,10.0nm,1.0s
ASAR Alice Springs 37.67 125 P **P** **16 32 47.0 -1.5**
ASAR PcP PcP 16 35 05.6 0.0
ASAR S **S** **16 38 39.2 +2.3**
XAN Xi'an 38.33 11 P **P** **16 32 53.0 -0.8**
XAN AP pP 16 32 59.1 -3.3
XAN PP PP 16 34 28.0 +6.1
XAN S **S** **16 38 52.1 +5.6**
XAN XS sS 16 39 02.0 +1.3
XAN SS SS 16 41 37.3 +1.6
XAN AMB AMB
comp=Z,115nm,0.9s,mb5.6
XAN AMB AMB
comp=Z,688nm,8.0s
XAN LR LR
comp=N,2μm,17.8s,MS5.7
XAN LR LR
comp=E,9μm,17.8s,MS5.7
XAN LR LR
comp=Z,12μm,16.0s,MS5.8
PTH Pithoragarh 38.48 331 *e*P **P** **16 32 57.0 +1.9**
PTH *ex* x 16 33 32.7
SONA Sohna 39.08 326 *e*P **P** **16 33 00.2 0.0**
KALG Kalgarh 39.17 329 *ex* x 16 32 55.9
AJM Ajmer 39.21 321 *ex* x 16 32 57.7
AJM *e*P 16 33 01.0
AJM AMb AMB 16 33 03.2
comp=Z,30nm,0.6s,mb5.2
AYAN Aya Nagar 39.24 326 *e*P **P** **16 33 01.3 -0.2**
AYAN AMb AMB 16 33 14.6
comp=Z,80nm,1.1s,mb5.4
NDI New Delhi 39.34 326 *ex* x 16 32 56.0
NDI *ex* x 16 39 10.0
NJ2 Nanjing 39.52 25 *e*P **P** **16 33 03.3 -0.5**
NJ2 AP pP 16 33 11.3 -1.1
NJ2 XP sP 16 33 14.0 -1.9
NJ2 PP PP 16 34 37.8 +2.9
NJ2 S **S** **16 39 03.5 -1.0**
NJ2 AMB AMB
comp=Z,20nm,0.9s,mb4.8
NJ2 AMB AMB
comp=Z,350nm,8.0s
NJ2 LR LR
comp=N,2μm,16.6s,MS5.5
NJ2 LR LR
comp=E,6μm,17.5s,MS5.5
NJ2 LR LR
comp=Z,6μm,17.5s,MS5.5
JOSI Joshimath 39.62 331 *e*P **P** **16 33 05.2 +0.5**
KHET Khetri 39.68 324 *e*P **P** **16 33 05.4 +0.1**
KHET AMb AMB 16 33 17.8
comp=Z,82nm,1.6s,mb5.2
LZH Lanzhou 39.69 4⇑ P **P** **16 33 05.8 +0.6**
LZH AP pP 16 33 15.6 +1.8
LZH XP sP 16 33 19.8 +2.5
LZH PP PP 16 34 42.3 +5.5
LZH PCP PcP 16 35 13.0 +1.4
LZH S **S** **16 39 08.1 +1.1**
LZH XS sS 16 39 24.3 +3.1
LZH SCS ScS 16 43 10.0 -1.1
LZH AMB AMB
comp=Z,271nm,1.2s,mb5.8
LZH AMB AMB
comp=Z,768nm,5.0s
LZH LR LR
comp=N,7μm,13.6s
LZH LR LR
comp=Z,9μm,15.3s,MS5.7
LZH Lanzhou 39.69 4 AP **P** **16 33 05.0 -0.2**
SSE Sheshan 39.73 28 P **P** **16 33 05.9 +0.3**
SSE S **S** **16 39 13.4 +5.7**
SSE AMB AMB
comp=Z,118nm,1.2s,mb5.5
SSE AMB AMB
comp=Z,552nm,6.4s
SSE LR LR
comp=N,6μm,14.3s,MS5.8
SSE LR LR
comp=E,7μm,14.5s,MS5.8
SSE LR LR
comp=Z,8μm,13.1s,MS5.7
DDI Dehra Dun 40.19 329 *e*P **P** **16 33 07.7 -1.7**
DDI *ex* x 16 39 30.0
JOW Kunigami 40.38 40 P **P** **16 33 09.8 -1.2**
comp=Z,39nm,0.6s,mb5.3,baz=194,slow=4.0,SNR=8.6
SMLA Simla 41.29 329 *i* P **P** **16 33 19.4 +0.9**
SMLA *ex* x 16 33 21.2
comp=Z,73nm,0.4s
SMLA *i* S **S** **16 39 30.1 -0.9**
SMLA *i* S **S** **16 39 30.9 -0.1**
SDNR Sundarnagar 41.69 329 *ex* x 16 33 11.0
SDNR *ex* x 16 35 16.5
TIY Taiyuan 42.62 14 *e*P **P** **16 33 27.8 -1.5**
TIY S **S** **16 39 52.9 +2.5**
TIY LR LR
comp=N,5μm,14.4s,MS5.6
TIY LR LR
comp=E,1μm,15.0s,MS5.6
TIY LR LR
comp=Z,5μm,15.4s,MS5.5
GTA Gaotai 42.91 359 P **P** **16 33 32.1 +0.5**
GTA PP PP 16 35 14.3 +2.7
GTA S **S** **16 39 54.8 +0.1**
GTA AMB AMB
comp=Z,92nm,1.2s,mb5.4
GTA AMB AMB
comp=Z,929nm,7.4s
GTA LR LR
comp=N,6μm,15.5s
GTA LR LR
comp=E,6μm,22.5s
GTA LR LR
comp=Z,8μm,15.5s,MS5.7
THN Thein Dam 43.08 328 *e*P **P** **16 33 31.3 -1.7**
COEN Coen 43.09 106 *e*P **P** **16 33 31.6 -1.8**
comp=Z,25nm,1.3s,mb4.8
BTO Baotou 44.91 10 *e*P **P** **16 33 47.3 -0.3**
MSEY Mahe Island 45.13 267 PFAKE 16 34 00.0 +10
MSEY LR LR
comp=Z,3μm,19.0s,MS5.2
HHC Hu-ho-hao-te 45.44 12⇑ *i*P **P** **16 33 53.0 +1.2**
HHC AP pP 16 34 03.9 +3.4
HHC XP sP 16 34 06.9 +2.9
HHC PCP PcP 16 35 33.6 +3.0
HHC PP PP 16 35 40.8 +2.2
HHC SCP ScP 16 39 20.4 -1.2
HHC S **S** **16 40 33.0 +1.6**
HHC XS sS 16 40 48.8 +3.0
HHC SS SS 16 43 48.0 -7.7
HHC AMB AMB
comp=Z,129nm,1.1s,mb5.7
HHC AMB AMB
comp=Z,899nm,7.0s
HHC LR LR
comp=N,7μm,14.8s,MS5.7
HHC LR LR
comp=E,3μm,14.9s,MS5.7
HHC LR LR
comp=Z,6μm,15.6s,MS5.7
BJT Baijiatuau 45.77 17 *e*P **P** **16 33 54.4 0.0**
BJT pmax pmax
comp=Z,220nm,1.1s
BJT MLR MLR
comp=Z,8μm,20.0s
BJT Baijiatuau 45.77 17 *e*P **P** **16 33 54.4 0.0**
comp=Z,220nm,1.1s,mb6.0
BJT LR LR
comp=Z,8μm,20.0s,MS5.7
BJI Beijing 45.79 17 P **P** **16 33 54.8 +0.2**
BJI XP sP 16 34 04.3 -2.5
BJI S **S** **16 40 37.3 +0.8**
BJI AMB AMB
comp=Z,121nm,1.1s,mb5.7
BJI AMB AMB
comp=Z,1μm,6.3s
BJI LR LR
comp=N,11μm,16.6s,MS5.9
BJI LR LR
comp=E,4μm,13.4s,MS5.9
BJI LR LR
comp=Z,7μm,17.9s,MS5.7
PMG Port Moresby 46.44 99 *e*P **P** **16 33 59.2 -1.0**
comp=Z,48nm,1.3s,mb5.3
PMG LR LR
comp=Z,3μm,22.0s,MS5.2
DL2 Dalian 46.59 23 P **P** **16 34 01.8 +0.9**
DL2 S **S** **16 40 52.9 +4.9**
DL2 AMB AMB
comp=Z,60nm,1.1s,mb5.4
DL2 AMB AMB
comp=Z,460nm,4.0s
DL2 LR LR
comp=N,2μm,15.7s
DL2 LR LR
comp=Z,4μm,15.2s,MS5.5
GUMO Guam 47.05 68 PFAKE 16 34 20.0 +15
GUMO LR LR
comp=Z,904nm,19.0s,MS4.8
CTA Charters Tower 47.23 114 *e*P **P** **16 34 04.9 -1.4**
comp=Z,43nm,0.8s,mb5.4
CTA Charters Tower 47.23 114 P **P** **16 34 03.6 -2.6**
comp=Z,39nm,0.9s,mb5.3,baz=283,slow=9.6,SNR=14
CTA Charters Tower 47.23 114 P **P** **16 34 03.6 -2.7**
CTA pmax pmax
comp=Z,39nm,0.9s
CTA Charters Tower 47.23 114 *e*P **P** **16 34 04.9 -1.4**
CTA pmax pmax
comp=Z,43nm,0.8s
CTAO Charters Tower 47.23 114 *e*P **P** **16 34 06.2 -0.1**
comp=Z,50nm,0.8s,mb5.5
CTAO LR LR
comp=Z,4μm,20.0s,MS5.4
STKA Stephens Creek 47.48 131 *e*P **P** **16 34 08.7 +0.6**
comp=Z,12nm,1.1s,mb4.7
STKA *e*pP pP 16 34 15.7 -1.1
STKA Stephens Creek 47.48 131 P **P** **16 34 04.1 -4.0**
comp=Z,9.5nm,0.7s,mb4.8,baz=300,slow=8.3,SNR=12
INCN Inchon 47.53 28 *e*P **P** **16 34 07.2 -1.1**
comp=Z,71nm,1.1s,mb5.6
INCN LR LR
comp=Z,2μm,21.0s,MS5.1
KSRS Korea Array 48.13 29 P **P** **16 34 08.6 -4.3**
comp=Z,135nm,1.1s,mb5.9,baz=218,slow=7.4,SNR=27
KBL Kabul 48.34 325 *e*P **P** **16 34 14.2 -0.4**
KBL pmax pmax
comp=Z,14nm,0.8s,mb5.0
KBL Kabul 48.34 325 *e*P **P** **16 34 14.2 -0.5**
comp=Z,14nm,0.8s,mb5.0
KSH Kashi 48.68 334 *e*P **P** **16 34 15.3 -1.8**
KSH *e*AP pP 16 34 23.4 -2.5
KSH *e*XP sP 16 34 26.0 -3.4
KSH *e*PCP PcP 16 35 43.3 +1.1
KSH *e*PP PP 16 36 06.8 -3.7
KSH *e*SCP ScP 16 39 34.3 -1.0
KSH *e*PCS PcS 16 39 38.1 -0.1
KSH *e*S **S** **16 41 11.8 -5.9**
KSH *e*SCS ScS 16 44 03.9 -3.9
KSH LR LR
comp=N,5μm,11.4s,MS6.1
KSH LR LR
comp=E,11μm,14.7s,MS6.1
KSH LR LR
comp=Z,16μm,20.3s
WMQ Urumqi 48.75 347 P **P** **16 34 19.0 +1.4**
WMQ AP pP 16 34 25.0 -1.4
WMQ XP sP 16 34 28.0 -1.8
WMQ PCP PcP 16 35 45.0 +2.7
WMQ PP PP 16 36 11.8 +0.8
WMQ S **S** **16 41 19.1 +0.6**
WMQ AMB AMB
comp=Z,37nm,0.8s,mb5.5
WMQ AMB AMB
comp=Z,137nm,4.8s
SMDO Samad 49.41 305⇑ P **P** **16 34 25.2 +2.2**
SNR=11
BIDO Bidbid 49.55 305 P **P** **16 34 25.8 +1.6**
SNR=15
SNY Shenyang 49.86 22⇑ P **P** **16 34 25.0 -1.1**
SNY S **S** **16 41 44.3 +10**
SNY AMB AMB
comp=Z,55nm,1.3s,mb5.4
SNY AMB AMB
comp=Z,595nm,4.1s
SNY LR LR
comp=N,5μm,17.4s,MS5.6
SNY LR LR
comp=E,3μm,17.1s,MS5.6
SNY LR LR
comp=Z,7μm,14.9s,MS5.8
BSY Bisya 49.97 304 P **P** **16 34 29.0 +1.7**
SNR=19
HOQ Hoqain 50.25 305⇓ P **P** **16 34 31.4 +2.0**
SNR=10.0
UCH Uchtor 51.54 335 P **P** **16 34 40.0 +1.2**
SNR=13
UCH Uchtor 51.54 335 *e*P **P** **16 34 39.6 +0.7**
comp=Z,56nm,1.3s,mb5.3
UCH LR LR
comp=Z,3μm,21.0s,MS5.3
SONM Songino Array 51.57 5 P **P** **16 34 35.7 -3.2**
comp=Z,43nm,0.8s,mb5.4,baz=188,slow=8.9,SNR=19
SONM Songino Array 51.57 5 P **P** **16 34 35.7 -3.2**
SONM pmax pmax
comp=Z,43nm,0.8s
SONM Songino Array 51.57 5 P **P** **16 34 35.7 -3.2**
TKM2 Tokmak 2 51.68 337 P **P** **16 34 40.8 +1.0**
SNR=16
TKM2 Tokmak 2 51.68 337 *e*P **P** **16 34 40.4 +0.6**
TKM2 LR LR
comp=Z,3μm,19.0s,MS5.4
KBK Karagaybulak 51.72 336 P **P** **16 34 41.6 +1.5**
SNR=12
AML Almayashu 51.81 335 P **P** **16 34 42.1 +1.3**
SNR=6.6
AML Almayashu 51.81 335 PFAKE 16 34 50.0 +9.2
AML LR LR
comp=Z,1μm,21.0s,MS5.0
AAK Ala-Archa 51.89 336 P **P** **16 34 42.5 +1.2**
SNR=11
FRU Bishkek 52.00 336⇑ *e*P **P** **16 34 44.0 +1.8**
FRU *e* 16 36 48.0
FRU *e*S **S** **16 42 05.0 +1.2**
FRU *e* 16 42 18.0
FRU MLR MLR
comp=Z,3μm,20.0s,MS5.3
CHMS Chumysh 52.08 336 P **P** **16 34 43.2 +0.3**
SNR=19
EKS2 Erkin-Say 52.21 335 P **P** **16 34 45.0 +1.2**
SNR=15
EKS2 Erkin-Say 52.21 335 *e*P **P** **16 34 44.6 +0.8**
EKS2 LR LR
comp=Z,2μm,22.0s,MS5.2
CN2 Changchun 52.26 23 *e*P **P** **16 34 39.9 -4.2**
CN2 AMB AMB
comp=Z,10.0nm,0.8s,mb4.8
CN2 LR LR
comp=N,4μm,16.0s,MS5.7
CN2 LR LR
comp=E,4μm,16.0s,MS5.7
CN2 LR LR
comp=Z,3μm,20.0s,MS5.4
CN2 Changchun 52.26 23 *e*P **P** **16 34 46.4 +2.3**
CN2 *e*XP sP 16 34 57.3 +0.9
CN2 *e*S **S** **16 42 09.3 +1.9**
CN2 AMB AMB
comp=Z,10.0nm,0.6s,mb4.9
CN2 LR LR
comp=N,4μm,16.0s,MS5.7
CN2 LR LR
comp=E,4μm,16.0s,MS5.7
CN2 LR LR
comp=Z,3μm,20.0s,MS5.4
USP Ospenovka 52.41 336 P **P** **16 34 45.8 +0.6**
SNR=20
MK31 Makanchi Array 52.86 344 *e*P **P** **16 34 48.7 +0.2**
MKAR Makanchi Array 52.86 344 P **P** **16 34 45.5 -3.0**
comp=Z,78nm,0.9s,mb5.6,baz=145,slow=7.4,SNR=54
MKAR Makanchi Array 52.86 344 P **P** **16 34 45.5 -3.0**
MKAR pmax pmax
comp=Z,78nm,0.9s
MKAR Makanchi Array 52.86 344 P **P** **16 34 45.5 -3.0**
MAJO Matsushiro 53.15 38 *e*P **P** **16 34 49.9 -1.0**
comp=Z,63nm,1.0s,mb5.5
MAJO LR LR
comp=Z,2μm,19.0s,MS5.1
MAT Matsushiro 53.15 38 P **P** **16 34 49.3 -1.6**
MAT S **S** **16 42 27.0 +7.2**
MJAR Matsushiro Arr 53.15 38 P **P** **16 34 48.0 -2.8**
comp=Z,51nm,1.0s,mb5.4,baz=220,slow=6.6,SNR=25
MJAR Matsushiro Arr 53.15 38 P **P** **16 34 48.1 -2.8**
MJAR pmax pmax
comp=Z,51nm,1.0s
ZAK Zakamensk 53.92 2 *e*P **P** **16 34 52.7 -3.5**
ZAK *e* 16 36 58.9
ZAK pmax pmax
comp=Z,23nm,1.0s,mb5.1
OPO Ambohidratompo 54.35 250 P **P** **16 35 01.0 +1.1**
comp=Z,5.4nm,0.8s,mb4.6,baz=79,slow=6.7,SNR=8.4
ABPO Ambohimpanom 54.38 249 *e*P **P** **16 35 01.3 +1.1**
comp=Z,12nm,0.9s,mb4.8
ABPO LR LR
comp=Z,2μm,20.0s,MS5.2
CAN Canberra 54.54 131 *e*P **P** **16 35 04.1 +3.0**
MDJ Mudanjiang 54.60 25 P **P** **16 35 01.3 0.0**
MDJ AP pP 16 35 07.4 -2.8
MDJ PP PP 16 37 03.9 -0.2
MDJ SCP ScP 16 40 01.0 +0.2
MDJ PCS PcS 16 40 03.3 -0.3
MDJ S **S** **16 42 41.1 +1.9**
MDJ AMB AMB
comp=Z,34nm,1.3s,mb5.2
MDJ AMB AMB
comp=Z,468nm,5.8s
MDJ LR LR
comp=N,5μm,13.3s,MS5.8
MDJ LR LR
comp=E,4μm,13.3s,MS5.8
MDJ LR LR
comp=Z,7μm,14.1s,MS5.9
MDJ Mudanjiang 54.60 25 *e*P **P** **16 34 56.0 -5.3**
comp=Z,43nm,1.0s,mb5.4
MDJ LR LR
comp=Z,4μm,20.0s,MS5.5
ARMA Armidale 54.83 125 *e*P **P** **16 35 02.0 -1.3**
comp=Z,0.9nm,0.8s
MOY Mondy 55.16 0 *e*P **P** **16 35 05.6 +0.4**
MOY pmax pmax
comp=Z,112nm,2.7s,mb5.4
TLY Talaya 55.23 2 P **P** **16 35 06.8 +1.1**
comp=Z,255nm,1.0s,mb6.2,SNR=5.9
TLY Talaya 55.23 2*c* *i*P **P** **16 35 06.7 +1.0**
TLY *e*S **S** **16 42 49.7 +2.4**
TLY *e*PS 16 43 03.2
TLY pmax pmax
comp=Z,54nm,1.1s,mb5.5
TLY MLR MLR
comp=Z,6μm,17.0s,MS5.8
TLY Talaya 55.23 2 *e*P **P** **16 35 02.5 -3.2**

comp=Z,30nm,0.8s,mb5.4
TLY LR LR
comp=Z,2µm,20.0s,MS5.2
HIA Hailar 55.28 15 eP P 16 35 05.1 -1.1
HIA pmax pmax
comp=Z,41nm,1.1s
HIA MLR MLR
comp=Z,5µm,19.0s
HIA Hailar 55.28 15 eP P 16 35 05.1 -1.1
comp=Z,41nm,1.1s,mb5.4
HIA LR LR
comp=Z,5µm,19.0s,MS5.6
IRK Irkutsk 55.82 3 eP P 16 35 09.9 0.0
IRK pmax pmax
comp=Z,119nm,2.2s,mb5.5
TAU Tasmania Unive 56.81 140 PFAKE 16 35 30.0 +13
TAU LR LR
comp=Z,3µm,19.0s,MS5.4
ABKT Ailbek 57.22 320 P P 16 35 20.6 +0.4
comp=Z,169nm,1.1s,mb6.0,SNR=9.9
KURK Kurchatov 57.44 344 P **P 16 35 21.9 +0.4**
SNR=25
KURK Kurchatov 57.44 344 P **P 16 35 18.0 -3.5**
comp=Z,14nm,0.9s,mb5.0,baz=162,slow=6.8,SNR=5.5
KURK S **S 16 43 17.9 +1.3**
comp=Z,0.2nm,0.7s,baz=170,slow=11,SNR=2.5
KURK Kurchatov 57.44 344 eP **P 16 35 21.4 -0.1**
KURK S **S 16 43 17.9 +1.3**
KURK LR LR
comp=Z,3µm,20.0s,MS5.4
ZALV Zalesovo Beam 58.97 349 P **P 16 35 28.7 -3.4**
comp=Z,126nm,0.9s,mb5.9,baz=160,slow=4.7,SNR=42
ZALV S **S 16 43 36.0 -0.5**
comp=Z,0.4nm,0.3s,baz=182,slow=8.9,SNR=4.3
ZALV Zalesovo Beam 58.97 349 P **P 16 35 28.7 -3.4**
ZALV S **S 16 43 36.0 -0.5**
ZALV pmax pmax
comp=Z,126nm,0.9s,mb6.0
ZALV Zalesovo Beam 58.97 349 P **P 16 35 28.7 -3.4**
ZALV S **S 16 43 36.0 -0.5**
HNR Honiara 59.04 99 eP **P 16 35 31.7 -1.7**
comp=Z,304nm,1.0s,mb6.3
HNR LR LR
comp=Z,1µm,21.0s,MS5.1
KLR Kul'dur 59.20 23 eP **P 16 35 28.7 -5.1**
KLR eS **S 16 43 52.2 +13**
KLR pmax pmax
comp=E,120nm,2.2s
KLR pmax pmax
comp=Z,300nm,2.2s,mb5.9
KLR MLR MLR
comp=E,3µm,13.5s
KLR MLR MLR
comp=Z,8µm,13.5s,MS6.0
ERM Erimo 59.60 36 PFAKE 16 35 50.0 +13
ERM LR LR
comp=Z,2µm,20.0s,MS5.1
KRAR Krasnoyarsk 59.87 355 eP **P 16 35 37.2 -1.1**
KRAR pmax pmax
comp=Z,101nm,1.3s,mb5.7
HABR Khabarovsk 59.97 26 eP **P 16 35 37.0 -2.1**
HABR eS **S 16 43 45.9 -3.7**
NVS Novosibirsk 60.12 348⇑ iP **P 16 35 38.9 -1.2**
NVS eS **S 16 43 51.0 -0.4**
NVS pmax pmax
comp=Z,111nm,2.0s,mb5.5
NVS pmax pmax
comp=N,82nm,1.8s
NVS pmax pmax
comp=E,55nm,1.8s
NVS smax
comp=E,52nm,1.9s
RDF Al-Radifah 60.44 306 eP **P 16 35 42.2 -0.6**
baz=306
RDF AMb AMB 16 35 56.9
comp=Z,97nm,1.5s,mb5.6,baz=306
UMR Umm Al-Rimmam 60.55 307 eP **P 16 35 42.3 -1.3**
baz=307
UMR AMb AMB 16 35 54.4
comp=Z,77nm,1.0s,mb5.8,baz=307
NAY Al-Naaiem 60.81 306 eP **P 16 35 44.5 -0.9**
baz=306
NAY AMb AMB 16 35 58.9
comp=Z,28nm,0.9s,mb5.4,baz=306
MIB Mutribah 60.95 307 eP **P 16 35 45.9 -0.4**
baz=307
MIB AMb AMB 16 36 07.6
comp=Z,81nm,1.2s,mb5.7,baz=307
RST Umm Al-Ruwaisa 61.11 307 eP **P 16 35 46.5 -0.9**
baz=307
RST AMb AMB 16 36 01.3
comp=Z,60nm,1.5s,mb5.5,baz=307
BVAR Borovoye Array 62.03 340 P **P 16 35 49.2 -3.8**
comp=Z,20nm,0.6s,mb5.4,baz=147,slow=8.2,SNR=47
BVAR Borovoye Array 62.03 340 P **P 16 35 49.2 -3.8**
BVAR pmax pmax
comp=Z,20nm,0.6s
BVAR Borovoye Array 62.03 340 P **P 16 35 49.2 -3.8**
BRVK Borovoye 62.09 340 P **P 16 35 52.4 -1.1**
comp=Z,210nm,1.3s,mb6.1,SNR=12
BRVK Borovoye 62.09 340 P **P 16 35 53.1 -0.3**
SNR=16
BRVK Borovoye 62.09 340 eP **P 16 35 52.4 -1.1**
BRVK LR LR
comp=Z,3µm,21.0s,MS5.4
BOD Bodaibo 62.26 8 eP **P 16 35 54.6 +0.1**
BOD pmax pmax
comp=Z,54nm,1.2s,mb5.5
YSS Yuzh-Sakhalins 62.55 31⇑ iP **P 16 35 55.5 -1.1**
YSS e pP 16 36 04.3 -1.4
YSS pmax pmax
comp=Z,160nm,1.0s,mb6.1
YSS Yuzh-Sakhalins 62.55 31⇑ eP **P 16 35 56.1 -0.5**
CASY Casey 62.83 176 eP **P 16 35 55.9 -2.3**
CASY Casey 62.83 176 eP **P 16 36 06.7 +8.5**
CASY Casey 62.83 176 P **P 16 36 00.5 +2.3**
comp=Z,35nm,1.5s,mb5.3
CASY LR LR
comp=Z,3µm,20.0s,MS5.5
KMBO Kilima Mbogo 63.46 271 P **P 16 36 03.3 -0.1**
comp=Z,28nm,0.7s,mb4.5,baz=52,slow=11,SNR=6.4
KMBO Kilima Mbogo 63.46 271 eP **P 16 36 04.2 +0.8**
KMBO pmax pmax
comp=Z,17nm,1.3s
KMBO MLR MLR
comp=Z,1µm,19.0s
KMBO Kilima Mbogo 63.46 271 eP **P 16 36 04.2 +0.8**
comp=Z,17nm,1.3s,mb5.0
KMBO LR LR
comp=Z,1µm,19.0s,MS5.1
CLNS Chul'man 63.47 15 eP **P 16 36 03.0 +0.5**
CLNS e 16 36 39.2
CLNS e 16 38 25.5
CLNS ePPP 16 39 52.5
CLNS eS **S 16 44 37.8 +4.2**
CLNS pmax pmax
comp=Z,36nm,1.1s,mb5.4
CLNS pmax pmax
comp=N,21nm,1.2s
CLNS pmax pmax
comp=E,23nm,1.2s
CLNS pmax pmax
comp=N,17nm,1.5s
CLNS pmax pmax
comp=Z,12nm,1.3s,mb4.9
CLNS pmax pmax
comp=E,11nm,1.4s
CLNS smax
comp=E,184nm,14.9s
CLNS smax
comp=N,375nm,14.2s
CLNS MLR MLR
comp=Z,6µm,18.0s,MS5.8
CLNS MLR MLR
comp=E,2µm,18.0s,MS5.8
CLNS MLR MLR
comp=N,5µm,17.0s,MS5.8
AKTK Aktyubinsk 65.20 331 P **P 16 36 12.0 -2.0**
AKTO Aktyubinsk 65.20 331 P **P 16 36 12.0 -2.0**
comp=N,17nm,1.0s,mb5.0,baz=133,slow=6.2,SNR=23
AKTO Aktyubinsk 65.20 331 P **P 16 36 08.3 -5.7**
AKTO pmax pmax
comp=Z,5.0nm,1.2s,mb4.4
AKTO Aktyubinsk 65.20 331 P **P 16 36 12.0 -2.0**
AKTO pmax pmax
comp=Z,17nm,1.0s,mb5.0

MAK Makhachkala 66.74 320 eP **P 16 36 22.5 -1.6**
MAK iS S 16 45 13.6 -0.7
MAK pmax pmax
comp=Z,109nm,1.2s,mb5.8
MAK MLR MLR
comp=Z,1µm,20.0s,MS5.1
GNI Garni 67.26 316 P **P 16 36 29.0 +1.5**
SNR=13
GNI Garni 67.26 316 P **P 16 36 27.6 +0.1**
comp=Z,3.2nm,0.5s,mb4.6,baz=341,slow=14,SNR=7.6
GNI Garni 67.26 316⇑ eP **P 16 36 28.0 +0.5**
GNI pmax pmax
comp=Z,37nm,2.1s
GNI Garni 67.26 316 eP **P 16 36 27.8 +0.4**
comp=Z,49nm,1.1s,mb5.5
GNI LR LR
comp=Z,798nm,20.0s,MS4.9
DGRG David-gareji 67.41 318 P **P 16 36 25.9 -2.5**
DGRG S S 16 45 13.3 -9.3
MTA Mtatsminda 67.91 318 P **P 16 36 31.9 +0.3**
MTA S S 16 45 27.0 -1.5
TBLG Delisi 67.97 318 P **P 16 36 32.8 +0.9**
TBLG S S 16 45 31.1 +2.0
DRV Dumont d'Urvil 68.49 164 P **P 16 36 41.0 +6.3**
DRV S S 16 45 40.0 +5.4
DRV SS SS 16 50 12.0 +13
DRV R 16 57 00.0
SVE Sverdlovsk 68.53 338⇓ eP **P 16 36 35.3 +0.2**
SVE e 16 39 09.8
SVE ePPP 16 40 42.3
SVE eS S 16 45 34.8 -0.5
SVE pmax pmax
comp=Z,100nm,1.1s,mb5.7
SVE MLR MLR
comp=Z,3µm,22.0s,MS5.5
MAW Mawson 68.82 195 eP **P 16 36 38.2 +1.4**
comp=Z,9.3nm,0.7s,mb4.8
MAW Mawson 68.82 195 eP **P 16 36 38.2 +1.4**
comp=Z,9.3nm,0.7s,mb4.8
MAW LR LR
comp=Z,5µm,22.0s,MS5.7
ARU Arti 69.05 336 P **P 16 36 38.0 -0.4**
comp=Z,250nm,1.1s,mb6.1,SNR=14
ARU Arti 69.05 336 iP **P 16 36 37.8 -0.6**
ARU e 16 37 00.9
ARU e 16 39 12.1
ARU ePPP 16 40 49.5
ARU eS S 16 45 41.3 -0.2
ARU eSS SS 16 50 07.5 -0.4
ARU pmax pmax
comp=Z,69nm,1.2s,mb5.5
ARU MLR MLR
comp=Z,2µm,22.0s,MS5.3
ARU Arti 69.05 336 eP **P 16 36 37.6 -0.8**
ARU LR LR
comp=Z,2µm,21.0s,MS5.3
ONI Oni 69.20 318 P **P 16 36 37.1 -2.5**
ONI S S 16 45 43.9 +0.1
YAK Yakutsk 69.20 14 eP **P 16 36 33.8 -5.4**
YAK e 16 45 37.1
YAK pmax pmax
comp=Z,140nm,1.3s,mb5.7
YAK pmax pmax
comp=N,52nm,1.2s
YAK pmax pmax
comp=E,40nm,1.1s
YAK MLR MLR
comp=Z,5µm,17.0s,MS5.8
YAK MLR MLR
comp=N,4µm,19.0s
YAK MLR MLR
comp=E,629nm,13.0s
YAK Yakutsk 69.20 14 eP **P 16 36 37.7 -1.5**
YAK LR LR
comp=Z,4µm,19.0s,MS5.7
ASF Jabal al Asfar 70.17 306 P **P 16 36 46.6 +0.8**
comp=Z,14nm,1.0s,mb4.8,baz=356,slow=3.0,SNR=15
ASF Jabal al Asfar 70.17 306 P **P 16 36 46.6 +0.8**
ASF pmax pmax
comp=Z,14nm,1.0s
KIV Kislovodsk 70.31 319 P **P 16 36 46.4 0.0**
comp=Z,183nm,1.0s,mb6.0,SNR=5.7
KIV Kislovodsk 70.31 319 P **P 16 36 47.3 +1.0**
SNR=13
KIV Kislovodsk 70.31 319 eP **P 16 36 46.6 +0.2**
KIV e 16 37 08.8
KIV e 16 39 20.7
KIV ePPP 16 41 04.6
KIV eS S 16 45 54.4 -2.3
KIV eSS SS 16 50 27.4 -0.3
KIV pmax pmax
comp=Z,39nm,1.1s,mb5.2
KIV MLR MLR
comp=Z,816nm,19.0s,MS5.0
KIV Kislovodsk 70.31 319 eP **P 16 36 46.1 -0.3**
comp=Z,21nm,0.8s,mb5.1
KIV LR LR
comp=Z,944nm,21.0s,MS5.0
EIL Elat 71.05 303 P **P 16 36 51.9 +0.7**
comp=Z,25nm,1.0s,mb5.1,baz=77,slow=2.5,SNR=13
EIL Elat 71.05 303 P **P 16 36 51.9 +0.7**
MMAI Mount Meron Ar 71.63 306 P **P 16 36 54.9 +0.3**
comp=Z,20nm,1.0s,mb5.0,baz=99,slow=9.4,SNR=13
SOKR Solikamsk 71.91 338 iP **P 16 36 56.5 +0.7**
SOKR S S 16 46 18.1 +3.4
SOKR SS SS 16 50 56.5 +4.8
SOKR pmax pmax
comp=Z,80nm,1.0s,mb5.6
SOKR MLR MLR
comp=Z,4µm,26.0s,MS5.5
SOC Sochi 72.10 318 iP **P 16 36 56.4 -0.9**
SOC e*PP pP 16 37 04.8 -1.6
SOC e 16 37 13.0
SOC e 16 39 36.1
SOC ePPP 16 41 23.9
SOC iS S 16 46 14.0 -3.6
SOC e 16 46 57.3
SOC pmax pmax
comp=Z,39nm,1.1s,mb5.2
SOC pmax pmax
comp=Z,106nm,4.2s
SOC MLR MLR
comp=Z,879nm,20.0s,MS5.0
SOC Sochi 72.10 318 iP **P 16 36 57.3 0.0**
LSZ Lusaka 72.20 255 P **P 16 36 59.4 +1.1**
comp=Z,6.5nm,0.9s,mb4.5,baz=66,slow=4.8,SNR=12
LSZ Lusaka 72.20 255 P **P 16 36 59.5 +1.1**
LSZ pmax pmax
comp=Z,1.0nm,0.9s
LSZ MLR MLR
comp=Z,2µm,20.0s,MS5.4
LSZ Lusaka 72.20 255 P **P 16 36 59.5 +1.1**
comp=Z,1.1nm,0.9s
LSZ LR LR
comp=Z,2µm,20.0s,MS5.4
CSS Prodhromos 73.84 308 P **P 16 37 08.1 +0.3**
comp=Z,58nm,1.1s,mb5.4
CSS LR LR
comp=Z,2µm,20.0s,MS5.5
PETK Petropavlovsk- 73.94 32 P **P 16 37 05.6 -2.3**
comp=Z,12nm,0.9s,mb4.8,baz=112,slow=0.4,SNR=7.7
PETK Petropavlovsk- 73.94 32 P **P 16 37 05.6 -2.3**
ANN Anapa 74.09 319 eP **P 16 37 07.1 -1.9**
ANN eS S 16 46 36.5 -3.6
ANN pmax pmax
comp=Z,25nm,1.2s,mb5.0
ANN MLR MLR
comp=N,872nm,24.0s,MS5.1
ANN MLR MLR
comp=E,857nm,24.0s,MS5.1
ANN MLR MLR
comp=Z,696nm,24.0s,MS4.9
VRHR Novokhopersk 74.14 326 eP **P 16 37 07.1 -2.1**
VRHR e*PP pP 16 37 16.3 -2.0
VRHR pmax pmax
comp=Z,60nm,0.6s,mb5.7
VRHR pmax pmax
comp=N,50nm,0.9s
VRHR pmax pmax
comp=E,90nm,0.8s
VRHR MLR MLR
comp=Z,1µm,22.0s,MS5.2
VRHR MLR MLR
comp=N,760nm,20.0s,MS5.2
VRHR MLR MLR

comp=E,880nm,19.0s,MS5.2
PET Petropavlovsk 74.40 32 eP **P 16 37 10.5 -0.1**
PET pmax pmax
comp=Z,700nm,7.6s
PET MLR MLR
comp=Z,2µm,20.0s,MS5.4
PET Petropavlovsk 74.40 32 PFAKE 16 37 20.0 +9.4
PET LR LR
comp=Z,1µm,19.0s,MS5.3
LBTB Lobatse 74.97 245 eP **P 16 37 14.4 -0.1**
comp=Z,8.0nm,0.8s,mb4.7
LBTB LR LR
comp=Z,2µm,21.0s,MS5.4
BR131 Keskin Array S 75.01 313 eP **P 16 37 13.6 -0.9**
BR131 LR LR
comp=Z,1µm,19.0s,MS5.2
BOSA Boshof 75.48 242 P **P 16 37 18.4 +0.9**
comp=Z,8.1nm,0.8s,mb4.7,baz=91,slow=7.3,SNR=13
BOSA Boshof 75.48 242 eP **P 16 37 17.7 +0.3**
BOSA pmax pmax
comp=Z,12nm,0.7s,mb4.9
BOSA MLR MLR
comp=Z,2µm,22.0s,MS5.3
BOSA Boshof 75.48 242 P **P 16 37 18.4 +1.0**
BOSA pmax pmax
comp=Z,8.0nm,0.8s,mb4.7
BOSA Boshof 75.48 242 eP **P 16 37 17.7 +0.2**
comp=Z,12nm,0.7s,mb4.9
BOSA LR LR
comp=Z,2µm,22.0s,MS5.3
SNZO South Karori 75.53 132 PFAKE 16 37 30.0 +13
SNZO LR LR
comp=Z,3µm,20.0s,MS5.6
ANTO Ankara 75.67 313⇑ P **P 16 37 18.4 +0.1**
ANTO Ankara 75.67 313 eP **P 16 37 17.3 -0.9**
comp=Z,34nm,1.1s,mb5.2
ANTO LR LR
comp=Z,1µm,20.0s,MS5.2
VOR Voronezh 75.79 326 P **P 16 37 18.0 -0.6**
VOR pmax pmax
comp=Z,100nm,2.0s,mb5.4
SIM Simferopol' 76.35 318 eP **P 16 37 22.4 +0.4**
SIM e pP 16 37 31.0 -0.2
SIM iS S 16 47 08.3 +3.1
SIM eSS SS 16 51 54.0 -5.9
SIM pmax pmax
comp=Z,24nm,0.9s,mb5.1
SIM MLR MLR
comp=Z,590nm,20.7s,MS4.9
SYO Syowa Base 76.50 199⇓ eP **P 16 37 22.4 0.0**
SEY Seymchan 76.93 22⇑ eP **P 16 37 25.1 +0.2**
TIXI Tiksi 77.42 9 eP **P 16 37 25.8 -1.7**
TIXI pmax pmax
comp=Z,38nm,1.1s,mb5.2
TIXI MLR MLR
comp=Z,5µm,19.0s,MS5.8
TIXI Tiksi 77.42 9 eP **P 16 37 25.8 -1.7**
TIXI LR LR
comp=Z,5µm,19.0s,MS5.8
FUNA Funafuti 78.06 98 PFAKE 16 37 40.0 +7.7
FUNA LR LR
comp=Z,6µm,19.0s,MS5.9
MOS Moscow 78.33 329 eP **P 16 37 31.4 -1.4**
MOS e pP 16 37 41.5 -0.6
MOS e 16 40 27.4
MOS ePPP 16 42 15.7
MOS eS S 16 47 22.1 -4.1
MOS e 16 48 07.6
MOS pmax pmax
comp=Z,59nm,0.9s,mb5.5
MOS pmax pmax
comp=Z,200nm,2.0s,mb5.7
OBN Obninsk 78.62 328⇓ eP **P 16 37 34.2 -0.3**
OBN e 16 40 32.4
OBN iS S 16 47 31.2 +1.8
OBN pmax pmax
comp=Z,52nm,1.0s,mb5.4
OBN Obninsk 78.62 328 eP **P 16 37 34.2 -0.3**
comp=Z,58nm,1.0s,mb5.5
OBN LR LR
comp=Z,2µm,22.0s,MS5.3
SUR Sutherland 79.51 238 P pP 16 37 49.6 +0.5
comp=Z,226nm,1.6s,SNR=6.5
SUR Sutherland 79.51 238 PFAKE 16 37 50.0 +10
SUR LR LR
comp=Z,1µm,20.0s,MS5.3
TLCR 80.00 317⇑ P **P 16 37 40.4 -1.8**
KIS Kishinev 80.49 319 eP **P 16 37 43.0 -1.8**
KIS e 16 40 52.0
KIS e 16 47 46.0
KIS e 16 48 00.0
KIS MLR MLR
comp=Z,500nm,15.0s,MS5.0
KIS MLR MLR
comp=Z,500nm,15.0s
IDI Anoyia 80.63 306 P **P 16 37 45.7 -0.2**
comp=Z,18nm,0.9s,mb5.0,baz=78,slow=6.3,SNR=6.4
RAO Raoul Island 80.66 119 PFAKE 16 38 00.0 +14
RAO LR LR
comp=Z,2µm,20.0s,MS5.5
AKASG Malin Array Be 81.27 322 P **P 16 37 47.8 -1.1**
comp=Z,11nm,1.0s,mb4.8,baz=92,slow=4.6,SNR=24
AKASG PP PP 16 40 55.1 +0.3
comp=Z,1.9nm,0.8s,baz=95,slow=6.6,SNR=4.4
AKASG Malin Array Be 81.27 322 P **P 16 37 47.8 -1.1**
AKASG 16 40 55.1
AKASG pmax pmax
comp=Z,11nm,1.0s
AKASG pmax pmax
comp=Z,2.0nm,0.8s
AKASG Malin Array Be 81.27 322 P **P 16 37 47.8 -1.1**
AKASG PP PP 16 40 55.1 +0.3
AKBB Malin Array Si 81.27 322 eP **P 16 37 47.9 -1.0**
KIEV Kiev 81.28 322 eP **P 16 37 47.5 -1.5**
KIEV pmax pmax
comp=Z,12nm,0.8s,mb4.9
KIEV MLR MLR
comp=Z,1µm,22.0s,MS5.2
KIEV Kiev 81.28 322 eP **P 16 37 47.5 -1.5**
KIEV pmax pmax
comp=Z,12nm,0.8s,mb4.9
KIEV MLR MLR
comp=Z,1µm,22.0s,MS5.2
KIEV Kiev 81.28 322 eP **P 16 37 47.5 -1.5**
comp=Z,12nm,0.8s,mb4.9
KIEV LR LR
comp=Z,1µm,22.0s,MS5.2
SBA Scott Base 81.45 169 eP **P 16 37 48.1 -1.3**
comp=Z,16nm,0.9s,mb4.9
SBA LR LR
comp=Z,876nm,19.0s,MS5.1
VRI Vrincioaia 81.59 317⇓ P **P 16 37 51.7 +1.0**
PLOR Plostina 81.64 317⇓ P **P 16 37 51.8 +0.8**
MLR Muntele Rosu 82.03 317⇑ P **P 16 37 53.7 +0.6**
TSUM Tsumeb 82.33 251 P **P 16 37 53.4 -1.7**
comp=Z,3.0nm,0.7s,mb4.3,baz=12,slow=2.4,SNR=7.3
TSUM Tsumeb 82.33 251 eP **P 16 37 56.1 +1.0**
comp=Z,8.2nm,0.8s,mb4.7
TSUM LR LR
comp=Z,1µm,22.0s,MS5.3
SMY Shemya 82.95 36 PFAKE 16 38 10.0 +12
SMY LR LR
comp=Z,601nm,21.0s,MS4.9
BURAR Bucovina Array 83.02 319⇓ P **P 16 37 59.5 +1.4**
BUR08 Bucovina Ar. S 83.03 319 eP **P 16 37 59.0 +0.7**
VTS Vitosha 83.34 313⇓ P **P 16 38 00.1 +0.2**
PUL Pulkovo 83.46 331⇑ eP **P 16 38 00.2 +0.1**
VAY Valandovo 83.57 312 eP **P 16 37 58.6 -2.6**
JOF Joensuu 84.06 334 ep **P 16 38 02.6 -0.6**
comp=Z,15nm,1.1s,mb5.0
JOF Joensuu 84.06 334 eP **P 16 38 02.6 -0.6**
JOF pmax pmax
comp=Z,15nm,1.1s,mb5.0
GZR Gura Zlata 84.19 316⇓ P **P 16 38 05.4 +1.1**
LVV L'vov 84.27 321 eP **P 16 38 04.8 +0.3**
LVV e 16 49 28.4
LVV L'vov 84.27 321 eP **P 16 38 04.8 +0.3**
LVV e 16 41 22.4
LVV e 16 43 19.6
LVV eS S 16 48 27.8 -0.4
LVV e 16 49 28.4
LVV e 16 54 03.0
BILL Bilibino 84.50 20⇓ eP **P 16 38 05.1 -0.2**
BILL pmax pmax
comp=Z,71nm,2.5s,mb5.3

BILL Bilibino 84.50 20⇓ *eP* **P 16 38 05.1 -0.2**
BILL *e* 16 41 24.7
BILL pmax pmax
comp=Z,71nm,2.5s,mb5.3
BILL Bilibino 84.50 20 *eP* **P 16 38 05.5 +0.2**
BILL LR LR
comp=Z,2µm,20.0s,MS5.5
DRGR 84.51 318 ⇓P **P 16 38 07.2 +1.4**
KRUS Krusevo 84.56 312 *eP* **P 16 38 05.5 -0.7**
LVZ Lovozero 84.63 340⇑ *eP* **P 16 38 05.0 -0.9**
LVZ pmax pmax
comp=Z,30nm,1.3s,mb5.3
LVZ Lovozero 84.63 340⇑ *eP* **P 16 38 05.1 -0.8**
LVZ LR LR
comp=Z,2µm,21.0s,MS5.5
VSU Vasula 84.84 330 *c iP* **P 16 38 07.2 0.0**
VSU Vasula 84.84 330⇑ *iP* **P 16 38 07.3 +0.1**
OHR Ohrid 84.85 312 *eP* **P 16 38 04.8 -2.8**
APA Apatity 84.93 339⇑ *iP* **P 16 38 08.0 +0.5**
APA *i* 16 38 25.4
APA *e*S S 16 48 36.0 +1.9
APA *e*PS 16 49 44.0
APA pmax pmax
comp=Z,43nm,1.3s,mb5.4
APA MLR MLR
comp=Z,3µm,21.0s,MS5.6
BZS Buzias 85.04 316 ⇑P **P 16 38 08.8 +0.3**
KWP Kalwaria 85.08 320 *eP* **P 16 38 08.6 +0.1**
KWP Kalwaria 85.08 320 *eP* **P 16 38 08.6 0.0**
KWP LR LR
comp=Z,1µm,22.0s,MS5.2
UZH Uzhgorod 85.14 319⇓ *iP* **P 16 38 10.3 +1.3**
UZH *e* 16 38 23.0
UZH *e* 16 48 33.0
UZH *i* S S 16 48 39.5 +2.6
UZH *e* 16 49 28.0
UZH *e*SP 16 49 54.0
UZH MLR MLR
comp=N,830nm,18.0s,MS5.3
UZH MLR MLR
comp=E,670nm,18.0s,MS5.3
UZH MLR MLR
comp=Z,400nm,18.0s,MS4.8
KOLS Kolonicke sedl 85.22 320 *eP* **P 16 38 10.3 +1.0**
KOLS *e*S S 16 48 37.7 +0.1
TIR Tirane 85.58 312 PFAKE 16 38 20.0 +8.7
TIR LR LR
comp=Z,1µm,20.0s,MS5.2
SUW Suwalki 85.69 325 *eP* **P 16 38 11.4 -0.1**
SUW Suwalki 85.69 325 *eP* **P 16 38 11.4 -0.2**
CRVS Cervenica-Dubn 85.74 319 *eP* **P 16 38 12.7 +0.8**
CRVS *e*S S 16 48 45.6 +2.9
CRVS Cervenica-Dubn 85.74 319 *eP* **P 16 38 12.7 +0.8**
CRVS *e*S S 16 48 45.7 +3.0
STHS Stebnicka Huta 85.97 320 *eP* **P 16 38 14.0 +1.0**
STHS pmax pmax
comp=Z,12nm,0.9s,mb5.1
STHS Stebnicka Huta 85.97 320 *eP* **P 16 38 14.0 +1.0**
comp=Z,12nm,0.9s,mb5.1
KAF Kangasniemi 86.03 333 *ep* **P 16 38 12.6 -0.4**
comp=Z,18nm,0.9s,mb5.3,baz=99,slow=4.5
KAF Kangasniemi 86.03 333 *eP* **P 16 38 12.6 -0.4**
KAF pmax pmax
comp=Z,18nm,0.9s,mb5.3
NIE Niedzica 86.57 320 *eP* **P 16 38 17.2 +1.2**
NIE *ep*P pP 16 38 25.8 +0.5
PSZ Piszkesteto 86.60 318⇓ *eP* **P 16 38 16.8 +0.6**
PSZ Piszkesteto 86.60 318 *eP* **P 16 38 16.1 -0.1**
comp=Z,6.5nm,0.9s,mb4.9
PSZ LR LR
comp=Z,840nm,22.0s,MS5.1
WAR Warsaw 86.62 323 *eP* pP 16 38 26.1 +0.6
WAR Warsaw 86.62 323 *eP* pP 16 38 26.1 +0.6
AFI Afiamalu 86.69 104 PFAKE 16 38 30.0 +13
AFI LR LR
comp=Z,1µm,20.0s,MS5.2
OJC Ojcow 87.03 321 *eP* **P 16 38 18.4 +0.2**
OJC *ep*P pP 16 38 27.0 -0.6
OJC *e*S S 16 48 58.3 +3.0
OJC L 17 29 53.6
comp=Z,1.0nm,18.5s
BUD Budapest 87.11 318⇑ *eP* **P 16 38 20.0 +1.3**
PKSM Moragy 87.18 316 ⇓P **P 16 38 19.3 +0.2**
VYHS Vyhne 87.39 319 *eP* **P 16 38 19.7 -0.3**
VYHS *ep*P pP 16 38 29.3 0.0
VYHS *e*S S 16 48 59.8 +1.1
TIP Timpagrande 87.65 309 PFAKE 16 38 30.0 +8.5
TIP LR LR
comp=Z,573nm,19.0s,MS5.0
KOLL Kolacno 87.68 319 *eP* **P 16 38 21.8 +0.4**
KEV Kevo 87.87 340 PFAKE 16 38 30.0 +8.1
KEV LR LR
comp=Z,2µm,21.0s,MS5.5
OKC Ostrava-Krasne 88.03 320 *eP* **P 16 38 23.7 +0.7**
OKC *e**PP pP 16 38 32.7 +0.3
OKC *e*S S 16 49 05.6 +0.8
OKC MLR MLR
comp=Z,800nm,18.9s,MS5.2
OKC Ostrava-Krasne 88.03 320 *eP* **P 16 38 23.7 +0.7**
OKC *ep*P pP 16 38 32.7 +0.3
OKC *e*S S 16 49 05.6 +0.8
OKC *ex* x 17 02 18.8
OKC AMS AMS 17 30 20.0
comp=Z,800nm,18.9s
OKC Ostrava-Krasne 88.03 320 *eP* **P 16 38 23.7 +0.7**
OKC *ep*P pP 16 38 32.7 +0.3
OKC *e*S S 16 49 05.6 +0.8
OKC *e* 17 02 18.8
ARCES ARCESS Array B 88.32 340 P **P 16 38 20.9 -3.0**
comp=Z,21nm,1.0s,mb5.3,baz=151,slow=2.8,SNR=8.2
ARCES ARCESS Array B 88.32 340 P **P 16 38 20.9 -3.0**
MODS Modra-Piesok 88.40 318 *eP* **P 16 38 25.0 +0.2**
MODS *e*S S 16 49 09.4 +1.0
MORC Moravsky Berou 88.41 320 ⇑P **P 16 38 25.5 +0.7**
MORC Moravsky Berou 88.41 320 *eP* **P 16 38 23.7 -1.1**
comp=Z,16nm,1.1s,mb5.2
CUC Castrocucco 88.46 310 PFAKE 16 38 40.0 +15
CUC LR LR
comp=Z,1µm,21.0s,MS5.4
ZST Bratislava 88.49 318 *eP* **P 16 38 25.2 -0.1**
ZST *e* pP 16 38 34.6 0.0
ZST pmax pmax
comp=Z,12nm,1.0s,mb5.1
ZST Bratislava 88.49 318 *eP* **P 16 38 25.2 -0.1**
comp=Z,12nm,1.0s,mb5.1
ZST *e* pP 16 38 34.6 0.0
ZST *e*S S 16 49 17.9 +8.6
GKP Gorka Klasztor 89.05 323 *eP* **P 16 38 28.4 +0.6**
GKP Gorka Klasztor 89.05 323 *eP* **P 16 38 28.4 +0.6**
GCIS Gornji Cirnik 89.22 316 *eP* **P 16 38 29.6 +0.9**
GCIS *ep*P pP 16 38 38.1 0.0
DPC Dobruska-Polom 89.26 320 *eP* **P 16 38 29.6 +0.8**
DPC *ep*P pP 16 38 38.4 +0.2
DPC *e*S S 16 49 17.7 +1.3
DPC AMS AMS 17 29 00.0
comp=Z,600nm,16.2s
KSP Ksiaz 89.33 321 *eP* **P 16 38 30.4 +1.3**
KSP Ksiaz 89.33 321 *eP* **P 16 38 30.3 +1.1**
KSP *ep*P pP 16 38 38.2 -0.3
KSP *e*PP PP 16 42 03.0 +2.8
KSP *e*S S 16 49 17.0 -0.1
KSP LR LR
comp=Z,2µm,24.2s,MS5.4
ARSA Arzberg 89.44 317⇑ *i*PcP PcP 16 38 30.6 -0.6
comp=Z,23nm,1.0s
BOJS Bojanci 89.45 315 *eP* **P 16 38 30.3 +0.5**
UPC Upice 89.47 321 *eP* **P 16 38 31.1 +1.3**
UPC *ep*P pP 16 38 40.1 +0.9
PERS Pernice 89.65 317 *eP* **P 16 38 31.4 +0.6**
PERS *ep*P pP 16 38 39.9 -0.2
TREC Trest 89.68 319 *eP* **P 16 38 31.4 +0.6**
TREC *e**PP pP 16 38 39.9 -0.3
TREC *e*S S 16 49 20.8 +0.4
TREC MLR MLR
comp=Z,1µm,15.6s,MS5.3
TREC Trest 89.68 319 *eP* **P 16 38 31.4 +0.6**
TREC *ep*P pP 16 38 39.9 -0.3
TREC *e*S S 16 49 20.8 +0.4
TREC *ex* x 17 02 29.5
TREC AMS AMS 17 31 30.0
comp=Z,1µm,15.6s
SOKA Soboth 89.72 317⇑ *i*PcP PcP 16 38 32.0 -0.4
comp=Z,23nm,0.8s

LJU Ljubljana 90.00 316 *eP* **P 16 38 33.1 +0.7**
PRU Pruhonice 90.36 320 *eP* **P 16 38 34.5 +0.5**
PRU *e**PP pP 16 38 43.0 -0.3
PRU *e*S S 16 49 28.7 +2.0
PRU MLR MLR
comp=Z,700nm,16.1s,MS5.2
PRU Pruhonice 90.36 320 *eP* **P 16 38 34.5 +0.5**
PRU *ep*P pP 16 38 43.0 -0.3
PRU *e*S S 16 49 28.7 +2.0
PRU *ex* x 17 02 18.5
PRU AMS AMS 17 32 00.0
comp=Z,700nm,16.1s
PVCC Panska Ves 90.39 320 *eP* **P 16 38 35.3 +1.2**
PVCC *ep*P pP 16 38 44.4 +0.9
PVCC *e*S S 16 49 29.5 +2.6
PVCC AMS AMS 17 29 40.0
comp=Z,800nm,17.4s
TRI Trieste 90.51 316 PFAKE 16 38 50.0 +15
TRI LR LR
comp=Z,809nm,22.0s,MS5.1
SNAA Sanae 90.75 198 *eP* **P 16 38 37.8 +2.4**
SNAA Sanae 90.75 198 *eP* **P 16 38 37.8 +2.4**
SNAA *e* pP 16 38 47.1 +2.3
SNAA *e* 16 38 51.6
SNAA *e* 16 38 58.1
SNAA Sanae 90.75 198 *eP* **P 16 38 37.1 +1.7**
SNAA pmax pmax
comp=Z,37nm,1.5s
SNAA Sanae 90.75 198 *eP* **P 16 38 37.1 +1.7**
comp=Z,37nm,1.5s,mb5.5
GEC2 GERESS Array S 90.81 319 *eP* **P 16 38 36.8 +0.7**
GEC2 pmax pmax
comp=Z,21nm,1.2s,mb5.3
GEC2 GERESS Array S 90.81 319 *eP* **P 16 38 36.8 +0.7**
comp=Z,21nm,1.2s,mb5.3
GERES GERESS Array B 90.81 319 P **P 16 38 33.6 -2.5**
comp=Z,8.1nm,1.0s,mb5.0,baz=103,slow=4.2,SNR=32
GERES GERESS Array B 90.81 319 P **P 16 38 33.6 -2.5**
GERES pmax pmax
comp=Z,8.0nm,1.0s
BRG Berggiesshubel 90.82 321 *eP* **P 16 38 36.8 +0.7**
BRG *e* pP 16 38 45.5 +0.1
BRG S S 16 49 33.0 +2.2
BRG pmax pmax
comp=Z,7.0nm,1.2s,mb4.9
BRG MLR MLR
comp=N,353nm,13.7s
BRG MLR MLR
comp=E,362nm,18.9s
BRG MLR MLR
comp=Z,579nm,22.1s
BRG Berggiesshubel 90.82 321 *eP* **P 16 38 36.6 +0.5**
BRG *ep*P pP 16 38 45.6 +0.2
BRG Berggiesshubel 90.82 321 *eP* **P 16 38 36.8 +0.7**
comp=Z,12nm,1.1s,mb5.1
BRG *e* pP 16 38 45.5 +0.1
comp=Z,23nm,1.3s
BRG S S 16 49 33.0 +2.2
BRG
comp=N,590nm,13.7s
BRG
comp=E,605nm,18.9s
BRG
comp=Z,967nm,22.1s
KHC Kasperske Hory 90.91 319 *eP* **P 16 38 36.6 0.0**
KHC *e**PP pP 16 38 45.7 -0.2
KHC *e*S S 16 49 32.9 +1.1
KHC MLR MLR
comp=Z,1µm,22.4s,MS5.3
KHC Kasperske Hory 90.91 319 *eP* **P 16 38 36.6 0.0**
KHC *ep*P pP 16 38 45.7 -0.2
KHC *ex* x 16 42 27.0
KHC *e*S S 16 49 32.9 +1.1
KHC AMS AMS 17 26 10.0
comp=Z,1µm,22.4s
WET Wettzell 91.37 319 *eP* **P 16 38 39.2 +0.5**
CLL Collm 91.44 321 *i* P **P 16 38 38.7 -0.3**
CLL *e*S S 16 49 36.0 -0.5
CLL pmax pmax
comp=Z,14nm,1.3s,mb5.1
CLL MLR MLR
comp=Z,900nm,20.8s,MS5.2
CLL Collm 91.44 321 *eP* **P 16 38 39.4 +0.4**
CLL Collm 91.44 321 *i* P **P 16 38 38.7 -0.3**
comp=Z,14nm,1.3s,mb5.1
CLL LmV 16 29 00.0
comp=Z,900nm,20.8s
CLL *i* pP pP 16 38 47.5 -0.8
CLL *e*S S 16 49 36.0 -0.5
CLL Collm 91.44 321 *i* P **P 16 38 38.7 -0.3**
comp=Z,14nm,1.3s,mb5.1
CLL *e*S S 16 49 36.0 -0.5
CLL LR LR
comp=Z,900nm,20.8s,MS5.2
NKC Novy Kostel 91.72 320 *eP* **P 16 38 41.7 +1.4**
NKC *ep*P pP 16 38 50.8 +1.1
NKC *e*S S 16 49 34.2 -4.9
NKC AMS AMS 17 24 00.0
comp=Z,1µm,25.4s
NKC Novy Kostel 91.72 320 *eP* **P 16 38 41.7 +1.4**
NKC *ep*P pP 16 38 50.8 +1.1
NKC *e*S S 16 49 34.2 -4.9
TANN Tannenbergstha 91.72 320 *eP* **P 16 38 40.7 +0.4**
ROTZ Rotzenmuhle 91.85 320 *eP* **P 16 38 41.5 +0.6**
MOX Moxa 92.28 320 *eP* **P 16 38 43.9 +1.0**
MOX *e* pP 16 38 52.6 +0.4
MOX
comp=Z,40nm,1.9s
MOX
comp=Z,800nm,20.0s
MOX Moxa 92.28 320 *eP* **P 16 38 43.8 +0.9**
comp=Z,13nm,1.2s,mb5.1
MOX *ep*P pP 16 38 52.2 0.0
MOX Moxa 92.28 320 *eP* **P 16 38 43.9 +1.0**
comp=Z,40nm,1.9s,mb5.4
MOX *e* pP 16 38 52.6 +0.4
MOX LR LR
comp=Z,800nm,20.0s,MS5.2
VNA2 Neumayer--Watz 92.37 198 *eP* **P 16 38 44.5 +1.6**
baz=79,slow=3.4
VNA2 *e* pP 16 38 52.2 -0.1
VNA2 *e* 16 38 57.0
VNA2 *e* 16 39 06.8
GRA1 Grafenberg Arr 92.48 319 *eP* **P 16 38 44.5 +0.7**
comp=Z,26nm,1.3s,mb5.4
GRA1 *ep*P pP 16 38 54.3 +1.1
GRF Grafenberg Arr 92.48 319 *eP* **P 16 38 44.5 +0.7**
GRF *e**PP pP 16 38 54.3 +1.1
GRF pmax pmax
comp=Z,26nm,1.3s,mb5.4
GRF Grafenberg Arr 92.48 319 *eP* **P 16 38 44.5 +0.7**
GRF *e**PP pP 16 38 54.3 +1.1
GRF pmax pmax
comp=Z,26nm,1.3s,mb5.4
GRF Grafenberg Arr 92.48 319 *eP* **P 16 38 44.5 +0.7**
comp=Z,26nm,1.3s,mb5.4
GRF *ep*P pP 16 38 54.3 +1.1
VNA1 Neumayer--Stat 92.73 198 *eP* **P 16 38 46.9 +2.3**
VNA1 *e* pP 16 38 54.6 +0.6
VNA1 *e* 16 38 59.8
VNA1 *e* 16 39 08.7
VLC Villacollemand 92.80 314 PFAKE 16 39 00.0 +15
VLC LR LR
comp=Z,958nm,21.0s,MS5.2
VNA3 Neumayer Olymp 92.97 198 *eP* pP 16 38 55.5 +0.5
VNA3 *e* 16 39 01.2
NB2 NORSAR Subarra 92.98 331 P **P 16 38 45.5 -0.4**
comp=Z,12nm,1.1s,mb5.3,baz=95,slow=5.3
NOA NORSAR Array B 92.98 331 P **P 16 38 45.1 -0.8**
comp=Z,5.8nm,1.0s,mb5.0,baz=93,slow=4.7,SNR=8.2
NOA NORSAR Array B 92.98 331 P **P 16 38 45.1 -0.8**
NOA pmax pmax
comp=Z,6.0nm,1.0s
CLZ Clausthal 93.11 322 *eP* **P 16 38 47.1 +0.4**
CLZ *ep*P pP 16 38 55.5 -0.5
NAO01 NORSAR Array S 93.14 331 PFAKE 16 39 00.0 +13
NAO01 LR LR
comp=Z,2µm,21.0s,MS5.5
BSEG Bad Segeberg 93.21 324 *eP* **P 16 38 47.4 +0.3**
KEST Kesra 93.27 305 P **P 16 38 48.1 +0.3**
comp=Z,4.8nm,0.9s,mb4.9,baz=216,slow=2.0,SNR=4.0
DAVA Damuels 93.28 317⇑ *i*PcP PcP 16 38 48.0 -0.1
comp=Z,19nm,0.9s
KBS Kingsbay 93.38 349 PFAKE 16 39 00.0 +13
KBS LR LR
comp=Z,2µm,21.0s,MS5.6
TUE Stuetta 93.62 316 PFAKE 16 39 00.0 +11
TUE LR LR
comp=Z,763nm,20.0s,MS5.2
PGF Pioggiola 93.76 312 *eP* **P 16 38 47.8 -2.1**
TNS Taunus Mts 94.29 320 *eP* **P 16 38 52.9 +0.8**
BFO Black Forest 94.34 318 PFAKE 16 39 00.0 +7.6
BFO LR LR
comp=Z,615nm,19.0s,MS5.1
IBBN Ibbenburen 94.73 322 *eP* **P 16 38 54.2 +0.1**
SBF Sospel 94.92 314 *eP* **P 16 38 51.2 -4.0**
SBF Sospel 94.92 314 *eP* **P 16 38 51.2 -4.0**
CDF Champ du Feu 95.05 318 *eP* **P 16 38 54.4 -1.3**
HINF Hinteralfeld 95.33 318 *eP* **P 16 38 56.1 -0.9**
MBDF Montbardon 95.40 314 *eP* **P 16 38 54.4 -3.0**
comp=Z,28nm,1.3s,mb5.2
MBDF Montbardon 95.40 314 *eP* **P 16 38 54.4 -3.0**
comp=Z,14nm,1.3s,mb5.2
LPG La Plagne 95.42 315 *eP* **P 16 38 55.3 -2.1**
LPG La Plagne 95.42 315 *eP* **P 16 38 55.3 -2.1**
LPL La Plagne 95.43 315 *eP* **P 16 38 55.2 -2.3**
comp=Z,57nm,1.6s,mb5.5
LPL La Plagne 95.43 315 *eP* **P 16 38 55.2 -2.3**
comp=Z,28nm,1.6s,mb5.5
BNI Bardonecchia 95.47 315 PFAKE 16 39 10.0 +12
BNI LR LR
comp=Z,1µm,22.0s,MS5.3
HAU Haudompre 95.67 318 *eP* **P 16 38 55.8 -2.7**
comp=Z,18nm,1.0s,mb5.1
HAU Haudompre 95.67 318 *eP* **P 16 38 55.8 -2.7**
comp=Z,8.9nm,1.0s,mb5.2
WLF Walferdange 95.77 319 *eP* **P 16 39 00.3 +1.4**
WLF Walferdange 95.77 319 PFAKE 16 39 10.0 +11
WLF LR LR
comp=Z,728nm,20.0s,MS5.2
CABF La Chapelle 95.87 316 *eP* **P 16 38 57.0 -2.5**
CABF La Chapelle 95.87 316 *eP* **P 16 38 57.0 -2.5**
BAIF Baives 97.02 320 *eP* **P 16 39 01.6 -3.0**
comp=Z,11nm,0.8s,mb5.0
BAIF Baives 97.02 320 *eP* **P 16 39 01.6 -3.0**
comp=Z,5.3nm,0.8s,mb5.0
LOR Lormes 97.37 317 *eP* **P 16 39 05.2 -1.1**
SSF Saint Saulge 97.62 317 *eP* **P 16 39 05.9 -1.5**
SSF Saint Saulge 97.62 317 *eP* **P 16 39 05.9 -1.5**
AVF Avril sur Loir 97.74 317 *eP* **P 16 39 04.1 -3.8**
AVF Avril sur Loir 97.74 317 *eP* **P 16 39 04.1 -3.8**
TORD Torodi Ar. Bea 99.62 283 PKKPbc PKKPbc 16 55 35.5 -3.1
comp=Z,0.1nm,0.5s,baz=162,slow=39,SNR=2.6
IMA2 Indian Mountai 99.67 23 *eP* Pdif 16 39 16.1 -0.3
FLN La Foliniere 100.17 319 *eP* Pdif 16 39 17.3 -1.3
FLN La Foliniere 100.17 319 *eP* Pdif 16 39 17.3 -1.3
ESK Eskdalemuir 100.96 326 PFAKE 16 39 30.0 +7.9
ESK LR LR
comp=Z,999nm,19.0s,MS5.3
KDAK Kodiak Island 101.99 32 PFAKE 16 39 40.0 +13
KDAK LR LR
comp=Z,502nm,21.0s,MS5.0
ROSF Rostrenen 102.06 319 *eP* Pdif 16 39 24.8 -2.2
comp=Z,72nm,1.4s
ROSF Rostrenen 102.06 319 *eP* Pdif 16 39 24.8 -2.2
comp=Z,36nm,1.4s
COLA College 102.34 24 PFAKE 16 39 40.0 +12
COLA LR LR
comp=Z,975nm,20.0s,MS5.3
PMR Palmer 102.75 27 PFAKE 16 39 40.0 +10
PMR LR LR
comp=Z,1µm,20.0s,MS5.4
ESLA Sonseca Array 103.66 310 PFAKE 16 39 50.0 +16
ESLA LR LR
comp=Z,3µm,20.0s,MS5.8
PAB San Pablo 103.97 310 PFAKE 16 39 50.0 +14
PAB LR LR
comp=Z,613nm,20.0s,MS5.1
SHEL Horse Pasture 104.76 253 PFAKE 16 39 50.0 +11
SHEL LR LR
comp=Z,2µm,20.0s,MS5.6
SFS San Fernando 105.80 307 PFAKE 16 44 10.0 +13
SFS LR LR
comp=Z,1µm,21.0s,MS5.4
DBIC Dimbokro 105.89 276 PFAKE 16 44 10.0 +12
DBIC LR LR
comp=Z,779nm,22.0s,MS5.2
MTE Manteigas 106.29 311 PFAKE 16 44 10.0 +12
MTE LR LR
comp=Z,713nm,19.0s,MS5.2
TBI Tubuai 106.59 116 *e*PS PS 16 53 32.2 -0.9
comp=Z,264nm,25.5s
TBI *e*SS SS 16 59 20.9 +4.8
comp=Z,734nm,26.8s
TBI Tubuai 106.59 116 *e*LR LR 17 15 13.3
comp=Z,2µm,23.0s
RTC Rabat Centre 106.64 304 PFAKE 16 44 10.0 +12
RTC LR LR
comp=Z,664nm,19.0s,MS5.2
PPT Papeete 107.55 110 *e*PP PP 16 44 08.7 -12
comp=Z,162nm,25.0s
PPT Papeete 107.55 110 *e*PS PS 16 53 39.3 -3.9
comp=Z,405nm,24.8s
PPT Papeete 107.55 110 *e*LR LR 17 15 45.4
comp=Z,1µm,21.8s
PMSA Palmer Station 110.77 187 PFAKE 16 44 20.0 +15
PMSA LR LR
comp=Z,1µm,20.0s,MS5.5
SIT Sitka 110.99 29 PFAKE 16 44 20.0 +14
SIT LR LR
comp=Z,1µm,21.0s,MS5.5
SFJD Kangerlussuaq 113.78 348 PFAKE 16 44 20.0 +9.0
SFJD LR LR
comp=Z,1µm,20.0s,MS5.5
ASCN Ascension 114.23 260 PFAKE 16 44 30.0 +17
ASCN LR LR
comp=Z,1µm,20.0s,MS5.6
YKA Yellowknife Ar 115.78 17 PP PP 16 45 14.2 -3.6
comp=Z,1.1nm,0.7s,baz=324,slow=6.1,SNR=3.8
RKT Rikitea 119.51 119 *e*LR LR 17 21 17.4
comp=Z,2µm,26.5s
EFI East Falkland 121.94 195 PFAKE 16 44 40.0 +13
EFI LR LR
comp=Z,690nm,20.0s,MS5.3
COR Corvallis 123.89 37 PFAKE 16 44 40.0 +8.9
COR LR LR
comp=Z,1µm,20.0s,MS5.6
RSW Rattlesnake Hi 124.96 33 PKPdf PKPdf 16 44 34.0 +0.9
HUMO Hull Mountain 125.18 39 PFAKE 16 44 40.0 +6.4
HUMO LR LR
comp=Z,1µm,21.0s,MS5.5
YBH Yreka Blue Hor 125.80 39 PKP PKPdf 16 44 34.4 -0.4
comp=Z,2.2nm,0.9s,baz=191,slow=13,SNR=2.4
YBH Yreka Blue Hor 125.80 39 PKP PKPdf 16 44 34.4 -0.4
YBH LR LR
comp=Z,775nm,19.0s,MS5.4
FFC Flin Flon 125.90 16 PFAKE 16 44 50.0 +15
FFC LR LR
comp=Z,1µm,20.0s,MS5.7
WDC Whiskeytown Da 126.52 41 PFAKE 16 44 50.0 +14
WDC LR LR
comp=Z,911nm,20.0s,MS5.5
BMO Blue Mountains 127.17 33 *e*PKPdf PKPdf 16 44 37.3 0.0
BMO LR LR
comp=Z,702nm,19.0s,MS5.4
MOD Modoc 127.21 38 *e*PKPdf PKPdf 16 44 38.4 +0.9
MOD *e* 16 44 48.3
MOD LR LR
comp=Z,633nm,19.0s,MS5.3
MSO Missoula 127.61 30 PFAKE 16 44 50.0 +12
MSO LR LR
comp=Z,802nm,20.0s,MS5.4
CHMT Chamberlain Mo 127.88 29 *e*PKPdf PKPdf 16 44 38.6 0.0
CMB Columbia Colle 129.28 42 PFAKE 16 44 50.0 +8.4
CMB LR LR
comp=Z,939nm,19.0s,MS5.5
DLMT Dillon 129.30 30 *e*PKPdf PKPdf 16 44 42.5 +1.1
MCMT McKenzie Canyo 129.55 31 *e*PKPdf PKPdf 16 44 43.5 +1.7
HLID Hailey 129.59 33 PFAKE 16 44 50.0 +8.0
HLID LR LR
comp=Z,1µm,22.0s,MS5.5
BMN Battle Mountai 129.95 38 PFAKE 16 44 50.0 +7.2
BMN LR LR
comp=Z,1µm,19.0s,MS5.5
QLMT Earthquake Lak 130.26 30 *e*PKPdf PKPdf 16 44 45.4 +2.2
NVAR Mina Array Bea 130.44 41 PKP PKPdf 16 44 42.1 -1.6
comp=Z,4.8nm,0.9s,baz=280,slow=1.9,SNR=17
NVAR PP PP 16 46 55.0 -2.5
comp=Z,1.0nm,1.0s,baz=337,slow=2.1,SNR=2.2
NVAR SKPbc SKPbc 16 48 06.4 +1.2

comp=Z,5.3nm,1.1s,baz=270,slow=3.6,SNR=7.8
YMR Madison River 130.61 30 PFAKE 16 45 00.0 +16
YMR LR LR
comp=Z,2μm,22.0s,MS5.7
YFT Old Faithful 130.83 30 *e*PKPdf PKPdf 16 44 46.2 +1.9
ELK Elko 130.95 36 PKP PKPdf 16 44 44.3 -0.4
comp=Z,3.4nm,0.9s,baz=341,slow=1.9,SNR=12
ELK Elko 130.95 36 PKP PKPdf 16 44 44.3 -0.4
ELK LR LR
comp=Z,998nm,21.0s,MS5.5
LKWY Lake 130.96 29 PFAKE 16 45 00.0 +15
LKWY LR LR
comp=Z,2μm,19.0s,MS5.8
RLMT Red Lodge 131.09 28 PFAKE 16 45 00.0 +15
RLMT LR LR
comp=Z,1μm,21.0s,MS5.7
LAO LASA Array 131.22 25 PFAKE 16 45 00.0 +15
LAO LR LR
comp=Z,1μm,20.0s,MS5.5
RRI2 Red Ridge 131.38 31 *e*PKPdf PKPdf 16 44 46.0 +0.6
ULM Lac du Bonnet 131.54 14 PKP PKPdf 16 44 44.5 -0.9
comp=Z,8.1nm,0.9s,baz=129,slow=3.9,SNR=5.1
ULM Lac du Bonnet 131.54 14 PKP PKPdf 16 44 44.5 -0.9
ULM LR LR
comp=Z,2μm,20.0s,MS5.8
LOHW Long Hollow 131.55 30 *e*PKPdf PKPdf 16 44 46.6 +1.0
REDW Red Top Meadow 131.60 31 PKPdf PKPdf 16 44 46.1 +0.3
ISA Isabella 131.84 44 PFAKE 16 45 00.0 +14
ISA LR LR
comp=Z,809nm,20.0s,MS5.4
AHID Auburn Hatcher 131.90 31 PFAKE 16 45 00.0 +14
AHID LR LR
comp=Z,1μm,20.0s,MS5.5
DAC Darwin (Calif) 132.10 42 PFAKE 16 45 00.0 +13
DAC LR LR
comp=Z,1μm,19.0s,MS5.5
HWUT Hardware Ranch 132.46 33 *e*PKPdf PKPdf 16 44 47.3 -0.2
HWUT LR LR
comp=Z,973nm,19.0s,MS5.5
TPNV Topopah Spring 132.62 41 PFAKE 16 45 00.0 +12
TPNV LR LR
comp=Z,674nm,20.0s,MS5.3
BW06 Boulder Array 132.69 30 PFAKE 16 45 00.0 +12
BW06 LR LR
comp=Z,1μm,19.0s,MS5.6
PDAR Pinedale Array 132.69 30 PKP PKPdf 16 44 46.6 -1.2
comp=Z,1.3nm,0.7s,baz=254,slow=1.1,SNR=7.5
PDAR PP PP 16 47 08.0 -3.7
comp=Z,1.5nm,1.0s,baz=338,slow=3.9,SNR=3.0
MWC Mount Wilson 132.88 45 PFAKE 16 45 00.0 +11
MWC LR LR
comp=Z,702nm,20.0s,MS5.4
MPU Maple Canyon 133.51 35 PFAKE 16 45 00.0 +10
MPU LR LR
comp=Z,1μm,19.0s,MS5.7
MVU Marysvale 134.18 37 PFAKE 16 45 00.0 +9.2
MVU LR LR
comp=Z,820nm,20.0s,MS5.4
MSU Marysvale 134.20 36 PKIKP PKPdf 16 44 51.1 +0.3
PFO Pinyon Flat Ob 134.34 45 PKP PKPdf 16 44 51.5 +0.2
comp=Z,9.3nm,1.1s,baz=282,slow=1.2,SNR=6.0
PFO Pinyon Flat Ob 134.34 45 PKIKP PKPdf 16 44 51.5 +0.2
PFO pmax pmax
comp=Z,9.0nm,1.1s
PLCA Paso Flores 135.06 189 PP PP 16 47 26.5 +0.4
comp=Z,1.2nm,0.6s,baz=73,slow=20,SNR=6.3
PLCA Paso Flores 135.06 189 PFAKE 16 45 00.0 +7.6
PLCA LR LR
comp=Z,1μm,20.0s,MS5.7
TRQA Tornquist 135.46 200 PFAKE 16 45 10.0 +17
TRQA LR LR
comp=Z,722nm,20.0s,MS5.4
RCBR Riachuelo 135.66 258 PFAKE 16 45 10.0 +16
RCBR LR LR
comp=Z,1μm,19.0s,MS5.7
PV10 Paradox Valley 136.10 34 *e*PKPdf PKPdf 16 44 55.7 +1.3
PKME Peaks-Kenny Pk 137.70 350 PFAKE 16 45 10.0 +13
PKME LR LR
comp=Z,1μm,21.0s,MS5.6
SDCO Great Sand Dun 138.49 32 PFAKE 16 45 10.0 +11
SDCO LR LR
comp=Z,1μm,21.0s,MS5.7
TUC Tucson 138.99 42 PFAKE 16 45 10.0 +10
TUC LR LR
comp=Z,763nm,19.0s,MS5.5
LBNH Lisbon 139.12 352 PFAKE 16 45 10.0 +10
LBNH LR LR
comp=Z,2μm,19.0s,MS5.8
NCB Newcomb 139.66 354 PFAKE 16 45 10.0 +9.2
NCB LR LR
comp=Z,1μm,19.0s,MS5.6
ANMO Albuquerque 139.98 36 PKP PKPdf 16 44 57.8 -3.8
comp=Z,5.1nm,1.1s,baz=236,slow=3.6,SNR=7.5
ANMO Albuquerque 139.98 36 PKIKP PKPdf 16 44 57.8 -3.9
ANMO pmax pmax
comp=Z,5.0nm,1.1s
ANMO Albuquerque 139.98 36 PKP PKPdf 16 44 57.8 -3.8
ANMO LR LR
comp=Z,1μm,20.0s,MS5.6
CBKS Cedar Bluff 140.40 25 PFAKE 16 45 10.0 +7.7
CBKS LR LR
comp=Z,1μm,20.0s,MS5.6
HRV Adam Dziewonsk 140.76 351 PFAKE 16 45 10.0 +7.2
HRV LR LR
comp=Z,1μm,21.0s,MS5.6
WES Weston 140.84 351 PFAKE 16 45 10.0 +7.0
WES LR LR
comp=Z,721nm,21.0s,MS5.4
BINY Binghamton 141.56 356 PFAKE 16 45 20.0 +16
BINY LR LR
comp=Z,2μm,21.0s,MS5.7
ERPA Erie 141.75 1 PFAKE 16 45 20.0 +15
ERPA LR LR
comp=Z,1μm,21.0s,MS5.6
AMTX Amarillo 142.66 31 PFAKE 16 45 20.0 +14
AMTX LR LR
comp=Z,1μm,19.0s,MS5.8
SSPA Standing Stone 143.22 358 PFAKE 16 45 20.0 +13
SSPA LR LR
comp=Z,1μm,20.0s,MS5.6
BDFB Brasilia 143.58 237 PFAKE 16 45 20.0 +11
BDFB LR LR
comp=Z,867nm,19.0s,MS5.5
BLO Bloomington 144.09 10 *e*PKPpre 16 45 05.3
CCM Cathedral Cave 144.10 16 *e*PKPdf PKPdf 16 45 06.0 -2.9
CCM LR LR
comp=Z,1μm,21.0s,MS5.6
MCWV Mont Chateau 144.21 1 *e*PKP PKPdf 16 45 06.7 -2.4
MCWV LR LR
comp=Z,1μm,19.0s,MS5.7
OLIL Olney 144.22 12 *e*PKP PKPdf 16 45 06.5 -2.6
FVM French Village 144.39 15 *e*PKP PKPdf 16 45 06.7 -2.8
SIUC Southern Illin 144.95 14 *e*PKPdf PKPdf 16 45 08.8 -1.6
WCI Wyandotte Cave 145.05 10 *e*PKIKP PKPdf 16 45 09.3 -1.2
WCI MLR MLR
comp=Z,1μm,19.0s,MS5.8
USIN University of 145.05 12 *e*PKP PKPdf 16 45 09.3 -1.3
TXAR Lajitas Array 145.58 40 PKPbc PKPbc 16 45 10.0 -1.9
comp=Z,89nm,1.0s,baz=277,slow=2.1,SNR=55
TXAR Lajitas Array 145.58 40 PKIKP PKPdf 16 45 10.0 -1.7
TXAR pmax pmax
comp=Z,89nm,1.0s
CBN Corbin 145.62 357 *e*PKP PKPdf 16 45 11.2 -0.3
CBN LR LR
comp=Z,910nm,19.0s,MS5.6
PARMO Parma 145.81 15 *e*PKP PKPdf 16 45 12.4 +0.4
URVA University of 146.26 358 *e*PKPbc PKPbc 16 45 13.2 -0.5
GLAT Glass 146.31 15 *e*PKPdf PKPdf 16 45 11.8 -1.0
UTMT University of 146.34 14 *e*PKPbc PKPbc 16 45 14.1 +0.1
LCO Las Campanas 146.44 194 PFAKE 16 45 30.0 +17
LCO LR LR
comp=Z,1μm,20.0s,MS5.6
MIAR Mount Ida 146.56 22 *e*PKP2 PKPab 16 45 14.3 -1.4
ELN Prospectdale 146.61 2 *e*PKPbc PKPbc 16 45 13.3 -1.5
BLA Blacksburg 146.64 2 *e*PKP2 PKPbc 16 45 13.6 -1.2
WVT Waverly 146.78 13 *e*PKP2 PKPab 16 45 14.6 -1.9
WVT MLR MLR
comp=Z,1μm,20.0s,MS5.6
JCT Junction City 147.06 34 *e*PKP2 PKPbc 16 45 14.9 -1.4
TZTN Tazewell 147.09 6 *e*PKPbc PKPbc 16 45 15.4 -0.7
TZTN LR LR
comp=Z,2μm,20.0s,MS5.8
OXF Oxford 147.94 16 *e*PKP2 PKPbc 16 45 17.3 -1.2
OXF MLR MLR
comp=Z,1μm,21.0s,MS5.7

TKL Tuckaleechee C 147.94 7 PKPbc PKPbc 16 45 17.4 -1.1
comp=Z,41nm,1.1s,baz=166,slow=1.2,SNR=17
TKL Tuckaleechee C 147.94 7 *e*PKPbc PKPbc 16 45 17.7 -0.8
CPCT Cooper Cave 148.04 8 *e*PKPbc PKPbc 16 45 17.3 -1.5
SWET Sewanee 148.05 10 *e*PKPbc PKPbc 16 45 17.6 -1.2
BBSR BB Station 148.38 336 PFAKE 16 45 30.0 +14
BBSR LR LR
comp=Z,630nm,21.0s,MS5.4
NATX Nacogdoches 148.57 26 *e*PKPbc PKPbc 16 45 19.4 -0.9
NATX LR LR
comp=Z,1μm,20.0s,MS5.6
CNNC Cliffs of the 148.60 358 PFAKE 16 45 30.0 +13
CNNC LR LR
comp=Z,1μm,20.0s,MS5.7
JSC Jenkinsville 149.53 3 *e*PKP2 PKPbc 16 45 22.4 -0.2
HKT Hockley 149.55 29 *e*PKHKP 16 45 20.0
HKT MLR MLR
comp=Z,1μm,19.0s,MS5.7
VBMS Vicksburg 149.74 19 *e*PKPbc PKPbc 16 45 22.8 -0.4
VBMS LR LR
comp=Z,985nm,20.0s,MS5.6
LRAL Lakeview Retre 149.94 13 *e*PKPbc PKPbc 16 45 22.0 -1.7
LRAL LR LR
comp=Z,2μm,21.0s,MS5.8
GOGA Godfrey 150.19 7 *e*PKP2 PKPbc 16 45 23.8 -0.5
KVTX Kingsville 150.37 35 *e*PKPbc PKPbc 16 45 26.3 +1.4
NHSC New Hope 150.74 2 *e*PKPbc PKPbc 16 45 25.9 +0.3
NHSC LR LR
comp=Z,1μm,20.0s,MS5.7
LVC Limon Verde 151.95 201 PKPbc PKPbc 16 45 29.6 +0.9
comp=Z,4.5nm,0.9s,baz=115,slow=4.3,SNR=3.9
LVC PKPab PKPab 16 45 38.0 +0.2
comp=Z,8.7nm,0.7s,baz=340,slow=1.2,SNR=7.8
LVC Limon Verde 151.95 201 *e*PKPbc PKPbc 16 45 29.5 +0.8
LVC LR LR
comp=Z,914nm,19.0s,MS5.6
SIV San Ignacio 153.41 222 PKPbc PKPbc 16 45 30.9 -1.2
comp=Z,1.6nm,0.7s,baz=119,slow=3.8,SNR=9.3
SIV PKPab PKPab 16 45 39.9 -4.2
comp=Z,4.8nm,0.7s,baz=114,slow=5.1,SNR=16
DWPF Disney 155.65 5 PFAKE 16 45 40.0 +13
DWPF LR LR
comp=Z,875nm,20.0s,MS5.6
LPAZ La Paz 157.28 209 PKP PKPdf 16 45 30.6 +0.9
comp=Z,0.8nm,0.6s,baz=229,slow=1.6,SNR=3.8
LPAZ PKPab PKPab 16 46 02.9 +2.3
comp=Z,1.9nm,0.8s,baz=288,slow=5.6,SNR=4.2
LPAZ La Paz 157.28 209 PKP PKPdf 16 45 30.6 +0.9
LPAZ PKPab PKPab 16 46 02.9 +2.3
LPAZ LR LR
comp=Z,729nm,20.0s,MS5.5
CMIG Matias Romero 159.71 48 PKPab PKPab 16 46 10.8 -0.4
comp=Z,5.9nm,0.8s,baz=240,slow=5.2,SNR=5.1
GRGR Grenville 160.66 297 PFAKE 16 45 40.0 +6.2
GRGR LR LR
comp=Z,596nm,22.0s
SJG San Juan 160.77 319 PFAKE 16 45 40.0 +6.2
SJG LR LR
comp=Z,1μm,19.0s
TEIG Tepich 161.38 27 PFAKE 16 45 40.0 +5.6
TEIG LR LR
comp=Z,1μm,20.0s
NNA Nana 164.22 189 PFAKE 16 45 50.0 +13
NNA LR LR
comp=Z,994nm,19.0s
PAYG Puerto Ayora 168.16 111 PFAKE 16 45 50.0 +10
PAYG LR LR
comp=Z,938nm,19.0s
SDV Santo Domingo 169.99 301 PKPab PKPab 16 46 55.6 -1.1
comp=Z,2.1nm,0.5s,baz=72,slow=0.7,SNR=5.2
SDV Santo Domingo 169.99 301 PFAKE 16 45 50.0 +8.4
SDV LR LR
comp=Z,341nm,19.0s
JTS JuntasAbangare 171.37 40 PFAKE 16 45 50.0 +7.7
JTS LR LR
comp=Z,710nm,22.0s
OTAV Otavalo 176.46 193 *e*PKPdf PKPdf 16 45 44.2 +0.1
OTAV LR LR
comp=Z,962nm,20.0s

*TAP **21** 16:28:15.9, 2143N×12194E, h21km, ML3.3, C*
*JMA **21** 16:28:18.2±0.3, 2147N×12204E, h46km, M3.8*
ISC 21 16:28:17.6±1.2,**2147N**±007×**12196E**±003,**h20**km±9km,
n31,σ1°**11**/47,**Taiwan region**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
LAY	**Lan-yu**	**0.68**	**326**	P			**Pb**	**16 28 29.7**	**-1.2**
LAY	baz=329			S			**Sb**	**16 28 39.9**	**+0.1**
TWK1	**Hengchun**	**1.17**	**294**	*e*P			**Pn**	**16 28 37.4**	**-1.5**
TWK1	baz=296			S			**Sb**	**16 28 53.5**	**-0.5**
HEN	**Hengchun**	**1.26**	**295**	*e*P			**Pn**	**16 28 39.4**	**-0.6**
TAW	**Tawu**	**1.32**	**312**	*e*P			**Pn**	**16 28 40.0**	**-0.9**
TAW	baz=314			*e*S			**Sn**	**16 28 56.1**	**-1.9**
EAST	**Anshuo**	**1.38**	**311**	*e*P			**Pn**	**16 28 40.5**	**-1.1**
EAST	baz=313			*e*S			**Sn**	**16 28 57.8**	**-1.5**
ECL	**Taimali**	**1.46**	**320**	*e*P			**Pn**	**16 28 41.5**	**-1.3**
SCZT	**Fangliau**	**1.54**	**306**	*e*P			**Pn**	**16 28 43.2**	**-0.6**
SCZT	baz=308			*e*S			**Sn**	**16 29 03.3**	**+0.1**
TWG	**Pinlang**	**1.57**	**329**	*e*P			**Pn**	**16 28 43.7**	**-0.7**
CHKT	**Chengkung**	**1.71**	**341**	*e*P			**Pn**	**16 28 44.3**	**-2.0**
CHKT	baz=355			*e*S			**Sn**	**16 29 05.0**	**-2.6**
SSD	**Sandimen**	**1.77**	**316**	*e*P			**Pn**	**16 28 46.9**	**-0.2**
ELDTW	**Lidau**	**1.92**	**333**	*e*P			**Pn**	**16 28 48.3**	**-0.8**
TWF1	**Yuli**	**1.97**	**342**	*e*P			**Pn**	**16 28 49.1**	**-0.8**
STYT	**Tauyuan**	**2.02**	**327**	*e*P			**Pn**	**16 28 50.6**	**+0.1**
STYT	baz=322			*e*S			**Sn**	**16 29 16.8**	**+1.6**
SGST	**Jiashian**	**2.05**	**322**	*e*P			**Pn**	**16 28 51.3**	**+0.3**
EHY	**Hungye**	**2.11**	**344**	*e*P			**Pn**	**16 28 52.6**	**+0.9**
EHY	baz=329			*e*S			**Sn**	**16 29 17.6**	**+0.3**
CHN1	**Nanshi**	**2.16**	**322**	*e*P			**Pn**	**16 28 54.1**	**+1.6**
CHN1	baz=324			*e*S			**Sn**	**16 29 21.1**	**+2.5**
WTP	**Ta-pu**	**2.16**	**325**	*e*P			**Pn**	**16 28 53.1**	**+0.7**
YUS	**Yu-Shan**	**2.21**	**335**	*e*P			**Pn**	**16 28 54.2**	**+1.0**
TWK	**Hsinying**	**2.25**	**323**	*e*P			**Pn**	**16 28 55.9**	**+2.2**
ALS	**Alishan**	**2.29**	**332**	*e*P			**Pn**	**16 28 55.8**	**+1.5**
CHN5	**Tsauling**	**2.42**	**331**	*e*P			**Pn**	**16 28 57.2**	**+1.1**
CHN5	baz=333			*e*S			**Sn**	**16 29 28.1**	**+2.9**
SMLT	**Sun Moon Lake**	**2.59**	**338**	*e*P			**Pn**	**16 28 59.6**	**+1.2**
TYC	**Yuchr**	**2.63**	**337**	*e*P			**Pn**	**16 29 00.4**	**+1.6**
WHF	**Hehuan Shan**	**2.74**	**347**	*e*P			**Pn**	**16 29 00.8**	**+0.4**
NNS	**Nan Shan**	**3.00**	**350**	*e*P			**Pn**	**16 29 05.2**	**+1.1**
HATJ	**Hateruma jima**	**3.08**	**33**	P			**Pn**	**16 29 05.4**	**+0.3**
HATJ				*e*S			**Sn**	**16 29 40.8**	**-0.6**
YOJ	**Yonaguni jima**	**3.13**	**18**	P			**Pn**	**16 29 06.2**	**+0.4**
YOJ				*e*S			**Sn**	**16 29 42.6**	**+0.1**
IRIF	**Iriomote-Funau**	**3.28**	**29**	P			**Pn**	**16 29 08.1**	**+0.2**
IRIF				*e*S			**Sn**	**16 29 46.1**	**-0.2**
JKRS	**Kuro-shima**	**3.33**	**34**	P			**Pn**	**16 29 09.2**	**+0.6**
JKRS				*e*S			**Sn**	**16 29 46.8**	**-0.9**
JIJ	**Ishigaki jima**	**3.51**	**35**	P			**Pn**	**16 29 11.0**	**0.0**
JIJ				S			**Sn**	**16 29 50.4**	**-1.5**
JTJ	**Tarama**	**4.04**	**38**	P			**Pn**	**16 29 19.0**	**+0.7**
JTJ				*e*S			**Sn**	**16 30 04.4**	**-0.6**

*BJI **21** 16:31:00.9, 1370N×8980W, h105km, mB5.0*
*ISCJB **21** 16:31:02.4±0.4, 1365N±005×8985W±004, h111km±3km, mb4.5/19, Error ellipse: s-maj=10.3km s-min=3.1km az=39.0*
*NEIC **21** 16:31:03.9±0.8, 1371N×8983W, h106km±8km, mb4.7/19, Error ellipse: s-maj=11.8km s-min=8.3km az=203.0*
*IDC **21** 16:31:03.8±2.0, 1417N×8920W, h98km±16km, mb3.8/7, mb1 4.1/8, mb1mx3.7/21, mbtmp3.8/8, Error ellipse: s-maj=49.7km s-min=13.2km az=55.0*
ISC 21 16:31:03.6±0.4,**1368N**±005×**8984W**±004,**h105**km±3km,
n99,σ1°**08**/92,**mb4.5**/19,**6C-16D,El Salvador**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SBLS	**San Blas**	**0.27**	**52**	⇓*i*	P		x	16 31 16.9	
SNJE	**San Jose**	**0.30**	**50**	⇓*i*	P		x	16 31 17.1	
SNJE					*e*S		x	16 31 28.4	
RBDL	**Robledal**	**0.46**	**19**	⇓*i*	P		x	16 31 18.4	
SNET	**Serv Nac Est T**	**0.59**	**89**	⇓*i*	P		x	16 31 19.2	
SNET					*e*S		x	16 31 32.4	
LFU	**La Fuente**	**0.71**	**84**	⇓*e*	P		x	16 31 20.7	
LFU					*e*S		x	16 31 35.1	
LFRS	**El Faro**	**0.76**	**94**	⇓*i*	P		x	16 31 20.9	
LBRS	**Las Brisas**	**0.78**	**85**	⇓*i*	P		x	16 31 21.4	
LBRS					*e*S		x	16 31 36.7	
MTO2	**Montecristo 2**	**0.86**	**33**	⇓*i*	P		x	16 31 22.8	
MTO2					*e*S		x	16 31 38.1	
NBG	**Las Nubes**	**1.03**	**332**	⇑*i*	P		**Pn**	**16 31 24.9**	**+0.1**
NBG					*e*S		**Sn**	**16 31 40.9**	**+0.2**
PCG	**Pacaya**	**1.03**	**314**	*e*	P		**Pn**	**16 31 24.6**	**-0.2**
PCG					*e*S		**Sn**	**16 31 38.5**	**-2.2**
FUG	**Fuego 3**	**1.24**	**308**	*e*	P		**Pn**	**16 31 25.7**	**-1.4**
FG6		**1.34**	**311**	*e*	P		**Pn**	**16 31 27.2**	**-1.1**
MRL	**Marmol**	**1.39**	**6**	*e*	P		**Pn**	**16 31 30.3**	**+1.5**
MRL					*e*S		**Sn**	**16 31 50.0**	**+2.1**
VSM	**San Miguel**	**1.54**	**99**	⇓*e*	P		x	16 31 30.5	
VSM					*e*S		x	16 31 50.5	
BLLM	**Bellamira**	**1.57**	**98**	⇓*e*	P		x	16 31 30.6	
BLLM					*e*S		x	16 31 51.0	
CAHU	**Cacacuatique**	**1.58**	**86**	⇓*e*	P		x	16 31 31.3	
CAHU					*e*S		x	16 31 50.8	
CNCH	**Conchagua**	**1.99**	**101**	⇓*i*	P		x	16 31 35.9	
CNCH					*e*S		x	16 32 03.9	
TGUH	**Tegucigalpa,Un**	**2.52**	**81**	⇓*i*	P		**Pn**	**16 31 43.8**	**+0.6**
TGUH	**Tegucigalpa,Un**	**2.52**	**81**	*e*	Pn		**Pn**	**16 31 43.5**	**+0.3**
CRIN	**San Cristobal**	**2.88**	**109**	*e*	P		**Pn**	**16 31 48.5**	**+0.5**
CRIN					*e*S		**Sn**	**16 32 23.0**	**+0.8**
TEL3	**Telica 3**	**3.12**	**110**	*e*	P		**Pn**	**16 31 51.0**	**-0.1**
CNGN	**Cerro Negro**	**3.27**	**111**	*e*	P		**Pn**	**16 31 53.0**	**-0.2**
CNGN					*e*S		**Sn**	**16 32 30.0**	**-1.5**
MIRN	**Miramar**	**3.29**	**112**	⇓*e*	P		**Pn**	**16 31 53.6**	**+0.2**
MIRN					*e*S		**Sn**	**16 32 30.1**	**-1.6**
MOMN	**Momotombo**	**3.45**	**111**	⇑*e*	P		**Pn**	**16 31 56.5**	**+0.9**
MOMN					*e*S		**Sn**	**16 32 34.7**	**-1.1**
COPN	**Copaltepe**	**3.50**	**115**	*e*	P		**Pn**	**16 31 56.0**	**-0.2**
CSAN		**3.65**	**114**	⇓*e*	P		**Pn**	**16 31 58.5**	**+0.3**
CSAN					*e*S		**Sn**	**16 32 38.2**	**-2.2**
APYN	**Apoyeque**	**3.69**	**112**	⇑*e*	P		**Pn**	**16 31 59.3**	**+0.5**
APYN					*e*S		**Sn**	**16 32 40.8**	**-0.7**
XAVN	**Gruta Xavier**	**3.75**	**113**	*e*	P		**Pn**	**16 31 60.0**	**+0.4**
TISN	**Laguna Tiscapa**	**3.80**	**113**	*e*	P		**Pn**	**16 32 00.5**	**+0.3**
HUEN		**3.81**	**110**	*e*	P		**Pn**	**16 31 59.9**	**-0.5**
HUEN					*e*S		**Sn**	**16 32 42.8**	**-1.6**
MGAN	**Managua**	**3.82**	**113**	*e*	P		**Pn**	**16 32 00.3**	**-0.1**
MGAN					*e*S		**Sn**	**16 32 42.3**	**-2.2**
CRUN	**El Crucero**	**3.84**	**116**	*e*	P		**Pn**	**16 32 01.4**	**+0.7**
TICN	**Ticuantepe**	**3.88**	**114**	*e*	P		**Pn**	**16 32 01.7**	**+0.4**
APON	**Apoyo**	**4.07**	**115**	*e*	S		**Sn**	**16 32 50.6**	**-0.1**
SSN	**San Juan del S**	**4.55**	**121**	*e*	P		**Pn**	**16 32 11.0**	**+0.6**
CONN	**Cononcion**	**4.62**	**117**	⇓*e*	P		**Pn**	**16 32 11.2**	**0.0**
VCR	**Vista de Mar**	**5.42**	**130**	*e*	P		**Pn**	**16 32 22.9**	**+0.7**
CUI	**Cuipilapa**	**5.45**	**123**	*e*	P		**Pn**	**16 32 23.6**	**+1.0**
2RIO	**Dos Rios de Up**	**5.48**	**124**	*e*	P		**Pn**	**16 32 20.1**	**-2.8**
JTS	**JuntasAbangare**	**5.84**	**125**	P			**Pn**	**16 32 27.2**	**-0.7**
JTS	9.6nm,0.3s,baz=117,slow=23,SNR=25			S			**Sn**	**16 33 29.3**	**-4.3**
JTS	5.4nm,0.3s,baz=155,slow=22,SNR=4.5 **JuntasAbangare** 30nm,0.9s	**5.84**	**125**	*e*Pn			**Pn**	**16 32 28.2**	**+0.3**
CMIG	**Matias Romero**	**5.93**	**306**	P			**Pn**	**16 32 27.4**	**-1.7**
CMIG	2.1nm,0.3s,baz=117,slow=9.8,SNR=18			S			**Sn**	**16 33 25.0**	**-11**
JCR	5.1nm,0.3s,baz=144,slow=16,SNR=2.3 **Jicaral**	**5.99**	**129**	⇑*e*	P		**Pn**	**16 32 30.9**	**+1.1**
CGA2	**Cerro Gallo 2**	**6.39**	**124**	*e*	P		**Pn**	**16 32 36.9**	**+1.5**
PRS1	**Puriscal**	**6.54**	**124**	*e*	P		**Pn**	**16 32 38.6**	**+1.3**
PRS1					*e*S		**Sn**	**16 33 51.5**	**+1.0**
TEIG	**Tepich**	**6.68**	**13**	P			**Pn**	**16 32 40.0**	**+0.7**
TEIG	8.1nm,0.3s,baz=191,slow=19,SNR=56 **Tepich** 110nm,0.7s	**6.68**	**13**	*e*Pn			**Pn**	**16 32 41.0**	**+1.7**
BUS	**Buena Vista**	**7.23**	**124**	⇑*e*	P		**Pn**	**16 32 48.7**	**+2.0**
VHO	**Vista Hermosa**	**7.46**	**298**	*i*	P		**Pn**	**16 32 51.4**	**+1.6**
VHO				*i*	S		**Sn**	**16 34 01.3**	**-12**
ACR	**Cerro Adams**	**8.23**	**127**	*e*	P		**Pn**	**16 33 02.0**	**+1.7**
PNIG	**Pinotepa**	**8.45**	**290**	*i*	P		**Pn**	**16 33 01.5**	**-1.8**
PNIG				*i*	S		**Sn**	**16 34 22.6**	**-14**
PPM	**Popocatepetl**	**9.99**	**304**	*e*	P		**Pn**	**16 33 25.7**	**+1.5**
PPM				*i*	S		**Sn**	**16 35 10.3**	**-4.2**
ROSC	**El Rosal**	**17.62**	**118**	P			**Pn**	**16 34 54.2**	**-8.4**
CHI2	1.2nm,0.3s,baz=99,slow=21,SNR=2.8	**18.24**	**118**	⇑*e*	P		Px	16 31 48.5	
CHI2				*e*	S		Sx	16 32 22.0	
VBMS	**Vicksburg** 92nm,0.6s	**18.47**	**358**	*e*	P		**P**	**16 35 13.9**	**+2.7**
LAPE	**La Pedrera**	**18.95**	**107**	*e*	P		Px	16 32 20.6	
JCT	**Junction City** 22nm,0.9s	**19.08**	**333**	*e*	P		**P**	**16 35 18.3**	**+0.3**
SDV	**Santo Domingo**	**19.42**	**102**	*e*	P		**P**	**16 35 21.0**	**-0.9**
LRAL	**Lakeview Retre** 10nm,0.8s	**19.45**	**7**	*e*	P		**P**	**16 35 22.4**	**+0.5**
TXAR	**Lajitas Array** 5.6nm,0.6s,baz=147,slow=11,SNR=55	**20.18**	**323**	P			**P**	**16 35 30.6**	**+0.8**
TXAR	0.7nm,0.7s,baz=162,slow=3.1,SNR=7.0			PcP		PcP	PcP	16 39 41.3	+0.9
GOGA	**Godfrey** 5.2nm,0.8s	**20.49**	**15**	*e*	P		**P**	**16 35 33.4**	**+0.3**
OXF	**Oxford** 46nm,0.8s	**20.75**	**1**	*e*	P		**P**	**16 35 36.1**	**+0.2**
MIAR	**Mount Ida** 16nm,0.7s,mb4.5	**21.05**	**351**	*e*	P		**P**	**16 35 38.0**	**-1.2**
SWET	**Sewanee**	**21.74**	**9**	*e*	P		**P**	**16 35 46.7**	**+0.2**
CPCT	**Cooper Cave**	**22.20**	**12**	*e*	P		**P**	**16 35 51.6**	**+0.2**
WVT	**Waverly** 26nm,1.0s,mb4.5	**22.43**	**4**	*e*	P		**P**	**16 35 53.2**	**-0.6**
TKL	**Tuckaleechee C** 9.6nm,0.8s,mb4.2,baz=180,slow=10,SNR=12	**22.56**	**13**	P			**P**	**16 35 54.8**	**-0.4**
TKL	**Tuckaleechee C**	**22.56**	**13**	*e*	P		**P**	**16 35 54.8**	**-0.3**
TZTN	**Tazewell**	**23.46**	**13**	*e*	P		**P**	**16 36 03.3**	**-0.3**
SIUC	**Southern Illin** 66nm,0.9s,mb5.0	**23.95**	**1**	*e*	P		**P**	**16 36 08.5**	**+0.5**
USIN	**University of** 74nm,0.8s,mb5.1	**24.27**	**4**	*e*	P		**P**	**16 36 11.2**	**+0.3**
CCM	**Cathedral Cave** 21nm,0.9s,mb4.5	**24.31**	**357**	*e*	P		**P**	**16 36 09.5**	**-1.9**
WCI	**Wyandotte Cave** 19nm,0.7s,mb4.6	**24.66**	**7**	*e*	P		**P**	**16 36 14.4**	**-0.1**
OLIL	**Olney** 36nm,0.6s,mb5.0	**25.01**	**3**	*e*	P		**P**	**16 36 18.0**	**+0.3**
ANMO	**Albuquerque** 0.7nm,0.5s,mb3.3,baz=151,slow=13,SNR=2.8	**25.96**	**328**	P			**P**	**16 36 26.9**	**+0.5**
ANMO	**Albuquerque** 0.9nm,0.6s,mb3.4	**25.96**	**328**	P			**P**	**16 36 26.4**	**0.0**
ECSD	**EROS,Sioux Fal** 14nm,0.9s,mb4.7	**30.51**	**350**	*e*	P		**P**	**16 37 05.3**	**-1.4**
RSSD	**Black Hills** 2.1nm,0.7s,mb4.1	**32.69**	**341**	*e*	P		**P**	**16 37 26.0**	**+0.2**
PDAR	**Pinedale Array** 0.5nm,0.8s,mb3.4,baz=90,slow=3.1,SNR=4.8	**33.62**	**333**	P			**P**	**16 37 34.8**	**+0.8**
REDW	**Red Top Meadow** 9.9nm,0.7s,mb4.8	**34.66**	**333**	*e*	P		**P**	**16 37 43.6**	**+0.6**
AGMN	**Agassiz Refuge** 22nm,0.7s,mb5.1	**34.88**	**353**	*e*	P		**P**	**16 37 43.4**	**-1.4**
ELK	**Elko** 0.6nm,0.8s,mb3.5,baz=156,slow=16,SNR=3.7	**34.93**	**325**	P			**P**	**16 37 45.7**	**+0.4**
ELK	**Elko**	**34.93**	**325**	P			**P**	**16 37 45.7**	**+0.4**

NVAR	**Mina Array Bea**	**35.26**	**320**	P	**P**	**16**	**37**	**49.6 +1.4**
	4.7nm,0.7s,mb4.5,baz=135,slow=8.7,SNR=26							
NVAR				PcP	PcP	16	40	16.4 -0.3
	1.7nm,0.8s,baz=164,slow=2.9,SNR=6.8							
RLMT	**Red Lodge**	**35.42**	**336**	*e*P	**P**	**16**	**37**	**49.4 -0.1**
DGMT	**Dagmar**	**36.68**	**344**	*e*P	**P**	**16**	**38**	**00.0 -0.1**
	36nm,0.9s,mb5.3							
ULM	**Lac du Bonnet**	**36.80**	**354**	P	**P**	**16**	**37**	**59.1 -2.1**
	15nm,0.8s,mb5.0,baz=185,slow=7.5,SNR=14							
YKA	**Yellowknife Ar**	**51.84**	**346**	P	**P**	**16**	**39**	**58.7 -2.0**
	1.2nm,0.6s,mb4.1,baz=150,slow=6.9,SNR=8.1							
YKA	**Yellowknife Ar**	**51.84**	**346**	P	**P**	**16**	**39**	**58.7 -2.0**
CN2	**Changchun**	**114.36**	**333**	*e*PKP	PKiKP	16	49	24.3 -7.0
HHC	**Hu-ho-hao-te**	**122.24**	**341**	*e*PKP	PKPdf	16	49	47.4 +0.9
HHC				XPKP		16	50	27.6
HHC				PP	PP	16	51	27.8 +5.9
HHC				PKS		16	53	22.8
HHC				SKS	SKSdf	16	56	48.8 -0.3
HHC				SKKS	SKKSac	16	58	09.0 -3.3
HHC				PP	PP			
	comp=Z,582nm,10.8s							
HHC				LR	LR			
	comp=N,178nm,22.1s							
HHC				LR	LR			
	comp=E,256nm,20.6s							
HHC				LR	LR			
	comp=Z,163nm,23.0s							
WMQ	**Urumqi**	**122.74**	**2**	PKP	PKPdf	16	49	42.0 -5.4
LZH	**Lanzhou**	**128.85**	**346**	*e*PKP	PKPdf	16	49	58.3 -1.0
LZH				LR	LR			
	comp=N,203nm,18.3s							
LZH				LR	LR			
	comp=Z,278nm,20.5s							
GYA	**Guiyang**	**137.00**	**338**	*e*PDIF	Pdif	16	47	18.4 -2.9
GYA				PKP	PKPdf	16	50	11.8 -3.1
GYA				PP	PP	16	53	01.3 +3.3
GYA				PP	PP			
	comp=Z,80nm,7.9s							
WRA	**Warramunga Arr**	**137.35**	**255**	PKP	PKPdf	16	50	17.0 +1.4
	comp=Z,1.5nm,0.9s,baz=89,slow=2.8,SNR=11							
WRA				SKPbc	SKPbc	16	53	41.5 +1.8
	comp=Z,0.3nm,0.7s,baz=85,slow=3.0,SNR=4.8							
ASAR	**Alice Springs**	**137.53**	**250**	PKP	PKPdf	16	50	18.4 +2.4
	comp=Z,0.6nm,0.9s,baz=101,slow=2.4,SNR=4.4							
ASAR				SKPbc	SKPbc	16	53	45.0 +4.9
	comp=Z,0.4nm,0.7s,baz=94,slow=2.2,SNR=7.2							
KMI	**Kunming**	**139.53**	**342**	PKP	PKPdf	16	50	19.4 -0.2
FITZ	**Fitzroy Crossi**	**145.63**	**258**	PKPbc	PKPbc	16	50	33.5 +2.5
	comp=Z,3.8nm,0.8s,baz=80,slow=1.8,SNR=14							
CMAR	**Chiang Mai Arr**	**146.92**	**345**	PKPbc	PKPbc	16	50	33.2 -1.5
	comp=Z,1.5nm,0.7s,baz=340,slow=3.3,SNR=16							

*IDC **21** 16:41:33.0±1.8, 129N×9720E, h0km, mb3.7/8, mb1 3.8/9, mb1mx3.7/22, mbtmp3.7/9, ML3.7/1, Error ellipse: s-maj=66.2km s-min=19.4km az=58.0*

*ISCJB **21** 16:41:35.9±1.4, 13N±02×972E±03, h33km, mb3.7/8, Error ellipse: s-maj=45.9km s-min=13.5km az=151.0*

*NEIC **21** 16:41:38.5±1.0, 137N×9727E, h35km, Error ellipse: s-maj=40.1km s-min=10.2km az=61.0*

ISC 21 16:41:38.4±1.4, 14N±02×973E±03, h35km, n13, σ0$51/11, mb3.7/8, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**17.07**	**5**	P	**Pn**	**16 45 34.2**	**-0.3**
	0.1nm,0.3s,baz=198,slow=12,SNR=7.0						
WRA	**Warramunga Arr**	**42.07**	**122**	P	**P**	**16 49 26.2**	**-1.1**
	0.6nm,0.7s,mb3.3,baz=301,slow=9.0,SNR=7.2						
WB2	**Warramunga Arr**	**42.08**	**122**	*e*P	**P**	**16 49 27.7**	**+0.4**
ASAR	**Alice Springs**	**43.45**	**127**	P	**P**	**16 49 38.9**	**+0.5**
	0.5nm,1.0s,mb3.2,baz=299,slow=8.3,SNR=4.4						
KSRS	**Korea Array**	**45.69**	**35**	P	**P**	**16 49 56.0**	**0.0**
	0.9nm,0.9s,mb3.7,baz=216,slow=9.7,SNR=4.3						
SONM	**Songino Array**	**46.97**	**8**	P	**P**	**16 50 06.5**	**+0.6**
	1.0nm,0.8s,mb3.8,baz=186,slow=9.2,SNR=8.9						
MKAR	**Makanchi Array**	**47.10**	**346**	P	**P**	**16 50 07.3**	**+0.3**
	0.3nm,0.4s,mb3.6,baz=157,slow=8.6,SNR=4.9						
KURK	**Kurchatov**	**51.65**	**345**	P	**P**	**16 50 41.2**	**-0.4**
	0.6nm,0.5s,mb3.8,baz=160,slow=7.3,SNR=6.5						
KURK	**Kurchatov**	**51.65**	**345**	P	**P**	**16 50 41.2**	**-0.5**
ZALV	**Zalesovo Beam**	**53.41**	**351**	P	**P**	**16 50 54.9**	**+0.3**
	1.6nm,0.4s,mb4.3,baz=169,slow=6.6,SNR=10						
BVAR	**Borovoye Array**	**56.12**	**341**	P	**P**	**16 51 13.8**	**-0.4**
	0.4nm,0.4s,mb3.8,baz=132,slow=8.9,SNR=5.2						
TXAR	**Lajitas Array**	**143.50**	**32**	PKP	PKPdf	17 01 10.6	+0.4
	0.1nm,0.3s,baz=316,slow=5.2,SNR=3.5						
TXAR	**Lajitas Array**	**143.50**	**32**	PKP	PKPdf	17 01 10.6	+0.4

*NEIC **21** 17:05:52.3±1.2, 10.14S×160.71E, h35km, mb4.0/6, Error ellipse: s-maj=23.0km s-min=13.3km az=84.0*

*ISCJB **21** 17:05:53.4±3.2, 10.1S±0.1×160.6E±03, h59km±21km, mb3.9/8, Error ellipse: s-maj=43.7km s-min=22.0km az=10.6*

*IDC **21** 17:05:53.2±6.7, 10.15S×160.64E, h40km±42km, mb3.7/5, mb1 3.8/5, mb1mx3.6/16, mbtmp3.7/5, Error ellipse: s-maj=70.4km s-min=22.3km az=99.0*

ISC 21 17:05:53.0±3.9, 102S±01×160.7E±03, h39km±29km, n14, σ0$42/15, mb3.9/8, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**1.02**	**315**	Pn	**Pn**	**17 06 10.4**	**-0.4**
	158nm,0.3s,baz=176,slow=6.4,SNR=85						
HNR				Sn	**Sn**	**17 06 24.3**	**+0.4**
	944nm,0.3s,baz=176,slow=14,SNR=23						
CTA	**Charters Tower**	**17.06**	**233**	*e*P	**Pn**	**17 09 53.4**	**+4.7**
	7.6nm,0.7s						
CTA	**Charters Tower**	**17.06**	**233**	P	**Pn**	**17 09 53.0**	**+4.3**
	0.4nm,0.3s,baz=69,slow=12,SNR=9.2						
CTAO	**Charters Tower**	**17.06**	**233**	*e*P	**Pn**	**17 09 49.1**	**+0.5**
	15nm,1.0s						
WRAB	**Tennant Creek**	**27.19**	**246**	*e*P	**P**	**17 11 32.6**	**-0.5**
	1.9nm,0.8s,mb3.7						
WRA	**Warramunga Arr**	**27.20**	**246**	P	**P**	**17 11 33.6**	**+0.3**
	1.7nm,0.6s,mb3.7,baz=74,slow=9.9,SNR=19						
STKA	**Stephens Creek**	**27.92**	**216**	*e*P	**P**	**17 11 40.5**	**+1.0**
	1.3nm,0.6s,mb3.7						
STKA	**Stephens Creek**	**27.92**	**216**	P	**P**	**17 11 39.5**	**-0.1**
	1.4nm,0.6s,mb3.8,baz=47,slow=14,SNR=6.2						
STKA	**Stephens Creek**	**27.92**	**216**	*e*P	**P**	**17 11 40.1**	**+0.6**
	1.6nm,0.7s,mb3.8						
ASAR	**Alice Springs**	**28.86**	**239**	P	**P**	**17 11 47.5**	**-0.5**
	0.3nm,0.6s,mb3.2,baz=63,slow=10,SNR=11						
FITZ	**Fitzroy Crossi**	**34.84**	**253**	*e*P	**P**	**17 12 40.4**	**-0.2**
	5.4nm,0.8s,mb4.5						
KSRS	**Korea Array**	**56.44**	**329**	P	**P**	**17 15 30.6**	**-0.2**
	1.5nm,0.8s,mb4.1,baz=144,slow=6.7,SNR=5.7						
SONM	**Songino Array**	**75.06**	**326**	P	**P**	**17 17 30.9**	**+0.3**
	1.1nm,0.6s,mb4.0,baz=137,slow=5.7,SNR=8.6						
QSPA	**South Pole Qui**	**79.84**	**180**	*e*P	**P**	**17 17 57.1**	**+0.2**
	3.8nm,1.3s,mb4.2						

IDC 21 17:14:48.5±2.3, 707S×15494E, h0km, mb3.6/4, mb1 3.8/4, mb1mx3.6/15, mbtmp3.6/4, Error ellipse: s-maj=71.5km s-min=35.7km az=113.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.73**	**235**	P	P	17 20 01.8	-0.7
	1.3nm,0.9s,baz=56,slow=8.8,SNR=7.2						
WRA				PcP	PcP	17 23 47.4	+0.6
	0.3nm,1.0s,baz=43,slow=2.2,SNR=4.8						
ASAR	**Alice Springs**	**26.08**	**228**	P	P	17 20 23.9	0.0
	0.6nm,0.7s,baz=57,slow=9.8,SNR=7.2						
CMAR	**Chiang Mai Arr**	**60.76**	**296**	P	P	17 25 03.5	+0.9
	0.6nm,0.7s,baz=127,slow=4.3,SNR=5.3						
MKAR	**Makanchi Array**	**83.42**	**319**	P	P	17 27 19.6	+1.7
	0.2nm,0.2s,baz=117,slow=5.5,SNR=1.6						
TORD	**Torodi Ar. Bea**	**152.99**	**285**	PKPbc	PKPbc	17 34 47.3	-1.7
	0.6nm,0.7s,baz=66,slow=2.2,SNR=4.7						
TORD				PKPab	PKPab	17 34 58.8	-1.4
	0.5nm,0.7s,baz=73,slow=2.7,SNR=2.9						

*IDC **21** 17:55:04.3±1.0, 4066N×1960E, h0km, mb3.8/7, mb1 3.9/12, mb1mx3.8/27, mbtmp3.8/12, ML3.7/4, Error ellipse: s-maj=15.1km s-min=12.7km az=38.0*

*TIR **21** 17:55:05.4±3.5, 4068N×1940E, h7km±92km, ML4.1*

*ISCJB **21** 17:55:05.3±0.2, 4073N±002×1950E±002, h10km, mb3.9/10, Error ellipse: s-maj=2.6km s-min=1.6km az=37.9*

*MOS **21** 17:55:06.7±1.1, 4065N×1938E, h33km, mb4.1/8, Error ellipse: s-maj=6.6km s-min=3.9km az=96.7*

*NEIC **21** 17:55:06.7±0.3, 4067N×1950E, h10km, mb4.1/3, MD3.9(PDG), MD4.0(ATH), Error ellipse: s-maj=5.4km s-min=3.8km az=49.0*

*ATH **21** 17:55:06.8, 4077N×1945E, h44km±15km, MD4.0/9*

*LDG **21** 17:55:07.3±0.1, 4073N×1965E, h10km, Ml4.0/8, Error ellipse: s-maj=3.0km s-min=1.9km az=26.0*

*PDG **21** 17:55:07.6±0.7, 4077N×1966E, h11km±2km, MD3.9/8, ML3.8/10, Error ellipse: s-maj=1.1km s-min=1.2km az=0.0*

*PRU **21** 17:55:08.4, 4080N×1939E, h0km, M4.1*

*VIE **21** 17:55:08.4±0.7, 4083N×1947E, h10km, mb3.4/6, Ms3.7/5, Error ellipse: s-maj=6.8km s-min=4.2km az=32.0*

*BEO **21** 17:55:08.0±3.3, 4066N×1951E, h21km±2km, ML3.7/1*

*CSEM **21** 17:55:08.3±0.1, 4076N×1957E, h30km, mb4.1/5, ML4.0/6, Ms3.7, Error ellipse: s-maj=1.7km s-min=0.9km az=37.0*

*THE **21** 17:55:09.3, 4071N×1985E, h0km, ML4.3/4, Error ellipse: s-maj=1.0km s-min=0.4km az=269.0*

*SKO **21** 17:55:09.6, 4070N×1980E, h13km*

ISC 21 17:55:07.5±0.4, 4069N±001×1958E±002, h13km±2km, n218, σ1$21/312, mb3.9/11, 20C-17D, Albania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TPE	**Tepelena**	**0.52**	**140**	*e*PG	**Pg**	**17 55 16.4**	**-1.3**
TIR	**Tirane**	**0.69**	**18**	P	**Pg**	**17 55 21.3**	**+0.3**
TIR				S	**Sg**	**17 55 31.3**	**+1.3**
TIR	**Tirane**	**0.69**	**18**	*e*PG	**Pg**	**17 55 21.0**	**0.0**
TIR				*i* SG	**Sg**	**17 55 33.1**	**+3.1**
TIR	**Tirane**	**0.69**	**18**	*e*Pg	**Pg**	**17 55 21.3**	**+0.3**
TIR				*e*Sg	**Sg**	**17 55 33.4**	**+3.4**
TIR	**Tirane**	**0.69**	**18**	P	**Pg**	**17 55 20.4**	**-0.6**
QSH	**Qafa e Shtames**	**0.86**	**17**	*e*PG	**Pg**	**17 55 21.5**	**-2.8**
SRN	**Sarande**	**0.88**	**158**	*e*PG	**Pg**	**17 55 25.3**	**+0.9**
SRN				*i* SG	**Sg**	**17 55 37.0**	**+1.1**
LACI	**Lac**	**0.95**	**6**	*e*PG	**Pg**	**17 55 25.9**	**+0.1**
KEK	**Kerkira**	**0.99**	**170**	*e*P	**Pb**	**17 55 26.3**	**-0.3**
KEK				*e*S	**Sb**	**17 55 41.5**	**+2.0**
KEK	**Kerkira**	**0.99**	**170**	*e*P	**Pb**	**17 55 26.3**	**-0.3**
KEK				*e*S	**Sb**	**17 55 41.5**	**+2.0**
OHR	**Ohrid**	**1.02**	**65**	P	**Pb**	**17 55 24.8**	**-2.2**
OHR				S	**Sb**	**17 55 37.0**	**-3.2**
OHR	**Ohrid**	**1.02**	**65**	*e*Pn	**Pn**	**17 55 24.2**	**-3.2**
OHR				*e*Sg	**Sg**	**17 55 40.5**	**+0.1**
OHR	**Ohrid**	**1.02**	**65**	*e*Pn	**Pn**	**17 55 24.2**	**-3.2**
OHR				*e*Sg	**Sg**	**17 55 40.4**	**0.0**
PHP	**Peshkopia**	**1.19**	**33**	*e*PG	**Pg**	**17 55 28.1**	**-2.3**
PHP				*i* SG	**Sg**	**17 55 49.2**	**+3.4**
ULC	**Ulcinj**	**1.29**	**349**	⇑*i*Pg	**Pg**	**17 55 31.2**	**-1.2**
ULC				*e*Sg	**Sg**	**17 55 50.0**	**+0.8**
IGT	**Igoumenitsa**	**1.30**	**153**	P	**Pn**	**17 55 32.2**	**+0.9**
IGT				S	**Sb**	**17 55 50.6**	**+2.4**
BIA	**Bitola**	**1.37**	**76**	P	**Pn**	**17 55 30.9**	**-1.3**
BIA				S	**Sn**	**17 55 48.5**	**-1.7**
BIA	**Bitola**	**1.37**	**76**	*e*Pn	**Pn**	**17 55 30.6**	**-1.6**
BIA				*e*Sg	**Sg**	**17 55 47.2**	**-4.3**
BIA	**Bitola**	**1.37**	**76**	*e*Pn	**Pn**	**17 55 30.6**	**-1.6**
BIA				S	**Sn**	**17 55 48.5**	**-1.7**
PUK	**Puka**	**1.37**	**10**	*e*PG	**Pg**	**17 55 33.3**	**-0.6**
PUK				*i* SG	**Sg**	**17 55 53.7**	**+2.0**
FNA	**Florina**	**1.37**	**86**	P	**Pn**	**17 55 31.1**	**-1.2**
FNA				S	**Sn**	**17 55 48.4**	**-1.9**
JAN	**Janina**	**1.42**	**136**	*e*P	**Pn**	**17 55 33.2**	**+0.2**
JAN				*e*S	**Sn**	**17 55 52.3**	**+0.7**
JAN	**Janina**	**1.42**	**136**	*e*Pn	**Pn**	**17 55 33.2**	**+0.2**
JAN				*e*S	**Sn**	**17 55 52.3**	**+0.7**
KRUS	**Krusevo**	**1.44**	**61**	*e*Pn	**Pn**	**17 55 33.3**	**+0.1**
KRUS				*e*Sg	**Sg**	**17 55 53.4**	**-0.3**
KRUS	**Krusevo**	**1.44**	**61**	*e*Pn	**Pn**	**17 55 33.2**	**0.0**
KRUS				*e*Sg	**Sg**	**17 55 53.4**	**-0.3**
MEV	**Metsovon**	**1.56**	**125**	P	**Pn**	**17 55 35.6**	**+0.6**
PE1	**Pezze di Greco**	**1.64**	**275**	*e*Pn	**Pn**	**17 55 36.8**	**+0.8**
PE1				*e*Sn	**Sn**	**17 55 58.6**	**+1.7**
BUM	**Brajici-Budva**	**1.69**	**343**	⇑*i*Pn	**Pn**	**17 55 37.1**	**+0.5**
BUM				*e*Sn	**Sn**	**17 56 01.3**	**+3.3**
KZN	**Kozani**	**1.72**	**102**	*e*P	**Pn**	**17 55 37.3**	**+0.2**
KZN				*e*S	**Sn**	**17 55 58.9**	**+0.1**
KZN	**Kozani**	**1.72**	**102**	*e*P	**Pn**	**17 55 37.3**	**+0.2**
KZN				*e*S	**Sn**	**17 55 58.9**	**+0.1**
PDG	**Podgorica**	**1.75**	**352**	⇑*i*Pn	**Pn**	**17 55 38.1**	**+0.6**
PDG				*e*Sn	**Sn**	**17 56 02.3**	**+2.6**
TTG	**Podgorica**	**1.75**	**352**	⇑*i*Pn	**Pn**	**17 55 38.1**	**+0.6**
TTG				*e*Sn	**Sn**	**17 56 02.3**	**+2.6**
TTG	**Podgorica**	**1.75**	**352**	⇑*i*Pn	**Pn**	**17 55 38.1**	**+0.6**
TTG				*e*Sn	**Sn**	**17 56 02.3**	**+2.6**
TTG				*e*S	**Sn**	**17 56 02.3**	**+2.6**
SKO	**Skopje**	**1.90**	**47**	P	**Pn**	**17 55 40.8**	**+1.2**
SKO				S	**Sn**	**17 56 05.3**	**+2.0**
SKO	**Skopje**	**1.90**	**47**	*e*Pn	**Pn**	**17 55 40.8**	**+1.2**
PVY	**Plav**	**1.92**	**9**	⇑*i*Pn	**Pn**	**17 55 40.8**	**+0.9**
PVY				*e*Sn	**Sn**	**17 56 05.8**	**+1.9**
HCY	**Herceg Novi**	**1.93**	**336**	⇑*i*Pn	**Pn**	**17 55 39.0**	**0.0**
HCY				*e*Sn	**Sn**	**17 56 07.2**	**+3.1**
BAI	**Bari**	**2.08**	**282**	*e*Pn	**Pn**	**17 55 43.4**	**+1.3**
BAI				*e*Sn	**Sn**	**17 56 08.0**	**+0.1**
GRG	**Griva**	**2.16**	**82**	P	**Pn**	**17 55 43.0**	**-0.2**
GRG				S	**Sn**	**17 56 09.5**	**-0.3**
NKY	**Niksic**	**2.16**	**349**	⇓*i*Pn	**Pn**	**17 55 43.6**	**+0.4**
NKY				*e*Sn	**Sn**	**17 56 11.9**	**+2.1**
THL	**Klokotos Trika**	**2.18**	**120**	P	**Pn**	**17 55 44.1**	**+0.6**
THL				S	**Sn**	**17 56 10.9**	**+0.6**
THL	**Klokotos Trika**	**2.18**	**120**	*e*P	**Pn**	**17 55 44.3**	**+0.8**
THL				*e*S	**Sn**	**17 56 10.9**	**+0.6**
BEY	**Berane**	**2.19**	**6**	⇓*i*Pn	**Pn**	**17 55 44.7**	**+1.1**
BEY				*e*Sn	**Sn**	**17 56 12.2**	**+1.7**
IVA	**Berane**	**2.19**	**6**	⇓*i*Pn	**Pn**	**17 55 44.7**	**+1.1**
IVA				*e*Sn	**Sn**	**17 56 12.2**	**+1.7**
SG1	**Sgolgore (BA)**	**2.21**	**275**	*e*Pn	**Pn**	**17 55 44.8**	**+1.0**
SG1				*e*Sn	**Sn**	**17 56 13.0**	**+2.1**
STIP	**Stip**	**2.21**	**62**	P	**Pn**	**17 55 44.0**	**+0.2**
STIP				S	**Sn**	**17 56 10.8**	**-0.2**
STIP	**Stip**	**2.21**	**62**	*e*Pn	**Pn**	**17 55 44.2**	**+0.4**
STIP	**Stip**	**2.21**	**62**	*e*Pn	**Pn**	**17 55 44.2**	**+0.4**
STIP				S	**Sn**	**17 56 10.8**	**-0.2**
TREB	**Trebinje**	**2.22**	**336**	*e*Pn	**Pn**	**17 55 44.1**	**+0.1**
TREB				*e*Sn	**Sn**	**17 56 12.4**	**+1.1**
LIT	**Litokhoron**	**2.30**	**104**	P	**Pn**	**17 55 45.5**	**+0.4**
BRY	**Bratogost**	**2.34**	**341**	⇓*i*Pn	**Pn**	**17 55 45.8**	**+0.2**
BRY				*e*Sn	**Sn**	**17 56 16.7**	**+2.6**
VAY	**Valandovo**	**2.35**	**74**	P	**Pn**	**17 55 45.6**	**-0.2**
VAY				S	**Sn**	**17 56 14.2**	**-0.3**
VAY	**Valandovo**	**2.35**	**74**	*e*Pn	**Pn**	**17 55 45.2**	**-0.6**
VAY	**Valandovo**	**2.35**	**74**	*e*Pn	**Pn**	**17 55 45.1**	**-0.7**
VAY				S	**Sn**	**17 56 14.2**	**-0.3**
EVR	**Evrytania**	**2.47**	**135**	*e*P	**Pn**	**17 55 48.1**	**+0.7**
EVR	**Evrytania**	**2.47**	**135**	*e*P	**Pn**	**17 55 48.1**	**+0.7**
UPM	**Unac-Piva**	**2.56**	**349**	⇑*i*Pn	**Pn**	**17 55 49.6**	**+1.0**
UPM				*e*Sn	**Sn**	**17 56 21.8**	**+2.3**
KNT	**Kendrikon**	**2.56**	**78**	P	**Pn**	**17 55 48.6**	**-0.1**
THE	**Thessaloniki**	**2.58**	**90**	P	**Pn**	**17 55 48.8**	**-0.1**
THE				S	**Sn**	**17 56 19.8**	**-0.3**
SJES	**Sjenica**	**2.58**	**6**	*e*Pn	**Pn**	**17 55 50.3**	**+1.3**
SJES				*e*Sn	**Sn**	**17 56 21.5**	**+1.3**
STON	**Ston**	**2.59**	**328**	*e*Pn	**Pn**	**17 55 48.7**	**-0.3**
STON				Sn	**Sn**	**17 56 19.7**	**-0.6**
VLS	**Valsamata**	**2.63**	**162**	*e*P	**Pn**	**17 55 48.4**	**-1.3**
VLS	**Valsamata**	**2.63**	**162**	*e*P	**Pn**	**17 55 48.4**	**-1.3**
PLE	**Pljevlja**	**2.64**	**357**	⇓*i*Pn	**Pn**	**17 55 50.7**	**+1.0**
PLE				*e*Sn	**Sn**	**17 56 23.5**	**+1.9**
TIP	**Timpagrande**	**2.64**	**236**	P	**Pn**	**17 55 50.2**	**+0.4**
HORT	**Hortiatis**	**2.68**	**91**	P	**Pn**	**17 55 50.4**	**+0.1**
HORT				S	**Sn**	**17 56 22.1**	**-0.6**
AGG	**Agios Georgios**	**2.70**	**127**	P	**Pn**	**17 55 51.5**	**+0.9**
AGG				S	**Sn**	**17 56 24.1**	**+1.1**
BARS	**Barje**	**2.70**	**38**	*e*Pn	**Pn**	**17 55 50.9**	**+0.3**
SOH	**Sokhos**	**2.87**	**86**	P	**Pn**	**17 55 53.1**	**+0.1**
SOH				S	**Sn**	**17 56 27.1**	**-0.2**
MS1	**Monte Sant'Ang**	**2.92**	**291**	*e*Pn	**Pn**	**17 55 54.8**	**+1.2**
CUC	**Castrocucco**	**2.96**	**258**	P	**Pn**	**17 55 56.7**	**+2.6**
PLG	**Polygyros**	**2.97**	**95**	P	**Pn**	**17 55 54.7**	**+0.5**
PLG				S	**Sn**	**17 56 29.3**	**-0.4**
PLG	**Polygyros**	**2.97**	**95**	*e*P	**Pn**	**17 55 54.5**	**+0.3**
PLG				*e*S	**Sn**	**17 56 28.0**	**-1.7**
PLG	**Polygyros**	**2.97**	**95**	*e*P	**Pn**	**17 55 54.5**	**+0.3**
PLG				*e*S	**Sn**	**17 56 28.0**	**-1.7**
RLS	**Riolos of Patr**	**3.01**	**150**	*e*P	**Pn**	**17 55 55.2**	**+0.3**
RLS	**Riolos of Patr**	**3.01**	**150**	*e*P	**Pn**	**17 55 55.2**	**+0.3**
XOR	**Xorichti**	**3.08**	**114**	P	**Pn**	**17 55 56.3**	**+0.5**
BBLS	**Lazikći**	**3.17**	**358**	*e*Pn	**Pn**	**17 55 57.9**	**+0.8**
PAIG	**Paliouri**	**3.23**	**102**	P	**Pn**	**17 55 57.9**	**0.0**
GRUS	**Gruza**	**3.30**	**14**	*e*Pn	**Pn**	**17 55 59.1**	**+0.2**
NVR	**Nevrokopi**	**3.31**	**77**	*e*P	**Pn**	**17 55 59.6**	**+0.7**
NVR	**Nevrokopi**	**3.31**	**77**	*e*P	**Pn**	**17 55 59.6**	**+0.7**
VTS	**Vitosha**	**3.32**	**54**	*e*Pn	**Pn**	**17 56 00.1**	**+1.0**
VTS	**Vitosha**	**3.32**	**54**	⇓P	**Pn**	**17 56 00.3**	**+1.2**
LKR	**Lokris**	**3.34**	**127**	*e*P	**Pn**	**17 55 59.7**	**+0.3**
LKR	**Lokris**	**3.34**	**127**	*e*P	**Pn**	**17 55 59.7**	**+0.3**
OUR	**Ouranopolis**	**3.38**	**95**	P	**Pn**	**17 55 59.9**	**0.0**
ZAPS	**Zavoj**	**3.44**	**40**	*e*Pn	**Pn**	**17 56 02.0**	**+1.2**
SVIS	**Svilajnac**	**3.77**	**18**	*e*Pn	**Pn**	**17 56 05.3**	**0.0**
ITM	**Ithomi**	**3.96**	**152**	*e*P	**Pn**	**17 56 07.4**	**-0.5**
ITM	**Ithomi**	**3.96**	**152**	*e*P	**Pn**	**17 56 07.4**	**-0.5**
LIA	**Limnos Island**	**4.36**	**99**	*e*P	**Pn**	**17 56 14.2**	**+0.8**
LIA	**Limnos Island**	**4.36**	**99**	*e*P	**Pn**	**17 56 14.2**	**+0.8**
BLY	**Banja Luka**	**4.42**	**337**	*e*Pn	**Pn**	**17 56 14.8**	**+0.6**
FGSL	**Fruska Gora**	**4.46**	**2**	*e*Pn	**Pn**	**17 56 14.4**	**-0.4**
RDO	**Rodhopi**	**4.54**	**82**	*e*P	**Pn**	**17 56 16.0**	**+0.1**
RDO	**Rodhopi**	**4.54**	**82**	*e*P	**Pn**	**17 56 16.0**	**+0.1**
VLI	**Veliai**	**4.76**	**145**	*e*P	**Pn**	**17 56 19.3**	**+0.4**
VLI	**Veliai**	**4.76**	**145**	*e*P	**Pn**	**17 56 19.3**	**+0.4**
BZS	**Buzias**	**5.14**	**16**	*e*Pn	**Pn**	**17 56 24.0**	**-0.1**
BZS	**Buzias**	**5.14**	**16**	⇑P	**Pn**	**17 56 24.4**	**+0.3**
NVLJ	**Novalja**	**5.20**	**320**	*e*Pn	**Pn**	**17 56 24.9**	**0.0**
NVLJ				Sn	**Sn**	**17 57 24.6**	**0.0**
NVLJ	**Novalja**	**5.20**	**320**	*e*Pn	**Pn**	**17 56 24.8**	**-0.1**
NVLJ				Sn	**Sn**	**17 57 24.6**	**0.0**
GZR	**Gura Zlata**	**5.25**	**25**	P	**Pn**	**17 56 26.6**	**+1.0**
GZR	**Gura Zlata**	**5.25**	**25**	⇑P	**Pn**	**17 56 26.6**	**+1.0**
PKSM	**Moragy**	**5.56**	**353**	*e*Pn	**Pn**	**17 56 29.0**	**-0.8**
PKSM	**Moragy**	**5.56**	**353**	P	**Pn**	**17 56 29.8**	**0.0**
PKSM	**Moragy**	**5.56**	**353**	⇓P	**Pn**	**17 56 29.8**	**0.0**
BOJS	**Bojanci**	**5.75**	**328**	*i* Pn	**Pn**	**17 56 32.8**	**+0.3**
CRES	**Cresnjev**	**5.95**	**331**	*i* Pn	**Pn**	**17 56 35.1**	**-0.1**
CRES	**Cresnjev**	**5.95**	**331**	*e*Pn	**Pn**	**17 56 35.2**	**0.0**
CRES				*e*Sn	**Sn**	**17 57 41.2**	**-1.9**
KOGS	**Kog**	**6.24**	**338**	*e*Pn	**Pn**	**17 56 39.0**	**-0.2**
CEY	**Cerknica**	**6.29**	**325**	*e*Pn	**Pn**	**17 56 40.1**	**+0.2**
CEY				*e*Sn	**Sn**	**17 57 49.9**	**-1.6**
LJU	**Ljubljana**	**6.49**	**327**	*e*Pn	**Pn**	**17 56 42.8**	**+0.2**
MLR	**Muntele Rosu**	**6.69**	**42**	Pn	**Pn**	**17 56 45.8**	**+0.4**
	0.7nm,0.3s,baz=203,slow=9.4,SNR=12						
MLR				Sn	**Sn**	**17 58 02.2**	**+0.9**
	0.7nm,0.3s,baz=194,slow=15,SNR=3.6						
MLR	**Muntele Rosu**	**6.69**	**42**	P	**Pn**	**17 56 45.8**	**+0.5

	comp=Z,4.2nm,0.5s								
HINF	**Hinteralfeld**	**11.56**	**312**	*e*Pn		**Pn**	**17 57 51.5**	**-0.6**
HINF				*e*Sn		**Sn**	**17 59 50.5**	**-11**
	comp=Z,2.1nm,0.5s								
CDF	**Champ du Feu**	**11.67**	**315**	*e*Pn		**Pn**	**17 57 52.2**	**-1.5**
HAU	**Haudompre**	**11.95**	**312**	*e*Pn		**Pn**	**17 57 56.4**	**-1.0**
HAU				*e*Sn		**Sn**	**18 00 00.9**	**-10**
	comp=Z,6.2nm,0.4s								
HAU	**Haudompre**	**11.95**	**312**	*e*Pn		**Pn**	**17 57 56.4**	**-1.0**
HAU				*e*Sn		**Sn**	**18 00 00.9**	**-10**
	comp=Z,3.1nm,0.4s								
SMF	**Signal de Mont**	**12.84**	**303**	*e*Pn		**Pn**	**17 58 07.3**	**-2.3**
SMF				*e*Sn		**Sn**	**18 00 20.4**	**-12**
	comp=Z,4.1nm,0.6s								
SMF	**Signal de Mont**	**12.84**	**303**	*e*Pn		**Pn**	**17 58 07.3**	**-2.3**
SMF				*e*Sn		**Sn**	**18 00 20.4**	**-12**
	comp=Z,2.0nm,0.6s								
MEZF	**Maizieres J'vi**	**12.95**	**312**	*e*Pn		**Pn**	**17 58 10.7**	**-0.4**
LOR	**Lormes**	**13.08**	**305**	*e*Pn		**Pn**	**17 58 09.6**	**-3.2**
LOR				*e*Sn		**Sn**	**18 00 26.7**	**-11**
	comp=Z,8.0nm,0.7s								
LOR	**Lormes**	**13.08**	**305**	*e*Pn		**Pn**	**17 58 09.6**	**-3.2**
LOR				*e*Sn		**Sn**	**18 00 26.7**	**-11**
	comp=Z,4.0nm,0.7s								
SSF	**Saint Saulge**	**13.21**	**304**	*e*Pn		**Pn**	**17 58 11.0**	**-3.7**
SSF				*e*Sn		**Sn**	**18 00 28.8**	**-13**
	comp=Z,3.1nm,0.5s								
SSF	**Saint Saulge**	**13.21**	**304**	*e*Pn		**Pn**	**17 58 11.0**	**-3.7**
SSF				*e*Sn		**Sn**	**18 00 28.8**	**-13**
	comp=Z,1.5nm,0.5s								
ANN	**Anapa**	**13.75**	**67**	*e*P		**Pn**	**17 58 19.1**	**-2.9**
ANN				*e*S		**Sn**	**18 00 48.9**	**-5.5**
ANN				pmax	pmax			
	comp=Z,18nm,0.9s								
SOC	**Sochi**	**15.22**	**72**	*e*P		**Pn**	**17 58 41.4**	**-0.5**
SOC				*e*			18 01 30.2	
SOC				pmax	pmax			
	comp=Z,15nm,1.2s								
SOC	**Sochi**	**15.22**	**72**	*e*P		**Pn**	**17 58 41.4**	**-0.5**
	comp=Z,15nm,1.2s								
KIV	**Kislovodsk**	**17.39**	**72**	*e*P		**Pn**	**17 59 09.3**	**-0.4**
KIV				pmax	pmax			
	comp=Z,5.0nm,1.1s								
KIV	**Kislovodsk**	**17.39**	**72**	*e*P		**Pn**	**17 59 09.3**	**-0.4**
	comp=Z,5.0nm,1.1s								
OBN	**Obninsk**	**18.31**	**32**	*e*P		**Pn**	**17 59 18.5**	**-2.4**
OBN				*e*S		**Sn**	**18 02 40.7**	**-4.3**
OBN				pmax	pmax			
	comp=Z,4.0nm,0.8s								
OBN	**Obninsk**	**18.31**	**32**	*e*P		**Pn**	**17 59 18.5**	**-2.4**
	comp=Z,4.0nm,0.8s								
GNI	**Garni**	**19.16**	**83**	*e*P		**Pn**	**17 59 32.1**	**+0.7**
GNI				pmax	pmax			
	comp=Z,3.0nm,0.8s								
GNI	**Garni**	**19.16**	**83**	*e*P		**Pn**	**17 59 32.1**	**+0.7**
	comp=Z,3.0nm,0.8s								
HFS	**Hagfors**	**19.80**	**351**	P		**Pn**	**17 59 36.4**	**-2.6**
	comp=Z,0.3nm,0.3s,baz=142,slow=13,SNR=12								
EKA	**Eskdalemuir Ar**	**20.98**	**322**	P		**P**	**17 59 49.8**	**-0.3**
	comp=Z,4.6nm,0.8s,baz=121,slow=9.6,SNR=10								
EKA	**Eskdalemuir Ar**	**20.98**	**322**	P		**P**	**17 59 49.8**	**-0.3**
EKA				pmax	pmax			
	comp=Z,5.0nm,0.8s								
ESK	**Eskdalemuir**	**20.99**	**322**	*e*P		**P**	**17 59 47.7**	**-2.6**
ESK				pmax	pmax			
	comp=Z,11nm,1.1s								
ESK	**Eskdalemuir**	**20.99**	**322**	*e*P		**P**	**17 59 47.7**	**-2.6**
	comp=Z,11nm,1.1s								
ESK	**Eskdalemuir**	**20.99**	**322**	*e*P		**P**	**17 59 47.7**	**-2.6**
	comp=Z,12nm,1.1s								
NB2	**NORSAR Subarra**	**21.01**	**349**	P		**P**	**17 59 49.4**	**-1.1**
	comp=Z,1.5nm,0.6s,mb3.5,baz=154,slow=10								
NOA	**NORSAR Array B**	**21.01**	**349**	P		**P**	**17 59 51.1**	**+0.6**
	comp=Z,1.3nm,0.6s,mb3.5,baz=160,slow=11,SNR=9.6								
NOA	**NORSAR Array B**	**21.01**	**349**	P		**P**	**17 59 51.1**	**+0.7**
NOA				pmax	pmax			
	comp=Z,1.0nm,0.6s								
FINES	**FINESS Array B**	**21.16**	**9**	*e*P		**P**	**17 59 49.1**	**-2.9**
KAF	**Kangasniemi**	**21.83**	**9**	*e*p		**P**	**17 59 56.4**	**-2.9**
	comp=Z,1.3nm,0.4s,mb3.7								
KAF	**Kangasniemi**	**21.83**	**9**	*e*P		**P**	**17 59 56.4**	**-2.9**
KAF				pmax	pmax			
	comp=Z,1.0nm,0.4s,mb3.6								
JOF	**Joensuu**	**23.34**	**14**	*e*p		**P**	**18 00 12.9**	**-2.3**
	comp=Z,1.9nm,0.6s,mb3.7								
JOF	**Joensuu**	**23.34**	**14**	*e*P		**P**	**18 00 12.9**	**-2.3**
JOF				pmax	pmax			
	comp=Z,2.0nm,0.6s,mb3.7								
RST	**Umm Al-Ruwaisa**	**24.96**	**108**	*e*P		**P**	**18 00 29.0**	**-1.6**
	comp=Z,9.4nm,1.0s,mb4.3								
RST	**Umm Al-Ruwaisa**	**24.96**	**108**	*e*P		**P**	**18 00 28.9**	**-1.7**
RST				AMb		AMB	18 00 29.5	
	comp=Z,9.0nm,1.0s,mb4.2								
NAY	**Al-Naaiem**	**25.28**	**108**	*e*P		**P**	**18 00 31.4**	**-2.1**
	comp=Z,5.2nm,1.8s,mb3.8								
NAY	**Al-Naaiem**	**25.28**	**108**	*e*P		**P**	**18 00 31.4**	**-2.1**
NAY				AMb		AMB	18 00 32.3	
	comp=Z,5.0nm,1.8s,mb3.7								
TORD	**Torodi Ar. Bea**	**31.60**	**215**	P		**P**	**18 01 29.2**	**-0.8**
	comp=Z,0.5nm,0.5s,mb3.6,baz=27,slow=8.8,SNR=6.8								
ZALV	**Zalesovo Beam**	**44.59**	**50**	P		**P**	**18 03 17.9**	**-1.1**
	comp=Z,2.2nm,0.6s,mb4.2,baz=279,slow=8.4,SNR=9.9								
ZALV	**Zalesovo Beam**	**44.59**	**50**	P		**P**	**18 03 17.9**	**-1.1**
ZALV				pmax	pmax			
	comp=Z,2.0nm,0.6s,mb4.1								
MKAR	**Makanchi Array**	**44.65**	**60**	P		**P**	**18 03 17.7**	**-1.9**
	comp=Z,0.5nm,0.3s,mb3.8,baz=280,slow=7.7,SNR=17								
MKAR	**Makanchi Array**	**44.65**	**60**	*e*P		**P**	**18 03 17.6**	**-2.0**
MKAR				pmax	pmax			
	comp=Z,1.0nm,0.3s								
MKAR	**Makanchi Array**	**44.65**	**60**	P		**P**	**18 03 17.7**	**-1.9**
TLY	**Talaya**	**56.14**	**48**	*e*P		**P**	**18 04 46.4**	**0.0**
TLY				pmax	pmax			
	comp=Z,3.0nm,0.9s,mb4.3								
TLY	**Talaya**	**56.14**	**48**	*e*P		**P**	**18 04 46.4**	**0.0**
	comp=Z,2.8nm,0.9s,mb4.3								
TLY	**Talaya**	**56.14**	**48**	*e*P		**P**	**18 04 46.4**	**0.0**
	comp=Z,2.8nm,0.9s,mb4.3								
SONM	**Songino Array**	**59.45**	**51**	P		**P**	**18 05 08.7**	**-1.0**
	comp=Z,0.9nm,0.8s,mb3.8,baz=282,slow=7.2,SNR=6.4								
SONM	**Songino Array**	**59.45**	**51**	*e*P		**P**	**18 05 08.7**	**-1.0**
SONM				pmax	pmax			
	comp=Z,1.0nm,0.8s								
KSRS	**Korea Array**	**78.30**	**50**	P		**P**	**18 07 06.4**	**-0.8**
	comp=Z,1.2nm,0.8s,mb3.9,baz=317,slow=5.1,SNR=5.8								
KSRS	**Korea Array**	**78.30**	**50**	P		**P**	**18 07 06.4**	**-0.8**
KSRS				pmax	pmax				
	comp=Z,1.0nm,0.8s,mb3.8								

*ISCJB **21** 18:04:08.9±0.6, 4374N±005×10524W±006, h0km, Error ellipse: s-maj=7.1km s-min=6.2km az=42.3*
*IDC **21** 18:04:09.2±1.6, 4388N×10547W, h0km, mb1 3.7/4, mb1mx3.4/23, mbtmp3.4/4, ML3.3/4, Error ellipse: s-maj=51.1km s-min=8.7km az=148.0*
*NEIC **21** 18:04:10.3±0.6, 4381N×10521W, h0km, ML3.0, Error ellipse: s-maj=9.9km s-min=7.5km az=185.0, Suspected Mining explosion.*
NEIC 60 km [35 miles] SSE of Gillette.

ISC 21 18:04:09.9±0.5, 4376N±005×10518W±006, h0km, n27, σ1§09/27, 1C, Wyoming

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
RSSD	**Black Hills**	**0.90**	**66**	*e*P		**Pg**	**18 04 27.8**	**+0.5**
PHWY	**Pilot Hill**	**2.46**	**185**	*e*Pn		**Pn**	**18 04 51.5**	**+0.1**
RWWY	**Rawlins**	**2.55**	**217**	*e*Pn		**Pn**	**18 04 53.1**	**+0.6**
LAO	**LASA Array**	**3.02**	**346**	*e*Pn		**Pn**	**18 04 57.4**	**-1.6**
RLMT	**Red Lodge**	**3.23**	**296**	*e*Pn		**Pn**	**18 05 01.1**	**-0.7**
RLMT				*e*Sn		**Sn**	**18 05 41.8**	**+0.9**
PDAR	**Pinedale Array**	**3.35**	**254**	Pn		**Pn**	**18 05 02.8**	**-0.7**
	2.3nm,0.3s,baz=70,slow=16,SNR=47							
PDAR				Lg			18 05 49.1	
	12nm,0.3s,baz=72,slow=33,SNR=15							
OGNE	**Ogallala**	**3.66**	**139**	*e*Pn		**Pn**	**18 05 09.8**	**+2.1**
LOHW	**Long Hollow**	**3.94**	**270**	*e*Pn		**Pn**	**18 05 13.6**	**+2.0**
ISCO	**Idaho Springs**	**3.97**	**185**	*e*Pn		**Pn**	**18 05 12.8**	**+0.7**
ISCO				*e*S		**Sn**	**18 06 06.2**	**+6.9**
MOOW	**Moose Ponds**	**4.03**	**272**	*e*Pn		**Pn**	**18 05 13.2**	**+0.4**
SNOW	**Snow King Moun**	**4.06**	**268**	Pn		**Pn**	**18 05 13.1**	**-0.1**
YNR	**Norris Junctio**	**4.06**	**285**	*e*Pn		**Pn**	**18 05 14.6**	**+1.2**
REDW	**Red Top Meadow**	**4.14**	**266**	*e*Pn		**Pn**	**18 05 14.3**	**-0.1**
IMW	**Indian Meadow**	**4.17**	**274**	*e*Pn		**Pn**	**18 05 14.9**	**+0.1**
AHID	**Auburn Hatcher**	**4.43**	**259**	*e*Pn		**Pn**	**18 05 23.8**	**+5.4**
QLMT	**Earthquake Lak**	**4.61**	**286**	*e*Pn		**Pn**	**18 05 21.3**	**+0.5**
DGMT	**Dagmar**	**4.76**	**8**	*e*Pn		**Pn**	**18 05 23.6**	**+0.7**
SMCO	**Snowmass**	**4.77**	**197**	*e*Pn		**Pn**	**18 05 20.9**	**-2.1**
HWUT	**Hardware Ranch**	**5.17**	**248**	*e*Pn		**Pn**	**18 05 27.4**	**-1.2**
	5.6nm,0.5s							
DAU	**Daniels Canyon**	**5.62**	**236**	*e*P		**Pn**	**18 05 33.3**	**-1.4**
SDCO	**Great Sand Dun**	**6.01**	**182**	*e*Pn		**Pn**	**18 05 40.6**	**+0.5**
SRU	**San Rafael**	**6.14**	**223**	*e*P		**Pn**	**18 05 39.9**	**-1.9**
	4.2nm,0.3s							
ECSD	**EROS,Sioux Fal**	**6.21**	**87**	*e*Pn		Px	18 06 03.1	
AGMN	**Agassiz Refuge**	**7.91**	**52**	*e*Pn		Px	18 06 33.0	
ELK	**Elko**	**8.04**	**251**	Pn		**Pn**	**18 06 08.0**	**0.0**
	0.3nm,0.3s,baz=68,slow=13,SNR=5.0							
ULM	**Lac du Bonnet**	**9.08**	**41**	Pn		**Pn**	**18 06 20.4**	**-1.8**
	1.3nm,0.3s,baz=234,slow=9.2,SNR=9.0							
ULM				Lg			18 08 50.0	
	0.2nm,0.3s,baz=353,slow=17,SNR=2.2							
NVAR	**Mina Array Bea**	**11.24**	**246**	Pn		**Pn**	**18 06 52.5**	**+0.8**
	0.1nm,0.3s,baz=53,slow=13,SNR=3.4							

*JMA **21** 18:20:20.2±0.6, 2145N×12208E, h68km, M3.6*

TAP 21 18:20:17.3, 2148N×12205E, h18km±1km, ML3.3, D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
LAY	**Lan-yu**	**0.72**	**320**	P		Pb	18 20 31.5	+0.1
	baz=321							
LAY				*e*S		Sb	18 20 41.9	+0.9
	baz=321							
TWK1	**Hengchun**	**1.25**	**292**	*e*P		Pn	18 20 40.2	+0.4
	baz=292							
TWK1				*e*S		Sb	18 20 57.2	+1.2
	baz=292							
HEN	**Hengchun**	**1.33**	**294**	*e*P		Pn	18 20 43.6	+2.7
	baz=310							
EAST	**Anshuo**	**1.43**	**309**	P		Pn	18 20 41.4	-1.0
	baz=310							
EAST				*e*S		Sn	18 21 02.0	+1.2
	baz=310							
ECL	**Taimali**	**1.51**	**318**	*e*P		Pn	18 20 43.9	+0.4
	baz=319							
SCZT	**Fangliau**	**1.60**	**304**	P		Pn	18 20 45.2	+0.5
	baz=304							
SCZT				*e*S		Sn	18 21 05.9	+1.0
	baz=304							
TWG	**Pinlang**	**1.61**	**326**	*e*P		Pn	18 20 46.0	+1.1
	baz=310							
TWG				*e*S		Sn	18 21 06.1	+0.8
	baz=310							
CHKT	**Chengkung**	**1.73**	**339**	*e*P		Pn	18 20 47.2	+0.7
	baz=339							
CHKT				*e*S		Sn	18 21 07.1	-1.1
	baz=339							
SSD	**Sandimen**	**1.82**	**314**	*e*P		Pn	18 20 50.9	+3.2
	baz=323							
ELDTW	**Lidau**	**1.95**	**331**	*e*P		Pn	18 20 51.2	+1.6
	baz=320							
TWF1	**Yuli**	**1.99**	**340**	*e*P		Pn	18 20 52.0	+1.9
	baz=352							
TWF1				*e*S		Sn	18 21 15.0	+0.4
	baz=352							
TWM1	**Shoushan**	**2.02**	**312**	*e*P		Pn	18 20 54.3	+3.8
	baz=312							
STYT	**Tauyuan**	**2.06**	**325**	*e*P		Pn	18 20 52.9	+1.8
	baz=325							
SGST	**Jiashian**	**2.10**	**320**	*e*P		Pn	18 20 53.6	+2.1
	baz=320							
EHY	**Hungye**	**2.13**	**342**	*e*S		Sn	18 21 19.3	+1.3
	baz=352							
WTP	**Ta-pu**	**2.20**	**323**	*e*P		Pn	18 20 55.7	+2.7
	baz=324							
CHN1	**Nanshi**	**2.21**	**321**	P		Pn	18 20 56.6	+3.6
	baz=321							
YUS	**Yu-Shan**	**2.24**	**333**	*e*P		Pn	18 20 57.1	+3.5
	baz=342							
ALS	**Alishan**	**2.33**	**331**	*e*P		Pn	18 20 58.4	+3.7
	baz=338							
CHN5	**Tsauling**	**2.46**	**329**	*e*P		Pn	18 20 60.0	+3.4
	baz=330							
CHN5				*e*S		Sn	18 21 30.9	+4.8
	baz=330							
SMLT	**Sun Moon Lake**	**2.62**	**336**	*e*P		Pn	18 21 02.3	+3.6
	baz=348							
TYC	**Yuchr**	**2.65**	**336**	*e*P		Pn	18 21 02.7	+3.5
	baz=347							
WHF	**Hehuan Shan**	**2.75**	**345**	*e*P		Pn	18 21 05.6	+5.1
	baz=346							
NNS	**Nan Shan**	**3.01**	**348**	*e*P		Pn	18 21 09.3	+5.2
	baz=349							
HATJ	**Hateruma jima**	**3.03**	**32**	P		Pn	18 21 07.3	+2.8
HATJ				*e*S		Sn	18 21 42.6	+2.2
YOJ	**Yonaguni jima**	**3.10**	**16**	P		Pn	18 21 08.2	+2.9
IRIF	**Iriomote-Funau**	**3.24**	**28**	P		Pn	18 21 09.4	+2.2
IRIF				*e*S		Sn	18 21 48.2	+2.8
JKRS	**Kuro-shima**	**3.29**	**33**	P		Pn	18 21 10.2	+2.3
JKRS				*e*S		Sn	18 21 48.7	+2.1
JIJ	**Ishigaki jima**	**3.46**	**34**	P		Pn	18 21 12.8	+2.5
JIJ				*e*S		Sn	18 21 52.1	+1.3
JTJ	**Tarama**	**3.98**	**37**	P		Pn	18 21 21.0	+3.5
JTJ				*e*S		Sn	18 22 05.4	+1.6

*ISK **21** 18:28:03.8, 3892N×4296E, h7km, MD2.6*
*CSEM **21** 18:28:03.4±0.0, 3892N×4296E, h5km, MD2.8, Error ellipse: s-maj=0.5km s-min=0.3km az=90.0*
*ISCJB **21** 18:28:04.6±0.6, 3893N±003×4298E±006, h10km, Error ellipse: s-maj=7.3km s-min=3.2km az=161.1*
*DDA **21** 18:28:04.9, 3895N×4297E, h7km±4km, Md2.8*

ISC 21 18:28:05.1±0.7, 3893N±003×4295E±008, h5km±13km, n9, σ1§11/17, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
TUTA	**Tutak**	**0.48**	**347**	*i* P		**Pg**	**18 28 13.5**	**-0.9**
TUTA				*i* S		**Sg**	**18 28 21.4**	**+0.6**
TVAN	**Van**	**0.54**	**138**	*i* P		**Pg**	**18 28 14.8**	**-0.5**
TVAN				*i* S		**Sg**	**18 28 24.2**	**+1.9**
VANT	**Van**	**0.59**	**144**	*e*PG		**Pg**	**18 28 14.9**	**-1.5**
VANT				*e*SG		**Sg**	**18 28 23.0**	**-1.1**
AGRB	**Hanur-Agry**	**0.65**	**3**	*e*PG		**Pg**	**18 28 16.9**	**-0.6**
AGRB				*e*SG		**Sg**	**18 28 26.6**	**+0.6**
CLDR	**Caldiran**	**0.78**	**74**	*e*PG		**Pg**	**18 28 19.2**	**-0.9**
CLDR				*e*SG		**Sg**	**18 28 30.4**	**+0.1**
HOMI	**Horasan**	**1.38**	**324**	*i* P		**Pg**	**18 28 32.4**	**+0.9**
HOMI				*i* S		**Sg**	**18 28 54.4**	**+5.0**
SIRT	**Sirnak**	**1.48**	**196**	*e*PN		**Pn**	**18 28 31.4**	**-0.9**
HAKT	**HAKKARI**	**1.49**	**156**	*i* P		**Pn**	**18 28 33.4**	**+1.0**
HAKT				*i* S		**Sg**	**18 28 54.8**	**+1.8**
DIGO	**Kars**	**1.52**	**12**	*i* P		**Pg**	**18 28 33.5**	**-0.8**
DIGO				*i* S		**Sg**	**18 28 57.4**	**+3.4**

*NEIC **21** 18:29:11.3±2.8, 754S×12791E, h104km±30km, mb3.8/1, Error ellipse: s-maj=29.8km s-min=22.0km az=216.0*
*ISCJB **21** 18:29:13.4±3.0, 76S±02×128.1E±0.1, h148km±34km, Error ellipse: s-maj=36.4km s-min=13.1km az=18.6*
*IDC **21** 18:29:16.1±5.9, 771S×12806E, h159km±60km, mb2.9/1, mb1 3.4/5, mb1mx3.1/16, mbtmp3.2/5, Error ellipse: s-maj=58.3km s-min=20.7km az=46.0*

ISC 21 18:29:14.9±1.9, 77S±01×12815E±010, h144km±21km, n8, σ0§90/11, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
BATI	**Baumata**	**5.11**	**240**	P		**Pn**	**18 30 30.6**	**+1.0**
	2.0nm,0.3s,baz=298,slow=6.5,SNR=11							
BATI				S		**Sn**	**18 31 27.8**	**-0.1**
	7.1nm,0.3s,baz=56,slow=23,SNR=9.7							
KAKA	**Kakadu**	**6.57**	**140**	*e*Pn		**Pn**	**18 30 48.3**	**-0.8**
	18nm,0.5s							
KAKA				*e*Sn		Sx	18 31 57.8	
FITZ	**Fitzroy Crossi**	**10.67**	**193**	P		**Pn**	**18 31 41.9**	**-2.0**
	0.3nm,0.3s,baz=30,slow=15,SNR=18							
FITZ				S		**Sn**	**18 33 36.2**	**-5.7**
	0.5nm,0.3s,baz=85,slow=19,SNR=8.0							
WRAB	**Tennant Creek**	**13.61**	**154**	*e*Pn		**Pn**	**18 32 22.2**	**+0.1**
	3.8nm,0.7s							
WRAB				*e*Sn		Sx	18 34 44.7	
WRA	**Warramunga Ar**	**13.61**	**154**	P		**Pn**	**18 32 22.5**	**+0.3**
	0.5nm,0.3s,baz=326,slow=14,SNR=26							
WRA				S		Sx	18 34 45.2	
	0.9nm,0.3s,baz=332,slow=23,SNR=7.2							
WB2	**Warramunga Arr**	**13.62**	**154**	*e*Pn		**Pn**	**18 32 22.8**	**+0.5**
ASAR	**Alice Springs**	**16.86**	**162**	P		**Pn**	**18 33 03.9**	**+1.5**
	0.5nm,0.3s,baz=342,slow=11,SNR=80							
ASAR				S		**S**	**18 36 09.7**	**-0.2**
	0.3nm,0.3s,baz=326,slow=22,SNR=8.2							
MKAR	**Makanchi Array**	**67.78**	**328**	P		**P**	**18 39 56.6**	**-0.5**
	0.2nm,0.5s,baz=111,slow=7.9,SNR=3.8							

*IDC **21** 18:41:53.0±2.4, 335S×10029E, h0km, mb3.6/8, mb1 3.7/8, mb1mx3.6/21, mbtmp3.6/8, Error ellipse: s-maj=104.1km s-min=18.1km az=54.0*
*ISCJB **21** 18:41:55.1±2.1, 34S±04×1002E±05, h33km, mb3.6/9, Error ellipse: s-maj=85.3km s-min=12.3km az=143.8*
*NEIC **21** 18:41:57.8±1.8, 330S×10036E, h35km, mb3.9/2, Error ellipse: s-maj=77.5km s-min=12.0km az=54.0*

ISC 21 18:41:58.0±1.9, 33S±03×1004E±05, h35km, n14, σ0§90/13, mb3.6/9, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**21.65**	**356**	P		**P**	**18 46 44.3**	**-1.3**
	0.5nm,0.7s,mb3.1,baz=185,slow=8.3,SNR=6.2							
WRA	**Warramunga Arr**	**37.00**	**119**	P		**P**	**18 49 04.8**	**+0.3**
	0.3nm,0.4s,mb3.5,baz=306,slow=8.6,SNR=8.6							
WRAB	**Tennant Creek**	**37.01**	**119**	*e*P		**P**	**18 49 04.3**	**-0.3**
	0.8nm,0.5s,mb3.8							
WB2	**Warramunga Arr**	**37.01**	**119**	*e*P		**P**	**18 49 03.9**	**-0.8**
ASAR	**Alice Springs**	**38.18**	**125**	P		**P**	**18 49 14.9**	**+0.5**
	0.3nm,0.5s,mb3.3,baz=303,slow=7.8,SNR=17							
SONM	**Songino Array**	**51.17**	**5**	P		**P**	**18 50 59.4**	**+1.8**
	0.7nm,0.4s,mb3.9,baz=190,slow=9.1,SNR=6.9							
MK31	**Makanchi Array**	**52.37**	**344**	*e*P		**P**	**18 51 06.0**	**-0.5**
MKAR	**Makanchi Array**	**52.37**	**344**	P		**P**	**18 51 07.5**	**+0.9**
	1.0nm,0.6s,mb3.9,baz=154,slow=8.4,SNR=9.6							
MKAR	**Makanchi Array**	**52.37**	**344**	P		**P**	**18 51 07.5**	**+0.9**
KURK	**Kurchatov**	**56.95**	**344**	P		**P**	**18 51 40.1**	**+0.5**
	0.4nm,0.6s,mb3.6,baz=153,slow=6.3,SNR=2.8							
KURK	**Kurchatov**	**56.95**	**344**	P		**P**	**18 51 37.9**	**-1.8**
	0.8nm,0.7s,mb3.9							
ZALV	**Zalesovo Beam**	**58.50**	**349**	P		**P**	**18 51 51.1**	**+0.6**
	0.3nm,0.3s,mb3.9,baz=178,slow=4.5,SNR=4.6							
BVAR	**Borovoye Array**	**61.52**	**340**	P		**P**	**18 52 10.8**	**-0.5**
	0.3nm,0.4s,mb3.7,baz=171,slow=6.0,SNR=2.3							
TXAR	**Lajitas Array**	**145.45**	**39**	PKPbc		PKPbc	19 01 34.9	+1.8
	0.7nm,0.5s,baz=229,slow=1.0,SNR=13							

*CSEM **21** 18:43:16.2±0.1, 3720N×2475W, h2km, mb4.5/24, Ms3.3, Error ellipse: s-maj=2.2km s-min=1.1km az=5.0*
*ISCJB **21** 18:43:17.1±0.3, 3713N±004×2477W±003, h10km, mb4.3/43, MS3.6/14, Error ellipse: s-maj=6.2km s-min=3.1km az=27.2*
*IDC **21** 18:43:18.9±0.6, 3733N×2464W, h0km, mb4.1/19, mb1 4.2/20, mb1mx4.1/28, mbtmp4.1/20, ML3.5/1, MS3.6/11, Ms1 3.7/11, ms1mx3.3/36, Error ellipse: s-maj=18.2km s-min=14.1km az=149.0*
*NEIC **21** 18:43:20.3±0.4, 3717N×2456W, h10km, mb4.5/29, Error ellipse: s-maj=7.5km s-min=5.7km az=98.0*
*PDA **21** 18:43:21.6±1.1, 3731N×2471W, h5km, MD3.8, ML4.3, Error ellipse: s-maj=7.0km s-min=3.5km az=73.0*
*MOS **21** 18:43:22.2±1.1, 3730N×2467W, h33km, mb4.6/25, Error ellipse: s-maj=20.6km s-min=5.4km az=136.8*

ISC 21 18:43:18.9±0.3, 3721N±004×2482W±003, h10km, n200, σ1§13/204, mb4.3/43, MS3.6/14, 24C, Azores Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
PSMN	**Pico de Norte,**	**0.28**	**223**	*e*P		**Pg**	**18 43 28.9**	**+4.3**
PSMN				*e*S		**Sg**	**18 43 34.5**	**+6.1**
PSMN	**Pico do Norte,**	**0.28**	**223**	*e*S		**Sg**	**18 43 34.5**	**+6.1**
CMLA	**Cha da Macela**	**0.79**	**315**	*e*P		**Pg**	**18 43 34.4**	**+0.3**
CMLA				*e*S		**Sg**	**18 43 43.8**	**-0.6**
CMLA				A			18 43 48.1	
	6μm,0.4s							
CMLA	**Cha da Macela**	**0.79**	**315**	*e*P		**Pg**	**18 43 33.7**	**-0.4**
CMLA	**Cha da Macela**	**0.79**	**315**	*e*P		**Pg**	**18 43 33.7**	**-0.4**
PDA	**Ponta Delgada**	**0.86**	**309**	*e*P		**Pg**	**18 43 35.9**	**+0.4**
PDA				*e*S		**Sg**	**18 43 46.1**	**-0.5**
PSET	**Sete Cidades**	**0.94**	**311**	*e*P		**Pg**	**18 43 36.9**	**-0.2**
PSET				*e*S		**Sg**	**18 43 48.2**	**-1.1**
PSET				A			18 43 50.9	

PBDV A 18 48 48.9
comp=Z,2.3nm,0.4s
PBDV eT 18 58 17.2
PBEJ Beja 13.47 81 eP **Pn 18 46 22.9 -7.2**
PBEJ eS Sx 18 48 38.9
PBEJ A 18 48 46.3
comp=Z,2.8nm,0.3s
PBEJ eT 18 58 15.6
PVAQ Vaqueiros 13.62 84 eP **Pn 18 46 32.6 +0.4**
PVAQ eS Sx 18 48 45.3
PVAQ A 18 48 49.9
comp=Z,3.0nm,0.9s
PVAQ eT 18 58 18.0
PVIS Viseu 13.63 70 eP **Pn 18 46 24.9 -7.4**
PVIS eS Sx 18 48 44.2
PESTR Estremoz 13.69 78 eS Sx 18 48 46.9
PESTR A 18 48 59.1
comp=Z,2.7nm,0.3s
PESTR eT 18 58 13.7
STS Santiago 13.69 60 P **Pn 18 46 26.6 -6.4**
STS pmax pmax
comp=Z,6.0nm,0.2s
STS Santiago 13.69 60 P **Pn 18 46 26.6 -6.4**
comp=Z,5.6nm,0.2s
PCAB Cabril 13.73 66 eP **Pn 18 46 25.2 -8.4**
PCAB eS Sx 18 48 45.2
PCAB A 18 48 49.1
comp=Z,5.2nm,0.5s
ELOB Lobios 13.74 65 P **Pn 18 46 26.9 -6.9**
comp=Z,9.0nm,0.5s
ELOB S Sx 18 48 46.8
EGRO El Granado 13.80 83 P **Pn 18 46 29.1 -5.4**
comp=Z,0.5nm,0.3s
EGRO S Sx 18 48 47.7
PCBR Castelo Branco 13.84 74 eP **Pn 18 46 27.8 -7.2**
PCBR eS Sx 18 48 49.9
MTE Manteigas 13.85 71 eP **Pn 18 46 25.2 -10**
MTE eS Sx 18 48 50.7
PMRV Marv??o 13.87 75 eP **Pn 18 46 28.4 -7.1**
PMRV eS Sx 18 48 50.6
PMRV A 18 48 57.8
comp=Z,3.4nm,0.5s
EBAD Badajoz 14.14 78 P **Pn 18 46 33.3 -5.8**
comp=Z,0.1nm,0.2s
EBAD S Sx 18 48 56.6
MVO Moncorvo 14.35 69 eP **Pn 18 46 34.9 -7.2**
MVO eS Sx 18 49 01.5
EMIN Mina Concepcio 14.43 82 P **Pn 18 46 38.6 -4.5**
comp=Z,0.3nm,0.3s
EMIN S Sx 18 49 04.3
ECAL Calabor 14.72 66 P **Pn 18 46 40.3 -6.8**
comp=Z,5.8nm,0.5s
ECAL S Sx 18 49 11.6
EPON Pontenova 14.80 60 P **Pn 18 46 40.5 -7.7**
comp=Z,0.5nm,0.2s
EPON S Sx 18 49 09.3
EPLA Plasencia 14.93 73 P **Pn 18 46 44.9 -5.0**
EPLA pmax pmax
comp=Z,5.0nm,0.5s
EPLA Plasencia 14.93 73 P **Pn 18 46 44.9 -5.0**
comp=Z,4.7nm,0.5s
EPLA S Sx 18 49 15.5
ESPR Espera 15.16 86 P **Pn 18 46 49.6 -3.4**
comp=Z,0.4nm,0.2s
ESPR S Sx 18 49 21.3
EADA Adamuz 16.06 80 P **Pn 18 47 00.7 -4.1**
comp=Z,0.2nm,0.3s
EADA S Sx 18 49 43.6
EARI Arriondas 16.15 62 P **Pn 18 46 59.3 -6.6**
comp=Z,0.3nm,0.2s
EARI S Sx 18 49 44.2
GUD Guadarrama 16.44 72 P **Pn 18 47 04.9 -4.8**
GUD pmax pmax
comp=Z,1.0nm,0.4s
GUD Guadarrama 16.44 72 P **Pn 18 47 04.9 -4.8**
comp=Z,1.2nm,0.4s
ESDC Sonseca Array 16.53 75 Pn **Pn 18 47 04.2 -6.6**
comp=Z,0.6nm,0.3s,baz=270,slow=13,SNR=13
ESDC Sn Sx 18 50 00.1
comp=Z,0.4nm,0.3s,baz=274,slow=17,SNR=3.8
ESDC LR LR 18 52 01.6
comp=Z,167nm,21.7s,baz=275,slow=32
ESDC Sonseca Array 16.53 75 P **Pn 18 47 03.8 -7.0**
comp=Z,0.6nm,0.4s
ESLA Sonseca Array 16.53 75 ePn **Pn 18 47 06.9 -3.8**
comp=Z,4.1nm,1.2s
MDT Midelt 17.12 99 P **Pn 18 47 17.8 -0.5**
comp=Z,0.2nm,0.3s,baz=288,slow=13,SNR=12
MDT S Sx 18 50 10.8
comp=Z,0.2nm,0.3s,baz=177,slow=13,SNR=5.0
MDT LR LR 18 52 57.3
comp=Z,149nm,18.0s,baz=175,slow=34
ELAN Lanestosa 17.39 63 P **Pn 18 47 16.4 -5.1**
comp=Z,0.4nm,0.2s
ELAN S Sx 18 50 11.1
SJPF Ste Jean 18.95 65 eP **Pn 18 47 38.0 -2.7**
comp=Z,27nm,1.3s
SJPF Ste Jean 18.95 65 eP **Pn 18 47 38.0 -2.7**
SJPF pmax pmax
comp=Z,14nm,1.3s
SJPF Ste Jean 18.95 65 eP **Pn 18 47 38.0 -2.7**
comp=Z,14nm,1.3s
QUIF Quistinic 19.15 49 eP **Pn 18 47 42.5 -0.5**
ROSF Rostrenen 19.27 48 eP **Pn 18 47 43.5 -1.0**
ETSF Etsaut 19.39 65⇑*iP* **Pn 18 47 45.7 -0.4**
comp=Z,19nm,0.8s
ETSF Etsaut 19.39 65⇑*iP* **Pn 18 47 45.7 -0.4**
ETSF pmax pmax
comp=Z,10.0nm,0.8s
ETSF Etsaut 19.39 65⇑*iP* **Pn 18 47 45.7 -0.4**
comp=Z,9.6nm,0.8s
SGMF Saint Gilles 19.66 49 eP **Pn 18 47 48.6 -0.6**
EBIE Bielsa 19.88 66 P **Pn 18 47 49.6 -2.2**
comp=Z,0.1nm,0.2s
EPF Esparros 20.07 65 eP **P 18 47 53.0 +0.7**
EPOB Poblet 20.45 70 P **P 18 47 57.0 +0.6**
comp=Z,0.3nm,0.2s
MFF Saint Martin d 20.56 55⇑*iP* **P 18 47 58.1 +0.5**
comp=Z,82nm,1.1s
MFF Saint Martin d 20.56 55⇑*iP* **P 18 47 58.1 +0.5**
MFF pmax pmax
comp=Z,41nm,1.1s
MFF Saint Martin d 20.56 55⇑*iP* **P 18 47 58.1 +0.5**
comp=Z,41nm,1.1s
LFF La Frestale 20.70 60⇑*iP* **P 18 47 59.7 +0.5**
comp=Z,79nm,0.8s
LFF La Frestale 20.70 60⇑*iP* **P 18 47 59.7 +0.5**
LFF pmax pmax
comp=Z,39nm,0.8s
LFF La Frestale 20.70 60⇑*iP* **P 18 47 59.7 +0.5**
comp=Z,39nm,0.8s
GRR Gorron 20.75 50⇑*iP* **P 18 48 00.3 +0.7**
comp=Z,100nm,1.1s
GRR Gorron 20.75 50⇑*iP* **P 18 48 00.3 +0.7**
GRR pmax pmax
comp=Z,50nm,1.1s
GRR Gorron 20.75 50⇑*iP* **P 18 48 00.3 +0.7**
comp=Z,50nm,1.1s
FLN La Foliniere 21.13 49 eP **P 18 48 04.2 +0.5**
comp=Z,34nm,1.0s,mb4.3
FLN eMLR MLR
comp=Z,196nm,21.5s,MS3.2
FLN La Foliniere 21.13 49 eP **P 18 48 04.2 +0.5**
FLN pmax pmax
comp=Z,17nm,1.0s,mb4.3
FLN MLR MLR
comp=Z,200nm,21.5s,MS3.5
FLN La Foliniere 21.13 49 eP **P 18 48 04.2 +0.5**
comp=Z,17nm,1.0s,mb4.3
FLN LR LR
comp=Z,200nm,21.5s,MS3.5
LDF La Druitiere 21.28 50 eP **P 18 48 05.7 +0.4**
comp=Z,58nm,1.3s,mb4.4
LDF La Druitiere 21.28 50 eP **P 18 48 05.7 +0.4**
LDF pmax pmax
comp=Z,29nm,1.3s,mb4.5
LDF La Druitiere 21.28 50 eP **P 18 48 05.7 +0.4**
comp=Z,29nm,1.3s,mb4.5
RJF Les Rejaudoux 21.32 59⇑*iP* **P 18 48 05.4 -0.5**
comp=Z,32nm,1.2s,mb4.2
RJF eMLR MLR
comp=Z,257nm,20.0s,MS3.3
RJF Les Rejaudoux 21.32 59⇑*iP* **P 18 48 05.4 -0.5**
RJF pmax pmax
comp=Z,16nm,1.2s,mb4.2
RJF MLR MLR
comp=Z,260nm,20.0s,MS3.6
RJF Les Rejaudoux 21.32 59⇑*iP* **P 18 48 05.4 -0.5**
comp=Z,16nm,1.2s,mb4.2
RJF LR LR
comp=Z,260nm,20.0s,MS3.6
CAF Calviac 21.62 61 eP **P 18 48 09.0 -0.1**
comp=Z,73nm,1.0s,mb4.8
CAF Calviac 21.62 61 eP **P 18 48 09.0 -0.1**
CAF pmax pmax
comp=Z,36nm,1.0s,mb4.8
CAF Calviac 21.62 61 eP **P 18 48 09.0 -0.1**
comp=Z,36nm,1.0s,mb4.8
TCF Toulx Ste Croi 22.03 57 eP **P 18 48 13.6 +0.2**
comp=Z,52nm,1.2s,mb4.5
TCF Toulx Ste Croi 22.03 57 eP **P 18 48 13.6 +0.2**
TCF pmax pmax
comp=Z,26nm,1.2s,mb4.5
TCF Toulx Ste Croi 22.03 57 eP **P 18 48 13.6 +0.2**
comp=Z,26nm,1.2s,mb4.5
BGF Bois d'Agland 22.52 57 eP **P 18 48 19.0 +0.3**
comp=Z,26nm,1.0s,mb4.3
BGF Bois d'Agland 22.52 57 eP **P 18 48 19.0 +0.3**
BGF pmax pmax
comp=Z,13nm,1.0s,mb4.3
BGF Bois d'Agland 22.52 57 eP **P 18 48 19.0 +0.3**
comp=Z,13nm,1.0s,mb4.3
LASF Ste Croix 22.75 63 eP **P 18 48 21.1 0.0**
comp=Z,138nm,1.6s,mb4.8
LASF Ste Croix 22.75 63 eP **P 18 48 21.1 0.0**
comp=Z,69nm,1.6s,mb4.8
AVF Avril sur Loir 22.92 56⇑*iP* **P 18 48 23.4 +0.5**
comp=Z,16nm,1.1s,mb4.1
AVF Avril sur Loir 22.92 56⇑*iP* **P 18 48 23.4 +0.5**
AVF pmax pmax
comp=Z,8.0nm,1.1s,mb4.1
AVF Avril sur Loir 22.92 56⇑*iP* **P 18 48 23.4 +0.5**
comp=Z,7.9nm,1.1s,mb4.1
SSF Saint Saulge 23.09 56 eP **P 18 48 24.1 -0.6**
comp=Z,85nm,1.5s,mb4.6
SSF Saint Saulge 23.09 56 eP **P 18 48 24.1 -0.6**
SSF pmax pmax
comp=Z,42nm,1.5s,mb4.7
SSF Saint Saulge 23.09 56 eP **P 18 48 24.1 -0.6**
comp=Z,42nm,1.5s,mb4.6
SMF Signal de Mont 23.21 57⇑*iP* **P 18 48 26.5 +0.5**
comp=Z,41nm,1.2s,mb4.4
SMF Signal de Mont 23.21 57⇑*iP* **P 18 48 26.5 +0.5**
SMF pmax pmax
comp=Z,20nm,1.2s,mb4.4
SMF Signal de Mont 23.21 57⇑*iP* **P 18 48 26.5 +0.5**
comp=Z,20nm,1.2s,mb4.4
EKA Eskdalemuir Ar 23.35 32 P **P 18 48 25.9 -1.3**
comp=Z,2.7nm,0.7s,mb3.8,baz=228,slow=9.8,SNR=6.8
LOR Lormes 23.38 55 eP **P 18 48 27.6 -0.1**
LOR eMLR MLR
comp=Z,239nm,21.2s,MS3.3
LOR Lormes 23.38 55 eP **P 18 48 27.6 -0.1**
LOR LR LR
comp=Z,240nm,21.3s,MS3.6
VIVF Saint-Julien-l 23.43 62 eP **P 18 48 28.7 +0.4**
comp=Z,30nm,1.0s,mb4.4
VIVF Saint-Julien-l 23.43 62 eP **P 18 48 28.7 +0.4**
VIVF pmax pmax
comp=Z,15nm,1.0s,mb4.4
VIVF Saint-Julien-l 23.43 62 eP **P 18 48 28.7 +0.4**
comp=Z,15nm,1.0s,mb4.4
SMRF Simiane la Rot 23.96 64 eP **P 18 48 34.3 +1.0**
comp=Z,87nm,1.5s,mb4.7
SMRF Simiane la Rot 23.96 64 eP **P 18 48 34.3 +1.0**
comp=Z,43nm,1.5s,mb4.7
ORIF Oris-en-Rattie 24.29 62 eP **P 18 48 38.4 +2.1**
comp=Z,39nm,1.2s,mb4.4
ORIF eMLR MLR
comp=Z,237nm,22.5s,MS3.3
ORIF Oris-en-Rattie 24.29 62 eP **P 18 48 38.4 +2.1**
ORIF pmax pmax
comp=Z,20nm,1.2s,mb4.4
ORIF Oris-en-Rattie 24.29 62 eP **P 18 48 38.4 +2.1**
comp=Z,20nm,1.2s,mb4.4
BAIF Baives 24.45 49⇑*iP* **P 18 48 37.4 -0.3**
comp=Z,13nm,0.7s,mb4.2
BAIF Baives 24.45 49⇑*iP* **P 18 48 37.4 -0.3**
BAIF pmax pmax
comp=Z,7.0nm,0.7s,mb4.2
BAIF Baives 24.45 49⇑*iP* **P 18 48 37.4 -0.3**
comp=Z,6.7nm,0.7s,mb4.2
MEZF Maizieres J'vi 24.48 53 eP **P 18 48 38.1 +0.1**
LMR La Mourre 24.59 66 eP **P 18 48 39.3 +0.3**
SNF Seneffe 24.66 48 P **P 18 48 39.0 -0.6**
DOU Dourbes 24.70 49 AP pP 18 48 40.5 -2.5
FRF La Foret Royal 24.70 65 eP **P 18 48 40.2 +0.1**
comp=Z,87nm,1.5s,mb4.8
FRF La Foret Royal 24.70 65 eP **P 18 48 40.2 +0.1**
FRF pmax pmax
comp=Z,43nm,1.5s,mb4.8
FRF La Foret Royal 24.70 65 eP **P 18 48 40.2 +0.1**
comp=Z,43nm,1.5s,mb4.8
CABF La Chapelle 24.71 58 eP **P 18 48 40.9 +0.8**
comp=Z,12nm,0.9s,mb4.1
CABF La Chapelle 24.71 58 eP **P 18 48 40.9 +0.8**
CABF pmax pmax
comp=Z,6.0nm,0.9s,mb4.1
CABF La Chapelle 24.71 58 eP **P 18 48 40.9 +0.8**
comp=Z,6.2nm,0.9s,mb4.1
UCC Uccle 24.81 48 AP pP 18 48 41.5 -2.5
GIVF Givet 24.84 49 eP **P 18 48 41.7 +0.5**
comp=Z,32nm,0.8s,mb4.6
GIVF Givet 24.84 49 eP **P 18 48 41.7 +0.5**
GIVF pmax pmax
comp=Z,16nm,0.8s,mb4.6
GIVF Givet 24.84 49 eP **P 18 48 41.7 +0.5**
comp=Z,16nm,0.8s,mb4.6
LPL La Plagne 24.97 61 eP **P 18 48 44.8 +2.3**
comp=Z,37nm,1.3s,mb4.4
LPL La Plagne 24.97 61 eP **P 18 48 44.8 +2.3**
LPL pmax pmax
comp=Z,18nm,1.3s,mb4.4
LPL La Plagne 24.97 61 eP **P 18 48 44.8 +2.3**
comp=Z,18nm,1.3s,mb4.4
LPG La Plagne 24.98 61 eP **P 18 48 44.3 +1.7**
comp=Z,20nm,1.1s,mb4.2
LPG La Plagne 24.98 61 eP **P 18 48 44.3 +1.7**
LPG pmax pmax
comp=Z,10.0nm,1.1s,mb4.3
LPG La Plagne 24.98 61 eP **P 18 48 44.3 +1.7**
comp=Z,9.8nm,1.1s,mb4.2
HAU Haudompre 25.19 55 eP **P 18 48 44.1 -0.4**
HAU eMLR MLR
comp=Z,148nm,21.0s,MS3.2
HAU Haudompre 25.19 55 eP **P 18 48 44.1 -0.4**
HAU LR LR
comp=Z,150nm,21.0s,MS3.5
BCLA Clavier 25.24 49 P **P 18 48 44.5 -0.3**
comp=Z,17nm,3.3s
SBF Sospel 25.29 65 eP **P 18 48 47.4 +2.0**
comp=Z,104nm,1.3s,mb4.9
SBF Sospel 25.29 65 eP **P 18 48 47.4 +2.0**
SBF pmax pmax
comp=Z,52nm,1.3s,mb4.9
SBF Sospel 25.29 65 eP **P 18 48 47.4 +2.0**
comp=Z,52nm,1.3s,mb4.9
HINF Hinteralfeld 25.48 55 eP **P 18 48 46.8 -0.3**
comp=Z,20nm,1.2s,mb4.2
HINF Hinteralfeld 25.48 55 eP **P 18 48 46.8 -0.3**
HINF pmax pmax
comp=Z,10.0nm,1.2s,mb4.2
HINF Hinteralfeld 25.48 55 eP **P 18 48 46.8 -0.3**
comp=Z,7.9nm,1.2s,mb4.2
WLF Walferdange 25.51 51 P **P 18 48 46.2 -1.1**
comp=Z,14nm,1.4s,mb4.3
WLF Walferdange 25.51 51 eP **P 18 48 46.0 -1.4**
WLF pmax pmax
comp=Z,20nm,0.8s,mb4.7
WLF Walferdange 25.51 51 eP **P 18 48 46.0 -1.4**
comp=Z,20nm,0.8s,mb4.7
WLF Walferdange 25.51 51 eP **P 18 48 46.0 -1.3**
comp=Z,20nm,0.8s,mb4.7
CDF Champ du Feu 25.89 54 eP **P 18 48 50.7 -0.1**
comp=Z,11nm,0.9s,mb4.1
CDF Champ du Feu 25.89 54 eP **P 18 48 50.7 -0.1**
CDF pmax pmax
comp=Z,6.0nm,0.9s,mb4.1
CDF Champ du Feu 25.89 54 eP **P 18 48 50.7 -0.1**
comp=Z,5.6nm,0.9s,mb4.1
BFO Black Forest 26.56 55 eP **P 18 48 56.7 -0.1**
BFO pmax pmax
comp=Z,11nm,1.1s,mb4.3
BFO Black Forest 26.56 55 eP **P 18 48 56.7 -0.1**
comp=Z,11nm,1.1s,mb4.3
DAVOS Davos 27.27 58 P **P 18 49 02.2 -1.0**
DAVOX Davos/Dischmat 27.32 58 P **P 18 49 02.2 -1.4**
comp=Z,1.2nm,0.8s,mb3.5,baz=276,slow=14,SNR=3.3
DAVOX LR LR 18 58 48.8
comp=Z,150nm,19.6s,MS3.6,baz=267,slow=34
GERES GERESS Array B 30.16 55 P **P 18 49 29.3 +0.4**
comp=Z,0.9nm,0.8s,mb3.5,baz=266,slow=7.9,SNR=7.5
GERES LR LR 19 00 53.6
comp=Z,78nm,18.4s,MS3.4,baz=91,slow=35
NOA NORSAR Array B 32.84 32 P **P 18 49 53.3 +1.0**
comp=Z,1.4nm,1.0s,mb3.9,baz=240,slow=8.8,SNR=3.4
NOA LR LR 19 00 43.2
comp=Z,116nm,19.0s,MS3.6,baz=255,slow=32
TOA0 Torodi Ar. Sit 33.70 128 eP **P 18 50 00.9 +0.6**
TOA0 Torodi Ar. Sit 33.70 128 eP **P 18 50 00.8 +0.5**
TORD Torodi Ar. Bea 33.70 128 P **P 18 50 02.0 +1.7**
comp=Z,1.4nm,0.6s,mb4.0,baz=316,slow=8.7,SNR=9.1
DBIC Dimbokro 35.43 144 P **P 18 50 15.1 -0.2**
comp=Z,1.8nm,0.8s,mb4.0,baz=239,slow=12,SNR=2.0
DBIC Dimbokro 35.43 144 P **P 18 50 15.1 -0.2**
AKASG Malin Array Be 40.29 53 P **P 18 50 55.9 -0.2**
comp=Z,1.1nm,0.6s,mb3.8,baz=267,slow=8.7,SNR=5.0
ARCES ARCESS Array B 42.02 24 P **P 18 51 09.2 -0.8**
comp=Z,2.9nm,0.7s,mb4.0,baz=262,slow=7.2,SNR=8.1
ARCES LR LR 19 09 18.2
comp=Z,49nm,19.5s,MS3.4,baz=331,slow=37
SDV Santo Domingo 50.03 248 P **P 18 52 17.7 +3.8**
comp=Z,8.7nm,0.8s,mb4.9,baz=37,slow=4.6,SNR=17
ROSC El Rosal 55.44 247 LR LR 19 13 14.7
comp=Z,71nm,19.2s,MS3.8,baz=192,slow=32
BDFB Brasilia 56.92 207 P **P 18 53 07.7 +3.4**
comp=Z,1.1nm,0.7s,mb4.0,baz=50,slow=18,SNR=3.4
YKA Yellowknife Ar 57.68 327 P **P 18 53 10.0 +0.9**
comp=Z,2.7nm,0.9s,mb4.3,baz=70,slow=7.1,SNR=3.9
YKA Yellowknife Ar 57.68 327 P **P 18 53 10.0 +0.9**
PDAR Pinedale Array 62.53 304 P **P 18 53 44.0 +1.3**
comp=Z,2.0nm,0.8s,mb4.3,baz=69,slow=8.1,SNR=13
PDAR LR LR 19 19 12.6
comp=Z,62nm,21.4s,MS3.7,baz=247,slow=34
PDAR Pinedale Array 62.53 304 P **P 18 53 44.0 +1.3**
BVAR Borovoye Array 64.15 42 P **P 18 53 54.9 +1.6**
comp=Z,0.7nm,0.7s,mb3.8,baz=296,slow=4.8,SNR=4.3
TXAR Lajitas Array 64.64 289 P **P 18 53 59.2 +2.3**
comp=Z,6.3nm,0.8s,mb4.7,baz=78,slow=7.4,SNR=64
TXAR LR LR 19 20 27.5
comp=Z,64nm,18.0s,MS3.9,baz=180,slow=34
TXAR Lajitas Array 64.64 289 P **P 18 53 59.2 +2.3**
TXAR LR LR 19 20 27.5
LPAZ La Paz 67.04 226 LR LR 19 23 27.7
comp=Z,31nm,19.4s,MS3.5,baz=303,slow=36
KURK Kurchatov 69.71 41 P **P 18 54 29.5 +0.8**
comp=Z,1.2nm,0.7s,mb4.0,baz=309,slow=6.4,SNR=7.3
ZALV Zalesovo Beam 70.91 36 P **P 18 54 36.9 +0.9**
comp=Z,2.2nm,0.5s,mb4.0,baz=310,slow=5.6,SNR=7.3
ZALV Zalesovo Beam 70.91 36 P **P 18 54 36.9 +0.9**
MKAR Makanchi Array 73.97 43 P **P 18 54 55.3 +0.9**
comp=Z,0.9nm,0.7s,mb3.8,baz=308,slow=5.2,SNR=7.5
MKAR LR LR 19 26 30.6
comp=Z,95nm,19.8s,MS4.1,baz=340,slow=35
SONM Songino Array 84.81 31 P **P 18 55 54.9 +1.4**
comp=Z,1.8nm,0.9s,mb4.2,baz=312,slow=6.7,SNR=11
PLCA Paso Flores 88.16 213 P **P 18 56 12.5 +2.8**
comp=Z,1.9nm,1.0s,mb4.3,baz=80,slow=2.8,SNR=2.9
FITZ Fitzroy Crossi 147.85 62 PKPbc PKPbc 19 03 05.3 +0.8
comp=Z,1.8nm,0.9s,baz=0.0,slow=2.0,SNR=3.8
WRA Warramunga Arr 154.98 52 PKPbc PKPbc 19 03 21.6 +0.4
comp=Z,0.5nm,0.9s,baz=319,slow=2.4,SNR=4.7
ASAR Alice Springs 157.29 60 PKPab PKPab 19 03 46.5 +0.1
comp=Z,0.8nm,1.0s,baz=316,slow=5.2,SNR=4.1

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*CSEM **21** 19:19:05.6±0.1,3962N×4115E, h2km, MD2.9, Error ellipse: s-maj=2.1km s-min=1.6km az=174.0*
*ISCJB **21** 19:19:06.6±1.4, 3962N±005×4113E±005, h1km±8km, Error ellipse: s-maj=9.1km s-min=6.5km az=10.6*
*ISK **21** 19:19:06.1, 3967N×4115E, h3km, MD2.9*
*DDA **21** 19:19:06.6, 3965N×4118E, h7km±2km, Md2.9*
ISC 21 19:19:07.0±1.5, 3963N±006×4113E±006, h3km±10km, n9, σ0§84/16, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
EZM	**Erzurum**	**0.33**	**33**	PG	**Pg**		**19 19 12.7**	**-0.7**
EZM				*e*SG	**Sg**		**19 19 17.4**	**-0.3**
ERZM	**Erzurum**	**0.33**	**33**	*i* P	**Pg**		**19 19 13.1**	**-0.2**
ERZM				*i* S	**Sg**		**19 19 17.4**	**-0.3**
HOMI	**Horasan**	**0.73**	**55**	*i* P	**Pg**		**19 19 21.9**	**+0.9**
HOMI				*i* S	**Sg**		**19 19 32.8**	**+2.4**
EZC	**Erzincan**	**1.02**	**277**	*e*PN	**Pn**		**19 19 33.1**	**+5.0**
TUTA	**Tutak**	**1.32**	**99**	*i* P	**Pn**		**19 19 30.8**	**-1.4**
TUTA				*i* S	**Sg**		**19 19 49.4**	**0.0**
DDEM	**Demirkent**	**1.35**	**20**	*i* P	**Pn**		**19 19 31.5**	**-1.2**
DDEM				*i* S	**Sg**		**19 19 50.1**	**-0.3**
AGRB	**Hanur-Agry**	**1.44**	**91**	*e*PN	**Pn**		**19 19 33.7**	**-0.1**
AGRB				*e*SN	**Sn**		**19 19 53.7**	**+0.5**
GUMT	**Gumushane**	**1.52**	**304**	*e*PN	**Pn**		**19 19 35.0**	**0.0**
GUMT				*e*SN	**Sn**		**19 19 56.0**	**+0.9**
PTK	**Pertek**	**1.54**	**242**	*e*PN	**Pn**		**19 19 35.5**	**+0.4**

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*IDC **21** 19:32:54.8±2.3, 2885×14133E, h0km, mb3.6/5, mb1 3.6/6, mb1mx3.5/15, mbtmp3.5/6, ML3.3/1, MS3.2/1, Ms1 3.2/1, ms1mx2.1/27, Error ellipse: s-maj=98.3km s-min=22.8km az=85.0*
*ISCJB **21** 19:32:58.5±1.8, 3065S±0.10×1410E±0.5, h33km, mb3.5/5, Error ellipse: s-maj=72.6km s-min=13.8km az=1.6*
*NEIC **21** 19:33:00.3±1.8, 3075×14109E, h35km, mb3.5/2, Error ellipse: s-maj=73.5km s-min=13.6km az=91.0*
ISC 21 19:33:00.9±1.9, 3065S±010×1409E±0.5, h35km, n10, σ1§02/9, mb3.5/5, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**17.70**	**163**	LR	LR		19 44 11.6	
	comp=Z,64nm,18.4s,baz=48,slow=38							
WRAB	**Tennant Creek**	**17.96**	**200**	*e*P	**Pn**		**19 37 06.8**	**-1.1**
	1.5nm,0.7s							
WB2	**Warramunga Arr**	**17.97**	**200**	*e*P	**Pn**		**19 37 06.7**	**-1.3**
WRA	**Warramunga Arr**	**17.97**	**201**	P	**Pn**		**19 37 09.5**	**+1.4**
	0.1nm,0.3s,baz=23,slow=12,SNR=7.7							
ASAR	**Alice Springs**	**21.59**	**198**	P	**P**		**19 37 48.8**	**+1.1**
	0.4nm,0.8s,mb2.9,baz=31,slow=10.0,SNR=4.5							
STKA	**Stephens Creek**	**28.67**	**179**	P	**P**		**19 38 55.1**	**+0.6**
	1.5nm,0.9s,mb3.7,baz=348,slow=14,SNR=2.8							
STKA	**Stephens Creek**	**28.67**	**179**	P	**P**		**19 38 53.7**	**-0.8**
	1.7nm,0.8s,mb3.8							
MKAR	**Makanchi Array**	**71.43**	**322**	P	**P**		**19 44 18.6**	**+0.9**
	0.2nm,0.3s,mb3.5,baz=134,slow=6.2,SNR=2.6							
ZALV	**Zalesovo Beam**	**73.36**	**329**	P	**P**		**19 44 28.1**	**-1.0**
	0.5nm,0.5s,mb3.7,baz=103,slow=6.5,SNR=3.4							
BVAR	**Borovoye Array**	**80.87**	**325**	P	**P**		**19 45 11.3**	**0.0**
	0.4nm,0.5s,mb3.6,baz=98,slow=6.0,SNR=3.4							

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*IDC **21** 19:54:29.0±1.8, 3129N×13703E, h0km, mb3.3/2, mb1 3.5/4, mb1mx3.3/22, mbtmp3.3/4, ML3.2/2, Error ellipse: s-maj=67.8km s-min=27.3km az=83.0*
*ISCJB **21** 19:54:48.8±0.7, 337N±0.1×1375E±0.1, h383km±11km, Error ellipse: s-maj=20.2km s-min=15.6km az=5.0*
*JMA **21** 19:54:49.3±0.2, 3359N×13740E, h370km, M3.1*
ISC 21 19:54:50.2±0.7, 338N±01×1375E±01, h376km±11km, n16, σ0§96/23, Near south coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
JIE	**Ise**	**0.92**	**313**	P	**Pn**		**19 55 37.0**	**-1.4**
JNY	**Yasuok**	**1.61**	**10**	P	**Pn**		**19 55 41.6**	**+0.2**
JOD2	**Odawara 2**	**1.97**	**41**	P	**Pn**		**19 55 44.6**	**+1.0**
JOD2				*e*S	**S**		**19 56 27.6**	**+0.9**
JRY	**Ryogami san**	**2.51**	**26**	P	**Pn**		**19 55 49.1**	**+1.7**
JHU	**Hanno**	**2.53**	**34**	P	**Pn**		**19 55 48.2**	**+0.6**
JHU				*e*S	**S**		**19 56 34.8**	**+0.8**
BSO4	**Boso 4**	**2.63**	**62**	P	**Pn**		**19 55 49.4**	**+1.0**
BSO4				*e*S	**S**		**19 56 35.8**	**+0.5**
BSO3	**Boso 3**	**2.68**	**67**	P	**Pn**		**19 55 49.1**	**+0.3**
BSO3				*e*S	**S**		**19 56 35.1**	**-1.0**
MJAR	**Matsushiro Arr**	**2.82**	**11**	Pn	**Pn**		**19 55 49.9**	**0.0**
	0.8nm,0.3s,baz=187,slow=9.4,SNR=13							
BSO1	**Boso 1**	**3.00**	**72**	P	**Pn**		**19 55 50.8**	**-0.6**

BSO1				*e*S	**S**	19 56 38.7	-2.2
JAG	**Ashikaga**	**3.08**	**30**	P	**Pn**	19 55 52.2	+0.1
JYT	**Yasato**	**3.29**	**41**	P	**Pn**	19 55 54.6	+0.7
JHO	**Hitachi**	**3.77**	**40**	P	**Pn**	19 55 58.8	+0.4
JHO				*e*S	**S**	19 56 52.1	-1.6
JFK	**Kawauchi**	**4.51**	**36**	P	**Pn**	19 56 06.4	+0.7
JFK				*e*S	**S**	19 57 06.1	-0.9
KSRS	**Korea Array**	**8.64**	**298**	Pn	**Pn**	19 56 50.3	-1.7
	0.2nm,0.3s,baz=110,slow=14,SNR=4.6						
WRA	**Warramunga Arr**	**53.50**	**184**	P	**P**	20 03 33.3	0.0
	0.1nm,0.3s,baz=360,slow=7.5,SNR=7.3						
ASAR	**Alice Springs**	**57.22**	**184**	P	**P**	20 03 59.4	-0.1
	0.8nm,1.1s,baz=351,slow=4.9,SNR=4.1						

*JMA **21** 19:57:37.5±0.4, 2287N×12072E, h0km, M3.9*
*IDC **21** 19:57:37.6±1.2, 2288N×12165E, h0km, mb3.7/5, mb1 3.9/5, mb1mx3.6/21, mbtmp3.7/5, MS2.7/1, Ms1 2.7/1, ms1mx2.2/32, Error ellipse: s-maj=92.3km s-min=20.2km az=67.0*
*TAP **21** 19:57:39.4, 2296N×12063E, h18km, ML4.1, B*
*ISCJB **21** 19:57:40.6±0.2, 2294N±001×12062E±002, h21km±2km, mb3.7/6, Error ellipse: s-maj=3.1km s-min=2.1km az=166.8*
*NEIC **21** 19:57:42.8±0.6, 2280N×12148E, h35km, mb3.9/1, Error ellipse: s-maj=32.8km s-min=8.1km az=82.0*

ISC 21 19:57:40.6±0.2, 2294N±001×12061E±002, h17km±1km, n74, σ0s97/123, mb3.7/6, 10C-9D, Taiwan

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
SGST	**Jiashian**	**0.14**	**349**	⇓*i*P		**Pg**		**19 57 44.4**	**-0.3**
	baz=340								
SGST				*i* S		**Sg**		**19 57 47.5**	**+0.1**
	baz=340								
SSD	**Sandimen**	**0.19**	**175**	⇓*i*P		**Pg**		**19 57 45.1**	**-0.2**
	baz=174								
SSD				*i* S		**Sg**		**19 57 48.6**	**+0.1**
	baz=174								
TWM1	**Shoushan**	**0.21**	**236**	⇑*i*P		**Pg**		**19 57 46.3**	**+0.7**
	baz=230								
CHN1	**Nanshi**	**0.26**	**342**	⇓*i*P		**Pg**		**19 57 46.1**	**-0.3**
	baz=337								
CHN1				*i* S		**Sg**		**19 57 51.0**	**+0.7**
	baz=337								
STYT	**Tauyuan**	**0.26**	**31**	⇑*i*P		**Pg**		**19 57 45.7**	**-0.7**
	baz=35								
STYT				S		**Sg**		**19 57 49.9**	**-0.4**
	baz=35								
WTP	**Ta-pu**	**0.30**	**0**	⇓*i*P		**Pg**		**19 57 46.7**	**-0.5**
	baz=357								
WTP				*e*S		**Sg**		**19 57 51.7**	**+0.1**
	baz=357								
TWK	**Hsinying**	**0.34**	**341**	⇓*i*P		**Pg**		**19 57 47.4**	**-0.5**
	baz=348								
TWK				S		**Sg**		**19 57 53.3**	**+0.5**
	baz=348								
TAI1	**Yung-k'ang**	**0.37**	**286**	*e*P		**Pg**		**19 57 48.7**	**+0.5**
	baz=283								
TWG	**Pinlang**	**0.44**	**106**	⇑*i*P		**Pg**		**19 57 49.2**	**-0.3**
	baz=105								
TWG				S		**Sg**		**19 57 56.0**	**+0.4**
	baz=105								
ELDTW	**Lidau**	**0.45**	**56**	⇑*i*P		**Pg**		**19 57 49.0**	**-0.7**
	baz=57								
ELDTW				*e*S		**Sg**		**19 57 55.7**	**-0.1**
	baz=57								
SCLT	**Jiali**	**0.45**	**301**	*e*P		**Pg**		**19 57 49.7**	**-0.1**
	baz=299								
SCLT				*e*S		**Sg**		**19 57 58.1**	**+2.2**
	baz=299								
ECL	**Taimali**	**0.47**	**137**	⇓*i*P		**Pg**		**19 57 49.6**	**-0.3**
	baz=140								
ECL				*e*S		**Sg**		**19 57 56.4**	**+0.1**
	baz=140								
KAU	**Kaohsiung**	**0.47**	**217**	*e*P		**Pg**		**19 57 50.7**	**+0.7**
	baz=218								
TTN	**Taitung**	**0.53**	**110**	P		**Pg**		**19 57 51.1**	**0.0**
	baz=113								
TTN				*e*S		**Sg**		**19 58 00.4**	**+2.1**
	baz=113								
CHN8	**Yiju**	**0.55**	**318**	P		**Pg**		**19 57 51.1**	**-0.4**
	baz=327								
CHN8				S		**Sg**		**19 58 00.9**	**+2.0**
	baz=327								
SCZT	**Fangliau**	**0.56**	**179**	⇓*i*P		**Pg**		**19 57 51.4**	**-0.5**
	baz=176								
SCZT				*e*S		**Sg**		**19 58 00.9**	**+1.5**
	baz=176								
ALS	**Alishan**	**0.59**	**17**	⇑*i*P		**Pg**		**19 57 51.5**	**-0.9**
	baz=16								
ALS				S		**Sg**		**19 58 00.4**	**+0.1**
	baz=16								
EAST	**Anshuo**	**0.60**	**158**	⇓*i*P		**Pg**		**19 57 52.1**	**-0.3**
	baz=156								
EAST				S		**Sg**		**19 58 01.0**	**+0.6**
	baz=156								
CHN2	**Minshiung**	**0.60**	**348**	P		**Pg**		**19 57 52.0**	**-0.5**
	baz=346								
CHN2				S		**Sg**		**19 58 01.5**	**+0.9**
	baz=346								
YUS	**Yu-Shan**	**0.63**	**30**	⇑*i*P		**Pg**		**19 57 52.3**	**-0.7**
	baz=29								
YUS				S		**Sg**		**19 58 01.1**	**-0.3**
	baz=29								
TWP	**Hsiaoliuchiu**	**0.64**	**201**	*e*P		**Pg**		**19 57 54.7**	**+1.6**
	baz=202								
TWP				*e*S		**Sg**		**19 58 06.8**	**+5.2**
	baz=202								
TAW	**Tawu**	**0.64**	**156**	*i* P		**Pg**		**19 57 52.7**	**-0.4**
	baz=155								
TAW				*e*S		**Sg**		**19 58 01.2**	**-0.5**
	baz=155								
CHN5	**Tsauling**	**0.66**	**5**	P		**Pg**		**19 57 52.2**	**-1.3**
	baz=13								
CHN5				*e*S		**Sg**		**19 58 02.3**	**0.0**
	baz=13								
CHKT	**Chengkung**	**0.71**	**77**	⇑*i*P		**Pb**		**19 57 53.9**	**-0.6**
	baz=78								
CHKT				*e*S		**Sg**		**19 58 04.8**	**+0.8**
	baz=78								
WGK	**Gukeng**	**0.74**	**356**	P		**Pb**		**19 57 54.4**	**-0.7**
	baz=355								
WGK				*i* S		**Sb**		**19 58 06.1**	**+1.1**
	baz=355								
TWF1	**Yuli**	**0.75**	**57**	⇑*i*P		**Pb**		**19 57 54.1**	**-1.1**
	baz=57								
TWF1				*i* S		**Sb**		**19 58 04.1**	**-1.1**
	baz=57								
WSF	**Szhu**	**0.78**	**333**	⇓P		**Pb**		**19 57 54.7**	**-1.1**
	baz=331								
WSF				*e*S		**Sb**		**19 58 06.6**	**+0.6**
	baz=331								
EHY	**Hungye**	**0.86**	**49**	⇑*i*P		**Pb**		**19 57 55.9**	**-1.2**
	baz=56								
EHY				S		**Sb**		**19 58 06.8**	**-1.6**
	baz=56								
WNT	**Mingjian**	**0.94**	**4**	P		**Pb**		**19 57 57.4**	**-1.0**
	baz=3.0								
WNT				*e*S		**Sb**		**19 58 10.8**	**+0.3**
	baz=3.0								
HEN	**Hengchun**	**0.94**	**173**	*i* P		**Pb**		**19 57 58.5**	**+0.1**
	baz=164								
HEN				*e*S		**Sb**		**19 58 12.6**	**+2.1**
	baz=164								
WTCT	**Ta-ch'eng**	**0.97**	**342**	*e*P		**Pb**		**19 57 57.1**	**-1.8**
	baz=341								
WTCT				*e*S		**Sb**		**19 58 11.4**	**-0.1**
	baz=341								
SMLT	**Sun Moon Lake**	**0.97**	**16**	P		**Pb**		**19 57 58.3**	**-0.7**
	baz=15								
SMLT				S		**Sb**		**19 58 12.8**	**+1.2**
	baz=15								
TYC	**Yuchr**	**0.98**	**13**	P		**Pb**		**19 57 58.3**	**-0.9**
	baz=12								
TYC				*e*S		**Sb**		**19 58 13.1**	**+1.2**
	baz=12								
TWK1	**Hengchun**	**1.01**	**170**	*e*P		**Pb**		**19 57 59.0**	**-0.6**
	baz=170								
TWK1				*e*S		**Sb**		**19 58 14.2**	**+1.6**
	baz=170								
ESL	**Shilin**	**1.15**	**41**	⇑*i*P		**Pn**		**19 58 01.0**	**-0.9**
	baz=40								
ESL				S		**Sb**		**19 58 16.2**	**-0.5**
	baz=40								
PNG	**Penghu**	**1.16**	**303**	*e*P		**Pn**		**19 57 59.2**	**-2.7**
	baz=302								
PNG				*e*S		**Sb**		**19 58 14.6**	**-2.2**
	baz=302								
TCU	**Taichung**	**1.20**	**3**	*e*P		**Pn**		**19 58 01.5**	**-1.1**
	baz=350								
LAY	**Lan-yu**	**1.25**	**136**	*e*P		**Pn**		**19 58 01.3**	**-2.0**
	baz=128								
WHF	**Hehuan Shan**	**1.34**	**26**	*e*P		**Pn**		**19 58 04.1**	**-0.4**
	baz=15								
WHF				*e*S		**Sn**		**19 58 23.4**	**+1.5**
	baz=15								
HWA	**Hwalien**	**1.38**	**41**	*e*P		**Pn**		**19 58 04.8**	**-0.2**
	baz=41								
HWA				*e*S		**Sn**		**19 58 24.1**	**+1.2**
	baz=41								
TWQ1	**Liyutan**	**1.41**	**6**	*e*P		**Pn**		**19 58 05.0**	**-0.4**
	baz=5.0								
TWQ1				*e*S		**Sn**		**19 58 23.9**	**+0.3**
	baz=5.0								
TWD	**Chiawan**	**1.45**	**38**	P		**Pn**		**19 58 05.7**	**-0.3**
	baz=38								
TWD				*e*S		**Sn**		**19 58 24.9**	**+0.3**
	baz=38								
NSY	**Sanyi**	**1.48**	**5**	*e*P		**Pn**		**19 58 05.6**	**-0.8**
	baz=4.0								
NACB	**Ninganchiao**	**1.52**	**36**	*e*Pn		**Pn**		**19 58 06.0**	**-1.0**
NACB				*e*Sn		**Sn**		**19 58 27.0**	**+0.6**
NNS	**Nan Shan**	**1.65**	**25**	P		**Pn**		**19 58 09.1**	**+0.4**
	baz=12								
NNS				*e*S		**Sn**		**19 58 29.9**	**+0.3**
	baz=12								
NSTT	**Nanjuang**	**1.72**	**12**	P		**Pn**		**19 58 09.0**	**-0.7**
	baz=354								
NSTT				*e*S		**Sn**		**19 58 32.5**	**+1.2**
	baz=354								
ENA	**Nanau**	**1.81**	**35**	*e*P		**Pn**		**19 58 10.8**	**-0.1**
	baz=34								
NSK	**Sanguang**	**1.86**	**21**	*e*P		**Pn**		**19 58 11.2**	**-0.4**
	baz=20								
YHNB	**Yeheng**	**1.86**	**22**	*e*Pn		**Pn**		**19 58 11.3**	**-0.3**
YHNB				*e*Sn		**Sn**		**19 58 39.0**	**+4.2**
TWC	**Suao**	**2.01**	**34**	*e*P		**Pn**		**19 58 14.4**	**+0.6**
	baz=42								
TWC				*e*S		**Sn**		**19 58 41.1**	**+2.6**
	baz=42								
TWE	**Neicheng**	**2.02**	**28**	*e*P		**Pn**		**19 58 15.0**	**+1.1**
	baz=27								
TWE				*e*S		**Sn**		**19 58 41.0**	**+2.3**
	baz=27								
TATO	**Taipei**	**2.18**	**21**	*e*Pn		**Pn**		**19 58 17.1**	**+1.0**
TATO				*e*Sn		**Sn**		**19 58 46.5**	**+3.8**
TWA	**Mucha**	**2.22**	**23**	*e*P		**Pn**		**19 58 18.1**	**+1.5**
	baz=22								
TAP1	**Taipei**	**2.25**	**22**	*e*P		**Pn**		**19 58 18.0**	**+1.0**
	baz=20								
TWS1	**Kuangyinshan**	**2.27**	**19**	*e*P		**Pn**		**19 58 18.2**	**+0.9**
	baz=359								
NWF	**Wu-fen Shan**	**2.38**	**27**	*e*P		**Pn**		**19 58 19.5**	**+0.8**
	baz=8.0								
TWB1	**Santiao Chiao**	**2.41**	**31**	*e*P		**Pn**		**19 58 20.3**	**+1.0**
	baz=30								
KNM	**Kinmen**	**2.48**	**307**	*e*P		**Pn**		**19 58 18.9**	**-1.3**
	baz=305								
YOJ	**Yonaguni jima**	**2.67**	**55**	P		**Pn**		**19 58 22.2**	**-0.6**
YOJ				*e*S		**Sn**		**19 58 56.0**	**+1.3**
YOJ	**Yonaguni jima**	**2.67**	**55**	*e*P		**Pn**		**19 58 22.9**	**+0.1**
	baz=55								
YOJ				*e*S		**Sn**		**19 58 55.9**	**+1.1**
	baz=55								
HATJ	**Hateruma jima**	**3.13**	**69**	P		**Pn**		**19 58 28.7**	**-0.5**
HATJ				*e*S		**Sn**		**19 59 05.5**	**-0.7**
IRIF	**Iriomote-Funau**	**3.18**	**63**	P		**Pn**		**19 58 29.5**	**-0.3**
IRIF				S		**Sn**		**19 59 07.9**	**+0.6**
JKRS	**Kuro-shima**	**3.37**	**67**	P		**Pn**		**19 58 32.2**	**-0.3**
JKRS				*e*S		**Sn**		**19 59 12.5**	**+0.4**
JIJ	**Ishigaki jima**	**3.53**	**66**	P		**Pn**		**19 58 33.9**	**-0.8**
JIJ				*e*S		**Sn**		**19 59 16.2**	**+0.1**
JTJ	**Tarama**	**4.11**	**65**	P		**Pn**		**19 58 42.4**	**-0.2**
JTJ				S		**Sn**		**19 59 29.9**	**-0.4**
JOGS	**Gusukube**	**4.75**	**67**	P		**Pn**		**19 58 51.9**	**+0.5**
KSRS	**Korea Array**	**15.78**	**22**	LR		LR		20 08 12.5	
	comp=Z,25nm,18.2s,baz=210,slow=41								
MKAR	**Makanchi Array**	**38.88**	**317**	P		**P**		**20 05 10.4**	**+5.5**
	0.2nm,0.2s,mb3.4,baz=119,slow=12,SNR=3.6								
ZALV	**Zalesovo Beam**	**41.01**	**328**	P		**P**		**20 05 26.6**	**+4.1**
	0.3nm,0.3s,mb3.3,baz=112,slow=3.9,SNR=3.7								
FITZ	**Fitzroy Crossi**	**41.09**	**173**	P		**P**		**20 05 21.9**	**-1.6**
	0.7nm,0.6s,mb3.5,baz=14,slow=12,SNR=4.3								
WRAB	**Tennant Creek**	**44.67**	**161**	*e*P		**P**		**20 05 48.7**	**-3.9**
	0.8nm,0.4s,mb3.9								
WRA	**Warramunga Arr**	**44.68**	**161**	P		**P**		**20 05 48.7**	**-3.9**
	1.8nm,0.6s,mb4.0,baz=344,slow=8.7,SNR=31								
ASAR	**Alice Springs**	**48.09**	**164**	P		**P**		**20 06 17.4**	**-2.1**
	0.4nm,0.3s,mb3.9,baz=341,slow=7.5,SNR=28								
SDV	**Santo Domingo**	**146.51**	**20**	PKPbc		PKPbc		20 17 20.3	-1.4
	1.0nm,0.3s,baz=344,slow=4.2,SNR=4.0								

*NEIC **21** 20:09:51.3, 3461N×2520E, h36km, MD3.6(ATH), After ATH.*
*CSEM **21** 20:09:51.3, 3461N×2520E, h36km, MD3.6/5, After ATH*

ATH 21 20:09:51.3, 3461N×2520E, h36km±3km, MD3.6/5, Crete

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
NPS	**Neapolis**	**0.73**	**27**	*e*Pn			Pn	20 10 05.6	+0.4
NPS				*e*Sn			Sn	20 10 16.4	+1.3
NPS	**Neapolis**	**0.73**	**27**	*e*PN			Pn	20 10 05.6	+0.4
NPS				*e*SN			Sn	20 10 16.4	+1.3
GVD	**Gavdhos**	**0.94**	**284**	*e*Pn			Pn	20 10 09.5	+1.5
GVD	**Gavdhos**	**0.94**	**284**	*e*PN			Pn	20 10 09.5	+1.5
VAM	**Vamos**	**1.14**	**314**	*e*Pn			Pn	20 10 12.5	+1.7
VAM	**Vamos**	**1.14**	**314**	*e*PN			Pn	20 10 12.5	+1.7
KARP	**Karpathos**	**1.86**	**59**	*e*Pn			Pn	20 10 22.9	+2.3
KARP	**Karpathos**	**1.86**	**59**	*e*PN			Pn	20 10 22.9	+2.3
VLI	**Veliai**	**2.80**	**319**	*e*Pn			Pn	20 10 36.1	+2.6
VLI	**Veliai**	**2.80**	**319**	*e*PN			Pn	20 10 36.1	+2.6

*IDC **21** 20:32:20.5±1.8, 1485S×17335W, h0km, mb3.8/3, mb1 4.0/3, mb1mx3.7/18, mbtmp3.8/3, Error ellipse: s-maj=171.7km s-min=23.7km az=152.0*

NEIC 21 20:32:24.8±1.7, 1499S×17321W, h35km, mb3.9/1, Error ellipse: s-maj=142.0km s-min=13.4km az=149.0, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**1.75**	**53**	Pn			Pn	20 32 52.8	+0.1
	29nm,0.3s,baz=196,slow=14,SNR=40								
AFI				Sn			Sn	20 33 12.4	-1.5
	80nm,0.3s,baz=235,slow=18,SNR=11								
AFI	**Afiamalu**	**1.75**	**53**	Pn			Pn	20 32 52.8	+0.1
AFI				Sn			Sn	20 33 12.4	-1.4
STKA	**Stephens Creek**	**44.40**	**240**	P			P	20 40 32.1	-0.1
	0.9nm,0.6s,baz=100,slow=11,SNR=2.8								
WRAB	**Tennant Creek**	**50.10**	**256**	*e*P			P	20 41 16.1	-0.7
	0.6nm,0.5s								
WRA	**Warramunga Arr**	**50.11**	**256**	P			P	20 41 17.4	+0.5
	0.6nm,0.5s,baz=91,slow=6.7,SNR=26								
ASAR	**Alice Springs**	**50.41**	**252**	P			P	20 41 19.6	+0.5
	1.0nm,0.5s,baz=85,slow=7.9,SNR=21								

*IDC **21** 20:39:04.1±1.7, 1531S×16801E, h0km, mb4.1/8, mb1 4.2/8, mb1mx4.1/17, mbtmp4.1/8, MS3.3/3, Ms1 3.3/3, ms1mx3.0/17, Error ellipse: s-maj=50.3km s-min=29.6km az=125.0*
*LDG **21** 20:39:08.2±0.5, 1441S×16789E, h10km, Mb4.5/2, Error ellipse: s-maj=70.9km s-min=12.0km az=92.0*
*NEIC **21** 20:39:18.9±2.9, 1538S×16759E, h106km±24km, mb4.2/9, Error ellipse: s-maj=23.3km s-min=18.4km az=210.0*
*ISCJB **21** 20:39:19.1±3.3, 155S±02×1675E±0.1, h115km±26km, mb4.1/14, Error ellipse: s-maj=28.2km s-min=19.1km az=38.7*

ISC 21 20:39:19.8±2.9, 154S±01×1676E±01, h111km±22km, n51, σ0s91/23, mb4.1/14, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**6.68**	**189**	*e*Pn			**Pn**	**20 40 55.2**	**-0.1**
HNR	**Honiara**	**9.53**	**308**	LR			LR	20 44 28.6	
	comp=Z,154nm,18.5s,baz=244,slow=33								
AFI	**Afiamalu**	**20.05**	**88**	LR			LR	20 48 37.0	
	comp=Z,130nm,18.9s,baz=298,slow=29								
STKA	**Stephens Creek**	**28.75**	**231**	*e*P			**P**	**20 45 09.6**	**+2.6**
	3.5nm,1.1s,mb3.9								
STKA	**Stephens Creek**	**28.75**	**231**	P			**P**	**20 45 08.1**	**+1.1**
	1.9nm,0.5s,mb4.0,baz=43,slow=7.8,SNR=9.1								
STKA	**Stephens Creek**	**28.75**	**231**	*e*P			**P**	**20 45 09.0**	**+1.9**
	1.8nm,0.6s,mb3.9								
WRAB	**Tennant Creek**	**31.91**	**257**	*e*P			**P**	**20 45 34.2**	**-0.9**
	0.9nm,0.6s,mb3.7								
WRA	**Warramunga Arr**	**31.93**	**257**	P			**P**	**20 45 35.0**	**-0.2**
	1.4nm,0.9s,mb3.7,baz=83,slow=8.0,SNR=22								
ASAR	**Alice Springs**	**32.68**	**250**	P			**P**	**20 45 41.8**	**0.0**
	1.7nm,0.6s,mb4.1,baz=79,slow=8.9,SNR=22								
FITZ	**Fitzroy Crossi**	**40.16**	**260**	*e*P			**P**	**20 46 46.0**	**+0.6**
	5.8nm,1.9s,mb4.1								
FITZ	**Fitzroy Crossi**	**40.16**	**260**	P			**P**	**20 46 46.1**	**+0.7**
	1.1nm,0.5s,mb3.9,baz=75,slow=11,SNR=10								
PPT	**Papeete**	**41.10**	**99**	*e*LR			LR	20 58 08.9	
	121nm,30.5s								
MBWA	**Marble Bar**	**45.63**	**255**	*e*P			**P**	**20 47 27.5**	**-2.0**
	3.4nm,0.7s,mb4.2								
SBA	**Scott Base**	**62.43**	**180**	*e*P			**P**	**20 49 32.3**	**+1.6**
	4.6nm,1.0s,mb4.5								
CASY	**Casey**	**62.98**	**202**	*e*P			**P**	**20 49 34.8**	**+0.3**
	23nm,1.8s,mb4.8								
KSRS	**Korea Array**	**64.48**	**326**	LR			LR	21 17 14.7	
	comp=Z,18nm,18.6s,baz=170,slow=35								
QSPA	**South Pole Qui**	**74.59**	**180**	*e*P			**P**	**20 50 46.7**	**+0.4**
	9.7nm,1.0s,mb4.5								
CMAR	**Chiang Mai Arr**	**75.49**	**294**	P			**P**	**20 50 53.5**	**+1.0**
	0.9nm,0.7s,mb3.6,baz=130,slow=4.7,SNR=9.2								
MAW	**Mawson**	**81.33**	**202**	P			**P**	**20 51 24.2**	**+0.5**
	1.1nm,0.9s,mb3.7,baz=108,slow=13,SNR=3.6								
MAW	**Mawson**	**81.33**	**202**	*e*P			**P**	**20 51 22.7**	**-1.0**
	1.5nm,0.8s,mb3.9								
SONM	**Songino Array**	**83.23**	**324**	P			**P**	**20 51 33.8**	**0.0**
	4.1nm,1.2s,mb4.1,baz=146,slow=6.4,SNR=9.5								
SNAA	**Sanae**	**92.86**	**183**	*e*			**P**	**20 52 19.2**	**-0.5**
SNAA				*e*				20 52 20.8	
SNAA	**Sanae**	**92.86**	**183**	*e*P			**P**	**20 52 18.6**	**-1.1**
	8.7nm,1.5s,mb4.9								
VNA3	**Neumayer Olymp**	**93.51**	**181**	*e*			**P**	**20 52 21.5**	**-1.2**
VNA3				*e*				20 52 23.4	
VNA2	**Neumayer--Watz**	**93.78**	**182**	*e*			**P**	**20 52 23.4**	**-0.6**
VNA2				*e*				20 52 25.3	
LPM	**Los Pinos Moun**	**95.18**	**56**	*e*P			**P**	**20 52 31.0**	**-0.1**
MKAR	**Makanchi Array**	**97.90**	**316**	P			**P**	**20 52 43.4**	**+0.3**
	0.3nm,0.3s,mb4.3,baz=96,slow=6.7,SNR=6.4								
ARCES	**ARCESS Array B**	**121.01**	**345**	PKP			PKPdf	20 57 56.5	-2.3
	3.3nm,0.7s,baz=46,slow=3.5,SNR=8.5								
BAIF	**Baives**	**142.92**	**342**	*e*PKP1			PKPdf	20 58 36.8	-3.6
CDF	**Champ du Feu**	**143.33**	**338**	*e*PKP1			PKPdf	20 58 37.2	-3.9
	7.9nm,1.1s								
HINF	**Hinteralfeld**	**143.99**	**338**	*e*PKP1			PKPdf	20 58 39.1	-3.2
	5.4nm,0.9s								
HAU	**Haudompre**	**144.01**	**338**	*e*PKP1			PKPdf	20 58 40.3	-2.0
	9.0nm,0.9s								
CABF	**La Chapelle**	**145.28**	**337**	*e*PKP1			PKPbc	20 58 44.5	-0.1
	28nm,1.0s								
FLN	**La Foliniere**	**145.35**	**346**	*e*PKP1			PKPbc	20 58 43.6	-1.1
	21nm,0.8s								
LDF	**La Druitiere**	**145.42**	**346**	*e*PKP1			PKPbc	20 58 43.8	-1.1
	23nm,1.0s								
LOR	**Lormes**	**145.50**	**340**	*e*PKP1			PKPbc	20 58 44.7	-0.5
	11nm,0.8s								
GRR	**Gorron**	**145.79**	**346**	*e*PKP1			PKPbc	20 58 45.3	-0.7
	55nm,1.2s								
SSF	**Saint Saulge**	**145.79**	**340**	*e*PKP1			PKPbc	20 58 45.7	-0.4
	12nm,0.8s								
LPL	**La Plagne**	**145.95**	**336**	*e*PKP1			PKPbc	20 58 46.7	+0.1
	12nm,1.1s								
LPG	**La Plagne**	**145.96**	**336**	*e*PKP1			PKPbc	20 58 46.7	0.0
	9.0nm,0.8s								
SMF	**Signal de Mont**	**146.05**	**340**	*e*PKP1			PKPbc	20 58 46.2	-0.7
	27nm,1.2s								
AVF	**Avril sur Loir**	**146.08**	**340**	*e*PKP1			PKPbc	20 58 46.2	-0.8
	10nm,0.8s								
SGMF	**Saint Gilles**	**146.28**	**348**	*e*PKP1			PKPbc	20 58 46.7	-0.8
	3.8nm,0.4s								
BGF	**Bois d'Agland**	**146.45**	**341**	*e*PKP1			PKPbc	20 58 47.5	-0.6
MBDF	**Montbardon**	**146.58**	**335**	*e*PKP1			PKPbc	20 58 48.8	+0.3
	11nm,0.9s								
ORIF	**Oris-en-Rattie**	**146.78**	**336**	*e*PKP1			PKPbc	20 58 48.6	-0.5
	12nm,0.9s								
TCF	**Toulx Ste Croi**	**146.89**	**341**	*e*PKP1			PKPbc	20 58 48.7	-0.6
	14nm,1.0s								
SBF	**Sospel**	**147.00**	**333**	*e*PKP1			PKPbc	20 58 48.7	-1.0
	30nm,0.8s								
MFF	**Saint Martin d**	**147.28**	**344**	*e*PKP1			PKPbc	20 58 49.6	-0.8
	26nm,0.9s								
PGF	**Pioggiola**	**147.30**	**330**	*e*PKP1			PKPbc	20 58 49.7	-0.9
FRF	**La Foret Royal**	**147.58**	**334**	*e*PKP1			PKPbc	20 58 49.7	-1.7

CASC 21 20:57:50.0±2.2, 829N×8286W, h16km±11km, MD4.2, 4C-1D, Panama-Costa Rica border region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
DVD	**David**	**0.43**	**70**	*

comp=Z,60nm,18.3s,baz=135,slow=40
WRA **Warramunga Arr** **13.57 161** P **Pn** **21 18 17.5 +1.1**
WRA S **Sn** **21 20 45.0 -1.8**
WRA LR LR 21 24 26.1
WB2 **Warramunga Arr** **13.57 161** *e*Pn **Pn** **21 18 17.1 +0.7**
WB2 *e*Sn **Sn** **21 20 43.5 -3.4**
COEN **Coen** **14.97 118** *e*Pn **Pn** **21 18 38.5 +4.6**
11nm,0.6s
COEN *e*Sn **Sn** **21 21 06.1 -14**
MYLDM **Lahad Datu** **16.48 317** ⇓P **Pn** **21 19 00.9 +8.3**
MBWA **Marble Bar** **16.93 213** *e*Pn **Pn** **21 19 00.1 +2.1**
9.5nm,0.8s
MBWA *e*Sn **Sn** **21 21 56.0 -11**
ASAR **Alice Springs** **16.98 166** P **Pn** **21 19 03.1 +4.6**
4.5nm,0.3s,baz=346,slow=11,SNR=380
ASAR S **S** **21 22 06.1 -0.8**
2.7nm,0.3s,baz=345,slow=28,SNR=6.5
PMG **Port Moresby** **17.52 99** *e*Pn **Pn** **21 19 07.9 +2.9**
SDKM **Sandakan** **17.71 315** ⇓P **Pn** **21 19 11.5 +4.2**
KKM **Kota Kinabalu** **18.69 314** ⇑P **P** **21 19 25.5 +8.9**
KKM **Kota Kinabalu** **18.69 314** *e*P **P** **21 19 15.4 -1.1**
SBUM **Sibu** **19.78 298** ⇑P **P** **21 19 31.1 +2.7**
CTAC **Charters Tower** **20.67 130** P **P** **21 19 42.3 +4.4**
KSM **Kuching** **21.06 293** *e*P **P** **21 19 40.8 -1.3**
STKA **Stephens Creek** **27.07 157** *e*P **P** **21 20 42.4 +4.3**
3.0nm,1.3s,mb3.8
STKA **Stephens Creek** **27.07 157** P **P** **21 20 42.5 +4.5**
1.8nm,0.5s,mb4.0,baz=340,slow=10,SNR=9.3
STKA LR LR 21 32 03.2
comp=Z,63nm,18.4s,baz=186,slow=37
STKA **Stephens Creek** **27.07 157** *e*P **P** **21 20 42.2 +4.1**
6.4nm,0.6s,mb4.4
KGM **Kluang** **27.76 288** ⇑P **P** **21 20 54.5 +10**
KTGM **Kuala Trenggan** **29.16 294** ⇑P **P** **21 21 05.9 +8.9**
QIZ **Qiongzhong** **32.46 323** P **P** **21 21 24.7 -1.1**
YHNB **Yeheng** **32.58 346** P **P** **21 21 25.1 -1.7**
CMAR **Chiang Mai Arr** **39.50 310** P **P** **21 22 24.6 -1.2**
0.9nm,0.6s,mb3.6,baz=132,slow=6.7,SNR=13
CMAR ScP ScP 21 28 05.2 +0.6
0.3nm,0.6s,baz=159,slow=3.3,SNR=4.5
CHTO **Chiang Mai** **39.72 311** *e*P **P** **21 22 26.4 -1.1**
1.2nm,0.6s,mb3.7
MJAR **Matsushiro Arr** **44.15 10** P **P** **21 23 01.9 -1.3**
0.7nm,0.4s,mb3.6,baz=184,slow=9.5,SNR=3.2
LSA **Lhasa** **52.00 317** P **P** **21 24 03.4 -0.2**
ODAN **Odare** **53.03 311** *e*P **P** **21 24 11.8 +0.5**
TAPN **Taplejung** **53.06 312** *e*P **P** **21 24 11.6 +0.1**
7.7nm,0.4s,mb4.8
RAMN **Ramite** **53.67 311** *e*P **P** **21 24 15.9 0.0**
12nm,0.4s,mb5.0
JIRN **Jiri** **54.36 311** *e*P **P** **21 24 20.1 -0.8**
GUN **Gumba** **54.73 311** *e*P **P** **21 24 23.4 -0.2**
8.8nm,0.4s,mb4.8
PKI **Pulchoki** **54.90 311** *e*P **P** **21 24 25.2 +0.4**
KKN **Kakani** **55.11 311** *e*P **P** **21 24 26.4 +0.1**
DMN **Daman** **55.15 311** *e*P **P** **21 24 25.8 -0.8**
GKN **Gorkha** **55.71 311** *e*P **P** **21 24 30.3 -0.3**
10nm,0.3s,mb5.1
KOLN **Koldanda** **56.37 310** *e*P **P** **21 24 35.5 +0.2**
6.2nm,0.3s,mb5.0
DANN **Dangsing** **56.55 311** *e*P **P** **21 24 35.8 -0.7**
SONM **Songino Array** **58.41 342** P **P** **21 24 49.5 +0.4**
0.7nm,0.6s,mb3.6,baz=156,slow=6.7,SNR=7.5
CASY **Casey** **60.55 189** *e*P **P** **21 25 04.6 +1.1**
1.0nm,0.6s,mb3.8
MKAR **Makanchi Array** **68.10 327** P **P** **21 25 54.1 +1.2**
1.1nm,0.3s,mb4.1,baz=113,slow=8.2,SNR=24
TKM2 **Tokmak 2** **69.81 321** *e*P **P** **21 26 03.2 -0.5**
UCH **Uchtor** **70.15 320** *e*P **P** **21 26 05.4 -0.3**
1.6nm,0.4s,mb4.1
ZALV **Zalesovo Beam** **71.50 334** P **P** **21 26 13.4 -0.2**
1.6nm,0.6s,mb3.9,baz=125,slow=5.6,SNR=7.9
KURK **Kurchatov** **72.40 329** *e*P **P** **21 26 19.1 +0.1**
1.6nm,0.7s,mb3.9
SBA **Scott Base** **73.29 172** *e*P **P** **21 26 25.7 +1.8**
MAW **Mawson** **74.72 201** P **P** **21 26 33.7 +1.4**
LBTB **Lobatse** **99.58 243** *e*Pdif Pdif **21 28 38.2 +2.7**
TXAR **Lajitas Array** **125.31 59** PKP PKPdf **21 33 55.4 +2.4**
0.3nm,0.6s,baz=174,slow=0.8,SNR=4.2
TXAR **Lajitas Array** **125.31 59** PKP PKPdf **21 33 55.4 +2.4**
TOA0 **Torodi Ar. Sit** **128.45 281** *e*PKPdf PKPdf **21 34 01.1 +1.8**
TORD **Torodi Ar. Bea** **128.45 281** PKP PKPdf **21 34 00.0 +0.7**
0.5nm,1.0s,baz=80,slow=2.2,SNR=6.3

*IDC **21** 21:31:06.0±1.6, 1924S×17807W, h0km, mb4.0/3, mb1 4.4/4, mb1mx3.9/17, mbtmp4.2/4, ML4.7/1, Error ellipse: s-maj=49.5km s-min=36.0km az=128.0*
*ISCJB **21** 21:31:60.0±2.1, 199S±02×1793W±01, h474km±28km, mb3.8/9, Error ellipse: s-maj=36.6km s-min=15.8km az=173.8*
*NEIC **21** 21:32:01.4±1.6, 1990S×17927W, h482km±18km, mb3.9/6, Error ellipse: s-maj=26.0km s-min=13.3km az=165.0*

ISC 21 21:32:01.2±2.0, 199S±02×1793W±01, h477km±27km, n19, σ0s83/15, mb3.8/9, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
AFI	**Afiamalu**	**9.35**	**51**	P	**P**		**21 34 11.6**	**+0.1**
PMG	**Port Moresby**	**34.03**	**283**	P	**P**		**21 38 04.0**	**-0.7**
STKA	**Stephens Creek**	**36.96**	**243**	*e*P	**P**		**21 38 29.8**	**+0.9**
1.2nm,0.8s,mb3.4								
WB2	**Warramunga Arr**	**43.47**	**262**	*e*P	**P**		**21 39 21.4**	**+0.1**
WRAB	**Tennant Creek**	**43.47**	**262**	*e*P	**P**		**21 39 21.7**	**+0.3**
0.8nm,0.3s,mb3.6								
ASAR	**Alice Springs**	**43.47**	**256**	P	**P**		**21 39 21.1**	**-0.3**
1.7nm,0.6s,mb3.7,baz=94,slow=7.9,SNR=28								
WRA	**Warramunga Arr**	**43.48**	**262**	P	**P**		**21 39 21.7**	**+0.2**
0.8nm,0.3s,mb3.6,baz=96,slow=7.6,SNR=30								
FITZ	**Fitzroy Crossi**	**51.90**	**262**	*e*P	**P**		**21 40 25.4**	**+0.5**
1.1nm,0.6s,mb3.4								
MBWA	**Marble Bar**	**56.80**	**257**	P	**P**		**21 40 58.1**	**-1.4**
7.5nm,0.9s,mb4.0								
KSM	**Kuching**	**72.13**	**278**	P	**P**		**21 42 36.4**	**-0.7**
PMSA	**Palmer Station**	**82.30**	**157**	*e*P	**P**		**21 43 30.9**	**-0.8**
21nm,0.8s,mb4.7								
SNAA	**Sanae**	**88.62**	**179**	P	**P**		**21 44 01.9**	**-0.3**
CMAR	**Chiang Mai Arr**	**88.78**	**290**	P	**P**		**21 44 06.4**	**+2.5**
0.3nm,0.5s,mb3.4,baz=148,slow=3.3,SNR=4.6								
PLCA	**Paso Flores**	**90.55**	**134**	P	**P**		**21 44 12.7**	**+0.9**
PHWY	**Pilot Hill**	**91.45**	**46**	*e*P	**P**		**21 44 15.3**	**-0.4**
7.7nm,1.0s,mb4.6								
ARCES	**ARCESS Array B**	**128.13**	**349**	PKP		PKPdf	21 50 11.8	0.0
2.9nm,0.9s,baz=18,slow=2.0,SNR=6.4								
AKASG	**Malin Array Be**	**141.92**	**331**	PKhKP			21 50 34.8	
2.0nm,0.6s,baz=42,slow=4.2,SNR=11								
EKA	**Eskdalemuir Ar**	**144.52**	**4**	PKP		PKPdf	21 50 42.1	-0.1
1.0nm,0.6s,baz=358,slow=2.7,SNR=3.8								
GERES	**GERESS Array B**	**149.31**	**343**	PKPbc		PKPbc	21 50 56.2	+0.8
0.6nm,0.6s,baz=40,slow=1.7,SNR=5.3								

*ISCJB **21** 21:50:43.4±0.3, 4682N±002×1406E±002, h10km, Error ellipse: s-maj=2.3km s-min=2.3km az=147.7*
*PRU **21** 21:50:43.6, 4676N×1420E, h0km*
*VIE **21** 21:50:44.1±0.2, 4678N×1407E, h10km±7km, mb1.6/5, ML2.4/9, Error ellipse: s-maj=1.2km s-min=0.7km az=4.0 felt 4EMS98 at Feldkirchen / CARINTHIA 6 km NNW of Feldkirchen felt 4 EMS98 at Feldkirchen / CARINTHIA*
*LJU **21** 21:50:44.2, 4678N×1408E, h0km, ML2.0*
*CSEM **21** 21:50:44.5±0.1, 4678N×1407E, h15km, ML2.6/4, Error ellipse: s-maj=1.1km s-min=0.9km az=161.0*

ISC 21 21:50:44.3±0.6, 4679N±002×1407E±002, h18km±12km, n32, σ0s55/54, 15C-7D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
MYKA	**Terra Mystica**	**0.34**	**242**	⇑*i*Pg		**Pg**	**21 50 51.4**	**0.0**
72nm,0.1s								
MYKA				⇓*i*Sg		**Sg**	**21 50 55.5**	**-0.7**
63nm,0.1s								
OBKA	**Obir**	**0.43**	**130**	⇑*e*Pg		**Pg**	**21 50 53.4**	**+0.3**
8.6nm,0.1s,SNR=26								
OBKA				⇑*i*Sg		**Sg**	**21 50 58.6**	**-0.3**
47nm,0.1s								
GORS	**Gorjuse**	**0.47**	**187**	*i* Pg		**Pg**	**21 50 53.9**	**+0.1**
GORS				*i* Sg		**Sg**	**21 51 00.1**	**-0.2**
GORS								
comp=Z,43nm,0.1s								
GORS	**Gorjuse**	**0.47**	**187**	*i* Pg		**Pg**	**21 50 53.9**	**+0.1**
GORS				*i* Sg		**Sg**	**21 51 00.1**	**-0.1**
comp=Z,43nm,0.1s								
LSR	**Lussari**	**0.49**	**231**	⇑*i*Pg		**Pg**	**21 50 54.3**	**+0.2**
LSR				*i* Sg		**Sg**	**21 51 00.7**	**-0.1**
MOZS	**Mozjanca**	**0.55**	**152**	*i* Pg		**Pg**	**21 50 55.6**	**+0.3**
MOZS				*e*Sg		**Sg**	**21 51 02.9**	**+0.1**
KBA	**Koelnbreinsper**	**0.58**	**301**	⇑*e*Pg		**Pg**	**21 50 56.3**	**+0.5**
comp=Z,12nm,0.1s,SNR=8.2								
KBA				⇑*i*Sg		**Sg**	**21 51 03.6**	**0.0**
comp=Z,28nm,0.1s								
CADS	**Cadrg**	**0.60**	**203**	*i* Pg		**Pg**	**21 50 56.3**	**0.0**
CADS				*e*Sg		**Sg**	**21 51 04.1**	**-0.3**
CADS								
comp=Z,91nm,0.2s								
CADS	**Cadrg**	**0.60**	**203**	*i* Pg		**Pg**	**21 50 56.3**	**0.0**
CADS				*e*Sg		**Sg**	**21 51 04.1**	**-0.2**
comp=Z,91nm,0.2s								
SOKA	**Soboth**	**0.67**	**99**	⇑*i*Pg		**Pg**	**21 50 57.4**	**-0.1**
comp=Z,12nm,0.3s								
SOKA				⇓*i*Sg		**Sg**	**21 51 06.4**	**0.0**
comp=Z,15nm,0.2s								
PLRO	**Paularo**	**0.68**	**250**	⇓*i*Pg		**Pg**	**21 50 57.8**	**+0.1**
DRE	**Drenchia**	**0.68**	**206**	⇑*i*Pg		**Pg**	**21 50 57.5**	**-0.2**
DRE				*i* Sg		**Sg**	**21 51 06.5**	**-0.3**
PERS	**Pernice**	**0.73**	**101**	*i* Pg		**Pg**	**21 50 58.7**	**0.0**
ZAVS	**Zavodnje**	**0.74**	**118**	*e*Pg		**Pg**	**21 50 58.7**	**-0.1**
ZAVS				*i* Sg		**Sg**	**21 51 08.7**	**-0.1**
VOY	**Vojsko**	**0.76**	**189**	*e*Sg		**Sg**	**21 51 09.0**	**-0.4**
VOJS	**Vojsko**	**0.77**	**190**	*e*Pg		**Pg**	**21 50 59.0**	**-0.3**
BAD	**Bernadia**	**0.79**	**227**	⇑*i*Pg		**Pg**	**21 50 59.8**	**0.0**
BAD				*i* Sg		**Sg**	**21 51 10.9**	**+0.6**
COLI	**Coloredo**	**0.81**	**217**	*e*Pg		**Pg**	**21 51 00.2**	**+0.1**
COLI				*e*Sg		**Sg**	**21 51 11.5**	**+0.6**
VNDS	**Vrh nad Dolski**	**0.81**	**147**	*i* Pg		**Pg**	**21 51 00.6**	**+0.4**
BUA	**Buia**	**0.87**	**229**	⇑*i*Pg		**Pg**	**21 51 01.3**	**+0.1**
BUA				*i* Sg		**Sg**	**21 51 13.1**	**+0.4**
JAVS	**Javornik**	**0.89**	**180**	*i* Pg		**Pg**	**21 51 01.2**	**-0.4**
JAVS								
comp=Z,8.0nm,0.1s								
JAVS	**Javornik**	**0.89**	**180**	*i* Pg		**Pg**	**21 51 01.2**	**-0.5**
comp=Z,8.0nm,0.1s								
PDKS	**Podkum**	**0.97**	**138**	*i* Pg		**Pg**	**21 51 03.6**	**+0.5**
MOA	**Molln**	**1.07**	**7**	*e*Pg		**Pg**	**21 51 05.4**	**+0.3**
comp=Z,1.5nm,0.1s,SNR=6.1								
MOA				⇓*i*Sg		**Sg**	**21 51 20.2**	**+1.0**
comp=Z,4.8nm,0.2s								
ABTA	**Abfaltersbach**	**1.07**	**269**	*e*Pg		**Pg**	**21 51 04.8**	**-0.3**
comp=Z,3.6nm,0.1s,SNR=15								
ABTA				⇓*i*Sg		**Sg**	**21 51 19.4**	**+0.2**
comp=Z,5.9nm,0.1s								
CEY	**Cerknica**	**1.08**	**167**	*i* Pg		**Pg**	**21 51 05.1**	**0.0**
ARSA	**Arzberg**	**1.10**	**64**	⇓*i*Pg		**Pg**	**21 51 05.6**	**+0.1**
comp=Z,1.0nm,0.1s								
ARSA				⇑*i*Sg		**Sg**	**21 51 20.4**	**+0.5**
comp=Z,1.7nm,0.1s								
WTTA	**Wattenberg**	**1.73**	**287**	⇓*e*Pg		**Pg**	**21 51 16.9**	**-0.8**
comp=Z,3.7nm,0.2s,SNR=9.9								
WTTA				⇑*i*Sg		**Sg**	**21 51 39.4**	**-0.8**
comp=Z,5.7nm,0.3s								
MOTA	**Moosalm**	**2.11**	**286**	⇑*i*Pg		**Pg**	**21 51 24.2**	**-0.5**
comp=Z,1.0nm,0.2s								
MOTA				⇑*i*Sg		**Sg**	**21 51 53.7**	**+1.6**
comp=Z,4.2nm,0.3s								
KHC	**Kasperske Hory**	**2.37**	**352**	*e*PG		**Pg**	**21 51 28.9**	**-0.9**
KHC				*ex*		x	21 51 34.0	
KHC				*e*SG		**Sg**	**21 52 00.3**	**-0.2**
PRU	**Pruhonice**	**3.22**	**5**	*e*PG		**Pg**	**21 51 43.0**	**-3.0**
PRU				*e*SG		**Sg**	**21 52 26.9**	**-0.8**
NKC	**Novy Kostel**	**3.62**	**343**	*e*SG		**Sg**	**21 52 41.2**	**+0.8**

*IDC **21** 21:55:48.1±0.6, 5538S×2797W, h0km, mb4.6/10, mb1 4.6/10, mb1mx4.4/17, mbtmp4.6/10, MS3.9/11, Ms1 3.9/11, ms1mx3.8/17, Error ellipse: s-maj=19.9km s-min=18.5km az=29.0*
*NEIC **21** 21:55:51.9±2.7, 5537S×2808W, h26km±19km, mb4.6/19, Error ellipse: s-maj=6.8km s-min=5.8km az=190.0*
*ISCJB **21** 21:55:52.4±3.0, 5538S±008×281W±0.1, h47km±29km, mb4.6/20, MS4.0/11, Error ellipse: s-maj=13.9km s-min=10.4km az=29.4*

ISC 21 21:55:52.4±5.8, 5537S±009×281W±01, h28km±43km, n63, σ0s83/40, mb4.6/19, MS4.0/11, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
VNA1	**Neumayer--Stat**	**17.62**	**158**	*e*P		**Pn**	**21 59 57.6**	**+2.2**
VNA1				*e*			22 00 01.4	
VNA1				*e*			22 00 06.8	
VNA3	**Neumayer Olymp**	**17.80**	**160**	*e*P		**Pn**	**21 59 57.6**	**-0.1**
VNA3				*e*			22 00 01.4	
VNA3				*e*			22 00 06.5	
VNA2	**Neumayer--Watz**	**18.02**	**158**	*e*P		**Pn**	**22 00 00.7**	**+0.4**
baz=313,slow=13								
VNA2				*e*			22 00 04.8	
VNA2				*e*			22 00 10.2	
EFI	**East Falkland**	**18.13**	**269**	*e*Pn		**Pn**	**22 00 01.8**	**0.0**
24nm,0.9s								
SNAA	**Sanae**	**19.57**	**156**	*e*P		**Pn**	**22 00 17.4**	**-1.6**
SNAA				*e*			22 00 20.1	
SNAA				*e*			22 00 25.4	
SNAA	**Sanae**	**19.57**	**156**	*e*P		**Pn**	**22 00 17.6**	**-1.4**
18nm,0.5s								
PMSA	**Palmer Station**	**19.98**	**227**	P		**Pn**	**22 00 20.9**	**-3.0**
15nm,0.9s,baz=12,slow=4.3,SNR=3.0								
USHA	**Ushuaia**	**22.87**	**255**	LR		LR	22 07 12.5	
comp=Z,455nm,20.8s,MS3.9,baz=84,slow=30								
TRQA	**Tornquist**	**28.59**	**293**	*e*P		**P**	**22 01 45.9**	**+0.1**
9.2nm,1.1s,mb4.4								
PLCA	**Paso Flores**	**31.38**	**280**	P		**P**	**22 02 06.8**	**-3.7**
1.9nm,1.0s,mb3.9,baz=134,slow=11,SNR=2.5								
PLCA	**Paso Flores**	**31.38**	**280**	*e*P		**P**	**22 02 10.9**	**+0.4**
2.3nm,0.9s,mb4.0								
QSPA	**South Pole Qui**	**34.88**	**180**	P		**P**	**22 02 41.1**	**+0.5**
8.6nm,0.6s,mb4.9,baz=215,slow=2.7,SNR=17								
QSPA	**South Pole Qui**	**34.88**	**180**	P		**P**	**22 02 41.1**	**+0.4**
SUR	**Sutherland**	**40.96**	**77**	P		**P**	**22 03 31.0**	**-1.4**
8.6nm,0.8s,mb4.4,baz=337,slow=8.2,SNR=4.3								
SUR	**Sutherland**	**40.96**	**77**	*e*P		**P**	**22 03 31.4**	**-1.0**
19nm,1.0s,mb4.7								
MAW	**Mawson**	**41.00**	**144**	*e*P		**P**	**22 03 32.3**	**0.0**
3.8nm,0.8s,mb4.1								
MAW	**Mawson**	**41.00**	**144**	P		**P**	**22 03 32.4**	**+0.1**
4.7nm,0.8s,mb4.2,baz=231,slow=6.4,SNR=13								
MAW				LR		LR	22 21 16.1	
comp=Z,183nm,18.1s,MS4.0,baz=246,slow=37								
MAW	**Mawson**	**41.00**	**144**	*e*P		**P**	**22 03 32.4**	**+0.1**
3.8nm,0.6s,mb4.2								
BDFB	**Brasilia**	**42.52**	**331**	LR		LR	22 18 57.0	
comp=Z,95nm,19.8s,MS3.7,baz=193,slow=33								
SHEL	**Horse Pasture**	**42.92**	**32**	P		**P**	**22 03 47.9**	**-0.6**
LVC	**Limon Verde**	**44.52**	**300**	P		**P**	**22 04 03.6**	**+2.3**
4.3nm,0.4s,mb4.6,baz=127,slow=3.9,SNR=9.1								
LVC	**Limon Verde**	**44.52**	**300**	*e*P		**P**	**22 04 02.5**	**+1.2**
4.6nm,0.3s,mb4.8								
BOSA	**Boshof**	**46.30**	**77**	P		**P**	**22 04 15.4**	**0.0**
4.8nm,0.9s,mb4.4,baz=226,slow=18,SNR=7.0								
BOSA				LR		LR	22 19 35.0	
comp=Z,198nm,21.6s,MS4.0,baz=222,slow=31								
BOSA	**Boshof**	**46.30**	**77**	*e*P		**P**	**22 04 15.4**	**0.0**
5.5nm,0.7s,mb4.6								
BOSA				LR		LR	22 19 35.0	
SBA	**Scott Base**	**46.73**	**184**	*e*P		**P**	**22 04 17.8**	**-0.4**
7.0nm,1.1s,mb4.5								
LBTB	**Lobatse**	**49.31**	**75**	*e*P		**P**	**22 04 38.7**	**0.0**
6.1nm,0.8s,mb4.7								
LPAZ	**La Paz**	**49.57**	**306**	P		**P**	**22 04 41.2**	**+0.5**
6.1nm,0.8s,mb4.7,baz=129,slow=6.6,SNR=17								
LPAZ				LR		LR	22 24 26.1	
comp=Z,93nm,20.1s,MS3.8,baz=94,slow=35								
LPAZ	**La Paz**	**49.57**	**306**	*e*P		**P**	**22 04 41.5**	**+0.7**
15nm,1.3s,mb4.9								
LPAZ				LR		LR	22 24 26.1	
TSUM	**Tsumeb**	**49.80**	**62**	*e*P		**P**	**22 04 43.7**	**+1.2**
2.6nm,0.7s,mb4.4								
CASY	**Casey**	**54.72**	**161**	*e*P		**P**	**22 05 18.3**	**-0.2**
CASY	**Casey**	**54.72**	**161**	*e*P		**P**	**22 05 18.7**	**+0.3**
7.2nm,0.8s,mb4.8								
LSZ	**Lusaka**	**58.61**	**70**	*e*P		**P**	**22 05 46.8**	**+0.1**
2.0nm,0.8s,mb4.2								
LIC	**Lamto**	**64.29**	**26**	*e*P		**P**	**22 06 24.4**	**-0.6**
25nm,0.7s,mb5.3								
KIC	**Kosan Boka**	**64.49**	**26**	*e*P		**P**	**22 06 26.2**	**-0.1**
36nm,0.9s,mb5.4								
TIC	**Toumodi**	**64.70**	**25**	*e*P		**P**	**22 06 27.7**	**0.0**
59nm,0.2s								
DBIC	**Dimbokro**	**64.76**	**26**	P		**P**	**22 06 28.2**	**+0.2**
4.5nm,0.8s,mb4.5,baz=163,slow=8.1,SNR=5.5								
DBIC				LR		LR	22 27 45.6	
comp=Z,52nm,19.6s,MS3.7,baz=139,slow=30								
DBIC	**Dimbokro**	**64.76**	**26**	*e*P		**P**	**22 06 28.1**	**0.0**
3.5nm,0.7s,mb4.5								
DBIC				LR		LR	22 27 45.6	
ABPO	**Ambohimpanom**	**66.24**	**89**	P		**P**	**22 06 37.8**	**+0.1**
OTAV	**Otavalo**	**68.85**	**304**	*e*P		**P**	**22 06 54.3**	**0.0**
9.6nm,1.4s,mb4.5								
ROSC	**El Rosal**	**71.07**	**310**	LR		LR	22 36 54.8	
comp=Z,74nm,18.5s,MS4.0,baz=217,slow=35								
TOA0	**Torodi Ar. Sit**	**72.72**	**30**	*e*P		**P**	**22 07 17.5**	**-0.1**
TORD	**Torodi Ar. Bea**	**72.72**	**30**	P		**P**	**22 07 18.0**	**+0.4**
8.8nm,0.7s,mb4.8,baz=199,slow=5.7,SNR=62								
TORD				LR		LR	22 32 28.1	
comp=Z,147nm,22.0s,MS4.2,baz=195,slow=30								
SDV	**Santo Domingo**	**73.17**	**316**	*e*P		**P**	**22 07 19.2**	**-1.1**
8.8nm,0.9s,mb4.7								
KMBO	**Kilima Mbogo**	**75.27**	**70**	LR		LR	22 39 51.5	
comp=Z,202nm,18.2s,MS4.5,baz=149,slow=35								
PPT	**Papeete**	**92.19**	**234**	LR		LR	22 41 33.6	
comp=Z,57nm,19.1s,MS4.0,baz=55,slow=30								
KEST	**Kesra**	**96.23**	**30**	LR		LR	22 47 24.7	
comp=Z,46nm,20.5s,MS4.0,baz=222,slow=32								
ASAR	**Alice Springs**	**99.79**	**163**	P		Pdif	22 09 33.2	-0.7
0.5nm,0.8s,baz=179,slow=3.9,SNR=3.1								
WRA	**Warramunga Arr**	**103.51**	**163**	Pdiff		Pdif	22 09 49.2	-1.3
0.3nm,0.8s,baz=202,slow=4.6,SNR=7.0								
PDAR	**Pinedale Array**	**119.55**	**303**	PKP		PKPdf	22 14 39.3	+0.9
0.2nm,0.3s,baz=290,slow=2.6,SNR=3.2								
CMAR	**Chiang Mai Arr**	**125.78**	**111**	PKP		PKPdf	22 14 51.1	-0.1
0.7nm,0.8s,baz=206,slow=3.9,SNR=5.2								
ARCES	**ARCESS Array B**	**130.50**	**22**	PKP		PKPdf	22 14 57.6	-0.9
7.2nm,1.0s,baz=145,slow=3.3,SNR=5.3								
YKA	**Yellowknife Ar**	**135.32**	**319**	PKP		PKPdf	22 15 06.9	-0.9
0.6nm,0.4s,baz=129,slow=2.1,SNR=8.4								
MKAR	**Makanchi Array**	**137.15**	**71**	PKP		PKPdf	22 15 12.3	+0.6
0.2nm,0.4s,baz=187,slow=3.7,SNR=3.5								
ZALV	**Zalesovo Beam**	**142.52**	**63**	PKP		PKPdf	22 15 19.8	-1.5
0.6nm,0.4s,baz=227,slow=2.6,SNR=3.9								
ZALV	**Zalesovo Beam**	**142.52**	**63**	PKP		PKPdf	22 15 19.8	-1.5
MCK	**McKinley**	**149.94**	**310**	*e*PKPbc		PKPbc	22 15 38.2	-0.2
KDAK	**Kodiak Island**	**150.06**	**298**	PKPbc		PKPbc	22 15 39.2	+0.3
4.1nm,0.4s,baz=178,slow=2.1,SNR=10								
KDAK				PKPab		PKPab	22 15 43.7	-1.2
7.5nm,0.6s,baz=248,slow=3.0,SNR=4.3								
KDAK	**Kodiak Island**	**150.06**	**298**	PKPbc		PKPbc	22 15 39.2	+0.3
KDAK				PKPab		PKPab	22 15 43.7	-1.2
TRF	**Thorofare Moun**	**150.48**	**309**	*e*PKPbc		PKPbc	22 15 40.3	+0.6
KTH	**Kantishna Hill**	**150.78**	**310**	*e*PKPbc		PKPbc	22 15 40.2	-0.2
BPAW	**Bear Paw Mtn.**	**150.90**	**311**	*e*PKPbc		PKPbc	22 15 40.5	-0.2
SONM	**Songino Array**	**151.19**	**86**	PKPbc		PKPbc	22 15 42.2	+0.4
4.0nm,0.6s,baz=217,slow=3.2,SNR=25								
SONM				PKPab		PKPab	22 15 49.0	-0.9
2.4nm,0.6s,baz=240,slow=3.2,SNR=5.8								
CHUM	**Lake Minchumin**	**151.45**	**310**	*e*PKPdf		PKPdf	22 15 37.1	+1.3
CHUM				*e*PKPbc		PKPbc	22 15 42.1	+0.2

*IDC **21** 22:18:26.8±4.2, 6199N×15089W, h47km±47km, mb3.6/7, mb1 3.8/9, mb1mx3.7/21, mbtmp3.6/9, ML3.3/2, Error ellipse: s-maj=32.7km s-min=17.1km az=26.0*
*ISCJB **21** 22:18:27.5±0.3, 6179N±003×15081W±007, h75km±4km, mb3.8/7, Error ellipse: s-maj=5.7km s-min=4.1km az=160.5*
*NEIC **21** 22:18:29.2, 6177N×15081W, h62km, ML3.6(AEIC), ML3.9(PMR), After AEIC.*

ISC 21 22:18:28.7±0.3, 6179N±003×15081W±007, h67km±4km, n44, σ0s81/54, mb3.8/7, Southern Alaska

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
SKT	**Skwentna**	**0.39**	**299**	P		**Pn**	**22 18 39.3**	**-0.8**
SKT				S		**Sn**	**22 18 48.4**	**-0.2**
FIB	**Fire Island**	**0.70**	**154**	P		**Pn**	**22 18 43.8**	**+0.6**
FIB				S		**Sn**	**22 18 56.3**	**+2.3**
PMR	**Palmer**	**0.82**	**103**	*e*P		**

FITZ	**Fitzroy Crossi**	**28.27**	**123**	P		**P**		**22 41 11.8**	**+2.2**
	3.0nm,0.7s,mb4.0								
ODAN	**Odare**	**32.91**	**338**	*e*P		**P**		**22 41 50.8**	**+0.3**
	24nm,0.9s,mb5.1								
NWAO	**Narrogin (SRO)**	**33.01**	**154**	P		**P**		**22 41 47.5**	**-3.9**
NWAO				pmax		pmax			
	comp=Z,47nm,1.3s								
NWAO	**Narrogin (SRO)**	**33.01**	**154**	P		**P**		**22 41 47.5**	**-3.8**
	comp=Z,48nm,1.3s,mb5.3								
TAPN	**Taplejung**	**33.23**	**338**	*e*P		**P**		**22 41 54.6**	**+1.3**
	comp=Z,37nm,0.8s,mb5.3								
RAMN	**Ramite**	**33.29**	**336**	*e*P		**P**		**22 41 53.9**	**0.0**
	comp=Z,20nm,1.1s,mb4.9								
JIRN	**Jiri**	**34.09**	**336**	*e*P		**P**		**22 42 01.7**	**+0.9**
	comp=Z,21nm,0.8s,mb5.1								
NACB	**Ninganchiao**	**34.17**	**35**	*e*P		**P**		**22 42 00.4**	**-1.1**
GUN	**Gumba**	**34.44**	**336**	*e*P		**P**		**22 42 04.5**	**+0.7**
	comp=Z,27nm,0.8s,mb5.2								
DMN	**Daman**	**34.49**	**335**	*e*P		**P**		**22 42 04.1**	**-0.2**
KKN	**Kakani**	**34.58**	**335**	*e*P		**P**		**22 42 05.1**	**+0.1**
GKN	**Gorkha**	**35.03**	**335**	*e*P		**P**		**22 42 09.2**	**+0.2**
	comp=Z,15nm,0.9s,mb4.9								
KOLN	**Koldanda**	**35.29**	**333**	*e*P		**P**		**22 42 11.0**	**-0.2**
	comp=Z,12nm,0.9s,mb4.9								
DANN	**Dangsing**	**35.72**	**334**	*e*P		**P**		**22 42 14.9**	**+0.1**
WRA	**Warramunga Arr**	**36.50**	**119**	P		**P**		**22 42 20.7**	**-1.0**
	comp=Z,0.6nm,0.3s,mb3.9,baz=298,slow=11,SNR=16								
WRA				pP		pP		22 42 30.9	+0.9
	comp=Z,1.8nm,0.9s,baz=295,slow=9.6,SNR=7.0								
WRAB	**Tennant Creek**	**36.51**	**119**	*e*P		**P**		**22 42 22.6**	**+0.8**
WRAB				pmax		pmax			
	comp=Z,1.0nm,0.6s,mb3.8								
WRAB	**Tennant Creek**	**36.51**	**119**	*e*P		**P**		**22 42 22.6**	**+0.9**
	comp=Z,1.1nm,0.6s,mb3.9								
WB2	**Warramunga Arr**	**36.51**	**119**	*e*P		**P**		**22 42 20.9**	**-0.9**
ASAR	**Alice Springs**	**37.68**	**125**	P		**P**		**22 42 31.9**	**+0.2**
	comp=Z,0.6nm,0.4s,mb3.7,baz=298,slow=8.3,SNR=7.0								
ASAR				pP		pP		22 42 40.6	+0.6
	comp=Z,2.2nm,0.9s,baz=306,slow=9.1,SNR=5.8								
XAN	**Xi'an**	**38.16**	**11**	P		**P**		**22 42 35.1**	**-0.4**
XAN				AP		pP		22 42 43.8	-0.1
XAN				AMB		AMB			
	comp=Z,14nm,0.7s,mb4.8								
XAN				AMB		AMB			
	comp=Z,45nm,6.3s								
LZH	**Lanzhou**	**39.53**	**4**	*e*P		**P**		**22 42 47.5**	**+0.5**
LZH				AP		pP		22 42 52.0	-3.4
LZH				XP		sP		22 42 54.6	-4.2
LZH				AMB		AMB			
	comp=Z,21nm,1.4s,mb4.7								
LZH				AMB		AMB			
	comp=Z,85nm,4.3s								
GTA	**Gaotai**	**42.76**	**359**	*e*P		**P**		**22 43 13.9**	**+0.4**
GTA				AP		pP		22 43 17.8	-4.1
GTA				XP		sP		22 43 20.8	-4.5
GTA				AMB		AMB			
	comp=Z,3.0nm,1.1s,mb3.9								
PMG	**Port Moresby**	**46.36**	**100**	P		**P**		**22 43 42.8**	**+0.1**
STKA	**Stephens Creek**	**47.51**	**131**	P		**P**		**22 43 51.7**	**+0.3**
KSRS	**Korea Array**	**47.94**	**29**	P		**P**		**22 43 54.9**	**+0.3**
	comp=Z,4.3nm,1.0s,mb4.5,baz=220,slow=8.6,SNR=10.0								
KSRS				pP		pP		22 44 02.6	-0.5
	comp=Z,4.4nm,1.0s,baz=216,slow=9.3,SNR=5.4								
SONM	**Songino Array**	**51.40**	**5**	P		**P**		**22 44 21.8**	**+1.0**
	comp=Z,6.0nm,0.9s,mb4.5,baz=188,slow=9.3,SNR=36								
SONM				pP		pP		22 44 30.0	+0.6
	comp=Z,6.9nm,0.8s,baz=181,slow=8.9,SNR=25								
TKM2	**Tokmak 2**	**51.58**	**336**	*e*P		**P**		**22 44 22.3**	**+0.1**
TKM2				pmax		pmax			
	comp=Z,8.0nm,1.0s,mb4.6								
TKM2	**Tokmak 2**	**51.58**	**336**	*e*P		**P**		**22 44 22.3**	**+0.1**
	comp=Z,8.1nm,1.0s,mb4.6								
EKS2	**Erkin-Say**	**52.11**	**335**	*e*P		**P**		**22 44 26.6**	**+0.4**
	comp=Z,3.9nm,0.7s,mb4.5								
MK31	**Makanchi Array**	**52.74**	**344**	*e*P		**P**		**22 44 30.4**	**-0.3**
MKAR	**Makanchi Array**	**52.74**	**344**	P		**P**		**22 44 30.4**	**-0.3**
	comp=Z,4.0nm,0.8s,mb4.4,baz=144,slow=8.4,SNR=38								
MKAR				pP		pP		22 44 38.9	-0.5
	comp=Z,2.3nm,0.7s,baz=152,slow=7.9,SNR=8.8								
MJAR	**Matsushiro Arr**	**52.96**	**38**	P		**P**		**22 44 31.5**	**-1.1**
	comp=Z,1.3nm,0.7s,mb4.0,baz=229,slow=8.3,SNR=4.7								
MJAR				pP		pP		22 44 39.8	-1.5
	comp=Z,2.7nm,0.9s,baz=215,slow=6.8,SNR=4.0								
MJAR	**Matsushiro Arr**	**52.96**	**38**	P		**P**		**22 44 31.5**	**-1.1**
MJAR				pP		pP		22 44 39.8	-1.5
TLY	**Talaya**	**55.07**	**2**	*e*P		**P**		**22 44 48.8**	**+1.1**
TLY				pmax		pmax			
	comp=Z,4.0nm,0.8s,mb4.5								
TLY	**Talaya**	**55.07**	**2**	*e*P		**P**		**22 44 48.8**	**+1.1**
	comp=Z,3.8nm,0.8s,mb4.5								
KURK	**Kurchatov**	**57.32**	**343**	P		**P**		**22 45 02.9**	**-0.9**
	comp=Z,3.1nm,0.8s,mb4.4,baz=163,slow=6.6,SNR=14								
KURK	**Kurchatov**	**57.32**	**343**	*e*P		**P**		**22 45 03.3**	**-0.5**
KURK				pmax		pmax			
	comp=Z,4.0nm,0.8s,mb4.5								
KURK	**Kurchatov**	**57.32**	**343**	*e*P		**P**		**22 45 03.3**	**-0.5**
	comp=Z,4.0nm,0.8s,mb4.5								
ZAA0	**Zalesovo Array**	**58.84**	**349**	*e*P		**P**		**22 45 13.7**	**-0.7**
ZALV	**Zalesovo Beam**	**58.84**	**349**	P		**P**		**22 45 13.8**	**-0.5**
	comp=Z,5.8nm,0.9s,mb4.6,baz=163,slow=5.3,SNR=28								
ZALV				pP		pP		22 45 22.9	-0.2
	comp=Z,4.5nm,0.8s,baz=180,slow=5.1,SNR=7.6								
ZALV	**Zalesovo Beam**	**58.84**	**349**	P		**P**		**22 45 13.8**	**-0.5**
ZALV				pP		pP		22 45 22.9	-0.2
BVAR	**Borovoye Array**	**61.92**	**340**	P		**P**		**22 45 34.1**	**-1.3**
	comp=Z,2.4nm,0.7s,mb4.5,baz=146,slow=9.1,SNR=16								
BVAR				pP		pP		22 45 42.6	-1.6
	comp=Z,1.8nm,0.6s,baz=144,slow=8.5,SNR=9.4								
BRVK	**Borovoye**	**61.98**	**340**	*e*P		**P**		**22 45 34.8**	**-1.1**
KMBO	**Kilima Mbogo**	**63.57**	**271**	*e*P		**P**		**22 45 47.3**	**+0.1**
TXAR	**Lajitas Array**	**145.39**	**40**	PKPbc		PKPbc		22 54 55.4	+0.9
	comp=Z,4.0nm,0.7s,baz=295,slow=0.8,SNR=41								
TXAR				pPKPbc		pPKPbc		22 55 03.6	-0.1
	comp=Z,1.7nm,0.7s,baz=287,slow=1.6,SNR=6.8								

*ISCJB **21** 22:40:26.8±1.1, 4039N×004×2572E×006, h16km±11km, Error ellipse: s-maj=8.1km s-min=5.9km az=172.7*
*ATH **21** 22:40:26.4, 4039N×2586E, h28km±1km, MD3.3/3*
*NEIC **21** 22:40:26.4, 4039N×2586E, h28km, MD3.3(ATH), After ATH.*
*CSEM **21** 22:40:28.0±0.2, 4041N×2579E, h25km, MD3.3, Error ellipse: s-maj=4.7km s-min=3.9km az=57.0*
*DDA **21** 22:40:30.9, 4023N×2624E, h8km±6km, Md2.7*

ISC 21 22:40:26.8±1.1, 4040N±004×2575E±006, h16km±8km, n12, σ0§93/22, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BOZC	**Bozcaada**	**0.61**	**157**	*i* P	**Pg**	**22 40 38.1**	**-0.6**
BOZC				*i* S	**Sg**	**22 40 46.0**	**-0.8**
LIA	**Limnos Island**	**0.67**	**221**	*e*Pn	**Pn**	**22 40 40.6**	**-1.0**
LIA				*e*Sn	**Sg**	**22 40 51.2**	**+2.5**
LIA	**Limnos Island**	**0.67**	**221**	*e*PN	**Pn**	**22 40 40.6**	**-1.0**
LIA				*e*SN	**Sg**	**22 40 51.2**	**+2.5**
RDO	**Rodhopi**	**0.76**	**348**	*e*Pn	**Pn**	**22 40 42.2**	**-0.7**
RDO				*e*Sn	**Sn**	**22 40 53.1**	**-0.9**
RDO	**Rodhopi**	**0.76**	**348**	*e*PN	**Pn**	**22 40 42.2**	**-0.7**
RDO				*e*SN	**Sn**	**22 40 53.1**	**-0.9**
SART	**Tekirdag**	**1.13**	**75**	*i* P	**Pb**	**22 40 47.6**	**-0.4**
SART				*i* S	**Sb**	**22 41 03.1**	**+0.7**
PRK	**Paraskevi**	**1.23**	**161**	*e*Pn	**Pn**	**22 40 49.1**	**-0.2**
PRK				*e*Sn	**Sn**	**22 41 04.9**	**-0.6**
PRK	**Paraskevi**	**1.23**	**161**	*e*PN	**Pn**	**22 40 49.1**	**-0.2**
PRK				*e*SN	**Sn**	**22 41 04.9**	**-0.6**
AYVA	**Ayvalik**	**1.31**	**146**	*i* P	**Pn**	**22 40 50.6**	**+0.1**
AYVA				*i* S	**Sb**	**22 41 07.6**	**-0.1**
BALY	**Balya**	**1.58**	**114**	*e*P	**Pn**	**22 40 55.1**	**+0.9**
BALY				*i* S	**Sn**	**22 41 15.3**	**+1.0**
NVR	**Nevrokopi**	**1.71**	**304**	*e*Pn	**Pn**	**22 40 57.5**	**+1.5**
NVR	**Nevrokopi**	**1.71**	**304**	*e*PN	**Pn**	**22 40 57.5**	**+1.5**

*TEH **21** 22:40:28.3, 2972N×5122E, h8km, ML3.9*
*IDC **21** 22:41:46.8±1.0, 2959N×5124E, h0km, mb3.9/16, mb1 4.0/19, mb1mx3.9/30, mbtmp3.9/19, ML3.8/3, MS3.1/2, Ms1 3.2/2, ms1mx2.6/29, Error ellipse: s-maj=24.3km s-min=13.8km az=170.0*
*THR **21** 22:41:46.6±0.8, 2956N×5107E, h14km±14km, ML4.0*
*ISCJB **21** 22:41:47.2±0.2, 2962N×002×5120E±002, h10km, mb3.8/17, MS3.1/2, Error ellipse: s-maj=3.1km s-min=2.8km az=7.0*

*CSEM **21** 22:41:49.5±0.1, 2964N×5127E, h30km, mb4.1/8, Ms4.1, Error ellipse: s-maj=1.9km s-min=1.2km az=69.0*
*MOS **21** 22:41:49.7±1.4, 2962N×5115E, h33km, mb4.2/9, Error ellipse: s-maj=17.1km s-min=14.4km az=82.5*
*NEIC **21** 22:41:50.9, 2972N×5122E, h8km, mb3.9/1, ML4.0(THR), MN3.9(TEH), After TEH.*

ISC 21 22:41:49.3±0.2, 2965N±002×5121E±002, h10km, n130, σ1§11/139, mb3.8/17, MS3.1/2, 3C-3D, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHI	**Shiraz**	**1.13**	**90**	*e*Pg	**Pg**	**22 41 11.7**	**+0.6**
SHI				*e*Sg	**Sg**	**22 42 26.0**	**+0.1**
SHI				*e*		22 42 33.0	
IPAR	**Pars**	**1.61**	**83**	*e*Pn	**Pn**	**22 42 17.7**	**-0.1**
IPAR				Sn	**Sg**	**22 42 41.2**	**+0.1**
IPAR	**Pars**	**1.61**	**83**	*e*Pn	**Pn**	**22 42 17.7**	**-0.1**
IPAR				*e*Sn	**Sg**	**22 42 41.3**	**+0.2**
IPAR				*e*		22 42 44.5	
ISRV	**Sarvestan**	**1.68**	**99**	*e*Pn	**Pn**	**22 42 19.7**	**+0.9**
ISRV				*e*		22 42 52.1	
GHIR	**Ghir-Karzin**	**2.06**	**131**	*e*Pg	**Pn**	**22 42 24.8**	**+0.7**
GHIR				AML	AML	22 43 08.6	
	comp=E,960nm,0.6s						
GHIR	**Ghir-Karzin**	**2.06**	**131**	*e*Pg	**Pn**	**22 42 24.8**	**+0.8**
	SNR=90						
GHIR				*e*Sg	**Sn**	**22 42 52.0**	**+2.2**
GHIR	**Ghir-Karzin**	**2.06**	**131**	*e*Pg	**Pn**	**22 42 24.0**	**0.0**
GHIR				*e*Sg	**Sn**	**22 42 52.0**	**+2.2**
IGAR	**Gharneh**	**2.84**	**14**	*e*Pn	**Pn**	**22 42 36.2**	**+1.5**
IGAR				*e*Sn	**Sn**	**22 43 08.1**	**-0.9**
IGAR				*e*		22 43 24.1	
IPIR	**Pirpir**	**3.04**	**355**	*e*Pn	**Pn**	**22 42 38.6**	**+1.1**
IPIR				*e*		22 43 46.1	
IPIR	**Pirpir**	**3.04**	**355**	Pn	**Pn**	**22 42 38.5**	**+1.0**
UMR	**Umm Al-Rimmam**	**3.04**	**269**	*e*P	**Pn**	**22 42 38.8**	**+1.2**
	baz=268						
UMR				AML	AML	22 43 18.0	
	comp=Z,303nm,0.4s,baz=268						
KBD	**Kabd**	**3.10**	**262**	*e*P	**Pn**	**22 42 40.1**	**+1.8**
	baz=261						
KBD				AML	AML	22 43 20.2	
	comp=Z,114nm,0.3s,baz=261						
ISAD	**Sadrabad**	**3.11**	**43**	*e*Pn	**Pn**	**22 42 39.9**	**+1.5**
ISAD				*e*		22 43 44.1	
ISAD	**Sadrabad**	**3.11**	**43**	Pn	**Pn**	**22 42 39.8**	**+1.4**
SHGR	**Shooshtar-Gavs**	**3.21**	**320**	*e*Pn	**Pn**	**22 42 38.6**	**-1.2**
SHGR				AML	AML	22 43 41.1	
	comp=E,435nm,0.6s						
SHGR				AML	AML	22 43 41.2	
	comp=N,527nm,0.6s						
SHGR	**Shooshtar-Gavs**	**3.21**	**320**	*e*Pn	**Pn**	**22 42 39.0**	**-0.8**
KFJS		**3.21**	**244**	P	**Pn**	**22 42 41.0**	**+1.1**
KFJS		**3.21**	**244**	P	**Pn**	**22 42 41.0**	**+1.1**
KFJS				S	**Sn**	**22 43 20.8**	**+2.6**
RDF	**Al-Radifah**	**3.28**	**258**	*e*P	**Pn**	**22 42 42.7**	**+1.9**
	baz=257						
RDF				AML	AML	22 43 26.8	
	comp=Z,229nm,0.6s,baz=257						
MIB	**Mutribah**	**3.37**	**274**	*e*P	**Pn**	**22 42 43.1**	**+1.1**
	baz=272						
MIB				AML	AML	22 43 29.4	
	comp=Z,231nm,0.5s,baz=272						
IZEF	**Zefreh**	**3.38**	**16**	*e*Pn	**Pn**	**22 42 42.8**	**+0.7**
IZEF				*e*		22 43 57.1	
IZEF	**Zefreh**	**3.38**	**16**	Pn	**Pn**	**22 42 42.7**	**+0.6**
IMEH	**Mehriz**	**3.41**	**59**	*e*Pn	**Pn**	**22 42 43.8**	**+1.2**
IMEH				*e*		22 42 52.5	
NASN	**Na'in**	**3.43**	**23**	*e*Pn	**Pn**	**22 42 43.6**	**+0.8**
NASN	**Na'in**	**3.43**	**23**	*e*Pn	**Pn**	**22 42 43.7**	**+0.9**
	SNR=52						
NAY	**Al-Naaiem**	**3.48**	**264**	*e*P	**Pn**	**22 42 45.1**	**+1.5**
	baz=263						
NAY				AML	AML	22 43 31.9	
	comp=Z,114nm,0.6s,baz=263						
RST	**Umm Al-Ruwaisa**	**3.67**	**269**	*e*P	**Pn**	**22 42 47.3**	**+1.1**
	baz=268						
RST				AML	AML	22 43 37.9	
	comp=Z,194nm,0.6s,baz=268						
IKLH	**Kolahrood**	**3.68**	**5**	*e*Pn	**Pn**	**22 42 46.6**	**+0.4**
IKLH				*e*		22 44 01.0	
ICHK	**Chekchek**	**3.77**	**46**	*e*Pn	**Pn**	**22 42 48.3**	**+0.7**
ICHK				*e*		22 43 02.8	
ICHK	**Chekchek**	**3.77**	**46**	Pn	**Pn**	**22 42 48.2**	**+0.6**
BOQSS		**4.10**	**204**	S	**Sn**	**22 43 43.2**	**+3.2**
BOQSS		**4.10**	**204**	P	**Pn**	**22 42 54.0**	**+2.0**
IBAF	**Bafgh**	**4.23**	**62**	*e*Pn	**Pn**	**22 42 54.6**	**+0.8**
IBAF				*e*		22 43 07.1	
IBAF	**Bafgh**	**4.23**	**62**	Pn	**Pn**	**22 42 54.5**	**+0.7**
ISFB	**Sefidab**	**4.77**	**10**	*e*Pn	**Pn**	**22 43 00.9**	**-0.4**
ISFB				*e*		22 44 24.4	
KRBR	**Kerman**	**4.83**	**85**	*e*Pn	**Pn**	**22 43 03.6**	**+1.4**
KRBR				AML	AML	22 44 31.9	
	comp=N,94nm,0.6s						
KRBR				AML	AML	22 44 36.7	
	comp=E,91nm,0.7s						
KRBR	**Kerman**	**4.83**	**85**	*e*Pn	**Pn**	**22 43 03.6**	**+1.4**
	SNR=52						
KRBR				*e*Sg	**Sg**	**22 44 19.0**	**-5.6**
KRBR	**Kerman**	**4.83**	**85**	*e*Pn	**Pn**	**22 43 03.0**	**+0.8**
KRBR				*e*Sg	**Sg**	**22 44 19.0**	**-5.6**
SLWS		**4.86**	**186**	P	**Pn**	**22 43 03.1**	**+0.7**
SLWS		**4.86**	**186**	P	**Pn**	**22 43 03.1**	**+0.7**
SLWS				S	**Sn**	**22 43 58.6**	**-0.1**
BNDS	**Bandar-Abbas**	**4.90**	**116**	*e*Pn	**Pn**	**22 43 03.0**	**-0.1**
BNDS				AML	AML	22 44 03.6	
	comp=E,87nm,0.6s						
BNDS	**Bandar-Abbas**	**4.90**	**116**	*e*Pn	**Pn**	**22 43 02.0**	**-1.1**
ASAO	**Ashtian**	**4.99**	**349**	*e*Pn	**Pn**	**22 43 04.8**	**+0.5**
ASAO				AML	AML	22 44 09.7	
	comp=N,63nm,0.6s						
ASAO	**Ashtian**	**4.99**	**349**	*e*Pn	**Pn**	**22 43 04.0**	**-0.3**
IVRN	**Varamin**	**5.35**	**5**	*e*Pn	**Pn**	**22 43 09.5**	**+0.2**
IVRN				*e*		22 43 15.8	
IVRN	**Varamin**	**5.35**	**5**	Pn	**Pn**	**22 43 09.4**	**+0.1**
IKOM	**Komasi**	**5.50**	**326**	*e*Pn	**Pn**	**22 43 11.4**	**+0.1**
IKOM				*e*		22 45 15.0	
IKOM	**Komasi**	**5.50**	**326**	Pn	**Pn**	**22 43 11.3**	**0.0**
BTHS		**5.59**	**183**	P	**Pn**	**22 43 12.6**	**+0.1**
BTHS		**5.59**	**183**	P	**Pn**	**22 43 12.6**	**+0.1**
BTHS				S	**Sn**	**22 44 16.4**	**-0.4**
BANOM	**Banah**	**5.84**	**128**	⇓P	**Pn**	**22 43 16.8**	**+0.9**
	SNR=198						
BANOM	**Banah**	**5.84**	**128**	P	**Pn**	**22 43 15.4**	**-0.5**
	SNR=8.1						
IRAZ	**Razeghan**	**5.84**	**350**	*e*Pn	**Pn**	**22 43 17.5**	**+1.5**
IRAZ				*e*		22 45 19.4	
ILAS	**Lasjerd**	**5.91**	**14**	*e*Pn	**Pn**	**22 43 16.9**	**0.0**
ILAS				*e*		22 44 28.6	
ILAS	**Lasjerd**	**5.91**	**14**	Pn	**Pn**	**22 43 16.8**	**-0.1**
DAMV	**Damavand**	**6.00**	**6**	*e*Pn	**Pn**	**22 43 18.6**	**+0.4**
DAMV	**Damavand**	**6.00**	**6**	*e*Pn	**Pn**	**22 43 18.7**	**+0.5**
	SNR=52						
DAMV	**Damavand**	**6.00**	**6**	*e*Pn	**Pn**	**22 43 18.0**	**-0.2**
NAZ	**Nazwa, Dubai**	**6.10**	**138**	P	**Pn**	**22 43 19.5**	**0.0**
IGHG	**Ghaleghazi**	**6.11**	**321**	*e*Pn	**Pn**	**22 43 20.8**	**+1.1**
IGHG				*e*		22 45 47.5	
IFIR	**Firoozkooh**	**6.12**	**12**	*e*Pn	**Pn**	**22 43 19.9**	**+0.1**
IFIR				*e*		22 43 22.8	
ASUD	**Al Ashush, Dub**	**6.20**	**143**	P	**Pn**	**22 43 20.6**	**-0.3**
	SNR=143						
IAFJ	**Afjeh**	**6.21**	**4**	*e*Pn	**Pn**	**22 43 21.2**	**+0.2**
IAFJ				*e*		22 43 55.6	
IAFJ	**Afjeh**	**6.21**	**4**	Pn	**Pn**	**22 43 21.1**	**+0.1**
IANJ	**Anjilo**	**6.24**	**21**	*e*Pn	**Pn**	**22 43 21.4**	**0.0**
IANJ				*e*		22 45 32.3	
CHTH	**Charan**	**6.25**	**359**	*e*Pn	**Pn**	**22 43 21.7**	**+0.1**
FAQ	**Al Faqa, Dubai**	**6.25**	**140**	P	**Pn**	**22 43 21.3**	**-0.3**
	SNR=35						
SNGE	**Sanandaj**	**6.34**	**330**	*e*Pn	**Pn**	**22 43 22.0**	**-0.8**
SNGE	**Sanandaj**	**6.34**	**330**	*e*Pn	**Pn**	**22 43 22.4**	**-0.4**
	SNR=52						
SNGE	**Sanandaj**	**6.34**	**330**	*e*Pn	**Pn**	**22 43 22.0**	**-0.8**
ILIN	**Lien**	**6.37**	**327**	*e*Pn	**Pn**	**22 43 22.6**	**-0.6**
ILIN				*e*		22 44 39.3	
ISHM	**Shahmirzad**	**6.39**	**15**	*e*Pn	**Pn**	**22 43 22.9**	**-0.6**
ISHM				*e*		22 43 29.2	
ASYS		**6.41**	**252**	S	**Sn**	**22 44 33.1**	**-3.9**
ASYS		**6.41**	**252**	P	**Pn**	**22 43 22.5**	**-1.2**
IDHR	**Dehrash**	**6.49**	**322**	*e*Pn	**Pn**	**22 43 25.5**	**+0.6**
IDHR				*e*		22 44 40.0	
HATD	**Hatta, Dubai**	**6.50**	**136**	⇑P	**Pn**	**22 43 25.3**	**+0.3**
	SNR=8.9						
HATD	**Hatta, Dubai**	**6.50**	**136**	P	**Pn**	**22 43 25.1**	**+0.1**
	SNR=8.9						
BHD	**Baghdad**	**6.86**	**304**	*ex*	x	22 44 11.0	
BHD				*ex*	x	22 46 02.0	
HRDDS		**6.87**	**194**	S	**Sn**	**22 44 47.9**	**-0.6**
HRDDS		**6.87**	**194**	P	**Pn**	**22 43 30.1**	**-0.1**
ITEG	**Tejag**	**7.22**	**61**	*e*Pn	**Pn**	**22 43 35.2**	**+0.3**
ITEG				*e*		22 44 09.1	
IKOO	**Kooshah**	**7.24**	**66**	*e*Pn	**Pn**	**22 43 35.6**	**+0.4**
IKOO				*e*		22 46 05.2	
IDAH	**Dahanechah**	**8.03**	**65**	*e*Pn	**Pn**	**22 43 47.1**	**+1.0**
IDAH				*e*		22 43 57.9	
LYLS		**8.37**	**206**	P	**Pn**	**22 43 50.2**	**-0.6**
SMDO	**Samad**	**8.98**	**135**	⇑P	**Pn**	**22 43 59.0**	**-0.1**
	SNR=6.3						
MSL	**Mosul**	**9.57**	**317**	*ex*	x	22 44 08.5	
MSL				*ex*	x	22 45 52.5	
WHFO	**Wadi Hawf**	**11.90**	**168**	⇑P	**Pn**	**22 44 37.4**	**-1.8**
	SNR=14						
ABTO	**Aybut**	**12.38**	**171**	⇓P	**Pn**	**22 44 43.8**	**-2.0**
	SNR=8.3						
RBK	**Rabkut**	**12.39**	**167**	⇓P	**Pn**	**22 44 43.6**	**-2.3**
	SNR=20						
ASF	**Jabal al Asfar**	**12.55**	**285**	Pn	**Pn**	**22 44 45.9**	**-2.0**
	comp=N,0.7nm,0.3s,baz=7.6,slow=15,SNR=4.7						
ASF				Sn	**Sn**	**22 46 58.4**	**-9.4**
	comp=N,0.4nm,0.3s,baz=165,slow=19,SNR=3.2						
ASF	**Jabal al Asfar**	**12.55**	**285**	P	**Pn**	**22 44 45.9**	**-2.0**
ASF						22 46 58.4	
ASF				pmax	pmax		
	comp=Z,1.0nm,0.3s						
MMAI	**Mount Meron Ar**	**13.92**	**288**	Pn	**Pn**	**22 45 04.3**	**-2.4**
	comp=Z,0.4nm,0.3s,baz=104,slow=18,SNR=3.0						
EIL	**Elat**	**14.14**	**274**	Pn	**Pn**	**22 45 07.7**	**-2.1**
	comp=Z,0.3nm,0.3s,baz=72,slow=6.7,SNR=3.3						
KIV	**Kislovodsk**	**15.82**	**337**	*e*P	**Pn**	**22 45 37.9**	**+5.9**
KIV				pmax	pmax		
	comp=Z,8.0nm,1.0s						
KIV	**Kislovodsk**	**15.82**	**337**	*e*Pn	**Pn**	**22 45 32.3**	**+0.3**
	comp=Z,7.7nm,0.9s						
AKTK	**Aktyubinsk**	**21.39**	**12**	P	**P**	**22 46 35.5**	**-1.5**
	comp=Z,2.0nm,0.6s,mb3.6						
AKTO	**Aktyubinsk**	**21.39**	**12**	P	**P**	**22 46 35.5**	**-1.5**
	comp=Z,1.9nm,0.6s,mb3.6,baz=192,slow=11,SNR=6.6						
AKTO	**Aktyubinsk**	**21.39**	**12**	P	**P**	**22 46 35.5**	**-1.5**
AKTO				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb3.6						
AML	**Almayashu**	**21.99**	**49**	P	**P**	**22 46 41.2**	**-2.3**
IDI	**Anoyia**	**22.88**	**291**	P	**P**	**22 46 53.6**	**+0.6**
	comp=Z,3.9nm,0.6s,mb4.0,baz=73,slow=14,SNR=3.0						
MLR	**Muntele Rosu**	**25.37**	**316**	P	**P**	**22 47 17.7**	**+1.1**
	comp=Z,5.5nm,0.5s,mb4.2,baz=316,slow=9.0,SNR=10						
MLR	**Muntele Rosu**	**25.37**	**316**	P	**P**	**22 47 17.7**	**+1.1**
MLR				pmax	pmax		
	comp=Z,4.0nm,0.5s						
AKASG	**Malin Array Be**	**26.73**	**328**	P	**P**	**22 47 29.7**	**+0.8**
	comp=Z,0.3nm,0.3s,mb3.4,baz=135,slow=8.8,SNR=4.2						
AKASG	**Malin Array Be**	**26.73**	**328**	P	**P**	**22 47 29.7**	**+0.8**
BVAR	**Borovoye Array**	**27.27**	**26**	P	**P**	**22 47 32.8**	**-0.9**
	comp=Z,0.9nm,0.5s,mb3.6,baz=221,slow=8.0,SNR=6.1						
BVAR	**Borovoye Array**	**27.27**	**26**	P	**P**	**22 47 32.8**	**-0.8**
BVAR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
KURK	**Kurchatov**	**29.41**	**37**	P	**P**	**22 47 51.6**	**-1.2**
	comp=Z,1.0nm,0.7s,mb3.7,baz=237,slow=9.0

KFJS					S	**Sn**	**23 01 44.5**	**+2.4**
RDF	**Al-Radifah**	**3.27**	**258**	*e*P	**Pn**	**23 01 05.8**	**+1.1**
	baz=259							
RDF				AML	AML	23 01 50.3		
	comp=Z,78nm,0.5s,baz=259							
MIB	**Mutribah**	**3.36**	**274**	*e*P	**Pn**	**23 01 06.5**	**+0.4**
	baz=274							
MIB				AML	AML	23 01 51.5		
	comp=Z,107nm,0.5s,baz=274							
IZEF	**Zefreh**	**3.38**	**16**	*e*Pn	**Pn**	**23 01 06.5**	**+0.2**
IZEF				*e*Sn	**Sn**	**23 01 46.8**	**+0.4**
IZEF				*e*		23 02 16.4		
IMEH	**Mehriz**	**3.42**	**59**	*e*Pn	**Pn**	**23 01 06.9**	**+0.1**
IMEH				*e*		23 01 15.4		
NASN	**Na'in**	**3.43**	**23**	*e*Pn	**Pn**	**23 01 07.1**	**+0.1**
NAY	**Al-Naaiem**	**3.48**	**264**	*e*P	**Pn**	**23 01 08.7**	**+1.1**
	baz=265							
NAY				AML	AML	23 01 55.5		
	comp=Z,45nm,0.5s,baz=265							
RST	**Umm Al-Ruwaisa**	**3.67**	**269**	*e*P	**Pn**	**23 01 10.6**	**+0.4**
	baz=269							
RST				AML	AML	23 02 02.7		
	comp=Z,80nm,0.5s,baz=269							
IKLH	**Kolahrood**	**3.67**	**5**	*e*Pn	**Pn**	**23 01 10.3**	**0.0**
IKLH				*e*		23 02 28.3		
ICHK	**Chekchek**	**3.78**	**46**	*e*Pn	**Pn**	**23 01 11.5**	**-0.3**
ICHK				*e*		23 01 24.1		
BOQSS		**4.10**	**204**	P	**Pn**	**23 01 16.9**	**+0.8**
ISFB	**Sefidab**	**4.77**	**10**	*e*Pn	**Pn**	**23 01 24.5**	**-0.9**
ISFB				*e*		23 02 55.1		
KRBR	**Kerman**	**4.84**	**85**	*e*Pn	**Pn**	**23 01 26.9**	**+0.5**
KRBR				AML	AML	23 02 55.3		
	comp=N,46nm,0.6s							
KRBR				AML	AML	23 03 00.2		
	comp=E,43nm,0.7s							
BNDS	**Bandar-Abbas**	**4.91**	**116**	*e*Pn	**Pn**	**23 01 26.5**	**-0.9**
BNDS				AML	AML	23 02 28.6		
	comp=N,49nm,0.3s							
BNDS				AML	AML	23 02 31.8		
	comp=E,41nm,0.4s							
ASAO	**Ashtian**	**4.99**	**349**	*e*Pn	**Pn**	**23 01 28.7**	**+0.3**
ASAO				Sn	**Sn**	**23 02 24.7**	**-1.3**
IVRN	**Varamin**	**5.35**	**5**	*e*Pn	**Pn**	**23 01 32.8**	**-0.6**
IVRN				*e*		23 02 41.7		
BTHS		**5.59**	**183**	P	**Pn**	**23 01 37.2**	**+0.5**
BTHS		**5.59**	**183**	P	**Pn**	**23 01 37.2**	**+0.5**
BTHS				S	**Sn**	**23 02 40.1**	**-0.8**
IRAZ	**Razeghan**	**5.84**	**350**	*e*Pn	**Pn**	**23 01 40.0**	**-0.1**
IRAZ				*e*		23 02 09.1		
DAMV	**Damavand**	**6.00**	**6**	*e*Pn	**Pn**	**23 01 42.1**	**-0.2**
IFIR	**Firoozkooh**	**6.12**	**12**	*e*Pn	**Pn**	**23 01 43.1**	**-0.8**
IFIR				*e*		23 01 55.2		
IAFJ	**Afjeh**	**6.21**	**4**	*e*Pn	**Pn**	**23 01 45.0**	**-0.1**
IAFJ				*e*		23 02 19.2		
CHTH	**Charan**	**6.24**	**359**	*e*Pn	**Pn**	**23 01 45.8**	**+0.2**
SNGE	**Sanandaj**	**6.33**	**330**	*e*Pn	**Pn**	**23 01 45.7**	**-1.1**
ASYS		**6.40**	**252**	S	**Sn**	**23 02 56.5**	**-4.4**
ASYS		**6.40**	**252**	P	**Pn**	**23 01 46.2**	**-1.5**
HRDDS		**6.87**	**194**	S	**Sn**	**23 03 11.4**	**-1.2**
HRDDS		**6.87**	**194**	P	**Pn**	**23 01 54.9**	**+0.6**
LYLS		**8.37**	**206**	S	**Sn**	**23 03 47.3**	**-2.2**
LYLS		**8.37**	**206**	P	**Pn**	**23 02 14.0**	**-0.9**

*ISK **21** 23:02:34.8, 3779N×2898E, h9km, MD2.9*
*DDA **21** 23:02:34.7, 3783N×2901E, h7km±3km, Md2.3*
*CSEM **21** 23:02:34.2±0.1, 3778N×2900E, h15km, MD2.3, Error ellipse: s-maj=4.7km s-min=2.6km az=81.0*
*ISCJB **21** 23:02:35.2±0.6, 3781N±003×2898E±007, h9km±7km, Error ellipse: s-maj=9.0km s-min=5.5km az=167.0*

ISC 21 23:02:35.3±0.7, 3780N±004×2899E±006, h13km±7km, n8, σ0§78/13, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DENT	**Denizli**	**0.06**	**140**	PG	**Pg**	**23 02 36.9**	**-0.9**
DNZL	**Cakiroluk**	**0.12**	**156**	*i* P	**Pg**	**23 02 38.2**	**-0.3**
DNZL				*i* S	**Sg**	**23 02 40.3**	**-0.4**
KHL	**Karahalli**	**0.67**	**39**	*e*PG	**Pg**	**23 02 48.6**	**+0.2**
GOLH	**Golhisar**	**0.72**	**141**	*i* P	**Pg**	**23 02 49.0**	**-0.4**
GOLH				*i* S	**Sg**	**23 03 00.9**	**+2.1**
KULA	**Kula-Manisa**	**0.76**	**340**	*e*PG	**Pg**	**23 02 49.7**	**-0.3**
KULA				*e*SG	**Sg**	**23 03 01.3**	**+1.3**
YER	**Yerkesik**	**0.87**	**220**	*e*PG	**Pg**	**23 02 51.7**	**-0.4**
AYDN	**Tasoluk**	**0.89**	**261**	*i* P	**Pg**	**23 02 52.8**	**+0.3**
AYDN				*i* S	**Sg**	**23 03 04.5**	**+0.4**
DEMI	**Demirci**	**1.26**	**350**	*i* P	**Pn**	**23 02 57.8**	**-0.9**
DEMI				*i* S	**Sb**	**23 03 14.8**	**-0.3**

*ISCJB **21** 23:16:20.7±0.7, 3789N±003×2296E±006, h8km±9km, Error ellipse: s-maj=8.7km s-min=5.4km az=165.2*
*ATH **21** 23:16:21.1, 3792N×2294E, h7km, MD2.9/7, ML2.6*
*NEIC **21** 23:16:21.1, 3792N×2294E, h7km, ML2.6(ATH), After ATH.*
*CSEM **21** 23:16:21.5±0.3, 3792N×2298E, h2km, ML2.6, Error ellipse: s-maj=8.0km s-min=7.1km az=119.0*
*THE **21** 23:16:21.3, 3793N×2312E, h2km±16km, Error ellipse: s-maj=16.3km s-min=0.4km az=253.0*

ISC 21 23:16:21.1±0.7, 3789N±003×2295E±006, h9km±8km, n17, σ0§40/22, Southern Greece

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LTK	**Loutraki**	**0.14**	**5**	P	**Pg**	**23 16 24.3**	**+0.1**
LTK				S	**Sg**	**23 16 26.8**	**+0.6**
DID	**Didima**	**0.44**	**149**	P	**Pg**	**23 16 29.2**	**-0.5**
DID				S	**Sg**	**23 16 36.0**	**+0.4**
NAIG	**Nisos Aigina**	**0.44**	**107**	*e*Pb	**Pg**	**23 16 30.0**	**+0.2**
NAIG	**Nisos Aigina**	**0.44**	**107**	*e*PB	**Pg**	**23 16 30.0**	**+0.2**
ATH	**Athens Observa**	**0.61**	**82**	*e*Pb	**Pg**	**23 16 32.5**	**-0.4**
ATH				*e*Sb	**Sg**	**23 16 40.7**	**-0.2**
ATH	**Athens Observa**	**0.61**	**82**	*e*PB	**Pg**	**23 16 32.5**	**-0.4**
ATH				*e*SB	**Sg**	**23 16 40.7**	**-0.2**
PTL	**Penteli**	**0.74**	**77**	*e*Pg	**Pg**	**23 16 35.5**	**+0.1**
PTL	**Penteli**	**0.74**	**77**	*e*PG	**Pg**	**23 16 35.5**	**+0.1**
LKR	**Lokris**	**0.76**	**3**	P	**Pg**	**23 16 35.1**	**-0.7**
LKR				S	**Sg**	**23 16 45.8**	**0.0**
LKR	**Lokris**	**0.76**	**3**	*e*Pb	**Pg**	**23 16 35.0**	**-0.8**
LKR	**Lokris**	**0.76**	**3**	*e*PB	**Pg**	**23 16 35.0**	**-0.8**
ITM	**Ithomi**	**1.08**	**229**	*e*Pg	**Pg**	**23 16 41.6**	**-0.3**
ITM	**Ithomi**	**1.08**	**229**	*e*PG	**Pg**	**23 16 41.6**	**-0.3**
VLI	**Veliai**	**1.17**	**181**	*e*Pb	**Pn**	**23 16 44.0**	**+0.4**
VLI	**Veliai**	**1.17**	**181**	*e*PB	**Pn**	**23 16 44.0**	**+0.4**
NEO	**Neokhori**	**1.43**	**8**	*e*Pb	**Pn**	**23 16 47.6**	**+0.3**
NEO	**Neokhori**	**1.43**	**8**	*e*PB	**Pn**	**23 16 47.6**	**+0.3**

*ISCJB **21** 23:49:00.7±0.7, 3739N±006×3609E±005, h4km±7km, Error ellipse: s-maj=11.0km s-min=4.9km az=156.1*
*ISK **21** 23:49:00.2, 3739N×3612E, h12km, ML1.6*
*DDA **21** 23:49:00.6, 3743N×3606E, h7km±4km, Md2.8*
*CSEM **21** 23:49:00.1±0.1, 3742N×3611E, h8km, MD2.8, Error ellipse: s-maj=3.7km s-min=1.9km az=153.0*

ISC 21 23:49:01.2±0.7, 3740N±006×3610E±005, h8km±7km, n9, σ0§71/16, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ANDN	**Andirin**	**0.27**	**48**	*i* P	**Pg**	**23 49 06.0**	**-0.4**
ANDN				*i* S	**Sg**	**23 49 10.8**	**+0.7**
CEYT	**Ceyhan**	**0.48**	**216**	*e*PG	**Pg**	**23 49 10.4**	**0.0**
KMRS	**Kahramanmaras**	**0.65**	**80**	*e*PG	**Pg**	**23 49 13.0**	**-0.6**
KMRS				*e*SG	**Sg**	**23 49 21.9**	**-0.2**
KARA	**Karaisali**	**0.84**	**261**	*e*PG	**Pg**	**23 49 17.5**	**+0.1**
KARA				*e*SG	**Sg**	**23 49 29.1**	**+0.8**
PINB	**Pinarbasi**	**1.30**	**11**	*i* P	**Pn**	**23 49 25.4**	**-0.3**
PINB				*i* S	**Sb**	**23 49 42.6**	**-0.1**
SARI	**SarD1z-Kayseri**	**1.36**	**20**	*e*PG	**Pg**	**23 49 20.6**	**-6.7**
SARI				*e*SG	**Sg**	**23 49 35.6**	**-9.4**
MERS	**Mersin**	**1.36**	**248**	*e*PN	**Pn**	**23 49 26.2**	**-0.4**
BNN	**Bunyan**	**1.46**	**352**	*e*PN	**Pn**	**23 49 27.3**	**-0.6**
BNN				*e*SN	**Sn**	**23 49 47.0**	**-0.3**
AKCD	**Akcadag**	**1.70**	**58**	*e*P	**Pn**	**23 49 30.8**	**-0.4**
AKCD				*i* S	**Sn**	**23 49 55.9**	**+2.7**

*ISCJB **21** 23:51:47.8±1.3, 1343S±0.10×766W±0.2, h80km±13km, mb4.4/4, Error ellipse: s-maj=32.9km s-min=11.4km az=158.5*
*NEIC **21** 23:51:48.8±1.4, 1347S×7665W, h72km±14km, mb4.0/4, Error ellipse: s-maj=28.6km s-min=10.0km az=71.0*
NEIC Felt [III] at Chincha Alta and [II] at Pisco.

ISC 21 23:51:48.6±1.4, 1346S±010×767W±02, h70km±14km, n13, σ0§91/15, mb4.4/4, Near coast of Peru

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
NNA	**Nana**	**1.47**	**355**	*e*Pn	**Pn**	**23 52 14.3**	**+1.0**
NNA				*e*Sn	**Sn**	**23 52 31.1**	**-0.6**
ARE	**Arequipa**	**5.85**	**121**	*e*P	**Pn**	**23 53 21.0**	**+8.2**
ARE				*e*S	**Sn**	**23 54 30.0**	**+12**
LPAZ	**La Paz**	**8.75**	**110**	*e*Pn	**Pn**	**23 53 52.9**	**+0.5**
	1.6nm,0.7s						
LCO	**Las Campanas**	**16.45**	**161**	*e*P	**Pn**	**23 55 33.6**	**-1.4**
	15nm,1.2s						
PLCA	**Paso Flores**	**27.70**	**170**	P	**P**	**23 57 30.3**	**+0.1**
BBSR	**BB Station**	**47.00**	**14**	*e*P	**P**	**00 00 11.5**	**-1.4**
	6.9nm,0.7s,mb4.5						
PMSA	**Palmer Station**	**51.99**	**173**	P	**P**	**00 00 49.4**	**-1.1**
BRNJ	**Basking Ridge**	**53.90**	**2**	*e*P	**P**	**00 01 04.8**	**0.0**
	17nm,0.3s,mb5.5						
SDCO	**Great Sand Dun**	**57.67**	**333**	P	**P**	**00 01 32.2**	**+0.3**
WALA	**Waterton Lakes**	**70.40**	**335**	*e*P	**P**	**00 02 55.3**	**+0.2**
SNAA	**Sanae**	**72.24**	**161**	*e*P	**P**	**00 03 08.0**	**+2.1**
	0.6nm,0.4s,mb3.8						
SBA	**Scott Base**	**82.30**	**191**	*e*P	**P**	**00 04 02.4**	**+0.2**
	2.0nm,0.9s,mb4.0						
MAW	**Mawson**	**94.02**	**166**	P	**P**	**00 04 58.9**	**+0.2**

*IDC **22** 00:02:22.2±1.4, 235S×1394E, h0km, mb3.7/9, mb1 3.9/10, mb1mx3.8/16, mbtmp3.8/10, ML4.2/2, MS3.3/5, Ms1 3.3/5, ms1mx3.0/20, Error ellipse: s-maj=49.6km s-min=17.3km az=86.0*
*NEIC **22** 00:02:27.6±0.9, 241S×1393E, h35km, mb3.8/1, Error ellipse: s-maj=34.0km s-min=8.6km az=87.0*
*ISCJB **22** 00:02:30.6±2.6, 252S±006×1392E±02, h79km±24km, mb3.7/8, Error ellipse: s-maj=31.0km s-min=10.3km az=2.6*

ISC 22 00:02:34.5±2.2, 268S±007×1386E±02, h80km±20km, n17, σ1§10/20, mb3.7/8, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KAKA	**Kakadu**	**11.70**	**211**	*e*P	**Pn**	**00 05 14.7**	**-3.8**
	5.3nm,0.4s						
KAKA				*e*S	**Sn**	**00 07 26.0**	**-1.3**
BATI	**Baumata**	**16.64**	**243**	P	**Pn**	**00 06 28.9**	**+6.1**
	3.9nm,0.3s,baz=259,slow=4.6,SNR=2.8						
WB2	**Warramunga Arr**	**17.66**	**193**	*e*Pn	**Pn**	**00 06 35.8**	**+0.6**
WB2				*e*Sn	**Sn**	**00 09 51.0**	**-0.8**
WRA	**Warramunga Arr**	**17.66**	**193**	P	**Pn**	**00 06 36.1**	**+0.8**
	0.5nm,0.3s,baz=18,slow=12,SNR=15						
WRA				S	**S**	**00 09 45.8**	**-7.0**
	0.2nm,0.3s,baz=7.1,slow=24,SNR=4.9						
CTA	**Charters Tower**	**18.84**	**157**	LR	LR	00 13 59.1	
	comp=Z,148nm,20.5s,baz=16,slow=37						
FITZ	**Fitzroy Crossi**	**19.93**	**219**	*e*P	**Pn**	**00 07 04.3**	**+2.0**
	3.8nm,0.8s						
FITZ	**Fitzroy Crossi**	**19.93**	**219**	P	**Pn**	**00 07 03.5**	**+1.2**
	1.3nm,0.6s,baz=151,slow=17,SNR=3.1						
FITZ				S	**S**	**00 10 40.2**	**+0.2**
	1.3nm,0.8s,baz=156,slow=18,SNR=3.1						
FITZ				LR	LR	00 15 34.1	
	comp=Z,52nm,18.4s,baz=43,slow=38						
ASAR	**Alice Springs**	**21.36**	**192**	P	**P**	**00 07 17.4**	**+2.1**
	2.9nm,0.8s,mb3.6,baz=23,slow=9.2,SNR=13						
ASAR				S		**00 11 07.7**	**-0.4**
	0.2nm,0.4s,baz=23,slow=22,SNR=2.8						
STKA	**Stephens Creek**	**29.18**	**175**	P	**P**	**00 08 27.3**	**-1.0**
	0.9nm,0.6s,mb3.6,baz=331,slow=11,SNR=1.8						
STKA				LR	LR	00 20 01.7	
	comp=Z,135nm,19.5s,baz=200,slow=36						
KSRS	**Korea Array**	**41.15**	**347**	LR	LR	00 26 20.8	
	comp=Z,24nm,22.0s,baz=201,slow=35						
CMAR	**Chiang Mai Arr**	**44.35**	**300**	P	**P**	**00 10 38.2**	**+1.2**
	0.7nm,0.3s,mb3.9,baz=117,slow=7.2,SNR=3.7						
CMAR				LR	LR	00 27 32.9	
	comp=Z,15nm,21.1s,baz=190,slow=34						
SONM	**Songino Array**	**57.65**	**335**	P	**P**	**00 12 15.4**	**-0.9**
	0.2nm,0.4s,mb3.5,baz=143,slow=7.7,SNR=3.1						
MKAR	**Makanchi Array**	**69.71**	**322**	P	**P**	**00 13 36.4**	**+0.7**
	0.7nm,0.7s,mb3.6,baz=108,slow=8.2,SNR=7.6						
ZALV	**Zalesovo Beam**	**71.86**	**330**	P	**P**	**00 13 47.0**	**-1.6**
	0.6nm,0.6s,mb3.6,baz=116,slow=8.6,SNR=3.2						
KURK	**Kurchatov**	**73.64**	**325**	P	**P**	**00 13 59.0**	**-0.2**
	1.2nm,1.0s,mb3.6,baz=112,slow=5.3,SNR=5.4						
KURK	**Kurchatov**	**73.64**	**325**	P	**P**	**00 13 59.0**	**-0.2**
BVAR	**Borovoye Array**	**79.24**	**325**	P	**P**	**00 14 30.2**	**-0.6**
	1.6nm,0.6s,mb4.0,baz=123,slow=5.3,SNR=5.1						

*BJI **22** 00:13:34.2, 3519N×7736E, h13km, mb3.9, ML4.5*
*ISCJB **22** 00:13:36.5±0.3, 3524N±002×7794E±005, h10km, mb3.8/7, Error ellipse: s-maj=5.6km s-min=3.2km az=171.7*
*IDC **22** 00:13:36.6±1.0, 3522N×7802E, h0km, mb3.8/7, mb1 4.0/11, mb1mx3.8/23, mbtmp3.8/11, ML3.6/4, MS3.5/2, Ms1 3.5/2, ms1mx2.6/32, Error ellipse: s-maj=27.2km s-min=17.9km az=68.0*
*NEIC **22** 00:13:43.3±0.4, 3538N×7835E, h35km, mb3.8/2, Error ellipse: s-maj=11.0km s-min=3.9km az=62.0*
*NNC **22** 00:13:46.4±8.9, 3569N×7803E, h70km±118km, mb3.4, mpv4.2, Error ellipse: s-maj=68.5km s-min=44.1km az=165.0*

ISC 22 00:13:39.1±0.3, 3530N±002×7798E±005, h10km, n58, σ1§32/68, mb3.8/7, 6C-4D, Eastern Kashmir

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
THN	**Thein Dam**	**3.43**	**214**	*e*P	**Pg**	**00 14 41.2**	**-3.6**
PONG	**Pong**	**3.75**	**207**	*e*P	**Pn**	**00 14 42.0**	**+5.0**
SDNR	**Sundarnagar**	**3.89**	**193**	*ex*	**Pg**	**00 14 47.5**	**-6.1**
SDNR				*e*SG	**Sg**	**00 15 44.5**	**+0.6**
BHK	**Bhakra**	**4.09**	**199**	*ex*	x	00 15 49.4	
SMLA	**Simla**	**4.22**	**190**	*i* PG	**Pg**	**00 14 58.9**	**-1.1**
SMLA				*i* SG	**Sg**	**00 15 53.7**	**-0.9**
SMLA				*ex*	x	00 16 00.2	
	comp=N,382nm,0.4s						
SMLA				*ex*	x	00 16 01.3	
	comp=E,467nm,0.6s						
DDI	**Dehra Dun**	**4.97**	**179**	*e*P	**Pn**	**00 14 57.0**	**+3.2**
DDI				*ex*	x	00 16 23.0	
SONA	**Sohna**	**7.07**	**186**	*e*P	**Pn**	**00 15 25.9**	**+3.2**
SONA				*e*S	**Sn**	**00 16 42.0**	**-1.1**
KBL	**Kabul**	**7.38**	**267**	*e*Pn	**Pn**	**00 15 31.7**	**+4.8**
	comp=E,28nm,1.0s						
KBL				*e*Sn	**Sn**	**00 16 52.1**	**+1.4**
UCH	**Uchtor**	**7.42**	**340**	*e*Pn	**Pn**	**00 15 31.6**	**+4.1**
	comp=E,14nm,0.6s						
KHET	**Khetri**	**7.44**	**195**	*e*P	**Pn**	**00 15 32.1**	**+4.3**
KHET				*e*S	**Sn**	**00 16 51.2**	**-1.0**
AML	**Almayashu**	**7.60**	**335**	*e*Pn	**Pn**	**00 15 33.6**	**+3.8**
	comp=E,22nm,0.9s						
TKM2	**Tokmak 2**	**7.83**	**347**	⫴Pn	**Pn**	**00 15 38.9**	**+5.9**
	comp=E,18nm,1.1s						
TKM2				⫴Lg		00 17 42.9	
	comp=E,158nm,1.8s						
EKS2	**Erkin-Say**	**8.04**	**337**	*e*Pn	**Pn**	**00 15 41.1**	**+5.1**
	comp=E,6.3nm,0.6s						
DANN	**Dangsing**	**8.49**	**143**	*e*P	**Pn**	**00 15 43.2**	**+1.0**
	comp=E,21nm,0.3s						
KOLN	**Koldanda**	**8.91**	**146**	*e*P	**Pn**	**00 15 49.7**	**+1.9**
	comp=E,31nm,0.5s						
GKN	**Gorkha**	**9.22**	**140**	*e*P	**Pn**	**00 15 52.8**	**+0.6**
	comp=E,63nm,0.4s						
AJM	**Ajmer**	**9.25**	**199**	*e*P	**Pn**	**00 15 56.0**	**+3.4**
KK31	**Karatay Array**	**9.71**	**326**	⫴Pn	**Pn**	**00 16 00.2**	**+1.5**
	comp=E,3.4nm,0.8s,baz=151,slow=14,SNR=30						
KK31				⫴Sn	**Sn**	**00 17 46.7**	**-1.1**
	comp=E,5.2nm,0.7s,baz=155,slow=22,SNR=3.9						
KKN	**Kakani**	**9.73**	**138**	*e*P	**Pn**	**00 15 59.1**	**-0.1**
	comp=E,48nm,0.7s						
DMN	**Daman**	**9.79**	**140**	*e*P	**Pn**	**00 15 59.8**	**-0.1**
	comp=E,20nm,0.4s						
GUN	**Gumba**	**9.98**	**135**	*e*P	**Pn**	**00 16 02.6**	**+0.1**
	comp=E,28nm,0.4s						
PKI	**Pulchoki**	**9.98**	**139**	*e*P	**Pn**	**00 16 02.6**	**+0.1**
	comp=E,38nm,0.7s						
JIRN	**Jiri**	**10.35**	**135**	*e*P	**Pn**	**00 16 08.1**	**+0.5**
	comp=E,51nm,0.4s						
RAMN	**Ramite**	**11.12**	**136**	*e*P	**Pn**	**00 16 17.3**	**-0.9**
	comp=E,20nm,0.4s						
WMQ	**Urumqi**	**11.33**	**38**	P	**Pn**	**00 16 26.5**	**+5.5**
TAPN	**Taplejung**	**11.48**	**131**	*e*P	**Pn**	**00 16 22.8**	**-0.4**
	comp=E,17nm,0.3s						
ODAN	**Odare**	**11.65**	**134**	*e*P	**Pn**	**00 16 24.7**	**-0.7**
	comp=E,26nm,0.4s						
MK31	**Makanchi Array**	**11.93**	**14**	Pn	**Pn**	**00 16 28.6**	**-0.6**
	comp=E,3.8nm,0.7s,baz=196,slow=12,SNR=39						
MK31				⫴Sn	**Sn**	**00 18 37.5**	**-4.7**
	comp=E,22nm,1.1s,baz=168,slow=37,SNR=4.5						
MK31	**Makanchi Array**	**11.93**	**14**	*e*Pn	**Pn**	**00 16 28.7**	**-0.5**
MK31				*e*Sn	**Sn**	**00 18 41.6**	**-0.6**
MKAR	**Makanchi Array**	**11.93**	**14**	Pn	**Pn**	**00 16 28.8**	**-0.4**
	comp=E,0.6nm,0.3s,baz=197,slow=12,SNR=29						
MKAR				Sn	**Sn**	**00 18 36.6**	**-5.6**
	comp=E,0.2nm,0.3s,baz=192,slow=20,SNR=3.4						
MKAR	**Makanchi Array**	**11.93**	**14**	Pn	**Pn**	**00 16 28.8**	**-0.4**
MKAR				Sn	**Sn**	**00 18 36.6**	**-5.6**
LSA	**Lhasa**	**12.44**	**113**	P	**Pn**	**00 16 38.1**	**+1.9**
KURBB	**Kurchatov Arra**	**15.32**	**1**	⫴Pn	**Pn**	**00 17 15.7**	**+0.5**
	comp=E,1.7nm,2.3s						
KURK	**Kurchatov**	**15.41**	**2**	⫴Pn	**Pn**	**00 17 19.0**	**+2.6**
	comp=E,0.1nm,0.3s						
KURK	**Kurchatov**	**15.41**	**2**	Pn	**Pn**	**00 17 13.6**	**-2.8**
	comp=E,0.0nm,0.3s,baz=189,slow=12,SNR=2.7						
KURK				Lg		00 21 42.5	
	comp=E,0.0nm,0.3s,baz=192,slow=26,SNR=4.1						
KURK	**Kurchatov**	**15.41**	**2**	*e*P	**Pn**	**00 17 20.9**	**+4.4**
	comp=E,3.7nm,0.8s						
KURK				Lg		00 21 42.5	
GTA	**Gaotai**	**17.82**	**70**	*e*P	**Pn**	**00 17 50.8**	**+3.6**
GTA				AP	pP	00 17 54.9	+4.2
GTA				XP	sP	00 17 58.4	+6.4
GTA				AMB	AMB		
	comp=Z,4.0nm,0.7s						
VOSK	**Vostochnaya**	**18.11**	**346**	⫴Pn	**Pn**	**00 17 52.6**	**+2.0**
	comp=Z,2.4nm,0.7s						
BVA0	**Borovoye Array**	**18.52**	**345**	⫴Pn	**Pn**	**00 17 56.6**	**+1.1**
	comp=Z,1.0nm,1.1s,baz=151,slow=13,SNR=14						
BVAR	**Borovoye Array**	**18.52**	**345**	P	**Pn**	**00 17 56.3**	**+0.7**
	comp=Z,0.7nm,0.3s,baz=151,slow=12,SNR=13						
BVAR				Lg		00 23 21.8	
	comp=Z,0.2nm,0.3s,baz=148,slow=27,SNR=3.5						
BRVK	**Borovoye**	**18.57**	**345**	*e*P	**Pn**	**00 17 56.2**	**0.0**
	comp=Z,7.6nm,0.7s						
AB31	**Akbulak array**	**19.23**	**322**	Pn	**Pn**	**00 18 02.8**	**-1.5**
	comp=Z,2.7nm,0.8s,baz=120,slow=15,SNR=26						
ZAA0	**Zalesovo Array**	**19.25**	**12**	*e*P	**Pn**	**00 18 03.2**	**-1.2**
ZALV	**Zalesovo Beam**	**19.25**	**12**	P	**Pn**	**00 18 02.0**	**-2.4**
	comp=Z,0.2nm,0.3s,baz=209,slow=11,SNR=8.0						
ZALV				LR	LR	00 26 00.8	
	comp=Z,41nm,18.1s,baz=56,slow=38						
AKTK	**Aktyubinsk**	**20.95**	**322**	P	**P**	**00 18 19.4**	**-2.6**
AKTK				S	**S**	**00 22 08.7**	**-6.5**
AKTO	**Aktyubinsk**	**20.95**	**322**	⫴Pn	**P**	**00 18 21.6**	**-0.3**
	comp=Z,1.1nm,1.0s						
AKTO	**Aktyubinsk**	**20.95**	**322**	P	**P**	**00 18 19.4**	**-2.6**
	comp=Z,2.3nm,0.6s,baz=116,slow=9.7,SNR=7.8						
AKTO				S	**S**	**00 22 08.7**	**-6.5**
	comp=Z,0.8nm,0.5s,baz=103,slow=4.4,SNR=5.0						
SONM	**Songino Array**	**24.52**	**51**	P	**P**	**00 18 59.4**	**+0.9**
	comp=Z,4.1nm,0.8s,mb4.0,baz=245,slow=8.9,SNR=28						
CMAR	**Chiang Mai Arr**	**25.03**	**127**	P	**P**	**00 19 00.8**	**-2.6**
	comp=Z,1.9nm,0.5s,mb3.9,baz=317,slow=9.3,SNR=13						
ARCES	**ARCESS Array B**	**44.46**	**337**	P	**P**	**00 21 50.8**	**+0.9**
	comp=Z,0.8nm,0.4s,mb3.8,baz=102,slow=8.6,SNR=9.8						
NOA	**NORSAR Array B**	**48.73**	**323**	P	**P**	**00 22 26.4**	**+2.9**
	comp=Z,0.8nm,0.8s,mb3.8,baz=97,slow=7.2,SNR=2.5						
NOA	**NORSAR Array B**	**48.73**	**323**	P	**P**	**00 22 26.4**	**+2.9**
ASAJ	**Asahikawa**	**49.33**	**59**	LR	LR	00 45 01.7	
	comp=Z,190nm,19.9s,baz=343,slow=38						
TORD	**Torodi Ar. Bea**	**71.41**	**273**	P	**P**	**00 24 58.8**	**-1.0**
	comp=Z,1.4nm,1.4s,mb3.7,baz=71,slow=4.9,SNR=3.5						
WRA	**Warramunga Arr**	**76.63**	**126**	P	**P**	**00 25 29.6**	**-0.5**
	comp=Z,0.2nm,0.4s,mb3.4,baz=320,slow=6.4,SNR=2.6						
ASAR	**Alice Springs**	**79.01**	**129**	P	**P**	**00 25 42.5**	**-0.9**
	comp=Z,0.1nm,0.3s,baz=324,slow=6.0,SNR=2.9						
YKA	**Yellowknife Ar**	**82.02**	**6**	P	**P**	**00 25 57.9**	**-1.1**
	comp=Z,0.6nm,0.6s,mb3.7,baz=344,slow=5.3,SNR=4.1						
YKA	**Yellowknife

comp=Z,0.9nm,0.7s,mb3.6,baz=100,slow=6.2,SNR=5.4
ZALV LR LR 01 01 48.8
comp=Z,48nm,19.4s,MS3.4,baz=69,slow=36
MKAR Makanchi Array 44.14 304 P **P** **00 44 05.9 -0.2**
comp=Z,1.1nm,0.8s,mb3.6,baz=89,slow=11,SNR=8.7
MKAR LR LR 01 03 07.1
comp=Z,71nm,19.1s,MS3.6,baz=86,slow=37
KDAK Kodiak Island 50.39 40 P **P** **00 44 54.0 -0.7**
comp=Z,13nm,1.0s,mb4.9,baz=225,slow=10.0,SNR=2.3
WRA Warramunga Arr 54.07 186 P **P** **00 45 20.6 -1.7**
comp=Z,0.8nm,0.6s,mb3.8,baz=360,slow=7.6,SNR=5.6
ASAR Alice Springs 57.79 186 P **P** **00 45 48.5 -0.5**
comp=Z,0.3nm,0.4s,mb3.6,baz=11,slow=10,SNR=4.0
ARCES ARCESS Array B 65.98 339 LR LR 01 18 48.1
comp=Z,53nm,18.2s,MS3.8,baz=324,slow=39
YKA Yellowknife Ar 67.13 29 P **P** **00 46 51.0 0.0**
comp=Z,1.8nm,0.9s,mb4.1,baz=308,slow=6.6,SNR=4.5
YKA Yellowknife Ar 67.13 29 P **P** **00 46 51.0 0.0**
NOA NORSAR Array B 76.06 337 P **P** **00 47 44.4 -0.5**
comp=Z,0.9nm,0.8s,mb3.8,baz=45,slow=5.0,SNR=3.9
NOA NORSAR Array B 76.06 337 P **P** **00 47 44.4 -0.5**
NVAR Mina Array Bea 78.12 52 P **P** **00 47 57.9 +1.0**
comp=Z,0.9nm,0.8s,mb3.7,baz=274,slow=5.9,SNR=4.9
RAR Rarotonga 80.03 124 LR LR 01 18 00.7
comp=Z,87nm,19.3s,MS4.1,baz=294,slow=32
PDAR Pinedale Array 80.92 44 P **P** **00 48 12.2 +0.1**
comp=Z,0.5nm,0.9s,mb3.4,baz=304,slow=3.4,SNR=3.8
GERES GERESS Array B 84.12 327 P **P** **00 48 29.4 +0.8**
comp=Z,0.6nm,0.7s,mb3.9,baz=60,slow=5.8,SNR=3.7
TXAR Lajitas Array 93.27 51 P **P** **00 49 13.6 +0.8**
comp=Z,1.2nm,0.8s,mb4.3,baz=287,slow=3.4,SNR=12
TXAR LR LR 01 32 44.0
comp=Z,50nm,18.1s,MS4.0,baz=180,slow=36
TXAR Lajitas Array 93.27 51 P **P** **00 49 13.6 +0.8**
TXAR LR LR 01 32 44.0
LPAZ La Paz 149.65 61 PKPbc PKPbc 00 55 45.8 -2.2
comp=Z,0.6nm,0.6s,baz=333,slow=4.5,SNR=2.2

*IDC **22** 01:01:28.9± 1.6, 4879S×16436E, h0km, mb3.9/5, mb1 4.1/6, mb1mx4.0/12, mbtmp3.9/6, ML4.2/1, MS3.4/3, Ms1 3.4/3, ms1mx3.2/10, Error ellipse: s-maj=48.0km s-min=28.7km az=172.0*
*ISCJB **22** 01:01:29.8± 0.8, 492S± 0.1×1646E± 0.1, h33km, mb3.8/6, MS3.4/3, Error ellipse: s-maj=17.5km s-min=5.5km az=147.4*
*NEIC **22** 01:01:29.4± 0.7, 4910S×16438E, h10km, mb4.1/1, Error ellipse: s-maj=16.3km s-min=6.7km az=148.0*

ISC 22 01:01:32.3±1.0, 492S±01×1646E±02, h37km±17km, n27, σ1§01/26, mb3.8/6, MS3.4/3, Auckland Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WHZ	**Wether Hill Ro**	**3.99**	**37**	P	**Pn**	**01 02 31.3**	**+0.5**
DCZ	**Deep Cove**	**4.08**	**27**	P	**Pn**	**01 02 32.2**	**+0.1**
MLZ	**Mavora Lakes**	**4.54**	**34**	P	**Pn**	**01 02 38.8**	**+0.5**
TUZ	**Tuapeka**	**4.70**	**49**	P	**Pn**	**01 02 41.6**	**+1.1**
TUZ				S	**Sn**	**01 03 34.8**	**+1.1**
MSZ	**Milford Sound**	**5.04**	**29**	*e*P	**Pn**	**01 02 45.8**	**+0.5**
EAZ	**Earnscleugh**	**5.09**	**41**	P	**Pn**	**01 02 46.3**	**+0.4**
WKZ	**Wanaka**	**5.29**	**37**	*e*P	**Pn**	**01 02 49.9**	**+1.1**
JCZ	**Jackson Bay**	**5.85**	**31**	P	**Pn**	**01 02 57.2**	**+0.9**
ODZ	**Otahua Downs**	**5.85**	**48**	P	**Pn**	**01 02 56.3**	**0.0**
ODZ				S	**Sn**	**01 04 00.0**	**-2.0**
LBZ	**Lake Benmore**	**6.14**	**41**	P	**Pn**	**01 02 59.0**	**-1.3**
LBZ				S	**Sn**	**01 04 09.3**	**+0.1**
MCQ	**Macquarie Isla**	**6.38**	**211**	*e*Pn	**Pn**	**01 03 03.1**	**-0.5**
RPZ	**Rata Peaks**	**7.05**	**42**	Pn	**Pn**	**01 03 10.7**	**-2.1**
	4.7nm,0.3s,baz=222,slow=8.4,SNR=14						
RPZ				Sn	**Sn**	**01 04 31.1**	**-0.6**
	10nm,0.3s,baz=23,slow=22,SNR=10.0						
DSZ	**Denniston Nort**	**8.99**	**37**	*e*P	**Pn**	**01 03 39.4**	**0.0**
URZ	**Urewera**	**14.16**	**44**	Pn	**Pn**	**01 04 44.8**	**-5.2**
	0.4nm,0.3s,baz=223,slow=19,SNR=3.1						
URZ				Sn	**Sn**	**01 07 19.7**	**-6.0**
	0.3nm,0.3s,baz=66,slow=20,SNR=2.4						
TOO	**Toolangi**	**18.00**	**303**	*e*P	**Pn**	**01 05 39.3**	**0.0**
STKA	**Stephens Creek**	**24.39**	**307**	P	**P**	**01 06 43.9**	**-3.0**
	1.1nm,0.7s,mb3.4,baz=325,slow=20,SNR=3.1						
STKA				LR	LR	01 15 06.4	
	comp=Z,55nm,19.1s,MS3.1,baz=203,slow=34						
ASAR	**Alice Springs**	**35.01**	**305**	P	**P**	**01 08 21.4**	**+0.3**
	0.7nm,0.6s,mb3.8,baz=137,slow=8.1,SNR=11						
WRA	**Warramunga Arr**	**37.86**	**310**	P	**P**	**01 08 44.3**	**-1.1**
	1.3nm,0.8s,mb3.7,baz=141,slow=7.8,SNR=8.7						
WRA				PcP	PcP	01 11 02.1	+0.9
	0.8nm,0.8s,baz=142,slow=2.5,SNR=5.1						
WRAB	**Tennant Creek**	**37.86**	**310**	P	**P**	**01 08 46.1**	**+0.7**
	3.0nm,0.9s,mb4.0						
FITZ	**Fitzroy Crossi**	**44.04**	**301**	P	**P**	**01 09 36.1**	**-0.2**
	1.2nm,0.7s,mb3.7,baz=165,slow=12,SNR=4.5						
PPT	**Papeete**	**48.52**	**66**	LR	LR	01 26 08.9	
	comp=Z,97nm,19.6s,MS3.8,baz=345,slow=30						
CMAR	**Chiang Mai Arr**	**88.85**	**300**	P	**P**	**01 14 24.2**	**+1.9**
	0.9nm,0.5s,mb4.3,baz=152,slow=4.1,SNR=5.9						
CMAR				LR	LR	02 02 10.8	
	comp=Z,13nm,18.4s,MS3.4,baz=175,slow=41						
MKAR	**Makanchi Array**	**119.16**	**309**	PKP	PKPdf	01 20 17.8	+1.6
	0.3nm,0.6s,baz=114,slow=3.5,SNR=2.7						
TORD	**Torodi Ar. Bea**	**141.41**	**207**	PKhKP		01 20 54.2	
	0.3nm,0.7s,baz=226,slow=1.6,SNR=4.6						
TORD	**Torodi Ar. Bea**	**141.41**	**207**	PKP	PKPdf	01 20 54.2	-5.0
AKASG	**Malin Array Be**	**151.52**	**290**	PKPbc	PKPbc	01 21 22.3	+1.1
	1.7nm,0.6s,baz=90,slow=2.4,SNR=9.6						
ARCES	**ARCESS Array B**	**151.70**	**331**	PKPbc	PKPbc	01 21 23.5	+2.4
	3.7nm,0.6s,baz=93,slow=2.4,SNR=15						

IDC 22 02:00:36.0±3.7, 712S×6918E, h0km, mb3.4/2, mb1 3.6/2, mb1mx3.4/20, mbtmp3.4/2, MS3.4/5, Ms1 3.4/5, ms1mx3.0/31, Error ellipse: s-maj=130.3km s-min=56.7km az=58.0, Chagos Archipelago region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KAPI	**Kappang**	**50.31**	**91**	LR	LR	02 27 02.0	
	comp=Z,44nm,21.6s,baz=180,slow=32						
FITZ	**Fitzroy Crossi**	**55.98**	**107**	LR	LR	02 32 26.4	
	comp=Z,37nm,18.9s,baz=82,slow=34						
KURK	**Kurchatov**	**58.18**	**7**	LR	LR	02 34 17.0	
	comp=Z,24nm,19.3s,baz=165,slow=35						
BVAR	**Borovoye Array**	**59.92**	**1**	LR	LR	02 33 53.3	
	comp=Z,34nm,20.6s,baz=104,slow=33						
SONM	**Songino Array**	**63.80**	**27**	P	P	02 11 10.2	+0.3
	0.4nm,0.6s,baz=207,slow=8.1,SNR=2.5						
WRA	**Warramunga Arr**	**64.28**	**109**	P	P	02 11 13.8	+0.1
	0.3nm,0.7s,baz=276,slow=6.0,SNR=1.7						
TORD	**Torodi Ar. Bea**	**69.98**	**287**	LR	LR	02 42 17.1	
	comp=Z,39nm,18.6s,baz=105,slow=36						
NVAR	**Mina Array Bea**	**148.10**	**11**	PKPbc	PKPbc	02 20 23.7	-0.4
	0.3nm,0.6s,baz=264,slow=0.9,SNR=3.2						

*THR **22** 02:30:59.7± 0.5, 2962N×5116E, h14km± 9km, ML3.2*
*ISCJB **22** 02:31:00.5± 0.7, 2972N± 005×5132E± 006, h10km, Error ellipse: s-maj=8.5km s-min=6.5km az=32.6*
*KISR **22** 02:31:01.3, 2976N×5133E, h42km, ML3.1*
*CSEM **22** 02:31:01.6± 0.2, 2971N×5128E, h15km, ML3.2, Error ellipse: s-maj=8.4km s-min=2.4km az=141.0*

ISC 22 02:31:02.7±0.7, 2976N±005×5126E±006, h10km, n19, σ0§77/23, Southern Iran

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GHIR	**Ghir-Karzin**	**2.11**	**134**	*e*Pg	**Pg**	**02 31 37.5**	**-5.5**
GHIR				AML	AML	02 32 13.4	
	comp=E,196nm,0.4s						
GHIR				AML	AML	02 32 17.6	
	comp=N,168nm,0.4s						
GHIR	**Ghir-Karzin**	**2.11**	**134**	*e*Pg	**Pg**	**02 31 37.5**	**-5.6**
	SNR=90						
UMR	**Umm Al-Rimmam**	**3.09**	**267**	*e*P	**Pn**	**02 31 51.6**	**0.0**
UMR				*e*S	**Sn**	**02 32 28.9**	**+0.3**
UMR	**Umm Al-Rimmam**	**3.09**	**267**	*e*P	**Pn**	**02 31 51.6**	**0.0**
	baz=267						
UMR				*e*S	**Sn**	**02 32 28.9**	**+0.3**
	baz=267						
UMR				AML	AML	02 32 32.4	
	comp=Z,76nm,0.5s,baz=267						
KBD	**Kabd**	**3.17**	**260**	*e*P	**Pn**	**02 31 52.6**	**0.0**
	baz=260						
KBD				AML	AML	02 32 32.3	
	comp=Z,29nm,0.3s,baz=260						
KFJS		**3.30**	**243**	P	**Pn**	**02 31 53.8**	**-0.7**
NASN	**Na'in**	**3.31**	**23**	*e*Pn	**Pn**	**02 31 55.7**	**+1.1**
NASN				*e*Sg	**Sg**	**02 32 47.7**	**-1.3**
RDF	**Al-Radifah**	**3.35**	**257**	*e*P	**Pn**	**02 31 54.6**	**-0.5**
	baz=257						
RDF				AML	AML	02 32 38.4	
	comp=Z,51nm,0.3s,baz=257						
MIB	**Mutribah**	**3.41**	**272**	*e*P	**Pn**	**02 31 55.6**	**-0.4**
MIB				*e*S	**Sn**	**02 32 36.7**	**+0.2**
MIB	**Mutribah**	**3.41**	**272**	*e*P	**Pn**	**02 31 55.6**	**-0.4**
	baz=272						
MIB				*e*S	**Sn**	**02 32 36.6**	**+0.2**
	baz=272						
MIB				AML	AML	02 32 40.5	
	comp=Z,39nm,0.4s,baz=272						
NAY	**Al-Naaiem**	**3.54**	**263**	*e*P	**Pn**	**02 31 57.6**	**-0.2**
	baz=263						
NAY				AML	AML	02 32 44.7	
	comp=Z,22nm,0.5s,baz=263						
BOOSS		**4.22**	**204**	P	**Pn**	**02 32 09.1**	**+2.1**
KRBR	**Kerman**	**4.78**	**86**	AML	AML	02 33 44.8	
	comp=N,16nm,0.5s						
KRBR				AML	AML	02 33 46.9	
	comp=E,17nm,0.7s						
ASAO	**Ashtian**	**4.89**	**348**	*e*Pn	**Pn**	**02 32 16.8**	**+0.5**
ASAO				AML	AML	02 33 22.2	
	comp=N,8.7nm,0.6s						
BTHS		**5.70**	**184**	P	**Pn**	**02 32 27.2**	**-0.2**
DAMV	**Damavand**	**5.89**	**6**	*e*Pn	**Pn**	**02 32 31.0**	**+1.1**
SNGE	**Sanandaj**	**6.26**	**329**	*e*Pn	**Pn**	**02 32 34.8**	**-0.3**
HRDDS		**6.99**	**194**	P	**Pn**	**02 32 44.6**	**-0.6**
LYLS		**8.49**	**206**	P	**Pn**	**02 33 05.1**	**-0.7**

IDC 22 02:46:03.6±29.0, 1761S×17899W, h687km±427km, mb3.0/6, mb1 3.4/6, mb1mx3.1/16, mbtmp3.0/6, Error ellipse: s-maj=154.3km s-min=83.0km az=14.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**38.29**	**241**	P	P	02 52 29.6	-0.1
	2.6nm,0.5s,baz=40,slow=8.9,SNR=10						
WRA	**Warramunga Arr**	**44.14**	**259**	P	P	02 53 15.3	-0.2
	1.2nm,0.5s,baz=96,slow=7.3,SNR=50						
ASAR	**Alice Springs**	**44.34**	**254**	P	P	02 53 17.4	+0.4
	11nm,0.6s,baz=87,slow=8.5,SNR=102						
NVAR	**Mina Array Bea**	**79.59**	**44**	P	P	02 57 03.1	+0.6
	0.4nm,0.7s,baz=231,slow=8.0,SNR=3.2						
TXAR	**Lajitas Array**	**86.30**	**58**	P	P	02 57 36.0	+0.1
	0.4nm,0.7s,baz=205,slow=5.5,SNR=5.1						
PDAR	**Pinedale Array**	**87.51**	**44**	P	P	02 57 41.4	+0.2
	0.4nm,0.6s,baz=253,slow=0.9,SNR=3.4						

*IDC **22** 02:58:07.5± 1.4, 3423N×2675E, h0km, mb3.6/5, mb1 3.7/7, mb1mx3.6/21, mbtmp3.6/7, ML4.0/2, MS3.5/1, Ms1 3.5/1, ms1mx2.6/24, Error ellipse: s-maj=35.3km s-min=22.9km az=144.0*
*NEIC **22** 02:58:09.0, 3407N×2679E, h10km, MD3.6(ATH), After ATH.*
*CSEM **22** 02:58:10.6± 0.1, 3413N×2687E, h30km, MD3.6, Error ellipse: s-maj=3.3km s-min=1.6km az=51.0*
*ISCJB **22** 02:58:10.8± 0.4, 3414N± 003×2687E± 004, h45km± 9km, mb3.5/5, Error ellipse: s-maj=7.0km s-min=4.6km az=138.9*
*HLW **22** 02:58:10.4, 3434N×2674E, h29km, Mb4.1*
*GII **22** 02:58:16.8± 0.0, 3412N×2757E, h0km, ML3.7/2*
*ATH **22** 02:58:21.1, 3575N×2631E, h34km, MD3.6/3*

ISC 22 02:58:12.4±0.4, 3420N±004×2682E±005, h37km±10km, n58, σ0§81/64, mb3.5/5, 8C-9D, Crete

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ZKR	**Zakros**	**1.04**	**332**	P	**Pn**	**02 58 29.6**	**-0.9**
KARP	**Karpathos**	**1.38**	**12**	*e*Pn	**Pn**	**02 58 35.4**	**+0.3**
KARP	**Karpathos**	**1.38**	**12**	*e*PN	**Pn**	**02 58 35.4**	**+0.3**
NPS	**Neapolis**	**1.46**	**317**	*e*Pn	**Pn**	**02 58 35.9**	**-0.3**
NPS	**Neapolis**	**1.46**	**317**	*e*PN	**Pn**	**02 58 35.9**	**-0.3**
LAST	**Lasithi**	**1.47**	**311**	P	**Pn**	**02 58 36.4**	**+0.1**
IDI	**Anoyia**	**1.93**	**305**	P	**Pn**	**02 58 42.9**	**+0.2**
ARG	**Arkhangelos**	**2.28**	**28**	*e*Pn	**Pn**	**02 58 48.5**	**+1.0**
ARG	**Arkhangelos**	**2.28**	**28**	*e*PN	**Pn**	**02 58 48.5**	**+1.0**
VAM	**Vamos**	**2.47**	**300**	*e*Pn	**Pn**	**02 58 51.0**	**+0.9**
VAM	**Vamos**	**2.47**	**300**	*e*PN	**Pn**	**02 58 51.0**	**+0.9**
SLUM		**3.02**	**207**	⇓*e*P	**Pn**	**02 58 57.1**	**-0.6**
SLUM				S	**Sn**	**02 59 30.4**	**-2.2**
SLUM		**3.02**	**207**	⇓*e*P	**Pn**	**02 58 57.1**	**-0.6**
SLUM				S	**Sn**	**02 59 29.9**	**-2.6**
CSS	**Prodhromos**	**5.42**	**80**	*e*Pn	**Pn**	**02 59 30.9**	**+0.2**
CSS	**Prodhromos**	**5.42**	**80**	*e*PN	**Pn**	**02 59 30.9**	**+0.2**
HMYD	**Mayadein**	**5.54**	**141**	⇓P	**Pn**	**02 59 32.8**	**+0.4**
SQR		**5.68**	**138**	P	**Pn**	**02 59 34.5**	**+0.2**
AYT	**Al 'Ayyat**	**5.80**	**139**	P	**Pn**	**02 59 35.9**	**+0.1**
AWBH		**6.12**	**163**	⇓P	**Pn**	**02 59 40.5**	**+0.1**
GLL	**Jalalah**	**6.20**	**137**	⇑P	**Pn**	**02 59 41.3**	**-0.2**
AMAG	**Maghara**	**6.46**	**122**	⇑P	**Pn**	**02 59 45.3**	**+0.4**
RSH		**6.66**	**117**	P	**Pn**	**02 59 47.9**	**+0.2**
SUZ		**6.70**	**129**	⇓P	**Pn**	**02 59 48.5**	**+0.2**
ZAF		**6.91**	**134**	P	**Pn**	**02 59 51.3**	**+0.1**
ZNM		**7.05**	**131**	⇑P	**Pn**	**02 59 53.1**	**0.0**
ZNM				S	**Sn**	**03 01 08.7**	**-3.2**
ZNM		**7.05**	**131**	⇑P	**Pn**	**02 59 53.1**	**0.0**
ZNM				S	**Sn**	**03 01 08.7**	**-3.2**
HFRF	**Wahat Farafira**	**7.14**	**169**	P	**Pn**	**02 59 54.8**	**+0.5**
HRSH	**Kfar Ka'horesh**	**7.23**	**100**	⇓P	**Pn**	**02 59 47.9**	**-7.6**
HRSH	**Kfar Ka'horesh**	**7.23**	**100**	⇓P	**Pn**	**02 59 47.9**	**-7.6**
RTMI	**Retamim**	**7.34**	**113**	Pn	**Pn**	**02 59 56.7**	**-0.4**
MMLI	**Mount Malkishu**	**7.41**	**101**	Pn	**Pn**	**02 59 58.1**	**+0.1**
KSDI	**Kefar Szold**	**7.43**	**95**	Pn	**Pn**	**02 59 58.2**	**-0.2**
HMDT	**Nahal Hemdat**	**7.55**	**102**	Pn	**Pn**	**02 59 58.7**	**-1.2**
DSI	**Dead Sea**	**7.66**	**108**	Pn	**Pn**	**03 00 01.0**	**-0.5**
DSI				Sn	**Sn**	**03 01 24.1**	**-2.9**
MZDA	**Masada**	**7.75**	**109**	Pn	**Pn**	**03 00 01.7**	**-1.0**
GRB	**Gharib**	**7.81**	**138**	⇑P	**Pn**	**03 00 03.3**	**-0.2**
KRMI	**Paran Flat**	**7.84**	**119**	Pn	**Pn**	**03 00 04.4**	**+0.5**
ASUT		**7.91**	**148**	⇑P	**Pn**	**03 00 05.7**	**+0.9**
PRNI	**Paran**	**7.92**	**117**	Pn	**Pn**	**03 00 04.7**	**-0.3**
PRNI				Sn	**Sn**	**03 01 29.4**	**-3.9**
MBRI	**Mt Berech**	**8.15**	**120**	Pn	**Pn**	**03 00 09.3**	**+1.1**
EIL	**Elat**	**8.25**	**121**	Pn	**Pn**	**03 00 10.7**	**+1.1**
TR2		**8.27**	**133**	⇓P	**Pn**	**03 00 09.5**	**-0.4**
HKAT	**Jabal Katrina**	**8.34**	**131**	⇑*e*P	**Pn**	**03 00 11.6**	**+0.8**
HKAT	**Jabal Katrina**	**8.34**	**131**	⇑*e*P	**Pn**	**03 00 11.6**	**+0.8**
HDK1	**Dakhla**	**8.91**	**165**	P	**Pn**	**03 00 19.3**	**+0.7**
HHRG	**Al Ghardaqah**	**9.06**	**138**	⇓P	**Pn**	**03 00 20.8**	**+0.2**
AKRG	**Al Kharijah**	**9.23**	**159**	P	**Pn**	**03 00 23.7**	**+0.6**
AKRG	**Al Kharijah**	**9.23**	**159**	P	**Pn**	**03 00 23.7**	**+0.6**
HDK2	**Wahat Dakhilah**	**10.02**	**169**	P	**Pn**	**03 00 34.6**	**+0.9**
HDK2				S	**Sn**	**03 02 20.6**	**-4.4**
AKASG	**Malin Array Be**	**16.59**	**5**	Pn	**Pn**	**03 02 00.1**	**-1.9**
	1.6nm,0.3s,baz=190,slow=11,SNR=6.5						
GERES	**GERESS Array B**	**17.59**	**330**	P	**Pn**	**03 02 14.2**	**-0.3**
	0.1nm,0.3s,baz=139,slow=14,SNR=3.2						
ESDC	**Sonseca Array**	**25.13**	**292**	P	**P**	**03 03 33.0**	**-0.9**
	0.5nm,0.5s,mb3.3,baz=85,slow=10,SNR=5.1						
NOA	**NORSAR Array B**	**28.69**	**344**	P	**P**	**03 04 05.7**	**+0.1**
	0.4nm,0.6s,mb3.4,baz=150,slow=12,SNR=2.8						
TORD	**Torodi Ar. Bea**	**30.97**	**233**	P	**P**	**03 04 26.5**	**+0.3**
	0.4nm,0.4s,mb3.6,baz=34,slow=8.7,SNR=16						
TORD	**Torodi Ar. Bea**	**30.97**	**233**	P	**P**	**03 04 26.5**	**+0.3**
MKAR	**Makanchi Array**	**43.17**	**56**	P	**P**	**03 06 09.8**	**+0.4**
	0.7nm,0.6s,mb3.6,baz=276,slow=5.9,SNR=4.9						
TSUM	**Tsumeb**	**53.82**	**191**	LR	LR	03 31 56.5	
	comp=Z,44nm,18.0s,baz=316,slow=38						
SONM	**Songino Array**	**59.04**	**51**	P	**P**	**03 08 09.5**	**+1.0**
	0.2nm,0.5s,mb3.4,baz=279,slow=8.2,SNR=3.7						

*ISCJB **22** 02:58:51.2± 0.4, 3954N± 002×2890E± 002, h2km± 4km, Error ellipse: s-maj=3.4km s-min=3.0km az=158.0*
*CSEM **22** 02:58:51.0± 0.1, 3953N×2889E, h5km, MD3.1, Error ellipse: s-maj=1.5km s-min=1.4km az=90.0*
*DDA **22** 02:58:51.2, 3953N×2886E, h10km± 4km, Md3.3*
*ISK **22** 02:58:51.3, 3953N×2889E, h7km, MD3.1*

ISC 22 02:58:51.9±0.4, 3953N±002×2890E±002, h7km± 3km, n40, σ0§54/51, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DST	**Dursunbey**	**0.22**	**289**	*e*Pg	**Pg**	**02 58 56.2**	**-0.1**
DST				*e*Sg	**Sg**	**02 58 59.4**	**+0.2**
DEMI	**Demirci**	**0.51**	**196**	*i* P	**Pg**	**02 59 01.9**	**+0.2**
DEMI				*i* S	**Sg**	**02 59 08.6**	**+0.2**
GDZ	**Gediz**	**0.64**	**134**	*i* P	**Pg**	**02 59 04.2**	**+0.1**
GDZ				*i* S	**Sg**	**02 59 12.6**	**+0.2**
ULDT	**Uludag**	**0.64**	**17**	*i* P	**Sg**	**02 59 11.7**	**-0.8**
BALB	**Balikesir**	**0.79**	**278**	*e*Pg	**Pg**	**02 59 07.6**	**+0.4**
BALB				*e*Sg	**Sg**	**02 59 18.1**	**+0.7**
KCT	**Karacabey**	**0.84**	**331**	*e*Pg	**Pg**	**02 59 07.9**	**-0.2**
KCT				*e*Sg	**Sg**	**02 59 19.3**	**+0.3**
GEMT	**Gemlik**	**0.93**	**14**	*e*Pg	**Pg**	**02 59 09.3**	**-0.4**
GEMT				*e*Sg	**Sg**	**02 59 22.4**	**+0.5**
CAVI	**Cavuskoy**	**0.99**	**47**	*e*Pg	**Pg**	**02 59 10.8**	**-0.1**
BALY	**Balya**	**1.01**	**282**	*i* P	**Pg**	**02 59 11.1**	**-0.2**
BALY				*i* S	**Sg**	**02 59 23.3**	**-1.0**
KULA	**Kula-Manisa**	**1.03**	**190**	*e*Pg	**Pg**	**02 59 11.6**	**-0.2**
ALT	**Altintas**	**1.06**	**116**	*e*PG	**Pg**	**02 59 11.4**	**-0.8**
AKHS	**Akhisar**	**1.06**	**232**	*i* P	**Pg**	**02 59 12.2**	**-0.2**
AKHS				*i* S	**Sg**	**02 59 26.6**	**+0.4**
AKS	**Akhisar**	**1.06**	**232**	*e*PG	**Pg**	**02 59 12.5**	**+0.1**
YLV	**Yalova**	**1.09**	**19**	*e*PN	**Pn**	**02 59 12.8**	**-0.9**
ADVT	**Abdulvahap**	**1.11**	**35**	*e*PN	**Pn**	**02 59 12.8**	**-1.1**
BNT	**Bandirma**	**1.11**	**318**	*e*PN	**Pn**	**02 59 12.8**	**-1.1**
EDC	**Edincik**	**1.14**	**316**	*e*PN	**Pn**	**02 59 13.3**	**-1.0**
BORA	**Eskisehir**	**1.25**	**73**	*i* P	**Pn**	**02 59 15.6**	**-0.3**
BORA				*i* S	**Sg**	**02 59 32.8**	**+0.6**
KHL	**Karahalli**	**1.30**	**158**	*e*PN	**Pn**	**02 59 15.6**	**-0.9**
GPA	**Golpazari**	**1.32**	**55**	*e*PN	**Pn**	**02 59 16.4**	**-0.5**
HRT	**Hereke**	**1.42**	**24**	*e*PN	**Pn**	**02 59 18.6**	**+0.5**
MRMT	**Marmara Adasi**	**1.46**	**317**	*e*PN	**Pn**	**02 59 18.9**	**+0.1**
ESKT	**Eskisehir**	**1.51**	**90**	*i* P	**Sn**	**02 59 39.8**	**+0.4**
GULT	**Gulveren**	**1.53**	**54**	*e*PN	**Pn**	**02 59 20.6**	**+0.8**
ISK	**Istanbul-Kandi**	**1.54**	**5**	*e*PN	**Pn**	**02 59 20.4**	**+0.6**
SHUT	**Suhut-Afyon**	**1.62**	**127**	*e*PN	**Pn**	**02 59 21.4**	**+0.4**
BGKT	**Bozgazkoy**	**1.65**	**357**	*e*PN	**Pn**	**02 59 21.4**	**-0.0**
CTT	**Catalca**	**1.65**	**348**	*e*PN	**Pn**	**02 59 21.8**	**+0.4**
IZM	**Izmir**	**1.71**	**229**	*e*PN	**Pn**	**02 59 21.6**	**-0.5**
SILT	**Sile**	**1.72**	**19**	*e*PN	**Pn**	**02 59 23.0**	**+0.7**
KLYT	**Kilyos**	**1.72**	**4**	*e*PN	**Pn**	**02 59 22.6**	**+0.2**
AYVA	**Ayvalik**	**1.72**	**263**	*i* P	**Pn**	**02 59 22.3**	**0.0**
AYVA				*i* S	**Sn**	**02 59 45.1**	**+0.5**
CTKS	**Kestanelik-??a**	**1.73**	**350**	*e*PN	**Pn**	**02 59 23.2**	**+0.8**
RKY	**Sarkoy-Tekirda**	**1.75**	**312**	*e*PN	**Pn**	**02 59 22.1**	**-0.6**
SLVT	**Silivri**	**1.77**	**343**	*e*PN	**Pn**	**02 59 23.3**	**+0.2**
BLCB	**Balcova**	**1.84**	**232**	*e*PN	**Pn**	**02 59 24.4**	**+0.3**
HENT	**Hendek**	**2.00**	**49**	*i* P	**Pg**	**02 59 29.9**	**-0.4**
HENT				*i* S	**Sg**	**02 59 56.9**	**+0.6**
EZN	**Ezine**	**2.00**	**279**	*e*PN	**Pn**	**02 59 26.5**	**+0.3**
KIZT	**Kizilcal**	**2.41**	**105**	*e*PN	**Pn**	**02 59 31.4**	**-0.3**
EDRB	**Edirne**	**2.83**	**325**	*e*PN	**Pn**	**02 59 38.0**	**+0.4**

IDC 22 03:14:51.0±1.8, 1961S×6714E, h0km, mb3.7/5, mb1 3.8/5, mb1mx3.6/20, mbtmp3.7/5, MS3.2/1, Ms1 3.4/1, ms1mx2.8/26, Error ellipse: s-maj=57.6km s-min=33.1km az=88.0, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MAW	**Mawson**	**48.06**	**182**	P	P	03 23 31.8	-0.1
	1.5nm,0.8s,baz=360,slow=8.7,SNR=4.1						
CMAR	**Chiang Mai Arr**	**49.04**	**41**	LR	LR	03 40 21.7	
	comp=Z,22nm,18.6s,baz=210,slow=31						
ASAR	**Alice Springs**	**61.69**	**107**	P	P	03 25 10.2	-1.1
	0.5nm,0.8s,baz=257,slow=7.3,SNR=3.6						
WRA	**Warramunga Arr**	**62.81**	**103**	P	P	03 25 20.0	+1.1
	0.8nm,0.9s,baz=260,slow=5.7,SNR=4.6						
ZALV	**Zalesovo Be

IDC **22** *04:28:08.3±0.7, 21.59S×168.45E, h0km, mb4.5/13, mb1 4.6/13, mb1mx4.6/17, mbtmp4.5/13, MS4.3/22, Ms1 4.2/22, ms1mx4.1/29, Error ellipse: s-maj=23.5km s-min=18.7km az=128.0*

SZGRF **22** *04:28:08.5, 22.29S×168.89E, h33km, New Caledonia*

ISCJB **22** *04:28:09.9±2.2, 21.53S±0.06×168.42E±0.05, h17km±14km, mb4.9/39, MS4.4/31, Error ellipse: s-maj=10.4km s-min=6.5km az=145.1*

BJI **22** *04:28:10.1, 21.09S×168.44E, h10km, mB5.3, mb5.0, Ms5.1, Msz4.9*

NEIC **22** *04:28:10.1±0.3, 21.43S×168.50E, h10km, mb5.0/15, Error ellipse: s-maj=11.7km s-min=8.0km az=147.0*

GCMT **22** *04:28:10.1±0.2, 21.52S×168.35E, h14km, MW5.1/93, Moment Tensor Solution. s45,c59; s93,c130; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-5.30±.21; $M_{\theta\theta}$2.87±.14; $M_{\phi\phi}$2.43±.15; $M_{r\theta}$-1.58±.31; $M_{\theta\phi}$-2.08±.10; $M_{\phi r}$0.28±.35; Best double couple: $M_0$5.26100×10^{16} NP1:ϕ_s319.00000°,δ38.00000°,λ-78.00000°. NP2: ϕ_s124.00000°,δ53.00000°,λ-99.00000°. Principal axes: T 4.9260, Plg8.0000°, Azm220.0000°; N 0.6700, Plg8.0000°, Azm129.0000°; P -5.5960, Plg79.0000°, Azm356.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

LDG **22** *04:28:11.5±0.2, 21.12S×167.86E, h10km, Mb5.2/4, Ms4.4/9 Error ellipse: s-maj=20.5km s-min=3.2km az=136.0*

MOS **22** *04:28:13.2±1.2, 21.46S×168.25E, h33km, mb4.9/9, Error ellipse: s-maj=14.8km s-min=11.8km az=30.0*

DJA **22** *04:29:14, 21.78S×165.40E, h450km, mb4.6/10*

ISC 22 04:28:10.8±2.2**, 21.58S**±0.06×**168.40E**±0.04**, h13**km±12km**, h13**km±1.5km**:pP-P, n179,** σ1.00/98**, mb4.9**/39**, MS4.4**/31**, 6C-2D, Loyalty Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PLUM	Mont Dore	1.77	247	eP	Pn	04 28 40.0	-1.2
PLUM				eS	Sn	04 29 02.7	-0.9
PLUM				AMP		04 29 12.8	
	comp=Z,16µm,5.8s						
LASL	Noumea	1.85	249	eP	Pn	04 28 41.5	-0.6
LASL				eS	Sn	04 29 05.2	-0.2
LASL				AMP		04 29 10.0	
	comp=Z,40µm,3.1s						
DZM	Mont Dzumac	1.88	255	eP	Pn	04 28 41.6	-1.0
DZM				eS	Sn	04 29 03.9	-2.4
DZM				AMP		04 30 01.6	
	comp=Z,32µm,12.8s						
NORM	Noumea	1.89	250	eP	Pn	04 28 42.3	-0.5
NORM				eS	Sn	04 29 07.3	+0.7
NORM				AMP		04 29 08.2	
	comp=Z,24µm,10.2s						
ONTRN	Noumea	1.95	248	eP	Pn	04 28 43.2	-0.4
ONTRN				eS	Sn	04 29 08.5	+0.6
ONTRN				AMP		04 29 11.4	
	comp=Z,14µm,0.9s						
NOUC	Port Laguerre	2.02	255	eP	Pn	04 28 43.5	-1.0
NOUC				eS	Sn	04 29 10.2	+0.6
HNR	Honiara	14.56	325	LR	LR	04 35 36.4	
	comp=Z,670nm,19.6s,baz=156,slow=31						
ARMA	Armidale	17.44	236	eP	Pn	04 32 16.7	+2.9
URZ	Urewera	18.24	158	LR	LR	04 38 16.6	
	comp=Z,1µm,19.4s,baz=348,slow=33						
AFI	Afiamalu	20.35	71	LR	LR	04 39 12.2	
	comp=Z,695nm,18.5s,MS4.0,baz=241,slow=33						
CTA	Charters Tower	20.75	270	eP	P	04 32 54.1	+2.7
	comp=Z,29nm,0.9s						
CTA				eS	S	04 36 54.9	+12
CTA	Charters Tower	20.75	270	P	P	04 32 53.5	+2.0
	comp=Z,20nm,0.9s,baz=85,slow=12,SNR=10.0						
CTA				LR	LR	04 40 31.8	
	comp=Z,2µm,18.5s,MS4.5,baz=94,slow=36						
CTA	Charters Tower	20.75	270	eP	P	04 32 54.1	+2.7
CTA				eS	S	04 36 54.9	+12
CTA				pmax	pmax		
	comp=Z,29nm,0.9s						
CTAO	Charters Tower	20.75	270	eP	P	04 32 53.3	+1.9
CTAO				pmax	pmax		
	comp=Z,114nm,1.5s						
CTAO	Charters Tower	20.75	270	eP	P	04 32 53.3	+1.9
	comp=Z,114nm,1.5s						
CNB	Canberra Magne	21.57	227	eP	P	04 33 03.8	+3.7
PMG	Port Moresby	23.74	297⇑	iP	P	04 33 22.1	-1.0
COEN	Coen	25.17	283	eP	P	04 33 36.2	+0.1
	comp=Z,72nm,1.7s,mb4.9						
STKA	Stephens Creek	25.98	241	eP	P	04 33 45.6	+2.3
	comp=Z,8.5nm,0.9s,mb4.3						
STKA				eS	S	04 38 23.7	+10
STKA	Stephens Creek	25.98	241	P	P	04 33 43.5	+0.2
	comp=Z,9.8nm,0.8s,mb4.4,baz=99,slow=10,SNR=12						
STKA				LR	LR	04 44 02.4	
	comp=Z,896nm,18.5s,MS4.3,baz=59,slow=37						
RAR	Rarotonga	29.61	95	LR	LR	04 43 25.5	
	comp=Z,248nm,18.5s,MS3.9,baz=271,slow=31						
WB2	Warramunga Arr	31.85	267	eP	P	04 34 36.4	+0.7
WRAB	Tennant Creek	31.85	267	P	P	04 34 35.5	-0.2
	comp=Z,102nm,1.4s,mb5.5,SNR=6.1						
WRAB	Tennant Creek	31.85	267	eP	P	04 34 35.5	-0.2
WRAB				pmax	pmax		
	comp=Z,41nm,1.4s,mb5.1						
WRAB	Tennant Creek	31.85	267	eP	P	04 34 35.5	-0.2
	comp=Z,41nm,1.4s,mb5.1						
WRA	Warramunga Arr	31.86	267	P	P	04 34 34.6	-1.2
	comp=Z,2.5nm,0.6s,mb4.3,baz=94,slow=8.2,SNR=50						
WRA				PcP	PcP	04 37 26.2	-0.3
	comp=Z,1.4nm,1.0s,baz=100,slow=2.9,SNR=3.9						
WRA				LR	LR	04 46 44.8	
	comp=Z,1µm,21.5s,MS4.5,baz=100,slow=35						
WRA	Warramunga Arr	31.86	267	P	P	04 34 34.6	-1.2
WRA						04 37 26.2	
ASAR	Alice Springs	31.87	260	P	P	04 34 35.6	-0.2
	comp=Z,5.4nm,0.8s,mb4.4,baz=82,slow=8.9,SNR=32						
KAKA	Kakadu	35.41	278	eP	P	04 35 02.4	-4.3
FORT	Forrest	37.18	247	eP	P	04 35 26.1	+4.4
	comp=Z,24nm,0.9s,mb5.0						
TBI	Tubuai	38.88	101	eS	S	04 41 33.9	-0.3
	comp=Z,107nm,24.8s						
TBI				eLQ		04 44 31.9	
	comp=Z,700nm,26.0s						
TBI				eLR	LR	04 46 10.7	
	comp=Z,316nm,29.2s						
PPT	Papeete	39.71	92	eS	S	04 41 43.8	-2.9
	comp=Z,167nm,25.2s						
PPT				eLQ		04 44 52.2	
	comp=Z,1µm,28.0s						
PPT				eLR	LR	04 46 30.1	
	comp=Z,695nm,27.0s,baz=254						
PPT	Papeete	39.71	92	LR	LR	04 47 41.4	
	comp=Z,396nm,21.4s,MS4.2,baz=260,slow=30						
FITZ	Fitzroy Crossi	40.28	267	eP	P	04 35 48.0	+0.1
	comp=Z,16nm,0.6s,mb4.9						
FITZ				e	pP	04 35 53.5	+1.6
FITZ				eS	S	04 42 00.0	+4.6
FITZ	Fitzroy Crossi	40.28	267	LR	LR	04 52 49.5	
	comp=Z,618nm,18.1s,MS4.5,baz=102,slow=37						
GUMO	Guam	41.90	324	LR	LR	04 51 45.5	
	comp=Z,188nm,19.4s,MS4.0,baz=130,slow=34						
BATI	Baumata	44.34	278	LR	LR	04 55 05.6	
	comp=Z,423nm,19.1s,MS4.4,baz=132,slow=36						
MBWA	Marble Bar	45.18	261	eP	P	04 36 28.1	+0.4
	comp=Z,31nm,0.9s,mb5.1						
KLBR	Kellerberrin	46.03	246	eP	P	04 36 33.5	-0.8
	comp=Z,90nm,1.5s,mb5.5						
NWAO	Narrogin (SRO)	46.48	245	LR	LR	04 55 04.4	
	comp=Z,1µm,21.3s,MS4.8,baz=90,slow=35						
KAPI	Kappang	49.89	282	eP	P	04 37 03.9	-0.5
TAOE	Nuku Hiva Isla	51.01	84	eS	S	04 44 27.2	-2.9
	comp=Z,972nm,26.6s						
TAOE				eLR	LR	04 51 46.1	
	comp=Z,2µm,26.4s						
RKT	Rikitea	52.11	103	eLR	LR	04 52 24.2	
	comp=Z,222nm,30.2s						
SBA	Scott Base	56.33	180	eP	P	04 37 52.6	+1.7
CASY	Casey	57.67	204	eP	P	04 38 02.5	+1.9
	comp=Z,15nm,0.8s,mb5.1						
KKM	Kota Kinabalu	58.05	292	eP	P	04 38 04.2	+0.2
JHJ	Hachijo jima 2	60.87	333	LR	LR	05 03 46.1	
	comp=Z,127nm,18.8s,MS4.1,baz=183,slow=35						
KSM	Kuching	61.16	284	eP	P	04 38 25.6	+0.1
JOW	Kunigami	61.85	319	LR	LR	05 00 40.2	
	comp=Z,99nm,19.8s,MS4.0,baz=254,slow=32						
MJAR	Matsushiro Arr	64.47	333	P	P	04 38 46.4	-0.6
	comp=Z,0.7nm,0.4s,mb4.1,baz=175,slow=7.7,SNR=5.3						
MIR	Mirnyy	64.59	205	eP	P	04 38 50.0	+2.5
MIR				pmax	pmax		
	comp=Z,100nm,1.5s,mb5.6						
YHNB	Yeheng	64.82	313	eP	P	04 38 49.6	0.0
	comp=Z,64nm,1.3s,mb5.5						
ERM	Erimo	67.45	340	eP	P	04 39 05.6	-0.5
QSPA	South Pole Qui	68.48	180	P	P	04 39 12.5	+0.3
	comp=Z,13nm,1.1s,mb4.9,baz=11,slow=2.6,SNR=17						
ASAJ	Asahikawa	69.52	340	LR	LR	05 05 55.1	
	comp=Z,189nm,18.5s,MS4.4,baz=54,slow=33						
KSRS	Korea Array	70.00	327	P	P	04 39 21.8	-0.3
	comp=Z,2.1nm,0.8s,mb4.1,baz=138,slow=6.3,SNR=6.7						
KSRS				LR	LR	05 09 20.6	
	comp=Z,69nm,18.7s,MS3.9,baz=35,slow=35						
INCN	Inchon	70.69	326	eP	P	04 39 26.1	-0.3
	comp=Z,44nm,1.4s,mb5.2						
NJ2	Nanjing	71.36	317	eP	P	04 39 31.6	+1.1
NJ2				AMB	AMB		
	comp=Z,20nm,0.5s,mb5.3						
WHN	Wuhan	73.35	313	eP	P	04 39 42.5	0.0
MDJ	Mudanjiang	74.81	332	P	P	04 39 51.0	+0.3
MDJ				AMB	AMB		
	comp=Z,10.0nm,1.3s,mb4.6						
MDJ				AMB	AMB		
	comp=Z,247nm,6.2s						
PETK	Petropavlovsk-	74.95	353	P	P	04 39 51.2	0.0
	comp=Z,27nm,1.1s,mb5.1,baz=116,slow=6.8,SNR=8.5						
PETK				LR	LR	05 09 47.3	
	comp=Z,99nm,20.3s,MS4.1,baz=144,slow=33						
HABR	Khabarovsk	75.85	338	eP	P	04 39 52.1	-4.5
MAW	Mawson	75.98	202	P	P	04 39 57.3	+0.1
	comp=Z,0.7nm,0.4s,mb4.0,baz=108,slow=6.7,SNR=4.6						
MAW				LR	LR	05 08 19.5	
	comp=Z,215nm,21.3s,MS4.4,baz=325,slow=32						
MAW	Mawson	75.98	202	eP	P	04 39 57.9	+0.7
MAW				pmax	pmax		
	comp=Z,16nm,1.5s						
MAW	Mawson	75.98	202	eP	P	04 39 57.9	+0.7
	comp=Z,16nm,1.5s,mb4.7						
CN2	Changchun	76.06	329	eP	P	04 39 59.5	+1.7
CN2				eXP	sP	04 40 06.5	+2.9
CN2				eS	S	04 49 41.9	+1.0
CN2				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.9						
GYA	Guiyang	76.53	306⇑	iP	P	04 40 01.9	+1.0
GYA				PP	PP	04 42 55.8	+2.5
GYA				S	S	04 49 47.3	+0.5
GYA				SKS		04 50 08.9	
GYA				SS	SS	04 54 45.0	+2.6
GYA				AMB	AMB		
	comp=Z,20nm,1.0s,mb5.0						
GYA				AMB	AMB		
	comp=Z,140nm,5.9s						
GYA				LR	LR		
	comp=N,590nm,22.2s,MS5.0						
GYA				LR	LR		
	comp=E,470nm,23.4s,MS5.0						
GYA				LR	LR		
	comp=Z,530nm,20.6s,MS4.8						
BJI	Beijing	78.27	322	P	P	04 40 11.0	+0.6
BJI				S	S	04 50 06.1	+0.9
BJI				AMB	AMB		
	comp=Z,14nm,0.8s,mb4.9						
CMAR	Chiang Mai Arr	78.76	295	P	P	04 40 14.7	+1.1
	comp=Z,1.5nm,0.3s,mb4.4,baz=122,slow=4.4,SNR=16						
CMAR	Chiang Mai Arr	78.76	295	i P	P	04 40 14.6	+1.0
CMAR				pmax	pmax		
	comp=Z,2.0nm,0.3s						
KMI	Kunming	78.86	303	P	P	04 40 15.5	+1.5
KMI				AP	pP	04 40 18.8	+0.6
KMI				XP	sP	04 40 19.9	+0.2
KMI				PP	PP	04 43 16.1	+3.3
KMI				S	S	04 50 12.5	+0.4
KMI				SS	SS	04 55 20.9	+3.4
KMI				AMB	AMB		
	comp=Z,20nm,1.1s,mb5.0						
KMI				AMB	AMB		
	comp=Z,145nm,3.5s						
KMI				LR	LR		
	comp=N,93nm,16.6s,MS4.4						
KMI				LR	LR		
	comp=E,95nm,14.5s,MS4.4						
KMI				LR	LR		
	comp=Z,117nm,16.6s,MS4.3						
CHTO	Chiang Mai	78.92	295	eP	P	04 40 13.6	-0.9
XAN	Xi'an	79.12	313	P	P	04 40 15.3	+0.1
XAN				AP	pP	04 40 25.3	+5.8
XAN				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb4.7						
XAN				AMB	AMB		
	comp=Z,111nm,6.6s						
CD2	Chengdu	81.05	308	eP	P	04 40 28.8	+3.1
CD2				AP	pP	04 40 33.1	+3.2
CD2				XP	sP	04 40 35.9	+4.4
CD2				PP	PP	04 43 36.8	+5.8
CD2				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.8						
CD2				AMB	AMB		
	comp=Z,40nm,5.2s						
CD2				LR	LR		
	comp=N,240nm,16.4s,MS4.8						
CD2				LR	LR		
	comp=E,320nm,18.2s,MS4.8						
CD2				LR	LR		
	comp=Z,180nm,15.2s,MS4.5						
HHC	Hu-ho-hao-te	81.49	320	eP	P	04 40 28.9	+1.1
HHC				AP	pP	04 40 33.6	+1.5
HHC				XP	sP	04 40 36.0	+2.4
HHC				PP	PP	04 43 37.8	+3.4
HHC				S	S	04 50 40.5	+1.3
HHC				XS	sS	04 50 47.0	+0.8
HHC				AMB	AMB		
	comp=Z,14nm,1.0s,mb4.8						
HHC				AMB	AMB		
	comp=Z,125nm,7.4s						
HHC				LR	LR		
	comp=N,238nm,15.5s,MS4.9						
HHC				LR	LR		
	comp=E,316nm,16.1s,MS4.9						
HHC				LR	LR		
	comp=Z,198nm,18.4s,MS4.5						
SYO	Syowa Base	82.48	196⇓	eP	P	04 40 30.8	-1.8
HIA	Hailar	82.74	330	eP	P	04 40 32.6	-1.6
LZH	Lanzhou	83.72	313	eP	P	04 40 40.5	+0.9
LZH				AP	pP	04 40 44.5	+0.7
LZH				XP	sP	04 40 47.8	+2.5
LZH				PP	PP	04 43 54.4	+1.5
LZH				S	S	04 51 02.0	-0.2
LZH				XS	sS	04 51 07.1	-2.1
LZH				SS	SS	04 56 26.3	-3.5
LZH				AMB	AMB		
	comp=Z,42nm,1.5s,mb5.3						
LZH				AMB	AMB		
	comp=Z,110nm,4.3s						
LZH				LR	LR		
	comp=N,380nm,14.7s						
LZH				LR	LR		
	comp=Z,740nm,13.6s,MS5.2						
SEY	Seymchan	85.18	353⇓	iP	P	04 40 45.7	-0.6
SNAA	Sanae	86.80	183	eP	P	04 40 53.6	-0.8
SNAA				e	pP	04 40 56.0	-2.7
SNAA				e		04 41 01.5	
SNAA	Sanae	86.80	183⇑	iP	P	04 40 53.6	-0.8
SNAA	Sanae	86.80	183	eP	P	04 40 54.0	-0.5
	comp=Z,10nm,1.0s,mb5.0						
VNA3	Neumayer Olymp	87.41	181	eP	P	04 40 56.6	-0.8
VNA3				e	pP	04 40 58.8	-2.9
VNA3				e		04 41 03.7	
VNA2	Neumayer--Watz	87.70	181	eP	P	04 40 58.1	-0.7
	baz=189,slow=3.5						
VNA2				e		04 40 59.9	
VNA2				e		04 41 04.9	
SHL	Shillong	87.76	298	eP	P	04 41 00.5	+0.6
VNA1	Neumayer--Stat	87.99	181	eP	P	04 40 59.4	-0.8
VNA1				e	pP	04 41 01.4	-3.1
VNA1				e		04 41 06.9	
GTA	Gaotai	88.17	314	eP	P	04 41 02.4	+0.9
GTA				AP	pP	04 41 06.5	+0.7
GTA				XP	sP	04 41 09.8	+2.5
GTA				AMB	AMB		
	comp=Z,6.0nm,1.7s,mb4.5						
SONM	Songino Array	88.62	323	P	P	04 41 03.3	-0.1
	comp=Z,3.4nm,0.9s,mb4.7,baz=144,slow=4.4,SNR=15						
SONM				LR	LR	05 15 37.9	
	comp=Z,95nm,20.1s,MS4.2,baz=119,slow=32						
YAK	Yakutsk	88.86	343	eP	P	04 41 03.9	-0.3
BILL	Bilibino	89.37	359⇑	iP	P	04 41 06.8	+0.3
BILL				i S	S	04 51 38.8	-17
BILL				pmax	pmax		
	comp=Z,77nm,1.6s,mb5.8						
YBH	Yreka Blue Hor	89.52	44	P	P	04 41 07.8	0.0
	comp=Z,1.7nm,0.7s,mb4.5,baz=198,slow=3.0,SNR=5.9						
NVAR	Mina Array Bea	90.93	49	P	P	04 41 14.4	-0.1
	comp=Z,1.8nm,0.7s,mb4.5,baz=227,slow=8.2,SNR=14						
ZAK	Zakamensk	91.73	324	eP	P	04 41 16.6	-1.3
ZAK				pmax	pmax		
	comp=Z,5.0nm,1.3s,mb4.7						
IMA2	Indian Mountai	91.97	15	eP	P	04 41 18.4	-0.2
TLY	Talaya	92.24	326	eP	P	04 41 20.5	+0.3
TLY				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.8						
COLA	College	92.50	17	eP	P	04 41 18.3	-2.8
COLD	Coldfoot	93.73	15	eP	P	04 41 26.8	+0.1
	comp=Z,6.3nm,1.0s,mb5.0						
DAWY	Dawson	94.45	20	eP	P	04 41 29.4	-0.7
DAU	Daniels Canyon	96.72	49	eP	P	04 41 41.1	+0.1
TIXI	Tiksi	96.86	348	eP	P	04 41 40.7	-0.2
PLCA	Paso Flores	97.30	139	LR	LR	05 19 20.3	
	comp=Z,40nm,18.2s,MS3.9,baz=219,slow=32						
WMQ	Urumqi	98.25	314	P	P	04 41 47.6	-0.3
WMQ				AP	pP	04 41 52.6	+0.4
WMQ				XP	sP	04 41 54.6	+0.9
WMQ				PP	PP	04 45 49.9	+2.0
WMQ				SKS		04 52 23.8	
WMQ				eS	S	04 53 11.1	-4.2
WMQ				AMB	AMB		
	comp=Z,6.0nm,0.5s,mb5.4						
WMQ				AMB	AMB		
	comp=Z,54nm,5.8s						
WMQ				LR	LR		
	comp=N,64nm,20.5s,MS4.1						
WMQ				LR	LR		
	comp=E,22nm,24.2s,MS4.1						
TXAR	Lajitas Array	98.56	62	LR	LR	05 17 43.9	
	comp=E,225nm,22.0s,MS4.6,baz=5.0,slow=30						
PDAR	Pinedale Array	98.77	48	LR	LR	05 16 46.2	
	comp=E,120nm,21.4s,MS4.4,baz=258,slow=30						
MKAR	Makanchi Array	102.85	315	P	Pdif	04 42 07.9	-0.4
	comp=E,0.3nm,0.3s,baz=100,slow=6.8,SNR=6.4						
MKAR				PP	PP	04 46 23.1	+0.5
	comp=E,0.2nm,0.3s,baz=117,slow=7.5,SNR=5.3						
RST	Umm Al-Ruwaisa	127.01	291	eP	PKPdf	04 47 13.5	-1.6
RST				AMb	AMB	04 47 16.8	
	comp=Z,20nm,1.2s						
ARCES	ARCESS Array B	127.11	345	PKP	PKPdf	04 47 13.7	-0.4
	comp=Z,4.9nm,0.8s,baz=5.7,slow=1.2,SNR=10						
AKASG	Malin Array Be	136.90	323	PKP	PKPdf	04 47 30.6	-2.5
	comp=Z,0.4nm,0.3s,baz=61,slow=1.8,SNR=5.0						
NOA	NORSAR Array B	137.48	344	PKP	PKPdf	04 47 33.0	-0.8
	comp=Z,0.8nm,0.7s,baz=30,slow=2.0,SNR=4.0						
NOA	NORSAR Array B	137.48	344	PKP	PKPdf	04 47 33.0	-0.8
KOLS	Kolonicke sedl	141.68	324	ePKP	PKPdf	04 47 42.2	+0.4
VYHS	Vyhne	143.79	325	ePKP	PKPdf	04 47 44.0	-1.6
DPC	Dobruska-Polom	143.87	329	ePKIKP	PKPdf	04 47 45.3	-0.4
DPC				MLR	MLR		
	comp=Z,600nm,15.8s,MS5.5						
KOLL	Kolacno	143.97	326	ePKP	PKPdf	04 47 44.7	-1.2
PVCC	Panska Ves	144.56	331	ePKP	PKPdf	04 47 46.4	-0.5
BRG	Berggiesshubel	144.59	332	ePKIKP	PKPdf	04 47 45.7	-1.2
BRG				pmax	pmax		
	comp=Z,9.0nm,1.1s						
BRG	Berggiesshubel	144.59	332	ePKPbc	PKPdf	04 47 45.8	-1.1
BRG	Berggiesshubel	144.59	332	ePKP	PKPdf	04 47 45.7	-1.2
	comp=Z,16nm,1.1s						
CLL	Collm	144.68	333	ePKIKP	PKPdf	04 47 45.0	-2.0
CLL				pmax	pmax		
	comp=Z,7.0nm,0.6s						
CLL	Collm	144.68	333	ePKPpre		04 47 44.0	
CLL				ePKPdf	PKPdf	04 47 45.0	-2.0
	comp=Z,7.0nm,0.6s						
MODS	Modra-Piesok	144.68	326	ePKP	PKPdf	04 47 45.8	-1.3
FBE	Freiberg	144.81	332	ePKPbc	PKPdf	04 47 46.5	-0.8
PRU	Pruhonice	144.95	330	ePKP	PKPdf	04 47 46.5	-1.1
TREC	Trest	144.98	329	ePKP	PKPdf	04 47 48.2	+0.6
VAY	Valandovo	145.15	312	ePKP	PKPdf	04 47 44.8	-3.4
CLZ	Clausthal	145.32	336	ePKPbc	PKPbc	04 47 48.3	+0.4
TANN	Tannenbergstha	145.57	333	ePKPbc	PKPbc	04 47 49.0	+0.2
WERD	Werda	145.61	333	ePKPbc	PKPbc	04 47 49.0	+0.1
GUNZ	Gunzen	145.66	333	ePKPbc	PKPbc	04 47 49.4	+0.3
CONA	Conrad Observa	145.70	327⇑	iPKPab	PKPab	04 47 49.3	-0.2
	comp=Z,32nm,1.5s						
WERN	Wernitzgruen	145.70	332	ePKPbc	PKPbc	04 47 49.5	+0.3
CSNA	Conrad Observa	145.70	327⇑	iPKPab	PKPab	04 47 49.4	-0.2
	comp=Z,28nm,1.4s						
NKC	Novy Kostel	145.71	332	ePKP	PKPdf	04 47 48.6	-0.2
MOX	Moxa	145.75	334	ePKPbc	PKPbc	04 47 49.1	-0.2
IBBN	Ibbenburen	145.88	339	ePKPbc	PKPbc	04 47 49.8	+0.1
KHC	Kasperske Hory	146.00	330	ePKP	PKPdf	04 47 50.0	+0.6
KHC				ex	x	04 48 05.5	
KRUS	Krusevo	146.03	313	ePKP	PKPdf	04 47 48.8	-0.9
MANZ	Manzenberg	146.04	332	ePKPbc	PKPbc	04 47 50.5	+0.3
GEC2	GERESS Array S	146.14	330	ePKPbc	PKPbc	04 47 50.5	-0.1
GERES	GERESS Array B	146.14	330	PKPbc	PKPbc	04 47 50.3	-0.3
	comp=Z,3.9nm,0.6s,baz=46,slow=3.9,SNR=22						
ROTZ	Rotzenmuhle	146.16	332	ePKPbc	PKPbc	04 47 51.0	+0.4
UBBA	Unterbreizbach	146.27	335	ePKPbc	PKPbc	04 47 50.8	-0.1
WET	Wettzell	146.31	331	ePKPbc	PKPbc	04 47 51.5	+0.4
GRF	Grafenberg Arr	146.64	333	ePKPbc	PKPbc	04 47 52.3	+0.3
TNS	Taunus Mts	147.34	336	ePKPbc	PKPbc	04 47 54.1	+0.1
BOJS	Bojanci	147.56	324	i PKPdf	PKPbc	04 47 55.1	+0.3
VISS	Visnje	147.60	324	i PKPdf	PKPbc	04 47 55.9	+1.0
MEM	Membach	147.90	339	PKPbc	PKPbc	04 47 55.6	+0.1
JAVS	Javornik	147.96	325	i PKPdf	PKPbc	04 47 55.5	-0.3
STU	Stuttgart	148.20	334	ePKPbc	PKPbc	04 47 56.5	+0.1
BCLA	Clavier	148.30	339	PKPbc	PKPbc	04 47 56.1	-0.4
WLF	Walferdange	148.65	338	PKPbc	PKPbc	04 47 57.8	+0.3
WLF	Walferdange	148.65	338	ePKPbc	PKPbc	04 47 57.8	+0.3
GIVF	Givet	148.73	339	ePKP1	PKPbc	04 47 57.5	-0.2
	comp=Z,18nm,0.7s						
DOU	Dourbes	148.81	340	PKPbc	PKPbc	04 47 57.7	-0.2
BFO	Black Forest	148.90	334	ePKPbc	PKPbc	04 47 57.6	-0.6
BAIF	Baives	148.96	340	ePKP1	PKPbc	04 47 58.2	-0.1
CDF	Champ du Feu	149.26	335	ePKP1	PKPbc	04 47 58.8	-0.3
HINF	Hinteralfeld	149.91	335	ePKP1	PKPbc	04 47 59.4	-1.3
	comp=Z,38nm,1.3s						
HAU	Haudompre	149.95	336	ePKP1	PKPbc	04 48 00.4	-0.4
	comp=Z,19nm,0.8s						
HAU				eMLR	MLR		
	comp=Z,91nm,20.8s,MS4.2						
HAU	Haudompre	149.95	336	ePKP	PKPbc	04 48 00.4	-0.4
HAU				LR	LR		
	comp=Z,90nm,20.8s,MS4.5						
MEZF	Maizieres J'vi	150.02	338	ePKP1	PKPbc	04 48 01.2	+0.3
	comp=Z,27nm,0.6s						
CABF	La Chapelle	151.19	334	ePKP1	PKPbc	04 48 03.9	+0.1
FLN	La Foliniere	151.46	345	ePKP1	PKPbc	04 48 03.7	-0.7
	comp=Z,25nm,0.8s						
FLN				eMLR	MLR		
	comp=Z,114nm,19.0s,MS4.4						
LOR	Lormes	151.49	338	ePKP1	PKPbc	04 48 04.2	-0.3
	comp=Z,21nm,0.8s						
LOR				eMLR	MLR		
	comp=Z,89nm,19.8s,MS4.3						
LDF	La Druitiere	151.53	344	ePKP1	PKPbc	04 48 03.8	-0.7
	comp=Z,9.5nm,0.7s						
SSF	Saint Saulge	151.79	338	ePKP1	PKPbc	04 48 04.9	-0.3
	comp=Z,13nm,0.7s						
LPL	La Plagne	151.79	332	ePKP1	PKPbc	04 48 05.4	+0.2
	comp=Z,11nm,0.8s						
LPG	La Plagne	151.80	332	ePKP1	PKPbc	04 48 05.5	+0.3
	comp=Z,9.9nm,0.7s						
GRR	Gorron	151.90	345	ePKP1	PKPbc	04 48 04.8	-0.6
AVF	Avril sur Loir	152.08	338	ePKP1	PKPbc	04 48 06.0	+0.2
BNI	Bardonecchia	152.18	332	ePKIKP	PKPbc	04 48 06.7	+0.6
SGMF	Saint Gilles	152.42	347	ePKP1	PKPbc	04 48 05.8	-0.7
	comp=Z,16nm,0.8s						
BGF	Bois d'Agland	152.46	338	ePKP1	PKPbc	04 48 06.3	-0.4
	comp=Z,11nm,0.8s						
ROSF	Rostrenen	152.48	348	ePKP1	PKPbc	04 48 05.8	-0.9
ORIF	Oris-en-Rattie	152.63	332	ePKP1	PKPbc	04 48 06.9	-0.2
	comp=Z,7.7nm,0.7s						
ORIF				eMLR	MLR		
	comp=Z,139nm,18.5s,MS4.5						
TCF	Toulx Ste Croi	152.91	339	ePKP1	PKPbc	04 48 07.2	-0.5
	comp=Z,10nm,0.9s						
MFF	Saint Martin d	153.36	342	ePKP1	PKPbc	04 48 08.2	-0.5
TORD	Torodi Ar. Bea	164.80	239	PKP	PKPdf	04 48 14.8	-0.6
	comp=Z,3.2nm,1.2s,baz=340,slow=1.0,SNR=8.6						
TORD				PKPab	PKPab	04 49 08.8	-2.4
	comp=Z,0.4nm,0.8s,baz=86,slow=3.7,SNR=2.6						

IDC 22 04:41:21.8±3.6, 329S×9974E, h0km, mb3.8/6, mb1 3.9/6, mb1mx3.7/20, mbtmp3.8/6, Error ellipse: s-maj=150.8km s-min=20.4km az=54.0, Southwest of Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**37.59**	**119**	P	P	04 48 38.6	+0.2
	0.6nm,0.6s,baz=291,slow=8.2,SNR=12						
ASAR	**Alice Springs**	**38.72**	**125**	P	P	04 48 47.6	-0.3
	0.4nm,0.6s,baz=301,slow=8.2,SNR=5.4						
SONM	**Songino Array**	**51.25**	**6**	P	P	04 50 27.2	0.0
	1.4nm,0.5s,baz=188,slow=9.7,SNR=9.8						
MKAR	**Makanchi Array**	**52.20**	**345**	P	P	04 50 35.1	+0.8
	1.8nm,0.6s,baz=151,slow=8.8,SNR=14						
KURK	**Kurchatov**	**56.77**	**344**	P	P	04 51 05.9	-1.6
	0.8nm,0.8s,baz=157,slow=6.7,SNR=3.9						
ZALV	**Zalesovo Beam**	**58.38**	**350**	P	P	04 51 18.9	+0.1
	1.1nm,0.8s,baz=181,slow=5.9,SNR=5.1						

MOS ***22*** *05:08:57.0±1.0, 42.24N×143.02E, h73km, mb4.0/5, Error ellipse: s-maj=23.3km s-min=19.2km az=100.0*

ISCJB ***22*** *05:08:58.1±0.5, 42.01N±0.05×142.57E±0.05, h67km±4km, mb3.7/7, Error ellipse: s-maj=8.8km s-min=5.8km az=156.5*

NEIC ***22*** *05:08:59.4±0.9, 42.18N×142.96E, h76km±9km, mb4.1/1, Error ellipse: s-maj=24.9km s-min=15.6km az=97.0*

NEIC Recorded [1 JMA] in south-central Hokkaido.

JMA ***22*** *05:08:59.2±0.2, 42.05N×142.61E, h60km±2km, M3.7*

JMA Felt I J1.

IDC ***22*** *05:09:00.6±2.2, 42.14N×142.87E, h85km±16km, mb3.4/6, mb1 3.5/8, mb1mx3.4/21, mbtmp3.4/8, Error ellipse: s-maj=38.9km s-min=15.9km az=96.0*

ISC 22 05:08:59.0±0.5, 4202N±005×14256E±005, h60km±4km, n29, σ0§42/38, mb3.7/7, 4C-5D, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNBK	**Urakawa-nobuka**	**0.30**	**28**	⇑P	**Pn**	**05 09 08.9**	**-0.3**
JNBK				*e*S	**Sn**	**05 09 16.5**	**0.0**
ERM	**Erimo**	**0.44**	**90**	*e*PN	**Pn**	**05 09 10.5**	**+0.1**
JEM	**Erimo**	**0.44**	**90**	⇑P	**Pn**	**05 09 10.5**	**+0.1**
JEM				*e*S	**Sn**	**05 09 18.4**	**-0.3**
JBT2	**Biratori 2**	**0.78**	**349**	⇓P	**Pn**	**05 09 14.0**	**-0.2**
JBT2				*e*S	**Sn**	**05 09 25.2**	**-0.2**
JCH	**Churui**	**0.84**	**45**	⇑P	**Pn**	**05 09 14.8**	**-0.2**
JCH				*e*S	**Sn**	**05 09 26.5**	**-0.3**
JFR	**Furan**	**1.15**	**1**	P	**Pn**	**05 09 18.6**	**-0.4**
JKB	**Kayabe**	**1.15**	**264**	⇓P	**Pn**	**05 09 19.2**	**+0.2**
JKB				*e*S	**Sn**	**05 09 34.1**	**+0.2**
JEW	**Eniwo**	**1.17**	**315**	⇓P	**Pn**	**05 09 19.4**	**+0.2**
JNB	**Noboribetsu**	**1.22**	**292**	⇓P	**Pn**	**05 09 19.4**	**-0.5**
JNB				*e*S	**Sn**	**05 09 35.3**	**-0.2**
JOB	**Onbets**	**1.29**	**46**	⇑P	**Pn**	**05 09 21.6**	**+0.7**
JOB				*e*S	**Sn**	**05 09 38.3**	**+1.0**
JOT	**Ohata**	**1.30**	**241**	⇓P	**Pn**	**05 09 21.3**	**+0.3**
JAB	**Ashibetsu**	**1.51**	**351**	P	**Pn**	**05 09 24.0**	**+0.2**
JAR	**Ashorobuto**	**1.56**	**34**	P	**Pn**	**05 09 24.3**	**-0.2**
JAR				*e*S	**Sn**	**05 09 43.3**	**-0.4**
ASAJ	**Asahikawa**	**2.10**	**1**	P	**Pn**	**05 09 32.7**	**+0.9**
	34nm,0.3s,baz=208,slow=11,SNR=48						
ASAJ				S	**Sn**	**05 09 56.9**	**+0.1**
	11nm,0.3s,baz=97,slow=27,SNR=4.2						
MJAR	**Matsushiro Arr**	**6.42**	**213**	P	**Pn**	**05 10 36.0**	**+5.0**
	0.6nm,0.3s,baz=27,slow=14,SNR=3.9						
MJAR	**Matsushiro Arr**	**6.42**	**213**	PN	**Pn**	**05 10 36.0**	**+5.0**
MJAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
KSRS	**Korea Array**	**12.15**	**253**	P	**Pn**	**05 11 55.1**	**+5.9**
	comp=Z,0.3nm,0.3s,baz=66,slow=14,SNR=4.3						
SONM	**Songino Array**	**26.09**	**295**	P	**P**	**05 14 27.3**	**+0.5**
	comp=Z,0.5nm,0.4s,mb3.4,baz=64,slow=8.2,SNR=4.2						
SONM	**Songino Array**	**26.09**	**295**	P	**P**	**05 14 27.3**	**+0.5**
SONM				pmax	pmax		
	comp=Z,1.0nm,0.4s						
ZALV	**Zalesovo Beam**	**39.38**	**308**	P	**P**	**05 16 22.5**	**+0.1**
	comp=Z,1.0nm,0.5s,mb3.8,baz=87,slow=7.6,SNR=7.6						
ZALV	**Zalesovo Beam**	**39.38**	**308**	P	**P**	**05 16 22.5**	**+0.1**
ZALV				pmax	pmax		
	comp=Z,1.0nm,0.5s,mb3.8						
MKAR	**Makanchi Array**	**42.40**	**298**	P	**P**	**05 16 47.2**	**-0.2**
	comp=Z,0.3nm,0.3s,mb3.5,baz=81,slow=9.0,SNR=4.8						
TKM2	**Tokmak 2**	**48.19**	**295**	*e*P	**P**	**05 17 33.9**	**+0.7**
TKM2				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb4.0						
TKM2	**Tokmak 2**	**48.19**	**295**	*e*P	**P**	**05 17 33.9**	**+0.7**
	comp=Z,1.4nm,0.6s,mb4.2						
WRA	**Warramunga Arr**	**62.11**	**189**	P	**P**	**05 19 13.3**	**-0.3**
	comp=Z,0.5nm,0.7s,mb3.7,baz=5.3,slow=6.8,SNR=5.4						
WRA	**Warramunga Arr**	**62.11**	**189**	P	**P**	**05 19 13.3**	**-0.3**
WRA				pmax	pmax		
	comp=Z,1.0nm,0.7s						
NOA	**NORSAR Array B**	**69.94**	**337**	P	**P**	**05 20 02.8**	**-0.6**
	comp=Z,1.1nm,0.8s,mb3.8,baz=35,slow=6.3,SNR=3.5						
NOA	**NORSAR Array B**	**69.94**	**337**	P	**P**	**05 20 02.8**	**-0.6**
NOA				pmax	pmax		
	comp=Z,1.0nm,0.8s						
AKASG	**Malin Array Be**	**70.92**	**322**	P	**P**	**05 20 08.7**	**-0.8**
	comp=Z,0.4nm,0.3s,mb3.8,baz=41,slow=7.4,SNR=3.6						

TRN ***22*** *05:52:30.8, 1152N×6159W, h11km, MD4.0, M4.1(FDF)*

TRN Felt Trinidad.

ISCJB ***22*** *05:52:31.1±0.3, 1151N±002×6184W±003, h51km±6km, mb3.7/4, Error ellipse: s-maj=4.7km s-min=2.7km az=20.2*

NEIC ***22*** *05:52:31.2, 1152N×6157W, h12km, MD4.0(TRN), After TRN.*

NEIC Felt in northern Trinidad.

IDC ***22*** *05:52:31.7±0.9, 1163N×6188W, h36km±7km, mb3.4/4, mb1 3.7/6, mb1mx3.5/20, mbtmp3.5/6, ML3.4/2, MS2.9/3, Ms1 3.0/3, ms1mx2.7/24, Error ellipse: s-maj=22.4km s-min=16.8km az=145.0*

FUNV ***22*** *05:52:33.0, 1135N×6195W, h7km, MW3.5*

ISC 22 05:52:32.1±0.3, 1150N±002×6180W±003, h38km±8km, h38km±.7km: pP-P, n54, σ1§03/81, mb3.7/4, 13C-5D, Windward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GRGR	**Grenville**	**0.65**	**13**	*e*Pn	**Pn**	**05 52 42.9**	**-1.9**
GRGR				*e*Sn	**Sn**	**05 52 50.3**	**-3.6**
GRW	**Mount Saint Ca**	**0.67**	**12**	⇑*i*P	**Pn**	**05 52 44.2**	**-1.0**
GRHS	**Sauteurs**	**0.74**	**13**	⇑*e*P	**Pn**	**05 52 45.3**	**-0.8**
GRHS				*e*S	**Sn**	**05 52 54.8**	**-1.3**
TCE	**Chacachacare**	**0.80**	**176**	⇑*e*P	**Pn**	**05 52 46.8**	**-0.2**
TCE				*e*S	**Sn**	**05 52 57.5**	**-0.1**
TCE	**Chacachacare**	**0.80**	**176**	⇑*e*P	**Pn**	**05 52 46.8**	**-0.2**
TCE				*e*S	**Sn**	**05 52 57.5**	**-0.1**
GRIC	**Isle de Caille**	**0.81**	**15**	⇑*i*P	**Pn**	**05 52 46.4**	**-0.7**
GRIC				*e*S	**Sn**	**05 52 56.8**	**-1.0**
GRSS	**Sisters**	**0.81**	**13**	⇓*i*P	**Pn**	**05 52 46.6**	**-0.6**
GRSS				*e*S	**Sn**	**05 52 57.0**	**-1.0**
GRSS	**Sisters**	**0.81**	**13**	⇓*i*P	**Pn**	**05 52 46.6**	**-0.6**
GRSS				*e*S	**Sn**	**05 52 55.9**	**-2.1**
TRN	**Trinidad (W)**	**0.94**	**155**	⇑*e*P	**Pn**	**05 52 48.5**	**-0.3**
TRN				*e*S	**Sn**	**05 53 00.1**	**-0.8**
GUIV	**Guiria**	**0.94**	**206**	⇑*e*P	**Pn**	**05 52 47.7**	**-1.2**
GUIV				*e*S	**Sn**	**05 52 57.1**	**-4.1**
TPR	**Prospect**	**1.05**	**107**	⇓*e*P	**Pn**	**05 52 48.7**	**-1.7**
TPR				*e*S	**Sn**	**05 52 59.3**	**-4.6**
BOT	**Bacolet**	**1.12**	**107**	⇑*e*P	**Pn**	**05 52 49.9**	**-1.4**
BOT				*e*S	**Sn**	**05 53 01.3**	**-4.1**
TPP	**Pointe-a-Pierr**	**1.23**	**164**	*e*P	**Pn**	**05 52 54.9**	**+2.1**
TPP				*e*S	**Sn**	**05 53 10.9**	**+2.7**
TBH	**Brigand Hill**	**1.24**	**144**	⇑*e*P	**Pn**	**05 52 53.7**	**+0.7**
TBH				*e*S	**Sn**	**05 53 09.4**	**+0.8**
ITEV	**Isla Los Testi**	**1.31**	**264**	*e*P	**Pn**	**05 52 53.9**	**0.0**
ITEV				*e*S	**Sn**	**05 53 09.9**	**-0.3**
CRUV	**Carupano**	**1.63**	**240**	*e*P	**Pn**	**05 52 58.8**	**+0.4**
CRUV				*e*S	**Sn**	**05 53 18.3**	**+0.2**
SVV	**Soufriere Volc**	**1.90**	**18**	*e*P	**Pn**	**05 53 02.7**	**+0.7**
SVV				*e*S	**Sn**	**05 53 25.8**	**+1.1**
BHS	**Barnard House**	**1.90**	**20**	*e*P	**Pn**	**05 53 03.4**	**+1.2**
BHS				*e*S	**Sn**	**05 53 26.1**	**+1.2**
SSV	**Crater Summit**	**1.91**	**18**	*e*P	**Pn**	**05 53 03.3**	**+1.1**
SSV				*e*S	**Sn**	**05 53 26.3**	**+1.3**
SLB	**Belfond**	**2.43**	**18**	⇑*e*P	**Pn**	**05 53 09.9**	**+0.6**
SLB				*e*S	**Sn**	**05 53 38.6**	**+0.7**
IBAV	**Isla La Blanqu**	**2.73**	**277**	⇑*i*P	**Pn**	**05 53 14.2**	**+0.6**
IBAV				*e*S	**Sn**	**05 53 45.9**	**+0.5**
ORIV	**Oritupano**	**2.89**	**213**	*e*P	**Pn**	**05 53 15.2**	**-0.5**
PCRV	**Puerto La Cruz**	**3.08**	**245**	Pn	**Pn**	**05 53 19.5**	**+1.2**
	5.3nm,0.3s,baz=34,slow=5.5,SNR=25						
PCRV				Sn	**Sn**	**05 53 54.0**	**+0.1**
	11nm,0.3s,baz=44,slow=16,SNR=6.2						
PCRV				LR	LR	05 54 55.5	
	comp=Z,224nm,19.5s,baz=52,slow=47						
PCRV	**Puerto La Cruz**	**3.08**	**245**	*e*P	**Pn**	**05 53 18.3**	**0.0**
BIM	**Bigot**	**3.08**	**13**	⇑*e*P	**Pn**	**05 53 18.4**	**+0.1**
BIM				⇑*e*S	**Sn**	**05 53 52.2**	**-1.8**
FDF	**Fort de France**	**3.28**	**11**	⇓*e*P	**Pn**	**05 53 20.8**	**-0.2**
FDF				⇓*e*S	**Sn**	**05 53 55.6**	**-3.1**
FDF	**Fort de France**	**3.28**	**11**	*e*Pn	**Pn**	**05 53 20.6**	**-0.4**
FDF				*e*Sn	**Sn**	**05 53 54.6**	**-4.1**
DSHT	**Scott's Head**	**3.71**	**6**	*e*P	**Pn**	**05 53 28.3**	**+1.3**
DSHT				*e*S	**Sn**	**05 54 10.5**	**+1.0**
DSHT	**Scott's Head**	**3.71**	**6**	*e*P	**Pn**	**05 53 28.3**	**+1.3**
DSHT				*e*S	**Sn**	**05 54 09.1**	**-0.5**
DSTT	**Stowe**	**3.75**	**7**	*e*P	**Pn**	**05 53 29.9**	**+2.3**
DSTT				*e*S	**Sn**	**05 54 10.7**	**+0.1**
MDN	**Morne-Daniel**	**3.82**	**6**	*e*P	**Pn**	**05 53 29.8**	**+1.4**
MDN				*e*S	**Sn**	**05 54 13.1**	**+1.0**
MDN	**Morne-Daniel**	**3.82**	**6**	*e*P	**Pn**	**05 53 29.8**	**+1.4**
MDN				*e*S	**Sn**	**05 54 11.6**	**-0.5**
PRGV	**PARIAGUAN**	**3.90**	**226**	*e*P	**Pn**	**05 53 29.0**	**-0.6**
GURV	**El Guri**	**3.93**	**199**	*e*P	**Pn**	**05 53 30.6**	**+0.6**
DWS	**Wesley**	**4.07**	**7**	*e*P	**Pn**	**05 53 33.8**	**+1.9**
DWS				*e*S	**Sn**	**05 54 18.5**	**+0.1**
CUPV	**Cœpira**	**4.17**	**250**	*e*P	**Pn**	**05 53 33.5**	**+0.2**
BIRV	**Birongo**	**4.50**	**257**	*e*P	**Pn**	**05 53 38.1**	**+0.3**
LUEV	**Luepa**	**5.63**	**177**	*e*P	**Pn**	**05 53 52.7**	**-0.8**
TURV	**Turiamo**	**6.02**	**261**	*e*P	**Pn**	**05 53 58.7**	**0.0**
CAOV	**Caicara del Or**	**6.09**	**227**	*e*P	**Pn**	**05 53 58.8**	**-0.8**
BAUV	**El Baul**	**6.64**	**248**	*e*P	**Pn**	**05 54 07.2**	**-0.1**
TEPV	**Terepaima**	**7.42**	**259**	*e*P	**Pn**	**05 54 17.7**	**-0.2**
SDV	**Santo Domingo**	**9.07**	**254**	Pn	**Pn**	**05 54 41.2**	**+0.6**
	0.4nm,0.3s,baz=76,slow=12,SNR=2.9						
SDV				Sn	**Sn**	**05 56 20.9**	**-0.6**
	1.7nm,0.3s,baz=76,slow=17,SNR=4.0						
SDV				LR	LR	05 58 23.0	
	comp=Z,44nm,19.5s,baz=238,slow=39						
SDV	**Santo Domingo**	**9.07**	**254**	*e*Pn	**Pn**	**05 54 46.2**	**+5.5**
	8.2nm,0.6s						
SDV				*e*Sn	**Sn**	**05 56 20.9**	**-0.6**
SIV	**San Ignacio**	**27.32**	**178**	pP	pP	05 58 24.9	+0.7
	1.8nm,0.7s,baz=9.5,slow=9.2,SNR=6.2						
NNA	**Nana**	**27.70**	**213**	pP	pP	05 58 27.4	-0.3
	5.1nm,0.8s,baz=339,slow=6.6,SNR=3.1						
LPAZ	**La Paz**	**28.31**	**193**	pP	pP	05 58 34.5	+1.5
	1.1nm,0.8s,baz=8.7,slow=13,SNR=4.5						
LPAZ				LR	LR	06 10 59.9	
	comp=Z,36nm,18.2s,baz=93,slow=39						
PDAR	**Pinedale Array**	**51.73**	**316**	P	**P**	**06 01 34.7**	**-1.1**
	0.3nm,0.6s,mb3.4,baz=106,slow=9.8,SNR=3.2						
PDAR				pP	pP	06 01 44.9	-2.1
	0.4nm,0.7s,baz=113,slow=9.8,SNR=2.9						
PLCA	**Paso Flores**	**52.59**	**188**	P	**P**	**06 01 42.5**	**+0.4**
	0.8nm,0.6s,mb3.8,baz=360,slow=6.8,SNR=3.0						
PLCA	**Paso Flores**	**52.59**	**188**	P	**P**	**06 01 42.5**	**+0.4**
TORD	**Torodi Ar. Bea**	**61.91**	**81**	P	**P**	**06 02 49.0**	**+0.5**
	0.6nm,0.5s,mb4.0,baz=287,slow=6.7,SNR=15						
TORD				pP	pP	06 02 59.9	0.0
	0.4nm,0.5s,baz=283,slow=6.1,SNR=2.2						
YKA	**Yellowknife Ar**	**63.22**	**336**	P	**P**	**06 02 54.6**	**-1.6**
	0.3nm,0.4s,mb3.8,baz=106,slow=7.3,SNR=4.1						
YKA				pP	pP	06 03 05.7	-2.0
	0.7nm,0.5s,baz=107,slow=7.0,SNR=3.1						
CMAR	**Chiang Mai Arr**	**144.69**	**33**	PKP	PKPdf	06 12 04.9	-0.8
	4.3nm,0.5s,baz=310,slow=4.7,SNR=18						
CMAR				pPKP	pPKPdf	06 12 15.8	-2.2
	3.0nm,0.7s,baz=312,slow=5.2,SNR=3.8						
WRA	**Warramunga Arr**	**162.35**	**240**	PKP	PKPdf	06 12 28.7	-1.9
	0.3nm,0.6s,baz=123,slow=0.4,SNR=5.7						

MAN 22 05:52:50, 1119N×12561E, h7km, mb3.7, ML2.4, MS2.0, 1C-1D, Samar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BESP	**Borongan**	**0.45**	**338**	*e*P	Pg	05 52 59.6	+0.9
PLP	**Palo**	**0.62**	**268**	⇑*e*P	Pg	05 53 02.3	+0.4
PLP				*e*S	Sg	05 53 13.0	+3.0
OCLP	**Ormoc**	**0.99**	**262**	*e*P	Pg	05 53 09.7	+0.6
MSLP	**Maasin**	**1.28**	**215**	*e*P	Pn	05 53 14.2	-0.1
MSLP				*e*S	Sb	05 53 33.0	+1.9
SCPH	**Surigao**	**1.40**	**185**	⇓*e*P	Pn	05 53 15.5	-0.4

BJI ***22*** *06:11:04.1, 341S×142.03E, h49km, mB5.9, mb5.5, Ms5.2, Msz4.9*

IDC ***22*** *06:11:05.3±0.4, 281S×141.40E, h0km, mb5.1/18, mb1 5.2/24, mb1mx5.2/25, mbtmp5.2/24, ML5.1/4, MS5.0/16, Ms1 5.0/16, ms1mx4.8/22, Error ellipse: s-maj=16.2km s-min=9.5km az=80.0*

ISCJB ***22*** *06:11:11.8±0.1, 289S±003×141.30E±003, h59km, mb5.7/119, MS5.2/119, Error ellipse: s-maj=4.0km s-min=3.6km az=17.1*

NEIC ***22*** *06:11:12.4±1.2, 286S×141.32E, h50km±10km, mb5.9/62, MS5.4/59, Error ellipse: s-maj=6.7km s-min=5.5km az=68.0*

NEIC Felt at Vanimo.

MOS ***22*** *06:11:12.4±1.5, 279S×141.37E, h62km, mb6.0/35, MS5.1/21, Error ellipse: s-maj=10.3km s-min=5.5km az=108.4*

GCMT ***22*** *06:11:12.4±0.1, 277S×141.35E, h12km, MW5.4/113, Moment Tensor Solution. s72,c110; s113,c261; Duration: 1§3 Moment tensor: Scale 10^17 Nm; Mrr=.176±.02; Mθθ=1.27±.02; Mφφ=0.48±.02; Mrθ=0.24±.06; Mθφ=0.75±.02; Mφr=0.38±.06; Best double couple: M0=1.79800×10^17 NP1=φs115.00000°, δ39.00000°, λ-100.00000°. NP2=φs307.00000°, δ52.00000°, λ-82.00000°. Principal axes: T 1.7680, Plg7.0000°, Azm32.0000°; N 0.0590, Plg6.0000°, Azm123.0000°; P -1.8280, Plg81.0000°, Azm254.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*

DJA ***22*** *06:11:15, 291S×141.34E, h50km, Mw5.5/26*

ISC 22 06:11:13.5±0.1, 291S±003×141.36E±003, h61km, h61km±2.2km: pP-P, n599, σ1§05/414, mb5.7/118, 126C-110D, Near north coast of New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**8.65**	**138**	⇓*i*P	**Pn**	**06 13 16.2**	**+0.2**
PMG	**Port Moresby**	**8.65**	**138**	*e*Pn	**Pn**	**06 13 15.9**	**-0.1**
COEN	**Coen**	**11.12**	**171**	*e*Pn	**Pn**	**06 13 49.3**	**-0.5**
	18nm,0.8s						
KAKA	**Kakadu**	**13.14**	**222**	*e*P	**Pn**	**06 14 08.5**	**-8.9**
	103nm,0.4s						
KAKA				*e*S	**Sn**	**06 16 31.9**	**-10**
TNE	**Ternate**	**14.46**	**285**	⇓*e*P	**Pn**	**06 14 36.0**	**+0.9**
GUMO	**Guam**	**16.76**	**12**	Pn	**Pn**	**06 14 59.6**	**-4.8**
	2.9nm,0.3s,baz=8.9,slow=22,SNR=1.9						
GUMO				LR	LR	06 20 38.7	
	comp=Z,6μm,19.4s,baz=220,slow=34						
GUMO	**Guam**	**16.76**	**12**	*e*P	**Pn**	**06 15 05.7**	**+1.3**
GUMO				pmax	pmax		
	comp=Z,1μm,1.6s						
GUMO	**Guam**	**16.76**	**12**	*e*P	**Pn**	**06 15 05.7**	**+1.4**
	comp=Z,1μm,1.6s						
CTA	**Charters Tower**	**17.73**	**165**	*e*P	**Pn**	**06 15 18.8**	**+2.6**
	comp=Z,30nm,1.6s						
CTA				*e*S	**S**	**06 18 31.1**	**-6.1**
CTA	**Charters Tower**	**17.73**	**165**	P	**Pn**	**06 15 14.8**	**-1.4**
	comp=Z,0.3nm,0.3s,baz=340,slow=11,SNR=7.1						
CTA				S	**S**	**06 18 36.3**	**-1.0**
	comp=Z,0.1nm,0.3s,baz=28,slow=20,SNR=1.4						
CTA				Lg		06 20 32.4	
	comp=Z,0.2nm,0.3s,baz=61,slow=15,SNR=3.4						
CTA				LR	LR	06 22 37.0	
	comp=Z,14μm,18.3s,baz=351,slow=39						
CTA	**Charters Tower**	**17.73**	**165**	*e*P	**Pn**	**06 15 18.8**	**+2.6**
CTA				S	**S**	**06 18 36.3**	**-0.9**
CTA				pmax	pmax		
	comp=Z,30nm,1.6s						
CTA	**Charters Tower**	**17.73**	**165**	*e*P	**Pn**	**06 15 18.8**	**+2.6**
	comp=Z,30nm,1.6s						
CTA				S	**S**	**06 18 36.3**	**-0.9**
CTA				Lg		06 20 32.4	
CTAO	**Charters Tower**	**17.73**	**165**	*e*P	**Pn**	**06 15 15.7**	**-0.5**
CTAO				pmax	pmax		
	comp=Z,74nm,1.3s						
CTAO	**Charters Tower**	**17.73**	**165**	*e*P	**Pn**	**06 15 15.7**	**-0.6**
	comp=Z,74nm,1.3s						
WRAB	**Tennant Creek**	**18.25**	**202**	P	**Pn**	**06 15 21.0**	**-1.6**
	comp=Z,530nm,0.6s,SNR=24						
WRAB	**Tennant Creek**	**18.25**	**202**	*e*P	**Pn**	**06 15 20.4**	**-2.2**
WRAB				pmax	pmax		
	comp=Z,68nm,0.8s						
WRAB	**Tennant Creek**	**18.25**	**202**	*e*P	**Pn**	**06 15 20.4**	**-2.2**
	comp=Z,68nm,0.8s						
WB2	**Warramunga Arr**	**18.26**	**202**	*e*P	**Pn**	**06 15 20.7**	**-2.0**
WRA	**Warramunga Arr**	**18.26**	**202**	P	**Pn**	**06 15 20.3**	**-2.4**
	comp=Z,2.7nm,0.3s,baz=21,slow=12,SNR=90						
WRA				Lg		06 20 55.0	
	baz=22,slow=28,SNR=6.6						
WRA	**Warramunga Arr**	**18.26**	**202**	P	**Pn**	**06 15 20.3**	**-2.5**
WRA				pmax	pmax		
	comp=Z,3.0nm,0.3s						
BIPH	**Bislig**	**18.59**	**306**	⇓*e*P	**Pn**	**06 15 21.3**	**-5.4**
DAV	**Davao City (W)**	**18.61**	**302**	P	**Pn**	**06 15 24.1**	**-3.0**
	comp=Z,91nm,0.3s,baz=51,slow=10.0,SNR=2.0						
DAV				LR	LR	06 23 09.7	
	comp=Z,2μm,18.7s,baz=128,slow=39						
DAV	**Davao City (W)**	**18.61**	**302**	⇑*e*P	**Pn**	**06 15 22.1**	**-5.0**
DAV	**Davao City (W)**	**18.61**	**302**	P	**Pn**	**06 15 24.1**	**-3.0**
KDI	**Kendari**	**18.74**	**266**	⇑*e*P	**Pn**	**06 15 27.6**	**-1.0**
KDI				*e*S	**S**	**06 19 01.8**	**+3.9**
BATI	**Baumata**	**19.01**	**247**	P	**Pn**	**06 15 31.3**	**-0.5**
	comp=Z,14nm,0.3s,baz=129,slow=2.9,SNR=14						
BUKP	**Musuan**	**19.48**	**303**	*e*P	**Pn**	**06 15 37.2**	**-0.2**
HNR	**Honiara**	**19.57**	**110**	P	**Pn**	**06 15 35.4**	**-3.1**
	comp=Z,22nm,0.3s,baz=164,slow=3.1,SNR=9.9						
HNR	**Honiara**	**19.57**	**110**	*e*P	**Pn**	**06 15 35.5**	**-3.0**
HNR				pmax	pmax		
	comp=Z,620nm,0.9s						
HNR	**Honiara**	**19.57**	**110**	*e*P	**Pn**	**06 15 35.5**	**-3.0**
	comp=Z,622nm,0.8s						
MSLP	**Maasin**	**20.93**	**308**	*e*P	**P**	**06 15 51.8**	**+0.4**
TBP	**Tagbilaran**	**21.46**	**306**	*e*P	**P**	**06 15 57.3**	**+0.1**
FITZ	**Fitzroy Crossi**	**21.57**	**225**	*e*P	**P**	**06 15 56.7**	**-1.5**
	comp=Z,95nm,0.8s,mb5.3						
FITZ				*e*S	**S**	**06 19 51.1**	**-2.9**
FITZ	**Fitzroy Crossi**	**21.57**	**225**	P	**P**	**06 15 56.5**	**-1.7**
	comp=Z,58nm,1.0s,mb5.0,baz=47,slow=13,SNR=54						
FITZ				LR	LR	06 25 28.2	
	comp=Z,5μm,19.7s,baz=44,slow=40						
PCI	**Palu**	**21.61**	**275**	⇓*e*P	**P**	**06 16 00.3**	**+1.6**
	comp=Z,3.8nm,1.0s						
KAPI	**Kappang**	**21.66**	**264**	P	**P**	**06 16 00.1**	**+0.9**
	comp=Z,364nm,1.3s,mb5.7,SNR=6.6						
KAPI	**Kappang**	**21.66**	**264**	⇑P	**P**	**06 16 04.4**	**+5.2**
	SNR=8.4						
KAPI	**Kappang**	**21.66**	**264**	P	**P**	**06 15 57.7**	**-1.6**
	comp=Z,26nm,1.0s,mb4.6,baz=59,slow=5.0,SNR=6.8						
KAPI	**Kappang**	**21.66**	**264**	*e*P	**P**	**06 15 59.9**	**+0.7**
	comp=Z,97nm,1.2s,mb5.1						
KAPI				LR	LR		
	comp=Z,3μm,21.0s						
ASAR	**Alice Springs**	**21.86**	**199**	P	**P**	**06 16 00.2**	**-1.0**
	comp=Z,23nm,0.8s,mb4.7,baz=30,slow=9.5,SNR=95						
ASAR	**Alice Springs**	**21.86**	**199**	P	**P**	**06 16 00.2**	**-1.0**
ASAR				pmax	pmax		
	comp=Z,23nm,0.8s						
MKS	**Makassar**	**21.96**	**263**	⇑*e*P	**P**	**06 16 03.1**	**+0.7**
MKS				*e*S	**S**	**06 20 08.5**	**+6.9**
GUIM	**Jordan**	**23.02**	**306**	*e*P	**P**	**06 16 11.9**	**-1.8**
RCP	**Roxas**	**23.44**	**308**	⇑*i*P	**P**	**06 16 19.8**	**+2.2**
MYLDM	**Lahad Datu**	**24.21**	**289**	⇑P	**P**	**06 16 31.8**	**+7.0**
OTRP	**Odiongan**	**24.49**	**309**	*e*P	**P**	**06 16 24.3**	**-2.9**
TSM	**Tawau**	**24.54**	**287**	⇑P	**P**	**06 16 30.5**	**+2.7**
SJMP	**San Jose**	**25.25**	**308**	*e*P	**P**	**06 16 38.0**	**+3.8**
SDKM	**Sandakan**	**25.59**	**289**	⇓P	**P**	**06 16 45.1**	**+7.9**
BATP	**Bataraza**	**26.21**	**297**	*e*P	**P**	**06 16 43.5**	**+0.6**
KDM	**Kudat**	**26.36**	**292**	⇓P	**P**	**06 16 50.5**	**+6.2**
KKM	**Kota Kinabalu**	**26.64**	**290**	⇓

SSE LR LR
comp=N,673nm,14.6s
SSE LR LR
comp=E,911nm,14.6s
SSE LR LR
comp=Z,1µm,21.4s
MJAR Matsushiro Arr 39.36 356 P **P** **06 18 34.1 -3.0**
comp=Z,22nm,0.9s,mb4.9,baz=171,slow=7.7,SNR=25
MJAR LR LR 06 34 28.5
comp=Z,1µm,18.6s,baz=170,slow=36
MJAR Matsushiro Arr 39.36 356 P **P** **06 18 34.1 -3.0**
MJAR pmax pmax
comp=Z,22nm,0.9s
MJAR MLR MLR
comp=Z,1µm,18.6s
MAJO Matsushiro 39.36 356 *e*P **P** **06 18 34.1 -3.0**
comp=Z,88nm,1.1s,mb5.4
MAT Matsushiro 39.36 356 P **P** **06 18 32.6 -4.5**
MAT S **S** **06 24 30.0 -4.1**
NJ2 Nanjing 40.81 330 *e*P **P** **06 18 51.4 +2.2**
NJ2 AP pP 06 19 05.8 +1.2
NJ2 XP sP 06 19 12.3 +0.6
NJ2 PP PP 06 20 29.3 +4.9
NJ2 AMB AMB
comp=Z,90nm,1.0s,mb5.3
NJ2 AMB AMB
comp=Z,530nm,5.5s
NJ2 LR LR
comp=N,820nm,19.8s
NJ2 LR LR
comp=E,1µm,22.4s
NJ2 LR LR
comp=Z,1µm,22.4s
KS15 Wonju Array Si 42.06 344 *e*P **P** **06 19 00.6 +1.3**
KSRS Korea Array 42.06 344 P **P** **06 18 58.2 -1.1**
comp=Z,32nm,1.0s,mb4.9,baz=165,slow=9.0,SNR=52
KSRS PcP PcP
comp=Z,5.2nm,0.9s,baz=150,slow=5.2,SNR=8.0
KSRS LR LR 06 35 13.9
comp=Z,2µm,18.8s,baz=155,slow=34
WHN Wuhan 42.09 324 ⇑P **P** **06 19 00.0 +0.3**
WHN PP PP 06 20 38.3 +0.1
WHN S **S** **06 25 20.5 +5.6**
WHN XS sS 06 25 41.3 +0.2
WHN LR LR
comp=N,3µm,17.8s
WHN LR LR
comp=E,646nm,10.1s
WHN LR LR
comp=Z,3µm,17.8s
INCN Inchon 42.46 343 ⇑P **P** **06 19 03.3 +0.7**
SNR=8.7
INCN Inchon 42.46 343 *e*P **P** **06 19 03.8 +1.3**
comp=Z,275nm,1.3s,mb5.7
INCN LR LR
comp=Z,3µm,20.3s
GYA Guiyang 44.46 313 ⇓*i*P **P** **06 19 21.3 +2.4**
GYA PP PP 06 21 07.4 +3.7
GYA AMB AMB
comp=Z,30nm,1.0s,mb5.0
GYA AMB AMB
comp=Z,290nm,6.4s
GYA LR LR
comp=N,2µm,21.2s
GYA LR LR
comp=E,1µm,19.5s
GYA LR LR
comp=Z,1µm,20.4s
NST Nakhon Sawan 44.77 296 P **P** **06 19 17.5 -4.0**
comp=Z,43nm,1.5s,mb5.1
COCO West Island 45.03 256 PFAKE 06 19 40.0 +16
COCO LR LR
comp=Z,657nm,35.9s
DL2 Dalian 45.42 338 ⇑*i*P **P** **06 19 27.4 +1.1**
DL2 AP pP 06 19 42.3 +0.4
DL2 XP sP 06 19 48.4 -0.5
DL2 S **S** **06 26 13.4 +10**
DL2 AMB AMB
comp=Z,50nm,1.2s,mb5.2
DL2 LR LR
comp=N,900nm,20.7s
DL2 LR LR
comp=Z,800nm,19.4s
BDT Bhumibol Dam 46.34 297 P **P** **06 19 35.0 +1.1**
KMI Kunming 46.69 309 P **P** **06 19 36.9 +0.4**
KMI AP pP 06 19 55.3 +3.1
KMI PCP PcP 06 21 11.1 +1.7
KMI PP PP 06 21 30.4 +3.2
KMI AMB AMB
comp=Z,61nm,1.5s,mb5.3
KMI AMB AMB
comp=Z,524nm,4.7s
KMI LR LR
comp=N,801nm,14.6s
KMI LR LR
comp=E,791nm,16.4s
KMI LR LR
comp=Z,892nm,19.4s
CMAR Chiang Mai Arr 46.85 299 P **P** **06 19 37.2 -0.7**
comp=Z,5.8nm,0.9s,mb4.5,baz=113,slow=5.5,SNR=21
CMAR PcP PcP 06 21 11.6 +1.5
comp=Z,1.9nm,0.3s,baz=119,slow=1.9,SNR=4.2
CMAR LR LR 06 39 30.9
comp=Z,535nm,18.9s,baz=12,slow=36
CMAR Chiang Mai Arr 46.85 299 ⇑*e*P **P** **06 19 37.2 -0.7**
CMAR Chiang Mai Arr 46.85 299 P **P** **06 19 37.2 -0.7**
CMAR PcP PcP 06 21 11.6 +1.5
CHG Chiang Mai 46.98 299 ⇑P **P** **06 19 38.0 -0.9**
comp=Z,20nm,1.0s,mb5.0
CHTO Chiang Mai 46.98 299 ⇓P **P** **06 19 40.9 +1.9**
SNR=8.5
CHTO Chiang Mai 46.98 299 P **P** **06 19 40.0 +1.1**
CHTO pmax pmax
comp=Z,70nm,1.6s,mb5.3
CHTO Chiang Mai 46.98 299 *e*P **P** **06 19 39.2 +0.3**
comp=Z,70nm,1.6s,mb5.3
CHTO LR LR
comp=Z,646nm,21.5s
SNY Shenyang 47.37 342 ⇑P **P** **06 19 40.8 -0.7**
SNY AMB AMB
comp=Z,111nm,1.6s,mb5.5
SNY AMB AMB
comp=Z,1µm,4.5s
SNY LR LR
comp=N,952nm,19.0s
SNY LR LR
comp=E,1µm,18.0s
SNY LR LR
comp=Z,1µm,19.1s
XAN Xi'an 47.80 323 P **P** **06 19 43.3 -1.7**
XAN AP pP 06 19 59.0 -1.7
XAN XP sP 06 20 06.0 -1.7
XAN PP PP 06 21 34.0 -3.3
XAN AMB AMB
comp=Z,24nm,1.1s,mb5.1
XAN AMB AMB
comp=Z,538nm,4.7s
XAN LR LR
comp=N,354nm,17.8s
XAN LR LR
comp=E,695nm,21.5s
XAN LR LR
comp=Z,1µm,21.5s
URZ Urewera 47.99 142 P **P** **06 19 47.1 +0.6**
comp=Z,12nm,0.8s,mb4.9,baz=264,slow=8.9,SNR=6.2
URZ LR LR 06 38 20.9
comp=Z,2µm,21.2s,baz=315,slow=34
RPZ Rata Peaks 48.41 151 P **P** **06 19 48.6 -0.9**
comp=Z,32nm,0.9s,mb5.4,baz=351,slow=14,SNR=5.7
MDJ Mudanjiang 48.48 349 P **P** **06 19 51.0 +1.0**
MDJ AP pP 06 20 06.6 +0.8
MDJ PP PP 06 21 44.0 +0.7
MDJ AMB AMB
comp=Z,63nm,1.4s,mb5.5
MDJ AMB AMB
comp=Z,516nm,5.5s
MDJ LR LR
comp=N,2µm,23.9s
MDJ LR LR
comp=E,1µm,23.1s
MDJ LR LR
comp=Z,3µm,23.1s
MDJ Mudanjiang 48.48 349 *e*P **P** **06 19 49.0 -1.0**
comp=Z,64nm,1.1s,mb5.6
MDJ LR LR
comp=Z,3µm,20.6s
TIY Taiyuan 48.51 329 *e*P **P** **06 19 54.1 +3.7**
TIY S **S** **06 26 59.5 +12**
TIY LR LR
comp=N,1µm,18.0s
TIY LR LR
comp=E,2µm,21.6s
TIY LR LR
comp=Z,2µm,21.4s
SNZO South Karori 48.57 146 PFAKE 06 20 00.0 +9.2
SNZO LR LR
comp=Z,2µm,18.4s
BJT Baijiatuau 48.57 334 *e*P **P** **06 19 51.9 +1.1**
BJT pmax pmax
comp=Z,607nm,2.0s
BJT Baijiatuau 48.57 334 *e*P **P** **06 19 51.9 +1.1**
comp=Z,607nm,2.0s,mb6.3
BJI Beijing 48.59 334 P **P** **06 19 49.8 -1.2**
BJI AP pP 06 20 08.5 +1.8
BJI AMB AMB
comp=Z,106nm,1.7s,mb5.6
BJI AMB AMB
comp=Z,934nm,3.8s
BJI LR LR
comp=N,2µm,21.4s
BJI LR LR
comp=E,999nm,19.6s
BJI LR LR
comp=Z,2µm,21.9s
CN2 Changchun 48.65 345 *e*P **P** **06 19 50.3 -1.1**
CN2 *e*XP sP 06 20 12.8 -1.3
CN2 AMB AMB
comp=Z,30nm,1.3s,mb5.2
CN2 AMB AMB
comp=Z,200nm,5.0s
CN2 LR LR
comp=N,2µm,21.0s
CN2 LR LR
comp=E,700nm,21.0s
CN2 LR LR
comp=Z,2µm,17.0s
CD2 Chengdu 49.14 316 P **P** **06 19 55.0 -0.4**
CD2 AP pP 06 20 10.0 -1.1
CD2 XP sP 06 20 17.3 -0.8
CD2 PP PP 06 21 49.0 -0.6
CD2 AMB AMB
comp=Z,30nm,0.7s,mb5.4
CD2 AMB AMB
comp=Z,1µm,5.8s
CD2 LR LR
comp=N,1µm,16.8s
CD2 LR LR
comp=E,1µm,15.8s
CD2 LR LR
comp=Z,1µm,16.5s
YSS Yuzh-Sakhalins 49.67 1 ⇑*e*P **P** **06 19 57.0 -2.1**
YSS pmax pmax
comp=Z,116nm,1.1s,mb5.8
YSS Yuzh-Sakhalins 49.67 1 *e*P **P** **06 20 00.4 +1.3**
comp=Z,50nm,0.9s,mb5.5
YSS LR LR
comp=Z,752nm,20.0s
HHC Hu-ho-hao-te 51.35 331 ⇑P **P** **06 20 11.8 -0.1**
HHC AP pP 06 20 27.5 -0.3
HHC XP sP 06 20 34.6 -0.1
HHC PCP PcP 06 21 23.6 -2.4
HHC PP PP 06 22 09.0 -0.6
HHC AMB AMB
comp=Z,36nm,1.1s,mb5.2
HHC AMB AMB
comp=Z,720nm,5.6s
HHC LR LR
comp=N,913nm,17.5s
HHC LR LR
comp=E,783nm,14.1s
HHC LR LR
comp=Z,1µm,17.8s
HABR Khabarovsk 51.47 355 *e*P **P** **06 20 10.1 -2.5**
HABR *e*S **S** **06 27 25.8 -2.4**
BTO Baotou 51.92 330 *e*P **P** **06 20 15.0 -1.2**
LZH Lanzhou 52.26 321 ⇑P **P** **06 20 18.8 0.0**
LZH AP pP 06 20 31.5 -3.2
LZH XP sP 06 20 40.3 -1.3
LZH PP PP 06 22 17.0 -0.9
LZH AMB AMB
comp=Z,231nm,1.1s,mb6.0
LZH AMB AMB
comp=Z,890nm,4.0s
LZH LR LR
comp=N,2µm,14.6s
LZH LR LR
comp=Z,3µm,16.7s
KLR Kul'dur 52.60 352 *e*P **P** **06 20 15.0 -6.0**
KLR *e*S **S** **06 27 39.5 -4.1**
KLR pmax pmax
comp=E,85nm,1.6s
KLR pmax pmax
comp=Z,380nm,1.6s,mb6.1
KLR MLR MLR
comp=E,900nm,13.0s
KLR MLR MLR
comp=Z,2µm,13.0s
SKR Severo-Kuril's 54.87 11 *e*P **P** **06 20 36.0 -1.6**
SKR *e* 06 21 36.0
SKR *e*PS 06 28 30.0
SKR *e*S S 06 28 34.0 +20
SKR *e*SS SS 06 31 54.0 -4.6
SKR pmax pmax
comp=Z,220nm,1.0s,mb6.1
SKR pmax pmax
comp=Z,2µm,4.0s
SKR MLR MLR
comp=Z,3µm,18.0s
HIA Hailar 55.25 343 *e*P **P** **06 20 39.7 -0.6**
HIA pmax pmax
comp=Z,253nm,1.4s
HIA MLR MLR
comp=Z,2µm,19.2s
HIA Hailar 55.25 343 *e*P **P** **06 20 39.7 -0.6**
comp=Z,253nm,1.4s,mb6.1
HIA LR LR
comp=Z,2µm,19.2s
SHL Shillong 55.64 304 *e*P **P** **06 20 43.5 -0.1**
GTA Gaotai 56.83 322 P **P** **06 20 51.4 -0.5**
GTA AP pP 06 21 07.6 -0.4
GTA XP sP 06 21 15.0 +0.2
GTA PP PP 06 22 59.8 +0.9
GTA AMB AMB
comp=Z,35nm,1.3s,mb5.2
GTA AMB AMB
comp=Z,1µm,5.7s
GTA LR LR
comp=N,604nm,19.2s
GTA LR LR
comp=E,487nm,20.7s
GTA LR LR
comp=Z,579nm,22.8s
PETK Petropavlovsk- 57.48 12 P **P** **06 20 55.4 -0.8**
comp=Z,26nm,0.8s,mb5.3,baz=154,slow=5.2,SNR=16
PETK LR LR 06 41 32.7
comp=Z,2µm,21.5s,baz=196,slow=32
PETK Petropavlovsk- 57.48 12 P **P** **06 20 55.4 -0.8**
CAL Calcutta 57.59 299 *e*P **P** **06 20 55.6 -1.9**
CAL AMb AMB 06 20 58.0
comp=Z,954nm,0.4s
CAL *ex* x 06 29 02.4
PET Petropavlovsk 57.60 12 *e*P **P** **06 20 59.2 +2.2**
PET *e*S **S** **06 28 54.1 +3.6**
PET *e*SS SS 06 32 41.5 -0.1
PET pmax pmax
comp=Z,500nm,12.8s
PET Petropavlovsk 57.60 12 ⇓*i*P **P** **06 20 57.4 +0.4**
PET LR LR
comp=Z,1µm,20.0s
LSA Lhasa 57.91 308 P **P** **06 20 59.9 +0.2**
LSA AP pP 06 21 11.8 -4.0
LSA S **S** **06 29 02.3 +6.9**
LSA LR LR
comp=E,440nm,21.2s
LSA LR LR
comp=Z,630nm,27.1s
LSA Lhasa 57.91 308 *e*P **P** **06 21 02.1 +2.4**
LSA pmax pmax
comp=Z,118nm,1.5s,mb5.7
LSA MLR MLR
comp=Z,758nm,18.2s
LSA Lhasa 57.91 308 *e*P **P** **06 21 02.1 +2.4**
comp=Z,118nm,1.5s,mb5.7
LSA LR LR
comp=Z,758nm,18.2s
SONM Songino Array 59.06 333 P **P** **06 21 07.2 -0.1**
comp=Z,33nm,1.3s,mb5.2,baz=150,slow=4.9,SNR=20
SONM PcP PcP 06 21 56.5 +1.0
comp=Z,9.0nm,1.2s,baz=144,slow=3.3,SNR=5.3
SONM LR LR 06 45 18.3
comp=Z,2µm,20.9s,baz=125,slow=35
SONM Songino Array 59.06 333 P **P** **06 21 07.2 -0.1**
SONM PcP PcP 06 21 56.5 +1.0
CIT Chita 59.59 340 *e*P **P** **06 21 11.2 +0.3**
CIT *e* 06 21 33.1
CIT pmax pmax
comp=Z,642nm,1.9s,mb6.3
TAPN Taplejung 59.77 304 *e*P **P** **06 21 12.2 -0.4**
comp=Z,241nm,1.4s,mb6.0
ODAN Odare 59.86 303 *e*P **P** **06 21 12.7 -0.6**
comp=Z,335nm,1.5s,mb6.1
RAR Rarotonga 60.00 113 LR LR 06 45 10.8
comp=Z,331nm,18.3s,baz=273,slow=34
BOK Bokaro 60.12 299 *e*P **P** **06 21 14.8 -0.2**
RAMN Ramite 60.55 303 *e*P **P** **06 21 17.7 -0.3**
comp=Z,365nm,1.5s,mb6.3
VIS Vishakhapatnam 60.75 292 *e*P **P** **06 21 17.9 -1.6**
CLNS Chul'man 61.04 350 *e*P **P** **06 21 22.3 +1.6**
CLNS *e* 06 22 06.5
CLNS *e* 06 23 35.8
CLNS *e*S **S** **06 29 37.0 +2.3**
CLNS pmax pmax
comp=Z,74nm,0.9s,mb5.8
CLNS pmax pmax
comp=E,14nm,0.7s
CLNS pmax pmax
comp=N,51nm,1.0s
CLNS pmax pmax
comp=Z,13nm,1.2s,mb4.9
CLNS pmax pmax
comp=N,11nm,1.0s
CLNS pmax pmax
comp=E,11nm,1.1s
CLNS smax
comp=N,98nm,10.2s
CLNS smax
comp=E,144nm,12.5s
CLNS MLR MLR
comp=Z,298nm,15.0s
CLNS MLR MLR
comp=N,376nm,17.0s
CLNS MLR MLR
comp=E,278nm,13.0s
JIRN Jiri 61.14 304 *e*P **P** **06 21 21.7 -0.3**
comp=E,284nm,1.6s,mb6.1
GUN Gumba 61.49 304 *e*P **P** **06 21 24.0 -0.3**
comp=E,374nm,1.4s,mb6.3
PKI Pulchoki 61.76 303 *e*P **P** **06 21 25.6 -0.6**
comp=E,312nm,1.6s,mb6.2
PKI Pulchoki 61.76 303 *e*P **P** **06 21 25.6 -0.6**
PKI pmax pmax
comp=Z,312nm,1.6s,mb6.2
PKIN Phulchoki 61.78 303 *e*P **P** **06 21 25.4 -0.8**
comp=Z,218nm,1.7s,mb6.0
SMY Shemya 61.91 22 *e*P **P** **06 21 26.5 -0.1**
SMY LR LR
comp=Z,4µm,17.2s
KKN Kakani 61.95 304 *e*P **P** **06 21 27.1 -0.3**
comp=Z,316nm,1.5s,mb6.2
KKN Kakani 61.95 304 *e*P **P** **06 21 27.1 -0.3**
KKN pmax pmax
comp=Z,316nm,1.5s,mb6.2
DMN Daman 62.03 303 *e*P **P** **06 21 27.7 -0.2**
comp=Z,336nm,1.4s,mb6.3
ZAK Zakamensk 62.32 334 ⇓*i*P **P** **06 21 28.9 -0.5**
ZAK pmax pmax
comp=Z,114nm,0.6s,mb6.2
GKN Gorkha 62.55 304 *e*P **P** **06 21 31.0 -0.4**
comp=Z,425nm,1.5s,mb6.4
TLY Talaya 63.10 335 P **P** **06 21 34.6 0.0**
comp=Z,372nm,1.3s,mb6.4,SNR=13
TLY Talaya 63.10 335 P **P** **06 21 34.8 +0.2**
SNR=51
TLY Talaya 63.10 335 *e*P **P** **06 21 34.4 -0.2**
TLY *e*S **S** **06 30 10.3 +9.4**
TLY *e* 06 31 13.4
TLY pmax pmax
comp=Z,154nm,1.5s,mb5.9
TLY MLR MLR
comp=Z,2µm,19.0s
TLY Talaya 63.10 335 *e*P **P** **06 21 34.9 +0.3**
comp=Z,167nm,1.4s,mb6.0
TLY LR LR
comp=Z,2µm,19.2s
IRK Irkutsk 63.25 335 *e*P **P** **06 21 34.3 -1.3**
IRK *e* 06 23 54.8
IRK *e* 06 30 37.3
IRK pmax pmax
comp=Z,183nm,2.0s,mb5.9
KOLN Koldanda 63.34 303 *e*P **P** **06 21 36.3 -0.4**
comp=Z,152nm,1.4s,mb5.9
DANN Dangsig 63.40 304 *e*P **P** **06 21 36.8 -0.3**
DRV Dumont d'Urvil 63.64 181 S **S** **06 30 23.0 +16**
DRV R 06 42 00.0
HON Honolulu 64.00 65 *e*P **P** **06 21 41.7 +0.6**
KIP Kipapa 64.01 65 ⇑*i*P **P** **06 21 41.8 +0.6**
KIP Kipapa 64.01 65 *e*P **P** **06 21 41.3 +0.1**
comp=Z,230nm,1.2s,mb6.1
KIP LR LR
comp=Z,4µm,19.7s
MOY Mondy 64.25 333 *e*P **P** **06 21 42.3 +0.1**
MOY pmax pmax
comp=Z,442nm,2.4s,mb6.1
BOD Bodaibo 64.40 344 *e*P **P** **06 21 41.4 -1.6**
BOD pmax pmax
comp=Z,71nm,1.6s,mb5.5
KOD Kodaikanal 64.94 283 *e*P **P** **06 21 47.9 +0.5**
HYB Hyderabad 65.12 291 *i* P **P** **06 21 49.0 +0.5**
HYB *e*S S 06 30 32.0 +4.9
HYB Hyderabad 65.12 291 *e*P **P** **06 21 49.0 +0.5**
JBP Jabalpur 65.13 297 *ex* **P** **06 21 47.8 -0.7**
JBP *ex* x 06 30 32.8
TRD Trivandrum 65.21 281 *e*P **P** **06 21 47.8 -1.4**
YAK Yakutsk 65.38 354 *c i*P **P** **06 21 50.9 +1.6**
YAK *e* 06 30 31.5
YAK pmax pmax
comp=Z,119nm,1.1s,mb5.8
YAK pmax pmax
comp=N,67nm,1.2s
YAK pmax pmax
comp=E,14nm,1.5s
YAK Yakutsk 65.38 354 ⇑*e*P **P** **06 21 48.6 -0.7**
YAK LR LR
comp=Z,4µm,21.2s
NGP Nagpur 65.48 295 *e*P **P** **06 21 49.0 -1.8**
POHA Pohakuloa 65.89 67 *e*P **P** **06 21 54.3 +0.9**
comp=Z,329nm,1.3s,mb6.2
POHA LR LR
comp=Z,4µm,18.9s
SEY Seymchan 66.20 5 ⇑*e*P **P** **06 21 53.2 -1.3**
WMQ Urumqi 66.83 321 P **P** **06 21 59.3 +0.3**
WMQ AP pP 06 22 15.8 +0.3
WMQ XP sP 06 22 22.8 +0.5
WMQ PCP PcP 06 22 27.3 -0.1
WMQ PP PP 06 24 29.0 +2.1
WMQ AMB AMB
comp=Z,186nm,1.2s,mb6.0
WMQ LR LR
comp=N,290nm,18.2s
WMQ LR LR
comp=E,403nm,19.2s
WMQ LR LR
comp=Z,443nm,20.3s
CASY Casey 66.85 193 *e*P **P** **06 21 59.1 +0.4**
CASY LR LR
comp=Z,3µm,18.7s
AKL Akola 67.23 294 *e*P **P** **06 22 01.0 -1.0**
AKL AMb AMB 06 22 04.9
comp=Z,122nm,1.7s,mb5.7
BHPL Bhopal 67.43 297 *e*P **P** **06 22 00.2 -3.0**
DDI Dehra Dun 68.74 304 *e*P **P** **06 22 09.0 -2.3**
NDI New Delhi 68.99 302 *e*P **P** **06 22 10.0 -2.9**
PPT Papeete 69.17 108 *e*P **P** **06 22 17.5 +3.3**
comp=Z,51nm,1.2s,mb5.3
PPT *e*S S 06 31 23.2 +7.3
comp=Z,455nm,24.2s
PPT *e*SS SS 06 35 51.5 +8.2

comp=Z,340nm,23.8s
PPT eLQ 06 40 32.5
comp=Z,2µm,32.2s
PPT eLR LR 06 43 32.9
comp=Z,1µm,28.5s
PPT Papeete 69.17 108 *e*P **P 06 22 17.5 +3.3**
PPT *e*S S 06 31 23.2 +7.3
PPT pmax pmax
comp=Z,51nm,1.2s
PPT Papeete 69.17 108 *e*P **P 06 22 17.5 +3.3**
comp=Z,51nm,1.2s,mb5.3
PPT *e*S S 06 31 23.2 +7.3
PPT *e*SS SS 06 35 51.5 +8.2
PPT *e*LQ 06 40 32.5
PAE Paea 69.17 108 *e*P **P 06 22 17.3 +3.1**
comp=Z,382nm,1.4s,mb6.2
PAE Paea 69.17 108 *e*P **P 06 22 17.3 +3.1**
PAE pmax pmax
comp=Z,383nm,1.4s,mb6.1
KAD Karad 69.20 290 *e*P **P 06 22 14.8 +0.4**
KAD AMb AMB 06 22 17.9
comp=Z,76nm,1.1s,mb5.6
TIAR Tiarei 69.39 108 *e*P **P 06 22 18.8 +3.3**
comp=Z,982nm,1.5s,mb6.5
SMLA Simla 69.71 305 *e*P **P 06 22 17.5 +0.2**
SMLA AMb AMB 06 22 21.1
comp=Z,154nm,1.8s,mb5.6
POO Poona 69.73 291 *e*P **P 06 22 16.7 -0.9**
POO AMb AMB 06 22 20.6
comp=Z,89nm,1.1s,mb5.6
TBI Tubuai 69.75 114 *e*LQ 06 40 53.1
comp=Z,680nm,36.0s
TBI *e*LR LR 06 43 50.5
comp=Z,723nm,24.2s
AJM Ajmer 70.65 299 *e*P **P 06 22 19.6 -3.5**
PMOR Pomariorio Ree 70.65 105 *e*P **P 06 22 26.6 +3.3**
comp=Z,264nm,1.5s,mb6.0
KRAR Krasnoyarsk 70.73 334⇓ *i*P **P 06 22 22.2 -0.8**
KRAR pmax pmax
comp=Z,151nm,1.7s,mb5.7
THN Thein Dam 71.26 306 *e*P **P 06 22 26.1 -0.6**
MK31 Makanchi Array 71.58 322 *e*P **P 06 22 28.1 -0.2**
MKAR Makanchi Array 71.58 322 P **P 06 22 28.6 +0.2**
comp=Z,100nm,1.1s,mb5.7,baz=108,slow=7.8,SNR=86
MKAR LR LR 06 58 22.0
comp=Z,493nm,18.4s,baz=109,slow=40
MKAR Makanchi Array 71.58 322 *i*P **P 06 22 28.6 +0.3**
MKAR pmax pmax
comp=Z,100nm,1.1s
MIR Mirnyy 71.83 198⇑ *i*P **P 06 22 31.0 +1.6**
MIR *e* 06 25 18.0
MIR *e* 06 32 32.0
MIR pmax pmax
comp=Z,200nm,1.0s,mb6.0
MIR MLR MLR
comp=Z,2µm,19.0s
BILL Bilibino 72.91 10⇓ *i*P **P 06 22 37.2 +1.4**
BILL *i* pP 06 22 52.5 0.0
BILL *i* S S 06 31 50.8 -6.5
BILL pmax pmax
comp=Z,164nm,2.5s,mb5.5
BILL MLR MLR
comp=Z,500nm,16.0s
BILL Bilibino 72.91 10⇓ *i*P **P 06 22 37.3 +1.5**
KSH Kashi 73.16 313 P **P 06 22 39.3 +1.4**
KSH *e*AP pP 06 22 56.3 +1.7
KSH *e*PP PP 06 25 23.1 +1.5
KSH *e*XS sS 06 32 27.6 -1.9
KSH *e*SKS 06 32 33.8
KSH *e*SCS ScS 06 32 38.3 -2.9
KSH AMB AMB
comp=Z,5.0nm,0.4s,mb4.8
KSH LR LR
comp=N,2µm,6.0s
KSH LR LR
comp=E,1µm,6.6s
KSH LR LR
comp=Z,2µm,17.0s
ZAA0 Zalesovo Array 73.46 329 *e*P **P 06 22 38.0 -1.4**
ZALV Zalesovo Beam 73.46 329 P **P 06 22 38.4 -0.9**
comp=Z,40nm,0.9s,mb5.4,baz=107,slow=5.9,SNR=61
ZALV LR LR 06 55 40.3
comp=Z,955nm,19.6s,baz=109,slow=36
ZALV Zalesovo Beam 73.46 329 P **P 06 22 38.4 -0.9**
ZALV pmax pmax
comp=Z,40nm,0.9s,mb5.3
ZALV MLR MLR
comp=Z,955nm,19.6s
ULHL Ulahol 73.85 315 P **P 06 22 42.8 +0.9**
SNR=14
BHJ Bhuj 74.43 295 *e*P **P 06 22 45.7 0.0**
TKM2 Tokmak 2 74.52 316 *e*P **P 06 22 45.9 +0.1**
TKM2 pmax pmax
comp=Z,184nm,1.6s,mb5.8
TKM2 MLR MLR
comp=Z,832nm,21.5s
TKM2 Tokmak 2 74.52 316 P **P 06 22 46.6 +0.8**
SNR=53
TKM2 Tokmak 2 74.52 316 *e*P **P 06 22 45.9 +0.1**
comp=Z,184nm,1.6s,mb5.8
TKM2 LR LR
comp=Z,832nm,21.5s
NVS Novosibirsk 74.70 329⇓ *i*P **P 06 22 45.0 -1.6**
NVS *e*S S 06 32 16.5 -1.5
NVS pmax pmax
comp=N,180nm,1.7s
NVS pmax pmax
comp=Z,324nm,1.7s,mb6.0
NVS pmax pmax
comp=E,195nm,1.5s
NVS smax
comp=E,230nm,3.8s
TIXI Tiksi 74.87 356 *e*P **P 06 22 42.4 -4.8**
TIXI pmax pmax
comp=Z,57nm,1.5s,mb5.3
TIXI MLR MLR
comp=Z,867nm,19.0s
TIXI Tiksi 74.87 356⇑ *e*P **P 06 22 47.6 +0.4**
TIXI LR LR
comp=Z,2µm,18.2s
KBK Karagaybulak 74.89 316 P **P 06 22 48.5 +0.6**
SNR=14
SDPT Sand Point 74.96 30 *e*P **P 06 22 48.8 +0.7**
comp=Z,275nm,1.2s,mb6.1
UCH Uchtor 75.06 315 P **P 06 22 54.1 +5.2**
SNR=10
UCH Uchtor 75.06 315 *e*P **P 06 22 50.9 +2.0**
comp=Z,94nm,1.5s,mb5.5
CHMS Chumysh 75.13 316 P **P 06 22 49.5 +0.2**
SNR=12
FRU Bishkek 75.18 316⇓ *e*P **P 06 22 50.0 +0.4**
FRU pmax pmax
comp=Z,220nm,1.9s,mb5.8
AAK Ala-Archa 75.20 315 P **P 06 22 50.6 +0.9**
SNR=36
USP Ospenovka 75.39 316 P **P 06 22 50.7 -0.1**
SNR=68
KURK Kurchatov 75.42 324 P **P 06 22 50.4 -0.4**
comp=Z,725nm,1.2s,mb6.5,SNR=78
KURK Kurchatov 75.42 324 ⇓P **P 06 22 51.4 +0.6**
SNR=75
KURK Kurchatov 75.42 324⇑ *e*P **P 06 22 49.8 -1.0**
KURK LR LR
comp=Z,2µm,20.9s
AML Almayashu 75.61 315 P **P 06 22 53.6 +1.5**
SNR=57
AML Almayashu 75.61 315 *e*P **P 06 22 53.3 +1.2**
comp=Z,208nm,1.4s,mb5.9
EKS2 Erkin-Say 75.71 315 P **P 06 22 53.7 +1.0**
SNR=40
EKS2 Erkin-Say 75.71 315 *e*P **P 06 22 53.4 +0.7**
comp=Z,265nm,1.7s,mb5.9
EKS2 LR LR
comp=Z,611nm,22.1s
SBA Scott Base 76.09 175 *e*P **P 06 22 55.7 +1.5**
SBA pmax pmax
comp=Z,15nm,1.1s,mb4.8
SBA MLR MLR
comp=Z,1µm,20.0s
SBA Scott Base 76.09 175 *e*P **P 06 22 55.7 +1.5**
comp=Z,15nm,1.1s,mb4.8
SBA LR LR
comp=Z,1µm,20.0s
CHGN Chignik 76.44 30 *e*P **P 06 22 57.1 +0.6**
KBL Kabul 77.18 306 *e*P **P 06 23 00.7 -0.4**
KBL pmax pmax
comp=Z,42nm,1.4s,mb5.2
KBL Kabul 77.18 306 *e*P **P 06 23 00.7 -0.5**
comp=Z,42nm,1.4s,mb5.2
TNA Tin City 77.46 19 *e*P **P 06 23 04.4 +2.4**
comp=Z,160nm,1.8s,mb5.7
KK31 Karatay Array 78.14 315 *i*P **P 06 23 05.5 -0.8**
TAOE Nuku Hiva Isla 78.19 98 *e*LR LR 06 47 38.0
comp=Z,5µm,26.6s
SVW2 Sparrevohn 79.88 26 *e*P **P 06 23 15.0 -0.4**
KDAK Kodiak Island 79.95 30 P **P 06 23 14.6 -1.2**
comp=Z,26nm,0.9s,mb5.2,baz=198,slow=8.7,SNR=8.3
KDAK Kodiak Island 79.95 30 *e*P **P 06 23 16.0 +0.2**
comp=Z,257nm,1.3s,mb6.0
KDAK LR LR
comp=Z,1µm,21.0s
VOSK Vostochnaya 80.57 324 P **P 06 23 18.2 -1.1**
VOSK pmax pmax
comp=Z,330nm,1.7s,mb6.0
BVA0 Borovoye Array 81.00 325 *i*P **P 06 23 20.3 -1.3**
BVA0 pmax pmax
comp=Z,68nm,1.4s,mb5.4
BRVK Borovoye 81.07 325 P **P 06 23 22.4 +0.4**
comp=Z,573nm,1.2s,mb6.4,SNR=37
BRVK Borovoye 81.07 325 P **P 06 23 22.2 +0.2**
SNR=65
BRVK Borovoye 81.07 325⇑ *e*P **P 06 23 21.6 -0.4**
BRVK LR LR
comp=Z,942nm,20.7s
SLKM Skilak Lake 82.07 28 P **P 06 23 26.1 -1.0**
SLKM Skilak Lake 82.07 28 *e*P **P 06 23 26.0 -1.1**
PPLA Purkeypile 82.07 25 *e*P **P 06 23 26.4 -0.6**
comp=Z,380nm,1.7s,mb6.0
SEW Seward 82.30 28 *e*P **P 06 23 27.4 -0.9**
CHUM Lake Minchumin 82.40 24 *e*P **P 06 23 28.8 +0.1**
comp=Z,397nm,1.1s,mb6.3
RC01 Rabbit Creek A 82.50 27 *e*P **P 06 23 28.3 -1.0**
comp=Z,159nm,1.2s,mb5.8
IMA2 Indian Mountai 82.74 22 *e*P **P 06 23 30.4 -0.1**
KTH Kantishna Hill 82.85 25 *e*P **P 06 23 29.7 -1.4**
comp=Z,119nm,1.1s,mb5.8
MAW Mawson 82.94 202 P **P 06 23 32.0 +0.5**
comp=Z,23nm,1.0s,mb5.2,baz=74,slow=4.8,SNR=24
MAW LR LR 06 58 37.2
comp=Z,3µm,18.4s,baz=80,slow=34
MAW Mawson 82.94 202 *e*P **P 06 23 32.0 +0.5**
comp=Z,17nm,1.0s,mb5.0
MAW LR LR
comp=Z,4µm,18.8s
PMR Palmer 82.94 27 *e*P **P 06 23 30.3 -1.3**
PMR Palmer 82.94 27 *e*P **P 06 23 27.8 -3.8**
comp=Z,318nm,2.4s,mb5.9
PMR LR LR
comp=Z,6µm,20.6s
BPAW Bear Paw Mtn. 83.03 24 *e*P **P 06 23 30.9 -1.1**
comp=Z,335nm,2.0s,mb6.0
RKT Rikitea 83.04 113 *e*LR LR 06 49 55.2
comp=Z,749nm,22.2s
TRF Thorofare Moun 83.08 25 *e*P **P 06 23 30.6 -1.7**
comp=Z,151nm,1.4s,mb5.8
MCK McKinley 83.75 25 P **P 06 23 34.4 -1.3**
MCK pmax pmax
comp=Z,380nm,1.5s,mb6.3
MCK McKinley 83.75 25 *e*P **P 06 23 34.1 -1.6**
comp=Z,416nm,1.5s,mb6.3
WBK Wadi Bani Khal 84.09 293⇑ P **P 06 23 40.1 +1.7**
SNR=8.1
COLD Coldfoot 84.47 21 *e*P **P 06 23 39.2 -0.1**
comp=Z,193nm,1.5s,mb6.0
COLA College 84.57 24⇑ *i*P **P 06 23 38.4 -1.4**
COLA College 84.57 24 *e*P **P 06 23 38.0 -1.8**
comp=Z,84nm,1.1s,mb5.8
COLA LR LR
comp=Z,1µm,18.0s
JMDO Jabal Madar 84.87 293⇑ P **P 06 23 43.8 +1.5**
SNR=7.9
BIDO Bidbid 84.95 294⇑ P **P 06 23 44.1 +1.4**
SNR=16
SMDO Samad 84.98 293 P **P 06 23 43.8 +0.9**
SNR=8.5
HOQ Hoqain 85.71 294⇑ P **P 06 23 48.0 +1.5**
SNR=16
BSY Bisya 85.74 293⇓ P **P 06 23 48.3 +1.7**
SNR=7.5
ABKT Ailbek 86.44 308 P **P 06 23 50.3 +0.5**
comp=Z,197nm,1.6s,mb6.1,SNR=16
AB31 Akbulak array 86.59 320 *i*P **P 06 23 49.0 -1.2**
EGAK Eagle 87.30 25 *e*P **P 06 23 53.1 -0.2**
comp=Z,90nm,1.3s,mb5.8
EGAK LR LR
comp=Z,1µm,21.9s
SVE Sverdlovsk 87.35 327 *e*P **P 06 23 55.7 +2.0**
SVE *e*S S 06 34 18.2 -11
SVE pmax pmax
comp=Z,37nm,1.5s,mb5.4
SVE MLR MLR
comp=Z,911nm,20.0s
DAWY Dawson 87.90 26 *e*P **P 06 23 56.5 +0.2**
AKTK Aktyubinsk 87.98 321 *i*P **P 06 23 54.0 -2.9**
AKTO Aktyubinsk 87.98 321 *i*P **P 06 23 54.9 -2.0**
AKTO pmax pmax
comp=Z,9.0nm,1.7s,mb4.7
RBK Rabkut 88.16 288⇓ P **P 06 24 00.0 +1.5**
SNR=7.2
HYT Haines Junctio 88.20 29 *e*P **P 06 23 58.0 +0.3**
ARU Arti 88.42 327 *c*i P **P 06 23 57.4 -1.5**
ARU *e*S S 06 34 19.7 -20
ARU SS SS 06 40 35.4 +4.8
ARU pmax pmax
comp=Z,64nm,1.7s,mb5.6
ARU MLR MLR
comp=Z,569nm,19.0s
ARU Arti 88.42 327⇑ *e*P **P 06 23 57.3 -1.6**
ARU LR LR
comp=Z,1µm,21.0s
WHFO Wadi Hawf 88.60 288 P **P 06 24 02.5 +2.0**
SNR=5.9
ABTO Aybut 89.01 287⇓ P **P 06 24 04.0 +1.5**
SNR=8.3
SKAG Skagway 89.08 30 *e*P **P 06 24 04.4 +2.5**
comp=Z,190nm,1.8s,mb6.1
WRAK Wrangell Islan 90.35 34 PFAKE 06 24 20.0 +12
WRAK LR LR
comp=Z,2µm,19.5s
INK Inuvik 90.88 22 *e*P **P 06 24 09.0 -1.1**
SYO Syowa Base 91.51 201⇓ *e*P **P 06 24 12.4 -0.7**
ABPO Ambohimpanom 92.97 251 PFAKE 06 24 30.0 +9.1
ABPO LR LR
comp=Z,718nm,18.4s
MAK Makhachkala 94.80 313 *e*P **P 06 24 28.8 0.0**
MAK *i* 06 28 17.4
MAK pmax pmax
comp=Z,187nm,1.7s,mb6.2
NAY Al-Naaiem 95.01 299 *e*P **P 06 24 30.7 +0.7**
NAY AMb AMB 06 24 33.2
comp=Z,21nm,1.7s,mb5.3
RST Umm Al-Ruwaisa 95.22 299 *e*P **P 06 24 30.2 -0.8**
RST AMb AMB 06 24 34.0
comp=Z,40nm,1.8s,mb5.5
I02A Mapleton 95.47 46⇓ P **P 06 24 32.7 +0.8**
baz=96
B04A Port Angeles 95.59 42⇓ P **P 06 24 32.9 +0.7**
baz=96
E03A Lebam 95.59 44⇑ P **P 06 24 33.9 +1.6**
baz=96
J02A Umpqua 95.67 47⇓ P **P 06 24 33.4 +0.7**
baz=96
L02A Cave Junction 95.68 48⇓ P **P 06 24 33.4 +0.6**
baz=96
K02A Glendale 95.75 47⇑ P **P 06 24 33.5 +0.4**
baz=96
KIPM Iron Peak 95.82 50 *e*P **P 06 24 35.9 +2.4**
H03A Soap Creek Ran 95.84 46⇑ P **P 06 24 33.9 +0.5**
baz=96
I03A Eugene 95.87 46⇓ P **P 06 24 33.7 +0.1**
baz=96
N02C Big Bar 95.93 49⇓ P **P 06 24 34.3 +0.4**
baz=96
HUMO Hull Mountain 96.14 48⇑ P **P 06 24 34.9 0.0**
baz=96
E04A Onalaska 96.17 44⇓ P **P 06 24 35.7 +0.8**
baz=96
M02C Callahan 96.26 49⇑ P **P 06 24 35.8 +0.4**
baz=96
MCCM Marconi Confer 96.32 52 PFAKE 06 24 50.0 +14
MCCM LR LR
comp=Z,1µm,18.4s
YBH Yreka Blue Hor 96.35 49⇑ P **P 06 24 36.1 +0.2**
baz=96
G04A Mulino 96.40 45⇑ P **P 06 24 36.5 +0.4**
baz=96
GASB Alder Springs 96.41 51⇓ P **P 06 24 36.4 +0.2**
baz=96
F04A Amboy 96.41 44⇑ P **P 06 24 36.4 +0.3**
baz=96
I04A Tendick Farm, 96.50 46⇑ P **P 06 24 36.7 +0.1**
baz=96
WDC Whiskeytown Da 96.52 50⇑ P **P 06 24 37.2 +0.6**
baz=96
H04A Detroit Lake 96.63 46⇓ P **P 06 24 37.8 +0.8**
baz=97
JCW Jim Creek 96.64 42 *e*P **P 06 24 39.5 +2.5**
D05A Enumclaw 96.65 43⇑ P **P 06 24 36.9 -0.2**
baz=97
J04A Umpqua Nationa 96.74 47⇑ P **P 06 24 38.3 +0.6**
baz=97
M03C McCloud 96.81 49⇓ P **P 06 24 38.2 +0.2**
baz=97
E05A Randle 96.84 44⇓ P **P 06 24 37.7 -0.3**
baz=97
JRSC Jasper Ridge 96.84 53⇓ P **P 06 24 38.2 0.0**
baz=97
GNI Garni 96.93 310⇑ *e*P **P 06 24 38.6 +0.1**
GNI pmax pmax
comp=Z,16nm,1.4s
L04A Klamath Falls 96.95 48⇓ P **P 06 24 38.2 -0.4**
baz=97
M04C Macdoel 97.00 48⇓ P **P 06 24 39.0 +0.1**
baz=97
K04A Chilquin 97.05 48⇑ P **P 06 24 39.6 +0.6**
baz=97
I05A Bend 97.31 46⇑ P **P 06 24 40.2 0.0**
baz=97
ORV Oroville 97.35 51⇑ P **P 06 24 40.7 +0.2**
baz=97
OHCM Honcut 97.37 51 *e*P **P 06 24 39.2 -1.3**
E06A Yakima 97.38 44⇑ P **P 06 24 40.8 +0.4**
baz=97
J05A Fort Rock 97.38 47⇓ P **P 06 24 40.7 +0.2**
baz=97
D06A Cle Elum 97.43 43⇓ P **P 06 24 40.4 -0.2**
baz=98
F06A Goldendale 97.56 44⇑ P **P 06 24 41.6 +0.3**
baz=98
A07A Ashnola River, 97.61 41⇓ P **P 06 24 41.6 +0.3**
baz=98
PACP Pacheco Peak 97.62 53⇑ P **P 06 24 41.7 0.0**
baz=98
O04C Chester 97.64 50⇑ P **P 06 24 41.8 +0.1**
baz=98
K05A Summer Lake 97.66 47⇓ P **P 06 24 41.7 -0.1**
baz=98
L05A Lakeview 97.74 48⇓ P **P 06 24 41.8 -0.3**
baz=98
ETW Entiat 97.75 43 *e*P **P 06 24 41.5 -0.5**
O05C Quincy 97.78 50⇑ P **P 06 24 42.3 -0.1**
baz=98
C07A Waterville 97.92 42⇑ P **P 06 24 42.4 -0.5**
baz=98
H06A Lindquist Farm 97.94 45⇑ P **P 06 24 42.7 -0.3**
baz=98
LAVA Lava Cap Winer 97.98 51⇓ P **P 06 24 43.0 -0.3**
baz=98,SNR=5.6
D07A Quincy 98.02 43⇓ P **P 06 24 42.9 -0.3**
baz=98
U04C Hernandez Rese 98.05 54⇑ P **P 06 24 43.5 -0.2**
baz=98
I06A Prineville 98.08 46⇓ P **P 06 24 43.7 +0.1**
baz=98
K06A Valley Falls 98.13 47⇓ P **P 06 24 43.9 0.0**
baz=98,SNR=13
MOD Modoc 98.14 48⇓ P **P 06 24 43.8 -0.1**
baz=98,SNR=18
MOD Modoc 98.14 48 *e*P **P 06 24 43.9 0.0**
comp=Z,51nm,1.4s,mb5.9
MOD LR LR
comp=Z,3µm,20.0s
E07A Sunnyside 98.15 44⇓ P **P 06 24 43.8 -0.1**
baz=98
J06A Christmas Vall 98.17 47⇓ P **P 06 24 43.8 -0.2**
baz=98,SNR=11
BEKR Beckwourth 98.22 50⇓ P **P 06 24 44.3 0.0**
baz=98,SNR=11
PKD Parkfield 98.26 54⇓ P **P 06 24 44.1 -0.5**
baz=98
KIV Kislovodsk 98.26 314 *i*P **P 06 24 43.2 -1.3**
CMB Columbia Colle 98.29 52⇓ P **P 06 24 44.5 -0.2**
baz=98
A08A Turner Farm, O 98.34 41⇓ P **P 06 24 44.6 0.0**
baz=98
RSW Rattlesnake Hi 98.34 44 *e*P **P 06 24 45.0 +0.2**
B08A Colville Reser 98.36 42⇓ P **P 06 24 44.6 -0.2**
baz=98
S05C Merced 98.37 53⇑ P **P 06 24 44.6 -0.5**
baz=98
G07A Ruggs Ranch, H 98.38 45⇑ P **P 06 24 44.6 -0.3**
baz=98
HAWA Hanford 98.39 44 PFAKE 06 25 00.0 +15
HAWA LR LR
comp=Z,2µm,20.3s
H07A Lands Inn, Kim 98.50 46⇓ P **P 06 24 45.2 -0.3**
baz=98
N06A Buffalo Meadow 98.57 49⇑ P **P 06 24 46.0 +0.1**
baz=99,SNR=15
I07A Izee 98.58 46⇓ P **P 06 24 45.6 -0.3**
baz=99
C08A Higginbotham F 98.60 42⇓ P **P 06 24 45.2 -0.6**
baz=99
O06A Flanigan 98.61 50⇓ P **P 06 24 45.5 -0.6**
baz=99
E08A Dider Farm, El 98.70 44⇑ P **P 06 24 45.7 -0.7**
baz=99
WCN Washoe City 98.71 51⇓ P **P 06 24 46.3 -0.3**
baz=99
D08A Wollman Farm, 98.75 43⇑ P **P 06 24 47.0 +0.4**
baz=99
J07A Hines 98.78 47⇑ P **P 06 24 46.9 +0.1**
baz=99
A09A Danville 98.79 41⇑ P **P 06 24 46.5 -0.2**
baz=99
L07A Adell 98.85 48⇓ P **P 06 24 47.6 +0.5**
baz=99,SNR=17
OD2 Odessa Site #2 98.86 43 *e*P **P 06 24 44.9 -2.2**
K07A Rock Creek Ran 98.87 47⇓ P **P 06 24 47.6 +0.4**
baz=99,SNR=5.3
G08A Pilot Rock 98.88 45⇑ P **P 06 24 47.3 +0.1**
baz=99
T06C Millerton Lake 98.88 53⇓ P **P 06 24 47.4 0.0**
baz=99
PKM Peak Mountain 98.89 55⇑ P **P 06 24 47.2 -0.3**
baz=99
LVZ Lovozero 98.94 338 PFAKE 06 25 00.0 +13
LVZ LR LR
comp=Z,406nm,28.4s
F08A Pendleton 98.96 44⇑ P **P 06 24 47.1 -0.4**
baz=99
R06C Coleville 99.00 52⇓ P **P 06 24 47.5 -0.3**
baz=99
M07A Soldier Meadow 99.02 49⇑ P **P 06 24 48.4 +0.5**
baz=99,SNR=13
YKA Yellowknife Ar 99.04 27 P **P 06 24 46.6 -0.9**
comp=Z,10nm,1.0s,mb5.3,baz=281,slow=4.7,SNR=19
YKA LR LR 07 04 50.9
comp=Z,742nm,21.1s,baz=150,slow=33
YKA Yellowknife Ar 99.04 27 *i*P **P 06 24 49.4 +1.9**
YKA pmax pmax
comp=Z,10.0nm,1.0s
BSC Santa Cruz Isl 99.09 56⇓ P **P 06 24 47.5 -0.9**
baz=99
C09A Chrisman Ranch 99.11 42⇓ P **P 06 24 47.6 -0.5**
baz=99
B09A Rice 99.14 42⇑ P **P 06 24 48.3 0.0**
baz=99
H08A Prairie City 99.14 46⇓ P **P 06 24 47.9 -0.5**
baz=99
D09A Jones Farm, Ri 99.16 43⇓ P **P 06 24 48.1 -0.3**
baz=99
KCC Kaiser Creek 99.17 53⇓ P **P 06 24 48.4 -0.2**
baz=99
N07B Gerlach 99.22 49⇑ P **P 06 24 49.4 +0.6**
baz=99,SNR=12
E09A Wood Farm, Sta 99.33 43⇑ P **P 06 24 48.9 -0.3**
baz=99
O07A Toulon 99.33 50⇑ P **P 06 24 49.7 +0.4**
baz=99
WVOR Wild Horse Val 99.34 48 *e*P **P 06 24 49.2 -0.1**

WVOR pmax pmax
comp=Z,50nm,1.5s,mb5.8
WVOR Wild Horse Val 99.34 48 *e*P **P 06 24 49.1 -0.2**
comp=Z,50nm,1.5s,mb5.8
J08A Circle Bar Ran 99.39 47 ⇑P **P 06 24 49.6 +0.1**
baz=99,SNR=5.1
K08A Mann Creek Ran 99.43 47 ⇑P **P 06 24 49.9 +0.2**
baz=99
VES Vestal, Richgr 99.45 54 ⇓P **P 06 24 50.1 +0.1**
baz=100
APA Apatity 99.48 338⇑ *e*P
APA MLR MLR 06 24 51.0
comp=Z,1μm,20.0s
L08A Fields 99.58 48 ⇑P Pdif 06 24 51.0 +0.9
baz=100,SNR=21
M08A Happy Creek Ra 99.61 49 ⇑P Pdif 06 24 50.7 +0.5
baz=100,SNR=11
G09A Cove 99.70 45 ⇑P Pdif 06 24 51.1 +0.5
baz=100
N08A GE Springer Mi 99.85 49 ⇑P Pdif 06 24 52.0 +0.7
baz=100
I09A Lost Marbles R 99.86 46 ⇑P Pdif 06 24 51.9 +0.6
baz=100
D10A Wagner Farm, O 99.87 43 ⇓P Pdif 06 24 51.7 +0.3
baz=100
O08A Rochester Mine 99.88 50 ⇑P Pdif 06 24 51.9 +0.5
baz=100,SNR=6.9
NVAR Mina Array Bea 99.90 52 P Pdif 06 24 52.5 +1.0
comp=Z,3.6nm,0.9s,baz=258,slow=6.3,SNR=16
ISA Isabella 99.95 54 ⇓P Pdif 06 24 52.0 +0.3
baz=100
K09A Rome 99.99 47 ⇑P Pdif 06 24 52.3 +0.4
baz=100,SNR=6.2
F10A Beach Ranch, E 100.02 44 ⇓P Pdif 06 24 52.6 +0.6
baz=100
BMO Blue Mountains 100.08 45 PFAKE 06 25 00.0 +7.7
BMO LR LR
comp=Z,675nm,21.5s
MOS Moscow 100.12 326 *e*P Pdif 06 24 46.7 -5.8
MOS *e* 06 28 55.5
Q08A Gabbs 100.16 51 ⇓P Pdif 06 24 53.0 +0.3
baz=100
G10A Bishop Farm, J 100.17 45 ⇑P Pdif 06 24 53.6 +0.9
baz=100,SNR=8.5
A11A Hall Mountain, 100.25 41 ⇑P Pdif 06 24 53.9 +0.9
baz=100
N09A Rock Creek Ran 100.31 49 ⇓P Pdif 06 24 54.3 +1.0
baz=100,SNR=6.5
M09A Marrel Ranch, 100.31 49 ⇓P Pdif 06 24 54.3 +1.0
baz=100,SNR=5.9
EDW2 Edwards Air Fo 100.40 55 ⇑P Pdif 06 24 54.0 +0.3
baz=100
D11A Klaveano Farm, 100.51 43 ⇑P Pdif 06 24 54.6 +0.4
baz=100
H10A Noah's Angus R 100.51 45 ⇑P Pdif 06 24 55.1 +0.9
baz=100
K10A MacKenzie Ranc 100.61 47 ⇓P Pdif 06 24 55.5 +0.9
baz=101,SNR=13
DAC Darwin (Calif) 100.62 54 PFAKE 06 25 10.0 +15
DAC LR LR
comp=Z,3μm,22.0s
E11A Bogner Ranch, 100.68 43 ⇓P Pdif 06 24 55.6 +0.6
baz=101
MPMC Manual Prospec 100.72 54 ⇑P Pdif 06 24 54.9 -0.3
baz=101
G11A Walters Elk Ra 100.75 44 ⇑P Pdif 06 24 55.3 0.0
baz=101
F11A Grangeville 100.77 44 ⇓P Pdif 06 24 55.4 0.0
baz=101
S09A Goldfield 100.81 52 ⇑P Pdif 06 24 55.8 +0.3
baz=101
OBN Obninsk 100.83 326⇑ *i*P Pdif 06 24 56.0 +0.4
OBN pmax pmax
comp=Z,37nm,1.2s
OBN MLR MLR
comp=Z,1μm,21.0s
OBN Obninsk 100.83 326 *i* P Pdif 06 24 53.0 -2.6
OBN LR LR
comp=Z,2μm,22.1s
R09A Tonopah 100.88 52 ⇑P Pdif 06 24 56.0 +0.2
baz=101
L10A Juniper Basin 100.98 48 ⇑P Pdif 06 24 56.9 +0.6
baz=101,SNR=7.1
KEV Kevo 100.99 341 PFAKE 06 25 10.0 +14
KEV LR LR
comp=Z,1μm,33.8s
H11A Donnelly 101.01 45 ⇓P Pdif 06 24 57.3 +0.9
baz=101
E12A Beaver Dam Sad 101.11 43 ⇓P Pdif 06 24 57.0 +0.1
baz=101
I11A Placerville 101.15 46 ⇓P Pdif 06 24 57.0 0.0
baz=101
FURC Furnace Creek, 101.20 54 ⇓P Pdif 06 24 57.4 +0.1
baz=101
K11A Parker Ranch, 101.22 47 ⇑P Pdif 06 24 58.1 +0.7
baz=101,SNR=11
S10A Tonopah Range, 101.28 52 ⇑P Pdif 06 24 58.4 +0.7
baz=101
MFID Camas Ranch 101.30 46 ⇑P Pdif 06 24 57.9 +0.1
baz=101
L11A Cat Creek Ranc 101.50 48 ⇑P Pdif 06 24 59.2 +0.6
baz=102,SNR=5.5
A13A Flathead Natio 101.52 41 ⇓P Pdif 06 24 59.4 +0.7
baz=102
ARCES ARCESS Array B 101.56 341 Pdiff Pdif 06 25 00.3 +1.5
comp=Z,11nm,0.9s,baz=52,slow=6.2,SNR=6.3
ARCES ARCESS Array B 101.56 341 P Pdif 06 25 00.4 +1.5
ARCES pmax pmax
comp=Z,11nm,1.0s
B13A Whitefish 101.57 41 ⇓P Pdif 06 24 59.5 +0.5
baz=102
TPNV Topopah Spring 101.65 53 ⇑P Pdif 06 24 59.8 +0.6
baz=102
TPNV Topopah Spring 101.65 53 PFAKE 06 25 10.0 +11
TPNV LR LR
comp=Z,2μm,21.0s
PFO Pinyon Flat Ob 101.75 56 PFAKE 06 25 10.0 +10
PFO LR LR
comp=Z,2μm,21.0s
O11A Cowboy Ranch, 101.80 50 ⇓P Pdif 06 25 00.3 +0.4
baz=102
J12A Stokes Ranch, 101.85 47 ⇓P Pdif 06 25 00.9 +0.7
baz=102,SNR=6.6
H12A Diamond D Ranc 101.85 45 ⇑P Pdif 06 25 00.3 +0.1
baz=102
ANN Anapa 101.92 315 *e*P Pdif 06 25 01.3 +0.8
ANN *e* 06 29 11.9
ANN *e*SS SS 06 44 00.8 +18
ANN pmax pmax
comp=Z,33nm,1.0s
Q11A Duckwater 101.93 51 ⇑P Pdif 06 25 00.8 +0.3
baz=102
SNAA Sanae 102.03 191 *e*P Pdif 06 25 01.7 +0.7
SNAA pmax pmax
comp=Z,7.0nm,1.3s
SNAA Sanae 102.03 191 *e*Pdif Pdif 06 25 01.7 +0.8
comp=Z,6.6nm,1.3s
R11A Troy Canyon, C 102.04 52 ⇑P Pdif 06 25 01.4 +0.4
baz=102
L12A House Creek Ra 102.04 48 ⇓P Pdif 06 25 01.4 +0.4
baz=102
F13A Darby 102.05 44 ⇑P Pdif 06 25 01.4 +0.3
baz=102,SNR=6.0
E13A Victor 102.05 43 ⇑P Pdif 06 25 01.3 +0.3
baz=102
K12A Draper Farm, C 102.07 47 ⇑P Pdif 06 25 01.4 +0.3
baz=102
C14A Swan Lake 102.15 42 ⇓P Pdif 06 25 02.2 +0.7
baz=102
A14A Double T Ranch 102.16 41 ⇑P Pdif 06 25 01.9 +0.4
baz=102
N12A Clover Valley, 102.18 49 ⇓P Pdif 06 25 02.6 +1.0
baz=102
M12A Wells 102.21 48 ⇑P Pdif 06 25 01.5 -0.3
baz=102
G13A Cobalt 102.22 45 ⇑P Pdif 06 25 01.5 -0.3
baz=102
H13A Challis 102.28 45 ⇓P Pdif 06 25 02.9 +0.8
baz=102,SNR=6.0
HLID Hailey 102.30 46 ⇑P Pdif 06 25 02.2 0.0
baz=102
D14A Greenough 102.42 42 ⇑P Pdif 06 25 02.9 +0.2
baz=102
T11A Corn Creek, Al 102.44 53 ⇓P Pdif 06 25 03.2 +0.4
baz=102
I13A Wildhorse Cree 102.47 46 ⇓P Pdif 06 25 03.2 +0.3
baz=102
O12A Currie 102.47 50 ⇓P Pdif 06 25 03.3 +0.4
baz=102
Q12A Willow Creek R 102.55 51 ⇓P Pdif 06 25 03.8 +0.5
baz=103
A15A Johnson Ranch, 102.61 40 ⇓P Pdif 06 25 04.2 +0.7
baz=103
R12A Pony Springs, 102.80 51 ⇓P Pdif 06 25 05.1 +0.7
baz=103
B15A Bradely Ranch, 102.84 41 ⇑P Pdif 06 25 05.2 +0.7
baz=103
H14A Leadore 102.90 45 ⇑P Pdif 06 25 05.5 +0.7
baz=103
J14A Carey 102.98 46 ⇑P Pdif 06 25 06.0 +0.8
baz=103
D15A Lincoln 103.09 42 ⇓P Pdif 06 25 06.5 +0.8
baz=103
E15A Deer Lodge 103.11 43 ⇑P Pdif 06 25 06.1 +0.4
baz=103
P13A Bates Ranch, G 103.13 50 ⇓P Pdif 06 25 06.4 +0.5
baz=103
GLA Glamis 103.16 57 PFAKE 06 25 20.0 +14
GLA LR LR
comp=Z,1μm,18.0s
Q13A Wheeler Ranch, 103.19 51 ⇑P Pdif 06 25 06.2 +0.1
baz=103
MCMT McKenzie Canyo 103.23 45 *e*Pdif Pdif 06 25 09.3 +3.0
R13A O'Grain Ranch, 103.32 52 ⇑P Pdif 06 25 07.7 +1.0
baz=103
A16A West Butte Ran 103.35 40 ⇑P Pdif 06 25 07.3 +0.5
baz=103
M14A Sheep Mountain 103.36 48 ⇑P Pdif 06 25 07.1 +0.2
baz=103
L14A Malta 103.37 48 ⇑P Pdif 06 25 07.3 +0.4
baz=103
H15A Lima 103.41 45 ⇓P Pdif 06 25 07.5 +0.4
baz=103
G15A Dillon 103.43 44 ⇓P Pdif 06 25 07.3 +0.1
baz=103
S13A Holt Ranch, En 103.48 52 ⇑P Pdif 06 25 07.6 +0.2
baz=104
T13A Saint George 103.50 53 ⇓P Pdif 06 25 08.0 +0.5
baz=104
N14A Grayback Hills 103.58 49 ⇓P Pdif 06 25 08.2 +0.4
baz=104
E16A East Helena 103.75 43 ⇓P Pdif 06 25 09.0 +0.4
baz=104
J15A Blackfoot 103.75 46 ⇑P Pdif 06 25 09.1 +0.5
baz=104
Q14A Sevier Lake (B 103.76 51 ⇑P Pdif 06 25 09.2 +0.5
baz=104
P14A Drum Mountains 103.84 50 ⇓P Pdif 06 25 09.7 +0.7
baz=104
G16A Moss Hill, Enn 103.89 44 ⇑P Pdif 06 25 09.9 +0.6
baz=104
DUG Dugway 103.95 49 ⇓P Pdif 06 25 09.9 +0.4
baz=104
DUG Dugway 103.95 49 PFAKE 06 25 20.0 +11
DUG LR LR
comp=Z,1μm,20.6s
KMBO Kilima Mbogo 104.03 268 PFAKE 06 25 20.0 +10
KMBO LR LR
comp=Z,823nm,26.9s
M15A Larsen Ranch, 104.04 48 ⇑P Pdif 06 25 10.1 +0.2
baz=104
C17A Wharram Farm, 104.15 42 ⇓P Pdif 06 25 10.5 +0.1
baz=104
QLMT Earthquake Lak 104.22 45 *e*Pdif Pdif 06 25 13.6 +2.9
I16A Newdale 104.35 46 ⇓P Pdif 06 25 11.8 +0.5
baz=104
J16A Bone 104.36 46 ⇓P Pdif 06 25 11.8 +0.5
baz=104
H16A Russell Place, 104.37 45 ⇓P Pdif 06 25 11.9 +0.5
baz=104
EGMT Eagleton 104.74 41 ⇑P Pdif 06 25 13.8 +0.8
baz=105
U15A North Rim 104.86 53 ⇑P Pdif 06 25 14.4 +0.8
baz=105
O16A Springville 104.94 49 ⇑P Pdif 06 25 14.3 +0.4
baz=105
Y15A Casa Rosa Ranc 105.14 56 ⇓P PKiKP 06 29 29.9 +0.3
baz=105
PDAR Pinedale Array 105.94 46 Pdiff Pdif 06 25 19.9 +1.6
comp=Z,0.9nm,0.8s,baz=220,slow=0.8,SNR=7.3
PDAR PKiKP PKiKP 06 29 30.9 +0.1
comp=Z,0.5nm,0.8s,baz=17,slow=0.9,SNR=3.5
AKASG Malin Array Be 106.16 322 PKiKP PKiKP 06 29 32.6 +1.6
comp=Z,0.2nm,0.3s,baz=48,slow=1.4,SNR=4.3
CSS Prodhromos 106.42 305 PFAKE 06 29 40.0 +8.0
CSS LR LR
comp=Z,318nm,12.3s
TUC Tucson 106.63 57 PFAKE 06 29 40.0 +7.6
TUC LR LR
comp=Z,2μm,19.2s
ANMO Albuquerque 109.78 54 PFAKE 06 29 50.0 +12
ANMO LR LR
comp=Z,2μm,19.4s
SDCO Great Sand Dun 109.99 51 PFAKE 06 29 50.0 +11
SDCO LR LR
comp=Z,1μm,20.9s
OGNE Ogallala 111.82 47 PFAKE 06 29 50.0 +8.1
OGNE LR LR
comp=Z,771nm,22.4s
LBTB Lobatse 111.88 242 PFAKE 06 29 50.0 +7.5
LBTB LR LR
comp=Z,326nm,13.1s
OKC Ostrava-Krasne 113.12 324 AMS AMS 07 21 50.0
comp=Z,600nm,19.1s
TXAR Lajitas Array 113.13 59 PKKPbc PKKPbc 06 40 39.5 +8.1
comp=Z,0.8nm,0.7s,baz=132,slow=6.9,SNR=3.6
AGMN Agassiz Refuge 113.49 38 PFAKE 06 30 00.0 +15
AGMN LR LR
comp=Z,3μm,24.0s
AMTX Amarillo 113.64 53 PFAKE 06 30 00.0 +14
AMTX LR LR
comp=Z,3μm,20.9s
DPC Dobruska-Polom 113.96 325 *e*PP PP 06 30 42.1 +2.2
DPC AMS AMS 07 24 00.0
comp=Z,600nm,15.8s
MUD Monsted U'grnd 114.48 333 *i* P PKiKP 06 30 04.0 +18
MUD *e* 06 38 43.1
MUD
comp=Z,980nm,21.0s
PVCC Panska Ves 114.88 326 *e*PP PP 06 30 41.5 -4.8
TREC Trest 114.92 324 AMS AMS 07 23 00.0
comp=Z,700nm,17.4s
BRG Berggiesshubel 115.06 326 *e*PKiKP PKiKP 06 29 50.5 +2.7
BRG *e* 06 30 52.3
BRG *e* 06 46 51.0
BRG pmax pmax
comp=Z,4.0nm,1.0s
BRG MLR MLR
comp=N,377nm,25.1s
BRG MLR MLR
comp=E,245nm,20.7s
BRG MLR MLR
comp=Z,595nm,18.9s
BRG Berggiesshubel 115.06 326 *e*PKP PKiKP 06 29 50.5 +2.7
comp=Z,6.7nm,1.0s
BRG *e* 06 30 52.3
comp=Z,8.3nm,1.1s
BRG *e* 06 46 51.0
BRG
comp=N,630nm,25.1s
BRG
comp=E,409nm,20.7s
BRG
comp=Z,994nm,18.9s
PRU Pruhonice 115.15 325 AMS AMS 07 21 50.0
comp=Z,500nm,16.7s
CONA Conrad Observa 115.30 323⇑ *i*PP PP 06 30 51.1 +1.6
comp=Z,14nm,1.6s
CSNA Conrad Observa 115.31 323⇑ *i*PP PP 06 30 50.9 +1.5
comp=Z,15nm,1.6s
CLL Collm 115.36 327 *e*PKIKP PKPdf 06 29 48.0 -0.4
CLL MLR MLR
comp=Z,800nm,22.0s
CLL Collm 115.36 327 *e*PKPdf PKPdf 06 29 48.0 -0.4
CLL LmV 06 21 00.0
comp=Z,800nm,22.0s
CLL *e*PP PP 06 30 53.0 +3.3
CLL *e*PS PS 06 40 42.0 +11
CLL *e*SS SS 06 46 48.0 +4.9
GERES GERESS Array B 116.17 324 PKP PKPdf 06 29 50.7 +0.7
comp=Z,0.9nm,0.6s,baz=98,slow=2.7,SNR=4.7
GERES PP PP 06 30 49.0 -6.4
comp=Z,0.4nm,0.2s,baz=79,slow=10,SNR=2.2
JCT Junction City 116.19 57 *e*PKIKP PKPdf 06 29 50.0 -0.6
JCT MLR MLR
comp=Z,2μm,22.0s
KSU1 Kansas State U 116.35 47 PFAKE 06 30 00.0 +9.4
KSU1 LR LR
comp=Z,2μm,22.7s
GRF Grafenberg Arr 117.16 326 *e*PP PP 06 30 58.0 -4.3
comp=Z,18nm,1.9s
COWI Conover 118.57 38 PFAKE 06 30 10.0 +15
COWI LR LR
comp=Z,2μm,21.1s
DAVOX Davos/Dischmat 119.43 324 PKP PKPdf 06 29 56.4 +0.1
comp=Z,3.1nm,0.7s,baz=334,slow=13,SNR=3.6
DAVOX PP PP 06 31 13.4 -4.7
comp=Z,3.6nm,1.0s,baz=354,slow=21,SNR=3.9
HKT Hockley 119.65 57 PFAKE 06 30 10.0 +13
HKT LR LR
comp=Z,822nm,18.7s
NATX Nacogdoches 120.12 55 PFAKE 06 30 10.0 +12
NATX LR LR
comp=Z,1μm,19.5s
MIAR Mount Ida 120.14 51 PFAKE 06 30 10.0 +12
MIAR LR LR
comp=Z,3μm,21.8s
VLC Villacollemand 120.43 321 PFAKE 06 30 10.0 +12
VLC LR LR
comp=Z,587nm,22.0s
ESK Eskdalemuir 120.44 337 PFAKE 06 30 10.0 +12
ESK LR LR
comp=Z,1μm,20.6s
DOU Dourbes 120.48 329 PKP PKPdf 06 30 01.9 +3.7
HINF Hinteralfeld 120.61 326 *e*PKIKP PKPdf 06 29 58.4 -0.2
HINF Hinteralfeld 120.61 326 *e*PKPdf PKPdf 06 29 58.4 -0.2
HAU Haudompre 120.78 326 *e*PKIKP PKPdf 06 29 57.6 -1.3
HAU Haudompre 120.78 326 *e*PKPdf PKPdf 06 29 57.6 -1.3
GLMI Grayling 121.96 37 PFAKE 06 30 10.0 +8.7
GLMI LR LR
comp=Z,2μm,22.1s
BNI Bardonecchia 122.24 323 PFAKE 06 30 10.0 +8.2
BNI LR LR
comp=Z,1μm,19.5s
LOR Lormes 122.58 327 *e*PKIKP PKPdf 06 30 02.8 +0.4
LOR Lormes 122.58 327 *e*PKPdf PKPdf 06 30 02.8 +0.4
ORIF Oris-en-Rattie 122.78 324 *e*PKIKP PKPdf 06 30 01.6 -1.2
ORIF Oris-en-Rattie 122.78 324 *e*PKPdf PKPdf 06 30 01.6 -1.2
SSF Saint Saulge 122.90 327 *e*PKIKP PKPdf 06 30 03.5 +0.5
comp=Z,29nm,1.1s
SSF Saint Saulge 122.90 327 *e*PKPdf PKPdf 06 30 03.5 +0.5
SMF Signal de Mont 122.96 326 *e*PKIKP PKPdf 06 30 03.4 +0.3
comp=Z,59nm,1.4s
SMF Signal de Mont 122.96 326 *e*PKPdf PKPdf 06 30 03.4 +0.3
LMR La Mourre 123.27 322 *e*PKIKP PKPdf 06 30 02.6 -1.2
comp=Z,78nm,1.3s
LMR La Mourre 123.27 322 *e*PKPdf PKPdf 06 30 02.6 -1.2
BLO Bloomington 123.53 44 *e*PKPdf PKPdf 06 30 03.7 -0.8
TCF Toulx Ste Croi 124.08 327 *e*PKIKP PKPdf 06 30 05.8 +0.5
comp=Z,52nm,1.3s
TCF Toulx Ste Croi 124.08 327 *e*PKPdf PKPdf 06 30 05.8 +0.5
BRAL Brewton 126.51 53 PFAKE 06 30 20.0 +10
BRAL LR LR
comp=Z,624nm,20.2s
PLCA Paso Flores 127.69 149 PKP PKPdf 06 30 14.3 +2.0
comp=Z,3.1nm,0.8s,baz=234,slow=2.7,SNR=7.9
PLCA Paso Flores 127.69 149 PKP PKPdf 06 30 14.3 +2.0
PAYG Puerto Ayora 128.25 93 PFAKE 06 30 30.0 +16
PAYG LR LR
comp=Z,826nm,18.4s
TEIG Tepich 128.66 66 PFAKE 06 30 30.0 +15
TEIG LR LR
comp=Z,538nm,21.7s
TGUH Tegucigalpa,Un 130.74 74 PFAKE 06 30 30.0 +11
TGUH LR LR
comp=Z,856nm,22.1s
CNNC Cliffs of the 131.46 44 PFAKE 06 30 30.0 +10
CNNC LR LR
comp=Z,951nm,21.1s
ESLA Sonseca Array 131.76 324 PFAKE 06 30 30.0 +10
ESLA LR LR
comp=Z,3μm,19.6s
TAM Tamanrasset 132.89 299 *e*PKIKP PKPdf 06 30 24.4 +1.6
MTE Manteigas 133.29 327 PFAKE 06 30 30.0 +7.0
MTE LR LR
comp=Z,1μm,22.4s
JTS JuntasAbangare 133.46 79 PFAKE 06 30 40.0 +16
JTS LR LR
comp=Z,388nm,18.9s
EVO Evora 134.86 326 *e*PKIKP PKPdf 06 30 24.1 -1.9
MDT Midelt 136.41 317 PKP PKPdf 06 30 30.9 +1.8
comp=Z,1.5nm,0.9s,baz=45,slow=4.3,SNR=3.8
MDT PP PP 06 33 12.7 +2.7
comp=Z,2.0nm,1.0s,baz=3.0,slow=7.0,SNR=4.0
BCIP Isla Barro Col 138.59 80 PFAKE 06 30 50.0 +16
BCIP LR LR
comp=Z,746nm,18.4s
TOA0 Torodi Ar. Sit 138.85 287 *e*PKPdf PKPdf 06 30 33.8 -0.2
TORD Torodi Ar. Bea 138.85 287 PKhKP 06 30 31.2
comp=Z,4.0nm,0.7s,baz=43,slow=1.5,SNR=16
TORD PKP PKPdf 06 30 35.7 +1.7
comp=Z,4.0nm,0.7s,baz=48,slow=2.1,SNR=17
TORD PP PP 06 33 23.4 -2.9
comp=Z,1.7nm,1.1s,baz=51,slow=4.3,SNR=3.6
TORD Torodi Ar. Bea 138.85 287 PKP PKPdf 06 30 31.2 -2.8
TORD PKP PKPdf 06 30 35.7 +1.7
TORD PP PP 06 33 23.4 -2.9
OTAV Otavalo 140.12 93 *e*PKPdf PKPdf 06 30 38.9 +2.4
OTAV LR LR
comp=Z,579nm,25.1s
BBSR BB Station 141.82 37 PFAKE 06 30 50.0 +11
BBSR LR LR
comp=Z,3μm,18.4s
CMLA Cha da Macela 143.29 342 *e*SS SS 06 53 16.2 +50
CMLA Cha da Macela 143.29 342 *e*LQ 07 10 38.0
CMLA eLR LR 07 17 36.2
ROSC El Rosal 144.34 86 PKP PKPdf 06 30 43.4 -0.5
comp=Z,16nm,0.6s,baz=92,slow=1.7,SNR=25
LPAZ La Paz 145.16 124 PKPbc PKPbc 06 30 45.9 +1.0
comp=Z,25nm,0.9s,baz=264,slow=1.8,SNR=44
KIC Kosan Boka 146.05 277 *e*PKIKP PKPdf 06 30 49.9 +3.0
comp=Z,528nm,1.5s
DBIC Dimbokro 146.14 278 PKPbc PKPbc 06 30 48.0 -0.1
comp=Z,18nm,0.6s,baz=75,slow=3.8,SNR=17
DBIC Dimbokro 146.14 278 PKPbc PKPbc 06 30 48.0 -0.1
DBIC LR LR
comp=Z,544nm,28.2s
TIC Toumodi 146.30 278 *e*PKIKP PKPdf 06 30 50.3 +3.0
comp=Z,431nm,1.5s
LIC Lamto 146.34 277 *e*PKIKP PKPdf 06 30 47.6 +0.2
comp=Z,423nm,1.8s
LIC Lamto 146.34 277 *e*PKIKP PKPdf 06 30 50.3 +2.9
comp=Z,293nm,1.8s
SDV Santo Domingo 147.64 78 *e*PKPdf PKPdf 06 30 49.8 +0.3
SDV *e*PKPbc PKPbc 06 30 52.3 0.0
SDV *e*PKPab PKPab 06 30 55.2 +0.5
SJG San Juan 149.10 59 *e*PKIKP PKPdf 06 30 54.1 +2.3
SJG MLR MLR
comp=Z,958nm,31.0s
MTP Monte Pirata 149.61 58 *e*PKPdf PKPdf 06 30 54.0 +1.4
BDFB Brasilia 159.36 154 PKPab PKPab 06 31 44.0 +0.3
comp=Z,3.8nm,0.9s,baz=159,slow=12,SNR=5.3
BDFB Brasilia 159.36 154 PKP2 PKPab 06 31 44.0 +0.4
BDFB pmax pmax
comp=Z,4.0nm,0.9s
BDFB Brasilia 159.36 154 PFAKE 06 31 20.0 +14
BDFB LR LR
comp=Z,876nm,24.0s

NNC 22 06:13:33.5 2.9, 4993N 8823E, h12 km, 19 km, mb3.6, mpv3.2, 4C-3D, Error ellipse: s-maj=25.0km s-min=16.4km az=71.0, Tuva-Buryatia-Mongolia border region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
MK31	**Makanchi Array**	**5.05**	**234**	⇑Pn		Pn	06 14 51.9	+3.0
	2.2nm,0.5s,baz=50,slow=16,SNR=88							
MK31				⇓Sn		Sn	06 15 53.4	+6.2
	3.4nm,0.5s,baz=61,slow=30,SNR=4.9							
MK31				Lg			06 16 17.9	
	9.7nm,0.7s,baz=52,slow=31,SNR=4.5							
KURK	**Kurchatov**	**6.21**	**281**	⇑Pn		Pn	06 15 04.5	-0.3
	3.5nm,0.9s							
KURK				⇑Lg			06 16 47.3	
	12nm,0.6s							
KURBB	**Kurchatov Arra**	**6.26**	**280**	⇑Pn		Pn	06 15 05.4	-0.1
	0.3nm,0.2s							
KURBB				⇓Sn		Sn	06 16 18.4	+1.6

1.7nm,0.6s
KURBB ⇓Lg 06 16 50.5
4.1nm,0.7s

IDC ***22*** *06:14:31.6±0.9,277S×14177E,h0km,mb4.6/10, mb1 4.8/11,mb1mx4.6/15,mbtmp4.6/11,ML4.3/1,Error ellipse: s-maj=35.7km s-min=20.0km az=96.0*
ISCJB ***22*** *06:14:35.4±1.8,287S±006×14155E±007,h33km±13km, mb4.9/42,MS4.8/13,Error ellipse: s-maj=11.8km s-min=9.1km az=13.5*
BJI ***22*** *06:14:35.1,280S×14160E,h20km,mB5.3,mb5.0,Ms5.1, Msz4.9*
MOS ***22*** *06:14:37.6±1.1,286S×14151E,h54km,mb5.3/13,Error ellipse: s-maj=18.5km s-min=9.8km az=87.8*
NEIC ***22*** *06:14:37.1±0.2,283S×14158E,h35km,mb5.0/15,Error ellipse: s-maj=10.2km s-min=5.7km az=98.0*

ISC 22 06:14:39.0±1.4,291S±006×14157E±007,h53km±13km, h60km±1.8km:pP-P,n88,σ0°98/89,mb4.9/41,MS4.8/13, 8C-5D,Near north coast of New Guinea

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
COEN	**Coen**	**11.09**	**172**	Pn		**Pn**	**06 17 14.4**	**-0.6**
WRAB	**Tennant Creek**	**18.33**	**202**	*e*P		**Pn**	**06 18 48.6**	**-0.9**
WRAB				pmax		pmax		
	comp=Z,48nm,0.9s							
WRAB	**Tennant Creek**	**18.33**	**202**	*e*P		**Pn**	**06 18 48.6**	**-0.9**
	comp=Z,48nm,0.9s							
WB2	**Warramunga Arr**	**18.34**	**202**	*e*P		**Pn**	**06 18 49.2**	**-0.4**
WRA	**Warramunga Arr**	**18.34**	**202**	P		**Pn**	**06 18 48.8**	**-0.9**
	comp=Z,1.1nm,0.3s,baz=18,slow=13,SNR=5.2							
ASAR	**Alice Springs**	**21.93**	**199**	P		**P**	**06 19 28.3**	**+0.3**
	comp=Z,5.6nm,0.8s,mb4.1,baz=24,slow=10,SNR=4.9							
KKM	**Kota Kinabalu**	**26.84**	**289**	*e*P		**P**	**06 20 13.3**	**-1.5**
STKA	**Stephens Creek**	**28.81**	**180**	*e*P		**P**	**06 20 33.4**	**+1.2**
MJAR	**Matsushiro Arr**	**39.37**	**356**	P		**P**	**06 21 59.9**	**-3.5**
	comp=Z,3.1nm,0.8s,mb4.1,baz=159,slow=8.7,SNR=4.9							
MAT	**Matsushiro**	**39.37**	**356**	P		**P**	**06 22 02.8**	**-0.6**
NJ2	**Nanjing**	**40.91**	**330**	*e*P		**P**	**06 22 17.3**	**+1.0**
NJ2				PP		PP	06 23 55.5	+3.9
NJ2				S		**S**	**06 28 23.0**	**-1.3**
NJ2				AMB		AMB		
	comp=Z,10.0nm,0.6s,mb4.6							
NJ2				AMB		AMB		
	comp=Z,170nm,4.0s							
NJ2				LR		LR		
	comp=N,540nm,17.6s,MS4.8							
NJ2				LR		LR		
	comp=E,800nm,14.6s,MS4.8							
NJ2				LR		LR		
	comp=Z,820nm,16.2s,MS4.7							
KSRS	**Korea Array**	**42.11**	**344**	P		**P**	**06 22 25.4**	**-0.7**
	comp=Z,3.6nm,0.9s,mb4.0,baz=170,slow=10,SNR=5.5							
KSRS				PcP		PcP	06 24 20.5	+0.7
	comp=Z,0.7nm,0.3s,baz=167,slow=4.0,SNR=4.4							
GYA	**Guiyang**	**44.61**	**313**	⇓*iP*		**P**	**06 22 48.8**	**+2.5**
GYA				PCP		PcP	06 24 31.8	+3.2
GYA				PP		PP	06 24 36.3	+4.9
GYA				SCP		ScP	06 28 17.0	+0.5
GYA				S		**S**	**06 29 21.4**	**+2.6**
GYA				SS		SS	06 32 34.0	-6.4
GYA				AMB		AMB		
	comp=Z,20nm,1.0s,mb4.9							
GYA				AMB		AMB		
	comp=Z,130nm,5.4s							
GYA				LR		LR		
	comp=N,710nm,19.2s,MS4.8							
GYA				LR		LR		
	comp=E,690nm,18.5s,MS4.8							
GYA				LR		LR		
	comp=Z,710nm,19.4s,MS4.6							
KMI	**Kunming**	**46.84**	**309**	P		**P**	**06 23 04.0**	**0.0**
KMI				PP		PP	06 24 57.6	+2.6
KMI				S		**S**	**06 29 52.3**	**+1.3**
KMI				SS		SS	06 33 13.3	-5.0
KMI				AMB		AMB		
	comp=Z,13nm,1.2s,mb4.7							
KMI				AMB		AMB		
	comp=Z,310nm,6.2s							
KMI				LR		LR		
	comp=N,685nm,18.4s,MS4.7							
KMI				LR		LR		
	comp=E,638nm,22.4s,MS4.7							
KMI				LR		LR		
	comp=Z,597nm,16.6s							
CMAR	**Chiang Mai Arr**	**47.03**	**299**	P		**P**	**06 23 07.0**	**+1.5**
	comp=Z,3.3nm,0.8s,mb4.3,baz=120,slow=7.1,SNR=5.6							
CMAR				PcP		PcP	06 24 38.5	+1.3
	comp=Z,2.9nm,0.8s,baz=122,slow=1.7,SNR=5.2							
SNY	**Shenyang**	**47.44**	**342**	⇑P		**P**	**06 23 08.9**	**+0.6**
SNY				S		**S**	**06 29 57.4**	**-1.4**
SNY				AMB		AMB		
	comp=Z,16nm,1.0s,mb4.9							
SNY				AMB		AMB		
	comp=Z,380nm,7.3s							
SNY				LR		LR		
	comp=N,670nm,14.1s							
SNY				LR		LR		
	comp=Z,1μm,17.6s,MS4.8							
XAN	**Xi'an**	**47.92**	**323**	P		**P**	**06 23 10.9**	**-1.3**
XAN				AP		pP	06 23 26.3	-0.1
XAN				PP		PP	06 25 02.0	-2.6
XAN				S		**S**	**06 29 59.6**	**-6.4**
XAN				XS		sS	06 30 26.3	-3.6
XAN				AMB		AMB		
	comp=Z,21nm,1.4s,mb5.0							
XAN				AMB		AMB		
	comp=Z,125nm,8.4s							
XAN				LR		LR		
	comp=N,237nm,19.2s,MS4.5							
XAN				LR		LR		
	comp=E,384nm,15.5s,MS4.5							
XAN				LR		LR		
	comp=Z,1μm,18.1s,MS4.9							
MDJ	**Mudanjiang**	**48.51**	**349**	P		**P**	**06 23 19.8**	**+3.2**
MDJ				PP		PP	06 25 13.3	+3.4
MDJ				S		**S**	**06 30 19.1**	**+5.1**
MDJ				SCS		ScS	06 33 08.3	+3.8
MDJ				AMB		AMB		
	comp=Z,10.0nm,1.3s,mb4.7							
MDJ				AMB		AMB		
	comp=Z,137nm,6.1s							
MDJ				LR		LR		
	comp=N,2μm,25.5s,MS5.0							
MDJ				LR		LR		
	comp=E,1μm,24.2s,MS5.0							
MDJ				LR		LR		
	comp=Z,3μm,21.5s,MS5.2							
MDJ	**Mudanjiang**	**48.51**	**349**	*e*P		**P**	**06 23 16.1**	**-0.5**
	comp=Z,13nm,0.8s,mb5.0							
BJI	**Beijing**	**48.67**	**334**	P		**P**	**06 23 19.5**	**+1.6**
BJI				S		**S**	**06 30 21.1**	**+4.7**
BJI				AMB		AMB		
	comp=Z,24nm,1.6s,mb5.0							
BJI				LR		LR		
	comp=N,749nm,16.3s,MS4.9							
BJI				LR		LR		
	comp=E,443nm,14.1s,MS4.9							
BJI				LR		LR		
	comp=Z,545nm,18.5s,MS4.6							
CN2	**Changchun**	**48.70**	**344**	*e*P		**P**	**06 23 17.0**	**-1.1**
CN2				*e*AP		pP	06 23 32.6	+0.3
CN2				*e*S		**S**	**06 30 14.5**	**-2.3**
CN2				AMB		AMB		
	comp=Z,20nm,1.2s,mb5.0							
CN2				AMB		AMB		
	comp=Z,200nm,5.0s							
CN2				LR		LR		
	comp=N,1μm,20.0s,MS4.9							
CN2				LR		LR		
	comp=E,600nm,20.0s,MS4.9							
CN2				LR		LR		
	comp=Z,1μm,20.0s,MS4.8							
CD2	**Chengdu**	**49.28**	**316**	*e*P		**P**	**06 23 22.8**	**+0.1**
CD2				PP		PP	06 25 17.5	+0.4
CD2				S		**S**	**06 30 23.0**	**-2.2**
CD2				SS		SS	06 33 50.3	-7.2
CD2				AMB		AMB		
	comp=Z,10.0nm,1.0s,mb4.8							
CD2				AMB		AMB		
	comp=Z,60nm,5.2s							
YSS	**Yuzh-Sakhalins**	**49.66**	**1⇑**	*e*P		**P**	**06 23 25.0**	**-0.3**
YSS				pmax		pmax		
	comp=Z,50nm,1.1s,mb5.5							
HHC	**Hu-ho-hao-te**	**51.45**	**331**	*e*P		**P**	**06 23 42.3**	**+3.4**
HHC				PCP		PcP	06 24 55.3	+2.5
HHC				PP		PP	06 25 41.4	+4.8
HHC				SCP		ScP	06 28 44.4	-0.7
HHC				S		**S**	**06 30 56.8**	**+1.8**
HHC				SCS		ScS	06 33 23.5	-1.2
HHC				SS		SS	06 34 30.9	-0.8
HHC				AMB		AMB		
	comp=Z,14nm,1.0s,mb4.8							
HHC				AMB		AMB		
	comp=Z,198nm,4.8s							
HHC				LR		LR		
	comp=N,749nm,17.6s,MS4.9							
HHC				LR		LR		
	comp=E,795nm,17.3s,MS4.9							
HHC				LR		LR		
	comp=Z,975nm,16.9s,MS4.9							
LZH	**Lanzhou**	**52.39**	**321**	*e*P		**P**	**06 23 46.0**	**0.0**
LZH				AP		pP	06 24 00.0	-0.4
LZH				*e*S		**S**	**06 31 06.1**	**-2.1**
LZH				XS		sS	06 31 29.0	-3.3
LZH				SS		SS	06 34 43.0	-3.8
LZH				AMB		AMB		
	comp=Z,65nm,1.2s,mb5.4							
LZH				AMB		AMB		
	comp=Z,259nm,4.4s							
LZH				LR		LR		
	comp=E,736nm,14.7s							
LZH				LR		LR		
	comp=Z,1μm,16.6s,MS5.0							
HIA	**Hailar**	**55.30**	**343**	*e*P		**P**	**06 24 06.3**	**-0.8**
HIA				pmax		pmax		
	comp=Z,9.0nm,0.6s							
HIA	**Hailar**	**55.30**	**343**	*e*P		**P**	**06 24 06.3**	**-0.8**
	comp=Z,9.0nm,0.6s,mb5.0							
GTA	**Gaotai**	**56.95**	**322**	*e*P		**P**	**06 24 19.0**	**0.0**
GTA				AP		pP	06 24 35.0	+1.4
GTA				S		**S**	**06 32 07.6**	**-1.8**
GTA				SS		SS	06 35 57.3	-1.4
GTA				AMB		AMB		
	comp=Z,19nm,0.9s,mb5.1							
GTA				AMB		AMB		
	comp=Z,211nm,6.9s							
GTA				LR		LR		
	comp=N,599nm,15.3s,MS4.9							
GTA				LR		LR		
	comp=E,420nm,15.3s,MS4.9							
GTA				LR		LR		
	comp=Z,536nm,17.7s,MS4.7							
PET	**Petropavlovsk**	**57.56**	**12⇑**	*iP*		**P**	**06 24 23.8**	**+0.8**
PET				pmax		pmax		
	comp=Z,118nm,1.6s,mb5.7							
ZAK	**Zakamensk**	**62.41**	**333**	*e*P		**P**	**06 24 56.2**	**-0.2**
ZAK				pmax		pmax		
	comp=Z,16nm,1.4s,mb5.0							
TLY	**Talaya**	**63.19**	**335**	*e*P		**P**	**06 25 01.7**	**+0.2**
TLY				pmax		pmax		
	comp=Z,22nm,1.3s,mb5.1							
TLY	**Talaya**	**63.19**	**335**	*e*P		**P**	**06 25 02.1**	**+0.6**
	comp=Z,14nm,1.2s,mb5.0							
KIP	**Kipapa**	**63.83**	**65⇓**	*iP*		**P**	**06 25 06.5**	**+0.2**
YAK	**Yakutsk**	**65.40**	**354**	*e*P		**P**	**06 25 14.4**	**-1.4**
YAK				pmax		pmax		
	comp=Z,26nm,1.2s,mb5.1							
SEY	**Seymchan**	**66.18**	**5⇑**	*iP*		**P**	**06 25 20.9**	**+0.2**
WMQ	**Urumqi**	**66.96**	**321**	P		**P**	**06 25 26.8**	**+0.7**
WMQ				PCP		PcP	06 25 54.5	+0.2
WMQ				PP		PP	06 27 56.8	+2.5
WMQ				S		S	06 34 12.8	-2.7
WMQ				SS		SS	06 38 34.3	-0.7
WMQ				AMB		AMB		
	comp=Z,28nm,1.0s,mb5.2							
WMQ				LR		LR		
	comp=N,134nm,21.8s,MS4.4							
WMQ				LR		LR		
	comp=E,191nm,19.0s,MS4.4							
WMQ				LR		LR		
	comp=Z,272nm,19.0s,MS4.5							
MK31	**Makanchi Array**	**71.70**	**322**	*e*P		**P**	**06 25 55.4**	**0.0**
MKAR	**Makanchi Array**	**71.70**	**322**	P		**P**	**06 25 55.8**	**+0.4**
	comp=Z,25nm,1.1s,mb5.1,baz=110,slow=7.8,SNR=15							
BILL	**Bilibino**	**72.87**	**9⇑**	*iP*		**P**	**06 26 04.0**	**+2.1**
BILL				pmax		pmax		
	comp=Z,41nm,2.5s,mb4.9							
ZAA0	**Zalesovo Array**	**73.56**	**329**	*e*P		**P**	**06 26 05.4**	**-0.9**
ZALV	**Zalesovo Beam**	**73.56**	**329**	P		**P**	**06 26 05.5**	**-0.8**
	comp=Z,13nm,0.7s,mb5.0,baz=111,slow=6.4,SNR=21							
TKM2	**Tokmak 2**	**74.66**	**316**	*e*P		**P**	**06 26 13.5**	**+0.5**
TKM2				pmax		pmax		
	comp=Z,8.0nm,0.8s,mb4.7							
TKM2	**Tokmak 2**	**74.66**	**316**	*e*P		**P**	**06 26 13.5**	**+0.5**
	comp=Z,8.0nm,0.8s,mb4.7							
TIXI	**Tiksi**	**74.88**	**356⇑**	*iP*		**P**	**06 26 14.3**	**+0.6**
TIXI				pmax		pmax		
	comp=Z,20nm,2.5s,mb4.6							
TIXI	**Tiksi**	**74.88**	**356**	*e*P		**P**	**06 26 13.5**	**-0.2**
	comp=Z,3.5nm,0.6s,mb4.5							
KURK	**Kurchatov**	**75.53**	**324**	*e*P		**P**	**06 26 17.5**	**-0.3**
KURK				pmax		pmax		
	comp=Z,19nm,0.9s,mb5.0							
KURK	**Kurchatov**	**75.53**	**324**	*e*P		**P**	**06 26 17.5**	**-0.3**
	comp=Z,19nm,0.9s,mb5.0							
AML	**Almayashu**	**75.75**	**315**	*e*P		**P**	**06 26 20.6**	**+1.4**
	comp=Z,8.7nm,0.8s,mb4.7							
EKS2	**Erkin-Say**	**75.85**	**315**	*e*P		**P**	**06 26 20.7**	**+0.9**
SVW2	**Sparrevohn**	**79.79**	**26**	*e*P		**P**	**06 26 42.0**	**+0.7**
KDAK	**Kodiak Island**	**79.84**	**30**	P		**P**	**06 26 40.6**	**-1.1**
	comp=Z,19nm,1.0s,mb5.0,baz=264,slow=10,SNR=4.1							
BRVK	**Borovoye**	**81.19**	**325**	*e*P		**P**	**06 26 49.0**	**0.0**
BRVK				pmax		pmax		
	comp=Z,61nm,1.3s,mb5.4							
BRVK	**Borovoye**	**81.19**	**325**	*e*P		**P**	**06 26 49.0**	**+0.1**
	comp=Z,61nm,1.3s,mb5.4							
SLKM	**Skilak Lake**	**81.97**	**28**	*e*P		**P**	**06 26 52.7**	**-0.3**
PPLA	**Purkeypile**	**81.98**	**25**	*e*P		**P**	**06 26 53.0**	**0.0**
CHUM	**Lake Minchumin**	**82.31**	**24**	*e*P		**P**	**06 26 55.2**	**+0.6**
	comp=Z,53nm,0.9s,mb5.5							
RC01	**Rabbit Creek A**	**82.40**	**27**	*e*P		**P**	**06 26 54.3**	**-0.8**
	comp=Z,37nm,1.2s,mb5.2							
IMA2	**Indian Mountai**	**82.66**	**22**	*e*P		**P**	**06 26 56.8**	**+0.4**
KTH	**Kantishna Hill**	**82.76**	**25**	*e*P		**P**	**06 26 56.4**	**-0.6**
PMR	**Palmer**	**82.85**	**27**	*e*P		**P**	**06 26 56.2**	**-1.3**
PMR				pmax		pmax		
	comp=Z,20nm,1.1s,mb5.1							
PMR	**Palmer**	**82.85**	**27**	*e*P		**P**	**06 26 56.2**	**-1.3**
	comp=Z,20nm,1.1s,mb5.1							
TRF	**Thorofare Moun**	**82.99**	**25**	*e*P		**P**	**06 26 57.7**	**-0.5**
MAW	**Mawson**	**83.02**	**202**	*e*P		**P**	**06 26 59.4**	**+1.1**
	comp=Z,4.6nm,1.4s,mb4.3							
MAW	**Mawson**	**83.02**	**202**	P		**P**	**06 26 59.3**	**+1.1**
	comp=Z,5.9nm,1.1s,mb4.5,baz=72,slow=8.0,SNR=3.7							
MAW	**Mawson**	**83.02**	**202**	*e*P		**P**	**06 26 59.4**	**+1.1**
MAW				pmax		pmax		
	comp=Z,5.0nm,1.4s							
MCK	**McKinley**	**83.66**	**25**	*e*P		**P**	**06 27 00.3**	**-1.3**
COLD	**Coldfoot**	**84.39**	**21**	*e*P		**P**	**06 27 06.1**	**+0.8**
COLA	**College**	**84.48**	**24⇑**	*iP*		**P**	**06 27 05.5**	**-0.3**
COLA	**College**	**84.48**	**24**	*e*P		**P**	**06 27 05.2**	**-0.6**
	comp=Z,13nm,0.9s,mb5.1							
EGAK	**Eagle**	**87.21**	**25**	*e*P		**P**	**06 27 19.9**	**+0.6**
DAWY	**Dawson**	**87.81**	**26**	*e*P		**P**	**06 27 22.7**	**+0.5**
HYT	**Haines Junctio**	**88.10**	**29**	*e*P		**P**	**06 27 24.3**	**+0.7**
ARU	**Arti**	**88.53**	**327**	*d iP*		**P**	**06 27 26.6**	**+0.8**
ARU				*e*			06 30 56.1	
ARU				*e*S		S	06 37 49.5	-18
ARU				*e*SS		SS	06 43 57.7	-1.4
ARU				pmax		pmax		
	comp=Z,21nm,1.7s,mb5.2							
SYO	**Syowa Base**	**91.58**	**201⇑**	*e*P		**P**	**06 27 39.0**	**-0.8**
GNI	**Garni**	**97.09**	**310**	⇓*iP*		**P**	**06 28 05.1**	**-0.5**
GNI				pmax		pmax		
	comp=Z,14nm,1.7s							
MOD	**Modoc**	**97.99**	**48**	*e*P		**P**	**06 28 10.6**	**+0.9**
	comp=Z,13nm,1.4s,mb5.3							
YKA	**Yellowknife Ar**	**98.95**	**27**	P		**P**	**06 28 13.4**	**-0.1**
	comp=Z,2.0nm,1.0s,mb4.6,baz=277,slow=4.7,SNR=4.9							
APA	**Apatity**	**99.56**	**338**	⇓*eP*		Pdif	06 28 21.0	+4.6
APA				pmax		pmax		
	comp=Z,32nm,1.4s,mb5.6							
APA				MLR		MLR		
	comp=Z,1μm,19.0s,MS5.5							
NVAR	**Mina Array Bea**	**99.74**	**52**	P		Pdif	06 28 17.4	+0.2
	comp=Z,1.1nm,1.0s,baz=222,slow=2.2,SNR=4.0							
JCT	**Junction City**	**116.01**	**57**	*e*PKIKP		PKPdf	06 33 17.1	+0.4
TORD	**Torodi Ar. Bea**	**139.05**	**287**	PKP		PKPdf	06 34 02.4	+1.6
	comp=Z,2.5nm,0.8s,baz=50,slow=2.1,SNR=6.8							
ROSC	**El Rosal**	**144.14**	**86**	PKP		PKPdf	06 34 10.0	0.0
	comp=Z,14nm,1.0s,baz=120,slow=3.3,SNR=4.8							
ROSC	**El Rosal**	**144.14**	**86**	*e*PKPdf		PKPdf	06 34 10.1	+0.1
LPAZ	**La Paz**	**145.00**	**124**	PKP		PKPdf	06 34 13.2	+1.8
	comp=Z,3.5nm,0.7s,baz=280,slow=2.2,SNR=5.2							
LPAZ	**La Paz**	**145.00**	**124**	*e*PKPbc		PKPdf	06 34 13.1	+1.7
DBIC	**Dimbokro**	**146.34**	**278**	PKPbc		PKPbc	06 34 15.6	+0.6
	comp=Z,3.4nm,0.6s,baz=70,slow=5.0,SNR=5.6							
DBIC	**Dimbokro**	**146.34**	**278**	*e*PKPdf		PKPdf	06 34 13.2	-0.6
DBIC				PKPbc		PKPbc	06 34 15.6	+0.6
SDV	**Santo Domingo**	**147.44**	**78**	*e*PKPdf		PKPdf	06 34 16.9	+1.3
SDV				*e*PKPbc		PKPbc	06 34 19.1	+0.9
SDV				*e*PKPab		PKPab	06 34 20.9	+0.6

MEX 22 06:20:23.2±0.8,1668N×9985W,h7km±19km,MD3.5,Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
ACX	**Acapulco**	**0.20**	**341**	*i* P		Pg	06 20 26.7	-0.5
ACX				*i* S		Sg	06 20 30.1	+0.1
CAIG	**El Cayaco**	**0.54**	**313**	*i* P		Pg	06 20 33.0	-0.7
CAIG				*i* S		Sg	06 20 41.2	+0.4
PNIG	**Pinotepa**	**1.68**	**99**	*e*P		Pn	06 20 49.4	-3.6
PNIG				*i* S		Sn	06 21 11.2	-3.5
UTMO	**Huajuapan**	**2.27**	**59**	*i* P		Pn	06 20 57.8	-3.3
UTMO				*i* S		Sn	06 21 23.7	-5.6

IDC 22 06:31:14.8±1.5,280S×14122E,h0km,mb4.0/4,mb1 4.1/5, mb1mx3.9/15,mbtmp4.0/5,ML3.8/1,Error ellipse: s-maj=54.6km s-min=22.7km az=94.0,Near north coast of New Guinea

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
KAKA	**Kakadu**	**13.13**	**221**	*e*P		Pn	06 34 18.3	-4.5
	14nm,0.6s							
WRA	**Warramunga Arr**	**18.32**	**201**	P		Pn	06 35 30.7	+0.2
	0.4nm,0.3s,baz=20,slow=12,SNR=17							
FITZ	**Fitzroy Crossi**	**21.55**	**224**	*e*P		P	06 36 05.8	-0.2
	6.7nm,0.6s							
FITZ	**Fitzroy Crossi**	**21.55**	**224**	P		P	06 36 05.9	-0.1
	3.3nm,0.6s,baz=37,slow=17,SNR=17							
ASAR	**Alice Springs**	**21.92**	**198**	P		P	06 36 09.7	-0.2
	1.4nm,0.7s,baz=32,slow=8.5,SNR=7.7							
MKAR	**Makanchi Array**	**71.40**	**322**	P		P	06 42 37.6	+0.7
	2.6nm,0.7s,baz=108,slow=7.8,SNR=16							
ZALV	**Zalesovo Beam**	**73.28**	**329**	P		P	06 42 47.4	-0.6
	3.3nm,0.7s,baz=111,slow=6.3,SNR=15							
TORD	**Torodi Ar. Bea**	**138.68**	**287**	PKP		PKPdf	06 50 44.6	+0.6
	0.3nm,0.7s,baz=29,slow=3.3,SNR=2.6							
LPAZ	**La Paz**	**145.35**	**124**	PKPbc		PKPbc	06 50 55.6	0.0
	0.7nm,0.6s,baz=318,slow=1.9,SNR=5.3							

IDC 22 06:46:16.6±1.5,282S×14123E,h0km,mb4.0/4,mb1 4.1/5, mb1mx3.9/15,mbtmp4.0/5,ML3.8/1,Error ellipse: s-maj=55.6km s-min=23.0km az=94.0,Near north coast of New Guinea

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
KAKA	**Kakadu**	**13.12**	**221**	*e*P		Pn	06 49 21.6	-2.8
	6.0nm,0.6s							
WRA	**Warramunga Arr**	**18.30**	**201**	P		Pn	06 50 31.7	-0.4
	0.4nm,0.3s,baz=20,slow=12,SNR=26							
FITZ	**Fitzroy Crossi**	**21.54**	**224**	*e*P		P	06 51 07.5	-0.2
	4.0nm,0.8s							
FITZ	**Fitzroy Crossi**	**21.54**	**224**	P		P	06 51 07.5	-0.2
	2.4nm,0.8s,baz=33,slow=13,SNR=7.6							
ASAR	**Alice Springs**	**21.90**	**198**	P		P	06 51 11.6	+0.1
	1.6nm,0.7s,baz=29,slow=9.8,SNR=16							
MKAR	**Makanchi Array**	**71.42**	**322**	P		P	06 57 39.0	+0.2
	2.3nm,0.7s,baz=108,slow=7.8,SNR=14							
ZALV	**Zalesovo Beam**	**73.31**	**329**	P		P	06 57 49.6	-0.3
	2.2nm,0.5s,baz=111,slow=5.3,SNR=8.7							
TORD	**Torodi Ar. Bea**	**138.70**	**287**	PKP		PKPdf	07 05 46.6	+0.8
	0.5nm,0.7s,baz=54,slow=1.9,SNR=3.0							
LPAZ	**La Paz**	**145.33**	**124**	PKPbc		PKPbc	07 05 57.1	-0.2
	0.9nm,0.7s,baz=288,slow=3.2,SNR=5.0							
DBIC	**Dimbokro**	**145.99**	**278**	PKPbc		PKPbc	07 05 59.4	-0.1
	2.2nm,0.9s,baz=79,slow=5.2,SNR=3.6							

IDC 22 06:49:57.7±1.5,282S×14120E,h0km,mb3.9/4,mb1 4.1/5, mb1mx3.9/15,mbtmp4.0/5,ML4.0/1,Error ellipse: s-maj=56.8km s-min=23.9km az=95.0,Near north coast of New Guinea

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
WRA	**Warramunga Arr**	**18.29**	**201**	P		Pn	06 54 12.8	-0.2
	0.5nm,0.3s,baz=19,slow=12,SNR=19							
FITZ	**Fitzroy Crossi**	**21.52**	**224**	*e*P		P	06 54 48.7	+0.2
	4.6nm,0.6s							
FITZ	**Fitzroy Crossi**	**21.52**	**224**	P		P	06 54 48.6	+0.1
	2.2nm,0.7s,baz=51,slow=14,SNR=8.0							
ASAR	**Alice Springs**	**21.89**	**198**	P		P	06 54 51.9	-0.5
	1.7nm,0.7s,baz=29,slow=9.8,SNR=10.0							
MKAR	**Makanchi Array**	**71.40**	**322**	P		P	07 01 20.1	+0.4
	2.9nm,1.0s,baz=108,slow=7.8,SNR=8.3							
ZALV	**Zalesovo Beam**	**73.29**	**329**	P		P	07 01 30.0	-0.9
	1.2nm,0.4s,baz=109,slow=6.7,SNR=5.7							
TORD	**Torodi Ar. Bea**	**138.67**	**287**	PKP		PKPdf	07 09 25.2	-1.6
	0.6nm,0.9s,baz=90,slow=3.1,SNR=3.7							
LPAZ	**La Paz**	**145.35**	**124**	PKPbc		PKPbc	07 09 38.5	+0.1
	0.8nm,0.8s,baz=164,slow=3.3,SNR=4.3							
DBIC	**Dimbokro**	**145.96**	**278**	PKPbc		PKPbc	07 09 41.0	+0.5
	2.2nm,0.8s,baz=141,slow=2.8,SNR=3.2							

**IDC 22 06:50:37.6±4.0,275S×14110E,h0km,mb4.0/3,mb1 4.2/4, mb1mx3.9/14,mbtmp4.1/4,MS3.2/1,Ms1 3.2/1, ms1mx2.4/23,Error ellipse: s-maj=145.1km s-min=30.4km az=100.0,Near north co

0.4nm,0.6s,baz=148,slow=10,SNR=3.1
KURK Kurchatov 57.57 344 P P 07 21 25.4 -0.7
0.3nm,0.3s,baz=162,slow=6.7,SNR=3.0
BVAR Borovoye Array 62.13 340 P P 07 21 57.4 -0.1
0.5nm,0.5s,baz=148,slow=9.3,SNR=3.6
TXAR Lajitas Array 145.98 39 PKPbc PKPbc 07 31 17.6 +0.4
0.5nm,0.6s,baz=104,slow=1.9,SNR=3.5

MEX 22 07:13:40.3±0.6, 1678N×9972W, h4km±6km, MD3.6, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ACX	**Acapulco**	**0.21**	**295**	*i* P	Pg	07 13 44.2	-0.2
ACX				*i* S	Sg	07 13 46.3	-0.8
CAIG	**El Cayaco**	**0.59**	**297**	*i* P	Pg	07 13 52.0	+0.4
CAIG				*i* S	Sg	07 13 59.5	+0.2
PNIG	**Pinotepa**	**1.58**	**104**	*i* P	Pn	07 14 05.1	-3.9
PNIG				*i* S	Sn	07 14 24.5	-5.3
UTMO	**Huajupan**	**2.11**	**60**	*i* P	Pn	07 14 13.4	-2.9
UTMO				*i* S	Sn	07 14 38.9	-4.1

ISCJB ***22*** *07:16:06.7±0.6, 3836N±003×4304E±004, h10km, Error ellipse: s-maj=5.0km s-min=4.5km az=41.0*
ISK ***22*** *07:16:07.7, 3846N×4303E, h15km, MD2.8*
CSEM ***22*** *07:16:08.0±0.1, 3840N×4320E, h25km, MD2.8, Error ellipse: s-maj=3.7km s-min=2.4km az=96.0*
NEIC ***22*** *07:16:08.1, 3839N×4341E, h23km, ML3.3(ISK), After ISK,*
DDA ***22*** *07:16:09.4, 3849N×4317E, h7km±2km, Md3.0*
ISC 22 07:16:07.6±0.6, 3837N±003×4308E±005, h12km±9km, n14, σ1§05/21, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VANT	**Van**	**0.26**	**74**	*e*PG	**Pg**	**07 16 12.4**	**-0.6**
VANT				*e*SG	**Sg**	**07 16 16.2**	**-0.4**
VANT	**Van**	**0.26**	**74**	Pg	**Pg**	**07 16 12.4**	**-0.6**
VANT				Sg	**Sg**	**07 16 16.4**	**-0.2**
HKR	**Hakkari**	**0.95**	**146**	*e*PG	**Pg**	**07 16 27.2**	**+1.3**
HKR	**Hakkari**	**0.95**	**146**	Pg	**Pg**	**07 16 25.4**	**-0.6**
HAKT	**HAKKARI**	**0.95**	**148**	*i* P	**Pg**	**07 16 26.6**	**+0.6**
HAKT				*i* S	**Sg**	**07 16 43.9**	**+5.4**
SIRT	**Sirnak**	**1.00**	**210**	*e*PG	**Pg**	**07 16 29.3**	**+2.4**
CLDR	**Caldiran**	**1.01**	**40**	*e*PG	**Pg**	**07 16 26.4**	**-0.7**
CLDR				*e*SG	**Sg**	**07 16 41.0**	**+0.7**
CLDR	**Caldiran**	**1.01**	**40**	Pg	**Pg**	**07 16 25.6**	**-1.5**
TUTA	**Tutak**	**1.05**	**349**	*i* P	**Pb**	**07 16 27.4**	**-0.2**
TUTA				*i* S	**Sg**	**07 16 41.7**	**+0.3**
AGRB	**Hanur-Agry**	**1.20**	**357**	*e*PN	**Pn**	**07 16 29.9**	**-0.3**
HOMI	**Horasan**	**1.90**	**332**	*i* P	**Pg**	**07 16 43.4**	**-0.7**
HOMI				*i* S	**Sg**	**07 17 10.0**	**+1.2**
EZM	**Erzurum**	**2.03**	**319**	*e*PN	**Pn**	**07 16 40.4**	**-1.1**
EZM	**Erzurum**	**2.03**	**319**	Pn	**Pn**	**07 16 43.5**	**+1.9**
MARD	**Mardin**	**2.10**	**241**	*i* P	**Pg**	**07 16 45.8**	**-2.1**
MARD				*i* S	**Sg**	**07 17 14.8**	**-0.4**

LDG ***22*** *07:23:44.7±0.1, 4443N×8104E, h10km, Mb4.8/12, Error ellipse: s-maj=5.5km s-min=4.8km az=71.0*
IDC ***22*** *07:23:44.9±0.6, 4453N×8129E, h0km, mb4.3/14, mb1 4.5/20, mb1mx4.4/27, mbtmp4.3/20, ML4.2/6, MS3.8/6, Ms1 3.9/6, ms1mx3.4/33, Error ellipse: s-maj=12.2km s-min=8.9km az=68.0*
BJI ***22*** *07:23:46.9, 4452N×8118E, h17km, mB4.5, mb4.4, ML4.5, Ms3.9, Msz3.9*
ISCJB ***22*** *07:23:47.2±1.1, 4463N±003×8122E±004, h25km±9km, mb4.6/43, MS3.9/5, Error ellipse: s-maj=5.0km s-min=4.3km az=165.5*
MOS ***22*** *07:23:49.8±1.2, 4458N×8117E, h49km, mb4.8/23, Error ellipse: s-maj=8.4km s-min=5.9km az=107.5*
NEIC ***22*** *07:23:50.3±0.4, 4453N×8126E, h36km±4km, mb4.7/25, Error ellipse: s-maj=4.6km s-min=3.4km az=78.0*
NNC ***22*** *07:23:50.0±1.4, 4481N×8077E, h0km, mb4.8, mpv4.6, Error ellipse: s-maj=17.9km s-min=6.6km az=133.0*
ISC 22 07:23:50.5±0.4, 4459N±002×8122E±004, h35km±4km, n168, σ1§02/191, mb4.6/43, MS3.9/5, 23C-13D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MK31	**Makanchi Array**	**2.33**	**18**	⇑P	**Pn**	**07 24 28.4**	**+2.1**
	288nm,0.3s,baz=194,slow=14,SNR=3928						
MK31				⇑S	**Sn**	**07 24 58.5**	**+4.8**
	506nm,0.4s,baz=198,slow=24,SNR=8.3						
MK31	**Makanchi Array**	**2.33**	**18**	*e*Pn	**Pn**	**07 24 28.4**	**+2.1**
MK31				*e*S	**Sn**	**07 24 58.5**	**+4.9**
MKAR	**Makanchi Array**	**2.33**	**18**	Pn	**Pn**	**07 24 28.1**	**+1.8**
	43nm,0.3s,baz=196,slow=13,SNR=214						
MKAR				Pg	**Pn**	**07 24 33.9**	**+7.6**
	164nm,0.3s,baz=199,slow=14,SNR=73						
MKAR				Lg		07 24 59.2	
	308nm,0.3s,baz=197,slow=24,SNR=16						
MKAR	**Makanchi Array**	**2.33**	**18**	PN	**Pn**	**07 24 28.1**	**+1.8**
MKAR						07 24 59.3	
MKAR				pmax	pmax		
	comp=Z,43nm,0.3s						
MKAR	**Makanchi Array**	**2.33**	**18**	Pn	**Pn**	**07 24 28.1**	**+1.8**
MKAR				Pg	**Pn**	**07 24 33.9**	**+7.6**
MKAR				Lg		07 24 59.2	
KNDC	**Almaty**	**3.36**	**247**	⇓Pg	**Pn**	**07 24 50.9**	**+10**
	comp=Z,392nm,0.5s						
KNDC				⇑Lg		07 25 30.3	
	comp=Z,3μm,0.8s						
TKM2	**Tokmak 2**	**4.40**	**250**	⇑Pn	**Pn**	**07 24 55.0**	**+0.2**
	comp=Z,20nm,0.6s						
TKM2				⇓Pg	**Pn**	**07 25 10.7**	**+16**
	comp=Z,208nm,0.6s						
TKM2				⇑Lg		07 26 05.0	
	comp=Z,612nm,0.6s						
TKM2	**Tokmak 2**	**4.40**	**250**	P	**Pn**	**07 24 55.3**	**+0.6**
	SNR=51						
TKM2	**Tokmak 2**	**4.40**	**250**	*e*Pn	**Pn**	**07 24 54.8**	**+0.1**
TKM2				*e*S	**Sn**	**07 25 59.1**	**+14**
WMQ	**Urumqi**	**4.72**	**97**	*e*P	**Pn**	**07 25 00.8**	**+1.6**
WMQ				SG	Sn	07 26 16.0	+23
CHMS	**Chumysh**	**4.94**	**253**	P	**Pn**	**07 25 02.7**	**+0.5**
	SNR=22						
KBK	**Karagaybulak**	**4.94**	**249**	P	**Pn**	**07 25 03.7**	**+1.5**
	SNR=28						
USP	**Ospenovka**	**5.03**	**257**	P	**Pn**	**07 25 03.6**	**+0.2**
	SNR=30						
FRU	**Bishkek**	**5.10**	**252**	*e*PN	**Pn**	**07 25 05.0**	**+0.7**
FRU				pmax	pmax		
	comp=Z,280nm,1.6s						
AAK	**Ala-Archa**	**5.26**	**251**	P	**Pn**	**07 25 07.9**	**+1.4**
	SNR=6.3						
UCH	**Uchtor**	**5.42**	**247**	P	**Pn**	**07 25 11.0**	**+2.2**
	SNR=8.7						
UCH	**Uchtor**	**5.42**	**247**	*e*Pn	**Pn**	**07 25 10.4**	**+1.6**
	comp=Z,81nm,0.6s						
UCH				*e*Sn	Sn	07 26 33.2	+23
EKS2	**Erkin-Say**	**5.73**	**253**	P	**Pn**	**07 25 13.8**	**+0.7**
	SNR=23						
EKS2	**Erkin-Say**	**5.73**	**253**	*e*Pn	**Pn**	**07 25 13.4**	**+0.4**
	comp=Z,74nm,1.6s						
EKS2				*e*Sn	Sn	07 26 41.5	+24
AML	**Almayashu**	**6.01**	**248**	P	**Pn**	**07 25 18.9**	**+2.0**
	SNR=30						
AML	**Almayashu**	**6.01**	**248**	*e*Pn	**Pn**	**07 25 18.3**	**+1.4**
	comp=Z,131nm,0.6s						
KURBB	**Kurchatov Arra**	**6.30**	**344**	⇑Pn	**Pn**	**07 25 21.1**	**+0.2**
	comp=Z,6.2nm,0.7s						
KURBB				⇑Lg		07 27 03.1	
	comp=Z,188nm,0.7s						
KURK	**Kurchatov**	**6.37**	**345**	⇓Pn	**Pn**	**07 25 21.9**	**+0.1**
	comp=Z,92nm,0.7s						
KURK				⇓Sn	**Sn**	**07 26 33.1**	**-0.2**
	comp=Z,424nm,1.1s						
KURK				⇑Lg		07 27 03.3	
	comp=Z,1μm,0.8s						
KURK	**Kurchatov**	**6.37**	**345**	Pn	**Pn**	**07 25 20.3**	**-1.5**
	comp=Z,1.4nm,0.3s,baz=167,slow=12,SNR=33						
KURK				Sn	**Sn**	**07 26 31.4**	**-1.9**
	comp=Z,5.8nm,0.3s,baz=158,slow=25,SNR=9.4						
KURK				Lg		07 27 06.7	
	comp=Z,7.6nm,0.3s,baz=164,slow=29,SNR=5.6						
KURK				LR	LR	07 28 07.4	
	comp=Z,497nm,19.9s,baz=155,slow=41						
KURK	**Kurchatov**	**6.37**	**345**	PN	**Pn**	**07 25 21.2**	**-0.6**
KURK				pmax	pmax		
	comp=Z,76nm,0.8s						
KURK	**Kurchatov**	**6.37**	**345**	*e*Pn	**Pn**	**07 25 20.9**	**-0.9**
KURK				*e*Sn	**Sn**	**07 26 33.9**	**+0.6**
KURK				Lg		07 27 06.7	
KURK				LR	LR	07 28 07.4	
KSH	**Kashi**	**6.40**	**219**	*e*PG	**Pn**	**07 25 34.3**	**+12**
KSH				Smax			
	comp=N,380nm,1.0s						
KSH				Smax			
	comp=E,581nm,1.0s						
KK31	**Karatay Array**	**7.88**	**263**	Pn	**Pn**	**07 25 42.0**	**-0.5**
	comp=E,5.7nm,0.4s,baz=73,slow=13,SNR=48						
KK31				⇓Lg		07 27 49.4	
	comp=E,65nm,0.6s,baz=72,slow=27,SNR=5.6						
KK31	**Karatay Array**	**7.88**	**263**	*i* P	**Pn**	**07 25 42.0**	**-0.5**
KK31				pmax	pmax		
	comp=Z,7.0nm,0.3s						
ZAA0	**Zalesovo Array**	**9.66**	**13**	*e*Pn	**Pn**	**07 26 06.5**	**-0.3**
ZAA0				*e*Sn	**Sn**	**07 27 52.0**	**-1.9**
ZALV	**Zalesovo Beam**	**9.66**	**13**	Pn	**Pn**	**07 26 06.8**	**0.0**
	comp=Z,6.1nm,0.3s,baz=193,slow=14,SNR=78						
ZALV				Sn	**Sn**	**07 27 55.4**	**+1.5**
	comp=Z,3.1nm,0.3s,baz=203,slow=22,SNR=3.2						
ZALV				Lg		07 28 51.3	
	comp=Z,5.9nm,0.3s,baz=201,slow=25,SNR=4.9						
ZALV				LR	LR	07 30 05.4	
	comp=Z,315nm,19.1s,baz=87,slow=39						
ZALV	**Zalesovo Beam**	**9.66**	**13**	P	**Pn**	**07 26 06.8**	**0.0**
ZALV						07 27 55.4	
ZALV				pmax	pmax		
	comp=Z,6.0nm,0.3s						
ZALV				smax			
	comp=N,3.0nm,0.3s						
ZALV				MLR	MLR		
	comp=Z,315nm,19.1s						
ZALV	**Zalesovo Beam**	**9.66**	**13**	Pn	**Pn**	**07 26 06.8**	**0.0**
ZALV				Sn	**Sn**	**07 27 55.4**	**+1.5**
ZALV				Lg		07 28 51.3	
ZALV				LR	LR	07 30 05.4	
NVS	**Novosibirsk**	**10.34**	**7**	*e*P	**Pn**	**07 26 15.3**	**-0.9**
NVS				*e*		07 28 06.6	
VOSK	**Vostochnaya**	**10.58**	**324**	⇓Pn	**Pn**	**07 26 19.5**	**0.0**
	comp=Z,14nm,0.6s						
VOSK				⇓Sn	**Sn**	**07 28 13.8**	**-2.7**
	comp=Z,58nm,0.8s						
VOSK				⇓Lg		07 29 17.5	
	comp=Z,437nm,1.3s						
BVA0	**Borovoye Array**	**11.04**	**324**	Pn	**Pn**	**07 26 24.9**	**-0.9**
	comp=Z,1.6nm,0.5s,baz=145,slow=13,SNR=41						
BVA0				⇑Sn	**Sn**	**07 28 24.6**	**-3.3**
	comp=Z,3.8nm,0.6s,baz=138,slow=21,SNR=3.7						
BVA0				⇑Lg		07 29 33.0	
	comp=Z,27nm,0.8s,baz=134,slow=30,SNR=4.8						
BVAR	**Borovoye Array**	**11.04**	**324**	Pn	**Pn**	**07 26 25.2**	**-0.6**
	comp=Z,1.2nm,0.3s,baz=136,slow=13,SNR=27						
BVAR				Sn	**Sn**	**07 28 25.2**	**-2.7**
	comp=Z,3.4nm,0.3s,baz=118,slow=22,SNR=5.2						
BVAR				Lg		07 29 33.7	
	comp=Z,8.6nm,0.3s,baz=137,slow=28,SNR=5.4						
BVAR				LR	LR	07 30 46.3	
	comp=Z,594nm,18.7s,baz=119,slow=38						
BVAR	**Borovoye Array**	**11.04**	**324**	P	**Pn**	**07 26 25.2**	**-0.6**
BVAR						07 28 25.2	
BVAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
BVAR				smax			
	comp=N,3.0nm,0.3s						
BVAR				MLR	MLR		
	comp=Z,595nm,18.7s						
BRVK	**Borovoye**	**11.11**	**324**	*e*P	**Pn**	**07 26 26.1**	**-0.6**
BRVK				*e*		07 28 26.6	
BRVK				pmax	pmax		
	comp=Z,27nm,0.6s						
BRVK	**Borovoye**	**11.11**	**324**	*e*Pn	**Pn**	**07 26 26.1**	**-0.7**
	comp=Z,27nm,0.6s						
BRVK				*e*Sn	**Sn**	**07 28 26.6**	**-3.0**
THN	**Thein Dam**	**12.87**	**201**	*ex*	**Pn**	**07 26 49.8**	**-1.1**
THN				*ex*	x	07 29 06.0	
SMLA	**Simla**	**13.81**	**195**	*i* P	**Pn**	**07 27 00.8**	**-2.9**
SMLA				*i* S	**Sn**	**07 29 27.4**	**-8.4**
SMLA				*ex*	x	07 29 31.9	
	comp=E,451nm,0.3s						
SMLA				*ex*	x	07 29 33.1	
	comp=N,449nm,0.5s						
GTA	**Gaotai**	**14.76**	**104**	*e*P	**Pn**	**07 27 20.4**	**+3.8**
GTA				AP	pP	07 27 23.5	-7.7
GTA				XP	sP	07 27 27.3	-8.4
GTA				S	**Sn**	**07 29 52.3**	**-6.4**
GTA				AMB	AMB		
	comp=Z,4.0nm,1.0s						
GTA				AMB	AMB		
	comp=Z,87nm,7.2s						
GTA				LR	LR		
	comp=N,312nm,9.9s						
GTA				LR	LR		
	comp=E,248nm,9.0s						
GTA				LR	LR		
	comp=Z,273nm,11.1s						
MOY	**Mondy**	**14.96**	**55**	*e*P	**Pn**	**07 27 26.2**	**+7.1**
AB31	**Akbulak array**	**15.25**	**295**	Pn	**Pn**	**07 27 18.9**	**-4.0**
	comp=Z,17nm,0.6s,baz=99,slow=14,SNR=253						
AB31				⇓Sn	**Sn**	**07 30 04.9**	**-5.7**
	comp=Z,5.2nm,0.6s,baz=93,slow=22,SNR=2.6						
AB31				⇑Lg		07 31 45.4	
	comp=Z,30nm,0.7s						
AB31	**Akbulak array**	**15.25**	**295**	*i* P	**Pn**	**07 27 18.9**	**-4.1**
AB31				pmax	pmax		
	comp=Z,25nm,0.7s						
ZAK	**Zakamensk**	**15.97**	**61**	⇑*e*P	**Pn**	**07 27 31.8**	**-0.5**
ZAK				pmax	pmax		
	comp=Z,12nm,1.1s						
DANN	**Dangsing**	**16.34**	**172**	*e*P	**Pn**	**07 27 37.4**	**+0.3**
	comp=Z,75nm,0.9s						
TLY	**Talaya**	**16.53**	**57**	*e*P	**Pn**	**07 27 42.1**	**+2.8**
TLY				pmax	pmax		
	comp=Z,5.0nm,0.8s						
TLY				MLR	MLR		
	comp=Z,158nm,16.0s						
AKTK	**Aktyubinsk**	**16.70**	**299**	Pn	**Pn**	**07 27 38.7**	**-2.8**
AKTK				Sn	**Sn**	**07 30 39.1**	**-6.5**
AKTK				Lg		07 32 31.0	
AKTO	**Aktyubinsk**	**16.70**	**299**	⇑Pn	**Pn**	**07 27 38.7**	**-2.8**
	comp=Z,5.1nm,0.9s						
AKTO				⇓Sn	**Sn**	**07 30 40.1**	**-5.6**
	comp=Z,1.7nm,0.7s						
AKTO				⇓Lg		07 32 30.7	
	comp=Z,11nm,1.1s						
AKTO	**Aktyubinsk**	**16.70**	**299**	Pn	**Pn**	**07 27 38.7**	**-2.8**
	comp=Z,0.7nm,0.3s,baz=104,slow=12,SNR=38						
AKTO				Sn	**Sn**	**07 30 39.1**	**-6.5**
	comp=Z,0.5nm,0.3s,baz=79,slow=19,SNR=2.8						
AKTO				Lg		07 32 31.0	
	baz=172,slow=18,SNR=3.2						
AKTO	**Aktyubinsk**	**16.70**	**299**	P	**Pn**	**07 27 38.7**	**-2.8**
AKTO						07 30 39.1	
AKTO				pmax	pmax		
	comp=Z,1.0nm,0.3s						
AKTO				smax			
	comp=N,1.0nm,0.3s						
GKN	**Gorkha**	**16.78**	**169**	*e*P	**Pn**	**07 27 42.3**	**-0.4**
	comp=N,42nm,0.5s						
LSA	**Lhasa**	**16.82**	**149**	P	**Pn**	**07 27 47.6**	**+4.4**
KOLN	**Koldanda**	**16.89**	**173**	*e*P	**Pn**	**07 27 40.5**	**-3.6**
	comp=N,20nm,0.5s						
GUN	**Gumba**	**17.06**	**166**	*e*P	**Pn**	**07 27 46.7**	**+0.5**
KKN	**Kakani**	**17.08**	**168**	*e*P	**Pn**	**07 27 46.1**	**-0.4**
	comp=N,25nm,0.5s						
KKN	**Kakani**	**17.08**	**168**	*e*P	**Pn**	**07 27 46.1**	**-0.4**
KKN				pmax	pmax		
	comp=Z,25nm,0.5s						
DMN	**Daman**	**17.23**	**168**	*e*P	**Pn**	**07 27 47.2**	**-1.1**
	comp=Z,19nm,0.7s						
PKIN	**Phulchoki**	**17.31**	**167**	*e*P	**Pn**	**07 27 48.4**	**-0.9**
	comp=Z,26nm,0.6s						
PKI	**Pulchoki**	**17.31**	**167**	*e*P	**Pn**	**07 27 47.6**	**-1.8**
	comp=Z,32nm,0.7s						
PKI	**Pulchoki**	**17.31**	**167**	*e*P	**Pn**	**07 27 48.4**	**-1.0**
PKI				pmax	pmax		
	comp=Z,27nm,0.6s						
PKI	**Pulchoki**	**17.31**	**167**	*e*P	**Pn**	**07 27 48.4**	**-1.0**
	comp=Z,26nm,0.6s						
JIRN	**Jiri**	**17.36**	**165**	*e*P	**Pn**	**07 27 49.3**	**-0.6**
SONM	**Songino Array**	**17.70**	**71**	Pn	**Pn**	**07 27 53.6**	**-0.4**
	comp=Z,0.6nm,0.3s,baz=270,slow=12,SNR=20						
SONM				Lg		07 33 07.5	
	comp=Z,0.0nm,0.3s,baz=267,slow=29,SNR=4.1						
SVE	**Sverdlovsk**	**17.80**	**321**	*e*P	**Pn**	**07 27 55.4**	**+0.3**
SVE				*e*S	**S**	**07 31 07.6**	**-11**
SVE				pmax	pmax		
	comp=Z,21nm,0.9s						
SVE				MLR	MLR		
	comp=Z,272nm,10.0s						
TAPN	**Taplejung**	**17.98**	**161**	*e*P	**Pn**	**07 27 56.3**	**-1.3**
	comp=Z,36nm,0.7s						
RAMN	**Ramite**	**18.13**	**164**	*e*P	**Pn**	**07 27 56.0**	**-3.4**
	comp=Z,15nm,0.4s						
ARU	**Arti**	**18.55**	**318**	*d* iP	**Pn**	**07 28 05.2**	**+0.9**
ARU				*e*S	**S**	**07 31 33.9**	**+0.5**
ARU				pmax	pmax		
	comp=Z,36nm,1.0s						
ARU	**Arti**	**18.55**	**318**	*e*P	**Pn**	**07 28 05.4**	**+1.0**
	comp=Z,28nm,0.8s						
LZH	**Lanzhou**	**19.18**	**108**	*e*P	**Pn**	**07 28 16.6**	**+4.5**
LZH				AP	pP	07 28 21.3	+1.1
LZH				XP	sP	07 28 23.5	-1.2
LZH				AMB	AMB		
	comp=Z,19nm,1.3s						
LZH				AMB	AMB		
	comp=Z,82nm,4.3s						
SOKR	**Solikamsk**	**21.04**	**324**	*e*P	**P**	**07 28 33.3**	**+2.4**
SOKR				pmax	pmax		
	comp=Z,20nm,1.0s,mb4.4						
CD2	**Chengdu**	**22.36**	**120**	*e*P	**P**	**07 28 48.0**	**+2.6**
CD2				AP		07 28 52.3	
CD2				XP	sP	07 28 55.0	-4.1
CD2				PP		07 29 15.4	
CD2				S	**S**	**07 32 49.5**	**+0.2**
CD2				XS	sS	07 32 55.5	-8.8
CD2				SS		07 33 29.5	
CD2				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.3						
CD2				AMB	AMB		
	comp=Z,40nm,5.2s						
CD2				LR	LR		
	comp=N,170nm,13.2s						
CD2				LR	LR		
	comp=Z,280nm,10.8s,MS4.0						
XAN	**Xi'an**	**23.78**	**107**	P	**P**	**07 28 59.0**	**-0.8**
XAN				AP		07 29 06.3	
XAN				AMB	AMB		
	comp=Z,23nm,0.7s,mb4.7						
XAN				AMB	AMB		
	comp=Z,107nm,6.2s						
BOD	**Bodaibo**	**24.15**	**45**	*e*P	**P**	**07 29 02.1**	**-0.8**
BOD				pmax	pmax		
	comp=Z,11nm,1.1s,mb4.2						
GNI	**Garni**	**27.16**	**273**	⇑*i* P	**P**	**07 29 30.9**	**+0.5**
GNI				pmax	pmax		
	comp=Z,8.0nm,0.8s						
KIV	**Kislovodsk**	**27.43**	**282**	*e*P	**P**	**07 29 31.4**	**-1.3**
KIV				pmax	pmax		
	comp=Z,5.0nm,1.0s,mb4.0						
KIV				MLR	MLR		
	comp=Z,116nm,15.0s,MS3.6						
CMAR	**Chiang Mai Arr**	**29.98**	**145**	P	**P**	**07 29 54.8**	**-0.8**
	comp=Z,1.5nm,0.5s,mb4.0,baz=319,slow=8.5,SNR=3.2						
CMAR	**Chiang Mai Arr**	**29.98**	**145**	P	**P**	**07 29 54.8**	**-0.8**
CMAR				pmax	pmax		
	comp=Z,2.0nm,0.5s						
OBN	**Obninsk**	**30.15**	**307**	⇓*i* P	**P**	**07 29 57.0**	**+0.2**
OBN				*e*	pP	07 30 05.2	-1.7
OBN				pmax	pmax		
	comp=Z,11nm,0.5s,mb4.8						
MIB	**Mutribah**	**30.51**	**253**	*e*P	**P**	**07 30 00.4**	**+0.2**
	baz=252						
MIB				AMb	AMB	07 30 01.7	
	comp=Z,14nm,0.8s,mb4.8,baz=252						
RDF	**Al-Radifah**	**30.91**	**251**	*e*P	**P**	**07 30 04.1**	**+0.3**
	baz=251						
RDF				AMb	AMB	07 30 11.7	
	comp=Z,41nm,1.2s,mb5.1,baz=251						
NAY	**Al-Naaiem**	**30.92**	**252**	*e*P	**P**	**07 30 04.0**	**+0.1**
	baz=251						
NAY				AMb	AMB	07 30 05.0	
	comp=Z,25nm,1.1s,mb5.0,baz=251						
RST	**Umm Al-Ruwaisa**	**30.93**	**253**	*e*P	**P**	**07 30 03.7**	**-0.3**
	baz=252						
RST				AMb	AMB	07 30 04.4	
	comp=Z,42nm,0.5s,mb5.5,baz=252						
YAK	**Yakutsk**	**32.82**	**41**	⇑*e*P	**P**	**07 30 20.3**	**+0.1**
YAK				pmax	pmax		
	comp=Z,15nm,0.6s,mb5.1						
AKASG	**Malin Array Be**	**34.94**	**299**	P	**P**	**07 30 37.9**	**-0.9**
	comp=Z,2.0nm,0.5s,mb4.3,baz=70,slow=7.9,SNR=5.1						
AKASG	**Malin Array Be**	**34.94**	**299**	P	**P**	**07 30 37.9**	**-0.9**
AKASG				pmax	pmax		
	comp=Z,2.0nm,0.5s						
BR131	**Keskin Array S**	**35.21**	**279**	*e*P	**P**	**07 30 42.5**	**+1.3**
	comp=Z,0.9nm,0.5s,mb4.0						
TIXI	**Tiksi**	**35.31**	**24**	*e*P	**P**	**07 30 41.3**	**-0.4**
TIXI				pmax	pmax		
	comp=Z,7.0nm,0.7s,mb4.7						
TIXI	**Tiksi**	**35.31**	**24**	*e*P	**P**	**07 30 41.5**	**-0.1**
	comp=Z,7.9nm,0.6s,mb4.8						
KSRS	**Korea Array**	**35.55**	**85**	P	**P**	**07 30 43.1**	**-1.1**
	comp=Z,1.2nm,0.6s,mb4.0,baz=286,slow=8.3,SNR=5.2						
KSRS	**Korea Array**	**35.55**	**85**	P	**P**	**07 30 43.1**	**-1.1**
KSRS				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb3.9						
ARCES	**ARCESS Array B**	**37.20**	**331**	P	**P**	**07 30 58.6**	**+0.7**
	comp=Z,10nm,0.7s,mb4.8,baz=89,slow=9.9,SNR=27						
ARCES	**ARCESS Array B**	**37.20**	**331**	P	**P**	**07 30 58.6**	**+0.7**
ARCES				pmax	pmax		
	comp=Z,10.0nm,0.7s						
ARE0	**ARCESS Array S**	**37.20**	**331**	*e*P	**P**	**07 30 58.2**	**+0.4**
BUR08	**Bucovina Ar. S**	**38.23**	**295**	*e*P	**P**	**07 31 07.5**	**+0.7**
KWP	**Kalwaria**	**39.27**	**299**	*e*P	**P**	**07 31 16.9**	**+1.4**
KWP	**Kalwaria**	**39.27**	**299**	*e*P	**P**	**07 31 16.9**	**+1.4**
NB2	**NORSAR Subarra**	**43.10**	**318**	P	**P**	**07 31 47.0**	**+0.2**
	comp=Z,5.0nm,0.5s,mb4.5,baz=80,slow=8.6						
NOA	**NORSAR Array B**	**43.10**	**318**	P	**P**	**07 31 47.2**	**+0.4**
	comp=Z,5.0nm,0.5s,mb4.5,baz=80,slow=8.1,SNR=18						
NOA				LR	LR	07 50 28.0	
	comp=Z,103nm,19.1s,MS3.8,baz=20,slow=37						
NOA	**NORSAR Array B**	**43.10**	**318**	P	**P**	**07 31 47.3**	**+0.5**
NOA				pmax	pmax		
	comp=Z,5.0nm,0.5s						
NOA				MLR	MLR		
	comp=Z,103nm,19.1s						
MJAR	**Matsushiro Arr**	**43.26**	**

TCF	**Toulx Ste Croi**	**53.23**	**302**	*eP*		**P**		**07 33 05.3**	**+0.1**
LASF	**Ste Croix**	**53.30**	**299**	*eP*		**P**		**07 33 06.2**	**+0.5**
	comp=Z,61nm,1.4s,mb5.0								
RJF	**Les Rejaudoux**	**54.14**	**301**	*eP*		**P**		**07 33 12.3**	**+0.5**
	comp=Z,16nm,0.9s,mb4.6								
RJF	**Les Rejaudoux**	**54.14**	**301**	*eP*		**P**		**07 33 12.3**	**+0.5**
RJF				pmax		pmax			
	comp=Z,8.0nm,0.9s,mb4.7								
RJF	**Les Rejaudoux**	**54.14**	**301**	*eP*		**P**		**07 33 12.3**	**+0.5**
	comp=Z,7.8nm,0.9s,mb4.6								
MTLF	**Montolieu**	**54.69**	**299**	*eP*		**P**		**07 33 16.2**	**+0.3**
LFF	**La Frestale**	**54.80**	**301**	*eP*		**P**		**07 33 17.1**	**+0.5**
SGMF	**Saint Gilles**	**55.09**	**306**	*eP*		**P**		**07 33 18.7**	**0.0**
QUIF	**Quistinic**	**55.62**	**306**	*eP*		**P**		**07 33 22.4**	**-0.1**
EPF	**Esparros**	**56.03**	**299**	*eP*		**P**		**07 33 25.0**	**-0.5**
ETSF	**Etsaut**	**56.66**	**299**	*eP*		**P**		**07 33 30.5**	**+0.5**
	comp=Z,7.3nm,0.6s,mb4.6								
ETSF	**Etsaut**	**56.66**	**299**	*eP*		**P**		**07 33 30.5**	**+0.5**
ETSF				pmax		pmax			
	comp=Z,4.0nm,0.6s,mb4.6								
ETSF	**Etsaut**	**56.66**	**299**	*eP*		**P**		**07 33 30.5**	**+0.5**
	comp=Z,3.7nm,0.6s,mb4.6								
KMBO	**Kilima Mbogo**	**59.97**	**233**	*eP*		**P**		**07 33 53.9**	**+0.5**
KMBO				pmax		pmax			
	comp=Z,2.0nm,0.6s								
KMBO	**Kilima Mbogo**	**59.97**	**233**	*eP*		**P**		**07 33 53.9**	**+0.5**
	comp=Z,2.3nm,0.6s,mb4.4								
ESDC	**Sonseca Array**	**60.58**	**298**	P		**P**		**07 33 57.6**	**+0.3**
	comp=Z,0.9nm,0.4s,mb4.2,baz=60,slow=6.6,SNR=3.9								
IMA2	**Indian Mountai**	**61.89**	**22**	*eP*		**P**		**07 34 06.1**	**+0.3**
COLA	**College**	**64.36**	**21**	*eP*		**P**		**07 34 22.6**	**+0.4**
COLA				pmax		pmax			
	comp=Z,5.0nm,0.6s,mb4.7								
COLA	**College**	**64.36**	**21**	*eP*		**P**		**07 34 22.6**	**+0.4**
	comp=Z,5.0nm,0.6s,mb4.7								
INK	**Inuvik**	**64.46**	**14**	*eP*		**P**		**07 34 22.9**	**+0.2**
	comp=Z,135nm,0.8s								
KTH	**Kantishna Hill**	**64.58**	**23**	*eP*		**P**		**07 34 24.3**	**+0.6**
	comp=Z,20nm,1.3s,mb5.0								
PMR	**Palmer**	**66.65**	**24**	*eP*		**P**		**07 34 37.1**	**+0.1**
PMR				pmax		pmax			
	comp=Z,4.0nm,0.6s,mb4.6								
PMR	**Palmer**	**66.65**	**24**	*eP*		**P**		**07 34 37.0**	**0.0**
	comp=Z,4.3nm,0.6s,mb4.7								
YKA	**Yellowknife Ar**	**72.52**	**8**	P		**P**		**07 35 13.2**	**0.0**
	comp=Z,1.3nm,0.6s,mb4.1,baz=344,slow=6.1,SNR=6.3								
YKA	**Yellowknife Ar**	**72.52**	**8**	P		**P**		**07 35 13.2**	**0.0**
YKA				pmax		pmax			
	comp=Z,1.0nm,0.6s								
YKA	**Yellowknife Ar**	**72.52**	**8**	P		**P**		**07 35 13.2**	**0.0**
TOA0	**Torodi Ar. Sit**	**73.46**	**272**	*eP*		**P**		**07 35 18.4**	**-1.1**
TORD	**Torodi Ar. Bea**	**73.46**	**272**	P		**P**		**07 35 18.7**	**-0.8**
	comp=Z,7.7nm,0.6s,mb4.8,baz=42,slow=5.2,SNR=125								
TORD	**Torodi Ar. Bea**	**73.46**	**272**	P		**P**		**07 35 18.7**	**-0.8**
WRA	**Warramunga Arr**	**80.44**	**130**	P		**P**		**07 35 57.7**	**-0.8**
	comp=Z,1.2nm,0.6s,mb4.0,baz=332,slow=4.8,SNR=19								
WRA	**Warramunga Arr**	**80.44**	**130**	P		**P**		**07 35 57.7**	**-0.8**
WRA				pmax		pmax			
	comp=Z,1.0nm,0.6s								
DBIC	**Dimbokro**	**82.57**	**272**	P		**P**		**07 36 09.4**	**-0.7**
	comp=Z,5.7nm,0.5s,mb4.8,baz=24,slow=5.9,SNR=20								
DBIC	**Dimbokro**	**82.57**	**272**	P		**P**		**07 36 09.4**	**-0.7**
DBIC				pmax		pmax			
	comp=Z,6.0nm,0.5s								
DBIC	**Dimbokro**	**82.57**	**272**	*eP*		**P**		**07 36 09.3**	**-0.7**
	comp=Z,6.8nm,0.6s,mb4.8								
KIC	**Kosan Boka**	**82.70**	**272**	*eP*		**P**		**07 36 10.1**	**-0.7**
	comp=Z,36nm,0.6s,mb5.6								
TIC	**Toumodi**	**82.70**	**272**	*eP*		**P**		**07 36 10.0**	**-0.8**
	comp=Z,15nm,0.2s,mb5.6								
LIC	**Lamto**	**83.00**	**272**	⇑*iP*		**P**		**07 36 11.4**	**-0.9**
	comp=Z,13nm,0.8s,mb4.7								
LIC	**Lamto**	**83.00**	**272**	*eP*		**P**		**07 36 11.5**	**-0.8**
	comp=Z,30nm,1.2s,mb5.2								
LIC	**Lamto**	**83.00**	**272**	⇑*iP*		**P**		**07 36 11.4**	**-0.9**
	comp=Z,6.6nm,0.8s,mb4.7								
ASAR	**Alice Springs**	**83.23**	**133**	P		**P**		**07 36 12.6**	**-0.6**
	comp=Z,1.6nm,0.7s,mb4.2,baz=324,slow=5.3,SNR=16								
ASAR	**Alice Springs**	**83.23**	**133**	P		**P**		**07 36 12.6**	**-0.5**
ASAR				pmax		pmax			
	comp=Z,2.0nm,0.7s								
BOSA	**Boshof**	**88.95**	**227**	LR		LR		08 22 53.2	
	comp=Z,261nm,18.6s,MS4.7,baz=318,slow=40								
PDAR	**Pinedale Array**	**92.50**	**8**	P		**P**		**07 36 58.0**	**+0.3**
	comp=Z,0.3nm,0.5s,mb3.9,baz=67,slow=5.0,SNR=4.6								
PDAR	**Pinedale Array**	**92.50**	**8**	P		**P**		**07 36 58.0**	**+0.2**
HWUT	**Hardware Ranch**	**93.43**	**10**	*eP*		**P**		**07 37 02.3**	**+0.3**
	comp=Z,4.6nm,0.9s,mb4.9								
NVAR	**Mina Array Bea**	**95.50**	**15**	P		**P**		**07 37 12.7**	**+1.1**
	comp=Z,0.8nm,0.8s,mb4.2,baz=337,slow=2.7,SNR=4.4								

*NEIC **22** 07:32:43.7, 2584S×7069W, h40km, MD4.1(GUC), After GUC.*

GUC 22 07:32:43.7±0.7, 2584S×7069W, h40km±8km, MD4.1, ML4.1, 6C, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CPCH	**Copiapo**	**1.54**	**169**	*eP*	Pn	07 33 10.1	+1.5
CPCH				*i* S	Sn	07 33 29.3	+1.9
CPCH				AML	AML	07 33 32.0	
	comp=E,5μm,0.1s						
CPCH	**Copiapo**	**1.54**	**169**	*eP*	Pn	07 33 10.1	+1.5
CPCH				*i* S	Sn	07 33 29.3	+1.9
ANCH	**Antofagasta**	**2.17**	**7**	⇑*iP*	Pn	07 33 18.1	+0.8
ANCH				*i* S	Sn	07 33 44.4	+1.5
CEN1	**Los Morros**	**2.48**	**10**	⇑*iP*	Pn	07 33 20.0	-1.7
CEN1				*i* S	Sn	07 33 48.1	-2.6
VACH	**Vallenar**	**2.72**	**181**	⇑*iP*	Pn	07 33 26.1	+1.2
VACH				*i* S	Sn	07 33 58.1	+1.5
VACH				AML	AML	07 34 14.7	
	comp=E,729nm,0.2s						
VACH	**Vallenar**	**2.72**	**181**	⇑*iP*	Pn	07 33 26.1	+1.2
VACH				*i* S	Sn	07 33 58.1	+1.5
LCO	**Las Campanas**	**3.15**	**180**	⇑*iP*	Pn	07 33 32.3	+1.4
LCO				*i* S	Sn	07 34 09.2	+2.0
TLL	**Tololo Astrono**	**4.31**	**181**	⇑*iP*	Pn	07 33 48.6	+1.9
TLL				*i* S	Sn	07 34 37.9	+2.2

*ISCJB **22** 08:14:49.8±0.8, 1742S×006×6951W±009, h162km±6km, mb4.1/8, Error ellipse: s-maj=15.0km s-min=9.2km az=11.2*
*IDC **22** 08:14:52.4±1.1, 1745S×6930W, h160km±8km, mb3.8/8, mb1 3.9/10, mb1mx3.7/19, mbtmp3.9/10, Error ellipse: s-maj=23.3km s-min=10.0km az=104.0*

ISC 22 08:14:50.9±0.8, 1742S±006×6951W±010, h155km±7km, n17, σ1§35/20, mb4.1/8, Peru-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**1.74**	**50**	P	**Pn**	**08 15 24.6**	**+1.2**
	71nm,0.3s,baz=241,slow=6.7,SNR=2421						
LPAZ				S	**Sn**	**08 15 49.5**	**+1.2**
	10.0nm,0.3s,baz=49,slow=18,SNR=10						
LVC	**Limon Verde**	**5.20**	**174**	P	**Pn**	**08 16 07.3**	**+0.3**
	11nm,0.3s,baz=352,slow=8.6,SNR=350						
LVC				S	**Sn**	**08 17 06.3**	**-0.2**
	40nm,0.3s,baz=242,slow=20,SNR=24						
SIV	**San Ignacio**	**8.21**	**81**	P	**Pn**	**08 16 44.6**	**-2.6**
	13nm,0.3s,baz=270,slow=11,SNR=182						
NNA	**Nana**	**8.91**	**306**	P	**Pn**	**08 16 54.0**	**-2.5**
	3.2nm,0.3s,baz=118,slow=12,SNR=15						
NNA				S	**Sn**	**08 18 30.7**	**-4.8**
	1.3nm,0.3s,baz=247,slow=24,SNR=6.5						
CFAA	**Coronel Fontan**	**14.17**	**176**	P	**Pn**	**08 18 01.9**	**-2.8**
	0.1nm,0.3s,baz=348,slow=13,SNR=23						
CFAA				S	**Sn**	**08 20 31.9**	**-10**
	0.1nm,0.3s,baz=245,slow=21,SNR=11						
BDFB	**Brasilia**	**20.69**	**88**	P	**P**	**08 19 18.5**	**-0.5**
	3.3nm,0.5s,baz=248,slow=18,SNR=8.7						
PLCA	**Paso Flores**	**23.25**	**182**	P	**P**	**08 19 46.1**	**+1.8**
	8.2nm,0.9s,mb4.2,baz=350,slow=11,SNR=20						
LIC	**Lamto**	**67.86**	**76**	*eP*	**P**	**08 25 32.5**	**-0.6**
	38nm,1.4s,mb4.9						
TIC	**Toumodi**	**68.03**	**75**	*eP*	**P**	**08 25 32.9**	**-1.2**
	25nm,0.2s						
KIC	**Kosan Boka**	**68.18**	**76**	*eP*	**P**	**08 25 34.8**	**-0.3**
	41nm,0.6s						
DBIC	**Dimbokro**	**68.19**	**75**	P	**P**	**08 25 34.1**	**-1.0**
	5.2nm,0.6s,mb4.5,baz=258,slow=7.7,SNR=11						
ULM	**Lac du Bonnet**	**71.27**	**342**	P	**P**	**08 25 53.8**	**+0.6**
	3.2nm,0.8s,mb4.1,baz=166,slow=12,SNR=3.0						
QSPA	**South Pole Qui**	**72.75**	**180**	P	**P**	**08 26 03.6**	**+1.9**
	0.7nm,0.8s,mb3.4,baz=132,slow=4.4,SNR=3.8						
TORD	**Torodi Ar. Bea**	**76.57**	**71**	P	**P**	**08 26 24.6**	**-0.2**
	2.6nm,0.4s,mb4.2,baz=255,slow=4.7,SNR=51						
YKA	**Yellowknife Ar**	**87.17**	**341**	P	**P**	**08 27 20.3**	**+1.3**
	1.0nm,0.7s,mb3.8,baz=131,slow=4.6,SNR=5.8						
MAW	**Mawson**	**88.38**	**164**	P	**P**	**08 27 26.8**	**+1.8**
	1.2nm,0.6s,mb3.9,baz=164,slow=1.2,SNR=7.2						
WRA	**Warramunga Arr**	**136.10**	**213**	PKP	PKPdf	08 33 54.6	+0.1
	0.7nm,1.0s,baz=135,slow=1.8,SNR=3.9						

*IDC **22** 08:17:10.7±0.5, 2795S×14143E, h0km, mb4.6/17, mb1 4.7/19, mb1mx4.7/20, mbtmp4.7/19, ML4.4/2, Error ellipse: s-maj=21.2km s-min=13.0km az=90.0*
*MOS **22** 08:17:14.4±0.9, 282S×14138E, h36km, mb5.2/21, Error ellipse: s-maj=13.2km s-min=7.3km az=105.6*
*ISCJB **22** 08:17:14.5±0.2, 284S±004×14141E±005, h36km, mb4.9/68, MS4.5/12, Error ellipse: s-maj=7.2km s-min=5.2km az=176.0*
*BJI **22** 08:17:15.2, 299S×14169E, h61km, mB5.1, mb5.1, Ms4.8, Msz4.4*
*NEIC **22** 08:17:17.2±1.4, 281S×14138E, h44km±13km, mb5.0/28, Error ellipse: s-maj=7.0km s-min=6.3km az=97.0*
*DJA **22** 08:17:19.9±0.7, 3S±5×141E±11, h30km, mB5.6/3, mb4.8/5, MLv4.0/1, Mw(mB)5.4/3, Mwp4.5/3*

ISC 22 08:17:16.4±0.2, 286S±004×14148E±005, h38km, h38km±2.0km: pP-P, n154, σ1§01/144, mb4.9/67, MS4.5/12, 4C-8D, Near north coast of New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAY	**Jayapura**	**0.85**	**294**	P	**Pn**	**08 17 26.8**	**-5.1**
PMG	**Port Moresby**	**8.61**	**139**	*eP*	**Pn**	**08 19 21.4**	**+2.8**
COEN	**Coen**	**11.15**	**171**	P	**Pn**	**08 20 00.4**	**+6.9**
	12nm,0.9s						
COEN	**Coen**	**11.15**	**171**	*e*Pn	**Pn**	**08 19 49.5**	**-4.0**
KAKA	**Kakadu**	**13.26**	**222**	*eP*	**Pn**	**08 20 15.0**	**-7.3**
	48nm,0.6s						
KAKA	**Kakadu**	**13.26**	**222**	P	**Pn**	**08 20 14.1**	**-8.2**
	144nm,0.8s,3μm						
KAKA	**Kakadu**	**13.26**	**222**	P	**Pn**	**08 20 15.0**	**-7.3**
	171nm,0.8s,1μm						
KAKA	**Kakadu**	**13.26**	**222**	*e*Pn	**Pn**	**08 20 14.8**	**-7.5**
CTA	**Charters Tower**	**17.75**	**165**	P	**Pn**	**08 21 24.9**	**+4.3**
	0.4nm,0.3s,baz=310,slow=9.9,SNR=4.1						
WRAB	**Tennant Creek**	**18.34**	**202**	P	**Pn**	**08 21 27.0**	**-1.0**
	222nm,0.7s,SNR=12						
WRAB	**Tennant Creek**	**18.34**	**202**	P	**Pn**	**08 21 27.8**	**-0.2**
	50nm,1.3s,1μm						
WRAB	**Tennant Creek**	**18.34**	**202**	P	**Pn**	**08 21 27.2**	**-0.8**
	60nm,1.3s,1μm						
WRAB	**Tennant Creek**	**18.34**	**202**	*eP*	**Pn**	**08 21 27.5**	**-0.5**
WB2	**Warramunga Arr**	**18.35**	**202**	*eP*	**Pn**	**08 21 27.3**	**-0.8**
WRA	**Warramunga Arr**	**18.36**	**202**	P	**Pn**	**08 21 26.3**	**-1.8**
	0.6nm,0.3s,baz=20,slow=13,SNR=49						
KDI	**Kendari**	**18.86**	**266**	⇓*eP*	**Pn**	**08 21 35.5**	**+1.1**
KDI				*e*S	**S**	**08 25 19.7**	**+14**
BATI	**Baumata**	**19.14**	**247**	P	**Pn**	**08 21 38.4**	**+0.7**
	4.8nm,0.3s,baz=150,slow=4.8,SNR=8.3						
BATI	**Baumata**	**19.14**	**247**	P	**Pn**	**08 21 42.0**	**+4.3**
BATI	**Baumata**	**19.14**	**247**	P	**Pn**	**08 21 39.2**	**+1.5**
HNR	**Honiara**	**19.48**	**110**	P	**Pn**	**08 21 41.2**	**-0.6**
	5.7nm,0.3s,baz=266,slow=2.7,SNR=7.5						
HNR	**Honiara**	**19.48**	**110**	*eP*	**Pn**	**08 21 41.3**	**-0.4**
HNR				pmax	pmax		
	comp=Z,166nm,0.8s						
HNR	**Honiara**	**19.48**	**110**	*eP*	**Pn**	**08 21 41.3**	**-0.4**
	comp=Z,166nm,0.8s						
FITZ	**Fitzroy Crossi**	**21.69**	**225**	*eP*	**P**	**08 22 02.4**	**-1.9**
	comp=Z,39nm,0.9s,mb4.8						
FITZ	**Fitzroy Crossi**	**21.69**	**225**	P	**P**	**08 22 02.6**	**-1.7**
	comp=Z,19nm,0.9s,mb4.5,baz=50,slow=12,SNR=25						
FITZ	**Fitzroy Crossi**	**21.69**	**225**	P	**P**	**08 22 01.9**	**-2.4**
	comp=Z,57nm,0.9s,mb5.0						
FITZ	**Fitzroy Crossi**	**21.69**	**225**	P	**P**	**08 22 04.5**	**+0.2**
	comp=Z,69nm,1.0s,mb5.0						
ASAR	**Alice Springs**	**21.95**	**199**	P	**P**	**08 22 06.0**	**-0.9**
	comp=Z,10nm,1.0s,mb4.2,baz=29,slow=9.2,SNR=35						
EIDS	**Eidsvold**	**24.21**	**158**	*eP*	**P**	**08 22 27.2**	**-2.5**
	comp=Z,59nm,0.8s,mb5.1						
MYLDM	**Lahad Datu**	**24.31**	**289**	P	**P**	**08 22 31.4**	**+0.7**
KKM	**Kota Kinabalu**	**26.74**	**289**	P	**P**	**08 22 57.3**	**+4.6**
	comp=Z,30nm,1.3s,comp=Z,601nm,mb4.7						
KKM	**Kota Kinabalu**	**26.74**	**289**	*eP*	**P**	**08 22 54.0**	**+1.3**
MBWA	**Marble Bar**	**27.91**	**228**	*eP*	**P**	**08 23 02.0**	**-1.2**
	comp=Z,28nm,1.2s,mb4.8						
STKA	**Stephens Creek**	**28.86**	**180**	P	**P**	**08 23 13.2**	**+1.7**
	comp=Z,2.7nm,0.9s,mb4.0,baz=357,slow=10,SNR=3.1						
FORT	**Forrest**	**30.53**	**203**	*eP*	**P**	**08 23 29.0**	**+2.7**
	comp=Z,32nm,0.8s,mb5.2						
FORT	**Forrest**	**30.53**	**203**	*eP*	**P**	**08 23 26.1**	**-0.2**
	comp=Z,6.6nm,0.9s,mb4.5						
CAN	**Canberra**	**33.04**	**169**	*eP*	**P**	**08 23 49.1**	**+0.8**
CNB	**Canberra Magne**	**33.11**	**168**	*eP*	**P**	**08 23 51.4**	**+2.5**
TOO	**Toolangi**	**34.74**	**174**	*eP*	**P**	**08 23 57.3**	**-5.7**
KLBR	**Kellerberrin**	**36.28**	**215**	*eP*	**P**	**08 24 17.3**	**+0.9**
	comp=Z,28nm,1.3s,mb5.0						
NWAO	**Narrogin (SRO)**	**37.56**	**215**	P	**P**	**08 24 27.6**	**+0.4**
	comp=Z,12nm,0.9s,mb4.6,baz=56,slow=6.4,SNR=3.8						
MJAR	**Matsushiro Arr**	**39.32**	**356**	P	**P**	**08 24 40.3**	**-1.6**
	comp=Z,3.6nm,0.8s,mb4.1,baz=149,slow=5.2,SNR=5.7						
MAJO	**Matsushiro**	**39.32**	**356**	*eP*	**P**	**08 24 41.5**	**-0.4**
MAJO				pmax	pmax		
	comp=Z,13nm,1.0s,mb4.6						
MAJO	**Matsushiro**	**39.32**	**356**	*eP*	**P**	**08 24 41.5**	**-0.4**
	comp=Z,13nm,1.0s,mb4.6						
MAT	**Matsushiro**	**39.32**	**356**	P	**P**	**08 24 41.3**	**-0.6**
NJ2	**Nanjing**	**40.83**	**330**	*eP*	**P**	**08 24 56.3**	**+1.8**
NJ2				AMB	AMB		
	comp=Z,20nm,0.5s,mb5.0						
KSRS	**Korea Array**	**42.04**	**344**	P	**P**	**08 25 04.0**	**-0.4**
	comp=Z,3.6nm,0.7s,mb4.1,baz=170,slow=11,SNR=12						
GYA	**Guiyang**	**44.51**	**313**	⇓*iP*	**P**	**08 25 27.6**	**+3.1**
GYA				AP	pP	08 25 37.8	+2.3
GYA				XP	sP	08 25 42.3	+2.3
GYA				PCP	PcP	08 27 10.3	+2.8
GYA				PP	PP	08 27 13.8	+4.9
GYA				S	**S**	**08 32 01.4**	**+3.8**
GYA				XS	sS	08 32 17.8	+2.1
GYA				SS	SS	08 35 12.9	-5.2
GYA				AMB	AMB		
	comp=Z,20nm,1.0s,mb4.9						
GYA				AMB	AMB		
	comp=Z,120nm,5.6s						
GYA				LR	LR		
	comp=N,640nm,19.8s,MS4.7						
GYA				LR	LR		
	comp=E,580nm,18.6s,MS4.7						
GYA				LR	LR		
	comp=Z,720nm,19.7s,MS4.6						
KMI	**Kunming**	**46.74**	**309**	P	**P**	**08 25 42.3**	**+0.1**
KMI				AP	pP	08 25 54.3	+1.1
KMI				AMB	AMB		
	comp=Z,9.0nm,0.9s,mb4.7						
KMI				AMB	AMB		
	comp=Z,69nm,3.5s						
KMI				LR	LR		
	comp=N,206nm,18.2s,MS4.3						
KMI				LR	LR		
	comp=E,228nm,21.6s,MS4.3						
KMI				LR	LR		
	comp=Z,216nm,14.9s						
CMAR	**Chiang Mai Arr**	**46.93**	**299**	P	**P**	**08 25 43.0**	**-0.8**
	comp=Z,2.4nm,0.7s,mb4.2,baz=117,slow=5.9,SNR=6.6						
XAN	**Xi'an**	**47.82**	**323**	P	**P**	**08 25 49.5**	**-1.0**
XAN				AMB	AMB		
	comp=Z,16nm,1.2s,mb4.9						
XAN				AMB	AMB		
	comp=Z,44nm,4.8s						
MDJ	**Mudanjiang**	**48.45**	**349**	P	**P**	**08 25 56.6**	**+1.5**
MDJ				AP	pP	08 26 05.8	-0.3
MDJ				PCS	PcS	08 31 17.8	+1.1
MDJ				S	**S**	**08 32 56.8**	**+3.5**
MDJ				AMB	AMB		
	comp=Z,10.0nm,1.1s,mb4.8						
MDJ				AMB	AMB		
	comp=Z,90nm,5.2s						
MDJ				LR	LR		
	comp=N,577nm,23.5s,MS4.6						
MDJ				LR	LR		
	comp=E,358nm,22.5s,MS4.6						
MDJ				LR	LR		
	comp=Z,764nm,23.5s,MS4.6						
BJI	**Beijing**	**48.59**	**334**	P	**P**	**08 25 58.1**	**+1.8**
BJI				S	**S**	**08 33 00.6**	**+5.1**
BJI				AMB	AMB		
	comp=Z,6.0nm,0.9s,mb4.6						
BJI				LR	LR		
	comp=N,527nm,19.1s,MS4.6						
BJI				LR	LR		
	comp=E,234nm,19.1s,MS4.6						
BJI				LR	LR		
	comp=Z,356nm,22.2s,MS4.3						
CN2	**Changchun**	**48.63**	**345**	*eP*	**P**	**08 25 55.9**	**-0.6**
CN2				AMB	AMB		
	comp=Z,20nm,1.1s,mb5.1						
CN2				AMB	AMB		
	comp=Z,200nm,4.0s						
CN2				LR	LR		
	comp=N,600nm,21.0s,MS4.7						
CN2				LR	LR		
	comp=E,600nm,21.0s,MS4.7						
CN2				LR	LR		
	comp=Z,600nm,21.0s,MS4.6						
CD2	**Chengdu**	**49.18**	**316**	*eP*	**P**	**08 26 00.5**	**-0.5**
CD2				PP	PP	08 27 53.8	-1.3
CD2				S	**S**	**08 33 01.3**	**-2.8**
CD2				SS	SS	08 36 27.8	-8.2
CD2				AMB	AMB		
	comp=Z,50nm,1.0s,mb5.5						
CD2				AMB	AMB		
	comp=Z,130nm,5.2s						
CD2				LR	LR		
	comp=N,300nm,12.0s,MS4.6						
CD2				LR	LR		
	comp=E,290nm,16.8s,MS4.6						
CD2				LR	LR		
	comp=Z,200nm,15.6s,MS4.2						
YSS	**Yuzh-Sakhalins**	**49.61**	**1**	⇓*iP*	**P**	**08 26 03.8**	**-0.2**
YSS				pmax	pmax		
	comp=Z,26nm,1.0s,mb5.2						
HHC	**Hu-ho-hao-te**	**51.36**	**331**	*eP*	**P**	**08 26 20.3**	**+3.0**
HHC				AP	pP	08 26 30.8	+2.4
HHC				PCP	PcP	08 27 34.4	+2.7
HHC				PP	PP	08 28 19.3	+4.6
HHC				S	**S**	**08 33 38.3**	**+4.2**
HHC				XS	sS	08 33 54.3	+1.8
HHC				AMB	AMB		
	comp=Z,16nm,1.1s,mb4.9						
HHC				AMB	AMB		
	comp=Z,161nm,6.5s						
HHC				LR	LR		
	comp=N,318nm,15.4s,MS4.5						
HHC				LR	LR		
	comp=E,276nm,17.2s,MS4.5						
HHC				LR	LR		
	comp=Z,355nm,17.3s,MS4.5						
LZH	**Lanzhou**	**52.30**	**321**	⇓P	**P**	**08 26 25.0**	**+0.6**
LZH				AP	pP	08 26 35.8	+0.3
LZH				AMB	AMB		
	comp=Z,56nm,1.5s,mb5.3						
LZH				AMB	AMB		
	comp=Z,240nm,4.9s						
LZH				LR	LR		
	comp=N,1μm,14.8s						
LZH				LR	LR		
	comp=Z,1μm,16.2s,MS5.1						
KLR	**Kul'dur**	**52.56**	**352**	*eP*	**P**	**08 26 21.8**	**-4.3**
KLR				pmax	pmax		
	comp=E,24nm,1.4s						
KLR				pmax	pmax		
	comp=Z,72nm,1.4s,mb5.4						
HIA	**Hailar**	**55.23**	**343**	*eP*	**P**	**08 26 45.3**	**-0.3**
HIA				pmax	pmax		
	comp=Z,11nm,0.8s						
HIA	**Hailar**	**55.23**	**343**	*eP*	**P**	**08 26 45.3**	**-0.3**
	comp=Z,11nm,0.8s,mb5.0						
GTA	**Gaotai**	**56.86**	**322**	*eP*	**P**	**08 26 57.8**	**+0.4**
GTA				AMB	AMB		
	comp=Z,20nm,1.0s,mb5.1						
GTA				AMB	AMB		
	comp=Z,253nm,6.0s						
GTA				LR	LR		
	comp=N,105nm,13.2s,MS4.3						
GTA				LR	LR		
	comp=E,141nm,13.8s,MS4.3						
GTA				LR	LR		
	comp=Z,174nm,14.1s,MS4.3						
PETK	**Petropavlovsk-**	**57.41**	**12**	P	**P**	**08 26 59.7**	**-1.3**
	comp=Z,4.9nm,0.8s,mb4.6,baz=144,slow=6.2,SNR=9.1						
PETK	**Petropavlovsk-**	**57.41**	**12**	P	**P**	**08 26 59.7**	**-1.3**
SONM	**Songino Array**	**59.07**	**333**	P	**P**	**08 27 13.0**	**+0.3**
	comp=Z,1.0nm,0.7s,mb4.0,baz=151,slow=9.4,SNR=8.5						
TAPN	**Taplejung**	**59.84**	**304**	*eP*	**P**	**08 27 18.7**	**+0.2**
	comp=Z,36nm,1.2s,mb5.3						
ODAN	**Odare**	**59.93**	**303**	*eP*	**P**	**08 27 19.0**	**-0.1**
RAMN	**Ramite**	**60.62**	**303**	*eP*	**P**	**08 27 23.5**	**-0.4**
	comp=Z,51nm,1.3s,mb5.5						
JIRN	**Jiri**	**61.21**	**304**	*eP*	**P**	**08 27 27.7**	**-0.2**
GUN	**Gumba**	**61.56**	**304**	*eP*	**P**	**08 27 30.0**	**-0.2**
	comp=Z,49nm,1.1s,mb5.5						
PKI	**Pulchoki**	**61.83**	**303**	*eP*	**P**	**08 27 31.3**	**-0.7**
PKI	**Pulchoki**	**61.83**	**303**	*eP*	**P**	**08 27 31.7**	**-0.3**
PKIN	**Phulchoki**	**61.85**	**303**	*eP*	**P**	**08 27 31.7**	**-0.4**
KKN	**Kakani**	**62.02**	**304**	*eP*	**P**	**08 27 32.7**	**-0.6**
DMN	**Daman**	**62.10**	**303**	*eP*	**P**	**08 27 33.7**	**-0.1**
	comp=Z,46nm,1.2s,mb5.5						
ZAK	**Zakamensk**

NVS pmax pmax
comp=N,18nm,1.6s
NVS pmax pmax
comp=E,24nm,1.4s
TIXI Tiksi 74.83 356 *e*P **P 08 28 50.0 -2.5**
TIXI pmax pmax
comp=Z,3.0nm,0.6s,mb4.4
TIXI Tiksi 74.83 356 *e*P **P 08 28 51.6 -0.9**
comp=Z,2.0nm,0.5s,mb4.3
FRU Bishkek 75.22 316 *e*P **P 08 28 56.5 +1.2**
AAK Ala-Archa 75.24 315 P **P 08 28 56.4 +0.9**
SNR=5.8
USP Ospenovka 75.44 316 P **P 08 28 56.9 +0.3**
SNR=12
KURK Kurchatov 75.44 324 P **P 08 28 55.9 -0.5**
comp=Z,14nm,0.9s,mb4.9,baz=114,slow=5.4,SNR=23
KURK Kurchatov 75.44 324 *e*P **P 08 28 56.6 +0.2**
KURK pmax pmax
comp=Z,28nm,1.0s,mb5.2
KURK Kurchatov 75.44 324 *e*P **P 08 28 56.6 +0.2**
comp=Z,28nm,1.0s,mb5.2
AML Almayashu 75.66 315 P **P 08 28 59.4 +1.6**
SNR=7.3
EKS2 Erkin-Say 75.76 315 P **P 08 28 59.2 +0.8**
SNR=8.2
EKS2 Erkin-Say 75.76 315 *e*P **P 08 28 59.0 +0.5**
comp=Z,17nm,1.3s,mb4.8
KBL Kabul 77.24 306 *e*P **P 08 29 11.0 +4.0**
KBL pmax pmax
comp=Z,8.0nm,0.5s,mb4.9
KBL Kabul 77.24 306 *e*P **P 08 29 11.0 +4.0**
comp=Z,8.3nm,0.5s,mb4.9
KK31 Karatay Array 78.18 315 *i*P **P 08 29 11.4 -0.7**
KK31 pmax pmax
comp=Z,26nm,1.5s,mb4.9
OHAK Old Harbor 79.28 30 P **P 08 29 18.4 +0.7**
SVW2 Sparrevohn 79.78 26 *e*P **P 08 29 21.4 +1.0**
KDAK Kodiak Island 79.84 30 P **P 08 29 19.1 -1.7**
comp=Z,21nm,1.0s,mb5.0,baz=154,slow=4.2,SNR=5.2
VOSK Vostochnaya 80.59 324 P **P 08 29 24.5 -0.5**
VOSK pmax pmax
comp=Z,30nm,1.5s,mb5.0
BVA0 Borovoye Array 81.03 325 *i*P **P 08 29 27.1 -0.2**
BVA0 pmax pmax
comp=Z,9.0nm,1.6s,mb4.5
BRVK Borovoye 81.10 325 P **P 08 29 27.9 +0.2**
comp=Z,112nm,0.9s,mb5.8,SNR=11
BRVK Borovoye 81.10 325 *e*P **P 08 29 27.9 +0.2**
BRVK pmax pmax
comp=Z,24nm,0.8s,mb5.2
BRVK Borovoye 81.10 325 *e*P **P 08 29 27.9 +0.3**
comp=Z,24nm,0.8s,mb5.2
CHUM Lake Minchumin 82.30 24 *e*P **P 08 29 34.8 +1.0**
comp=Z,70nm,0.9s,mb5.6
RC01 Rabbit Creek A 82.39 27 *e*P **P 08 29 33.9 -0.4**
comp=Z,21nm,0.9s,mb5.1
IMA2 Indian Mountai 82.64 22 *e*P **P 08 29 36.1 +0.6**
KTH Kantishna Hill 82.75 25 *e*P **P 08 29 35.9 -0.3**
comp=Z,30nm,1.1s,mb5.2
PMR Palmer 82.84 27 *e*P **P 08 29 36.6 0.0**
BPAW Bear Paw Mtn. 82.93 24 *e*P **P 08 29 37.0 0.0**
comp=Z,6.2nm,0.9s,mb4.6
TRF Thorofare Moun 82.98 25 *e*P **P 08 29 36.5 -0.9**
comp=Z,6.8nm,0.7s,mb4.8
MAW Mawson 83.03 202 *e*P **P 08 29 37.3 -0.2**
comp=Z,3.9nm,1.0s,mb4.4
MAW Mawson 83.03 202 P **P 08 29 37.1 -0.4**
comp=Z,4.7nm,1.0s,mb4.5,baz=51,slow=4.4,SNR=9.8
MAW Mawson 83.03 202 *e*P **P 08 29 37.9 +0.4**
MAW pmax pmax
comp=Z,6.0nm,0.9s
MAW Mawson 83.03 202 *e*P **P 08 29 37.9 +0.4**
comp=Z,5.9nm,0.9s,mb4.6
MCK McKinley 83.65 25 *e*P **P 08 29 40.7 0.0**
COLD Coldfoot 84.38 21 *e*P **P 08 29 45.1 +0.7**
comp=Z,11nm,1.0s,mb4.9
COLA College 84.47 24 *e*P **P 08 29 43.9 -1.0**
COLA pmax pmax
comp=Z,11nm,0.8s,mb5.0
COLA College 84.47 24 *e*P **P 08 29 43.9 -1.0**
comp=Z,11nm,0.8s,mb5.0
AB31 Akbulak array 86.63 320 *i*P **P 08 29 54.6 -1.4**
AB31 pmax pmax
comp=Z,1.0nm,0.5s,mb4.3
QSPA South Pole Qui 87.09 180 P **P 08 29 58.4 +0.7**
comp=Z,8.5nm,1.0s,mb4.9,baz=352,slow=2.3,SNR=13
HYT Haines Junctio 88.09 29 *e*P **P 08 30 03.9 +1.0**
ARU Arti 88.44 327 *d i*P **P 08 30 03.3 -1.2**
ARU *e*S S 08 40 28.2 -19
ARU pmax pmax
comp=Z,11nm,1.7s,mb4.8
INK Inuvik 90.78 22 *e*P **P 08 30 14.7 -0.5**
comp=Z,397nm,1.1s
YKA Yellowknife Ar 98.94 27 P **P 08 30 52.6 0.0**
comp=Z,2.8nm,1.0s,mb4.8,baz=287,slow=4.7,SNR=5.2
APA Apatity 99.48 338⇓ *e*P **P 08 30 53.7 -1.2**
APA pmax pmax
comp=Z,30nm,1.3s,mb5.7
APA MLR MLR
comp=Z,600nm,17.0s,MS5.2
NVAR Mina Array Bea 99.78 52 P Pdif 08 30 58.2 +1.7
comp=Z,0.8nm,0.7s,baz=264,slow=7.1,SNR=4.0
NVAR Mina Array Bea 99.78 52 P Pdif 08 30 58.2 +1.7
OBN Obninsk 100.85 326 *e*P Pdif 08 31 00.6 -0.7
OBN pmax pmax
comp=Z,5.0nm,0.8s
TORD Torodi Ar. Bea 138.95 287 PKP PKPdf 08 36 41.3 +1.4
comp=Z,1.6nm,0.8s,baz=70,slow=1.8,SNR=8.7
ROSC El Rosal 144.22 86 PKP PKPdf 08 36 48.6 -0.9
comp=Z,12nm,0.8s,baz=104,slow=21,SNR=7.6
LPAZ La Paz 145.09 124 PKPbc PKPbc 08 36 52.2 +1.9
comp=Z,3.9nm,0.8s,baz=321,slow=2.5,SNR=10
LPAZ La Paz 145.09 124 PKPbc PKPbc 08 36 52.2 +1.9
KIC Kosan Boka 146.16 277 *e*P PKPdf 08 36 52.2 -0.6
comp=Z,95nm,1.1s
DBIC Dimbokro 146.25 278 PKPbc PKPbc 08 36 53.7 -0.4
comp=Z,4.3nm,0.7s,baz=105,slow=5.2,SNR=8.3
DBIC Dimbokro 146.25 278 *e*PKPdf PKPdf 08 36 53.2 +0.3
DBIC PKPbc PKPbc 08 36 53.7 -0.4
TIC Toumodi 146.41 278 *e*P PKPdf 08 36 54.1 +0.9
comp=Z,21nm,0.2s
LIC Lamto 146.46 277 *e*P PKPdf 08 36 53.9 +0.6
comp=Z,120nm,1.9s
SDV Santo Domingo 147.51 78 PKPbc PKPbc 08 36 57.4 -0.2
comp=Z,13nm,0.8s,baz=306,slow=2.3,SNR=17
SIV San Ignacio 150.88 131 PKPbc PKPbc 08 37 06.2 +0.2
comp=Z,1.5nm,0.6s,baz=247,slow=3.5,SNR=6.3

IDC ***22*** *08:18:11.5±0.5,282S×14126E,h0km,mb4.8/17, mb1 4.9/21,mb1mx4.9/22,mbtmp4.9/21,ML4.8/4,MS4.4/8, Ms1 4.4/8,ms1mx4.2/14,Error ellipse: s-maj=17.4km s-min=8.7km az=107.0*
ISCJB ***22*** *08:18:14.6±0.2,282S±004×14139E±006,h33km, mb5.0/54,MS4.3/5,Error ellipse: s-maj=8.3km s-min=5.2km az=4.6*
MOS ***22*** *08:18:15.5±1.0,275S×14136E,h41km,mb5.4/17,Error ellipse: s-maj=13.4km s-min=7.2km az=98.2*
BJI ***22*** *08:18:15.7,271S×14176E,h54km,mB5.5,mb5.1,Ms4.7, Msz4.4*
GCMT ***22*** *08:18:18.6±0.2,277S×14136E,h15km,MW5.1/85, Moment Tensor Solution. s38,c46; s85,c127; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr=5.39±.13; Mθθ3.80±.11; Mφφ1.59±.15; Mrθ1.08±.40; Mθφ-2.00±.10; Mrφ-1.60±.52; Best double couple: Mo5.52600×10¹⁶ NP1:φs113.00000°,δ36.00000°,λ-102.00000°. NP2: φs308.00000°,δ55.00000°,λ-81.00000°. Principal axes: T 5.2690, Plg9.0000°, Azm32.0000°; N 0.5140, Plg7.0000°, Azm123.0000°; P -5.7830, Plg78.0000°, Azm250.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
NEIC ***22*** *08:18:18.6±1.4,286S×14137E,h55km±13km,mb5.1/30 Error ellipse: s-maj=7.9km s-min=5.8km az=102.0*

ISC 22 08:18:18.0±1.6,284S±004×14141E±006,h48km±15km, n127,σ0θ96/114,mb5.0/53,MS4.3/5,9C-5D,Near north coast of New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**8.68**	**139**	*e*P	**Pn**	**08 20 24.0**	**+3.0**
PMG				pmax	pmax		
	comp=Z,56nm,0.8s						
PMG	**Port Moresby**	**8.68**	**139**	*e*Pn	**Pn**	**08 20 24.0**	**+3.0**
	comp=Z,56nm,0.8s						
COEN	**Coen**	**11.19**	**171**	*e*Pn	**Pn**	**08 21 05.4**	**+10**
	comp=Z,9.7nm,0.7s						
KAKA	**Kakadu**	**13.23**	**222**	*e*P	**Pn**	**08 21 15.6**	**-7.7**
	comp=Z,95nm,0.4s						
KAKA	**Kakadu**	**13.23**	**222**	*e*Pn	**Pn**	**08 21 15.2**	**-8.1**
GUMO	**Guam**	**16.67**	**12**	LR	LR	08 27 44.6	
	comp=Z,1μm,19.2s,baz=272,slow=34						
CTA	**Charters Tower**	**17.79**	**165**	P	**Pn**	**08 22 20.9**	**-1.3**
	comp=Z,0.9nm,0.3s,baz=137,slow=6.6,SNR=3.0						
CTA				LR	LR	08 29 34.7	
	comp=Z,2μm,19.6s,baz=352,slow=38						
WRAB	**Tennant Creek**	**18.34**	**202**	*d i*P	**Pn**	**08 22 29.9**	**+1.0**
WRAB	**Tennant Creek**	**18.34**	**202**	*e*P	**Pn**	**08 22 27.6**	**-1.3**
	comp=Z,55nm,0.8s						
WRA	**Warramunga Arr**	**18.35**	**202**	P	**Pn**	**08 22 28.3**	**-0.8**
	comp=Z,2.4nm,0.3s,baz=23,slow=12,SNR=9.7						
WRA				S	**S**	**08 25 56.1**	**+0.1**
	comp=Z,0.3nm,0.3s,baz=21,slow=23,SNR=5.3						
WRA				LR	LR	08 30 12.8	
	comp=Z,3μm,18.7s,baz=25,slow=39						
WRA	**Warramunga Arr**	**18.35**	**202**	P	**Pn**	**08 22 28.3**	**-0.8**
WRA				S	**S**	**08 25 56.1**	**0.0**
DAV	**Davao City (W)**	**18.61**	**302**	LR	LR	08 30 08.1	
	comp=Z,352nm,18.8s,baz=172,slow=39						
BATI	**Baumata**	**19.08**	**247**	P	**Pn**	**08 22 35.4**	**-2.6**
	comp=Z,8.4nm,0.3s,baz=52,slow=1.8,SNR=4.2						
HNR	**Honiara**	**19.55**	**110**	P	**Pn**	**08 22 42.1**	**-1.4**
	comp=Z,10nm,0.3s,baz=189,slow=2.5,SNR=10.0						
FITZ	**Fitzroy Crossi**	**21.66**	**224**	*e*P	**P**	**08 23 03.0**	**-1.7**
	comp=Z,72nm,0.7s,mb5.2						
FITZ	**Fitzroy Crossi**	**21.66**	**224**	P	**P**	**08 23 03.0**	**-1.7**
	comp=Z,35nm,0.7s,mb4.9,baz=46,slow=13,SNR=15						
FITZ				S	**S**	**08 26 59.5**	**-2.5**
	comp=Z,23nm,1.1s,baz=162,slow=13,SNR=5.0						
FITZ				LR	LR	08 31 24.2	
	comp=Z,1μm,18.3s,MS4.4,baz=44,slow=37						
FITZ	**Fitzroy Crossi**	**21.66**	**224**	*e*P	**P**	**08 23 02.3**	**-2.4**
	comp=Z,80nm,0.8s,mb5.2						
ASAR	**Alice Springs**	**21.95**	**199**	P	**P**	**08 23 07.0**	**-0.7**
	comp=Z,12nm,0.7s,mb4.4,baz=30,slow=9.9,SNR=6.9						
KKM	**Kota Kinabalu**	**26.66**	**289**	*e*P	**P**	**08 23 54.1**	**+1.4**
MBWA	**Marble Bar**	**27.88**	**228**	*e*P	**P**	**08 24 03.0**	**-0.5**
	comp=Z,41nm,1.1s,mb5.0						
STKA	**Stephens Creek**	**28.89**	**180**	P	**P**	**08 24 12.6**	**+0.2**
	comp=Z,9.5nm,0.9s,mb4.5,baz=13,slow=9.3,SNR=5.8						
STKA	**Stephens Creek**	**28.89**	**180**	*e*P	**P**	**08 24 10.2**	**-2.2**
	comp=Z,14nm,1.0s,mb4.6						
ARMA	**Armidale**	**29.09**	**162**	*e*P	**P**	**08 24 13.6**	**-0.6**
	comp=Z,0.2nm,0.6s						
FORT	**Forrest**	**30.52**	**203**	*e*P	**P**	**08 24 27.4**	**+0.5**
	comp=Z,63nm,1.0s,mb5.4						
CNB	**Canberra Magne**	**33.15**	**168**	*e*P	**P**	**08 24 49.3**	**-0.6**
TOO	**Toolangi**	**34.77**	**174**	*e*P	**P**	**08 25 05.2**	**+1.3**
KLBR	**Kellerberrin**	**36.26**	**215**	*e*P	**P**	**08 25 16.5**	**-0.3**
	comp=Z,33nm,1.0s,mb5.2						
NWAO	**Narrogin (SRO)**	**37.54**	**214**	P	**P**	**08 25 28.4**	**+0.8**
	comp=Z,13nm,0.8s,mb4.7,baz=32,slow=13,SNR=4.1						
MJAR	**Matsushiro Arr**	**39.29**	**356**	P	**P**	**08 25 41.0**	**-1.2**
	comp=Z,1.1nm,0.4s,mb3.9,baz=183,slow=7.9,SNR=7.6						
MJAR				LR	LR	08 41 34.9	
	comp=Z,317nm,18.9s,MS4.2,baz=145,slow=36						
MAJO	**Matsushiro**	**39.29**	**356**	*e*P	**P**	**08 25 40.5**	**-1.8**
MAJO				pmax	pmax		
	comp=Z,11nm,0.9s,mb4.6						
MAJO	**Matsushiro**	**39.29**	**356**	*e*P	**P**	**08 25 40.5**	**-1.7**
	comp=Z,10nm,0.9s,mb4.6						
KSRS	**Korea Array**	**42.00**	**344**	P	**P**	**08 26 04.5**	**0.0**
	comp=Z,4.9nm,0.8s,mb4.2,baz=169,slow=9.9,SNR=12						
KSRS				PcP	PcP	08 28 00.9	+1.8
	comp=Z,2.1nm,0.8s,baz=163,slow=2.9,SNR=5.4						
KMI	**Kunming**	**46.67**	**309**	P	**P**	**08 26 43.4**	**+1.2**
KMI				AMB	AMB		
	comp=Z,16nm,1.2s,mb4.8						
CMAR	**Chiang Mai Arr**	**46.85**	**299**	P	**P**	**08 26 42.9**	**-0.9**
	comp=Z,1.6nm,0.3s,mb4.4,baz=116,slow=6.4,SNR=3.8						
XAN	**Xi'an**	**47.76**	**323**	P	**P**	**08 26 49.9**	**-0.6**
XAN				AP	pP	08 27 00.3	-3.2
XAN				PP	PP	08 28 43.9	+1.2
XAN				XS	sS	08 34 09.5	+4.0
XAN				AMB	AMB		
	comp=Z,30nm,1.4s,mb5.1						
XAN				AMB	AMB		
	comp=Z,150nm,4.4s						
XAN				LR	LR		
	comp=N,88nm,14.5s,MS4.1						
XAN				LR	LR		
	comp=E,141nm,16.1s,MS4.1						
XAN				LR	LR		
	comp=Z,306nm,24.5s						
URZ	**Urewera**	**48.02**	**142**	LR	LR	08 45 38.0	
	comp=Z,441nm,19.9s,MS4.4,baz=316,slow=34						
MDJ	**Mudanjiang**	**48.41**	**349**	*e*P	**P**	**08 26 55.0**	**-0.3**
	comp=Z,10nm,0.6s,mb5.0						
RPZ	**Rata Peaks**	**48.45**	**151**	LR	LR	08 44 35.1	
	comp=Z,576nm,21.3s,MS4.5,baz=253,slow=33						
CN2	**Changchun**	**48.59**	**345**	*e*P	**P**	**08 26 55.8**	**-1.0**
CN2				AMB	AMB		
	comp=Z,20nm,1.0s,mb5.1						
YSS	**Yuzh-Sakhalins**	**49.59**	**1**⇓	*i*P	**P**	**08 27 04.3**	**0.0**
YSS				pmax	pmax		
	comp=Z,54nm,1.0s,mb5.5						
HABR	**Khabarovsk**	**51.40**	**355**	*e*P	**P**	**08 27 16.3**	**-1.7**
HABR				*e*S	**S**	**08 34 29.6**	**-4.5**
LZH	**Lanzhou**	**52.23**	**321**	*e*P	**P**	**08 27 25.0**	**+0.6**
LZH				AMB	AMB		
	comp=Z,70nm,1.1s,mb5.5						
LZH				AMB	AMB		
	comp=Z,320nm,5.3s						
HIA	**Hailar**	**55.19**	**343**	*c i*P	**P**	**08 27 45.7**	**-0.1**
HIA	**Hailar**	**55.19**	**343**	*e*P	**P**	**08 27 45.8**	**0.0**
	comp=Z,19nm,0.9s,mb5.1						
GTA	**Gaotai**	**56.80**	**322**	P	**P**	**08 27 58.3**	**+0.8**
GTA				AP	pP	08 28 08.6	-2.2
GTA				AMB	AMB		
	comp=Z,37nm,1.2s,mb5.3						
PETK	**Petropavlovsk-**	**57.40**	**12**	P	**P**	**08 28 01.8**	**+0.4**
	comp=Z,14nm,0.9s,mb5.0,baz=160,slow=6.2,SNR=16						
LSA	**Lhasa**	**57.90**	**308**	P	**P**	**08 28 06.9**	**+1.4**
SONM	**Songino Array**	**59.01**	**333**	P	**P**	**08 28 13.6**	**+0.8**
	comp=Z,2.7nm,0.8s,mb4.3,baz=147,slow=8.5,SNR=7.7						
SONM				PcP	PcP	08 29 03.2	+1.8
	comp=Z,5.6nm,1.2s,baz=114,slow=2.8,SNR=4.4						
SONM	**Songino Array**	**59.01**	**333**	PcP	PcP	08 29 03.2	+1.8
TLY	**Talaya**	**63.05**	**335**	*e*P	**P**	**08 28 40.7**	**+0.5**
TLY				pmax	pmax		
	comp=Z,33nm,1.3s,mb5.3						
TLY	**Talaya**	**63.05**	**335**	*e*P	**P**	**08 28 40.8**	**+0.6**
	comp=Z,31nm,1.3s,mb5.3						
IRK	**Irkutsk**	**63.20**	**335**	*e*P	**P**	**08 28 40.1**	**-1.1**
IRK				pmax	pmax		
	comp=Z,38nm,1.9s,mb5.2						
DRV	**Dumont d'Urvil**	**63.72**	**181**	S	**S**	**08 37 10.0**	**-5.1**
DRV				R		08 49 00.0	
KIP	**Kipapa**	**63.94**	**65**⇑	*i*P	**P**	**08 28 48.1**	**+1.4**
MOY	**Mondy**	**64.20**	**333**	*e*P	**P**	**08 28 49.2**	**+1.4**
BOD	**Bodaibo**	**64.34**	**344**	*e*P	**P**	**08 28 46.8**	**-1.7**
BOD				pmax	pmax		
	comp=Z,15nm,1.4s,mb4.8						
YAK	**Yakutsk**	**65.31**	**354**	*e*P	**P**	**08 28 53.5**	**-1.3**
YAK				pmax	pmax		
	comp=Z,46nm,1.3s,mb5.3						
YAK				pmax	pmax		
	comp=N,13nm,1.1s						
YAK	**Yakutsk**	**65.31**	**354**⇑	*e*P	**P**	**08 28 54.7**	**-0.1**
SEY	**Seymchan**	**66.12**	**5**⇑	*e*P	**P**	**08 28 59.2**	**-0.8**
CASY	**Casey**	**66.94**	**193**	*e*P	**P**	**08 29 05.6**	**+0.4**
CASY	**Casey**	**66.94**	**193**	*e*P	**P**	**08 29 04.5**	**-0.7**
	comp=N,5.6nm,0.9s,mb4.6						
MK31	**Makanchi Array**	**71.55**	**322**	*e*P	**P**	**08 29 34.3**	**+0.2**
MKAR	**Makanchi Array**	**71.55**	**322**	P	**P**	**08 29 34.8**	**+0.7**
	comp=N,39nm,1.1s,mb5.2,baz=115,slow=7.2,SNR=20						
MIR	**Mirnyy**	**71.91**	**198**⇑	*i*P	**P**	**08 29 36.5**	**+0.6**
MIR				pmax	pmax		
	comp=Z,100nm,1.0s,mb5.7						
BILL	**Bilibino**	**72.82**	**10**⇓	*i*P	**P**	**08 29 40.7**	**-0.6**
BILL				pmax	pmax		
	comp=Z,16nm,0.9s,mb5.0						
ZAA0	**Zalesovo Array**	**73.42**	**329**	*e*P	**P**	**08 29 44.6**	**-0.4**
ZALV	**Zalesovo Beam**	**73.42**	**329**	P	**P**	**08 29 44.8**	**-0.3**
	comp=Z,15nm,0.7s,mb5.0,baz=109,slow=5.6,SNR=22						
TKM2	**Tokmak 2**	**74.50**	**316**	*e*P	**P**	**08 29 52.2**	**+0.6**
TKM2				pmax	pmax		
	comp=Z,19nm,1.1s,mb4.9						
TKM2	**Tokmak 2**	**74.50**	**316**	P	**P**	**08 29 52.4**	**+0.7**
	SNR=10						
TKM2	**Tokmak 2**	**74.50**	**316**	*e*P	**P**	**08 29 52.2**	**+0.6**
	comp=Z,19nm,1.1s,mb4.9						
NVS	**Novosibirsk**	**74.66**	**329**⇓	*i*P	**P**	**08 29 51.7**	**-0.6**
NVS				pmax	pmax		
	comp=Z,77nm,1.7s,mb5.4						
NVS				pmax	pmax		
	comp=N,45nm,1.8s						
NVS				pmax	pmax		
	comp=E,55nm,1.8s						
TIXI	**Tiksi**	**74.80**	**356**	*e*P	**P**	**08 29 53.6**	**+0.8**
TIXI				pmax	pmax		
	comp=Z,14nm,1.2s,mb4.8						
TIXI	**Tiksi**	**74.80**	**356**⇑	*e*P	**P**	**08 29 53.5**	**+0.7**
UCH	**Uchtor**	**75.04**	**315**	*e*P	**P**	**08 29 56.6**	**+1.8**
	comp=Z,24nm,1.5s,mb4.9						
AAK	**Ala-Archa**	**75.18**	**315**	P	**P**	**08 29 56.9**	**+1.4**
SNR=6.4							
USP	**Ospenovka**	**75.37**	**316**	P	**P**	**08 29 57.3**	**+0.6**
SNR=12							
KURK	**Kurchatov**	**75.38**	**324**	P	**P**	**08 29 56.6**	**+0.1**
	comp=Z,22nm,1.0s,mb5.0,baz=111,slow=5.7,SNR=23						
AML	**Almayashu**	**75.59**	**315**	P	**P**	**08 29 59.5**	**+1.6**
SNR=11							
EKS2	**Erkin-Say**	**75.69**	**315**	P	**P**	**08 29 60.0**	**+1.5**
SNR=9.7							
EKS2	**Erkin-Say**	**75.69**	**315**	*e*P	**P**	**08 29 59.3**	**+0.8**
	comp=Z,29nm,1.2s,mb5.1						
SVW2	**Sparrevohn**	**79.79**	**26**	*e*P	**P**	**08 30 21.8**	**+0.9**
KDAK	**Kodiak Island**	**79.86**	**30**	P	**P**	**08 30 21.4**	**0.0**
	comp=Z,30nm,0.9s,mb5.2,baz=248,slow=2.5,SNR=12						
KDAK	**Kodiak Island**	**79.86**	**30**	*e*P	**P**	**08 30 21.5**	**+0.2**
	comp=Z,63nm,1.1s,mb5.5						
BRVK	**Borovoye**	**81.03**	**325**	*e*P	**P**	**08 30 28.1**	**+0.3**
BRVK				pmax	pmax		
	comp=Z,74nm,1.3s,mb5.5						
BRVK	**Borovoye**	**81.03**	**325**	*e*P	**P**	**08 30 28.1**	**+0.4**
	comp=Z,74nm,1.3s,mb5.5						
PPLA	**Purkeypile**	**81.98**	**25**	*e*P	**P**	**08 30 32.5**	**-0.1**
	comp=Z,97nm,1.6s,mb5.5						
CHUM	**Lake Minchumin**	**82.31**	**24**	*e*P	**P**	**08 30 35.2**	**+1.0**
	comp=Z,133nm,1.0s,mb5.8						
RC01	**Rabbit Creek A**	**82.41**	**27**	*e*P	**P**	**08 30 34.8**	**0.0**
	comp=Z,44nm,1.0s,mb5.3						
IMA2	**Indian Mountai**	**82.65**	**22**	*e*P	**P**	**08 30 36.2**	**+0.3**
KTH	**Kantishna Hill**	**82.76**	**25**	*e*P	**P**	**08 30 36.1**	**-0.5**
	comp=Z,48nm,1.1s,mb5.4						
PMR	**Palmer**	**82.85**	**27**	*e*P	**P**	**08 30 35.9**	**-1.2**
PMR				pmax	pmax		
	comp=Z,19nm,0.9s,mb5.1						
PMR	**Palmer**	**82.85**	**27**	*e*P	**P**	**08 30 35.9**	**-1.3**
	comp=Z,19nm,0.9s,mb5.1						
BPAW	**Bear Paw Mtn.**	**82.94**	**24**	*e*P	**P**	**08 30 37.5**	**-0.1**
	comp=Z,26nm,1.2s,mb5.1						
TRF	**Thorofare Moun**	**82.99**	**25**	*e*P	**P**	**08 30 36.9**	**-0.9**
	comp=Z,22nm,1.0s,mb5.1						
MAW	**Mawson**	**83.03**	**202**	*e*P	**P**	**08 30 38.8**	**+0.8**
	comp=Z,5.8nm,0.9s,mb4.6						
MAW	**Mawson**	**83.03**	**202**	P	**P**	**08 30 37.8**	**-0.2**
	comp=Z,6.5nm,0.9s,mb4.7,baz=61,slow=7.4,SNR=7.3						
MAW	**Mawson**	**83.03**	**202**	*e*P	**P**	**08 30 38.2**	**+0.2**
MAW				pmax	pmax		
	comp=Z,11nm,1.0s						
MAW	**Mawson**	**83.03**	**202**	*e*P	**P**	**08 30 38.2**	**+0.3**
	comp=Z,11nm,1.0s,mb4.8						
MCK	**McKinley**	**83.66**	**25**	*e*P	**P**	**08 30 40.6**	**-0.6**
MCK				pmax	pmax		
	comp=Z,20nm,0.8s,mb5.3						
MCK	**McKinley**	**83.66**	**25**	*e*P	**P**	**08 30 40.6**	**-0.6**
	comp=Z,20nm,0.8s,mb5.3						
COLD	**Coldfoot**	**84.38**	**21**	*e*P	**P**	**08 30 45.7**	**+0.9**
	comp=Z,27nm,1.2s,mb5.2						
COLA	**College**	**84.48**	**24**	*c i*P	**P**	**08 30 44.7**	**-0.7**
COLA	**College**	**84.48**	**24**	*e*P	**P**	**08 30 44.6**	**-0.8**
	comp=Z,34nm,1.1s,mb5.4						
QSPA	**South Pole Qui**	**87.11**	**180**	P	**P**	**08 30 58.5**	**+0.3**
	comp=Z,14nm,1.0s,mb5.2,baz=345,slow=3.0,SNR=18						
DAWY	**Dawson**	**87.81**	**26**	*e*P	**P**	**08 31 02.4**	**+0.6**
HYT	**Haines Junctio**	**88.11**	**29**	*e*P	**P**	**08 31 03.8**	**+0.5**
ARU	**Arti**	**88.38**	**327**	*d i*P	**P**	**08 31 03.0**	**-1.7**
ARU				*e*		08 34 30.5	
ARU				S	S	08 41 23.1	-23
ARU				SS	SS	08 47 30.3	-6.6
ARU				pmax	pmax		
	comp=Z,21nm,1.7s,mb5.1						
ARU	**Arti**	**88.38**	**327**	*e*P	**P**	**08 31 03.5**	**-1.2**
	comp=Z,12nm,1.0s,mb5.1						
INK	**Inuvik**	**90.78**	**22**	*e*P	**P**	**08 31 15.2**	**-0.5**
	comp=Z,565nm,1.1s						
GNI	**Garni**	**96.92**	**310**⇑	*i*P	**P**	**08 31 43.6**	**-0.9**
GNI				pmax	pmax		
	comp=Z,6.0nm,0.8s						
GNI	**Garni**	**96.92**	**310**⇑	*i*P	**P**	**08 31 43.7**	**-0.8**
YKA	**Yellowknife Ar**	**98.95**	**27**	P	**P**	**08 31 52.9**	**-0.2**
	comp=Z,4.5nm,1.0s,mb5.0,baz=280,slow=4.8,SNR=9.8						
YKA	**Yellowknife Ar**	**98.95**	**27**	P	**P**	**08 31 52.9**	**-0.2**
WVOR	**Wild Horse Val**	**99.25**	**48**	*e*P	**P**	**08 31 55.8**	**+0.8**
WVOR				pmax	pmax		
	comp=Z,9.0nm,1.2s,mb5.2						
WVOR	**Wild Horse Val**	**99.25**	**48**	*e*P	**P**	**08 31 55.8**	**+0.8**
	comp=Z,8.7nm,1.2s,mb5.2						
NVAR	**Mina Array Bea**	**99.82**	**52**	P	Pdif	08 31 58.5	+1.4
	comp=Z,2.4nm,1.0s,baz=278,slow=5.8,SNR=6.4						
BOZ	**Bozeman (W)**	**103.85**	**44**	*e*P	Pdif	08 32 12.1	-3.0
BOZ				pmax	pmax		
	comp=Z,5.0nm,1.0s						
BOZ	**Bozeman (W)**	**103.85**	**44**	*e*Pdif	Pdif	08 32 12.1	-3.0
	comp=Z,5.2nm,1.0s						
PDAR	**Pinedale Array**	**105.85**	**46**	Pdiff	Pdif	08 32 25.4	+1.5
	comp=Z,0.5nm,0.8s,baz=256,slow=0.6,SNR=3.5						
GERES	**GERESS Array B**	**116.13**	**324**	PKP	PKPdf	08 36 54.7	-1.3
	comp=Z,0.4nm,0.4s,baz=91,slow=6.9,SNR=4.1						
TORD	**Torodi Ar. Bea**	**138.88**	**287**	PKP	PKPdf	08 37 40.8	+0.6
	comp=Z,2.1nm,1.0s,baz=63,slow=1.5,

YLV	Yalova	1.08	20	*e*PN	Pn	08 25 15.5	-0.3
ADVT	Abdulvahap	1.09	36	*e*PN	Pn	08 25 15.3	-0.7
BNT	Bandirma	1.10	317	*e*PN	Pn	08 25 15.0	-1.2
EDC	Edincik	1.13	315	*e*PN	Pn	08 25 16.1	-0.4
BORA	Eskisehir	1.24	74	*i* P	Pn	08 25 17.9	-0.2
BORA				*i* S	Sb	08 25 36.0	+1.7
BORA	Eskisehir	1.24	74	*i* P	Pn	08 25 17.9	-0.2
BORA				*i* S	Sb	08 25 36.0	+1.7
GPA	Golpazari	1.31	55	*e*PN	Pn	08 25 19.1	+0.1
KHL	Karahalli	1.32	158	*e*PN	Pn	08 25 19.1	0.0
MRMT	Marmara Adasi	1.45	317	*e*PN	Pn	08 25 20.6	-0.3
ESKT	Eskisehir	1.51	90	*i* P	Pn	08 25 23.2	+1.4
ESKT				*i* S	Sn	08 25 42.0	+0.4
SEYT	Eskypehyr	1.51	90	*i* P	Pn	08 25 23.2	+1.4
SEYT				*i* S	Sn	08 25 42.0	+0.4
GULT	Gulveren	1.52	54	*e*PN	Pn	08 25 22.0	+0.1
IZM	Izmir	1.72	228	*e*PN	Pn	08 25 24.2	-0.5

IDC 22 08:29:25.0±7.9, 5456S×12338W, h0km, mb4.2/6, mb1 4.3/6, mb1mx4.1/15, mbtmp4.2/6, MS3.8/5, Ms1 3.8/5, ms1mx3.5/23, Error ellipse: s-maj=223.4km s-min=40.0km az=50.0, Southern East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMSA	**Palmer Station**	**30.49**	**133**	LR	LR	08 44 28.9	
	comp=Z,164nm,18.4s,baz=264,slow=30						
USHA	**Ushuaia**	**31.07**	**113**	LR	LR	08 45 38.7	
	comp=Z,149nm,18.8s,baz=333,slow=31						
QSPA	**South Pole Qui**	**35.62**	**180**	P	P	08 36 24.9	+1.1
	1.6nm,1.1s,baz=78,slow=3.9,SNR=3.7						
PLCA	**Paso Flores**	**37.27**	**91**	LR	LR	08 48 50.2	
	comp=Z,82nm,18.2s,baz=230,slow=31						
LPAZ	**La Paz**	**56.95**	**70**	LR	LR	08 58 13.0	
	comp=Z,60nm,21.2s,baz=330,slow=30						
MAW	**Mawson**	**58.06**	**183**	P	P	08 39 18.4	-0.8
	2.3nm,1.0s,baz=180,slow=6.1,SNR=4.5						
STKA	**Stephens Creek**	**67.43**	**247**	P	P	08 40 22.2	+0.1
	3.2nm,0.9s,baz=139,slow=6.1,SNR=3.7						
ASAR	**Alice Springs**	**78.06**	**246**	P	P	08 41 25.3	-0.1
	1.4nm,0.9s,baz=151,slow=5.9,SNR=8.5						
WRA	**Warramunga Arr**	**80.85**	**249**	P	P	08 41 40.9	+0.2
	2.8nm,0.9s,baz=145,slow=5.1,SNR=17						
FITZ	**Fitzroy Crossi**	**86.98**	**243**	P	P	08 42 12.3	+0.3
	1.5nm,0.7s,baz=167,slow=14,SNR=5.1						
BOSA	**Boshof**	**92.87**	**153**	LR	LR	09 19 54.7	
	comp=Z,169nm,18.3s,baz=127,slow=33						
MKAR	**Makanchi Array**	**162.04**	**255**	PKPab	PKPab	08 50 13.6	-0.1
	0.4nm,0.6s,baz=134,slow=5.2,SNR=3.7						

*ISCJB **22** 08:38:49.8±2.6, 2546S±0.10×1797E±0.2, h457km±37km, mb3.7/6, Error ellipse: s-maj=23.3km s-min=14.3km az=18.1*
*IDC **22** 08:38:51.1±3.1, 2548S×17975E, h462km±40km, mb3.3/6, mb1 3.5/9, mb1mx3.3/19, mbtmp3.4/9, Error ellipse: s-maj=21.9km s-min=19.6km az=36.0*

ISC 22 08:38:51.1±1.8, 2552S±0.10×1798E±0.2, h460km±27km, n9, σ0=89/10, mb3.7/6, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera**	**12.90**	**189**	P	**P**	**08 41 40.9**	**+1.4**
	1.9nm,0.3s,baz=12,slow=6.2,SNR=11						
URZ				S	**S**	**08 43 57.5**	**-0.9**
	0.5nm,0.3s,baz=60,slow=20,SNR=5.9						
AFI	**Afiamalu**	**14.03**	**36**	P	**P**	**08 41 51.3**	**-0.5**
	1.8nm,0.3s,baz=161,slow=7.4,SNR=7.3						
RPZ	**Rata Peaks**	**19.49**	**199**	P	**P**	**08 42 46.3**	**-0.8**
	0.8nm,0.3s,baz=21,slow=8.6,SNR=3.7						
CTA	**Charters Tower**	**31.30**	**273**	P	**P**	**08 44 33.4**	**+1.1**
	4.4nm,0.7s,mb4.0,baz=90,slow=8.2,SNR=7.6						
STKA	**Stephens Creek**	**33.94**	**250**	P	**P**	**08 44 54.9**	**+0.2**
	1.7nm,0.8s,mb3.5,baz=101,slow=10,SNR=4.2						
ASAR	**Alice Springs**	**41.57**	**262**	P	**P**	**08 45 57.5**	**0.0**
	1.4nm,0.4s,mb3.7,baz=90,slow=7.3,SNR=26						
WRA	**Warramunga Arr**	**42.10**	**268**	P	**P**	**08 46 00.2**	**-1.5**
	2.3nm,0.6s,mb3.8,baz=103,slow=7.8,SNR=11						
QSPA	**South Pole Qui**	**64.57**	**180**	P	**P**	**08 48 42.2**	**+0.8**
	1.1nm,0.7s,mb3.6,baz=349,slow=2.3,SNR=9.1						
NVAR	**Mina Array Bea**	**86.07**	**44**	P	**P**	**08 50 42.2**	**+0.1**
	0.6nm,0.6s,mb3.4,baz=221,slow=8.7,SNR=4.5						

MAN 22 08:48:46, 1015N×12610E, h33km, mb3.7, ML2.4, MS2.0, 1C-1D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SCPH	**Surigao**	**0.70**	**239↑**	*e*P	Pn	08 49 00.5	+0.9
SCPH				*e*S	Sb	08 49 10.4	+1.1
MSLP	**Maasin**	**1.22**	**270**	*e*P	Pn	08 49 07.1	+0.3
MSLP				*e*S	Sn	08 49 23.0	+0.8
MSLP	**Maasin**	**1.22**	**270**	*e*P	Pn	08 49 07.2	+0.4
MSLP				*e*S	Sn	08 49 22.1	0.0
PLP	**Palo**	**1.50**	**313↓**	*e*P	Pn	08 49 10.5	-0.1
BESP	**Borongan**	**1.58**	**336**	*e*P	Pn	08 49 12.8	+1.0
BESP				*e*S	Sn	08 49 31.8	+0.7
BESP	**Borongan**	**1.58**	**336**	*e*P	Pn	08 49 12.9	+1.1
BESP				*e*S	Sn	08 49 32.0	+0.9

IDC 22 08:51:27.2±1.4, 849S×12878E, h0km, mb4.0/2, mb1 3.8/5, mb1mx3.5/15, mbtmp3.7/5, ML3.3/3, Error ellipse: s-maj=52.2km s-min=24.0km az=82.0, Timor Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**10.03**	**197**	Pn	Pn	08 53 50.9	-1.7
	0.1nm,0.3s,baz=359,slow=16,SNR=7.4						
FITZ				Sn	Sn	08 55 44.7	-1.1
	0.2nm,0.3s,baz=282,slow=20,SNR=3.7						
WRA	**Warramunga Arr**	**12.59**	**155**	Pn	Pn	08 54 28.4	+0.7
	0.2nm,0.3s,baz=336,slow=12,SNR=23						
WRA				Sn	Sn	08 56 51.9	+3.2
	0.4nm,0.3s,baz=332,slow=23,SNR=8.1						
ASAR	**Alice Springs**	**15.87**	**163**	Pn	Pn	08 55 12.2	+0.2
	0.2nm,0.3s,baz=342,slow=11,SNR=15						
PETK	**Petropavlovsk-**	**66.11**	**19**	P	P	09 02 16.1	+0.1
	1.6nm,0.4s,baz=213,slow=6.7,SNR=4.8						
MKAR	**Makanchi Array**	**68.82**	**328**	P	P	09 02 33.5	+0.2
	0.2nm,0.4s,baz=122,slow=5.2,SNR=3.5						

*ISCJB **22** 09:09:10.8±1.1, 9.18S±0.08×7505W±0.10, h135km±14km, mb3.7/7, Error ellipse: s-maj=18.8km s-min=9.6km az=143.5*
*IDC **22** 09:09:11.3±1.5, 920S×7497W, h123km±16km, mb3.6/7, mb1 3.8/12, mb1mx3.7/21, mbtmp3.7/12, Error ellipse: s-maj=18.3km s-min=11.2km az=64.0*

ISC 22 09:09:11.9±1.0, 920S±0.08×7503W±0.10, h128km±14km, n17, σ0=95/14, mb3.9/7, Central Peru

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
NNA	**Nana**	**3.30**	**213**	P	**Pn**	**09 10 02.8**	**+0.4**
	14nm,0.3s,baz=51,slow=7.6,SNR=45						
NNA				S	**Sn**	**09 10 41.4**	**-0.1**
	148nm,0.3s,baz=184,slow=19,SNR=19						
ATAH	**Atahualpa**	**3.98**	**303**	P	**Pn**	**09 10 12.2**	**+0.8**
	19nm,0.3s,baz=97,slow=5.2,SNR=382						
ATAH				S	**Sn**	**09 10 56.1**	**-1.5**
	6.8nm,0.3s,baz=2.8,slow=2.9,SNR=6.0						
LPAZ	**La Paz**	**9.74**	**137**	P	**Pn**	**09 11 29.3**	**+0.4**
	0.3nm,0.3s,baz=344,slow=11,SNR=10						
SIV	**San Ignacio**	**15.20**	**118**	P	**Pn**	**09 12 39.6**	**-0.3**
	1.8nm,0.3s,baz=298,slow=12,SNR=33						
SDV	**Santo Domingo**	**18.49**	**14**	P	**P**	**09 13 19.4**	**+1.2**
	1.3nm,0.3s,baz=288,slow=3.0,SNR=9.1						
PDAR	**Pinedale Array**	**60.56**	**331**	P	**P**	**09 19 10.0**	**+1.2**
	0.4nm,0.5s,mb3.7,baz=131,slow=8.6,SNR=4.3						
PDAR				PcP	PcP	09 19 51.4	-0.6
	0.3nm,0.5s,baz=137,slow=6.8,SNR=2.9						
ULM	**Lac du Bonnet**	**61.92**	**345**	P	**P**	**09 19 17.6**	**-0.2**
	5.3nm,0.6s,mb4.8,baz=159,slow=4.3,SNR=7.4						
NVAR	**Mina Array Bea**	**62.21**	**323**	P	**P**	**09 19 21.8**	**+1.7**
	0.4nm,0.7s,mb3.6,baz=138,slow=8.2,SNR=2.8						
DBIC	**Dimbokro**	**71.68**	**80**	P	**P**	**09 20 19.4**	**-1.1**
	2.0nm,0.5s,mb4.2,baz=259,slow=4.5,SNR=4.8						
YKA	**Yellowknife Ar**	**77.72**	**342**	P	**P**	**09 20 53.1**	**-1.2**
	1.0nm,0.8s,mb3.6,baz=141,slow=6.2,SNR=6.4						
TORD	**Torodi Ar. Bea**	**79.34**	**75**	P	**P**	**09 21 03.0**	**-1.1**
	0.7nm,0.4s,mb3.9,baz=284,slow=5.6,SNR=22						
ESDC	**Sonseca Array**	**81.58**	**48**	P	**P**	**09 21 15.6**	**-0.1**
	0.4nm,0.4s,mb3.6,baz=251,slow=3.6,SNR=3.0						
ASAR	**Alice Springs**	**136.80**	**220**	PKP	PKPdf	09 28 19.4	-0.8
	0.7nm,0.6s,baz=117,slow=1.9,SNR=9.5						
WRA	**Warramunga Arr**	**139.08**	**225**	PKP	PKPdf	09 28 24.4	-0.1
	0.8nm,0.4s,baz=125,slow=2.1,SNR=13						
SONM	**Songino Array**	**141.47**	**358**	PKhKP		09 28 22.6	
	0.2nm,0.3s,baz=5.7,slow=2.9,SNR=3.2						
KSRS	**Korea Array**	**145.05**	**327**	PKPbc	PKPbc	09 28 34.4	+0.1
	2.1nm,0.8s,baz=49,slow=3.4,SNR=7.0						
FITZ	**Fitzroy Crossi**	**146.06**	**217**	PKPbc	PKPbc	09 28 37.9	0.0
	3.2nm,0.8s,baz=175,slow=7.0,SNR=9.1						

DJA 22 09:13:07, 185S×9970E, h10km, MLv3.6/2, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PDSI	**Padang**	**1.20**	**39**	P	Pb	09 13 28.3	-1.6
PDSI	**Padang**	**1.20**	**39**	S	Sb	09 13 45.0	-0.5
PPI	**Padang Panjang**	**1.55**	**27**	P	Pn	09 13 33.7	-1.0

*ISCJB **22** 09:19:22.7±0.9, 3483N±0.06×739E±0.1, h33km, Error ellipse: s-maj=17.7km s-min=4.5km az=155.4*
*NNC **22** 09:19:29.3±3.2, 3537N×7310E, h0km, mb3.3, mpv3.0, Error ellipse: s-maj=36.3km s-min=25.0km az=73.0*

ISC 22 09:19:24.9±0.8, 3475N±0.05×737E±0.1, h35km, n10, σ0=92/15, 4C-2D, Pakistan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
THN	**Thein Dam**	**2.85**	**144**	*e*P	**Pn**	**09 20 09.0**	**+1.2**
THN				*ex*	x	09 20 48.2	
SDNR	**Sundarnagar**	**4.23**	**139**	*e*P	**Pn**	**09 20 27.5**	**+0.6**
SDNR				*ex*	x	09 21 30.0	
SMLA	**Simla**	**4.63**	**140**	*i*P	**Pn**	**09 20 32.4**	**+0.1**
SMLA				*ex*	x	09 21 25.4	
	comp=N,275nm,0.3s						
SMLA				*i* S	**Sn**	**09 21 25.7**	**+0.9**
SMLA				*ex*	x	09 21 26.6	
	comp=E,231nm,0.5s						
KLP	**Kalpa**	**4.97**	**129**	*e*P	**Pn**	**09 20 36.5**	**-0.5**
KLP				*e*S	**Sn**	**09 21 33.8**	**+0.6**
KLP				AML	AML	09 22 04.1	
	comp=N,105nm,0.7s						
KLP				AML	AML	09 22 04.9	
	comp=E,99nm,0.7s						
JOSI	**Joshimath**	**6.46**	**129**	*e*S	**Sn**	**09 22 08.5**	**-1.4**
JOSI				AML	AML	09 22 25.7	
	comp=N,49nm,0.4s						
JOSI				AML	AML	09 22 29.8	
	comp=E,53nm,0.7s						
KUDL	**Kundal**	**7.00**	**160**	*e*S	**Sn**	**09 22 22.8**	**-0.4**
SONA	**Sohna**	**7.09**	**155**	*ex*	x	09 21 15.8	
SONA				*e*S	**Sn**	**09 22 22.3**	**-3.1**
SONA				AML	AML	09 22 27.0	
	comp=E,15nm,0.2s						
SONA				AML	AML	09 22 27.2	
	comp=N,7.8nm,0.2s						
TKM2	**Tokmak 2**	**8.29**	**10**	⇓Pn	**Pn**	**09 21 23.1**	**+0.7**
	comp=N,0.1nm,0.2s						
TKM2				⇑Sn	**Sn**	**09 22 54.4**	**-0.4**
	comp=N,2.4nm,0.6s						
KK31	**Karatay Array**	**8.71**	**344**	Pn	**Pn**	**09 21 29.3**	**+1.0**
	comp=N,0.6nm,0.3s,baz=151,slow=11,SNR=18						
KK31				⇑Sn	**Sn**	**09 23 04.2**	**-1.0**
	comp=N,2.2nm,0.5s,baz=152,slow=23,SNR=8.0						
AB31	**Akbulak array**	**17.70**	**329**	⇑Pn	**Pn**	**09 23 28.1**	**-0.4**
	comp=N,0.3nm,0.5s,baz=138,slow=11,SNR=5.3						
AB31				⇑Sn	**Sn**	**09 26 34.5**	**-10**
	comp=N,0.5nm,0.7s,baz=134,slow=25,SNR=3.7						

*NIED **22** 09:39:00, 30.10N×132.30E, h5km, Mw4.3 Best double couple: M0 2.90000×10^15 NP1:ϕ=224.00000°, δ=60.00000°, λ=-81.00000°. NP2:ϕ=26.00000°, δ=31.00000°, λ=-105.00000°.*
*IDC **22** 09:39:03.5±0.6, 3017N×13239E, h0km, mb4.0/16, mb1 4.2/19, mb1mx4.1/26, mbtmp4.0/19, ML3.8/3, MS3.4/8, Ms1 3.4/8, ms1mx3.1/39, Error ellipse: s-maj=19.3km s-min=14.6km az=78.0*
*ISCJB **22** 09:39:04.3±1.3, 3011N±0.04×13238E±0.04, h18km±9km, mb4.1/22, MS3.5/6, Error ellipse: s-maj=6.1km s-min=5.6km az=178.0*
*JMA **22** 09:39:06.8±0.2, 3012N×13231E, h63km, M4.2*
*MOS **22** 09:39:06.4±0.8, 3016N×13239E, h33km, mb4.2/10, Error ellipse: s-maj=18.1km s-min=11.1km az=96.3*
*NEIC **22** 09:39:07.6±2.4, 3012N×13232E, h27km±17km, mb4.7/3, MW4.2(NIED), Error ellipse: s-maj=11.3km s-min=7.3km az=123.0*
*BJI **22** 09:39:09.6, 2995N×13239E, h85km, mB4.7, mb4.1*

ISC 22 09:39:06.4±1.8, 3012N±0.003×13229E±0.04, h19km±12km, n59, σ0=85/65, mb4.1/22, MS3.5/6, 1C, Southeast of Shikoku

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JTN	**Tanegashima 3**	**1.25**	**296**	P	**Pn**	**09 39 28.6**	**-0.3**
JTN				S	**Sb**	**09 39 45.5**	**+0.3**
JTSR	**Tashiro 2**	**1.57**	**312**	P	**Pn**	**09 39 32.7**	**-0.7**
JTSR				*e*S	**Sn**	**09 39 53.5**	**+0.2**
JNAR	**Kushima--Naru**	**1.66**	**328**	P	**Pn**	**09 39 34.5**	**0.0**
JNAR				S	**Sn**	**09 39 54.4**	**-0.9**
JKC	**Kuchinoerabu**	**1.84**	**281**	P	**Pn**	**09 39 36.8**	**-0.3**
JKC				*e*S	**Sn**	**09 40 01.1**	**+1.2**
JTZ	**Takazaki**	**2.06**	**330**	P	**Pn**	**09 39 40.1**	**+0.1**
JTZ				S	**Sn**	**09 40 04.2**	**-1.0**
JNN	**Nakanoshima**	**2.11**	**263**	P	**Pn**	**09 39 40.7**	**-0.1**
JNN				*e*S	**Sn**	**09 40 07.9**	**+1.4**
JSJ	**Shimokoshiki**	**2.70**	**306**	P	**Pn**	**09 39 48.0**	**-0.9**
JSJ				S	**Sn**	**09 40 19.7**	**-1.4**
JZK	**Kikaishima**	**2.71**	**229**	P	**Pn**	**09 39 49.2**	**+0.3**
JZK				*e*S	**Sn**	**09 40 20.7**	**-0.5**
JAM	**Amami Oshima**	**2.89**	**235**	P	**Pn**	**09 39 51.3**	**-0.2**
JOW	**Kunigami**	**4.81**	**228**	Pn	**Pn**	**09 40 17.1**	**-0.8**
	4.6nm,0.3s,baz=92,slow=20,SNR=6.8						
JOW				Sn	**Sn**	**09 41 10.4**	**-2.8**
	16nm,0.3s,baz=299,slow=29,SNR=14						
MAJO	**Matsushiro**	**8.10**	**36**	*e*P	**Pn**	**09 41 03.1**	**+0.1**
MAJO				pmax	pmax		
	comp=Z,12nm,0.4s						
MAJO	**Matsushiro**	**8.10**	**36**	*e*Pn	**Pn**	**09 41 03.1**	**+0.1**
	comp=Z,12nm,0.4s						
MAT	**Matsushiro**	**8.10**	**36**	P	**Pn**	**09 41 03.5**	**+0.5**
MAT				S	Sn	09 42 58.0	+24
MJAR	**Matsushiro Arr**	**8.10**	**36**	Pn	**Pn**	**09 41 03.9**	**+0.9**
	comp=Z,2.6nm,0.3s,baz=206,slow=14,SNR=22						
MJAR	**Matsushiro Arr**	**8.10**	**36**	P	**Pn**	**09 41 03.9**	**+0.9**
MJAR				pmax	pmax		
	comp=Z,3.0nm,0.3s						
KSRS	**Korea Array**	**8.17**	**335**	Pn	**Pn**	**09 41 05.0**	**+1.0**
	comp=Z,0.4nm,0.3s,baz=155,slow=15,SNR=8.6						
KSRS				LR	LR	09 43 31.6	
	comp=Z,70nm,18.4s,baz=165,slow=33						
CBIJ	**Chichi jima**	**9.21**	**107**	Pn	**Pn**	**09 41 16.6**	**-1.7**
	comp=Z,9.6nm,0.3s,baz=287,slow=19,SNR=4.7						
CBIJ				LR	LR	09 44 17.8	
	comp=Z,196nm,18.9s,baz=178,slow=34						
GUMO	**Guam**	**20.14**	**142**	LR	LR	09 49 56.9	
	comp=Z,63nm,18.0s,MS3.0,baz=126,slow=32						
XAN	**Xi'an**	**20.17**	**287**	P	**P**	**09 43 40.1**	**+0.3**
XAN				AMB	AMB		
	comp=Z,8.0nm,1.0s						
XAN				AMB	AMB		
	comp=Z,79nm,6.4s						
SONM	**Songino Array**	**26.61**	**319**	P	**P**	**09 44 44.8**	**+1.2**
	comp=Z,0.6nm,0.5s,mb3.4,baz=128,slow=9.6,SNR=5.3						
SONM				LR	LR	09 56 11.0	
	comp=Z,102nm,19.6s,MS3.4,baz=30,slow=39						
SONM	**Songino Array**	**26.61**	**319**	P	**P**	**09 44 44.8**	**+1.3**
SONM				pmax	pmax		
	comp=Z,1.0nm,0.5s						
SONM				MLR	MLR		
	comp=Z,102nm,19.7s						
GTA	**Gaotai**	**28.12**	**298**	*e*P	**P**	**09 45 01.8**	**+4.6**
GTA				AMB	AMB		
	comp=Z,6.0nm,1.0s,mb4.2						
PETK	**Petropavlovsk-**	**29.52**	**32**	P	**P**	**09 45 09.3**	**-0.2**
	comp=Z,3.9nm,0.8s,mb4.2,baz=255,slow=5.7,SNR=4.0						
PETK				LR	LR	09 56 42.1	
	comp=Z,47nm,18.1s,MS3.2,baz=64,slow=36						
CHTO	**Chiang Mai**	**32.26**	**257**	*e*P	**P**	**09 45 30.4**	**-3.6**
CHTO				pmax	pmax		
	comp=Z,5.0nm,0.5s,mb4.6						
CHTO	**Chiang Mai**	**32.26**	**257**	*e*P	**P**	**09 45 30.4**	**-3.6**
	comp=Z,5.3nm,0.5s,mb4.6						
CMAR	**Chiang Mai Arr**	**32.42**	**257**	P	**P**	**09 45 37.0**	**+1.6**
	comp=Z,0.8nm,0.3s,mb4.0,baz=42,slow=8.5,SNR=5.7						
CMAR	**Chiang Mai Arr**	**32.42**	**257**	P	**P**	**09 45 37.0**	**+1.6**
CMAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ZALV	**Zalesovo Beam**	**41.50**	**319**	P	**P**	**09 46 52.0**	**-0.2**
	comp=Z,0.6nm,0.3s,mb3.6,baz=94,slow=8.7,SNR=2.9						
ZALV				PcP	PcP	09 48 49.5	-0.1
	comp=Z,0.7nm,0.5s,baz=111,slow=3.6,SNR=3.1						
ZALV				LR	LR	10 05 25.7	
	comp=Z,39nm,18.4s,MS3.3,baz=88,slow=38						
ZALV	**Zalesovo Beam**	**41.50**	**319**	P	**P**	**09 46 52.0**	**-0.2**
ZALV						09 48 49.5	
ZALV				pmax	pmax		
	comp=Z,1.0nm,0.4s,mb3.8						
ZALV				MLR	MLR		
	comp=Z,39nm,18.4s,MS3.3						
MKAR	**Makanchi Array**	**41.80**	**308**	P	**P**	**09 46 55.5**	**+0.7**
	comp=Z,0.5nm,0.4s,mb3.5,baz=98,slow=8.7,SNR=6.0						
MKAR				PcP	PcP	09 48 50.6	0.0
	comp=Z,0.2nm,0.3s,baz=72,slow=4.7,SNR=3.7						
MKAR	**Makanchi Array**	**41.80**	**308**	P	**P**	**09 46 55.5**	**+0.7**
MKAR						09 48 50.6	
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.4s						
KURK	**Kurchatov**	**44.62**	**313**	P	**P**	**09 47 18.3**	**+0.8**
	comp=Z,0.6nm,0.3s,mb3.9,baz=99,slow=8.6,SNR=3.5						
KURK	**Kurchatov**	**44.62**	**313**	P	**P**	**09 47 18.3**	**+0.8**
KURK				pmax	pmax		
	comp=Z,1.0nm,0.3s,mb4.1						
FITZ	**Fitzroy Crossi**	**48.36**	**188**	P	**P**	**09 47 47.8**	**+0.6**
	comp=Z,1.0nm,0.6s,mb4.0,baz=0.0,slow=13,SNR=4.4						
WRA	**Warramunga Arr**	**49.81**	**177**	P	**P**	**09 47 58.1**	**-0.1**
	comp=Z,1.7nm,0.8s,mb4.2,baz=354,slow=8.0,SNR=8.9						
WRA				PcP	PcP	09 49 18.7	-0.1
	comp=Z,0.4nm,0.7s,baz=358,slow=8.5,SNR=3.4						
WRA	**Warramunga Arr**	**49.81**	**177**	P	**P**	**09 47 58.1**	**-0.1**
WRA						09 49 18.7	
WRA				pmax	pmax		
	comp=Z,2.0nm,0.8s						
ASAR	**Alice Springs**	**53.50**	**178**	P	**P**	**09 48 26.6**	**+0.9**
	comp=Z,1.2nm,0.5s,mb4.0,baz=11,slow=12,SNR=18						
ASAR	**Alice Springs**	**53.50**	**178**	P	**P**	**09 48 26.6**	**+0.9**
ASAR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
KDAK	**Kodiak Island**	**57.27**	**38**	P	**P**	**09 48 51.6**	**-1.0**
	comp=Z,5.7nm,0.9s,mb4.6,baz=5.8,slow=22,SNR=5.0						
ARCES	**ARCESS Array B**	**67.71**	**339**	P	**P**	**09 50 00.9**	**-1.2**
	comp=Z,0.9nm,0.5s,mb4.1,baz=57,slow=8.8,SNR=7.0						
ARCES	**ARCESS Array B**	**67.71**	**339**	P	**P**	**09 50 01.0**	**-1.1**
ARCES				pmax	pmax		
	comp=Z,1.0nm,0.5s						
JOF	**Joensuu**	**68.39**	**331**	*e*p	**P**	**09 50 06.2**	**-0.3**
	comp=Z,5.8nm,0.6s,mb4.8						
JOF	**Joensuu**	**68.39**	**331**	*e*P	**P**	**09 50 06.2**	**-0.3**
JOF				pmax	pmax		
	comp=Z,6.0nm,0.6s,mb4.8						
KAF	**Kangasniemi**	**70.83**	**331**	*e*p	**P**	**09 50 21.0**	**-0.6**
	comp=Z,4.3nm,0.6s,mb4.6						
KAF	**Kangasniemi**	**70.83**	**331**	*e*P	**P**	**09 50 21.0**	**-0.6**
KAF				pmax	pmax		
	comp=Z,4.0nm,0.6s,mb4.5						
AKASG	**Malin Array Be**	**74.89**	**320**	P	**P**	**09 50 45.9**	**0.0**
	comp=Z,1.9nm,0.7s,mb4.2,baz=53,slow=5.6,SNR=7.4						
AKASG	**Malin Array Be**	**74.89**	**320**	P	**P**	**09 50 45.9**	**+0.1**
AKASG				pmax	pmax		
	comp=Z,2.0nm,0.7s						
NB2	**NORSAR Subarra**	**77.38**	**335**	P	**P**	**09 50 59.2**	**-0.7**
	comp=Z,0.2nm,0.6s,mb3.2,baz=54,slow=5.9						
NOA	**NORSAR Array B**	**77.38**	**335**	P	**P**	**09 50 59.2**	**-0.7**
	comp=Z,1.7nm,0.7s,mb4.1,baz=48,slow=5.5,SNR=5.4						
NOA				LR	LR	10 26 25.3	
	comp=Z,40nm,19.1s,MS3.8,baz=340,slow=37						
NOA	**NORSAR Array B**	**77.38**	**335**	P	**P**	**09 50 59.2**	**-0.7**
NOA				pmax	pmax		
	comp=Z,2.0nm,0.7s						
NOA				MLR	MLR		
	comp=Z,40nm,19.1s						
NOA	**NORSAR Array B**	**77.38**	**335**	P	**P**	**09 50 59.2**	**-0.7**
NOA				LR	LR	10 26 25.3	
BR131	**Keskin Array S**	**77.45**	**309**	*e*P	**P**	**09 51 01.5**	**+0.8**
	comp=Z,4.3nm,0.8s,mb4.4						
CLL	**Collm**	**82.96**	**327↑**	*i*P	**P**	**09 51 30.9**	**+0.8**
	comp=Z,11nm,0.8s,mb4.9						
SFJD	**Kangerlussuaq**	**83.17**	**1**	LR	LR	10 27 25.0	
	comp=Z,97nm,18.2s,MS4.2,baz=193,slow=35						
GERES	**GERESS Array B**	**84.21**	**324**	P	**P**	**09 51 37.3**	**+0.8**
	comp=Z,0.9nm,0.7s,mb4.0,baz=54,slow=6.8,SNR=3.6						
GERES	**GERESS Array B**	**84.21**	**324**	P	**P**	**09 51

*NEIC **22** 10:24:02.1±1.2, 1508S×16738E, h139km±11km, mb5.0/12, Error ellipse: s-maj=8.3km s-min=7.0km az=194.0*
*DJA **22** 10:24:16, 1545S×16704E, h233km, mb4.8/9*
ISC 22 10:24:02.6±0.9, 1511S±005×16739E±005, h141km±8km, h136km±2.0km: pP-P, n152, σ1911/92, mb4.5/37, 38C-4D, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
DZM	**Mont Dzumac**	**6.98**	**187**	*e*P		**Pn**	**10 25 42.0**	**-0.4**
DZM				*e*S		**Sn**	**10 26 60.0**	**-0.5**
DZM				AMP			10 27 04.9	
	comp=Z,796nm,2.5s							
DZM	**Mont Dzumac**	**6.98**	**187**	*e*Pn		**Pn**	**10 25 41.9**	**-0.4**
DZM				*e*Sn		**Sn**	**10 27 01.3**	**+0.8**
NOUC	**Port Laguerre**	**7.03**	**188**	*e*P		**Pn**	**10 25 43.2**	**+0.2**
NOUC				*e*S		**Sn**	**10 27 02.0**	**+0.4**
NOUC				AMP			10 27 07.7	
	comp=Z,41nm,6.3s							
NORM	**Noumea**	**7.13**	**187**	*e*P		**Pn**	**10 25 44.9**	**+0.5**
NORM				*e*S		**Sn**	**10 27 03.7**	**-0.4**
NORM				AMP			10 27 10.1	
	comp=Z,100nm,7.8s							
HNR	**Honiara**	**9.20**	**307**	P		**Pn**	**10 26 11.8**	**-0.4**
	comp=Z,32nm,0.3s,baz=191,slow=1.7,SNR=16							
HNR				S		**Sn**	**10 27 52.8**	**-1.5**
	comp=Z,34nm,0.3s,baz=22,slow=22,SNR=6.3							
HNR	**Honiara**	**9.20**	**307**	*e*P		**Pn**	**10 26 11.6**	**-0.6**
HNR				*e*			10 27 48.4	
HNR				pmax		pmax		
	comp=Z,211nm,0.6s							
HNR	**Honiara**	**9.20**	**307**	*e*Pn		**Pn**	**10 26 11.6**	**-0.6**
	comp=Z,211nm,0.6s							
HNR				*e*Sn		**Sn**	**10 27 48.4**	**-5.8**
EIDS	**Eidsvold**	**18.37**	**234**	*e*P		**P**	**10 28 04.5**	**-2.1**
	comp=Z,56nm,0.9s							
EIDS				*e*Pn		**Pn**	**10 28 15.5**	**+7.2**
PMG	**Port Moresby**	**20.56**	**284**	⇑*i*P		**P**	**10 28 32.9**	**+2.6**
CTA	**Charters Tower**	**20.74**	**253**	*e*P		**P**	**10 28 34.0**	**+1.8**
	comp=Z,7.5nm,1.1s							
CTA				*e*S		**S**	**10 32 20.0**	**+4.0**
CTA	**Charters Tower**	**20.74**	**253**	P		**P**	**10 28 34.1**	**+1.9**
	comp=Z,6.6nm,0.7s,baz=87,slow=13,SNR=6.0							
CTAO	**Charters Tower**	**20.74**	**253**	*e*P		**P**	**10 28 32.5**	**+0.3**
	comp=Z,2.7nm,0.6s							
ARMA	**Armidale**	**21.02**	**221**	*e*P		**P**	**10 28 37.0**	**+2.0**
COEN	**Coen**	**23.46**	**270**	*e*P		**P**	**10 28 58.4**	**-1.1**
	comp=Z,18nm,1.6s,mb4.3							
COEN				*e*pP			10 29 27.2	
URZ	**Urewera**	**24.61**	**161**	P		**P**	**10 29 08.8**	**-0.9**
	comp=Z,30nm,0.9s,mb4.8,baz=345,slow=2.7,SNR=6.8							
CNB	**Canberra Magne**	**25.81**	**216**	*e*P		**P**	**10 29 21.1**	**+0.4**
RPZ	**Rata Peaks**	**28.68**	**174**	P		**P**	**10 29 46.1**	**0.0**
	comp=Z,15nm,0.8s,mb4.8,baz=115,slow=18,SNR=2.5							
STKA	**Stephens Creek**	**28.84**	**230**	*e*P		**P**	**10 29 48.7**	**+1.0**
	comp=Z,28nm,0.8s,mb5.0							
STKA				*i*			10 32 54.1	
STKA	**Stephens Creek**	**28.84**	**230**	P		**P**	**10 29 48.9**	**+1.2**
	comp=Z,35nm,0.8s,mb5.2,baz=44,slow=7.5,SNR=52							
STKA				PcP		PcP	10 32 54.2	+0.3
	comp=Z,8.5nm,0.8s,baz=331,slow=2.8,SNR=7.5							
STKA				LR		LR	10 40 33.5	
	comp=Z,55nm,19.1s,baz=46,slow=34							
TOO	**Toolangi**	**29.61**	**217**	*e*P		**P**	**10 29 54.4**	**-0.1**
WB2	**Warramunga Arr**	**31.84**	**256**	*e*P		**P**	**10 30 13.1**	**-1.2**
WRAB	**Tennant Creek**	**31.84**	**257**	⇑*i*P		**P**	**10 30 12.4**	**-1.9**
WRAB	**Tennant Creek**	**31.84**	**257**	*e*P		**P**	**10 30 13.3**	**-0.9**
	comp=Z,1.2nm,0.5s,mb3.9							
WRA	**Warramunga Arr**	**31.85**	**256**	P		**P**	**10 30 13.2**	**-1.1**
	comp=Z,5.1nm,0.9s,mb4.2,baz=86,slow=8.9,SNR=26							
WRA				PcP		PcP	10 33 02.1	+0.1
	comp=Z,5.1nm,0.9s,baz=84,slow=2.8,SNR=17							
WRA				PKiKP		PKiKP	10 40 28.5	-2.0
	comp=Z,0.6nm,0.8s,baz=25,slow=0.3,SNR=5.2							
WRA				LR		LR	10 42 22.5	
	comp=Z,126nm,19.0s,baz=110,slow=34							
WRA	**Warramunga Arr**	**31.85**	**256**	P		**P**	**10 30 13.2**	**-1.1**
WRA				PcP		PcP	10 33 02.1	+0.1
ASAR	**Alice Springs**	**32.65**	**250**	P		**P**	**10 30 20.6**	**-0.7**
	comp=Z,23nm,0.8s,mb4.9,baz=81,slow=9.0,SNR=141							
ASAR				PcP		PcP	10 33 04.0	-0.2
	comp=Z,2.5nm,0.9s,baz=83,slow=3.3,SNR=6.0							
ASAR				S		**S**	**10 35 24.8**	**-2.3**
	comp=Z,1.7nm,1.2s,baz=68,slow=17,SNR=4.6							
ASAR				ScP		ScP	10 36 38.5	+3.5
	comp=Z,1.6nm,1.1s,baz=58,slow=4.7,SNR=5.0							
ASAR	**Alice Springs**	**32.65**	**250**	P		**P**	**10 30 20.7**	**-0.6**
ASAR							10 33 04.0	
ASAR				S		**S**	**10 35 24.8**	**-2.3**
FORT	**Forrest**	**39.20**	**240**	*e*P		**P**	**10 31 17.3**	**+0.2**
	comp=Z,32nm,0.6s,mb5.1							
FITZ	**Fitzroy Crossi**	**40.06**	**260**	LR		LR	10 45 05.4	
	comp=Z,364nm,20.6s,baz=316,slow=32							
PAE	**Paea**	**41.30**	**100**	*e*P		**P**	**10 31 34.9**	**+0.4**
	comp=Z,276nm,1.1s							
PPT	**Papeete**	**41.31**	**100**	*e*P		**P**	**10 31 35.1**	**+0.5**
	comp=Z,36nm,1.1s,mb4.9							
PPT	**Papeete**	**41.31**	**100**	*e*LR		LR	10 42 25.1	
	comp=Z,191nm,32.5s							
PPT	**Papeete**	**41.31**	**100**	P		**P**	**10 31 34.4**	**-0.2**
	comp=Z,30nm,0.9s,mb4.9,baz=281,slow=4.3,SNR=4.1							
TBI	**Tubuai**	**41.44**	**108**	*e*LR		LR	10 42 37.4	
	comp=Z,126nm,31.2s							
TIAR	**Tiarei**	**41.53**	**100**	*e*P		**P**	**10 31 37.1**	**+0.7**
	comp=Z,585nm,1.0s							
MEH	**Mehetia**	**42.73**	**100**	*e*P		**P**	**10 31 46.6**	**+0.5**
	comp=Z,2μm,1.0s							
BATI	**Baumata**	**42.89**	**271**	LR		LR	10 48 35.3	
	comp=Z,62nm,19.9s,baz=122,slow=34							
MBWA	**Marble Bar**	**45.56**	**255**	*e*P		**P**	**10 32 08.9**	**+0.3**
KAPI	**Kappang**	**47.87**	**277**	*e*P		**P**	**10 32 26.1**	**-0.6**
KLBR	**Kellerberrin**	**48.02**	**241**	*e*P		**P**	**10 32 27.0**	**-0.6**
	comp=Z,67nm,1.7s,mb5.0							
NWAO	**Narrogin (SRO)**	**48.65**	**239**	LR		LR	10 50 29.4	
	comp=Z,73nm,20.9s,baz=93,slow=33							
NWAO	**Narrogin (SRO)**	**48.65**	**239**	*e*P		**P**	**10 32 32.0**	**-0.4**
NWAO				pmax		pmax		
	comp=Z,22nm,0.9s							
NWAO	**Narrogin (SRO)**	**48.65**	**239**	*e*P		**P**	**10 32 32.0**	**-0.4**
	comp=Z,22nm,0.9s,mb4.8							
MUN	**Mundaring**	**49.38**	**241**	*e*P		**P**	**10 32 37.6**	**-0.4**
KIP	**Kipapa**	**49.70**	**44**	⇓*i*P		**P**	**10 32 38.8**	**-1.7**
RKT	**Rikitea**	**54.75**	**108**	*e*LR		LR	10 48 43.7	
	comp=Z,149nm,33.0s							
KKM	**Kota Kinabalu**	**54.89**	**289**	*e*P		**P**	**10 33 19.3**	**+0.4**
MJAR	**Matsushiro Arr**	**58.29**	**333**	P		**P**	**10 33 40.4**	**-2.2**
	comp=Z,1.6nm,0.6s,mb4.0,baz=174,slow=6.7,SNR=4.8							
SBA	**Scott Base**	**62.76**	**180**	*e*P		**P**	**10 34 13.4**	**+1.1**
SBA				pmax		pmax		
	comp=Z,17nm,0.7s,mb5.0							
SBA	**Scott Base**	**62.76**	**180**	*e*P		**P**	**10 34 13.4**	**+1.1**
	comp=Z,17nm,0.7s,mb5.0							
KSRS	**Korea Array**	**64.12**	**326**	P		**P**	**10 34 21.7**	**-0.1**
	comp=Z,1.0nm,0.7s,mb3.8,baz=146,slow=8.0,SNR=5.0							
KSRS				pP		pP	10 34 52.6	-3.0
	comp=Z,0.5nm,0.4s,baz=132,slow=6.7,SNR=2.3							
KSRS				LR		LR	10 56 58.2	
	comp=Z,15nm,20.7s,baz=210,slow=31							
NJ2	**Nanjing**	**66.03**	**316**	*e*P		**P**	**10 34 35.6**	**+1.4**
NJ2				AMB		AMB		
	comp=Z,10.0nm,0.6s,mb4.8							
PETK	**Petropavlovsk-**	**68.45**	**354**	P		**P**	**10 34 48.9**	**-0.1**
	comp=Z,6.2nm,0.9s,mb4.3,baz=167,slow=6.8,SNR=4.0							
CN2	**Changchun**	**70.03**	**329**	*e*P		**P**	**10 35 02.5**	**+3.5**
GYA	**Guiyang**	**72.02**	**305**	P		**P**	**10 35 14.3**	**+2.9**
GYA				AP		pP	10 35 48.9	+2.9
GYA				XP		sP	10 36 04.3	+3.2
GYA				S		S	10 44 23.0	+1.1
GYA				SKS			10 45 01.3	
GYA				AMB		AMB		
	comp=Z,10.0nm,1.0s,mb4.5							
GYA				AMB		AMB		
	comp=Z,80nm,5.9s							
XAN	**Xi'an**	**74.03**	**313**	P		**P**	**10 35 23.3**	**+0.3**
XAN				AMB		AMB		
	comp=Z,10.0nm,0.9s,mb4.5							
XAN				AMB		AMB		
	comp=Z,72nm,10.6s							
KMI	**Kunming**	**74.60**	**302**	P		**P**	**10 35 28.1**	**+1.5**
KMI				AP		pP	10 36 00.3	-1.1
KMI				PP		PP	10 38 19.1	+3.7
KMI				S		S	10 44 52.8	+1.8
KMI				XS		sS	10 45 52.5	+1.4
KMI				AMB		AMB		
	comp=Z,19nm,1.1s,mb4.6							
KMI				AMB		AMB		
	comp=Z,93nm,3.7s							
KMI				LR		LR		
	comp=N,89nm,9.3s							
KMI				LR		LR		
	comp=E,130nm,12.6s							
KMI				LR		LR		
	comp=Z,84nm,12.0s							
CMAR	**Chiang Mai Arr**	**75.21**	**294**	P		**P**	**10 35 31.6**	**+1.4**
	comp=Z,5.1nm,0.8s,mb4.2,baz=124,slow=4.4,SNR=24							
CMAR				pP		pP	10 36 02.8	-2.2
	comp=Z,2.7nm,1.0s,baz=113,slow=4.1,SNR=2.6							
CHTO	**Chiang Mai**	**75.34**	**294**	*e*P		**P**	**10 35 31.8**	**+0.9**
CHTO				pmax		pmax		
	comp=Z,26nm,1.6s,mb4.6							
CHTO	**Chiang Mai**	**75.34**	**294**	*e*P		**P**	**10 35 31.8**	**+0.9**
	comp=Z,26nm,1.6s,mb4.6							
HHC	**Hu-ho-hao-te**	**75.95**	**320**	*e*P		**P**	**10 35 35.8**	**+1.9**
HHC				PCP		PcP	10 35 47.3	+1.6
HHC				AP		pP	10 36 09.9	+1.1
HHC				XP		sP	10 36 24.9	+1.1
HHC				PP		PP	10 38 30.8	+4.3
HHC				S		S	10 45 07.1	+1.9
HHC				SKS			10 45 28.4	
HHC				SCS		ScS	10 45 34.9	-0.6
HHC				XS		sS	10 46 06.9	+1.4
HHC				SS		SS	10 50 06.4	+5.1
HHC				AMB		AMB		
	comp=Z,12nm,1.1s,mb4.4							
HHC				AMB		AMB		
	comp=Z,98nm,6.2s							
HHC				LR		LR		
	comp=N,160nm,19.5s							
HHC				LR		LR		
	comp=E,308nm,17.8s							
HHC				LR		LR		
	comp=Z,177nm,16.1s							
CD2	**Chengdu**	**76.33**	**308**	*e*P		**P**	**10 35 37.3**	**+1.0**
CD2				AP		pP	10 36 12.3	+1.1
CD2				XP		sP	10 36 27.4	+1.1
CD2				PP		PP	10 38 32.3	+2.4
CD2				S		S	10 45 09.3	-0.5
CD2				XS		sS	10 46 10.1	-0.1
CD2				SS		SS	10 50 09.3	+1.8
CD2				AMB		AMB		
	comp=Z,10.0nm,0.8s,mb4.5							
CD2				AMB		AMB		
	comp=Z,30nm,5.2s							
LZH	**Lanzhou**	**78.66**	**312**	*e*P		**P**	**10 35 51.0**	**+1.9**
LZH				AP		pP	10 36 23.9	-0.3
LZH				XP		sP	10 36 39.0	-0.2
LZH				AMB		AMB		
	comp=Z,42nm,1.5s,mb4.8							
LZH				AMB		AMB		
	comp=Z,168nm,4.0s							
MAW	**Mawson**	**81.58**	**202**	*e*P		**P**	**10 36 04.2**	**0.0**
	comp=Z,5.8nm,0.9s,mb4.2							
MAW	**Mawson**	**81.58**	**202**	P		**P**	**10 36 04.7**	**+0.5**
	comp=Z,9.3nm,1.0s,mb4.3,baz=102,slow=6.5,SNR=15							
MAW	**Mawson**	**81.58**	**202**	*e*P		**P**	**10 36 04.2**	**0.0**
MAW				pmax		pmax		
	comp=Z,6.0nm,0.9s							
YAK	**Yakutsk**	**82.42**	**343**	*e*P		**P**	**10 36 06.1**	**-2.5**
YAK				pmax		pmax		
	comp=Z,15nm,0.9s,mb4.6							
SONM	**Songino Array**	**82.87**	**324**	P		**P**	**10 36 11.4**	**+0.2**
	comp=Z,4.2nm,0.8s,mb4.2,baz=153,slow=7.3,SNR=25							
GTA	**Gaotai**	**83.01**	**314**	*e*P		**P**	**10 36 13.3**	**+1.1**
GTA				AP		pP	10 36 48.8	+1.2
GTA				XP		sP	10 37 04.1	+1.6
GTA				AMB		AMB		
	comp=Z,15nm,1.4s,mb4.5							
SHL	**Shillong**	**83.85**	**298**	⇑*i*P		**P**	**10 36 18.0**	**+1.2**
BOD	**Bodaibo**	**84.87**	**334**	*e*P		**P**	**10 36 18.7**	**-2.4**
BOD				pmax		pmax		
	comp=Z,9.0nm,1.7s,mb4.2							
ZAK	**Zakamensk**	**85.93**	**325**	⇑*i*P		**P**	**10 36 26.5**	**-0.1**
ZAK				pmax		pmax		
	comp=Z,9.0nm,1.3s,mb4.3							
TLY	**Talaya**	**86.37**	**326**	⇓*i*P		**P**	**10 36 28.6**	**-0.1**
TLY				pmax		pmax		
	comp=Z,6.0nm,1.3s,mb4.2							
NVAR	**Mina Array Bea**	**87.43**	**49**	P		**P**	**10 36 34.1**	**-0.1**
	comp=Z,0.9nm,0.8s,mb3.6,baz=233,slow=5.4,SNR=5.3							
NVAR				pP		pP	10 37 09.7	-0.3
	comp=Z,1.2nm,0.7s,baz=234,slow=6.9,SNR=5.9							
SYO	**Syowa Base**	**88.38**	**197**	⇓*e*P		**P**	**10 36 31.6**	**-6.5**
SYO	**Syowa Base**	**88.38**	**197**	⇓*e*P		**P**	**10 36 37.2**	**-0.9**
TIXI	**Tiksi**	**90.36**	**349**	⇑*i*P		**P**	**10 36 45.1**	**-2.1**
TIXI				pmax		pmax		
	comp=Z,4.0nm,1.3s,mb4.2							
ELK	**Elko**	**90.46**	**48**	P		**P**	**10 36 47.8**	**-0.5**
	comp=Z,0.6nm,0.5s,mb3.8,baz=288,slow=6.1,SNR=4.1							
WMQ	**Urumqi**	**93.08**	**315**	P		**P**	**10 37 01.0**	**+0.7**
WMQ				AP		pP	10 37 37.0	+0.7
WMQ				XP		sP	10 37 52.0	+0.9
SNAA	**Sanae**	**93.18**	**183**	*e*P		**P**	**10 36 58.6**	**-1.8**
SNAA				*e*			10 37 01.6	
SNAA	**Sanae**	**93.18**	**183**	*e*P		**P**	**10 36 59.3**	**-1.1**
SNAA				pmax		pmax		
	comp=Z,19nm,1.4s							
SNAA	**Sanae**	**93.18**	**183**	⇑*i*P		**P**	**10 36 59.5**	**-0.9**
SNAA	**Sanae**	**93.18**	**183**	*e*P		**P**	**10 36 59.3**	**-1.1**
	comp=Z,19nm,1.4s,mb5.0							
VNA2	**Neumayer--Watz**	**94.11**	**182**	*e*P		**P**	**10 37 04.1**	**-0.6**
	baz=165,slow=3.6							
VNA2				*e*			10 37 07.2	
VNA1	**Neumayer--Stat**	**94.40**	**181**	*e*P		**P**	**10 37 04.7**	**-1.3**
VNA1				*e*			10 37 07.4	
PDAR	**Pinedale Array**	**95.12**	**47**	LR		LR	11 11 04.9	
	comp=Z,49nm,21.9s,baz=78,slow=30							
MK31	**Malanchi Array**	**97.56**	**316**	*e*P		**P**	**10 37 21.0**	**+0.3**
MKAR	**Makanchi Array**	**97.56**	**316**	P		**P**	**10 37 21.1**	**+0.4**
	comp=Z,4.0nm,0.7s,mb4.9,baz=96,slow=6.3,SNR=37							
MKAR				pP		pP	10 37 53.9	-2.9
	comp=Z,0.7nm,0.4s,baz=82,slow=8.3,SNR=2.6							
ZALV	**Zalesovo Beam**	**97.77**	**324**	P		**P**	**10 37 20.6**	**-0.9**
	comp=Z,2.5nm,0.7s,mb4.7,baz=93,slow=3.0,SNR=7.5							
KURK	**Kurchatov**	**100.76**	**320**	⇑*i*P		Pdif	10 37 33.7	-1.3
ARCES	**ARCESS Array B**	**120.65**	**345**	PKP		PKPdf	10 42 36.3	-0.7
	comp=Z,5.4nm,0.6s,baz=78,slow=1.3,SNR=23							
BOSA	**Boshof**	**123.16**	**220**	PKP		PKPdf	10 42 43.6	+0.4
	comp=Z,3.4nm,0.8s,baz=72,slow=3.2,SNR=3.7							
ARTV	**Artvin**	**126.36**	**310**	*i* P		PKPdf	10 42 45.1	-3.7
DAGI	**Agillar**	**126.39**	**310**	*i* P		PKPdf	10 42 45.4	-3.5
DDEM	**Demirkent**	**126.55**	**310**	*i* P		PKPdf	10 42 49.6	+0.4
DBAD	**Bademkaya**	**126.57**	**310**	*i* P		PKPdf	10 42 49.0	-0.2
NB2	**NORSAR Subarra**	**131.02**	**345**	PKPdf		PKPdf	10 42 57.2	+0.1
	comp=Z,0.5nm,0.5s,baz=31,slow=1.9							
NOA	**NORSAR Array B**	**131.02**	**345**	PKP		PKPdf	10 42 57.2	+0.2
	comp=Z,1.0nm,0.6s,baz=34,slow=2.1,SNR=4.2							
CLL	**Collm**	**138.45**	**336**	*e*PKPdf		PKPdf	10 43 13.0	+1.7
BAIF	**Baives**	**142.56**	**342**	*e*PKP1		PKPdf	10 43 14.6	-4.1
FETA	**Feichten**	**142.72**	**333**	⇑*i*PKPdf		PKPdf	10 43 16.1	-3.0
	comp=Z,19nm,1.0s							
DAVA	**Damuels**	**142.87**	**334**	⇑*i*PKPdf		PKPdf	10 43 16.4	-2.9
	comp=Z,14nm,1.0s							
CDF	**Champ du Feu**	**142.97**	**338**	⇑*i*PKP1		PKPdf	10 43 16.7	-2.8
	comp=Z,25nm,1.0s							
HINF	**Hinteralfeld**	**143.62**	**338**	*e*PKP1		PKPdf	10 43 17.7	-3.0
HAU	**Haudompre**	**143.65**	**338**	*e*PKP1		PKPdf	10 43 18.0	-2.7
	comp=Z,23nm,1.0s							
MEZF	**Maizieres J'vi**	**143.66**	**340**	*e*PKP1		PKPdf	10 43 18.6	-2.1
LOMF	**Lomont**	**144.02**	**337**	PKP		PKPdf	10 43 20.5	-0.9
CABF	**La Chapelle**	**144.92**	**337**	⇑*i*PKP1		PKPdf	10 43 23.0	0.0
	comp=Z,204nm,1.2s							
OG01	**Vacheresse**	**144.93**	**337**	PKP		PKPdf	10 43 22.9	-0.1
FLN	**La Foliniere**	**144.99**	**346**	⇑*i*PKP1		PKPdf	10 43 22.2	-0.8
	comp=Z,64nm,1.0s							
LDF	**La Druitiere**	**145.06**	**345**	⇑*i*PKP1		PKPbc	10 43 22.4	-0.5
	comp=Z,57nm,1.0s							
LOR	**Lormes**	**145.13**	**340**	⇑*i*PKP1		PKPbc	10 43 23.3	+0.2
	comp=Z,146nm,1.2s							
GRR	**Gorron**	**145.43**	**346**	⇑*i*PKP1		PKPbc	10 43 24.0	0.0
	comp=Z,135nm,1.1s							
SSF	**Saint Saulge**	**145.43**	**340**	⇑*i*PKP1		PKPbc	10 43 24.4	+0.3
	comp=Z,185nm,1.1s							
RSL	**Roselend**	**145.49**	**336**	PKP		PKPdf	10 43 24.3	+0.3
HYF	**Humbligny**	**145.52**	**342**	⇑*i*PKP1		PKPbc	10 43 24.9	+0.6
LPL	**La Plagne**	**145.59**	**336**	⇑*i*PKP1		PKPbc	10 43 25.3	+0.7
	comp=Z,110nm,1.2s							
LPG	**La Plagne**	**145.59**	**336**	⇑*i*PKP1		PKPbc	10 43 25.4	+0.8
	comp=Z,150nm,1.4s							
OG05	**Jujurieux**	**145.64**	**337**	PKP		PKPdf	10 43 25.1	+0.9
SMF	**Signal de Mont**	**145.69**	**340**	⇑*i*PKP1		PKPbc	10 43 24.8	-0.1
	comp=Z,173nm,1.5s							
AVF	**Avril sur Loir**	**145.72**	**340**	⇑*i*PKP1		PKPbc	10 43 24.8	-0.2
	comp=Z,34nm,1.0s							
SGMF	**Saint Gilles**	**145.92**	**348**	⇑*i*PKP1		PKPbc	10 43 25.3	-0.2
	comp=Z,37nm,0.7s							
ROSF	**Rostrenen**	**145.98**	**349**	⇑*i*PKP1		PKPbc	10 43 25.5	-0.2
	comp=Z,47nm,1.1s							
BGF	**Bois d'Agland**	**146.09**	**341**	⇑*i*PKP1		PKPbc	10 43 26.1	0.0
	comp=Z,52nm,0.7s							
MBDF	**Montbardon**	**146.22**	**335**	*e*PKP1		PKPbc	10 43 26.5	0.0
	comp=Z,22nm,0.8s							
PLDF	**La Plantade**	**146.35**	**339**	PKP		PKPbc	10 43 27.4	+0.5
QUIF	**Quistinic**	**146.37**	**349**	⇑*i*PKP1		PKPbc	10 43 26.5	-0.3
	comp=Z,14nm,0.7s							
ORIF	**Oris-en-Rattie**	**146.42**	**336**	⇑*i*PKP1		PKPbc	10 43 27.4	+0.3
	comp=Z,57nm,0.9s							
AGO	**Saint Agoulin**	**146.44**	**340**	PKP		PKPbc	10 43 27.1	0.0
SAOF	**Saorge**	**146.48**	**333**	PKP		PKPdf	10 43 26.2	+0.5
TCF	**Toulx Ste Croi**	**146.53**	**341**	⇑*i*PKP1		PKPbc	10 43 27.4	0.0
	comp=Z,47nm,0.9s							
AUTN	**L'Aution**	**146.53**	**333**	PKP		PKPdf	10 43 26.4	+0.6
SBF	**Sospel**	**146.63**	**333**	⇑*i*PKP1		PKPbc	10 43 27.3	-0.5
	comp=Z,71nm,0.9s							
PYM	**Petit Puy Mans**	**146.75**	**340**	PKP		PKPbc	10 43 28.2	+0.2
MFF	**Saint Martin d**	**146.92**	**344**	⇑*i*PKP1		PKPbc	10 43 28.4	-0.1
	comp=Z,89nm,0.8s							
VIVF	**Saint-Julien-l**	**146.93**	**337**	⇑*i*PKP1		PKPbc	10 43 28.7	+0.1
	comp=Z,62nm,1.5s							
PGF	**Pioggiola**	**146.94**	**330**	*e*PKP1		PKPbc	10 43 28.4	-0.3
	comp=Z,130nm,1.3s							
LBL	**Lubilhac**	**147.12**	**339**	PKP		PKPbc	10 43 29.8	+0.7
FRF	**La Foret Royal**	**147.22**	**334**	⇑*i*PKP1		PKPbc	10 43 29.1	-0.3
	comp=Z,48nm,1.0s							
SMRF	**Simiane la Rot**	**147.32**	**335**	*e*PKP1		PKPbc	10 43 28.6	-1.1
	comp=Z,25nm,0.8s							
LMR	**La Mourre**	**147.46**	**334**	*e*PKP1		PKPbc	10 43 29.7	-0.4
	comp=Z,91nm,1.2s							
RJF	**Les Rejaudoux**	**147.62**	**341**	⇑*i*PKP1		PKPbc	10 43 30.5	0.0
	comp=Z,31nm,0.8s							
CAF	**Calviac**	**147.79**	**340**	⇑*i*PKP1		PKPbc	10 43 31.2	+0.3
	comp=Z,40nm,1.2s							
LASF	**Ste Croix**	**147.90**	**337**	⇑*i*PKP1		PKPbc	10 43 31.5	+0.3
	comp=Z,86nm,1.1s							
LFF	**La Frestale**	**148.19**	**342**	⇑*i*PKP1		PKPbc	10 43 32.0	0.0
	comp=Z,50nm,0.8s							
MTLF	**Montolieu**	**149.13**	**339**	⇑*i*PKP1		PKPbc	10 43 34.5	+0.1
	comp=Z,25nm,0.8s							
EPF	**Esparros**	**150.04**	**341**	*e*PKP1		PKPbc	10 43 36.6	0.0
	comp=Z,31nm,1.0s							
SJPF	**Ste Jean**	**150.43**	**343**	⇑*i*PKP1		PKPbc	10 43 37.7	+0.1
	comp=Z,49nm,1.2s							
ETSF	**Etsaut**	**150.44**	**342**	⇑*i*PKP1		PKPbc	10 43 38.1	+0.5
	comp=Z,16nm,0.6s							
KEST	**Kesra**	**151.58**	**320**	PKPbc		PKPbc	10 43 41.1	+0.6
	comp=Z,2.9nm,0.6s,baz=79,slow=1.6,SNR=7.7							
TORD	**Torodi Ar. Bea**	**165.99**	**264**	PKP		PKPdf	10 43 50.7	-1.0
	comp=Z,3.4nm,0.8s,baz=81,slow=0.8,SNR=20							
TORD				PKPab		PKPab	10 44 51.7	-0.8
	comp=Z,1.6nm,1.0s,baz=98,slow=5.1,SNR=4.9							
DBIC	**Dimbokro**	**168.68**	**223**	PKP

ISC 22 11:40:39.4±0.5, 2606S±010×7046E±010, h10km, n23, σ0°82/19, mb4.0/15, MS4.0/10, Indian Ocean Triple Junction

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OPO	**Ambohidratompo**	**22.76**	**284**	P	**P**	**11 45 41.9**	**0.0**
	6.1nm,1.0s,mb4.0,baz=112,slow=7.0,SNR=5.0						
BOSA	**Boshof**	**40.06**	**256**	P	**P**	**11 48 14.4**	**-0.5**
	5.8nm,1.1s,mb4.2,baz=134,slow=3.4,SNR=3.2						
BOSA				LR	LR	12 03 42.3	
	comp=Z,455nm,18.1s,MS4.4,baz=107,slow=35						
LBTB	**Lobatse**	**40.34**	**261**	P	**P**	**11 48 16.7**	**-0.7**
	3.4nm,0.9s,mb4.1,baz=83,slow=6.2,SNR=3.5						
LBTB				LR	LR	12 01 42.4	
	comp=Z,294nm,20.4s,MS4.1,baz=133,slow=31						
KMBO	**Kilima Mbogo**	**40.45**	**302**	P	**P**	**11 48 19.4**	**+1.1**
	2.1nm,0.9s,mb3.9,baz=50,slow=19,SNR=5.5						
LSZ	**Lusaka**	**40.82**	**277**	P	**P**	**11 48 21.9**	**+0.5**
	2.2nm,0.7s,mb3.9,baz=113,slow=5.5,SNR=4.7						
LSZ				LR	LR	12 01 55.6	
	comp=Z,125nm,20.3s,MS3.8,baz=144,slow=31						
NWAO	**Narrogin (SRO)**	**41.02**	**111**	LR	LR	12 02 33.0	
	comp=Z,101nm,18.7s,MS3.7,baz=231,slow=32						
MAW	**Mawson**	**41.82**	**184**	*eP*	**P**	**11 48 29.0**	**0.0**
	2.9nm,1.2s,mb3.8						
MAW	**Mawson**	**41.82**	**184**	P	**P**	**11 48 29.1**	**+0.1**
	2.7nm,1.0s,mb3.8,baz=21,slow=12,SNR=6.8						
MAW				LR	LR	12 00 48.0	
	comp=Z,86nm,21.8s,MS3.6,baz=63,slow=29						
CMAR	**Chiang Mai Arr**	**52.19**	**35**	P	**P**	**11 49 52.0**	**+1.5**
	4.4nm,1.0s,mb4.4,baz=224,slow=7.0,SNR=29						
CMAR				LR	LR	12 07 33.8	
	comp=Z,98nm,19.3s,MS3.9,baz=217,slow=31						
SHL	**Shillong**	**55.33**	**24**	*eP*	**P**	**11 50 15.0**	**+1.6**
ASAR	**Alice Springs**	**57.10**	**102**	P	**P**	**11 50 25.7**	**-0.6**
	0.6nm,0.5s,mb3.9,baz=254,slow=6.6,SNR=11						
ASAR				PcP	PcP	11 51 20.9	-0.2
	0.9nm,0.9s,baz=248,slow=3.9,SNR=4.4						
WRA	**Warramunga Arr**	**58.62**	**98**	P	**P**	**11 50 36.5**	**-0.5**
	0.8nm,1.0s,mb3.7,baz=252,slow=7.3,SNR=5.3						
SNAA	**Sanae**	**60.25**	**200**	*e*	**P**	**11 50 47.9**	**+0.5**
VNA2	**Neumayer--Watz**	**61.65**	**201**	*e*	**P**	**11 50 58.0**	**+1.0**
QSPA	**South Pole Qui**	**64.08**	**180**	P	**P**	**11 51 13.0**	**0.0**
	2.1nm,0.8s,mb4.2,baz=228,slow=0.7,SNR=8.2						
MKAR	**Makanchi Array**	**73.29**	**8**	P	**P**	**11 52 09.5**	**-1.2**
	0.9nm,0.7s,mb3.8,baz=191,slow=4.9,SNR=7.7						
TORD	**Torodi Ar. Bea**	**77.37**	**291**	P	**P**	**11 52 34.2**	**-0.7**
	1.1nm,1.0s,mb3.7,baz=130,slow=6.7,SNR=7.4						
TORD				LR	LR	12 25 53.2	
	comp=Z,60nm,18.3s,MS4.0,baz=135,slow=35						
DBIC	**Dimbokro**	**79.86**	**283**	LR	LR	12 27 27.9	
	comp=Z,76nm,18.1s,MS4.1,baz=105,slow=35						
SONM	**Songino Array**	**80.34**	**24**	P	**P**	**11 52 50.3**	**-0.1**
	1.7nm,1.2s,mb3.9,baz=186,slow=1.5,SNR=6.4						
ZALV	**Zalesovo Beam**	**80.64**	**9**	P	**P**	**11 52 50.9**	**-1.0**
	0.3nm,0.3s,mb3.7,baz=186,slow=1.4,SNR=3.1						
AKASG	**Malin Array Be**	**84.66**	**335**	P	**P**	**11 53 12.4**	**-0.6**
	3.3nm,0.6s,mb4.7,baz=148,slow=5.5,SNR=5.9						
HNR	**Honiara**	**85.47**	**98**	LR	LR	12 28 17.2	
	comp=Z,312nm,18.4s,MS4.7,baz=295,slow=34						
ASAJ	**Asahikawa**	**95.99**	**44**	LR	LR	12 32 58.2	
	comp=Z,61nm,20.5s,MS4.1,baz=16,slow=33						

*HLW **22** 11:40:56.0,2996N×3729E, h15km, Mb3.4*
*ISCJB **22** 11:41:04.3±1.2, 2987N±005×3631E±008, h0km, Error ellipse: s-maj=9.9km s-min=6.8km az=167.0*
*SGS **22** 11:41:05.4, 3008N×3621E, h5km*
*CSEM **22** 11:41:05.9±0.4, 2988N×3620E, h10km, ML3.4, Error ellipse: s-maj=10.4km s-min=4.0km az=78.0*
*GII **22** 11:41:05.5±1.6, 2984N×3621E, h0km, ML1.8/3, EXPLOSION*

ISC 22 11:41:04.4±1.1, 2985N±005×3635E±008, h0km, n20, σ0°66/24, Western Arabian Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AQBJ	**Aqaba**	**1.13**	**264**	Pg	**Pg**	**11 41 25.8**	**-0.4**
HRFI	**Mount Harif**	**1.15**	**280**	Pg	**Pg**	**11 41 26.3**	**-0.2**
EIL	**Elat**	**1.23**	**262**	Pg	**Pg**	**11 41 27.4**	**-0.5**
ZFRI	**Zfri**	**1.23**	**305**	Pg	**Pg**	**11 41 27.6**	**-0.5**
ZFRI				Sg	**Sg**	**11 41 44.9**	**+1.0**
MBRI	**Mt Berech**	**1.25**	**268**	Pg	**Pg**	**11 41 27.9**	**-0.4**
MBRI				Sg	**Sg**	**11 41 45.5**	**+1.0**
HQLS		**1.25**	**244**	P	**Pg**	**11 41 27.8**	**-0.6**
HQLS		**1.25**	**244**	P	**Pg**	**11 41 27.8**	**-0.5**
HQLS				S	**Sg**	**11 41 44.5**	**0.0**
PRNI	**Paran**	**1.27**	**294**	Pg	**Pg**	**11 41 27.8**	**-0.9**
JLOS		**1.34**	**214**	P	**Pg**	**11 41 30.7**	**+0.6**
KRMI	**Paran Flat**	**1.43**	**281**	Pn	**Pn**	**11 41 31.0**	**-0.7**
HBST	**Basata**	**1.54**	**246**	P	**Pn**	**11 41 34.0**	**+0.8**
RMNI	**Mount Ramon**	**1.56**	**299**	Pn	**Pn**	**11 41 33.1**	**-0.3**
BDAS	**Al Bad'**	**1.79**	**218**	P	**Pn**	**11 41 37.2**	**+0.7**
DSI	**Dead Sea**	**1.90**	**334**	Pn	**Pn**	**11 41 39.9**	**+1.7**
RSHS		**2.06**	**222**	P	**Pn**	**11 41 40.1**	**-0.1**
HKAT	**Jabal Katrina**	**2.45**	**238**	P	**Pn**	**11 41 45.6**	**0.0**
RSH		**2.52**	**297**	P	**Pn**	**11 41 46.0**	**-0.6**
TR2		**2.72**	**238**	P	**Pn**	**11 41 49.4**	**0.0**
TR2				S	**Sn**	**11 42 28.2**	**+5.2**
AMAG	**Maghara**	**2.83**	**287**	P	**Pn**	**11 41 50.4**	**-0.5**
HRSH	**Kfar Ka'horesh**	**2.98**	**342**	P	**Pn**	**11 41 46.0**	**-7.0**

*ISCJB **22** 11:43:02.6±0.6, 2605S±01×704E±02, h10km, mb3.8/9, Error ellipse: s-maj=25.7km s-min=15.7km az=17.6*
*IDC **22** 11:43:02.6±0.9, 2601S×7027E, h0km, mb3.9/9, mb1 4.0/9, mb1mx3.9/20, mbtmp3.9/9, Error ellipse: s-maj=30.7km s-min=23.1km az=94.0*

ISC 22 11:43:04.6±0.6, 2605±01×704E±02, h10km, n11, σ0°77/11, mb3.8/9, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MAW	**Mawson**	**41.92**	**184**	P	**P**	**11 50 55.2**	**+0.2**
	4.6nm,1.2s,mb4.0,baz=2.4,slow=11,SNR=4.8						
CMAR	**Chiang Mai Arr**	**52.17**	**35**	P	**P**	**11 52 16.9**	**+1.4**
	2.9nm,0.9s,mb4.2,baz=225,slow=7.0,SNR=11						
ASAR	**Alice Springs**	**57.22**	**102**	P	**P**	**11 52 51.4**	**-1.0**
	0.9nm,0.8s,mb3.9,baz=253,slow=6.6,SNR=6.9						
WRA	**Warramunga Arr**	**58.73**	**98**	P	**P**	**11 53 02.6**	**-0.4**
	0.9nm,0.8s,mb3.9,baz=254,slow=7.4,SNR=5.1						
SNAA	**Sanae**	**60.31**	**200**	*e*	**P**	**11 53 13.7**	**+0.6**
SNAA				*e*	pP	11 53 15.2	-1.1
VNA2	**Neumayer--Watz**	**61.71**	**201**	*e*	**P**	**11 53 23.5**	**+0.9**
VNA2				*e*	pP	11 53 24.9	-1.0
QSPA	**South Pole Qui**	**64.18**	**180**	P	**P**	**11 53 38.5**	**-0.4**
	1.1nm,0.8s,mb3.9,baz=292,slow=2.9,SNR=3.1						
MKAR	**Makanchi Array**	**73.21**	**9**	P	**P**	**11 54 35.6**	**+0.2**
	0.3nm,0.3s,mb3.7,baz=178,slow=5.7,SNR=4.0						
TORD	**Torodi Ar. Bea**	**77.24**	**292**	P	**P**	**11 54 58.0**	**-1.4**
	0.5nm,0.7s,mb3.6,baz=134,slow=5.3,SNR=4.4						
SONM	**Songino Array**	**80.28**	**24**	P	**P**	**11 55 15.7**	**+0.3**
	0.5nm,0.8s,mb3.5,baz=241,slow=4.8,SNR=3.4						
ZALV	**Zalesovo Beam**	**80.55**	**9**	P	**P**	**11 55 16.5**	**-0.3**
	0.4nm,0.3s,mb3.8,baz=154,slow=5.1,SNR=1.9						

*ISCJB **22** 11:44:17.6±1.2, 36S±02×118W±05, h10km, mb4.2/6, MS3.4/5, Error ellipse: s-maj=79.0km s-min=15.0km az=14.3*
*IDC **22** 11:44:17.9±1.5, 360S×1189W, h0km, mb4.2/6, mb1 4.4/6, mb1mx4.0/21, mbtmp4.3/6, MS3.4/6, Ms1 3.4/6, ms1mx3.2/20, Error ellipse: s-maj=95.9km s-min=23.6km az=102.0*

ISC 22 11:44:19.6±1.1, 36S±02×118W±05, h10km, n14, σ0°53/9, mb4.2/6, MS3.4/5, North of Ascension Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DBIC	**Dimbokro**	**12.36**	**34**	LR	LR	11 51 13.0	
	comp=Z,118nm,20.5s,baz=211,slow=34						
TORD	**Torodi Ar. Bea**	**21.39**	**39**	P	**P**	**11 49 07.5**	**-0.2**
	8.6nm,1.0s,mb4.0,baz=225,slow=11,SNR=17						
TORD				LR	LR	11 56 38.4	
	comp=Z,73nm,19.1s,MS3.1,baz=205,slow=35						
KEST	**Kesra**	**43.88**	**25**	LR	LR	12 11 58.3	
	comp=Z,27nm,21.5s,MS3.1,baz=229,slow=38						
KMBO	**Kilima Mbogo**	**49.08**	**88**	LR	LR	12 11 46.0	
	comp=Z,80nm,18.9s,MS3.7,baz=74,slow=34						
LPAZ	**La Paz**	**56.70**	**253**	LR	LR	12 17 01.7	
	comp=Z,40nm,18.2s,MS3.5,baz=279,slow=35						
GERES	**GERESS Array B**	**56.78**	**20**	P	**P**	**11 54 04.7**	**+0.9**
	2.7nm,0.8s,mb4.3,baz=200,slow=8.3,SNR=9.3						
GERES				LR	LR	12 19 49.3	
	comp=Z,29nm,18.3s,MS3.4,baz=13,slow=38						
AKASG	**Malin Array Be**	**64.52**	**28**	P	**P**	**11 54 55.9**	**-0.7**
	0.3nm,0.3s,mb3.9,baz=226,slow=5.8,SNR=4.1						
VNA2	**Neumayer--Watz**	**67.26**	**178**	*e*	**P**	**11 55 14.1**	**+0.1**
	baz=347,slow=8.2						
VNA2				*e*		11 55 23.8	
VNA3	**Neumayer Olymp**	**67.54**	**179**	*e*	**P**	**11 55 15.1**	**-0.6**
SNAA	**Sanae**	**68.19**	**177**	*e*	**P**	**11 55 19.5**	**-0.3**
SNAA				*e*		11 55 30.3	
ARCES	**ARCESS Array B**	**77.27**	**13**	P	**P**	**11 56 13.7**	**-0.1**
	2.8nm,0.7s,mb4.3,baz=216,slow=4.5,SNR=6.8						
MAW	**Mawson**	**80.84**	**158**	P	**P**	**11 56 34.3**	**+0.8**
	2.2nm,0.8s,mb4.2,baz=267,slow=6.7,SNR=7.2						
QSPA	**South Pole Qui**	**86.46**	**180**	P	**P**	**11 57 02.3**	**+0.2**
	3.6nm,1.0s,mb4.5,baz=228,slow=2.3,SNR=12						
WRA	**Warramunga Arr**	**139.33**	**126**	PKP	PKPdf	12 03 47.4	-0.8
	0.5nm,0.8s,baz=242,slow=2.5,SNR=3.4						

IDC 22 12:04:43.3±7.3, 283S×14174E, h0km, mb3.1/2, mb1 3.3/3, mb1mx3.2/14, mbtmp3.2/3, ML3.3/1, Error ellipse: s-maj=271.8km s-min=30.0km az=91.0, Near north coast of New Guinea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**18.48**	**202**	P	Pn	12 09 00.4	-0.6
	0.1nm,0.3s,baz=22,slow=12,SNR=9.5						
ASAR	**Alice Springs**	**22.06**	**199**	P	P	12 09 40.2	+0.4
	0.3nm,0.7s,baz=29,slow=10,SNR=3.8						
MKAR	**Makanchi Array**	**71.75**	**321**	P	P	12 16 07.5	+0.1
	0.2nm,0.5s,baz=98,slow=6.9,SNR=3.4						

*NEIC **22** 12:12:48.2±1.0, 620S×148.34E, h35km, mb4.4/4, Error ellipse: s-maj=27.1km s-min=11.3km az=98.0*
*ISCJB **22** 12:12:49.2±2.6, 63S±01×148.4E±02, h67km±22km, mb4.1/10, Error ellipse: s-maj=29.5km s-min=18.0km az=18.9*
*IDC **22** 12:12:51.7±5.7, 638S×148.50E, h75km±49km, mb3.8/8, mb1 4.1/10, mb1mx4.0/15, mbtmp3.9/10, ML4.4/2, MS3.7/3, Ms1 3.7/3, ms1mx3.1/16, Error ellipse: s-maj=41.8km s-min=22.0km az=101.0*

ISC 22 12:12:51.0±2.5, 63S±01×1483E±02, h66km±23km, n31, σ0°95/22, mb4.1/10, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**3.30**	**200**	*e*Pn	**Pn**	**12 13 40.5**	**+0.3**
PMG				*e*Sn	**Sn**	**12 14 19.4**	**+1.1**
HNR	**Honiara**	**11.93**	**106**	LR	LR	12 18 54.1	
	comp=Z,206nm,20.0s,baz=180,slow=31						
CTA	**Charters Tower**	**13.86**	**188**	*e*P	**Pn**	**12 16 02.5**	**-1.8**
	7.2nm,0.7s						
CTA	**Charters Tower**	**13.86**	**188**	P	**Pn**	**12 16 03.0**	**-1.3**
	0.4nm,0.3s,baz=13,slow=13,SNR=8.9						
CTAO	**Charters Tower**	**13.86**	**188**	*e*Pn	**Pn**	**12 16 02.6**	**-1.7**
	18nm,1.1s						
KAKA	**Kakadu**	**16.91**	**247**	*e*P	**Pn**	**12 16 41.4**	**-2.0**
	12nm,0.6s						
WRAB	**Tennant Creek**	**19.18**	**224**	*e*P	**Pn**	**12 17 10.9**	**-0.1**
	18nm,0.6s						
WB2	**Warramunga Arr**	**19.19**	**224**	*e*P	**Pn**	**12 17 10.9**	**-0.2**
WRA	**Warramunga Arr**	**19.20**	**224**	P	**Pn**	**12 17 11.1**	**0.0**
	2.9nm,0.3s,baz=50,slow=11,SNR=163						
ASAR	**Alice Springs**	**22.15**	**217**	P	**P**	**12 17 42.2**	**+0.8**
	16nm,0.7s,mb4.5,baz=55,slow=9.7,SNR=169						
ARMA	**Armidale**	**24.20**	**173**	*e*P	**P**	**12 17 56.3**	**-5.1**
BATI	**Baumata**	**24.71**	**259**	P	**P**	**12 18 11.1**	**+4.9**
	29nm,0.5s,mb5.0,baz=356,slow=1.7,SNR=6.2						
STKA	**Stephens Creek**	**26.21**	**193**	*e*P	**P**	**12 18 19.8**	**+0.1**
	9.5nm,0.9s,mb4.2						
STKA	**Stephens Creek**	**26.21**	**193**	P	**P**	**12 18 19.1**	**-0.6**
	14nm,1.0s,mb4.4,baz=358,slow=7.8,SNR=13						
KAPI	**Kappang**	**28.46**	**271**	LR	LR	12 30 01.0	
	comp=Z,260nm,20.0s,baz=91,slow=36						
KLBR	**Kellerberrin**	**38.08**	**225**	*e*P	**P**	**12 20 04.4**	**+1.0**
	57nm,1.5s,mb5.2						
AFI	**Afiamalu**	**39.95**	**104**	LR	LR	12 33 11.6	
	comp=Z,116nm,18.3s,baz=34,slow=31						
PETK	**Petropavlovsk-**	**59.71**	**7**	P	**P**	**12 22 49.5**	**+0.9**
	2.7nm,0.9s,mb4.3,baz=171,slow=5.9,SNR=7.0						
SONM	**Songino Array**	**65.31**	**330**	P	**P**	**12 23 27.6**	**+1.7**
	0.4nm,0.5s,mb3.5,baz=68,slow=1.1,SNR=3.2						
MKAR	**Makanchi Array**	**78.56**	**320**	P	**P**	**12 24 44.3**	**-1.1**
	0.2nm,0.4s,mb3.3,baz=93,slow=9.2,SNR=2.5						
ZALV	**Zalesovo Beam**	**79.97**	**328**	P	**P**	**12 24 52.5**	**-0.3**
	0.6nm,0.5s,mb3.7,baz=131,slow=7.1,SNR=2.6						
MAW	**Mawson**	**82.48**	**203**	*e*P	**P**	**12 25 05.7**	**-0.3**
	1.0nm,0.8s,mb3.7						
MAW	**Mawson**	**82.48**	**203**	P	**P**	**12 25 05.7**	**-0.3**
	1.3nm,0.8s,mb3.8,baz=68,slow=4.2,SNR=3.8						
NVAR	**Mina Array Bea**	**96.51**	**52**	P	**P**	**12 26 13.1**	**-0.4**
	0.2nm,0.5s,mb3.8,baz=238,slow=6.5,SNR=3.6						
GERES	**GERESS Array B**	**122.89**	**326**	PKP	PKPdf	12 31 39.3	-0.4
	0.1nm,0.9s,baz=90,slow=2.7,SNR=7.6						
LPAZ	**La Paz**	**137.52**	**122**	PKP	PKPdf	12 32 08.1	-0.2
	1.9nm,0.8s,baz=250,slow=6.0,SNR=7.4						
TORD	**Torodi Ar. Bea**	**146.44**	**284**	PKPbc	PKPbc	12 32 26.1	+0.5
	11nm,0.6s,baz=79,slow=2.8,SNR=86						
KIC	**Kosan Boka**	**153.23**	**272**	*e*P	PKPdf	12 32 32.1	-2.9
	80nm,1.2s						
DBIC	**Dimbokro**	**153.35**	**272**	PKPbc	PKPbc	12 32 42.3	-0.5
	4.9nm,0.8s,baz=132,slow=1.0,SNR=7.2						
DBIC				PKPab	PKPab	12 32 56.0	+0.9
	2.9nm,0.5s,baz=81,slow=5.8,SNR=7.4						
LIC	**Lamto**	**153.51**	**271**	*e*P	PKPdf	12 32 34.5	-0.9
	56nm,1.0s						
TIC	**Toumodi**	**153.51**	**272**	*e*P	PKPdf	12 32 35.8	+0.4
	26nm,0.5s						

*DJA **22** 12:14:21, 433S×14320E, h10km, mb4.9/7*
*IDC **22** 12:14:36.2±0.6, 289S×141.43E, h0km, mb4.6/11, mb1 4.8/14, mb1mx4.8/16, mbtmp4.7/14, ML5.0/3, MS4.1/8, Ms1 4.1/8, ms1mx3.7/13, Error ellipse: s-maj=24.6km s-min=15.1km az=84.0*
*ISCJB **22** 12:14:37.0±1.5, 293S±004×14146E±006, h18km±10km, mb5.0/67, MS4.2/16, Error ellipse: s-maj=9.5km s-min=6.5km az=11.7*
*BJI **22** 12:14:39.3, 299S×14149E, h38km, mB5.1, mb5.0, Ms4.7, Msz4.4*
*MOS **22** 12:14:40.2±0.9, 284S×141.16E, h33km, mb5.0/28, MS4.0/4, Error ellipse: s-maj=15.0km s-min=7.4km az=101.4*
*NEIC **22** 12:14:41.1±0.2, 287S×141.42E, mb5.2/33, Error ellipse: s-maj=7.0km s-min=4.8km az=92.0*
*GCMT **22** 12:14:41.1±0.2, 276S×141.39E, h12km, MW5.0/76, Moment Tensor Solution. s32,c38; s76,c115; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-3.08±.09; $M_{\theta\theta}$2.56±.07; $M_{\phi\phi}$0.52±.10; $M_{r\theta}$1.19±.26; $M_{\theta\phi}$-0.83±.07; $M_{\phi r}$-0.40±.34; Best double couple: Mo3.22200×10^{16} NP1:ϕ_s110.00000°, δ34.00000°, λ-89.00000°. NP2: ϕ_s289.00000°, δ56.00000°, λ-90.00000°. Principal axes: T 3.1090, Plg11.0000°, Azm19.0000°; N 0.2280, Plg0.0000°, Azm289.0000°; P -3.3350, Plg79.0000°, Azm198.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

ISC 22 12:14:41.0±1.5, 293S±004×14151E±006, h32km±10km, h34km±.9km: pP-P, n150, σ0°99/147, mb5.0/67, MS4.2/16, 2C-7D, Near north coast of New Guinea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SWI	**Sorong**	**10.45**	**281**	P	**Pn**	**12 17 17.0**	**+8.4**
	54nm,1.0s						
KAKA	**Kakadu**	**13.23**	**222**	*e*P	**Pn**	**12 17 40.8**	**-5.8**
	78nm,0.6s						
LBMI	**Labuha**	**14.19**	**279**	P	**Pn**	**12 18 07.1**	**+7.3**
	120nm,1.2s						
CTA	**Charters Tower**	**17.67**	**165**	*e*P	**Pn**	**12 18 49.6**	**+4.9**
	8.3nm,1.0s						
CTA	**Charters Tower**	**17.67**	**165**	P	**Pn**	**12 18 49.8**	**+5.1**
	0.2nm,0.3s,baz=324,slow=14,SNR=2.6						
CTA				Lg		12 24 06.9	
	0.3nm,0.3s,baz=291,slow=23,SNR=3.0						
CTA				LR	LR	12 25 47.7	
	comp=Z,1μm,19.3s,baz=351,slow=38						
CTA	**Charters Tower**	**17.67**	**165**	*e*P	**Pn**	**12 18 49.6**	**+4.9**
CTA				pmax	pmax		
	comp=Z,8.0nm,1.0s						
WRAB	**Tennant Creek**	**18.29**	**202**	*i*P	**Pn**	**12 18 52.6**	**+0.3**
WRAB	**Tennant Creek**	**18.29**	**202**	*e*P	**Pn**	**12 18 52.1**	**-0.2**
WB2	**Warramunga Arr**	**18.30**	**202**	*e*P	**Pn**	**12 18 53.0**	**+0.7**
WRA	**Warramunga Arr**	**18.30**	**202**	P	**Pn**	**12 18 52.0**	**-0.4**
	comp=Z,2.1nm,0.3s,baz=18,slow=13,SNR=14						
WRA				S	**Sn**	**12 22 10.7**	**-5.2**
	comp=Z,0.1nm,0.3s,baz=18,slow=22,SNR=3.9						
WRA				Lg		12 24 25.6	
	baz=26,slow=28,SNR=5.4						
WRA				LR	LR	12 26 38.5	
	comp=Z,2μm,20.4s,baz=30,slow=40						
WRA	**Warramunga Arr**	**18.30**	**202**	P	**Pn**	**12 18 52.0**	**-0.4**
WRA				S	**Sn**	**12 22 10.7**	**-5.2**
WRA				pmax	pmax		
	comp=Z,2.0nm,0.3s						
WRA				MLR	MLR		
	comp=Z,2μm,20.4s						
WRA	**Warramunga Arr**	**18.30**	**202**	P	**Pn**	**12 18 52.0**	**-0.4**
WRA				S	**Sn**	**12 22 10.7**	**-5.2**
WRA				Lg		12 24 25.6	
WRA				LR	LR	12 26 38.5	
DAV	**Davao City (W)**	**18.75**	**302**	LR	LR	12 26 42.6	
	comp=Z,271nm,18.3s,baz=216,slow=39						
BATI	**Baumata**	**19.14**	**247**	P	**Pn**	**12 19 02.3**	**-0.4**
	comp=Z,7.6nm,0.3s,baz=145,slow=5.3,SNR=5.6						
HNR	**Honiara**	**19.42**	**110**	P	**Pn**	**12 19 05.1**	**-1.0**
	comp=Z,15nm,0.3s,baz=255,slow=1.5,SNR=22						
HNR	**Honiara**	**19.42**	**110**	*e*P	**Pn**	**12 19 05.4**	**-0.7**
HNR				pmax	pmax		
	comp=Z,286nm,0.8s						
HNR	**Honiara**	**19.42**	**110**	*e*P	**Pn**	**12 19 05.4**	**-0.7**
	comp=Z,286nm,0.8s						
PCI	**Palu**	**21.76**	**275**	P	**P**	**12 19 32.2**	**+2.1**
	comp=Z,110nm,1.1s,mb5.2						
ASAR	**Alice Springs**	**21.89**	**199**	P	**P**	**12 19 30.1**	**-1.2**
	comp=Z,17nm,0.9s,mb4.4,baz=30,slow=9.6,SNR=9.6						
ASAR				S	**S**	**12 23 30.8**	**-0.6**
	comp=Z,1.9nm,0.9s,baz=35,slow=16,SNR=4.8						
ASAR	**Alice Springs**	**21.89**	**199**	P	**P**	**12 19 30.1**	**-1.2**
ASAR				S	**S**	**12 23 30.8**	**-0.6**
ASAR				pmax	pmax		
	comp=Z,17nm,1.0s						
ASAR				smax			
	comp=N,2.0nm,0.9s						
EIDS	**Eidsvold**	**24.13**	**158**	*e*P	**P**	**12 19 49.1**	**-4.9**
MYLDM	**Lahad Datu**	**24.36**	**289**	P	**P**	**12 19 57.8**	**+1.5**
MBWA	**Marble Bar**	**27.89**	**228**	P	**P**	**12 20 19.3**	**-8.8**
MBWA	**Marble Bar**	**27.89**	**228**	*e*P	**P**	**12 20 27.6**	**-0.5**
	comp=N,33nm,1.3s,mb4.8						
STKA	**Stephens Creek**	**28.79**	**180**	*e*P	**P**	**12 20 37.3**	**+1.3**
	comp=N,4.5nm,1.6s,mb4.0						
STKA	**Stephens Creek**	**28.79**	**180**	P	**P**	**12 20 34.8**	**-1.1**
	comp=N,4.7nm,0.8s,mb4.3,baz=10.0,slow=11,SNR=2.7						
STKA				LR	LR	12 32 17.6	
	comp=N,635nm,19.1s,MS4.2,baz=263,slow=37						
SBUM	**Sibu**	**29.77**	**280**	P	**P**	**12 20 44.8**	**-0.1**
FORT	**Forrest**	**30.48**	**203**	*e*P	**P**	**12 20 51.4**	**+0.5**
	comp=N,56nm,0.8s,mb5.3						
JOW	**Kunigami**	**32.23**	**337**	LR	LR	12 31 05.8	
	comp=N,446nm,20.8s,MS4.1,baz=133,slow=31						
TOO	**Toolangi**	**34.66**	**174**	*e*P	**P**	**12 21 29.9**	**+2.4**
KLBR	**Kellerberrin**	**36.24**	**216**	*e*P	**P**	**12 21 41.5**	**+0.3**
	comp=N,33nm,1.1s,mb5.2						
QIZ	**Qiongzhong**	**38.03**	**306**	P	**P**	**12 21 57.0**	**+0.4**
QIZ				S	**S**	**12 27 48.4**	**+1.3**
QIZ				LR	LR		
	comp=N,443nm,4.2s						
QIZ				LR	LR		
	comp=Z,379nm,5.2s						
MJAR	**Matsushiro Arr**	**39.39**	**356**	P	**P**	**12 22 06.5**	**-1.1**
	comp=Z,6.7nm,1.1s,mb4.3,baz=165,slow=8.0,SNR=6.8						
MJAR	**Matsushiro Arr**	**39.39**	**356**	P	**P**	**12 22 06.6**	**-1.1**
MJAR				pmax	pmax		
	comp=Z,7.0nm,1.1s						
MAT	**Matsushiro**	**39.39**	**356**	P	**P**	**12 22 06.6**	**-1.1**
MAT				S	**S**	**12 28 09.0**	**+1.9**
NJ2	**Nanjing**	**40.91**	**330**	*e*P	**P**	**12 22 21.3**	**+1.0**
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.5s,mb4.7						
KS15	**Wonju Array Si**	**42.12**	**344**	*e*P	**P**	**12 22 34.3**	**+4.1**
KSRS	**Korea Array**	**42.12**	**344**	P	**P**	**12 22 29.7**	**-0.5**
	comp=Z,4.7nm,0.7s,mb4.2,baz=170,slow=10.0,SNR=12						
KSRS				PcP	PcP	12 24 24.9	+0.5
	comp=Z,1.7nm,0.7s,baz=141,slow=1.9,SNR=2.9						
KSRS				LR	LR	12 38 46.0	
	comp=Z,270nm,19.2s,MS4.2,baz=152,slow=34						
PSI	**Prapat**	**42.95**	**277**	*i*P	**P**	**12 22 35.1**	**-2.2**
GYA	**Guiyang**	**44.59**	**313**	*i*P	**P**	**12 22 52.4**	**+2.1**
GYA				AP	pP	12 23 02.6	+2.7
GYA				XP	sP	12 23 07.9	+4.1
GYA		

BJI	**Beijing**	**48.67**	**334**	P	**P**	**12 23 23.1 +1.1**
BJI				S	**S**	**12 30 22.5 +0.3**
BJI				XS	sS	12 30 42.3 +4.0
BJI				AMB	AMB	
	comp=Z,19nm,1.0s,mb5.1					
BJI				LR	LR	
	comp=N,314nm,20.8s,MS4.4					
BJI				LR	LR	
	comp=E,242nm,20.8s,MS4.4					
BJI				LR	LR	
	comp=Z,290nm,22.6s,MS4.2					
CN2	**Changchun**	**48.71**	**345**	*e*P	**P**	**12 23 21.3 -1.0**
CN2				*e*XP	sP	12 23 35.1 -0.8
CN2				*e*S	**S**	**12 30 21.0 -1.7**
CN2				AMB	AMB	
	comp=Z,10.0nm,1.1s,mb4.8					
CN2				AMB	AMB	
	comp=Z,200nm,5.0s					
CN2				LR	LR	
	comp=N,200nm,19.0s,MS4.4					
CN2				LR	LR	
	comp=E,300nm,19.0s,MS4.4					
CN2				LR	LR	
	comp=Z,400nm,21.0s,MS4.4					
CD2	**Chengdu**	**49.26**	**316**	*e*P	**P**	**12 23 27.4 +0.7**
CD2				AP	pP	12 23 38.4 +1.9
CD2				XP	sP	12 23 42.3 +1.9
CD2				PP	PP	12 25 22.0 +1.1
CD2				PCS	PcS	12 28 47.3 +1.3
CD2				S	**S**	**12 30 29.4 -1.4**
CD2				XS	sS	12 30 47.3 +0.4
CD2				SCS	ScS	12 33 14.8 -1.8
CD2				SS	SS	12 33 57.9 -4.8
CD2				AMB	AMB	
	comp=Z,10.0nm,0.5s,mb5.1					
CD2				AMB	AMB	
	comp=Z,40nm,5.2s					
CD2				LR	LR	
	comp=N,340nm,14.8s,MS4.5					
CD2				LR	LR	
	comp=E,250nm,16.2s,MS4.5					
CD2				LR	LR	
	comp=Z,260nm,15.2s,MS4.3					
YSS	**Yuzh-Sakhalins**	**49.69**	**1⇑**	*e*P	**P**	**12 23 30.8 +1.1**
YSS				pmax	pmax	
	comp=Z,113nm,2.6s,mb5.4					
LZH	**Lanzhou**	**52.37**	**321**	*e*P	**P**	**12 23 50.8 +0.7**
LZH				AP	pP	12 23 58.5 -1.4
LZH				XP	sP	12 24 04.0 +0.2
LZH				PP	PP	12 25 50.8 +1.7
LZH				S	**S**	**12 31 13.1 -0.7**
LZH				XS	sS	12 31 30.5 +0.5
LZH				SS	SS	12 34 48.0 -4.2
LZH				AMB	AMB	
	comp=Z,38nm,1.0s,mb5.3					
LZH				AMB	AMB	
	comp=Z,95nm,4.0s					
LZH				LR	LR	
	comp=E,1μm,14.5s					
LZH				LR	LR	
	comp=Z,1μm,16.4s,MS5.1					
HIA	**Hailar**	**55.31**	**343**	*e*P	**P**	**12 24 12.1 +0.8**
HIA				pmax	pmax	
	comp=Z,23nm,1.1s					
HIA	**Hailar**	**55.31**	**343**	*e*P	**P**	**12 24 12.1 +0.8**
	comp=Z,23nm,1.1s,mb5.1					
SHL	**Shillong**	**55.77**	**304**	*e*P	**P**	**12 24 15.5 +0.4**
GTA	**Gaotai**	**56.94**	**322**	P	**P**	**12 24 23.6 +0.4**
GTA				AP	pP	12 24 33.8 +0.7
GTA				XP	sP	12 24 38.0 +1.1
GTA				PP	PP	12 26 29.5 -0.5
GTA				S	**S**	**12 32 14.4 -0.7**
GTA				XS	sS	12 32 31.8 +0.3
GTA				SS	SS	12 36 05.9 +1.8
GTA				AMB	AMB	
	comp=Z,16nm,0.8s,mb5.1					
GTA				AMB	AMB	
	comp=Z,176nm,6.3s					
GTA				LR	LR	
	comp=N,101nm,13.8s,MS4.2					
GTA				LR	LR	
	comp=E,115nm,14.7s,MS4.2					
GTA				LR	LR	
	comp=Z,124nm,15.9s,MS4.1					
PETK	**Petropavlovsk-**	**57.47**	**11**	P	**P**	**12 24 27.2 +0.6**
	comp=Z,3.1nm,0.7s,mb4.4,baz=139,slow=5.7,SNR=4.7					
LSA	**Lhasa**	**58.04**	**308**	P	**P**	**12 24 32.0 +0.8**
LSA	**Lhasa**	**58.04**	**308**	*e*P	**P**	**12 24 31.4 +0.2**
LSA				pmax	pmax	
	comp=Z,10.0nm,0.9s,mb4.8					
LSA	**Lhasa**	**58.04**	**308**	*e*P	**P**	**12 24 31.4 +0.3**
	comp=Z,10nm,0.9s,mb4.8					
SONM	**Songino Array**	**59.15**	**333**	P	**P**	**12 24 39.0 +0.5**
	comp=Z,2.4nm,0.8s,mb4.3,baz=145,slow=7.1,SNR=8.5					
SONM	**Songino Array**	**59.15**	**333**	P	**P**	**12 24 39.0 +0.5**
SONM				pmax	pmax	
	comp=Z,2.0nm,0.8s					
TAPN	**Taplejung**	**59.91**	**304**	*e*P	**P**	**12 24 43.0 -1.1**
	comp=Z,44nm,1.2s,mb5.4					
ODAN	**Odare**	**60.00**	**303**	*e*P	**P**	**12 24 44.1 -0.7**
RAMN	**Ramite**	**60.69**	**303**	*e*P	**P**	**12 24 49.3 -0.2**
	comp=Z,60nm,1.2s,mb5.6					
JIRN	**Jiri**	**61.28**	**304**	*e*P	**P**	**12 24 52.9 -0.6**
	comp=Z,42nm,1.3s,mb5.4					
GUN	**Gumba**	**61.62**	**304**	*e*P	**P**	**12 24 55.8 0.0**
	comp=Z,29nm,0.8s,mb5.5					
PKI	**Pulchoki**	**61.90**	**303**	*e*P	**P**	**12 24 56.8 -0.9**
PKIN	**Phulchoki**	**61.91**	**303**	*e*P	**P**	**12 24 56.7 -1.1**
KKN	**Kakani**	**62.08**	**304**	*e*P	**P**	**12 24 58.5 -0.4**
	comp=Z,39nm,0.9s,mb5.5					
KKN	**Kakani**	**62.08**	**304**	*e*P	**P**	**12 24 58.5 -0.4**
KKN				pmax	pmax	
	comp=Z,39nm,0.9s,mb5.5					
DMN	**Daman**	**62.16**	**303**	*e*P	**P**	**12 24 59.5 0.0**
	comp=Z,64nm,1.1s,mb5.7					
ZAK	**Zakamensk**	**62.41**	**333**	*e*P	**P**	**12 25 00.5 -0.1**
ZAK				pmax	pmax	
	comp=Z,12nm,1.3s,mb4.9					
GKN	**Gorkha**	**62.69**	**304**	*e*P	**P**	**12 25 02.9 -0.1**
	comp=Z,48nm,0.8s,mb5.7					
TLY	**Talaya**	**63.19**	**335**	*e*P	**P**	**12 25 05.8 0.0**
TLY				pmax	pmax	
	comp=Z,15nm,1.1s,mb5.0					
TLY				MLR	MLR	
	comp=Z,177nm,18.0s,MS4.3					
TLY	**Talaya**	**63.19**	**335**	*e*P	**P**	**12 25 06.3 +0.5**
	comp=Z,15nm,1.1s,mb5.0					
KOLN	**Koldanda**	**63.48**	**303**	*e*P	**P**	**12 25 07.8 -0.4**
	comp=Z,26nm,0.9s,mb5.4					
DANN	**Dangsing**	**63.53**	**304**	*e*P	**P**	**12 25 08.1 -0.5**
	comp=Z,35nm,0.7s,mb5.5					
MOY	**Mondy**	**64.34**	**333**	*e*P	**P**	**12 25 14.1 +0.8**
MOY				pmax	pmax	
	comp=Z,37nm,2.0s,mb5.1					
BOD	**Bodaibo**	**64.46**	**344**	*e*P	**P**	**12 25 10.9 -3.1**
BOD				pmax	pmax	
	comp=Z,9.0nm,1.3s,mb4.6					
HYB	**Hyderabad**	**65.27**	**291**	*i* P	**P**	**12 25 18.5 -1.6**
HYB	**Hyderabad**	**65.27**	**291**	*e*P	**P**	**12 25 18.5 -1.6**
YAK	**Yakutsk**	**65.42**	**354**	*e*P	**P**	**12 25 19.2 -1.0**
YAK				pmax	pmax	
	comp=Z,23nm,1.1s,mb5.1					
YAK				pmax	pmax	
	comp=N,13nm,0.9s					
SEY	**Seymchan**	**66.20**	**5⇑**	*e*P	**P**	**12 25 27.6 +2.4**
CASY	**Casey**	**66.86**	**193**	*e*P	**P**	**12 25 29.8 +0.4**
WMQ	**Urumqi**	**66.94**	**321**	P	**P**	**12 25 30.5 +0.2**
WMQ				AP	pP	12 25 41.0 +0.6
WMQ				XP	sP	12 25 45.0 +0.8
WMQ				PCP	PcP	12 25 58.8 +0.1
WMQ				PP	PP	12 28 00.0 +1.9
WMQ				S	S	12 34 20.3 -1.1
WMQ				XS	sS	12 34 37.3 -0.7
WMQ				AMB	AMB	
	comp=Z,27nm,1.1s,mb5.2					
WMQ				LR	LR	
	comp=N,72nm,25.0s,MS3.9					
WMQ				LR	LR	
	comp=E,47nm,22.8s,MS3.9					
WMQ				LR	LR	
	comp=Z,72nm,21.0s,MS3.9					
PPT	**Papeete**	**69.02**	**108**	*e*LR	LR	12 46 57.2
	comp=Z,69nm,22.0s					
TBI	**Tubuai**	**69.60**	**114**	*e*LR	LR	12 47 15.5
	comp=Z,101nm,23.2s					

MK31	**Makanchi Array**	**71.69**	**322**	*i* P	**P**	**12 25 59.8 +0.1**
MK31				pmax	pmax	
	comp=Z,56nm,1.3s,mb5.3					
MK31	**Makanchi Array**	**71.69**	**322**	*e*P	**P**	**12 25 59.6 0.0**
MKAR	**Makanchi Array**	**71.69**	**322**	P	**P**	**12 25 59.8 +0.1**
	comp=Z,18nm,0.9s,mb5.0,baz=113,slow=8.0,SNR=62					
MKAR				LR	LR	12 58 18.3
	comp=Z,74nm,18.0s,MS4.0,baz=112,slow=37					
MKAR	**Makanchi Array**	**71.69**	**322**	P	**P**	**12 25 59.8 +0.1**
MKAR				pmax	pmax	
	comp=Z,18nm,0.9s					
MKAR				MLR	MLR	
	comp=Z,74nm,18.0s					
MIR	**Mirnyy**	**71.86**	**198**	*e*P	**P**	**12 26 00.0 -0.3**
MIR				*i*	pP	12 26 10.0 -0.5
MIR				pmax	pmax	
	comp=Z,100nm,0.8s,mb5.8					
BILL	**Bilibino**	**72.90**	**9⇓**	*i* P	**P**	**12 26 08.6 +2.1**
BILL				pmax	pmax	
	comp=Z,29nm,1.6s,mb5.0					
ZAA0	**Zalesovo Array**	**73.55**	**329**	*e*P	**P**	**12 26 09.4 -1.1**
ZALV	**Zalesovo Beam**	**73.55**	**329**	P	**P**	**12 26 09.7 -0.9**
	comp=Z,13nm,0.7s,mb5.0,baz=109,slow=6.1,SNR=43					
ZALV	**Zalesovo Beam**	**73.55**	**329**	P	**P**	**12 26 09.7 -0.9**
ZALV				pmax	pmax	
	comp=Z,13nm,0.7s,mb5.0					
TKM2	**Tokmak 2**	**74.64**	**316**	*e*P	**P**	**12 26 17.4 +0.2**
TKM2				pmax	pmax	
	comp=Z,7.0nm,0.7s,mb4.7					
TKM2	**Tokmak 2**	**74.64**	**316**	*e*P	**P**	**12 26 17.4 +0.2**
	comp=Z,6.8nm,0.7s,mb4.7					
NVS	**Novosibirsk**	**74.79**	**329⇓**	*i* P	**P**	**12 26 16.9 -0.9**
NVS				pmax	pmax	
	comp=Z,31nm,1.5s,mb5.0					
NVS				pmax	pmax	
	comp=N,24nm,1.7s					
NVS				pmax	pmax	
	comp=E,17nm,1.3s					
TIXI	**Tiksi**	**74.90**	**356**	*e*P	**P**	**12 26 19.7 +1.6**
TIXI				pmax	pmax	
	comp=Z,6.0nm,1.0s,mb4.5					
TIXI	**Tiksi**	**74.90**	**356**	*e*P	**P**	**12 26 18.7 +0.6**
	comp=Z,10.0nm,1.4s,mb4.5					
KURK	**Kurchatov**	**75.52**	**324**	P	**P**	**12 26 21.5 -0.6**
	comp=Z,118nm,0.9s,mb5.8,SNR=14					
KURK	**Kurchatov**	**75.52**	**324**	*e*P	**P**	**12 26 21.6 -0.5**
KURK				pmax	pmax	
	comp=Z,23nm,1.0s,mb5.1					
KURK	**Kurchatov**	**75.52**	**324**	*e*P	**P**	**12 26 21.6 -0.5**
	comp=Z,23nm,1.0s,mb5.1					
AML	**Almayashu**	**75.73**	**315**	*e*P	**P**	**12 26 24.2 +0.7**
	comp=Z,27nm,1.3s,mb5.0					
EKS2	**Erkin-Say**	**75.83**	**315**	*e*P	**P**	**12 26 24.4 +0.3**
	comp=Z,23nm,1.4s,mb4.9					
SBA	**Scott Base**	**76.05**	**175**	*e*P	**P**	**12 26 26.8 +2.1**
SBA				pmax	pmax	
	comp=Z,12nm,1.4s,mb4.6					
SBA	**Scott Base**	**76.05**	**175**	*e*P	**P**	**12 26 26.8 +2.1**
	comp=Z,12nm,1.4s,mb4.6					
KK31	**Karatay Array**	**78.26**	**315**	*i* P	**P**	**12 26 36.9 -0.8**
KK31				pmax	pmax	
	comp=Z,16nm,1.3s,mb4.8					
VOSK	**Vostochnaya**	**80.67**	**324**	P	**P**	**12 26 50.5 -0.1**
VOSK				pmax	pmax	
	comp=Z,100nm,3.0s					
BVA0	**Borovoye Array**	**81.10**	**325**	*i* P	**P**	**12 26 52.8 -0.1**
BVA0				pmax	pmax	
	comp=Z,4.0nm,1.1s,mb4.3					
BRVK	**Borovoye**	**81.17**	**325**	P	**P**	**12 26 53.9 +0.6**
	comp=Z,107nm,0.7s,mb5.9,SNR=11					
BRVK	**Borovoye**	**81.17**	**325**	*e*P	**P**	**12 26 53.0 -0.3**
BRVK				pmax	pmax	
	comp=Z,21nm,0.8s,mb5.1					
BRVK	**Borovoye**	**81.17**	**325**	*e*P	**P**	**12 26 53.0 -0.3**
	comp=Z,21nm,0.8s,mb5.1					
PPLA	**Purkeypile**	**82.03**	**25**	*e*P	**P**	**12 26 57.9 +0.3**
	comp=Z,27nm,1.4s,mb5.0					
CHUM	**Lake Minchumin**	**82.36**	**24**	*e*P	**P**	**12 26 59.6 +0.3**
	comp=Z,42nm,0.8s,mb5.4					
IMA2	**Indian Mountai**	**82.70**	**22**	*e*P	**P**	**12 27 01.1 +0.1**
KTH	**Kantishna Hill**	**82.81**	**25**	*e*P	**P**	**12 27 00.7 -0.9**
	comp=Z,10nm,0.9s,mb4.9					
PMR	**Palmer**	**82.89**	**27**	*e*P	**P**	**12 27 01.6 -0.5**
PMR				pmax	pmax	
	comp=Z,15nm,1.0s,mb5.0					
PMR	**Palmer**	**82.89**	**27**	*e*P	**P**	**12 27 01.6 -0.6**
	comp=Z,15nm,1.0s,mb5.0					
MAW	**Mawson**	**82.97**	**202**	*e*P	**P**	**12 27 03.3 +0.8**
	comp=Z,5.8nm,1.1s,mb4.5					
MAW	**Mawson**	**82.97**	**202**	P	**P**	**12 27 03.5 +1.0**
	comp=Z,7.2nm,1.0s,mb4.6,baz=60,slow=5.5,SNR=11					
MAW	**Mawson**	**82.97**	**202**	P	**P**	**12 27 03.5 +1.0**
MAW				pmax	pmax	
	comp=Z,7.0nm,1.0s					
MAW	**Mawson**	**82.97**	**202**	*e*P	**P**	**12 27 03.2 +0.8**
	comp=Z,9.6nm,1.0s,mb4.8					
TRF	**Thorofare Moun**	**83.03**	**25**	*e*P	**P**	**12 27 02.8 -0.1**
	comp=Z,30nm,1.5s,mb5.1					
MCK	**McKinley**	**83.70**	**25**	*e*P	**P**	**12 27 05.4 -0.8**
MCK				pmax	pmax	
	comp=Z,31nm,1.3s,mb5.3					
MCK	**McKinley**	**83.70**	**25**	*e*P	**P**	**12 27 05.4 -0.9**
	comp=Z,31nm,1.3s,mb5.3					
COLD	**Coldfoot**	**84.43**	**21**	*e*P	**P**	**12 27 09.7 -0.2**
	comp=Z,9.7nm,1.0s,mb4.9					
COLA	**College**	**84.52**	**24⇓**	*i* P	**P**	**12 27 09.9 -0.5**
COLA	**College**	**84.52**	**24**	*e*P	**P**	**12 27 09.7 -0.7**
	comp=Z,11nm,0.9s,mb5.0					
AB31	**Akbulak array**	**86.70**	**320**	P	**P**	**12 27 20.1 -1.5**
AB31				pmax	pmax	
	comp=Z,2.0nm,0.6s,mb4.5					
EGAK	**Eagle**	**87.25**	**25**	*e*P	**P**	**12 27 23.5 -0.5**
	comp=Z,11nm,1.1s,mb5.0					
EGAK				*e*pP	pP	12 27 34.2 -0.1
DAWY	**Dawson**	**87.86**	**26**	*e*P	**P**	**12 27 27.3 +0.4**
HYT	**Haines Junctio**	**88.14**	**29**	*e*P	**P**	**12 27 28.6 +0.3**
HYT				*e*pP	pP	12 27 38.6 0.0
ARU	**Arti**	**88.52**	**327**	*d* iP	**P**	**12 27 29.2 -0.9**
ARU				*e*		12 30 53.7
ARU				S	S	12 37 54.6 -19
ARU				SS	SS	12 43 56.2 -8.5
ARU				pmax	pmax	
	comp=Z,7.0nm,1.2s,mb4.9					
INK	**Inuvik**	**90.84**	**22**	*e*P	**P**	**12 27 40.8 0.0**
	comp=Z,241nm,0.9s					
YKA	**Yellowknife Ar**	**98.99**	**27**	P	**P**	**12 28 17.1 -1.0**
	comp=Z,2.4nm,0.9s,mb4.7,baz=284,slow=4.3,SNR=4.5					
KTK1	**Kautokeino**	**102.58**	**341**	*i* P	Pdif	12 28 32.0 -2.3
PDAR	**Pinedale Array**	**105.84**	**46**	Pdiff	Pdif	12 28 50.3 +1.5
	comp=Z,0.5nm,0.9s,baz=270,slow=1.5,SNR=4.2					
GERES	**GERESS Array B**	**116.27**	**324**	PKP	PKPdf	12 33 21.4 +0.2
	comp=Z,0.5nm,0.5s,baz=316,slow=3.7,SNR=4.6					
GERES	**GERESS Array B**	**116.27**	**324**	PKIKP	PKPdf	12 33 21.4 +0.2
GERES				pmax	pmax	
	comp=Z,1.0nm,0.5s					
PLCA	**Paso Flores**	**127.60**	**149**	PKP	PKPdf	12 33 44.1 +0.9
	comp=Z,1.6nm,0.9s,baz=224,slow=4.8,SNR=4.0					
PLCA	**Paso Flores**	**127.60**	**149**	PKIKP	PKPdf	12 33 44.2 +1.0
PLCA				pmax	pmax	
	comp=Z,2.0nm,0.9s					
TORD	**Torodi Ar. Bea**	**139.00**	**287**	PKP	PKPdf	12 34 07.4 +2.1
	comp=Z,2.2nm,0.7s,baz=59,slow=1.8,SNR=4.3					
ROSC	**El Rosal**	**144.19**	**86**	PKP	PKPdf	12 34 14.0 -0.7
	comp=Z,6.0nm,0.5s,baz=93,slow=22,SNR=5.2					
LPAZ	**La Paz**	**145.03**	**124**	PKPbc	PKPbc	12 34 16.9 +1.5
	comp=Z,6.3nm,0.9s,baz=274,slow=2.1,SNR=17					
LPAZ	**La Paz**	**145.03**	**124**	PKIKP	PKPdf	12 34 16.9 +0.9
LPAZ				pmax	pmax	
	comp=Z,6.0nm,0.9s					
LPAZ	**La Paz**	**145.03**	**124**	*e*PKPbc	PKPbc	12 34 17.1 +1.7
DBIC	**Dimbokro**	**146.29**	**278**	PKPbc	PKPbc	12 34 19.1 -0.3
	comp=Z,6.9nm,0.8s,baz=101,slow=3.9,SNR=9.5					
DBIC	**Dimbokro**	**146.29**	**278**	*e*PKPbc	PKPbc	12 34 19.7 +0.3
SDV	**Santo Domingo**	**147.50**	**78**	*e*PKPbc	PKPbc	12 34 22.9 +0.1

*GII **22** 12:40:46.8±0.5, 2998N×3479E, h0km, ML2.2/3, EXPLOSION*
*SGS **22** 12:40:46.3, 3028N×3464E, h26km*
*HLW **22** 12:40:46.3, 3003N×3511E, h9km, Mb2.5*
*CSEM **22** 12:40:46.9±0.3, 2997N×3488E, h5km, ML2.5, Error ellipse: s-maj=7.1km s-min=3.9km az=60.0*
*ISCJB **22** 12:40:47.7±0.6, 2996N±003×3474E±005, h0km, Error ellipse: s-maj=6.3km s-min=4.5km az=26.5*

ISC 22 12:40:47.9±0.6, 2996N±003×3474E±005, h0km, n16, σ0s83/22, Egypt

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KRMI	**Paran Flat**	**0.16**	**355**	Pg	**Pg**	**12 40 51.1**	**+0.1**
MBRI	**Mt Berech**	**0.22**	**137**	Pg	**Pg**	**12 40 52.5**	**+0.4**
HRFI	**Mount Harif**	**0.27**	**73**	Pg	**Pg**	**12 40 52.5**	**-0.6**
HRFI				Sg	**Sg**	**12 40 57.5**	**+1.0**
EIL	**Elat**	**0.34**	**147**	Pg	**Pg**	**12 40 54.9**	**+0.5**
AQBJ	**Aqaba**	**0.35**	**130**	Pg	**Pg**	**12 40 55.4**	**+0.7**
PRNI	**Paran**	**0.46**	**30**	Pg	**Pg**	**12 40 56.4**	**-0.3**
HQLS		**0.71**	**157**	P	**Pg**	**12 41 00.7**	**-0.9**
HQLS		**0.71**	**157**	P	**Pg**	**12 41 00.6**	**-0.9**
HQLS				S	**Sg**	**12 41 15.5**	**+4.8**
HBST	**Basata**	**0.74**	**181**	P	**Pg**	**12 41 03.0**	**+1.0**
JLOS		**1.38**	**152**	P	**Pg**	**12 41 12.7**	**-1.7**
JLOS		**1.38**	**152**	P	**Pg**	**12 41 12.7**	**-1.7**
JLOS				S	**Sg**	**12 41 32.7**	**+0.4**
AMAG	**Maghara**	**1.49**	**298**	P	**Pn**	**12 41 16.2**	**+0.2**
HKAT	**Jabal Katrina**	**1.57**	**205**	P	**Pn**	**12 41 16.8**	**-0.3**
HKAT				S	**Sn**	**12 41 39.2**	**+1.2**
RSHS		**1.65**	**178**	P	**Pn**	**12 41 16.6**	**-1.5**
RSHS		**1.65**	**178**	P	**Pn**	**12 41 16.6**	**-1.5**
RSHS				S	**Sn**	**12 41 39.1**	**-0.9**
TR2		**1.80**	**210**	P	**Pn**	**12 41 19.9**	**-0.3**
TR2				S	**Sn**	**12 41 44.5**	**+0.8**

IDC 22 12:50:28.1±2.2, 280N×12730E, h0km, mb3.6/3, mb1 3.8/3, mb1mx3.5/16, mbtmp3.6/3, Error ellipse: s-maj=161.0km s-min=26.6km az=67.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**23.63**	**163**	P	P	12 55 41.0	-0.3
	2.1nm,0.6s,baz=341,slow=11,SNR=32						
ASAR	**Alice Springs**	**27.08**	**167**	P	P	12 56 12.9	+0.4
	0.3nm,0.5s,baz=350,slow=7.7,SNR=16						
MKAR	**Makanchi Array**	**58.64**	**325**	P	P	13 00 26.9	-0.2
	0.2nm,0.5s,baz=126,slow=7.9,SNR=3.7						

*ISCJB **22** 13:06:52.8±0.5, 685N±006×7306W±006, h168km±6km, mb3.5/4, Error ellipse: s-maj=11.9km s-min=6.2km az=44.4*
*IDC **22** 13:06:53.6±0.8, 679N×7301W, h159km±10km, mb3.2/4, mb1 3.8/6, mb1mx3.5/18, mbtmp3.4/6, Error ellipse: s-maj=31.1km s-min=8.2km az=131.0*
*NEIC **22** 13:06:54.0±0.9, 683N×7316W, h160km±9km, Error ellipse: s-maj=19.6km s-min=13.0km az=128.0*
*FUNV **22** 13:06:54.4, 679N×7310W, h171km, MW3.8*

ISC 22 13:06:53.8±0.5, 683N±006×7304W±006, h163km±6km, n31, σ1s00/35, mb3.5/4, 10C, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CAPV	**Capacho**	**1.25**	**35⇑**	*i* P	**Pn**	**13 07 23.3**	**+1.3**
CAPV				*e*S	**Sn**	**13 07 44.7**	**+1.0**
ROSC	**El Rosal**	**2.34**	**213**	P	**Pn**	**13 07 35.0**	**+1.2**
	67nm,0.3s,baz=349,slow=3.0,SNR=77						
ROSC				S	**Sn**	**13 08 04.4**	**-0.2**
	36nm,0.3s,baz=97,slow=22,SNR=5.2						
ROSC	**El Rosal**	**2.34**	**213**	*e*Pn	**Pn**	**13 07 34.9**	**+1.1**
ROSC				*e*Sn	**Sn**	**13 08 04.1**	**-0.5**
VIGV	**El Vigia**	**2.60**	**40⇑**	*i* P	**Pn**	**13 07 37.6**	**+0.9**
VIGV				*e*S	**Sn**	**13 08 09.4**	**-0.6**
SOCV	**Socops**	**2.60**	**56⇑**	*i* P	**Pn**	**13 07 37.9**	**+1.0**
SOCV				*e*S	**Sn**	**13 08 09.8**	**-0.4**
SDV	**Santo Domingo**	**3.14**	**49**	P	**Pn**	**13 07 44.7**	**+1.2**
	51nm,0.3s,baz=271,slow=6.2,SNR=177						
SDV				S	**Sn**	**13 08 21.9**	**-0.1**
	59nm,0.3s,baz=216,slow=9.1,SNR=24						
SDV	**Santo Domingo**	**3.14**	**49**	*e*Pn	**Pn**	**13 07 44.5**	**+1.0**
SDV				*e*Sn	**Sn**	**13 08 22.0**	**0.0**
ELOV	**Elorza**	**3.54**	**87⇑**	*i* P	**Pn**	**13 07 49.5**	**+0.9**
VIRV	**Villa del Rosa**	**3.70**	**10⇑**	*i* P	**Pn**	**13 07 50.0**	**-0.6**
VIRV				*e*S	**Sn**	**13 08 32.4**	**-2.5**
QARV	**Quebrada Arrib**	**4.18**	**36⇑**	*i* P	**Pn**	**13 07 57.5**	**+0.8**
CURV	**Curarigua**	**4.39**	**44⇑**	*i* P	**Pn**	**13 07 59.9**	**+0.4**
DABV	**Dabajuro**	**4.71**	**30**	*e*P	**Pn**	**13 08 04.1**	**+0.4**
TEPV	**Terepaima**	**4.92**	**50⇑**	*i* P	**Pn**	**13 08 06.7**	**+0.3**
SIQV	**Siquisique**	**4.96**	**40⇑**	*i* P	**Pn**	**13 08 06.9**	**0.0**
BAUV	**El Baul**	**5.38**	**67⇑**	*i* P	**Pn**	**13 08 11.3**	**-1.2**
IMOV	**Isla Los Monje**	**5.88**	**21**	*e*P	**Pn**	**13 08 18.9**	**-0.2**
TURV	**Turiamo**	**6.28**	**55**	*e*P	**Pn**	**13 08 23.7**	**-0.6**
CAOV	**Caicara del Or**	**6.69**	**85**	*e*P	**Pn**	**13 08 28.8**	**-1.0**
BCIP	**Isla Barro Col**	**7.12**	**289**	*e*Pn	**Pn**	**13 08 33.1**	**-2.5**
BIRV	**Birongo**	**7.61**	**61**	*e*P	**Pn**	**13 08 40.9**	**-1.2**
CUPV	**Cœpira**	**7.86**	**65**	*e*P	**Pn**	**13 08 44.2**	**-1.1**
OTAV	**Otavalo**	**8.49**	**220**	Pn	**Pn**	**13 08 52.1**	**-1.6**
LPAZ	**La Paz**	**23.48**	**168**	pP	pP	13 12 21.8	+1.7
	1.0nm,0.7s,baz=320,slow=9.6,SNR=5.6						
SIV	**San Ignacio**	**25.59**	**152**	pP	pP	13 12 40.1	-1.5
	0.5nm,0.5s,baz=348,slow=8.1,SNR=2.9						
TXAR	**Lajitas Array**	**36.51**	**312**	P	**P**	**13 13 44.3**	**+0.6**
	0.4nm,0.4s,mb3.4,baz=128,slow=8.4,SNR=4.1						
PDAR	**Pinedale Array**	**48.11**	**324**	P	**P**	**13 15 17.3**	**+0.1**
	0.5nm,0.5s,mb3.4,baz=137,slow=8.5,SNR=4.8						
NVAR	**Mina Array Bea**	**51.53**	**315**	P	**P**	**13 15 44.5**	**+1.5**
	0.3nm,0.5s,mb3.2,baz=126,slow=8.3,SNR=4.0						
YKA	**Yellowknife Ar**	**63.28**	**340**	P	**P**	**13 17 05.5**	**+0.6**
	0.9nm,0.5s,mb3.8,baz=132,slow=6.4,SNR=6.1						
YKA	**Yellowknife Ar**	**63.28**	**340**	P	**P**	**13 17 05.5**	**+0.6**
ASAR	**Alice Springs**	**149.18**	**234**	PKPbc	PKPbc	13 26 23.6	-0.3
	0.5nm,0.6s,baz=116,slow=3.4,SNR=9.8						
WRA	**Warramunga Arr**	**150.41**	**241**	PKPbc	PKPbc	13 26 26.8	-0.1
	0.

IDC ***22*** *13:13:51.4±2.4, 361S×1187W, h0km, mb4.0/5, mb1 4.1/5, mb1mx3.8/20, mbtmp4.0/5, MS3.1/2, Ms1 3.1/2, ms1mx2.8/21, Error ellipse: s-maj=82.6km s-min=26.4km az=90.0*

ISC 22 13:13:52.9±1.3, 36S±01×119W±04, h10km, n8, σ0§36/7, mb3.9/5, North of Ascension Island

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
DBIC	**Dimbokro**	**12.38**	**34**	LR		LR	13 20 46.2	
	comp=Z,97nm,19.6s,baz=161,slow=34							
TORD	**Torodi Ar. Bea**	**21.42**	**39**	P		**P**	**13 18 40.9**	**-0.4**
	5.9nm,1.0s,mb3.9,baz=224,slow=10,SNR=13							
TORD				LR		LR	13 25 50.2	
	comp=Z,54nm,21.6s,baz=320,slow=34							
BOSA	**Boshof**	**43.17**	**129**	P		**P**	**13 21 54.5**	**+0.3**
	2.2nm,0.7s,mb4.0,baz=308,slow=6.8,SNR=4.4							
GERES	**GERESS Array B**	**56.78**	**20**	P		**P**	**13 23 37.9**	**+0.7**
	0.4nm,0.4s,mb3.9,baz=195,slow=6.1,SNR=9.0							
AKASG	**Malin Array Be**	**64.53**	**28**	P		**P**	**13 24 29.7**	**-0.3**
	0.3nm,0.3s,mb3.8,baz=225,slow=7.8,SNR=4.9							
VNA2	**Neumayer--Watz**	**67.29**	**178**	*e*		**P**	**13 24 47.2**	**-0.2**
VNA2				*e*			13 24 53.6	
SNAA	**Sanae**	**68.22**	**177**	*e*		**P**	**13 24 53.3**	**0.0**
SNAA				*e*			13 24 59.2	
MAW	**Mawson**	**80.89**	**158**	P		**P**	**13 26 06.9**	**-0.1**
	1.8nm,0.8s,mb4.1,baz=271,slow=3.0,SNR=6.6							

IDC 22 13:35:10.0±12.0, 1725S×17904W, h474km±140km, mb3.0/5, mb1 3.4/5, mb1mx3.1/16, mbtmp3.0/5, Error ellipse: s-maj=67.8km s-min=46.9km az=152.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**44.16**	**259**	P		P	13 42 35.3	-0.5
	0.3nm,0.3s,baz=94,slow=7.2,SNR=16							
ASAR	**Alice Springs**	**44.39**	**254**	P		P	13 42 37.9	+0.3
	1.8nm,0.4s,baz=89,slow=8.0,SNR=84							
MJAR	**Matsushiro Arr**	**67.02**	**324**	P		P	13 45 15.0	0.0
	1.5nm,0.6s,baz=148,slow=6.5,SNR=4.3							
PDAR	**Pinedale Array**	**87.29**	**44**	P		P	13 47 05.9	+0.4
	0.3nm,0.6s,baz=236,slow=6.4,SNR=2.5							
CMAR	**Chiang Mai Arr**	**88.09**	**290**	P		P	13 47 10.2	+0.4
	0.4nm,0.7s,baz=90,slow=3.6,SNR=4.4							
GERES	**GERESS Array B**	**146.82**	**345**	PKPbc		PKPbc	13 53 57.3	-1.0
	0.4nm,0.4s,baz=355,slow=2.2,SNR=2.9							

IDC ***22*** *13:56:41.1±2.2, 4355N×10533W, h0km, mb1 3.6/3, mb1mx3.4/22, mbtmp3.3/3, ML3.0/3, Error ellipse: s-maj=59.7km s-min=10.0km az=151.0*
ISCJB ***22*** *13:56:42.3±0.6, 4371N±005×10527W±007, h0km, Error ellipse: s-maj=7.4km s-min=6.7km az=140.3*
NEIC ***22*** *13:56:43.4±0.5, 4372N×10524W, h0km, ML3.2, Error ellipse: s-maj=6.7km s-min=5.3km az=187.0, Suspected Mining explosion.*
NEIC 65 km [40 miles] SSE of Gillette.

ISC 22 13:56:43.2±0.5, 4371N±005×10521W±006, h0km, n24, σ0§93/26, Wyoming

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
RSSD	**Black Hills**	**0.94**	**64**	*e*Pg		**Pg**	**13 57 01.6**	**+0.4**
PHWY	**Pilot Hill**	**2.42**	**185**	*e*Pn		**Pn**	**13 57 23.9**	**0.0**
RWWY	**Rawlins**	**2.50**	**217**	*e*Pn		**Pn**	**13 57 25.4**	**+0.2**
RWWY				*e*Sn		**Sn**	**13 57 56.9**	**+0.6**
LAO	**LASA Array**	**3.06**	**347**	*e*Pn		**Pn**	**13 57 33.1**	**+0.3**
RLMT	**Red Lodge**	**3.23**	**297**	*e*Pn		**Pn**	**13 57 34.1**	**-1.0**
PDAR	**Pinedale Array**	**3.32**	**255**	Pn		**Pn**	**13 57 35.5**	**-0.8**
	1.2nm,0.3s,baz=72,slow=12,SNR=21							
PDAR				Lg			13 58 20.7	
	1.4nm,0.3s,baz=82,slow=15,SNR=5.0							
OGNE	**Ogallala**	**3.63**	**139**	*e*Pn		**Pn**	**13 57 41.3**	**+0.7**
OGNE				*e*Pg		**Pg**	**13 57 51.8**	**-1.0**
LOHW	**Long Hollow**	**3.92**	**270**	*e*Pn		**Pn**	**13 57 45.9**	**+1.3**
ISCO	**Idaho Springs**	**3.92**	**185**	*e*Pn		**Pn**	**13 57 45.2**	**+0.6**
MOOW	**Moose Ponds**	**4.01**	**272**	*e*Pn		**Pn**	**13 57 45.4**	**-0.5**
SNOW	**Snow King Moun**	**4.04**	**268**	Pn		**Pn**	**13 57 46.8**	**+0.6**
REDW	**Red Top Meadow**	**4.12**	**267**	*e*Pn		**Pn**	**13 57 47.4**	**0.0**
YFT	**Old Faithful**	**4.12**	**282**	*e*Pg		**Pg**	**13 57 57.5**	**-4.6**
IMW	**Indian Meadow**	**4.15**	**275**	*e*Pn		**Pn**	**13 57 48.2**	**+0.4**
TPAW	**Teton Pass**	**4.18**	**269**	*e*Pn		**Pn**	**13 57 48.1**	**0.0**
YMR	**Madison River**	**4.25**	**285**	*e*Pg		**Pg**	**13 57 59.4**	**-5.2**
AHID	**Auburn Hatcher**	**4.41**	**260**	*e*Pg		**Pg**	**13 58 01.5**	**-6.1**
RRI2	**Red Ridge**	**4.46**	**267**	*e*Pn		**Pn**	**13 57 51.4**	**-0.6**
QLMT	**Earthquake Lak**	**4.61**	**286**	*e*Pg		**Pg**	**13 58 04.8**	**-6.6**
SMCO	**Snowmass**	**4.72**	**197**	*e*Pg		**Pg**	**13 58 05.1**	**-8.6**
DGMT	**Dagmar**	**4.81**	**8**	Pn		**Pn**	**13 57 58.8**	**+2.0**
HWUT	**Hardware Ranch**	**5.14**	**248**	*e*Pn		**Pn**	**13 57 59.7**	**-1.7**
	11nm,0.8s							
ULM	**Lac du Bonnet**	**9.13**	**41**	Pn		**Pn**	**13 58 53.5**	**-2.5**
	0.8nm,0.3s,baz=237,slow=10,SNR=4.9							
ULM				Lg			14 01 31.6	
	0.2nm,0.3s,baz=131,slow=19,SNR=2.9							
NVAR	**Mina Array Bea**	**11.20**	**246**	Pn		**Pn**	**13 59 24.9**	**+0.4**
	0.1nm,0.3s,baz=54,slow=16,SNR=2.9							

IDC 22 14:14:25.3±5.2, 404S×13099E, h0km, mb4.0/2, mb1 4.3/3, mb1mx3.7/13, mbtmp4.1/3, Error ellipse: s-maj=237.9km s-min=27.6km az=58.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**16.14**	**169**	Pn		Pn	14 18 09.9	-3.8
	0.1nm,0.3s,baz=349,slow=13,SNR=8.0							
WRA				Sn		Sn	14 21 01.1	-12
	0.3nm,0.3s,baz=349,slow=23,SNR=4.9							
ASAR	**Alice Springs**	**19.71**	**172**	P		Pn	14 18 56.7	-1.2
	1.5nm,0.3s,baz=351,slow=11,SNR=199							
ASAR				S		Sn	14 22 35.3	-4.7
	0.1nm,0.3s,baz=356,slow=26,SNR=4.3							
STKA	**Stephens Creek**	**29.43**	**161**	P		P	14 20 30.6	0.0
	0.9nm,0.3s,baz=330,slow=8.5,SNR=8.3							
CMAR	**Chiang Mai Arr**	**38.69**	**306**	P		P	14 21 51.2	-0.1
	0.6nm,0.3s,baz=134,slow=7.7,SNR=4.7							

IDC 22 14:27:17.7±3.6, 417S×10024E, h0km, mb3.5/6, mb1 3.6/6, mb1mx3.5/19, mbtmp3.5/6, Error ellipse: s-maj=143.3km s-min=21.3km az=57.0, Southwest of Sumatera

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**22.52**	**357**	P		P	14 32 19.8	+0.6
	0.6nm,0.4s,baz=183,slow=12,SNR=6.7							
WRA	**Warramunga Arr**	**36.73**	**118**	P		P	14 34 26.4	-0.6
	0.3nm,0.7s,baz=297,slow=10,SNR=2.5							
ASAR	**Alice Springs**	**37.82**	**124**	P		P	14 34 36.0	-0.2
	0.4nm,0.6s,baz=300,slow=8.1,SNR=12							
SONM	**Songino Array**	**52.06**	**5**	P		P	14 36 28.9	-0.3
	0.3nm,0.5s,baz=188,slow=5.5,SNR=3.3							
MKAR	**Makanchi Array**	**53.17**	**345**	P		P	14 36 37.2	-0.1
	0.2nm,0.7s,baz=142,slow=6.1,SNR=4.8							
ZALV	**Zalesovo Beam**	**59.33**	**349**	P		P	14 37 20.1	-1.1
	0.4nm,0.3s,baz=157,slow=4.7,SNR=3.4							
TXAR	**Lajitas Array**	**146.24**	**40**	PKPbc		PKPbc	14 47 02.4	+1.5
	1.0nm,0.8s,baz=131,slow=4.1,SNR=4.2							

IDC ***22*** *14:30:12.4±1.1, 356S×10168E, h0km, mb4.1/10, mb1 4.2/10, mb1mx4.1/19, mbtmp4.1/10, Error ellipse: s-maj=38.1km s-min=15.6km az=62.0*
ISCJB ***22*** *14:30:15.2±0.6, 36S±01×1016E±01, h33km, mb4.5/22, Error ellipse: s-maj=26.0km s-min=8.1km az=141.3*
MOS ***22*** *14:30:15.7±1.2, 344S×10179E, h33km, mb4.6/2, Error ellipse: s-maj=33.9km s-min=15.3km az=115.0*
BJI ***22*** *14:30:17.1, 370S×10126E, h50km, mb4.4*
NEIC ***22*** *14:30:18.4±3.4, 347S×10179E, h43km±31km, mb4.8/11, Error ellipse: s-maj=23.2km s-min=5.9km az=53.0*

ISC 22 14:30:17.6±0.6, 36S±01×1017E±01, h35km, n33, σ0§76/30, mb4.5/22, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**22.06**	**353**	P		**P**	**14 35 08.9**	**-0.6**
	2.0nm,0.6s,mb3.7,baz=187,slow=9.0,SNR=15							
BATI	**Baumata**	**22.78**	**108**	P		**P**	**14 35 17.1**	**-0.1**
	7.3nm,0.4s,mb4.4,baz=285,slow=16,SNR=2.8							
ODAN	**Odare**	**33.26**	**336**	*e*P		**P**	**14 36 52.0**	**+0.3**
	15nm,0.8s,mb5.0							
TAPN	**Taplejung**	**33.57**	**337**	*e*P		**P**	**14 36 55.3**	**+0.9**
	22nm,0.9s,mb5.1							
RAMN	**Ramite**	**33.66**	**335**	*e*P		**P**	**14 36 55.5**	**+0.3**
	9.0nm,0.7s,mb4.8							
JIRN	**Jiri**	**34.46**	**335**	*e*P		**P**	**14 37 02.7**	**+0.6**
	22nm,0.7s,mb5.2							
GUN	**Gumba**	**34.81**	**335**	*e*P		**P**	**14 37 05.6**	**+0.4**
	17nm,0.7s,mb5.1							
DMN	**Daman**	**34.88**	**334**	*e*P		**P**	**14 37 05.8**	**0.0**
KKN	**Kakani**	**34.96**	**334**	*e*P		**P**	**14 37 06.1**	**-0.4**
GKN	**Gorkha**	**35.43**	**333**	*e*P		**P**	**14 37 09.7**	**-0.8**
KOLN	**Koldanda**	**35.71**	**332**	*e*P		**P**	**14 37 12.7**	**-0.2**
	7.7nm,0.7s,mb4.7							
WRA	**Warramunga Arr**	**35.75**	**120**	P		**P**	**14 37 13.1**	**-0.3**
	1.5nm,0.5s,mb4.2,baz=302,slow=9.0,SNR=23							
WRAB	**Tennant Creek**	**35.76**	**120**	*e*P		**P**	**14 37 13.3**	**-0.2**
WRAB				pmax	pmax			
	comp=Z,4.0nm,0.7s,mb4.5							
WRAB	**Tennant Creek**	**35.76**	**120**	*e*P		**P**	**14 37 13.2**	**-0.2**
	comp=Z,3.7nm,0.7s,mb4.4							
WB2	**Warramunga Arr**	**35.76**	**120**	*e*P		**P**	**14 37 13.3**	**-0.2**
DANN	**Dangsing**	**36.12**	**333**	*e*P		**P**	**14 37 15.9**	**-0.6**
	comp=Z,12nm,0.8s,mb4.9							
ASAR	**Alice Springs**	**36.97**	**126**	P		**P**	**14 37 23.7**	**-0.1**
	comp=Z,1.2nm,0.6s,mb3.9,baz=299,slow=7.5,SNR=20							
XAN	**Xi'an**	**38.03**	**10**	P		**P**	**14 37 34.3**	**+1.8**
XAN				AMB	AMB			
	comp=Z,6.0nm,1.0s,mb4.3							
STKA	**Stephens Creek**	**46.85**	**132**	P		**P**	**14 38 43.4**	**-1.0**
	comp=Z,1.5nm,0.7s,mb4.0,baz=292,slow=11,SNR=2.5							
STKA	**Stephens Creek**	**46.85**	**132**	*e*P		**P**	**14 38 44.0**	**-0.4**
KSRS	**Korea Array**	**47.55**	**28**	P		**P**	**14 38 50.5**	**+0.8**
	comp=Z,1.8nm,0.9s,mb4.1,baz=215,slow=8.8,SNR=5.8							
SONM	**Songino Array**	**51.36**	**4**	P		**P**	**14 39 20.2**	**+1.6**
	comp=Z,3.1nm,0.7s,mb4.3,baz=185,slow=9.8,SNR=17							
AML	**Almayashu**	**52.11**	**334**	*e*P		**P**	**14 39 23.9**	**-0.3**
	comp=Z,1.9nm,0.6s,mb4.2							
EKS2	**Erkin-Say**	**52.50**	**334**	*e*P		**P**	**14 39 26.9**	**-0.3**
	comp=Z,3.2nm,0.7s,mb4.4							
MKAR	**Makanchi Array**	**53.00**	**343**	P		**P**	**14 39 30.1**	**-0.7**
	comp=Z,3.7nm,0.7s,mb4.4,baz=150,slow=8.4,SNR=34							
KURK	**Kurchatov**	**57.59**	**343**	*e*P		**P**	**14 40 03.2**	**-0.6**
KURK				pmax	pmax			
	comp=Z,5.0nm,0.9s,mb4.5							
KURK	**Kurchatov**	**57.59**	**343**	*e*P		**P**	**14 40 03.2**	**-0.6**
	comp=Z,4.8nm,0.9s,mb4.5							
ZAA0	**Zalesovo Array**	**59.02**	**348**	*e*P		**P**	**14 40 13.2**	**-0.6**
ZALV	**Zalesovo Beam**	**59.02**	**348**	P		**P**	**14 40 12.4**	**-1.4**
	comp=Z,2.8nm,0.4s,mb4.6,baz=160,slow=4.7,SNR=22							
MAW	**Mawson**	**69.20**	**195**	P		**P**	**14 41 22.0**	**+1.7**
	comp=Z,0.6nm,0.7s,mb3.6,baz=68,slow=11,SNR=3.4							
WES	**Weston**	**140.85**	**352**	*e*PKIKP		PKPdf	14 49 43.9	-0.3
TXAR	**Lajitas Array**	**144.86**	**41**	PKP		PKPdf	14 49 51.4	-0.2
	comp=Z,3.0nm,0.8s,baz=225,slow=1.6,SNR=9.5							
TXAR	**Lajitas Array**	**144.86**	**41**	PKP		PKPdf	14 49 51.4	-0.2

ISCJB ***22*** *14:30:33.3±0.5, 3360N±009×13593E±007, h419km±4km, mb3.0/5, Error ellipse: s-maj=15.5km s-min=8.5km az=159.8*
IDC ***22*** *14:30:35.0±1.3, 3357N×13579E, h416km±29km, mb2.8/5, mb1 2.9/7, mb1mx2.8/23, mbtmp2.7/7, Error ellipse: s-maj=43.0km s-min=19.4km az=50.0*
JMA ***22*** *14:30:34.6±0.2, 3367N×13587E, h410km±2km, M3.1*

ISC 22 14:30:34.4±0.5, 3362N±009×13595E±007, h411km±4km, n27, σ0§96/37, mb3.0/5, Near south coast of western Honshu

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
JWZ	**Kozaga**	**0.21**	**247**	P		**P**	**14 31 25.3**	**+0.3**
JWZ				*e*S		**S**	**14 32 05.2**	**-0.7**
JWY	**Kouya**	**0.67**	**334**	P		**P**	**14 31 26.3**	**+0.7**
JWY				*e*S		**S**	**14 32 06.5**	**-0.6**
JKN2	**Miekihoku**	**0.68**	**24**	P		**P**	**14 31 26.1**	**+0.5**
JKN2				*e*S		**S**	**14 32 06.7**	**-0.5**
JIE	**Ise**	**1.00**	**39**	P		**P**	**14 31 27.4**	**+0.9**
JIE				*e*S		**S**	**14 32 08.8**	**0.0**
JAI	**Aioi**	**1.26**	**278**	P		**P**	**14 31 27.9**	**+0.4**
JEG	**Eigenji**	**1.56**	**13**	P		**P**	**14 31 29.6**	**+0.8**
JWT	**Wachi**	**1.72**	**345**	P		**P**	**14 31 29.9**	**+0.2**
JWT				*e*S		**S**	**14 32 12.1**	**-2.4**
JMN	**Monobe**	**1.73**	**274**	P		**P**	**14 31 30.1**	**+0.3**
JGM	**Miyama**	**2.17**	**17**	P		**P**	**14 31 32.8**	**+0.5**
JGM				*e*S		**S**	**14 32 18.9**	**-0.4**
JNY	**Yasuok**	**2.35**	**42**	P		**P**	**14 31 34.4**	**+0.9**
JNY				S		**S**	**14 32 22.0**	**+0.5**
JHS	**Saijyo**	**2.72**	**301**	P		**P**	**14 31 36.2**	**0.0**
JTO	**Tosashimizu**	**2.74**	**255**	P		**P**	**14 31 36.6**	**+0.2**
JNA	**Nagahama**	**2.90**	**270**	P		**P**	**14 31 37.5**	**-0.1**
JOD2	**Odawara 2**	**3.07**	**57**	P		**P**	**14 31 40.8**	**+1.9**
JHT	**Toyohira**	**3.10**	**291**	P		**P**	**14 31 39.0**	**-0.2**
JRY	**Ryogami san**	**3.41**	**45**	P		**P**	**14 31 42.9**	**+1.1**
JRY				*e*S		**S**	**14 32 36.0**	**-0.5**
MJAR	**Matsushiro Arr**	**3.46**	**32**	P		**P**	**14 31 44.7**	**+2.6**
	2.5nm,0.3s,baz=187,slow=7.2,SNR=27							
MJAR				S		**S**	**14 32 40.3**	**+3.1**
	0.2nm,0.3s,baz=189,slow=14,SNR=4.4							
JHU	**Hanno**	**3.54**	**50**	P		**P**	**14 31 43.5**	**+0.6**
JHU				S		**S**	**14 32 36.2**	**-2.3**
JAG	**Ashikaga**	**4.02**	**45**	P		**P**	**14 31 46.4**	**-0.8**
BSO1	**Boso 1**	**4.30**	**75**	*e*S		**S**	**14 32 49.4**	**-1.9**
JHO	**Hitachi**	**4.83**	**50**	P		**P**	**14 31 54.0**	**-1.1**
KSRS	**Korea Array**	**7.58**	**303**	P		**P**	**14 32 24.5**	**-0.2**
	0.2nm,0.3s,baz=117,slow=12,SNR=5.4							
SONM	**Songino Array**	**26.33**	**311**	P		**P**	**14 35 34.5**	**-0.2**
	0.6nm,0.6s,mb3.2,baz=116,slow=6.6,SNR=4.1							
CMAR	**Chiang Mai Arr**	**36.30**	**255**	P		**P**	**14 37 00.1**	**-1.1**
	0.5nm,0.3s,mb3.3,baz=52,slow=7.7,SNR=2.4							
MKAR	**Makanchi Array**	**42.26**	**305**	P		**P**	**14 37 48.9**	**-0.5**
	0.4nm,0.4s,mb3.1,baz=89,slow=9.2,SNR=7.3							
WRA	**Warramunga Arr**	**53.28**	**182**	P		**P**	**14 39 12.8**	**-0.2**
	0.3nm,0.3s,mb2.9,baz=358,slow=7.6,SNR=4.5							
ASAR	**Alice Springs**	**56.99**	**182**	P		**P**	**14 39 38.9**	**-0.2**
	0.3nm,0.9s,mb2.6,baz=359,slow=6.8,SNR=3.0							

ISCJB ***22*** *14:47:23.2±0.3, 472S±004×15269E±005, h34km, mb4.9/62, MS4.1/24, Error ellipse: s-maj=7.2km s-min=4.9km az=21.4*
IDC ***22*** *14:47:23.9±2.1, 471S×15266E, h27km±13km, mb4.5/20, mb1 4.6/22, mb1mx4.6/23, mbtmp4.5/22, ML4.0/2, MS3.9/17, Ms1 3.9/17, ms1mx3.7/21, Error ellipse: s-maj=15.0km s-min=10.5km az=112.0*
MOS ***22*** *14:47:23.8±1.0, 460S×15263E, h36km, mb5.0/11, Error ellipse: s-maj=10.9km s-min=9.0km az=85.2*
BJI ***22*** *14:47:23.6, 469S×153.10E, h53km, mB5.0, mb4.9, Ms4.8, Msz4.4*
GCMT ***22*** *14:47:24.9±0.4, 496S×15269E, h48km±1km, MW4.9/42, Moment Tensor Solution. s42,c51; s41,c56; Duration: 0 Moment tensor: Scale 10^16 Nm; Mrr2.72±.17; Mθθ-2.76±.11; Mφφ0.03±.12; Mrθ0.88±.10; Mrφ-0.67±.11; Mθφ-0.19±.10; Best double couple: Mo2.96000×10^16 NP1:φ249.00000°, δ37.00000°, λ77.00000°. NP2: φ85.00000°, δ54.00000°, λ100.00000°. Principal axes: T 2.8890, Plg79.0000°, Azm32.0000°; N 0.1390, Plg8.0000°, Azm259.0000°; P -3.0300, Plg8.0000°, Azm168.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
NEIC ***22*** *14:47:24.9±0.2, 470S×15261E, h35km, mb5.1/29 Error ellipse: s-maj=6.8km s-min=5.2km az=111.0*
DJA ***22*** *14:47:31, 487S×15266E, h84km, mb5.0/10*

ISC 22 14:47:25.2±0.3, 474S±004×15269E±005, h36km, h36km±.6km: pP-P, n146, σ1§02/136, mb4.9/62, MS4.1/24, 5C, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**7.18**	**230**	*e*P		**Pn**	**14 49 10.3**	**+2.5**
PMG				*e*			14 50 27.4	
PMG				pmax	pmax			
	comp=Z,75nm,0.6s							
PMG	**Port Moresby**	**7.18**	**230**	*e*Pn		**Pn**	**14 49 10.3**	**+2.5**
	comp=Z,75nm,0.6s							
PMG				*e*Sn		**Sn**	**14 50 27.4**	**-0.9**
HNR	**Honiara**	**8.57**	**123**	Pn		**Pn**	**14 49 28.7**	**+1.9**
	comp=Z,3.1nm,0.3s,baz=320,slow=13,SNR=6.6							
CTA	**Charters Tower**	**16.49**	**202**	*e*P		**Pn**	**14 51 15.9**	**+2.0**
	comp=Z,6.4nm,0.9s							
CTA				*e*S		**S**	**14 54 16.9**	**-10**
CTA	**Charters Tower**	**16.49**	**202**	Pn		**Pn**	**14 51 15.2**	**+1.3**
	comp=Z,0.3nm,0.3s,baz=27,slow=13,SNR=6.0							
CTA				LR		LR	14 56 49.9	
	comp=Z,638nm,20.8s,baz=37,slow=34							
CTA	**Charters Tower**	**16.49**	**202**	*e*P		**Pn**	**14 51 15.9**	**+2.0**
CTA				*e*S		**S**	**14 54 16.9**	**-10**
CTA				pmax	pmax			
	comp=Z,6.0nm,0.9s							
GUMO	**Guam**	**19.80**	**337**	LR		LR	14 58 36.8	
	comp=Z,184nm,19.9s,baz=101,slow=34							
KAKA	**Kakadu**	**21.51**	**247**	*e*P		**P**	**14 52 05.9**	**-5.4**
	comp=Z,37nm,0.5s,mb5.1							
KAKA				*e*S		**S**	**14 56 03.1**	**-4.9**
WRAB	**Tennant Creek**	**23.39**	**228**	P		**P**	**14 52 30.0**	**-1.2**
	comp=Z,265nm,0.4s,mb6.0,SNR=26							
WRAB	**Tennant Creek**	**23.39**	**228**	*c i*P		**P**	**14 52 31.5**	**+0.3**
WRAB	**Tennant Creek**	**23.39**	**228**	*e*P		**P**	**14 52 30.1**	**-1.1**
	comp=Z,33nm,0.8s,mb4.8							
WB2	**Warramunga Arr**	**23.39**	**228**	*e*P		**P**	**14 52 30.1**	**-1.1**
WRA	**Warramunga Arr**	**23.40**	**228**	P		**P**	**14 52 30.4**	**-0.9**
	comp=Z,16nm,0.4s,mb4.8,baz=52,slow=9.9,SNR=54							
WRA				S		**S**	**14 56 44.8**	**+2.9**
	comp=Z,3.6nm,0.9s,baz=50,slow=18,SNR=7.9							
WRA				ScP	ScP		14 59 50.9	-1.8
	comp=Z,1.1nm,1.1s,baz=61,slow=3.6,SNR=3.4							
WRA				LR		LR	15 01 46.0	
	comp=Z,235nm,21.2s,MS3.6,baz=55,slow=37							
WRA	**Warramunga Arr**	**23.40**	**228**	P		**P**	**14 52 30.4**	**-0.9**
WRA				S		**S**	**14 56 44.8**	**+2.9**
ASAR	**Alice Springs**	**26.12**	**222**	P		**P**	**14 52 55.4**	**-0.6**
	comp=Z,4.0nm,0.3s,mb4.4,baz=54,slow=9.1,SNR=74							
ASAR				S		**S**	**14 57 26.8**	**+1.4**
	comp=Z,1.3nm,0.8s,baz=50,slow=14,SNR=3.0							
ASAR				ScP	ScP		14 59 58.2	-2.0
	comp=Z,0.7nm,0.9s,baz=35,slow=2.1,SNR=4.0							
ASAR	**Alice Springs**	**26.12**	**222**	P		**P**	**14 52 55.4**	**-0.6**
ASAR				S		**S**	**14 57 26.8**	**+1.5**
STKA	**Stephens Creek**	**28.93**	**200**	*e*P		**P**	**14 53 19.9**	**-1.2**
	comp=Z,4.1nm,0.8s,mb4.2							
STKA	**Stephens Creek**	**28.93**	**200**	P		**P**	**14 53 19.8**	**-1.3**
	comp=Z,2.8nm,0.6s,mb4.2,baz=12,slow=12,SNR=9.4							
STKA				LR		LR	15 04 42.3	
	comp=Z,375nm,19.8s,MS4.0,baz=144,slow=36							
BATI	**Baumata**	**29.28**	**258**	P		**P**	**14 53 24.4**	**0.0**
	comp=Z,18nm,0.7s,mb4.9,baz=118,slow=7.8,SNR=2.7							
DAV	**Davao City (W)**	**29.50**	**293**	LR		LR	15 04 52.4	
	comp=Z,150nm,18.3s,MS3.6,baz=136,slow=36							
FORT	**Forrest**	**34.76**	**219**	*e*P		**P**	**14 54 11.8**	**-0.6**
	comp=Z,31nm,0.8s,mb5.3							
MBWA	**Marble Bar**	**35.91**	**240**	*e*P		**P**	**14 54 20.7**	**-1.7**
	comp=Z,12nm,0.6s,mb5.0							
AFI	**Afiamalu**	**36.18**	**107**	LR		LR	15 05 20.3	
	comp=Z,138nm,21.4s,MS3.7,baz=42,slow=30							
URZ	**Urewera**	**40.09**	**150**	P		**P**	**14 54 58.4**	**+1.0**
	comp=Z,5.9nm,0.8s,mb4.4,baz=274,slow=13,SNR=3.9							
RPZ	**Rata Peaks**	**42.06**	**160**	P		**P**	**14 55 14.2**	**+0.7**
	comp=Z,18nm,0.8s,mb4.7,baz=359,slow=6.9,SNR=3.2							
KLBR	**Kellerberrin**	**42.27**	**227**	*e*P		**P**	**14 55 13.5**	**-1.9**
	comp=Z,17nm,1.2s,mb4.6							
KSM	**Kuching**	**42.79**	**277**	*e*P		**P**	**14 55 19.6**	**-0.4**
MJAR	**Matsushiro Arr**	**43.25**	**343**	P		**P**	**14 55 20.4**	**-2.7**
	comp=Z,1.2nm,0.7s,mb3.8,baz=165,slow=7.5,SNR=3.8							
MJAR				PcP	PcP		14 57 12.0	0.0
	comp=Z,3.9nm,0.7s,baz=151,slow=3.7,SNR=7.3							
MJAR				LR		LR	15 11 40.1	
	comp=Z,123nm,20.7s,MS3.8,baz=170,slow=34							
MJAR	**Matsushiro Arr**	**43.25**	**343**	P		**P**	**14 55 20.5**	**-2.7**
MJAR							14 57 12.0	
NWAO	**Narrogin (SRO)**	**43.35**	**225**	P		**P**	**14 55 24.9**	**+0.7**
	comp=Z,9.6nm,1.1s,mb4.4,baz=27,slow=9.0,SNR=2.5							
NWAO				LR		LR	15 13 48.5	
	comp=Z,193nm,19.4s,MS4.0,baz=276,slow=37							
MUN	**Mundaring**	**43.59**	**227**	*e*P		**P**	**14

PETK	**Petropavlovsk-**	**57.79**	**4**	P		**P**	**14 57 13.0**	**+0.3**	
	comp=Z,11nm,0.5s,mb5.1,baz=158,slow=6.0,SNR=42								
PETK				PcP		PcP	14 58 04.8	-0.3	
	comp=Z,6.9nm,0.8s,baz=152,slow=4.1,SNR=3.7								
PETK				LR		LR	15 17 30.3		
	comp=Z,123nm,20.2s,MS4.0,baz=223,slow=31								
PPT	**Papeete**	**57.84**	**108**	*e*S		**S**	**15 05 18.8**	**+7.5**	
	comp=Z,43nm,23.8s								
PPT				*e*LR		LR	15 14 37.0		
	comp=Z,73nm,23.5s								
CD2	**Chengdu**	**58.62**	**311**	*e*P		**P**	**14 57 20.8**	**+1.8**	
CD2				AP		pP	14 57 30.8	+1.0	
CD2				XP		sP	14 57 34.8	+0.9	
CD2				PP		PP	14 59 31.8	+2.8	
CD2				PCS		PcS	15 02 10.3	-0.4	
CD2				S		**S**	**15 05 20.8**	**-0.3**	
CD2				SCS		ScS	15 07 04.3	-2.1	
CD2				SS		SS	15 09 14.8	+0.3	
CD2				AMB		AMB			
	comp=Z,20nm,0.8s,mb5.2								
CD2				AMB		AMB			
	comp=Z,40nm,4.2s								
CD2				LR		LR			
	comp=N,230nm,12.6s,MS4.6								
CD2				LR		LR			
	comp=E,180nm,14.2s,MS4.6								
CD2				LR		LR			
	comp=Z,200nm,15.2s,MS4.3								
TBI	**Tubuai**	**58.68**	**114**	*e*S		**S**	**15 05 32.2**	**+10**	
	comp=Z,45nm,30.0s								
TBI				*e*LR		LR	15 14 49.7		
	comp=Z,316nm,29.5s								
HHC	**Hu-ho-hao-te**	**58.94**	**324**	*e*P		**P**	**14 57 23.9**	**+2.9**	
HHC				AP		pP	14 57 34.3	+2.5	
HHC				XP		sP	14 57 38.8	+2.9	
HHC				PCP		PcP	14 58 11.4	+1.4	
HHC				PP		PP	14 59 35.8	+4.1	
HHC				S		**S**	**15 05 28.0**	**+3.2**	
HHC				XS		sS	15 05 45.3	+2.7	
HHC				AMB		AMB			
	comp=Z,15nm,1.1s,mb4.9								
HHC				AMB		AMB			
	comp=Z,107nm,5.7s								
HHC				LR		LR			
	comp=N,190nm,15.4s,MS4.5								
HHC				LR		LR			
	comp=E,251nm,18.0s,MS4.5								
HHC				LR		LR			
	comp=Z,238nm,17.2s,MS4.4								
HIA	**Hailar**	**60.94**	**336**	*e*P		**P**	**14 57 34.8**	**+0.2**	
HIA				pmax		pmax			
	comp=Z,10.0nm,0.9s								
HIA	**Hailar**	**60.94**	**336**	*e*P		**P**	**14 57 34.8**	**+0.2**	
	comp=Z,9.6nm,0.9s,mb4.9								
LZH	**Lanzhou**	**61.12**	**316**	*e*P		**P**	**14 57 37.5**	**+1.4**	
LZH				AP		pP	14 57 47.0	+0.1	
LZH				PP		PP	14 59 54.0	+3.0	
LZH				S		**S**	**15 05 56.5**	**+3.5**	
LZH				SS		SS	15 09 53.4	-0.1	
LZH				AMB		AMB			
	comp=Z,27nm,1.4s,mb5.2								
LZH				AMB		AMB			
	comp=Z,152nm,4.7s								
LZH				LR		LR			
	comp=E,1μm,14.8s								
LZH				LR		LR			
	comp=Z,1μm,16.4s,MS5.1								
GTA	**Gaotai**	**65.54**	**317**	P		**P**	**14 58 06.5**	**+1.2**	
GTA				AP		pP	14 58 16.9	+0.7	
GTA				XP		sP	14 58 21.3	+1.0	
GTA				AMB		AMB			
	comp=Z,9.0nm,1.1s,mb4.7								
SHL	**Shillong**	**66.19**	**300**	*e*P		**P**	**14 58 10.0**	**+0.3**	
SONM	**Songino Array**	**66.22**	**328**	P		**P**	**14 58 09.8**	**+0.3**	
	comp=Z,2.1nm,0.6s,mb4.4,baz=120,slow=5.7,SNR=15								
SONM				PcP		PcP	14 58 39.3	-0.1	
	comp=Z,2.8nm,0.6s,baz=145,slow=4.5,SNR=9.8								
SONM				LR		LR	15 25 14.5		
	comp=Z,116nm,20.2s,MS4.1,baz=308,slow=34								
SONM	**Songino Array**	**66.22**	**328**	P		**P**	**14 58 09.8**	**+0.3**	
SONM							14 58 39.3		
LSA	**Lhasa**	**68.12**	**304**	P		**P**	**14 58 23.6**	**+1.7**	
LSA	**Lhasa**	**68.12**	**304**	*e*P		**P**	**14 58 23.0**	**+1.1**	
LSA				pmax		pmax			
	comp=Z,4.0nm,0.8s,mb4.5								
LSA	**Lhasa**	**68.12**	**304**	*e*P		**P**	**14 58 23.0**	**+1.0**	
	comp=Z,3.8nm,0.8s,mb4.5								
YAK	**Yakutsk**	**68.90**	**349**	*e*P		**P**	**14 58 25.6**	**-0.5**	
YAK				pmax		pmax			
	comp=Z,13nm,1.0s,mb4.8								
ZAK	**Zakamensk**	**69.39**	**329**	*e*P		**P**	**14 58 29.1**	**-0.3**	
ZAK				pmax		pmax			
	comp=Z,6.0nm,1.0s,mb4.5								
TLY	**Talaya**	**69.98**	**330⇑**	*i*P		**P**	**14 58 33.2**	**+0.2**	
TAPN	**Taplejung**	**70.29**	**301**	*e*P		**P**	**14 58 35.4**	**0.0**	
ODAN	**Odare**	**70.42**	**301**	*e*P		**P**	**14 58 36.2**	**-0.1**	
	comp=Z,55nm,0.9s,mb5.5								
RAMN	**Ramite**	**71.13**	**300**	*e*P		**P**	**14 58 40.4**	**-0.1**	
JIRN	**Jiri**	**71.67**	**301**	*e*P		**P**	**14 58 44.1**	**+0.3**	
RKT	**Rikitea**	**71.91**	**113**	*e*LR		LR	15 20 56.6		
	comp=Z,252nm,28.0s								
GUN	**Gumba**	**72.00**	**301**	*e*P		**P**	**14 58 46.1**	**+0.3**	
PKI	**Pulchoki**	**72.31**	**301**	*e*P		**P**	**14 58 47.1**	**-0.6**	
PKI	**Pulchoki**	**72.31**	**301**	*e*P		**P**	**14 58 47.4**	**-0.3**	
PKIN	**Phulchoki**	**72.33**	**301**	*e*P		**P**	**14 58 47.4**	**-0.3**	
KKN	**Kakani**	**72.48**	**301**	*e*P		**P**	**14 58 48.1**	**-0.6**	
DMN	**Daman**	**72.58**	**301**	*e*P		**P**	**14 58 48.9**	**-0.4**	
	comp=Z,70nm,0.9s,mb5.6								
GKN	**Gorkha**	**73.09**	**301**	*e*P		**P**	**14 58 51.8**	**-0.4**	
	comp=Z,68nm,1.0s,mb5.5								
BILL	**Bilibino**	**73.25**	**5**	*c i*P		**P**	**14 58 52.3**	**0.0**	
BILL				*i*			14 59 07.9		
BILL				*i* S		S	15 08 12.8	-5.0	
BILL				*i* SS		SS	15 13 00.8	+0.7	
BILL				pmax		pmax			
	comp=Z,61nm,2.2s,mb5.1								
SBA	**Scott Base**	**73.44**	**177**	*e*P		**P**	**14 58 54.5**	**+1.1**	
	comp=Z,30nm,0.2s,mb5.9								
KOLN	**Koldanda**	**73.92**	**301**	*e*P		**P**	**14 58 56.7**	**-0.4**	
	comp=Z,37nm,0.9s,mb5.3								
DANN	**Dangsing**	**73.92**	**301**	*e*P		**P**	**14 58 56.7**	**-0.5**	
	comp=Z,36nm,1.1s,mb5.2								
WMQ	**Urumqi**	**75.63**	**317**	P		**P**	**14 59 06.3**	**-0.4**	
WMQ				AP		pP	14 59 16.8	-1.0	
WMQ				PCP		PcP	14 59 19.5	+0.1	
WMQ				PP		PP	15 01 57.8	+1.1	
WMQ				S		S	15 08 43.8	-1.7	
WMQ				AMB		AMB			
	comp=Z,7.0nm,1.0s,mb4.5								
WMQ				AMB		AMB			
	comp=Z,40nm,4.0s								
WMQ				LR		LR			
	comp=N,32nm,19.0s,MS3.9								
WMQ				LR		LR			
	comp=E,45nm,22.2s,MS3.9								
WMQ				LR		LR			
	comp=Z,56nm,22.2s,MS3.8								
KDAK	**Kodiak Island**	**76.17**	**27**	P		**P**	**14 59 09.2**	**-0.3**	
	comp=Z,8.9nm,0.9s,mb4.7,baz=239,slow=8.6,SNR=7.2								
HYB	**Hyderabad**	**76.37**	**289**	*i* P		**P**	**14 59 11.0**	**-0.5**	
HYB	**Hyderabad**	**76.37**	**289**	*e*P		**P**	**14 59 11.0**	**-0.5**	
TIXI	**Tiksi**	**77.83**	**352**	*e*P		**P**	**14 59 17.9**	**-0.6**	
TIXI				pmax		pmax			
	comp=Z,6.0nm,1.6s,mb4.3								
TIXI	**Tiksi**	**77.83**	**352**	P		**P**	**14 59 17.6**	**-1.0**	
	comp=Z,2.0nm,0.6s,mb4.2								
RC01	**Rabbit Creek A**	**79.17**	**25**	*e*P		**P**	**14 59 25.8**	**-0.3**	
	comp=Z,11nm,0.4s,mb5.2								
CHUM	**Lake Minchumin**	**79.67**	**22**	*e*P		**P**	**14 59 29.4**	**+0.7**	
	comp=Z,20nm,0.7s,mb5.2								
KTH	**Kantishna Hill**	**80.00**	**22**	*e*P		**P**	**14 59 29.5**	**-1.1**	
	comp=Z,15nm,0.8s,mb5.0								
TRF	**Thorofare Moun**	**80.19**	**22**	*e*P		**P**	**14 59 30.7**	**-0.9**	
	comp=Z,11nm,0.8s,mb4.8								
MKAR	**Makanchi Array**	**80.21**	**319**	P		**P**	**14 59 31.9**	**-0.3**	
	comp=Z,5.2nm,0.9s,mb4.5,baz=102,slow=6.3,SNR=38								
MKAR				LR		LR	15 33 06.1		
	comp=Z,58nm,18.5s,MS4.0,baz=118,slow=34								
BPAW	**Bear Paw Mtn.**	**80.28**	**22**	*e*P		**P**	**14 59 31.0**	**-1.1**	
	comp=Z,11nm,1.1s,mb4.7								
IMA2	**Indian Mountai**	**80.44**	**19**	*e*P		**P**	**14 59 33.1**	**+0.3**	
MCK	**McKinley**	**80.85**	**23**	*e*P		**P**	**14 59 33.8**	**-1.3**	
	comp=Z,49nm,0.9s,mb5.4								
ZAA0	**Zalesovo Array**	**81.05**	**326**	*e*P		**P**	**14 59 35.0**	**-1.4**	
ZALV	**Zalesovo Beam**	**81.05**	**326**	P		**P**	**14 59 35.1**	**-1.3**	
	comp=Z,7.4nm,0.6s,mb4.8,baz=112,slow=5.8,SNR=41								
ZALV				LR		LR	15 34 18.7		
	comp=Z,46nm,18.1s,MS3.9,baz=242,slow=35								
COLA	**College**	**81.84**	**22**	*c i*P		**P**	**14 59 39.2**	**-1.2**	
NVS	**Novosibirsk**	**82.23**	**327**	*e*P		**P**	**14 59 39.6**	**-3.0**	
COLD	**Coldfoot**	**82.24**	**19**	*e*P		**P**	**14 59 43.1**	**+0.6**	
	comp=Z,19nm,1.3s,mb4.9								
KURK	**Kurchatov**	**83.66**	**322**	P		**P**	**14 59 49.3**	**-0.8**	
	comp=Z,46nm,0.7s,mb5.7,SNR=7.6								
KURK	**Kurchatov**	**83.66**	**322**	*e*P		**P**	**14 59 49.3**	**-0.8**	
KURK				pmax		pmax			
	comp=Z,14nm,1.2s,mb5.0								
KURK	**Kurchatov**	**83.66**	**322**	*e*P		**P**	**14 59 49.3**	**-0.8**	
	comp=Z,14nm,1.2s,mb5.0								
TKM2	**Tokmak 2**	**83.81**	**314**	*e*P		**P**	**14 59 51.1**	**0.0**	
TKM2				pmax		pmax			
	comp=Z,4.0nm,0.7s,mb4.7								
TKM2	**Tokmak 2**	**83.81**	**314**	P		**P**	**14 59 51.5**	**+0.3**	
	SNR=10								
TKM2	**Tokmak 2**	**83.81**	**314**	*e*P		**P**	**14 59 51.1**	**0.0**	
	comp=Z,4.4nm,0.7s,mb4.7								
EGAK	**Eagle**	**84.35**	**23**	*e*P		**P**	**14 59 53.5**	**+0.2**	
	comp=Z,13nm,0.8s,mb5.1								
HYT	**Haines Junctio**	**84.43**	**28**	*e*P		**P**	**14 59 54.6**	**+0.8**	
AAK	**Ala-Archa**	**84.55**	**313**	P		**P**	**14 59 55.5**	**+0.6**	
	SNR=6.7								
USP	**Ospenovka**	**84.67**	**314**	P		**P**	**14 59 55.8**	**+0.3**	
	SNR=11								
DAWY	**Dawson**	**84.78**	**24**	*e*P		**P**	**14 59 56.2**	**+0.6**	
AML	**Almayashu**	**85.03**	**313**	P		**P**	**14 59 58.4**	**+1.0**	
	SNR=17								
AML	**Almayashu**	**85.03**	**313**	*e*P		**P**	**14 59 58.0**	**+0.6**	
	comp=Z,13nm,0.9s,mb5.1								
EKS2	**Erkin-Say**	**85.08**	**313**	P		**P**	**14 59 58.2**	**+0.7**	
	SNR=9.9								
EKS2	**Erkin-Say**	**85.08**	**313**	*e*P		**P**	**14 59 57.9**	**+0.4**	
	comp=Z,6.1nm,0.8s,mb4.8								
MAW	**Mawson**	**85.58**	**203**	P		**P**	**14 59 58.6**	**-1.0**	
	comp=Z,2.5nm,0.5s,mb4.7,baz=57,slow=4.2,SNR=21								
MAW				LR		LR	15 34 40.8		
	comp=Z,132nm,21.7s,MS4.3,baz=63,slow=33								
MAW	**Mawson**	**85.58**	**203**	*e*P		**P**	**14 59 56.8**	**-2.7**	
MAW				pmax		pmax			
	comp=Z,3.0nm,0.6s								
MAW	**Mawson**	**85.58**	**203**	*e*P		**P**	**14 59 56.8**	**-2.7**	
	comp=Z,2.6nm,0.6s,mb4.6								
YBH	**Yreka Blue Hor**	**89.10**	**48**	P		**P**	**15 00 17.8**	**+0.8**	
	comp=Z,1.8nm,0.8s,mb4.5,baz=266,slow=7.2,SNR=5.0								
BRVK	**Borovoye**	**89.20**	**323**	P		**P**	**15 00 16.6**	**-0.6**	
	comp=Z,62nm,0.8s,mb6.0,SNR=6.0								
BRVK	**Borovoye**	**89.20**	**323**	*e*P		**P**	**15 00 15.6**	**-1.6**	
BRVK				pmax		pmax			
	comp=Z,15nm,0.9s,mb5.3								
BRVK	**Borovoye**	**89.20**	**323**	*e*P		**P**	**15 00 15.6**	**-1.7**	
	comp=Z,15nm,0.9s,mb5.3								
NVAR	**Mina Array Bea**	**92.13**	**52**	P		**P**	**15 00 30.9**	**-0.3**	
	comp=Z,1.8nm,0.8s,mb4.5,baz=249,slow=5.4,SNR=12								
YKA	**Yellowknife Ar**	**95.43**	**28**	P		**P**	**15 00 45.7**	**-0.1**	
	comp=Z,3.6nm,0.7s,mb4.9,baz=273,slow=4.6,SNR=11								
YKA				LR		LR	15 37 53.4		
	comp=Z,66nm,20.0s,MS4.1,baz=310,slow=32								
ARU	**Arti**	**96.21**	**326**	*e*P		**P**	**15 00 47.1**	**-2.4**	
ARU							15 04 40.7		
ARU				S		SKSac	15 11 16.9	-6.4	
PDAR	**Pinedale Array**	**98.89**	**48**	P		**P**	**15 01 01.4**	**-0.6**	
	comp=Z,0.8nm,0.8s,mb4.3,baz=264,slow=2.7,SNR=6.0								
PDAR				PP		PP	15 05 07.0	+3.1	
	comp=Z,0.2nm,0.4s,baz=270,slow=5.5,SNR=3.6								
PDAR				LR		LR	15 38 04.8		
	comp=Z,141nm,21.6s,MS4.4,baz=256,slow=31								
SNAA	**Sanae**	**102.07**	**188⇑**	*i*P		Pdif	15 01 15.4	-0.4	
AKASG	**Malin Array Be**	**114.39**	**324**	PKP		PKiKP	15 06 00.1	-1.2	
	comp=Z,0.8nm,0.4s,baz=58,slow=2.4,SNR=3.3								
NOA	**NORSAR Array B**	**116.83**	**340**	PKP		PKPdf	15 06 05.1	-0.6	
	comp=Z,1.2nm,0.8s,baz=51,slow=2.1,SNR=3.3								
PLCA	**Paso Flores**	**119.89**	**143**	PKP		PKPdf	15 06 12.0	-0.2	
	comp=Z,0.7nm,0.5s,baz=226,slow=3.4,SNR=4.4								
BRG	**Berggiesshubel**	**122.57**	**330**	*e*PKiKP		PKPdf	15 06 17.6	+0.6	
BRG				pmax		pmax			
	comp=Z,2.0nm,0.7s								
BRG	**Berggiesshubel**	**122.57**	**330**	*e*(P)		PKPdf	15 06 17.6	+0.5	
	comp=Z,3.2nm,0.7s								
CLL	**Collm**	**122.75**	**331**	*i* PKIKP		PKPdf	15 06 17.0	-0.4	
CLL				pmax		pmax			
	comp=Z,3.0nm,0.8s								
CLL	**Collm**	**122.75**	**331**	*e*PKPdf		PKPdf	15 06 17.8	+0.4	
CLL	**Collm**	**122.75**	**331**	*i* PKPdf		PKPdf	15 06 17.0	-0.4	
	comp=Z,3.0nm,0.8s								
GEC2	**GERESS Array S**	**123.95**	**328**	*e*PKPdf		PKPdf	15 06 19.6	-0.2	
GERES	**GERESS Array B**	**123.95**	**328**	PKP		PKPdf	15 06 19.4	-0.4	
	comp=Z,2.7nm,0.7s,baz=70,slow=2.0,SNR=16								
MEM	**Membach**	**126.44**	**334**	PKP		PKPdf	15 06 25.0	+0.6	
LPAZ	**La Paz**	**134.54**	**118**	PKP		PKPdf	15 06 42.6	+1.8	
	comp=Z,2.3nm,0.9s,baz=312,slow=0.2,SNR=6.5								
LPAZ				SKPbc		SKPbc	15 10 10.9	+2.7	
	comp=Z,1.1nm,0.6s,baz=210,slow=0.7,SNR=6.4								
SDV	**Santo Domingo**	**136.80**	**82**	*e*PKPdf		PKPdf	15 06 45.5	+0.3	
TAM	**Tamanrasset**	**143.56**	**303**	*e*PKiKP		PKPdf	15 06 54.7	-2.4	
TOAO	**Torodi Ar. Sit**	**150.19**	**288**	*e*PKPbc		PKPbc	15 07 12.5	-1.0	
TOA0				*e*PKPab		PKPab	15 07 18.7	-0.9	
TORD	**Torodi Ar. Bea**	**150.19**	**288**	PKPbc		PKPbc	15 07 12.5	-1.0	
	comp=Z,7.9nm,0.4s,baz=70,slow=2.3,SNR=85								
TORD				PKPab		PKPab	15 07 19.1	-0.5	
	comp=Z,23nm,0.8s,baz=72,slow=1.8,SNR=33								
BDFB	**Brasilia**	**151.18**	**135**	PKPbc		PKPbc	15 07 15.6	-0.2	
	comp=Z,1.0nm,0.4s,baz=159,slow=6.3,SNR=5.8								
BDFB				PKPab		PKPab	15 07 23.3	-0.3	
	comp=Z,3.0nm,0.6s,baz=217,slow=2.3,SNR=6.4								
KIC	**Kosan Boka**	**157.48**	**275**	*e*PKP1		PKPab	15 07 49.9	-0.7	
	comp=Z,70nm,0.9s								
DBIC	**Dimbokro**	**157.58**	**276**	PKPab		PKPab	15 07 49.9	-1.1	
	comp=Z,6.0nm,0.6s,baz=71,slow=5.9,SNR=7.9								
TIC	**Toumodi**	**157.74**	**276**	*e*PKP1		PKPab	15 07 50.9	-0.8	
	comp=Z,15nm,0.2s								
LIC	**Lamto**	**157.78**	**275**	*e*PKP1		PKPab	15 07 50.9	-1.0	
	comp=Z,36nm,1.0s								

*ISCJB **22** 15:12:06.4±1.1, 193S±02×1775W±02, h545km±18km, mb3.5/7, Error ellipse: s-maj=31.6km s-min=15.6km az=138.9*
*IDC **22** 15:12:07.3±1.4, 1930S×17748W, h548km±18km, mb3.1/7, mb1 3.4/9, mb1mx3.2/18, mbtmp3.2/9, Error ellipse: s-maj=24.5km s-min=13.2km az=140.0*
*NEIC **22** 15:12:07.9±1.0, 1937S×17740W, h558km±12km, Error ellipse: s-maj=23.7km s-min=11.9km az=140.0*

ISC 22 15:12:06.8±1.1, 193S±02×1775W±02, h540km±17km, n16, σ0°84/15, mb3.5/7, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
AFI	**Afiamalu**	**7.65**	**46**	P		**P**	**15 14 02.0**	**+1.1**
	6.9nm,0.3s,baz=276,slow=10,SNR=9.1							
AFI				S		**S**	**15 15 33.1**	**-1.2**
	5.0nm,0.3s,baz=186,slow=23,SNR=5.8							
AFI	**Afiamalu**	**7.65**	**46**	*e*P		**P**	**15 14 02.5**	**+1.6**
AFI				S		**S**	**15 15 33.1**	**-1.2**
URZ	**Urewera**	**19.47**	**193**	P		**P**	**15 15 57.8**	**-0.6**
	3.8nm,0.3s,baz=7.1,slow=9.0,SNR=26							
STKA	**Stephens Creek**	**38.77**	**243**	P		**P**	**15 18 46.2**	**+1.0**
	4.7nm,0.9s,mb4.0,baz=86,slow=9.9,SNR=6.3							
STKA	**Stephens Creek**	**38.77**	**243**	*e*P		**P**	**15 18 46.4**	**+1.2**
WB2	**Warramunga Arr**	**45.27**	**261**	*e*P		**P**	**15 19 36.5**	**0.0**
WRA	**Warramunga Arr**	**45.28**	**261**	P		**P**	**15 19 36.2**	**-0.5**
	0.5nm,0.4s,mb3.4,baz=97,slow=8.5,SNR=5.8							
WRA				PcP		PcP	15 21 04.6	-0.5
	0.7nm,0.7s,baz=98,slow=3.9,SNR=4.5							
ASAR	**Alice Springs**	**45.29**	**256**	P		**P**	**15 19 36.6**	**-0.1**
	2.7nm,0.8s,mb3.8,baz=86,slow=8.4,SNR=38							
ASAR				PcP		PcP	15 21 04.8	-0.3
	1.1nm,0.9s,baz=102,slow=4.2,SNR=6.0							
ASAR				S		**S**	**15 25 35.4**	**-2.6**
	1.0nm,0.8s,baz=92,slow=16,SNR=7.9							
NVAR	**Mina Array Bea**	**79.82**	**43**	P		**P**	**15 23 19.0**	**-0.3**
	0.5nm,0.6s,mb3.0,baz=225,slow=8.1,SNR=4.0							
MAW	**Mawson**	**82.85**	**200**	P		**P**	**15 23 34.5**	**+0.1**
	1.5nm,0.9s,mb3.5,baz=135,slow=7.1,SNR=3.5							
PDAR	**Pinedale Array**	**87.75**	**43**	P		**P**	**15 23 58.7**	**+0.3**
	0.2nm,0.6s,mb3.0,baz=215,slow=3.0,SNR=3.6							
CMAR	**Chiang Mai Arr**	**90.19**	**289**	P		**P**	**15 24 11.0**	**+0.7**
	0.7nm,0.8s,mb3.5,baz=127,slow=2.9,SNR=7.3							
MKAR	**Makanchi Array**	**110.75**	**314**	PKiKP		PKiKP	15 29 37.4	-0.9
	0.2nm,0.3s,baz=102,slow=0.5,SNR=2.5							
KHC	**Kasperske Hory**	**148.95**	**346**	*e*PKP		PKPdf	15 30 53.0	+3.9
GERES	**GERESS Array B**	**149.19**	**346**	PKPbc		PKPbc	15 30 53.7	-0.7
	1.0nm,0.6s,baz=35,slow=3.6,SNR=6.7							
TORD	**Torodi Ar. Bea**	**173.82**	**172**	PKP		PKPdf	15 31 13.8	-1.4
	0.6nm,0.9s,baz=196,slow=5.5,SNR=3.1							

IDC 22 15:20:27.0±1.9, 079N×12732E, h0km, mb3.6/4, mb1 3.8/4, mb1mx3.5/15, mbtmp3.7/4, 1D, Error ellipse: s-maj=164.5km s-min=24.7km az=65.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
TNE	**Ternate**	**0.05**	**100**	*i*P		Pg	15 20 50.0	+22
TNE				*e*S		Sg	15 21 02.0	+33
WRA	**Warramunga Arr**	**21.73**	**162**	P		P	15 25 19.8	-0.2
	1.0nm,0.5s,baz=341,slow=11,SNR=10.0							
ASAR	**Alice Springs**	**25.14**	**166**	P		P	15 25 54.2	+0.3
	0.5nm,0.4s,baz=345,slow=11,SNR=24							
STKA	**Stephens Creek**	**35.20**	**159**	P		P	15 27 22.8	-0.1
	1.9nm,0.8s,baz=329,slow=4.2,SNR=3.2							
MKAR	**Makanchi Array**	**60.30**	**326**	P		P	15 30 37.5	0.0
	0.3nm,0.3s,baz=126,slow=8.0,SNR=5.0							

*JMA **22** 15:55:50.9±0.3, 2436N×12195E, h51km, M2.4*
*TAP **22** 15:55:51.0, 2439N×12196E, h28km, ML3.3, C*
*ISCJB **22** 15:55:51.1±0.3, 2435N±002×12204E±002, h19km±4km, Error ellipse: s-maj=3.7km s-min=2.4km az=136.4*

ISC 22 15:55:51.2±0.4, 2436N±002×12203E±002, h18km±2km, n47, σ0°72/90, 2C, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
ENA	**Nanau**	**0.27**	**285⇑**	*i*P		**Pg**	**15 55 57.3**	**+0.1**
	baz=282							
ENA				S		**Sg**	**15 56 01.6**	**+0.3**
	baz=282							
TWC	**Suao**	**0.30**	**327**	*i* P		**Pg**	**15 55 57.9**	**+0.1**
	baz=341							
TWC				*i* S		**Sg**	**15 56 02.3**	**+0.2**
	baz=341							
ILA	**Ilan**	**0.48**	**328**	P		**Pg**	**15 56 00.8**	**-0.1**
	baz=333							
ILA				S		**Sg**	**15 56 08.0**	**+0.5**
	baz=333							
TWD	**Chiawan**	**0.48**	**235**	*i* P		**Pg**	**15 56 01.0**	**+0.1**
	baz=235							
TWD				*i* S		**Sg**	**15 56 08.7**	**+1.2**
	baz=235							
TWE	**Neicheng**	**0.49**	**318⇑**	*i*P		**Pg**	**15 56 00.7**	**-0.4**
	baz=322							
TWE				*i* S		**Sg**	**15 56 07.5**	**-0.3**
	baz=322							
HWA	**Hwalien**	**0.54**	**226**	*e*P		**Pg**	**15 56 03.1**	**+1.0**
	baz=218							
HWA				*e*S		**Sg**	**15 56 10.2**	**+0.8**
	baz=218							
NNS	**Nan Shan**	**0.60**	**278**	P		**Pg**	**15 56 02.6**	**-0.5**
	baz=279							
NNS				S		**Sg**	**15 56 11.0**	**-0.3**
	baz=279							
TWB1	**Santiao Chiao**	**0.65**	**357**	P		**Pg**	**15 56 04.1**	**+0.1**
	baz=358							
TWB1				S		**Sg**	**15 56 12.7**	**0.0**
	baz=358							
NSK	**Sanguang**	**0.69**	**297**	P		**Pb**	**15 56 04.0**	**-0.8**
	baz=298							
NSK				*i* S		**Sb**	**15 56 12.9**	**-1.0**
	baz=298							
WHF	**Hehuan Shan**	**0.73**	**253**	P		**Pb**	**15 56 05.0**	**-0.4**
	baz=249							
WHF				*i* S		**Sb**	**15 56 14.8**	**-0.2**
	baz=249							
TWA	**Mucha**	**0.74**	**327**	P		**Pb**	**15 56 05.5**	**-0.1**
	baz=324							
TWA				*i* S		**Sb**	**15 56 15.7**	**+0.3**
	baz=324							
NWF	**Wu-fen Shan**	**0.74**	**342**	*e*P		**Pb**	**15 56

	baz=210							
WTP	**Ta-pu**	**1.71**	**230**	*e*P		**Pn**	**15 56 20.7**	**+0.6**
	baz=226							
WTP				*e*S		**Sn**	**15 56 41.9**	**+0.5**
	baz=226							
TWK	**Hsinying**	**1.78**	**233**	*e*P		**Pn**	**15 56 21.6**	**+0.5**
	baz=229							
CHN1	**Nanshi**	**1.80**	**230**	*e*P		**Pn**	**15 56 21.9**	**+0.5**
	baz=226							
CHN1				*e*S		**Sn**	**15 56 44.3**	**+0.4**
	baz=226							
JKRS	**Kuro-shima**	**1.81**	**93**	P		**Pn**	**15 56 21.8**	**+0.3**
JKRS				S		**Sn**	**15 56 44.7**	**+0.6**
SGST	**Jiashian**	**1.84**	**227**	*e*P		**Pn**	**15 56 22.2**	**+0.4**
	baz=209							
SGST				*e*S		**Sn**	**15 56 45.7**	**+1.1**
	baz=209							
JIJ	**Ishigaki jima**	**1.93**	**89**	P		**Pn**	**15 56 22.7**	**-0.4**
JIJ				S		**Sn**	**15 56 46.2**	**-0.7**
ECL	**Taimali**	**2.01**	**210**	*e*P		**Pn**	**15 56 22.9**	**-1.5**
	baz=193							
ECL				*e*S		**Sn**	**15 56 47.3**	**-1.8**
	baz=193							
SSD	**Sandimen**	**2.05**	**219**	*e*P		**Pn**	**15 56 25.9**	**+1.0**
	baz=214							
SSD				*e*S		**Sn**	**15 56 50.7**	**+0.6**
	baz=214							
EAST	**Anshuo**	**2.25**	**209**	*e*P		**Pn**	**15 56 28.4**	**+0.8**
	baz=194							
EAST				*e*S		**Sn**	**15 56 53.1**	**-1.7**
	baz=194							
JTJ	**Tarama**	**2.45**	**83**	P		**Pn**	**15 56 30.5**	**+0.2**
JTJ				S		**Sn**	**15 57 00.7**	**+0.8**

IDC 22 15:58:47.7±1.7, 482N×12752E, h0km, mb3.9/6, mb1 4.0/6, mb1mx3.7/19, mbtmp3.9/6, Error ellipse: s-maj=163.8km s-min=18.0km az=66.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**25.51**	**165**	P	P	16 04 18.2	+0.2
	2.4nm,0.7s,baz=345,slow=10.0,SNR=7.3						
ASAR	**Alice Springs**	**28.99**	**168**	P	P	16 04 49.4	+0.2
	0.3nm,0.4s,baz=349,slow=7.3,SNR=8.9						
STKA	**Stephens Creek**	**38.88**	**161**	P	P	16 06 14.6	-0.3
	2.1nm,0.7s,baz=352,slow=8.0,SNR=5.7						
MKAR	**Makanchi Array**	**57.12**	**324**	P	P	16 08 35.9	-0.2
	0.6nm,0.4s,baz=119,slow=8.1,SNR=8.6						
KURK	**Kurchatov**	**61.25**	**327**	P	P	16 09 04.5	-0.1
	0.7nm,0.2s,baz=133,slow=6.5,SNR=5.4						
BVAR	**Borovoye Array**	**66.84**	**327**	P	P	16 09 41.8	+0.5
	0.4nm,0.5s,baz=114,slow=7.0,SNR=4.0						

NEIC 22 16:27:40.2, 3929S×17357E, h15km, ML4.1(WEL), After WEL., Off west coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NWEZ	**Newall Road**	**0.23**	**86**	P	Pg	16 27 45.6	+0.3
NRZ	**Ngariki Road**	**0.29**	**100**	P	Pg	16 27 45.8	-0.4
PKE	**Pukeiti**	**0.34**	**74**	P	Pg	16 27 47.5	+0.3
PKE				S	Sg	16 27 52.3	+0.5
NEZ	**North Egmont**	**0.41**	**88**	P	Pg	16 27 48.0	-0.4
RAEZ	**Rainy Point**	**0.64**	**90**	P	Pg	16 27 52.3	-0.4
VRZ	**Vera Road**	**0.94**	**80**	P	Pb	16 27 57.0	-1.1
WAZ	**Wanganui**	**1.19**	**113**	P	Pn	16 28 00.4	-1.9
HIZ	**Hauiti**	**1.27**	**53**	P	Pn	16 28 02.5	-0.8
TWVZ	**Taurewa**	**1.47**	**82**	P	Pn	16 28 04.9	-1.2
WPVZ	**Whakapapa**	**1.54**	**87**	P	Pn	16 28 06.2	-0.8
FWVZ	**Far West T-bar**	**1.54**	**89**	P	Pn	16 28 06.5	-0.6
NGZ	**Ngauruhoe**	**1.58**	**87**	P	Pn	16 28 06.9	-0.8
KATZ	**Kakaramea**	**1.68**	**80**	P	Pn	16 28 08.6	-0.4
MOVZ	**Moawhango**	**1.70**	**95**	P	Pn	16 28 08.7	-0.5
QRZ	**Quartz Range**	**1.73**	**207**	P	Pn	16 28 09.1	-0.6
RATZ	**Rangitukua**	**1.76**	**77**	P	Pn	16 28 09.8	-0.4
RITZ	**Rihia Road**	**1.81**	**81**	P	Pn	16 28 11.3	+0.5
KIW	**Kapiti Island**	**1.88**	**147**	P	Pn	16 28 11.7	0.0
NNZ	**Nelson**	**1.93**	**184**	P	Pn	16 28 12.2	-0.3
TCW	**Tory Channel**	**2.00**	**165**	P	Pn	16 28 13.2	-0.2
TSZ	**Takapari Road**	**2.00**	**113**	P	Pn	16 28 13.9	+0.5
MRW	**Makara Radio**	**2.12**	**156**	P	Pn	16 28 15.3	+0.2
CAW	**Cannon Point**	**2.15**	**148**	P	Pn	16 28 16.5	+1.0
TOZ	**Tahuroa Road**	**2.17**	**45**	P	Pn	16 28 15.8	0.0
SNZO	**South Karori**	**2.20**	**157**	P	Pn	16 28 16.3	+0.2
BHW	**Baring Head**	**2.34**	**155**	P	Pn	16 28 20.6	+2.5
MTW	**Mount Morrison**	**2.38**	**142**	P	Pn	16 28 20.4	+1.7
MKAZ	**Moumakai**	**2.51**	**31**	P	Pn	16 28 21.5	+1.0
THZ	**Tophouse**	**2.52**	**191**	P	Pn	16 28 21.0	+0.4
URZ	**Urewera**	**2.95**	**71**	P	Pn	16 28 29.1	+2.6
KUZ	**Kuaotunu**	**3.05**	**34**	P	Pn	16 28 28.1	+0.2
KHZ	**Kahutara**	**3.12**	**180**	P	Pn	16 28 30.0	+1.1
WCZ	**Waipu Caves**	**3.40**	**11**	P	Pn	16 28 33.9	+1.2
OUZ	**Omahuta**	**4.06**	**0**	P	Pn	16 28 43.6	+1.8

*ISCJB **22** 16:35:37.7±0.3, 4071S×1004×17379E±006, h120km±4km, mb4.2/5, Error ellipse: s-maj=8.5km s-min=4.4km az=31.7*
*IDC **22** 16:35:38.6±1.6, 4055S×17389E, h114km±16km, mb3.8/5, mb1 3.9/7, mb1mx3.8/14, mbtmp3.7/7, Error ellipse: s-maj=20.2km s-min=14.5km az=128.0*
*NEIC **22** 16:35:39.8, 4069S×17380E, h107km, MG4.8(WEL), After WEL.*

ISC 22 16:35:38.7±0.3, 4070S±004×17380E±006, h113km±4km, n64, σ1ᵎ03/62, mb4.2/5, 9C-2D, Cook Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NNZ	**Nelson**	**0.61**	**211**	P	**Pn**	**16 35 57.1**	**+0.5**
NNZ				S	**Sn**	**16 36 09.8**	**-0.3**
TCW	**Tory Channel**	**0.63**	**145**	⇑P	**Pn**	**16 35 57.5**	**+0.7**
KIW	**Kapiti Island**	**0.86**	**101**	⇑P	**Pn**	**16 35 59.3**	**+0.5**
MRW	**Makara Radio**	**0.87**	**128**	⇑P	**Pn**	**16 35 59.6**	**+0.8**
SNZO	**South Karori**	**0.92**	**132**	⇑*i*Pg	**Pn**	**16 35 59.9**	**+0.6**
SNZO				*e*Sg	**Sn**	**16 36 13.8**	**-1.1**
WEL	**Wellington**	**0.94**	**129**	P	**Pn**	**16 36 00.1**	**+0.6**
QRZ	**Quartz Range**	**0.97**	**262**	⇑P	**Pn**	**16 35 59.8**	**0.0**
BSWZ	**Blackbirch Sta**	**1.02**	**177**	P	**Pn**	**16 36 01.3**	**+1.0**
CAW	**Cannon Point**	**1.05**	**113**	⇑P	**Pn**	**16 36 01.1**	**+0.5**
BHW	**Baring Head**	**1.08**	**131**	P	**Pn**	**16 36 01.4**	**+0.5**
CMWZ	**Cape Campbell**	**1.09**	**163**	P	**Pn**	**16 36 02.5**	**+1.4**
THZ	**Tophouse**	**1.26**	**212**	⇓P	**Pn**	**16 36 03.5**	**+0.6**
WAZ	**Wanganui**	**1.31**	**44**	P	**Pn**	**16 36 04.5**	**+0.9**
MSWZ	**Moikau Station**	**1.31**	**124**	P	**Pn**	**16 36 03.9**	**+0.4**
MRZ	**Mangatainoka R**	**1.36**	**89**	P	**Pn**	**16 36 04.1**	**+0.1**
MTW	**Mount Morrison**	**1.37**	**110**	⇑P	**Pn**	**16 36 04.5**	**+0.3**
PAWZ	**Paruwai Farm**	**1.41**	**119**	P	**Pn**	**16 36 05.1**	**+0.5**
NWEZ	**Newall Road**	**1.42**	**2**	P	**Pn**	**16 36 05.6**	**+0.8**
NEZ	**North Egmont**	**1.45**	**9**	P	**Pn**	**16 36 05.7**	**+0.7**
PKE	**Pukeiti**	**1.51**	**6**	P	**Pn**	**16 36 06.5**	**+0.7**
KHZ	**Kahutara**	**1.73**	**186**	P	**Pn**	**16 36 09.3**	**+0.9**
VRZ	**Vera Road**	**1.74**	**26**	⇑P	**Pn**	**16 36 09.3**	**+0.8**
TSZ	**Takapari Road**	**1.77**	**70**	⇑P	**Pn**	**16 36 08.7**	**-0.3**
DSZ	**Denniston Nort**	**1.83**	**234**	⇓P	**Pn**	**16 36 10.0**	**+0.4**
FWVZ	**Far West T-bar**	**1.98**	**44**	P	**Pn**	**16 36 11.3**	**-0.2**
MOVZ	**Moawhango**	**1.98**	**50**	P	**Pn**	**16 36 11.4**	**-0.1**
WPVZ	**Whakapapa**	**2.01**	**43**	P	**Pn**	**16 36 11.9**	**0.0**
TWVZ	**Taurewa**	**2.06**	**38**	P	**Pn**	**16 36 12.6**	**+0.1**
NGZ	**Ngauruhoe**	**2.06**	**43**	P	**Pn**	**16 36 12.5**	**-0.1**
KATZ	**Kakaramea**	**2.26**	**41**	P	**Pn**	**16 36 13.1**	**0.0**
HIZ	**Hauiti**	**2.33**	**21**	P	**Pn**	**16 36 16.3**	**+0.3**
LTZ	**Lake Taylor**	**2.37**	**208**	P	**Pn**	**16 36 16.5**	**0.0**
WATZ	**Wairara**	**2.49**	**38**	P	**Pn**	**16 36 17.6**	**-0.4**
CRLZ	**Canterbury Las**	**3.00**	**196**	P	**Pn**	**16 36 23.5**	**-1.3**
MQZ	**McQueen's Vall**	**3.12**	**195**	P	**Pn**	**16 36 24.8**	**-1.5**
TOZ	**Tahuroa Road**	**3.25**	**25**	P	**Pn**	**16 36 28.2**	**+0.2**
WVZ	**Waitaha Valley**	**3.29**	**223**	P	**Pn**	**16 36 28.4**	**-0.2**
KNZ	**Kokohu**	**3.42**	**62**	P	**Pn**	**16 36 28.2**	**-2.2**
URZ	**Urewera**	**3.54**	**48**	P	**Pn**	**16 36 29.6**	**-2.3**
	5.6nm,0.3s,baz=229,slow=7.8,SNR=24						
URZ				S	**Sn**	**16 37 09.9**	**-3.2**
	75nm,0.3s,baz=358,slow=17,SNR=32						
URZ	**Urewera**	**3.54**	**48**	P	**Pn**	**16 36 29.5**	**-2.4**
RPZ	**Rata Peaks**	**3.64**	**213**	P	**Pn**	**16 36 33.3**	**+0.2**
	7.4nm,0.3s,baz=85,slow=1.0,SNR=30						
RPZ				S	**Sn**	**16 37 11.6**	**-3.7**
	66nm,0.3s,baz=205,slow=7.7,SNR=22						
RPZ	**Rata Peaks**	**3.64**	**213**	P	**Pn**	**16 36 32.0**	**-1.2**
MWZ	**Matawai**	**3.73**	**52**	P	**Pn**	**16 36 32.0**	**-2.4**
MKAZ	**Moumakai**	**3.74**	**17**	P	**Pn**	**16 36 34.7**	**+0.1**
FOZ	**Fox Glacier**	**4.18**	**225**	P	**Pn**	**16 36 38.2**	**-2.3**
KUZ	**Kuaotunu**	**4.22**	**21**	P	**Pn**	**16 36 41.7**	**+0.6**
MXZ	**Matakaoa Point**	**4.70**	**50**	P	**Pn**	**16 36 45.4**	**-2.1**
ODZ	**Otahua Downs**	**4.92**	**207**	P	**Pn**	**16 36 49.3**	**-1.1**
JCZ	**Jackson Bay**	**5.03**	**226**	P	**Pn**	**16 36 50.7**	**-1.1**
WKZ	**Wanaka**	**5.42**	**219**	P	**Pn**	**16 36 54.5**	**-2.6**
ASAR	**Alice Springs**	**37.42**	**285**	P	**P**	**16 42 41.6**	**+0.7**
	2.5nm,0.6s,mb4.3,baz=126,slow=7.2,SNR=103						
ASAR				pP	pP	16 43 07.2	+0.9
	0.5nm,0.6s,baz=126,slow=6.7,SNR=2.1						
ASAR				PcP	PcP	16 44 56.0	-1.3
	0.6nm,0.4s,baz=123,slow=3.8,SNR=8.1						
WB2	**Warramunga Arr**	**39.41**	**290**	*e*P	**P**	**16 42 58.2**	**+0.7**
WRA	**Warramunga Arr**	**39.42**	**290**	P	**P**	**16 42 58.5**	**+0.9**
	5.2nm,0.5s,mb4.7,baz=127,slow=8.3,SNR=99						
WRA				pP	pP	16 43 24.4	+1.2
	0.8nm,0.7s,baz=126,slow=8.4,SNR=2.0						
WRA				PcP	PcP	16 45 02.9	-0.6
	0.5nm,0.6s,baz=133,slow=3.0,SNR=4.8						
QSPA	**South Pole Qui**	**49.43**	**180**	P	**P**	**16 44 19.3**	**+2.9**
	2.2nm,0.7s,mb4.2,baz=332,slow=0.5,SNR=22						
QSPA	**South Pole Qui**	**49.43**	**180**	P	**P**	**16 44 19.3**	**+2.9**
MAW	**Mawson**	**60.27**	**204**	P	**P**	**16 45 35.4**	**+0.8**
	0.5nm,0.5s,mb3.8,baz=124,slow=11,SNR=5.4						
VNA2	**Neumayer--Watz**	**68.68**	**180**	*e*	**P**	**16 46 30.6**	**+1.3**
	baz=174,slow=5.9						
VNA2				*e*		16 46 32.6	
CMAR	**Chiang Mai Arr**	**90.91**	**294**	P	**P**	**16 48 28.3**	**-1.5**
	0.5nm,0.5s,mb3.9,baz=151,slow=3.5,SNR=6.6						
LIC	**Lamto**	**145.66**	**182**	*e*PKIKP	PKPdf	16 55 04.4	+0.3
	14nm,0.6s						
KIC	**Kosan Boka**	**145.78**	**183**	*e*PKIKP	PKPdf	16 55 04.8	+0.5
	23nm,0.9s						
TIC	**Toumodi**	**146.07**	**182**	*e*PKIKP	PKPdf	16 55 04.7	-0.1
	6.4nm,0.2s						
DBIC	**Dimbokro**	**146.09**	**182**	PKPbc	PKPbc	16 55 05.6	-0.3
	2.3nm,0.5s,baz=115,slow=2.8,SNR=6.7						
ARCES	**ARCESS Array B**	**146.67**	**340**	PKPbc	PKPbc	16 55 04.8	-1.1
	0.6nm,0.4s,baz=106,slow=2.6,SNR=6.8						
TORD	**Torodi Ar. Bea**	**151.69**	**196**	PKPbc	PKPbc	16 55 19.1	-1.0
	0.5nm,0.6s,baz=158,slow=3.0,SNR=9.5						

*IDC **22** 17:20:16.7±1.1, 904N×8405W, h0km, mb3.8/4, mb1 4.0/4, mb1mx3.8/16, mbtmp3.8/4, MS3.5/4, Ms1 3.6/4, ms1mx3.0/26, Error ellipse: s-maj=45.5km s-min=20.2km az=50.0*
*ISCJB **22** 17:20:18.4±1.1, 889N±006×8423W±005, h20km±8km, mb3.8/7, MS3.5/2, Error ellipse: s-maj=10.9km s-min=5.8km az=36.4*
*CASC **22** 17:20:18.0±2.8, 892N×8415W, h0km±6km, MD4.2, mb4.7(NEIC)*
*NEIC **22** 17:20:23.4±2.0, 907N×8405W, h46km±17km, mb4.7/1, Error ellipse: s-maj=34.0km s-min=13.9km az=209.0*
NEIC Felt at San Jose.

ISC 22 17:20:17.8±1.1, 892N±005×8424W±005, h8km±6km, n32, σ0ᵎ87/31, mb3.8/7, MS3.5/2, 4C-6D, Off coast of Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BUS	**Buena Vista**	**0.79**	**37**	⇓*i*P	**Pg**	**17 20 33.3**	**+0.2**
BAR1		**0.97**	**70**	⇓*i*P	**Pg**	**17 20 36.4**	**0.0**
BAR1				*e*S	**Sg**	**17 20 50.0**	**+0.9**
URSC	**Urasca**	**1.02**	**26**	⇓*i*P	**Pg**	**17 20 37.2**	**-0.1**
SJS	**Escuela Geolog**	**1.03**	**10**	⇓*e*P	**Pg**	**17 20 37.8**	**+0.2**
SJS				*e*S	**Sg**	**17 20 51.8**	**+0.7**
PRS1	**Puriscal**	**1.06**	**356**	⇓*i*P	**Pg**	**17 20 36.8**	**-1.4**
ACR	**Cerro Adams**	**1.09**	**104**	⇓*e*P	**Pg**	**17 20 38.0**	**-0.7**
ACR				*e*S	**Sg**	**17 20 52.5**	**-0.4**
CGA2	**Cerro Gallo 2**	**1.11**	**348**	⇓*e*P	**Pg**	**17 20 39.1**	**-0.1**
JCR	**Jicaral**	**1.27**	**317**	⇓*e*P	**Pn**	**17 20 41.0**	**-0.8**
JTS	**JuntasAbangare**	**1.54**	**333**	Pn	**Pn**	**17 20 44.9**	**-0.6**
	109nm,0.3s,baz=276,slow=23,SNR=96						
JTS				Sn	**Sn**	**17 21 06.0**	**+0.3**
	398nm,0.3s,baz=300,slow=20,SNR=9.8						
JTS	**JuntasAbangare**	**1.54**	**333**	Pn	**Pn**	**17 20 44.9**	**-0.6**
JTS				Sn	**Sn**	**17 21 06.0**	**+0.3**
LIO	**Limon**	**1.61**	**48**	⇑*i*P	**Pn**	**17 20 46.8**	**+0.3**
LIO				*e*S	**Sn**	**17 21 06.4**	**-1.1**
VCR	**Vista de Mar**	**1.82**	**311**	*e*P	**Pn**	**17 20 53.0**	**+3.6**
CUI	**Cuipilapa**	**1.97**	**332**	⇓*e*P	**Pn**	**17 20 52.0**	**+0.6**
CUI				*e*S	**Sn**	**17 21 22.2**	**+5.8**
BCIP	**Isla Barro Col**	**4.36**	**86**	*e*P	**Pn**	**17 21 25.1**	**+0.8**
TEIG	**Tepich**	**11.90**	**341**	LR	LR	17 27 48.8	
	comp=Z,200nm,19.3s,baz=352,slow=38						
LAPE	**La Pedrera**	**12.61**	**95**	*e*P	Px	17 20 55.1	
CMIG	**Matias Romero**	**13.17**	**309**	Pn	**Pn**	**17 23 30.6**	**+5.3**
	0.9nm,0.3s,baz=113,slow=12,SNR=9.9						
SDV	**Santo Domingo**	**13.44**	**89**	Pn	**Pn**	**17 23 29.8**	**+0.7**
	0.1nm,0.3s,baz=304,slow=10.0,SNR=4.9						
ATAH	**Atahualpa**	**16.85**	**160**	LR	LR	17 30 15.1	
	comp=Z,228nm,18.4s,baz=342,slow=35						
VBMS	**Vicksburg**	**23.91**	**347**	P	**P**	**17 25 32.4**	**+0.2**
	12nm,0.5s,mb4.6						
TKL	**Tuckaleechee C**	**26.62**	**1**	LR	LR	17 37 08.6	
	comp=Z,101nm,18.3s,MS3.4,baz=252,slow=38						
TXAR	**Lajitas Array**	**27.29**	**321**	P	**P**	**17 26 07.4**	**+4.4**
	0.3nm,0.5s,mb3.0,baz=133,slow=6.3,SNR=2.9						
ULM	**Lac du Bonnet**	**42.32**	**349**	P	**P**	**17 28 09.0**	**-3.0**
	3.8nm,0.7s,mb4.1,baz=146,slow=9.0,SNR=3.4						
ULM	**Lac du Bonnet**	**42.32**	**349**	P	**P**	**17 28 09.0**	**-3.1**
NVAR	**Mina Array Bea**	**42.42**	**319**	P	**P**	**17 28 14.6**	**+1.5**
	1.3nm,0.8s,mb3.6,baz=144,slow=7.0,SNR=9.7						
PLCA	**Paso Flores**	**50.99**	**167**	P	**P**	**17 29 20.8**	**+0.7**
	1.0nm,0.7s,mb3.8,baz=354,slow=9.2,SNR=3.4						
ESDC	**Sonseca Array**	**76.90**	**51**	P	**P**	**17 32 10.3**	**-0.5**
	0.2nm,0.3s,mb3.5,baz=294,slow=5.1,SNR=2.8						
TORD	**Torodi Ar. Bea**	**84.09**	**78**	P	**P**	**17 32 48.9**	**-1.1**
	0.5nm,0.7s,mb3.7,baz=262,slow=2.9,SNR=3.9						
NOA	**NORSAR Array B**	**84.91**	**29**	LR	LR	18 06 47.6	
	comp=Z,24nm,19.1s,MS3.6,baz=230,slow=33						
ASAR	**Alice Springs**	**140.71**	**243**	PKP	PKPdf	17 39 48.5	-0.5
	0.5nm,0.9s,baz=115,slow=2.9,SNR=3.8						
WRA	**Warramunga Arr**	**141.16**	**249**	PKP	PKPdf	17 39 50.0	+0.1
	0.8nm,0.9s,baz=111,slow=1.8,SNR=4.6						
CMAR	**Chiang Mai Arr**	**152.62**	**353**	PKPbc	PKPbc	17 40 15.6	-0.4
	0.6nm,0.8s,baz=317,slow=3.3,SNR=6.2						
CMAR				PKPab	PKPab	17 40 25.4	-0.9
	1.1nm,0.9s,baz=337,slow=4.6,SNR=7.4						

SKHL 22 17:22:49.4±0.9, 4840N×14190E, h10km, mb4.1/3, 2C, Sakhalin Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UGL	**Uglegorsk**	**0.69**	**9**	⇑*i*Pg	Pg	17 23 03.0	+0.3
UGL				AMB	AMB	17 23 04.0	
	320nm,0.3s						
UGL				*e*Sg	Sg	17 23 12.0	+0.3
UGL				A		17 23 14.0	
	2μm,0.5s						
UGL				A		17 23 14.0	
	4μm,0.5s						
UGL				A		17 23 14.0	
	1μm,0.5s						
YSS	**Yuzh-Sakhalins**	**1.56**	**158**	⇑*i*Pg	Pg	17 23 20.5	+1.2
YSS				AMB	AMB	17 23 22.3	
	120nm,0.5s						
YSS				AMB	AMB	17 23 22.3	
	150nm,0.5s						
YSS				*e*Sg	Sg	17 23 43.0	+3.5
YSS				A		17 23 45.0	
	210nm,0.5s						
GRNR	**Gornyy**	**4.28**	**306**	*e*P	Pn	17 23 56.0	+1.5
GRNR				*e*Pg	Pg	17 24 13.5	+2.2
GRNR				*e*S	Sn	17 24 44.4	-0.1
GRNR				A		17 24 45.8	
	31nm,0.8s						
GRNR				A		17 24 45.8	
	27nm,0.8s						
GRNR				A		17 24 45.8	
	28nm,0.8s						
GRNR				*e*Sg	Sg	17 25 11.8	+5.1
GRNR				A		17 25 12.5	
	43nm,0.5s						
TEY	**Ternei**	**4.96**	**229**	*e*rx	rx	17 25 17.0	
EKMR	**Ekimchan**	**7.35**	**313**	*e*Pg	Pg	17 25 39.2	+29
EKMR				AMB	AMB	17 25 44.5	
	2.0nm,0.5s						
EKMR				*e*Sg	Sg	17 26 52.5	+7.3
EKMR				A		17 26 55.0	
	8.0nm,0.6s						
EKMR				A		17 26 55.0	
	9.0nm,0.6s						

*ISCJB **22** 18:02:37.0±1.7, 746S×008×12877E±008, h128km±16km, mb3.7/7, Error ellipse: s-maj=16.3km s-min=9.5km az=42.8*
*NEIC **22** 18:02:37.1±1.9, 742S×12873E, h109km±19km, mb4.2/2, Error ellipse: s-maj=22.6km s-min=13.4km az=73.0*
*IDC **22** 18:02:43.4±4.4, 752S×12845E, h162km±38km, mb3.5/7, mb1 3.6/8, mb1mx3.5/14, mbtmp3.5/8, Error ellipse: s-maj=38.2km s-min=14.8km az=63.0*

ISC 22 18:02:39.1±1.5, 762S±009×12883E±007, h135km±15km, n20, σ1ᵎ21/23, mb3.6/7, 1D, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	**Baumata**	**5.72**	**243**	P	**Pn**	**18 04 03.3**	**+1.3**
	109nm,0.3s,baz=119,slow=4.5,SNR=161						
BATI				S	**Sn**	**18 05 04.9**	**-1.6**
	28nm,0.3s,baz=312,slow=4.7,SNR=9.5						
KAKA	**Kakadu**	**6.18**	**145**	⇓*i*P	**Pn**	**18 04 08.2**	**0.0**
	51nm,0.1s						
KAKA				*e*S	**Sn**	**18 05 16.1**	**-1.6**
WRAB	**Tennant Creek**	**13.36**	**157**	*e*Pn	**Pn**	**18 05 43.8**	**+0.3**
	11nm,0.8s						
WRAB				*e*Sn	**Sn**	**18 08 04.9**	**-6.2**
WRA	**Warramunga Arr**	**13.36**	**157**	P	**Pn**	**18 05 44.8**	**+1.2**
	1.1nm,0.3s,baz=341,slow=12,SNR=56						
WRA				S	**Sn**	**18 08 06.4**	**-4.8**
	2.9nm,0.3s,baz=337,slow=22,SNR=10						
WB2	**Warramunga Arr**	**13.37**	**157**	*e*P	**Pn**	**18 05 44.8**	**+1.2**
MBWA	**Marble Bar**	**16.08**	**212**	*e*P	**Pn**	**18 06 18.5**	**+0.9**
ASAR	**Alice Springs**	**16.68**	**164**	P	**Pn**	**18 06 28.7**	**+3.7**
	0.9nm,0.3s,baz=338,slow=9.4,SNR=127						
ASAR				S	**S**	**18 09 28.6**	**-2.3**
	0.9nm,0.3s,baz=348,slow=26,SNR=6.8						
STKA	**Stephens Creek**	**26.91**	**155**	*e*P	**P**	**18 08 11.5**	**+3.9**
	3.0nm,0.6s,mb4.1						
STKA	**Stephens Creek**	**26.91**	**155**	P	**P**	**18 08 11.6**	**+4.0**
	3.9nm,0.6s,mb4.2,baz=313,slow=9.4,SNR=11						
NWAO	**Narrogin (SRO)**	**27.39**	**202**	P	**P**	**18 08 13.5**	**+1.7**
	4.6nm,0.7s,mb4.2,baz=36,slow=11,SNR=4.2						
NWAO	**Narrogin (SRO)**	**27.39**	**202**	P	**P**	**18 08 13.5**	**+1.7**
CMAR	**Chiang Mai Arr**	**39.26**	**312**	P	**P**	**18 09 54.5**	**-0.3**
	0.2nm,0.3s,mb3.2,baz=150,slow=7.0,SNR=4.8						
SONM	**Songino Array**	**58.67**	**342**	P	**P**	**18 12 22.9**	**+0.7**
	0.1nm,0.3s,mb3.1,baz=163,slow=5.6,SNR=2.9						
MK31	**Makanchi Array**	**68.11**	**327**	*e*P	**P**	**18 13 24.4**	**0.0**
MKAR	**Makanchi Array**	**68.11**	**327**	P	**P**	**18 13 23.9**	**-0.6**
	0.4nm,0.3s,mb3.6,baz=112,slow=8.9,SNR=17						
ZALV	**Zalesovo Beam**	**71.63**	**334**	P	**P**	**18 13 43.6**	**-2.1**
	0.3nm,0.3s,mb3.5,baz=141,slow=9.3,SNR=2.9						
KURK	**Kurchatov**	**72.45**	**329**	P	**P**	**18 13 50.1**	**-0.6**
MAW	**Mawson**	**73.95**	**201**	P	**P**	**18 13 59.5**	**+0.2**
	0.7nm,0.6s,mb3.6,baz=87,slow=12,SNR=2.9						
TORD	**Torodi Ar. Bea**	**127.79**	**281**	PKP	PKPdf	18 21 30.3	+0.7
	0.3nm,0.6s,baz=103,slow=1.8,SNR=3.0						
LPAZ	**La Paz**	**150.91**	**145**	PKPbc	PKPbc	18 22 19.2	+2.3
	0.5nm,0.3s,baz=153,slow=2.3,SNR=3.3						
LPAZ				PKPab	PKPab	18 22 27.8	+3.3
	1.2nm,0.5s,baz=90,slow=2.0,SNR=6.1						

IDC 22 18:28:12.0±2.5, 618S×12984E, h0km, mb3.3/1, mb1 3.3/3, mb1mx3.1/14, mbtmp3.1/3, ML2.8/2, Error ellipse: s-maj=161.0km s-min=32.2km az=69.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**14.37**	**163**	Pn	**Pn**	**18 31 37.4**	**+0.6**
	0.0nm,0.3s,baz=345,slow=13,SNR=2.9						
WRA				Sn	**Sn**	**18 34 05.4**	**-12**
	0.1nm,0.3s,baz=336,slow=21,SNR=6.9	

KSRS	**Korea Array**	**42.01**	**344**	P	**P**	**18 47 38.0**	**-1.4**
	0.8nm,0.5s,mb3.6,baz=161,slow=8.3,SNR=4.4						
KSRS				LR	LR	19 04 40.7	
	comp=Z,126nm,18.9s,MS3.8,baz=152,slow=36						
CMAR	**Chiang Mai Arr**	**46.94**	**298**	P	**P**	**18 48 18.1**	**-1.1**
	0.9nm,0.7s,mb3.8,baz=120,slow=6.5,SNR=8.4						
XAN	**Xi'an**	**47.81**	**323**	P	**P**	**18 48 25.1**	**-0.7**
XAN				AMB	AMB		
	comp=Z,5.0nm,1.5s,mb4.3						
XAN				AMB	AMB		
	comp=Z,16nm,3.7s						
LZH	**Lanzhou**	**52.29**	**321**	*e*P	**P**	**18 49 01.3**	**+1.6**
LZH				AP	pP	18 49 14.5	+14
LZH				AMB	AMB		
	comp=Z,25nm,1.5s,mb4.9						
LZH				AMB	AMB		
	comp=Z,130nm,4.0s						
GTA	**Gaotai**	**56.85**	**322**	*e*P	**P**	**18 49 33.3**	**+0.5**
GTA				AMB	AMB		
	comp=Z,5.0nm,1.2s,mb4.4						
PETK	**Petropavlovsk-**	**57.36**	**12**	P	**P**	**18 49 36.7**	**+0.6**
	comp=Z,3.2nm,0.7s,mb4.5,baz=164,slow=6.5,SNR=7.5						
PETK				LR	LR	19 10 13.4	
	comp=Z,164nm,20.5s,MS4.1,baz=201,slow=32						
PETK	**Petropavlovsk-**	**57.36**	**12**	P	**P**	**18 49 36.7**	**+0.6**
PETK				LR	LR	19 10 13.4	
LSA	**Lhasa**	**57.98**	**308**	P	**P**	**18 49 41.4**	**+0.4**
LSA	**Lhasa**	**57.98**	**308**	*e*P	**P**	**18 49 41.7**	**+0.7**
	comp=Z,7.0nm,1.1s,mb4.6						
SONM	**Songino Array**	**59.05**	**333**	P	**P**	**18 49 48.4**	**+0.4**
	comp=Z,0.3nm,0.6s,mb3.5,baz=139,slow=7.0,SNR=3.6						
PPT	**Papeete**	**69.04**	**108**	*e*LR	LR	19 11 55.1	
	comp=Z,119nm,28.0s						
PPT	**Papeete**	**69.04**	**108**	LR	LR	19 13 55.3	
	comp=Z,58nm,20.9s,MS3.8,baz=326,slow=30						
TBI	**Tubuai**	**69.64**	**114**	*e*LR	LR	19 12 21.0	
	comp=Z,81nm,24.2s						
MKAR	**Makanchi Array**	**71.60**	**322**	P	**P**	**18 51 09.4**	**-0.1**
	comp=Z,3.5nm,0.8s,mb4.3,baz=93,slow=8.8,SNR=38						
ZAA0	**Zalesovo Array**	**73.46**	**329**	*e*P	**P**	**18 51 19.0**	**-1.4**
ZALV	**Zalesovo Beam**	**73.46**	**329**	P	**P**	**18 51 19.4**	**-1.0**
	comp=Z,3.9nm,0.6s,mb4.5,baz=112,slow=6.4,SNR=14						
KURK	**Kurchatov**	**75.43**	**324**	P	**P**	**18 51 31.5**	**-0.5**
	comp=Z,5.0nm,0.9s,mb4.4,baz=113,slow=5.6,SNR=11						
BVAR	**Borovoye Array**	**81.02**	**325**	P	**P**	**18 52 03.0**	**+0.1**
	comp=Z,2.8nm,0.7s,mb4.3,baz=107,slow=7.8,SNR=18						
IMA2	**Indian Mountai**	**82.59**	**22**	*e*P	**P**	**18 52 11.2**	**+0.3**
MAW	**Mawson**	**83.09**	**202**	P	**P**	**18 52 13.9**	**+0.4**
	comp=Z,1.3nm,0.9s,mb4.0,baz=68,slow=11,SNR=2.9						
MAW				LR	LR	19 27 00.3	
	comp=Z,209nm,18.4s,MS4.5,baz=64,slow=34						
DAWY	**Dawson**	**87.75**	**26**	*e*P	**P**	**18 52 37.2**	**+0.4**
AKTO	**Aktyubinsk**	**88.01**	**321**	LR	LR	19 34 10.3	
	comp=Z,35nm,19.6s,MS3.8,baz=279,slow=37						
YKA	**Yellowknife Ar**	**98.88**	**27**	LR	LR	19 33 21.6	
	comp=Z,70nm,20.0s,MS4.2,baz=180,slow=32						
TORD	**Torodi Ar. Bea**	**138.98**	**287**	PKP	PKPdf	18 59 16.5	+0.6
	comp=Z,0.8nm,0.8s,baz=82,slow=3.7,SNR=4.0						
ROSC	**El Rosal**	**144.17**	**86**	PKP	PKPdf	18 59 25.7	+0.4
	comp=Z,5.5nm,0.3s,baz=89,slow=23,SNR=5.5						
LPAZ	**La Paz**	**145.08**	**124**	PKPbc	PKPbc	18 59 27.8	+1.7
	comp=Z,2.4nm,0.8s,baz=156,slow=2.6,SNR=8.1						
DBIC	**Dimbokro**	**146.29**	**278**	PKPbc	PKPbc	18 59 29.5	-0.5
	comp=Z,2.6nm,0.6s,baz=100,slow=3.4,SNR=9.2						
DBIC	**Dimbokro**	**146.29**	**278**	PKPbc	PKPbc	18 59 29.5	-0.5
SDV	**Santo Domingo**	**147.46**	**78**	*e*PKPbc	PKPbc	18 59 33.0	-0.3

*IDC **22** 19:04:05.5±9.4, 3627N×7080E, h156km±88km, mb3.3/6, mb1 3.4/10, mb1mx3.2/25, mbtmp3.3/10, Error ellipse: s-maj=48.2km s-min=20.9km az=10.0*
*NEIC **22** 19:04:06.4±4.7, 3629N×7083E, h164km±43km, mb3.5/1, Error ellipse: s-maj=29.4km s-min=14.4km az=196.0*
*ISCJB **22** 19:04:07.7±1.6, 3632N±0.10×709E±0.1, h192km±13km, mb3.2/5, Error ellipse: s-maj=18.3km s-min=11.7km az=41.8*
*NNC **22** 19:04:08.6±6.4, 3704N×7101E, h0km, mb3.7, mpv4.0, Error ellipse: s-maj=60.7km s-min=40.2km az=47.0*

ISC 22 19:04:12.1±1.4, 3659N±009×710E±01, h207km±11km, n28, σ1§09/33, mb3.2/5, 6C-5D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AML	**Almayashu**	**5.92**	**20**	P	**Pn**	**19 05 38.7**	**+0.5**
	SNR=88						
UCH	**Uchtor**	**6.26**	**25**	P	**Sn**	**19 06 52.4**	**-2.1**
	SNR=12						
EKS2	**Erkin-Say**	**6.43**	**19**	P	**Pn**	**19 05 45.2**	**+0.3**
	SNR=16						
KK31	**Karatay Array**	**6.51**	**357**	Pn	**Pn**	**19 05 45.4**	**-0.5**
	2.1nm,0.3s,baz=187,slow=12,SNR=90						
KK31				⇓Sn	**Sn**	**19 06 55.3**	**-5.2**
	19nm,0.5s,baz=188,slow=24,SNR=6.9						
AAK	**Ala-Archa**	**6.61**	**23**	P	**Pn**	**19 05 48.0**	**+0.8**
	SNR=10						
KBK	**Karagaybulak**	**6.78**	**26**	P	**Pn**	**19 05 50.3**	**+0.8**
	SNR=9.7						
USP	**Ospenovka**	**7.19**	**21**	P	**Pn**	**19 05 54.9**	**+0.2**
	SNR=9.5						
TKM2	**Tokmak 2**	**7.25**	**28**	⇓Pn	**Pn**	**19 05 55.8**	**+0.3**
	21nm,0.8s						
TKM2				⇑Sn	**Sn**	**19 07 14.9**	**-2.9**
	10.0nm,0.8s						
TKM2	**Tokmak 2**	**7.25**	**28**	P	**Pn**	**19 05 56.0**	**+0.5**
	SNR=13						
MK31	**Makanchi Array**	**13.22**	**36**	⇓Pn	**Pn**	**19 07 12.2**	**+0.3**
	3.2nm,0.8s,baz=210,slow=9.7,SNR=4.3						
MKAR	**Makanchi Array**	**13.22**	**36**	P	**Pn**	**19 07 11.8**	**-0.2**
	0.3nm,0.3s,baz=206,slow=10,SNR=16						
AB31	**Akbulak array**	**14.99**	**331**	Pn	**Pn**	**19 07 35.7**	**+2.0**
	0.2nm,0.3s,baz=139,slow=12,SNR=6.8						
AB31				⇓Sn	**S**	**19 10 17.8**	**-2.1**
	0.2nm,0.4s						
KURBB	**Kurchatov Arra**	**15.04**	**19**	⇓Pn	**Pn**	**19 07 33.1**	**-1.1**
	0.3nm,0.5s						
KURK	**Kurchatov**	**15.15**	**19**	P	**Pn**	**19 07 33.1**	**-2.5**
	0.2nm,0.3s,baz=191,slow=7.7,SNR=18						
KURK	**Kurchatov**	**15.15**	**19**	P	**Pn**	**19 07 35.4**	**-0.1**
	1.4nm,0.7s						
VOSK	**Vostochnaya**	**16.13**	**360**	⇑Pn	**Pn**	**19 07 47.7**	**+0.4**
	1.7nm,0.7s						
BVA0	**Borovoye Array**	**16.44**	**359**	⇑Pn	**Pn**	**19 07 51.9**	**+0.9**
	0.3nm,0.6s,baz=158,slow=11,SNR=14						
BVA0				⇑Sn	**S**	**19 10 51.8**	**+0.7**
	0.4nm,1.1s						
BVAR	**Borovoye Array**	**16.44**	**359**	P	**P**	**19 07 50.7**	**+0.7**
	0.3nm,0.3s,baz=164,slow=11,SNR=3.5						
AKTK	**Aktyubinsk**	**16.69**	**330**	P	**P**	**19 07 53.5**	**+0.6**
AKTO	**Aktyubinsk**	**16.69**	**330**	⇑Pn	**Pn**	**19 07 54.0**	**-0.1**
	0.2nm,0.8s						
AKTO				⇑Sn	**S**	**19 11 03.1**	**+6.6**
	0.2nm,0.6s						
AKTO	**Aktyubinsk**	**16.69**	**330**	P	**P**	**19 07 53.5**	**+0.6**
	0.2nm,0.3s,baz=135,slow=13,SNR=4.3						
ZAA0	**Zalesovo Array**	**19.84**	**25**	*e*P	**P**	**19 08 27.8**	**+0.8**
ZALV	**Zalesovo Beam**	**19.84**	**25**	P	**P**	**19 08 27.3**	**+0.4**
	3.9nm,0.5s,baz=218,slow=11,SNR=27						
SONM	**Songino Array**	**28.30**	**55**	P	**P**	**19 09 47.8**	**+1.7**
	0.1nm,0.4s,mb2.8,baz=259,slow=9.9,SNR=3.6						
ARCES	**ARCESS Array B**	**41.05**	**338**	P	**P**	**19 11 34.6**	**-0.2**
	3.8nm,1.1s,mb3.8,baz=125,slow=7.8,SNR=4.0						
TORD	**Torodi Ar. Bea**	**65.70**	**269**	P	**P**	**19 14 32.7**	**-2.0**
	0.4nm,0.5s,mb3.3,baz=49,slow=5.6,SNR=14						
WRA	**Warramunga Arr**	**82.05**	**122**	P	**P**	**19 16 07.9**	**-1.4**
	0.5nm,1.0s,mb3.1,baz=325,slow=5.0,SNR=5.2						
ASAR	**Alice Springs**	**84.32**	**125**	P	**P**	**19 16 20.1**	**-0.8**
	0.4nm,0.7s,mb3.3,baz=315,slow=5.1,SNR=6.6						

IDC 22 19:06:15.4±3.8, 313S×13573E, h0km, mb3.3/2, mb1 3.5/3, mb1mx3.3/14, mbtmp3.3/3, ML2.7/1, Error ellipse: s-maj=174.8km s-min=30.6km az=80.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**16.77**	**185**	Pn	Pn	19 10 09.7	-2.1
	0.0nm,0.3s,baz=6.4,slow=13,SNR=3.9						
ASAR	**Alice Springs**	**20.49**	**185**	P	P	19 10 56.0	+1.0
	1.4nm,0.9s,baz=4.6,slow=11,SNR=9.8						
MKAR	**Makanchi Array**	**68.33**	**324**	P	P	19 17 18.6	+0.1
	0.2nm,0.6s,baz=108,slow=7.9,SNR=5.3						

IDC 22 19:14:38.2±3.9, 029S×9957E, h0km, mb3.6/5, mb1 3.7/5, mb1mx3.5/18, mbtmp3.6/5, Error ellipse: s-maj=164.9km s-min=22.1km az=57.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**39.24**	**122**	P	P	19 22 08.5	-0.2
	0.5nm,1.0s,baz=310,slow=8.9,SNR=8.5						
ASAR	**Alice Springs**	**40.62**	**127**	P	P	19 22 20.2	+0.1
	0.3nm,0.8s,baz=297,slow=7.5,SNR=4.3						
SONM	**Songino Array**	**48.29**	**6**	P	P	19 23 21.5	+0.4
	0.3nm,0.4s,baz=187,slow=10,SNR=3.4						
MKAR	**Makanchi Array**	**49.27**	**344**	P	P	19 23 28.6	0.0
	0.2nm,0.3s,baz=144,slow=7.4,SNR=5.1						
ZALV	**Zalesovo Beam**	**55.42**	**349**	P	P	19 24 13.9	-0.2
	0.9nm,0.5s,baz=183,slow=5.8,SNR=4.0						

*ISCJB **22** 19:25:25.9±1.6, 137S±0.1×170.1E±0.1, h641km±21km, mb3.9/16, Error ellipse: s-maj=18.8km s-min=14.1km az=39.7*
*NEIC **22** 19:25:25.4±1.4, 1364S×17023E, h619km±17km, mb4.3/2, Error ellipse: s-maj=15.5km s-min=11.7km az=107.0*
*IDC **22** 19:25:26.2±1.4, 1367S×170.13E, h628km±16km, mb3.4/16, mb1 3.6/17, mb1mx3.5/22, mbtmp3.5/17, Error ellipse: s-maj=15.9km s-min=9.7km az=144.0*
*LDG **22** 19:25:28.6±0.1, 1364S×16930E, h640km, Mb4.3/1, Error ellipse: s-maj=19.8km s-min=5.1km az=96.0*

ISC 22 19:25:26.5±1.5, 136S±01×1701E±01, h630km±18km, n64, σ0§78/24, mb3.9/15, Vanuatu Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**10.81**	**292**	P	**P**	**19 27 53.3**	**-0.5**
	9.6nm,0.3s,baz=243,slow=2.9,SNR=6.6						
CTA	**Charters Tower**	**23.71**	**251**	*e*P	**P**	**19 29 52.9**	**+0.9**
	3.5nm,1.1s,mb3.9						
CTA	**Charters Tower**	**23.71**	**251**	P	**P**	**19 29 53.1**	**+1.1**
	3.4nm,0.5s,mb4.2,baz=89,slow=9.7,SNR=7.1						
CTAO	**Charters Tower**	**23.71**	**251**	*e*P	**P**	**19 29 48.4**	**-3.6**
URZ	**Urewera**	**25.29**	**167**	P	**P**	**19 30 04.2**	**-1.5**
	4.1nm,0.5s,mb4.3,baz=343,slow=14,SNR=4.3						
CNB	**Canberra Magne**	**28.57**	**217**	*e*P	**P**	**19 30 35.0**	**+0.7**
STKA	**Stephens Creek**	**31.81**	**230**	*e*P	**P**	**19 31 02.9**	**+0.9**
	7.2nm,0.3s,mb4.8						
STKA	**Stephens Creek**	**31.81**	**230**	P	**P**	**19 31 03.1**	**+1.1**
	8.7nm,0.4s,mb4.8,baz=60,slow=8.4,SNR=96						
STKA				PcP	PcP	19 33 33.1	+0.1
	3.0nm,0.9s,baz=40,slow=7.9,SNR=2.9						
STKA				ScP	ScP	19 36 19.6	+1.8
	1.1nm,0.6s,baz=21,slow=8.6,SNR=3.7						
TOO	**Toolangi**	**32.39**	**218**	*e*P	**P**	**19 31 07.7**	**+0.9**
WRAB	**Tennant Creek**	**34.77**	**255**	*e*P	**P**	**19 31 26.4**	**-0.5**
WRA	**Warramunga Arr**	**34.78**	**255**	P	**P**	**19 31 26.8**	**-0.2**
	3.6nm,0.5s,mb4.3,baz=85,slow=8.6,SNR=93						
WRA				PcP	PcP	19 33 41.4	-0.4
	1.1nm,0.6s,baz=81,slow=3.3,SNR=7.8						
WRA				S	**S**	**19 36 12.7**	**-2.3**
	0.6nm,0.6s,baz=89,slow=13,SNR=4.6						
ASAR	**Alice Springs**	**35.65**	**248**	P	**P**	**19 31 34.4**	**+0.2**
	6.4nm,0.4s,mb4.5,baz=77,slow=9.5,SNR=157						
ASAR				PcP	PcP	19 33 44.2	-0.1
	1.7nm,0.8s,baz=98,slow=3.3,SNR=8.0						
ASAR				S	**S**	**19 36 26.9**	**-0.9**
	2.8nm,0.6s,baz=78,slow=16,SNR=21						
ASAR				ScP	ScP	19 36 33.8	+2.0
	0.8nm,0.7s,baz=92,slow=2.2,SNR=6.6						
MJAR	**Matsushiro Arr**	**58.29**	**330**	P	**P**	**19 34 22.1**	**-0.7**
	1.3nm,0.4s,mb3.4,baz=159,slow=7.4,SNR=6.8						
PETK	**Petropavlovsk-**	**67.33**	**352**	P	**P**	**19 35 20.1**	**-0.1**
	5.5nm,1.0s,mb3.9,baz=211,slow=5.0,SNR=3.7						
CMAR	**Chiang Mai Arr**	**77.06**	**293**	P	**P**	**19 36 18.4**	**+1.4**
	2.7nm,0.8s,mb3.7,baz=116,slow=4.1,SNR=23						
KDAK	**Kodiak Island**	**77.50**	**19**	P	**P**	**19 36 18.1**	**-0.4**
	4.6nm,0.9s,mb3.9,baz=135,slow=5.7,SNR=3.2						
YBH	**Yreka Blue Hor**	**82.70**	**44**	P	**P**	**19 36 45.9**	**+0.1**
	1.7nm,0.6s,mb3.8,baz=31,slow=1.4,SNR=5.7						
SONM	**Songino Array**	**83.30**	**323**	P	**P**	**19 36 49.2**	**+0.6**
	0.6nm,0.6s,mb3.3,baz=135,slow=4.8,SNR=6.6						
MAW	**Mawson**	**83.92**	**202**	P	**P**	**19 36 51.1**	**-0.3**
	1.1nm,0.6s,mb3.6,baz=148,slow=5.8,SNR=6.0						
NVAR	**Mina Array Bea**	**84.47**	**48**	P	**P**	**19 36 54.9**	**+0.3**
	2.1nm,0.8s,mb3.7,baz=233,slow=7.3,SNR=13						
ELK	**Elko**	**87.52**	**47**	P	**P**	**19 37 08.9**	**-0.1**
	0.8nm,0.5s,mb3.7,baz=268,slow=3.8,SNR=4.9						
TXAR	**Lajitas Array**	**93.33**	**61**	P	**P**	**19 37 35.9**	**-0.2**
	0.3nm,0.7s,mb3.4,baz=237,slow=6.3,SNR=3.6						
MKAR	**Makanchi Array**	**98.34**	**316**	P	Pdif	19 37 58.4	+0.2
	0.2nm,0.3s,baz=96,slow=5.9,SNR=8.2						
MKAR	**Makanchi Array**	**98.34**	**316**	P	Pdif	19 37 58.4	+0.2
ARCES	**ARCESS Array B**	**119.88**	**346**	PKP	PKPdf	19 43 05.0	-1.0
	1.7nm,0.4s,baz=66,slow=1.8,SNR=24						
GERES	**GERESS Array B**	**139.87**	**336**	PKP	PKPdf	19 43 46.5	+2.2
	0.6nm,0.6s,baz=198,slow=0.6,SNR=3.6						
GERES	**GERESS Array B**	**139.87**	**336**	PKP	PKPdf	19 43 46.5	+2.2
CDF	**Champ du Feu**	**142.53**	**341**	*e*PKP1	PKPdf	19 43 46.2	-2.9
	6.3nm,0.7s						
HAU	**Haudompre**	**143.18**	**342**	*e*PKP1	PKPdf	19 43 48.4	-1.8
	13nm,0.7s						
HINF	**Hinteralfeld**	**143.19**	**341**	*e*PKP1	PKPdf	19 43 48.2	-2.1
	6.6nm,0.7s						
FLN	**La Foliniere**	**144.13**	**349**	*e*PKP1	PKPdf	19 43 51.2	-0.7
	22nm,0.7s						
LDF	**La Druitiere**	**144.22**	**349**	*e*PKP1	PKPdf	19 43 51.4	-0.6
	18nm,0.8s						
CABF	**La Chapelle**	**144.50**	**341**	*e*PKP1	PKPdf	19 43 53.3	+0.7
	18nm,0.7s						
GRR	**Gorron**	**144.56**	**350**	*e*PKP1	PKPdf	19 43 52.8	+0.2
	18nm,0.7s						
LOR	**Lormes**	**144.56**	**344**	*e*PKP1	PKPdf	19 43 53.0	+0.3
	14nm,0.7s						
SSF	**Saint Saulge**	**144.85**	**344**	*e*PKP1	PKPdf	19 43 54.0	+0.9
	25nm,0.8s						
HYF	**Humbligny**	**144.88**	**345**	*e*PKP1	PKPdf	19 43 54.3	+1.1
SGMF	**Saint Gilles**	**144.96**	**351**	*e*PKP1	PKPdf	19 43 53.8	+0.5
	31nm,0.9s						
ROSF	**Rostrenen**	**144.98**	**352**	*e*PKP1	PKPdf	19 43 54.0	+0.7
	11nm,0.7s						
AVF	**Avril sur Loir**	**145.14**	**344**	*e*PKP1	PKPbc	19 43 54.3	-0.5
	9.2nm,0.8s						
SMF	**Signal de Mont**	**145.14**	**343**	*e*PKP1	PKPbc	19 43 54.5	-0.3
	4.9nm,0.6s						
LPL	**La Plagne**	**145.25**	**339**	*e*PKP1	PKPbc	19 43 55.6	+0.4
	14nm,0.8s						
LPG	**La Plagne**	**145.26**	**339**	*e*PKP1	PKPbc	19 43 55.7	+0.5
	15nm,0.7s						
QUIF	**Quistinic**	**145.37**	**352**	*e*PKP1	PKPbc	19 43 54.8	-0.6
BGF	**Bois d'Agland**	**145.49**	**344**	*e*PKP1	PKPbc	19 43 55.7	-0.1
	17nm,0.7s						
TCF	**Toulx Ste Croi**	**145.90**	**345**	*e*PKP1	PKPbc	19 43 56.8	-0.2
	9.0nm,0.8s						
MBDF	**Montbardon**	**145.92**	**339**	*e*PKP1	PKPbc	19 43 56.9	-0.2
	11nm,0.6s						
ORIF	**Oris-en-Rattie**	**146.06**	**340**	*e*PKP1	PKPbc	19 43 57.6	+0.1
	16nm,0.6s						
MFF	**Saint Martin d**	**146.14**	**348**	*e*PKP1	PKPbc	19 43 57.4	-0.2
	18nm,0.7s						
SBF	**Sospel**	**146.42**	**337**	*e*PKP1	PKPbc	19 43 57.8	-0.7
VIVF	**Saint-Julien-l**	**146.51**	**341**	*e*PKP1	PKPbc	19 43 58.7	0.0
PGF	**Pioggiola**	**146.89**	**334**	*e*PKP1	PKPbc	19 43 59.3	-0.5
	37nm,0.9s						
FRF	**La Foret Royal**	**146.98**	**338**	*e*PKP1	PKPbc	19 43 59.4	-0.6
	24nm,0.8s						
RJF	**Les Rejaudoux**	**146.99**	**345**	*e*PKP1	PKPbc	19 43 59.8	-0.2
SMRF	**Simiane la Rot**	**147.00**	**339**	*e*PKP1	PKPbc	19 44 00.2	+0.2
	15nm,0.8s						
CAF	**Calviac**	**147.20**	**344**	*e*PKP1	PKPbc	19 44 00.5	0.0
LMR	**La Mourre**	**147.22**	**338**	*e*PKP1	PKPbc	19 44 00.2	-0.4
	5.6nm,0.5s						
LASF	**Ste Croix**	**147.47**	**341**	*e*PKP1	PKPbc	19 44 01.3	+0.1
	12nm,0.8s						
EPF	**Esparros**	**149.42**	**345**	*e*PKP1	PKPbc	19 44 06.4	+0.3
	6.2nm,0.8s						
SJPF	**Ste Jean**	**149.70**	**347**	*e*PKP1	PKPbc	19 44 07.0	+0.3
	7.1nm,0.7s						
ETSF	**Etsaut**	**149.76**	**346**	*e*PKP1	PKPbc	19 44 07.3	+0.4
	11nm,0.8s						
ESDC	**Sonseca Array**	**153.55**	**350**	PKPab	PKPab	19 44 31.4	+0.3
	0.4nm,0.4s,baz=5.1,slow=4.3,SNR=3.8						
TORD	**Torodi Ar. Bea**	**168.73**	**269**	PKP	PKPdf	19 44 21.9	-1.5
	0.5nm,0.8s,baz=80,slow=1.5,SNR=2.9						
TORD				PKPab	PKPab	19 45 38.2	-0.5
	0.6nm,0.8s,baz=93,slow=4.2,SNR=6.4						
TORD	**Torodi Ar. Bea**	**168.73**	**269**	PKP	PKPdf	19 44 21.9	-1.5
TORD				PKPab	PKPab	19 45 38.2	-0.5

*TIR **22** 19:34:05.3±2.0, 4150N×2021E, h1km±723km*
*SKO **22** 19:34:05.2, 4150N×2026E, h22km*
*CSEM **22** 19:34:05.5±0.3, 4145N×2026E, h10km, ML3.2/1, Error ellipse: s-maj=7.2km s-min=6.2km az=173.0*
*THE **22** 19:34:05.9, 4151N×2029E, h0km±4km, ML3.2/1, Error ellipse: s-maj=4.8km s-min=0.8km az=3.0*
*ISCJB **22** 19:34:06.0±0.5, 4147N±003×2026E±004, h3km±7km, Error ellipse: s-maj=5.4km s-min=4.7km az=178.6*

ISC 22 19:34:06.2±0.6, 4148N±003×2024E±004, h10km±6km, n18, σ0§74/34, Albania

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
QSH	**Qafa e Shtames**	**0.25**	**279**	*e*PG	**Pg**	**19 34 10.5**	**-0.9**
PHP	**Peshkopia**	**0.25**	**37**	*e*PG	**Pg**	**19 34 11.3**	**-0.1**
PHP				*i* SG	**Sg**	**19 34 15.5**	**+0.6**
TIR	**Tirane**	**0.31**	**244**	*e*PG	**Pg**	**19 34 12.0**	**-0.4**
TIR				*i* SG	**Sg**	**19 34 17.7**	**+1.1**
TIR	**Tirane**	**0.31**	**244**	P	**Pg**	**19 34 12.7**	**+0.3**
TIR				S	**Sg**	**19 34 18.1**	**+1.5**
OHR	**Ohrid**	**0.56**	**131**	P	**Pg**	**19 34 16.1**	**-1.1**
OHR				S	**Sg**	**19 34 25.5**	**+0.9**
OHR	**Ohrid**	**0.56**	**131**	*i* Pg	**Pg**	**19 34 16.7**	**-0.4**
OHR				*e*Sg	**Sg**	**19 34 25.1**	**+0.6**
OHR	**Ohrid**	**0.56**	**131**	*i* Pg	**Pg**	**19 34 16.7**	**-0.5**
OHR				*e*Sg	**Sg**	**19 34 25.1**	**+0.5**
PUK	**Puka**	**0.62**	**335**	*e*PG	**Pg**	**19 34 17.8**	**-0.4**
KRUS	**Krusevo**	**0.77**	**98**	*i* Pg	**Pg**	**19 34 20.4**	**-0.7**
KRUS				*e*Sg	**Sg**	**19 34 31.5**	**+0.3**
KRUS	**Krusevo**	**0.77**	**98**	*i* Pg	**Pg**	**19 34 20.3**	**-0.8**
KRUS				*e*Sg	**Sg**	**19 34 31.4**	**+0.3**
BCI	**Bajram Curri**	**0.89**	**352**	*e*PG	**Pg**	**19 34 27.1**	**+3.7**
BIA	**Bitola**	**0.94**	**119**	P	**Pg**	**19 34 23.5**	**-0.9**
BIA				S	**Sg**	**19 34 36.4**	**-0.2**
BIA	**Bitola**	**0.94**	**119**	*e*Pg	**Pg**	**19 34 23.9**	**-0.5**
BIA				*e*Sg	**Sg**	**19 34 37.0**	**+0.4**
BIA	**Bitola**	**0.94**	**119**	*e*Pg	**Pg**	**19 34 23.8**	**-0.6**
BIA				S	**Sg**	**19 34 36.4**	**-0.2**
BIA				*e*Sg	**Sg**	**19 34 36.9**	**+0.3**
SKO	**Skopje**	**1.02**	**61**	*e*Pg	**Pg**	**19 34 25.0**	**-1.0**
SKO				*e*Sg	**Sg**	**19 34 39.6**	**+0.3**
SKO	**Skopje**	**1.02**	**61**	P	**Pb**	**19 34 26.9**	**+0.9**
SKO				*e*Sg	**Sg**	**19 34 39.6**	**+0.3**
SKO				S	**Sb**	**19 34 39.8**	**+0.3**
FNA	**Florina**	**1.11**	**129**	P	**Pb**	**19 34 26.3**	**-1.2**
FNA				S	**Sb**	**19 34 42.6**	**+0.7**
VAY	**Valandovo**	**1.76**	**94**	P	**Pn**	**19 34 36.9**	**+0.1**

*SKO **22** 19:37:41.9, 4146N×2028E, h9km*
*BEO **22** 19:37:41.1±1.2, 4114N×2019E, ML2.7/2*
*THE **22** 19:37:41.5, 4154N×2030E, h0km±2km, ML3.2/2, Error ellipse: s-maj=2.2km s-min=0.8km az=329.0*
*ISCJB **22** 19:37:42.2±0.5, 4152N±003×2028E±003, h10km, Error ellipse: s-maj=3.9km s-min=3.4km az=13.6*
*TIR **22** 19:37:43.4±11.0, 4196N×1953E, h0km±999km*
*CSEM **22** 19:37:43.4±0.2, 4141N×2043E, h8km, ML3.2/2, Error ellipse: s-maj=6.9km s-min=5.1km az=46.0*

ISC 22 19:37:42.1±0.5, 4155N±003×2029E±003, h2km±5km, n20, σ1§01/35, Albania

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
QSH	**Qafa e Shtames**	**0.29**	**265**	*e*PG	**Pg**	**19 37 51.0**	**+3.3**
TIR	**Tirane**	**0.38**	**238**	P	**Pg**	**19 37 48.7**	**-0.6**
TIR				S	**Sg**	**19 37 54.3**	**+0.1**
LACI	**Lac**	**0.45**	**

MKAZ S Sn 20 09 16.9 +0.1
URZ Urewera 1.87 182 eP Pn 20 08 54.3 -1.1

ISCJB ***22*** *20:10:13.7±0.2,43.10N±002×4625E±002, h90km±2km, mb4.3/82, Error ellipse: s-maj=3.5km s-min=2.0km az=15.0*

CSEM ***22*** *20:10:13.0±0.0, 43.13N×4624E, h80km, mb4.2/42, Error ellipse: s-maj=1.5km s-min=1.2km az=13.0*

MOS ***22*** *20:10:13.2±1.1, 4309N×4627E, h89km, mb4.5/42, Error ellipse: s-maj=5.8km s-min=3.4km az=36.8*

MOS Felt (III) at Khasavyurt; (II-III) at Makhachkala.

TIF ***22*** *20:10:14.2, 4293N×4611E, h19km±4km*

SZGRF ***22*** *20:10:15.1, 4338N×4564E, h33km, mb4.3, Eastern Caucasus*

NEIC ***22*** *20:10:15.4±0.3, 43.12N×46.19E, mb4.2/34, Error ellipse: s-maj=7.6km s-min=3.7km az=7.0*

IDC ***22*** *20:10:15.3±0.6, 4304N×46.15E, h89km±6km, mb4.0/19, mb1 4.1/23, mb1mx4.0/30, mbtmp4.0/23, MS2.9/9, Ms1 2.9/9, ms1mx2.6/38, Error ellipse: s-maj=10.7km s-min=7.6km az=132.0*

NNC ***22*** *20:10:16.7±2.8, 4323N×4763E, h0km, mb4.1, Error ellipse: s-maj=30.7km s-min=23.0km az=135.0*

ISC 22 20:10:14.8±0.2, 4310N±002×4625E±002, h83km±2km, h88km±3.0km; pP-P, n345, σ1§10/419, mb4.3/82, 34C-18D, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
DLMR	**Dylym**	**0.28**	**95**	*i* P		**Pn**	**20 10 24.7**	**-2.6**
DLMR				*i* S		**Sn**	**20 10 34.4**	**-2.1**
DBC	**Dubki**	**0.43**	**100**	*i* P		**Pn**	**20 10 26.5**	**-1.8**
DBC				*i* S		**Sn**	**20 10 36.5**	**-1.8**
XNZR	**Khunzakh**	**0.65**	**149**	*i* P		**Pn**	**20 10 29.7**	**-0.5**
XNZR				*i* S		**Sn**	**20 10 41.7**	**+0.1**
BUJR	**Buynaksk**	**0.69**	**113**	*i* P		**Pn**	**20 10 31.7**	**+1.2**
BUJR				*i* S		**Sn**	**20 10 44.7**	**+2.5**
MAK	**Makhachkala**	**0.93**	**98**	⇓*i* P		**Pn**	**20 10 35.1**	**+1.9**
MAK				*i*			20 10 50.3	
MAK	comp=Z,2μm,0.2s			pmax	pmax			
MAK	comp=E,2μm,0.3s			pmax	pmax			
MAK	comp=N,1μm,0.3s			pmax	pmax			
MAK	comp=N,21μm,0.5s			smax				
SNJR	**Sundja**	**1.05**	**269**	*i* P		**Pn**	**20 10 35.7**	**+1.1**
SNJR				*i* S		**Sn**	**20 10 51.1**	**+1.6**
KMKR	**Kumukh**	**1.15**	**147**	⇓*i* P		**Pn**	**20 10 32.0**	**-3.8**
KMKR				*i* S		**Sn**	**20 10 48.5**	**-3.1**
KMKR	comp=Z,2μm,0.2s			pmax	pmax			
KMKR	**Kumukh**	**1.15**	**147**	*i* P		**Pn**	**20 10 32.0**	**-3.8**
KMKR	comp=Z,2μm,0.2s			*i* S		**Sn**	**20 10 48.5**	**-3.1**
MNSR	**Manas**	**1.15**	**109**	⇓*i* P		**Pn**	**20 10 34.0**	**-1.8**
MNSR				*e*S		**Sn**	**20 10 52.0**	**+0.5**
MNSR	comp=Z,823nm,0.3s			pmax	pmax			
MNSR	**Manas**	**1.15**	**109**	*i* P		**Pn**	**20 10 34.0**	**-1.8**
VLKR	**Vladikavkaz**	**1.15**	**268**	*i* P		**Pn**	**20 10 36.7**	**+0.9**
VLKR				*i* S		**Sn**	**20 10 52.9**	**+1.3**
TRKR	**Terskaya**	**1.27**	**300**	*i* P		**Pn**	**20 10 38.8**	**+1.5**
TRKR				*i* S		**Sn**	**20 10 56.1**	**+1.9**
BTKR	**Batakoyurt**	**1.28**	**283**	*i* P		**Pn**	**20 10 39.0**	**+1.7**
BTKR				*i* S		**Sn**	**20 10 56.5**	**+2.1**
ARNR	**Ardon**	**1.45**	**274**	*i* P		**Pn**	**20 10 40.2**	**+0.7**
ARNR				*i* S		**Sn**	**20 10 58.8**	**+0.7**
KMSR	**Komsomolskaya**	**1.46**	**282**	*i* P		**Pn**	**20 10 41.1**	**+1.5**
KMSR				*i* S		**Sn**	**20 10 59.5**	**+1.1**
LACR	**Lac**	**1.46**	**260**	*i* P		**Pn**	**20 10 39.2**	**-0.4**
LACR				*i* S		**Sn**	**20 10 57.3**	**-1.1**
PRTR	**Priterechnaya**	**1.58**	**295**	*i* P		**Pn**	**20 10 42.6**	**+1.5**
PRTR				*i* S		**Sn**	**20 11 03.6**	**+2.5**
KORR	**Kora**	**1.60**	**270**	*i* P		**Pn**	**20 10 41.8**	**+0.4**
KORR				*e*S		**Sn**	**20 11 01.7**	**+0.1**
ZEI	**Tsey**	**1.76**	**260**	⇓*i* P		**Pn**	**20 10 42.2**	**-1.3**
ZEI				*i* S		**Sn**	**20 11 02.5**	**-2.8**
TBLG	**Delisi**	**1.76**	**220**	P		**Pn**	**20 10 43.0**	**-0.6**
TBLG				S		**Sn**	**20 11 04.5**	**-1.0**
TBLG	**Delisi**	**1.76**	**220**	P		**Pn**	**20 10 43.0**	**-0.6**
TBLG				S		**Sn**	**20 11 04.5**	**-1.0**
TBLG	**Delisi**	**1.76**	**220**	P		**Pn**	**20 10 43.0**	**-0.6**
TBLG				S		**Sn**	**20 11 04.5**	**-1.0**
DGRG	**David-gareji**	**1.77**	**202**	P		**Pn**	**20 10 43.6**	**-0.1**
DGRG				S		**Sn**	**20 11 06.5**	**+0.9**
MTA	**Mtatsminda**	**1.77**	**218**	P		**Pn**	**20 10 42.9**	**-0.7**
MTA				S		**Sn**	**20 11 04.4**	**-1.2**
LSNR	**Lesken**	**1.79**	**277**	*i* P		**Pn**	**20 10 44.5**	**+0.6**
LSNR				*i* S		**Sn**	**20 11 06.5**	**+0.4**
DRN	**Derbent**	**1.87**	**124**	⇑*i* P		**Pn**	**20 10 44.0**	**-1.0**
DRN				*i* S		**Sn**	**20 11 07.6**	**-0.4**
DRN	comp=Z,759nm,0.3s			pmax	pmax			
DRN	**Derbent** comp=Z,759nm,0.3s	**1.87**	**124**	*i* P		**Pn**	**20 10 44.0**	**-1.0**
GOR	**Gori**	**1.93**	**236**	P		**Pn**	**20 10 45.8**	**0.0**
GOR				S		**Sn**	**20 11 09.2**	**-0.2**
DIGR	**Digorskoe uzhe**	**1.97**	**265**	*i* P		**Pn**	**20 10 45.8**	**-0.5**
DIGR				*i* S		**Sn**	**20 11 08.8**	**-1.5**
SEKA	**Sheki** SNR=210	**2.01**	**159**	P		**Pn**	**20 10 46.4**	**-0.5**
SEKA				S		**Sn**	**20 11 09.8**	**-1.6**
ONI	**Oni**	**2.12**	**257**	P		**Pn**	**20 10 49.4**	**+1.1**
ONI				S		**Sn**	**20 11 13.8**	**-0.1**
GANJ	**Ganja** SNR=134	**2.45**	**179**	P		**Pn**	**20 10 51.3**	**-1.4**
GANJ				S		**Sn**	**20 11 18.2**	**-3.6**
SHAR	**Shatzhatmas**	**2.69**	**285**	*d* iP		**Pn**	**20 10 56.2**	**+0.3**
KIV	**Kislovodsk** SNR=34	**2.73**	**290**	P		**Pn**	**20 10 56.7**	**+0.2**
KIV	**Kislovodsk**	**2.73**	**290**	*e*Pn		**Pn**	**20 10 56.4**	**-0.1**
KIV				*e*Sn		**Sn**	**20 11 24.6**	**-3.9**
KIV	**Kislovodsk**	**2.73**	**290**	*e*Pn		**Pn**	**20 10 56.4**	**-0.1**
KIV				*e*Sn		**Sn**	**20 11 24.6**	**-3.9**
SIZA	**Siyzn** SNR=22	**2.82**	**135**	P		**Pn**	**20 10 58.3**	**+0.6**
PQL	**Pirkuli** SNR=66	**2.89**	**142**	P		**Pn**	**20 10 59.0**	**+0.3**
PQL				S		**Sn**	**20 11 33.1**	**+0.6**
BRDA	**Brd** SNR=195	**2.92**	**166**	P		**Pn**	**20 10 59.1**	**+0.1**
BRDA				S		**Sn**	**20 11 33.4**	**+0.4**
GNI	**Garni** comp=Z,27nm,0.3s,baz=302,slow=3.0,SNR=116	**3.15**	**202**	P		**Pn**	**20 11 02.0**	**-0.2**
GNI	comp=Z,75nm,0.3s,baz=128,slow=21,SNR=18			S		**Sn**	**20 11 39.0**	**+0.2**
GNI	**Garni**	**3.15**	**202**	P		**Pn**	**20 11 02.0**	**-0.2**
GNI				S		**Sn**	**20 11 39.0**	**+0.2**
GNI	comp=Z,27nm,0.3s			pmax	pmax			
GNI	comp=N,75nm,0.3s			smax				
DIGO	**Kars**	**3.44**	**220**	*i* P		**Pn**	**20 11 05.4**	**-0.7**
ARTV	**Artvin**	**3.74**	**241**	*i* P		**Pn**	**20 11 10.4**	**+0.3**
DAGI	**Agillar**	**3.80**	**239**	*i* P		**Pn**	**20 11 09.7**	**-1.3**
DBOC	**Borcka**	**3.83**	**244**	*i* P		**Pn**	**20 11 12.9**	**+1.6**
NAX	**Nakhchivan** SNR=41	**3.96**	**189**	P		**Pn**	**20 11 13.7**	**+0.6**
DBAD	**Bademkaya**	**3.98**	**240**	*i* P		**Pn**	**20 11 13.6**	**+0.2**
DBAD				*i* P			20 11 13.8	
DDEM	**Demirkent**	**4.01**	**238**	*i* P		**Pn**	**20 11 14.2**	**+0.4**
GLBA	**Clilabad** SNR=375	**4.18**	**156**	P		**Pn**	**20 11 15.3**	**-0.8**
GLBA				S		**Sn**	**20 12 00.2**	**-3.5**
HOMI	**Horasan**	**4.46**	**228**	*i* P		**Pn**	**20 11 22.1**	**+2.2**
SOC	**Sochi**	**4.79**	**278**	*e*P		**Pn**	**20 11 25.7**	**+1.3**
SOC				*e*			20 12 19.0	
SOC	comp=Z,35nm,0.6s			pmax	pmax			
SOC	**Sochi** comp=Z,35nm,0.6s	**4.79**	**278**	*e*P		**Pn**	**20 11 25.7**	**+1.3**
SOC				*e*S		**Sn**	**20 12 19.0**	**+0.4**
ERZM	**Erzurum**	**4.86**	**231**	*i* P		**Pn**	**20 11 24.4**	**-1.0**
TVAN	**Van**	**5.05**	**206**	*i* P		**Pn**	**20 11 21.3**	**-6.6**
HAKT	**HAKKARI**	**5.86**	**200**	*i* P		**Pn**	**20 11 42.0**	**+3.0**
ANN	**Anapa**	**6.59**	**288**	*e*P		**Pn**	**20 11 50.7**	**+1.8**
ANN				*e*S		**Sn**	**20 13 07.0**	**+4.5**
ANN	comp=Z,58nm,1.0s			pmax	pmax			
ANN	**Anapa** comp=Z,58nm,1.0s	**6.59**	**288**	*e*P		**Pn**	**20 11 50.7**	**+1.8**
ANN				*e*S		**Sn**	**20 13 07.0**	**+4.5**
SUDU	**Sudak**	**8.31**	**286**	*i* P		**Pn**	**20 12 13.5**	**+1.2**
ALU	**Alushta**	**8.70**	**285**	*e*P		**Pn**	**20 12 18.1**	**+0.4**
ALU				*e*S		**Sn**	**20 13 53.6**	**-0.5**
YAL	**Yalta**	**8.86**	**283**	*e*P		**Pn**	**20 12 21.2**	**+1.3**
YAL				*e*S		**Sn**	**20 13 57.4**	**-0.5**
SIM	**Simferopol'**	**8.94**	**286**	*e*P		**Pn**	**20 12 22.7**	**+1.8**
SIM				*e*S		**Sn**	**20 14 00.7**	**+0.9**
SEV	**Sevastopol'**	**9.21**	**283**	*e*P		**Pn**	**20 12 24.6**	**-0.1**
SEV				*e*S		**Sn**	**20 14 06.2**	**-0.3**
VSR	**Storozhevoye**	**9.44**	**332**	*e*P		**Pn**	**20 12 25.5**	**-2.3**
VSR				*e*S		**Sn**	**20 14 07.7**	**-4.4**
VSR	comp=Z,10.0nm,0.8s			pmax	pmax			
VSR	comp=N,5.0nm,1.1s			pmax	pmax			
VSR	comp=E,4.0nm,1.0s			pmax	pmax			
VSR	comp=E,390nm,1.0s			smax				
VSR	comp=Z,50nm,0.7s			smax				
VSR	comp=N,140nm,0.6s			smax				
VOR	**Voronezh**	**9.87**	**334**	*e*P		**Pn**	**20 12 33.0**	**-0.5**
VOR	comp=Z,200nm,1.4s			pmax	pmax			
VOR	**Voronezh** comp=Z,200nm,1.4s	**9.87**	**334**	*e*P		**Pn**	**20 12 33.0**	**-0.5**
AKTK	**Aktyubinsk** comp=Z,3.0nm,0.3s	**10.90**	**44**	P		**Pn**	**20 12 46.4**	**-1.2**
AKTK				S		**Sn**	**20 14 40.3**	**-7.3**
AKTK	**Aktyubinsk**	**10.90**	**44**	P		**Pn**	**20 12 46.4**	**-1.3**
AKTK				S		**Sn**	**20 14 40.3**	**-7.3**
AKTK				LR		LR	20 18 01.7	
AKTO	**Aktyubinsk** comp=Z,3.2nm,0.3s,baz=219,slow=10,SNR=29	**10.90**	**44**	P		**Pn**	**20 12 46.4**	**-1.3**
AKTO	comp=Z,7.0nm,0.3s,baz=97,slow=21,SNR=14			S		**Sn**	**20 14 40.3**	**-7.3**
AKTO	comp=Z,30nm,18.1s,baz=262,slow=42			LR		LR	20 18 01.7	
AKTO	**Aktyubinsk**	**10.90**	**44**	P		**Pn**	**20 12 46.4**	**-1.2**
AKTO				S		**Sn**	**20 14 40.3**	**-7.3**
AKTO	comp=Z,3.0nm,0.3s			pmax	pmax			
AKTO	comp=N,7.0nm,0.3s			smax				
AKTO	**Aktyubinsk** comp=N,2.8nm,1.0s	**10.90**	**44**	Pn		**Pn**	**20 12 46.7**	**-0.9**
AKTO	comp=N,9.3nm,0.5s			Sn		**Sn**	**20 14 41.1**	**-6.5**
AB31	**Akbulak array** comp=N,5.6nm,0.5s,baz=238,slow=11,SNR=156	**11.31**	**52**	Pn		**Pn**	**20 12 52.5**	**-0.6**
AB31	comp=N,17nm,0.4s,baz=250,slow=38,SNR=5.4			⇑Sn		**Sn**	**20 14 52.1**	**-5.5**
AB31	**Akbulak array** comp=N,5.6nm,0.5s,SNR=156	**11.31**	**52**	Pn		**Pn**	**20 12 52.5**	**-0.7**
AB31	comp=N,17nm,0.4s,SNR=5.4			Sn		**Sn**	**20 14 52.1**	**-5.5**
TIRR	**Tirgusor**	**12.97**	**282**	⇑*i* P		**Pn**	**20 13 14.6**	**-0.9**
TIRR	**Tirgusor**	**12.97**	**282**	⇑P		**Pn**	**20 13 14.6**	**-0.9**
MMAI	**Mount Meron Ar** comp=N,30nm,18.8s,baz=45,slow=40	**13.19**	**224**	LR		LR	20 18 56.0	
OBN	**Obninsk**	**13.58**	**336**	⇓*i* P		**Pn**	**20 13 21.3**	**-2.2**
OBN				*i* S		**Sn**	**20 15 46.8**	**-5.8**
OBN	comp=Z,78nm,0.8s			pmax	pmax			
OBN	**Obninsk** comp=Z,78nm,0.8s	**13.58**	**336**	*i* P		**Pn**	**20 13 21.3**	**-2.2**
OBN				*e*S		**Sn**	**20 15 45.4**	**-7.2**
OBN	**Obninsk** comp=Z,80nm,0.6s	**13.58**	**336**	*e*P		**Pn**	**20 13 21.1**	**-2.5**
OBN				*e*S		**Sn**	**20 15 45.4**	**-7.2**
MOS	**Moscow**	**13.83**	**339**	*e*P		**Pn**	**20 13 24.1**	**-2.7**
MOS				*e*S		**Sn**	**20 15 49.5**	**-9.1**
MOS	comp=Z,162nm,1.0s			pmax	pmax			
MOS	**Moscow** comp=Z,162nm,1.0s	**13.83**	**339**	*e*P		**Pn**	**20 13 24.1**	**-2.7**
AKASG	**Malin Array Be** comp=Z,6.3nm,0.3s,baz=113,slow=13,SNR=26	**13.88**	**309**	P		**Pn**	**20 13 25.2**	**-2.4**
AKASG	comp=Z,6.4nm,0.3s,baz=118,slow=25,SNR=5.7			S		**Sn**	**20 15 52.6**	**-7.4**
AKASG	**Malin Array Be**	**13.88**	**309**	P		**Pn**	**20 13 25.2**	**-2.4**
AKASG				S		**Sn**	**20 15 52.6**	**-7.5**
AKASG	comp=Z,6.0nm,0.3s			pmax	pmax			
AKASG	comp=N,6.0nm,0.3s			smax				
AKASG	**Malin Array Be**	**13.88**	**309**	P		**Pn**	**20 13 25.2**	**-2.4**
AKASG				S		**Sn**	**20 15 52.6**	**-7.4**
AKBB	**Malin Array Si**	**13.88**	**309**	*e*P		**Pn**	**20 13 25.0**	**-2.6**
AKBB				*e*S		**Sn**	**20 15 49.4**	**-11**
AKBB	**Malin Array Si**	**13.88**	**309**	*e*P		**Pn**	**20 13 25.0**	**-2.5**
AKBB				*e*S		**Sn**	**20 15 49.4**	**-11**
VRI	**Vrincioaia**	**14.21**	**288**	⇓*i* P		**Pn**	**20 13 32.7**	**+0.9**
VRI	**Vrincioaia**	**14.21**	**288**	⇓P		**Pn**	**20 13 32.7**	**+0.9**
PLOR	**Plostina**	**14.26**	**288**	⇑*i* P		**Pn**	**20 13 32.3**	**-0.2**
MLR	**Muntele Rosu** comp=N,0.6nm,0.3s,baz=135,slow=2.9,SNR=6.5	**14.73**	**286**	P		**Pn**	**20 13 37.9**	**-0.7**
MLR	**Muntele Rosu** comp=Z,1.0nm,0.3s	**14.73**	**286**	P		**Pn**	**20 13 37.9**	**-0.7**
MLR				pmax	pmax			
MLR	**Muntele Rosu**	**14.73**	**286**	⇑*i* P		**Pn**	**20 13 41.2**	**+2.6**
MLR	**Muntele Rosu**	**14.73**	**286**	P		**Pn**	**20 13 37.9**	**-0.7**
MLR				⇑P			20 13 41.2	
VOIR		**15.36**	**286**	⇓*i* P		**Pn**	**20 13 48.2**	**+1.5**
VOIR		**15.36**	**286**	⇓P		**Pn**	**20 13 48.2**	**+1.5**
BURAR	**Bucovina Array**	**15.45**	**294**	⇑*i* P		**Pn**	**20 13 50.4**	**+2.7**
BURAR	**Bucovina Array**	**15.45**	**294**	⇑P		**Pn**	**20 13 50.4**	**+2.7**
ARU	**Arti**	**15.50**	**26**	*e*P		**Pn**	**20 13 44.9**	**-3.4**
ARU				*e*S		**S**	**20 16 34.5**	**-15**
ARU	**Arti** comp=Z,19nm,0.6s	**15.50**	**26**	*e*P		**Pn**	**20 13 45.1**	**-3.2**
ARU				*e*S		**S**	**20 16 34.5**	**-15**
ARU	**Arti** comp=Z,19nm,0.6s	**15.50**	**26**	*e*P		**Pn**	**20 13 45.1**	**-3.2**
ARU				*e*S		S	20 16 28.0	-22
EIL	**Elat** comp=Z,0.6nm,0.3s,baz=31,slow=4.4,SNR=3.7	**16.17**	**218**	P		**Pn**	**20 13 59.7**	**+2.8**
EIL	comp=Z,24nm,18.5s,baz=34,slow=40			LR		LR	20 21 04.1	
SVE	**Sverdlovsk**	**16.52**	**29**	⇑*e*P		**Pn**	**20 13 59.5**	**-1.5**
SVE				*e*S		**S**	**20 16 50.8**	**-20**
SVE	comp=Z,62nm,0.9s			pmax	pmax			
SVE	**Sverdlovsk** comp=Z,62nm,0.9s	**16.52**	**29**	*e*P		**Pn**	**20 13 59.5**	**-1.5**
LVV	**L'vov**	**16.69**	**301**	*e*P		**Pn**	**20 14 00.4**	**-2.7**
LVV				*e*S		**S**	**20 17 00.8**	**-13**
KWP	**Kalwaria**	**17.47**	**300**	*e*P		**Pn**	**20 14 14.1**	**+1.3**
KWP				*e*pP		pP	20 14 24.3	-4.7
KWP				*e*S		**S**	**20 17 41.4**	**+11**
KWP	**Kalwaria**	**17.47**	**300**	*e*P		**Pn**	**20 14 14.1**	**+1.3**
KWP				*e*pP		pP	20 14 24.3	-4.7
KWP	**Kalwaria**	**17.47**	**300**	*e*P		**Pn**	**20 14 14.1**	**+1.3**
KWP				*e*pP		pP	20 14 24.3	-4.7
KWP				*e*S		**S**	**20 17 41.4**	**+11**
UZH	**Uzhgorod**	**17.55**	**297**	*e*P		**Pn**	**20 14 08.5**	**-5.2**
KOLS	**Kolonicke sedl**	**17.61**	**298**	*e*P		**Pn**	**20 14 13.6**	**-0.9**
KOLS				*e*S		**S**	**20 17 24.0**	**-7.1**
KK31	**Karatay Array** comp=Z,10.0nm,0.6s,baz=276,slow=13,SNR=164	**17.71**	**82**	⇑Pn		**Pn**	**20 14 14.9**	**-0.8**
KK31	comp=Z,3.0nm,0.6s,baz=272,slow=24,SNR=5.8			⇑Sn		**Sn**	**20 17 23.6**	**-9.0**
SOKR	**Solikamsk**	**17.72**	**18**	*e*P		**Pn**	**20 14 14.1**	**-1.6**
SOKR	comp=Z,20nm,0.8s			pmax	pmax			
SOKR	**Solikamsk** comp=Z,20nm,0.8s	**17.72**	**18**	*e*P		**Pn**	**20 14 14.1**	**-1.6**
BZS	**Buzias**	**17.78**	**287**	⇑*i* P		**Pn**	**20 14 16.8**	**+0.3**
BZS	**Buzias**	**17.78**	**287**	⇑P		**Pn**	**20 14 16.8**	**+0.2**
CRVS	**Cervenica-Dubn**	**18.13**	**297**	*e*P		**Pn**	**20 14 21.2**	**+0.4**
IDI	**Anoyia** comp=Z,1.2nm,0.3s,baz=103,slow=18,SNR=10	**18.27**	**252**	P		**Pn**	**20 14 21.6**	**-0.9**
STHS	**Stebnicka Huta**	**18.36**	**299**	*e*P		**Pn**	**20 14 22.8**	**-0.8**
STHS	comp=Z,4.0nm,0.8s			pmax	pmax			
STHS	**Stebnicka Huta** comp=Z,3.6nm,0.8s	**18.36**	**299**	*e*P		**Pn**	**20 14 22.8**	**-0.8**
STHS				*e*S		**S**	**20 17 41.6**	**-6.3**
SUW	**Suwalki**	**18.68**	**314**	*e*P		**Pn**	**20 14 25.5**	**-1.8**
SUW				*e*pP		pP	20 14 28.8	-14
SUW				*e*S		**S**	**20 17 49.0**	**-5.2**
BRVK	**Borovoye** SNR=7.0	**18.81**	**50**	P		**Pn**	**20 14 30.8**	**+1.9**
BRVK	**Borovoye**	**18.81**	**50**	*e*P		**Pn**	**20 14 28.2**	**-0.7**
BRVK				*e*S		**S**	**20 17 45.1**	**-12**
BRVK	comp=Z,19nm,0.6s			pmax	pmax			
BRVK	**Borovoye** comp=Z,18nm,0.6s	**18.81**	**50**	*e*P		**Pn**	**20 14 28.2**	**-0.7**
BRVK				*e*S		**S**	**20 17 45.0**	**-12**
BRVK	**Borovoye** comp=Z,18nm,0.6s	**18.81**	**50**	*e*P		**Pn**	**20 14 28.2**	**-0.7**
BRVK				*e*S		**S**	**20 17 45.0**	**-12**
BVA0	**Borovoye Array** comp=Z,3.2nm,1.3s,baz=251,slow=10,SNR=47	**18.86**	**50**	Pn		**Pn**	**20 14 28.9**	**-0.5**
BVA0	comp=Z,2.5nm,0.6s,baz=257,slow=26,SNR=11			⇑Sn		**Sn**	**20 17 49.6**	**-10**
BVAR	**Borovoye Array** comp=Z,1.6nm,0.3s,baz=263,slow=10,SNR=40	**18.86**	**50**	P		**Pn**	**20 14 28.8**	**-0.6**
BVAR	comp=Z,1.9nm,0.3s,baz=259,slow=11,SNR=8.8			pP		pP	20 14 45.4	+1.1
BVAR	comp=Z,2.7nm,0.3s,baz=254,slow=28,SNR=11			S		**S**	**20 17 53.2**	**-4.6**
BVAR	comp=Z,18nm,19.2s,baz=87,slow=39			LR		LR	20 22 39.8	
BVAR	**Borovoye Array**	**18.86**	**50**	P		**Pn**	**20 14 28.8**	**-0.7**
BVAR				S		**S**	**20 17 53.2**	**-4.6**
BVAR	comp=Z,2.0nm,0.3s			pmax	pmax			
BVAR	comp=N,3.0nm,0.3s			smax				
NIE	**Niedzica**	**18.96**	**298**	*e*P		**Pn**	**20 14 30.8**	**+0.1**
PSZ	**Piszkesteto**	**19.05**	**294**	⇑*i* P		**Pn**	**20 14 32.8**	**+1.1**
PSZ	**Piszkesteto**	**19.05**	**294**	⇑P		**Pn**	**20 14 32.8**	**+1.1**
VOSK	**Vostochnaya** comp=N,16nm,1.2s	**19.09**	**51**	⇑Pn		**Pn**	**20 14 32.2**	**+0.1**
VOSK	comp=N,6.2nm,0.6s			⇑Sn		**Sn**	**20 17 54.7**	**-11**
OJC	**Ojcow**	**19.43**	**301**	*e*P		**Pn**	**20 14 34.8**	**-1.5**
VSU	**Vasula**	**19.60**	**328**	*i* P		**Pn**	**20 14 37.1**	**-1.0**
KBL	**Kabul**	**19.66**	**108**	*e*P		**Pn**	**20 14 39.1**	**0.0**
KBL	comp=Z,12nm,1.1s			pmax	pmax			
KBL	**Kabul** comp=Z,12nm,1.1s	**19.66**	**108**	*e*P		**Pn**	**20 14 39.1**	**0.0**
KBL	**Kabul** comp=Z,12nm,1.1s	**19.66**	**108**	*e*P		**Pn**	**20 14 39.1**	**0.0**
VYHS	**Vyhne**	**19.80**	**295**	*e*P		**Pn**	**20 14 39.4**	**-1.2**
PKSM	**Moragy**	**19.85**	**289**	⇑*i* P		**Pn**	**20 14 39.7**	**-1.4**
PKSM	**Moragy**	**19.85**	**289**	⇑P		**Pn**	**20 14 39.7**	**-1.5**
KOLL	**Kolacno**	**20.10**	**295**	*e*P		**P**	**20 14 41.8**	**+0.3**
EKS2	**Erkin-Say** SNR=8.8	**20.15**	**82**	P		**P**	**20 14 43.3**	**+1.2**
EKS2	**Erkin-Say** comp=Z,9.6nm,0.9s	**20.15**	**82**	*e*P		**P**	**20 14 43.2**	**+1.1**
EKS2	**Erkin-Say** comp=Z,9.6nm,0.9s	**20.15**	**82**	*e*P		**P**	**20 14 43.2**	**+1.1**
AML	**Almayashu** SNR=15	**20.19**	**83**	P		**P**	**20 14 44.0**	**+1.4**
AML	**Almayashu** comp=Z,8.5nm,0.6s	**20.19**	**83**	*e*P		**P**	**20 14 44.1**	**+1.5**
AML	**Almayashu** comp=Z,8.5nm,0.6s	**20.19**	**83**	*e*P		**P**	**20 14 44.1**	**+1.5**
OKC	**Ostrava-Krasne**	**20.42**	**299**	*e*P		**P**	**20 14 45.3**	**+0.4**
USP	**Ospenovka** SNR=5.5	**20.57**	**80**	P		**P**	**20 14 46.7**	**+0.1**
AAK	**Ala-Archa** SNR=11	**20.68**	**82**	P		**P**	**20 14 49.0**	**+1.2**
MORC	**Moravsky Berou**	**20.80**	**299**	*e*P		**P**	**20 14 49.0**	**0.0**
MORC	comp=Z,13nm,0.8s			pmax	pmax			
MORC	**Moravsky Berou**	**20.80**	**299**	⇑*i* P		**P**	**20 14 49.5**	**+0.5**
MORC	**Moravsky Berou**	**20.80**	**299**	*e*P		**P**	**20 14 49.3**	**+0.3**
MORC	**Moravsky Berou** comp=Z,13nm,0.8s	**20.80**	**299**	*e*P		**P**	**20 14 49.0**	**-0.1**
MODS	**Modra-Piesok**	**20.83**	**295**	*e*P		**P**	**20 14 48.9**	**-0.5**
MODS	comp=Z,8.0nm,1.3s			pmax	pmax			
MODS	**Modra-Piesok** comp=Z,7.9nm,1.3s	**20.83**	**295**	*e*P		**P**	**20 14 48.9**	**-0.5**
ZST	**Bratislava**	**20.94**	**294**	*e*P		**P**	**20 14 51.6**	**+1.1**
ZST	comp=Z,13nm,1.1s			pmax	pmax			
ZST	**Bratislava** comp=Z,12nm,1.1s	**20.94**	**294**	*e*P		**P**	**20 14 51.6**	**+1.1**
KBK	**Karagaybulak** SNR=14	**21.00**	**81**	P		**P**	**20 14 52.6**	**+1.4**
VRAC	**Vranov** comp=Z,2.4nm,0.4s,mb3.9,baz=104,slow=11,SNR=5.3	**21.36**	**297**	P		**P**	**20 14 55.5**	**+0.4**
VRAC	comp=Z,43nm,21.4s,baz=115,slow=39			LR		LR	20 24 08.6	
TKM2	**Tokmak 2** comp=Z,5.9nm,0.8s,mb4.0	**21.42**	**80**	⇓Pn		**P**	**20 14 56.2**	**+0.5**
TKM2	**Tokmak 2**	**21.42**	**80**	*e*P		**P**	**20 14 56.4**	**+0.7**
TKM2	comp=Z,4.0nm,0.5s,mb4.0			pmax	pmax			
TKM2	**Tokmak 2** SNR=12	**21.42**	**80**	P		**P**	**20 14 56.3**	**+0.6**
TKM2	**Tokmak 2** comp=Z,4.4nm,0.5s,mb4.0	**21.42**	**80**	*e*P		**P**	**20 14 56.3**	**+0.6**
TKM2	**Tokmak 2** comp=Z,4.4nm,0.5s,mb4.0	**21.42**	**80**	*e*P		**P**	**20 14 56.4**	**+0.6**
DPC	**Dobruska-Polom**	**21.66**	**300**	*e*P		**P**	**20 14 58.8**	**+0.6**
DPC	comp=N,4.0nm,0.6s			smax				
JOF	**Joensuu** comp=N,13nm,0.4s,mb4.6	**21.69**	**341**	*e*p		**P**	**20 14 59.0**	**+0.6**
**JOF

CLL Collm 23.87 302 *e*P **P 20 15 22.0 +1.8**
CLL Collm 23.87 302 *e*P **P 20 15 21.0 +0.8**
comp=Z,5.0nm,0.8s,mb3.9
CLL Collm 23.87 302 *i* P **P 20 15 21.8 +1.6**
comp=Z,5.0nm,0.8s,mb3.9
CLL *ex* x 20 15 43.0
CLL Collm 23.87 302 P **P 20 15 22.0 +1.8**
ABTA Abfaltersbach 24.06 290 ⇓*i*P **P 20 15 22.0 0.0**
comp=Z,4.5nm,0.8s,mb3.8
NKC Novy Kostel 24.11 299 *e*P **P 20 15 23.6 +1.1**
TANN Tannenbergstha 24.12 299 *e*P **P 20 15 23.9 +1.4**
comp=Z,8.0nm,0.9s,mb4.0
ROTZ Rotzenmuhle 24.24 298 *e*P **P 20 15 24.8 +1.2**
comp=Z,8.0nm,1.1s,mb4.0
MANZ Manzenberg 24.32 298 *e*P **P 20 15 25.0 +0.7**
comp=Z,3.0nm,0.9s,mb3.6
WTTA Wattenberg 24.62 292 ⇓*i*P **P 20 15 26.7 -0.4**
comp=Z,16nm,0.6s,mb4.7
WATA Walderalm 24.66 292 ⇑*i*P **P 20 15 27.3 -0.2**
comp=Z,8.3nm,0.7s,mb4.2
MOX Moxa 24.68 300 *e*P **P 20 15 27.7 +0.1**
comp=Z,8.0nm,0.9s,mb4.2
GRA1 Grafenberg Arr 24.88 298 *e*P **P 20 15 29.7 +0.3**
comp=Z,19nm,1.5s,mb4.3
GRF Grafenberg Arr 24.88 298 *e*P **P 20 15 29.7 +0.3**
GRF pmax pmax
comp=Z,19nm,1.5s,mb4.3
GRF Grafenberg Arr 24.88 298 *e*P **P 20 15 29.7 +0.3**
GRF pmax pmax
comp=Z,19nm,1.5s,mb4.3
GRF Grafenberg Arr 24.88 298 *e*P **P 20 15 29.7 +0.3**
comp=Z,19nm,1.5s,mb4.3
MOTA Moosalm 24.98 292 ⇑*i*P **P 20 15 30.0 -0.4**
comp=Z,5.2nm,0.6s,mb4.1
FETA Feichten 25.26 291 ⇑*i*P **P 20 15 33.5 +0.6**
comp=Z,9.9nm,0.9s,mb4.3
APA Apatity 25.48 349 ⇑*i*P **P 20 15 35.0 +0.3**
APA pmax pmax
comp=Z,16nm,1.0s,mb4.4
LVZ Lovozero 25.62 350 ⇓*i*P **P 20 15 36.8 +0.9**
LVZ MLR MLR
comp=Z,100nm,15.0s
MK31 Makanchi Array 25.63 69 ⇑P **P 20 15 37.2 +0.9**
comp=Z,1.9nm,0.6s,mb3.7,baz=274,slow=7.9,SNR=14
MK31 Makanchi Array 25.63 69 *e*P **P 20 15 37.3 +1.0**
MK31 *e*pP pP 20 15 54.6 -0.6
MK31 Makanchi Array 25.63 69 *e*P **P 20 15 37.3 +1.0**
MK31 *e*pP pP 20 15 54.6 -0.7
MKAR Makanchi Array 25.63 69 P **P 20 15 37.1 +0.9**
comp=Z,1.6nm,0.5s,mb3.8,baz=275,slow=8.1,SNR=21
MKAR pP pP 20 15 56.9 +1.6
comp=Z,1.1nm,0.4s,baz=265,slow=9.9,SNR=4.5
MKAR Makanchi Array 25.63 69 P **P 20 15 37.2 +0.9**
MKAR *PP pP 20 15 56.9 +1.7
MKAR pmax pmax
comp=Z,2.0nm,0.5s
DAVA Damuels 25.82 292 ⇑*i*P **P 20 15 37.9 -0.1**
comp=Z,5.4nm,0.6s,mb4.2
DAVOX Davos/Dischmat 25.86 291 P **P 20 15 37.7 -0.7**
comp=Z,2.9nm,0.4s,mb4.1,baz=36,slow=8.5,SNR=12
BSEG Bad Segeberg 25.88 307 *e*P **P 20 15 38.6 +0.2**
BSEG pmax pmax
comp=Z,12nm,1.3s,mb4.2
BSEG Bad Segeberg 25.88 307 *e*P **P 20 15 38.6 +0.2**
comp=Z,12nm,1.3s,mb4.2
WHFO Wadi Hawf 25.90 163 P **P 20 15 37.9 -0.9**
SNR=10
DAVOS Davos 25.91 291 P **P 20 15 37.7 -1.1**
HFS Hagfors 26.05 322 P **P 20 15 39.8 -0.1**
comp=Z,12nm,0.6s,mb4.5,baz=121,slow=11,SNR=51
HFS Hagfors 26.05 322 P **P 20 15 39.8 -0.1**
HFS pmax pmax
comp=Z,13nm,0.6s
ABTO Aybut 26.35 165 P **P 20 15 42.1 -0.9**
SNR=13
RBK Rabkut 26.39 163 P **P 20 15 42.5 -0.9**
SNR=11
ZALV Zalesovo Beam 27.42 53 P **P 20 15 53.2 +0.9**
comp=Z,0.8nm,0.4s,mb3.6,baz=259,slow=9.1,SNR=4.7
ZALV pP pP 20 16 13.8 +2.5
comp=Z,1.6nm,0.7s,baz=266,slow=9.4,SNR=4.3
ZALV Zalesovo Beam 27.42 53 P **P 20 15 53.2 +0.9**
ZALV *PP pP 20 16 13.8 +2.4
ZALV pmax pmax
comp=Z,1.0nm,0.4s,mb3.7
ZALV Zalesovo Beam 27.42 53 P **P 20 15 53.2 +0.9**
ZALV pP pP 20 16 13.8 +2.4
CDF Champ du Feu 27.49 295 *e*P **P 20 15 52.2 -0.8**
comp=Z,6.7nm,0.8s,mb3.9
CDF Champ du Feu 27.49 295 *e*P **P 20 15 52.2 -0.8**
CDF pmax pmax
comp=Z,3.0nm,0.8s,mb3.9
CDF Champ du Feu 27.49 295 *e*P **P 20 15 52.2 -0.8**
comp=Z,3.3nm,0.8s,mb3.9
NB2 NORSAR Subarra 27.55 323 P **P 20 15 52.7 -0.7**
comp=Z,2.7nm,0.6s,mb4.0,baz=114,slow=9.3
NOA NORSAR Array B 27.55 323 P **P 20 15 53.0 -0.4**
comp=Z,4.5nm,0.7s,mb4.1,baz=119,slow=8.3,SNR=16
NOA pP pP 20 16 12.4 0.0
comp=Z,3.4nm,0.6s,baz=124,slow=12,SNR=7.1
NOA LR LR 20 26 58.7
comp=Z,31nm,19.2s,baz=250,slow=36
NOA NORSAR Array B 27.55 323 *e*P **P 20 15 53.0 -0.4**
NOA pmax pmax
comp=Z,5.0nm,0.7s
NOA NORSAR Array B 27.55 323 P **P 20 15 53.0 -0.4**
NOA pP pP 20 16 12.4 0.0
HAU Haudompre 28.14 294 ⇑*i*P **P 20 15 57.8 -1.0**
comp=Z,13nm,0.6s,mb4.3
HAU Haudompre 28.14 294 ⇑*i*P **P 20 15 57.8 -1.0**
HAU pmax pmax
comp=Z,7.0nm,0.6s,mb4.4
HAU Haudompre 28.14 294 ⇑*i*P **P 20 15 57.8 -1.0**
comp=Z,6.5nm,0.6s,mb4.3
WLF Walferdange 28.17 298 *e*P **P 20 15 58.9 -0.1**
comp=Z,18nm,1.4s,mb4.4
LPG La Plagne 28.18 289 *e*P **P 20 15 58.3 -0.8**
comp=Z,4.6nm,0.5s,mb4.0
LPG La Plagne 28.18 289 *e*P **P 20 15 58.3 -0.8**
LPG pmax pmax
comp=Z,2.0nm,0.5s,mb3.9
LPG La Plagne 28.18 289 *e*P **P 20 15 58.3 -0.8**
comp=Z,2.3nm,0.5s,mb4.0
LPL La Plagne 28.19 289 *e*P **P 20 15 58.4 -0.8**
comp=Z,6.0nm,0.5s,mb4.1
LPL La Plagne 28.19 289 *e*P **P 20 15 58.4 -0.8**
LPL pmax pmax
comp=Z,3.0nm,0.5s,mb4.1
LPL La Plagne 28.19 289 *e*P **P 20 15 58.4 -0.8**
comp=Z,3.0nm,0.5s,mb4.1
MBDF Montbardon 28.30 287 *e*P **P 20 15 59.4 -0.8**
comp=Z,8.2nm,0.6s,mb4.2
MBDF Montbardon 28.30 287 *e*P **P 20 15 59.4 -0.8**
MBDF pmax pmax
comp=Z,4.0nm,0.6s,mb4.1
MBDF Montbardon 28.30 287 *e*P **P 20 15 59.4 -0.8**
comp=Z,4.1nm,0.6s,mb4.2
CABF La Chapelle 28.47 291 *e*P **P 20 16 00.8 -0.9**
comp=Z,7.8nm,0.7s,mb4.1
CABF La Chapelle 28.47 291 *e*P **P 20 16 00.8 -0.9**
CABF pmax pmax
comp=Z,4.0nm,0.7s,mb4.1
CABF La Chapelle 28.47 291 *e*P **P 20 16 00.8 -0.9**
comp=Z,3.9nm,0.7s,mb4.1
KEV Kevo 28.49 346 *e*p **P 20 16 02.1 +0.5**
comp=Z,2.2nm,0.3s,mb4.2
KEV Kevo 28.49 346 *e*P **P 20 16 02.1 +0.5**
KEV pmax pmax
comp=Z,2.0nm,0.3s,mb4.1
ARCES ARCESS Array B 28.57 345 P **P 20 16 03.0 +0.6**
comp=Z,3.2nm,0.3s,mb4.4,baz=154,slow=10,SNR=116
ARCES LR LR 20 27 58.8
comp=Z,58nm,18.2s,baz=258,slow=37
ARCES ARCESS Array B 28.57 345 P **P 20 16 03.0 +0.6**
ARCES pmax pmax
comp=Z,3.0nm,0.3s
ARCES MLR MLR
comp=Z,58nm,18.2s
FRF La Foret Royal 28.63 285 *e*P **P 20 16 02.7 -0.4**
comp=Z,15nm,0.7s,mb4.4
FRF La Foret Royal 28.63 285 *e*P **P 20 16 02.7 -0.4**
FRF pmax pmax
comp=Z,8.0nm,0.7s,mb4.5
FRF La Foret Royal 28.63 285 *e*P **P 20 16 02.7 -0.4**
comp=Z,7.6nm,0.7s,mb4.4
ORIF Oris-en-Rattie 28.89 288 *e*P **P 20 16 04.5 -0.9**

MEZF Maizieres J'vi 28.96 295 *e*P **P 20 16 04.9 -1.1**
comp=Z,13nm,0.8s,mb4.3
MEZF Maizieres J'vi 28.96 295 *e*P **P 20 16 04.9 -1.1**
comp=Z,6.4nm,0.8s,mb4.3
KEST Kesra 29.27 268 P **P 20 16 09.9 +1.0**
comp=Z,3.4nm,1.1s,mb3.9,baz=293,slow=2.3,SNR=7.0
SMRF Simiane la Rot 29.29 286 *e*P **P 20 16 08.5 -0.5**
BAIF Baives 29.41 298 *e*P **P 20 16 09.1 -0.9**
VIVF Saint-Julien-l 29.74 288 *e*P **P 20 16 12.2 -0.8**
comp=Z,4.9nm,0.4s,mb4.2
VIVF Saint-Julien-l 29.74 288 *e*P **P 20 16 12.2 -0.8**
comp=Z,2.5nm,0.4s,mb4.2
LOR Lormes 29.90 293 *e*P **P 20 16 12.9 -1.4**
comp=Z,6.8nm,0.8s,mb4.0
LOR Lormes 29.90 293 *e*P **P 20 16 12.9 -1.4**
LOR pmax pmax
comp=Z,3.0nm,0.8s,mb4.0
LOR Lormes 29.90 293 *e*P **P 20 16 12.9 -1.4**
comp=Z,3.4nm,0.8s,mb4.0
SMF Signal de Mont 30.00 292 *e*P **P 20 16 14.1 -1.1**
comp=Z,5.1nm,0.5s,mb4.1
SMF Signal de Mont 30.00 292 *e*P **P 20 16 14.1 -1.1**
SMF pmax pmax
comp=Z,3.0nm,0.5s,mb4.2
SMF Signal de Mont 30.00 292 *e*P **P 20 16 14.1 -1.1**
comp=Z,2.5nm,0.5s,mb4.1
SSF Saint Saulge 30.16 293 *e*P **P 20 16 15.8 -0.9**
comp=Z,3.2nm,0.5s,mb3.9
SSF Saint Saulge 30.16 293 *e*P **P 20 16 15.8 -0.9**
SSF pmax pmax
comp=Z,2.0nm,0.5s,mb4.0
SSF Saint Saulge 30.16 293 *e*P **P 20 16 15.8 -0.9**
comp=Z,1.6nm,0.5s,mb3.9
AVF Avril sur Loir 30.31 292 *e*P **P 20 16 17.1 -0.9**
comp=Z,5.7nm,0.5s,mb4.1
AVF Avril sur Loir 30.31 292 *e*P **P 20 16 17.1 -0.9**
AVF pmax pmax
comp=Z,3.0nm,0.5s,mb4.2
AVF Avril sur Loir 30.31 292 *e*P **P 20 16 17.1 -0.9**
comp=Z,2.8nm,0.5s,mb4.1
BGF Bois d'Agland 30.69 292 *e*P **P 20 16 20.6 -0.7**
comp=Z,5.2nm,0.6s,mb4.1
BGF Bois d'Agland 30.69 292 *e*P **P 20 16 20.6 -0.7**
BGF pmax pmax
comp=Z,3.0nm,0.6s,mb4.2
BGF Bois d'Agland 30.69 292 *e*P **P 20 16 20.6 -0.7**
comp=Z,2.6nm,0.6s,mb4.1
TCF Toulx Ste Croi 31.17 291 *e*P **P 20 16 25.5 -0.1**
MTLF Montolieu 31.81 286 *e*P **P 20 16 29.9 -1.3**
comp=Z,4.3nm,0.6s,mb4.1
MTLF Montolieu 31.81 286 *e*P **P 20 16 29.9 -1.3**
MTLF pmax pmax
comp=Z,2.0nm,0.6s,mb4.0
MTLF Montolieu 31.81 286 *e*P **P 20 16 29.9 -1.3**
comp=Z,2.2nm,0.6s,mb4.1
RJF Les Rejaudoux 31.84 290 *e*P **P 20 16 30.6 -0.9**
LDF La Druitiere 32.37 296 *e*P **P 20 16 35.4 -0.6**
comp=Z,12nm,0.6s,mb4.5
LDF La Druitiere 32.37 296 *e*P **P 20 16 35.4 -0.6**
LDF pmax pmax
comp=Z,6.0nm,0.6s,mb4.5
LDF La Druitiere 32.37 296 *e*P **P 20 16 35.4 -0.6**
comp=Z,5.8nm,0.6s,mb4.5
FLN La Foliniere 32.58 297 *e*P **P 20 16 37.1 -0.8**
comp=Z,5.2nm,0.4s,mb4.5
FLN La Foliniere 32.58 297 *e*P **P 20 16 37.1 -0.8**
comp=Z,2.6nm,0.4s,mb4.5
MFF Saint Martin d 32.71 293 *e*P **P 20 16 37.9 -1.2**
comp=Z,5.0nm,0.6s,mb4.2
MFF Saint Martin d 32.71 293 *e*P **P 20 16 37.9 -1.2**
MFF pmax pmax
comp=Z,3.0nm,0.6s,mb4.3
MFF Saint Martin d 32.71 293 *e*P **P 20 16 37.9 -1.2**
comp=Z,2.5nm,0.6s,mb4.2
GRR Gorron 32.88 296 *e*P **P 20 16 39.6 -0.9**
comp=Z,6.9nm,0.5s,mb4.5
GRR Gorron 32.88 296 *e*P **P 20 16 39.6 -0.9**
GRR pmax pmax
comp=Z,3.0nm,0.5s,mb4.4
GRR Gorron 32.88 296 *e*P **P 20 16 39.6 -0.9**
comp=Z,3.5nm,0.5s,mb4.5
DANN Dangsing 33.52 104 *e*P **P 20 16 47.9 +1.6**
comp=Z,36nm,0.4s,mb5.5
KOLN Koldanda 33.75 105 *e*P **P 20 16 49.2 +0.9**
EKA Eskdalemuir Ar 33.80 309 P **P 20 16 47.8 -0.6**
comp=Z,2.1nm,0.5s,mb4.2,baz=95,slow=8.0,SNR=12
EKA Eskdalemuir Ar 33.80 309 P **P 20 16 47.8 -0.6**
EKA pmax pmax
comp=Z,2.0nm,0.5s
ETSF Etsaut 33.89 286 *e*P **P 20 16 48.7 -0.7**
comp=Z,2.6nm,0.6s,mb3.9
ETSF Etsaut 33.89 286 *e*P **P 20 16 48.7 -0.7**
ETSF pmax pmax
comp=Z,1.0nm,0.6s,mb3.8
ETSF Etsaut 33.89 286 *e*P **P 20 16 48.7 -0.7**
comp=Z,1.3nm,0.6s,mb3.9
SGMF Saint Gilles 34.02 296 *e*P **P 20 16 50.0 -0.5**
comp=Z,6.2nm,0.5s,mb4.4
SGMF Saint Gilles 34.02 296 *e*P **P 20 16 50.0 -0.5**
SGMF pmax pmax
comp=Z,3.0nm,0.5s,mb4.4
SGMF Saint Gilles 34.02 296 *e*P **P 20 16 50.0 -0.5**
comp=Z,3.1nm,0.5s,mb4.4
GKN Gorkha 34.35 103 *e*P **P 20 16 54.4 +0.9**
comp=Z,16nm,0.3s,mb5.3
ROSF Rostrenen 34.48 296 *e*P **P 20 16 53.8 -0.6**
comp=Z,11nm,0.4s,mb4.7
ROSF Rostrenen 34.48 296 *e*P **P 20 16 53.8 -0.6**
comp=Z,5.5nm,0.4s,mb4.7
QUIF Quistinic 34.48 296 *e*P **P 20 16 53.7 -0.7**
DMN Daman 34.91 103 *e*P **P 20 16 59.5 +1.1**
comp=Z,19nm,0.3s,mb5.4
KKN Kakani 34.93 103 *e*P **P 20 16 59.2 +0.7**
comp=Z,15nm,0.5s,mb5.1
PKIN Phulchoki 35.14 103 *e*P **P 20 17 01.2 +0.9**
comp=Z,26nm,0.6s,mb5.3
PKI Pulchoki 35.15 103 *e*P **P 20 17 01.3 +0.9**
comp=Z,20nm,0.4s,mb5.3
GUN Gumba 35.29 102 *e*P **P 20 17 02.6 +1.0**
comp=Z,17nm,0.3s,mb5.3
JIRN Jiri 35.66 102 *e*P **P 20 17 06.2 +1.4**
comp=Z,71nm,0.5s
RAMN Ramite 36.37 103 *e*P **P 20 17 11.6 +0.7**
comp=Z,20nm,0.4s,mb5.4
TAPN Taplejung 36.93 101 *e*P **P 20 17 16.5 +0.9**
comp=Z,7.2nm,0.4s,mb5.0
ODAN Odare 36.99 102 *e*P **P 20 17 17.4 +1.3**
comp=Z,63nm,0.5s
SPITS Spitsbergen Ar 37.15 350 P **P 20 17 18.4 +1.6**
comp=Z,6.9nm,0.5s,mb4.9,baz=335,slow=8.6,SNR=23
SPITS LR LR 20 34 10.3
comp=Z,48nm,21.6s,baz=185,slow=39
ESDC Sonseca Array 37.38 282 P **P 20 17 18.9 -0.4**
comp=Z,0.6nm,0.5s,mb3.8,baz=68,slow=9.6,SNR=4.1
LSA Lhasa 38.09 95 *e*P **P 20 17 27.2 +1.8**
LSA pmax pmax
comp=Z,7.0nm,0.6s,mb4.7
LSA Lhasa 38.09 95 *e*P **P 20 17 27.2 +1.8**
comp=Z,6.7nm,0.6s,mb4.7
LSA Lhasa 38.09 95 *e*P **P 20 17 27.2 +1.8**
comp=Z,6.7nm,0.6s,mb4.7
SHL Shillong 40.99 100 *e*P **P 20 17 50.0 +0.5**
SONM Songino Array 41.52 62 P **P 20 17 54.5 +0.9**
comp=Z,0.9nm,0.8s,mb3.5,baz=281,slow=9.6,SNR=7.0
SONM LR LR 20 38 38.5
comp=Z,13nm,18.3s,baz=131,slow=41
SONM Songino Array 41.52 62 *e*P **P 20 17 54.5 +0.9**
BOD Bodaibo 43.66 46 *e*P **P 20 18 10.1 -0.6**
BOD *e* pP 20 18 30.3 -0.4
TIXI Tiksi 47.51 25 *e*P **P 20 18 41.5 +0.6**
TIXI *e* pP 20 19 04.2 +3.0
TIXI pmax pmax
comp=Z,4.0nm,1.8s,mb4.0
TORD Torodi Ar. Bea 48.52 246 P **P 20 18 47.7 -1.7**
comp=Z,2.9nm,0.5s,mb4.5,baz=35,slow=8.2,SNR=81
TORD Torodi Ar. Bea 48.52 246 P **P 20 18 47.7 -1.7**
CMAR Chiang Mai Arr 50.53 102 P **P 20 19 04.8 +0.1**
comp=Z,2.5nm,0.6s,mb4.4,baz=301,slow=8.2,SNR=25
CMAR pP pP 20 19 25.7 +0.6
comp=Z,0.9nm,0.6s,baz=303,slow=8.4,SNR=3.1
CMAR Chiang Mai Arr 50.53 102 P **P 20 19 04.8 +0.1**
CMAR *PP pP 20 19 25.7 +0.5
CMAR pmax pmax
comp=Z,3.0nm,0.6s
DBIC Dimbokro 57.63 246 P **P 20 19 54.5 -1.9**
comp=Z,1.9nm,0.3s,mb4.6,baz=53,slow=7.6,SNR=13
DBIC Dimbokro 57.63 246 P **P 20 19 54.5 -1.8**
DBIC pmax pmax
comp=Z,2.0nm,0.3s
TIC Toumodi 57.76 246 *e*P **P 20 19 48.5 -8.7**
comp=Z,10nm,0.2s,mb5.5
KIC Kosan Boka 57.78 246 *e*P **P 20 19 52.2 -5.2**
comp=Z,43nm,1.2s,mb5.4
LIC Lamto 58.07 246 *e*P **P 20 19 57.5 -1.9**
comp=Z,6.2nm,0.4s,mb4.7
LIC Lamto 58.07 246 *e*P **P 20 19 50.5 -8.9**
comp=Z,58nm,1.3s,mb5.4
LIC Lamto 58.07 246 *e*P **P 20 19 57.5 -1.9**
comp=Z,3.1nm,0.4s,mb4.7
YKA Yellowknife Ar 73.64 351 P **P 20 21 38.9 +0.3**
comp=Z,1.5nm,0.5s,mb4.0,baz=9.0,slow=5.9,SNR=6.5
YKA Yellowknife Ar 73.64 351 *e*P **P 20 21 39.5 +0.8**
YKA pmax pmax
comp=Z,2.0nm,0.5s
BOSA Boshof 73.92 199 P **P 20 21 40.2 -0.4**
comp=Z,3.5nm,0.6s,mb4.2,baz=11,slow=8.1,SNR=7.3
BOSA Boshof 73.92 199 P **P 20 21 40.2 -0.4**
BOSA pmax pmax
comp=Z,4.0nm,0.6s,mb4.3
ULM Lac du Bonnet 81.33 337 LR LR 20 56 39.9
comp=Z,134nm,20.1s,baz=354,slow=34
WRA Warramunga Arr 102.00 106 P Pdif 20 23 58.3 -1.1
comp=Z,0.3nm,0.6s,baz=313,slow=4.7,SNR=5.6

PRU ***22*** *20:27:39.7, 50.22N×19.07E, h0km*
WAR 22 20:27:39.7, 50.11N×19.21E, ML2.5, Mining Induced, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OJC	**Ojcow**	**0.39**	**73**	*e*Pg	Pg	20 27 47.6	+0.4
OJC				*e*Sg	Sg	20 27 53.5	+1.1
OKC	**Ostrava-Krasne**	**0.74**	**249**	*e*PG	Pg	20 27 53.5	-0.3
OKC				*e*SG	Sg	20 28 01.8	-1.6
	21nm,0.4s						
NIE	**Niedzica**	**0.99**	**134**	*e*Pg	Pg	20 27 59.1	+0.4
NIE				*e*Sg	Sg	20 28 14.2	+2.6
STHS	**Stebnicka Huta**	**1.49**	**117**	*e*PN	Pn	20 28 08.7	+1.0
STHS				*e*SN	Sn	20 28 31.0	+3.2
KOLL	**Kolacno**	**1.62**	**199**	*e*SN	Sn	20 28 31.3	+0.3
VYHS	**Vyhne**	**1.64**	**189**	*e*PN	Pn	20 28 08.7	-1.0
VYHS				*e*SN	Sn	20 28 30.3	-1.1
DPC	**Dobruska-Polom**	**1.87**	**279**	*e*PG	Pg	20 28 11.9	-3.6
DPC				*e*SG	Sg	20 28 36.6	-3.1
	12nm,0.6s						
CRVS	**Cervenica-Dubn**	**1.90**	**129**	*e*PN	Pn	20 28 15.6	+2.3
CRVS				*e*SN	Sn	20 28 43.1	+5.2
PRU	**Pruhonice**	**3.01**	**269**	*e*PG	Pg	20 28 32.4	-5.0
PRU				*e*SG	Sg	20 29 11.8	-4.6
BRG	**Berggiesshubel**	**3.45**	**285**	SG	Sg	20 29 27.4	-3.1
	4.8nm,0.7s						
KHC	**Kasperske Hory**	**3.79**	**257**	*e*PN	Pn	20 28 38.5	-0.8
KHC				*e*PG	Pg	20 28 48.5	-3.8
KHC				*e*SG	Sg	20 29 37.4	-4.0
	4.8nm,0.5s						
CLL	**Collm**	**4.12**	**289**	*e*Sg	Sg	20 29 51.0	-1.1

IDC ***22*** *20:27:35.4±1.4, 1458S×17166E, h0km, mb4.1/6, mb1 4.4/6, mb1mx4.0/15, mbtmp4.0/6, MS3.8/20, Ms1 3.8/20, ms1mx3.6/27, Error ellipse: s-maj=75.6km s-min=24.8km az=152.0*
ISCJB ***22*** *20:27:38.6±1.1, 148S±04×1716E±02, h33km, mb4.0/7, MS3.8/18, Error ellipse: s-maj=64.0km s-min=18.2km az=152.9*
NEIC ***22*** *20:27:40.4±1.0, 1460S×17162E, h35km, mb4.1/2, Error ellipse: s-maj=50.5km s-min=16.6km az=151.0*
GCMT ***22*** *20:27:44.0±0.4, 1420S×17162E, h28km±1km, MW5.0/56, Moment Tensor Solution. s24,c28; s56,c74; Duration: 0 Moment tensor: Scale 10^16 Nm; Mrr=0.08±.21; Mθθ=1.30±.16; Mϕϕ=-1.21±.14; Mrθ=-0.18±.30; Mrϕ=3.54±.16; Mθϕ=1.20±.26; Best double couple: Mo=3.94600×10^16 NP1:ϕs=99.00000°,δ73.00000°,λ=-5.00000°. NP2: ϕs=190.00000°,δ85.00000°,λ=-163.00000°. Principal axes: T 3.8780, Plg8.0000°, Azm324.0000°; N 0.1420, Plg72.0000°, Azm207.0000°; P -4.0140, Plg16.0000°, Azm56.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
ISC 22 20:27:40.5±1.1, 147S±04×1716E±02, h35km, n30, σ0s 74/9, mb4.0/7, MS3.8/18, Vanuatu Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**12.57**	**293**	LR	LR	20 35 05.0	
	comp=Z,416nm,18.1s,baz=130,slow=36						
AFI	**Afiamalu**	**16.09**	**89**	LR	LR	20 36 03.5	
	comp=Z,286nm,20.8s,baz=221,slow=32						
URZ	**Urewera**	**23.98**	**169**	LR	LR	20 40 20.9	
	comp=Z,151nm,19.3s,MS3.5,baz=168,slow=32						
CTA	**Charters Tower**	**24.80**	**254**	LR	LR	20 41 15.9	
	comp=Z,289nm,21.3s,MS3.8,baz=65,slow=33						
RAR	**Rarotonga**	**27.93**	**108**	LR	LR	20 42 24.6	
	comp=Z,78nm,21.5s,MS3.3,baz=250,slow=32						
RPZ	**Rata Peaks**	**28.94**	**181**	LR	LR	20 41 36.9	
	comp=Z,121nm,21.2s,MS3.5,baz=36,slow=29						
STKA	**Stephens Creek**	**32.31**	**233**	P	P	**20 34 06.8**	**+0.4**
	2.6nm,0.8s,mb4.1,baz=14,slow=4.2,SNR=2.9						
STKA				LR	LR	20 47 45.0	
	comp=Z,140nm,18.9s,MS3.7,baz=209,slow=37						
STKA	**Stephens Creek**	**32.31**	**233**	*e*P	P	**20 34 07.1**	**+0.7**
	2.9nm,1.4s,mb3.9						
STKA				LR	LR	20 47 45.0	
WRAB	**Tennant Creek**	**35.93**	**256**	P	P	**20 34 36.8**	**-1.1**
	3.4nm,0.9s,mb4.3						
WRA	**Warramunga Arr**	**35.94**	**256**	P	P	**20 34 37.1**	**-0.9**
	1.0nm,0.7s,mb3.9,baz=88,slow=8.7,SNR=16						
WRA				PcP	PcP	20 37 06.9	+2.4
	0.5nm,0.8s,baz=80,slow=2.4,SNR=4.6						
WRA				LR	LR	20 48 39.2	
	comp=Z,145nm,18.7s,MS3.8,baz=90,slow=35						
ASAR	**Alice Springs**	**36.65**	**250**	P	P	**20 34 44.6**	**+0.6**
	6.1nm,0.7s,mb4.6,baz=76,slow=9.0,SNR=47						
PPT	**Papeete**	**37.33**	**100**	*e*LQ		20 43 22.6	
	977nm,29.2s						
PPT				*e*LR	LR	20 45 10.6	
	151nm,24.5s						
PPT	**Papeete**	**37.33**	**100**	LR	LR	20 46 57.6	
	comp=Z,66nm,18.5s,MS3.5,baz=253,slow=31						
TBI	**Tubuai**	**37.68**	**109**	*e*LQ		20 43 35.8	
	667nm,31.8s						
TBI				*e*LR	LR	20 45 10.6	
	158nm,31.5s						
GUMO	**Guam**	**38.62**	**315**	LR	LR	20 47 53.9	
	comp=Z,133nm,19.2s,MS3.8,baz=233,slow=32						
BATI	**Baumata**	**46.99**	**270**	LR	LR	20 53 07.8	
	comp=Z,141nm,19.2s,MS3.9,baz=273,slow=33						
RKT	**Rikitea**	**50.97**	**108**	*e*LR	LR	20 51 32.3	
	145nm,29.5s						
KAPI	**Kappang**	**51.91**	**275**	LR	LR	20 55 25.7	
	comp=Z,59nm,20.0s,MS3.6,baz=250,slow=32						
NWAO	**Narrogin (SRO)**	**52.41**	**240**	LR	LR	20 57 49.3	
	comp=Z,124nm,18.8s,MS4.0,baz=138,slow=35						
JHJ	**Hachijo jima 2**	**56.44**	**329**	LR	LR	20 55 43.5	
	comp=Z,85nm,21.4s,MS3.8,baz=140,slow=30						
JOW	**Kunigami**	**58.96**	**314**	LR	LR	20 59 37.2	
	comp=Z,94nm,18.8s,MS3.9,baz=139,slow=33						
MJAR	**Matsushiro Arr**	**59.93**	**329**	LR	LR	20 59 19.0	
	comp=Z,69nm,20.5s,MS3.8,baz=195,slow=32						
KSRS	**Korea Array**	**66.16**	**323**	LR	LR	21 05 52.9	
	comp=Z,53nm,18.2s,MS3.8,baz=344,slow=35						
PETK	**Petropavlovsk-**	**68.58**	**351**	LR	LR	21 05 42.9	
	comp=Z,83nm,18.4s,MS4.0,baz=153,slow=33						
CMAR	**Chiang Mai Arr**	**78.81**	**293**	P	P	**20 39 41.5**	**+1.1**
	0.6nm,0.7s,mb3.6,baz=125,slow=4.4,SNR=6.2						
NVAR	**Mina Array Bea**	**84.07**	**48**	P	P	**20 40 07.5**	**-0.3**
	0.7nm,0.7s,mb3.9,baz=230,slow=9.4,SNR=4.7						
NVAR	**Mina Array Bea**	**84.07**	**48**	P	P	**20 40 07.5**	**-0.3**
SONM	**Songino Array**	**85.01**	**322**	LR	LR	21 14 45.5	
	comp=Z,62nm,19.4s,MS4.0,baz=241,slow=33						
TXAR	**Lajitas Array**	**92.56**	**60**	P	P	**20 40 48.7**	**0.0**
	0.3nm,0.4s,mb4.0,baz=211,slow=10,SNR=3.4						
TXAR				LR	LR	21 16 11.1	
	comp=Z,70nm,21.9s,MS4.1,baz=185,slow=32						
MKAR	**Makanchi Array**	**100.11**	**316**	P	Pdif	20 41 21.7	-0.8
	0.2nm,0.2s,baz=107,slow=7.7,SNR=2.0						

IDC ***22*** *20:40:25.6±0.9, 1004N×13883E, h0km, mb3.8/8, mb1 4.0/9, mb1mx3.9/20, mbtmp3.9/9, ML4.5/1, Error*

ellipse: s-maj=30.0km s-min=18.8km az=85.0
*ISCJB **22** 20:40:27.7±0.6, 1006N×009×13894E×007, h33km, mb4.4/17, Error ellipse: s-maj=13.8km s-min=8.3km az=157.7*
*MOS **22** 20:40:27.7±1.2, 1006N×13894E, h33km, mb5.0/2, Error ellipse: s-maj=32.1km s-min=22.5km az=115.3*
*NEIC **22** 20:40:30.4±0.4, 1005N×13885E, h35km, mb4.7/1, Error ellipse: s-maj=10.6km s-min=10.1km az=44.0*

ISC 22 20:40:30.3±0.6, **1005N**±009×**13889E**±006, **h35**km, **n26,** σ0**973**/**26**, **mb4.4**/**17**, **Western Caroline Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**6.82**	**58**	Pn	**Pn**	**20 42 07.8**	**-0.2**
	8.7nm,0.3s,baz=348,slow=19,SNR=4.6						
GUMO				Sn	**Sn**	**20 43 24.0**	**-0.4**
	6.1nm,0.3s,baz=150,slow=16,SNR=2.6						
WRA	**Warramunga Arr**	**30.14**	**189**	P	**P**	**20 46 36.5**	**-0.5**
	0.6nm,1.0s,mb3.3,baz=3.2,slow=9.5,SNR=3.5						
ASAR	**Alice Springs**	**33.87**	**188**	P	**P**	**20 47 08.7**	**-1.1**
	0.2nm,0.6s,mb3.2,baz=18,slow=13,SNR=4.7						
CMAR	**Chiang Mai Arr**	**39.54**	**287**	P	**P**	**20 47 57.7**	**-0.5**
	1.2nm,0.8s,mb3.7,baz=106,slow=6.2,SNR=9.5						
SONM	**Songino Array**	**46.54**	**330**	P	**P**	**20 48 55.5**	**+1.0**
	0.6nm,0.9s,mb3.5,baz=140,slow=7.6,SNR=4.4						
NWAO	**Narrogin (SRO)**	**47.47**	**205**	P	**P**	**20 49 03.9**	**+2.0**
	10nm,1.0s,mb4.7,baz=45,slow=10.0,SNR=3.5						
TAPN	**Taplejung**	**51.07**	**297**	*e*P	**P**	**20 49 29.2**	**-0.4**
	5.1nm,0.5s,mb4.7						
ODAN	**Odare**	**51.27**	**296**	*e*P	**P**	**20 49 30.7**	**-0.4**
	10.0nm,0.7s,mb4.9						
RAMN	**Ramite**	**51.98**	**296**	*e*P	**P**	**20 49 36.9**	**+0.4**
JIRN	**Jiri**	**52.45**	**297**	*e*P	**P**	**20 49 40.2**	**+0.3**
	20nm,0.7s,mb5.2						
GUN	**Gumba**	**52.76**	**297**	*e*P	**P**	**20 49 42.7**	**+0.5**
	22nm,0.7s,mb5.2						
PKI	**Pulchoki**	**53.12**	**297**	*e*P	**P**	**20 49 44.7**	**-0.2**
PKIN	**Phulchoki**	**53.14**	**297**	*e*P	**P**	**20 49 44.0**	**-1.0**
KKN	**Kakani**	**53.27**	**297**	*e*P	**P**	**20 49 45.8**	**-0.2**
	10nm,0.7s,mb4.9						
KKN	**Kakani**	**53.27**	**297**	*e*P	**P**	**20 49 45.8**	**-0.2**
KKN				pmax	pmax		
	comp=Z,10.0nm,0.7s,mb4.8						
DMN	**Daman**	**53.40**	**297**	*e*P	**P**	**20 49 46.9**	**0.0**
	comp=Z,13nm,0.7s,mb5.0						
GKN	**Gorkha**	**53.86**	**297**	*e*P	**P**	**20 49 49.9**	**-0.4**
DANN	**Dangsing**	**54.68**	**298**	*e*P	**P**	**20 49 56.2**	**0.0**
	comp=Z,16nm,0.9s,mb5.1						
KOLN	**Koldanda**	**54.74**	**297**	*e*P	**P**	**20 49 56.6**	**-0.1**
	comp=Z,9.9nm,0.7s,mb5.0						
MKAR	**Makanchi Array**	**60.10**	**319**	P	**P**	**20 50 34.9**	**+0.8**
	comp=Z,0.8nm,0.6s,mb3.9,baz=102,slow=9.1,SNR=14						
MKAR	**Makanchi Array**	**60.10**	**319**	P	**P**	**20 50 34.9**	**+0.8**
ZALV	**Zalesovo Beam**	**61.22**	**327**	P	**P**	**20 50 41.2**	**-0.5**
	comp=Z,0.3nm,0.3s,mb3.9,baz=95,slow=8.8,SNR=2.3						
BRVK	**Borovoye**	**69.20**	**323**	*e*P	**P**	**20 51 33.1**	**-0.3**
BRVK				pmax	pmax		
	comp=Z,6.0nm,0.9s,mb4.5						
BRVK	**Borovoye**	**69.20**	**323**	*e*P	**P**	**20 51 33.1**	**-0.3**
	comp=Z,6.2nm,0.9s,mb4.5						
NVAR	**Mina Array Bea**	**93.67**	**50**	P	**P**	**20 53 45.4**	**+1.8**
	comp=Z,0.8nm,0.7s,mb4.3,baz=268,slow=4.3,SNR=5.3						
TORD	**Torodi Ar. Bea**	**131.66**	**298**	PKP	PKPdf	20 59 40.8	+0.2
	comp=Z,0.6nm,1.1s,baz=72,slow=0.4,SNR=3.0						

IDC 22 21:05:58.6±3.4, **330S**×**10021E**, **h0**km, **mb3.5**/6, **mb1 3.7**/6, **mb1mx3.6**/19, **mbtmp3.6**/6, **Error ellipse: s-maj=135.4km s-min=20.2km az=57.0, Southern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**21.66**	**357**	P	P	21 10 50.7	-0.2
	0.3nm,0.6s,baz=180,slow=9.6,SNR=4.6						
WRA	**Warramunga Arr**	**37.17**	**119**	P	P	21 13 11.2	-0.4
	0.4nm,0.5s,baz=302,slow=9.0,SNR=9.6						
ASAR	**Alice Springs**	**38.33**	**125**	P	P	21 13 21.6	+0.1
	0.3nm,0.5s,baz=302,slow=8.1,SNR=6.3						
SONM	**Songino Array**	**51.21**	**5**	P	P	21 15 04.2	+0.4
	0.8nm,0.6s,baz=189,slow=9.1,SNR=7.4						
MKAR	**Makanchi Array**	**52.33**	**345**	P	P	21 15 12.1	0.0
	1.3nm,0.6s,baz=147,slow=7.4,SNR=16						
ZALV	**Zalesovo Beam**	**58.48**	**349**	P	P	21 15 55.8	-0.5
	0.6nm,0.6s,baz=176,slow=4.5,SNR=4.3						
TXAR	**Lajitas Array**	**145.59**	**39**	PKPbc	PKPbc	21 25 39.9	+0.1
	1.0nm,0.6s,baz=246,slow=0.6,SNR=5.9						

*IDC **22** 21:17:42.9±0.6, 2812S×6579W, h0km, mb4.2/8, mb1 4.3/12, mb1mx4.3/17, mbtmp4.1/12, ML3.8/4, MS4.0/11, Ms1 4.0/11, ms1mx3.8/23, Error ellipse: s-maj=25.3km s-min=20.0km az=89.0*
*ISCJB **22** 21:17:45.0±0.3, 2817S×003×6585W×005, h29km, mb4.6/24, MS4.1/8, Error ellipse: s-maj=6.2km s-min=3.9km az=28.8*
*MOS **22** 21:17:46.4±1.3, 2815S×6590W, h33km, mb5.1/9, Error ellipse: s-maj=16.7km s-min=10.6km az=91.6*
*NEIC **22** 21:17:47.0, 2830S×6587W, h31km, mb4.8/18, MD5.1(SJA), After SJA.*
NEIC Felt [IV] in Catamarca and [III] in Santiago del Estero and Tucuman.

ISC 22 21:17:47.3±0.3, **2816S**±003×**6583W**±005, **h31**km, **h31**km±1.1km**:pP-P, n96,** σ1**901**/**84**, **mb4.6**/24, **MS4.1**/8, **1C, Santiago del Estero Province**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CFAA	**Coronel Fontan**	**4.02**	**211**	Pn	**Pn**	**21 18 46.9**	**+0.2**
	1.5nm,0.3s,baz=26,slow=13,SNR=124						
CFAA				Lg		21 19 45.4	
	51nm,0.3s,baz=124,slow=23,SNR=9.3						
CFAA	**Coronel Fontan**	**4.02**	**211**	Pn	**Pn**	**21 18 46.9**	**+0.2**
CFAA				Lg		21 19 45.4	
LCO	**Las Campanas**	**4.37**	**258**	*e*P	**Pn**	**21 18 51.8**	**+0.3**
LCO				*i* S	**Sn**	**21 19 42.6**	**+1.2**
TLL	**Tololo Astrono**	**4.79**	**244**	*e*P	**Pn**	**21 18 58.4**	**+1.1**
TLL				*i* S	**Sn**	**21 19 52.0**	**+0.2**
JACH	**Jahuel**	**6.10**	**221**	*e*P	**Pn**	**21 19 15.7**	**+0.3**
CHNG	**Los Chungos**	**6.16**	**232**	*e*P	**Pn**	**21 19 13.6**	**-2.6**
CEN1	**Los Morros**	**6.17**	**319**	*e*P	**Pn**	**21 19 15.4**	**-0.9**
LVC	**Limon Verde**	**6.18**	**333**	Pn	**Pn**	**21 19 19.9**	**+3.4**
	0.8nm,0.3s,baz=160,slow=11,SNR=8.3						
LVC				LR	LR	21 21 00.5	
	comp=Z,343nm,22.0s,baz=28,slow=32						
FCH	**Farellones**	**6.43**	**216**	*e*P	**Pn**	**21 19 20.7**	**+1.0**
PEL	**Peldehue**	**6.50**	**219**	*e*P	**Pn**	**21 19 20.6**	**-0.1**
PEL				*i* S	**Sn**	**21 20 32.9**	**-0.8**
CLCH	**Cerro Calan**	**6.61**	**217**	*e*P	**Pn**	**21 19 22.7**	**+0.5**
PCH	**Pirque**	**6.77**	**215**	*e*P	**Pn**	**21 19 24.8**	**+0.3**
LMEL	**Las Melosas**	**6.80**	**212**	*e*P	**Pn**	**21 19 25.8**	**+0.9**
TACH	**Talagante**	**7.02**	**217**	*e*P	**Pn**	**21 19 26.7**	**-1.2**
CHCH	**Chadas Angostu**	**7.09**	**215**	*e*P	**Pn**	**21 19 28.0**	**-0.9**
CACH	**El Canelo**	**7.21**	**213**	*e*P	**Pn**	**21 19 30.6**	**+0.1**
CICH	**Cipreses**	**7.29**	**211**	*e*P	**Pn**	**21 19 32.4**	**+0.8**
TRQA	**Tornquist**	**10.38**	**163**	*e*Pn	**Pn**	**21 20 12.7**	**-1.4**
	36nm,0.6s						
TRQA				*e*Sn	**Sn**	**21 22 16.5**	**+7.2**
LPAZ	**La Paz**	**12.00**	**349**	Pn	**Pn**	**21 20 36.6**	**+0.3**
	0.3nm,0.3s,baz=266,slow=19,SNR=4.0						
LPAZ	**La Paz**	**12.00**	**349**	*e*P	**Pn**	**21 20 36.7**	**+0.4**
LPAZ				pmax	pmax		
	comp=Z,9.0nm,0.9s						
LPAZ	**La Paz**	**12.00**	**349**	*e*Pn	**Pn**	**21 20 36.7**	**+0.4**
	comp=Z,9.2nm,0.9s						
SIV	**San Ignacio**	**12.88**	**21**	Pn	**Pn**	**21 20 47.9**	**-0.4**
	comp=Z,0.3nm,0.3s,baz=208,slow=14,SNR=11						
SIV				Lg		21 24 36.9	
	comp=Z,0.8nm,0.3s,baz=90,slow=20,SNR=2.4						
SIV				LR	LR	21 27 15.3	
	comp=Z,469nm,18.4s,baz=306,slow=45						
PLCA	**Paso Flores**	**13.13**	**196**	Pn	**Pn**	**21 20 51.9**	**+0.3**
	comp=Z,0.2nm,0.3s,baz=12,slow=16,SNR=6.3						
PLCA				Lg		21 24 39.2	
	comp=Z,0.8nm,0.3s,baz=107,slow=19,SNR=4.4						
PLCA				LR	LR	21 26 10.5	
	comp=Z,1μm,19.5s,baz=24,slow=38						
PLCA	**Paso Flores**	**13.13**	**196**	Pn	**Pn**	**21 20 51.9**	**+0.3**
PLCA				Lg		21 24 39.2	
PLCA				LR	LR	21 26 10.5	
NNA	**Nana**	**19.10**	**325**	*e*P	**Pn**	**21 22 07.2**	**-1.4**
	comp=Z,24nm,1.4s						
BDFB	**Brasilia**	**20.66**	**57**	P	**P**	**21 22 26.8**	**+2.2**
	comp=Z,15nm,0.9s,baz=220,slow=16,SNR=26						
BDFB				Lg		21 28 49.4	
	comp=Z,8.5nm,0.8s,baz=148,slow=21,SNR=4.2						
BDFB				LR	LR	21 31 58.1	
	comp=Z,144nm,18.5s,MS3.4,baz=59,slow=42						
EFI	**East Falkland**	**24.20**	**168**	P	**P**	**21 22 58.4**	**-2.5**
USHA	**Ushuaia**	**26.72**	**183**	LR	LR	21 35 51.0	
	comp=Z,821nm,19.2s,MS4.3,baz=210,slow=41						
OTAV	**Otavalo**	**30.72**	**335**	P	**P**	**21 23 59.2**	**-0.4**
ROSC	**El Rosal**	**33.83**	**345**	P	**P**	**21 24 28.4**	**+1.5**
RCBR	**Riachuelo**	**36.03**	**58**	*e*P	**P**	**21 24 46.7**	**+0.7**
	comp=Z,29nm,1.0s,mb5.2						
PMSA	**Palmer Station**	**36.65**	**179**	*e*P	**P**	**21 24 47.9**	**-2.7**
	comp=Z,45nm,0.4s,mb5.7						
SDV	**Santo Domingo**	**37.12**	**352**	*e*P	**P**	**21 24 54.3**	**-0.8**
	comp=Z,10nm,1.3s,mb4.5						
TGUH	**Tegucigalpa,Un**	**46.82**	**331**	*e*P	**P**	**21 26 14.5**	**+0.2**
	comp=Z,26nm,1.0s,mb5.1						
TEIG	**Tepich**	**52.77**	**333**	*e*P	**P**	**21 26 59.5**	**0.0**
	comp=Z,20nm,1.0s,mb5.0						
VNA3	**Neumayer Olymp**	**52.90**	**160**	*e*	**P**	**21 27 07.3**	**+7.4**
VNA3				*e*		21 27 10.2	
VNA1	**Neumayer--Stat**	**53.10**	**159**	*e*	**P**	**21 27 03.0**	**+1.6**
VNA1				*e*		21 27 09.2	
VNA1				*e*	pP	21 27 12.8	+1.9
VNA2	**Neumayer--Watz**	**53.47**	**160**	*e*	**P**	**21 27 05.8**	**+1.7**
	baz=297,slow=8.3						
VNA2				*e*		21 27 11.7	
VNA2				*e*	pP	21 27 15.5	+1.9
SNAA	**Sanae**	**55.10**	**160**	*e*	**P**	**21 27 16.9**	**+1.0**
SNAA				*e*		21 27 23.1	
SNAA				*e*	pP	21 27 26.3	+0.9
SNAA	**Sanae**	**55.10**	**160**	*e*P	**P**	**21 27 16.7**	**+0.8**
SNAA				*e*		21 27 23.2	
SNAA				pmax	pmax		
	comp=Z,23nm,1.1s						
SNAA	**Sanae**	**55.10**	**160**	*e*P	**P**	**21 27 16.7**	**+0.8**
	comp=Z,23nm,1.1s,mb5.1						
SNAA				*e*		21 27 23.1	
SWET	**Sewanee**	**65.83**	**342**	*e*P	**P**	**21 28 27.6**	**-2.0**
OXF	**Oxford**	**66.20**	**339**	*e*P	**P**	**21 28 31.2**	**-0.8**
OXF				*e*	pP	21 28 39.9	-1.8
OXF				*e*		21 29 04.1	
	comp=Z,28nm,1.0s,mb5.2			pmax	pmax		
OXF	**Oxford**	**66.20**	**339**	*e*P	**P**	**21 28 31.2**	**-0.7**
	comp=Z,28nm,1.0s,mb5.2						
OXF				*e*	pP	21 28 39.9	-1.7
OXF				*e*PcP	PcP	21 29 04.1	+2.1
JCT	**Junction City**	**66.72**	**328**	*e*P	**P**	**21 28 36.4**	**+1.0**
JCT				*e*	pP	21 28 44.0	-1.1
JCT				*e*		21 29 02.0	
JCT				pmax	pmax		
	comp=Z,4.0nm,0.5s,mb4.7						
JCT	**Junction City**	**66.72**	**328**	*e*P	**P**	**21 28 36.4**	**+1.0**
	comp=Z,4.0nm,0.5s,mb4.7						
JCT				*e*	pP	21 28 44.0	-1.1
JCT				*e*PcP	PcP	21 29 02.0	-2.3
WVT	**Waverly**	**67.22**	**341**	*e*P	**P**	**21 28 37.9**	**-0.5**
WVT				*e*	pP	21 28 46.8	-1.3
WVT				pmax	pmax		
	comp=Z,31nm,1.0s,mb5.3						
WVT	**Waverly**	**67.22**	**341**	*e*P	**P**	**21 28 37.9**	**-0.5**
	comp=Z,31nm,1.0s,mb5.3						
WVT				*e*	pP	21 28 46.8	-1.3
TXAR	**Lajitas Array**	**67.66**	**325**	P	**P**	**21 28 41.7**	**+0.3**
	comp=Z,1.5nm,0.8s,mb4.1,baz=150,slow=9.6,SNR=9.2						
MIAR	**Mount Ida**	**67.66**	**335**	*e*P	**P**	**21 28 41.6**	**+0.3**
MIAR				*e*	pP	21 28 49.5	-1.5
MIAR				pmax	pmax		
	comp=Z,10.0nm,1.0s,mb4.8						
MIAR	**Mount Ida**	**67.66**	**335**	*e*P	**P**	**21 28 41.6**	**+0.3**
	comp=Z,9.6nm,1.0s,mb4.8						
MIAR				*e*	pP	21 28 49.5	-1.5
DBIC	**Dimbokro**	**68.20**	**69**	P	**P**	**21 28 45.2**	**0.0**
	comp=Z,1.6nm,0.6s,mb4.2,baz=205,slow=8.7,SNR=4.0						
DBIC				LR	LR	21 54 42.5	
	comp=Z,54nm,20.3s,MS3.8,baz=217,slow=33						
DBIC	**Dimbokro**	**68.20**	**69**	P	**P**	**21 28 45.3**	**+0.2**
SBA	**Scott Base**	**69.81**	**190**	*e*P	**P**	**21 28 53.2**	**-1.0**
SBA				*e*PP	pP	21 29 02.0	-1.9
SBA				pmax	pmax		
	comp=Z,6.0nm,1.0s,mb4.5						
SBA	**Scott Base**	**69.81**	**190**	*e*P	**P**	**21 28 53.2**	**-1.0**
	comp=Z,5.9nm,1.0s,mb4.5						
SBA				*e*pP	pP	21 29 02.0	-2.0
ACSO	**Alum Creek Sta**	**69.88**	**346**	*e*P	**P**	**21 28 54.5**	**-0.4**
ANMO	**Albuquerque**	**73.58**	**326**	*e*P	**P**	**21 29 17.2**	**-0.1**
ANMO				pmax	pmax		
	comp=Z,1.0nm,0.8s						
ANMO	**Albuquerque**	**73.58**	**326**	*e*P	**P**	**21 29 17.2**	**-0.1**
	comp=Z,1.2nm,0.8s,mb3.9						
SDCO	**Great Sand Dun**	**75.37**	**328**	P	**P**	**21 29 28.3**	**+0.6**
TOA0	**Torodi Ar. Sit**	**77.13**	**67**	*e*P	**P**	**21 29 37.7**	**-0.5**
TOA0				*e*pP	pP	21 29 46.6	-1.5
TORD	**Torodi Ar. Bea**	**77.13**	**67**	P	**P**	**21 29 37.6**	**-0.5**
	comp=Z,3.5nm,0.8s,mb4.3,baz=275,slow=6.1,SNR=19						
MAW	**Mawson**	**77.17**	**162**	P	**P**	**21 29 39.2**	**+1.6**
	comp=Z,1.2nm,0.7s,mb4.0,baz=208,slow=5.9,SNR=4.0						
MAW				LR	LR	22 03 07.7	
	comp=Z,160nm,21.5s,MS4.3,baz=239,slow=35						
MAW	**Mawson**	**77.17**	**162**	*e*P	**P**	**21 29 39.7**	**+2.1**
MAW				pmax	pmax		
	comp=Z,8.0nm,1.2s						
MAW	**Mawson**	**77.17**	**162**	*e*P	**P**	**21 29 39.7**	**+2.1**
	comp=Z,7.7nm,1.2s,mb4.5						
MAW				LR	LR	22 03 07.8	
BOSA	**Boshof**	**77.94**	**116**	P	**P**	**21 29 43.0**	**+0.3**
	comp=Z,4.4nm,0.9s,mb4.4,baz=188,slow=19,SNR=5.8						
BOSA				LR	LR	21 59 21.8	
	comp=Z,95nm,18.1s,MS4.2,baz=63,slow=32						
BOSA	**Boshof**	**77.94**	**116**	P	**P**	**21 29 43.0**	**+0.3**
BOSA				LR	LR	21 59 21.8	
MSU	**Marysvale**	**79.22**	**325**	P	**P**	**21 29 46.0**	**-3.2**
LBTB	**Lobatse**	**79.78**	**113**	*e*P	**P**	**21 29 53.2**	**+0.4**
LBTB				*e*		21 30 00.5	
RSSD	**Black Hills**	**79.98**	**333**	*e*P	**P**	**21 29 53.1**	**-0.1**
PDAR	**Pinedale Array**	**81.24**	**329**	P	**P**	**21 30 00.9**	**+0.9**
	comp=Z,1.5nm,0.8s,mb4.0,baz=127,slow=6.3,SNR=7.6						
PDAR				LR	LR	22 09 46.0	
	comp=Z,154nm,18.9s,MS4.4,baz=264,slow=38						
HWUT	**Hardware Ranch**	**81.28**	**327**	*e*P	**P**	**21 30 00.8**	**+0.5**
	comp=Z,3.3nm,0.7s,mb4.4						
NVAR	**Mina Array Bea**	**82.42**	**321**	P	**P**	**21 30 06.2**	**-0.2**
	comp=Z,0.6nm,0.7s,mb3.6,baz=145,slow=6.1,SNR=5.2						
ULM	**Lac du Bonnet**	**82.49**	**341**	LR	LR	22 06 20.2	
	comp=Z,131nm,19.9s,MS4.3,baz=85,slow=35						
HLID	**Hailey**	**84.13**	**327**	*e*P	**P**	**21 30 15.1**	**+0.1**
	comp=Z,3.2nm,0.8s,mb4.5						
HLID				*e*pP	pP	21 30 24.9	0.0
MCMT	**McKenzie Canyo**	**84.34**	**328**	*e*P	**P**	**21 30 15.7**	**-0.4**
MCMT				*e*pP	pP	21 30 26.7	+0.7
CASY	**Casey**	**85.83**	**179**	P	**P**	**21 30 20.9**	**-2.5**
LSZ	**Lusaka**	**86.38**	**105**	*e*P	**P**	**21 30 26.8**	**-0.2**
LSZ				*e*PP	pP	21 30 36.8	-0.2
LSZ				pmax	pmax		
	comp=Z,8.0nm,1.3s,mb4.8						
LSZ	**Lusaka**	**86.38**	**105**	*e*P	**P**	**21 30 26.8**	**-0.3**
	comp=Z,8.0nm,1.3s,mb4.8						
LSZ				*e*pP	pP	21 30 36.8	-0.2
WALA	**Waterton Lakes**	**88.03**	**331**	*e*P	**P**	**21 30 33.8**	**-0.4**
ESDC	**Sonseca Array**	**88.69**	**43**	P	**P**	**21 30 37.5**	**0.0**
	comp=Z,0.6nm,0.6s,mb4.1,baz=239,slow=4.4,SNR=5.9						
NEW	**Newport**	**88.87**	**329**	*e*P	**P**	**21 30 38.3**	**+0.2**
NEW				pmax	pmax		
	comp=Z,14nm,1.6s						
NEW	**Newport**	**88.87**	**329**	*e*P	**P**	**21 30 38.3**	**+0.2**
	comp=Z,14nm,1.6s,mb5.0						
KEST	**Kesra**	**95.11**	**52**	LR	LR	22 12 59.6	
	comp=Z,63nm,20.0s,MS4.1,baz=238,slow=35						
ASAR	**Alice Springs**	**125.08**	**202**	PKP	PKPdf	21 36 44.8	-0.4
	comp=Z,0.6nm,0.7s,baz=122,slow=1.7,SNR=8.2						
WRA	**Warramunga Arr**	**128.36**	**204**	PKP	PKPdf	21 36 51.6	+0.1
	comp=Z,1.2nm,0.8s,baz=167,slow=1.7,SNR=19						
WRAB	**Tennant Creek**	**128.36**	**204**	*e*PKIKP	PKPdf	21 36 51.3	-0.2
KURK	**Kurchatov**	**144.99**	**40**	*e*PKIKP	PKPdf	21 37 21.4	+0.4
NVS	**Novosibirsk**	**145.19**	**31**	↑*i*PKIKP	PKPdf	21 37 22.2	+1.0
NVS				pmax	pmax		
	comp=Z,70nm,1.5s						
NVS				pmax	pmax		
	comp=N,8.0nm,1.0s						
NVS				pmax	pmax		
	comp=E,11nm,1.2s						
TKM2	**Tokmak 2**	**145.65**	**54**	*e*PKP2	PKPab	21 37 22.7	-0.4
ZAA0	**Zalesovo Array**	**146.47**	**32**	*e*PKP	PKPbc	21 37 25.0	+0.2
ZALV	**Zalesovo Beam**	**146.47**	**32**	PKPbc	PKPbc	21 37 25.0	+0.1
	comp=E,14nm,0.6s,baz=300,slow=4.2,SNR=66						
DDI	**Dehra Dun**	**148.49**	**77**	*ex*	PKPbc	21 37 30.3	-0.9
MK31	**Makanchi Array**	**148.90**	**45**	*e*PKP2	PKPbc	21 37 31.8	+0.1
MKAR	**Makanchi Array**	**148.90**	**45**	PKPbc	PKPbc	21 37 32.6	+0.9
	comp=E,6.8nm,0.8s,baz=304,slow=2.8,SNR=42						
BOD	**Bodaibo**	**150.35**	**0**	*e*PKIKP	PKPbc	21 37 33.9	-1.0
BOD				pmax	pmax		
	comp=Z,6.0nm,0.9s						
SONM	**Songino Array**	**159.44**	**15**	PKP	PKPdf	21 37 43.6	+1.1
	comp=Z,1.2nm,1.1s,baz=204,slow=3.4,SNR=4.2						
SONM				PKPab	PKPab	21 38 21.9	+1.6
	comp=Z,1.6nm,0.9s,baz=314,slow=4.8,SNR=9.8						

*TRN **22** 21:28:26.5, 1121N×6173W, h3km, MD2.4*
*ISCJB **22** 21:28:27.4±1.0, 1031N±007×6197W±004, h19km±11km, Error ellipse: s-maj=12.0km s-min=5.7km az=168.7*
*FUNV **22** 21:28:27.6, 1029N×6197W, h17km, MW2.5*

ISC 22 21:28:26.9±1.3, **1028N**±008×**6196W**±004, **h16**km±8km, **n7,** σ0**993**/**14**, **1D, Trinidad**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GUIV	**Guiria**	**0.45**	**324**	↓*i*P	**Pg**	**21 28 35.9**	**-0.1**
GUIV				*e*S	**Sg**	**21 28 41.8**	**-0.3**
TCE	**Chacachacare**	**0.46**	**26**	*e*P	**Pg**	**21 28 37.0**	**+0.8**
TCE				*e*S	**Sg**	**21 28 43.5**	**+1.0**
TRN	**Trinidad (W)**	**0.66**	**56**	*e*P	**Pg**	**21 28 38.6**	**-1.2**
TRN				*e*S	**Sg**	**21 28 47.5**	**-1.1**
TBH	**Brigand Hill**	**0.90**	**77**	*e*P	**Pb**	**21 28 45.0**	**+0.9**
TBH				*e*S	**Sb**	**21 29 00.1**	**+4.2**
GUNV	**Guanoco**	**0.98**	**263**	*e*P	**Pb**	**21 28 45.5**	**+0.1**
GUNV				*e*S	**Sb**	**21 28 59.1**	**+1.1**
CRUV	**Carupano**	**1.32**	**287**	*e*P	**Pn**	**21 28 50.1**	**-0.5**
CRUV				*e*S	**Sn**	**21 29 05.8**	**-2.0**
ITEV	**Isla Los Testi**	**1.57**	**313**	*e*P	**Pn**	**21 28 54.2**	**+0.2**
ITEV				*e*S	**Sn**	**21 29 14.8**	**+0.7**

*IDC **22** 21:40:58.7±0.6, 923N×8391W, h0km, mb4.1/15, mb1 4.4/16, mb1mx4.3/22, mbtmp4.2/16, MS3.7/12, Ms1 3.8/12, ms1mx3.5/30, Error ellipse: s-maj=30.3km s-min=12.1km az=63.0*
*NEIC **22** 21:41:02.3±0.9, 9.11N×84.10W, h24km±6km, mb4.8/32, MD4.8(CASC), Error ellipse: s-maj=7.1km s-min=4.4km az=47.0*
NEIC Felt at Atenas, Escazu, Quepos and San Jose.
*BJI **22** 21:41:02.2, 9.10N×84.10W, h24km, mB5.2, Ms5.2, Msz4.8*
*MOS **22** 21:41:02.0±0.9, 9.14N×84.16W, h33km, mb5.1/23, Error ellipse: s-maj=11.2km s-min=7.3km az=87.6*
*ISCJB **22** 21:41:03.4±0.5, 9.09N±004×84.03W±004, h44km±4km, mb4.6/44, MS4.0/13, Error ellipse: s-maj=7.8km s-min=4.7km az=42.1*

ISC 22 21:41:05.0±0.5, **914N**±004×**8398W**±004, **h42**km±4km, **n190,** σ1**908**/169, **mb4.6**/44, **MS4.0**/13, **9C-6D, Costa Rica**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BUS	**Buena Vista**	**0.46**	**28**	↓*i*P	**Pn**	**21 41 14.2**	**-1.2**
BUS				*e*S	**Sn**	**21 41 25.5**	**+2.7**
BAR1		**0.67**	**81**	↑*i*P	**Pn**	**21 41 17.2**	**-0.9**
URSC	**Urasca**	**0.72**	**16**	↓*i*P	**Pn**	**21 41 18.4**	**-0.4**
URSC	**Urasca**	**0.72**	**16**	↓*i*P	**Pn**	**21 41 18.2**	**-0.6**
SJS	**Escuela Geolog**	**0.80**	**355**	↑*i*P	**Pn**	**21 41 18.9**	**-1.0**
PRS1	**Puriscal**	**0.90**	**339**	↓*i*P	**Pn**	**21 41 17.9**	**-3.3**
PRS1	**Puriscal**	**0.90**	**339**	↓*e*P	**Pn**	**21 41 18.0**	**-3.3**
ACR	**Cerro Adams**	**0.94**	**121**	↑*i*P	**Pn**	**21 41 19.0**	**-2.8**
CGA2	**Cerro Gallo 2**	**0.99**	**331**	↑*i*P	**Pn**	**21 41 20.3**	**-2.2**
CGA2	**Cerro Gallo 2**	**0.99**	**331**	↑*e*P	**Pn**	**21 41 20.4**	**-2.2**
LIO	**Limon**	**1.27**	**47**	↑*i*P	**Pn**	**21 41 27.7**	**+1.4**
LIO	**Limon**	**1.27**	**47**	↑*i

CCM	**Cathedral Cave**	**29.52**	**348**	*e*P		**P**	**21 47 03.9**	**-1.6**
CCM				pmax	pmax				
	comp=Z,14nm,0.9s,mb4.7								
CCM	**Cathedral Cave**	**29.52**	**348**	*e*P		**P**	**21 47 03.9**	**-1.7**
	comp=Z,14nm,0.9s,mb4.7								
LPAZ	**La Paz**	**29.74**	**148**	P		**P**	**21 47 07.8**	**+0.2**
	comp=Z,0.7nm,0.3s,mb3.8,baz=319,slow=6.8,SNR=4.8								
LPAZ				LR	LR		21 59 50.7		
	comp=Z,295nm,21.5s,MS3.9,baz=82,slow=38								
LPAZ	**La Paz**	**29.74**	**148**	*e*P		**P**	**21 47 08.0**	**+0.4**
LPAZ				pmax	pmax				
	comp=Z,6.0nm,1.4s								
LPAZ	**La Paz**	**29.74**	**148**	*e*P		**P**	**21 47 08.0**	**+0.4**
	comp=Z,5.7nm,1.4s,mb4.1								
LPAZ				LR	LR		21 59 50.6		
BLO	**Bloomington**	**29.99**	**356**	*e*P		**P**	**21 47 08.4**	**-1.2**
BLO				pmax	pmax				
	comp=Z,9.0nm,0.4s,mb4.8								
BLO	**Bloomington**	**29.99**	**356**	*e*P		**P**	**21 47 08.4**	**-1.2**
	comp=Z,9.1nm,0.4s,mb4.9								
ACSO	**Alum Creek Sta**	**30.97**	**1**	*e*P		**P**	**21 47 17.6**	**-0.7**
SSPA	**Standing Stone**	**31.83**	**9**	*e*P		**P**	**21 47 26.4**	**+0.6**
ANMO	**Albuquerque**	**32.91**	**325**	*e*P		**P**	**21 47 34.4**	**-1.0**
SIV	**San Ignacio**	**33.73**	**138**	P		**P**	**21 47 41.7**	**-1.1**
	comp=Z,3.1nm,0.8s,mb4.3,baz=314,slow=8.8,SNR=14								
JFWS	**Jewell Farm**	**34.09**	**352**	*e*P		**P**	**21 47 43.9**	**-1.6**
SDCO	**Great Sand Dun**	**34.47**	**329**	*e*P		**P**	**21 47 49.2**	**+0.3**
	comp=Z,1.7nm,0.9s,mb4.0								
LVC	**Limon Verde**	**34.84**	**155**	P		**P**	**21 47 53.2**	**+1.0**
	comp=Z,3.0nm,0.7s,mb4.3,baz=14,slow=6.2,SNR=2.6								
LVC				LR	LR		22 03 41.3		
	comp=Z,105nm,18.3s,MS3.6,baz=208,slow=39								
ECSD	**EROS,Sioux Fal**	**36.18**	**344**	*e*P		**P**	**21 48 03.6**	**+0.1**
	comp=Z,8.8nm,1.0s,mb4.6								
WUAZ	**Wupatki**	**36.24**	**321**	*e*P		**P**	**21 48 06.7**	**+2.5**
PKME	**Peaks-Kenny Pk**	**38.16**	**17**	*e*P		**P**	**21 48 22.1**	**+1.8**
TPNV	**Topopah Spring**	**40.24**	**319**	*e*P		**P**	**21 48 39.9**	**+2.1**
AGMN	**Agassiz Refuge**	**40.29**	**348**	*e*P		**P**	**21 48 35.2**	**-2.8**
	comp=Z,13nm,0.9s,mb4.7								
PDAR	**Pinedale Array**	**40.30**	**331**	P		**P**	**21 48 39.2**	**+1.0**
	comp=Z,0.6nm,0.7s,mb3.5,baz=115,slow=10.0,SNR=5.6								
PDAR				PcP	PcP		21 50 42.0	+0.7	
	comp=Z,1.3nm,1.0s,baz=159,slow=4.5,SNR=4.7								
HWUT	**Hardware Ranch**	**40.47**	**328**	*e*P		**P**	**21 48 41.4**	**+1.8**
	comp=Z,62nm,2.6s,mb4.9								
HWUT				*e*PcP	PcP		21 50 43.2	+1.3	
ISA	**Isabella**	**41.03**	**315**	*e*P		**P**	**21 48 44.7**	**+0.3**
ISA				pmax	pmax				
	comp=Z,5.0nm,1.0s,mb4.1								
ISA	**Isabella**	**41.03**	**315**	*e*P		**P**	**21 48 44.7**	**+0.3**
	comp=Z,5.5nm,1.0s,mb4.1								
REDW	**Red Top Meadow**	**41.38**	**330**	*e*P		**P**	**21 48 47.1**	**0.0**
ULM	**Lac du Bonnet**	**42.15**	**349**	P		**P**	**21 48 50.5**	**-2.8**
	comp=Z,10nm,0.9s,mb4.5,baz=163,slow=6.7,SNR=8.0								
NVAR	**Mina Array Bea**	**42.42**	**319**	P		**P**	**21 48 56.8**	**+1.1**
	comp=Z,6.2nm,0.8s,mb4.3,baz=134,slow=7.6,SNR=34								
CFAA	**Coronel Fontan**	**43.23**	**160**	P		**P**	**21 49 03.3**	**+1.0**
	comp=Z,0.2nm,0.4s,baz=328,slow=6.2,SNR=6.1								
BDFB	**Brasilia**	**43.30**	**124**	*e*P		**P**	**21 49 04.1**	**+1.0**
BDFB				*e*			21 50 48.5		
BDFB				pmax	pmax				
	comp=Z,32nm,2.6s								
BDFB	**Brasilia**	**43.30**	**124**	*e*P		**P**	**21 49 04.0**	**+0.9**
	comp=Z,32nm,2.6s,mb4.6								
BDFB				*e*PcP	PcP		21 50 48.5	-3.1	
WVOR	**Wild Horse Val**	**44.97**	**323**	*e*P		**P**	**21 49 15.3**	**-0.9**
WVOR				pmax	pmax				
	comp=Z,5.0nm,0.8s,mb4.4								
WVOR	**Wild Horse Val**	**44.97**	**323**	*e*P		**P**	**21 49 15.3**	**-0.9**
	comp=Z,4.6nm,0.8s,mb4.4								
PLCA	**Paso Flores**	**51.15**	**167**	P		**P**	**21 50 03.1**	**-0.7**
	comp=Z,5.6nm,0.8s,mb4.6,baz=346,slow=8.2,SNR=6.7								
TRQA	**Tornquist**	**51.25**	**158**	P		**P**	**21 50 03.6**	**-1.0**
YKA	**Yellowknife Ar**	**57.70**	**344**	P		**P**	**21 50 48.6**	**-2.6**
	comp=Z,2.5nm,0.8s,mb4.3,baz=131,slow=8.0,SNR=6.4								
YKA				LR	LR		22 16 30.9		
	comp=Z,60nm,18.8s,MS3.7,baz=130,slow=37								
USHA	**Ushuaia**	**65.06**	**170**	LR	LR		22 14 23.8		
	comp=Z,37nm,18.9s,MS3.6,baz=31,slow=31								
RES	**Resolute Bay**	**65.81**	**357**	*e*P		**P**	**21 51 45.3**	**-0.2**
INK	**Inuvik**	**67.37**	**342**	*e*P		**P**	**21 51 54.9**	**-0.7**
	comp=Z,355nm,1.1s								
SUMG	**Summit**	**68.97**	**13**	*e*P		**P**	**21 52 05.6**	**0.0**
PPT	**Papeete**	**70.01**	**248**	LR	LR		22 13 31.5		
	comp=Z,20nm,19.0s,MS3.4,baz=14,slow=28								
COLA	**College**	**70.83**	**336**	P		**P**	**21 52 16.2**	**-0.9**
MCK	**McKinley**	**70.89**	**335**	*e*P		**P**	**21 52 17.4**	**-0.1**
TBI	**Tubuai**	**71.67**	**242**	*e*LR	LR		21 52 34.0		
	comp=Z,35nm,27.5s								
EVO	**Evora**	**73.40**	**53**	*e*P		**P**	**21 52 32.6**	**-0.4**
	comp=Z,13nm,1.0s,mb4.5								
PMSA	**Palmer Station**	**75.21**	**171**	*e*P		**P**	**21 52 43.5**	**+0.5**
ESDC	**Sonseca Array**	**76.56**	**51**	P		**P**	**21 52 51.4**	**+0.2**
	comp=Z,1.6nm,0.7s,mb4.0,baz=276,slow=5.4,SNR=10								
ESLA	**Sonseca Array**	**76.56**	**51**	*e*P		**P**	**21 52 52.3**	**+1.1**
ESK	**Eskdalemuir**	**77.29**	**35**	*e*P		**P**	**21 52 53.9**	**-1.1**
LIC	**Lamto**	**78.16**	**86**	*e*P		**P**	**21 53 00.9**	**+0.2**
	comp=Z,19nm,1.0s,mb4.7								
LIC	**Lamto**	**78.16**	**86**	*e*P		**P**	**21 53 00.9**	**+0.2**
	comp=Z,9.6nm,1.0s,mb4.7								
DBIC	**Dimbokro**	**78.27**	**85**	P		**P**	**21 53 01.4**	**+0.1**
	comp=Z,4.6nm,1.1s,mb4.3,baz=201,slow=11,SNR=3.7								
DBIC				LR	LR		22 26 09.6		
	comp=Z,40nm,20.0s,MS3.8,baz=105,slow=35								
DBIC	**Dimbokro**	**78.27**	**85**	*e*P		**P**	**21 53 00.4**	**-0.9**
DBIC				pmax	pmax				
	comp=Z,12nm,1.2s								
DBIC	**Dimbokro**	**78.27**	**85**	*e*P		**P**	**21 53 00.4**	**-0.9**
	comp=Z,12nm,1.2s,mb4.7								
SJPF	**Ste Jean**	**78.54**	**48**	*e*P		**P**	**21 53 02.3**	**+0.1**
	comp=Z,47nm,1.3s,mb4.9								
SJPF	**Ste Jean**	**78.54**	**48**	*e*P		**P**	**21 53 02.3**	**+0.1**
SJPF				pmax	pmax				
	comp=Z,24nm,1.3s,mb5.0								
SJPF	**Ste Jean**	**78.54**	**48**	*e*P		**P**	**21 53 02.3**	**+0.1**
	comp=Z,24nm,1.3s,mb5.0								
GRR	**Gorron**	**78.67**	**42**	*e*P		**P**	**21 53 03.6**	**+0.8**
	comp=Z,78nm,1.4s,mb5.2								
GRR	**Gorron**	**78.67**	**42**	*e*P		**P**	**21 53 03.6**	**+0.8**
GRR				pmax	pmax				
	comp=Z,39nm,1.4s,mb5.1								
GRR	**Gorron**	**78.67**	**42**	*e*P		**P**	**21 53 03.6**	**+0.8**
	comp=Z,39nm,1.4s,mb5.1								
FLN	**La Foliniere**	**78.91**	**42**	*e*P		**P**	**21 53 04.6**	**+0.5**
ETSF	**Etsaut**	**79.03**	**48**	*e*P		**P**	**21 53 05.2**	**+0.2**
	comp=Z,60nm,1.6s,mb5.0								
ETSF	**Etsaut**	**79.03**	**48**	*e*P		**P**	**21 53 05.2**	**+0.2**
ETSF				pmax	pmax				
	comp=Z,30nm,1.6s,mb5.0								
ETSF	**Etsaut**	**79.03**	**48**	*e*P		**P**	**21 53 05.2**	**+0.2**
	comp=Z,30nm,1.6s,mb5.0								
LDF	**La Druitiere**	**79.15**	**42**	*e*P		**P**	**21 53 05.5**	**0.0**
	comp=Z,28nm,1.1s,mb4.8								
LDF	**La Druitiere**	**79.15**	**42**	*e*P		**P**	**21 53 05.5**	**0.0**
LDF				pmax	pmax				
	comp=Z,14nm,1.1s,mb4.8								
LDF	**La Druitiere**	**79.15**	**42**	*e*P		**P**	**21 53 05.5**	**0.0**
	comp=Z,14nm,1.1s,mb4.8								
MFF	**Saint Martin d**	**79.19**	**44**	*e*P		**P**	**21 53 05.8**	**+0.1**
LFF	**La Frestale**	**79.88**	**46**	*e*P		**P**	**21 53 09.6**	**+0.1**
CAF	**Calviac**	**80.82**	**46**	*e*P		**P**	**21 53 14.7**	**+0.1**
TCF	**Toulx Ste Croi**	**80.84**	**44**	*e*P		**P**	**21 53 15.5**	**+0.9**
SSF	**Saint Saulge**	**81.67**	**44**	*e*P		**P**	**21 53 20.3**	**+1.3**
	comp=Z,14nm,1.2s,mb4.5								
SSF	**Saint Saulge**	**81.67**	**44**	*e*P		**P**	**21 53 20.3**	**+1.3**
SSF				pmax	pmax				
	comp=Z,7.0nm,1.2s,mb4.5								
SSF	**Saint Saulge**	**81.67**	**44**	*e*P		**P**	**21 53 20.3**	**+1.3**
	comp=Z,7.0nm,1.2s,mb4.5								
MEZF	**Maizieres J'vi**	**82.59**	**42**	*e*P		**P**	**21 53 23.9**	**+0.1**
CABF	**La Chapelle**	**83.48**	**44**	*e*P		**P**	**21 53 28.6**	**+0.1**
TOA0	**Torodi Ar. Sit**	**83.79**	**78**	*e*P		**P**	**21 53 30.5**	**-0.1**
TORD	**Torodi Ar. Bea**	**83.79**	**78**	P		**P**	**21 53 30.4**	**-0.2**
	comp=Z,1.6nm,0.8s,mb4.2,baz=275,slow=4.1,SNR=11								
TORD				LR	LR		22 27 06.5		
	comp=Z,61nm,18.5s,MS4.0,baz=260,slow=33								
TORD	**Torodi Ar. Bea**	**83.79**	**78**	P		**P**	**21 53 30.4**	**-0.2**
TORD				LR	LR		22 27 06.5		
NB2	**NORSAR Subarra**	**84.58**	**29**	P		**P**	**21 53 34.0**	**+0.2**
	comp=Z,11nm,1.4s,mb4.8,baz=283,slow=5.6								
NOA	**NORSAR Array B**	**84.58**	**29**	P		**P**	**21 53 35.9**	**+2.1**
	comp=Z,1.6nm,0.9s,mb4.2,baz=276,slow=4.6,SNR=3.9								
NOA				LR	LR		22 31 15.1		
	comp=Z,54nm,19.5s,MS3.9,baz=320,slow=36								
TNS	**Taunus Mts**	**84.60**	**40**	*e*P		**P**	**21 53 33.7**	**-0.4**
TNS				pmax	pmax				
	comp=Z,20nm,1.5s,mb5.0								
TNS	**Taunus Mts**	**84.60**	**40**	*e*P		**P**	**21 53 33.7**	**-0.4**
	comp=Z,20nm,1.5s,mb5.0								
BFO	**Black Forest**	**84.78**	**42**	*e*P		**P**	**21 53 34.3**	**-0.7**
BFO				pmax	pmax				
	comp=Z,32nm,1.9s,mb5.1								
BFO	**Black Forest**	**84.78**	**42**	*e*P		**P**	**21 53 34.3**	**-0.7**
	comp=Z,32nm,1.9s,mb5.1								
TAM	**Tamanrasset**	**86.06**	**68**	*e*P		**P**	**21 53 42.2**	**+0.2**
GRA1	**Grafenberg Arr**	**86.45**	**40**	*e*P		**P**	**21 53 43.6**	**+0.3**
	comp=Z,29nm,1.6s,mb5.3								
GRF	**Grafenberg Arr**	**86.45**	**40**	*e*P		**P**	**21 53 43.6**	**+0.3**
GRF				pmax	pmax				
	comp=Z,29nm,1.6s,mb5.3								
GRF	**Grafenberg Arr**	**86.45**	**40**	*e*P		**P**	**21 53 43.6**	**+0.3**
GRF				pmax	pmax				
	comp=Z,29nm,1.6s,mb5.3								
GRF	**Grafenberg Arr**	**86.45**	**40**	*e*P		**P**	**21 53 43.6**	**+0.3**
	comp=Z,29nm,1.6s,mb5.3								
MOX	**Moxa**	**86.53**	**39**	*e*P		**P**	**21 53 44.3**	**+0.6**
	comp=Z,30nm,1.9s,mb5.2								
NEUB	**Neuenburg**	**86.54**	**39**	*e*P		**P**	**21 53 44.4**	**+0.7**
MANZ	**Manzenberg**	**86.96**	**40**	*e*P		**P**	**21 53 46.2**	**+0.4**
	comp=Z,24nm,2.1s,mb5.1								
WERD	**Werda**	**87.00**	**40**	*e*P		**P**	**21 53 45.6**	**-0.4**
WERN	**Wernitzgruen**	**87.08**	**40**	*e*P		**P**	**21 53 46.9**	**+0.5**
NKC	**Novy Kostel**	**87.13**	**40**	*e*P		**P**	**21 53 46.8**	**+0.2**
CLL	**Collm**	**87.28**	**39**	*e*P		**P**	**21 53 47.7**	**+0.4**
	comp=Z,6.0nm,1.0s,mb4.8								
CLL	**Collm**	**87.28**	**39**	⇓ *i*P		**P**	**21 53 47.5**	**+0.2**
	comp=Z,8.0nm,1.3s,mb4.8								
CLL				LmV			22 20 00.0		
	comp=Z,100nm,20.0s								
FBE	**Freiberg**	**87.57**	**39**	*e*P		**P**	**21 53 49.4**	**+0.7**
WET	**Wettzell**	**87.61**	**41**	*e*P		**P**	**21 53 48.8**	**-0.2**
WET				pmax	pmax				
	comp=Z,10.0nm,1.4s,mb4.8								
WET	**Wettzell**	**87.61**	**41**	*e*P		**P**	**21 53 48.8**	**-0.2**
	comp=Z,10.0nm,1.4s,mb4.8								
BRG	**Berggiesshubel**	**87.94**	**39**	*e*P		**P**	**21 53 51.1**	**+0.6**
BRG				*e*			21 53 57.6		
BRG				pmax	pmax				
	comp=Z,13nm,1.9s,mb4.8								
BRG	**Berggiesshubel**	**87.94**	**39**	*e*P		**P**	**21 53 51.1**	**+0.6**
	comp=Z,22nm,1.9s,mb5.1								
BRG				*e*			21 53 57.6		
	comp=Z,5.8nm,1.0s								
KHC	**Kasperske Hory**	**88.07**	**41**	*e*P		**P**	**21 53 53.0**	**+1.9**
GEC2	**GERESS Array S**	**88.20**	**41**	*e*P		**P**	**21 53 51.4**	**-0.4**
GEC2				pmax	pmax				
	comp=Z,9.0nm,1.5s,mb4.8								
GEC2	**GERESS Array S**	**88.20**	**41**	*e*P		**P**	**21 53 51.4**	**-0.4**
	comp=Z,9.0nm,1.5s,mb4.8								
GERES	**GERESS Array B**	**88.20**	**41**	P		**P**	**21 53 52.0**	**+0.2**
	comp=Z,0.8nm,0.8s,mb4.0,baz=168,slow=6.8,SNR=6.0								
GERES				LR	LR		22 29 31.8		
	comp=Z,56nm,18.0s,MS4.0,baz=290,slow=33								
SNAA	**Sanae**	**95.83**	**162**	P		**P**	**21 54 25.5**	**-1.0**
TIXI	**Tiksi**	**96.49**	**350**	*e*P		**P**	**21 54 28.0**	**-1.6**
TIXI				pmax	pmax				
	comp=Z,2.0nm,0.9s,mb4.5								
MDJ	**Mudanjiang**	**118.50**	**333**	PKP	PKPdf		21 59 47.3	-1.2	
CN2	**Changchun**	**120.92**	**336**	*e*PKP	PKPdf		21 59 47.9	-5.3	
KMBO	**Kilima Mbogo**	**121.00**	**86**	*e*PKIKP	PKPdf		21 59 54.7	+0.6	
SONM	**Songino Array**	**122.53**	**352**	PKP	PKPdf		21 59 55.3	-0.9	
	comp=Z,0.6nm,1.0s,baz=38,slow=3.1,SNR=4.6								
MK31	**Makanchi Array**	**122.98**	**11**	PKIKP	PKPdf		21 59 53.8	-3.2	
KSRS	**Korea Array**	**124.86**	**329**	PKP	PKPdf		22 00 00.6	-0.4	
	comp=Z,1.3nm,0.8s,baz=29,slow=2.8,SNR=4.5								
WMQ	**Urumqi**	**126.75**	**8**	PKP	PKPdf		22 00 02.5	-1.8	
HHC	**Hu-ho-hao-te**	**128.23**	**345**	*e*PKP	PKPdf		22 00 00.9	-6.4	
HHC				XPKP			22 00 15.3		
HHC				PP	PP				
	comp=Z,93nm,5.3s								
HHC				LR	LR				
	comp=N,155nm,19.3s,MS4.8								
HHC				LR	LR				
	comp=E,161nm,20.1s,MS4.8								
HHC				LR	LR				
	comp=Z,85nm,19.4s,MS4.4								
CD2	**Chengdu**	**139.49**	**350**	*e*PKP	PKPdf		22 00 25.5	-3.2	
CD2				PP	PP		22 03 23.0	+1.3	
CD2				PKS			22 04 00.5		
CD2				SKS	SKSdf		22 07 30.5	-5.6	
CD2				SKKS	SKKSac		22 10 08.9	-5.1	
CD2				PP	PP				
	comp=Z,90nm,10.2s								
CD2				LR	LR				
	comp=N,160nm,21.1s								
CD2				LR	LR				
	comp=Z,180nm,18.4s,MS4.8								
ASAR	**Alice Springs**	**141.04**	**244**	PKhKP			22 00 22.4		
	comp=Z,0.3nm,0.7s,baz=96,slow=4.2,SNR=2.7								
WRAB	**Tennant Creek**	**141.47**	**250**	*e*PKIKP	PKPdf		22 00 31.9	-0.6	
WRA	**Warramunga Arr**	**141.48**	**249**	PKhKP			22 00 26.4		
	comp=Z,0.7nm,0.7s,baz=104,slow=2.7,SNR=5.0								
GYA	**Guiyang**	**143.13**	**344**	*e*PKP	PKPdf		22 00 34.3	-1.0	
GYA				PP	PP		22 03 48.8	+4.8	
GYA				PP	PP				
	comp=Z,90nm,7.8s								
SHL	**Shillong**	**145.27**	**7**	*e*P	PKPbc		22 00 39.0	+0.3	
KMI	**Kunming**	**145.32**	**349**	PKP	PKPdf		22 00 39.1	-0.1	
KMI				PP	PP		22 04 01.8	+4.8	
KMI				SS	SS		22 22 44.3	-0.2	
KMI				PP	PP				
	comp=Z,62nm,3.6s								
KMI				LR	LR				
	comp=N,123nm,16.2s,MS5.0								
KMI				LR	LR				
	comp=E,135nm,14.1s,MS5.0								
KMI				LR	LR				
	comp=Z,130nm,19.4s								
CMAR	**Chiang Mai Arr**	**152.43**	**354**	PKP	PKPdf		22 00 50.2	-0.5	
	comp=Z,0.3nm,0.4s,baz=318,slow=5.8,SNR=5.6								
CMAR				PKPbc	PKPbc		22 00 57.6	0.0	
	comp=Z,2.3nm,0.9s,baz=331,slow=2.9,SNR=16								
CMAR				PKPab	PKPab		22 01 05.9	-1.7	
	comp=Z,2.0nm,0.8s,baz=344,slow=3.9,SNR=7.4								

***MEX* 22 22:00:57.4±0.7, 1617N×9834W, h9km±5km, MD3.9, Near coast of Guerrero**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
PNIG	**Pinotepa**	**0.30**	**43**	*i* P		Pg	22 01 02.5	-0.8
PNIG				*i* S		Sg	22 01 07.6	+0.2
UTMO	**Huajuapan**	**1.73**	**17**	*e*P		Pn	22 01 25.1	-2.6
UTMO				*i* S		Sn	22 01 45.0	-4.9
VHO	**Vista Hermosa**	**1.78**	**60**	*i* P		Pn	22 01 25.5	-2.9
VHO				*i* S		Sn	22 01 46.1	-5.1
CAIG	**El Cayaco**	**2.04**	**295**	*i* P		Pn	22 01 28.3	-3.7
CAIG				*i* S		Sn	22 01 53.0	-4.7
TPIG	**Tehuac#an**	**2.42**	**23**	*e*P		Pn	22 01 36.1	-1.1
TPIG				*i* S		Sn	22 02 03.3	-3.7
PLIG	**Platanillo**	**2.47**	**333**	*i* P		Pn	22 01 36.0	-1.9
PLIG				*i* S		Sn	22 02 04.0	-4.3
YAIG	**Yautepec**	**2.76**	**346**	*i* P		Pn	22 01 40.1	-1.9
YAIG				*i* S		Sn	22 02 11.2	-4.2
PPM	**Popocatepetl**	**2.89**	**355**	*e*P		Pn	22 01 41.9	-1.8
PPM				*i* S		Sn	22 02 15.7	-2.9
MZVM		**3.12**	**344**	*e*P		Pn	22 01 42.9	-3.9
MZVM				*i* S		Sn	22 02 19.0	-5.2
IIO	**Organos**	**3.42**	**354**	*e*P		Pn	22 01 48.9	-2.1
IIO				*i* S		Sn	22 02 27.8	-3.8

***IDC* 22 22:01:58.9±3.5, 356S×10064E, h0km, mb3.5/6, mb1 3.7/6, mb1mx3.6/19, mbtmp3.6/6, Error ellipse: s-maj=142.3km s-min=20.9km az=57.0, Southern Sumatera**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
CMAR	**Chiang Mai Arr**	**21.95**	**356**	P		P	22 06 54.0	-0.2
	0.4nm,0.3s,baz=186,slow=8.5,SNR=4.9							
WRA	**Warramunga Arr**	**36.66**	**119**	P		P	22 09 06.4	-1.2
	0.2nm,0.3s,baz=304,slow=9.2,SNR=6.0							
ASAR	**Alice Springs**	**37.83**	**125**	P		P	22 09 18.5	+1.0
	0.2nm,0.3s,baz=301,slow=7.8,SNR=5.5							
SONM	**Songino Array**	**51.43**	**5**	P		P	22 11 06.4	+0.8
	0.7nm,0.6s,baz=188,slow=8.9,SNR=5.7							
MKAR	**Makanchi Array**	**52.70**	**344**	P		P	22 11 14.9	-0.2
	0.3nm,0.4s,baz=155,slow=7.5,SNR=6.8							
ZALV	**Zalesovo Beam**	**58.81**	**349**	P		P	22 11 58.6	-0.3
	0.8nm,0.6s,baz=193,slow=6.1,SNR=5.6							
TXAR	**Lajitas Array**	**145.52**	**39**	PKPbc		PKPbc	22 21 39.5	-0.4
	0.5nm,0.4s,baz=219,slow=1.1,SNR=9.7							

NIED ***22*** *22:27:00, 3520N×14320E, h8km, Mw3.6 Best double couple: M0 2.85000×10^14 NP1:φs198.00000°, δ50.00000°, λ-97.00000°. NP2:φs28.00000°, δ41.00000°, λ-82.00000°.*

JMA 22 22:27:14.4±0.3, 3521N×14315E, h67km, M3.5, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
BSO1	**Boso 1**	**1.87**	**253**	P		Pn	22 27 44.1	-0.1
BSO1				*e*S		Sn	22 28 06.8	0.0
CHOJ	**Chosi**	**1.93**	**285**	P		Pn	22 27 46.4	+1.3
CHOJ				*e*S		Sn	22 28 09.1	+0.7
BSO2	**Boso 2**	**2.02**	**258**	S		Sn	22 28 12.0	+1.5
BSO3	**Boso 3**	**2.21**	**260**	P		Pn	22 27 49.7	+1.0
BSO3				*e*S		Sn	22 28 16.6	+1.7
JHO	**Hitachi**	**2.52**	**304**	P		Pn	22 27 53.5	+0.5
JHO				*e*S		Sn	22 28 21.8	-0.8
JYT	**Yasato**	**2.61**	**294**	P		Pn	22 27 54.7	+0.5
JYT				*e*S		Sn	22 28 24.3	-0.5
TATJ	**Tateyama 2**	**2.68**	**267**	P		Pn	22 27 57.3	+2.1
TATJ				*e*S		Sn	22 28 29.2	+2.7
JFK	**Kawauchi**	**2.83**	**320**	P		Pn	22 27 57.4	+0.2
JFK				*e*S		Sn	22 28 29.4	-0.8
JIM2	**Oshima 3**	**3.09**	**262**	P		Pn	22 28 01.1	+0.3
JIM2				*e*S		Sn	22 28 36.0	-0.6
JSB	**Shiboa**	**3.15**	**305**	*e*S		Sn	22 28 38.2	+0.2
JHU	**Hanno**	**3.22**	**283**	*e*S		Sn	22 28 41.4	+1.7
JFT	**Otama**	**3.23**	**316**	P		Pn	22 28 04.4	+1.7
JFT				*e*S		Sn	22 28 40.2	+0.2
JAG	**Ashikaga**	**3.24**	**293**	P		Pn	22 28 04.0	+1.2
JAG				*e*S		Sn	22 28 41.2	+1.0
JMM	**Marumori**	**3.26**	**325**	P		Pn	22 28 02.7	-0.4
JMM				*e*S		Sn	22 28 39.7	-1.0
JOD2	**Odawara 2**	**3.33**	**272**	P		Pn	22 28 04.6	+0.6
JOD2				S		Sn	22 28 42.3	0.0
JHJ2	**Mitsune**	**3.47**	**234**	P		Pn	22 28 05.9	0.0
JHJ2				*e*S		Sn	22 28 45.0	-0.8
JKT	**Katashina**	**3.52**	**297**	P		Pn	22 28 08.2	+1.5
JKT				*e*S		Sn	22 28 46.9	-0.2
JFY	**Yanaizu**	**3.54**	**309**	P		Pn	22 28 08.6	+1.7
JFY				*e*S		Sn	22 28 48.7	+1.1
JIZS	**Izushimoda**	**3.54**	**263**	*e*S		Sn	22 28 48.0	+0.4
JRY	**Ryogami san**	**3.55**	**284**	P		Pn	22 28 09.3	+2.2
JRY				*e*S		Sn	22 28 50.2	+2.3
JYN	**Shimob**	**3.77**	**276**	*e*S		Sn	22 28 55.0	+1.7
JYS	**Shirataka**	**3.90**	**321**	P		Pn	22 28 14.3	+2.6
JYS				*e*S		Sn	22 28 56.3	+0.1
JHK	**Hiroka**	**3.91**	**303**	P		Pn	22 28 13.8	+1.8
JHK				*e*S		Sn	22 28 58

SDV	**Santo Domingo**	**7.95**	**51**	P		**Pn**	**22 44 56.6**	**+0.2**
	1.3nm,0.3s,baz=223,slow=3.0,SNR=4.8							
SDV				S		**Sn**	**22 46 23.1**	**-1.8**
	0.7nm,0.3s,baz=109,slow=20,SNR=3.3							
NNA	**Nana**	**15.73**	**180**	Pn		**Pn**	**22 46 41.5**	**+0.3**
MTP	**Monte Pirata**	**17.97**	**37**	*e*P		**Pn**	**22 47 09.6**	**+0.7**
LPAZ	**La Paz**	**21.79**	**157**	*e*P		**P**	**22 47 50.7**	**+0.6**
SWET	**Sewanee**	**32.32**	**346**	P		**P**	**22 49 27.3**	**+0.9**
WVT	**Waverly**	**33.68**	**344**	*e*P		**P**	**22 49 38.5**	**+0.3**
	0.5nm,0.4s,mb3.7							
MIAR	**Mount Ida**	**34.26**	**335**	*e*P		**P**	**22 49 43.6**	**+0.3**
SIUC	**Southern Illin**	**35.55**	**343**	*e*P		**P**	**22 49 54.7**	**+0.4**
	9.0nm,0.6s,mb4.9							
NVAR	**Mina Array Bea**	**51.05**	**318**	P		**P**	**22 51 59.9**	**+0.8**
	0.6nm,0.7s,mb3.7,baz=129,slow=7.7,SNR=4.7							
NVAR	**Mina Array Bea**	**51.05**	**318**	P		**P**	**22 51 59.9**	**+0.8**
YKA	**Yellowknife Ar**	**64.82**	**342**	P		**P**	**22 53 34.4**	**-0.7**
	0.5nm,0.4s,mb3.7,baz=137,slow=6.0,SNR=5.4							
YKA	**Yellowknife Ar**	**64.82**	**342**	P		**P**	**22 53 34.4**	**-0.7**
TORD	**Torodi Ar. Bea**	**77.99**	**77**	P		**P**	**22 54 53.0**	**-2.4**
	0.2nm,0.4s,mb3.2,baz=281,slow=6.2,SNR=10							
MKAR	**Makanchi Array**	**126.31**	**18**	PKP		PKPdf	23 01 58.0	-0.9
	0.2nm,0.4s,baz=275,slow=3.5,SNR=2.1							
ASAR	**Alice Springs**	**144.37**	**234**	PKP		PKPdf	23 02 30.4	-2.6
	1.4nm,0.5s,baz=120,slow=3.8,SNR=17							
WRA	**Warramunga Arr**	**145.65**	**240**	PKPbc		PKPbc	23 02 34.6	-1.1
	0.2nm,0.3s,baz=114,slow=3.3,SNR=5.2							

IDC ***22*** *22:49:46.3±0.6, 257S×9992E, h0km, mb4.4/13, mb1 4.5/13, mb1mx4.3/21, mbtmp4.4/13, MS3.5/3, Ms1 3.5/3, ms1mx2.9/23, Error ellipse: s-maj=30.5km s-min=13.6km az=64.0*

BJI ***22*** *22:49:48.9, 288S×10023E, h54km, mB4.9, mb4.6*

MOS ***22*** *22:49:49.5±1.4, 255S×9987E, h33km, mb4.9/9, Error ellipse: s-maj=23.3km s-min=9.3km az=103.1*

NEIC ***22*** *22:49:51.4±0.2, 256S×10002E, h35km, mb4.8/18, Error ellipse: s-maj=8.3km s-min=4.9km az=56.0*

ISCJB ***22*** *22:49:52.4±1.1, 251S±006×10008E±008, h60km±9km, mb4.6/30, MS3.5/3, Error ellipse: s-maj=14.7km s-min=6.0km az=147.0*

DJA ***22*** *22:49:52, 251S×9995E, h30km, MLv4.8/7*

ISC 22 22:49:52.5±0.9, 257S±005×9998E±007, h42km±8km, n94, σ0s90/82, mb4.6/30, MS3.5/3, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PDSI	**Padang**	**1.72**	**16**	P	**Pn**	**22 50 19.5**	**-0.4**
PDSI	**Padang**	**1.72**	**16**	S	**Sn**	**22 50 41.4**	**+0.8**
PPI	**Padang Panjang**	**2.14**	**11**	P	**Pn**	**22 50 25.8**	**+0.1**
KSI	**Kapahiang**	**2.82**	**112**	P	**Pn**	**22 50 35.1**	**+0.1**
RGRI	**Rengat**	**3.22**	**47**	P	**Pn**	**22 50 41.3**	**+0.7**
GSI	**Gunungsitoli**	**4.54**	**328**	P	**Pn**	**22 50 58.5**	**-0.2**
KLI	**Kotabumi**	**5.37**	**115**	P	**Pn**	**22 51 11.2**	**+1.1**
	195nm,0.7s,0.8nm						
DBJI	**Dramaga**	**7.82**	**121**	P	**Pn**	**22 51 45.1**	**+1.4**
	129nm,1.1s,0.5nm						
COCO	**West Island**	**10.05**	**198**	*e*P	**Pn**	**22 52 11.7**	**-2.7**
KSM	**Kuching**	**11.08**	**69**	Pn	**Pn**	**22 52 27.2**	**-1.2**
KKM	**Kota Kinabalu**	**18.33**	**62**	*e*P	**Pn**	**22 53 02.8**	**-0.8**
KAPI	**Kappang**	**19.87**	**98**	*e*P	**Pn**	**22 54 17.0**	**-5.1**
	18nm,0.6s						
CMAR	**Chiang Mai Arr**	**20.92**	**357**	P	**P**	**22 54 30.2**	**-1.4**
	2.6nm,0.6s,baz=186,slow=10,SNR=21						
CMAR				LR	LR	23 03 44.2	
	comp=Z,85nm,18.9s,MS3.1,baz=180,slow=40						
MBWA	**Marble Bar**	**26.67**	**135**	P	**P**	**22 55 26.5**	**-1.1**
ODAN	**Odare**	**31.68**	**338**	*e*P	**P**	**22 56 12.4**	**+0.3**
	20nm,0.9s,mb4.9						
TAPN	**Taplejung**	**32.01**	**339**	*e*P	**P**	**22 56 15.6**	**+0.6**
	28nm,0.9s,mb5.1						
RAMN	**Ramite**	**32.06**	**337**	*e*P	**P**	**22 56 16.2**	**+0.8**
	11nm,0.7s,mb4.8						
JIRN	**Jiri**	**32.86**	**337**	*e*P	**P**	**22 56 23.2**	**+0.8**
	17nm,0.7s,mb5.1						
PKI	**Pulchoki**	**33.09**	**336**	*e*P	PcP	22 59 07.8	+0.6
PKIN	**Phulchoki**	**33.10**	**336**	*e*P	PcP	22 59 07.7	+0.5
	5.1nm,0.7s						
LSA	**Lhasa**	**33.18**	**346**	P	**P**	**22 56 26.1**	**+0.9**
GUN	**Gumba**	**33.21**	**337**	*e*P	**P**	**22 56 26.1**	**+0.7**
	11nm,0.6s,mb5.0						
DMN	**Daman**	**33.25**	**335**	*e*P	PcP	22 59 08.4	+0.8
	10nm,0.6s						
KKN	**Kakani**	**33.34**	**336**	*e*P	**P**	**22 56 26.7**	**+0.1**
GKN	**Gorkha**	**33.79**	**335**	*e*P	**P**	**22 56 30.7**	**+0.2**
GKN	**Gorkha**	**33.79**	**335**	*e*P	PcP	22 59 09.3	+0.1
NACB	**Ninganchiao**	**33.89**	**37**	P	**P**	**22 56 28.4**	**-3.0**
KOLN	**Koldanda**	**34.04**	**333**	*e*P	**P**	**22 56 32.8**	**+0.1**
	5.0nm,0.5s,mb4.7						
KOLN	**Koldanda**	**34.04**	**333**	*e*P	PcP	22 59 10.0	+0.1
	3.6nm,0.5s						
NWAO	**Narrogin (SRO)**	**34.26**	**154**	P	**P**	**22 56 34.5**	**0.0**
DANN	**Dangsing**	**34.47**	**334**	*e*P	**P**	**22 56 36.6**	**+0.2**
DANN	**Dangsing**	**34.47**	**334**	*e*P	PcP	22 59 11.5	+0.4
	12nm,0.8s						
XAN	**Xi'an**	**37.38**	**12**	P	**P**	**22 56 59.5**	**-1.7**
XAN				AMB	AMB		
	comp=Z,4.0nm,0.8s,mb4.3						
XAN				AMB	AMB		
	comp=Z,75nm,8.7s						
WRA	**Warramunga Arr**	**37.72**	**120**	P	**P**	**22 57 04.0**	**-0.4**
	comp=Z,5.5nm,0.4s,mb4.6,baz=304,slow=9.0,SNR=41						
WRA				PcP	PcP	22 59 21.1	+0.1
	comp=Z,0.2nm,0.3s,baz=312,slow=2.3,SNR=5.1						
WRAB	**Tennant Creek**	**37.73**	**120**	*e*P	**P**	**22 57 04.2**	**-0.2**
WRAB				pmax	pmax		
	comp=Z,6.0nm,0.5s,mb4.6						
WRAB	**Tennant Creek**	**37.73**	**120**	*e*P	**P**	**22 57 04.2**	**-0.2**
	comp=Z,6.4nm,0.5s,mb4.6						
WB2	**Warramunga Arr**	**37.73**	**120**	*e*P	**P**	**22 57 03.9**	**-0.6**
ASAR	**Alice Springs**	**38.93**	**125**	P	**P**	**22 57 14.6**	**+0.1**
	comp=Z,6.3nm,0.6s,mb4.5,baz=302,slow=8.0,SNR=21						
ASAR				PcP	PcP	22 59 25.1	+0.5
	comp=Z,2.0nm,0.7s,baz=303,slow=2.7,SNR=11						
ASAR				S	**S**	**23 03 13.0**	**+2.7**
	comp=Z,2.6nm,1.2s,baz=313,slow=15,SNR=4.5						
GTA	**Gaotai**	**41.77**	**360**	*e*P	**P**	**22 57 37.9**	**+0.2**
GTA				AMB	AMB		
	comp=Z,5.0nm,1.6s,mb3.9						
KBL	**Kabul**	**46.98**	**325**	P	**P**	**22 58 18.5**	**-1.0**
WMQ	**Urumqi**	**47.48**	**348**	P	**P**	**22 58 24.6**	**+1.4**
KSRS	**Korea Array**	**47.52**	**30**	P	**P**	**22 58 23.4**	**-0.1**
	comp=Z,1.4nm,0.6s,mb4.1,baz=228,slow=7.8,SNR=5.7						
CTAO	**Charters Tower**	**48.37**	**115**	*e*P	**P**	**22 58 31.5**	**+1.0**
STKA	**Stephens Creek**	**48.79**	**131**	P	**P**	**22 58 34.0**	**+0.5**
	comp=Z,4.9nm,0.4s,mb4.9,baz=313,slow=8.3,SNR=16						
STKA	**Stephens Creek**	**48.79**	**131**	*e*P	**P**	**22 58 33.9**	**+0.4**
	comp=Z,5.1nm,0.3s,mb5.0						
UCH	**Uchtor**	**50.20**	**335**	P	**P**	**22 58 45.2**	**+1.1**
TKM2	**Tokmak 2**	**50.35**	**337**	*e*P	**P**	**22 58 45.8**	**+0.6**
TKM2				pmax	pmax		
	comp=Z,18nm,0.8s,mb5.2						
TKM2	**Tokmak 2**	**50.35**	**337**	P	**P**	**22 58 45.9**	**+0.8**
	SNR=22						
TKM2	**Tokmak 2**	**50.35**	**337**	*e*P	**P**	**22 58 45.8**	**+0.6**
	comp=Z,18nm,0.8s,mb5.1						
KBK	**Karagaybulak**	**50.38**	**336**	P	**P**	**22 58 46.7**	**+1.3**
	SNR=9.7						
AML	**Almayashu**	**50.47**	**335**	P	**P**	**22 58 47.2**	**+1.1**
	SNR=16						
SONM	**Songino Array**	**50.51**	**6**	P	**P**	**22 58 46.9**	**+0.6**
	comp=Z,3.1nm,0.5s,mb4.5,baz=187,slow=10,SNR=32						
SONM				PcP	PcP	23 00 04.2	+0.4
	comp=Z,2.3nm,0.7s,baz=187,slow=3.3,SNR=6.2						
CHMS	**Chumysh**	**50.75**	**336**	P	**P**	**22 58 48.5**	**+0.3**
	SNR=5.2						
EKS2	**Erkin-Say**	**50.87**	**335**	P	**P**	**22 58 50.1**	**+1.0**
	SNR=30						
EKS2	**Erkin-Say**	**50.87**	**335**	*e*P	**P**	**22 58 49.8**	**+0.7**
	comp=Z,20nm,0.8s,mb5.1						
USP	**Ospenovka**	**51.07**	**336**	P	**P**	**22 58 51.0**	**+0.4**
	SNR=25						
MK31	**Makanchi Array**	**51.57**	**345**	*e*P	**P**	**22 58 54.4**	**+0.1**
MKAR	**Makanchi Array**	**51.57**	**345**	P	**P**	**22 58 54.5**	**+0.2**
	comp=Z,13nm,0.7s,mb5.0,baz=148,slow=8.2,SNR=126						
MJAR	**Matsushiro Arr**	**52.73**	**39**	LR	LR	23 22 27.7	
	comp=Z,44nm,20.8s,MS3.5,baz=235,slow=37						
TLY	**Talaya**	**54.14**	**3**	*e*P	**P**	**22 59 11.4**	**-1.7**
KURK	**Kurchatov**	**56.15**	**344**	P	**P**	**22 59 27.1**	**-0.5**
	comp=Z,10.0nm,0.9s,mb4.9,baz=162,slow=7.1,SNR=22						
KURK	**Kurchatov**	**56.15**	**344**	*e*P	**P**	**22 59 27.4**	**-0.2**
KURK				pmax	pmax		
	comp=Z,14nm,0.8s,mb5.0						
KURK	**Kurchatov**	**56.15**	**344**	*e*P	**P**	**22 59 27.4**	**-0.2**
	comp=Z,14nm,0.8s,mb5.0						
ZAA0	**Zalesovo Array**	**57.72**	**349**	*e*P	**P**	**22 59 38.2**	**-0.6**
ZALV	**Zalesovo Beam**	**57.72**	**349**	P	**P**	**22 59 38.4**	**-0.4**
	comp=Z,3.6nm,0.6s,mb4.6,baz=176,slow=5.7,SNR=20						
BVAR	**Borovoye Array**	**60.71**	**340**	P	**P**	**22 59 58.5**	**-0.9**
	comp=Z,3.5nm,0.7s,mb4.6,baz=140,slow=9.3,SNR=25						
BRVK	**Borovoye**	**60.77**	**340**	*e*P	**P**	**22 59 58.8**	**-1.1**
BRVK				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb4.5						
BRVK	**Borovoye**	**60.77**	**340**	*e*P	**P**	**22 59 58.8**	**-1.1**
	comp=Z,4.1nm,0.9s,mb4.6						
BOD	**Bodaibo**	**61.24**	**9**	*e*P	**P**	**23 00 02.2**	**-0.8**
BOD				pmax	pmax		
	comp=Z,5.0nm,1.0s,mb4.6						
GNI	**Garni**	**65.92**	**316**	P	**P**	**23 00 33.6**	**-0.6**
ARU	**Arti**	**67.72**	**337**	*e*P	**P**	**23 00 44.5**	**-0.8**
ARU	**Arti**	**67.72**	**337**	*e*P	**P**	**23 00 44.5**	**-0.9**
KIV	**Kislovodsk**	**68.96**	**319**	*e*P	**P**	**23 00 51.2**	**-2.2**
KIV				pmax	pmax		
	comp=Z,11nm,1.1s,mb4.7						
KIV	**Kislovodsk**	**68.96**	**319**	*e*P	**P**	**23 00 51.6**	**-1.8**
	comp=Z,10.0nm,1.3s,mb4.6						
MAW	**Mawson**	**69.73**	**194**	P	**P**	**23 00 58.3**	**+0.7**
	comp=Z,1.1nm,0.7s,mb3.9,baz=353,slow=8.1,SNR=3.8						
MAW				LR	LR	23 23 26.5	
	comp=Z,51nm,20.1s,MS3.8,baz=193,slow=29						
BR131	**Keskin Array S**	**73.69**	**313**	*e*P	**P**	**23 01 21.0**	**-1.1**
	comp=Z,2.3nm,0.7s,mb4.2						
TIXI	**Tiksi**	**76.42**	**9**	*e*P	**P**	**23 01 34.5**	**-2.6**
TIXI				pmax	pmax		
	comp=Z,5.0nm,1.0s,mb4.4						
TIXI	**Tiksi**	**76.42**	**9**	*e*P	**P**	**23 01 35.4**	**-1.7**
	comp=Z,2.7nm,0.4s,mb4.5						
SBA	**Scott Base**	**82.70**	**169**	*e*P	**P**	**23 02 12.0**	**+0.8**
KOLS	**Kolonicke sedl**	**83.87**	**320**	*e*P	**P**	**23 02 18.6**	**+0.9**
STHS	**Stebnicka Huta**	**84.63**	**320**	*e*P	**P**	**23 02 21.8**	**+0.3**
STHS				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.5						
STHS	**Stebnicka Huta**	**84.63**	**320**	*e*P	**P**	**23 02 21.8**	**+0.3**
	comp=Z,3.0nm,0.8s,mb4.5						
LIKS	**Likavka**	**85.95**	**319**	*e*P	**P**	**23 02 28.6**	**+0.4**
ARCES	**ARCESS Array B**	**87.00**	**340**	P	**P**	**23 02 33.1**	**+0.2**
	comp=Z,2.7nm,0.7s,mb4.6,baz=104,slow=5.1,SNR=6.9						
ZST	**Bratislava**	**87.15**	**318**	*e*P	**P**	**23 02 34.2**	**+0.1**
ZST				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.7						
ZST	**Bratislava**	**87.15**	**318**	*e*P	**P**	**23 02 34.2**	**+0.1**
	comp=Z,4.4nm,0.8s,mb4.7						
GERES	**GERESS Array B**	**89.46**	**319**	P	**P**	**23 02 45.6**	**+0.5**
	comp=Z,1.2nm,0.7s,mb4.3,baz=85,slow=4.4,SNR=7.2						
SNAA	**Sanae**	**91.60**	**198**	*e*P	**P**	**23 02 54.5**	**0.0**
NVAR	**Mina Array Bea**	**130.05**	**39**	PKP	PKPdf	23 08 58.6	+0.5
	comp=Z,0.4nm,0.7s,baz=269,slow=4.1,SNR=3.6						
BDFB	**Brasilia**	**143.54**	**239**	PKP	PKPdf	23 09 23.2	-0.4
	comp=Z,4.2nm,0.7s,baz=172,slow=2.3,SNR=3.6						
TXAR	**Lajitas Array**	**145.16**	**38**	PKPbc	PKPbc	23 09 26.4	+0.7
	comp=Z,11nm,0.6s,baz=275,slow=0.9,SNR=115						
TZTN	**Tazewell**	**146.04**	**5**	*e*PKPdf	PKPdf	23 09 27.6	+0.1
JCT	**Junction City**	**146.51**	**32**	*e*PKP2	PKPab	23 09 29.2	-1.6
SIV	**San Ignacio**	**153.71**	**225**	PKPbc	PKPbc	23 09 47.5	-0.4
	comp=Z,0.9nm,0.7s,baz=162,slow=6.4,SNR=6.4						

IDC ***22*** *23:37:05.0±2.0, 4387N×12864W, h0km, mb3.6/4, mb1 3.7/6, mb1mx3.6/21, mbtmp3.5/6, ML2.8/1, MS3.2/5, Ms1 3.2/5, ms1mx2.9/24, Error ellipse: s-maj=47.7km s-min=21.2km az=42.0*

NEIC ***22*** *23:37:07.5±1.1, 4396N×12850W, h10km, ML3.0, Error ellipse: s-maj=13.3km s-min=9.1km az=64.0*

ISCJB ***22*** *23:37:10.6±2.0, 4401N±008×1282W±02, h36km±18km, mb3.4/3, MS3.0/2, Error ellipse: s-maj=21.1km s-min=11.8km az=156.2*

ISC 22 23:37:12.9±1.9, 4401N±008×1282W±02, h37km±18km, n26, σ0s83/26, mb3.4/3, MS3.0/2, Off coast of Oregon

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KMOR	**Kings Mountain**	**3.73**	**63**	P	**Pn**	**23 38 06.2**	**-1.7**
HSO	**Harness Mounta**	**3.74**	**96**	P	**Pn**	**23 38 07.3**	**-0.8**
HUMO	**Hull Mountain**	**4.08**	**108**	*e*Pn	**Pn**	**23 38 11.8**	**-1.0**
HUMO				*e*Sn	**Sn**	**23 38 59.2**	**-0.1**
BBOR	**Butler Butte**	**4.18**	**104**	P	**Pn**	**23 38 12.8**	**-1.3**
SSOR	**Sweet Springs**	**4.21**	**76**	P	**Pn**	**23 38 14.5**	**+0.1**
HBO	**Huckleberry Mo**	**4.26**	**90**	P	**Pn**	**23 38 15.8**	**+0.6**
IRO	**Indian Ridge**	**4.30**	**88**	P	**Pn**	**23 38 15.3**	**-0.4**
LVP	**Lakeview Peak**	**4.60**	**61**	P	**Pn**	**23 38 20.3**	**+0.5**
YBH	**Yreka Blue Hor**	**4.64**	**118**	LR	LR	23 40 09.8	
	comp=Z,277nm,20.5s,baz=306,slow=38						
VLMM	**Larch Mountain**	**4.65**	**69**	P	**Pn**	**23 38 20.8**	**+0.2**
FL2	**Flat Top 2**	**4.69**	**60**	P	**Pn**	**23 38 21.5**	**+0.4**
MTMW	**Mount Mitchell**	**4.71**	**63**	P	**Pn**	**23 38 21.6**	**+0.3**
TDH	**Tom, Dick, Har**	**4.76**	**72**	P	**Pn**	**23 38 22.8**	**+0.8**
TDL	**Tradedollar La**	**4.84**	**59**	P	**Pn**	**23 38 23.0**	**-0.1**
HOOD	**Mount Hood Mea**	**4.86**	**72**	*e*Pn	**Pn**	**23 38 23.5**	**+0.1**
	24nm,0.9s						
HOOD				Sn	**Sn**	**23 39 17.3**	**-1.1**
VFP	**Flag Point**	**4.99**	**72**	P	**Pn**	**23 38 25.9**	**+0.8**
RPW	**Rockport**	**6.42**	**44**	*e*Pn	**Pn**	**23 38 45.5**	**+0.7**
NVAR	**Mina Array Bea**	**9.31**	**123**	Pn	**Pn**	**23 39 25.0**	**+0.5**
	baz=297,slow=12,SNR=2.1						
NVAR	**Mina Array Bea**	**9.31**	**123**	Pn	**Pn**	**23 39 25.0**	**+0.5**
ELK	**Elko**	**10.14**	**104**	Pn	**Pn**	**23 39 36.8**	**+0.9**
	0.1nm,0.3s,baz=301,slow=12,SNR=4.2						
ELK				LR	LR	23 43 51.5	
	comp=Z,108nm,18.8s,baz=274,slow=39						
MSU	**Marysvale**	**13.25**	**109**	Pn	**Pn**	**23 40 18.6**	**+0.2**
ANMO	**Albuquerque**	**19.03**	**111**	LR	LR	23 49 39.5	
	comp=Z,94nm,19.1s,baz=337,slow=39						
YKA	**Yellowknife Ar**	**20.14**	**18**	P	**P**	**23 41 43.6**	**+0.1**
	2.3nm,0.8s,baz=208,slow=12,SNR=5.1						
ULM	**Lac du Bonnet**	**22.75**	**63**	P	**P**	**23 42 12.5**	**+1.0**
	2.0nm,0.7s,mb3.7,baz=300,slow=8.1,SNR=3.9						
ULM				LR	LR	23 51 43.2	
	comp=Z,73nm,18.2s,MS3.1,baz=211,slow=38						
TXAR	**Lajitas Array**	**24.42**	**119**	P	**P**	**23 42 28.7**	**+0.8**
	0.4nm,0.9s,mb2.9,baz=285,slow=6.3,SNR=4.7						
TXAR				LR	LR	23 53 11.1	
	comp=Z,39nm,21.2s,MS2.9,baz=50,slow=39						
SONM	**Songino Array**	**76.70**	**326**	P	**P**	**23 48 57.1**	**-2.8**
	0.9nm,0.9s,mb3.7,baz=46,slow=4.3,SNR=4.6						

IDC 23 00:19:03.0±7.2, 1789S×17841W, h605km±88km, mb3.0/4, mb1 3.3/4, mb1mx3.0/15, mbtmp3.0/4, Error ellipse: s-maj=128.9km s-min=34.3km az=155.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**38.64**	**241**	P	P	00 25 36.4	+0.1
	1.4nm,0.5s,baz=69,slow=8.6,SNR=2.9						
ASAR	**Alice Springs**	**44.79**	**254**	P	P	00 26 24.6	-0.1
	7.8nm,0.7s,baz=86,slow=8.8,SNR=80						
ASAR				PcP	PcP	00 27 53.4	0.0
	0.4nm,0.5s,baz=102,slow=4.1,SNR=4.2						
TXAR	**Lajitas Array**	**85.99**	**58**	P	P	00 30 40.9	+0.1
	0.3nm,0.7s,baz=205,slow=5.5,SNR=4.2						
PDAR	**Pinedale Array**	**87.34**	**43**	P	P	00 30 47.1	+0.2
	0.3nm,0.6s,baz=251,slow=5.6,SNR=3.0						
MKAR	**Makanchi Array**	**109.12**	**314**	PKiKP	PKiKP	00 36 23.8	-1.3
	0.1nm,0.3s,baz=129,slow=3.9,SNR=3.2						
GERES	**GERESS Array B**	**147.60**	**345**	PKPbc	PKPbc	00 37 40.3	0.0
	0.7nm,0.5s,baz=31,slow=4.5,SNR=7.6						

ISCJB ***23*** *00:29:54.0±0.8, 3259S±003×7021W±009, h110km±9km, Error ellipse: s-maj=13.2km s-min=4.1km az=169.0*

GUC ***23*** *00:29:54.4±0.8, 3258S×7014W, h101km±4km, MD3.6, ML3.6*

NEIC ***23*** *00:29:54.4, 3258S×7014W, h101km, MD3.6(GUC), After GUC.*

ISC 23 00:29:54.7±0.8, 3259S±003×7021W±009, h108km±8km, n30, σ0s45/56, 10C-8D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JACH	**Jahuel**	**0.33**	**254**	i*e*P	**Pn**	**00 30 10.2**	**-0.1**
JACH				*i* S	**Sn**	**00 30 21.3**	**-0.8**
PEL	**Peldehue**	**0.68**	**216**	i*e*P	**Pn**	**00 30 12.2**	**-0.4**
PEL				*i* S	**Sn**	**00 30 25.8**	**-0.4**
PEL				AML	AML	00 30 27.3	
	comp=E,3μm,0.8s						
FCH	**Farellones**	**0.74**	**185**	i*e*P	**Pn**	**00 30 13.0**	**-0.2**
FCH				*i* S	**Sn**	**00 30 27.7**	**+0.6**
FCH				AML	AML	00 30 28.9	
	comp=N,5μm,0.2s						
ROCH	**El Roble**	**0.77**	**240**	*e*P	**Pn**	**00 30 13.5**	**0.0**
ROCH				*i* S	**Sn**	**00 30 28.4**	**+0.7**
CLCH	**Cerro Calan**	**0.85**	**199**	i*e*P	**Pn**	**00 30 13.9**	**-0.3**
CLCH				*i* S	**Sn**	**00 30 28.4**	**-0.5**
CLCH				AML	AML	00 30 31.1	
	comp=E,2μm,0.4s						
FSR	**Penalolen**	**0.92**	**197**	i*e*P	**Pn**	**00 30 14.9**	**0.0**
FSR				*i* S	**Sn**	**00 30 29.9**	**-0.3**
FSR				AML	AML	00 30 32.6	
	comp=E,546nm,0.2s						
FSR	**Penalolen**	**0.92**	**197**	i*e*P	**Pn**	**00 30 14.9**	**0.0**
FSR				*i* S	**Sn**	**00 30 29.9**	**-0.3**
SAN	**Santiago**	**0.94**	**204**	*e*P	**Pn**	**00 30 14.7**	**-0.4**
SAN				*i* S	**Sn**	**00 30 30.4**	**-0.1**
SAN				AML	AML	00 30 31.1	
	comp=E,2μm,0.5s						
SAN	**Santiago**	**0.94**	**204**	*e*P	**Pn**	**00 30 14.7**	**-0.4**
SAN				*i* S	**Sn**	**00 30 30.4**	**-0.1**
RCDM	**Rinconada Maip**	**1.03**	**209**	i*e*P	**Pn**	**00 30 15.8**	**-0.2**
RCDM				*i* S	**Sn**	**00 30 32.2**	**+0.1**
RCDM				AML	AML	00 30 33.1	
	comp=E,4μm,0.1s						
RCDM	**Rinconada Maip**	**1.03**	**209**	i*e*P	**Pn**	**00 30 15.8**	**-0.2**
RCDM				*i* S	**Sn**	**00 30 32.2**	**+0.1**
PACH	**Papudo**	**1.03**	**273**	i*e*P	**Pn**	**00 30 16.2**	**+0.1**
PACH				*i* S	**Sn**	**00 30 32.5**	**+0.3**
ANTU	**Antumapu**	**1.04**	**200**	i*e*P	**Pn**	**00 30 15.9**	**-0.2**
ANTU				*i* S	**Sn**	**00 30 32.2**	**-0.1**
ANTU				AML	AML	00 30 33.3	
	comp=E,3μm,0.2s						
ANTU	**Antumapu**	**1.04**	**200**	i*e*P	**Pn**	**00 30 15.9**	**-0.2**
ANTU				*i* S	**Sn**	**00 30 32.2**	**-0.1**
PCH	**Pirque**	**1.06**	**194**	i*e*P	**Pn**	**00 30 16.1**	**-0.2**
PCH				*i* S	**Sn**	**00 30 32.9**	**+0.2**
YECH	**El Yeso**	**1.08**	**174**	i*e*P	**Pn**	**00 30 16.5**	**0.0**
YECH				*i* S	**Sn**	**00 30 33.6**	**+0.6**
YECH				AML	AML	00 30 36.9	
	comp=N,508nm,0.4s						
TACH	**Talagante**	**1.22**	**210**	*e*P	**Pn**	**00 30 17.8**	**-0.4**
TACH				*i* S	**Sn**	**00 30 35.6**	**-0.3**
LMEL	**Las Melosas**	**1.25**	**180**	i*e*P	**Pn**	**00 30 18.3**	**-0.2**
LMEL				*i* S	**Sn**	**00 30 36.6**	**+0.1**
LMEL				AML	AML	00 30 42.2	
	comp=N,944nm,0.1s						
LMEL	**Las Melosas**	**1.25**	**180**	i*e*P	**Pn**	**00 30 18.3**	**-0.2**
LMEL				*i* S	**Sn**	**00 30 36.6**	**+0.1**
IHA	**Instituto Hidr**	**1.28**	**250**	*e*P	**Pn**	**00 30 18.4**	**-0.4**
CHNG	**Los Chungos**	**1.30**	**303**	i*e*P	**Pn**	**00 30 19.4**	**+0.3**
CHNG				*i* S	**Sn**	**00 30 37.9**	**+0.4**
CHCH	**Chadas Angostu**	**1.39**	**195**	i*e*P	**Pn**	**00 30 20.0**	**-0.1**
CACH	**El Canelo**	**1.56**	**192**	*e*P	**Pn**	**00 30 22.3**	**+0.2**
CACH				*i* S	**Sn**	**00 30 44.0**	**+1.1**
CICH	**Cipreses**	**1.73**	**186**	i*e*P	**Pn**	**00 30 24.8**	**+0.5**
CICH				*i* S	**Sn**	**00 30 47.7**	**+1.0**
SFDO	**San Fernando**	**2.13**	**198**	*e*P	**Pn**	**00 30 28.7**	**-0.5**
SFDO				*i* S	**Sn**	**00 30 55.0**	**-0.6**
OVCH	**Ovalle**	**2.15**	**337**	*i* S	**Sn**	**00 30 56.4**	**+0.3**
OVCH				AML	AML	00

DANN Dangsing 48.81 277 *e*P P 01 31 38.6 +0.6
28nm,0.6s,mb5.5
KOLN Koldanda 49.20 276 *e*P P 01 31 40.5 -0.5
2.9nm,0.3s,mb4.7
KK31 Karatay Array 53.01 300 ⇑Pg P 01 32 04.5 -4.9
0.6nm,0.5s,mb3.8,baz=126,slow=17,SNR=18
KK31 ⇓Lg 01 33 19.0
0.9nm,0.6s,baz=121,slow=28
AKTK Aktyubinsk 58.42 312 P P 01 32 46.5 -1.6
AKTO Aktyubinsk 58.42 312 P P 01 32 46.5 -1.6
2.1nm,0.7s,mb4.3,baz=70,slow=11,SNR=8.8
YKA Yellowknife Ar 63.12 30 P P 01 33 20.2 +0.4
0.6nm,0.7s,mb3.9,baz=304,slow=6.5,SNR=3.6
HFS Hagfors 73.59 336 P P 01 34 25.4 +0.1
0.9nm,0.3s,mb4.2,baz=20,slow=6.6,SNR=9.6
NB2 NORSAR Subarra 73.68 337 P P 01 34 25.5 -0.3
comp=Z,0.7nm,0.6s,mb3.8,baz=38,slow=5.9
NOA NORSAR Array B 73.68 337 P P 01 34 25.1 -0.7
comp=Z,1.1nm,0.8s,mb3.9,baz=7.9,slow=2.4,SNR=4.0
AKASG Malin Array Be 73.93 322 P P 01 34 26.6 -0.9
comp=Z,1.3nm,0.5s,mb4.1,baz=44,slow=6.2,SNR=6.5
PDAR Pinedale Array 77.03 46 P P 01 34 46.6 +1.1
comp=Z,0.4nm,0.7s,mb3.5,baz=26,slow=2.5,SNR=3.4
CLL Collm 80.65 330 ⇓*i*P P 01 35 05.1 0.0
comp=Z,4.0nm,0.8s,mb4.4
CLL *e*PcP PcP 01 35 12.0 +0.2
GERES GERESS Array B 82.28 328 P P 01 35 13.1 -0.7
comp=Z,0.3nm,0.4s,mb3.6,baz=43,slow=6.4,SNR=5.2

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*BJI **23** 01:36:55.0, 1930N×10870W, h10km, mB5.3, mb5.3, Ms5.0, Msz4.5*
*MOS **23** 01:36:56.5±0.9, 1922N×10878W, h10km, mb4.9/6, Error ellipse: s-maj=12.5km s-min=5.4km az=98.1*
*IDC **23** 01:36:57.0±0.7, 1937N×10877W, h0km, mb4.0/15, mb1 4.2/18, mb1mx4.2/26, mbtmp4.1/18, ML3.4/3, MS4.2/20, Ms1 4.2/20, ms1mx4.1/25, Error ellipse: s-maj=16.4km s-min=12.1km az=50.0*
*NEIC **23** 01:36:58.9±0.4, 1929N×10875W, h10km, mb4.8/20, Error ellipse: s-maj=7.7km s-min=4.3km az=224.0*
*GCMT **23** 01:36:58.9±0.3, 1943N×10867W, h14km±1km, MW5.0/72, Moment Tensor Solution. s22,c26; s72,c112; Duration: 0 Moment tensor: Scale 10^16^Nm; Mrr-0.44±.12; Mθθ-3.08±.11; Mϕϕ3.52±.13; Mrθ-0.89±.26; Mrϕ-1.47±.09; Mθϕ0.36±.25; Best double couple: M0 3.74800×10^16^ NP1:ϕs124.00000°,δ85.00000°,λ-165.00000°. NP2: ϕs124.00000°,δ85.00000°,λ-165.00000°. Principal axes: T 3.9010, Plg7.0000°, Azm257.0000°; N -0.3040, Plg74.0000°, Azm141.0000°; P -3.5960, Plg14.0000°, Azm349.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*ISCJB **23** 01:37:02.9±0.8, 1940N±004×10865W±004, h54km±5km, mb4.4/29, MS4.3/21 Error ellipse: s-maj=8.1km s-min=4.8km az=33.8*
*MEX **23** 01:37:02.1±0.5, 1957N×10839W, h5km±11km, MD4.8*
ISC 23 01:37:04.8±0.6, **1943N**±004×**10865W**±004, **h52**km±4km, **n482**, σ0**66**/468, **mb4.4**/29, **MS4.3**/21, **146C-180D, Revilla Gigedo Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
H06S		**2.29**	**253**	*i*	P	**Pn**		**01 37 41.6**	**+1.5**
H06S				*i*	S	**Sn**		**01 38 11.8**	**+4.6**
ANIG	**Ahuacatlan**	**4.20**	**67**	*i*	P	**Pn**		**01 38 00.5**	**-5.8**
ANIG				*i*	S	**Sn**		**01 38 47.2**	**-6.9**
MAIG	**Mazatlaan**	**4.28**	**29**	*i*	S	**Sn**		**01 38 48.8**	**-7.2**
LPIG	**La Paz**	**4.90**	**342**	LR		LR		01 39 56.2	
	comp=Z,6μm,18.9s,baz=131,slow=36								
LPIG	**La Paz**	**4.90**	**342**	*i*	P	**Pn**		**01 38 14.0**	**-1.9**
LPIG	**La Paz**	**4.90**	**342**	*i*	P	**Pn**		**01 38 15.0**	**-0.9**
ZAIG	**Zacatecas**	**6.58**	**59**	*i*	P	**Pn**		**01 38 34.9**	**-4.1**
ZAIG				*i*	S	**Sn**		**01 39 45.8**	**-6.9**
ZAIG	**Zacatecas**	**6.58**	**59**	*i*	P	**Pn**		**01 38 36.8**	**-2.2**
ZAIG				*i*	S	**Sn**		**01 39 48.3**	**-4.4**
HPIG		**7.96**	**20**	*i*	P	**Pn**		**01 38 54.4**	**-3.4**
HPIG				*i*	S	**Sn**		**01 40 21.0**	**-5.5**
PPM	**Popocatepetl**	**9.48**	**91**	*i*	P	**Pn**		**01 39 18.4**	**-0.3**
PPM	**Popocatepetl**	**9.48**	**91**	*i*	P	**Pn**		**01 39 18.9**	**+0.2**
UTMO	**Huajuapan**	**10.41**	**97**	*i*	P	**Pn**		**01 39 29.2**	**-2.3**
TPIG	**Tehuac#an**	**10.73**	**94**	*i*	P	**Pn**		**01 39 33.8**	**-2.1**
TXAR	**Lajitas Array**	**10.85**	**24**	Pn		**Pn**		**01 39 35.6**	**-1.9**
	0.2nm,0.3s,baz=200,slow=13,SNR=24								
319A	**Douglas**	**11.91**	**357**	⇓P		**Pn**		**01 39 51.9**	**+0.1**
	baz=12,SNR=13								
318A	**Bisbee**	**12.02**	**355**	⇓P		**Pn**		**01 39 53.8**	**+0.5**
	baz=12,SNR=18								
217A	**Green Valley**	**12.45**	**351**	⇓P		**Pn**		**01 39 59.5**	**+0.4**
	baz=12,SNR=5.9								
219A	**White Tail Can**	**12.53**	**358**	⇓P		**Pn**		**01 40 00.5**	**+0.2**
	baz=12,SNR=20								
218A	**Dragoon**	**12.55**	**355**	⇓P		**Pn**		**01 40 00.7**	**0.0**
	baz=12								
216A	**Three Points,**	**12.77**	**349**	⇑P		**Pn**		**01 40 03.7**	**+0.1**
	baz=13,SNR=8.5								
TUC	**Tucson**	**12.97**	**352**	*e*P		**Pn**		**01 40 06.5**	**+0.2**
214A	**Organ Pipe Nat**	**13.02**	**344**	⇓P		**Pn**		**01 40 06.7**	**-0.3**
	baz=13								
118A	**Homack Ranch,**	**13.21**	**355**	⇓P		**Pn**		**01 40 09.2**	**-0.3**
	baz=13								
117A	**Oracle**	**13.22**	**352**	⇓P		**Pn**		**01 40 10.0**	**+0.3**
	baz=13								
CMIG	**Matias Romero**	**13.29**	**98**	Pn		**Pn**		**01 40 09.0**	**-1.7**
	0.3nm,0.3s,baz=278,slow=12,SNR=8.5								
CMIG				LR		LR		01 44 53.3	
	comp=Z,1μm,20.4s,baz=270,slow=36								
CMIG	**Matias Romero**	**13.29**	**98**	Pn		**Pn**		**01 40 09.0**	**-1.7**
CMIG				LR		LR		01 44 53.3	
GDL2	**Guadalupe Moun**	**13.29**	**16**	*e*Pn		**Pn**		**01 40 11.1**	**+0.4**
119A	**Ashpeak Ranch,**	**13.29**	**358**	⇑P		**Pn**		**01 40 10.8**	**0.0**
	baz=13								
116A	**Eloy**	**13.36**	**349**	⇓P		**Pn**		**01 40 11.7**	**0.0**
	baz=13								
115A	**Sonoran Desert**	**13.60**	**347**	⇓P		**Pn**		**01 40 14.9**	**0.0**
	baz=14								
JCT	**Junction City**	**13.61**	**34**	*e*P		**Pn**		**01 40 15.8**	**+0.7**
Z18A	**Geronimo**	**13.66**	**355**	⇑P		**Pn**		**01 40 15.7**	**0.0**
	baz=14								
Z19A	**T-Link Ranch,**	**13.82**	**358**	⇓P		**Pn**		**01 40 17.9**	**0.0**
	baz=14								
Z17A	**San Carlos Hig**	**13.91**	**354**	⇓P		**Pn**		**01 40 19.2**	**+0.1**
	baz=14								
113A	**Mohawk Valley,**	**14.05**	**342**	⇑P		**Pn**		**01 40 20.6**	**-0.4**
	baz=14								
Z16A	**Peralta Trail,**	**14.07**	**350**	⇑P		**Pn**		**01 40 21.4**	**+0.1**
	baz=14								
112A	**Yuma**	**14.09**	**339**	⇓P		**Pn**		**01 40 20.9**	**-0.7**
	baz=14,SNR=7.5								
Z15A	**Gila River Ind**	**14.15**	**348**	⇑P		**Pn**		**01 40 22.6**	**+0.2**
	baz=14								
Y17A	**Roosevelt**	**14.34**	**353**	⇓P		**Pn**		**01 40 24.8**	**-0.1**
	baz=14,SNR=12								
Y18A	**Canyon Day Jun**	**14.34**	**355**	⇑P		**Pn**		**01 40 25.2**	**+0.2**
	baz=14,SNR=22								
Z14A	**Wintersburg**	**14.40**	**345**	⇓P		**Pn**		**01 40 25.7**	**+0.1**
	baz=14								
Y19A	**Nutrioso**	**14.48**	**358**	⇑P		**Pn**		**01 40 27.1**	**+0.4**
	baz=14,SNR=23								
Y16A	**Circle Bar Ran**	**14.61**	**351**	⇑P		**Pn**		**01 40 28.3**	**-0.1**
	baz=14,SNR=19								
GLA	**Glamis**	**14.65**	**339**	⇑P		**Pn**		**01 40 28.0**	**-0.9**
	baz=15,SNR=7.5								
GLA	**Glamis**	**14.65**	**339**	*e*Pn		**Pn**		**01 40 28.5**	**-0.4**
Y22D	**IRIS PASSCAL I**	**14.67**	**6**	⇓P		**Pn**		**01 40 30.0**	**+0.8**
	baz=15								
LENM	**Lemitar**	**14.75**	**5**	*e*Pn		**Pn**		**01 40 30.7**	**+0.4**
BNM	**Barren Site**	**14.77**	**7**	*e*Pn		**Pn**		**01 40 30.8**	**+0.3**
Y15A	**Casa Rosa Ranc**	**14.83**	**348**	⇓P		**Pn**		**01 40 31.3**	**0.0**
	baz=15,SNR=15								
SWSC	**Sam W. Stewart**	**14.90**	**336**	⇑P		**Pn**		**01 40 32.1**	**-0.1**
	baz=15								
LPM	**Los Pinos Moun**	**14.93**	**7**	*e*Pn		**Pn**		**01 40 32.8**	**+0.1**
X19A	**St. Johns**	**14.95**	**358**	⇓P		**Pn**		**01 40 33.5**	**+0.6**
	baz=15,SNR=6.9								
Y14A	**Wickenburg**	**14.96**	**346**	⇓P		**Pn**		**01 40 32.5**	**-0.5**
	baz=15,SNR=13								
X17A	**Forest Lakes**	**14.97**	**353**	⇓P		**Pn**		**01 40 33.4**	**+0.2**
	baz=15,SNR=5.9								
LAZ	**Ladron**	**14.97**	**5**	*e*Pn		**Pn**		**01 40 33.8**	**+0.6**
Y13A	**Salome**	**15.05**	**343**	⇓P		**Pn**		**01 40 33.9**	**-0.3**
	baz=15,SNR=8.6								
X18A	**Snowflake**	**15.08**	**356**	⇑P		**Pn**		**01 40 35.0**	**+0.3**
	baz=15,SNR=21								
MONP	**Monument Peak**	**15.10**	**334**	⇓P		**Pn**		**01 40 35.6**	**+0.8**
	baz=15								
X16A	**Lo Mia Camp, P**	**15.13**	**351**	⇑P		**Pn**		**01 40 35.5**	**+0.2**
	baz=15,SNR=12								
Y12C	**Blythe**	**15.19**	**341**	⇑P		**Pn**		**01 40 35.7**	**-0.3**
	baz=15,SNR=7.1								
X15A	**Humboldt**	**15.33**	**349**	⇓P		**Pn**		**01 40 38.3**	**+0.5**
	baz=15,SNR=32								
109C	**Camp Elliot, M**	**15.39**	**332**	⇑P		**Pn**		**01 40 38.6**	**0.0**
	baz=15								
X14A	**Yava**	**15.45**	**347**	⇑P		**Pn**		**01 40 39.4**	**+0.1**
	baz=15,SNR=21								
ANMO	**Albuquerque**	**15.58**	**7**	Pn		**Pn**		**01 40 40.8**	**-0.2**
	0.0nm,0.3s,baz=192,slow=12,SNR=18								
ANMO	**Albuquerque**	**15.58**	**7**	*e*Pn		**Pn**		**01 40 41.2**	**+0.2**
PDMCI	**Parker Dam,Lak**	**15.59**	**343**	⇓P		**Pn**		**01 40 41.0**	**-0.2**
	baz=16								
W19A	**Sanders**	**15.63**	**358**	⇓P		**Pn**		**01 40 41.9**	**+0.2**
	baz=16,SNR=31								
W18A	**Petrified Fore**	**15.66**	**357**	⇓P		**Pn**		**01 40 42.3**	**+0.3**
	baz=16,SNR=8.9								
W17A	**Winslow**	**15.70**	**354**	⇓P		**Pn**		**01 40 42.6**	**+0.1**
	baz=16								
PFO	**Pinyon Flat Ob**	**15.74**	**335**	⇑P		**Pn**		**01 40 42.8**	**-0.3**
	baz=16,SNR=6.8								
IRM	**Iron Mountain**	**15.77**	**340**	⇓P		**Pn**		**01 40 42.8**	**-0.6**
	baz=16,SNR=21								
X13A	**Yucca**	**15.79**	**344**	⇑P		**Pn**		**01 40 43.7**	**+0.1**
	baz=16,SNR=8.9								
W16A	**Flagstaff**	**15.81**	**351**	⇑P		**Pn**		**01 40 44.4**	**+0.5**
	baz=16,SNR=16								
W15A	**Williams**	**16.01**	**349**	⇑P		**Pn**		**01 40 47.3**	**+0.8**
	baz=16,SNR=18								
MURC	**Murrieta**	**16.04**	**333**	⇓P		**Pn**		**01 40 47.6**	**+0.7**
	baz=16,SNR=8.1								
SCI	**San Clemente I**	**16.14**	**329**	⇑P		**Pn**		**01 40 48.9**	**+0.7**
	baz=16								
NEE2	**Needles Airpor**	**16.17**	**342**	⇓P		**Pn**		**01 40 49.0**	**+0.5**
	baz=16								
W14A	**Seligman**	**16.20**	**347**	⇓P		**Pn**		**01 40 49.6**	**+0.7**
	baz=16,SNR=13								
WUAZ	**Wupatki**	**16.20**	**352**	⇓P		**Pn**		**01 40 49.3**	**+0.3**
	baz=16,SNR=21								
WUAZ	**Wupatki**	**16.20**	**352**	*e*Pn		**Pn**		**01 40 49.8**	**+0.8**
	79nm,1.4s								
V19A	**Window Rock**	**16.23**	**359**	⇑P		**Pn**		**01 40 49.4**	**+0.1**
	baz=16								
V18A	**Ganado**	**16.26**	**356**	⇓P		**Pn**		**01 40 49.7**	**+0.1**
	baz=16,SNR=11								
W13A	**Hualapai Mount**	**16.28**	**345**	⇑P		**Pn**		**01 40 50.4**	**+0.4**
	baz=16,SNR=14								
CIS	**Catalina Islan**	**16.42**	**330**	⇑P		**Pn**		**01 40 52.1**	**+0.5**
	baz=16								
BBRC	**Big Bear Sol-O**	**16.50**	**335**	⇑P		**Pn**		**01 40 53.4**	**+0.7**
	baz=16								
GMRC	**Granite Mounta**	**16.50**	**339**	⇑P		**Pn**		**01 40 52.7**	**0.0**
	baz=16,SNR=19								
AMTX	**Amarillo**	**16.59**	**20**	*e*Pn		**Pn**		**01 40 53.3**	**-0.4**
	36nm,1.3s								
LDFC	**Landfair**	**16.60**	**341**	*e*Pn		**Pn**		**01 40 55.4**	**+1.4**
V14A	**Boquillas Ranc**	**16.61**	**347**	⇓P		**Pn**		**01 40 54.6**	**+0.6**
	baz=16,SNR=20								
FMP	**Fort Macarthur**	**16.62**	**331**	⇑P		**Pn**		**01 40 54.6**	**+0.5**
	baz16								
V15A	**Kaibab Nationa**	**16.62**	**350**	⇓P		**Pn**		**01 40 55.2**	**+1.1**
	baz=16,SNR=24								
W12A	**Cal Nev Ari**	**16.74**	**342**	⇑P		**Pn**		**01 40 55.9**	**+0.2**
	baz=17								
HEC	**Hector,Ludlow**	**16.78**	**338**	⇓P		**Pn**		**01 40 56.3**	**+0.1**
	baz=17,SNR=13								
BFSC	**Mount Baldy St**	**16.78**	**333**	⇓P		**Pn**		**01 40 56.3**	**+0.1**
	baz=17								
U16A	**Tuba City**	**16.79**	**353**	⇑P		**Pn**		**01 40 56.9**	**+0.6**
	baz=17,SNR=34								
SNCC	**San Nicolas Is**	**16.84**	**327**	⇓P		**Pn**		**01 40 57.8**	**+0.8**
	baz=17								
MWC	**Mount Wilson**	**16.94**	**332**	*e*P		**Pn**		**01 40 58.5**	**+0.3**
U18A	**Rough Rock, Ch**	**16.96**	**357**	⇑P		**Pn**		**01 40 58.4**	**0.0**
	baz=17,SNR=19								
V13A	**Grand Canyon W**	**17.02**	**345**	⇓P		**Pn**		**01 40 59.5**	**+0.3**
	baz=17,SNR=26								
RRX	**Edison Barstow**	**17.07**	**336**	⇑P		**Pn**		**01 40 59.9**	**0.0**
	baz=17								
DECC	**Green Verdugo**	**17.09**	**332**	⇓P		**Pn**		**01 41 00.1**	**+0.2**
	baz=17								
TUQ	**Turquoise Moun**	**17.19**	**340**	⇓P		**Pn**		**01 41 01.6**	**+0.3**
	baz=17,SNR=13								
U17A	**Shonto**	**17.20**	**355**	⇑P		**Pn**		**01 41 01.7**	**+0.4**
	baz=17								
U15A	**North Rim**	**17.23**	**350**	⇑P		**Pn**		**01 41 02.7**	**+0.9**
	baz=17,SNR=8.5								
T19A	**Beclabito**	**17.34**	**359**	⇓P		**Pn**		**01 41 03.0**	**0.0**
	baz=17,SNR=27								
GSC	**Goldstone**	**17.38**	**337**	*e*P		**Pn**		**01 41 04.2**	**+0.6**
GSC					pmax	pmax			
	comp=Z,71nm,1.4s								
GSC	**Goldstone**	**17.38**	**337**	⇓P		**Pn**		**01 41 03.9**	**+0.3**
	baz=17,SNR=9.0								
GSC	**Goldstone**	**17.38**	**337**	*e*Pn		**Pn**		**01 41 04.2**	**+0.7**
	comp=Z,71nm,1.4s								
U14A	**Mt Trumbull**	**17.39**	**348**	⇑P		**Pn**		**01 41 04.5**	**+0.8**
	baz=17,SNR=19								
V11A	**Goodsprings**	**17.40**	**341**	⇓P		**Pn**		**01 41 04.5**	**+0.6**
	baz=17,SNR=13								
EDW2	**Edwards Air Fo**	**17.47**	**334**	⇓P		**Pn**		**01 41 04.4**	**-0.3**
	baz=17,SNR=7.4								
U13A	**Pakoon Wash**	**17.55**	**346**	⇑P		**Pn**		**01 41 06.5**	**+0.8**
	baz=18,SNR=52								
T17A	**Navajo Res., N**	**17.60**	**354**	⇓P		**Pn**		**01 41 06.7**	**+0.3**
	baz=18,SNR=6.0								
T16A	**Glen Canyon Da**	**17.67**	**352**	⇓P		**Pn**		**01 41 07.3**	**+0.2**
	baz=18,SNR=14								
T18A	**Mexican Hat**	**17.67**	**357**	⇑P		**Pn**		**01 41 07.0**	**-0.2**
	baz=18,SNR=38								
U12A	**Valley of Fire**	**17.71**	**344**	⇓P		**Pn**		**01 41 08.0**	**+0.3**
	baz=18,SNR=9.5								
MVCO	**Mesa Verde**	**17.72**	**0**	⇓P		**Pn**		**01 41 07.9**	**+0.2**
	baz=18,SNR=14								
MVCO	**Mesa Verde**	**17.72**	**0**	*e*Pn		**Pn**		**01 41 08.4**	**+0.6**
SHOC	**Shoshone**	**17.73**	**339**	⇓P		**Pn**		**01 41 08.2**	**+0.3**
	baz=18,SNR=11								
T15A	**Red Dirt Ranch**	**17.83**	**350**	⇓P		**Pn**		**01 41 09.5**	**+0.4**
	baz=18,SNR=17								
LRMC	**Laurel Mountai**	**17.87**	**335**	⇑P		**Pn**		**01 41 09.1**	**-0.5**
	baz=18,SNR=13								
SBC	**Santa Barbara**	**17.89**	**329**	⇑P		**Pn**		**01 41 10.2**	**+0.3**
	baz=18								
U11A	**Corn Creek**	**17.93**	**342**	⇑P		**Pn**		**01 41 10.8**	**+0.4**
	baz=18								
SHPR	**Sheep Range**	**17.95**	**343**	*e*Pn		**Pn**		**01 41 10.9**	**+0.3**
T14A	**Hurricane**	**17.99**	**348**	⇑P		**Pn**		**01 41 11.6**	**+0.6**
	baz=18,SNR=7.6								
T12A	**Moapa**	**18.03**	**344**	⇑P		**Pn**		**01 41 11.7**	**+0.1**
	baz=18								
ARVC	**Arvin**	**18.04**	**332**	⇓P		**Pn**		**01 41 11.6**	**-0.2**
	baz=18								
T13A	**Saint George**	**18.12**	**346**	⇑P		**Pn**		**01 41 13.1**	**+0.4**
	baz=18,SNR=14								
U10A	**Ash Meadows, A**	**18.22**	**340**	⇑P		**Pn**		**01 41 13.9**	**0.0**
	baz=18,SNR=9.6								
S18A	**Hurst Farm, Bl**	**18.23**	**357**	⇑P		**Pn**		**01 41 14.1**	**0.0**
	baz=18,SNR=21								
S17A	**Black Ridge (B**	**18.24**	**355**	⇓P		**Pn**		**01 41 14.5**	**+0.4**
	baz=18,SNR=35								
S19A	**Harvey Farm, M**	**18.25**	**359**	⇓P		**Pn**		**01 41 14.2**	**-0.1**
	baz=18,SNR=36								
MPMC	**Manual Prospec**	**18.30**	**337**	⇑P		**Pn**		**01 41 14.8**	**-0.1**
	baz=18,SNR=23								
PKM	**Peak Mountain**	**18.31**	**330**	⇑P		**Pn**		**01 41 14.6**	**-0.3**
	baz=18,SNR=7.1								
ISA	**Isabella**	**18.35**	**334**	⇓P		**Pn**		**01 41 14.8**	**-0.6**
	baz=18,SNR=7.0								
ISA	**Isabella**	**18.35**	**334**	*e*P		**Pn**		**01 41 15.4**	**0.0**
S16A	**Weppner Ranch,**	**18.41**	**353**	⇑P		**Pn**		**01 41 15.9**	**-0.2**
	baz=18								
FURC	**Furnace Creek,**	**18.44**	**339**	⇑P		**Pn**		**01 41 16.4**	**-0.2**
	baz=18,SNR=7.0								
SDCO	**Great Sand Dun**	**18.46**	**8**	*e*Pn		**Pn**		**01 41 17.0**	**+0.3**
S15A	**Panguitch**	**18.47**	**351**	⇓P		**Pn**		**01 41 17.0**	**+0.1**
	baz=18								
CCUT	**Cedar City**	**18.52**	**348**	*e*P		**Pn**		**01 41 18.0**	**+0.5**
S13A	**Holt Ranch, En**	**18.65**	**347**	⇑P		**Pn**		**01 41 19.9**	**+0.8**
	baz=19,SNR=16								
T11A	**Corn Creek, Al**	**18.65**	**343**	⇓P		**Pn**		**01 41 19.4**	**+0.3**
	baz=19,SNR=20								
TPNV	**Topopah Spring**	**18.68**	**341**	⇑P		**Pn**		**01 41 20.2**	**+0.8**
	baz=19,SNR=21								
TPNV	**Topopah Spring**	**18.68**	**341**	*e*Pn		**Pn**		**01 41 19.3**	**-0.1**
S14A	**Cedar City**	**18.68**	**349**	⇑P		**Pn**		**01 41 19.3**	**-0.1**
	baz=19								
SMMC	**Simmler**	**18.73**	**330**	⇓P		**Pn**		**01 41 20.3**	**+0.2**
	baz=19,SNR=9.9								
VES	**Vestal, Richgr**	**18.75**	**333**	⇑P		**Pn**		**01 41 20.8**	**+0.5**
	baz=19,SNR=18								
ARUT	**Antelope Range**	**18.76**	**348**	*e*P		**Pn**		**01 41 20.1**	**-0.3**
R19A	**Curley Farm, L**	**18.80**	**359**	⇓P		**Pn**		**01 41 21.2**	**+0.3**
	baz=19,SNR=5.7								
CWC	**Cottonwood Cre**	**18.86**	**336**	⇑P		**Pn**		**01 41 21.4**	**-0.2**
	baz=19								
S12A	**Delamar Landin**	**18.90**	**345**	⇑P		**Pn**		**01 41 22.9**	**+0.8**
	baz=19,SNR=7.1								
R18A	**Canyonlands Na**	**18.92**	**357**	⇑P		**Pn**		**01 41 23.1**	**+0.8**
	baz=19,SNR=37								
R16A	**Teasdale**	**18.95**	**353**	⇑P		**Pn**		**01 41 22.0**	**-0.6**
	baz=19,SNR=14								
R17A	**Hanksville Air**	**19.01**	**355**	⇑P		**Pn**		**01 41 22.3**	**-1.0**
	baz=19,SNR=31								
GRAC	**Grapevine Rang**	**19.10**	**338**	⇓P		**Pn**		**01 41 23.7**	**-0.7**
	baz=19,SNR=24								
S11A	**Rachel**	**19.18**	**343**	⇑P		**Pn**		**01 41 24.9**	**-0.5**
	baz=19,SNR=12								
TEIG	**Tepich**	**19.19**	**84**	LR		LR		01 49 29.3	
	comp=Z,856nm,18.0s,baz=128,slow=39								
RCTC	**Rector, Farmer**	**19.22**	**333**	⇓P		**Pn**		**01 41 25.3**	**-0.6**
	baz=19								
R13A	**O'Grain Ranch,**	**19.25**	**347**	⇑P		**Pn**		**01 41 25.8**	**-0.4**
	baz=19,SNR=28								
MSU	**Marysvale**	**19.26**	**352**	*e*P		**Pn**		**01 41 26.3**	**-0.1**
Q19A	**Hogan Spring (**	**19.46**	**359**	⇓P		**Pn**		**01 41 26.8**	**-2.0**
	baz=19,SNR=22								
PKD	**Parkfield**	**19.50**	**330**	⇓P		**Pn**		**01 41 27.2**	**-2.1**
	baz=19,SNR=14								
R12A	**Pony Springs,**	**19.53**	**346**	⇑P		**Pn**		**01 41 28.5**	**-1.0**
	baz=20,SNR=9.9								
Q16A	**Castle Valley**	**19.54**	**354**	⇓P		**Pn**		**01 41 28.0**	**-1.7**
	baz=20,SNR=8.3								
Q18A	**Rafter H Ranch**	**19.65**	**357**	⇑P		**Pn**		**01 41 29.3**	**-1.6**
	baz=20,SNR=10								
SRU	**San Rafael**	**19.68**	**356**	⇓P		**Pn**		**01 41 29.8**	**-1.6**
	baz=20								
SRU	**San Rafael**	**19.68**	**356**	*e*Pn		**Pn**		**01 41 30.8**	**-0.6**
S10A	**Tonopah Range,**	**19.68**	**341**	⇓P		**Pn**		**01 41 30.1**	**-1.3**
	baz=20,SNR=34								
S09A	**Goldfield**	**19.70**	**339**	⇓P		**Pn**		**01 41 30.0**	**-1.6**
	baz=20,SNR=28								
SMCO	**Snowmass**	**19.73**	**4**	*e*P		**Pn**		**01 41 28.4**	**-3.5**
	comp=Z,40nm,1.4s								
Q15A	**Fillmore**	**19.77**	**351**	⇑P		**Pn**		**01 41 30.6**	**-1.7**
	baz=20,SNR=7.1								
R11A	**Troy Canyon, C**	**19.79**	**344**	⇓P		**Pn**		**01 41 31.2**	**-1.4**
	baz=20,SNR=20								
MTUM	**Tungsten Hills**	**19.85**	**336**	*e*P		**Pn**		**01 41 31.9**	**-1.4**
Q14A	**Sevier Lake (B**	**19.90**	**349**	⇓P		**Pn**		**01 41 32.4**	**-1.5**
	baz=20,SNR=30								
V03C	**Hunter Liggett**	**19.90**	**329**	⇓P		**Pn**		**01 41 32.3**	**-1.7**
	baz=20,SNR=7.6								
TMUT	**Trail Mountain**	**19.92**	**354**	*e*P		**Pn**		**01 41 33.0**	**-1.2**
R10A	**Warm Springs**	**19.93**	**342**	⇓P		**Pn**		**01 41 32.5**	**-1.8**
	baz=20								
U04C	**Hernandez Rese**	**19.95**	**330**	⇓P		**Pn**		**01 41 32.9**	**-1.7**
	baz=20,S

P08A **Dixie Valley** 21.77 340 ⇑P P 01 41 52.4 +0.3
baz=22
O10A **Cortez Mining,** 21.86 344 ⇓P P 01 41 53.0 0.0
baz=22,SNR=12
N13A **Wendover, West** 21.88 349 ⇑P P 01 41 53.0 -0.2
baz=22,SNR=6.0
LAVA **Lava Cap Winer** 21.92 334 ⇓P P 01 41 53.3 -0.4
baz=22,SNR=8.5
M16A **Huntsville** 21.96 354 ⇑P P 01 41 54.3 +0.2
baz=22,SNR=45
PHWY **Pilot Hill** 21.97 6 *e*P P 01 41 54.5 +0.3
ELK **Elko** 21.98 347 P P 01 41 54.3 0.0
comp=Z,15nm,1.1s,mb4.3,baz=173,slow=7.7,SNR=27
ELK LR LR 01 50 07.0
comp=Z,726nm,18.1s,MS4.1,baz=147,slow=36
WCN **Washoe City** 22.00 336 ⇓P P 01 41 55.2 +0.6
baz=22,SNR=27
N12A **Clover Valley,** 22.04 347 ⇓P P 01 41 54.7 -0.2
baz=22,SNR=21
SPUT **South Promonto** 22.05 352 *e*P P 01 41 55.5 +0.5
OGNE **Ogallala** 22.18 13 *e*P P 01 41 56.2 -0.2
comp=Z,117nm,1.5s,mb5.1
BMN **Battle Mountai** 22.19 342 *e*P P 01 41 56.8 +0.3
M15A **Larsen Ranch,** 22.20 352 ⇑P P 01 41 56.6 -0.1
baz=22,SNR=65
PAHR **Pah Rah Range** 22.22 338 *e*P P 01 41 57.6 +0.7
comp=Z,59nm,1.3s,mb4.9
HWUT **Hardware Ranch** 22.25 354 *e*P P 01 41 57.4 +0.3
O08A **Rochester Mine** 22.34 341 ⇑P P 01 41 58.1 0.0
baz=22,SNR=19
M14A **Sheep Mountain** 22.36 351 ⇓P P 01 41 58.2 -0.2
baz=22,SNR=47
O07A **Toulon** 22.45 339 ⇑P P 01 41 59.5 +0.1
baz=22,SNR=27
NSHM **Saint Helena R** 22.55 330 *e*P P 01 42 00.1 -0.3
HVU **Hansel Valley** 22.55 352 *e*P P 01 42 00.7 +0.3
M12A **Wells** 22.56 348 ⇓P P 01 42 00.2 -0.2
baz=22,SNR=33
L16A **Fish Haven** 22.64 355 ⇑P P 01 42 00.8 -0.4
baz=23,SNR=8.9
N09A **Rock Creek Ran** 22.66 342 ⇑P P 01 42 01.3 -0.3
baz=23
OHCM **Honcut** 22.72 334 *e*P P 01 42 02.2 0.0
L15A **Malad City** 22.73 353 ⇓P P 01 42 01.9 -0.3
baz=23,SNR=16
M11A **Holland Ranch,** 22.76 346 ⇑P P 01 42 02.9 +0.3
baz=23,SNR=11
N08A **GE Springer Mi** 22.78 341 ⇑P P 01 42 02.3 -0.5
baz=23,SNR=17
O06A **Flanigan** 22.79 337 ⇑P P 01 42 03.0 +0.1
baz=23,SNR=12
L14A **Malta** 22.87 351 ⇓P P 01 42 03.6 -0.1
baz=23,SNR=32
ORV **Oroville** 22.91 334 ⇓P P 01 42 03.7 -0.5
baz=23,SNR=19
M10A **I.L. Ranch, Tu** 23.02 345 ⇑P P 01 42 05.6 +0.3
baz=23,SNR=29
O05C **Quincy** 23.02 335 ⇑P P 01 42 04.9 -0.4
baz=23
L13A **Double Diamond** 23.03 350 ⇓P P 01 42 05.1 -0.3
baz=23,SNR=15
HOPS **Hopland** 23.15 330 ⇓P P 01 42 06.6 0.0
baz=23
M09A **Marrel Ranch,** 23.17 343 ⇓P P 01 42 06.7 -0.2
baz=23,SNR=7.4
BW06 **Boulder Array** 23.28 358 ⇑P P 01 42 07.7 -0.2
baz=23,SNR=8.0
PDAR **Pinedale Array** 23.28 358 P P 01 42 07.9 0.0
comp=Z,2.0nm,1.0s,mb3.5,baz=160,slow=9.0,SNR=14
PDAR LR LR 01 50 53.7
comp=Z,517nm,21.1s,MS4.0,baz=191,slow=36
L12A **House Creek Ra** 23.28 348 ⇓P P 01 42 07.7 -0.2
baz=23,SNR=14
N06A **Buffalo Meadow** 23.31 338 ⇓P P 01 42 08.2 0.0
baz=23,SNR=36
K14A **Jones Ranch, D** 23.36 352 ⇓P P 01 42 08.3 -0.3
baz=23,SNR=9.9
O04C **Chester** 23.40 336 ⇑P P 01 42 09.1 +0.1
baz=23,SNR=7.5
K15A **Arbon** 23.41 353 ⇑P P 01 42 08.8 -0.3
baz=23,SNR=24
L11A **Cat Creek Ranc** 23.45 347 ⇓P P 01 42 09.7 +0.1
baz=23,SNR=27
M08A **Happy Creek Ra** 23.46 341 ⇑P P 01 42 09.5 -0.1
baz=23,SNR=27
L10A **Juniper Basin** 23.53 345 ⇑P P 01 42 10.2 -0.1
baz=24,SNR=22
K13A **Stover Farm, H** 23.60 350 ⇓P P 01 42 10.8 -0.1
baz=24,SNR=6.5
LRAL **Lakeview Retre** 23.62 51 *e*P P 01 42 11.8 +0.6
comp=Z,24nm,1.3s,mb4.5
HALT **Halls** 23.64 42 *e*P P 01 42 12.7 +1.4
M07A **Soldier Meadow** 23.65 340 ⇓P P 01 42 11.5 +0.1
baz=24,SNR=6.1
K12A **Draper Farm, C** 23.73 348 ⇓P P 01 42 12.1 0.0
baz=24,SNR=11
L09A **Wilkinson Ranc** 23.78 343 ⇑P P 01 42 12.7 +0.1
baz=24
J16A **Bone** 23.90 355 ⇑P P 01 42 13.9 +0.3
baz=24,SNR=16
REDW **Red Top Meadow** 23.93 356 *e*P P 01 42 13.2 -0.7
RRI2 **Red Ridge** 23.95 355 *e*P P 01 42 14.6 +0.5
CCM **Cathedral Cave** 23.95 36 *e*P P 01 42 13.8 -0.4
CCM pmax pmax
comp=Z,47nm,1.6s,mb4.7
CCM **Cathedral Cave** 23.95 36 *e*P P 01 42 13.8 -0.3
comp=Z,47nm,1.6s,mb4.7
SNOW **Snow King Moun** 24.03 356 *e*P P 01 42 15.1 +0.3
TPAW **Teton Pass** 24.07 356 *e*P P 01 42 14.9 -0.2
K11A **Parker Ranch,** 24.09 347 ⇓P P 01 42 15.4 0.0
baz=24,SNR=17
J15A **Blackfoot** 24.11 353 ⇑P P 01 42 15.4 -0.1
baz=24,SNR=10.0
L08A **Fields** 24.13 342 ⇑P P 01 42 15.8 0.0
baz=24,SNR=18
LOHW **Long Hollow** 24.17 357 *e*P P 01 42 16.0 -0.1
J14A **Carey** 24.17 351 ⇓P P 01 42 16.5 +0.4
baz=24,SNR=9.2
DCID1 **Drake Creek** 24.19 356 *e*P P 01 42 17.5 +1.3
WDC **Whiskeytown Da** 24.21 334 ⇓P P 01 42 16.0 -0.5
baz=24
L07A **Adell** 24.28 340 ⇑P P 01 42 17.2 +0.1
baz=24,SNR=14
K10A **MacKenzie Ranc** 24.29 345 ⇓P P 01 42 17.1 -0.1
baz=24,SNR=5.5
MOOW **Moose Ponds** 24.31 356 *e*P P 01 42 17.2 -0.2
J13A **Cove Ranch, Pi** 24.34 350 ⇑P P 01 42 17.9 +0.3
baz=24,SNR=17
FVM **French Village** 24.36 37 *e*P P 01 42 17.3 -0.6
J12A **Stokes Ranch,** 24.36 349 ⇓P P 01 42 17.9 0.0
baz=24,SNR=11
K09A **Rome** 24.43 344 ⇑P P 01 42 18.4 -0.1
baz=24,SNR=34
WVOR **Wild Horse Val** 24.44 342 *e*P P 01 42 18.7 +0.1
WVOR pmax pmax
comp=Z,30nm,1.1s,mb4.6
WVOR **Wild Horse Val** 24.44 342 *e*P P 01 42 18.6 +0.1
comp=Z,30nm,1.1s,mb4.6
IMW **Indian Meadow** 24.47 356 *e*P P 01 42 18.8 0.0
I17A **Pilgram Creek** 24.47 357 ⇑P P 01 42 19.1 +0.3
baz=24
I16A **Newdale** 24.49 355 ⇓P P 01 42 18.8 -0.2
baz=24,SNR=14
MOD **Modoc** 24.49 339 ⇓P P 01 42 19.0 0.0
baz=24,SNR=32
MOD **Modoc** 24.49 339 *e*P P 01 42 19.3 +0.2
comp=Z,86nm,1.4s,mb5.0
HLID **Hailey** 24.54 350 ⇓P P 01 42 19.8 +0.3
baz=24,SNR=16
HLID **Hailey** 24.54 350 *e*P P 01 42 19.8 +0.3
comp=Z,24nm,1.3s,mb4.6
K08A **Mann Creek Ran** 24.67 342 ⇑P P 01 42 20.5 -0.1
baz=25,SNR=12
LASM **Arnica Sink** 24.69 336 P P 01 42 20.8 0.0
I15A **Monteview** 24.71 353 ⇓P P 01 42 21.0 +0.1
baz=25,SNR=20
N02C **Big Bar** 24.73 333 ⇓P P 01 42 21.0 -0.3
baz=25,SNR=7.5
I14A **Mackay** 24.76 352 ⇑P P 01 42 21.8 +0.4
baz=25,SNR=13
L05A **Lakeview** 24.80 338 ⇓P P 01 42 22.2 +0.4
baz=25,SNR=22
I13A **Wildhorse Cree** 24.84 351 ⇑P P 01 42 22.5 +0.3
baz=25,SNR=64
K07A **Rock Creek Ran** 24.86 341 ⇓P P 01 42 22.9 +0.5
baz=25,SNR=26
J10A **Berg Farm, Mel** 24.88 346 ⇓P P 01 42 22.7 +0.1
baz=25
I12A **Atlanta** 24.89 349 ⇑P P 01 42 23.0 +0.3
baz=25,SNR=28
RSSD **Black Hills** 24.92 8 *e*P P 01 42 22.9 0.0
RSSD pmax pmax
comp=Z,13nm,1.3s,mb4.3
RSSD **Black Hills** 24.92 8 *e*P P 01 42 22.9 0.0
comp=Z,13nm,1.3s,mb4.3
M04C **Macdoel** 24.94 336 ⇑P P 01 42 22.9 -0.3
baz=25,SNR=12
H17A **Grant Village** 24.95 357 ⇓P P 01 42 24.3 +1.2
baz=25,SNR=6.2
KHMM **Horse Mountain** 24.96 332 *e*P P 01 42 24.2 +0.9
YFT **Old Faithful** 25.02 356 *e*P P 01 42 26.5 +2.7
J09A **Fry Pan Ranch,** 25.05 344 ⇓P P 01 42 23.6 -0.5
baz=25,SNR=18
I11A **Placerville** 25.17 348 ⇓P P 01 42 25.6 +0.4
baz=25,SNR=9.9
YMR **Madison River** 25.24 356 *e*P P 01 42 26.4 +0.6
comp=Z,69nm,1.5s,mb5.0
YBH **Yreka Blue Hor** 25.24 335 P P 01 42 23.2 -2.7
comp=Z,3.2nm,1.1s,mb3.8,baz=137,slow=4.8,SNR=3.5
YBH LR LR 01 52 03.8
comp=Z,479nm,19.5s,MS4.0,baz=250,slow=36
J08A **Circle Bar Ran** 25.25 343 ⇓P P 01 42 25.8 -0.1
baz=25,SNR=11
YNR **Norris Junctio** 25.27 357 *e*P P 01 42 29.4 +3.4
K06A **Valley Falls** 25.27 340 ⇓P P 01 42 26.3 +0.1
baz=25,SNR=9.9
H16A **Russell Place,** 25.29 356 ⇓P P 01 42 26.4 +0.1
baz=25,SNR=17
L04A **Klamath Falls** 25.30 337 ⇑P P 01 42 26.2 -0.2
baz=25
H15A **Lima** 25.34 353 ⇓P P 01 42 27.0 +0.3
baz=25,SNR=20
H14A **Leadore** 25.42 352 ⇑P P 01 42 27.9 +0.4
baz=25,SNR=7.4
K05A **Summer Lake** 25.42 339 ⇓P P 01 42 27.9 +0.4
baz=25,SNR=6.6
QLMT **Earthquake Lak** 25.43 355 *e*P P 01 42 26.4 -1.2
H13A **Challis** 25.49 351 ⇑P P 01 42 28.3 +0.2
baz=25,SNR=17
SWET **Sewanee** 25.50 47 *e*P P 01 42 29.7 +1.4
J07A **Hines** 25.50 342 ⇓P P 01 42 28.4 +0.2
baz=25
I10A **Payette** 25.51 346 ⇓P P 01 42 28.5 +0.3
baz=25
MCMT **McKenzie Canyo** 25.57 353 *e*P P 01 42 29.6 +0.8
H12A **Diamond D Ranc** 25.58 350 ⇑P P 01 42 29.2 +0.3
baz=26,SNR=16
RLMT **Red Lodge** 25.62 359 *e*P P 01 42 31.7 +2.4
J06A **Christmas Vall** 25.65 340 ⇓P P 01 42 29.3 -0.2
baz=26,SNR=14
KTRM **Thompson Ridge** 25.66 334 P P 01 42 29.5 -0.2
G16A **Moss Hill, Enn** 25.86 355 ⇓P P 01 42 31.8 +0.4
baz=26,SNR=26
G15A **Dillon** 25.86 354 ⇑P P 01 42 31.9 +0.4
baz=26,SNR=6.3
H11A **Donnelly** 25.94 348 ⇓P P 01 42 31.7 -0.4
baz=26,SNR=15
L02A **Cave Junction** 25.96 334 ⇑P P 01 42 31.8 -0.6
baz=26
USIN **University of** 25.97 40 *e*P P 01 42 34.1 +1.6
H10A **Noah's Angus R** 25.98 347 ⇑P P 01 42 31.9 -0.6
baz=26,SNR=20
G13A **Cobalt** 26.01 351 ⇓P P 01 42 32.7 -0.1
baz=26,SNR=19
J05A **Fort Rock** 26.04 339 ⇓P P 01 42 32.9 -0.1
baz=26,SNR=14
G14A **Jackson** 26.05 352 ⇑P P 01 42 33.3 +0.2
baz=26
DLMT **Dillon** 26.07 354 *e*P P 01 42 33.8 +0.6
I07A **Izee** 26.20 342 ⇓P P 01 42 34.3 -0.2
baz=26,SNR=6.3
I06A **Prineville** 26.29 341 ⇓P P 01 42 35.1 -0.2
baz=26,SNR=5.4
J04A **Umpqua Nationa** 26.30 337 ⇑P P 01 42 35.2 -0.2
baz=26,SNR=7.9
H08A **Prairie City** 26.38 344 ⇑P P 01 42 35.8 -0.3
baz=26,SNR=6.6
F18A **Big Timber** 26.42 358 ⇓P P 01 42 36.4 -0.1
baz=26
GOGA **Godfrey** 26.42 53 *e*P P 01 42 38.1 +1.5
K02A **Glendale** 26.43 335 ⇑P P 01 42 36.3 -0.3
baz=26,SNR=6.1
LCCM **Lewis and Clar** 26.47 355 P P 01 42 37.4 +0.5
LRM **Limekiln Ridge** 26.51 354 *e*P P 01 42 37.7 +0.5
F15A **Butte** 26.53 354 ⇑P P 01 42 37.4 -0.1
baz=26
F14A **Wisdom** 26.60 353 ⇓P P 01 42 37.6 -0.4
baz=26
G11A **Walters Elk Ra** 26.66 348 ⇓P P 01 42 38.2 -0.4
baz=27,SNR=17
H07A **Lands Inn, Kim** 26.69 342 ⇓P P 01 42 38.4 -0.5
baz=27,SNR=5.2
F13A **Darby** 26.70 351 ⇓P P 01 42 38.7 -0.3
baz=27,SNR=10
G10A **Bishop Farm, J** 26.73 347 ⇓P P 01 42 38.5 -0.7
baz=27
F12A **Elk City** 26.82 350 ⇑P P 01 42 39.7 -0.3
baz=27,SNR=19
I05A **Bend** 26.82 340 ⇑P P 01 42 39.7 -0.4
baz=27
G09A **Cove** 26.87 346 ⇑P P 01 42 39.9 -0.6
baz=27
I04A **Tendick Farm,** 26.89 338 ⇑P P 01 42 40.3 -0.4
baz=27
VIPM **Ingram Point** 26.93 341 P P 01 42 41.4 +0.4
J02A **Umpqua** 26.96 336 ⇑P P 01 42 41.0 -0.4
baz=27
E17A **Martinsdale** 27.02 357 ⇓P P 01 42 41.8 0.0
baz=27,SNR=9.8
IRO **Indian Ridge** 27.02 338 P P 01 42 41.4 -0.5
H06A **Lindquist Farm** 27.04 341 ⇓P P 01 42 41.9 -0.2
baz=27,SNR=8.5
E18A **Harlowton** 27.08 358 ⇑P P 01 42 42.2 -0.2
baz=27
F11A **Grangeville** 27.11 348 ⇑P P 01 42 42.3 -0.3
baz=27
E15A **Deer Lodge** 27.12 354 ⇓P P 01 42 42.7 -0.1
baz=27
E16A **East Helena** 27.15 355 ⇑P P 01 42 42.9 -0.1
baz=27
E14A **Clinton** 27.21 353 ⇓P P 01 42 43.4 -0.2
baz=27,SNR=8.2
H05A **Madras** 27.24 340 ⇑P P 01 42 43.7 -0.1
baz=27
F09A **S2 Ranch, Elgi** 27.30 346 ⇑P P 01 42 43.6 -0.8
baz=27
E13A **Victor** 27.32 352 ⇓P P 01 42 44.3 -0.3
baz=27,SNR=5.8
HRY **Holter Researc** 27.33 355 *e*P P 01 42 44.5 -0.1
G07A **Ruggs Ranch, H** 27.34 343 ⇓P P 01 42 44.6 -0.1
baz=27
I03A **Eugene** 27.36 337 ⇓P P 01 42 44.5 -0.5
baz=27,SNR=7.4
F10A **Beach Ranch, E** 27.40 347 ⇑P P 01 42 44.8 -0.4
baz=27
E12A **Beaver Dam Sad** 27.51 350 ⇑P P 01 42 45.4 -0.8
baz=27,SNR=7.1
LNOR **Lincton Mounta** 27.54 345 *e*P P 01 42 46.4 -0.2
E11A **Bogner Ranch,** 27.57 349 ⇓P P 01 42 45.4 -1.3
baz=28,SNR=12
G06A **Carlson Farm,** 27.59 342 ⇓P P 01 42 47.0 0.0
baz=28
H04A **Detroit Lake** 27.59 339 ⇑P P 01 42 46.7 -0.3
baz=28
F08A **Pendleton** 27.59 345 ⇓P P 01 42 46.2 -0.9
baz=28
D16A **Dana Ranch, Ca** 27.63 356 ⇓P P 01 42 47.0 -0.3
baz=28
MSO **Missoula** 27.67 352 *e*P P 01 42 47.5 -0.2
comp=Z,29nm,1.6s,mb4.7
CHMT **Chamberlain Mo** 27.67 353 *e*P P 01 42 47.5 -0.2
D15A **Lincoln** 27.72 354 ⇓P P 01 42 47.6 -0.5
baz=28,SNR=5.3
G05A **Wamic** 27.80 341 ⇓P P 01 42 48.5 -0.4
baz=28
D14A **Greenough** 27.86 353 ⇓P P 01 42 49.0 -0.4
baz=28,SNR=18
VFP **Flag Point** 27.92 340 P P 01 42 49.8 -0.1
H03A **Soap Creek Ran** 27.97 337 ⇓P P 01 42 50.4 0.0
baz=28
HOOD **Mount Hood Mea** 27.98 340 *e*P P 01 42 50.4 -0.1
comp=Z,49nm,1.3s,mb5.0
D12A **Red Ives Fores** 28.09 350 ⇓P P 01 42 50.5 -0.9
baz=28
F06A **Goldendale** 28.11 342 ⇓P P 01 42 51.7 0.0
baz=28,SNR=6.8
E09A **Wood Farm, Sta** 28.12 346 ⇑P P 01 42 51.3 -0.4
baz=28
G04A **Mulino** 28.15 339 ⇓P P 01 42 51.8 -0.1
baz=28
D11A **Klaveano Farm,** 28.25 349 ⇓P P 01 42 52.5 -0.4
baz=28,SNR=5.1
C16A **Fuhringer Ranc** 28.41 356 ⇑P P 01 42 53.2 -1.1
baz=28
F05A **White Salmon** 28.42 341 ⇓P P 01 42 54.2 -0.2
baz=28,SNR=5.3
D10A **Wagner Farm, O** 28.44 348 ⇑P P 01 42 54.1 -0.5
baz=28
G03A **Yamhill** 28.52 338 ⇓P P 01 42 54.5 -0.7
baz=28
C14A **Swan Lake** 28.57 353 ⇑P P 01 42 55.5 -0.2
baz=28
F04A **Amboy** 28.77 340 ⇑P P 01 42 57.3 -0.1
baz=29
E06A **Yakima** 28.88 342 ⇑P P 01 42 58.4 0.0
baz=29
C11A **Tepee Creek (N** 29.01 349 ⇑P P 01 42 59.0 -0.5
baz=29,SNR=6.1
D07A **Quincy** 29.20 344 ⇓P P 01 43 01.3 0.0
baz=29
B13A **Whitefish** 29.25 352 ⇓P P 01 43 01.6 -0.2
baz=29
E04A **Onalaska** 29.45 340 ⇑P P 01 43 04.0 +0.5
baz=29
C08A **Higginbotham F** 29.52 346 ⇓P P 01 43 04.0 -0.1
baz=30
B11A **Sandpoint** 29.60 350 ⇓P P 01 43 05.4 +0.5
baz=30
A15A **Johnson Ranch,** 29.66 355 ⇓P P 01 43 05.1 -0.2
baz=30
ETW **Entiat** 29.67 344 *e*P P 01 43 05.7 +0.3
C07A **Waterville** 29.68 344 ⇑P P 01 43 05.5 0.0
baz=30
E03A **Lebam** 29.69 339 ⇓P P 01 43 05.6 0.0
baz=30
D05A **Enumclaw** 29.76 342 ⇓P P 01 43 06.6 +0.4
baz=30
B09A **Rice** 29.93 347 ⇓P P 01 43 07.7 0.0
baz=30
A11A **Hall Mountain,** 30.11 350 ⇑P P 01 43 09.4 +0.2
baz=30
NLW **Nelson Butte** 30.11 344 P P 01 43 09.8 +0.4
B08A **Colville Reser** 30.13 346 ⇓P P 01 43 09.3 -0.2
baz=30,SNR=5.6
A10A **Northport** 30.34 348 ⇑P P 01 43 11.2 -0.2
baz=30,SNR=6.2
B07A **Winthrop** 30.41 345 ⇑P P 01 43 12.1 +0.1
baz=30
A09A **Danville** 30.54 347 ⇓P P 01 43 13.0 -0.1
baz=30
JCW **Jim Creek** 30.65 342 *e*P P 01 43 13.7 -0.3
B05A **Bryant** 30.76 342 ⇓P P 01 43 14.4 -0.6
baz=31
ULM **Lac du Bonnet** 32.39 15 P P 01 43 27.8 -1.6
comp=Z,1.5nm,0.5s,mb4.1,baz=215,slow=7.0,SNR=3.5
ULM LR LR 01 56 50.5
comp=Z,603nm,20.6s,MS4.3,baz=220,slow=37
EDM **Edmonton** 33.92 355 *e*P P 01 43 41.9 -0.8
OTAV **Otavalo** 35.22 119 *e*P P 01 43 56.8 +2.4
comp=Z,57nm,2.0s,mb5.2
ROSC **El Rosal** 36.44 109 P P 01 44 06.0 +1.1
comp=Z,2.8nm,0.4s,mb4.5,baz=120,slow=23,SNR=3.9
SDV **Santo Domingo** 38.24 100 P P 01 44 20.2 +0.1
comp=Z,4.2nm,0.8s,mb4.2,baz=306,slow=4.2,SNR=7.0
ATAH **Atahualpa** 39.72 128 P P 01 44 34.5 +2.0
comp=Z,2nm,24.9s,baz=44
TAOE **Nuku Hiva Isla** 41.87 231 *e*LR LR 01 55 59.7
comp=Z,2nm,24.9s,baz=44
DLBC **Dease Lake** 41.97 343 P P 01 44 51.1 +0.7
comp=Z,3.4nm,1.0s,mb3.9,baz=152,slow=15,SNR=3.0
YKA **Yellowknife Ar** 43.22 356 P P 01 44 58.4 -2.1
comp=Z,1.7nm,0.9s,mb3.8,baz=9.5,slow=8.4,SNR=4.1
YKA LR LR 02 03 24.3
comp=Z,336nm,18.1s,MS4.3,baz=145,slow=37
RKT **Rikitea** 49.48 212 *e*LR LR 01 59 53.3
comp=Z,193nm,27.0s
EGAK **Eagle** 50.22 343 *e*P P 01 45 54.9 -0.3
comp=Z,8.6nm,1.1s,mb4.7
LPAZ **La Paz** 53.36 129 P P 01 46 18.1 -1.1
comp=Z,0.6nm,0.4s,mb3.9,baz=328,slow=8.4,SNR=8.2
LPAZ LR LR 02 05 59.5
comp=Z,161nm,18.8s,MS4.1,baz=141,slow=33
PPT **Papeete** 54.48 230 *e*S S 01 54 16.4 +14
comp=Z,103nm,26.8s
PPT *e*LR LR 02 02 04.4
comp=Z,592nm,26.2s,baz=37
PPT **Papeete** 54.48 230 LR LR 02 04 21.1
comp=Z,255nm,22.0s,MS4.2,baz=293,slow=30
LVC **Limon Verde** 57.03 135 P P 01 46 45.7 +0.1
comp=Z,3.2nm,0.8s,mb4.4,baz=298,slow=5.3,SNR=7.4
TBI **Tubuai** 58.25 225 *e*S S 01 55 04.2 +12
comp=Z,49nm,23.8s
TBI *e*LR LR 02 03 44.0
comp=Z,385nm,27.2s,baz=43
CFAA **Coronel Fontan** 63.85 142 P P 01 47 31.9 -0.1
comp=Z,0.2nm,0.4s,mb3.5,baz=272,slow=11,SNR=3.7
CFAA **Coronel Fontan** 63.85 142 P P 01 47 31.9 -0.1
RAR **Rarotonga** 64.29 234 LR LR 02 08 23.7
comp=Z,449nm,18.4s,MS4.7,baz=67,slow=29
BDFB **Brasilia** 69.07 116 P P 01 48 04.7 -0.9
comp=Z,1.3nm,0.7s,mb3.9,baz=282,slow=16,SNR=3.9
BDFB LR LR 02 16 46.4
comp=Z,72nm,18.6s,MS3.9,baz=4.9,slow=35
PLCA **Paso Flores** 69.55 150 P P 01 48 08.4 +0.3
comp=Z,1.3nm,0.9s,mb3.9,baz=292,slow=11,SNR=2.3
PLCA LR LR 02 11 51.4
comp=Z,349nm,19.2s,MS4.6,baz=334,slow=30
PETK **Petropavlovsk-** 76.84 322 LR LR 02 15 46.5
comp=Z,69nm,19.1s,MS4.0,baz=275,slow=30
ARCES **ARCESS Array B** 85.51 15 LR LR 02 29 52.4
comp=Z,208nm,18.5s,MS4.6,baz=169,slow=37
NOA **NORSAR Array B** 86.55 25 LR LR 02 31 35.1
comp=Z,94nm,18.1s,MS4.2,baz=0.0,slow=38
ESDC **Sonseca Array** 88.54 48 LR LR 02 31 00.3
comp=Z,67nm,19.2s,MS4.1,baz=110,slow=37
GERES **GERESS Array B** 94.90 34 LR LR 02 32 09.6
comp=Z,102nm,20.6s,MS4.3,baz=281,slow=35
MJAR **Matsushiro Arr** 95.89 312 LR LR 02 26 28.2
comp=Z,94nm,19.6s,MS4.3,baz=315,slow=31
KEST **Kesra** 99.69 47 LR LR 02 34 44.1
comp=Z,39nm,20.7s,MS3.9,baz=265,slow=35
BJI **Beijing** 107.58 325 PDIF Pdif 01 51 17.3 -0.6
BJI LR LR
comp=N,172nm,14.5s,MS4.9
BJI LR LR
comp=E,215nm,15.2s,MS4.9
BJI LR LR
comp=Z,76nm,21.9s
HHC **Hu-ho-hao-te** 109.34 329 *e*PDIF Pdif 01 51 26.1 +0.3
HHC PP PP 01 56 05.3 +6.7
HHC SS SS 02 11 21.9 +6.4
HHC PP PP
comp=Z,48nm,7.5s
HHC LR LR
comp=N,126nm,21.0s,MS4.7
HHC LR LR
comp=E,128nm,18.2s,MS4.7
HHC LR LR
comp=Z,126nm,20.0s,MS4.5
WMQ **Urumqi** 115.30 347 PKP PKPdf 01 55 41.0 +0.3
LZH **Lanzhou** 116.80 331 *e*PKP PKPdf 01 55 42.5 -1.3
LZH LR LR
comp=N,403nm,18.2s
LZH LR LR
comp=Z,163nm,19.3s,MS4.7
CD2 **Chengdu** 121.05 327 *e*PKP PKPdf 01 55 51.5 -0.7
CD2 PP PP 01 57 24.3 +3.3
CD2 PKS 01 59 26.8
CD2 PP PP
comp=Z,120nm,10.8s
CD2 LR LR
comp=N,160nm,18.8s
CD2 LR LR
comp=Z,180nm,19.2s,MS4.7
GYA **Guiyang** 122.94 322 *e*PDIF Pdif 01 52 26.6 +0.4
GYA PKP PKPdf 01 55 55.9 0.0
GYA PP PP 01 57 38.0 +3.9
GYA PP PP
comp=Z,90nm,7.6s

*CSEM **23** 01:41:40.8±0.1, 8545N×4677E, h10km, mb4.1/17, Error ellipse: s-maj=3.2km s-min=2.2km az=78.0*
*ISCJB **23** 01:41:41.6±0.4, 8535N±006×465E±10, h10km, mb4.0/24, MS3.4/7, Error ellipse: s-maj=11.3km s-min=8.2km az=177.7*
*IDC **23** 01:41:41.7±0.6, 8543N×4787E, h0km, mb3.9/20, mb1 4.0/22, mb1mx4.0/29, mbtmp3.9/22, ML4.0/2, MS3.4/7, Ms1 3.5/7, ms1mx3.1/30, Error ellipse: s-maj=17.0km s-min=12.4km az=84.0*
*MOS **23** 01:41:41.5±0.9, 8529N×4594E, h10km, mb4.1/15, Error ellipse: s-maj=99.9km s-min=10.6km az=89.8*
*NEIC **23** 01:41:43.2±0.4, 8537N×4675E, h10km, mb4.3/3, Error ellipse: s-maj=11.0km s-min=7.8km az=95.0*

ISC 23 01:41:43.6±0.4, 8534N±006×467E±10, h10km, n54, σ0§98/53, mb4.0/24, MS3.4/7, North of Franz Josef Land

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SPB4	**Spitsbergen Ar**	**8.20**	**227**	*e*Pn	**Pn**	**01 43 41.7**	**-0.6**
SPB4	**Spitsbergen Ar**	**8.20**	**227**	*e*Pn	**Pn**	**01 43 41.7**	**-0.7**
SPB4				*e*Sn	**Sn**	**01 45 07.6**	**-7.2**
SPITS	**Spitsbergen Ar**	**8.20**	**227**	Pn	**Pn**	**01 43 40.7**	**-1.6**
	baz=46,slow=14,SNR=22						
SPITS				Sn	**Sn**	**01 45 06.6**	**-8.2**
	baz=48,slow=27,SNR=2.3						
ARCES	**ARCESS Array B**	**16.30**	**207**	Pn	**Pn**	**01 45 30.2**	**-2.0**
	0.5nm,0.3s,baz=22,slow=11,SNR=10						
ARCES				Sn	**Sn**	**01 48 18.3**	**-14**
	0.5nm,0.3s,baz=346,slow=14,SNR=4.9						
JOF	**Joensuu**	**22.75**	**198**	*e*p	**P**	**01 46 45.2**	**-0.1**
	4.7nm,0.5s,mb4.2						
JOF	**Joensuu**	**22.75**	**198**	*e*P	**P**	**01 46 45.2**	**-0.1**
JOF				pmax	pmax		
	comp=Z,5.0nm,0.5s,mb4.2						
KAF	**Kangasniemi**	**23.70**	**204**	*e*p	**P**	**01 46 56.9**	**+1.8**
	comp=Z,3.7nm,0.8s,mb3.9						
KAF	**Kangasniemi**	**23.70**	**204**	*e*P	**P**	**01 46 56.9**	**+1.8**
KAF				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb3.9						
NB2	**NORSAR Subarra**	**25.44**	**221**	P	**P**	**01 47 13.4**	**+2.5**
	comp=Z,8.3nm,1.0s,mb4.2,baz=6.7,slow=11						
NOA	**NORSAR Array B**	**25.44**	**221**	P	**P**	**01 47 11.6**	**+0.7**
	comp=Z,3.9nm,0.8s,mb4.0,baz=7.1,slow=10,SNR=4.8						
NOA	**NORSAR Array B**	**25.44**	**221**	P	**P**	**01 47 11.6**	**+0.7**
NOA				pmax	pmax		
	comp=Z,4.0nm,0.8s						
HFS	**Hagfors**	**26.21**	**218**	P	**P**	**01 47 18.3**	**+0.4**
	comp=Z,3.9nm,0.9s,mb3.9,baz=320,slow=17,SNR=6.2						
ZALV	**Zalesovo Beam**	**32.66**	**137**	P	**P**	**01 48 15.5**	**+0.3**
	comp=Z,0.8nm,0.6s,mb3.9,baz=335,slow=6.4,SNR=2.6						
ZALV				PcP	PcP	01 51 00.1	-0.4
	comp=Z,0.3nm,0.3s,baz=198,slow=4.2,SNR=3.8						
ZALV				LR	LR	02 01 35.3	
	comp=Z,30nm,19.5s,MS3.0,baz=54,slow=36						
ZALV	**Zalesovo Beam**	**32.66**	**137**	P	**P**	**01 48 15.5**	**+0.3**
ZALV						01 51 00.2	
ZALV				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb3.9						
ZALV				MLR	MLR		
	comp=Z,30nm,19.5s,MS3.0						
BVAR	**Borovoye Array**	**32.92**	**153**	P	**P**	**01 48 18.5**	**+1.0**
	comp=Z,1.6nm,0.8s,mb4.0,baz=352,slow=9.0,SNR=7.3						
BVAR				PcP	PcP	01 51 01.4	+0.1
	comp=Z,1.0nm,0.5s,baz=354,slow=1.4,SNR=4.6						
BVAR				LR	LR	02 04 36.0	
	comp=Z,69nm,18.6s,MS3.4,baz=90,slow=42						
BVAR	**Borovoye Array**	**32.92**	**153**	P	**P**	**01 48 18.5**	**+1.1**
BVAR						01 51 01.4	
BVAR				pmax	pmax		
	comp=Z,2.0nm,0.8s						
BVAR				MLR	MLR		
	comp=Z,69nm,18.6s						
BVAR	**Borovoye Array**	**32.92**	**153**	PcP	PcP	01 51 01.4	+0.1
	comp=Z,69nm,18.6s						
AKASG	**Malin Array Be**	**35.04**	**199**	P	**P**	**01 48 35.9**	**0.0**
	comp=Z,0.9nm,0.6s,mb3.9,baz=357,slow=8.3,SNR=4.2						
AKASG	**Malin Array Be**	**35.04**	**199**	P	**P**	**01 48 35.9**	**0.0**
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.6s						
AKTK	**Aktyubinsk**	**35.17**	**167**	P	**P**	**01 48 37.0**	**0.0**
	comp=Z,46nm,18.7s						
AKTK	**Aktyubinsk**	**35.17**	**167**	P	**P**	**01 48 37.0**	**0.0**
AKTK				LR	LR	02 07 03.2	
AKTO	**Aktyubinsk**	**35.17**	**167**	P	**P**	**01 48 37.0**	**0.0**
	comp=Z,0.7nm,0.6s,mb3.7,baz=340,slow=12,SNR=2.8						
AKTO				LR	LR	02 07 03.2	
	comp=Z,46nm,18.7s,MS3.3,baz=214,slow=43						
AKTO	**Aktyubinsk**	**35.17**	**167**	P	**P**	**01 48 37.0**	**0.0**
AKTO				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb3.9						
AKTO				MLR	MLR		
	comp=Z,46nm,18.7s,MS3.3						
KURK	**Kurchatov**	**35.57**	**145**	P	**P**	**01 48 41.1**	**+0.7**
	comp=Z,0.5nm,0.6s,mb3.6,baz=352,slow=8.7,SNR=3.6						
KURK				PcP	PcP	01 51 09.1	+0.2
	comp=Z,1.7nm,0.5s,baz=346,slow=3.0,SNR=5.1						
KURK	**Kurchatov**	**35.57**	**145**	P	**P**	**01 48 41.1**	**+0.7**
KURK						01 51 09.1	
KURK				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb3.9						
KURK	**Kurchatov**	**35.57**	**145**	PcP	PcP	01 51 09.1	+0.2
KDAK	**Kodiak Island**	**36.85**	**17**	P	**P**	**01 48 48.1**	**-3.2**
	comp=Z,4.1nm,0.9s,mb4.3,baz=354,slow=9.2,SNR=4.6						
GERES	**GERESS Array B**	**37.48**	**216**	P	**P**	**01 48 57.5**	**+0.7**
	comp=Z,0.5nm,0.7s,mb3.5,baz=29,slow=12,SNR=4.0						
GERES	**GERESS Array B**	**37.48**	**216**	P	**P**	**01 48 57.5**	**+0.7**
GERES				pmax	pmax		
	comp=Z,1.0nm,0.7s						
MKAR	**Makanchi Array**	**39.66**	**141**	P	**P**	**01 49 13.1**	**-2.0**
	comp=Z,0.2nm,0.5s,mb3.1,baz=348,slow=9.9,SNR=3.6						
MKAR				LR	LR	02 06 28.1	
	comp=Z,60nm,19.3s,MS3.4,baz=339,slow=38						
SONM	**Songino Array**	**40.16**	**116**	P	**P**	**01 49 19.2**	**0.0**
	comp=Z,0.7nm,0.7s,mb3.5,baz=352,slow=6.3,SNR=3.8						
SONM	**Songino Array**	**40.16**	**116**	P	**P**	**01 49 19.2**	**0.0**
SONM				pmax	pmax		
	comp=Z,1.0nm,0.7s						
ULM	**Lac du Bonnet**	**43.74**	**326**	P	**P**	**01 49 47.3**	**-1.1**
	comp=Z,1.8nm,0.4s,mb4.1,baz=334,slow=14,SNR=3.2						
ESDC	**Sonseca Array**	**47.64**	**234**	P	**P**	**01 50 19.6**	**+0.3**
	comp=Z,0.8nm,0.6s,mb3.9,baz=7.2,slow=8.2,SNR=4.5						
RSSD	**Black Hills**	**50.20**	**333**	*e*P	**P**	**01 50 39.6**	**+0.7**
RSSD				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.5						
RSSD	**Black Hills**	**50.20**	**333**	*e*P	**P**	**01 50 39.6**	**+0.7**
	comp=Z,3.0nm,0.6s,mb4.5						
RSSD	**Black Hills**	**50.20**	**333**	*e*P	**P**	**01 50 39.6**	**+0.7**
	comp=Z,3.0nm,0.6s,mb4.5						
KEST	**Kesra**	**50.78**	**220**	P	**P**	**01 50 44.8**	**+1.4**
	comp=Z,2.3nm,0.9s,mb4.1,baz=10,slow=14,SNR=4.7						
PDAR	**Pinedale Array**	**51.74**	**338**	P	**P**	**01 50 50.4**	**-0.2**
	comp=Z,1.3nm,0.7s,mb4.0,baz=30,slow=6.6,SNR=11						
PDAR	**Pinedale Array**	**51.74**	**338**	P	**P**	**01 50 50.3**	**-0.2**
KSRS	**Korea Array**	**52.16**	**95**	LR	LR	02 14 34.1	
	comp=Z,19nm,19.2s,MS3.1,baz=30,slow=38						
DUG	**Dugway**	**54.40**	**341**	*e*P	**P**	**01 51 10.5**	**+0.4**
DUG				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.3						
DUG	**Dugway**	**54.40**	**341**	*e*P	**P**	**01 51 10.5**	**+0.4**
	comp=Z,2.8nm,0.8s,mb4.2						
DUG	**Dugway**	**54.40**	**341**	*e*P	**P**	**01 51 10.5**	**+0.3**
	comp=Z,2.8nm,0.8s,mb4.2						
NVAR	**Mina Array Bea**	**56.29**	**346**	P	**P**	**01 51 24.6**	**+0.8**
	comp=Z,1.1nm,0.9s,mb3.9,baz=2.6,slow=5.1,SNR=6.5						
NVAR	**Mina Array Bea**	**56.29**	**346**	P	**P**	**01 51 24.5**	**+0.7**
ANMO	**Albuquerque**	**59.44**	**334**	P	**P**	**01 51 45.8**	**-0.1**
	comp=Z,1.5nm,0.9s,mb4.0,baz=1.7,slow=4.6,SNR=3.8						
ANMO	**Albuquerque**	**59.44**	**334**	P	**P**	**01 51 45.8**	**-0.1**
ANMO				pmax	pmax		
	comp=Z,2.0nm,0.9s						
TXAR	**Lajitas Array**	**64.93**	**331**	P	**P**	**01 52 22.4**	**-0.4**
	comp=Z,2.7nm,1.0s,mb4.2,baz=343,slow=3.1,SNR=12						
TXAR	**Lajitas Array**	**64.93**	**331**	P	**P**	**01 52 22.4**	**-0.4**
TXAR				pmax	pmax		
	comp=Z,3.0nm,1.0s						
CMAR	**Chiang Mai Arr**	**68.83**	**126**	P	**P**	**01 52 46.5**	**-1.3**
	comp=Z,0.9nm,0.5s,mb3.9,baz=342,slow=8.1,SNR=5.1						
CMAR				LR	LR	02 25 46.7	
	comp=Z,36nm,19.3s,MS3.6,baz=255,slow=38						
CMAR	**Chiang Mai Arr**	**68.83**	**126**	P	**P**	**01 52 46.5**	**-1.2**
CMAR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
CMAR				MLR	MLR		
	comp=Z,36nm,19.3s						
TORD	**Torodi Ar. Bea**	**73.65**	**226**	P	**P**	**01 53 17.1**	**+0.3**
	comp=Z,3.2nm,0.9s,mb4.3,baz=359,slow=6.5,SNR=20						
DBIC	**Dimbokro**	**80.47**	**232**	LR	LR	02 30 16.7	
	comp=Z,102nm,20.4s,MS4.2,baz=279,slow=36						

PRE 23 02:05:52.3±1.2, 2157S×3341E, h5km, ML3.9, Mozambique

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSNA	**Messina**	**3.23**	**256**	*e*P	Pn	02 06 43.9	+0.1
MSNA				*e*S	Sn	02 07 23.2	+0.5
MSNA				AML	AML	02 07 37.6	
	comp=Z,116nm,0.8s						
POGA	**Pongola**	**6.00**	**195**	*e*P	Pn	02 07 22.6	+0.8
POGA				*e*S	Sn	02 08 26.9	-4.0
POGA				AML	AML	02 08 40.5	
	comp=Z,21nm,0.6s						
KSR	**Koster**	**7.33**	**233**	*e*P	Pn	02 07 41.2	+1.1
KSR				*e*S	Sn	02 09 00.0	-3.6
KSR				AML	AML	02 09 53.8	
	comp=Z,18nm,0.4s						
PRYS	**Parys**	**7.67**	**225**	*e*P	Pn	02 07 45.7	+1.0
PRYS				*e*S	Sn	02 09 08.6	-3.5
PRYS				AML	AML	02 10 09.6	
	comp=Z,14nm,0.6s						
LBTB	**Lobatse**	**7.96**	**243**	*e*P	Pn	02 07 49.0	+0.4
LBTB				*e*S	Sn	02 09 16.1	-2.9
LBTB				AML	AML	02 10 13.9	
	comp=Z,18nm,0.5s						
BOSA	**Boshof**	**10.18**	**225**	*e*P	Pn	02 08 21.3	+2.2
BOSA				*e*S	Sn	02 10 08.9	-4.9
BOSA				AML	AML	02 11 39.0	
	comp=Z,6.5nm,0.7s						

ATH 23 02:43:02.5, 3937N×2031E, h57km±5km, MD3.3/5, Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JAN	**Janina**	**0.51**	**55**	*e*P		02 43 14.5	
JAN				*e*S		02 43 23.9	
KEK	**Kerkira**	**0.52**	**311**	*e*P		02 43 14.7	
KEK				*e*S		02 43 24.6	
VLS	**Valsamata**	**1.21**	**170**	*e*P		02 43 24.5	
EVR	**Evrytania**	**1.25**	**111**	*e*P		02 43 24.9	
THL	**Klokotos Trika**	**1.33**	**81**	*e*P		02 43 26.1	

*CSEM **23** 02:47:22.8, 3587N×2144E, h43km, MD3.5/4, After ATH*

ATH 23 02:47:22.8, 3587N×2144E, h43km, MD3.5/4, Central Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KYTH	**Kithira**	**1.36**	**72**	*e*P	Pn	02 47 46.0	+0.8
KYTH	**Kithira**	**1.36**	**72**	*e*P	Pn	02 47 46.0	+0.8
ITM	**Ithomi**	**1.36**	**17**	*e*P	Pn	02 47 46.7	+1.3
ITM	**Ithomi**	**1.36**	**17**	*e*P	Pn	02 47 46.7	+1.3
VLI	**Veliai**	**1.48**	**55**	*e*P	Pn	02 47 49.0	+2.1
VLI	**Veliai**	**1.48**	**55**	*e*P	Pn	02 47 49.0	+2.1
VAM	**Vamos**	**2.29**	**101**	*e*P	Pn	02 48 00.2	+2.1
VAM	**Vamos**	**2.29**	**101**	*e*P	Pn	02 48 00.2	+2.1

*IDC **23** 03:02:54.2±2.0, 120S×1315W, h0km, mb3.9/4, mb1 4.0/5, mb1mx3.7/22, mbtmp3.9/5, ML2.9/1, MS4.3/35, Ms1 4.2/35, ms1mx4.2/39, Error ellipse: s-maj=70.3km s-min=29.0km az=109.0*
*GCMT **23** 03:02:56.0±0.2, 163S×1301W, h12km, MW5.0/81, Moment Tensor Solution. s35,c47; s81,c129; Duration: 0 Moment tensor: Scale 10^16 Nm; Mrr-4.25±.10; Mθθ-0.07±.10; Mφφ4.32±.10; Mrθ-0.14±.35; Mθφ-0.78±.08; Mφr0.23±.30; Best double couple: M0 4.36100×10^16 NP1:φ352.00000°, δ43.00000°, λ-88.00000°. NP2: φ169.00000°, δ47.00000°, λ-92.00000°. Principal axes: T 4.4630, Plg2.0000°, Azm260.0000°; N -0.2020, Plg1.0000°, Azm170.0000°; P -4.2600, Plg88.0000°, Azm38.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*ISCJB **23** 03:02:58.9±1.0, 17S±02×124W±02, h10km, mb4.5/9, MS4.3/33 Error ellipse: s-maj=31.2km s-min=10.7km az=44.7*
*NEIC **23** 03:03:01.3, 163S×1301W, h12km, mb4.7/6, After GCMT.*

ISC 23 03:03:00.3±1.0, 18S±02×125W±02, h10km, n54, σ1§23/27, mb4.5/9, MS4.3/33, North of Ascension Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LIC	**Lamto**	**10.87**	**43**	*e*Pn	**Pn**	**03 05 40.5**	**+4.4**
LIC				*e*Sn	**Sn**	**03 07 38.6**	**+0.7**
	1.2nm,0.2s						
LIC	**Lamto**	**10.87**	**43**	*e*P	**Pn**	**03 05 40.4**	**+4.3**
	75nm,1.8s						
KIC	**Kosan Boka**	**11.16**	**44**	*e*P	**Pn**	**03 05 42.5**	**+2.4**
	142nm,1.5s						
TIC	**Toumodi**	**11.18**	**42**	*e*P	**Pn**	**03 05 41.1**	**+0.8**
	0.2nm,0.2s						
DBIC	**Dimbokro**	**11.31**	**42**	Pn	**Pn**	**03 05 40.5**	**-1.6**
	0.1nm,0.3s,baz=208,slow=17,SNR=2.9						
DBIC				Sn	**Sn**	**03 07 46.9**	**-1.8**
	0.4nm,0.3s,baz=110,slow=22,SNR=3.0						
DBIC				LR	LR	03 09 16.1	
	comp=Z,3μm,21.5s,baz=211,slow=34						
DBIC	**Dimbokro**	**11.31**	**42**	*e*Pn	**Pn**	**03 05 41.4**	**-0.7**
DBIC				Sn	**Sn**	**03 07 46.9**	**-1.8**
DBIC				LR	LR	03 09 16.1	
BBTS	**Babate**	**16.81**	**346**	LR	LR	03 12 14.7	
	comp=Z,275nm,20.9s,baz=167,slow=35						
TOA0	**Torodi Ar. Sit**	**20.42**	**43**	*e*P	**P**	**03 07 32.8**	**-5.1**
TORD	**Torodi Ar. Bea**	**20.42**	**43**	P	**P**	**03 07 32.8**	**-5.0**
	2.9nm,0.8s,baz=232,slow=10,SNR=11						
TORD				LR	LR	03 14 42.9	
	comp=Z,2μm,19.8s,MS4.4,baz=230,slow=35						
TSUM	**Tsumeb**	**34.14**	**123**	LR	LR	03 20 58.6	
	comp=Z,760nm,21.3s,MS4.4,baz=297,slow=31						
MDT	**Midelt**	**35.19**	**12**	P	**P**	**03 09 46.0**	**-8.6**
	1.5nm,1.0s,mb3.9,baz=196,slow=10,SNR=2.2						
MDT				LR	LR	03 23 49.1	
	comp=Z,450nm,19.2s,MS4.2,baz=178,slow=36						
BDFB	**Brasilia**	**37.65**	**246**	LR	LR	03 22 41.2	
	comp=Z,204nm,21.5s,MS3.9,baz=247,slow=32						
ESDC	**Sonseca Array**	**41.97**	**10**	LR	LR	03 28 09.1	
	comp=Z,160nm,19.0s,MS3.9,baz=140,slow=36						
KEST	**Kesra**	**42.50**	**27**	LR	LR	03 29 33.7	
	comp=Z,240nm,18.0s,MS4.1,baz=196,slow=38						
LBTB	**Lobatse**	**43.38**	**125**	LR	LR	03 26 52.5	
	comp=Z,401nm,18.8s,MS4.3,baz=300,slow=32						
SUR	**Sutherland**	**43.67**	**138**	LR	LR	03 24 46.4	
	comp=Z,328nm,20.0s,MS4.2,baz=359,slow=30						
BOSA	**Boshof**	**44.79**	**130**	LR	LR	03 27 40.7	
	comp=Z,296nm,18.5s,MS4.2,baz=312,slow=32						
ETSF	**Etsaut**	**45.74**	**12**	*e*P	**P**	**03 11 21.1**	**-0.6**
SJPF	**Ste Jean**	**45.81**	**11**	*e*P	**P**	**03 11 21.8**	**-0.5**
	26nm,1.2s,mb4.7						
SJPF	**Ste Jean**	**45.81**	**11**	*e*P	**P**	**03 11 21.8**	**-0.5**
	13nm,1.2s,mb4.7						
FRF	**La Foret Royal**	**48.27**	**19**	*e*P	**P**	**03 11 42.4**	**+0.8**
	9.9nm,0.8s,mb4.6						
FRF	**La Foret Royal**	**48.27**	**19**	*e*P	**P**	**03 11 42.4**	**+0.8**
	4.9nm,0.8s,mb4.6						
ORIF	**Oris-en-Rattie**	**49.27**	**17**	*e*P	**P**	**03 11 46.8**	**-2.4**
	36nm,1.4s,mb4.9						
ORIF	**Oris-en-Rattie**	**49.27**	**17**	*e*P	**P**	**03 11 46.8**	**-2.4**
	18nm,1.4s,mb4.9						
MBDF	**Montbardon**	**49.36**	**18**	*e*P	**P**	**03 11 50.8**	**+0.9**
	14nm,1.0s,mb4.7						
MBDF	**Montbardon**	**49.36**	**18**	*e*P	**P**	**03 11 50.8**	**+0.9**
	7.2nm,1.0s,mb4.7						
LPG	**La Plagne**	**50.05**	**18**	*e*P	**P**	**03 11 54.8**	**-0.4**
	11nm,1.0s,mb4.6						
LPG	**La Plagne**	**50.05**	**18**	*e*P	**P**	**03 11 54.8**	**-0.4**
	5.7nm,1.0s,mb4.6						
LOR	**Lormes**	**50.88**	**14**	*e*P	**P**	**03 12 02.9**	**+1.5**
	43nm,1.6s,mb4.8						
LOR	**Lormes**	**50.88**	**14**	*e*P	**P**	**03 12 02.9**	**+1.5**
	22nm,1.6s,mb4.8						
DAVOX	**Davos/Dischmat**	**52.18**	**19**	LR	LR	03 35 04.7	
	comp=Z,540nm,19.1s,MS4.6,baz=207,slow=37						
GERES	**GERESS Array B**	**55.27**	**21**	P	**P**	**03 12 28.3**	**-5.5**
	1.7nm,0.9s,mb4.1,baz=196,slow=6.7,SNR=3.0						
GERES				LR	LR	03 37 15.8	
	comp=Z,243nm,18.4s,MS4.3,baz=17,slow=38						
LPAZ	**La Paz**	**56.63**	**252**	LR	LR	03 35 33.2	
	comp=Z,592nm,20.5s,MS4.7,baz=79,slow=35						
VRAC	**Vranov**	**56.72**	**22**	LR	LR	03 38 03.7	
	comp=Z,230nm,18.4s,MS4.3,baz=13,slow=37						
MLR	**Muntele Rosu**	**58.05**	**31**	LR	LR	03 39 33.0	
	comp=Z,432nm,19.9s,MS4.6,baz=38,slow=38						
ROSC	**El Rosal**	**62.15**	**276**	LR	LR	03 37 49.0	
	comp=Z,136nm,20.0s,MS4.6,baz=195,slow=34						
AKASG	**Malin Array Be**	**63.19**	**28**	LR	LR	03 44 07.7	
	comp=Z,143nm,18.6s,MS4.2,baz=215,slow=39						
HFS	**Hagfors**	**65.00**	**14**	LR	LR	03 42 29.8	
	comp=Z,172nm,19.1s,MS4.3,baz=76,slow=37						
PLCA	**Paso Flores**	**65.07**	**225**	LR	LR	03 38 00.3	
	comp=Z,284nm,19.1s,MS4.5,baz=44,slow=32						
NOA	**NORSAR Array B**	**65.24**	**12**	LR	LR	03 42 23.8	
	comp=Z,99nm,18.5s,MS4.0,baz=225,slow=36						
BORG	**Borgarnes**	**66.67**	**356**	LR	LR	03 38 41.1	
	comp=Z,484nm,20.2s,MS4.7,baz=189,slow=32						
GNI	**Garni**	**66.72**	**45**	LR	LR	03 45 13.8	
	comp=Z,97nm,19.9s,MS4.0,baz=116,slow=38						
ARCES	**ARCESS Array B**	**75.61**	**13**	LR	LR	03 52 33.4	
	comp=Z,119nm,18.6s,MS4.2,baz=109,slow=40						
TKL	**Tuckaleechee C**	**75.93**	**307**	LR	LR	03 41 15.5	
	comp=Z,276nm,21.9s,MS4.5,baz=80,slow=31						
SPITS	**Spitsbergen Ar**	**81.34**	**6**	LR	LR	03 52 40.6	
	comp=Z,354nm,22.0s,MS4.7,baz=220,slow=37						
MAW	**Mawson**	**82.81**	**158**	P	**P**	**03 15 24.0**	**-0.5**
	1.6nm,0.7s,mb4.2,baz=277,slow=5.2,SNR=6.6						
MAW				LR	LR	03 44 58.2	
	comp=Z,95nm,19.1s,MS4.2,baz=247,slow=30						
BVAR	**Borovoye Array**	**87.09**	**37**	LR	LR	04 00 16.8	
	comp=Z,99nm,18.0s,MS4.3,baz=270,slow=40						
ULM	**Lac du Bonnet**	**87.12**	**320**	LR	LR	03 50 04.1	
	comp=Z,121nm,18.4s,MS4.3,baz=46,slow=33						
TXAR	**Lajitas Array**	**91.90**	**299**	LR	LR	03 53 54.6	
	comp=Z,114nm,21.4s,MS4.3,baz=145,slow=34						
KURK	**Kurchatov**	**92.04**	**39**	LR	LR	03 59 13.9	
	comp=Z,106nm,21.6s,MS4.2,baz=280,slow=37						
MKAR	**Makanchi Array**	**94.54**	**43**	LR	LR	03 59 38.8	
	comp=Z,64nm,19.8s,MS4.1,baz=91,slow=36						
ZALV	**Zalesovo Beam**	**95.72**	**36**	LR	LR	04 01 45.8	
	comp=Z,68nm,21.2s,MS4.1,baz=58,slow=37						
PDAR	**Pinedale Array**	**96.40**	**313**	LR	LR	03 53 49.3	
	comp=Z,252nm,21.7s,MS4.7,baz=101,slow=32						
YKA	**Yellowknife Ar**	**97.16**	**333**	LR	LR	03 56 47.0	
	comp=Z,37nm,18.4s,MS3.9,baz=85,slow=34						

*NEIC **23** 03:05:43.1, 3585N×2154E, h12km, MD3.5(ATH), After ATH.*
*CSEM **23** 03:05:43.1, 3585N×2154E, h12km, MD3.5/5, After ATH*

ATH 23 03:05:43.1, 3585N×2154E, h12km, MD3.5/5, Central Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KYTH	**Kithira**	**1.29**	**70**	*e*Pg	Pg	03 06 07.0	-0.8
KYTH	**Kithira**	**1.29**	**70**	*e*PG	Pg	03 06 07.0	-0.8
ITM	**Ithomi**	**1.36**	**13**	*e*Pg	Pg	03 06 08.5	-0.8
ITM	**Ithomi**	**1.36**	**13**	*e*PG	Pg	03 06 08.5	-0.8
VLI	**Veliai**	**1.42**	**52**	*e*Pb	Pb	03 06 10.9	+1.3
VLI	**Veliai**	**1.42**	**52**	*e*PB	Pb	03 06 10.9	+1.3
VAM	**Vamos**	**2.21**	**101**	*e*Pn	Pn	03 06 22.0	+2.4
VAM	**Vamos**	**2.21**	**101**	*e*PN	Pn	03 06 22.0	+2.4
LKR	**Lokris**	**3.03**	**22**	*e*Pn	Pn	03 06 33.4	+2.6
LKR	**Lokris**	**3.03**	**22**	*e*PN	Pn	03 06 33.4	+2.6

IGQ 23 03:07:13.2, 105S×7832W, h11km±2km, Mb4.2, Ms4.0, 3C-14D, Error ellipse: s-maj=1.4km s-min=0.7km az=10.6, Ecuador

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PISA	**Pisayambo**	**0.07**	**259**	⇓P	Pg	03 07 16.5	+1.0
TAMB	**Tambo**	**0.35**	**352**	⇑P	Pg	03 07 20.8	+0.6
RUN5	**Runtun**	**0.38**	**196**	⇓P	Pg	03 07 21.3	+0.5
JUI6	**Juive**	**0.40**	**201**	⇓P	Pg	03 07 21.4	+0.2
VC1	**Cotopaxi 1**	**0.41**	**348**	⇑P	Pg	03 07 22.0	+0.7
CAMI	**Rancho Maria**	**0.41**	**333**	⇓P	Pg	03 07 22.1	+0.8
ULBA	**Ulba**	**0.41**	**192**	⇓P	Pg	03 07 21.6	+0.3
RETU	**Refugio**	**0.42**	**197**	P	Pg	03 07 22.1	+0.5
BIL2	**Estacion Bilba**	**0.45**	**204**	P	Pg	03 07 22.3	+0.3
PATA	**Patacocha**	**0.47**	**194**	⇓P	Pg	03 07 22.9	+0.5
ARRY	**Arrayan**	**0.48**	**196**	⇓P	Pg	03 07 22.6	+0.1
IGUA	**Igualata**	**0.54**	**216**	⇓P	Pg	03 07 24.4	+0.6
IGUA	**Igualata**	**0.54**	**216**	⇓S	Sg	03 07 31.5	+0.5
PORT	**Chimborazo Vol**	**0.61**	**227**	P	Pg	03 07 26

ANMO	**Albuquerque**	**10.85**	**13**	Pn		**Pn**	**03 18 23.1**	**+0.5**
	0.1nm,0.3s,baz=199,slow=18,SNR=2.0							
NVAR	**Mina Array Bea**	**15.92**	**334**	Pn		**Pn**	**03 19 33.5**	**+2.2**
	0.1nm,0.3s,baz=160,slow=13,SNR=14							
NVAR	**Mina Array Bea**	**15.92**	**334**	Pn		**Pn**	**03 19 33.5**	**+2.2**
ELK	**Elko**	**17.04**	**345**	Pn		**Pn**	**03 19 44.4**	**-1.2**
	0.1nm,0.3s,baz=173,slow=19,SNR=3.2							
PDAR	**Pinedale Array**	**18.35**	**360**	P		**Pn**	**03 20 00.6**	**-1.2**
	0.0nm,0.3s,baz=165,slow=11,SNR=13							
MCMT	**McKenzie Canyo**	**20.60**	**353**	*e*P		**P**	**03 20 26.4**	**0.0**

IDC 23 03:35:55.2±1.0, 170S×1278W, h0km, mb3.6/2, mb1 3.8/3, mb1mx3.5/21, mbtmp3.7/3, ML2.9/1, MS3.6/4, Ms1 3.6/4, ms1mx3.2/28, Error ellipse: s-maj=561.4km s-min=90.0km az=161.0, North of Ascension Island

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
DBIC	**Dimbokro**	**11.47**	**43**	Pn		Pn	03 38 40.5	+0.1
	0.1nm,0.3s,baz=225,slow=10.0,SNR=1.9							
DBIC				LR		LR	03 42 14.3	
	comp=Z,213nm,20.5s,baz=198,slow=33							
TORD	**Torodi Ar. Bea**	**20.59**	**44**	P		P	03 40 35.9	0.0
	2.4nm,0.8s,baz=227,slow=11,SNR=10							
TORD				LR		LR	03 48 01.0	
	comp=Z,162nm,18.1s,baz=140,slow=35							
LBTB	**Lobatse**	**43.67**	**125**	LR		LR	03 59 17.0	
	comp=Z,52nm,18.9s,baz=75,slow=32							
GERES	**GERESS Array B**	**55.33**	**21**	P		P	03 45 30.7	+0.1
	0.5nm,0.6s,baz=190,slow=6.8,SNR=4.1							
LPAZ	**La Paz**	**56.36**	**252**	LR		LR	04 08 31.2	
	comp=Z,61nm,18.9s,baz=244,slow=35							

*ISCJB **23** 03:54:44.2±1.0, 14S±02×131W±02, h10km, mb3.8/3, MS3.5/7, Error ellipse: s-maj=44.0km s-min=13.2km az=136.4*

*IDC **23** 03:54:44.4±1.2, 152S×1298W, h0km, mb3.9/4, mb1 4.0/5, mb1mx3.7/22, mbtmp4.0/5, ML3.5/1, MS3.5/8, Ms1 3.5/8, ms1mx3.2/34, Error ellipse: s-maj=51.9km s-min=25.0km az=131.0*

*NEIC **23** 03:54:46.0±1.0, 154S×1306W, h10km, Error ellipse: s-maj=46.5km s-min=13.8km az=136.0*

ISC 23 03:54:46.1±1.0, 16S±02×131W±02, h10km, n15, σ0.96/9, mb3.8/3, MS3.5/7, North of Ascension Island

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
LIC	**Lamto**	**11.12**	**46**	*e*P		**Pn**	**03 57 27.6**	**+2.2**
	23nm,0.9s							
TIC	**Toumodi**	**11.42**	**44**	*e*P		**Pn**	**03 57 30.5**	**+1.0**
	11nm,0.2s							
KIC	**Kosan Boka**	**11.42**	**46**	*e*P		**Pn**	**03 57 29.3**	**-0.2**
	36nm,1.0s							
DBIC	**Dimbokro**	**11.55**	**45**	Pn		**Pn**	**03 57 30.9**	**-0.3**
	0.4nm,0.3s,baz=230,slow=16,SNR=6.7							
DBIC				LR		LR	04 01 06.0	
	comp=Z,181nm,21.3s,baz=124,slow=33							
TOA0	**Torodi Ar. Sit**	**20.67**	**45**	*e*P		**P**	**03 59 25.3**	**-1.0**
TORD	**Torodi Ar. Bea**	**20.67**	**45**	P		**P**	**03 59 25.3**	**-1.0**
	9.0nm,0.6s,baz=231,slow=11,SNR=94							
TORD				LR		LR	04 06 42.1	
	comp=Z,93nm,18.2s,MS3.2,baz=215,slow=35							
SIV	**San Ignacio**	**49.43**	**250**	P		**P**	**04 03 37.4**	**+0.6**
	0.8nm,0.9s,mb3.8,baz=118,slow=13,SNR=4.9							
KMBO	**Kilima Mbogo**	**50.28**	**90**	LR		LR	04 23 16.3	
	comp=Z,80nm,19.0s,MS3.8,baz=282,slow=34							
GERES	**GERESS Array B**	**55.28**	**21**	P		**P**	**04 04 18.9**	**-0.7**
	0.5nm,0.5s,mb3.8,baz=209,slow=9.8,SNR=5.0							
LPAZ	**La Paz**	**56.15**	**251**	LR		LR	04 25 25.3	
	comp=Z,33nm,19.4s,MS3.4,baz=115,slow=33							
LVC	**Limon Verde**	**58.09**	**244**	LR		LR	04 30 51.3	
	comp=Z,45nm,18.5s,MS3.6,baz=26,slow=37							
CFAA	**Coronel Fontan**	**59.94**	**234**	LR		LR	04 27 10.3	
	comp=Z,5.0nm,19.8s,MS2.6,baz=43,slow=32							
PLCA	**Paso Flores**	**64.81**	**225**	LR		LR	04 29 31.8	
	comp=Z,49nm,18.2s,MS3.7,baz=219,slow=32							
USHA	**Ushuaia**	**69.49**	**211**	LR		LR	04 30 14.7	
	comp=Z,96nm,18.8s,MS4.1,baz=12,slow=31							
MAW	**Mawson**	**83.22**	**158**	P		**P**	**04 07 12.3**	**-0.1**
	0.9nm,0.7s,mb3.9,baz=306,slow=11,SNR=3.7							

IDC 23 04:13:45.7±12.0, 789S×15747E, h29km±6km, mb3.9/3, mb1 3.9/3, mb1mx3.5/14, mbtmp3.9/3, Error ellipse: s-maj=559.9km s-min=228.2km az=82.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
SONM	**Songino Array**	**71.42**	**326**	P		P	04 25 03.2	-0.1
	0.4nm,0.6s,baz=111,slow=6.3,SNR=5.1							
SONM				pP		pP	04 25 13.0	+0.7
	1.1nm,0.8s,baz=138,slow=6.2,SNR=4.5							
MKAR	**Makanchi Array**	**85.70**	**318**	P		P	04 26 22.4	+0.4
	1.4nm,0.7s,baz=99,slow=6.2,SNR=13							
MKAR				pP		pP	04 26 30.9	-0.3
	1.3nm,0.7s,baz=104,slow=5.0,SNR=8.8							
ZALV	**Zalesovo Beam**	**86.30**	**326**	P		P	04 26 24.6	-0.2
	0.7nm,0.4s,baz=106,slow=3.1,SNR=3.2							
ZALV				pP		pP	04 26 34.3	+0.3
	0.7nm,0.4s,baz=108,slow=4.7,SNR=1.7							

*IDC **23** 04:53:02.5±1.0, 5752S×25.10W, h0km, mb4.1/7, mb1 4.1/7, mb1mx4.0/14, mbtmp4.1/7, MS3.7/5, Ms1 3.6/5, ms1mx3.4/12, Error ellipse: s-maj=33.4km s-min=22.1km az=23.0*

*NEIC **23** 04:53:03.9±0.8, 5751S×2505W, h10km, mb3.9/1, Error ellipse: s-maj=25.6km s-min=17.0km az=201.0*

*ISCJB **23** 04:53:06.0±6.3, 575S±02×251W±03, h36km±65km, mb4.0/7, MS3.7/5, Error ellipse: s-maj=39.6km s-min=20.1km az=23.2*

ISC 23 04:53:08.0±5.0, 575S±02×251W±03, h37km±55km, n16, σ0.77/13, mb4.0/7, MS3.7/5, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
VNA1	**Neumayer--Stat**	**14.99**	**158**	*e*P		**Pn**	**04 56 37.2**	**+0.5**
VNA1				*e*			04 56 43.6	
VNA3	**Neumayer Olymp**	**15.21**	**161**	*e*P		**Pn**	**04 56 39.1**	**-0.5**
VNA3				*e*			04 56 45.7	
VNA2	**Neumayer--Watz**	**15.38**	**158**	*e*P		**Pn**	**04 56 41.8**	**-0.1**
	baz=327,slow=16							
VNA2				*e*			04 56 48.2	
SNAA	**Sanae**	**16.91**	**156**	*e*P		**Pn**	**04 57 01.8**	**+0.4**
SNAA				*e*			04 57 07.7	
PLCA	**Paso Flores**	**33.41**	**280**	P		**P**	**04 59 41.4**	**-1.4**
	0.8nm,0.6s,mb3.8,baz=122,slow=7.0,SNR=5.5							
PLCA				LR		LR	05 11 17.8	
	comp=Z,98nm,19.8s,MS3.5,baz=60,slow=33							
PLCA	**Paso Flores**	**33.41**	**280**	*e*P		**P**	**04 59 41.6**	**-1.2**
	0.9nm,0.6s,mb3.9							
PLCA				LR		LR	05 11 17.8	
MAW	**Mawson**	**38.27**	**142**	P		**P**	**05 00 24.5**	**+0.5**
	1.2nm,0.8s,mb3.7,baz=247,slow=9.4,SNR=4.7							
MAW				LR		LR	05 13 57.5	
	comp=Z,70nm,18.3s,MS3.5,baz=71,slow=33							
BDFB	**Brasilia**	**45.23**	**328**	P		**P**	**05 01 22.8**	**+1.4**
	1.0nm,0.6s,mb3.8,baz=117,slow=18,SNR=7.6							
BOSA	**Boshof**	**45.25**	**72**	P		**P**	**05 01 20.1**	**-1.4**
	3.7nm,1.0s,mb4.2,baz=225,slow=8.6,SNR=3.1							
BOSA				LR		LR	05 15 46.7	
	comp=Z,106nm,19.2s,MS3.8,baz=44,slow=30							
LPAZ	**La Paz**	**52.18**	**304**	P		**P**	**05 02 14.9**	**+0.1**
	2.5nm,0.5s,mb4.4,baz=133,slow=7.7,SNR=13							
DBIC	**Dimbokro**	**66.06**	**22**	P		**P**	**05 03 50.2**	**-0.6**
	1.1nm,0.8s,mb4.0,baz=140,slow=7.9,SNR=2.8							
DBIC				LR		LR	05 26 07.4	
	comp=Z,78nm,19.5s,MS3.9,baz=112,slow=30							
ROSC	**El Rosal**	**73.74**	**308**	LR		LR	05 36 46.7	
	comp=Z,33nm,19.2s,MS3.6,baz=34,slow=36							
TOA0	**Torodi Ar. Sit**	**73.80**	**27**	*e*P		**P**	**05 04 38.7**	**+0.4**
TORD	**Torodi Ar. Bea**	**73.80**	**27**	P		**P**	**05 04 39.0**	**+0.7**
	2.7nm,0.7s,mb4.3,baz=195,slow=6.4,SNR=17							
SONM	**Songino Array**	**149.63**	**87**	PKPbc		PKPbc	05 12 52.9	+0.6
	1.0nm,0.6s,baz=232,slow=2.5,SNR=6.6							
KDAK	**Kodiak Island**	**152.50**	**293**	PKPbc		PKPbc	05 12 58.9	+0.2
	2.6nm,0.6s,baz=104,slow=4.2,SNR=6.6							

NEIC 23 05:11:48.3, 4481S×16736E, h5km, ML4.0(WEL), 1C, After WEL., South Island

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
MSZ	**Milford Sound**	**0.43**	**72**	P		Pg	05 11 56.7	+0.2
MSZ				S		Sg	05 12 01.9	-0.2
DCZ	**Deep Cove**	**0.68**	**192**	P		Pg	05 12 01.4	0.0
DCZ				S		Sg	05 12 10.3	0.0
MLZ	**Mavora Lakes**	**0.79**	**133**	P		Pg	05 12 03.5	+0.1
WHZ	**Wether Hill Ro**	**1.16**	**159**	P		Pg	05 12 10.2	-0.4
WKZ	**Wanaka**	**1.18**	**91**	P		Pg	05 12 10.5	-0.4
JCZ	**Jackson Bay**	**1.24**	**54**	P		Pg	05 12 11.9	-0.2
EAZ	**Earnscleugh**	**1.45**	**108**	↑P		Pn	05 12 14.9	-0.2
TUZ	**Tuapeka**	**1.97**	**126**	P		Pn	05 12 22.9	+0.6
LBZ	**Lake Benmore**	**2.06**	**79**	P		Pn	05 12 24.9	+1.4
FOZ	**Fox Glacier**	**2.09**	**54**	P		Pn	05 12 26.0	+2.1

*ISCJB **23** 05:47:31.0±0.5, 4655N±005×15267E±005, h41km±4km, mb4.8/99, MS3.9/13, Error ellipse: s-maj=8.8km s-min=3.8km az=149.7*

*JMA **23** 05:47:30.2±0.7, 4678N×15286E, h30km, M5.2*

*SZGRF **23** 05:47:31.7, 4613N×15200E, h33km, mb5.0, Kuril Islands, Russia*

*BJI **23** 05:47:32.3, 4663N×15270E, h55km, mB4.9, mb4.9, Ms4.3, Msz3.9*

*MOS **23** 05:47:32.3±0.9, 4670N×15259E, h48km, mb5.0/45, Error ellipse: s-maj=8.2km s-min=5.8km az=102.7*

*NEIC **23** 05:47:33.6±0.3, 4658N×15265E, mb4.8/43, Error ellipse: s-maj=8.6km s-min=4.2km az=150.0*

*SKHL **23** 05:47:33.0±2.0, 4670N×15270E, h61km±40km, mb5.0/4, msh6.0/1*

*IDC **23** 05:47:34.4±0.6, 4677N×15251E, h51km±5km, mb4.1/17, mb1 4.3/18, mb1mx4.3/22, mbtmp4.2/18, MS3.7/9, Ms1 3.7/9, ms1mx3.2/29, Error ellipse: s-maj=18.8km s-min=11.9km az=160.0*

ISC 23 05:47:33.4±0.5, 4655N±005×15266E±005, h47km±4km, h53km±1.2km: pP-P, n299, σ1.905/309, mb4.8/99, MS3.9/13, 28C-8D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
KUR	**Kuril'sk**	**3.60**	**250**	⇑*i*PN		**Pn**	**05 48 24.8**	**-1.7**
KUR				*i* S		**Sn**	**05 49 06.2**	**-1.5**
KUR				pmax	pmax			
	comp=N,150nm,0.5s							
KUR				pmax	pmax			
	comp=Z,300nm,0.5s							
KUR				smax				
	comp=N,5μm,2.0s							
KUR				smax				
	comp=N,3μm,0.6s							
KUR				smax				
	comp=E,1μm,0.6s							
SKR	**Severo-Kuril's**	**4.73**	**28**	*e*P		**Pn**	**05 48 41.5**	**-0.5**
SKR				AMB	AMB		05 48 46.0	
	comp=E,60nm,0.6s							
SKR				AMB	AMB		05 48 46.0	
	comp=E,100nm,0.6s							
SKR				*e*S		**Sn**	**05 49 31.2**	**-4.3**
SKR				A			05 49 58.0	
	comp=E,390nm,0.5s							
SKR				A			05 49 58.0	
	comp=E,220nm,0.5s							
SKR				A			05 49 58.0	
	comp=E,90nm,0.5s							
YUK	**Yuzh-Kuril'sk**	**5.42**	**245**	⇓*i*PN		**Pn**	**05 48 54.0**	**+2.5**
YUK				*i* S		**Sn**	**05 49 55.5**	**+3.0**
YUK				pmax	pmax			
	comp=Z,550nm,0.5s							
YUK				smax				
	comp=N,2μm,0.5s							
YUK				smax				
	comp=E,960nm,0.5s							
YUK				smax				
	comp=N,5μm,2.0s							
YUK				smax				
	comp=E,5μm,2.0s							
YUK	**Yuzh-Kuril'sk**	**5.42**	**245**	⇓*i*P		**Pn**	**05 48 54.0**	**+2.5**
YUK				AMB	AMB		05 48 56.9	
	comp=E,550nm,0.5s							
YUK				*i* S		**Sn**	**05 49 55.5**	**+3.0**
YUK				A			05 50 21.0	
	comp=E,2μm,0.5s							
YUK				A			05 50 21.0	
	comp=E,960nm,0.5s							
YUK				A			05 50 29.0	
	comp=E,5μm,2.0s							
NEM2	**Nemuro 2**	**5.85**	**240**	P		**Pn**	**05 48 57.2**	**-0.2**
NEM2				*e*S		**Sn**	**05 50 01.5**	**-1.7**
JRA	**Rausu**	**5.93**	**247**	P		**Pn**	**05 49 00.9**	**+2.4**
JNK	**Nakash**	**6.36**	**245**	P		**Pn**	**05 49 06.3**	**+1.9**
JAK	**Akkeshi**	**6.69**	**241**	P		**Pn**	**05 49 08.9**	**0.0**
JAK				*e*S		**Sn**	**05 50 22.0**	**-1.8**
JTKR	**Abashiri--Toko**	**6.70**	**251**	P		**Pn**	**05 49 11.6**	**+2.6**
YSS	**Yuzh-Sakhalins**	**6.82**	**277**	⇑*i*PN		**Pn**	**05 49 13.0**	**+2.3**
YSS				*e*S		**Sn**	**05 50 29.0**	**+2.0**
YSS				pmax	pmax			
	comp=Z,60nm,1.0s							
YSS				smax				
	comp=E,50nm,0.5s							
YSS				smax				
	comp=N,50nm,0.4s							
YSS	**Yuzh-Sakhalins**	**6.82**	**277**	⇑*i*P		**Pn**	**05 49 13.0**	**+2.3**
YSS				AMB	AMB		05 49 14.2	
	comp=N,60nm,1.0s							
YSS				*e*S		**Sn**	**05 50 29.0**	**+2.0**
YSS				A			05 50 31.0	
	comp=N,50nm,0.5s							
YSS				A			05 50 31.0	
	comp=N,50nm,0.4s							
YSS	**Yuzh-Sakhalins**	**6.82**	**277**	*e*Pn		**Pn**	**05 49 14.0**	**+3.3**
	comp=N,92nm,0.8s							
JMP	**Maruseppu**	**7.04**	**252**	P		**Pn**	**05 49 17.2**	**+3.5**
JAR	**Ashorobuto**	**7.10**	**246**	P		**Pn**	**05 49 16.3**	**+1.7**
JOB	**Onbets**	**7.27**	**243**	P		**Pn**	**05 49 17.5**	**+0.7**
PEA0B	**Petropavlovsk-**	**7.33**	**25**	*e*Pn		**Pn**	**05 49 16.9**	**-0.8**
PETK	**Petropavlovsk-**	**7.33**	**25**	P		**Pn**	**05 49 17.6**	**-0.1**
PETK	comp=N,1.2nm,0.3s,baz=183,slow=11,SNR=29			S		**Sn**	**05 50 47.7**	**+8.3**
	baz=172,slow=24,SNR=2.1							
PETK				LR	LR		05 51 59.3	
	comp=N,145nm,21.5s,baz=72,slow=37							
PETK	**Petropavlovsk-**	**7.33**	**25**	PN		**Pn**	**05 49 17.6**	**-0.1**
PETK				S		**Sn**	**05 50 47.7**	**+8.3**
PETK	**Petropavlovsk-**	**7.33**	**25**	P		**Pn**	**05 49 17.6**	**-0.1**
PETK				S		**Sn**	**05 50 47.7**	**+8.3**
PETK				LR	LR		05 51 59.3	
JKK2	**Kamakawa 2**	**7.50**	**253**	P		**Pn**	**05 49 23.1**	**+3.1**
ASAJ	**Asahikawa**	**7.50**	**255**	P		**Pn**	**05 49 23.3**	**+3.3**
	comp=N,5.7nm,0.3s,baz=91,slow=15,SNR=20							
ASAJ				S		**Sn**	**05 51 01.9**	**+18**
	comp=N,1.5nm,0.3s,baz=263,slow=23,SNR=4.1							
ASAJ				LR	LR		05 52 06.8	
	comp=N,366nm,19.8s,baz=356,slow=36							
ASAJ	**Asahikawa**	**7.50**	**255**	P		**Pn**	**05 49 23.6**	**+3.6**
PET	**Petropavlovsk**	**7.55**	**29**	*e*PN		**Pn**	**05 49 21.3**	**+0.6**
PET				MLR	MLR			
	comp=Z,300nm,18.0s							
PET	**Petropavlovsk**	**7.55**	**29**	*e*Pn		**Pn**	**05 49 21.4**	**+0.7**
UGL	**Uglegorsk**	**7.57**	**293**	*e*P		**Pn**	**05 49 25.0**	**+4.0**
JCH	**Churui**	**7.72**	**243**	P		**Pn**	**05 49 24.1**	**+1.1**
JCH				*e*S		**Sn**	**05 50 47.2**	**-1.8**
TYV	**Tymovskoe**	**7.90**	**307**	⇓*i*P		**Pn**	**05 49 27.0**	**+1.5**
TYV				AMB	AMB		05 49 28.0	
	comp=Z,50nm,0.8s							
JAB	**Ashibetsu**	**8.00**	**251**	P		**Pn**	**05 49 29.9**	**+3.0**
JEM	**Erimo**	**8.19**	**240**	*e*S		**Sn**	**05 50 57.8**	**-2.7**
ERM	**Erimo**	**8.19**	**240**	*e*PN		**Pn**	**05 49 30.7**	**+1.2**
JBT2	**Biratori 2**	**8.25**	**247**	P		**Pn**	**05 49 31.0**	**+0.7**
JNBK	**Urakawa-nobuka**	**8.28**	**243**	P		**Pn**	**05 49 30.5**	**-0.2**
JKB	**Kayabe**	**9.56**	**245**	P		**Pn**	**05 49 47.6**	**-0.7**
JKB				*e*S		**Sn**	**05 51 29.5**	**-4.7**
JOT	**Ohata**	**9.84**	**243**	P		**Pn**	**05 49 50.5**	**-1.5**
JYM2	**Yakumo 2**	**9.86**	**248**	P		**Pn**	**05 49 53.0**	**+0.7**
JTM	**Tenmabayashi**	**10.18**	**240**	P		**Pn**	**05 49 55.5**	**-1.2**
JTM				*e*S		**Sn**	**05 51 41.5**	**-7.9**
JANG	**Nango**	**10.18**	**237**	P		**Pn**	**05 49 54.2**	**-2.6**
JANG				*e*S		**Sn**	**05 51 41.6**	**-7.8**
JOSM	**Okushiri--Mats**	**10.45**	**249**	P		**Pn**	**05 49 59.7**	**-0.7**
OFUJ	**Ofunato**	**10.99**	**231**	P		**Pn**	**05 50 05.0**	**-2.8**
OFUJ				*e*S		**Sn**	**05 51 59.7**	**-9.5**
TEY	**Ternei**	**11.32**	**268**	*e*P		**Pn**	**05 50 11.0**	**-1.3**
JRG	**Rokugo**	**11.34**	**235**	P		**Pn**	**05 50 11.1**	**-1.5**
JRG				*e*S		**Sn**	**05 52 12.0**	**-5.8**
JIO	**Ouri**	**11.62**	**230**	*e*S		**Sn**	**05 52 15.3**	**-9.2**
HABR	**Khabarovsk**	**12.07**	**286**	*e*PN		**Pn**	**05 50 21.3**	**-1.2**
JFY	**Yanaizu**	**13.26**	**231**	P		**Pn**	**05 50 37.3**	**-1.6**
KLR	**Kul'dur**	**14.28**	**288**	*e*P		**Pn**	**05 50 54.3**	**+1.7**
KLR				MLR	MLR			
	comp=Z,1μm,13.0s							
MJAR	**Matsushiro Arr**	**14.71**	**232**	P		**Pn**	**05 50 56.6**	**-1.8**
	comp=Z,0.8nm,0.3s,baz=30,slow=12,SNR=9.7							
MJAR				LR		LR	05 57 03.8	
	comp=Z,82nm,19.0s,baz=10.0,slow=39							
MJAR	**Matsushiro Arr**	**14.71**	**232**	P		**Pn**	**05 50 56.6**	**-1.8**
MJAR				pmax	pmax			
	comp=Z,1.0nm,0.3s							
MJAR				MLR	MLR			
	comp=Z,82nm,19.0s							
MAJO	**Matsushiro**	**14.71**	**232**	*e*Pn		**Pn**	**05 50 56.3**	**-2.1**
MAJO				*e*			05 51 05.7	
MDJ	**Mudanjiang**	**16.26**	**272**	P		**Pn**	**05 51 18.4**	**+0.1**
MDJ				AP		pP	05 51 31.9	+0.3
MDJ				XP		sP	05 51 38.6	+1.0
MDJ				S		**S**	**05 54 16.5**	**-12**
MDJ				PCP		PcP	05 56 08.4	-1.5
MDJ				SCS		ScS	06 03 17.8	-1.3
MDJ				AMB	AMB			
	comp=Z,9.0nm,1.1s							
MDJ				AMB	AMB			
	comp=Z,98nm,5.1s							
MDJ				LR	LR			
	comp=N,164nm,15.6s							
MDJ				LR	LR			
	comp=E,184nm,13.5s							
MDJ				LR	LR			
	comp=Z,253nm,18.0s							
MDJ	**Mudanjiang**	**16.26**	**272**	*e*P		**Pn**	**05 51 20.1**	**+1.9**
	comp=Z,15nm,0.8s							
ZEA	**Zeya**	**17.74**	**303**	*e*P		**Pn**	**05 51 36.7**	**+0.1**
ZEA				AMB	AMB		05 51 37.6	
	comp=Z,19nm,0.6s							
CN2	**Changchun**	**19.35**	**272**	*e*P		**Pn**	**05 51 54.8**	**-1.3**
CN2				*e*PP			05 52 13.4	
CN2				*e*S		**S**	**05 55 25.6**	**-5.3**
CN2				LR	LR			
	comp=N,600nm,15.0s							
CN2				LR	LR			
	comp=E,400nm,15.0s							
CN2				LR	LR			
	comp=Z,400nm,16.0s							
YAK	**Yakutsk**	**20.33**	**328**	*e*P		**P**	**05 52 09.0**	**+3.8**
YAK				pmax	pmax			
	comp=Z,44nm,0.9s							
YAK				pmax	pmax			
	comp=E,7.0nm,0.8s							
YAK				pmax	pmax			
	comp=N,8.0nm,1.1s							
YAK	**Yakutsk**	**20.33**	**328**	*e*P		**P**	**05 52 05.9**	**+0.7**
	comp=N,42nm,0.4s							
KSRS	**Korea Array**	**20.44**	**252**	P		**P**	**05 52 08.2**	**+1.6**
	comp=N,8.1nm,0.7s,baz=56,slow=11,SNR=21							
KSRS				LR		LR	05 58 56.3	
	comp=N,103nm,20.3s,MS3.2,baz=256,slow=33							
KSRS	**Korea Array**	**20.44**	**252**	P		**P**	**05 52 08.2**	**+1.6**
KSRS				pmax	pmax			
	comp=Z,8.0nm,0.7s							
KSRS				MLR	MLR			
	comp=Z,103nm,20.3s,MS3.2							
KS15	**Wonju Array Si**	**20.47**	**253**	*e*Pn		**P**	**05 52 09.2**	**+2.2**
SNY	**Shenyang**	**21.32**	**268**	⇓P		**P**	**05 52 19.3**	**+3.2**
SNY				S		**S**	**05 56 02.0**	**-8.1**
SNY				AMB	AMB			
	comp=Z,28nm,0.5s,mb4.8							
SNY				LR	LR			
	comp=N,165nm,16.2s,MS3.7							
SNY				LR	LR			
	comp=E,172nm,16.2s,MS3.7							
SNY				LR	LR			
	comp=Z,239nm,20.4s,MS3.6							
BOD	**Bodaibo**	**25.88**	**310**	*e*P		**P**	**05 52 58.8**	**-1.5**
BOD				pmax	pmax			
	comp=Z,8.0nm,1.5s,mb4.0							
BJI	**Beijing**	**27.16**	**269**	P		**P**	**05 53 11.8**	**-0.3**
BJI				S		**S**	**05 57 46.8**	**-0.5**
BJI				AMB	AMB			
	comp=Z,12nm,0.5s,mb4.7							
BJI				AMB	AMB			
	comp=Z,104nm,4.6s							
BJI				LR	LR			
	comp=N,196nm,19.6s,MS3.9							
BJI				LR	LR			
	comp=E,223nm,19.9s,MS3.9							
BJI				LR	LR			
	comp=Z,152nm,20.9s,MS3.5							
NJ2	**Nanjing**	**29.64**	**253**	*e*P		**P**	**05 53 35.3**	**+1.1**
NJ2				AMB	AMB			
	comp=Z,20nm,0.5s,mb5.1							
HHC	**Hu-ho-hao-te**	**30.00**	**274**	*e*P		**P**	**05 53 37.8**	**+0.5**
HHC				AP		pP	05 53 52.8	+3.1
HHC				XP		sP	05 54 00.4	+5.1
HHC				PP		PP	05 54 37.8	-7.7
HHC				PCP		PcP	05 56 37.1	-1.4
HHC				S		**S**	**05 58 31.3**	**-0.5**
HHC				XS		sS	05 58 57.3	+4.7
HHC				SS		SS	06 00 12.8	-28
HHC				AMB	AMB			
	comp=Z,11nm,1.1s,mb4.5							
HHC				AMB	AMB			
	comp=Z,163nm,5.3s							
HHC				LR	LR			
	comp=N,277nm,14.3s,MS4.2							
HHC				LR	LR			
	comp=E,291nm,16.3s,MS4.2							
HHC				LR	LR			
	comp=Z,175nm,15.9s,MS3.8							
ULN	**Ulaanbaatar**	**30.67**	**289**	*i* P		**P**	**05 53 42.9**	**-0.3**
ULN	**Ulaanbaatar**	**30.67**	**289**	*e*P		**P**	**05 53 46.0**	**+2.8**
SONM	**Songino Array**	**31.11**	**290**	P		**P**	**05 53 46.3**	**-0.7**
	comp=Z,1.8nm,0.8s,mb3.9,baz=77,slow=7.5,SNR=6.3							
SONM				PcP	PcP		05 56

comp=Z,7,7nm,0.9s,mb4.4
CD2 Chengdu 40.55 265 P **P** **05 55 08.3 +0.3**
CD2 AP pP 05 55 21.8 +1.2
CD2 PP PP 05 56 46.0 +4.1
CD2 S **S** **06 01 14.4 +0.5**
CD2 SS SS 06 04 10.6 -4.2
CD2 AMB AMB
comp=Z,40nm,0.7s,mb5.2
CD2 AMB AMB
comp=Z,120nm,4.8s
CD2 LR LR
comp=N,210nm,12.0s
CD2 LR LR
comp=Z,80nm,9.6s
GYA Guiyang 41.37 257 P **P** **05 55 15.8 +1.1**
GYA AP pP 05 55 29.8 +2.4
GYA XP sP 05 55 36.3 +3.4
GYA PCP PcP 05 57 12.4 +0.2
GYA SCP ScP 06 00 57.3 -0.8
GYA S **S** **06 01 26.5 +0.5**
GYA SS SS 06 04 24.3 -6.8
GYA AMB AMB
comp=Z,20nm,1.0s,mb4.7
GYA AMB AMB
comp=Z,110nm,5.2s
GYA LR LR
comp=N,570nm,18.6s,MS4.6
GYA LR LR
comp=E,460nm,17.4s,MS4.6
GYA LR LR
comp=Z,510nm,18.5s,MS4.4
HYT Haines Junctio 41.63 44 *e*P **P** **05 55 17.6 +1.1**
INK Inuvik 41.99 32 *e*P **P** **05 55 19.8 +0.6**
comp=Z,200nm,0.9s,mb5.8
ZALV Zalesovo Beam 42.48 306 P **P** **05 55 21.3 -2.2**
comp=Z,2.9nm,0.5s,mb4.2,baz=60,slow=6.4,SNR=14
ZALV PcP PcP 05 57 15.3 -0.1
comp=Z,3.9nm,0.7s,baz=73,slow=3.4,SNR=15
ZALV LR LR 06 14 11.3
comp=Z,165nm,19.8s,MS3.9,baz=57,slow=38
ZALV Zalesovo Beam 42.48 306 P **P** **05 55 21.3 -2.2**
ZALV 05 57 15.3
ZALV pmax pmax
comp=Z,3.0nm,0.5s,mb4.2
ZALV MLR MLR
comp=Z,165nm,19.8s,MS3.9
ZALV Zalesovo Beam 42.48 306 P **P** **05 55 21.3 -2.2**
ZALV PcP PcP 05 57 15.3 -0.1
ZALV LR LR 06 14 11.3
WMQ Urumqi 44.71 291 P **P** **05 55 44.0 +2.5**
WMQ AP pP 05 55 59.0 +4.7
WMQ XP sP 05 56 04.5 +4.6
KMI Kunming 44.90 259 P **P** **05 55 43.3 0.0**
KMI AMB AMB
comp=Z,8.0nm,0.5s,mb4.8
DLBC Dease Lake 45.96 46 P **P** **05 55 53.0 +1.9**
comp=Z,4.7nm,0.8s,mb4.5,baz=291,slow=7.9,SNR=10
MK31 Makanchi Array 46.76 297 *i* P **P** **05 55 56.3 -1.4**
MK31 pmax pmax
comp=Z,6.0nm,0.6s,mb4.7
MK31 Makanchi Array 46.76 297 *e*P **P** **05 55 56.8 -0.8**
MK31 *e*PcP PcP 05 57 29.9 -0.4
MKAR Makanchi Array 46.76 297 P **P** **05 55 55.8 -1.9**
comp=Z,4.2nm,0.6s,mb4.6,baz=66,slow=7.2,SNR=35
MKAR PcP PcP 05 57 30.2 0.0
comp=Z,2.8nm,0.6s,baz=65,slow=3.2,SNR=8.6
MKAR LR LR 06 16 43.9
comp=Z,208nm,19.0s,MS4.1,baz=247,slow=38
MKAR Makanchi Array 46.76 297 P **P** **05 55 55.8 -1.9**
MKAR 05 57 30.3
MKAR pmax pmax
comp=Z,4.0nm,0.6s
MKAR MLR MLR
comp=Z,208nm,19.0s
KURK Kurchatov 47.22 304 *e*P **P** **05 55 59.1 -2.1**
KURK pmax pmax
comp=Z,8.0nm,1.1s,mb4.6
LSA Lhasa 49.98 273 P **P** **05 56 24.8 +2.2**
LSA Lhasa 49.98 273 *e*P **P** **05 56 24.9 +2.3**
LSA pmax pmax
comp=Z,11nm,0.3s,mb5.4
LSA Lhasa 49.98 273 *e*P **P** **05 56 24.9 +2.3**
comp=Z,11nm,0.3s,mb5.4
VOSK Vostochnaya 50.57 309 P **P** **05 56 25.9 -0.9**
VOSK pmax pmax
comp=Z,12nm,1.3s,mb4.7
BVA0 Borovoye Array 50.75 309 *i* P **P** **05 56 26.3 -1.9**
BVA0 pmax pmax
comp=Z,1.0nm,0.7s,mb3.9
YKA Yellowknife Ar 51.27 36 P **P** **05 56 31.8 -0.1**
comp=Z,1.5nm,0.5s,mb4.2,baz=298,slow=7.0,SNR=6.9
YKA PcP PcP 05 57 46.5 +0.1
comp=Z,2.3nm,0.8s,baz=303,slow=3.4,SNR=5.5
YKA Yellowknife Ar 51.27 36 P **P** **05 56 31.8 -0.1**
YKA 05 57 46.5
YKA pmax pmax
comp=Z,2.0nm,0.5s
CMAR Chiang Mai Arr 52.02 256 P **P** **05 56 39.4 +1.3**
comp=Z,5.6nm,0.7s,mb4.6,baz=36,slow=7.4,SNR=35
CMAR Chiang Mai Arr 52.02 256 P **P** **05 56 39.4 +1.3**
CMAR pmax pmax
comp=Z,6.0nm,0.7s
SHL Shillong 52.06 268 *e*P **P** **05 56 37.5 -0.8**
TAPN Taplejung 53.80 273 *e*P **P** **05 56 52.3 +1.1**
comp=Z,31nm,0.8s,mb5.3
ODAN Odare 54.33 273 *e*P **P** **05 56 56.1 +1.1**
JIRN Jiri 54.65 274 *e*P **P** **05 56 58.7 +1.3**
comp=Z,95nm,0.7s,mb5.9
GUN Gumba 54.71 275 *e*P **P** **05 56 58.9 +1.1**
comp=Z,24nm,0.5s,mb5.5
RAMN Ramite 54.82 273 *e*P **P** **05 56 59.4 +0.8**
comp=Z,94nm,0.7s,mb5.9
ARU Arti 54.95 317 *c i*P **P** **05 56 57.9 -1.2**
ARU *e* 05 57 57.4
ARU *e* 05 58 57.6
ARU *e*S **S** **06 04 33.0 -4.1**
ARU SS SS 06 08 13.8 -6.6
ARU pmax pmax
comp=Z,4.0nm,0.5s,mb4.7
KKN Kakani 55.20 275 *e*P **P** **05 57 02.3 +1.0**
comp=Z,61nm,0.7s,mb5.8
PKI Pulchoki 55.25 275 *e*P **P** **05 57 02.6 +1.0**
comp=Z,64nm,1.0s,mb5.6
PKIN Phulchoki 55.25 275 *e*P **P** **05 57 02.5 +0.8**
comp=Z,26nm,0.8s,mb5.3
DMN Daman 55.43 275 *e*P **P** **05 57 04.1 +1.1**
comp=Z,72nm,0.8s,mb5.8
GKN Gorkha 55.51 276 *e*P **P** **05 57 04.5 +1.0**
comp=Z,113nm,0.9s,mb5.9
KK31 Karatay Array 55.83 299 *i* P **P** **05 57 04.3 -1.3**
KK31 pmax pmax
comp=Z,1.0nm,0.3s,mb4.3
DANN Dangsing 55.89 277 *e*P **P** **05 57 07.7 +1.4**
comp=Z,81nm,0.6s,mb5.9
KOLN Koldanda 56.36 276 *e*P **P** **05 57 10.9 +1.3**
comp=Z,56nm,0.7s,mb5.7
EDM Edmonton 56.68 46 *e*P **P** **05 57 11.5 0.0**
ARCES ARCESS Array B 57.94 341 P **P** **05 57 19.2 -1.0**
comp=Z,3.4nm,0.9s,mb4.4,baz=26,slow=6.8,SNR=13
ARCES LR LR 06 25 06.6
comp=Z,106nm,18.4s,MS4.0,baz=323,slow=39
ARCES ARCESS Array B 57.94 341 P **P** **05 57 19.2 -1.0**
ARCES pmax pmax
comp=Z,3.0nm,0.9s
ARCES MLR MLR
comp=Z,106nm,18.4s
ARCES ARCESS Array B 57.94 341 P **P** **05 57 19.2 -1.0**
ARCES LR LR 06 25 06.5
AB31 Akbulak array 58.32 310 *e*P **P** **05 57 21.6 -1.5**
AB31 pmax pmax
comp=Z,3.0nm,0.4s,mb4.7
JOF Joensuu 61.38 334 *ep* **P** **05 57 42.6 -1.3**
comp=Z,4.8nm,0.6s,mb4.8
JOF Joensuu 61.38 334 *e*P **P** **05 57 42.6 -1.3**
JOF pmax pmax
comp=Z,5.0nm,0.6s,mb4.8
KBL Kabul 61.85 292 *e*P **P** **05 57 46.9 -0.6**
KBL pmax pmax
comp=Z,8.0nm,0.7s,mb5.0
KBL Kabul 61.85 292 *e*P **P** **05 57 46.9 -0.7**
comp=Z,7.9nm,0.7s,mb5.0
NVAR Mina Array Bea 62.80 62 P **P** **05 57 54.6 +0.8**
comp=Z,1.0nm,0.8s,mb4.0,baz=291,slow=7.6,SNR=8.5
NVAR pP pP 05 58 08.9 +1.7
comp=Z,2.5nm,0.7s,baz=303,slow=7.4,SNR=13
KAF Kangasniemi 63.50 335 *ep* **P** **05 57 56.8 -1.2**
comp=Z,7.0nm,0.6s,mb5.0
KAF Kangasniemi 63.50 335 *e*P **P** **05 57 56.8 -1.2**
KAF pmax pmax
comp=Z,7.0nm,0.6s,mb5.0
TPNV Topopah Spring 65.00 62 *e*P **P** **05 58 08.6 +0.3**
TPNV *e**PP pP 05 58 22.5 +0.8
TPNV pmax pmax
comp=Z,2.0nm,1.0s,mb4.1
TPNV Topopah Spring 65.00 62 *e*P **P** **05 58 08.6 +0.3**
comp=Z,24nm,1.0s,mb4.2
TPNV *ep*P pP 05 58 22.5 +0.8
BW06 Boulder Array 65.12 54 *e*P **P** **05 58 09.9 +1.0**
comp=Z,6.0nm,1.5s,mb4.4
BW06 *ep*P pP 05 58 22.7 +0.3
PDAR Pinedale Array 65.12 54 P **P** **05 58 10.2 +1.2**
comp=Z,1.5nm,0.9s,mb4.0,baz=302,slow=3.3,SNR=11
PDAR pP pP 05 58 23.8 +1.4
comp=Z,3.0nm,0.9s,baz=320,slow=1.7,SNR=9.7
HYB Hyderabad 66.69 271 *i* P **P** **05 58 20.0 +0.6**
HYB Hyderabad 66.69 271 *e*P **P** **05 58 20.0 +0.6**
ULM Lac du Bonnet 66.88 41 P **P** **05 58 19.3 -0.9**
comp=Z,2.7nm,0.6s,mb4.5,baz=288,slow=3.4,SNR=4.3
ULM Lac du Bonnet 66.88 41 P **P** **05 58 19.3 -0.9**
SRU San Rafael 66.99 57 *e*P **P** **05 58 21.3 +0.3**
SRU *e**PP pP 05 58 35.3 +0.8
RSSD Black Hills 67.19 49 *e*P **P** **05 58 22.0 -0.2**
RSSD *e**PP pP 05 58 36.4 +0.7
RSSD pmax pmax
comp=Z,6.0nm,0.9s,mb4.6
RSSD Black Hills 67.19 49 *e*P **P** **05 58 22.0 -0.2**
comp=Z,6.2nm,0.9s,mb4.6
RSSD *ep*P pP 05 58 36.4 +0.7
NB2 NORSAR Subarra 68.32 341 P **P** **05 58 28.1 -0.9**
comp=Z,9.7nm,0.6s,mb5.0,baz=28,slow=6.2
NOA NORSAR Array B 68.32 341 P **P** **05 58 28.4 -0.6**
comp=Z,7.8nm,0.6s,mb4.9,baz=27,slow=6.3,SNR=30
NOA NORSAR Array B 68.32 341 P **P** **05 58 28.4 -0.6**
NOA pmax pmax
comp=Z,8.0nm,0.6s
NOA NORSAR Array B 68.32 341 P **P** **05 58 28.4 -0.6**
KIV Kislovodsk 70.72 314 *e*P **P** **05 58 44.6 +0.5**
KIV pmax pmax
comp=Z,11nm,0.9s,mb4.8
KIV MLR MLR
comp=Z,74nm,18.0s,MS4.0
AKASG Malin Array Be 71.54 326 P **P** **05 58 48.0 -1.0**
comp=Z,15nm,0.5s,mb5.2,baz=34,slow=6.0,SNR=42
AKASG Malin Array Be 71.54 326 P **P** **05 58 48.0 -1.0**
AKASG pmax pmax
comp=Z,15nm,0.5s
AKBB Malin Array Si 71.54 326 *e*P **P** **05 58 48.1 -0.9**
ASAR Alice Springs 71.92 198 P **P** **05 58 52.6 +1.2**
comp=Z,2.4nm,0.6s,mb4.3,baz=11,slow=5.6,SNR=35
ASAR Alice Springs 71.92 198 P **P** **05 58 52.7 +1.3**
ASAR pmax pmax
comp=Z,2.0nm,0.6s
ANMO Albuquerque 72.20 58 *i* P **P** **05 58 52.0 -1.2**
KWP Kalwaria 74.84 329 *e*P **P** **05 59 08.7 +0.2**
KWP Kalwaria 74.84 329 *e*P **P** **05 59 08.6 +0.2**
BSEG Bad Segeberg 74.90 338 *e*P **P** **05 59 08.2 -0.5**
BSEG pmax pmax
comp=Z,98nm,2.9s,mb5.2
BSEG Bad Segeberg 74.90 338 *e*P **P** **05 59 08.2 -0.5**
comp=Z,98nm,2.9s,mb5.2
OJC Ojcow 75.35 331 *e*P **P** **05 59 11.1 -0.3**
STHS Stebnicka Huta 75.54 330 *e*P **P** **05 59 13.0 +0.5**
STHS pmax pmax
comp=Z,7.0nm,0.8s,mb4.6
STHS Stebnicka Huta 75.54 330 *e*P **P** **05 59 13.0 +0.5**
comp=Z,7.2nm,0.8s,mb4.7
BUR08 Bucovina Ar. S 75.57 326 *e*P **P** **05 59 12.2 -0.5**
KOLS Kolonicke sedl 75.58 329 *e*P **P** **05 59 12.9 +0.2**
BURAR Bucovina Array 75.59 326 ⇓ *i*P **P** **05 59 12.8 0.0**
BURAR Bucovina Array 75.59 326 ⇓P **P** **05 59 12.8 +0.1**
CRVS Cervenica-Dubn 75.89 329 *e*P **P** **05 59 14.1 -0.4**
UPC Upice 76.33 333 *e*P **P** **05 59 16.7 -0.2**
DPC Dobruska-Polom 76.37 333 *e*P **P** **05 59 17.3 +0.1**
MORC Moravsky Berou 76.47 332 ⇓ *i*P **P** **05 59 17.6 -0.2**
MORC Moravsky Berou 76.47 332 ⇓P **P** **05 59 17.6 -0.2**
CLL Collm 76.52 335 ⇑ *i*P **P** **05 59 17.0 -1.0**
CLL pmax pmax
comp=Z,17nm,0.7s,mb5.1
CLL Collm 76.52 335 *e*P **P** **05 59 17.4 -0.6**
comp=Z,17nm,0.7s,mb5.1
CLL Collm 76.52 335 ⇑ *i*P **P** **05 59 17.0 -1.0**
comp=Z,17nm,0.7s,mb5.1
CLL Collm 76.52 335 ⇑ *i*P **P** **05 59 17.0 -1.0**
comp=Z,17nm,0.7s,mb5.1
BRG Berggiesshubel 76.63 335 *e*P **P** **05 59 18.1 -0.6**
BRG pmax pmax
comp=Z,5.0nm,1.1s,mb4.4
BRG Berggiesshubel 76.63 335 *e*P **P** **05 59 18.0 -0.7**
comp=Z,8.0nm,1.1s,mb4.6
BRG Berggiesshubel 76.63 335 *e*(P) **P** **05 59 18.1 -0.5**
comp=Z,7.8nm,1.1s,mb4.5
FBE Freiberg 76.76 335 *e*P **P** **05 59 18.9 -0.5**
comp=Z,13nm,1.0s,mb4.8
CLZ Clausthal 76.78 337 *e*P **P** **05 59 19.4 -0.1**
CLZ pmax pmax
comp=Z,14nm,0.9s,mb4.9
CLZ Clausthal 76.78 337 *e*P **P** **05 59 19.4 -0.1**
comp=Z,14nm,0.9s,mb4.9
MLR Muntele Rosu 77.05 325 ⇑ *i*P **P** **05 59 21.9 +0.8**
MLR Muntele Rosu 77.05 325 ⇑P **P** **05 59 21.9 +0.7**
VYHS Vyhne 77.15 331 *e*P **P** **05 59 21.1 -0.5**
DRGR 77.22 327 ⇑ *i*P **P** **05 59 21.5 -0.5**
PRU Pruhonice 77.23 334 *e*P **P** **05 59 21.8 -0.3**
PSZ Piszkesteto 77.28 330 ⇑ *i*P **P** **05 59 16.2 -6.2**
PSZ Piszkesteto 77.28 330 ⇑P **P** **05 59 16.2 -6.1**
VOIR 77.45 325 ⇑ *i*P **P** **05 59 24.0 +0.6**
VOIR 77.45 325 ⇑P **P** **05 59 24.0 +0.7**
MOX Moxa 77.51 336 *e*P **P** **05 59 23.0 -0.6**
comp=Z,9.0nm,0.9s,mb4.7
GUNZ Gunzen 77.56 335 *e*P **P** **05 59 22.6 -1.3**
comp=Z,10.0nm,1.0s,mb4.7
WERN Wernitzgruen 77.61 335 *e*P **P** **05 59 23.2 -1.0**
comp=Z,8.0nm,0.6s,mb4.8
MODS Modra-Piesok 77.78 331 *e*P **P** **05 59 25.0 -0.1**
TXAR Lajitas Array 77.86 60 P **P** **05 59 26.0 +0.1**
comp=Z,1.6nm,0.6s,mb4.1,baz=296,slow=3.8,SNR=27
TXAR pP pP 05 59 40.4 +0.7
comp=Z,4.8nm,0.7s,baz=308,slow=4.4,SNR=21
TXAR Lajitas Array 77.86 60 P **P** **05 59 26.0 +0.1**
TXAR *PP pP 05 59 40.4 +0.7
TXAR pmax pmax
comp=Z,2.0nm,0.6s
TXAR Lajitas Array 77.86 60 P **P** **05 59 26.0 +0.1**
TXAR pP pP 05 59 40.4 +0.7
MANZ Manzenberg 77.96 335 *e*P **P** **05 59 25.8 -0.3**
comp=Z,22nm,2.0s,mb4.7
ZST Bratislava 77.99 331 *e*P **P** **05 59 26.7 +0.4**
ZST pmax pmax
comp=Z,10.0nm,1.0s,mb4.7
ZST Bratislava 77.99 331 *e*P **P** **05 59 26.7 +0.4**
comp=Z,9.6nm,1.0s,mb4.7
KHC Kasperske Hory 78.29 334 *c i*P **P** **05 59 27.9 0.0**
KHC Kasperske Hory 78.29 334 *e*P **P** **05 59 28.2 +0.3**
BR131 Keskin Array S 78.33 316 *e*P **P** **05 59 28.6 +0.3**
comp=Z,9.0nm,0.9s,mb4.7
UMR Umm Al-Rimmam 78.47 301 *e*P **P** **05 59 28.5 -0.8**
baz=301
GRA1 Grafenberg Arr 78.48 336 *e*P **P** **05 59 29.1 +0.1**
comp=Z,18nm,0.8s,mb5.0
GRF Grafenberg Arr 78.48 336 *e*P **P** **05 59 29.1 +0.1**
GRF pmax pmax
comp=Z,18nm,0.8s,mb5.0
GRF Grafenberg Arr 78.48 336 *e*P **P** **05 59 29.1 +0.1**
GRF pmax pmax
comp=Z,18nm,0.8s,mb5.0
GRF Grafenberg Arr 78.48 336 *e*P **P** **05 59 29.1 +0.1**
comp=Z,18nm,0.8s,mb5.0
WET Wettzell 78.49 334 *e*P **P** **05 59 28.6 -0.4**
WET pmax pmax
comp=Z,9.0nm,0.9s,mb4.7
WET Wettzell 78.49 334 *e*P **P** **05 59 28.6 -0.4**
comp=Z,9.0nm,0.9s,mb4.7
GEC2 GERESS Array S 78.50 334 *e*P **P** **05 59 28.6 -0.5**
GEC2 pmax pmax
comp=Z,5.0nm,0.9s,mb4.4
GEC2 GERESS Array S 78.50 334 *e*P **P** **05 59 28.6 -0.5**
comp=Z,5.0nm,0.9s,mb4.4
GERES GERESS Array B 78.50 334 P **P** **05 59 28.8 -0.3**
comp=Z,3.7nm,0.6s,mb4.5,baz=33,slow=5.1,SNR=19
GERES LR LR 06 38 09.1
comp=Z,89nm,18.4s,MS4.1,baz=75,slow=39
GERES GERESS Array B 78.50 334 P **P** **05 59 28.8 -0.3**
GERES pmax pmax
comp=Z,4.0nm,0.6s
GERES MLR MLR
comp=Z,89nm,18.4s
MIB Mutribah 78.51 301 *e*P **P** **05 59 29.5 0.0**
baz=301
BZS Buzias 78.62 327 ⇑ *i*P **P** **05 59 29.6 -0.2**
BZS Buzias 78.62 327 ⇑P **P** **05 59 29.6 -0.2**
CONA Conrad Observa 78.63 332 ⇑ *i*P **P** **05 59 30.1 +0.3**
comp=Z,11nm,0.7s,mb4.9
CONA Conrad Observa 78.63 332 ⇑ *i*P **P** **05 59 30.3 +0.4**
comp=Z,11nm,0.7s,mb4.9
TNS Taunus Mts 78.76 337 *e*P **P** **05 59 30.5 0.0**
TNS pmax pmax
comp=Z,14nm,0.8s,mb4.9
TNS Taunus Mts 78.76 337 *e*P **P** **05 59 30.5 0.0**
comp=Z,14nm,0.8s,mb4.9
RST Umm Al-Ruwaisa 78.93 301 *e*P **P** **05 59 31.4 -0.4**
baz=301
NAY Al-Naaiem 78.97 301 *e*P **P** **05 59 31.6 -0.4**
baz=301
RDF Al-Radifah 79.02 300 *e*P **P** **05 59 32.2 -0.1**
baz=300
MEM Membach 79.03 339 P **P** **05 59 32.2 +0.3**
comp=Z,12nm,1.2s,mb4.7
PKSM Moragy 79.19 329 ⇑ *i*P **P** **05 59 32.4 -0.5**
PKSM Moragy 79.19 329 ⇑P **P** **05 59 32.4 -0.5**
MOA Molln 79.21 333 ⇑ *i*P **P** **05 59 33.0 0.0**
comp=Z,8.9nm,0.9s,mb4.7
ARSA Arzberg 79.34 332 ⇑ *i*P **P** **05 59 34.0 +0.2**
comp=Z,6.2nm,0.6s,mb4.7
BCLA Clavier 79.38 339 P **P** **05 59 34.1 +0.3**
RJOB Jochberg 79.77 334 *e*P **P** **05 59 36.9 +0.8**
comp=Z,11nm,0.3s,mb5.3
STU Stuttgart 79.88 336 *e*P **P** **05 59 36.3 -0.4**
comp=Z,12nm,0.7s,mb4.9
BAIF Baives 79.97 340 *e*P **P** **05 59 36.7 -0.4**
comp=Z,5.2nm,0.5s,mb4.4
BAIF Baives 79.97 340 *e*P **P** **05 59 36.7 -0.4**
BAIF pmax pmax
comp=Z,3.0nm,0.5s,mb4.5
BAIF Baives 79.97 340 *e*P **P** **05 59 36.7 -0.4**
comp=Z,2.6nm,0.5s,mb4.4
SOKA Soboth 80.00 332 ⇑ *i*P **P** **05 59 37.2 -0.2**
BFO Black Forest 80.52 337 *e*P **P** **05 59 39.9 -0.2**
BFO pmax pmax
comp=Z,11nm,0.9s,mb4.8
BFO Black Forest 80.52 337 *e*P **P** **05 59 39.9 -0.2**
comp=Z,11nm,0.9s,mb4.8
WTTA Wattenberg 80.54 334 ⇑ *i*P **P** **05 59 40.7 +0.5**
comp=Z,19nm,0.5s,mb5.3
MOTA Moosalm 80.63 335 ⇑ *i*P **P** **05 59 40.9 +0.2**
comp=Z,9.5nm,0.6s,mb4.9
CDF Champ du Feu 80.73 337 *e*P **P** **05 59 41.1 -0.1**
comp=Z,27nm,0.9s,mb4.9
CDF Champ du Feu 80.73 337 *e*P **P** **05 59 41.1 -0.1**
CDF pmax pmax
comp=Z,14nm,0.9s,mb4.9
CDF Champ du Feu 80.73 337 *e*P **P** **05 59 41.1 -0.1**
comp=Z,14nm,0.9s,mb4.9
FETA Feichten 81.03 335 ⇑ *i*P **P** **05 59 43.1 +0.2**
comp=Z,8.8nm,1.0s,mb4.7
DAVA Damuels 81.03 335 ⇑ *i*P **P** **05 59 43.1 +0.3**
comp=Z,6.9nm,0.7s,mb4.7
PMOR Pomariorio Ree 81.20 123 *e*T 07 29 17.7
comp=Z,22nm,0.2s
MEZF Maizieres J'vi 81.22 339 *e*P **P** **05 59 43.9 +0.1**
HAU Haudompre 81.34 338 *e*P **P** **05 59 44.0 -0.5**
comp=Z,15nm,0.8s,mb4.7
HAU Haudompre 81.34 338 *e*P **P** **05 59 44.0 -0.5**
HAU pmax pmax
comp=Z,8.0nm,0.8s,mb4.7
HAU Haudompre 81.34 338 *e*P **P** **05 59 44.0 -0.5**
comp=Z,7.5nm,0.8s,mb4.7
HINF Hinteralfeld 81.39 337 *e*P **P** **05 59 44.2 -0.5**
comp=Z,9.9nm,0.8s,mb4.5
HINF Hinteralfeld 81.39 337 *e*P **P** **05 59 44.2 -0.5**
HINF pmax pmax
comp=Z,5.0nm,0.8s,mb4.5
HINF Hinteralfeld 81.39 337 *e*P **P** **05 59 44.2 -0.5**
comp=Z,4.9nm,0.8s,mb4.5
PPT Papeete 82.29 125 *e*LR LR 06 26 23.2
comp=Z,104nm,26.0s
LOR Lormes 82.66 339 *e*P **P** **05 59 51.1 -0.3**
comp=Z,17nm,0.9s,mb4.8
LOR Lormes 82.66 339 *e*P **P** **05 59 51.1 -0.3**
LOR pmax pmax
comp=Z,8.0nm,0.9s,mb4.8
LOR Lormes 82.66 339 *e*P **P** **05 59 51.1 -0.3**
comp=Z,8.3nm,0.9s,mb4.8
GRR Gorron 82.67 343 *e*P **P** **05 59 51.3 -0.2**
comp=Z,25nm,0.9s,mb4.9
GRR Gorron 82.67 343 *e*P **P** **05 59 51.3 -0.2**
GRR pmax pmax
comp=Z,13nm,0.9s,mb5.0
GRR Gorron 82.67 343 *e*P **P** **05 59 51.3 -0.2**
comp=Z,13nm,0.9s,mb5.0
SSF Saint Saulge 82.94 339 *e*P **P** **05 59 52.7 -0.2**
SGMF Saint Gilles 83.14 344 *e*P **P** **05 59 53.8 -0.1**
AVF Avril sur Loir 83.23 339 *e*P **P** **05 59 54.3 -0.1**
comp=Z,15nm,0.8s,mb4.8
AVF Avril sur Loir 83.23 339 *e*P **P** **05 59 54.3 -0.1**
AVF pmax pmax
comp=Z,7.0nm,0.8s,mb4.7
AVF Avril sur Loir 83.23 339 *e*P **P** **05 59 54.3 -0.1**
comp=Z,7.4nm,0.8s,mb4.8
SMF Signal de Mont 83.24 339 *e*P **P** **05 59 54.6 +0.1**
comp=Z,48nm,1.2s,mb5.1
SMF Signal de Mont 83.24 339 *e*P **P** **05 59 54.6 +0.1**
SMF pmax pmax
comp=Z,24nm,1.2s,mb5.1
SMF Signal de Mont 83.24 339 *e*P **P** **05 59 54.6 +0.1**
comp=Z,24nm,1.2s,mb5.1
LPL La Plagne 83.54 337 *e*P **P** **05 59 56.7 +0.7**
comp=Z,6.7nm,0.6s,mb4.7
LPL La Plagne 83.54 337 *e*P **P** **05 59 56.7 +0.7**
LPL pmax pmax
comp=Z,3.0nm,0.6s,mb4.6
LPL La Plagne 83.54 337 *e*P **P** **05 59 56.7 +0.7**
comp=Z,3.3nm,0.6s,mb4.6
LPG La Plagne 83.55 337 *e*P **P** **05 59 56.8 +0.7**
comp=Z,6.2nm,0.5s,mb4.7
LPG La Plagne 83.55 337 *e*P **P** **05 59 56.8 +0.7**
LPG pmax pmax
comp=Z,3.0nm,0.5s,mb4.7
LPG La Plagne 83.55 337 *e*P **P** **05 59 56.8 +0.7**
comp=Z,3.1nm,0.5s,mb4.7
BGF Bois d'Agland 83.57 340 *e*P **P** **05 59 56.1 0.0**
comp=Z,6.2nm,0.4s,mb4.8
TCF Toulx Ste Croi 83.97 340 *e*P **P** **05 59 58.1 -0.1**
comp=Z,20nm,1.2s,mb4.8
TCF Toulx Ste Croi 83.97 340 *e*P **P** **05 59 58.1 -0.1**
TCF pmax pmax
comp=Z,10.0nm,1.2s,mb4.8
TCF Toulx Ste Croi 83.97 340 *e*P **P** **05 59 58.1 -0.1**
comp=Z,9.9nm,1.2s,mb4.8
MBDF Montbardon 84.25 336 *e*P **P** **06 00 00.1 +0.4**
comp=Z,6.6nm,0.5s,mb4.7
MBDF Montbardon 84.25 336 *e*P **P** **06 00 00.1 +0.4**
MBDF pmax pmax
comp=Z,3.0nm,0.5s,mb4.7
MBDF Montbardon 84.25 336 *e*P **P** **06 00 00.1 +0.4**
comp=Z,3.3nm,0.5s,mb4.7
ORIF Oris-en-Rattie 84.32 337 *e*P **P** **06 00 00.5 +0.5**
comp=Z,12nm,0.7s,mb4.9
ORIF Oris-en-Rattie 84.32 337 *e*P **P** **06 00 00.5 +0.5**
ORIF pmax pmax
comp=Z,6.0nm,0.7s,mb4.8
ORIF Oris-en-Rattie 84.32 337 *e*P **P** **06 00 00.5 +0.5**
comp=Z,6.3nm,0.7s,mb4.8
VIVF Saint-Julien-l 84.70 338 *e*P **P** **06 00 01.4 -0.5**
CAF Calviac 85.29 340 *e*P **P** **06 00 04.9 0.0**
FRF La Foret Royal 85.36 336 *e*P **P** **06 00 04.7 -0.6**
PGF Pioggiola 85.60 334 *e*P **P** **06 00 06.0 -0.5**
LMR La Mourre 85.61 336 *e*P **P** **06 00 06.4 -0.1**
comp=Z,16nm,0.8s,mb5.0
LMR La Mourre 85.61 336 *e*P **P** **06 00 06.4 -0.1**
LMR pmax pmax
comp=Z,8.0nm,0.8s,mb5.0
LMR La Mourre 85.61 336 *e*P **P** **06 00 06.4 -0.1**
comp=Z,8.2nm,0.8s,mb5.0
TBI Tubuai 87.01 129 *e*LR LR 06 28 31.0
comp=Z,47nm,23.0s
TBI Tubuai 87.01 129 *e*T 07 36 30.7
comp=Z,14nm,0.3s
TORD Torodi Ar. Bea 115.11 329 PKP PKiKP 06 06 08.4 -1.1

comp=Z,0.5nm,0.5s,baz=27,slow=1.7,SNR=7.9
DBIC Dimbokro 123.37 333 PKP PKPdf 06 06 24.8 -0.7
comp=Z,3.6nm,1.1s,baz=333,slow=4.5,SNR=3.1
DBIC Dimbokro 123.37 333 PKIKP PKPdf 06 06 24.8 -0.7
DBIC pmax pmax
comp=Z,4.0nm,1.1s
DBIC Dimbokro 123.37 333 PKP PKPdf 06 06 24.8 -0.7
MAW Mawson 131.87 211 PKP PKPdf 06 06 41.0 +1.1
comp=Z,0.6nm,0.7s,baz=63,slow=4.5,SNR=4.1
MAW pPKP pPKPdf 06 06 56.0 +1.6
comp=Z,0.7nm,0.6s,baz=107,slow=5.6,SNR=5.4
MAW Mawson 131.87 211 PKIKP PKPdf 06 06 41.0 +1.1
MAW 06 06 56.0
MAW pmax pmax
comp=Z,1.0nm,0.7s
BDFB Brasilia 144.69 36 PKP PKPdf 06 07 02.4 -2.5
comp=Z,1.7nm,0.7s,baz=297,slow=6.8,SNR=6.1
BDFB Brasilia 144.69 36 PKIKP PKPdf 06 07 02.4 -2.5
BDFB pmax pmax
comp=Z,2.0nm,0.7s
PLCA Paso Flores 148.50 95 PKPbc PKPbc 06 07 15.0 +0.7
comp=Z,4.5nm,0.9s,baz=293,slow=4.3,SNR=9.3
PLCA pPKPbc pPKPbc 06 07 30.7 +2.1
comp=Z,1.5nm,0.5s,baz=260,slow=6.1,SNR=2.9
SNAA Sanae 152.27 196 *e*PKPdf PKPbc 06 07 22.0 -0.3
SNAA *e* 06 07 37.2
VNA2 Neumayer--Watz 153.73 195 *e*PKPdf PKPbc 06 07 26.2 +0.7
baz=33,slow=1.1
VNA2 *e* 06 07 41.1
VNA3 Neumayer Olymp 153.83 193 *e*PKPdf PKPbc 06 07 25.9 +0.1
VNA3 *e* 06 07 39.7
VNA1 Neumayer--Stat 154.11 194 *e*PKPdf PKPab 06 07 41.2 +0.9

IGQ 23 06:13:23.2, 104S×7834W, h10km±2km, Mb4.0, Ms3.8, 4C-6D, Error ellipse: s-maj=1.8km s-min=0.6km az=6.9, Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PISA	**Pisayambo**	**0.05**	**246**	↑P	Pg	06 13 26.3	+1.1
TAMB	**Tambo**	**0.34**	**355**	↓P	Pg	06 13 30.6	+0.6
RUN5	**Runtun**	**0.39**	**193**	↓P	Pg	06 13 31.2	+0.4
CAMI	**Rancho Maria**	**0.40**	**335**	↓P	Pg	06 13 31.8	+0.8
VC1	**Cotopaxi 1**	**0.40**	**350**	↓P	Pg	06 13 31.7	+0.7
JUI6	**Juive**	**0.41**	**199**	↑P	Pg	06 13 31.3	+0.1
JUI6	**Juive**	**0.41**	**199**	↑S	Sg	06 13 36.7	0.0
ULBA	**Ulba**	**0.42**	**190**	↓P	Pg	06 13 31.4	0.0
BIL2	**Estacion Bilba**	**0.45**	**202**	P	Pg	06 13 32.4	+0.5
IGUA	**Igualata**	**0.54**	**214**	P	Pg	06 13 34.4	+0.7
IGUA	**Igualata**	**0.54**	**214**	S	Sg	06 13 42.3	+1.4
QIL2	**Quilotoa**	**0.60**	**286**	↓P	Pg	06 13 35.7	+0.8
ANTI	**Antisana**	**0.61**	**17**	↑P	Pg	06 13 34.9	-0.1
GGP	**Refugio Guagua**	**0.90**	**343**	P	Pg	06 13 41.0	+0.6
TERV	**Terraza Guagua**	**0.90**	**343**	P	Pg	06 13 40.9	+0.4
TERV	**Terraza Guagua**	**0.90**	**343**	S	Sg	06 13 54.2	+2.0
CAYA	**Cayambe**	**1.15**	**17**	P	Pb	06 13 45.3	0.0
LAV3	**Lava3-Reventad**	**1.17**	**37**	P	Pb	06 13 45.5	0.0
LAV3	**Lava3-Reventad**	**1.17**	**37**	S	Sb	06 14 00.9	+0.2
CONE	**Cono NE Rev Vo**	**1.19**	**36**	P	Pb	06 13 45.9	+0.2
CONE	**Cono NE Rev Vo**	**1.19**	**36**	S	Sb	06 14 03.7	+2.5
COTA	**Cotacachi**	**1.36**	**360**	P	Pn	06 13 52.1	+3.8

*CSEM **23** 06:20:23.9±0.2, 3721N×1057W, h10km, ML3.4/14, Error ellipse: s-maj=3.3km s-min=2.7km az=24.0*
*NEIC **23** 06:20:23.4, 3736N×1049W, h0km, MN2.8(MDD), After MDD.*
*MDD **23** 06:20:23.8±1.8, 3717N×1071W, h50km±78km, mb4.2/12, Error ellipse: s-maj=17.0km s-min=8.6km az=72.0, PRIMO*
*INMG **23** 06:20:24.4±1.0, 3721N×1053W, h10km, MD2.7, ML2.5, Error ellipse: s-maj=4.7km s-min=2.7km az=68.0*

ISC 23 06:20:24.4±0.8, 3737N±004×1040W±005, h10km, n61, σ0§92/111, 2C-2D, Azores-Cape St. Vincent Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PFVI	**Vila Bisbo**	**1.27**	**100**	*i* P	**Pn**	**06 20 47.7**	**-0.5**
PFVI				*e*S	**Sb**	**06 21 04.8**	**-0.1**
PFVI				A		06 21 06.1	
	31nm,0.1s						
PFVI	**Vila Bisbo**	**1.27**	**100**	↓P	**Pn**	**06 20 47.7**	**-0.5**
PFVI				S	**Sb**	**06 21 04.8**	**-0.1**
	16nm,0.1s						
PTEO	**Sao Teotonio**	**1.34**	**82**	*e*P	**Pn**	**06 20 49.6**	**+0.4**
PTEO				*e*S	**Sb**	**06 21 07.9**	**+1.0**
PTEO				A		06 21 10.5	
	29nm,0.3s						
PTEO	**Sao Teotonio**	**1.34**	**82**	P	**Pn**	**06 20 49.6**	**+0.4**
PTEO				S	**Sb**	**06 21 07.9**	**+1.0**
	15nm,0.3s						
MORF	**Marmelete**	**1.39**	**92**	*i* P	**Pn**	**06 20 49.8**	**0.0**
MORF				*e*S	**Sn**	**06 21 08.3**	**0.0**
MORF				A		06 21 10.2	
	59nm,0.3s						
MORF	**Marmelete**	**1.39**	**92**	↓P	**Pn**	**06 20 49.8**	**0.0**
MORF				S	**Sn**	**06 21 08.3**	**0.0**
	59nm,0.3s						
PMAFR	**Mafra**	**1.81**	**29**	*i* Pn	**Pn**	**06 20 56.0**	**+0.4**
PMAFR				*e*Sn	**Sn**	**06 21 20.4**	**+1.7**
PMAFR				A		06 21 21.6	
	125nm,0.2s						
PMAFR	**Mafra**	**1.81**	**29**	↑P	**Pn**	**06 20 56.0**	**+0.4**
PMAFR				S	**Sn**	**06 21 20.4**	**+1.7**
	125nm,0.2s						
PBDV	**Barranco-do-Ve**	**1.97**	**93**	*e*Pn	**Pn**	**06 20 58.0**	**+0.2**
PBDV				*e*Sn	**Sn**	**06 21 22.5**	**0.0**
PBDV				A		06 21 28.4	
	12nm,0.2s						
PBDV	**Barranco-do-Ve**	**1.97**	**93**	*e*Pn	**Pn**	**06 20 58.0**	**+0.2**
PBDV				*e*Sn	**Sn**	**06 21 22.5**	**0.0**
	12nm,0.2s						
MOE	**Montemor**	**1.99**	**54**	*e*Pn	**Pn**	**06 20 58.9**	**+0.9**
MOE				*e*Sn	**Sn**	**06 21 24.7**	**+1.7**
PBEJ	**Beja**	**2.11**	**71**	*e*Sn	**Sn**	**06 21 26.6**	**+0.5**
PBEJ				A		06 21 29.2	
	16nm,0.2s						
PBEJ	**Beja**	**2.11**	**71**	*e*Sn	**Sn**	**06 21 26.6**	**+0.5**
	16nm,0.2s						
PVAQ	**Vaqueiros**	**2.13**	**88**	*i* Pn	**Pn**	**06 21 00.5**	**+0.5**
PVAQ				*e*Sn	**Sn**	**06 21 26.5**	**-0.1**
PVAQ				A		06 21 29.6	
	21nm,0.4s						
PVAQ	**Vaqueiros**	**2.13**	**88**	↑P	**Pn**	**06 21 00.5**	**+0.5**
PVAQ				S	**Sn**	**06 21 26.5**	**-0.1**
	21nm,0.4s						
EVO	**Evora**	**2.22**	**58**	*e*Pn	**Pn**	**06 21 01.8**	**+0.7**
EVO				*e*Sn	**Sn**	**06 21 29.9**	**+1.3**
EVO				A		06 21 31.4	
	50nm,0.3s						
EVO	**Evora**	**2.22**	**58**	*e*Pn	**Pn**	**06 21 01.8**	**+0.7**
EVO				*e*Sn	**Sn**	**06 21 29.9**	**+1.3**
	50nm,0.3s						
EGRO	**El Granado**	**2.33**	**85**	P	**Pn**	**06 21 02.7**	**+0.1**
	2.1nm,0.1s,SNR=15						
EGRO				S	**Sn**	**06 21 30.6**	**-0.7**
	9.8nm,0.1s,SNR=9.6						
EGRO	**El Granado**	**2.33**	**85**	P	**Pn**	**06 21 02.7**	**0.0**
	2.1nm,0.1s,SNR=15						
EGRO				S	**Sn**	**06 21 30.6**	**-0.7**
	9.8nm,0.1s,SNR=9.6						
PESTR	**Estremoz**	**2.67**	**55**	*e*Pn	**Pn**	**06 21 08.4**	**+1.0**
PESTR				*e*Sn	**Sn**	**06 21 41.0**	**+1.1**
PESTR				A		06 21 49.0	
	5.8nm,0.5s						
PESTR	**Estremoz**	**2.67**	**55**	*e*Pn	**Pn**	**06 21 08.4**	**+1.0**
PESTR				*e*Sn	**Sn**	**06 21 41.0**	**+1.1**
	5.8nm,0.5s						
PTOM	**Tomar**	**2.74**	**34**	*e*Sn	**Sn**	**06 21 42.8**	**+1.4**
PTOM				A		06 21 45.1	
	10nm,0.1s						
PTOM	**Tomar**	**2.74**	**34**	*e*Sn	**Sn**	**06 21 42.8**	**+1.4**
	10nm,0.1s						
PBAR	**Barrancos**	**2.78**	**72**	*e*Pn	**Pn**	**06 21 10.1**	**+1.2**
PBAR				*e*Sn	**Sn**	**06 21 42.6**	**+0.1**
PBAR				A		06 21 45.4	
	11nm,0.4s						
PBAR	**Barrancos**	**2.78**	**72**	*e*Pn	**Pn**	**06 21 10.1**	**+1.2**
PBAR				*e*Sn	**Sn**	**06 21 42.6**	**+0.1**
	11nm,0.4s						
EMIN	**Mina Concepcio**	**2.99**	**81**	P	**Pn**	**06 21 11.9**	**+0.1**
	0.8nm,0.1s,SNR=19						
EMIN				S	**Sn**	**06 21 47.1**	**-0.6**
	1.9nm,0.1s,SNR=5.7						
EMIN	**Mina Concepcio**	**2.99**	**81**	P	**Pn**	**06 21 11.9**	**+0.1**
	0.8nm,0.1s,SNR=19						
EMIN				S	**Sn**	**06 21 47.1**	**-0.5**
	1.9nm,0.1s,SNR=5.7						
EBAD	**Badajoz**	**3.01**	**62**	P	**Pn**	**06 21 12.6**	**+0.5**
	2.6nm,0.1s,SNR=13						
EBAD				S	**Sn**	**06 21 48.8**	**+0.6**
	5.8nm,0.2s,SNR=18						
EBAD	**Badajoz**	**3.01**	**62**	P	**Pn**	**06 21 12.6**	**+0.5**
	2.6nm,0.1s,SNR=13						
EBAD				S	**Sn**	**06 21 48.8**	**+0.6**
	5.8nm,0.2s,SNR=18						
PMRV	**Marv??o**	**3.13**	**48**	*e*Pn	**Pn**	**06 21 14.1**	**+0.3**
PMRV				*e*Sn	**Sn**	**06 21 51.4**	**+0.2**
PMRV				A		06 21 54.1	
	14nm,0.2s						
PMRV	**Marv??o**	**3.13**	**48**	*e*Pn	**Pn**	**06 21 14.1**	**+0.3**
PMRV				*e*Sn	**Sn**	**06 21 51.4**	**+0.2**
	14nm,0.2s						
PCBR	**Castelo Branco**	**3.37**	**42**	*e*Pn	**Pn**	**06 21 17.6**	**+0.6**
PCBR				*e*Sn	**Sn**	**06 21 57.5**	**+0.5**
PCBR				A		06 21 59.9	
	6.6nm,0.6s						
PCBR	**Castelo Branco**	**3.37**	**42**	*e*Pn	**Pn**	**06 21 17.6**	**+0.6**
PCBR				*e*Sn	**Sn**	**06 21 57.5**	**+0.5**
	6.6nm,0.6s						
ESPR	**Espera**	**3.66**	**96**	P	**Pn**	**06 21 21.0**	**-0.1**
	4.1nm,0.1s,SNR=9.5						
ESPR				S	**Sn**	**06 22 02.2**	**-2.1**
	12nm,0.2s,SNR=5.0						
ESPR	**Espera**	**3.66**	**96**	P	**Pn**	**06 21 21.0**	**-0.1**
	4.1nm,0.1s,SNR=9.5						
ESPR				S	**Sn**	**06 22 03.5**	**-0.8**
	12nm,0.2s,SNR=5.0						
ESPR	**Espera**	**3.66**	**96**	P	**Pn**	**06 21 21.0**	**-0.1**
ESPR				S	**Sn**	**06 22 03.5**	**-0.8**
MTE	**Manteigas**	**3.76**	**35**	*e*Pn	**Pn**	**06 21 22.7**	**+0.3**
MTE				*e*Sn	**Sn**	**06 22 07.3**	**+0.6**
MTE				A		06 22 10.5	
	7.5nm,0.4s						
MTE	**Manteigas**	**3.76**	**35**	*e*Pn	**Pn**	**06 21 22.7**	**+0.3**
MTE				*e*Sn	**Sn**	**06 22 07.3**	**+0.6**
	7.5nm,0.4s						
PVIS	**Viseu**	**3.87**	**29**	*e*Pn	**Pn**	**06 21 24.2**	**+0.3**
PVIS				*e*Sn	**Sn**	**06 22 09.6**	**+0.2**
PVIS				A		06 22 13.3	
	7.1nm,0.1s						
PVIS	**Viseu**	**3.87**	**29**	*e*Pn	**Pn**	**06 21 24.2**	**+0.3**
PVIS				*e*Sn	**Sn**	**06 22 09.6**	**+0.2**
	7.1nm,0.1s						
ECAB	**El Cabril**	**4.01**	**78**	P	**Pn**	**06 21 26.2**	**+0.4**
	3.5nm,0.1s,SNR=9.3						
ECAB				S	**Sn**	**06 22 10.8**	**-2.1**
	2.2nm,0.1s,SNR=7.8						
ECAB	**El Cabril**	**4.01**	**78**	P	**Pn**	**06 21 26.2**	**+0.4**
	3.5nm,0.1s,SNR=9.3						
ECAB				S	**Sn**	**06 22 10.8**	**-2.1**
	2.2nm,0.1s,SNR=7.8						
EPLA	**Plasencia**	**4.32**	**50**	S	**Sn**	**06 22 20.6**	**+0.2**
	14nm,0.1s,SNR=7.9						
PVRL	**Vila Real**	**4.42**	**27**	*e*Sn	**Sn**	**06 22 22.3**	**-0.7**
PVRL				A		06 22 24.9	
	7.3nm,0.5s						
PVRL	**Vila Real**	**4.42**	**27**	*e*Sn	**Sn**	**06 22 22.3**	**-0.7**
	7.3nm,0.5s						
MVO	**Moncorvo**	**4.61**	**34**	*e*Pn	**Pn**	**06 21 34.2**	**+0.2**
MVO				*e*Sn	**Sn**	**06 22 26.9**	**-0.6**
MVO				A		06 22 29.9	
	11nm,0.3s						
MVO	**Moncorvo**	**4.61**	**34**	*e*Pn	**Pn**	**06 21 34.2**	**+0.2**
MVO				*e*Sn	**Sn**	**06 22 26.9**	**-0.6**
	11nm,0.3s						
EADA	**Adamuz**	**4.68**	**78**	P	**Pn**	**06 21 34.5**	**-0.5**
	0.5nm,0.1s,SNR=4.6						
EADA				S	**Sn**	**06 22 27.3**	**-2.1**
	1.9nm,0.1s						
EADA	**Adamuz**	**4.68**	**78**	P	**Pn**	**06 21 34.5**	**-0.5**
	0.5nm,0.1s,SNR=4.6						
EADA				S	**Sn**	**06 22 27.3**	**-2.1**
	1.9nm,0.1s						
PCAB	**Cabril**	**4.71**	**22**	*e*Pn	**Pn**	**06 21 35.3**	**-0.1**
PCAB				*e*Sn	**Sn**	**06 22 28.5**	**-1.6**
PCAB				A		06 22 32.6	
	4.7nm,0.3s						
PCAB	**Cabril**	**4.71**	**22**	*e*Pn	**Pn**	**06 21 35.3**	**-0.1**
PCAB				*e*Sn	**Sn**	**06 22 28.5**	**-1.6**
	4.7nm,0.3s						
ELOB	**Lobios**	**4.84**	**21**	P	**Pn**	**06 21 36.8**	**-0.5**
	1.5nm,0.1s,SNR=8.7						
ELOB				S	**Sn**	**06 22 30.9**	**-2.5**
	5.8nm,0.2s						
ELOB	**Lobios**	**4.84**	**21**	P	**Pn**	**06 21 36.8**	**-0.5**
	1.5nm,0.1s,SNR=8.7						
EBAN	**Banos Encina**	**5.30**	**79**	P	**Pn**	**06 21 43.3**	**-0.2**
	9.1nm,1.1s,SNR=7.9						
EBAN				S	**Sn**	**06 22 43.1**	**-1.6**
	3.0nm,0.2s,SNR=7.9						
ECAL	**Calabor**	**5.37**	**31**	P	**Pn**	**06 21 44.7**	**+0.1**
	2.1nm,0.2s,SNR=6.2						
ECAL				S	**Sn**	**06 22 43.6**	**-2.8**
	7.7nm,0.4s						
ECAL	**Calabor**	**5.37**	**31**	P	**Pn**	**06 21 44.7**	**+0.2**
	2.1nm,0.2s,SNR=6.2						
ERUA	**La Rua**	**5.61**	**25**	P	**Pn**	**06 21 47.3**	**-0.4**
	1.3nm,0.2s,SNR=7.9						
EMAZ	**Mazaricos**	**5.68**	**11**	P	**Pn**	**06 21 47.7**	**-1.1**
	1.0nm,0.1s,SNR=7.9						
EMAZ				S	**Sn**	**06 22 48.0**	**-6.0**
	2.4nm,0.1s,SNR=7.9						
EMAZ	**Mazaricos**	**5.68**	**11**	P	**Pn**	**06 21 47.7**	**-1.1**
EMAZ				S	**Sn**	**06 22 48.4**	**-5.7**
EPON	**Pontenova**	**6.45**	**22**	P	**Pn**	**06 21 58.5**	**-0.8**
	3.1nm,0.1s,SNR=7.9						
EPON				S	**Sn**	**06 23 08.4**	**-4.6**
	0.7nm,0.2s,SNR=7.9						
EARI	**Arriondas**	**7.13**	**32**	S	**Sn**	**06 23 26.4**	**-3.3**
	0.5nm,0.2s,SNR=7.9						

*IDC **23** 06:25:44.4±0.6, 191N×9699E, h0km, mb4.3/14, mb1 4.4/15, mb1mx4.4/17, mbtmp4.3/15, MS4.2/7, Ms1 4.3/7, ms1mx4.0/26, Error ellipse: s-maj=21.0km s-min=17.2km az=84.0*
*MOS **23** 06:25:47.4±1.0, 189N×9698E, h33km, mb4.9/23, Error ellipse: s-maj=15.0km s-min=7.2km az=101.8*
*DJA **23** 06:25:48.9±0.8, 2N±7×97E±, h30km, Mjma4.4/5, MLv4.8/5*
*BJI **23** 06:25:48.1, 145N×9684E, h73km, mB5.1, mb4.7, Ms4.6, Msz4.5*
*ISCJB **23** 06:25:48.0±0.4, 193N±005×9684E±005, h33km, mb4.8/57, MS4.4/14, Error ellipse: s-maj=9.0km s-min=5.6km az=43.4*
*NEIC **23** 06:25:49.5±0.3, 184N×9705E, h35km, mb5.0/22, Error ellipse: s-maj=10.7km s-min=6.3km az=59.0*

ISC 23 06:25:50.4±0.4, 194N±005×9687E±005, h35km, n112, σ1§09/109, mb4.8/57, MS4.4/14, 2C-3D, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TRSI	**Tarutung**	**2.09**	**88**	P	**Pn**	**06 26 31.8**	**+8.9**
TSI	**Tuntungan**	**2.29**	**47**	P	**Pn**	**06 26 26.4**	**+0.7**
TSI	**Tuntungan**	**2.29**	**47**	P	**Pn**	**06 26 26.0**	**+0.3**
BSI	**Banda Aceh**	**3.87**	**336**	P	**Pn**	**06 26 45.9**	**-1.5**
BSI	**Banda Aceh**	**3.87**	**336**	P	**Pn**	**06 26 45.7**	**-1.7**
BSI	**Banda Aceh**	**3.87**	**336**	S	**Sn**	**06 27 30.2**	**-1.4**
PPI	**Padang Panjang**	**4.25**	**124**	P	**Pn**	**06 26 55.7**	**+3.0**
PPI	**Padang Panjang**	**4.25**	**124**	P	**Pn**	**06 26 52.1**	**-0.6**
PDSI	**Padang**	**4.57**	**128**	P	Px	06 27 10.5	
PDSI	**Padang**	**4.57**	**128**	P	**Pn**	**06 26 59.2**	**+2.1**
IPM	**Ipoh**	**4.85**	**59**	P	**Pn**	**06 27 00.9**	**-0.1**
MYKOM	**Kota Tinggi**	**6.97**	**91**	P	**Pn**	**06 27 32.0**	**+1.9**
STKI	**Sintang**	**14.72**	**97**	P	**Pn**	**06 29 24.0**	**+7.8**
	45nm,0.5s						
SBUM	**Sibu**	**15.34**	**88**	P	**Pn**	**06 29 25.4**	**+0.9**
CMAR	**Chiang Mai Arr**	**16.54**	**7**	Pn	**Pn**	**06 29 38.7**	**-1.0**
	baz=198,slow=12,SNR=19						
CMAR				LR	LR	06 37 37.0	
	comp=Z,1μm,18.1s,baz=188,slow=43						
QIZ	**Qiongzhong**	**21.21**	**36**	P	**P**	**06 30 36.3**	**+3.1**
QIZ				LR	LR		
	comp=N,1μm,15.7s,MS4.5						
QIZ				LR	LR		
	comp=E,812nm,15.1s,MS4.5						
QIZ				LR	LR		

comp=Z,2μm,13.7s,MS4.6
HYB Hyderabad 23.68 312 *i* P **P** **06 31 01.5 +2.4**
HYB Hyderabad 23.68 312 *e*P **P** **06 31 01.5 +2.4**
KMI Kunming 23.73 13 P **P** **06 30 59.5 0.0**
KMI PP 06 31 34.6
KMI S **S** **06 35 15.3 +2.9**
KMI AMB AMB
comp=Z,25nm,0.8s,mb4.7
KMI LR LR
comp=N,1μm,15.6s,MS4.5
KMI LR LR
comp=E,502nm,13.5s,MS4.5
KMI LR LR
comp=Z,1μm,14.9s,MS4.5
SHL Shillong 23.98 349 *e*P **P** **06 30 58.5 -3.2**
SHL *e*S **S** **06 35 15.5 -0.8**
ODAN Odare 26.39 341 *e*P **P** **06 31 24.4 +0.7**
comp=Z,78nm,0.9s,mb5.2
TAPN Taplejung 26.75 342 *e*P **P** **06 31 27.8 +0.9**
comp=Z,98nm,0.9s,mb5.3
RAMN Ramite 26.75 339 *e*P **P** **06 31 28.2 +1.3**
comp=Z,60nm,0.8s,mb5.2
JIRN Jiri 27.54 339 *e*P **P** **06 31 35.3 +1.3**
comp=Z,96nm,1.0s,mb5.4
PKI Pulchoki 27.75 338 *e*P **P** **06 31 36.6 +0.7**
comp=Z,13nm,0.5s,mb4.8
PKI Pulchoki 27.75 338 *e*P **P** **06 31 37.0 +1.1**
PKI pmax pmax
comp=Z,13nm,0.6s,mb4.7
PKI Pulchoki 27.75 338 *e*P **P** **06 31 37.0 +1.1**
comp=Z,13nm,0.6s,mb4.8
PKIN Phulchoki 27.76 338 *e*P **P** **06 31 37.0 +1.0**
comp=Z,13nm,0.6s,mb4.7
GUN Gumba 27.88 339 *e*P **P** **06 31 38.0 +1.0**
comp=Z,61nm,0.6s,mb5.4
DMN Daman 27.90 337 *e*P **P** **06 31 38.2 +1.0**
comp=Z,36nm,0.8s,mb5.1
KKN Kakani 27.99 338 *e*P **P** **06 31 38.7 +0.6**
comp=Z,44nm,0.9s,mb5.1
KKN Kakani 27.99 338 *e*P **P** **06 31 38.7 +0.6**
KKN pmax pmax
comp=Z,44nm,0.9s,mb5.1
LSA Lhasa 28.14 349 *e*P **P** **06 31 40.3 +1.0**
LSA pmax pmax
comp=Z,7.0nm,0.6s,mb4.5
LSA Lhasa 28.14 349 *e*P **P** **06 31 40.3 +1.0**
comp=Z,7.2nm,0.6s,mb4.5
GKN Gorkha 28.43 337 *e*P **P** **06 31 42.7 +0.7**
comp=Z,27nm,0.8s,mb5.0
KOLN Koldanda 28.65 335 *e*P **P** **06 31 44.7 +0.8**
comp=Z,22nm,0.6s,mb5.1
DANN Dangsing 29.09 336 *e*P **P** **06 31 48.6 +0.8**
comp=Z,82nm,1.2s,mb5.3
BATI Baumata 29.27 115 LR LR 06 46 18.1
comp=Z,888nm,18.7s,MS4.4,baz=271,slow=42
WHN Wuhan 32.92 28 ↓P **P** **06 32 21.3 -0.2**
WHN LR LR
comp=N,1μm,16.8s,MS4.8
WHN LR LR
comp=E,1μm,13.0s,MS4.8
WHN LR LR
comp=Z,2μm,16.5s,MS4.9
XAN Xi'an 33.86 18 P **P** **06 32 28.1 -1.6**
XAN AP pP 06 32 43.3 +3.5
XAN AMB AMB
comp=Z,22nm,0.7s,mb5.2
XAN AMB AMB
comp=Z,55nm,4.5s
XAN LR LR
comp=N,459nm,15.0s,MS4.5
XAN LR LR
comp=E,483nm,15.7s,MS4.5
XAN LR LR
comp=Z,1μm,14.3s,MS4.8
LZH Lanzhou 34.58 10 *e*P **P** **06 32 35.3 -0.6**
LZH *e*S **S** **06 37 55.0 -7.8**
LZH AMB AMB
comp=Z,31nm,1.6s,mb5.0
LZH AMB AMB
comp=Z,94nm,4.0s
LZH LR LR
comp=E,1μm,14.4s
LZH LR LR
comp=Z,2μm,15.4s,MS4.9
GTA Gaotai 37.39 4 *e*P **P** **06 32 59.3 -0.6**
GTA AMB AMB
comp=Z,9.0nm,0.9s,mb4.6
GTA AMB AMB
comp=Z,218nm,7.5s
GTA LR LR
comp=N,271nm,15.3s,MS4.4
GTA LR LR
comp=E,380nm,16.5s,MS4.4
GTA LR LR
comp=Z,253nm,17.4s,MS4.1
KAKA Kakadu 38.19 113 *e*P **P** **06 32 59.0 -8.0**
comp=Z,7.4nm,0.6s,mb4.6
KAKA Kakadu 38.19 113 P **P** **06 33 11.5 +4.5**
comp=Z,23nm,0.8s,mb5.0
KAKA Kakadu 38.19 113 *e*P **P** **06 33 01.9 -5.1**
comp=Z,13nm,0.6s,mb4.8
BJT Baijiatuau 41.76 22 *e*P **P** **06 33 36.9 +0.6**
BJT pmax pmax
comp=Z,38nm,0.7s
BJT Baijiatuau 41.76 22 *e*P **P** **06 33 36.9 +0.6**
comp=Z,38nm,0.7s,mb5.1
BJI Beijing 41.78 22 P **P** **06 33 36.1 -0.4**
BJI AMB AMB
comp=Z,56nm,0.7s,mb5.3
BJI AMB AMB
comp=Z,130nm,3.8s
BJI LR LR
comp=N,211nm,19.4s
BJI LR LR
comp=E,269nm,13.4s
BJI LR LR
comp=Z,159nm,26.0s
WMQ Urumqi 42.49 350 P **P** **06 33 39.0 -3.2**
DL2 Dalian 43.18 29 P **P** **06 33 47.4 -0.5**
DL2 AMB AMB
comp=Z,20nm,0.7s,mb5.0
ASAR Alice Springs 44.10 127 P **P** **06 33 53.6 -1.9**
comp=Z,1.3nm,0.7s,mb3.8,baz=302,slow=7.6,SNR=12
FRU Bishkek 45.31 337 *e*P **P** **06 34 05.0 +0.1**
FRU pmax pmax
comp=Z,36nm,2.0s,mb4.9
KSRS Korea Array 45.43 35 P **P** **06 34 04.6 -1.3**
comp=Z,11nm,0.9s,mb4.7,baz=223,slow=9.2,SNR=22
MK31 Makanchi Array 46.45 346 *i* P **P** **06 34 13.6 -0.2**
MK31 pmax pmax
comp=Z,6.0nm,0.6s,mb4.7
MK31 Makanchi Array 46.45 346 *e*P **P** **06 34 13.6 -0.2**
MKAR Makanchi Array 46.45 346 P **P** **06 34 13.8 0.0**
comp=Z,9.0nm,0.7s,mb4.8,baz=159,slow=7.3,SNR=82
MKAR LR LR 06 57 38.3
comp=Z,255nm,21.1s,MS4.2,baz=161,slow=41
MKAR Makanchi Array 46.45 346 P **P** **06 34 13.8 0.0**
SONM Songino Array 46.45 9 P **P** **06 34 13.6 -0.2**
comp=Z,7.9nm,0.8s,mb4.7,baz=189,slow=7.4,SNR=34
SONM PcP PcP 06 35 48.1 +0.1
comp=Z,2.3nm,0.7s,baz=180,slow=4.5,SNR=4.1
ULN Ulaanbaatar 46.59 9 *e*P **P** **06 34 14.9 +0.1**
ULN pmax pmax
comp=Z,8.0nm,0.9s,mb4.7
ULN Ulaanbaatar 46.59 9 *e*P **P** **06 34 14.9 0.0**
comp=Z,8.4nm,0.9s,mb4.7
KK31 Karatay Array 47.25 334 *i* P **P** **06 34 20.8 +0.7**
KK31 pmax pmax
comp=Z,2.0nm,0.5s,mb4.3
ZAK Zakamensk 48.57 5 *e*P **P** **06 34 30.8 +0.6**
ZAK pmax pmax
comp=Z,6.0nm,1.6s,mb4.4
TLY Talaya 49.89 6 *e*P **P** **06 34 41.5 +1.2**
TLY *e*S **S** **06 41 50.1 +2.2**
TLY *e*SSS 06 46 47.0
TLY pmax pmax
comp=Z,7.0nm,0.8s,mb4.7
TLY MLR MLR
comp=Z,569nm,17.0s,MS4.6
KURK Kurchatov 51.00 345 LR LR 07 00 03.7
comp=Z,147nm,20.6s,MS4.0,baz=155,slow=40
KURK Kurchatov 51.00 345 ↑*e*P **P** **06 34 48.4 -0.3**
KURK pmax pmax
comp=Z,9.0nm,0.9s,mb4.7
MAJO Matsushiro 51.37 43 *e*P **P** **06 34 51.8 +0.1**
MAJO pmax pmax
comp=Z,8.0nm,0.8s,mb4.7

MAJO Matsushiro 51.37 43 *e*P P 06 34 51.8 +0.1
comp=Z,7.7nm,0.8s,mb4.7
MJAR Matsushiro Arr 51.37 43 P P 06 34 50.6 -1.1
comp=Z,5.2nm,0.8s,mb4.5,baz=210,slow=6.2,SNR=13
ZAA0 Zalesovo Array 52.78 351 *e*P P 06 35 01.8 -0.1
ZALV Zalesovo Beam 52.78 351 P P 06 35 01.9 0.0
comp=Z,48nm,0.7s,mb5.5,baz=180,slow=6.6,SNR=144
ZALV LR LR 07 03 10.4
comp=Z,116nm,19.2s,MS3.9,baz=358,slow=42
CTA Charters Tower 53.12 117 *e*P P 06 35 03.8 -1.2
comp=Z,5.3nm,1.0s,mb4.4
CTA Charters Tower 53.12 117 *e*P P 06 35 03.8 -1.2
CTA pmax pmax
comp=Z,5.0nm,1.0s
CTAO Charters Tower 53.12 117 *e*P P 06 35 03.1 -1.9
CTAO pmax pmax
comp=Z,8.0nm,1.0s,mb4.6
CTAO Charters Tower 53.12 117 *e*P P 06 35 03.1 -2.0
comp=Z,7.8nm,1.0s,mb4.6
NVS Novosibirsk 53.90 350⇑ *i*P P 06 35 09.3 -0.8
NVS *e*S S 06 42 33.1 -10
NVS pmax pmax
comp=N,14nm,0.8s
NVS pmax pmax
comp=Z,17nm,0.8s,mb5.0
NVS pmax pmax
comp=E,8.0nm,0.7s
NVS smax
comp=E,18nm,1.5s
STKA Stephens Creek 54.09 132 *e*P P 06 35 10.8 -1.2
comp=E,3.8nm,0.8s,mb4.4
STKA Stephens Creek 54.09 132 P P 06 35 10.8 -1.2
comp=E,2.4nm,0.7s,mb4.2,baz=278,slow=11,SNR=4.0
STKA Stephens Creek 54.09 132 *e*P P 06 35 10.7 -1.2
comp=E,4.3nm,0.7s,mb4.5
VOSK Vostochnaya 55.00 341 P P 06 35 18.3 +0.2
VOSK pmax pmax
comp=Z,12nm,0.8s,mb5.0
BVA0 Borovoye Array 55.45 341 *i* P P 06 35 20.6 -0.8
BVA0 pmax pmax
comp=Z,2.0nm,0.7s,mb4.3
AB31 Akbulak array 56.71 332 *i* P P 06 35 29.9 -0.6
AB31 pmax pmax
comp=Z,12nm,0.8s,mb5.0
BOD Bodaibo 57.34 11 *e*P P 06 35 34.4 -0.4
BOD *e* pP 06 35 42.4 -3.0
BOD pmax pmax
comp=Z,12nm,0.8s,mb5.0
AKTO Aktyubinsk 58.43 332 *i* P P 06 35 41.8 -0.7
AKTO pmax pmax
comp=Z,1.0nm,1.0s,mb3.8
KMBO Kilima Mbogo 59.69 268 P P 06 35 53.4 +1.4
comp=Z,1.3nm,0.6s,mb4.1,baz=68,slow=13,SNR=6.2
KMBO LR LR 06 58 12.0
comp=Z,189nm,19.4s,MS4.2,baz=278,slow=33
KMBO Kilima Mbogo 59.69 268 *e*P P 06 35 52.8 +0.8
KMBO pmax pmax
comp=Z,3.0nm,0.9s
KMBO Kilima Mbogo 59.69 268 *e*P P 06 35 52.8 +0.8
comp=Z,3.2nm,0.9s,mb4.3
MAK Makhachkala 59.96 320 P P 06 35 56.0 +2.7
MAK *e* 06 38 09.7
GNI Garni 60.54 316⇓ *e*P P 06 36 00.6 +3.3
GNI pmax pmax
comp=Z,8.0nm,0.9s
SVE Sverdlovsk 61.88 338 *e*P P 06 36 05.5 -0.6
SVE pmax pmax
comp=Z,14nm,0.9s,mb5.1
ARU Arti 62.38 337 *d i*P P 06 36 08.7 -0.7
ARU *e* 06 38 23.1
ARU *e*S S 06 44 28.7 -4.9
ARU pmax pmax
comp=Z,4.0nm,0.7s,mb4.7
KIV Kislovodsk 63.54 319 *e*P P 06 36 16.4 -1.0
KIV pmax pmax
comp=Z,11nm,1.2s,mb4.8
YAK Yakutsk 64.80 16 *e*P P 06 36 24.3 -1.0
YAK *e* pP 06 36 32.8 -3.3
YAK pmax pmax
comp=Z,40nm,0.9s,mb5.5
YAK pmax pmax
comp=E,6.0nm,0.8s
YAK pmax pmax
comp=N,7.0nm,1.0s
YAK Yakutsk 64.80 16 *e*P P 06 36 24.6 -0.7
comp=N,44nm,0.7s,mb5.6
PETK Petropavlovsk- 71.30 34 P P 06 37 05.5 -0.9
comp=N,4.4nm,0.8s,mb4.5,baz=207,slow=1.0,SNR=4.4
OBN Obninsk 71.82 328 P pP 06 37 18.0 -2.3
OBN PS 06 47 10.0
OBN MLR MLR
comp=Z,100nm,23.0s,MS4.0
TIXI Tiksi 72.52 10 *e*P P 06 37 10.3 -3.0
TIXI pmax pmax
comp=Z,12nm,1.3s,mb4.7
MAW Mawson 73.36 193 P P 06 37 18.4 +0.1
comp=Z,1.4nm,0.8s,mb4.0,baz=32,slow=9.5,SNR=4.9
MAW Mawson 73.36 193 *e*P P 06 37 17.3 -1.0
MAW pmax pmax
comp=Z,1.0nm,0.7s
MAW Mawson 73.36 193 *e*P P 06 37 17.3 -0.9
comp=Z,1.2nm,0.7s,mb3.9
AKASG Malin Array Be 74.47 322 P P 06 37 24.3 -0.9
comp=Z,1.5nm,0.6s,mb4.1,baz=89,slow=5.2,SNR=6.1
BOSA Boshof 74.87 240 P P 06 37 27.0 -0.9
comp=Z,3.5nm,1.0s,mb4.3,baz=123,slow=4.3,SNR=2.7
BOSA LR LR 07 09 24.8
comp=Z,301nm,18.3s,MS4.6,baz=170,slow=35
BOSA Boshof 74.87 240 P P 06 37 27.0 -0.9
ARCES ARCESS Array B 81.73 340 P P 06 38 05.2 +0.2
comp=Z,6.4nm,0.9s,mb4.5,baz=99,slow=5.6,SNR=8.6
GERES GERESS Array B 84.05 319 P P 06 38 17.6 +0.1
comp=Z,1.8nm,0.8s,mb4.3,baz=103,slow=6.0,SNR=8.4
NB2 NORSAR Subarra 86.20 331 P P 06 38 27.6 -0.4
comp=Z,1.1nm,0.7s,mb4.2,baz=96,slow=4.8
NOA NORSAR Array B 86.20 331 P P 06 38 27.8 -0.2
comp=Z,1.3nm,0.8s,mb4.2,baz=94,slow=5.2,SNR=4.7
TORD Torodi Ar. Bea 94.61 283 P P 06 39 16.4 +8.0
comp=Z,0.8nm,0.8s,mb4.2,baz=103,slow=5.0,SNR=5.0
NVAR Mina Array Bea 128.37 35 PKP PKPdf 06 44 53.2 -0.7
comp=Z,0.3nm,0.7s,baz=48,slow=1.3,SNR=3.1
PDAR Pinedale Array 129.51 25 PKP PKPdf 06 44 55.5 -0.4
comp=Z,0.4nm,0.7s,baz=267,slow=3.0,SNR=3.8
BDFB Brasilia 142.82 246 PKP PKPdf 06 45 21.3 +0.1
comp=Z,1.4nm,0.8s,baz=140,slow=14,SNR=2.7
TXAR Lajitas Array 143.21 31 PKP PKPdf 06 45 19.3 -2.3
comp=Z,0.5nm,0.8s,baz=212,slow=2.1,SNR=6.5
JCT Junction City 144.05 25 *e*PKIKP PKPdf 06 45 19.7 -3.4

MOS ***23*** *06:41:44.6±0.8, 6.17S×154.73E, h43km, mb5.6/41, MS4.3/6, Error ellipse: s-maj=8.8km s-min=7.3km az=69.1*
ISCJB ***23*** *06:41:46.7±0.1, 6.31S±0.03×154.71E±0.02, h61km, mb5.5/117, Error ellipse: s-maj=4.3km s-min=3.0km az=170.7*
BJI ***23*** *06:41:47.8, 5.95S×154.99E, h74km, mB5.4, mb5.3, Ms4.9, Msz4.5*
IDC ***23*** *06:41:48.1±1.1, 6.33S×154.80E, h66km±8km, mb5.2/19, mb1 5.2/21, mb1mx5.2/22, mbtmp5.2/21, MS4.4/13, Ms1 4.4/13, ms1mx4.4/14, Error ellipse: s-maj=11.5km s-min=9.0km az=52.0*
NEIC ***23*** *06:41:50.0±0.8, 6.35S×154.76E, h83km±7km, mb5.3/71, Error ellipse: s-maj=4.8km s-min=4.2km az=153.0*
GCMT ***23*** *06:41:50.0±0.1, 6.51S×154.80E, h51km, MW5.3/93, Moment Tensor Solution. s93,c146; s85,c128; Duration: 1s1 Moment tensor: Scale 10^17Nm; Mrr1.15±.02; Mθθ-0.64±.01; Mφφ-0.50±.02; Mrθ-0.03±.01; Mθφ0.66±.01; Mφr-0.02±.01; Best double couple: Mo1.19400×10^17 NP1:φs134.00000°, δ45.00000°, λ93.00000°. NP2:φs310.00000°, δ45.00000°, λ87.00000°. Principal axes: T 1.1510, Plg88.0000°, Azm140.0000°; N 0.0870, Plg2.0000°, Azm312.0000°; P -1.2370, Plg0.0000°, Azm42.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
DJA ***23*** *06:41:51, 6.40S×154.80E, h85km, Mw5.6/10*
ISC 23 06:41:48.3±0.1, 6.33S±0.03×154.76E±0.02, h63km, h63km±2.4km: pP-P, n699, σ0s70/603, mb5.5/117, 185C-180D, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**5.99**	**121**	P	**Pn**	**06 43 14.7**	**+0.3**
	75nm,0.3s,baz=220,slow=1.5,SNR=50						
HNR				S	**Sn**	**06 44 22.0**	**+0.4**
	65nm,0.3s,baz=210,slow=21,SNR=2.5						
HNR	**Honiara**	**5.99**	**121**	P	**Pn**	**06 43 14.7**	**+0.3**
HNR				S	**Sn**	**06 44 22.0**	**+0.4**
HNR				pmax	pmax		
	comp=Z,75nm,0.3s						
HNR				smax			
	comp=N,65nm,0.3s						
HNR	**Honiara**	**5.99**	**121**	*e*Pn	**Pn**	**06 43 14.2**	**-0.2**
	comp=N,2μm,0.8s						
HNR				*e*Sn	**Sn**	**06 44 21.8**	**+0.2**
PMG	**Port Moresby**	**8.13**	**247**⇑	*e*P	**Pn**	**06 43 45.7**	**+2.0**
PMG	**Port Moresby**	**8.13**	**247**	*e*Pn	**Pn**	**06 43 44.7**	**+1.0**
PMG				*e*Sn	**Sn**	**06 45 18.1**	**+4.0**
COEN	**Coen**	**13.69**	**236**	*e*Pn	**Pn**	**06 44 59.9**	**+0.4**
	comp=N,42nm,1.1s						
CTA	**Charters Tower**	**15.98**	**210**	*e*P	**Pn**	**06 45 30.2**	**+1.0**
	comp=N,22nm,0.7s						
CTA				*e*S	**S**	**06 48 33.9**	**-2.3**
CTA	**Charters Tower**	**15.98**	**210**	P	**Pn**	**06 45 30.1**	**+0.8**
	comp=N,1.2nm,0.3s,baz=46,slow=14,SNR=16						
CTA				S	**S**	**06 48 27.7**	**-8.5**
	comp=N,0.1nm,0.3s,baz=337,slow=6.3,SNR=1.7						
CTA				LR	LR	06 50 45.5	
	comp=N,3μm,21.7s,baz=27,slow=34						
CTA	**Charters Tower**	**15.98**	**210**	*e*P	**Pn**	**06 45 30.2**	**+1.0**
CTA				*e*S	**S**	**06 48 33.9**	**-2.3**
CTA				pmax	pmax		
	comp=Z,22nm,0.7s						
CTAO	**Charters Tower**	**15.98**	**210**	*e*P	**Pn**	**06 45 30.1**	**+0.9**
NOUC	**Port Laguerre**	**19.24**	**146**	*e*P	**Pn**	**06 46 06.7**	**-2.4**
EIDS	**Eidsvold**	**19.25**	**190**	*e*P	**Pn**	**06 46 08.6**	**-0.7**
	comp=Z,181nm,1.0s						
DZM	**Mont Dzumac**	**19.29**	**145**	*e*P	**Pn**	**06 46 07.4**	**-2.3**
PLUM	**Mont Dore**	**19.56**	**145**	*e*P	**Pn**	**06 46 11.0**	**-2.0**
GUMO	**Guam**	**22.10**	**334**	P	**P**	**06 46 38.1**	**-0.3**
	comp=Z,137nm,0.9s,mb5.4,baz=206,slow=5.6,SNR=7.5						
GUMO				LR	LR	06 54 22.4	
	comp=Z,615nm,21.4s,baz=156,slow=34						
GUMO	**Guam**	**22.10**	**334**	P	**P**	**06 46 38.1**	**-0.4**
GUMO				pmax	pmax		
	comp=Z,137nm,0.9s,mb5.4						
GUMO				MLR	MLR		
	comp=Z,615nm,21.4s						
GUMO	**Guam**	**22.10**	**334**	*e*P	**P**	**06 46 37.5**	**-1.0**
	comp=Z,167nm,1.0s,mb5.4						
GUMO				LR	LR	06 54 22.4	
KAKA	**Kakadu**	**22.90**	**252**	*e*P	**P**	**06 46 42.6**	**-4.4**
	comp=Z,40nm,0.6s,mb5.0						
KAKA				*e*PCP	PcP	06 50 31.1	-4.8
KAKA				*e*S	**S**	**06 50 50.7**	**-1.6**
KAKA	**Kakadu**	**22.90**	**252**	*e*P	**P**	**06 46 42.3**	**-4.7**
	comp=Z,84nm,0.6s,mb5.3						
KAKA				*e*PcP	PcP	06 50 31.1	-4.8
KAKA				*e*S	**S**	**06 50 50.7**	**-1.6**
WRAB	**Tennant Creek**	**24.00**	**234**	P	**P**	**06 46 58.0**	**+0.7**
	comp=Z,789nm,0.7s,mb6.2,SNR=64						
WRAB	**Tennant Creek**	**24.00**	**234**	*e i*P	**P**	**06 46 58.2**	**+0.9**
ARMA	**Armidale**	**24.14**	**187**	*e*P	**P**	**06 46 58.7**	**+0.2**
ASAR	**Alice Springs**	**26.45**	**227**	P	**P**	**06 47 19.8**	**+0.3**
	comp=Z,23nm,0.8s,mb4.8,baz=60,slow=8.7,SNR=121						
ASAR				PcP	PcP	06 50 42.9	-0.7
	comp=Z,24nm,0.8s,baz=57,slow=2.6,SNR=19						
ASAR				S	**S**	**06 51 48.7**	**-0.3**
	comp=Z,1.6nm,1.0s,baz=42,slow=19,SNR=3.2						
ASAR	**Alice Springs**	**26.45**	**227**	P	**P**	**06 47 19.8**	**+0.3**
ASAR						06 50 42.9	
ASAR				S	**S**	**06 51 48.7**	**-0.2**
ASAR				pmax	pmax		
	comp=Z,23nm,0.8s						
ASAR				smax			
	comp=N,2.0nm,1.0s						
STKA	**Stephens Creek**	**28.24**	**204**	*e*P	**P**	**06 47 34.7**	**-0.8**
	comp=N,15nm,0.6s,mb4.8						
STKA				*e*PCP	PcP	06 50 47.1	-0.6
STKA				*e*S	**S**	**06 52 15.1**	**-1.9**
STKA	**Stephens Creek**	**28.24**	**204**	P	**P**	**06 47 35.1**	**-0.4**
	comp=N,12nm,0.7s,mb4.6,baz=9.8,slow=11,SNR=17						
STKA				PcP	PcP	06 50 47.3	-0.4
	comp=N,21nm,0.8s,baz=11,slow=2.7,SNR=9.4						
STKA				ScP	ScP	06 54 24.7	+1.2
	comp=N,6.2nm,1.1s,baz=21,slow=6.6,SNR=3.9						
STKA				LR	LR	06 59 02.7	
	comp=N,2μm,19.3s,baz=12,slow=37						
CNB	**Canberra Magne**	**29.27**	**189**	*e*P	**P**	**06 47 45.1**	**+0.5**
CNB				*e*PCP	PcP	06 50 58.4	+8.2
CNB				*e*S	**S**	**06 52 29.0**	**-4.1**
BATI	**Baumata**	**31.01**	**261**	P	**P**	**06 47 59.8**	**-0.5**
	comp=N,15nm,0.3s,mb5.3,baz=232,slow=2.9,SNR=7.6						
TOO	**Toolangi**	**32.22**	**194**	*e*P	**P**	**06 48 10.9**	**+0.3**
TOO				*e*PCP	PcP	06 50 57.7	-0.3
AFI	**Afiamalu**	**33.76**	**106**	P	**P**	**06 48 21.7**	**-2.6**
	comp=N,46nm,0.8s,mb5.4,baz=96,slow=20,SNR=5.2						
AFI	**Afiamalu**	**33.76**	**106**	P	**P**	**06 48 21.7**	**-2.6**
AFI				pmax	pmax		
	comp=Z,46nm,0.8s,mb5.5						
WSI	**Waingapu**	**34.28**	**262**⇓	*e*P	**P**	**06 48 29.8**	**+0.9**
WSI				*e*S	PP	06 49 51.0	+3.5
RAO	**Raoul Island**	**34.41**	**135**	LR	LR	06 58 21.4	
	comp=Z,183nm,21.9s,baz=295,slow=29						
KAPI	**Kappang**	**34.86**	**270**	P	**P**	**06 48 33.1**	**-0.8**
	comp=Z,17nm,0.8s,mb5.0,baz=109,slow=6.3,SNR=9.3						
KAPI				PcP	PcP	06 51 05.1	-0.9
	comp=Z,11nm,0.9s,baz=177,slow=11,SNR=2.9						
FORT	**Forrest**	**34.91**	**223**	*e*P	**P**	**06 48 43.7**	**+10**
	comp=Z,92nm,0.5s,mb6.0						
FORT				*e*PCP	PcP	06 51 05.7	0.0
FORT	**Forrest**	**34.91**	**223**	*e*P	**P**	**06 48 34.0**	**-0.1**
	comp=Z,17nm,0.6s,mb5.1						
FORT				*e*		06 48 43.5	
FORT				*e*PcP	PcP	06 51 04.6	-1.1
FORT				*e*PcP	PcP	06 51 05.7	0.0
MBWA	**Marble Bar**	**36.97**	**243**	*e*P	**P**	**06 48 51.7**	**-0.1**
	comp=Z,44nm,0.8s,mb5.3						
MBWA				*e*		06 48 59.2	
MBWA				*e*PcP	PcP	06 51 11.6	-0.4
URZ	**Urewera**	**37.69**	**151**	P	**P**	**06 48 57.3**	**-0.4**
	comp=Z,84nm,0.9s,mb5.5,baz=35,slow=4.2,SNR=22						
URZ				S	**S**	**06 54 42.0**	**-1.5**
	comp=Z,16nm,1.2s,baz=316,slow=23,SNR=2.7						
MYLDM	**Lahad Datu**	**37.97**	**287**	⇓P	**P**	**06 49 02.9**	**+2.6**
TSM	**Tawau**	**38.31**	**285**	⇓P	**P**	**06 49 05.1**	**+1.8**
SDKM	**Sandakan**	**39.34**	**287**	⇓P	**P**	**06 49 11.9**	**0.0**
RPZ	**Rata Peaks**	**39.89**	**162**	P	**P**	**06 49 15.6**	**-0.4**
	comp=Z,62nm,0.7s,mb5.4,baz=340,slow=3.0,SNR=18						
KKM	**Kota Kinabalu**	**40.39**	**287**	⇑P	**P**	**06 49 21.8**	**+1.2**
BTM	**Bintulu**	**42.68**	**282**	⇓P	**P**	**06 49 40.9**	**+1.5**
KLBR	**Kellerberrin**	**42.74**	**229**	*e*P	**P**	**06 49 38.8**	**-0.8**
	comp=Z,80nm,0.9s,mb5.5						
KLBR				*e*pP	pP	06 49 54.7	-0.8
KLBR				*e*PCP	PcP	06 51 29.9	-0.4
SBUM	**Sibu**	**43.36**	**280**	⇓P	**P**	**06 49 46.9**	**+2.0**
NWAO	**Narrogin (SRO)**	**43.76**	**228**	*e*P	**P**	**06 49 47.8**	**0.0**
NWAO				*e*		06 51 33.1	
NWAO				pmax	pmax		
	comp=Z,45nm,1.1s						
NWAO	**Narrogin (SRO)**	**43.76**	**228**	*e*P	**P**	**06 49 47.8**	**-0.1**
	comp=Z,45nm,1.1s,mb5.1						
NWAO				*e*PcP	PcP	06 51 33.0	-0.6
MUN	**Mundaring**	**44.08**	**230**	*e*P	**P**	**06 49 50.5**	**+0.1**
MUN				*e*PCP	PcP	06 51 34.5	-0.3
KSM	**Kuching**	**45.05**	**278**	⇑P	**P**	**06 50 00.0**	**+1.6**
MJAR	**Matsushiro Arr**	**45.38**	**341**	P	**P**	**06 49 58.8**	**-1.8**
	comp=Z,3.8nm,0.8s,mb4.3,baz=164,slow=9.1,SNR=9.6						
MJAR				PcP	PcP	06 51 37.9	-1.2
	comp=Z,6.1nm,0.9s,baz=166,slow=3.6,SNR=6.1						
MJAR	**Matsushiro Arr**	**45.38**	**341**	P	**P**	**06 49 58.8**	**-1.8**
MJAR						06 51 37.9	
MJAR				pmax	pmax		
	comp=Z,4.0nm,0.8s						
MAJO	**Matsushiro**	**45.38**	**341**	*e*P	**P**	**06 49 58.3**	**-2.3**
MAJO				pmax	pmax		
	comp=Z,10.0nm,0.8s,mb4.7						
MAJO	**Matsushiro**	**45.38**	**341**	*e*P	**P**	**06 49 58.3**	**-2.4**
	comp=Z,9.6nm,0.8s,mb4.7						
MAT	**Matsushiro**	**45.38**	**341**	P	**P**	**06 49 58.7**	**-1.9**
RAR	**Rarotonga**	**46.38**	**113**	P	**P**	**06 50 06.8**	**-1.9**
	comp=Z,42nm,0.8s,mb5.4,baz=268,slow=12,SNR=4.6						
QZH	**Quanzhou**	**46.96**	**313**	⇓ *i*P	**P**	**06 50 14.3**	**+1.1**
QZH				AMB	AMB		
	comp=Z,240nm,1.1s,mb6.0						
XMIS	**Christmas Isla**	**48.72**	**262**	*e*P	**P**	**06 50 27.5**	**+0.5**
KSRS	**Korea Array**	**50.25**	**332**	P	**P**	**06 50 37.5**	**-0.7**
	comp=Z,25nm,0.9s,mb5.3,baz=149,slow=8.5,SNR=68						
KSRS				LR	LR	07 10 10.3	
	comp=Z,157nm,19.2s,baz=152,slow=34						
KS15	**Wonju Array Si**	**50.26**	**332**	*e*P	**P**	**06 50 37.9**	**-0.4**
INCN	**Inchon**	**50.88**	**331**	*e*P	**P**	**06 50 42.8**	**-0.2**
	comp=Z,68nm,0.8s,mb5.6						
QIZ	**Qiongzhong**	**50.93**	**301**	P	**P**	**06 50 44.3**	**+0.6**
QIZ				AP	pP	06 50 58.8	-1.2
QIZ				S	**S**	**06 57 55.5**	**-0.6**
QIZ				AMB	AMB		
	comp=Z,56nm,1.2s,mb5.4						
QIZ				AMB	AMB		
	comp=Z,218nm,6.9s						
QIZ				LR	LR		
	comp=E,331nm,21.3s						
QIZ				LR	LR		
	comp=Z,531nm,35.8s						
QIZ	**Qiongzhong**	**50.93**	**301**	*e*P	**P**	**06 50 45.2**	**+1.5**
	comp=Z,36nm,0.6s,mb5.5						
NJ2	**Nanjing**	**51.26**	**320**	*e*P	**P**	**06 50 46.6**	**+0.6**
NJ2				AP	pP	06 51 02.0	-0.3
NJ2				XP	sP	06 51 10.8	+1.4
NJ2				PP	PP	06 52 43.3	-0.2
NJ2				S	**S**	**06 57 57.0**	**-3.3**
NJ2				AMB	AMB		
	comp=Z,40nm,1.0s,mb5.3						
NJ2				AMB	AMB		
	comp=Z,340nm,5.1s						
NJ2				LR	LR		
	comp=N,150nm,22.6s						
NJ2				LR	LR		
	comp=E,190nm,21.8s						
NJ2				LR	LR		
	comp=Z,240nm,29.7s						
MYKOM	**Kota Tinggi**	**51.47**	**277**	⇓P	**P**	**06 50 48.5**	**+0.7**
KGM	**Kluang**	**52.03**	**278**	⇓P	**P**	**06 50 53.0**	**+1.0**
KTGM	**Kuala Trenggan**	**52.82**	**282**	⇑P	**P**	**06 50 58.7**	**+0.8**
WHN	**Wuhan**	**53.31**	**316**	⇓P	**P**	**06 51 01.8**	**+0.6**
WHN				LR	LR		
	comp=Z,1μm,33.9s						
FRIM	**Kepong**	**53.90**	**279**	⇓P	**P**	**06 51 06.1**	**+0.2**
IPM	**Ipoh**	**54.72**	**280**	⇓P	**P**	**06 51 12.1**	**+0.4**
KULM	**Kulim**	**55.24**	**281**	⇑P	**P**	**06 51 15.8**	**+0.3**
POHA	**Pohakuloa**	**55.34**	**61**	*e*P	**P**	**06 51 16.8**	**+0.6**
	comp=Z,126nm,0.9s,mb6.0						
PPT	**Papeete**	**55.41**	**107**	*e*S	**S**	**06 59 02.7**	**+5.6**
	comp=Z,246nm,25.8s						
PPT				*e*LQ		07 05 32.1	
	comp=Z,714nm,25.2s						
PPT				*e*LR	LR	07 07 47.9	
	comp=Z,618nm,26.8s						
PPT	**Papeete**	**55.41**	**107**	LR	LR	07 09 53.8	
	comp=Z,305nm,20.2s,baz=9.2,slow=30						
MDJ	**Mudanjiang**	**55.54**	**338**	P	**P**	**06 51 16.5**	**-0.6**
MDJ				AMB	AMB		
	comp=Z,29nm,1.1s,mb5.2						
MDJ				AMB	AMB		
	comp=Z,221nm,5.8s						
MDJ	**Mudanjiang**	**55.54**	**338**	*e*P	**P**	**06 51 16.6**	**-0.5**
	comp=Z,14nm,0.8s,mb5.0						
TBI	**Tubuai**	**56.15**	**114**	*e*S	**S**	**06 59 16.5**	**+10**
	comp=Z,229nm,28.5s						
TBI				*e*LQ		07 05 45.0	
	comp=Z,411nm,41.2s						
TBI				*e*LR	LR	07 08 14.8	
	comp=Z,2μm,29.2s,baz=288						
CN2	**Changchun**	**56.50**	**335**	*e*P	**P**	**06 51 22.9**	**-1.1**
CN2				PCP	PcP	06 52 18.6	-1.5
CN2				*e*PP	PP	06 53 31.3	+0.9
CN2				*e*S	**S**	**06 59 09.8**	**-0.8**
CN2				AMB	AMB		
	comp=Z,30nm,0.9s,mb5.3						
CN2				AMB	AMB		
	comp=Z,200nm,4.0s						
CN2				LR	LR		
	comp=N,700nm,22.0s						
CN2				LR	LR		
	comp=E,400nm,22.0s						
CN2				LR	LR		
	comp=Z,400nm,23.0s						
GYA	**Guiyang**	**56.87**	**307**⇓	*i*P	**P**	**06 51 28.6**	**+1.6**
GYA				AP	pP	06 51 46.3	+2.8
GYA				XP	sP	06 51 54.3	+3.7
GYA				PCP	PcP	06 52 23.8	+1.8
GYA				SCP	ScP	06 56 15.0	-1.3
GYA				S	**S**	**06 59 16.4**	**+0.2**
GYA				XS	sS	06 59 45.8	+1.6
GYA				SS	SS	07 03 06.9	+1.4
GYA				AMB	AMB		
	comp=Z,30nm,1.0s,mb5.3						
GYA				AMB	AMB		
	comp=Z,140nm,6.6s						
GYA				LR	LR		
	comp=N,740nm,19.2s						
GYA				LR	LR		
	comp=E,630nm,17.9s						
GYA				LR	LR		
	comp=Z,820nm,18.4s						
BJI	**Beijing**	**58.25**	**326**	P	**P**	**06 51 34.9**	**-1.5**
BJI				AMB	AMB		
	comp=Z,19nm,0.8s,mb5.2						
NST	**Nakhon Sawan**	**58.34**	**293**	P	**P**	**06 51 38.7**	**+1.2**
KLR	**Kul'dur**	**58.87**	**343**	*e*P	**P**	**06 51 36.0**	**-4.5**
KLR				pmax	pmax		
	comp=E,34nm,1.6s						
KLR				pmax	pmax		
	comp=Z,90nm,1.6s,mb5.5						
XAN	**Xi'an**	**59.07**	**316**	P	**P**	**06 51 41.5**	**-0.7**
XAN				PP	PP	06 53 54.6	+1.1
XAN				S	**S**	**06 59 41.0**	**-3.7**
XAN				SS	SS	07 03 35.9	-4.0
XAN				AMB	AMB		
	comp=Z,46nm,0.8s,mb5.6						
XAN				LR	LR		
	comp=N,60nm,22.1s						
XAN				LR	LR		
	comp=E,238nm,22.6s						
XAN				LR	LR		
	comp=Z,514nm,23.6s						
PET	**Petropavlovsk**	**59.22**	**3**	*e*P	**P**	**06 51 42.4**	**-0.4**
PET				*e*PP	pP	06 52 03.4	+3.9
PET				*e*		06 52 28.8	
PET				*e*S	**S**	**06 59 42.6**	**-3.3**
PET				pmax	pmax		
	comp=Z,139nm,0.7s,mb6.1						
PET				pmax	pmax		
	comp=Z,200nm,8.1s						
PET	**Petropavlovsk**	**59.22**	**3**	*e*P	**P**	**06 51 43.0**	**+0.1**
	comp=Z,102nm,0.7s,mb6.0						
PEA0B	**Petropavlovsk-**	**59.27**	**2**	*e*P	**P**	**06 51 43.8**	**+0.7**
PETK	**Petropavlovsk-**	**59.27**	**2**	P	**P**	**06 51 43.6**	**+0.5**
	comp=Z,83nm,0.7s,mb5.9,baz=161,slow=7.0,SNR=38						
PETK				LR	LR	07 12 35.1	
	comp=Z,674nm,20.4s,baz=190,slow=31						
KMI	**Kunming**	**59.46**	**304**	P	**P**	**06 51 46.1**	**+1.0**
KMI				S	**S**	**06 59 51.6**	**+1.6**
KMI				SS	SS	07 03 49.3	+3.1
KMI				AMB	AMB		
	comp=Z,104nm,1.0s,mb5.8						
KMI				LR	LR		
	comp=N,146nm,19.2s						
KMI				LR	LR		
	comp=E,292nm,21.3s						
KMI				LR	LR		
	comp=Z,503nm,25.3s						
BDT	**Bhumibol Dam**	**59.86**	**294**	P	**P**	**06 51 49.0**	**+1.1**
	comp=Z,29nm,0.8s,mb5.4						
CHRT	**Chiangrai**	**60.01**	**297**	⇑P	**P**	**06 51 50.0**	**+1.0**
	comp=Z,790nm,0.9s						
CM31	**Chiang Mai Arr**	**60.29**	**295**	*e*P	**P**	**06 51 52.0**	**+1.1**
	comp=Z,158nm,0.7s,mb6.2						
CMAR	**Chiang Mai Arr**	**60.29**	**295**	P	**P**	**06 51 52.1**	**+1.2**

CD2 **Chengdu** 61.21 310⇑ *i*P P 06 51 56.9 0.0
CD2 AP pP 06 52 13.0 -0.7
CD2 XP sP 06 52 20.0 -0.7
CD2 PCP PcP 06 52 38.3 -0.8
CD2 PP PP 06 54 14.8 +2.3
CD2 PCS PcS 06 56 39.8 -2.3
CD2 S **S** **07 00 11.5 -0.8**
CD2 SCS ScS 07 01 39.0 -4.0
CD2 AMB AMB
comp=Z,100nm,0.6s,mb6.1
CD2 AMB AMB
comp=Z,240nm,4.2s
CD2 LR LR
comp=N,360nm,19.2s
CD2 LR LR
comp=E,400nm,15.6s
CD2 LR LR
comp=Z,410nm,24.2s
HHC Hu-ho-hao-te 61.43 324 *e*P P 06 51 58.3 +0.1
HHC AP pP 06 52 14.5 -0.4
HHC XP sP 06 52 21.5 -0.5
HHC PCP PcP 06 52 38.9 -0.9
HHC PP PP 06 54 16.5 +2.3
HHC SCP ScP 06 56 34.3 -1.8
HHC S **S** **07 00 13.9 -0.7**
HHC XS sS 07 00 41.9 -1.0
HHC SCS ScS 07 01 41.0 -3.2
HHC SS SS 07 04 17.4 +0.8
HHC AMB AMB
comp=Z,21nm,1.2s,mb5.1
HHC AMB AMB
comp=Z,473nm,6.9s
HHC LR LR
comp=N,265nm,16.0s
HHC LR LR
comp=E,247nm,16.0s
HHC LR LR
comp=Z,276nm,17.3s
HIA Hailar 63.23 335 *e*P P 06 52 09.6 -0.4
HIA pmax pmax
comp=Z,61nm,0.8s
HIA Hailar 63.23 335 *e*P P 06 52 09.6 -0.5
comp=Z,61nm,0.8s,mb5.8
LZH Lanzhou 63.69 315 ⇓P P 06 52 14.0 +0.7
LZH AP pP 06 52 34.8 +4.6
LZH XP sP 06 52 38.3 +1.1
LZH PP PP 06 54 40.3 +6.1
LZH XS sS 07 01 10.0 -1.6
LZH SS SS 07 04 53.0 +0.9
LZH AMB AMB
comp=Z,54nm,1.0s,mb5.5
LZH AMB AMB
comp=Z,187nm,5.9s
LZH LR LR
comp=N,613nm,14.6s
LZH LR LR
comp=Z,922nm,16.0s
CASY Casey 67.15 198 *e*P P 06 52 34.5 -0.7
CLNS Chul'man 67.53 343 *e*P P 06 52 30.7 -7.0
CLNS pmax pmax
comp=Z,24nm,0.8s,mb5.3
CLNS pmax pmax
comp=N,19nm,1.5s
CLNS pmax pmax
comp=E,8.0nm,1.1s
GTA Gaotai 68.10 317 P P 06 52 42.0 +0.3
GTA AP pP 06 52 58.3 -0.3
GTA XP sP 06 53 05.8 +0.2
GTA PP PP 06 55 15.1 +2.4
GTA S S 07 01 36.5 -0.3
GTA XS sS 07 02 03.3 -2.2
GTA SS SS 07 06 01.3 +0.7
GTA AMB AMB
comp=Z,31nm,1.2s,mb5.2
GTA AMB AMB
comp=Z,178nm,9.3s
GTA LR LR
comp=N,167nm,17.4s
GTA LR LR
comp=E,170nm,16.8s
GTA LR LR
comp=Z,249nm,18.6s
ULN Ulaanbaatar 68.32 328⇑ *e*P P 06 52 43.1 +0.2
ULN Ulaanbaatar 68.32 328 *e*P P 06 52 43.0 +0.1
comp=Z,32nm,0.9s,mb5.3
ULN ⇑*e*P 06 52 43.1
SONM Songino Array 68.66 327 P P 06 52 45.0 +0.1
comp=Z,22nm,0.7s,mb5.2,baz=131,slow=5.4,SNR=94
SONM PKP2ab 07 21 00.8
comp=Z,2.6nm,0.9s,baz=261,slow=1.7,SNR=8.7
SONM LR LR 07 24 18.3
comp=Z,220nm,19.0s,baz=312,slow=37
SHL Shillong 68.76 300 *e*P P 06 52 45.5 -0.6
SHL AMb AMB 06 53 16.8
comp=Z,9.1nm,1.5s,mb4.5
SHL *e*S S 07 01 45.5 +0.3
SEY Seymchan 69.09 359⇑ *e*P P 06 52 45.3 -2.0
LSA Lhasa 70.71 304 P P 06 52 58.6 +0.6
LSA Lhasa 70.71 304 *e*P P 06 52 59.2 +1.2
LSA pmax pmax
comp=Z,18nm,0.7s,mb5.1
LSA Lhasa 70.71 304 *e*P P 06 52 59.2 +1.2
comp=Z,18nm,0.7s,mb5.1
YAK Yakutsk 70.86 348 *e*P P 06 52 57.4 -0.8
YAK pmax pmax
comp=E,8.0nm,0.9s
YAK pmax pmax
comp=Z,63nm,1.0s,mb5.5
YAK pmax pmax
comp=N,16nm,1.0s
YAK Yakutsk 70.86 348⇑ *e*P P 06 52 58.0 -0.2
SBA Scott Base 71.76 177 *e*P P 06 53 04.3 +0.8
SBA pmax pmax
comp=Z,136nm,2.0s,mb5.5
SBA Scott Base 71.76 177 *e*P P 06 53 04.3 +0.9
comp=Z,136nm,2.0s,mb5.5
ZAK Zakamensk 71.81 328⇑ *i*P P 06 53 04.0 -0.2
ZAK pmax pmax
comp=Z,46nm,0.9s,mb5.4
TLY Talaya 72.38 329 *e*P P 06 53 07.3 -0.2
TLY pmax pmax
comp=Z,26nm,1.0s,mb5.1
TLY MLR MLR
comp=Z,161nm,21.0s
TLY Talaya 72.38 329⇑ *i*P P 06 53 07.0 -0.5
TAPN Taplejung 72.86 301 *e*P P 06 53 10.8 -0.2
comp=Z,185nm,1.4s,mb5.8
ODAN Odare 73.00 300 *e*P P 06 53 12.2 +0.4
comp=Z,142nm,0.8s,mb5.9
MIR Mirnyy 73.22 202⇑ *i*P P 06 53 12.5 +0.2
BOK Bokaro 73.49 297 *e*P P 06 53 14.7 -0.1
BOK AMb AMB 06 53 18.0
comp=Z,85nm,1.6s,mb5.4
RAMN Ramite 73.70 300 *e*P P 06 53 16.0 +0.1
comp=Z,45nm,0.7s,mb5.5
JIRN Jiri 74.25 301 *e*P P 06 53 19.2 +0.1
comp=Z,105nm,0.7s,mb5.9
GAMB Gambell 74.34 15 *e*P P 06 53 19.4 +0.5
VIS Vishakhapatnam 74.43 290 *e*P P 06 53 20.0 -0.3
VIS AMb AMB 06 53 21.8
comp=Z,115nm,1.0s,mb5.8
GUN Gumba 74.58 301 *e*P P 06 53 21.3 +0.3
comp=Z,255nm,0.7s,mb6.2
PKI Pulchoki 74.89 301 *e*P P 06 53 22.5 -0.3
comp=Z,67nm,0.7s,mb5.7
PKI Pulchoki 74.89 301 *e*P P 06 53 22.7 -0.1
PKI pmax pmax
comp=Z,68nm,0.9s,mb5.6
PKI Pulchoki 74.89 301 *e*P P 06 53 22.7 -0.1
comp=Z,68nm,0.9s,mb5.6
PKIN Phulchoki 74.90 301 *e*P P 06 53 22.7 -0.2
comp=Z,68nm,0.9s,mb5.6
KKN Kakani 75.06 301 *e*P P 06 53 23.7 -0.1
comp=Z,138nm,0.8s,mb6.0
DMN Daman 75.16 301 *e*P P 06 53 24.7 +0.3
comp=Z,146nm,0.7s,mb6.0
GKN Gorkha 75.66 301 *e*P P 06 53 26.9 -0.4
comp=Z,156nm,0.8s,mb6.0
OHAK Old Harbor 76.03 26 *e*P P 06 53 28.1 -0.6
KOLN Koldanda 76.49 300 *e*P P 06 53 31.6 -0.4
comp=Z,172nm,0.8s,mb6.0
DANN Dangsing 76.50 301 *e*P P 06 53 31.3 -0.7
comp=Z,110nm,0.7s,mb5.9
KDAK Kodiak Island 76.67 26 *e*P P 06 53 32.4 +0.1
comp=Z,41nm,1.1s,mb5.3

SVW2 Sparrevohn 77.48 22 *e*P P 06 53 36.3 -0.4
WMQ Urumqi 78.19 317 P P 06 53 40.8 -0.3
WMQ PCP PcP 06 53 50.8 +0.4
WMQ AP pP 06 53 57.8 -0.6
WMQ XP sP 06 54 04.3 -1.0
WMQ PP PP 06 56 39.8 +1.2
WMQ S S 07 03 28.3 -2.6
WMQ SKS 07 03 44.3
WMQ AMB AMB
comp=Z,22nm,1.1s,mb5.0
WMQ AMB AMB
comp=Z,161nm,4.2s
WMQ LR LR
comp=N,144nm,22.6s
WMQ LR LR
comp=E,193nm,23.2s
WMQ LR LR
comp=Z,199nm,20.0s
KOD Kodaikanal 78.71 282 *e*P P 06 53 45.4 +0.8
KOD AMb AMB 06 53 46.3
comp=Z,155nm,1.8s,mb5.7
HYB Hyderabad 78.84 289 *i*P P 06 53 44.5 -0.7
comp=Z,100nm,1.0s,mb5.7
HYB Hyderabad 78.84 289 *e*P P 06 53 44.5 -0.7
TRD Trivandrum 78.95 280 *e*P P 06 53 46.0 0.0
TRD AMb AMB 06 53 47.9
comp=Z,128nm,1.0s,mb5.8
SLKM Skilak Lake 79.23 24 *e*P P 06 53 45.8 -0.6
TIXI Tiksi 79.67 352 *e*P P 06 53 44.1 -4.5
TIXI pmax pmax
comp=Z,19nm,1.4s,mb4.8
TIXI Tiksi 79.67 352 *e*P P 06 53 48.0 -0.6
comp=Z,7.3nm,0.6s,mb4.8
LGTI Lohaghat 79.76 301 *ex* x 06 53 44.5
PMR Palmer 80.28 24 *e*P P 06 53 51.0 -1.1
PMR pmax pmax
comp=Z,15nm,0.8s,mb5.0
PMR MLR MLR
comp=Z,800nm,23.0s
PMR Palmer 80.28 24 *e*P P 06 53 51.0 -1.1
comp=Z,15nm,0.8s,mb5.0
PMR LR LR
comp=Z,800nm,23.0s
AKL Akola 80.85 292 *e*P P 06 53 55.2 -0.9
AKL AMb AMB 06 53 56.5
comp=Z,114nm,1.4s,mb5.6
BHPL Bhopal 80.94 295 *e*P P 06 53 56.1 -0.4
BHPL AMb AMB 06 53 56.9
comp=Z,59nm,0.8s,mb5.6
IMA2 Indian Mountai 81.25 19 *e*P P 06 53 56.6 -0.6
NDI New Delhi 82.18 300 *e*P P 06 54 01.0 -1.9
COLA College 82.55 21 *e*P P 06 54 02.5 -1.5
COLA pmax pmax
comp=Z,16nm,0.7s,mb5.2
COLA College 82.55 21 *e*P P 06 54 02.5 -1.5
comp=Z,16nm,0.7s,mb5.2
SMLA Simla 82.72 302 *e*P P 06 54 04.5 -1.2
SMLA AMb AMB 06 54 23.2
comp=Z,68nm,1.7s,mb5.4
MK31 Makanchi Array 82.76 319 *e*P P 06 54 04.5 -1.0
MKAR Makanchi Array 82.76 319 P P 06 54 04.9 -0.6
comp=Z,63nm,0.8s,mb5.7,baz=99,slow=4.8,SNR=336
MKAR LR LR 07 30 56.8
comp=Z,126nm,18.4s,baz=104,slow=36
MKAR Makanchi Array 82.76 319 P P 06 54 04.9 -0.6
MKAR pmax pmax
comp=Z,63nm,0.8s
MKAR MLR MLR
comp=Z,126nm,18.4s
KAD Karad 82.93 288 *e*P P 06 54 05.9 -1.2
POO Poona 83.44 289 *ex* P 06 54 06.5 -3.1
ZAA0 Zalesovo Array 83.51 326 *e*P P 06 54 07.4 -1.8
ZALV Zalesovo Beam 83.51 326 P P 06 54 07.5 -1.7
comp=Z,54nm,0.8s,mb5.7,baz=108,slow=5.5,SNR=161
ZALV LR LR 07 28 51.3
comp=Z,115nm,18.1s,baz=265,slow=34
ZALV Zalesovo Beam 83.51 326 P P 06 54 07.5 -1.7
ZALV LR LR 07 28 51.3
THN Thein Dam 84.19 303 *ex* P 06 54 10.9 -2.3
NVS Novosibirsk 84.68 327⇑ *i*P P 06 54 13.2 -1.9
NVS *i* pP 06 54 28.1 -4.5
NVS pmax pmax
comp=N,21nm,1.3s
NVS pmax pmax
comp=E,37nm,1.3s
NVS pmax pmax
comp=Z,58nm,1.3s,mb5.5
HYT Haines Junctio 84.89 27 *e*P P 06 54 16.4 +0.3
MAW Mawson 84.92 203 *e*P P 06 54 16.0 -0.2
comp=Z,45nm,0.6s,mb5.8
MAW Mawson 84.92 203 P P 06 54 16.0 -0.1
comp=Z,50nm,0.7s,mb5.8,baz=93,slow=6.4,SNR=72
MAW Mawson 84.92 203 P P 06 54 16.0 -0.2
MAW pmax pmax
comp=Z,50nm,0.7s
EGAK Eagle 85.00 23 *e*P P 06 54 16.4 -0.1
comp=Z,22nm,0.9s,mb5.3
DAWY Dawson 85.39 24 *e*P P 06 54 18.3 -0.2
SKAG Skagway 85.40 29 *e*P P 06 54 18.5 -0.1
comp=Z,28nm,1.0s,mb5.3
KSH Kashi 85.41 310 P P 06 54 20.6 +1.4
KSH *e*AP pP 06 54 36.5 -0.2
KSH *e*XP sP 06 54 43.5 -0.1
KSH AMB AMB
comp=Z,24nm,0.8s,mb5.4
ULHL Ulahol 85.79 313 P P 06 54 20.9 -0.1
SNR=8.8
WRAK Wrangell Islan 85.90 32 *e*P P 06 54 21.6 +0.4
comp=Z,30nm,1.0s,mb5.5
KURK Kurchatov 86.17 322 P P 06 54 21.9 -0.8
comp=Z,162nm,0.6s,mb6.4,SNR=13
KURK Kurchatov 86.17 322 *c i*P P 06 54 21.1 -1.6
KURK pmax pmax
comp=Z,38nm,1.1s,mb5.5
USP Ospenovka 87.25 314 P P 06 54 23.3 -4.8
SNR=6.0
O01C Eel River Cons 87.51 49 ⇑P P 06 54 29.6 +0.1
baz=88
KCPM Cahto Peak 87.61 50 *e*P P 06 54 30.1 +0.2
DLBC Dease Lake 87.69 31 *e*P P 06 54 30.0 +0.1
KIPM Iron Peak 87.71 50 *e*P P 06 54 30.8 +0.3
HOPS Hopland 87.88 51 ⇓P P 06 54 31.5 +0.2
baz=88,SNR=5.8
HOPS Hopland 87.88 51 *e*P P 06 54 31.3 0.0
comp=Z,16nm,1.0s,mb5.2
MCCM Marconi Confer 87.89 51 ⇓P P 06 54 31.5 +0.2
baz=88
N02C Big Bar 88.02 49 ⇓P P 06 54 31.7 -0.1
baz=88
L02A Cave Junction 88.04 47 ⇓P P 06 54 32.6 +0.6
baz=88
NSHM Saint Helena R 88.16 51 *e*P P 06 54 32.1 -0.5
K02A Glendale 88.23 47 ⇓P P 06 54 33.0 +0.2
baz=88
CVS Carmenet Viney 88.25 51 ⇑P P 06 54 32.9 -0.1
baz=88
GASB Alder Springs 88.27 50 ⇑P P 06 54 33.6 +0.6
baz=88,SNR=12
JRSC Jasper Ridge 88.27 52 ⇑P P 06 54 33.3 +0.1
baz=88
J02A Umpqua 88.27 46 ⇓P P 06 54 33.0 0.0
baz=88
MNRC McLaughlin Nat 88.35 51 ⇑P P 06 54 34.1 +0.7
baz=88,SNR=18
M02C Callahan 88.45 48 ⇑P P 06 54 34.1 +0.2
baz=88,SNR=5.8
WDC Whiskeytown Da 88.55 49 ⇑P P 06 54 34.0 -0.4
baz=89
HUMO Hull Mountain 88.59 47 ⇑P P 06 54 35.0 +0.5
baz=89,SNR=10
HUMO Hull Mountain 88.59 47 *e*P P 06 54 33.2 -1.3
comp=Z,21nm,1.0s,mb5.4
YBH Yreka Blue Hor 88.62 48 *e*P P 06 54 33.8 -0.9
YBH pmax pmax
comp=Z,14nm,1.2s
YBH Yreka Blue Hor 88.62 48 ⇑P P 06 54 34.4 -0.3
baz=89,SNR=6.9
YBH Yreka Blue Hor 88.62 48 *e*P P 06 54 33.8 -0.9
comp=Z,14nm,1.2s,mb5.2
Q03C Winters 88.64 51 ⇓P P 06 54 35.5 +0.7
baz=89,SNR=8.0
H03A Soap Creek Ran 88.70 45 ⇓P P 06 54 35.4 +0.4
baz=89
F03A Seaside 88.74 44 ⇑P P 06 54 35.4 +0.2
baz=89
D03A Wishkah Elem. 88.81 42 ⇑P P 06 54 35.6 +0.1
baz=89
E03A Lebam 88.85 43 ⇑P P 06 54 35.8 +0.1
baz=89,SNR=6.9
V03C Hunter Liggett 88.85 54 ⇑P P 06 54 36.7 +0.8
baz=89,SNR=6.8
PACP Pacheco Peak 88.96 53 ⇓P P 06 54 36.9 +0.5
baz=89,SNR=15
M03C McCloud 88.98 48 ⇑P P 06 54 36.4 0.0
baz=89,SNR=12
OHCM Honcut 89.16 50 *e*P P 06 54 36.8 -0.5
B04A Port Angeles 89.16 42 ⇑P P 06 54 36.8 -0.2
baz=89
ORV Oroville 89.18 50 ⇑P P 06 54 37.0 -0.3
baz=89,SNR=23
I04A Tendick Farm, 89.18 46 ⇑P P 06 54 36.7 -0.6
baz=89
INK Inuvik 89.19 21 *e*P P 06 54 35.9 -0.8
comp=Z,519nm,1.1s
U04C Hernandez Rese 89.26 53 ⇓P P 06 54 38.5 +0.7
baz=89,SNR=15
J04A Umpqua Nationa 89.31 47 ⇓P P 06 54 38.1 +0.3
baz=89
G04A Mulino 89.36 45 ⇓P P 06 54 38.2 +0.1
baz=89
PKD Parkfield 89.40 54 ⇓P P 06 54 38.5 +0.1
baz=90,SNR=11
R04C Big Horse Ranc 89.42 52 ⇓P P 06 54 38.5 0.0
baz=90
E04A Onalaska 89.43 43 ⇑P P 06 54 38.7 +0.3
baz=90
C04A Brinnon 89.45 42 ⇑P P 06 54 38.7 +0.2
baz=90,SNR=5.8
H04A Detroit Lake 89.48 45 ⇓P P 06 54 38.8 +0.2
baz=90
GNW Green Mountain 89.53 42 *e*P P 06 54 38.4 -0.4
comp=Z,14nm,0.7s,mb5.4
F04A Amboy 89.53 44 ⇑P P 06 54 39.0 +0.2
baz=90
O04C Chester 89.61 50 ⇓P P 06 54 39.4 +0.1
baz=90,SNR=16
LAVA Lava Cap Winer 89.64 51 ⇑P P 06 54 39.7 +0.1
baz=90,SNR=12
O05C Quincy 89.68 50 ⇓P P 06 54 39.8 0.0
baz=90,SNR=5.4
TDL Tradedollar La 89.73 43 P P 06 54 40.0 +0.2
SMMC Simmler 89.74 55 ⇑P P 06 54 40.4 +0.3
baz=90
S05C Merced 89.76 53 ⇑P P 06 54 40.5 +0.3
baz=90,SNR=13
A04A Legoe Bay, Lum 89.80 41 ⇑P P 06 54 40.2 +0.1
baz=90
CMB Columbia Colle 89.81 52 *e*P P 06 54 40.1 -0.3
CMB pmax pmax
comp=Z,4.0nm,0.8s,mb4.8
CMB Columbia Colle 89.81 52 ⇓P P 06 54 40.6 +0.2
baz=90,SNR=8.3
CMB Columbia Colle 89.81 52 *e*P P 06 54 40.1 -0.3
comp=Z,3.9nm,0.8s,mb4.8
PKM Peak Mountain 89.83 55 ⇑P P 06 54 41.6 +1.0
baz=90,SNR=8.6
D05A Enumclaw 90.02 43 ⇑P P 06 54 41.5 +0.3
baz=90
KBL Kabul 90.03 305 *e*P P 06 54 40.4 -1.1
KBL pmax pmax
comp=Z,8.0nm,0.5s,mb5.3
KBL Kabul 90.03 305 *e*P P 06 54 40.4 -1.1
comp=Z,7.7nm,0.5s,mb5.3
I05A Bend 90.05 46 ⇑P P 06 54 41.7 +0.4
baz=90
E05A Randle 90.08 43 ⇓P P 06 54 41.2 -0.2
baz=90,SNR=7.1
K05A Summer Lake 90.11 47 ⇑P P 06 54 41.5 -0.1
baz=90,SNR=7.8
B05A Bryant 90.12 42 ⇓P P 06 54 41.9 +0.4
baz=90
H05A Madras 90.15 45 ⇓P P 06 54 41.9 +0.2
baz=90
F05A White Salmon 90.18 44 ⇑P P 06 54 42.3 +0.4
baz=90,SNR=6.6
G05A Wamic 90.18 45 ⇑P P 06 54 41.8 -0.1
baz=90
T06C Millerton Lake 90.21 53 ⇑P P 06 54 42.1 -0.2
baz=90,SNR=22
JCW Jim Creek 90.22 42 *e*P P 06 54 41.5 -0.5
WPW White Pass 90.25 43 P P 06 54 41.8 -0.3
C05A Tolt Reservoir 90.30 42 ⇑P P 06 54 42.3 -0.1
baz=90
P06A Stead Airport, 90.42 50 ⇓P P 06 54 42.8 -0.4
baz=90
MOD Modoc 90.42 48 ⇓P P 06 54 43.2 +0.1
baz=90,SNR=8.7
MOD Modoc 90.42 48 *e*P P 06 54 42.6 -0.5
comp=Z,11nm,1.0s,mb5.2
WCN Washoe City 90.48 51 ⇑P P 06 54 44.1 +0.6
baz=90,SNR=23
RPW Rockport 90.54 41 P P 06 54 42.9 -0.6
O06A Flanigan 90.54 50 ⇓P P 06 54 44.0 +0.3
baz=91,SNR=28
VES Vestal, Richgr 90.55 54 ⇑P P 06 54 44.0 +0.2
baz=91,SNR=7.6
KCC Kaiser Creek 90.56 53 ⇑P P 06 54 43.9 +0.1
baz=91,SNR=16
E06A Yakima 90.61 43 ⇑P P 06 54 43.4 -0.4
baz=91,SNR=8.3
R06C Coleville 90.61 51 ⇓P P 06 54 44.8 +0.7
baz=91,SNR=25
N06A Buffalo Meadow 90.61 49 ⇓P P 06 54 44.3 +0.3
baz=91,SNR=25
F06A Goldendale 90.63 44 ⇓P P 06 54 43.8 -0.2
baz=91,SNR=8.7
SCI San Clemente I 90.64 57 ⇓P P 06 54 44.4 +0.1
baz=91
G06A Carlson Farm, 90.66 45 ⇑P P 06 54 43.7 -0.5
baz=91
A06A Chilliwack 90.66 41 ⇓P P 06 54 43.5 -0.5
baz=91
ARVC Arvin 90.67 55 ⇑P P 06 54 45.0 +0.5
baz=91,SNR=6.3
J06A Christmas Vall 90.72 47 ⇑P P 06 54 44.1 -0.4
baz=91,SNR=10
I06A Prineville 90.77 46 ⇓P P 06 54 44.7 0.0
baz=91
D06A Cle Elum 90.80 43 ⇑P P 06 54 44.5 -0.2
baz=91,SNR=7.4
H06A Lindquist Farm 90.80 45 ⇑P P 06 54 44.5 -0.2
baz=91,SNR=11
CIS Catalina Islan 90.81 57 ⇓P P 06 54 45.4 +0.3
baz=91
PAHR Pah Rah Range 90.82 50 *e*P P 06 54 45.5 +0.4
comp=Z,18nm,0.8s,mb5.4
EBG Ellensburg 90.94 43 P P 06 54 45.4 0.0
TBM Table Mountain 90.96 43 P P 06 54 45.3 -0.2
ISA Isabella 91.02 54 *e*P P 06 54 46.4 +0.3
ISA pmax pmax
comp=Z,13nm,1.0s,mb5.2
ISA Isabella 91.02 54 ⇑P P 06 54 46.2 +0.2
baz=91,SNR=9.9
ISA Isabella 91.02 54 *e*P P 06 54 46.4 +0.3
comp=Z,12nm,1.0s,mb5.2
L07A Adell 91.15 48 ⇓P P 06 54 47.1 +0.6
baz=91,SNR=15
MTUM Tungsten Hills 91.16 53 *e*P P 06 54 47.5 +0.9
Q07A Schurz 91.16 51 ⇓P P 06 54 47.0 +0.4
baz=91
P07A Fallon 91.17 51 ⇑P P 06 54 47.2 +0.5
baz=91
MWC Mount Wilson 91.19 56 *e*P P 06 54 47.5 +0.7
comp=Z,89nm,1.1s,mb6.0
M07A Soldier Meadow 91.19 49 ⇓P P 06 54 47.1 +0.4
baz=91,SNR=11
ETW Entiat 91.20 42 *e*P P 06 54 45.5 -1.1
F07A Phinny Hill Vi 91.24 44 ⇑P P 06 54 46.3 -0.5
baz=91
O07A Toulon 91.26 50 ⇓P P 06 54 47.6 +0.5
baz=91,SNR=33
N07B Gerlach 91.27 49 ⇑P P 06 54 47.5 +0.4
baz=91,SNR=9.1
I07A Izee 91.30 46 ⇑P P 06 54 47.1 0.0
baz=91,SNR=10
K07A Rock Creek Ran 91.30 47 ⇓P P 06 54 46.9 -0.3
baz=91,SNR=7.7
H07A Lands Inn, Kim 91.32 45 ⇓P P 06 54 47.0 -0.3
baz=91,SNR=13
EDW2 Edwards Air Fo 91.32 55 ⇑P P 06 54 48.0 +0.5
baz=91,SNR=25
G07A Ruggs Ranch, H 91.34 45 ⇓P P 06 54 46.9 -0.4
baz=91,SNR=8.7
J07A Hines 91.34 47 ⇓P P 06 54 47.5 +0.1

baz=91
A07A **Ashnola River,** 91.37 41 ⇓P P 06 54 47.0 -0.3
baz=91,SNR=10.0
E07A **Sunnyside** 91.38 43 ⇓P P 06 54 47.1 -0.3
baz=91,SNR=9.2
D07A **Quincy** 91.38 43 ⇓P P 06 54 47.3 -0.2
baz=91,SNR=16
TIN **Tinemaha** 91.39 53 ⇑P P 06 54 48.6 +0.9
baz=91
C07A **Waterville** 91.39 42 ⇓P P 06 54 46.7 -0.8
baz=91,SNR=8.4
CWC **Cottonwood Cre** 91.43 54 ⇑P P 06 54 48.4 +0.4
baz=92,SNR=19
B07A **Winthrop** 91.46 42 ⇑P P 06 54 47.2 -0.5
baz=92,SNR=6.3
NVAR **Mina Array Bea** 91.49 52 P P 06 54 48.7 +0.5
comp=Z,34nm,0.8s,mb5.7,baz=253,slow=6.3,SNR=183
NVAR PKKPbc PKKPbc 07 12 10.0 +0.2
comp=Z,1.0nm,0.7s,baz=102,slow=3.3,SNR=8.6
NVAR PKPPKP 07 20 16.9
comp=Z,0.6nm,1.0s,baz=74,slow=5.5,SNR=3.6
NVAR **Mina Array Bea** 91.49 52 P P 06 54 48.7 +0.5
NVAR PKKPbc PKKPbc 07 12 10.0 +0.2
NVAR P'P' 07 20 16.9
SNIWA **Snively Ranch** 91.50 44 P P 06 54 47.9 -0.1
BFSC **Mount Baldy St** 91.52 56 ⇑P P 06 54 48.6 +0.2
baz=92,SNR=6.3
RSW **Rattlesnake Hi** 91.54 44 eP P 06 54 47.5 -0.7
HAWA **Hanford** 91.58 44 eP P 06 54 48.0 -0.4
comp=Z,14nm,0.9s,mb5.3
R08A **Mina** 91.64 52 ⇑P P 06 54 49.3 +0.5
baz=92,SNR=13
LRMC **Laurel Mountai** 91.64 55 ⇑P P 06 54 49.7 +0.8
baz=92,SNR=29
H2OWA **Water** 91.65 44 P P 06 54 48.5 -0.2
BRVK **Borovoye** 91.70 323 P P 06 54 46.3 -2.5
comp=Z,180nm,1.0s,mb6.4,SNR=14
BRVK **Borovoye** 91.70 323 ⇑P P 06 54 46.5 -2.3
WVOR **Wild Horse Val** 91.72 48 eP P 06 54 48.9 -0.2
WVOR pmax pmax
comp=Z,9.0nm,0.8s,mb5.2
WVOR **Wild Horse Val** 91.72 48 eP P 06 54 48.9 -0.2
comp=Z,8.6nm,0.8s,mb5.1
M08A **Happy Creek Ra** 91.79 49 ⇓P P 06 54 49.6 +0.1
baz=92,SNR=7.5
P08A **Dixie Valley** 91.81 50 ⇓P P 06 54 50.2 +0.6
baz=92,SNR=5.6
O08A **Rochester Mine** 91.83 50 ⇑P P 06 54 50.3 +0.6
baz=92,SNR=39
MURC **Murrieta** 91.83 57 ⇓P P 06 54 50.6 +0.7
baz=92
109C **Camp Elliot, M** 91.83 57 ⇓P P 06 54 50.2 +0.3
baz=92,SNR=6.5
Q08A **Gabbs** 91.83 51 ⇓P P 06 54 50.2 +0.5
baz=92,SNR=38
G08A **Pilot Rock** 91.84 45 ⇓P P 06 54 49.3 -0.3
baz=92,SNR=10
K08A **Mann Creek Ran** 91.86 47 ⇑P P 06 54 49.4 -0.4
baz=92
MPMC **Manual Prospec** 91.86 54 ⇑P P 06 54 50.2 +0.3
baz=92,SNR=32
WRD **Warden** 91.90 43 P P 06 54 49.6 -0.2
N08A **GE Springer Mi** 91.90 49 ⇓P P 06 54 50.0 0.0
baz=92,SNR=25
L08A **Fields** 91.91 48 ⇓P P 06 54 50.2 +0.2
baz=92,SNR=17
E08A **Dider Farm, El** 91.92 44 ⇑P P 06 54 49.5 -0.5
baz=92,SNR=10
H08A **Prairie City** 91.95 46 ⇓P P 06 54 49.5 -0.6
baz=92
J08A **Circle Bar Ran** 91.95 47 ⇑P P 06 54 49.6 -0.6
baz=92,SNR=12
B08A **Colville Reser** 91.96 42 ⇑P P 06 54 49.1 -1.1
baz=92,SNR=7.6
F08A **Pendleton** 92.03 44 ⇑P P 06 54 49.8 -0.6
baz=92,SNR=6.1
GRAC **Grapevine Rang** 92.06 53 ⇑P P 06 54 51.2 +0.3
baz=92
A08A **Turner Farm, O** 92.08 41 ⇑P P 06 54 50.1 -0.5
baz=92,SNR=6.2
D08A **Wollman Farm,** 92.08 43 ⇓P P 06 54 50.3 -0.3
baz=92,SNR=8.2
C08A **Higginbotham F** 92.08 42 ⇓P P 06 54 49.9 -0.8
baz=92,SNR=6.9
RRX **Edison Barstow** 92.13 55 ⇑P P 06 54 52.1 +0.9
baz=92
S09A **Goldfield** 92.26 52 ⇑P P 06 54 52.4 +0.7
baz=92,SNR=50
OD2 **Odessa Site #2** 92.26 43 eP P 06 54 50.8 -0.7
TPH **Tonopah** 92.30 52 eP P 06 54 52.3 +0.4
TPH pmax pmax
comp=Z,27nm,0.9s,mb5.6
TPH **Tonopah** 92.30 52 eP P 06 54 52.3 +0.4
comp=Z,27nm,0.9s,mb5.6
GSC **Goldstone** 92.34 55 eP P 06 54 52.7 +0.5
GSC pmax pmax
comp=Z,14nm,0.8s,mb5.3
GSC **Goldstone** 92.34 55 ⇓P P 06 54 52.5 +0.4
baz=92,SNR=8.4
GSC **Goldstone** 92.34 55 eP P 06 54 52.7 +0.5
comp=Z,14nm,0.8s,mb5.3
N09A **Rock Creek Ran** 92.37 49 ⇓P P 06 54 52.6 +0.5
baz=92,SNR=14
RPN **Rapa Nui** 92.37 117 LR LR 07 27 11.5
comp=Z,1704µm,21.2s,baz=250,slow=30
Q09A **Carvers** 92.41 51 ⇓P P 06 54 53.1 +0.7
baz=92,SNR=7.6
FURC **Furnace Creek,** 92.42 54 ⇑P P 06 54 52.9 +0.4
baz=92,SNR=43
K09A **Rome** 92.42 47 ⇑P P 06 54 52.3 -0.1
baz=92
R09A **Tonopah** 92.43 52 ⇑P P 06 54 52.7 +0.2
baz=92,SNR=50
PFO **Pinyon Flat Ob** 92.45 57 P P 06 54 53.3 +0.6
comp=Z,110nm,1.2s,mb6.1,SNR=8.6
PFO **Pinyon Flat Ob** 92.45 57 ⇓P P 06 54 53.1 +0.4
baz=92,SNR=9.2
J09A **Fry Pan Ranch,** 92.47 47 ⇓P P 06 54 52.3 -0.3
baz=92,SNR=8.2
M09A **Marrel Ranch,** 92.48 49 ⇓P P 06 54 52.9 +0.3
baz=92,SNR=7.1
D09A **Jones Farm, Ri** 92.50 43 ⇑P P 06 54 52.2 -0.4
baz=92,SNR=8.1
P09A **Austin** 92.52 51 ⇑P P 06 54 53.2 +0.3
baz=93
A09A **Danville** 92.53 41 ⇑P P 06 54 52.0 -0.7
baz=93,SNR=11
E09A **Wood Farm, Sta** 92.55 44 ⇓P P 06 54 52.2 -0.6
baz=93,SNR=9.2
I09A **Lost Marbles R** 92.55 46 ⇓P P 06 54 52.5 -0.4
baz=93
BMN **Battle Mountai** 92.55 50 eP P 06 54 53.4 +0.4
BMN pmax pmax
comp=Z,26nm,1.1s,mb5.6
BMN **Battle Mountai** 92.55 50 eP P 06 54 53.4 +0.4
comp=Z,26nm,1.1s,mb5.6
C09A **Chrisman Ranch** 92.60 42 ⇑P P 06 54 52.6 -0.5
baz=93
F09A **S2 Ranch, Elgi** 92.62 44 ⇑P P 06 54 52.6 -0.6
baz=93
G09A **Cove** 92.66 45 ⇓P P 06 54 53.1 -0.3
baz=93,SNR=11
HEC **Hector,Ludlow** 92.68 55 ⇑P P 06 54 54.2 +0.4
baz=93,SNR=8.0
H09A **Durkee** 92.68 46 ⇓P P 06 54 53.2 -0.3
baz=93
B09A **Rice** 92.76 42 ⇑P P 06 54 53.3 -0.5
baz=93,SNR=13
S10A **Tonopah Range,** 92.78 52 ⇑P P 06 54 55.0 +0.9
baz=93,SNR=67
SHOC **Shoshone** 92.82 54 ⇑P P 06 54 54.8 +0.4
baz=93,SNR=29
U10A **Ash Meadows, A** 92.83 54 ⇓P P 06 54 55.2 +0.7
baz=93,SNR=19
SYO **Syowa Base** 92.87 199 ⇓eX 06 54 51.4
SYO **Syowa Base** 92.87 199 ⇓i/P P 06 54 52.8 -1.1
SWSC **Sam W. Stewart** 92.93 57 ⇓P P 06 54 55.6 +0.7
baz=93
BMO **Blue Mountains** 92.95 45 eP P 06 54 53.8 -1.0
BMO pmax pmax
comp=Z,7.0nm,0.8s,mb5.1
BMO **Blue Mountains** 92.95 45 eP P 06 54 53.8 -0.9
comp=Z,7.0nm,0.8s,mb5.1
TPNV **Topopah Spring** 92.95 53 eP P 06 54 55.0 0.0
TPNV pmax pmax
comp=Z,28nm,0.9s,mb5.7
TPNV **Topopah Spring** 92.95 53 ⇑P P 06 54 55.6 +0.6
baz=93,SNR=38
TPNV **Topopah Spring** 92.95 53 eP P 06 54 55.0 0.0
comp=Z,28nm,0.9s,mb5.7
Q10A **Clear Creek Ra** 93.02 51 ⇓P P 06 54 55.5 +0.3
baz=93,SNR=25
R10A **Warm Springs** 93.04 52 ⇑P P 06 54 55.7 +0.4
baz=93,SNR=10
P10A **Eureka** 93.05 51 ⇑P P 06 54 55.6 +0.3
baz=93,SNR=7.0
K10A **MacKenzie Ranc** 93.05 47 ⇑P P 06 54 55.3 0.0
baz=93,SNR=6.1
TUQ **Turquoise Moun** 93.07 55 ⇑P P 06 54 55.6 +0.1
baz=93
O10A **Cortez Mining,** 93.08 50 ⇑P P 06 54 55.8 +0.3
baz=93,SNR=5.5
F10A **Beach Ranch, E** 93.12 44 ⇑P P 06 54 55.1 -0.4
baz=93,SNR=11
N10A **Dunphy** 93.12 50 ⇓P P 06 54 55.7 +0.1
baz=93,SNR=6.5
G10A **Bishop Farm, J** 93.13 45 ⇑P P 06 54 55.0 -0.5
baz=93,SNR=16
M10A **I.L. Ranch, Tu** 93.17 49 ⇓P P 06 54 55.9 0.0
baz=93
D10A **Wagner Farm, O** 93.20 43 ⇑P P 06 54 55.1 -0.8
baz=93,SNR=28
A10A **Northport** 93.20 41 ⇑P P 06 54 55.6 -0.2
baz=93,SNR=12
GMRC **Granite Mounta** 93.22 56 ⇓P P 06 54 56.9 +0.7
baz=93,SNR=34
I10A **Payette** 93.23 46 ⇑P P 06 54 55.9 -0.2
baz=93
C10A **Spilker Farm,** 93.25 42 ⇓P P 06 54 55.5 -0.6
baz=93
E10A **Myers Farm, Un** 93.25 44 ⇓P P 06 54 55.3 -0.8
baz=93
L10A **Juniper Basin** 93.28 48 ⇓P P 06 54 56.5 +0.1
baz=93,SNR=10
H10A **Noah's Angus R** 93.32 46 ⇓P P 06 54 55.7 -0.8
baz=93,SNR=24
B10A **Chitwood Farm,** 93.36 42 ⇓P P 06 54 56.5 0.0
baz=93
S11A **Rachel** 93.42 53 ⇑P P 06 54 57.0 -0.1
baz=94,SNR=5.3
NEW **Newport** 93.42 42 eP P 06 54 55.7 -1.1
NEW pmax pmax
comp=Z,27nm,1.3s
NEW **Newport** 93.42 42 eP P 06 54 55.7 -1.1
comp=Z,27nm,1.3s,mb5.5
V11A **Goodsprings** 93.50 54 ⇑P P 06 54 58.1 +0.6
baz=94,SNR=26
IRM **Iron Mountain** 93.58 56 ⇑P P 06 54 58.4 +0.4
baz=94,SNR=41
P11A **Circle Ranch,** 93.59 51 ⇓P P 06 54 58.1 +0.3
baz=94,SNR=6.2
U11A **Corn Creek** 93.59 54 ⇓P P 06 54 58.5 +0.6
baz=94,SNR=8.4
Q11A **Duckwater** 93.60 51 ⇑P P 06 54 58.2 +0.3
baz=94,SNR=50
R11A **Troy Canyon, C** 93.61 52 ⇑P P 06 54 58.3 +0.4
baz=94,SNR=36
K11A **Parker Ranch,** 93.67 48 ⇑P P 06 54 57.7 -0.4
baz=94,SNR=8.3
LDFC **Landfair** 93.70 55 eP P 06 54 59.1 +0.7
comp=Z,44nm,0.9s,mb5.9
O11A **Cooper Ranch,** 93.71 50 ⇓P P 06 54 58.7 +0.3
baz=94,SNR=20
N11A **Elko Archery C** 93.71 50 ⇓P P 06 54 58.6 +0.2
baz=94,SNR=5.0
M11A **Holland Ranch,** 93.73 49 ⇓P P 06 54 58.8 +0.3
baz=94,SNR=6.3
G11A **Walters Elk Ra** 93.73 45 ⇑P P 06 54 57.5 -0.8
baz=94,SNR=7.4
T11A **Corn Creek, Al** 93.80 53 ⇑P P 06 54 59.0 +0.1
baz=94,SNR=21
L11A **Cat Creek Ranc** 93.82 48 ⇓P P 06 54 58.5 -0.3
baz=94,SNR=6.1
I11A **Placerville** 93.82 46 ⇑P P 06 54 57.7 -1.1
baz=94,SNR=6.5
D11A **Klaveano Farm,** 93.84 43 ⇓P P 06 54 57.9 -0.9
baz=94,SNR=9.9
H11A **Donnelly** 93.85 46 ⇑P P 06 54 58.1 -0.8
baz=94,SNR=7.4
F11A **Grangeville** 93.86 44 ⇓P P 06 54 57.7 -1.2
baz=94,SNR=5.0
E11A **Bogner Ranch,** 93.86 44 ⇓P P 06 54 58.5 -0.4
baz=94,SNR=15
MFID **Camas Ranch** 93.87 47 ⇓P P 06 54 58.2 -0.9
baz=94
W12A **Cal Nev Ari** 93.91 55 ⇑P P 06 54 59.7 +0.3
baz=94
B11A **Sandpoint** 93.94 42 ⇑P P 06 54 58.8 -0.4
baz=94
A11A **Hall Mountain,** 93.99 41 ⇓P P 06 54 59.7 +0.3
baz=94,SNR=20
Y12C **Blythe** 94.06 57 ⇑P P 06 55 00.6 +0.4
baz=94,SNR=7.1
NEE2 **Needles Airpor** 94.07 56 ⇑P P 06 55 00.3 +0.2
baz=94
ELK **Elko** 94.08 50 eP P 06 55 00.3 +0.2
ELK pmax pmax
comp=Z,18nm,1.3s
ELK **Elko** 94.08 50 eP P 06 55 00.3 +0.2
comp=Z,18nm,1.3s,mb5.3
S12A **Delamar Landin** 94.12 53 ⇑P P 06 55 00.9 +0.6
baz=94,SNR=14
T12A **Moapa** 94.16 54 ⇑P P 06 55 01.0 +0.5
baz=94
N12A **Clover Valley,** 94.24 50 ⇑P P 06 55 01.5 +0.7
baz=94,SNR=24
Q12A **Willow Creek R** 94.26 51 ⇑P P 06 55 01.4 +0.5
baz=94,SNR=29
U12A **Valley of Fire** 94.28 54 ⇑P P 06 55 01.8 +0.7
baz=94,SNR=7.2
E12A **Beaver Dam Sad** 94.31 44 ⇓P P 06 55 00.5 -0.4
baz=94,SNR=13
L12A **House Creek Ra** 94.36 48 ⇓P P 06 55 01.5 +0.2
baz=94,SNR=6.7
R12A **Pony Springs,** 94.37 52 ⇓P P 06 55 01.9 +0.5
baz=94,SNR=24
M12A **Wells** 94.38 49 ⇓P P 06 55 01.9 +0.4
baz=94,SNR=13
J12A **Stokes Ranch,** 94.39 47 ⇓P P 06 55 01.6 +0.2
baz=94,SNR=13
I12A **Atlanta** 94.41 47 ⇓P P 06 55 01.0 -0.5
baz=94
O12A **Currie** 94.42 50 ⇓P P 06 55 02.4 +0.8
baz=94,SNR=20
PDMCI **Parker Dam,Lak** 94.43 56 ⇑P P 06 55 02.1 +0.3
baz=94,SNR=6.8
A12A **Yaak River Ran** 94.45 41 ⇓P P 06 55 01.5 0.0
baz=94
B12A **Libby** 94.46 42 ⇑P P 06 55 01.2 -0.4
baz=94
C12B **Naegeli Ranch,** 94.47 43 ⇑P P 06 55 01.1 -0.5
baz=94
F12A **Elk City** 94.47 45 ⇑P P 06 55 01.3 -0.5
baz=94,SNR=7.1
K12A **Draper Farm, C** 94.49 48 ⇑P P 06 55 01.7 -0.2
baz=94,SNR=5.7
Y13A **Salome** 94.65 57 ⇑P P 06 55 03.5 +0.6
baz=95,SNR=6.9
H12A **Diamond D Ranc** 94.67 46 ⇓P P 06 55 02.1 -0.5
baz=95
V13A **Grand Canyon W** 94.68 55 ⇑P P 06 55 03.3 +0.4
baz=95,SNR=28
W13A **Hualapai Mount** 94.70 55 ⇑P P 06 55 03.4 +0.4
baz=95,SNR=28
X13A **Yucca** 94.71 56 ⇓P P 06 55 03.5 +0.4
baz=95,SNR=9.6
U13A **Pakoon Wash** 94.73 54 ⇑P P 06 55 03.8 +0.7
baz=95,SNR=14
T13A **Saint George** 94.83 53 ⇓P P 06 55 04.3 +0.7
baz=95,SNR=32
R13A **O'Grain Ranch,** 94.86 52 ⇓P P 06 55 04.4 +0.7
baz=95,SNR=19
N13A **Wendover, West** 94.87 50 ⇓P P 06 55 04.0 +0.3
baz=95,SNR=6.0
Q13A **Wheeler Ranch,** 94.88 51 ⇓P P 06 55 04.4 +0.6
baz=95,SNR=5.1
S13A **Holt Ranch, En** 94.91 53 ⇑P P 06 55 04.5 +0.6
baz=95,SNR=15
HLID **Hailey** 94.91 47 ⇓P P 06 55 03.8 0.0
baz=95,SNR=9.8
HLID **Hailey** 94.91 47 eP P 06 55 03.6 -0.2
comp=Z,4.8nm,0.8s,mb5.0
P13A **Bates Ranch, G** 94.92 51 ⇓P P 06 55 03.9 0.0
baz=95,SNR=12
O13A **Hicks Ranch, I** 94.99 50 ⇑P P 06 55 04.8 +0.5
baz=95,SNR=9.7
J13A **Cove Ranch, Pi** 95.07 47 ⇑P P 06 55 04.4 -0.2
baz=95
C13A **Hot Springs** 95.08 43 ⇑P P 06 55 03.8 -0.7
baz=95
K13A **Stover Farm, H** 95.09 48 ⇑P P 06 55 04.3 -0.3
baz=95
H13A **Challis** 95.09 46 ⇑P P 06 55 04.1 -0.5
baz=95,SNR=11
D13A **Huson** 95.12 43 ⇓P P 06 55 04.1 -0.6
baz=95
F13A **Darby** 95.12 45 ⇓P P 06 55 04.0 -0.7
baz=95,SNR=11
G13A **Cobalt** 95.14 45 ⇑P P 06 55 04.2 -0.6
baz=95
I13A **Wildhorse Cree** 95.15 47 ⇑P P 06 55 04.5 -0.4
baz=95,SNR=8.7
L13A **Double Diamond** 95.16 48 ⇓P P 06 55 05.4 +0.4
baz=95
B13A **Whitefish** 95.19 42 ⇑P P 06 55 04.7 -0.3
baz=95,SNR=9.0
ARUT **Antelope Range** 95.25 53 eP P 06 55 06.0 +0.5
E13A **Victor** 95.26 44 ⇑P P 06 55 05.2 -0.1
baz=95
A13A **Flathead Natio** 95.27 41 ⇓P P 06 55 05.1 -0.2
baz=95
CCUT **Cedar City** 95.30 53 eP P 06 55 06.6 +0.9
Y14A **Wickenburg** 95.34 57 ⇑P P 06 55 06.5 +0.5
baz=95
W14A **Seligman** 95.36 55 ⇓P P 06 55 06.7 +0.6
baz=95,SNR=7.7
U14A **Mt Trumbull** 95.37 54 ⇓P P 06 55 07.0 +0.9
baz=95,SNR=43
V14A **Boquillas Ranc** 95.37 55 ⇓P P 06 55 07.1 +1.0
baz=95,SNR=21
Q14A **Sevier Lake (B** 95.46 51 ⇑P P 06 55 06.8 +0.3
baz=96,SNR=22
S14A **Cedar City** 95.47 53 ⇓P P 06 55 07.0 +0.6
baz=96,SNR=7.8
X14A **Yava** 95.47 56 ⇓P P 06 55 07.6 +1.0
baz=96,SNR=7.9
T14A **Hurricane** 95.49 53 ⇓P P 06 55 07.1 +0.5
baz=96,SNR=10
M14A **Sheep Mountain** 95.56 49 ⇓P P 06 55 06.8 0.0
baz=96,SNR=13
R14A **James Farms, M** 95.61 52 ⇓P P 06 55 07.5 +0.3
baz=96
I14A **Mackay** 95.63 47 ⇓P P 06 55 06.9 -0.2
baz=96,SNR=5.9
N14A **Grayback Hills** 95.64 50 ⇓P P 06 55 07.2 0.0
baz=96,SNR=10
P14A **Drum Mountains** 95.66 51 ⇓P P 06 55 07.6 +0.3
baz=96,SNR=12
L14A **Malta** 95.67 48 ⇓P P 06 55 07.3 0.0
baz=96,SNR=11
H14A **Leadore** 95.73 46 ⇑P P 06 55 07.2 -0.3
baz=96
K14A **Jones Ranch, D** 95.75 48 ⇓P P 06 55 07.6 -0.1
baz=96,SNR=5.1
D14A **Greenough** 95.77 43 ⇑P P 06 55 06.5 -1.1
baz=96
F14A **Wisdom** 95.79 45 ⇑P P 06 55 07.1 -0.6
baz=96
YKA **Yellowknife Ar** 95.86 28 P P 06 55 07.4 -0.3
comp=Z,14nm,0.7s,mb5.5,baz=265,slow=4.6,SNR=44
YKA PKKPbc PKKPbc 07 11 54.9 -4.3
comp=Z,1.9nm,0.6s,baz=91,slow=2.8,SNR=8.9
YKA LR LR 07 37 26.8
comp=Z,154nm,18.6s,baz=300,slow=35
YKA **Yellowknife Ar** 95.86 28 P P 06 55 07.4 -0.3
YKA PKKPbc PKKPbc 07 11 54.9 -4.3
YKA LR LR 07 37 26.8
DUG **Dugway** 95.89 50 ⇓P P 06 55 07.9 -0.4
baz=96
Y15A **Casa Rosa Ranc** 95.90 57 ⇑P P 06 55 09.2 +0.7
baz=96
A14A **Double T Ranch** 95.92 41 ⇑P P 06 55 07.8 -0.5
baz=96
B14A **Marquette Ranc** 95.99 42 ⇑P P 06 55 07.9 -0.7
baz=96
HVU **Hansel Valley** 96.01 49 eP P 06 55 08.7 -0.1
HVU pmax pmax
comp=Z,12nm,0.9s,mb5.3
HVU **Hansel Valley** 96.01 49 eP P 06 55 08.7 -0.1
comp=Z,12nm,0.9s,mb5.3
X15A **Humboldt** 96.01 56 ⇓P P 06 55 10.6 +1.6
baz=96,SNR=8.9
W15A **Williams** 96.03 55 ⇑P P 06 55 10.2 +1.1
baz=96
T15A **Red Dirt Ranch** 96.04 54 ⇓P P 06 55 09.6 +0.5
baz=96,SNR=13
U15A **North Rim** 96.08 54 ⇑P P 06 55 10.6 +1.2
baz=96,SNR=22
S15A **Panguitch** 96.10 53 ⇑P P 06 55 10.7 +1.4
baz=96,SNR=7.0
MCMT **McKenzie Canyo** 96.11 46 eP P 06 55 08.6 -0.7
V15A **Kaibab Nationa** 96.14 55 ⇓P P 06 55 10.6 +1.0
baz=96,SNR=16
N15A **Stansbury Isla** 96.15 50 ⇑P P 06 55 09.4 -0.2
baz=96,SNR=6.0
EDM **Edmonton** 96.16 37 eP P 06 55 08.2 -1.0
O15A **The Old Anders** 96.16 50 ⇓P P 06 55 09.8 +0.2
baz=96
K15A **Arbon** 96.23 48 ⇓P P 06 55 09.6 -0.2
baz=96,SNR=6.5
M15A **Larsen Ranch,** 96.24 49 ⇓P P 06 55 09.5 -0.4
baz=96,SNR=9.9
H15A **Lima** 96.25 46 ⇑P P 06 55 09.8 -0.1
baz=96,SNR=12
MSU **Marysvale** 96.29 52 eP P 06 55 11.3 +1.1
L15A **Malad City** 96.31 48 ⇑P P 06 55 09.4 -0.8
baz=96
E15A **Deer Lodge** 96.33 44 ⇓P P 06 55 09.5 -0.7
baz=96,SNR=7.3
I15A **Monteview** 96.33 46 ⇑P P 06 55 09.8 -0.5
baz=96
J15A **Blackfoot** 96.34 47 ⇑P P 06 55 10.0 -0.4
baz=96
A15A **Johnson Ranch,** 96.38 41 ⇑P P 06 55 10.2 -0.1
baz=96
G15A **Dillon** 96.38 45 ⇑P P 06 55 10.0 -0.4
baz=96
C15A **Salmond Ranch,** 96.41 43 ⇑P P 06 55 09.6 -0.9
baz=96,SNR=6.4
B15A **Bradely Ranch,** 96.46 42 ⇓P P 06 55 10.2 -0.5
baz=96
W16A **Flagstaff** 96.62 55 ⇑P P 06 55 12.8 +0.9
baz=97
S16A **Weppner Ranch,** 96.71 53 ⇓P P 06 55 12.5 +0.4
baz=97,SNR=15
T16A **Glen Canyon Da** 96.74 54 ⇑P P 06 55 12.8 +0.5
baz=97
P16A **Fountain Green** 96.75 51 ⇑P P 06 55 13.0 +0.8
baz=97
WUAZ **Wupatki** 96.78 55 ⇓P P 06 55 13.1 +0.6
baz=97,SNR=7.4
WUAZ **Wupatki** 96.78 55 eP P 06 55 13.5 +1.0
comp=Z,21nm,1.3s,mb5.4
R16A **Teasdale** 96.82 52 ⇓P P 06 55 13.9 +1.2
baz=97,SNR=33
M16A **Huntsville** 96.84 49 ⇓P P 06 55 12.6 -0.1
baz=97
G16A **Moss Hill, Enn** 96.87 45 ⇑P P 06 55 12.1 -0.6
baz=97
O16A **Springville** 96.89 50 ⇓P P 06 55 12.9 0.0
baz=97,SNR=8.1
HWUT **Hardware Ranch** 96.90 49 eP P 06 55 12.4 -0.5
comp=Z,6.1nm,0.8s,mb5.1
J16A **Bone** 96.93 47 ⇑P P 06 55 12.9 -0.1
baz=97,SNR=7.8
K16A **Soda Springs** 96.94 48 ⇓P P 06 55 13.4 +0.3
baz=97
JLU **Jordanelle** 96.95 50 eP P 06 55 13.2 +0.1
N16A **Rees Ranch, Co** 96.97 50 ⇓P P 06 55 13.5 +0.3
baz=97
U16A **Tuba City** 97.00 54 ⇓P P 06 55 14.4 +0.9
baz=97,SNR=7.6
L16A **Fish Haven** 97.02 49 ⇓P P 06 55 13.1 -0.3
baz=97
I16A **Newdale** 97.05 47 ⇓P P 06 55 13.5 0.0
baz=97,SNR=7.2
TMUT **Trail Mountain** 97.08 51 eP P 06 55 14.1 +0.3
DAU **Daniels Canyon** 97.09 50 eP P 06 55 14.0 +0.2
Q16A **Castle Valley** 97.09 52 ⇓P P 06 55 14.8 +1.0
baz=97
D16A **Dana Ranch, Ca** 97.10 43 ⇓P P 06 55 13.1 -0.6
baz=97
A16A **West Butte Ran** 97.12 42 ⇓P P 06 55 13.1 -0.7
baz=97

RRI2	**Red Ridge**	**97.15**	**47**	*eP*		**P**	**06 55 13.9**	**-0.1**
	comp=Z,6.3nm,0.8s,mb5.1								
H16A	**Russell Place,**	**97.25**	**46**	⇓P		**P**	**06 55 14.4**	**0.0**
	baz=97,SNR=6.1								
T17A	**Navajo Res., N**	**97.31**	**54**	⇓P		**P**	**06 55 15.7**	**+0.8**
	baz=97,SNR=9.2								
S17A	**Black Ridge (B**	**97.33**	**53**	⇓P		**P**	**06 55 15.8**	**+0.8**
	baz=97								
U17A	**Shonto**	**97.40**	**54**	⇑P		**P**	**06 55 16.1**	**+0.8**
	baz=97,SNR=5.3								
TPAW	**Teton Pass**	**97.42**	**47**	*eP*		**P**	**06 55 15.2**	**0.0**
	comp=Z,5.7nm,1.0s,mb5.0								
R17A	**Hanksville Air**	**97.44**	**52**	⇑P		**P**	**06 55 16.1**	**+0.7**
	baz=98,SNR=13								
P17A	**Butcher Ranch,**	**97.45**	**51**	⇑P		**P**	**06 55 15.4**	**0.0**
	baz=98,SNR=5.3								
O17A	**Robinson Place**	**97.48**	**50**	⇓P		**P**	**06 55 15.9**	**+0.4**
	baz=98,SNR=18								
SRU	**San Rafael**	**97.61**	**51**	*eP*		**P**	**06 55 16.2**	**0.0**
SRU					pmax	pmax			
	comp=Z,3.0nm,0.7s,mb4.9								
SRU	**San Rafael**	**97.61**	**51**	⇑P		**P**	**06 55 16.0**	**-0.1**
	baz=98,SNR=8.5								
SRU	**San Rafael**	**97.61**	**51**	*eP*		**P**	**06 55 16.1**	**0.0**
	comp=Z,3.4nm,0.7s,mb5.0								
C17A	**Wharram Farm,**	**97.65**	**43**	⇑P		**P**	**06 55 15.3**	**-0.8**
	baz=98								
I17A	**Pilgram Creek**	**97.71**	**47**	⇑P		**P**	**06 55 16.8**	**+0.3**
	baz=98								
H17A	**Grant Village**	**97.72**	**46**	⇑P		**P**	**06 55 17.2**	**+0.7**
	baz=98								
P18A	**Preston Nutter**	**97.84**	**51**	⇑P		**P**	**06 55 17.9**	**+0.7**
	baz=98,SNR=7.5								
Q18A	**Rafter H Ranch**	**97.91**	**51**	⇓P		**P**	**06 55 17.6**	**+0.1**
	baz=98,SNR=9.6								
V18A	**Ganado**	**97.96**	**55**	⇑P		**P**	**06 55 18.6**	**+0.7**
	baz=98,SNR=5.1								
U18A	**Rough Rock, Ch**	**98.03**	**54**	⇓P		**P**	**06 55 18.7**	**+0.5**
	baz=98,SNR=6.5								
O18A	**Roosevelt**	**98.04**	**50**	⇓P		**P**	**06 55 18.8**	**+0.7**
	baz=98,SNR=8.6								
T18A	**Mexican Hat**	**98.05**	**53**	⇓P		**P**	**06 55 18.4**	**+0.2**
	baz=98								
R18A	**Canyonlands Na**	**98.08**	**52**	⇑P		**P**	**06 55 18.6**	**+0.3**
	baz=98,SNR=10								
E18A	**Harlowton**	**98.22**	**44**	⇓P		**P**	**06 55 18.7**	**0.0**
	baz=98								
N18A	**Larsen Ranch,**	**98.31**	**50**	⇓P		**P**	**06 55 18.9**	**-0.4**
	baz=98,SNR=7.9								
EGMT	**Eagleton**	**98.33**	**42**	⇑P		**P**	**06 55 18.1**	**-1.1**
	baz=98								
F18A	**Big Timber**	**98.35**	**45**	⇑P		**P**	**06 55 18.9**	**-0.4**
	baz=98								
BW06	**Boulder Array**	**98.43**	**48**	⇓P		**P**	**06 55 18.6**	**-1.1**
	baz=98,SNR=7.3								
PDAR	**Pinedale Array**	**98.43**	**48**	P		**P**	**06 55 18.8**	**-1.0**
	comp=Z,4.4nm,0.8s,mb5.1,baz=240,slow=2.0,SNR=34								
PDAR					PP	PP	06 59 18.5	-2.2	
	comp=Z,4.0nm,1.2s,baz=264,slow=3.0,SNR=5.5								
PDAR					PKKPbc	PKKPbc	07 11 49.4	-2.1	
	comp=Z,0.4nm,0.5s,baz=130,slow=3.6,SNR=3.6								
PDAR					LR	LR	07 36 26.7		
	comp=Z,454nm,18.5s,baz=315,slow=33								
Y19A	**Nutrioso**	**98.45**	**57**	⇑P		**P**	**06 55 21.4**	**+1.3**
	baz=98,SNR=6.9								
R19A	**Curley Farm, L**	**98.57**	**52**	⇓P		**P**	**06 55 20.5**	**0.0**
	baz=99								
Q19A	**Hogan Spring (**	**98.58**	**52**	⇑P		**P**	**06 55 20.6**	**0.0**
	baz=99								
S19A	**Harvey Farm, M**	**98.66**	**53**	⇓P		**P**	**06 55 21.8**	**+0.9**
	baz=99,SNR=14								
RLMT	**Red Lodge**	**98.66**	**45**	⇓P		**P**	**06 55 20.8**	**0.0**
	baz=99								
RLMT	**Red Lodge**	**98.66**	**45**	*eP*		**P**	**06 55 22.3**	**+1.6**
	comp=Z,5.8nm,0.9s,mb5.1								
ARU	**Arti**	**98.67**	**326**	*d iP*		**P**	**06 55 17.1**	**-3.4**
ARU							06 59 18.3		
ARU					S	SKSac	07 05 48.6	-4.4	
ARU					pmax	pmax			
	comp=Z,13nm,1.0s,mb5.4								
ARU	**Arti**	**98.67**	**326**	⇓*iP*		**P**	**06 55 17.6**	**-2.9**
N19A	**John Jarvie Ra**	**98.68**	**50**	⇑P		**P**	**06 55 20.4**	**-0.5**
	baz=99								
O19A	**Miners Draw (B**	**98.72**	**50**	⇓P		**P**	**06 55 20.7**	**-0.4**
	baz=99,SNR=12								
T19A	**Beclabito**	**98.72**	**54**	⇓P		**P**	**06 55 22.3**	**+1.1**
	baz=99								
P19A	**Cripple Cowboy**	**98.81**	**51**	⇓P		**P**	**06 55 21.5**	**-0.1**
	baz=99,SNR=8.9								
MVCO	**Mesa Verde**	**99.15**	**53**	⇑P		**P**	**06 55 23.9**	**+0.7**
	baz=99								
SMCO	**Snowmass**	**100.37**	**51**	*e*Pdif		Pdif	06 55 25.9	-2.3	
	comp=Z,6.6nm,0.8s								
SNAA	**Sanae**	**100.77**	**187**	*e*Pdiff		Pdif	06 55 28.3	-1.6	
SNAA				*e*			06 55 33.7		
ANMO	**Albuquerque**	**100.78**	**56**	*e*P		Pdif	06 55 31.4	+1.4	
ANMO					pmax	pmax			
	comp=Z,2.0nm,0.8s								
ANMO	**Albuquerque**	**100.78**	**56**	*e*Pdif		Pdif	06 55 31.4	+1.5	
	comp=Z,1.7nm,0.8s								
VNA3	**Neumayer Olymp**	**101.89**	**185**	*e*Pdiff		Pdif	06 55 33.9	-1.0	
VNA3				*e*			06 55 41.9		
VNA2	**Neumayer--Watz**	**101.98**	**186**	*e*Pdiff		Pdif	06 55 34.3	-1.0	
VNA2				*e*			06 55 41.2		
DGMT	**Dagmar**	**102.03**	**42**	⇓P		Pdif	06 55 34.9	-0.6	
	baz=102								
DGMT	**Dagmar**	**102.03**	**42**	*e*Pdif		Pdif	06 55 35.0	-0.5	
	comp=Z,7.2nm,0.8s								
VNA1	**Neumayer--Stat**	**102.33**	**186**	*e*Pdiff		Pdif	06 55 36.4	-0.5	
VNA1				*e*			06 55 43.3		
RSSD	**Black Hills**	**102.42**	**46**	*e*P		Pdif	06 55 36.5	-0.8	
RSSD					pmax	pmax			
	comp=Z,3.0nm,0.6s								
RSSD	**Black Hills**	**102.42**	**46**	*e*Pdif		Pdif	06 55 36.5	-0.7	
	comp=Z,2.5nm,0.6s								
TXAR	**Lajitas Array**	**103.15**	**61**	PKiKP		PKiKP	06 59 59.9	-0.7	
	comp=Z,1.5nm,0.9s,baz=250,slow=2.6,SNR=4.2								
TXAR					PKKPbc	PKKPbc	07 11 34.3	-3.1	
	comp=Z,2.7nm,0.7s,baz=102,slow=4.0,SNR=26								
VSR	**Storozhevoye**	**110.81**	**323**	*e*PKIKP		PKiKP	07 00 21.1	+6.9	
VSR					pmax	pmax			
	comp=Z,10.0nm,0.5s								
VSR					pmax	pmax			
	comp=N,10.0nm,0.6s								
VSR					pmax	pmax			
	comp=E,20nm,0.8s								
OBN	**Obninsk**	**111.07**	**327**		P	Pdif	06 56 13.0	-2.7	
OBN					pmax	pmax			
	comp=Z,8.0nm,1.3s								
OBN					MLR	MLR			
	comp=Z,200nm,19.0s								
CCM	**Cathedral Cave**	**112.72**	**51**	*e*PKIKP		PKiKP	07 00 16.6	-1.6	
AKASG	**Malin Array Be**	**116.87**	**325**		PKP	PKPdf	07 00 23.9	-1.9	
	comp=Z,1.8nm,0.5s,baz=64,slow=2.1,SNR=4.5								
AKASG					PKKPbc	PKKPbc	07 10 50.6	-3.1	
	comp=Z,1.1nm,0.5s,baz=253,slow=4.6,SNR=5.9								
KMBO	**Kilima Mbogo**	**117.19**	**265**	PKP		PKPdf	07 00 26.9	-0.6	
	comp=Z,2.4nm,1.0s,baz=43,slow=12,SNR=4.8								
KMBO	**Kilima Mbogo**	**117.19**	**265**	PKIKP		PKPdf	07 00 26.9	-0.6	
KMBO					pmax	pmax			
	comp=Z,2.0nm,1.0s								
KMBO	**Kilima Mbogo**	**117.19**	**265**	PKP		PKPdf	07 00 26.9	-0.6	
PLCA	**Paso Flores**	**117.38**	**143**	PKP		PKPdf	07 00 26.4	-0.8	
	comp=Z,2.9nm,0.8s,baz=274,slow=3.1,SNR=3.5								
PLCA					PKKPbc	PKKPbc	07 10 50.0	-1.6	
	comp=Z,1.9nm,0.8s,baz=76,slow=4.2,SNR=5.7								
CPCT	**Cooper Cave**	**118.54**	**53**	*e*PKPdf		PKPdf	07 00 27.3	-2.2	
NB2	**NORSAR Subarra**	**119.00**	**341**	PKPdf		PKPdf	07 00 27.4	-2.2	
	comp=Z,2.5nm,1.0s,baz=44,slow=1.9								
NOA	**NORSAR Array B**	**119.00**	**341**	PKP		PKPdf	07 00 27.8	-1.8	
	comp=Z,1.9nm,0.7s,baz=47,slow=2.0,SNR=6.0								
NOA					PKKPbc	PKKPbc	07 10 44.3	-2.0	
	comp=Z,1.4nm,0.8s,baz=220,slow=8.8,SNR=4.1								
TKL	**Tuckaleechee C**	**119.08**	**53**	PKP		PKPdf	07 00 29.2	-1.4	
	comp=Z,19nm,0.8s,baz=169,slow=3.9,SNR=19								
TKL	**Tuckaleechee C**	**119.08**	**53**	PKIKP		PKPdf	07 00 29.2	-1.3	
TKL					pmax	pmax			
	comp=Z,19nm,0.8s								
TKL	**Tuckaleechee C**	**119.08**	**53**	PKP		PKPdf	07 00 29.2	-1.4	
BOSA	**Boshof**	**120.25**	**232**	PKP		PKPdf	07 00 32.6	-0.4	
	comp=Z,11nm,0.7s,baz=143,slow=2.0,SNR=22								
BOSA	**Boshof**	**120.25**	**232**	PKIKP		PKPdf	07 00 32.6	-0.4	
BOSA					pmax	pmax			
	comp=Z,11nm,0.7s								
BOSA	**Boshof**	**120.25**	**232**	*e*PKPdf		PKPdf	07 00 32.4	-0.7	
BOSA					PKP	PKPdf	07 00 32.6	-0.4	
JSC	**Jenkinsville**	**121.43**	**54**	*e*PKIKP		PKPdf	07 00 34.1	-1.0	
LBTB	**Lobatse**	**121.57**	**236**	*e*PKIKP		PKPdf	07 00 35.3	-0.3	
SSPA	**Standing Stone**	**122.00**	**46**	*e*PKPdf		PKPdf	07 00 34.6	-1.4	
LSZ	**Lusaka**	**122.88**	**247**	*e*PKIKP		PKPdf	07 00 37.6	-0.8	
SDMD	**Soldier's Deli**	**123.20**	**47**	*e*PKPdf		PKPdf	07 00 36.3	-2.0	
CBN	**Corbin**	**123.24**	**48**	*e*PKPdf		PKPdf	07 00 37.1	-1.4	
URVA	**University of**	**123.33**	**49**	*e*PKPdf		PKPdf	07 00 37.1	-1.5	
MDV	**Middlebury**	**123.80**	**40**	*e*PKPdf		PKPdf	07 00 38.3	-1.1	
CNNC	**Cliffs of the**	**123.81**	**52**	*e*PKPdf		PKPdf	07 00 38.3	-1.4	
DPC	**Dobruska-Polom**	**124.10**	**329**	*e*PP		PP	07 02 35.6	+11	
CFAA	**Coronel Fontan**	**124.27**	**135**	PKP		PKPdf	07 00 39.0	-1.7	
	comp=Z,1.1nm,0.8s,baz=244,slow=2.6,SNR=8.2								
CFAA	**Coronel Fontan**	**124.27**	**135**	PKP		PKPdf	07 00 39.0	-1.7	
HNH	**Hanover**	**124.51**	**40**	*e*PKPdf		PKPdf	07 00 40.2	-0.5	
BRG	**Berggiesshubel**	**124.96**	**331**	*e*PKPdf		PKPdf	07 00 40.3	-1.0	
BRG	**Berggiesshubel**	**124.96**	**331**	*e*P		PKPdf	07 00 40.2	-1.2	
	comp=Z,9.0nm,1.3s								
BRG					*e*		07 44 29.1		
	comp=Z,2.3nm,0.7s								
CLL	**Collm**	**125.12**	**332**	*e*PKPdf		PKPdf	07 00 40.4	-1.2	
CLL	**Collm**	**125.12**	**332**	*e*PKPdf		PKPdf	07 00 42.0	+0.4	
CLL				*e*PP		PP	07 02 36.0	+5.0	
CLL				*e*SS		SS	07 19 24.0	+1.5	
CLL				LmV			07 53 00.0		
	comp=Z,300nm,21.6s								
FBE	**Freiberg**	**125.21**	**331**	*e*PKPdf		PKPdf	07 00 41.1	-0.7	
ATAH	**Atahualpa**	**125.33**	**103**	PKP		PKPdf	07 00 44.1	+0.9	
	comp=Z,14nm,0.8s,baz=111,slow=1.2,SNR=8.8								
NNA	**Nana**	**125.55**	**110**	PKP		PKPdf	07 00 41.9	-1.6	
	comp=Z,4.4nm,0.8s,baz=261,slow=5.8,SNR=3.8								
BCIP	**Isla Barro Col**	**125.86**	**83**	*e*PKPdf		PKPdf	07 00 41.9	-2.3	
WERD	**Werda**	**126.02**	**331**	*e*PKPdf		PKPdf	07 00 42.3	-1.1	
GUNZ	**Gunzen**	**126.07**	**331**	*e*PKPdf		PKPdf	07 00 42.6	-0.9	
WERN	**Wernitzgruen**	**126.10**	**331**	*e*PKPdf		PKPdf	07 00 43.1	-0.4	
KHC	**Kasperske Hory**	**126.25**	**329**	*e*PKPDF		PKPdf	07 00 43.0	-0.9	
KHC				*e*PP		PP	07 02 28.4	-10	
GEC2	**GERESS Array S**	**126.37**	**329**	*e*PKPdf		PKPdf	07 00 43.2	-0.9	
GERES	**GERESS Array B**	**126.37**	**329**	PKP		PKPdf	07 00 43.5	-0.6	
	comp=Z,4.5nm,0.8s,baz=64,slow=3.1,SNR=20								
GERES	**GERESS Array B**	**126.37**	**329**	PKIKP		PKPdf	07 00 43.5	-0.6	
GERES					pmax	pmax			
	comp=Z,5.0nm,0.8s								
MANZ	**Manzenberg**	**126.43**	**331**	*e*PKPdf		PKPdf	07 00 43.4	-0.8	
ROTZ	**Rotzenmuhle**	**126.52**	**331**	*e*PKPdf		PKPdf	07 00 43.7	-0.7	
OTAV	**Otavalo**	**126.56**	**94**	*e*PKPdf		PKPdf	07 00 46.3	+0.8	
WET	**Wettzell**	**126.60**	**330**	*e*PKPdf		PKPdf	07 00 44.3	-0.2	
GRA1	**Grafenberg Arr**	**127.05**	**331**	*e*PKPdf		PKPdf	07 00 44.3	-1.1	
GRF	**Grafenberg Arr**	**127.05**	**331**	*e*PKPdf		PKPdf	07 00 44.3	-1.1	
WTTA	**Wattenberg**	**128.45**	**329**	⇓*i*PKiKP		PKiKP	07 00 47.5	-1.2	
	comp=Z,16nm,1.1s								
LVC	**Limon Verde**	**128.49**	**125**	PKP		PKPdf	07 00 49.2	+0.2	
	comp=Z,4.4nm,0.9s,baz=262,slow=1.3,SNR=4.7								
STU	**Stuttgart**	**128.65**	**331**	*e*PKIKP		PKPdf	07 00 40.2	-8.3	
STU					pmax	pmax			
	comp=Z,5.0nm,1.3s								
MOTA	**Moosalm**	**128.67**	**329**	⇓*i*PKiKP		PKiKP	07 00 48.1	-1.1	
	comp=Z,5.6nm,0.7s								
MEM	**Membach**	**128.75**	**335**	PKP		PKPdf	07 00 47.9	-0.7	
FETA	**Feichten**	**129.07**	**329**	⇑*i*PKiKP		PKiKP	07 00 48.4	-1.6	
	comp=Z,10nm,1.2s								
CDF	**Champ du Feu**	**129.81**	**332**	*e*PKP1		PKPdf	07 00 49.5	-1.2	
HINF	**Hinteralfeld**	**130.43**	**332**	*e*PKP1		PKPdf	07 00 50.0	-1.9	
HAU	**Haudompre**	**130.53**	**332**	*e*PKP1		PKPdf	07 00 50.6	-1.5	
TSUM	**Tsumeb**	**130.78**	**238**	*e*PKPdf		PKPdf	07 00 52.5	-0.9	
ROSC	**El Rosal**	**131.13**	**89**	PKP		PKPdf	07 00 53.9	-0.3	
	comp=Z,28nm,0.6s,baz=102,slow=1.0,SNR=36								
ROSC					SKPbc	SKPbc	07 04 11.6	-2.1	
	comp=Z,3.0nm,0.8s,baz=88,slow=22,SNR=2.8								
CABF	**La Chapelle**	**131.66**	**331**	*e*PKP1		PKPdf	07 00 53.8	-0.5	
LPAZ	**La Paz**	**131.97**	**118**	PKP		PKPdf	07 00 56.1	+0.4	
	comp=Z,6.5nm,0.9s,baz=8.7,slow=2.8,SNR=15								
LPAZ					SKPbc	SKPbc	07 04 17.0	+0.4	
	comp=Z,0.7nm,0.6s,baz=352,slow=8.0,SNR=4.4								
LPAZ	**La Paz**	**131.97**	**118**	*e*PKHKP			07 00 46.9		
LPAZ				*e*			07 00 55.8		
LPAZ	**La Paz**	**131.97**	**118**	*e*PKPpre			07 00 46.9		
LPAZ				*e*PKPdf		PKPdf	07 00 55.8	+0.1	
LPAZ				PKP		PKPdf	07 00 56.1	+0.4	
LPAZ				SKPbc		SKPbc	07 04 17.0	+0.4	
LPL	**La Plagne**	**132.13**	**330**	*e*PKP1		PKPdf	07 00 53.7	-1.5	
LPG	**La Plagne**	**132.13**	**330**	*e*PKP1		PKPdf	07 00 54.1	-1.1	
MBDF	**Montbardon**	**132.66**	**329**	*e*PKP1		PKPdf	07 00 54.7	-1.5	
SMF	**Signal de Mont**	**132.68**	**333**	*e*PKP1		PKPdf	07 00 55.0	-1.2	
SBF	**Sospel**	**132.91**	**328**	*e*PKP1		PKPdf	07 00 54.9	-1.8	
TCF	**Toulx Ste Croi**	**133.68**	**334**	*e*PKP1		PKPdf	07 00 56.4	-1.7	
	comp=Z,21nm,1.1s								
LMR	**La Mourre**	**133.76**	**328**	*e*PKP1		PKPdf	07 00 57.6	-0.7	
	comp=Z,32nm,1.1s								
SDV	**Santo Domingo**	**134.95**	**84**	PKhKP			07 00 47.6		
	comp=Z,2.7nm,0.7s,baz=255,slow=4.1,SNR=5.0								
SDV					PKP	PKPdf	07 01 00.5	-0.8	
	comp=Z,78nm,0.7s,baz=276,slow=2.4,SNR=77								
SDV					SKPbc	SKPbc	07 04 24.4	-2.3	
	comp=Z,2.8nm,0.9s,baz=20,slow=17,SNR=2.6								
SDV					SKP		07 04 30.1		
	comp=Z,8.8nm,0.9s,baz=140,slow=21,SNR=10								
SIV	**San Ignacio**	**138.16**	**122**	PKhKP			07 00 52.4		
	comp=Z,1.2nm,0.7s,baz=207,slow=23,SNR=3.1								
SIV					PKP	PKPdf	07 01 06.4	-0.8	
	comp=Z,7.0nm,0.8s,baz=235,slow=3.4,SNR=11								
SIV					SKP		07 04 35.0		
	comp=Z,2.4nm,1.0s,baz=243,slow=2.0,SNR=3.8								
SJG	**San Juan**	**138.44**	**70**	*e*PKIKP		PKPdf	07 01 06.1	-1.6	
PCRV	**Puerto La Cruz**	**140.84**	**82**	PKhKP			07 01 00.6		
	comp=Z,6.2nm,0.9s,baz=325,slow=22,SNR=2.7								
PCAB	**Cabril**	**141.59**	**339**	*e*PKP		PKPdf	07 01 12.1	-0.7	
MVO	**Moncorvo**	**141.70**	**338**	*e*PKP		PKPdf	07 01 13.2	+0.2	
PVIS	**Viseu**	**142.41**	**338**	*e*PKP		PKPdf	07 01 09.1	-5.2	
MTE	**Manteigas**	**142.55**	**338**	*e*PKP		PKPdf	07 01 09.9	-4.6	
PCBR	**Castelo Branco**	**143.01**	**337**	*e*PKP		PKPdf	07 01 11.6	-3.8	
PMRV	**Marv??o**	**143.33**	**337**	*e*PKP		PKPdf	07 01 12.1	-3.9	
FDF	**Fort de France**	**143.76**	**74**	*e*P		PKPdf	07 01 09.7	-7.7	
BIM	**Bigot**	**143.87**	**74**	*e*P		PKPdf	07 01 13.6	-4.0	
PBAR	**Barrancos**	**144.26**	**335**	*e*PKP		PKPdf	07 01 15.2	-2.4	
EVO	**Evora**	**144.35**	**337**	*e*PKP		PKPdf	07 01 15.5	-2.3	
PVAQ	**Vaqueiros**	**145.20**	**335**	*e*PKP		PKPdf	07 01 18.1	-1.2	
PBDV	**Barranco-do-Ve**	**145.42**	**335**	*e*PKP		PKPdf	07 01 19.1	-0.6	
PTEO	**Sao Teotonio**	**145.48**	**337**	*e*PKP		PKPdf	07 01 19.7	-0.1	
MORF	**Marmelete**	**145.66**	**336**	*e*PKP		PKPdf	07 01 19.5	-0.6	
PFVI	**Vila Bisbo**	**145.88**	**336**	*e*PKP		PKPdf	07 01 21.4	+1.0	
BDFB	**Brasilia**	**148.60**	**134**	PKPbc		PKPbc	07 01 28.6	-0.7	
	comp=Z,20nm,0.9s,baz=252,slow=3.2,SNR=15								
BDFB	**Brasilia**	**148.60**	**134**	PKP2		PKPbc	07 01 28.6	-0.7	
BDFB					pmax	pmax			
	comp=Z,20nm,0.9s								
TOA0	**Torodi Ar. Sit**	**152.62**	**286**	*e*PKPdf		PKPdf	07 01 29.9	-1.9	
TOA0				*e*PKPbc		PKPbc	07 01 37.6	-1.3	
TOA0				*e*PKPab		PKPab	07 01 49.2	-0.4	
TORD	**Torodi Ar. Bea**	**152.62**	**286**	PKP		PKPdf	07 01 30.0	-1.8	
	comp=Z,5.5nm,0.9s,baz=41,slow=1.6,SNR=31								
TORD					PKPbc	PKPbc	07 01 37.5	-1.3	
	comp=Z,14nm,0.8s,baz=44,slow=2.2,SNR=33								
TORD					PKPab	PKPab	07 01 48.0	-1.6	
	comp=Z,9.7nm,0.7s,baz=73,slow=3.6,SNR=10								
KIC	**Kosan Boka**	**159.63**	**271**	*e*P		PKPdf	07 01 39.3	-1.8	
	comp=Z,370nm,0.9s								
DBIC	**Dimbokro**	**159.75**	**272**	PKPab		PKPab	07 02 19.9	-0.3	
	comp=Z,39nm,0.9s,baz=78,slow=5.4,SNR=22								
DBIC	**Dimbokro**	**159.75**	**272**	PKP2		PKPab	07 02 20.0	-0.3	
DBIC					pmax	pmax			
	comp=Z,39nm,0.9s								
TIC	**Toumodi**	**159.91**	**272**	*e*P		PKPdf	07 01 37.6	-3.8	
	comp=Z,231nm,1.0s								
LIC	**Lamto**	**159.91**	**271**	⇓*i*PKP2		PKPab	07 02 20.5	-0.5	
	comp=Z,147nm,1.0s								
LIC	**Lamto**	**159.91**	**271**	*e*P		PKPdf	07 01 38.1	-3.3	
	comp=Z,67nm,1.2s								
LIC	**Lamto**	**159.91**	**271**	*e*P		PKPdf	07 01 37.9	-3.5	
	comp=Z,194nm,1.0s								

*ISCJB **23** 06:43:21.6±0.4, 4040N×002×2573E×002, h9km±3km, Error ellipse: s-maj=3.2km s-min=2.9km az=39.1*
*DDA **23** 06:43:22.0, 4039N×2579E, h7km±4km, Md3.2*
*SKO **23** 06:43:21.6, 4045N×2586E, h9km*
*CSEM **23** 06:43:21.6±0.1, 4039N×2576E, h12km, MD3.1, Error ellipse: s-maj=1.3km s-min=1.0km az=11.0*
*ISK **23** 06:43:22.7, 4039N×2586E, h10km, MD3.1, ML3.2*
*NEIC **23** 06:43:22.2, 4040N×2580E, h15km, MD3.1(ISK), MD3.5(ATH), After ATH.*
*THE **23** 06:43:22.7, 4040N×2577E, h12km±1km, ML3.9/4, Error ellipse: s-maj=1.6km s-min=0.9km az=45.0*
*ATH **23** 06:43:22.2, 4040N×2580E, h15km±3km, MD3.5/4*

ISC 23 06:43:22.4±0.4, 4039N±002×2575E±002, h11km±3km, n62, σ0:76/93, 2C, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID			Time		Res
				Op		ISC	h m s		ISC
GADA	**Gvkgeada**	**0.23**	**151**	PG		**Pg**	**06 43 27.7**		**+0.4**
GADA				*e*SG		**Sg**	**06 43 30.9**		**+0.3**
GADA	**Gvkgeada**	**0.23**	**151**	Pg		**Pg**	**06 43 27.7**		**+0.4**
GADA				Sg		**Sg**	**06 43 30.7**		**+0.1**
ENEZ	**Enez**	**0.46**	**42**	*e*PG		**Pg**	**06 43 31.3**		**-0.2**
ENEZ				*e*SG		**Sg**	**06 43 37.6**		**+0.1**
ALN	**Alexandroupoli**	**0.55**	**24**	P		**Pg**	**06 43 33.1**		**-0.1**
ALN				S		**Sg**	**06 43 40.5**		**0.0**
BOZC	**Bozcaada**	**0.60**	**157**	*i* P		**Pg**	**06 43 34.1**		**+0.1**
BOZC				*i* S		**Sg**	**06 43 42.1**		**+0.2**
BOZC	**Bozcaada**	**0.60**	**157**	*i* P		**Pg**	**06 43 33.9**		**-0.2**
BOZC				*i* S		**Sg**	**06 43 41.7**		**-0.2**
LIA	**Limnos Island**	**0.66**	**221**	P		**Pg**	**06 43 35.4**		**+0.2**
LIA				S		**Sg**	**06 43 45.2**		**+1.4**
LIA	**Limnos Island**	**0.66**	**221**	*e*Pn		**Pn**	**06 43 35.7**		**-1.9**
LIA				*e*Sn		**Sg**	**06 43 45.2**		**+1.4**
LIA	**Limnos Island**	**0.66**	**221**	*e*PN		**Pn**	**06 43 35.7**		**-1.9**
LIA				*e*SN		**Sg**	**06 43 45.2**		**+1.4**
EZN	**Ezine**	**0.72**	**142**	*e*PG		**Pg**	**06 43 35.7**		**-0.6**
EZN				*e*SG		**Sg**	**06 43 45.2**		**-0.6**
EZN	**Ezine**	**0.72**	**142**	*e*Pg		**Pg**	**06 43 35.7**		**-0.6**
EZN				Sg		**Sg**	**06 43 45.7**		**0.0**
EZN	**Ezine**	**0.72**	**142**	Pg		**Pg**	**06 43 35.7**		**-0.6**
EZN				Sg		**Sg**	**06 43 45.7**		**0.0**
RDO	**Rodhopi**	**0.77**	**348**	*e*Pn		**Pn**	**06 43 37.5**		**-1.7**
RDO				*e*Sn		**Sn**	**06 43 47.3**		**-3.4**
RDO	**R

CUI Cuipilapa 1.88 320 ⇓ *e*P **Pn 06 50 09.7 -2.4**
VCR Vista de Mar 1.88 299 ⇑ *i*P **Pn 06 50 07.9 -4.3**
VCR Vista de Mar 1.88 299 *e*P **Pn 06 50 08.1 -4.1**
CONN Concepcion 2.85 325 *e*P **Pn 06 50 25.6 0.0**
APON Apoyo 3.39 322 *e*P **Pn 06 50 31.4 -1.6**
TICN Ticuantepe 3.58 322 *e*P **Pn 06 50 36.1 +0.5**
CRUN El Crucero 3.59 320 *e*P **Pn 06 50 36.8 +1.2**
MGAN Managua 3.68 322 *e*P **Pn 06 50 36.9 0.0**
TISN Laguna Tiscapa 3.69 322 *e*P **Pn 06 50 37.7 +0.6**
HUEN 3.79 325 *e*P **Pn 06 50 38.7 +0.3**
HUEN *e*P 06 50 39.0
APYN Apoyeque 3.81 322 *e*P **Pn 06 50 39.4 +0.7**
CSAN 3.82 321 *e*P **Pn 06 50 38.8 0.0**
COPN Copaltepe 3.92 319 *e*P **Pn 06 50 40.1 -0.1**
COPN AML AML 06 52 22.0
comp=Z,239nm,0.5s
MOMN Momotombo 4.06 322 *e*P **Pn 06 50 42.3 +0.1**
BCIP Isla Barro Col 4.07 90 *e*P **Pn 06 50 42.9 +0.7**
BCIP Isla Barro Col 4.07 90 *e*Pn **Pn 06 50 42.9 +0.7**
MIRN Miramar 4.20 320 *e*P **Pn 06 50 44.4 +0.4**
TEL3 Telica 3 4.38 320 *e*P **Pn 06 50 47.0 +0.5**
CNCH Conchagua 5.55 317 *e*P x 06 51 02.5
TGUH Tegucigalpa,Un 5.80 326 *e*Pn **Pn 06 51 08.2 +2.1**
CAHU Cacacuatique 6.16 318 *e*P x 06 51 11.6
LFRS El Faro 6.65 312 *e*P x 06 51 17.1
LBRS Las Brisas 6.71 312 *e*P x 06 51 16.9
LBRS *e*S x 06 52 34.8
SNET Serv Nac Est T 6.82 311 *e*P x 06 51 20.7
RBDL Robledal 7.43 311 *e*P x 06 51 26.8
OTAV Otavalo 10.47 148 *e*Pn **Pn 06 52 08.2 -2.0**
ROSC El Rosal 10.49 114 *e*Pn **Pn 06 52 11.8 +1.5**
comp=Z,0.7nm,0.3s,baz=87,slow=17,SNR=4.8
ROSC LR LR 06 55 37.5
comp=Z,786nm,18.6s,baz=93,slow=34
ROSC El Rosal 10.49 114 *e*Pn **Pn 06 52 13.7 +3.3**
BBJ Bamboo Saint A 11.19 35 ⇑ *e*P **Pn 06 52 24.3 +4.4**
STH Stony Hill 11.21 37 ⇑ *e*P **Pn 06 52 24.4 +4.1**
TEIG Tepich 11.71 340 Pn **Pn 06 52 26.0 -1.2**
baz=211,slow=22,SNR=1.5
TEIG LR LR 06 57 06.8
comp=Z,1μm,19.3s,baz=157,slow=38
TEIG Tepich 11.71 340 *e*Pn **Pn 06 52 30.7 +3.6**
LAPE La Pedrera 12.36 97 ⇓ *e*P Px 06 50 12.6
SDV Santo Domingo 13.16 90 Pn **Pn 06 52 47.2 +0.2**
comp=Z,0.7nm,0.3s,baz=292,slow=7.6,SNR=12
SDV Sn **Sn 06 55 15.4 +3.4**
comp=Z,0.4nm,0.3s,baz=65,slow=21,SNR=1.8
SDV Santo Domingo 13.16 90 *e*Pn **Pn 06 52 48.5 +1.5**
CMIG Matias Romero 13.21 307 Pn **Pn 06 52 44.5 -3.0**
comp=Z,2.3nm,0.3s,baz=141,slow=9.5,SNR=16
CMIG Sn **Sn 06 55 09.2 -3.9**
comp=Z,0.1nm,0.3s,baz=101,slow=16,SNR=1.7
VHO Vista Hermosa 14.68 303 *i* S **Pn 06 53 16.4 +8.8**
ATAH Atahualpa 17.04 161 P **Pn 06 53 38.4 +0.6**
comp=Z,0.4nm,0.3s,baz=43,slow=8.1,SNR=8.1
ATAH LR LR 06 59 23.6
comp=Z,2μm,18.9s,baz=341,slow=34
MPR Mayaguez 18.61 60 *e*Pn **Pn 06 53 59.0 +1.9**
AGPR Aguadilla, PR 18.75 59 *e*P **Pn 06 54 00.5 +1.7**
AOPR Arecibo Observ 19.00 60 *e*Pn **Pn 06 54 03.0 +1.2**
comp=Z,58nm,0.9s
PCRV Puerto La Cruz 19.07 86 P **Pn 06 54 02.5 -0.2**
comp=Z,0.3nm,0.3s,baz=282,slow=11,SNR=2.3
PCRV S **S 06 57 35.9 -0.1**
comp=Z,0.2nm,0.3s,baz=347,slow=18,SNR=2.1
SJG San Juan 19.41 61 *e*P **Pn 06 54 07.4 +0.6**
CPD Cerro la Pandu 19.59 62 *e*P **Pn 06 54 09.0 +0.1**
CPD pmax pmax
comp=Z,72nm,0.9s
CPD Cerro la Pandu 19.59 62 *e*Pn **Pn 06 54 09.0 +0.2**
comp=Z,72nm,0.9s
HUMP Col San Antoni 19.68 61 *e*Pn **Pn 06 54 10.1 0.0**
comp=Z,110nm,1.3s
CBYP Canovanas 19.73 61 *e*P **Pn 06 54 08.0 -2.6**
comp=Z,151nm,1.3s
MTP Monte Pirata 19.93 62 *e*P **Pn 06 54 10.1 -2.8**
GRGR Grenville 22.10 80 *e*P **P 06 54 35.9 +1.4**
comp=Z,134nm,1.2s,mb5.2
NNA Nana 22.22 161 P **P 06 54 33.9 -1.8**
comp=Z,22nm,1.1s,mb4.5,baz=307,slow=12,SNR=9.7
VBMS Vicksburg 23.68 346 *e*P **P 06 54 49.8 -0.7**
LRAL Lakeview Retre 23.87 354 *e*P **P 06 54 52.3 +0.1**
comp=Z,67nm,1.0s,mb5.0
GOGA Godfrey 24.08 1 *e*P **P 06 54 54.6 +0.5**
GOGA pmax pmax
comp=Z,15nm,0.8s,mb4.5
GOGA Godfrey 24.08 1 *e*P **P 06 54 54.6 +0.4**
comp=Z,15nm,0.8s,mb4.5
JSC Jenkinsville 25.07 5 *e*P **P 06 55 03.4 +0.3**
OXF Oxford 25.67 350 *e*P **P 06 55 07.2 -1.4**
OXF pmax pmax
comp=Z,40nm,0.9s,mb5.0
OXF Oxford 25.67 350 *e*P **P 06 55 07.2 -1.4**
comp=Z,40nm,0.9s,mb5.0
JCT Junction City 25.81 327 *e*P **P 06 55 07.4 -2.6**
JCT pmax pmax
comp=Z,7.0nm,0.7s,mb4.3
JCT Junction City 25.81 327 *e*P **P 06 55 07.4 -2.5**
comp=Z,7.5nm,0.7s,mb4.3
SWET Sewanee 25.94 356 *e*P **P 06 55 09.5 -1.6**
CPCT Cooper Cave 26.12 359 *e*P **P 06 55 13.3 +0.7**
TKL Tuckaleechee C 26.32 0 P **P 06 55 14.7 +0.2**
comp=Z,4.8nm,0.8s,mb4.1,baz=165,slow=8.8,SNR=5.3
TKL LR LR 07 06 18.5
comp=Z,521nm,18.6s,MS4.1,baz=151,slow=38
UALR University of 26.57 344 *e*P **P 06 55 15.6 -1.1**
comp=Z,17nm,0.9s,mb4.6
MIAR Mount Ida 26.71 342 *e*P **P 06 55 16.5 -1.5**
MIAR pmax pmax
comp=Z,8.0nm,0.7s,mb4.4
MIAR Mount Ida 26.71 342 *e*P **P 06 55 16.5 -1.5**
comp=Z,8.3nm,0.7s,mb4.4
WVT Waverly 27.02 353 *e*P **P 06 55 18.9 -1.9**
WVT pmax pmax
comp=Z,9.0nm,0.8s,mb4.3
WVT Waverly 27.02 353 *e*P **P 06 55 18.9 -1.9**
comp=Z,8.5nm,0.8s,mb4.3
TXAR Lajitas Array 27.24 320 P **P 06 55 20.7 -2.1**
comp=Z,2.5nm,0.9s,mb3.8,baz=144,slow=8.1,SNR=15
TXAR PcP PcP 06 58 42.9 +0.6
comp=Z,1.1nm,0.8s,baz=161,slow=5.3,SNR=4.2
SIUC Southern Illin 28.77 351 *e*P **P 06 55 35.3 -1.1**
comp=Z,22nm,0.9s,mb4.9
WCI Wyandotte Cave 28.96 356 *e*P **P 06 55 36.6 -1.5**
WCI pmax pmax
comp=Z,23nm,0.9s,mb4.9
WCI Wyandotte Cave 28.96 356 *e*P **P 06 55 36.6 -1.5**
comp=Z,23nm,0.9s,mb4.9
FVM French Village 29.23 349 *e*P **P 06 55 38.1 -2.4**
FVM pmax pmax
comp=Z,4.0nm,0.6s,mb4.3
FVM French Village 29.23 349 *e*P **P 06 55 38.1 -2.3**
comp=Z,3.8nm,0.6s,mb4.3
CCM Cathedral Cave 29.45 348 *e*P **P 06 55 40.3 -2.1**
CCM pmax pmax
comp=Z,18nm,0.7s,mb4.9
CCM Cathedral Cave 29.45 348 *e*P **P 06 55 40.3 -2.1**
comp=Z,18nm,0.7s,mb4.9
OLIL Olney 29.62 353 *e*P **P 06 55 42.1 -1.9**
comp=Z,27nm,1.0s,mb4.9
LPAZ La Paz 29.79 148 S **S 07 00 43.1 +3.5**
comp=Z,1.1nm,0.6s,baz=307,slow=7.0,SNR=4.8
LPAZ LR LR 07 08 38.3
comp=Z,368nm,21.7s,MS4.0,baz=110,slow=38
BLO Bloomington 29.91 356 *e*P **P 06 55 45.2 -1.3**
BLO pmax pmax
comp=Z,16nm,0.8s,mb4.8
BLO Bloomington 29.91 356 *e*P **P 06 55 45.2 -1.3**
comp=Z,16nm,0.8s,mb4.8
MCWV Mont Chateau 30.53 6 *e*P **P 06 55 53.0 +1.0**
ACSO Alum Creek Sta 30.90 1 *e*P **P 06 55 54.3 -0.8**
comp=Z,30nm,0.7s,mb5.2
MVL Millersville 31.39 11 *e*P **P 06 56 00.3 +0.7**
comp=Z,21nm,1.3s,mb4.8
HDIL Hopedale 31.57 352 *e*P **P 06 55 59.0 -2.1**
comp=Z,29nm,0.7s,mb5.2
SSPA Standing Stone 31.75 9 *e*P **P 06 56 03.6 +0.9**
comp=Z,12nm,1.0s,mb4.7
319A Douglas 32.25 317 ⇓ P **P 06 56 07.0 -0.2**
baz=32,SNR=5.3
219A White Tail Can 32.62 318 ⇑ P **P 06 56 10.3 -0.2**
baz=33
318A Bisbee 32.77 316 ⇓ P **P 06 56 11.7 -0.1**
baz=33
119A Ashpeak Ranch, 33.13 319 ⇑ P **P 06 56 14.8 -0.2**
baz=33
218A Dragoon 33.13 317 ⇓ P **P 06 56 14.5 -0.5**
baz=33,SNR=7.7
118A Homack Ranch, 33.49 318 ⇑ P **P 06 56 18.1 +0.1**
baz=34
SCIA State Center 33.57 347 *e*P **P 06 56 16.5 -2.1**
comp=Z,15nm,0.6s,mb5.1
BINY Binghamton 33.59 11 *e*P **P 06 56 19.9 +1.2**
SIV San Ignacio 33.77 138 P **P 06 56 19.1 -1.5**
comp=Z,4.0nm,0.8s,mb4.4,baz=219,slow=17,SNR=2.1
SIV PcP PcP 06 58 59.1 -0.4
comp=Z,1.8nm,0.8s,baz=316,slow=16,SNR=2.6
TUC Tucson 33.84 317 *e*P **P 06 56 21.1 0.0**
TUC pmax pmax
comp=Z,6.0nm,1.0s,mb4.5
TUC Tucson 33.84 317 *e*P **P 06 56 21.1 0.0**
comp=Z,5.9nm,1.0s,mb4.5
Y19A Nutrioso 33.86 320 ⇓ P **P 06 56 21.5 +0.3**
baz=34
117A Oracle 33.96 317 ⇑ P **P 06 56 22.0 -0.1**
baz=34,SNR=6.9
JFWS Jewell Farm 34.02 352 *e*Pdif **P 06 56 19.9 -2.6**
comp=Z,22nm,0.6s,mb5.2
216A Three Points, 34.11 316 ⇓ P **P 06 56 22.9 -0.6**
baz=34,SNR=5.6
X19A St. Johns 34.19 321 ⇑ P **P 06 56 24.4 +0.3**
baz=34
Z17A San Carlos Hig 34.23 318 ⇓ P **P 06 56 24.2 -0.2**
baz=34
Y18A Canyon Day Jun 34.24 319 ⇓ P **P 06 56 24.4 -0.2**
baz=34
SDCO Great Sand Dun 34.42 329 *e*P **P 06 56 27.8 +1.8**
comp=Z,6.0nm,1.3s,mb4.4
116A Eloy 34.61 316 ⇑ P **P 06 56 27.5 -0.3**
baz=35,SNR=12
X18A Snowflake 34.67 320 ⇑ P **P 06 56 28.7 +0.4**
baz=35
W19A Sanders 34.71 322 ⇑ P **P 06 56 29.4 +0.8**
baz=35
Z16A Peralta Trail, 34.89 318 ⇑ P **P 06 56 30.1 0.0**
baz=35
LVC Limon Verde 34.90 155 S **S 07 02 05.1 +6.1**
comp=Z,2.6nm,0.9s,baz=120,slow=4.2,SNR=2.0
LVC LR LR 07 12 14.7
comp=Z,165nm,18.6s,MS3.8,baz=212,slow=39
214A Organ Pipe Nat 35.03 314 ⇑ P **P 06 56 31.4 0.0**
baz=35
115A Sonoran Desert 35.05 316 ⇓ P **P 06 56 32.1 +0.6**
baz=35
X17A Forest Lakes 35.09 319 ⇑ P **P 06 56 32.6 +0.7**
baz=35
Y16A Circle Bar Ran 35.25 318 ⇑ P **P 06 56 33.8 +0.5**
baz=35
Z15A Gila River Ind 35.35 317 ⇓ P **P 06 56 34.4 +0.3**
baz=35
V18A Ganado 35.44 322 ⇑ P **P 06 56 35.5 +0.7**
baz=36
X16A Lo Mia Camp, P 35.55 319 ⇓ P **P 06 56 36.4 +0.5**
baz=36
MVCO Mesa Verde 35.63 325 ⇑ P **P 06 56 37.3 +0.8**
baz=36
MVCO Mesa Verde 35.63 325 *e*P **P 06 56 38.4 +1.9**
comp=Z,40nm,1.9s,mb5.0
NCB Neemb 35.64 12 *e*P **P 06 56 37.7 +1.2**
comp=Z,35nm,1.7s,mb5.0
Y15A Casa Rosa Ranc 35.86 318 ⇑ P **P 06 56 38.6 +0.1**
baz=36
Z14A Wintersburg 35.92 316 ⇑ P **P 06 56 39.2 +0.2**
baz=36
W16A Flagstaff 36.03 320 ⇓ P **P 06 56 40.7 +0.7**
baz=36
ECSD EROS,Sioux Fal 36.11 344 *e*P **P 06 56 37.5 -3.0**
comp=Z,6.4nm,0.8s,mb4.6
X15A Humboldt 36.12 318 ⇓ P **P 06 56 41.2 +0.5**
baz=36
113A Mohawk Valley, 36.16 315 ⇑ P **P 06 56 40.7 -0.4**
baz=36,SNR=5.1
LONY Lake Ozonia 36.19 11 *e*P **P 06 56 41.7 +0.5**
comp=Z,31nm,1.4s,mb5.0
WUAZ Wupatki 36.20 321 ⇑ P **P 06 56 41.5 +0.1**
baz=36
WUAZ Wupatki 36.20 321 *e*P **P 06 56 41.0 -0.4**
comp=Z,15nm,1.0s,mb4.9
SMCO Snowmass 36.26 329 *e*P **P 06 56 40.7 -1.2**
comp=Z,7.2nm,1.2s,mb4.5
Y14A Wickenburg 36.30 317 ⇓ P **P 06 56 42.1 -0.2**
baz=36
T18A Mexican Hat 36.37 324 ⇓ P **P 06 56 43.2 +0.5**
baz=36
S19A Harvey Farm, M 36.37 325 ⇑ P **P 06 56 43.8 +1.0**
baz=36
U16A Tuba City 36.45 322 ⇓ P **P 06 56 44.2 +0.6**
baz=36
U17A Shonto 36.47 323 ⇓ P **P 06 56 44.5 +0.8**
baz=37
X14A Yava 36.53 318 ⇓ P **P 06 56 44.2 0.0**
baz=37,SNR=6.0
W15A Williams 36.56 319 ⇑ P **P 06 56 45.4 +0.9**
baz=37
Y13A Salome 36.78 316 ⇑ P **P 06 56 46.6 +0.1**
baz=37,SNR=9.5
V15A Kaibab Nationa 36.90 320 ⇑ P **P 06 56 47.8 +0.4**
baz=37,SNR=11
GLA Glamis 37.06 314 *e*P **P 06 56 41.8 -6.9**
W14A Seligman 37.11 319 ⇓ P **P 06 56 49.5 +0.4**
baz=37
Y12C Blythe 37.23 316 ⇑ P **P 06 56 50.4 +0.2**
baz=37
T16A Glen Canyon Da 37.23 322 ⇓ P **P 06 56 50.9 +0.8**
baz=37
X13A Yucca 37.23 317 ⇓ P **P 06 56 50.7 +0.4**
baz=37
PDMCI Parker Dam,Lak 37.27 317 ⇓ P **P 06 56 50.7 +0.2**
baz=37,SNR=5.1
Q19A Hogan Spring (37.30 327 ⇓ P **P 06 56 51.7 +1.1**
baz=37
U15A North Rim 37.35 321 ⇑ P **P 06 56 52.3 +1.1**
baz=37
V14A Boquillas Ranc 37.38 319 ⇓ P **P 06 56 52.2 +0.8**
baz=38,SNR=6.9
W13A Hualapai Mount 37.57 318 ⇑ P **P 06 56 53.5 +0.4**
baz=38,SNR=9.1
SWSC Sam W. Stewart 37.69 313 ⇓ P **P 06 56 54.3 +0.3**
baz=38
R17A Hanksville Air 37.73 325 ⇑ P **P 06 56 55.3 +1.0**
baz=38
S16A Weppner Ranch, 37.77 323 ⇓ P **P 06 56 55.1 +0.4**
baz=38
T15A Red Dirt Ranch 37.79 322 ⇑ P **P 06 56 55.9 +1.1**
baz=38
Q18A Rafter H Ranch 37.88 326 ⇑ P **P 06 56 56.3 +0.8**
baz=38
IRM Iron Mountain 37.89 316 ⇓ P **P 06 56 55.8 +0.1**
baz=38
U14A Mt Trumbull 37.91 320 ⇓ P **P 06 56 56.5 +0.7**
baz=38
PKME Peaks-Kenny Pk 38.08 17 *e*P **P 06 56 59.0 +1.8**
comp=Z,18nm,0.8s,mb4.9
V13A Grand Canyon W 38.08 319 ⇑ P **P 06 56 57.7 +0.4**
baz=38
SRU San Rafael 38.10 326 *e*P **P 06 56 58.1 +0.6**
SRU pmax pmax
comp=Z,5.0nm,0.9s,mb4.2
SRU San Rafael 38.10 326 ⇓ P **P 06 56 58.5 +1.0**
baz=38
SRU San Rafael 38.10 326 *e*P **P 06 56 58.1 +0.6**
comp=Z,5.3nm,0.9s,mb4.3
T14A Hurricane 38.25 321 ⇓ P **P 06 56 59.4 +0.7**
baz=38
U13A Pakoon Wash 38.41 319 ⇑ P **P 06 57 00.9 +0.9**
baz=38,SNR=5.1
GMRC Granite Mounta 38.58 316 ⇑ P **P 06 57 01.8 +0.2**
baz=39
109C Camp Elliot, M 38.61 312 ⇓ P **P 06 57 01.7 -0.2**
baz=39
O18A Roosevelt 38.64 327 ⇑ P **P 06 57 02.9 +0.9**
baz=39
N19A John Jarvie Ra 38.66 329 ⇓ P **P 06 57 03.3 +1.1**
baz=39
T13A Saint George 38.74 320 ⇑ P **P 06 57 03.4 +0.5**
baz=39
O17A Robinson Place 38.98 327 ⇓ P **P 06 57 05.8 +1.0**
baz=39
V11A Goodsprings 39.02 318 ⇓ P **P 06 57 05.7 +0.4**
baz=39
MURC Murrieta 39.03 313 ⇑ P **P 06 57 05.7 +0.3**
baz=39,SNR=5.1
S13A Holt Ranch, En 39.05 321 ⇓ P **P 06 57 06.9 +1.4**
baz=39,SNR=5.1
EYMN Ely 39.12 352 *e*P **P 06 57 02.9 -3.0**
comp=Z,6.0nm,0.6s,mb4.5
O16A Springville 39.40 326 ⇑ P **P 06 57 09.2 +0.9**
baz=40
R13A O'Grain Ranch, 39.50 322 ⇓ P **P 06 57 09.8 +0.6**
baz=40
N17A Moffit Pass 39.56 327 ⇓ P **P 06 57 10.7 +1.0**
baz=40
Q14A Sevier Lake (B 39.60 323 ⇑ P **P 06 57 10.8 +0.7**
baz=40
SHOC Shoshone 39.62 317 ⇑ P **P 06 57 10.6 +0.3**
baz=40
GSC Goldstone 39.65 316 ⇓ P **P 06 57 11.0 +0.4**
baz=40
S12A Delamar Landin 39.69 320 ⇑ P **P 06 57 11.2 +0.4**
baz=40
T11A Corn Creek, Al 39.70 320 ⇑ P **P 06 57 11.8 +0.8**
baz=40
CIS Catalina Islan 39.81 312 ⇑ P **P 06 57 12.4 +0.6**
baz=40
P14A Drum Mountains 39.87 324 ⇑ P **P 06 57 13.2 +0.9**
baz=40
U10A Ash Meadows, A 39.95 318 ⇑ P **P 06 57 14.0 +1.0**
baz=40,SNR=8.7
R12A Pony Springs, 39.98 321 ⇑ P **P 06 57 14.4 +1.2**
baz=40,SNR=8.4
TPNV Topopah Spring 40.20 318 ⇑ P **P 06 57 16.0 +0.9**
baz=40,SNR=6.4
TPNV Topopah Spring 40.20 318 *e*P **P 06 57 15.1 0.0**
AGMN Agassiz Refuge 40.23 348 *e*P **P 06 57 12.1 -3.0**
comp=Z,20nm,0.9s,mb4.8
PDAR Pinedale Array 40.24 330 P **P 06 57 13.6 -1.8**
comp=Z,0.9nm,0.7s,mb3.6,baz=123,slow=11,SNR=3.8
EDW2 Edwards Air Fo 40.25 315 ⇓ P **P 06 57 15.9 +0.4**
baz=40
S11A Rachel 40.28 320 ⇓ P **P 06 57 16.6 +0.8**
baz=40
FURC Furnace Creek, 40.33 317 ⇑ P **P 06 57 16.9 +0.7**
baz=40,SNR=9.9
LRMC Laurel Mountai 40.35 316 ⇑ P **P 06 57 16.8 +0.4**
baz=40,SNR=7.0
HWUT Hardware Ranch 40.42 328 *e*P **P 06 57 17.6 +0.9**
comp=Z,5.8nm,0.8s,mb4.4
MPMC Manual Prospec 40.53 316 ⇓ P **P 06 57 17.9 +0.1**
baz=41,SNR=9.6
Q12A Willow Creek R 40.56 322 ⇑ P **P 06 57 18.7 +0.7**
baz=41
R11A Troy Canyon, C 40.60 321 ⇓ P **P 06 57 19.1 +0.7**
baz=41,SNR=6.3
N14A Grayback Hills 40.78 325 ⇓ P **P 06 57 20.1 +0.3**
baz=41
M15A Larsen Ranch, 40.79 327 ⇓ P **P 06 57 20.6 +0.7**
baz=41
Q11A Duckwater 40.95 321 ⇓ P **P 06 57 21.9 +0.8**
baz=41
GRAC Grapevine Rang 40.97 318 ⇓ P **P 06 57 21.7 +0.3**
baz=41
ARVC Arvin 40.97 314 ⇓ P **P 06 57 21.7 +0.2**
baz=41
S10A Tonopah Range, 40.99 319 ⇓ P **P 06 57 22.0 +0.4**
baz=41,SNR=6.2
BSC Santa Cruz Isl 40.99 312 ⇑ P **P 06 57 21.7 0.0**
baz=41
ISA Isabella 41.00 315 *e*P **P 06 57 22.7 +1.0**
ISA pmax pmax
comp=Z,5.0nm,0.9s,mb4.1
ISA Isabella 41.00 315 ⇑ P **P 06 57 22.0 +0.4**
baz=41
ISA Isabella 41.00 315 *e*P **P 06 57 22.7 +1.0**
comp=Z,5.1nm,0.9s,mb4.2
R10A Warm Springs 41.02 320 ⇑ P **P 06 57 22.6 +0.8**
baz=41,SNR=6.0
L15A Malad City 41.13 327 ⇓ P **P 06 57 23.1 +0.4**
baz=41
CWC Cottonwood Cre 41.14 317 ⇓ P **P 06 57 23.1 +0.3**
baz=41,SNR=5.2
SBC Santa Barbara 41.26 313 ⇓ P **P 06 57 23.8 -0.1**
baz=41
S09A Goldfield 41.28 319 ⇓ P **P 06 57 24.1 +0.2**
baz=41
O12A Currie 41.29 324 ⇓ P **P 06 57 24.5 +0.5**
baz=41
M14A Sheep Mountain 41.31 326 ⇑ P **P 06 57 24.8 +0.7**
baz=41
REDW Red Top Meadow 41.32 330 *e*P **P 06 57 23.1 -1.1**
comp=Z,18nm,1.3s,mb4.5
Q10A Clear Creek Ra 41.40 321 ⇑ P **P 06 57 26.1 +1.2**
baz=42,SNR=9.4
R09A Tonopah 41.48 319 ⇑ P **P 06 57 26.4 +0.8**
baz=42,SNR=6.9
TPH Tonopah 41.48 319 *e*P **P 06 57 25.8 +0.2**
TPH pmax pmax
comp=Z,11nm,1.1s,mb4.4
TPH Tonopah 41.48 319 *e*P **P 06 57 25.8 +0.2**
comp=Z,11nm,1.1s,mb4.4
VES Vestal, Richgr 41.51 315 ⇓ P **P 06 57 26.4 +0.5**
baz=42,SNR=8.3
RRI2 Red Ridge 41.54 330 *e*P **P 06 57 27.4 +1.4**
comp=Z,2.5nm,0.7s,mb4.0
PKM Peak Mountain 41.56 313 ⇓ P **P 06 57 26.7 +0.4**
baz=42
I17A Pilgram Creek 41.60 331 ⇑ P **P 06 57 26.7 +0.3**
baz=42
L14A Malta 41.61 327 ⇑ P **P 06 57 27.1 +0.5**
baz=42
J16A Bone 41.64 329 ⇓ P **P 06 57 27.2 +0.4**
baz=42
K15A Arbon 41.69 328 ⇓ P **P 06 57 27.6 +0.4**
baz=42
O11A Cowboy Ranch, 41.74 323 ⇓ P **P 06 57 28.1 +0.4**
baz=42
SMMC Simmler 41.89 314 ⇓ P **P 06 57 28.8 -0.2**
baz=42
K14A Jones Ranch, D 41.93 327 ⇑ P **P 06 57 29.4 +0.2**
baz=42
ULM Lac du Bonnet 42.09 349 P **P 06 57 27.0 -3.3**
comp=Z,23nm,1.0s,mb4.8,baz=158,slow=9.4,SNR=14
ULM PcP PcP 06 59 24.0 -0.5
comp=Z,5.2nm,0.7s,baz=84,slow=0.9,SNR=3.7
ULM LR LR 07 16 48.2
comp=Z,186nm,18.4s,MS4.0,baz=32,slow=39
ULM Lac du Bonnet 42.09 349 *e*P **P 06 57 27.8 -2.5**
comp=Z,21nm,1.0s,mb4.7
R08A Mina 42.21 319 ⇓ P **P 06 57 32.1 +0.5**
baz=42
NVAR Mina Array Bea 42.38 319 P **P 06 57 32.7 -0.2**
comp=Z,8.2nm,0.8s,mb4.4,baz=133,slow=7.2,SNR=24
NVAR PcP PcP 06 59 26.3 +0.5
comp=Z,1.8nm,0.8s,baz=126,slow=4.6,SNR=4.4
Q08A Gabbs 42.39 320 ⇑ P **P 06 57 33.0 0.0**
baz=42
KCC Kaiser Creek 42.45 317 ⇑ P **P 06 57 33.4 -0.1**
baz=42
T06C Millerton Lake 42.55 316 ⇑ P **P 06 57 33.1 -1.2**
baz=43
PKD Parkfield 42.59 314 ⇑ P **P 06 57 34.2 -0.4**
baz=43
J14A Carey 42.65 328 ⇑ P **P 06 57 35.3 +0.2**
baz=43
K12A Draper Farm, C 42.93 326 ⇑ P **P 06 57 37.4 0.0**
baz=43
U04C Hernandez Rese 42.96 315 ⇓ P **P 06 57 37.2 -0.5**
baz=43
J13A Cove Ranch, Pi 43.05 327 ⇑ P **P 06 57 38.5 +0.2**
baz=43
L11A Cat Creek Ranc 43.09 325 ⇓ P **P 06 57 39.0 +0.4**
baz=43
V03C Hunter Liggett 43.12 314 ⇑ P **P 06 57 38.9 -0.1**
baz=43
H15A Lima 43.12 330 ⇓ P **P 06 57 38.9 +0.1**
baz=43
S05C Merced 43.15 316 ⇓ P **P 06 57 39.2 0.0**
baz=43
G16A Moss Hill, Enn 43.16 331 ⇑ P **P 06 57 39.5 +0.4**
baz=43
WAKR Walker 43.16 318 *e*P **P 06 57 40.2 +0.9**
R06C Coleville 43.18 318 ⇓ P **P 06 57 39.4 0.0**
baz=43,SNR=10.0
HLID Hailey 43.29 327 ⇑ P **P 06 57 40.1 -0.2**
baz=43
HLID Hailey 43.29 327 *e*P **P 06 57 40.2 0.0**
comp=Z,2.7nm,0.8s,mb4.0
N09A Rock Creek Ran 43.31 322 ⇓ P **P 06 57 40.2 -0.2**
baz=43
I13A Wildhorse Cree 43.38 328 ⇑ P **P 06 57 41.4 +0.5**
baz=44
G15A Dillon 43.44 331 ⇓ P **P 06 57 41.1 -0.3**

	baz=44								
J12A	**Stokes Ranch,**	**43.45**	**327**	⇑P		**P**	**06 57 41.2**	**-0.3**	
	baz=44								
L10A	**Juniper Basin**	**43.45**	**324**	⇓P		**P**	**06 57 42.1**	**+0.6**	
	baz=44								
H14A	**Leadore**	**43.48**	**329**	⇑P		**P**	**06 57 41.5**	**-0.2**	
	baz=44								
CMB	**Columbia Colle**	**43.54**	**317**	⇑P		**P**	**06 57 42.0**	**-0.3**	
	baz=44								
CMB	**Columbia Colle**	**43.54**	**317**	*e*P		**P**	**06 57 43.2**	**+0.8**	
SAO	**San Andreas Ge**	**43.63**	**315**	*e*P		**P**	**06 57 43.0**	**0.0**	
N08A	**GE Springer Mi**	**43.63**	**322**	⇑P		**P**	**06 57 43.2**	**+0.1**	
	baz=44								
PACP	**Pacheco Peak**	**43.63**	**315**	⇓P		**P**	**06 57 42.8**	**-0.3**	
	baz=44								
K11A	**Parker Ranch,**	**43.64**	**325**	⇑P		**P**	**06 57 42.2**	**-0.9**	
	baz=44								
WCN	**Washoe City**	**43.81**	**319**	⇑P		**P**	**06 57 44.1**	**-0.4**	
	baz=44								
I12A	**Atlanta**	**43.83**	**327**	⇓P		**P**	**06 57 43.9**	**-0.7**	
	baz=44								
H13A	**Challis**	**43.90**	**329**	⇓P		**P**	**06 57 44.6**	**-0.5**	
	baz=44								
F15A	**Butte**	**43.94**	**331**	⇑P		**P**	**06 57 44.6**	**-0.8**	
	baz=44								
MFID	**Camas Ranch**	**43.95**	**326**	⇓P		**P**	**06 57 45.0**	**-0.6**	
	baz=44								
O06A	**Flanigan**	**44.33**	**320**	⇓P		**P**	**06 57 48.1**	**-0.6**	
	baz=44								
I11A	**Placerville**	**44.35**	**327**	⇑P		**P**	**06 57 48.0**	**-0.7**	
	baz=44								
EGMT	**Eagleton**	**44.39**	**335**	⇓P		**P**	**06 57 48.6**	**-0.4**	
	baz=44								
JRSC	**Jasper Ridge**	**44.49**	**315**	⇓P		**P**	**06 57 49.0**	**-0.9**	
	baz=45								
K09A	**Rome**	**44.56**	**324**	⇓P		**P**	**06 57 49.8**	**-0.7**	
	baz=45,SNR=12								
L08A	**Fields**	**44.61**	**323**	⇑P		**P**	**06 57 50.1**	**-0.7**	
	baz=45								
M07A	**Soldier Meadow**	**44.63**	**322**	⇑P		**P**	**06 57 50.4**	**-0.5**	
	baz=45								
N06A	**Buffalo Meadow**	**44.67**	**321**	⇑P		**P**	**06 57 50.7**	**-0.6**	
	baz=45								
F13A	**Darby**	**44.79**	**330**	⇑P		**P**	**06 57 51.1**	**-1.1**	
	baz=45								
E14A	**Clinton**	**44.83**	**331**	⇓P		**P**	**06 57 51.5**	**-1.0**	
	baz=45								
WVOR	**Wild Horse Val**	**44.93**	**323**	*e*P		**P**	**06 57 52.1**	**-1.3**	
WVOR					pmax	pmax			
	comp=Z,17nm,1.2s,mb4.8								
WVOR	**Wild Horse Val**	**44.93**	**323**	*e*P		**P**	**06 57 52.1**	**-1.3**	
	comp=Z,17nm,1.2s,mb4.8								
OHCM	**Honcut**	**44.96**	**318**	*e*P		**P**	**06 57 54.0**	**+0.4**	
J09A	**Fry Pan Ranch,**	**44.98**	**325**	⇓P		**P**	**06 57 53.0**	**-0.8**	
	baz=45								
K08A	**Mann Creek Ran**	**45.02**	**324**	⇓P		**P**	**06 57 53.3**	**-0.8**	
	baz=45								
ORV	**Oroville**	**45.08**	**318**	⇑P		**P**	**06 57 54.2**	**-0.4**	
	baz=45,SNR=10.0								
L07A	**Adell**	**45.10**	**322**	⇑P		**P**	**06 57 54.1**	**-0.6**	
	baz=45,SNR=7.7								
CVS	**Carmenet Viney**	**45.10**	**316**	⇓P		**P**	**06 57 53.7**	**-1.1**	
	baz=45								
F12A	**Elk City**	**45.23**	**329**	⇑P		**P**	**06 57 54.6**	**-1.1**	
	baz=45								
NSHM	**Saint Helena R**	**45.29**	**316**	*e*P		**P**	**06 57 55.8**	**-0.6**	
C15A	**Salmond Ranch,**	**45.42**	**333**	⇑P		**P**	**06 57 56.1**	**-1.1**	
	baz=46								
G11A	**Walters Elk Ra**	**45.51**	**328**	⇓P		**P**	**06 57 56.9**	**-1.0**	
	baz=46								
HOOD	**Mount Hood Mea**	**48.40**	**325**	*e*P		**P**	**06 58 21.1**	**+0.6**	
EDM	**Edmonton**	**49.88**	**337**	*e*P		**P**	**06 58 29.3**	**-2.4**	
PLCA	**Paso Flores**	**51.22**	**167**	P		**P**	**06 58 39.9**	**-2.0**	
	comp=Z,8.6nm,0.9s,mb4.7,baz=344,slow=7.3,SNR=9.5								
PLCA	**Paso Flores**	**51.22**	**167**	*e*P		**P**	**06 58 40.0**	**-1.9**	
PLCA					pmax	pmax			
	comp=Z,20nm,0.8s								
PLCA	**Paso Flores**	**51.22**	**167**	*e*P		**P**	**06 58 40.0**	**-1.9**	
	comp=Z,20nm,0.8s,mb5.1								
TRQA	**Tornquist**	**51.31**	**158**	*e*P		**P**	**06 58 43.8**	**+1.1**	
	comp=Z,4.3nm,0.8s,mb4.4								
YKA	**Yellowknife Ar**	**57.64**	**344**	P		**P**	**06 59 25.9**	**-2.3**	
	comp=Z,3.9nm,0.8s,mb4.5,baz=139,slow=7.0,SNR=7.2								
YKA					PcP	PcP	07 00 21.1	+0.1	
	comp=Z,2.2nm,0.7s,baz=137,slow=4.3,SNR=6.0								
YKA	**Yellowknife Ar**	**57.64**	**344**	P		**P**	**06 59 25.9**	**-2.3**	
YKA					PcP	PcP	07 00 21.1	+0.1	
DLBC	**Dease Lake**	**60.29**	**334**	*e*P		**P**	**06 59 46.0**	**-0.7**	
RES	**Resolute Bay**	**65.73**	**357**	*e*P		**P**	**07 00 20.7**	**-1.9**	
	comp=Z,461nm,1.3s								
INK	**Inuvik**	**67.31**	**342**	*e*P		**P**	**07 00 32.3**	**-0.5**	
	comp=Z,339nm,1.1s								
SVW2	**Sparrevohn**	**73.13**	**331**	*e*P		**P**	**07 01 07.2**	**-1.3**	
EVO	**Evora**	**73.33**	**53**	*e*PKIKP		**P**	**07 01 09.9**	**-0.3**	
	comp=Z,17nm,0.9s,mb4.7								
EVO	**Evora**	**73.33**	**53**	*e*P		**P**	**07 01 09.7**	**-0.5**	
	comp=Z,17nm,0.9s,mb4.7								
ESDC	**Sonseca Array**	**76.49**	**51**	P		**P**	**07 01 28.9**	**+0.5**	
	comp=Z,2.3nm,0.6s,mb4.3,baz=278,slow=5.6,SNR=8.2								
ESLA	**Sonseca Array**	**76.49**	**51**	*e*P		**P**	**07 01 28.3**	**-0.1**	
	comp=Z,1.1nm,0.9s,mb3.8								
DBIC	**Dimbokro**	**78.24**	**85**	P		**P**	**07 01 36.8**	**-1.9**	
	comp=Z,4.2nm,0.7s,mb4.5,baz=264,slow=8.9,SNR=3.6								
DBIC	**Dimbokro**	**78.24**	**85**	*e*P		**P**	**07 01 36.6**	**-2.1**	
	comp=Z,30nm,1.5s,mb5.0								
SJPF	**Ste Jean**	**78.47**	**48**	*e*P		**P**	**07 01 40.1**	**+0.7**	
	comp=Z,57nm,1.4s,mb5.0								
SJPF	**Ste Jean**	**78.47**	**48**	*e*P		**P**	**07 01 40.1**	**+0.7**	
SJPF					pmax	pmax			
	comp=Z,28nm,1.4s,mb5.0								
SJPF	**Ste Jean**	**78.47**	**48**	*e*P		**P**	**07 01 40.1**	**+0.7**	
	comp=Z,28nm,1.4s,mb5.0								
GRR	**Gorron**	**78.60**	**42**	*e*P		**P**	**07 01 40.0**	**0.0**	
	comp=Z,20nm,0.8s,mb4.8								
GRR	**Gorron**	**78.60**	**42**	*e*P		**P**	**07 01 40.0**	**0.0**	
GRR					pmax	pmax			
	comp=Z,10.0nm,0.8s,mb4.8								
GRR	**Gorron**	**78.60**	**42**	*e*P		**P**	**07 01 40.0**	**0.0**	
	comp=Z,10nm,0.8s,mb4.8								
ETSF	**Etsaut**	**78.97**	**48**	*e*P		**P**	**07 01 42.3**	**+0.2**	
LDF	**La Druitiere**	**79.08**	**42**	*e*P		**P**	**07 01 42.3**	**-0.3**	
	comp=Z,30nm,1.0s,mb4.9								
LDF	**La Druitiere**	**79.08**	**42**	*e*P		**P**	**07 01 42.3**	**-0.3**	
LDF					pmax	pmax			
	comp=Z,15nm,1.0s,mb4.9								
LDF	**La Druitiere**	**79.08**	**42**	*e*P		**P**	**07 01 42.3**	**-0.3**	
	comp=Z,15nm,1.0s,mb4.9								
MFF	**Saint Martin d**	**79.12**	**44**	*e*P		**P**	**07 01 43.0**	**+0.1**	
	comp=Z,9.4nm,0.7s,mb4.5								
MFF	**Saint Martin d**	**79.12**	**44**	*e*P		**P**	**07 01 43.0**	**+0.1**	
MFF					pmax	pmax			
	comp=Z,5.0nm,0.7s,mb4.5								
MFF	**Saint Martin d**	**79.12**	**44**	*e*P		**P**	**07 01 43.0**	**+0.1**	
	comp=Z,4.7nm,0.7s,mb4.5								
EPF	**Esparros**	**79.62**	**48**	*e*P		**P**	**07 01 44.8**	**-0.9**	
MTLF	**Montolieu**	**80.97**	**47**	*e*P		**P**	**07 01 52.7**	**-0.3**	
AVF	**Avril sur Loir**	**81.52**	**44**	*e*P		**P**	**07 01 55.8**	**0.0**	
LPG	**La Plagne**	**84.00**	**45**	*e*P		**P**	**07 02 08.7**	**0.0**	
NB2	**NORSAR Subarra**	**84.51**	**29**	P		**P**	**07 02 10.5**	**-0.4**	
	comp=Z,15nm,1.4s,mb4.9,baz=280,slow=5.1								
NOA	**NORSAR Array B**	**84.51**	**29**	P		**P**	**07 02 10.4**	**-0.5**	
	comp=Z,2.4nm,0.9s,mb4.3,baz=276,slow=4.8,SNR=5.2								
CLL	**Collm**	**87.20**	**39**	*e*P		**P**	**07 02 24.0**	**-0.5**	
CLL					pmax	pmax			
	comp=Z,9.0nm,0.9s,mb5.0								
CLL	**Collm**	**87.20**	**39**	*e*P		**P**	**07 02 24.0**	**-0.5**	
	comp=Z,9.0nm,0.9s,mb5.0								
GERES	**GERESS Array B**	**88.13**	**41**	P		**P**	**07 02 29.0**	**-0.1**	
	comp=Z,0.4nm,0.4s,mb4.0,baz=245,slow=2.8,SNR=4.1								
GERES	**GERESS Array B**	**88.13**	**41**	P		**P**	**07 02 28.9**	**-0.1**	
APA	**Apatity**	**91.56**	**20**⇑	*e*P		**P**	**07 02 45.0**	**+0.4**	
APA					pmax	pmax			
	comp=Z,66nm,1.7s,mb5.7								
ZALV	**Zalesovo Beam**	**116.36**	**7**	PP		PP	07 09 22.1	-5.0	
	comp=Z,1.9nm,0.9s,baz=343,slow=4.5,SNR=7.6								
KURK	**Kurchatov**	**118.42**	**13**	PKP		PKPdf	07 08 25.4	-0.4	
	comp=Z,0.7nm,0.2s,baz=343,slow=2.9,SNR=2.7								
SONM	**Songino Array**	**122.46**	**352**	PKP		PKPdf	07 08 32.8	-0.8	
	comp=Z,1.0nm,0.6s,baz=277,slow=2.4,SNR=5.0								
MKAR	**Makanchi Array**	**122.91**	**11**	PKP		PKPdf	07 08 33.2	-1.3	
	comp=Z,0.3nm,0.5s,baz=44,slow=4.4,SNR=2.7								
MKAR					PP	PP	07 10 09.4	-2.7	
	comp=Z,0.2nm,0.3s,baz=349,slow=5.9,SNR=2.6								
KSRS	**Korea Array**	**124.81**	**329**	PKP		PKPdf	07 08 37.4	-1.0	
	comp=Z,2.3nm,0.8s,baz=324,slow=0.8,SNR=8.5								
HHC	**Hu-ho-hao-te**	**128.17**	**345**	*e*PKP		PKPdf	07 08 37.9	-6.8	
HHC					PP	PP	07 10 45.9	-1.3	
HHC					PKS		07 12 13.8		
HHC					PP	PP			
	comp=Z,180nm,5.7s								
HHC					LR	LR			
	comp=N,150nm,21.4s,MS4.8								
HHC					LR	LR			
	comp=E,188nm,21.2s,MS4.8								
HHC					LR	LR			
	comp=Z,180nm,21.0s,MS4.7								
NJ2	**Nanjing**	**133.53**	**333**	*e*PKP		PKPdf	07 08 56.3	+1.2	
LZH	**Lanzhou**	**134.34**	**351**	*e*PKP		PKPdf	07 08 57.3	+0.7	
LZH					LR	LR			
	comp=N,183nm,17.8s								
LZH					LR	LR			
	comp=Z,164nm,18.1s,MS4.8								
CD2	**Chengdu**	**139.42**	**350**	*e*PKP		PKPdf	07 09 02.3	-3.8	
CD2					PP	PP	07 11 59.6	+0.8	
CD2					PKS		07 12 37.3		
CD2					SKS	SKSdf	07 16 07.3	-6.4	
CD2					SS	SS	07 30 11.0	-2.8	
CD2					PP	PP			
	comp=Z,120nm,10.2s								
CD2					LR	LR			
	comp=N,210nm,18.4s								
CD2					LR	LR			
	comp=Z,180nm,16.8s,MS4.9								
ASAR	**Alice Springs**	**141.10**	**244**	PKhKP			07 09 01.0		
	comp=Z,1.5nm,0.7s,baz=105,slow=3.1,SNR=7.2								
ASAR					PKP	PKPdf	07 09 06.8	-2.5	
	comp=Z,1.4nm,0.6s,baz=108,slow=3.5,SNR=16								
GYA	**Guiyang**	**143.07**	**344**	*e*PKP		PKPdf	07 09 10.8	-2.0	
GYA					PP	PP	07 12 23.9	+2.7	
GYA					PKS		07 12 44.6		
GYA					SKS	SKSdf	07 16 12.8	-6.9	
GYA					SKKS	SKKSac	07 19 06.3	-6.3	
GYA					SS	SS	07 30 53.4	-3.1	
GYA					PP	PP			
	comp=Z,110nm,7.8s								
GYA					LR	LR			
	comp=N,170nm,21.2s,MS4.9								
GYA					LR	LR			
	comp=E,130nm,20.9s,MS4.9								
GYA					LR	LR			
	comp=Z,110nm,21.4s,MS4.6								
KMI	**Kunming**	**145.25**	**349**	PKP		PKPdf	07 09 14.1	-2.5	
KMI					LR	LR			
	comp=Z,63nm,23.9s,MS4.3								
CMAR	**Chiang Mai Arr**	**152.35**	**354**	PKP		PKPdf	07 09 28.2	0.0	
	comp=Z,1.8nm,0.5s,baz=85,slow=0.9,SNR=4.7								
CMAR					PKPbc	PKPbc	07 09 34.5	-0.5	
	comp=Z,2.9nm,0.6s,baz=338,slow=2.5,SNR=18								
CMAR					PKPab	PKPab	07 09 40.9	-4.0	
	comp=Z,4.7nm,1.0s,baz=330,slow=3.3,SNR=7.7								

MEX 23 06:51:48.5±0.5, 1483N×9169W, h76km±10km, MD4.3, Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THIG		**0.56**	**278**	*i* P	Pn	06 52 00.8	-1.5
THIG				*i* S	Sn	06 52 11.0	-1.6
CCIG	**Comitan**	**1.51**	**344**	*i* P	Pn	06 52 12.8	-0.9
CCIG				*i* S	Sn	06 52 31.0	-1.8
CCIG	**Comitan**	**1.51**	**344**	*i* P	Pn	06 52 12.8	-0.9
CCIG				*i* S	Sn	06 52 28.2	-4.5
SCX	**San Cristobal**	**2.10**	**335**	*i* P	Pn	06 52 21.7	+0.1
TGIG		**2.38**	**325**	*i* P	Pn	06 52 24.1	-1.2
TGIG				*i* S	Sn	06 52 51.5	-2.0
VHO	**Vista Hermosa**	**5.34**	**295**	*e*P	Pn	06 53 05.4	-0.3
VHO				*i* S	Sn	06 54 05.4	-0.4
VHO	**Vista Hermosa**	**5.34**	**295**	*e*P	Pn	06 53 03.3	-2.3

*ISCJB **23** 06:51:48.7±0.6, 2453S±005×6952W±007, h87km±5km, mb4.2/10, Error ellipse: s-maj=10.8km s-min=7.8km az=178.7*
*IDC **23** 06:51:50.9±0.7, 2439S×6944W, h85km±5km, mb4.1/10, mb1 4.2/12, mb1mx4.0/18, mbtmp4.0/12, MS2.9/2, Ms1 3.0/2, ms1mx2.7/23, Error ellipse: s-maj=22.7km s-min=8.7km az=96.0*
*GUC **23** 06:51:51.3±0.7, 2410S×6959W, h118km±10km, ML4.6*
*NEIC **23** 06:51:51.3, 2410S×6959W, h118km, MG4.6(GUC), After GUC.*

ISC 23 06:51:51.8±0.9, 2434S±008×6954W±007, h91km±6km, n23, σ0s70/27, mb4.2/10, 2C-1D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ANCH	**Antofagasta**	**1.03**	**309**	*e*P	**Pn**	**06 52 12.3**	**+0.4**
ANCH				*i* S	**Sn**	**06 52 27.7**	**+0.7**
CEN1	**Los Morros**	**1.12**	**327**	⇓*i*P	**Pn**	**06 52 11.8**	**-1.2**
CEN1				*i* S	**Sn**	**06 52 27.8**	**-1.1**
CEN1				AML	AML	06 52 29.3	
	comp=E,8μm,0.4s						
LVC	**Limon Verde**	**1.81**	**19**	P	**Pn**	**06 52 21.3**	**-0.3**
	comp=E,85nm,0.3s,baz=172,slow=8.8,SNR=1147						
LVC				S	**Sn**	**06 52 44.4**	**+0.1**
	comp=E,426nm,0.3s,baz=335,slow=23,SNR=91						
SPCH	**San Pedro de A**	**1.88**	**41**⇑	*i*P	**Pn**	**06 52 22.6**	**+0.1**
SPCH				*i* S	**Sn**	**06 52 46.7**	**+0.8**
SPCH				AML	AML	06 52 56.4	
	comp=E,6μm,0.6s						
SPCH	**San Pedro de A**	**1.88**	**41**⇑	*i*P	**Pn**	**06 52 22.6**	**+0.1**
SPCH				*i* S	**Sn**	**06 52 46.7**	**+0.8**
CFAA	**Coronel Fontan**	**7.33**	**171**	P	**Pn**	**06 53 30.4**	**-5.8**
	comp=E,0.4nm,0.3s,baz=350,slow=12,SNR=20						
CFAA				S	**Sn**	**06 54 52.2**	**-5.6**
	comp=E,0.4nm,0.3s,baz=9.0,slow=8.5,SNR=2.1						
CFAA	**Coronel Fontan**	**7.33**	**171**	P	**Pn**	**06 53 30.4**	**-5.8**
CFAA				S	**Sn**	**06 54 52.2**	**-5.6**
LPAZ	**La Paz**	**8.12**	**10**	P	**Pn**	**06 53 47.4**	**+0.4**
	comp=E,0.9nm,0.3s,baz=198,slow=6.2,SNR=24						
LPAZ				LR	LR	06 57 12.3	
	comp=E,67nm,19.6s,baz=82,slow=39						
SIV	**San Ignacio**	**11.49**	**45**	P	**Pn**	**06 54 26.6**	**-6.3**
	comp=E,8.3nm,0.3s,baz=227,slow=10,SNR=64						
PLCA	**Paso Flores**	**16.37**	**183**	P	**Pn**	**06 55 36.5**	**+0.5**
	comp=E,0.1nm,0.3s,baz=344,slow=12,SNR=5.3						
PLCA				LR	LR	07 02 24.5	
	comp=E,54nm,19.1s,baz=246,slow=39						
TEIG	**Tepich**	**47.90**	**336**	P	**P**	**07 00 21.0**	**0.0**
	comp=E,6.0nm,0.5s,mb4.7,baz=111,slow=20,SNR=11						
TKL	**Tuckaleechee C**	**61.17**	**347**	P	**P**	**07 01 55.9**	**-0.9**
	comp=E,2.1nm,0.6s,mb4.3,baz=190,slow=6.0,SNR=2.9						
TXAR	**Lajitas Array**	**62.64**	**327**	P	**P**	**07 02 07.8**	**+1.1**
	comp=E,0.9nm,0.8s,mb3.8,baz=149,slow=8.8,SNR=8.5						
DBIC	**Dimbokro**	**70.11**	**73**	P	**P**	**07 02 53.7**	**-1.1**
	comp=E,6.9nm,0.7s,mb4.6,baz=279,slow=3.6,SNR=3.7						
PDAR	**Pinedale Array**	**76.28**	**331**	P	**P**	**07 03 31.4**	**+1.0**
	comp=E,0.5nm,0.4s,mb3.6,baz=140,slow=7.4,SNR=5.3						
NVAR	**Mina Array Bea**	**77.37**	**323**	P	**P**	**07 03 36.8**	**+0.1**
	comp=E,0.7nm,0.7s,mb3.5,baz=113,slow=8.1,SNR=5.2						
ULM	**Lac du Bonnet**	**77.84**	**343**	P	**P**	**07 03 38.8**	**-0.2**
	comp=E,2.0nm,0.4s,mb4.2,baz=175,slow=8.1,SNR=5.0						
ULM				LR	LR	07 38 35.3	
	comp=E,762nm,20.0s,baz=112,slow=36						
TORD	**Torodi Ar. Bea**	**78.86**	**70**	P	**P**	**07 03 44.4**	**-1.0**
	comp=E,5.4nm,0.6s,mb4.5,baz=258,slow=5.1,SNR=18						
TORD				pP	pP	07 04 06.5	-2.8
	comp=E,7.5nm,0.6s,baz=251,slow=5.1,SNR=9.9						
TORD				sP	sP	07 04 17.2	-1.9
	comp=E,2.7nm,0.6s,baz=252,slow=5.6,SNR=2.9						
MAW	**Mawson**	**81.79**	**163**	P	**P**	**07 04 00.2**	**-0.1**
	comp=E,3.2nm,0.5s,mb4.4,baz=215,slow=6.8,SNR=29						
YKA	**Yellowknife Ar**	**93.66**	**341**	P	**P**	**07 04 58.0**	**+0.5**
	comp=E,0.7nm,0.6s,mb4.2,baz=126,slow=6.2,SNR=3.9						
ASAR	**Alice Springs**	**127.14**	**207**	PKP	PKPdf	07 10 44.6	-1.6
	comp=E,0.8nm,0.6s,baz=132,slow=2.1,SNR=8.0						
ZALV	**Zalesovo Beam**	**144.75**	**26**	PKP	PKPdf	07 11 17.2	-0.4
	comp=E,9.9nm,0.5s,baz=312,slow=4.0,SNR=33						
ZALV				pPKP	pPKPdf	07 11 40.0	-3.0
	comp=E,4.3nm,0.7s,baz=302,slow=3.6,SNR=4.8						
MKAR	**Makanchi Array**	**148.24**	**38**	PKP	PKPdf	07 11 24.1	+0.4
	comp=E,2.5nm,0.6s,baz=34,slow=0.4,SNR=15						
MKAR				PKPbc	PKPbc	07 11 27.4	+0.2
	comp=E,2.6nm,0.6s,baz=317,slow=2.7,SNR=15						
MKAR				pPKPbc	pPKPbc	07 11 50.2	-2.1
	comp=E,1.7nm,0.6s,baz=308,slow=2.6,SNR=5.2						

*NEIC **23** 07:12:25.5, 1590N×9751W, h16km, MD3.9(MEX), After MEX.*
MEX 23 07:12:25.7±1.0, 1592N×9751W, h16km±28km, MD3.9,

Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.75**	**308**	*i* P	Pg	07 12 37.6	-2.8
PNIG				*i* S	Sg	07 12 46.4	-4.0
VHO	**Vista Hermosa**	**1.37**	**33**	*e*P	Pn	07 12 46.4	-3.8
VHO				*i* S	Sn	07 13 02.2	-5.7
OXX	**Oaxaca**	**1.38**	**33**	*i* P	Pn	07 12 47.5	-2.8
OXX				*i* S	Sn	07 13 02.6	-5.6
OXX	**Oaxaca**	**1.38**	**33**	*i* P	Pn	07 12 47.5	-2.8
OXX				*i* S	Sn	07 13 03.3	-4.9
UTMO	**Huajuapan**	**1.92**	**352**	*i* P	Pn	07 12 55.5	-2.2
UTMO				*i* S	Sn	07 13 18.0	-3.5
TPIG	**Tehuac#an**	**2.49**	**3**	*i* P	Pn	07 13 03.2	-2.4
TPIG				*i* S	Sn	07 13 31.5	-4.1
PPM	**Popocatepetl**	**3.30**	**341**	*i* P	Pn	07 13 14.9	-1.9
PPM				*i* S	Sn	07 13 53.6	-2.2
PPM	**Popocatepetl**	**3.30**	**341**	*i* P	Pn	07 13 26.7	+10
PPM				*i* S	Sn	07 14 02.4	+6.7

*NEIC **23** 07:12:58.4, 3487S×7250W, h37km, MD3.5(GUC), After GUC.*
GUC 23 07:12:58.4±0.5, 3487S×7250W, h37km±6km, MD3.5, ML2.5, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SFDO	**San Fernando**	**1.25**	**79**	*e*P	Pn	07 13 20.4	+1.1
SFDO				*i* S	Sn	07 13 37.2	+2.3
TACH	**Talagante**	**1.77**	**47**	*e*P	Pn	07 13 27.7	+1.2
TACH				*i* S	Sn	07 13 50.1	+2.3
PCH	**Pirque**	**2.06**	**53**	*e*P	Pn	07 13 32.1	+1.6
PCH				*i* S	Sn	07 13 58.1	+3.1
LMEL	**Las Melosas**	**2.15**	**62**	*e*P	Pn	07 13 33.7	+1.9
LMEL				*i* S	Sn	07 14 00.0	+2.7
LMEL				AML	AML	07 14 03.7	
	comp=N,62nm,0.4s						
LMEL	**Las Melosas**	**2.15**	**62**	*e*P	Pn	07 13 33.7	+1.9
LMEL				*i* S	Sn	07 14 00.0	+2.7
CLCH	**Cerro Calan**	**2.19**	**48**	*e*P	Pn	07 13 33.9	+1.6
CLCH				*i* S	Sn	07 14 00.8	+2.6
CLCH				AML	AML	07 14 11.9	
	comp=N,38nm,0.5s						
FCH	**Farellones**	**2.39**	**51**	*i* S	Sn	07 14 06.6	+3.5
FCH				AML	AML	07 14 11.8	
	comp=N,31nm,0.2s						

*NIED **23** 07:16:00, 4230N×14300E, h50km, Mw3.9 Best double couple: M07.07000×10^14 NP1:φs28.00000°, δ66.00000°, λ85.00000°. NP2:φs218.00000°, δ25.00000°, λ100.00000°.*
*IDC **23** 07:16:27.2±1.9, 4260N×14317E, h0km, mb3.9/4, mb1 3.9/6, mb1mx3.7/20, mbtmp3.8/6, ML3.5/2, Error ellipse: s-maj=42.8km s-min=32.6km az=161.0*
*MOS **23** 07:16:31.9±1.6, 4247N×14275E, h33km, mb4.2/3, Error ellipse: s-maj=33.2km s-min=21.6km az=45.2*
*ISCJB **23** 07:16:33.2±0.6, 4230N±005×14304E±005, h61km±4km, mb3.7/4, Error ellipse: s-maj=9.8km s-min=5.6km az=154.4*
*JMA **23** 07:16:34.3±0.1, 4231N×14305E, h49km±1km, M3.8*
JMA Felt I J1.
*NEIC **23** 07:16:34.4, 4231N×14305E, h49km, MG3.8(JMA), After JMA.*
NEIC Recorded [1 JMA] in south-central Hokkaido.
ISC 23 07:16:34.3±0.6, 4232N±005×14305E±005, h55km±5km, n23, σ0s69/31, mb3.7/4, 4C-3D, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNBK	**Urakawa-nobuka**	**0.22**	**261**	⇓P	**Pn**	**07 16 42.6**	**-0.7**
JNBK				*e*S	**Sn**	**07 16 49.4**	**-0.4**
JEM	**Erimo**	**0.31**	**165**	⇑P	**Pn**	**07 16 43.6**	**-0.4**
JCH	**Churui**	**0.38**	**38**	⇑P	**Pn**	**07 16 44.2**	**-0.4**
JCH				*e*S	**Sn**	**07 16 51.9**	**-0.1**
JBT2	**Biratori 2**	**0.68**	**313**	⇓P	**Pn**	**07 16 47.9**	**-0.1**
JOB	**Onbets**	**0.83**	**44**	⇑P	**Pn**	**07 16 50.3**	**+0.5**
JOB				*e*S	**Sn**	**07 17 02.6**	**+1.3**
JFR	**Furan**	**0.91**	**339**	P	**Pn**	**07 16 50.2**	**-0.7**
JFR				*e*S	**Sn**	**

ISC 23 07:55:44.2±1.1, 062N±008×987E±01, H77km±9km, n54, σ0°91/50, mb4.5/23, 2C-1D, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TRSI	**Tarutung**	**1.42**	**12**	P	**Pn**	**07 56 06.5**	**-1.9**
TRSI	**Tarutung**	**1.42**	**12**	S	**Sn**	**07 56 18.7**	**-8.0**
PPI	**Padang Panjang**	**2.04**	**122**	P	**Pn**	**07 56 16.5**	**0.0**
PPI	**Padang Panjang**	**2.04**	**122**	P	**Pn**	**07 56 17.2**	**+0.7**
PDSI	**Padang**	**2.36**	**130**	P	**Pn**	**07 56 20.4**	**-0.4**
PDSI	**Padang**	**2.36**	**130**	P	**Pn**	**07 56 20.9**	**+0.1**
TSI	**Tuntungan**	**2.86**	**358**	P	**Pn**	**07 56 27.5**	**-0.1**
TSI	**Tuntungan**	**2.86**	**358**	P	**Pn**	**07 56 28.6**	**+1.0**
IPM	**Ipoh**	**4.50**	**32**	P	**Pn**	**07 56 50.2**	**+0.2**
IPM	**Ipoh**	**4.50**	**32**	P	**Pn**	**07 56 50.3**	**+0.3**
MYKOM	**Kota Tinggi**	**5.31**	**77**	P	**Pn**	**07 56 59.2**	**-1.9**
MYKOM	**Kota Tinggi**	**5.31**	**77**	P	**Pn**	**07 57 03.8**	**+2.7**
KSI	**Kapahiang**	**5.78**	**137**	P	**Pn**	**07 57 09.6**	**+2.1**
	107nm,0.3s,5µm0.9nm						
BSI	**Banda Aceh**	**5.89**	**325**	P	**Pn**	**07 57 05.0**	**-4.0**
SBUM	**Sibu**	**13.67**	**82**	P	**Pn**	**07 59 04.1**	**+9.3**
CMAR	**Chiang Mai Arr**	**17.73**	**1**	P	**Pn**	**07 59 45.8**	**-0.3**
	1.2nm,0.3s,baz=192,slow=11,SNR=11						
SMKI	**Samarinda**	**18.57**	**93**	P	**Pn**	**07 59 50.7**	**-5.7**
	186nm,1.5s						
SHL	**Shillong**	**25.65**	**346**	*e*P	**P**	**08 01 06.0**	**-0.8**
ODAN	**Odare**	**28.25**	**338**	*e*P	**P**	**08 01 31.7**	**+1.5**
TAPN	**Taplejung**	**28.58**	**339**	*e*P	**P**	**08 01 33.1**	**0.0**
	20nm,0.8s,mb4.8						
RAMN	**Ramite**	**28.63**	**337**	*e*P	**P**	**08 01 34.7**	**+1.1**
JIRN	**Jiri**	**29.43**	**337**	*e*P	**P**	**08 01 41.0**	**+0.4**
	19nm,0.8s,mb4.8						
GUN	**Gumba**	**29.77**	**337**	*e*P	**P**	**08 01 44.3**	**+0.6**
	15nm,0.4s,mb5.0						
KOLN	**Koldanda**	**30.61**	**333**	*e*P	**P**	**08 01 51.5**	**+0.4**
	13nm,0.6s,mb4.8						
DANN	**Dangsing**	**31.04**	**334**	*e*P	**P**	**08 01 54.1**	**-0.8**
	7.2nm,0.4s,mb4.7						
XAN	**Xi'an**	**34.60**	**15**	P	**P**	**08 02 25.3**	**-0.6**
XAN				AP	pP	08 02 30.9	-13
XAN				AMB	AMB		
	comp=Z,3.0nm,0.5s,mb4.4						
XAN				AMB	AMB		
	comp=Z,35nm,4.0s						
GTA	**Gaotai**	**38.62**	**1**	*e*P	**P**	**08 03 00.8**	**+0.8**
GTA				AP	pP	08 03 07.9	-10
GTA				XP	sP	08 03 12.3	-15
GTA				AMB	AMB		
	comp=Z,5.0nm,1.0s,mb4.3						
WRAB	**Tennant Creek**	**40.50**	**122**	*i* P	**P**	**08 03 14.3**	**-1.6**
ASAR	**Alice Springs**	**41.88**	**128**	P	**P**	**08 03 25.7**	**-1.5**
	comp=Z,0.5nm,0.3s,mb3.7,baz=302,slow=7.7,SNR=15						
ASAR				PcP	PcP	08 05 22.6	+0.9
	comp=Z,1.2nm,0.6s,baz=303,slow=3.2,SNR=9.4						
KSRS	**Korea Array**	**45.51**	**33**	P	**P**	**08 03 56.6**	**+0.5**
	comp=Z,5.3nm,0.7s,mb4.4,baz=222,slow=8.8,SNR=19						
KSRS				LR	LR	08 25 23.7	
	comp=Z,33nm,18.3s,baz=355,slow=39						
SONM	**Songino Array**	**47.50**	**7**	P	**P**	**08 04 12.8**	**+1.3**
	comp=Z,3.4nm,0.6s,mb4.4,baz=190,slow=9.6,SNR=19						
SONM				PcP	PcP	08 05 41.8	+1.3
	comp=Z,1.9nm,0.7s,baz=177,slow=5.8,SNR=4.6						
ULN	**Ulaanbaatar**	**47.62**	**8**	*e*P	**P**	**08 04 13.6**	**+1.2**
ULN				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.3						
ULN	**Ulaanbaatar**	**47.62**	**8**	*e*P	**P**	**08 04 13.6**	**+1.2**
	comp=Z,2.6nm,0.6s,mb4.2						
MK31	**Makanchi Array**	**48.16**	**345**	*e*P	**P**	**08 04 16.7**	**+0.1**
MKAR	**Makanchi Array**	**48.16**	**345**	P	**P**	**08 04 17.0**	**+0.4**
	comp=Z,9.0nm,0.6s,mb4.8,baz=154,slow=8.3,SNR=81						
STKA	**Stephens Creek**	**51.89**	**133**	P	**P**	**08 04 45.4**	**+0.2**
	comp=Z,3.1nm,1.1s,mb4.2,baz=319,slow=9.3,SNR=3.8						
KURK	**Kurchatov**	**52.73**	**344**	*c i*P	**P**	**08 04 51.2**	**+0.2**
KURK				pmax	pmax		
	comp=Z,9.0nm,0.9s,mb4.8						
ZAA0	**Zalesovo Array**	**54.37**	**350**	*e*P	**P**	**08 05 02.9**	**0.0**
ZALV	**Zalesovo Beam**	**54.37**	**350**	P	**P**	**08 05 03.0**	**+0.1**
	comp=Z,6.4nm,0.4s,mb5.0,baz=176,slow=5.8,SNR=32						
NVS	**Novosibirsk**	**55.50**	**349**	*e*P	**P**	**08 05 10.2**	**-0.9**
BOD	**Bodaibo**	**58.32**	**10**	*e*P	**P**	**08 05 30.8**	**-0.1**
BOD				*e*		08 05 44.3	
BOD				pmax	pmax		
	comp=Z,6.0nm,0.9s,mb4.6						
BOD				pmax	pmax		
	comp=Z,5.0nm,0.9s,mb4.5						
ARU	**Arti**	**64.28**	**337**	*c i*P	**P**	**08 06 11.0**	**-0.3**
ARU				*e*		08 08 28.5	
ARU				*e*S	**S**	**08 14 50.2**	**+7.1**
ARU				*e*SS	SS	08 18 56.0	+1.9
ARU				pmax	pmax		
	comp=Z,12nm,2.5s,mb4.3						
YAK	**Yakutsk**	**65.57**	**15**	*e*P	**P**	**08 06 19.8**	**+0.3**
YAK				pmax	pmax		
	comp=Z,19nm,0.8s,mb5.0						
TIXI	**Tiksi**	**73.50**	**10**	*e*P	**P**	**08 07 06.9**	**-1.3**
TIXI				pmax	pmax		
	comp=Z,5.0nm,1.0s,mb4.2						
OBN	**Obninsk**	**73.88**	**328**	P	**P**	**08 07 10.0**	**-0.7**
OBN				pmax	pmax		
	comp=Z,4.0nm,0.7s,mb4.3						
AKASG	**Malin Array Be**	**76.61**	**322**	P	**P**	**08 07 25.5**	**-0.9**
	comp=Z,1.0nm,0.4s,mb3.9,baz=86,slow=4.9,SNR=4.6						
AKASG	**Malin Array Be**	**76.61**	**322**	P	**P**	**08 07 25.5**	**-0.9**
ARCES	**ARCESS Array B**	**83.57**	**133**	P	**P**	**08 08 03.9**	**+0.3**
	comp=Z,1.2nm,0.4s,mb4.0,baz=90,slow=3.6,SNR=9.4						
GERES	**GERESS Array B**	**86.21**	**319**	P	**P**	**08 08 17.2**	**0.0**
	comp=Z,1.1nm,0.9s,mb3.8,baz=74,slow=8.3,SNR=3.6						
NVAR	**Mina Array Bea**	**128.38**	**37**	PKP	PKPdf	08 14 44.7	+2.2
	comp=Z,0.5nm,0.7s,baz=210,slow=2.3,SNR=4.0						
TXAR	**Lajitas Array**	**143.36**	**34**	PKP	PKPdf	08 15 08.7	-1.8
	comp=Z,0.4nm,0.5s,baz=227,slow=0.6,SNR=14						
JCT	**Junction City**	**144.43**	**28**	*e*PKIKP	PKPdf	08 15 11.5	-0.9
GOGA	**Godfrey**	**146.09**	**3**	*e*PKP2	PKPab	08 15 16.5	-0.2
LRAL	**Lakeview Retre**	**146.10**	**9**	*e*PKPbc	PKPbc	08 15 16.5	+0.4

CASC 23 08:02:51.5±3.1, 894N×8415W, h0km±10km, MD4.0, 5C-4D, Off coast of Costa Rica

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BUS	**Buena Vista**	**0.72**	**32**	⇓*e*P	Pg	08 03 06.5	+1.1
BUS				*e*S	Sg	08 03 18.0	+3.2
BAR1		**0.88**	**70**	⇓*e*P	Pg	08 03 09.6	+1.2
BAR1				*e*S	Sg	08 03 23.8	+4.0
URSC	**Urasca**	**0.96**	**22**	⇓*e*P	Pg	08 03 10.3	+0.3
SJS	**Escuela Geolog**	**1.00**	**5**	⇑*e*P	Pg	08 03 10.9	+0.1
SJS				*e*S	Sg	08 03 26.3	+2.6
ACR	**Cerro Adams**	**1.01**	**106**	⇑*i*P	Pg	08 03 10.9	+0.1
ACR				*e*S	Sg	08 03 26.1	+2.1
PRS1	**Puriscal**	**1.05**	**351**	⇑*e*P	Pg	08 03 09.8	-1.9
CGA2	**Cerro Gallo 2**	**1.12**	**344**	*e*P	Pg	08 03 12.0	-0.9
JCR	**Jicaral**	**1.32**	**314**	⇑*e*P	Pg	08 03 13.7	-3.1
LIO	**Limon**	**1.53**	**46**	⇑*e*P	Pn	08 03 19.8	-0.2
CUI	**Cuipilapa**	**2.00**	**330**	⇓*e*P	Pn	08 03 24.8	-1.7
LAPE	**La Pedrera**	**12.52**	**95**	*e*P		08 03 30.0	

DDA 23 08:21:04.7, 38.38N×39.40E, h7km±2km, Md2.8
CSEM 23 08:21:05.6±0.1, 38.41N×39.30E, h5km, MD2.8, Error ellipse: s-maj=4.2km s-min=2.9km az=108.0
ISCJB 23 08:21:06.1±0.8, 38.40N±004×39.37E±006, h5km±5km, Error ellipse: s-maj=7.6km s-min=6.4km az=157.5
ISK 23 08:21:06.0, 38.44N×39.32E, h2km, MD2.7
ISC 23 08:21:06.4±0.8, 38.39N±004×39.37E±007, H6km±8km, n7, σ0°68/13, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SVRC	**Sivrice-ELAZID**	**0.05**	**251**	*e*PG	**Pg**	**08 21 07.7**	**0.0**
SVRC				*e*SG	**Sg**	**08 21 08.6**	**-0.2**
ELZG	**Elazig**	**0.32**	**289**	*i* P	**Pg**	**08 21 12.2**	**-0.4**
ELZG				*i* S	**Sg**	**08 21 17.1**	**+0.4**
PTK	**Pertek**	**0.50**	**2**	*e*PG	**Pg**	**08 21 15.7**	**-0.2**
PTK				*e*SG	**Sg**	**08 21 23.1**	**+0.7**
URFA	**Urfa**	**1.04**	**205**	*e*PG	**Pg**	**08 21 27.5**	**+1.1**
KEMA	**Kemaliye**	**1.11**	**322**	*i* P	**Pg**	**08 21 26.2**	**-1.5**
KEMA				*i* S	**Sg**	**08 21 42.7**	**+0.7**
AKCD	**Akcadag**	**1.14**	**265**	*i* P	**Pg**	**08 21 27.3**	**-0.9**
AKCD				*i* S	**Sg**	**08 21 43.3**	**+0.3**
MARD	**Mardin**	**1.55**	**134**	*i* P	**Pn**	**08 21 26.9**	**-7.7**
MARD				*i* S	**Sn**	**08 21 54.9**	**-0.1**

HLW 23 08:26:21.5, 29.45N×37.29E, h6km, Mb3.6
GII 23 08:26:29.9±1.1, 29.93N×36.15E, h0km, ML2.1/2, EXPLOSION
ISC 23 08:26:28.7±1.6, 29.89N±006×36.33E±008, H0km, n10, σ0°76/16, 1D, Western Arabian Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HRFI	**Mount Harif**	**1.13**	**278**	Pg	**Pg**	**08 26 49.8**	**-0.7**
HRFI				Sg	**Sg**	**08 27 05.2**	**0.0**
ZFRI	**Zfri**	**1.20**	**304**	Sg	**Sg**	**08 27 07.3**	**0.0**
EIL	**Elat**	**1.22**	**260**	Pg	**Pg**	**08 26 52.0**	**-0.1**
EIL				Sg	**Sg**	**08 27 09.1**	**+1.2**
MBRI	**Mt Berech**	**1.24**	**266**	Pg	**Pg**	**08 26 52.1**	**-0.3**
MBRI				Sg	**Sg**	**08 27 08.9**	**+0.5**
PRNI	**Paran**	**1.24**	**292**	Pg	**Pg**	**08 26 52.2**	**-0.3**
PRNI				Sg	**Sg**	**08 27 08.5**	**-0.1**
KRMI	**Paran Flat**	**1.41**	**280**	Pg	**Pg**	**08 26 54.6**	**-1.3**
KRMI				Sg	**Sg**	**08 27 13.3**	**-0.8**
HBST	**Basata**	**1.55**	**245**	P	**Pn**	**08 26 58.4**	**+0.9**
MZDA	**Masada**	**1.64**	**330**	Sn	**Sn**	**08 27 21.9**	**+1.2**
HKAT	**Jabal Katrina**	**2.46**	**237**	⇓P	**Pn**	**08 27 09.6**	**-0.5**
HKAT				S	**Sn**	**08 27 44.7**	**+3.9**
AMAG	**Maghara**	**2.81**	**286**	P	**Pn**	**08 27 19.2**	**+4.3**

ATH 23 08:42:40.9, 37.60N×22.72E, h62km±9km, ML2.8
NEIC 23 08:42:40.9, 37.60N×22.72E, h62km, MG2.8(ATH), After ATH.
ISCJB 23 08:42:41.4±0.7, 37.62N±003×22.71E±005, h61km±8km, Error ellipse: s-maj=7.2km s-min=5.6km az=6.0
CSEM 23 08:42:41.7±0.1, 37.65N×22.67E, h30km, ML3.3/2, Error ellipse: s-maj=2.3km s-min=2.0km az=109.0
THE 23 08:42:41.1, 37.61N×22.62E, h61km±2km, ML3.3/2, Error ellipse: s-maj=2.8km s-min=1.0km az=163.0
ISC 23 08:42:42.0±0.7, 37.62N±003×2271E±005, H58km±9km, n29, σ0°79/39, Southern Greece

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VLX	**Vlachokerasia**	**0.36**	**226**	P	**Pn**	**08 42 51.6**	**-0.8**
VLX				S	**Sn**	**08 42 58.5**	**-1.4**
DID	**Didima**	**0.43**	**105**	P	**Pn**	**08 42 52.9**	**-0.2**
DID				S	**Sn**	**08 43 02.0**	**+0.9**
LTK	**Loutraki**	**0.45**	**27**	P	**Pn**	**08 42 53.2**	**-0.1**
LTK				S	**Sn**	**08 43 02.4**	**+1.0**
NAIG	**Nisos Aigina**	**0.63**	**77**	*e*P	**Pn**	**08 42 55.5**	**+0.2**
NAIG	**Nisos Aigina**	**0.63**	**77**	*e*P	**Pn**	**08 42 55.5**	**+0.2**
ITM	**Ithomi**	**0.76**	**235**	*e*P	**Pn**	**08 42 56.4**	**-0.4**
ITM				*e*S	**Sn**	**08 43 08.5**	**+0.8**
ITM	**Ithomi**	**0.76**	**235**	*e*P	**Pn**	**08 42 56.4**	**-0.4**
ITM				*e*S	**Sn**	**08 43 08.5**	**+0.8**
KVR	**Kavouri**	**0.87**	**76**	*e*P	**Pn**	**08 42 58.0**	**-0.2**
KVR	**Kavouri**	**0.87**	**76**	*e*P	**Pn**	**08 42 58.0**	**-0.2**
ATH	**Athens Observa**	**0.87**	**66**	*e*P	**Pn**	**08 42 58.2**	**0.0**
ATH	**Athens Observa**	**0.87**	**66**	*e*P	**Pn**	**08 42 58.2**	**0.0**
VLI	**Veliai**	**0.92**	**168**	*e*P	**Pn**	**08 42 59.0**	**+0.1**
VLI				*e*S	**Sn**	**08 43 10.6**	**-0.7**
VLI	**Veliai**	**0.92**	**168**	*e*P	**Pn**	**08 42 59.0**	**+0.1**
VLI				*e*S	**Sn**	**08 43 10.6**	**-0.7**
LKR	**Lokris**	**1.05**	**12**	P	**Pn**	**08 43 00.3**	**-0.3**
LKR				S	**Sn**	**08 43 14.7**	**+0.2**
LKR	**Lokris**	**1.05**	**12**	*e*P	**Pn**	**08 43 00.5**	**-0.1**
LKR	**Lokris**	**1.05**	**12**	*e*P	**Pn**	**08 43 00.5**	**-0.1**
RLS	**Riolos of Patr**	**1.08**	**294**	P	**Pn**	**08 43 02.8**	**+1.9**
KYTH	**Kithira**	**1.36**	**169**	*e*P	**Pn**	**08 43 04.5**	**-0.2**
KYTH	**Kithira**	**1.36**	**169**	*e*P	**Pn**	**08 43 04.5**	**-0.2**
AGG	**Agios Georgios**	**1.43**	**348**	P	**Pn**	**08 43 05.2**	**-0.5**
AGG				S	**Sn**	**08 43 22.6**	**-0.8**
EVR	**Evrytania**	**1.48**	**332**	*e*P	**Pn**	**08 43 06.4**	**+0.1**
EVR	**Evrytania**	**1.48**	**332**	*e*P	**Pn**	**08 43 06.4**	**+0.1**
VLS	**Valsamata**	**1.77**	**289**	*e*P	**Pn**	**08 43 12.5**	**+2.3**
VLS	**Valsamata**	**1.77**	**289**	*e*P	**Pn**	**08 43 12.5**	**+2.3**
XOR	**Xorichti**	**1.78**	**12**	P	**Pn**	**08 43 10.0**	**-0.4**
AOS	**Alonnisos**	**1.80**	**30**	P	**Pn**	**08 43 10.3**	**-0.4**
THL	**Klokotos Trika**	**2.02**	**345**	P	**Pn**	**08 43 13.1**	**-0.5**
THL				S	**Sn**	**08 43 37.5**	**-0.2**
APE	**Apeiranthos**	**2.31**	**103**	P	**Pn**	**08 43 18.7**	**+1.0**
PAIG	**Paliouri**	**2.43**	**18**	P	**Pn**	**08 43 18.2**	**-1.0**

NEIC 23 08:49:01.0±0.9, 50.34N×189.0E, h5km, MG2.6(WAR), Error ellipse: s-maj=14.8km s-min=7.7km az=189.0
IPEC 23 08:49:00.4±0.2, 50.39N×188.8E, h0km, ML2.0/3, Error ellipse: s-maj=2.3km s-min=0.8km az=174.0
CSEM 23 08:49:00.6±0.2, 50.38N×188.6E, h0km±1km, ML2.9/6, Error ellipse: s-maj=10.2km s-min=2.9km az=24.0
PRU 23 08:49:01.3, 50.36N×188.1E, h0km
WAR 23 08:49:00.5, 50.36N×189.3E, ML2.6, Mining Induced, Poland

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OJC	**Ojcow**	**0.58**	**104**	*e*Pg	Pg	08 49 12.0	+0.5
OJC				*e*Sg	Sg	08 49 20.2	+1.2
OKC	**Ostrava-Krasne**	**0.72**	**224**	*e*PG	Pg	08 49 14.5	+0.1
OKC				*e*SG	Sg	08 49 22.7	-1.1
	26nm,0.7s						
MORC	**Moravsky Berou**	**1.07**	**237**	*e*Pg	Pg	08 49 20.1	-0.8
MORC				*e*Sg	Sg	08 49 34.3	-0.4
	40nm,0.4s						
NIE	**Niedzica**	**1.30**	**136**	*e*Pg	Pg	08 49 26.1	+0.7
NIE				*e*Sg	Sg	08 49 44.0	+1.8
DPC	**Dobruska-Polom**	**1.67**	**271**	*e*PG	Pg	08 49 30.0	-2.5
DPC				*e*SG	Sg	08 49 52.3	-1.8
	16nm,0.5s						
KSP	**Ksiaz**	**1.75**	**287**	*e*Pn	Pn	08 49 31.8	-0.3
KSP				*e*Sg	Sg	08 49 56.4	-0.2
KSP	**Ksiaz**	**1.75**	**287**	*e*Pg	Pg	08 49 32.4	-1.6
KSP				*e*Sg	Sg	08 49 56.1	-0.5
STHS	**Stebnicka Huta**	**1.77**	**121**	*e*PN	Pn	08 49 34.5	+2.2
STHS				*e*SN	Sn	08 49 59.8	+4.3
KOLL	**Kolacno**	**1.82**	**191**	*e*SN	Sn	08 49 57.1	+0.5
VRAC	**Vranov**	**1.84**	**236**	*e*Pn	Pn	08 49 32.7	-0.6
VRAC				*e*Sg	Sg	08 49 58.1	-1.5
	10nm,0.3s						
VYHS	**Vyhne**	**1.87**	**182**	*e*PN	Pn	08 49 33.1	-0.6
VYHS				*e*SN	Sn	08 49 56.0	-1.9
KRUC	**Moravsky**	**2.10**	**233**	*e*Sg	Sg	08 50 05.1	-2.7
	5.4nm,0.3s						
PRU	**Pruhonice**	**2.84**	**264**	*e*SG	Sg	08 50 28.8	-3.0
BRG	**Berggiesshubel**	**3.22**	**281**	SG	Sg	08 50 44.6	+0.8
	4.2nm,0.5s						
KHC	**Kasperske Hory**	**3.68**	**253**	*e*PG	Pg	08 50 05.9	-5.1
KHC				*ex*	x	08 50 14.0	
KHC				*e*SG	Sg	08 50 56.8	-1.9
	6.1nm,0.4s						

NNC 23 08:49:58.3±2.7, 5362N×8638E, h0km, mb3.6, mpv3.1, 5C-3D, Error ellipse: s-maj=20.0km s-min=18.2km az=89.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KURK	**Kurchatov**	**5.59**	**242**	⇑Pn	Pn	08 51 22.7	+0.2
	3.2nm,0.9s						
KURK				⇑Sn	Sn	08 52 28.1	+0.8
	5.3nm,1.4s						
KURK				⇓Lg		08 52 55.6	
	4.6nm,1.3s						
KURBB	**Kurchatov Arra**	**5.69**	**241**	⇑Pn	Pn	08 51 24.4	+0.5
	0.3nm,0.3s,baz=56,slow=14						
KURBB				⇑Sn	Sn	08 52 31.0	+1.2
	0.9nm,1.5s						
KURBB				⇓Lg		08 52 59.0	
	0.5nm,0.8s						
MK31	**Makanchi Array**	**7.32**	**203**	Pn	Pn	08 51 46.8	+0.6
	0.5nm,0.3s,baz=26,slow=14,SNR=5.3						
MK31				Sn	Sn	08 53 11.6	+1.7
	0.2nm,0.4s,baz=198,slow=8.5,SNR=9.2						
MK31				⇓Lg		08 53 50.3	
VOSK	**Vostochnaya**	**9.29**	**271**	⇑Pn	Pn	08 52 12.6	-0.7
	1.5nm,0.4s						

IDC 23 08:58:22.7±5.0, 5582N×8637E, h0km, mb1 3.0/3, mb1mx3.0/24, mbtmp3.0/3, ML3.2/2, Error ellipse: s-maj=46.9km s-min=4.9km az=26.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ZALV	**Zalesovo Beam**	**2.08**	**206**	Pn	Pn	08 58 58.9	+0.1
	2.1nm,0.3s,baz=29,slow=18,SNR=18						
ZALV				Sn	Sn	08 59 25.8	+0.5
	2.7nm,0.3s,baz=22,slow=28,SNR=8.9						
KURK	**Kurchatov**	**6.91**	**225**	Pn	Pn	09 00 06.2	+1.1
	0.2nm,0.3s,baz=33,slow=11,SNR=16						
KURK				Sn	Sn	09 01 25.8	+1.5
	0.1nm,0.3s,baz=44,slow=33,SNR=3.3						
MKAR	**Makanchi Array**	**9.39**	**197**	Pn	Pn	09 00 39.6	+0.4
	0.2nm,0.3s,baz=17,slow=11,SNR=3.5						

GII 23 09:36:52.5±1.0, 33.77N×35.76E, h0km, ML2.3/4, EXPLOSION
ISCJB 23 09:36:53.4±0.6, 33.81N±003×35.80E±009, h0km, Error ellipse: s-maj=10.5km s-min=3.6km az=8.4
CSEM 23 09:36:54.0±0.3, 33.78N×35.74E, h8km±8km, MD2.9
GRAL 23 09:36:54.0±0.3, 33.78N×35.74E, h8km±8km, MD2.9
ISC 23 09:36:53.8±0.6, 3381N±003×3581E±009, H0km, n12, σ1°06/21, Jordan - Syria region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BHL	**Bhannes**	**0.16**	**306**	*e*P	**Pg**	**09 36 57.0**	**+0.2**
RCY	**Rachaya**	**0.33**	**178**	*e*P	**Pg**	**09 36 59.5**	**-0.5**
RCY				*e*S	**Sg**	**09 37 03.5**	**-0.7**
HWQ	**Hawqa**	**0.48**	**14**	*e*P	**Pg**	**09 37 03.6**	**+0.6**
HWQ				*e*S	**Sg**	**09 37 10.7**	**+1.5**
HRI	**Mount Hermon**	**0.55**	**186**	Sg	**Sg**	**09 37 12.5**	**+1.2**
KSDI	**Kefar Szold**	**0.63**	**191**	Pg	**Pg**	**09 37 05.6**	**-0.2**
KSDI				Sg	**Sg**	**09 37 15.4**	**+1.4**
KSHT	**Keshet**	**0.83**	**180**	Pg	**Pg**	**09 37 09.6**	**0.0**
KSHT				Sg	**Sg**	**09 37 21.7**	**+1.3**
MMA0B	**Mount Meron ar**	**0.86**	**203**	Pg	**Pg**	**09 37 09.5**	**-0.8**
MMA0B				Sg	**Sg**	**09 37 22.8**	**+1.3**
HNTI	**Hanita**	**0.90**	**216**	Pg	**Pg**	**09 37 09.9**	**-1.1**
HNTI				Sg	**Sg**	**09 37 23.9**	**+1.3**
OFRI	**'Ofer**	**1.37**	**210**	Pn	**Pn**	**09 37 18.0**	**-2.1**
MMLI	**Mount Malkishu**	**1.41**	**193**	Pn	**Pn**	**09 37 19.3**	**-1.3**
MMLI				Sn	**Sn**	**09 37 40.0**	**+0.1**
HMDT	**Nahal Hemdat**	**1.57**	**189**	Pn	**Pn**	**09 37 21.8**	**-1.1**
HMDT				Sn	**Sn**	**09 37 44.0**	**0.0**
SLTI	**Sal'it**	**1.69**	**203**	Pn	**Pn**	**09 37 22.9**	**-1.7**
SLTI				Sn	**Sn**	**09 37 47.3**	**+0.4**

ISCJB 23 09:36:58.7±0.7, 2025S±004×690W±0.1, h114km±7km, mb3.8/6, Error ellipse: s-maj=16.4km s-min=7.4km az=0.7
IDC 23 09:36:59.7±1.0, 2027S×6889W, h106km±10km, mb3.5/8, mb1 3.8/11, mb1mx3.7/19, mbtmp3.6/11, Error ellipse: s-maj=22.1km s-min=8.7km az=98.0
NEIC 23 09:36:59.6±0.8, 2024S×6896W, h106km±8km, mb4.3/2, Error ellipse: s-maj=13.3km s-min=9.0km az=86.0
ISC 23 09:36:59.8±0.7, 2024S±004×6901W±010, H106km±7km, n17, σ1°08/21, mb3.8/6, Northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LVC	**Limon Verde**	**2.36**	**178**	P	**Pn**	**09 37 37.6**	**+0.3**
	74nm,0.3s,baz=16,slow=11,SNR=453						
LVC				S	**Sn**	**09 38 06.2**	**+0.1**
	107nm,0.3s,baz=257,slow=23,SNR=12						
LVC	**Limon Verde**	**2.36**	**178**	P	**Pn**	**09 37 37.6**	**+0.3**
LVC				S	**Sn**	**09 38 06.2**	**+0.1**
LPAZ	**La Paz**	**4.02**	**12**	P	**Pn**	**09 38 01.6**	**+2.3**
	7.2nm,0.3s,baz=193,slow=7.7,SNR=192						
LPAZ				S	**Sn**	**09 38 46.5**	**+1.0**
	1.4nm,0.3s,baz=214,slow=8.4,SNR=3.7						
ARE	**Arequipa**	**4.44**	**327**	*e*P	**Pn**	**09 38 04.0**	**-1.0**
ARE				*e*S	**Sn**	**09 38 53.0**	**-2.6**
SIV	**San Ignacio**	**8.65**	**62**	P	**Pn**	**09 39 00.9**	**-1.2**
	3.7nm,0.3s,baz=261,slow=11,SNR=81						
LCO	**Las Campanas**	**8.87**	**190**	*e*P	**Pn**	**09 38 59.1**	**-5.9**
	13nm,0.6s						
LCO				*e*S	**Sn**	**09 41 01.0**	**+18**
TRQA	**Tornquist**	**18.77**	**163**	*e*P	**P**	**09 41 10.1**	**-0.4**
	2.5nm,0.6s						
PLCA	**Paso Flores**	**20.47**	**183**	P	**P**	**09 41 28.6**	**-0.3**
	2.6nm,0.9s,baz=3.4,slow=11,SNR=6.4						
BDFB	**Brasilia**	**20.48**	**80**	P	**P**	**09 41 28.8**	**-0.5**
	2.8nm,0.5s,baz=252,slow=18,SNR=7.5						
TXAR	**Lajitas Array**	**59.55**	**325**	P	**P**	**09 46 51.9**	**-0.3**
	0.2nm,0.5s,mb3.4,baz=155,slow=9.6,SNR=4.6						
DBIC	**Dimbokro**	**68.47**	**74**	P	**P**	**09 47

comp=Z,0.5nm,0.6s,mb3.6,baz=10,slow=5.6,SNR=8.3
ASAR Alice Springs 72.02 198 P **P 10 01 29.8 +0.8**
ASAR pmax pmax
comp=Z,1.0nm,0.6s
TXAR Lajitas Array 77.83 60 P **P 10 02 02.6 -0.1**
comp=Z,0.2nm,0.6s,mb3.2,baz=318,slow=5.3,SNR=2.9
GERES GERESS Array B 78.40 334 P **P 10 02 06.1 +0.6**
comp=Z,0.4nm,0.2s,mb3.9,baz=25,slow=5.4,SNR=2.6

*ISCJB **23** 11:01:06.7±0.5, 2668S±009×107.1W±0.1, h10km, mb4.2/8, MS3.8/5, Error ellipse: s-maj=14.6km s-min=12.4km az=43.3*
*IDC **23** 11:01:07.2±0.8, 2661S×10709W, h0km, mb4.2/8, mb1 4.5/8, mb1mx4.3/13, mbtmp4.2/8, MS3.7/6, Ms1 3.7/6, ms1mx3.4/19, Error ellipse: s-maj=25.8km s-min=18.1km az=24.0*
*NEIC **23** 11:01:08.4±0.5, 2671S×107.15W, h10km, mb4.6/1, Error ellipse: s-maj=15.4km s-min=11.1km az=192.0*
ISC 23 11:01:08.6±0.5, 2673S±009×1072W±01, h10km, n25, σ0§72/19, mb4.2/8, MS3.8/5, Easter Island region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RPN	**Rapa Nui**	**1.98**	**258**	Pn	**Pn**	**11 01 42.2**	**+0.1**
	472µm,0.3s,baz=75,slow=7.8,SNR=6.8						
RPN	**Rapa Nui**	**1.98**	**258**	Pn	**Pn**	**11 01 42.2**	**0.0**
PLCA	**Paso Flores**	**33.24**	**124**	P	**P**	**11 07 47.0**	**+1.1**
	2.1nm,0.8s,mb4.1,baz=301,slow=9.8,SNR=9.8						
PLCA				LR	LR	11 17 42.2	
	comp=Z,111nm,19.9s,MS3.6,baz=30,slow=30						
CFAA	**Coronel Fontan**	**34.21**	**108**	P	**P**	**11 07 53.4**	**-1.0**
	0.6nm,0.8s,baz=261,slow=11,SNR=8.1						
LPAZ	**La Paz**	**37.64**	**82**	P	**P**	**11 08 24.4**	**+0.5**
	0.5nm,0.3s,baz=250,slow=8.8,SNR=3.2						
LPAZ				LR	LR	11 20 01.9	
	comp=Z,49nm,20.8s,baz=193,slow=30						
PPT	**Papeete**	**40.18**	**274**	LR	LR	11 21 32.0	
	comp=Z,123nm,18.7s,MS3.8,baz=84,slow=30						
SIV	**San Ignacio**	**44.02**	**86**	P	**P**	**11 09 16.2**	**-0.5**
	1.5nm,0.8s,mb3.8,baz=257,slow=11,SNR=8.7						
TXAR	**Lajitas Array**	**55.84**	**4**	P	**P**	**11 10 46.7**	**+0.5**
	1.1nm,0.8s,mb3.9,baz=194,slow=8.6,SNR=12						
TXAR				LR	LR	11 29 41.9	
	comp=Z,65nm,21.1s,MS3.7,baz=65,slow=31						
TXAR	**Lajitas Array**	**55.84**	**4**	P	**P**	**11 10 46.7**	**+0.5**
TXAR				LR	LR	11 29 41.9	
JCT	**Junction City**	**57.32**	**8**	*e*P	**P**	**11 10 57.2**	**+0.5**
SRU	**San Rafael**	**65.57**	**357**	*e*P	**P**	**11 11 52.7**	**+0.4**
	3.6nm,0.9s,mb4.4						
NVAR	**Mina Array Bea**	**65.65**	**350**	P	**P**	**11 11 53.0**	**+0.2**
	5.7nm,0.4s,mb5.0,baz=260,slow=26,SNR=131						
VNA3	**Neumayer Olymp**	**67.32**	**160**	*e*	**P**	**11 12 03.0**	**-0.2**
VNA3				*e*		11 12 08.2	
VNA2	**Neumayer--Watz**	**68.12**	**160**	*e*	**P**	**11 12 08.6**	**+0.3**
	baz=232,slow=8.7						
VNA2				*e*	pP	11 12 13.5	+2.0
PDAR	**Pinedale Array**	**69.19**	**358**	P	**P**	**11 12 14.9**	**-0.2**
	1.0nm,0.7s,mb3.9,baz=167,slow=7.2,SNR=9.0						
PDAR				LR	LR	11 38 48.9	
	comp=Z,54nm,19.8s,MS3.8,baz=334,slow=33						
SNAA	**Sanae**	**69.24**	**161**	*e*	**P**	**11 12 15.1**	**-0.1**
SNAA				*e*	pP	11 12 19.8	+1.3
MCMT	**McKenzie Canyo**	**71.40**	**356**	*e*P	**P**	**11 12 29.3**	**+0.7**
ULM	**Lac du Bonnet**	**77.29**	**7**	P	**P**	**11 13 02.3**	**-0.5**
	5.0nm,0.9s,mb4.4,baz=166,slow=4.2,SNR=3.1						
YKA	**Yellowknife Ar**	**89.11**	**357**	P	**P**	**11 14 01.3**	**-2.2**
	1.5nm,0.8s,mb4.4,baz=17,slow=5.9,SNR=4.5						
YKA	**Yellowknife Ar**	**89.11**	**357**	P	**P**	**11 14 01.3**	**-2.2**
KDAK	**Kodiak Island**	**92.38**	**338**	LR	LR	11 48 29.9	
	comp=Z,66nm,18.7s,MS4.1,baz=74,slow=31						
SONM	**Songino Array**	**146.38**	**318**	PKPbc	PKPbc	11 20 49.3	-0.2
	2.7nm,0.8s,baz=68,slow=2.0,SNR=13						
ZALV	**Zalesovo Beam**	**151.40**	**345**	PKPbc	PKPbc	11 21 01.6	-0.6
	2.2nm,0.7s,baz=11,slow=3.2,SNR=12						
CMAR	**Chiang Mai Arr**	**154.57**	**257**	PKPbc	PKPbc	11 21 11.5	+1.2
	0.3nm,0.3s,baz=57,slow=3.3,SNR=3.0						
CMAR				PKPab	PKPab	11 21 26.8	+1.9
	0.4nm,0.3s,baz=94,slow=2.7,SNR=6.6						
MKAR	**Makanchi Array**	**158.62**	**342**	PKP	PKPdf	11 21 04.9	-1.3
	0.6nm,0.9s,baz=28,slow=2.9,SNR=4.2						
MKAR				PKPab	PKPab	11 21 40.5	-0.9
	0.3nm,0.6s,baz=20,slow=3.7,SNR=2.9						

HEL 23 11:01:19.3±0.1, 6048N×2677E, h0km, ML1.4, Explosion, Finland

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VJF	**Virojoki**	**0.39**	**81**	*e*P	Pg	11 01 26.3	-0.5
VJF				*e*S	Sg	11 01 31.6	-0.3
PVF	**Pernaja**	**0.45**	**278**	*e*P	Pg	11 01 27.2	-0.8
PVF				*e*S	Sg	11 01 33.2	-0.6
FIA0	**FINESS Array S**	**1.02**	**341**	*e*P	Pg	11 01 37.4	-1.5
FIA0				*e*S	Sg	11 01 50.7	-1.4
MEF	**Metsahovi**	**1.21**	**258**	*e*P	Pg	11 01 41.4	-1.1
MEF				*e*S	Sg	11 01 56.6	-1.5
KAF	**Kangasniemi**	**1.65**	**352**	*e*P	Pn	11 01 47.5	-2.0
KAF				*e*S	Sn	11 02 10.0	-1.3
KEF	**Keuruu**	**1.92**	**332**	*e*P	Pn	11 01 52.8	-0.4
KEF				*e*S	Sn	11 02 18.3	+0.2
KEF				MSG		11 02 21.1	
	comp=Z,1.7nm,0.3s						
SUF	**Sumiainen**	**2.26**	**353**	*e*P	Pn	11 01 57.3	-0.6
SUF				*e*S	Sn	11 02 26.5	+0.1
MTSE	**Matsula**	**2.33**	**222**	*e*S	Sn	11 02 27.4	-0.6
RAF	**Rauma**	**2.52**	**285**	*i* P	Pn	11 02 01.8	+0.4
RAF				*i* S	Pg	11 02 07.8	+0.3
AAL	**Aland**	**3.38**	**268**	*i* P	Pn	11 02 08.7	-4.6
GRAU	**Graesoe**	**4.08**	**271**	*e*P	Pn	11 02 19.4	-3.5
GRAU				*e*S	Pg	11 02 40.1	+2.6
NRTU	**Norrtaelje**	**4.16**	**262**	*e*P	Pn	11 02 23.1	-0.8
NRTU				*e*S	Pg	11 02 46.5	+7.6
FLYU	**Flymyra**	**4.43**	**269**	*e*P	Pn	11 02 25.7	-2.0
FLYU				*e*S	Pg	11 02 50.5	+6.3
IGGU	**Iggoen**	**4.67**	**279**	*e*P	Pn	11 02 29.8	-1.1
IGGU				*e*S	Pg	11 02 57.2	+8.6
NYNU	**Nynaeshamn**	**4.68**	**255**	*e*P	Pn	11 02 35.2	+4.2
ARNU	**Arnoeviken**	**4.72**	**289**	*e*P	Pn	11 02 32.9	+1.3
OSTU	**Oestervaala**	**4.79**	**271**	*e*P	Pn	11 02 31.5	-1.1
BACU	**Backbrunna**	**4.87**	**267**	*e*P	Pn	11 02 33.6	0.0

*ISCJB **23** 11:17:20.2±0.7, 2979N±003×3621E±004, h0km, Error ellipse: s-maj=5.4km s-min=3.8km az=175.1*
*SGS **23** 11:17:20.9, 2996N×3649E, h27km*
*GII **23** 11:17:21.3±0.7, 2985N×3608E, h0km, ML2.2/5, EXPLOSION*
*HLW **23** 11:17:27.3, 2962N×3578E, h4km, Mb2.8*
*CSEM **23** 11:17:27.7±0.4, 2962N×3568E, h10km, ML2.8, Error ellipse: s-maj=10.1km s-min=3.9km az=78.0*
ISC 23 11:17:20.2±0.7, 2979N±003×3626E±004, h0km, n27, σ0§98/41, 3C-3D, Western Arabian Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AQBJ	**Aqaba**	**1.05**	**267**	Pg	**Pg**	**11 17 40.3**	**-0.1**
HRFI	**Mount Harif**	**1.09**	**284**	Pg	**Pg**	**11 17 40.4**	**-0.7**
HRFI				Sg	**Sg**	**11 17 55.4**	**+0.1**
EIL	**Elat**	**1.15**	**265**	Pg	**Pg**	**11 17 42.0**	**-0.2**
EIL				Sg	**Sg**	**11 17 58.0**	**+0.9**
HQLS		**1.15**	**245**	S	**Sg**	**11 17 59.7**	**+2.4**
HQLS		**1.15**	**245**	P	**Pg**	**11 17 41.9**	**-0.4**
MBRI	**Mt Berech**	**1.17**	**271**	Pg	**Pg**	**11 17 42.3**	**-0.4**
MBRI				Sg	**Sg**	**11 17 58.6**	**+0.7**
ZFRI	**Zfri**	**1.21**	**309**	Pg	**Pg**	**11 17 42.8**	**-0.7**
ZFRI				Sg	**Sg**	**11 17 58.8**	**-0.3**
PRNI	**Paran**	**1.23**	**298**	Pg	**Pg**	**11 17 42.6**	**-1.1**
PRNI				Sg	**Sg**	**11 17 59.2**	**-0.4**
JLOS		**1.25**	**213**	P	**Pg**	**11 17 44.6**	**+0.5**
JLOS		**1.25**	**213**	P	**Pg**	**11 17 44.6**	**+0.5**
JLOS				S	**Sg**	**11 18 02.2**	**+2.0**
KRMI	**Paran Flat**	**1.37**	**284**	Pg	**Pg**	**11 17 45.3**	**-1.3**
KRMI				Sg	**Sg**	**11 18 03.5**	**-0.9**
HBST	**Basata**	**1.45**	**247**	↑P	**Pn**	**11 17 46.5**	**-1.1**
HBST	**Basata**	**1.45**	**247**	P	**Pn**	**11 17 46.5**	**-1.2**
RMNI	**Mount Ramon**	**1.53**	**302**	Pn	**Pn**	**11 17 48.0**	**-0.8**
TBKS	**Tabuk**	**1.58**	**171**	P	**Pn**	**11 17 47.4**	**-2.0**
BDAS	**Al Bad'**	**1.69**	**217**	P	**Pn**	**11 17 51.2**	**+0.2**
MZDA	**Masada**	**1.71**	**333**	Pn	**Pn**	**11 17 51.0**	**-0.2**
MZDA				Sn	**Sn**	**11 18 14.2**	**+0.5**
RTMI	**Retamim**	**1.85**	**313**	Pn	**Pn**	**11 17 53.2**	**-0.1**
RTMI				Sn	**Sn**	**11 18 17.0**	**-0.4**
DSI	**Dead Sea**	**1.93**	**337**	Pn	**Pn**	**11 17 54.9**	**+0.5**
DSI				Sn	**Sn**	**11 18 20.9**	**+1.6**
RSHS		**1.96**	**221**	P	**Pn**	**11 17 54.4**	**-0.3**
KZIT	**Kziot**	**1.96**	**305**	Pn	**Pn**	**11 17 54.1**	**-0.6**
KZIT				Sn	**Sn**	**11 18 19.6**	**-0.4**
HKAT	**Jabal Katrina**	**2.35**	**238**	↓P	**Pn**	**11 17 59.9**	**-0.1**
HKAT				S	**Sn**	**11 18 23.9**	**-5.7**
HMDT	**Nahal Hemdat**	**2.54**	**346**	Pn	**Pn**	**11 18 04.0**	**+1.3**
HMDT				Sn	**Sn**	**11 18 36.7**	**+2.4**
TR2		**2.62**	**238**	↑*e*P	**Pn**	**11 18 03.4**	**-0.4**
TR1		**2.69**	**229**	↓P	**Pn**	**11 18 04.9**	**+0.1**
AMAG	**Maghara**	**2.78**	**289**	↓P	**Pn**	**11 18 07.6**	**+1.7**
AMAG				S	**Sn**	**11 18 36.6**	**-3.6**
SUZ		**2.98**	**272**	↑*e*P	**Pn**	**11 18 09.0**	**+0.3**

KRSC 23 11:50:07.4±1.1, 5310N×15720E, h330km±40km, ML3.7, Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GNL	**Ganaly**	**0.74**	**36**	*e*P	Pn	11 50 51.4	+1.5
GNL				*e*S	S	11 51 23.9	0.0
MIPR	**Malaya Ipel'ka**	**0.87**	**198**	*e*P	Pn	11 50 51.8	+1.3
PET	**Petropavlovsk**	**0.88**	**94**	*e*S	S	11 51 25.9	+1.0
SDLR	**Sedlovina**	**1.03**	**79**	*e*P	Pn	11 50 53.1	+2.1
SDLR				*e*S	S	11 51 26.6	+0.7
RUS	**Russkaya**	**1.04**	**129**	*e*P	Pn	11 50 52.6	+1.5
RUS				*e*S	S	11 51 25.0	-1.1
NLC	**Nalytchevo**	**1.29**	**86**	*e*P	Pn	11 50 54.1	+1.8
NLC				*e*S	S	11 51 28.7	+0.5
SPN	**Mys Shipunski**	**1.70**	**89**	*e*P	Pn	11 50 56.1	+1.4
SPN				*e*S	S	11 51 31.9	-0.7
MKZ	**Mys Kozlova**	**3.06**	**60**	*e*P	Pn	11 51 07.6	+2.0
MKZ				*e*S	S	11 51 51.4	-1.0
KBTR	**Krutoberegovo**	**4.51**	**44**	*e*P	Pn	11 51 22.4	+1.9
KBTR				*e*S	S	11 52 17.1	-2.3

*ISCJB **23** 12:20:34.1±0.8, 2200S±007×9975E±009, h43km, mb4.2/6, Error ellipse: s-maj=13.5km s-min=8.7km az=34.2*
*NEIC **23** 12:20:35.2±1.4, 2203S×9986E, h35km, Error ellipse: s-maj=68.0km s-min=14.0km az=60.0*
*IDC **23** 12:20:36.2±1.8, 1975×10000E, h42km±7km, mb3.7/7, mb1 3.8/7, mb1mx3.6/18, mbtmp3.8/7, Error ellipse: s-maj=93.2km s-min=14.7km az=59.0*
*DJA **23** 12:20:37.2±1.4, 2S±4×100E±11, h6km±14km, MLv4.2/4*
ISC 23 12:20:36.5±0.8, 1965±007×9981E±009, h45km, h45km±2.5km:pP-P, n16, σ1§30/15, mb4.2/6, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PDSI	**Padang**	**1.23**	**32**	P	**Pn**	**12 20 55.4**	**-1.8**
PDSI	**Padang**	**1.23**	**32**	S	**Sn**	**12 21 10.9**	**-1.7**
PPI	**Padang Panjang**	**1.60**	**22**	P	**Pn**	**12 21 01.9**	**-0.5**
PPI	**Padang Panjang**	**1.60**	**22**	S	**Sn**	**12 21 22.0**	**+0.1**
RGRI	**Rengat**	**2.99**	**58**	P	**Pn**	**12 21 24.5**	**+3.1**
RGRI	**Rengat**	**2.99**	**58**	S	**Sn**	**12 21 58.1**	**+2.1**
CMAR	**Chiang Mai Arr**	**20.30**	**358**	P	**P**	**12 25 08.3**	**-0.5**
	0.9nm,0.7s,baz=189,slow=10,SNR=6.6						
ASAR	**Alice Springs**	**39.43**	**126**	P	**P**	**12 28 00.6**	**-1.9**
	0.8nm,0.6s,mb3.6,baz=305,slow=7.7,SNR=22						
ASAR				pP	pP	12 28 13.2	-1.4
	1.2nm,0.6s,baz=302,slow=8.0,SNR=8.0						
STKA	**Stephens Creek**	**49.32**	**132**	P	**P**	**12 29 20.2**	**-1.2**
	1.5nm,0.7s,mb4.1,baz=308,slow=12,SNR=2.8						
STKA				pP	pP	12 29 32.4	-1.5
	1.8nm,0.9s,baz=307,slow=20,SNR=1.4						
SONM	**Songino Array**	**49.92**	**6**	P	**P**	**12 29 26.2**	**+0.5**
	0.6nm,0.4s,mb4.0,baz=189,slow=9.3,SNR=6.5						
MK31	**Makanchi Array**	**50.94**	**345**	*e*P	**P**	**12 29 34.3**	**+0.9**
MKAR	**Makanchi Array**	**50.94**	**345**	P	**P**	**12 29 34.2**	**+0.9**
	3.8nm,0.6s,mb4.5,baz=149,slow=8.1,SNR=52						
MKAR				pP	pP	12 29 46.9	+1.0
	0.8nm,0.5s,baz=142,slow=7.6,SNR=5.4						
ZALV	**Zalesovo Beam**	**57.09**	**350**	P	**P**	**12 30 18.2**	**+0.1**
	2.0nm,0.8s,mb4.2,baz=165,slow=6.2,SNR=8.6						
ZALV				pP	pP	12 30 28.7	-2.1
	0.8nm,0.6s,baz=180,slow=5.9,SNR=2.9						
ARCES	**ARCESS Array B**	**86.37**	**340**	P	**P**	**12 33 13.7**	**+0.1**
	2.3nm,0.9s,mb4.4,baz=74,slow=6.7,SNR=4.5						
AFI	**Afiamalu**	**88.00**	**104**	*e*P	**P**	**12 33 24.6**	**+2.0**
TXAR	**Lajitas Array**	**144.78**	**37**	PKP	PKPdf	12 40 08.7	-0.6
	1.4nm,0.7s,baz=270,slow=1.1,SNR=14						
TXAR				pPKP	pPKPdf	12 40 21.6	-1.5
	0.7nm,0.5s,baz=297,slow=0.9,SNR=8.1						

*ISCJB **23** 12:41:56.0±0.7, 69S±01×1254E±01, h539km±12km, mb3.5/7, Error ellipse: s-maj=22.0km s-min=19.4km az=170.0*
*IDC **23** 12:41:56.7±1.1, 693S×12542E, h535km±16km, mb3.0/7, mb1 3.0/9, mb1mx3.0/16, mbtmp3.0/9, Error ellipse: s-maj=32.2km s-min=18.0km az=69.0*
*DJA **23** 12:42:03.3±0.6, 6S±7×125E±, h400km, mb4.0/2, MLv4.3/3*
ISC 23 12:41:56.8±0.7, 69S±01×1254E±01, h533km±11km, n14, σ0§77/15, mb3.5/7, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BATI	**Baumata**	**3.70**	**208**	P	**P**	**12 43 15.9**	**+0.7**
	57nm,0.3s,baz=353,slow=2.0,SNR=57						
BATI				S	**S**	**12 44 18.7**	**-0.3**
	18nm,0.3s,baz=142,slow=19,SNR=7.7						
BATI	**Baumata**	**3.70**	**208**	P	**P**	**12 43 15.5**	**+0.3**
BATI	**Baumata**	**3.70**	**208**	S	**S**	**12 44 17.3**	**-1.8**
KAPI	**Kappang**	**5.94**	**288**	P	**P**	**12 43 34.9**	**+0.9**
	2.6nm,0.3s,baz=124,slow=6.2,SNR=15						
KAPI	**Kapang**	**5.94**	**288**	P	**P**	**12 43 34.4**	**+0.4**
	44nm,1.1s,0.1nm						
SWI	**Sorong**	**8.38**	**44**	P	**P**	**12 43 58.3**	**+0.4**
	40nm,1.1s,0.1nm						
ASAR	**Alice Springs**	**18.55**	**155**	P	**P**	**12 45 41.0**	**+0.5**
	0.3nm,0.3s,baz=343,slow=15,SNR=20						
ASAR				ScP	ScP	12 52 26.2	-1.5
	0.0nm,0.3s,baz=346,slow=1.9,SNR=4.5						
CMAR	**Chiang Mai Arr**	**36.30**	**314**	P	**P**	**12 48 16.1**	**+0.6**
	0.5nm,0.6s,mb3.2,baz=139,slow=6.8,SNR=4.9						
KSRS	**Korea Array**	**44.20**	**3**	P	**P**	**12 49 18.5**	**+0.1**
	0.6nm,0.6s,mb3.3,baz=186,slow=8.3,SNR=2.9						
MJAR	**Matsushiro Arr**	**44.87**	**15**	P	**P**	**12 49 21.7**	**-1.8**
	0.5nm,0.5s,mb3.3,baz=314,slow=11,SNR=2.7						
SONM	**Songino Array**	**57.04**	**345**	P	**P**	**12 50 51.9**	**+0.1**
	0.6nm,0.5s,mb3.1,baz=166,slow=10,SNR=4.0						
MKAR	**Makanchi Array**	**65.73**	**329**	P	**P**	**12 51 48.7**	**0.0**
	0.9nm,0.5s,mb3.5,baz=122,slow=7.6,SNR=7.0						
PETK	**Petropavlovsk-**	**65.76**	**21**	P	**P**	**12 51 49.3**	**+0.6**
	1.7nm,0.7s,mb3.7,baz=211,slow=2.1,SNR=4.4						
ZALV	**Zalesovo Beam**	**69.56**	**336**	P	**P**	**12 52 11.1**	**-0.9**
	2.3nm,0.4s,mb4.1,baz=132,slow=5.5,SNR=12						

IDC 23 13:00:49.3±9.1, 993S×15650E, h0km, mb3.8/3, mb1 4.0/3, mb1mx3.6/13, mbtmp3.8/3, MS3.2/1, Ms1 3.2/1, ms1mx2.4/26, Error ellipse: s-maj=230.9km s-min=43.7km az=109.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ASAR	**Alice Springs**	**25.53**	**235**	P	P	13 06 19.8	0.0
	1.9nm,1.0s,baz=62,slow=9.1,SNR=8.8						
GUMO	**Guam**	**26.06**	**334**	LR	LR	13 14 48.0	
	comp=Z,44nm,18.7s,baz=105,slow=32						
CMAR	**Chiang Mai Arr**	**63.39**	**296**	P	P	13 11 21.4	+0.3
	0.4nm,0.4s,baz=108,slow=5.0,SNR=6.7						
SONM	**Songino Array**	**72.59**	**327**	P	P	13 12 18.4	+0.1
	0.4nm,0.7s,baz=123,slow=5.3,SNR=2.6						

IDC 23 13:22:55.9±4.2, 963S×15481E, h0km, mb3.7/4, mb1 3.8/5, mb1mx3.7/14, mbtmp3.7/5, ML3.5/1, MS3.2/4, Ms1 3.2/4, ms1mx2.7/19, Error ellipse: s-maj=113.6km s-min=30.0km az=98.0, D'Entrecasteaux Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CTA	**Charters Tower**	**13.28**	**217**	Pn	Pn	13 26 04.9	-0.9
	0.2nm,0.3s,baz=318,slow=15,SNR=1.9						
ASAR	**Alice Springs**	**24.36**	**232**	P	P	13 28 15.6	-0.2
	1.0nm,0.8s,baz=67,slow=8.0,SNR=7.6						
GUMO	**Guam**	**25.09**	**337**	LR	LR	13 35 50.8	
	comp=Z,59nm,21.4s,baz=286,slow=31						
STKA	**Stephens Creek**	**25.30**	**207**	P	P	13 28 24.7	+0.5
	1.6nm,0.8s,baz=43,slow=9.0,SNR=4.3						
STKA				LR	LR	13 38 33.2	
	comp=Z,53nm,20.0s,baz=25,slow=37						
KSRS	**Korea Array**	**53.18**	**333**	LR	LR	13 54 07.2	
	comp=Z,12nm,18.4s,baz=0.0,slow=35						
CMAR	**Chiang Mai Arr**	**61.77**	**297**	P	P	13 33 16.9	0.0
	1.0nm,0.8s,baz=134,slow=5.3,SNR=4.7						
PETK	**Petropavlovsk-**	**62.54**	**2**	LR	LR	13 56 29.1	
	comp=Z,29nm,20.3s,baz=324,slow=32						
SONM	**Songino Array**	**71.45**	**328**	P	P	13 34 18.5	+0.4
	0.7nm,0.8s,baz=131,slow=6.1,SNR=3.8						

*KRSC **23** 13:27:57.1±2.6, 5355N×15489E, h575km±54km, ML4.4*
*ISCJB **23** 13:28:00.8±0.7, 537N±02×1550E±04, h553km±21km, mb3.6/7, Error ellipse: s-maj=47.6km s-min=15.9km az=40.8*
*MOS **23** 13:28:01.0±1.2, 5434N×15364E, h473km, mb4.5/2, Error ellipse: s-maj=23.4km s-min=15.6km az=121.5*
*IDC **23** 13:28:02.9±1.3, 5401N×15395E, h509km±19km, mb3.1/12, mb1 3.3/13, mb1mx3.1/24, mbtmp3.1/13, Error ellipse: s-maj=24.0km s-min=14.7km az=171.0*
*NEIC **23** 13:28:02.5±0.7, 5387N×15401E, h514km±8km, mb4.5/2, Error ellipse: s-maj=23.1km s-min=13.0km az=197.0*
ISC 23 13:28:01.8±0.7, 537N±02×1550E±04, h546km±22km, n24, σ1§11/31, mb3.6/7, Sea of Okhotsk

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PETK	**Petropavlovsk-**	**1.75**	**109**	P	**P**	**13 29 10.6**	**+0.6**
	4.2nm,0.3s,baz=289,slow=4.9,SNR=122						
PETK	**Petropavlovsk-**	**1.75**	**109**	P	**P**	**13 29 10.6**	**+0.6**
GNL	**Ganaly**	**1.78**	**89**	*e*P	**P**	**13 29 11.1**	**+1.1**
MIPR	**Malaya Ipel'ka**	**1.80**	**142**	*e*P	**P**	**13 29 10.9**	**+0.7**
AVH	**Avacha**	**2.31**	**99**	*e*P	**P**	**13 29 12.9**	**+0.5**
PET	**Petropavlovsk**	**2.32**	**106**	*e*P	**P**	**13 29 13.6**	**+1.1**
PET				*i* S	**S**	**13 30 09.7**	**-0.5**
PET	**Petropavlovsk**	**2.32**	**106**	*e*P	**P**	**13 29 13.7**	**+1.2**
SDLR	**Sedlovina**	**2.39**	**99**	*e*P	**P**	**13 29 14.2**	**+1.4**
SDLR				*i* S	**S**	**13 30 10.5**	**-0.4**
RUS	**Russkaya**	**2.50**	**119**	*e*P	**P**	**13 29 13.9**	**+0.4**
RUS				*i* S	**S**	**13 30 09.9**	**-2.0**
NLC	**Nalytchevo**	**2.68**	**100**	*e*P	**P**	**13 29 15.1**	**+0.7**
NLC				*i* S	**S**	**13 30 12.4**	**-1.4**
SPN	**Mys Shipunski**	**3.10**	**99**	*e*P	**P**	**13 29 17.5**	**+0.6**
SPN				*i* S	**S**	**13 30 15.8**	**-2.5**
TUMR	**Tumrok**	**3.42**	**60**	*e*P	**P**	**13 29 20.1**	**+1.1**
KMNR	**Kamenistaya**	**3.69**	**54**	P	**P**	**13 29 22.1**	**+1.3**
MKZ	**Mys Kozlova**	**4.08**	**75**	*e*P	**P**	**13 29 24.4**	**+0.7**
MKZ				*i* S	**S**	**13 30 27.4**	**-3.5**
KBTR	**Krutoberegovo**	**5.18**	**58**	*e*P	**P**	**13 29 33.7**	**+1.0**
KBTR				*i* S	**S**	**13 30 45.0**	**-2.2**
KSRS	**Korea Array**	**24.72**	**240**	P	**P**	**13 32 39.9**	**-0.3**
	0.5nm,0.7s,mb3.3,baz=127,slow=41,SNR=3.3						
KSRS	**Korea Array**	**24.72**	**240**	P	**P**	**13 32 39.9**	**-0.2**
KSRS				pmax	pmax		
	comp=Z,1.0nm,0.7s,mb3.5						
SONM	**Songino Array**	**30.76**	**279**	P	**P**	**13 33 31.4**	**-1.3**
	comp=Z,0.7nm,0.5s,mb3.5,baz=58,slow=8.0,SNR=4.4						
KURK	**Kurchatov**	**44.77**	**299**	P	**P**	**13 35 26.3**	**-0.3**
	comp=Z,0.9nm,0.3s,mb3.8,baz=62,slow=7.8,SNR=4.1						
KURK	**Kurchatov**	**44.77**	**299**	P	**P**	**13 35 26.3**	**-0.3**
MKAR	**Makanchi Array**	**45.09**	**292**	P	**P**	**13 35 28.1**	**-1.0**
	comp=Z,0.8nm,0.4s,mb3.6,baz=60,slow=7.8,SNR=5.1						
BVAR	**Borovoye Array**	**47.56**	**305**	P	**P**	**13 35 47.0**	**-0.7**
	comp=Z,5.1nm,0.4s,mb4.4,baz=55,slow=7.6,SNR=44						
AKASG	**Malin Array Be**	**66.44**	**326**	P	**P**	**13 37 56.2**	**-0.5**
	comp=Z,1.2nm,0.5s,mb3.7,baz=207,slow=38,SNR=3.1						
GERES	**GERESS Array B**	**72.70**	**334**	P	**P**	**13 38 34.9**	**+0.8**
	comp=Z,0.3nm,0.4s,mb3.1,baz=253,slow=42,SNR=2.3						

IDC 23 13:50:52.0±7.9, 946S×15368E, h0km, mb3.5/3, mb1 3.7/3, mb1mx3.5/13, mbtmp3.5/3, MS3.5/3, Ms1 3.5/3, ms1mx3.0/20, Error ellipse: s-maj=200.8km s-min=40.9km az=110.0, D'Entrecasteaux Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res

ISC 23 14:00:01.3±1.8,724S±009×12999E±010,h123km±18km, n17,σ1°18/18,mb3.9/7,Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KAKA	**Kakadu**	**5.95**	**156**	*e*P	**Pn**	**14 01 26.5**	**-0.6**
	24nm,0.5s						
KAKA				S	**Sn**	**14 02 18.4**	**-16**
BATI	**Baumata**	**6.91**	**244**	P	**Pn**	**14 01 41.2**	**+1.1**
	17nm,0.3s,baz=92,slow=4.5,SNR=9.5						
BATI				S	**Sn**	**14 02 56.6**	**-0.8**
	10.0nm,0.3s,baz=82,slow=19,SNR=7.4						
ASAR	**Alice Springs**	**16.76**	**167**	P	**Pn**	**14 03 51.9**	**+3.1**
	0.2nm,0.3s,baz=341,slow=9.8,SNR=18						
ASAR				S	**S**	**14 06 53.1**	**-2.5**
	0.3nm,0.3s,baz=345,slow=24,SNR=7.1						
ASAR	**Alice Springs**	**16.76**	**167**	P	**Pn**	**14 03 51.9**	**+3.1**
ASAR				S	**S**	**14 06 53.1**	**-2.5**
MBWA	**Marble Bar**	**17.02**	**215**	*e*P	**Pn**	**14 03 55.1**	**+3.1**
NWAO	**Narrogin (SRO)**	**28.17**	**203**	LR	LR	14 17 16.2	
	comp=Z,77nm,19.9s,baz=117,slow=37						
CMAR	**Chiang Mai Arr**	**39.88**	**310**	P	**P**	**14 07 22.1**	**-1.1**
	0.7nm,0.6s,mb3.7,baz=129,slow=6.6,SNR=6.1						
ULN	**Ulaanbaatar**	**58.49**	**342**	*e*P	**P**	**14 09 44.2**	**-0.2**
	1.2nm,0.6s,mb4.1						
SONM	**Songino Array**	**58.66**	**342**	P	**P**	**14 09 45.6**	**+0.1**
	0.5nm,0.5s,mb3.8,baz=147,slow=6.2,SNR=3.2						
PETK	**Petropavlovsk-**	**64.55**	**18**	P	**P**	**14 10 25.9**	**+0.9**
	0.6nm,0.5s,mb3.7,baz=162,slow=4.1,SNR=4.9						
MK31	**Makanchi Array**	**68.42**	**327**	*e*P	**P**	**14 10 49.5**	**-0.2**
MKAR	**Makanchi Array**	**68.42**	**327**	P	**P**	**14 10 49.4**	**-0.4**
	2.8nm,0.5s,mb4.3,baz=118,slow=8.0,SNR=31						
MKAR				LR	LR	14 42 25.5	
	comp=Z,33nm,19.2s,baz=243,slow=37						
ZALV	**Zalesovo Beam**	**71.79**	**334**	P	**P**	**14 11 08.9**	**-1.2**
	0.4nm,0.3s,mb3.8,baz=116,slow=6.6,SNR=2.9						
SBA	**Scott Base**	**73.10**	**172**	*e*P	**P**	**14 11 18.4**	**+0.7**
MAW	**Mawson**	**74.72**	**201**	P	**P**	**14 11 28.2**	**+1.0**
	2.0nm,0.9s,mb3.8,baz=346,slow=17,SNR=3.9						
LPAZ	**La Paz**	**150.53**	**143**	PKPbc	PKPbc	14 19 42.3	+2.7
	0.6nm,0.4s,baz=252,slow=3.2,SNR=4.5						
LPAZ	**La Paz**	**150.53**	**143**	*e*PKPbc	PKPbc	14 19 42.2	+2.6
LPAZ				*e*PKPab	PKPab	14 19 50.3	+3.8

*ISCJB **23** 14:18:44.8±0.2, 4934N±001×673E±002, h0km, Error ellipse: s-maj=2.2km s-min=1.7km az=2.4*
*LDG **23** 14:18:46.8±0.1, 4938N×681E, h1km, Md2.8/3, Ml3.3/16, Error ellipse: s-maj=2.0km s-min=1.6km az=140.0, Suspected Mining induced.*
*STR **23** 14:18:46.4±0.2, 4937N×680E, h1km, Ml2.7, Error ellipse: s-maj=0.0km s-min=0.0km az=0.0*
*BGR **23** 14:18:46.7±0.3, 4936N×683E, h1km, ML2.6/5, Error ellipse: s-maj=3.3km s-min=3.3km az=152.0*
*CSEM **23** 14:18:46.7±0.1, 4938N×681E, h1km, ML3.3/14, Error ellipse: s-maj=1.1km s-min=0.8km az=101.0*
*NEIC **23** 14:18:46.4, 4937N×680E, h1km, ML2.5(SZGRF), ML2.7(STR), ML3.3(LDG), After STR.*
*BNS **23** 14:18:48.4±0.8, 4944N×692E, h1km, ML2.0*

ISC 23 14:18:45.9±0.2,4936N±001×677E±002,h0km,n82, σ1°04/144,Germany

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RUP	**Ruppelstein**	**0.39**	**29**	*e*Pg	**Pg**	**14 18 53.7**	**+0.3**
	SNR=44						
RUP	**Ruppelstein**	**0.39**	**29**	Pg	**Pg**	**14 18 53.7**	**+0.3**
RUP				Sg	**Sg**	**14 18 58.4**	**0.0**
WLF	**Walferdange**	**0.50**	**308**	*e*Pg	**Pg**	**14 18 57.4**	**+2.0**
	SNR=6.5						
WLF				*e*Sg	**Sg**	**14 19 02.9**	**+0.9**
	SNR=8.2						
WLF	**Walferdange**	**0.50**	**308**	P	**Pg**	**14 18 57.4**	**+1.9**
ABH	**Alteburg**	**0.73**	**44**	*e*Pg	**Pg**	**14 18 59.9**	**0.0**
	SNR=6.1						
ABH	**Alteburg**	**0.73**	**44**	Pg	**Pg**	**14 18 59.8**	**0.0**
ABH				Sg	**Sg**	**14 19 09.7**	**+0.4**
LANF	**Langenberg**	**0.78**	**119**	Pg	**Pg**	**14 19 00.6**	**-0.2**
LANF				Sg	**Sg**	**14 19 12.4**	**+1.5**
LANF	**Langenberg**	**0.78**	**119**	*e*Pg	**Pg**	**14 19 00.8**	**-0.1**
	SNR=9.8						
LANF	**Langenberg**	**0.78**	**119**	Pg	**Pg**	**14 19 00.8**	**0.0**
	SNR=9.8						
LANF				Sg	**Sg**	**14 19 12.4**	**+1.5**
KTD	**Kalmit**	**0.86**	**92**	*e*Pg	**Pg**	**14 19 02.1**	**-0.2**
	SNR=11						
KTD	**Kalmit**	**0.86**	**92**	Pg	**Pg**	**14 19 02.1**	**-0.3**
	SNR=11						
KTD				Sg	**Sg**	**14 19 14.7**	**+1.1**
KTD	**Kalmit**	**0.86**	**92**	Pg	**Pg**	**14 19 01.9**	**-0.5**
KTD				Sg	**Sg**	**14 19 14.7**	**+1.1**
BGG	**Burgeitz**	**0.92**	**23**	*e*Pg	**Pg**	**14 19 03.9**	**+0.3**
HILG	**Hillesheim**	**0.93**	**357**	*e*Pg	**Pg**	**14 19 04.5**	**+0.8**
HILG				*e*Sg	**Sg**	**14 19 17.1**	**+1.3**
CDF	**Champ du Feu**	**1.01**	**160**	*e*Pg	**Pg**	**14 19 06.3**	**+1.2**
CDF				*e*Sg	**Sg**	**14 19 18.6**	**+0.4**
	95nm,0.4s						
CDF	**Champ du Feu**	**1.01**	**160**	*e*Pg	**Pg**	**14 19 06.3**	**+1.2**
CDF				*e*Sg	**Sg**	**14 19 18.6**	**+0.4**
	47nm,0.4s						
ECH	**Echery**	**1.18**	**167**	Pg	**Pg**	**14 19 09.5**	**+1.1**
ECH				Sg	**Sg**	**14 19 24.9**	**+1.3**
ECH	**Echery**	**1.18**	**167**	*e*Pg	**Pg**	**14 19 08.9**	**+0.5**
	SNR=13						
ECH	**Echery**	**1.18**	**167**	Pg	**Pg**	**14 19 08.9**	**+0.5**
	SNR=13						
ECH				Sg	**Sg**	**14 19 24.9**	**+1.3**
STB	**Steinbach**	**1.24**	**2**	*e*Pg	**Pg**	**14 19 10.0**	**+0.4**
STB				*e*Sg	**Sg**	**14 19 25.6**	**0.0**
	30nm,0.7s						
THEF	**They Montfort**	**1.25**	**205**	Pg	**Pg**	**14 19 10.2**	**+0.5**
THEF				Sg	**Sg**	**14 19 27.6**	**+1.7**
KLL	**Kalltalsperre**	**1.32**	**347**	*e*Pg	**Pg**	**14 19 11.1**	**-0.1**
LIBD	**Limburg**	**1.33**	**155**	Pg	**Pg**	**14 19 12.2**	**+0.8**
LIBD				Sg	**Sg**	**14 19 29.8**	**+1.2**
MEM	**Membach**	**1.34**	**339**	P	**Pg**	**14 19 07.0**	**-4.6**
DREG	**Dreilaegerbach**	**1.35**	**345**	*e*Pg	**Pg**	**14 19 12.7**	**+1.0**
TOD	**Tromm**	**1.35**	**79**	*e*Pg	**Pg**	**14 19 11.4**	**-0.4**
	SNR=9.0						
TOD	**Tromm**	**1.35**	**79**	Pg	**Pg**	**14 19 11.4**	**-0.4**
	SNR=9.0						
TOD				Sg	**Sg**	**14 19 29.2**	**-0.1**
TOD	**Tromm**	**1.35**	**79**	Pg	**Pg**	**14 19 10.9**	**-0.9**
TOD				Sg	**Sg**	**14 19 29.2**	**-0.1**
HAU	**Haudompre**	**1.38**	**192**	*e*Pg	**Pg**	**14 19 13.0**	**+0.6**
HAU				*e*Sg	**Sg**	**14 19 29.9**	**-0.4**
	89nm,0.3s						
HAU	**Haudompre**	**1.38**	**192**	*e*Pg	**Pg**	**14 19 13.0**	**+0.6**
HAU				*e*Sg	**Sg**	**14 19 29.9**	**-0.4**
	44nm,0.3s						
TNS	**Taunus Mts**	**1.39**	**51**	*e*Pg	**Pg**	**14 19 11.1**	**-1.4**
	SNR=8.8						
TNS				*e*Sg	**Sg**	**14 19 30.2**	**-0.3**
	SNR=7.9						
TNS	**Taunus Mts**	**1.39**	**51**	*e*Pg	**Pg**	**14 19 11.0**	**-1.5**
TNS				*e*Sg	**Sg**	**14 19 28.4**	**-2.1**
MEZF	**Maizieres J'vi**	**1.42**	**233**	*e*Pg	**Pg**	**14 19 13.2**	**+0.1**
MEZF				*e*Sg	**Sg**	**14 19 31.4**	**0.0**
	83nm,0.5s						
MEZF	**Maizieres J'vi**	**1.42**	**233**	*e*Pg	**Pg**	**14 19 13.2**	**+0.1**
MEZF				*e*Sg	**Sg**	**14 19 31.4**	**0.0**
	42nm,0.5s						
BCLA	**Clavier**	**1.42**	**319**	P	**Pn**	**14 19 13.8**	**+0.9**
BFO	**Black Forest**	**1.46**	**134**	*e*Pg	**Pg**	**14 19 13.7**	**-0.1**
	SNR=5.8						
BFO				*e*Sg	**Sg**	**14 19 30.8**	**-2.0**
	SNR=5.8						
BFO	**Black Forest**	**1.46**	**134**	Pg	**Pg**	**14 19 13.7**	**-0.1**
	SNR=5.8						
BFO				*e*Sg	**Sg**	**14 19 32.9**	**+0.2**
BFO	**Black Forest**	**1.46**	**134**	*e*Pg	**Pg**	**14 19 13.7**	**-0.1**
BFO				*e*Sg	**Sg**	**14 19 32.9**	**+0.2**
GIVF	**Givet**	**1.46**	**301**	*e*Pn	**Pn**	**14 19 14.3**	**+0.8**
GIVF				*e*Sg	**Sg**	**14 19 34.0**	**+1.2**
	122nm,0.5s						
GIVF	**Givet**	**1.46**	**301**	*e*Pn	**Pn**	**14 19 14.3**	**+0.8**
GIVF				*e*Sg	**Sg**	**14 19 34.0**	**+1.2**
	61nm,0.5s						
HGN	**Heimansgroeve**	**1.50**	**339**	*e*Pg	**Pg**	**14 19 15.0**	**+0.3**
	28nm,1.0s,baz=160						
HGN				*e*Sg	**Sg**	**14 19 34.2**	**0.0**
HGN	**Heimansgroeve**	**1.50**	**339**	*e*Rg		14 19 59.0	
MOF	**Molkenrain**	**1.53**	**171**	Pg	**Pg**	**14 19 15.6**	**+0.4**
MOF				Sg	**Sg**	**14 19 35.7**	**+0.7**
MOF	**Molkenrain**	**1.53**	**171**	*e*Pg	**Pg**	**14 19 15.7**	**+0.6**
	SNR=14						
MOF	**Molkenrain**	**1.53**	**171**	Pg	**Pg**	**14 19 15.7**	**+0.5**
	SNR=14						
MOF				Sg	**Sg**	**14 19 35.7**	**+0.7**
HINF	**Hinteralfeld**	**1.55**	**178**	*e*Pg	**Pg**	**14 19 15.7**	**+0.2**
HINF				*e*Sg	**Sg**	**14 19 35.4**	**-0.1**
	140nm,0.3s						
HINF	**Hinteralfeld**	**1.55**	**178**	*e*Pg	**Pg**	**14 19 15.7**	**+0.2**
HINF				*e*Sg	**Sg**	**14 19 35.4**	**-0.1**
	70nm,0.3s						
DOU	**Dourbes**	**1.59**	**298**	P	**Pn**	**14 19 16.4**	**+1.1**
DOU	**Dourbes**	**1.59**	**298**	P	**Pn**	**14 19 16.3**	**+1.1**
FELD	**Feldberg im Sc**	**1.70**	**151**	Pg	**Pg**	**14 19 17.8**	**-0.6**
FELD				Sg	**Sg**	**14 19 41.0**	**+0.6**
BAIF	**Baives**	**1.80**	**294**	*e*Pn	**Pn**	**14 19 21.0**	**+2.9**
BAIF				*e*Sg	**Sg**	**14 19 42.9**	**-0.8**
	44nm,0.4s						
BAIF	**Baives**	**1.80**	**294**	*e*Pn	**Pn**	**14 19 21.0**	**+2.9**
BAIF				*e*Sg	**Sg**	**14 19 42.9**	**-0.8**
	22nm,0.4s						
BBS	**Basel-Blauen**	**1.96**	**165**	Pg	**Pg**	**14 19 23.5**	**+0.1**
BBS				Sg	**Sg**	**14 19 51.0**	**+2.2**
LOMF	**Lomont**	**2.01**	**179**	Pg	**Pg**	**14 19 25.1**	**+0.7**
LOMF				Sg	**Sg**	**14 19 51.4**	**+0.9**
LOMF	**Lomont**	**2.01**	**179**	*e*Pg	**Pg**	**14 19 24.7**	**+0.3**
	SNR=3.4						
LOMF	**Lomont**	**2.01**	**179**	Pg	**Pg**	**14 19 24.7**	**+0.3**
	SNR=3.4						
LOMF				Sg	**Sg**	**14 19 51.4**	**+0.9**
BUG	**Bochum--Univer**	**2.11**	**9**	*e*Sg	**Sg**	**14 19 51.5**	**-2.0**
UBBA	**Unterbreizbach**	**2.54**	**54**	*e*Sg	**Sg**	**14 20 06.4**	**-1.2**
CABF	**La Chapelle**	**2.79**	**190**	*e*Pg	**Pg**	**14 19 39.3**	**0.0**
CABF				*e*Sg	**Sg**	**14 20 14.4**	**-1.0**
	37nm,0.6s						
CABF	**La Chapelle**	**2.79**	**190**	*e*Pg	**Pg**	**14 19 39.3**	**0.0**
CABF				*e*Sg	**Sg**	**14 20 14.4**	**-1.0**
	19nm,0.6s						
CABF	**La Chapelle**	**2.79**	**190**	*e*Pn	**Pn**	**14 19 30.9**	**-0.8**
CABF				*e*Pg	**Pg**	**14 19 39.3**	**0.0**
CABF				*e*Sg	**Sg**	**14 20 14.4**	**-1.0**
LOR	**Lormes**	**2.85**	**224**	*e*Pn	**Pn**	**14 19 32.1**	**-0.5**
LOR				*e*Sn	**Sn**	**14 20 05.8**	**-1.8**
LOR				*e*Sg	**Sg**	**14 20 17.2**	**-0.3**
	25nm,0.4s						
LOR	**Lormes**	**2.85**	**224**	*e*Pn	**Pn**	**14 19 32.1**	**-0.5**
LOR				*e*Sn	**Sn**	**14 20 05.8**	**-1.8**
LOR				*e*Sg	**Sg**	**14 20 17.2**	**-0.3**
	12nm,0.4s						
SSF	**Saint Saulge**	**3.17**	**225**	*e*Pn	**Pn**	**14 19 36.5**	**-0.4**
SSF				*e*Sn	**Sn**	**14 20 13.9**	**-1.5**
SSF				*e*Sg	**Sg**	**14 20 25.8**	**-1.8**
	37nm,0.6s						
SSF	**Saint Saulge**	**3.17**	**225**	*e*Pn	**Pn**	**14 19 36.5**	**-0.4**
SSF				*e*Sn	**Sn**	**14 20 13.9**	**-1.5**
SSF				*e*Sg	**Sg**	**14 20 25.8**	**-1.8**
	18nm,0.6s						
SMF	**Signal de Mont**	**3.35**	**217**	*e*Pn	**Pn**	**14 19 38.7**	**-0.7**
SMF				*e*Sn	**Sn**	**14 20 16.5**	**-3.4**
SMF				*e*Sg	**Sg**	**14 20 32.3**	**-1.2**
	25nm,0.6s						
SMF	**Signal de Mont**	**3.35**	**217**	*e*Pn	**Pn**	**14 19 38.7**	**-0.7**
SMF				*e*Sn	**Sn**	**14 20 16.5**	**-3.4**
SMF				*e*Sg	**Sg**	**14 20 32.3**	**-1.2**
	12nm,0.6s						
MOX	**Moxa**	**3.38**	**66**	*e*Sg	**Sg**	**14 20 32.7**	**-1.8**
	SNR=1.1						
AVF	**Avril sur Loir**	**3.44**	**223**	*e*Pn	**Pn**	**14 19 40.3**	**-0.4**
HYF	**Humbligny**	**3.46**	**234**	*e*Sg	**Sg**	**14 20 37.6**	**+0.7**
GUNZ	**Gunzen**	**3.74**	**72**	*e*Sg	**Sg**	**14 20 44.6**	**-1.3**
	SNR=2.0						
WERD	**Werda**	**3.74**	**71**	*e*Sg	**Sg**	**14 20 43.9**	**-2.1**
	SNR=2.9						
BGF	**Bois d'Agland**	**3.85**	**225**	*e*Pg	**Pg**	**14 19 59.4**	**-0.2**
BGF				*e*Sn	**Sn**	**14 20 29.0**	**-3.1**
BGF				*e*Sg	**Sg**	**14 20 47.9**	**-1.5**
	41nm,0.4s						
BGF	**Bois d'Agland**	**3.85**	**225**	*e*Pg	**Pg**	**14 19 59.4**	**-0.2**
BGF				*e*Sn	**Sn**	**14 20 29.0**	**-3.1**
BGF				*e*Sg	**Sg**	**14 20 47.9**	**-1.5**
	21nm,0.4s						
BGF	**Bois d'Agland**	**3.85**	**225**	*e*Pn	**Pn**	**14 19 45.3**	**-0.9**
BGF				*e*Pg	**Pg**	**14 19 59.4**	**-0.2**
BGF				*e*Sn	**Sn**	**14 20 29.0**	**-3.1**
BGF				*e*Sg	**Sg**	**14 20 47.9**	**-1.5**
CLL	**Collm**	**4.45**	**62**	*e*Sg	**Sg**	**14 21 09.0**	**+0.4**
ORIF	**Oris-en-Rattie**	**4.49**	**188**	*e*Sn	**Sn**	**14 20 43.5**	**-4.4**
ORIF				*e*Sg	**Sg**	**14 21 07.7**	**-2.2**
	9.3nm,0.5s						
GEC2	**GERESS Array S**	**4.59**	**94**	*e*Pn	**Pn**	**14 19 56.4**	**0.0**
	SNR=7.4						
FLN	**La Foliniere**	**4.80**	**266**	*e*Sn	**Sn**	**14 20 51.5**	**-4.2**
	14nm,0.4s						
FLN	**La Foliniere**	**4.80**	**266**	*e*Sn	**Sn**	**14 20 51.5**	**-4.2**
	6.8nm,0.4s						
GRR	**Gorron**	**5.12**	**262**	*e*Sn	**Sn**	**14 20 59.2**	**-4.4**
	7.0nm,0.3s						
GRR	**Gorron**	**5.12**	**262**	*e*Sn	**Sn**	**14 20 59.2**	**-4.4**
	3.5nm,0.3s						

*ISCJB **23** 14:19:38.8±0.9, 480S±0.1×996E±0.3, h10km, mb4.0/5, MS3.9/9, Error ellipse: s-maj=29.7km s-min=14.2km az=26.8*
*IDC **23** 14:19:38.6±1.1, 4802S×9940E, h0km, mb4.1/5, mb1 4.2/5, mb1mx3.9/14, mbtmp4.1/5, MS3.9/9, Ms1 3.8/9, ms1mx3.7/17, Error ellipse: s-maj=46.1km s-min=21.3km az=120.0*
*NEIC **23** 14:19:39.5±1.1, 4797S×9915E, h10km, mb4.0/2, Error ellipse: s-maj=36.4km s-min=17.6km az=113.0*

ISC 23 14:19:40.8±0.9,480S±01×996E±03,h10km, (h10km±2km:pP-P),n19,σ0°86/11,mb4.0/5,MS3.9/9, Southeast Indian Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CASY	**Casey**	**19.22**	**167**	*e*P	**Pn**	**14 24 05.4**	**-0.2**
	5.9nm,1.1s						
NWAO	**Narrogin (SRO)**	**20.07**	**48**	LR	LR	14 30 10.2	
	comp=Z,144nm,20.8s,MS3.3,baz=238,slow=31						
MAW	**Mawson**	**27.07**	**210**	P	**P**	**14 25 20.6**	**-2.4**
	1.5nm,0.8s,mb3.5,baz=46,slow=12,SNR=3.1						
MAW				LR	LR	14 33 30.4	
	comp=Z,112nm,18.8s,MS3.5,baz=55,slow=31						
MAW	**Mawson**	**27.07**	**210**	P	**P**	**14 25 18.7**	**-4.4**
	6.8nm,1.3s,mb4.0						
MAW				LR	LR	14 33 30.4	
STKA	**Stephens Creek**	**35.49**	**79**	LR	LR	14 37 57.5	
	comp=Z,200nm,19.1s,MS3.9,baz=206,slow=31						
ASAR	**Alice Springs**	**36.43**	**60**	P	**P**	**14 26 45.6**	**+0.1**
	3.0nm,1.1s,mb4.1,baz=214,slow=8.0,SNR=12						
QSPA	**South Pole Qui**	**42.16**	**180**	P	**P**	**14 27 32.3**	**-0.5**
	2.8nm,0.7s,mb4.0,baz=297,slow=6.4,SNR=36						
CTA	**Charters Tower**	**46.65**	**70**	P	**P**	**14 28 09.5**	**+0.1**
	3.8nm,0.8s,mb4.4,baz=224,slow=5.0,SNR=4.1						
CTA				LR	LR	14 45 22.9	
	comp=Z,98nm,19.8s,MS3.8,baz=228,slow=33						
CTA	**Charters Tower**	**46.65**	**70**	P	**P**	**14 28 09.5**	**+0.1**
CTA				LR	LR	14 45 22.9	
SNAA	**Sanae**	**48.94**	**204**	*e*	**P**	**14 28 26.5**	**-0.1**
SNAA				*e*	pP	14 28 29.4	-0.3
SNAA				*e*		14 28 32.8	
VNA2	**Neumayer--Watz**	**50.59**	**204**	*e*	**P**	**14 28 39.2**	**+0.1**
	baz=111,slow=5.5						
VNA2				*e*	pP	14 28 42.2	0.0
VNA2				*e*		14 28 45.5	
VNA3	**Neumayer Olymp**	**51.02**	**203**	*e*	**P**	**14 28 44.3**	**+2.0**
VNA3				*e*	pP	14 28 47.4	+1.9
BOSA	**Boshof**	**59.19**	**260**	LR	LR	14 50 10.5	
	comp=Z,126nm,18.5s,MS4.1,baz=304,slow=31						
HNR	**Honiara**	**63.34**	**74**	LR	LR	14 54 12.5	
	comp=Z,90nm,20.5s,MS3.9,baz=154,slow=33						
CMAR	**Chiang Mai Arr**	**66.13**	**359**	P	**P**	**14 30 27.8**	**-0.3**
	0.4nm,0.3s,mb3.9,baz=193,slow=6.0,SNR=5.4						
CMAR				LR	LR	14 56 17.6	
	comp=Z,80nm,18.1s,MS4.0,baz=184,slow=33						
USHA	**Ushuaia**	**77.07**	**187**	LR	LR	15 03 08.4	
	comp=Z,165nm,18.0s,MS4.4,baz=78,slow=34						
MKAR	**Makanchi Array**	**95.59**	**348**	LR	LR	15 13 14.7	
	comp=Z,40nm,18.9s,MS3.9,baz=50,slow=34						
NVAR	**Mina Array Bea**	**151.01**	**95**	PKPbc	PKPbc	14 39 34.4	+1.0
	0.9nm,0.8s,baz=222,slow=4.7,SNR=5.7						
NVAR	**Mina Array Bea**	**151.01**	**95**	PKPbc	PKPbc	14 39 34.4	+1.0

*ISCJB **23** 15:01:22.6±0.7, 2428S±004×668W±0.1, h175km±8km, mb3.7/8, Error ellipse: s-maj=15.2km s-min=6.7km az=177.2*
*IDC **23** 15:01:23.6±1.0, 2425S×6686W, h173km±10km, mb3.6/7, mb1 3.9/13, mb1mx3.8/19, mbtmp3.7/13, Error ellipse: s-maj=16.0km s-min=11.3km az=77.0*
*NEIC **23** 15:01:23.6±0.6, 2426S×6679W, h176km±7km, mb4.7/4, Error ellipse: s-maj=11.2km s-min=6.8km az=90.0*

ISC 23 15:01:23.5±0.7,2427S±004×6677W±010,h167km±8km, n33,σ0°96/37,mb3.7/8,Salta Province

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LVC	**Limon Verde**	**2.56**	**310**	P	**Pn**	**15 02 08.0**	**+1.8**
	56nm,0.3s,baz=127,slow=6.5,SNR=452						
LVC				S	**Sn**	**15 02 39.2**	**0.0**
	85nm,0.3s,baz=215,slow=22,SNR=18						
LVC	**Limon Verde**	**2.56**	**310**	*e*Pn	**Pn**	**15 02 07.9**	**+1.8**
LVC				*e*Sn	**Sn**	**15 02 40.5**	**+1.3**
LCO	**Las Campanas**	**5.89**	**216**	*e*Pn	**Pn**	**15 02 48.2**	**-0.6**
	52nm,0.6s						
LCO				*e*Sn	**Sn**	**15 03 41.8**	**-14**
CFAA	**Coronel Fontan**	**7.42**	**190**	P	**Pn**	**15 03 09.6**	**+0.5**
	0.7nm,0.3s,baz=6.5,slow=12,SNR=46						
CFAA				S	**Sn**	**15 04 29.6**	**-2.8**
	1.3nm,0.3s,baz=164,slow=16,SNR=9.6						
CFAA	**Coronel Fontan**	**7.42**	**190**	P	**Pn**	**15 03 09.6**	**+0.5**
CFAA				S	**Sn**	**15 04 29.6**	**-2.8**
LPAZ	**La Paz**	**8.04**	**351**	P	**Pn**	**15 03 17.9**	**+0.6**
	4.7nm,0.3s,baz=172,slow=9.5,SNR=90						
LPAZ				S	**Sn**	**15 04 45.0**	**-2.3**
	0.6nm,0.3s,baz=139,slow=23,SNR=2.9						
LPAZ	**La Paz**	**8.04**	**351**	*e*Pn	**Pn**	**15 03 17.7**	**+0.3**
LPAZ				Sn	**Sn**	**15 04 45.8**	**-1.5**
ARE	**Arequipa**	**8.94**	**329**	P	**Pn**	**15 03 29.0**	**-0.2**
ARE				*e*S	**Sn**	**15 05 01.0**	**-7.8**
SIV	**San Ignacio**	**9.82**	**34**	P	**Pn**	**15 03 40.9**	**0.0**
	baz=180,slow=12						
SIV				S	**Sn**	**15 05 21.1**	**-8.9**
	0.2nm,0.3s,baz=226,slow=17,SNR=3.3						
TRQA	**Tornquist**	**14.34**	**165**	*e*P	**Pn**	**15 04 37.8**	**-1.1**
	16nm,0.8s						
PLCA	**Paso Flores**	**16.72**	**190**	P	**Pn**	**15 05 08.2**	**+0.2**
	0.2nm,0.3s,baz=14,slow=12,SNR=9.5						
PLCA	**Paso Flores**	**16.72**	**190**	*e*P	**Pn**	**15 05 08.6**	**+0.6**
BDFB	**Brasilia**	**19.59**	**68**	P	**P**	**15 05 40.4**	**+1.4**
	1.5nm,0.3s,baz=234,slow=16,SNR=46						
BDFB	**Brasilia**	**19.59**	**68**	*e*P	**P**	**15 05 39.3**	**+0.4**
	43nm,0.9s						
VNA3	**Neumayer Olymp**	**56.84**	**161**	*e*	**P**	**15 10 51.4**	**+1.3**
VNA3				*e*		15 10 53.6	
VNA3				*e*		15 10 56.4	
VNA2	**Neumayer--Watz**	**57.40**	**160**	*e*	**P**	**15 10 55.1**	**+1.1**
	baz=288,slow=7.1						
VNA2				*e*		15 10 57.9	
VNA2				*e*		15 11 00.7	
SNAA	**Sanae**	**59.03**	**161**	*e*	**P**	**15 11 05.9**	**+0.6**
SNAA				*e*		15 11 08.3	
SNAA				*e*		15 11 10.3	
TXAR	**Lajitas Array**	**64.01**	**324**	P	**P**	**15 11 38.4**	**-0.8**
	2.0nm,0.4s,mb3.3,baz=153,slow=6.8,SNR=4.2						
TXAR	**Lajitas Array**	**64.01**	**324**	P	**P**	**15 11 38.4**	**-0.8**
DBIC	**Dimbokro**	**67.69**	**71**	P	**P**	**15 12 03.2**	**+0.1**
	1.6nm,0.7s,mb3.9,baz=230,slow=7.9,SNR=3.1						
DBIC	**Dimbokro**	**67.69**	**71**	P	**P**	**15 12 03.2**	**+0.1**
TOA0	**Torodi Ar. Sit**	**76.47**	**69**	*e*P	**P**	**15 12 54.6**	**-0.7**
TORD	**Torodi Ar. Bea**	**76.47**	**69**	P	**P**	**15 12 54.3**	**-1.0**
	1.1nm,0.4s,mb3.9,baz=255,slow=5.1,SNR=26						
PDAR	**Pinedale Array**	**77.48**	**329**	P	**P**	**15 12 59.2**	**-1.1**
	0.4nm,0.7s,mb3.1,baz=124,slow=8.1,SNR=3.0						
NVAR	**Mina Array Bea**	**78.87**	**321**	P	**P**	**15 13 08.2**	**+0.1**
	0.9nm,0.8s,mb3.5,baz=144,slow=5.7,SNR=6.4						
HLID	**Hailey**	**80.42**	**327**	*e*P	**P**	**15 13 16.8**	**+0.5**
	2.3nm,1.0s,mb3.8						
BOSA	**Boshof**	**80.43**	**117**	P	**P**	**15 13 17.1**	**+0.2**
	6.9nm,1.1s,mb4.2,baz=242,slow=14,SNR=3.6						
MAW	**Mawson**	**81.12**	**163**	P	**P**	**15 13 20.2**	**

28nm,0.4s,mb5.0
CTAO Charters Tower 31.48 271 *e*P **P 16 33 25.4 +0.7**
34nm,0.5s,mb5.0
STKA Stephens Creek 34.47 249⇓*i*P **P 16 33 50.6 +0.6**
5.4nm,0.4s,mb4.3
STKA Stephens Creek 34.47 249 P **P 16 33 50.6 +0.7**
6.9nm,0.4s,mb4.4,baz=99,slow=9.3,SNR=22
STKA Stephens Creek 34.47 249 *e*P **P 16 33 50.2 +0.3**
ASAR Alice Springs 41.92 261 P **P 16 34 50.9 -0.1**
3.3nm,0.3s,mb4.2,baz=92,slow=6.7,SNR=218
FORT Forrest 46.07 250⇓*i*P **16 35 22.1 -1.1**
27nm,0.5s,mb4.9
KAKA Kakadu 46.37 276 *e*P **P 16 35 20.0 -5.7**
6.8nm,0.8s,mb4.1
KLBR Kellerberrin 54.72 248 *e*P **P 16 36 25.8 -1.0**
4.7nm,0.4s,mb4.2
CASY Casey 59.49 206 *e*P **P 16 36 58.5 -0.5**
3.3nm,0.5s,mb3.9
QSPA South Pole Qui 65.50 180 P **P 16 37 39.0 +1.2**
1.3nm,0.6s,mb3.8,baz=99,slow=0.4,SNR=8.8
MAW Mawson 77.11 200 P **P 16 38 45.8 -0.4**
1.1nm,0.5s,mb3.7,baz=135,slow=6.3,SNR=8.0
PETK Petropavlovsk- 79.76 347 P **P 16 38 59.8 -0.7**
2.2nm,0.6s,mb3.8,baz=99,slow=9.2,SNR=8.6
ISA Isabella 83.50 46 *e*P **P 16 39 20.9 +0.8**
3.7nm,1.1s,mb3.8
NVAR Mina Array Bea 85.25 44 P **P 16 39 28.9 +0.2**
1.5nm,0.8s,mb3.7,baz=222,slow=8.3,SNR=9.8
NVAR Mina Array Bea 85.25 44 P **P 16 39 28.9 +0.2**
PLCA Paso Flores 87.80 134 P **P 16 39 39.8 -1.1**
0.2nm,0.3s,mb3.3,baz=239,slow=5.9,SNR=3.0
CMAR Chiang Mai Arr 89.76 290 P **P 16 39 50.5 +0.1**
0.2nm,0.3s,mb3.4,baz=142,slow=3.4,SNR=4.1
TXAR Lajitas Array 90.80 58 P **P 16 39 55.5 +0.5**
2.1nm,0.8s,mb4.1,baz=212,slow=7.3,SNR=15
PDAR Pinedale Array 93.19 44 P **P 16 40 05.8 +0.1**
0.7nm,0.6s,mb3.9,baz=251,slow=4.5,SNR=5.9
ARCES ARCESS Array B 132.55 348 PKP PKPdf 16 46 00.8 -1.3
2.6nm,0.9s,baz=46,slow=3.5,SNR=5.7
NOA NORSAR Array B 142.75 351 PKhKP 16 46 16.8
2.1nm,0.9s,baz=16,slow=5.0,SNR=3.4
NOA NORSAR Array B 142.75 351 PKP PKPdf 16 46 16.8 -4.2
HFS Hagfors 143.21 349 PKhKP 16 46 18.2
6.5nm,0.4s,baz=64,slow=3.4,SNR=68
MMAI Mount Meron Ar 147.97 293 PKPbc PKPbc 16 46 35.0 +0.4
1.2nm,0.5s,baz=73,slow=6.8,SNR=3.3
EKA Eskdalemuir Ar 149.20 4 PKPbc PKPbc 16 46 35.5 -1.4
1.1nm,0.4s,baz=352,slow=3.1,SNR=8.8
CLL Collm 151.50 343 *i* PKPbc PKPbc 16 46 41.4 -1.0
comp=Z,6.0nm,0.7s

IDC ***23*** *16:39:47.3±0.9, 2147S×17550W, h0km, mb4.0/4, mb1 4.4/5, mb1mx4.0/17, mbtmp4.2/5, ML4.8/1, Error ellipse: s-maj=51.1km s-min=25.1km az=134.0*
NEIC ***23*** *16:39:48.7±0.6, 2133S×17564W, h10km, mb3.9/1, Error ellipse: s-maj=33.2km s-min=11.6km az=117.0*
ISCJB ***23*** *16:39:50.4±0.8, 213S±02×1756W±03, h33km, mb4.0/5, Error ellipse: s-maj=38.5km s-min=13.4km az=28.3*

ISC 23 16:39:52.5±0.8, 213S±02×1756W±03, h35km, n21, σ1§12/7, mb4.0/5, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**8.23**	**27**	*e*Pn	**Pn**	**16 41 48.3**	**-1.2**
URZ	**Urewera**	**18.01**	**199**	P	**Pn**	**16 43 57.6**	**-2.4**
	2.9nm,0.3s,baz=292,slow=3.4,SNR=16						
TBI	**Tubuai**	**24.27**	**100**	*e*LR	LR	16 50 47.4	
	115nm,27.8s						
TBI	**Tubuai**	**24.27**	**100**	*e*T		17 09 20.9	
	5.7nm,0.3s						
PAE	**Paea**	**24.80**	**86**	*e*T		17 10 11.7	
	240nm,0.3s						
PPT	**Papeete**	**24.82**	**86**	*e*LR	LR	16 51 06.6	
	116nm,25.0s						
TVO	**Taravao**	**25.08**	**87**	*e*T		17 10 27.8	
	41nm,0.2s						
MEH	**Mehetia**	**26.16**	**87**	*e*T		17 11 52.9	
	1μm,0.2s						
VAH	**Vaihoa**	**27.23**	**82**	*e*T		17 13 18.7	
	3.4nm,0.2s						
ASAR	**Alice Springs**	**46.51**	**257**	P	**P**	**16 48 17.1**	**+0.4**
	2.1nm,0.9s,mb4.1,baz=90,slow=9.9,SNR=26						
SBA	**Scott Base**	**57.21**	**184**	*e*P	**P**	**16 49 37.1**	**+1.4**
	1.5nm,1.1s,mb3.9						
NVAR	**Mina Array Bea**	**80.11**	**42**	P	**P**	**16 51 59.8**	**+0.9**
	1.4nm,0.6s,mb4.0,baz=223,slow=7.8,SNR=10						
MAW	**Mawson**	**81.54**	**199**	P	**P**	**16 52 06.1**	**-0.1**
	1.5nm,0.6s,mb4.1,baz=133,slow=8.6,SNR=8.8						
TXAR	**Lajitas Array**	**85.64**	**56**	P	**P**	**16 52 28.1**	**+0.3**
	0.1nm,0.3s,mb3.6,baz=220,slow=8.3,SNR=3.6						
ARCES	**ARCESS Array B 130.12 350**			PKP	PKPdf	16 58 58.0	0.0
	3.6nm,1.0s,baz=20,slow=2.9,SNR=4.3						
ARCES	**ARCESS Array B 130.12 350**			PKP	PKPdf	16 58 58.0	0.0
AKASG	**Malin Array Be 144.79 332**			PKP	PKPdf	16 59 24.4	-1.1
	2.1nm,0.4s,baz=41,slow=4.1,SNR=13						
AKASG	**Malin Array Be 144.79 332**			PKP	PKPdf	16 59 24.4	-1.1
EKA	**Eskdalemuir Ar 145.57 8**			PKPbc	PKPbc	16 59 27.2	+0.3
	1.0nm,0.7s,baz=331,slow=3.0,SNR=6.0						
CLL	**Collm 149.32 349**			*e*PKPbc	PKPbc	16 59 38.0	+0.6
MMAI	**Mount Meron Ar 150.16 300**			PKPbc	PKPbc	16 59 41.5	+1.4
	1.2nm,0.5s,baz=64,slow=6.6,SNR=4.6						

CASC 23 16:51:23.8±1.6, 1098N×8591W, h55km±7km, MD4.0, ML4.4, 4C-11D, Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SSN	**San Juan del S**	**0.32**	**10**	*e*P	Pn	16 51 33.8	+0.1
CONN	**Concepcion**	**0.64**	**26**⇓*i*P		Pn	16 51 37.3	+0.1
CUI	**Cuipilapa**	**0.79**	**113**⇓*e*P		Pn	16 51 38.9	-0.1
CUI				*e*S	Sn	16 51 50.9	+1.0
2RIO	**Dos Rios de Up**	**0.81**	**124**	*e*P	Pn	16 51 36.7	-2.4
2RIO				*e*S	Sn	16 51 46.5	-3.9
APON	**Apoyo**	**0.94**	**351**⇓*i*P		Pn	16 51 41.5	+0.5
MASN	**Masaya**	**1.03**	**347**⇓*e*P		Pn	16 51 41.9	-0.2
MASN				*e*S	Sn	16 51 55.6	+0.1
MASN				AML	AML	16 52 07.1	
	comp=N,5μm,0.4s						
CRUN	**El Crucero**	**1.07**	**339**⇑*i*P		Pn	16 51 43.7	+1.1
TICN	**Ticuantepe**	**1.09**	**343**	*e*P	Pn	16 51 43.3	+0.4
WILN	**Americas 2**	**1.20**	**347**	*e*P	Pn	16 51 44.2	-0.2
WILN				*e*S	Sn	16 52 00.3	+0.6
MGAN	**Managua**	**1.20**	**344**⇓*e*P		Pn	16 51 44.6	+0.2
MGAN				*e*S	Sn	16 51 59.5	-0.3
MGAN				AML	AML	16 52 01.2	
	comp=E,15μm,0.3s						
TISN	**Laguna Tiscapa**	**1.21**	**343**	*e*S	Sn	16 52 00.5	+0.7
XAVN	**Gruta Xavier**	**1.23**	**341**	*e*P	Pn	16 51 45.1	+0.4
CSAN		**1.29**	**337**⇑*e*P		Pn	16 51 45.8	+0.2
CSAN				*e*S	Sn	16 52 00.8	-1.1
APYN	**Apoyeque**	**1.32**	**341**⇓*e*P		Pn	16 51 46.2	+0.3
APYN				*e*S	Sn	16 52 03.1	+0.7
FORC	**Fortuna**	**1.32**	**112**⇓*e*P		Pn	16 51 45.8	-0.2
COPN	**Copaltepe**	**1.36**	**331**⇑*e*P		Pn	16 51 46.6	+0.1
COPN				*e*S	Sn	16 52 03.9	+0.3
HUEN		**1.37**	**349**⇓*e*P		Pn	16 51 46.9	+0.2
HUEN				*e*S	Sn	16 52 05.3	+1.5
JCR	**Jicaral**	**1.37**	**145**	*e*P	Pn	16 51 46.5	-0.1
MOMN	**Momotombo**	**1.55**	**337**⇑*e*P		Pn	16 51 49.6	+0.5
MIRN	**Miramar**	**1.65**	**332**⇓*e*P		Pn	16 51 50.9	+0.5
CGA2	**Cerro Gallo 2**	**1.72**	**124**	*e*P	Pn	16 51 51.4	+0.1
PRS1	**Puriscal**	**1.86**	**122**	*e*P	Pn	16 51 53.7	+0.3
URSC	**Urasca**	**2.39**	**118**	*e*P	Pn	16 52 01.1	+0.6
BUS	**Buena Vista**	**2.55**	**124**	*e*P	Pn	16 52 04.5	+1.7
CNCH	**Conchagua**	**2.96**	**321**	*e*P	x	16 52 09.1	
CAHU	**Cacacuatique**	**3.57**	**321**⇓*e*P		x	16 52 18.7	
SBLS	**San Blas**	**4.61**	**308**	*e*P	x	16 52 31.7	
CHI2		**13.60**	**117**⇓*e*P			16 51 56.0	
CHI2				*e*S		16 52 19.7	
LAPE	**La Pedrera**	**14.55**	**102**	*e*P		16 51 35.4	
LAPE				*e*S		16 51 44.2	

KRSC 23 17:05:47.6±0.1, 5521N×16247E, h5km±5km, ML3.6, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MKZ	**Mys Kozlova**	**0.78**	**213**	*e*P	Pg	17 06 03.6	+1.0
MKZ				*i*S	Sg	17 06 15.6	+2.9
KBTR	**Krutoberegovo**	**1.02**	**11**	*e*P	Pg	17 06 06.9	-0.2
KBTR				*i*S	Sg	17 06 21.9	+1.5
ZLN	**Zelenaya**	**1.24**	**311**	*e*P	Pg	17 06 12.6	+1.2
ZLN				*i*S	Sg	17 06 30.4	+2.9
TUMR	**Tumrok**	**1.33**	**274**	*e*P	Pn	17 06 13.4	+0.6
TUMR				*i*S	Sb	17 06 31.4	+1.0
BZMR	**Bezymyannaya**	**1.34**	**304**	*e*P	Pn	17 06 13.0	+0.1
BZMR				*i*S	Sb	17 06 31.6	+1.0
KMNR	**Kamenistaya**	**1.38**	**294**	*e*P	Pn	17 06 14.2	+0.7
KMNR				*i*S	Sb	17 06 33.1	+1.3
KIRR	**Kirishev**	**1.42**	**303**	*e*P	Pn	17 06 15.2	+1.2
KIRR				*i*S	Sb	17 06 35.4	+2.5
KRSR	**Krestovskiy**	**1.48**	**314**	*e*P	Pn	17 06 15.6	+0.8
KRSR				*i*S	Sn	17 06 35.3	+0.8
KPT	**Kopyto**	**1.48**	**302**	*e*P	Pn	17 06 15.7	+0.8
KPT				*i*S	Sn	17 06 36.4	+1.8
KLY	**Klyuchi**	**1.51**	**318**	*e*P	Pn	17 06 14.5	-0.7
KLY				*i*S	Sn	17 06 33.2	-2.1
SRKR	**Sorokina**	**1.62**	**334**	*e*P	Pn	17 06 18.2	+1.4
SRKR				*i*S	Sn	17 06 40.9	+2.9
KOZ	**Kozyrevsk**	**1.70**	**301**	*e*P	Pn	17 06 19.3	+1.4
KOZ				*i*S	Sn	17 06 42.8	+2.8
KII	**Karymskiy**	**2.11**	**237**	*e*P	Pn	17 06 24.1	+0.6
KII				*i*S	Sn	17 06 51.8	+1.6
SPN	**Mys Shipunski**	**2.56**	**215**	*e*P	Pn	17 06 30.3	+0.6
SPN				*i*S	Sn	17 07 02.3	+1.2
NLC	**Nalytchevo**	**2.75**	**223**	*e*P	Pn	17 06 34.2	+2.0
NLC				*i*S	Sn	17 07 08.9	+3.1
SDLR	**Sedlovina**	**2.86**	**229**	*e*P	Pn	17 06 34.9	+1.1
SDLR				*i*S	Sn	17 07 10.0	+1.5
AVH	**Avacha**	**2.93**	**230**	*e*P	Pn	17 06 36.2	+1.4
GNL	**Ganaly**	**3.05**	**242**	*e*P	Pn	17 06 37.8	+1.4
GNL				*i*S	Sn	17 07 13.9	+0.7
PET	**Petropavlovsk**	**3.14**	**227**	*e*P	Pn	17 06 39.7	+2.1
PET				*i*S	Sn	17 07 18.8	+3.4
RUS	**Russkaya**	**3.64**	**222**	*e*P	Pn	17 06 45.4	+0.9
RUS				*i*S	Sn	17 07 28.8	+1.1

MAN 23 17:33:34, 1857N×12087E, h26km, mb4.2, ML3.1, MS2.8, 2D, Luzon

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PIP	**Pasuquin**	**0.34**	**224**⇓*i*P		Pb	17 33 41.6	-0.2
PIP				*e*S	Sb	17 33 47.3	+0.3
SIPP	**Brgy, Tapao**	**0.76**	**211**⇓*i*P		Pb	17 33 49.5	+0.9
SIPP				*e*S	Sb	17 34 01.2	+2.7
ABRA	**Dolores**	**0.93**	**189**	*e*P	Pn	17 33 50.3	-1.1
SGCP	**Mt. Cagua**	**1.16**	**106**	*e*P	Pn	17 33 54.6	0.0
SGCP				*e*S	Sn	17 34 10.3	+0.7
CAUP	**Cauayan**	**1.86**	**151**	*e*P	Pn	17 34 09.0	+4.9

NEIC 23 17:35:29.4, 3649S×17718E, h5km, ML4.0(WEL), After WEL., Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WIZ	**White Island**	**1.04**	**180**	P	Pg	17 35 47.7	-1.6
KUZ	**Kuaotunu**	**1.20**	**257**	P	Pg	17 35 51.7	-0.8
KUZ				S	Sg	17 36 07.1	-0.9
MXZ	**Matakaoa Point**	**1.40**	**140**	P	Pn	17 35 53.3	-2.3
MXZ				S	Sb	17 36 09.9	-4.3
MKAZ	**Moumakai**	**1.73**	**248**	P	Pn	17 35 59.4	-0.7
MKAZ				S	Sn	17 36 23.0	+0.4
URZ	**Urewera**	**1.77**	**182**	P	Pn	17 35 59.6	-1.0
PUZ	**Puketiti**	**1.80**	**152**	*e*P	Pn	17 36 01.3	+0.2
MWZ	**Matawai**	**1.86**	**172**	*e*P	Pn	17 35 59.6	-2.3
MWZ				S	Sn	17 36 23.1	-2.8

MEX 23 17:55:48.0±1.6, 1648N×9962W, h10km±30km, MD3.7, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ACX	**Acapulco**	**0.48**	**324**	*i*P	Pg	17 55 55.5	-1.9
CAIG	**El Cayaco**	**0.84**	**313**	*i*P	Pg	17 56 02.8	-1.0
CAIG				*i*S	Sg	17 56 13.1	-2.0
PNIG	**Pinotepa**	**1.44**	**93**	*i*P	Pn	17 56 10.7	-3.4
PNIG				*i*S	Sn	17 56 27.3	-5.7
UTMO	**Huajuapan**	**2.20**	**52**	*i*P	Pn	17 56 22.1	-2.5
UTMO				*i*S	Sn	17 56 48.2	-3.7

IDC 23 18:05:45.5±4.4, 690S×15483E, h0km, mb3.6/4, mb1 3.7/4, mb1mx3.6/14, mbtmp3.6/4, Error ellipse: s-maj=124.6km s-min=34.8km az=93.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ASAR	**Alice Springs**	**26.11**	**228**	P	P	18 11 20.6	-0.7
	0.1nm,0.5s,baz=58,slow=10.0,SNR=4.3						
STKA	**Stephens Creek**	**27.75**	**205**	P	P	18 11 36.7	+0.7
	1.9nm,0.8s,baz=37,slow=15,SNR=3.3						
CMAR	**Chiang Mai Arr**	**60.59**	**296**	P	P	18 15 59.1	+0.7
	0.4nm,0.8s,baz=133,slow=4.5,SNR=4.4						
MKAR	**Makanchi Array**	**83.22**	**319**	P	P	18 18 13.6	-0.3
	0.6nm,0.7s,baz=101,slow=6.0,SNR=7.0						

ISCJB ***23*** *18:11:44.8±0.7, 3928N±002×2204E±005, h7km±6km, Error ellipse: s-maj=6.7km s-min=4.0km az=1.2*
ATH ***23*** *18:11:44.7, 3930N×2205E, h17km±2km, MD3.2/10*
CSEM ***23*** *18:11:44.3±0.1, 3931N×2203E, h2km, ML3.4/5, Error ellipse: s-maj=2.1km s-min=1.1km az=96.0*
NEIC ***23*** *18:11:44.7, 3930N×2205E, h17km, MD3.2(ATH), After ATH.*
THE ***23*** *18:11:45.4, 3930N×2203E, h4km, ML3.4/5, Error ellipse: s-maj=0.9km s-min=0.4km az=72.0*

ISC 23 18:11:45.2±0.5, 3929N±002×2205E±005, h5km±5km, n33, σ1§20/45, Greece

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
THL	**Klokotos Trika**	**0.28**	**355**	P	**Pg**	**18 11 50.6**	**-0.1**
THL				S	**Sg**	**18 11 54.5**	**+0.1**
THL	**Klokotos Trika**	**0.28**	**355**	*i* Pb	**Pg**	**18 11 50.5**	**-0.2**
THL	**Klokotos Trika**	**0.28**	**355**	*i* PB	**Pg**	**18 11 50.5**	**-0.2**
THL				*e*SB	**Sg**	**18 11 55.1**	**+0.7**
AGG	**Agios Georgios**	**0.34**	**140**	P	**Pg**	**18 11 52.5**	**+0.7**
AGG				S	**Sg**	**18 11 57.9**	**+1.6**
EVR	**Evrytania**	**0.41**	**207**	*e*Pb	**Pg**	**18 11 52.4**	**-0.5**
EVR				*e*Sb	**Sg**	**18 11 59.0**	**+0.5**
EVR	**Evrytania**	**0.41**	**207**	*e*PB	**Pg**	**18 11 52.6**	**-0.5**
EVR				*e*SB	**Sg**	**18 11 59.0**	**+0.5**
MEV	**Metsovon**	**0.81**	**309**	P	**Pg**	**18 12 00.0**	**-0.7**
LIT	**Litokhoron**	**0.88**	**23**	P	**Pg**	**18 12 01.6**	**-0.6**
LIT				S	**Sg**	**18 12 14.4**	**+0.7**
XOR	**Xorichti**	**0.89**	**84**	P	**Pg**	**18 12 02.1**	**-0.3**
LKR	**Lokris**	**0.98**	**130**	*e*Pn	**Pn**	**18 12 03.7**	**-1.9**
LKR	**Lokris**	**0.98**	**130**	*e*PN	**Pn**	**18 12 03.7**	**-1.9**
JAN	**Janina**	**1.00**	**292**	*e*Pn	**Pn**	**18 12 04.1**	**-1.8**
JAN	**Janina**	**1.00**	**292**	*e*PN	**Pn**	**18 12 04.1**	**-1.8**
KZN	**Kozani**	**1.04**	**348**	*i* Pn	**Pn**	**18 12 04.2**	**-2.4**
KZN	**Kozani**	**1.04**	**348**	*i* PN	**Pn**	**18 12 04.2**	**-2.4**
RLS	**Riolos of Patr**	**1.31**	**200**	*e*Pn	**Pn**	**18 12 09.9**	**-0.3**
RLS	**Riolos of Patr**	**1.31**	**200**	*e*PN	**Pn**	**18 12 09.9**	**-0.3**
PLG	**Polygyros**	**1.53**	**44**	*e*Pb	**Pb**	**18 12 11.6**	**-2.5**
PLG	**Polygyros**	**1.53**	**44**	*e*PB	**Pb**	**18 12 11.6**	**-2.5**
FNA	**Florina**	**1.58**	**341**	P	**Pn**	**18 12 12.9**	**-1.1**
FNA				S	**Sn**	**18 12 34.6**	**-0.3**
VLS	**Valsamata**	**1.59**	**226**	*e*Pn	**Pn**	**18 12 15.1**	**+1.1**
VLS	**Valsamata**	**1.59**	**226**	*e*PN	**Pn**	**18 12 15.1**	**+1.1**
GRG	**Griva**	**1.69**	**9**	P	**Pn**	**18 12 14.8**	**-0.7**
GRG				S	**Sn**	**18 12 37.4**	**-0.1**
KEK	**Kerkira**	**1.79**	**285**	*e*Pn	**Pn**	**18 12 18.0**	**+1.2**
KEK	**Kerkira**	**1.79**	**285**	*e*PN	**Pn**	**18 12 18.0**	**+1.2**
BIA	**Bitola**	**1.82**	**343**	*e*Pn	**Pn**	**18 12 18.6**	**+1.4**
BIA				*e*Sn	**Sn**	**18 12 43.0**	**+2.3**
BIA	**Bitola**	**1.82**	**343**	*e*Pn	**Pn**	**18 12 18.5**	**+1.3**
BIA				*e*Sn	**Sn**	**18 12 42.9**	**+2.2**
OUR	**Ouranopolis**	**1.82**	**54**	P	**Pn**	**18 12 16.7**	**-0.6**
KNT	**Kendrikon**	**1.98**	**19**	P	**Pn**	**18 12 19.1**	**-0.4**
VAY	**Valandovo**	**2.07**	**11**	*e*Pn	**Pn**	**18 12 23.5**	**+2.7**
VAY				*e*Sn	**Sn**	**18 12 49.0**	**+2.1**
VAY	**Valandovo**	**2.07**	**11**	*e*Pn	**Pn**	**18 12 23.4**	**+2.7**
VAY				*e*Sn	**Sn**	**18 12 49.0**	**+2.1**
NVR	**Nevrokopi**	**2.49**	**33**	*e*Pn	**Pn**	**18 12 26.6**	**+0.2**
NVR	**Nevrokopi**	**2.49**	**33**	*e*PN	**Pn**	**18 12 26.6**	**+0.2**

IDC ***23*** *18:22:45.9±2.2, 1333N×9125W, h0km, mb3.9/3, mb1 4.4/6, mb1mx4.0/21, mbtmp4.1/6, ML4.6/3, MS3.2/1, Ms1 3.3/1, ms1mx2.6/25, Error ellipse: s-maj=59.0km s-min=25.7km az=30.0*
NEIC ***23*** *18:22:51.2±1.4, 1343N×9130W, h37km±10km, mb4.3/5, MD4.8(MEX), Error ellipse: s-maj=21.7km s-min=9.0km az=197.0*
ISCJB ***23*** *18:22:52.4±0.6, 1366N±005×9138W±004, h45km±7km, mb4.2/5, Error ellipse: s-maj=10.5km s-min=3.7km az=36.8*
CASC ***23*** *18:22:53.7±2.1, 1372N×9110W, h4km±9km, MD4.1, ML4.1, mb4.3(NEIC)*
MEX ***23*** *18:22:53.1±0.5, 1338N×9180W, h10km±73km, MD4.8*

ISC 23 18:22:54.4±0.5, 1376N±005×9136W±004, h37km±7km, n74, σ1§12/74, mb4.2/5, 7C-1D, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JAT	**Jato**	**0.62**	**334**⇑*e*P		**Pn**	**18 23 07.7**	**+1.0**
FUG	**Fuego 3**	**0.85**	**36**	*e*P	**Pn**	**18 23 09.2**	**-0.6**
FG6		**0.92**	**30**⇑*e*P		**Pn**	**18 23 10.2**	**-0.6**
PCG	**Pacaya**	**0.96**	**49**	*e*P	**Pn**	**18 23 11.0**	**-0.5**
GCG	**Guatemala City**	**1.15**	**44**	*e*S	**Sn**	**18 23 29.3**	**+0.8**
THIG		**1.45**	**323**	*i* P	**Pn**	**18 23 17.5**	**-0.6**
THIG				*i* S	**Sn**	**18 23 36.7**	**+0.9**
RBDL	**Robledal**	**1.66**	**77**⇑*e*P		x	18 23 19.5	
RTR	**El Retiro**	**1.67**	**85**	*e*P	x	18 23 19.5	
SBLS	**San Blas**	**1.69**	**87**	*e*P	x	18 23 19.5	
SBLS				*e*S	x	18 23 41.1	
SNJE	**San Jose**	**1.70**	**86**⇑*e*P		x	18 23 19.6	
SNJE				*e*S	x	18 23 41.0	
BOQS	**Boqueron**	**2.02**	**90**⇑*e*P		x	18 23 24.6	
BOQS				*e*S	x	18 23 49.4	
MTO2	**Montecristo 2**	**2.04**	**71**	*e*P	x	18 23 24.9	
MTO2				*e*S	x	18 23 52.0	
SNET	**Serv Nac Est T**	**2.07**	**92**⇓*i*P		x	18 23 25.1	
SNET				*e*S	x	18 23 49.1	
MRL	**Marmol**	**2.07**	**51**	*e*P	**Pn**	**18 23 27.3**	**+0.6**
LFU	**La Fuente**	**2.18**	**90**	*e*P	x	18 23 26.9	
LFRS	**El Faro**	**2.23**	**93**	*e*P	x	18 23 27.3	
LFRS				*e*S	x	18 23 54.0	
LBRS	**Las Brisas**	**2.25**	**90**⇑*e*P		x	18 23 27.9	
PCIG		**2.65**	**317**	*e*P	**Pn**	**18 23 33.3**	**-1.3**
PCIG				*i* S	**Sn**	**18 24 05.3**	**-0.2**
VSM	**San Miguel**	**3.01**	**96**	*e*P	x	18 23 38.9	
VSM				*e*S	x	18 24 14.9	
BLLM	**Bellamira**	**3.05**	**95**	*e*P	x	18 23 39.0	
CAHU	**Cacacuatique**	**3.06**	**89**	*e*P	x	18 23 38.8	
SCX	**San Cristobal**	**3.21**	**338**	*e*P	**Pn**	**18 23 44.2**	**+1.9**
SCX				*i* S	**Sn**	**18 24 24.1**	**+4.7**
SCX	**San Cristobal**	**3.21**	**338**	*e*P	**Pn**	**18 23 44.2**	**+1.9**
SCX				*i* S	**Sn**	**18 24 24.7**	**+5.3**
TGIG		**3.46**	**331**	*e*P	**Pn**	**18 23 46.4**	**+0.7**
TGIG				*i* S	**Sn**	**18 24 28.6**	**+3.2**
CNCH	**Conchagua**	**3.46**	**98**	*e*P	x	18 23 44.1	
CNCH				*e*S	x	18 24 26.6	
TGUH	**Tegucigalpa,Un**	**3.98**	**85**	*e*P	**Pn**	**18 23 51.4**	**-1.5**
TGUH	**Tegucigalpa,Un**	**3.98**	**85**	*e*Pn	**Pn**	**18 23 50.9**	**-1.9**
TEL3	**Telica 3**	**4.55**	**104**	*e*P	**Pn**	**18 23 59.4**	**-1.3**
MIRN	**Miramar**	**4.71**	**106**	*e*P	**Pn**	**18 24 01.1**	**-1.8**
CMIG	**Matias Romero**	**4.75**	**315**	Pn	**Pn**	**18 24 03.4**	**-0.1**
	11nm,0.3s,baz=127,slow=9.5,SNR=65						
CMIG				Sn	**Sn**	**18 24 57.1**	**-0.2**
	20nm,0.3s,baz=90,slow=20,SNR=7.1						
CMIG	**Matias Romero**	**4.75**	**315**	*i* P	**Pn**	**18 24 02.9**	**-0.6**
CMIG				*i* S	**Sn**	**18 24 54.5**	**-2.9**
CMIG	**Matias Romero**	**4.75**	**315**	*i* P	**Pn**	**18 24 02.9**	**-0.6**
CMIG				*i* S	**Sn**	**18 24 57.0**	**-0.4**
MOMN	**Momotombo**	**4.88**	**105**	*e*P	**Pn**	**18 24 05.3**	**0.0**
CSAN		**5.06**	**107**	*e*P	**Pn**	**18 24 07.5**	**-0.2**
APYN	**Apoyeque**	**5.11**	**107**	*e*P	**Pn**	**18 24 08.0**	**-0.4**
TISN	**Laguna Tiscapa**	**5.21**	**107**	*e*P	**Pn**	**18 24 08.5**	**-1.4**
CRUN	**El Crucero**	**5.24**	**109**	*e*P	**Pn**	**18 24 10.8**	**+0.6**
TICN	**Ticuantepe**	**5.28**	**108**	*e*P	**Pn**	**18 24 11.2**	**+0.4**
SSN	**San Juan del S**	**5.90**	**114**	*e*P	**Pn**	**18 24 18.7**	**-0.6**
CONN	**Concepcion**	**6.00**	**111**⇑*e*P		**Pn**	**18 24 20.7**	**0.0**
CONN				*e*S	**Sn**	**18 25 27.1**	**-1.2**
OXX	**Oaxaca**	**6.14**	**303**	*i* P	**Pn**	**18 24 26.5**	**+3.9**
VHO	**Vista Hermosa**	**6.14**	**303**	*e*P	**Pn**	**18 24 21.1**	**-1.5**
VHO				*i* S	**Sn**	**18 25 28.3**	**-3.4**
VHO	**Vista Hermosa**	**6.14**	**303**	*i* P	**Pn**	**18 24 22.1**	**-0.5**
VHO				*i* S	**Sn**	**18 25 29.9**	**-1.8**
PNIG	**Pinotepa**	**7.05**	**293**	*e*P	**Pn**	**

*DDA **23** 18:40:41.4,3947N×2784E,h3km,Md2.8*

ISC 23 18:40:41.4±0.4,3947N±002×2784E±004,h10km±4km,n21,σ0§65/35,Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BALB	**Balikesir**	**0.17**	**10**	*e*PG	**Pg**	**18 40 45.1**	**-0.1**
BALB				*e*SG	**Sg**	**18 40 48.0**	**+0.2**
BALY	**Balya**	**0.32**	**328**	*i* P	**Pg**	**18 40 47.5**	**-0.3**
BALY				*i* S	**Sg**	**18 40 52.3**	**+0.1**
DURS	**Dursunbey**	**0.51**	**75**	*i* P	**Pg**	**18 40 51.0**	**-0.3**
DURS				*i* S	**Sg**	**18 40 58.8**	**+0.8**
AKS	**Akhisar**	**0.59**	**182**	*e*PG	**Pg**	**18 40 51.9**	**-0.8**
AKS				*e*SG	**Sg**	**18 41 00.6**	**+0.1**
AKHS	**Akhisar**	**0.59**	**182**	*i* P	**Pg**	**18 40 52.5**	**-0.3**
AKHS				*i* S	**Sg**	**18 41 00.9**	**+0.4**
DEMI	**Demirci**	**0.80**	**122**	*i* P	**Pg**	**18 40 56.8**	**0.0**
DEMI				*i* S	**Sg**	**18 41 11.7**	**+4.5**
EDC	**Edincik**	**0.88**	**1**	*e*PG	**Pg**	**18 40 57.8**	**-0.5**
EDC				*e*SG	**Sg**	**18 41 10.1**	**+0.4**
BNT	**Bandirma**	**0.89**	**4**	*e*PG	**Pg**	**18 40 57.7**	**-0.8**
BNT				*e*SG	**Sg**	**18 41 09.9**	**-0.2**
KCT	**Karacabey**	**0.89**	**26**	*e*PG	**Pg**	**18 40 57.9**	**-0.7**
KCT				*e*SG	**Sg**	**18 41 09.9**	**-0.2**
AYVA	**Ayvalik**	**0.91**	**260**	*i* P	**Pg**	**18 40 58.7**	**-0.2**
AYVA				*i* S	**Sg**	**18 41 13.1**	**+2.5**
KULA	**Kula-Manisa**	**1.15**	**146**	*e*PN	**Pn**	**18 41 02.3**	**-1.2**
MRMT	**Marmara Adasi**	**1.15**	**351**	*e*PN	**Pn**	**18 41 03.5**	**-0.1**
MRMT				*e*SN	**Sn**	**18 41 18.9**	**-0.5**
ULDT	**Uludag**	**1.20**	**56**	*i* P	**Pb**	**18 41 04.0**	**-0.3**
ULDT				*i* S	**Sb**	**18 41 20.8**	**+0.9**
BLCB	**Balcova**	**1.25**	**210**	*e*PN	**Pn**	**18 41 04.1**	**-0.8**
RKY	**Sarkoy-Tekirda**	**1.32**	**338**	*e*PN	**Pn**	**18 41 06.0**	**+0.1**
SART	**Tekirdag**	**1.32**	**338**	*i* P	**Pn**	**18 41 06.7**	**+0.7**
SART				*i* S	**Sb**	**18 41 23.7**	**+0.4**
GDZ	**Gediz**	**1.33**	**106**	*i* P	**Pn**	**18 41 06.6**	**+0.6**
GDZ				*i* S	**Sb**	**18 41 24.6**	**+1.1**
MFT	**Murefte**	**1.39**	**342**	*e*PN	**Pn**	**18 41 07.3**	**+0.5**
GEMT	**Gemlik**	**1.42**	**47**	*e*PN	**Pn**	**18 41 09.9**	**-0.3**
YLV	**Yalova**	**1.61**	**46**	*e*PN	**Pn**	**18 41 09.8**	**0.0**
GULT	**Gulveren**	**2.27**	**64**	*e*PN	**Pn**	**18 41 18.4**	**-0.6**

KRSC 23 18:49:52.9±0.4,5556N×16595E,h15km±15km,ML3.8,Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KBTR	**Krutoberegovo**	**1.88**	**292**	*i* P	**Pn**	**18 50 24.1**	**-0.3**
KBTR				*i* S	**Sn**	**18 50 46.4**	**-1.4**
MKZ	**Mys Kozlova**	**2.63**	**249**	*e*P	**Pn**	**18 50 35.9**	**+1.2**
MKZ				*i* S	**Sn**	**18 51 06.8**	**+0.5**
SRKR	**Sorokina**	**2.89**	**294**	*e*P	**Pn**	**18 50 40.1**	**+1.7**
SRKR				*i* S	**Sn**	**18 51 15.0**	**+2.2**
ZLN	**Zelenaya**	**2.94**	**281**	*e*P	**Pn**	**18 50 40.7**	**+1.7**
ZLN				*i* S	**Sn**	**18 51 16.7**	**+2.7**
KLY	**Klyuchi**	**3.07**	**286**	*e*P	**Pn**	**18 50 40.4**	**-0.4**
KLY				*i* S	**Sn**	**18 51 15.8**	**-1.5**
KRSR	**Krestovskiy**	**3.10**	**284**	*e*P	**Pn**	**18 50 42.7**	**+1.5**
KRSR				*i* S	**Sn**	**18 51 19.0**	**+1.0**
BZMR	**Bezymyannaya**	**3.11**	**279**	*e*P	**Pn**	**18 50 44.3**	**+3.0**
BZMR				*i* S	**Sn**	**18 51 21.7**	**+3.6**
KIRR	**Kirishev**	**3.19**	**279**	*e*P	**Pn**	**18 50 44.6**	**+2.1**
KIRR				*i* S	**Sn**	**18 51 22.2**	**+2.0**
KMNR	**Kamenistaya**	**3.24**	**276**	*e*P	**Pn**	**18 50 45.4**	**+2.3**
KMNR				*i* S	**Sn**	**18 51 22.5**	**+1.1**
KPT	**Kopyto**	**3.26**	**280**	*e*P	**Pn**	**18 50 45.4**	**+2.0**
KPT				*i* S	**Sn**	**18 51 23.9**	**+2.0**
TUMR	**Tumrok**	**3.32**	**268**	*e*P	**Pn**	**18 50 46.3**	**+2.1**
TUMR				*i* S	**Sn**	**18 51 24.3**	**+1.0**
KOZ	**Kozyrevsk**	**3.47**	**281**	*e*P	**Pn**	**18 50 49.1**	**+2.9**
SDLR	**Sedlovina**	**4.72**	**244**	*i* P	**Pn**	**18 51 05.9**	**+2.5**
SDLR				*i* S	**Sn**	**18 51 59.6**	**+1.8**
GNL	**Ganaly**	**5.01**	**251**	*i* P	**Pn**	**18 51 11.2**	**+3.7**
RUS	**Russkaya**	**5.39**	**238**	*e*P	**Pn**	**18 51 13.9**	**+1.3**
RUS				*i* S	**Sn**	**18 52 14.7**	**+0.4**

DJA 23 19:27:51.1±1.0,8S±29×114E±,h124km±9km,Jawa

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NBBI	**Negara**	**1.03**	**98**	P	**Pn**	**19 28 13.9**	**+0.2**
NBBI	**Negara**	**1.03**	**98**	S	**Sn**	**19 28 32.2**	**+1.3**
KRKI	**Karangkates**	**1.13**	**274**	P	**Pn**	**19 28 15.8**	**+1.1**
KRKI	**Karangkates**	**1.13**	**274**	S	**Sn**	**19 28 33.9**	**+1.2**
SJI	**Sawahan**	**1.87**	**285**	P	**Pn**	**19 28 24.3**	**+1.1**
SJI	**Sawahan**	**1.87**	**285**	S	**Sn**	**19 28 49.0**	**+1.3**
KHKI	**Kahang-Kahang**	**2.00**	**94**	P	**Pn**	**19 28 25.2**	**+0.4**
KHKI	**Kahang-Kahang**	**2.00**	**94**	S	**Sn**	**19 28 51.3**	**+0.7**
UGM	**Wanagama**	**3.05**	**276**	P	**Pn**	**19 28 38.4**	**+0.2**

KRSC 23 19:29:08.8±0.8,5074N×15745E,h5km±5km,ML3.6,Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MIPR	**Malaya Ipel'ka**	**1.60**	**345**	*e*P	**Pn**	**19 29 38.7**	**+1.0**
MIPR				*e*S	**Sn**	**19 30 00.9**	**+2.2**
RUS	**Russkaya**	**1.82**	**21**	*e*P	**Pn**	**19 29 41.8**	**+1.1**
RUS				*e*S	**Sn**	**19 30 05.4**	**+1.2**
AVH	**Avacha**	**2.65**	**17**	*e*P	**Pn**	**19 29 53.7**	**+1.6**
AVH				*e*S	**Sn**	**19 30 25.8**	**+1.2**
NLC	**Nalytchevo**	**2.70**	**25**	*e*S	**Sn**	**19 30 26.1**	**+0.2**
SPN	**Mys Shipunski**	**2.85**	**33**	*e*P	**Pn**	**19 29 56.4**	**+1.5**
SPN				*e*S	**Sn**	**19 30 31.1**	**+1.6**
GNL	**Ganaly**	**2.98**	**6**	*e*P	**Pn**	**19 29 58.0**	**+1.4**
GNL				*e*S	**Sn**	**19 30 33.1**	**+0.5**

ISC 23 19:36:16.6±5.0,257N±02×963E±04,h10km,n13,σ1§17/15,Myanmar

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IMP	**Imphal**	**2.27**	**248**	*e*P	**Pn**	**19 36 54.0**	**-0.1**
IMP				*e*S	**Sn**	**19 37 22.0**	**0.0**
SHL	**Shillong**	**3.94**	**270**	*e*PN	**Pn**	**19 37 17.0**	**-0.1**
SHL				*e*SN	**Sn**	**19 38 16.0**	**+13**
TAPN	**Taplejung** 14nm,0.6s	**7.83**	**284**	*e*P	**Pn**	**19 38 12.4**	**+1.8**
ODAN	**Odare**	**8.04**	**281**	*e*P	**Pn**	**19 38 14.2**	**+0.7**
RAMN	**Ramite** 9.1nm,0.5s	**8.75**	**281**	*e*P	**Pn**	**19 38 23.7**	**+0.5**
JIRN	**Jiri** 10nm,0.6s	**9.22**	**285**	*e*P	**Pn**	**19 38 31.0**	**+1.4**
GUN	**Gumba** 9.4nm,0.5s	**9.53**	**286**	*e*P	**Pn**	**19 38 35.2**	**+1.3**
PKIN	**Phulchoki** 3.6nm,0.4s	**9.90**	**284**	*e*P	**Pn**	**19 38 38.4**	**-0.5**
KKN	**Kakani** 6.4nm,0.5s	**10.03**	**285**	*e*P	**Pn**	**19 38 40.0**	**-0.8**
DMN	**Daman** 4.2nm,0.4s	**10.16**	**284**	*e*P	**Pn**	**19 38 42.2**	**-0.3**
GKN	**Gorkha** 14nm,0.7s	**10.63**	**285**	*e*P	**Pn**	**19 38 47.1**	**-1.9**
DANN	**Dangsing** 5.7nm,0.5s	**11.45**	**286**	*e*P	**Pn**	**19 38 57.7**	**-2.5**
KOLN	**Koldanda**	**11.50**	**283**	*e*P	**Pn**	**19 38 57.2**	**-3.7**

*ISCJB **23** 19:46:47.4±0.4,4021N±002×2891E±002,h1km±4km,Error ellipse: s-maj=3.7km s-min=3.1km az=173.0*
*CSEM **23** 19:46:47.2±0.1,4021N×2893E,h10km,MD3.0,Error ellipse: s-maj=1.5km s-min=1.2km az=151.0*
*DDA **23** 19:46:47.2,4021N×2892E,h7km±3km,Md3.0*
*ISK **23** 19:46:47.3,4021N×2893E,h7km,MD2.9*

ISC 23 19:46:47.9±0.3,4021N±002×2892E±002,h2km±4km,n36,σ0§72/50,Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ULDT	**Uludag**	**0.18**	**111**	*i* P	**Pg**	**19 46 51.4**	**+0.1**
ULDT				*i* S	**Sg**	**19 46 54.2**	**+0.5**
GEMT	**Gemlik**	**0.31**	**43**	PG	**Pg**	**19 46 53.9**	**0.0**
GEMT				*e*SG	**Sg**	**19 46 58.5**	**+0.7**
KCT	**Karacabey**	**0.43**	**278**	*e*PG	**Pg**	**19 46 56.4**	**+0.3**
KCT				*e*SG	**Sg**	**19 47 02.8**	**+1.1**
YLV	**Yalova**	**0.50**	**44**	*e*PG	**Pg**	**19 46 57.5**	**0.0**
YLV				*e*SG	**Sg**	**19 47 04.8**	**+0.9**
DST	**Dursunbey**	**0.64**	**200**	*e*PG	**Pg**	**19 46 59.0**	**-1.1**
ADVT	**Abdulvahap**	**0.67**	**70**	*e*PG	**Pg**	**19 47 00.1**	**-0.6**
CAVI	**Cavuskoy**	**0.71**	**90**	*e*PG	**Pg**	**19 47 01.7**	**+0.2**
BNT	**Bandirma**	**0.78**	**281**	*e*PG	**Pg**	**19 47 03.2**	**+0.5**
EDC	**Edincik**	**0.82**	**280**	*e*PG	**Pg**	**19 47 03.2**	**-0.3**
HRT	**Hereke**	**0.84**	**43**	*e*PG	**Pg**	**19 47 03.4**	**-0.6**
ISK	**Istanbul-Kandi**	**0.86**	**7**	*e*PG	**Pg**	**19 47 04.9**	**+0.5**
BALB	**Balikesir**	**0.98**	**235**	*e*PG	**Pg**	**19 47 06.1**	**-0.5**
BALB				*e*SG	**Sg**	**19 47 21.6**	**+2.4**
BGKT	**Bogazkoy**	**0.98**	**354**	*e*PG	**Pg**	**19 47 06.3**	**-0.3**
ELBA	**Catalca**	**1.01**	**339**	*i* P	**Pg**	**19 47 06.8**	**-0.4**
ELBA				*i* S	**Sg**	**19 47 20.5**	**+0.2**
CTT	**Catalca**	**1.01**	**339**	*e*PG	**Pg**	**19 47 07.3**	**+0.1**
KLYT	**Kilyos**	**1.05**	**5**	*e*PG	**Pg**	**19 47 07.7**	**-0.3**
CTKS	**Kestanelik-??a**	**1.07**	**343**	*e*PG	**Pg**	**19 47 08.3**	**-0.1**
CTKS	**Kestanelik-??a**	**1.07**	**343**	*e*Pg	**Pg**	**19 47 08.3**	**-0.1**
MRMT	**Marmara Adasi**	**1.08**	**292**	*e*PN	**Pn**	**19 47 08.8**	**-1.3**
BALY	**Balya**	**1.10**	**245**	*i* P	**Pg**	**19 47 08.3**	**-0.7**
BALY				*i* S	**Sg**	**19 47 23.9**	**+0.7**
DEMI	**Demirci**	**1.17**	**188**	*i* P	**Pg**	**19 47 09.6**	**-0.8**
DEMI				*i* S	**Sg**	**19 47 26.3**	**+0.7**
GDZ	**Gediz**	**1.20**	**158**	*i* P	**Pg**	**19 47 10.7**	**-0.2**
GDZ				*i* S	**Sg**	**19 47 26.4**	**-0.1**
BORA	**Eskisehir**	**1.23**	**105**	*i* P	**Pg**	**19 47 10.1**	**-1.2**
BORA				*i* S	**Sg**	**19 47 27.3**	**0.0**
GULT	**Gulveren**	**1.24**	**79**	*e*PN	**Pn**	**19 47 11.5**	**-0.8**
MFT	**Murefte**	**1.37**	**295**	*e*PN	**Pn**	**19 47 13.9**	**-0.2**
SART	**Tekirdag**	**1.41**	**290**	*i* P	**Pn**	**19 47 14.4**	**-0.1**
SART				*i* S	**Sg**	**19 47 32.4**	**-0.7**
SART	**Tekirdag**	**1.41**	**290**	*i* P	**Pn**	**19 47 14.4**	**-0.1**
SART				*i* S	**Sg**	**19 47 32.4**	**-0.7**
RKY	**Sarkoy-Tekirda**	**1.41**	**290**	*e*PN	**Pn**	**19 47 14.2**	**-0.4**
ALT	**Altintas**	**1.48**	**141**	*e*PN	**Pn**	**19 47 14.5**	**-1.0**
AKS	**Akhisar**	**1.58**	**213**	*e*PN	**Pn**	**19 47 16.4**	**-0.4**
HENT	**Hendek**	**1.63**	**67**	*i* P	**Pn**	**19 47 17.9**	**+0.3**
HENT				*i* S	**Sn**	**19 47 41.6**	**+2.4**
ESKT	**Eskisehir**	**1.64**	**114**	*i* P	**Pn**	**19 47 17.9**	**+0.1**
SEYT	**Eskypehyr**	**1.64**	**114**	*i* P	**Pn**	**19 47 17.9**	**+0.2**
KULA	**Kula-Manisa**	**1.70**	**187**	*e*PN	**Pn**	**19 47 18.2**	**-0.4**
MANT	**Manisa**	**1.74**	**189**	*i* P	**Pn**	**19 47 20.3**	**+1.3**
MANT				*i* S	**Sn**	**19 47 42.3**	**+0.5**
BLCB	**Balcova**	**2.33**	**219**	*e*PN	**Pn**	**19 47 27.2**	**0.0**

*BJI **23** 19:56:45.7,223S×9984E,h37km,mB6.0,mb5.5,Ms6.0,Msz5.9*
*MOS **23** 19:56:46.7±1.0,188S×9996E,h33km,mb5.9/63,MS5.6/42,Error ellipse: s-maj=8.8km s-min=4.1km az=117.6*
*ISCJB **23** 19:56:46.4±0.1,198S±002×9982E±002,h32km,mb5.6/180,MS5.7/222,Error ellipse: s-maj=3.4km s-min=2.3km az=31.8*
*GCMT **23** 19:56:47.4±0.1,230S×9960E,h33km,MW5.8/102,Moment Tensor Solution. s99,c206; s102,c265; Duration: 1§9 Moment tensor: Scale 10^17^Nm; Mrr3.55±.06; Mθθ-2.11±.04; Mϕϕ-1.44±.05; Mrθ3.66±.09; Mθϕ2.35±.04; Mϕr-2.51±.09; Best double couple: M0 5.87700×10^17^ NP1:ϕs318.00000°,δ21.00000°, λ101.00000°. NP2:ϕs126.00000°,δ70.00000°,λ86.00000°. Principal axes: T 5.5960, Plg65.0000°, Azm28.0000°; N 0.5630, Plg4.0000°, Azm127.0000°; P -6.1590, Plg24.0000°, Azm219.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*
*NEIC **23** 19:56:47.4±0.1,200S×9990E,h30km,mb5.7/71,ME5.6,MS5.8/167 Error ellipse: s-maj=5.2km s-min=3.4km az=48.0,Depth from synthetics of broadband displacement seismograms. Energy computed from BB mechanism.*
NEIC Felt [III] at Jambi and Painan, Sumatra. Also felt [III] in the Kepulauan Mentawai.
*DJA **23** 19:56:48.4±1.0,2S±3×100E±,h29km±9km,mB6.3/36,Mjma5.9/15,MLv6.3/18,Mw(mB)6.0/36,Mwp5.6/38*
*SZGRF **23** 19:56:50.8,1.14S×9994E,h34km,mb5.8,MS5.4,Southern Sumatera, Indonesia*
*IDC **23** 19:56:50.4±1.2,197S×9999E,h54km±9km,mb4.8/39,mb1 4.8/40,mb1mx4.8/40,mbtmp4.8/40,MS5.4/27,Ms1 5.4/27,ms1mx5.3/30,Error ellipse: s-maj=9.5km s-min=6.4km az=48.0*

ISC 23 19:56:48.4±0.1,198S±002×9979E±002,h34km,h34km±.7km:pP-P,n798,σ0§97/654,mb5.6/180,MS5.7/222,109C-38D,Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PDSI	**Padang**	**1.26**	**32**	P	**Pn**	**19 57 10.9**	**+1.2**
PPI	**Padang Panjang**	**1.63**	**22**	P	**Pn**	**19 57 16.9**	**+2.1**
RGRI	**Rengat**	**3.02**	**58**	P	**Pn**	**19 57 36.2**	**+2.3**
RGRI	**Rengat**	**3.02**	**58**	S	**Sn**	**19 58 14.4**	**+5.5**
KSJ	**Kapahiang**	**3.26**	**121**	P	**Pn**	**19 57 37.1**	**-0.1**
JAMBI	**JAMBI**	**3.87**	**85**	P	**Pn**	**19 57 47.5**	**+1.9**
GSI	**Gunungsitoli**	**3.94**	**326**	P	**Pn**	**19 57 46.8**	**+0.2**
PSI	**Prapat**	**4.83**	**350**⇑	*e*P	**Pn**	**19 57 58.0**	**-0.8**
PMBI	**Palembang**	**5.07**	**101**	P	**Pn**	**19 58 02.6**	**+0.5**
MYKOM	**Kota Tinggi**	**5.53**	**47**	⇑P	**Pn**	**19 58 10.5**	**+2.1**
MYKOM	**Kota Tinggi**	**5.53**	**47**	P	**Pn**	**19 58 10.8**	**+2.4**
TSI	**Tuntungan** 5μm,1.3s,28nm	**5.58**	**347**	P	**Pn**	**19 58 09.9**	**+0.8**
KLI	**Kotabumi** 2μm,1.4s,20nm	**5.81**	**120**	P	**Pn**	**19 58 12.9**	**+0.6**
PPBI	**Pangkal Pinang** 118nm,1.5s,9μm4.7nm	**6.35**	**92**	P	**Pn**	**19 58 21.0**	**+1.3**
IPM	**Ipoh** 1μm,1.1s,17nm	**6.54**	**11**	P	**Pn**	**19 58 25.1**	**+2.8**
SBJI	**Serang** 991nm,1.1s,3.4nm	**7.54**	**123**	P	**Pn**	**19 58 36.4**	**+0.3**
TPI	**Tanjungpandan**	**7.90**	**96**⇓	*e*P	**Pn**	**19 58 44.0**	**+3.0**
TPI	**Tanjungpandan** 215nm,1.0s,3μm1.0nm	**7.90**	**96**	P	**Pn**	**19 58 42.4**	**+1.4**
TNG	**Tangerang** 2μm,1.2s,6.7nm	**8.01**	**122**	P	**Pn**	**19 58 43.2**	**+0.7**
DBJI	**Dramaga** 1μm,1.2s,3.5nm	**8.30**	**123**	P	**Pn**	**19 58 45.7**	**-0.7**
CBJI	**Citeko** 4μm,1.1s,9.2nm	**8.31**	**122**	P	**Pn**	**19 58 48.7**	**+2.1**
SKJI	**Sukabumi** 1μm,1.3s,3.1nm	**8.39**	**127**	P	**Pn**	**19 58 47.0**	**-0.7**
BSI	**Banda Aceh** 410nm,0.6s,8μm	**8.68**	**329**	P	**Pn**	**19 58 50.5**	**-1.2**
SNG	**Songkhla** 2μm,1.0s	**9.14**	**5**	P	**Pn**	**19 58 57.0**	**-1.0**
LEM	**Lembang** 1μm,1.2s	**9.17**	**122**	P	**Pn**	**19 58 58.9**	**+0.5**
JCJI	**Jatiwangi** 854nm,0.9s,9μm	**9.57**	**118**	P	**Pn**	**19 59 05.1**	**+1.2**
KSM	**Kuching**	**11.07**	**72**	⇑P	**Pn**	**19 59 26.9**	**+2.4**
KSM	**Kuching** 139nm,1.3s,4μm	**11.07**	**72**	P	**Pn**	**19 59 26.7**	**+2.3**
BJII	**Banjamegara**	**11.23**	**119**	P	**Pn**	**19 59 27.3**	**+0.7**
STKI	**Sintang** 224nm,1.6s,7μm	**11.87**	**80**	P	**Pn**	**19 59 41.2**	**+5.8**
PBKI	**Pangkalan Bun** 504nm,1.1s,8μm	**11.90**	**94**	P	**Pn**	**19 59 38.8**	**+3.0**
SBUM	**Sibu**	**13.19**	**71**	⇑P	**Pn**	**19 59 56.2**	**+2.7**
SBUM	**Sibu**	**13.19**	**71**	P	**Pn**	**19 59 57.1**	**+3.6**
SJI	**Sawahan**	**13.23**	**116**	P	**Pn**	**19 59 51.9**	**-2.1**
TRT	**Tretes**	**14.00**	**114**⇑	*e*P	**Pn**	**20 00 00.0**	**-4.6**
KRKI	**Karangkates**	**14.02**	**116**	P	**Pn**	**20 00 05.8**	**+0.9**
PLKI	**Palangkaraya**	**14.15**	**91**	P	**Pn**	**20 00 17.0**	**+10**
BTM	**Bintulu**	**14.25**	**69**	⇑P	**Pn**	**20 00 10.9**	**+2.8**
NNT	**Nongplab**	**14.48**	**360**	P	**Pn**	**20 00 15.5**	**+4.5**
KMMI	**Kalianget** 499nm,1.2s,6μm	**15.00**	**110**	P	**Pn**	**20 00 19.6**	**+1.5**
BBKI	**Banjar Baru** 609nm,1.9s	**15.11**	**96**	P	**Pn**	**20 00 20.1**	**+0.6**
KHKI	**Kahang-Kahang**	**16.98**	**112**	P	**Pn**	**20 00 43.0**	**-0.5**
NST	**Nakhon Sawan**	**17.55**	**1**	P	**Pn**	**20 00 47.2**	**-3.3**
KKM	**Kota Kinabalu**	**18.24**	**64**	⇓P	**Pn**	**20 00 59.2**	**+0.1**
KKM	**Kota Kinabalu** 385nm,1.7s,8μm	**18.24**	**64**	P	**Pn**	**20 01 00.3**	**+1.2**
KKTK	**Khon Kaen**	**18.45**	**9**	PN	**Pn**	**20 01 02.0**	**+0.4**
SDKM	**Sandakan**	**18.96**	**66**	⇑P	**Pn**	**20 01 07.5**	**-0.4**
TSM	**Tawau**	**19.12**	**71**	⇑P	**Pn**	**20 01 09.1**	**-0.7**
BDT	**Bhumibol Dam**	**19.12**	**358**	P	**Pn**	**20 01 08.0**	**-1.7**
KDM	**Kudat**	**19.17**	**62**	⇓P	**Pn**	**20 01 10.0**	**-0.4**
MKS	**Makassar**	**19.90**	**100**⇑	*e*P	**Pn**	**20 01 18.0**	**-1.1**
MKS				*e*S	**Sn**	**20 05 04.6**	**+2.4**
MYLDM	**Lahad Datu**	**20.00**	**69**	⇑P	**Pn**	**20 01 19.4**	**-0.9**
MYLDM	**Lahad Datu**	**20.00**	**69**	P	**Pn**	**20 01 19.6**	**-0.7**
PCI	**Palu** 17nm,1.5s	**20.07**	**87**⇓	*e*P	**P**	**20 01 20.0**	**+0.8**
PCI	**Palu** 1μm,1.6s	**20.07**	**87**	P	**P**	**20 01 19.1**	**-0.1**
KAPI	**Kappang** 2μm,0.8s,SNR=33	**20.15**	**99**	P	**P**	**20 01 17.7**	**-2.3**
KAPI	**Kappang** 539nm,0.8s,SNR=33	**20.15**	**99**	P	**P**	**20 01 17.2**	**-2.8**
KAPI	**Kappang** SNR=64	**20.15**	**99**	P	**P**	**20 01 18.3**	**-1.8**
KAPI	**Kappang** 6.1nm,0.3s,baz=310,slow=6.3,SNR=24	**20.15**	**99**	P	**P**	**20 01 17.4**	**-2.7**
KAPI	2.8nm,0.3s,baz=222,slow=12,SNR=2.4			S	**S**	**20 04 58.1**	**-6.7**
KAPI	comp=Z,18μm,18.4s,MS5.5,baz=58,slow=40			LR	LR	20 10 00.2	
KAPI	**Kappang** 469nm,1.2s,5μm	**20.15**	**99**	P	**P**	**20 01 18.8**	**-1.2**
CM31	**Chiang Mai Arr** 40nm,0.8s	**20.33**	**358**	*e*P	**P**	**20 01 21.5**	**-0.3**
CM31	comp=Z,31μm,22.0s,MS5.6			LR	LR		
CMAR	**Chiang Mai Arr** comp=Z,65nm,0.8s,baz=186,slow=9.5,SNR=170	**20.33**	**358**	P	**P**	**20 01 21.8**	**-0.1**
CMAR	comp=Z,11nm,1.1s,baz=179,slow=18,SNR=3.5			S	**S**	**20 05 21.6**	**+14**
CMAR	comp=Z,22μm,21.1s,MS5.5,baz=189,slow=37			LR	LR	20 09 19.3	
CHG	**Chiang Mai** comp=Z,80nm,1.2s	**20.68**	**358**	⇑P	**P**	**20 01 25.1**	**-0.6**
CHTO	**Chiang Mai** SNR=21	**20.68**	**358**	⇑P	**P**	**20 01 25.5**	**-0.2**
CHTO	**Chiang Mai** comp=Z,119nm,1.1s	**20.68**	**358**	*e*P	**P**	**20 01 24.1**	**-1.5**
CHTO				*e*S	**S**	**20 05 13.5**	**-1.6**
CHTO	comp=Z,21μm,21.0s,MS5.5			LR	LR		
CHRT	**Chiangrai** comp=Z,737nm,1.0s,mb6.1	**21.72**	**360**	⇓P	**P**	**20 01 36.5**	**-0.3**
WSI	**Waingapu**	**21.77**	**111**⇓	*e*P	**P**	**20 01 32.5**	**-5.0**
WSI				*e*S	S	20 05 12.9	-24
PPR	**Puerto Princes**	**22.19**	**58**⇑	*e*P	**P**	**20 01 43.0**	**+1.0**
KDI	**Kendari**	**22.89**	**95**⇑	*e*P	**P**	**20 01 47.5**	**-1.9**
KDI				*e*S	**S**	**20 05 59.4**	**+2.2**
KDI	**Kendari** comp=Z,256nm,1.2s,comp=Z,6μm,mb5.5	**22.89**	**95**	P	**P**	**20 01 49.0**	**-0.4**
QIZ	**Qiongzhong**	**23.10**	**25**	P	**P**	**20 01 51.4**	**-0.2**
QIZ				S	**S**	**20 06 01.4**	**+0.9**
QIZ	comp=Z,258nm,1.2s,mb5.5			AMB	AMB		
QIZ	comp=Z,2μm,5.9s			AMB	AMB		
QIZ	comp=N,20μm,15.9s,MS5.7			LR	LR		
QIZ	comp=E,14μm,16.5s,MS5.7			LR	LR		
QIZ	comp=Z,25μm,17.6s,MS5.7			LR	LR		
QIZ	**Qiongzhong** comp=Z,319nm,1.1s,mb5.7	**23.10**	**25**	*e*P	**P**	**20 01 51.4**	**-0.2**
QIZ	comp=Z,22μm,19.0s,MS5.6			LR	LR		
ENPP	**El Nido**	**23.52**	**56**	*e*P	**P**	**20 01 54.8**	**-1.1**
BUSP	**Coron**	**24.59**	**55**	*e*P	**P**	**20 02 05.1**	**-0.5**
CUYO	**Cuyo Island**	**24.67**	**58**	*e*P	**P**	**20 02 05.6**	**-0.8**
TRD	**Trivandrum**	**25.03**	**295**	*e*P	**P**	**20 02 11.0**	**+1.3**
BATI	**Baumata** comp=Z,38nm,0.5s,mb5.2,baz=259,slow=2.2,SNR=17	**25.09**	**110**	P	**P**	**20 02 05.5**	**-4.7**
BATI	comp=Z,14nm,0.6s,baz=16,slow=20,SNR=2.8			S	**S**	**20 06 22.5**	**-10**
BATI	**Baumata** comp=Z,85nm,1.2s,comp=Z,943nm,mb5.1	**25.09**	**110**	P	**P**	**20 02 06.5**	**-3.7**
MNI	**Manado**	**25.28**	**82**⇓	*e*P	**P**	**20 02 13.0**	**+1.0**
KOD	**Kodaikanal**	**25.32**	**299**	*e*P	**P**	**20 02 13.2**	**+0.9**
VIS	**Vishakhapatnam**	**25.42**	**321**⇑	*e*P	**P**	**20 02 14.2**	**+1.1**
VIS	comp=Z,304nm,1.5s,mb5.6			AMb	AMB	20 02 32.3	
VIS				*i* x	x	20 06 36.3	
PAGZ	**Pagadian**	**25.48**	**67**	*e*P	**P**	**20 02 13.6**	**-0.2**
SJMP	**San Jose**	**25.59**	**55**	*e*P	**P**	**20 02 14.1**	**-0.6**
LUBP	**Lubang**	**25.60**	**52**	*e*P	**P**	**20 02 13.7**	**-1.1**
GUIM	**Jordan**	**25.92**	**61**	*e*P	**P**	**20 02 17.1**	**-0.7**
BWNR	**Bhubaneshwar**	**26.04**	**329**	*e*P	**P**	**20 02 17.2**	**-1.5**
BWNR				*e*S	**S**	**20 06 49.3**	**+1.6**
RCP	**Roxas**	**26.50**	**59**⇑	*e*P	**P**	**20 02 22.9**	**0.0**
TBP	**Tagbilaran**	**26.64**	**64**	*e*P	**P**	**20 02 23.9**	**-0.3**
CAL	**Calcutta**	**26.81**	**336**	*e*P	**P**	**20 02 25.3**	**-0.4**
CAL				*ex*	x	20 07 05.7	
LLP	**Lapu-Lapu**	**26.99**	**63**	*e*P	**P**	**20 02 26.6**	**-0.9**
BUKP	**Musuan**	**27.05**	**68**	*e*P	**P**	**20 02 27.4**	**-0.6**

comp=Z,910nm,9.4s
GYA LR LR
comp=N,26μm,16.1s,MS6.0
GYA LR LR
comp=E,14μm,12.5s,MS6.0
GYA LR LR
comp=Z,27μm,15.2s,MS6.0
NGP Nagpur 30.67 320⇑ *iP* **P 20 02 58.9 -1.1**
NGP *ex* x 20 03 17.3
comp=Z,125nm,1.4s
NGP *eS* **S 20 08 00.8 +0.2**
GOA Goa 31.00 305⇑ *ex* x 20 02 57.1
GOA *i* S **S 20 08 07.0 +1.1**
ODAN Odare 31.07 338 *eP* **P 20 03 03.4 -0.1**
comp=Z,542nm,1.1s,mb6.3
TAPN Taplejung 31.40 339 *eP* **P 20 03 06.7 +0.3**
comp=Z,1μm,1.4s,mb6.5
RAMN Ramite 31.45 337 *eP* **P 20 03 07.1 +0.2**
comp=Z,577nm,1.3s,mb6.2
JBP Jabalpur 31.58 323 *eP* **P 20 03 08.7 +0.7**
JBP *eS* **S 20 08 14.6 -0.1**
KAD Karad 31.70 308⇑ *iP* **P 20 03 10.0 +0.8**
AKL Akola 31.72 316 *eP* **P 20 03 09.1 -0.2**
JIRN Jiri 32.25 337 *eP* **P 20 03 13.9 0.0**
comp=Z,654nm,1.1s,mb6.4
QZH Quanzhou 32.39 33⇑ *iP* **P 20 03 15.4 +0.2**
QZH S **S 20 08 29.1 +1.7**
QZH AMB AMB
comp=Z,330nm,1.2s,mb6.0
QZH LR LR
comp=N,42μm,16.2s,MS6.3
QZH LR LR
comp=E,23μm,14.8s,MS6.3
QZH LR LR
comp=Z,27μm,15.1s,MS6.1
PKI Pulchoki 32.48 336 *eP* **P 20 03 17.1 +1.2**
comp=Z,524nm,1.5s,mb6.1
PKI Pulchoki 32.48 336 *eP* **P 20 03 17.1 +1.2**
PKI pmax pmax
comp=Z,524nm,1.5s,mb6.1
PKIN Phulchoki 32.49 336 *eP* **P 20 03 15.8 -0.2**
comp=Z,466nm,1.6s,mb6.1
LSA Lhasa 32.57 346 P **P 20 03 18.8 +2.1**
LSA AP pP 20 03 26.8 +0.4
LSA XP sP 20 03 33.0 +2.5
LSA S **S 20 08 30.5 +0.5**
LSA AMB AMB
comp=Z,90nm,1.4s,mb5.5
LSA LR LR
comp=N,6μm,23.3s
LSA LR LR
comp=E,5μm,31.1s
LSA LR LR
comp=Z,9μm,24.4s,MS5.4
LSA Lhasa 32.57 346 *eP* **P 20 03 18.2 +1.5**
comp=Z,122nm,0.9s,mb5.8
LSA *eS* **S 20 08 31.2 +1.2**
LSA LR LR
comp=Z,6μm,20.0s,MS5.3
GUN Gumba 32.59 337 *eP* **P 20 03 18.6 +1.7**
DMN Daman 32.64 335 *eP* **P 20 03 18.4 +1.1**
comp=Z,168nm,0.9s,mb6.0
POO Poona 32.66 310 *eP* **P 20 03 18.3 +0.7**
POO *i* LR LR 20 13 42.0
KKN Kakani 32.73 336 *eP* **P 20 03 18.9 +0.8**
comp=Z,309nm,1.0s,mb6.2
KKN Kakani 32.73 336 *eP* **P 20 03 18.9 +0.8**
KKN pmax pmax
comp=Z,309nm,1.0s,mb6.2
CD2 Chengdu 32.93 6 P **P 20 03 18.5 -1.3**
CD2 AP pP 20 03 28.3 -1.2
CD2 XP sP 20 03 32.5 -1.1
CD2 PP PP 20 04 28.8 -5.9
CD2 PCP PcP 20 06 02.3 -1.4
CD2 S **S 20 08 37.3 +1.7**
CD2 XS sS 20 08 50.3 -1.4
CD2 PCS PcS 20 09 46.8 -2.3
CD2 SS SS 20 10 35.3 -23
CD2 SCS ScS 20 13 41.3 -4.4
CD2 AMB AMB
comp=Z,30nm,0.5s,mb5.5
CD2 AMB AMB
comp=Z,1μm,4.8s
CD2 LR LR
comp=N,18μm,22.4s
CD2 LR LR
comp=E,18μm,16.2s
CD2 LR LR
comp=Z,19μm,20.4s,MS5.8
GKN Gorkha 33.18 335 *eP* **P 20 03 23.0 +1.0**
BHPL Bhopal 33.21 320⇑ *iP* **P 20 03 22.9 +0.5**
BHPL AMb AMB 20 03 40.9
comp=Z,118nm,1.7s,mb5.5
KOLN Koldanda 33.43 333 *eP* **P 20 03 25.2 +1.0**
comp=Z,194nm,0.7s,mb6.1
MUN Mundaring 33.61 154 *eP* **P 20 03 26.4 +0.6**
MUN *eS* **S 20 08 46.8 +0.6**
DANN Dangsing 33.86 334 *eP* **P 20 03 28.9 +1.0**
comp=Z,501nm,1.0s,mb6.4
KLBR Kellerberrin 33.98 152 *eP* **P 20 03 28.6 -0.4**
comp=Z,15nm,0.7s,mb5.0
KAKA Kakadu 34.04 110 *eP* **P 20 03 20.7 -9.1**
comp=Z,22nm,0.7s,mb5.2
KAKA Kakadu 34.04 110 P **P 20 03 21.5 -8.3**
TATO Taipei 34.07 37 *eP* **P 20 03 29.9 0.0**
comp=Z,99nm,1.1s,mb5.7
TATO LR LR
comp=Z,8μm,20.0s,MS5.5
NWAO Narrogin (SRO) 34.87 154 P **P 20 03 34.8 -1.9**
comp=Z,17nm,0.8s,mb5.0,baz=335,slow=9.6,SNR=11
NWAO Narrogin (SRO) 34.87 154 *eP* **P 20 03 35.5 -1.1**
comp=Z,84nm,1.2s,mb5.5
NWAO LR LR
comp=Z,11μm,22.0s,MS5.5
WHN Wuhan 35.20 22 ⇑P **P 20 03 39.4 -0.1**
WHN S **S 20 09 10.3 -0.5**
WHN LR LR
comp=N,47μm,16.4s,MS6.4
WHN LR LR
comp=E,31μm,14.0s,MS6.4
WHN LR LR
comp=Z,60μm,16.4s,MS6.4
LGTI Lohaghat 36.42 331 *ex* **P 20 03 45.9 -4.1**
LGTI *ex* x 20 09 38.0
PTH Pithoragarh 36.52 331 *eP* **P 20 03 52.3 +1.5**
PTH *eS* **S 20 09 34.2 +3.2**
XAN Xi'an 36.85 13 P **P 20 03 52.3 -1.3**
XAN AP pP 20 04 02.5 -0.9
XAN XP sP 20 04 07.5 0.0
XAN AMB AMB
comp=Z,118nm,1.4s,mb5.5
XAN LR LR
comp=N,11μm,14.2s,MS5.9
XAN LR LR
comp=E,11μm,15.4s,MS5.9
XAN LR LR
comp=Z,36μm,15.4s,MS6.3
AJM Ajmer 37.28 321⇑ *iP* **P 20 03 57.8 +0.4**
NDI New Delhi 37.40 326 *ex* **P 20 03 56.0 -2.3**
NDI *ex* x 20 09 40.0
JOSI Joshimath 37.67 331 *eP* **P 20 04 01.1 +0.6**
JOSI AMb AMB 20 04 03.2
comp=Z,263nm,1.0s,mb5.9
LZH Lanzhou 38.06 5 ⇓P **P 20 04 03.5 -0.3**
LZH AP pP 20 04 12.0 -1.7
LZH XP sP 20 04 17.0 -0.8
LZH PP PP 20 05 33.3 +2.0
LZH S **S 20 09 53.0 -1.3**
LZH XS sS 20 10 10.0 -0.6
LZH SS SS 20 12 32.0 -11
LZH AMB AMB
comp=Z,122nm,1.2s,mb5.5
LZH AMB AMB
comp=Z,1μm,4.7s
LZH LR LR
comp=E,14μm,17.5s
LZH LR LR
comp=Z,16μm,19.0s,MS5.9
WRAB Tennant Creek 38.19 120 P **P 20 04 03.0 -2.2**
comp=Z,774nm,1.2s,mb6.3,SNR=85
WRAB Tennant Creek 38.19 120 *c iP* **P 20 04 03.3 -1.9**
WRAB Tennant Creek 38.19 120 P **P 20 04 02.9 -2.3**
comp=Z,160nm,0.9s,comp=Z,2μm,mb5.7
DDI Dehra Dun 38.23 329⇑ *ix* **P 20 04 03.3 -2.1**
DDI *ex* x 20 09 49.0

NJ2 Nanjing 38.38 27 *eP* **P 20 04 07.3 +0.8**
NJ2 AP pP 20 04 17.6 +1.2
NJ2 XP sP 20 04 20.9 +0.4
NJ2 PP PP 20 05 38.5 +3.7
NJ2 S **S 20 09 59.5 +0.3**
NJ2 XS sS 20 10 17.0 +1.5
NJ2 AMB AMB
comp=Z,60nm,1.0s,mb5.3
NJ2 AMB AMB
comp=Z,590nm,6.5s
NJ2 LR LR
comp=N,2μm,14.8s,MS5.8
NJ2 LR LR
comp=E,9μm,14.8s,MS5.8
NJ2 LR LR
comp=Z,9μm,14.8s,MS5.7
BHJ Bhuj 38.60 312⇑ *iP* **P 20 04 10.1 +1.5**
SSE Sheshan 38.69 30 P **P 20 04 09.5 +0.3**
SSE AP pP 20 04 20.8 +1.7
SSE S **S 20 10 05.0 +1.1**
SSE XS sS 20 10 24.1 +3.9
SSE AMB AMB
comp=Z,143nm,1.0s,mb5.7
SSE AMB AMB
comp=Z,1μm,9.2s
SSE LR LR
comp=N,8μm,13.2s,MS5.9
SSE LR LR
comp=E,9μm,13.2s,MS5.9
SSE LR LR
comp=Z,15μm,18.2s,MS5.8
FORT Forrest 39.19 140 *eP* **P 20 04 13.3 -0.1**
comp=Z,40nm,0.5s,mb5.4
SMLA Simla 39.34 329⇑ *iP* **P 20 04 15.2 +0.6**
SMLA *ex* x 20 04 24.3
comp=Z,78nm,0.4s
SMLA *i* x x 20 10 12.2
ASAR Alice Springs 39.44 126 P **P 20 04 14.1 -1.5**
comp=Z,53nm,0.8s,mb5.3,baz=305,slow=7.9,SNR=156
ASAR PcP PcP 20 06 23.1 -0.2
comp=Z,3.7nm,0.4s,baz=314,slow=2.6,SNR=4.2
ASAR S **S 20 10 11.1 -4.3**
comp=Z,18nm,1.1s,baz=297,slow=16,SNR=13
JOW Kunigami 39.70 42 P **P 20 04 17.4 -0.3**
comp=Z,28nm,0.5s,mb5.3,baz=247,slow=7.4,SNR=14
JOW LR LR 20 21 07.3
comp=Z,3μm,18.9s,MS5.2,baz=341,slow=37
SDNR Sundarnagar 39.73 329 *ex* x 20 04 08.0
SDNR *ex* x 20 10 41.0
THN Thein Dam 41.12 328 *eP* **P 20 04 27.9 -1.5**
THN *ex* x 20 10 35.6
GTA Gaotai 41.19 0⇑ *iP* **P 20 04 30.0 +0.2**
GTA AP pP 20 04 39.1 -0.7
GTA XP sP 20 04 43.8 0.0
GTA PP PP 20 06 09.9 +4.5
GTA SCP ScP 20 10 16.4 +0.3
GTA PCS PcS 20 10 18.4 -1.2
GTA S **S 20 10 41.4 +0.3**
GTA XS sS 20 11 00.9 +3.4
GTA SS SS 20 13 42.6 -2.5
GTA SCS ScS 20 14 29.8 -1.9
GTA AMB AMB
comp=Z,100nm,2.0s,mb5.1
GTA AMB AMB
comp=Z,2μm,10.5s
GTA LR LR
comp=N,10μm,15.0s,MS5.8
GTA LR LR
comp=E,5μm,18.9s,MS5.8
GTA LR LR
comp=Z,12μm,16.2s,MS5.9
TIY Taiyuan 41.20 15⇑ *iP* **P 20 04 32.8 +2.9**
TIY S **S 20 10 39.3 -2.0**
TIY AMB AMB
comp=Z,986nm,4.4s
TIY LR LR
comp=N,9μm,14.5s,MS5.8
TIY LR LR
comp=E,4μm,12.5s,MS5.8
TIY LR LR
comp=Z,8μm,14.0s,MS5.8
TIA Tai'an 41.30 21 ⇓P **P 20 04 30.4 -0.3**
TIA AP pP 20 04 43.5 +2.8
TIA AMB AMB
comp=Z,91nm,1.6s,mb5.2
TIA AMB AMB
comp=Z,440nm,7.0s
TIA LR LR
comp=N,23μm,15.0s,MS6.3
TIA LR LR
comp=E,15μm,14.0s,MS6.3
BTO Baotou 43.40 11 *eP* **P 20 04 46.4 -1.4**
BTO AMB AMB
comp=Z,26nm,2.2s,mb4.6
HHC Hu-ho-hao-te 43.96 13⇑ *iP* **P 20 04 52.9 +0.6**
HHC AP pP 20 05 02.8 +0.5
HHC XP sP 20 05 06.5 +0.1
HHC PP PP 20 06 37.1 +1.9
HHC SCP ScP 20 10 25.1 -2.2
HHC PCS PcS 20 10 30.9 +0.2
HHC S **S 20 11 21.9 0.0**
HHC XS sS 20 11 39.6 +1.3
HHC SS SS 20 14 34.0 -5.6
HHC SCS ScS 20 14 46.1 -2.7
HHC AMB AMB
comp=Z,101nm,2.0s,mb5.2
HHC AMB AMB
comp=Z,2μm,6.5s
HHC LR LR
comp=N,16μm,16.9s,MS6.0
HHC LR LR
comp=E,6μm,14.3s,MS6.0
HHC LR LR
comp=Z,12μm,17.4s,MS5.9
BJT Baijiatuau 44.41 18 *eP* **P 20 04 56.0 0.0**
comp=Z,717nm,1.8s,mb6.1
BJT LR LR
comp=Z,6μm,20.0s,MS5.5
BJI Beijing 44.43 18 P **P 20 04 55.9 -0.2**
BJI S **S 20 11 28.4 -0.4**
BJI AMB AMB
comp=Z,158nm,1.9s,mb5.4
BJI AMB AMB
comp=Z,2μm,3.6s
BJI LR LR
comp=N,16μm,16.3s,MS6.1
BJI LR LR
comp=E,5μm,14.5s,MS6.1
BJI LR LR
comp=Z,7μm,16.3s,MS5.7
DL2 Dalian 45.39 24 P **P 20 05 03.9 +0.2**
DL2 PP PP 20 06 52.3 +1.9
DL2 S **S 20 11 42.5 -0.2**
DL2 AMB AMB
comp=Z,100nm,1.7s,mb5.4
DL2 LR LR
comp=N,3μm,19.0s,MS5.5
DL2 LR LR
comp=E,4μm,17.1s,MS5.5
DL2 LR LR
comp=Z,5μm,18.6s,MS5.5
KBL Kabul 46.40 324⇑ *iP* **P 20 05 10.9 -0.9**
KBL *eS* **S 20 12 00.5 +3.2**
KBL pmax pmax
comp=Z,100nm,1.3s,mb5.6
KBL Kabul 46.40 324⇑ *iP* **P 20 05 10.9 -0.9**
comp=Z,104nm,1.3s,mb5.6
KBL *eS* **S 20 12 00.5 +3.2**
INCN Inchon 46.49 30 P **P 20 05 11.8 -0.7**
SNR=12
INCN Inchon 46.49 30⇑ *iP* **P 20 05 11.4 -1.0**
comp=Z,59nm,1.1s,mb5.4
INCN LR LR
comp=Z,6μm,19.0s,MS5.5
KSH Kashi 46.73 335⇑ *iP* **P 20 05 15.3 +1.0**
KSH *e*AP pP 20 05 25.1 +0.8
KSH *e*XP sP 20 05 29.5 +1.2
KSH *e*PCP PcP 20 06 52.3 +4.9
KSH PP PP 20 07 04.9 +0.4
KSH *e*SCP ScP 20 10 37.3 -1.4
KSH PCS PcS 20 10 43.3 +1.1
KSH S **S 20 11 59.9 -2.0**
KSH XS sS 20 12 19.0 +0.6
KSH SCS ScS 20 15 05.8 -0.8
KSH LR LR

comp=N,19μm,16.2s,MS6.4
KSH LR LR
comp=E,32μm,18.7s,MS6.4
KSH LR LR
comp=Z,29μm,21.8s,MS6.2
WMQ Urumqi 46.87 348 P **P 20 05 16.9 +1.6**
WMQ AP pP 20 05 26.9 +1.5
WMQ XP sP 20 05 30.9 +1.5
WMQ PCP PcP 20 06 49.4 +1.6
WMQ PP PP 20 07 06.9 +0.9
WMQ SCP ScP 20 10 39.3 +0.1
WMQ PCS PcS 20 10 42.9 +0.3
WMQ S **S 20 12 05.3 +1.5**
WMQ XS sS 20 12 21.9 +1.6
WMQ SCS ScS 20 15 05.9 -1.4
WMQ SS SS 20 15 24.9 -6.0
WMQ AMB AMB
comp=Z,351nm,1.2s,mb6.2
WMQ LR LR
comp=N,4μm,25.6s,MS5.5
WMQ LR LR
comp=E,4μm,21.9s,MS5.5
WMQ LR LR
comp=Z,3μm,20.0s,MS5.3
KSRS Korea Array 47.11 31 P **P 20 05 17.1 -0.3**
comp=Z,43nm,0.9s,mb5.4,baz=224,slow=8.6,SNR=71
KSRS S **S 20 12 13.3 +5.8**
comp=Z,0.7nm,0.6s,baz=234,slow=20,SNR=3.1
KSRS LR LR 20 24 58.1
comp=Z,5μm,20.9s,MS5.5,baz=228,slow=36
GUMO Guam 47.30 70 P **P 20 05 15.6 -3.6**
comp=Z,38nm,0.5s,mb5.6,baz=233,slow=5.1,SNR=5.8
GUMO LR LR 20 25 21.5
comp=Z,2μm,19.4s,MS5.0,baz=59,slow=36
GUMO Guam 47.30 70 *eP* **P 20 05 15.5 -3.7**
GUMO LR LR
comp=Z,2μm,20.0s,MS5.1
PMG Port Moresby 47.67 101 *eP* **P 20 05 19.1 -3.0**
PMG MLR MLR
comp=Z,4μm,22.0s
BSY Bisya 48.23 303 ⇑P **P 20 05 27.7 +1.4**
SNR=11
SNY Shenyang 48.65 24 ⇑P **P 20 05 28.3 -0.9**
SNY PP PP 20 07 23.3 +0.8
SNY S **S 20 12 27.4 -1.7**
SNY AMB AMB
comp=Z,111nm,2.1s,mb5.5
SNY LR LR
comp=N,6μm,14.1s,MS6.1
SNY LR LR
comp=E,11μm,13.8s,MS6.1
SNY LR LR
comp=Z,10μm,13.8s,MS6.0
CTA Charters Tower 48.80 115 *eP* **P 20 05 28.8 -1.9**
comp=Z,31nm,0.8s,mb5.4
CTA *eS* **S 20 12 26.8 -5.1**
CTA *e*SCS ScS 20 15 19.9 -1.2
CTA Charters Tower 48.80 115 P **P 20 05 29.0 -1.7**
comp=Z,36nm,1.0s,mb5.3,baz=290,slow=9.0,SNR=23
CTA Charters Tower 48.80 115 *eP* **P 20 05 28.8 -1.9**
CTA *eS* **S 20 12 26.8 -5.1**
CTA *e* 20 15 19.9
CTA pmax pmax
comp=Z,31nm,0.8s
CTAO Charters Tower 48.80 115 P **P 20 05 28.9 -1.8**
comp=Z,81nm,1.2s,comp=Z,2μm,mb5.6
CTAO Charters Tower 48.80 115⇑ *iP* **P 20 05 28.7 -2.0**
comp=Z,38nm,0.8s,mb5.5
CTAO LR LR
comp=Z,9μm,20.0s,MS5.7
ADE Adelaide 48.84 137 P **P 20 05 32.2 +1.4**
ULHL Ulahol 48.91 337 P **P 20 05 32.0 +0.9**
SNR=8.7
KZA Kyzart 49.16 336 P **P 20 05 32.0 -1.1**
SNR=11
STKA Stephens Creek 49.32 132 *eP* **P 20 05 33.6 -0.9**
comp=Z,35nm,0.6s,mb5.6
STKA *eS* **S 20 12 37.9 -1.0**
STKA *e*SCS ScS 20 15 20.0 -4.2
STKA Stephens Creek 49.32 132 P **P 20 05 33.8 -0.7**
comp=Z,21nm,0.8s,mb5.2,baz=308,slow=6.4,SNR=43
STKA S **S 20 12 36.2 -2.7**
comp=Z,2.0nm,0.9s,baz=41,slow=18,SNR=2.3
STKA LR LR 20 27 54.9
comp=Z,11μm,21.0s,MS5.8,baz=293,slow=38
AAA Alma-Ata 49.51 338 *i* P **P 20 05 36.1 +0.4**
AAA *i* S **S 20 12 42.9 +1.7**
AAA pmax pmax
comp=Z,3μm,4.3s
AAA smax
comp=E,6μm,8.0s
TKM2 Tokmak 2 49.73 337 P **P 20 05 38.6 +1.2**
SNR=109
KBK Karagaybulak 49.77 336 P **P 20 05 39.4 +1.7**
SNR=55
AML Almayashu 49.86 335 P **P 20 05 40.0 +1.6**
SNR=15
AAK Ala-Archa 49.94 336 P **P 20 05 40.3 +1.3**
SNR=41
SONM Songino Array 49.95 6 P **P 20 05 39.8 +0.8**
comp=E,70nm,0.8s,mb5.8,baz=189,slow=7.1,SNR=69
SONM PcP PcP 20 06 59.0 +0.2
comp=E,8.6nm,0.5s,baz=189,slow=4.9,SNR=5.3
SONM ScP ScP 20 10 50.2 -2.0
comp=E,2.5nm,1.0s,baz=247,slow=3.1,SNR=3.8
SONM S **S 20 12 47.7 +0.6**
comp=E,0.6nm,0.8s,baz=94,slow=39,SNR=2.2
SONM LR LR 20 29 22.6
comp=E,8μm,18.8s,MS5.8,baz=189,slow=39
SONM Songino Array 49.95 6 P **P 20 05 39.8 +0.8**
SONM 20 06 59.0
SONM S **S 20 12 47.7 +0.6**
CBIJ Chichi jima 50.03 52 LR LR 20 25 11.1
comp=E,3μm,21.1s,MS5.2,baz=230,slow=34
ULN Ulaanbaatar 50.05 6 ⇓P **P 20 05 40.6 +0.9**
SNR=40
ULN Ulaanbaatar 50.05 6 *eP* **P 20 05 40.2 +0.5**
ULN pmax pmax
comp=Z,868nm,1.9s,mb6.5
ULN MLR MLR
comp=Z,7μm,20.0s,MS5.7
ULN Ulaanbaatar 50.05 6 *eP* **P 20 05 40.2 +0.5**
comp=Z,868nm,1.9s,mb6.5
ULN LR LR
comp=Z,7μm,20.0s,MS5.7
FRU Bishkek 50.05 336⇑ *iP* **P 20 05 40.6 +0.8**
FRU *i* 20 05 55.0
FRU *e*S **S 20 12 51.0 +2.3**
FRU pmax pmax
comp=Z,950nm,2.6s,mb6.4
FRU pmax pmax
comp=Z,2μm,5.6s
FRU smax
comp=E,2μm,8.0s
FRU MLR MLR
comp=Z,6μm,20.0s,MS5.6
CHMS Chumysh 50.13 336 P **P 20 05 41.2 +0.7**
SNR=21
EKS2 Erkin-Say 50.26 335 P **P 20 05 42.8 +1.4**
SNR=98
USP Ospenovka 50.46 336 P **P 20 05 43.9 +1.0**
SNR=15
MK31 Makanchi Array 50.95 345⇑ *iP* **P 20 05 47.1 +0.5**
MKAR Makanchi Array 50.95 345 P **P 20 05 47.2 +0.6**
comp=Z,73nm,0.6s,mb5.8,baz=156,slow=8.0,SNR=185
MKAR S **S 20 13 02.1 +1.0**
comp=Z,6.9nm,1.1s,baz=157,slow=16,SNR=6.2
MKAR LR LR 20 31 59.2
comp=Z,2μm,19.1s,MS5.2,baz=162,slow=41
MKAR PKP2bc 20 36 44.4
comp=Z,0.4nm,0.9s,baz=358,slow=4.3,SNR=2.4
MKAR Makanchi Array 50.95 345 P **P 20 05 47.2 +0.6**
MKAR S **S 20 13 02.1 +1.0**
MKAR Makanchi Array 50.95 345 P **P 20 05 47.2 +0.6**
MKAR S **S 20 13 02.1 +1.0**
MKAR LR LR 20 31 59.2
MKAR ⇑*e* 20 36 44.4
CN2 Changchun 51.06 24 *eP* **P 20 05 46.3 -1.1**
CN2 *e*XP sP 20 06 00.3 -1.3
CN2 *e*S **S 20 13 00.8 -1.8**
CN2 *e*SS SS 20 16 34.3 -3.9
CN2 AMB AMB
comp=Z,20nm,1.0s,mb5.0
CN2 AMB AMB
comp=Z,2μm,6.0s
CN2 LR LR

comp=N,8μm,16.0s,MS6.0
CN2 LR LR
comp=E,8μm,16.0s,MS6.0
CN2 LR LR
comp=Z,11μm,16.0s,MS6.0
JHJ Hachijo jima 2 51.40 44 LR LR 20 26 29.2
comp=Z,2μm,19.1s,MS5.2,baz=264,slow=35
KK31 Karatay Array 52.04 333 *i* P **P 20 05 54.1 -0.7**
KK31 pmax pmax
comp=Z,190nm,1.5s,mb5.8
ZAK Zakamensk 52.25 3⇓*i*P **P 20 05 55.6 -0.6**
ZAK pmax pmax
comp=Z,45nm,1.5s,mb5.2
MAJO Matsushiro 52.40 39⇑*i*P **P 20 05 56.2 -1.4**
comp=Z,147nm,1.4s,mb5.7
MAJO LR LR
comp=Z,5μm,19.0s,MS5.5
MAT Matsushiro 52.40 39 P **P 20 05 56.1 -1.5**
MAT S **S 20 13 17.0 -4.4**
MJAR Matsushiro Arr 52.40 39 P **P 20 05 56.5 -1.1**
comp=Z,41nm,0.9s,mb5.3,baz=220,slow=7.3,SNR=55
MJAR LR LR 20 29 46.6
comp=Z,4μm,18.9s,MS5.5,baz=235,slow=38
MJAR Matsushiro Arr 52.40 39 P **P 20 05 56.5 -1.1**
MJAR LR 20 29 46.6
MOY Mondy 53.46 1 *e*P **P 20 06 05.5 +0.4**
MOY pmax pmax
comp=Z,288nm,2.5s,mb5.8
MDJ Mudanjiang 53.47 26 P **P 20 06 05.0 -0.3**
MDJ AP pP 20 06 14.1 -1.4
MDJ XP sP 20 06 17.9 -1.6
MDJ PCP PcP 20 07 10.6 -1.4
MDJ S **S 20 13 31.0 -4.7**
MDJ XS sS 20 13 50.6 -1.8
MDJ SCS ScS 20 15 47.5 -4.8
MDJ SS SS 20 17 12.9 -3.4
MDJ AMB AMB
comp=Z,73nm,1.4s,mb5.4
MDJ AMB AMB
comp=Z,1μm,7.1s
MDJ LR LR
comp=N,7μm,17.2s,MS6.0
MDJ LR LR
comp=E,9μm,17.9s,MS6.0
MDJ LR LR
comp=Z,14μm,15.9s,MS6.1
MDJ Mudanjiang 53.47 26 PFAKE 20 06 20.0 +15
MDJ LR LR
comp=Z,10μm,20.0s,MS5.9
TLY Talaya 53.56 3 P **P 20 06 06.5 +0.6**
comp=Z,488nm,1.3s,mb6.3,SNR=23
TLY Talaya 53.56 3 P **P 20 06 07.2 +1.4**
SNR=29
TLY Talaya 53.56 3⇑*i*P **P 20 06 06.3 +0.4**
TLY pmax pmax
comp=Z,165nm,1.6s,mb5.7
TLY MLR MLR
comp=Z,9μm,16.0s,MS5.9
HIA Hailar 53.89 16⇑*i*P **P 20 06 07.3 -0.9**
comp=Z,94nm,1.4s,mb5.5
HIA LR LR
comp=Z,8μm,19.0s,MS5.8
IRK Irkutsk 54.16 3⇑*i*P **P 20 06 10.4 +0.2**
IRK *e* 20 14 00.0
IRK pmax pmax
comp=Z,315nm,2.2s,mb5.9
TOO Toolangi 54.87 136 *e*P **P 20 06 17.3 +1.6**
TOO *e*S **S 20 13 59.8 +4.9**
CIT Chita 55.05 10 *e*P **P 20 06 17.7 +1.0**
CIT *e* 20 06 30.6
CIT *e* 20 08 18.3
CIT pmax pmax
comp=Z,677nm,2.3s,mb6.3
ABKT Ailbek 55.30 320 P **P 20 06 18.2 -0.6**
comp=Z,234nm,0.8s,mb6.3,SNR=9.1
KURK Kurchatov 55.53 344 P **P 20 06 20.6 +0.4**
comp=Z,2μm,1.0s,mb7.0,SNR=24
KURK Kurchatov 55.53 344 P **P 20 06 20.9 +0.8**
SNR=26
KURK Kurchatov 55.53 344 P **P 20 06 20.0 -0.2**
comp=Z,28nm,0.6s,mb5.5,baz=165,slow=7.1,SNR=48
KURK S **S 20 14 00.2 -3.0**
comp=Z,2.7nm,1.1s,baz=146,slow=15,SNR=4.4
KURK LR LR 20 34 51.3
comp=Z,3μm,18.6s,MS5.4,baz=170,slow=41
KURK Kurchatov 55.53 344 P **P 20 06 20.0 -0.2**
KURK S **S 20 14 00.2 -3.0**
ARMA Armidale 56.59 126 *e*P **P 20 06 28.4 +0.2**
CNB Canberra Magne 56.65 132 *e*P **P 20 06 28.3 -0.2**
CNB *e*S **S 20 14 19.7 +1.0**
ZAA0 Zalesovo Array 57.11 350⇑*i*P **P 20 06 31.2 -0.2**
ZALV Zalesovo Beam 57.11 350 P **P 20 06 31.5 +0.1**
comp=Z,96nm,0.7s,mb5.9,baz=170,slow=7.0,SNR=84
ZALV S **S 20 14 23.9 -0.2**
comp=Z,13nm,1.0s,baz=153,slow=10.0,SNR=11
ZALV LR LR 20 33 37.8
comp=Z,3μm,20.3s,MS5.3,baz=14,slow=39
ZALV Zalesovo Beam 57.11 350 P **P 20 06 31.5 +0.1**
ZALV S **S 20 14 23.9 -0.2**
ZALV Zalesovo Beam 57.11 350 P **P 20 06 31.5 +0.1**
ZALV S **S 20 14 23.9 -0.2**
ZALV LR LR 20 33 37.8
KLR Kul'dur 58.00 24⇓*i*P **P 20 06 34.3 -3.5**
KLR *e*S **S 20 14 35.0 -1.0**
KLR pmax pmax
comp=N,130nm,2.2s
KLR pmax pmax
comp=E,400nm,2.2s
KLR pmax pmax
comp=Z,1μm,2.2s,mb6.6
KLR pmax pmax
comp=Z,2μm,6.0s
KLR MLR MLR
comp=N,11μm,13.0s,MS6.2
KLR MLR MLR
comp=E,8μm,13.0s,MS6.2
KLR MLR MLR
comp=Z,42μm,13.0s,MS6.7
KRAR Krasnoyarsk 58.08 355*c i*P **P 20 06 38.1 -0.1**
KRAR pmax pmax
comp=Z,348nm,1.8s,mb6.1
NVS Novosibirsk 58.26 349⇑*i*P **P 20 06 38.9 -0.5**
NVS *e* 20 06 53.9
NVS *e*S **S 20 14 33.4 -5.6**
NVS pmax pmax
comp=Z,408nm,2.2s,mb6.1
NVS pmax pmax
comp=N,322nm,2.0s
NVS pmax pmax
comp=E,195nm,2.2s
NVS smax
comp=E,202nm,1.9s
NVS smax
comp=N,67nm,1.7s
RDF Al-Radifah 58.67 306 *e*P **P 20 06 41.9 -1.0**
baz=306
RDF AMb AMB 20 06 53.8
comp=Z,153nm,1.0s,mb6.0,baz=306
ERM Erimo 58.77 37 P **P 20 06 43.8 +0.5**
comp=Z,241nm,1.0s,mb6.2,SNR=6.5
HABR Khabarovsk 58.84 27⇓*i*P **P 20 06 41.5 -2.1**
HABR *e*S **S 20 14 43.8 -3.1**
HABR pmax pmax
comp=Z,274nm,2.5s,mb5.8
HABR MLR MLR
comp=Z,7μm,19.0s,MS5.8
NAY Al-Naaiem 59.04 306 *e*P **P 20 06 44.3 -1.1**
baz=306
NAY AMb AMB 20 07 03.3
comp=Z,76nm,1.3s,mb5.6,baz=306
MIB Mutribah 59.17 307 *e*P **P 20 06 45.6 -0.7**
baz=307
MIB AMb AMB 20 07 07.2
comp=Z,179nm,0.9s,mb6.1,baz=307
RST Umm Al-Ruwaisa 59.33 306 *e*P **P 20 06 45.9 -1.6**
baz=306
RST AMb AMB 20 06 59.2
comp=Z,54nm,0.8s,mb5.6,baz=306
VOSK Vostochnaya 59.64 340 P **P 20 06 49.0 -0.1**
ASAJ Asahikawa 59.72 35 P **P 20 06 49.8 -0.1**
comp=Z,29nm,0.4s,mb5.6,baz=247,slow=11,SNR=53
ASAJ LR LR 20 32 38.1
comp=Z,2μm,19.8s,MS5.1,baz=289,slow=36
BVA0 Borovoye Array 60.09 340 *i* P **P 20 06 50.9 -1.3**
BVA0 pmax pmax
comp=Z,87nm,2.6s,mb5.3
BVAR Borovoye Array 60.09 340 P **P 20 06 51.5 -0.6**
comp=Z,19nm,0.6s,mb5.3,baz=145,slow=9.2,SNR=73
BVAR S **S 20 15 00.7 -2.2**
comp=Z,0.8nm,0.9s,baz=114,slow=16,SNR=2.0
BVAR LR LR 20 37 29.2
comp=Z,3μm,20.8s,MS5.4,baz=357,slow=40
BVAR Borovoye Array 60.09 340 P **P 20 06 51.5 -0.7**
BVAR S **S 20 15 00.7 -2.2**
BRVK Borovoye 60.09 340 P **P 20 06 52.0 -0.6**
comp=Z,323nm,1.1s,mb6.3,SNR=17
BRVK Borovoye 60.16 340⇓P **P 20 06 53.5 +0.9**
SNR=36
BRVK Borovoye 60.16 340⇑*i*P **P 20 06 52.2 -0.4**
HNR Honiara 60.25 100 P **P 20 06 51.2 -2.8**
comp=Z,61nm,0.8s,mb5.7,baz=255,slow=3.8,SNR=15
HNR LR LR 20 35 09.6
comp=Z,1μm,21.2s,MS5.1,baz=265,slow=38
HNR Honiara 60.25 100⇑*i*P **P 20 06 50.9 -3.2**
comp=Z,242nm,1.2s,mb6.1
HNR LR LR
comp=Z,2μm,22.0s,MS5.2
BOD Bodaibo 60.70 9 *e*P **P 20 06 55.8 -0.4**
BOD pmax pmax
comp=Z,211nm,1.8s,mb6.0
AB31 Akbulak array 61.52 331 *i* P **P 20 07 01.1 -0.9**
AB31 pmax pmax
comp=Z,377nm,1.3s,mb6.4
YSS Yuzh-Sakhalins 61.58 32⇑*i*P **P 20 07 02.0 -0.4**
YSS *e**PP pP 20 07 14.0 +1.2
YSS *e* 20 07 18.0
YSS *e* 20 09 18.0
YSS *e*S **S 20 15 17.0 -5.1**
YSS *e*PS 20 15 29.0
YSS *e*SSS 20 21 56.0
YSS pmax pmax
comp=N,110nm,1.1s
YSS pmax pmax
comp=Z,320nm,1.1s,mb6.4
YSS pmax pmax
comp=Z,1μm,4.0s
YSS MLR MLR
comp=Z,3μm,15.0s,MS5.6
YSS MLR MLR
comp=N,4μm,14.0s,MS5.8
YSS MLR MLR
comp=E,3μm,15.0s,MS5.8
YSS Yuzh-Sakhalins 61.58 32⇑*i*P **P 20 07 02.1 -0.3**
comp=E,311nm,1.1s,mb6.3
YSS LR LR
comp=Z,905nm,21.0s,MS4.9
CLNS Chul'man 62.05 15*c i*P **P 20 07 05.8 +0.4**
CLNS *e**PP pP 20 07 16.2 +0.5
CLNS *e* 20 07 50.2
CLNS *e*PPP 20 10 47.5
CLNS *e*S **S 20 15 27.2 -0.5**
CLNS pmax pmax
comp=Z,130nm,1.0s,mb6.0
CLNS pmax pmax
comp=E,57nm,1.0s
CLNS pmax pmax
comp=N,100nm,1.2s
CLNS smax
comp=N,518nm,12.6s
CLNS smax
comp=E,223nm,13.2s
CLNS MLR MLR
comp=Z,7μm,17.0s,MS5.9
CLNS MLR MLR
comp=E,2μm,17.0s,MS5.8
CLNS MLR MLR
comp=N,5μm,17.0s,MS5.8
KMBO Kilima Mbogo 62.51 270⇓P **P 20 07 10.9 +1.5**
SNR=15
KMBO Kilima Mbogo 62.51 270 P **P 20 07 10.3 +0.9**
comp=N,8.0nm,0.9s,mb4.8,baz=58,slow=9.1,SNR=22
KMBO LR LR 20 30 02.1
comp=N,5μm,20.3s,MS5.6,baz=89,slow=32
KMBO Kilima Mbogo 62.51 270 *e*P **P 20 07 10.8 +1.4**
comp=N,20nm,1.1s,mb5.2
KMBO *e* pP 20 07 20.1 +0.3
KMBO LR LR
comp=Z,4μm,20.0s,MS5.6
BHD Baghdad 62.83 309 *ex* x 20 07 14.0
BHD *ex* x 20 15 40.5
AKTK Aktyubinsk 63.24 332 P **P 20 07 12.6 -0.8**
AKTO Aktyubinsk 63.24 332 P **P 20 07 12.6 -0.8**
comp=Z,14nm,0.8s,mb5.1,baz=117,slow=6.8,SNR=40
MIR Mirnyy 64.62 183*k i*P **P 20 07 23.0 +0.8**
MIR *i* pP 20 07 32.0 -0.6
MIR pmax pmax
comp=Z,100nm,1.5s,mb5.6
MIR pmax pmax
comp=Z,1μm,3.0s
CASY Casey 64.62 175 *e*P **P 20 07 22.0 -0.2**
CASY *e*S **S 20 16 01.9 +2.4**
CASY Casey 64.62 175 *e*P **P 20 07 22.0 -0.2**
CASY *e*S **S 20 16 01.9 +2.4**
CASY LR LR
comp=Z,4μm,20.0s,MS5.7
MAK Makhachkala 64.82 320*c i*P **P 20 07 24.1 +0.1**
MAK *e* 20 07 55.3
MAK *e* 20 09 47.7
MAK *e*PPP 20 11 27.4
MAK *i* S **S 20 16 01.5 -1.2**
MAK *i* 20 17 16.4
MAK *e*SS SS 20 20 10.7 -3.9
MAK pmax pmax
comp=N,170nm,1.4s
MAK pmax pmax
comp=E,48nm,0.7s
MAK pmax pmax
comp=Z,261nm,1.8s,mb6.0
MAK smax
comp=N,1μm,4.6s
MAK smax
comp=E,937nm,4.9s
MSL Mosul 65.00 312 *ex* x 20 07 25.0
MSL *ex* x 20 16 01.0
GNI Garni 65.36 316 P **P 20 07 28.3 +0.7**
SNR=14
GNI Garni 65.36 316 P **P 20 07 27.6 0.0**
comp=E,4.1nm,0.7s,mb4.6,baz=32,slow=13,SNR=8.2
GNI LR LR 20 39 12.2
comp=E,1μm,21.6s,MS5.1,baz=347,slow=39
GNI Garni 65.36 316*c i*P **P 20 07 28.2 +0.6**
GNI pmax pmax
comp=Z,71nm,1.9s
GNI Garni 65.36 316⇑*i*P **P 20 07 27.7 +0.1**
comp=Z,174nm,1.4s,mb5.9
GNI LR LR
comp=Z,1μm,19.0s,MS5.1
SVE Sverdlovsk 66.59 338⇓*e*P **P 20 07 35.1 0.0**
SVE *e* 20 10 04.5
SVE *e*PPP 20 11 33.7
SVE *e*S S 20 16 23.2 -0.6
SVE *e* 20 17 20.6
SVE *e*SS SS 20 20 37.4 -4.2
SVE pmax pmax
comp=Z,292nm,1.2s,mb6.2
SVE MLR MLR
comp=Z,5μm,20.0s,MS5.7
ARU Arti 67.11 337 P **P 20 07 37.2 -1.2**
comp=Z,600nm,1.1s,mb6.5,SNR=18
ARU Arti 67.11 337*c i*P **P 20 07 37.7 -0.7**
ARU *e* 20 08 05.1
ARU *e* 20 10 12.1
ARU *e*S S 20 16 30.9 +0.8
ARU *e*SS SS 20 20 55.0 +5.3
ARU pmax pmax
comp=Z,159nm,2.5s,mb5.6
ARU MLR MLR
comp=Z,5μm,21.0s,MS5.7
ARU Arti 67.11 337⇑*i*P **P 20 07 37.6 -0.8**
ONI Oni 67.29 318 P **P 20 07 40.5 +0.6**
ONI S S 20 16 33.8 +0.9
YAK Yakutsk 67.78 15*c i*P **P 20 07 41.3 -1.3**
YAK *e**PP pP 20 07 53.0 0.0
YAK *e*S S 20 16 30.5 -7.5
YAK *e**SS sS 20 17 11.2 +16
YAK *e* 20 17 41.7
YAK pmax pmax
comp=Z,243nm,1.3s,mb6.1
YAK pmax pmax
comp=E,141nm,1.9s
YAK pmax pmax
comp=N,104nm,1.4s
YAK smax
comp=E,440nm,2.1s
YAK smax
comp=N,173nm,3.0s
YAK MLR MLR
comp=E,2μm,20.0s
YAK Yakutsk 67.78 15 *e*P **P 20 07 41.2 -1.4**
comp=E,542nm,1.3s,mb6.4
YAK LR LR
comp=Z,8μm,19.0s,MS6.0
KIV Kislovodsk 68.39 319 P **P 20 07 46.8 0.0**
comp=Z,350nm,0.9s,mb6.4,SNR=16
KIV Kislovodsk 68.39 319⇓P **P 20 07 47.4 +0.6**
SNR=20
KIV Kislovodsk 68.39 319*c i*P **P 20 07 46.8 0.0**
KIV *e* 20 08 14.5
KIV *e* 20 10 19.3
KIV *e*S S 20 16 45.4 -0.6
KIV *e*SS SS 20 21 11.0 +0.9
KIV pmax pmax
comp=Z,38nm,1.1s,mb5.3
KIV MLR MLR
comp=Z,2μm,18.0s,MS5.3
KIV Kislovodsk 68.39 319⇑*i*P **P 20 07 46.9 +0.1**
ASF Jabal al Asfar 68.41 306 P **P 20 07 48.1 +0.9**
comp=Z,7.8nm,1.1s,mb4.7,baz=349,slow=2.6,SNR=12
EIL Elat 69.33 303 P **P 20 07 53.3 +0.3**
comp=Z,8.4nm,0.8s,mb4.7,baz=110,slow=4.8,SNR=8.2
HWQ Hawqa 69.78 308 *e*P **P 20 07 55.5 -0.1**
MMAI Mount Meron Ar 69.85 306 P **P 20 07 56.7 +0.6**
comp=Z,3.8nm,0.6s,mb4.5,baz=91,slow=8.3,SNR=10
MMAI S S 20 17 03.8 +0.1
comp=Z,0.4nm,0.4s,baz=139,slow=29,SNR=2.1
BHL Bhannes 69.91 307 *e*P **P 20 07 56.5 +0.1**
SOC Sochi 70.20 318*c i*P **P 20 07 56.9 -1.1**
SOC *i **PP pP 20 08 05.9 -2.6
SOC *i **SP sP 20 08 10.5 -1.9
SOC *e* 20 08 19.5
SOC *e*PPP 20 12 17.7
SOC *i* S S 20 17 03.9 -3.4
SOC *e* 20 17 55.3
SOC *e*SS SS 20 21 31.2 -6.8
SOC *e*SSS 20 24 35.9
SOC pmax pmax
comp=Z,66nm,1.6s,mb5.3
SOC pmax pmax
comp=Z,426nm,4.5s
SOC Sochi 70.20 318 *i* P **P 20 07 58.3 +0.3**
MAW Mawson 70.25 194 *e*P **P 20 07 58.2 +0.4**
comp=Z,7.6nm,0.9s,mb4.6
MAW *e*S S 20 17 08.5 +1.4
MAW Mawson 70.25 194 P **P 20 07 59.0 +1.2**
comp=Z,4.7nm,0.9s,mb4.4,baz=76,slow=7.9,SNR=7.9
MAW S S 20 17 07.9 +0.9
comp=Z,2.2nm,0.9s,baz=195,slow=19,SNR=3.4
MAW LR LR 20 31 58.2
comp=Z,6μm,21.6s,MS5.8,baz=31,slow=30
MAW Mawson 70.25 194 *e*P **P 20 07 58.2 +0.4**
MAW *e*S S 20 17 08.5 +1.4
MAW pmax pmax
comp=Z,8.0nm,0.9s
MAW MLR MLR
comp=Z,10μm,21.0s
MAW Mawson 70.25 194 *e*P **P 20 07 58.2 +0.4**
comp=Z,7.6nm,0.9s,mb4.6
MAW *e*S S 20 17 08.5 +1.4
MAW LR LR
comp=Z,10μm,21.0s,MS6.0
DRV Dumont d'Urvil 70.40 164 P pP 20 08 15.0 +5.8
DRV S S 20 17 10.0 +1.2
DRV SS SS 20 21 47.0 +7.0
DRV L 20 24 00.0
DRV R 20 29 00.0
SKR Severo-Kuril's 70.98 34 *e*P **P 20 07 58.0 -4.6**
SKR *e* 20 08 11.0
SKR *e* 20 08 22.0
SKR *e* 20 10 34.0
SKR *e* 20 17 06.0
SKR pmax pmax
comp=Z,1μm,4.0s
LSZ Lusaka 71.73 255 P **P 20 08 08.0 +0.2**
LSZ pmax pmax
comp=Z,28nm,1.2s,mb5.1
LSZ Lusaka 71.73 255 *e*P **P 20 08 07.7 -0.1**
comp=Z,28nm,1.2s,mb5.1
LSZ LR LR
comp=Z,4μm,21.0s,MS5.6
ANN Anapa 72.18 319 *e*P **P 20 08 07.9 -2.1**
ANN *e*S S 20 17 26.8 -3.4
ANN pmax pmax
comp=Z,51nm,1.4s,mb5.3
PEA0B Petropavlovsk- 72.98 32 *e*P **P 20 08 13.4 -1.2**
PETK Petropavlovsk- 72.98 32 P **P 20 08 14.0 -0.6**
comp=Z,15nm,0.7s,mb5.0,baz=166,slow=0.2,SNR=60
PETK LR LR 20 40 39.1
comp=Z,1μm,19.8s,MS5.2,baz=148,slow=36
BR131 Keskin Array S 73.15 313 *e*P **P 20 08 14.5 -1.3**
comp=Z,14nm,0.7s,mb5.0
BR131 LR LR
comp=Z,1μm,20.0s,MS5.2
PET Petropavlovsk 73.46 33α*i*P **P 20 08 17.0 -0.3**
PET *e* 20 08 31.6
PET *e*S S 20 17 42.1 -2.3
PET *e*PS 20 18 12.6
PET pmax pmax
comp=Z,164nm,1.2s,mb5.8
PET pmax pmax
comp=Z,2μm,4.9s
PET Petropavlovsk 73.46 33 *e*P **P 20 08 16.7 -0.7**
comp=Z,440nm,1.6s,mb6.1
PET LR LR
comp=Z,2μm,19.0s,MS5.5
VSR Storozhevoye 73.64 325*ce*P **P 20 08 17.4 -1.1**
VSR *e**PP pP 20 08 26.6 -2.4
VSR *e*S S 20 17 37.2 -9.4
VSR pmax pmax
comp=Z,8.0nm,0.5s,mb4.9
VSR pmax pmax
comp=N,3.0nm,0.7s
VSR pmax pmax
comp=E,10.0nm,0.9s
VSR smax
comp=N,410nm,5.0s
VSR smax
comp=Z,110nm,6.7s
VSR smax
comp=E,200nm,4.8s
VSR MLR MLR
comp=Z,640nm,20.0s,MS4.9
VSR MLR MLR
comp=N,800nm,23.0s,MS5.2
VSR MLR MLR
comp=E,1μm,20.0s,MS5.2
ANTO Ankara 73.82 312 P **P 20 08 19.7 -0.1**
ANTO pmax pmax
comp=Z,75nm,1.2s,mb5.5
ANTO Ankara 73.82 312⇑*i*P **P 20 08 19.8 0.0**
ANTO Ankara 73.82 312 *e*P **P 20 08 18.4 -1.4**
comp=Z,75nm,1.3s,mb5.5
ANTO LR LR
comp=Z,1μm,20.0s,MS5.2
VOR Voronezh 73.84 326 *e*P **P 20 08 18.0 -1.6**
VOR pmax pmax
comp=Z,300nm,1.6s,mb6.0
SIM Simferopol' 74.44 318*c i*P **P 20 08 23.0 -0.3**
SIM *i* S S 20 17 54.0 -1.9
SIM pmax pmax
comp=Z,33nm,0.8s,mb5.3
LBTB Lobatse 74.84 245 *e*P **P 20 08 26.2 +0.1**
LBTB MLR MLR
comp=Z,8μm,20.0s,MS6.0
BOSA Boshof 75.48 241 P **P 20 08 29.8 +0.1**
comp=Z,3.4nm,0.7s,mb4.4,baz=74,slow=2.9,SNR=12
BOSA LR LR 20 37 00.1
comp=Z,5μm,18.9s,MS5.8,baz=86,slow=32
BOSA Boshof 75.48 241 *e*P **P 20 08 29.6 -0.1**
BOSA pmax pmax
comp=Z,39nm,1.4s,mb5.1
BOSA MLR MLR
comp=Z,6μm,20.0s,MS5.9
BOSA Boshof 75.48 241 *e*P **P 20 08 29.6 -0.1**
comp=Z,39nm,1.4s,mb5.1
BOSA LR LR
comp=Z,6μm,20.0s,MS5.9
SEY Seymchan 75.69 22⇑*e*P **P 20 08 30.1 0.0**

TIXI **Tiksi** 75.87 9*c* *i*P P 20 08 29.6 -1.4
TIXI pmax pmax
comp=Z,367nm,2.1s,mb5.9
TIXI MLR MLR
comp=Z,6µm,16.0s,MS6.0
TIXI **Tiksi** 75.87 9 *e*P P 20 08 29.4 -1.6
comp=Z,257nm,1.3s,mb6.0
TIXI LR LR
comp=Z,9µm,20.0s,MS6.1
MOS **Moscow** 76.37 329 *e*P P 20 08 30.2 -3.9
MOS *e* pP 20 08 41.9 -2.8
MOS *e* 20 08 46.6
MOS *e*S S 20 18 09.8 -7.0
MOS *e* 20 18 39.8
MOS pmax pmax
comp=Z,900nm,2.6s,mb6.2
MOS pmax pmax
comp=Z,267nm,2.1s,mb5.8
MOS MLR MLR
comp=Z,3µm,20.0s,MS5.6
ARG **Arkhangelos** 76.46 308 *e*P pP 20 08 46.5 +0.8
ARG **Arkhangelos** 76.46 308 *e*P pP 20 08 46.5 +0.8
OBN **Obninsk** 76.67 328 P P **20 08 36.7 +0.9**
comp=Z,898nm,1.7s,mb6.4,SNR=7.0
OBN **Obninsk** 76.67 328α *i*P P **20 08 35.8 0.0**
OBN *i* pP 20 08 45.2 -1.2
OBN *i* 20 08 49.5
OBN *e* 20 11 37.5
OBN *i*S S 20 18 17.1 -3.0
OBN *e* 20 18 55.0
OBN *e*SS SS 20 23 14.8 -1.3
OBN pmax pmax
comp=Z,196nm,1.9s,mb5.7
OBN **Obninsk** 76.67 328⇑ *i*P P **20 08 35.6 -0.2**
OBN LR LR
comp=Z,2µm,19.0s,MS5.4
KARP **Karpathos** 77.09 307 *e*P P **20 08 36.0 -2.6**
KARP **Karpathos** 77.09 307 *e*P P **20 08 36.0 -2.6**
SNZO **South Karori** 77.38 132 PFAKE 20 08 50.0 +10
SNZO LR LR
comp=Z,8µm,20.0s,MS6.0
SYO **Syowa Base** 77.81 199⇑ *e*P P **20 08 40.4 -1.6**
SYO **Syowa Base** 77.81 199⇓ *i*PcP PcP 20 08 50.6 -1.3
SYO **Syowa Base** 77.81 199⇓ *i*sP sP 20 08 55.8 -0.7
TIRR **Tirgusor** 78.19 316⇓ *i*P P **20 08 43.9 -0.7**
KIS **Kishinev** 78.58 319α *i*P P **20 08 47.0 +0.3**
KIS *i* pP 20 08 56.0 -1.3
KIS *e* 20 11 50.0
KIS *e*PPP 20 13 40.0
KIS *i*S S 20 18 36.0 -5.1
KIS pmax pmax
comp=Z,300nm,2.0s,mb5.9
KIS pmax pmax
comp=Z,1µm,7.0s
KIS **Kishinev** 78.58 319⇑ *i*P P **20 08 47.0 +0.3**
comp=Z,300nm,2.0s,mb5.9
KIS **Kishinev** 78.58 319 *i*PcP PcP 20 08 56.0 +0.4
KIS **Kishinev** 78.58 319 *e*PP PP 20 11 50.0 +5.2
HARR **Harsova** 78.58 316⇓ *i*P P **20 08 46.8 0.0**
HARR **Harsova** 78.58 316⇓ P P **20 08 46.9 +0.1**
IDI **Anoyia** 78.86 306 P P **20 08 48.6 +0.1**
comp=Z,9.2nm,0.6s,mb4.9,baz=205,slow=10,SNR=10
FUNA **Funafuti** 79.24 98 PFAKE 20 09 00.0 +9.0
FUNA LR LR
comp=Z,11µm,20.0s,MS6.2
AKASG **Malin Array Be** 79.34 322 P P **20 08 49.4 -1.4**
comp=Z,1.6nm,0.5s,baz=91,slow=4.8,SNR=20
AKASG S S 20 18 46.6 -2.4
comp=Z,0.3nm,0.3s,baz=95,slow=12,SNR=7.4
AKASG ScS ScS 20 19 10.5 -0.9
comp=Z,1.0nm,0.5s,baz=102,slow=11,SNR=5.7
AKASG LR LR 20 47 47.5
comp=Z,2µm,22.0s,MS5.4,baz=50,slow=38
AKASG **Malin Array Be** 79.34 322 P P **20 08 49.4 -1.4**
AKASG S S 20 18 46.6 -2.4
AKASG 20 19 10.5
AKBB **Malin Array Si** 79.34 322 *e*P P **20 08 44.4 -6.4**
VAM **Vamos** 79.43 306 *e*P pP 20 09 01.0 -1.2
VAM **Vamos** 79.43 306 *e*P pP 20 09 01.0 -1.2
VRI **Vrincioaia** 79.69 317 P P **20 08 53.3 +0.5**
VRI **Vrincioaia** 79.69 317⇓ *i*P P **20 08 53.2 +0.4**
VRI **Vrincioaia** 79.69 317⇓ P P **20 08 53.2 +0.4**
PLOR **Plostina** 79.74 317 P P **20 08 54.1 +1.0**
PLOR **Plostina** 79.74 317⇓ *i*P P **20 08 53.8 +0.7**
MLR **Muntele Rosu** 80.14 317 P P **20 08 55.7 +0.4**
comp=Z,17nm,1.0s,mb4.9,baz=118,slow=3.0
MLR **Muntele Rosu** 80.14 317 P P **20 08 55.6 +0.4**
MLR **Muntele Rosu** 80.14 317⇓ *i*P P **20 08 55.3 +0.1**
MLR **Muntele Rosu** 80.14 317 ⇓P P **20 08 55.3 +0.1**
PTL **Penteli** 80.16 309 *e*P P **20 08 55.0 -0.5**
PTL **Penteli** 80.16 309 *e*P P **20 08 55.0 -0.5**
VLI **Veliai** 80.66 308 *e*P P **20 09 05.0 +6.8**
VLI **Veliai** 80.66 308 *e*P P **20 09 05.0 +6.8**
VOIR 80.74 317 ⇓*i*P P **20 08 57.9 -0.6**
VOIR 80.74 317 ⇓P P **20 08 57.9 -0.6**
PLG **Polygyros** 80.90 311 *e*P P **20 08 59.0 -0.4**
PLG **Polygyros** 80.90 311 *e*P P **20 08 59.0 -0.4**
BURAR **Bucovina Array** 81.11 319⇑ *i*P P **20 09 01.1 +0.7**
BURAR **Bucovina Array** 81.11 319 ⇑P P **20 09 01.1 +0.7**
BURO8 **Bucovina Ar. S** 81.12 319 *e*P P **20 09 00.9 +0.5**
MNK **Minsk** 81.22 326 *e*P P **20 09 00.0 -0.8**
VAY **Valandovo** 81.72 312 *e*Pn P **20 09 01.8 -2.0**
EVR **Evrytania** 81.90 310 *e*P P **20 09 04.0 -0.8**
EVR **Evrytania** 81.90 310 *e*P P **20 09 04.0 -0.8**
TSUM **Tsumeb** 81.99 251 *e*P P **20 09 05.4 -0.3**
comp=Z,19nm,1.1s,mb4.9
TSUM LR LR
comp=Z,6µm,20.0s,MS6.0
JOF **Joensuu** 82.11 335 *e*p P **20 09 05.0 -0.3**
comp=Z,16nm,0.8s,mb5.0
JOF **Joensuu** 82.11 335 *e*P P **20 09 05.0 -0.3**
JOF pmax pmax
comp=Z,16nm,0.8s,mb5.0
SMY **Shemya** 82.12 36 PFAKE 20 09 20.0 +14
SMY LR LR
comp=Z,2µm,20.0s,MS5.4
RAO **Raoul Island** 82.31 119 PFAKE 20 09 20.0 +13
RAO LR LR
comp=Z,4µm,21.0s,MS5.8
LVV **L'vov** 82.35 321 *e*P P **20 09 06.9 0.0**
LVV *e* 20 14 09.9
LVV *e*S S 20 19 18.9 -1.6
LVV *e* 20 24 39.1
LVV *e* 20 28 10.9
BARS **Barje** 82.53 313⇑ *i*P P **20 09 07.1 -0.9**
DRGR 82.61 318 P P **20 09 08.8 +0.5**
DRGR 82.61 318⇓ *i*P P **20 09 08.5 +0.2**
DRGR 82.61 318 ⇓P P **20 09 08.5 +0.2**
LVZ **Lovozero** 82.69 340*c* *i*P P **20 09 07.6 -0.7**
LVZ pmax pmax
comp=Z,108nm,2.0s,mb5.5
APA **Apatity** 83.00 339⇑ *i*P P **20 09 10.6 +0.8**
APA *i* 20 09 16.5
APA *i*S S 20 19 25.0 -1.4
APA pmax pmax
comp=Z,230nm,2.0s,mb5.9
APA pmax pmax
comp=Z,2µm,6.5s
APA MLR MLR
comp=Z,5µm,23.0s,MS5.8
BZS **Buzias** 83.15 316⇑ *i*P P **20 09 10.8 -0.3**
BZS **Buzias** 83.15 316 P P **20 09 11.4 +0.3**
BZS **Buzias** 83.15 316⇑ *i*P P **20 09 10.9 -0.2**
BZS **Buzias** 83.15 316 ⇑P P **20 09 10.9 -0.2**
KWP **Kalwaria** 83.15 320 *e*P P **20 09 11.3 +0.3**
KWP *e*S S 20 19 28.9 +0.2
KWP LMZ 20 51 58.8
comp=Z,2µm,22.0s
KWP **Kalwaria** 83.15 320 *e*P P **20 09 11.4 +0.4**
KWP *e*S S 20 19 28.9 +0.2
SVIS **Svilajnac** 83.20 315⇑ *i*P P **20 09 10.8 -0.6**
BILL **Bilibino** 83.22 20 PFAKE 20 09 20.0 +9.0
BILL LR LR
comp=Z,6µm,19.0s,MS6.0
UZH **Uzhgorod** 83.23 319 *e*P P **20 09 10.0 -1.5**
UZH *e*S S 20 19 26.0 -3.5
KOLS **Kolonicke sedl** 83.30 320 *e*P P **20 09 12.3 +0.5**
KOLS *e* 20 09 25.5
KOLS *e*S S 20 19 29.8 -0.4
KOLS **Kolonicke sedl** 83.30 320 *e*P P **20 09 12.3 +0.5**
KOLS *e*pP pP 20 09 25.5 +3.0
KOLS *e*sP sP 20 09 29.6 +3.2
KOLS *e*S S 20 19 29.8 -0.4

SBA **Scott Base** 83.31 169 P P **20 09 09.0 -2.4**
SBA pmax pmax
comp=Z,270nm,2.0s,mb5.9
SBA **Scott Base** 83.31 169 *e*P P **20 09 08.9 -2.5**
comp=Z,273nm,2.1s,mb5.9
SBA LR LR
comp=Z,2µm,20.0s,MS5.4
GRUS **Gruza** 83.50 314⇑ *i*P P **20 09 12.2 -0.8**
SUW **Suwalki** 83.75 325 *e*P P **20 09 13.7 -0.3**
SUW *e*S S 20 19 34.8 +0.3
SUW LMZ 20 54 00.4
comp=Z,2µm,21.9s
SUW **Suwalki** 83.75 325 *e*P P **20 09 13.7 -0.3**
SUW *e*S S 20 19 34.8 +0.3
CRVS **Cervenica-Dubn** 83.82 319 *e*P P **20 09 14.6 +0.1**
CRVS *e*pP pP 20 09 30.0 +4.8
CRVS *e*S S 20 19 32.9 -2.6
SJES **Sjenica** 83.93 314⇑ *i*P P **20 09 15.1 -0.1**
STHS **Stebnicka Huta** 84.05 320 *e*P P **20 09 16.4 +0.7**
STHS *e* pP 20 09 28.1 +1.8
STHS *e* 20 09 33.6
STHS pmax pmax
comp=Z,49nm,1.0s,mb5.6
STHS **Stebnicka Huta** 84.05 320 *e*P P **20 09 16.4 +0.7**
STHS *e*pP pP 20 09 28.1 +1.8
STHS *e*sP sP 20 09 33.5 +3.3
STHS **Stebnicka Huta** 84.05 320 *e*P P **20 09 16.4 +0.7**
comp=Z,49nm,1.0s,mb5.6
STHS *e* pP 20 09 28.1 +1.8
STHS *e* 20 09 33.6
KAF **Kangasniemi** 84.07 333 *e*p P **20 09 15.2 -0.3**
comp=Z,27nm,0.9s,mb5.4,baz=100,slow=4.6
KAF **Kangasniemi** 84.07 333 *e*P P **20 09 15.2 -0.3**
KAF pmax pmax
comp=Z,27nm,0.9s,mb5.4
FGSL **Fruska Gora** 84.33 316⇑ *i*P P **20 09 16.8 -0.4**
BBLS **Lazić** 84.43 314⇑ *i*P P **20 09 17.8 +0.1**
MIDW **Midway** 84.62 62 PFAKE 20 09 30.0 +11
MIDW LR LR
comp=Z,2µm,20.0s,MS5.4
NIE **Niedzica** 84.65 320 *e*P P **20 09 19.0 +0.3**
NIE *e*pP pP 20 09 28.9 -0.5
PSZ **Piszkesteto** 84.69 318 P P **20 09 19.3 +0.4**
PSZ **Piszkesteto** 84.69 318⇑ *i*P P **20 09 18.8 -0.1**
PSZ **Piszkesteto** 84.69 318 ⇑P P **20 09 18.8 -0.1**
OJC **Ojcow** 85.11 321 *e*P P **20 09 21.0 0.0**
OJC *e*pP pP 20 09 30.0 -1.7
OJC *e*S S 20 19 48.1 -0.1
OJC L 20 57 18.6
comp=Z,2.0nm,20.6s
PKSM **Moragy** 85.29 316 P P **20 09 22.2 +0.2**
PKSM **Moragy** 85.29 316⇑ *i*P P **20 09 21.6 -0.4**
VYHS **Vyhne** 85.47 319 *e*P P **20 09 22.6 -0.2**
VYHS *e*pP pP 20 09 33.2 -0.4
VYHS *e*sP sP 20 09 40.2 +2.8
VYHS *e*S S 20 19 49.2 -2.7
VYHS **Vyhne** 85.47 319 *e*P P **20 09 22.6 -0.2**
VYHS *e* pP 20 09 33.3 -0.3
VYHS *e* 20 09 40.2
VYHS *e*S S 20 19 49.2 -2.7
KOLL **Kolacno** 85.77 319 *e*P P **20 09 24.8 +0.5**
KOLL *e* 20 09 41.5
KOLL **Kolacno** 85.77 319 *e*P P **20 09 24.8 +0.5**
KOLL *e*sP sP 20 09 41.5 +2.6
KOLL *e* 20 09 55.1
KEV **Kevo** 85.94 341 *e*P P **20 09 25.5 +0.8**
comp=Z,18nm,0.8s,mb5.3
KEV LR LR
comp=Z,3µm,20.0s,MS5.7
GRI **Girifalco** 86.06 309 P P **20 09 26.9 +0.9**
OKC **Ostrava-Krasne** 86.11 320 *e*P P **20 09 26.3 +0.4**
OKC *e*pP pP 20 09 35.8 -0.9
OKC *e*sP sP 20 09 43.6 +3.1
OKC *e*S S 20 19 57.3 -0.8
OKC AMS AMS 20 53 00.0
comp=Z,1µm,19.6s
OKC **Ostrava-Krasne** 86.11 320 *e*P P **20 09 26.3 +0.4**
OKC *e*pP pP 20 09 35.8 -0.9
OKC *e* 20 09 43.6
OKC *e*S S 20 19 57.3 -0.8
RAC **Raciborz** 86.11 320 *e*P P **20 09 26.0 0.0**
RAC MLR MLR
comp=Z,2µm,20.0s,MS5.5
ARCES **ARCESS Array B** 86.38 340 P P **20 09 27.1 +0.2**
comp=Z,14nm,0.8s,mb5.3,baz=98,slow=6.0,SNR=39
ARCES LR LR 20 52 10.9
comp=Z,4µm,20.7s,MS5.8,baz=111,slow=38
ARE0 **ARCESS Array S** 86.38 340 *e*P P **20 09 26.9 0.0**
MODS **Modra-Piesok** 86.49 319 *e*P P **20 09 28.0 +0.1**
MODS *e* pP 20 09 37.5 -1.1
MODS *e* 20 09 45.4
MODS *e*S S 20 20 00.2 -1.7
MODS pmax pmax
comp=Z,43nm,1.4s,mb5.5
MODS **Modra-Piesok** 86.49 319 *e*P P **20 09 28.0 +0.1**
comp=Z,43nm,1.4s,mb5.5
MODS *e* pP 20 09 37.5 -1.1
MODS *e* 20 09 45.4
MODS *e*S S 20 20 00.2 -1.7
MORC **Moravsky Berou** 86.49 320 P P **20 09 28.7 +0.9**
MORC **Moravsky Berou** 86.49 320⇓ *i*P P **20 09 28.2 +0.4**
MORC **Moravsky Berou** 86.49 320 ⇓P P **20 09 28.2 +0.3**
ZST **Bratislava** 86.58 318 *e*P P **20 09 28.8 +0.5**
ZST *e*pP pP 20 09 38.3 -0.8
ZST *e*sP sP 20 09 42.1 -0.8
ZST *e*S S 20 20 04.8 +2.0
ZST **Bratislava** 86.58 318 *e*P P **20 09 28.8 +0.5**
comp=Z,74nm,1.4s,mb5.7
ZST *e* pP 20 09 38.3 -0.8
ZST *e* 20 09 42.1
ZST *e*S S 20 20 04.8 +2.0
ZST LR LR
comp=Z,300nm,21.2s,MS4.7
VRAC **Vranov** 87.05 319 P P **20 09 30.6 +0.1**
comp=Z,1.7nm,0.7s,mb4.4,baz=99,slow=10,SNR=7.9
VRAC **Vranov** 87.05 319 P P **20 09 31.6 +1.1**
GKP **Gorka Klasztor** 87.11 323 *e*P P **20 09 31.6 +0.8**
GKP *e*pP pP 20 09 39.2 -2.3
GKP *e*S S 20 20 05.6 -2.1
GKP LMZ 20 54 04.8
comp=Z,1µm,22.5s
GKP **Gorka Klasztor** 87.11 323 *e*P P **20 09 31.6 +0.8**
GKP *e*pP pP 20 09 39.2 -2.3
GKP *e*S S 20 20 05.6 -2.1
GKP LR LR
comp=Z,1µm,22.5s,MS5.3
DPC **Dobruska-Polom** 87.33 320 *e*P P **20 09 32.7 +0.8**
DPC *e*pP pP 20 09 42.6 -0.1
DPC *e*sP sP 20 09 50.2 +3.6
DPC *e*S S 20 20 11.6 +1.6
DPC AMS AMS 20 56 10.0
comp=Z,2µm,17.8s
CONA **Conrad Observa** 87.38 318⇓ *i*P P **20 09 32.1 -0.1**
comp=Z,13nm,1.1s,mb5.1
CSNA **Conrad Observa** 87.38 318⇑ *i*P P **20 09 32.2 0.0**
comp=Z,14nm,1.1s,mb5.1
KSP **Ksiaz** 87.41 321 *e*P P **20 09 33.1 +0.8**
KSP *e*pP pP 20 09 42.0 -1.0
KSP *e*S S 20 20 12.9 +2.2
KSP LMZ 20 56 28.0
comp=Z,3µm,21.2s
KSP **Ksiaz** 87.41 321⇑ *e*P P **20 09 32.9 +0.6**
KSP *e*pP pP 20 09 41.8 -1.2
KSP *e* 20 09 48.7
KSP *e*S S 20 20 09.0 -1.6
KSP LR LR
comp=Z,3µm,21.2s,MS5.7
NVL **N'lazarevskaya** 87.46 199 P P **20 09 37.0 +4.8**
NVL *e*S SKSac 20 19 53.4 -3.7
NVL pmax pmax
comp=Z,40nm,2.0s,mb5.3
GROS **Grobnik** 87.48 316 *i*P P **20 09 33.0 +0.3**
MAIT **Maitri** 87.50 199 *e*P P **20 09 35.8 +3.5**
VAE **Valguarnera** 87.52 307 P P **20 09 35.0 +1.9**
comp=Z,2.7nm,0.3s,mb5.0,baz=204,slow=12,SNR=3.7
ARSA **Arzberg** 87.54 317⇑ *i*P P **20 09 33.4 +0.4**
comp=Z,37nm,1.4s,mb5.4
ADK **Adak** 87.55 38 PFAKE 20 09 40.0 +7.1
ADK LR LR
comp=Z,2µm,22.0s,MS5.4
UPC **Upice** 87.55 321 *e*P P **20 09 33.8 +0.8**
UPC *e*pP pP 20 09 43.8 +0.1
UPC *e*sP sP 20 09 51.0 +3.4

BOJS **Bojanci** 87.56 316 *e*P P **20 09 33.2 0.0**
BOJS *i*PcP PcP 20 09 42.3 +7.2
BOJS *e*S S 20 20 09.7 -2.7
BOJS *e*SKSac SKSac 20 20 30.7 +32
PERS **Pernice** 87.76 317 *e*P P **20 09 34.4 +0.3**
PERS *e*S S 20 20 14.1 -0.1
TREC **Trest** 87.76 319 *e*P P **20 09 34.2 +0.2**
TREC *e*pP pP 20 09 44.0 -0.8
TREC *e*sP sP 20 09 51.8 +3.2
TREC *e*S S 20 20 16.3 +2.2
TREC AMS AMS 20 54 50.0
comp=Z,1µm,20.0s
PDKS **Podkum** 87.79 316 *i*P P **20 09 34.6 +0.4**
SOKA **Soboth** 87.82 317⇑ *i*P P **20 09 34.8 +0.4**
VISS **Visnje** 87.88 316 *e*P P **20 09 34.8 +0.1**
MIDA **Miranda** 87.96 312 P P **20 09 35.4 +0.2**
comp=Z,694nm,3.8s
QSPA **South Pole Qui** 87.98 180 P P **20 09 34.6 +0.1**
comp=Z,5.7nm,0.9s,mb4.8,baz=318,slow=4.9,SNR=7.1
QSPA **South Pole Qui** 87.98 180 *e*P P **20 09 34.1 -0.3**
comp=Z,31nm,1.1s,mb5.5
QSPA LR LR
comp=Z,5µm,20.0s,MS6.0
AFI **Afiamalu** 88.01 104 PFAKE 20 09 50.0 +14
AFI LR LR
comp=Z,1µm,21.0s,MS5.3
RNI2 **Rionero Sannit** 88.04 312 P P **20 09 35.0 -0.5**
comp=Z,523nm,2.5s,mb6.3
LJU **Ljubljana** 88.12 316 *e*P P **20 09 36.0 +0.2**
OBKA **Obir** 88.14 316⇓ *i*P P **20 09 36.4 +0.5**
comp=Z,32nm,1.4s,mb5.4
INTR **Introdacqua** 88.25 312 P P **20 09 36.6 +0.1**
comp=Z,212nm,2.0s,mb6.0
SDI **San Donato** 88.30 312 P P **20 09 36.1 -0.6**
SDI pmax pmax
comp=Z,44nm,1.7s,mb5.4
SDI **San Donato** 88.30 312 P P **20 09 36.1 -0.6**
comp=Z,44nm,1.7s,mb5.4
JAVS **Javornik** 88.43 316 *i*P P **20 09 37.1 -0.2**
PRU **Pruhonice** 88.44 320 *e*P P **20 09 37.7 +0.5**
PRU *e**PP pP 20 09 47.3 -0.7
PRU *e* 20 09 55.0
PRU *e*S S 20 20 21.7 +1.2
PRU MLR MLR
comp=Z,1µm,21.5s,MS5.3
PRU **Pruhonice** 88.44 320 *e*P P **20 09 37.7 +0.5**
PRU *e*pP pP 20 09 47.3 -0.7
PRU *e* 20 09 55.0
PRU *e*sP sP 20 09 55.0 +3.2
PRU *e*S S 20 20 21.7 +1.2
PRU *ex* x 20 33 13.3
PRU AMS AMS 20 55 40.0
comp=Z,1µm,21.5s
PRU **Pruhonice** 88.44 320 *e*P P **20 09 37.7 +0.5**
PRU *e*pP pP 20 09 47.3 -0.7
PRU *e* 20 09 55.0
PRU *e*S S 20 20 21.7 +1.2
PRU *e* 20 33 13.3
PRU LR LR
comp=Z,1µm,21.5s,MS5.3
MOA **Molln** 88.44 318⇑ *i*P P **20 09 37.2 -0.1**
comp=Z,16nm,1.4s,mb5.1
PVCC **Panska Ves** 88.47 320 *e*P P **20 09 38.4 +1.1**
PVCC *e*pP pP 20 09 48.4 +0.3
PVCC *e*sP sP 20 09 55.3 +3.3
PVCC AMS AMS 20 56 30.0
comp=Z,1µm,20.9s
GORS **Gorjuse** 88.51 316 *i*P P **20 09 37.5 -0.1**
VOY **Vojsko** 88.56 316 *e*P P **20 09 37.8 -0.1**
VOY *e* 20 09 55.2
VOY *e* 20 10 10.8
PTQR **Pietraquaria** 88.62 312 P P **20 09 37.9 -0.4**
AQU **L'Aquila** 88.64 312 P P **20 09 38.9 +0.5**
AQU pmax pmax
comp=Z,26nm,0.8s,mb5.6
AQU **L'Aquila** 88.64 312 P P **20 09 38.9 +0.5**
comp=Z,26nm,0.8s,mb5.6
TRO **Tromso** 88.66 340 *e*P P **20 09 37.9 +0.1**
TRO *e*SKS 20 20 03.1
MYKA **Terra Mystica** 88.77 317⇑ *i*P P **20 09 38.9 0.0**
comp=Z,47nm,1.2s,mb5.7
FIAM **Fiamignano** 88.85 312 P P **20 09 39.3 0.0**
CING **Cingoli** 88.86 313 P P **20 09 40.1 +0.7**
comp=Z,113nm,2.2s,mb5.8
NRCA **Norcia** 88.89 313 P P **20 09 39.7 +0.2**
comp=Z,11nm,1.0s,mb5.1
BRG **Berggiesshubel** 88.89 321 *i*P P **20 09 39.8 +0.5**
BRG *i* 20 09 57.5
BRG 20 13 06.0
BRG *e* 20 20 09.5
BRG S S 20 20 26.0 +1.2
BRG pmax pmax
comp=Z,44nm,1.8s,mb5.5
BRG MLR MLR
comp=N,731nm,18.2s
BRG **Berggiesshubel** 88.89 321 *e*P P **20 09 39.9 +0.6**
comp=Z,222nm,2.5s,mb6.0
BRG *e*S S 20 20 22.8 -2.0
BRG **Berggiesshubel** 88.89 321 *i*P P **20 09 39.8 +0.5**
comp=Z,74nm,1.8s,mb5.7
BRG *i* 20 09 57.5
comp=Z,85nm,1.3s
BRG PP PP 20 13 06.0 -3.0
BRG *e*SKS 20 20 09.5
comp=Z,3.0nm,1.2s
BRG S S 20 20 26.0 +1.2
BRG
comp=N,1µm,18.2s
BRG
comp=E,1µm,18.5s
BRG
comp=Z,1µm,20.8s
BRG **Berggiesshubel** 88.89 321 *i*P P **20 09 39.8 +0.5**
comp=Z,44nm,1.8s,mb5.5
BRG *i* 20 09 57.5
BRG PP PP 20 13 06.0 -3.0
BRG *e*SKS 20 20 09.5
BRG S S 20 20 26.0 +1.2
BRG LR LR
comp=Z,800nm,20.8s,MS5.1
GEC2 **GERESS Array S** 88.89 319 *e*P P **20 09 39.9 +0.5**
GEC2 *e**PP pP 20 09 49.6 -0.6
GEC2 *e*S S 20 20 23.9 -1.0
GEC2 pmax pmax
comp=Z,238nm,2.3s,mb6.1
GEC2 **GERESS Array S** 88.89 319 *e*P P **20 09 39.9 +0.5**
comp=Z,238nm,2.3s,mb6.1
GEC2 *e*pP pP 20 09 49.6 -0.6
GEC2 *e*S S 20 20 23.9 -1.0
GERES **GERESS Array B** 88.89 319 P P **20 09 39.8 +0.4**
comp=Z,2.9nm,0.6s,mb4.8,baz=90,slow=5.3,SNR=31
CERT **Cerreto** 88.93 312 P P **20 09 39.1 -0.6**
PTCC **Patocco-Chiusa** 88.96 316 P P **20 09 39.7 0.0**
comp=Z,24nm,1.2s,mb5.4
KHC **Kasperske Hory** 89.00 319 *e*P P **20 09 40.0 +0.1**
KHC *e**PP pP 20 09 49.7 -0.9
KHC *e* 20 09 57.9
KHC *e*S S 20 20 26.7 +0.9
KHC MLR MLR
comp=Z,2µm,19.6s,MS5.4
KHC **Kasperske Hory** 89.00 319 *e*P P **20 09 40.0 +0.1**
KHC *e*pP pP 20 09 49.7 -0.9
KHC *e*sP sP 20 09 57.9 +3.4
KHC *e*S S 20 20 26.7 +0.9
KHC *ex* x 20 33 34.0
KHC AMS AMS 20 55 30.0
comp=Z,2µm,19.6s
KHC **Kasperske Hory** 89.00 319 *e*P P **20 09 40.0 +0.1**
KHC *e*pP pP 20 09 49.7 -0.9
KHC *e* 20 09 57.9
KHC *e*S S 20 20 26.7 +0.9
KHC *e* 20 33 34.0
KHC LR LR
comp=Z,2µm,19.6s,MS5.4
RUE **Ruedersdorf** 89.12 322 *e*S S 20 20 24.4 -2.4
FSSB **Fossombrone** 89.19 314 P P **20 09 41.2 +0.3**
comp=Z,30nm,1.1s,mb5.5
BJO **Bjornoya** 89.38 345 AMS AMS 20 52 15.0
comp=N,2µm,19.8s
BJO AMS AMS 20 57 45.4
comp=Z,3µm,19.4s,MS5.7
RJOB **Jochberg** 89.42 318 *e*S S 20 20 25.9 -4.0
WET **Wettzell** 89.46 319 *e*P P **20 09 42.3 +0.3**
WET *e**PP pP 20 09 52.3 -0.5
WET *e*S S 20 20 29.2 -0.9

WET pmax pmax
comp=Z,230nm,2.5s,mb6.1
WET Wettzell 89.46 319 *e*P **P 20 09 42.3 +0.3**
comp=Z,230nm,2.5s,mb6.1
WET *e*pP pP 20 09 52.3 -0.5
WET *e*S S 20 20 29.2 -0.9
CLL Collm 89.52 321⇑ *i*P **P 20 09 42.3 +0.1**
CLL *i* 20 09 59.4
CLL *e*S S 20 20 30.0 -0.6
CLL pmax pmax
comp=Z,233nm,2.6s,mb6.0
CLL MLR MLR
comp=Z,2μm,20.2s,MS5.4
CLL Collm 89.52 321 *e*P **P 20 09 42.4 +0.2**
comp=Z,233nm,2.6s,mb6.0
CLL Collm 89.52 321⇑ *i*P **P 20 09 42.3 +0.1**
comp=Z,233nm,2.6s,mb6.0
CLL *e*Plp 20 09 43.0
CLL *e*x x 20 09 50.0
CLL *e*pP pP 20 09 54.0 +1.0
CLL *i* sP sP 20 09 59.4 +2.5
CLL *e*PP PP 20 13 19.0 +5.1
CLL *e*PPlp 20 13 20.0
CLL *e*S S 20 20 30.0 -0.6
CLL *e*PS PS 20 21 43.0 +3.0
CLL *e*SS SS 20 26 48.0 +21
CLL LmV 20 58 00.0
comp=Z,2μm,20.2s
CLL Collm 89.52 321⇑ *i*P **P 20 09 42.3 +0.1**
comp=Z,233nm,2.6s,mb6.0
CLL *i* 20 09 59.4
CLL *e*S S 20 20 30.0 -0.6
CLL LR LR
comp=Z,2μm,20.2s,MS5.4
RGN Rugen 89.54 324 *e*S S 20 20 29.8 -0.9
ABTA Abfaltersbach 89.56 317⇑ *i*P **P 20 09 42.3 -0.3**
comp=Z,18nm,1.2s,mb5.3
TOLF Tolfa 89.67 312 P **P 20 09 42.9 -0.3**
HFS Hagfors 89.75 330 P **P 20 09 42.8 -0.4**
comp=Z,4.6nm,0.6s,mb5.0,baz=127,slow=3.9,SNR=27
NKC Novy Kostel 89.80 320 *e*P **P 20 09 44.8 +1.2**
NKC *e**PP pP 20 09 53.9 -0.5
NKC *e* 20 10 01.8
NKC *e*S S 20 20 31.5 -1.8
NKC MLR MLR
comp=Z,2μm,19.6s,MS5.5
NKC Novy Kostel 89.80 320 *e*P **P 20 09 44.8 +1.2**
NKC *e*pP pP 20 09 53.9 -0.5
NKC *e*sP sP 20 10 01.8 +3.6
NKC *e*S S 20 20 31.5 -1.8
NKC *e*x x 20 33 37.8
NKC AMS AMS 20 58 10.0
comp=Z,2μm,19.6s
NKC Novy Kostel 89.80 320 *e*P **P 20 09 44.8 +1.2**
NKC *e*pP pP 20 09 53.9 -0.5
NKC *e* 20 10 01.8
NKC *e*S S 20 20 31.5 -1.8
NKC *e* 20 33 37.8
TANN Tannenbergstha 89.80 320 *e*P **P 20 09 43.8 +0.2**
comp=Z,95nm,2.4s,mb5.7
TANN *e*pP pP 20 09 53.7 -0.7
ROTZ Rotzenmuhle 89.93 320 *e*P **P 20 09 45.0 +0.8**
comp=Z,158nm,2.5s,mb5.9
ROTZ *e*pP pP 20 09 54.7 -0.3
ROTZ *e*S S 20 20 32.8 -1.7
MANZ Manzenberg 90.01 320 *e*P **P 20 09 45.5 +0.9**
comp=Z,229nm,2.3s,mb6.1
MANZ *e*pP pP 20 09 54.9 -0.4
MANZ *e*S S 20 20 30.0 -5.2
VMG Vicchio 90.09 314 P **P 20 09 47.7 +2.6**
CTI Castel Tesino 90.12 316 P **P 20 09 45.8 +0.6**
COP Copenhagen 90.12 326 *e*P pP 20 09 58.7 +2.9
COP *i*S S 20 20 38.1 +2.0
COP MLR MLR
comp=Z,500nm,19.0s,MS5.0
COP Copenhagen 90.12 326 *i*P pP 20 09 58.7 +2.9
COP *i*S S 20 20 38.1 +2.0
COP
comp=Z,490nm,19.0s
WTTA Wattenberg 90.18 317⇑ *i*P **P 20 09 45.4 -0.1**
comp=Z,31nm,1.0s,mb5.6
WATA Walderalm 90.23 317⇑ *i*P **P 20 09 45.2 -0.4**
comp=Z,13nm,1.0s,mb5.2
MOX Moxa 90.35 320 *e*P **P 20 09 47.1 +0.9**
MOX *e* 20 10 04.0
comp=Z,72nm,1.5s
MOX
comp=Z,800nm,19.0s
MOX Moxa 90.35 320 *e*P **P 20 09 46.6 +0.4**
comp=Z,195nm,2.6s,mb6.0
MOX *e*S S 20 20 34.4 -4.0
MOX Moxa 90.35 320 *e*P **P 20 09 47.1 +0.9**
comp=Z,72nm,1.5s,mb5.8
MOX *e* 20 10 04.0
MOX LR LR
comp=Z,800nm,19.0s,MS5.2
FNVD Fontana Vidola 90.41 314 P **P 20 09 47.6 +1.0**
MOTA Moosalm 90.55 317‖ *i*P **P 20 09 46.9 -0.3**
comp=Z,35nm,1.2s,mb5.6,SNR=8.0
GRA1 Grafenberg Arr 90.57 320 *e*P **P 20 09 48.0 +0.8**
comp=Z,112nm,1.8s,mb5.9
GRA1 *e*S S 20 20 41.4 +1.0
GRA1 LR LR
comp=Z,1μm,19.8s,MS5.4
GRF Grafenberg Arr 90.57 320 *e*P **P 20 09 48.0 +0.8**
GRF *e*S S 20 20 41.4 +1.0
GRF pmax pmax
comp=Z,112nm,1.8s,mb5.9
GRF MLR MLR
comp=Z,1μm,19.8s,MS5.4
GRF Grafenberg Arr 90.57 320 *e*P **P 20 09 48.0 +0.8**
comp=Z,112nm,1.8s,mb5.9
GRF *e*S S 20 20 41.4 +1.0
GRF *e*L 20 59 44.1
comp=Z,1μm,19.8s
GRFO Grafenberg 90.57 320 *e*S S 20 20 41.4 +1.0
SPITS Spitsbergen Ar 90.57 348 P **P 20 09 46.0 -0.7**
comp=Z,7.5nm,0.5s,mb5.3,baz=354,slow=7.6,SNR=26
SPB4 Spitsbergen Ar 90.58 348 *e*P **P 20 09 44.2 -2.5**
RETA Reutte 90.78 317⇑ *i*P **P 20 09 48.3 0.0**
comp=Z,41nm,1.3s,mb5.6
FETA Feichten 90.79 317⇑ *i*PcP PcP 20 09 48.7 -0.6
comp=Z,28nm,1.2s
GSCL Gusciola 90.80 314 P **P 20 09 49.3 +0.9**
NSS Namsos 90.83 334 *e*P **P 20 09 47.3 -0.8**
NSS *e*SKS 20 20 16.4
NSS AMS AMS 20 57 55.2
comp=Z,2μm,20.3s,MS5.5
NOA NORSAR Array B 91.03 331 P **P 20 09 48.4 -0.6**
comp=Z,1.3nm,0.5s,mb4.5,baz=93,slow=6.2,SNR=7.5
NOA LR LR 20 55 39.1
comp=Z,2μm,20.6s,MS5.5,baz=100,slow=39
NOA NORSAR Array B 91.03 331 P **P 20 09 48.4 -0.6**
NOA LR LR 20 55 39.1
NAO01 NORSAR Array S 91.18 331 PFAKE 20 10 00.0 +10
NAO01 LR LR
comp=Z,3μm,19.0s,MS5.8
CLZ Clausthal 91.18 322 *e*P **P 20 09 50.1 +0.1**
CLZ *e*S S 20 20 44.6 -1.3
CLZ pmax pmax
comp=Z,44nm,1.5s,mb5.6
CLZ Clausthal 91.18 322 *e*P **P 20 09 50.1 +0.1**
comp=Z,44nm,1.5s,mb5.6
CLZ *e*S S 20 20 44.6 -1.3
BSEG Bad Segeberg 91.27 324 *e*P **P 20 09 50.8 +0.4**
BSEG *e**PP pP 20 10 00.2 -0.9
BSEG *e*S S 20 20 46.1 -0.6
BSEG pmax pmax
comp=Z,68nm,1.8s,mb5.7
BSEG Bad Segeberg 91.27 324 *e*P **P 20 09 50.8 +0.4**
comp=Z,68nm,1.8s,mb5.7
BSEG *e*pP pP 20 10 00.2 -0.9
BSEG *e*S S 20 20 46.1 -0.6
DAVOX Davos/Dischmat 91.37 317 P **P 20 09 51.6 +0.6**
comp=Z,10nm,0.6s,mb5.4,baz=106,slow=4.7,SNR=24
DAVA Damuels 91.38 317 *i*PcP PcP 20 09 51.6 -0.4
comp=Z,52nm,1.1s,SNR=8.0
UBBA Unterbreizbach 91.39 321 *e*P **P 20 09 51.1 +0.1**
comp=Z,74nm,2.0s,mb5.7
UBBA *e*S S 20 20 47.7 -0.1
DAVOS Davos 91.43 317 P **P 20 09 51.6 +0.3**
KEST Kesra 91.50 306 P **P 20 09 52.8 +0.9**
comp=Z,2.9nm,0.6s,mb4.8,baz=147,slow=1.7,SNR=14
KEST LR LR 20 51 58.0
comp=Z,931nm,19.9s,MS5.2,baz=167,slow=36
KBS Kingsbay 91.52 349 PFAKE 20 10 00.0 +8.9
KBS LR LR
comp=Z,4μm,21.0s,MS5.8
KONO Kongsberg 91.79 329 *e*P **P 20 09 53.2 +0.5**
KONO *e*SKS 20 20 25.6
KONO Kongsberg 91.79 329 *e*P **P 20 09 51.3 -1.4**
KONO LR LR
comp=Z,3μm,20.0s,MS5.7
STU Stuttgart 91.87 319 *e*P **P 20 09 53.6 +0.3**
comp=Z,32nm,1.2s,mb5.5
STU *e*S S 20 20 49.0 -3.2
PGF Pioggiola 91.91 312 *e*P **P 20 09 53.7 +0.1**
comp=Z,113nm,1.4s,mb5.7
PGF Pioggiola 91.91 312 *e*P **P 20 09 53.7 +0.1**
PGF pmax pmax
comp=Z,57nm,1.4s,mb5.7
PGF Pioggiola 91.91 312 *e*P **P 20 09 53.7 +0.1**
comp=Z,57nm,1.4s,mb5.7
MUD Monsted U'grnd 91.98 326 *e*P pP 20 10 05.5 +1.1
MUD pmax pmax
comp=Z,11nm,1.0s,mb5.1
MUD MLR MLR
comp=Z,2μm,20.0s,MS5.6
MUD Monsted U'grnd 91.98 326 *i*P pP 20 10 05.5 +1.1
comp=Z,11nm,1.0s
MUD
comp=Z,2μm,20.0s
SNAA Sanae 92.09 198 *e*P **P 20 09 57.9 +4.1**
SNAA *e* pP 20 10 05.7 +1.1
SNAA *e* pP 20 10 09.3 +4.7
SNAA Sanae 92.09 198 *ce*P **P 20 09 56.6 +2.8**
SPAK Spaichingen-Ko 92.13 318 *e*P **P 20 09 54.0 -0.5**
TOD Tromm 92.13 319 *e*P **P 20 09 53.7 -0.8**
TNS Taunus Mts 92.37 320 *e*P **P 20 09 55.9 +0.4**
TNS *e*S S 20 20 51.8 -4.9
TNS pmax pmax
comp=Z,53nm,1.7s,mb5.6
TNS Taunus Mts 92.37 320 *e*P **P 20 09 55.9 +0.4**
comp=Z,53nm,1.7s,mb5.6
TNS *e*S S 20 20 51.8 -4.9
BFO Black Forest 92.44 318 *e*P **P 20 09 55.4 -0.5**
BFO *e*S S 20 20 57.9 +0.5
BFO pmax pmax
comp=Z,45nm,1.8s,mb5.5
BFO Black Forest 92.44 318 *e*P **P 20 09 55.4 -0.5**
comp=Z,45nm,1.8s,mb5.5
BFO *e*S S 20 20 57.9 +0.5
FELD Feldberg im Sc 92.66 318 *e*P **P 20 09 56.5 -0.4**
HLG Helgoland 92.71 324 *e*S S 20 21 02.0 +2.4
LANF Langenberg 92.79 319 *e*P **P 20 09 57.0 -0.5**
LANF Langenberg 92.79 319 *e*P **P 20 09 56.5 -1.0**
IBBN Ibbenburen 92.80 322 *e*P **P 20 09 57.2 -0.3**
LIBD Limburg 92.92 318 *e*P **P 20 09 58.4 +0.2**
BBS Basel-Blauen 92.99 317 *e*P **P 20 09 54.0 -4.5**
SBF Sospel 93.06 314 *e*P **P 20 09 58.7 -0.2**
comp=Z,29nm,0.9s,mb5.4
SBF Sospel 93.06 314 *e*P **P 20 09 58.7 -0.2**
SBF pmax pmax
comp=Z,15nm,0.9s,mb5.4
SBF Sospel 93.06 314 *e*P **P 20 09 58.7 -0.2**
comp=Z,15nm,0.9s,mb5.4
BUG Bochum--Univer 93.11 321 *e*S S 20 21 03.0 -0.2
CDF Champ du Feu 93.14 318 *e*P **P 20 09 58.8 -0.3**
ECH Echery 93.22 318 *e*P **P 20 09 58.6 -0.9**
ECH Echery 93.22 318 *e*P **P 20 09 57.2 -2.3**
MOF Molkenrain 93.24 318 *e*P **P 20 09 57.9 -1.7**
MOF Molkenrain 93.24 318 *e*P **P 20 09 57.2 -2.4**
RUP Ruppelstein 93.27 319 *e*P **P 20 09 59.6 -0.1**
HINF Hinteralfeld 93.43 318 *e*P **P 20 10 00.0 -0.5**
LOMF Lomont 93.45 317 *e*P **P 20 09 59.0 -1.6**
LOMF Lomont 93.45 317 *e*P **P 20 09 57.0 -3.6**
MBDF Montbardon 93.53 315 *e*P **P 20 10 00.6 -0.4**
LPG La Plagne 93.53 315 *e*P **P 20 10 01.2 +0.2**
comp=Z,8.4nm,0.7s,mb5.0
LPG La Plagne 93.53 315 *e*P **P 20 10 01.2 +0.2**
LPG pmax pmax
comp=Z,4.0nm,0.7s,mb5.0
LPG La Plagne 93.53 315 *e*P **P 20 10 01.2 +0.2**
comp=Z,4.2nm,0.7s,mb5.0
LPL La Plagne 93.55 315 *e*P **P 20 10 01.2 +0.1**
comp=Z,8.0nm,0.7s,mb5.0
LPL La Plagne 93.55 315 *e*P **P 20 10 01.2 +0.1**
LPL pmax pmax
comp=Z,4.0nm,0.7s,mb5.0
LPL La Plagne 93.55 315 *e*P **P 20 10 01.2 +0.1**
comp=Z,4.0nm,0.7s,mb5.0
FRF La Foret Royal 93.63 313 *e*P **P 20 10 01.5 0.0**
comp=Z,53nm,1.2s,mb5.5
FRF La Foret Royal 93.63 313 *e*P **P 20 10 01.5 0.0**
FRF pmax pmax
comp=Z,26nm,1.2s,mb5.5
FRF La Foret Royal 93.63 313 *e*P **P 20 10 01.5 0.0**
comp=Z,26nm,1.2s,mb5.5
VNA2 Neumayer--Watz 93.70 198 *e*P **P 20 10 09.8 +8.5**
VNA2 *e* 20 10 15.9
HAU Haudompre 93.77 318 *e*P **P 20 10 01.7 -0.3**
CABF La Chapelle 93.98 316 *e*P **P 20 10 03.2 +0.2**
THEF They Montfort 94.00 318 *e*P **P 20 10 00.9 -2.2**
VNA1 Neumayer--Stat 94.06 199 *e*P **P 20 10 03.8 +0.9**
VNA1 *e* pP 20 10 15.2 +1.5
ORIF Oris-en-Rattie 94.16 315 *e*P **P 20 10 03.7 -0.2**
VNA3 Neumayer Olymp 94.31 198 *e*P **P 20 10 05.2 +1.1**
GIVF Givet 94.70 320 *e*P **P 20 10 06.2 -0.1**
BAIF Baives 95.10 320 *e*P **P 20 10 08.0 -0.1**
LOR Lormes 95.48 317 *e*P **P 20 10 09.6 -0.3**
SMF Signal de Mont 95.52 316 *e*P **P 20 10 09.8 -0.3**
SSF Saint Saulge 95.73 317 *e*P **P 20 10 11.0 -0.1**
AVF Avril sur Loir 95.85 317 *e*P **P 20 10 10.7 -0.9**
BGF Bois d'Agland 96.21 316 *e*P **P 20 10 13.4 +0.1**
TCF Toulx Ste Croi 96.67 316 *e*P **P 20 10 14.7 -0.6**
CAF Calviac 96.87 315 *e*P **P 20 10 16.5 +0.2**
JMIC Jan Mayen 97.78 342 AMS AMS 21 01 58.8
comp=Z,1μm,21.2s,MS5.4
LDF La Druitiere 98.04 319 *e*P **P 20 10 20.2 -1.3**
DAG Danmarks Havn 98.22 348 *i*P **P 20 10 21.0 -0.7**
DAG Danmarks Havn 98.22 348 *e*P **P 20 10 21.0 -0.7**
TORD Torodi Ar. Bea 98.33 283 P **P 20 10 23.0 -0.5**
comp=Z,0.5nm,0.9s,baz=106,slow=6.0,SNR=3.3
TORD LR LR 20 57 16.5
comp=Z,2μm,18.4s,MS5.6,baz=100,slow=37
IMA2 Indian Mountai 98.47 23 *e*P **P 20 10 22.0 -1.0**
KDAK Kodiak Island 101.02 31 PFAKE 20 10 50.0 +15
KDAK LR LR
comp=Z,182nm,19.0s,MS4.6
COLA College 101.15 24 PFAKE 20 10 50.0 +15
COLA LR LR
comp=Z,2μm,19.0s,MS5.6
PMR Palmer 101.66 27 PFAKE 20 10 50.0 +13
PMR LR LR
comp=Z,2μm,19.0s,MS5.7
ESLA Sonseca Array 101.84 310 PFAKE 20 10 50.0 +12
ESLA LR LR
comp=Z,5μm,20.0s,MS6.0
PAB San Pablo 102.15 310 PFAKE 20 10 50.0 +10
PAB LR LR
comp=Z,1μm,20.0s,MS5.4
EGAK Eagle 103.83 23 PFAKE 20 11 00.0 +13
EGAK LR LR
comp=Z,4μm,20.0s,MS5.9
DBIC Dimbokro 104.77 276 PFAKE 20 11 00.0 +8.7
DBIC LR LR
comp=Z,3μm,21.0s,MS5.8
TRIS Tristan da Cun 106.27 231 PFAKE 20 15 20.0 +10
TRIS LR LR
comp=Z,3μm,21.0s,MS5.9
TBI Tubuai 108.18 115 *e*PP PP 20 15 32.1 -5.1
comp=Z,141nm,24.2s
TBI Tubuai 108.18 115 *e*PS PS 20 24 58.9 -2.9
comp=Z,522nm,25.5s
TBI *e*SS SS 20 30 44.0 -5.5
comp=Z,1μm,28.0s
TBI Tubuai 108.18 115 *e*LR LR 20 46 51.8
comp=Z,3μm,22.2s
PPT Papeete 109.01 109 *e*PP PP 20 15 34.2 -9.2
comp=Z,177nm,25.5s
PPT Papeete 109.01 109 *e*PS PS 20 25 05.2 -5.2
comp=Z,477nm,23.0s
PPT *e*SS SS 20 30 58.2 -2.9
comp=Z,866nm,27.2s
PPT Papeete 109.01 109 *e*LR LR 20 47 14.2
comp=Z,2μm,22.0s
WRAK Wrangell Islan 111.68 28 PFAKE 20 15 30.0 +11
WRAK LR LR
comp=Z,2μm,21.0s,MS5.7
PMSA Palmer Station 112.35 187 PFAKE 20 15 30.0 +9.5
PMSA LR LR
comp=Z,4μm,21.0s,MS6.0
YKA Yellowknife Ar 114.42 17 PKP PKiKP 20 15 23.3 -1.1
comp=Z,0.9nm,0.8s,baz=360,slow=2.5,SNR=4.3
YKA PP PP 20 16 21.4 +1.1
comp=Z,1.7nm,0.8s,baz=328,slow=7.2,SNR=5.1
YKA Yellowknife Ar 114.42 17 PKP PKiKP 20 15 23.3 -1.2
YKA PP PP 20 16 21.4 +1.1
TAOE Nuku Hiva Isla 119.31 101 *e*LR LR 20 52 11.6
comp=Z,6μm,24.0s
RKT Rikitea 121.16 119 *e*PS PS 20 26 55.8 -6.0
comp=Z,635nm,25.8s
RKT *e*SS SS 20 33 32.9 -7.4
comp=Z,929nm,30.0s
RKT Rikitea 121.16 119 *e*LR LR 20 52 52.3
comp=Z,2μm,29.5s
EDM Edmonton 122.05 23 PKIKP PKPdf 20 15 39.3 -0.2
EDM Edmonton 122.05 23 *e*PKPdf PKPdf 20 15 38.2 -1.3
ETW Entiat 122.86 31 PKPdf PKPdf 20 15 39.0 -2.2
RSW Rattlesnake Hi 124.02 32 *e*PKPdf PKPdf 20 15 43.4 -0.1
NEW Newport 124.02 29 PFAKE 20 15 50.0 +6.6
NEW LR LR
comp=Z,1μm,19.0s,MS5.7
HAWA Hanford 124.05 32 *e*PKPdf PKPdf 20 15 43.4 -0.1
HAWA LR LR
comp=Z,1μm,20.0s,MS5.6
HUMO Hull Mountain 124.41 37 *e*PKPdf PKPdf 20 15 44.1 -0.2
HUMO LR LR
comp=Z,2μm,21.0s,MS5.6
PTCN Pitcairn Islan 124.72 122 PFAKE 20 16 00.0 +15
PTCN LR LR
comp=Z,3μm,20.0s,MS5.9
YBH Yreka Blue Hor 125.05 38 PFAKE 20 16 00.0 +14
YBH LR LR
comp=Z,1μm,21.0s,MS5.6
WDC Whiskeytown Da 125.81 39 PFAKE 20 16 00.0 +13
WDC LR LR
comp=Z,1μm,20.0s,MS5.6
BMO Blue Mountains 126.24 32 PKIKP PKPdf 20 15 47.9 +0.1
BMO Blue Mountains 126.24 32 *e*PKPdf PKPdf 20 15 47.3 -0.5
BMO *e*PP PP 20 17 43.1 +1.2
BMO LR LR
comp=Z,1μm,21.0s,MS5.5
HOPS Hopland 126.33 41 PFAKE 20 16 00.0 +12
HOPS LR LR
comp=Z,1μm,20.0s,MS5.7
MOD Modoc 126.42 37 *e*PKPdf PKPdf 20 15 48.4 +0.2
MOD LR LR
comp=Z,2μm,21.0s,MS5.7
MSO Missoula 126.56 28 *e*PKPdf PKPdf 20 15 47.6 -0.7
MSO LR LR
comp=Z,2μm,19.0s,MS5.9
CHMT Chamberlain Mo 126.83 28 *e*PKPdf PKPdf 20 15 48.7 -0.1
CHMT *e*PP PP 20 17 39.0 -6.6
NSHM Saint Helena R 126.89 41 *e*PKPdf PKPdf 20 15 49.8 +0.6
MCCM Marconi Confer 126.91 42 PFAKE 20 16 00.0 +11
MCCM LR LR
comp=Z,1μm,20.0s,MS5.5
WVOR Wild Horse Val 127.07 35 *e*PKIKP PKPdf 20 15 49.8 +0.4
WVOR MLR MLR
comp=Z,1μm,21.0s,MS5.6
OHCM Honcut 127.17 40 *e*PKPdf PKPdf 20 15 49.3 -0.5
OHCM *e*PP PP 20 17 44.4 -4.0
EGMT Eagleton 127.53 25 *e*PKPdf PKPdf 20 15 50.7 +0.5
EGMT LR LR
comp=Z,1μm,20.0s,MS5.6
DLMT Dillon 128.27 29 *e*PKPdf PKPdf 20 15 51.1 -0.6
DLMT *e*PP PP 20 17 56.4 +1.3
PAHR Pah Rah Range 128.29 38 *e*PKPdf PKPdf 20 15 51.7 -0.1
BOZ Bozeman (W) 128.52 28 PKIKP PKPdf 20 15 51.3 -0.8
BOZ Bozeman (W) 128.52 28 *e*PKPdf PKPdf 20 15 50.5 -1.6
BOZ *e*PP PP 20 17 58.1 +1.3
BOZ LR LR
comp=Z,2μm,19.0s,MS5.8
MCMT McKenzie Canyo 128.54 29 *e*PKP PKPdf 20 15 47.2 -4.9
SAO San Andreas Ge 128.61 43 PFAKE 20 16 00.0 +7.5
SAO LR LR
comp=Z,1μm,20.0s,MS5.5
CMB Columbia Colle 128.62 41 PFAKE 20 16 00.0 +7.5
CMB LR LR
comp=Z,1μm,22.0s,MS5.6
HLID Hailey 128.65 32 *e*P PKPdf 20 15 52.8 +0.4
HLID *e*PP PP 20 17 53.3 -4.4
HLID LR LR
comp=Z,2μm,20.0s,MS5.9
BMN Battle Mountai 129.15 36 PFAKE 20 16 00.0 +6.5
BMN LR LR
comp=Z,628nm,21.0s,MS5.3
QLMT Earthquake Lak 129.22 28 *e*PKPdf PKPdf 20 15 52.4 -1.1
DGMT Dagmar 129.30 20 PFAKE 20 16 00.0 +6.5
DGMT LR LR
comp=Z,3μm,20.0s,MS6.0
YMR Madison River 129.56 28 *e*PKPdf PKPdf 20 15 55.4 +1.3
YMR *e* 20 16 05.9
YMR LR LR
comp=Z,4μm,22.0s,MS6.0
NVAR Mina Array Bea 129.72 39 PKP PKPdf 20 15 55.1 +0.5
comp=Z,0.9nm,0.6s,baz=335,slow=1.4,SNR=7.8
LKWY Lake 129.91 28 *e*PKIKP PKPdf 20 15 56.4 +1.6
LKWY MLR MLR
comp=Z,3μm,20.0s,MS6.0
RLMT Red Lodge 130.00 27 PFAKE 20 16 10.0 +15
RLMT LR LR
comp=Z,2μm,20.0s,MS5.9
LAO LASA Array 130.03 23 PFAKE 20 16 10.0 +15
LAO LR LR
comp=Z,2μm,19.0s,MS5.8
ULM Lac du Bonnet 130.10 13 PKP PKPdf 20 15 54.3 -0.6
comp=Z,5.1nm,0.8s,baz=322,slow=5.4,SNR=5.6
ULM Lac du Bonnet 130.10 13 PKP PKPdf 20 15 54.3 -0.6
ULM LR LR
comp=Z,3μm,22.0s,MS5.9
ELK Elko 130.10 35 *e*PKIKP PKPdf 20 15 54.6 -0.7
ELK Elko 130.10 35 PFAKE 20 16 10.0 +15
ELK LR LR
comp=Z,2μm,21.0s,MS5.7
MTUM Tungsten Hills 130.19 40 *e*PKPdf PKPdf 20 15 55.8 +0.3
RRI2 Red Ridge 130.37 30 *e*PKPdf PKPdf 20 15 55.0 -0.7
RRI2 *e*PP PP 20 18 08.7 -0.2
REDW Red Top Meadow 130.59 29 *e*PKPdf PKPdf 20 15 56.0 -0.1
REDW *e*PP PP 20 18 06.7 -3.6
TPH Tonopah 130.61 39 PFAKE 20 16 10.0 +14
TPH LR LR
comp=Z,1μm,22.0s,MS5.5
AHID Auburn Hatcher 130.91 30 PFAKE 20 16 10.0 +13
AHID LR LR
comp=Z,2μm,20.0s,MS5.9
BGU Big Grassy Mou 131.21 33 *e*PKPdf PKPdf 20 15 57.4 0.0
BGU *e*SKP 20 19 20.2
ISA Isabella 131.22 42 PFAKE 20 16 10.0 +12
ISA LR LR
comp=Z,1μm,22.0s,MS5.6
DAC Darwin (Calif) 131.45 41 PFAKE 20 16 10.0 +12
DAC LR LR
comp=Z,1μm,20.0s,MS5.6
HWUT Hardware Ranch 131.51 31 PFAKE 20 16 10.0 +12
HWUT LR LR
comp=Z,2μm,19.0s,MS5.9
BW06 Boulder Array 131.67 29 PFAKE 20 16 10.0 +12
BW06 LR LR
comp=Z,1μm,20.0s,MS5.7
PDAR Pinedale Array 131.67 29 PKP PKPdf 20 15 58.9 +0.7
comp=Z,1.1nm,0.6s,baz=31,slow=5.4,SNR=2.1
PDAR SKP 20 19 34.1
comp=Z,4.7nm,0.9s,baz=27,slow=0.4,SNR=6.9
SNCC San Nicolas Is 131.82 45 PFAKE 20 16 10.0 +11
SNCC LR LR
comp=Z,1μm,19.0s,MS5.6
DUG Dugway 131.84 34 *e*PKPdf PKPdf 20 15 59.5 +0.9
DUG *e*PP PP 20 18 10.4 -8.2
DUG *e*SKP 20 19 22.7
DUG LR LR
comp=Z,2μm,21.0s,MS5.8
NOQ North Oquirrh 131.90 33 *e*PKPdf PKPdf 20 15 58.0 -0.6
TPNV Topopah Spring 131.91 39 PFAKE 20 16 10.0 +11
TPNV LR LR
comp=Z,1μm,20.0s,MS5.5
AGMN Agassiz Refuge 131.93 14 PFAKE 20 16 10.0 +12
AGMN LR LR
comp=Z,3μm,22.0s,MS6.0
MWC Mount Wilson 132.31 43 PFAKE 20 16 10.0 +10
MWC LR LR

comp=Z,2µm,22.0s,MS5.7
DAU Daniels Canyon 132.53 32 *e*PKIKP PKPdf 20 15 59.5 -0.4
GSC Goldstone 132.54 41 *e*PKPdf PKPdf 20 16 01.4 +1.4
GSC *e*SKP 20 19 21.4
GSC LR LR
comp=Z,1µm,20.0s,MS5.5
MPU Maple Canyon 132.61 33 PFAKE 20 16 10.0 +10
MPU LR LR
comp=Z,2µm,20.0s,MS5.9
RSSD Black Hills 133.02 23 PFAKE 20 16 10.0 +9.3
RSSD LR LR
comp=Z,2µm,21.0s,MS5.9
EYMN Ely 133.19 10 PFAKE 20 16 10.0 +9.1
EYMN LR LR
comp=Z,2µm,19.0s,MS5.8
MVU Marysvale 133.34 35 PFAKE 20 16 10.0 +8.6
MVU LR LR
comp=Z,2µm,21.0s,MS5.7
MSU Marysvale 133.35 35 *e*PKIKP PKPdf 20 16 04.0 +2.5
RCBR Riachuelo 135.07 260 PFAKE 20 16 20.0 +15
RCBR LR LR
comp=Z,2µm,19.0s,MS5.8
GLA Glamis 135.19 43 PFAKE 20 16 20.0 +15
GLA LR LR
comp=Z,1µm,21.0s,MS5.5
COWI Conover 135.37 9 PFAKE 20 16 20.0 +15
COWI LR LR
comp=Z,3µm,20.0s,MS6.0
PKME Peaks-Kenny Pk 135.84 349 PFAKE 20 16 20.0 +14
PKME LR LR
comp=Z,2µm,19.0s,MS5.9
ISCO Idaho Springs 135.84 28 PFAKE 20 16 20.0 +14
ISCO LR LR
comp=Z,3µm,20.0s,MS5.8
WUAZ Wupatki 135.85 37 *e*PKPdf PKPdf 20 16 07.7 +1.5
WUAZ LR LR
comp=Z,1µm,20.0s,MS5.6
ECSD EROS,Sioux Fal 135.94 17 *e*PKPdf PKPdf 20 16 05.0 -1.1
ECSD *e*PP PP 20 18 41.1 -2.9
ECSD *e*SKP 20 19 35.9
ECSD LR LR
comp=Z,2µm,19.0s,MS5.8
MVCO Mesa Verde 136.33 33 PFAKE 20 16 20.0 +13
MVCO LR LR
comp=Z,2µm,20.0s,MS5.9
OGNE Ogallala 136.49 24 PFAKE 20 16 20.0 +13
OGNE LR LR
comp=Z,2µm,19.0s,MS5.8
PLCA Paso Flores 136.58 191 PKP PKPdf 20 16 08.5 +1.0
comp=Z,2.0nm,1.0s,baz=224,slow=3.6,SNR=3.2
PLCA Paso Flores 136.58 191 PKP PKPdf 20 16 08.5 +1.0
PLCA LR LR
comp=Z,3µm,20.0s,MS6.0
TRQA Tornquist 136.74 201 PFAKE 20 16 20.0 +12
TRQA LR LR
comp=Z,2µm,19.0s,MS5.9
GLMI Grayling 137.16 5 PFAKE 20 16 20.0 +12
GLMI LR LR
comp=Z,3µm,22.0s,MS5.9
LONY Lake Ozonia 137.25 354 PFAKE 20 16 20.0 +11
LONY LR LR
comp=Z,1µm,19.0s,MS5.7
LBNH Lisbon 137.28 351 PFAKE 20 16 20.0 +11
LBNH LR LR
comp=Z,2µm,19.0s,MS5.9
SDCO Great Sand Dun 137.50 30 *e*PKPdf PKPdf 20 16 07.5 -1.7
SDCO *e*PP PP 20 18 51.0 -3.3
SDCO LR LR
comp=Z,2µm,20.0s,MS5.7
NCB Newcomb 137.85 354 PFAKE 20 16 20.0 +10
NCB LR LR
comp=Z,1µm,19.0s,MS5.7
JFWS Jewell Farm 138.27 11 PFAKE 20 16 20.0 +10
JFWS LR LR
comp=Z,3µm,20.0s,MS6.0
TUC Tucson 138.33 40 PFAKE 20 16 20.0 +9.1
TUC LR LR
comp=Z,2µm,20.0s,MS5.8
SCIA State Center 138.57 15 PFAKE 20 16 20.0 +8.9
SCIA LR LR
comp=Z,2µm,21.0s,MS5.9
HRV Adam Dziewonsk 138.92 350 PFAKE 20 16 20.0 +8.3
HRV LR LR
comp=Z,2µm,20.0s,MS5.8
WES Weston 138.99 350 PFAKE 20 16 20.0 +8.2
WES LR LR
comp=Z,2µm,22.0s,MS5.8
ANMO Albuquerque 139.11 34 PKhKP 20 16 04.8
comp=Z,1.2nm,0.4s,baz=342,slow=3.3,SNR=6.0
ANMO SKPbc SKPbc 20 19 45.5 +0.4
comp=Z,1.7nm,0.8s,baz=353,slow=1.7,SNR=6.2
ANMO Albuquerque 139.11 34 *e*PKPpre 20 16 03.8
ANMO LR LR
comp=Z,2µm,20.0s,MS5.9
LAZ Ladron 139.12 35 *e*PKPdf PKPdf 20 16 11.1 -1.2
LAZ *e*PP PP 20 18 53.6 -11
CBKS Cedar Bluff 139.23 24 PFAKE 20 16 20.0 +7.6
CBKS LR LR
comp=Z,2µm,20.0s,MS5.8
BNM Barren Site 139.60 35 *e*PKPdf PKPdf 20 16 12.6 -0.6
AAM Ann Arbor 139.74 4 PFAKE 20 16 20.0 +6.8
AAM LR LR
comp=Z,3µm,22.0s,MS6.0
BINY Binghamton 139.78 355 PFAKE 20 16 20.0 +6.7
BINY LR LR
comp=Z,2µm,19.0s,MS5.8
ERPA Erie 140.04 360 PFAKE 20 16 30.0 +16
ERPA LR LR
comp=Z,2µm,19.0s,MS5.9
KSU1 Kansas State U 140.14 20 PFAKE 20 16 30.0 +16
KSU1 LR LR
comp=Z,2µm,19.0s,MS5.9
HDIL Hopedale 140.73 11 PFAKE 20 16 30.0 +15
HDIL LR LR
comp=Z,3µm,20.0s,MS6.0
SSPA Standing Stone 141.47 357 PFAKE 20 16 30.0 +14
SSPA LR LR
comp=Z,2µm,21.0s,MS5.9
AMTX Amarillo 141.65 29 *e*PKPpre 20 16 11.4
AMTX *e*PP PP 20 19 17.4 -2.3
AMTX LR LR
comp=Z,2µm,22.0s,MS5.9
ACSO Alum Creek Sta 141.84 3 PFAKE 20 16 30.0 +13
ACSO LR LR
comp=Z,4µm,21.0s,MS6.1
MCWV Mont Chateau 142.50 360 PFAKE 20 16 30.0 +12
MCWV LR LR
comp=Z,5µm,21.0s,MS6.3
CCM Cathedral Cave 142.70 14 PKIKP PKPdf 20 16 18.0 -0.7
CCM Cathedral Cave 142.70 14 *e*PKPdf PKPdf 20 16 13.5 -5.2
CCM *e*PP PP 20 19 21.5 -4.2
CCM LR LR
comp=Z,2µm,22.0s,MS5.9
FVM French Village 142.97 13 *e*PKHKP 20 16 13.5
WCI Wyandotte Cave 143.50 8 *e*PKIKP PKPdf 20 16 15.6 -4.5
WCI MLR MLR
comp=Z,3µm,19.0s,MS6.1
BDFB Brasilia 143.66 240 PFAKE 20 16 30.0 +9.1
BDFB LR LR
comp=Z,3µm,20.0s,MS6.0
CBN Corbin 143.86 356 PFAKE 20 16 30.0 +9.3
CBN LR LR
comp=Z,2µm,22.0s,MS5.9
URVA University of 144.50 356 *e*PKPdf PKPdf 20 16 19.4 -2.4
TXAR Lajitas Array 144.82 37 PKP PKPdf 20 16 22.2 -0.5
comp=Z,28nm,0.5s,baz=234,slow=0.8,SNR=262
TXAR Lajitas Array 144.82 37 PKP PKPdf 20 16 22.2 -0.5
ELN Prospectdale 144.92 1 *e*PKPdf PKPdf 20 16 20.2 -2.3
BLA Blacksburg 144.94 0 *e*PKIKP PKPdf 20 16 21.2 -1.4
BLA Blacksburg 144.94 0 *e*PKPdf PKPdf 20 16 20.2 -2.4
BLA LR LR
comp=Z,3µm,21.0s,MS6.1
GNAR Gosnell 144.99 14 *e*PKPdf PKPdf 20 16 21.1 -1.7
MIAR Mount Ida 145.29 20 PKIKP PKPdf 20 16 22.5 -0.8
MIAR Mount Ida 145.29 20 *e*PKPdf PKPdf 20 16 22.2 -1.0
MIAR LR LR
comp=Z,2µm,20.0s,MS6.0
WVT Waverly 145.30 11 *e*PKPdf PKPdf 20 16 22.4 -0.9
WVT LR LR
comp=Z,2µm,20.0s,MS6.0
TZTN Tazewell 145.47 5 *e*PKPdf PKPdf 20 16 22.4 -1.1
TZTN LR LR
comp=Z,3µm,20.0s,MS6.1
UALR University of 145.47 18 *e*PKPdf PKPdf 20 16 22.8 -0.8
JCT Junction City 146.12 31 PFAKE 20 16 40.0 +15
JCT LR LR
comp=Z,2µm,22.0s,MS5.8
TKL Tuckaleechee C 146.33 5 PKPbc PKPbc 20 16 25.4 -0.8
comp=Z,30nm,0.6s,baz=134,slow=3.9,SNR=22
TKL Tuckaleechee C 146.33 5 PKP2 PKPab 20 16 25.5 -1.5
TKL Tuckaleechee C 146.33 5 *e*PKPdf PKPdf 20 16 25.1 0.0
BBSR BB Station 146.43 336 PFAKE 20 16 40.0 +15
BBSR LR LR
comp=Z,1µm,20.0s,MS5.8
CPCT Cooper Cave 146.46 6 *e*PKPdf PKPdf 20 16 25.4 +0.1
SWET Sewanee 146.51 9 *e*PKPdf PKPdf 20 16 25.1 -0.3
OXF Oxford 146.52 14 PKP2 PKPab 20 16 25.7 -2.0
OXF Oxford 146.52 14 *e*PKPdf PKPdf 20 16 25.5 +0.1
OXF LR LR
comp=Z,2µm,20.0s,MS6.0
CNNC Cliffs of the 146.84 357 *e*PKPdf PKPdf 20 16 27.0 +1.1
CNNC LR LR
comp=Z,2µm,21.0s,MS5.9
NATX Nacogdoches 147.40 23 *e*PKPbc PKPbc 20 16 28.0 -1.3
NATX LR LR
comp=Z,2µm,20.0s,MS5.9
LHS Liberty Hill 147.67 1 *e*PKHKP 20 16 24.3
LCO Las Campanas 147.86 196 *e*PKPdf PKPdf 20 16 27.6 -0.2
LCO LR LR
comp=Z,2µm,22.0s,MS5.9
VBMS Vicksburg 148.40 17 *e*PKPdf PKPdf 20 16 28.1 -0.5
VBMS LR LR
comp=Z,2µm,22.0s,MS5.9
LRAL Lakeview Retre 148.46 11 *e*PKPdf PKPdf 20 16 28.6 -0.1
LRAL LR LR
comp=Z,3µm,20.0s,MS6.1
HKT Hockley 148.48 27 *e*PKIKP PKPdf 20 16 27.9 -0.9
HKT MLR MLR
comp=Z,3µm,22.0s,MS6.0
GOGA Godfrey 148.59 5 *e*PKIKP PKPdf 20 16 29.5 +0.6
GOGA MLR MLR
comp=Z,2µm,20.0s,MS5.9
NHSC New Hope 149.04 360 PFAKE 20 16 40.0 +10
NHSC LR LR
comp=Z,3µm,22.0s,MS6.1
KVTX Kingsville 149.46 32 PFAKE 20 16 40.0 +10
KVTX LR LR
comp=Z,2µm,21.0s,MS5.8
ZAIG Zacatecas 150.04 45 *i* P PKPbc 20 16 35.4 -1.0
BRAL Brewton 150.41 12 PFAKE 20 16 40.0 +8.2
BRAL LR LR
comp=Z,3µm,19.0s,MS6.1
SFJM Santa Fe 151.11 49 *i* P PKPbc 20 16 40.7 +1.7
LVC Limon Verde 153.18 204 *e*PKPbc PKPbc 20 16 43.3 -0.3
LVC LR LR
comp=Z,2µm,20.0s,MS5.9
DWPF Disney 153.99 2 PFAKE 20 16 50.0 +13
DWPF LR LR
comp=Z,3µm,19.0s,MS6.0
BBGH Gun Hill 156.74 300 PFAKE 20 16 50.0 +8.7
BBGH LR LR
comp=Z,2µm,20.0s,MS5.9
LPAZ La Paz 158.27 213 PKP PKPdf 20 16 44.2 +1.0
comp=Z,2.5nm,1.1s,baz=151,slow=3.6,SNR=6.4
LPAZ PKPab PKPab 20 17 19.2 +2.1
comp=Z,7.4nm,1.0s,baz=95,slow=8.2,SNR=9.2
LPAZ La Paz 158.27 213 *e*PKPdf PKPdf 20 16 42.0 -1.2
LPAZ LR LR
comp=Z,2µm,19.0s,MS6.0
SJG San Juan 158.85 320 PFAKE 20 16 50.0 +6.2
SJG LR LR
comp=Z,2µm,21.0s,MS5.8
GRGR Grenville 159.02 300 *e*PKPbc PKPdf 20 16 50.3 +6.2
GRGR LR LR
comp=Z,1µm,21.0s,MS5.7
TEIG Tepich 160.23 23 PFAKE 20 17 00.0 +15
TEIG LR LR
comp=Z,2µm,20.0s
TGUH Tegucigalpa,Un 166.12 30 PFAKE 20 17 00.0 +8.9
TGUH LR LR
comp=Z,1µm,21.0s
SDV Santo Domingo 168.26 306 PFAKE 20 17 00.0 +7.3
SDV LR LR
comp=Z,787nm,19.0s
PAYG Puerto Ayora 169.59 105 PFAKE 20 17 00.0 +6.4
PAYG LR LR
comp=Z,2µm,20.0s
BCIP Isla Barro Col 172.85 357 PFAKE 20 17 10.0 +15
BCIP LR LR
comp=Z,2µm,19.0s
ROSC El Rosal 173.47 296 PKP PKPdf 20 16 55.1 -0.4
comp=Z,6.7nm,0.4s,baz=87,slow=21,SNR=4.0
OTAV Otavalo 177.53 226 *e*PKPbc PKPdf 20 16 55.9 -0.7
OTAV LR LR
comp=Z,3µm,20.0s

BYKL ***23*** *19:57:06.4±0.6, 4883N×101.10E*
MOS ***23*** *19:57:07.4±0.6, 4883N×101.29E, h7km, mb4.8/2, Error ellipse: s-maj=16.1km s-min=9.4km az=81.6*
IDC ***23*** *19:57:09.3±1.5, 4888N×101.39E, h0km, mb3.8/1, mb1 3.6/4, mb1mx3.4/23, mbtmp3.5/4, ML3.4/3, MS4.8/1, Ms1 4.8/1, ms1mx3.1/43, Error ellipse: s-maj=58.7km s-min=14.2km az=18.0*
NEIC ***23*** *19:57:09.9±0.7, 4854N×101.26E, h10km, mb4.1/1, Error ellipse: s-maj=35.2km s-min=8.8km az=192.0*
ISC 23 19:57:10.3±0.5, 4900N±003×10149E±004, h10km, n55, σ1§64/92, mb4.3/2, 8C-15D, Mongolia

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
ZAK	**Zakamensk**	**1.81**	**39**	*e*PN		**Pg**	**Pg**	**19 57 43.9**	**-1.0**
ZAK				*e*S		**Sg**	**Sg**	**19 58 11.1**	**+2.7**
ZAK				pmax		pmax			
	comp=Z,539nm,0.2s								
ZAK				smax					
	comp=E,3µm,0.4s								
ZAK	**Zakamensk**	**1.81**	**39**	⇓*i*Pg		**Pg**		**19 57 44.0**	**-0.9**
ZAK				Pmax				19 57 46.2	
	comp=E,449nm,0.3s								
ZAK				*e*Sg		**Sg**		**19 58 12.4**	**+4.0**
ZAK				Smax				19 58 14.7	
	comp=E,2µm,0.5s								
MOY	**Mondy**	**2.69**	**353**	*e*PN		**Pn**		**19 57 54.7**	**+1.1**
MOY				*e*				19 57 57.3	
MOY				*e*S		**Sg**		**19 58 34.1**	**-2.6**
MOY				pmax		pmax			
	comp=Z,499nm,0.1s								
MOY				smax					
	comp=E,2µm,0.9s								
MOY	**Mondy**	**2.69**	**353**	⇓*i*Pn		**Pn**		**19 57 54.7**	**+1.1**
MOY				⇓*i*Pg		**Pg**		**19 57 57.3**	**-4.5**
MOY				Pmax				19 57 58.3	
	comp=E,518nm,0.8s								
MOY				*e*PgPg				19 58 04.7	
MOY				*i* Sg		**Sg**		**19 58 35.5**	**-1.2**
MOY				Smax				19 58 37.8	
	comp=E,2µm,0.9s								
MOY				*e*				19 58 46.6	
ARS	**Arshan**	**2.98**	**11**	*e*PN		**Pn**		**19 57 59.8**	**+2.2**
ARS				*e*S		**Sg**		**19 58 45.6**	**-0.5**
ARS				smax					
	comp=E,1µm,0.6s								
ARS	**Arshan**	**2.98**	**11**	⇑*i*Pn		**Pn**		**19 57 59.7**	**+2.1**
ARS				⇑*i*				19 58 02.0	
ARS				*e*				19 58 06.7	
ARS				max				19 58 19.4	
	comp=E,111nm,0.6s								
ARS				*e*Sn		**Sn**		**19 58 34.1**	**+0.7**
ARS				*e*Sg		**Sg**		**19 58 45.6**	**-0.5**
ARS				Smax				19 58 56.6	
	comp=E,1µm,0.7s								
TLY	**Talaya**	**3.02**	**26**	*e*PN		**Pn**		**19 57 59.8**	**+1.7**
TLY				*e*				19 58 05.5	
TLY				*e*				19 58 47.9	
TLY				pmax		pmax			
	comp=Z,107nm,0.3s								
TLY				smax					
	comp=E,1µm,0.6s								
TLY	**Talaya**	**3.02**	**26**	⇑*i*Pn		**Pn**		**19 58 00.1**	**+2.0**
TLY				⇓*i*Pg		**Pg**		**19 58 05.5**	**-2.6**
	comp=E,64nm,0.3s								
TLY				⇓*i*Pg		**Pg**		**19 58 05.5**	**-2.6**
	comp=E,40nm,0.3s								
TLY				⇓*i*Pg		**Pg**		**19 58 05.5**	**-2.6**
	comp=E,61nm,0.3s								
TLY				Pmax				19 58 09.1	
	comp=E,152nm,0.6s								
TLY				*i* Sg		**Sg**		**19 58 48.2**	**+1.0**
TLY				Smax				19 58 49.8	
	comp=E,2µm,0.8s								
TLY				*e*				19 58 57.1	
SONM	**Songino Array**	**3.47**	**108**	Pn		**Pn**		**19 58 04.7**	**+0.5**
	comp=E,7.6nm,0.3s,baz=289,slow=15,SNR=63								
SONM				Pg		**Pg**		**19 58 12.7**	**-4.0**
	comp=E,30nm,0.3s,baz=287,slow=19,SNR=37								
SONM				Lg				19 59 01.3	
	comp=E,189nm,0.3s,baz=292,slow=26,SNR=28								
SONM	**Songino Array**	**3.47**	**108**	PN		**Pn**		**19 58 04.7**	**+0.4**
SONM								19 58 12.7	
SONM								19 59 01.3	
SONM				pmax		pmax			
	comp=Z,8.0nm,0.3s								
SONM				pmax		pmax			
	comp=Z,31nm,0.3s								
LSTR	**Listvyanka**	**3.58**	**35**	*e*PN		**Pn**		**19 58 07.9**	**+2.1**
LSTR				*e*				19 58 15.5	
LSTR				*e*				19 59 06.1	
LSTR				pmax		pmax			
	comp=Z,94nm,0.8s								
LSTR				smax					
	comp=E,450nm,1.0s								
LSTR	**Listvyanka**	**3.58**	**35**	*e*		**Pn**		**19 58 07.8**	**+2.0**
LSTR				⇓*i*Pg		**Pg**		**19 58 15.7**	**-3.1**
LSTR				Pmax				19 58 19.7	
	comp=E,94nm,0.8s								
LSTR				*e*Sg		**Sg**		**19 59 06.0**	**+0.8**
LSTR				*e*				19 59 10.9	
LSTR				max				19 59 15.5	
	comp=E,358nm,0.8s								
IRK	**Irkutsk**	**3.70**	**28**	*e*PN		**Pn**		**19 58 09.7**	**+2.3**
IRK				*e*				19 58 17.7	
IRK				*e*				19 59 09.2	
IRK				pmax		pmax			
	comp=Z,144nm,0.2s								
IRK				smax					
	comp=E,6µm,0.5s								
IRK	**Irkutsk**	**3.70**	**28**	*e*Pn		**Pn**		**19 58 09.7**	**+2.3**
IRK				*e*Pg		**Pg**		**19 58 17.6**	**-3.5**
IRK				Pmax				19 58 18.3	
	comp=E,135nm,0.4s								
IRK				*e*				19 58 50.7	
IRK				*e*Sg		**Sg**		**19 59 09.1**	**+0.1**
IRK				Smax				19 59 13.9	
	comp=E,4µm,0.5s								
ORL	**Orlik**	**3.70**	**344**	*e*PN		**Pn**		**19 58 13.9**	**+6.4**
ORL				*e*				19 59 05.0	
ORL				pmax		pmax			
	comp=Z,106nm,0.5s								
ORL				smax					
	comp=E,479nm,1.3s								
ORL	**Orlik**	**3.70**	**344**	⇓*i*Pn		**Pn**		**19 58 08.2**	**+0.7**
ORL				*e*				19 58 14.0	
ORL				*e*Pg		**Pg**		**19 58 15.2**	**-6.0**
ORL				Pmax				19 58 16.3	
	comp=E,98nm,0.5s								
ORL				*e*Sg		**Sg**		**19 59 05.1**	**-4.0**
ORL				Smax				19 59 14.4	
	comp=E,481nm,1.6s								
ULN	**Ulaanbaatar**	**3.87**	**105**	*i* PN		**Pn**		**19 58 10.2**	**+0.4**
ULN				*i*				19 58 20.1	
ULN				*i*				19 59 11.4	
ULN	**Ulaanbaatar**	**3.87**	**105**	⇑*i*Pn		**Pn**		**19 58 10.4**	**+0.6**
ULN				⇑*i*Pg		**Pg**		**19 58 20.1**	**-4.3**
ULN				*i* Sg		**Sg**		**19 59 13.1**	**-1.5**
ULN	**Ulaanbaatar**	**3.87**	**105**	*e*Pn		**Pn**		**19 58 10.2**	**+0.4**
ULN				*e*Pg		**Pg**		**19 58 20.2**	**-4.3**
HRMR	**Khuramsha**	**4.38**	**51**	⇑*i*Pn		**Pn**		**19 58 18.5**	**+1.7**
HRMR				⇓*i*Pg		**Pg**		**19 58 29.9**	**-4.2**
HRMR				⇑*i*				19 58 31.1	
HRMR				max				19 58 31.3	
	comp=E,327nm,0.7s								
HRMR				*e*Sg		**Sg**		**19 59 32.0**	**+1.2**
HRMR				Smax				19 59 41.0	
	comp=E,1µm,0.8s								
KAB	**Kabansk**	**4.49**	**45**	*e*PN		**Pg**		**19 58 33.0**	**-3.3**
KAB	**Kabansk**	**4.49**	**45**	*e*		**Pn**		**19 58 23.5**	**+5.2**
KAB				⇓*i*Pg		**Pg**		**19 58 32.8**	**-3.5**
KAB				Pmax				19 58 46.6	
	comp=E,274nm,1.2s								
KAB				*e*Sg		**Sg**		**19 59 36.9**	**+2.5**
KAB				Smax				19 59 50.3	
	comp=E,2µm,1.3s								
FFNB	**Fofonovo**	**4.54**	**46**	⇓*i*Pn		**Pn**		**19 58 21.5**	**+2.5**
FFNB				*e*				19 58 25.5	
FFNB				*e*				19 58 30.1	
FFNB				⇓*i*Pg		**Pg**		**19 58 32.5**	**-4.7**
FFNB				Pmax				19 58 35.3	
	comp=E,481nm,0.4s								
FFNB				*i* Sg		**Sg**		**19 59 36.0**	**0.0**
FFNB				Smax				19 59 42.5	
	comp=E,835nm,0.9s								
TDJR	**Todzha**	**4.83**	**317**	*e*Sn		**Sn**		**19 59 13.8**	**-5.1**
TDJR				*e*Sg		**Sg**		**19 59 36.5**	**-8.7**
TDJR	**Todzha**	**4.83**	**317**	*e*Pg		**Pb**		**19 58 32.3**	**-2.6**
TRG	**Tyrgan**	**4.86**	**37**	*e*PN		**Pg**		**19 58 38.5**	**-4.8**
TRG				*e*				19 59 45.0	
TRG				pmax		pmax			
	comp=Z,48nm,0.2s								
TRG				smax					
	comp=E,499nm,0.3s								
TRG	**Tyrgan**	**4.86**	**37**	*e*Pn		**Pn**		**19 58 25.7**	**+2.3**
TRG				⇓*i*Pg		**Pg**		**19 58 38.6**	**-4.7**
TRG				Pmax				19 58 39.7	
	comp=E,45nm,0.4s								
TRG				*e*Sg		**Sg**		**19 59 45.0**	**-1.3**
TRG				Smax				19 59 50.2	
	comp=E,554nm,1.0s								
UUDB	**Ulan-Yde**	**4.88**	**52**	*e*Pg		**Pg**		**19 58 38.2**	**-5.5**
UUDB				Pmax				19 58 43.0	
	comp=E,128nm,0.9s								
UUDB				*e*Sn		**Sn**		**19 59 21.0**	**+0.9**
UUDB				*e*Sg		**Sg**		**19 59 46.4**	**-0.4**
UUDB				Smax				20 00 01.7	
	comp=E,632nm,1.4s								
ZRHB	**Zarechye**	**5.06**	**43**	*e*Pg		**Pg**		**19 58 43.0**	**-4.1**
ZRHB				Pmax				19 58 48.4	
	comp=E,363nm,1.0s								
ZRHB				*e*Sg		**Sg**		**19 59 53.5**	**+1.0**
ZRHB				Smax				20 00 05.2	
	comp=E,1µm,1.1s								
ZRHB				*e*				20 00 07.2	
OGRR	**Ongureny**	**6.02**	**37**	*e*PN		**Pg**		**19 59 00.3**	**-5.2**
OGRR				*e*				20 00 18.4	
OGRR				pmax		pmax			
	comp=Z,32nm,0.8s								
OGRR				smax					
	comp=E,328nm,1.2s								
OGRR	**Ongureny**	**6.02**	**37**	⇑*i*Pn		**Pn**		**19 58 41.5**	**+2.2**
OGRR				*e*				19 58 45.8	
OGRR				*e*Pg		**Pg**		**19 58 59.1**	**-6.4**
OGRR				Pmax				19 59 06.5	
	comp=E,33nm,1.0s								
OGRR				*e*Sn		**Sn**		**19 59 35.7**	**-13**
OGRR				*e*Sg		**Sg**		**20 00 21.0**	**-2.4**
OGRR				Smax				20 00 36.5	
	comp=E,327nm,1.2s								
MXMB	**Maximikha**	**6.25**	**44**	*e*Pg		**Pg**		**19 59 03.4**	**-6.5**
MXMB				Pmax				19 59 05.9	
	comp=E,83nm,0.6s								
MXMB				*e*Sg		**Sg**		**20 00 29.4**	**-1.4**
MXMB				Smax				20 00 45.7	
	comp=E,561nm,1.0s								
SYVR	**Suvo**	**7.08**	**46**	*e*		**Pn**		**19 58 54.4**	**+0.5**
SYVR				*e*Pg		**Pg**		**19 59 18.8**	**-7.0**
SYVR				*e*				19 59 19.0	
SYVR				max				19 59 20.6	
	comp=E,49nm,1.7s								
SYVR				*e*				20 00 43.1	
SYVR				*e*Sg		**Sg**		**20 00 55.3**	**-2.1**
SYVR				Smax				20 01 19.3	
	comp=E,106nm,1.0s								
KPC	**Khapcheranga**	**7.15**	**80**	*e*Pn		**Pn**		**19 58 54.8**	**0.0**
KPC				*e*				19 59 21.3	
KPC				max				19 59 37.5	
	comp=E,28nm,0.8s								
KPC				*e*				20 00 27.7	
KPC				*e*Sg		**Sg**		**20 00 56.4**	**-3.2**
KPC				Smax				20 01 07.1	
	comp=E,408nm,1.8s								
CIT	**Chita**	**8.26**	**64**	*e*Sg		Sx		20 01 33.7	
CIT				Smax				20 01 49.6	
	comp=E,160nm,1.2s								

NIZ	**Nizh Angarsk**	**8.38**	**33**	*e*PN	**Pn**	**19 59 14.4**	**+2.7**
NIZ				*e*		19 59 43.7	
NIZ				*e*		20 01 35.2	
NIZ				pmax	pmax		
	comp=Z,11nm,1.0s						
NIZ				smax			
	comp=N,232nm,1.7s						
NIZ	**Nizh Angarsk**	**8.38**	**33**	⇓*i*Pn	**Pn**	**19 59 11.2**	**-0.5**
NIZ				*e*		19 59 27.6	
NIZ				*e*Pg	Pn	19 59 43.4	+32
NIZ				Pmax		20 00 06.2	
	comp=N,12nm,1.7s						
NIZ				*e*		20 01 10.4	
NIZ				*e*Sg	Sn	20 01 34.6	+48
NIZ				Smax		20 01 37.5	
	comp=N,233nm,1.6s						
YLYR	**Ulyunkhan**	**8.38**	**42**	⇓*i*Pn	**Pn**	**19 59 14.5**	**+2.8**
YLYR				*e*Pg	Pn	19 59 43.9	+32
YLYR				Pmax		19 59 50.3	
YLYR				*e*Sn	**Sn**	**20 00 46.4**	**+0.1**
YLYR				*e*Sg	Sn	20 01 36.3	+50
YLYR				Smax		20 01 39.8	
	comp=N,67nm,1.8s						
KRAR	**Krasnoyarsk**	**8.77**	**326**	*e*PN	**Pn**	**19 59 17.4**	**+0.4**
KMO	**Kumora**	**9.09**	**37**	*e*Pn	**Pn**	**19 59 23.7**	**+2.3**
KMO				*e*Pg	Pn	19 59 56.0	+35
KMO				Pmax		20 00 05.0	
	comp=N,11nm,0.4s						
KMO				*e*Sg	Sn	20 01 57.1	+53
KMO				Smax		20 02 12.2	
	comp=N,230nm,1.3s						
UKT	**Uakit**	**9.87**	**44**	*e*Pn	**Pn**	**19 59 35.3**	**+3.2**
UKT				*e*Pg	Pn	20 00 10.2	+38
UKT				*e*Sg	Sn	20 02 22.2	+59
UKT				Smax		20 02 47.1	
	comp=N,62nm,1.6s						
NLYR	**Nelyaty**	**11.41**	**44**	*e*	**Pn**	**19 59 54.9**	**+1.8**
NLYR				*e*		20 00 38.7	
NLYR				*e*Sg	Sn	20 03 08.0	+68
NLYR				Smax		20 03 26.9	
	comp=N,106nm,1.9s						
ZALV	**Zalesovo Beam**	**11.51**	**302**	Pg	Px	20 00 38.9	
	comp=N,0.1nm,0.3s,baz=103,slow=13,SNR=4.8						
ZALV				Lg		20 03 08.3	
	comp=N,0.4nm,0.3s,baz=120,slow=21,SNR=11						
BOD	**Bodaibo**	**11.55**	**35**	*e*	Sx	20 03 02.8	
BOD				*e*Sg	Sx	20 03 12.3	
BOD				Smax		20 03 27.2	
	comp=N,75nm,1.6s						
HIA	**Hailar**	**11.96**	**82**	*e*P	**Pn**	**19 59 59.0**	**-1.7**
TUP	**Tupik**	**12.66**	**58**	*e*	Px	19 57 59.7	
TUP				*e*	**Sn**	**20 02 24.9**	**-6.1**
TUP				*e*		20 03 25.5	
TUP				*e*Sg		20 03 47.4	
TUP				Smax		20 04 17.3	
	comp=N,98nm,2.0s						
CRS	**Chara**	**12.82**	**46**	*e*Sg	Sx	20 03 53.4	
MKAR	**Makanchi Array**	**13.07**	**268**	Pg	Px	20 01 07.0	
	comp=N,0.1nm,0.3s,baz=77,slow=14,SNR=4.1						
MKAR				Lg		20 03 52.4	
	comp=N,0.2nm,0.3s,baz=69,slow=20,SNR=5.9						
KURK	**Kurchatov**	**14.84**	**285**	Pn	**Pn**	**20 00 38.8**	**-1.2**
	comp=N,0.0nm,0.3s,baz=82,slow=14,SNR=3.8						
KURK				Lg		20 04 52.7	
	comp=N,0.1nm,0.3s,baz=83,slow=36,SNR=6.0						
KURK	**Kurchatov**	**14.84**	**285**	Pn	**Pn**	**20 00 38.8**	**-1.2**
KURK				Lg		20 04 52.7	
BVAR	**Borovoye Array**	**19.89**	**293**	P	**Pn**	**20 01 42.5**	**-0.7**
	comp=N,0.1nm,0.3s,baz=82,slow=10,SNR=4.7						
KBL	**Kabul**	**27.93**	**251**	P	**P**	**20 02 57.8**	**-2.8**
KBL				pmax	pmax		
	comp=Z,20nm,0.4s,mb5.1						
KBL	**Kabul**	**27.93**	**251**	P	**P**	**20 02 57.8**	**-2.7**
	comp=Z,1.7nm,0.4s,mb4.0						
NOA	**NORSAR Array B**	**49.02**	**320**	P	**P**	**20 05 58.2**	**+1.5**
	comp=Z,1.0nm,0.7s,mb4.0,baz=60,slow=7.7,SNR=2.8						
NOA	**NORSAR Array B**	**49.02**	**320**	P	**P**	**20 05 58.2**	**+1.5**
NOA				pmax	pmax		
	comp=Z,10.0nm,0.7s						

*ISCJB **23** 20:16:24.6±0.4, 3191N±006×13827E±008, h379km±4km, mb3.8/22, Error ellipse: s-maj=11.7km s-min=7.6km az=150.4*
*JMA **23** 20:16:25.9±0.5, 3196N×13825E, h377km±5km, M3.7*
*IDC **23** 20:16:26.0±0.7, 3197N×13803E, h366km±9km, mb3.1/10, mb1 3.2/12, mb1mx3.1/23, mbtmp3.1/12, Error ellipse: s-maj=20.4km s-min=12.8km az=70.0*
*NEIC **23** 20:16:26.1±0.8, 3199N×13807E, h368km±8km, mb4.3/12, Error ellipse: s-maj=11.9km s-min=11.4km az=215.0*
ISC 23 20:16:25.9±0.5, 3200N±007×13829E±009, h377km±5km, n44, σ0s76/50, mb3.8/22, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ	**Hachijo jima 2**	**1.68**	**48**	P	**Pn**	**20 17 16.9**	**-0.7**
	35nm,0.3s,baz=300,slow=20,SNR=17						
JHJ				S	**S**	**20 18 00.2**	**+1.0**
	56nm,0.3s,baz=232,slow=19,SNR=6.3						
JHJ2	**Mitsune**	**1.70**	**49**	P	**Pn**	**20 17 18.5**	**+0.8**
JHJ2				*e*S	**S**	**20 17 58.9**	**-0.6**
JWZ	**Kozaga**	**2.65**	**306**	P	**Pn**	**20 17 24.4**	**+0.1**
JIE	**Ise**	**2.73**	**331**	P	**Pn**	**20 17 25.6**	**+0.7**
JIE				*e*S	**S**	**20 18 12.2**	**-0.3**
JKN2	**Miekihoku**	**2.80**	**323**	P	**Pn**	**20 17 25.9**	**+0.4**
HMMJ	**Hamamatsu 2**	**2.89**	**351**	P	**Pn**	**20 17 27.3**	**+1.1**
JWY	**Kouya**	**3.16**	**315**	P	**Pn**	**20 17 29.4**	**+0.8**
JOD2	**Odawara 2**	**3.32**	**11**	P	**Pn**	**20 17 31.2**	**+1.3**
BSO4	**Boso 4**	**3.44**	**29**	P	**Pn**	**20 17 30.7**	**-0.3**
BSO4				*e*S	**S**	**20 18 22.4**	**-1.3**
JAI	**Aioi**	**3.69**	**300**	P	**Pn**	**20 17 33.5**	**+0.1**
MJAR	**Matsushiro Arr**	**4.53**	**359**	P	**Pn**	**20 17 41.2**	**-0.5**
	2.4nm,0.3s,baz=170,slow=11,SNR=22						
MJAR				S	**S**	**20 18 43.6**	**+0.5**
	0.9nm,0.3s,baz=175,slow=16,SNR=4.6						
MAJO	**Matsushiro**	**4.53**	**359**	*e*Pn	**Pn**	**20 17 41.2**	**-0.4**
MAT	**Matsushiro**	**4.53**	**359**	P	**Pn**	**20 17 41.7**	**0.0**
MAT				S	**S**	**20 18 41.9**	**-1.2**
CBIJ	**Chichi jima**	**5.95**	**144**	P	**Pn**	**20 17 55.0**	**-2.1**
	15nm,0.3s,baz=315,slow=19,SNR=20						
CBIJ				S	**S**	**20 19 05.8**	**-5.5**
	30nm,0.3s,baz=287,slow=20,SNR=21						
KSRS	**Korea Array**	**10.12**	**305**	P	**Pn**	**20 18 45.3**	**+0.2**
	0.4nm,0.3s,baz=114,slow=12,SNR=7.6						
INCN	**Inchon**	**11.04**	**303**	*e*P	**Pn**	**20 18 55.4**	**-0.5**
ASAJ	**Asahikawa**	**12.56**	**14**	P	**P**	**20 19 16.7**	**+4.3**
	0.3nm,0.3s,baz=207,slow=16,SNR=3.3						
PETK	**Petropavlovsk-**	**25.33**	**28**	P	**P**	**20 21 22.9**	**+3.1**
	4.3nm,1.0s,mb3.6,baz=233,slow=14,SNR=2.9						
ULN	**Ulaanbaatar**	**28.47**	**313**	*e*P	**P**	**20 21 48.1**	**+0.5**
	2.0nm,0.5s,mb3.6						
SONM	**Songino Array**	**28.87**	**312**	P	**P**	**20 21 51.8**	**+0.6**
	0.7nm,0.5s,mb3.2,baz=117,slow=7.5,SNR=5.0						
CMAR	**Chiang Mai Arr**	**37.85**	**259**	P	**P**	**20 23 07.6**	**-0.7**
	0.6nm,0.6s,mb3.0,baz=51,slow=6.8,SNR=8.0						
LSA	**Lhasa**	**40.29**	**279**	P	**P**	**20 23 27.8**	**-0.3**
ZALV	**Zalesovo Beam**	**43.59**	**316**	P	**P**	**20 23 52.4**	**-1.7**
	0.5nm,0.4s,mb3.0,baz=106,slow=4.7,SNR=4.1						
TAPN	**Taplejung**	**43.87**	**277**	*e*P	**P**	**20 23 57.0**	**+0.2**
	8.3nm,0.4s,mb4.2						
ODAN	**Odare**	**44.30**	**277**	*e*P	**P**	**20 24 00.0**	**-0.2**
	16nm,0.5s,mb4.5						
MKAR	**Makanchi Array**	**44.80**	**306**	P	**P**	**20 24 03.5**	**-0.2**
	1.2nm,0.6s,mb3.2,baz=89,slow=9.5,SNR=14						
MKAR				ScP	ScP	20 28 54.5	+0.6
	0.4nm,0.7s,baz=98,slow=5.1,SNR=4.6						
RAMN	**Ramite**	**44.94**	**277**	*e*P	**P**	**20 24 04.9**	**-0.2**
	25nm,0.7s,mb4.5						
JIRN	**Jiri**	**45.05**	**279**	*e*P	**P**	**20 24 06.6**	**+0.6**
	33nm,0.5s,mb4.7						
GUN	**Gumba**	**45.23**	**279**	*e*P	**P**	**20 24 08.0**	**+0.6**
	21nm,0.6s,mb4.5						
PKI	**Pulchoki**	**45.74**	**279**	*e*P	**P**	**20 24 11.0**	**-0.3**
PKIN	**Phulchoki**	**45.75**	**279**	*e*P	**P**	**20 24 11.0**	**-0.4**
	3.4nm,0.6s,mb3.7						
KKN	**Kakani**	**45.77**	**279**	*e*P	**P**	**20 24 11.6**	**0.0**
	17nm,0.9s,mb4.2						
DMN	**Daman**	**45.98**	**279**	*e*P	**P**	**20 24 13.1**	**-0.1**
GKN	**Gorkha**	**46.25**	**280**	*e*P	**P**	**20 24 14.9**	**-0.3**
	12nm,0.8s,mb4.1						
DANN	**Dangsing**	**46.87**	**280**	*e*P	**P**	**20 24 20.1**	**+0.1**
	7.3nm,0.4s,mb4.3						
KURK	**Kurchatov**	**47.17**	**312**	P	**P**	**20 24 22.1**	**+0.1**
	0.4nm,0.3s,mb3.2,baz=93,slow=7.4,SNR=3.5						
KOLN	**Koldanda**	**47.19**	**280**	*e*P	**P**	**20 24 22.2**	**-0.3**
	7.6nm,0.9s,mb3.9						
BVAR	**Borovoye Array**	**52.17**	**315**	P	**P**	**20 24 59.1**	**0.0**
	0.8nm,0.5s,mb3.3,baz=100,slow=7.2,SNR=11						
ASAR	**Alice Springs**	**55.51**	**185**	P	**P**	**20 25 24.5**	**+1.2**
	0.3nm,0.6s,mb2.8,baz=3.5,slow=9.0,SNR=8.7						
MDRS	**Chennai**	**56.17**	**264**	*ex*	x	20 25 45.2	
MDRS				*ex*	x	20 40 22.2	
MDRS				*ex*	x	20 40 56.2	
MDRS				*ex*	x	20 42 24.2	
MDRS				*ex*	x	20 44 46.2	
MDRS				*ex*	x	20 48 07.2	
KBL	**Kabul**	**56.90**	**293**	P	**P**	**20 25 31.7**	**-1.3**
	2.3nm,0.8s,mb3.6						
STKA	**Stephens Creek**	**63.61**	**177**	P	**P**	**20 26 18.6**	**+0.8**
	2.3nm,0.8s,mb3.8,baz=333,slow=6.8,SNR=4.1						
STKA	**Stephens Creek**	**63.61**	**177**	*e*P	**P**	**20 26 18.6**	**+0.8**
	3.0nm,0.9s,mb3.9						
AKASG	**Malin Array Be**	**76.67**	**322**	P	**P**	**20 27 36.2**	**+0.1**
	1.0nm,0.6s,mb3.7,baz=47,slow=7.5,SNR=3.1						

*DJA **23** 20:23:06, 10.14N×148.72E, h10km, mb5.0/7*
*IDC **23** 20:23:19.0±0.6, 1038N×14586E, h0km, mb4.6/17, mb1 4.7/18, mb1mx4.6/24, mbtmp4.6/18, ML4.6/1, Error ellipse: s-maj=22.9km s-min=12.3km az=86.0*
*BJI **23** 20:23:18.6, 1044N×14598E, h11km, mB5.2, mb4.7, Ms5.1, Msz4.8*
*ISCJB **23** 20:23:19.5±0.3, 1036N±004×14585E±007, h16km, mb4.8/63, MS4.9/5, Error ellipse: s-maj=9.8km s-min=5.8km az=171.7*
*NEIC **23** 20:23:20.3±0.3, 1038N×14586E, h10km, mb5.0/30, Error ellipse: s-maj=9.6km s-min=5.8km az=82.0*
*MOS **23** 20:23:21.8±1.1, 1042N×14586E, h33km, mb5.0/17, Error ellipse: s-maj=14.3km s-min=7.7km az=110.9*
ISC 23 20:23:22.7±0.3, 1036N±004×14590E±007, h25km, h25km±1.6km: pP-P, n116, σ0s90/111, mb4.8/63, MS4.9/5, 3C-2D, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**3.37**	**343**	Pn	**Pn**	**20 24 11.0**	**-2.7**
	55nm,0.3s,baz=173,slow=9.5,SNR=28						
GUMO				Sn	**Sn**	**20 24 48.5**	**-4.4**
	112nm,0.3s,baz=180,slow=20,SNR=5.3						
GUMO	**Guam**	**3.37**	**343**	*e*Pn	**Pn**	**20 24 10.6**	**-3.2**
PMG	**Port Moresby**	**19.68**	**176**	P	**Pn**	**20 27 47.4**	**-4.2**
PMG				pmax	pmax		
	comp=Z,16nm,0.7s						
PMG	**Port Moresby**	**19.68**	**176**	P	**Pn**	**20 27 47.4**	**-4.2**
	comp=Z,16nm,0.7s						
HNR	**Honiara**	**24.12**	**144**	*e*P	**P**	**20 28 30.5**	**-6.3**
KAKA	**Kakadu**	**26.54**	**211**	*e*P	**P**	**20 28 53.0**	**-5.7**
	comp=Z,13nm,0.9s,mb4.5						
KAKA				*e*		20 29 02.7	
MJAR	**Matsushiro Arr**	**26.98**	**346**	P	**P**	**20 29 00.9**	**-1.6**
	comp=Z,4.4nm,0.7s,mb4.1,baz=167,slow=10,SNR=13						
MAJO	**Matsushiro**	**26.98**	**346**	*e*P	**P**	**20 29 00.5**	**-2.0**
MAJO				pmax	pmax		
	comp=Z,13nm,0.7s,mb4.6						
MAJO	**Matsushiro**	**26.98**	**346**	*e*P	**P**	**20 29 00.5**	**-2.1**
	comp=Z,13nm,0.7s,mb4.6						
MAT	**Matsushiro**	**26.98**	**346**	P	**P**	**20 29 01.0**	**-1.5**
BATI	**Baumata**	**30.11**	**228**	P	**P**	**20 29 30.3**	**-0.4**
	comp=Z,31nm,0.9s,mb5.0,baz=86,slow=2.0,SNR=10.0						
KAPI	**Kappang**	**30.19**	**241**	P	**P**	**20 29 28.7**	**-2.8**
	comp=Z,4.1nm,0.6s,mb4.3,baz=76,slow=16,SNR=2.9						
CTA	**Charters Tower**	**30.26**	**179**	*e*P	**P**	**20 29 32.5**	**+0.7**
	comp=Z,7.0nm,0.6s,mb4.6						
CTA				*e*	pP	20 29 40.0	+0.8
CTA	**Charters Tower**	**30.26**	**179**	P	**P**	**20 29 32.3**	**+0.4**
	comp=Z,8.6nm,0.7s,mb4.6,baz=357,slow=7.9,SNR=13						
CTA	**Charters Tower**	**30.26**	**179**	*e*P	**P**	**20 29 32.5**	**+0.7**
CTA				*e*	pP	20 29 40.0	+0.8
CTA				pmax	pmax		
	comp=Z,7.0nm,0.6s						
CTAO	**Charters Tower**	**30.26**	**179**	*e*P	**P**	**20 29 32.1**	**+0.3**
CTAO				pmax	pmax		
	comp=Z,9.0nm,0.7s,mb4.6						
CTAO	**Charters Tower**	**30.26**	**179**	*e*P	**P**	**20 29 32.1**	**+0.2**
	comp=Z,8.8nm,0.7s,mb4.6						
KSRS	**Korea Array**	**31.46**	**332**	P	**P**	**20 29 41.6**	**-0.8**
	comp=Z,11nm,0.9s,mb4.7,baz=142,slow=9.4,SNR=28						
KSRS				PcP	PcP	20 32 37.0	+1.7
	comp=Z,1.3nm,0.7s,baz=132,slow=3.4,SNR=4.9						
WRAB	**Tennant Creek**	**32.18**	**201**	⇓*i*P	**P**	**20 29 48.0**	**-0.8**
NJ2	**Nanjing**	**33.02**	**315**	*e*P	**P**	**20 29 55.3**	**-0.8**
NJ2				AMB	AMB		
	comp=Z,20nm,0.5s,mb5.3						
ASAJ	**Asahikawa**	**33.75**	**356**	P	**P**	**20 30 02.0**	**-0.2**
	comp=Z,13nm,1.0s,mb4.8,baz=210,slow=6.0,SNR=2.8						
WHN	**Wuhan**	**35.54**	**309**	⇑P	**P**	**20 30 18.3**	**+0.3**
ASAR	**Alice Springs**	**35.80**	**199**	P	**P**	**20 30 19.9**	**-0.3**
	comp=Z,2.2nm,0.6s,mb4.3,baz=28,slow=9.2,SNR=36						
ASAR				PcP	PcP	20 32 48.2	+0.5
	comp=Z,1.4nm,0.9s,baz=15,slow=3.8,SNR=4.2						
EIDS	**Eidsvold**	**35.87**	**172**	*e*P	**P**	**20 30 20.2**	**-0.5**
	comp=Z,22nm,0.6s,mb5.3						
MDJ	**Mudanjiang**	**36.92**	**340**	P	**P**	**20 30 29.3**	**-0.2**
MDJ				AP	pP	20 30 32.3	-4.7
MDJ				XP	sP	20 30 33.5	-6.6
MDJ				AMB	AMB		
	comp=Z,12nm,1.1s,mb4.6						
CN2	**Changchun**	**37.75**	**336**	*e*P	**P**	**20 30 36.3**	**-0.3**
CN2				AMB	AMB		
	comp=Z,10.0nm,0.9s,mb4.5						
BJI	**Beijing**	**39.61**	**323**	P	**P**	**20 30 51.5**	**-0.8**
BJI				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.6						
GYA	**Guiyang**	**40.33**	**299**	P	**P**	**20 30 58.5**	**0.0**
GYA				PP	PP	20 32 35.9	+4.3
GYA				SCP	ScP	20 36 51.3	+1.6
GYA				S	**S**	**20 37 07.0**	**+1.9**
GYA				AMB	AMB		
	comp=Z,10.0nm,0.9s,mb4.5						
GYA				AMB	AMB		
	comp=Z,80nm,5.2s						
GYA				LR	LR		
	comp=N,820nm,14.7s,MS5.0						
GYA				LR	LR		
	comp=E,1μm,15.6s,MS5.0						
GYA				LR	LR		
	comp=Z,1μm,15.7s,MS4.8						
MBWA	**Marble Bar**	**40.53**	**219**	*e*P	**P**	**20 30 59.5**	**-0.6**
	comp=Z,8.6nm,0.6s,mb4.6						
ARMA	**Armidale**	**40.91**	**172**	*e*P	**P**	**20 31 06.6**	**+3.5**
XAN	**Xi'an**	**41.22**	**311**	P	**P**	**20 31 05.4**	**-0.3**
XAN				AP	pP	20 31 13.1	-0.1
XAN				AMB	AMB		
	comp=Z,6.0nm,0.8s,mb4.3						
STKA	**Stephens Creek**	**42.20**	**185**	*e*P	**P**	**20 31 12.7**	**-0.9**
	comp=Z,2.8nm,0.4s,mb4.2						
STKA	**Stephens Creek**	**42.20**	**185**	P	**P**	**20 31 12.6**	**-1.1**
	comp=Z,5.0nm,0.8s,mb4.2,baz=0.8,slow=8.4,SNR=10						
STKA	**Stephens Creek**	**42.20**	**185**	*e*P	**P**	**20 31 12.4**	**-1.2**
HHC	**Hu-ho-hao-te**	**42.88**	**321**	*e*P	**P**	**20 31 20.1**	**+0.9**
HHC				AP	pP	20 31 26.9	+0.2
HHC				XP	sP	20 31 30.4	+0.6
HHC				PP	PP	20 33 02.5	+3.5
HHC				PCP	PcP	20 33 14.1	+4.2
HHC				SCP	ScP	20 36 59.9	+0.4
HHC				S	**S**	**20 37 45.3**	**+2.8**
HHC				XS	sS	20 37 55.1	+0.2
HHC				SS	SS	20 40 48.8	-5.6
HHC				SCS	ScS	20 41 17.3	-1.4
HHC				AMB	AMB		
	comp=Z,13nm,1.1s,mb4.6						
HHC				AMB	AMB		
	comp=Z,1μm,7.8s						
HHC				LR	LR		
	comp=N,473nm,15.9s,MS4.9						
HHC				LR	LR		
	comp=E,1μm,15.5s,MS4.9						
HHC				LR	LR		
	comp=Z,615nm,16.7s,MS4.6						
KMI	**Kunming**	**43.45**	**296**	P	**P**	**20 31 25.5**	**+1.5**
KMI				AP	pP	20 31 28.3	-3.3
KMI				AMB	AMB		
	comp=Z,11nm,0.9s,mb4.6						
CD2	**Chengdu**	**44.08**	**304**	*e*P	**P**	**20 31 29.0**	**0.0**
CD2				AP	pP	20 31 38.9	+2.3
CD2				XP	sP	20 31 42.9	+3.3
CD2				PP	PP	20 33 12.9	+0.9
CD2				S	**S**	**20 37 57.0**	**-3.3**
CD2				XS	sS	20 38 13.4	+0.6
CD2				AMB	AMB		
	comp=Z,20nm,0.8s,mb4.9						
CD2				AMB	AMB		
	comp=Z,30nm,5.2s						
CD2				LR	LR		
	comp=E,2μm,15.6s						
CD2				LR	LR		
	comp=Z,2μm,10.8s,MS5.2						
FORT	**Forrest**	**44.35**	**202**	*e*P	**P**	**20 31 31.3**	**+0.2**
	comp=Z,29nm,0.7s,mb5.1						
FORT				*e*	pP	20 31 39.0	+0.4
FORT				*e*		20 31 46.7	
HIA	**Hailar**	**44.48**	**336**	P	**P**	**20 31 31.8**	**-0.1**
HIA				*e*	pP	20 31 39.0	-0.5
HIA				pmax	pmax		
	comp=Z,13nm,0.8s						
HIA	**Hailar**	**44.48**	**336**	P	**P**	**20 31 31.8**	**-0.1**
	comp=Z,13nm,0.8s,mb4.7						
HIA				*e*	pP	20 31 39.0	-0.5
CNB	**Canberra Magne**	**45.54**	**176**	*e*P	**P**	**20 31 41.1**	**+0.6**
CNB				*e*	pP	20 31 48.7	+0.6
LZH	**Lanzhou**	**45.85**	**311**	*e*P	**P**	**20 31 44.0**	**+1.0**
LZH				AP	pP	20 31 46.3	-4.3
LZH				XP	sP	20 31 47.4	-6.3
LZH				PP	PP	20 33 30.0	-0.7
LZH				S	**S**	**20 38 27.4**	**+1.5**
LZH				XS	sS	20 38 34.1	-4.3
LZH				AMB	AMB		
	comp=Z,30nm,1.3s,mb5.1						
LZH				AMB	AMB		
	comp=Z,103nm,5.5s						
LZH				LR	LR		
	comp=N,543nm,14.4s						
LZH				LR	LR		
	comp=Z,902nm,16.4s,MS4.8						
CM31	**Chiang Mai Arr**	**46.08**	**286**	*e*P	**P**	**20 31 45.6**	**+0.5**
	comp=Z,11nm,1.0s,mb4.8						
CMAR	**Chiang Mai Arr**	**46.08**	**286**	P	**P**	**20 31 46.0**	**+0.9**
	comp=Z,11nm,0.8s,mb4.8,baz=85,slow=6.0,SNR=77						
CHTO	**Chiang Mai**	**46.10**	**286**	*e*P	**P**	**20 31 44.6**	**-0.7**
CHTO				pmax	pmax		
	comp=Z,4.0nm,1.1s,mb4.3						
CHTO	**Chiang Mai**	**46.10**	**286**	*e*P	**P**	**20 31 44.6**	**-0.7**
	comp=Z,3.6nm,1.1s,mb4.2						
TOO	**Toolangi**	**47.68**	**180**	*e*P	**P**	**20 31 58.3**	**+1.1**
TOO				*e*	pP	20 32 06.0	+1.2
ULN	**Ulaanbaatar**	**49.60**	**326**	⇑*e*P	**P**	**20 32 11.9**	**0.0**
ULN	**Ulaanbaatar**	**49.60**	**326**	*e*P	**P**	**20 32 12.3**	**+0.3**
	comp=Z,6.5nm,0.8s,mb4.7						
KLBR	**Kellerberrin**	**49.67**	**212**	*e*P	**P**	**20 32 12.0**	**-0.6**
	comp=Z,33nm,1.5s,mb5.1						
SONM	**Songino Array**	**49.95**	**326**	P	**P**	**20 32 14.9**	**+0.4**
	comp=Z,4.1nm,0.6s,mb4.6,baz=139,slow=8.1,SNR=21						
SONM				PcP	PcP	20 33 35.1	+0.6
	comp=Z,2.7nm,0.8s,baz=147,slow=3.3,SNR=4.1						
GTA	**Gaotai**	**50.09**	**313**	*e*P	**P**	**20 32 16.5**	**+0.7**
GTA				AP	pP	20 32 20.9	-2.5
GTA				XP	sP	20 32 24.3	-2.1
GTA				PCP	PcP	20 33 36.9	+1.7
GTA				PP	PP	20 34 13.3	+2.3
GTA				S	**S**	**20 39 28.3**	**+2.6**
GTA				XS	sS	20 39 35.3	-3.1
GTA				AMB	AMB		
	comp=Z,8.0nm,1.3s,mb4.6						
GTA				AMB	AMB		
	comp=Z,345nm,9.0s						
GTA				LR	LR		
	comp=N,809nm,16.8s,MS4.8						
GTA				LR	LR		
	comp=E,348nm,18.6s,MS4.8						
GTA				LR	LR		
	comp=Z,1μm,17.4s,MS5.0						
MUN	**Mundaring**	**50.79**	**213**	*e*P	**P**	**20 32 20.8**	**-0.3**
MUN				*e*	pP	20 32 28.9	+0.1
MUN				*e*		20 32 36.4	
NWAO	**Narrogin (SRO)**	**51.00**	**211**	P	**P**	**20 32 22.1**	**-0.6**
	comp=Z,5.1nm,0.8s,mb4.5,baz=44,slow=11,SNR=4.1						
NWAO	**Narrogin (SRO)**	**51.00**	**211**	P	**P**	**20 32 22.1**	**-0.5**
NWAO				P	pP	20 32 30.6	+0.3
YAK	**Yakutsk**	**52.92**	**350**	*e*P	**P**	**20 32 43.0**	**+6.5**
YAK				pmax	pmax		
	comp=E,5.0nm,1.0s						
YAK				pmax	pmax		
	comp=Z,18nm,0.9s,mb5.0						
YAK				pmax	pmax		
	comp=N,7.0nm,1.2s						
YAK	**Yakutsk**	**52.92**	**350**	*e*P	**P**	**20 32 32.5**	**-4.0**
	comp=N,45nm,1.1s,mb5.3						
ZAK	**Zakamensk**	**53.08**	**327**	*e*P	**P**	**20 32 38.0**	**+0.1**
ZAK				*e*	pP	20 32 46.1	+0.5
ZAK				pmax	pmax		
	comp=Z,9.0nm,1.0s,mb4.7						
BOD	**Bodaibo**	**53.27**	**339**	*e*P	**P**	**20 32 37.3**	**-1.9**
BOD				pmax	pmax		
	comp=Z,6.0nm,1.1s,mb4.4						
TLY	**Talaya**	**53.62**	**329**	*e*P	**P**	**20 32 42.3**	**+0.5**
TLY				pmax	pmax		
	comp=Z,11nm,1.0s,mb4.7						
LSA	**Lhasa**	**54.40**	**299**	P	**P**	**20 32 49.5**	**+1.5**
LSA	**Lhasa**	**54.40**	**299**	*e*P	**P**	**20 32 49.1**	**+1.1**
LSA				pmax	pmax		
	comp=Z,9.0nm,0.7s,mb4.8						
LSA	**Lhasa**	**54.40**	**299**	*e*P	**P**	**20 32 49.1**	**+1.1**
	comp=Z,9.4nm,0.7s,mb4.8						
TAPN	**Taplejung**	**57.12**	**296**	*e*P	**P**	**20 33 08.0**	**+0.5**
	comp

	comp=Z,16nm,0.8s,mb5.1								
BVAR	**Borovoye Array**	**73.08**	**322**	P		**P**	**20 34 50.9**	**+0.1**
	comp=Z,15nm,0.8s,mb5.0,baz=109,slow=6.9,SNR=78								
KBL	**Kabul**	**73.41**	**303**	*e*P		**P**	**20 34 52.7**	**-0.4**
EGAK	**Eagle**	**73.43**	**25**	*e*P		**P**	**20 34 53.6**	**+1.0**
	comp=Z,6.6nm,0.9s,mb4.6								
HYT	**Haines Junctio**	**74.48**	**30**	*e*P		**P**	**20 34 59.8**	**+1.0**
INK	**Inuvik**	**76.95**	**22**	*e*P		**P**	**20 35 13.0**	**+0.2**
ARU	**Arti**	**79.98**	**326**	*d*P		**P**	**20 35 29.9**	**+0.1**
ARU				*e*S		S	20 45 25.4	-6.7
ARU				*e*SS		SS	20 50 38.3	-3.5
ARU				pmax		pmax			
	comp=Z,14nm,1.7s,mb4.6								
YKA	**Yellowknife Ar**	**85.24**	**27**	P		**P**	**20 35 57.1**	**+0.1**
	comp=Z,2.5nm,0.8s,mb4.4,baz=282,slow=5.5,SNR=8.4								
NEW	**Newport**	**86.95**	**42**	*e*P		**P**	**20 36 06.7**	**+0.9**
NEW				*e*		pP	20 36 14.0	+0.1
NEW				pmax		pmax			
	comp=Z,6.0nm,1.2s								
NEW	**Newport**	**86.95**	**42**	*e*P		**P**	**20 36 06.7**	**+0.9**
	comp=Z,6.3nm,1.2s,mb4.7								
NEW				*e*		pP	20 36 14.0	+0.1
BMO	**Blue Mountains**	**87.54**	**45**	*e*P		**P**	**20 36 09.9**	**+1.2**
BMO				pmax		pmax			
	comp=Z,4.0nm,0.9s,mb4.7								
BMO	**Blue Mountains**	**87.54**	**45**	*e*P		**P**	**20 36 09.9**	**+1.2**
	comp=Z,4.0nm,0.9s,mb4.7								
NVAR	**Mina Array Bea**	**88.13**	**51**	P		**P**	**20 36 13.2**	**+1.5**
	comp=Z,3.5nm,0.7s,mb4.7,baz=268,slow=5.3,SNR=24								
KIV	**Kislovodsk**	**92.23**	**315**	*e*P		**P**	**20 36 30.5**	**-0.2**
KIV				pmax		pmax			
	comp=Z,8.0nm,1.0s,mb5.0								
DAU	**Daniels Canyon**	**92.96**	**48**	P		**P**	**20 36 27.5**	**-6.6**
PDAR	**Pinedale Array**	**93.50**	**46**	P		**P**	**20 36 36.6**	**0.0**
	comp=Z,0.5nm,0.8s,mb4.0,baz=266,slow=3.4,SNR=3.4								
VNA2	**Neumayer--Watz**	**117.24**	**190**	*e*PKPdf		PKPdf	20 42 05.5	+0.2
	baz=11,slow=0.5								
VNA2				*e*			20 42 13.6		
VNA3	**Neumayer Olymp**	**117.31**	**189**	*e*PKPdf		PKPdf	20 42 02.5	-2.9
VNA3				*e*			20 42 10.6		
TORD	**Torodi Ar. Bea**	**137.48**	**303**	PKhKP			20 42 32.7		
	comp=Z,0.5nm,1.0s,baz=69,slow=2.1,SNR=4.1								
TORD				PKP		PKPdf	20 42 45.3	-0.1	
	comp=Z,1.4nm,0.8s,baz=40,slow=2.5,SNR=6.9								
TORD				PP		PP	20 45 28.9	-1.8	
	comp=Z,1.0nm,0.9s,baz=44,slow=2.6,SNR=4.6								
LVC	**Limon Verde**	**144.56**	**115**	*e*PKPdf		PKPdf	20 42 58.4	+0.5
LVC				*e*			20 43 06.5		
DBIC	**Dimbokro**	**146.32**	**299**	PKPbc		PKPbc	20 43 02.6	+0.2
	comp=Z,12nm,0.7s,baz=45,slow=4.0,SNR=13								
DBIC	**Dimbokro**	**146.32**	**299**	*e*PKPdf		PKPdf	20 43 02.4	+1.1
DBIC				*e*			20 43 10.4		
KIC	**Kosan Boka**	**146.38**	**298**	*e*PKIKP		PKPdf	20 43 03.0	+1.7
	comp=Z,68nm,0.9s								
LPAZ	**La Paz**	**146.39**	**104**	PKPbc		PKPbc	20 43 03.4	+0.9
	comp=Z,4.9nm,0.7s,baz=311,slow=2.5,SNR=18								
LPAZ	**La Paz**	**146.39**	**104**	*e*PKPdf		PKPdf	20 43 01.9	+0.7
TIC	**Toumodi**	**146.48**	**299**	*e*PKIKP		PKPdf	20 43 03.3	+1.8
	comp=Z,18nm,0.2s								
LIC	**Lamto**	**146.69**	**298**	*e*PKIKP		PKPdf	20 43 03.0	+1.1
	comp=Z,50nm,0.8s								

BJI ***23*** *20:34:30.3, 546N×11925E, h20km, mB5.5, mb5.0, Ms4.8, Msz4.6*

MAN ***23*** *20:34:30, 565N×11905E, h10km, mb5.9, ML4.9, MS5.5*

DJA ***23*** *20:34:34.9±0.3, 6N±4×120E±, h10km, mB5.7/11, Mjma5.4/4, MLv5.7/5, Mw(mB)5.4/11, Mwp4.9/7*

MOS ***23*** *20:34:34.1±1.2, 579N×11937E, h33km, mb5.3/30, Error ellipse: s-maj=12.8km s-min=6.3km az=115.2*

ISCJB ***23*** *20:34:36.6±0.5, 577N±003×11933E±003, h55km±5km, mb5.1/104, MS4.6/17, Error ellipse: s-maj=4.7km s-min=4.5km az=173.8*

GCMT ***23*** *20:34:37.3±0.2, 574N×11921E, h15km±1km, MW5.2/83, Moment Tensor Solution. s45,c72; s83,c141; Duration: 1s0 Moment tensor: Scale 10^16Nm; Mrr2.11±.21; Mθθ3.53±.14; Mϕϕ-5.64±.22; Mrθ4.92±.75; Mrϕ-4.90±.14; Mθϕ-0.83±.54; Best double couple: M0 8.50300×10^16 NP1:ϕs164.00000°, δ60.00000°, λ21.00000°. NP2: ϕs64.00000°, δ72.00000°, λ148.00000°. Principal axes: T 9.0690, Plg35.0000°, Azm21.0000°; N -1.1320, Plg54.0000°, Azm218.0000°; P -7.9370, Plg8.0000°, Azm116.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

NEIC ***23*** *20:34:37.3±1.2, 571N×11932E, h49km±11km, mb5.2/33 Error ellipse: s-maj=8.3km s-min=5.9km az=61.0*

NEIC Felt [IV PIVS] on Tawi-Tawi Island.

IDC ***23*** *20:34:38.6±2.6, 569N×11925E, h60km±24km, mb4.3/15, mb1 4.3/18, mb1mx4.3/21, mbtmp4.4/18, ML4.8/3, MS4.5/9, Ms1 4.6/9, ms1mx4.2/30, Error ellipse: s-maj=19.2km s-min=11.6km az=85.0*

ISC 23 20:34:38.6±0.4, 576N±003×11931E±003, h57km±4km, h8km±4.8km: pP-P, n272, σ1 18/276, mb5.1/104, MS4.6/17, 24C-25D, Sulu Archipelago

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MYLDM	**Lahad Datu**	**0.99**	**235**	⇓P	**Pn**	**20 34 50.6**	**-5.7**
MYLDM	**Lahad Datu**	**0.99**	**235**	P	**Pn**	**20 34 51.6**	**-4.7**
TSM	**Tawau**	**2.04**	**225**	⇓P	**Pn**	**20 35 05.6**	**-4.9**
SDKM	**Sandakan**	**2.11**	**267**	⇑P	**Pn**	**20 35 05.3**	**-6.2**
KDM	**Kudat**	**2.72**	**295**	⇓P	**Pn**	**20 35 16.0**	**-3.9**
KKM	**Kota Kinabalu**	**3.09**	**275**	⇑P	**Pn**	**20 35 21.2**	**-3.7**
KKM	**Kota Kinabalu**	**3.09**	**275**	P	**Pn**	**20 35 20.4**	**-4.5**
BATP	**Bataraza**	**3.37**	**334**	*e*P	**Pn**	**20 35 24.0**	**-4.7**
PPR	**Puerto Princes**	**4.04**	**352**	⇓*i*P	**Pn**	**20 35 38.0**	**+0.1**
PPR				*i*S	**Sn**	**20 36 23.0**	**-0.9**
PAGZ	**Pagadian**	**4.54**	**63**	*e*P	**Pn**	**20 35 45.3**	**+0.5**
PAGZ				*e*S	**Sn**	**20 36 42.3**	**+5.9**
CTBH	**Cotabato--PC H**	**5.12**	**73**	⇑*i*P	**Pn**	**20 35 52.5**	**-0.1**
CTBH				*i*S	**Sn**	**20 36 53.4**	**+3.0**
CUYO	**Cuyo Island**	**5.34**	**18**	*e*P	**Pn**	**20 35 54.1**	**-1.6**
ENPP	**El Nido**	**5.42**	**1**	*e*P	**Pn**	**20 35 54.3**	**-2.5**
GSPH	**General Santos**	**5.62**	**86**	⇓*e*P	**Pn**	**20 36 02.6**	**+3.0**
GUIM	**Jordan**	**5.83**	**34**	*e*P	**Pn**	**20 36 01.6**	**-0.8**
TBP	**Tagbilaran**	**5.97**	**49**	*e*P	**Pn**	**20 36 04.1**	**-0.2**
TBP				*e*S	**Sn**	**20 37 09.5**	**-1.9**
BUKP	**Musuan**	**6.09**	**69**	*e*P	**Pn**	**20 36 08.2**	**+2.2**
BUSP	**Coron**	**6.27**	**8**	*e*P	**Pn**	**20 36 06.5**	**-2.0**
DAV	**Davao City (W)**	**6.36**	**78**	P	**Pn**	**20 36 11.6**	**+1.8**
	69nm,0.3s,baz=270,slow=12,SNR=2.5						
DAV				S	**Sn**	**20 37 38.5**	**+17**
	50nm,0.3s,baz=248,slow=16,SNR=2.4						
DAV				LR	LR	20 38 47.1	
	comp=Z,5μm,18.8s,baz=136,slow=39						
DAV	**Davao City (W)**	**6.36**	**78**	Pn	**Pn**	**20 36 09.4**	**-0.4**
LLP	**Lapu-Lapu**	**6.46**	**45**	⇑*e*P	**Pn**	**20 36 11.1**	**-0.1**
LLP	**Lapu-Lapu**	**6.46**	**45**	*e*S	**Sn**	**20 37 39.7**	**+16**
KALP	**Kalibo**	**6.60**	**27**	⇑*e*P	**Pn**	**20 36 16.0**	**+2.9**
PCI	**Palu**	**6.64**	**175**	⇓*e*P	**Pn**	**20 36 10.0**	**-3.5**
PCI	**Palu**	**6.64**	**175**	P	**Pn**	**20 36 16.0**	**+2.5**
	781nm,1.4s,6μm2.3nm						
RCP	**Roxas**	**6.69**	**30**	⇑*e*P	**Pn**	**20 36 14.9**	**+0.6**
BTM	**Bintulu**	**6.71**	**248**	⇓P	**Pn**	**20 36 09.3**	**-5.2**
SJMP	**San Jose**	**6.90**	**15**	*e*P	**Pn**	**20 36 16.0**	**-1.1**
MNI	**Manado**	**6.98**	**128**	⇓*e*P	**Pn**	**20 36 16.5**	**-1.8**
MNI	**Manado**	**6.98**	**128**	P	**Pn**	**20 36 16.2**	**-2.1**
	270nm,0.9s,4.9nm						
MATI	**Mati**	**7.00**	**80**	*e*P	**Pn**	**20 36 26.0**	**+7.5**
MSLP	**Maasin**	**7.01**	**51**	*e*P	**Pn**	**20 36 19.0**	**+0.4**
BUTP	**Butuan**	**7.03**	**63**	*e*P	**Pn**	**20 36 21.2**	**+2.3**
OTRP	**Odiongan**	**7.09**	**22**	*e*P	**Pn**	**20 36 18.9**	**-0.8**
SCPH	**Surigao**	**7.31**	**56**	⇓*e*P	**Pn**	**20 36 22.5**	**-0.3**
OCLP	**Ormoc**	**7.42**	**45**	*e*P	**Pn**	**20 36 23.9**	**-0.4**
SBUM	**Sibu**	**7.80**	**245**	⇓P	**Pn**	**20 36 24.8**	**-4.6**
SBUM	**Sibu**	**7.80**	**245**	P	**Pn**	**20 36 27.7**	**-1.7**
LUBP	**Lubang**	**7.98**	**7**	*e*P	**Pn**	**20 36 30.5**	**-1.4**
AUQP	**San Andres**	**8.22**	**24**	*e*P	**Pn**	**20 36 38.4**	**+3.2**
GQP	**Guinayangan**	**8.67**	**21**	⇓*e*P	**Pn**	**20 36 41.7**	**+0.4**
PVCP	**Virac**	**9.13**	**31**	*e*P	**Pn**	**20 36 46.2**	**-1.5**
TNTI	**Ternate**	**9.44**	**121**	P	**Pn**	**20 36 51.8**	**-0.2**
	154nm,0.9s,2μm						
PLKI	**Palangkaraya**	**9.57**	**214**	P	**Pn**	**20 37 00.4**	**+6.7**
	136nm,1.2s						
STKI	**Sintang**	**9.65**	**234**	P	**Pn**	**20 37 04.1**	**+9.3**
	32nm,0.9s,9μm						
KSM	**Kuching**	**9.94**	**245**	⇓P	**Pn**	**20 37 01.2**	**+2.4**
SCZP	**Santa Cruz**	**9.97**	**3**	*e*P	**Pn**	**20 36 59.0**	**-0.3**
BALP	**Baler**	**10.17**	**12**	*e*P	**Pn**	**20 37 05.0**	**+3.1**
BBKI	**Banjar Baru**	**10.19**	**206**	P	**Pn**	**20 37 08.5**	**+6.3**
	111nm,1.6s,2μm						
KDI	**Kendari**	**10.20**	**161**	⇓*e*P	**Pn**	**20 37 03.3**	**+1.0**
KDI				*e*S	**Sn**	**20 39 06.8**	**+12**
KDI	**Kendari**	**10.20**	**161**	P	**Pn**	**20 37 05.3**	**+3.0**
	65nm,1.4s,2μm						
LBMI	**Labuha**	**10.35**	**128**	P	**Pn**	**20 37 03.3**	**-1.1**
	400nm,1.2s,5μm						
KAPI	**Kappang**	**10.71**	**178**	Pn	**Pn**	**20 37 07.2**	**-2.1**
	513nm,0.9s,SNR=6.2						
KAPI	**Kappang**	**10.71**	**178**	⇑P	**Pn**	**20 37 15.6**	**+6.4**
	SNR=15						
KAPI	**Kappang**	**10.71**	**178**	P	**Pn**	**20 37 07.4**	**-1.9**
	5.2nm,0.3s,baz=344,slow=12,SNR=16						
KAPI				LR	LR	20 41 45.1	
	comp=Z,2μm,19.4s,baz=179,slow=40						
KAPI	**Kappang**	**10.71**	**178**	P	**Pn**	**20 37 08.9**	**-0.4**
	122nm,1.3s,1μm						
MKS	**Makassar**	**10.90**	**179**	⇓*e*P	**Pn**	**20 37 22.4**	**+10**
CAUP	**Cauayan**	**11.39**	**12**	*e*P	**Pn**	**20 37 20.3**	**+1.7**
ABRA	**Dolores**	**11.90**	**6**	*e*P	**Pn**	**20 37 27.1**	**+1.6**
KMMI	**Kalianget**	**13.79**	**203**	P	**Pn**	**20 37 58.7**	**+7.3**
	78nm,1.5s						
TPI	**Tanjungpandan**	**14.39**	**234**	P	**Pn**	**20 38 09.7**	**+10**
	49nm,1.1s						
KHKI	**Kahang-Kahang**	**14.50**	**195**	P	**Pn**	**20 38 08.0**	**+7.2**
PPBI	**Pangkal Pinang**	**15.33**	**239**	P	**Pn**	**20 38 16.9**	**+5.4**
	57nm,1.3s						
SJI	**Sawahan**	**15.37**	**209**	P	**Pn**	**20 38 17.6**	**+5.6**
MYKOM	**Kota Tinggi**	**15.92**	**256**	⇓P	**Pn**	**20 38 24.2**	**+5.1**
MYKOM	**Kota Tinggi**	**15.92**	**256**	P	**Pn**	**20 38 27.1**	**+8.0**
QIZ	**Qiongzhong**	**16.10**	**326**	P	**Pn**	**20 38 19.4**	**-1.9**
QIZ				S	**S**	**20 41 20.1**	**-10**
QIZ				LR	LR		
	comp=N,1μm,15.1s						
QIZ				LR	LR		
	comp=E,2μm,15.7s						
QIZ				LR	LR		
	comp=Z,2μm,17.4s						
KTGM	**Kuala Trenggan**	**16.11**	**269**	⇑P	**Pn**	**20 38 25.8**	**+4.3**
BJII	**Banjamegara**	**16.15**	**217**	P	**Pn**	**20 38 27.1**	**+5.1**
KGM	**Kluang**	**16.38**	**258**	⇑P	**Pn**	**20 38 27.1**	**+2.2**
BATI	**Baumata**	**16.44**	**165**	P	**Pn**	**20 38 25.8**	**+0.2**
	comp=Z,1.6nm,0.3s,baz=328,slow=9.5,SNR=9.3						
BATI				LR	LR	20 44 59.8	
	comp=Z,2μm,20.6s,baz=353,slow=38						
BATI	**Baumata**	**16.44**	**165**	P	**Pn**	**20 38 31.1**	**+5.5**
	comp=Z,58nm,1.4s						
LEM	**Lembang**	**17.10**	**223**	P	**Pn**	**20 38 41.3**	**+7.4**
	comp=Z,76nm,1.1s						
CBJI	**Citeko**	**17.35**	**226**	P	**Pn**	**20 38 45.2**	**+8.3**
	comp=Z,179nm,1.5s						
DBJI	**Dramaga**	**17.51**	**226**	P	**Pn**	**20 38 44.3**	**+5.3**
	comp=Z,121nm,1.9s						
FRIM	**Kepong**	**17.81**	**263**	⇓P	**Pn**	**20 38 45.3**	**+2.7**
IPM	**Ipoh**	**18.26**	**267**	⇑P	**Pn**	**20 38 49.3**	**+1.2**
KULM	**Kulim**	**18.58**	**269**	⇑P	**Pn**	**20 38 48.9**	**-3.1**
QZH	**Quanzhou**	**19.09**	**358**	P	**Pn**	**20 38 59.3**	**+1.3**
QZH				S	**S**	**20 42 30.1**	**-0.2**
QZH				LR	LR		
	comp=N,2μm,13.2s						
QZH				LR	LR		
	comp=E,2μm,10.6s						
QZH				LR	LR		
	comp=Z,3μm,22.9s						
KSI	**Kapahiang**	**19.13**	**241**	P	**Pn**	**20 39 05.5**	**+6.9**
	comp=Z,108nm,1.5s						
KKTK	**Khon Kaen**	**19.28**	**304**	P	**Pn**	**20 39 02.0**	**+1.7**
PPI	**Padang Panjang**	**19.87**	**253**	P	**Pn**	**20 39 08.9**	**+1.6**
	comp=Z,53nm,1.1s						
PDSI	**Padang**	**19.95**	**251**	P	**Pn**	**20 39 10.0**	**+1.7**
	comp=Z,99nm,1.1s						
PSI	**Prapat**	**20.54**	**263**	⇓*e*P	**P**	**20 39 10.0**	**-2.6**
TSI	**Tuntungan**	**20.80**	**265**	P	**P**	**20 39 22.7**	**+7.3**
	comp=Z,134nm,1.2s						
XMIS	**Christmas Isla**	**21.10**	**220**	P	**P**	**20 39 25.8**	**+7.2**
	comp=Z,119nm,1.7s,mb4.9						
XMIS	**Christmas Isla**	**21.10**	**220**	*e*P	**P**	**20 39 18.7**	**+0.2**
NST	**Nakhon Sawan**	**21.24**	**299**	P	**P**	**20 39 20.0**	**-0.1**
KAKA	**Kakadu**	**22.51**	**145**	*e*P	**P**	**20 39 26.4**	**-7.2**
	comp=Z,21nm,0.7s,mb4.7						
KAKA	**Kakadu**	**22.51**	**145**	P	**P**	**20 39 27.7**	**-5.9**
	comp=Z,62nm,0.7s,comp=Z,393nm,mb5.1						
JOW	**Kunigami**	**22.64**	**21**	P	**P**	**20 39 35.9**	**+1.1**
	comp=Z,54nm,1.0s,mb4.9,baz=223,slow=7.2,SNR=3.8						
JOW				LR	LR	20 48 03.7	
	comp=Z,890nm,21.0s,MS4.2,baz=189,slow=35						
BDT	**Bhumibol Dam**	**22.91**	**302**	P	**P**	**20 39 37.0**	**-0.9**
	comp=Z,24nm,1.1s,mb4.5						
CM31	**Chiang Mai Arr**	**23.54**	**304**	*e*P	**P**	**20 39 43.2**	**-0.8**
CMAR	**Chiang Mai Arr**	**23.54**	**304**	P	**P**	**20 39 43.4**	**-0.6**
	comp=Z,2.6nm,0.8s,baz=135,slow=8.2,SNR=20						
CMAR				LR	LR	20 48 52.1	
	comp=Z,2μm,20.3s,MS4.5,baz=258,slow=36						
CHRT	**Chiangrai**	**23.61**	**308**	⇑P	**P**	**20 39 45.5**	**+0.9**
	comp=Z,290nm,1.1s,mb5.6						
CHG	**Chiang Mai**	**23.72**	**305**	⇓P	**P**	**20 39 46.7**	**+1.1**
	comp=Z,51nm,1.2s,mb4.8						
CHTO	**Chiang Mai**	**23.72**	**305**	P	**P**	**20 39 46.1**	**+0.5**
	SNR=22						
CHTO	**Chiang Mai**	**23.72**	**305**	*e*P	**P**	**20 39 44.4**	**-1.2**
CHTO				pmax	pmax		
	comp=Z,172nm,1.7s,mb5.2						
CHTO	**Chiang Mai**	**23.72**	**305**	P	**P**	**20 39 45.4**	**-0.2**
	comp=Z,56nm,1.9s,comp=Z,1μm,mb4.7						
CHTO	**Chiang Mai**	**23.72**	**305**	*e*P	**P**	**20 39 44.4**	**-1.2**
	comp=Z,172nm,1.7s,mb5.2						
GYA	**Guiyang**	**23.87**	**331**	P	**P**	**20 39 46.3**	**-0.6**
GYA				PP		20 40 20.8	
GYA				PCP	PcP	20 43 31.3	+2.6
GYA				S	**S**	**20 44 01.8**	**+2.7**
GYA				SCP	ScP	20 47 08.3	+5.8
GYA				AMB	AMB		
	comp=Z,20nm,0.9s,mb4.5						
GYA				AMB	AMB		
	comp=Z,140nm,4.8s						
GYA				LR	LR		
	comp=N,3μm,12.7s,MS5.0						
GYA				LR	LR		
	comp=E,2μm,14.6s,MS5.0						
GYA				LR	LR		
	comp=Z,3μm,15.7s,MS4.9						
KMI	**Kunming**	**24.96**	**322**	P	**P**	**20 39 57.6**	**+0.7**
KMI				AP		20 40 00.8	
KMI				PP		20 40 37.5	
KMI				S	**S**	**20 44 19.5**	**+2.8**
KMI				AMB	AMB		
	comp=Z,20nm,1.5s,mb4.4						
NJ2	**Nanjing**	**26.16**	**359**	*e*P	**P**	**20 40 09.3**	**+1.6**
NJ2				AP	pP	20 40 13.3	-8.4
NJ2				XP	sP	20 40 16.5	-12
NJ2				PP		20 40 51.8	
NJ2				S	**S**	**20 44 38.5**	**+2.9**
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.5						
NJ2				AMB	AMB		
	comp=Z,380nm,4.7s						
NJ2				LR	LR		
	comp=N,400nm,17.4s,MS4.4						
NJ2				LR	LR		
	comp=E,780nm,16.8s,MS4.4						
NJ2				LR	LR		
	comp=Z,780nm,16.8s,MS4.3						
MBWA	**Marble Bar**	**26.75**	**179**	*e*P	**P**	**20 40 11.6**	**-1.5**
	comp=Z,8.6nm,0.7s,mb4.4						
CD2	**Chengdu**	**28.98**	**332**	*e*P	**P**	**20 40 32.3**	**-0.6**
CD2				AP	pP	20 40 36.5	-11
CD2				XP	sP	20 40 39.8	-14
CD2				PP	PP	20 41 27.0	-12
CD2				PCP	PcP	20 43 40.8	+0.2
CD2				S	**S**	**20 45 21.8**	**+1.9**
CD2				SS	SS	20 46 50.1	-35
CD2				SCS	ScS	20 51 12.3	+0.9
CD2				AMB	AMB		
	comp=Z,20nm,0.7s,mb5.0						
CD2				LR	LR		
	comp=N,1μm,13.2s,MS4.7						
CD2				LR	LR		
	comp=E,1μm,15.6s,MS4.7						
CD2				LR	LR		
	comp=Z,1μm,16.8s,MS4.6						
WRAB	**Tennant Creek**	**29.50**	**150**	P	**P**	**20 40 36.8**	**-0.8**
	comp=Z,67nm,0.8s,mb5.4,SNR=5.8						
WRAB	**Tennant Creek**	**29.50**	**150**	⇑*i*P	**P**	**20 40 35.4**	**-2.2**
WRAB	**Tennant Creek**	**29.50**	**150**	P	**P**	**20 40 36.9**	**-0.7**
	comp=Z,20nm,1.8s,mb4.6						
CBIJ	**Chichi jima**	**30.41**	**43**	P	**P**	**20 40 45.5**	**-0.1**
	comp=Z,60nm,0.7s,mb5.4,baz=207,slow=4.5,SNR=3.1						
PMG	**Port Moresby**	**31.58**	**118**	⇑*e*P	**P**	**20 40 54.7**	**-1.3**
PMG	**Port Moresby**	**31.58**	**118**	*e*P	**P**	**20 40 52.4**	**-3.7**
	comp=Z,18nm,0.9s,mb4.9						
KSRS	**Korea Array**	**32.52**	**13**	P	**P**	**20 41 05.3**	**+1.3**
	comp=Z,7.8nm,0.8s,mb4.7,baz=198,slow=9.8,SNR=22						
KSRS				LR	LR	20 56 05.1	
	comp=Z,714nm,18.5s,MS4.4,baz=43,slow=40						
ASAR	**Alice Springs**	**32.53**	**155**	P	**P**	**20 41 02.7**	**-1.5**
	comp=Z,3.0nm,0.7s,mb4.3,baz=346,slow=13,SNR=46						
ASAR				PcP	PcP	20 43 50.0	0.0
	comp=Z,1.6nm,0.8s,baz=340,slow=2.5,SNR=5.0						
LZH	**Lanzhou**	**33.36**	**337**	*e*P	**P**	**20 41 11.8**	**+0.4**
LZH				AP	pP	20 41 15.8	-10
LZH				XP	sP	20 41 18.0	-14
LZH				PP	PP	20 42 24.4	-3.4
LZH				*e*S	**S**	**20 46 34.5**	**+6.1**
LZH				AMB	AMB		
	comp=Z,25nm,1.0s,mb5.1						
LZH				AMB	AMB		
	comp=Z,297nm,6.8s						
LZH				LR	LR		
	comp=E,950nm,14.9s						
LZH				LR	LR		
	comp=Z,1μm,15.7s,MS4.7						
BJT	**Baijiatuau**	**34.23**	**356**	*e*P	**P**	**20 41 20.0**	**+1.1**
BJT				pmax	pmax		
	comp=Z,61nm,0.7s						
BJT	**Baijiatuau**	**34.23**	**356**	*e*P	**P**	**20 41 20.0**	**+1.2**
	comp=Z,61nm,0.7s,mb5.6						
BJI	**Beijing**	**34.25**	**356**	P	**P**	**20 41 19.8**	**+0.7**
BJI				S	**S**	**20 46 43.6**	**+1.6**
BJI				AMB	AMB		
	comp=Z,111nm,0.6s,mb6.0						
BJI				AMB	AMB		
	comp=Z,629nm,6.3s						
BJI				LR	LR		
	comp=N,569nm,22.0s,MS4.7						
BJI				LR	LR		
	comp=E,1μm,19.2s,MS4.7						
BJI				LR	LR		
	comp=Z,970nm,20.6s,MS4.5						
MAJO	**Matsushiro**	**35.20**	**27**	*e*P	**P**	**20 41 25.3**	**-2.0**
MAJO				pmax	pmax		
	comp=Z,65nm,1.8s,mb5.3						
MAJO	**Matsushiro**	**35.20**	**27**	*e*P	**P**	**20 41 25.3**	**-2.0**
	comp=Z,65nm,1.8s,mb5.3						
MAT	**Matsushiro**	**35.20**	**27**	P	**P**	**20 41 26.4**	**-0.9**
MJAR	**Matsushiro Arr**	**35.20**	**27**	P	**P**	**20 41 26.4**	**-0.9**
	comp=Z,3.4nm,1.0s,mb4.2,baz=215,slow=7.7,SNR=11						
MJAR				LR	LR	20 54 49.6	
	comp=Z,566nm,19.7s,MS4.3,baz=320,slow=34						
HHC	**Hu-ho-hao-te**	**35.62**	**350**	⇑P	**P**	**20 41 32.0**	**+1.1**
HHC				AP	pP	20 41 36.5	-8.8
HHC				XP	sP	20 41 39.3	-13
HHC				PP	PP	20 42 53.1	+0.4
HHC				PCP	PcP	20 44 00.4	+1.8
HHC				S	**S**	**20 47 10.5**	**+7.4**
HHC				XS	sS	20 47 16.3	-11
HHC				SCP	ScP	20 47 44.4	+4.4
HHC				SS	SS	20 49 29.1	-11
HHC				AMB	AMB		
	comp=Z,27nm,1.3s,mb5.0						
HHC				AMB	AMB		
	comp=N,531nm,8.9s						
HHC				LR	LR		
	comp=N,855nm,16.7s,MS4.8						
HHC				LR	LR		
	comp=E,1μm,14.2s,MS4.8						
HHC				LR	LR		
	comp=Z,1μm,17.3s,MS4.8						
LSA	**Lhasa**	**35.67**	**315**	P	**P**	**20 41 32.3**	**+0.8**
LSA	**Lhasa**	**35.67**	**315**	*e*P	**P**	**20 41 32.0**	**+0.5**
LSA				pmax	pmax		
	comp=Z,56nm,1.4s,mb5.3						
LSA	**Lhasa**	**35.67**	**315**	*e*P	**P**	**20 41 32.0**	**+0.5**
	comp=Z,56nm,1.4s,mb5.3						
BTO	**Baotou**	**35.69**	**348**	*e*P	**P**	**20 41 30.6**	**-0.8**
BOK	**Bokaro**	**36.81**	**303**	*e*P	**P**	**20 41 41.6**	**+0.4**
BOK				AMb	AMB	20 41 49.3	
	comp=Z,27nm,1.4s,mb4.9						
CTA	**Charters Tower**	**36.90**	**135**	*e*P	**P**	**20 41 42.4**	**+0.4**
	comp=Z,4.5nm,1.0s,mb4.2						
CTA	**Charters Tower**	**36.90**	**135**	*e*P	**P**	**20 41 42.4**	**+0.4**
CTA				p

	comp=Z,483nm,0.7s,mb6.3								
HNR	**Honiara**	**43.21**	**110**	*e*P		**P**	**20 42 40.7**	**+6.2**
	comp=Z,483nm,0.7s								
ULN	**Ulaanbaatar**	**43.25**	**348**	⇓P		**P**	**20 42 36.1**	**+1.8**
	SNR=7.4								
ULN	**Ulaanbaatar**	**43.25**	**348**	*e*P		**P**	**20 42 35.1**	**+0.8**
ULN				pmax	pmax				
	comp=Z,16nm,0.9s,mb4.8								
ULN	**Ulaanbaatar**	**43.25**	**348**	P		**P**	**20 42 35.1**	**+0.8**
	comp=Z,26nm,1.2s,comp=Z,737nm,mb4.8								
ULN	**Ulaanbaatar**	**43.25**	**348**	*e*P		**P**	**20 42 35.0**	**+0.8**
	comp=Z,16nm,0.9s,mb4.8								
HIA	**Hailar**	**43.36**	**0**	*i* P		**P**	**20 42 35.8**	**+0.7**
SONM	**Songino Array**	**43.36**	**347**	P		**P**	**20 42 35.8**	**+0.7**
	comp=Z,6.7nm,0.7s,mb4.5,baz=162,slow=8.1,SNR=33								
SONM				LR		LR	21 01 58.8		
	comp=Z,704nm,19.0s,MS4.6,baz=265,slow=38								
AKL	**Akola**	**43.61**	**294**	*e*P		**P**	**20 42 38.5**	**+0.8**
AKL				AMb	AMB	AMB	20 42 40.6		
	comp=Z,48nm,0.7s,mb5.4								
EIDS	**Eidsvold**	**43.71**	**136**	*e*P		**P**	**20 42 37.2**	**-1.2**
	comp=Z,43nm,1.3s,mb5.0								
BHPL	**Bhopal**	**43.91**	**298**	*e*P		**P**	**20 42 40.4**	**+0.4**
BHPL				AMb	AMB	AMB	20 42 43.0		
	comp=Z,19nm,0.5s,mb5.1								
KLR	**Kul'dur**	**44.59**	**12**	*e*P		**P**	**20 42 41.3**	**-3.7**
KLR				pmax	pmax				
	comp=Z,92nm,1.8s,mb5.3								
HABR	**Khabarovsk**	**44.63**	**15**	*e*P		**P**	**20 42 44.1**	**-1.2**
HABR				*e*S		**S**	**20 49 20.1**	**+2.8**
JOSI	**Joshimath**	**44.74**	**308**	*e*P		**P**	**20 42 46.5**	**-0.1**
JOSI				AMb	AMB	AMB	20 42 49.6		
	comp=Z,120nm,1.0s,mb5.7								
AGRA	**Agra**	**44.74**	**303**	*e*P		**P**	**20 42 46.5**	**-0.1**
AGRA				AMb	AMB	AMB	20 42 55.1		
	comp=Z,53nm,0.7s,mb5.5								
KALG	**Kalgarh**	**44.94**	**307**	*ex*		x	20 42 42.2		
KAD	**Karad**	**45.57**	**289**	*e*P		**P**	**20 42 52.7**	**-0.6**
KAD				AMb	AMB	AMB	20 43 02.3		
	comp=Z,46nm,0.9s,mb5.4								
GOA	**Goa**	**45.65**	**286**	*e*P		**P**	**20 42 55.8**	**+1.8**
GOA				AMb	AMB	AMB	20 43 03.5		
	comp=Z,92nm,2.2s,mb5.3								
YSS	**Yuzh-Sakhalins**	**45.74**	**22**	P		**P**	**20 42 54.4**	**+0.2**
SONA	**Sohna**	**45.82**	**304**	*e*P		**P**	**20 42 53.8**	**-1.3**
SONA				AMb	AMB	AMB	20 43 02.7		
	comp=Z,80nm,1.7s,mb5.4								
DDI	**Dehra Dun**	**45.83**	**307**	*ex*		x	20 42 59.0		
AYAN	**Aya Nagar**	**45.87**	**305**	*e*P		**P**	**20 42 54.6**	**-1.0**
AYAN				AMb	AMB	AMB	20 43 02.6		
	comp=Z,59nm,1.0s,mb5.5								
NDI	**New Delhi**	**45.87**	**305**	*ex*		x	20 43 52.0		
POO	**Poona**	**46.08**	**290**	*ex*		x	20 43 01.0		
POO				AMb	AMB	AMB	20 43 07.7		
	comp=Z,29nm,0.7s,mb5.3								
KUDL	**Kundal**	**46.27**	**304**	*e*P		**P**	**20 42 58.4**	**-0.3**
KUDL				AMb	AMB	AMB	20 43 07.3		
	comp=Z,73nm,1.2s,mb5.5								
ZAK	**Zakamensk**	**46.47**	**346**	*e*P		**P**	**20 43 00.0**	**+0.2**
ZAK				pmax	pmax				
	comp=Z,9.0nm,1.3s,mb4.5								
KHET	**Khetri**	**46.81**	**303**	*e*P		**P**	**20 43 03.0**	**+0.1**
SMLA	**Simla**	**46.85**	**308**	⇓*i*P		**P**	**20 43 03.5**	**+0.3**
SMLA				AMb	AMB	AMB	20 43 13.5		
	comp=Z,346nm,1.3s,mb6.1								
WMQ	**Urumqi**	**46.99**	**329**	P		**P**	**20 43 05.4**	**+1.3**
WMQ				AP	pP		20 43 09.9	-9.0	
WMQ				XP	sP		20 43 12.4	-13	
WMQ				PCP	PcP		20 44 37.9	+2.2	
WMQ				PP	PP		20 44 55.9	+0.7	
WMQ				SCP	ScP		20 48 29.9	+5.1	
WMQ				S	**S**		**20 49 55.9**	**+4.4**	
WMQ				XS	sS		20 50 03.3	-13	
WMQ				SCS	ScS		20 52 56.9	+3.5	
WMQ				AMB	AMB				
	comp=Z,26nm,1.2s,mb5.0								
WMQ				AMB	AMB				
	comp=Z,860nm,6.9s								
WMQ				LR	LR				
	comp=N,701nm,25.8s,MS4.6								
WMQ				LR	LR				
	comp=E,305nm,21.1s,MS4.6								
WMQ				LR	LR				
	comp=Z,442nm,21.1s,MS4.4								
AJM	**Ajmer**	**47.28**	**301**	*e*P		**P**	**20 43 05.3**	**-1.2**
AJM				AMb	AMB	AMB	20 43 13.7		
	comp=Z,25nm,1.0s,mb5.1								
ARMA	**Armidale**	**47.45**	**141**	*e*P		**P**	**20 43 10.3**	**+2.5**
TLY	**Talaya**	**47.59**	**347**	*e*P		**P**	**20 43 09.9**	**+1.4**
TLY				pmax	pmax				
	comp=Z,12nm,0.7s,mb5.0								
TLY				MLR	MLR				
	comp=Z,745nm,17.0s,MS4.7								
IRK	**Irkutsk**	**47.98**	**348**	⇑*i*P		**P**	**20 43 11.1**	**-0.4**
IRK				pmax	pmax				
	comp=Z,29nm,1.4s,mb5.1								
CLNS	**Chul'man**	**51.13**	**4**	*e*P		**P**	**20 43 33.8**	**-1.7**
CLNS				pmax	pmax				
	comp=Z,24nm,1.3s,mb5.0								
CLNS				pmax	pmax				
	comp=N,19nm,1.2s								
CLNS				pmax	pmax				
	comp=E,10.0nm,0.9s								
MK31	**Makanchi Array**	**51.81**	**328**	*e*P		**P**	**20 43 41.0**	**+0.2**
MKAR	**Makanchi Array**	**51.81**	**328**	P		**P**	**20 43 41.0**	**+0.2**
	comp=E,6.4nm,0.6s,mb4.7,baz=125,slow=8.9,SNR=100								
MKAR				LR		LR	21 07 53.5		
	comp=E,741nm,18.2s,MS4.8,baz=120,slow=38								
BOD	**Bodaibo**	**52.09**	**356**	*e*P		**P**	**20 43 43.4**	**+0.8**
BOD				pmax	pmax				
	comp=Z,22nm,1.4s,mb4.9								
KBL	**Kabul**	**54.46**	**309**	*e*P		**P**	**20 44 00.2**	**-0.3**
KBL				pmax	pmax				
	comp=Z,107nm,1.3s,mb5.6								
KBL	**Kabul**	**54.46**	**309**	*e*P		**P**	**20 44 00.2**	**-0.2**
	comp=Z,107nm,1.3s,mb5.6								
ZAA0	**Zalesovo Array**	**55.59**	**336**	*e*P		**P**	**20 44 07.7**	**-0.5**
ZALV	**Zalesovo Beam**	**55.59**	**336**	P		**P**	**20 44 07.7**	**-0.6**
	comp=Z,6.2nm,0.6s,mb4.8,baz=128,slow=6.5,SNR=36								
KURK	**Kurchatov**	**56.18**	**330**	P		**P**	**20 44 12.0**	**-0.6**
	comp=Z,102nm,1.1s,mb5.8,SNR=12								
KURK	**Kurchatov**	**56.18**	**330**	⇑P		**P**	**20 44 14.0**	**+1.4**
	SNR=13								
KURK	**Kurchatov**	**56.18**	**330**	⇑*e*P		**P**	**20 44 11.7**	**-0.9**
KURK				pmax	pmax				
	comp=Z,18nm,0.9s,mb5.1								
PETK	**Petropavlovsk-**	**56.65**	**27**	P		**P**	**20 44 17.0**	**+1.2**
	comp=Z,9.6nm,0.7s,mb4.9,baz=206,slow=4.2,SNR=12								
PETK	**Petropavlovsk-**	**56.65**	**27**	P		**P**	**20 44 17.0**	**+1.2**
YAK	**Yakutsk**	**56.68**	**6**	⇓*i*P		**P**	**20 44 16.9**	**+1.0**
YAK				pmax	pmax				
	comp=Z,49nm,1.7s,mb5.3								
YAK	**Yakutsk**	**56.68**	**6**	P		**P**	**20 44 16.4**	**+0.5**
KK31	**Karatay Array**	**56.78**	**319**	*i* P		**P**	**20 44 16.8**	**-0.1**
KK31				pmax	pmax				
	comp=Z,6.0nm,0.6s,mb4.8								
NVS	**Novosibirsk**	**56.88**	**336**	⇑*i*P		**P**	**20 44 16.6**	**-0.8**
NVS				*e*S		**S**	**20 52 06.1**	**-0.7**
NVS				pmax	pmax				
	comp=Z,37nm,1.6s,mb5.2								
NVS				pmax	pmax				
	comp=N,23nm,1.7s								
NVS				pmax	pmax				
	comp=E,29nm,1.7s								
NVS				smax					
	comp=N,10.0nm,1.8s								
NVS				smax					
	comp=E,18nm,1.8s								
VOSK	**Vostochnaya**	**61.22**	**329**	P		**P**	**20 44 47.5**	**0.0**
VOSK				pmax	pmax				
	comp=Z,9.0nm,0.9s,mb4.9								
BVA0	**Borovoye Array**	**61.69**	**329**	*i* P		**P**	**20 44 49.4**	**-1.2**
BVA0				pmax	pmax				
	comp=Z,4.0nm,1.0s,mb4.5								
BRVK	**Borovoye**	**61.76**	**329**	P		**P**	**20 44 51.0**	**-0.1**
	comp=Z,94nm,0.7s,mb6.0,SNR=8.6								
BRVK	**Borovoye**	**61.76**	**329**	⇑P		**P**	**20 44 52.5**	**+1.4**
	SNR=9.1								
AB31	**Akbulak array**	**65.96**	**322**	*i* P		**P**	**20 45 18.3**	**-0.5**
AB31				pmax	pmax				
	comp=Z,10.0nm,0.8s,mb4.9								
TIXI	**Tiksi**	**66.09**	**3**	*e*P		**P**	**20 45 18.5**	**-0.8**
TIXI				pmax	pmax				
	comp=Z,26nm,1.0s,mb5.2								
TIXI	**Tiksi**	**66.09**	**3**	*e*P		**P**	**20 45 18.7**	**-0.6**
	comp=Z,26nm,1.0s,mb5.2								
AKTO	**Aktyubinsk**	**67.53**	**323**	P		**P**	**20 45 28.1**	**-0.7**
AKTO				pmax	pmax				
	comp=Z,4.0nm,1.4s,mb4.3								
SVE	**Sverdlovsk**	**68.43**	**330**	*e*P		**P**	**20 45 34.4**	**+0.1**
SVE				pmax	pmax				
	comp=Z,22nm,0.9s,mb5.2								
ARU	**Arti**	**69.33**	**329**	P		**P**	**20 45 39.5**	**-0.5**
	comp=Z,89nm,0.7s,mb5.8,SNR=5.7								
ARU	**Arti**	**69.33**	**329**	*e*P		**P**	**20 45 39.1**	**-0.9**
ARU				*e*S		S	20 54 45.4	+3.1	
ARU				*e*SS		SS	20 59 18.5	+8.5	
ARU				pmax	pmax				
	comp=Z,16nm,1.0s,mb4.9								
RDF	**Al-Radifah**	**71.28**	**298**	*e*P		**P**	**20 45 50.9**	**-1.5**
	baz=298								
RDF				AMb	AMB		20 46 00.5		
	comp=Z,87nm,1.1s,mb5.6,baz=298								
MIB	**Mutribah**	**71.52**	**299**	*e*P		**P**	**20 45 52.4**	**-1.5**
	baz=299								
MIB				AMb	AMB		20 46 02.9		
	comp=Z,56nm,1.4s,mb5.3,baz=299								
NAY	**Al-Naaiem**	**71.57**	**299**	*e*P		**P**	**20 45 52.8**	**-1.4**
	baz=299								
NAY				AMb	AMB		20 46 03.8		
	comp=Z,35nm,1.4s,mb5.1,baz=299								
RST	**Umm Al-Ruwaisa**	**71.80**	**299**	*e*P		**P**	**20 45 54.0**	**-1.5**
	baz=299								
RST				AMb	AMB		20 46 03.2		
	comp=Z,65nm,1.2s,mb5.4,baz=299								
CASY	**Casey**	**72.14**	**184**	*e*P		**P**	**20 45 55.6**	**-1.1**
GNI	**Garni**	**74.52**	**310**	⇑P		**P**	**20 46 15.1**	**+3.7**
	SNR=5.2								
GNI	**Garni**	**74.52**	**310**	P		**P**	**20 46 12.9**	**+1.5**
GNI				pmax	pmax				
	comp=Z,46nm,1.4s								
GNI	**Garni**	**74.52**	**310**	P		**P**	**20 46 12.9**	**+1.5**
	comp=Z,46nm,1.4s,mb5.2								
KIV	**Kislovodsk**	**76.40**	**314**	*e*P		**P**	**20 46 22.8**	**+0.7**
KIV				pmax	pmax				
	comp=Z,15nm,1.1s,mb4.8								
ANN	**Anapa**	**80.21**	**314**	*e*P		**P**	**20 46 47.9**	**+4.8**
ANN				pmax	pmax				
	comp=Z,29nm,0.9s,mb5.2								
OBN	**Obninsk**	**81.16**	**325**	⇑*e*P		**P**	**20 46 47.3**	**-0.6**
OBN				*e*			20 46 54.1		
OBN				*e*	pP		20 47 04.4	+0.5	
OBN				pmax	pmax				
	comp=Z,14nm,1.3s,mb4.7								
OBN				MLR	MLR				
	comp=Z,400nm,18.0s,MS4.8								
KMBO	**Kilima Mbogo**	**82.21**	**268**	⇓P		**P**	**20 46 58.8**	**+4.4**
	SNR=7.9								
KMBO	**Kilima Mbogo**	**82.21**	**268**	P		**P**	**20 46 54.5**	**+0.1**
	comp=Z,1.6nm,0.8s,mb4.0,baz=29,slow=7.1,SNR=7.1								
KMBO	**Kilima Mbogo**	**82.21**	**268**	*e*P		**P**	**20 46 55.2**	**+0.8**
KMBO				pmax	pmax				
	comp=Z,17nm,1.1s								
KMBO	**Kilima Mbogo**	**82.21**	**268**	*e*P		**P**	**20 46 55.2**	**+0.8**
	comp=Z,16nm,1.1s,mb4.9								
BR131	**Keskin Array S**	**83.03**	**309**	*e*P		**P**	**20 46 58.2**	**+0.1**
	comp=Z,6.7nm,0.9s,mb4.7								
APA	**Apatity**	**83.15**	**337**	⇑*e*P		**P**	**20 47 04.0**	**+5.9**
APA				*i*	pP		20 47 16.6	+2.4	
APA				pmax	pmax				
	comp=Z,18nm,1.1s,mb5.0								
APA				MLR	MLR				
	comp=Z,900nm,18.0s,MS5.2								
MAW	**Mawson**	**83.18**	**199**	*e*P		**P**	**20 47 00.4**	**+2.2**
	comp=Z,3.2nm,0.8s,mb4.4								
MAW	**Mawson**	**83.18**	**199**	P		**P**	**20 47 00.1**	**+1.9**
	comp=Z,3.6nm,1.1s,mb4.3,baz=25,slow=8.0,SNR=4.5								
MAW	**Mawson**	**83.18**	**199**	*e*P		**P**	**20 47 00.0**	**+1.8**
MAW				pmax	pmax				
	comp=Z,6.0nm,0.9s								
MAW	**Mawson**	**83.18**	**199**	*e*P		**P**	**20 46 60.0**	**+1.8**
	comp=Z,6.4nm,0.9s,mb4.7								
IMA2	**Indian Mountai**	**83.56**	**24**	*e*P		**P**	**20 47 01.7**	**+1.4**
JOF	**Joensuu**	**84.00**	**333**	*e*p		**P**	**20 47 01.8**	**-0.8**
	comp=Z,6.5nm,0.8s,mb4.8								
KDAK	**Kodiak Island**	**84.16**	**33**	P		**P**	**20 47 02.9**	**-0.6**
	comp=Z,7.1nm,0.7s,mb4.9,baz=317,slow=6.3,SNR=5.5								
SLKM	**Skilak Lake**	**85.27**	**30**	*e*P		**P**	**20 47 09.2**	**+0.2**
KEV	**Kevo**	**85.44**	**340**	*e*p		**P**	**20 47 09.1**	**-0.6**
	comp=Z,8.8nm,0.7s,mb5.0								
KEV	**Kevo**	**85.44**	**340**	*e*P		**P**	**20 47 09.1**	**-0.6**
KEV				pmax	pmax				
	comp=Z,9.0nm,0.7s,mb5.0								
AKASG	**Malin Array Be**	**85.65**	**320**	P		**P**	**20 47 10.3**	**-0.8**
	comp=Z,0.8nm,0.5s,mb4.2,baz=79,slow=4.1,SNR=7.3								
AKASG	**Malin Array Be**	**85.65**	**320**	P		**P**	**20 47 10.3**	**-0.8**
ARCES	**ARCESS Array B**	**85.98**	**339**	P		**P**	**20 47 12.1**	**-0.3**
	comp=Z,8.4nm,0.6s,mb5.2,baz=86,slow=6.4,SNR=51								
KAF	**Kangasniemi**	**86.37**	**332**	*e*p		**P**	**20 47 13.1**	**-1.3**
	comp=Z,4.7nm,0.9s,mb4.7								
KAF	**Kangasniemi**	**86.37**	**332**	*e*P		**P**	**20 47 13.1**	**-1.3**
KAF				pmax	pmax				
	comp=Z,5.0nm,0.9s,mb4.7								
BURAR	**Bucovina Array**	**88.55**	**318**	⇓*i*P		**P**	**20 47 25.8**	**+0.6**
BUR08	**Bucovina Ar. S**	**88.56**	**318**	*e*P		**P**	**20 47 25.3**	**0.0**
DRGR		**90.36**	**317**	⇓*i*P		**P**	**20 47 41.6**	**+7.9**
BZS	**Buzias**	**91.29**	**316**	⇓*i*P		**P**	**20 47 43.1**	**+5.0**
LSZ	**Lusaka**	**92.57**	**255**	*e*P		**P**	**20 47 48.4**	**+3.8**
LSZ				pmax	pmax				
	comp=Z,9.0nm,1.1s,mb5.1								
LSZ	**Lusaka**	**92.57**	**255**	*e*P		**P**	**20 47 48.4**	**+3.8**
	comp=Z,8.7nm,1.1s,mb5.1								
NOA	**NORSAR Array B**	**93.64**	**332**	P		**P**	**20 47 46.6**	**-2.0**
	comp=Z,0.7nm,0.7s,mb4.2,baz=73,slow=4.6,SNR=2.9								
CLL	**Collm**	**95.61**	**323**	*e*PP		PP	20 51 46.0	-3.4	
QSPA	**South Pole Qui**	**95.65**	**180**	P		**P**	**20 47 60.0**	**+2.6**
	comp=Z,4.8nm,1.1s,mb4.8								
YKA	**Yellowknife Ar**	**100.59**	**22**	P		Pdif	20 48 21.0	+0.9	
	comp=Z,1.5nm,0.8s,baz=306,slow=4.0,SNR=4.1								
PDAR	**Pinedale Array**	**114.49**	**38**	PKP		PKiKP	20 53 11.4	-1.1	
	comp=Z,0.6nm,0.7s,baz=299,slow=1.9,SNR=4.3								
TORD	**Torodi Ar. Bea**	**115.27**	**287**	PKP		PKPdf	20 53 13.6	-1.2	
	comp=Z,1.0nm,0.9s,baz=288,slow=1.3,SNR=6.6								
TORD	**Torodi Ar. Bea**	**115.27**	**287**	PKP		PKPdf	20 53 13.6	-1.2	
DBIC	**Dimbokro**	**122.93**	**282**	PKP		PKPdf	20 53 28.3	-1.3	
	comp=Z,3.2nm,0.9s,baz=97,slow=8.1,SNR=3.3								
DBIC	**Dimbokro**	**122.93**	**282**	PKP		PKPdf	20 53 28.3	-1.3	
TXAR	**Lajitas Array**	**125.95**	**47**	PKP		PKPdf	20 53 35.5	+0.6	
	comp=Z,2.1nm,0.9s,baz=288,slow=1.3,SNR=6.6								
PLCA	**Paso Flores**	**144.07**	**167**	PKP		PKPdf	20 54 09.6	+1.4	
	comp=Z,3.0nm,0.9s,baz=157,slow=4.3,SNR=3.4								
TRQA	**Tornquist**	**147.83**	**178**	*e*PKPdf		PKPbc	20 54 17.1	-0.5	
LPAZ	**La Paz**	**167.24**	**146**	PKP		PKPdf	20 54 39.7	+0.6	
	comp=Z,0.8nm,0.8s,baz=180,slow=2.0,SNR=4.2								
LPAZ	**La Paz**	**167.24**	**146**	*e*PKPdf		PKPdf	20 54 39.7	+0.6	

*NNC **23** 20:56:24.4±13.0, 3705N×7064E, h219km±178km, mb2.5, mpv3.7, Error ellipse: s-maj=172.2km s-min=77.6km az=36.0*

ISC 23 20:56:23.1±2.3, 369N±02×704E±02, h200km, n10, σ0§38/11, 1C-4D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AML	**Almayashu**	**5.77**	**25**	P	**Pn**	**20 57 47.5**	**+0.2**
	SNR=17						
KK31	**Karatay Array**	**6.16**	**1**	⇓P	**Pn**	**20 57 51.9**	**-0.4**
	1.1nm,0.3s,baz=175,slow=12,SNR=49						
KK31				⇓S	**Sn**	**20 59 03.0**	**0.0**
	1.2nm,0.3s,baz=196,slow=23,SNR=5.6						
EKS2	**Erkin-Say**	**6.27**	**23**	P	**Pn**	**20 57 54.0**	**+0.3**
	SNR=11						
AAK	**Ala-Archa**	**6.49**	**28**	P	**Pn**	**20 57 56.8**	**+0.2**
	SNR=9.3						
KBK	**Karagaybulak**	**6.69**	**30**	P	**Pn**	**20 57 59.6**	**+0.5**
	SNR=5.9						
USP	**Ospenovka**	**7.05**	**25**	P	**Pn**	**20 58 03.0**	**-0.8**
	SNR=6.0						
TKM2	**Tokmak 2**	**7.17**	**32**	⇓P	**Pn**	**20 58 05.2**	**-0.3**
	4.9nm,0.5s						
TKM2	**Tokmak 2**	**7.17**	**32**	P	**Pn**	**20 58 05.2**	**-0.2**
	SNR=14						
AB31	**Akbulak array**	**14.48**	**332**	⇓P	**Pn**	**20 59 39.2**	**+0.4**
	0.4nm,0.4s						
AKTO	**Aktyubinsk**	**16.18**	**330**	⇑P	**P**	**20 59 58.4**	**-0.2**
	0.6nm,1.1s						

*ISCJB **23** 21:26:52.8±0.9, 502S×02×1126E±06, h10km, mb3.8/3, Error ellipse: s-maj=53.8km s-min=17.1km az=18.9*

*IDC **23** 21:26:53.1±1.1, 5027S×11250E, h0km, mb3.9/3, mb1 4.1/3, mb1mx3.8/12, mbtmp3.9/3, MS3.1/1, Ms1 3.1/1, ms1mx3.0/20, Error ellipse: s-maj=60.0km s-min=25.7km az=95.0*

ISC 23 21:26:54.9±0.9, 503S±02×1127E±06, h10km, n10, σ0§28/6, mb3.8/3, Southeast Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
NWAO	**Narrogin (SRO)**	**17.64**	**13**	LR	LR	21 35 29.2	
	comp=Z,70nm,20.4s,baz=111,slow=29						
ASAR	**Alice Springs**	**31.28**	**40**	P	**P**	**21 33 15.1**	**+0.1**
	0.9nm,0.8s,mb3.7,baz=207,slow=7.8,SNR=7.7						
QSPA	**South Pole Qui**	**39.88**	**180**	P	**P**	**21 34 27.8**	**-0.3**
	2.3nm,0.6s,mb4.1,baz=296,slow=2.4,SNR=22						
SNAA	**Sanae**	**50.21**	**202**	*e*	**P**	**21 35 50.3**	**0.0**
SNAA				*e*		21 35 56.5	
SNAA				*e*		21 36 06.8	
VNA2	**Neumayer--Watz**	**51.80**	**201**	*e*	**P**	**21 36 02.2**	**0.0**
	baz=126,slow=6.6						
VNA2				*e*		21 36 08.4	
VNA2				*e*		21 36 18.7	
VNA1	**Neumayer--Stat**	**52.20**	**201**	*e*	**P**	**21 36 05.5**	**+0.3**
VNA1				*e*		21 36 11.7	
CMAR	**Chiang Mai Arr**	**69.47**	**346**	P	**P**	**21 38 03.0**	**-0.2**
	0.8nm,0.7s,mb3.8,baz=191,slow=5.7,SNR=8.8						
TXAR	**Lajitas Array**	**145.63**	**114**	PKPbc	PKPbc	21 46 33.2	-0.2
	0.6nm,0.7s,baz=196,slow=6.0,SNR=6.9						
PDAR	**Pinedale Array**	**150.33**	**88**	PKPbc	PKPbc	21 46 46.0	+0.3
	0.8nm,0.8s,baz=228,slow=1.8,SNR=6.6						
YKA	**Yellowknife Ar**	**151.81**	**46**	PKPbc	PKPbc	21 46 48.4	0.0
	1.0nm,0.6s,baz=286,slow=2.3,SNR=9.7						

KRSC 23 21:38:46.2±0.6, 5522N×16259E, h5km±5km, ML4.0, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KBTR	**Krutoberegovo**	**1.00**	**7**	*e*P	Pg	21 39 06.5	+1.2
KBTR				*i* S	Sg	21 39 21.8	+3.5
ZLN	**Zelenaya**	**1.29**	**309**	*e*P	Pn	21 39 11.2	+0.4
ZLN				*i* S	Sg	21 39 29.3	+1.7
TUMR	**Tumrok**	**1.40**	**274**	*e*P	Pn	21 39 13.2	+0.9
TUMR				*i* S	Sb	21 39 32.3	+1.4
KMNR	**Kamenistaya**	**1.44**	**293**	*e*P	Pn	21 39 13.8	+0.9
KMNR				*i* S	Sb	21 39 33.6	+1.5
KRSR	**Krestovskiy**	**1.52**	**312**	*e*P	Pn	21 39 14.3	+0.3
KRSR				*i* S	Sn	21 39 34.9	+0.8
KPT	**Kopyto**	**1.54**	**300**	*e*P	Pn	21 39 15.7	+1.5
KPT				*i* S	Sn	21 39 36.9	+2.3
SRKR	**Sorokina**	**1.65**	**331**	*e*P	Pn	21 39 15.8	+0.1
SRKR				*i* S	Sn	21 39 37.7	+0.5
KII	**Karymskiy**	**2.18**	**238**	*e*P	Pn	21 39 24.9	+1.9
KII				*i* S	Sn	21 39 53.2	+2.9
SPN	**Mys Shipunski**	**2.61**	**216**	*e*P	Pn	21 39 29.9	+1.0
SPN				*i* S	Sn	21 40 02.3	+1.4
NLC	**Nalytchevo**	**2.80**	**224**	*e*P	Pn	21 39 33.6	+2.0
NLC				*i* S	Sn	21 40 09.2	+3.5
AVH	**Avacha**	**2.99**	**231**	*e*P	Pn	21 39 35.9	+1.7
AVH				*i* S	Sn	21 40 12.8	+2.4
GNL	**Ganaly**	**3.11**	**243**	*e*P	Pn	21 39 37.1	+1.2
GNL				*i* S	Sn	21 40 14.3	+0.9
PET	**Petropavlovsk**	**3.19**	**228**	*e*P	Pn	21 39 38.7	+1.7
PET				*i* S	Sn	21 40 16.9	+1.5
RUS	**Russkaya**	**3.69**	**223**	*e*P	Pn	21 39 44.1	+0.3
RUS				*i* S	Sn	21 40 27.0	-0.7
MIPR	**Malaya Ipel'ka**	**4.55**	**232**	*e*P	Pn	21 39 57.7	+2.1

*ISCJB **23** 21:39:30.9±0.5, 5038S±006×1128E±02, h10km, mb4.2/11, MS4.0/4, Error ellipse: s-maj=17.2km s-min=7.1km az=13.8*

*IDC **23** 21:39:31.6±0.7, 5036S×11270E, h0km, mb4.0/7, mb1 4.1/7, mb1mx4.0/12, mbtmp4.0/7, MS4.0/5, Ms1 4.0/5, ms1mx3.7/19, Error ellipse: s-maj=33.6km s-min=19.2km az=123.0*

*NEIC **23** 21:39:32.9±0.3, 5035S×11274E, h10km, mb4.3/7, Error ellipse: s-maj=13.4km s-min=6.8km az=108.0*

**ISC 23 21:39:32.8±0.5, 5038S±005×1128E±02, h10km, n39, σ0§65/26

After ATH.
*ATH **23** 21:47:13.8, 34.12N×25.18E, h36km±24km, MD4.0/9*
*IDC **23** 21:47:15.4±4.3, 3427N×2531E, h30km±33km, mb3.5/13, mb1 3.7/21, mb1mx3.6/32, mbtmp3.6/21, ML4.1/7, Error ellipse: s-maj=16.8km s-min=12.2km az=17.0*
*THE **23** 21:47:15.8, 3434N×2509E, h8km±1km, ML4.4/2, Error ellipse: s-maj=2.6km s-min=1.0km az=332.0*
*HLW **23** 21:47:16.9, 3425N×2555E, h33km, Mb4.5*
*GII **23** 21:47:24.3±2.1, 3385N×2597E, h32km±5km, mb4.4/8, ML4.3/8*

ISC 23 21:47:16.1±0.2, 3422N±002×2527E±002, h37km±4km, n212, σ1§03/241, mb3.6/14, 9C-6D, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIVA	**Sivas**	**0.88**	**335**	P	**Pn**	**21 47 29.8**	**-2.1**
SIVA				S	**Sn**	**21 47 40.2**	**-3.3**
SIVA	**Sivas**	**0.88**	**335**	P	**Pn**	**21 47 31.6**	**-0.3**
SIVA				S	**Sn**	**21 47 40.2**	**-3.3**
LAST	**Lasithi**	**0.95**	**11**	P	**Pn**	**21 47 32.3**	**-0.7**
LAST				S	**Sn**	**21 47 45.1**	**-0.2**
NPS	**Neapolis**	**1.07**	**15**	*e*Pb	**Pn**	**21 47 35.1**	**+0.4**
NPS				*e*Sn	**Sn**	**21 47 51.5**	**+3.1**
NPS	**Neapolis**	**1.07**	**15**	*e*PB	**Pn**	**21 47 35.1**	**+0.4**
NPS				*e*SN	**Sn**	**21 47 51.5**	**+3.1**
IDI	**Anoyia**	**1.11**	**344**	Pn	**Pn**	**21 47 34.5**	**-0.6**
	42nm,0.3s,baz=173,slow=12,SNR=389						
IDI				Sn	**Sn**	**21 47 48.9**	**-0.2**
	182nm,0.3s,baz=290,slow=18,SNR=20						
GVD	**Gavdhos**	**1.15**	**303**	*e*Pn	**Pn**	**21 47 36.0**	**+0.3**
GVD	**Gavdhos**	**1.15**	**303**	*e*Pn	**Pn**	**21 47 36.0**	**+0.3**
ZKR	**Zakros**	**1.19**	**41**	P	**Pn**	**21 47 37.2**	**+1.0**
ZKR				S	**Sn**	**21 47 54.5**	**+3.4**
VAM	**Vamos**	**1.47**	**324**	*e*Pb	**Pn**	**21 47 32.9**	**-0.1**
VAM	**Vamos**	**1.47**	**324**	*e*PB	**Pn**	**21 47 40.0**	**-0.1**
KARP	**Karpathos**	**2.04**	**49**	*e*Pn	**Pn**	**21 47 50.0**	**+2.0**
KARP	**Karpathos**	**2.04**	**49**	*e*PN	**Pn**	**21 47 50.0**	**+2.0**
THR6	**Thira Island,**	**2.13**	**3**	P	**Pn**	**21 47 49.3**	**+0.1**
THR1	**Thera Island**	**2.15**	**4**	P	**Pn**	**21 47 49.3**	**-0.1**
THR3	**Thira Island,**	**2.18**	**3**	P	**Pn**	**21 47 49.0**	**-0.9**
THR5	**Thira Island,**	**2.19**	**2**	P	**Pn**	**21 47 50.0**	**0.0**
THR4	**Thira Island,**	**2.23**	**3**	P	**Pn**	**21 47 50.8**	**+0.2**
SLUM		**2.72**	**181**	*e*P	**Pn**	**21 47 59.0**	**+1.6**
SLUM				S	**Sn**	**21 48 29.7**	**+0.6**
KYTH	**Kithira**	**2.75**	**319**	*e*Pn	**Pn**	**21 47 58.0**	**+0.4**
KYTH	**Kithira**	**2.75**	**319**	*e*PN	**Pn**	**21 47 58.0**	**+0.4**
APE	**Apeiranthos**	**2.85**	**4**	P	**Pn**	**21 47 58.8**	**-0.2**
APE	**Apeiranthos**	**2.85**	**4**	*e*Pn	**Pn**	**21 47 59.4**	**+0.4**
APE	**Apeiranthos**	**2.85**	**4**	*e*PN	**Pn**	**21 47 59.4**	**+0.4**
ARG	**Arkhangelos**	**3.07**	**49**	*e*Pn	**Pn**	**21 48 03.9**	**+1.8**
ARG	**Arkhangelos**	**3.07**	**49**	*e*PN	**Pn**	**21 48 03.9**	**+1.8**
VLI	**Veliai**	**3.13**	**323**	*e*Pn	**Pn**	**21 48 03.7**	**+0.8**
VLI	**Veliai**	**3.13**	**323**	*e*PN	**Pn**	**21 48 03.7**	**+0.8**
BODT	**Bodrum**	**3.29**	**30**	*e*P	**Pn**	**21 47 59.4**	**-5.6**
BDRM	**Kayabasi**	**3.34**	**31**	*i* P	**Pn**	**21 48 06.8**	**+1.0**
DID	**Didima**	**3.67**	**334**	P	**Pn**	**21 48 09.0**	**-1.3**
SMG	**Samos**	**3.70**	**20**	P	**Pn**	**21 48 11.8**	**+1.0**
TURN	**Turunc**	**3.79**	**45**	*i* P	**Pn**	**21 48 08.8**	**-3.2**
YER	**Yerkesik**	**3.80**	**39**	*e*P	**Pn**	**21 48 12.0**	**-0.2**
PYL	**PYLOS**	**3.92**	**314**	P	**Pn**	**21 48 12.2**	**-1.6**
VLX	**Vlachokerasia**	**3.92**	**324**	P	**Pn**	**21 48 13.6**	**-0.2**
ATH	**Athens Observa**	**3.95**	**342**	P	**Pn**	**21 48 14.4**	**+0.3**
PTL	**Penteli**	**3.98**	**344**	P	**Pn**	**21 48 14.3**	**-0.3**
ITM	**Ithomi**	**4.01**	**318**	*e*Pn	**Pn**	**21 48 14.6**	**-0.4**
ITM	**Ithomi**	**4.01**	**318**	*e*PN	**Pn**	**21 48 14.6**	**-0.4**
AYDN	**Tasoluk**	**4.03**	**31**	*i* P	**Pn**	**21 48 16.4**	**+1.1**
CHOS	**Chios island**	**4.20**	**8**	P	**Pn**	**21 48 18.6**	**+0.9**
LTK	**Loutraki**	**4.22**	**335**	P	**Pn**	**21 48 16.9**	**-1.0**
BLCB	**Balcova**	**4.39**	**19**	*e*P	**Pn**	**21 48 19.2**	**-4.1**
IZM	**Izmir**	**4.47**	**21**	*e*P	**Pn**	**21 48 22.4**	**+1.1**
ELL	**Elmali**	**4.55**	**55**	*e*P	**Pn**	**21 48 23.5**	**+1.1**
GOLH	**Golhisar**	**4.61**	**48**	*i* P	**Pn**	**21 48 24.3**	**+1.1**
DNZL	**Cakiroluk**	**4.62**	**40**	*e*P	**Pn**	**21 48 26.1**	**+2.7**
LKR	**Lokris**	**4.78**	**338**	P	**Pn**	**21 48 25.2**	**-0.4**
LKR	**Lokris**	**4.78**	**338**	P	**Pn**	**21 48 25.7**	**+0.1**
RLS	**Riolos of Patr**	**4.91**	**322**	P	**Pn**	**21 48 29.3**	**+2.0**
MANT	**Manisa**	**5.02**	**31**	*i* P	**Pn**	**21 48 29.7**	**+0.8**
AKHS	**Akhisar**	**5.08**	**23**	*i* P	**Pn**	**21 48 30.9**	**+1.2**
AKS	**Akhisar**	**5.08**	**23**	*e*P	**Pn**	**21 48 29.3**	**-0.4**
KULA	**Kula-Manisa**	**5.08**	**32**	*e*P	**Pn**	**21 48 29.3**	**-0.4**
ANTB	**Antalya**	**5.14**	**57**	*e*P	**Pn**	**21 48 31.8**	**+1.2**
AGG	**Agios Georgios**	**5.34**	**335**	P	**Pn**	**21 48 32.7**	**-0.6**
AGG				S	**Sn**	**21 49 32.8**	**-0.7**
XOR	**Xorichti**	**5.40**	**343**	P	**Pn**	**21 48 33.6**	**-0.4**
BCK	**Bucak**	**5.40**	**52**	*e*P	**Pn**	**21 48 35.8**	**+1.8**
VLS	**Valsamata**	**5.46**	**318**	P	**Pn**	**21 48 34.0**	**-1.0**
DEMI	**Demirci**	**5.55**	**29**	*i* P	**Pn**	**21 48 37.9**	**+1.7**
TKTP	**Tekketepe**	**5.59**	**46**	*i* P	**Pn**	**21 48 37.2**	**+0.6**
LKD	**Levkas**	**5.82**	**322**	P	**Pn**	**21 48 39.0**	**-0.8**
LKD				S	**Sn**	**21 49 44.0**	**-1.3**
PAIG	**Paliouri**	**5.83**	**348**	P	**Pn**	**21 48 39.3**	**-0.7**
THL	**Klokotos Trika**	**5.93**	**335**	P	**Pn**	**21 48 40.7**	**-0.7**
LIT	**Litokhoron**	**6.27**	**340**	P	**Pn**	**21 48 45.5**	**-0.5**
LEF	**Lefka**	**6.35**	**80**	*e*P	**Pn**	**21 48 42.8**	**-4.3**
MEV	**Metsovon**	**6.42**	**331**	P	**Pn**	**21 48 48.0**	**-0.1**
HMYD	**Mayadein**	**6.45**	**132**	⇓P	**Pn**	**21 48 47.9**	**-0.6**
HDMB	**Hadim**	**6.49**	**63**	*e*P	**Pn**	**21 48 51.8**	**+2.8**
HORT	**Hortiatis**	**6.59**	**345**	P	**Pn**	**21 48 51.0**	**+0.6**
SQR		**6.64**	**129**	⇑P	**Pn**	**21 48 50.5**	**-0.7**
AWBH		**6.66**	**151**	⇑*e*P	**Pn**	**21 48 51.6**	**+0.2**
CSS	**Prodhromos**	**6.69**	**81**	*e*P	**Pn**	**21 48 50.9**	**-0.9**
AYT	**Al 'Ayyat**	**6.73**	**130**	P	**Pn**	**21 48 51.9**	**-0.5**
SOH	**Sokhos**	**6.76**	**348**	P	**Pn**	**21 48 53.4**	**+0.7**
KONT	**Konya--Tatoy**	**6.84**	**55**	*e*P	**Pn**	**21 48 56.4**	**+2.5**
LFK	**Lefkose**	**6.89**	**79**	*e*P	**Pn**	**21 48 53.9**	**-0.6**
KEK	**Kerkira**	**7.01**	**323**	P	**Pn**	**21 48 56.0**	**-0.2**
KOT	**Kottamia**	**7.03**	**126**	⇑*e*P	**Pn**	**21 48 55.7**	**-0.8**
KOT				S	**Sn**	**21 50 07.9**	**-7.2**
SRN	**Sarande**	**7.04**	**325**	*e*PN	**Pn**	**21 48 54.6**	**-2.0**
KIZT	**Kizilcal**	**7.07**	**47**	*e*P	**Pn**	**21 48 57.5**	**+0.6**
GLL	**Jalalah**	**7.17**	**128**	⇑*e*P	**Pn**	**21 48 58.0**	**-0.5**
IKL	**Isikli**	**7.18**	**71**	*e*P	**Pn**	**21 48 58.1**	**-0.4**
FNA	**Florina**	**7.24**	**336**	P	**Pn**	**21 48 59.1**	**-0.2**
VAY	**Valandovo**	**7.40**	**344**	*e*Pn	**Pn**	**21 48 58.5**	**-3.1**
EREN	**Erenkoy**	**7.43**	**77**	*e*P	**Pn**	**21 49 02.1**	**+0.1**
HFRF	**Wahat Farafira**	**7.52**	**159**	P	**Pn**	**21 49 04.3**	**+1.0**
AMAG	**Maghara**	**7.60**	**116**	P	**Pn**	**21 49 03.4**	**-1.0**
SUZ		**7.77**	**122**	⇓P	**Pn**	**21 49 06.2**	**-0.4**
ZAF		**7.92**	**126**	P	**Pn**	**21 49 08.2**	**-0.5**
OFRI	**'Ofer**	**8.28**	**98**	Pn	**Pn**	**21 49 13.5**	**-0.2**
TIR	**Tirane**	**8.30**	**331**	*e*PN	**Pn**	**21 49 10.0**	**-3.8**
HNTI	**Hanita**	**8.34**	**95**	Sn	**Sn**	**21 50 41.0**	**-6.4**
SLTI	**Sal'it**	**8.42**	**101**	Pn	**Pn**	**21 49 15.6**	**0.0**
SLTI				Sn	**Sn**	**21 50 42.8**	**-6.6**
TIP	**Timpagrande**	**8.43**	**308**	P	**Pn**	**21 49 16.2**	**+0.5**
KARA	**Karaisali**	**8.52**	**66**	*e*P	**Pn**	**21 49 17.1**	**+0.3**
MMA0	**Mount Meron ar**	**8.54**	**95**	Pn	**Pn**	**21 49 17.3**	**+0.1**
MMA0				Sn	**Sn**	**21 50 47.0**	**-5.3**
MMAI	**Mount Meron Ar**	**8.54**	**95**	Pn	**Pn**	**21 49 15.4**	**-1.8**
	1.8nm,0.3s,baz=286,slow=10,SNR=11						
MMAI				Sn	**Sn**	**21 50 51.1**	**-1.2**
	39nm,0.3s,baz=244,slow=13,SNR=9.9						
RTMI	**Retamim**	**8.55**	**109**	Pn	**Pn**	**21 49 17.3**	**-0.1**
RTMI				Sn	**Sn**	**21 50 45.3**	**-7.3**
ASUT		**8.69**	**140**	*e*P	**Pn**	**21 49 19.4**	**+0.1**
GRB	**Gharib**	**8.75**	**131**	P	**Pn**	**21 49 20.2**	**0.0**
YTIR	**Yattir**	**8.77**	**106**	Pn	**Pn**	**21 49 19.4**	**-0.9**
RMNI	**Mount Ramon**	**8.80**	**112**	Pn	**Pn**	**21 49 21.1**	**+0.2**
HMDT	**Nahal Hemdat**	**8.82**	**100**	Pn	**Pn**	**21 49 20.4**	**-0.6**
HMDT				Sn	**Sn**	**21 50 53.6**	**-5.5**
PUK	**Puka**	**8.88**	**333**	*e*PN	**Pn**	**21 49 18.8**	**-3.0**
DSI	**Dead Sea**	**8.91**	**104**	Pn	**Pn**	**21 49 21.5**	**-0.8**
DSI				Sn	**Sn**	**21 50 55.0**	**-6.3**
MZDA	**Masada**	**8.98**	**106**	Pn	**Pn**	**21 49 23.2**	**-0.1**
MZDA				Sn	**Sn**	**21 50 56.7**	**-6.5**
KRMI	**Paran Flat**	**9.00**	**114**	Sn	**Sn**	**21 50 56.2**	**-7.5**
BCI	**Bajram Curri**	**9.10**	**335**	*e*PN	**Pn**	**21 49 24.3**	**-0.5**
HTY	**Hatay**	**9.10**	**75**	*e*P	**Pn**	**21 49 24.1**	**-0.8**
PRNI	**Paran**	**9.10**	**112**	Pn	**Pn**	**21 49 24.7**	**-0.2**
PRNI				Sn	**Sn**	**21 50 58.8**	**-7.4**
ZFRI	**Zfri**	**9.14**	**111**	Pn	**Pn**	**21 49 24.3**	**-1.2**
ZFRI				Sn	**Sn**	**21 50 59.4**	**-7.8**
COBT	**Iskenderun**	**9.26**	**73**	*i* P	**Pn**	**21 49 27.7**	**+0.6**
TRZ		**9.28**	**127**	P	**Pn**	**21 49 26.6**	**-0.8**
MBRI	**Mt Berech**	**9.30**	**116**	Pn	**Pn**	**21 49 27.4**	**-0.3**
MBRI				Sn	**Sn**	**21 51 03.4**	**-7.7**
HDK1	**Dakhla**	**9.36**	**156**	P	**Pn**	**21 49 29.6**	**+1.1**
HDK1	**Dakhla**	**9.36**	**156**	P	**Pn**	**21 49 29.6**	**+1.1**
HKAT	**Jabal Katrina**	**9.38**	**125**	⇑P	**Pn**	**21 49 28.2**	**-0.5**
VAE	**Valguarnera**	**9.39**	**293**	Pn	**Pn**	**21 49 28.5**	**-0.3**
	0.5nm,0.3s,baz=76,slow=8.3,SNR=2.2						
VAE				Sn	**Sn**	**21 51 13.7**	**+0.6**
	1.2nm,0.3s,baz=84,slow=9.2,SNR=2.7						
VAE	**Valguarnera**	**9.39**	**293**	Pn	**Pn**	**21 49 28.5**	**-0.3**
EIL	**Elat**	**9.40**	**116**	Pn	**Pn**	**21 49 28.9**	**-0.1**
	2.4nm,0.3s,baz=259,slow=3.7,SNR=30						
EIL				Sn	**Sn**	**21 51 12.3**	**-1.0**
	11nm,0.3s,baz=225,slow=22,SNR=10						
EIL	**Elat**	**9.40**	**116**	Pn	**Pn**	**21 49 28.9**	**-0.1**
EIL				Sn	**Sn**	**21 51 12.3**	**-1.0**
HBST	**Basata**	**9.48**	**119**	⇓P	**Pn**	**21 49 29.6**	**-0.5**
HBST	**Basata**	**9.48**	**119**	P	**Pn**	**21 49 29.6**	**-0.5**
SG1	**Sgolgore (BA)**	**9.49**	**317**	*e*Pn	**Pn**	**21 49 29.0**	**-1.2**
HQLS		**9.67**	**118**	S	**Sn**	**21 51 14.6**	**-5.6**
HQLS		**9.67**	**118**	P	**Pn**	**21 49 32.3**	**-0.5**
TR1		**9.68**	**127**	⇓P	**Pn**	**21 49 32.5**	**-0.4**
AKRG	**Al Kharijah**	**9.80**	**151**	⇑P	**Pn**	**21 49 35.4**	**+0.9**
GTR	**Jabal at Tayr**	**9.82**	**151**	⇓P	**Pn**	**21 49 36.4**	**+1.6**
SHRM		**9.88**	**127**	P	**Pn**	**21 49 35.1**	**-0.5**
ASF	**Jabal al Asfar**	**9.96**	**99**	Pn	**Pn**	**21 49 35.5**	**-1.2**
	0.3nm,0.3s,baz=191,slow=10,SNR=4.1						
ASF				Sn	**Sn**	**21 51 25.5**	**-1.6**
	2.4nm,0.3s,baz=300,slow=20,SNR=7.7						
HHRG	**Al Ghardaqah**	**9.99**	**132**	⇑*e*P	**Pn**	**21 49 36.8**	**-0.3**
RSHS		**10.07**	**123**	P	**Pn**	**21 49 38.4**	**+0.3**
JLOS		**10.30**	**119**	P	**Pn**	**21 49 40.2**	**-1.1**
HDK2	**Wahat Dakhilah**	**10.38**	**161**	P	**Pn**	**21 49 43.0**	**+0.5**
HDK2				S	**Sn**	**21 51 31.5**	**-6.0**
HSFG		**10.68**	**133**	⇓*e*P	**Pn**	**21 49 46.6**	**0.0**
MLR	**Muntele Rosu**	**11.27**	**2**	Pn	**Pn**	**21 49 57.2**	**+2.7**
	0.1nm,0.3s,baz=230,slow=16,SNR=2.8						
TBKS	**Tabuk**	**11.35**	**119**	P	**Pn**	**21 49 55.2**	**-0.5**
HEDF	**Idfu**	**11.40**	**141**	⇑P	**Pn**	**21 49 56.6**	**+0.1**
HQSR		**11.56**	**134**	P	**Pn**	**21 49 59.0**	**+0.4**
HADB		**12.00**	**135**	P	**Pn**	**21 50 05.0**	**+0.4**
AADN	**Adndan**	**13.26**	**154**	P	**Pn**	**21 50 23.7**	**+1.9**
BOJS	**Bojanci**	**13.63**	**329**	*i* Pn	**Pn**	**21 50 21.9**	**-4.8**
BOJS				*i* Sn	**Sn**	**21 52 41.1**	**-16**
VISS	**Visnje**	**14.04**	**329**	*i* Pn	**Pn**	**21 50 29.0**	**-3.4**
PGF	**Pioggiola**	**15.21**	**308**	*e*P	**Pn**	**21 50 48.8**	**+0.8**
	86nm,1.4s						
PGF	**Pioggiola**	**15.21**	**308**	*e*P	**Pn**	**21 50 48.8**	**+0.8**
PGF				pmax	pmax		
	comp=Z,43nm,1.4s						
PGF	**Pioggiola**	**15.21**	**308**	*e*P	**Pn**	**21 50 48.8**	**+0.8**
	comp=Z,43nm,1.4s						
ABTA	**Abfaltersbach**	**15.80**	**326**	⇑ *i*P	**Pn**	**21 50 59.1**	**+3.4**
	comp=Z,4.9nm,0.9s						
VRAC	**Vranov**	**16.38**	**340**	Pn	**Pn**	**21 51 03.7**	**+0.6**
	comp=Z,0.3nm,0.3s,baz=32,slow=13,SNR=3.1						
KIV	**Kislovodsk**	**16.62**	**49**	*e*P	**Pn**	**21 51 10.5**	**+4.3**
KIV				pmax	pmax		
	comp=Z,12nm,1.1s						
AKASG	**Malin Array Be**	**16.72**	**9**	Pn	**Pn**	**21 51 06.8**	**-0.5**
	comp=Z,4.1nm,0.3s,baz=200,slow=10,SNR=20						
AKASG	**Malin Array Be**	**16.72**	**9**	Pn	**Pn**	**21 51 06.8**	**-0.5**
AKBB	**Malin Array Si**	**16.72**	**9**	*e*P	**Pn**	**21 51 06.8**	**-0.5**
AKBB				*e*S	**S**	**21 54 11.0**	**-11**
AKBB	**Malin Array Si**	**16.72**	**9**	*e*Pn	**Pn**	**21 51 06.8**	**-0.5**
AKBB				*e*Sn	**Sn**	**21 54 10.9**	**-0.9**
GEC2	**GERESS Array S**	**16.95**	**333**	*e*P	**Pn**	**21 51 13.6**	**+3.3**
GEC2				pmax	pmax		
	comp=Z,5.0nm,1.1s						
GEC2	**GERESS Array S**	**16.95**	**333**	*e*P	**Pn**	**21 51 13.6**	**+3.3**
	comp=Z,5.0nm,1.1s						
GERES	**GERESS Array B**	**16.95**	**333**	Pn	**Pn**	**21 51 11.3**	**+1.1**
	comp=Z,0.4nm,0.3s,baz=142,slow=12,SNR=21						
KHC	**Kasperske Hory**	**17.23**	**333**	*e*P	**Pn**	**21 51 07.0**	**-6.8**
KHC				*ex*	x	**21 51 18.5**	
WET	**Wettzell**	**17.51**	**332**	*e*P	**Pn**	**21 51 19.7**	**+2.5**
MBDF	**Montbardon**	**17.68**	**312**	*e*P	**Pn**	**21 51 18.3**	**-1.0**
	comp=Z,10nm,1.0s						
MBDF	**Montbardon**	**17.68**	**312**	*e*P	**Pn**	**21 51 18.3**	**-1.0**
MBDF				pmax	pmax		
	comp=Z,5.0nm,1.0s						
MBDF	**Montbardon**	**17.68**	**312**	*e*P	**Pn**	**21 51 18.3**	**-1.0**
	comp=Z,5.2nm,1.0s						
LPG	**La Plagne**	**18.09**	**314**	*e*P	**Pn**	**21 51 25.9**	**+1.6**
LPL	**La Plagne**	**18.11**	**314**	*e*P	**Pn**	**21 51 25.5**	**+0.9**
GRA1	**Grafenberg Arr**	**18.60**	**330**	*e*P	**Pn**	**21 51 30.8**	**+0.2**
	comp=Z,7.0nm,1.0s						
GRF	**Grafenberg Arr**	**18.60**	**330**	*e*P	**Pn**	**21 51 30.8**	**+0.2**
GRF				pmax	pmax		
	comp=Z,7.0nm,1.0s						
GRF	**Grafenberg Arr**	**18.60**	**330**	*e*P	**Pn**	**21 51 30.8**	**+0.2**
GRF				pmax	pmax		
	comp=Z,7.0nm,1.0s						
GRF	**Grafenberg Arr**	**18.60**	**330**	*e*P	**Pn**	**21 51 30.8**	**+0.2**
	comp=Z,7.0nm,1.0s						
TANN	**Tannenbergstha**	**18.70**	**334**	*e*P	**Pn**	**21 51 31.8**	**0.0**
	comp=Z,5.0nm,0.9s						
RST	**Umm Al-Ruwaisa**	**19.04**	**98**	*e*P	**Pn**	**21 51 36.9**	**+0.9**
	baz=104						
RST				AMb	AMB	**21 51 52.4**	
	comp=Z,21nm,1.8s,baz=104						
MIB	**Mutribah**	**19.22**	**97**	*e*P	**Pn**	**21 51 38.7**	**+0.5**
	comp=Z,16nm,0.9s						
MIB	**Mutribah**	**19.22**	**97**	*e*P	**Pn**	**21 51 38.7**	**+0.5**
	baz=103						
MIB				AMb	AMB	**21 51 49.3**	
	comp=Z,16nm,0.9s,baz=103						
NAY	**Al-Naaiem**	**19.33**	**99**	*e*P	**Pn**	**21 51 40.5**	**+1.0**
	baz=104						
NAY				AMb	AMB	**21 51 46.2**	
	comp=Z,9.0nm,1.0s,baz=104						
HINF	**Hinteralfeld**	**19.36**	**320**	*e*P	**Pn**	**21 51 38.3**	**-1.4**
CDF	**Champ du Feu**	**19.52**	**322**	*e*P	**Pn**	**21 51 40.6**	**-0.9**
	comp=Z,11nm,0.8s						
CDF	**Champ du Feu**	**19.52**	**322**	*e*P	**Pn**	**21 51 40.6**	**-0.9**
CDF				pmax	pmax		
	comp=Z,5.0nm,0.8s						
CDF	**Champ du Feu**	**19.52**	**322**	*e*P	**Pn**	**21 51 40.6**	**-0.9**
	comp=Z,5.4nm,0.8s						
NEUB	**Neuenburg**	**19.60**	**334**	*e*P	**Pn**	**21 51 43.8**	**+1.3**
	comp=Z,9.0nm,0.8s						
HAU	**Haudompre**	**19.75**	**320**	*e*P	**Pn**	**21 51 43.2**	**-1.1**
SMF	**Signal de Mont**	**20.41**	**314**	*e*P	**P**	**21 51 52.0**	**+2.1**
LOR	**Lormes**	**20.72**	**315**	*e*P	**P**	**21 51 54.8**	**+1.6**
SSF	**Saint Saulge**	**20.82**	**315**	*e*P	**P**	**21 51 55.9**	**+1.6**
RJF	**Les Rejaudoux**	**21.27**	**308**	*e*P	**P**	**21 52 00.4**	**+1.3**
BAIF	**Baives**	**22.11**	**322**	*e*P	**P**	**21 52 06.7**	**-1.4**
LDF	**La Druitiere**	**23.70**	**315**	*e*P	**P**	**21 52 23.4**	**-1.0**
	comp=Z,28nm,1.1s,mb4.3						
LDF	**La Druitiere**	**23.70**	**315**	*e*P	**P**	**21 52 23.4**	**-1.0**
LDF				pmax	pmax		
	comp=Z,14nm,1.1s,mb4.3						
LDF	**La Druitiere**	**23.70**	**315**	*e*P	**P**	**21 52 23.4**	**-1.0**
	comp=Z,14nm,1.1s,mb4.3						
ESDC	**Sonseca Array**	**23.93**	**292**	P	**P**	**21 52 28.1**	**+1.5**
	comp=Z,0.2nm,0.3s,mb3.0,baz=93,slow=9.5,SNR=3.8						
MDT	**Midelt**	**24.91**	**275**	P	**P**	**21 52 36.3**	**+0.6**
	comp=Z,0.6nm,0.6s,mb3.3,baz=90,slow=14,SNR=2.6						
HFS	**Hagfors**	**27.01**	**347**	P	**P**	**21 52 52.8**	**-1.5**
	comp=Z,0.6nm,0.5s,mb3.4,baz=119,slow=12,SNR=3.4						
NOA	**NORSAR Array B**	**28.32**	**346**	P	**P**	**21 53 04.8**	**-1.3**
	comp=Z,0.5nm,0.7s,mb3.3,baz=152,slow=9.6,SNR=2.7						
NOA	**NORSAR Array B**	**28.32**	**346**	P	**P**	**21 53 04.8**	**-1.3**
AKTK	**Aktyubinsk**	**28.83**	**46**	P	**P**	**21 53 10.0**	**-0.7**
AKTK	**Aktyubinsk**	**28.83**	**46**	P	**P**	**21 53 10.0**	**-0.7**
AKTO	**Aktyubinsk**	**28.83**	**46**	P	**P**	**21 53 10.0**	**-0.7**
	comp=Z,0.5nm,0.5s,mb3.5,baz=225,slow=16,SNR=3.4						
TORD	**Torodi Ar. Bea**	**29.96**	**231**	P	**P**	**21 53 21.8**	**+0.7**
	comp=Z,1.5nm,0.4s,mb4.0,baz=32,slow=8.6,SNR=33						
TORD	**Torodi Ar. Bea**	**29.96**	**231**	P	**P**	**21 53 21.8**	**+0.7**
ARCES	**ARCESS Array B**	**35.36**	**0**	P	**P**	**21 54 06.9**	**-0.7**
	comp=Z,1.6nm,0.8s,mb4.0,baz=182,slow=8.9,SNR=4.8						
BVAR	**Borovoye Array**	**36.94**	**45**	P	**P**	**21 54 21.1**	**-0.2**
	comp=Z,0.2nm,0.5s,mb3.2,baz=204,slow=3.2,SNR=2.2						
KURK	**Kurchatov**	**41.71**	**50**	P	**P**	**21 55 00.7**	**-0.5**
	comp=Z,1.0nm,0.6s,mb3.6,baz=276,slow=8.8,SNR=5.8						
KURK	**Kurchatov**	**41.71**	**50**	*e*P	**P**	**21 55 01.2**	**+0.1**
MK31	**Makanchi Array**	**44.22**	**56**	*e*P	**P**	**21 55 22.1**	**+0.5**
MKAR	**Makanchi Array**	**44.22**	**56**	P	**P**	**21 55 22.0**	**+0.4**
	comp=Z,0.6nm,0.5s,mb3.6,baz=270,slow=6.8,SNR=22						
ZAA0	**Zalesovo Array**	**45.59**	**46**	*e*P	**P**	**21 55 31.5**	**-0.8**
ZALV	**Zalesovo Beam**	**45.59**	**46**	P	**P**	**21 55 31.7**	**-0.6**
	comp=Z,1.6nm,0.5s,mb4.2,baz=272,slow=9.0,SNR=10						
SONM	**Songino Array**	**60.02**	**50**	P	**P**	**21 57 20.0**	**+1.1**
	comp=Z,0.5nm,0.5s,mb3.9,baz=283,slow=6.8,SNR=4.3						
CMAR	**Chiang Mai Arr**	**66.59**	**83**	P	**P**	**21 58 02.9**	**-0.1**
	comp=Z,0.2nm,0.7s,mb3.3,baz=297,slow=9.9,SNR=3.2						
CMAR	**Chiang Mai Arr**	**66.59**	**83**	P	**P**	**21 58 02.8**	**-0.1**
TMUT	**Trail Mountain**	**96.49**	**327**	P	**P**	**22 00 39.3**	**-2.4**
TMUT	**Trail Mountain**	**96.49**	**327**	P	**P**	**22 00 39.3**	**-2.4**

*NEIC **23** 21:49:14.4, 3598N×3212E, h25km, ML3.0(NIC), After NIC.*

NIC 23 21:49:14.4±0.3, 3598N×3212E, h25km, ML3.0, MW3.4, Cyprus region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ALFC	**Alevga**	**0.91**	**154**	P	Pb	21 49 30.1	-1.4
	11nm,0.2s						
ALFC				S	Sb	21 49 42.5	-0.7
AKMC	**Akamas**	**0.97**	**170**	P	Pn	21 49 30.7	-1.6
	9.7nm,0.2s						
AKMC				S	Sb	21 49 43.3	-1.5
PPCY	**Paphos**	**1.11**	**170**	P	Pn	21 49 32.7	-1.6
	4.9nm,0.2s						
PPCY				S	Sn	21 49 46.3	-2.5
PHNC	**Paralimni**	**1.84**	**121**	P	Pn	21 49 42.6	-1.8

*ISCJB **23** 22:00:51.3±0.7, 2394S×005×668W±0.1, h186km±9km, mb3.7/5, Error ellipse: s-maj=15.6km s-min=8.5km az=176.8*
*IDC **23** 22:00:52.8±1.4, 2392S×6671W, h179km±15km, mb3.5/5, mb1 3.7/10, mb1mx3.6/18, mbtmp3.7/10, MS3.2/1, Ms1 3.2/1, ms1mx2.7/24, Error ellipse: s-maj=21.8km s-min=16.4km az=107.0*
*NEIC **23** 22:00:52.1±0.7, 2398S×6675W, h176km±8km, mb4.1/4, Error ellipse: s-maj=12.8km s-min=8.0km az=94.0*

**ISC 23 22:00:52.2±0.7, 2397S±006×668W±01, h177km±9km, n23, σ0§

GULT	Gulveren	2.26	295	*e*PN		Pn	22 57 32.0	+1.0
BYBT	Boyabat	2.31	31	*e*PN		Pn	22 57 31.2	-0.5
GPA	Golpazari	2.36	291	*e*PN		Pn	22 57 33.0	+0.7
ALT	Altintas	2.43	261	*e*PN		Pn	22 57 34.0	+0.7
HDMB	Hadim	2.58	193	*e*PN		Pn	22 57 35.4	0.0
PINB	Pinarbasi	2.63	107	*i* P		Pn	22 57 36.7	+0.7
KARA	Karaisali	2.66	146	*e*PN		Pn	22 57 37.2	+0.7
DIKM	Dikmen	2.67	35	*e*PN		Pn	22 57 37.3	+0.7
TKTP	Tekketepe	2.67	238	*i* P		Pn	22 57 36.5	-0.1
KVT	Kavak	2.70	53	*e*PN		Pn	22 57 36.8	-0.2
TOKT	Tokat	2.71	71	*e*PN		Pn	22 57 37.8	+0.6
MERS	Mersin	2.82	158	*e*PN		Pn	22 57 39.0	+0.4
SARI	SarD1z-Kayseri	2.84	105	*e*PN		Pn	22 57 38.2	-0.8
BCK	Bucak	2.88	326	*e*PN		Pn	22 57 40.5	+1.1
GDZ	Gediz	2.91	263	*i* P		Pn	22 57 39.2	-0.7
SVSK	Karacayir	2.97	81	*e*PN		Pn	22 57 41.0	+0.4
ANDN	Andirin	3.12	127	*i* P		Pn	22 57 44.3	+1.5
CEYT	Ceyhan	3.19	140	*e*PN		Pn	22 57 44.3	+0.6
ULDT	Uludag	3.19	283	*i* P		Pn	22 57 50.0	+6.3
IKL	Isikli	3.27	173	*e*PN		Pn	22 57 46.0	+1.2
KMRS	Kahramanmaras	3.52	123	*e*PN		Pn	22 57 49.1	+0.8
AKCD	Akcadag	3.88	106	*i* P		Pn	22 57 54.1	+0.9
KEMA	Kemaliye	4.11	91	*i* P		Pn	22 57 56.9	+0.5
YAYL	Yayladag	4.15	145	*i* P		Pn	22 57 55.0	-1.9
ELZG	Elazig	4.62	101	*i* P		Pn	22 58 04.2	+0.9
ELZG	Elazig	4.62	101	*i* P		Pn	22 58 04.2	+0.8

SZGRF ***23*** *22:59:26.6, 21.30S×178.95W, h33km, Fiji Islands region*
ISCJB ***23*** *23:00:18.2±1.3, 2004S±0.10×17770W±009, h460km±16km, mb4.0/16, Error ellipse: s-maj=16.1km s-min=11.8km az=146.5*
NEIC ***23*** *23:00:19.6±1.0, 2002S×177.69W, h463km±13km, mb4.2/12, Error ellipse: s-maj=12.7km s-min=8.7km az=147.0*
IDC ***23*** *23:00:20.3±2.2, 2001S×177.64W, h474km±24km, mb3.5/9, mb1 3.7/11, mb1mx3.5/18, mbtmp3.5/11, Error ellipse: s-maj=19.8km s-min=13.9km az=140.0*

ISC 23 23:00:19.5±1.3, 201S±01×17766W±009, h463km±16km, n85, σ0°83/38, mb4.0/16, 10C-5D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**8.32**	**44**	P	**P**	**23 02 18.7**	**0.0**
	2.7nm,0.3s,baz=272,slow=23,SNR=2.7						
AFI				S	**S**	**23 03 49.6**	**-6.8**
	12nm,0.3s,baz=30,slow=22,SNR=8.2						
AFI	**Afiamalu**	**8.32**	**44**	P	**P**	**23 02 18.7**	**0.0**
AFI				S	**S**	**23 03 49.6**	**-6.8**
FUNA	**Funafuti**	**11.87**	**345**	P	**P**	**23 02 56.4**	**-0.6**
URZ	**Urewera**	**18.69**	**193**	P	**P**	**23 04 07.4**	**-0.6**
	4.6nm,0.3s,baz=297,slow=1.7,SNR=23						
EIDS	**Eidsvold**	**29.27**	**254**	*e*P	**P**	**23 05 43.0**	**+0.2**
ARMA	**Armidale**	**29.54**	**243**	*e*P	**P**	**23 05 45.2**	**+0.1**
CTA	**Charters Tower**	**33.85**	**264**	*e*P	**P**	**23 06 22.9**	**+0.6**
	4.1nm,0.6s,mb4.0						
CTA	**Charters Tower**	**33.85**	**264**	P	**P**	**23 06 22.9**	**+0.7**
	5.6nm,0.6s,mb4.2,baz=93,slow=11,SNR=11						
CTAO	**Charters Tower**	**33.85**	**264**	*e*P	**P**	**23 06 22.7**	**+0.4**
	6.1nm,0.6s,mb4.2						
PMG	**Port Moresby**	**35.56**	**282**	*e*P	**P**	**23 06 37.5**	**+0.8**
	14nm,0.9s,mb4.4						
TOO	**Toolangi**	**36.41**	**233**	*e*P	**P**	**23 06 44.2**	**+0.7**
STKA	**Stephens Creek**	**38.26**	**244**	*e*P	**P**	**23 06 59.4**	**+0.5**
	2.2nm,0.6s,mb3.8						
STKA	**Stephens Creek**	**38.26**	**244**	P	**P**	**23 06 59.0**	**+0.2**
	2.7nm,0.5s,mb3.9,baz=79,slow=8.6,SNR=8.0						
STKA				PcP	PcP	23 09 01.1	-0.5
	2.1nm,0.8s,baz=47,slow=13,SNR=3.2						
STKA	**Stephens Creek**	**38.26**	**244**	*e*P	**P**	**23 06 59.5**	**+0.6**
	3.0nm,0.6s,mb3.9						
ASAR	**Alice Springs**	**44.93**	**256**	P	**P**	**23 07 52.2**	**+0.2**
	7.5nm,0.7s,mb4.2,baz=87,slow=8.6,SNR=68						
ASAR				PcP	PcP	23 09 23.4	-0.6
	2.0nm,0.7s,baz=95,slow=4.1,SNR=10						
KAKA	**Kakadu**	**48.28**	**271**	*e*P	**P**	**23 08 12.5**	**-5.2**
	52nm,1.9s,mb4.5						
FORT	**Forrest**	**49.76**	**246**	*e*P	**P**	**23 08 27.9**	**-0.5**
	13nm,0.6s,mb4.5						
MBWA	**Marble Bar**	**58.26**	**257**	*e*P	**P**	**23 09 27.9**	**-1.1**
	4.3nm,0.5s,mb4.0						
SBA	**Scott Base**	**58.32**	**184**	*e*P	**P**	**23 09 31.1**	**+2.7**
	2.1nm,0.5s,mb3.7						
NWAO	**Narrogin (SRO)**	**58.84**	**243**	P	**P**	**23 09 31.8**	**-1.0**
CASY	**Casey**	**64.49**	**205**	*e*P	**P**	**23 10 09.2**	**+0.1**
	3.0nm,0.5s,mb4.1						
QSPA	**South Pole Qui**	**70.00**	**180**	P	**P**	**23 10 44.3**	**+1.4**
	7.1nm,0.7s,mb4.3,baz=13,slow=1.3,SNR=24						
QSPA	**South Pole Qui**	**70.00**	**180**	*e*P	**P**	**23 10 44.1**	**+1.1**
	5.8nm,0.6s,mb4.3						
NVAR	**Mina Array Bea**	**80.49**	**43**	P	**P**	**23 11 42.2**	**-0.1**
	0.4nm,0.7s,mb3.1,baz=251,slow=5.6,SNR=3.3						
MAW	**Mawson**	**82.08**	**200**	P	**P**	**23 11 50.1**	**0.0**
	1.9nm,0.9s,mb3.6,baz=142,slow=11,SNR=13						
MAW	**Mawson**	**82.08**	**200**	*e*P	**P**	**23 11 50.0**	**-0.1**
	1.8nm,0.5s,mb3.9						
TXAR	**Lajitas Array**	**86.56**	**57**	P	**P**	**23 12 13.9**	**+1.0**
	0.9nm,0.8s,mb3.6,baz=211,slow=6.8,SNR=8.3						
SYO	**Syowa Base**	**87.22**	**193**	*e*P	**P**	**23 12 12.8**	**-2.5**
PDAR	**Pinedale Array**	**88.43**	**43**	P	**P**	**23 12 21.2**	**-0.1**
	0.5nm,0.6s,mb3.4,baz=160,slow=4.7,SNR=4.1						
SNAA	**Sanae**	**88.43**	**178**	*e*	**P**	**23 12 19.6**	**-1.3**
SNAA				*e*		23 12 21.1	
VNA3	**Neumayer Olymp**	**88.55**	**176**	*e*	**P**	**23 12 20.9**	**-0.6**
VNA3				*e*		23 12 22.5	
VNA2	**Neumayer--Watz**	**89.00**	**177**	*e*	**P**	**23 12 23.4**	**-0.2**
	baz=197,slow=3.7						
VNA2				*e*		23 12 24.8	
VNA1	**Neumayer--Stat**	**89.22**	**176**	*e*	**P**	**23 12 24.8**	**+0.2**
VNA1				*e*		23 12 26.4	
PLCA	**Paso Flores**	**89.34**	**133**	*e*P	**P**	**23 12 26.3**	**+0.4**
CMAR	**Chiang Mai Arr**	**90.27**	**289**	P	**P**	**23 12 31.1**	**+0.7**
	0.8nm,0.3s,mb4.0,baz=139,slow=3.2,SNR=7.1						
CHTO	**Chiang Mai**	**90.39**	**290**	*e*P	**P**	**23 12 30.8**	**-0.3**
	1.4nm,0.6s,mb4.0						
ZALV	**Zalesovo Beam**	**110.35**	**321**	PKiKP	PKiKP	23 17 55.7	-2.2
	0.4nm,0.5s,baz=168,slow=1.3,SNR=2.9						
MK31	**Makanchi Array**	**111.13**	**314**	*e*PKiKP	PKiKP	23 17 57.2	-2.3
MKAR	**Makanchi Array**	**111.13**	**314**	PKiKP	PKiKP	23 17 57.4	-2.2
	0.6nm,0.6s,baz=224,slow=1.3,SNR=9.0						
AKASG	**Malin Array Be**	**142.79**	**332**	PKhKP		23 18 54.1	
	0.8nm,0.3s,baz=39,slow=4.6,SNR=6.0						
KWP	**Kalwaria**	**146.32**	**336**	⇑*i*P	PKPdf	23 19 06.6	+1.3
KWP	**Kalwaria**	**146.32**	**336**	⇑P	PKPdf	23 19 06.6	+1.4
BR131	**Keskin Array S**	**146.78**	**313**	*e*PKPdf	PKPdf	23 19 07.7	+1.3
BUR08	**Bucovina Ar. S**	**146.82**	**331**	*e*PKPbc	PKPbc	23 19 08.4	-0.4
BURAR	**Bucovina Array**	**146.84**	**331**	⇑*i*P	PKPbc	23 19 08.4	-0.5
BURAR	**Bucovina Array**	**146.84**	**331**	⇑P	PKPbc	23 19 08.4	-0.4
STHS	**Stebnicka Huta**	**147.04**	**337**	*e*PKP	PKPbc	23 19 08.2	-1.2
KOLS	**Kolonicke sedl**	**147.05**	**336**	*e*PKP	PKPbc	23 19 08.7	-0.7
CRVS	**Cervenica-Dubn**	**147.39**	**336**	*e*PKP	PKPbc	23 19 11.2	+0.9
CLL	**Collm**	**147.71**	**347**	*e*PKPbc	PKPbc	23 19 09.8	-1.3
CLL	**Collm**	**147.71**	**347**	*i* PKPbc	PKPbc	23 19 10.1	-1.0
	comp=Z,8.0nm,0.7s						
UPC	**Upice**	**147.75**	**344**	*e*PKP	PKPbc	23 19 10.5	-0.7
DPC	**Dobruska-Polom**	**147.81**	**343**	*e*PKP	PKPbc	23 19 11.1	-0.2
BRG	**Berggiesshubel**	**147.92**	**346**	*e*PKPbc	PKPbc	23 19 10.6	-1.0
MLR	**Muntele Rosu**	**148.03**	**328**	⇑*i*P	PKPbc	23 19 10.9	-1.2
MLR	**Muntele Rosu**	**148.03**	**328**	⇑P	PKPbc	23 19 10.9	-1.2
PVCC	**Panska Ves**	**148.09**	**345**	*e*PKP	PKPbc	23 19 12.2	+0.1
DRGR		**148.57**	**333**	⇓*i*P	PKPbc	23 19 13.3	-0.1
DRGR		**148.57**	**333**	⇓P	PKPbc	23 19 13.3	-0.1
PRU	**Pruhonice**	**148.60**	**345**	*e*PKP	PKPbc	23 19 12.6	-0.7
MOX	**Moxa**	**148.61**	**349**	*e*PKPbc	PKPbc	23 19 12.2	-1.1
TANN	**Tannenbergstha**	**148.67**	**348**	*e*PKPbc	PKPbc	23 19 12.7	-0.8
VYHS	**Vyhne**	**148.67**	**339**	*e*PKP	PKPbc	23 19 12.3	-1.3
KOLL	**Kolacno**	**148.75**	**339**	*e*PKP	PKPbc	23 19 13.4	-0.3
NKC	**Novy Kostel**	**148.84**	**347**	*e*PKP	PKPbc	23 19 13.7	-0.2
MANZ	**Manzenberg**	**149.15**	**348**	*e*PKPbc	PKPbc	23 19 13.6	-1.1
MODS	**Modra-Piesok**	**149.29**	**340**	*e*PKP	PKPbc	23 19 13.7	-1.4
ROTZ	**Rotzenmuhle**	**149.34**	**347**	*e*PKPbc	PKPbc	23 19 13.8	-1.3
TNS	**Taunus Mts**	**149.52**	**352**	*e*PKPbc	PKPbc	23 19 14.9	-0.7
GRA1	**Grafenberg Arr**	**149.60**	**349**	*e*PKPbc	PKPbc	23 19 14.3	-1.5
GRF	**Grafenberg Arr**	**149.60**	**349**	*e*PKPbc	PKPbc	23 19 14.3	-1.5
KHC	**Kasperske Hory**	**149.63**	**345**	*e*PKP	PKPbc	23 19 15.4	-0.5
GEC2	**GERESS Array S**	**149.87**	**345**	*e*PKPbc	PKPbc	23 19 15.4	-1.0
GERES	**GERESS Array B**	**149.87**	**345**	PKPbc	PKPbc	23 19 15.7	-0.8
	comp=Z,3.4nm,0.8s,baz=36,slow=2.5,SNR=29						
BZS	**Buzias**	**149.97**	**332**	⇓*i*P	PKPbc	23 19 15.7	-1.1
CONA	**Conrad Observa**	**150.12**	**342**	⇑*i*PKPbc	PKPbc	23 19 16.6	-0.5
	comp=Z,2.6nm,0.6s						
CSNA	**Conrad Observa**	**150.12**	**342**	⇑*i*PKPbc	PKPbc	23 19 16.6	-0.5
	comp=Z,3.1nm,0.6s						
WLF	**Walferdange**	**150.31**	**355**	*e*PKPbc	PKPbc	23 19 17.4	-0.1
PKSM	**Moragy**	**150.69**	**337**	⇓*i*P	PKPbc	23 19 17.0	-1.4
PKSM	**Moragy**	**150.69**	**337**	⇓P	PKPbc	23 19 17.0	-1.4
STU	**Stuttgart**	**150.83**	**351**	*e*PKPbc	PKPbc	23 19 18.0	-0.7
FUR	**Furstenfeldbru**	**151.05**	**348**	*e*PKPbc	PKPbc	23 19 18.4	-0.8
RJOB	**Jochberg**	**151.12**	**345**	*e*PKPbc	PKPbc	23 19 18.6	-0.8
ABTA	**Abfaltersbach**	**152.12**	**345**	⇑*i*PKPbc	PKPbc	23 19 20.1	-1.6
	comp=Z,2.1nm,0.5s						
TORD	**Torodi Ar. Bea**	**173.09**	**175**	PKP	PKPdf	23 19 33.5	-2.1
	comp=Z,0.9nm,0.9s,baz=317,slow=2.0,SNR=4.7						
TORD				PKPab	PKPab	23 21 05.0	-0.8
	comp=Z,0.4nm,0.6s,baz=192,slow=4.0,SNR=6.9						

ISK ***23*** *23:35:33.5, 3931N×4094E, h7km, MD3.1*
DDA ***23*** *23:35:33.4, 3934N×4090E, h7km±3km, Md3.1*
CSEM ***23*** *23:35:33.0±0.5, 3931N×4086E, h2km±3km, MD3.1, Error ellipse: s-maj=5.4km s-min=2.5km az=127.0*
ISCJB ***23*** *23:35:35.1±0.5, 3938N±004×4087E±004, h10km, Error ellipse: s-maj=6.2km s-min=3.5km az=138.9*

ISC 23 23:35:34.6±1.0, 3934N±005×4091E±005, h2km±7km, n16, σ0°80/23, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
EZM	**Erzurum**	**0.66**	**32**	PG	**Pg**	**23 35 46.8**	**-0.5**
EZM				*e*SG	**Sg**	**23 35 57.0**	**+1.2**
ERZM	**Erzurum**	**0.66**	**32**	*i* P	**Pg**	**23 35 46.9**	**-0.4**
KOPT	**Kop Dagi**	**0.74**	**335**	*i* P	**Pg**	**23 35 48.4**	**-0.5**
KOPT				*i* S	**Sg**	**23 35 58.4**	**-0.1**
EZC	**Erzincan**	**0.94**	**296**	*e*PN	**Pn**	**23 35 58.5**	**+3.8**
HOMI	**Horasan**	**1.04**	**47**	*i* P	**Pg**	**23 35 52.9**	**-1.6**
HOMI				*i* S	**Sg**	**23 36 09.2**	**+1.1**
PTK	**Pertek**	**1.26**	**250**	*e*PN	**Pn**	**23 35 57.8**	**-1.4**
PTK				*e*SN	**Sn**	**23 36 16.6**	**-0.1**
TUTA	**Tutak**	**1.48**	**87**	*i* P	**Pn**	**23 36 01.8**	**-0.4**
DIYA	**Diyarbakir**	**1.55**	**204**	*i* P	**Pn**	**23 36 04.1**	**+1.0**
DIYA				*i* S	**Sn**	**23 36 24.3**	**+0.6**
GUMT	**Gumushane**	**1.56**	**316**	*e*PN	**Pn**	**23 36 03.3**	**0.0**
SVRC	**Sivrice-ELAZID**	**1.58**	**233**	*e*PN	**Pn**	**23 36 02.4**	**-1.1**
AGRB	**Hanur-Agry**	**1.63**	**81**	*e*PN	**Pn**	**23 36 03.8**	**-0.4**
DDEM	**Demirkent**	**1.68**	**22**	*i* P	**Pn**	**23 36 04.6**	**-0.2**
DBAD	**Bademkaya**	**1.78**	**20**	*i* P	**Pn**	**23 36 06.8**	**+0.5**
DBAD				*i* S	**Sn**	**23 36 29.0**	**-0.4**
KEMA	**Kemaliye**	**1.88**	**268**	*i* P	**Pn**	**23 36 08.0**	**+0.4**
KEMA				*i* S	**Sg**	**23 36 35.7**	**+0.9**
DAGI	**Agillar**	**1.90**	**24**	*i* P	**Pn**	**23 36 07.8**	**-0.1**
DIGO	**Kars**	**2.18**	**60**	*i* P	**Pn**	**23 36 12.8**	**+1.1**

IDC ***23*** *23:41:16.1±1.6, 083S×12164E, h0km, mb3.7/3, mb1 3.7/3, mb1mx3.5/15, mbtmp3.7/3, Error ellipse: s-maj=78.8km s-min=28.4km az=69.0*
ISCJB ***23*** *23:41:17.6±1.4, 15N±02×12626E±009, h58km±15km, mb3.6/2, Error ellipse: s-maj=36.9km s-min=9.4km az=19.6*
DJA ***23*** *23:41:18.1±0.9, 1N±25×126E±, h22km±35km, MLv3.7/3*

ISC 23 23:41:18.6±1.5, 15N±02×12626E±009, h47km±17km, n8, σ0°61/9, mb3.6/2, 1D, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TNTI	**Ternate**	**1.30**	**121**	P	**Pn**	**23 41 39.7**	**-0.7**
TNTI	**Ternate**	**1.30**	**121**	S	**Sn**	**23 41 56.9**	**+0.3**
MNI	**Manado**	**1.42**	**270**	⇓*e*P	**Pn**	**23 41 42.0**	**0.0**
MNI				*e*S	**Sn**	**23 41 58.0**	**-1.5**
MNI	**Manado**	**1.42**	**270**	P	**Pn**	**23 41 42.3**	**+0.3**
MNI	**Manado**	**1.42**	**270**	S	**Sn**	**23 42 00.7**	**+1.2**
LBMI	**Labuha**	**2.42**	**149**	P	**Pn**	**23 41 56.1**	**+0.3**
ASAR	**Alice Springs**	**26.05**	**164**	P	**P**	**23 46 47.5**	**-0.2**
	0.7nm,0.5s,mb3.5,baz=350,slow=10,SNR=8.3						
MKAR	**Makanchi Array**	**59.16**	**326**	P	**P**	**23 51 14.8**	**+0.2**
	0.4nm,0.5s,mb3.7,baz=129,slow=7.3,SNR=6.5						

ISCJB ***24*** *00:00:14.9±0.9, 2557N±008×10520E±006, h10km, mb3.8/8, Error ellipse: s-maj=11.7km s-min=7.2km az=157.1*
IDC ***24*** *00:00:16.4±1.3, 2584N×10540E, h0km, mb3.8/8, mb1 3.9/8, mb1mx3.7/22, mbtmp3.8/8, Error ellipse: s-maj=35.7km s-min=21.4km az=83.0*
BJI ***24*** *00:00:20.3, 2591N×10507E, h15km, mB4.3, mb3.9, ML3.5*

ISC 24 00:00:17.3±0.8, 2562N±006×10518E±006, h10km, n12, σ0°98/15, mb3.8/8, Southeastern China

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GYA	**Guiyang**	**1.57**	**58**	PG	**Pg**	**00 00 47.0**	**-0.4**
GYA				SG	**Sg**	**00 01 06.9**	**-0.9**
GYA				Smax			
	comp=N,1μm,0.4s						
GYA				Smax			
	comp=E,730nm,0.5s						
KMI	**Kunming**	**2.27**	**258**	PG	**Pg**	**00 00 57.6**	**-3.1**
KMI				SG	**Sg**	**00 01 23.5**	**-6.6**
KMI				Smax			
	comp=N,219nm,1.0s						
KMI				Smax			
	comp=E,170nm,0.6s						
CD2	**Chengdu**	**5.42**	**347**	*e*P	**Pn**	**00 01 38.6**	**+0.5**
CD2				S	**Sn**	**00 02 43.3**	**+2.9**
CD2				SG	**Sg**	**00 03 10.3**	**-0.8**
CD2				Smax			
	comp=N,110nm,0.8s						
CD2				Smax			
	comp=E,140nm,0.7s						
CMAR	**Chiang Mai Arr**	**9.18**	**220**	Pg	Px	00 03 10.4	
	comp=E,0.3nm,0.3s,baz=43,slow=17,SNR=4.3						
CMAR				Lg		00 05 19.4	
	comp=E,0.5nm,0.3s,baz=41,slow=26,SNR=5.1						
SONM	**Songino Array**	**22.19**	**2**	P	**P**	**00 05 13.5**	**0.0**
	comp=E,3.2nm,0.9s,mb3.7,baz=181,slow=11,SNR=11						
MKAR	**Makanchi Array**	**27.88**	**325**	P	**P**	**00 06 07.4**	**+0.3**
	comp=E,1.0nm,0.7s,mb3.5,baz=137,slow=9.5,SNR=3.9						
ZALV	**Zalesovo Beam**	**32.09**	**337**	P	**P**	**00 06 43.9**	**-0.5**
	comp=E,4.5nm,0.8s,mb4.3,baz=138,slow=8.4,SNR=18						
KURK	**Kurchatov**	**32.29**	**328**	P	**P**	**00 06 46.1**	**0.0**
	comp=E,1.1nm,0.5s,mb4.0,baz=132,slow=9.6,SNR=5.5						
BVAR	**Borovoye Array**	**37.76**	**326**	P	**P**	**00 07 32.9**	**-0.3**
	comp=E,0.5nm,0.4s,mb3.6,baz=122,slow=10.0,SNR=4.3						
AKTO	**Aktyubinsk**	**43.69**	**317**	P	**P**	**00 08 23.2**	**+1.0**
	comp=E,0.7nm,0.5s,mb3.6,baz=74,slow=7.4,SNR=3.1						
ASAR	**Alice Springs**	**56.34**	**148**	P	**P**	**00 09 59.9**	**+1.3**
	comp=E,0.4nm,0.5s,mb3.7,baz=330,slow=7.1,SNR=4.7						
GERES	**GERESS Array B**	**72.09**	**316**	P	**P**	**00 11 41.9**	**+0.1**
	comp=E,0.2nm,0.4s,mb3.4,baz=84,slow=7.4,SNR=3.1						

KRSC 24 00:00:31.0±0.2, 5533N×16245E, h65km±65km, ML3.6, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MKZ	**Mys Kozlova**	**0.88**	**208**	*e*P	Pn	00 00 50.6	+2.9
KBTR	**Krutoberegovo**	**0.91**	**13**	*e*P	Pn	00 00 49.3	+1.3
KBTR				*i* S	Sn	00 01 08.7	+2.1
ZLN	**Zelenaya**	**1.16**	**307**	*e*P	Pn	00 00 52.7	+1.5
ZLN				*i* S	Sn	00 01 08.3	+1.9
BZMR	**Bezymyannaya**	**1.27**	**299**	*e*P	Pn	00 00 54.3	+1.7
BZMR				*i* S	Sn	00 01 10.9	+2.0
KIRR	**Kirishev**	**1.35**	**298**	*e*P	Pn	00 00 56.6	+2.9
KIRR				*i* S	Sn	00 01 14.8	+4.0
KRSR	**Krestovskiy**	**1.39**	**311**	*e*P	Pn	00 00 55.8	+1.6
KRSR				*i* S	Sn	00 01 13.7	+2.0
KLY	**Klyuchi**	**1.41**	**315**	*e*P	Pn	00 00 54.5	-0.1
KLY				*i* S	Sn	00 01 11.8	-0.6
KPT	**Kopyto**	**1.42**	**298**	*e*P	Pn	00 00 56.6	+2.0
KPT				*i* S	Sn	00 01 14.6	+2.2
SRKR	**Sorokina**	**1.51**	**332**	*e*P	Pn	00 00 58.5	+2.6
SRKR				*i* S	Sn	00 01 18.0	+3.4
KOZ	**Kozyrevsk**	**1.63**	**298**	*e*P	Pn	00 01 00.6	+3.1
KOZ				*i* S	Sn	00 01 21.6	+4.1
KII	**Karymskiy**	**2.17**	**235**	*e*P	Pn	00 01 07.4	+2.6
KII				*i* S	Sn	00 01 35.0	+4.4
SPN	**Mys Shipunski**	**2.65**	**213**	*e*P	Pn	00 01 12.4	+1.1
SPN				*i* S	Sn	00 01 42.0	-0.3
NLC	**Nalytchevo**	**2.83**	**221**	*e*P	Pn	00 01 15.3	+1.6
NLC				*i* S	Sn	00 01 48.0	+1.4
AVH	**Avacha**	**3.00**	**228**	*e*P	Pn	00 01 19.4	+3.3
AVH				*i* S	Sn	00 01 53.5	+2.7
GNL	**Ganaly**	**3.10**	**240**	*e*P	Pn	00 01 20.8	+3.4
PET	**Petropavlovsk**	**3.21**	**226**	*e*P	Pn	00 01 21.0	+2.0
PET				*i* S	Sn	00 01 57.5	+1.5
RUS	**Russkaya**	**3.72**	**220**	*e*P	Pn	00 01 28.4	+2.5
RUS				*i* S	Sn	00 02 09.4	+0.9

MAN 24 00:03:04, 579N×12563E, h208km, mb4.1, ML2.9, MS2.7, Mindanao

ISK ***24*** *00:27:51.8, 3947N×2782E, h16km, MD2.8*
CSEM ***24*** *00:27:51.7±0.1, 3948N×2784E, h20km, MD2.8, Error ellipse: s-maj=2.9km s-min=1.8km az=88.0*
ISCJB ***24*** *00:27:52.5±0.6, 3948N±003×2784E±004, h9km±7km, Error ellipse: s-maj=6.1km s-min=5.2km az=138.7*
DDA ***24*** *00:27:52.4, 3949N×2785E, h7km±1km, Md2.8*

ISC 24 00:27:52.6±0.7, 3948N±003×2784E±004, h16km±10km, n9, σ0°42/16, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BALB	**Balikesir**	**0.16**	**12**	*e*PG	**Pg**	**00 27 56.6**	**-0.1**
BALB				*e*SG	**Sg**	**00 27 59.7**	**+0.1**
BALY	**Balya**	**0.31**	**327**	*i* P	**Pg**	**00 27 58.8**	**-0.3**
BALY				*i* S	**Sg**	**00 28 03.4**	**-0.1**
AKS	**Akhisar**	**0.60**	**182**	*e*PG	**Pg**	**00 28 04.2**	**-0.3**
AKS				*e*SG	**Sg**	**00 28 12.5**	**+0.1**
DST	**Dursunbey**	**0.63**	**78**	*e*PG	**Pg**	**00 28 04.6**	**-0.3**
DST				*e*SG	**Sg**	**00 28 13.9**	**+0.7**
DEMI	**Demirci**	**0.81**	**122**	*i* P	**Pg**	**00 28 08.1**	**-0.3**
DEMI				*i* S	**Sg**	**00 28 19.4**	**+0.2**
EDC	**Edincik**	**0.86**	**1**	*e*PG	**Pg**	**00 28 09.3**	**-0.1**
BNT	**Bandirma**	**0.88**	**4**	*e*PG	**Pg**	**00 28 09.0**	**-0.6**
BNT				*e*SG	**Sg**	**00 28 22.1**	**+0.9**
KCT	**Karacabey**	**0.88**	**27**	*e*PG	**Pg**	**00 28 09.1**	**-0.6**
AYVA	**Ayvalik**	**0.90**	**259**	*i* P	**Pb**	**00 28 10.0**	**+0.1**
AYVA				*i* S	**Sg**	**00 28 22.5**	**+0.5**

IDC ***24*** *01:05:26.4±14.0, 3593N×6998E, h118km±132km, mb3.3/3, mb1 3.3/7, mb1mx3.1/24, mbtmp3.2/7, ML3.6/4, Error ellipse: s-maj=78.3km s-min=49.9km az=4.0*
ISCJB ***24*** *01:05:37.1±0.6, 3646N±004×7009E±009, h231km±8km, mb3.4/2, Error ellipse: s-maj=12.5km s-min=6.4km az=168.9*
NEIC ***24*** *01:05:38.4±0.9, 3643N×7023E, h219km±11km, mb3.9/1, Error ellipse: s-maj=20.3km s-min=12.6km az=110.0*

ISC 24 01:05:38.5±0.5, 3646N±004×7016E±009, h218km±8km, n33, σ0°92/35, mb3.4/2, 1D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KBL	**Kabul**	**2.12**	**206**	*e*Pn	**Pn**	**01 06 20.3**	**+0.7**
KBL				*e*Sn	**S**	**01 06 51.5**	**-0.2**
AML	**Almayashu**	**6.29**	**25**	P	**Pn**	**01 07 09.8**	**+0.2**
	SNR=40						
KK31	**Karatay Array**	**6.64**	**2**	Pn	**Pn**	**01 07 13.3**	**-0.7**
	2.0nm,0.5s,baz=194,slow=14,SNR=21						
KK31				⇓Sn	**S**	**01 08 24.9**	**-5.3**
	3.1nm,0.5s,baz=195,slow=23,SNR=5.5						
EKS2

NEZ	**North Egmont**	**3.32**	**30**	P	**Pn**	**01 13 23.8**	**+0.8**
PKE	**Pukeiti**	**3.35**	**28**	P	**Pn**	**01 13 23.7**	**+0.3**
RAEZ	**Rainy Point**	**3.42**	**33**	P	**Pn**	**01 13 25.3**	**+0.9**
EAZ	**Earnscleugh**	**3.61**	**211**	P	**Pn**	**01 13 25.9**	**-1.1**
TSZ	**Takapari Road**	**3.68**	**56**	P	**Pn**	**01 13 26.6**	**-1.3**
MOVZ	**Moawhango**	**3.98**	**47**	P	**Pn**	**01 13 31.9**	**-0.2**
FWVZ	**Far West T-bar**	**3.99**	**44**	P	**Pn**	**01 13 33.9**	**+1.7**
TWVZ	**Taurewa**	**4.07**	**41**	P	**Pn**	**01 13 36.0**	**+2.7**
NGZ	**Ngauruhoe**	**4.07**	**44**	P	**Pn**	**01 13 34.9**	**+1.6**
WTVZ	**West Tongariro**	**4.11**	**43**	P	**Pn**	**01 13 35.2**	**+1.3**
TUZ	**Tuapeka**	**4.14**	**203**	P	**Pn**	**01 13 33.3**	**-0.9**
HIZ	**Hauiti**	**4.27**	**32**	P	**Pn**	**01 13 35.6**	**-0.5**
RATZ	**Rangitukua**	**4.39**	**42**	P	**Pn**	**01 13 40.2**	**+2.5**
URZ	**Urewera**	**5.54**	**47**	Pn	**Pn**	**01 13 51.4**	**-2.1**
	4.3nm,0.3s,baz=240,slow=8.3,SNR=14						
URZ				Pg	**Pg**	**01 14 09.7**	**-7.1**
	22nm,0.3s,baz=234,slow=13,SNR=12						
URZ				Lg		01 15 26.1	
	4.4nm,0.3s,baz=347,slow=7.4,SNR=3.4						
MKAZ	**Moumakai**	**5.63**	**27**	P	**Pn**	**01 13 54.7**	**0.0**
WCZ	**Waipu Caves**	**6.50**	**17**	P	**Pn**	**01 14 06.7**	**+0.1**
OUZ	**Omahuta**	**7.06**	**11**	P	**Pn**	**01 14 14.6**	**+0.2**
RAO	**Raoul Island**	**15.27**	**36**	LR	LR	01 21 40.8	
	comp=Z,347nm,20.4s,baz=194,slow=36						
STKA	**Stephens Creek**	**26.22**	**283**	P	**P**	**01 18 05.7**	**-0.5**
	1.2nm,0.5s,mb3.7,baz=102,slow=7.6,SNR=3.5						
STKA				LR	LR	01 26 41.5	
	comp=Z,137nm,20.1s,baz=55,slow=33						
CTA	**Charters Tower**	**30.93**	**307**	P	**P**	**01 18 47.2**	**-1.0**
	0.7nm,0.3s,mb4.0,baz=170,slow=6.1,SNR=2.1						
ASAR	**Alice Springs**	**36.53**	**288**	P	**P**	**01 19 36.0**	**-0.9**
	1.2nm,0.6s,mb3.9,baz=128,slow=7.2,SNR=14						
WRAB	**Tennant Creek**	**38.69**	**293**	*eP*	**P**	**01 19 54.5**	**-0.7**
	2.7nm,0.6s,mb4.2						
CASY	**Casey**	**40.93**	**213**	*eP*	**P**	**01 20 13.6**	**+0.3**
CASY	**Casey**	**40.93**	**213**	*eP*	**P**	**01 20 13.5**	**+0.2**
	13nm,1.3s,mb4.4						
QSPA	**South Pole Qui**	**47.95**	**180**	P	**P**	**01 21 11.4**	**+2.2**
	7.3nm,0.8s,mb4.7,baz=41,slow=2.9,SNR=16						
MAW	**Mawson**	**58.35**	**205**	*eP*	**P**	**01 22 26.5**	**+0.5**
	2.0nm,0.9s,mb4.2						
MAW	**Mawson**	**58.35**	**205**	P	**P**	**01 22 26.2**	**+0.2**
	1.5nm,0.7s,mb4.2,baz=95,slow=8.8,SNR=7.1						
SYO	**Syowa Base**	**63.67**	**197**	*eP*	**P**	**01 23 01.0**	**-1.1**
SNAA	**Sanae**	**66.40**	**182**	*e*	**P**	**01 23 19.4**	**-0.3**
SNAA				*e*		01 23 26.2	
SNAA				*e*		01 23 30.6	
SNAA	**Sanae**	**66.40**	**182**	*eP*	**P**	**01 23 19.5**	**-0.3**
	7.9nm,1.1s,mb4.7						
VNA3	**Neumayer Olymp**	**66.88**	**179**	*e*	**P**	**01 23 22.7**	**-0.1**
VNA3				*e*		01 23 29.1	
VNA2	**Neumayer--Watz**	**67.21**	**180**	*e*	**P**	**01 23 25.3**	**+0.4**
	baz=176,slow=5.0						
VNA2				*e*		01 23 31.8	
VNA2				*e*		01 23 36.8	
VNA1	**Neumayer--Stat**	**67.48**	**180**	*e*	**P**	**01 23 27.3**	**+0.7**
VNA1				*e*		01 23 32.3	
VNA1				*e*		01 23 35.7	
PLCA	**Paso Flores**	**79.96**	**137**	P	**P**	**01 24 40.7**	**+0.3**
	2.4nm,0.7s,mb4.2,baz=190,slow=8.5,SNR=6.0						
PLCA	**Paso Flores**	**79.96**	**137**	P	**P**	**01 24 40.7**	**+0.3**
TRQA	**Tornquist**	**86.25**	**140**	*eP*	**P**	**01 25 13.3**	**+0.3**
	2.0nm,0.7s,mb4.5						
CMAR	**Chiang Mai Arr**	**90.27**	**295**	P	**P**	**01 25 32.3**	**+0.1**
	1.1nm,0.6s,mb4.4,baz=152,slow=2.3,SNR=5.8						
LIC	**Lamto**	**144.10**	**185**	*eP*	PKPdf	01 32 06.1	-1.4
	32nm,1.0s						
KIC	**Kosan Boka**	**144.21**	**186**	*eP*	PKPdf	01 32 04.1	-3.6
	116nm,1.4s						
TIC	**Toumodi**	**144.51**	**185**	*eP*	PKPdf	01 32 05.8	-2.5
	24nm,0.6s						
DBIC	**Dimbokro**	**144.53**	**185**	PKP	PKPdf	01 32 05.9	-2.4
	1.3nm,0.4s,baz=163,slow=10,SNR=6.5						
MMAI	**Mount Meron Ar**	**144.72**	**269**	PKP	PKPdf	01 32 06.2	-1.8
	2.7nm,0.5s,baz=94,slow=4.6,SNR=5.7						
ARCES	**ARCESS Array B**	**147.58**	**339**	PKPbc	PKPbc	01 32 12.4	-2.0
	2.0nm,0.5s,baz=40,slow=2.1,SNR=12						
JOF	**Joensuu**	**149.08**	**326**	*ep*	PKPbc	01 32 21.2	+2.7
	1.1nm,0.4s						
TOA0	**Torodi Ar. Sit**	**149.87**	**199**	*e*PKPab	PKPbc	01 32 21.0	-0.9
TORD	**Torodi Ar. Bea**	**149.87**	**199**	PKPbc	PKPbc	01 32 19.8	-2.1
	2.3nm,0.4s,baz=150,slow=1.8,SNR=24						
KAF	**Kangasniemi**	**151.53**	**326**	*ep*	PKPbc	01 32 23.1	-1.3
	0.9nm,0.4s						
HFS	**Hagfors**	**157.63**	**331**	PKPab	PKPab	01 32 58.0	-1.0
	1.2nm,0.7s,baz=121,slow=5.6,SNR=4.4						

*ISCJB **24** 01:21:44.3±1.1, 618S±02×1556W±03, h10km, mb4.1/6, MS4.1/9, Error ellipse: s-maj=26.4km s-min=20.9km az=162.2*
*NEIC **24** 01:21:45.9±0.7, 6175S×15551W, h10km, mb4.5/3, Error ellipse: s-maj=22.1km s-min=19.8km az=176.0*
*IDC **24** 01:21:47.2±1.1, 6208S×15474W, h0km, mb4.0/4, mb1 4.2/4, mb1mx3.9/11, mbtmp4.0/4, MS4.1/9, Ms1 4.1/9, ms1mx3.7/20, Error ellipse: s-maj=49.6km s-min=27.3km az=11.0*

ISC 24 01:21:46.5±1.1, 619S±02×1557W±03, h10km, n24, σ1§03/8, mb4.1/6, MS4.1/9, Pacific-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SBA	**Scott Base**	**19.89**	**202**	*eP*	**Pn**	**01 26 18.4**	**-0.7**
	6.9nm,1.1s						
QSPA	**South Pole Qui**	**28.21**	**180**	P	**P**	**01 27 40.1**	**+1.4**
	1.5nm,0.8s,mb3.7,baz=44,slow=7.1,SNR=4.2						
QSPA				LR	LR	01 38 08.3	
	comp=Z,436nm,19.2s,MS4.1,baz=244,slow=35						
QSPA	**South Pole Qui**	**28.21**	**180**	P	**P**	**01 27 40.1**	**+1.4**
QSPA				LR	LR	01 38 08.3	
TBI	**Tubuai**	**38.77**	**9**	*e*LR	LR	01 39 45.0	
	415nm,28.5s						
RKT	**Rikitea**	**41.27**	**30**	*e*LQ		01 39 07.8	
	322nm,28.5s						
RKT				*e*LR	LR	01 40 52.0	
	229nm,29.0s						
PPT	**Papeete**	**44.50**	**8**	*e*LR	LR	01 42 23.2	
	424nm,26.0s						
PPT	**Papeete**	**44.50**	**8**	LR	LR	01 44 37.2	
	comp=Z,337nm,19.8s,MS4.3,baz=286,slow=31						
MAW	**Mawson**	**47.80**	**199**	LR	LR	01 48 58.0	
	comp=Z,201nm,20.1s,MS4.1,baz=336,slow=34						
AFI	**Afiamalu**	**49.31**	**339**	LR	LR	01 46 05.7	
	comp=Z,323nm,18.7s,MS4.3,baz=59,slow=29						
STKA	**Stephens Creek**	**49.66**	**277**	LR	LR	01 48 13.4	
	comp=Z,137nm,19.4s,MS4.0,baz=29,slow=32						
PLCA	**Paso Flores**	**52.89**	**108**	P	**P**	**01 31 01.6**	**-0.5**
	1.8nm,0.8s,mb4.1,baz=218,slow=9.5,SNR=4.6						
PLCA				LR	LR	01 48 14.7	
	comp=Z,70nm,18.2s,MS3.7,baz=22,slow=30						
CTAO	**Charters Tower**	**57.59**	**289**	*eP*	**P**	**01 31 36.2**	**-0.1**
	13nm,1.3s,mb4.8						
TRQA	**Tornquist**	**58.88**	**113**	*eP*	**P**	**01 31 43.8**	**-1.3**
	6.0nm,1.4s,mb4.4						
ASAR	**Alice Springs**	**60.21**	**275**	P	**P**	**01 32 01.5**	**+7.1**
	1.2nm,1.0s,mb3.9,baz=148,slow=7.3,SNR=6.2						
NWAO	**Narrogin (SRO)**	**60.22**	**255**	LR	LR	01 52 30.5	
	comp=Z,128nm,18.5s,MS4.1,baz=175,slow=30						
HNR	**Honiara**	**61.51**	**308**	LR	LR	01 54 15.7	
	comp=Z,151nm,18.1s,MS4.2,baz=309,slow=32						
LPAZ	**La Paz**	**74.62**	**96**	P	**P**	**01 33 27.1**	**+1.4**
	1.5nm,0.9s,mb3.9,baz=216,slow=6.5,SNR=5.4						
BOSA	**Boshof**	**89.80**	**181**	LR	LR	02 09 10.0	
	comp=Z,144nm,21.4s,MS4.4,baz=357,slow=32						
RES	**Resolute Bay**	**141.98**	**22**	*e*PKPdf	PKPdf	01 41 13.3	-3.3
MKAR	**Makanchi Array**	**144.35**	**272**	PKP	PKPdf	01 41 22.4	+0.8
	0.3nm,0.4s,baz=108,slow=4.7,SNR=3.6						
MDT	**Midelt**	**145.47**	**134**	PKPbc	PKPbc	01 41 24.0	0.0
	2.2nm,0.8s,baz=217,slow=2.7,SNR=6.6						
KURK	**Kurchatov**	**148.83**	**274**	PKPbc	PKPbc	01 41 33.7	+0.8
	1.9nm,1.0s,baz=144,slow=2.1,SNR=4.8						
KURK	**Kurchatov**	**148.83**	**274**	*e*PKPdf	PKPdf	01 41 28.4	-0.6
KURK				PKPbc	PKPbc	01 41 33.7	+0.7
ESDC	**Sonseca Array**	**151.85**	**129**	PKPab	PKPab	01 41 49.2	-0.5
	1.1nm,0.8s,baz=180,slow=1.5,SNR=4.6						

*SZGRF **24** 01:42:29.3, 1642S×17826W, h33km, Fiji Islands region*
*MOS **24** 01:43:06.8±1.5, 1504S×17725W, h340km, mb5.1/3, Error ellipse: s-maj=24.0km s-min=20.5km az=97.9*
*ISCJB **24** 01:43:08.5±1.1, 1502S±006×17739W±005, h350km±11km, mb4.8/91, Error ellipse: s-maj=11.4km s-min=5.1km az=151.2*

*GCMT **24** 01:43:09.5±0.5, 1500S×17737W, h368km±2km, MW5.2/49, Moment Tensor Solution. s49,c62; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr=5.92±.33; Mθθ 3.20±.69; Mφφ 2.72±.61; Mrθ 2.47±.58; Mrφ 2.01±.50; Mθφ 5.46±.56; Best double couple: Mo 8.06100×10¹⁶ NP1: φs 57.00000°, δ 23.00000°, λ -67.00000°. NP2: φs 212.00000°, δ 69.00000°, λ -99.00000°. Principal axes: T 7.4000, Plg 24.0000°, Azm 309.0000°; N 1.3230, Plg 9.0000°, Azm 215.0000°; P -8.7230, Plg 65.0000°, Azm 106.0000°; nsta1 refers to body waves, cutoff=40s.*
*NEIC **24** 01:43:09.5±0.7, 1508S×17736W, h352km±6km, mb4.9/66 Error ellipse: s-maj=8.7km s-min=3.5km az=153.0*
*BJI **24** 01:43:10.5, 1461S×17785W, h352km, mB4.8, mb4.6*
*IDC **24** 01:43:10.2±1.5, 1506S×17737W, h356km±14km, mb4.2/19, mb1 4.4/20, mb1mx4.3/23, mbtmp4.3/20, Error ellipse: s-maj=19.3km s-min=8.9km az=150.0*
*DJA **24** 01:43:56, 1548S×17877E, h588km, Mw5.3/5*

ISC 24 01:43:10.2±1.2, 1504S±006×17738W±005, h354km±11km, h352km±1.4km; pP-P, n614, σ0§53/465, mb4.8/91, 169C-178D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**5.54**	**79**	P	**Pn**	**01 44 34.2**	**-1.8**
	61nm,0.3s,baz=49,slow=2.9,SNR=75						
AFI	**Afiamalu**	**5.54**	**79**	*e*Pn	**Pn**	**01 44 33.7**	**-2.3**
	1µm,0.9s						
DZM	**Mont Dzumac**	**16.85**	**243**	*eP*	**P**	**01 46 46.1**	**+1.4**
NOUC	**Port Laguerre**	**16.98**	**243**	*eP*	**P**	**01 46 48.7**	**+2.6**
HNR	**Honiara**	**22.84**	**282**	P	**P**	**01 47 43.5**	**-0.4**
	180nm,0.7s,mb5.4,baz=157,slow=0.5,SNR=10.0						
HNR	**Honiara**	**22.84**	**282**	*eP*	**P**	**01 47 45.4**	**+1.5**
	213nm,0.8s,mb5.4						
URZ	**Urewera**	**23.64**	**191**	P	**P**	**01 47 46.7**	**-4.1**
	21nm,0.5s,mb4.6,baz=342,slow=4.4,SNR=14						
EIDS	**Eidsvold**	**31.26**	**246**	*eP*	**P**	**01 48 56.9**	**-1.5**
	11nm,0.7s,mb4.2						
CTA	**Charters Tower**	**34.99**	**256**	*eP*	**P**	**01 49 30.8**	**+0.3**
	12nm,0.6s,mb4.3						
CTA				*e*		01 49 34.3	
CTA	**Charters Tower**	**34.99**	**256**	P	**P**	**01 49 30.9**	**+0.4**
	20nm,0.6s,mb4.5,baz=86,slow=11,SNR=29						
CTAO	**Charters Tower**	**34.99**	**256**	*eP*	**P**	**01 49 30.5**	**0.0**
	20nm,0.6s,mb4.5						
PMG	**Port Moresby**	**35.08**	**275**	*eP*	**P**	**01 49 32.8**	**+1.5**
PMG	**Port Moresby**	**35.08**	**275**	*eP*	**P**	**01 49 30.1**	**-1.2**
	32nm,0.8s,mb4.6						
COEN	**Coen**	**38.17**	**266**	*eP*	**P**	**01 49 58.5**	**+1.3**
	22nm,0.9s,mb4.4						
STKA	**Stephens Creek**	**40.92**	**238**	*eP*	**P**	**01 50 19.7**	**+0.3**
	4.7nm,0.6s,mb3.9						
STKA	**Stephens Creek**	**40.92**	**238**	P	**P**	**01 50 19.9**	**+0.4**
	6.0nm,0.7s,mb3.9,baz=70,slow=10.0,SNR=14						
WRAB	**Tennant Creek**	**46.18**	**257**	*c iP*	**P**	**01 51 00.1**	**-1.0**
ASAR	**Alice Springs**	**46.58**	**252**	P	**P**	**01 51 04.0**	**-0.2**
	115nm,0.6s,mb5.3,baz=84,slow=8.6,SNR=1001						
ASAR				ScP	ScP	01 55 52.8	+1.9
	2.6nm,1.1s,baz=99,slow=4.8,SNR=4.7						
ASAR				S	**S**	**01 57 23.7**	**-2.0**
	11nm,0.8s,baz=85,slow=16,SNR=47						
KAKA	**Kakadu**	**48.69**	**266**	*eP*	**P**	**01 51 15.6**	**-4.8**
	43nm,0.6s,mb4.8						
FORT	**Forrest**	**52.16**	**243**	*eP*	**P**	**01 51 45.3**	**-0.5**
	51nm,0.6s,mb5.0						
BATI	**Baumata**	**57.60**	**267**	P	**P**	**01 52 25.2**	**+0.5**
	33nm,0.7s,mb4.8,baz=130,slow=2.0,SNR=6.1						
MBWA	**Marble Bar**	**59.77**	**254**	*eP*	**P**	**01 52 39.0**	**-0.4**
KLBR	**Kellerberrin**	**61.01**	**242**	*eP*	**P**	**01 52 46.5**	**-1.1**
	16nm,0.6s,mb4.6						
NWAO	**Narrogin (SRO)**	**61.45**	**241**	P	**P**	**01 52 50.3**	**-0.1**
	5.2nm,0.7s,mb4.1,baz=95,slow=6.7,SNR=4.3						
KAPI	**Kappang**	**62.53**	**272**	P	**P**	**01 52 57.3**	**-0.5**
	7.9nm,0.7s,mb4.3,baz=149,slow=10,SNR=5.8						
SBA	**Scott Base**	**63.33**	**184**	*eP*	**P**	**01 53 03.5**	**+1.5**
	34nm,1.3s,mb4.7						
MJAR	**Matsushiro Arr**	**66.24**	**322**	P	**P**	**01 53 20.8**	**-0.4**
	3.5nm,0.8s,mb4.1,baz=158,slow=5.9,SNR=6.9						
CASY	**Casey**	**69.14**	**204**	*eP*	**P**	**01 53 38.2**	**-0.5**
PETK	**Petropavlovsk-**	**71.19**	**344**	P	**P**	**01 53 51.1**	**0.0**
	7.2nm,0.7s,mb4.5,baz=118,slow=9.4,SNR=8.3						
CHGN	**Chignik**	**72.83**	**11**	*eP*	**P**	**01 53 59.7**	**-1.0**
V03C	**Hunter Liggett**	**73.42**	**45**	P	**P**	**01 54 05.2**	**+0.7**
	baz=74,SNR=6.2						
SAO	**San Andreas Ge**	**73.68**	**44**	*eP*	**P**	**01 54 06.3**	**+0.2**
	48nm,1.3s,mb5.1						
PKM	**Peak Mountain**	**73.79**	**46**	P	**P**	**01 54 07.0**	**+0.2**
	baz=74,SNR=6.1						
PKD	**Parkfield**	**73.85**	**45**	P	**P**	**01 54 07.2**	**+0.1**
	7.4nm,SNR=6.8						
HOPS	**Hopland**	**73.88**	**41**	P	**P**	**01 54 07.4**	**+0.2**
	baz=74,SNR=13						
HOPS	**Hopland**	**73.88**	**41**	*eP*	**P**	**01 54 07.2**	**+0.1**
	54nm,1.1s,mb5.2						
CVS	**Carmenet Viney**	**73.90**	**42**	P	**P**	**01 54 07.1**	**-0.2**
	baz=74,SNR=6.8						
NSHM	**Saint Helena R**	**73.90**	**42**	*eP*	**P**	**01 54 07.3**	**0.0**
U04C	**Hernandez Rese**	**73.91**	**45**	P	**P**	**01 54 08.2**	**+0.8**
	baz=74,SNR=22						
PACP	**Pacheco Peak**	**73.92**	**44**	P	**P**	**01 54 07.9**	**+0.5**
	baz=74,SNR=20						
O01C	**Eel River Cons**	**74.07**	**40**	P	**P**	**01 54 08.9**	**+0.7**
	baz=74,SNR=7.0						
KIPM	**Iron Peak**	**74.09**	**40**	*eP*	**P**	**01 54 08.9**	**+0.6**
MNRC	**McLaughlin Nat**	**74.21**	**42**	P	**P**	**01 54 09.7**	**+0.6**
	baz=74,SNR=23						
GASB	**Alder Springs**	**74.48**	**41**	P	**P**	**01 54 11.7**	**+1.1**
	baz=75,SNR=24						
MWC	**Mount Wilson**	**74.69**	**48**	*eP*	**P**	**01 54 11.6**	**-0.2**
	14nm,0.7s,mb4.8						
S05C	**Merced**	**74.75**	**44**	P	**P**	**01 54 11.8**	**-0.4**
	baz=75,SNR=8.3						
N02C	**Big Bar**	**74.79**	**40**	P	**P**	**01 54 12.7**	**+0.3**
	baz=75,SNR=16						
VES	**Vestal, Richgr**	**74.80**	**46**	P	**P**	**01 54 12.0**	**-0.5**
	baz=75,SNR=11						
BFSC	**Mount Baldy St**	**74.98**	**48**	P	**P**	**01 54 12.9**	**-0.6**
	baz=75,SNR=6.9						
T06C	**Millerton Lake**	**74.98**	**44**	P	**P**	**01 54 13.0**	**-0.5**
	baz=75,SNR=24						
EDW2	**Edwards Air Fo**	**75.07**	**47**	P	**P**	**01 54 13.9**	**-0.2**
	baz=75,SNR=17						
CMB	**Columbia Colle**	**75.08**	**43**	P	**P**	**01 54 13.9**	**-0.2**
	baz=75,SNR=30						
CMB	**Columbia Colle**	**75.08**	**43**	*eP*	**P**	**01 54 13.8**	**-0.3**
	21nm,0.9s,mb4.9						
OHCM	**Honcut**	**75.09**	**42**	*eP*	**P**	**01 54 13.4**	**-0.6**
WDC	**Whiskeytown Da**	**75.12**	**40**	P	**P**	**01 54 14.3**	**+0.1**
	baz=75,SNR=20						
WDC	**Whiskeytown Da**	**75.12**	**40**	*eP*	**P**	**01 54 14.1**	**-0.1**
	37nm,1.3s,mb5.0						
ISA	**Isabella**	**75.13**	**46**	P	**P**	**01 54 14.3**	**-0.1**
	baz=75,SNR=21						
ISA	**Isabella**	**75.13**	**46**	*eP*	**P**	**01 54 14.3**	**-0.1**
	18nm,1.1s,mb4.7						
ORV	**Oroville**	**75.20**	**41**	P	**P**	**01 54 14.4**	**-0.2**
	baz=75,SNR=22						
MONP	**Monument Peak**	**75.21**	**50**	P	**P**	**01 54 15.0**	**+0.1**
	baz=75,SNR=7.3						
LAVA	**Lava Cap Winer**	**75.25**	**42**	P	**P**	**01 54 14.6**	**-0.4**
	baz=75,SNR=6.5						
KDAK	**Kodiak Island**	**75.40**	**13**	P	**P**	**01 54 15.3**	**0.0**
	18nm,0.6s,mb5.0,baz=202,slow=5.4,SNR=14						
L02A	**Cave Junction**	**75.40**	**38**	P	**P**	**01 54 16.2**	**+0.4**
	baz=76,SNR=6.8						
M02C	**Callahan**	**75.40**	**39**	P	**P**	**01 54 16.5**	**+0.8**
	baz=76,SNR=32						
KCC	**Kaiser Creek**	**75.42**	**44**	P	**P**	**01 54 15.8**	**-0.2**
	baz=76,SNR=12						
PFO	**Pinyon Flat Ob**	**75.53**	**49**	P	**P**	**01 54 16.4**	**-0.3**
	baz=76						
YBH	**Yreka Blue Hor**	**75.69**	**39**	P	**P**	**01 54 17.8**	**+0.5**
	baz=76,SNR=31						
YBH	**Yreka Blue Hor**	**75.69**	**39**	*eP*	**P**	**01 54 18.1**	**+0.8**
	36nm,0.9s,mb5.1						
SWSC	**Sam W. Stewart**	**75.69**	**50**	P	**P**	**01 54 17.4**	**-0.2**
	baz=76,SNR=22						
M03C	**McCloud**	**75.78**	**40**	P	**P**	**01 54 18.0**	**+0.1**
	baz=76,SNR=8.3						
O05C	**Quincy**	**75.80**	**41**	P	**P**	**01 54 18.1**	**+0.1**
	baz=76,SNR=5.5						
O04C	**Chester**	**75.89**	**41**	P	**P**	**01 54 18.7**	**+0.2**
	baz=76,SNR=21						
MLAC	**Mammoth Lakes**	**75.90**	**44**	P	**P**	**01 54 19.1**	**+0.4**
	baz=76,SNR=7.3						
MTUM	**Tungsten Hills**	**75.94**	**45**	*eP*	**P**	**01 54 19.4**	**+0.5**
R06C	**Coleville**	**75.97**	**43**	P	**P**	**01 54 19.2**	**+0.2**
	baz=76,SNR=26						
MPMC	**Manual Prospec**	**76.02**	**46**	P	**P**	**01 54 19.6**	**+0.2**
	baz=76,SNR=18						
HUMO	**Hull Mountain**	**76.05**	**38**	P	**P**	**01 54 19.9**	**+0.5**
	baz=76,SNR=19						
HUMO	**Hull Mountain**	**76.05**	**38**	*eP*	**P**	**01 54 19.9**	**+0.6**
	35nm,1.1s,mb5.0						
BELC	**Belle Mtn.**	**76.06**	**49**	P	**P**	**01 54 19.4**	**-0.2**
	baz=76,SNR=10						
BEKR	**Beckwourth**	**76.10**	**42**	P	**P**	**01 54 19.8**	**0.0**
	baz=76						
GSC	**Goldstone**	**76.12**	**47**	P	**P**	**01 54 19.7**	**-0.2**
	baz=76,SNR=10						
GSC	**Goldstone**	**76.12**	**47**	*eP*	**P**	**01 54 19.8**	**-0.1**
	6.4nm,0.8s,mb4.4						
MIR	**Mirnyy**	**76.17**	**204**	*iP*	**P**	**01 54 20.0**	**+0.3**
MIR				pmax	pmax		
	comp=Z,100nm,1.5s,mb5.3						
WCN	**Washoe City**	**76.19**	**42**	P	**P**	**01 54 20.4**	**+0.2**
	baz=76,SNR=21						
HEC	**Hector,Ludlow**	**76.22**	**48**	P	**P**	**01 54 20.0**	**-0.5**
	baz=76,SNR=6.1						
BC3	**Big Chuckw Mtn**	**76.29**	**49**	P	**P**	**01 54 20.9**	**0.0**
	baz=76,SNR=5.5						
P06A	**Stead Airport,**	**76.30**	**42**	P	**P**	**01 54 21.2**	**+0.3**
	baz=76						
I02A	**Mapleton**	**76.36**	**37**	P	**P**	**01 54 21.4**	**+0.3**
	baz=76						
L04A	**Klamath Falls**	**76.44**	**39**	P	**P**	**01 54 21.9**	**+0.3**
	baz=77,SNR=12						
GLA	**Glamis**	**76.46**	**50**	P	**P**	**01 54 22.2**	**+0.3**
	baz=77						
GLA	**Glamis**	**76.46**	**50**	*eP*	**P**	**01 54 21.9**	**0.0**
	comp=Z,37nm,1.4s,mb4.9						
GRAC	**Grapevine Rang**	**76.58**	**45**	P	**P**	**01 54 22.7**	**+0.3**
	baz=77,SNR=18						
O06A	**Flanigan**	**76.61**	**42**	P	**P**	**01 54 22.7**	**+0.1**
	baz=77,SNR=25						
PAHR	**Pah Rah Range**	**76.65**	**42**	*eP*	**P**	**01 54 22.6**	**-0.1**
	comp=Z,32nm,1.3s,mb4.9						
FURC	**Furnace Creek,**	**76.66**	**46**	P	**P**	**01 54 22.7**	**-0.2**
	baz=77,SNR=7.7						
GMRC	**Granite Mounta**	**76.68**	**48**	P	**P**	**01 54 22.9**	**-0.2**
	baz=77,SNR=8.9						
NVAR	**Mina Array Bea**	**76.68**	**44**	P	**P**	**01 54 23.3**	**+0.3**
	comp=Z,200nm,1.0s,mb4.8,baz=227,slow=9.2,SNR=84						
NVAR	**Mina Array Bea**	**76.68**	**44**	P	**P**	**01 54 23.3**	**+0.3**
IRM	**Iron Mountain**	**76.75**	**49**	P	**P**	**01 54 23.5**	**0.0**
	baz=77,SNR=11						
R08A	**Mina**	**76.77**	**44**	P	**P**	**01 54 23.6**	**+0.1**
	baz=77						
N06A	**Buffalo Meadow**	**76.92**	**41**	P	**P**	**01 54 24.3**	**+0.1**
	baz=77,SNR=15						
J04A	**Umpqua Nationa**	**76.92**	**38**	P	**P**	**01 54 24.6**	**+0.4**
	baz=77,SNR=19						
U10A	**Ash Meadows, A**	**77.01**	**46**	P	**P**	**01 54 24.9**	**0.0**
	baz=77,SNR=14						
Y12C	**Blythe**	**77.02**	**50**	P	**P**	**01 54 25.1**	**+0.1**
	baz=77,SNR=5.5						
L05A	**Lakeview**	**77.02**	**40**	P	**P**	**01 54 25.3**	**+0.5**
	baz=77,SNR=14						
S09A	**Goldfield**	**77.05**	**45**	P	**P**	**01 54 24.8**	**-0.2**
	baz=77,SNR=11						
I04A	**Tendick Farm,**	**77.07**	**37**	P	**P**	**01 54 24.7**	**-0.3**
	baz=77,SNR=9.4						
113A	**Mohawk Valley,**	**77.12**	**51**	P	**P**	**01 54 25.5**	**-0.1**
	baz=77,SNR=6.1						
Q08A	**Gabbs**	**77.15**	**44**	P	**P**	**01 54 25.4**	**-0.2**
	baz=77,SNR=13						
O07A	**Toulon**	**77.22**	**42**	P	**P**	**01 54 25.9**	**0.0**
	baz=77,SNR=29						
TPH	**Tonopah**	**77.23**	**45**	*eP*	**P**	**01 54 26.1**	**+0.1**
	comp=Z,41nm,1.3s,mb5.0						
MOD	**Modoc**	**77.26**	**40**

U13A **Pakoon Wash** 78.67 47 ⇓P P 01 54 34.4 +0.4
baz=79,SNR=27
Q11A **Duckwater** 78.68 45 ⇑P P 01 54 34.0 +0.1
baz=79,SNR=32
J07A **Hines** 78.69 39 ⇑P P 01 54 33.9 0.0
baz=79,SNR=7.1
Y15A **Casa Rosa Ranc** 78.73 50 ⇓P P 01 54 34.7 +0.4
baz=79,SNR=24
W14A **Seligman** 78.75 49 ⇑P P 01 54 35.0 +0.6
baz=79,SNR=23
M09A **Marrel Ranch,** 78.81 42 ⇓P P 01 54 34.8 +0.3
baz=79,SNR=7.7
H06A **Lindquist Farm** 78.83 38 ⇓P P 01 54 34.3 -0.2
baz=79,SNR=26
F05A **White Salmon** 78.83 36 ⇑P P 01 54 34.5 -0.1
baz=79,SNR=8.5
O10A **Cortez Mining,** 78.84 43 ⇑P P 01 54 34.8 0.0
baz=79,SNR=5.2
K08A **Mann Creek Ran** 78.84 40 ⇑P P 01 54 34.9 +0.2
baz=79,SNR=14
217A **Green Valley** 78.92 53 ⇓P P 01 54 36.0 +0.6
baz=79,SNR=5.8
V14A **Boquillas Ranc** 78.92 48 ⇓P P 01 54 35.7 +0.4
baz=79,SNR=13
G06A **Carlson Farm,** 78.94 37 ⇑P P 01 54 34.8 -0.4
baz=79,SNR=7.7
I07A **Izee** 78.96 38 ⇓P P 01 54 35.4 +0.1
baz=79,SNR=20
P11A **Circle Ranch,** 78.96 44 ⇑P P 01 54 35.5 +0.1
baz=79
T13A **Saint George** 79.00 47 ⇓P P 01 54 35.8 +0.1
baz=79,SNR=11
X15A **Humboldt** 79.04 50 ⇑P P 01 54 36.2 +0.3
baz=79,SNR=15
E05A **Randle** 79.06 35 ⇓P P 01 54 35.3 -0.5
baz=79,SNR=11
C04A **Brinnon** 79.07 34 ⇓P P 01 54 35.9 +0.1
baz=79,SNR=6.3
Z16A **Peralta Trail,** 79.13 51 ⇑P P 01 54 36.6 +0.1
baz=79,SNR=5.0
R12A **Pony Springs,** 79.14 45 ⇑P P 01 54 36.6 +0.2
baz=79,SNR=21
F06A **Goldendale** 79.15 37 ⇓P P 01 54 36.1 -0.2
baz=79,SNR=7.3
TUC **Tucson** 79.17 52 *eP* P 01 54 37.2 +0.4
comp=Z,13nm,0.8s,mb4.7
J08A **Circle Bar Ran** 79.19 39 ⇓P P 01 54 36.4 -0.1
baz=79,SNR=15
H07A **Lands Inn, Kim** 79.20 38 ⇓P P 01 54 36.5 -0.1
baz=79,SNR=17
U14A **Mt Trumbull** 79.23 48 ⇑P P 01 54 37.5 +0.6
baz=79,SNR=19
D05A **Enumclaw** 79.30 35 ⇑P P 01 54 37.2 +0.2
baz=80,SNR=8.2
S13A **Holt Ranch, En** 79.30 46 ⇑P P 01 54 37.4 +0.1
baz=79,SNR=16
K09A **Rome** 79.30 40 ⇑P P 01 54 37.5 +0.3
baz=80,SNR=29
O11A **Cowboy Ranch,** 79.31 43 ⇓P P 01 54 37.4 0.0
baz=80,SNR=22
117A **Oracle** 79.32 52 ⇑P P 01 54 38.1 +0.5
baz=79,SNR=9.1
Y16A **Circle Bar Ran** 79.33 51 ⇑P P 01 54 37.9 +0.3
baz=80,SNR=9.3
Q12A **Willow Creek R** 79.33 45 ⇓P P 01 54 37.3 -0.1
baz=80,SNR=12
318A **Bisbee** 79.41 53 ⇑P P 01 54 38.5 +0.4
baz=80,SNR=12
I08A **Drewsey** 79.43 39 ⇓P P 01 54 37.6 -0.3
baz=80,SNR=8.9
M10A **I.L. Ranch, Tu** 79.44 42 ⇓P P 01 54 38.3 +0.4
baz=80,SNR=16
E06A **Yakima** 79.48 36 ⇑P P 01 54 38.0 -0.1
baz=80,SNR=9.5
R13A **O'Grain Ranch,** 79.51 46 ⇑P P 01 54 38.7 +0.3
baz=80,SNR=9.1
G07A **Ruggs Ranch, H** 79.52 37 ⇓P P 01 54 38.0 -0.2
baz=80,SNR=20
X16A **Lo Mia Camp, P** 79.59 50 ⇑P P 01 54 39.5 +0.5
baz=80,SNR=13
218A **Dragoon** 79.60 53 ⇓P P 01 54 39.6 +0.6
baz=80,SNR=9.2
PMR **Palmer** 79.60 13 *eP* P 01 54 37.7 -0.6
comp=Z,12nm,0.8s,mb4.7
T14A **Hurricane** 79.60 47 ⇑P P 01 54 38.9 0.0
baz=80,SNR=12
J09A **Fry Pan Ranch,** 79.63 40 ⇑P P 01 54 39.0 +0.1
baz=80,SNR=20
CCUT **Cedar City** 79.63 47 *eP* P 01 54 39.5 +0.4
V15A **Kaibab Nationa** 79.68 49 ⇓P P 01 54 40.1 +0.7
baz=80,SNR=11
ARUT **Antelope Range** 79.69 46 *eP* P 01 54 39.1 -0.2
H08A **Prairie City** 79.70 38 ⇑P P 01 54 39.0 -0.3
baz=80,SNR=6.5
F07A **Phinny Hill Vi** 79.72 37 ⇑P P 01 54 39.1 -0.2
baz=80,SNR=7.2
Y17A **Roosevelt** 79.72 51 ⇓P P 01 54 40.0 +0.3
baz=80,SNR=6.6
WHN **Wuhan** 79.74 305 P P 01 54 39.5 -0.3
C05A **Tolt Reservoir** 79.76 35 ⇑P P 01 54 39.2 -0.3
baz=80,SNR=10
L10A **Juniper Basin** 79.77 41 ⇑P P 01 54 39.8 +0.1
baz=80,SNR=24
A04A **Legoe Bay, Lum** 79.82 33 ⇓P P 01 54 39.8 +0.1
baz=80,SNR=13
W16A **Flagstaff** 79.83 49 ⇓P P 01 54 40.4 +0.2
baz=80,SNR=5.7
Q13A **Wheeler Ranch,** 79.84 45 ⇓P P 01 54 40.0 -0.1
baz=80,SNR=20
B05A **Bryant** 79.87 34 ⇓P P 01 54 39.9 -0.1
baz=80,SNR=6.4
U15A **North Rim** 79.88 48 ⇓P P 01 54 40.9 +0.5
baz=80,SNR=11
K10A **MacKenzie Ranc** 79.88 41 ⇓P P 01 54 40.3 0.0
baz=80,SNR=18
M11A **Holland Ranch,** 79.88 42 ⇓P P 01 54 40.7 +0.4
baz=80,SNR=5.5
JCW **Jim Creek** 79.92 34 *eP* P 01 54 40.0 -0.4
D06A **Cle Elum** 79.94 35 ⇓P P 01 54 40.6 +0.1
baz=80
118A **Homack Ranch,** 79.94 52 ⇓P P 01 54 41.3 +0.5
baz=80,SNR=16
319A **Douglas** 79.94 54 ⇑P P 01 54 41.6 +0.8
baz=80
G08A **Pilot Rock** 79.95 38 ⇓P P 01 54 40.5 -0.1
baz=80,SNR=19
I09A **Lost Marbles R** 79.97 39 ⇓P P 01 54 40.4 -0.3
baz=80,SNR=6.4
O12A **Currie** 79.99 44 ⇑P P 01 54 40.9 0.0
baz=80,SNR=12
X17A **Forest Lakes** 80.03 50 ⇑P P 01 54 42.0 +0.7
baz=80,SNR=5.2
T15A **Red Dirt Ranch** 80.08 47 ⇓P P 01 54 41.8 +0.3
baz=80,SNR=20
N12A **Clover Valley,** 80.08 43 ⇓P P 01 54 41.3 0.0
baz=80,SNR=11
P13A **Bates Ranch, G** 80.09 45 ⇓P P 01 54 41.6 +0.2
baz=80,SNR=20
WUAZ **Wupatki** 80.13 49 *eP* P 01 54 42.3 +0.6
comp=Z,6.2nm,0.9s,mb4.3
E07A **Sunnyside** 80.13 36 ⇑P P 01 54 41.5 0.0
baz=80,SNR=12
219A **White Tail Can** 80.21 53 ⇑P P 01 54 42.9 +0.6
baz=80
HAWA **Hanford** 80.22 36 *eP* P 01 54 41.7 -0.3
comp=Z,62nm,1.4s,mb5.2
L11A **Cat Creek Ranc** 80.28 42 ⇓P P 01 54 42.6 +0.2
baz=80,SNR=24
RPW **Rockport** 80.30 34 *eP* P 01 54 41.5 -0.8
F08A **Pendleton** 80.33 37 ⇑P P 01 54 42.3 -0.3
baz=80,SNR=11
Q14A **Sevier Lake (B** 80.37 45 ⇓P P 01 54 43.3 +0.4
baz=80,SNR=17
Y18A **Canyon Day Jun** 80.37 51 ⇓P P 01 54 43.7 +0.6
baz=80,SNR=14
K11A **Parker Ranch,** 80.41 41 ⇑P P 01 54 43.2 +0.1
baz=80,SNR=15
D07A **Quincy** 80.42 36 ⇑P P 01 54 42.9 -0.2
baz=81,SNR=6.3
M12A **Wells** 80.44 43 ⇑P P 01 54 43.3 +0.1
baz=81,SNR=16
ETW **Entiat** 80.46 35 *eP* P 01 54 43.1 -0.1
119A **Ashpeak Ranch,** 80.50 52 ⇑P P 01 54 44.4 +0.6
baz=81,SNR=12
E08A **Dider Farm, El** 80.55 37 ⇑P P 01 54 43.5 -0.2
baz=81,SNR=9.6
U16A **Tuba City** 80.58 49 ⇓P P 01 54 44.6 +0.4
baz=81,SNR=5.7

I10A **Payette** 80.60 40 ⇑P P 01 54 44.3 +0.2
baz=81,SNR=6.5
G09A **Cove** 80.64 38 ⇓P P 01 54 43.9 -0.3
baz=81,SNR=10
T16A **Glen Canyon Da** 80.69 48 ⇓P P 01 54 45.0 +0.3
baz=81,SNR=12
BMO **Blue Mountains** 80.70 39 *eP* P 01 54 43.6 -0.9
comp=Z,17nm,1.1s,mb4.7
L12A **House Creek Ra** 80.74 42 ⇓P P 01 54 45.1 +0.3
baz=81,SNR=8.6
P14A **Drum Mountains** 80.79 45 ⇓P P 01 54 45.4 +0.2
baz=81,SNR=32
F09A **S2 Ranch, Elgi** 80.80 38 ⇓P P 01 54 44.8 -0.2
baz=81,SNR=6.3
MFID **Camas Ranch** 80.86 40 ⇑P P 01 54 45.1 -0.3
baz=81,SNR=14
H10A **Noah's Angus R** 80.90 39 ⇑P P 01 54 45.2 -0.4
baz=81,SNR=39
MSU **Marysvale** 80.91 46 *eP* P 01 54 46.2 +0.4
D08A **Wollman Farm,** 80.94 36 ⇑P P 01 54 45.6 -0.2
baz=81,SNR=9.6
S16A **Weppner Ranch,** 80.96 47 ⇓P P 01 54 46.2 +0.2
baz=81,SNR=7.8
Q15A **Fillmore** 80.99 46 ⇓P P 01 54 46.4 +0.2
baz=81,SNR=7.6
Y19A **Nutrioso** 81.03 51 ⇓P P 01 54 47.7 +1.2
baz=81,SNR=32
I11A **Placerville** 81.03 40 ⇓P P 01 54 46.2 -0.1
baz=81,SNR=17
G10A **Bishop Farm, J** 81.04 38 ⇑P P 01 54 46.1 -0.3
baz=81,SNR=19
K12A **Draper Farm, C** 81.06 41 ⇓P P 01 54 46.4 -0.1
baz=81,SNR=9.8
B07A **Winthrop** 81.06 35 ⇓P P 01 54 45.9 -0.4
baz=81,SNR=8.9
E09A **Wood Farm, Sta** 81.09 37 ⇓P P 01 54 45.9 -0.7
baz=81,SNR=10
U17A **Shonto** 81.12 48 ⇓P P 01 54 47.4 +0.4
baz=81,SNR=7.7
T17A **Navajo Res., N** 81.20 48 ⇓P P 01 54 47.9 +0.5
baz=81,SNR=8.4
X19A **St. Johns** 81.20 51 ⇓P P 01 54 48.0 +0.6
baz=81,SNR=11
J12A **Stokes Ranch,** 81.24 41 ⇑P P 01 54 47.5 +0.1
baz=81,SNR=19
OD2 **Odessa Site #2** 81.25 36 *eP* P 01 54 46.6 -0.8
A07A **Ashnola River,** 81.25 34 ⇓P P 01 54 47.0 -0.3
baz=81,SNR=7.7
DUG **Dugway** 81.25 44 ⇑P P 01 54 47.5 0.0
baz=81,SNR=16
DUG **Dugway** 81.25 44 *eP* P 01 54 47.0 -0.5
comp=Z,15nm,1.0s,mb4.7
V18A **Ganado** 81.27 49 ⇓P P 01 54 48.1 +0.3
baz=81,SNR=11
C08A **Higginbotham F** 81.28 36 ⇓P P 01 54 46.9 -0.6
baz=81,SNR=7.3
R16A **Teasdale** 81.29 47 ⇑P P 01 54 48.3 +0.5
baz=81,SNR=9.7
D09A **Jones Farm, Ri** 81.30 36 ⇑P P 01 54 47.4 -0.2
baz=81,SNR=14
F10A **Beach Ranch, E** 81.34 38 ⇑P P 01 54 47.2 -0.6
baz=82,SNR=21
L13A **Double Diamond** 81.41 42 ⇑P P 01 54 48.3 0.0
baz=82,SNR=8.9
H11A **Donnelly** 81.41 39 ⇓P P 01 54 47.8 -0.5
baz=82,SNR=15
W19A **Sanders** 81.42 50 ⇓P P 01 54 48.8 +0.2
baz=82,SNR=6.0
B08A **Colville Reser** 81.44 35 ⇑P P 01 54 47.4 -0.9
baz=82,SNR=8.7
BGU **Big Grassy Mou** 81.45 44 *eP* P 01 54 48.0 -0.5
S17A **Black Ridge (B** 81.48 47 ⇓P P 01 54 48.5 -0.3
baz=82,SNR=6.5
I12A **Atlanta** 81.49 40 ⇑P P 01 54 49.0 +0.3
baz=82,SNR=31
M14A **Sheep Mountain** 81.51 43 ⇓P P 01 54 49.0 +0.2
baz=82,SNR=35
K13A **Stover Farm, H** 81.59 42 ⇑P P 01 54 49.5 +0.3
baz=82,SNR=8.2
G11A **Walters Elk Ra** 81.61 39 ⇓P P 01 54 48.8 -0.5
baz=82,SNR=40
U18A **Rough Rock, Ch** 81.62 49 ⇑P P 01 54 49.8 +0.3
baz=82,SNR=9.4
SKAG **Skagway** 81.68 20 *eP* P 01 54 49.8 +0.5
comp=Z,37nm,1.1s,mb5.1
N15A **Stansbury Isla** 81.78 44 ⇓P P 01 54 50.0 -0.3
baz=82,SNR=18
Q16A **Castle Valley** 81.79 46 ⇑P P 01 54 51.0 +0.6
baz=82,SNR=9.7
A08A **Turner Farm, O** 81.80 34 ⇓P P 01 54 49.9 -0.3
baz=82,SNR=8.9
HLID **Hailey** 81.83 41 ⇓P P 01 54 50.8 +0.4
baz=82,SNR=36
HLID **Hailey** 81.83 41 *eP* P 01 54 50.5 +0.1
L14A **Malta** 81.84 43 ⇑P P 01 54 50.5 -0.1
baz=82,SNR=5.1
D10A **Wagner Farm, O** 81.89 37 ⇑P P 01 54 49.8 -0.9
baz=82,SNR=8.8
R17A **Hanksville Air** 81.89 47 ⇓P P 01 54 51.0 +0.1
baz=82,SNR=15
J13A **Cove Ranch, Pi** 81.90 41 ⇑P P 01 54 51.3 +0.5
baz=82,SNR=36
T18A **Mexican Hat** 81.93 48 ⇑P P 01 54 51.6 +0.5
baz=82,SNR=58
F11A **Grangeville** 81.93 38 ⇑P P 01 54 49.2 -1.7
baz=82,SNR=8.9
TMUT **Trail Mountain** 81.94 46 *eP* P 01 54 51.8 +0.7
MPU **Maple Canyon** 81.97 45 *eP* P 01 54 51.2 -0.1
comp=Z,20nm,1.0s,mb4.9
SPUT **South Promonto** 82.02 44 *eP* P 01 54 51.5 0.0
HVU **Hansel Valley** 82.02 43 *eP* P 01 54 51.7 +0.2
comp=Z,27nm,0.8s,mb5.1
MENT **Mentasta** 82.04 15 *eP* P 01 54 50.6 -0.5
H12A **Diamond D Ranc** 82.04 40 ⇑P P 01 54 51.3 -0.2
baz=82,SNR=17
S18A **Hurst Farm, Bl** 82.08 48 ⇓P P 01 54 51.8 -0.1
baz=82,SNR=10
M15A **Larsen Ranch,** 82.09 43 ⇑P P 01 54 51.7 -0.2
baz=82,SNR=37
K14A **Jones Ranch, D** 82.12 42 ⇓P P 01 54 52.2 +0.2
baz=82,SNR=16
B09A **Rice** 82.13 35 ⇓P P 01 54 50.9 -0.9
baz=82,SNR=6.8
E11A **Bogner Ranch,** 82.14 38 ⇓P P 01 54 50.5 -1.6
baz=82,SNR=5.6
O16A **Springville** 82.15 45 ⇑P P 01 54 52.2 0.0
baz=82,SNR=12
I13A **Wildhorse Cree** 82.19 41 ⇓P P 01 54 52.5 +0.2
baz=82,SNR=15
A09A **Danville** 82.19 35 ⇓P P 01 54 51.7 -0.5
baz=82,SNR=8.8
J14A **Carey** 82.28 41 ⇓P P 01 54 53.4 +0.6
baz=82,SNR=37
SRU **San Rafael** 82.33 46 ⇓P P 01 54 53.2 0.0
baz=82,SNR=28
SRU **San Rafael** 82.33 46 *eP* P 01 54 53.3 +0.2
comp=Z,26nm,0.9s,mb5.0
P17A **Butcher Ranch,** 82.34 46 ⇓P P 01 54 53.5 +0.3
baz=82,SNR=7.5
JLU **Jordanelle** 82.36 45 *eP* P 01 54 53.2 -0.1
L15A **Malad City** 82.39 43 ⇑P P 01 54 53.5 +0.2
baz=82,SNR=16
F12A **Elk City** 82.41 39 ⇓P P 01 54 53.0 -0.3
baz=83,SNR=33
DAU **Daniels Canyon** 82.41 45 *eP* P 01 54 53.6 +0.1
T19A **Beclabito** 82.41 49 ⇑P P 01 54 53.8 +0.2
baz=82,SNR=17
H13A **Challis** 82.42 40 ⇑P P 01 54 53.6 +0.1
baz=83,SNR=23
D11A **Klaveano Farm,** 82.43 37 ⇓P P 01 54 52.5 -1.0
baz=83,SNR=15
R18A **Canyonlands Na** 82.45 47 ⇓P P 01 54 53.6 -0.2
baz=83,SNR=15
BJI **Beijing** 82.46 315 P P 01 54 54.6 +0.8
BJI AMB AMB
comp=Z,14nm,0.6s,mb5.0
N16A **Rees Ranch, Co** 82.50 44 ⇑P P 01 54 54.0 0.0
baz=83,SNR=7.0
E12A **Beaver Dam Sad** 82.55 38 ⇓P P 01 54 53.1 -1.0
baz=83,SNR=5.1
M16A **Huntsville** 82.57 44 ⇑P P 01 54 54.0 -0.3
baz=83,SNR=13
Q18A **Rafter H Ranch** 82.60 46 ⇓P P 01 54 54.3 -0.2
baz=83,SNR=25
K15A **Arbon** 82.61 42 ⇑P P 01 54 54.6 +0.1
baz=83,SNR=23
I14A **Mackay** 82.61 41 ⇓P P 01 54 54.9 +0.4
baz=83,SNR=28

NEW **Newport** 82.62 36 *eP* P 01 54 53.5 -0.9
comp=Z,8.2nm,0.8s,mb4.6
O17A **Robinson Place** 82.66 45 ⇓P P 01 54 55.4 +0.6
baz=83,SNR=71
G13A **Cobalt** 82.70 40 ⇓P P 01 54 54.7 -0.2
baz=83,SNR=16
S19A **Harvey Farm, M** 82.72 48 ⇓P P 01 54 55.3 +0.1
baz=83,SNR=12
HWUT **Hardware Ranch** 82.74 44 *eP* P 01 54 55.0 -0.2
comp=Z,18nm,0.8s,mb5.0
P18A **Preston Nutter** 82.75 46 ⇑P P 01 54 55.5 +0.2
baz=83,SNR=15
A10A **Northport** 82.76 35 ⇑P P 01 54 54.6 -0.5
baz=83,SNR=6.7
COLA **College** 82.78 12 ⇓*iP* P 01 54 53.6 -1.2
COLA **College** 82.78 12 *eP* P 01 54 53.6 -1.2
comp=Z,41nm,0.8s,mb5.3
IMA2 **Indian Mountai** 82.79 10 *eP* P 01 54 54.9 0.0
LAZ **Ladron** 82.81 52 *eP* P 01 54 56.0 +0.3
DLBC **Dease Lake** 82.82 23 P P 01 54 55.7 +0.5
comp=Z,9.9nm,0.9s,mb4.6,baz=213,slow=7.6,SNR=7.9
LENM **Lemitar** 82.84 52 *eP* P 01 54 56.0 +0.1
R19A **Curley Farm, L** 82.86 47 ⇓P P 01 54 55.8 -0.1
baz=83,SNR=13
C11A **Tepee Creek (N** 82.89 36 ⇑P P 01 54 55.5 -0.3
baz=83,SNR=33
N17A **Moffit Pass** 82.93 44 ⇓P P 01 54 56.1 -0.1
baz=83,SNR=16
F13A **Darby** 82.98 39 ⇑P P 01 54 55.6 -0.7
baz=83,SNR=21
H14A **Leadore** 83.00 40 ⇓P P 01 54 56.8 +0.3
baz=83,SNR=22
D12A **Red Ives Fores** 83.01 37 ⇓P P 01 54 55.7 -0.7
baz=83
J15A **Blackfoot** 83.01 42 ⇓P P 01 54 57.3 +0.7
baz=83,SNR=29
L16A **Fish Haven** 83.02 43 ⇑P P 01 54 56.3 -0.3
baz=83,SNR=11
PV10 **Paradox Valley** 83.06 47 *eP* P 01 54 56.8 -0.1
BNM **Barren Site** 83.10 52 *eP* P 01 54 57.5 +0.2
B11A **Sandpoint** 83.14 36 ⇓P P 01 54 56.5 -0.5
baz=83,SNR=7.6
LPM **Los Pinos Moun** 83.16 52 *eP* P 01 54 57.8 +0.3
O18A **Roosevelt** 83.20 45 ⇓P P 01 54 57.7 +0.2
baz=83,SNR=8.3
G14A **Jackson** 83.25 40 ⇓P P 01 54 57.8 +0.1
baz=83,SNR=18
PV01 **Paradox Valley** 83.29 48 *eP* P 01 54 58.2 +0.1
K16A **Soda Springs** 83.29 42 ⇓P P 01 54 58.1 +0.2
baz=83,SNR=8.3
E13A **Victor** 83.39 38 ⇑P P 01 54 57.3 -1.0
baz=84,SNR=16
A11A **Hall Mountain,** 83.42 35 ⇑P P 01 54 58.6 +0.2
baz=84,SNR=7.8
MCMT **McKenzie Canyo** 83.42 40 *eP* P 01 54 59.0 +0.4
H15A **Lima** 83.45 41 ⇑P P 01 54 59.1 +0.4
baz=84,SNR=29
J16A **Bone** 83.48 42 ⇓P P 01 54 59.4 +0.5
baz=84,SNR=7.4
ANMO **Albuquerque** 83.55 51 *diP* P 01 54 58.6 -0.8
ANMO **Albuquerque** 83.55 51 *eP* P 01 54 59.3 -0.2
comp=Z,22nm,1.0s,mb5.0
D13A **Huson** 83.56 38 ⇑P P 01 54 58.2 -1.0
baz=84,SNR=7.7
F14A **Wisdom** 83.58 39 ⇑P P 01 54 59.0 -0.3
baz=84,SNR=12
AHID **Auburn Hatcher** 83.58 43 *eP* P 01 54 59.3 -0.2
comp=Z,12nm,0.8s,mb4.8
TXAR **Lajitas Array** 83.63 57 P P 01 55 00.8 +0.8
comp=Z,20nm,0.9s,mb5.0,baz=221,slow=6.6,SNR=178
P19A **Cripple Cowboy** 83.63 46 ⇑P P 01 54 59.7 -0.1
baz=84,SNR=10.0
BILL **Bilibino** 83.70 354 ⇑*iP* P 01 54 58.8 -0.6
BILL pmax pmax
comp=Z,21nm,1.3s,mb4.8
BILL **Bilibino** 83.70 354 *eP* P 01 54 59.0 -0.4
MSO **Missoula** 83.73 38 *eP* P 01 54 58.9 -1.2
comp=Z,20nm,1.4s,mb4.8
N18A **Larsen Ranch,** 83.74 45 ⇓P P 01 54 59.7 -0.5
baz=84,SNR=5.8
E14A **Clinton** 83.80 39 ⇑P P 01 55 00.0 -0.4
baz=84,SNR=16
G15A **Dillon** 83.81 40 ⇓P P 01 55 00.7 +0.2
baz=84,SNR=42
O19A **Miners Draw (B** 83.82 46 ⇑P P 01 55 00.4 -0.3
baz=84,SNR=14
DLMT **Dillon** 83.84 40 *eP* P 01 55 00.8 +0.1
comp=Z,29nm,0.9s,mb5.1
I16A **Newdale** 83.84 42 ⇓P P 01 55 01.4 +0.7
baz=84,SNR=14
DCID1 **Drake Creek** 83.91 42 *eP* P 01 55 01.1 +0.1
comp=Z,27nm,0.9s,mb5.1
TPAW **Teton Pass** 84.01 42 *eP* P 01 55 01.6 +0.1
comp=Z,30nm,0.9s,mb5.1
N19A **John Jarvie Ra** 84.04 45 ⇑P P 01 55 01.1 -0.6
baz=84,SNR=10
DAWY **Dawson** 84.07 16 *eP* P 01 55 01.1 -0.3
D14A **Greenough** 84.11 38 ⇓P P 01 55 00.9 -1.1
baz=84,SNR=5.9
SNOW **Snow King Moun** 84.12 42 *eP* P 01 55 02.5 +0.4
comp=Z,55nm,1.1s,mb5.3
F15A **Butte** 84.13 40 ⇓P P 01 55 01.9 -0.1
baz=84,SNR=10
CHMT **Chamberlain Mo** 84.19 38 *eP* P 01 55 01.7 -0.6
B13A **Whitefish** 84.19 37 ⇑P P 01 55 01.4 -0.9
baz=84,SNR=7.0
IMW **Indian Meadow** 84.20 42 *eP* P 01 55 03.0 +0.6
comp=Z,34nm,0.9s,mb5.2
EGAK **Eagle** 84.20 15 *eP* P 01 55 01.7 -0.3
comp=Z,42nm,1.2s,mb5.1
MOOW **Moose Ponds** 84.26 42 *eP* P 01 55 02.8 0.0
comp=Z,17nm,1.1s,mb4.8
G16A **Moss Hill, Enn** 84.27 40 ⇑P P 01 55 02.8 0.0
baz=84,SNR=15
LOHW **Long Hollow** 84.29 42 *eP* P 01 55 02.9 0.0
comp=Z,14nm,0.9s,mb4.8
E15A **Deer Lodge** 84.32 39 ⇓P P 01 55 02.4 -0.7
baz=84,SNR=8.1
QLMT **Earthquake Lak** 84.32 41 *eP* P 01 55 03.8 +0.7
H16A **Russell Place,** 84.37 41 ⇓P P 01 55 04.2 +0.9
baz=84,SNR=56
I17A **Pilgram Creek** 84.45 42 ⇑P P 01 55 04.5 +0.8
baz=85,SNR=8.4
GYA **Guiyang** 84.50 299 P P 01 55 05.3 +0.9
GYA AP pP 01 56 25.8 -0.6
GYA XP sP 01 57 02.4 -1.0
GYA PP PP 01 58 28.8 +3.0
GYA SKS 02 04 52.3
GYA S S 02 05 01.8 +1.0
GYA AMB AMB
comp=Z,10.0nm,1.0s,mb4.6
GYA AMB AMB
comp=Z,90nm,5.8s
YFT **Old Faithful** 84.52 41 *eP* P 01 55 05.5 +1.4
BOZ **Bozeman (W)** 84.57 40 ⇓P P 01 55 04.2 -0.1
baz=85,SNR=7.9
BOZ **Bozeman (W)** 84.57 40 *eP* P 01 55 04.2 -0.1
comp=Z,56nm,1.4s,mb4.9
BW06 **Boulder Array** 84.60 43 ⇓P P 01 55 04.0 -0.5
baz=85,SNR=14
BW06 **Boulder Array** 84.60 43 *eP* P 01 55 03.8 -0.7
comp=Z,22nm,1.2s,mb4.9
PDAR **Pinedale Array** 84.60 43 P P 01 55 04.3 -0.1
comp=Z,8.5nm,0.7s,mb4.7,baz=220,slow=3.9,SNR=33
H17A **Grant Village** 84.66 41 ⇑P P 01 55 06.2 +1.5
baz=85,SNR=19
D15A **Lincoln** 84.69 38 ⇓P P 01 55 04.4 -0.4
baz=85,SNR=12
YNR **Norris Junctio** 84.74 41 *eP* P 01 55 03.9 -1.2
LKWY **Lake** 84.85 41 *eP* P 01 55 07.4 +1.7
comp=Z,25nm,1.0s,mb5.0
B14A **Marquette Ranc** 84.88 37 ⇑P P 01 55 04.8 -1.0
baz=85,SNR=15
HRY **Holter Researc** 84.94 39 *eP* P 01 55 05.9 -0.2
E16A **East Helena** 84.96 39 ⇑P P 01 55 05.9 -0.3
baz=85,SNR=21
C15A **Salmond Ranch,** 84.98 38 ⇑P P 01 55 05.6 -0.6
baz=85,SNR=16
A14A **Double T Ranch** 85.09 36 ⇓P P 01 55 06.2 -0.6
baz=85,SNR=12
D16A **Dana Ranch, Ca** 85.27 39 ⇓P P 01 55 07.4 -0.3
baz=85,SNR=18
B15A **Bradely Ranch,** 85.27 37 ⇑P P 01 55 06.5 -1.2
baz=85,SNR=11
XAN **Xi'an** 85.33 307 P P 01 55 09.3 +1.0
XAN AMB AMB
comp=Z,5.0nm,0.6s,mb4.5

XAN AMB AMB
comp=Z,38nm,5.3s
SDCO Great Sand Dun 85.35 49 *e*P **P 01 55 08.1 -0.3**
comp=Z,4.8nm,0.9s,mb4.3
A15A Johnson Ranch, 85.49 37 ⇓P **P 01 55 08.0 -0.7**
baz=86,SNR=13
RWWY Rawlins 85.72 45 *e*P **P 01 55 09.7 -0.4**
comp=Z,17nm,1.1s,mb4.8
B16A M & M Farms, S 85.82 37 ⇓P **P 01 55 09.4 -0.9**
baz=86,SNR=9.9
RLMT Red Lodge 85.82 41 ⇑P **P 01 55 10.7 +0.3**
baz=86,SNR=20
RLMT Red Lodge 85.82 41 *e*P **P 01 55 10.9 +0.5**
comp=Z,32nm,1.1s,mb5.1
D17A Six Diamond Ra 85.84 39 ⇓P **P 01 55 10.6 +0.1**
baz=86,SNR=25
GCMT Greycliff 85.86 40 *e*P **P 01 55 10.5 -0.1**
F18A Big Timber 85.88 40 ⇑P **P 01 55 11.1 +0.3**
baz=86,SNR=13
HHC Hu-ho-hao-te 85.99 314 *e*P **P 01 55 11.6 +0.2**
HHC AP pP 01 56 33.5 -0.2
HHC XP sP 01 57 09.5 -1.1
HHC SKS 02 05 00.6
HHC S S 02 05 14.5 -0.2
HHC XS sS 02 07 38.6 -2.0
HHC AMB AMB
comp=Z,12nm,1.0s,mb4.7
HHC AMB AMB
comp=Z,126nm,5.6s
HHC LR LR
comp=N,98nm,15.9s
HHC LR LR
comp=E,144nm,15.5s
HHC LR LR
comp=Z,132nm,15.7s
C17A Wharram Farm, 86.02 38 ⇓P **P 01 55 10.9 -0.4**
baz=86,SNR=46
PMSA Palmer Station 86.04 157 *e*P **P 01 55 11.4 +0.2**
comp=Z,35nm,1.0s,mb5.1
E18A Harlowton 86.05 40 ⇓P **P 01 55 11.7 +0.2**
baz=86,SNR=18
A16A West Butte Ran 86.14 37 ⇑P **P 01 55 11.3 -0.6**
baz=86,SNR=31
D18A Linhart Farms, 86.40 39 ⇑P **P 01 55 13.3 +0.1**
baz=86,SNR=14
MAW Mawson 86.88 199 *e*P **P 01 55 15.0 -0.2**
comp=Z,11nm,0.8s,mb4.7
MAW Mawson 86.88 199 P P **01 55 15.3 +0.1**
comp=Z,15nm,0.8s,mb4.9,baz=124,slow=5.7,SNR=43
AMTX Amarillo 87.17 53 *e*P **P 01 55 16.2 -0.9**
comp=Z,21nm,1.4s,mb4.8
KMI Kunming 87.42 297 P **P 01 55 20.3 +1.7**
KMI AMB AMB
comp=Z,11nm,0.8s,mb4.7
CD2 Chengdu 88.36 302 *e*P **P 01 55 22.6 -0.3**
CD2 AP pP 01 56 44.8 -0.9
CD2 XP sP 01 57 20.4 -2.1
CD2 PP PP 01 58 58.0 +1.4
CD2 SKS 02 05 15.9
CD2 S S 02 05 35.8 -1.8
CD2 XS sS 02 08 00.4 -3.9
CD2 AMB AMB
comp=Z,10.0nm,0.8s,mb4.7
CD2 AMB AMB
comp=Z,50nm,6.2s
RSSD Black Hills 88.82 44 *e*P **P 01 55 24.0 -0.7**
comp=Z,17nm,0.9s,mb4.9
CMAR Chiang Mai Arr 88.86 289 P **P 01 55 26.9 +1.4**
comp=Z,24nm,0.8s,mb4.1,baz=100,slow=2.7,SNR=11
INK Inuvik 88.88 15 *e*P **P 01 55 23.0 -1.4**
CHTO Chiang Mai 88.96 290 *e*P **P 01 55 26.9 +0.9**
comp=Z,3.2nm,0.8s,mb4.2
LZH Lanzhou 89.94 307 *e*P **P 01 55 30.0 -0.1**
LZH AP pP 01 56 52.3 -0.8
LZH XP sP 01 57 22.5 -7.3
LZH PP PP 01 59 12.0 +3.1
LZH SKS 02 05 25.3
LZH *e*S S 02 05 50.0 -1.8
LZH XS sS 02 08 15.3 -3.9
LZH AMB AMB
comp=Z,20nm,1.2s,mb4.9
LZH AMB AMB
comp=Z,82nm,4.1s
CBKS Cedar Bluff 89.97 50 *e*P **P 01 55 30.5 +0.3**
comp=Z,14nm,0.9s,mb4.9
HKT Hockley 90.27 59 *e*P **P 01 55 32.0 +0.2**
comp=Z,12nm,1.3s,mb4.7
DGMT Dagmar 90.37 40 ⇓P **P 01 55 31.7 0.0**
baz=90
DGMT Dagmar 90.37 40 *e*P **P 01 55 31.9 +0.1**
comp=Z,15nm,0.9s,mb4.9
YKA Yellowknife Ar 91.33 24 P **P 01 55 35.1 -0.8**
comp=Z,0.9nm,0.5s,mb4.0,baz=237,slow=4.7,SNR=14
ULN Ulaanbaatar 91.63 319⇑ *e*P **P 01 55 38.0 +0.4**
SONM Songino Array 92.04 319 P **P 01 55 39.5 0.0**
comp=Z,0.7nm,0.6s,mb3.8,baz=151,slow=5.5,SNR=3.9
SYO Syowa Base 92.16 193⇓ *e*P **P 01 55 37.2 -2.5**
PLCA Paso Flores 92.58 133 P **P 01 55 42.7 +0.4**
comp=Z,2.3nm,0.9s,mb4.2,baz=121,slow=0.8,SNR=4.7
PLCA Paso Flores 92.58 133 *e*P **P 01 55 42.4 +0.1**
comp=Z,3.9nm,1.0s,mb4.4
SNAA Sanae 93.42 178 *e*P **P 01 55 44.3 -1.2**
SNAA *e* 01 55 46.1
SNAA *e* 01 55 49.0
SNAA Sanae 93.42 178⇑ *e*P **P 01 55 44.6 -0.9**
VNA3 Neumayer Olymp 93.52 176 *e*P **P 01 55 45.0 -1.0**
VNA3 *e* 01 55 46.3
VNA3 *e* 01 55 50.5
TIXI Tiksi 93.65 345⇑ *e*P **P 01 55 45.9 -0.5**
TIXI pmax pmax
comp=Z,6.0nm,1.9s,mb4.3
VNA2 Neumayer--Watz 93.97 177 *e*P **P 01 55 47.2 -0.9**
baz=195,slow=3.6
VNA2 *e* 01 55 48.9
VNA2 *e* 01 55 52.1
GTA Gaotai 93.98 310 *e*P **P 01 55 48.6 0.0**
GTA AP pP 01 57 12.3 +0.5
GTA XP sP 01 57 46.8 -1.7
GTA AMB AMB
comp=Z,2.0nm,0.7s,mb4.3
VNA1 Neumayer--Stat 94.19 176 *e*P **P 01 55 48.9 -0.2**
VNA1 *e* 01 55 50.1
VNA1 *e* 01 55 53.6
ULM Lac du Bonnet 96.09 40 *e*P **P 01 55 57.6 -0.3**
ZALV Zalesovo Beam 106.59 322 PKiKP PKiKP 02 00 52.0 -1.3
comp=Z,0.7nm,0.5s,baz=117,slow=1.7,SNR=3.6
MK31 Makanchi Array 107.84 315 *e*PKP PKiKP 02 00 54.3 -1.5
MKAR Makanchi Array 107.84 315 PKiKP PKiKP 02 00 54.5 -1.3
comp=Z,0.6nm,0.4s,baz=66,slow=1.3,SNR=6.8
KURK Kurchatov 110.34 319 PKiKP PKiKP 02 00 59.4 -1.0
comp=Z,1.0nm,0.6s,baz=89,slow=1.8,SNR=9.2
BVAR Borovoye Array 115.24 322 PKP PKPdf 02 01 08.6 -1.0
comp=Z,2.7nm,0.7s,baz=64,slow=3.4,SNR=13
KBL Kabul 117.68 301 *e*PKPdf PKPdf 02 01 15.0 +0.1
ARU Arti 121.00 328 *i* PKIKP PKPdf 02 01 19.8 -0.9
ARU 02 02 55.9
BDFB Brasilia 121.42 119 PKP PKPdf 02 01 21.9 -0.8
comp=Z,0.9nm,0.7s,baz=147,slow=21,SNR=3.2
AKTK Aktyubinsk 123.31 321 PKP PKPdf 02 01 24.6 -0.7
AKTO Aktyubinsk 123.31 321 PKP PKPdf 02 01 24.6 -0.7
comp=Z,1.9nm,0.6s,baz=90,slow=1.9,SNR=7.3
ARCES ARCESS Array B 123.67 351 PKP PKPdf 02 01 24.5 -0.9
comp=Z,3.9nm,0.7s,baz=10,slow=1.2,SNR=15
ARCES ARCESS Array B 123.67 351 PKP PKPdf 02 01 24.5 -0.9
NOA NORSAR Array B 133.65 354 PKP PKPdf 02 01 43.3 -1.3
comp=Z,1.2nm,1.0s,baz=8.9,slow=3.2,SNR=5.0
HFS Hagfors 134.25 352 PKhKP 02 01 40.5
comp=Z,1.7nm,0.7s,baz=72,slow=4.7,SNR=4.6
AKASG Malin Array Be 138.45 335 PKP PKPdf 02 01 53.5 -0.4
comp=Z,0.8nm,0.5s,baz=31,slow=2.9,SNR=4.4
KMBO Kilima Mbogo 142.17 248 PKP PKPdf 02 01 58.9 -2.8
comp=Z,2.4nm,1.0s,baz=76,slow=6.5,SNR=4.4
KMBO Kilima Mbogo 142.17 248 *e*PKPdf PKPdf 02 01 58.5 -3.2
STHS Stebnicka Huta 142.49 340 *e*PKP PKPdf 02 01 57.6 -3.6
KOLS Kolonicke sedl 142.55 339 *e*PKP PKPdf 02 01 57.3 -4.0
KOLS Kolonicke sedl 142.55 339 *e*PKP PKPdf 02 01 57.4 -3.9
UZH Uzhgorod 142.80 338⇓ *i* PKIKP PKPdf 02 01 58.5 -3.2
CRVS Cervenica-Dubn 142.86 339 *e*PKP PKPdf 02 01 58.9 -2.9
CLL Collm 142.87 349 *e*PKIKP PKPdf 02 01 58.0 -3.8
CLL pmax pmax
comp=Z,5.0nm,0.8s
CLL Collm 142.87 349 *e*(PKPdf) PKPdf 02 01 58.0 -3.8
comp=Z,5.0nm,0.8s
UPC Upice 143.00 346 *e*PKP PKPdf 02 01 59.2 -2.8
DPC Dobruska-Polom 143.07 345 *e*PKP PKPdf 02 01 59.4 -2.8

BRG Berggiesshubel 143.11 348 *e*(P) PKPdf 02 02 01.9 -0.3
comp=Z,18nm,1.7s
FBE Freiberg 143.18 349 *e*PKPdf PKPdf 02 02 01.2 -1.1
PVCC Panska Ves 143.31 347 *e*PKP PKPdf 02 01 59.6 -3.0
BR131 Keskin Array S 143.39 318 *e*PKPdf PKPdf 02 02 00.7 -2.4
TIRR Tirgusor 143.41 328⇓ *i* PKPdf 02 02 01.4 -1.6
TIRR Tirgusor 143.41 328 ⇓P PKPdf 02 02 01.4 -1.6
HARR Harsova 143.49 329⇑ *i* PKPdf 02 02 01.4 -1.7
HARR Harsova 143.49 329 ⇑P PKPdf 02 02 01.4 -1.7
PRU Pruhonice 143.82 347 *e*PKP PKPdf 02 02 01.7 -1.8
WERD Werda 143.82 350 *e*PKPbc PKPdf 02 02 01.6 -1.9
TANN Tannenbergstha 143.83 349 *e*PKPbc PKPdf 02 02 01.4 -2.1
MLR Muntele Rosu 143.84 332 PKIKP PKPdf 02 02 03.0 -0.7
MLR Muntele Rosu 143.84 332⇓ *i* P PKPdf 02 02 02.8 -0.9
MLR Muntele Rosu 143.84 332 ⇓P PKPdf 02 02 02.9 -0.8
ANTO Ankara 143.85 319⇑ *i* P PKPdf 02 02 03.2 -0.7
ANTO Ankara 143.85 319 *e*PKPdf PKPdf 02 02 02.3 -1.6
GUNZ Gunzen 143.90 349 *e*PKPbc PKPdf 02 02 02.2 -1.4
VRAC Vranov 143.96 344 PKP PKPdf 02 02 02.2 -1.5
comp=Z,9.9nm,0.9s,baz=358,slow=5.0,SNR=12
VRAC Vranov 143.96 344⇑ *i* P PKPdf 02 02 02.5 -1.3
VRAC Vranov 143.96 344 ⇑P PKPdf 02 02 02.5 -1.2
WERN Wernitzgruen 143.97 349 *e*PKPbc PKPdf 02 02 02.3 -1.4
VYHS Vyhne 144.06 342 *e*PKP PKPdf 02 02 02.2 -1.8
KOLL Kolacno 144.12 342 *e*PKP PKPdf 02 02 02.8 -1.3
DRGR 144.18 336 PKIKP PKPdf 02 02 03.4 -0.8
DRGR 144.18 336⇑ *i* P PKPdf 02 02 02.6 -1.6
PSZ Piszkesteto 144.24 340 PKIKP PKPdf 02 02 03.3 -1.0
PSZ Piszkesteto 144.24 340⇓ *i* P PKPdf 02 02 03.1 -1.2
PSZ Piszkesteto 144.24 340 ⇓P PKPdf 02 02 03.1 -1.2
TREC Trest 144.25 346 *e*PKP PKPdf 02 02 02.9 -1.4
VOIR 144.29 333 PKIKP PKPdf 02 02 04.4 -0.1
VOIR 144.29 333⇓ *i* P PKPdf 02 02 04.3 -0.2
VOIR 144.29 333 ⇓P PKPdf 02 02 04.3 -0.1
MANZ Manzenberg 144.30 349 *e*PKPbc PKPdf 02 02 03.3 -1.0
UCC Uccle 144.31 358 PKP PKPdf 02 02 03.1 -1.3
MEM Membach 144.42 356 PKP PKPdf 02 02 03.5 -1.0
SMOL Smolenice 144.46 343 *e*PKP PKPdf 02 02 03.9 -0.8
ASF Jabal al Asfar 144.46 305 *e*PKP PKPdf 02 02 05.6 +0.4
comp=Z,4.6nm,0.8s,baz=314,slow=2.4,SNR=11
ROTZ Rotzenmuhle 144.50 349 *e*PKPbc PKPdf 02 02 04.3 -0.4
TNS Taunus Mts 144.59 354 *e*PKPbc PKPdf 02 02 04.5 -0.3
SNF Seneffe 144.60 358 PKP PKPdf 02 02 04.3 -0.6
MODS Modra-Piesok 144.63 343 *e*PKP PKPdf 02 02 05.0 0.0
BCLA Clavier 144.65 357 PKP PKPdf 02 02 04.3 -0.6
GRA1 Grafenberg Arr 144.74 350 *e*PKPbc PKPdf 02 02 05.3 +0.2
GRF Grafenberg Arr 144.74 350 *e*PKPbc PKPdf 02 02 05.3 +0.2
KHC Kasperske Hory 144.84 347 *e*PKP PKPdf 02 02 05.3 0.0
ZST Bratislava 144.84 343 *e*PKP PKPdf 02 02 05.4 +0.1
WET Wettzell 144.97 348 *e*PKPbc PKPdf 02 02 05.9 +0.4
GIVF Givet 144.99 358 *e*PKP1 PKPdf 02 02 05.0 -0.5
comp=Z,57nm,1.0s
DOU Dourbes 145.00 358 PKP PKPdf 02 02 04.9 -0.6
BAIF Baives 145.05 358 *e*PKP1 PKPbc 02 02 05.4 -0.5
comp=Z,41nm,1.0s
GEC2 GERESS Array S 145.08 347 *e*PKPbc PKPbc 02 02 05.8 -0.2
GERES GERESS Array B 145.08 347 PKPbc PKPbc 02 02 05.5 -0.5
comp=Z,5.1nm,0.6s,baz=22,slow=3.3,SNR=48
GZR Gura Zlata 145.29 335 PKIKP PKPdf 02 02 06.8 +0.6
WLF Walferdange 145.35 356 PKP PKPdf 02 02 06.9 +0.8
WLF Walferdange 145.35 356 *e*PKPbc PKPbc 02 02 07.4 +0.6
CONA Conrad Observa 145.42 344⇑ *i* PKPbc PKPbc 02 02 06.1 -1.0
comp=Z,18nm,1.0s
CSNA Conrad Observa 145.43 344⇑ *i* PKPab PKPab 02 02 06.1 -1.7
comp=Z,18nm,1.0s
BZS Buzias 145.58 336⇑ *i* P PKPdf 02 02 06.8 +0.1
BZS Buzias 145.58 336 ⇑P PKPdf 02 02 06.8 +0.1
MOA Molln 145.89 346⇑ *i* PKPbc PKPbc 02 02 07.6 -0.9
comp=Z,15nm,1.0s
ARSA Arberg 146.14 344⇑ *i* PKPdf PKPdf 02 02 06.8 -0.8
comp=Z,15nm,1.5s
PKSM Moragy 146.14 340 PKP2 PKPab 02 02 08.9 -1.8
PKSM Moragy 146.14 340⇑ *i* P PKPdf 02 02 06.8 -0.8
PKSM Moragy 146.14 340 ⇑P PKPdf 02 02 06.8 -0.8
FUR Furstenfeldbru 146.20 350 *e*PKPbc PKPbc 02 02 09.3 0.0
FLN La Foliniere 146.28 4 *e*PKP1 PKPbc 02 02 08.5 -1.0
comp=Z,37nm,0.7s
RJOB Jochberg 146.32 348 *e*PKPbc PKPbc 02 02 09.8 +0.1
ROSF Rostrenen 146.44 7 *e*PKP1 PKPbc 02 02 09.0 -1.0
comp=Z,37nm,0.9s
LDF La Petitiere 146.47 3 *e*PKP1 PKPbc 02 02 08.8 -1.3
BFO Black Forest 146.47 353 *e*PKPbc PKPbc 02 02 10.1 0.0
CDF Champ du Feu 146.50 354 *e*PKP1 PKPbc 02 02 09.7 -0.5
comp=Z,50nm,1.0s
MEZF Maizieres J'vi 146.57 357 *e*PKP1 PKPbc 02 02 10.0 -0.4
comp=Z,66nm,1.3s
SGMF Saint Gilles 146.61 6 *e*PKP1 PKPbc 02 02 09.5 -1.0
comp=Z,46nm,0.8s
GRR Gorron 146.62 4 *e*PKP1 PKPbc 02 02 09.7 -0.8
comp=Z,25nm,0.5s
SOKA Soboth 146.79 344⇓ *i* PKPbc PKPbc 02 02 09.9 -1.2
PERS Pernice 146.81 344 *i* PKPbc PKPbc 02 02 10.2 -0.9
QUIF Quistinic 146.87 7 *e*PKP1 PKPbc 02 02 10.1 -1.1
comp=Z,30nm,0.8s
RETA Reutte 146.95 350⇓ *i* PKPbc PKPbc 02 02 10.7 -0.7
comp=Z,13nm,1.1s
HAU Haudompre 146.99 355 *e*PKP1 PKPbc 02 02 10.9 -0.6
comp=Z,23nm,0.7s
WTTA Wattenberg 147.01 349⇑ *i* PKPdf PKPdf 02 02 08.8 -0.2
comp=Z,19nm,0.7s
MOTA Moosalm 147.03 349⇑ *i* PKPdf PKPdf 02 02 08.5 -0.5
comp=Z,17nm,1.1s
HINF Hinteralfeld 147.13 355 *e*PKP1 PKPbc 02 02 11.1 -0.8
comp=Z,9.9nm,0.9s
ABTA Abfaltersbach 147.33 347⇑ *i* PKPdf PKPdf 02 02 08.8 -0.7
comp=Z,19nm,1.0s
FETA Feichten 147.41 350⇑ *i* PKPdf PKPdf 02 02 09.2 -0.4
comp=Z,16nm,1.2s
VISS Visnje 147.66 344 *i* PKPbc PKPbc 02 02 12.8 -0.6
JAVS Javornik 147.77 345 *i* PKPbc PKPbc 02 02 12.7 -1.0
DAVOX Davos/Dischmat 147.78 351 PKPbc PKPbc 02 02 13.8 +0.1
comp=Z,11nm,0.7s,baz=262,slow=1.8,SNR=20
BOJS Bojanci 147.82 343 *i* PKPbc PKPbc 02 02 13.5 -0.3
LOR Lormes 147.85 358 *e*PKP1 PKPbc 02 02 13.3 -0.6
comp=Z,30nm,0.9s
HYF Humbligny 147.87 360 *e*PKP1 PKPbc 02 02 13.6 -0.3
SSF Saint Saulge 148.07 359 *e*PKP1 PKPbc 02 02 13.9 -0.5
comp=Z,45nm,1.1s
AVF Avril sur Loir 148.34 359 *e*PKP1 PKPbc 02 02 14.2 -0.9
comp=Z,10nm,0.7s
CABF La Chapelle 148.39 355 *e*PKP1 PKPbc 02 02 15.3 0.0
comp=Z,79nm,1.1s
MFF Saint Martin d 148.45 4 *e*PKP1 PKPbc 02 02 14.6 -0.8
comp=Z,30nm,1.0s
SMF Signal de Mont 148.47 358 *e*PKP1 PKPbc 02 02 14.5 -1.0
BGF Bois d'Agland 148.58 360 *e*PKP1 PKPbc 02 02 15.1 -0.6
comp=Z,24nm,0.7s
TCF Toulx Ste Croi 148.85 1 *e*PKP1 PKPbc 02 02 15.6 -0.8
comp=Z,28nm,1.0s
LPL La Plagne 149.42 354 *e*PKP1 PKPbc 02 02 18.3 +0.5
comp=Z,38nm,1.1s
LPG La Plagne 149.44 354 *e*PKP1 PKPbc 02 02 18.4 +0.5
comp=Z,46nm,1.2s
RJF Les Rejaudoux 149.82 2 *e*PKP1 PKPbc 02 02 18.0 -0.8
comp=Z,17nm,0.8s
ORIF Oris-en-Rattie 150.09 355 *e*PKP1 PKPbc 02 02 19.3 -0.2
comp=Z,14nm,0.9s
LFF La Frestale 150.16 3 *e*PKP1 PKPbc 02 02 19.0 -0.6
comp=Z,51nm,1.0s
MBDF Montbardon 150.20 354 *e*PKP1 PKPbc 02 02 19.7 0.0
comp=Z,21nm,0.7s
CAF Calviac 150.21 1 *e*PKP1 PKPbc 02 02 19.3 -0.4
comp=Z,19nm,0.7s
VIVF Saint-Julien-l 150.23 357 *e*PKP1 PKPbc 02 02 19.6 -0.2
comp=Z,54nm,1.3s
SBF Sospel 150.98 353 *e*PKP1 PKPbc 02 02 20.6 -1.0
comp=Z,23nm,0.7s
LASF Ste Croix 151.04 358 *e*PKP1 PKPbc 02 02 21.5 -0.2
comp=Z,85nm,1.2s
SMRF Simiane la Rot 151.05 356 *e*PKP1 PKPbc 02 02 21.8 +0.1
comp=Z,63nm,1.2s
FRF La Foret Royal 151.37 354 *e*PKP1 PKPbc 02 02 21.6 -0.9
LMR La Mourre 151.61 354 *e*PKP1 PKPbc 02 02 22.2 -0.8
comp=Z,26nm,1.0s
MTLF Montolieu 151.79 1 *e*PKP1 PKPbc 02 02 22.9 -0.5
comp=Z,19nm,1.0s
SJPF Ste Jean 151.83 6 *e*PKP1 PKPbc 02 02 23.9 +0.4
PCAB Cabril 151.87 17 *e*PKP PKPbc 02 02 23.2 -0.5
PCAB *e*P PKPab 02 02 34.1 -0.1
EPF Esparros 152.04 4 *e*PKP1 PKPbc 02 02 23.7 -0.3
PGF Pioggiola 152.04 350 *e*PKP1 PKPbc 02 02 23.1 -0.9
comp=Z,37nm,1.0s
ETSF Etsaut 152.10 5 *e*PKP1 PKPbc 02 02 23.9 -0.2
comp=Z,40nm,1.3s

PBRG Braganca 152.13 15 *e*PKP PKPbc 02 02 23.5 -0.7
PBRG *e*P PKPab 02 02 35.0 -0.3
PVRL Vila Real 152.36 17 *e*PKP PKPbc 02 02 24.4 -0.4
MVO Moncorvo 152.65 16 *e*PKP PKPbc 02 02 25.0 -0.4
MVO *e*P PKPab 02 02 00.7 +0.2
EVO Evora 154.79 20 *e*PKP2 PKPab 02 02 45.5 -1.2
comp=Z,16nm,1.0s
ESDC Sonseca Array 154.79 12 PKPab PKPab 02 02 46.1 -0.5
comp=Z,0.3nm,0.6s,baz=328,slow=4.5,SNR=4.9
KEST Kesra 158.53 345 PKPab PKPab 02 03 02.9 0.0
comp=Z,2.0nm,1.1s,baz=234,slow=10,SNR=4.1
TORD Torodi Ar. Bea 177.91 154 PKP PKPdf 02 02 37.7 -1.7
comp=Z,2.9nm,0.9s,baz=31,slow=0.2,SNR=13
TORD PKPab 02 04 28.5
comp=Z,3.2nm,0.9s,baz=247,slow=2.5,SNR=16
TORD PP PP 02 08 21.0 -0.3
comp=Z,1.6nm,1.0s,baz=228,slow=2.4,SNR=4.7
TORD Torodi Ar. Bea 177.91 154 PKP PKPdf 02 02 37.7 -1.7
TORD PKPab 02 04 28.5
TORD PP PP 02 08 21.0 -0.3

IDC ***24*** *01:45:18.4±2.8, 4.10S×100.80E, h0km, mb4.0/6, mb1 4.1/6, mb1mx3.8/19, mbtmp4.0/6, Error ellipse: s-maj=120.3km s-min=23.9km az=57.0*
ISCJB ***24*** *01:45:20.9±2.1, 42.2S×04.4×1007.1E±0.6, h33km, mb4.1/7, Error ellipse: s-maj=99.8km s-min=15.3km az=148.8*
NEIC ***24*** *01:45:23.7±1.7, 406.5S×100.93E, h35km, mb4.3/2, Error ellipse: s-maj=83.0km s-min=13.3km az=59.0*
ISC 24 01:45:23.9±2.0, 41.5S×03.3×100.9E±0.6, h35km, n10, σ0=54/9, mb4.1/7, Southwest of Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**22.47**	**355**	P		**P**		**01 50 19.4**	**-0.8**
	1.4nm,0.4s,mb3.8,baz=186,slow=8.4,SNR=10								
MBWA	**Marble Bar**	**24.98**	**134**	*e*P		**P**		**01 50 43.7**	**-0.7**
	7.2nm,0.9s,mb4.2								
ASAR	**Alice Springs**	**37.35**	**125**	P		**P**		**01 52 33.9**	**+0.6**
	1.0nm,0.5s,mb3.9,baz=288,slow=7.2,SNR=1.8								
SONM	**Songino Array**	**51.92**	**5**	P		**P**		**01 54 29.6**	**+0.6**
	2.5nm,0.6s,mb4.3,baz=185,slow=8.5,SNR=17								
MK31	**Makanchi Array**	**53.25**	**344**	*e*P		**P**		**01 54 39.4**	**+0.5**
MKAR	**Makanchi Array**	**53.25**	**344**	P		**P**		**01 54 39.2**	**+0.3**
	1.2nm,0.7s,mb4.0,baz=146,slow=8.7,SNR=12								
KURK	**Kurchatov**	**57.83**	**343**	P		**P**		**01 55 11.4**	**-0.3**
	1.1nm,0.8s,mb3.9,baz=168,slow=6.2,SNR=6.1								
KURK	**Kurchatov**	**57.83**	**343**	*e*P		**P**		**01 55 11.6**	**-0.2**
	3.1nm,0.9s,mb4.3								
ZALV	**Zalesovo Beam**	**59.35**	**349**	P		**P**		**01 55 22.1**	**-0.2**
	1.0nm,0.4s,mb4.2,baz=182,slow=3.7,SNR=6.5								
TXAR	**Lajitas Array**	**145.76**	**40**	PKPbc	PKPbc			02 04 58.0	-1.9
	1.2nm,0.8s,baz=304,slow=1.2,SNR=14								

ISCJB ***24*** *02:32:14.9±0.8, 1029N±004×6205W±002, h8km±5km, Error ellipse: s-maj=7.0km s-min=3.8km az=169.6*
TRN ***24*** *02:32:15.6, 1034N×6202W, h7km, MD3.5*
FUNV ***24*** *02:32:15.6, 1039N×6192W, h17km, MW3.1*
NEIC ***24*** *02:32:16.2, 1033N×6198W, h7km, MD3.5(TRN), After TRN.*
ISC 24 02:32:15.5±0.6, 1030N±004×6205W±002, h10km±4km, n17, σ0=87/33, 5C-2D, Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
GUIV	**Guiria**	**0.38**	**334**	⇓ *i* P		**Pg**		**02 32 23.2**	**+0.1**
GUIV				*e*S		**Sg**		**02 32 29.3**	**+1.1**
TCE	**Chacachacare**	**0.49**	**37**	⇓ *i* P		**Pg**		**02 32 24.7**	**-0.4**
TCE				*e*S		**Sg**		**02 32 30.8**	**-0.9**
TPP	**Pointe-a-Pierr**	**0.59**	**88**	⇑ *e*P		**Pg**		**02 32 26.9**	**-0.1**
TPP				*e*S		**Sg**		**02 32 34.8**	**0.0**
TPP	**Pointe-a-Pierr**	**0.59**	**88**	⇑ *e*P		**Pg**		**02 32 26.9**	**-0.1**
TPP				*e*S		**Sg**		**02 32 38.5**	**+3.7**
TRN	**Trinidad (W)**	**0.73**	**62**	⇑ *e*P		**Pg**		**02 32 28.0**	**-1.6**
TRN				*e*S		**Sg**		**02 32 38.4**	**-0.7**
GUNV	**Guanoco**	**0.89**	**261**	*e*P		**Pg**		**02 32 33.7**	**+1.0**
GUNV				*e*S		**Sg**		**02 32 48.8**	**+4.5**
TBH	**Brigand Hill**	**0.99**	**79**	*e*P		**Pg**		**02 32 34.2**	**-0.3**
TBH				*e*S		**Sg**		**02 32 48.4**	**+1.0**
TBH	**Brigand Hill**	**0.99**	**79**	*e*P		**Pg**		**02 32 34.2**	**-0.3**
TBH				*e*S		**Sg**		**02 32 49.4**	**+2.0**
CRUV	**Carupano**	**1.22**	**288**	⇑ *i* P		**Pn**		**02 32 37.8**	**-0.9**
CRUV				*e*S		**Sb**		**02 32 54.2**	**-0.3**
ITEV	**Isla Los Testi**	**1.49**	**315**	⇑ *e*P		**Pn**		**02 32 41.9**	**-0.5**
ITEV				*e*S		**Sn**		**02 33 01.1**	**-0.7**
TPR	**Prospect**	**1.53**	**55**	*e*P		**Pn**		**02 32 42.4**	**-0.5**
TPR				*e*S		**Sn**		**02 33 02.9**	**+0.1**
BOT	**Bacolet**	**1.57**	**57**	*e*P		**Pn**		**02 32 43.3**	**-0.1**
BOT				*e*S		**Sn**		**02 33 04.2**	**+0.5**
GRW	**Mount Saint Ca**	**1.89**	**12**	*e*P		**Pn**		**02 32 48.6**	**+0.8**
GRW				*e*S		**Sn**		**02 33 12.1**	**+0.4**
GRW	**Mount Saint Ca**	**1.89**	**12**	*e*P		**Pn**		**02 32 49.5**	**+1.7**
GRW				*e*S		**Sn**		**02 33 13.6**	**+2.0**
PCRV	**Puerto La Cruz**	**2.55**	**267**	*e*P		**Pn**		**02 32 57.4**	**+0.5**
PRGV	**PARIAGUAN**	**2.98**	**239**	*e*P		**Pn**		**02 33 03.7**	**+0.8**
PRGV				*e*S		**Sn**		**02 33 39.5**	**+0.8**
MERV	**Las Mercedes**	**4.31**	**256**	*e*P		**Pn**		**02 33 20.6**	**-0.5**
MERV				*e*S		**Sn**		**02 34 09.8**	**-1.7**

IDC ***24*** *02:35:14.8±10.0, 3624N×7084E, h131km±97km, mb3.3/4, mb1 3.3/8, mb1mx3.1/24, mbtmp3.3/8, ML3.6/4, Error ellipse: s-maj=55.9km s-min=29.1km az=18.0*
ISCJB ***24*** *02:35:17.9±0.7, 3654N±006×7100E±009, h169km±9km, mb3.3/3, Error ellipse: s-maj=13.1km s-min=8.5km az=24.3*
NEIC ***24*** *02:35:18.8±1.0, 3648N×7108E, h169km±11km, mb3.9/1, Error ellipse: s-maj=23.2km s-min=11.3km az=117.0*
NNC ***24*** *02:35:25.7±3.5, 3709N×7091E, h181km±41km, mb2.9, mpv3.8, Error ellipse: s-maj=32.1km s-min=24.2km az=24.0*
ISC 24 02:35:19.5±0.7, 3662N±006×708E±01, h165km±9km, n19, σ1=29/24, mb3.3/3, 3C-2D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KBL	**Kabul**	**2.52**	**215**	*e*Pn		**Pn**		**02 36 02.1**	**+0.4**
KBL				*e*Sn		**Sn**		**02 36 33.6**	**-0.7**
EKS2	**Erkin-Say**	**6.46**	**20**	*e*Pn		**Pn**		**02 36 53.1**	**+0.9**
	17nm,1.2s								
KK31	**Karatay Array**	**6.49**	**358**	P		**Pn**		**02 36 53.1**	**+0.5**
	6.5nm,0.5s,baz=173,slow=12,SNR=83								
KK31				⇑S		**Sn**		**02 38 00.9**	**-4.9**
	19nm,0.7s,baz=185,slow=20,SNR=17								
TKM2	**Tokmak 2**	**7.29**	**29**	⇑P		**Pn**		**02 37 03.5**	**+0.1**
	4.7nm,0.8s								
TKM2				⇓S		**Sn**		**02 38 22.5**	**-2.6**
	6.8nm,1.1s								
TKM2	**Tokmak 2**	**7.29**	**29**	*e*Pn		**Pn**		**02 37 01.9**	**-1.4**
	22nm,1.2s								
MKAR	**Makanchi Array**	**13.29**	**36**	P		**Pn**		**02 38 23.5**	**+1.9**
	0.1nm,0.3s,baz=214,slow=8.2,SNR=4.0								
AB31	**Akbulak array**	**14.91**	**331**	P		**Pn**		**02 38 42.0**	**0.0**
	2.1nm,0.6s,baz=145,slow=12,SNR=43								
AB31				S		**Sn**		**02 41 23.7**	**-4.1**
	2.6nm,0.7s,baz=152,slow=22,SNR=8.1								
KURK	**Kurchatov**	**15.17**	**19**

FUNV ***24*** *02:46:16.1, 1032N×6189W, h19km, MW2.4*
ISCJB ***24*** *02:46:18.7±0.7, 1040N±007×6202W±003, h26km±7km, Error ellipse: s-maj=11.3km s-min=5.6km az=179.6*
TRN ***24*** *02:46:21.1, 1038N×6188W, h3km, MD3.0*
NEIC ***24*** *02:46:21.4, 1039N×6186W, h7km, MD3.0(TRN), After TRN.*

ISC 24 02:46:18.2±1.0, 1036N±007×6204W±003, h17km±7km, n11, σ0§99/19, 1C-1D, Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GUIV	**Guiria**	**0.34**	**327**	⇓*i*P	**Pg**	**02 46 24.8**	**-0.6**
GUIV				*e*S	**Sg**	**02 46 31.3**	**+1.1**
TCE	**Chacachacare**	**0.44**	**39**	*e*P	**Pg**	**02 46 27.2**	**+0.1**
TCE				*e*S	**Sg**	**02 46 33.4**	**+0.4**
TPP	**Pointe-a-Pierr**	**0.58**	**94**	*e*P	**Pg**	**02 46 30.3**	**+0.7**
TRN	**Trinidad (W)**	**0.69**	**65**	*e*P	**Pg**	**02 46 30.6**	**-1.1**
TRN				*e*S	**Sg**	**02 46 38.9**	**-1.9**
TRN	**Trinidad (W)**	**0.69**	**65**	*e*	**Sg**	**02 46 40.7**	**-0.1**
GUNV	**Guanoco**	**0.91**	**258**	*e*P	**Pb**	**02 46 34.9**	**-0.7**
GUNV				*e*S	**Sb**	**02 46 50.1**	**+2.6**
TBH	**Brigand Hill**	**0.96**	**82**	*e*P	**Pb**	**02 46 36.8**	**+0.4**
TBH				*e*S	**Sb**	**02 46 50.5**	**+1.7**
TBH	**Brigand Hill**	**0.96**	**82**	*e*P	**Pb**	**02 46 36.8**	**+0.4**
TBH				*e*S	**Sb**	**02 46 53.6**	**+4.8**
CRUV	**Carupano**	**1.22**	**285**⇑	*e*P	**Pn**	**02 46 39.3**	**-1.2**
CRUV				*e*S	**Sb**	**02 46 55.8**	**-0.5**
ITEV	**Isla Los Testi**	**1.46**	**313**	*e*P	**Pn**	**02 46 43.3**	**-0.5**
ITEV				*e*S	**Sn**	**02 47 02.9**	**+0.3**
GRW	**Mount Saint Ca**	**1.83**	**12**	*e*P	**Pn**	**02 46 53.0**	**+4.2**

ISCJB ***24*** *02:47:27.9±1.8, 466N±02×1523E±02, h82km±16km, mb3.5/5, Error ellipse: s-maj=34.2km s-min=12.9km az=139.7*
MOS ***24*** *02:47:27.9±1.8, 4662N×152.12E, h84km, mb4.1/2, Error ellipse: s-maj=32.3km s-min=17.7km az=50.1*
IDC ***24*** *02:47:31.6±3.1, 4667N×15232E, h98km±27km, mb3.4/5, mb1 3.5/7, mb1mx3.3/21, mbtmp3.4/7, Error ellipse: s-maj=30.1km s-min=23.0km az=126.0*

ISC 24 02:47:30.2±1.6, 466N±02×1522E±02, h86km±14km, n12, σ1§07/13, mb3.5/5, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KUR	**Kuril'sk**	**3.33**	**248**	PN	**Pn**	**02 48 16.0**	**-4.0**
KUR				*e*S	**Sn**	**02 48 58.5**	**0.0**
KUR				smax			
	comp=N,210nm,0.6s						
KUR				smax			
	comp=E,190nm,0.6s						
YUK	**Yuzh-Kuril'sk**	**5.16**	**243**	PN	**Pn**	**02 48 42.8**	**-2.1**
YUK				pmax	pmax		
	comp=Z,140nm,0.4s						
YUK				pmax	pmax		
	comp=N,190nm,0.6s						
YUK				pmax	pmax		
	comp=E,320nm,0.7s						
ASAJ	**Asahikawa**	**7.22**	**254**	P	**Pn**	**02 49 14.9**	**+1.9**
	comp=E,0.8nm,0.3s,baz=57,slow=12,SNR=3.6						
ASAJ	**Asahikawa**	**7.22**	**254**	PN	**Pn**	**02 49 14.9**	**+1.9**
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
PETK	**Petropavlovsk-**	**7.44**	**26**	P	**Pn**	**02 49 16.3**	**+0.4**
	comp=Z,0.3nm,0.3s,baz=196,slow=12,SNR=6.0						
MKAR	**Makanchi Array**	**46.49**	**297**	P	**P**	**02 55 48.5**	**+0.1**
	comp=Z,0.2nm,0.3s,mb3.3,baz=64,slow=12,SNR=3.3						
NOA	**NORSAR Array B**	**68.21**	**341**	P	**P**	**02 58 20.6**	**-0.3**
	comp=Z,1.1nm,0.5s,mb3.9,baz=29,slow=6.3,SNR=4.9						
NOA	**NORSAR Array B**	**68.21**	**341**	P	**P**	**02 58 20.7**	**-0.2**
NOA				pmax	pmax		
	comp=Z,1.0nm,0.5s						
AKASG	**Malin Array Be**	**71.36**	**326**	P	**P**	**02 58 40.2**	**-0.2**
	comp=Z,1.3nm,0.4s,mb4.1,baz=34,slow=6.7,SNR=3.3						
AKASG	**Malin Array Be**	**71.36**	**326**	P	**P**	**02 58 40.2**	**-0.2**
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.4s						
ASAR	**Alice Springs**	**71.84**	**198**	P	**P**	**02 58 44.7**	**+1.2**
	comp=Z,0.2nm,0.6s,mb3.1,baz=11,slow=5.7,SNR=3.2						
TXAR	**Lajitas Array**	**78.11**	**60**	P	**P**	**02 59 18.9**	**-0.9**
	comp=Z,0.2nm,0.5s,mb3.1,baz=312,slow=5.7,SNR=4.6						

IDC 24 03:14:10.1±4.8, 4527S×8116W, h0km, mb3.7/5, mb1 3.9/6, mb1mx3.9/14, mbtmp3.6/6, ML3.0/1, Error ellipse: s-maj=135.1km s-min=35.1km az=173.0, Off coast of southern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PLCA	**Paso Flores**	**8.99**	**63**	Pn	Pn	03 16 22.0	+0.9
	0.0nm,0.3s,baz=259,slow=18,SNR=2.0						
LPAZ	**La Paz**	**30.89**	**25**	P	P	03 20 29.4	+1.0
	0.4nm,0.7s,baz=138,slow=6.2,SNR=4.0						
BDFB	**Brasilia**	**40.59**	**54**	P	P	03 21 51.1	-0.4
	0.4nm,0.4s,baz=184,slow=27,SNR=2.3						
TXAR	**Lajitas Array**	**77.02**	**340**	P	P	03 26 04.0	-0.6
	0.3nm,0.9s,baz=156,slow=9.6,SNR=3.5						
NVAR	**Mina Array Bea**	**89.78**	**332**	P	P	03 27 11.1	+1.1
	0.3nm,0.6s,baz=133,slow=6.5,SNR=3.7						
PDAR	**Pinedale Array**	**91.23**	**339**	P	P	03 27 17.1	+0.5
	0.6nm,1.0s,baz=167,slow=8.8,SNR=3.3						

IDC ***24*** *03:16:28.6±4.3, 4448S×8129W, h0km, mb3.8/5, mb1 4.0/6, mb1mx3.9/14, mbtmp3.7/6, ML3.1/1, MS4.3/5, Ms1 4.3/5, ms1mx4.0/8, Error ellipse: s-maj=119.7km s-min=33.3km az=174.0*
ISCJB ***24*** *03:16:29.9±0.6, 4423S×010×813W±02, h10km, mb4.0/10, MS4.3/4, Error ellipse: s-maj=18.2km s-min=13.2km az=161.1*
NEIC ***24*** *03:16:30.8±0.7, 4434S×8137W, h10km, mb4.4/4, Error ellipse: s-maj=18.4km s-min=14.3km az=187.0*
GCMT ***24*** *03:16:30.8±0.3, 4425S×8250W, h14km±1km, MW5.0/69, Moment Tensor Solution. s28,c40; s69,c103; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr=3.42±.23; Mθθ=0.02±.13; Mφφ=3.40±.16; Mrθ=2.05±.41; Mrφ=-1.35±.11; Mθφ=0.89±.30; Best double couple: M=4.24700×10¹⁶ NP1:φs=316.00000°, δ50.00000°, λ=-128.00000°. NP2: φs=186.00000°, δ53.00000°, λ=-54.00000°. Principal axes: T 3.8780, Plg2.0000°, Azm251.0000°; N 0.7420, Plg28.0000°, Azm342.0000°; P -4.6160, Plg62.0000°, Azm159.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

ISC 24 03:16:31.5±0.6, 4427S±010×814W±02, h10km, n23, σ0§72/18, mb4.0/10, MS4.3/4, West Chile Rise

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PLCA	**Paso Flores**	**8.74**	**70**	Pn	**Pn**	**03 18 38.0**	**+0.1**
	0.1nm,0.3s,baz=168,slow=15,SNR=2.0						
PLCA				LR	LR	03 21 48.7	
	comp=Z,3μm,19.5s,baz=184,slow=36						
PLCA	**Paso Flores**	**8.74**	**70**	Pn	**Pn**	**03 18 38.0**	**+0.1**
PLCA				LR	LR	03 21 48.7	
TRQA	**Tornquist**	**15.85**	**74**	*e*P	**Pn**	**03 20 25.2**	**+11**
LVC	**Limon Verde**	**23.92**	**29**	*e*P	**P**	**03 21 49.4**	**+3.8**
	11nm,1.0s,mb4.2						
LPAZ	**La Paz**	**30.06**	**26**	P	**P**	**03 22 41.6**	**+0.8**
	1.4nm,0.9s,mb3.7,baz=216,slow=8.0,SNR=2.9						
BDFB	**Brasilia**	**40.14**	**55**	P	**P**	**03 24 06.4**	**-1.2**
	1.0nm,0.7s,mb3.7,baz=92,slow=24,SNR=2.3						
VNA3	**Neumayer Olymp**	**43.01**	**153**	*e*	**P**	**03 24 30.7**	**+0.2**
VNA3				*e*		03 24 37.6	
VNA1	**Neumayer--Stat**	**43.49**	**152**	*e*	**P**	**03 24 35.4**	**+1.0**
VNA2	**Neumayer--Watz**	**43.77**	**153**	*e*	**P**	**03 24 36.7**	**+0.1**
	baz=274,slow=8.6						
VNA2				*e*		03 24 43.9	
SNAA	**Sanae**	**45.16**	**154**	*e*	**P**	**03 24 47.0**	**-0.8**
SNAA				*e*		03 24 53.7	
SNAA	**Sanae**	**45.16**	**154**	*e*P	**P**	**03 24 46.8**	**-1.0**
	3.6nm,1.0s,mb4.2						
RKT	**Rikitea**	**48.39**	**278**	*e*LR	LR	03 38 46.3	
	871nm,27.0s,baz=135						
ROSC	**El Rosal**	**49.31**	**9**	LR	LR	03 43 04.7	
	comp=Z,361nm,21.7s,MS4.3,baz=185,slow=32						
TBI	**Tubuai**	**58.63**	**267**	*e*LR	LR	03 43 23.5	
	574nm,28.2s						
PPT	**Papeete**	**62.41**	**272**	*e*S	**S**	**03 35 25.6**	**+3.9**
	149nm,28.2s						
PPT				*e*LR	LR	03 45 03.6	

	373nm,24.5s						
MAW	**Mawson**	**65.22**	**166**	LR	LR	03 53 06.0	
	comp=Z,133nm,20.3s,MS4.1,baz=248,slow=34						
TXAR	**Lajitas Array**	**76.04**	**340**	P	**P**	**03 28 19.2**	**+0.5**
	0.5nm,0.9s,mb3.5,baz=163,slow=6.6,SNR=4.5						
TXAR				LR	LR	03 56 17.0	
	comp=Z,110nm,18.1s,MS4.2,baz=15,slow=31						
ANMO	**Albuquerque**	**82.08**	**339**	*e*P	**P**	**03 28 50.8**	**-0.9**
	3.1nm,1.0s,mb4.2						
DUG	**Dugway**	**88.72**	**336**	*e*P	**P**	**03 29 24.9**	**+0.2**
	8.9nm,1.4s,mb4.9						
NVAR	**Mina Array Bea**	**88.83**	**332**	P	**P**	**03 29 25.2**	**0.0**
	0.2nm,0.5s,mb3.7,baz=148,slow=6.9,SNR=2.7						
HWUT	**Hardware Ranch**	**89.69**	**338**	*e*P	**P**	**03 29 28.6**	**-0.6**
	2.2nm,0.9s,mb4.5						
PDAR	**Pinedale Array**	**90.25**	**340**	P	**P**	**03 29 32.1**	**+0.3**
	0.4nm,0.8s,mb3.8,baz=152,slow=4.0,SNR=3.0						
STKA	**Stephens Creek**	**94.68**	**216**	LR	LR	04 01 46.6	
	comp=Z,292nm,19.9s,MS4.8,baz=204,slow=29						

ISCJB ***24*** *03:46:07.4±1.4, 2361N±007×1025E±02, h4km±9km, mb3.1/2, Error ellipse: s-maj=26.8km s-min=6.3km az=22.2*
BJI ***24*** *03:46:08.0, 2352N×10249E, h11km, ML3.3*
IDC ***24*** *03:46:10.6±3.7, 2374N×10241E, h0km, mb3.3/2, mb1 3.3/2, mb1mx3.2/19, mbtmp3.3/2, Error ellipse: s-maj=90.8km s-min=35.7km az=112.0*

ISC 24 03:46:10.4±1.6, 2361N±007×1027E±02, h6km±10km, n9, σ0§63/12, mb3.1/2, C, Yunnan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KMI	**Kunming**	**1.51**	**3**	PG	**Pg**	**03 46 38.5**	**-0.9**
KMI				SG	**Sg**	**03 46 59.4**	**+0.4**
KMI				Smax			
	comp=N,114nm,0.7s						
KMI				Smax			
	comp=E,189nm,0.7s						
CHRT	**Chiangrai**	**4.58**	**216**	P	**Pg**	**03 47 31.5**	**-6.7**
	comp=E,158nm,1.0s						
GYA	**Guiyang**	**4.61**	**51**	P	**Pn**	**03 47 20.6**	**0.0**
GYA				Smax			
	comp=N,50nm,0.7s						
GYA				Smax			
	comp=E,30nm,0.8s						
NANT	**Nan**	**5.12**	**201**	⇑P	**Pn**	**03 47 32.5**	**+4.8**
	comp=E,178nm,1.0s						
CHG	**Chiang Mai**	**5.90**	**217**	⇑P	**Sg**	**03 49 20.2**	**+0.3**
	comp=E,13nm,1.0s						
CMAR	**Chiang Mai Arr**	**6.19**	**215**	Pg	**Pg**	**03 48 03.2**	**-5.9**
	comp=E,0.9nm,0.3s,baz=27,slow=17,SNR=7.5						
CMAR				Lg		03 49 15.1	
	comp=E,0.7nm,0.3s,baz=38,slow=16,SNR=3.7						
CD2	**Chengdu**	**7.34**	**7**	*e*P	**Pn**	**03 47 58.0**	**-0.1**
CD2				S	**Sn**	**03 49 22.0**	**+0.3**
CD2				SG	**Sg**	**03 50 10.0**	**+4.0**
CD2				Smax			
	comp=N,10.0nm,1.2s						
CD2				Smax			
	comp=E,10.0nm,1.4s						
SONM	**Songino Array**	**24.36**	**6**	P	**P**	**03 51 29.6**	**+0.6**
	comp=E,0.5nm,0.7s,mb3.1,baz=187,slow=7.3,SNR=3.4						
MKAR	**Makanchi Array**	**28.34**	**330**	P	**P**	**03 52 04.0**	**-0.9**
	comp=E,0.2nm,0.3s,mb3.2,baz=121,slow=7.2,SNR=3.1						

ISCJB ***24*** *03:57:21.4±0.8, 2437S±005×67.1W±0.1, h167km±14km, mb3.7/2, Error ellipse: s-maj=20.7km s-min=7.7km az=8.2*
NEIC ***24*** *03:57:22.6±0.8, 2432S×67.12W, h162km±12km, mb3.8/1, Error ellipse: s-maj=19.9km s-min=11.0km az=104.0*
IDC ***24*** *03:57:26.4±2.0, 2378S×67.12W, h180km±24km, mb3.7/1, mb1 3.5/5, mb1mx3.3/17, mbtmp3.5/5, Error ellipse: s-maj=38.5km s-min=24.8km az=149.0*

ISC 24 03:57:22.3±0.8, 2437S±005×671W±01, h160km±14km, n12, σ0§91/17, mb3.7/2, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LVC	**Limon Verde**	**2.39**	**317**	P	**Pn**	**03 58 04.0**	**+1.4**
	17nm,0.3s,baz=125,slow=8.0,SNR=310						
LVC				S	**Sn**	**03 58 33.3**	**-0.5**
	39nm,0.3s,baz=1.8,slow=19,SNR=51						
LVC	**Limon Verde**	**2.39**	**317**	P	**Pn**	**03 58 04.0**	**+1.4**
LVC				S	**Sn**	**03 58 33.3**	**-0.5**
LCO	**Las Campanas**	**5.62**	**214**	*e*Pn	**Pn**	**03 58 43.5**	**-0.5**
	13nm,0.4s						
LCO				*e*Sn	**Sn**	**03 59 47.6**	**-0.4**
CFAA	**Coronel Fontan**	**7.28**	**187**	P	**Pn**	**03 59 08.3**	**+2.3**
	0.0nm,0.3s,baz=1.8,slow=11,SNR=7.2						
CFAA				S	**Sn**	**04 00 26.8**	**-0.7**
	0.1nm,0.3s,baz=238,slow=17,SNR=7.3						
CFAA	**Coronel Fontan**	**7.28**	**187**	P	**Pn**	**03 59 08.3**	**+2.3**
CFAA				S	**Sn**	**04 00 26.8**	**-0.8**
LPAZ	**La Paz**	**8.09**	**353**	P	**Pn**	**03 59 16.9**	**0.0**
	0.7nm,0.3s,baz=162,slow=8.1,SNR=7.0						
SIV	**San Ignacio**	**10.09**	**35**	P	**Pn**	**03 59 42.1**	**-1.2**
	1.1nm,0.3s,baz=223,slow=12,SNR=17						
SIV				S	**Sn**	**04 01 23.1**	**-12**
	0.1nm,0.3s,baz=227,slow=17,SNR=2.5						
PLCA	**Paso Flores**	**16.57**	**189**	P	**Pn**	**04 01 15.1**	**+10**
	0.2nm,0.3s,baz=3.2,slow=11,SNR=7.5						
BDFB	**Brasilia**	**19.93**	**68**	P	**P**	**04 01 42.3**	**+0.4**
	0.6nm,0.3s,baz=227,slow=16,SNR=15						
TORD	**Torodi Ar. Bea**	**76.81**	**69**	P	**P**	**04 08 56.9**	**+0.1**
	0.8nm,0.4s,mb3.7,baz=258,slow=5.5,SNR=28						
HWUT	**Hardware Ranch**	**77.47**	**327**	*e*P	**P**	**04 08 59.6**	**-0.3**
	1.0nm,0.6s,mb3.6						
MKAR	**Makanchi Array**	**146.88**	**40**	PKPbc	PKPbc	04 16 46.5	+0.9
	0.5nm,0.4s,baz=326,slow=3.7,SNR=4.6						

NEIC 24 04:26:21.1, 3672S×17907E, h33km, ML3.9(WEL), After WEL., Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PUZ	**Puketiti**	**1.50**	**205**	P	Pn	04 26 46.0	+0.4
PUZ				S	Sn	04 27 02.8	-1.2
MWZ	**Matawai**	**2.03**	**217**	P	Pn	04 26 53.5	+0.6
MWZ				S	Sn	04 27 15.8	-1.3
URZ	**Urewera**	**2.19**	**225**	P	Pn	04 26 54.1	-1.1
KNZ	**Kokohu**	**2.55**	**205**	P	Pn	04 26 59.2	-0.9
KUZ	**Kuaotunu**	**2.69**	**268**	P	Pn	04 27 01.1	-0.9
MKAZ	**Moumakai**	**3.15**	**262**	P	Pn	04 27 08.0	-0.4
BKZ	**Black Stump Fm**	**3.18**	**219**	P	Pn	04 27 08.4	-0.4
MOVZ	**Moawhango**	**3.75**	**223**	P	Pn	04 27 15.8	-0.8

IDC ***24*** *04:31:51.3±0.5, 900S×10650E, h0km, mb4.4/18, mb1 4.4/20, mb1mx4.4/24, mbtmp4.4/20, ML5.0/1, MS3.6/3, Ms1 3.7/3, ms1mx3.0/20, Error ellipse: s-maj=18.5km s-min=12.8km az=63.0*
DJA ***24*** *04:31:54.5±0.5, 9S±4×106E±, h50km±16km, mB5.6/5, Mjma4.3/11, MLv4.9/12, Mw(mB)5.3/5, Mwp4.2/7*
MOS ***24*** *04:31:54.6±1.1, 894S×10668E, h33km, mb5.1/14, Error ellipse: s-maj=15.8km s-min=7.8km az=110.9*
ISCJB ***24*** *04:31:54.4±0.3, 905S±004×10654E±004, h32km, mb4.8/57, MS4.1/10, Error ellipse: s-maj=5.7km s-min=4.9km az=135.8*
NEIC ***24*** *04:31:56.5±0.2, 902S×10660E, mb4.9/13, Error ellipse: s-maj=8.6km s-min=5.4km az=54.0*
BJI ***24*** *04:31:56.4, 900S×10660E, h33km, mB4.9, mb4.9, Ms4.6, Msz4.2*

ISC 24 04:31:56.8±0.3, 903S±004×10654E±004, h34km, h34km±.5km:pP-P, n135, σ1§04/124, mb4.8/57, MS4.1/10, 7C-14D, South of Jawa

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
XMIS	**Christmas Isla**	**1.68**	**211**	P	**Pn**	**04 32 18.0**	**-5.8**
SKJI	**Sukabumi**	**2.02**	**1**	P	**Pn**	**04 32 27.8**	**-0.6**
LEM	**Lembang**	**2.44**	**26**	⇓*i*P	**Pn**	**04 32 35.4**	**+1.2**
LEM				*i* S	**Sn**	**04 32 53.8**	**-9.1**
LEM	**Lembang**	**2.44**	**26**	P	**Pn**	**04 32 35.0**	**+0.8**
DBJI	**Dramaga**	**2.47**	**5**	P	**Pn**	**04 32 34.4**	**-0.3**
CBJI	**Citeko**	**2.62**	**7**	P	**Pn**	**04 32 33.4**	**-3.3**
TNG	**Tangerang**	**2.84**	**2**	P	**Pn**	**04 32 39.8**	**0.0**
SBJI	**Serang**	**2.92**	**352**	P	**Pn**	**04 32 39.8**	**-1.1**
JCJI	**Jatiwangi**	**3.06**	**34**	P	**Pn**	**04 32 41.1**	**-1.6**
BJII	**Banjamegara**	**3.57**	**62**	P	**Pn**	**04 32 50.5**	**+0.8**
KLI	**Kotabumi**	**4.47**	**338**	P	**Pn**	**04 33 00.4**	**-1.7**
SJI	**Sawahan**	**5.33**	**76**	P	**Pn**	**04 33 14.4**	**+0.3**
KRKI	**Karangkates**	**5.91**	**82**	P	**Pn**	**04 33 24.0**	**+2.0**
TRT	**Tretes**	**6.18**	**78**	⇓*e*P	**Pn**	**04 33 25.5**	**-0.1**
TPI	**Tanjungpandan**	**6.33**	**10**	P	**Pn**	**04 33 28.1**	**+0.3**
	93nm,1.0s,922nm0.2nm						
NBBI	**Negara**	**8.02**	**86**	P	**Pn**	**04 33 52.0**	**+1.0**
	447nm,0.9s,4μm1.4nm						
KHKI	**Kahang-Kahang**	**8.99**	**86**	P	**Pn**	**04 34 03.6**	**-0.7**
PDSI	**Padang**	**10.08**	**323**	P	**Pn**	**04 34 14.5**	**-4.8**
	47nm,0.7s						
KSM	**Kuching**	**11.09**	**20**	⇓P	Px	04 34 45.5	
KGM	**Kluang**	**11.44**	**344**	⇓P	Px	04 34 52.4	
FRIM	**Kepong**	**13.14**	**338**	⇑P	Px	04 35 13.0	
KAPI	**Kappang**	**13.71**	**74**	Pn	**Pn**	**04 35 07.8**	**-1.1**
	baz=259,slow=16,SNR=5.1						
KAPI				LR	LR	04 41 15.4	
	comp=Z,182nm,19.0s,baz=258,slow=41						
BTM	**Bintulu**	**13.79**	**29**	⇑P	**Pn**	**04 35 20.0**	**+10**
IPM	**Ipoh**	**14.50**	**338**	⇓P	Px	04 35 31.9	
KULM	**Kulim**	**15.39**	**337**	⇓P	**Pn**	**04 35 39.8**	**+8.3**
BATI	**Baumata**	**16.93**	**95**	Pn	**Pn**	**04 35 52.0**	**+0.8**
	5.0nm,0.3s,baz=317,slow=3.9,SNR=2.2						
TSM	**Tawau**	**17.41**	**41**	⇓P	**Pn**	**04 35 57.0**	**-0.2**
MBWA	**Marble Bar**	**17.52**	**135**	*e*P	**Pn**	**04 35 54.0**	**-4.5**
	17nm,0.7s						
KKM	**Kota Kinabalu**	**17.82**	**33**	⇓P	**Pn**	**04 36 02.8**	**+0.6**
SDKM	**Sandakan**	**18.04**	**36**	⇓P	**Pn**	**04 36 04.2**	**-0.7**
MYLDM	**Lahad Datu**	**18.48**	**41**	⇑P	**Pn**	**04 36 12.8**	**+2.4**
KDM	**Kudat**	**18.88**	**33**	⇓P	**Pn**	**04 36 16.6**	**+1.4**
NST	**Nakhon Sawan**	**25.35**	**345**	P	**P**	**04 37 12.0**	**-8.8**
NWAO	**Narrogin (SRO)**	**25.75**	**159**	P	**P**	**04 37 23.6**	**-0.7**
	4.6nm,0.8s,mb4.1,baz=17,slow=13,SNR=2.5						
NWAO				LR	LR	04 47 55.5	
	comp=Z,160nm,18.9s,MS3.6,baz=72,slow=37						
QIZ	**Qiongzhong**	**28.07**	**7**	*e*P	**P**	**04 37 46.6**	**+1.3**
QIZ				*e*S	**S**	**04 42 31.5**	**+3.5**
QIZ				LR	LR		
	comp=N,464nm,11.6s						
QIZ				LR	LR		
	comp=Z,407nm,12.8s,MS4.2						
CMAR	**Chiang Mai Arr**	**28.32**	**345**	P	**P**	**04 37 46.6**	**-1.0**
	comp=Z,5.9nm,0.6s,mb4.4,baz=180,slow=8.5,SNR=32						
CMAR				LR	LR	04 50 55.5	
	comp=Z,120nm,18.4s,MS3.5,baz=180,slow=40						
CHG	**Chiang Mai**	**28.67**	**345**	⇑P	**P**	**04 37 49.7**	**-0.9**
	comp=Z,18nm,1.0s,mb4.7						
CHTO	**Chiang Mai**	**28.67**	**345**	*e*P	**P**	**04 37 49.9**	**-0.7**
CHTO				pmax	pmax		
	comp=Z,18nm,1.0s,mb4.8						
CHTO	**Chiang Mai**	**28.67**	**345**	*e*P	**P**	**04 37 49.9**	**-0.7**
	comp=Z,18nm,1.0s,mb4.8						
WRAB	**Tennant Creek**	**28.98**	**115**	*e*P	**P**	**04 37 52.8**	**-0.6**
ASAR	**Alice Springs**	**29.94**	**122**	P	**P**	**04 38 01.4**	**-0.6**
	comp=Z,2.2nm,0.8s,mb4.0,baz=293,slow=7.9,SNR=19						
KMI	**Kunming**	**34.15**	**354**	P	**P**	**04 38 40.4**	**+1.6**
KMI				AP	pP	04 38 49.8	+1.1
KMI				AMB	AMB		
	comp=Z,14nm,1.3s,mb4.7						
KMI				LR	LR		
	comp=N,413nm,12.2s						
KMI				LR	LR		
	comp=E,199nm,9.9s						
KMI				LR	LR		
	comp=Z,462nm,11.2s,MS4.5						
GYA	**Guiyang**	**35.28**	**0**	P	**P**	**04 38 50.8**	**+2.3**
GYA				AP	pP	04 39 02.0	+3.6
GYA				XP	sP	04 39 06.8	+4.3
GYA				PP	PP	04 40 12.6	+3.5
GYA				PCP	PcP	04 41 20.9	+2.1
GYA				S	**S**	**04 44 24.3**	**+4.0**
GYA				SCP	ScP	04 45 03.8	+1.7
GYA				SCS	ScS	04 49 06.3	-0.1
GYA				AMB	AMB		
	comp=Z,20nm,0.8s,mb5.1						
GYA				AMB	AMB		
	comp=Z,90nm,4.9s						
GYA				LR	LR		
	comp=N,520nm,18.7s,MS4.4						
GYA				LR	LR		
	comp=E,410nm,17.6s,MS4.4						
GYA				LR	LR		
	comp=Z,510nm,18.7s,MS4.3						
SHL	**Shillong**	**37.23**	**338**	⇑*i*P	**P**	**04 39 00.5**	**-4.7**
STKA	**Stephens Creek**	**39.66**	**130**	P	**P**	**04 39 25.3**	**-0.4**
	comp=Z,6.3nm,0.7s,mb4.5,baz=313,slow=8.7,SNR=11						
STKA	**Stephens Creek**	**39.66**	**130**	*e*P	**P**	**04 39 24.9**	**-0.8**
	comp=Z,10nm,0.7s,mb4.7						
STKA				*e*pP	pP	04 39 34.9	-0.8
CD2	**Chengdu**	**39.80**	**356**	⇓*i*P	**P**	**04 39 26.6**	**-0.2**
CD2				AP	pP	04 39 36.4	-0.4
CD2				XP	sP	04 39 40.4	-0.5
CD2				PP	PP	04 41 03.4	+4.7
CD2				S	**S**	**04 45 29.8**	**+0.9**
CD2				XS	sS	04 45 46.0	+0.6
CD2				SS	SS	04 48 21.4	-4.6
CD2				AMB	AMB		
	comp=Z,40nm,1.0s,mb5.1						
CD2				AMB	AMB		
	comp=Z,60nm,5.2s						
CD2				LR	LR		
	comp=E,140nm,10.8s						
CD2				LR	LR		
	comp=Z,170nm,12.0s,MS4.1						
CTA	**Charters Tower**	**39.88**	**110**	P	**P**	**04 39 28.3**	**+0.6**
	comp=Z,1.5nm,0.4s,mb4.0,baz=270,slow=7.1,SNR=3.0						
CTA	**Charters Tower**	**39.88**	**110**	P	**P**	**04 39 28.3**	**+0.6**
WHN	**Wuhan**	**40.06**	**10**	⇓P	**P**	**04 39 29.5**	**+0.6**
WHN				AMB	AMB		
	comp=Z,45nm,1.2s,mb5.1						
PMG	**Port Mores

LZH				AP	pP	04 40 18.5	-0.2	
LZH				XP	sP	04 40 22.5	-0.2	
LZH				PP	PP	04 41 56.3	+2.2	
LZH				*e*S	**S**	**04 46 47.0**	**+2.5**	
LZH				XS	sS	04 47 03.1	+1.9	
LZH				SS	SS	04 49 59.0	-8.1	
LZH				AMB	AMB			
	comp=Z,39nm,1.1s,mb5.2							
LZH				AMB	AMB			
	comp=Z,173nm,5.5s							
LZH				LR	LR			
	comp=N,618nm,14.4s							
LZH				LR	LR			
	comp=Z,941nm,16.0s,MS4.8							
GTA	**Gaotai**	**48.60**	**353**	P	**P**	**04 40 37.4**	**+0.3**	
GTA				AP	pP	04 40 47.3	0.0	
GTA				XP	sP	04 40 51.3	0.0	
GTA				PCP	PcP	04 42 03.1	+0.8	
GTA				PP	PP	04 42 29.3	-1.0	
GTA				SCP	ScP	04 45 53.6	-1.2	
GTA				S	**S**	**04 47 35.8**	**-0.8**	
GTA				XS	sS	04 47 53.3	-0.1	
GTA				SS	SS	04 51 02.1	-5.2	
GTA				AMB	AMB			
	comp=Z,16nm,1.6s,mb4.8							
GTA				AMB	AMB			
	comp=Z,96nm,8.7s							
GTA				LR	LR			
	comp=N,79nm,16.5s,MS4.0							
GTA				LR	LR			
	comp=E,80nm,15.3s,MS4.0							
GTA				LR	LR			
	comp=Z,87nm,17.4s,MS3.8							
BJI	**Beijing**	**49.63**	**10**	P	**P**	**04 40 44.9**	**-0.1**	
BJI				AMB	AMB			
	comp=Z,24nm,0.5s,mb5.5							
HHC	**Hu-ho-hao-te**	**49.85**	**5**	*e*P	**P**	**04 40 47.0**	**+0.4**	
HHC				AP	pP	04 40 56.9	+0.1	
HHC				XP	sP	04 41 00.8	-0.1	
HHC				PCP	PcP	04 42 06.0	-0.9	
HHC				PP	PP	04 42 43.8	+2.1	
HHC				SCP	ScP	04 45 57.6	-2.5	
HHC				S	**S**	**04 47 55.9**	**+1.8**	
HHC				XS	sS	04 48 12.8	+1.8	
HHC				SCS	ScS	04 50 32.8	-2.7	
HHC				SS	SS	04 51 25.6	-1.8	
HHC				AMB	AMB			
	comp=Z,15nm,1.2s,mb4.9							
HHC				AMB	AMB			
	comp=Z,118nm,6.5s							
HHC				LR	LR			
	comp=N,181nm,11.2s,MS4.4							
HHC				LR	LR			
	comp=E,150nm,12.1s,MS4.4							
HHC				LR	LR			
	comp=Z,134nm,13.2s,MS4.1							
KSRS	**Korea Array**	**50.40**	**22**	P	**P**	**04 40 50.1**	**-0.7**	
	comp=Z,0.6nm,0.3s,mb4.1,baz=195,slow=9.0,SNR=5.2							
KSRS	**Korea Array**	**50.40**	**22**	P	**P**	**04 40 50.2**	**-0.6**	
KSRS				pmax	pmax			
	comp=Z,1.0nm,0.3s,mb4.3							
MJAR	**Matsushiro Arr**	**54.23**	**31**	P	**P**	**04 41 17.1**	**-2.2**	
	comp=Z,1.2nm,0.6s,mb4.0,baz=201,slow=6.6,SNR=4.4							
WMQ	**Urumqi**	**55.32**	**343**	P	**P**	**04 41 27.6**	**+0.6**	
KBL	**Kabul**	**56.02**	**323**	*e*P	**P**	**04 41 34.2**	**+1.9**	
KBL				pmax	pmax			
	comp=Z,17nm,1.1s,mb5.0							
KBL	**Kabul**	**56.02**	**323**	*e*P	**P**	**04 41 34.2**	**+2.0**	
	comp=Z,17nm,1.1s,mb5.0							
SONM	**Songino Array**	**56.62**	**360**	P	**P**	**04 41 36.5**	**+0.2**	
	comp=Z,2.0nm,0.4s,mb4.5,baz=172,slow=7.8,SNR=22							
SONM				PcP	PcP	04 42 35.3	+3.0	
	comp=Z,1.3nm,0.5s,baz=183,slow=3.5,SNR=5.0							
ULN	**Ulaanbaatar**	**56.65**	**0**	*e*P	**P**	**04 41 36.8**	**+0.3**	
ULN	**Ulaanbaatar**	**56.65**	**0**	*e*P	**P**	**04 41 36.6**	**+0.1**	
	comp=Z,5.3nm,0.7s,mb4.7							
CASY	**Casey**	**57.23**	**178**	*e*P	**P**	**04 41 39.7**	**-0.7**	
	comp=Z,7.8nm,0.7s,mb4.8							
OPO	**Ambohidratompo**	**58.19**	**254**	P	**P**	**04 41 49.1**	**+1.1**	
	comp=Z,1.4nm,0.7s,mb4.1,baz=82,slow=18,SNR=4.6							
ZAK	**Zakamensk**	**59.23**	**358**	*e*P	**P**	**04 41 53.8**	**-0.8**	
ZAK				pmax	pmax			
	comp=Z,3.0nm,1.5s,mb4.1							
MK31	**Makanchi Array**	**59.64**	**341**	*e*P	**P**	**04 41 56.9**	**-0.5**	
MK31				*e**PP	pP	04 42 07.0	-0.8	
MKAR	**Makanchi Array**	**59.64**	**341**	P	**P**	**04 41 56.9**	**-0.5**	
	comp=Z,6.0nm,0.6s,mb4.8,baz=144,slow=7.9,SNR=36							
MKAR	**Makanchi Array**	**59.64**	**341**	P	**P**	**04 41 56.9**	**-0.5**	
TLY	**Talaya**	**60.52**	**358**	*e*P	**P**	**04 42 00.2**	**-3.1**	
TLY				pmax	pmax			
	comp=Z,9.0nm,1.2s,mb4.8							
KK31	**Karatay Array**	**61.39**	**331**	*i* P	**P**	**04 42 11.3**	**+1.9**	
KK31				pmax	pmax			
	comp=Z,1.0nm,0.5s,mb4.2							
KURK	**Kurchatov**	**64.25**	**341**	P	**P**	**04 42 27.7**	**-0.6**	
	comp=Z,15nm,0.9s,mb5.0,baz=155,slow=5.8,SNR=20							
KURK	**Kurchatov**	**64.25**	**341**	*c i* P	**P**	**04 42 28.1**	**-0.2**	
KURK				pmax	pmax			
	comp=Z,39nm,1.3s,mb5.3							
MAW	**Mawson**	**65.30**	**197**	P	**P**	**04 42 34.0**	**-1.0**	
	comp=Z,2.5nm,0.7s,mb4.4,baz=59,slow=4.9,SNR=12							
ZAA0	**Zalesovo Array**	**65.38**	**346**	*e*P	**P**	**04 42 34.3**	**-1.4**	
ZALV	**Zalesovo Beam**	**65.38**	**346**	P	**P**	**04 42 34.6**	**-1.0**	
	comp=Z,1.9nm,0.3s,mb4.6,baz=127,slow=3.9,SNR=18							
NVS	**Novosibirsk**	**66.58**	**346**	*e*P	**P**	**04 42 41.6**	**-1.7**	
NVS				pmax	pmax			
	comp=Z,24nm,2.2s,mb4.8							
VOSK	**Vostochnaya**	**68.59**	**338**	P	**P**	**04 42 56.1**	**0.0**	
VOSK				pmax	pmax			
	comp=Z,5.0nm,0.6s,mb4.6							
BVA0	**Borovoye Array**	**69.05**	**338**	*i* P	**P**	**04 42 58.2**	**-0.8**	
BVA0				pmax	pmax			
	comp=Z,2.0nm,0.8s,mb4.1							
BVAR	**Borovoye Array**	**69.05**	**338**	P	**P**	**04 42 58.5**	**-0.5**	
	comp=Z,7.7nm,0.6s,mb4.8,baz=145,slow=8.4,SNR=24							
AB31	**Akbulak array**	**70.92**	**330**	*i* P	**P**	**04 43 09.9**	**-0.6**	
AB31				pmax	pmax			
	comp=Z,9.0nm,0.6s,mb4.9							
AKTK	**Aktyubinsk**	**72.63**	**330**	P	**P**	**04 43 20.4**	**-0.3**	
AKTO	**Aktyubinsk**	**72.63**	**330**	P	**P**	**04 43 20.4**	**-0.3**	
	comp=Z,1.7nm,0.5s,mb4.2,baz=107,slow=14,SNR=4.7							
YAK	**Yakutsk**	**73.10**	**11**	*e*P	**P**	**04 43 21.5**	**-1.8**	
YAK				pmax	pmax			
	comp=Z,15nm,0.9s,mb4.9							
SYO	**Syowa Base**	**73.45**	**200**	*e*pP	pP	04 43 34.6	-1.4	
PETK	**Petropavlovsk-**	**75.58**	**29**	P	**P**	**04 43 37.4**	**-0.5**	
	comp=Z,3.5nm,0.8s,mb4.3,baz=216,slow=6.4,SNR=3.8							
MATP	**Matopo**	**75.75**	**251**	P	**P**	**04 43 39.4**	**-0.3**	
	comp=Z,1.2nm,0.6s,mb4.0,baz=99,slow=8.6,SNR=4.4							
ARU	**Arti**	**76.25**	**335**	*d i* P	**P**	**04 43 41.9**	**+0.2**	
ARU				*e*S	S	04 53 26.6	+3.0	
ARU				*e*SS	SS	04 58 20.3	+2.1	
ARU				pmax	pmax			
	comp=Z,24nm,2.5s,mb4.7							
LSZ	**Lusaka**	**76.50**	**256**	*e*P	**P**	**04 43 44.5**	**+0.5**	
LSZ				pmax	pmax			
	comp=Z,7.0nm,1.2s,mb4.5							
LSZ	**Lusaka**	**76.50**	**256**	*e*P	**P**	**04 43 44.5**	**+0.5**	
	comp=Z,7.3nm,1.2s,mb4.5							
KIV	**Kislovodsk**	**78.08**	**319**	*e*P	**P**	**04 43 54.1**	**+1.9**	
KIV				pmax	pmax			
	comp=Z,9.0nm,1.0s,mb4.7							
SEY	**Seymchan**	**79.86**	**19**	*e*P	**P**	**04 44 02.4**	**+0.8**	
TIXI	**Tiksi**	**81.87**	**7**	*e*P	**P**	**04 44 09.5**	**-2.6**	
TIXI				pmax	pmax			
	comp=Z,8.0nm,1.1s,mb4.6							
TIXI	**Tiksi**	**81.87**	**7**	*e*P	**P**	**04 44 10.8**	**-1.4**	
	comp=Z,5.2nm,0.3s,mb4.9							
ANN	**Anapa**	**81.88**	**318**	*e*P	**P**	**04 44 13.9**	**+1.2**	
ANN				*e**PP	pP	04 44 24.6	+1.1	
ANN				*e*		04 47 21.9		
ANN				*e*S	S	04 54 28.3	+4.3	
ANN				pmax	pmax			
	comp=Z,69nm,1.4s,mb5.4							
VSR	**Storozhevoye**	**83.24**	**324**	*e*P	**P**	**04 44 18.9**	**-0.8**	
VSR				*e**PP	pP	04 44 28.6	-1.9	
VSR				pmax	pmax			
	comp=Z,6.0nm,0.5s,mb4.9							
VSR				pmax	pmax			
	comp=N,3.0nm,0.4s							
VSR				pmax	pmax			
	comp=E,9.0nm,0.7s							
SNAA	**Sanae**	**87.46**	**197**	*e*P	**P**	**04 44 40.9**	**+0.4**	
SNAA				*e*	pP	04 44 50.8	-0.5	
SNAA				*e*		04 44 57.7		

SNAA	**Sanae**	**87.46**	**197**	*e*P	**P**	**04 44 40.6**	**+0.1**	
AKASG	**Malin Array Be**	**88.99**	**322**	P	**P**	**04 44 46.2**	**-1.9**	
	comp=E,0.3nm,0.3s,mb4.1,baz=105,slow=3.3,SNR=3.9							
VNA2	**Neumayer--Watz**	**89.11**	**197**	*e*P	**P**	**04 44 49.4**	**+1.1**	
	baz=90,slow=3.3							
VNA2				*e*	pP	04 44 59.4	+0.2	
VNA2				*e*		04 45 06.5		
VNA1	**Neumayer--Stat**	**89.49**	**198**	*e*P	**P**	**04 44 51.5**	**+1.4**	
VNA1				*e*	pP	04 45 01.1	+0.2	
VNA1				*e*		04 45 08.8		
VNA3	**Neumayer Olymp**	**89.63**	**197**	*e*P	**P**	**04 44 51.6**	**+0.9**	
VNA3				*e*	pP	04 45 01.3	-0.3	
VNA3				*e*		04 45 08.5		
PDAR	**Pinedale Array**	**133.89**	**37**	PKP	PKPdf	04 51 12.2	+1.6	
	comp=E,0.4nm,0.7s,baz=259,slow=0.9,SNR=3.1							
BDFB	**Brasilia**	**144.84**	**226**	PKP	PKPdf	04 51 31.0	-0.3	
	comp=E,1.5nm,0.6s,baz=39,slow=9.3,SNR=7.5							
TXAR	**Lajitas Array**	**145.23**	**50**	PKPbc	PKPbc	04 51 32.5	+1.2	
	comp=E,3.2nm,0.8s,baz=245,slow=1.3,SNR=37							
TXAR	**Lajitas Array**	**145.23**	**50**	PKPbc	PKPbc	04 51 32.5	+1.2	
CCM	**Cathedral Cave**	**146.96**	**26**	*e*PKP2	PKPab	04 51 35.7	-1.9	
JCT	**Junction City**	**147.45**	**45**	*e*PKP2	PKPab	04 51 38.9	-0.9	
ACSO	**Alum Creek Sta**	**147.79**	**14**	*e*PKPbc	PKPbc	04 51 38.3	-0.1	
LVC	**Limon Verde**	**148.24**	**188**	*e*PKPbc	PKPbc	04 51 39.5	-0.7	
SSPA	**Standing Stone**	**148.28**	**6**	*e*PKPbc	PKPbc	04 51 39.8	+0.1	
MIAR	**Mount Ida**	**148.62**	**33**	*e*PKPbc	PKPbc	04 51 41.3	+0.5	
MIAR				*e*		04 51 50.9		
WCI	**Wyandotte Cave**	**148.72**	**20**	*e*PKPbc	PKPbc	04 51 41.1	+0.1	
WCI				*e*		04 51 50.8		
WVT	**Waverly**	**150.02**	**24**	*e*PKPbc	PKPbc	04 51 44.4	+0.1	
WVT				*e*		04 51 54.1		
HKT	**Hockley**	**150.49**	**42**	*e*PKIKP	PKPdf	04 51 40.1	-0.1	
CPCT	**Cooper Cave**	**151.83**	**19**	*e*PKPbc	PKPbc	04 51 48.4	-0.2	

*NEIC **24** 04:47:00.0, 1034N×6203W, h2km, MD3.5(TRN), After TRN.*

TRN 24 04:47:00.0, 1034N×6203W, h2km, MD3.5, 3C-1D, Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TCE	**Chacachacare**	**0.45**	**37**	*i* P		04 47 09.1	+0.5
TCE				*e*S		04 47 15.3	+0.8
TPP	**Pointe-a-Pierr**	**0.56**	**92**	*e*P		04 47 11.4	+0.6
TPP				*e*S		04 47 19.2	+1.0
TPP	**Pointe-a-Pierr**	**0.56**	**92**	*e*P		04 47 11.4	+0.6
TPP				*e*S		04 47 19.2	+1.0
TRN	**Trinidad (W)**	**0.69**	**63**	*e*P		04 47 12.4	-0.8
TRN				*e*S		04 47 22.7	+0.6
TBH	**Brigand Hill**	**0.95**	**81**	*e*P		04 47 18.8	+0.5
TBH				*e*S		04 47 32.7	+2.0
TPR	**Prospect**	**1.49**	**55**	*e*P		04 47 27.4	-0.3
TPR				*e*S		04 47 48.6	+0.9
TPR	**Prospect**	**1.49**	**55**	*e*P		04 47 27.4	-0.3
TPR				*e*S		04 47 50.0	+2.3
BOT	**Bacolet**	**1.53**	**57**	*e*P		04 47 28.2	-0.1
BOT				*e*S		04 47 49.9	+1.2
GRW	**Mount Saint Ca**	**1.85**	**11**	*e*P		04 47 33.6	+0.9
GRW				*e*S		04 47 57.2	+0.6
GRW	**Mount Saint Ca**	**1.85**	**11**	*e*P		04 47 33.6	+0.9
GRW				*e*S		04 47 58.6	+2.0

IDC 24 05:45:09.3±3.7, 395S×10159E, h0km, mb3.9/5, mb1 4.0/5, mb1mx3.8/17, mbtmp3.9/5, Error ellipse: s-maj=181.5km s-min=22.7km az=58.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ASAR	**Alice Springs**	**36.84**	**125**	P	P	05 52 18.9	-0.6
	0.3nm,0.3s,baz=303,slow=8.1,SNR=4.5						
STKA	**Stephens Creek**	**46.68**	**131**	P	P	05 53 40.3	+0.3
	3.1nm,0.7s,baz=304,slow=9.9,SNR=7.4						
SONM	**Songino Array**	**51.73**	**4**	P	P	05 54 18.7	+0.4
	0.4nm,0.7s,baz=178,slow=7.7,SNR=4.4						
MKAR	**Makanchi Array**	**53.32**	**344**	P	P	05 54 30.4	+0.3
	0.2nm,0.5s,baz=160,slow=9.4,SNR=4.1						
ZALV	**Zalesovo Beam**	**59.37**	**349**	P	P	05 55 12.5	-0.6
	1.2nm,0.4s,baz=168,slow=7.6,SNR=6.3						
TXAR	**Lajitas Array**	**145.20**	**41**	PKPbc	PKPbc	06 04 48.8	-0.4
	0.5nm,0.5s,baz=266,slow=0.8,SNR=16						

*NEIC **24** 05:56:41.3, 1628N×9936W, h20km, MD3.9(MEX), After MEX.*

MEX 24 05:56:42.2±0.9, 1634N×9936W, h16km±67km, MD3.9, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ACX	**Acapulco**	**0.74**	**314**	*e*P	Pg	05 56 53.3	-3.5
ACX				*i* S	Sg	05 57 03.0	-3.7
CAIG	**El Cayaco**	**1.11**	**309**	*i* P	Pb	05 56 60.0	-3.1
CAIG				*i* S	Sb	05 57 12.7	-4.7
PNIG	**Pinotepa**	**1.19**	**88**	*e*P	Pn	05 56 60.0	-4.2
PNIG				*i* S	Sb	05 57 15.2	-4.2
PLIG	**Platanillo**	**2.04**	**356**	*i* P	Pn	05 57 13.2	-2.7
PLIG				*i* S	Sn	05 57 37.0	-4.0
UTMO	**Huajuapan**	**2.10**	**45**	*i* P	Pn	05 57 12.8	-3.9
UTMO				*i* S	Sn	05 57 37.3	-5.2
ZIIG	**Zihuatanejo**	**2.37**	**302**	*i* P	Pn	05 57 17.7	-2.7
ZIIG				*i* S	Sn	05 57 43.8	-5.4
ZIIG	**Zihuatanejo**	**2.37**	**302**	*i* P	Pn	05 57 22.7	+2.3
VHO	**Vista Hermosa**	**2.62**	**74**	*e*P	Pn	05 57 21.2	-2.6
VHO				*i* S	Sn	05 57 50.8	-4.5
VHO	**Vista Hermosa**	**2.62**	**74**	*e*P	Pn	05 57 25.2	+1.4
PPM	**Popocatepetl**	**2.80**	**14**	*i* P	Pn	05 57 24.6	-1.7
PPM				*i* S	Sn	05 57 55.5	-4.2
PPM	**Popocatepetl**	**2.80**	**14**	*i* P	Pn	05 57 29.2	+3.0
TPIG	**Tehuac#an**	**2.81**	**42**	*i* P	Pn	05 57 22.7	-3.8
TPIG				*i* S	Sn	05 57 55.6	-4.5
MZVM		**2.83**	**3**	*e*P	Pn	05 57 24.8	-2.0
MZVM				*i* S	Sn	05 57 56.0	-4.6
PTVM	**Pico Tres Padr**	**3.24**	**4**	*e*P	Pn	05 57 30.8	-1.6
PTVM				*i* S	Sn	05 58 07.4	-3.2
PTVM	**Pico Tres Padr**	**3.24**	**4**	*i* P	Pn	05 57 39.2	+6.8
IIO	**Organos**	**3.29**	**11**	*i* P	Pn	05 57 35.1	+2.0
IIO				*i* S	Sn	05 58 08.3	-3.5
IIO	**Organos**	**3.29**	**11**	*i* P	Pn	05 57 35.9	+2.9

*ISCJB **24** 05:59:02.2±0.7, 1032N×004×6203W×002, h2km±6km, Error ellipse: s-maj=6.3km s-min=3.7km az=170.0*
*FUNV **24** 05:59:03.6, 1040N×6199W, h14km, MW3.0*
*TRN **24** 05:59:04.0, 1033N×6193W, h3km, MD3.4*
*NEIC **24** 05:59:04.3, 1035N×6192W, h1km, MD3.4(TRN), After TRN.*

ISC 24 05:59:02.7±0.6, 1033N±004×6204W±002, h4km±5km, n17, σ1§07/30, 4C-2D, Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GUIV	**Guiria**	**0.36**	**330**	*i* P	**Pg**	**05 59 10.3**	**+0.6**
GUIV				*e*S	**Sg**	**05 59 15.5**	**+1.0**
TCE	**Chacachacare**	**0.46**	**37**	*i* P	**Pg**	**05 59 11.8**	**+0.2**
TCE				*e*S	**Sg**	**05 59 17.8**	**+0.3**
TPP	**Pointe-a-Pierr**	**0.58**	**91**	*e*P	**Pg**	**05 59 14.1**	**+0.3**
TPP				*e*S	**Sg**	**05 59 20.3**	**-1.0**
TPP	**Pointe-a-Pierr**	**0.58**	**91**	*e*P	**Pg**	**05 59 14.1**	**+0.3**
TPP				*e*S	**Sg**	**05 59 21.9**	**+0.6**
TRN	**Trinidad (W)**	**0.70**	**63**	*e*P	**Pg**	**05 59 15.0**	**-1.1**
TRN				*e*S	**Sg**	**05 59 24.1**	**-1.1**
GUNV	**Guanoco**	**0.91**	**259**	*e*P	**Pg**	**05 59 20.4**	**+0.3**
GUNV				*e*S	**Sg**	**05 59 34.8**	**+2.8**
TBH	**Brigand Hill**	**0.97**	**81**	*e*P	**Pg**	**05 59 21.1**	**-0.2**
TBH				*e*S	**Sg**	**05 59 32.5**	**-1.3**
TBH	**Brigand Hill**	**0.97**	**81**	*e*P	**Pg**	**05 59 21.1**	**-0.2**
TBH				*e*S	**Sg**	**05 59 35.5**	**+1.7**
CRUV	**Carupano**	**1.23**	**286**	*i* P	**Pg**	**05 59 24.9**	**-1.4**
CRUV				*e*S	**Sg**	**05 59 41.3**	**-1.0**
ITEV	**Isla Los Testi**	**1.48**	**314**	*e*P	**Pn**	**05 59 29.0**	**-1.2**
ITEV				*e*S	**Sn**	**05 59 47.9**	**-2.2**
TPR	**Prospect**	**1.50**	**55**	*e*P	**Pn**	**05 59 30.4**	**0.0**
TPR				*e*S	**Sn**	**05 59 50.8**	**+0.2**
BOT	**Bacolet**	**1.54**	**57**	*e*P	**Pn**	**05 59 31.0**	**0.0**
BOT	**Bacolet**	**1.54**	**57**	*e*P	**Pn**	**05 59 32.9**	**+1.9**
ORIV	**Oritupano**	**1.84**	**227**	*e*P	**Pn**	**05 59 35.3**	**+0.1**
ORIV				*e*S	**Sn**	**05 59 59.6**	**+0.6**
GRW	**Mount Saint Ca**	**1.85**	**11**	*e*P	**Pn**	**05 59 36.5**	**+1.1**

GRW				*e*S	**Sn**	**06 00 01.5**	**+2.2**	
PCRV	**Puerto La Cruz**	**2.56**	**267**	*e*P	**Pn**	**05 59 44.0**	**-1.1**	
PRGV	**PARIAGUAN**	**3.01**	**239**	*e*P	**Pn**	**05 59 51.3**	**0.0**	

*IDC **24** 06:21:53.8±1.1, 1091N×9495E, h0km, mb3.7/8, mb1 3.8/9, mb1mx3.7/22, mbtmp3.7/9, ML3.9/1, Error ellipse: s-maj=38.3km s-min=23.0km az=65.0*
*ISCJB **24** 06:21:57.2±1.1, 110N±0.1×951E±0.2, h33km, mb3.7/8, Error ellipse: s-maj=26.3km s-min=20.1km az=177.1*
*NEIC **24** 06:21:57.8±1.0, 1098N×9505E, h25km, Error ellipse: s-maj=26.2km s-min=16.1km az=71.0*

ISC 24 06:21:59.2±1.1, 110N±01×951E±02, h35km, n10, σ0§36/10, mb3.7/8, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**8.31**	**26**	P	**Pn**	**06 23 56.9**	**-0.5**
	0.4nm,0.3s,baz=214,slow=15,SNR=4.3						
MKAR	**Makanchi Array**	**37.29**	**345**	P	**P**	**06 29 08.2**	**+0.4**
	1.0nm,0.9s,mb3.6,baz=169,slow=7.7,SNR=5.3						
SONM	**Songino Array**	**37.94**	**12**	P	**P**	**06 29 14.0**	**+0.8**
	0.2nm,0.4s,mb3.2,baz=199,slow=4.0,SNR=3.4						
KURK	**Kurchatov**	**41.84**	**344**	P	**P**	**06 29 45.5**	**-0.2**
	1.1nm,0.8s,mb3.5,baz=164,slow=7.9,SNR=4.1						
ZALV	**Zalesovo Beam**	**43.62**	**351**	P	**P**	**06 30 00.2**	**+0.2**
	1.1nm,0.4s,mb3.9,baz=179,slow=9.8,SNR=4.9						
ZALV	**Zalesovo Beam**	**43.62**	**351**	P	**P**	**06 30 00.2**	**+0.2**
BVAR	**Borovoye Array**	**46.37**	**340**	P	**P**	**06 30 21.7**	**-0.3**
	0.4nm,0.4s,mb3.7,baz=126,slow=9.1,SNR=3.5						
ASAR	**Alice Springs**	**51.27**	**133**	P	**P**	**06 31 00.0**	**0.0**
	1.2nm,0.7s,mb4.0,baz=311,slow=7.0,SNR=20						
GERES	**GERESS Array B**	**76.13**	**318**	P	**P**	**06 33 43.2**	**-0.4**
	0.3nm,0.3s,mb3.7,baz=68,slow=11,SNR=3.9						
TORD	**Torodi Ar. Bea**	**90.77**	**283**	P	**P**	**06 34 59.5**	**0.0**
	0.4nm,0.9s,mb3.8,baz=64,slow=3.4,SNR=2.9						

*IDC **24** 07:05:27.6±5.0, 1556S×16850E, h0km, mb4.2/4, mb1 4.3/4, mb1mx3.9/16, mbtmp4.2/4, Error ellipse: s-maj=134.2km s-min=44.2km az=123.0*
*ISCJB **24** 07:05:50.3±4.8, 157S±03×1679E±05, h187km±58km, mb4.0/4, Error ellipse: s-maj=78.9km s-min=39.4km az=25.5*

ISC 24 07:05:50.4±5.0, 157S±03×1679E±04, h171km±56km, n6, σ0§97/7, mb4.0/4, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**6.49**	**192**	*e*P	**Pn**	**07 07 23.7**	**-0.1**
DZM				*e*S	**Sn**	**07 08 36.8**	**-0.5**
DZM				AMP		07 08 43.0	
	comp=Z,397nm,0.5s						
NOUC	**Port Laguerre**	**6.55**	**193**	*e*S	**Sn**	**07 08 39.1**	**+0.4**
CTA	**Charters Tower**	**21.06**	**255**	P	**P**	**07 10 21.7**	**+0.5**
	comp=Z,2.2nm,0.5s,mb3.7,baz=64,slow=11,SNR=3.0						
STKA	**Stephens Creek**	**28.85**	**231**	P	**P**	**07 11 33.6**	**+0.8**
	comp=Z,1.4nm,0.4s,mb4.1,baz=41,slow=8.5,SNR=3.8						
ASAR	**Alice Springs**	**32.92**	**251**	P	**P**	**07 12 07.2**	**-1.4**
	comp=Z,4.3nm,0.4s,mb4.5,baz=77,slow=9.0,SNR=104						
SONM	**Songino Array**	**83.63**	**323**	P	**P**	**07 17 59.7**	**+0.1**
	comp=Z,0.5nm,0.4s,mb3.6,baz=140,slow=8.1,SNR=4.3						

*IDC **24** 07:15:55.5±1.2, 0.17N×12695E, h0km, mb4.0/4, mb1 4.1/5, mb1mx3.8/16, mbtmp4.0/5, ML4.0/1, Error ellipse: s-maj=54.2km s-min=22.4km az=66.0*
*NEIC **24** 07:15:56.9±0.9, 0.14N×12696E, h10km, mb4.2/1, Error ellipse: s-maj=21.6km s-min=15.5km az=73.0*
*ISCJB **24** 07:16:01.9±1.0, 001N±0.10×12674E±007, h64km±13km, mb4.0/4, Error ellipse: s-maj=16.2km s-min=11.3km az=9.0*

ISC 24 07:16:03.0±1.0, 003N±009×12676E±007, h55km±13km, n10, σ0§33/12, mb4.0/4, 2D, Northern Moluca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TNE	**Ternate**	**0.97**	**39**	*e*P	**Pn**	**07 16 21.0**	**+0.5**
TNE				*e*S	**Sn**	**07 16 33.0**	**-0.4**
MNI	**Manado**	**2.38**	**306**	*e*P	**Pn**	**07 16 40.0**	**+0.4**
MNI				*e*S	**Sn**	**07 17 07.5**	**-0.2**
KAPI	**Kappang**	**8.61**	**234**	Pn	**Pn**	**07 18 04.8**	**-0.2**
	1.7nm,0.3s,baz=45,slow=7.1,SNR=5.4						
KAPI				Sn	**Sn**	**07 19 35.3**	**-5.3**
	0.7nm,0.3s,baz=158,slow=19,SNR=4.5						
ASAR	**Alice Springs**	**24.55**	**164**	P	**P**	**07 21 17.6**	**-0.1**
	5.2nm,0.9s,mb4.1,baz=347,slow=11,SNR=52						
ASAR				PcP	PcP	07 24 54.5	-0.5
	0.5nm,0.7s,ba

FRU					smax				
	comp=E,1μm,1.6s								
KBK	**Karagaybulak**	**4.48**	**47**	P		**Pn**	**07 57 05.8**	**-0.2**
	SNR=23								
CHMS	**Chumysh**	**4.61**	**42**	P		**Pn**	**07 57 07.8**	**+0.1**
	SNR=18								
USP	**Ospenovka**	**4.68**	**39**	P		**Pn**	**07 57 08.6**	**-0.1**
	SNR=46								
TKM2	**Tokmak 2**	**5.02**	**48**	⇑Pn		**Pn**	**07 57 13.0**	**-0.4**
	comp=E,57nm,0.5s								
TKM2				⇓Sn		**Sn**	**07 58 10.0**	**-0.1**
	comp=E,36nm,0.5s								
TKM2				⇓Lg			07 58 32.3		
	comp=E,121nm,0.6s								
TKM2	**Tokmak 2**	**5.02**	**48**	*i* PN		**Pn**	**07 57 13.0**	**-0.4**
TKM2				pmax		pmax			
	comp=Z,57nm,0.5s								
TKM2	**Tokmak 2**	**5.02**	**48**	P		**Pn**	**07 57 13.2**	**-0.2**
	SNR=164								
ULHL	**Ulahol**	**5.04**	**58**	P		**Pn**	**07 57 13.6**	**-0.1**
	SNR=13								
CEP	**Cherat**	**5.94**	**169**	P		**Pn**	**07 57 29.2**	**+3.1**
CEP				S		**Sn**	**07 58 38.0**	**+5.1**
CHCP	**Chirah Chowk**	**6.40**	**159**	P		**Pn**	**07 57 35.0**	**+2.7**
SMLA	**Simla**	**10.10**	**145**	*i* P		**Pn**	**07 58 21.9**	**-1.2**
SMLA				*i* S		**Sn**	**08 00 08.3**	**-7.0**
SMLA				*i* S		**Sn**	**08 00 08.9**	**-6.4**
SMLA				*ex*		x	08 00 13.2		
	comp=E,158nm,0.4s								
SMLA				*ex*		x	08 00 15.6		
	comp=N,184nm,0.4s								
MK31	**Makanchi Array**	**11.15**	**46**	⇓Pn		**Pn**	**07 58 36.1**	**-1.3**
	comp=N,1.8nm,0.7s,baz=234,slow=13,SNR=12								
MK31				⇓Lg			08 01 51.4		
	comp=N,3.7nm,0.7s,baz=236,slow=23								
MK31	**Makanchi Array**	**11.15**	**46**	*i* P		**Pn**	**07 58 36.1**	**-1.3**
MK31				pmax		pmax			
	comp=Z,1.0nm,0.4s								
MK31	**Makanchi Array**	**11.15**	**46**	*e*Pn		**Pn**	**07 58 36.1**	**-1.3**
MKAR	**Makanchi Array**	**11.15**	**46**	Pn		**Pn**	**07 58 35.4**	**-2.0**
	comp=Z,0.4nm,0.3s,baz=233,slow=13,SNR=8.0								
AB31	**Akbulak array**	**12.19**	**325**	Pn		**Pn**	**07 58 49.7**	**-1.9**
	comp=Z,2.2nm,0.4s,baz=144,slow=12,SNR=92								
AB31	**Akbulak array**	**12.19**	**325**	*e*P		**Pn**	**07 58 49.6**	**-1.9**
AB31				pmax		pmax			
	comp=Z,2.0nm,0.4s								
KURBB	**Kurchatov Arra**	**12.32**	**25**	⇓Pn		**Pn**	**07 58 52.3**	**-1.1**
	comp=Z,0.7nm,0.7s								
KURBB				Sn		**Sn**	**08 01 11.2**	**+2.0**
	comp=Z,1.9nm,0.7s								
KURBB				Lg			08 02 26.2		
	comp=Z,7.8nm,0.8s								
KURK	**Kurchatov**	**12.43**	**25**	⇑Pn		**Pn**	**07 58 53.9**	**-0.9**
	comp=Z,3.5nm,1.2s								
KURK				⇑Sn		**Sn**	**08 01 13.3**	**+1.4**
	comp=Z,6.1nm,0.9s								
KURK				Lg			08 02 30.0		
	comp=Z,48nm,1.1s								
KURK	**Kurchatov**	**12.43**	**25**	Pn		**Pn**	**07 58 49.5**	**-5.3**
	comp=Z,0.1nm,0.3s,baz=217,slow=13,SNR=9.7								
KURK				Lg			08 02 23.7		
	comp=Z,0.2nm,0.3s,baz=207,slow=27,SNR=6.8								
KURK	**Kurchatov**	**12.43**	**25**	*i* P		**Pn**	**07 58 51.3**	**-3.5**
KURK				pmax		pmax			
	comp=Z,5.0nm,1.7s								
VOSK	**Vostochnaya**	**13.06**	**1**	⇓Pn		**Pn**	**07 59 02.3**	**-1.1**
	comp=Z,3.0nm,0.8s								
VOSK				⇓Sn		**Sn**	**08 01 29.5**	**+2.2**
	comp=Z,4.3nm,1.1s								
VOSK				⇓Lg			08 02 52.6		
	comp=Z,37nm,1.1s								
BVA0	**Borovoye Array**	**13.36**	**360**	⇓Pn		**Pn**	**07 59 06.9**	**-0.6**
	comp=Z,0.8nm,1.1s,baz=179,slow=11,SNR=6.5								
BVA0				⇓Sn		**Sn**	**08 01 30.2**	**-4.3**
	comp=Z,0.5nm,0.7s,baz=174,slow=20								
BVAR	**Borovoye Array**	**13.36**	**360**	Pn		**Pn**	**07 59 05.6**	**-1.9**
	comp=Z,0.5nm,0.3s,baz=161,slow=14,SNR=6.7								
BVAR				Lg			08 03 01.2		
	comp=Z,0.3nm,0.3s,baz=176,slow=24,SNR=3.2								
BVAR				LR		LR	08 03 52.3		
	comp=Z,48nm,19.2s,baz=94,slow=36								
AKTK	**Aktyubinsk**	**13.90**	**325**	Pn		**Pn**	**07 59 13.3**	**-1.6**
AKTK				Sn		**Sn**	**08 01 42.0**	**-5.8**
AKTK				Lg			08 03 29.6		
AKTO	**Aktyubinsk**	**13.90**	**325**	⇑Pn		**Pn**	**07 59 13.1**	**-1.8**
	comp=Z,0.8nm,0.6s								
AKTO				⇑Sn		**Sn**	**08 01 47.6**	**-0.2**
	comp=Z,1.0nm,0.6s								
AKTO	**Aktyubinsk**	**13.90**	**325**	Pn		**Pn**	**07 59 13.3**	**-1.6**
	comp=Z,0.5nm,0.3s,baz=121,slow=14,SNR=11								
AKTO				Sn		**Sn**	**08 01 42.0**	**-5.8**
	comp=Z,0.3nm,0.3s,baz=342,slow=20,SNR=2.7								
AKTO				Lg			08 03 29.6		
	baz=49,slow=17,SNR=4.1								
AKTO	**Aktyubinsk**	**13.90**	**325**	P		**Pn**	**07 59 13.3**	**-1.6**
AKTO							08 01 42.0		
AKTO				pmax		pmax			
	comp=Z,1.0nm,0.3s								
DANN	**Dangsing**	**15.73**	**132**	*e*P		**Pn**	**07 59 34.3**	**-5.2**
	comp=Z,22nm,0.7s								
KOLN	**Koldanda**	**16.09**	**134**	*e*P		**Pn**	**07 59 39.2**	**-4.9**
GKN	**Gorkha**	**16.50**	**131**	*e*P		**Pn**	**07 59 43.8**	**-5.6**
	comp=Z,36nm,0.5s								
KKN	**Kakani**	**17.04**	**130**	*e*P		**Pn**	**07 59 50.4**	**-5.7**
ZAA0	**Zalesovo Array**	**17.27**	**29**	*e*Pn		**Pn**	**07 59 58.4**	**-0.4**
ZALV	**Zalesovo Beam**	**17.27**	**29**	P		**Pn**	**07 59 56.8**	**-2.0**
	comp=Z,0.5nm,0.3s,baz=219,slow=11,SNR=8.0								
ZALV	**Zalesovo Beam**	**17.27**	**29**	P		**Pn**	**07 59 56.8**	**-1.9**
ZALV				pmax		pmax			
	comp=Z,1.0nm,0.3s								
GUN	**Gumba**	**17.31**	**128**	*e*P		**Pn**	**07 59 53.6**	**-5.9**
NVS	**Novosibirsk**	**17.41**	**25**	*e*P		**Pn**	**08 00 00.5**	**-0.1**
JIRN	**Jiri**	**17.68**	**128**	*e*P		**Pn**	**07 59 58.5**	**-5.6**
RAMN	**Ramite**	**18.45**	**129**	*e*P		**Pn**	**08 00 08.7**	**-4.8**
ARU	**Arti**	**18.53**	**339**	*e* iP		**Pn**	**08 00 14.1**	**-0.1**
ARU				*e*S		**S**	**08 03 32.6**	**-10**
ARU				pmax		pmax			
	comp=Z,13nm,1.7s								
TAPN	**Taplejung**	**18.85**	**125**	*e*P		**Pn**	**08 00 13.8**	**-4.5**
ODAN	**Odare**	**19.00**	**127**	*e*P		**Pn**	**08 00 15.5**	**-4.6**
	comp=Z,16nm,0.7s								
GNI	**Garni**	**19.76**	**280**	*e*P		**Pn**	**08 00 34.3**	**+5.2**
GNI				pmax		pmax			
	comp=Z,15nm,1.3s								
KIV	**Kislovodsk**	**21.13**	**291**	*e*P		**P**	**08 00 44.0**	**+1.7**
KIV				pmax		pmax			
	comp=Z,6.0nm,0.7s,mb4.0								
GTA	**Gaotai**	**22.56**	**81**	*e*P		**P**	**08 00 58.4**	**+0.8**
GTA				AP			08 01 02.4		
GTA				XP		sP	08 01 06.4	-4.9	
GTA				AMB		AMB			
	comp=Z,4.0nm,0.6s,mb4.0								
ZAK	**Zakamensk**	**25.32**	**54**	*e*P		**P**	**08 01 26.8**	**+3.0**
ZAK				pmax		pmax			
	comp=Z,3.0nm,1.2s,mb3.7								
SONM	**Songino Array**	**26.98**	**61**	P		**P**	**08 01 40.8**	**+2.0**
	comp=Z,0.7nm,0.8s,mb3.2,baz=255,slow=9.8,SNR=4.7								
SONM	**Songino Array**	**26.98**	**61**	P		**P**	**08 01 40.8**	**+2.0**
SONM				pmax		pmax			
	comp=Z,1.0nm,0.8s								
OBN	**Obninsk**	**27.34**	**316**	*e*P		**P**	**08 01 46.1**	**+4.1**
OBN				*e*			08 06 15.8		
OBN				pmax		pmax			
	comp=Z,2.0nm,0.7s,mb3.8								
ULN	**Ulaanbaatar**	**27.42**	**61**	*e*P		**P**	**08 01 44.7**	**+1.9**
ARCES	**ARCESS Array B**	**38.08**	**336**	P		**P**	**08 03 16.9**	**+1.5**
	comp=Z,3.6nm,0.9s,mb4.1,baz=128,slow=6.9,SNR=3.3								
ARCES	**ARCESS Array B**	**38.08**	**336**	P		**P**	**08 03 17.0**	**+1.6**
ARCES				pmax		pmax			
	comp=Z,4.0nm,0.9s								
KHC	**Kasperske Hory**	**40.88**	**303**	*i* P		**P**	**08 03 41.3**	**+2.3**
NB2	**NORSAR Subarra**	**41.65**	**321**	P		**P**	**08 03 48.7**	**+3.6**
	comp=Z,1.6nm,0.7s,mb3.8,baz=93,slow=8.6								
NOA	**NORSAR Array B**	**41.65**	**321**	P		**P**	**08 03 47.1**	**+2.0**
	comp=Z,0.7nm,0.6s,mb3.5,baz=109,slow=7.9,SNR=3.0								
NOA	**NORSAR Array B**	**41.65**	**321**	P		**P**	**08 03 47.2**	**+2.1**
NOA				pmax		pmax			
	comp=Z,1.0nm,0.6s								
TIXI	**Tiksi**	**43.00**	**23**	*e*P		**P**	**08 03 56.0**	**0.0**
TIXI				pmax		pmax			
	comp=Z,7.0nm,2.5s,mb4.0								
BILL	**Bilibino**	**55.94**	**27**	*e*P		**P**	**08 05 34.0**	**-0.7**
BILL				*e*SS		SS	08 17 02.6	-2.6	
BILL				pmax		pmax			
	comp=Z,3.0nm,1.0s,mb4.3								
TORD	**Torodi Ar. Bea**	**65.46**	**267**	P		**P**	**08 06 40.7**	**+0.5**
	comp=Z,1.5nm,0.6s,mb4.2,baz=46,slow=6.1,SNR=12								
ASAR	**Alice Springs**	**86.38**	**125**	P		**P**	**08 08 38.7**	**-0.5**
	comp=Z,0.3nm,0.6s,mb3.7,baz=310,slow=5.0,SNR=3.3								

*IGQ **24** 08:21:43.8, 22.2S×77.41W, h176km±4km, Mb4.7, Ms4.6, Error ellipse: s-maj=6.0km s-min=3.4km az=46.6*
*ISCJB **24** 08:21:46.1±0.3, 207.5S±004×77.37W±006, h164km±3km, mb4.5/35, Error ellipse: s-maj=10.4km s-min=5.8km az=168.7*
*IDC **24** 08:21:47.0±0.7, 202.5×7720W, h155km±7km, mb3.9/13, mb1 4.1/18, mb1mx4.0/24, mbtmp3.9/18, MS3.0/1, Ms1 3.0/1, ms1mx2.5/23, Error ellipse: s-maj=17.6km s-min=8.1km az=59.0*
*NEIC **24** 08:21:46.6±0.3, 207S×7731W, mb4.7/21, MD4.7(IGQ), Error ellipse: s-maj=10.7km s-min=6.4km az=64.0*

ISC 24 08:21:46.8±0.3, 207S±004×7729W±006, h155km±4km, h156km±1.3km:pP-P,n93,σ0s89/95,mb4.5/35,3C-9D,
Peru-Ecuador border region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
ULBA	**Ulba**	**1.28**	**299**	P		**Pn**	**08 22 13.8**	**-0.7**
ULBA	**Ulba**	**1.28**	**299**	S		**Sn**	**08 22 34.8**	**-0.9**
ARRY	**Arrayan**	**1.29**	**296**	⇓P		**Pn**	**08 22 13.7**	**-0.9**
RUN5	**Runtun**	**1.31**	**300**	P		**Pn**	**08 22 14.0**	**-0.7**
RUN5	**Runtun**	**1.31**	**300**	S		**Sn**	**08 22 35.5**	**-0.7**
JUI6	**Juive**	**1.34**	**299**	⇓P		**Pn**	**08 22 14.4**	**-0.7**
JUI6	**Juive**	**1.34**	**299**	⇓S		**Sn**	**08 22 35.7**	**-1.1**
BIL2	**Estacion Bilba**	**1.36**	**297**	P		**Pn**	**08 22 14.9**	**-0.3**
IGUA	**Igualata**	**1.47**	**293**	P		**Pn**	**08 22 16.3**	**0.0**
IGUA	**Igualata**	**1.47**	**293**	S		**Sn**	**08 22 39.3**	**+0.3**
PISA	**Pisayambo**	**1.49**	**313**	⇑P		**Pn**	**08 22 16.7**	**+0.1**
PISA	**Pisayambo**	**1.49**	**313**	⇑S		**Sn**	**08 22 39.9**	**+0.5**
TAMB	**Tambo**	**1.74**	**322**	P		**Pn**	**08 22 20.0**	**+0.7**
VC1	**Cotopaxi 1**	**1.81**	**322**	⇓P		**Pn**	**08 22 20.6**	**+0.6**
ANTI	**Antisana**	**1.83**	**332**	⇓P		**Pn**	**08 22 21.0**	**+0.7**
CAMI	**Rancho Maria**	**1.84**	**319**	P		**Pn**	**08 22 21.1**	**+0.7**
LAV3	**Lava3-Reventad**	**1.99**	**350**	⇓P		**Pn**	**08 22 22.4**	**+0.2**
QIL2	**Quilotoa**	**2.02**	**306**	P		**Pn**	**08 22 22.9**	**+0.5**
CONE	**Cono NE Rev Vo**	**2.02**	**350**	⇓P		**Pn**	**08 22 22.9**	**+0.4**
CAYA	**Cayambe**	**2.24**	**342**	⇓P		**Pn**	**08 22 26.4**	**+1.3**
JUA2	**San Juan 2**	**2.27**	**325**	P		**Pn**	**08 22 25.6**	**+0.3**
GGP	**Refugio Guagua**	**2.29**	**325**	⇓P		**Pn**	**08 22 26.0**	**+0.4**
TERV	**Terraza Guagua**	**2.30**	**325**	P		**Pn**	**08 22 26.3**	**+0.6**
COTA	**Cotacachi**	**2.61**	**336**	⇑P		**Pn**	**08 22 30.6**	**+1.1**
MAG1	**Magdalena**	**3.18**	**309**	P		**Pn**	**08 22 34.9**	**-1.7**
CHIS	**Cerro-Chispas-**	**3.58**	**286**	P		**Pn**	**08 22 38.1**	**-3.6**
ATAH	**Atahualpa**	**5.02**	**193**	P		**Pn**	**08 23 02.1**	**+1.6**
	14nm,0.3s,baz=20,slow=9.0,SNR=126							
ATAH				S		**Sn**	**08 23 58.0**	**-0.1**
	59nm,0.3s,baz=18,slow=11,SNR=27							
ROSC	**El Rosal**	**7.49**	**23**	P		**Pn**	**08 23 36.5**	**+3.0**
	1.3nm,0.3s,baz=91,slow=19,SNR=5.2							
NNA	**Nana**	**9.86**	**177**	P		**Pn**	**08 24 04.1**	**-0.8**
	8.4nm,0.3s,baz=342,slow=11,SNR=32							
NNA				S		**Sn**	**08 25 43.9**	**-10**
	46nm,0.3s,baz=266,slow=19,SNR=18							
SDV	**Santo Domingo**	**12.75**	**31**	P		**Pn**	**08 24 42.3**	**-0.4**
	0.3nm,0.3s,baz=228,slow=12,SNR=13							
LPAZ	**La Paz**	**16.76**	**148**	P		**Pn**	**08 25 31.7**	**-0.8**
	0.9nm,0.3s,baz=331,slow=17,SNR=11							
LPAZ				S		**S**	**08 28 37.5**	**-1.4**
	0.2nm,0.3s,baz=181,slow=14,SNR=4.7							
PCRV	**Puerto La Cruz**	**17.52**	**46**	P		**Pn**	**08 25 41.3**	**-0.4**
	1.6nm,0.3s,baz=296,slow=3.4,SNR=6.2							
PCRV				LR		LR	08 33 42.5		
	comp=Z,48nm,20.9s,baz=253,slow=41								
SIV	**San Ignacio**	**21.13**	**132**	P		**P**	**08 26 20.0**	**+0.5**
	3.9nm,0.6s,mb3.9,baz=321,slow=11,SNR=38								
SIV				S		**S**	**08 30 05.2**	**-0.8**
	1.6nm,0.6s,baz=267,slow=16,SNR=5.5								
LVC	**Limon Verde**	**21.98**	**159**	P		**P**	**08 26 30.2**	**+1.8**
	28nm,0.9s,mb4.7,baz=322,slow=7.2,SNR=32								
LVC				S		**S**	**08 30 30.3**	**+10**
	2.1nm,0.8s,baz=108,slow=18,SNR=2.6								
LVC	**Limon Verde**	**21.98**	**159**	P		**P**	**08 26 30.2**	**+1.8**
LVC				S		**S**	**08 30 30.3**	**+10**
TEIG	**Tepich**	**24.64**	**335**	P		**P**	**08 26 53.1**	**0.0**
	8.5nm,0.7s,mb4.4,baz=112,slow=16,SNR=5.6								
BDFB	**Brasilia**	**31.85**	**117**	P		**P**	**08 27 58.4**	**+1.1**
	2.1nm,0.4s,mb4.2,baz=287,slow=17,SNR=5.8								
PLCA	**Paso Flores**	**38.96**	**172**	P		**P**	**08 28 59.0**	**+1.3**
	10.0nm,0.8s,mb4.5,baz=343,slow=9.2,SNR=23								
PLCA				pP		pP	08 29 32.6	+1.1	
	7.0nm,1.0s,baz=340,slow=8.9,SNR=4.7								
UALR	**University of**	**39.28**	**340**	*e*P		**P**	**08 28 59.7**	**-0.8**
	17nm,0.8s,mb4.7								
TXAR	**Lajitas Array**	**40.16**	**323**	P		**P**	**08 29 08.8**	**+1.1**
	0.6nm,0.7s,mb3.4,baz=143,slow=6.8,SNR=7.7								
TXAR				pP		pP	08 29 42.6	+1.0	
	0.7nm,0.9s,baz=111,slow=5.5,SNR=3.5								
TXAR				PcP		PcP	08 31 10.5	+1.4	
	0.6nm,0.7s,baz=152,slow=7.0,SNR=6.7								
TXAR	**Lajitas Array**	**40.16**	**323**	P		**P**	**08 29 08.8**	**+1.1**
TXAR				pP		pP	08 29 42.6	+1.0	
TXAR				PcP		PcP	08 31 10.5	+1.4	
SIUC	**Southern Illin**	**41.10**	**346**	*e*P		**P**	**08 29 13.9**	**-1.5**
	25nm,0.9s,mb4.8								
FVM	**French Village**	**41.67**	**344**	*e*P		**P**	**08 29 18.4**	**-1.6**
	54nm,1.5s,mb5.0								
CCM	**Cadedral Cave**	**41.96**	**343**	*e*P		**P**	**08 29 20.5**	**-1.9**
	11nm,0.8s,mb4.5								
CBKS	**Cedar Bluff**	**45.64**	**335**	*e*P		**P**	**08 29 52.0**	**+0.2**
	13nm,0.8s,mb4.6								
ANMO	**Albuquerque**	**45.87**	**326**	*e*P		**P**	**08 29 54.9**	**+1.3**
	8.0nm,0.8s,mb4.4								
ANMO				*e*pP		pP	08 30 28.6	+0.3	
SDCO	**Great Sand Dun**	**47.45**	**329**	*e*P		**P**	**08 30 07.1**	**+1.3**
	14nm,1.2s,mb4.5								
SDCO				*e*pP		pP	08 30 42.5	+1.8	
WUAZ	**Wupatki**	**49.12**	**323**	*e*P		**P**	**08 30 18.5**	**-0.2**
	5.9nm,0.9s,mb4.2								
WUAZ				*e*pP		pP	08 30 54.5	+0.7	
JLU	**Jordanelle**	**52.67**	**327**	*e*P		**P**	**08 30 46.5**	**+1.3**
PDAR	**Pinedale Array**	**53.28**	**331**	P		**P**	**08 30 49.4**	**-0.1**
	1.0nm,0.6s,mb3.7,baz=128,slow=9.6,SNR=12								
PDAR				PcP		PcP	08 31 55.1	-0.1	
	0.4nm,0.4s,baz=130,slow=8.0,SNR=4.5								
ULM	**Lac du Bonnet**	**54.51**	**345**	P		**P**	**08 30 56.9**	**-1.4**
	14nm,0.5s,mb5.0,baz=155,slow=9.4,SNR=22								
NVAR	**Mina Array Bea**	**55.25**	**321**	P		**P**	**08 31 05.3**	**+1.4**
	0.9nm,0.5s,mb3.7,baz=131,slow=7.5,SNR=10								
NVAR				pP		pP	08 31 41.1	+1.4	
	0.6nm,0.8s,baz=132,slow=6.1,SNR=2.9								
NVAR				PcP		PcP	08 32 03.4	+0.5	
	0.6nm,0.7s,baz=124,slow=4.9,SNR=3.6								
YKA	**Yellowknife Ar**	**70.29**	**343**	P		**P**	**08 32 42.2**	**-0.7**
	1.2nm,0.6s,mb3.8,baz=136,slow=5.6,SNR=4.1								
LIC	**Lamto**	**72.61**	**83**	*e*P		**P**	**08 32 57.7**	**-0.2**
	20nm,0.9s,mb4.6								
LIC	**Lamto**	**72.61**	**83**	*e*P		**P**	**08 32 57.7**	**-0.2**
	40nm,1.1s,mb5.0								
TIC	**Toumodi**	**72.65**	**82**	*e*P		**P**	**08 32 57.8**	**-0.3**
	48nm,0.9s,mb5.2								
DBIC	**Dimbokro**	**72.82**	**82**	P		**P**	**08 32 59.1**	**0.0**
	10nm,0.8s,mb4.6,baz=241,slow=6.2,SNR=9.3								
KIC	**Kosan Boka**	**72.91**	**83**	*e*P		**P**	**08 32 59.5**	**-0.2**
	62nm,0.7s,mb5.4								
EVO	**Evora**	**75.22**	**49**	*e*P		**P**	**08 33 12.2**	**-0.4**
	10nm,0.6s,mb4.3								
ESDC	**Sonseca Array**	**78.56**	**49**	P		**P**	**08 33 31.3**	**+0.1**
	0.4nm,0.3s,mb3.5,baz=260,slow=5.9,SNR=7.3								
TORD	**Torodi Ar. Bea**	**79.75**	**76**	P		**P**	**08 33 37.4**	**-0.8**
	2.0nm,0.4s,mb4.1,baz=281,slow=5.8,SNR=75								
TORD	**Torodi Ar. Bea**	**79.75**	**76**	P		**P**	**08 33 37.4**	**-0.8**
VNA3	**Neumayer Olymp**	**80.96**	**162**	*e*		**P**	**08 33 44.1**	**+0.6**
VNA3				*e*			08 33 49.9		
VNA1	**Neumayer--Stat**	**81.19**	**162**	*e*		**P**	**08 33 46.1**	**+1.3**
VNA1				*e*			08 33 51.6		
SJPF	**Ste Jean**	**81.27**	**46**	*e*P		**P**	**08 33 46.1**	**+0.4**
	35nm,1.1s,mb4.6								
SJPF	**Ste Jean**	**81.27**	**46**	*e*P		**P**	**08 33 46.1**	**+0.4**
	18nm,1.1s,mb4.6								
VNA2	**Neumayer--Watz**	**81.56**	**162**	*e*		**P**	**08 33 46.6**	**-0.1**
	baz=307,slow=4.1								
VNA2				*e*			08 33 52.9		
MFF	**Saint Martin d**	**82.69**	**43**	*e*P		**P**	**08 33 52.1**	**-1.0**
	22nm,0.9s,mb4.6								
MFF	**Saint Martin d**	**82.69**	**43**	*e*P		**P**	**08 33 52.1**	**-1.0**
	11nm,0.9s,mb4.6								
LFF	**La Frestale**	**83.00**	**44**	*e*P		**P**	**08 33 54.1**	**-0.6**
	24nm,0.8s,mb4.7								
LFF	**La Frestale**	**83.00**	**44**	*e*P		**P**	**08 33 54.1**	**-0.6**
	12nm,0.8s,mb4.7								
SNAA	**Sanae**	**83.17**	**162**	*e*		**P**	**08 33 55.4**	**+0.3**
SNAA				*e*			08 34 00.2		
RJF	**Les Rejaudoux**	**83.60**	**44**	*e*P		**P**	**08 33 57.6**	**-0.2**
	16nm,0.8s,mb4.5								
RJF	**Les Rejaudoux**	**83.60**	**44**	*e*P		**P**	**08 33 57.6**	**-0.2**
	7.9nm,0.8s,mb4.5								
MTLF	**Montolieu**	**83.79**	**46**	*e*P		**P**	**08 33 58.6**	**-0.2**
CAF	**Calviac**	**83.92**	**45**	*e*P		**P**	**08 33 58.7**	**-0.7**
	21nm,1.3s,mb4.4								
CAF	**Calviac**	**83.92**	**45**	*e*P		**P**	**08 33 58.7**	**-0.7**
	11nm,1.3s,mb4.4								
TCF	**Toulx Ste Croi**	**84.24**	**43**	*e*P		**P**	**08 34 00.4**	**-0.6**
BGF	**Bois d'Agland**	**84.72**	**43**	*e*P		**P**	**08 34 03.2**	**-0.2**
	40nm,1.1s,mb4.8								
BGF	**Bois d'Agland**	**84.72**	**43**	*e*P		**P**	**08 34 03.2**	**-0.2**
	20nm,1.1s,mb4.8								
AVF	**Avril sur Loir**	**85.09**	**43**	*e*P		**P**	**08 34 04.6**	**-0.7**
	33nm,1.3s,mb4.6								
AVF	**Avril sur Loir**	**85.09**	**43**	*e*P		**P**	**08 34 04.6**	**-0.7**
	16nm,1.3s,mb4.6								
SMF	**Signal de Mont**	**85.41**	**43**	*e*P		**P**	**08 34 06.4**	**-0.4**
	36nm,1.2s,mb4.7								
SMF	**Signal de Mont**	**85.41**	**43**	*e*P		**P**	**08 34 06.4**	**-0.4**
	18nm,1.2s,mb4.7								
LOR	**Lormes**	**85.50**	**42**	*e*P		**P**	**08 34 06.8**	**-0.5**
GIVF	**Givet**	**86.52**	**40**	*e*P		**P**	**08 34 12.3**	**+0.1**
	70nm,1.0s,mb5.1								
GIVF	**Givet**	**86.52**	**40**	*e*P		**P**	**08 34 12.3**	**+0.1**
	35nm,1.0s,mb5.1								
CLL	**Collm**	**91.79**	**39**	*e*(P)		**P**	**08 34 39.0**	**+2.1**
BRG	**Berggiesshubel**	**92.38**	**39**	*e*(P)		**P**	**08 34 40.5**	**+0.8**
	24nm,1.7s,mb5.0								
ZALV	**Zalesovo Beam**	**126.24**	**13**	PKP		PKPdf	08 40 30.6	-0.3
	1.0nm,0.3s,baz=282,slow=1.4,SNR=6.4								
ZALV				pPKP		pPKPdf	08 41 09.9	-1.9	
	0.3nm,0.3s,baz=318,slow=2.0,SNR=2.4								
MKAR	**Makanchi Array**	**132.04**	**19**	PKP		PKPdf	08 40 42.2	+0.1
	0.5nm,0.7s,baz=318,slow=1.6,SNR=4.1								
SONM	**Songino Array**	**134.31**	**357**	PKP		PKPdf	08 40 47.1	+0.8
	0.5nm,0.6s,baz=326,slow=2.6,SNR=3.7								
ASAR	**Alice Springs**	**140.31**	**228**	PKhKP			08 40 50.7		
	0.6nm,0.7s,baz=125,slow=3.6,SNR=6.7								
ASAR				PKP		PKPdf	08 40 59.8	+1.6	
	0.3nm,0.5s,baz=105,slow=2.4,SNR=4.4								

NEIC 24 09:29:30.3, 3764S×17721E, h88km, ML3.9(WEL), 1C,
After WEL., Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
WIZ	**White Island**	**0.11**	**351**	P		**Pn**	**09 29 42.9**	**+0.1**
EDRZ	**Edgecumbe**	**0.60**	**219**	P		**Pn**	**09

147nm,1.0s,1µm
WRAB Tennant Creek 17.66 197 *d* iP **Pn** 09 38 56.0 -4.0
WRAB Tennant Creek 17.66 197 P **Pn** 09 38 55.8 -4.2
177nm,1.2s,2µm
WRAB Tennant Creek 17.66 197 P **Pn** 09 38 56.2 -3.8
215nm,1.2s,2µm
CTA Charters Tower 18.24 160 *e*P **Pn** 09 39 06.9 -0.1
9.9nm,0.6s
CTA Charters Tower 18.24 160 P **Pn** 09 39 07.5 +0.5
0.5nm,0.3s,baz=335,slow=12,SNR=11
CTA LR LR 09 46 04.4
comp=Z,2µm,21.9s,baz=345,slow=37
CTA Charters Tower 18.24 160 *e*P **Pn** 09 39 06.9 -0.1
CTA pmax pmax
comp=Z,10.0nm,0.6s
CTAO Charters Tower 18.24 160 *e*P **Pn** 09 39 06.8 -0.2
CTAO pmax pmax
comp=Z,28nm,1.0s
CTAO Charters Tower 18.24 160 P **Pn** 09 39 07.0 0.0
comp=Z,29nm,2.3s
CTAO Charters Tower 18.24 160 P **Pn** 09 39 06.6 -0.4
comp=Z,35nm,1.1s
CTAO Charters Tower 18.24 160 *e*P **Pn** 09 39 06.8 -0.2
comp=Z,28nm,1.0s
KAPI Kappang 19.93 263 P **Pn** 09 39 23.3 -4.0
comp=Z,1.3nm,0.3s,baz=121,slow=18,SNR=2.3
KAPI Kappang 19.93 263 P **Pn** 09 39 29.2 +1.9
comp=Z,43nm,1.5s,comp=Z,716nm
KAPI Kappang 19.93 263 P **Pn** 09 39 17.1 -10
comp=Z,43nm,1.5s,comp=Z,713nm
HNR Honiara 21.20 109 P **P** 09 39 38.6 -0.5
comp=Z,51nm,0.7s,mb5.0,baz=265,slow=3.9,SNR=3.6
HNR Honiara 21.20 109 *e*P **P** 09 39 36.4 -2.7
HNR pmax pmax
comp=Z,144nm,0.9s,mb5.3
HNR Honiara 21.20 109 *e*P **P** 09 39 36.4 -2.6
comp=Z,144nm,0.9s,mb5.3
ASAR Alice Springs 21.34 195 P **P** 09 39 38.6 -1.8
comp=Z,12nm,0.6s,mb4.4,baz=24,slow=10.0,SNR=92
ASAR S **S** 09 43 38.9 +4.4
comp=Z,14nm,0.9s,baz=15,slow=28,SNR=4.3
RCP Roxas 22.11 311⇑ *e*P **P** 09 39 49.7 +0.9
MYLDM Lahad Datu 22.59 291 P **P** 09 39 58.0 +4.2
OTRP Odiongan 23.17 311 *e*P **P** 09 39 58.7 -1.2
KHKI Kahang-Kahang 24.49 256 P **P** 09 40 10.7 -1.4
KHKI Kahang-Kahang 24.49 256 P **P** 09 40 10.4 -1.7
BBKI Banjar Baru 24.75 268 P **P** 09 40 16.8 +2.3
comp=Z,148nm,1.2s,mb5.4
BBKI Banjar Baru 24.75 268 P **P** 09 40 16.8 +2.3
comp=Z,148nm,1.2s,mb5.4
EIDS Eidsvold 24.88 155 *e*P **P** 09 40 15.8 +0.2
comp=Z,172nm,1.0s,mb5.5
KMMI Kalianget 25.88 260 P **P** 09 40 26.4 +1.6
comp=Z,103nm,1.2s,mb5.2
KMMI Kalianget 25.88 260 P **P** 09 40 26.4 +1.6
comp=Z,125nm,1.2s,mb5.3
MBWA Marble Bar 26.52 225 P **P** 09 40 29.9 -0.5
comp=Z,39nm,1.7s,mb4.7
MBWA Marble Bar 26.52 225 P **P** 09 40 27.9 -2.5
comp=Z,49nm,1.3s,mb4.9
MBWA Marble Bar 26.52 225 *e*P **P** 09 40 26.4 -4.0
comp=Z,41nm,1.1s,mb4.9
STKA Stephens Creek 28.85 177 *e*P **P** 09 40 50.2 -0.9
comp=Z,5.2nm,0.9s,mb4.3
STKA Stephens Creek 28.85 177 P **P** 09 40 50.1 -1.0
comp=Z,2.3nm,0.5s,mb4.2,baz=332,slow=22,SNR=8.3
STKA LR LR 09 53 36.6
comp=Z,3µm,19.7s,MS4.9,baz=246,slow=39
STKA Stephens Creek 28.85 177 *e*P **P** 09 40 50.0 -1.2
comp=Z,4.0nm,0.8s,mb4.2
FORT Forrest 29.77 200 *e*P **P** 09 40 59.4 0.0
comp=Z,18nm,0.6s,mb5.0
FORT Forrest 29.77 200 *e*P **P** 09 40 59.3 -0.1
comp=Z,1.9nm,0.3s,mb4.3
CNB Canberra Magne 33.46 165 *e*P **P** 09 41 32.1 +0.4
TOO Toolangi 34.89 172 *e*P **P** 09 41 44.8 +0.7
KLBR Kellerberrin 35.17 213 *e*P **P** 09 41 45.1 -1.5
comp=Z,5.6nm,0.5s,mb4.8
NWAO Narrogin (SRO) 36.47 213 P **P** 09 41 56.6 -1.1
comp=Z,9.7nm,1.0s,mb4.7,baz=32,slow=9.4,SNR=5.8
NWAO Narrogin (SRO) 36.47 213 *e*P **P** 09 41 58.5 +0.8
NWAO pmax pmax
comp=Z,6.0nm,0.7s
NWAO Narrogin (SRO) 36.47 213 *e*P **P** 09 41 58.5 +0.8
comp=Z,5.9nm,0.7s,mb4.6
PDSI Padang 39.19 272 P **P** 09 42 21.1 +0.2
comp=Z,41nm,1.0s,comp=Z,3µm,mb5.1
PPI Padang Panjang 39.28 273 P **P** 09 42 21.3 -0.4
comp=Z,42nm,0.9s,mb5.2
PPI Padang Panjang 39.28 273 P **P** 09 42 21.7 0.0
comp=Z,50nm,1.0s,mb5.2
NJ2 Nanjing 39.99 332 *e*P **P** 09 42 27.1 -0.2
NJ2 S **S** 09 48 30.0 +0.7
NJ2 AMB AMB
comp=Z,10.0nm,0.6s,mb4.7
NJ2 AMB AMB
comp=Z,120nm,7.6s
NJ2 LR LR
comp=N,490nm,21.0s,MS4.4
NJ2 LR LR
comp=E,330nm,24.0s,MS4.4
NJ2 LR LR
comp=Z,340nm,24.3s,MS4.1
PSI Prapat 41.08 278⇓ *e*P **P** 09 42 35.5 -1.1
KSRS Korea Array 41.63 346 P **P** 09 42 41.4 +0.7
comp=Z,1.7nm,0.7s,mb3.8,baz=157,slow=8.9,SNR=5.4
KSRS LR LR 10 00 29.0
comp=Z,298nm,18.8s,MS4.2,baz=162,slow=37
CMAR Chiang Mai Arr 45.34 300 P **P** 09 43 10.4 -0.5
comp=Z,2.4nm,0.4s,mb4.4,baz=120,slow=5.9,SNR=17
CMAR LR LR 10 04 03.1
comp=Z,159nm,19.2s,MS4.0,baz=263,slow=39
XAN Xi'an 46.78 324 P **P** 09 43 20.9 -1.1
XAN AP pP 09 43 30.9 -5.1
XAN XP sP 09 43 35.3 -6.8
XAN PP PP 09 45 15.0 +2.2
XAN S **S** 09 50 12.1 +3.5
XAN XS sS 09 50 28.1 -3.9
XAN AMB AMB
comp=Z,5.0nm,0.9s,mb4.4
XAN AMB AMB
comp=Z,70nm,8.0s
XAN LR LR
comp=N,93nm,17.2s,MS4.1
XAN LR LR
comp=E,156nm,18.6s,MS4.1
XAN LR LR
comp=Z,321nm,18.1s,MS4.3
BJI Beijing 47.87 336 P **P** 09 43 31.9 +1.6
BJI S **S** 09 50 26.1 +2.3
BJI AMB AMB
comp=Z,14nm,0.6s,mb5.2
BJI AMB AMB
comp=Z,95nm,3.7s
BJI LR LR
comp=N,324nm,20.7s,MS4.4
BJI LR LR
comp=E,238nm,22.2s,MS4.4
BJI LR LR
comp=Z,486nm,19.5s,MS4.5
MDJ Mudanjiang 48.18 350 P **P** 09 43 37.8 +5.1
MDJ AMB AMB
comp=Z,7.0nm,0.8s,mb4.7
MDJ AMB AMB
comp=Z,121nm,4.9s
MDJ LR LR
comp=N,298nm,16.2s,MS4.5
MDJ LR LR
comp=E,153nm,13.4s,MS4.5
MDJ LR LR
comp=Z,362nm,15.8s,MS4.5
RPZ Rata Peaks 49.24 150 P **P** 09 43 43.0 +2.1
comp=Z,25nm,0.9s,mb5.2,baz=314,slow=21,SNR=5.6
LZH Lanzhou 51.21 323 *e*P **P** 09 43 56.0 +0.1
LZH AP pP 09 44 07.0 -3.0
LZH XP sP 09 44 10.3 -5.7
LZH AMB AMB
comp=Z,13nm,1.0s,mb4.8
LZH AMB AMB
comp=Z,65nm,5.0s
LZH LR LR
comp=E,189nm,11.9s
LZH LR LR
comp=Z,226nm,13.9s,MS4.3
KLR Kul'dur 52.40 353 *e*P **P** 09 44 00.0 -4.5
SHL Shillong 54.21 305 *e*P **P** 09 44 18.5 +0.2
HIA Hailar 54.77 344⇓ *e*P **P** 09 44 23.6 +1.7
GTA Gaotai 55.79 323 *e*P **P** 09 44 30.3 +0.9
GTA AMB AMB
comp=Z,4.0nm,1.2s,mb4.3
GTA AMB AMB
comp=Z,62nm,7.2s
GTA LR LR
comp=N,160nm,18.3s,MS4.3
GTA LR LR
comp=E,146nm,17.4s,MS4.3
GTA LR LR
comp=Z,259nm,20.7s,MS4.3
PETK Petropavlovsk- 57.87 13 P **P** 09 44 44.1 +0.2
comp=Z,3.6nm,0.9s,mb4.4,baz=189,slow=8.0,SNR=3.3
PETK LR LR 10 11 25.6
comp=Z,175nm,18.1s,MS4.2,baz=203,slow=38
ULN Ulaanbaatar 58.05 335⇑ *e*P **P** 09 44 46.7 +1.5
ULN Ulaanbaatar 58.05 335 P **P** 09 44 48.2 +3.0
comp=Z,8.9nm,2.5s,mb4.4
ULN Ulaanbaatar 58.05 335 *e*P **P** 09 44 45.7 +0.4
comp=Z,3.9nm,0.7s,mb4.5
SONM Songino Array 58.31 334 P **P** 09 44 47.1 0.0
comp=Z,1.4nm,0.5s,mb4.3,baz=151,slow=8.0,SNR=12
TAPN Taplejung 58.35 305 *e*P **P** 09 44 47.4 -0.3
ODAN Odare 58.43 304 *e*P **P** 09 44 48.1 -0.2
comp=Z,29nm,0.7s,mb5.4
RAMN Ramite 59.12 304 *e*P **P** 09 44 52.5 -0.6
comp=Z,27nm,0.9s,mb5.3
JIRN Jiri 59.72 304 *e*P **P** 09 44 56.7 -0.5
GUN Gumba 60.06 305 *e*P **P** 09 44 59.3 -0.3
comp=Z,26nm,0.7s,mb5.4
PKI Pulchoki 60.33 304 *e*P **P** 09 45 01.0 -0.4
KKN Kakani 60.51 304 *e*P **P** 09 45 02.4 -0.3
DMN Daman 60.59 304 *e*P **P** 09 45 02.9 -0.3
comp=Z,20nm,0.7s,mb5.4
CLNS Chul'man 60.77 351 *e*P **P** 09 45 03.3 -0.5
CLNS pmax pmax
comp=E,6.0nm,1.3s
CLNS pmax pmax
comp=N,6.0nm,1.2s
CLNS pmax pmax
comp=Z,12nm,1.4s,mb4.8
GKN Gorkha 61.12 304 *e*P **P** 09 45 06.1 -0.7
comp=Z,33nm,0.8s,mb5.5
ZAK Zakamensk 61.58 334 *e*P **P** 09 45 08.8 -0.6
ZAK pmax pmax
comp=Z,11nm,1.7s,mb4.7
KOLN Koldanda 61.90 304 *e*P **P** 09 45 11.4 -0.7
comp=Z,18nm,0.8s,mb5.2
DANN Dangsing 61.97 304 *e*P **P** 09 45 11.9 -0.6
comp=Z,21nm,0.6s,mb5.4
TLY Talaya 62.39 336 *e*P **P** 09 45 19.3 +4.4
TLY *e* 09 49 07.8
TLY pmax pmax
comp=Z,21nm,2.0s,mb4.9
TLY MLR MLR
comp=Z,285nm,16.0s,MS4.5
BOD Bodaibo 63.96 345 *e*P **P** 09 45 26.3 +1.2
BOD pmax pmax
comp=Z,9.0nm,1.5s,mb4.6
YAK Yakutsk 65.23 355 *e*P **P** 09 45 32.9 -0.4
YAK pmax pmax
comp=Z,22nm,0.9s,mb5.2
WMQ Urumqi 65.75 321 P **P** 09 45 44.0 +6.9
CASY Casey 66.45 192 *e*P **P** 09 45 40.2 -1.0
comp=Z,16nm,1.0s,mb5.0
MKAR Makanchi Array 70.52 322 P **P** 09 46 06.3 -0.6
comp=Z,1.7nm,0.7s,mb4.1,baz=98,slow=8.3,SNR=15
PPT Papeete 70.82 107 *e*LR LR 10 08 08.2
comp=Z,450nm,24.5s
PPT Papeete 70.82 107 LR LR 10 12 19.4
comp=Z,368nm,19.4s,MS4.7,baz=308,slow=32
MIR Mirnyy 71.27 198⇓ *i*P **P** 09 46 12.0 +0.9
MIR *i* 09 46 19.0
MIR *i* pP 09 46 28.0 +2.2
TBI Tubuai 71.33 114 *e*LR LR 10 08 26.2
comp=Z,114nm,37.5s
ZALV Zalesovo Beam 72.59 330 P **P** 09 46 17.6 -1.6
comp=Z,1.4nm,0.6s,mb4.1,baz=100,slow=6.3,SNR=5.0
BILL Bilibino 73.22 10 *e*P **P** 09 46 23.6 +0.9
BILL *e* pP 09 46 38.8 +1.3
BILL pmax pmax
comp=Z,6.0nm,1.0s,mb4.5
BILL MLR MLR
comp=Z,200nm,17.0s,MS4.5
NVS Novosibirsk 73.84 330 *e*P **P** 09 46 24.9 -1.7
NVS pmax pmax
comp=Z,34nm,2.2s,mb4.9
NVS pmax pmax
comp=N,21nm,2.0s
KURK Kurchatov 74.42 325 P **P** 09 46 30.1 0.0
comp=N,0.7nm,0.2s,mb4.2,baz=109,slow=4.9,SNR=5.8
TIXI Tiksi 74.78 356⇑ *e*P **P** 09 46 30.3 -1.4
TIXI pmax pmax
comp=Z,5.0nm,0.9s,mb4.4
SBA Scott Base 76.23 174 *e*P **P** 09 46 41.9 +1.9
SBA pmax pmax
comp=Z,23nm,1.4s,mb4.9
SBA Scott Base 76.23 174 *e*P **P** 09 46 41.9 +1.9
comp=Z,23nm,1.4s,mb4.9
TAOE Nuku Hiva Isla 79.91 98 *e*LR LR 10 12 23.4
comp=Z,1µm,24.9s
MAW Mawson 82.26 202 *e*P **P** 09 47 13.2 +0.2
comp=Z,3.4nm,0.8s,mb4.3
MAW Mawson 82.26 202 P **P** 09 47 13.4 +0.3
comp=Z,4.4nm,1.0s,mb4.4,baz=29,slow=3.2,SNR=5.7
MAW LR LR 10 20 59.6
comp=Z,309nm,18.8s,MS4.7,baz=66,slow=34
MAW Mawson 82.26 202 *e*P **P** 09 47 13.2 +0.2
MAW pmax pmax
comp=Z,3.0nm,0.8s
IMA2 Indian Mountai 83.41 22 *e*P **P** 09 47 19.2 +0.3
PMR Palmer 83.75 27 *e*P **P** 09 47 19.6 -1.2
PMR pmax pmax
comp=Z,8.0nm,0.9s,mb4.8
PMR Palmer 83.75 27 *e*P **P** 09 47 19.6 -1.1
comp=Z,7.7nm,0.9s,mb4.8
COLA College 85.29 24 *e*P **P** 09 47 27.6 -0.9
COLA pmax pmax
comp=Z,8.0nm,0.9s,mb4.8
COLA College 85.29 24 *e*P **P** 09 47 27.6 -0.9
comp=Z,7.7nm,0.9s,mb4.8
QSPA South Pole Qui 87.01 180 P **P** 09 47 38.1 +1.3
comp=Z,6.3nm,0.8s,mb4.9,baz=328,slow=1.9,SNR=35
QSPA LR LR 10 27 47.9
comp=Z,396nm,18.4s,MS4.8,baz=9.4,slow=36
ARU Arti 87.48 327 *d* iP **P** 09 47 40.1 +0.7
ARU *e* 09 51 03.2
ARU *e*S S 09 58 04.5 -12
ARU *e*SS SS 10 04 03.9 +1.4
ARU pmax pmax
comp=Z,13nm,2.5s,mb4.7
EGAK Eagle 88.05 25 *e*P **P** 09 47 41.9 0.0
comp=Z,13nm,1.0s,mb5.1
DAWY Dawson 88.67 26 *e*P **P** 09 47 45.1 +0.2
HYT Haines Junctio 89.06 29 *e*P **P** 09 47 47.4 +0.6
YKA Yellowknife Ar 99.85 27 LR LR 10 30 32.8
comp=Z,84nm,21.2s,MS4.2,baz=270,slow=34
TXAR Lajitas Array 114.63 59 PKKPab PKKPab 10 04 14.9 -2.3
comp=Z,1.6nm,1.2s,baz=103,slow=4.0,SNR=4.6
TORD Torodi Ar. Bea 137.19 286 PKP PKPdf 09 54 15.0 -1.1
comp=Z,0.8nm,1.0s,baz=100,slow=2.0,SNR=3.3
TORD Torodi Ar. Bea 137.19 286 PKP PKPdf 09 54 15.0 -1.1
DBIC Dimbokro 144.42 277 PKP PKPdf 09 54 28.0 -1.2
comp=Z,9.3nm,0.6s,baz=100,slow=3.9,SNR=16
DBIC Dimbokro 144.42 277 *e*PKPdf PKPdf 09 54 27.1 -2.1
DBIC PKP PKPdf 09 54 28.0 -1.2
ROSC El Rosal 146.07 86 PKPbc PKPbc 09 54 34.4 +1.4
comp=Z,6.3nm,0.5s,baz=107,slow=19,SNR=3.5
LPAZ La Paz 146.58 126 PKPbc PKPbc 09 54 35.0 +0.7
comp=Z,1.3nm,0.4s,baz=272,slow=2.7,SNR=4.6
SDV Santo Domingo 149.34 78 *e*PKPbc PKPbc 09 54 40.7 -1.1

NIED **24** *09:56:00, 43.40N×14.670E, h32km, Mw4.4 Best double couple: M₀5.06000×10¹⁵ NP1:φ₀240.00000°, δ73.00000°, λ89.00000°. NP2:φ₀63.00000°, δ17.00000°, λ93.00000°.*
MOS **24** *09:56:24.2±1.2, 43.44N×14.688E, h36km, mb4.7/16, MS4.0/5, Error ellipse: s-maj=9.2km s-min=7.6km az=94.4*
MOS Felt (II) at Yuzhno-Kuril'sk.
ISCJB **24** *09:56:24.6±0.3, 43.46N±0.004×14.683E±0.004, h34km, mb4.5/39, MS4.1/16, Error ellipse: s-maj=6.0km s-min=3.6km az=157.6*
BJI **24** *09:56:25.5, 43.54N×14.692E, h44km, mB4.9, mb4.6, Ms4.1, Msz3.9*
NEIC **24** *09:56:26.5±0.3, 43.40N×14.678E, mb4.9/13, Error ellipse: s-maj=8.9km s-min=4.7km az=149.0*
NEIC Recorded [1 JMA] in eastern Hokkaido.
IDC **24** *09:56:26.8±0.6, 43.51N×14.673E, h38km±4km, mb4.1/13, mb1 4.2/16, mb1mx4.2/21, mbtmp4.0/16, ML3.7/3, MS4.0/13, Ms1 4.0/13, ms1mx3.7/28, Error ellipse: s-maj=19.3km s-min=14.0km az=144.0*
JMA **24** *09:56:27.0±0.3, 43.39N×14.665E, h39km±2km, M4.2*
JMA Felt I J1.
SKHL **24** *09:56:28.1±1.5, 44.00N×14.680E, h39km±12km, mb4.9/4, ms3.9/1*
ISC 24 09:56:26.9±0.3, 43.47N±0.004×14.675E±0.004, h36km, h36km±1.6km:pP-P, n385, σ1.9 07/122, mb4.5/39, MS4.1/16, 134C-144D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
NEM2	**Nemuro 2**	**0.74**	**262**	P	**Pn**		**09 56 40.0**	**-0.8**
NEM2				*e*S	**Sn**		**09 56 49.2**	**-1.6**
YUK	**Yuzh-Kuril'sk**	**0.86**	**312**⇓	*i*PN	**Pn**		**09 56 41.7**	**-0.7**
YUK				*i* S	**Sn**		**09 56 53.0**	**-0.7**
YUK	comp=N,6µm,0.3s			pmax	pmax			
YUK	comp=E,3µm,0.3s			pmax	pmax			
YUK	comp=Z,2µm,0.3s			pmax	pmax			
YUK	comp=Z,11µm,1.0s			pmax	pmax			
YUK	comp=N,13µm,3.4s			pmax	pmax			
YUK	comp=E,13µm,2.4s			smax				
YUK	comp=N,130µm,1.2s			smax				
YUK	comp=E,199µm,1.0s			A				
YUK	**Yuzh-Kuril'sk**	**0.86**	**312**⇓	*i*P	**Pn**		**09 56 41.7**	**-0.7**
YUK				⇓ *i*P			09 56 41.7	
YUK	comp=E,2µm,0.2s			AMB	AMB		09 56 42.9	
YUK	comp=E,6µm,0.2s			AMB	AMB		09 56 42.9	
YUK	comp=E,3µm,0.2s			AMB	AMB		09 56 42.9	
YUK	comp=E,13µm,2.4s			AMB	AMB		09 56 46.9	
YUK	comp=E,11µm,1.0s			AMB	AMB		09 56 46.9	
YUK	comp=E,13µm,3.4s			AMB	AMB		09 56 46.9	
YUK				*i* S	**Sn**		**09 56 53.0**	**-0.7**
YUK	comp=E,130µm,1.2s			A			09 56 54.0	
YUK	comp=E,199µm,1.0s			A			09 56 54.0	
JRA	**Rausu**	**1.27**	**292**	P	**Pn**		**09 56 48.2**	**+0.1**
JRA				*e*S	**Sn**		**09 57 03.5**	**-0.4**
JNK	**Nakash**	**1.48**	**275**	P	**Pn**		**09 56 50.7**	**-0.3**
JAK	**Akkeshi**	**1.57**	**253**	P	**Pn**		**09 56 51.5**	**-0.8**
KUR	**Kuril'sk**	**1.94**	**24**⇓	*i*PN	**Pn**		**09 56 53.1**	**-4.2**
KUR				*i* S	**Sn**		**09 57 18.0**	**-2.4**
KUR	comp=Z,320nm,0.6s			pmax	pmax			
KUR	comp=Z,2µm,1.0s			pmax	pmax			
KUR	comp=N,5µm,0.4s			smax				
KUR	comp=E,5µm,0.4s			smax				
KUR	**Kuril'sk**	**1.94**	**24**	*i* P	**Pn**		**09 56 53.1**	**-4.2**
KUR				AMB	AMB		09 56 56.6	
KUR	comp=E,320nm,0.6s			AMB	AMB		09 56 57.4	
KUR	comp=E,2µm,1.0s			*e*S	**Sn**		**09 57 18.0**	**-2.4**
KUR				A			09 57 19.3	
KUR	comp=E,5µm,0.4s			A			09 57 19.3	
JTKR	**Abashiri--Toko**	**2.12**	**285**	P	**Pn**		**09 57 00.9**	**+1.1**
JAR	**Ashorobuto**	**2.18**	**267**	P	**Pn**		**09 57 00.8**	**+0.2**
JAR				*e*S	**Sn**		**09 57 25.9**	**-0.4**
JOB	**Onbets**	**2.20**	**256**	P	**Pn**		**09 57 01.1**	**+0.1**
JMP	**Maruseppu**	**2.51**	**284**	P	**Pn**		**09 57 06.5**	**+1.3**
JCH	**Churui**	**2.62**	**252**	P	**Pn**		**09 57 06.6**	**-0.1**
ERM	**Erimo**	**3.02**	**242**	*d* iPN	**Pn**		**09 57 14.5**	**+2.4**
ASAJ	**Asahikawa**	**3.08**	**284**	Pn	**Pn**		**09 57 15.2**	**+2.3**
ASAJ	comp=E,15nm,0.3s,baz=105,slow=7.7,SNR=56			LR	LR		09 58 33.6	
YSS	**Yuzh-Sakhalins**	**4.48**	**322**⇑	*e*PN	**Pn**		**09 57 33.2**	**+0.9**
YSS	comp=E,2µm,19.5s,baz=125,slow=42			pmax	pmax			
YSS	comp=Z,30nm,0.3s			MLR	MLR			
YSS	comp=N,1µm,16.0s			MLR	MLR			
YSS	comp=E,1µm,16.0s			MLR	MLR			
YSS	comp=Z,2µm,16.0s			MLR	MLR			
YSS	**Yuzh-Sakhalins**	**4.48**	**322**⇑	*e*P	**Pn**		**09 57 33.2**	**+0.9**
YSS				AMB	AMB		09 57 34.8	
YSS	comp=Z,30nm,0.3s			*e*S	**Sn**		**09 58 22.0**	**-1.1**
YSS				A			09 58 25.0	
YSS	comp=Z,70nm,0.9s			A			09 58 25.0	
YSS	comp=Z,160nm,0.9s			*e*LQ			09 58 42.0	
YSS				*e*LR	LR		09 58 58.0	
YSS				AMS	AMS		09 59 24.0	
YSS	comp=Z,2µm,16.0s			AMS	AMS		09 59 24.0	
YSS	comp=Z,1µm,16.0s			AMS	AMS		09 59 24.0	
YSS	comp=Z,1µm,16.0s							
YSS	**Yuzh-Sakhalins**	**4.48**	**322**	*e*Pn	**Pn**		**09 57 34.1**	**+1.8**
MAJO	**Matsushiro**	**9.52**	**226**	*e*PN	**Pn**		**09 58 40.2**	**-1.3**
MAT	**Matsushiro**	**9.52**	**226**	P	**Pn**		**09 58 40.2**	**-1.3**
MAT				*e*S	**Sn**		**10 00 25.6**	**-1.6**
MJAR	**Matsushiro Arr**	**9.52**	**226**	Pn	**Pn**		**09 58 40.6**	**-0.9**
MJAR	comp=Z,0.7nm,0.3s,baz=29,slow=13,SNR=11			LR	LR		10 01 55.6	
MJAR	**Matsushiro Arr**	**9.52**	**226**	*e*PN	**Pn**		**09 58 41.3**	**-0.1**
MJAR	comp=Z,309nm,18.7s,baz=30,slow=34			pmax	pmax			
HABR	**Khabarovsk**	**9.56**	**306**⇓	*i*PN	**Pn**		**09 58 48.2**	**+6.4**
SKR	**Severo-Kuril's**	**9.63**	**38**	*e*P	**Pn**		**09 58 42.5**	**-0.4**
JHJ	**Hachijo jima 2**	**11.69**	**210**	LR	LR		10 03 32.9	
KLR	**Kul'dur**	**11.85**	**304**	*e*PN	**Pn**		**09 59 14.0**	**+0.8**
KLR	comp=Z,1nm,1.0s			AMB	AMB			
KLR	comp=E,74nm,1.6s			pmax	pmax			
PEA0B	**Petropavlovsk-**	**12.08**	**33**	*e*Pn	**Pn**		**09 59 19.5**	**+3.2**
PETK	**Petropavlovsk-**	**12.08**	**33**	Pn	**Pn**		**09 59 15.8**	**-0.5**
MDJ	**Mudanjiang**	**12.40**	**281**	P	**Pn**		**09 59 24.9**	**+4.1**
MDJ	comp=Z,0.6nm,0.3s,baz=203,slow=10.0,SNR=18			AMB	AMB			
MDJ	comp=Z,11nm,1.0s			AMB	AMB			
MDJ	comp=Z,195nm,11.0s			LR	LR			
MDJ	comp=N,264nm,18.2s			LR	LR			
MDJ	comp=E,137nm,21.1s			LR	LR			
MDJ	comp=Z,265nm,14.4s							
MDJ	**Mudanjiang**	**12.40**	**281**	Pn	**Pn**		**09 59 22.5**	**+1.7**
CN2	**Changchun**	**15.43**	**279**	*e*P	**Pn**		**10 00 01.5**	**-0.2**
KSRS	**Korea Array**	**15.53**	**254**	Pn	**Pn**		**10 00 03.9**	**+0.9**
ZEA	**Zeya**	**16.43**	**316**	*e*P	**Pn**		**10 00 12.5**	**-2.0**
ZEA	comp=Z,2.0nm,0.3s,baz=86,slow=16,SNR=2.8			AMB	AMB		10 00 17.2	
CBIJ	**Chichi jima**	**16.75**	**194**	LR	LR		10 05 38.5	
CLNS	comp=Z,36nm,1.2s			*e*S	**S**		**10 04 25.4**	**+1.6**
CLNS	comp=Z,177nm,19.5s,baz=346,slow=33			pmax	pmax			
CLNS	**Chul'man**	**19.25**	**322**	*e*P	**Pn**		**10 00 51.5**	**+2.4**
CLNS	comp=Z,19nm,1.0s			pmax	pmax			

comp=E,12nm,1.2s
CLNS pmax pmax
comp=N,20nm,1.3s
CLNS smax
comp=N,9.0nm,1.4s
CLNS smax
comp=E,8.0nm,1.3s
CLNS MLR MLR
comp=E,224nm,13.0s
CLNS MLR MLR
comp=E,472nm,21.0s
CLNS MLR MLR
comp=N,212nm,17.0s
HIA Hailar 19.46 297⇑ *eP* **Pn 10 00 49.1 -2.6**
YAK Yakutsk 21.14 337 *eP* **P 10 01 12.0 +3.6**
YAK pmax pmax
comp=N,14nm,1.3s
YAK pmax pmax
comp=Z,13nm,1.1s,mb4.2
BJI Beijing 23.00 272 P **P 10 01 26.9 -1.5**
BJI AMB AMB
comp=Z,12nm,0.4s,mb4.7
HHC Hu-ho-hao-te 26.10 276 *eP* **P 10 01 58.1 +1.0**
HHC AP pP 10 02 07.0 -0.3
HHC XP sP 10 02 12.3 +0.7
HHC PP 10 02 36.9
HHC S **S 10 06 19.8 -6.1**
HHC AMB AMB
comp=Z,15nm,1.0s,mb4.5
HHC AMB AMB
comp=Z,272nm,5.8s
HHC LR LR
comp=N,250nm,13.3s,MS4.0
HHC LR LR
comp=E,195nm,12.9s,MS4.0
HHC LR LR
comp=Z,194nm,12.3s,MS3.9
BILL Bilibino 26.71 16 *eP* **P 10 02 11.4 +9.0**
BILL pmax pmax
comp=Z,6.0nm,1.0s,mb4.1
BILL Bilibino 26.71 16 *eP* **P 10 02 06.2 +3.8**
ULN Ulaanbaatar 27.87 293 *eP* **P 10 02 13.4 +0.5**
ULN pmax pmax
comp=Z,26nm,1.1s,mb4.8
ULN Ulaanbaatar 27.87 293 *eP* **P 10 02 13.4 +0.5**
comp=Z,26nm,1.1s,mb4.8
SONM Songino Array 28.31 293 P **P 10 02 17.1 +0.2**
comp=Z,20nm,1.1s,mb4.7,baz=82,slow=8.4,SNR=36
SONM LR LR 10 14 15.1
comp=Z,631nm,19.8s,MS4.2,baz=84,slow=38
SONM Songino Array 28.31 293 P **P 10 02 17.1 +0.2**
SONM pmax pmax
comp=Z,20nm,1.1s
SONM MLR MLR
comp=Z,631nm,19.8s
WHN Wuhan 28.72 254 *eP* **P 10 02 20.3 -0.4**
GUMO Guam 29.82 184 LR LR 10 13 21.2
comp=Z,112nm,18.3s,MS3.5,baz=86,slow=34
ZAK Zakamensk 30.13 299 *eP* **P 10 02 31.6 -1.4**
ZAK *e* 10 07 20.9
ZAK pmax pmax
comp=Z,3.0nm,1.4s,mb3.8
LZH Lanzhou 33.49 272 *eP* **P 10 03 03.0 +0.3**
LZH AP pP 10 03 12.0 -1.0
LZH *eS* **S 10 08 16.0 -5.9**
LZH AMB AMB
comp=Z,25nm,1.3s,mb5.0
LZH AMB AMB
comp=Z,184nm,6.0s
LZH LR LR
comp=N,658nm,14.6s
LZH LR LR
comp=Z,912nm,15.2s,MS4.6
KRAR Krasnoyarsk 36.08 310⇓ *eP* **P 10 03 25.6 +0.9**
KRAR MLR MLR
comp=Z,500nm,25.0s,MS4.2
CD2 Chengdu 36.09 264 *eP* **P 10 03 26.8 +1.7**
CD2 AP pP 10 03 36.4 +0.9
CD2 XP sP 10 03 41.0 +1.2
CD2 PP PP 10 04 45.4 -2.0
CD2 S **S 10 08 55.6 -6.4**
CD2 AMB AMB
comp=Z,10.0nm,0.6s,mb4.9
CD2 AMB AMB
comp=Z,30nm,4.2s
CD2 LR LR
comp=N,160nm,12.4s
CD2 LR LR
comp=Z,130nm,16.2s,MS3.8
GYA Guiyang 36.57 256 P **P 10 03 31.4 +2.1**
GYA AP pP 10 03 42.0 +2.4
GYA XP sP 10 03 46.3 +2.4
GYA PP PP 10 04 52.6 -0.2
GYA S **S 10 09 05.3 -4.1**
GYA AMB AMB
comp=Z,10.0nm,0.8s,mb4.7
GYA AMB AMB
comp=Z,80nm,4.9s
GYA LR LR
comp=N,580nm,18.9s,MS4.5
GYA LR LR
comp=E,470nm,17.5s,MS4.5
GYA LR LR
comp=Z,520nm,18.0s,MS4.4
IMA2 Indian Mountai 39.08 34 *eP* **P 10 03 49.7 -0.2**
KDAK Kodiak Island 39.66 47 P **P 10 03 54.6 -0.3**
comp=Z,6.9nm,0.8s,mb4.4,baz=344,slow=6.4,SNR=4.3
KDAK pP pP 10 04 04.2 -1.1
comp=Z,30nm,0.8s,baz=325,slow=4.2,SNR=9.3
KMI Kunming 40.17 258 P **P 10 04 00.3 +0.7**
KMI AMB AMB
comp=Z,8.0nm,0.7s,mb4.6
ZALV Zalesovo Beam 40.94 307 PcP PcP 10 06 04.9 -0.4
comp=Z,0.9nm,0.5s,baz=93,slow=5.8,SNR=3.4
ZALV pPcP 10 06 16.6
comp=Z,4.4nm,0.7s,baz=76,slow=3.3,SNR=11
COLA College 41.47 36 *eP* **P 10 04 09.3 -0.5**
COLA pmax pmax
comp=Z,12nm,1.0s,mb4.5
COLA College 41.47 36 *eP* **P 10 04 09.3 -0.5**
comp=Z,12nm,1.0s,mb4.5
NVS Novosibirsk 41.67 309 *eP* **P 10 04 10.2 -1.3**
WMQ Urumqi 41.93 292 P **P 10 04 17.0 +3.2**
WMQ AP pP 10 04 27.0 +2.7
WMQ XP sP 10 04 31.0 +2.4
WMQ PP PP 10 05 56.0 +5.0
WMQ S **S 10 10 28.0 -1.6**
WMQ AMB AMB
comp=Z,8.0nm,1.0s,mb4.3
WMQ AMB AMB
comp=Z,52nm,4.2s
WMQ LR LR
comp=N,22nm,22.6s,MS3.5
WMQ LR LR
comp=E,69nm,21.9s,MS3.5
WMQ LR LR
comp=Z,55nm,21.2s,MS3.4
EGAK Eagle 44.33 36 *eP* **P 10 04 31.6 -1.3**
comp=Z,12nm,1.2s,mb4.5
MKAR Makanchi Array 44.46 298 P **P 10 04 33.6 -0.5**
comp=Z,3.1nm,0.5s,mb4.3,baz=81,slow=8.5,SNR=29
MKAR Makanchi Array 44.46 298 P **P 10 04 33.7 -0.5**
MKAR pmax pmax
comp=Z,3.0nm,0.5s
KURK Kurchatov 45.45 304 *i* P **P 10 04 43.0 +1.0**
KURK pmax pmax
comp=Z,2.0nm,0.5s,mb4.2
KURK MLR MLR
comp=Z,100nm,13.0s,MS3.9
HYT Haines Junctio 46.73 41 *eP* **P 10 04 53.0 +1.1**
INK Inuvik 46.80 30 *eP* **P 10 04 52.1 -0.2**
comp=Z,237nm,1.1s
CMAR Chiang Mai Arr 47.16 254 P **P 10 04 55.7 -0.2**
comp=Z,0.8nm,0.3s,mb4.1,baz=40,slow=7.1,SNR=2.7
CMAR LR LR 10 26 23.8
comp=Z,49nm,19.0s,MS3.5,baz=90,slow=38
CMAR Chiang Mai Arr 47.16 254 P **P 10 04 55.7 -0.2**
CMAR pmax pmax
comp=Z,1.0nm,0.3s
CMAR MLR MLR
comp=Z,49nm,19.0s
TAPN Taplejung 49.73 271 *eP* **P 10 05 15.8 +0.3**
ODAN Odare 50.24 271 *eP* **P 10 05 20.0 +0.5**
JIRN Jiri 50.66 273 *eP* **P 10 05 23.0 +0.4**
comp=Z,16nm,0.7s,mb5.1
GUN Gumba 50.74 273 *eP* **P 10 05 23.5 +0.3**
comp=Z,30nm,0.7s,mb5.3
RAMN Ramite 50.76 272 *eP* **P 10 05 23.0 -0.4**
comp=Z,13nm,0.4s,mb5.2
DLBC Dease Lake 51.08 42 pP pP 10 05 36.8 +0.7
comp=Z,4.9nm,0.8s,baz=297,slow=8.2,SNR=4.6
KKN Kakani 51.24 273 *eP* **P 10 05 27.2 +0.2**
PKI Pulchoki 51.27 273 *eP* **P 10 05 27.4 +0.2**
DMN Daman 51.47 273 *eP* **P 10 05 28.9 +0.2**
GKN Gorkha 51.59 274 *eP* **P 10 05 29.1 -0.5**
DANN Dangsing 52.03 275 *eP* **P 10 05 33.2 +0.4**
comp=Z,36nm,0.7s,mb5.4
KOLN Koldanda 52.47 275 *eP* **P 10 05 36.7 +0.5**
comp=Z,18nm,0.9s,mb5.0
RES Resolute Bay 55.32 17 *eP* **P 10 05 55.5 -0.9**
comp=Z,68nm,0.5s
YKA Yellowknife Ar 56.20 34 P **P 10 06 03.1 +0.3**
comp=Z,2.0nm,0.8s,mb4.2,baz=294,slow=6.3,SNR=2.9
YKA pP pP 10 06 13.7 +0.2
comp=Z,2.9nm,0.7s,baz=299,slow=7.1,SNR=5.5
YKA Yellowknife Ar 56.20 34 P **P 10 06 03.1 +0.4**
YKA *PP pP 10 06 13.7 +0.2
YKA pmax pmax
comp=Z,2.0nm,0.8s
ARCES ARCESS Array B 59.41 340 LR LR 10 36 35.5
comp=Z,235nm,18.6s,MS4.3,baz=284,slow=41
B05A Bryant 59.99 50 ⇓P pP 10 06 40.1 -0.2
baz=60
B07A Winthrop 60.98 49 ⇑P pP 10 06 47.1 0.0
baz=61
F04A Amboy 61.08 53 ⇓P pP 10 06 48.1 +0.2
baz=62
A08A Turner Farm, O 61.17 49 ⇓P pP 10 06 48.0 -0.4
baz=62
H03A Soap Creek Ran 61.27 54 ⇓P pP 10 06 48.5 -0.7
baz=62
C07A Waterville 61.45 50 ⇓P pP 10 06 49.8 -0.5
baz=62
B08A Colville Reser 61.47 49 ⇓P pP 10 06 50.4 0.0
baz=62
A09A Danville 61.53 48 ⇓P pP 10 06 50.9 0.0
baz=62
E06A Yakima 61.57 52 ⇓P pP 10 06 51.6 +0.5
baz=62
D07A Quincy 61.77 51 ⇑P pP 10 06 52.1 -0.5
baz=62
J02A Umpqua 61.84 56 ⇑P pP 10 06 53.2 +0.2
baz=62
H04A Detroit Lake 61.92 54 ⇑P pP 10 06 53.6 +0.1
baz=62
C08A Higginbotham F 61.96 50 ⇑P pP 10 06 53.6 -0.2
baz=62
B09A Rice 62.09 49 ⇓P pP 10 06 54.5 -0.1
baz=62
A10A Northport 62.09 48 ⇑P pP 10 06 54.5 -0.2
baz=62
G05A Wamic 62.11 53 ⇑P pP 10 06 55.2 +0.4
baz=63
F06A Goldendale 62.12 52 ⇑P pP 10 06 55.4 +0.5
baz=63
E07A Sunnyside 62.20 51 ⇓P pP 10 06 55.8 +0.4
baz=63
I04A Tendick Farm, 62.29 55 ⇓P pP 10 06 56.3 +0.3
baz=63
C09A Chrisman Ranch 62.38 49 ⇓P pP 10 06 56.5 -0.1
baz=63
D08A Wollman Farm, 62.44 50 ⇑P pP 10 06 56.7 -0.3
baz=63
H05A Madras 62.50 54 ⇓P pP 10 06 57.6 +0.2
baz=63
G06A Carlson Farm, 62.51 53 ⇓P pP 10 06 57.2 -0.3
baz=63
E08A Dider Farm, El 62.69 51 ⇑P pP 10 06 58.6 -0.1
baz=63
A11A Hall Mountain, 62.74 47 ⇑P pP 10 06 58.9 -0.1
baz=63
C10A Spilker Farm, 62.90 49 ⇑P pP 10 07 00.3 +0.2
baz=63
H06A Lindquist Farm 62.97 53 ⇑P pP 10 07 01.2 +0.6
baz=63
JCC Jacoby Creek 63.01 58 ⇑P pP 10 07 01.3 +0.4
baz=64
A12A Yaak River Ran 63.14 47 ⇓P pP 10 07 01.9 +0.2
baz=64
E09A Wood Farm, Sta 63.19 50 ⇓P pP 10 07 02.2 +0.2
baz=64
F08A Pendleton 63.25 51 ⇑P pP 10 07 02.7 +0.2
baz=64
J05A Fort Rock 63.28 55 ⇓P pP 10 07 03.5 +0.8
baz=64
YBH Yreka Blue Hor 63.29 57 pP pP 10 07 02.8 +0.1
comp=Z,2.2nm,0.8s,baz=286,slow=1.8,SNR=5.6
YBH Yreka Blue Hor 63.29 57 ⇑P pP 10 07 03.6 +0.8
baz=64
D10A Wagner Farm, O 63.36 50 ⇓P pP 10 07 02.8 -0.4
baz=64
M02C Callahan 63.40 57 ⇑P pP 10 07 04.3 +0.8
baz=64
G08A Pilot Rock 63.44 52 ⇑P pP 10 07 04.0 +0.3
baz=64
C11A Tepee Creek (N 63.46 48 ⇑P pP 10 07 03.9 +0.2
baz=64
I06A Prineville 63.50 54 ⇑P pP 10 07 04.5 +0.4
baz=64
E10A Myers Farm, Un 63.79 50 ⇓P pP 10 07 06.0 0.0
baz=64
K05A Summer Lake 63.81 55 ⇓P pP 10 07 06.7 +0.5
baz=64
I07A Izee 63.84 53 ⇓P pP 10 07 06.8 +0.4
baz=64
D11A Klaveano Farm, 63.88 49 ⇑P pP 10 07 06.4 -0.2
baz=64
J06A Christmas Vall 63.94 54 ⇑P pP 10 07 07.4 +0.4
baz=64
C12B Naegeli Ranch, 63.96 48 ⇑P pP 10 07 07.0 -0.1
baz=64
F10A Beach Ranch, E 64.03 50 ⇑P pP 10 07 08.0 +0.5
baz=64
H08A Prairie City 64.06 52 ⇑P pP 10 07 07.9 +0.1
baz=64
WDC Whiskeytown Da 64.07 58 ⇑P pP 10 07 08.1 +0.2
baz=65
B13A Whitefish 64.10 47 ⇓P pP 10 07 08.3 +0.3
baz=64
G09A Cove 64.12 51 ⇑P pP 10 07 08.4 +0.2
baz=64
K06A Valley Falls 64.15 55 ⇓P pP 10 07 08.8 +0.4
baz=65
L05A Lakeview 64.25 56 ⇓P pP 10 07 09.7 +0.7
baz=65
A14A Double T Ranch 64.30 46 ⇓P pP 10 07 09.2 0.0
baz=65
E11A Bogner Ranch, 64.37 50 ⇑P pP 10 07 09.6 -0.2
baz=65
J07A Hines 64.37 54 ⇓P pP 10 07 10.3 +0.4
baz=65
D12A Red Ives Fores 64.42 49 ⇓P pP 10 07 09.7 -0.4
baz=65
C13A Hot Springs 64.47 48 ⇑P pP 10 07 10.5 +0.1
baz=65
I08A Drewsey 64.48 53 ⇑P pP 10 07 10.8 +0.3
baz=65
G10A Bishop Farm, J 64.49 51 ⇑P pP 10 07 10.8 +0.1
baz=65
MOD Modoc 64.65 56 ⇓P pP 10 07 12.2 +0.5
baz=65
A15A Johnson Ranch, 64.65 46 ⇑P pP 10 07 11.0 -0.6
baz=65
F11A Grangeville 64.68 50 ⇓P pP 10 07 11.5 -0.3
baz=65,SNR=5.1
E12A Beaver Dam Sad 64.68 49 ⇓P pP 10 07 11.9 0.0
baz=65,SNR=5.4
B14A Marquette Ranc 64.75 47 ⇓P pP 10 07 12.3 +0.1
baz=65
K07A Rock Creek Ran 64.81 54 ⇓P pP 10 07 13.2 +0.4
baz=65
C14A Swan Lake 64.86 47 ⇑P pP 10 07 13.1 +0.1
baz=65
J08A Circle Bar Ran 64.87 53 ⇓P pP 10 07 13.4 +0.3
baz=65
D13A Huson 64.88 48 ⇑P pP 10 07 13.1 -0.1
baz=65
G11A Walters Elk Ra 64.91 51 ⇓P pP 10 07 13.4 +0.1
baz=65
I09A Lost Marbles R 64.92 53 ⇓P pP 10 07 13.8 +0.3
baz=65
O04C Chester 65.12 57 ⇓P pP 10 07 15.3 +0.5
baz=66
H10A Noah's Angus R 65.12 51 ⇓P pP 10 07 14.9 +0.1
baz=66
MNRC McLaughlin Nat 65.14 59 ⇓P pP 10 07 15.9 +0.9
baz=66
B15A Bradely Ranch, 65.15 46 ⇓P pP 10 07 14.7 -0.2
baz=66
L07A Adell 65.16 55 ⇓P pP 10 07 15.5 +0.5
baz=66
K08A Mann Creek Ran 65.24 54 ⇓P pP 10 07 15.8 +0.3
baz=66
F12A Elk City 65.26 50 ⇑P pP 10 07 15.6 0.0
baz=66
A16A West Butte Ran 65.26 45 ⇓P pP 10 07 15.4 -0.1
baz=66
J09A Fry Pan Ranch, 65.29 53 ⇓P pP 10 07 16.1 +0.2
baz=66
ORV Oroville 65.32 58 ⇓P pP 10 07 15.7 -0.4
baz=66
I10A Payette 65.40 52 ⇑P pP 10 07 16.9 +0.4
baz=66
D14A Greenough 65.41 48 ⇓P pP 10 07 16.2 -0.4
baz=66,SNR=5.2
E13A Victor 65.43 49 ⇓P pP 10 07 16.1 -0.6
baz=66
C15A Salmond Ranch, 65.46 47 ⇓P pP 10 07 17.2 +0.3
baz=66
H11A Donnelly 65.47 51 ⇑P pP 10 07 16.8 -0.2
baz=66
N06A Buffalo Meadow 65.62 56 ⇓P pP 10 07 18.6 +0.5
baz=66
M07A Soldier Meadow 65.64 55 ⇑P pP 10 07 19.0 +0.8
baz=66
L08A Fields 65.65 54 ⇓P pP 10 07 18.6 +0.4
baz=66
K09A Rome 65.70 54 ⇑P pP 10 07 18.8 +0.2
baz=66
F13A Darby 65.75 49 ⇑P pP 10 07 18.6 -0.2
baz=66
E14A Clinton 65.82 48 ⇓P pP 10 07 19.4 +0.1
baz=66
D15A Lincoln 65.96 47 ⇑P pP 10 07 19.8 -0.3
baz=66
O06A Flanigan 65.98 57 ⇓P pP 10 07 20.8 +0.4
baz=66
I11A Placerville 65.99 52 ⇓P pP 10 07 20.4 +0.1
baz=66
M08A Happy Creek Ra 66.08 55 ⇓P pP 10 07 21.6 +0.6
baz=66
K10A MacKenzie Ranc 66.15 53 ⇓P pP 10 07 21.6 +0.2
baz=67
H12A Diamond D Ranc 66.22 51 ⇓P pP 10 07 21.7 -0.1
baz=67
G13A Cobalt 66.23 50 ⇑P pP 10 07 21.5 -0.4
baz=67,SNR=5.3
F14A Wisdom 66.26 49 ⇑P pP 10 07 22.0 -0.1
baz=67
LAVA Lava Cap Winer 66.27 59 ⇑P pP 10 07 22.4 +0.1
baz=67
E15A Deer Lodge 66.28 48 ⇓P pP 10 07 21.8 -0.4
baz=67
MFID Camas Ranch 66.37 52 ⇓P pP 10 07 22.6 -0.2
baz=67
D16A Dana Ranch, Ca 66.48 47 ⇑P pP 10 07 23.3 -0.2
baz=67
C17A Wharram Farm, 66.52 46 ⇑P pP 10 07 23.2 -0.6
baz=67,SNR=5.4
I12A Atlanta 66.53 51 ⇑P pP 10 07 24.1 +0.3
baz=67,SNR=5.8
WCN Washoe City 66.55 58 ⇑P pP 10 07 24.4 +0.4
baz=67
H13A Challis 66.55 50 ⇓P pP 10 07 23.9 0.0
baz=67,SNR=5.3
O07A Toulon 66.56 56 ⇑P pP 10 07 24.5 +0.4
baz=67
G14A Jackson 66.57 49 ⇓P pP 10 07 23.8 -0.2
baz=67
N08A GE Springer Mi 66.63 55 ⇓P pP 10 07 24.8 +0.3
baz=67
K11A Parker Ranch, 66.64 53 ⇑P pP 10 07 24.3 -0.3
baz=67
F15A Butte 66.72 48 ⇑P pP 10 07 25.3 +0.2
baz=67,SNR=5.7
E16A East Helena 66.73 47 ⇓P pP 10 07 24.9 -0.2
baz=67
EGMT Eagleton 66.80 45 ⇑P pP 10 07 25.4 -0.1
baz=67
L10A Juniper Basin 66.82 54 ⇑P pP 10 07 25.7 0.0
baz=67
D17A Six Diamond Ra 66.86 46 ⇓P pP 10 07 25.9 -0.1
baz=67
J12A Stokes Ranch, 66.89 52 ⇑P pP 10 07 26.2 0.0
baz=67
O08A Rochester Mine 66.92 56 ⇑P pP 10 07 27.3 +0.9
baz=67
CMB Columbia Colle 66.93 59 ⇓P pP 10 07 27.1 +0.6
baz=67
N09A Rock Creek Ran 66.95 55 ⇑P pP 10 07 26.9 +0.3
baz=67
PACP Pacheco Peak 66.99 60 ⇑P pP 10 07 27.6 +0.6
baz=68
H14A Leadore 67.01 50 ⇑P pP 10 07 26.7 -0.2
baz=67
I13A Wildhorse Cree 67.03 51 ⇓P pP 10 07 27.3 +0.2
baz=67
HLID Hailey 67.08 51 ⇓P pP 10 07 27.7 +0.4
baz=68
M10A I.L. Ranch, Tu 67.12 54 ⇑P pP 10 07 28.3 +0.6
baz=68
G15A Dillon 67.15 49 ⇓P pP 10 07 27.9 +0.1
baz=68,SNR=6.1
L11A Cat Creek Ranc 67.18 53 ⇑P pP 10 07 28.5 +0.5
baz=68
R06C Coleville 67.21 58 ⇑P pP 10 07 28.8 +0.5
baz=68
E17A Martinsdale 67.21 47 ⇓P pP 10 07 28.4 +0.2
baz=68
D18A Linhart Farms, 67.30 46 ⇓P pP 10 07 28.7 0.0
baz=68
BOZ Bozeman (W) 67.32 48 *eP* **P 10 07 17.7 -0.1**
BOZ *e* pP 10 07 28.9 +0.1
BOZ pmax pmax
comp=Z,7.0nm,0.8s,mb4.7
BOZ Bozeman (W) 67.32 48 ⇑P pP 10 07 28.9 0.0
baz=68,SNR=5.5
BOZ Bozeman (W) 67.32 48 *eP* **P 10 07 17.7 -0.2**
comp=Z,6.6nm,0.8s,mb4.7
BOZ *e* pP 10 07 28.9 +0.1
J13A Cove Ranch, Pi 67.32 51 ⇑P pP 10 07 29.1 +0.2
baz=68
K12A Draper Farm, C 67.38 52 ⇑P pP 10 07 29.4 +0.1
baz=68
S05C Merced 67.39 60 ⇑P pP 10 07 29.9 +0.4
baz=68
I14A Mackay 67.40 50 ⇓P pP 10 07 29.7 +0.3
baz=68,SNR=5.7
H15A Lima 67.41 49 ⇓P pP 10 07 28.8 -0.6
baz=68
G16A Moss Hill, Enn 67.49 49 ⇓P pP 10 07 30.0 0.0
baz=68
M11A Holland Ranch, 67.62 54 ⇓P pP 10 07 31.2 +0.3
baz=68
L12A House Creek Ra 67.62 53 ⇑P pP 10 07 31.2 +0.4
baz=68
E18A Harlowton 67.65 47 ⇑P pP 10 07 30.9 0.0
baz=68
J14A Carey 67.74 51 ⇑P pP 10 07 32.5 +0.9
baz=68,SNR=7.2
ASAR Alice Springs 67.84 193 P **P 10 07 21.1 -0.1**
comp=Z,4.2nm,0.8s,mb4.5,baz=12,slow=6.1,SNR=36
ASAR Alice Springs 67.84 193 P **P 10 07 21.1 -0.1**
ASAR pmax pmax
comp=Z,4.0nm,0.8s
O10A Cortez Mining, 67.91 55 ⇓P pP 10 07 33.2 +0.5
baz=68
Q08A Gabbs 67.94 57 ⇓P pP 10 07 33.4 +0.5
baz=68
NVAR Mina Array Bea 67.98 58 P **P 10 07 22.5 +0.3**
comp=Z,0.8nm,0.6s,mb3.9,baz=293,slow=6.5,SNR=10.0
NVAR pP pP 10 07 33.9 +0.8
comp=Z,3.5nm,0.7s,baz=290,slow=6.2,SNR=19
NVAR Mina Array Bea 67.98 58 P **P 10 07 22.5 +0.3**
NVAR pP pP 10 07 33.9 +0.8
T06C Millerton Lake 67.99 60 ⇓P pP 10 07 33.6 +0.4
baz=68
KCC Kaiser Creek 68.03 59 ⇑P pP 10 07 33.9 +0.4
baz=68
H16A Russell Place, 68.12 49 ⇑P pP 10 07 34.1 +0.1
baz=68,SNR=5.2
M12A Wells 68.14 53 ⇑P pP 10 07 34.4 +0.3

baz=69
F18A **Big Timber** 68.18 47 ⇓P pP 10 07 34.1 -0.2
baz=68
L13A **Double Diamond** 68.28 52 ⇑P pP 10 07 35.2 +0.2
baz=69
J15A **Blackfoot** 68.30 50 ⇓P pP 10 07 35.9 +0.8
baz=69,SNR=5.2
P10A **Eureka** 68.35 56 ⇓P pP 10 07 35.8 +0.3
baz=69
N12A **Clover Valley,** 68.42 54 ⇑P pP 10 07 36.3 +0.4
baz=69
K14A **Jones Ranch, D** 68.43 51 ⇓P pP 10 07 36.3 +0.4
baz=69
O11A **Cowboy Ranch,** 68.51 55 ⇑P pP 10 07 37.2 +0.7
baz=69
I16A **Newdale** 68.53 50 ⇓P pP 10 07 37.1 +0.7
baz=69
H17A **Grant Village** 68.69 49 ⇓P pP 10 07 39.1 +1.6
baz=69,SNR=6.1
K15A **Arbon** 68.70 51 ⇓P pP 10 07 38.6 +1.0
baz=69
L14A **Malta** 68.72 52 ⇑P pP 10 07 37.4 -0.3
baz=69
J16A **Bone** 68.84 50 ⇑P pP 10 07 39.5 +1.0
baz=69,SNR=6.0
R09A **Tonopah** 68.85 57 ⇑P pP 10 07 39.2 +0.6
baz=69
Q10A **Clear Creek Ra** 68.89 56 ⇑P pP 10 07 39.5 +0.7
baz=69
RRI2 **Red Ridge** 68.96 50 *eP* **P** **10 07 29.1 +0.9**
comp=Z,11nm,0.9s,mb4.8
RRI2 *e* pP 10 07 40.0 +0.8
O12A **Currie** 68.97 54 ⇓P pP 10 07 40.0 +0.7
baz=69
M14A **Sheep Mountain** 68.99 52 ⇓P pP 10 07 40.3 +0.8
baz=69
I17A **Pilgram Creek** 69.00 49 ⇓P pP 10 07 41.0 +1.6
baz=69,SNR=6.1
TPAW **Teton Pass** 69.07 50 *eP* **P** **10 07 29.7 +0.9**
comp=Z,8.7nm,1.0s,mb4.6
TPAW *e*pP pP 10 07 39.5 -0.4
S09A **Goldfield** 69.08 58 ⇓P pP 10 07 40.5 +0.5
baz=70
K16A **Soda Springs** 69.14 50 ⇓P pP 10 07 41.3 +0.9
baz=70
L15A **Malad City** 69.22 52 ⇓P pP 10 07 41.0 +0.1
baz=70
R10A **Warm Springs** 69.29 57 ⇑P pP 10 07 41.9 +0.5
baz=70
DGMT **Dagmar** 69.30 42 ⇑P pP 10 07 40.9 -0.4
baz=70
Q11A **Duckwater** 69.33 56 ⇓P pP 10 07 41.9 +0.4
baz=70
S10A **Tonopah Range,** 69.34 57 ⇑P pP 10 07 42.2 +0.5
baz=70
O13A **Hicks Ranch, I** 69.50 54 ⇓P pP 10 07 43.0 +0.4
baz=70
N14A **Grayback Hills** 69.50 53 ⇓P pP 10 07 43.1 +0.4
baz=70
M15A **Larsen Ranch,** 69.54 52 ⇓P pP 10 07 43.1 +0.2
baz=70,SNR=6.9
R11A **Troy Canyon, C** 69.69 56 ⇑P pP 10 07 44.2 +0.4
baz=70
KIV **Kislovodsk** 69.73 312⇑ *eP* **P** **10 07 34.2 +1.2**
KIV pmax pmax
comp=Z,15nm,1.1s,mb4.8
L16A **Fish Haven** 69.76 51 ⇓P pP 10 07 44.6 +0.4
baz=70
NB2 **NORSAR Subarra** 69.76 339 P **P** **10 07 31.5 -1.3**
comp=Z,1.6nm,0.6s,mb4.1,baz=34,slow=6.2
NOA **NORSAR Array B** 69.76 339 P **P** **10 07 31.9 -0.9**
comp=Z,5.3nm,0.9s,mb4.5,baz=33,slow=6.1,SNR=9.3
NOA LR LR 10 44 22.0
comp=Z,169nm,19.2s,MS4.3,baz=45,slow=41
N15A **Stansbury Isla** 69.87 53 ⇓P pP 10 07 45.2 +0.4
baz=70
P13A **Bates Ranch, G** 69.92 54 ⇑P pP 10 07 45.6 +0.4
baz=70
BSC **Santa Cruz Isl** 69.92 62 ⇑P pP 10 07 47.0 +1.6
baz=70
MPMC **Manual Prospec** 69.97 59 ⇑P pP 10 07 46.2 +0.6
baz=70
S11A **Rachel** 70.04 57 ⇑P pP 10 07 46.8 +0.9
baz=70
FURC **Furnace Creek,** 70.10 58 ⇑P pP 10 07 46.6 +0.2
baz=71
M16A **Huntsville** 70.10 52 ⇑P pP 10 07 46.6 +0.3
baz=70
DUG **Dugway** 70.15 53 ⇓P pP 10 07 47.0 +0.4
baz=71
TPNV **Topopah Spring** 70.17 58 ⇓P pP 10 07 47.2 +0.4
baz=71
Q13A **Wheeler Ranch,** 70.24 55 ⇑P pP 10 07 47.7 +0.5
baz=71
R12A **Pony Springs,** 70.29 56 ⇓P pP 10 07 47.8 +0.3
baz=71
BW06 **Boulder Array** 70.31 49 ⇓P pP 10 07 47.6 0.0
baz=71
PDAR **Pinedale Array** 70.32 49 P **P** **10 07 36.0 -0.5**
comp=Z,0.7nm,0.7s,mb3.7,baz=252,slow=0.9,SNR=5.1
PDAR pP pP 10 07 47.6 +0.1
comp=Z,3.1nm,0.8s,baz=281,slow=2.0,SNR=18
P14A **Drum Mountains** 70.39 54 ⇓P pP 10 07 48.4 +0.3
baz=71
EDW2 **Edwards Air Fo** 70.41 60 ⇓P pP 10 07 48.9 +0.6
baz=71
U10A **Ash Meadows, A** 70.46 58 ⇑P pP 10 07 49.6 +1.0
baz=71
S12A **Delamar Landin** 70.61 56 ⇑P pP 10 07 50.4 +0.9
baz=71
T11A **Corn Creek, Al** 70.62 57 ⇓P pP 10 07 50.1 +0.6
baz=71
Q14A **Sevier Lake (B** 70.66 54 ⇑P pP 10 07 50.2 +0.4
baz=71
N17A **Moffit Pass** 70.80 52 ⇑P pP 10 07 50.7 +0.1
baz=71,SNR=5.9
SHOC **Shoshone** 70.83 59 ⇓P pP 10 07 50.9 +0.1
baz=71
GSC **Goldstone** 70.88 59 ⇓P pP 10 07 51.6 +0.4
baz=71
O16A **Springville** 70.90 53 ⇓P pP 10 07 51.5 +0.3
baz=71
GNI **Garni** 71.08 308 *i* P **P** **10 07 43.3 +2.0**
GNI pmax pmax
comp=Z,35nm,1.3s
Q15A **Fillmore** 71.18 54 ⇓P pP 10 07 53.4 +0.5
baz=72
S13A **Holt Ranch, En** 71.22 56 ⇑P pP 10 07 53.8 +0.6
baz=72
SCI **San Clemente I** 71.27 62 ⇓P pP 10 07 55.4 +1.8
baz=72
TUQ **Turquoise Moun** 71.35 59 ⇑P pP 10 07 54.5 +0.5
baz=72
O17A **Robinson Place** 71.35 52 ⇑P pP 10 07 54.6 +0.6
baz=72
V11A **Goodsprings** 71.39 58 ⇓P pP 10 07 54.9 +0.6
baz=72
N18A **Larsen Ranch,** 71.44 51 ⇑P pP 10 07 54.9 +0.4
baz=72
HEC **Hector,Ludlow** 71.48 59 ⇑P pP 10 07 55.3 +0.4
baz=72
S14A **Cedar City** 71.52 55 ⇓P pP 10 07 55.2 +0.2
baz=72
T13A **Saint George** 71.56 56 ⇑P pP 10 07 55.8 +0.5
baz=72
AKASG **Malin Array Be** 71.63 324 P **P** **10 07 43.5 -0.9**
comp=Z,5.9nm,0.8s,mb4.5,baz=39,slow=6.3,SNR=11
AKASG **Malin Array Be** 71.63 324 P **P** **10 07 43.5 -0.9**
AKASG pmax pmax
comp=Z,6.0nm,0.9s
O18A **Roosevelt** 71.72 52 ⇑P pP 10 07 56.6 +0.5
baz=72
P17A **Butcher Ranch,** 71.82 53 ⇓P pP 10 07 57.1 +0.3
baz=72
U13A **Pakoon Wash** 71.92 57 ⇑P pP 10 07 58.3 +0.9
baz=72,SNR=5.3
GMRC **Granite Mounta** 71.94 59 ⇑P pP 10 07 57.8 +0.2
baz=72
Q16A **Castle Valley** 71.94 53 ⇑P pP 10 07 57.8 +0.3
baz=72
ANN **Anapa** 71.94 315 *e**PP **P** **10 07 51.7 +5.3**
ANN *e* pP 10 07 57.9 +0.4
ANN pmax pmax
comp=Z,87nm,1.2s,mb5.6
S15A **Panguitch** 72.06 55 ⇑P pP 10 07 58.6 +0.4
baz=72
R16A **Teasdale** 72.18 54 ⇓P pP 10 08 00.2 +1.2
baz=73,SNR=5.0
SRU **San Rafael** 72.19 53 ⇑P pP 10 07 59.4 +0.4
baz=73
O19A **Miners Draw (B** 72.20 51 ⇑P pP 10 07 58.7 -0.3
baz=73
V13A **Grand Canyon W** 72.28 57 ⇓P pP 10 08 00.1 +0.5
baz=73
U14A **Mt Trumbull** 72.39 56 ⇑P pP 10 08 01.0 +0.7
baz=73
T15A **Red Dirt Ranch** 72.48 56 ⇓P pP 10 08 01.3 +0.5
baz=73
S16A **Weppner Ranch,** 72.48 55 ⇑P pP 10 08 01.6 +0.8
baz=73,SNR=5.3
R17A **Hanksville Air** 72.54 53 ⇓P pP 10 08 01.2 0.0
baz=73
IRM **Iron Mountain** 72.66 59 ⇑P pP 10 08 02.3 +0.4
baz=73
MONP **Monument Peak** 72.69 61 ⇓P pP 10 08 02.6 +0.5
baz=73
P19A **Cripple Cowboy** 72.73 52 ⇓P pP 10 08 02.6 +0.4
baz=73
BC3 **Big Chuckw Mtn** 72.80 60 ⇓P pP 10 08 03.0 +0.2
baz=73
W13A **Hualapai Mount** 72.83 58 ⇑P pP 10 08 03.7 +0.7
baz=73
U15A **North Rim** 72.92 56 ⇓P pP 10 08 03.8 +0.4
baz=73
V14A **Boquillas Ranc** 72.96 57 ⇑P pP 10 08 04.5 +0.8
baz=73,SNR=5.2
S17A **Black Ridge (B** 73.01 54 ⇑P pP 10 08 04.0 0.0
baz=74,SNR=5.7
Q19A **Hogan Spring (** 73.02 52 ⇑P pP 10 08 03.7 -0.3
baz=73,SNR=5.3
R18A **Canyonlands Na** 73.04 53 ⇑P pP 10 08 03.8 -0.3
baz=74
SWSC **Sam W. Stewart** 73.05 61 ⇑P pP 10 08 04.9 +0.6
baz=74
X13A **Yucca** 73.20 58 ⇓P pP 10 08 05.5 +0.4
baz=74
PDMCI **Parker Dam,Lak** 73.20 59 ⇑P pP 10 08 05.9 +0.7
baz=74
W14A **Seligman** 73.25 57 ⇓P pP 10 08 06.1 +0.7
baz=74
V15A **Kaibab Nationa** 73.40 56 ⇓P pP 10 08 06.8 +0.5
baz=74
S18A **Hurst Farm, BI** 73.45 54 ⇓P pP 10 08 06.4 -0.2
baz=74
U17A **Shonto** 73.79 55 ⇑P pP 10 08 09.1 +0.5
baz=74
U16A **Tuba City** 73.81 55 ⇑P pP 10 08 09.5 +0.8
baz=74,SNR=6.1
X14A **Yava** 73.86 58 ⇓P pP 10 08 09.3 +0.3
baz=74
T18A **Mexican Hat** 73.89 54 ⇑P pP 10 08 09.0 -0.2
baz=74
S19A **Harvey Farm, M** 73.91 53 ⇓P pP 10 08 09.2 -0.1
baz=74,SNR=5.9
WUAZ **Wupatki** 74.09 56 ⇑P pP 10 08 11.3 +0.9
baz=75
Y14A **Wickenburg** 74.14 58 ⇓P pP 10 08 11.4 +0.7
baz=75
X15A **Humboldt** 74.25 57 ⇓P pP 10 08 12.1 +0.8
baz=75,SNR=5.3
U18A **Rough Rock, Ch** 74.38 55 ⇑P pP 10 08 12.9 +0.8
baz=75
Y15A **Casa Rosa Ranc** 74.55 58 ⇑P pP 10 08 13.8 +0.8
baz=75
Z14A **Wintersburg** 74.56 59 ⇑P pP 10 08 13.7 +0.6
baz=75
T19A **Beclabito** 74.60 54 ⇓P pP 10 08 13.7 +0.4
baz=75
MVCO **Mesa Verde** 74.65 53 ⇓P pP 10 08 13.9 +0.4
baz=75
X16A **Lo Mia Camp, P** 74.78 57 ⇓P pP 10 08 15.4 +0.9
baz=75
V18A **Ganado** 74.82 55 ⇑P pP 10 08 15.3 +0.7
baz=75
Y16A **Circle Bar Ran** 75.12 57 ⇓P pP 10 08 17.5 +1.1
baz=76
STKA **Stephens Creek** 75.13 185 P **P** **10 08 04.7 -0.3**
comp=Z,3.5nm,0.9s,mb4.3,baz=324,slow=8.0,SNR=5.3
X17A **Forest Lakes** 75.22 57 ⇑P pP 10 08 18.0 +1.0
baz=76
W19A **Sanders** 75.55 55 ⇓P pP 10 08 19.8 +0.9
baz=76
X18A **Snowflake** 75.61 56 ⇓P pP 10 08 19.8 +0.6
baz=76
Y17A **Roosevelt** 75.64 57 ⇓P pP 10 08 20.0 +0.7
baz=76
BUR08 **Bucovina Ar. S** 75.67 324 *eP* **P** **10 08 08.1 0.0**
KOLS **Kolonicke sedl** 75.90 326 *eP* **P** **10 08 07.9 -1.5**
STHS **Stebnicka Huta** 75.94 327 *eP* **P** **10 08 10.0 +0.4**
STHS pmax pmax
comp=Z,5.0nm,1.0s,mb4.4
STHS **Stebnicka Huta** 75.94 327 *eP* **P** **10 08 10.0 +0.4**
comp=Z,5.1nm,1.0s,mb4.4
STHS *e* 10 10 49.2
Y18A **Canyon Day Jun** 76.07 57 ⇑P pP 10 08 22.3 +0.5
baz=76
X19A **St. Johns** 76.08 56 ⇓P pP 10 08 22.5 +0.7
baz=76,SNR=5.8
CRVS **Cervenica-Dubn** 76.26 326 *eP* **P** **10 08 14.7 +3.2**
118A **Homack Ranch,** 76.89 57 ⇓P pP 10 08 27.7 +1.2
baz=77
119A **Ashpeak Ranch,** 77.21 57 ⇑P pP 10 08 28.9 +0.6
baz=78
218A **Dragoon** 77.30 58 ⇓P pP 10 08 29.7 +0.8
baz=78
ANMO **Albuquerque** 77.40 54⇑ *eP* pP 10 08 29.7 +0.4
CLL **Collm** 77.43 332⇑ *i*P **P** **10 08 17.4 -0.6**
CLL pmax pmax
comp=Z,9.0nm,0.9s,mb4.7
CLL **Collm** 77.43 332⇑ *i*P **P** **10 08 17.4 -0.6**
comp=Z,9.0nm,0.9s,mb4.7
CLL *e*PcP PcP 10 08 29.0 +0.6
CLL LmV 10 46 00.0
comp=Z,200nm,19.5s
219A **White Tail Can** 77.77 58 ⇓P pP 10 08 32.1 +0.7
baz=78
319A **Douglas** 78.18 58 ⇓P pP 10 08 34.2 +0.4
baz=79
KHC **Kasperske Hory** 79.06 331 *eP* **P** **10 08 26.5 -0.6**
GERES **GERESS Array B** 79.26 331 P **P** **10 08 27.5 -0.6**
comp=Z,0.3nm,0.4s,mb3.6,baz=38,slow=5.0,SNR=5.2
GERES LR LR 10 47 41.7
comp=Z,148nm,18.5s,MS4.3,baz=275,slow=39
TXAR **Lajitas Array** 83.05 56 P **P** **10 08 48.3 -0.4**
comp=Z,0.5nm,0.5s,mb3.8,baz=294,slow=3.6,SNR=11
TXAR pP pP 10 09 00.2 +0.3
comp=Z,3.9nm,0.9s,baz=301,slow=4.0,SNR=20
TXAR **Lajitas Array** 83.05 56 P **P** **10 08 48.3 -0.4**
TXAR *PP pP 10 09 00.3 +0.4
TXAR pmax pmax
comp=Z,1.0nm,0.5s
PPT **Papeete** 84.13 121 LR LR 10 40 30.9
comp=Z,173nm,19.8s,MS4.4,baz=316,slow=31
MIAR **Mount Ida** 84.87 46 *eP* **P** **10 09 02.8 +4.9**
KEST **Kesra** 92.15 327 LR LR 10 54 19.8
comp=Z,64nm,18.9s,MS4.1,baz=283,slow=38
ESDC **Sonseca Array** 93.11 338 LR LR 11 00 43.6
comp=Z,118nm,18.4s,MS4.4,baz=15,slow=41
LCO **Las Campanas** 146.83 77 *e*PKPdf PKPdf 10 16 04.0 +0.8
PLCA **Paso Flores** 152.34 97 PKPbc PKPbc 10 16 18.1 -0.4
comp=Z,0.4nm,0.5s,baz=248,slow=5.4,SNR=2.9
PLCA pPKPbc pPKPbc 10 16 31.2 +1.1
comp=Z,2.3nm,0.8s,baz=269,slow=2.8,SNR=4.5
PLCA **Paso Flores** 152.34 97 PKIKP PKPbc 10 16 18.1 -0.4
PLCA 10 16 31.2
PLCA pmax pmax
comp=Z,2.0nm,0.8s

*ISCJB **24** 10:39:30.1±0.6,2722N±008×12667E±008,h147km±8km, mb3.5/4, Error ellipse: s-maj=16.4km s-min=7.0km az=140.2*
*IDC **24** 10:39:31.6±3.8,2727N×12680E,h146km±59km, mb3.2/4, mb1 3.2/4, mb1mx3.1/19, mbtmp3.2/4, Error ellipse: s-maj=133.6km s-min=19.8km az=64.0*
*JMA **24** 10:39:32.1±0.3,2728N×12665E,h132km,M3.5*
ISC 24 10:39:31.1±0.6,**2724N**±008×**12665E**±008,**h140**km±9km, **n17**,σ0§**85**/**28**,**mb3.5**/4,**Northwest of Ryukyu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAGN	**Aguni-jima**	**0.84**	**141**	P	**Pn**	**10 39 54.2**	**+0.6**
JAGN				S	**Sn**	**10 40 10.6**	**-0.1**
JKE	**Kume jima 2**	**0.92**	**172**	P	**Pn**	**10 39 54.5**	**+0.2**
JKE				S	**Sn**	**10 40 12.5**	**+0.6**
JIH	**Iheya**	**1.20**	**100**	P	**Pn**	**10 39 57.7**	**+1.0**
JIH				S	**Sn**	**10 40 15.6**	**-0.7**
NAH1	**Naha**	**1.39**	**138**	P	**Pn**	**10 39 59.4**	**+0.6**
NAH1				*e*S	**Sn**	**10 40 20.6**	**+0.7**
JJT2	**Tamagusuku 2**	**1.48**	**138**	P	**Pn**	**10 40 00.6**	**+0.9**
JJT2				S	**Sn**	**10 40 22.8**	**+1.3**
JOW	**Kunigami**	**1.51**	**105**	P	**Pn**	**10 40 00.6**	**+0.5**
	46nm,0.3s,baz=302,slow=19,SNR=98						
JOW				S	**Sn**	**10 40 21.0**	**-1.1**
	71nm,0.3s,baz=146,slow=27,SNR=8.1						
JOW	**Kunigami**	**1.51**	**105**	P	**Pn**	**10 40 00.5**	**+0.5**
JOW				S	**Sn**	**10 40 20.9**	**-1.2**
JTK	**Tokunoshima**	**2.12**	**75**	P	**Pn**	**10 40 07.5**	**+0.5**
JTK				S	**Sn**	**10 40 33.1**	**-1.5**
JOGS	**Gusukube**	**2.71**	**205**	*e*S	**Sn**	**10 40 46.6**	**-1.2**
JAM	**Amami Oshima**	**2.87**	**65**	P	**Pn**	**10 40 16.9**	**+0.5**
JAM				S	**Sn**	**10 40 50.5**	**-0.8**
JIJ	**Ishigaki jima**	**3.65**	**219**	P	**Pn**	**10 40 25.4**	**-1.1**
JIJ				S	**Sn**	**10 41 04.9**	**-4.5**
IRIF	**Iriomote-Funau**	**3.91**	**223**	P	**Pn**	**10 40 29.0**	**-1.0**
JMZ	**Minamidaito 2**	**4.34**	**108**	P	**Pn**	**10 40 34.5**	**-1.0**
JMZ				S	**Sn**	**10 41 19.5**	**-6.1**
SONM	**Songino Array**	**25.94**	**328**	P	**P**	**10 44 51.7**	**+1.5**
	0.8nm,0.4s,mb3.7,baz=143,slow=11,SNR=8.0						
MKAR	**Makanchi Array**	**39.80**	**311**	P	**P**	**10 46 49.9**	**-0.5**
	0.5nm,0.5s,mb3.4,baz=104,slow=10,SNR=3.8						
ZALV	**Zalesovo Beam**	**40.59**	**323**	P	**P**	**10 46 56.9**	**+0.2**
	1.0nm,0.4s,mb3.8,baz=101,slow=7.7,SNR=4.2						
ASAR	**Alice Springs**	**51.09**	**171**	P	**P**	**10 48 19.3**	**0.0**
	0.3nm,0.5s,mb3.2,baz=358,slow=14,SNR=8.1						

*MOS **24** 11:04:39.3±1.5,3484N×2352E,h33km,mb4.6/23, Error ellipse: s-maj=7.5km s-min=4.3km az=102.2*
*HLW **24** 11:04:40.1,35.17N×2379E,h33km,Mb4.6*
*ISCJB **24** 11:04:40.4±0.4,3489N±003×2350E±003,h57km±4km, mb4.4/24,MS3.7/4, Error ellipse: s-maj=5.8km s-min=3.0km az=42.8*
*NEIC **24** 11:04:41.6,3496N×2347E,h44km,mb4.3/21, MD4.0(ATH), After ATH.*
*ATH **24** 11:04:41.6,3496N×2347E,h44km±5km,MD4.0/20,ML4.0*
*CSEM **24** 11:04:42.2±0.1,3502N×2350E,h60km,mb4.4/21, Error ellipse: s-maj=2.6km s-min=1.5km az=8.0*
*IDC **24** 11:04:43.4±1.9,3515N×2342E,h53km±16km, mb4.1/10, mb1 4.1/13,mb1mx3.9/26,mbtmp4.1/13,ML4.3/3,MS3.6/3, Ms1 3.6/3,ms1mx2.8/39, Error ellipse: s-maj=17.8km s-min=15.2km az=175.0*
*THE **24** 11:04:43.7,3509N×2350E,h63km±7km,ML4.2/2, Error ellipse: s-maj=7.7km s-min=0.8km az=144.0*
*GII **24** 11:04:50.7±0.0,3483N×2452E,h0km±2km,mb4.4/3, ML4.3/3*
ISC 24 11:04:41.9±0.3,**3490N**±003×**2349E**±003,**h50**km±4km, **n248**,σ1§**16**/**260**,**mb4.4**/**24**,**MS3.7**/**4**,**18C-7D**,**Crete**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GVD	**Gavdhos**	**0.50**	**96**	⇑*i*P	**Pn**	**11 04 53.0**	**0.0**
GVD	**Gavdhos**	**0.50**	**96**	⇑*i*P	**Pn**	**11 04 53.0**	**0.0**
VAM	**Vamos**	**0.78**	**49**	*eP*	**Pn**	**11 04 57.7**	**+1.1**
VAM	**Vamos**	**0.78**	**49**	*eP*	**Pn**	**11 04 57.7**	**+1.1**
SIVA	**Sivas**	**1.09**	**83**	P	**Pn**	**11 05 02.3**	**+1.5**
SIVA				S	**Sn**	**11 05 17.2**	**+2.4**
IDI	**Anoyia**	**1.22**	**71**	P	**Pn**	**11 05 03.9**	**+1.5**
	85nm,0.3s,baz=246,slow=13,SNR=299						
IDI				S	**Sn**	**11 05 19.6**	**+1.9**
	232nm,0.3s,baz=338,slow=19,SNR=12						
KYTH	**Kithira**	**1.43**	**345**	⇑*i*P	**Pn**	**11 05 06.0**	**+0.6**
KYTH	**Kithira**	**1.43**	**345**	⇑*i*P	**Pn**	**11 05 06.0**	**+0.6**
LAST	**Lasithi**	**1.66**	**80**	P	**Pn**	**11 05 10.8**	**+2.3**
LAST				S	**Sn**	**11 05 29.5**	**+1.0**
NPS	**Neapolis**	**1.78**	**78**	*eP*	**Pn**	**11 05 12.1**	**+1.9**
NPS	**Neapolis**	**1.78**	**78**	*eP*	**Pn**	**11 05 12.1**	**+1.9**
VLI	**Veliai**	**1.87**	**346**	*eP*	**Pn**	**11 05 12.5**	**+1.1**
VLI				*e*S	**Sn**	**11 05 34.0**	**+0.1**
VLI	**Veliai**	**1.87**	**346**	*eP*	**Pn**	**11 05 12.5**	**+1.1**
VLI				*e*S	**Sn**	**11 05 34.0**	**+0.1**
THR6	**Thira Island,**	**2.13**	**46**	P	**Pn**	**11 05 15.3**	**+0.3**
THR5	**Thira Island,**	**2.15**	**44**	P	**Pn**	**11 05 15.5**	**+0.3**
THR3	**Thira Island,**	**2.17**	**45**	P	**Pn**	**11 05 15.5**	**0.0**
THR1	**Thera Island**	**2.18**	**47**	P	**Pn**	**11 05 15.2**	**-0.4**
THR4	**Thira Island,**	**2.20**	**44**	P	**Pn**	**11 05 16.5**	**+0.5**
ZKR	**Zakros**	**2.25**	**84**	P	**Pn**	**11 05 19.0**	**+2.4**
ZKR				S	**Sn**	**11 05 44.9**	**+1.7**
PYL	**PYLOS**	**2.45**	**325**	P	**Pn**	**11 05 18.7**	**-0.6**
ITM	**Ithomi**	**2.61**	**331**	*eP*	**Pn**	**11 05 22.4**	**+0.9**
ITM	**Ithomi**	**2.61**	**331**	*eP*	**Pn**	**11 05 22.4**	**+0.9**
DID	**Didima**	**2.61**	**356**	P	**Pn**	**11 05 20.8**	**-0.8**
VLX	**Vlachokerasia**	**2.63**	**340**	P	**Pn**	**11 05 21.1**	**-0.7**
APE	**Apeiranthos**	**2.73**	**37**	P	**Pn**	**11 05 22.4**	**-0.8**
APE				S	**Sn**	**11 05 53.9**	**-1.0**
APE	**Apeiranthos**	**2.73**	**37**	*eP*	**Pn**	**11 05 23.5**	**+0.3**
APE				S	**Sn**	**11 05 53.9**	**-1.0**
APE	**Apeiranthos**	**2.73**	**37**	*eP*	**Pn**	**11 05 23.5**	**+0.3**
NAIG	**Nisos Aigina**	**2.86**	**0**	*eP*	**Pn**	**11 05 25.0**	**+0.1**
NAIG	**Nisos Aigina**	**2.86**	**0**	*eP*	**Pn**	**11 05 25.0**	**+0.1**
KVR	**Kavouri**	**2.94**	**4**	*eP*	**Pn**	**11 05 26.0**	**0.0**
KVR	**Kavouri**	**2.94**	**4**	*eP*	**Pn**	**11 05 26.0**	**0.0**
ATH	**Athens Observa**	**3.08**	**3**	*eP*	**Pn**	**11 05 28.0**	**+0.1**
ATH	**Athens Observa**	**3.08**	**3**	*eP*	**Pn**	**11 05 28.0**	**+0.1**
KARP	**Karpathos**	**3.08**	**77**	*eP*	**Pn**	**11 05 28.9**	**+1.0**
KARP	**Karpathos**	**3.08**	**77**	*eP*	**Pn**	**11 05 28.9**	**+1.0**
LTK	**Loutraki**	**3.15**	**352**	P	**Pn**	**11 05 28.7**	**-0.2**
PTL	**Penteli**	**3.16**	**5**	*eP*	**Pn**	**11 05 29.0**	**-0.1**
PTL	**Penteli**	**3.16**	**5**	*eP*	**Pn**	**11 05 29.0**	**-0.1**
SLUM		**3.69**	**156**	P	**Pn**	**11 05 37.5**	**+1.2**
LKR	**Lokris**	**3.77**	**354**	P	**Pn**	**11 05 37.1**	**-0.3**
LKR	**Lokris**	**3.77**	**354**	*eP*	**Pn**	**11 05 37.8**	**+0.4**
LKR	**Lokris**	**3.77**	**354**	*eP*	**Pn**	**11 05 37.8**	**+0.4**
KFL	**Anninata**	**3.88**	**327**	P	**Pn**	**11 05 38.4**	**-0.5**
ARG	**Arkhangelos**	**4.00**	**69**	*eP*	**Pn**	**11 05 42.0**	**+1.3**
ARG	**Arkhangelos**	**4.00**	**69**	*eP*	**Pn**	**11 05 42.0**	**+1.3**
CHOS	**Chios island**	**4.05**	**30**	P	**Pn**	**11 05 40.7**	**-0.6**
AGG	**Agios Georgios**	**4.22**	**348**	P	**Pn**	**11 05 43.9**	**+0.3**
AGG				S	**Sn**	**11 06 29.9**	**-1.7**
EVR	**Evrytania**	**4.23**	**342**	*eP*	**Pn**	**11 05 45.0**	**+1.2**
EVR	**Evrytania**	**4.23**	**342**	*eP*	**Pn**	**11 05 45.0**	**+1.2**
LKD	**Levkas**	**4.43**	**330**	P	**Pn**	**11 05 46.6**	**+0.1**
LKD				S	**Sn**	**11 06 35.2**	**-1.6**
XOR	**Xorichti**	**4.47**	**357**	P	**Pn**	**11 05 46.8**	**-0.2**
THL	**Klokotos Trika**	**4.81**	**346**	P	**Pn**	**11 05 51.1**	**-0.5**
THL	**Klokotos Trika**	**4.81**	**346**	*eP*	**Pn**	**11 05 52.1**	**+0.5**
THL	**Klokotos Trika**	**4.81**	**346**	*eP*	**Pn**	**11 05 52.1**	**+0.5**
PRK	**Paraskevi**	**4.88**	**26**	P	**Pn**	**11 05 52.0**	**-0.6**
PRK	**Paraskevi**	**4.88**	**26**	*eP*	**Pn**	**11 05 53.5**	**+0.9**
PRK	**Paraskevi**	**4.88**	**26**	*eP*	**Pn**	**11 05 53.5**	**+0.9**
PAIG	**Paliouri**	**5.03**	**2**	P	**Pn**	**11 05 54.1**	**-0.5**
KSL	**Kastellorizon**	**5.13**	**74**	*eP*	**Pn**	**11 05 57.5**	**+1.5**
KSL	**Kastellorizon**	**5.13**	**74**	*eP*	**Pn**	**11 05 57.5**	**+1.5**
LIA	**Limnos Island**	**5.17**	**15**	P	**Pn**	**11 05 55.6**	**-1.1**
JAN	**Janina**	**5.20**	**337**	*eP*	**Pn**	**11 05 57.8**	**+0.8**
JAN	**Janina**	**5.20**	**337**	*eP*	**Pn**	**11 05 57.8**	**+0.8**
MEV	**Metsovon**	**5.20**	**340**	P	**Pn**	**11 05 57.1**	**0.0**
LIT	**Litokhoron**	**5.26**	**352**	P	**Pn**	**11 05 57.1**	**-0.7**
OUR	**Ouranopolis**	**5.44**	**4**	P	**Pn**	**11 05 59.9**	**-0.5**
PLG	**Polygyros**	**5.47**	**360**	P	**Pn**	**11 05 59.9**	**-0.8**
PLG	**Polygyros**	**5.47**	**360**	*eP*	**Pn**	**11 06 01.5**	**+0.8**
PLG	**Polygyros**	**5.47**	**360**	*eP*	**Pn**	**11 06 01.5**	**+0.8**
KEK	**Kerkira**	**5.64**	**330**	*eP*	**Pn**	**11 06 04.5**	**+1.5**
KEK	**Kerkira**	**5.64**	**330**	*eP*	**Pn**	**11 06 04.5**	**+1.5**
HORT	**Hortiatis**	**5.70**	**357**	P	**Pn**	**11 06 03.3**	**-0.6**
SOH	**Sokhos**	**5.92**	**359**	P	**Pn**	**11 06 06.8**	**-0.1**
FNA	**Florina**	**6.11**	**345**	P	**Pn**	**11 06 08.8**	**-0.7**
GRG	**Griva**	**6.11**	**352**	P	**Pn**	**11 06 08.2**	**-1.3**
KNT	**Kendrikon**	**6.27**	**356**	P	**Pn**	**11 06 11.6**	**-0.2**
BIA	**Bitola**	**6.35**	**345**	*e*Pn	**Pn**	**11 06 08.9**	**-3.9**
NVR	**Nevrokopi**	**6.45**	**3**	P	**Pn**	**11 06 14.9**	**+0.7**
VAY	**Valandovo**	**6.46**	**354**	*e*Pn	**Pn**	**11 06 13.3**	**-1.0**
OHR	**Ohrid**	**6.56**	**342**	*e*Pn	**Pn**	**11 06 11.2**	**-4.4**
MMB	**Musomiste**	**6.69**	**2**	*i* P	**Pn**	**11 06 16.5**	**-0.9**
KRUS	**Krusevo**	**6.70**	**345**	*e*Pn	**Pn**	**11 06 14.5**	**-3.1**
KRUS				*e*Sg	**Sn**	**11 07 28.2**	**-4.3**
RZN	**Rozhen**	**6.85**	**8**	*i* P	**Pn**	**11 06 19.5**	**-0.2**
TIP	**Timpagrande**	**6.87**	**310**	P	**Pn**	**11 06 19.2**	**-0.8**
KKB	**Krupnik**	**6.97**	**358**	P	**Pn**	**11 06 20.8**	**-0.5**
PHP	**Peshkopia**	**7.19**	**341**	*e*PN	**Pn**	**11 06 26.1**	**+1.8**
PUK	**Puka**	**7.67**	**340**	*e*PN	**Pn**	**11 06 29.1**	**-1.8**
VAE	**Valguarnera**	**7.78**	**292**	S	**Sn**	**11 07 52.7**	**-6.3**
	2.7nm,0.3s,baz=352,slow=4.0,SNR=5.7						

BCI	**Bajram Curri**	**7.92**	**341**	*e*PN	**Pn**	**11 06 32.1**	**-2.3**
CUC	**Castrocucco**	**7.94**	**312**	P	**Pn**	**11 06 36.0**	**+1.4**
AWBH		**8.02**	**143**	P	**Pn**	**11 06 36.2**	**+0.5**
AWBH				S	**Sn**	**11 08 00.8**	**-4.2**
KOT	**Kottamia**	**8.62**	**123**	P	**Pn**	**11 06 42.7**	**-1.2**
KOT				S	**Sn**	**11 08 12.4**	**-7.3**
HSAF	**As Saff**	**8.62**	**125**	P	**Pn**	**11 06 42.9**	**-1.1**
GLL	**Jalalah**	**8.75**	**125**	P	**Pn**	**11 06 44.8**	**-1.0**
HFRF	**Wahat Farafira**	**8.76**	**151**	P	**Pn**	**11 06 47.0**	**+1.1**
HHAG	**Hagoal**	**8.79**	**122**	⇑*i*P	**Pn**	**11 06 44.9**	**-1.3**
ANTO	**Ankara**	**8.91**	**53**	*e*P	**Pn**	**11 06 47.5**	**-0.4**
ANTO	comp=Z,31nm,0.8s			pmax	pmax		
ANTO	**Ankara**	**8.91**	**53**	⇓*i*P	**Pn**	**11 06 47.2**	**-0.7**
ANTO	**Ankara**	**8.91**	**53**	*e*P	**Pn**	**11 06 47.5**	**-0.4**
	comp=Z,31nm,0.8s						
ANTO	**Ankara**	**8.91**	**53**	*e*Pn	**Pn**	**11 06 47.5**	**-0.4**
	comp=Z,31nm,0.8s						
AMAG	**Maghara**	**9.22**	**115**	P	**Pn**	**11 06 50.1**	**-2.0**
BR131	**Keskin Array S**	**9.41**	**56**	*e*Pn	**Pn**	**11 06 56.2**	**+1.4**
	comp=Z,4.0nm,0.6s						
BR131	**Keskin Array S**	**9.41**	**56**	*e*Pn	**Pn**	**11 06 56.1**	**+1.4**
	comp=Z,4.0nm,0.6s						
MMLI	**Mount Malkishu**	**10.24**	**100**	Pn	**Pn**	**11 07 04.3**	**-1.9**
HMDT	**Nahal Hemdat**	**10.38**	**101**	Pn	**Pn**	**11 07 06.2**	**-1.9**
DSI	**Dead Sea**	**10.50**	**105**	Pn	**Pn**	**11 07 07.7**	**-2.0**
DSI				Sn	**Sn**	**11 08 58.1**	**-7.7**
MZDA	**Masada**	**10.58**	**106**	Pn	**Pn**	**11 07 08.6**	**-2.2**
HDK1	**Dakhla**	**10.63**	**150**	P	**Pn**	**11 07 12.2**	**+0.8**
PRNI	**Paran**	**10.71**	**112**	Pn	**Pn**	**11 07 11.5**	**-1.1**
MLR	**Muntele Rosu**	**10.75**	**9**	⇓*i*P	**Pn**	**11 07 12.4**	**-0.6**
MLR	**Muntele Rosu**	**10.75**	**9**	⇓P	**Pn**	**11 07 12.4**	**-0.5**
BZS	**Buzias**	**10.80**	**353**	⇑*i*P	**Pn**	**11 07 10.6**	**-3.1**
BZS	**Buzias**	**10.80**	**353**	⇑P	**Pn**	**11 07 10.6**	**-3.2**
TR2		**10.87**	**124**	P	**Pn**	**11 07 13.6**	**-1.1**
MBRI	**Mt Berech**	**10.92**	**115**	Pn	**Pn**	**11 07 14.0**	**-1.4**
MBRI				Sn	**Sn**	**11 09 09.7**	**-6.4**
EIL	**Elat**	**11.01**	**115**	P	**Pn**	**11 07 14.8**	**-1.8**
	comp=Z,0.8nm,0.3s,baz=228,slow=5.2,SNR=6.8						
EIL				S	**Sn**	**11 09 12.1**	**-6.2**
	comp=Z,2.9nm,0.3s,baz=23,slow=17,SNR=7.6						
EIL	**Elat**	**11.01**	**115**	P	**Pn**	**11 07 14.8**	**-1.8**
EIL				S	**Sn**	**11 09 12.1**	**-6.2**
AQBJ	**Aqaba**	**11.05**	**115**	Pn	**Pn**	**11 07 15.4**	**-1.9**
TR1		**11.26**	**125**	P	**Pn**	**11 07 19.8**	**-0.4**
HHRG	**Al Ghardaqah**	**11.54**	**129**	⇓P	**Pn**	**11 07 23.6**	**-0.3**
PKSM	**Moragy**	**11.89**	**343**	⇑*i*P	**Pn**	**11 07 24.6**	**-3.9**
HSFG		**12.22**	**130**	P	**Pn**	**11 07 33.2**	**0.0**
PGF	**Pioggiola**	**13.64**	**308**	*e*P	**Pn**	**11 07 48.9**	**-3.6**
MODS	**Modra-Piesok**	**14.24**	**343**	*e*P	**Pn**	**11 08 06.9**	**+6.4**
MOA	**Molln**	**14.66**	**335**	⇑*i*P	**Pn**	**11 08 12.6**	**+6.5**
	comp=Z,11nm,0.6s						
VRAC	**Vranov**	**15.27**	**343**	P	**Pn**	**11 08 13.0**	**-1.1**
	comp=Z,0.4nm,0.3s,baz=131,slow=20,SNR=2.1						
VRAC	**Vranov**	**15.27**	**343**	⇑*i*P	**Pn**	**11 08 18.2**	**+4.1**
VRAC	**Vranov**	**15.27**	**343**	⇑P	**Pn**	**11 08 18.2**	**+4.1**
SBF	**Sospel**	**15.29**	**311**	*e*P	**Pn**	**11 08 10.9**	**-3.4**
	comp=Z,35nm,0.8s						
SBF	**Sospel**	**15.29**	**311**	*e*P	**Pn**	**11 08 10.9**	**-3.4**
SBF				pmax	pmax		
	comp=Z,17nm,0.8s						
SBF	**Sospel**	**15.29**	**311**	*e*P	**Pn**	**11 08 10.9**	**-3.4**
	comp=Z,17nm,0.8s						
OKC	**Ostrava-Krasne**	**15.44**	**347**	*e*P	**Pn**	**11 08 20.3**	**+4.1**
FETA	**Feichten**	**15.45**	**325**	⇑*i*P	**Pn**	**11 08 23.0**	**+6.5**
	comp=Z,8.4nm,0.8s						
MORC	**Moravsky Berou**	**15.50**	**345**	⇓*i*P	**Pn**	**11 08 21.2**	**+4.2**
MORC	**Moravsky Berou**	**15.50**	**345**	⇓P	**Pn**	**11 08 21.2**	**+4.2**
TREC	**Trest**	**15.55**	**340**	*e*P	**Pn**	**11 08 21.2**	**+3.5**
GEC2	**GERESS Array S**	**15.71**	**335**	*e*P	**Pn**	**11 08 23.4**	**+3.7**
GERES	**GERESS Array B**	**15.71**	**335**	P	**Pn**	**11 08 18.0**	**-1.7**
	comp=Z,0.4nm,0.3s,baz=152,slow=12,SNR=5.0						
KHC	**Kasperske Hory**	**16.00**	**336**	*e*P	**Pn**	**11 08 27.1**	**+3.8**
KHC				*ex*	x	11 08 41.5	
DAVA	**Damuels**	**16.05**	**325**	⇑*i*P	**Pn**	**11 08 28.7**	**+4.7**
	comp=Z,10.0nm,0.8s						
MBDF	**Montbardon**	**16.14**	**312**	*e*P	**Pn**	**11 08 20.8**	**-4.4**
	comp=Z,30nm,1.3s						
MBDF	**Montbardon**	**16.14**	**312**	*e*P	**Pn**	**11 08 20.8**	**-4.4**
MBDF				pmax	pmax		
	comp=Z,15nm,1.3s						
MBDF	**Montbardon**	**16.14**	**312**	*e*P	**Pn**	**11 08 20.8**	**-4.4**
	comp=Z,15nm,1.3s						
DPC	**Dobruska-Polom**	**16.31**	**343**	*e*P	**Pn**	**11 08 30.0**	**+2.7**
AKASG	**Malin Array Be**	**16.34**	**13**	P	**Pn**	**11 08 27.4**	**-0.2**
	comp=Z,2.6nm,0.3s,baz=205,slow=9.5,SNR=5.4						
AKASG	**Malin Array Be**	**16.34**	**13**	P	**Pn**	**11 08 27.5**	**-0.2**
AKASG				pmax	pmax		
	comp=Z,3.0nm,0.3s						
PRU	**Pruhonice**	**16.45**	**339**	*e*P	**Pn**	**11 08 31.1**	**+2.1**
UPC	**Upice**	**16.53**	**343**	*e*P	**Pn**	**11 08 32.3**	**+2.3**
PVCC	**Panska Ves**	**16.92**	**340**	*e*P	**Pn**	**11 08 36.5**	**+1.5**
GRA1	**Grafenberg Arr**	**17.31**	**332**	*e*P	**Pn**	**11 08 40.3**	**+0.5**
	comp=Z,41nm,1.5s						
GRF	**Grafenberg Arr**	**17.31**	**332**	*e*P	**Pn**	**11 08 40.3**	**+0.5**
GRF				pmax	pmax		
	comp=Z,41nm,1.5s						
GRF	**Grafenberg Arr**	**17.31**	**332**	*e*P	**Pn**	**11 08 40.3**	**+0.5**
GRF				pmax	pmax		
	comp=Z,41nm,1.5s						
GRF	**Grafenberg Arr**	**17.31**	**332**	*e*P	**Pn**	**11 08 40.3**	**+0.5**
	comp=Z,41nm,1.5s						
KIV	**Kislovodsk**	**17.34**	**53**	⇑*i*P	**Pn**	**11 08 40.8**	**+0.6**
KIV				pmax	pmax		
	comp=Z,12nm,0.9s						
KIV	**Kislovodsk**	**17.34**	**53**	*i* P	**Pn**	**11 08 40.8**	**+0.6**
	comp=Z,12nm,0.9s						
CABF	**La Chapelle**	**17.58**	**317**	*e*P	**Pn**	**11 08 43.8**	**+0.6**
	comp=Z,38nm,1.3s						
CABF	**La Chapelle**	**17.58**	**317**	*e*P	**Pn**	**11 08 43.8**	**+0.6**
CABF				pmax	pmax		
	comp=Z,19nm,1.3s						
CABF	**La Chapelle**	**17.58**	**317**	*e*P	**Pn**	**11 08 43.8**	**+0.6**
	comp=Z,19nm,1.3s						
GNI	**Garni**	**17.64**	**66**	LR	LR	11 16 44.8	
	comp=Z,100nm,20.1s,baz=269,slow=41						
HINF	**Hinteralfeld**	**17.91**	**321**	*e*P	**Pn**	**11 08 44.6**	**-2.6**
CLL	**Collm**	**18.07**	**338**	*e*P	**Pn**	**11 08 49.0**	**-0.1**
	comp=Z,3.0nm,0.5s						
CLL				*e*PP		11 09 00.0	
CDF	**Champ du Feu**	**18.09**	**323**	*e*P	**Pn**	**11 08 45.9**	**-3.5**
HAU	**Haudompre**	**18.29**	**321**	*e*P	**Pn**	**11 08 51.6**	**-0.2**
MTLF	**Montolieu**	**18.50**	**303**	*e*P	**Pn**	**11 08 55.2**	**+0.8**
SMF	**Signal de Mont**	**18.89**	**314**	*e*P	**Pn**	**11 08 59.4**	**+0.3**
MEZF	**Maizieres J'vi**	**19.28**	**320**	*e*P	**Pn**	**11 09 03.5**	**-0.2**
	comp=Z,17nm,0.5s						
MEZF	**Maizieres J'vi**	**19.28**	**320**	*e*P	**Pn**	**11 09 03.5**	**-0.2**
	comp=Z,8.3nm,0.5s						
SSF	**Saint Saulge**	**19.31**	**315**	*e*P	**Pn**	**11 09 04.1**	**+0.1**
	comp=Z,10.0nm,0.9s						
SSF	**Saint Saulge**	**19.31**	**315**	*e*P	**Pn**	**11 09 04.1**	**+0.1**
SSF				pmax	pmax		
	comp=Z,5.0nm,0.9s						
SSF	**Saint Saulge**	**19.31**	**315**	*e*P	**Pn**	**11 09 04.1**	**+0.1**
	comp=Z,5.0nm,0.9s						
BGF	**Bois d'Agland**	**19.44**	**313**	*e*P	**Pn**	**11 09 05.8**	**+0.2**
	comp=Z,21nm,0.9s						
BGF	**Bois d'Agland**	**19.44**	**313**	*e*P	**Pn**	**11 09 05.8**	**+0.2**
BGF				pmax	pmax		
	comp=Z,11nm,0.9s						
BGF	**Bois d'Agland**	**19.44**	**313**	*e*P	**Pn**	**11 09 05.8**	**+0.2**
	comp=Z,11nm,0.9s						
RJF	**Les Rejaudoux**	**19.70**	**308**	*e*P	**Pn**	**11 09 08.7**	**0.0**
EPF	**Esparros**	**19.70**	**301**	*e*P	**Pn**	**11 09 09.8**	**+1.0**
ETSF	**Etsaut**	**20.30**	**300**	*e*P	**P**	**11 09 17.2**	**+3.7**
	comp=Z,8.2nm,0.7s						
ETSF	**Etsaut**	**20.30**	**300**	*e*P	**P**	**11 09 17.2**	**+3.7**
ETSF				pmax	pmax		
	comp=Z,4.0nm,0.7s						
ETSF	**Etsaut**	**20.30**	**300**	*e*P	**P**	**11 09 17.2**	**+3.7**
	comp=Z,4.1nm,0.7s						
GIVF	**Givet**	**20.41**	**324**	*e*P	**P**	**11 09 15.4**	**+0.8**
	comp=Z,9.8nm,0.5s						
GIVF	**Givet**	**20.41**	**324**	*e*P	**P**	**11 09 15.4**	**+0.8**
GIVF				pmax	pmax		
	comp=Z,5.0nm,0.5s						
GIVF	**Givet**	**20.41**	**324**	*e*P	**P**	**11 09 15.4**	**+0.8**
	comp=Z,4.9nm,0.5s						
BAIF	**Baives**	**20.69**	**323**	*e*P	**P**	**11 09 18.1**	**+0.5**
	comp=Z,19nm,0.7s						
BAIF	**Baives**	**20.69**	**323**	*e*P	**P**	**11 09 18.1**	**+0.5**
BAIF				pmax	pmax		
	comp=Z,10.0nm,0.7s						
BAIF	**Baives**	**20.69**	**323**	*e*P	**P**	**11 09 18.1**	**+0.5**
	comp=Z,9.6nm,0.7s						
SJPF	**Ste Jean**	**20.83**	**301**	*e*P	**P**	**11 09 23.4**	**+4.2**
	comp=Z,28nm,1.0s						
SJPF	**Ste Jean**	**20.83**	**301**	*e*P	**P**	**11 09 23.4**	**+4.2**
SJPF				pmax	pmax		
	comp=Z,14nm,1.0s						
SJPF	**Ste Jean**	**20.83**	**301**	*e*P	**P**	**11 09 23.4**	**+4.2**
	comp=Z,14nm,1.0s						
MFF	**Saint Martin d**	**21.30**	**310**	*e*P	**P**	**11 09 24.8**	**+0.6**
	comp=Z,16nm,0.6s,mb4.3						
MFF	**Saint Martin d**	**21.30**	**310**	*e*P	**P**	**11 09 24.8**	**+0.6**
MFF				pmax	pmax		
	comp=Z,8.0nm,0.6s,mb4.2						
MFF	**Saint Martin d**	**21.30**	**310**	*e*P	**P**	**11 09 24.8**	**+0.6**
	comp=Z,8.2nm,0.6s,mb4.3						
OBN	**Obninsk**	**22.16**	**20**	⇑*e*P	**P**	**11 09 33.5**	**+0.2**
OBN				pmax	pmax		
	comp=Z,21nm,1.1s,mb4.5						
OBN				MLR	MLR		
	comp=Z,100nm,12.0s,MS3.5						
OBN	**Obninsk**	**22.16**	**20**	*e*P	**P**	**11 09 33.5**	**+0.2**
	comp=Z,100nm,12.0s						
LDF	**La Druitiere**	**22.19**	**315**	*e*P	**P**	**11 09 34.5**	**+0.8**
	comp=Z,40nm,0.9s,mb4.5						
LDF	**La Druitiere**	**22.19**	**315**	*e*P	**P**	**11 09 34.5**	**+0.8**
LDF				pmax	pmax		
	comp=Z,20nm,0.9s,mb4.5						
LDF	**La Druitiere**	**22.19**	**315**	*e*P	**P**	**11 09 34.5**	**+0.8**
	comp=Z,20nm,0.9s,mb4.5						
FLN	**La Foliniere**	**22.48**	**315**	*e*P	**P**	**11 09 37.6**	**+0.8**
	comp=Z,34nm,0.8s,mb4.6						
FLN	**La Foliniere**	**22.48**	**315**	*e*P	**P**	**11 09 37.6**	**+0.8**
FLN				pmax	pmax		
	comp=Z,17nm,0.8s,mb4.5						
FLN	**La Foliniere**	**22.48**	**315**	*e*P	**P**	**11 09 37.6**	**+0.8**
	comp=Z,17nm,0.8s,mb4.6						
GRR	**Gorron**	**22.52**	**314**	*e*P	**P**	**11 09 37.8**	**+0.6**
	comp=Z,64nm,1.0s,mb4.7						
GRR	**Gorron**	**22.52**	**314**	*e*P	**P**	**11 09 37.8**	**+0.6**
GRR				pmax	pmax		
	comp=Z,32nm,1.0s,mb4.7						
GRR	**Gorron**	**22.52**	**314**	*e*P	**P**	**11 09 37.8**	**+0.6**
	comp=Z,32nm,1.0s,mb4.7						
SGMF	**Saint Gilles**	**23.48**	**313**	*e*P	**P**	**11 09 47.0**	**0.0**
	comp=Z,14nm,0.6s,mb4.2						
SGMF	**Saint Gilles**	**23.48**	**313**	*e*P	**P**	**11 09 47.0**	**0.0**
SGMF				pmax	pmax		
	comp=Z,7.0nm,0.6s,mb4.3						
SGMF	**Saint Gilles**	**23.48**	**313**	*e*P	**P**	**11 09 47.0**	**0.0**
	comp=Z,6.8nm,0.6s,mb4.2						
QUIF	**Quistinic**	**23.71**	**311**	*e*P	**P**	**11 09 49.7**	**+0.6**
	comp=Z,45nm,1.0s,mb4.5						
QUIF	**Quistinic**	**23.71**	**311**	*e*P	**P**	**11 09 49.7**	**+0.6**
QUIF				pmax	pmax		
	comp=Z,22nm,1.0s,mb4.5						
QUIF	**Quistinic**	**23.71**	**311**	*e*P	**P**	**11 09 49.7**	**+0.6**
	comp=Z,22nm,1.0s,mb4.5						
HFS	**Hagfors**	**26.05**	**349**	P	**P**	**11 10 09.0**	**-1.1**
	comp=Z,5.5nm,0.5s,mb4.4,baz=155,slow=12,SNR=25						
HFS	**Hagfors**	**26.05**	**349**	P	**P**	**11 10 09.0**	**-1.2**
HFS				pmax	pmax		
	comp=Z,6.0nm,0.5s						
NAO01	**NORSAR Array S**	**27.21**	**346**	*e*P	**P**	**11 10 19.7**	**-0.9**
	comp=Z,3.2nm,0.5s,mb4.1						
NAO01	**NORSAR Array S**	**27.21**	**346**	*e*P	**P**	**11 10 19.7**	**-0.9**
	comp=Z,3.2nm,0.5s,mb4.1						
NB2	**NORSAR Array B**	**27.33**	**347**	P	**P**	**11 10 20.4**	**-1.3**
	comp=Z,1.2nm,0.5s,mb3.7,baz=148,slow=10						
NOA	**NORSAR Array B**	**27.33**	**347**	P	**P**	**11 10 20.8**	**-0.9**
	comp=Z,1.0nm,0.5s,mb3.6,baz=152,slow=10,SNR=8.0						
NOA	**NORSAR Array B**	**27.33**	**347**	P	**P**	**11 10 20.8**	**-0.9**
NOA				pmax	pmax		
	comp=Z,1.0nm,0.5s						
TORD	**Torodi Ar. Bea**	**29.28**	**228**	P	**P**	**11 10 41.7**	**+2.1**
	comp=Z,0.6nm,0.4s,mb3.7,baz=33,slow=8.6,SNR=7.0						
TORD	**Torodi Ar. Bea**	**29.28**	**228**	P	**P**	**11 10 41.7**	**+2.1**
ARU	**Arti**	**32.09**	**37**	⇑*e*P	**P**	**11 11 03.3**	**-0.6**
ARU				pmax	pmax		
	comp=Z,6.0nm,1.2s,mb4.3						
ARU	**Arti**	**32.09**	**37**	*e*P	**P**	**11 11 03.3**	**-0.6**
	comp=Z,6.0nm,1.2s,mb4.3						
ARCES	**ARCESS Array B**	**34.71**	**1**	P	**P**	**11 11 24.6**	**-2.0**
	comp=Z,4.2nm,0.8s,mb4.4,baz=177,slow=7.3,SNR=9.3						
ARCES				LR	LR	11 26 29.1	
	comp=Z,153nm,19.0s,MS3.8,baz=277,slow=38						
ARCES	**ARCESS Array B**	**34.71**	**1**	P	**P**	**11 11 24.6**	**-2.0**
ARCES				pmax	pmax		
	comp=Z,4.0nm,0.8s						
ARCES				MLR	MLR		
	comp=Z,153nm,19.0s						
DBIC	**Dimbokro**	**38.34**	**229**	P	**P**	**11 12 00.0**	**+1.9**
	comp=Z,4.1nm,0.9s,mb4.1,baz=236,slow=11,SNR=3.6						
DBIC	**Dimbokro**	**38.34**	**229**	P	**P**	**11 12 00.0**	**+1.9**
DBIC				pmax	pmax		
	comp=Z,4.0nm,1.0s						
KURK	**Kurchatov**	**42.41**	**51**	⇓*e*P	**P**	**11 12 30.6**	**-0.7**
KURK				pmax	pmax		
	comp=Z,7.0nm,0.9s,mb4.3						
KURK				MLR	MLR		
	comp=Z,100nm,18.0s,MS3.8						
KURK	**Kurchatov**	**42.41**	**51**	*e*P	**P**	**11 12 30.6**	**-0.7**
	comp=Z,100nm,18.0s						
SPITS	**Spitsbergen Ar**	**43.49**	**358**	P	**P**	**11 12 39.4**	**-0.3**
	comp=Z,18nm,0.9s,mb4.8,baz=295,slow=10.0,SNR=6.2						
SPITS	**Spitsbergen Ar**	**43.49**	**358**	P	**P**	**11 12 39.4**	**-0.4**
SPITS				pmax	pmax		
	comp=Z,18nm,1.0s						
MKAR	**Makanchi Array**	**45.06**	**56**	P	**P**	**11 12 53.0**	**+0.3**
	comp=Z,9.9nm,0.9s,mb4.7,baz=278,slow=7.3,SNR=32						
MKAR				PcP	PcP	11 14 34.4	+1.6
	comp=Z,1.0nm,0.5s,baz=266,slow=3.6,SNR=3.2						
MKAR	**Makanchi Array**	**45.06**	**56**	P	**P**	**11 12 53.0**	**+0.3**
MKAR						11 14 34.4	
MKAR				pmax	pmax		
	comp=Z,10.0nm,0.9s						
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
NVS	**Novosibirsk**	**45.24**	**45**	*i* P	**P**	**11 12 54.1**	**+0.1**
ZALV	**Zalesovo Beam**	**46.18**	**46**	P	**P**	**11 13 00.1**	**-1.3**
	comp=Z,2.4nm,0.4s,mb4.5,baz=260,slow=9.8,SNR=12						
ZALV	**Zalesovo Beam**	**46.18**	**46**	P	**P**	**11 13 00.1**	**-1.3**
ZALV				pmax	pmax		
	comp=Z,2.0nm,0.4s,mb4.4						
ZAK	**Zakamensk**	**57.95**	**48**	*e*P	**P**	**11 14 28.9**	**0.0**
ZAK				pmax	pmax		
	comp=Z,3.0nm,1.1s,mb4.2						
ZAK	**Zakamensk**	**57.95**	**48**	*e*P	**P**	**11 14 28.9**	**0.0**
	comp=Z,3.0nm,1.1s,mb4.2						
SONM	**Songino Array**	**60.71**	**50**	P	**P**	**11 14 48.7**	**+0.6**
	comp=Z,3.5nm,0.9s,mb4.5,baz=285,slow=7.4,SNR=20						
SONM	**Songino Array**	**60.71**	**50**	P	**P**	**11 14 48.7**	**+0.7**
SONM				pmax	pmax		
	comp=Z,4.0nm,0.9s						
ULN	**Ulaanbaatar**	**61.12**	**50**	*e*P	**P**	**11 14 51.8**	**+1.0**
ULN				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.7						
ULN	**Ulaanbaatar**	**61.12**	**50**	*e*P	**P**	**11 14 51.8**	**+1.0**
	comp=Z,4.6nm,0.8s,mb4.7						
ULN	**Ulaanbaatar**	**61.12**	**50**	*e*P	**P**	**11 14 51.8**	**+1.0**
	comp=Z,4.6nm,0.8s,mb4.7						
TIXI	**Tiksi**	**61.89**	**20**	⇑*e*P	**P**	**11 14 55.5**	**-0.1**
TIXI				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.6						
TIXI	**Tiksi**	**61.89**	**20**	*e*P	**P**	**11 14 55.5**	**-0.1**
	comp=Z,4.0nm,0.8s,mb4.6						
YAK	**Yakutsk**	**66.79**	**30**	*e*P	**P**	**11 15 25.5**	**-2.3**
YAK				pmax	pmax		
	comp=Z,7.0nm,1.0s,mb4.7						
SEY	**Seymchan**	**74.32**	**22**	⇑*e*P	**P**	**11 16 13.8**	**+0.2**
KSRS	**Korea Array**	**79.53**	**52**	P	**P**	**11 16 44.2**	**+0.8**
	comp=Z,3.1nm,0.8s,mb4.3,baz=305,slow=4.4,SNR=8.5						
KSRS	**Korea Array**	**79.53**	**52**	P	**P**	**11 16 44.2**	**+0.8**
KSRS				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.3						
PETK	**Petropavlovsk-**	**83.76**	**26**	LR	LR	12 01 04.4	
	comp=Z,35nm,18.3s,MS3.8,baz=213,slow=40						
ASAR	**Alice Springs**	**119.36**	**100**	PKP	PKPdf	11 23 27.2	+1.3
	comp=Z,0.7nm,0.6s,baz=331,slow=1.5,SNR=21						
ASAR	**Alice Springs**	**119.36**	**100**	PKIKP	PKPdf	11 23 27.2	+1.3
ASAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
STKA	**Stephens Creek**	**128.96**	**105**	PKP	PKPdf	11 23 45.2	+1.1
	comp=Z,0.8nm,0.6s,baz=30,slow=14,SNR=3.3						

NEIC 24 11:09:39.2,4488S×16720E,h20km,ML4.5(WEL),2C,

After WEL.,South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSZ	**Milford Sound**	**0.56**	**69**	P	Pb	11 09 49.4	-0.9
DCZ	**Deep Cove**	**0.60**	**183**	⇑P	Pb	11 09 49.9	-1.1
DCZ				S	Sb	11 09 58.2	-0.8
MLZ	**Mavora Lakes**	**0.83**	**125**	P	Pb	11 09 54.3	-0.7
MLZ				*S*	Sb	11 10 04.2	-1.5
WHZ	**Wether Hill Ro**	**1.14**	**153**	⇑P	Pn	11 09 59.5	-0.5
WHZ				S	Sb	11 10 14.1	-0.6
WKZ	**Wanaka**	**1.29**	**88**	P	Pn	11 10 02.4	+0.3
JCZ	**Jackson Bay**	**1.38**	**55**	P	Pn	11 10 03.9	+0.7
EAZ	**Earnscleugh**	**1.54**	**104**	P	Pn	11 10 06.3	+0.9
TUZ	**Tuapeka**	**2.02**	**123**	P	Pn	11 10 13.2	+1.1

*GII **24** 11:19:08.6±0.0,2976N×3630E,h0km,ML1.6/2, EXPLOSION*
*ISCJB **24** 11:19:09.5±1.1,2982N±005×3625E±007,h0km,Error ellipse: s-maj=9.6km s-min=6.7km az=152.2*
*CSEM **24** 11:19:10.2,30.10N×3620E,h16km,ML2.6,After SNSN*
*SGS **24** 11:19:10.2,30.10N×3620E,h16km*

ISC 24 11:19:09.6±1.1,2981N±005×3628E±007,h0km,n12, σ0=91/15,Western Arabian Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AQBJ	**Aqaba**	**1.07**	**266**	Pg	**Pg**	**11 19 30.0**	**-0.2**
HQLS		**1.18**	**245**	P	**Pg**	**11 19 31.6**	**-0.6**
HQLS		**1.18**	**245**	P	**Pg**	**11 19 31.6**	**-0.6**
HQLS				S	**Sg**	**11 19 47.5**	**+0.1**
MBRI	**Mt Berech**	**1.19**	**270**	Pg	**Pg**	**11 19 31.7**	**-0.7**
MBRI				Sg	**Sg**	**11 19 48.6**	**+0.9**
ZFRI	**Zfri**	**1.21**	**308**	Pg	**Pg**	**11 19 31.7**	**-1.1**
ZFRI				Sg	**Sg**	**11 19 50.4**	**+2.0**
PRNI	**Paran**	**1.23**	**296**	Pg	**Pg**	**11 19 32.0**	**-1.2**
JLOS		**1.27**	**213**	P	**Pg**	**11 19 34.7**	**+0.6**
KRMI	**Paran Flat**	**1.38**	**283**	Pn	**Pn**	**11 19 35.0**	**-1.1**
TBKS	**Tabuk**	**1.60**	**172**	P	**Pn**	**11 19 40.2**	**+1.0**
BDAS	**Al Bad'**	**1.72**	**217**	P	**Pn**	**11 19 41.1**	**+0.3**
DSI	**Dead Sea**	**1.92**	**336**	Pn	**Pn**	**11 19 44.4**	**+0.9**
RSHS		**1.99**	**221**	P	**Pn**	**11 19 43.9**	**-0.6**

IDC 24 11:31:04.2±2.8,225S×10070E,h44km±8km,mb3.4/5, mb1 3.5/5,mb1mx3.3/18,mbtmp3.4/5,MS2.9/1,Ms1 2.9/1, ms1mx2.0/18,Error ellipse: s-maj=146.7km s-min=17.3km az=57.0,Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAPI	**Kappang**	**19.21**	**99**	LR	LR	11 44 24.5	
	comp=Z,33nm,19.4s,baz=16,slow=42						
ASAR	**Alice Springs**	**38.54**	**126**	P	P	11 38 22.6	-0.2
	0.5nm,0.6s,baz=301,slow=7.9,SNR=8.6						
ASAR				pP	pP	11 38 34.9	+0.1
	0.6nm,0.6s,baz=303,slow=8.3,SNR=4.5						
STKA	**Stephens Creek**	**48.47**	**132**	P	P	11 39 42.7	+0.1
	1.3nm,0.7s,baz=326,slow=7.6,SNR=4.3						
SONM	**Songino Array**	**50.13**	**5**	P	P	11 39 55.0	0.0
	0.2nm,0.4s,baz=194,slow=10.0,SNR=3.6						
MKAR	**Makanchi Array**	**51.46**	**344**	P	P	11 40 04.5	-0.5
	0.2nm,0.3s,baz=161,slow=9.2,SNR=3.9						
MKAR				pP	pP	11 40 17.8	+0.4
	0.5nm,0.6s,baz=147,slow=7.3,SNR=4.1						
ZALV	**Zalesovo Beam**	**57.54**	**349**	P	P	11 40 49.4	+0.3
	0.4nm,0.3s,baz=161,slow=6.1,SNR=2.8

DBAD	**Bademkaya**	**2.07**	**312**	*i* P	**Pn**	**12 04 37.5**	**+1.2**
DBAD				*i* S	**Sn**	**12 04 56.1**	**-6.5**
HAKT	**HAKKARI**	**2.10**	**181**	*i* P	**Pn**	**12 04 37.2**	**+0.6**
HAKT	**HAKKARI**	**2.10**	**181**	*i* P	**Pn**	**12 04 37.2**	**+0.6**
HAKT	**HAKKARI**	**2.10**	**181**	*i* P	**Pn**	**12 04 37.2**	**+0.6**
MARD	**Mardin**	**3.29**	**226**	*i* P	**Pn**	**12 05 00.3**	**+7.2**
MARD	**Mardin**	**3.29**	**226**	*i* P	**Pn**	**12 05 00.3**	**+7.2**

BJI ***24*** *12:22:46.7, 3580N×11770W, h14km, Ms4.8, Msz4.6*
ISCJB ***24*** *12:22:47.9±0.1, 3580N±001×11764W±001, h10km, mb4.0/5, MS3.5/3, Error ellipse: s-maj=1.6km s-min=1.5km az=36.8*
IDC ***24*** *12:22:47.4±1.0, 3577N×11765W, h0km, mb4.0/5, mb1 4.1/9, mb1mx3.9/25, mbtmp3.9/9, ML3.9/5, MS3.1/6, Ms1 3.1/6, ms1mx2.7/41, Error ellipse: s-maj=15.1km s-min=9.5km az=70.0*
NEIC ***24*** *12:22:48.8, 3584N×11769W, h4km, mb4.1/1, ML4.3(PAS), After PAS.*
NEIC Felt [III] at Inyokern, Lake Isabella, Porterville and Trona; [II] at Ridgecrest and San Francisco. Also felt at Calabasas, Caliente, California City, Cambria, El Sobrante, Exeter, Glennville, Kernville, Lone Pine, Los Angeles, Monterey Park, Newbury Park, Onyx, Rancho Cucamonga, Santa Monica, Santa Rosa, Springville, Three Rivers, Venice, Weldon, Wofford Heights and Woodlake.

ISC 24 12:22:48.9±0.1, 3580N±001×11766W±001, h10km, n213, σ1§08/289, mb4.0/5, MS3.5/3, 65C-76D, Central California

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res ISC
MPMC	**Manual Prospec** baz=0.3,SNR=1000	**0.29**	**29**	⇓P		**Pg**	**12 22 53.6**	**-1.1**
MPMC	baz=0.3			⇓S		**Sg**	**12 22 57.9**	**-0.7**
LRMC	**Laurel Mountai** baz=0.4,SNR=1000	**0.33**	**184**	P		**Pg**	**12 22 55.4**	**0.0**
LRMC	baz=0.4			⇓S		**Sg**	**12 23 00.6**	**+0.8**
ISA	**Isabella** baz=0.7,SNR=1000	**0.68**	**258**	⇑P		**Pg**	**12 23 01.0**	**-0.9**
ISA	baz=0.7			⇑S		**Sg**	**12 23 10.1**	**-0.7**
ISA	**Isabella**	**0.68**	**258**	*e*Pg		**Pg**	**12 23 01.0**	**-0.9**
ISA				*e*Sg		**Sg**	**12 23 09.5**	**-1.3**
CWC	**Cottonwood Cre** baz=0.7,SNR=1000	**0.72**	**332**	P		**Pg**	**12 23 01.4**	**-1.4**
CWC	baz=0.7			⇓S		**Sg**	**12 23 10.7**	**-1.5**
GSC	**Goldstone** baz=0.9,SNR=1000	**0.86**	**125**	⇓P		**Pg**	**12 23 05.2**	**-0.2**
GSC	baz=0.9			⇓S		**Sg**	**12 23 17.5**	**+0.9**
GSC	**Goldstone**	**0.86**	**125**	*e*Pg		**Pg**	**12 23 05.1**	**-0.3**
GSC				*e*Sg		**Sg**	**12 23 17.6**	**+1.0**
FURC	**Furnace Creek,** baz=0.9,SNR=1000	**0.93**	**44**	P		**Pg**	**12 23 06.0**	**-0.7**
FURC	baz=0.9			⇓S		**Sg**	**12 23 18.6**	**-0.3**
EDW2	**Edwards Air Fo** baz=1.0,SNR=1000	**0.96**	**196**	P		**Pg**	**12 23 06.6**	**-0.7**
EDW2	baz=1.0			⇓S		**Sg**	**12 23 19.8**	**-0.1**
RRX	**Edison Barstow** baz=1.1,SNR=182	**1.07**	**149**	⇓P		**Pg**	**12 23 09.2**	**-0.2**
RRX	baz=1.1			⇓S		**Sg**	**12 23 25.0**	**+1.7**
SHOC	**Shoshone** baz=1.1,SNR=1000	**1.13**	**85**	⇓P		**Pb**	**12 23 09.5**	**-0.9**
SHOC	baz=1.1			⇓S		**Sb**	**12 23 25.6**	**+0.5**
VES	**Vestal, Richgr** baz=1.1,SNR=1000	**1.15**	**272**	⇑P		**Pb**	**12 23 09.9**	**-1.0**
VES	baz=1.1			⇓S		**Sb**	**12 23 24.9**	**-1.0**
ARVC	**Arvin** baz=1.2,SNR=400	**1.17**	**235**	⇑P		**Pb**	**12 23 10.3**	**-0.9**
ARVC	baz=1.2			⇑S		**Sb**	**12 23 26.6**	**+0.2**
GRAC	**Grapevine Rang** baz=1.2,SNR=937	**1.22**	**11**	P		**Pn**	**12 23 10.8**	**-1.1**
GRAC	baz=1.2			⇓S		**Sb**	**12 23 27.1**	**-0.6**
U10A	**Ash Meadows, A** baz=1.2,SNR=1000	**1.24**	**60**	P		**Pn**	**12 23 11.4**	**-0.9**
U10A	baz=1.2			⇓S		**Sb**	**12 23 28.9**	**+0.5**
TIN	**Tinemaha** baz=1.3,SNR=219	**1.33**	**340**	⇑P		**Pn**	**12 23 12.8**	**-0.6**
TIN	baz=1.3			⇑S		**Sb**	**12 23 30.6**	**-0.3**
RCTC	**Rector, Farmer** baz=1.3,SNR=394	**1.38**	**292**	P		**Pn**	**12 23 13.2**	**-0.9**
RCTC	baz=1.3			⇑S		**Sb**	**12 23 31.0**	**-1.3**
HEC	**Hector,Ludlow** baz=1.5,SNR=1000	**1.46**	**131**	⇓P		**Pn**	**12 23 14.6**	**-0.6**
HEC	baz=1.5			⇑S		**Sn**	**12 23 35.9**	**+1.5**
TUQ	**Turquoise Moun** baz=1.5,SNR=375	**1.46**	**104**	P		**Pn**	**12 23 14.5**	**-0.8**
BFSC	**Mount Baldy St** baz=1.6,SNR=303	**1.56**	**180**	⇓P		**Pn**	**12 23 16.4**	**-0.2**
MWC	**Mount Wilson**	**1.61**	**192**	*e*Pn		**Pn**	**12 23 17.5**	**+0.2**
MWC				*e*Sg		**Sg**	**12 23 41.7**	**+1.1**
TPNV	**Topopah Spring** baz=1.6,SNR=1000	**1.61**	**45**	⇑P		**Pn**	**12 23 16.9**	**-0.5**
TPNV	**Topopah Spring**	**1.61**	**45**	*e*Pn		**Pn**	**12 23 16.8**	**-0.6**
TPNV				*e*Sg		**Sg**	**12 23 39.9**	**-0.8**
BBRC	**Big Bear Sol-O** baz=1.7,SNR=745	**1.65**	**158**	⇓P		**Pn**	**12 23 17.4**	**-0.6**
MTUM	**Tungsten Hills**	**1.71**	**335**	*e*Pn		**Pn**	**12 23 18.5**	**-0.2**
MTUM				*e*Sg		**Sg**	**12 23 41.9**	**-1.9**
V11A	**Goodsprings** baz=1.8,SNR=44	**1.81**	**88**	P		**Pn**	**12 23 19.4**	**-0.7**
V11A	baz=1.8			⇓Sb		**Sg**	**12 23 46.7**	**-0.4**
V05C	**Boulder Hill,** baz=1.8,SNR=257	**1.82**	**273**	⇓Pb		**Pb**	**12 23 21.0**	**-1.3**
GMRC	**Granite Mounta** baz=2.0,SNR=666	**1.93**	**121**	⇓P		**Pn**	**12 23 20.5**	**-1.2**
GMRC	baz=2.0			⇓Sb		**Sg**	**12 23 49.9**	**-1.1**
U11A	**Corn Creek** baz=1.9	**1.94**	**71**	⇓P		**Pn**	**12 23 21.5**	**-0.4**
U11A	baz=1.9			⇓Sb		**Sg**	**12 23 50.7**	**-0.7**
S09A	**Goldfield** baz=1.9,SNR=260	**1.95**	**10**	⇑P		**Pn**	**12 23 21.8**	**-0.2**
SMMC	**Simmler** baz=2.0,SNR=613	**1.97**	**256**	⇑P		**Pn**	**12 23 21.7**	**-0.5**
PKM	**Peak Mountain** baz=2.0	**1.98**	**243**	⇑Pb		**Pb**	**12 23 24.3**	**-0.7**
KCC	**Kaiser Creek** baz=2.0,SNR=965	**2.02**	**319**	⇑Pb		**Pb**	**12 23 24.7**	**-1.0**
KCC	baz=2.0			⇓S		**Sn**	**12 23 49.0**	**+0.8**
T06C	**Millerton Lake** baz=2.0,SNR=455	**2.04**	**307**	⇓P		**Pn**	**12 23 23.0**	**-0.3**
T06C	baz=2.0			⇓S		**Sn**	**12 23 49.7**	**+0.9**
BLG	**Laguna Peak** baz=2.1	**2.05**	**215**	⇓Pb		**Pb**	**12 23 25.2**	**-0.9**
MLAC	**Mammoth Lakes** baz=2.0	**2.05**	**333**	⇑Pb		**Pb**	**12 23 26.1**	**-0.2**
MLAC	baz=2.0			⇓Sb		**Sg**	**12 23 53.5**	**-1.3**
U05C	**Westside ANR,** baz=2.0	**2.06**	**286**	⇓Pb		**Pb**	**12 23 25.2**	**-1.1**
U05C	baz=2.0			⇑Sb		**Sb**	**12 23 53.1**	**+1.0**
PTRM	**Twissleman Ran**	**2.08**	**267**	*e*Pn		**Pn**	**12 23 23.6**	**-0.2**
FMP	**Fort Macarthur** baz=2.2	**2.15**	**194**	⇑P		**Pn**	**12 23 24.4**	**-0.3**
LDFC	**Landfair**	**2.21**	**108**	*e*Pn		**Pn**	**12 23 23.9**	**-1.6**
LDFC				*e*Pg		**Pg**	**12 23 30.7**	**-0.4**
LDFC				*e*S		**Sn**	**12 23 57.6**	**+4.8**
MURC	**Murrieta** baz=2.3,SNR=81	**2.23**	**170**	⇑P		**Pn**	**12 23 25.9**	**+0.1**
BELC	**Belle Mtn.** baz=2.3,SNR=294	**2.26**	**142**	⇑P		**Pn**	**12 23 25.9**	**-0.4**
S10A	**Tonopah Range,** baz=2.3,SNR=273	**2.28**	**22**	P		**Pn**	**12 23 26.4**	**-0.2**
TPH	**Tonopah**	**2.29**	**9**	*e*Pn		**Pn**	**12 23 26.7**	**0.0**
TPH				*e*Pg		**Pg**	**12 23 30.7**	**-2.1**
TPH				*e*Sg		**Sg**	**12 24 01.9**	**-0.7**
W12A	**Cal Nev Ari** baz=2.4	**2.33**	**102**	⇑P		**Pn**	**12 23 26.6**	**-0.6**
PKD	**Parkfield** baz=2.3,SNR=217	**2.34**	**274**	⇓P		**Pn**	**12 23 26.9**	**-0.5**
S11A	**Rachel** baz=2.4,SNR=24	**2.40**	**39**	⇓P		**Pn**	**12 23 28.1**	**0.0**
PFO	**Pinyon Flat Ob** baz=2.4,SNR=106	**2.41**	**155**	P		**Pn**	**12 23 28.0**	**-0.2**
BSC	**Santa Cruz Isl** baz=2.4	**2.43**	**222**	⇓Pb		**Pb**	**12 23 31.8**	**-0.8**
T11A	**Corn Creek, Al** baz=2.4,SNR=67	**2.43**	**53**	⇑P		**Pn**	**12 23 28.5**	**-0.1**
CIS	**Catalina Islan** baz=2.5,SNR=66	**2.47**	**195**	⇑P		**Pn**	**12 23 28.9**	**-0.3**
R09A	**Tonopah** baz=2.5,SNR=178	**2.48**	**11**	P		**Pn**	**12 23 29.2**	**0.0**
T12A	**Moapa** baz=2.6	**2.55**	**68**	⇑P		**Pn**	**12 23 30.3**	**0.0**
R08A	**Mina** baz=2.5,SNR=19	**2.56**	**352**	⇓P		**Pn**	**12 23 30.3**	**-0.1**
U04C	**Hernandez Rese** baz=2.6	**2.59**	**283**	⇑P		**Pn**	**12 23 30.4**	**-0.4**
U12A	**Valley of Fire** baz=2.6	**2.60**	**75**	⇑P		**Pn**	**12 23 30.8**	**-0.2**
IRM	**Iron Mountain** baz=2.7,SNR=129	**2.63**	**128**	P		**Pn**	**12 23 30.3**	**-1.1**
S05C	**Merced** baz=2.6	**2.64**	**306**	⇑P		**Pn**	**12 23 31.7**	**+0.2**
NVAR	**Mina Array Bea** 21nm,0.3s,baz=172,slow=15,SNR=375	**2.67**	**349**	Pn		**Pn**	**12 23 32.0**	**+0.1**
NVAR	95nm,0.3s,baz=174,slow=20,SNR=116			Pg		**Pg**	**12 23 37.8**	**-2.3**
NVAR	97nm,0.3s,baz=175,slow=32,SNR=5.2			Lg			12 24 12.5	
NVAR	**Mina Array Bea**	**2.67**	**349**	Pn		**Pn**	**12 23 32.0**	**+0.1**
NVAR				Pg		**Pg**	**12 23 37.8**	**-2.3**
NVAR				Lg			12 24 12.5	
NEE2	**Needles Airpor** baz=2.7,SNR=21	**2.69**	**112**	⇓P		**Pn**	**12 23 31.2**	**-1.0**
R10A	**Warm Springs** baz=2.7,SNR=80	**2.71**	**23**	⇑P		**Pn**	**12 23 32.6**	**+0.2**
BC3	**Big Chuckw Mtn** baz=2.9,SNR=33	**2.81**	**139**	P		**Pn**	**12 23 33.0**	**-0.9**
S12A	**Delamar Landin** baz=2.9,SNR=89	**2.89**	**51**	⇑P		**Pn**	**12 23 34.9**	**0.0**
V03C	**Hunter Liggett** baz=2.9	**2.91**	**275**	⇓P		**Pn**	**12 23 34.6**	**-0.6**
SCI	**San Clemente I** baz=2.9	**2.91**	**195**	⇓P		**Pn**	**12 23 35.0**	**-0.2**
109C	**Camp Elliot, M** baz=3.0	**2.94**	**171**	⇓P		**Pn**	**12 23 35.7**	**0.0**
SNCC	**San Nicolas Is** baz=3.0	**2.98**	**212**	⇓P		**Pn**	**12 23 35.7**	**-0.5**
SNCC	**San Nicolas Is**	**2.98**	**212**	*e*Pn		**Pn**	**12 23 37.6**	**+1.5**
V13A	**Grand Canyon W** baz=3.0	**2.99**	**88**	⇑P		**Pn**	**12 23 36.0**	**-0.3**
R11A	**Troy Canyon, C** baz=3.0,SNR=41	**3.03**	**33**	⇓P		**Pn**	**12 23 36.4**	**-0.5**
Q09A	**Carvers** baz=3.0,SNR=41	**3.05**	**7**	⇓P		**Pn**	**12 23 37.3**	**+0.2**
U13A	**Pakoon Wash** baz=3.1,SNR=18	**3.05**	**77**	⇓P		**Pn**	**12 23 37.1**	**-0.1**
Q08A	**Gabbs** baz=3.0,SNR=12	**3.06**	**356**	⇑P		**Pn**	**12 23 37.4**	**+0.2**
MONP	**Monument Peak** baz=3.1,SNR=19	**3.08**	**160**	⇑P		**Pn**	**12 23 37.6**	**0.0**
CMB	**Columbia Colle**	**3.12**	**316**	*e*P		**Pn**	**12 23 41.5**	**+3.4**
CMB				*e*S		**Sg**	**12 24 22.0**	**-7.0**
W13A	**Hualapai Mount** baz=3.2,SNR=32	**3.16**	**102**	P		**Pn**	**12 23 38.4**	**-0.3**
Q10A	**Clear Creek Ra** baz=3.2,SNR=58	**3.18**	**18**	⇓P		**Pn**	**12 23 39.1**	**+0.2**
SAO	**San Andreas Ge**	**3.21**	**288**	*e*Pn		**Pn**	**12 23 40.6**	**+1.4**
SAO				*e*Pg		**Pg**	**12 23 49.2**	**-1.0**
SAO				*e*S		**Sg**	**12 24 27.2**	**-4.7**
SWSC	**Sam W. Stewart** baz=3.3,SNR=12	**3.25**	**151**	P		**Pn**	**12 23 38.7**	**-1.1**
PDMCI	**Parker Dam,Lak** baz=3.3	**3.25**	**116**	⇓P		**Pn**	**12 23 39.0**	**-1.0**
T13A	**Saint George** baz=3.3,SNR=37	**3.26**	**67**	⇓P		**Pn**	**12 23 40.1**	**0.0**
Y12C	**Blythe** baz=3.3,SNR=31	**3.30**	**128**	P		**Pn**	**12 23 39.2**	**-1.3**
X13A	**Yucca** baz=3.4,SNR=210	**3.36**	**110**	P		**Pn**	**12 23 40.9**	**-0.5**
Q11A	**Duckwater** baz=3.4,SNR=14	**3.43**	**27**	⇑P		**Pn**	**12 23 42.2**	**-0.2**
R12A	**Pony Springs,** baz=3.5,SNR=13	**3.51**	**43**	⇓P		**Pn**	**12 23 43.3**	**-0.1**
S13A	**Holt Ranch, En** baz=3.5,SNR=11	**3.53**	**59**	⇑P		**Pn**	**12 23 43.8**	**0.0**
GLA	**Glamis** baz=3.6,SNR=14	**3.61**	**139**	⇑P		**Pn**	**12 23 43.5**	**-1.3**
GLA	**Glamis**	**3.61**	**139**	*e*Pn		**Pn**	**12 23 43.2**	**-1.6**
GLA				*e*Pg		**Pg**	**12 23 55.5**	**-2.5**
GLA				*e*S		**Sg**	**12 24 41.2**	**-3.6**
V14A	**Boquillas Ranc** baz=3.7,SNR=20	**3.71**	**91**	⇑P		**Pn**	**12 23 46.3**	**+0.1**
Y13A	**Salome** baz=3.8,SNR=53	**3.73**	**121**	P		**Pn**	**12 23 45.4**	**-1.0**
P09A	**Austin** baz=3.7,SNR=27	**3.76**	**6**	⇑P		**Pn**	**12 23 47.9**	**+0.9**
W14A	**Seligman** baz=3.8,SNR=39	**3.78**	**98**	⇓P		**Pn**	**12 23 47.3**	**+0.1**
R13A	**O'Grain Ranch,** baz=3.8,SNR=18	**3.79**	**50**	⇑P		**Pn**	**12 23 47.7**	**+0.5**
WCN	**Washoe City** baz=3.8	**3.87**	**335**	⇓P		**Pn**	**12 23 49.1**	**+0.7**
CCUT	**Cedar City**	**3.87**	**62**	*e*Pn		**Pn**	**12 23 49.5**	**+1.1**
CCUT				*e*Pg		**Pg**	**12 24 03.1**	**+0.1**
CCUT				*e*S		**Sg**	**12 24 44.4**	**-8.8**
T14A	**Hurricane** baz=3.9	**3.90**	**70**	⇑P		**Pn**	**12 23 49.9**	**+1.1**
ARUT	**Antelope Range**	**3.92**	**58**	*e*Pn		**Pn**	**12 23 50.0**	**+0.9**
ARUT				*e*Pg		**Pg**	**12 24 01.3**	**-2.8**
ARUT				*e*Sg		**Sg**	**12 24 53.0**	**-1.9**
P10A	**Eureka** baz=3.9	**3.93**	**14**	⇑P		**Pn**	**12 23 49.9**	**+0.7**
Q12A	**Willow Creek R** baz=3.9	**3.94**	**34**	⇓P		**Pn**	**12 23 50.0**	**+0.6**
JRSC	**Jasper Ridge** baz=4.0	**4.01**	**295**	⇓P		**Pn**	**12 23 51.1**	**+0.7**
P11A	**Circle Ranch,** baz=4.0	**4.04**	**21**	⇑P		**Pn**	**12 23 51.1**	**+0.4**
S14A	**Cedar City** baz=4.1	**4.10**	**60**	⇓P		**Pn**	**12 23 52.3**	**+0.7**
PAHR	**Pah Rah Range**	**4.13**	**341**	*e*Pn		**Pn**	**12 23 52.8**	**+0.8**
PAHR				*e*Pg		**Pg**	**12 24 03.6**	**-4.4**
X14A	**Yava** baz=4.2,SNR=87	**4.13**	**107**	P		**Pn**	**12 23 51.9**	**-0.1**
Y14A	**Wickenburg** baz=4.3,SNR=15	**4.26**	**115**	⇓P		**Pn**	**12 23 52.9**	**-0.8**
Q13A	**Wheeler Ranch,** baz=4.3	**4.28**	**42**	⇓P		**Pn**	**12 23 54.2**	**+0.2**
U15A	**North Rim** baz=4.4	**4.39**	**80**	⇑P		**Pn**	**12 23 56.5**	**+0.9**
W15A	**Williams** baz=4.5	**4.45**	**97**	⇓P		**Pn**	**12 23 57.1**	**+0.7**
O07A	**Toulon** baz=4.4,SNR=25	**4.45**	**348**	⇑P		**Pn**	**12 23 56.9**	**+0.4**
V15A	**Kaibab Nationa** baz=4.5	**4.46**	**88**	⇓P		**Pn**	**12 23 57.2**	**+0.6**
O08A	**Rochester Mine** baz=4.5,SNR=74	**4.50**	**355**	P		**Pn**	**12 23 57.6**	**+0.6**
O10A	**Cortez Mining,** baz=4.5,SNR=121	**4.57**	**11**	⇑P		**Pn**	**12 23 58.8**	**+0.7**
Z14A	**Wintersburg** baz=4.6,SNR=22	**4.59**	**121**	⇓P		**Pn**	**12 23 57.5**	**-0.8**
BMN	**Battle Mountai**	**4.63**	**4**	*e*Pn		**Pn**	**12 23 59.4**	**+0.5**
BMN				*e*Sg		**Sg**	**12 25 14.9**	**-2.7**
X15A	**Humboldt** baz=4.7,SNR=96	**4.63**	**105**	⇑P		**Pn**	**12 23 59.3**	**+0.3**
S15A	**Panguitch** baz=4.6	**4.65**	**65**	⇑P		**Pn**	**12 23 59.9**	**+0.9**
OHCM	**Honcut**	**4.65**	**320**	*e*P		**Pn**	**12 24 05.1**	**+5.9**
OHCM				*e*S		**Sg**	**12 25 07.2**	**-11**
P13A	**Bates Ranch, G** baz=4.6,SNR=5.8	**4.65**	**37**	⇓P		**Pn**	**12 23 59.8**	**+0.6**
Q14A	**Sevier Lake (B** baz=4.7	**4.72**	**46**	⇓P		**Pn**	**12 24 00.3**	**+0.2**
Y15A	**Casa Rosa Ranc** baz=4.8,SNR=42	**4.75**	**111**	P		**Pn**	**12 24 00.3**	**-0.2**
MCCM	**Marconi Confer**	**4.79**	**301**	*e*Pn		**Pn**	**12 24 02.8**	**+1.8**
MCCM				*e*S		**Sg**	**12 25 09.3**	**-13**
NSHM	**Saint Helena R**	**4.79**	**306**	*e*Pn		**Pn**	**12 24 02.8**	**+1.7**
N08A	**GE Springer Mi** baz=5.0,SNR=55	**4.98**	**356**	⇑P		**Pn**	**12 24 04.4**	**+0.7**
N10A	**Dunphy** baz=5.0,SNR=13	**4.99**	**10**	⇓P		**Pn**	**12 24 04.5**	**+0.7**
O12A	**Currie** baz=5.0,SNR=26	**5.01**	**26**	⇑P		**Pn**	**12 24 04.6**	**+0.5**
N09A	**Rock Creek Ran** baz=5.0,SNR=7.0	**5.04**	**1**	⇑P		**Pn**	**12 24 05.2**	**+0.7**
W16A	**Flagstaff** baz=5.1	**5.05**	**96**	⇑P		**Pn**	**12 24 05.3**	**+0.6**
N07B	**Gerlach** baz=5.0	**5.07**	**349**	⇑P		**Pn**	**12 24 06.0**	**+1.1**
WUAZ	**Wupatki** baz=5.1	**5.13**	**91**	⇑P		**Pn**	**12 24 06.6**	**+0.9**
WUAZ	**Wupatki** 125nm,0.7s	**5.13**	**91**	*e*Pn		**Pn**	**12 24 07.3**	**+1.6**
WUAZ				*e*Pg		**Pg**	**12 24 22.6**	**-4.4**
WUAZ				*e*Sg		**Sg**	**12 25 29.6**	**-3.9**
MSU	**Marysvale**	**5.15**	**57**	*e*Pn		**Pn**	**12 24 07.5**	**+1.5**
MSU				*e*Pg		**Pg**	**12 24 23.6**	**-3.8**
O13A	**Hicks Ranch, I** baz=5.2	**5.21**	**33**	⇑P		**Pn**	**12 24 07.4**	**+0.6**
N11A	**Elko Archery C** baz=5.2,SNR=24	**5.23**	**16**	⇓P		**Pn**	**12 24 07.8**	**+0.7**
X16A	**Lo Mia Camp, P** baz=5.3	**5.28**	**103**	⇑P		**Pn**	**12 24 08.5**	**+0.7**
ELK	**Elko** 6.6nm,0.3s,baz=209,slow=10,SNR=88	**5.29**	**20**	Pn		**Pn**	**12 24 08.8**	**+0.9**
ELK	4.2nm,0.3s,baz=210,slow=12,SNR=21			Pg		**Pg**	**12 24 26.2**	**-3.9**
ELK	12nm,0.3s,baz=178,slow=16,SNR=8.0			Lg			12 25 31.2	
ELK	**Elko**	**5.29**	**20**	Pn		**Pn**	**12 24 08.8**	**+0.9**
ELK				Pg		**Pg**	**12 24 26.2**	**-3.9**
ELK				Lg			12 25 31.2	
Y16A	**Circle Bar Ran** baz=5.5,SNR=9.8	**5.43**	**109**	⇓P		**Pn**	**12 24 09.8**	**-0.1**
N12A	**Clover Valley,** baz=5.4,SNR=215	**5.45**	**21**	P		**Pn**	**12 24 10.7**	**+0.6**
115A	**Sonoran Desert** baz=5.5,SNR=26	**5.46**	**123**	⇑P		**Pn**	**12 24 09.7**	**-0.6**
214A	**Organ Pipe Nat** baz=5.6,SNR=13	**5.57**	**132**	⇓P		**Pn**	**12 24 10.1**	**-1.7**
M09A	**Marrel Ranch,** baz=5.6	**5.61**	**2**	⇓P		**Pn**	**12 24 13.8**	**+1.5**
M08A	**Happy Creek Ra** baz=5.6	**5.66**	**355**	⇓P		**Pn**	**12 24 14.4**	**+1.4**
M07A	**Soldier Meadow** baz=5.7	**5.70**	**348**	⇓P		**Pn**	**12 24 15.0**	**+1.5**
W17A	**Winslow** baz=5.7	**5.72**	**95**	⇓P		**Pn**	**12 24 14.6**	**+0.8**
M10A	**I.L. Ranch, Tu** baz=5.8	**5.78**	**8**	⇓P		**Pn**	**12 24 15.8**	**+1.2**
S17A	**Black Ridge (B** baz=5.8	**5.80**	**70**	⇓P		**Pn**	**12 24 16.2**	**+1.2**
M11A	**Holland Ranch,** baz=5.8	**5.81**	**14**	⇑P		**Pn**	**12 24 15.6**	**+0.6**
X17A	**Forest Lakes** baz=5.8	**5.81**	**103**	⇓P		**Pn**	**12 24 16.6**	**+1.6**
DUG	**Dugway** baz=5.8	**5.82**	**40**	⇓P		**Pn**	**12 24 15.7**	**+0.6**
DUG	**Dugway** 32nm,0.6s	**5.82**	**40**	*e*Pn		**Pn**	**12 24 16.7**	**+1.5**
DUG				*e*Pg		**Pg**	**12 24 36.1**	**-4.1**
DUG				*e*Sg		**Sg**	**12 25 51.1**	**-4.5**
116A	**Eloy** baz=5.9,SNR=8.2	**5.90**	**122**	⇑P		**Pn**	**12 24 15.7**	**-0.7**
Y17A	**Roosevelt** baz=6.0,SNR=22	**5.99**	**109**	⇑P		**Pn**	**12 24 17.9**	**+0.3**
M12A	**Wells** baz=6.0,SNR=15	**6.00**	**20**	⇑P		**Pn**	**12 24 18.3**	**+0.7**
NLU	**North Lily Min**	**6.06**	**45**	*e*Pg		**Pg**	**12 24 40.5**	**-4.3**
NLU				*e*Sg		**Sg**	**12 26 00.8**	**-2.5**
WDC	**Whiskeytown Da** 14nm,0.8s	**6.12**	**323**	Pn		**Pn**	**12 24 24.1**	**+4.8**
WDC				*e*S		**Sg**	**12 25 51.8**	**-14**
TMUT	**Trail Mountain**	**6.20**	**54**	*e*Pn		**Pn**	**12 24 21.6**	**+1.2**
TMUT				*e*Pg		**Pg**	**12 24 44.7**	**-2.8**
TMUT				*e*Sg		**Sg**	**12 26 04.2**	**-3.7**
BGU	**Big Grassy Mou**	**6.27**	**34**	*e*Pn		**Pn**	**12 24 22.4**	**+1.0**
BGU				*e*Pg		**Pg**	**12 24 44.5**	**-4.5**
BGU				*e*Sg		**Sg**	**12 26 07.1**	**-3.2**
L10A	**Juniper Basin** baz=6.3	**6.33**	**8**	⇑P		**Pn**	**12 24 23.5**	**+1.3**
MPU	**Maple Canyon** 14nm,0.6s	**6.35**	**47**	*e*Pg		**Pg**	**12 24 47.5**	**-3.0**
MPU				*e*Sg		**Sg**	**12 26 08.9**	**-3.9**
MOD	**Modoc** 23nm,0.7s	**6.43**	**342**	*e*Pn		**Pn**	**12 24 23.7**	**+0.1**
MOD				*e*Pg		**Pg**	**12 24 45.2**	**-6.7**
Z17A	**San Carlos Hig** baz=6.5	**6.44**	**111**	⇓P		**Pn**	**12 24 23.9**	**+0.2**
L11A	**Cat Creek Ranc** baz=6.5	**6.52**	**13**	⇓P		**Pn**	**12 24 26.0**	**+1.2**
SRU	**San Rafael** 21nm,0.7s	**6.57**	**58**	*e*Pn		**Pn**	**12 24 26.2**	**+0.8**
SRU				*e*Pg		**Pg**	**12 24 51.0**	**-3.6**
SRU				*e*Sg		**Sg**	**12 26 17.6**	**-2.0**
Y18A	**Canyon Day Jun** baz=6.6	**6.59**	**106**	⇑P		**Pn**	**12 24 26.8**	**+1.0**
M14A	**Sheep Mountain** baz=6.6	**6.62**	**29**	⇓P		**Pn**	**12 24 26.8**	**+0.7**
L12A	**House Creek Ra** baz=6.6	**6.66**	**17**	⇑P		**Pn**	**12 24 27.5**	**+0.8**
WVOR	**Wild Horse Val** 16nm,0.9s	**6.66**	**354**	*e*Pn		**Pn**	**12 24 28.8**	**+2.0**
WVOR				*e*Pg		**Pg**	**12 24 54.1**	**-2.3**
WVOR				*e*Sg		**Sg**	**12 26 17.9**	**-4.8**
TUC	**Tucson** 9.5nm,0.8s	**6.69**	**119**	*e*Pn		**Pn**	**12 24 25.9**	**-1.2**
TUC				*e*Sg		**Sg**	**12 26 15.9**	**-7.6**
DAU	**Daniels Canyon**	**6.83**	**46**	*e*Pn		**Pn**	**12 24 32.6**	**+3.5**
DAU				*e*Pg		**Pg**	**12 24 58.7**	**-0.9**
DAU				*e*Sg		**Sg**	**12 26 26.2**	**-1.8**
JLU	**Jordanelle**	**6.84**	**44**	*e*Pn		**Pn**	**12 24 32.9**	**+3.6**
SPUT	**South Promonto**	**6.85**	**35**	*e*Pn		**Pn**	**12 24 31.7**	**+2.4**
SPUT				*e*Pg		**Pg**	**12 25 00.4**	**+0.5**
K11A	**Parker Ranch,** baz=7.0	**7.07**	**10**	⇑P		**Pn**	**12 24 33.7**	**+1.3**
HVU	**Hansel Valley** 16nm,0.7s	**7.08**	**31**	*e*Pn		**Pn**	**12 24 35.5**	**+3.0**
HVU				*e*Pg		**Pg**	**12 25 01.5**	**-3.0**
118A	**Homack Ranch,** baz=7.1,SNR=12	**7.11**	**114**	⇓P		**

SMCO	**Snowmass**	**9.14**	**65**	*e*Pn		**Pn**	**12 25 01.6**	**+0.9**
	7.4nm,0.8s							
ANMO	**Albuquerque**	**9.19**	**92**	Pn		**Pn**	**12 25 04.7**	**+3.3**
	0.1nm,0.3s,baz=287,slow=14,SNR=2.0							
ANMO				Pg		Pn	12 25 40.8	+39
	0.4nm,0.3s,baz=281,slow=13,SNR=18							
ANMO				Lg			12 27 34.8	
	0.1nm,0.3s,baz=76,slow=12,SNR=9.3							
ANMO				LR		LR	12 28 50.0	
	comp=Z,181nm,20.9s,baz=336,slow=40							
ANMO	**Albuquerque**	**9.19**	**92**	Pn		**Pn**	**12 25 04.7**	**+3.3**
ANMO				Pg		Pn	12 25 40.8	+39
ANMO				Lg			12 27 34.8	
ANMO				LR		LR	12 28 50.0	
TPAW	**Teton Pass**	**9.25**	**32**	*e*Pn		**Pn**	**12 25 06.0**	**+3.7**
	8.6nm,1.1s							
PDAR	**Pinedale Array**	**9.37**	**40**	Pn		**Pn**	**12 25 06.5**	**+2.6**
	0.1nm,0.3s,baz=225,slow=12,SNR=7.5							
PDAR				Lg			12 27 45.9	
	0.2nm,0.3s,baz=225,slow=27,SNR=7.1							
LOHW	**Long Hollow**	**9.50**	**33**	*e*Pn		**Pn**	**12 25 09.4**	**+3.7**
	8.0nm,1.0s							
IMW	**Indian Meadow**	**9.59**	**31**	*e*Pn		**Pn**	**12 25 10.6**	**+3.6**
	4.0nm,0.8s							
MCMT	**McKenzie Canyo**	**9.73**	**21**	*e*Pn		**Pn**	**12 25 13.9**	**+5.1**
DLMT	**Dillon**	**10.29**	**20**	*e*Pn		**Pn**	**12 25 22.0**	**+5.5**
	3.8nm,0.9s							
LPIG	**La Paz**	**13.28**	**149**	LR		LR	12 30 49.4	
	comp=Z,60nm,19.8s,baz=123,slow=36							
TXAR	**Lajitas Array**	**13.44**	**115**	Pn		**Pn**	**12 26 01.3**	**+1.6**
	0.3nm,0.3s,baz=293,slow=13,SNR=24							
TXAR				LR		LR	12 30 40.2	
	comp=Z,88nm,18.9s,baz=180,slow=35							
AGMN	**Agassiz Refuge**	**20.36**	**45**	*e*P		**P**	**12 27 26.3**	**+1.0**
	8.2nm,0.9s							
ULM	**Lac du Bonnet**	**21.39**	**41**	P		**P**	**12 27 36.9**	**+0.4**
	3.2nm,0.5s,mb3.9,baz=233,slow=11,SNR=5.7							
DLBC	**Dease Lake**	**24.08**	**344**	P		**P**	**12 28 04.6**	**+0.5**
	2.6nm,0.8s,mb3.7,baz=198,slow=16,SNR=2.2							
TKL	**Tuckaleechee C**	**27.43**	**80**	LR		LR	12 39 51.7	
	comp=Z,72nm,19.1s,MS3.3,baz=281,slow=37							
CMIG	**Matias Romero**	**27.51**	**127**	LR		LR	12 41 19.0	
	comp=Z,47nm,21.9s,MS3.0,baz=270,slow=40							
DOMB	**Dombas**	**73.47**	**23**	*e*P		**P**	**12 34 12.6**	**-8.5**
CLL	**Collm**	**83.06**	**29**	*e*P		**P**	**12 35 15.0**	**+0.6**
SONM	**Songino Array**	**87.89**	**332**	P		**P**	**12 35 37.5**	**-1.0**
	0.4nm,0.6s,mb3.9,baz=50,slow=3.3,SNR=3.5							
ZALV	**Zalesovo Beam**	**88.52**	**347**	P		**P**	**12 35 42.2**	**+0.7**
	0.5nm,0.5s,mb4.1,baz=12,slow=7.4,SNR=3.3							
BJI	**Beijing**	**89.72**	**322**	P		**P**	**12 35 46.3**	**-1.0**
BVAR	**Borovoye Array**	**91.26**	**355**	P		**P**	**12 35 55.4**	**+1.1**
	1.2nm,0.6s,mb4.4,baz=354,slow=3.0,SNR=5.9							
HHC	**Hu-ho-hao-te**	**91.33**	**325**	*e*P		**P**	**12 35 55.4**	**+0.6**
HHC				AP		pP	12 36 00.3	+2.1
HHC				XP		sP	12 36 02.3	+2.9
HHC				PP		PP	12 39 33.8	+2.5
HHC				SKS			12 46 24.8	
HHC				S		S	12 46 50.4	-3.4
HHC				SS		SS	12 52 56.5	-0.9
HHC				LR		LR		
	comp=N,82nm,17.1s,MS4.4							
HHC				LR		LR		
	comp=E,81nm,18.1s,MS4.4							
HHC				LR		LR		
	comp=Z,101nm,16.7s,MS4.3							
LZH	**Lanzhou**	**98.72**	**327**	*e*P		**P**	**12 36 26.5**	**-2.1**
MAW	**Mawson**	**148.15**	**180**	PKPbc		PKPbc	12 42 34.5	+0.6
	comp=Z,1.8nm,0.7s,baz=158,slow=3.7,SNR=6.8							

NEIC 24 12:39:34.9, 4475S×16744E, h5km, ML4.0(WEL), 2D,
After WEL., South Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MSZ	**Milford Sound**	**0.36**	**78**	P	Pg	12 39 42.2	+0.4
MSZ				S	Sg	12 39 46.5	+0.1
DCZ	**Deep Cove**	**0.76**	**195**	P	Pg	12 39 49.1	-0.3
DCZ				S	Sg	12 39 59.7	+0.5
MLZ	**Mavora Lakes**	**0.79**	**139**	P	Pg	12 39 50.3	+0.2
MLZ				S	Sg	12 40 00.7	+0.3
WKZ	**Wanaka**	**1.13**	**95**	↓P	Pg	12 39 56.3	-0.2
JCZ	**Jackson Bay**	**1.16**	**55**	P	Pg	12 39 56.6	-0.5
WHZ	**Wether Hill Ro**	**1.20**	**163**	P	Pg	12 39 57.3	-0.6
EAZ	**Earnscleugh**	**1.41**	**111**	P	Pg	12 40 00.9	-0.3
TUZ	**Tuapeka**	**1.96**	**129**	P	Pn	12 40 09.1	+0.3
LBZ	**Lake Benmore**	**2.00**	**80**	↓P	Pn	12 40 09.9	+0.7
FOZ	**Fox Glacier**	**2.01**	**55**	P	Pn	12 40 09.0	-0.4
ODZ	**Otahua Downs**	**2.30**	**99**	P	Pn	12 40 14.0	+0.6
RPZ	**Rata Peaks**	**2.80**	**70**	P	Pn	12 40 20.4	+0.2
WVZ	**Waitaha Valley**	**2.91**	**56**	P	Pn	12 40 19.9	-1.9
DSZ	**Denniston Nort**	**4.38**	**48**	P	Pn	12 40 40.4	-1.6
THZ	**Tophouse**	**4.98**	**55**	P	Pn	12 40 49.9	-0.4
QRZ	**Quartz Range**	**5.42**	**45**	P	Pn	12 40 54.7	-1.6

NEIC 24 13:19:56.6, 3934S×17372E, h10km, ML3.7(WEL), 2C,
After WEL., Off west coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
NWEZ	**Newall Road**	**0.13**	**60**	P	Pg	13 20 00.0	+0.4
NRZ	**Ngariki Road**	**0.17**	**89**	P	Pg	13 20 00.1	-0.1
NRZ				S	Sg	13 20 03.0	+0.3
PKE	**Pukeiti**	**0.25**	**55**	↑P	Pg	13 20 02.2	+0.5
PKE				S	Sg	13 20 05.7	+0.5
DFE	**Dawson Falls**	**0.30**	**88**	P	Pg	13 20 02.6	0.0
NEZ	**North Egmont**	**0.30**	**77**	↑P	Pg	13 20 02.8	+0.2
RAEZ	**Rainy Point**	**0.53**	**85**	P	Pg	13 20 07.1	+0.3
VRZ	**Vera Road**	**0.83**	**75**	P	Pg	13 20 12.0	-0.7
WAZ	**Wanganui**	**1.06**	**113**	P	Pg	13 20 16.4	-0.6
HIZ	**Hauiti**	**1.21**	**47**	P	Pn	13 20 18.0	-1.5
FWVZ	**Far West T-bar**	**1.42**	**87**	P	Pn	13 20 22.1	-0.4
WNVZ	**Wahianoa**	**1.46**	**90**	P	Pn	13 20 22.9	0.0
NGZ	**Ngauruhoe**	**1.47**	**84**	P	Pn	13 20 22.8	-0.3
TUVZ	**Tukino**	**1.50**	**88**	P	Pn	13 20 23.7	+0.1
TCW	**Tory Channel**	**1.92**	**167**	*e*P	Pn	13 20 30.7	+1.4
MRZ	**Mangatainoka R**	**1.94**	**133**	P	Pn	13 20 31.8	+2.1
BSWZ	**Blackbirch Sta**	**2.38**	**177**	P	Pn	13 20 39.4	+3.8
PAWZ	**Paruwai Farm**	**2.42**	**148**	P	Pn	13 20 40.3	+4.1
THZ	**Tophouse**	**2.50**	**194**	P	Pn	13 20 39.4	+2.1
DSZ	**Denniston Nort**	**2.81**	**211**	P	Pn	13 20 43.8	+2.2
KHZ	**Kahutara**	**3.08**	**182**	P	Pn	13 20 54.5	+9.3
WCZ	**Waipu Caves**	**3.43**	**8**	P	Pn	13 20 50.0	-0.1
LTZ	**Lake Taylor**	**3.61**	**197**	P	Pn	13 20 56.0	+3.5
OUZ	**Omahuta**	**4.11**	**359**	P	Pn	13 20 59.9	+0.4
ODZ	**Otahua Downs**	**6.14**	**201**	P	Pn	13 21 27.3	0.0

*IDC **24** 13:38:59.7±1.7, 3424N×14168E, h0km, mb3.4/2,*
mb1 3.4/3, mb1mx3.2/20, mbtmp3.3/3, ML3.0/1, Error
ellipse: s-maj=29.9km s-min=22.4km az=116.0
*ISCJB **24** 13:39:01.7±1.3, 3427N±004×14168E±007, h29km±8km,*
mb3.5/2, Error ellipse: s-maj=10.1km s-min=7.2km
az=178.5
*JMA **24** 13:39:01.1±0.2, 3425N×14170E, h34km±2km, M2.7*
ISC 24 13:39:01.4±1.8, 3426N±004×14165E±007, h15km±12km,
n14, σ0°68/23, mb3.5/2, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BSO1	**Boso 1**	**0.68**	**306**	P	**Pb**	**13 39 14.8**	**-0.2**
BSO1				*e*S	**Sb**	**13 39 24.9**	**+0.7**
BSO3	**Boso 3**	**1.08**	**300**	P	**Pb**	**13 39 21.6**	**-0.3**
BSO3				S	**Sb**	**13 39 35.8**	**0.0**
BSO4	**Boso 4**	**1.30**	**304**	P	**Pn**	**13 39 25.4**	**+0.3**
CHOJ	**Chosi**	**1.58**	**336**	P	**Pn**	**13 39 28.1**	**+0.8**
CHOJ				*e*S	**Sn**	**13 39 47.9**	**-1.2**
JIM2	**Oshima 3**	**1.88**	**285**	P	**Pn**	**13 39 31.9**	**-1.2**
JHJ2	**Mitsune**	**1.91**	**234**	P	**Pn**	**13 39 33.7**	**+0.3**
JHJ2				*e*S	**Sn**	**13 39 56.5**	**-0.7**
JHJ	**Hachijo jima 2**	**1.92**	**234**	Pn	**Pn**	**13 39 33.5**	**-0.2**
	22nm,0.3s,baz=54,slow=22,SNR=12						
JHJ				Sn	**Sn**	**13 39 57.9**	**+0.3**
	30nm,0.3s,baz=246,slow=20,SNR=3.5						
JKO	**Kozu shima**	**2.08**	**269**	P	**Pn**	**13 39 35.8**	**0.0**
JIZS	**Izushimoda**	**2.33**	**282**	P	**Pn**	**13 39 38.5**	**-0.7**
JIZS				*e*S	**Sn**	**13 40 07.5**	**-0.1**
JOD2	**Odawara 2**	**2.33**	**296**	P	**Pn**	**13 39 38.8**	**-0.4**
JOD2				*e*S	**Sn**	**13 40 07.4**	**-0.2**
MJAR	**Matsushiro Arr**	**3.61**	**310**	Pn	**Pn**	**13 39 58.0**	**+1.1**
	1.1nm,0.3s,baz=144,slow=11,SNR=10.0						
MJAR				Sn	**Sn**	**13 40 40.4**	**+1.1**
	1.2nm,0.3s,baz=141,slow=12,SNR=6.2						
MAT	**Matsushiro**	**3.62**	**310**	P	**Pn**	**13 39 58.3**	**+1.4**
MAT				S	**Sn**	**13 40 39.3**	**0.0**
PETK	**Petropavlovsk-**	**22.04**	**26**	P	**P**	**13 43 55.2**	**0.0**
	3.9nm,1.0s,mb3.8,baz=220,slow=13,SNR=2.3						
ASAR	**Alice Springs**	**58.07**	**188**	P	**P**	**13 48 54.9**	**+0.8**
	0.1nm,0.3s,mb3.3,baz=14,slow=8.1,SNR=4.1						

*ISCJB **24** 13:47:49.4±0.4, 4966N±002×12096W±002, h10km, Error*
ellipse: s-maj=3.2km s-min=2.1km az=6.0
*PGC **24** 13:47:50.0, 4965N×12094W, h1km, ML2.7, 36km Wnw of*
Princeton, Bc British Columbia
*NEIC **24** 13:47:50.0, 4965N×12094W, h1km, MD3.2(SEA),*
ML2.7(PGC), After PGC.
ISC 24 13:47:49.5±0.4, 4965N±002×12095W±002, h10km, n50,
σ1°§10/85, 22C-25D, British Columbia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HOPB	**Hope**	**0.40**	**230**	↓↑P	**Pg**	**13 47 57.6**	**+0.2**
HOPB				↑S	**Sg**	**13 48 02.9**	**+0.2**
A06A	**Chilliwack**	**0.65**	**212**	↑P	**Pg**	**13 48 01.7**	**-0.3**
	baz=0.7,SNR=42						
A06A				↑S	**Sg**	**13 48 10.1**	**-0.4**
	baz=0.7						
A07A	**Ashnola River,**	**0.71**	**148**	↑P	**Pg**	**13 48 02.0**	**-1.1**
	baz=0.7,SNR=175						
A07A				↓S	**Sg**	**13 48 11.4**	**-0.9**
	baz=0.7						
PNT	**Penticton**	**0.93**	**110**	↓P	**Pg**	**13 48 06.4**	**-1.0**
PNT				↓S	**Sg**	**13 48 18.1**	**-1.4**
VDB	**Vedder Mountai**	**0.98**	**231**	P	**Pg**	**13 48 07.8**	**-0.4**
VDB				↑S	**Sg**	**13 48 20.5**	**-0.4**
A05A	**Maple Falls**	**0.98**	**229**	P	**Pg**	**13 48 08.2**	**-0.3**
	baz=1.0,SNR=525						
A05A				↓S	**Sg**	**13 48 21.0**	**-0.3**
	baz=1.0						
HNB	**Haney**	**1.12**	**251**	P	**Pb**	**13 48 10.3**	**-0.7**
HNB				↓S	**Sb**	**13 48 24.7**	**-1.0**
LLLB	**Lillooet**	**1.13**	**329**	↓P	**Pb**	**13 48 10.5**	**-0.6**
LLLB				↓S	**Sb**	**13 48 25.6**	**-0.3**
B06A	**Marblemount**	**1.18**	**197**	↑P	**Pb**	**13 48 11.4**	**-0.6**
	baz=1.2,SNR=45						
B06A				↓S	**Sb**	**13 48 26.6**	**-0.7**
	baz=1.2						
RPW	**Rockport**	**1.26**	**197**	*e*P	**Pn**	**13 48 12.7**	**-0.3**
RPW				*e*S	**Sb**	**13 48 28.9**	**-0.5**
A08A	**Turner Farm, O**	**1.30**	**122**	↑P	**Pn**	**13 48 13.0**	**-0.7**
	baz=1.3,SNR=31						
A08A				↑S	**Sb**	**13 48 30.3**	**-0.4**
	baz=1.3						
B07A	**Winthrop**	**1.31**	**155**	↑P	**Pn**	**13 48 13.1**	**-0.7**
	baz=1.3,SNR=383						
B07A				↓S	**Sb**	**13 48 30.5**	**-0.4**
	baz=1.3						
WSLR	**Whistler**	**1.36**	**291**	↓P	**Pn**	**13 48 14.6**	**+0.1**
WSLR				↓S	**Sb**	**13 48 32.1**	**-0.3**
A04A	**Legoe Bay, Lum**	**1.48**	**232**	↑P	**Pn**	**13 48 16.2**	**+0.1**
	baz=1.5,SNR=49						
A04A				↓S	**Sn**	**13 48 36.1**	**+0.6**
	baz=1.5						
BIB	**Bowen Island**	**1.55**	**262**	↑P	**Pn**	**13 48 17.6**	**+0.5**
B05A	**Bryant**	**1.58**	**209**	↑P	**Pn**	**13 48 17.7**	**+0.3**
	baz=1.6,SNR=59						
B05A				↓S	**Sn**	**13 48 37.8**	**-0.1**
	baz=1.6						
JCW	**Jim Creek**	**1.59**	**204**	*e*Pn	**Pn**	**13 48 18.7**	**+1.0**
JCW				*e*Sn	**Sn**	**13 48 38.1**	**-0.1**
JCW				*e*Sg	**Sg**	**13 48 40.1**	**-0.5**
B08A	**Colville Reser**	**1.67**	**140**	↓P	**Pn**	**13 48 18.3**	**-0.5**
	baz=1.6,SNR=94						
A09A	**Danville**	**1.69**	**113**	↓P	**Pn**	**13 48 18.8**	**-0.2**
	baz=1.6,SNR=36						
A09A				↓Sb	**Sb**	**13 48 42.3**	**+0.5**
	baz=1.6						
SNB	**Saturna Island**	**1.70**	**240**	↑Pn	**Pn**	**13 48 20.4**	**+1.3**
SNB				↑Sg	**Sg**	**13 48 42.6**	**-1.4**
C06A	**Tall Timber Ra**	**1.73**	**179**	↑P	**Pn**	**13 48 19.7**	**-0.2**
	baz=1.7,SNR=28						
C06A				↓Sb	**Sb**	**13 48 43.4**	**+0.5**
	baz=1.7						
GOBB	**Galiano Island**	**1.81**	**248**	↓Pn	**Pn**	**13 48 22.0**	**+1.3**
SHB	**Sechelt**	**1.90**	**270**	↓Pn	**Pn**	**13 48 24.1**	**+2.2**
SHB				↑Sg	**Sg**	**13 48 48.8**	**-1.7**
PGC	**Sidney**	**1.92**	**240**	*e*Pn	**Pn**	**13 48 23.3**	**+1.2**
PGC				*e*Sn	**Sn**	**13 48 46.5**	**+0.2**
C05A	**Tolt Reservoir**	**2.01**	**194**	↓Sb	**Sb**	**13 48 52.0**	**+0.8**
	baz=2.0						
C07A	**Waterville**	**2.05**	**163**	↑P	**Pn**	**13 48 23.6**	**-0.3**
	baz=2.0,SNR=49						
C07A				↑Sb	**Sb**	**13 48 53.6**	**+1.5**
	baz=2.0						
ETW	**Entiat**	**2.09**	**168**	*e*Pn	**Pn**	**13 48 24.6**	**+0.2**
ETW				*e*Sg	**Sg**	**13 48 54.2**	**-2.3**
B09A	**Rice**	**2.21**	**123**	↑Sb	**Sb**	**13 48 57.5**	**+0.5**
	baz=2.2						
C08A	**Higginbotham F**	**2.25**	**145**	↓Sb	**Sb**	**13 48 58.8**	**+0.8**
	baz=2.2						
B04A	**Port Angeles**	**2.32**	**228**	↑S	**Sn**	**13 48 57.2**	**+1.1**
	baz=2.3						
A10A	**Northport**	**2.32**	**105**	↓S	**Sn**	**13 48 55.1**	**-1.1**
	baz=2.3						
C04A	**Brinnon**	**2.35**	**215**	↓Sb	**Sb**	**13 49 02.0**	**+1.2**
	baz=2.4						
GNW	**Green Mountain**	**2.43**	**212**	*e*Pg	**Pg**	**13 48 31.8**	**-4.2**
D06A	**Cle Elum**	**2.46**	**178**	↑Sb	**Sb**	**13 49 05.4**	**+1.5**
	baz=2.4						
D05A	**Enumclaw**	**2.56**	**196**	↑Sb	**Sb**	**13 49 08.6**	**+1.8**
	baz=2.5						
OD2	**Odessa Site #2**	**2.71**	**146**	*e*Pn	**Pn**	**13 48 32.7**	**-0.3**
OD2				*e*Pg	**Pg**	**13 48 38.0**	**-3.3**
OD2				*e*Sg	**Sg**	**13 49 12.8**	**-3.6**
B10A	**Chitwood Farm,**	**2.80**	**117**	↑Sb	**Sb**	**13 49 14.8**	**+0.9**
	baz=2.8						
NEW	**Newport**	**2.88**	**117**	*e*Pn	**Pn**	**13 48 35.9**	**+0.5**
NEW				*e*Pg	**Pg**	**13 48 40.4**	**-4.3**
NEW				*e*Sg	**Sg**	**13 49 16.9**	**-5.0**
LON	**Longmire**	**2.96**	**192**	Pg	**Pg**	**13 48 41.7**	**-4.4**
LON				*e*Sg	**Sg**	**13 49 18.8**	**-5.6**
C10A	**Spilker Farm,**	**3.03**	**126**	↑Sb	**Sb**	**13 49 21.3**	**+0.9**
	baz=3.0						
A11A	**Hall Mountain,**	**3.08**	**101**	↑Sb	**Sb**	**13 49 23.6**	**+1.7**
	baz=3.0						
E06A	**Yakima**	**3.11**	**180**	↑Sb	**Sb**	**13 49 24.6**	**+1.9**
	baz=3.1						
D09A	**Jones Farm, Ri**	**3.13**	**145**	↑Sb	**Sb**	**13 49 25.4**	**+2.0**
	baz=3.1						
E05A	**Randle**	**3.14**	**190**	↓Sb	**Sb**	**13 49 25.2**	**+1.7**
	baz=3.1						
B11A	**Sandpoint**	**3.25**	**110**	↑Sb	**Sb**	**13 49 28.7**	**+1.9**
	baz=3.2						
RSW	**Rattlesnake Hi**	**3.38**	**164**	Pn	**Pn**	**13 48 43.4**	**+1.2**
RSW				*e*Pg	**Pg**	**13 48 51.9**	**-2.3**
RSW				*e*Sg	**Sg**	**13 49 35.6**	**-2.4**
HAWA	**Hanford**	**3.39**	**163**	Pn	**Pn**	**13 48 44.0**	**+1.6**
HAWA				*e*Pg	**Pg**	**13 48 51.8**	**-2.6**
HAWA				*e*Sg	**Sg**	**13 49 34.3**	**-4.1**
LNOR	**Lincton Mounta**	**4.18**	**154**	Pn	**Pn**	**13 48 53.2**	**-0.1**
LNOR				*e*Pg	**Pg**	**13 49 07.3**	**-2.3**
LNOR				*e*Sg	**Sg**	**13 50 02.1**	**-1.7**
WALA	**Waterton Lakes**	**4.64**	**95**	*e*Sg	**Sg**	**13 50 12.5**	**-5.9**
BMO	**Blue Mountains**	**5.40**	**151**	*e*Pn	**Pn**	**13 49 10.8**	**+0.8**
	2.1nm,0.4s						

CASC 24 14:24:06.5±1.8, 1045N×8656W, h21km±5km, MD4.0,
4C-2D, Off coast of Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SSN	**San Juan del S**	**1.09**	**39**	*e*P	Pn	14 24 25.9	-0.7
2RIO	**Dos Rios de Up**	**1.31**	**87**	↑*i*P	Pn	14 24 29.0	-0.5
2RIO				*e*S	Sn	14 24 46.3	-0.2
CUI	**Cuipilapa**	**1.38**	**81**	↑*i*P	Pn	14 24 30.3	-0.2
CUI				*e*S	Sn	14 24 48.2	+0.1
CONN	**Concepcion**	**1.44**	**40**	↑*e*P	Pn	14 24 31.3	-0.1
CRUN	**El Crucero**	**1.54**	**9**	*e*P	Pn	14 24 33.0	+0.2
JCR	**Jicaral**	**1.55**	**113**	*e*P	Pn	14 24 32.7	-0.2
TICN	**Ticuantepe**	**1.60**	**12**	*e*P	Pn	14 24 34.1	+0.4
CAO	**Cobano**	**1.62**	**117**	↓*e*P	Pn	14 24 33.4	-0.4
COPN	**Copaltepe**	**1.72**	**359**	↓*e*P	Pn	14 24 34.7	-0.6
COPN				*e*S	Sn	14 24 58.5	+2.0
CSAN		**1.73**	**4**	*e*P	Pn	14 24 34.4	-0.9
APYN	**Apoyeque**	**1.78**	**7**	*e*P	Pn	14 24 35.9	-0.2
HUEN		**1.91**	**11**	*e*P	Pn	14 24 37.5	-0.4
CGA2	**Cerro Gallo 2**	**2.11**	**102**	*e*P	Pn	14 24 41.5	+0.9
PRS1	**Puriscal**	**2.26**	**102**	*e*P	Pn	14 24 44.1	+1.4
PRS1				*e*S	Sn	14 25 09.2	-0.8
URSC	**Urasca**	**2.81**	**102**	*e*P	Pn	14 24 52.0	+1.8
BUS	**Buena Vista**	**2.90**	**108**	*e*P	Pn	14 24 52.6	+1.1
CNCH	**Conchagua**	**3.07**	**336**	*e*P	x	14 24 53.5	
LAPE	**La Pedrera**	**15.08**	**100**	↑*i*P		14 24 26.6	
LAPE				*e*S		14 24 42.6	

*NIED **24** 14:43:00, 2320N×12550E, h8km, Mw3.7 Best double*
couple: M0≈4.28000×10^14 NP1:φ≈273.00000°, δ63.00000°,
λ-79.00000°. NP2:φ≈69.00000°, δ29.00000°,
λ-111.00000°.
JMA 24 14:43:03.1±0.3, 2318N×12548E, h51km, M3.7,
Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JOGS	**Gusukube**	**1.57**	**358**	P	Pn	14 43 29.2	+0.6
JOGS				*e*S	Sn	14 43 49.3	+1.4
JTJ	**Tarama**	**1.62**	**334**	P	Pn	14 43 30.1	+0.9
JTJ				*e*S	Sn	14 43 49.5	+0.5
JMJ	**Miyako jima 2**	**1.64**	**354**	P	Pn	14 43 30.2	+0.7
JMJ				*e*S	Sn	14 43 50.6	+1.2
JIJ	**Ishigaki jima**	**1.70**	**314**	P	Pn	14 43 31.1	+0.8
JIJ				*e*S	Sn	14 43 51.0	+0.1
JKRS	**Kuro-shima**	**1.71**	**308**	P	Pn	14 43 31.6	+1.1
JKRS				*e*S	Sn	14 43 51.9	+0.7
HATJ	**Hateruma jima**	**1.77**	**300**	P	Pn	14 43 31.7	+0.4
HATJ				*e*S	Sn	14 43 53.3	+0.7
IRIF	**Iriomote-Funau**	**1.97**	**306**	P	Pn	14 43 35.1	+1.0
IRIF				*e*S	Sn	14 43 58.5	+0.9
YOJ	**Yonaguni jima**	**2.60**	**300**	P	Pn	14 43 43.9	+1.3
YOJ				*e*S	Sn	14 44 12.8	-0.2
JKE	**Kume jima 2**	**3.35**	**20**	P	Pn	14 43 51.8	-1.1
JJT2	**Tamagusuku 2**	**3.60**	**35**	P	Pn	14 43 55.1	-1.2
JAGN	**Aguni-jima**	**3.75**	**25**	P	Pn	14 43 57.2	-1.3
JOW	**Kunigami**	**4.43**	**34**	P	Pn	14 44 07.0	-0.8
JOW				*e*S	Sn	14 44 53.8	-4.3
JIH	**Iheya**	**4.45**	**30**	P	Pn	14 44 07.2	-0.9
JTK	**Tokunoshima**	**5.55**	**34**	P	Pn	14 44 21.8	-1.4
JAM	**Amami Oshima**	**6.40**	**35**	P	Pn	14 44 33.0	-1.8
JAM				*e*S	Sn	14 45 39.6	-6.9

*NIED **24** 15:21:00, 4470N×14120E, h280km, Mw3.8 Best double*
couple: M0≈5.48000×10^14 NP1:φ≈271.00000°, δ53.00000°,
λ-79.00000°. NP2:φ≈73.00000°, δ38.00000°,
λ-104.00000°.
*ISCJB **24** 15:21:12.9±0.3, 4473N±003×14108E±006, h265km±3km,*
mb3.5/10, Error ellipse: s-maj=7.5km s-min=5.4km
az=170.6
*MOS **24** 15:21:12.4±0.9, 4476N×14093E, h252km, mb3.6/6, Error*
ellipse: s-maj=16.8km s-min=10.1km az=110.7
*IDC **24** 15:21:13.1±0.5, 4476N×14109E, h251km±7km, mb3.3/10,*
mb1 3.4/12, mb1mx3.3/22, mbtmp3.3/12, Error ellipse:
s-maj=17.6km s-min=14.9km az=37.0
*JMA **24** 15:21:13.2±0.2, 4474N×14123E, h274km±2km, M3.6*
*NEIC **24** 15:21:13.6±0.6, 4467N×14112E, h259km±7km, mb3.9/1,*
Error ellipse: s-maj=10.2km s-min=8.4km az=128.0
ISC 24 15:21:13.8±0.3, 4469N±003×14105E±007, h261km±3km,
n58, σ1°§08/76, mb3.5/10, 1C-2D, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JYG	**Yagishiri**	**0.38**	**135**	P	**Pn**	**15 21 48.4**	**+0.8**
JYG				*e*S	**S**	**15 22 15.7**	**+1.6**
JRR	**Rishiri**	**0.48**	**22**	P	**Pn**	**15 21 48.8**	**+1.1**
JSS	**Shosan**	**0.64**	**117**	P	**Pn**	**15 21 49.5**	**+1.2**
JSS				*e*S	**S**	**15 22 17.4**	**+1.9**
JWK2	**Keihoku**	**0.86**	**44**	P	**Pn**	**15 21 49.4**	**+0.3**
JWK2				*e*S	**S**	**15 22 16.7**	**-0.4**
JHR	**Hokuryu**	**1.06**	**153**	P	**Pn**	**15 21 51.8**	**+1.5**
JSE	**Soyaes**	**1.12**	**76**	P	**Pn**	**15 21 50.2**	**-0.3**
JSE				*e*S	**S**	**15 22 18.8**	**-0.7**
ASAJ	**Asahikawa**	**1.25**	**117**	P	**Pn**	**15 21 51.2**	**-0.1**

	comp=Z,2.0nm,0.5s,mb3.6,baz=71,slow=8.6,SNR=9.0						
KURK	**Kurchatov**	**41.33 301**	P	**P**	**15 28 35.0**	**+1.0**	
KURK			pmax	pmax			
	comp=Z,2.0nm,0.5s,mb3.6						
BVAR	**Borovoye Array**	**45.48 307**	P	**P**	**15 29 06.1**	**-0.8**	
	comp=Z,0.7nm,0.4s,mb3.2,baz=77,slow=8.5,SNR=7.5						
BVAR	**Borovoye Array**	**45.48 307**	P	**P**	**15 29 06.1**	**-0.8**	
BVAR			pmax	pmax			
	comp=Z,1.0nm,0.4s						
ARU	**Arti**	**50.61 315**⇑	*e*P	**P**	**15 29 45.9**	**-0.1**	
ARU			pmax	pmax			
	comp=Z,9.0nm,1.3s,mb3.9						
HFS	**Hagfors**	**67.03 334**	P	**P**	**15 31 37.2**	**-1.3**	
	comp=Z,0.6nm,0.3s,mb3.7,baz=46,slow=6.2,SNR=8.3						
HFS	**Hagfors**	**67.03 334**	P	**P**	**15 31 37.2**	**-1.3**	
HFS			pmax	pmax			
	comp=Z,1.0nm,0.4s						
AKASG	**Malin Array Be**	**68.14 321**	P	**P**	**15 31 45.4**	**-0.1**	
	comp=Z,0.2nm,0.3s,mb3.4,baz=40,slow=6.3,SNR=3.4						
ASAR	**Alice Springs**	**68.34 187**	P	**P**	**15 31 47.9**	**+0.9**	
	comp=Z,0.8nm,0.6s,mb3.7,baz=360,slow=5.0,SNR=25						
ASAR	**Alice Springs**	**68.34 187**	*e*P	**P**	**15 31 48.1**	**+1.1**	
ASAR			pmax	pmax			
	comp=Z,1.0nm,0.6s						
PDAR	**Pinedale Array**	**72.55 47**	P	**P**	**15 32 12.7**	**+0.4**	
	comp=Z,0.7nm,0.5s,mb3.5,baz=274,slow=1.8,SNR=8.1						
TXAR	**Lajitas Array**	**85.66 52**	P	**P**	**15 33 23.4**	**+0.1**	
	comp=Z,0.2nm,0.8s,baz=266,slow=3.3,SNR=3.4						
TXAR	**Lajitas Array**	**85.66 52**	*e*P	**P**	**15 33 25.4**	**+2.1**	
SNAA	**Sanae**	**147.91 201**	*e*	PKPbc	15 40 26.9	+0.2	
SNAA			*e*		15 40 27.9		
VNA2	**Neumayer--Watz**	**149.52 200**	*e*	PKPbc	15 40 31.3	+0.5	
	baz=119,slow=1.6						
VNA2			*e*		15 40 32.9		
VNA3	**Neumayer Olymp**	**149.82 198**	*e*	PKPbc	15 40 31.9	+0.4	
VNA3			*e*		15 40 33.3		
VNA1	**Neumayer--Stat**	**149.91 200**	*e*	PKPbc	15 40 30.9	-0.8	
VNA1			*e*		15 40 32.3		

*ISCJB **24** 15:22:04.5±0.5, 5024N±004×1877E±003, h0km, Error ellipse: s-maj=5.5km s-min=2.8km az=12.4*
*IPEC **24** 15:22:05.0±0.1, 5023N×1880E, h2km±1km, ML1.9/3, Error ellipse: s-maj=2.2km s-min=0.7km az=165.0*
*WAR **24** 15:22:05.0, 5023N×1881E, ML2.5, Mining Induced*
*PRU **24** 15:22:05.8, 5028N×1868E, h0km*
*CSEM **24** 15:22:07.6±0.4, 5021N×1860E, h0km±1km, ML2.9/4, Error ellipse: s-maj=7.5km s-min=3.1km az=6.0*

ISC 24 15:22:05.2±0.5,**5024N**±004×**1874E**±003,**h0**km,**n22,** σ1ᵗ**15**/37,**Poland**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
OKC	**Ostrava-Krasne**	**0.56**	**224**	*e*Pg		**Pg**	**15 22 16.4**	**+0.6**
OKC				*e*Sg		**Sg**	**15 22 23.9**	**+0.9**
OKC	**Ostrava-Krasne**	**0.56**	**224**	*e*PG		**Pg**	**15 22 16.4**	**+0.6**
OKC				*e*SG		**Sg**	**15 22 24.1**	**+1.1**
	23nm,0.4s							
OJC	**Ojcow**	**0.68**	**91**	*e*Pg		**Pg**	**15 22 17.1**	**-1.1**
OJC				*e*Sg		**Sg**	**15 22 26.3**	**-0.7**
OJC	**Ojcow**	**0.68**	**91**	*e*Pg		**Pg**	**15 22 17.2**	**-1.0**
OJC				*e*Sg		**Sg**	**15 22 25.3**	**-1.7**
MORC	**Moravsky Berou**	**0.90**	**240**	*e*Pg		**Pg**	**15 22 22.3**	**-0.2**
MORC				*e*Sg		**Sg**	**15 22 34.6**	**+0.5**
	23nm,0.3s							
NIE	**Niedzica**	**1.31**	**128**	*e*Pg		**Pg**	**15 22 29.2**	**-1.1**
NIE				*e*Sg		**Sg**	**15 22 47.8**	**+0.6**
JAVC	**Velka Javorina**	**1.55**	**207**	*e*Pn		**Pn**	**15 22 33.8**	**-0.2**
DPC	**Dobruska-Polom**	**1.56**	**275**	*e*Pn		**Pn**	**15 22 34.2**	**+0.1**
DPC				*e*Sn		**Sn**	**15 22 54.9**	**0.0**
DPC	**Dobruska-Polom**	**1.56**	**275**	*e*PG		**Pn**	**15 22 32.4**	**-1.7**
DPC				*e*SG		**Sn**	**15 22 54.2**	**-0.7**
	21nm,0.5s							
KSP	**Ksiaz**	**1.67**	**292**	*e*Pn		**Pn**	**15 22 37.7**	**+2.0**
KSP				*e*Sn		**Sn**	**15 23 00.1**	**+2.2**
KSP	**Ksiaz**	**1.67**	**292**	*e*Pg		**Pg**	**15 22 37.7**	**+0.4**
KSP				*e*Sg		**Sg**	**15 22 59.7**	**+0.7**
VRAC	**Vranov**	**1.68**	**237**	*e*Pn		**Pn**	**15 22 35.8**	**+0.1**
VRAC				*e*Sg		**Sn**	**15 22 57.3**	**-0.6**
	10nm,0.3s							
VYHS	**Vyhne**	**1.75**	**178**	*e*PN		**Pn**	**15 22 35.5**	**-1.2**
VYHS				*e*SN		**Sg**	**15 23 03.2**	**+1.9**
UPC	**Upice**	**1.77**	**280**	*e*SG		**Sn**	**15 22 59.4**	**-0.8**
STHS	**Stebnicka Huta**	**1.82**	**116**	*e*PN		**Pn**	**15 22 38.7**	**+1.0**
STHS				*e*SN		**Sg**	**15 23 03.6**	**0.0**
KRUC	**Moravsky**	**1.93**	**233**	*e*Pn		**Pn**	**15 22 39.5**	**+0.3**
KRUC				*e*Sg		**Sg**	**15 23 05.1**	**-2.0**
	5.3nm,0.3s							
CRVS	**Cervenica-Dubn**	**2.22**	**126**	*e*PN		**Pn**	**15 22 45.1**	**+1.9**
CRVS				*e*SN		**Sg**	**15 23 15.1**	**-1.4**
KOLS	**Kolonicke sedl**	**2.65**	**118**	*e*PN		**Pn**	**15 22 50.2**	**+1.1**
PRU	**Pruhonice**	**2.71**	**266**	*e*SG		**Sn**	**15 23 29.3**	**+5.8**
BRG	**Berggiesshubel**	**3.12**	**284**	SG		**Sg**	**15 23 44.1**	**-1.4**
	4.3nm,0.6s							
KHC	**Kasperske Hory**	**3.53**	**254**	*e*SG		**Sg**	**15 23 55.9**	**-2.7**
	9.5nm,0.5s							
CLL	**Collm**	**3.80**	**289**	*e*Sg		**Sg**	**15 24 07.0**	**-0.1**

*JMA **24** 15:52:25.3±0.6, 4690N×15267E, h30km, M4.3*
*ISCJB **24** 15:52:26.4±1.1, 465N±0.1×1527E±0.1, h62km±10km, mb3.6/8, Error ellipse: s-maj=23.5km s-min=7.2km az=139.3*
*MOS **24** 15:52:27.4±1.9, 4661N×15278E, h66km, mb4.5/3, Error ellipse: s-maj=15.7km s-min=12.0km az=54.3*
*NEIC **24** 15:52:32.0±1.7, 4684N×15251E, h84km±13km, Error ellipse: s-maj=22.5km s-min=12.3km az=151.0*
*IDC **24** 15:52:32.1±3.0, 4686N×15253E, h86km±26km, mb3.3/8, mb1 3.5/10, mb1mx3.5/19, mbtmp3.4/10, MS2.8/1, Ms1 2.8/1, ms1mx1.7/22, Error ellipse: s-maj=29.0km s-min=19.6km az=133.0*

ISC 24 15:52:28.7±0.9,**465N**±01×**1526E**±01,**h63**km±9km,**n45,** σ1ᵗ**49**/56,**mb3.6**/8,**1C**,**Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**4.75**	**28**	*e*PN		**Pn**	**15 53 36.0**	**-1.6**
SKR				*e*S		**Sn**	**15 54 25.4**	**-5.9**
SKR				smax				
	comp=E,80nm,0.6s							
SKR				smax				
	comp=N,80nm,0.4s							
YUK	**Yuzh-Kuril'sk**	**5.39**	**245**	*e*PN		**Pn**	**15 53 47.8**	**+1.3**
YUK				*e*S		**Sn**	**15 54 49.7**	**+2.5**
YUK				smax				
	comp=N,190nm,0.5s							
YUK				smax				
	comp=E,270nm,0.7s							
NEM2	**Nemuro 2**	**5.83**	**240**	P		**Pn**	**15 53 51.6**	**-0.9**
NEM2				*e*S		**Sn**	**15 54 55.3**	**-2.6**
JRA	**Rausu**	**5.91**	**247**	P		**Pn**	**15 53 55.5**	**+2.0**
JNK	**Nakash**	**6.34**	**245**	P		**Pn**	**15 54 00.6**	**+1.2**
JNK				*e*S		**Sn**	**15 55 11.2**	**+0.9**
JAK	**Akkeshi**	**6.67**	**241**	P		**Pn**	**15 54 03.2**	**-0.7**
JAK				*e*S		**Sn**	**15 55 15.2**	**-3.2**
JTKR	**Abashiri--Toko**	**6.67**	**251**	P		**Pn**	**15 54 06.0**	**+2.0**
YSS	**Yuzh-Sakhalins**	**6.80**	**277**⇑	*e*PN		**Pn**	**15 54 09.3**	**+3.5**
YSS	**Yuzh-Sakhalins**	**6.80**	**277**	*e*P		**Pn**	**15 54 07.5**	**+1.7**
JAR	**Ashorobuto**	**7.08**	**246**	P		**Pn**	**15 54 10.7**	**+1.2**
JAR				*e*S		**Sn**	**15 55 27.9**	**-0.6**
JOB	**Onbets**	**7.24**	**243**	P		**Pn**	**15 54 11.8**	**0.0**
JOB				*e*S		**Sn**	**15 55 30.5**	**-2.1**
PETK	**Petropavlovsk-**	**7.35**	**25**	P		**Pn**	**15 54 13.2**	**0.0**
	comp=E,0.2nm,0.3s,baz=178,slow=11,SNR=10							
JKK2	**Kamakawa 2**	**7.47**	**253**	P		**Pn**	**15 54 17.4**	**+2.4**
ASAJ	**Asahikawa**	**7.48**	**255**	P		**Pn**	**15 54 17.9**	**+2.8**
	comp=E,0.9nm,0.3s,baz=97,slow=3.3,SNR=8.5							
ASAJ	**Asahikawa**	**7.48**	**255**	PN		**Pn**	**15 54 17.9**	**+2.9**
ASAJ				pmax		pmax		
	comp=Z,1.0nm,0.3s							
JCH	**Churui**	**7.69**	**243**	P		**Pn**	**15 54 17.6**	**-0.4**
JCH				*e*S		**Sn**	**15 55 39.9**	**-3.7**
ERM	**Erimo**	**8.16**	**240**	*i* PN		**Pn**	**15 54 25.5**	**+1.1**
JNBK	**Urakawa-nobuka**	**8.26**	**243**	P		**Pn**	**15 54 24.5**	**-1.1**
JNBK				*e*S		**Sn**	**15 55 52.8**	**-4.5**
JNB	**Noboribetsu**	**9.23**	**248**	P		**Pn**	**15 54 39.3**	**+0.3**
JKB	**Kayabe**	**9.54**	**245**	P		**Pn**	**15 54 42.1**	**-1.1**
JKB				*e*S		**Sn**	**15 56 23.0**	**-5.7**
JSH	**Shimam**	**9.79**	**251**	P		**Pn**	**15 54 47.6**	**+1.0**
JYM2	**Yakumo 2**	**9.84**	**248**	P		**Pn**	**15 54 47.0**	**-0.2**
JTM	**Tenmabayashi**	**10.16**	**240**	P		**Pn**	**15 54 49.7**	**-1.9**
JANG	**Nango**	**10.16**	**237**	P		**Pn**	**15 54 48.3**	**-3.4**
JANG				*e*S		**Sn**	**15 56 35.2**	**-8.7**
JTH	**Tanohata**	**10.25**	**234**	*e*S		**Sn**	**15 56 36.2**	**-10**
JOSM	**Okushiri--Mats**	**10.43**	**249**	P		**Pn**	**15 54 55.2**	**-0.1**
JRG	**Rokugo**	**11.32**	**235**	P		**Pn**	**15 55 05.5**	**-1.9**
JRG				*e*S		**Sn**	**15 57 04.7**	**-7.5**
JIO	**Ouri**	**11.59**	**230**	*e*S		**Sn**	**15 57 09.4**	**-10**
MJAR	**Matsushiro Arr**	**14.69**	**232**	LR		LR	16 02 15.7	
	comp=Z,34nm,18.4s,baz=250,slow=39							
YAK	**Yakutsk**	**20.33**	**328**	*i* P		**P**	**15 57 02.9**	**+3.6**
YAK				pmax		pmax		
	comp=Z,4.0nm,0.6s							
KSRS	**Korea Array**	**20.42**	**252**	P		**P**	**15 57 04.0**	**+3.5**
	comp=Z,1.2nm,0.7s,baz=50,slow=9.0,SNR=5.2							
KSRS	**Korea Array**	**20.42**	**252**	P		**P**	**15 57 04.1**	**+3.6**
KSRS				pmax		pmax		
	comp=Z,1.0nm,0.7s							
SONM	**Songino Array**	**31.10**	**290**	P		**P**	**15 58 45.2**	**+4.4**
	comp=Z,0.3nm,0.7s,mb3.3,baz=108,slow=7.7,SNR=3.1							
ZALV	**Zalesovo Beam**	**42.47**	**306**	P		**P**	**16 00 15.4**	**-1.8**
	comp=Z,0.4nm,0.3s,mb3.5,baz=76,slow=6.1,SNR=2.3							
MK31	**Makanchi Array**	**46.75**	**297**	P		**P**	**16 00 51.3**	**0.0**
MKAR	**Makanchi Array**	**46.75**	**297**	P		**P**	**16 00 51.1**	**-0.2**
	comp=Z,0.3nm,0.5s,mb3.5,baz=64,slow=5.5,SNR=3.9							
CMAR	**Chiang Mai Arr**	**52.00**	**256**	P		**P**	**16 01 33.6**	**+2.0**
	comp=Z,0.4nm,0.8s,mb3.4,baz=30,slow=7.3,SNR=3.3							
NOA	**NORSAR Array B**	**68.33**	**341**	P		**P**	**16 03 21.8**	**-0.9**
	comp=Z,0.9nm,0.5s,mb4.1,baz=26,slow=6.3,SNR=5.6							
NOA	**NORSAR Array B**	**68.33**	**341**	P		**P**	**16 03 21.8**	**-0.9**
NOA				pmax		pmax		
	comp=Z,1.0nm,0.5s							
AKASG	**Malin Array Be**	**71.54**	**326**	P		**P**	**16 03 41.0**	**-1.6**
	comp=Z,0.9nm,0.3s,mb4.1,baz=35,slow=5.5,SNR=3.3							
AKASG	**Malin Array Be**	**71.54**	**326**	P		**P**	**16 03 41.0**	**-1.6**
AKASG				pmax		pmax		
	comp=Z,1.0nm,0.3s							
ASAR	**Alice Springs**	**71.90**	**198**	P		**P**	**16 03 46.6**	**+1.8**
	comp=Z,0.2nm,0.4s,mb3.4,baz=16,slow=5.9,SNR=6.1							
ASAR	**Alice Springs**	**71.90**	**198**	*e*P		**P**	**16 03 47.3**	**+2.4**
TXAR	**Lajitas Array**	**77.88**	**60**	P		**P**	**16 04 20.8**	**+1.2**
	comp=Z,0.3nm,0.5s,mb3.5,baz=317,slow=5.3,SNR=3.6							
TXAR	**Lajitas Array**	**77.88**	**60**	*e*P		**P**	**16 04 19.9**	**+0.3**

*ISCJB **24** 16:18:45.9±0.6, 5140N±003×1607E±003, h0km, Error ellipse: s-maj=4.5km s-min=2.5km az=18.8*
*NEIC **24** 16:18:46.5±0.9, 5153N×1609E, h5km, ML2.6(BRA), ML2.7(SZGRF), Error ellipse: s-maj=11.1km s-min=4.5km az=194.0*
*WAR **24** 16:18:47.7, 5151N×1606E, ML2.5, Mining Induced*
*CSEM **24** 16:18:47.8±0.1, 5146N×1604E, h0km, ML3.2/11, Error ellipse: s-maj=2.8km s-min=1.6km az=9.0*
*IPEC **24** 16:18:47.7±0.5, 5148N×1612E, h8km±2km, ML2.1/3, Error ellipse: s-maj=2.7km s-min=1.2km az=17.0*
*VIE **24** 16:18:48.4±0.3, 5133N×1601E, h0km, mb2.1/4, ML2.8/4, Error ellipse: s-maj=2.1km s-min=2.0km az=108.0, Suspected Mining induced.*
*PRU **24** 16:18:48.0, 5145N×1605E, h0km, Felt In Harrachov*

ISC 24 16:18:46.7±0.6,**5148N**±003×**1606E**±003,**h0**km,**n30,** σ0ᵗ**85**/60,**3C-4D**,**Poland**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
KSP	**Ksiaz**	**0.66**	**167**	*e*Pg		**Pg**	**16 19 00.0**	**+0.8**
KSP				*e*Sg		**Sg**	**16 19 09.3**	**+1.5**
KSP	**Ksiaz**	**0.66**	**167**	*e*Pg		**Pg**	**16 19 00.0**	**+0.8**
KSP				*e*Sg		**Sg**	**16 19 08.8**	**+1.0**
KSP	**Ksiaz**	**0.66**	**167**	*i* Pg		**Pg**	**16 19 00.2**	**+0.9**
KSP				*e*Sg		**Sg**	**16 19 09.2**	**+1.4**
UPC	**Upice**	**0.98**	**182**	*e*PG		**Pg**	**16 19 06.0**	**+0.6**
DPC	**Dobruska-Polom**	**1.15**	**172**	*e*PG		**Pg**	**16 19 08.9**	**+0.3**
DPC				*e*SG		**Sg**	**16 19 23.5**	**0.0**
	26nm,0.2s							
PVCC	**Panska Ves**	**1.34**	**225**	*e*PG		**Pg**	**16 19 12.5**	**+0.1**
PVCC				*e*SG		**Sg**	**16 19 31.1**	**+1.3**
BRG	**Berggiesshubel**	**1.47**	**246**	PN		**Pn**	**16 19 14.2**	**-0.1**
BRG				PG		**Pg**	**16 19 15.0**	**+0.2**
BRG				SG		**Sg**	**16 19 34.6**	**+0.8**
	64nm,0.4s							
PRU	**Pruhonice**	**1.78**	**213**	Pg		**Pg**	**16 19 19.9**	**-0.9**
PRU				Sg		**Sg**	**16 19 44.1**	**+0.3**
	16nm,0.4s							
PRU	**Pruhonice**	**1.78**	**213**	*e*PN		**Pn**	**16 19 18.3**	**-0.4**
PRU				*e*PG		**Pg**	**16 19 19.9**	**-0.9**
PRU				*e*SG		**Sg**	**16 19 44.1**	**+0.3**
	16nm,0.4s							
CLL	**Collm**	**1.92**	**266**	*e*Pn		**Pn**	**16 19 20.0**	**-0.6**
	comp=Z,4.0nm,0.5s							
CLL				*i* Pg		**Pg**	**16 19 22.3**	**-1.2**
CLL				*ex*		x	16 19 25.0	
CLL				*e*Sg		**Sg**	**16 19 48.0**	**-0.4**
	comp=Z,26nm,0.6s							
CLL	**Collm**	**1.92**	**266**	*e*Pn		**Pn**	**16 19 20.0**	**-0.6**
CLL				*i* Pg		**Pg**	**16 19 22.3**	**-1.2**
CLL				*e*Sg		**Sg**	**16 19 48.0**	**-0.4**
MORC	**Moravsky Berou**	**1.95**	**151**	*e*Pn		**Pn**	**16 19 20.9**	**-0.1**
MORC				*e*Sg		**Sg**	**16 19 48.4**	**-0.9**
	comp=Z,15nm,0.4s							
OKC	**Ostrava-Krasne**	**2.12**	**140**	*e*PG		**Pg**	**16 19 27.7**	**+0.5**
OKC				*e*SG		**Sg**	**16 19 52.7**	**-1.9**
	comp=Z,31nm,0.9s							
VRAC	**Vranov**	**2.20**	**171**	*e*Pn		**Pn**	**16 19 24.7**	**+0.2**
VRAC				*e*Sg		**Sg**	**16 19 55.3**	**-2.1**
	comp=Z,9.5nm,0.2s							
KRUC	**Moravsky**	**2.43**	**175**	*e*Pn		**Pn**	**16 19 28.3**	**+0.7**
KRUC				*e*Sg		**Sg**	**16 20 03.7**	**-1.1**
	comp=Z,6.1nm,0.3s							
NKC	**Novy Kostel**	**2.61**	**243**	*e*Pn		**Pn**	**16 19 30.4**	**+0.4**
NKC	**Novy Kostel**	**2.61**	**243**	*e*PN		**Pn**	**16 19 30.5**	**+0.5**
NKC				*e*PG		**Pg**	**16 19 36.3**	**-0.4**
NKC				*e*SG		**Sg**	**16 20 11.3**	**+0.8**
	comp=Z,28nm,0.4s							
OJC	**Ojcow**	**2.69**	**117**	*e*Pg		**Pg**	**16 19 38.2**	**+0.1**
OJC				*e*Sg		**Sg**	**16 20 13.5**	**+0.6**
KHC	**Kasperske Hory**	**2.84**	**215**	*e*PN		**Pn**	**16 19 33.2**	**0.0**
KHC				*e*PG		**Pg**	**16 19 39.4**	**-1.7**
KHC				*e*SN		**Sn**	**16 20 07.5**	**-0.6**
KHC				*e*SG		**Sg**	**16 20 16.7**	**-1.2**
	comp=Z,9.7nm,0.3s							
MOX	**Moxa**	**2.93**	**255**	*e*PG		**Pg**	**16 19 42.6**	**-0.2**
MOX				*i* SG		**Sg**	**16 20 21.8**	**+1.1**
GEC2	**GERESS Array S**	**3.05**	**211**	*e*Pn		**Pn**	**16 19 37.5**	**+1.5**
GEC2				*e*Sg		**Sg**	**16 20 23.1**	**-1.4**
WET	**Wettzell**	**3.11**	**222**	*e*Pn		**Pn**	**16 19 37.1**	**+0.2**
MODS	**Modra-Piesok**	**3.21**	**165**	*e*SG		**Sg**	**16 20 32.1**	**+2.3**
KOLL	**Kolacno**	**3.28**	**152**	*e*SG		**Sg**	**16 20 31.5**	**-0.4**
ZST	**Bratislava**	**3.36**	**168**	*e*SG		**Sg**	**16 20 35.3**	**+0.8**
VYHS	**Vyhne**	**3.49**	**148**	*e*SG		**Sg**	**16 20 38.4**	**-0.2**
CONA	**Conrad Observa**	**3.56**	**182**	*i* Pn		**Pn**	**16 19 43.1**	**0.0**
CONA				⇓ *i* Sg		**Sg**	**16 20 41.4**	**+0.3**
	comp=Z,10nm,0.4s							
CSNA	**Conrad Observa**	**3.56**	**182**	⇓ *i* Pn		**Pn**	**16 19 42.6**	**-0.5**
CSNA				⇑ *i* Sg		**Sg**	**16 20 41.4**	**+0.4**
	comp=Z,12nm,0.4s							
MOA	**Molln**	**3.82**	**198**	⇑ *i* Pn		**Pn**	**16 19 46.4**	**-0.2**
MOA				⇑ *i* Sg		**Sg**	**16 20 49.6**	**+0.3**
	comp=Z,6.4nm,0.3s							
STHS	**Stebnicka Huta**	**3.91**	**120**	*e*PG		**Pg**	**16 20 00.9**	**-0.6**
STHS				*e*SG		**Sg**	**16 20 52.9**	**+0.9**

*NEIC **24** 16:35:19.2, 1373N×6106W, h2km, MD3.5(TRN), After TRN.*
NEIC Felt at Vieux Fort.

TRN 24 16:35:17.0,1387N×6110W,h7km,**MD3.6,M2.9**(FDF),**2C, Windward Islands**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
SLB	**Belfond**	**0.07**	**123**⇑	*i* P		Pg	16 35 22.0	+3.1
SLB				*e*S		Sg	16 35 34.2	+14
SSV	**Crater Summit**	**0.54**	**189**⇑	*i* P		Pg	16 35 30.2	+2.7
SSV				*e*S		Sg	16 35 39.3	+4.6
SVV	**Soufriere Volc**	**0.56**	**192**	*e*P		Pg	16 35 31.3	+3.5
SVV				*e*S		Sg	16 35 40.3	+5.3
MVM	**Montagne Vaucl**	**0.71**	**16**	*e*P		Pg	16 35 33.6	+2.8
MVM				*e*S		Sg	16 35 43.5	+3.4
FDF	**Fort de France**	**0.86**	**357**	*e*P		Pg	16 35 36.2	+2.6
FDF				*e*S		Sg	16 35 48.6	+3.7
GRCU	**Cariacou**	**1.43**	**194**	*e*P		Pn	16 35 45.3	+2.0
GRCU				*e*S		Sn	16 36 05.6	+3.3
GRCU	**Cariacou**	**1.43**	**194**	*e*P		Pn	16 35 47.0	+3.7
GRCU				*e*S		Sn	16 36 05.6	+3.3
GRSS	**Sisters**	**1.64**	**198**	*e*P		Pn	16 35 50.6	+4.5
GRIC	**Isle de Caille**	**1.64**	**197**	*e*P		Pn	16 35 48.4	+2.1
GRIC				*e*S		Sn	16 36 11.9	+4.4
GRW	**Mount Saint Ca**	**1.78**	**198**	*e*P		Pn	16 35 50.2	+2.1
GRW	**Mount Saint Ca**	**1.78**	**198**	*e*P		Pn	16 35 51.7	+3.5
GRW				*e*S		Sn	16 36 16.6	+5.6
GRGR	**Grenville**	**1.81**	**197**	*e*Pn		Pn	16 35 52.6	+4.1

*BJI **24** 16:42:51.2, 10.17S×120.36E, h30km, mB5.0, mb4.6, Ms5.1, Msz4.7*
*IDC **24** 16:42:54.2±0.6, 9.46S×119.80E, h0km, mb4.3/15, mb1 4.4/16, mb1mx4.4/18, mbtmp4.4/16, ML4.3/1, MS3.3/10, Ms1 3.3/10, ms1mx3.1/20, Error ellipse: s-maj=23.4km s-min=13.6km az=70.0*
*MOS **24** 16:42:57.2±1.0, 9.46S×119.83E, h33km, mb4.7/9, Error ellipse: s-maj=21.4km s-min=9.1km az=124.2*
*NEIC **24** 16:43:00.8±1.4, 9.64S×119.66E, h50km±14km, mb4.8/16, Error ellipse: s-maj=15.3km s-min=7.3km az=60.0*
*ISCJB **24** 16:43:03.0±0.5, 9.55S±004×119.86E±004, h88km±5km, mb4.5/39, Error ellipse: s-maj=7.2km s-min=5.1km az=142.4*
*DJA **24** 16:43:03.3±3.4, 10.3S±4×120.E±., h23km±39km, mB5.5/4, Mjma4.0/9, MLv5.0/11, Mw(mB)5.3/4, Mwp3.9/10*

ISC 24 16:43:04.4±0.5,**956S**±004×**11986E**±004,**h84**km±5km, **h11**km±6.2km:**pP-P,n97,**σ1ᵗ**14**/104,**mb4.5**/39,**9C-4D, Sumba region**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
WSI	**Waingapu**	**0.44**	**104**⇑	*e*P		**Pn**	**16 43 15.5**	**-2.6**
BATI	**Baumata**	**3.80**	**100**	Pn		**Pn**	**16 44 00.8**	**+0.1**
	116nm,0.3s,baz=289,slow=1.2,SNR=123							
BATI				Sn		**Sn**	**16 44 43.7**	**-0.7**
	48nm,0.3s,baz=24,slow=20,SNR=12							
BATI				LR		LR	16 45 18.9	
	comp=Z,123nm,20.9s,baz=83,slow=37							
BATI	**Baumata**	**3.80**	**100**	P		**Pn**	**16 44 00.8**	**+0.1**
BATI	**Baumata**	**3.80**	**100**	S		**Sn**	**16 44 43.7**	**-0.6**
MKS	**Makassar**	**4.33**	**355**⇑	*e*P		**Pn**	**16 44 08.8**	**+0.8**
MKS				*e*S		**Sn**	**16 44 57.6**	**+0.3**
KHKI	**Kahang-Kahang**	**4.37**	**285**	P		**Pn**	**16 44 07.8**	**-0.6**
KAPI	**Kappang**	**4.52**	**359**	Pn		**Pn**	**16 44 10.5**	**0.0**
	41nm,0.3s,baz=185,slow=8.2,SNR=131							
KAPI				Sn		**Sn**	**16 45 00.6**	**-1.2**
	32nm,0.3s,baz=220,slow=20,SNR=5.4							
KAPI				LR		LR	16 45 56.2	
	comp=Z,844nm,20.4s,baz=154,slow=41							
KAPI	**Kappang**	**4.52**	**359**	P		**Pn**	**16 44 10.0**	**-0.5**
KAPI	**Kappang**	**4.52**	**359**	Pn		**Pn**	**16 44 10.5**	**0.0**
KAPI				Sn		**Sn**	**16 45 00.6**	**-1.2**
KAPI				LR		LR	16 45 56.2	
DNP	**Denpasar**	**4.68**	**280**	P		**Pn**	**16 44 16.3**	**+3.7**
IGBI	**Denpasar**	**4.71**	**279**	P		**Pn**	**16 44 12.8**	**-0.3**
NBBI	**Negara**	**5.31**	**282**	P		**Pn**	**16 44 24.9**	**+3.6**
	267nm,1.1s,5μm1.8nm							
KDI	**Kendari**	**6.20**	**26**⇑	*e*P		**Pn**	**16 44 35.4**	**+1.9**
KDI				*e*S		**Sn**	**16 45 44.8**	**+1.8**
KDI	**Kendari**	**6.20**	**26**	P		**Pn**	**16 44 35.9**	**+2.4**
	127nm,1.0s,2μm0.3nm							
KMMI	**Kalianget**	**6.34**	**293**	P		**Pn**	**16 44 42.3**	**+6.9**
TRT	**Tretes**	**7.38**	**284**⇓	*e*P		**Pn**	**16 44 50.0**	**+0.5**
KRKI	**Karangkates**	**7.45**	**280**	P		Px	16 45 03.2	
BBKI	**Banjar Baru**	**7.85**	**320**	P		**Pn**	**16 44 59.8**	**+3.9**
	112nm,1.1s,0.6nm							
SJI	**Sawahan**	**8.21**	**282**	P		**Pn**	**16 45 00.7**	**-0.1**
PCI

LZH AMB AMB
comp=Z,19nm,1.3s,mb4.8
LZH AMB AMB
comp=Z,97nm,4.8s
TAPN Taplejung 48.14 321 *eP* **P 16 51 35.4 -0.8**
comp=Z,14nm,0.5s,mb5.0
RAMN Ramite 48.56 319 *eP* **P 16 51 39.0 -0.5**
comp=Z,14nm,0.7s,mb5.0
JIRN Jiri 49.32 320 *eP* **P 16 51 44.4 -0.8**
comp=Z,19nm,0.6s,mb5.2
GUN Gumba 49.69 320 *eP* **P 16 51 47.5 -0.5**
comp=Z,27nm,0.6s,mb5.3
PKI Pulchoki 49.76 319 *eP* **P 16 51 48.2 -0.4**
DMN Daman 49.98 319 *eP* **P 16 51 49.3 -1.0**
KKN Kakani 49.99 319 *eP* **P 16 51 49.5 -0.8**
GKN Gorkha 50.55 319 *eP* **P 16 51 53.1 -1.5**
comp=Z,11nm,0.5s,mb5.2
KOLN Koldanda 51.08 318 *eP* **P 16 51 57.4 -1.1**
comp=Z,9.5nm,0.6s,mb5.0
DANN Dangsing 51.36 318 *eP* **P 16 51 58.9 -1.7**
comp=Z,20nm,0.5s,mb5.4
GTA Gaotai 52.16 340 *eP* **P 16 52 08.3 +2.0**
GTA AP pP 16 52 12.4 -15
GTA XP sP 16 52 15.8 -21
GTA AMB AMB
comp=Z,11nm,1.0s,mb4.8
ULN Ulaanbaatar 58.29 350 *eP* **P 16 52 50.0 -0.3**
ULN pmax pmax
comp=Z,6.0nm,1.1s,mb4.5
ULN Ulaanbaatar 58.29 350 *eP* **P 16 52 50.0 -0.3**
comp=Z,5.9nm,1.1s,mb4.5
SONM Songino Array 58.38 349 P **P 16 52 50.9 0.0**
comp=Z,2.7nm,0.6s,mb4.4,baz=166,slow=8.5,SNR=22
ZAK Zakamensk 61.42 348 *eP* **P 16 53 11.5 -0.1**
ZAK pmax pmax
comp=Z,4.0nm,1.0s,mb4.4
KBL Kabul 65.09 315 *eP* **P 16 53 34.0 -2.3**
KBL pmax pmax
comp=Z,7.0nm,0.8s,mb4.5
KBL Kabul 65.09 315 *eP* **P 16 53 34.0 -2.3**
comp=Z,7.3nm,0.8s,mb4.6
MK31 Makanchi Array 65.34 333 *eP* **P 16 53 38.1 +0.5**
MKAR Makanchi Array 65.34 333 P **P 16 53 37.7 +0.1**
comp=Z,3.0nm,0.6s,mb4.3,baz=142,slow=7.7,SNR=22
MKAR Makanchi Array 65.34 333 P **P 16 53 37.7 +0.1**
BOD Bodaibo 67.31 357 *eP* **P 16 53 48.4 -1.6**
BOD pmax pmax
comp=Z,4.0nm,0.9s,mb4.2
MAW Mawson 69.00 200 P **P 16 54 01.4 +0.9**
comp=Z,1.0nm,0.7s,mb3.8,baz=135,slow=8.6,SNR=5.5
MAW LR LR 17 17 36.9
comp=Z,39nm,21.9s,baz=246,slow=30
KRAR Krasnoyarsk 69.08 344 *i* P **P 16 54 02.2 +1.1**
KRAR pmax pmax
comp=Z,13nm,0.8s,mb4.8
ZALV Zalesovo Beam 69.87 339 P **P 16 54 04.3 -1.6**
comp=Z,3.3nm,0.5s,mb4.5,baz=137,slow=4.7,SNR=16
KURK Kurchatov 69.87 333 P **P 16 54 05.3 -0.8**
comp=Z,0.9nm,0.3s,mb4.1,baz=143,slow=5.1,SNR=3.9
PETK Petropavlovsk- 70.25 23 P **P 16 54 08.9 +0.6**
comp=Z,2.2nm,0.8s,mb4.0,baz=287,slow=3.1,SNR=5.2
OPO Ambohidratompo 70.68 254 P **P 16 54 13.4 +1.7**
comp=Z,1.9nm,0.6s,mb4.1,baz=129,slow=5.8,SNR=3.0
YAK Yakutsk 71.78 5 || *eP* **P 16 54 17.6 +0.2**
YAK pmax pmax
comp=Z,8.0nm,1.1s,mb4.5
QSPA South Pole Qui 80.44 180 *eP* **P 16 55 07.3 +1.0**
comp=Z,7.0nm,1.1s,mb4.4
TIXI Tiksi 81.25 3 *i* P **P 16 55 10.5 -0.2**
TIXI pmax pmax
comp=Z,4.0nm,1.8s,mb4.0
KMBO Kilima Mbogo 82.53 270 P **P 16 55 18.9 +0.2**
comp=Z,2.1nm,0.8s,mb4.0,baz=217,slow=20,SNR=5.6
KIV Kislovodsk 87.48 315 *eP* **P 16 55 36.7 -6.1**
KIV pmax pmax
comp=Z,9.0nm,1.0s,mb4.7
BOSA Boshof 89.48 241 P **P 16 55 53.1 +0.4**
comp=Z,4.7nm,1.0s,mb4.5,baz=49,slow=12,SNR=3.6
SNAA Sanae 90.69 195 *eP* **P 16 55 58.1 +0.7**
SNAA *e* 16 56 03.2
VNA2 Neumayer--Watz 92.32 195 *eP* **P 16 56 05.8 +0.9**
baz=112,slow=3.5
VNA2 Neumayer--Watz 92.32 195 *eP* **P 16 56 05.8 +0.9**
baz=286,slow=6.1
VNA2 *e* 16 56 10.8
AKASG Malin Array Be 97.72 320 P **P 16 56 30.4 +0.5**
comp=Z,0.3nm,0.3s,mb4.3,baz=87,slow=5.3,SNR=4.8
LPAZ La Paz 153.13 163 PKPbc PKPbc 17 02 56.5 +3.2
comp=Z,2.1nm,0.9s,baz=334,slow=1.8,SNR=3.7
LPAZ PKPab PKPab 17 03 08.1 +3.2
comp=Z,3.7nm,0.7s,baz=229,slow=10,SNR=9.8

*ISCJB **24** 16:45:49.3±0.8, 1203S±005×7531W±005, h96km±6km, mb4.9/70, Error ellipse: s-maj=10.0km s-min=5.3km az=141.2*
*NEIC **24** 16:45:51.7±0.9, 1208S×7529W, h106km±8km, mb5.0/59, Error ellipse: s-maj=9.0km s-min=4.5km az=60.0*
NEIC Felt [II] at Huasicancha and Lima.
*MOS **24** 16:45:52.1±1.2, 1204S×7531W, h122km, mb4.8/20, Error ellipse: s-maj=20.0km s-min=6.9km az=119.3*
*IDC **24** 16:45:53.4±0.8, 1218S×7543W, h122km±6km, mb4.3/13, mb1 4.4/14, mb1mx4.4/19, mbtmp4.3/14, Error ellipse: s-maj=19.8km s-min=12.6km az=59.0*
*BJI **24** 16:45:53.0, 12.10S×7530W, h105km, mB5.2*
ISC 24 16:45:50.7±0.7, 1207S±004×7529W±005, h91km±6km, h92km±7.5km; pP-P, n504, σ0s56/476, mb4.9/70, 163C-166D, Central Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NNA	**Nana**	**1.52**	**273**	S	**Sn**	**16 46 34.9**	**-1.6**
	baz=225,slow=20						
ATAH	**Atahualpa**	**5.89**	**328**	P	**Pn**	**16 47 14.6**	**-0.9**
	28nm,0.3s,baz=152,slow=4.0,SNR=34						
ATAH				S	**Sn**	**16 48 22.3**	**+0.7**
	38nm,0.3s,baz=5.1,slow=20,SNR=8.4						
LPAZ	**La Paz**	**8.12**	**122**	P	**Pn**	**16 47 48.1**	**+2.3**
	2.1nm,0.3s,baz=304,slow=12,SNR=40						
LPAZ	**La Paz**	**8.12**	**122**	*eP*	**Pn**	**16 47 47.4**	**+1.6**
LPAZ				pmax	pmax		
	comp=Z,1.0nm,1.1s						
LPAZ	**La Paz**	**8.12**	**122**	*eP*	**Pn**	**16 47 47.4**	**+1.5**
	comp=Z,0.8nm,1.1s						
OTAV	**Otavalo**	**12.62**	**345**	*eP*	**Pn**	**16 48 48.9**	**+1.9**
	comp=Z,26nm,0.9s						
SIV	**San Ignacio**	**14.34**	**107**	P	**Pn**	**16 49 08.2**	**-1.3**
	comp=Z,0.5nm,0.3s,baz=294,slow=13,SNR=17						
ROSC	**El Rosal**	**16.84**	**3**	P	**Pn**	**16 49 47.5**	**+6.6**
	comp=Z,2.2nm,0.3s,baz=57,slow=14,SNR=6.1						
LCO	**Las Campanas**	**17.40**	**166**	*eP*	**Pn**	**16 49 48.0**	**+0.3**
	comp=Z,21nm,1.1s						
CFAA	**Coronel Fontan**	**20.51**	**163**	P	**P**	**16 50 21.6**	**0.0**
	comp=Z,1.1nm,1.0s,baz=335,slow=11,SNR=8.3						
SDV	**Santo Domingo**	**21.32**	**13**	P	**P**	**16 50 32.2**	**+1.8**
	comp=Z,137nm,1.1s,mb5.2,baz=219,slow=7.9,SNR=41						
SDV	**Santo Domingo**	**21.32**	**13**	*eP*	**P**	**16 50 31.7**	**+1.3**
	comp=Z,122nm,1.0s,mb5.2						
BCIP	**Isla Barro Col**	**21.57**	**348**	*eP*	**P**	**16 50 34.4**	**+1.4**
	comp=Z,65nm,1.1s,mb4.9						
FCH	**Farellones**	**21.65**	**169**	*eP*	**P**	**16 50 34.2**	**+0.4**
JTS	**JuntasAbangare**	**24.19**	**336**	P	**P**	**16 51 00.3**	**+1.4**
	comp=Z,18nm,0.9s,mb4.4,baz=144,slow=5.3,SNR=16						
PCRV	**Puerto La Cruz**	**24.50**	**26**	P	**P**	**16 51 04.8**	**+3.1**
	comp=Z,12nm,0.8s,mb4.4,baz=158,slow=22,SNR=4.0						
BDFB	**Brasilia**	**26.71**	**101**	P	**P**	**16 51 22.0**	**+0.2**
	comp=Z,1.3nm,0.6s,baz=218,slow=19,SNR=3.3						
PLCA	**Paso Flores**	**28.86**	**173**	P	**P**	**16 51 39.3**	**-1.3**
	comp=Z,1.5nm,0.9s,baz=22,slow=11,SNR=3.6						
MTP	**Monte Pirata**	**31.47**	**18**	P	**P**	**16 52 01.5**	**-2.3**
ANWB	**Willy Bob**	**32.41**	**25**	P	**P**	**16 52 11.6**	**-0.5**
GOGA	**Godfrey**	**45.89**	**350**	*eP*	**P**	**16 54 03.3**	**-0.8**
GOGA				pmax	pmax		
	comp=Z,42nm,1.6s,mb4.9						
GOGA	**Godfrey**	**45.89**	**350**	*eP*	**P**	**16 54 03.3**	**-0.8**
	comp=Z,42nm,1.6s,mb4.9						
GOGA				*e*	pP	16 54 23.4	-2.5
LRAL	**Lakeview Retre**	**46.22**	**346**	*eP*	**P**	**16 54 05.7**	**-1.0**
	comp=Z,22nm,0.9s,mb4.9						
CPCT	**Cooper Cave**	**48.05**	**350**	P	**P**	**16 54 20.1**	**-0.9**
CPCT				*e*	pP	16 54 40.4	-2.5
SWET	**Sewanee**	**48.09**	**348**	*eP*	**P**	**16 54 20.1**	**-1.2**
OXF	**Oxford**	**48.22**	**344**	*eP*	**P**	**16 54 21.0**	**-1.2**
OXF				pmax	pmax		
	comp=Z,34nm,1.1s,mb5.1						
OXF	**Oxford**	**48.22**	**344**	*eP*	**P**	**16 54 21.0**	**-1.2**
	comp=Z,34nm,1.1s,mb5.1						
ELN	**Prospectdale**	**49.30**	**354**	*eP*	**P**	**16 54 30.7**	**+0.3**
UALR	**University of**	**49.31**	**341**	*eP*	**P**	**16 54 29.5**	**-1.1**
	comp=Z,13nm,0.8s,mb4.9						
TXAR	**Lajitas Array**	**49.43**	**327**	P	**P**	**16 54 31.4**	**-0.2**
	comp=Z,3.8nm,0.7s,mb4.5,baz=151,slow=8.9,SNR=39						
TXAR				PcP	PcP	16 55 52.0	-0.7
	comp=Z,0.9nm,0.5s,baz=163,slow=6.4,SNR=4.6						
TXAR	**Lajitas Array**	**49.43**	**327**	P	**P**	**16 54 31.4**	**-0.2**
TXAR				PcP	PcP	16 55 52.0	-0.7
MIAR	**Mount Ida**	**49.50**	**340**	*eP*	**P**	**16 54 31.5**	**-0.5**
MIAR				pmax	pmax		
	comp=Z,17nm,0.8s,mb5.0						
MIAR	**Mount Ida**	**49.50**	**340**	*eP*	**P**	**16 54 31.4**	**-0.6**
	comp=Z,17nm,0.8s,mb5.0						
WCI	**Wyandotte Cave**	**51.08**	**349**	*eP*	**P**	**16 54 42.5**	**-1.4**
WCI				pmax	pmax		
	comp=Z,44nm,1.1s,mb5.4						
WCI	**Wyandotte Cave**	**51.08**	**349**	*eP*	**P**	**16 54 42.5**	**-1.4**
	comp=Z,44nm,1.1s,mb5.4						
USIN	**University of**	**51.10**	**347**	*eP*	**P**	**16 54 42.8**	**-1.2**
	comp=Z,51nm,0.6s,mb5.7						
SIUC	**Southern Illin**	**51.21**	**346**	*eP*	**P**	**16 54 43.4**	**-1.4**
	comp=Z,52nm,0.7s,mb5.7						
FVM	**French Village**	**51.77**	**345**	*eP*	**P**	**16 54 47.2**	**-1.8**
FVM				*e**PP	pP	16 55 11.2	0.0
FVM				pmax	pmax		
	comp=Z,31nm,0.6s,mb5.5						
FVM	**French Village**	**51.77**	**345**	*eP*	**P**	**16 54 47.2**	**-1.8**
	comp=Z,31nm,0.6s,mb5.5						
FVM				*e*pP	pP	16 55 11.2	-0.1
OLIL	**Olney**	**51.93**	**347**	*eP*	**P**	**16 54 49.0**	**-1.3**
	comp=Z,64nm,0.8s,mb5.7						
BLO	**Bloomington**	**52.03**	**349**	*eP*	**P**	**16 54 49.6**	**-1.4**
BLO				pmax	pmax		
	comp=Z,67nm,0.6s,mb5.8						
BLO	**Bloomington**	**52.03**	**349**	*eP*	**P**	**16 54 49.6**	**-1.4**
	comp=Z,67nm,0.6s,mb5.8						
CCM	**Cathedral Cave**	**52.05**	**344**	*eP*	**P**	**16 54 49.6**	**-1.5**
CCM				pmax	pmax		
	comp=Z,11nm,0.7s,mb5.0						
CCM	**Cathedral Cave**	**52.05**	**344**	*eP*	**P**	**16 54 49.6**	**-1.5**
	comp=Z,11nm,0.7s,mb5.0						
ACSO	**Alum Creek Sta**	**52.52**	**353**	*eP*	**P**	**16 54 53.5**	**-1.1**
	comp=Z,25nm,0.8s,mb5.3						
319A	**Douglas**	**54.12**	**324**	⇓P	**P**	**16 55 06.8**	**+0.4**
	baz=54,SNR=5.7						
219A	**White Tail Can**	**54.56**	**324**	⇓P	**P**	**16 55 09.5**	**-0.1**
	baz=55,SNR=10						
318A	**Bisbee**	**54.57**	**323**	⇑P	**P**	**16 55 09.8**	**0.0**
	baz=55,SNR=12						
LPM	**Los Pinos Moun**	**54.90**	**328**	*eP*	**P**	**16 55 12.6**	**+0.6**
218A	**Dragoon**	**55.00**	**324**	⇓P	**P**	**16 55 12.8**	**0.0**
	baz=55,SNR=12						
119A	**Ashpeak Ranch,**	**55.16**	**325**	⇓P	**P**	**16 55 13.8**	**-0.1**
	baz=55						
LAZ	**Ladron**	**55.23**	**328**	*eP*	**P**	**16 55 14.9**	**+0.5**
217A	**Green Valley**	**55.30**	**323**	⇓P	**P**	**16 55 15.2**	**+0.2**
	baz=55						
ANMO	**Albuquerque**	**55.31**	**329**	*d iP*	**P**	**16 55 14.8**	**-0.2**
ANMO	**Albuquerque**	**55.31**	**329**	*eP*	**P**	**16 55 14.9**	**-0.1**
	comp=Z,14nm,1.2s,mb4.9						
118A	**Homack Ranch,**	**55.44**	**324**	⇓P	**P**	**16 55 16.3**	**+0.4**
	baz=56						
Z19A	**T-Link Ranch,**	**55.53**	**325**	⇓P	**P**	**16 55 16.6**	**0.0**
	baz=56						
NCB	**Newcomb**	**55.77**	**1**	*eP*	**P**	**16 55 18.6**	**+0.4**
	comp=Z,14nm,0.8s,mb5.1						
MDV	**Millebury**	**55.83**	**2**	*eP*	**P**	**16 55 18.2**	**-0.3**
117A	**Oracle**	**55.83**	**324**	⇑P	**P**	**16 55 18.8**	**0.0**
	baz=56						
216A	**Three Points,**	**55.84**	**323**	⇑P	**P**	**16 55 18.8**	**0.0**
	baz=56,SNR=8.9						
Y19A	**Nutrioso**	**56.02**	**326**	⇓P	**P**	**16 55 20.3**	**+0.3**
	baz=56,SNR=10						
Z17A	**San Carlos Hig**	**56.21**	**325**	⇓P	**P**	**16 55 21.2**	**-0.3**
	baz=56						
Y18A	**Canyon Day Jun**	**56.32**	**325**	⇓P	**P**	**16 55 22.1**	**-0.1**
	baz=57						
116A	**Eloy**	**56.39**	**323**	⇑P	**P**	**16 55 22.7**	**0.0**
	baz=57,SNR=6.3						
X19A	**St. Johns**	**56.39**	**326**	⇓P	**P**	**16 55 22.9**	**+0.1**
	baz=57						
LONY	**Lake Ozonia**	**56.42**	**1**	*eP*	**P**	**16 55 22.6**	**0.0**
214A	**Organ Pipe Nat**	**56.62**	**322**	⇑P	**P**	**16 55 24.5**	**+0.1**
	baz=57,SNR=7.1						
FRNY	**Flat Rock**	**56.65**	**1**	*eP*	**P**	**16 55 24.6**	**+0.3**
	comp=Z,31nm,1.0s,mb5.3						
Y17A	**Roosevelt**	**56.71**	**325**	⇓P	**P**	**16 55 25.0**	**0.0**
	baz=57						
115A	**Sonoran Desert**	**56.80**	**323**	⇑P	**P**	**16 55 25.8**	**+0.2**
	baz=57						
X18A	**Snowflake**	**56.83**	**326**	⇑P	**P**	**16 55 26.1**	**+0.2**
	baz=57						
W19A	**Sanders**	**56.96**	**327**	⇑P	**P**	**16 55 26.7**	**0.0**
	baz=57						
SDCO	**Great Sand Dun**	**57.07**	**332**	*eP*	**P**	**16 55 27.6**	**+0.1**
	comp=Z,28nm,1.2s,mb5.2						
W18A	**Petrified Fore**	**57.15**	**327**	⇓P	**P**	**16 55 28.6**	**+0.5**
	baz=57						
X17A	**Forest Lakes**	**57.16**	**325**	⇓P	**P**	**16 55 28.8**	**+0.6**
	baz=57						
Y16A	**Circle Bar Ran**	**57.21**	**324**	⇓P	**P**	**16 55 28.7**	**+0.2**
	baz=58,SNR=9.7						
V19A	**Window Rock**	**57.23**	**327**	⇑P	**P**	**16 55 28.7**	**0.0**
	baz=58						
X16A	**Lo Mia Camp, P**	**57.58**	**325**	⇑P	**P**	**16 55 31.8**	**+0.7**
	baz=58,SNR=17						
W17A	**Winslow**	**57.66**	**326**	⇑P	**P**	**16 55 31.7**	**+0.1**
	baz=58						
Z14A	**Wintersburg**	**57.69**	**323**	⇓P	**P**	**16 55 32.1**	**+0.2**
	baz=58						
V18A	**Ganado**	**57.70**	**327**	⇓P	**P**	**16 55 31.8**	**-0.1**
	baz=58						
Y15A	**Casa Rosa Ranc**	**57.75**	**324**	⇓P	**P**	**16 55 31.9**	**-0.4**
	baz=58						
113A	**Mohawk Valley,**	**57.77**	**322**	⇓P	**P**	**16 55 32.2**	**-0.3**
	baz=58						
T19A	**Beclabito**	**58.08**	**328**	⇑P	**P**	**16 55 34.7**	**+0.1**
	baz=58,SNR=8.6						
X15A	**Humboldt**	**58.08**	**324**	⇓P	**P**	**16 55 35.3**	**+0.7**
	baz=58,SNR=7.4						
MVCO	**Mesa Verde**	**58.10**	**329**	⇓P	**P**	**16 55 34.6**	**-0.1**
	baz=58						
MVCO	**Mesa Verde**	**58.10**	**329**	*eP*	**P**	**16 55 34.5**	**-0.3**
	comp=Z,4.1nm,0.7s,mb4.6						
W16A	**Flagstaff**	**58.12**	**325**	⇓P	**P**	**16 55 35.4**	**+0.5**
	baz=58,SNR=6.1						
Y14A	**Wickenburg**	**58.13**	**323**	⇑P	**P**	**16 55 34.8**	**-0.2**
	baz=58						
WUAZ	**Wupatki**	**58.34**	**326**	⇑P	**P**	**16 55 36.9**	**+0.5**
	baz=59,SNR=20						
X14A	**Yava**	**58.44**	**324**	⇑P	**P**	**16 55 37.7**	**+0.6**
	baz=59,SNR=14						
Y13A	**Salome**	**58.53**	**323**	⇑P	**P**	**16 55 38.0**	**+0.2**
	baz=59,SNR=7.6						
W15A	**Williams**	**58.59**	**325**	⇓P	**P**	**16 55 38.5**	**+0.3**
	baz=59						
GLA	**Glamis**	**58.61**	**321**	⇑P	**P**	**16 55 38.5**	**+0.2**
	baz=59						
U16A	**Tuba City**	**58.67**	**326**	⇓P	**P**	**16 55 38.8**	**+0.1**
	baz=59,SNR=17						
T18A	**Mexican Hat**	**58.75**	**328**	⇑P	**P**	**16 55 38.7**	**-0.5**
	baz=59,SNR=17						
U17A	**Shonto**	**58.76**	**327**	⇑P	**P**	**16 55 39.5**	**+0.2**
	baz=59,SNR=9.7						
ISCO	**Idaho Springs**	**58.79**	**333**	*eP*	**P**	**16 55 39.2**	**-0.3**
ISCO				pmax	pmax		
	comp=Z,3.0nm,0.5s,mb4.6						
ISCO	**Idaho Springs**	**58.79**	**333**	*eP*	**P**	**16 55 39.2**	**-0.3**
	comp=Z,2.5nm,0.5s,mb4.5						
ECSD	**EROS,Sioux Fal**	**58.84**	**342**	*eP*	**P**	**16 55 38.2**	**-1.5**
	comp=Z,46nm,1.5s,mb5.3						
S19A	**Harvey Farm, M**	**58.84**	**329**	⇑P	**P**	**16 55 39.8**	**0.0**
	baz=59,SNR=14						
PV01	**Paradox Valley**	**58.85**	**330**	*eP*	**P**	**16 55 40.3**	**+0.3**
Y12C	**Blythe**	**58.90**	**322**	⇑P	**P**	**16 55 40.7**	**+0.3**
	baz=59						
SMCO	**Snowmass**	**58.91**	**332**	*eP*	**P**	**16 55 37.5**	**-2.8**
	comp=Z,14nm,0.9s,mb5.0						
SMCO				*e*pP	pP	16 56 09.0	+6.0
V15A	**Kaibab Nationa**	**59.01**	**325**	⇑P	**P**	**16 55 41.5**	**+0.5**
	baz=59,SNR=11						
PDMCI	**Parker Dam,Lak**	**59.05**	**323**	⇑P	**P**	**16 55 41.6**	**+0.2**
	baz=59						
X13A	**Yucca**	**59.08**	**323**	⇓P	**P**	**16 55 41.5**	**-0.1**
	baz=59,SNR=8.1						
W14A	**Seligman**	**59.08**	**324**	⇓P	**P**	**16 55 42.4**	**+0.8**
	baz=59,SNR=11						
SWSC	**Sam W. Stewart**	**59.13**	**320**	⇑P	**P**	**16 55 41.6**	**-0.4**
	baz=59						
T17A	**Navajo Res., N**	**59.13**	**327**	⇑P	**P**	**16 55 42.5**	**+0.6**
	baz=59,SNR=9.7						
S18A	**Hurst Farm, Bl**	**59.23**	**328**	⇑P	**P**	**16 55 42.5**	**0.0**
	baz=60,SNR=13						
V14A	**Boquillas Ranc**	**59.40**	**325**	⇑P	**P**	**16 55 44.4**	**+0.7**
	baz=60,SNR=20						
BC3	**Big Chuckw Mtn**	**59.40**	**321**	⇓P	**P**	**16 55 44.0**	**+0.2**
	baz=60,SNR=9.1						
W13A	**Hualapai Mount**	**59.47**	**324**	⇓P	**P**	**16 55 44.9**	**+0.7**
	baz=60,SNR=7.5						
MONP	**Monument Peak**	**59.49**	**320**	⇓P	**P**	**16 55 44.3**	**-0.1**
	baz=60						
T16A	**Glen Canyon Da**	**59.50**	**327**	⇑P	**P**	**16 55 44.7**	**+0.3**
	baz=60						
U15A	**North Rim**	**59.52**	**326**	⇑P	**P**	**16 55 45.2**	**+0.7**
	baz=60,SNR=17						
IRM	**Iron Mountain**	**59.56**	**322**	⇑P	**P**	**16 55 45.1**	**+0.2**
	baz=60,SNR=29						
S17A	**Black Ridge (B**	**59.61**	**328**	⇑P	**P**	**16 55 45.5**	**+0.3**
	baz=60						
R18A	**Canyonlands Na**	**59.71**	**329**	⇑P	**P**	**16 55 45.3**	**-0.5**
	baz=60,SNR=6.1						
Q19A	**Hogan Spring (**	**59.83**	**330**	⇓P	**P**	**16 55 46.3**	**-0.4**
	baz=60,SNR=12						
BELC	**Belle Mtn.**	**59.97**	**321**	⇓P	**P**	**16 55 48.3**	**+0.6**
	baz=60,SNR=9.3						
PFO	**Pinyon Flat Ob**	**59.99**	**321**	⇑P	**P**	**16 55 48.1**	**+0.3**
	baz=60,SNR=6.3						
T15A	**Red Dirt Ranch**	**60.00**	**326**	⇓P	**P**	**16 55 48.3**	**+0.5**
	baz=60,SNR=13						
U14A	**Mt Trumbull**	**60.00**	**325**	⇓P	**P**	**16 55 48.3**	**+0.4**
	baz=60,SNR=16						
V13A	**Grand Canyon W**	**60.05**	**324**	⇑P	**P**	**16 55 48.5**	**+0.3**
	baz=60,SNR=15						
S16A	**Weppner Ranch,**	**60.09**	**327**	⇑P	**P**	**16 55 48.4**	**0.0**
	baz=60,SNR=6.0						
R17A	**Hanksville Air**	**60.15**	**328**	⇓P	**P**	**16 55 48.6**	**-0.3**
	baz=60,SNR=16						
P19A	**Cripple Cowboy**	**60.22**	**330**	⇑P	**P**	**16 55 49.5**	**+0.2**
	baz=60,SNR=7.8						
GMRC	**Granite Mounta**	**60.29**	**322**	⇓P	**P**	**16 55 50.1**	**+0.2**
	baz=60,SNR=11						
Q18A	**Rafter H Ranch**	**60.38**	**329**	⇑P	**P**	**16 55 50.2**	**-0.1**
	baz=61,SNR=14						
U13A	**Pakoon Wash**	**60.44**	**325**	⇓P	**P**	**16 55 51.2**	**+0.3**
	baz=61,SNR=6.0						
MURC	**Murrieta**	**60.45**	**320**	⇓P	**P**	**16 55 50.9**	**0.0**
	baz=61						
R16A	**Teasdale**	**60.45**	**328**	⇓P	**P**	**16 55 51.0**	**+0.1**
	baz=61						
S15A	**Panguitch**	**60.47**	**327**	⇓P	**P**	**16 55 51.1**	**+0.1**
	baz=61						
SRU	**San Rafael**	**60.58**	**329**	*eP*	**P**	**16 55 51.9**	**+0.1**
SRU				pmax	pmax		
	comp=Z,16nm,1.2s,mb4.9						
SRU	**San Rafael**	**60.58**	**329**	⇑P	**P**	**16 55 51.4**	**-0.4**
	baz=61,SNR=12						
SRU	**San Rafael**	**60.58**	**329**	*eP*	**P**	**16 55 51.9**	**+0.1**
	comp=Z,16nm,1.2s,mb4.9						
HEC	**Hector,Ludlow**	**60.73**	**322**	⇓P	**P**	**16 55 53.1**	**+0.3**
	baz=61,SNR=7.8						
Q16A	**Castle Valley**	**60.77**	**328**	⇑P	**P**	**16 55 53.5**	**+0.5**
	baz=61						
U12A	**Valley of Fire**	**60.78**	**324**	⇑P	**P**	**16 55 53.6**	**+0.4**
	baz=61						
O19A	**Miners Draw (B**	**60.81**	**331**	⇑P	**P**	**16 55 52.9**	**-0.4**
	baz=61,SNR=8.1						
P18A	**Preston Nutter**	**60.84**	**330**	⇓P	**P**	**16 55 53.5**	**0.0**
	baz=61,SNR=6.2						
T13A	**Saint George**	**60.84**	**325**	⇑P	**P**	**16 55 53.7**	**+0.2**
	baz=61						
V11A	**Goodsprings**	**60.88**	**323**	⇑P	**P**	**16 55 54.0**	**+0.2**
	baz=61						
TUQ	**Turquoise Moun**	**60.90**	**323**	⇑P	**P**	**16 55 54.1**	**+0.1**
	baz=61,SNR=6.0						
SCI	**San Clemente I**	**60.90**	**319**	⇓P	**P**	**16 55 54.0**	**0.0**
	baz=61						
CCUT	**Cedar City**	**60.92**	**326**	*eP*	**P**	**16 55 54.7**	**+0.6**
P17A	**Butcher Ranch,**	**60.97**	**329**	⇑P	**P**	**16 55 54.1**	**-0.3**
	baz=61,SNR=8.5						
MSU	**Marysvale**	**60.98**	**327**	*eP*	**P**	**16 55 55.1**	**+0.6**
CIS	**Catalina Islan**	**61.08**	**319**	⇓P	**P**	**16 55 55.5**	**+0.2**
	baz=61						
ARUT	**Antelope Range**	**61.13**	**326**	*eP*	**P**	**16 55 56.4**	**+0.9**
BFSC	**Mount Baldy St**	**61.15**	**320**	⇓P	**P**	**16 55 55.9**	**+0.1**
	baz=61						
S13A	**Holt Ranch, En**	**61.22**	**326**	⇑P	**P**	**16 55 56.5**	**+0.4**
	baz=62,SNR=25						
N19A	**John Jarvie Ra**	**61.30**	**331**	⇑P	**P**	**16 55 56.1**	**-0.5**
	baz=62,SNR=14						
GSC	**Goldstone**	**61.34**	**322**	⇑P	**P**	**16 55 57.2**	**+0.3**
	baz=62,SNR=6.0						
Q15A	**Fillmore**	**61.45**	**328**	⇑P	**P**	**16 55 57.7**	**+0.1**
	baz=62						
O17A	**Robinson Place**	**61.51**	**330**	⇑P	**P**	**16 55 58.4**	**+0.3**
	baz=62,SNR=19						
N18A	**Larsen Ranch,**	**61.60**	**331**	⇑P	**P**	**16 55 59.1**	**+0.5**
	baz=62						
R13A	**O'Grain Ranch,**	**61.70**	**326**	⇓P	**P**	**16 56 00.2**	**+0.8**
	baz=62,SNR=13						
T11A	**Cor

N15A	Stansbury Isla	62.93	329	⇓P		P	16 56 07.7	+0.2	
	baz=63								
PKM	Peak Mountain	62.94	320	⇓P		P	16 56 08.1	+0.4	
	baz=63,SNR=7.6								
BW06	Boulder Array	62.95	332	⇓P		P	16 56 07.2	-0.4	
	baz=63,SNR=12								
PDAR	Pinedale Array	62.95	332	P		P	16 56 06.8	-0.7	
	comp=Z,6.0nm,0.9s,mb4.5,baz=142,slow=7.5,SNR=31								
HWUT	Hardware Ranch	62.99	330	eP		P	16 56 06.8	-1.1	
	comp=Z,29nm,0.8s,mb5.3								
S10A	Tonopah Range,	62.99	324	⇓P		P	16 56 08.6	+0.6	
	baz=63,SNR=32								
R10A	Warm Springs	63.08	325	⇑P		P	16 56 09.4	+0.9	
	baz=63,SNR=8.2								
Q11A	Duckwater	63.11	325	⇑P		P	16 56 09.1	+0.4	
	baz=63,SNR=22								
O13A	Hicks Ranch, I	63.12	328	⇑P		P	16 56 09.1	+0.3	
	baz=63								
SPUT	South Promonto	63.21	329	eP		P	16 56 08.8	-0.5	
BGU	Big Grassy Mou	63.21	329	eP		P	16 56 08.9	-0.4	
S09A	Goldfield	63.22	324	⇓P		P	16 56 09.3	-0.2	
	baz=64,SNR=14								
N14A	Grayback Hills	63.24	329	⇓P		P	16 56 09.6	+0.1	
	baz=64,SNR=5.2								
L16A	Fish Haven	63.24	331	⇑P		P	16 56 09.5	0.0	
	baz=64								
SMMC	Simmler	63.31	320	⇑P		P	16 56 10.7	+0.6	
	baz=64,SNR=7.8								
M15A	Larsen Ranch,	63.32	329	⇑P		P	16 56 09.8	-0.3	
	baz=64,SNR=12								
TIN	Tinemaha	63.36	322	⇓P		P	16 56 11.1	+0.6	
	baz=64								
TPH	Tonopah	63.46	324	eP		P	16 56 11.5	+0.4	
TPH				pmax		pmax			
	comp=Z,24nm,1.1s,mb5.0								
TPH	Tonopah	63.46	324	eP		P	16 56 11.5	+0.4	
	comp=Z,24nm,1.1s,mb5.0								
R09A	Tonopah	63.48	324	⇓P		P	16 56 11.6	+0.4	
	baz=64,SNR=15								
Q10A	Clear Creek Ra	63.51	325	⇑P		P	16 56 12.1	+0.8	
	baz=64,SNR=21								
O12A	Currie	63.62	327	⇑P		P	16 56 12.6	+0.5	
	baz=64,SNR=19								
L15A	Malad City	63.70	330	⇓P		P	16 56 12.0	-0.6	
	baz=64,SNR=14								
HVU	Hansel Valley	63.72	329	eP		P	16 56 12.5	-0.2	
HVU				pmax		pmax			
	comp=Z,26nm,1.0s,mb5.0								
HVU	Hansel Valley	63.72	329	eP		P	16 56 12.5	-0.2	
	comp=Z,26nm,1.0s,mb5.0								
MTUM	Tungsten Hills	63.76	322	eP		P	16 56 13.5	+0.5	
N13A	Wendover, West	63.77	328	⇓P		P	16 56 12.8	-0.2	
	baz=64								
M14A	Sheep Mountain	63.80	329	⇑P		P	16 56 12.9	-0.3	
	baz=64,SNR=31								
K16A	Soda Springs	63.94	331	⇓P		P	16 56 14.2	+0.1	
	baz=64,SNR=9.5								
Q09A	Carvers	63.95	325	⇓P		P	16 56 14.9	+0.6	
	baz=64								
REDW	Red Top Meadow	64.00	332	eP		P	16 56 12.9	-1.6	
	comp=Z,17nm,1.3s,mb4.7								
O11A	Cowboy Ranch,	64.02	326	⇑P		P	16 56 15.1	+0.4	
	baz=64,SNR=14								
LOHW	Long Hollow	64.08	332	eP		P	16 56 14.8	-0.3	
	comp=Z,8.2nm,0.7s,mb4.7								
P10A	Eureka	64.10	326	⇑P		P	16 56 16.0	+0.8	
	baz=64,SNR=9.4								
KCC	Kaiser Creek	64.19	322	⇓P		P	16 56 15.0	-0.9	
	baz=64,SNR=9.2								
RRI2	Red Ridge	64.21	332	eP		P	16 56 15.9	+0.1	
	comp=Z,43nm,0.8s,mb5.3								
T06C	Millerton Lake	64.22	322	⇓P		P	16 56 15.1	-1.0	
	baz=64								
ELK	Elko	64.23	327	eP		P	16 56 16.0	0.0	
ELK				pmax		pmax			
	comp=Z,14nm,1.0s								
ELK	Elko	64.23	327	eP		P	16 56 16.0	-0.1	
	comp=Z,14nm,1.0s,mb4.8								
MOOW	Moose Ponds	64.25	332	eP		P	16 56 15.5	-0.6	
	comp=Z,9.8nm,1.1s,mb4.5								
K15A	Arbon	64.28	330	⇓P		P	16 56 16.2	-0.2	
	baz=64,SNR=5.2								
J16A	Bone	64.29	331	⇑P		P	16 56 16.3	-0.1	
	baz=64,SNR=6.3								
I17A	Pilgram Creek	64.31	332	⇓P		P	16 56 16.7	+0.2	
	baz=65,SNR=13								
Q08A	Gabbs	64.40	324	⇑P		P	16 56 17.0	-0.3	
	baz=65								
IMW	Indian Meadow	64.46	332	eP		P	16 56 17.5	0.0	
	comp=Z,23nm,1.3s,mb4.9								
U04C	Hernandez Rese	64.47	320	⇑P		P	16 56 17.7	-0.1	
	baz=65,SNR=6.6								
K14A	Jones Ranch, D	64.49	330	⇑P		P	16 56 17.0	-0.7	
	baz=65,SNR=7.1								
L13A	Double Diamond	64.53	329	⇓P		P	16 56 17.7	-0.3	
	baz=65,SNR=5.7								
M12A	Wells	64.54	328	⇑P		P	16 56 17.7	-0.3	
	baz=65,SNR=14								
V03C	Hunter Liggett	64.54	320	⇓P		P	16 56 18.6	+0.4	
	baz=65,SNR=7.5								
ULM	Lac du Bonnet	64.61	346	P		P	16 56 16.6	-1.8	
	comp=Z,27nm,0.9s,mb5.1,baz=162,slow=6.7,SNR=22								
RLMT	Red Lodge	64.68	334	⇑P		P	16 56 18.6	-0.3	
	baz=65,SNR=5.5								
RLMT	Red Lodge	64.68	334	eP		P	16 56 18.7	-0.2	
	comp=Z,13nm,1.1s,mb4.7								
H17A	Grant Village	64.68	333	⇓P		P	16 56 18.7	-0.2	
	baz=65								
I16A	Newdale	64.69	332	⇓P		P	16 56 19.2	+0.2	
	baz=65,SNR=7.8								
LKWY	Lake	64.73	333	eP		P	16 56 20.2	+0.9	
LKWY				pmax		pmax			
	comp=Z,9.0nm,0.9s,mb4.6								
LKWY	Lake	64.73	333	eP		P	16 56 20.2	+1.0	
	comp=Z,9.2nm,0.9s,mb4.6								
J15A	Blackfoot	64.77	331	⇓P		P	16 56 19.5	-0.1	
	baz=65,SNR=10								
S05C	Merced	64.82	321	⇓P		P	16 56 19.9	-0.1	
	baz=65								
P08A	Dixie Valley	65.05	325	⇑P		P	16 56 21.7	+0.2	
	baz=65								
R06C	Coleville	65.06	323	⇑P		P	16 56 22.1	+0.6	
	baz=65,SNR=9.4								
YMR	Madison River	65.07	333	eP		P	16 56 22.3	+0.9	
	comp=Z,24nm,1.0s,mb5.0								
L12A	House Creek Ra	65.12	328	⇑P		P	16 56 21.9	0.0	
	baz=65								
PACP	Pacheco Peak	65.19	321	⇑P		P	16 56 22.6	+0.2	
	baz=65,SNR=6.6								
H16A	Russell Place,	65.22	333	⇑P		P	16 56 23.0	+0.6	
	baz=66,SNR=25								
J14A	Carey	65.24	330	⇓P		P	16 56 22.7	+0.2	
	baz=66,SNR=30								
CMB	Columbia Colle	65.30	322	eP		P	16 56 23.1	0.0	
CMB				pmax		pmax			
	comp=Z,5.0nm,0.9s,mb4.3								
CMB	Columbia Colle	65.30	322	⇓P		P	16 56 23.3	+0.2	
	baz=66								
CMB	Columbia Colle	65.30	322	eP		P	16 56 23.1	+0.1	
	comp=Z,4.9nm,0.9s,mb4.3								
GCMT	Greycliff	65.38	334	eP		P	16 56 23.3	-0.2	
QLMT	Earthquake Lak	65.40	333	eP		P	16 56 24.2	+0.6	
K12A	Draper Farm, C	65.42	329	⇓P		P	16 56 24.0	+0.3	
	baz=66,SNR=18								
DGMT	Dagmar	65.49	339	⇓P		P	16 56 24.2	+0.2	
	baz=66,SNR=6.1								
DGMT	Dagmar	65.49	339	eP		P	16 56 24.1	+0.1	
	comp=Z,38nm,1.0s,mb5.2								
F18A	Big Timber	65.49	334	⇑P		P	16 56 23.8	-0.3	
	baz=66,SNR=31								
L11A	Cat Creek Ranc	65.52	328	⇑P		P	16 56 24.4	0.0	
	baz=66,SNR=31								
N09A	Rock Creek Ran	65.53	326	⇓P		P	16 56 24.1	-0.4	
	baz=66								
J13A	Cove Ranch, Pi	65.61	330	⇑P		P	16 56 24.8	-0.2	
	baz=66,SNR=7.7								
I14A	Mackay	65.66	331	⇑P		P	16 56 25.5	+0.3	
	baz=66,SNR=7.5								
WCN	Washoe City	65.75	323	⇓P		P	16 56 26.3	+0.3	
	baz=66								
H15A	Lima	65.80	332	⇑P		P	16 56 26.4	+0.3	
	baz=66,SNR=8.7								
PAHR	Pah Rah Range	65.80	324	eP		P	16 56 27.0	+0.8	
	comp=Z,45nm,1.1s,mb5.2								
O07A	Toulon	65.82	325	⇓P		P	16 56 26.2	-0.2	
	baz=66,SNR=21								
N08A	GE Springer Mi	65.82	326	⇑P		P	16 56 26.0	-0.4	
	baz=66,SNR=5.6								
L10A	Juniper Basin	65.83	328	⇑P		P	16 56 26.5	+0.1	
	baz=66,SNR=33								
HLID	Hailey	65.85	330	⇓P		P	16 56 26.5	0.0	
	baz=66,SNR=14								
HLID	Hailey	65.85	330	eP		P	16 56 26.7	+0.1	
	comp=Z,4.9nm,0.6s,mb4.5								
G16A	Moss Hill, Enn	65.88	333	⇑P		P	16 56 26.7	0.0	
	baz=66,SNR=8.9								
M09A	Marrel Ranch,	65.89	326	⇓P		P	16 56 26.5	-0.3	
	baz=66								
J12A	Stokes Ranch,	65.96	329	⇓P		P	16 56 27.0	-0.2	
	baz=66,SNR=10								
I13A	Wildhorse Cree	65.97	330	⇓P		P	16 56 27.4	+0.2	
	baz=66,SNR=27								
LAVA	Lava Cap Winer	65.97	322	⇑P		P	16 56 27.2	-0.2	
	baz=66								
MCMT	McKenzie Canyo	66.05	332	eP		P	16 56 27.8	+0.1	
K11A	Parker Ranch,	66.09	328	⇓P		P	16 56 28.1	0.0	
	baz=66,SNR=6.5								
E18A	Harlowton	66.10	335	⇑P		P	16 56 27.6	-0.4	
	baz=66,SNR=9.2								
BOZ	Bozeman (W)	66.12	333	eP		P	16 56 27.6	-0.6	
BOZ				pmax		pmax			
	comp=Z,16nm,1.3s,mb4.7								
BOZ	Bozeman (W)	66.12	333	⇓P		P	16 56 27.9	-0.3	
	baz=66,SNR=12								
BOZ	Bozeman (W)	66.12	333	eP		P	16 56 27.6	-0.6	
	comp=Z,16nm,1.3s,mb4.7								
H14A	Leadore	66.13	331	⇓P		P	16 56 28.4	+0.2	
	baz=66								
G15A	Dillon	66.14	332	⇓P		P	16 56 28.6	+0.3	
	baz=66,SNR=6.2								
BDM	Black Diamond	66.15	321	⇓P		P	16 56 28.7	+0.2	
	baz=66								
N07B	Gerlach	66.29	325	⇓P		P	16 56 29.1	-0.3	
	baz=66,SNR=14								
DLMT	Dillon	66.34	332	eP		P	16 56 29.7	+0.1	
	comp=Z,20nm,1.3s,mb4.8								
I12A	Atlanta	66.38	330	⇑P		P	16 56 30.1	+0.3	
	baz=67,SNR=11								
M08A	Happy Creek Ra	66.41	326	⇓P		P	16 56 29.6	-0.5	
	baz=67								
E17A	Martinsdale	66.42	334	⇓P		P	16 56 29.9	-0.2	
	baz=67,SNR=11								
L09A	Wilkinson Ranc	66.42	327	⇓P		P	16 56 30.7	+0.5	
	baz=67								
MFID	Camas Ranch	66.45	329	⇑P		P	16 56 30.3	0.0	
	baz=67,SNR=28								
H13A	Challis	66.52	331	⇓P		P	16 56 30.7	0.0	
	baz=67,SNR=18								
K10A	MacKenzie Ranc	66.53	328	⇑P		P	16 56 31.0	+0.1	
	baz=67,SNR=13								
D18A	Linhart Farms,	66.56	335	⇑P		P	16 56 30.9	-0.1	
	baz=67,SNR=9.0								
G14A	Jackson	66.65	332	⇓P		P	16 56 31.5	-0.1	
	baz=67								
F15A	Butte	66.66	333	⇑P		P	16 56 31.4	-0.2	
	baz=67								
N06A	Buffalo Meadow	66.75	325	⇑P		P	16 56 32.5	+0.2	
	baz=67,SNR=37								
CVS	Carmenet Viney	66.75	321	⇓P		P	16 56 32.5	+0.1	
	baz=67								
H12A	Diamond D Ranc	66.80	330	⇑P		P	16 56 32.4	-0.1	
	baz=67,SNR=16								
M07A	Soldier Meadow	66.81	325	⇑P		P	16 56 32.0	-0.7	
	baz=67,SNR=6.5								
E16A	East Helena	66.83	334	⇓P		P	16 56 32.6	-0.1	
	baz=67								
O05C	Quincy	66.86	323	⇓P		P	16 56 32.8	-0.2	
	baz=67								
I11A	Placerville	66.87	329	⇓P		P	16 56 32.8	-0.2	
	baz=67,SNR=11								
MCCM	Marconi Confer	66.89	321	⇑P		P	16 56 33.7	+0.4	
	baz=67								
D17A	Six Diamond Ra	66.89	335	⇓P		P	16 56 32.8	-0.2	
	baz=67,SNR=17								
G13A	Cobalt	66.90	331	⇓P		P	16 56 33.3	+0.1	
	baz=67,SNR=19								
L08A	Fields	66.90	327	⇑P		P	16 56 33.2	0.0	
	baz=67,SNR=14								
K09A	Rome	66.92	327	⇑P		P	16 56 33.6	+0.2	
	baz=67,SNR=38								
J10A	Berg Farm, Mel	66.94	328	⇑P		P	16 56 33.9	+0.5	
	baz=67								
ORV	Oroville	66.94	323	⇓P		P	16 56 34.0	+0.4	
	baz=67,SNR=17								
NSHM	Saint Helena R	66.96	321	eP		P	16 56 34.1	+0.5	
F14A	Wisdom	67.04	332	⇑P		P	16 56 34.4	+0.4	
	baz=67								
HRY	Holter Researc	67.04	334	eP		P	16 56 34.3	+0.3	
D16A	Dana Ranch, Ca	67.16	334	⇓P		P	16 56 34.7	-0.1	
	baz=67,SNR=8.6								
E15A	Deer Lodge	67.17	333	⇑P		P	16 56 34.8	-0.1	
	baz=67								
O04C	Chester	67.19	324	⇓P		P	16 56 35.3	+0.2	
	baz=67,SNR=9.6								
EGMT	Eagleton	67.20	336	⇓P		P	16 56 35.0	0.0	
	baz=68,SNR=7.7								
WVOR	Wild Horse Val	67.23	327	eP		P	16 56 35.1	-0.2	
WVOR				pmax		pmax			
	comp=Z,11nm,1.1s,mb4.6								
WVOR	Wild Horse Val	67.23	327	eP		P	16 56 35.1	-0.2	
	comp=Z,11nm,1.1s,mb4.6								
C17A	Wharram Farm,	67.30	335	⇓P		P	16 56 35.4	-0.2	
	baz=68,SNR=9.9								
L07A	Adell	67.33	326	⇓P		P	16 56 36.4	+0.4	
	baz=68								
J09A	Fry Pan Ranch,	67.39	328	⇑P		P	16 56 36.0	-0.3	
	baz=68,SNR=7.6								
F13A	Darby	67.46	332	⇓P		P	16 56 36.7	0.0	
	baz=68,SNR=9.7								
H11A	Donnelly	67.47	330	⇓P		P	16 56 36.8	0.0	
	baz=68								
E14A	Clinton	67.55	332	⇓P		P	16 56 37.2	0.0	
	baz=68,SNR=8.5								
D15A	Lincoln	67.59	333	⇓P		P	16 56 37.4	-0.1	
	baz=68								
GASB	Alder Springs	67.73	322	⇑P		P	16 56 39.0	+0.5	
	baz=68,SNR=7.8								
K07A	Rock Creek Ran	67.73	326	⇑P		P	16 56 38.6	+0.1	
	baz=68,SNR=6.7								
H10A	Noah's Angus R	67.75	329	⇑P		P	16 56 38.3	-0.3	
	baz=68								
J08A	Circle Bar Ran	67.78	327	⇑P		P	16 56 38.5	-0.3	
	baz=68,SNR=5.4								
MOD	Modoc	67.78	325	⇑P		P	16 56 38.6	-0.2	
	baz=68,SNR=24								
MOD	Modoc	67.78	325	eP		P	16 56 38.3	-0.5	
	comp=Z,33nm,0.7s,mb5.3								
CHMT	Chamberlain Mo	67.82	333	eP		P	16 56 38.9	-0.1	
I09A	Lost Marbles R	67.82	328	⇑P		P	16 56 38.9	-0.2	
	baz=68								
C16A	Fuhringer Ranc	67.85	334	⇑P		P	16 56 38.7	-0.4	
	baz=68								
F12A	Elk City	67.87	331	⇑P		P	16 56 39.0	-0.3	
	baz=68,SNR=13								
E13A	Victor	67.89	332	⇓P		P	16 56 39.6	+0.2	
	baz=68,SNR=10								
D14A	Greenough	68.06	333	⇓P		P	16 56 40.3	-0.1	
	baz=68,SNR=5.5								
MSO	Missoula	68.06	332	eP		P	16 56 41.1	+0.6	
	comp=Z,20nm,1.2s,mb4.8								
G11A	Walters Elk Ra	68.10	330	⇑P		P	16 56 40.5	-0.3	
	baz=68,SNR=13								
L05A	Lakeview	68.18	325	⇑P		P	16 56 41.7	+0.4	
	baz=68								
C15A	Salmond Ranch,	68.19	334	⇑P		P	16 56 41.5	+0.3	
	baz=68,SNR=16								
I08A	Dewsey	68.21	328	⇓P		P	16 56 42.0	+0.6	
	baz=68								
WDC	Whiskeytown Da	68.21	323	eP		P	16 56 39.8	-1.7	
WDC				pmax		pmax			
	comp=Z,9.0nm,0.7s,mb4.7								
WDC	Whiskeytown Da	68.21	323	⇓P		P	16 56 39.7	-1.8	
	baz=68,SNR=7.1								
WDC	Whiskeytown Da	68.21	323	eP		P	16 56 39.8	-1.7	
	comp=Z,8.5nm,0.7s,mb4.7								
BMO	Blue Mountains	68.22	329	eP		P	16 56 41.1	-0.4	
	comp=Z,3.7nm,0.8s,mb4.3								
J07A	Hines	68.23	327	⇑P		P	16 56 41.8	+0.2	
	baz=68								
H09A	Durkee	68.27	329	⇓P		P	16 56 41.8	0.0	
	baz=68								
B16A	M & M Farms, S	68.31	335	⇑P		P	16 56 41.3	-0.6	
	baz=69,SNR=9.0								
K06A	Valley Falls	68.35	326	⇓P		P	16 56 42.5	+0.2	
	baz=69,SNR=33								
F11A	Grangeville	68.40	331	⇑P		P	16 56 41.9	-0.6	
	baz=69,SNR=12								
M03C	McCloud	68.41	324	⇑P		P	16 56 42.1	-0.6	
	baz=69								
G10A	Bishop Farm, J	68.44	330	⇑P		P	16 56 43.1	+0.2	
	baz=69,SNR=11								
D13A	Huson	68.50	332	⇑P		P	16 56 43.0	-0.1	
	baz=69,SNR=6.1								
E12A	Beaver Dam Sad	68.51	331	⇑P		P	16 56 42.8	-0.4	
	baz=69,SNR=8.5								
B15A	Bradely Ranch,	68.59	334	⇑P		P	16 56 43.3	-0.4	
	baz=69,SNR=7.1								
J06A	Christmas Vall	68.60	326	⇑P		P	16 56 44.0	+0.1	
	baz=69,SNR=40								
K05A	Summer Lake	68.66	326	⇑P		P	16 56 44.7	+0.4	
	baz=69,SNR=10								
A16A	West Butte Ran	68.68	335	⇓P		P	16 56 44.0	-0.2	
	baz=69,SNR=7.4								
H08A	Prairie City	68.68	328	⇓P		P	16 56 44.6	+0.2	
	baz=69,SNR=25								
C14A	Swan Lake	68.69	333	⇑P		P	16 56 44.6	+0.2	
	baz=69,SNR=12								
G09A	Cove	68.76	329	⇑P		P	16 56 44.7	-0.2	
	baz=69,SNR=20								
E11A	Bogner Ranch,	68.77	331	⇓P		P	16 56 44.3	-0.5	
	baz=69,SNR=10								
N02C	Big Bar	68.81	323	⇑P		P	16 56 45.1	-0.1	
	baz=69,SNR=38								
I07A	Izee	68.82	327	⇓P		P	16 56 45.4	+0.2	
	baz=69,SNR=30								
L04A	Klamath Falls	68.86	325	⇑P		P	16 56 45.3	-0.2	
	baz=69								
D12A	Red Ives Fores	68.87	332	⇑P		P	16 56 45.0	-0.5	
	baz=69,SNR=6.3								
M02C	Callahan	68.91	323	⇑P		P	16 56 45.7	-0.1	
	baz=69,SNR=6.7								
B14A	Marquette Ranc	68.93	334	⇑P		P	16 56 45.6	-0.3	
	baz=69,SNR=9.6								
F10A	Beach Ranch, E	68.98	330	⇑P		P	16 56 45.9	-0.3	
	baz=69,SNR=6.8								
C13A	Hot Springs	68.99	333	⇓P		P	16 56 46.3	+0.1	
	baz=69,SNR=12								
YBH	Yreka Blue Hor	69.04	324	eP		P	16 56 45.5	-1.2	
YBH				pmax		pmax			
	comp=Z,12nm,0.8s								
YBH	Yreka Blue Hor	69.04	324	⇑P		P	16 56 45.2	-1.5	
	baz=69,SNR=10								
YBH	Yreka Blue Hor	69.04	324	eP		P	16 56 45.5	-1.2	
	comp=Z,12nm,0.8s,mb4.8								
K04A	Chilquin	69.05	325	⇑P		P	16 56 46.8	+0.1	
	baz=69								
I06A	Prineville	69.10	327	⇑P		P	16 56 47.5	+0.5	
	baz=69,SNR=6.4								
F09A	S2 Ranch, Elgi	69.13	329	⇓P		P	16 56 47.1	0.0	
	baz=69,SNR=8.6								
A15A	Johnson Ranch,	69.17	335	⇓P		P	16 56 46.2	-1.1	
	baz=69								
H07A	Lands Inn, Kim	69.20	328	⇓P		P	16 56 47.6	+0.1	
	baz=69,SNR=5.3								
J05A	Fort Rock	69.21	326	⇓P		P	16 56 47.6	-0.1	
	baz=70,SNR=13								
G08A	Pilot Rock	69.36	329	⇓P		P	16 56 48.4	-0.2	
	baz=70,SNR=11								
C12B	Naegeli Ranch,	69.42	332	⇑P		P	16 56 49.0	+0.2	
	baz=70								
B13A	Whitefish	69.46	333	⇓P		P	16 56 49.4	+0.3	
	baz=70								
A14A	Double T Ranch	69.46	334	⇑P		P	16 56 49.3	+0.2	
	baz=70,SNR=6.4								
F08A	Pendleton	69.62	329	⇓P		P	16 56 50.0	-0.2	
	baz=70								
J04A	Umpqua Nationa	69.67	325	⇑P		P	16 56 50.6	+0.1	
	baz=70,SNR=7.0								
H06A	Lindquist Farm	69.70	327	⇓P		P	16 56 50.9	+0.3	
	baz=70,SNR=21								
G07A	Ruggs Ranch, H	69.71	328	⇑P		P	16 56 51.3	+0.5	
	baz=70,SNR=6.1								
WALA	Waterton Lakes	69.74	334	eP		P	16 56 50.7	-0.1	
	comp=Z,21nm,1.1s,mb4.9								
HUMO	Hull Mountain	69.74	324	⇓P		P	16 56 50.3	-0.6	
	baz=70								
D10A	Wagner Farm, O	69.78	331	⇓P		P	16 56 50.9	-0.2	
	baz=70								
E09A	Wood Farm, Sta	69.81	330	⇓P		P	16 56 51.0	-0.3	
	baz=70								
L02A	Cave Junction	69.82	324	⇑P		P	16 56 51.7	+0.2	
	baz=70,SNR=5.7								
C11A	Tepee Creek (N	69.87	332	⇓P		P	16 56 51.4	-0.2	
	baz=70,SNR=16								
B12A	Libby	70.03	333	⇓P		P	16 56 52.8	+0.2	
	baz=70								
H05A	Madras	70.11	327	⇓P		P	16 56 53.2	0.0	
	baz=70								
K02A	Glendale	70.14	324	⇑P		P	16 56 53.3	-0.1	
	baz=70,SNR=15								
G06A	Carlson Farm,	70.19	328	⇑P		P	16 56 53.9	+0.3	
	baz=70								
I04A	Tendick Farm,	70.19	326	⇓P		P	16 56 53.5	-0.2	
	baz=70,SNR=7.5								
E08A	Dider Farm, El	70.25	329	⇑P		P	16 56 54.3	+0.3	
	baz=70								
D09A	Jones Farm, Ri	70.28	330	⇑P

A08A	**Turner Farm, O**	**72.07**	**331**	⇓P		**P**	**16 57 04.9**	**0.0**
	baz=72,SNR=5.5							
B07A	**Winthrop**	**72.13**	**330**	⇑P		**P**	**16 57 05.3**	**0.0**
	baz=72							
LIC	**Lamto**	**72.18**	**79**	*e*PKP1		**P**	**16 57 09.2**	**+2.8**
	comp=Z,12nm,0.7s,mb4.9							
D05A	**Enumclaw**	**72.20**	**329**	⇑P		**P**	**16 57 05.3**	**-0.4**
	baz=72							
TIC	**Toumodi**	**72.30**	**79**	*e*PKP1		**P**	**16 57 08.1**	**+1.1**
	comp=Z,42nm,1.1s,mb5.2							
DBIC	**Dimbokro**	**72.46**	**79**	P		**P**	**16 57 08.2**	**+0.1**
	comp=Z,3.3nm,0.6s,mb4.4,baz=227,slow=7.0,SNR=9.8							
KIC	**Kosan Boka**	**72.49**	**79**	*e*PKP1		**P**	**16 57 08.0**	**-0.2**
	comp=Z,46nm,0.9s,mb5.3							
A07A	**Ashnola River,**	**72.66**	**331**	⇓P		**P**	**16 57 08.7**	**+0.2**
	baz=73,SNR=8.1							
EDM	**Edmonton**	**72.71**	**337**	*e*P		**P**	**16 57 07.7**	**-0.9**
RPW	**Rockport**	**72.80**	**330**	*e*P		**P**	**16 57 09.0**	**-0.3**
JCW	**Jim Creek**	**72.84**	**329**	*e*P		**P**	**16 57 09.0**	**-0.5**
B05A	**Bryant**	**72.97**	**329**	⇑P		**P**	**16 57 10.4**	**+0.1**
	baz=73							
C04A	**Brinnon**	**73.05**	**329**	⇑P		**P**	**16 57 11.1**	**+0.3**
	baz=73							
SNAA	**Sanae**	**73.12**	**162**	*e*P		**P**	**16 57 10.8**	**-0.1**
SNAA				*e*			16 57 12.3	
SNAA				*e*			16 57 25.7	
SNAA				*e*			16 57 40.4	
SNAA				*e*			16 57 58.0	
SNAA	**Sanae**	**73.12**	**162**	*d*P		**P**	**16 57 10.4**	**-0.5**
A05A	**Maple Falls**	**73.45**	**330**	⇑P		**P**	**16 57 12.7**	**-0.4**
	baz=74							
QSPA	**South Pole Qui**	**78.07**	**180**	*e*P		**P**	**16 57 39.3**	**+0.3**
	comp=Z,12nm,1.3s,mb4.5							
TORD	**Torodi Ar. Bea**	**80.35**	**74**	P		**P**	**16 57 52.6**	**0.0**
	comp=Z,14nm,0.8s,mb4.9,baz=264,slow=5.2,SNR=51							
YKA	**Yellowknife Ar**	**80.36**	**343**	P		**P**	**16 57 50.9**	**-0.6**
	comp=Z,4.8nm,0.8s,mb4.4,baz=143,slow=5.9,SNR=5.8							
YKA	**Yellowknife Ar**	**80.36**	**343**	P		**P**	**16 57 50.9**	**-0.6**
ESDC	**Sonseca Array**	**83.71**	**47**	P		**P**	**16 58 10.6**	**+0.9**
	comp=Z,0.4nm,0.4s,baz=264,slow=5.2,SNR=5.2							
ESDC				pP		pP	16 58 40.2	+6.5
	comp=Z,2.1nm,0.8s,baz=243,slow=6.4,SNR=2.7							
SYO	**Syowa Base**	**87.40**	**161**	⇓*i*P		**P**	**16 58 25.0**	**-2.5**
SYO	**Syowa Base**	**87.40**	**161**	⇓*e*pP		pP	16 58 55.6	+3.9
HYT	**Haines Junctio**	**87.57**	**334**	*e*P		**P**	**16 58 28.7**	**+0.5**
DAWY	**Dawson**	**89.92**	**337**	*e*P		**P**	**16 58 38.7**	**-0.6**
INK	**Inuvik**	**90.07**	**342**	*e*P		**P**	**16 58 39.2**	**-0.6**
	comp=Z,776nm,1.0s							
EGAK	**Eagle**	**90.93**	**337**	*e*P		**P**	**16 58 43.3**	**-0.6**
	comp=Z,13nm,0.8s,mb5.1							
PMR	**Palmer**	**92.99**	**333**	*e*P		**P**	**16 58 52.3**	**-1.2**
PMR					pmax	pmax		
	comp=Z,7.0nm,0.6s,mb5.2							
PMR	**Palmer**	**92.99**	**333**	*e*P		**P**	**16 58 52.3**	**-1.2**
	comp=Z,7.2nm,0.6s,mb5.2							
KDAK	**Kodiak Island**	**93.44**	**328**	P		**P**	**16 58 54.8**	**-0.9**
	comp=Z,5.7nm,0.8s,mb5.0,baz=189,slow=5.2,SNR=3.7							
COLA	**College**	**93.59**	**336**	*d*P		**P**	**16 58 55.3**	**-0.9**
COLA	**College**	**93.59**	**336**	*e*P		**P**	**16 58 54.8**	**-1.4**
	comp=Z,17nm,0.9s,mb5.4							
IMA2	**Indian Mountai**	**96.28**	**336**	*e*P		**P**	**16 59 07.5**	**-1.0**
GERES	**GERESS Array B**	**98.31**	**42**	P		**P**	**16 59 18.6**	**+0.5**
	comp=Z,0.3nm,0.7s,mb4.0,baz=236,slow=7.0,SNR=5.0							
GERES				pP		pP	16 59 48.7	+6.2
	comp=Z,1.1nm,0.9s,baz=260,slow=7.7,SNR=3.2							
BILL	**Bilibino**	**111.57**	**339**	*e*P		Pdif	17 00 15.8	-1.2
BILL					pmax	pmax		
	comp=Z,8.0nm,1.3s							
PETK	**Petropavlovsk-**	**121.38**	**326**	PKP		PKPdf	17 04 32.6	-0.6
	comp=Z,4.0nm,1.0s,baz=101,slow=7.6,SNR=3.0							
STKA	**Stephens Creek**	**123.81**	**218**	PKP		PKPdf	17 04 37.2	-1.4
	comp=Z,2.4nm,0.6s,baz=112,slow=3.4,SNR=9.0							
YAK	**Yakutsk**	**126.96**	**346**	⇑*i*PKIKP		PKPdf	17 04 42.4	-1.3
CTA	**Charters Tower**	**128.11**	**232**	PKP		PKPdf	17 04 45.6	-1.5
	comp=Z,3.5nm,1.1s,baz=180,slow=5.1,SNR=3.7							
NWAO	**Narrogin (SRO)**	**133.69**	**195**	PKP		PKPdf	17 04 55.8	-1.6
	comp=Z,5.0nm,0.9s,baz=203,slow=6.8,SNR=4.3							
ASAR	**Alice Springs**	**134.43**	**219**	PKhKP			17 04 42.5	
	comp=Z,0.5nm,1.0s,baz=122,slow=2.8,SNR=4.4							
ASAR					PKP	PKPdf	17 04 57.8	-1.2
	comp=Z,2.8nm,0.7s,baz=127,slow=1.8,SNR=42							
ZALV	**Zalesovo Beam**	**135.34**	**17**	PKhKP			17 04 53.6	
	comp=Z,1.2nm,0.6s,baz=41,slow=0.6,SNR=5.3							
ZALV					PKP	PKPdf	17 04 59.6	-0.2
	comp=Z,5.5nm,0.8s,baz=304,slow=2.1,SNR=20							
ZALV					pPKP	pPKPdf	17 05 32.6	+7.5
	comp=Z,1.7nm,0.7s,baz=325,slow=2.3,SNR=2.5							
HABR	**Khabarovsk**	**135.79**	**331**	*e*PKIKP		PKPdf	17 04 58.6	-2.2
KURK	**Kurchatov**	**135.96**	**24**	PKP		PKPdf	17 05 01.4	+0.4
	comp=Z,3.1nm,0.3s,baz=314,slow=2.5,SNR=6.6							
WRAB	**Tennant Creek**	**136.84**	**223**	*d*PKIKP		PKPdf	17 05 02.4	-1.2
MKAR	**Makanchi Array**	**140.55**	**24**	PKhKP			17 05 02.1	
	comp=Z,1.1nm,0.7s,baz=336,slow=2.7,SNR=5.9							
MJAR	**Matsushiro Arr**	**141.26**	**315**	PKhKP			17 05 03.8	
	comp=Z,6.1nm,0.8s,baz=91,slow=1.3,SNR=18							
MAJO	**Matsushiro**	**141.26**	**315**	*e*PKHKP			17 05 03.6	
MAT	**Matsushiro**	**141.26**	**315**	PKP			17 05 03.7	
ZAK	**Zakamensk**	**141.78**	**1**	*e*PKHKP			17 04 44.5	
ZAK					pmax	pmax		
	comp=Z,3.0nm,1.1s							
ULN	**Ulaanbaatar**	**144.26**	**357**	*d*PKIKP		PKPdf	17 05 14.8	-1.3
ULN	**Ulaanbaatar**	**144.26**	**357**	*e*P		PKPdf	17 05 14.6	-1.6
SONM	**Songino Array**	**144.31**	**358**	PKP		PKPdf	17 05 15.1	-1.1
	comp=Z,17nm,0.8s,baz=324,slow=2.6,SNR=120							
SONM					pPKP	pPKPdf	17 05 47.9	+6.3
	comp=Z,3.0nm,0.8s,baz=318,slow=1.7,SNR=3.2							
WMQ	**Urumqi**	**145.12**	**22**	PKP		PKPdf	17 05 17.0	-0.8
WMQ					APKP		17 05 50.0	
KSRS	**Korea Array**	**147.26**	**325**	PKPbc		PKPbc	17 05 21.2	-2.8
	comp=Z,19nm,1.2s,baz=35,slow=2.1,SNR=17							
BJI	**Beijing**	**150.35**	**342**	PKP		PKPbc	17 05 30.1	-1.7
BJI					PP	PP		
	comp=Z,88nm,4.3s							
BJT	**Baijiatuau**	**150.37**	**342**	*e*PKIKP		PKPbc	17 05 30.9	-0.9
GTA	**Gaotai**	**152.42**	**8**	*e*PKP		PKPdf	17 05 30.1	+0.4
LZH	**Lanzhou**	**156.07**	**2**	*e*PKP		PKPdf	17 05 35.0	+0.1
LZH					APKP		17 06 02.5	
LZH					XPKP		17 06 12.0	
LZH					LR	LR		
	comp=N,148nm,16.9s							
LZH					LR	LR		
	comp=Z,145nm,18.4s							
CD2	**Chengdu**	**161.22**	**3**	*e*PKP		PKPdf	17 05 37.3	-3.9
CD2					APKP		17 06 09.0	
CD2					XPKP		17 06 20.3	
CD2					PKP2	PKPab	17 06 26.3	+1.4
CD2					SKS	SKSdf	17 12 30.3	-8.0
CD2					SKKS	SKKSac	17 16 43.8	-4.6
CD2					PP	PP		
	comp=Z,120nm,10.8s							
CD2					LR	LR		
	comp=N,180nm,18.4s							
CD2					LR	LR		
	comp=Z,160nm,16.8s							
GYA	**Guiyang**	**165.56**	**353**	PKP		PKPdf	17 05 42.3	-3.1
GYA					APKP		17 06 16.4	
GYA					PKP2	PKPab	17 06 43.5	-0.6
GYA					PKS		17 09 14.3	
GYA					PP	PP	17 10 32.9	+3.1
GYA					SKKS	SKKSac	17 17 06.3	-4.2
GYA					PP	PP		
	comp=Z,120nm,8.9s							
GYA					LR	LR		
	comp=N,180nm,22.9s							
GYA					LR	LR		
	comp=E,170nm,23.5s							
GYA					LR	LR		
	comp=Z,120nm,24.0s							
CMAR	**Chiang Mai Arr**	**171.56**	**40**	PKP		PKPdf	17 05 49.1	-0.4
	comp=Z,1.7nm,1.1s,baz=292,slow=1.0,SNR=11							
CMAR					pPKP	pPKPdf	17 06 22.9	+7.8
	comp=Z,0.6nm,0.8s,baz=326,slow=1.6,SNR=3.4							
CMAR					PKPab	PKPab	17 07 10.8	-0.2
	comp=Z,1.1nm,0.8s,baz=319,slow=6.2,SNR=9.4							

*ISCJB **24** 17:31:14.0±0.8, 555S±0.1×273W±0.3, h10km, mb4.4/6, MS3.4/3, Error ellipse: s-maj=30.4km s-min=11.3km az=145.3*
*IDC **24** 17:31:14.3±1.0, 5547S×27.16W, h0km, mb4.6/2, mb1 4.8/2, mb1mx4.0/12, mbtmp4.6/2, MS3.4/3, Ms1 3.4/3, ms1mx3.2/18, Error ellipse: s-maj=49.5km s-min=27.3km az=52.0*
*NEIC **24** 17:31:19.6±0.6, 5559S×27.44W, h35km, mb4.6/3, Error ellipse: s-maj=27.3km s-min=15.8km az=47.0*

ISC 24 17:31:15.9±0.8, 555S±01×273W±03, h10km, n17, σ0.8 88/11, mb4.4/6, MS3.4/3, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
VNA1	**Neumayer--Stat**	**17.34**	**159**	*e*		**Pn**		**17 35 24.5**	**+7.0**
VNA1				*e*				17 35 28.7	
VNA3	**Neumayer Olymp**	**17.54**	**161**	*e*		**Pn**		**17 35 20.8**	**+0.8**
VNA3				*e*				17 35 24.4	
VNA2	**Neumayer--Watz**	**17.73**	**158**	*e*		**Pn**		**17 35 23.6**	**+1.2**
VNA2				*e*				17 35 27.9	
SNAA	**Sanae**	**19.27**	**157**	*e*		**Pn**		**17 35 40.2**	**-1.0**
SNAA				*e*				17 35 44.6	
TRQA	**Tornquist**	**29.07**	**292**	*e*P		**P**		**17 37 16.2**	**0.0**
	20nm,1.1s,mb4.8								
PLCA	**Paso Flores**	**31.87**	**279**	LR		LR		17 48 58.2	
	comp=Z,36nm,18.5s,MS3.1,baz=186,slow=33								
QSPA	**South Pole Qui**	**34.77**	**180**	*e*P		**P**		**17 38 05.2**	**-0.5**
	2.2nm,0.6s,mb4.3								
MAW	**Mawson**	**40.63**	**144**	P		**P**		**17 38 55.8**	**+0.4**
	1.2nm,0.6s,mb3.7,baz=212,slow=9.5,SNR=8.2								
LCO	**Las Campanas**	**40.65**	**292**	*e*P		**P**		**17 38 55.4**	**-0.6**
	17nm,1.0s,mb4.6								
BOSA	**Boshof**	**45.87**	**76**	LR		LR		17 55 07.3	
	comp=Z,86nm,18.4s,MS3.7,baz=171,slow=31								
LPAZ	**La Paz**	**50.02**	**305**	P		**P**		**17 40 11.7**	**+1.3**
	7.4nm,0.6s,mb4.9,baz=158,slow=6.2,SNR=34								
LPAZ						LR	LR	18 00 07.9	
	comp=Z,36nm,20.3s,MS3.4,baz=9.1,slow=35								
TORD	**Torodi Ar. Bea**	**72.58**	**30**	P		**P**		**17 42 43.0**	**-0.1**
	123nm,0.3s,baz=202,slow=4.5,SNR=1.7								
ASAR	**Alice Springs**	**99.54**	**163**	P		**P**		**17 44 57.6**	**-1.5**
	0.4nm,0.7s,mb4.0,baz=189,slow=4.2,SNR=7.5								
ARCES	**ARCESS Array B**	**130.43**	**22**	PKP		PKPdf		17 50 24.2	-0.6
	5.9nm,0.9s,baz=232,slow=1.0,SNR=6.4								
ZALV	**Zalesovo Beam**	**142.15**	**63**	PKP		PKPdf		17 50 49.5	+2.6
	0.8nm,0.5s,baz=265,slow=4.4,SNR=4.8								
INK	**Inuvik**	**145.34**	**321**	*e*P		PKPbc		17 50 51.8	-0.3
SONM	**Songino Array**	**150.73**	**86**	PKPbc		PKPbc		17 51 07.3	+0.1
	1.7nm,0.7s,baz=226,slow=3.3,SNR=14								

*IDC **24** 17:59:00.2±0.8, 758S×13009E, h0km, mb4.3/9, mb1 4.3/12, mb1mx4.3/15, mbtmp4.3/12, ML4.2/3, MS3.7/4, Ms1 3.6/4, ms1mx3.1/18, Error ellipse: s-maj=24.3km s-min=16.5km az=91.0*
*MOS **24** 17:59:02.9±0.7, 758S×13002E, h33km, mb4.7/10, Error ellipse: s-maj=16.3km s-min=9.8km az=115.8*
*BJI **24** 17:59:02.7, 794S×13038E, h38km, mB5.0, mb4.5, Ms5.2, Msz4.6*
*NEIC **24** 17:59:05.5±1.3, 7595S×13005E, h39km±12km, mb4.7/18, Error ellipse: s-maj=9.5km s-min=5.0km az=63.0*
*ISCJB **24** 17:59:06.9±1.0, 763S±005×13010E±005, h71km±9km, mb4.6/30, Error ellipse: s-maj=8.4km s-min=7.8km az=177.9*
*DJA **24** 17:59:06.8±0.3, 8 S±5×130E±, h10km, mB5.6/5, Mjma4.3/3, MLv5.2/4, Mw(mB)5.3/5, Mwp4.6/5*

ISC 24 17:59:07.9±0.8, 764S±004×13011E±005, h62km±8km, h15km±5.4km: pP-P, n90, σ1.9 00/98, mb4.7/30, 9C-3D, Tanimbar Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
TLE	**Tual**	**3.28**	**53**	⇓*e*P		**Pn**		**17 59 47.0**	**-10**
TLE				*e*S		**Sn**		**18 00 35.0**	**+0.3**
AAI	**Ambon**	**4.37**	**334**	⇑*e*P		**Pn**		**18 00 10.8**	**-1.0**
AAI				*e*S				18 00 17.1	
KAKA	**Kakadu**	**5.53**	**156**	*e*P		**Pn**		**18 00 17.9**	**-10**
	255nm,0.5s								
KAKA				*e*S		**Sn**		**18 01 17.6**	**-12**
KAKA	**Kakadu**	**5.53**	**156**	P		**Pn**		**18 00 18.0**	**-10**
BATI	**Baumata**	**6.86**	**248**	Pn		**Pn**		**18 00 44.4**	**-1.6**
	13nm,0.3s,baz=106,slow=2.0,SNR=34								
BATI						Sn	**Sn**	**18 01 58.0**	**-4.7**
	16nm,0.3s,baz=359,slow=23,SNR=2.0								
BATI	**Baumata**	**6.86**	**248**	P		**Pn**		**18 00 46.0**	**+0.1**
	102nm,0.8s,898nm0.5nm								
LBMI	**Labuha**	**7.43**	**339**	P		**Pn**		**18 00 55.9**	**+2.2**
	496nm,1.1s,4μm1.2nm								
KDI	**Kendari**	**8.31**	**296**	⇑*e*P		**Pn**		**18 01 07.8**	**+2.1**
KDI				*e*S		**Sn**		**18 02 46.2**	**+8.1**
KDI	**Kendari**	**8.31**	**296**	P		**Pn**		**18 01 16.2**	**+10**
	38nm,1.1s,2μm0.1nm								
KAPI	**Kappang**	**10.62**	**284**	Pn		**Pn**		**18 01 34.5**	**-2.9**
	0.7nm,0.3s,baz=204,slow=20,SNR=2.2								
KAPI						LR	LR	18 05 24.5	
	comp=Z,122nm,18.0s,baz=293,slow=36								
KAPI	**Kappang**	**10.62**	**284**	Pn		**Pn**		**18 01 34.5**	**-2.9**
KAPI						LR	LR	18 05 24.5	
WRAB	**Tennant Creek**	**12.89**	**162**	*e*P		**Pn**		**18 02 00.1**	**-8.2**
COEN	**Coen**	**14.28**	**117**	*e*P		**Pn**		**18 02 20.4**	**-6.5**
	11nm,0.6s								
BBKI	**Banjar Baru**	**15.76**	**284**	P		**Pn**		**18 02 51.7**	**+5.6**
	168nm,0.9s								
ASAR	**Alice Springs**	**16.34**	**168**	Pn		**Pn**		**18 02 46.4**	**-7.0**
	5.7nm,0.3s,baz=348,slow=14,SNR=217								
ASAR						Sn	**Sn**	**18 05 32.6**	**-21**
	0.7nm,0.3s,baz=1.4,slow=11,SNR=3.3								
MBWA	**Marble Bar**	**16.77**	**216**	*e*P		**Pn**		**18 02 52.1**	**-6.7**
	34nm,1.0s								
PMG	**Port Moresby**	**16.95**	**97**	*d*P		**Pn**		**18 03 01.2**	**+0.2**
PMG	**Port Moresby**	**16.95**	**97**	P		**Pn**		**18 03 01.8**	**+0.8**
	56nm,1.1s								
PLKI	**Palangkaraya**	**16.98**	**288**	P		**Pn**		**18 03 04.5**	**+3.1**
	176nm,1.0s,2μm								
TSM	**Tawau**	**17.02**	**314**	⇑P		**Pn**		**18 03 09.3**	**+7.3**
MYLDM	**Lahad Datu**	**17.22**	**317**	⇑P		**Pn**		**18 03 10.7**	**+6.3**
SJI	**Sawahan**	**18.18**	**268**	P		**Pn**		**18 03 18.2**	**+2.0**
SDKM	**Sandakan**	**18.45**	**315**	⇑P		**Pn**		**18 03 25.3**	**+5.9**
PBKI	**Pangkalan Bun**	**19.01**	**284**	P		**Pn**		**18 03 26.3**	**+0.2**
	162nm,1.1s								
CTA	**Charters Tower**	**19.94**	**130**	*e*P		**Pn**		**18 03 35.6**	**-1.4**
	9.9nm,0.9s								
CTA				*e*S		**S**		**18 07 20.1**	**+4.1**
CTA	**Charters Tower**	**19.94**	**130**	P		**Pn**		**18 03 35.1**	**-2.0**
	0.4nm,0.3s,baz=300,slow=13,SNR=7.1								
CTA					S	**S**		**18 07 16.7**	**+0.7**
	0.2nm,0.3s,baz=225,slow=20,SNR=1.9								
CTA					LR	LR		18 12 25.0	
	comp=Z,292nm,18.3s,baz=312,slow=40								
CTA	**Charters Tower**	**19.94**	**130**	*e*P		**Pn**		**18 03 35.6**	**-1.4**
CTA				*e*S		**S**		**18 07 20.1**	**+4.1**
CTA					pmax	pmax			
	comp=Z,10.0nm,0.9s								
CTAO	**Charters Tower**	**19.94**	**130**	*e*P		**Pn**		**18 03 35.3**	**-1.7**
CTAO					pmax	pmax			
	comp=Z,12nm,0.8s								
CTAO	**Charters Tower**	**19.94**	**130**	*e*P		**Pn**		**18 03 35.3**	**-1.7**
	comp=Z,12nm,0.8s								
BTM	**Bintulu**	**20.12**	**302**	⇑P		**P**		**18 03 43.6**	**+6.7**
SBUM	**Sibu**	**20.48**	**299**	⇑P		**P**		**18 03 48.2**	**+7.4**
SBUM	**Sibu**	**20.48**	**299**	P		**P**		**18 03 46.9**	**+6.1**
FORT	**Forrest**	**23.10**	**185**	*e*P		**P**		**18 04 08.0**	**-0.5**
	comp=Z,36nm,0.8s,mb4.9								
FORT				*e*S		**S**		**18 08 15.5**	**+0.6**
STKA	**Stephens Creek**	**26.38**	**158**	*e*P		**P**		**18 04 38.3**	**-0.1**
	comp=Z,13nm,0.6s,mb4.7								
STKA				*e*S		**S**		**18 09 24.4**	**+17**
STKA	**Stephens Creek**	**26.38**	**158**	S		**S**		**18 09 20.1**	**+13**
	comp=Z,2.0nm,0.8s,baz=301,slow=19,SNR=1.7								
KLBR	**Kellerberrin**	**26.47**	**204**	*e*P		**P**		**18 04 39.0**	**-0.3**
	comp=Z,12nm,0.5s,mb4.7								
KLBR				*e*S		S		18 09 31.6	+23
MUN	**Mundaring**	**27.46**	**206**	*e*P		**P**		**18 04 47.7**	**-0.5**
MUN				*e*S		S		18 09 56.8	+32
NWAO	**Narrogin (SRO)**	**27.85**	**204**	P		**P**		**18 04 51.3**	**-0.3**
	comp=Z,6.7nm,0.4s,mb4.6,baz=43,slow=7.4,SNR=26								
NWAO					S	S		18 10 02.6	+32
	comp=Z,2.1nm,0.5s,baz=71,slow=23,SNR=2.5								
CNB	**Canberra Magne**	**32.72**	**150**	*e*P		**P**		**18 05 39.8**	**+5.2**
TOO	**Toolangi**	**32.90**	**157**	*e*P		**P**		**18 05 38.2**	**+2.0**
CMAR	**Chiang Mai Arr**	**40.23**	**310**	P		**P**		**18 06 38.4**	**-0.4**
	comp=Z,0.9nm,0.5s,mb3.8,baz=136,slow=6.6,SNR=15								
CHTO	**Chiang Mai**	**40.45**	**311**	*e*P		**P**		**18 06 39.2**	**-1.4**
CHTO					pmax	pmax			
	comp=Z,8.0nm,1.0s,mb4.4								
CHTO	**Chiang Mai**	**40.45**	**311**	*e*P		**P**		**18 06 39.2**	**-1.4**
	comp=Z,8.2nm,1.0s,mb4.4								
WHN	**Wuhan**	**40.87**	**339**	⇑P		**P**		**18 06 49.3**	**+5.4**
MJAR	**Matsushiro Arr**	**44.60**	**9**	P		**P**		**18 07 12.5**	**-1.5**
	comp=Z,2.7nm,0.8s,mb4.1,baz=194,slow=11,SNR=6.3								
MAJO	**Matsushiro**	**44.60**	**9**	*e*P		**P**		**18 07 13.6**	**-0.4**
MAJO					pmax	pmax			
	comp=Z,11nm,0.8s,mb4.7								
MAJO	**Matsushiro**	**44.60**	**9**	*e*P		**P**		**18 07 13.6**	**-0.5**
	comp=Z,11nm,0.8s,mb4.7								
MAT	**Matsushiro**	**44.60**	**9**	P		**P**		**18 07 12.5**	**-1.5**
KSRS	**Korea Array**	**44.91**	**358**	P		**P**		**18 07 17.6**	**+1.2**
	comp=Z,1.7nm,1.0s,mb3.8,baz=178,slow=11,SNR=3.4								
KSRS					LR	LR		18 24 22.3	
	comp=Z,80nm,19.7s,baz=333,slow=34								
XAN	**Xi'an**	**46.07**	**335**	P		**P**		**18 07 26.8**	**+1.1**
XAN					AP	pP		18 07 34.0	-7.6
XAN					AMB	AMB			
	comp=Z,3.0nm,0.5s,mb4.5								
LZH	**Lanzhou**	**50.02**	**332**	*e*P		**P**		**18 08 01.4**	**+5.2**
LZH					AP	pP		18 08 06.5	-5.8
LZH					AMB	AMB			
	comp=Z,18nm,1.5s,mb4.9								
LZH					AMB	AMB			
	comp=Z,85nm,4.0s								
LSA	**Lhasa**	**52.74**	**317**	P		**P**		**18 08 19.1**	**+2.5**
LSA	**Lhasa**	**52.74**	**317**	*e*P		**P**		**18 08 16.1**	**-0.5**
LSA					pmax	pmax			
	comp=Z,5.0nm,0.8s,mb4.5								
LSA	**Lhasa**	**52.74**	**317**	*e*P		**P**		**18 08 16.1**	**-0.5**
	comp=Z,4.7nm,0.8s,mb4.5								
ODAN	**Odare**	**53.76**	**311**	*e*P		**P**		**18 08 24.9**	**+0.7**
	comp=Z,15nm,0.5s,mb5.1								
TAPN	**Taplejung**	**53.80**	**312**	*e*P		**P**		**18 08 24.1**	**-0.4**
	comp=Z,11nm,0.4s,mb5.1								
RAMN	**Ramite**	**54.40**	**311**	*e*P		**P**		**18 08 29.6**	**+0.7**
	comp=Z,47nm,0.7s,mb5.5								
GTA	**Gaotai**	**54.59**	**331**	*e*P		**P**		**18 08 35.0**	**+5.0**
GTA					AP	pP		18 08 39.8	-6.5
GTA					AMB	AMB			
	comp=Z,6.0nm,1.2s,mb4.5								
JIRN	**Jiri**	**55.09**	**311**	*e*P		**P**		**18 08 33.6**	**-0.3**
	comp=Z,10nm,0.5s,mb5.1								
GUN	**Gumba**	**55.46**	**311**	*e*P		**P**		**18 08 36.7**	**+0.2**
	comp=Z,29nm,0.6s,mb5.5								
KKN	**Kakani**	**55.84**	**311**	*e*P		**P**		**18 08 39.1**	**-0.1**
	comp=Z,16nm,0.7s,mb5.2								
KKN	**Kakani**	**55.84**	**311**	*e*P		**P**		**18 08 39.1**	**-0.1**
KKN					pmax	pmax			
	comp=Z,16nm,0.7s,mb5.2								
DMN	**Daman**	**55.88**	**311**	*e*P		**P**		**18 08 40.0**	**+0.5**
GKN	**Gorkha**	**56.44**	**311**	*e*P		**P**		**18 08 42.8**	**-0.7**
	comp=Z,12nm,0.4s,mb5.2								
KOLN	**Koldanda**	**57.10**	**310**	*e*P		**P**		**18 08 47.8**	**-0.4**
DANN	**Dangsing**	**57.28**	**311**	*e*P		**P**		**18 08 49.1**	**-0.3**
ULN	**Ulaanbaatar**	**58.91**	**342**	*e*P		**P**		**18 08 59.9**	**-0.5**
ULN					pmax	pmax			
	comp=Z,4.0nm,0.6s,mb4.6								
ULN	**Ulaanbaatar**	**58.91**	**342**	*e*P		**P**		**18 08 59.9**	**-0.5**
	comp=Z,3.9nm,0.6s,mb4.6								
SONM	**Songino Array**	**59.08**	**342**	P		**P**		**18 09 02.0**	**+0.4**
	comp=Z,1.0nm,0.5s,mb4.1,baz=162,slow=7.3,SNR=12								
CASY	**Casey**	**60.09**	**189**	*e*P		**P**		**18 09 08.6**	**+0.3**
MOY	**Mondy**	**64.16**	**340**	*e*P		**P**		**18 09 41.3**	**+5.6**
PETK	**Petropavlovsk-**	**64.90**	**18**	P		**P**		**18 09 41.3**	**+0.8**
	comp=Z,2.9nm,0.6s,mb4.5,baz=170,slow=4.7,SN

LIT	**Litokhoron**	**1.42**	**238**	P	**Pn**	**18 12 43.7**	**0.0**
LIT				S	**Sb**	**18 13 01.1**	**-1.4**
ALN	**Alexandroupoli**	**1.51**	**88**	P	**Pn**	**18 12 43.9**	**-1.0**
ALN				S	**Sn**	**18 13 06.8**	**+2.0**
DIM	**Dimitrovgrad**	**1.62**	**43**	*i* P	**Pn**	**18 12 47.9**	**+1.5**
STIP	**Stip**	**1.63**	**301**	*e*Pn	**Pn**	**18 12 48.7**	**+2.1**
STIP				*e*Sg	**Sg**	**18 13 09.2**	**-0.7**
STIP	**Stip**	**1.63**	**301**	*e*Pn	**Pn**	**18 12 47.3**	**+0.7**
STIP				*e*Sg	**Sg**	**18 13 10.0**	**+0.1**
STIP	**Stip**	**1.63**	**301**	*e*Pn	**Pn**	**18 12 47.2**	**+0.6**
STIP				*e*Sg	**Sg**	**18 13 09.2**	**-0.7**
XOR	**Xorichti**	**1.64**	**204**	P	**Pn**	**18 12 45.9**	**-0.8**
PGB	**Panagyurishte**	**1.68**	**3**	P	**Pn**	**18 12 48.2**	**+0.9**
AOS	**Alonnisos**	**1.70**	**185**	P	**Pn**	**18 12 46.6**	**-1.0**
KZN	**Kozani**	**1.83**	**253**	*e*Pn	**Pn**	**18 12 50.9**	**+1.6**
KZN				*e*Sn	**Sn**	**18 13 13.9**	**+1.2**
KZN	**Kozani**	**1.83**	**253**	*e*PN	**Pn**	**18 12 50.9**	**+1.6**
KZN				*e*SN	**Sn**	**18 13 13.9**	**+1.2**
FNA	**Florina**	**2.03**	**268**	P	**Pn**	**18 12 52.1**	**0.0**
THL	**Klokotos Trika**	**2.04**	**231**	P	**Pn**	**18 12 51.8**	**-0.3**
THL				S	**Sn**	**18 13 16.4**	**-1.4**
THL	**Klokotos Trika**	**2.04**	**231**	*e*Pb	**Pn**	**18 12 52.4**	**+0.3**
THL				S	**Sn**	**18 13 16.4**	**-1.4**
THL	**Klokotos Trika**	**2.04**	**231**	*e*PB	**Pn**	**18 12 52.4**	**+0.3**
AGG	**Agios Georgios**	**2.27**	**216**	P	**Pn**	**18 12 55.3**	**-0.1**
AGG				S	**Sn**	**18 13 22.4**	**-1.2**
JMB	**Yambol**	**2.48**	**49**	P	**Pg**	**18 13 04.1**	**-0.8**
JMB				S	**Sg**	**18 13 38.2**	**+1.2**
JMB	**Yambol**	**2.48**	**49**	*i* P	**Pg**	**18 13 03.9**	**-1.0**
BARS	**Barje**	**2.56**	**320**	*e*Pn	**Pn**	**18 13 05.2**	**+5.8**
BARS				*e*Sg	**Sg**	**18 13 38.1**	**-1.7**
BARS	**Barje**	**2.56**	**320**	*e*Sg	**Sg**	**18 13 38.1**	**-1.7**
EVR	**Evrytania**	**2.61**	**222**	*e*Pb	**Pb**	**18 13 02.0**	**-2.5**
EVR	**Evrytania**	**2.61**	**222**	*e*PB	**Pb**	**18 13 02.0**	**-2.5**
CHOS	**Chios island**	**2.92**	**147**	P	**Pn**	**18 13 03.9**	**-0.5**
DID	**Didima**	**3.42**	**191**	P	**Pn**	**18 13 11.0**	**-0.2**
GZR	**Gura Zlata**	**4.62**	**349**	S	**Sg**	**18 14 41.3**	**-4.4**
VOIR		**4.62**	**9**	⇓*i*P	**Pn**	**18 13 28.8**	**+1.1**
TIRR	**Tirgusor**	**4.81**	**40**	⇓*i*P	**Pn**	**18 13 32.1**	**+1.8**
TIRR	**Tirgusor**	**4.81**	**40**	S	**Sg**	**18 14 50.1**	**-1.9**
MLR	**Muntele Rosu**	**4.82**	**16**	⇑*i*P	**Pn**	**18 13 33.1**	**+2.7**
MLR	**Muntele Rosu**	**4.82**	**16**	S	**Sg**	**18 14 51.3**	**-0.9**
BZS	**Buzias**	**5.07**	**340**	*e*Pn	**Pn**	**18 13 37.8**	**+4.0**
BZS				*e*Sg	**Sg**	**18 14 54.4**	**-5.7**
BZS	**Buzias**	**5.07**	**340**	⇑*i*P	**Pn**	**18 13 30.9**	**-2.9**
BZS	**Buzias**	**5.07**	**340**	S	**Sb**	**18 14 48.7**	**+1.2**
VRI	**Vrincioaia**	**5.36**	**20**	⇑*i*P	**Pn**	**18 13 38.5**	**+0.7**

*GII **24** 18:24:45.1±0.0, 4035N×3894E, h5km±1km, mb4.6/3, ML4.6/3*
*ISK **24** 18:25:13.6, 3647N×4088E, h5km, ML4.4*
*ISCJB **24** 18:25:14.3±0.5, 3634N±003×4089E±005, h10km, Error ellipse: s-maj=6.7km s-min=3.8km az=36.7*
ISC 24 18:25:15.8±0.5**,3640N**±003×**4089E**±005**,h10**km**,n51,**
σ**1§01**/52**, Jordan - Syria region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MARD	**Mardin**	**0.92**	**354**	*i* P	**Pg**	**18 25 31.7**	**-1.7**
BEST	**Besiri**	**1.52**	**11**	*i* P	**Pn**	**18 25 41.9**	**-1.1**
DIYA	**Diyarbakir**	**1.64**	**338**	*i* P	**Pn**	**18 25 43.9**	**-0.8**
SIRT	**Sirnak**	**1.66**	**48**	*e*PN	**Pn**	**18 25 44.2**	**-0.7**
SIRT				*e*SN	**Sn**	**18 26 06.9**	**+0.7**
MSL	**Mosul**	**1.79**	**89**	*ex*	x	18 25 45.0	
MSL				*i* x	x	18 25 46.9	
MSL				*i* x	x	18 25 49.5	
MSL				*i* x	x	18 26 11.0	
MSL				*i* x	x	18 26 13.0	
MSL				*i* x	x	18 26 16.0	
URFA	**Urfa**	**1.96**	**303**	*e*PN	**Pn**	**18 25 48.4**	**-0.7**
URFA				*e*SN	**Sn**	**18 26 14.4**	**+0.8**
ATAB	**Bozova**	**2.34**	**298**	*i* P	**Pn**	**18 25 53.0**	**-1.3**
SVRC	**Sivrice-ELAZID**	**2.34**	**328**	*e*PN	**Pn**	**18 25 54.0**	**-0.3**
HAKT	**HAKKARI**	**2.53**	**62**	*i* P	**Pn**	**18 25 56.7**	**-0.2**
ELZG	**Elazig**	**2.58**	**325**	*i* P	**Pn**	**18 25 58.8**	**+1.2**
ELZG	**Elazig**	**2.58**	**325**	*i* P	**Sg**	**18 26 37.9**	**-1.0**
PTK	**Pertek**	**2.76**	**335**	*e*PN	**Pn**	**18 25 59.8**	**-0.2**
GZT	**Gaziantep**	**2.83**	**291**	*i* P	**Pn**	**18 25 59.2**	**-1.9**
TVAN	**Van**	**2.92**	**43**	*i* P	**Pn**	**18 26 02.7**	**+0.5**
AKCD	**Akcadag**	**3.03**	**310**	*i* P	**Pn**	**18 26 03.3**	**-0.4**
GAZ	**Gaziantep**	**3.05**	**286**	*e*PN	**Pn**	**18 26 04.3**	**+0.2**
KEMA	**Kemaliye**	**3.44**	**327**	*i* P	**Pn**	**18 26 08.8**	**-0.5**
EZM	**Erzurum**	**3.52**	**6**	*e*PN	**Pn**	**18 26 10.7**	**+0.2**
DARE	**Darende-Malaty**	**3.53**	**317**	*e*PN	**Pn**	**18 26 10.8**	**-0.6**
KOPT	**Kop Dagi**	**3.62**	**355**	*i* P	**Pn**	**18 26 15.5**	**+3.5**
HOMI	**Horasan**	**3.73**	**12**	*i* P	**Pn**	**18 26 15.0**	**+1.7**
HTY	**Hatay**	**3.85**	**267**	*e*PN	**Pn**	**18 26 16.8**	**+1.7**
SARI	**SarD1z-Kayseri**	**4.04**	**306**	*e*PN	**Pn**	**18 26 18.6**	**+1.0**
CEYT	**Ceyhan**	**4.18**	**280**	*e*PN	**Pn**	**18 26 20.7**	**+1.1**
BHD	**Baghdad**	**4.24**	**136**	*ex*	x	18 26 30.0	
BHD				*ex*	x	18 26 50.0	
BHD				*ex*	x	18 27 29.0	
BHD				*i* x	x	18 27 44.0	
BHD				*i* x	x	18 27 59.0	
FKH	**Fakeheh**	**4.26**	**241**	*e*P	**Pn**	**18 26 19.6**	**-1.0**
HWQ	**Hawqa**	**4.56**	**244**	*e*P	**Pn**	**18 26 24.1**	**-0.8**
SVSK	**Karacayir**	**4.66**	**320**	*e*PN	**Pn**	**18 26 26.6**	**+0.4**
BNN	**Bunyan**	**4.69**	**303**	*e*PN	**Pn**	**18 26 27.8**	**+1.2**
KARA	**Karaisali**	**4.76**	**282**	*e*PN	**Pn**	**18 26 28.5**	**+1.0**
BHL	**Bhannes**	**4.96**	**241**	*e*P	**Pn**	**18 26 30.2**	**-0.2**
RCY	**Rachaya**	**5.08**	**237**	*e*P	**Pn**	**18 26 31.2**	**-0.5**
MERS	**Mersin**	**5.14**	**277**	*e*PN	**Pn**	**18 26 34.3**	**+1.5**
HRI	**Mount Hermon**	**5.27**	**235**	Pn	**Pn**	**18 26 33.7**	**-0.9**
NIG	**Nigde**	**5.29**	**291**	*e*PN	**Pn**	**18 26 36.3**	**+1.4**
KSDI	**Kefar Szold**	**5.36**	**235**	Pn	**Pn**	**18 26 35.4**	**-0.5**
KSDI				Sn	**Sg**	**18 28 03.0**	**-5.0**
KSHT	**Keshet**	**5.40**	**232**	Pn	**Pn**	**18 26 37.7**	**+1.4**
MMC3	**Mount Meron ar**	**5.63**	**235**	Pn	**Pn**	**18 26 39.0**	**-0.6**
MMC4	**Mount Meron ar**	**5.64**	**235**	Pn	**Pn**	**18 26 39.0**	**-0.6**
MMC5	**Mount Meron ar**	**5.64**	**235**	Pn	**Pn**	**18 26 39.0**	**-0.7**
MMA2	**Mount Meron ar**	**5.64**	**235**	Pn	**Pn**	**18 26 39.2**	**-0.5**
MMB3	**Mount Meron ar**	**5.64**	**235**	Pn	**Pn**	**18 26 39.0**	**-0.7**
MMC6	**Mount Meron ar**	**5.65**	**235**	Pn	**Pn**	**18 26 39.4**	**-0.4**
MMLI	**Mount Malkishu**	**6.00**	**230**	Pn	**Pn**	**18 26 45.8**	**+1.1**
HMDT	**Nahal Hemdat**	**6.07**	**229**	Pn	**Pn**	**18 26 48.1**	**+2.6**
OFRI	**'Ofer**	**6.16**	**234**	Pn	**Pn**	**18 26 45.7**	**-1.2**
SLTI	**Sal'it**	**6.38**	**231**	Pn	**Pn**	**18 26 50.4**	**+0.6**
DSI	**Dead Sea**	**6.64**	**225**	Pn	**Pn**	**18 26 57.4**	**+3.9**
MZDA	**Masada**	**6.85**	**224**	Pn	**Pn**	**18 27 01.7**	**+5.4**
PRNI	**Paran**	**7.79**	**221**	Pn	**Pn**	**18 27 14.1**	**+5.0**
EIL	**Elat**	**8.36**	**218**	Pn	**Pn**	**18 27 24.8**	**+7.8**

*ISCJB **24** 18:25:49.9±0.4, 1563N±004×9429W±003, h63km±4km, mb4.1/19, Error ellipse: s-maj=6.9km s-min=2.8km az=28.4*
*CASC **24** 18:25:50.1±2.0, 1578N×9422W, h128km±46km, MD4.6, ML4.3, mb4.2(NEIC)*
*IDC **24** 18:25:50.3±1.8, 1570N×9413W, h50km±16km, mb3.9/12, mb1 4.2/14, mb1mx4.0/23, mbtmp4.0/14, ML4.6/3, MS3.5/11, Ms1 3.5/11, ms1mx3.2/31, Error ellipse: s-maj=23.2km s-min=9.0km az=45.0*
*MEX **24** 18:25:51.9±0.8, 1559N×9427W, h51km±29km, MD4.7*
*NEIC **24** 18:25:51.8, 1560N×9426W, h56km, mb4.2/8, MD4.7(MEX), After MEX.*
ISC 24 18:25:51.6±0.3**,1568N**±004×**9424W**±003**,h59**km±4km**,n84,**
σ**1§26**/91**,mb4.1**/19**,MS3.6**/7**,2C-3D, Near coast of Oaxaca**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		**0.99**	**89**	*i* P	**Pn**	**18 26 08.2**	**-1.2**
PCIG				*i* S	**Sn**	**18 26 21.3**	**-1.3**
CMIG	**Matias Romero**	**1.53**	**336**	P	**Pn**	**18 26 15.8**	**-0.8**
	136nm,0.3s,baz=158,slow=12,SNR=534						
CMIG				S	**Sn**	**18 26 34.5**	**-1.0**
	422nm,0.3s,baz=287,slow=23,SNR=39						
TGIG		**1.53**	**45**	*i* P	**Pn**	**18 26 16.3**	**-0.4**
TGIG				*i* S	**Sn**	**18 26 35.5**	**-0.1**
SCX	**San Cristobal**	**1.86**	**56**	*i* P	**Pn**	**18 26 21.7**	**+0.5**
THIG		**2.06**	**112**	*e*P	**Pn**	**18 26 22.6**	**-1.2**
THIG				*i* S	**Sn**	**18 26 46.3**	**-2.1**
TUIG	**Tuzandepetl**	**2.34**	**356**	*e*P	**Pn**	**18 26 27.5**	**-0.2**
TUIG				*i* S	**Sn**	**18 26 56.2**	**+0.9**
OXX	**Oaxaca**	**2.76**	**301**	*i* P	**Pn**	**18 26 34.6**	**+1.2**
VHO	**Vista Hermosa**	**2.76**	**300**	*e*P	**Pn**	**18 26 34.0**	**+0.6**
VHO				*i* S	**Sn**	**18 27 04.8**	**-0.8**
JAT	**Jato**	**2.86**	**118**	⇓*e*P	**Pn**	**18 26 35.4**	**+0.6**
FG6		**3.43**	**109**	*e*P	**Pn**	**18 26 44.2**	**+1.6**
FG6				*e*S	**Sn**	**18 27 25.9**	**+3.8**
FUG	**Fuego 3**	**3.51**	**110**	*e*P	**Pn**	**18 26 44.7**	**+1.1**
PCG	**Pacaya**	**3.74**	**110**	*e*P	**Pn**	**18 26 48.7**	**+1.8**
PCG				*e*S	**Sn**	**18 27 32.5**	**+2.8**
PNIG	**Pinotepa**	**3.80**	**281**	*i* P	**Pn**	**18 26 46.0**	**-1.7**
PNIG				*i* S	**Sn**	**18 27 29.5**	**-1.7**
PNIG	**Pinotepa**	**3.80**	**281**	*i* P	**Pn**	**18 26 46.0**	**-1.7**
PNIG				*i* S	**Sn**	**18 27 28.0**	**-3.1**
NBG	**Las Nubes**	**3.92**	**106**	*e*P	**Pn**	**18 26 51.5**	**+2.3**
MRL	**Marmol**	**4.43**	**97**	⇓*e*P	**Pn**	**18 26 57.0**	**+0.6**
MRL				*e*S	**Sn**	**18 27 48.1**	**+1.4**
LVIG	**Laguna Verde**	**4.52**	**333**	*e*P	**Pn**	**18 26 55.2**	**-2.3**
LVIG				*i* S	**Sn**	**18 27 46.0**	**-2.8**
LVIG	**Laguna Verde**	**4.52**	**333**	*e*P	**Pn**	**18 26 55.2**	**-2.3**
LVIG				*i* S	**Sn**	**18 27 42.3**	**-6.5**
RBDL	**Robledal**	**4.67**	**109**	*e*P	x	18 27 00.1	
RBDL				*e*S	x	18 27 56.0	
MTO2	**Montecristo 2**	**4.88**	**105**	*e*P	x	18 27 02.0	
BOQS	**Boqueron**	**5.18**	**111**	⇑*e*P	x	18 27 07.5	
BOQS				*e*S	x	18 28 05.9	
BOQS				AML	x	18 28 14.4	
	comp=Z,557nm,0.5s						
SNET	**Serv Nac Est T**	**5.24**	**112**	*e*S	x	18 28 08.1	
PPM	**Popocatepetl**	**5.37**	**309**	*e*P	**Pn**	**18 27 12.4**	**+3.2**
PPM				*i* P		18 27 12.7	
PPM				*i* S	**Sn**	**18 28 09.3**	**-0.3**
PPM	**Popocatepetl**	**5.37**	**309**	*e*P	**Pn**	**18 27 12.4**	**+3.2**
PPM				*i* S	**Sn**	**18 28 02.3**	**-7.4**
LBRS	**Las Brisas**	**5.39**	**110**	*e*P	x	18 27 10.2	
LBRS				*e*S	x	18 28 13.4	
LFRS	**El Faro**	**5.42**	**112**	*e*P	x	18 27 10.7	
LFRS				*e*S	x	18 28 12.8	
PLIG	**Platanillo**	**5.71**	**299**	*i* P	**Pn**	**18 27 15.0**	**+1.2**
PLIG				*i* S	**Sn**	**18 28 19.0**	**+1.0**
CAIG	**El Cayaco**	**5.94**	**284**	*i* P	**Pn**	**18 27 16.1**	**-0.9**
CAIG				*i* S	**Sn**	**18 28 23.4**	**-0.4**
CAIG	**El Cayaco**	**5.94**	**284**	*i* P	**Pn**	**18 27 16.1**	**-0.9**
CAIG				*i* S	**Sn**	**18 28 18.5**	**-5.2**
CAHU	**Cacacuatique**	**6.14**	**107**	*e*P	x	18 27 19.8	
CAHU				*e*S	x	18 28 32.0	
VSM	**San Miguel**	**6.20**	**110**	*e*P	x	18 27 23.5	
VSM				*e*S	x	18 28 33.6	
BLLM	**Bellamira**	**6.23**	**110**	*e*P	x	18 27 23.1	
CNCH	**Conchagua**	**6.65**	**110**	*e*P	x	18 27 28.6	
CNCH				*e*S	x	18 28 42.7	
TGUH	**Tegucigalpa,Un**	**6.93**	**103**	⇑*e*P	**Pn**	**18 27 30.6**	**0.0**
TGUH	**Tegucigalpa,Un**	**6.93**	**103**	*e*P	**Pn**	**18 27 30.9**	**+0.3**
	comp=Z,225nm,0.9s						
ZIIG	**Zihuatanejo**	**7.18**	**286**	*i* P	**Pn**	**18 27 34.4**	**+0.4**
ZIIG				*i* S	**Sn**	**18 28 53.2**	**-1.0**
TEIG	**Tepich**	**7.25**	**51**	P	**Pn**	**18 27 32.4**	**-2.6**
	comp=Z,49nm,0.3s,baz=269,slow=10.0,SNR=75						
TEIG				S	**Sn**	**18 28 51.5**	**-4.5**
	comp=Z,36nm,0.3s,baz=147,slow=24,SNR=5.0						
TEIG				LR	LR	18 30 53.3	
	comp=Z,368nm,18.4s,baz=307,slow=42						
TEIG	**Tepich**	**7.25**	**51**	*e*P	**Pn**	**18 27 33.0**	**-2.0**
TEIG	**Tepich**	**7.25**	**51**	*e*P	**Pn**	**18 27 32.8**	**-2.2**
TEIG				S	**Sn**	**18 28 51.5**	**-4.5**
TEIG				LR	LR	18 30 53.3	
COPN	**Copaltepe**	**8.20**	**114**	*e*P	**Pn**	**18 27 47.4**	**-0.6**
MMIG	**Aquila**	**9.09**	**288**	*i* P	**Pn**	**18 28 01.1**	**+1.0**
MMIG				*i* S	**Sn**	**18 29 41.4**	**+0.5**
LNIG	**Linares**	**10.39**	**333**	*i* P	**Pn**	**18 28 16.6**	**-1.3**
LNIG				*i* S	**Sn**	**18 30 14.0**	**+1.2**
JTS	**JuntasAbangare**	**10.52**	**120**	P	**Pn**	**18 28 18.2**	**-1.5**
	comp=Z,7.3nm,0.3s,baz=320,slow=18,SNR=16						
JTS				S	**Sn**	**18 30 18.8**	**+2.7**
	comp=Z,0.9nm,0.3s,baz=283,slow=20,SNR=1.8						
JTS				LR	LR	18 32 17.6	
	comp=Z,59nm,19.4s,baz=244,slow=37						
JCR	**Jicaral**	**10.62**	**122**	*e*P	**Pn**	**18 28 21.3**	**+0.2**
ANIG	**Ahuacatlan**	**11.12**	**300**	*i* P	**Pn**	**18 28 30.9**	**+3.0**
PRS1	**Puriscal**	**11.22**	**119**	*e*P	**Pn**	**18 28 29.7**	**+0.4**
URSC	**Urasca**	**11.74**	**118**	*e*P	**Pn**	**18 28 36.1**	**-0.3**
BUS	**Buena Vista**	**11.90**	**120**	⇓*e*P	**Pn**	**18 28 39.0**	**+0.4**
JCT	**Junction City**	**15.58**	**342**	*e*P	**Pn**	**18 29 28.2**	**+0.6**
	comp=Z,18nm,0.8s						
TXAR	**Lajitas Array**	**16.12**	**329**	P	**Pn**	**18 29 35.4**	**+0.9**
	comp=Z,0.1nm,0.3s,baz=156,slow=14,SNR=9.9						
TXAR				LR	LR	18 36 30.6	
	comp=Z,45nm,20.1s,baz=0.0,slow=40						
LPIG	**La Paz**	**17.26**	**302**	LR	LR	18 36 17.8	
	comp=Z,128nm,19.3s,baz=107,slow=36						
MIAR	**Mount Ida**	**18.79**	**2**	*e*P	**Pn**	**18 30 04.2**	**-3.0**
AMTX	**Amarillo**	**20.25**	**342**	*e*P	**P**	**18 30 20.6**	**-1.4**
	comp=Z,13nm,0.4s						
BNM	**Barren Site**	**21.51**	**331**	*e*P	**P**	**18 30 36.7**	**+1.1**
OTAV	**Otavalo**	**21.88**	**133**	*e*P	**P**	**18 30 39.7**	**0.0**
	comp=Z,12nm,1.1s,mb4.2						
OTAV				*e*pP		18 30 54.8	
LAZ	**Ladron**	**21.96**	**330**	*e*P	**P**	**18 30 41.7**	**+1.3**
TKL	**Tuckaleechee C**	**21.98**	**23**	LR	LR	18 40 46.2	
	comp=Z,101nm,18.4s,MS3.3,baz=101,slow=41						
ANMO	**Albuquerque**	**22.10**	**332**	P	**P**	**18 30 42.1**	**+0.3**
	comp=Z,1.4nm,0.4s,mb3.8,baz=131,slow=10,SNR=5.1						
ROSC	**El Rosal**	**22.33**	**117**	P	**P**	**18 30 45.0**	**+0.5**
	comp=Z,6.7nm,0.4s,mb4.4,baz=92,slow=21,SNR=7.0						
TUC	**Tucson**	**22.36**	**321**	*e*P	**P**	**18 30 45.8**	**+1.1**
	comp=Z,5.1nm,0.9s,mb4.0						
TUC				*e*		18 31 01.9	
SDV	**Santo Domingo**	**24.02**	**104**	P	**P**	**18 30 59.1**	**-2.1**
	comp=Z,1.8nm,0.4s,mb3.9,baz=299,slow=5.5,SNR=5.5						
SDV				LR	LR	18 40 42.8	
	comp=Z,81nm,20.9s,MS3.2,baz=332,slow=37						
SDV	**Santo Domingo**	**24.02**	**104**	*e*P	**P**	**18 30 59.0**	**-2.2**
SDV				LR	LR	18 40 42.9	
SDCO	**Great Sand Dun**	**24.12**	**338**	*e*P	**P**	**18 31 02.5**	**+0.6**
	comp=Z,3.1nm,0.9s,mb3.7						
WUAZ	**Wupatki**	**25.00**	**325**	*e*P	**P**	**18 31 10.8**	**+0.9**
	comp=Z,6.5nm,0.9s,mb4.2						
WUAZ				*e*		18 31 26.3	
SMCO	**Snowmass**	**25.93**	**337**	P	**P**	**18 31 15.8**	**-2.4**
	comp=Z,6.4nm,1.0s,mb4.1						
TPNV	**Topopah Spring**	**28.81**	**321**	*e*P	**P**	**18 31 45.4**	**+1.3**
PCRV	**Puerto La Cruz**	**29.35**	**97**	LR	LR	18 45 17.6	
	comp=Z,47nm,19.4s,MS3.1,baz=4.1,slow=40						
PDAR	**Pinedale Array**	**30.02**	**337**	P	**P**	**18 31 55.0**	**+0.3**
	comp=Z,0.6nm,0.6s,mb3.5,baz=154,slow=7.9,SNR=6.4						
NVAR	**Mina Array Bea**	**31.01**	**322**	P	**P**	**18 32 05.0**	**+1.5**
	comp=Z,3.5nm,0.8s,mb4.2,baz=136,slow=9.1,SNR=26						
REDW	**Red Top Meadow**	**31.02**	**336**	*e*P	**P**	**18 32 03.5**	**-0.1**
	comp=Z,20nm,1.5s,mb4.7						
MCMT	**McKenzie Canyo**	**33.03**	**335**	*e*P	**P**	**18 32 22.5**	**+1.3**
ULM	**Lac du Bonnet**	**34.50**	**358**	LR	LR	18 48 24.7	
	comp=Z,68nm,19.2s,MS3.4,baz=278,slow=39						
SIV	**San Ignacio**	**45.42**	**132**	P	**P**	**18 34 02.5**	**-2.2**
	comp=Z,1.5nm,0.6s,mb4.0,baz=298,slow=9.1,SNR=10						
YKA	**Yellowknife Ar**	**48.91**	**348**	P	**P**	**18 34 31.9**	**+0.6**
	comp=Z,1.9nm,0.7s,mb4.3,baz=155,slow=7.5,SNR=3.6						
CFAA	**Coronel Fontan**	**53.23**	**152**	P	**P**	**18 35 03.3**	**-0.8**
	comp=Z,0.1nm,0.3s,mb3.2,baz=280,slow=6.1,SNR=4.1						
BDFB	**Brasilia**	**55.25**	**122**	P	**P**	**18 35 18.4**	**-0.7**
	comp=Z,3.4nm,0.6s,mb4.6,baz=321,slow=13,SNR=4.2						
PLCA	**Paso Flores**	**60.28**	**159**	P	**P**	**18 35 52.3**	**-1.7**
	comp=Z,3.9nm,1.0s,mb4.4,baz=316,slow=8.4,SNR=3.7						
ESDC	**Sonseca Array**	**80.37**	**52**	LR	LR	19 08 48.0	
	comp=Z,40nm,18.5s,MS3.8,baz=315,slow=32						
NB2	**NORSAR Subarra**	**83.70**	**28**	P	**P**	**18 38 12.0**	**-1.8**
	comp=Z,1.2nm,0.7s,mb4.1,baz=290,slow=5.1						
NOA	**NORSAR Array B**	**83.70**	**28**	P	**P**	**18 38 13.2**	**-0.6**
	comp=Z,2.0nm,0.8s,mb4.3,baz=290,slow=5.1,SNR=5.0						
NOA				LR	LR	19 17 38.8	
	comp=Z,106nm,18.1s,MS4.3,baz=285,slow=37						
ARCES	**ARCESS Array B**	**85.22**	**18**	P	**P**	**18 38 21.0**	**-0.3**
	comp=Z,3.1nm,0.8s,mb4.5,baz=293,slow=6.3,SNR=6.5						
GERES	**GERESS Array B**	**89.68**	**39**	P	**P**	**18 38 42.3**	**-0.8**
	comp=Z,0.7nm,0.9s,mb4.0,baz=282,slow=6.7,SNR=3.7						
URZ	**Urewera**	**98.50**	**233**	LR	LR	19 16 00.4	
	comp=Z,112nm,18.2s,MS4.4,baz=354,slow=30						
ASAR	**Alice Springs**	**134.15**	**252**	PKP	PKPdf	18 45 01.8	-1.4
	comp=Z,0.6nm,0.8s,baz=93,slow=2.1,SNR=5.9						

*NEIC **24** 18:35:18.2, 3138S×6943W, h144km, MD3.5(GUC), After GUC.*
*GUC **24** 18:35:18.2±0.4, 3138S×6943W, h144km±6km, MD3.5, ML3.5*
*ISCJB **24** 18:35:19.1±0.9, 3140S±003×695W±02, h143km±14km, Error ellipse: s-maj=29.1km s-min=5.4km az=177.0*
ISC 24 18:35:19.9±0.8**,3139S**±003×**694W**±02**,h132**km±14km**,n18,**
σ**0§58**/32**,7C-5D, San Juan Province**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JACH	**Jahuel**	**1.63**	**217**	⇑*i*P	**Pn**	**18 35 49.5**	**-0.1**
JACH				*i* S	**Sn**	**18 36 12.8**	**+0.6**
TLL	**Tololo Astrono**	**1.70**	**315**	⇑*i*P	**Pn**	**18 35 50.5**	**+0.1**
TLL				*i* S	**Sn**	**18 36 14.6**	**+0.9**
CHNG	**Los Chungos**	**1.84**	**254**	⇓*i*P	**Pn**	**18 35 51.4**	**-0.6**
CHNG				*i* S	**Sn**	**18 36 16.2**	**-0.4**
PEL	**Peldehue**	**2.05**	**211**	⇑*i*P	**Pn**	**18 35 54.1**	**-0.4**
PEL				*i* S	**Sn**	**18 36 21.4**	**+0.2**
PEL				AML	AML	18 36 23.6	
	comp=N,288nm,0.6s						
FCH	**Farellones**	**2.07**	**201**	*e*P	**Pn**	**18 35 55.0**	**+0.2**
FCH				*i* S	**Sn**	**18 36 22.9**	**+1.4**
FCH				AML	AML	18 36 28.4	
	comp=E,153nm,0.2s						
ROCH	**El Roble**	**2.08**	**220**	⇓*i*P	**Pn**	**18 35 54.6**	**-0.2**
ROCH				*i* S	**Sn**	**18 36 22.5**	**+0.8**
CLCH	**Cerro Calan**	**2.21**	**205**	⇑*i*P	**Pn**	**18 35 56.1**	**-0.5**
CLCH				*i* S	**Sn**	**18 36 24.7**	**0.0**
CLCH				AML	AML	18 36 27.1	
	comp=E,322nm,0.3s						
RCDM	**Rinconada Maip**	**2.40**	**209**	*i* P	**Pn**	**18 35 58.2**	**-0.7**
RCDM				*i* S	**Sn**	**18 36 29.1**	**+0.2**
RCDM				AML	AML	18 36 30.6	
	comp=N,377nm,0.3s						
RCDM	**Rinconada Maip**	**2.40**	**209**	*i* P	**Pn**	**18 35 58.2**	**-0.7**
RCDM				*i* S	**Sn**	**18 36 29.1**	**+0.2**
PCH	**Pirque**	**2.41**	**202**	⇑*i*P	**Pn**	**18 35 58.7**	**-0.3**
PCH				*i* S	**Sn**	**18 36 29.4**	**+0.3**
LMEL	**Las Melosas**	**2.54**	**195**	AML	AML	18 36 39.4	
	comp=N,99nm,0.2s						
TACH	**Talagante**	**2.60**	**209**	⇑*i*P	**Pn**	**18 36 00.2**	**-1.2**
TACH				*i* S	**Sn**	**18 36 32.3**	**-1.0**
LCO	**Las Campanas**	**2.62**	**335**	⇓*i*P	**Pn**	**18 36 01.4**	**-0.3**
LCO				*i* S	**Sn**	**18 36 34.0**	**+0.3**
CHCH	**Chadas Angostu**	**2.74**	**202**	⇑*i*P	**Pn**	**18 36 02.6**	**-0.7**
CHCH				*i* S	**Sn**	**18 36 36.6**	**-0.1**
CACH	**El Canelo**	**2.90**	**200**	⇓*i*P	**Pn**	**18 36 05.1**	**-0.1**
CACH				*i* S	**Sn**	**18 36 40.9**	**+0.7**
CICH	**Cipreses**	**3.04**	**196**	⇓*i*P	**Pn**	**18 36 06.6**	**-0.5**
CICH				*i* S	**Sn**	**18 36 43.5**	**0.0**
VNA3	**Neumayer Olymp**	**50.97

GTA					AMB	AMB		
	comp=Z,4.0nm,0.8s,mb4.4							
MK31	**Makanchi Array**	**44.65**	**349**	*eP*	**P**	**P**	**19 04 06.8**	**+0.1**
MKAR	**Makanchi Array**	**44.65**	**349**	P	**P**	**P**	**19 04 06.9**	**+0.2**
	comp=Z,9.7nm,0.7s,mb4.8,baz=166,slow=8.5,SNR=56							
SONM	**Songino Array**	**45.79**	**12**	P	**P**	**P**	**19 04 16.1**	**+0.3**
	comp=Z,2.6nm,0.7s,mb4.3,baz=191,slow=8.9,SNR=27							
ULN	**Ulaanbaatar**	**45.96**	**12**	*i* P	**P**	**P**	**19 04 17.7**	**+0.6**
KURK	**Kurchatov**	**49.14**	**347**⇓	*eP*	**P**	**P**	**19 04 41.9**	**+0.2**
KURK					pmax	pmax		
	comp=Z,7.0nm,1.0s,mb4.7							
UMR	**Umm Al-Rimmam**	**51.07**	**306**	*eP*	**P**	**P**	**19 04 56.6**	**-0.1**
	baz=303							
UMR					AMb	AMB	19 04 57.5	
	comp=Z,26nm,0.8s,mb5.2,baz=303							
ZAA0	**Zalesovo Array**	**51.19**	**353**	*eP*	**P**	**P**	**19 04 57.4**	**+0.1**
ZALV	**Zalesovo Beam**	**51.19**	**353**	P	**P**	**P**	**19 04 57.4**	**+0.2**
	comp=Z,6.0nm,0.6s,mb4.7,baz=186,slow=7.7,SNR=34							
NAY	**Al-Naaiem**	**51.34**	**305**	*eP*	**P**	**P**	**19 04 58.8**	**0.0**
	baz=302							
NAY					AMb	AMB	19 05 10.2	
	comp=Z,9.0nm,1.3s,mb4.5,baz=302							
RST	**Umm Al-Ruwaisa**	**51.63**	**306**	*eP*	**P**	**P**	**19 05 00.7**	**-0.3**
	baz=303							
RST					AMb	AMB	19 05 01.4	
	comp=Z,6.0nm,0.8s,mb4.6,baz=303							
BVAR	**Borovoye Array**	**53.40**	**342**	P	**P**	**P**	**19 05 12.4**	**-1.2**
	comp=Z,3.2nm,0.7s,mb4.4,baz=142,slow=8.7,SNR=21							
YAK	**Yakutsk**	**64.51**	**18**⇓	*eP*	**P**	**P**	**19 06 30.1**	**-0.5**
YAK					pmax	pmax		
	comp=Z,4.0nm,0.6s,mb4.6							
BR131	**Keskin Array S**	**65.42**	**313**	*eP*	**P**	**P**	**19 06 35.8**	**-1.1**
	comp=Z,0.9nm,0.6s,mb4.0							
OBN	**Obninsk**	**69.28**	**329**	*eP*	**P**	**P**	**19 06 53.2**	**-7.9**
OBN				*eS*	S	S	19 16 37.1	+32
OBN					pmax	pmax		
	comp=Z,5.0nm,1.0s,mb4.4							
TIXI	**Tiksi**	**71.87**	**11**	*eP*	**P**	**P**	**19 07 14.9**	**-1.7**
TIXI					pmax	pmax		
	comp=Z,8.0nm,0.9s,mb4.7							
TIXI	**Tiksi**	**71.87**	**11**	*eP*	**P**	**P**	**19 07 15.8**	**-0.8**
	comp=Z,6.5nm,0.6s,mb4.7							
ARCES	**ARCESS Array B**	**79.63**	**341**	P	**P**	**P**	**19 08 00.4**	**-0.6**
	comp=Z,13nm,1.1s,mb4.7,baz=80,slow=10,SNR=4.1							
GERES	**GERESS Array B**	**81.23**	**319**	P	**P**	**P**	**19 08 10.2**	**+0.2**
	comp=Z,2.3nm,0.7s,mb4.2,baz=94,slow=5.8,SNR=19							

IDC ***24*** *18:58:33.7±1.0,2.16S×139.11E, h0km, mb4.0/9, mb1 4.1/10, mb1mx4.1/14, mbtmp4.0/10, ML4.2/1, MS3.9/12, Ms1 4.0/12, ms1mx3.8/18, Error ellipse: s-maj=49.1km s-min=16.4km az=74.0*

ISCJB ***24*** *18:58:37.1±2.9, 2.17S±007×139.16E±009, h37km±27km, mb4.6/28, MS4.0/11, Error ellipse: s-maj=16.4km s-min=10.6km az=154.2*

NEIC ***24*** *18:58:39.8±1.6, 2.17S×139.15E, h45km±16km, mb5.0/13, Error ellipse: s-maj=11.7km s-min=6.9km az=68.0*

BJI ***24*** *18:58:40.8, 220S×139.10E, h34km, mB4.9, mb4.7, Ms4.6, Msz4.7*

MOS ***24*** *18:58:47.0±1.3, 235S×13953E, h146km, mb4.2/5, Error ellipse: s-maj=20.7km s-min=10.0km az=117.3*

DJA ***24*** *18:58:58, 298S×13928E, h185km, mb4.6/11*

ISC 24 18:58:40.1±2.1,218S±007×13917E±009, h45km±20km, n70, σ0§79/62, mb4.6/28, MS4.0/11, 2C-1D, Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**10.71**	**132**	*eP*	**Pn**	**19 01 11.5**	**+0.6**
PMG				pmax	pmax		
	comp=Z,65nm,1.3s						
PMG	**Port Moresby**	**10.71**	**132**	P	**Pn**	**19 01 18.2**	**+7.3**
	comp=Z,43nm,1.2s						
PMG	**Port Moresby**	**10.71**	**132**	*eP*	**Pn**	**19 01 11.5**	**+0.6**
	comp=Z,65nm,1.3s						
KAKA	**Kakadu**	**12.40**	**212**	*eP*	**Pn**	**19 01 26.0**	**-8.1**
	comp=Z,14nm,0.4s						
KAKA				*eS*	**Sn**	**19 03 38.4**	**-13**
KDI	**Kendari**	**16.62**	**264**⇑	*eP*	**Pn**	**19 02 30.1**	**+0.1**
KDI				*eS*	S	19 05 05.6	-38
GUMO	**Guam**	**16.66**	**20**	LR	LR	19 07 47.6	
	comp=Z,94nm,22.0s,baz=203,slow=33						
BATI	**Baumata**	**17.34**	**242**	P	**Pn**	**19 02 42.3**	**+3.3**
	comp=Z,55nm,1.1s						
WRAB	**Tennant Creek**	**18.26**	**195**⇑	*eP*	**Pn**	**19 02 49.3**	**-0.9**
WRAB	**Tennant Creek**	**18.26**	**195**	P	**Pn**	**19 02 50.7**	**+0.5**
	comp=Z,28nm,0.8s						
CTA	**Charters Tower**	**19.09**	**159**	*eP*	**Pn**	**19 02 59.2**	**-1.1**
	comp=Z,4.0nm,0.8s						
CTA	**Charters Tower**	**19.09**	**159**	P	**Pn**	**19 02 59.4**	**-0.9**
	comp=Z,0.4nm,0.3s,baz=341,slow=10.0,SNR=9.2						
CTA	**Charters Tower**	**19.09**	**159**	*eP*	**Pn**	**19 02 59.2**	**-1.1**
CTA				pmax	pmax		
	comp=Z,4.0nm,0.8s						
CTAO	**Charters Tower**	**19.09**	**159**	*eP*	**Pn**	**19 02 57.4**	**-2.9**
PCI	**Palu**	**19.37**	**273**	P	**Pn**	**19 03 09.0**	**+5.4**
	comp=Z,77nm,1.3s,comp=Z,1μm						
MYLDM	**Lahad Datu**	**21.91**	**290**	P	pP	19 03 41.0	+0.4
ASAR	**Alice Springs**	**21.95**	**193**	P	**P**	**19 03 29.4**	**-0.6**
	comp=Z,6.3nm,0.7s,mb4.2,baz=24,slow=12,SNR=43						
KHKI	**Kahang-Kahang**	**24.24**	**254**	P	**P**	**19 03 59.5**	**+6.5**
BBKI	**Banjar Baru**	**24.33**	**266**	P	**P**	**19 03 57.6**	**+3.7**
	comp=Z,139nm,1.2s,mb5.3						
KMMI	**Kalianget**	**25.57**	**258**	P	**P**	**19 04 14.0**	**+8.8**
	comp=Z,62nm,1.5s,mb4.9						
EIDS	**Eidsvold**	**25.75**	**155**	*eP*	**P**	**19 04 08.2**	**+1.6**
	comp=Z,49nm,0.9s,mb5.0						
MBWA	**Marble Bar**	**26.73**	**224**	*eP*	**P**	**19 04 14.8**	**-0.7**
CBIJ	**Chichi jima**	**29.25**	**6**	LR	LR	19 14 33.2	
	comp=Z,229nm,21.7s,MS3.8,baz=125,slow=33						
STKA	**Stephens Creek**	**29.62**	**176**	*eP*	**P**	**19 04 40.2**	**-1.0**
	comp=Z,1.6nm,0.5s,mb4.0						
STKA	**Stephens Creek**	**29.62**	**176**	P	**P**	**19 04 40.0**	**-1.2**
	comp=Z,2.2nm,0.5s,mb4.1,baz=24,slow=6.2,SNR=11						
STKA				LR	LR	19 17 35.4	
	comp=Z,688nm,19.4s,MS4.3,baz=349,slow=38						
FORT	**Forrest**	**30.32**	**199**	*eP*	**P**	**19 04 47.5**	**+0.1**
	comp=Z,23nm,0.7s,mb5.0						
CNB	**Canberra Magne**	**34.30**	**165**	*eP*	**P**	**19 05 22.7**	**+0.5**
KLBR	**Kellerberrin**	**35.55**	**212**	*eP*	**P**	**19 05 32.7**	**-0.3**
	comp=Z,44nm,1.8s,mb5.1						
MUN	**Mundaring**	**36.69**	**214**	*eP*	**P**	**19 05 43.1**	**+0.3**
MJAR	**Matsushiro Arr**	**38.54**	**359**	LR	LR	19 20 33.4	
	comp=Z,122nm,18.0s,MS3.8,baz=180,slow=34						
PPI	**Padang Panjang**	**38.80**	**272**	P	**P**	**19 06 05.4**	**+4.5**
	comp=Z,21nm,1.2s,comp=Z,994nm,mb4.7						
PSI	**Prapat**	**40.53**	**277**⇓	*eP*	**P**	**19 06 13.9**	**-1.4**
KSRS	**Korea Array**	**40.80**	**346**	P	**P**	**19 06 16.6**	**-0.5**
	comp=Z,1.5nm,0.8s,mb3.6,baz=160,slow=9.3,SNR=5.4						
KSRS				LR	LR	19 23 14.4	
	comp=Z,163nm,18.1s,MS3.9,baz=162,slow=36						
CMAR	**Chiang Mai Arr**	**44.58**	**299**	P	**P**	**19 06 47.9**	**-0.2**
	comp=Z,3.6nm,0.9s,mb4.2,baz=120,slow=6.0,SNR=22						
CMAR				LR	LR	19 24 06.0	
	comp=Z,112nm,19.1s,MS3.8,baz=324,slow=34						
LZH	**Lanzhou**	**50.34**	**323**	*eP*	**P**	**19 07 34.0**	**+1.4**
LZH				AP	pP	19 07 42.5	-2.7
LZH				XP	sP	19 07 47.0	-3.5
LZH				AMB	AMB		
	comp=Z,36nm,1.6s,mb5.2						
LZH				AMB	AMB		
	comp=Z,149nm,4.2s						
KLR	**Kul'dur**	**51.61**	**354**	*eP*	**P**	**19 07 37.7**	**-4.2**
LSA	**Lhasa**	**55.74**	**309**	P	**P**	**19 08 13.6**	**+1.1**
LSA	**Lhasa**	**55.74**	**309**	*eP*	**P**	**19 08 13.5**	**+1.0**
LSA				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.5						
LSA	**Lhasa**	**55.74**	**309**	*eP*	**P**	**19 08 13.5**	**+0.9**
	comp=Z,2.5nm,0.6s,mb4.4						
ULN	**Ulaanbaatar**	**57.19**	**335**	*i* P	**P**	**19 08 25.2**	**+2.8**
ULN	**Ulaanbaatar**	**57.19**	**335**	*eP*	**P**	**19 08 21.6**	**-0.8**
	comp=Z,8.4nm,1.4s,mb4.6						
PETK	**Petropavlovsk-**	**57.25**	**13**	LR	LR	19 29 30.7	
	comp=Z,83nm,19.6s,MS3.9,baz=205,slow=32						
SONM	**Songino Array**	**57.44**	**334**	P	**P**	**19 08 23.7**	**-0.6**
	comp=Z,0.4nm,0.7s,mb3.6,baz=132,slow=6.7,SNR=3.7						
SONM				LR	LR	19 30 50.3	
	comp=Z,235nm,21.8s,MS4.2,baz=165,slow=34						
TAPN	**Taplejung**	**57.55**	**304**	*eP*	**P**	**19 08 25.4**	**0.0**
	comp=Z,28nm,1.3s,mb5.2						
ODAN	**Odare**	**57.64**	**304**	*eP*	**P**	**19 08 26.1**	**+0.1**
	comp=Z,24nm,1.1s,mb5.2						
RAMN	**Ramite**	**58.33**	**304**	*eP*	**P**	**19 08 31.2**	**+0.3**
	comp=Z,16nm,0.9s,mb5.0						
JIRN	**Jiri**	**58.92**	**304**	*eP*	**P**	**19 08 34.7**	**-0.3**
GUN	**Gumba**	**59.27**	**304**	*eP*	**P**	**19 08 38.1**	**+0.7**
PKI	**Pulchoki**	**59.54**	**304**	*eP*	**P**	**19 08 39.1**	**-0.2**
KKN	**Kakani**	**59.72**	**304**	*eP*	**P**	**19 08 40.1**	**-0.4**
	comp=Z,16nm,0.8s,mb5.1						
KKN	**Kakani**	**59.72**	**304**	*eP*	**P**	**19 08 40.1**	**-0.4**
KKN				pmax	pmax		
	comp=Z,16nm,0.8s,mb5.1						
DMN	**Daman**	**59.80**	**304**	*eP*	**P**	**19 08 41.4**	**+0.3**
GKN	**Gorkha**	**60.33**	**304**	*eP*	**P**	**19 08 44.7**	**0.0**
ZAK	**Zakamensk**	**60.71**	**335**	*eP*	**P**	**19 08 46.3**	**-0.5**
ZAK				pmax	pmax		
	comp=Z,6.0nm,1.5s,mb4.5						
KOLN	**Koldanda**	**61.11**	**303**	*eP*	**P**	**19 08 50.1**	**+0.1**
	comp=Z,13nm,0.9s,mb5.0						
DANN	**Dangsing**	**61.17**	**304**	*eP*	**P**	**19 08 50.6**	**+0.2**
	comp=Z,17nm,0.8s,mb5.2						
YAK	**Yakutsk**	**64.45**	**355**	*eP*	**P**	**19 09 10.5**	**-1.0**
YAK				pmax	pmax		
	comp=Z,6.0nm,0.8s,mb4.7						
MK31	**Makanchi Array**	**69.66**	**322**	*eP*	**P**	**19 09 44.8**	**-0.1**
MKAR	**Makanchi Array**	**69.66**	**322**	P	**P**	**19 09 45.1**	**+0.2**
	comp=Z,1.0nm,0.6s,mb4.0,baz=116,slow=7.9,SNR=9.0						
MKAR				LR	LR	19 38 30.8	
	comp=Z,60nm,20.0s,MS3.8,baz=264,slow=34						
PPT	**Papeete**	**71.48**	**108**	LR	LR	19 36 53.7	
	comp=Z,173nm,18.3s,MS4.3,baz=235,slow=32						
ZALV	**Zalesovo Beam**	**71.72**	**330**	P	**P**	**19 09 55.9**	**-1.3**
	comp=Z,0.4nm,0.4s,mb3.7,baz=131,slow=6.6,SNR=2.3						
ZALV				LR	LR	19 41 10.5	
	comp=Z,97nm,18.2s,MS4.1,baz=242,slow=36						
KURK	**Kurchatov**	**73.55**	**325**	*i* P	**P**	**19 10 08.0**	**-0.3**
KURK				pmax	pmax		
	comp=Z,5.0nm,1.2s,mb4.3						
KBL	**Kabul**	**74.98**	**307**	*eP*	**P**	**19 10 17.0**	**0.0**
KBL				pmax	pmax		
	comp=Z,3.0nm,0.9s,mb4.2						
KBL	**Kabul**	**74.98**	**307**	*eP*	**P**	**19 10 17.0**	**0.0**
	comp=Z,3.2nm,0.9s,mb4.2						
MAW	**Mawson**	**82.78**	**202**	P	**P**	**19 10 59.8**	**+0.7**
	comp=Z,2.0nm,0.9s,mb4.1,baz=20,slow=7.9,SNR=6.4						
MAW				LR	LR	19 45 43.2	
	comp=Z,129nm,18.0s,MS4.3,baz=252,slow=34						
AKTK	**Aktyubinsk**	**86.03**	**321**	P	**P**	**19 11 16.3**	**+0.5**
AKTO	**Aktyubinsk**	**86.03**	**321**	P	**P**	**19 11 16.3**	**+0.5**
	comp=Z,0.6nm,0.3s,mb4.3,baz=81,slow=7.7,SNR=3.6						
DAWY	**Dawson**	**88.20**	**26**	*eP*	**P**	**19 11 26.5**	**+0.5**
DBIC	**Dimbokro**	**143.87**	**278**	PKP	PKPdf	19 18 09.1	-2.5
	comp=Z,1.7nm,0.6s,baz=349,slow=5.2,SNR=3.8						
LPAZ	**La Paz**	**147.38**	**125**	PKPbc	PKPbc	19 18 21.5	+1.6
	comp=Z,3.0nm,0.7s,baz=220,slow=2.2,SNR=8.3						
SDV	**Santo Domingo**	**149.62**	**76**	*e*PKPbc	PKPbc	19 18 24.0	-1.8

ISCJB ***24*** *19:11:02.8±0.6, 3185N±006×4975E±009, h10km, Error ellipse: s-maj=12.8km s-min=5.1km az=33.0*

THR ***24*** *19:11:02.1±1.1, 3179N×4979E, h18km±11km, ML3.2*

CSEM ***24*** *19:11:02.9±0.2, 3183N×4983E, h16km, ML3.2, Error ellipse: s-maj=15.6km s-min=1.8km az=119.0*

KISR ***24*** *19:11:03.1, 3164N×4979E, h15km, ML2.9*

ISC 24 19:11:03.9±0.6, 3186N±006×4974E±009, h10km, n15, σ0§42/21, Western Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHGR	**Shooshtar-Gavs**	**0.84**	**288**	*eP*g	**Pg**	**19 11 19.4**	**-0.7**
SHGR				AML	AML	19 11 37.0	
	comp=E,963nm,0.2s						
ASAO	**Ashtian**	**2.69**	**5**	*eP*n	**Pn**	**19 11 47.9**	**+0.6**
ASAO				AML	AML	19 12 28.5	
	comp=E,102nm,0.4s						
NASN	**Na'in**	**2.76**	**69**	*eP*n	**Pn**	**19 11 47.5**	**-0.7**
UMR	**Umm Al-Rimmam**	**2.89**	**218**	*eP*	**Pn**	**19 11 50.0**	**0.0**
	baz=221						
UMR				AML	AML	19 12 37.8	
	comp=Z,53nm,0.5s,baz=221						
MIB	**Mutribah**	**2.91**	**226**	*eP*	**Pn**	**19 11 50.4**	**+0.1**
MIB				*eS*	**Sn**	**19 12 26.2**	**+0.9**
	comp=Z,74nm,0.7s						
MIB	**Mutribah**	**2.91**	**226**	*eP*	**Pn**	**19 11 50.4**	**+0.1**
	baz=230						
MIB				*eS*	**Sn**	**19 12 26.2**	**+0.8**
	baz=230						
MIB				AML	AML	19 12 32.3	
	comp=Z,74nm,0.7s,baz=230						
GHVR	**GHOM**	**2.92**	**26**	*e*Pn	**Pn**	**19 11 50.6**	**+0.2**
GHVR				AML	AML	19 12 39.0	
	comp=E,70nm,0.6s						
KBD	**Kabd**	**3.21**	**214**	*eP*	**Pn**	**19 11 54.3**	**-0.1**
KBD				*eS*	**Sn**	**19 12 32.2**	**-0.4**
	comp=E,20nm,0.3s						
KBD	**Kabd**	**3.21**	**214**	*eP*	**Pn**	**19 11 54.3**	**0.0**
	baz=217						
KBD				*eS*	**Sn**	**19 12 32.2**	**-0.5**
	baz=217						
KBD				AML	AML	19 12 37.9	
	comp=Z,20nm,0.3s,baz=217						
RST	**Umm Al-Ruwaisa**	**3.33**	**226**	*eP*	**Pn**	**19 11 56.1**	**-0.1**
	baz=229						
RST				AML	AML	19 12 40.0	
	comp=Z,48nm,0.6s,baz=229						
NAY	**Al-Naaiem**	**3.38**	**220**	*eP*	**Pn**	**19 11 56.8**	**0.0**
	baz=223						
NAY				AML	AML	19 12 30.2	
	comp=Z,19nm,0.7s,baz=223						
SNGE	**Sanandaj**	**3.80**	**329**	*e*Pn	**Pn**	**19 12 02.3**	**-0.2**
SNGE				AML	AML	19 12 51.2	
	comp=E,39nm,0.4s						
DAMV	**Damavand**	**4.20**	**26**	*e*Pn	**Pn**	**19 12 08.1**	**+0.1**
DAMV				*e*Sg	**Sg**	**19 13 13.7**	**-4.9**
DAMV				AML	AML	19 13 25.4	
	comp=E,25nm,0.5s						
DAMV	**Damavand**	**4.20**	**26**	*e*Pn	**Pn**	**19 12 08.1**	**+0.1**
	SNR=52						
DAMV				*e*Sg	**Sg**	**19 13 13.7**	**-5.0**
	SNR=91						
CHTH	**Charan**	**4.20**	**16**	*e*Pn	**Pn**	**19 12 08.4**	**+0.3**

CSEM ***24*** *19:13:08.2±0.7, 3915N×2827W, h15km, ML3.1, Error ellipse: s-maj=4.9km s-min=3.0km az=149.0, After PDA*

PDA 24 19:13:08.2±0.7, 3915N×2827W, h15km, MD3.5, ML3.1, Error ellipse: s-maj=4.9km s-min=3.0km az=149.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SRBC	**Serra Branca**	**0.21**	**123**	*eP*	Pg	19 13 12.7	-0.3
SRBC				*eS*	Sg	19 13 15.8	-0.5
PMAN	**Manadas**	**0.54**	**165**	*i* P	Pg	19 13 16.4	-2.4
PMAN				*eS*	Sg	19 13 23.3	-2.7
PMAN				A		19 13 23.9	
	478nm,0.2s						
PMAN	**Manadas**	**0.54**	**165**	*eS*	Sg	19 13 23.3	-2.7
CALA	**Caldeira**	**0.66**	**211**	*i* P	Pg	19 13 18.6	-2.6
CALA				*eS*	Sg	19 13 26.8	-3.2
CALA	**Caldeira**	**0.66**	**211**	*eS*	Sg	19 13 26.8	-3.2
PICO	**Pico**	**0.66**	**191**	*eP*	Pg	19 13 18.7	-2.5
PICO				*eS*	Sg	19 13 26.9	-3.0
HOR	**Horta**	**0.69**	**204**	*eS*	Sg	19 13 27.2	-3.5
PID	**Ribeirinha**	**0.72**	**171**	*i* P	Pg	19 13 19.6	-2.6
PID				*eS*	Sg	19 13 27.8	-3.9
PID	**Ribeirinha**	**0.72**	**171**	*eS*	Sg	19 13 27.8	-3.9

CSEM ***24*** *19:15:22.3±0.9, 3917N×2829W, h15km, ML3.0, Error ellipse: s-maj=5.9km s-min=4.3km az=148.0, After PDA*

PDA 24 19:15:22.3±0.9, 3917N×2829W, h15km, MD3.5, ML3.0, Error ellipse: s-maj=5.9km s-min=4.3km az=148.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SRBC	**Serra Branca**	**0.23**	**124**	*i* P	Pg	19 15 26.7	-0.7
SRBC				*eS*	Sg	19 15 30.7	-0.2
SRBC	**Serra Branca**	**0.23**	**124**	*eS*	Sg	19 15 30.7	-0.2
PMAN	**Manadas**	**0.56**	**164**	*i* P	Pg	19 15 30.7	-2.5
PMAN				*eS*	Sg	19 15 37.6	-3.0
PMAN				A		19 15 38.2	
	384nm,0.2s						
PMAN	**Manadas**	**0.56**	**164**	*eS*	Sg	19 15 37.6	-3.0
CALA	**Caldeira**	**0.67**	**209**	*i* P	Pg	19 15 32.9	-2.4
CALA				*eP*		19 15 40.2	
CALA				*eS*	Sg	19 15 41.5	-2.6
CALA	**Caldeira**	**0.67**	**209**	*eS*	Sg	19 15 41.5	-2.6
PICO	**Pico**	**0.67**	**189**	*eP*	Pg	19 15 32.9	-2.5
PICO				*eS*	Sg	19 15 41.1	-3.2
HOR	**Horta**	**0.69**	**203**	*eP*	Pg	19 15 32.9	-2.9
HOR				*eS*	Sg	19 15 41.5	-3.4
PID	**Ribeirinha**	**0.73**	**169**	*eP*	Pg	19 15 33.9	-2.7
PID				*eS*	Sg	19 15 42.1	-4.2

ISCJB ***24*** *20:20:27.4±0.5, 4003N±004×5228E±007, h33km, mb3.5/4, MS2.9/3, Error ellipse: s-maj=8.5km s-min=4.8km az=36.7*

CSEM ***24*** *20:20:28.8±0.1, 3985N×5221E, h50km, ML3.7, Error ellipse: s-maj=4.0km s-min=2.8km az=129.0*

NNC ***24*** *20:20:34.9±3.0, 4046N×5307E, h0km, mb3.5, Error ellipse: s-maj=32.1km s-min=24.0km az=93.0*

IDC ***24*** *20:20:38.0±3.7, 4042N×5233E, h85km±36km, mb3.3/4, mb1 3.4/8, mb1mx3.2/25, mbtmp3.4/8, MS3.1/4, Ms1 3.1/4, ms1mx2.6/30, Error ellipse: s-maj=43.8km s-min=19.7km az=167.0*

MOS ***24*** *20:20:38.7±0.8, 4078N×5215E, h88km, mb4.0/1, Error ellipse: s-maj=24.6km s-min=15.1km az=64.5*

NEIC ***24*** *20:20:38.8±1.7, 4063N×5230E, h84km±15km, Error ellipse: s-maj=27.0km s-min=9.0km az=167.0*

ISC 24 20:20:29.7±0.4, 3997N±004×5225E±007, h35km, n29, σ0§85/36, mb3.5/4, MS2.9/3, 7C-3D, Caspian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GRMI	**Germi**	**3.57**	**253**	*eP*	**Pn**	**20 21 23.1**	**+0.6**
	SNR=90						
GRMI				*i* S	**Sn**	**20 22 02.7**	**-0.8**
	SNR=90						
MRVT	**Maraveh tapeh**	**3.78**	**126**	*eP*	**Pn**	**20 21 24.9**	**-0.5**
	SNR=90						
CHTH	**Charan**	**4.15**	**193**	*eP*	**Pn**	**20 21 30.0**	**-0.5**
	SNR=90						
THKV	**Tehran--Karaj**	**4.19**	**195**	*eP*	**Pn**	**20 21 30.7**	**-0.3**
	SNR=90						
DAMV	**Damavand**	**4.33**	**183**	*eP*	**Pn**	**20 21 32.5**	**-0.5**
	SNR=90						
GNI	**Garni**	**5.77**	**274**	P	**Pn**	**20 22 02.6**	**+10**
	0.4nm,0.3s,baz=108,slow=23,SNR=3.3						
AB31	**Akbulak array**	**10.78**	**28**	⇑Pn	**Pn**	**20 23 01.3**	**-0.1**
	2.3nm,0.7s,baz=218,slow=14						
AB31				⇑Sn	**Sn**	**20 24 56.1**	**-4.6**
	2.2nm,0.4s,baz=210,slow=26						
AKTK	**Aktyubinsk**	**11.23**	**19**	P	**Pn**	**20 23 07.3**	**-0.2**
AKTK	**Aktyubinsk**	**11.23**	**19**	P	**Pn**	**20 23 07.3**	**-0.2**
AKTK				S	**Sn**	**20 25 10.6**	**-1.1**
AKTO	**Aktyubinsk**	**11.23**	**19**	⇑Pn	**Pn**	**20 23 06.5**	**-1.0**
	0.8nm,0.8s						
AKTO				⇓Sn	**Sn**	**20 25 07.8**	**-3.8**
	1.8nm,0.6s						
AKTO	**Aktyubinsk**	**11.23**	**19**	P	**Pn**	**20 23 07.3**	**-0.2**
	0.8nm,0.3s,baz=205,slow=12,SNR=11						
AKTO				S	**Sn**	**20 25 10.6**	**-1.1**
	0.7nm,0.3s,baz=96,slow=21,SNR=8.5						
AKTO	**Aktyubinsk**	**11.23**	**19**	Pn	**Pn**	**20 23 06.5**	**-1.0**
	0.8nm,0.8s						
KK31	**Karatay Array**	**14.03**	**71**	Pn	**Pn**	**20 23 44.6**	**-1.2**
	0.6nm,0.5s,baz=264,slow=17,SNR=6.0						
KK31				⇑Sn	**Sn**	**20 26 14.0**	**-6.2**
	1.2nm,0.6s,baz=261,slow=24,SNR=4.0						
ARU	**Arti**	**16.99**	**12**	*eP*	**Pn**	**20 24 23.1**	**-1.3**
BVA0	**Borovoye Array**	**18.00**	**37**	⇑P	**Pn**	**20 24 37.6**	**+0.7**
	0.7nm,0.7s,baz=215,slow=14,SNR=21						
BVA0				⇓S	**S**	**20 27 50.0**	**-12**
	0.4nm,0.7s						
BVAR	**Borovoye Array**	**18.00**	**37**	P	**Pn**	**20 24 37.0**	**+0.2**
	0.5nm,0.3s,baz=224,slow=10,SNR=23						
BVAR				LR	LR	20 32 36.2	
	comp=Z,90nm,19.9s,baz=250,slow=41						
VOSK	**Vostochnaya**	**18.09**	**39**	⇑P	**Pn**	**20 24 38.8**	**+0.8**
	1.8nm,0.6s						
VOSK				⇓S	**S**	**20 27 51.5**	**-12**
	2.0nm,0.8s						
AKASG	**Malin Array Be**	**19.35**	**311**	P	**Pn**	**20 24 52.9**	**-0.3**
	0.9nm,0.3s,baz=106,slow=10.0,SNR=4.1						
BUR08	**Bucovina Ar. S**	**20.91**	**300**	*eP*	**P**	**20 25 10.2**	**+1.3**
BUR08	**Bucovina Ar. S**	**20.91**	**300**	*eP*	**P**	**20 25 10.2**	**+1.4**
KURBB	**Kurchatov Arra**	**21.23**	**51**	⇑P	**P**	**20 25 13.2**	**+0.9**
	0.3nm,0.8s						
KURK	**Kurchatov**	**21.31**	**51**	P	**P**	**20 25 13.8**	**+0.6**
	2.0nm,0.9s,mb3.5,baz=252,slow=12,SNR=11						
KURK				LR	LR	20 34 35.6	
	comp=Z,46nm,20.0s,MS2.9,baz=330,slow=40						
KURK	**Kurchatov**	**21.31**	**51**	*eP*	**P**	**20 25 14.7**	**+1.5**
MKAR	**Makanchi Array**	**22.78**	**63**	P	**P

KCP				*i*	S		**Sn**	**20 36 34.4**	**+11**
BIPH	**Bislig**	**2.93**	**359**⇑	*e*	P		**Pn**	**20 36 06.2**	**-0.6**
CTBH	**Cotabato--PC H**	**2.93**	**312**	*e*	P		**Pn**	**20 36 05.3**	**-1.5**
CTBH				*i*	S		Sn	20 37 02.4	+21
BUKP	**Musuan**	**2.96**	**333**	*e*	P		**Pn**	**20 36 05.7**	**-1.5**
BUKP				*e*	S		**Sn**	**20 36 41.9**	**+0.4**
CGP	**Cagayan de Oro**	**3.63**	**332**⇑	*i*	P		**Pn**	**20 36 08.6**	**-7.8**
CGP				*i*	S		**Sn**	**20 36 59.2**	**+1.1**
BUTP	**Butuan**	**3.79**	**348**	*e*	P		**Pn**	**20 36 19.9**	**+1.3**
BUTP				*e*	S		**Sn**	**20 37 10.3**	**+8.2**
PAGZ	**Pagadian**	**3.99**	**311**	*e*	P		**Pn**	**20 36 21.6**	**+0.3**
PAGZ				*e*	S		**Sn**	**20 36 43.4**	**-23**
MNI	**Manado**	**4.09**	**203**⇓	*e*	P		**Pn**	**20 36 22.0**	**-0.6**
MNI				*e*	S		**Sn**	**20 37 10.0**	**+0.8**
TNE	**Ternate**	**4.52**	**168**⇓	*e*	P		**Pn**	**20 36 28.0**	**-0.5**
SCPH	**Surigao**	**4.61**	**348**⇓	*e*	P		**Pn**	**20 36 33.0**	**+3.2**
GUIM	**Jordan**	**6.57**	**325**	*e*	P		**Pn**	**20 36 57.4**	**+0.8**
GUIM				*e*	S		Sn	20 37 24.4	-46
CUYO	**Cuyo Island**	**7.73**	**316**	*e*	P		**Pn**	**20 37 13.3**	**+0.8**
KDI	**Kendari**	**9.89**	**203**⇑	*e*	P		**Pn**	**20 37 41.8**	**-0.3**
KDI				*e*	S		**Sn**	**20 39 26.7**	**-4.9**
KAPI	**Kappang**	**12.17**	**213**	P			**Pn**	**20 38 14.9**	**+1.7**
	0.9nm,0.3s,baz=40,slow=14,SNR=9.1								
KAPI				LR		LR		20 43 15.8	
	comp=Z,478nm,19.9s,baz=236,slow=39								
GUMO	**Guam**	**19.98**	**64**	LR		LR		20 46 20.1	
	comp=Z,278nm,20.9s,baz=215,slow=32								
WRAB	**Tennant Creek**	**26.20**	**163**	*i*	P		**P**	**20 40 55.6**	**+4.3**
CBIJ	**Chichi jima**	**26.42**	**33**	LR		LR		20 49 42.1	
	comp=Z,102nm,19.1s,baz=314,slow=32								
WHN	**Wuhan**	**27.63**	**337**	P		P		**20 41 05.3**	**+1.3**
CMAR	**Chiang Mai Arr**	**29.88**	**298**	P		P		**20 41 22.7**	**-1.5**
	0.5nm,0.7s,mb3.3,baz=105,slow=6.9,SNR=6.1								
CMAR				LR		LR		20 52 44.7	
	comp=Z,166nm,20.9s,baz=122,slow=36								
CTA	**Charters Tower**	**31.83**	**143**	LR		LR		20 53 36.8	
	comp=Z,114nm,20.9s,baz=25,slow=34								
KSRS	**Korea Array**	**32.10**	**2**	LR		LR		20 55 09.5	
	comp=Z,69nm,20.4s,baz=175,slow=37								
XAN	**Xi'an**	**32.95**	**333**	P		P		**20 41 50.3**	**-0.7**
XAN				AP		pP		20 42 00.0	-6.9
XAN				AMB		AMB			
	comp=Z,5.0nm,1.3s,mb4.2								
XAN				AMB		AMB			
	comp=Z,45nm,5.5s								
XAN				LR		LR			
	comp=N,82nm,20.5s								
XAN				LR		LR			
	comp=E,82nm,19.5s								
XAN				LR		LR			
	comp=Z,237nm,24.5s								
MJAR	**Matsushiro Arr**	**32.98**	**18**	LR		LR		20 53 39.4	
	comp=Z,117nm,21.3s,baz=215,slow=33								
BJT	**Baijiatuau**	**35.84**	**346**	*e*	P		**P**	**20 42 16.5**	**+0.6**
LZH	**Lanzhou**	**37.06**	**329**	*e*	P		**P**	**20 42 32.0**	**+5.6**
LZH				AP		pP		20 42 35.0	-7.5
LZH				AMB		AMB			
	comp=Z,14nm,1.0s,mb4.8								
LZH				AMB		AMB			
	comp=Z,69nm,5.0s								
LSA	**Lhasa**	**41.23**	**310**	P		P		**20 43 02.8**	**+1.5**
LSA	**Lhasa**	**41.23**	**310**	*e*	P		**P**	**20 43 03.4**	**+2.1**
LSA				pmax		pmax			
	comp=Z,3.0nm,0.9s,mb4.1								
LSA	**Lhasa**	**41.23**	**310**	*e*	P		**P**	**20 43 03.4**	**+2.1**
	comp=Z,3.2nm,0.9s,mb4.2								
GTA	**Gaotai**	**41.66**	**329**	*e*	P		**P**	**20 43 04.3**	**-0.4**
GTA				AMB		AMB			
	comp=Z,3.0nm,1.8s,mb3.7								
ULN	**Ulaanbaatar**	**45.60**	**342**⇓	*e*	P		**P**	**20 43 37.6**	**+1.4**
ULN	**Ulaanbaatar**	**45.60**	**342**	*e*	P		**P**	**20 43 35.9**	**-0.3**
	comp=Z,2.8nm,0.7s,mb4.1								
SONM	**Songino Array**	**45.78**	**341**	P		P		**20 43 39.0**	**+1.4**
	comp=Z,1.0nm,0.9s,mb3.5,baz=178,slow=9.9,SNR=9.1								
BOD	**Bodaibo**	**53.34**	**352**	*e*	P		**P**	**20 44 35.6**	**+0.7**
BOD				pmax		pmax			
	comp=Z,9.0nm,1.3s,mb4.6								
MK31	**Makanchi Array**	**56.16**	**325**	*e*	P		**P**	**20 44 54.3**	**-1.2**
MKAR	**Makanchi Array**	**56.16**	**325**	P		P		**20 44 54.4**	**-1.2**
	comp=Z,1.2nm,0.5s,mb4.2,baz=118,slow=8.5,SNR=12								
YAK	**Yakutsk**	**56.72**	**2**	*e*	P		**P**	**20 44 59.0**	**-0.2**
YAK				pmax		pmax			
	comp=Z,10.0nm,1.3s,mb4.7								
ZALV	**Zalesovo Beam**	**59.12**	**333**	P		P		**20 45 14.9**	**-1.2**
	comp=Z,0.9nm,0.6s,mb4.0,baz=132,slow=6.0,SNR=4.8								
KURK	**Kurchatov**	**60.32**	**327**	P		P		**20 45 23.5**	**-1.0**
	comp=Z,1.3nm,0.5s,mb4.2,baz=128,slow=6.6,SNR=8.3								
KURK	**Kurchatov**	**60.32**	**327**	P		P		**20 45 23.5**	**-1.0**
TIXI	**Tiksi**	**66.35**	**1**	*e*	P		**P**	**20 46 03.7**	**-0.3**
TIXI				pmax		pmax			
	comp=Z,7.0nm,1.2s,mb4.4								
TIXI	**Tiksi**	**66.35**	**1**	*e*	P		**P**	**20 46 04.4**	**+0.5**
BILL	**Bilibino**	**68.18**	**15**	*e*	P		**P**	**20 46 18.7**	**+3.1**
BILL				pmax		pmax			
	comp=Z,8.0nm,2.0s,mb4.2								
ARU	**Arti**	**73.51**	**328**⇑	*e*	P		**P**	**20 46 47.5**	**-0.7**
ARU				pmax		pmax			
	comp=Z,7.0nm,1.3s,mb4.2								
IMA2	**Indian Mountai**	**81.13**	**24**	*e*	P		**P**	**20 47 30.9**	**+0.3**
KIV	**Kislovodsk**	**81.89**	**314**	*e*	P		**P**	**20 47 33.8**	**-1.3**
KIV				pmax		pmax			
	comp=Z,7.0nm,0.8s,mb4.5								
OBN	**Obninsk**	**85.67**	**325**⇑	*e*	P		**P**	**20 47 53.4**	**-0.7**
OBN				*e*				20 51 11.1	
OBN				pmax		pmax			
	comp=Z,18nm,1.5s,mb4.8								
ARCES	**ARCESS Array B**	**88.94**	**340**	P		P		**20 48 12.5**	**+2.9**
	comp=Z,2.8nm,0.8s,mb4.3,baz=89,slow=5.8,SNR=7.9								
ARCES	**ARCESS Array B**	**88.94**	**340**	P		P		**20 48 12.5**	**+2.9**

BJI **24** *20:35:51.5, 7.48S×131.07E, h101km, mb4.9*
MOS **24** *20:35:57.2±0.9, 662S×13051E, h82km, mb4.4/4, Error ellipse: s-maj=25.6km s-min=10.3km az=119.9*
ISCJB **24** *20:35:58.3±0.4, 669S±005×13061E±008, h101km, mb4.7/22, Error ellipse: s-maj=11.3km s-min=7.5km az=164.2*
IDC **24** *20:36:01.3±0.8, 661S×130.47E, h101km±6km, mb4.1/11, mb1 4.1/12, mb1mx4.1/14, mbtmp4.1/12, MS3.0/1, Ms1 3.0/1, ms1mx2.8/25, Error ellipse: s-maj=18.4km s-min=12.9km az=85.0*
NEIC **24** *20:36:01.2±0.3, 665S×130.45E, mb4.8/19, Error ellipse: s-maj=11.2km s-min=6.1km az=65.0*
ISC 24 20:36:00.5±0.4**, 670S**±006×**13062E**±008**, h103**km**, h103**km±1.4km**:pP-P, n56**, σ1§01/60**, mb4.7**/22**, 2D, Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TLE	**Tual**	**2.35**	**63**⇓	*e*P	**Pn**	**20 36 30.0**	**-7.8**
TLE				*e*S	**Sn**	**20 36 52.0**	**-14**
KAKA	**Kakadu**	**6.23**	**163**⇓	*i*P	**Pn**	**20 37 21.9**	**-8.1**
	400nm,0.6s						
KAKA				*e*S	**Sn**	**20 38 27.7**	**-12**
BATI	**Baumata**	**7.71**	**243**	P	**Pn**	**20 37 48.9**	**-1.2**
	33nm,0.3s,baz=105,slow=3.2,SNR=46						
BATI				S	**Sn**	**20 39 11.9**	**-4.0**
	32nm,0.3s,baz=146,slow=22,SNR=9.0						
BATI				LR	LR	20 41 11.1	
	comp=Z,125nm,21.0s,baz=349,slow=41						
COEN	**Coen**	**14.29**	**121**	*e*P	**Pn**	**20 39 15.0**	**-3.2**
	5.8nm,0.5s						
ASAR	**Alice Springs**	**17.16**	**170**	P	**Pn**	**20 39 52.6**	**-1.3**
	21nm,0.3s,baz=13,slow=12,SNR=897						
ASAR				S	**S**	**20 42 53.5**	**-12**
	3.4nm,0.3s,baz=352,slow=25,SNR=5.6						
MBWA	**Marble Bar**	**17.82**	**215**	*e*P	**Pn**	**20 39 59.2**	**-2.7**
	21nm,0.6s						
CTA	**Charters Tower**	**20.18**	**133**	*e*P	**P**	**20 40 29.2**	**+2.2**
	3.2nm,0.5s						
CTA				*e*S	**S**	**20 44 07.6**	**-0.3**
CTA	**Charters Tower**	**20.18**	**133**	P	**P**	**20 40 29.4**	**+2.4**
	3.4nm,0.6s,baz=311,slow=12,SNR=8.1						
CTA	**Charters Tower**	**20.18**	**133**	*e*P	**P**	**20 40 29.2**	**+2.2**
CTA				*e*S	**S**	**20 44 07.6**	**-0.3**
CTA				pmax	pmax		
	comp=Z,3.0nm,0.5s						
CTAO	**Charters Tower**	**20.18**	**133**	*e*P	**P**	**20 40 29.2**	**+2.2**
CTAO				pmax	pmax		
	comp=Z,7.0nm,0.8s						
CTAO	**Charters Tower**	**20.18**	**133**	*e*P	**P**	**20 40 29.1**	**+2.2**
	comp=Z,6.8nm,0.8s						
FORT	**Forrest**	**24.07**	**185**	*e*P	**P**	**20 41 08.0**	**+1.7**
	comp=Z,66nm,0.6s,mb5.1						
FORT				*e*S	**S**	**20 45 28.6**	**+12**
STKA	**Stephens Creek**	**27.06**	**159**	*e*P	**P**	**20 41 34.3**	**+1.0**
	comp=Z,2.4nm,0.5s,mb4.0						
STKA	**Stephens Creek**	**27.06**	**159**	P	**P**	**20 41 34.5**	**+1.2**
	comp=Z,2.4nm,0.4s,mb4.0,baz=338,slow=8.2,SNR=9.7						
KLBR	**Kellerberrin**	**27.53**	**204**	*e*P	**P**	**20 41 38.7**	**+1.2**
	comp=Z,4.8nm,0.5s,mb4.3						
JOW	**Kunigami**	**33.41**	**356**	P	**P**	**20 42 29.1**	**-0.3**
	comp=Z,15nm,0.4s,mb5.1,baz=132,slow=27,SNR=5.9						
CMAR	**Chiang Mai Arr**	**40.02**	**309**	P	**P**	**20 43 25.4**	**-0.2**
	comp=Z,3.8nm,0.7s,mb4.3,baz=134,slow=6.9,SNR=30						
CMAR				pP	pP	20 43 50.1	+0.7
	comp=Z,1.9nm,0.7s,baz=136,slow=7.6,SNR=3.9						
CMAR				PcP	PcP	20 45 30.9	+2.0
	comp=Z,0.8nm,0.7s,baz=158,slow=2.6,SNR=5.2						
CHTO	**Chiang Mai**	**40.23**	**310**	*e*P	**P**	**20 43 26.6**	**-0.7**
CHTO				pmax	pmax		
	comp=Z,4.0nm,0.6s,mb4.4						
CHTO	**Chiang Mai**	**40.23**	**310**	*e*P	**P**	**20 43 26.6**	**-0.7**
	comp=Z,4.2nm,0.6s,mb4.5						
MJAR	**Matsushiro Arr**	**43.60**	**9**	P	**P**	**20 43 53.3**	**-1.2**
	comp=Z,4.0nm,0.8s,mb4.2,baz=191,slow=10,SNR=8.6						
KSRS	**Korea Array**	**44.00**	**357**	P	**P**	**20 43 55.9**	**-1.7**
	comp=Z,2.0nm,0.7s,mb4.0,baz=173,slow=9.1,SNR=7.0						
BJT	**Baijiatuau**	**48.37**	**345**	*e*P	**P**	**20 44 31.6**	**-0.2**
BJT				pmax	pmax		
	comp=Z,17nm,0.5s						
BJT	**Baijiatuau**	**48.37**	**345**	*e*P	**P**	**20 44 31.6**	**-0.3**
	comp=Z,17nm,0.5s,mb5.1						
CN2	**Changchun**	**50.48**	**355**	*e*P	**P**	**20 44 47.3**	**-0.6**
CN2				AMB	AMB		
	comp=Z,10.0nm,0.7s,mb4.8						
LSA	**Lhasa**	**52.41**	**316**	P	**P**	**20 45 03.3**	**+0.8**
LSA	**Lhasa**	**52.41**	**316**	*e*P	**P**	**20 45 03.6**	**+1.1**
LSA				pmax	pmax		
	comp=Z,10.0nm,1.0s,mb4.8						
LSA	**Lhasa**	**52.41**	**316**	*e*P	**P**	**20 45 03.6**	**+1.1**
	comp=Z,9.8nm,1.0s,mb4.8						
ODAN	**Odare**	**53.53**	**310**	*e*P	**P**	**20 45 10.7**	**-0.1**
	comp=Z,23nm,0.8s,mb5.3						
TAPN	**Taplejung**	**53.55**	**311**	*e*P	**P**	**20 45 11.0**	**0.0**
RAMN	**Ramite**	**54.18**	**310**	*e*P	**P**	**20 45 15.7**	**+0.2**
	comp=Z,53nm,0.7s						
JIRN	**Jiri**	**54.86**	**311**	*e*P	**P**	**20 45 20.5**	**+0.1**
GUN	**Gumba**	**55.23**	**311**	*e*P	**P**	**20 45 23.1**	**0.0**
	comp=Z,57nm,0.8s						
PKI	**Pulchoki**	**55.41**	**310**	*e*P	**P**	**20 45 23.9**	**-0.5**
KKN	**Kakani**	**55.62**	**310**	*e*P	**P**	**20 45 25.8**	**-0.1**
	comp=Z,25nm,0.8s,mb5.3						
KKN	**Kakani**	**55.62**	**310**	*e*P	**P**	**20 45 25.8**	**-0.1**
KKN				pmax	pmax		
	comp=Z,25nm,0.8s,mb5.3						
DMN	**Daman**	**55.66**	**310**	*e*P	**P**	**20 45 26.0**	**-0.2**
	comp=Z,26nm,0.9s,mb5.2						
GKN	**Gorkha**	**56.21**	**310**	*e*P	**P**	**20 45 29.9**	**-0.2**
KOLN	**Koldanda**	**56.89**	**309**	*e*P	**P**	**20 45 35.1**	**+0.2**
	comp=Z,27nm,0.8s,mb5.3						
DANN	**Dangsing**	**57.06**	**310**	*e*P	**P**	**20 45 36.3**	**+0.2**
	comp=Z,23nm,0.8s,mb5.3						
ULN	**Ulaanbaatar**	**58.18**	**342**	*e*P	**P**	**20 45 44.6**	**+1.1**
ULN				*e*	pP	20 46 09.9	+1.1
SONM	**Songino Array**	**58.36**	**341**	P	**P**	**20 45 45.9**	**+1.1**
	comp=Z,3.9nm,0.6s,mb4.6,baz=164,slow=6.5,SNR=19						
SONM				pP	pP	20 46 11.1	+1.0
	comp=Z,1.0nm,0.4s,baz=160,slow=5.2,SNR=2.6						
PETK	**Petropavlovsk-**	**63.85**	**18**	P	**P**	**20 46 23.0**	**+1.2**
	comp=Z,4.1nm,0.7s,mb4.4,baz=127,slow=2.4,SNR=4.7						
PETK	**Petropavlovsk-**	**63.85**	**18**	P	**P**	**20 46 23.0**	**+1.2**
MK31	**Makanchi Array**	**68.32**	**326**	*e*P	**P**	**20 46 51.3**	**+0.8**
MKAR	**Makanchi Array**	**68.32**	**326**	P	**P**	**20 46 51.3**	**+0.7**
	comp=Z,4.5nm,0.5s,mb4.6,baz=118,slow=7.2,SNR=22						
MKAR				pP	pP	20 47 15.7	-0.9
	comp=Z,3.1nm,0.6s,baz=118,slow=7.6,SNR=4.0						
KBL	**Kabul**	**71.05**	**310**	*e*P	**P**	**20 47 08.0**	**+0.4**
KBL				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb4.2						
KBL	**Kabul**	**71.05**	**310**	*e*P	**P**	**20 47 08.0**	**+0.4**
	comp=Z,4.2nm,0.9s,mb4.3						
ZAA0	**Zalesovo Array**	**71.59**	**333**	*e*P	**P**	**20 47 09.8**	**-0.7**
ZAA0				*e*	pP	20 47 36.0	-0.6
ZALV	**Zalesovo Beam**	**71.59**	**333**	P	**P**	**20 47 10.1**	**-0.3**
	comp=Z,3.4nm,0.5s,mb4.4,baz=119,slow=5.4,SNR=12						
ZALV				pP	pP	20 47 35.9	-0.7
	comp=Z,2.7nm,0.6s,baz=116,slow=5.4,SNR=4.6						
MAW	**Mawson**	**75.45**	**201**	P	**P**	**20 47 34.8**	**+2.0**
	comp=Z,1.0nm,0.5s,mb3.8,baz=77,slow=8.9,SNR=6.9						
MAW	**Mawson**	**75.45**	**201**	*e*P	**P**	**20 47 35.0**	**+2.2**
MAW				pmax	pmax		
	comp=Z,2.0nm,0.7s						
MAW	**Mawson**	**75.45**	**201**	*e*P	**P**	**20 47 35.0**	**+2.1**
	comp=Z,2.1nm,0.7s,mb4.0						
TIXI	**Tiksi**	**78.20**	**359**	*e*P	**P**	**20 47 48.1**	**0.0**
TXAR	**Lajitas Array**	**124.25**	**59**	PKP	PKPdf	20 54 49.8	+1.9
	comp=Z,0.3nm,0.5s,baz=192,slow=3.5,SNR=4.5						
LVC	**Limon Verde**	**145.15**	**147**	*e*PKP	PKPdf	20 55 30.0	+3.2
LPAZ	**La Paz**	**150.57**	**141**	PKPbc	PKPbc	20 55 44.6	+3.3
	comp=Z,2.6nm,0.4s,baz=30,slow=1.6,SNR=21						

ISCJB **24** *20:57:57.3±1.2, 38.13N±003×2176E±003, h11km±9km, Error ellipse: s-maj=4.7km s-min=3.9km az=15.4*
ATH **24** *20:57:57.0, 38.16N×2175E, h17km±3km, MD3.1/7*
NEIC **24** *20:57:57.0, 38.16N×2175E, h17km, MD3.1(ATH), After ATH.*
CSEM **24** *20:57:57.2±0.1, 38.12N×2178E, h20km, MD3.1*
THE **24** *20:57:57.1, 38.15N×2178E, h4km±2km, ML2.6/2, Error ellipse: s-maj=3.0km s-min=0.9km az=350.0*
ISC 24 20:57:57.7±0.7**, 3814N**±003×**2176E**±003**, h17**km±5km**, n23, σ1§22/43, Greece**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RLS	**Riolos of Patr**	**0.24**	**250**	*e*Pb	**Pg**	**20 58 03.0**	**-0.1**
RLS				*e*Sb	**Sg**	**20 58 07.3**	**+0.5**
RLS	**Riolos of Patr**	**0.24**	**250**	*e*PB	**Pg**	**20 58 03.0**	**-0.1**
RLS				*e*SB	**Sg**	**20 58 07.3**	**+0.5**
KFL	**Anninata**	**0.76**	**268**	P	**Pg**	**20 58 11.5**	**-1.1**
KFL				S	**Sg**	**20 58 24.6**	**+1.9**
EVR	**Evrytania**	**0.78**	**3**	*e*Pn	**Pn**	**20 58 12.3**	**-1.6**
EVR	**Evrytania**	**0.78**	**3**	*e*PN	**Pn**	**20 58 12.3**	**-1.6**
VLX	**Vlachokerasia**	**0.91**	**147**	P	**Pb**	**20 58 13.9**	**-1.2**
VLX				S	**Sb**	**20 58 27.5**	**+0.6**
VLS	**Valsamata**	**0.92**	**273**	P	**Pb**	**20 58 13.7**	**-1.5**
VLS				S	**Sb**	**20 58 28.8**	**+1.7**
VLS	**Valsamata**	**0.92**	**273**	*e*Pb	**Pb**	**20 58 13.8**	**-1.4**
VLS				*e*Sn	**Sn**	**20 58 26.9**	**-1.8**
VLS				S	**Sb**	**20 58 28.8**	**+1.7**
VLS	**Valsamata**	**0.92**	**273**	*e*Pb	**Pb**	**20 58 13.8**	**-1.4**
VLS				*e*Sn	**Sn**	**20 58 26.9**	**-1.8**
VLS	**Valsamata**	**0.92**	**273**	*e*PB	**Pb**	**20 58 13.8**	**-1.4**
VLS				*e*SN	**Sn**	**20 58 26.9**	**-1.8**
LTK	**Loutraki**	**0.96**	**97**	P	**Pb**	**20 58 15.4**	**-0.5**
LTK				S	**Sb**	**20 58 29.0**	**+0.7**
ITM	**Ithomi**	**0.97**	**172**	*e*Pn	**Pn**	**20 58 15.6**	**-0.9**
ITM				*e*Sn	**Sn**	**20 58 29.5**	**-0.3**
ITM	**Ithomi**	**0.97**	**172**	*e*PN	**Pn**	**20 58 15.6**	**-0.9**
ITM				*e*SN	**Sn**	**20 58 29.5**	**-0.3**
AGG	**Agios Georgios**	**0.99**	**27**	P	**Pb**	**20 58 15.4**	**-1.0**
AGG				S	**Sb**	**20 58 29.9**	**+0.8**
LKD	**Levkas**	**1.04**	**303**	P	**Pb**	**20 58 15.8**	**-1.4**
LKD				S	**Sb**	**20 58 31.7**	**+1.2**
LKR	**Lokris**	**1.10**	**62**	*e*Pn	**Pn**	**20 58 17.8**	**-0.5**
LKR				*e*Sn	**Sn**	**20 58 32.7**	**-0.5**
LKR	**Lokris**	**1.10**	**62**	*e*PN	**Pn**	**20 58 17.8**	**-0.5**
LKR				*e*SN	**Sn**	**20 58 32.7**	**-0.5**
PYL	**PYLOS**	**1.24**	**181**	P	**Pn**	**20 58 19.2**	**-1.1**
PYL				S	**Sb**	**20 58 39.6**	**+3.2**
DID	**Didima**	**1.33**	**118**	P	**Pn**	**20 58 20.6**	**-0.9**
DID				S	**Sn**	**20 58 40.6**	**+1.8**
THL	**Klokotos Trika**	**1.44**	**8**	*e*Pn	**Pn**	**20 58 24.5**	**+1.6**
THL				*e*Sb	**Sb**	**20 58 42.9**	**+0.9**
THL	**Klokotos Trika**	**1.44**	**8**	*e*PN	**Pn**	**20 58 24.5**	**+1.6**
THL				*e*SB	**Sb**	**20 58 42.9**	**+0.9**
VLI	**Veliai**	**1.70**	**146**	*e*Pn	**Pn**	**20 58 29.0**	**+2.4**
VLI	**Veliai**	**1.70**	**146**	*e*PN	**Pn**	**20 58 29.0**	**+2.4**

BJI **24** *21:02:42.4, 4.61S×100.94E, h20km, mB6.8, mb5.9, Ms7.1, Msz6.9*
IDC **24** *21:02:48.4±1.4, 3.90S×101.09E, h10km±7km, mb5.4/36, mb1 5.4/37, mb1mx5.4/37, mbtmp5.4/37, ML5.0/1, MS6.7/18, Ms1 6.7/18, ms1mx6.4/29, Error ellipse: s-maj=11.7km s-min=8.0km az=41.0*
DJA **24** *21:02:49.5±0.9, 4.5S×101.1E±, h25km±8km, mB7.1/42, Mjma6.7/17, MLv7.0/17, Mw(mB)7.0/42, Mwp7.1/47*
ISCJB **24** *21:02:49.9±0.1, 3.93S±002×101.02E±002, h28km, mb6.0/199, MS6.8/224, Error ellipse: s-maj=3.0km s-min=2.1km az=22.4*
MOS **24** *21:02:50.5±1.6, 3.90S×101.00E, h33km, mb6.2/109, MS6.6/87, Error ellipse: s-maj=5.7km s-min=3.2km az=123.6*
NEIC **24** *21:02:50.6±0.1, 3.90S×101.02E, h21km, mb6.1/65, ME6.2, MS6.9/154, Error ellipse: s-maj=6.2km s-min=3.3km az=38.0 Broadband fault plane solution: P waves. NP1: ϕs290.00000°, δ20.00000°, λ90.00000°. NP2: ϕs110.00000°, δ70.00000°, λ90.00000°. Principal axes: T Plg65.0000°, Azm20.0000°; N Plg0.0000°, Azm0.0000°; P Plg25.0000°, Azm200.0000°; Depth from synthetics of broadband displacement seismograms. Energy computed from BB mechanism.*
NEIC Felt [IV] at Argamakmur, Lais, Muaraaman and Mukomuko; [III] at Kapahiang. Also felt at Bengkulu, Jakarta and in Singapore.
GCMT **24** *21:02:50.5±0.1, 4.40S×100.81E, h20km, MW6.8/119, Moment Tensor Solution. s119,c302; s113,c498; Duration: 8s0 Moment tensor: Scale 1019Nm; Mrr0.88±.01; Mθθ-0.48±.00; Mϕϕ-0.39±.01; Mrθ1.77±.01; Mθϕ0.45±.00; Mϕr-1.13±.01; Best double couple: Mo2.27800×1019 NP1:ϕs321.00000°, δ12.00000°, λ107.00000°. NP2:ϕs123.00000°, δ79.00000°, λ86.00000°. Principal axes: T 2.2830, Plg56.0000°, Azm29.0000°; N -0.0090, Plg3.0000°, Azm124.0000°; P -2.2740, Plg34.0000°, Azm216.0000°; nsta1 refers to body waves, cutoff=50s. nsta2 refers to surface/mantle waves, cutoff=50s.*
SZGRF **24** *21:02:51.5, 4.41S×100.86E, h33km, mb6.3, MS6.6, Southwest of Sumatera, Indonesia*
IGIL **24** *21:02:53.3, 3.84S×100.91E, h30km, MS6.5*
ISC 24 21:02:51.8±0.1**, 3.95S**±002×**10.099E**±002**, h30**km**, h30**km±.7km**:pP-P, n1728,** σ1§**23**/1079**, mb6.0**/198**, MS6.8**/224**, 354C-278D, Southern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KSI	**Kapahiang**	**1.63**	**80**	P	**Pn**	**21 03 19.9**	**+1.4**
KSI	**Kapahiang**	**1.63**	**80**	P	**Pn**	**21 03 17.7**	**-0.8**
PDSI	**Padang**	**3.06**	**350**	P	**Pn**	**21 03 37.6**	**-0.7**
JMBI	**JAMBI**	**3.51**	**49**	P	**Pn**	**21 03 47.3**	**+2.9**
PPI	**Padang Panjang**	**3.52**	**350**	P	**Pn**	**21 03 44.6**	**+0.1**
RGRI	**Rengat**	**3.82**	**21**	P	**Pn**	**21 03 50.3**	**+1.6**
PMBI	**Palembang**	**3.91**	**75**	P	**Pn**	**21 03 51.6**	**+1.7**
KLI	**Kotabumi**	**3.96**	**103**	P	**Pn**	**21 03 52.7**	**+2.1**
PPBI	**Pangkal Pinang**	**5.44**	**71**	P	**Pn**	**21 04 12.3**	**+1.4**
	3μm,0.9s,65nm						
SBJI	**Serang**	**5.56**	**113**	P	**Pn**	**21 04 13.1**	**+0.6**
	4μm,1.2s,100nm						
TNG	**Tangerang**	**6.05**	**112**	P	**Pn**	**21 04 20.9**	**+1.5**
GSI	**Gunungsitoli**	**6.24**	**327**	P	**Pn**	**21 04 20.6**	**-1.3**
	2μm,0.8s,30nm						
GSI	**Gunungsitoli**	**6.24**	**327**	P	**Pn**	**21 04 20.8**	**-1.1**
DBJI	**Dramaga**	**6.29**	**114**	P	**Pn**	**21 04 22.0**	**-0.7**
	7μm,1.3s,166nm						
SKJI	**Sukabumi**	**6.32**	**119**	P	**Pn**	**21 04 21.4**	**-1.6**
	7μm,1.3s,211nm						
CBJI	**Citeko**	**6.33**	**113**	P	**Pn**	**21 04 25.8**	**+2.6**
KGM	**Kluang**	**6.37**	**22**	⇓P	**Pn**	**21 04 25.4**	**+1.7**
MYKOM	**Kota Tinggi**	**6.38**	**27**	⇑P	**Pn**	**21 04 26.4**	**+2.5**
MYKOM	**Kota Tinggi**	**6.38**	**27**	P	**Pn**	**21 04 25.1**	**+1.2**
TPI	**Tanjungpandan**	**6.76**	**80**	P	**Pn**	**21 04 29.6**	**+0.5**
	781nm,0.8s,51nm						
PSI	**Prapat**	**7.02**	**343**⇑	*e*P	**Pn**	**21 04 30.1**	**-2.5**
FRIM	**Kepong**	**7.17**	**5**	⇓P	**Pn**	**21 04 36.1**	**+1.4**
LEM	**Lembang**	**7.19**	**114**⇓	*e*P	**Pn**	**21 04 35.7**	**+0.7**
LEM				*e*S

CM31 LR LR
comp=Z,99µm,21.0s,MS6.2
CMAR Chiang Mai Arr 22.36 355 P **P 21 07 44.9 -2.7**
comp=Z,63nm,0.7s,mb5.2,baz=184,slow=9.9,SNR=88
CMAR LR LR 21 17 49.7
comp=Z,102µm,19.1s,MS6.3,baz=187,slow=40
CMAR P3KPbc 21 41 30.1
comp=Z,0.5nm,0.8s,baz=344,slow=3.0,SNR=4.1
CMAR Chiang Mai Arr 22.36 355 P **P 21 07 44.9 -2.7**
CMAR LR LR 21 17 49.7
CHG Chiang Mai 22.71 355 ⇑P **P 21 07 48.4 -2.9**
comp=Z,374nm,1.2s,mb5.7
CHTO Chiang Mai 22.71 355 ⇑P **P 21 07 48.4 -2.9**
SNR=126
CHTO Chiang Mai 22.71 355 ⇑*iP* **P 21 07 48.5 -2.8**
CHTO pmax pmax
comp=Z,404nm,1.1s,mb5.8
CHTO MLR MLR
comp=Z,107µm,21.0s,MS6.3
CHTO Chiang Mai 22.71 355 P **P 21 07 50.1 -1.2**
comp=Z,433nm,1.3s,mb5.7
CHTO Chiang Mai 22.71 355 ⇑*iP* **P 21 07 48.5 -2.7**
comp=Z,404nm,1.1s,mb5.8
CHTO *e*S **S 21 12 06.8 +8.5**
CHTO LR LR
comp=Z,107µm,21.0s,MS6.3
PALK Pallekele 23.11 299 P **P 21 08 04.2 +8.6**
comp=Z,63nm,1.0s,mb5.0,SNR=6.5
BATI Baumata 23.33 107 P **P 21 07 53.6 -4.3**
comp=Z,198nm,0.5s,mb5.8,baz=269,slow=2.8,SNR=34
BATI S **S 21 12 06.6 -2.1**
comp=Z,955nm,0.8s,baz=241,slow=19,SNR=5.6
BATI Baumata 23.33 107 P **P 21 07 55.6 -2.4**
comp=Z,708nm,0.8s,mb6.1
CHRT Chiangrai 23.70 357 ⇑P **P 21 08 00.0 -1.3**
comp=Z,3µm,1.0s,mb6.7
ENPP El Nido 23.73 50 *e*P **P 21 08 01.7 0.0**
QIZ Qiongzhong 24.44 21 P **P 21 08 08.8 +0.7**
QIZ XP sP 21 08 22.1 +1.7
QIZ S **S 21 12 28.9 +2.4**
QIZ AMB AMB
comp=Z,706nm,2.0s,mb5.8
QIZ LR LR
comp=E,205µm,15.2s
QIZ LR LR
comp=Z,251µm,21.4s
QIZ Qiongzhong 24.44 21 ⇑*iP* **P 21 08 08.1 0.0**
comp=Z,1µm,1.3s,mb6.1
QIZ *e*PcP PcP 21 11 36.5 -10
QIZ *e*S **S 21 12 26.1 -0.4**
QIZ LR LR
comp=Z,269µm,21.0s,MS6.7
CUYO Cuyo Island 24.77 53 *e*P **P 21 08 12.5 +1.2**
BUSP Coron 24.82 50 *e*P **P 21 08 11.5 -0.2**
MBWA Marble Bar 24.99 135 ⇓P **P 21 08 19.7 +6.6**
SNR=11
MBWA Marble Bar 24.99 135 P **P 21 08 13.4 +0.3**
MBWA Marble Bar 24.99 135 ⇑*e*P **P 21 08 12.6 -0.5**
comp=Z,302nm,0.9s,mb5.8
MBWA *e*S **S 21 12 39.1 +3.8**
MBWA LR LR
comp=Z,532µm,20.0s,MS7.0
PAGZ Pagadian 25.23 62 *e*P **P 21 08 15.8 +0.4**
CTBH Cotabato--PC H 25.73 64 *e*P **P 21 08 20.0 +0.1**
SJMP San Jose 25.81 51 *e*P **P 21 08 20.4 -0.2**
GSPH General Santos 25.92 68 ⇑*e*P **P 21 08 25.0 +3.3**
GUIM Jordan 25.93 56 *e*P **P 21 08 21.9 +0.1**
LUBP Lubang 25.96 47 *e*P **P 21 08 21.4 -0.6**
KALP Kalibo 26.31 54 ⇓*e*P sP 21 08 41.9 +4.4
KCP Kidapawan 26.41 66 ⇓*e*P **P 21 08 33.0 +7.0**
OTRP Odiongan 26.45 52 *e*P **P 21 08 26.9 +0.4**
TBP Tagbilaran 26.52 59 *e*P **P 21 08 26.7 -0.3**
MDRS Chennai 26.65 310 *i* x x 21 08 43.2
MDRS *i* x x 21 09 43.2
CGP Cagayan de Oro 26.66 62 ⇓*e*P **P 21 08 29.0 +0.6**
LBMI Labuha 26.69 84 P **P 21 08 28.4 -0.3**
comp=Z,µm,1.1s,mb6.5
BUKP Musuan 26.74 64 *e*P **P 21 08 28.2 -0.9**
TNTI Ternate 26.78 80 P **P 21 08 27.7 -1.7**
TNE Ternate 26.78 80 ⇓*e*P **P 21 08 26.0 -3.5**
DAV Davao City (W) 26.88 66 ⇑P **P 21 08 28.1 -2.2**
SNR=19
DAV Davao City (W) 26.88 66 P **P 21 08 30.2 -0.1**
comp=Z,176nm,0.3s,mb6.0,baz=241,slow=2.9,SNR=10.0
DAV Davao City (W) 26.88 66 ⇑*e*P **P 21 08 27.8 -2.5**
DAV Davao City (W) 26.88 66 P **P 21 08 36.5 +6.2**
DAV Davao City (W) 26.88 66 *e*P **P 21 08 35.0 +4.7**
DAV PcP PcP 21 11 59.6 +7.1
DAV *e*S **S 21 12 57.6 -7.7**
DAV LR LR
comp=Z,287µm,20.0s,MS6.8
LLP Lapu-Lapu 26.92 58 *e*P **P 21 08 31.8 +1.1**
SCZP Santa Cruz 27.11 43 *e*P **P 21 08 31.6 -0.7**
AAI Ambon 27.15 90 P **P 21 08 33.8 +1.0**
comp=Z,472nm,1.3s,mb5.8
KOD Kodaikanal 27.34 301 *e*P **P 21 08 35.5 +1.0**
KOD AMb AMB 21 08 48.2
comp=Z,275nm,1.2s,mb5.7
MATI Mati 27.45 67 *e*P **P 21 08 39.0 +3.6**
AUQP San Andres 27.54 51 *e*P sP 21 08 52.1 +3.6
BOLP Bolinao 27.54 42 *e*P **P 21 08 33.6 -0.5**
MSLP Maasin 27.59 59 *e*P **P 21 08 35.4 -1.3**
VIS Vishakhapatnam 27.70 322 *e*P **P 21 08 37.1 -0.5**
VIS AMb AMB 21 09 13.0
comp=Z,632nm,1.7s,mb6.0
VIS *i* S **S 21 13 19.9 +1.7**
GQP Guinayangan 27.71 50 ⇑*e*P **P 21 08 37.4 -0.4**
PCPH Palayan 27.79 45 ⇓*e*P **P 21 08 36.4 -2.0**
OCLP Ormoc 27.84 57 *e*P **P 21 08 41.5 +2.7**
POLP Polilio Island 27.85 48 *e*P **P 21 08 43.1 +4.2**
SCPH Surigao 27.96 61 ⇑*e*P **P 21 08 43.6 +3.6**
BIPH Bislig 28.03 65 ⇑*iP* **P 21 08 37.8 -2.9**
PLP Palo 28.20 58 ⇓*e*P **P 21 08 40.4 -1.8**
BALP Baler 28.25 46 *e*P **P 21 08 41.9 -0.6**
BWNR Bhubaneshwar 28.34 329 *e*P **P 21 08 41.9 -1.3**
BWNR *e*S **S 21 13 30.8 +2.7**
CNP Catarman 28.65 55 *e*P **P 21 08 45.0 -1.2**
PVCP Virac 28.86 52 ⇑*e*P **P 21 08 45.8 -2.2**
KMI Kunming 28.95 3 P **P 21 08 49.3 +0.6**
KMI AP pP 21 08 57.8 +0.4
KMI PP PP 21 09 44.0 -10
KMI PCP PcP 21 11 56.8 -0.5
KMI S **S 21 13 38.0 +0.3**
KMI XS sS 21 13 52.4 +0.3
KMI AMB AMB
comp=Z,297nm,1.4s,mb5.8
KMI LR LR
comp=N,231µm,15.6s,MS7.0
KMI LR LR
comp=E,154µm,13.7s,MS7.0
KMI LR LR
comp=Z,280µm,16.8s,MS7.0
ABRA Dolores 28.97 42 *e*P **P 21 08 48.4 -0.6**
CAL Calcutta 29.09 335 *e*P **P 21 08 49.4 -0.6**
CAL AMb AMB 21 09 02.3
comp=Z,2µm,1.9s,mb6.5
CAL *ex* x 21 13 58.9
HKC Hong Kong Obse 29.11 26 ⇑*iP* **P 21 08 51.0 +0.9**
HKC *i* S **S 21 13 40.0 -0.2**
CAUP Cauayan 29.24 44 *e*P **P 21 08 50.7 -0.6**
IMP Imphal 29.37 347 *e*P **P 21 08 52.0 -0.4**
IMP *ex* x 21 10 00.0
IMP *ex* x 21 13 49.0
PIP Pasuquin 29.40 41 *e*P **P 21 08 51.1 -1.7**
GZH Guangzhou 29.46 24 P **P 21 08 57.3 +4.1**
GZH S **S 21 13 58.0 +12**
GZH LR LR
comp=N,176µm,19.1s,MS7.1
GZH LR LR
comp=E,362µm,18.8s,MS7.1
GZH LR LR
comp=Z,178µm,21.0s,MS6.7
PALP Palanan 29.74 45 *e*P **P 21 08 59.8 +4.1**
CVP Callao Caves 29.76 43 *e*P **P 21 08 53.9 -2.0**
SHL Shillong 30.64 344 ⇑*iP* **P 21 09 04.0 +0.4**
SHL AMb AMB 21 09 12.0
comp=Z,820nm,2.4s,mb6.1
SHL *i* S **S 21 14 04.0 -0.3**
HYB Hyderabad 30.68 314 *e*P **P 21 09 04.0 -0.1**
HYB *e*S **S 21 14 00.0 -5.0**
HYB LR LR 21 22 40.0
comp=Z,99nm,18.0s
HYB Hyderabad 30.68 314 *e*P **P 21 09 04.0 -0.1**
comp=Z,150nm,1.0s,mb5.8
HYB *e*S **S 21 14 00.0 -5.0**
GYA Guiyang 30.73 10 ⇑*iP* **P 21 09 04.3 -0.1**
GYA AP pP 21 09 15.8 +2.7
GYA XP sP 21 09 19.8 +3.1
GYA PP PP 21 10 09.4 -4.7
GYA S **S 21 14 07.8 +2.3**
GYA XS sS 21 14 22.4 +2.5
GYA SCP ScP 21 15 42.6 0.0
GYA SS SS 21 15 51.9 -26
GYA AMB AMB
comp=Z,240nm,1.0s,mb6.0
GYA AMB AMB
comp=Z,11µm,5.9s
GYA LR LR
comp=N,119µm,19.2s,MS7.0
GYA LR LR
comp=E,283µm,19.8s,MS7.0
GYA LR LR
comp=Z,264µm,20.4s,MS6.9
BOK Bokaro 31.26 333 *e*P **P 21 09 10.8 +1.7**
BOK AMb AMB 21 09 32.2
comp=Z,928nm,1.3s,mb6.5
MUN Mundaring 31.33 155 *e*P **P 21 09 09.7 0.0**
MUN *e*S **S 21 14 13.0 -1.9**
KLBR Kellerberrin 31.70 152 *e*P **P 21 09 14.4 +1.5**
comp=Z,133nm,1.0s,mb5.7
SHBG Sahibganj 31.75 337 *ex* x 21 09 15.8
KAKA Kakadu 32.28 108 *e*P **P 21 09 09.2 -9.1**
comp=Z,255nm,0.6s,mb6.2
KAKA Kakadu 32.28 108 P **P 21 09 13.0 -5.3**
NWAO Narrogin (SRO) 32.59 154 P **P 21 09 29.5 +8.8**
SNR=10
NWAO Narrogin (SRO) 32.59 154 P **P 21 09 19.0 -1.7**
comp=Z,51nm,0.8s,mb5.5,baz=327,slow=9.1,SNR=16
NWAO LR LR 21 20 35.2
comp=Z,548µm,21.8s,MS7.2,baz=327,slow=33
NWAO Narrogin (SRO) 32.59 154 ⇓*e*P **P 21 09 18.6 -2.1**
NWAO *e**SP sP 21 09 29.9 -3.2
NWAO *e*S **S 21 14 33.9 -0.6**
NWAO pmax pmax
comp=Z,224nm,1.1s
NWAO MLR MLR
comp=Z,452µm,22.0s
NWAO Narrogin (SRO) 32.59 154 ⇓*e*P **P 21 09 18.6 -2.1**
comp=Z,224nm,1.1s,mb6.0
NWAO *e*pP pP 21 09 27.0 -2.5
NWAO *e*sP sP 21 09 29.9 -3.2
NWAO *e*S **S 21 14 33.9 -0.6**
NWAO LR LR
comp=Z,452µm,22.0s,MS7.1
LATR Latur 32.76 313 *e*P **P 21 09 22.0 -0.4**
SLGI Shiliguri 32.81 339 *e*P **P 21 09 24.5 +1.8**
NGP Nagpur 32.94 320 ⇑*e*P **P 21 09 23.2 -0.7**
NGP AMb AMB 21 10 41.1
comp=Z,446nm,0.0s
NGP *e*S **S 21 14 38.5 -1.7**
GOA Goa 33.11 306 ⇑*iP* **P 21 09 26.3 +0.8**
GOA *e*S **S 21 14 45.5 +2.5**
GTK Gangtok 33.32 340 *ex* x 21 09 16.0
ODAN Odare 33.33 338 *e*P **P 21 09 26.5 -0.8**
comp=Z,5µm,1.4s,mb7.2
ODAN Odare 33.33 338 *e*P **P 21 09 28.0 +0.7**
comp=Z,1µm,0.9s,mb6.8
ODAN Odare 33.33 338 *e*P **P 21 09 28.0 +0.7**
comp=Z,1µm,0.9s,mb6.8
QZH Quanzhou 33.43 30 ⇑*iP* **P 21 09 27.5 -0.7**
QZH PP PP 21 10 44.3 +0.1
QZH S **S 21 14 53.4 +5.6**
QZH AMB AMB
comp=Z,430nm,1.2s,mb6.2
QZH AMB AMB
comp=Z,16µm,9.4s
QZH LR LR
comp=N,266µm,15.7s,MS7.1
QZH LR LR
comp=E,102µm,14.2s,MS7.1
QZH LR LR
comp=Z,274µm,25.3s
TAPN Taplejung 33.66 338 *e*P **P 21 09 31.3 +1.2**
comp=Z,2µm,0.9s,mb7.0
TAPN Taplejung 33.66 338 *e*P **P 21 09 31.2 +1.1**
comp=Z,2µm,0.9s,mb7.0
TAPN Taplejung 33.66 338 *e*P **P 21 09 31.2 +1.1**
comp=Z,2µm,0.9s,mb7.0
RAMN Ramite 33.72 336 *e*P **P 21 09 31.4 +0.7**
comp=Z,5µm,1.5s,mb7.2
RAMN Ramite 33.72 336 *e*P **P 21 09 32.0 +1.3**
RAMN Ramite 33.72 336 *e*P **P 21 09 32.0 +1.3**
KAD Karad 33.86 309 *e*P **P 21 09 31.9 -0.1**
KAD AMb AMB 21 09 47.1
comp=Z,194nm,1.7s,mb5.8
JBP Jabalpur 33.86 324 *e*P **P 21 09 32.6 +0.7**
JBP *e*S **S 21 14 54.7 +0.2**
AKL Akola 33.96 317 *e*P **P 21 09 33.3 +0.4**
JIRN Jiri 34.52 336 *e*P **P 21 09 38.1 +0.6**
comp=Z,2µm,0.8s,mb7.0
JIRN Jiri 34.52 336 *e*P **P 21 09 38.6 +1.1**
comp=Z,2µm,0.8s,mb7.0
JIRN Jiri 34.52 336 *e*P **P 21 09 38.6 +1.1**
comp=Z,2µm,0.8s,mb7.1
ALBI Allahabad 34.53 328 *ex* x 21 09 43.5
PKI Pulchoki 34.76 335 *e*P **P 21 09 39.8 +0.2**
comp=Z,2µm,1.4s,mb6.9
PKI Pulchoki 34.76 335 *e*P **P 21 09 40.0 +0.4**
PKI Pulchoki 34.76 335 *e*P **P 21 09 41.1 +1.5**
PKI pmax pmax
comp=Z,3µm,1.6s,mb6.9
PKI Pulchoki 34.76 335 *e*P **P 21 09 41.1 +1.5**
comp=Z,3µm,1.6s,mb6.9
LSA Lhasa 34.76 345 P **P 21 09 39.9 +0.3**
LSA AP pP 21 09 49.4 +1.0
LSA S **S 21 15 08.5 +0.2**
LSA LR LR
comp=N,71µm,27.1s
LSA LR LR
comp=E,210µm,38.5s
LSA LR LR
comp=Z,94µm,25.9s,MS6.4
LSA Lhasa 34.76 345 ⇑*iP* **P 21 09 40.1 +0.5**
LSA *e**SP sP 21 09 49.7 -2.4
LSA 21 12 17.5
LSA *e*S **S 21 15 16.2 +7.9**
LSA pmax pmax
comp=Z,1µm,1.4s,mb6.6
LSA MLR MLR
comp=Z,64µm,20.0s,MS6.4
LSA Lhasa 34.76 345 ⇑*iP* **P 21 09 40.0 +0.4**
comp=Z,1µm,1.4s,mb6.6
LSA *e*pP pP 21 09 46.7 -1.7
LSA *e*sP sP 21 09 49.7 -2.4
LSA *e*PP PP 21 11 06.5 +7.6
LSA PcP PcP 21 12 17.5 +4.5
LSA *e*S **S 21 15 16.2 +8.0**
LSA *e*ScP ScP 21 16 04.2 +7.7
LSA LR LR
comp=Z,64µm,20.0s,MS6.4
CD2 Chengdu 34.77 4 ⇑*iP* **P 21 09 38.6 -1.1**
CD2 AP pP 21 09 48.3 -0.1
CD2 XP sP 21 09 52.3 +0.2
CD2 PP PP 21 10 57.4 -1.5
CD2 PCP PcP 21 10 10.6 -2.3
CD2 S **S 21 15 07.5 -0.8**
CD2 XS sS 21 15 23.5 +0.7
CD2 SCS ScS 21 19 54.0 -5.7
CD2 AMB AMB
comp=Z,1µm,1.0s,mb6.7
CD2 AMB AMB
comp=Z,26µm,12.0s
CD2 LR LR
comp=N,215µm,25.2s,MS7.1
CD2 LR LR
comp=E,345µm,20.4s,MS7.1
CD2 LR LR
comp=Z,196µm,24.0s,MS6.8
PKIN Phulchoki 34.77 335 *e*P **P 21 09 40.6 +0.9**
comp=Z,3µm,1.6s,mb6.9
PKIN Phulchoki 34.77 335 *e*P **P 21 09 41.1 +1.4**
comp=Z,3µm,1.6s,mb6.9
POO Poona 34.84 311 *e*P **P 21 09 41.0 +0.5**
POO *i* PP PP 21 10 56.5 -3.4
POO *e*PCP PcP 21 12 13.0 -0.4
POO *i* S **S 21 15 10.0 +0.2**
POO *i* S **S 21 15 10.0 +0.2**
POO *ex* x 21 15 57.5
POO *ex* x 21 19 59.5
GUN Gumba 34.86 336 *e*P **P 21 09 40.7 +0.2**
comp=Z,2µm,0.8s,mb7.0
GUN Gumba 34.86 336 *e*P **P 21 09 41.4 +0.9**
GUN Gumba 34.86 336 *e*P **P 21 09 41.4 +0.9**
DMN Daman 34.92 335 *e*P **P 21 09 41.6 +0.6**
comp=Z,2µm,1.1s,mb6.8
DMN Daman 34.92 335 *e*P **P 21 09 41.6 +0.6**
TATO Taipei 34.98 34 ⇑*e*P **P 21 09 36.7 -4.9**
comp=Z,199nm,1.0s,mb6.0
TATO *e*pP pP 21 09 47.5 -2.8
TATO *e*sP sP 21 09 49.2 -4.8
TATO *e*PP PP 21 10 58.5 -2.8
TATO *e*PcP PcP 21 12 08.4 -5.2
TATO *e*S **S 21 15 09.7 -2.1**
TATO LR LR
comp=Z,97µm,20.0s,MS6.5
KKN Kakani 35.00 335 *e*P **P 21 09 41.9 +0.1**
comp=Z,4µm,1.4s,mb7.1
KKN Kakani 35.00 335 *e*P **P 21 09 42.1 +0.3**
KKN Kakani 35.00 335 *e*P **P 21 09 42.1 +0.3**
GKN Gorkha 35.46 335 *e*P **P 21 09 45.7 0.0**
comp=Z,4µm,1.4s,mb7.2
GKN Gorkha 35.46 335 *e*P **P 21 09 46.1 +0.4**
comp=Z,4µm,1.4s,mb7.2
GKN Gorkha 35.46 335 *e*P **P 21 09 46.1 +0.4**
comp=Z,4µm,1.4s,mb7.2
BHPL Bhopal 35.48 321 *e*P **P 21 09 46.5 +0.6**
BHPL *ex* x 21 15 26.4
BHPL AMb AMB 21 27 03.4
comp=Z,82µm,19.3s
KOLN Koldanda 35.72 333 *e*P **P 21 09 48.2 +0.3**
comp=Z,734nm,0.8s,mb6.7
KOLN Koldanda 35.72 333 *e*P **P 21 09 48.4 +0.5**
KOLN Koldanda 35.72 333 *e*P **P 21 09 48.4 +0.5**
BOM Bombay 35.84 310 *e*P **P 21 09 47.0 -2.1**
BOM *e*S **S 21 15 25.8 +0.5**
DANN Dangsing 36.14 334 *e*P **P 21 09 51.6 +0.1**
comp=Z,6µm,1.5s,mb7.3
DANN Dangsing 36.14 334 *e*P **P 21 09 52.1 +0.6**
comp=Z,2µm,1.0s,mb7.1
DANN Dangsing 36.14 334 *e*P **P 21 09 52.1 +0.6**
comp=Z,2µm,1.0s,mb7.0
WRAB Tennant Creek 36.18 119 ⇑*e*P **P 21 09 49.9 -2.1**
WRAB Tennant Creek 36.18 119 P **P 21 09 49.9 -2.1**
comp=Z,593nm,0.9s,mb6.5
JHNI Jhansi 36.46 324 *e*P **P 21 09 56.0 +1.7**
JHNI *ex* x 21 10 22.0
WHN Wuhan 36.60 20 P **P 21 09 55.0 -0.4**
WHN AP pP 21 10 03.8 -0.4
WHN XP sP 21 10 07.3 -0.6
WHN S **S 21 15 33.3 -3.2**
WHN AMB AMB
comp=Z,354nm,1.1s,mb6.1
WHN AMB AMB
comp=Z,8µm,4.4s
WHN LR LR
comp=N,195µm,17.4s,MS7.4
WHN LR LR
comp=E,526µm,17.7s,MS7.4
WHN LR LR
comp=Z,268µm,14.9s,MS7.2
FORT Forrest 36.92 139 ⇓*iP* **P 21 09 59.1 +0.9**
comp=Z,310nm,0.8s,mb6.2
FORT *e*S **S 21 15 40.9 -0.6**
ASAR Alice Springs 37.33 125 P **P 21 10 00.3 -1.4**
comp=Z,31nm,0.7s,mb5.3,baz=295,slow=7.7,SNR=191
ASAR S **S 21 15 56.0 +8.3**
comp=Z,205nm,1.2s,baz=296,slow=16,SNR=12
ASAR PKPPKP 21 42 40.5
comp=Z,1.2nm,0.9s,baz=88,slow=1.6,SNR=4.3
ASAR Alice Springs 37.33 125 P **P 21 10 00.4 -1.3**
ASAR S **S 21 15 56.1 +8.3**
ASAR pmax pmax
comp=Z,31nm,0.7s
ASAR smax
comp=N,205nm,1.2s
BHV Bhavnagar 38.08 313 *e*P **P 21 10 10.0 +1.9**
XAN Xi'an 38.52 11 P **P 21 10 10.4 -1.2**
XAN AP pP 21 10 20.1 -0.4
XAN XP sP 21 10 24.1 0.0
XAN S **S 21 16 08.3 +2.8**
XAN XS sS 21 16 24.5 +4.4
XAN SS SS 21 18 53.8 -2.2
XAN AMB AMB
comp=Z,516nm,1.4s,mb6.1
XAN LR LR
comp=N,82µm,14.7s,MS7.0
XAN LR LR
comp=E,148µm,18.0s,MS7.0
XAN LR LR
comp=Z,248µm,14.2s,MS7.2
LGTI Lohaghat 38.71 330 *e*P **P 21 10 13.6 +0.3**
LGTI *ex* x 21 16 26.5
PTH Pithoragarh 38.81 330 *e*P **P 21 10 14.0 -0.1**
PTH *e*S **S 21 16 13.0 +3.0**
AJM Ajmer 39.56 321 *e*P **P 21 10 20.7 +0.3**
AJM AMb AMB 21 10 25.8
comp=Z,269nm,1.7s,mb5.7
NJ2 Nanjing 39.63 24 *e*P **P 21 10 21.3 +0.4**
NJ2 AP pP 21 10 29.8 0.0
NJ2 XP sP 21 10 34.8 +1.4
NJ2 PP PP 21 11 57.3 +4.9
NJ2 S **S 21 16 22.5 +0.2**
NJ2 AMB AMB
comp=Z,40nm,0.8s,mb5.2
NJ2 AMB AMB
comp=Z,10µm,10.4s
NJ2 LR LR
comp=N,103µm,21.2s,MS7.0
NJ2 LR LR
comp=E,203µm,21.1s,MS7.0
NJ2 LR LR
comp=Z,201µm,21.1s,MS6.9
NDI New Delhi 39.69 326 *e*P **P 21 10 20.0 -1.5**
NDI *ex* x 21 16 40.0
SSE Sheshan 39.82 28 P **P 21 10 23.4 +0.8**
SSE AP pP 21 10 31.8 +0.4
SSE XP sP 21 10 36.9 +1.8
SSE S **S 21 16 26.3 +1.1**
SSE XS sS 21 16 41.5 +1.7
SSE SCS ScS 21 20 29.1 +0.9
SSE AMB AMB
comp=Z,140nm,1.1s,mb5.6
SSE AMB AMB
comp=Z,12µm,11.3s
SSE LR LR
comp=N,131µm,12.3s,MS7.0
SSE LR LR
comp=E,74µm,12.3s,MS7.0
SSE LR LR
comp=Z,99µm,13.6s,MS6.8
LZH Lanzhou 39.92 4 ⇑P **P 21 10 23.5 +0.2**
LZH AP pP 21 10 30.3 -1.8
LZH XP sP 21 10 35.4 -0.3
LZH S **S 21 16 30.0 +3.5**
LZH SS SS 21 19 30.0 +6.1
LZH AMB AMB
comp=Z,7µm,4.1s
LZH LR LR
comp=E,151µm,14.6s
LZH LR LR
comp=Z,202µm,16.8s,MS7.0
DDI Dehra Dun 40.53 329 *e*P **P 21 10 24.0 -4.4**
DDI *e*S **S 21 16 30.0 -5.8**
SMLA Simla 41.63 329 ⇑*iP* **P 21 10 38.0 +0.5**
SMLA *ex* x 21 10 47.0
comp=Z,318nm,0.4s
SMLA *i* S **S 21 16 52.7 +0.6**
SDNR Sundarnagar 42.03 329 *e*P **P 21 10 41.6 +0.9**
SDNR *e*S **S 21 17 00.0 +2.0**
BHK Bhakra 42.25 328 *e*P **P 21 10 43.8 +1.2**
BHK *ex* x 21 11 07.7
TIA Tai'an 42.71 19 *e*P **P 21 10 44.8 -1.4**
TIA S **S 21 17 20.3 +12**
TIA AMB AMB
comp=Z,100nm,1.4s,mb5.3
TIA AMB AMB
comp=Z,4µm,5.0s
TIA LR LR

comp=N,78µm,19.0s,MS7.2
TIA LR LR
comp=E,258µm,18.0s,MS7.2
COEN Coen 42.77 106 P **P** **21 10 45.7 -1.4**
comp=E,97nm,1.4s,comp=E,5µm,mb5.3
COEN Coen 42.77 106⇑*iP* **P** **21 10 44.0 -3.0**
comp=E,260nm,1.1s,mb5.9
COEN *e*pP pP 21 10 53.7 -2.3
COEN *e* 21 12 33.9
COEN *e*S **S** **21 17 17.7 +8.2**
TIY Taiyuan 42.80 13⇑*iP* **P** **21 10 49.6 +2.7**
TIY AMB AMB
comp=Z,10µm,8.7s
TIY LR LR
comp=N,103µm,13.1s,MS6.9
TIY LR LR
comp=E,39µm,13.9s,MS6.9
TIY LR LR
comp=Z,92µm,10.4s,MS7.0
GTA Gaotai 43.16 359 ⇑P **P** **21 10 49.8 0.0**
GTA AP pP 21 10 59.1 +0.4
GTA XP sP 21 11 03.3 +1.0
GTA PP PP 21 12 32.5 +2.0
GTA S **S** **21 17 13.3 -1.1**
GTA SCS ScS 21 20 44.8 -3.3
GTA AMB AMB
comp=Z,381nm,2.0s,mb5.8
GTA AMB AMB
comp=Z,10µm,5.7s
GTA LR LR
comp=N,140µm,14.7s,MS7.1
GTA LR LR
comp=E,131µm,18.0s,MS7.1
GTA LR LR
comp=Z,172µm,14.7s,MS7.1
THN Thein Dam 43.41 328 *ex* **P** **21 10 49.1 -2.9**
THN *ex* x 21 17 50.2
BTO Baotou 45.11 10 *eP* **P** **21 11 04.9 -0.5**
BTO AMB AMB
comp=Z,119nm,1.9s,mb5.4
MSEY Mahe Island 45.38 267 ⇓P **P** **21 11 13.3 +5.3**
SNR=6.7
HHC Hu-ho-hao-te 45.62 11⇑*iP* **P** **21 11 10.0 +0.5**
HHC AP pP 21 11 19.4 +0.9
HHC XP sP 21 11 24.3 +2.3
HHC PCP PcP 21 12 47.5 0.0
HHC PP PP 21 12 57.0 +0.3
HHC SCP ScP 21 16 36.0 -2.5
HHC S **S** **21 17 55.5 +5.3**
HHC XS sS 21 18 08.5 +3.5
HHC SCS ScS 21 21 00.8 -2.9
HHC SS SS 21 21 08.8 -6.1
HHC AMB AMB
comp=Z,269nm,1.7s,mb5.9
HHC AMB AMB
comp=Z,20µm,8.2s
HHC LR LR
comp=N,127µm,15.5s,MS7.0
HHC LR LR
comp=E,63µm,14.0s,MS7.0
HHC LR LR
comp=Z,124µm,14.6s,MS7.0
BJT Baijiatuau 45.93 16⇑*iP* **P** **21 11 11.3 -0.6**
BJT *e**SP sP 21 11 20.8 -3.6
BJT *e* 21 12 49.8
BJT *e*S **S** **21 17 59.4 +4.8**
BJT pmax pmax
comp=Z,243nm,0.6s
BJT MLR MLR
comp=Z,153µm,19.0s
BJT Baijiatuau 45.93 16⇑*iP* **P** **21 11 11.3 -0.6**
comp=Z,243nm,0.6s,mb6.3
BJT *e*pP pP 21 11 17.5 -3.4
BJT *e*sP sP 21 11 20.8 -3.7
BJT *e*PcP PcP 21 12 49.8 +1.2
BJT *e*ScP ScP 21 16 42.0 +2.2
BJT *e*S **S** **21 17 59.4 +4.8**
BJT LR LR
comp=Z,153µm,19.0s,MS7.0
BJI Beijing 45.95 16 P **P** **21 11 11.4 -0.7**
BJI S **S** **21 17 56.9 +2.0**
BJI AMB AMB
comp=Z,288nm,1.6s,mb6.0
BJI AMB AMB
comp=Z,10µm,7.0s
BJI LR LR
comp=N,158µm,20.3s,MS7.3
BJI LR LR
comp=E,328µm,19.9s,MS7.3
BJI LR LR
comp=Z,140µm,23.6s,MS6.8
PMG Port Moresby 46.15 99⇑*iP* **P** **21 11 11.4 -2.7**
PMG *e**PP pP 21 11 19.1 -4.0
PMG *e**SP sP 21 11 23.6 -3.1
PMG *e* 21 12 51.2
PMG *e*S **S** **21 17 58.0 -0.6**
PMG pmax pmax
comp=Z,1µm,1.4s
PMG MLR MLR
comp=Z,243µm,22.0s
PMG Port Moresby 46.15 99 P **P** **21 11 12.8 -1.3**
comp=Z,505nm,1.4s,mb6.3
PMG Port Moresby 46.15 99⇑*iP* **P** **21 11 11.4 -2.7**
comp=Z,1µm,1.4s,mb6.6
PMG *e*pP pP 21 11 19.1 -4.0
PMG *e*sP sP 21 11 23.6 -3.1
PMG *e*PcP PcP 21 12 51.2 +1.3
PMG *e*S **S** **21 17 58.0 -0.6**
PMG LR LR
comp=Z,243µm,22.0s,MS7.1
ADE Adelaide 46.59 136 *eP* **P** **21 11 17.8 +0.5**
DL2 Dalian 46.72 22⇑*iP* **P** **21 11 16.9 -1.2**
DL2 AP pP 21 11 26.8 -0.3
DL2 S **S** **21 18 09.0 +3.0**
DL2 AMB AMB
comp=Z,130nm,1.6s,mb5.6
DL2 AMB AMB
comp=Z,4µm,5.5s
DL2 LR LR
comp=N,54µm,20.4s,MS6.6
DL2 LR LR
comp=E,38µm,19.4s,MS6.6
DL2 LR LR
comp=Z,82µm,20.6s,MS6.7
CTA Charters Tower 46.90 114 *eP* **P** **21 11 18.5 -1.4**
comp=Z,394nm,1.0s,mb6.3
CTA *e*S **S** **21 18 08.9 -0.3**
CTA *e*SS SS 21 22 05.2 +29
CTA Charters Tower 46.90 114 P **P** **21 11 18.6 -1.3**
comp=Z,72nm,0.6s,mb5.8,baz=284,slow=9.3,SNR=46
CTA S **S** **21 18 08.1 -1.1**
comp=Z,11nm,0.8s,baz=286,slow=18,SNR=9.2
CTA LR LR 21 33 25.3
comp=Z,95µm,21.0s,MS6.7,baz=284,slow=39
CTA Charters Tower 46.90 114 P **P** **21 11 18.6 -1.3**
CTA S **S** **21 18 08.1 -1.1**
CTA pmax pmax
comp=Z,72nm,0.6s
CTA smax
comp=N,11nm,0.8s
CTA MLR MLR
comp=Z,95µm,21.0s
CTAO Charters Tower 46.90 114 *eP* **P** **21 11 18.1 -1.8**
CTAO pmax pmax
comp=Z,890nm,1.2s,mb6.6
CTAO Charters Tower 46.90 114 P **P** **21 11 18.9 -1.0**
comp=Z,654nm,1.3s,mb6.4
CTAO Charters Tower 46.90 114⇑*iP* **P** **21 11 18.1 -1.8**
comp=Z,895nm,1.2s,mb6.6
CTAO *e*pP pP 21 11 26.3 -2.6
CTAO *e*sP sP 21 11 30.3 -2.2
CTAO *e*PP PP 21 13 13.4 +2.9
CTAO *e*S **S** **21 18 13.8 +4.7**
CTAO LR LR
comp=Z,261µm,22.0s,MS7.2
GUMO Guam 46.90 67 P **P** **21 11 16.1 -3.9**
comp=Z,123nm,0.6s,mb6.0,baz=255,slow=9.0,SNR=5.7
GUMO Guam 46.90 67 *eP* **P** **21 11 16.2 -3.7**
comp=Z,228nm,0.6s,mb6.3
GUMO PcP PcP 21 12 49.8 -2.7
GUMO *e*PP PP 21 13 13.2 +2.5
GUMO *e*S **S** **21 18 18.3 +8.9**
GUMO LR LR
comp=Z,46µm,21.0s,MS6.4
STKA Stephens Creek 47.13 131 *eP* **P** **21 11 20.5 -1.0**
comp=Z,116nm,0.9s,mb5.8
STKA *e*pP pP 21 11 31.7 +1.2
STKA *e*S **S** **21 18 12.2 0.0**
STKA *e*SS SS 21 21 29.8 -10
STKA Stephens Creek 47.13 131 P **P** **21 11 20.3 -1.2**
comp=Z,55nm,0.9s,mb5.5,baz=305,slow=7.7,SNR=79
STKA S **S** **21 18 10.8 -1.3**
comp=Z,13nm,0.4s,baz=291,slow=14,SNR=24
STKA LR LR 21 31 24.0
comp=Z,362µm,21.9s,MS7.3,baz=296,slow=36
STKA Stephens Creek 47.13 131⇑*eP* **P** **21 11 21.4 -0.1**
STKA *e*pP pP 21 11 28.0 -2.5
STKA *e*sP sP 21 11 30.7 -3.4
STKA *e*PcP PcP 21 12 53.2 +0.1
STKA *e*PP PP 21 13 11.9 -0.7
STKA *e*S **S** **21 18 01.9 -10**
STKA *e*SS SS 21 21 29.8 -10
INCN Inchon 47.62 28 ⇓P **P** **21 11 22.3 -3.0**
SNR=20
INCN Inchon 47.62 28⇑*iP* **P** **21 11 24.3 -0.9**
comp=Z,169nm,1.0s,mb6.0
INCN *e*pP pP 21 11 32.1 -2.2
INCN *e*ScP ScP 21 17 02.2 +15
INCN *e*S **S** **21 18 28.3 +9.3**
INCN LR LR
comp=Z,77µm,19.0s,MS6.7
KSRS Korea Array 48.21 29 P **P** **21 11 28.7 -1.1**
comp=Z,150nm,0.9s,mb6.0,baz=223,slow=7.3,SNR=121
KSRS Korea Array 48.21 29 P **P** **21 11 28.7 -1.1**
KSRS pmax pmax
comp=Z,150nm,0.9s,mb6.0
KBL Kabul 48.68 324⇑*iP* **P** **21 11 31.8 -1.7**
KBL *e**PP pP 21 11 40.4 -2.1
KBL *e* 21 13 31.6
KBL pmax pmax
comp=Z,903nm,0.8s,mb6.8
KBL Kabul 48.68 324⇑*iP* **P** **21 11 31.8 -1.7**
comp=Z,903nm,0.8s,mb6.8
KBL *e*pP pP 21 11 40.4 -2.1
KBL *e*PP PP 21 13 31.6 +4.8
WBK Wadi Bani Khal 48.80 305 ⇑P **P** **21 11 36.4 +1.9**
SNR=29
WMQ Urumqi 49.04 347⇑*iP* **P** **21 11 36.4 +0.4**
WMQ AP pP 21 11 46.4 +1.4
WMQ XP sP 21 11 50.4 +1.8
WMQ PCP PcP 21 13 00.5 +0.9
WMQ PP PP 21 13 30.0 +0.2
WMQ SCP ScP 21 16 51.4 -1.4
WMQ PCS PcS 21 16 55.4 -0.3
WMQ S **S** **21 18 37.4 -1.3**
WMQ XS sS 21 18 53.9 +0.3
WMQ SCS ScS 21 21 22.9 -3.2
WMQ AMB AMB
comp=Z,804nm,1.1s,mb6.7
WMQ AMB AMB
comp=Z,19µm,4.1s
WMQ LR LR
comp=N,90µm,21.8s,MS6.8
WMQ LR LR
comp=E,71µm,23.8s,MS6.8
WMQ LR LR
comp=Z,69µm,22.8s,MS6.6
JMDO Jabal Madar 49.40 304 ⇓P **P** **21 11 40.3 +1.1**
SNR=25
SMDO Samad 49.76 305 ⇓P **P** **21 11 43.6 +1.7**
SNR=37
BIDO Bidbid 49.90 305 ⇓P **P** **21 11 44.6 +1.6**
SNR=27
SNY Shenyang 49.99 22 ⇑P **P** **21 11 41.5 -1.8**
SNY AMB AMB
comp=Z,150nm,1.0s,mb6.0
SNY LR LR
comp=N,131µm,18.1s,MS7.0
SNY LR LR
comp=E,85µm,20.4s,MS7.0
SNY LR LR
comp=Z,116µm,19.2s,MS6.9
BSY Bisya 50.31 304 ⇑P **P** **21 11 47.9 +1.7**
SNR=51
HOQ Hoqain 50.60 305 ⇑P **P** **21 11 49.9 +1.7**
SNR=38
RBK Rabkut 50.84 296 P **P** **21 11 52.1 +2.0**
SNR=26
ULHL Ulahol 51.18 336 P **P** **21 11 54.4 +2.1**
SNR=9.1
WHFO Wadi Hawf 51.37 297 ⇑P **P** **21 11 56.9 +2.7**
SNR=30
KZA Kyzart 51.44 336 P **P** **21 11 54.3 +0.1**
SNR=34
ABTO Aybut 51.60 296 ⇑P **P** **21 11 59.2 +3.3**
SNR=15
AAA Alma-Ata 51.78 338 *eP* **P** **21 11 56.0 -0.7**
AAA *e*S **S** **21 19 18.2 +1.4**
AAA pmax pmax
comp=Z,21µm,16.4s
AAA smax
comp=E,45µm,15.9s
AAA Alma-Ata 51.78 338 *i* P **P** **21 11 56.3 -0.4**
SONM Songino Array 51.79 5 P **P** **21 11 57.1 +0.4**
comp=E,129nm,0.7s,mb6.0,baz=184,slow=7.3,SNR=386
SONM PKPPKP 21 42 28.2
comp=E,0.4nm,0.7s,baz=318,slow=2.2,SNR=3.7
UCH Uchtor 51.87 335 P **P** **21 11 59.8 +2.3**
SNR=11
ULN Ulaanbaatar 51.87 5 ⇓P **P** **21 11 55.9 -1.4**
SNR=288
ULN Ulaanbaatar 51.87 5 P **P** **21 11 56.9 -0.5**
ULN pmax pmax
comp=Z,490nm,1.1s,mb6.3
ULN Ulaanbaatar 51.87 5⇑*iP* **P** **21 11 57.4 0.0**
TKM2 Tokmak 2 52.00 336 *i* P **P** **21 11 58.2 -0.2**
TKM2 pmax pmax
comp=Z,1µm,1.8s,mb6.5
TKM2 Tokmak 2 52.00 336 P **P** **21 11 58.4 0.0**
SNR=130
KBK Karagaybulak 52.04 336 P **P** **21 11 59.2 +0.4**
SNR=88
HATD Hatta, Dubai 52.12 306 ⇓P **P** **21 12 01.3 +1.7**
SNR=33
AML Almayashu 52.14 334 P **P** **21 11 59.5 +0.1**
SNR=27
AAK Ala-Archa 52.21 335 P **P** **21 12 00.1 +0.1**
SNR=43
FRU Bishkek 52.33 336⇓*iP* **P** **21 12 00.0 -0.8**
FRU *i* 21 14 06.0
FRU *i* S **S** **21 19 26.0 +1.6**
FRU pmax pmax
comp=Z,950nm,2.0s,mb6.4
FRU pmax pmax
comp=Z,8µm,4.0s
FRU smax
comp=N,10.0nm,8.0s
CN2 Changchun 52.39 22 *eP* **P** **21 11 59.3 -2.0**
CN2 *e*XP sP 21 12 13.0 -0.9
CN2 PCP PcP 21 13 09.6 -2.3
CN2 *e*PP PP 21 13 59.3 -1.0
CN2 *e*S **S** **21 19 21.9 -3.3**
CN2 AMB AMB
comp=Z,20nm,1.0s,mb5.0
CN2 AMB AMB
comp=Z,5µm,7.0s
CN2 LR LR
comp=Z,97µm,20.0s,MS6.8
CHMS Chumysh 52.41 336 P **P** **21 12 00.9 -0.6**
SNR=40
EKS2 Erkin-Say 52.54 335 P **P** **21 12 02.5 +0.1**
SNR=130
EIDS Eidsvold 52.54 119⇑*iP* **P** **21 12 01.9 -0.9**
comp=Z,646nm,1.4s,mb6.4
EIDS *e*pP pP 21 12 09.4 -2.5
EIDS *e*sP sP 21 12 12.3 -3.1
EIDS *e*PP PP 21 14 00.8 -1.3
EIDS *e*S **S** **21 19 26.1 -1.9**
TOO Toolangi 52.63 136 *eP* **P** **21 12 04.5 +1.2**
TOO *e* 21 19 35.6
USP Ospenovka 52.73 336 P **P** **21 12 03.0 -0.9**
SNR=54
MK31 Makanchi Array 53.16 344⇑*eP* **P** **21 12 06.5 -0.4**
MK31 *e**PP pP 21 12 13.6 -2.4
MK31 *e*S **S** **21 19 36.8 +1.1**
MKAR Makanchi Array 53.16 344 P **P** **21 12 06.2 -0.7**
comp=Z,121nm,0.8s,mb5.9,baz=148,slow=7.1,SNR=496
MKAR S **S** **21 19 39.2 +3.6**
comp=Z,3.9nm,0.9s,baz=157,slow=12,SNR=2.1
MKAR PKPPKP 21 42 35.3
comp=Z,1.6nm,0.9s,baz=287,slow=4.6,SNR=4.9
MKAR PKP2ab 21 43 12.4
comp=Z,1.5nm,1.0s,baz=106,slow=6.3,SNR=5.0
MAJO Matsushiro 53.19 37⇑*iP* **P** **21 12 04.7 -2.6**
MAJO *e**PP pP 21 12 13.8 -2.6
MAJO *e*S **S** **21 19 40.3 +3.9**
MAJO pmax pmax
comp=Z,495nm,1.4s,mb6.2
MAJO MLR MLR
comp=Z,59µm,21.0s,MS6.6
MAJO Matsushiro 53.19 37⇑*iP* **P** **21 12 04.7 -2.7**
comp=Z,495nm,1.4s,mb6.2
MAJO *e*pP pP 21 12 13.8 -2.6
MAJO *e*S **S** **21 19 40.3 +3.9**
MAJO LR LR
comp=Z,59µm,21.0s,MS6.6
MAT Matsushiro 53.19 37 P **P** **21 12 04.9 -2.4**
MAT *e*S **S** **21 19 36.0 -0.4**
MJAR Matsushiro Arr 53.19 37 P **P** **21 12 05.0 -2.3**
comp=Z,82nm,0.8s,mb5.7,baz=216,slow=6.9,SNR=118
MJAR ScP ScP 21 17 12.3 +1.4
comp=Z,1.1nm,0.4s,baz=219,slow=5.5,SNR=3.4
ZAK Zakamensk 54.15 2⇑*iP* **P** **21 12 13.9 -0.2**
ZAK *e* 21 19 37.3
ZAK pmax pmax
comp=Z,153nm,1.2s,mb5.8
KK31 Karatay Array 54.33 333 *i* P **P** **21 12 13.7 -1.9**
CNB Canberra Magne 54.45 131 *eP* **P** **21 12 17.4 +0.7**
CNB *e*S **S** **21 19 56.2 +2.5**
ARMA Armidale 54.48 125 *eP* **P** **21 12 18.4 +1.5**
ARMA *e*S **S** **21 19 59.0 +4.8**
MUKL Al Mukalla 54.65 291 *eP* **P** **21 12 19.9 +1.5**
MDJ Mudanjiang 54.72 25 P **P** **21 12 18.6 +0.3**
MDJ AP pP 21 12 27.4 -0.1
MDJ XP sP 21 12 31.6 +0.6
MDJ PP PP 21 14 25.1 +3.8
MDJ PCS PcS 21 17 20.4 +0.1
MDJ S **S** **21 20 03.3 +6.5**
MDJ AMB AMB
comp=Z,134nm,1.0s,mb5.9
MDJ LR LR
comp=N,78µm,17.2s,MS7.1
MDJ LR LR
comp=E,124µm,18.5s,MS7.1
MDJ LR LR
comp=Z,128µm,17.2s,MS7.1
MDJ Mudanjiang 54.72 25⇑*iP* **P** **21 12 18.2 -0.2**
comp=Z,334nm,1.3s,mb6.2
MDJ *e*pP pP 21 12 24.9 -2.6
MDJ PcP PcP 21 13 15.9 -4.9
MDJ *e*PP PP 21 14 25.8 +4.5
MDJ *e*ScP ScP 21 17 30.6 +13
MDJ *e*S **S** **21 19 58.1 +1.3**
MDJ LR LR
comp=Z,140µm,22.0s,MS7.0
MOY Mondy 55.40 0 *eP* **P** **21 12 23.5 +0.3**
MOY pmax pmax
comp=Z,1µm,2.8s,mb6.4
HIA Hailar 55.45 15⇑*iP* **P** **21 12 22.7 -0.9**
HIA *e* 21 13 27.3
HIA *e* 21 14 34.9
HIA *e*S **S** **21 20 20.4 +14**
HIA pmax pmax
comp=Z,344nm,1.4s
HIA MLR MLR
comp=Z,96µm,20.0s
HIA Hailar 55.45 15⇑*iP* **P** **21 12 22.7 -0.8**
comp=Z,344nm,1.4s,mb6.2
HIA *e*PcP PcP 21 13 27.3 +3.8
HIA *e*PP PP 21 14 34.9 +7.1
HIA *e*S **S** **21 20 20.4 +14**
HIA LR LR
comp=Z,96µm,20.0s,MS6.9
TLY Talaya 55.46 2 ⇓P **P** **21 12 22.9 -0.7**
SNR=90
TLY Talaya 55.46 2*c iP* **P** **21 12 23.6 0.0**
TLY *e* 21 13 23.1
TLY *e* 21 14 32.6
TLY *e*PPP 21 15 46.5
TLY *e*S **S** **21 20 07.1 +0.6**
TLY *e*PS 21 20 27.8
TLY *e* 21 22 11.2
TLY *e*SSS 21 25 59.6
TLY pmax pmax
comp=Z,778nm,2.3s,mb6.3
TLY MLR MLR
comp=Z,105µm,15.0s,MS7.0
TLY Talaya 55.46 2⇑*iP* **P** **21 12 23.8 +0.2**
IRK Irkutsk 56.05 2⇑*iP* **P** **21 12 28.5 +0.7**
IRK *e*S **S** **21 20 12.9 -1.4**
IRK pmax pmax
comp=Z,1µm,2.3s,mb6.5
CIT Chita 56.78 9 *eP* **P** **21 12 33.8 +0.8**
CIT *e* pP 21 12 42.4 +0.3
CIT *e* 21 12 48.5
CIT *e* 21 20 25.7
CIT pmax pmax
comp=Z,1µm,3.1s
ABKT Ailbek 57.57 320 P **P** **21 12 38.6 -0.3**
comp=Z,1µm,1.0s,mb6.8,SNR=42
KURK Kurchatov 57.74 343 ⇑P **P** **21 12 39.4 -0.5**
SNR=292
KURK Kurchatov 57.74 343 S **S** **21 20 40.2 +3.4**
comp=Z,1.2nm,0.3s,baz=160,slow=14,SNR=3.3
KURK LR LR 21 42 17.2
comp=Z,39µm,21.0s,MS6.5,baz=155,slow=41
KURK PKP2bc 21 42 36.7
comp=Z,0.8nm,0.2s,baz=343,slow=2.9,SNR=6.3
KURK Kurchatov 57.74 343*c iP* **P** **21 12 38.8 -1.0**
KURK pmax pmax
comp=Z,74nm,0.7s,mb5.8
KURK MLR MLR
comp=Z,58µm,24.0s,MS6.6
LBOS 58.05 289 *eP* **P** **21 12 44.6 +1.9**
HNR Honiara 58.75 99 P **P** **21 12 45.4 -2.2**
comp=Z,432nm,0.9s,mb6.5,baz=185,slow=4.5,SNR=33
HNR S **S** **21 20 53.8 +2.5**
comp=Z,68nm,0.2s,baz=208,slow=15,SNR=6.1
HNR Honiara 58.75 99⇑*iP* **P** **21 12 44.9 -2.7**
HNR *e*PP PP 21 14 59.6 +1.7
HNR *e*S **S** **21 20 59.5 +8.3**
DHBB Dhamar BB 59.02 289 *eP* **P** **21 12 51.4 +1.9**
ZAA0 Zalesovo Array 59.26 349⇑*iP* **P** **21 12 48.9 -1.4**
ZAA0 *e*pP pP 21 12 56.9 -2.6
ZAA0 *e*sP sP 21 12 58.9 -4.2
ZAA0 *e*PP PP 21 15 04.7 +3.2
ZAA0 *e*S **S** **21 21 00.5 +4.1**
ZALV Zalesovo Beam 59.26 349 P **P** **21 12 49.3 -1.0**
comp=Z,380nm,0.9s,mb6.4,baz=173,slow=4.6,SNR=293
ZALV S **S** **21 20 56.7 +0.4**
comp=Z,4.3nm,0.8s,baz=168,slow=8.8,SNR=4.0
ZALV LR LR 21 42 03.9
comp=Z,29µm,20.1s,MS6.4,baz=166,slow=40
ZALV PKPPKP 21 42 20.4
comp=Z,0.4nm,0.5s,baz=321,slow=3.8,SNR=3.6
ZALV Zalesovo Beam 59.26 349 P **P** **21 12 49.3 -1.0**
ZALV S **S** **21 20 56.7 +0.4**
ZALV pmax pmax
comp=Z,380nm,0.9s,mb6.4
ZALV smax
comp=N,4.0nm,0.9s
ZALV MLR MLR
comp=Z,29µm,20.1s,MS6.4
ZALV Zalesovo Beam 59.26 349 P **P** **21 12 49.3 -1.0**
ZALV S **S** **21 20 56.7 +0.4**
ZALV LR LR 21 42 03.9
ZALV P'P' 21 42 20.4
KLR Kul'dur 59.32 23⇓*iP* **P** **21 12 45.4 -5.4**
KLR *e*S **S** **21 20 58.0 +0.7**
KLR pmax pmax
comp=N,100nm,1.8s
KLR pmax pmax
comp=E,240nm,1.8s
KLR pmax pmax
comp=Z,930nm,1.8s,mb6.5
KLR pmax pmax
comp=E,5µm,13.0s
KLR pmax pmax
comp=Z,18µm,13.0s
ERM Erimo 59.64 35 *i* P **P** **21 12 53.2 0.0**
ERM Erimo 59.64 35 *i* P **P** **21 12 53.2 0.0**
HABR Khabarovsk 60.07 25⇑*iP* **P** **21 12 55.2 -0.9**
HABR *e*S **S** **21 21 08.5 +1.4**
HABR pmax pmax

comp=Z,678nm,2.2s,mb6.3
HABR MLR MLR
comp=Z,81µm,21.0s,MS6.8
KRAR Krasnoyarsk 60.13 355*c* *i*P **P** **21 12 55.3 -1.0**
KRAR pmax pmax
comp=Z,859nm,2.7s,mb6.3
KRAR MLR MLR
comp=Z,38µm,12.0s,MS6.8
NVS Novosibirsk 60.41 348 *i* P **P** **21 12 56.5 -1.7**
NVS *i* 21 15 18.5
NVS *i* S **S** **21 21 10.4 -0.8**
NVS pmax pmax
comp=N,494nm,1.5s
NVS pmax pmax
comp=E,281nm,1.5s
NVS pmax pmax
comp=Z,447nm,1.5s,mb6.3
NVS pmax pmax
comp=Z,644nm,2.6s,mb6.2
NVS pmax pmax
comp=N,536nm,2.1s
NVS pmax pmax
comp=E,114nm,1.4s
NVS smax
comp=N,536nm,2.0s
NVS smax
comp=E,680nm,2.1s
KBD Kabd 60.77 307 *e*P **P** **21 13 00.5 -0.7**
baz=306
KBD AMb AMB 21 13 23.2
comp=Z,271nm,1.4s,mb6.2,baz=306
UMR Umm Al-Rimmam 60.91 307 *e*P **P** **21 13 01.5 -0.7**
baz=307
UMR AMb AMB 21 13 19.2
comp=Z,489nm,0.9s,mb6.6,baz=307
NAY Al-Naaiem 61.16 306 *e*P **P** **21 13 02.9 -1.0**
baz=306
NAY AMb AMB 21 13 21.6
comp=Z,183nm,0.9s,mb6.2,baz=306
MIB Mutribah 61.31 307 *e*P **P** **21 13 04.2 -0.6**
baz=307
MIB AMb AMB 21 13 26.1
comp=Z,506nm,1.0s,mb6.6,baz=307
VOSK Vostochnaya 61.89 340 P **P** **21 13 07.4 -0.9**
VOSK pmax pmax
comp=Z,334nm,1.1s,mb6.4
BVA0 Borovoye Array 62.34 340 *i* P **P** **21 13 09.7 -1.6**
BVA0 pmax pmax
comp=Z,57nm,1.0s,mb5.7
BVAR Borovoye Array 62.34 340 S **S** **21 21 34.7 -1.1**
comp=Z,1.6nm,0.8s,baz=140,slow=7.6,SNR=2.3
BVAR LR LR 21 40 42.1
comp=Z,9µm,20.4s,MS5.9,baz=149,slow=36
BVAR PKPPKP 21 42 17.8
comp=Z,1.0nm,0.8s,baz=343,slow=3.0,SNR=3.9
BRVK Borovoye 62.41 340 ⇑P **P** **21 13 11.6 -0.2**
SNR=136
BRVK Borovoye 62.41 340⇑ *i*P **P** **21 13 10.9 -0.9**
BOD Bodaibo 62.46 8 *e*P **P** **21 13 11.3 -0.7**
BOD pmax pmax
comp=Z,278nm,1.4s,mb6.2
CASY Casey 62.57 176 *e*P **P** **21 13 10.9 -1.8**
CASY *e*S **S** **21 21 39.9 +1.6**
YSS Yuzh-Sakhalins 62.62 31*e*P **P** **21 13 11.0 -2.3**
YSS *e* 21 15 37.0
YSS *e*S **S** **21 21 34.0 -5.5**
YSS *e*PS 21 21 50.0
YSS pmax pmax
comp=Z,610nm,1.5s,mb6.5
YSS pmax pmax
comp=N,270nm,1.8s
YSS pmax pmax
comp=E,470nm,1.8s
YSS MLR MLR
comp=E,42µm,19.0s
YSS MLR MLR
comp=Z,46µm,19.0s,MS6.7
YSS Yuzh-Sakhalins 62.62 31⇑ *i*P **P** **21 13 12.0 -1.3**
MIR Mirnyy 62.73 184K *i*P **P** **21 13 14.0 +0.2**
MIR *i* 21 13 31.0
MIR *i* 21 14 00.0
MIR *i* 21 15 35.0
MIR *i* S **S** **21 21 40.0 -0.3**
MIR *i* PS 21 22 00.0
MIR *i* 21 23 00.0
MIR pmax pmax
comp=Z,200nm,2.0s,mb5.9
MIR pmax pmax
comp=Z,8µm,16.0s
MIR MLR MLR
comp=Z,90µm,19.0s,MS7.0
CLNS Chul'man 63.63 14 *i*P **P** **21 13 19.5 -0.3**
CLNS *e**PP pP 21 13 28.0 -1.1
CLNS *e* 21 13 56.6
CLNS *e* 21 15 39.0
CLNS *e*S **S** **21 21 47.4 -4.4**
CLNS *e*SS SS 21 25 59.4 -0.5
CLNS pmax pmax
comp=N,72nm,1.0s
CLNS pmax pmax
comp=Z,157nm,1.1s,mb6.0
CLNS pmax pmax
comp=E,100nm,1.0s
CLNS pmax pmax
comp=Z,46nm,1.4s,mb5.3
CLNS pmax pmax
comp=E,38nm,1.1s
CLNS pmax pmax
comp=N,23nm,0.9s
CLNS smax
comp=E,2µm,15.4s
CLNS smax
comp=N,4µm,16.2s
CLNS MLR MLR
comp=N,47µm,17.0s
CLNS MLR MLR
comp=Z,79µm,16.0s,MS7.0
CLNS MLR MLR
comp=N,67µm,15.0s
KMBO Kilima Mbogo 63.72 271 ⇑P **P** **21 13 26.7 +5.3**
SNR=40
KMBO Kilima Mbogo 63.72 271 P **P** **21 13 21.3 0.0**
comp=N,7.4nm,1.0s,baz=56,slow=8.3,SNR=11
KMBO PKP2ab 21 42 25.3
comp=N,0.6nm,0.6s,baz=273,slow=4.7,SNR=5.2
AB31 Akbulak array 63.81 331 P **P** **21 13 19.3 -1.9**
AB31 pmax pmax
comp=Z,904nm,1.3s,mb6.6
AB31 Akbulak array 63.81 331 *i* P **P** **21 13 19.4 -1.8**
BHD Baghdad 65.00 309 *ex* x x 21 13 32.0
BHD *ex* x 21 22 14.0
AKTK Aktyubinsk 65.53 331 P **P** **21 13 30.7 -1.7**
AKTK P'P'ab 21 47 22.6
AKTK LR LR 21 46 23.8
AKTO Aktyubinsk 65.53 331 P **P** **21 13 30.7 -1.7**
comp=Z,14nm,0.8s,mb5.1,baz=122,slow=4.1,SNR=53
AKTO PKP2ab 21 42 22.6
comp=Z,4.8nm,1.2s,baz=225,slow=8.3,SNR=4.2
AKTO LR LR 21 46 23.8
comp=Z,29µm,21.3s,MS6.5,baz=340,slow=40
NOUC Port Laguerre 65.67 112 *e*P **P** **21 13 33.1 -0.8**
DZM Mont Dzumac 65.80 112 *e*P **P** **21 13 36.1 +1.4**
MAK Makhachkala 67.09 320*c* *i*P **P** **21 13 42.4 -0.1**
MAK *i* 21 14 12.0
MAK *i* 21 16 09.3
MAK *i* PPP 21 17 47.4
MAK *i* S S 21 22 30.5 -4.2
MAK *i* 21 23 34.2
MAK *e*SS SS 21 26 49.0 -5.2
MAK pmax pmax
comp=N,157nm,0.8s
MAK pmax pmax
comp=Z,630nm,1.5s,mb6.4
MAK pmax pmax
comp=E,219nm,0.9s
MAK pmax pmax
comp=N,2µm,2.6s
MAK pmax pmax
comp=E,692nm,1.4s
MAK pmax pmax
comp=Z,8µm,6.3s
MAK smax
comp=Z,7µm,6.7s
MAK smax
comp=N,27µm,8.1s
MAK smax
comp=E,17µm,7.7s
MSL Mosul 67.20 312 *ex* x 21 13 43.0
MSL *ex* x 21 13 59.0
MSL *ex* x 21 14 21.0
MSL *ex* x 21 22 33.0
MSL *ex* x 21 23 11.0
MSL *ex* x 21 23 26.0
MSL *ex* x 21 23 45.0
HAKT HAKKARI 67.23 314 *i*P **P** **21 13 40.6 -3.0**
GNI Garni 67.61 316 ⇓P **P** **21 13 47.3 +1.4**
SNR=51
GNI Garni 67.61 316 P **P** **21 13 45.8 -0.1**
comp=E,9.7nm,0.8s,mb4.9,baz=351,slow=8.5,SNR=14
GNI PKP2ab 21 42 14.4
comp=E,1.5nm,0.6s,baz=225,slow=5.8,SNR=4.0
GNI Garni 67.61 316*c* *i*P **P** **21 13 46.6 +0.7**
GNI pmax pmax
comp=Z,151nm,1.7s
GNI MLR MLR
comp=Z,35µm,24.0s
VANB Van 67.89 314 *e*P **P** **21 13 48.0 +0.3**
DYDN Diyadin 68.08 315 *i*P **P** **21 13 49.0 +0.2**
SIRT Sirnak 68.13 313 *e*P **P** **21 13 55.2 +6.0**
DRV Dumont d'Urvil 68.19 164 P **P** **21 13 53.0 +4.0**
DRV S S 21 22 51.0 +3.9
DRV L 21 30 00.0
DRV R 21 34 00.0
AGRB Hanur-Agry 68.58 315 *e*P **P** **21 13 50.4 -1.6**
TUTA Tutak 68.63 315 *i*P **P** **21 13 51.8 -0.5**
MAW Mawson 68.65 195 *e*P **P** **21 13 51.0 -0.9**
comp=Z,62nm,1.0s,mb5.5
MAW *e*S S 21 22 56.0 +3.4
MAW Mawson 68.65 195 P **P** **21 13 52.4 +0.5**
comp=Z,39nm,0.9s,mb5.3,baz=37,slow=9.3,SNR=20
MAW LR LR 21 37 26.4
comp=Z,213µm,21.2s,MS7.3,baz=37,slow=30
MAW PKP2ab 21 42 06.6
comp=Z,11nm,1.0s,baz=222,slow=4.4,SNR=12
MAW Mawson 68.65 195 P **P** **21 13 51.1 -0.8**
MAW pmax pmax
comp=Z,130nm,1.1s
DIGO Kars 68.67 316 *i*P **P** **21 13 52.8 +0.3**
SVE Sverdlovsk 68.85 338‖ *e*P **P** **21 13 52.9 -0.4**
SVE *e* 21 16 23.3
SVE *e*PPP 21 18 10.7
SVE *e*S S 21 22 52.3 -2.9
SVE *e*SS SS 21 27 24.0 +3.1
SVE pmax pmax
comp=Z,603nm,1.2s,mb6.4
SVE pmax pmax
comp=Z,14µm,19.2s
SVE MLR MLR
comp=Z,71µm,22.0s,MS6.9
KARS Kars 68.94 316 *e*P **P** **21 13 55.9 +1.7**
MARD Mardin 69.28 312 *i*P **P** **21 13 55.3 -1.0**
YAK Yakutsk 69.38 14 *i*P **P** **21 13 55.1 -1.4**
YAK *e**PP pP 21 14 06.0 +0.2
YAK *e* 21 14 16.6
YAK *e* 21 16 29.5
YAK *e*PPP 21 18 09.8
YAK *e*S S 21 22 58.3 -2.9
YAK *e* 21 23 58.0
YAK pmax pmax
comp=N,195nm,1.2s
YAK pmax pmax
comp=E,141nm,1.1s
YAK pmax pmax
comp=Z,547nm,1.1s,mb6.4
YAK pmax pmax
comp=N,1µm,5.7s
YAK pmax pmax
comp=Z,2µm,6.2s
YAK pmax pmax
comp=E,1µm,5.8s
YAK smax
comp=N,10µm,21.4s
YAK smax
comp=E,2µm,9.2s
YAK MLR MLR
comp=N,67µm,20.0s,MS6.9
YAK MLR MLR
comp=E,22µm,18.0s,MS6.9
YAK MLR MLR
comp=Z,67µm,16.0s,MS7.0
YAK Yakutsk 69.38 14⇑ *i*P **P** **21 13 54.4 -2.1**
ARU Arti 69.38 336*c* *i*P **P** **21 13 56.0 -0.6**
ARU *e* 21 14 16.9
ARU *e* 21 16 24.7
ARU *e*PPP 21 18 07.5
ARU *e*S S 21 23 03.2 +1.8
ARU *e*SS SS 21 27 22.2 -6.9
ARU *e*SSS 21 30 34.8
ARU pmax pmax
comp=Z,511nm,2.5s,mb6.0
ARU MLR MLR
comp=Z,51µm,24.0s,MS6.7
ARU Arti 69.38 336⇑ *i*P **P** **21 13 56.2 -0.4**
HOMI Horasan 69.53 315 *i*P **P** **21 13 56.6 -1.3**
ONI Oni 69.55 318 P **P** **21 13 59.0 +1.0**
ONI S S 21 23 07.0 +3.0
EZM Erzurum 69.86 315 *e*P **P** **21 14 00.0 +0.1**
DAGI Agillar 69.95 316 *i*P **P** **21 14 00.3 -0.2**
ARTV Artvin 69.98 316 *i*P **P** **21 13 59.9 -0.8**
DDEM Demirkent 69.99 316 *i*P **P** **21 14 00.3 -0.4**
DIYA Diyarbakir 69.99 313 *i*P **P** **21 14 00.4 -0.3**
DBAD Bademkaya 70.08 316 *i*P **P** **21 14 00.7 -0.6**
DBOC Borcka 70.23 317 *i*P **P** **21 14 00.7 -1.5**
BCA Borcka 70.30 317 *e*P **P** **21 14 00.0 -2.6**
KOPT Kop Dagi 70.52 315 *i*P **P** **21 14 02.7 -1.2**
ASF Jabal al Asfar 70.52 306 P **P** **21 14 04.1 0.0**
comp=Z,21nm,0.9s,mb5.0,baz=330,slow=3.2,SNR=33
ASF PKPPKP 21 42 06.0
comp=Z,0.4nm,0.3s,baz=333,slow=2.3,SNR=3.5
ASF LR LR 21 47 51.8
comp=Z,51µm,18.1s,MS6.8,baz=207,slow=38
MRKH Merkhyat 70.62 288 *e* **P** **21 14 00.8 -4.2**
baz=100,slow=7.4
MRKH *e* 21 14 00.8
baz=100,slow=7.4
MRKH *i*P 21 14 07.4
MRKH *i*P 21 14 07.4
MRKH AMb AMB 21 14 22.6
comp=Z,223nm,1.2s,mb6.0
MRKH AMb AMB 21 14 22.6
comp=Z,223nm,1.2s,mb6.0
MRKH *i*S S 21 23 19.8 +2.4
MRKH *i*S S 21 23 19.8 +2.4
KIV Kislovodsk 70.66 319 ⇑P **P** **21 14 05.9 +1.2**
SNR=60
KIV Kislovodsk 70.66 319*c* *i*P **P** **21 14 04.0 -0.7**
KIV *e* 21 14 29.2
KIV *e* 21 16 40.2
KIV *e*PPP 21 18 27.9
KIV *e*S S 21 23 16.7 -0.2
KIV *e*SS SS 21 27 53.0 +3.8
KIV pmax pmax
comp=Z,142nm,1.0s,mb5.8
KIV pmax pmax
comp=Z,2µm,6.4s
KIV Kislovodsk 70.66 319⇑ *i*P **P** **21 14 05.1 +0.4**
KIV Kislovodsk 70.66 319⇑ P **P** **21 14 05.1 +0.4**
PZAR Pazar-Rize 70.69 316 *e*P **P** **21 14 00.0 -5.0**
SVRC Sivrice-ELAZID 70.75 313 *e*P **P** **21 14 04.8 -0.6**
URFA Urfa 70.77 312 *e*P **P** **21 14 07.0 +1.4**
PTK Pertek 70.88 313 *e*P **P** **21 14 07.1 +0.9**
ELZG Elazig 71.03 313 *i*P **P** **21 14 07.3 +0.1**
ATAB Bozova 71.17 312 *i*P **P** **21 14 08.6 +0.6**
MACK Trabzon 71.39 316 *i*P **P** **21 14 08.2 -1.0**
EIL Elat 71.40 303 P **P** **21 14 09.2 -0.4**
comp=Z,50nm,0.7s,mb5.6,baz=148,slow=1.4,SNR=21
GUMT Gumushane 71.40 315 *e*P **P** **21 14 11.2 +1.9**
KTUT Trabzon 71.40 316 *e*P **P** **21 14 04.8 -4.5**
KEMA Kemaliye 71.67 314 *i*P **P** **21 14 09.2 -1.8**
GZT Gaziantep 71.68 311 *i*P **P** **21 14 10.5 -0.5**
AKCD Akcadag 71.74 312 *i*P **P** **21 14 11.4 0.0**
RCY Rachaya 71.79 307 *e*P **P** **21 14 13.8 +2.0**
GAZ Gaziantep 71.88 311 *e*P **P** **21 14 13.6 +1.4**
HWQ Hawqa 71.93 308 *e*P **P** **21 14 13.6 +1.0**
SKR Severo-Kuril's 71.94 33 *e*P **P** **21 14 10.9 -1.4**
SKR *e* 21 14 27.0
SKR *e* 21 16 50.4
SKR *e*S S 21 23 32.0 +0.5
SKR pmax pmax
comp=E,220nm,1.0s
SKR pmax pmax
comp=Z,360nm,1.0s,mb6.3
SKR pmax pmax
comp=N,9µm,16.0s
SKR pmax pmax
comp=E,11µm,16.0s
SKR pmax pmax
comp=Z,22µm,16.0s
SKR smax
comp=N,22µm,20.0s
SKR smax
comp=E,24µm,18.0s
SKR MLR MLR
comp=N,41µm,20.0s,MS6.8
SKR MLR MLR
comp=E,22µm,20.0s,MS6.8
SKR MLR MLR
comp=Z,59µm,20.0s,MS6.8
MMAI Mount Meron Ar 71.98 306 P **P** **21 14 13.4 +0.5**
comp=Z,16nm,0.8s,mb5.0,baz=90,slow=8.6,SNR=25
BHL Bhannes 72.05 307 *e*P **P** **21 14 15.0 +1.7**
DARE Darende-Malaty 72.06 313 *e*P **P** **21 14 04.8 -8.4**
ESPY Espiye-Giresun 72.11 315 *e*P **P** **21 14 14.3 +0.8**
KZIT Kziot 72.20 304 P **P** **21 14 15.7 +1.4**
MATP Matopo 72.22 250 P **P** **21 14 13.8 -0.9**
comp=Z,49nm,0.9s,mb5.4,baz=100,slow=5.1,SNR=18
MATP LR LR 21 44 48.2
comp=Z,44µm,18.5s,MS6.8,baz=90,slow=35
MATP Matopo 72.22 250 P **P** **21 14 13.8 -0.9**
MATP LR LR 21 44 48.2
KMRS Kahramanmaras 72.23 311 *e*P **P** **21 14 15.3 +1.0**
YAYL Yayladag 72.35 310 *i*P **P** **21 14 13.4 -1.7**
LSZ Lusaka 72.38 255 ⇑P **P** **21 14 20.8 +5.1**
SNR=20
LSZ Lusaka 72.38 255⇓ *e*P **P** **21 14 16.3 +0.6**
LSZ *e**PP pP 21 14 22.3 -2.8
LSZ pmax pmax
comp=Z,112nm,1.2s,mb5.7
LSZ MLR MLR
comp=Z,71µm,20.0s,MS6.9
LSZ Lusaka 72.38 255⇓ *e*P **P** **21 14 16.3 +0.6**
comp=Z,112nm,1.2s,mb5.7
LSZ *e*pP pP 21 14 22.3 -2.8
LSZ *e*PP PP 21 16 49.0 -7.9
LSZ *e*S S 21 23 26.2 -12
LSZ LR LR
comp=Z,71µm,20.0s,MS6.9
COBT Iskenderun 72.39 310 *i*P **P** **21 14 16.2 +0.8**
SOC Sochi 72.45 318*c* *i*P **P** **21 14 14.5 -1.1**
SOC *e* 21 14 29.2
SOC *e*PPP 21 18 39.0
SOC *e*S S 21 23 35.6 -2.1
SOC *e* 21 24 21.8
SOC *e*SS SS 21 28 15.0 -1.9
SOC pmax pmax
comp=Z,18nm,0.7s,mb5.1
SOC pmax pmax
comp=Z,650nm,3.8s
SOC MLR MLR
comp=Z,15µm,21.0s,MS6.2
SOC Sochi 72.45 318 *i*P **P** **21 14 17.9 +2.3**
ANDN Andirin 72.67 311 *i*P **P** **21 14 15.9 -1.0**
SARI SarD1z-Kayseri 72.77 312 *e*P **P** **21 14 19.1 +1.5**
RPZ Rata Peaks 72.92 135 P **P** **21 14 18.0 -0.3**
comp=Z,29nm,0.9s,mb5.2,baz=263,slow=8.2,SNR=4.9
RPZ LR LR 21 46 27.2
comp=Z,180µm,21.6s,MS7.3,baz=282,slow=36
CEYT Ceyhan 72.94 311 *e*P **P** **21 14 19.3 +0.8**
SVSK Karacayir 72.98 314 *e*P **P** **21 14 19.6 +0.8**
PINB Pinarbasi 72.99 312 *i*P **P** **21 14 18.1 -0.8**
BNN Bunyan 73.46 312 *e*P **P** **21 14 19.3 -2.3**
KARA Karaisali 73.54 311 *e*P **P** **21 14 23.0 +0.8**
EREN Erenkoy 73.69 309 *e*P **P** **21 14 19.3 -3.8**
MERS Mersin 73.82 310 *e*P **P** **21 14 19.3 -4.5**
PEA0B Petropavlovsk- 74.01 32‖ *e*P **P** **21 14 24.2 -0.3**
PEA0B *e*pP pP 21 14 30.2 -3.7
PEA0B *e*sP sP 21 14 33.9 -3.5
PEA0B *e*PP PP 21 17 09.7 -0.4
PETK Petropavlovsk- 74.01 32 P **P** **21 14 23.1 -1.4**
comp=Z,56nm,0.8s,mb5.5,baz=226,slow=1.5,SNR=33
KVT Kavak 74.06 315 *e*P **P** **21 14 25.9 +0.8**
LFK Lefkose 74.12 308 *e*P **P** **21 14 24.2 -1.4**
AVNT Avonos 74.17 312 *i*P **P** **21 14 22.7 -3.1**
CSS Prodhromos 74.19 308 P **P** **21 14 27.5 +1.5**
IKL Isikli 74.28 309 *e*P **P** **21 14 29.0 +2.5**
ANN Anapa 74.44 319*d* *i*P **P** **21 14 23.0 -4.2**
ANN *i* 21 14 40.7
ANN *e* 21 17 10.1
ANN *e*PPP 21 18 58.7
ANN *i*S S 21 23 57.0 -3.1
ANN *e*SS SS 21 28 46.9 -0.2
ANN pmax pmax
comp=N,19nm,1.1s
ANN pmax pmax
comp=Z,32nm,1.1s,mb5.2
ANN pmax pmax
comp=N,539nm,6.3s
ANN pmax pmax
comp=E,400nm,6.3s
ANN pmax pmax
comp=Z,2µm,6.3s
ANN Anapa 74.44 319 *e*P **P** **21 14 25.7 -1.5**
PET Petropavlovsk 74.47 32*c* *i*P **P** **21 14 25.7 -1.5**
PET *e* 21 17 15.6
PET *e*PPP 21 18 58.5
PET *e*S S 21 24 02.0 +1.9
PET *e*SS SS 21 29 15.0 +28
PET pmax pmax
comp=Z,347nm,0.8s,mb6.3
PET pmax pmax
comp=Z,154nm,1.9s,mb5.6
PET pmax pmax
comp=Z,191nm,2.2s,mb5.6
PET MLR MLR
comp=Z,7µm,23.0s,MS5.9
PET MLR MLR
comp=Z,5µm,22.0s
LEF Lefka 74.58 308 *e*P **P** **21 14 24.2 -4.1**
CORM Corum 74.78 313 *e*P **P** **21 14 30.0 +0.7**
CDAG Cicekdag 74.79 313 *i*P **P** **21 14 28.6 -0.8**
CTKT Corum 74.81 314 *i*P **P** **21 14 28.2 -1.3**
DIKM Dikmen 74.81 315 *e*P **P** **21 14 29.0 -0.5**
ERMK Ermenek 74.99 309 *i*P **P** **21 14 30.6 0.0**
LBTB Lobatse 75.10 245 P **P** **21 14 32.5 +0.9**
comp=Z,21nm,0.9s,mb5.0,baz=112,slow=6.3,SNR=9.7
LBTB Lobatse 75.10 245 P **P** **21 14 30.9 -0.6**
LBTB pmax pmax
comp=Z,87nm,1.0s,mb5.6
LBTB Lobatse 75.10 245 *e*P **P** **21 14 28.6 -2.9**
LBTB *e*PP PP 21 17 25.6 +5.7
SNZO South Karori 75.18 132 *e*P **P** **21 14 34.1 +2.4**
comp=Z,134nm,0.8s,mb5.9
SNZO *e*PcP PcP 21 14 44.4 -0.7
SNZO *e*S S 21 24 10.4 +1.8
SNZO LR LR
comp=Z,203µm,19.0s,MS7.4
BR131 Keskin Array S 75.36 313 *e*P **P** **21 14 31.0 -1.7**
comp=Z,55nm,0.8s,mb5.5
BR131 *e*pP pP 21 14 39.1 -3.0
BR131 *e*PcP PcP 21 14 45.4 -0.4
BR131 *e*PP PP 21 17 23.4 +1.6
BR131 *e*S S 21 24 01.2 -9.4
BR131 *e*PKKPdf PKKPdf 21 33 45.3 +3.6
BR131 LR LR
comp=Z,23µm,19.0s,MS6.5
HDMB Hadim 75.41 310 *e*P **P** **21 14 33.7 +0.7**
BOSA Boshof 75.59 242 P **P** **21 14 35.0 +0.7**
comp=Z,34nm,0.9s,mb5.2,baz=84,slow=6.1,SNR=14
BOSA LR LR 21 41 51.6
comp=Z,89µm,20.5s,MS7.0,baz=92,slow=31
BOSA Boshof 75.59 242 P **P** **21 14 35.0 +0.7**
BOSA pmax pmax
comp=Z,34nm,1.0s,mb5.2
BOSA MLR MLR
comp=Z,89µm,20.5s,MS7.0
BOSA Boshof 75.59 242 P **P** **21 14 35.0 +0.7**
BOSA LR LR 21 41 51.6
CANT Cankiri 75.64 313 *e*P **P** **21 14 34.9 +0.6**
ILGA Ilgaz 75.72 314 *i*P **P** **21 14 32.6 -2.1**
ELDT Eldivan 75.75 313 *i*P **P** **21 14 32.8 -2.1**
KONT Konya--Tatoy 75.79 311 *e*P **P** **21 14 29.0 -6.2**
BZK Bozkurt 75.80 315 *e*P **P** **21 14 36.0 +0.9**
LADK Ladik-KONYA 75.86 311 *e*P **P** **21 14 29.0 -6.6**

VSR	Storozhevoye	75.93 325	eP	P	21 14 33.8	-1.9		
VSR			e		21 14 51.5			
VSR			e		21 17 23.1			
VSR			eS	S	21 24 10.5	-5.9		
VSR			pmax	pmax				
	comp=Z,10.0nm,0.6s,mb4.9							
VSR			pmax	pmax				
	comp=N,4.0nm,1.1s							
VSR			pmax	pmax				
	comp=E,40nm,1.1s							
VSR			smax					
	comp=N,2μm,5.1s							
VSR			smax					
	comp=Z,320nm,7.1s							
VSR			smax					
	comp=E,1μm,7.0s							
VSR			MLR	MLR				
	comp=Z,7μm,20.0s,MS6.0							
VSR			MLR	MLR				
	comp=N,10μm,18.0s,MS6.3							
VSR			MLR	MLR				
	comp=E,11μm,19.0s,MS6.3							
ANTO	Ankara	76.02 313	eP	P	21 14 36.1	-0.4		
ANTO	Ankara	76.02 313 ⇑	P	P	21 14 37.7	+1.2		
	SNR=49							
ANTO	Ankara	76.02 313 ⇑	iP	P	21 14 35.8	-0.7		
ANTO			e*PP	pP	21 14 43.6	-2.3		
ANTO			eS	S	21 24 16.1	-1.8		
ANTO			pmax	pmax				
	comp=Z,291nm,1.4s,mb6.0							
ANTO			MLR	MLR				
	comp=Z,33μm,20.0s,MS6.6							
ANTO	Ankara	76.02 313 ⇑	iP	P	21 14 35.5	-1.0		
ANTO	Ankara	76.02 313 ⇑	iP	P	21 14 35.8	-0.7		
	comp=Z,291nm,1.4s,mb6.0							
ANTO			epP	pP	21 14 43.6	-2.3		
ANTO			eS	S	21 24 16.1	-1.8		
ANTO			LR	LR				
	comp=Z,33μm,20.0s,MS6.6							
BALT	Daday	76.10 314	iP	P	21 14 36.4	-0.5		
SYO	Syowa Base	76.35 199 ⇓	eP	P	21 14 35.0	-2.8		
SYO	Syowa Base	76.35 199 ⇓	iP	pP	21 14 48.0	+0.8		
KIZT	Kizilcal	76.41 311	eP	P	21 14 38.6	-0.1		
URZ	Urewera	76.67 128	P	P	21 14 40.1	-0.1		
	comp=Z,14nm,0.6s,mb5.1,baz=314,slow=0.6,SNR=6.2							
URZ			LR	LR	21 47 50.5			
	comp=Z,103μm,21.3s,MS7.1,baz=94,slow=35							
SIM	Simferopol'	76.70 318	ciP	P	21 14 41.0	+0.8		
SIM			iS	S	21 24 23.0	-2.1		
SIM			ePS		21 25 11.0			
SIM			eSS	SS	21 29 19.0	-2.3		
SIM			pmax	pmax				
	comp=Z,160nm,1.2s,mb5.8							
SIM			pmax	pmax				
	comp=Z,7μm,17.1s							
SIM			MLR	MLR				
	comp=Z,21μm,19.8s,MS6.5							
SIM	Simferopol'	76.70 318	iP	P	21 14 37.4	-2.8		
ANTB	Antalya	76.81 309	eP	P	21 14 33.8	-7.2		
BCK	Bucak	77.00 310	eP	P	21 14 38.6	-3.4		
SEY	Seymchan	77.06 22 ⇑	iP	P	21 14 42.1	+0.3		
SHUT	Suhut-Afyon	77.32 311	eP	P	21 14 43.5	-0.4		
ELL	Elmali	77.35 309	eP	P	21 14 43.5	-0.5		
TKTP	Tekketepe	77.36 310	iP	P	21 14 40.2	-3.9		
KDZE	Karadeniz Ereo	77.43 314	eP	P	21 14 43.5	-0.9		
TIXI	Tiksi	77.62 9	eP	P	21 14 42.5	-2.3		
TIXI			eS	S	21 24 29.3	-4.8		
TIXI			pmax	pmax				
	comp=N,79nm,1.1s							
TIXI			pmax	pmax				
	comp=Z,256nm,1.1s,mb6.1							
TIXI			pmax	pmax				
	comp=E,55nm,1.1s							
TIXI			pmax	pmax				
	comp=Z,15μm,17.1s							
TIXI			smax					
	comp=N,8μm,15.2s							
TIXI			smax					
	comp=E,14μm,15.8s							
TIXI			MLR	MLR				
	comp=Z,101μm,19.0s,MS7.2							
TIXI			MLR	MLR				
	comp=N,44μm,20.0s,MS7.0							
TIXI			MLR	MLR				
	comp=E,38μm,16.0s,MS7.0							
TIXI	Tiksi	77.62 9 ⇓	eP	P	21 14 42.1	-2.7		
HENT	Hendek	77.69 313	iP	P	21 14 44.6	-1.2		
GOLH	Golhisar	77.74 309	iP	P	21 14 44.0	-2.1		
ALT	Altintas	77.79 311	eP	P	21 14 38.6	-7.8		
GULT	Gulveren	77.86 313	eP	P	21 14 43.5	-3.3		
DNZL	Cakiroluk	78.25 310	iP	P	21 14 46.9	-2.1		
GDZ	Gediz	78.27 311	iP	P	21 14 46.4	-2.7		
CAVI	Cavuskoy	78.29 312	eP	P	21 14 43.5	-5.7		
DALT	Dalyan (Mudla)	78.34 309	eP	P	21 14 43.5	-6.1		
TURN	Turunc	78.39 309	iP	P	21 14 48.4	-1.5		
ADVT	Abdulvahap	78.43 312	eP	P	21 14 50.3	+0.4		
ARG	Arkhangelos	78.61 308	eP	P	21 14 51.0	0.0		
ARG	Arkhangelos	78.61 308	eP	P	21 14 51.0	0.0		
MOS	Moscow	78.67 329	ciP	P	21 14 50.3	-0.6		
MOS			i	pP	21 14 59.4	-1.0		
MOS			i		21 17 43.4			
MOS			ePPP		21 19 41.6			
MOS			iS	S	21 24 43.4	-2.6		
MOS			e		21 25 10.8			
MOS			eSS	SS	21 29 52.8	+2.3		
MOS			pmax	pmax				
	comp=Z,2μm,2.8s,mb6.5							
MOS			pmax	pmax				
	comp=Z,381nm,1.8s,mb6.0							
MOS			MLR	MLR				
	comp=Z,45μm,22.0s,MS6.8							
SILT	Sile	78.69 313	eP	P	21 14 53.1	+1.8		
YER	Yerkesik	78.70 309	eP	P	21 14 48.3	-3.2		
KULA	Kula-Manisa	78.75 310	eP	P	21 14 48.3	-3.4		
GEMT	Gemlik	78.83 312	eP	P	21 14 48.3	-3.9		
DEMI	Demirci	78.83 311	iP	P	21 14 50.3	-1.9		
OBN	Obninsk	78.96 328	ciP	P	21 14 52.4	-0.1		
OBN			i	pP	21 15 00.7	-1.3		
OBN			e		21 15 07.0			
OBN			eS	S	21 24 47.8	-1.3		
OBN			pmax	pmax				
	comp=Z,353nm,1.7s,mb6.0							
OBN			MLR	MLR				
	comp=Z,32μm,23.0s,MS6.6							
OBN	Obninsk	78.96 328 ⇑	iP	P	21 14 52.5	0.0		
OBN			LR	LR				
	comp=Z,32μm,23.0s,MS6.6							
ISK	Istanbul-Kandi	79.09 313	eP	P	21 14 48.3	-5.3		
AYDN	Tasoluk	79.14 309	iP	P	21 14 53.1	-0.8		
KLYT	Kilyos	79.15 313	eP	P	21 14 48.3	-5.6		
DURS	Dursunbey	79.16 311	iP	P	21 14 50.7	-3.2		
KARP	Karpathos	79.22 307	eP	P	21 14 54.0	-0.4		
KARP	Karpathos	79.22 307	eP	P	21 14 54.0	-0.4		
BGKT	Bogazkoy	79.33 313	eP	P	21 14 48.3	-6.6		
BDRM	Kayabasi	79.34 309	iP	P	21 14 50.7	-4.3		
AKHS	Akhisar	79.48 311	iP	P	21 14 52.2	-3.6		
ELBA	Catalca	79.57 313	iP	P	21 14 54.9	-1.3		
SUR	Sutherland	79.60 238	LR	LR	21 44 17.2			
	comp=Z,36μm,19.6s,MS6.7,baz=97,slow=31							
BALB	Balikesir	79.61 311	eP	P	21 14 57.2	+0.7		
SLVT	Silivri	79.75 313	eP	P	21 14 48.3	-8.9		
BALY	Balya	79.83 311	iP	P	21 14 56.0	-1.6		
ZKR	Zakros	79.88 307	P	P	21 14 58.0	0.0		
BLCB	Balcova	79.95 310	eP	P	21 14 59.1	+0.8		
SMG	Samos	79.95 309	eP	P	21 14 57.5	-0.9		
SMG	Samos	79.95 309	eP	P	21 14 57.5	-0.9		
RAO	Raoul Island	80.31 119	PFAKE		21 15 10.0	+9.5		
RAO			LR	LR				
	comp=Z,104μm,20.0s,MS7.2							
MFT	Murefte	80.33 312	eP	P	21 14 58.7	-1.6		
TLCR		80.35 317	P	pP	21 15 12.9	+3.1		
TLCR		80.35 317 ⇑	iP	P	21 15 01.0	+0.7		
SART	Tekirdag	80.38 312	iP	P	21 14 55.3	-5.2		
RKY	Sarkoy-Tekirda	80.38 312	eP	P	21 15 00.9	+0.4		
PSN	Preselentsi	80.39 315	iP	P	21 15 00.1	-0.5		
NPS	Neapolis	80.40 307	eP	P	21 15 01.0	+0.2		
NPS	Neapolis	80.40 307	eP	P	21 15 01.0	+0.2		
AYVA	Ayvalik	80.43 311	iP	P	21 15 00.8	0.0		
TIRR	Tirgusor	80.44 316 ⇑	iP	P	21 15 00.1	-0.7		
TIRR	Tirgusor	80.44 316 ⇑	iP	P	21 15 00.1	-0.7		
LAST	Lasithi	80.48 306	P	P	21 15 01.4	+0.1		
CHOS	Chios island	80.71 310	P	P	21 15 01.1	-1.3		
PRK	Paraskevi	80.73 311	P	P	21 15 00.5	-2.0		
PRK	Paraskevi	80.73 311	eP	P	21 15 00.0	-2.5		
PRK	Paraskevi	80.73 311	eP	P	21 15 00.0	-2.5		
THR1	Thera Island	80.75 308	P	P	21 15 06.8	+4.2		
THR3	Thira Island,	80.80 308	P	P	21 15 03.1	+0.2		
THR4	Thira Island,	80.81 308	P	P	21 15 05.4	+2.4		
PRD	Provadia	80.83 315	iP	P	21 15 02.2	-0.7		
HARR	Harsova	80.83 316	P	P	21 15 02.9	0.0		
HARR	Harsova	80.83 316 ⇓	iP	P	21 15 02.1	-0.8		
APE	Apeiranthos	80.83 308	P	P	21 15 09.9	+6.8		
APE	Apeiranthos	80.83 308	eP	P	21 15 00.0	-3.1		
APE	Apeiranthos	80.83 308	ciP	P	21 15 02.9	-0.2		
APE	Apeiranthos	80.83 308 ⇓	iP	P	21 15 05.1	+2.0		
APE	Apeiranthos	80.83 308 ⇑	iP	P	21 15 02.0	-1.1		
APE	Apeiranthos	80.83 308	eP	P	21 15 00.0	-3.1		
KIS	Kishinev	80.84 319	ciP	P	21 15 03.0	+0.1		
KIS			i		21 18 15.0			
KIS			iS	S	21 25 06.0	-3.3		
KIS			iPS		21 25 57.0			
KIS			pmax	pmax				
	comp=Z,600nm,2.0s,mb6.2							
KIS			pmax	pmax				
	comp=Z,7μm,20.0s							
KIS			smax					
	comp=N,20μm,20.0s							
KIS			smax					
	comp=E,16μm,20.0s							
KIS			MLR	MLR				
	comp=Z,12μm,22.0s,MS6.2							
KIS			MLR	MLR				
	comp=N,11μm,24.0s,MS6.2							
KIS			MLR	MLR				
	comp=E,7μm,20.0s,MS6.2							
KIS			MLR	MLR				
	comp=Z,6μm,25.0s							
KIS	Kishinev	80.84 319 ⇑	iP	P	21 15 03.0	+0.1		
	comp=Z,600nm,2.0s,mb6.2							
KIS	Kishinev	80.84 319	iPP	PP	21 18 15.0	+7.5		
	comp=Z,7μm,22.0s							
EDRB	Edirne	80.97 313	eP	P	21 15 03.9	+0.2		
IDI	Anoyia	80.98 306	P	P	21 15 03.7	-0.3		
	comp=Z,19nm,0.7s,mb5.1,baz=71,slow=5.6,SNR=14							
SIVA	Sivas	80.99 306	P	P	21 15 02.5	-1.5		
BOZC	Bozcaada	81.03 311	iP	P	21 15 01.8	-2.2		
ENEZ	Enez	81.15 312	eP	P	21 15 07.6	+2.9		
ENEZ	Enez	81.15 312	eP	P	21 15 07.6	+2.9		
SBA	Scott Base	81.16 169 ⇓	eP	P	21 15 04.3	+0.2		
SBA			e		21 15 10.5			
SBA			e		21 18 09.5			
SBA			eS	S	21 25 01.5	-10		
SBA			pmax	pmax				
	comp=Z,100nm,1.1s,mb5.7							
SBA			MLR	MLR				
	comp=Z,57μm,21.0s,MS6.9							
SBA	Scott Base	81.16 169 ⇓	eP	P	21 15 04.3	+0.2		
	comp=Z,100nm,1.1s,mb5.7							
SBA			e		21 15 10.5			
SBA			ePP	PP	21 18 09.5	+0.1		
SBA			eS	S	21 25 01.5	-10		
SBA			LR	LR				
	comp=Z,57μm,21.0s,MS6.9							
GADA	Gvkgeada	81.22 311	eP	P	21 14 58.0	-7.1		
JMB	Yambol	81.23 314	P	P	21 15 05.0	-0.1		
ALN	Alexandroupoli	81.27 312	P	P	21 15 04.3	-1.0		
GVD	Gavdhos	81.54 306	eP	P	21 15 05.0	-1.9		
GVD	Gavdhos	81.54 306	eP	P	21 15 05.0	-1.9		
VAM	Vamos	81.56 306	eP	P	21 15 07.0	0.0		
VAM	Vamos	81.56 306	eP	P	21 15 07.0	0.0		
AKASG	Malin Array Be	81.62 322	P	P	21 15 05.4	-1.6		
	comp=Z,15nm,0.9s,mb4.9,baz=90,slow=4.9,SNR=38							
AKASG			PP	PP	21 18 18.6	+4.7		
	comp=Z,11nm,0.9s,baz=95,slow=5.3,SNR=4.2							
AKASG			LR	LR	21 54 13.0			
	comp=Z,7μm,19.4s,MS6.1,baz=100,slow=38							
AKASG	Malin Array Be	81.62 322	P	P	21 15 05.4	-1.6		
AKASG					21 18 18.6			
AKASG			pmax	pmax				
	comp=Z,15nm,0.9s							
AKASG			pmax	pmax				
	comp=Z,11nm,0.9s							
AKASG			MLR	MLR				
	comp=Z,7μm,19.5s							
AKBB	Malin Array Si	81.62 322 ⇑	iP	P	21 15 06.4	-0.6		
AKBB					21 15 13.2			
AKBB			e		21 18 08.0			
KIEV	Kiev	81.63 322 ⇑	iP	P	21 15 06.4	-0.6		
KIEV			e		21 15 13.3			
KIEV			e		21 18 12.9			
KIEV			eS	S	21 25 10.7	-6.6		
KIEV			pmax	pmax				
	comp=Z,78nm,1.0s,mb5.6							
KIEV			MLR	MLR				
	comp=Z,21μm,21.0s,MS6.5							
KIEV	Kiev	81.63 322 ⇑	iP	P	21 15 06.4	-0.6		
	comp=Z,78nm,1.0s,mb5.6							
KIEV			ePcP	PcP	21 15 13.3	+0.5		
KIEV			ePP	PP	21 18 12.9	-1.0		
KIEV			eS	S	21 25 10.7	-6.7		
KIEV			LR	LR				
	comp=Z,21μm,21.0s,MS6.5							
LIA	Limnos Island	81.69 311	P	P	21 15 06.7	-0.9		
LIA	Limnos Island	81.69 311	eP	P	21 15 04.5	-3.1		
LIA	Limnos Island	81.69 311	eP	P	21 15 04.5	-3.1		
RDO	Rodhopi	81.70 312	eP	P	21 15 06.0	-1.6		
RDO	Rodhopi	81.70 312	eP	P	21 15 06.0	-1.6		
IAS	Iasi	81.72 319	P	P	21 15 08.8	+1.2		
LOS	Limnos	81.78 311	P	P	21 15 15.6	+7.6		
SZH	Strazhica	81.88 315	iP	P	21 15 08.4	-0.1		
KDZ	Kurdzhali	81.89 313	iP	P	21 15 08.8	+0.2		
VRI	Vrincioaia	81.94 317 ⇓	iP	P	21 15 07.8	-1.0		
VRI	Vrincioaia	81.94 317 ⇓	iP	P	21 15 07.8	-1.0		
PLOR	Plostina	81.99 317	P	P	21 15 11.2	+2.2		
PLOR	Plostina	81.99 317 ⇓	iP	P	21 15 10.8	+1.8		
PTL	Penteli	82.33 309	eP	P	21 15 08.5	-2.5		
PTL	Penteli	82.33 309	eP	P	21 15 08.5	-2.5		
KVR	Kavouri	82.36 309	eP	P	21 15 10.0	-1.1		
KVR	Kavouri	82.36 309	eP	P	21 15 10.0	-1.1		
ZIMR		82.37 315	P	P	21 15 11.4	+0.3		
MLR	Muntele Rosu	82.39 317	P	P	21 15 11.4	+0.3		
MLR	Muntele Rosu	82.39 317 ⇑	iP	P	21 15 11.5	+0.4		
RZN	Rozhen	82.42 313	iP	P	21 15 11.3	0.0		
ATH	Athens Observa	82.43 309	eP	P	21 15 10.0	-1.5		
ATH	Athens Observa	82.43 309	eP	P	21 15 10.0	-1.5		
TSUM	Tsumeb	82.49 251 ⇓	eP	P	21 15 13.1	+0.8		
	comp=Z,133nm,1.5s,mb5.7							
TSUM			ePcP	PcP	21 15 18.1	+0.8		
TSUM			ePP	PP	21 18 25.7	+4.0		
TSUM			eS	S	21 25 24.0	-3.5		
TSUM			LR	LR				
	comp=Z,60μm,22.0s,MS6.9							
PLD	Plovdiv	82.51 313	iP	P	21 15 10.8	-1.0		
NAIG	Nisos Aigina	82.56 309	eP	P	21 15 12.5	+0.3		
NAIG	Nisos Aigina	82.56 309	eP	P	21 15 12.5	+0.3		
KYTH	Kithira	82.65 307	eP	P	21 15 13.0	+0.3		
KYTH	Kithira	82.65 307	eP	P	21 15 13.0	+0.3		
OUR	Ouranopolis	82.68 311	P	P	21 15 13.0	+0.2		
DID	Didima	82.71 308	P	P	21 15 11.8	-1.2		
VLI	Veliai	82.81 308	eP	P	21 15 13.5	0.0		
VLI	Veliai	82.81 308	eP	P	21 15 13.5	0.0		
PAIG	Paliouri	82.83 311	P	P	21 15 12.3	-1.2		
NVR	Nevrokopi	82.97 312	eP	P	21 15 11.5	-2.8		
NVR	Nevrokopi	82.97 312	eP	P	21 15 11.5	-2.8		
VOIR		82.99 317	P	P	21 15 14.9	+0.7		
VOIR		82.99 317 ⇓	iP	P	21 15 14.8	+0.6		
VOIR		82.99 317 ⇓	iP	P	21 15 14.8	+0.6		
PGB	Panagyurishte	82.99 314	P	P	21 15 13.5	-0.8		
SMY	Shemya	83.00 36	eP	P	21 15 12.8	-1.3		
SMY			pmax	pmax				
	comp=Z,435nm,1.2s,mb6.4							
SMY	Shemya	83.00 36	eP	P	21 15 12.8	-1.3		
	comp=Z,435nm,1.2s,mb6.4							
LTK	Loutraki	83.02 309	P	P	21 15 12.2	-2.4		
PLG	Polygyros	83.09 311	P	P	21 15 12.4	-2.5		
PLG	Polygyros	83.09 311	eP	P	21 15 11.5	-3.4		
PLG	Polygyros	83.09 311	eP	P	21 15 11.5	-3.4		
XOR	Xorichti	83.09 310	P	P	21 15 12.7	-2.2		
LKR	Lokris	83.11 310	P	P	21 15 13.9	-1.1		
LKR	Lokris	83.11 310	eP	P	21 15 12.0	-3.0		
LKR	Lokris	83.11 310	eP	P	21 15 12.0	-3.0		
MMB	Musomiste	83.12 313	iP	P	21 15 14.3	-0.7		
SOH	Sokhos	83.25 312	P	P	21 15 12.9	-2.8		
VLX	Vlachokerasia	83.36 308	P	P	21 15 15.2	-1.2		
BURAR	Bucovina Array	83.37 319 ⇓	iP	P	21 15 16.5	+0.4		
BURAR	Bucovina Array	83.37 319	⇓P	P	21 15 16.6	+0.4		
BUR08	Bucovina Ar. S	83.38 319	eP	P	21 15 16.4	+0.2		
BUR08			ePcP	PcP	21 15 21.2	+0.7		
BUR08			eS	S	21 25 31.5	-3.9		
HORT	Hortiatis	83.39 311	P	P	21 15 14.5	-1.9		
THE	Thessaloniki	83.50 311	P	P	21 15 14.9	-2.1		
MNK	Minsk	83.51 326	eP	P	21 15 14.0	-2.7		
MNK			e		21 18 32.0			
MNK			ePPP		21 20 30.0			
MNK			ePS		21 26 30.0			
MNK			eSSS		21 34 32.0			
MNK			pmax	pmax				
	comp=Z,420nm,1.8s,mb6.3							
MNK			pmax	pmax				
	comp=Z,25μm,18.0s							
KKB	Krupnik	83.65 313	iP	P	21 15 16.8	-0.9		
KNT	Kendrikon	83.65 312	P	P	21 15 12.7	-5.1		
ITM	Ithomi	83.68 308	eP	P	21 15 12.0	-6.0		
ITM	Ithomi	83.68 308	eP	P	21 15 12.0	-6.0		
AGG	Agios Georgios	83.69 310	P	P	21 15 15.5	-2.5		
LIT	Litokhoron	83.76 311	P	P	21 15 16.6	-1.7		
PYL	PYLOS	83.78 308	P	P	21 15 20.8	+2.3		
PUL	Pulkovo	83.80 331 ⇑	iP	P	21 15 19.1	+1.0		
VAY	Valandovo	83.92 312	P	P	21 15 18.9	-0.2		
VAY	Valandovo	83.92 312	iP	P	21 15 18.0	-1.1		
GRG	Griva	83.98 312	P	P	21 15 17.6	-1.9		
THL	Klokotos Trika	84.03 310	P	P	21 15 18.2	-1.5		
THL	Klokotos Trika	84.03 310	eP	P	21 15 16.0	-3.7		
THL	Klokotos Trika	84.03 310	eP	P	21 15 16.0	-3.7		
EVR	Evrytania	84.07 310	eP	P	21 15 16.0	-4.0		
EVR	Evrytania	84.07 310	eP	P	21 15 16.0	-4.0		
RLS	Riolos of Patr	84.19 309	eP	P	21 15 19.0	-1.6		
RLS	Riolos of Patr	84.19 309	eP	P	21 15 19.0	-1.6		
STIP	Stip	84.28 312	P	P	21 15 19.1	-1.8		
STIP	Stip	84.28 312	iP	P	21 15 18.6	-2.3		
KZN	Kozani	84.34 311	eP	P	21 15 18.5	-2.8		
KZN	Kozani	84.34 311	eP	P	21 15 18.5	-2.8		
JOF	Joensuu	84.39 334	ep	P	21 15 20.1	-0.9		
	comp=Z,65nm,0.8s,mb5.8							
JOF	Joensuu	84.39 334	eP	P	21 15 20.1	-0.9		
JOF			pmax	pmax				
	comp=Z,65nm,0.8s,mb5.8							
MIDW	Midway	84.50 61	PFAKE		21 15 30.0	+7.6		
MIDW			LR	LR				
	comp=Z,24μm,21.0s,MS6.6							
GZR	Gura Zlata	84.55 316	P	P	21 15 23.6	+1.4		
GZR	Gura Zlata	84.55 316 ⇑	iP	P	21 15 21.8	-0.4		
LVV	L'vov	84.62 321	eP	P	21 15 23.1	+0.6		
LVV			e		21 18 41.5			
LVV			eS	S	21 25 48.1	+0.3		
LVV			e		21 26 45.1			
LVV			pmax	pmax				
	comp=Z,500nm,2.4s,mb6.2							
LVV			smax					
	comp=N,7μm,18.0s							
LVV			MLR	MLR				
	comp=N,2μm,22.0s,MS6.1							
LVV			MLR	MLR				
	comp=Z,6μm,22.0s,MS6.0							
LVV			MLR	MLR				
	comp=E,8μm,23.0s,MS6.1							
BILL	Bilibino	84.64 20	ciP	P	21 15 21.8	-0.4		
BILL			pmax	pmax				
	comp=Z,164nm,1.4s,mb6.0							
BILL			MLR	MLR				
	comp=Z,61μm,16.0s,MS7.1							
MEV	Metsovon	84.66 310	P	P	21 15 25.4	+2.5		
FNA	Florina	84.72 311	P	P	21 15 18.9	-4.3		
KFL	Anninata	84.73 309	P	P	21 15 25.7	+2.4		
BARS	Barje	84.75 313	P	P	21 15 23.2	-0.1		
BIA	Bitola	84.80 312	P	P	21 15 23.0	-0.6		
BIA	Bitola	84.80 312	iP	P	21 15 22.1	-1.5		
DRGR		84.86 318 ⇓	iP	P	21 15 23.4	-0.4		
DRGR		84.86 318 ⇓	iP	P	21 15 23.4	-0.4		
SKO	Skopje	84.87 313	P	P	21 15 22.3	-1.6		
SKO	Skopje	84.87 313	iP	P	21 15 22.9	-1.0		
VLS	Valsamata	84.89 309	P	P	21 15 23.9	-0.2		
VLS	Valsamata	84.89 309	eP	P	21 15 19.5	-4.6		
VLS	Valsamata	84.89 309	eP	P	21 15 19.5	-4.6		
JAN	Janina	84.93 310	eP	P	21 15 22.5	-1.8		
JAN	Janina	84.93 310	eP	P	21 15 22.5	-1.8		
LKD	Levkas	84.93 309	P	P	21 15 23.6	-0.7		
LVZ	Lovozero	84.94 340	ciP	P	21 15 24.0	+0.3		
LVZ			pmax	pmax				
	comp=Z,135nm,1.3s,mb5.9							
LVZ			MLR	MLR				
	comp=Z,75μm,27.0s,MS6.9							
OHR	Ohrid	85.20 312	P	P	21 15 22.6	-3.0		
OHR	Ohrid	85.20 312	iP	P	21 15 24.3	-1.3		
APA	Apatity	85.25 339 ⇑	iP	P	21 15 25.0	-0.3		
APA			i	pP	21 15 35.0	+0.2		
APA			iS	S	21 25 53.0	-0.3		
APA			iSSS		21 34 59.0			
APA			pmax	pmax				
	comp=Z,550nm,2.0s,mb6.3							
BZS	Buzias	85.39 316 ⇓	iP	P	21 15 25.8	-0.6		
BZS	Buzias	85.39 316 ⇓	iP	P	21 15 25.8	-0.7		
KWP	Kalwaria	85.42 320	eP	P	21 15 27.2	+0.7		
KWP			ePcP	PcP	21 15 35.9	+6.4		
KWP			eSS	SS	21 31 35.2	+3.9		
KWP			LMZ		22 00 13.8			
	comp=Z,26μm,25.6s							
KWP	Kalwaria	85.42 320 ⇑	iP	P	21 15 26.7	+0.2		
KWP	Kalwaria	85.42 320	eP	P	21 15 27.2	+0.7		
KWP			ePcP	PcP	21 15 35.9	+6.4		
KWP			eSS	SS	21 31 35.2	+3.9		
UZH	Uzhgorod	85.50 319	eP	P	21 15 28.0	+1.1		
UZH			e	pP	21 15 39.0	+2.5		
UZH			eS	S	21 26 00.0	+3.5		
UZH			MLR	MLR				
	comp=N,10μm,17.0s,MS6.5							
UZH			MLR	MLR				
	comp=E,16μm,17.0s,MS6.5							
UZH			MLR	MLR				
	comp=Z,8μm,17.0s,MS6.2							
PHP	Peshkopia	85.56 312	ePN	P	21 15 26.3	-1.1		
KOLS	Kolonicke sedl	85.57 320	eP	P	21 15 27.1	-0.1		
KOLS			eS	S	21 25 56.9	-0.2		
KOLS			eSS	SS	21 31 34.4	+1.0		
SRN	Sarande	85.61 310	ePN	P	21 15 27.7	0.0	

comp=Z,62nm,1.0s,mb5.8
STHS eS S 21 26 02.0 -2.5
KAF Kangasniemi 86.36 333 ep **P** **21 15 30.0 -0.9**
comp=Z,66nm,0.7s,mb6.0,baz=99,slow=4.4
KAF Kangasniemi 86.36 333 eP **P** **21 15 30.0 -0.9**
KAF pmax pmax
comp=Z,66nm,0.7s,mb6.0
AFI Afiamalu 86.38 104 P **P** **21 15 32.6 +0.6**
comp=Z,99nm,0.9s,mb6.0,baz=75,slow=3.2,SNR=11
AFI Afiamalu 86.38 104 P **P** **21 15 32.6 +0.6**
AFI pmax pmax
comp=Z,99nm,1.0s,mb6.0
ULC Ulcinj 86.48 312⇑iP **P** **21 15 32.2 +0.3**
TTG Podgorica 86.54 313⇑iP **P** **21 15 31.4 -0.8**
PLE Pljevlja 86.58 314⇑iP **P** **21 15 33.1 +0.7**
BBLS Lazići 86.65 314 P **P** **21 15 33.2 +0.5**
BUM Brajici-Budva 86.79 313⇑iP **P** **21 15 33.6 +0.2**
NKY Niksic 86.79 313⇑iP **P** **21 15 33.6 +0.2**
UPM Unac-Piva 86.91 314⇑iP **P** **21 15 33.7 -0.3**
NIE Niedzica 86.92 320 eP **P** **21 15 34.2 +0.3**
NIE ePP PP 21 18 54.5 -2.6
PSZ Piszkesteto 86.95 318⇓ePcP PcP 21 15 34.9 -1.4
PSZ Piszkesteto 86.95 318⇑iP **P** **21 15 33.5 -0.6**
WAR Warsaw 86.97 323 eP **P** **21 15 35.5 +1.4**
WAR ePcP PcP 21 15 43.4 +7.2
WAR eS S 21 26 13.9 +3.3
WAR LMZ 21 58 56.1
comp=Z,30µm,25.2s
WAR Warsaw 86.97 323 eP **P** **21 15 35.5 +1.4**
WAR ePcP PcP 21 15 43.4 +7.2
WAR eS S 21 26 13.9 +3.3
WAR LR LR
comp=Z,30µm,25.2s,MS6.6
HCY Herceg Novi 87.11 313⇑iP **P** **21 15 34.6 -0.4**
BRY Bratogost 87.14 313⇑iP **P** **21 15 34.4 -0.7**
PENC Penc 87.33 318⇓eP **P** **21 15 37.5 +1.5**
OJC Ojcow 87.38 321 iP **P** **21 15 36.3 +0.2**
OJC e*PP pP 21 15 45.0 -0.7
OJC e 21 18 57.9
OJC eS S 21 26 13.7 -1.0
OJC eSS SS 21 32 01.7 +1.8
OJC L 22 01 46.2
comp=Z,20nm,21.4s
OJC Ojcow 87.38 321⇑iP **P** **21 15 36.3 +0.2**
OJC e*PP pP 21 15 45.0 -0.7
OJC e 21 18 57.9
OJC eS S 21 26 13.7 -1.0
OJC eSS SS 21 32 01.7 +1.8
OJC MLR MLR
comp=Z,20µm,21.4s,MS6.5
BUD Budapest 87.46 318⇑ePcP PcP 21 15 37.1 -1.4
PKSM Moragy 87.53 316 P **P** **21 15 37.3 +0.3**
PKSM Moragy 87.53 316⇑iP **P** **21 15 37.5 +0.5**
PKSM Moragy 87.53 316⇑eP **P** **21 15 37.2 +0.2**
VYHS Vyhne 87.73 319 eP **P** **21 15 37.8 -0.1**
VYHS e 21 15 53.9
VYHS ePP PP 21 19 02.4 -1.3
VYHS eS S 21 26 18.0 -0.2
STON Ston 87.75 313 P **P** **21 15 37.5 -0.6**
RHK3 Tenkes 87.76 316⇓eP **P** **21 15 39.0 +1.0**
PKSG 87.87 318⇓eP **P** **21 15 39.8 +1.3**
TIP Timpagrande 88.00 309 P **P** **21 15 41.2 +1.8**
KOLL Kolacno 88.03 319 eP **P** **21 15 39.4 +0.1**
KOLL epP pP 21 15 48.6 -0.3
KOLL eS S 21 26 21.5 +0.5
LTRZ Laterza 88.12 311 P **P** **21 15 40.8 +0.9**
KEV Kevo 88.19 340 ep **P** **21 15 38.4 -1.1**
comp=Z,60nm,0.8s,mb5.9
KEV Kevo 88.19 340 P **P** **21 15 39.0 -0.5**
KEV pmax pmax
comp=Z,130nm,1.0s,mb6.1
GRI Girifalco 88.22 309 P **P** **21 15 42.2 +1.8**
ADK Adak 88.35 38⇑iP **P** **21 15 40.0 -0.7**
ADK e*PP pP 21 15 47.5 -2.8
ADK 21 19 08.2
ADK pmax pmax
comp=Z,653nm,1.4s,mb6.7
ADK MLR MLR
comp=Z,23µm,22.0s,MS6.5
ADK Adak 88.35 38⇑iP **P** **21 15 40.0 -0.7**
comp=Z,653nm,1.4s,mb6.7
ADK epP pP 21 15 47.5 -2.8
ADK PP PP 21 19 08.2 -0.3
ADK LR LR
comp=Z,23µm,22.0s,MS6.5
OKC Ostrava-Krasne 88.38 320 eP **P** **21 15 41.2 +0.3**
OKC e*PP pP 21 15 49.9 -0.6
OKC eS S 21 26 24.9 +0.7
OKC MLR MLR
comp=Z,15µm,18.9s,MS6.4
OKC Ostrava-Krasne 88.38 320 eP **P** **21 15 41.2 +0.3**
OKC epP pP 21 15 49.9 -0.6
OKC ex x 21 19 20.4
OKC eS S 21 26 24.9 +0.7
OKC ex x 21 32 26.8
OKC ex x 21 38 58.1
OKC AMS AMS 22 04 10.0
comp=Z,15µm,18.9s
OKC Ostrava-Krasne 88.38 320 eP **P** **21 15 41.2 +0.3**
OKC epP pP 21 15 49.9 -0.6
OKC ePP PP 21 19 20.4 +12
OKC eS S 21 26 24.9 +0.7
OKC eSS SS 21 32 26.8 +12
OKC e 21 38 58.1
RAC Raciborz 88.38 320 eP **P** **21 15 42.2 +1.3**
RAC e 21 19 05.3
RAC eS S 21 26 25.5 +1.2
RAC MLR MLR
comp=N,23µm,18.0s,MS6.8
RAC MLR MLR
comp=E,25µm,18.0s,MS6.8
RAC MLR MLR
comp=Z,20µm,18.0s,MS6.6
RAC Raciborz 88.38 320 eP **P** **21 15 42.2 +1.3**
RAC ePP PP 21 19 05.3 -3.5
RAC eS S 21 26 25.5 +1.2
RAC LR LR
comp=Z,20µm,18.0s,MS6.6
SOI Samo 88.42 308 P **P** **21 15 42.9 +1.5**
JAVC Velka Javorina 88.55 319 P **P** **21 15 42.5 +0.8**
ARCES ARCESS Array B 88.63 340 P **P** **21 15 40.6 -1.0**
comp=Z,106nm,0.9s,mb6.2,baz=87,slow=1.6,SNR=40
ARCES LR LR 22 03 40.6
comp=Z,34µm,19.6s,MS6.8,baz=103,slow=41
ARCES ARCESS Array B 88.63 340 P **P** **21 15 40.7 -1.0**
ARCES pmax pmax
comp=Z,106nm,0.9s
ARCES MLR MLR
comp=Z,34µm,19.6s
ARCES ARCESS Array B 88.63 340 P **P** **21 15 40.6 -1.0**
ARCES LR LR 22 03 40.6
ARE0 ARCESS Array S 88.63 340⇑eP **P** **21 15 41.6 -0.1**
ARE0 epP pP 21 15 48.8 -2.5
ARE0 esP sP 21 15 51.0 -3.8
ARE0 ePP PP 21 19 04.5 -5.9
PTRP Pietrapertosa 88.68 311 P **P** **21 15 44.4 +1.8**
MTTG Motta San Giov 88.70 308 P **P** **21 15 44.0 +1.3**
SCLL Scilla 88.71 308 P **P** **21 15 44.5 +1.8**
MODS Modra-Piesok 88.75 318 eP **P** **21 15 42.1 -0.6**
MODS e pP 21 15 52.4 +0.1
MODS eS S 21 26 28.6 +0.8
MODS pmax pmax
comp=Z,57nm,1.1s,mb5.8
MODS Modra-Piesok 88.75 318 eP **P** **21 15 42.1 -0.6**
comp=Z,57nm,1.1s,mb5.8
MODS e pP 21 15 52.4 +0.1
MODS ePP PP 21 18 59.7 -12
MODS eS S 21 26 28.6 +0.8
MORC Moravsky Berou 88.75 320 P **P** **21 15 42.7 0.0**
MORC Moravsky Berou 88.75 320⇑iP **P** **21 15 43.8 +1.1**
MORC Moravsky Berou 88.75 320 eP **P** **21 15 42.6 -0.1**
MORC e 21 19 01.0
MORC eS S 21 26 20.5 -7.3
ZST Bratislava 88.84 318 eP **P** **21 15 43.0 -0.1**
ZST epP pP 21 15 53.8 +1.1
ZST eS S 21 26 28.7 0.0
ZST Bratislava 88.84 318 eP **P** **21 15 43.0 -0.1**
comp=Z,158nm,1.2s,mb6.2
ZST e pP 21 15 53.8 +1.1
ZST eS S 21 26 28.7 0.0
ZST LR LR
comp=Z,4µm,20.5s,MS5.8
FGMS Monte Sant'Ang 88.89 312 P **P** **21 15 45.0 +1.5**
MSAG Monte S. Angel 88.93 312 P **P** **21 15 43.8 +0.1**
SISC Sisak 89.01 316 P **P** **21 15 43.6 -0.3**
HAVL Avola 89.04 307 P **P** **21 15 44.8 +0.5**
SGRT San Giovanni R 89.06 312 P **P** **21 15 44.7 +0.4**
SSY Sortino 89.11 307 P **P** **21 15 45.8 +1.2**
KOGS Kog 89.21 316 P **P** **21 15 45.4 +0.5**
SGO Sicignano 89.26 311 P **P** **21 15 46.4 +1.1**
VRAC Vranov 89.31 319 P **P** **21 15 46.1 +0.8**
comp=Z,4.8nm,0.7s,mb4.9,baz=345,slow=3.0,SNR=16
VRAC Vranov 89.31 319 P **P** **21 15 46.1 +0.8**
VRAC pmax pmax
comp=Z,5.0nm,0.7s
VRAC Vranov 89.31 319 eP **P** **21 15 46.6 +1.3**
VRAC eS S 21 26 31.0 -2.1
HMDC Modica 89.32 307 P **P** **21 15 47.0 +1.4**
FG5 Orsara di Pugl 89.36 311 P **P** **21 15 47.7 +2.0**
HVZN Vizzini 89.39 307 P **P** **21 15 47.2 +1.2**
GKP Gorka Klasztor 89.40 323 eP **P** **21 15 46.8 +1.2**
GKP ePcP PcP 21 15 53.3 +6.3
GKP eS S 21 26 33.5 -0.2
GKP LMZ 22 01 51.8
comp=Z,26µm,25.2s
GKP Gorka Klasztor 89.40 323 eP **P** **21 15 46.8 +1.2**
GKP ePcP PcP 21 15 53.3 +6.3
GKP eS S 21 26 33.5 -0.2
GKP LR LR
comp=Z,26µm,25.2s,MS6.5
KRUC Moravsky 89.41 319 P **P** **21 15 47.1 +1.3**
SLNA Salina 89.43 309 P **P** **21 15 48.3 +2.2**
MNO Monte Soro 89.48 308 P **P** **21 15 49.0 +2.7**
FG2 Serracapriola 89.49 312 P **P** **21 15 48.0 +1.7**
CSSN Cassano Irpino 89.50 311 P **P** **21 15 47.6 +1.2**
DPC Dobruska-Polom 89.61 320 eP **P** **21 15 47.6 +1.0**
DPC e*PP pP 21 15 57.6 +1.3
DPC eS S 21 26 38.7 +2.9
DPC MLR MLR
comp=Z,24µm,20.2s,MS6.6
DPC Dobruska-Polom 89.61 320 eP **P** **21 15 47.6 +1.0**
DPC epP pP 21 15 57.6 +1.3
DPC ex x 21 19 30.8
DPC eS S 21 26 38.7 +2.9
DPC ex x 21 32 06.3
DPC AMS AMS 22 05 50.0
comp=Z,24µm,20.2s
CONA Conrad Observa 89.64 318⇑iPcP PcP 21 15 47.5 -0.7
comp=Z,58nm,1.2s,SNR=11
CSNA Conrad Observa 89.64 318⇑eP **P** **21 15 47.2 +0.4**
comp=Z,55nm,1.1s,mb5.8
VAE Valguarnera 89.66 307 P **P** **21 15 49.1 +1.9**
comp=Z,24nm,0.9s,mb5.5,baz=240,slow=6.6,SNR=6.7
CIGN Sant'Elia a Pi 89.67 312 P **P** **21 15 49.4 +2.2**
RAFF Raffo Rosso 89.68 307 P **P** **21 15 50.2 +2.9**
KSP Ksiaz 89.68 321 eP **P** **21 15 48.6 +1.6**
KSP ePcP PcP 21 15 57.0 +8.7
KSP eS S 21 26 38.0 +1.5
KSP eSS SS 21 33 13.9 +41
KSP LMZ 22 00 34.1
comp=Z,34µm,23.6s
KSP Ksiaz 89.68 321⇑eP **P** **21 15 47.7 +0.7**
KSP epP pP 21 15 56.3 -0.3
KSP ePP PP 21 19 22.5 +3.3
KSP eS S 21 26 34.7 -1.8
KSP LR LR
comp=Z,39µm,23.6s,MS6.8
CRES Cresnjev 89.69 316 P **P** **21 15 48.7 +1.6**
PSB1 Pescosannita 89.70 311 P **P** **21 15 47.7 +0.4**
ARSA Arzberg 89.79 317⇑iP **P** **21 15 48.0 +0.4**
comp=Z,170nm,2.2s,mb6.0,SNR=22
ARSA Arzberg 89.79 317 P **P** **21 15 48.5 +0.9**
BOJS Bojanci 89.80 315 iP **P** **21 15 48.5 +0.9**
BOJS ePP PP 21 19 31.3 +11
BOJS eS S 21 26 36.8 -1.0
UPC Upice 89.82 320 eP **P** **21 15 49.5 +1.9**
UPC epP pP 21 15 57.9 +0.6
NVLJ Novalja 89.97 315 P **P** **21 15 47.0 -1.5**
CSLB Castelbuono 89.98 308 P **P** **21 15 49.5 +0.8**
PERS Pernice 90.01 317 iP **P** **21 15 49.3 +0.7**
GIB Gibilmanna 90.01 308 P **P** **21 15 50.3 +1.5**
TREC Trest 90.03 319 eP **P** **21 15 48.6 0.0**
TREC e*PP pP 21 15 58.5 +0.2
TREC eS S 21 26 41.4 +1.7
TREC MLR MLR
comp=Z,25µm,20.2s,MS6.6
TREC Trest 90.03 319 eP **P** **21 15 48.6 0.0**
TREC epP pP 21 15 58.5 +0.2
TREC ex x 21 19 35.1
TREC eS S 21 26 41.4 +1.7
TREC ex x 21 32 21.9
TREC ex x 21 39 35.2
TREC AMS AMS 22 05 20.0
comp=Z,25µm,20.2s
SOKA Soboth 90.07 317⇑ePcP PcP 21 15 49.4 -0.7
comp=Z,125nm,1.3s
MIDA Miranda 90.16 312 P **P** **21 15 49.6 +0.2**
RNI2 Rionero Sannit 90.24 312 P **P** **21 15 50.8 +1.0**
RFI Roccamonfina 90.33 311 P **P** **21 15 51.6 +1.4**
LJU Ljubljana 90.36 316 iP **P** **21 15 51.3 +1.1**
LJU i pP 21 16 00.1 +0.2
LJU eS S 21 26 42.8 -0.1
LJU Ljubljana 90.36 316 iP **P** **21 15 51.3 +1.1**
LJU i pP 21 16 00.1 +0.2
LJU ePP PP 21 19 35.9 +11
LJU eS S 21 26 42.8 -0.2
LJU e 21 26 53.0
OBKA Obir 90.38 316⇑iPcP PcP 21 15 51.1 -0.4
comp=Z,98nm,1.8s,SNR=11
OBKA Obir 90.38 316 P **P** **21 15 52.0 +1.6**
INTR Introdacqua 90.45 312 P **P** **21 15 50.4 -0.4**
SDI San Donato 90.49 312 P **P** **21 15 51.5 +0.5**
SNAA Sanae 90.60 198 eP **P** **21 15 50.3 -0.6**
SNAA e 21 15 56.5
SNAA e 21 16 01.7
SNAA e 21 16 04.4
SNAA e 21 16 11.1
SNAA e 21 33 15.5
SNAA e 21 33 24.9
SNAA Sanae 90.60 198⇑eP **P** **21 15 50.6 -0.3**
JAVS Javornik 90.66 316 iP **P** **21 15 51.9 +0.2**
OFFI Offida 90.69 313 P **P** **21 15 53.9 +2.0**
MOA Molln 90.70 318⇑ePcP PcP 21 15 52.5 -0.3
comp=Z,53nm,1.3s,SNR=9.3
MOA Molln 90.70 318 P **P** **21 15 52.8 +1.0**
PRU Pruhonice 90.71 320 eP **P** **21 15 52.9 +1.1**
PRU e*PP pP 21 16 02.2 +0.8
PRU eS S 21 26 46.4 +0.4
PRU MLR MLR
comp=Z,23µm,21.3s,MS6.6
PRU Pruhonice 90.71 320 eP **P** **21 15 52.9 +1.1**
PRU epP pP 21 16 02.2 +0.8
PRU ex x 21 19 40.2
PRU eS S 21 26 46.4 +0.4
PRU ex x 21 33 08.9
PRU ex x 21 39 30.2
PRU AMS AMS 22 13 10.0
comp=Z,23µm,21.3s
USI Ustica 90.73 309 P **P** **21 15 52.5 +0.3**
PVCC Panska Ves 90.74 320 eP **P** **21 15 53.8 +1.9**
PVCC eS S 21 26 47.2 +1.0
PVCC eSS SS 21 32 58.3 +10
PVCC MLR MLR
comp=Z,22µm,19.8s,MS6.6
PVCC Panska Ves 90.74 320 eP **P** **21 15 53.8 +1.9**
PVCC ex x 21 19 41.4
PVCC eS S 21 26 47.2 +1.0
PVCC eSS SS 21 32 58.3 +10
PVCC ex x 21 39 37.7
PVCC AMS AMS 22 04 00.0
comp=Z,22µm,19.8s
VOY Vojsko 90.79 316 eP **P** **21 15 52.8 +0.5**
VOY e 21 15 56.5
PTQR Pietraquaria 90.82 312 P **P** **21 15 53.3 +0.8**
AQU L'Aquila 90.85 312 P **P** **21 15 54.2 +1.6**
TRO Tromso 90.91 340 eP **P** **21 15 52.0 -0.3**
TRO ePP PP 21 19 26.4 -2.1
TRO i 21 21 28.2
TRO eSKS 21 26 16.7
TRO AMS AMS 22 00 02.8
comp=Z,33µm,21.2s,MS6.7
TRO Tromso 90.91 340 eP **P** **21 15 55.3 +3.0**
MYKA Terra Mystica 91.02 316⇑iPcP PcP 21 15 54.1 -0.2
comp=Z,484nm,1.9s
FIAM Fiamignano 91.05 312 P **P** **21 15 54.2 +0.6**
CING Cingoli 91.08 313 P **P** **21 15 54.6 +0.9**
NRCA Norcia 91.10 313 P **P** **21 15 54.9 +1.1**
CERT Cerreto 91.13 312 P **P** **21 15 53.9 0.0**
GEC2 GERESS Array S 91.16 319 eP **P** **21 15 54.5 +0.6**
GEC2 eS S 21 26 50.3 +0.2
GEC2 pmax pmax
comp=Z,327nm,1.9s,mb6.3
GEC2 MLR MLR
comp=Z,20µm,20.7s,MS6.5
GEC2 GERESS Array S 91.16 319 eP **P** **21 15 54.5 +0.6**
comp=Z,327nm,1.9s,mb6.3
GEC2 ePP PP 21 19 41.6 +11
GEC2 eS S 21 26 50.3 +0.2
GEC2 eL 22 15 35.9
comp=Z,20µm,20.7s
GERES GERESS Array B 91.16 319 P **P** **21 15 53.5 -0.4**
comp=Z,18nm,0.8s,mb5.4,baz=90,slow=4.0,SNR=26
GERES GERESS Array B 91.16 319 P **P** **21 15 53.5 -0.4**
GERES pmax pmax
comp=Z,18nm,0.8s
BRG Berggiesshubel 91.17 321 eP **P** **21 15 53.3 -0.6**
BRG i pP 21 16 03.9 +0.4
BRG i 21 16 08.0
BRG 21 19 28.0
BRG 21 26 22.0
BRG S S 21 26 55.0 +4.9
BRG PS PS 21 28 10.0 +7.8
BRG pmax pmax
comp=Z,127nm,2.0s,mb5.9
BRG MLR MLR
comp=Z,16µm,19.8s,MS6.5
BRG Berggiesshubel 91.17 321 eP **P** **21 15 54.2 +0.3**
comp=Z,560nm,2.5s,mb6.5
BRG ePP PP 21 19 41.7 +11
BRG eS S 21 26 51.8 +1.7
BRG eL 22 09 33.0
comp=Z,27µm,21.8s
BRG Berggiesshubel 91.17 321 eP **P** **21 15 53.3 -0.6**
comp=Z,212nm,2.0s,mb6.1
BRG i pP 21 16 03.9 +0.4
comp=Z,144nm,1.6s
BRG i 21 16 08.0
comp=Z,130nm,1.2s
BRG PP PP 21 19 28.0 -3.0
BRG SKS 21 26 22.0
BRG S S 21 26 55.0 +4.9
BRG PS PS 21 28 10.0 +7.8
BRG SS SS 21 33 12.0 +17
BRG
comp=N,8µm,23.2s
BRG
comp=E,24µm,20.8s
BRG
comp=Z,28µm,19.8s
BRG Berggiesshubel 91.17 321 eP **P** **21 15 53.3 -0.6**
comp=Z,127nm,2.0s,mb5.9
BRG i pP 21 16 03.9 +0.4
BRG i 21 16 08.0
BRG PP PP 21 19 28.0 -3.0
BRG SKS 21 26 22.0
BRG S S 21 26 55.0 +4.9
BRG PS PS 21 28 10.0 +7.8
BRG SS SS 21 33 12.0 +17
BRG LR LR
comp=Z,16µm,19.8s,MS6.5
PTCC Patocco-Chiusa 91.20 316 P **P** **21 15 53.7 -0.5**
SNTG Esanatoglia 91.25 313 P **P** **21 15 56.0 +1.5**
KBA Koelnbreinsper 91.26 317⇑iPcP PcP 21 15 54.9 -0.5
comp=Z,55nm,1.0s,SNR=6.0
KBA Koelnbreinsper 91.26 317 P **P** **21 15 55.3 +0.9**
KHC Kasperske Hory 91.26 319 eP **P** **21 15 55.1 +0.7**
KHC e*PP pP 21 16 03.7 -0.3
KHC e 21 16 14.0
KHC eS S 21 26 51.2 +0.1
KHC eSS SS 21 33 05.6 +9.3
KHC MLR MLR
comp=Z,23µm,21.0s,MS6.6
KHC Kasperske Hory 91.26 319 eP **P** **21 15 55.1 +0.7**
KHC epP pP 21 16 03.7 -0.3
KHC ex x 21 16 14.0
KHC ex x 21 19 45.0
KHC eS S 21 26 51.2 +0.1
KHC eSS SS 21 33 05.6 +9.3
KHC ex x 21 39 34.6
KHC AMS AMS 22 03 50.0
comp=Z,23µm,21.0s
GMNA Gemona 91.27 316 P **P** **21 15 55.8 +1.3**
RDP Rocca di Papa 91.31 312 P **P** **21 15 55.2 +0.4**
RUE Ruedersdorf 91.40 322 eP **P** **21 15 55.8 +0.9**
comp=Z,386nm,1.8s,mb6.4
RUE ePP PP 21 19 42.7 +10
RUE eS S 21 26 50.3 -1.9
RUE eL 22 09 34.9
comp=Z,22µm,20.9s
FSSB Fossombrone 91.40 314 P **P** **21 15 57.3 +2.1**
FBE Freiberg 91.54 321 eP **P** **21 15 56.3 +0.7**
comp=Z,639nm,2.5s,mb6.5
BJO Bjornoya 91.59 345 eP **P** **21 15 54.2 -1.2**
BJO ePP PP 21 19 34.4 +0.7
BJO e 21 25 34.2
BJO AMS AMS 22 05 15.3
comp=Z,41µm,20.6s,MS6.9
FVI Forni Avoltri 91.61 316 P **P** **21 15 56.0 -0.1**
RJOB Jochberg 91.68 318 eP **P** **21 15 56.6 +0.3**
comp=Z,185nm,2.0s,mb6.1
RJOB ePP PP 21 19 46.0 +11
RJOB eS S 21 26 53.7 -1.2
RJOB eL 22 10 52.6
comp=Z,17µm,20.4s
WET Wettzell 91.72 319 eP **P** **21 15 57.3 +0.8**
WET eS S 21 26 57.0 +1.8
WET pmax pmax
comp=Z,324nm,2.2s,mb6.3
WET MLR MLR
comp=Z,22µm,21.4s,MS6.6
WET Wettzell 91.72 319 eP **P** **21 15 57.3 +0.8**
comp=Z,324nm,2.2s,mb6.3
WET ePP PP 21 19 46.4 +11
WET eS S 21 26 57.0 +1.8
WET eL 22 04 29.3
comp=Z,22µm,21.4s
CLL Collm 91.79 321⇑iP **P** **21 15 57.3 +0.5**
CLL i* pP 21 16 05.1 -1.3
CLL e 21 26 28.0
CLL eS S 21 26 54.0 -1.8
CLL pmax pmax
comp=Z,104nm,1.9s,mb5.8
CLL MLR MLR
comp=Z,26µm,20.3s,MS6.7
CLL Collm 91.79 321 eP **P** **21 15 57.1 +0.3**
comp=Z,84nm,1.5s,mb5.8
CLL ePP PP 21 19 46.1 +10
CLL eS S 21 26 56.0 +0.2
CLL eL 22 13 35.4
comp=Z,26µm,20.2s
CLL Collm 91.79 321⇑iP **P** **21 15 57.3 +0.5**
comp=Z,104nm,1.9s,mb5.8
CLL ePlp 21 16 00.0
comp=Z,5µm,17.6s
CLL i pP pP 21 16 05.1 -1.3
comp=Z,408nm,2.8s
CLL ePmax 21 16 09.0
CLL ex x 21 16 11.0
CLL ex x 21 16 39.0
CLL ePP PP 21 19 35.0 -0.9
CLL ePPlp 21 19 43.0
comp=Z,3µm,14.4s
CLL ex x 21 21 09.0
CLL eSKSac SKSac 21 26 28.0 +0.5
CLL eS S 21 26 54.0 -1.8
comp=N,35µm,26.7s
CLL eS S 21 26 54.0 -1.8
comp=E,6µm,17.6s
CLL eS S 21 26 54.0 -1.8
comp=Z,8µm,21.4s
CLL ePS PS 21 28 12.0 +2.9
CLL eSS SS 21 33 08.0 +4.2
CLL ex x 21 34 00.0
CLL eSSS 21 36 42.0
CLL eSSSS 21 40 12.0
CLL LmV 22 13 00.0
comp=Z,26µm,20.3s

CLL Collm 91.79 321 ⇑*i*P P **21 15 57.3 +0.5**
comp=Z,104nm,1.9s,mb5.8
CLL *i* pP pP 21 16 05.1 -1.3
CLL *e*SKS 21 26 28.0
CLL *e*S S 21 26 54.0 -1.8
CLL LR LR
comp=Z,26µm,20.3s,MS6.7
ABTA Abfaltersbach 91.80 317 ⇓*i*PcP PcP 21 15 57.5 -0.3
comp=Z,39nm,1.0s,SNR=8.0
RGN Rugen 91.83 324 *e*S S 21 26 56.2 +0.2
RGN *e*L 22 05 57.8
comp=Z,27µm,21.5s
SEST Monte Rota 92.00 317 P **P** **21 15 59.3 +1.4**
HFS Hagfors 92.04 330 P **P** **21 15 58.0 +0.2**
comp=Z,50nm,0.8s,mb5.9,baz=157,slow=4.2,SNR=27
HFS Hagfors 92.04 330 P **P** **21 15 58.0 +0.2**
HFS pmax pmax
comp=Z,50nm,0.8s
NKC Novy Kostel 92.07 320 *e*P **P** **21 15 59.2 +1.1**
NKC *e**PP pP 21 16 09.2 +1.5
NKC *e*S S 21 27 00.4 +2.1
NKC MLR MLR
comp=Z,25µm,22.9s,MS6.6
NKC Novy Kostel 92.07 320 *e*P **P** **21 15 59.2 +1.1**
NKC *e*pP pP 21 16 09.2 +1.5
NKC *e*x x 21 19 51.6
NKC *e*S S 21 27 00.4 +2.1
NKC *e*x x 21 33 30.4
NKC *e*x x 21 39 50.1
NKC AMS AMS 22 04 50.0
comp=Z,25µm,22.9s
NKC Novy Kostel 92.07 320 *e*P **P** **21 15 59.2 +1.1**
NKC *e*pP pP 21 16 09.2 +1.5
NKC *e*PP PP 21 19 51.6 +13
NKC *e*S S 21 27 00.4 +2.1
NKC *e*SS SS 21 33 30.4 +23
NKC *e* 21 39 50.1
TANN Tannenbergstha 92.07 320 *e*P **P** **21 15 58.4 +0.3**
comp=Z,204nm,2.3s,mb6.0
TANN *e*PP PP 21 19 48.9 +11
TANN *e*S S 21 27 00.8 +2.5
TANN *e*L 22 10 04.4
comp=Z,18µm,21.5s
SFI Santa Sofia 92.09 314 P **P** **21 16 00.7 +2.3**
WERN Wernitzgruen 92.12 320 *e*P **P** **21 15 59.5 +1.2**
comp=Z,526nm,3.2s
WERD Werda 92.17 320 *e*P **P** **21 15 59.3 +0.7**
comp=Z,145nm,2.0s,mb6.0
ROTZ Rotzenmuhle 92.20 320 *e*P **P** **21 15 59.5 +0.8**
comp=Z,375nm,2.5s,mb6.3
ROTZ *e*PP PP 21 19 50.0 +11
ROTZ *e*S S 21 27 02.1 +2.6
ROTZ *e*L 22 07 28.2
comp=Z,17µm,21.6s
VNA2 Neumayer--Watz 92.22 198 *e*P **P** **21 15 58.0 -0.4**
VNA2 *e* 21 16 04.4
VNA2 *e* pP 21 16 08.7 +0.6
VNA2 *e* 21 16 11.3
VNA2 *e* 21 16 18.7
VNA2 *e* 21 19 41.5
VNA2 *e* 21 33 14.8
VNA2 *e* 21 33 23.8
MANZ Manzenberg 92.27 320 *e*P **P** **21 15 59.7 +0.6**
comp=Z,209nm,1.8s,mb6.2
MANZ *e*PP PP 21 19 50.1 +10
MANZ *e*S S 21 27 02.7 +2.5
MANZ *e*L 22 07 50.8
comp=Z,23µm,21.0s
CTI Castel Tesino 92.36 316 P **P** **21 16 00.7 +1.2**
WTTA Wattenberg 92.43 317 ⇑*i*PcP PcP 21 16 00.1 -0.5
comp=Z,79nm,1.3s,SNR=9.7
VNA1 Neumayer--Stat 92.58 198 *e*P **P** **21 16 00.5 +0.4**
VNA1 *e* 21 16 06.4
VNA1 *e* pP 21 16 10.8 +1.1
VNA1 *e* 21 16 13.7
VNA1 *e* 21 16 20.7
VNA1 *e* 21 19 41.6
VNA1 *e* 21 33 12.2
VNA1 *e* 21 33 20.5
MOX Moxa 92.63 320 *ce*P **P** **21 16 01.9 +1.2**
MOX *e* pP 21 16 10.6 +0.3
comp=Z,257nm,2.4s
MOX *e* 21 19 43.4
MOX
comp=Z,21µm,20.0s
MOX Moxa 92.63 320 *e*P **P** **21 16 00.9 +0.2**
comp=Z,400nm,2.7s,mb6.4
MOX *e*PP PP 21 19 53.1 +11
MOX *e*S S 21 27 04.9 +1.6
MOX *e*L 22 13 49.1
comp=Z,26µm,18.6s
MOX Moxa 92.63 320 ⇑*e*P **P** **21 16 01.9 +1.2**
comp=Z,257nm,2.4s,mb6.2
MOX *e* pP 21 16 10.6 +0.3
MOX *e* 21 19 43.4
MOX LR LR
comp=Z,21µm,20.0s,MS6.6
FNVD Fontana Vidola 92.63 314 P **P** **21 16 01.9 +1.1**
FUR Furstenfeldbru 92.72 318 *e*P **P** **21 16 01.6 +0.4**
FUR *e*S S 21 27 03.9 -0.3
FUR pmax pmax
comp=Z,504nm,2.7s,mb6.5
FUR MLR MLR
comp=Z,21µm,20.4s,MS6.6
FUR Furstenfeldbru 92.72 318 *e*P **P** **21 16 01.6 +0.4**
comp=Z,504nm,2.7s,mb6.5
FUR *e*PP PP 21 19 53.3 +10
FUR *e*S S 21 27 03.9 -0.3
FUR *e*L 22 16 08.5
comp=Z,21µm,20.4s
SPB4 Spitsbergen Ar 92.74 348 ⇓*e*P **P** **21 16 01.6 +0.9**
SPB4 *e*pP pP 21 16 06.8 -3.5
MOTA Moosalm 92.80 317 ⇑*i*P **P** **21 16 01.0 -0.6**
comp=Z,65nm,1.3s,mb5.9
VNA3 Neumayer Olymp 92.81 198 *e*P **P** **21 16 01.5 +0.3**
VNA3 *e* 21 16 07.8
VNA3 *e* pP 21 16 11.9 +1.1
VNA3 *e* 21 16 14.4
VNA3 *e* 21 16 21.2
VNA3 *e* 21 19 43.7
VNA3 *e* 21 33 09.8
VNA3 *e* 21 33 18.8
GRA1 Grafenberg Arr 92.83 319 *e*P **P** **21 16 02.8 +1.2**
comp=Z,187nm,1.9s,mb6.2
GRA1 *e*PP PP 21 19 54.2 +10
GRA1 *e*S S 21 27 07.2 +2.1
GRA1 LR LR
comp=Z,20µm,21.8s,MS6.5
GRF Grafenberg Arr 92.83 319 *e*P **P** **21 16 02.8 +1.2**
GRF *e*S S 21 27 07.2 +2.1
GRF pmax pmax
comp=Z,187nm,1.9s,mb6.2
GRF MLR MLR
comp=Z,20µm,21.8s,MS6.5
GRF Grafenberg Arr 92.83 319 *e*P **P** **21 16 02.8 +1.2**
GRF *e*S S 21 27 07.2 +2.1
GRF pmax pmax
comp=Z,187nm,1.9s,mb6.2
GRF MLR MLR
comp=Z,20µm,21.8s,MS6.5
GRF Grafenberg Arr 92.83 319 *e*P **P** **21 16 02.8 +1.2**
comp=Z,187nm,1.9s,mb6.2
GRF *e*PP PP 21 19 54.2 +10
GRF *e*S S 21 27 07.2 +2.1
GRF *e*L 22 06 13.4
comp=Z,20µm,21.8s
GRFO Grafenberg 92.83 319 P **P** **21 16 03.0 +1.4**
GRFO Grafenberg 92.83 319 *e*PP PP 21 19 54.3 +10
GRFO *e*S S 21 27 07.2 +2.0
RETA Reutte 93.04 317 ⇑*i*PcP PcP 21 16 02.9 -0.3
comp=Z,39nm,1.1s,SNR=8.1
FETA Feichten 93.04 317 ⇑*e*P **P** **21 16 02.7 +0.1**
comp=Z,52nm,1.2s,mb5.9,SNR=6.6
MAGA Magasa 93.05 316 P **P** **21 16 03.9 +1.1**
NSS Namsos 93.11 334 *e*P **P** **21 16 01.0 -1.6**
NSS *e*PP PP 21 19 45.5 -0.5
NSS *e*SKS 21 26 35.5
NSS *e*SS SS 21 33 33.6 +12
NSS AMS AMS 22 04 57.1
comp=Z,34µm,21.7s,MS6.8
MABI Malga Bissina 93.14 316 P **P** **21 16 03.7 +0.5**
BRMO Bormio 93.26 316 P **P** **21 16 04.7 +1.0**
NB2 NORSAR Subarra 93.32 331 P **P** **21 16 02.5 -1.1**
comp=Z,24nm,0.8s,mb5.7,baz=95,slow=5.3
NB2 NORSAR Subarra 93.32 331 P **P** **21 16 02.4 -1.2**
NOA NORSAR Array B 93.32 331 P **P** **21 16 02.3 -1.3**
comp=Z,21nm,0.9s,mb5.6,baz=94,slow=4.6,SNR=18
NOA PP PP 21 19 49.1 +1.5
comp=Z,6.0nm,0.8s,baz=102,slow=6.4,SNR=3.8
NOA NORSAR Array B 93.32 331 P **P** **21 16 02.3 -1.3**
NOA 21 19 49.1
NOA pmax pmax
comp=Z,21nm,0.9s
NOA pmax pmax
comp=Z,6.0nm,0.9s
CLZ Clausthal 93.46 322 *e*P **P** **21 16 04.7 +0.2**
CLZ *e*S S 21 27 10.3 -0.3
CLZ pmax pmax
comp=Z,135nm,1.8s,mb6.1
CLZ MLR MLR
comp=Z,22µm,19.8s,MS6.6
CLZ Clausthal 93.46 322 *e*P **P** **21 16 04.7 +0.2**
comp=Z,135nm,1.8s,mb6.1
CLZ *e*PP PP 21 19 59.3 +10
CLZ *e*S S 21 27 10.3 -0.3
CLZ *e*L 22 18 23.6
comp=Z,22µm,19.8s
NAO01 NORSAR Array S 93.47 331 *e*P **P** **21 16 04.0 -0.3**
comp=Z,31nm,0.9s,mb5.7
NAO01 LR LR
comp=Z,34µm,22.0s,MS6.8
BSEG Bad Segeberg 93.56 324 *e*P **P** **21 16 05.9 +1.0**
BSEG *e*S S 21 27 11.3 -0.1
BSEG pmax pmax
comp=Z,74nm,1.5s,mb5.9
BSEG MLR MLR
comp=Z,25µm,21.9s,MS6.6
BSEG Bad Segeberg 93.56 324 *e*P **P** **21 16 05.9 +1.0**
comp=Z,74nm,1.5s,mb5.9
BSEG *e*S S 21 27 11.3 -0.1
BSEG *e*L 22 02 13.4
comp=Z,25µm,21.9s
BSEG Bad Segeberg 93.56 324 *e*P **P** **21 16 05.9 +1.0**
BSEG *e*S S 21 27 11.3 -0.1
DAVOX Davos/Dischmat 93.61 316 P **P** **21 16 06.0 +0.7**
comp=Z,8.6nm,0.8s,mb5.2,baz=111,slow=7.5,SNR=10
DAVOX PP PP 21 19 55.3 +4.9
comp=Z,8.8nm,0.9s,baz=76,slow=6.3,SNR=3.6
KEST Kesra 93.61 305 P **P** **21 16 06.3 +0.8**
comp=Z,4.2nm,0.8s,mb4.9,baz=91,slow=2.3,SNR=10
KEST LR LR 22 01 06.9
comp=Z,11µm,19.2s,MS6.3,baz=224,slow=37
DAVA Damuels 93.63 317 ⇑*i*PcP PcP 21 16 06.1 +0.3
comp=Z,63nm,1.2s,SNR=9.7
DAVA Damuels 93.63 317 P **P** **21 16 06.6 +1.2**
UBBA Unterbreizbach 93.66 321 *e*P **P** **21 16 05.6 +0.2**
comp=Z,322nm,2.7s,mb6.3
UBBA *e*PP PP 21 20 00.6 +10
UBBA *e*S S 21 27 13.0 +0.6
UBBA *e*L 22 15 49.1
comp=Z,17µm,20.6s
KBS Kingsbay 93.67 349 *e*P **P** **21 16 04.3 -0.7**
KBS *e* 21 16 06.9
KBS *e*PP PP 21 19 50.4 +0.5
KBS *e*SKS 21 26 39.3
KBS Kingsbay 93.67 349 *e*P **P** **21 16 06.9 +1.9**
KBS LR LR
comp=Z,55µm,19.0s,MS7.0
DAVOS Davos 93.67 317 P **P** **21 16 06.0 +0.4**
DAVOS 21 19 55.3
KONO Kongsberg 94.09 329 *e*P **P** **21 16 07.6 +0.4**
KONO *e*PP PP 21 19 40.1 -14
KONO *e*SKS 21 26 46.7
KONO *e*SS SS 21 33 49.2 +13
KONO Kongsberg 94.09 329 *e*P **P** **21 16 06.8 -0.4**
KONO *e* 21 19 54.9
KONO pmax pmax
comp=Z,61nm,1.2s,mb5.9
KONO MLR MLR
comp=Z,25µm,20.0s,MS6.7
KONO Kongsberg 94.09 329 *e*P **P** **21 16 06.8 -0.3**
comp=Z,61nm,1.2s,mb5.9
KONO *e*PP PP 21 19 54.9 +1.3
KONO *e*S S 21 26 58.7 -17
KONO LR LR
comp=Z,25µm,20.0s,MS6.7
PGF Pioggiola 94.11 312 *e*P **P** **21 16 06.9 -0.8**
STU Stuttgart 94.13 318 *e*P **P** **21 16 07.7 +0.1**
comp=Z,443nm,2.8s,mb6.4
STU *e*PP PP 21 20 03.9 +10
STU *e*S S 21 27 17.5 +0.9
STU *e*L 22 21 26.7
comp=Z,23µm,18.9s
SPAK Spaichingen-Ko 94.39 318 *e*P **P** **21 16 10.2 +1.4**
TOD Tromm 94.40 319 *e*P **P** **21 16 09.4 +0.5**
TNS Taunus Mts 94.64 320 *e*P **P** **21 16 10.9 +1.0**
TNS *e*S S 21 27 22.7 +1.7
TNS pmax pmax
comp=Z,76nm,1.0s,mb6.1
TNS MLR MLR
comp=Z,21µm,22.0s,MS6.6
TNS Taunus Mts 94.64 320 *e*P **P** **21 16 10.9 +1.0**
comp=Z,76nm,1.0s,mb6.1
TNS *e*PP PP 21 20 09.4 +11
TNS *e*S S 21 27 22.7 +1.7
TNS *e*L 22 06 41.7
comp=Z,21µm,22.0s
BFO Black Forest 94.69 318 *e*P **P** **21 16 10.0 -0.2**
BFO *e*S S 21 27 22.3 +0.7
BFO pmax pmax
comp=Z,290nm,3.1s
BFO MLR MLR
comp=Z,21µm,19.2s,MS6.6
BFO Black Forest 94.69 318 *e*P **P** **21 16 10.0 -0.2**
comp=Z,290nm,3.1s
BFO *e*PP PP 21 20 09.0 +10
BFO *e*S S 21 27 22.3 +0.7
BFO *e*L 22 22 06.2
comp=Z,21µm,19.2s
BFO Black Forest 94.69 318 *e*P **P** **21 16 10.0 -0.2**
comp=Z,290nm,3.1s
BFO *e*PP PP 21 20 09.0 +10
BFO *e*S S 21 27 22.3 +0.7
FELD Feldberg im Sc 94.91 318 *e*P **P** **21 16 11.4 +0.2**
HLG Helgoland 95.00 324 *e*S S 21 27 23.7 -0.2
HLG *e*L 22 08 57.4
comp=Z,19µm,21.3s
LANF Langenberg 95.05 319 *e*P **P** **21 16 11.8 0.0**
LANF Langenberg 95.05 319 *e*P **P** **21 16 12.5 +0.7**
MOL Molde 95.07 332 *e*P **P** **21 16 14.1 +2.5**
MOL *e*PP PP 21 20 01.2 0.0
MOL *e*SKS 21 26 51.1
IBBN Ibbenburen 95.08 322 *e*P **P** **21 16 12.0 +0.1**
comp=Z,259nm,2.3s,mb6.2
IBBN *e*S S 21 27 24.2 -0.5
IBBN *e*L 22 14 34.5
comp=Z,25µm,19.6s
ABSA Djebel Ababsia 95.14 306 P pP 21 16 25.0 +2.8
LIBD Limburg 95.18 318 *e*P **P** **21 16 12.5 0.0**
CMAH Djebel Manchou 95.20 306 P pP 21 16 24.0 +1.5
ABH Alteburg 95.22 320 *e*P **P** **21 16 13.9 +1.3**
BBS Basel-Blauen 95.24 317 *e*P **P** **21 16 13.5 +0.7**
BUG Bochum--Univer 95.39 321 *e*P **P** **21 16 13.8 +0.5**
comp=Z,157nm,2.3s,mb6.0
BUG *e*PP PP 21 20 15.1 +11
BUG *e*S S 21 27 28.0 +0.6
BUG *e*L 22 15 27.9
comp=Z,21µm,20.6s
CDF Champ du Feu 95.40 318 *e*P **P** **21 16 13.6 +0.1**
ECH Echery 95.48 318 *e*P **P** **21 16 13.5 -0.3**
ECH Echery 95.48 318 *e*P **P** **21 16 11.4 -2.4**
MOF Molkenrain 95.50 318 *e*P **P** **21 16 12.2 -1.7**
MOF Molkenrain 95.50 318 *e*P **P** **21 16 10.2 -3.7**
RUP Ruppelstein 95.53 319 *e*P **P** **21 16 14.6 +0.6**
WTSB Winterswijk 95.67 322 *e*P **P** **21 16 23.5 +8.9**
comp=Z,46nm,2.7s,mb5.4
HINF Hinteralfeld 95.68 318 *e*P **P** **21 16 12.9 -1.9**
LOMF Lomont 95.70 317 *e*P **P** **21 16 12.5 -2.4**
MBDF Montbardon 95.76 314 *e*P **P** **21 16 13.9 -1.3**
CKFL Kef-Lekhel 95.76 306 P pP 21 16 26.0 +1.0
LPG La Plagne 95.77 315 *e*P **P** **21 16 13.8 -1.4**
comp=Z,35nm,1.0s,mb5.4
LPG La Plagne 95.77 315 *e*P **P** **21 16 13.8 -1.4**
LPG pmax pmax
comp=Z,18nm,1.0s,mb5.5
LPG La Plagne 95.77 315 *e*P **P** **21 16 13.8 -1.4**
comp=Z,18nm,1.0s,mb5.4
LPL La Plagne 95.78 315 *e*P **P** **21 16 13.2 -2.1**
comp=Z,85nm,1.3s,mb5.7
LPL La Plagne 95.78 315 *e*P **P** **21 16 13.2 -2.1**
LPL pmax pmax
comp=Z,43nm,1.3s,mb5.7
LPL La Plagne 95.78 315 *e*P **P** **21 16 13.2 -2.1**
comp=Z,43nm,1.3s,mb5.7
FRF La Foret Royal 95.85 313 *e*P **P** **21 16 13.5 -2.1**
CASM Ain Smara 95.94 306 P pP 21 16 27.0 +1.1
LMR La Mourre 95.95 313 *e*P **P** **21 16 15.0 -1.1**
HAU Haudompre 96.02 318 *e*P **P** **21 16 16.2 -0.1**
comp=Z,37nm,1.1s,mb5.4
HAU *e*MLR MLR
comp=Z,26µm,21.8s,MS6.4
HAU Haudompre 96.02 318 *e*P **P** **21 16 16.2 -0.1**
HAU pmax pmax
comp=Z,18nm,1.1s,mb5.4
HAU MLR MLR
comp=Z,26µm,21.8s,MS6.7
HAU Haudompre 96.02 318 *e*P **P** **21 16 16.2 -0.1**
comp=Z,18nm,1.1s,mb5.4
HAU LR LR
comp=Z,26µm,21.8s,MS6.7
WLF Walferdange 96.12 319 P **P** **21 16 17.7 +1.0**
comp=Z,32nm,2.3s,mb5.3
WLF Walferdange 96.12 319 *e*P **P** **21 16 17.3 +0.6**
comp=Z,155nm,2.2s,mb6.0
WLF *e*PP PP 21 20 20.9 +11
WLF *e*S S 21 27 35.3 +1.4
WLF *e*L 22 07 53.5
comp=Z,24µm,20.8s
MEM Membach 96.20 320 P **P** **21 16 20.8 +3.7**
BER Bergen 96.21 330 *e*P **P** **21 16 17.1 +0.2**
BER *e*PP PP 21 20 09.0 -1.2
BER *e*SKS 21 26 55.5
BER *i* 21 28 56.9
HGN Heimansgroeve 96.24 320 *e*P pP 21 16 25.5 -1.4
comp=Z,42nm,2.5s
HGN Heimansgroeve 96.24 320 *e*S S 21 27 32.7 -2.1
THEF They Montfort 96.26 318 *e*P **P** **21 16 15.4 -2.0**
ORIF Oris-en-Rattie 96.39 315 *e*P **P** **21 16 16.2 -1.9**
ORIF *e*MLR MLR
comp=Z,33µm,23.0s,MS6.5
DFRA Djebel Bou Aff 96.44 306 P pP 21 16 32.0 +3.9
BCLA Clavier 96.65 320 P **P** **21 16 19.8 +0.7**
comp=Z,16nm,2.1s,mb5.1
SET Setif 96.82 306 P pP 21 16 31.0 +1.1
MEZF Maizieres J'vi 96.88 318 *e*P **P** **21 16 19.0 -1.2**
GIVF Givet 96.97 320 *e*P **P** **21 16 19.5 -1.1**
RAR Rarotonga 97.17 112 PFAKE 21 16 30.0 +7.8
RAR LR LR
comp=Z,49µm,22.0s,MS6.9
UCC Uccle 97.24 321 P **P** **21 16 22.8 +1.0**
BAIF Baives 97.37 320 *e*P **P** **21 16 20.8 -1.6**
comp=Z,37nm,1.0s,mb5.5
BAIF Baives 97.37 320 *e*P **P** **21 16 20.8 -1.6**
BAIF pmax pmax
comp=Z,19nm,1.0s,mb5.5
BAIF Baives 97.37 320 *e*P **P** **21 16 20.8 -1.6**
comp=Z,18nm,1.0s,mb5.5
LOR Lormes 97.73 317 *e*P **P** **21 16 22.0 -2.0**
comp=Z,42nm,1.2s,mb5.5
LOR *e*MLR MLR
comp=Z,25µm,21.0s,MS6.4
LOR Lormes 97.73 317 *e*P **P** **21 16 22.0 -2.0**
LOR pmax pmax
comp=Z,21nm,1.2s,mb5.5
LOR MLR MLR
comp=Z,25µm,21.0s,MS6.7
LOR Lormes 97.73 317 *e*P **P** **21 16 22.0 -2.0**
comp=Z,21nm,1.2s,mb5.5
LOR LR LR
comp=Z,25µm,21.0s,MS6.7
SMF Signal de Mont 97.77 316 *e*P **P** **21 16 22.4 -1.8**
comp=Z,37nm,1.0s,mb5.5
SMF Signal de Mont 97.77 316 *e*P **P** **21 16 22.4 -1.8**
SMF pmax pmax
comp=Z,19nm,1.0s,mb5.6
SMF Signal de Mont 97.77 316 *e*P **P** **21 16 22.4 -1.8**
comp=Z,19nm,1.0s,mb5.6
SSF Saint Saulge 97.98 317 *e*P **P** **21 16 23.8 -1.4**
comp=Z,62nm,1.7s,mb5.6
SSF Saint Saulge 97.98 317 *e*P **P** **21 16 23.8 -1.4**
SSF pmax pmax
comp=Z,31nm,1.7s,mb5.6
SSF Saint Saulge 97.98 317 *e*P **P** **21 16 23.8 -1.4**
comp=Z,31nm,1.7s,mb5.6
AVF Avril sur Loir 98.09 317 *e*P **P** **21 16 23.7 -2.0**
BGF Bois d'Agland 98.45 316 *e*P **P** **21 16 27.9 +0.6**
comp=Z,74nm,1.4s,mb5.7
BGF Bois d'Agland 98.45 316 *e*P **P** **21 16 27.9 +0.6**
BGF pmax pmax
comp=Z,37nm,1.4s,mb5.7
BGF Bois d'Agland 98.45 316 *e*P **P** **21 16 27.9 +0.6**
comp=Z,37nm,1.4s,mb5.7
IMA2 Indian Mountai 99.79 24 *e*Pdif Pdif 21 16 32.0 -1.1
IMA2 *e*PP PP 21 20 37.2 -0.1
TOA0 Torodi Ar. Sit 99.93 283 *e*Pdif Pdif 21 16 36.8 +3.1
TOA0 *e*PP PP 21 20 36.9 -3.0
TOA0 PKiKP PKiKP 21 21 03.0 +0.1
TORD Torodi Ar. Bea 99.93 283 P Pdif 21 16 34.7 +1.0
comp=Z,164nm,0.4s,baz=101,slow=2.1,SNR=1.7
JMIC Jan Mayen 100.01 342 *e*PP PP 21 20 40.2 +1.3
JMIC *e*SKS 21 27 10.8
JMIC *i* 21 29 47.8
JMIC AMS AMS 22 07 24.2
comp=Z,25µm,21.6s,MS6.7
DAG Danmarks Havn 100.38 348 ⇑*e*P Pdif 21 16 33.3 -2.4
DAG pmax pmax
comp=Z,11nm,0.9s
DAG Danmarks Havn 100.38 348 *α i*P Pdif 21 16 33.3 -2.4
comp=Z,11nm,0.9s
DAG Danmarks Havn 100.38 348 *e*P Pdif 21 16 33.3 -2.4
comp=Z,11nm,0.9s
EKA Eskdalemuir Ar 101.27 326 P Pdif 21 16 43.8 +4.1
comp=Z,3.1nm,0.8s,baz=95,slow=4.6,SNR=4.6
EKA PP PP 21 20 49.4 +0.5
comp=Z,11nm,1.0s,baz=85,slow=8.6,SNR=6.2
EKA Eskdalemuir Ar 101.27 326 P Pdif 21 16 43.8 +4.1
EKA 21 20 49.4
EKA pmax pmax
comp=Z,3.0nm,0.8s
EKA pmax pmax
comp=Z,11nm,1.0s
XMAS Kiritimati 101.67 89 PFAKE 21 16 50.0 +8.5
XMAS LR LR
comp=Z,27µm,22.0s,MS6.7
KDAK Kodiak Island 102.06 32 PP PP 21 20 57.5 +2.8
comp=Z,8.2nm,0.9s,baz=287,slow=5.8,SNR=3.7
KDAK Kodiak Island 102.06 32 PFAKE 21 16 50.0 +6.8
KDAK LR LR
comp=Z,13µm,21.0s,MS6.4
COLA College 102.45 24 PFAKE 21 16 50.0 +5.0
COLA LR LR
comp=Z,29µm,21.0s,MS6.8
PMR Palmer 102.85 27 *e*P Pdif 21 16 46.2 -0.5
PMR *e* 21 21 10.0
PMR MLR MLR
comp=Z,35µm,20.0s,MS6.9
POHA Pohakuloa 104.01 71 PFAKE 21 17 00.0 +8.1
POHA LR LR
comp=Z,25µm,21.0s,MS6.7
ESDC Sonseca Array 104.02 310 PP PP 21 21 16.1 +6.1
comp=Z,2.7nm,0.9s,baz=76,slow=5.3,SNR=4.5
ESDC PKKP PKKPbc 21 32 51.7 +8.9
comp=Z,1.2nm,0.7s,baz=267,slow=3.5,SNR=5.3
ESLA Sonseca Array 104.02 310 PFAKE 21 17 00.0 +8.1
ESLA LR LR
comp=Z,64µm,20.0s,MS7.2
PAB San Pablo 104.33 310 PFAKE 21 17 00.0 +6.7
PAB LR LR
comp=Z,10µm,19.0s,MS6.4
EGAK Eagle 105.16 23 *e*PKiKP PKiKP 21 21 10.9 0.0
EGAK LR LR
comp=Z,29µm,20.0s,MS6.8
MDT Midelt 105.24 303 PP PP 21 21 13.2 -6.1
comp=Z,8.1nm,0.9s,baz=86,slow=16,SNR=8.5
MDT PKKP PKKPbc 21 32 38.9 0.0
comp=Z,3.8nm,0.8s,baz=234,slow=3.5,SNR=5.0
TRIS Tristan da Cun 105.94 230 PFAKE 21 21 20.0 +6.7
TRIS LR LR
comp=Z,35µm,21.0s,MS6.9
KIC Kosan Boka 106.04 275 *e*PKP1 PKiKP 21 21 18.8 +4.7
comp=Z,80nm,1.3s
KIC Kosan Boka 106.04 275 *e*P PKKPdf 21 32 40.1 -7.6
comp=Z,37nm,0.9s
MVO Moncorvo 106.13 312 *e*P Sdif 21 28 57.8 0.0

MVO eLR LR 21 56 43.9
comp=Z,4µm,18.0s
DAWY Dawson 106.16 23 ePdif Pdif 21 17 01.8 +0.4
DBIC Dimbokro 106.17 276 PP PP 21 21 24.2 -2.6
comp=Z,3.9nm,0.9s,baz=64,slow=5.2,SNR=3.7
DBIC PKKPbc PKKPbc 21 32 37.9 +2.4
comp=Z,3.9nm,0.8s,baz=250,slow=4.3,SNR=4.3
DBIC Dimbokro 106.17 276 PKiKP PKiKP 21 21 15.3 +1.0
DBIC ePP PP 21 21 27.2 +0.5
DBIC LR LR
comp=Z,26µm,20.0s,MS6.8
INK Inuvik 106.19 18 P Pdif 21 17 01.8 +0.2
INK pmax pmax
comp=Z,590nm,1.1s
INK Inuvik 106.19 18 ePdif Pdif 21 17 00.8 -0.8
comp=Z,585nm,1.1s
INK ePKiKP PKiKP 21 21 14.7 +1.9
TBI Tubuai 106.25 116 ePP PP 21 21 24.0 -3.0
comp=Z,13µm,17.8s
TBI Tubuai 106.25 116 ePS PS 21 30 46.5 +0.7
comp=Z,18µm,28.0s
TBI eSS SS 21 36 29.1 +1.5
comp=Z,94µm,24.5s
TBI Tubuai 106.25 116 eLR LR 21 52 12.1
comp=Z,212µm,22.5s
TBI Tubuai 106.25 116 ePdif Pdif 21 17 01.0 -0.8
TBI ePP PP 21 21 24.0 -3.0
TBI ePS PS 21 30 46.5 +0.7
LIC Lamto 106.32 275 ePKP1 PKiKP 21 21 19.5 +4.9
comp=Z,44nm,1.3s
LIC Lamto 106.32 275 eP PKKPbc 21 32 38.3 +3.3
comp=Z,46nm,1.5s
TIC Toumodi 106.33 276 ePKP1 PKiKP 21 21 19.5 +4.9
comp=Z,213nm,1.7s
TIC Toumodi 106.33 276 eP PKKPbc 21 32 38.5 +3.5
comp=Z,107nm,1.7s
PBAR Barrancos 106.59 309 ePP PP 21 21 26.1 -3.0
PBAR eP 21 28 28.1
PBAR i SS SS 21 36 32.4 +0.9
PBAR eLR LR 22 01 08.4
comp=Z,3µm,20.0s
MTE Manteigas 106.64 311 eP Sdif 21 29 03.6 +1.6
MTE i SS SS 21 36 42.4 +10
MTE eLR LR 22 02 09.8
comp=Z,4µm,18.0s
PMRV Marv??o 106.67 310 ePP PP 21 21 33.2 +3.5
PMRV eP 21 29 02.4
PMRV eSS SS 21 36 46.9 +14
PMRV eLR LR 22 09 19.8
comp=Z,4µm,20.0s
PESTR Estremoz 106.91 309 ePP PP 21 21 31.0 -0.4
PESTR eP 21 28 36.9
PESTR i SS SS 21 36 39.5 +3.6
PESTR eLR LR 22 02 54.5
comp=Z,5µm,18.0s
PPT Papeete 107.23 110 ePP PP 21 21 32.5 -1.8
comp=Z,5µm,16.0s
PPT Papeete 107.23 110 ePS PS 21 30 56.4 +0.3
comp=Z,15µm,20.8s
PPT eSS SS 21 36 42.4 +1.2
comp=Z,30µm,17.5s
PPT Papeete 107.23 110 eLR LR 21 52 36.2
comp=Z,101µm,22.0s
PPT Papeete 107.23 110 eP Pdif 21 17 06.2 0.0
PPT e 21 21 32.5
PPT ePS PS 21 30 56.4 +0.3
PPT MLR MLR
comp=Z,2µm,20.0s
PVAQ Vaqueiros 107.23 308 ePP PP 21 21 33.3 -0.5
PVAQ eP 21 28 23.0
PVAQ i SS SS 21 36 27.2 -13
PVAQ eLR LR 22 02 27.6
comp=Z,4µm,20.0s
EVO Evora 107.29 309 ePKIKP PKiKP 21 21 16.7 +1.0
comp=Z,102nm,1.7s
EVO eMLR MLR
comp=Z,26µm,20.0s,MS6.5
EVO Evora 107.29 309 ePP PP 21 21 39.5 +5.3
PBDV Barranco-do-Ve 107.42 308 ePP PP 21 21 35.0 -0.2
PBDV eP 21 28 36.8
PBDV i SS SS 21 36 46.4 +3.5
PBDV eLR LR 22 00 06.4
comp=Z,3µm,18.0s
MORF Marmelete 107.98 308 ePP PP 21 21 36.9 -2.4
MORF eP 21 29 14.3
MORF eSS SS 21 36 52.5 +2.1
MORF eLR LR 22 02 30.3
comp=Z,5µm,22.0s
LIS Lisbon 108.14 309 eP Pdif 21 17 10.7 +0.5
LIS ePP PP 21 21 40.7 +0.3
LIS eS SKSac 21 27 48.3 -0.5
LIS eSS SS 21 36 52.0 -0.5
LIS AMS AMS 22 23 59.4
comp=E,16µm,19.0s
PFVI Vila Bisbo 108.14 308 eP Sdif 21 29 13.6 -1.0
PFVI i SS SS 21 36 53.4 +0.7
PFVI eLR LR 22 02 38.2
comp=E,2µm,22.0s
PMAFR Mafra 108.20 310 eP Sdif 21 29 15.9 +0.9
PMAFR i SS SS 21 36 58.8 +5.5
PMAFR eLR LR 22 01 18.8
comp=E,3µm,20.0s
PMSA Palmer Station 110.56 187 PFAKE 21 21 30.0 +8.9
PMSA LR LR
comp=Z,92µm,22.0s,MS7.3
SIT Sitka 111.08 29 PFAKE 21 21 30.0 +7.7
SIT LR LR
comp=Z,40µm,21.0s,MS7.0
WRAK Wrangell Islan 112.83 29 PFAKE 21 21 40.0 +14
WRAK LR LR
comp=Z,25µm,20.0s,MS6.8
DLBC Dease Lake 112.85 26 ePKiKP PKiKP 21 21 26.0 +0.4
DLBC PP PP 21 22 17.4 +3.9
SFJD Kangerlussuaq 114.07 348 PP PP 21 22 23.0 +1.2
comp=Z,42nm,1.2s,baz=339,slow=6.1,SNR=3.9
SFJD Kangerlussuaq 114.07 348 ePKIKP PKiKP 21 21 28.2 +0.5
SFJD e 21 22 21.3
SFJD MLR MLR
comp=Z,21µm,21.0s,MS6.7
YKA Yellowknife Ar 115.93 17 PKP PKPdf 21 21 31.9 +0.6
comp=Z,5.3nm,0.7s,baz=320,slow=1.9,SNR=5.2
YKA PP PP 21 22 35.0 0.0
comp=Z,7.0nm,0.9s,baz=312,slow=6.8,SNR=4.2
YKA Yellowknife Ar 115.93 17 PKIKP PKPdf 21 21 31.9 +0.5
YKA 21 22 35.0
YKA pmax pmax
comp=Z,5.0nm,0.7s
YKA pmax pmax
comp=Z,7.0nm,0.9s
YKA Yellowknife Ar 115.93 17 PKP PKPdf 21 21 31.9 +0.6
YKA PP PP 21 22 35.0 0.0
TAOE Nuku Hiva Isla 117.74 102 ePP PP 21 22 46.2 -3.4
comp=Z,43µm,17.2s
TAOE Nuku Hiva Isla 117.74 102 ePS PS 21 32 32.2 -3.2
comp=Z,144µm,23.5s
TAOE eSS SS 21 39 04.3 +3.1
comp=Z,228µm,24.2s
TAOE Nuku Hiva Isla 117.74 102 eLR LR 21 57 28.8
comp=Z,327µm,23.1s
TAOE Nuku Hiva Isla 117.74 102 ePdif Pdif 21 17 53.0 +0.1
TAOE ePP PP 21 22 46.2 -3.4
TAOE ePS PS 21 32 32.2 -3.2
RKT Rikitea 119.17 119 ePP PP 21 22 59.4 +0.3
comp=Z,9µm,19.0s
RKT Rikitea 119.17 119 ePS PS 21 32 47.5 -0.3
comp=Z,29µm,23.8s
RKT eSS SS 21 39 20.0 +1.1
comp=Z,62µm,28.8s
RKT Rikitea 119.17 119 eLR LR 21 58 08.6
comp=Z,116µm,21.8s
RKT Rikitea 119.17 119 eP Pdif 21 17 59.3 0.0
RKT e 21 22 59.4
RKT ePS PS 21 32 47.5 -0.3
USHA Ushuaia 120.77 187 PKP PKPdf 21 21 46.6 +5.6
comp=Z,7.7nm,0.8s,baz=198,slow=3.2,SNR=2.7
CMLA Cha da Macela 120.81 312 eP PKPdf 21 21 50.1 +8.6
CMLA Cha da Macela 120.81 312 ePP PP 21 22 54.7 -15
CMLA Cha da Macela 120.81 312 eLQ 21 53 08.3
CMLA eLR LR 21 59 06.7
PDA Ponta Delgada 120.92 312 ePP PP 21 23 11.0 +0.4
PDA Ponta Delgada 120.92 312 ePS PS 21 33 06.0 +3.0
PDA eP 21 33 11.0
PDA eSS SS 21 39 44.0 +3.5
C03A Quillayute Air 121.36 34 ⇓P PKPdf 21 21 40.8 -1.5
baz=121

B04A Port Angeles 121.89 34 ⇑P PKPdf 21 21 42.6 -0.6
baz=122
A04A Legoe Bay, Lum 121.94 33 ⇓P PKPdf 21 21 42.4 -1.0
baz=122
A05A Maple Falls 122.11 32 ⇑P PKPdf 21 21 43.2 -0.5
baz=122
A06A Chilliwack 122.36 32 ⇓P PKPdf 21 21 43.8 -0.4
baz=122
HDW Hoodsport 122.37 34 P PKPdf 21 21 44.6 +0.4
C04A Brinnon 122.37 34 ⇓P PKPdf 21 21 43.8 -0.4
baz=122
B05A Bryant 122.53 33 ⇑P PKPdf 21 21 44.4 -0.1
baz=122
GNW Green Mountain 122.54 34 ePKPdf PKPdf 21 21 44.9 +0.3
GNW epPKPdf pPKPdf 21 21 50.6 -3.8
GNW ePP PP 21 23 21.5 +0.4
PTCN Pitcairn Islan 122.65 123 PFAKE 21 22 00.0 +15
PTCN LR LR
comp=Z,57µm,20.0s,MS7.2
JCW Jim Creek 122.67 33 ePKPdf PKPdf 21 21 44.1 -0.7
JCW ePP PP 21 23 14.9 -7.0
E03A Lebam 122.70 35 ⇓P PKPdf 21 21 44.6 -0.3
baz=123
B06A Marblemount 122.71 32 ⇑P PKPdf 21 21 44.5 -0.4
baz=123
RPW Rockport 122.74 32 ePKPdf PKPdf 21 21 45.3 +0.4
RPW ePP PP 21 23 21.7 -0.7
D04A Dobbs Creek Ra 122.81 34 ⇓P PKPdf 21 21 44.3 -0.8
baz=123
BMW Boistfort Moun 122.93 35 PKIKP PKPdf 21 21 46.1 +0.8
A07A Ashnola River, 122.97 31 ⇑P PKPdf 21 21 45.2 -0.1
baz=123
F03A Seaside 123.04 36 ⇓P PKPdf 21 21 46.0 +0.4
baz=123
C05A Tolt Reservoir 123.09 33 ⇑P PKPdf 21 21 45.8 +0.2
baz=123
E04A Onalaska 123.16 35 ⇑P PKPdf 21 21 46.2 +0.4
baz=123
D05A Enumclaw 123.22 34 ⇓P PKPdf 21 21 46.8 +0.9
baz=123
HEBO Mount Hebo 123.32 37 ePKPdf PKPdf 21 21 46.9 +0.8
EDM Edmonton 123.37 24 ePKIKP PKPdf 21 21 45.0 -1.0
EDM e 21 21 54.3
EDM e 21 23 25.9
C06A Tall Timber Ra 123.39 33 ⇓P PKPdf 21 21 46.7 +0.6
baz=123
H02A Toledo 123.46 37 ⇓P PKPdf 21 21 46.8 +0.4
baz=123
B07A Winthrop 123.47 32 ⇑P PKPdf 21 21 46.6 +0.3
baz=123
G03A Yamhill 123.54 36 ⇑P PKPdf 21 21 47.3 +0.8
baz=123
LON Longmire 123.58 34 ePKIKP PKPdf 21 21 47.1 +0.5
LON e 21 23 27.5
A08A Turner Farm, O 123.60 31 ⇓P PKPdf 21 21 46.9 +0.4
baz=123
F04A Amboy 123.70 35 ⇓P PKPdf 21 21 47.1 +0.3
baz=124
E05A Randle 123.72 34 ⇓P PKPdf 21 21 47.5 +0.7
baz=124
MTMW Mount Mitchell 123.77 35 P PKPdf 21 21 48.4 +1.5
D06A Cle Elum 123.85 33 ⇓P PKPdf 21 21 47.5 +0.4
baz=124
ETW Entiat 123.88 33 ePKPdf PKPdf 21 21 46.8 -0.4
ETW ePP PP 21 23 30.1 +0.1
H03A Soap Creek Ran 123.89 37 ⇑P PKPdf 21 21 47.8 +0.6
baz=124
I02A Mapleton 123.92 38 ⇑P PKPdf 21 21 47.3 0.0
baz=124
A09A Danville 123.93 30 ⇑P PKPdf 21 21 47.9 +0.7
baz=124
B08A Colville Reser 123.94 31 ⇓P PKPdf 21 21 47.8 +0.6
baz=124
C07A Waterville 123.97 32 ⇑P PKPdf 21 21 47.6 +0.3
baz=124
ASR Mount Adams--S 124.05 35 P PKPdf 21 21 48.8 +1.3
G04A Mulino 124.08 36 ⇓P PKPdf 21 21 48.4 +0.9
baz=124
FCC Fort Churchill 124.09 9 ePKIKP PKPdf 21 21 47.4 +0.2
FCC e 21 23 29.4
E06A Yakima 124.16 34 ⇑P PKPdf 21 21 48.8 +1.1
baz=124
KEBM Edson Butte 124.20 39 ePKPdf PKPdf 21 21 48.7 +0.8
KEBM ePP PP 21 23 35.5 +3.1
I03A Eugene 124.28 38 ⇑P PKPdf 21 21 48.5 +0.5
baz=124
F05A White Salmon 124.28 35 ⇑P PKPdf 21 21 49.2 +1.3
baz=124
D07A Quincy 124.32 33 ⇑P PKPdf 21 21 48.9 +0.9
baz=124
J02A Umpqua 124.42 38 ⇓P PKPdf 21 21 49.2 +0.9
baz=124
A10A Northport 124.44 30 ⇑P PKPdf 21 21 48.9 +0.7
baz=124
C08A Higginbotham F 124.45 32 ⇑P PKPdf 21 21 48.5 +0.3
baz=124
HOOD Mount Hood Mea 124.49 35 ePKPdf PKPdf 21 21 48.1 -0.3
HOOD ePP PP 21 23 34.1 -0.2
B09A Rice 124.51 31 ⇓P PKPdf 21 21 49.4 +1.1
baz=124
H04A Detroit Lake 124.54 36 ⇓P PKPdf 21 21 48.8 +0.3
baz=124
F06A Goldendale 124.73 35 ⇓P PKPdf 21 21 49.8 +1.0
baz=125
G05A Wamic 124.73 35 ⇓P PKPdf 21 21 49.6 +0.7
baz=125
E07A Sunnyside 124.78 33 ⇑P PKPdf 21 21 49.8 +0.9
baz=125
K02A Glendale 124.79 39 ⇓P PKPdf 21 21 49.7 +0.7
baz=125
C09A Chrisman Ranch 124.84 31 ⇑P PKPdf 21 21 49.5 +0.5
baz=125
M01C Cresent City 124.86 40 ⇑P PKPdf 21 21 49.7 +0.5
baz=125
OD2 Odessa Site #2 124.88 32 P PKPdf 21 21 49.5 +0.5
I04A Tendick Farm, 124.90 37 ⇑P PKPdf 21 21 49.6 +0.4
baz=125
D08A Wollman Farm, 124.97 32 ⇑P PKPdf 21 21 49.9 +0.7
baz=125
RSW Rattlesnake Hi 125.02 33 ePKPdf PKPdf 21 21 49.6 +0.2
RSW ePP PP 21 23 38.1 +0.4
L02A Cave Junction 125.03 40 ⇓P PKPdf 21 21 50.3 +0.8
baz=125
A11A Hall Mountain, 125.05 29 ⇑P PKPdf 21 21 50.4 +1.1
baz=125
HAWA Hanford 125.05 33 ePKPdf PKPdf 21 21 49.2 -0.2
HAWA ePP PP 21 23 39.2 +1.3
HAWA LR LR
comp=Z,21µm,22.0s,MS6.8
B10A Chitwood Farm, 125.06 30 ⇓P PKPdf 21 21 50.0 +0.7
baz=125
H05A Madras 125.13 36 ⇓P PKPdf 21 21 50.8 +1.2
baz=125
G06A Carlson Farm, 125.13 35 ⇑P PKPdf 21 21 50.4 +0.8
baz=125
NEW Newport 125.13 30 ePKIKP PKPdf 21 21 50.5 +1.0
NEW e 21 21 56.2
NEW 21 23 39.6
NEW MLR MLR
comp=Z,36µm,22.0s
F07A Phinny Hill Vi 125.14 34 ⇑P PKPdf 21 21 50.3 +0.7
baz=125
KRMB Red Mountain 125.16 40 ePKPdf PKPdf 21 21 50.6 +0.9
KRMB ePP PP 21 23 32.8 -6.2
HUMO Hull Mountain 125.20 39 ⇓P PKPdf 21 21 50.5 +0.7
baz=125
HUMO Hull Mountain 125.20 39 ePKPdf PKPdf 21 21 49.6 -0.2
HUMO ePP PP 21 23 37.7 -1.5
HUMO eSKP 21 25 25.9
HUMO LR LR
comp=Z,21µm,22.0s,MS6.8
E08A Dider Farm, El 125.25 33 ⇓P PKPdf 21 21 51.0 +1.2
baz=125
D09A Jones Farm, Ri 125.30 32 ⇑P PKPdf 21 21 50.7 +0.9
baz=125
C10A Spilker Farm, 125.33 31 ⇑P PKPdf 21 21 50.7 +0.8
baz=125
I05A Bend 125.38 36 ⇑P PKPdf 21 21 50.7 +0.6
baz=125
B11A Sandpoint 125.39 30 ⇓P PKPdf 21 21 50.4 +0.4
baz=125
A12A Yaak River Ran 125.41 29 ⇓P PKPdf 21 21 50.9 +0.9
baz=125
JCC Jacoby Creek 125.44 41 ⇑P PKPdf 21 21 51.3 +1.0
baz=125
H06A Lindquist Farm 125.59 35 ⇓P PKPdf 21 21 51.2 +0.7
baz=126
G07A Ruggs Ranch, H 125.66 34 ⇓P PKPdf 21 21 51.3 +0.7
baz=126
E09A Wood Farm, Sta 125.73 32 ⇑P PKPdf 21 21 51.6 +0.9
baz=126
B12A Libby 125.75 29 ⇓P PKPdf 21 21 52.0 +1.3
baz=126
YBH Yreka Blue Hor 125.82 40 PKP PKPdf 21 21 51.7 +0.6
comp=Z,11nm,0.8s,baz=95,slow=0.6,SNR=8.9
YBH Yreka Blue Hor 125.82 40 PKIKP PKPdf 21 21 51.7 +0.7
YBH pmax pmax
comp=Z,11nm,0.8s
YBH Yreka Blue Hor 125.82 40 ⇓P PKPdf 21 21 52.0 +1.0
baz=126
F08A Pendleton 125.83 34 ⇑P PKPdf 21 21 51.5 +0.6
baz=126
D10A Wagner Farm, O 125.84 31 ⇓P PKPdf 21 21 51.7 +0.8
baz=126
C11A Tepee Creek (N 125.85 30 ⇓P PKPdf 21 21 51.4 +0.5
baz=126
J05A Fort Rock 125.89 37 ⇑P PKPdf 21 21 52.3 +1.1
baz=126
M02C Callahan 125.91 40 ⇑P PKPdf 21 21 52.3 +1.1
baz=126
N02C Big Bar 125.91 41 ⇓P PKPdf 21 21 52.4 +1.2
baz=126
O01C Eel River Cons 125.92 42 ⇓P PKPdf 21 21 52.1 +0.8
baz=126
K04A Chilquin 125.96 38 ⇓P PKPdf 21 21 52.0 +0.8
baz=126
G08A Pilot Rock 126.04 34 ⇑P PKPdf 21 21 52.2 +0.8
baz=126
LNOR Lincton Mounta 126.06 33 ePKIKP PKPdf 21 21 50.6 -0.7
LNOR e 21 23 44.2
L04A Klamath Falls 126.10 39 ⇓P PKPdf 21 21 52.4 +0.9
baz=126
H07A Lands Inn, Kim 126.12 35 ⇓P PKPdf 21 21 52.7 +1.2
baz=126
I06A Prineville 126.13 36 ⇓P PKPdf 21 21 52.0 +0.4
baz=126
WALA Waterton Lakes 126.14 28 ePKPdf PKPdf 21 21 51.8 +0.4
WALA ePP PP 21 23 46.6 +1.6
KCPM Cahto Peak 126.30 42 ePKPdf PKPdf 21 21 53.5 +1.5
KCPM ePP PP 21 23 43.5 -3.1
E10A Myers Farm, Un 126.30 32 ⇑P PKPdf 21 21 52.6 +0.9
baz=126
KIPM Iron Peak 126.31 42 ePKPdf PKPdf 21 21 53.4 +1.4
KIPM ePP PP 21 23 43.1 -3.5
C12B Naegeli Ranch, 126.33 30 ⇑P PKPdf 21 21 51.8 0.0
baz=126
D11A Klaveano Farm, 126.33 31 ⇓P PKPdf 21 21 51.7 -0.1
baz=126
B13A Whitefish 126.36 29 ⇓P PKPdf 21 21 52.6 +0.8
baz=126
F09A S2 Ranch, Elgi 126.36 33 ⇑P PKPdf 21 21 52.4 +0.5
baz=126
K05A Summer Lake 126.42 38 ⇓P PKPdf 21 21 53.4 +1.2
baz=126
A14A Double T Ranch 126.43 28 ⇑P PKPdf 21 21 52.3 +0.3
baz=126
M03C McCloud 126.44 40 ⇑P PKPdf 21 21 52.7 +0.5
baz=126
I07A Izee 126.46 36 ⇑P PKPdf 21 21 53.0 +0.8
baz=126
WDC Whiskeytown Da 126.53 41 ⇑P PKPdf 21 21 52.9 +0.4
baz=126
WDC Whiskeytown Da 126.53 41 ePKPdf PKPdf 21 21 51.8 -0.6
WDC ePP PP 21 23 45.0 -3.0
WDC LR LR
comp=Z,28µm,22.0s,MS6.9
J06A Christmas Vall 126.56 37 ⇑P PKPdf 21 21 53.0 +0.6
baz=126
F10A Beach Ranch, E 126.56 32 ⇓P PKPdf 21 21 52.6 +0.3
baz=126
H08A Prairie City 126.68 35 ⇑P PKPdf 21 21 53.5 +0.9
baz=126
G09A Cove 126.70 33 ⇓P PKPdf 21 21 53.0 +0.4
baz=127
A15A Johnson Ranch, 126.74 27 ⇑P PKPdf 21 21 52.7 +0.2
baz=127
K06A Valley Falls 126.76 37 ⇓P PKPdf 21 21 53.9 +1.1
baz=127
C13A Hot Springs 126.79 29 ⇓P PKPdf 21 21 53.2 +0.5
baz=127
E11A Bogner Ranch, 126.86 32 ⇓P PKPdf 21 21 53.1 +0.2
baz=127
GASB Alder Springs 126.89 42 ⇑P PKPdf 21 21 54.5 +1.4
baz=127
B14A Marquette Ranc 126.94 28 ⇑P PKPdf 21 21 53.3 +0.4
baz=127
HOPS Hopland 126.98 43 ⇑P PKPdf 21 21 54.7 +1.4
baz=127
HOPS Hopland 126.98 43 ePKPdf PKPdf 21 21 54.9 +1.6
HOPS ePP PP 21 23 42.6 -8.6
HOPS eSKP 21 25 09.3
HOPS LR LR
comp=Z,22µm,20.0s,MS6.8
J07A Hines 126.99 36 ⇓P PKPdf 21 21 54.6 +1.4
baz=127
G10A Bishop Farm, J 127.06 33 ⇑P PKPdf 21 21 53.5 +0.2
baz=127
I08A Drewsey 127.10 35 ⇓P PKPdf 21 21 54.3 +0.9
baz=127
E12A Beaver Dam Sad 127.15 31 ⇓P PKPdf 21 21 53.4 0.0
baz=127
H09A Durkee 127.15 34 ⇓P PKPdf 21 21 54.3 +0.8
baz=127
BMO Blue Mountains 127.23 34 ePKIKP PKPdf 21 21 54.0 +0.4
BMO e 21 22 01.1
BMO MLR MLR
comp=Z,16µm,20.0s,MS6.7
BMO Blue Mountains 127.23 34 ePKPdf PKPdf 21 21 54.0 +0.3
BMO epPKPdf pPKPdf 21 22 01.1 -2.4
BMO ePP PP 21 23 51.0 -1.4
BMO LR LR
comp=Z,16µm,20.0s,MS6.7
MOD Modoc 127.24 38 ⇓P PKPdf 21 21 53.7 0.0
baz=127
MOD Modoc 127.24 38 ePKPdf PKPdf 21 21 53.9 +0.2
MOD epPKPdf pPKPdf 21 22 01.0 -2.6
MOD ePP PP 21 23 43.4 -9.3
MOD LR LR
comp=Z,23µm,21.0s,MS6.8
D13A Huson 127.25 30 ⇓P PKPdf 21 21 53.7 +0.1
baz=127
A16A West Butte Ran 127.28 26 ⇓P PKPdf 21 21 54.1 +0.5
baz=127
B15A Bradely Ranch, 127.30 28 ⇑P PKPdf 21 21 53.8 +0.1
baz=127
K07A Rock Creek Ran 127.43 37 ⇓P PKPdf 21 21 55.4 +1.3
baz=127
G11A Walters Elk Ra 127.45 32 ⇑P PKPdf 21 21 54.1 +0.1
baz=127
MNRC McLaughlin Nat 127.47 43 ⇑P PKPdf 21 21 55.5 +1.3
baz=127
J08A Circle Bar Ran 127.49 36 ⇑P PKPdf 21 21 55.7 +1.5
baz=127
MCCM Marconi Confer 127.53 44 ⇓P PKPdf 21 21 55.1 +0.7
baz=127
MCCM Marconi Confer 127.53 44 ePKPdf PKPdf 21 21 55.3 +0.9
MCCM LR LR
comp=Z,16µm,22.0s,MS6.7
NSHM Saint Helena R 127.53 43 ePKPdf PKPdf 21 21 54.9 +0.5
NSHM ePP PP 21 23 51.8 -3.0
I09A Lost Marbles R 127.54 35 ⇓P PKPdf 21 21 55.0 +0.8
baz=127
O04C Chester 127.61 40 ⇑P PKPdf 21 21 55.3 +0.8
baz=128
B16A M & M Farms, S 127.62 27 ⇑P PKPdf 21 21 54.5 +0.3
baz=127
FARB Farallon Islan 127.67 44 ⇓P PKPdf 21 21 55.0 +0.3
baz=128
C15A Salmond Ranch, 127.67 28 ⇑P PKPdf 21 21 54.4 0.0
baz=128
MSO Missoula 127.69 30 ePKPdf PKPdf 21 21 54.9 +0.4
MSO ePP PP 21 23 53.6 -1.7
MSO LR LR
comp=Z,22µm,19.0s,MS6.9
H10A Noah's Angus R 127.71 34 ⇓P PKPdf 21 21 54.8 +0.3
baz=128
CVS Carmenet Viney 127.72 43 ⇓P PKPdf 21 21 55.5 +0.7
baz=128
D14A Greenough 127.73 29 ⇓P PKPdf 21 21 54.6 +0.1
baz=128
ORV Oroville 127.75 41 ⇓P PKPdf 21 21 55.4 +0.6
baz=128
F12A Elk City 127.75 32 ⇓P PKPdf 21 21 55.8 +1.2

baz=128
L07A Adell 127.76 38 ⇓P PKPdf 21 21 56.1 +1.3
baz=128
E13A Victor 127.83 30 ⇑P PKPdf 21 21 55.0 +0.3
baz=128
K08A Mann Creek Ran 127.86 36 ⇑P PKPdf 21 21 56.5 +1.6
baz=128
OHCM Honcut 127.87 42 ℯPKPdf PKPdf 21 21 55.9 +0.9
OHCM ℯPP PP 21 23 54.7 -2.3
Q03C Winters 127.88 43 ⇓P PKPdf 21 21 56.3 +1.2
baz=128
O05C Quincy 127.91 41 ⇑P PKPdf 21 21 55.9 +0.8
baz=128
J09A Fry Pan Ranch, 127.92 35 ⇓P PKPdf 21 21 56.5 +1.5
baz=128
WVOR Wild Horse Val 127.94 37 ℯPKIKP PKPdf 21 21 56.6 +1.5
WVOR ℯ 21 23 57.6
WVOR MLR MLR
comp=Z,17µm,21.0s,MS6.7
CHMT Chamberlain Mo 127.97 29 ℯPKPdf PKPdf 21 21 54.3 -0.7
CHMT ℯPP PP 21 23 57.0 -0.1
I10A Payette 128.00 34 ⇓P PKPdf 21 21 56.2 +1.1
baz=128
H11A Donnelly 128.04 33 ⇑P PKPdf 21 21 56.3 +1.1
baz=128
C16A Fuhringer Ranc 128.05 28 ⇑P PKPdf 21 21 55.8 +0.7
baz=128
N06A Buffalo Meadow 128.18 39 ⇑P PKPdf 21 21 56.7 +1.2
baz=128
E14A Clinton 128.20 30 ⇑P PKPdf 21 21 56.1 +0.7
baz=128
F13A Darby 128.21 31 ⇓P PKPdf 21 21 55.9 +0.4
baz=128
M07A Soldier Meadow 128.23 38 ⇓P PKPdf 21 21 56.8 +1.2
baz=128
D15A Lincoln 128.23 29 ⇑P PKPdf 21 21 55.5 +0.1
baz=128
BDM Black Diamond 128.32 43 ⇑P PKPdf 21 21 57.0 +1.1
baz=128
K09A Rome 128.33 36 ⇑P PKPdf 21 21 57.5 +1.7
baz=128
JRSC Jasper Ridge 128.34 44 ⇑P PKPdf 21 21 56.9 +0.9
baz=128
J10A Berg Farm, Mel 128.43 35 ⇓P PKPdf 21 21 57.2 +1.2
baz=128
O06A Flanigan 128.51 40 ⇑P PKPdf 21 21 57.5 +1.3
baz=128
WENL Wente Vineyard 128.56 44 ⇓P PKPdf 21 21 57.6 +1.2
baz=128
I11A Placerville 128.58 34 ⇑P PKPdf 21 21 57.3 +1.1
baz=128
E15A Deer Lodge 128.61 29 ⇑P PKPdf 21 21 56.8 +0.6
baz=128
C17A Wharram Farm, 128.62 27 ⇑P PKPdf 21 21 56.7 +0.5
baz=128
LAVA Lava Cap Winer 128.67 42 ⇑P PKPdf 21 21 57.7 +1.1
baz=129
F14A Wisdom 128.68 30 ⇓P PKPdf 21 21 57.0 +0.7
baz=128
M08A Happy Creek Ra 128.68 38 ⇓P PKPdf 21 21 57.8 +1.3
baz=128
N07B Gerlach 128.70 39 ⇓P PKPdf 21 21 58.1 +1.5
baz=129
D16A Dana Ranch, Ca 128.70 28 ⇓P PKPdf 21 21 57.0 +0.7
baz=128
P06A Stead Airport, 128.73 40 ⇓P PKPdf 21 21 57.9 +1.2
baz=129
G13A Cobalt 128.73 32 ⇑P PKPdf 21 21 57.2 +0.8
baz=129
H12A Diamond D Ranc 128.76 32 ⇓P PKPdf 21 21 57.4 +0.9
baz=129
L09A Wilkinson Ranc 128.77 37 ⇓P PKPdf 21 21 58.3 +1.7
baz=129
K10A MacKenzie Ranc 128.78 35 ⇑P PKPdf 21 21 58.5 +1.8
baz=129
EGMT Eagleton 128.78 26 ⇓P PKPdf 21 21 57.1 +0.6
baz=129
EGMT Eagleton 128.78 26 ℯPKPdf PKPdf 21 21 56.9 +0.4
EGMT ℯ 21 22 04.8
EGMT ℯPP PP 21 23 57.0 -5.3
EGMT LR LR
comp=Z,24µm,22.0s,MS6.8
R04C Big Horse Ranc 128.80 42 ⇓P PKPdf 21 21 57.8 +1.0
baz=129
HRY Holter Researc 128.80 29 PKPdf PKPdf 21 21 57.3 +0.8
MFID Camas Ranch 128.97 34 ⇓P PKPdf 21 21 58.1 +1.1
baz=129
E16A East Helena 129.00 29 ⇑P PKPdf 21 21 57.4 +0.4
baz=129
D17A Six Diamond Ra 129.01 27 ⇓P PKPdf 21 21 57.4 +0.4
baz=129
WCN Washoe City 129.03 41 ⇓P PKPdf 21 21 58.3 +1.1
baz=129
G14A Jackson 129.03 31 ⇓P PKPdf 21 21 58.3 +1.3
baz=129
PAHR Pah Rah Range 129.04 40 ℯPKPdf PKPdf 21 21 58.2 +1.0
PAHR PP PP 21 24 10.3 +5.7
PAHR ℯSKP 21 25 24.0
F15A Butte 129.10 30 ⇑P PKPdf 21 21 58.0 +0.9
baz=129
I12A Atlanta 129.11 33 ⇑P PKPdf 21 21 58.5 +1.2
baz=129
O07A Toulon 129.11 39 ⇓P PKPdf 21 21 59.2 +1.9
baz=129
PACP Pacheco Peak 129.19 44 ⇑P PKPdf 21 21 59.5 +1.9
baz=129
SAO San Andreas Ge 129.20 44 ℯPKIKP PKPdf 21 21 57.7 +0.1
SAO ℯ 21 24 01.2
SAO MLR MLR
comp=Z,17µm,21.0s,MS6.7
N08A GE Springer Mi 129.22 38 ⇓P PKPdf 21 21 58.3 +0.8
baz=129
M09A Marrel Ranch, 129.26 37 ⇑P PKPdf 21 21 58.8 +1.2
baz=129
K11A Parker Ranch, 129.26 35 ⇓P PKPdf 21 21 58.9 +1.3
baz=129
CMB Columbia Colle 129.28 42 ℯPKIKP PKPdf 21 21 58.1 +0.3
CMB ℯ 21 22 04.0
CMB MLR MLR
comp=Z,24µm,22.0s,MS6.8
CMB Columbia Colle 129.28 42 ⇓P PKPdf 21 21 58.8 +1.1
baz=129
CMB Columbia Colle 129.28 42 ℯPKPdf PKPdf 21 21 58.0 +0.3
CMB ℯpPKPdf pPKPdf 21 22 04.0 -3.7
CMB ℯPP PP 21 24 00.9 -5.4
CMB LR LR
comp=Z,24µm,22.0s,MS6.8
DLMT Dillon 129.38 30 ℯPKPdf PKPdf 21 21 58.3 +0.6
DLMT ℯ 21 22 07.7
DLMT ℯPP PP 21 24 01.5 -5.0
D18A Linhart Farms, 129.38 27 ⇓P PKPdf 21 21 58.3 +0.7
baz=129
L10A Juniper Basin 129.44 36 ⇓P PKPdf 21 21 59.6 +1.7
baz=129
E17A Martinsdale 129.44 28 ⇑P PKPdf 21 21 58.8 +1.0
baz=129
P07A Fallon 129.45 40 ⇑P PKPdf 21 21 59.5 +1.5
baz=129
J12A Stokes Ranch, 129.48 34 ⇓P PKPdf 21 21 59.5 +1.6
baz=129
O08A Rochester Mine 129.49 39 ⇓P PKPdf 21 21 59.8 +1.7
baz=129
N09A Rock Creek Ran 129.55 38 ⇑P PKPdf 21 21 59.7 +1.5
baz=129
G15A Dillon 129.57 30 ⇓P PKPdf 21 21 59.6 +1.5
baz=129
MCMT McKenzie Canyo 129.63 31 ℯPKPdf PKPdf 21 21 60.0 +1.8
MCMT ℯPP PP 21 24 08.4 +0.3
R06C Coleville 129.65 41 ⇓P PKPdf 21 22 00.3 +1.8
baz=130
HLID Hailey 129.65 33 ⇓P PKPdf 21 22 00.1 +1.8
baz=130
HLID Hailey 129.65 33 ℯPKPdf PKPdf 21 21 59.8 +1.5
HLID ℯPP PP 21 24 09.3 +1.0
HLID LR LR
comp=Z,30µm,22.0s,MS6.9
BOZ Bozeman (W) 129.66 29 ⇓P PKPdf 21 21 59.5 +1.3
baz=130
BOZ Bozeman (W) 129.66 29 PKPdf PKPdf 21 21 55.1 -3.1
BOZ ℯPP PP 21 24 04.3 -3.9
BOZ LR LR
comp=Z,26µm,22.0s,MS6.9
S05C Merced 129.68 43 ⇓P PKPdf 21 21 59.7 +1.2
baz=130
V03C Hunter Liggett 129.72 45 ⇑P PKPdf 21 22 00.4 +1.8
baz=130
M10A I.L. Ranch, Tu 129.74 37 ⇓P PKPdf 21 21 59.9 +1.4
baz=130
L11A Cat Creek Ranc 129.80 35 ⇑P PKPdf 21 22 00.1 +1.5
baz=130
E18A Harlowton 129.81 27 ⇓P PKPdf 21 21 59.1 +0.7
baz=130
Q07A Schurz 129.84 41 ⇓P PKPdf 21 22 00.2 +1.5
baz=130
U04C Hernandez Rese 129.87 44 ⇑P PKPdf 21 22 00.3 +1.4
baz=130
G16A Moss Hill, Enn 129.87 30 ⇓P PKPdf 21 22 00.0 +1.4
baz=130
H15A Lima 129.88 31 ⇓P PKPdf 21 22 00.1 +1.5
baz=130
P08A Dixie Valley 129.88 39 ⇑P PKPdf 21 21 59.9 +1.1
baz=130
J13A Cove Ranch, Pi 129.89 33 ⇑P PKPdf 21 22 00.2 +1.4
baz=130
I14A Mackay 129.93 32 ⇑P PKPdf 21 21 60.0 +1.2
baz=130
BMN Battle Mountai 129.99 38 ℯPKIKP PKPdf 21 21 59.8 +0.8
BMN ℯ 21 24 12.2
BMN MLR MLR
comp=Z,22µm,22.0s,MS6.8
K12A Draper Farm, C 129.99 34 ⇓P PKPdf 21 22 00.2 +1.3
baz=130
L12A House Creek Ra 130.24 35 ⇑P PKPdf 21 22 00.6 +1.1
baz=130
M11A Holland Ranch, 130.24 36 ⇓P PKPdf 21 22 01.1 +1.6
baz=130
PKD Parkfield 130.25 45 ⇑P PKPdf 21 22 01.1 +1.5
baz=130
N10A Dunphy 130.25 37 ⇓P PKPdf 21 22 01.0 +1.5
baz=130
T06C Millerton Lake 130.28 43 ⇓P PKPdf 21 22 00.3 +0.6
baz=130
J14A Carey 130.30 33 ⇓P PKPdf 21 22 00.9 +1.4
baz=130
U05C Westside ANR, 130.34 44 ⇑P PKPdf 21 22 01.1 +1.3
baz=130
QLMT Earthquake Lak 130.34 30 ℯPKPdf PKPdf 21 22 00.8 +1.2
QLMT ℯPP PP 21 24 11.8 -0.9
KCC Kaiser Creek 130.38 43 ⇓P PKPdf 21 22 01.1 +1.3
baz=130
I15A Monteview 130.39 32 ⇑P PKPdf 21 22 01.0 +1.3
baz=130
F18A Big Timber 130.39 28 ⇓P PKPdf 21 22 00.5 +0.9
baz=130
K13A Stover Farm, H 130.44 34 ⇓P PKPdf 21 22 01.3 +1.5
baz=130
Q08A Gabbs 130.45 40 ⇑P PKPdf 21 22 00.9 +0.9
baz=130
NVAR Mina Array Bea 130.45 41 PKP PKPdf 21 22 01.0 +1.0
comp=Z,13nm,0.8s,baz=268,slow=2.1,SNR=13
NVAR SKIKP 21 25 39.5
comp=Z,10nm,0.9s,baz=317,slow=3.8,SNR=2.6
GCMT Greycliff 130.50 28 ℯPKPdf PKPdf 21 22 00.2 +0.4
GCMT ℯPP PP 21 24 14.8 +1.3
O10A Cortez Mining, 130.51 38 ⇓P PKPdf 21 22 01.3 +1.3
baz=130
H16A Russell Place, 130.53 30 ⇓P PKPdf 21 22 01.1 +1.2
baz=130
MLAC Mammoth Lakes 130.54 42 ⇓P PKPdf 21 22 00.8 +0.7
baz=130
P09A Austin 130.56 39 ⇓P PKPdf 21 22 01.0 +0.8
baz=130
R08A Mina 130.62 41 ⇑P PKPdf 21 22 01.8 +1.5
baz=130
N11A Elko Archery C 130.65 37 ⇑P PKPdf 21 22 01.4 +1.1
baz=130
DGMT Dagmar 130.69 22 ⇓P PKPdf 21 22 00.6 +0.6
baz=130
DGMT Dagmar 130.69 22 ℯPKPdf PKPdf 21 22 00.1 0.0
DGMT ℯPP PP 21 24 13.9 -0.7
DGMT ℯSKPbc SKPbc 21 25 20.3 -1.7
DGMT LR LR
comp=Z,33µm,22.0s,MS7.0
YMR Madison River 130.69 30 ℯPKPdf PKPdf 21 22 00.6 +0.4
YMR ℯ 21 22 07.9
YMR ℯPP PP 21 24 14.1 -0.8
YMR ℯSKPbc SKPbc 21 25 19.5 -2.6
YMR LR LR
comp=Z,24µm,20.0s,MS6.9
V05C Boulder Hill, 130.73 45 ⇑P PKPdf 21 22 01.8 +1.2
baz=131
M12A Wells 130.76 36 ⇓P PKPdf 21 22 02.1 +1.6
baz=131
YNR Norris Junctio 130.80 30 ℯPKPdf PKPdf 21 22 02.9 +2.5
YNR ℯPP PP 21 24 15.5 -0.1
YNR ℯSKPbc SKPbc 21 25 23.1 +0.6
J15A Blackfoot 130.83 32 ⇑P PKPdf 21 22 01.8 +1.3
baz=131
MTUM Tungsten Hills 130.87 42 ℯPKPdf PKPdf 21 22 02.5 +1.7
MTUM ℯPP PP 21 24 15.7 -0.8
L13A Double Diamond 130.88 34 ⇓P PKPdf 21 22 02.4 +1.8
baz=131
YFT Old Faithful 130.91 30 ℯPKPdf PKPdf 21 22 02.8 +2.1
YFT ℯpPKPdf pPKPdf 21 22 08.6 -1.9
YFT ℯPP PP 21 24 20.6 +4.2
YFT ℯSKPbc SKPbc 21 25 25.9 +2.9
P10A Eureka 130.94 38 ⇓P PKPdf 21 22 01.9 +1.1
baz=131
SMMC Simmler 130.94 45 ⇓P PKPdf 21 22 02.2 +1.2
baz=131
Q09A Carvers 130.95 40 ⇑P PKPdf 21 22 02.1 +1.2
baz=131
RCTC Rector, Farmer 130.97 44 ⇓P PKPdf 21 22 01.5 +0.5
baz=131
I16A Newdale 130.99 31 ⇓P PKPdf 21 22 01.9 +1.1
baz=131
ELK Elko 130.99 37 PKP PKPdf 21 22 02.0 +1.1
comp=Z,15nm,0.9s,baz=309,slow=2.0,SNR=27
ELK PP PP 21 24 19.4 +2.2
comp=Z,8.6nm,1.1s,baz=301,slow=8.3,SNR=2.5
ELK SKPbc SKPbc 21 25 24.9 +1.6
comp=Z,14nm,1.2s,baz=354,slow=2.8,SNR=5.7
ELK SKKPbc 21 34 59.4
comp=Z,1.7nm,1.0s,baz=72,slow=3.2,SNR=3.1
ELK Elko 130.99 37 PKP PKPdf 21 22 02.0 +1.1
ELK ℯPKPdf PKPdf 21 22 02.2 +1.3
ELK ℯPP PP 21 24 19.1 +1.9
ELK PP PP 21 24 19.4 +2.2
ELK SKPbc SKPbc 21 25 24.9 +1.6
ELK ℯSKP 21 25 25.1
ELK SKKPbc 21 34 59.4
ELK LR LR
comp=Z,28µm,21.0s,MS6.9
K14A Jones Ranch, D 131.01 33 ⇑P PKPdf 21 22 02.4 +1.5
baz=131
LKWY Lake 131.04 30 ℯPKPdf PKPdf 21 22 03.2 +2.3
LKWY ℯpPKPdf pPKPdf 21 22 09.0 -1.8
LKWY ℯPP PP 21 24 19.7 +2.5
LKWY ℯSKPbc SKPbc 21 25 25.8 +2.4
LKWY LR LR
comp=Z,40µm,22.0s,MS7.1
N12A Clover Valley, 131.05 36 ⇓P PKPdf 21 22 02.1 +1.1
baz=131
H17A Grant Village 131.08 30 ⇑P PKPdf 21 22 02.8 +1.8
baz=131
O11A Cowboy Ranch, 131.12 37 ⇑P PKPdf 21 22 02.3 +1.1
baz=131
RLMT Red Lodge 131.18 28 ⇓P PKPdf 21 22 02.1 +1.0
baz=131
RLMT Red Lodge 131.18 28 ℯPKPdf PKPdf 21 22 00.3 -0.9
RLMT ℯPP PP 21 24 12.5 -5.6
RLMT ℯSKP 21 25 24.4
RLMT LR LR
comp=Z,22µm,20.0s,MS6.9
IMW Indian Meadow 131.26 31 ℯPKPdf PKPdf 21 22 02.7 +1.4
IMW ℯPP PP 21 24 18.4 -0.2
IMW ℯSKP 21 25 26.2
TIN Tinemaha 131.26 42 ⇑P PKPdf 21 22 02.4 +0.9
baz=131
K15A Arbon 131.26 33 ⇑P PKPdf 21 22 02.6 +1.3
baz=131
PKM Peak Mountain 131.28 46 ⇓P PKPdf 21 22 03.5 +1.8
baz=131
L14A Malta 131.31 34 ⇓P PKPdf 21 22 02.5 +1.0
baz=131
VES Vestal, Richgr 131.32 44 ⇓P PKPdf 21 22 02.2 +0.5
baz=131
LAO LASA Array 131.33 25 ℯPKPdf PKPdf 21 22 02.0 +0.7
LAO ℯpPKPdf pPKPdf 21 22 08.8 -2.5
LAO ℯSKP 21 25 27.6
LAO LR LR
comp=Z,29µm,22.0s,MS6.9
J16A Bone 131.35 32 ⇓P PKPdf 21 22 02.8 +1.3
baz=131
TPH Tonopah 131.35 41 ℯPKPdf PKPdf 21 22 03.0 +1.3
TPH ℯpPKPdf pPKPdf 21 22 10.1 -1.5
TPH ℯPP PP 21 24 15.1 -4.6
TPH ℯSKPbc SKPbc 21 25 26.2 +1.4
TPH LR LR
comp=Z,25µm,22.0s,MS6.9
R09A Tonopah 131.36 40 ⇑P PKPdf 21 22 02.7 +1.0
baz=131
P11A Circle Ranch, 131.41 38 ⇓P PKPdf 21 22 03.0 +1.3
baz=131
I17A Pilgram Creek 131.42 30 ⇓P PKPdf 21 22 02.9 +1.3
baz=131
Q10A Clear Creek Ra 131.45 39 ⇓P PKPdf 21 22 03.2 +1.4
baz=131
RRI2 Red Ridge 131.45 31 ℯPKPdf PKPdf 21 22 02.5 +0.9
RRI2 ℯPP PP 21 24 23.0 +3.2
RRI2 ℯSKP 21 25 26.7
MOOW Moose Ponds 131.46 31 ℯPKPdf PKPdf 21 22 02.4 +0.7
MOOW ℯpPKPdf pPKPdf 21 22 09.0 -2.6
MOOW ℯPP PP 21 24 24.4 +4.5
MOOW ℯSKP 21 25 26.6
N13A Wendover, West 131.53 36 ⇓P PKPdf 21 22 03.0 +1.1
baz=131
TPAW Teton Pass 131.54 31 ℯPKPdf PKPdf 21 22 02.6 +0.7
TPAW ℯPP PP 21 24 23.7 +3.3
TPAW ℯSKP 21 25 31.9
S09A Goldfield 131.55 41 ⇓P PKPdf 21 22 03.1 +1.0
baz=131
SBC Santa Barbara 131.58 46 ⇓P PKPdf 21 22 03.4 +1.2
baz=132
O12A Currie 131.59 37 ⇓P PKPdf 21 22 03.2 +1.2
baz=131
M14A Sheep Mountain 131.60 35 ⇓P PKPdf 21 22 03.4 +1.3
baz=132
LOHW Long Hollow 131.63 31 ℯPKPdf PKPdf 21 22 03.0 +0.9
LOHW ℯPP PP 21 24 21.6 +0.6
SNOW Snow King Moun 131.66 31 ℯPKPdf PKPdf 21 22 03.4 +1.3
SNOW PP PP 21 24 26.2 +5.0
SNOW ℯSKP 21 25 27.5
K16A Soda Springs 131.67 32 ⇑P PKPdf 21 22 03.3 +1.1
baz=132
CWC Cottonwood Cre 131.69 43 ⇑P PKPdf 21 22 03.0 +0.6
baz=132
ULM Lac du Bonnet 131.72 14 PKP PKPdf 21 22 02.7 +0.7
comp=Z,21nm,0.9s,baz=337,slow=3.3,SNR=11
ULM SKPbc SKPbc 21 25 24.9 -0.7
comp=Z,32nm,1.2s,baz=333,slow=11,SNR=2.9
HVU Hansel Valley 131.74 34 ℯPKPdf PKPdf 21 22 02.8 +0.5
HVU ℯPP PP 21 24 21.5 -0.3
HVU ℯSKPbc SKPbc 21 25 27.6 +1.6
HVU ℯSKPdf SKPdf 21 25 37.3 +1.6
L15A Malad City 131.81 33 ⇓P PKPdf 21 22 03.2 +0.7
baz=132
R10A Warm Springs 131.82 40 ⇓P PKPdf 21 22 03.8 +1.3
baz=132
ISA Isabella 131.83 44 ⇑P PKPdf 21 22 03.4 +0.7
baz=132
ISA Isabella 131.83 44 ℯPKPdf PKPdf 21 22 03.6 +0.9
ISA ℯpPKPdf pPKPdf 21 22 10.3 -2.2
ISA ℯPP PP 21 24 21.6 -1.2
ISA ℯSKPbc SKPbc 21 25 26.1 -0.4
ISA LR LR
comp=Z,23µm,22.0s,MS6.8
S10A Tonopah Range, 131.85 40 ⇓P PKPdf 21 22 04.0 +1.4
baz=132
BSC Santa Cruz Isl 131.85 47 ⇓P PKPdf 21 22 03.5 +0.8
baz=132
GRAC Grapevine Rang 131.86 42 ⇑P PKPdf 21 22 03.5 +0.9
baz=132
ARVC Arvin 131.86 45 ⇓P PKPdf 21 22 03.7 +0.9
baz=132
Q11A Duckwater 131.90 39 ⇓P PKPdf 21 22 03.9 +1.2
baz=132
AHID Auburn Hatcher 131.97 32 ℯPKPdf PKPdf 21 22 03.5 +0.8
AHID ℯpPKPdf pPKPdf 21 22 08.9 -3.7
AHID ℯPP PP 21 24 26.0 +2.8
AHID ℯSKP 21 25 26.2
AHID LR LR
comp=Z,21µm,20.0s,MS6.8
DAC Darwin (Calif) 132.11 43 PFAKE 21 22 10.0 +6.8
DAC LR LR
comp=Z,28µm,22.0s,MS6.9
N14A Grayback Hills 132.12 35 ⇓P PKPdf 21 22 04.1 +1.1
baz=132
O13A Hicks Ranch, I 132.13 36 ⇓P PKPdf 21 22 04.0 +0.9
baz=133
M15A Larsen Ranch, 132.14 34 ⇑P PKPdf 21 22 03.8 +0.7
baz=132
BGU Big Grassy Mou 132.16 35 ℯPKPdf PKPdf 21 22 04.1 +1.0
BGU ℯpPKPdf pPKPdf 21 22 10.0 -3.0
BGU ℯPP PP 21 24 19.2 -5.4
BGU ℯSKPbc SKPbc 21 25 26.0 -1.6
BLG Laguna Peak 132.21 46 ⇓P PKPdf 21 22 04.2 +0.8
baz=132
SPUT South Promonto 132.24 34 ℯPKPdf PKPdf 21 22 04.0 +0.7
SPUT ℯpPKPdf pPKPdf 21 22 09.7 -3.5
SPUT ℯPP PP 21 24 17.0 -8.0
SPUT ℯSKPbc SKPbc 21 25 23.1 -4.7
R11A Troy Canyon, C 132.24 39 ⇓P PKPdf 21 22 04.9 +1.5
baz=132
MPMC Manual Prospec 132.30 43 ⇓P PKPdf 21 22 04.5 +1.0
baz=132
Q12A Willow Creek R 132.30 38 ⇓P PKPdf 21 22 04.5 +1.0
baz=132
SNCC San Nicolas Is 132.30 47 ⇓P PKPdf 21 22 04.8 +1.1
baz=132
SNCC San Nicolas Is 132.30 47 ℯPKPdf PKPdf 21 22 04.7 +1.1
SNCC ℯpPKPdf pPKPdf 21 22 10.7 -2.8
SNCC ℯPP PP 21 24 24.2 -1.8
SNCC ℯSKPbc SKPbc 21 25 25.6 -2.6
SNCC LR LR
comp=Z,29µm,22.0s,MS6.9
L16A Fish Haven 132.32 33 ⇓P PKPdf 21 22 04.5 +1.1
baz=132
LRMC Laurel Mountai 132.47 44 ⇓P PKPdf 21 22 04.7 +0.8
baz=132
N15A Stansbury Isla 132.48 35 ⇓P PKPdf 21 22 04.8 +1.1
baz=132
FURC Furnace Creek, 132.50 42 ⇑P PKPdf 21 22 04.6 +0.7
baz=132
HWUT Hardware Ranch 132.53 33 ℯPKPdf PKPdf 21 22 03.6 -0.1
HWUT ℯpPKPdf pPKPdf 21 22 10.5 -3.1
HWUT ℯPP PP 21 24 19.5 -7.4
HWUT ℯSKP 21 25 29.4
HWUT LR LR
comp=Z,23µm,20.0s,MS6.9
P13A Bates Ranch, G 132.53 37 ⇑P PKPdf 21 22 04.7 +0.8
baz=132
S11A Rachel 132.56 40 ⇓P PKPdf 21 22 05.3 +1.4
baz=132
EDW2 Edwards Air Fo 132.58 45 ⇑P PKPdf 21 22 05.3 +1.2
baz=132
TPNV Topopah Spring 132.63 41 ⇓P PKPdf 21 22 05.5 +1.3
baz=132
TPNV Topopah Spring 132.63 41 ℯPKPdf PKPdf 21 22 05.2 +1.0
TPNV ℯPP PP 21 24 22.5 -5.4
TPNV ℯSKPbc SKPbc 21 25 30.2 +0.9
TPNV LR LR
comp=Z,30µm,22.0s,MS7.0
DECC Green Verdugo 132.66 46 ⇓P PKPdf 21 22 05.2 +0.9
baz=133
M16A Huntsville 132.69 34 ⇓P PKPdf 21 22 04.6 +0.4
baz=132
BW06 Boulder Array 132.77 31 ⇓P PKPdf 21 22 04.3 +0.1
baz=133
BW06 Boulder Array 132.77 31 PKPdf PKPdf 21 22 04.8 +0.6
BW06 ℯ 21 22 13.6
BW06 ℯPP PP 21 24 28.6 +0.3
BW06 ℯSKP 21 25 30.4
BW06 LR LR
comp=Z,22µm,22.0s,MS6.8
DUG Dugway 132.77 35 ⇑P PKPdf 21 22 05.3 +1.0
baz=133
DUG Dugway 132.77 35 ℯPKPdf PKPdf 21 22 04.2 0.0
DUG ℯpPKPdf pPKPdf 21 22 13.0 -1.2
DUG ℯPP PP 21 24 33.7 +5.2
DUG ℯSKPbc SKPbc 21 25 30.5 +0.8
PDAR Pinedale Array 132.77 31 PKhKP 21 21 50.1
comp=Z,1.1nm,0.7s,baz=338,slow=2.1,SNR=3.9
PDAR PKP PKPdf 21 22 05.2 +1.0
comp=Z,7.9nm,0.7s,baz=0.0,slow=0.6,SNR=18
PDAR SKPbc SKPbc 21 25 32.0 +2.4
comp=Z,4.7nm,1.1s,baz=298,slow=3.9,SNR=1.9
PDAR SKP 21 25 38.4

comp=Z,13nm,0.9s,baz=304,slow=1.8,SNR=6.8
PDAR SKKPbc 21 34 48.5

comp=Z,0.8nm,0.8s,baz=134,slow=5.2,SNR=4.3
Q13A Wheeler Ranch, 132.84 38 ⇓P PKPdf 21 22 05.2 +0.8
baz=133
NOQ North Oquirrh 132.86 35 *e*PKPdf PKPdf 21 22 05.0 +0.6
NOQ *ep*PKPdf pPKPdf 21 22 11.6 -2.8
NOQ *e*PP PP 21 24 27.2 -1.8
NOQ *e*SKPbc SKPbc 21 25 28.3 -1.7
R12A Pony Springs, 132.87 39 ⇑P PKPdf 21 22 05.7 +1.1
baz=133
MWC Mount Wilson 132.87 45 *e*PKPdf PKPdf 21 22 05.1 +0.5
MWC *ep*PKPdf pPKPdf 21 22 11.8 -2.8
MWC *e*PP PP 21 24 24.8 -4.8
MWC *e*SKPbc SKPbc 21 25 29.6 -0.6
MWC LR LR

comp=Z,29µm,21.0s,MS7.0
U10A Ash Meadows, A 132.88 42 ⇑P PKPdf 21 22 05.4 +0.8
baz=133
O15A The Old Anders 132.91 35 ⇓P PKPdf 21 22 05.7 +1.2
baz=133
FMP Fort Macarthur 132.96 46 ⇓P PKPdf 21 22 05.6 +0.8
baz=133
P14A Drum Mountains 133.01 36 ⇓P PKPdf 21 22 05.4 +0.6
baz=133
CIS Catalina Islan 133.04 47 ⇓P PKPdf 21 22 05.8 +0.7
baz=133
CTU Camp Tracy 133.04 34 PKPdf PKPdf 21 22 05.5 +0.7
CTU *ep*PKPdf pPKPdf 21 22 12.4 -2.3
N16A Rees Ranch, Co 133.09 34 ⇑P PKPdf 21 22 05.5 +0.7
baz=133
T11A Corn Creek, Al 133.13 40 ⇑P PKPdf 21 22 06.3 +1.2
baz=133
SCI San Clemente I 133.14 47 ⇓P PKPdf 21 22 06.3 +1.1
baz=133
BFSC Mount Baldy St 133.15 45 ⇑P PKPdf 21 22 06.2 +1.0
baz=133
S12A Delamar Landin 133.15 40 ⇓P PKPdf 21 22 06.9 +1.8
baz=133
GSC Goldstone 133.18 43 ⇓P PKPdf 21 22 06.3 +1.0
baz=133
GSC Goldstone 133.18 43 *e*PKPdf PKPdf 21 22 06.8 +1.6
GSC *ep*PKPdf pPKPdf 21 22 12.8 -2.3
GSC *e*PP PP 21 24 29.3 -2.1
GSC *e*SKPbc SKPbc 21 25 31.7 +0.4
GSC LR LR

comp=Z,21µm,21.0s,MS6.8
SHOC Shoshone 133.20 42 ⇓P PKPdf 21 22 06.6 +1.3
baz=133
RRX Edison Barstow 133.27 44 ⇑P PKPdf 21 22 06.7 +1.3
baz=133
Q14A Sevier Lake (B 133.27 37 ⇑P PKPdf 21 22 06.7 +1.4
baz=133
JLU Jordanelle 133.27 34 *e*PKPdf PKPdf 21 22 06.2 +0.9
JLU *ep*PKPdf pPKPdf 21 22 12.3 -2.8
JLU *e*PP PP 21 24 31.6 -0.1
JLU *e*SKPbc SKPbc 21 25 32.0 +0.6
NLU North Lily Min 133.35 35 *e*PKPdf PKPdf 21 22 05.9 +0.5
NLU *ep*PKPdf pPKPdf 21 22 12.8 -2.5
NLU *e*PP PP 21 24 29.6 -2.7
NLU *e*SKPbc SKPbc 21 25 32.0 +0.3
R13A O'Grain Ranch, 133.36 38 ⇓P PKPdf 21 22 07.1 +1.6
baz=133
N17A Moffit Pass 133.38 33 ⇓P PKPdf 21 22 06.7 +1.3
baz=133
U11A Corn Creek 133.50 41 ⇓P PKPdf 21 22 07.1 +1.3
baz=133
DAU Daniels Canyon 133.51 34 *e*PKPdf PKPdf 21 22 06.3 +0.6
DAU *ep*PKPdf pPKPdf 21 22 12.4 -3.2
DAU *e*PP PP 21 24 34.0 +0.8
DAU *e*SKPbc SKPbc 21 25 34.6 +2.4
AGMN Agassiz Refuge 133.51 15 *e*PKPdf PKPdf 21 22 04.8 -0.6
AGMN *ep*PKPdf pPKPdf 21 22 10.9 -4.5
AGMN *e*PP PP 21 24 30.0 -2.7
AGMN *e*SKPbc SKPbc 21 25 29.6 -2.4
AGMN *e*SKPdf SKPdf 21 25 39.5 +0.8
AGMN LR LR

comp=Z,37µm,22.0s,MS7.0
MPU Maple Canyon 133.56 35 *e*PKPdf PKPdf 21 22 07.2 +1.4
MPU *ep*PKPdf pPKPdf 21 22 14.4 -1.3
MPU *e*PP PP 21 24 33.4 -0.2
MPU *e*SKPbc SKPbc 21 25 32.3 -0.1
MPU LR LR

comp=Z,39µm,22.0s,MS7.1
BBRC Big Bear Sol-O 133.65 45 ⇓P PKPdf 21 22 07.4 +1.3
baz=134
TUQ Turquoise Moun 133.70 43 ⇓P PKPdf 21 22 07.4 +1.2
baz=134
HEC Hector,Ludlow 133.76 44 ⇑P PKPdf 21 22 07.3 +1.0
baz=134
T12A Moapa 133.76 40 ⇑P PKPdf 21 22 07.8 +1.6
baz=134
S13A Holt Ranch, En 133.79 39 ⇑P PKPdf 21 22 07.6 +1.3
baz=134
Q15A Fillmore 133.80 36 ⇓P PKPdf 21 22 07.5 +1.2
baz=134
MURC Murrieta 133.80 46 ⇓P PKPdf 21 22 07.7 +1.2
baz=134
V11A Goodsprings 133.81 42 ⇑P PKPdf 21 22 07.2 +0.8
baz=134
P16A Fountain Green 133.82 35 ⇓P PKPdf 21 22 07.8 +1.5
baz=134
R14A James Farms, M 133.86 38 ⇑P PKPdf 21 22 07.6 +1.2
baz=134
ARUT Antelope Range 133.93 38 *e*PKPdf PKPdf 21 22 09.1 +2.6
ARUT *e*PP PP 21 24 30.8 -5.3
ARUT SKP 21 25 35.4
O17A Robinson Place 133.95 34 ⇓P PKPdf 21 22 08.1 +1.6
baz=134
N18A Larsen Ranch, 133.99 32 ⇑P PKPdf 21 22 07.0 +0.4
baz=134
U12A Valley of Fire 134.05 41 ⇑P PKPdf 21 22 08.2 +1.4
baz=134
T13A Saint George 134.10 40 ⇑P PKPdf 21 22 08.3 +1.4
baz=134
S14A Cedar City 134.11 38 ⇓P PKPdf 21 22 08.6 +1.7
baz=134
CCUT Cedar City 134.12 39 *e*PKPdf PKPdf 21 22 07.6 +0.7
CCUT *ep*PKPdf pPKPdf 21 22 15.2 -1.7
CCUT *e*PP PP 21 24 34.9 -2.4
CCUT *e*SKPbc SKPbc 21 25 34.5 +0.1
MVU Marysvale 134.22 37 PFAKE 21 22 20.0 +13
MVU LR LR

comp=Z,22µm,22.0s,MS6.8
109C Camp Elliot, M 134.24 46 ⇓P PKPdf 21 22 08.4 +1.1
baz=134
MSU Marysvale 134.24 37 *e*PKPdf PKPdf 21 22 06.7 -0.4
MSU *ep*PKPdf pPKPdf 21 22 14.9 -2.1
MSU *e*PP PP 21 24 37.2 -0.7
MSU *e*SKPbc SKPbc 21 25 37.6 +2.9
GMRC Granite Mounta 134.25 43 ⇑P PKPdf 21 22 09.1 +1.9
baz=134
TMUT Trail Mountain 134.29 35 *e*PKPdf PKPdf 21 22 08.2 +1.0
TMUT *ep*PKPdf pPKPdf 21 22 15.0 -2.1
TMUT *es*PKPdf 21 22 17.8
O18A Roosevelt 134.30 33 ⇑P PKPdf 21 22 08.3 +1.1
baz=134
N19A John Jarvie Ra 134.31 32 ⇓P PKPdf 21 22 07.2 0.0
baz=134
RSSD Black Hills 134.31 25 PKIKP PKPdf 21 22 00.9 -6.2
RSSD *e* 21 24 34.5
RSSD Black Hills 134.31 25 PKPdf PKPdf 21 22 00.8 -6.2
RSSD *e*PP PP 21 24 34.5 -3.5
RSSD *e*SKP 21 25 31.7
RSSD PKKPdf PKKPdf 21 31 54.1 -0.3
RSSD LR LR

comp=Z,6µm,22.0s,MS6.3
PFO Pinyon Flat Ob 134.33 45 ⇑P PKPdf 21 22 08.6 +1.2
baz=134
U13A Pakoon Wash 134.43 40 ⇑P PKPdf 21 22 08.4 +0.9
baz=134
P17A Butcher Ranch, 134.44 35 ⇑P PKPdf 21 22 08.4 +1.0
baz=134
BELC Belle Mtn. 134.44 44 ⇓P PKPdf 21 22 09.0 +1.4
baz=134
LDFC Landfair 134.45 43 *e*PKPdf PKPdf 21 22 09.6 +2.0
LDFC *e*PP PP 21 24 39.0 -0.5
W12A Cal Nev Ari 134.49 42 ⇑P PKPdf 21 22 08.4 +0.8
baz=134
Q16A Castle Valley 134.56 36 ⇑P PKPdf 21 22 08.9 +1.2
baz=134
T14A Hurricane 134.60 39 ⇑P PKPdf 21 22 09.4 +1.5
baz=134
P18A Preston Nutter 134.61 34 ⇓P PKPdf 21 22 09.1 +1.4
baz=134
S15A Panguitch 134.66 38 ⇓P PKPdf 21 22 09.6 +1.7
baz=134
MONP Monument Peak 134.73 46 ⇓P PKPdf 21 22 09.6 +1.4
baz=135
RWWY Rawlins 134.74 30 *e*PKPdf PKPdf 21 22 08.2 +0.3
RWWY *ep*PKPdf pPKPdf 21 22 14.7 -3.1
RWWY *e*PP PP 21 24 41.6 +0.7
RWWY *e*SKPbc SKPbc 21 25 35.4 -0.9
V13A Grand Canyon W 134.75 41 ⇓P PKPdf 21 22 09.3 +1.1
baz=135
O19A Miners Draw (B 134.76 33 ⇑P PKPdf 21 22 08.5 +0.5
baz=135
R16A Teasdale 134.80 37 ⇓P PKPdf 21 22 09.4 +1.2
baz=135
SRU San Rafael 134.81 35 ⇓P PKPdf 21 22 09.0 +0.8
baz=135
SRU San Rafael 134.81 35 *e*PKPdf PKPdf 21 22 08.6 +0.4
SRU *ep*PKPdf pPKPdf 21 22 15.1 -2.9
SRU *e*PP PP 21 24 39.2 -2.3
SRU *e*SKP 21 25 39.6
PLCA Paso Flores 134.86 189 PKP PKPdf 21 22 11.4 +3.2
comp=Z,5.3nm,1.0s,baz=183,slow=1.9,SNR=5.0
PLCA SKKPbc 21 34 44.7

comp=Z,7.6nm,1.0s,baz=337,slow=3.5,SNR=3.4
PLCA Paso Flores 134.86 189 PKP PKPdf 21 22 11.4 +3.2
PLCA SKKPbc 21 34 44.7
PLCA LR LR

comp=Z,78µm,19.0s,MS7.5
EYMN Ely 134.87 12 *e*PKPdf PKPdf 21 22 08.5 +0.5
EYMN *ep*PKPdf pPKPdf 21 22 15.5 -2.4
EYMN *e*PP PP 21 24 41.4 +0.2
EYMN *e*SKPbc SKPbc 21 25 36.2 -0.2
EYMN LR LR

comp=Z,39µm,21.0s,MS7.1
U14A Mt Trumbull 134.93 40 ⇑P PKPdf 21 22 10.0 +1.5
baz=135
IRM Iron Mountain 134.94 44 ⇑P PKPdf 21 22 09.7 +1.1
baz=135
NEE2 Needles Airpor 134.96 43 ⇓P PKPdf 21 22 09.4 +0.9
baz=135
BC3 Big Chuckw Mtn 135.01 44 ⇑P PKPdf 21 22 09.7 +1.0
baz=135
Q18A Rafter H Ranch 135.04 35 ⇑P PKPdf 21 22 09.4 +0.8
baz=135
T15A Red Dirt Ranch 135.06 39 ⇑P PKPdf 21 22 09.6 +0.9
baz=135
S16A Weppner Ranch, 135.10 37 ⇑P PKPdf 21 22 09.8 +1.1
baz=135
SWSC Sam W. Stewart 135.15 46 ⇓P PKPdf 21 22 09.9 +0.9
baz=135
R17A Hanksville Air 135.16 36 ⇑P PKPdf 21 22 09.7 +0.8
baz=135
W13A Hualapai Mount 135.26 42 ⇑P PKPdf 21 22 10.1 +1.0
baz=135
P19A Cripple Cowboy 135.31 33 ⇑P PKPdf 21 22 10.3 +1.2
baz=135
TRQA Tornquist 135.32 199 *e*PKPdf PKPdf 21 22 09.7 +0.5
TRQA *ep*PKPdf pPKPdf 21 22 17.0 -2.0
TRQA *e*PP PP 21 24 48.2 +4.1
TRQA *e*SKPbc SKPbc 21 25 34.8 -3.4
TRQA LR LR

comp=Z,43µm,21.0s,MS7.2
V14A Boquillas Ranc 135.46 41 ⇑P PKPdf 21 22 10.7 +1.2
baz=135
U15A North Rim 135.49 39 ⇑P PKPdf 21 22 10.8 +1.3
baz=135
PDMCI Parker Dam,Lak 135.55 43 ⇓P PKPdf 21 22 10.5 +0.8
baz=135
X13A Yucca 135.59 42 ⇑P PKPdf 21 22 10.4 +0.6
baz=136
Y12C Blythe 135.60 44 ⇑P PKPdf 21 22 10.6 +0.8
baz=136
Q19A Hogan Spring (135.63 34 ⇑P PKPdf 21 22 10.4 +0.7
baz=136
T16A Glen Canyon Da 135.63 38 ⇑P PKPdf 21 22 10.2 +0.4
baz=136
S17A Black Ridge (B 135.63 37 ⇑P PKPdf 21 22 10.3 +0.5
baz=136
R18A Canyonlands Na 135.66 35 ⇑P PKPdf 21 22 10.5 +0.7
baz=136
W14A Seligman 135.72 41 ⇑P PKPdf 21 22 11.0 +1.0
baz=136
GLA Glamis 135.78 45 ⇑P PKPdf 21 22 11.3 +1.2
baz=136
GLA Glamis 135.78 45 *e*PKPdf PKPdf 21 22 11.2 +1.0
GLA *ep*PKPdf pPKPdf 21 22 16.4 -3.7
GLA *e*PP PP 21 24 46.2 -1.8
GLA *e*SKPbc SKPbc 21 25 42.5 +2.7
GLA LR LR

comp=Z,22nm,21.0s,MS6.8
RCBR Riachuelo 135.87 258 PFAKE 21 22 20.0 +9.1
RCBR LR LR

comp=Z,45µm,21.0s,MS7.2
PHWY Pilot Hill 135.89 29 *e*PKPdf PKPdf 21 22 09.8 -0.4
PHWY *ep*PKPdf pPKPdf 21 22 17.7 -2.3
PHWY *e*PP PP 21 24 45.4 -2.7
PHWY *e*SKPbc SKPbc 21 25 45.3 +5.5
V15A Kaibab Nationa 135.94 40 ⇓P PKPdf 21 22 11.6 +1.2
baz=136
Y13A Salome 136.04 43 ⇑P PKPdf 21 22 11.2 +0.6
baz=136
T17A Navajo Res., N 136.05 37 ⇑P PKPdf 21 22 11.8 +1.3
baz=136
S18A Hurst Farm, Bl 136.07 36 ⇑P PKPdf 21 22 11.0 +0.4
baz=136
R19A Curley Farm, L 136.09 35 ⇓P PKPdf 21 22 11.1 +0.5
baz=136
112A Yuma 136.23 45 ⇑P PKPdf 21 22 11.9 +0.9
baz=136
W15A Williams 136.28 41 ⇑P PKPdf 21 22 12.2 +1.2
baz=136
X14A Yava 136.29 42 ⇓P PKPdf 21 22 12.3 +1.2
baz=136
U17A Shonto 136.39 38 ⇑P PKPdf 21 22 12.3 +1.1
baz=136
U16A Tuba City 136.40 39 ⇑P PKPdf 21 22 12.2 +1.0
baz=136
T18A Mexican Hat 136.51 37 ⇑P PKPdf 21 22 12.2 +0.8
baz=136
Y14A Wickenburg 136.53 43 ⇑P PKPdf 21 22 12.0 +0.4
baz=136
S19A Farms, M 136.53 35 ⇓P PKPdf 21 22 12.3 +0.9
baz=136
LPA La Plata 136.56 205 *de*PKP PKPdf 21 22 08.0 -3.6
LPA *e*PP PP 21 24 54.0 +1.9
LPA *e*SKP 21 25 41.0
LPA

comp=Z,72µm,18.0s
LPA La Plata 136.56 205 *e*PKP PKPdf 21 22 08.0 -3.6
LPA *e*PP PP 21 24 54.0 +1.9
LPA *e*SKP 21 25 41.0
LPA LR LR

comp=Z,71µm,18.0s,MS7.4
PV01 Paradox Valley 136.59 34 *e*PKPdf PKPdf 21 22 12.8 +1.3
PV01 *e*PP PP 21 24 49.5 -3.1
WUAZ Wupatki 136.64 39 ⇓P PKPdf 21 22 12.2 +0.5
baz=136
WUAZ Wupatki 136.64 39 *e*PKPpre 21 22 05.3
WUAZ *e*PKPdf PKPdf 21 22 13.1 +1.4
WUAZ *ep*PKPdf pPKPdf 21 22 17.2 -4.4
WUAZ *e*PP PP 21 24 51.1 -2.1
WUAZ *e*SKPbc SKPbc 21 25 44.6 +2.3
WUAZ LR LR

comp=Z,29µm,22.0s,MS7.0
113A Mohawk Valley, 136.68 44 ⇓P PKPdf 21 22 12.2 +0.4
baz=137
X15A Humboldt 136.72 41 ⇑P PKPdf 21 22 13.0 +1.2
baz=137
SMCO Snowmass 136.72 32 *e*PKPdf PKPdf 21 22 09.8 -1.9
SMCO *e*PP PP 21 24 47.2 -6.2
SMCO *e*SKPbc SKPbc 21 25 46.4 +3.9
W16A Flagstaff 136.80 40 ⇓P PKPdf 21 22 13.2 +1.2
baz=137
Z14A Wintersburg 136.90 43 ⇑P PKPdf 21 22 13.0 +0.8
baz=137
ISCO Idaho Springs 136.96 30 *e*PKPpre 21 22 01.0
ISCO *e*PKPdf PKPdf 21 22 12.2 0.0
ISCO *ep*PKPdf pPKPdf 21 22 20.6 -1.4
ISCO *e*PP PP 21 24 45.9 -8.9
ISCO *e*SKP 21 25 50.1
ISCO LR LR

comp=Z,38µm,22.0s,MS7.1
Y15A Casa Rosa Ranc 136.97 42 ⇓P PKPdf 21 22 13.3 +0.9
baz=137
COWI Conover 137.10 10 *e*PKPpre 21 22 01.3
COWI *e*PKPdf PKPdf 21 22 12.7 +0.5
COWI *e*PKPdf pPKPdf 21 22 20.5 -1.6
COWI *e*PP PP 21 24 49.8 -5.4
COWI *e*SKP 21 25 49.1
COWI LR LR

comp=Z,46µm,22.0s,MS7.2
T19A Beclabito 137.22 36 ⇑P PKPdf 21 22 13.5 +0.7
baz=137
MVCO Mesa Verde 137.27 35 ⇓P PKPdf 21 22 13.8 +1.0
baz=137
MVCO Mesa Verde 137.27 35 *e*PKPpre 21 22 09.2
MVCO *e*PKPdf PKPdf 21 22 14.7 +1.9
MVCO *e*PP PP 21 24 55.6 -1.4
MVCO *e*SKP 21 25 46.0
MVCO LR LR

comp=Z,26µm,22.0s,MS6.9
X16A Lo Mia Camp, P 137.28 41 ⇑P PKPdf 21 22 14.1 +1.2
baz=137
W17A Winslow 137.34 39 ⇑P PKPdf 21 22 14.3 +1.3
baz=137
V18A Ganado 137.42 38 ⇓P PKPdf 21 22 14.3 +1.2
baz=137
ECSD EROS,Sioux Fal 137.43 19 *e*PKPdf PKPdf 21 22 11.1 -1.8
ECSD *ep*PKPdf pPKPdf 21 22 20.2 -2.6
ECSD *e*PP PP 21 24 49.3 -8.1
ECSD *e*SKPbc SKPbc 21 25 50.6 +6.2
ECSD LR LR

comp=Z,47µm,21.0s,MS7.2
Z15A Gila River Ind 137.48 43 ⇓P PKPdf 21 22 13.8 +0.5
baz=137
Y16A Circle Bar Ran 137.58 41 ⇑P PKPdf 21 22 14.5 +1.0
baz=138
X17A Forest Lakes 137.74 40 ⇓P PKPdf 21 22 14.4 +0.7
baz=138
OGNE Ogallala 137.75 26 *e*PKPpre 21 22 05.1
OGNE *e*PKPdf PKPdf 21 22 13.4 -0.2
OGNE *ep*PKPdf pPKPdf 21 22 20.1 -3.4
OGNE *e*PP PP 21 24 57.1 -2.5
OGNE *e*SKPbc SKPbc 21 25 46.8 +1.4
115A Sonoran Desert 137.78 43 ⇑P PKPdf 21 22 14.5 +0.6
baz=138
214A Organ Pipe Nat 137.80 45 ⇓P PKPdf 21 22 14.8 +0.9
baz=138
W18A Petrified Fore 137.93 39 ⇓P PKPdf 21 22 15.2 +1.2
baz=138
Z16A Peralta Trail, 137.94 42 ⇑P PKPdf 21 22 15.4 +1.3
baz=138
V19A Window Rock 137.96 37 ⇓P PKPdf 21 22 15.2 +1.1
baz=138
PKME Peaks-Kenny Pk 137.98 350 *e*PKPpre 21 22 08.8
PKME *e*PKPdf PKPdf 21 22 13.3 -0.6
PKME *ep*PKPdf pPKPdf 21 22 22.4 -1.4
PKME *e*PP PP 21 25 03.2 +2.5
PKME *e*SKPbc SKPbc 21 25 47.2 +1.3
PKME LR LR

comp=Z,36µm,22.0s,MS7.1
Y17A Roosevelt 138.11 41 ⇑P PKPdf 21 22 15.6 +1.1
baz=138
W19A Sanders 138.15 38 ⇓P PKPdf 21 22 15.5 +1.0
baz=138
X18A Snowflake 138.17 40 ⇓P PKPdf 21 22 15.6 +1.0
baz=138
116A Eloy 138.22 43 ⇑P PKPdf 21 22 15.8 +1.1
baz=138
SDCO Great Sand Dun 138.55 32 *e*PKPpre 21 22 08.3
SDCO *e*PKPdf PKPdf 21 22 15.3 +0.1
SDCO *ep*PKPdf pPKPdf 21 22 22.6 -2.4
SDCO *e*PP PP 21 25 04.0 -0.8
SDCO *e*SKP 21 25 48.8
SDCO LR LR

comp=Z,19µm,21.0s,MS6.8
Y18A Canyon Day Jun 138.59 40 ⇑P PKPdf 21 22 16.3 +1.0
baz=138
Z17A San Carlos Hig 138.60 41 ⇑P PKPdf 21 22 16.2 +0.9
baz=138
X19A St. Johns 138.65 39 ⇓P PKPdf 21 22 16.6 +1.1
baz=138
216A Three Points, 138.71 44 ⇑P PKPdf 21 22 16.5 +0.8
baz=139
117A Oracle 138.87 42 ⇓P PKPdf 21 22 16.7 +0.8
baz=139
Y19A Nutrioso 138.98 40 ⇓P PKPdf 21 22 17.7 +1.6
baz=139
TUC Tucson 138.99 43 *e*PKPpre 21 22 06.8
TUC *e*PKPdf PKPdf 21 22 13.9 -2.2
TUC *ep*PKPdf pPKPdf 21 22 23.1 -2.9
TUC *e*PP PP 21 25 01.5 -6.5
TUC *e*SKPdf SKPdf 21 25 49.4 +0.3
TUC LR LR

comp=Z,21µm,22.0s,MS6.8
GLMI Grayling 139.00 6 *e*PKPdf PKPdf 21 22 17.8 +2.0
GLMI *e*PP PP 21 25 08.2 +1.3
FRNY Flat Rock 139.00 354 *e*PKPdf PKPdf 21 22 12.3 -3.5
FRNY *e*PP PP 21 25 07.6 +0.7
FRNY *e*SKP 21 25 45.7
Z18A Geronimo 139.02 41 ⇓P PKPdf 21 22 17.6 +1.5
baz=139
217A Green Valley 139.29 43 ⇑P PKPdf 21 22 17.7 +1.1
baz=139
LONY Lake Ozonia 139.31 355 *e*PKPpre 21 22 07.7
LONY *e*PKPdf PKPdf 21 22 14.4 -1.9
LONY *ep*PKPdf pPKPdf 21 22 23.6 -2.6
LONY *e*PP PP 21 25 02.3 -6.5
LONY *e*SKP 21 25 47.9
LONY LR LR

comp=Z,37µm,22.0s,MS7.1
118A Homack Ranch, 139.34 42 ⇑P PKPdf 21 22 17.5 +0.7
baz=139
SADO Sadowa 139.35 0 PKP PKPdf 21 22 15.0 -1.4
comp=Z,16nm,0.8s,baz=7.5,slow=2.4,SNR=3.8
SADO PP PP 21 25 07.3 -1.7

comp=Z,60nm,1.1s,baz=354,slow=6.5,SNR=7.8
SADO Sadowa 139.35 0 PKP PKPdf 21 22 15.0 -1.4
SADO PP PP 21 25 07.3 -1.7
LBNH Lisbon 139.39 352 PFAKE 21 22 30.0 +14
LBNH LR LR

comp=Z,30µm,20.0s,MS7.0
Z19A T-Link Ranch, 139.39 40 ⇓P PKPdf 21 22 17.8 +1.0
baz=139
218A Dragoon 139.69 43 ⇑P PKPdf 21 22 18.2 +0.8
baz=140
119A Ashpeak Ranch, 139.70 41 ⇑P PKPdf 21 22 18.4 +1.0
baz=140
MDV Middlebury 139.79 353 *e*PKPpre 21 22 10.5
MDV *e*PKPdf PKPdf 21 22 17.5 +0.3
MDV *e*PP PP 21 25 08.8 -3.0
NCB Newcomb 139.92 355 PKPpre 21 22 06.4
NCB *e*PKPdf PKPdf 21 22 18.4 +1.0
NCB *ep*PKPdf pPKPdf 21 22 24.4 -3.0
NCB *e*PP PP 21 25 12.8 +0.3
NCB *e*SKP 21 25 53.0
NCB LR LR

comp=Z,39µm,21.0s,MS7.1
JFWS Jewell Farm 139.94 13 *e*PKPpre 21 22 10.7
JFWS *e*PKPdf PKPdf 21 22 17.6 +0.1
JFWS *ep*PKPdf pPKPdf 21 22 24.5 -2.9
JFWS *e*PP PP 21 25 12.0 -0.8
JFWS LR LR

comp=Z,30µm,22.0s,MS7.0
LAZ Ladron 140.00 37 *e*PKPpre 21 22 15.4
LAZ *e*PKPdf PKPdf 21 22 20.0 +2.1
LAZ *e*PP PP 21 25 11.6 -2.4
ANMO Albuquerque 140.02 36 PKP PKPdf 21 22 15.8 -2.1
comp=Z,17nm,1.1s,baz=324,slow=2.4,SNR=1.7
ANMO SKPab 21 26 01.8

comp=Z,8.4nm,0.9s,baz=329,slow=1.8,SNR=4.2
318A Bisbee 140.05 43 ⇑P PKPdf 21 22 18.9 +0.8
baz=140
SCIA State Center 140.13 17 PFAKE 21 22 30.0 +12
SCIA LR LR

comp=Z,30µm,21.0s,MS7.0
219A White Tail Can 140.21 42 ⇓P PKPdf 21 22 19.0 +0.7
baz=140
LENM Lemitar 140.26 37 *e*PKPdf PKPdf 21 22 20.0 +1.7
LENM *e*PP PP 21 25 15.6 +0.1
Y22D IRIS PASSCAL I 140.35 38 ⇓P PKPdf 21 22 19.6 +1.1
baz=140
LPM Los Pinos Moun 140.36 37 *e*PKPpre 21 22 12.7
LPM *e*PKPdf PKPdf 21 22 19.3 +0.7
LPM *ep*PKPdf pPKPdf 21 22 26.0 -2.4
LPM *e*PP PP 21 25 16.8 +0.6
LPM *e*SKPdf SKPdf 21 25 54.1 +2.7
BNM Barren Site 140.48 37 *e*PKPpre 21 22 14.8
BNM *e*PKPdf PKPdf 21 22 20.5 +1.8
BNM *e*PP PP 21 25 15.4 -1.5

CBKS	**Cedar Bluff**	**140.51**	**26**	*e*PKPpre		21 22 11.6	
CBKS				PKPdf	PKPdf	21 22 14.7	-3.9
CBKS				*ep*PKPdf	pPKPdf	21 22 24.3	-4.3
CBKS				*e*PP	PP	21 25 17.1	+0.5
CBKS				*e*SKP		21 25 52.4	
CBKS				LR	LR		
	comp=Z,52µm,21.0s,MS7.3						
319A	**Douglas**	**140.57**	**43**	⇑P	PKPdf	21 22 20.9	+1.9
	baz=140						
HRV	**Adam Dziewonsk**	**141.04**	**351**	PFAKE		21 22 30.0	+10
HRV				LR	LR		
	comp=Z,27µm,19.0s,MS7.0						
WES	**Weston**	**141.12**	**351**	PFAKE		21 22 30.0	+10
WES				LR	LR		
	comp=Z,22µm,22.0s,MS6.9						
KSU1	**Kansas State U**	**141.53**	**22**	*e*PKPdf	PKPdf	21 22 21.6	+1.1
KSU1				LR	LR		
	comp=Z,37µm,22.0s,MS7.1						
AAM	**Ann Arbor**	**141.59**	**6**	PFAKE		21 22 30.0	+9.5
AAM				LR	LR		
	comp=Z,44µm,20.0s,MS7.2						
BINY	**Binghamton**	**141.82**	**356**	*e*PKPpre		21 22 18.3	
BINY				*e*PKPdf	PKPdf	21 22 22.5	+1.5
BINY				*e*PP	PP	21 25 21.9	-2.3
BINY				*e*SKP		21 25 55.2	
BINY				LR	LR		
	comp=Z,61µm,22.0s,MS7.3						
ERPA	**Erie**	**141.99**	**1**	PKPpre		21 21 50.6	
ERPA				*e*PKPdf	PKPdf	21 22 16.7	-4.5
ERPA				*e*PP	PP	21 25 15.5	-10
ERPA				LR	LR		
	comp=Z,29µm,22.0s,MS7.0						
FCH	**Farellones**	**142.02**	**192**	*e*P	PKPdf	21 22 25.0	+3.4
HDIL	**Hopedale**	**142.40**	**13**	*e*PKPdf	PKPdf	21 22 21.5	-0.5
HDIL				*e*PP	PP	21 25 22.0	-5.8
HDIL				LR	LR		
	comp=Z,40µm,21.0s,MS7.2						
ALLY	**Alegheny Colle**	**142.45**	**1**	*e*PKPpre		21 22 12.8	
ALLY				*e*PKPdf	PKPdf	21 22 23.0	+0.9
ALLY				*e*PP	PP	21 25 25.6	-2.4
ALLY				*e*SKP		21 25 52.8	
AMTX	**Amarillo**	**142.73**	**32**	*e*PKPpre		21 22 17.3	
AMTX				*e*PKPdf	PKPdf	21 22 25.6	+2.9
AMTX				*e*PP	PP	21 25 28.1	-2.3
AMTX				*e*SKP		21 25 58.0	
AMTX				LR	LR		
	comp=Z,29µm,20.0s,MS7.0						
PAL	**Palisades**	**142.83**	**354**	*e*PKPpre		21 22 19.6	
PAL				*e*PKPdf	PKPdf	21 22 24.6	+1.8
PAL				*ep*PKPdf	pPKPdf	21 22 30.5	-2.2
PAL				*e*PP	PP	21 25 27.7	-2.6
CPNY	**Central Park**	**143.04**	**354**	*e*PKPdf	PKPdf	21 22 22.7	-0.4
CPNY				*e*PP	PP	21 25 23.8	-7.8
CFAA	**Coronel Fontan**	**143.18**	**195**	PKhKP		21 22 18.8	
	comp=Z,0.8nm,0.7s,baz=195,slow=4.3,SNR=8.1						
CFAA				PKP	PKPdf	21 22 24.4	+0.7
	comp=Z,1.5nm,0.6s,baz=162,slow=3.3,SNR=16						
CFAA	**Coronel Fontan**	**143.18**	**195**	PKP		21 22 18.8	
CFAA				PKP	PKPdf	21 22 24.4	+0.7
SSPA	**Standing Stone**	**143.47**	**359**	*e*PKPpre		21 22 19.2	
SSPA				*e*PKPdf	PKPdf	21 22 25.4	+1.5
SSPA				*e*PP	PP	21 25 31.4	-2.7
SSPA				*e*SKP		21 25 59.4	
SSPA				LR	LR		
	comp=Z,9µm,20.0s,MS6.5						
BDFB	**Brasilia**	**143.66**	**237**	PKP	PKPdf	21 22 26.1	+1.2
	comp=Z,9.0nm,0.8s,baz=87,slow=5.2,SNR=5.0						
BDFB	**Brasilia**	**143.66**	**237**	PKP	PKPdf	21 22 26.1	+1.2
BDFB				LR	LR		
	comp=Z,45µm,19.0s,MS7.2						
ACSO	**Alum Creek Sta**	**143.71**	**5**	*e*PKPpre		21 22 20.3	
ACSO				*e*PKPdf	PKPdf	21 22 25.4	+1.0
ACSO				*e*PP	PP	21 25 27.9	-7.7
ACSO				LR	LR		
	comp=Z,34µm,22.0s,MS7.1						
LPIG	**La Paz**	**143.79**	**53**	PKP	PKPdf	21 22 23.7	-1.3
	comp=Z,16nm,0.3s,baz=343,slow=5.8,SNR=4.6						
SLM	**Saint Louis**	**143.99**	**15**	*e*PKPpre		21 22 21.1	
SLM				PKPdf	PKPdf	21 22 26.1	+1.2
SLM				*e*PP	PP	21 25 33.8	-3.6
MVL	**Millersville**	**144.03**	**357**	*e*PKPpre		21 22 22.1	
MVL				*e*PKPdf	PKPdf	21 22 26.0	+1.0
MVL				*ep*PKPdf	pPKPdf	21 22 29.6	-5.2
MVL				*e*PP	PP	21 25 35.7	-1.8
CCM	**Cathedral Cave**	**144.26**	**17⇑**	*e*PKPdf	PKPdf	21 22 22.1	-3.3
CCM				*e*PP	PP	21 25 28.1	-11
CCM				LR	LR		
	comp=Z,6µm,20.0s,MS6.3						
BLO	**Bloomington**	**144.28**	**10**	*e*PKPpre		21 22 21.3	
BLO				*e*PKPdf	PKPdf	21 22 25.6	+0.2
BLO				*e*PP	PP	21 25 42.3	+3.2
BLO				SKP		21 26 00.6	
OLIL	**Olney**	**144.40**	**12**	*e*PKPpre		21 22 23.0	
OLIL				*e*PKPdf	PKPdf	21 22 26.1	+0.5
OLIL				*ep*PKPdf	pPKPdf	21 22 33.1	-2.4
OLIL				*e*PP	PP	21 25 38.4	-1.5
MCWV	**Mont Chateau**	**144.45**	**1**	*e*PKPdf	PKPdf	21 22 23.0	-2.7
MCWV				*e*		21 22 31.3	
MCWV				*e*PP	PP	21 25 28.5	-11
MCWV				LR	LR		
	comp=Z,39µm,21.0s,MS7.2						
FVM	**French Village**	**144.56**	**16**	*e*PKPpre		21 22 22.8	
FVM				*e*PKPdf	PKPdf	21 22 26.8	+0.9
SDMD	**Soldier's Deli**	**144.65**	**357**	*e*PKPdf	PKPdf	21 22 23.4	-2.6
SIUC	**Southern Illin**	**145.12**	**14**	*e*PKPpre		21 22 25.2	
SIUC				*e*PKP	PKPdf	21 22 27.4	+0.5
TLL	**Tololo Astrono**	**145.18**	**193**	‖*i*P	PKPbc	21 22 26.4	-0.4
USIN	**University of**	**145.24**	**12**	*e*PKP	PKPdf	21 22 26.9	-0.2
USIN				*e*PKP	PKPdf	21 22 28.8	+1.7
WCI	**Wyandotte Cave**	**145.24**	**10**	*e*PKPpre		21 22 25.3	
WCI				*e*PKP	PKPdf	21 22 26.9	-0.1
WCI				LR	LR		
	comp=Z,9µm,21.0s,MS6.5						
TXAR	**Lajitas Array**	**145.60**	**40**	PKPbc	PKPbc	21 22 27.9	-0.2
	comp=Z,121nm,0.8s,baz=281,slow=1.4,SNR=180						
CBN	**Corbin**	**145.88**	**358**	*e*PKPdf	PKPdf	21 22 29.1	+0.9
CBN				LR	LR		
	comp=Z,41nm,21.0s,MS7.2						
PARMO	**Parma**	**145.98**	**16**	*e*PKPdf	PKPdf	21 22 29.1	+0.7
LCO	**Las Campanas**	**146.27**	**193**	‖*i*P	PKPdf	21 22 30.0	+0.9
GLAT	**Glass**	**146.47**	**15**	*e*PKPdf	PKPdf	21 22 30.0	+0.8
URVA	**University of**	**146.51**	**358**	*e*PKPdf	PKPdf	21 22 29.5	+0.2
UTMT	**University of**	**146.51**	**14**	*e*PKP	PKPdf	21 22 30.4	+1.1
GNAR	**Gosnell**	**146.56**	**16**	*e*PKPdf	PKPdf	21 22 29.9	+0.6
MIAR	**Mount Ida**	**146.69**	**22**	*e*PKPdf	PKPdf	21 22 30.2	+0.6
MIAR				*e*PKPab	PKPab	21 22 33.1	+0.7
MIAR				LR	LR		
	comp=Z,25µm,22.0s,MS7.0						
HALT	**Halls**	**146.80**	**15**	*e*PKPdf	PKPdf	21 22 29.4	-0.4
HALT				*e*PKPab	PKPab	21 22 31.9	-0.8
ELN	**Prospectdale**	**146.84**	**3**	*e*PKPdf	PKPdf	21 22 30.4	+0.6
BLA	**Blacksburg**	**146.87**	**2**	*e*PKPdf	PKPdf	21 22 30.1	+0.2
BLA				*e*PKPab	PKPab	21 22 33.1	+0.1
BLA				LR	LR		
	comp=Z,38µm,20.0s,MS7.2						
UALR	**University of**	**146.93**	**20**	*e*PKPdf	PKPdf	21 22 29.8	-0.2
WVT	**Waverly**	**146.96**	**13**	*e*PKPdf	PKPdf	21 22 30.7	+0.7
WVT				LR	LR		
	comp=Z,46µm,22.0s,MS7.2						
JCT	**Junction City**	**147.11**	**34**	*e*PKPdf	PKPdf	21 22 29.9	-0.6
JCT				*e*PKPbc	PKPbc	21 22 32.6	0.0
JCT				LR	LR		
	comp=Z,32µm,21.0s,MS7.1						
TZTN	**Tazewell**	**147.30**	**7**	*e*PKPdf	PKPdf	21 22 31.1	+0.5
TZTN				LR	LR		
	comp=Z,30µm,22.0s,MS7.0						
MET	**Memphis--Engin**	**147.38**	**17**	*e*PKPdf	PKPdf	21 22 31.9	+1.1
MET				*e*PP	PP	21 25 55.6	-2.0
OXF	**Oxford**	**148.09**	**16**	*e*PKPdf	PKPdf	21 22 32.7	+0.8
OXF				*e*PKPbc	PKPbc	21 22 35.3	+0.1
OXF				LR	LR		
	comp=Z,31µm,19.0s,MS7.1						
TKL	**Tuckaleechee C**	**148.14**	**7**	PKPbc	PKPbc	21 22 32.5	-2.8
	comp=Z,138nm,0.8s,baz=82,slow=2.2,SNR=22						
SWET	**Sewanee**	**148.24**	**11**	*e*PKPdf	PKPdf	21 22 32.3	+0.1
SWET				*e*PKPbc	PKPbc	21 22 35.7	+0.2
CPCT	**Cooper Cave**	**148.25**	**9**	*e*PKPdf	PKPdf	21 22 32.9	+0.7
CPCT				*e*PKPbc	PKPbc	21 22 35.8	+0.2
NATX	**Nacogdoches**	**148.67**	**26**	*e*PKPdf	PKPdf	21 22 32.9	-0.1
NATX				*e*PKPbc	PKPbc	21 22 36.6	-0.2
NATX				LR	LR		
	comp=Z,33µm,21.0s,MS7.1						
BBSR	**BB Station**	**148.70**	**336**	*e*PKPdf	PKPdf	21 22 34.1	+1.1
BBSR				*e*PKPbc	PKPbc	21 22 37.6	+0.8
BBSR				LR	LR		
	comp=Z,21µm,21.0s,MS6.9						
CNNC	**Cliffs of the**	**148.85**	**358**	*e*PKPdf	PKPdf	21 22 34.1	+0.9
CNNC				*e*PKPbc	PKPbc	21 22 38.0	+1.0
CNNC				LR	LR		
	comp=Z,44µm,22.0s,MS7.2						
HKT	**Hockley**	**149.64**	**30**	*e*PKPdf	PKPdf	21 22 35.6	+1.0
HKT				*e*PKPbc	PKPbc	21 22 40.6	+1.4
HKT				LR	LR		
	comp=Z,10µm,22.0s,MS6.5						
JSC	**Jenkinsville**	**149.75**	**4**	*e*PKPdf	PKPdf	21 22 35.2	+0.5
JSC				*e*PKPbc	PKPbc	21 22 39.4	+0.1
VBMS	**Vicksburg**	**149.88**	**20**	*e*PKPbc	PKPbc	21 22 39.4	-0.4
VBMS				LR	LR		
	comp=Z,47µm,22.0s,MS7.2						
LRAL	**Lakeview Retre**	**150.12**	**14**	*e*PKPdf	PKPdf	21 22 35.9	+0.6
LRAL				*e*PKPbc	PKPbc	21 22 40.5	+0.2
LRAL				LR	LR		
	comp=Z,48µm,22.0s,MS7.2						
GOGA	**Godfrey**	**150.40**	**8**	*e*PKPdf	PKPdf	21 22 37.2	+1.5
GOGA				*e*PKPbc	PKPbc	21 22 41.5	+0.6
GOGA				LR	LR		
	comp=Z,29µm,22.0s,MS7.0						
KVTX	**Kingsville**	**150.42**	**36**	*e*PKPdf	PKPdf	21 22 36.1	+0.2
KVTX				*e*PKPbc	PKPbc	21 22 41.8	+0.7
KVTX				LR	LR		
	comp=Z,31µm,19.0s,MS7.1						
ZAIG	**Zacatecas**	**150.51**	**49**	*i* P	PKPdf	21 22 36.3	+0.1
COW	**Cow Castle Cre**	**150.68**	**3**	PKPdf	PKPdf	21 22 38.2	+2.0
COW				*e*PKPbc	PKPbc	21 22 41.8	+0.2
NHSC	**New Hope**	**150.97**	**2**	*e*PKPdf	PKPdf	21 22 37.2	+0.6
NHSC				*e*PKPbc	PKPbc	21 22 42.5	+0.2
NHSC				LR	LR		
	comp=Z,35µm,21.0s,MS7.1						
CEN1	**Los Morros**	**151.50**	**197**	*e*P	PKPbc	21 22 42.3	-1.6
LVC	**Limon Verde**	**151.81**	**200**	*e*PKPdf	PKPdf	21 22 39.5	+1.3
LVC				*e*PKPbc	PKPbc	21 22 46.2	+1.6
LVC				LR	LR		
	comp=Z,30µm,20.0s,MS7.1						
BRAL	**Brewton**	**152.04**	**15**	*e*PKPdf	PKPdf	21 22 38.0	-0.3
BRAL				*e*PKPbc	PKPbc	21 22 45.6	+0.7
BRAL				LR	LR		
	comp=Z,47µm,21.0s,MS7.3						
MOIG	**Morelia**	**153.31**	**52**	*i* P	PKPdf	21 22 42.6	+2.2
SIV	**San Ignacio**	**153.40**	**221**	PKP	PKPdf	21 22 40.1	-0.6
	comp=Z,1.5nm,0.8s,baz=122,slow=8.0,SNR=6.3						
SIV				PKPbc	PKPbc	21 22 48.8	+0.5
	comp=Z,6.3nm,1.0s,baz=130,slow=3.8,SNR=13						
ZIIG	**Zihuatanejo**	**154.15**	**57**	*e*P	PKPdf	21 22 42.4	+0.7
PLIG	**Platanillo**	**155.35**	**53**	*i* P	PKPdf	21 22 43.5	+0.2
PPM	**Popocatepetl**	**155.65**	**50**	*i* P	PKPdf	21 22 42.1	-1.6
DWPF	**Disney**	**155.87**	**5**	PFAKE		21 22 50.0	+6.2
DWPF				LR	LR		
	comp=Z,11µm,22.0s,MS6.6						
LPAZ	**La Paz**	**157.19**	**208**	PKP	PKPdf	21 22 45.5	-0.3
	comp=Z,2.8nm,1.1s,baz=88,slow=5.1,SNR=6.5						
LPAZ				PKPab	PKPab	21 23 17.7	+1.3
	comp=Z,8.1nm,0.9s,baz=234,slow=8.7,SNR=5.6						
LPAZ	**La Paz**	**157.19**	**208**	PKP	PKPdf	21 22 45.5	-0.3
LPAZ				PKPab	PKPab	21 23 17.7	+1.3
VHO	**Vista Hermosa**	**158.27**	**52**	*i* P	PKPdf	21 22 45.6	-1.5
BBGH	**Gun Hill**	**158.72**	**297**	PFAKE		21 23 00.0	+12
BBGH				LR	LR		
	comp=Z,42µm,22.0s,MS7.2						
CMIG	**Matias Romero**	**159.68**	**49**	PKP	PKPdf	21 22 48.4	-0.4
	comp=Z,3.6nm,0.7s,baz=300,slow=6.5,SNR=3.7						
CMIG				PKPab	PKPab	21 23 25.8	-1.5
	comp=Z,8.4nm,0.7s,baz=332,slow=4.0,SNR=5.3						
CMIG	**Matias Romero**	**159.68**	**49**	PKP	PKPdf	21 22 48.4	-0.4
CMIG				PKPab	PKPab	21 23 25.8	-1.5
MTP	**Monte Pirata**	**160.73**	**318**	PKPdf	PKPdf	21 22 50.8	+0.9
GRGR	**Grenville**	**161.00**	**296**	PKPdf	PKPdf	21 22 49.9	-0.4
SJG	**San Juan**	**161.12**	**319**	PKPdf	PKPdf	21 22 49.8	-0.5
SJG				LR	LR		
	comp=Z,40µm,21.0s						
TRN	**Trinidad (W)**	**161.32**	**292**	*e*P	PKPdf	21 22 52.1	+1.5
TEIG	**Tepich**	**161.48**	**28**	PKP	PKPdf	21 22 50.1	-0.5
	comp=Z,22nm,1.0s,baz=340,slow=16,SNR=3.1						
TEIG				PKPab	PKPab	21 23 33.5	-1.4
	comp=Z,22nm,1.1s,baz=355,slow=3.1,SNR=2.7						
TEIG				PP	PP	21 27 14.3	-2.8
	comp=Z,28nm,1.1s,baz=328,slow=12,SNR=4.0						
TEIG	**Tepich**	**161.48**	**28**	PKP	PKPdf	21 22 50.1	-0.5
TEIG				PKPab	PKPab	21 23 33.5	-1.4
TEIG				PP	PP	21 27 14.3	-2.8
TEIG				LR	LR		
	comp=Z,31µm,21.0s						
NNA	**Nana**	**164.02**	**188**	PKP	PKPdf	21 22 53.0	-0.3
	comp=Z,4.0nm,0.3s,baz=168,slow=6.0,SNR=2.2						
PCRV	**Puerto La Cruz**	**164.46**	**294**	PKP	PKPdf	21 22 50.6	-3.1
	comp=Z,2.3nm,0.5s,baz=2.4,slow=1.0,SNR=2.0						
TGUH	**Tegucigalpa,Un**	**167.07**	**39**	PFAKE		21 23 10.0	+14
TGUH				LR	LR		
	comp=Z,51µm,21.0s						
PAYG	**Puerto Ayora**	**167.83**	**112**	PFAKE		21 23 10.0	+14
PAYG				LR	LR		
	comp=Z,33µm,20.0s						
ATAH	**Atahualpa**	**169.10**	**183**	PKP	PKPdf	21 22 58.1	+0.9
	comp=Z,2.2nm,0.4s,baz=80,slow=17,SNR=6.6						
ATAH				PKPab	PKPab	21 24 12.3	+3.8
	comp=Z,8.0nm,0.7s,baz=198,slow=8.6,SNR=3.2						
ATAH				PP	PP	21 28 09.4	+13
	comp=Z,10nm,1.0s,baz=128,slow=5.8,SNR=4.2						
SDV	**Santo Domingo**	**170.34**	**301**	PKP	PKPdf	21 22 55.9	-2.1
	comp=Z,1.4nm,0.4s,baz=289,slow=22,SNR=7.6						
SDV				PKPab	PKPab	21 24 16.0	+1.7
	comp=Z,11nm,0.8s,baz=288,slow=5.8,SNR=3.7						
SDV				PP	PP	21 28 11.1	+6.7
	comp=Z,15nm,0.8s,baz=40,slow=4.7,SNR=5.9						
JTS	**JuntasAbangare**	**171.38**	**43**	PKP	PKPdf	21 22 56.0	-2.5
	comp=Z,1.9nm,0.5s,baz=239,slow=2.8,SNR=2.2						
JTS				PKPab	PKPab	21 24 16.9	-1.9
	comp=Z,5.6nm,0.9s,baz=340,slow=10,SNR=2.1						
BCIP	**Isla Barro Col**	**174.75**	**9**	*e*PKPdf	PKPdf	21 22 59.0	-0.8
BCIP				LR	LR		
	comp=Z,37µm,20.0s						
ROSC	**El Rosal**	**175.25**	**281**	PKP	PKPdf	21 22 58.9	-1.2
	comp=Z,3.5nm,0.3s,baz=85,slow=22,SNR=6.0						
OTAV	**Otavalo**	**176.27**	**189**	*e*PKPdf	PKPdf	21 22 59.3	-1.0
OTAV				LR	LR		
	comp=Z,25µm,20.0s						

IDC 24 21:11:38.8±9.1, 508S×15402E, h117km±82km, mb4.2/10, mb1 4.3/10, mb1mx4.2/17, mbtmp4.2/10, Error ellipse: s-maj=39.1km s-min=18.1km az=69.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h m s		ISC
HNR	**Honiara**	**7.30**	**127**	S	Sn	21 14 55.6		+11
	8.9nm,0.3s,baz=7.1,slow=16,SNR=2.3							
URZ	**Urewera**	**39.14**	**151**	P	P	21 18 55.3		+0.3
	19nm,0.9s,baz=0.9,slow=6.6,SNR=6.9							
KSRS	**Korea Array**	**48.80**	**332**	P	P	21 20 12.3		+0.2
	1.4nm,0.9s,baz=146,slow=8.8,SNR=3.0							
PETK	**Petropavlovsk-**	**58.05**	**3**	P	P	21 21 18.7		-0.6
	1.9nm,0.7s,baz=213,slow=5.0,SNR=2.8							
CMAR	**Chiang Mai Arr**	**59.10**	**295**	P	P	21 21 27.2		-0.1
	5.5nm,0.8s,baz=126,slow=5.8,SNR=19							
SONM	**Songino Array**	**67.21**	**327**	P	P	21 22 20.8		+0.4
	1.2nm,0.5s,baz=127,slow=6.2,SNR=5.7							
MKAR	**Makanchi Array**	**81.33**	**319**	P	P	21 23 42.7		+0.4
	2.2nm,0.5s,baz=95,slow=7.8,SNR=27							
ZALV	**Zalesovo Beam**	**82.06**	**326**	P	P	21 23 45.9		0.0
	2.9nm,0.6s,baz=116,slow=5.0,SNR=5.2							
KURK	**Kurchatov**	**84.74**	**322**	P	P	21 24 00.5		+0.8
	3.5nm,0.2s,baz=108,slow=4.0,SNR=1.7							
MAW	**Mawson**	**85.78**	**203**	P	P	21 24 04.1		-0.5
	6.7nm,0.6s,baz=106,slow=6.1,SNR=27							
BVAR	**Borovoye Array**	**90.19**	**323**	P	P	21 24 25.6		-0.3
	5.8nm,0.8s,baz=106,slow=5.4,SNR=8.6							
GERES	**GERESS Array B**	**124.92**	**329**	PKP	PKPdf	21 30 25.8		+0.7
	0.5nm,0.6s,baz=31,slow=2.5,SNR=4.3							
TORD	**Torodi Ar. Bea**	**151.55**	**288**	PKPbc	PKPbc	21 31 19.6		-0.6
	211nm,0.5s,baz=71,slow=2.4,SNR=2.4							
TORD				PKPab	PKPab	21 31 29.2		0.0
	246nm,0.4s,baz=86,slow=2.9,SNR=2.1							
DBIC	**Dimbokro**	**158.93**	**275**	PKPab	PKPab	21 32 00.2		-0.6
	2.4nm,0.7s,baz=112,slow=4.2,SNR=5.0							

*LDG **24** 21:20:57.0±0.5, 1448S×16760E, h10km, Mb4.9/2, Error ellipse: s-maj=71.1km s-min=12.3km az=91.0*

*NOU **24** 21:21:03.0±2.1, 1467S×16684E, h15km±999km, MD3.6, ML4.3*

*IDC **24** 21:21:06.9±2.6, 1527S×16768E, h106km±20km, mb4.2/13, mb1 4.3/14, mb1mx4.2/21, mbtmp4.3/14, Error ellipse: s-maj=23.9km s-min=15.9km az=75.0*

*ISCJB **24** 21:21:07.5±1.3, 1519S±005×16767E±009, h126km±11km, mb4.4/19, Error ellipse: s-maj=15.3km s-min=6.9km az=158.7*

*NEIC **24** 21:21:08.2±2.1, 1519S×16773E, h120km±17km, mb4.5/11, Error ellipse: s-maj=13.9km s-min=8.3km az=84.0*

ISC 24 21:21:08.6±1.2, 1518S±005×16769E±009, h122km±9km, n75, σ0°89/50, mb4.4/19, 10C, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h m s		ISC
DZM	**Mont Dzumac**	**6.96**	**190**	*e*P	**Pn**	**21 22 47.4**		**-0.6**
DZM				*e*S	**Sn**	**21 24 05.4**		**-0.2**
DZM				AMP		21 24 12.2		
	comp=Z,2µm,4.5s							
NOUC	**Port Laguerre**	**7.01**	**191**	*e*P	**Pn**	**21 22 48.3**		**-0.4**
NOUC				*e*S	**Sn**	**21 24 06.4**		**-0.5**
NOUC				AMP		21 24 12.1		
	comp=Z,107nm,1.3s							
NORM	**Noumea**	**7.10**	**189**	*e*P	**Pn**	**21 22 51.1**		**+1.0**
ONTRN	**Noumea**	**7.19**	**189**	*e*P	**Pn**	**21 22 51.7**		**+0.6**
ONTRN				*e*S	**Sn**	**21 24 12.6**		**+1.3**
ONTRN				AMP		21 24 14.3		
	comp=Z,313nm,1.4s							
HNR	**Honiara**	**9.48**	**306**	P	**Pn**	**21 23 20.6**		**-1.6**
	comp=Z,17nm,0.3s,baz=120,slow=20,SNR=4.7							
HNR				S	**Sn**	**21 25 07.6**		**+0.7**
	baz=144,slow=19,SNR=2.7							
HNR	**Honiara**	**9.48**	**306**	*e*Pn	**Pn**	**21 23 22.1**		**-0.1**
HNR				Sn	**Sn**	**21 25 06.5**		**-0.4**
EIDS	**Eidsvold**	**18.57**	**234**	*e*P	**P**	**21 25 17.5**		**+1.3**
	comp=Z,45nm,0.5s							
PMG	**Port Moresby**	**20.86**	**284**	*e*P	**P**	**21 25 39.7**		**-1.3**
	comp=Z,22nm,1.1s							
CTA	**Charters Tower**	**21.00**	**253**	*e*P	**P**	**21 25 43.8**		**+1.3**
	comp=Z,38nm,6.4s							
CTA	**Charters Tower**	**21.00**	**253**	P	**P**	**21 25 41.9**		**-0.6**
	comp=Z,6.1nm,0.8s,baz=76,slow=13,SNR=3.9							
ARMA	**Armidale**	**21.16**	**221**	*e*P	**P**	**21 25 46.7**		**+2.6**
URZ	**Urewera**	**24.45**	**162**	P	**P**	**21 26 14.6**		**-1.5**
	comp=Z,3.6nm,0.5s,mb4.0,baz=302,slow=13,SNR=4.1							
CNB	**Canberra Magne**	**25.93**	**216**	*e*P	**P**	**21 26 29.9**		**+0.4**
SNZO	**South Karori**	**26.74**	**168**	P	**P**	**21 26 36.2**		**-0.5**
STKA	**Stephens Creek**	**29.02**	**230**	*e*P	**P**	**21 26 57.4**		**+0.2**
	comp=Z,5.5nm,0.8s,mb4.2							
STKA	**Stephens Creek**	**29.02**	**230**	P	**P**	**21 26 56.9**		**-0.3**
	comp=Z,8.4nm,0.8s,mb4.5,baz=30,slow=7.2,SNR=12							
STKA				ScP	ScP	21 33 33.5		+0.3
	comp=Z,0.9nm,0.4s,baz=63,slow=2.3,SNR=3.5							
STKA	**Stephens Creek**	**29.02**	**230**	*e*P	**P**	**21 26 57.3**		**+0.1**
	comp=Z,7.3nm,0.7s,mb4.4							
ASAR	**Alice Springs**	**32.90**	**250**	P	**P**	**21 27 30.0**		**-1.4**
	comp=Z,11nm,0.7s,mb4.8,baz=78,slow=9.1,SNR=115							
ASAR				ScP	ScP	21 33 46.7		+0.4
	comp=Z,0.9nm,0.7s,baz=82,slow=3.8,SNR=6.0							
FORT	**Forrest**	**39.42**	**240**	*e*P	**P**	**21 28 26.3**		**-0.5**
	comp=Z,8.8nm,1.0s,mb4.5							
FITZ	**Fitzroy Crossi**	**40.33**	**260**	P	**P**	**21 28 33.9**		**-0.6**
BATI	**Baumata**	**43.18**	**271**	P	**P**	**21 28 58.4**		**+0.6**
	comp=Z,27nm,0.7s,mb5.1,baz=98,slow=0.9,SNR=4.9							
MIDW	**Midway**	**45.50**	**19**	*e*P	**P**	**21 29 15.5**		**-0.4**
MBWA	**Marble Bar**	**45.82**	**255**	*e*P	**P**	**21 29 17.6**		**-1.0**
	comp=Z,10nm,0.7s,mb4.7							
DAV	**Davao City (W)**	**47.23**	**295**	P	**P**	**21 29 29.3**		**-0.4**
KAPI	**Kappang**	**48.16**	**277**	P	**P**	**21 29 35.9**		**-1.1**
	comp=Z,2.6nm,0.3s,mb4.5,baz=68,slow=5.4,SNR=5.9							
KAPI	**Kappang**	**48.16**	**277**	P	**P**	**21 29 35.9**		**-1.1**
KLBR	**Kellerberrin**

IDC ***24*** *21:26:52.6± 15.0, 273N× 9626E, h94km± 131km, mb3.6/5, mb1 3.6/6, mb1mx3.4/20, mbtmp3.6/6, ML3.9/1, Error ellipse: s-maj=130.3km s-min=24.7km az=59.0*
NEIC ***24*** *21:26:52.1± 3.9, 271N× 9630E, h93km± 35km, mb4.7/5, Error ellipse: s-maj=23.5km s-min=10.7km az=58.0*
ISCJB ***24*** *21:26:53.2± 4.9, 28N± 0.1× 963E± 0.2, h121km± 44km, mb4.1/9, Error ellipse: s-maj=32.2km s-min=14.7km az=147.3*
ISC 24 21:26:52.4± 4.9, 27N± 01× 963E± 02, h95km± 44km, n18, σ 0§ 91/18, mb4.1/9, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**15.86**	**9**	P		**Pn**	**21 30 30.3**	**+0.1**
	0.2nm,0.3s,baz=198,slow=12,SNR=15							
QIZ	**Qiongzhong**	**20.94**	**38**	*e*P		**P**	**21 31 26.7**	**-1.0**
	141nm,1.6s							
LSA	**Lhasa**	**27.27**	**350**	*e*P		**P**	**21 32 29.5**	**+1.6**
	4.1nm,0.9s,mb4.0							
DAV	**Davao City (W)**	**29.49**	**80**	P		**P**	**21 32 47.9**	**+0.1**
KBL	**Kabul**	**40.56**	**324**	P		**P**	**21 34 21.3**	**-1.2**
NWAO	**Narrogin (SRO)**	**40.62**	**152**	*e*P		**P**	**21 34 23.8**	**+0.8**
BJT	**Baijiatuau**	**41.27**	**23**	*e*P		**P**	**21 34 29.2**	**+1.0**
	7.9nm,0.7s,mb4.7							
ASAR	**Alice Springs**	**45.03**	**128**	P		**P**	**21 34 59.5**	**+0.6**
	1.0nm,1.0s,mb3.5,baz=301,slow=7.2,SNR=4.6							
MK31	**Makanchi Array**	**45.56**	**347**	*e*P		**P**	**21 35 00.6**	**-2.0**
MKAR	**Makanchi Array**	**45.56**	**347**	P		**P**	**21 35 02.9**	**+0.2**
	1.9nm,0.7s,mb4.0,baz=169,slow=8.2,SNR=12							
SONM	**Songino Array**	**45.78**	**9**	P		**P**	**21 35 04.6**	**+0.3**
	0.9nm,0.7s,mb3.6,baz=189,slow=10,SNR=3.9							
HIA	**Hailar**	**50.51**	**20**	*e*P		**P**	**21 35 41.0**	**+0.3**
	10nm,1.6s,mb4.6							
MDJ	**Mudanjiang**	**51.01**	**30**	P		**P**	**21 35 44.3**	**-0.3**
ZAA0	**Zalesovo Array**	**51.93**	**351**	*e*P		**P**	**21 35 51.9**	**+0.6**
ZALV	**Zalesovo Beam**	**51.93**	**351**	P		**P**	**21 35 51.7**	**+0.4**
	3.5nm,0.6s,mb4.6,baz=177,slow=7.5,SNR=15							
ZALV	**Zalesovo Beam**	**51.93**	**351**	P		**P**	**21 35 51.7**	**+0.4**
CTAO	**Charters Tower**	**53.99**	**117**	*e*P		**P**	**21 36 05.4**	**-1.7**
	11nm,1.3s,mb4.7							
BVAR	**Borovoye Array**	**54.53**	**341**	P		**P**	**21 36 10.1**	**-0.2**
	0.4nm,0.6s,mb3.7,baz=142,slow=7.2,SNR=4.2							

ISCJB ***24*** *21:34:06.3± 0.4, 423S± 007× 10131E± 008, h33km, mb4.5/24, Error ellipse: s-maj=12.8km s-min=7.7km az=142.1*
MOS ***24*** *21:34:06.1± 0.8, 417S× 10127E, h33km, mb4.5/3, Error ellipse: s-maj=21.1km s-min=10.4km az=103.4*
IDC ***24*** *21:34:08.3± 0.7, 422S× 101.16E, h34km± 3km, mb4.1/11, mb1 4.1/12, mb1mx3.9/21, mbtmp4.1/12, ML4.1/1, Error ellipse: s-maj=21.5km s-min=15.1km az=56.0*
BJI ***24*** *21:34:08.3, 420S× 10130E, h25km, mB5.2, mb4.9*
NEIC ***24*** *21:34:08.4± 0.4, 423S× 10130E, h35km, mb4.9/12, Error ellipse: s-maj=11.6km s-min=6.7km az=53.0*
ISC 24 21:34:10.6± 4.0, 423S± 007× 10131E± 009, h54km± 38km, h29km± 1.5km: pP-P, n44, σ 0§ 99/43, mb4.5/24, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
KAPI	**Kappang**	**18.40**	**93**	P		**Pn**	**21 38 20.4**	**-1.5**
	0.6nm,0.3s,baz=270,slow=17,SNR=2.8							
CMAR	**Chiang Mai Arr**	**22.67**	**354**	P		**P**	**21 39 04.8**	**-2.6**
	5.0nm,0.7s,mb4.0,baz=185,slow=8.6,SNR=36							
BATI	**Baumata**	**22.95**	**106**	P		**P**	**21 39 12.5**	**+2.0**
	7.4nm,0.3s,mb4.6,baz=300,slow=14,SNR=3.4							
CHTO	**Chiang Mai**	**23.02**	**354**	*e*P		**P**	**21 39 09.4**	**-1.7**
MBWA	**Marble Bar**	**24.56**	**135**	*e*P		**P**	**21 39 24.0**	**-1.5**
	30nm,1.4s,mb4.6							
QIZ	**Qiongzhong**	**24.60**	**20**	P		**P**	**21 39 20.9**	**-4.8**
DAV	**Davao City (W)**	**26.70**	**65**	P		**P**	**21 39 45.0**	**+0.1**
KMI	**Kunming**	**29.21**	**3**	P		**P**	**21 40 08.4**	**+1.2**
KMI				AMB		AMB		
	comp=Z,8.0nm,0.7s,mb4.6							
NWAO	**Narrogin (SRO)**	**32.19**	**154**	P		**P**	**21 40 34.0**	**+0.5**
ODAN	**Odare**	**33.72**	**337**	*e*P		**P**	**21 40 47.5**	**+0.7**
	comp=Z,8.7nm,0.5s,mb4.9							
TAPN	**Taplejung**	**34.04**	**338**	*e*P		**P**	**21 40 50.7**	**+1.1**
	comp=Z,13nm,0.7s,mb5.0							
RAMN	**Ramite**	**34.11**	**336**	*e*P		**P**	**21 40 51.6**	**+1.4**
	comp=Z,18nm,0.9s,mb5.0							
JIRN	**Jiri**	**34.90**	**336**	*e*P		**P**	**21 40 58.1**	**+1.0**
	comp=Z,27nm,0.9s,mb5.2							
LSA	**Lhasa**	**35.12**	**345**	*e*P		**P**	**21 40 59.7**	**+0.8**
LSA				pmax		pmax		
	comp=Z,1.0nm,0.4s,mb4.1							
LSA	**Lhasa**	**35.12**	**345**	*e*P		**P**	**21 40 59.6**	**+0.7**
	comp=Z,1.2nm,0.4s,mb4.2							
GUN	**Gumba**	**35.25**	**336**	*e*P		**P**	**21 41 01.0**	**+0.9**
	comp=Z,29nm,0.8s,mb5.3							
KKN	**Kakani**	**35.39**	**335**	*e*P		**P**	**21 41 01.6**	**+0.3**
	comp=Z,13nm,0.8s,mb4.9							
KKN	**Kakani**	**35.39**	**335**	*e*P		**P**	**21 41 01.6**	**+0.3**
KKN				pmax		pmax		
	comp=Z,13nm,0.8s,mb4.9							
GKN	**Gorkha**	**35.85**	**334**	*e*P		**P**	**21 41 06.1**	**+0.8**
KOLN	**Koldanda**	**36.11**	**333**	*e*P		**P**	**21 41 08.6**	**+1.1**
	comp=Z,16nm,0.8s,mb5.0							
DANN	**Dangsing**	**36.54**	**333**	*e*P		**P**	**21 41 11.1**	**0.0**
ASAR	**Alice Springs**	**36.90**	**125**	P		**P**	**21 41 14.9**	**+0.7**
	comp=Z,1.5nm,0.8s,mb3.9,baz=293,slow=8.2,SNR=13							
GTA	**Gaotai**	**43.45**	**358**	*e*P		**P**	**21 42 08.9**	**+0.7**
GTA				AMB		AMB		
	comp=Z,4.0nm,1.0s,mb4.1							
BJT	**Baijiatuau**	**46.11**	**16**	*e*P		**P**	**21 42 27.4**	**-2.0**
CTAO	**Charters Tower**	**46.49**	**114**	P		**P**	**21 42 33.1**	**+0.4**
STKA	**Stephens Creek**	**46.70**	**131**	P		**P**	**21 42 35.4**	**+1.2**
	comp=Z,0.9nm,0.4s,mb4.0,baz=321,slow=6.7,SNR=3.5							
STKA	**Stephens Creek**	**46.70**	**131**	*e*P		**P**	**21 42 34.8**	**+0.5**
	comp=Z,2.6nm,0.3s,mb4.6							
KSRS	**Korea Array**	**48.30**	**29**	P		**P**	**21 42 46.7**	**+0.2**
	comp=Z,3.1nm,0.8s,mb4.4,baz=215,slow=7.7,SNR=8.3							
KBL	**Kabul**	**49.10**	**324**	P		**P**	**21 42 51.8**	**-0.9**
SONM	**Songino Array**	**52.04**	**4**	P		**P**	**21 43 15.1**	**+0.5**
	comp=Z,3.3nm,0.8s,mb4.3,baz=183,slow=9.0,SNR=12							
SONM				pP		pP	21 43 23.5	-5.7
	comp=Z,1.6nm,0.6s,baz=188,slow=9.5,SNR=4.4							
SONM				sP		sP	21 43 30.0	-5.5
	comp=Z,2.5nm,0.7s,baz=183,slow=8.4,SNR=4.7							
SONM				PcP		PcP	21 44 26.9	+0.7
	comp=Z,0.5nm,0.5s,baz=198,slow=2.3,SNR=3.1							
ULN	**Ulaanbaatar**	**52.12**	**5**	*e*P		**P**	**21 43 13.8**	**-1.4**
MJAR	**Matsushiro Arr**	**53.21**	**37**	P		**P**	**21 43 23.1**	**-0.4**
	comp=Z,1.7nm,0.8s,mb4.0,baz=212,slow=4.2,SNR=4.5							
MK31	**Makanchi Array**	**53.52**	**344**	*e*P		**P**	**21 43 25.4**	**-0.2**
MKAR	**Makanchi Array**	**53.52**	**344**	P		**P**	**21 43 25.4**	**-0.2**
	comp=Z,4.8nm,0.7s,mb4.5,baz=156,slow=8.8,SNR=39							
MKAR				sP		sP	21 43 41.1	-5.3
	comp=Z,3.2nm,0.7s,baz=155,slow=9.0,SNR=4.7							
MDJ	**Mudanjiang**	**54.84**	**24**	*e*P		**P**	**21 43 35.3**	**+0.1**
	comp=Z,18nm,1.6s,mb4.8							
HIA	**Hailar**	**55.64**	**15**	P		**P**	**21 43 40.9**	**0.0**
KURK	**Kurchatov**	**58.11**	**343**	P		**P**	**21 43 57.4**	**-0.9**
	comp=Z,1.4nm,0.5s,mb4.3,baz=161,slow=6.5,SNR=3.2							
KURK				sP		sP	21 44 13.2	-6.1
	comp=Z,1.6nm,0.3s,baz=164,slow=6.8,SNR=3.3							
ZALV	**Zalesovo Beam**	**59.59**	**349**	P		**P**	**21 44 07.9**	**-0.7**
	comp=Z,2.8nm,0.5s,mb4.6,baz=168,slow=7.0,SNR=8.7							
ZALV				pP		pP	21 44 16.3	-7.1
	comp=Z,2.4nm,0.4s,baz=165,slow=5.7,SNR=5.8							
ZALV				sP		sP	21 44 23.4	-6.2
	comp=Z,7.5nm,0.9s,baz=162,slow=5.5,SNR=6.3							
GNI	**Garni**	**68.03**	**316**	*e*P		**P**	**21 45 03.5**	**-0.9**
MATP	**Matopo**	**72.43**	**250**	P		**P**	**21 45 31.1**	**-0.6**
	comp=Z,3.1nm,1.1s,mb4.2,baz=82,slow=7.1,SNR=3.2							
MATP				pP		pP	21 45 40.6	-6.4
	comp=Z,1.0nm,0.5s,baz=109,slow=5.1,SNR=1.5							
LSZ	**Lusaka**	**72.62**	**255**	*e*P		**P**	**21 45 32.4**	**-0.6**
LSZ				pmax		pmax		
	comp=Z,3.0nm,0.9s,mb4.2							
LSZ	**Lusaka**	**72.62**	**255**	*e*P		**P**	**21 45 32.4**	**-0.6**
	comp=Z,2.9nm,0.9s,mb4.2							
LBTB	**Lobatse**	**75.28**	**245**	P		**P**	**21 45 47.8**	**-0.6**
TXAR	**Lajitas Array**	**145.60**	**41**	PKPbc		PKPbc	21 53 45.0	+1.2
	comp=Z,2.7nm,0.8s,baz=300,slow=1.8,SNR=22							
TXAR				pPKPbc		pPKPbc	21 53 54.1	-5.7
	comp=Z,2.3nm,0.7s,baz=307,slow=1.2,SNR=11							

ISCJB ***24*** *21:49:03.0± 1.0, 531N± 006× 1264E± 0.1, h128km± 8km, mb3.9/10, Error ellipse: s-maj=23.7km s-min=9.6km az=171.4*

IDC ***24*** *21:49:04.6± 1.5, 529N× 12645E, h126km± 12km, mb3.7/8, mb1 3.8/9, mb1mx3.6/18, mbtmp3.7/9, Error ellipse: s-maj=41.0km s-min=12.3km az=73.0*
NEIC ***24*** *21:49:04.5± 1.1, 527N× 12649E, h126km± 10km, mb4.1/4, Error ellipse: s-maj=17.4km s-min=6.9km az=80.0*
ISC 24 21:49:03.4± 1.1, 528N± 006× 1265E± 01, h114km± 9km, n24, σ 1§ 12/26, mb4.0/10, 2D, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**1.98**	**334**	P		**Pn**	**21 49 38.4**	**+2.0**
	83nm,0.3s,baz=108,slow=13,SNR=2.8							
DAV				S		**Sn**	**21 50 03.8**	**+2.3**
	181nm,0.3s,baz=90,slow=20,SNR=4.1							
KCP	**Kidapawan**	**2.19**	**322**	*e*P		**Pn**	**21 49 35.5**	**-3.4**
KCP				*i* S		**Sn**	**21 50 03.8**	**-2.5**
SCPH	**Surigao**	**4.57**	**348**	*e*P		**Pn**	**21 50 09.9**	**-0.6**
KAPI	**Kappang**	**12.23**	**213**	P		**Pn**	**21 51 55.3**	**+1.5**
	0.3nm,0.3s,baz=29,slow=8.7,SNR=4.7							
KAKA	**Kakadu**	**18.84**	**162**	*e*P		**P**	**21 53 13.1**	**-1.4**
FITZ	**Fitzroy Crossi**	**23.25**	**182**	*e*P		**P**	**21 54 00.4**	**-0.4**
	0.1nm,0.6s							
ASAR	**Alice Springs**	**29.68**	**166**	P		**P**	**21 54 58.8**	**+0.3**
	0.8nm,0.4s,mb3.7,baz=354,slow=8.4,SNR=12							
CMAR	**Chiang Mai Arr**	**29.88**	**298**	P		**P**	**21 55 01.0**	**+0.6**
	0.3nm,0.3s,mb3.4,baz=152,slow=7.8,SNR=3.4							
CHTO	**Chiang Mai**	**30.02**	**299**	*e*P		**P**	**21 55 01.1**	**-0.5**
BJT	**Baijiatuau**	**35.80**	**346**	*e*P		**P**	**21 55 51.0**	**-0.7**
	12nm,0.3s							
NWAO	**Narrogin (SRO)**	**39.00**	**192**	P		**P**	**21 56 18.1**	**-0.6**
	3.3nm,0.7s,mb4.2,baz=34,slow=7.3,SNR=3.3							
MDJ	**Mudanjiang**	**39.27**	**4**	P		**P**	**21 56 21.9**	**+1.1**
STKA	**Stephens Creek**	**39.67**	**160**	*e*P		**P**	**21 56 24.7**	**+0.4**
	1.9nm,0.5s,mb4.2							
STKA	**Stephens Creek**	**39.67**	**160**	P		**P**	**21 56 24.6**	**+0.3**
	2.1nm,0.5s,mb4.3,baz=335,slow=8.7,SNR=8.9							
STKA	**Stephens Creek**	**39.67**	**160**	*e*P		**P**	**21 56 25.0**	**+0.7**
	3.0nm,0.6s,mb4.3							
ULN	**Ulaanbaatar**	**45.57**	**342**	*e*P		**P**	**21 57 13.7**	**+1.9**
	4.5nm,1.4s,mb4.0							
SONM	**Songino Array**	**45.75**	**341**	P		**P**	**21 57 13.1**	**-0.1**
	0.3nm,0.4s,mb3.4,baz=150,slow=11,SNR=4.2							
MK31	**Makanchi Array**	**56.14**	**325**	*e*P		**P**	**21 58 30.9**	**-0.1**
MKAR	**Makanchi Array**	**56.14**	**325**	P		**P**	**21 58 30.8**	**-0.2**
	1.1nm,0.4s,mb4.2,baz=116,slow=7.4,SNR=22							
YAK	**Yakutsk**	**56.67**	**2**	*e*P		**P**	**21 58 33.1**	**-1.4**
	24nm,0.5s							
ZALV	**Zalesovo Beam**	**59.09**	**333**	P		**P**	**21 58 51.0**	**-0.6**
	0.8nm,0.5s,mb4.0,baz=119,slow=5.4,SNR=4.4							
KBL	**Kabul**	**60.38**	**307**	*e*P		**P**	**21 59 01.2**	**+0.4**
	0.7nm,0.5s,mb4.0							
BILL	**Bilibino**	**68.13**	**15**	P		**P**	**21 59 50.8**	**0.0**
ARCES	**ARCESS Array B**	**88.91**	**340**	P		**P**	**22 01 45.4**	**+0.8**
	7.5nm,1.2s,mb4.6,baz=49,slow=5.5,SNR=4.0							

IDC ***24*** *22:17:35.7± 1.1, 4.10S× 10077E, h0km, mb3.9/7, mb1 4.0/7, mb1mx3.8/19, mbtmp3.9/7, Error ellipse: s-maj=32.6km s-min=24.2km az=81.0*
ISCJB ***24*** *22:17:38.7± 0.8, 406S± 010× 1009E± 01, h33km, mb3.9/11, Error ellipse: s-maj=22.2km s-min=11.4km az=152.9*
NEIC ***24*** *22:17:40.8± 0.5, 406S× 10089E, h35km, mb3.7/4, Error ellipse: s-maj=15.5km s-min=7.6km az=63.0*
ISC 24 22:17:40.9± 0.8, 406S± 010× 1009E± 01, h35km, n17, σ 0§ 46/16, mb3.9/11, Southwest of Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**22.45**	**355**	P		**P**	**22 22 37.3**	**+0.2**
	2.4nm,0.6s,mb3.8,baz=182,slow=8.5,SNR=17							
CHTO	**Chiang Mai**	**22.81**	**355**	*e*P		**P**	**22 22 40.3**	**-0.4**
	3.0nm,1.0s,mb3.7							
QIZ	**Qiongzhong**	**24.57**	**21**	*e*P		**P**	**22 22 56.8**	**-0.9**
	1.0nm,0.4s,mb3.7							
MBWA	**Marble Bar**	**24.98**	**134**	P		**P**	**22 23 01.5**	**0.0**
DAV	**Davao City (W)**	**27.00**	**66**	*e*P		**P**	**22 23 20.0**	**+0.2**
ENH	**Enshi**	**35.11**	**13**	*e*P		**P**	**22 24 30.7**	**-0.3**
	0.7nm,1.2s,mb3.5							
ASAR	**Alice Springs**	**37.34**	**125**	P		**P**	**22 24 50.6**	**+0.3**
	0.5nm,0.8s,mb3.6,baz=299,slow=7.7,SNR=4.8							
CTAO	**Charters Tower**	**46.94**	**114**	*e*P		**P**	**22 26 08.5**	**-0.1**
	1.1nm,0.5s,mb4.0							
STKA	**Stephens Creek**	**47.13**	**131**	*e*P		**P**	**22 26 09.5**	**-0.4**
KSRS	**Korea Array**	**48.35**	**29**	P		**P**	**22 26 19.6**	**+0.3**
	1.0nm,0.8s,mb3.9,baz=208,slow=6.9,SNR=3.7							
SONM	**Songino Array**	**51.90**	**5**	P		**P**	**22 26 47.1**	**+1.2**
	2.1nm,0.9s,mb4.1,baz=186,slow=9.2,SNR=15							
MK31	**Makanchi Array**	**53.24**	**344**	*e*P		**P**	**22 26 56.1**	**+0.3**
MKAR	**Makanchi Array**	**53.24**	**344**	P		**P**	**22 26 55.9**	**0.0**
	2.2nm,0.8s,mb4.2,baz=148,slow=8.1,SNR=19							
ZALV	**Zalesovo Beam**	**59.34**	**349**	P		**P**	**22 27 39.0**	**-0.3**
	3.2nm,0.8s,mb4.4,baz=178,slow=4.5,SNR=18							
ZALV	**Zalesovo Beam**	**59.34**	**349**	P		**P**	**22 27 39.0**	**-0.3**
MATP	**Matopo**	**72.10**	**250**	P		**P**	**22 29 02.1**	**-0.1**
	1.4nm,0.8s,mb3.9,baz=127,slow=16,SNR=2.6							
TXAR	**Lajitas Array**	**145.74**	**40**	PKPbc		PKPbc	22 37 17.6	+0.7
	0.4nm,0.5s,baz=228,slow=1.5,SNR=6.4							

ISCJB ***24*** *22:28:34.3± 0.9, 2397S± 007× 669W± 02, h213km± 18km, Error ellipse: s-maj=29.6km s-min=11.0km az=5.7*
NEIC ***24*** *22:28:34.9± 0.9, 2397S× 6695W, h208km± 11km, mb3.8/1, Error ellipse: s-maj=24.6km s-min=11.8km az=101.0*
IDC ***24*** *22:28:36.0± 4.5, 2384S× 6689W, h211km± 40km, mb3.6/1, mb1 3.3/3, mb1mx3.1/13, mbtmp3.2/3, Error ellipse: s-maj=47.1km s-min=39.7km az=83.0*
ISC 24 22:28:35.1± 0.9, 2395S± 008× 669W± 02, h209km± 19km, n10, σ 0§ 86/10, Jujuy Province

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**2.25**	**306**	*e*Pn		**Pn**	**22 29 17.7**	**+0.8**
LVC				*e*S		**Sn**	**22 29 49.8**	**+0.4**
LCO	**Las Campanas**	**6.07**	**213**	Pn		**Pn**	**22 30 01.7**	**-1.6**
LCO				*e*Sn		**Sn**	**22 31 03.0**	**-10**
LPAZ	**La Paz**	**7.70**	**351**	P		**Pn**	**22 30 25.2**	**+0.7**
	0.5nm,0.3s,baz=134,slow=5.9,SNR=16							
LPAZ				S		**Sn**	**22 31 50.6**	**-1.2**
	0.1nm,0.3s,baz=265,slow=23,SNR=4.7							
SIV	**San Ignacio**	**9.64**	**36**	P		**Pn**	**22 30 49.8**	**+0.1**
	0.2nm,0.3s,baz=236,slow=12,SNR=4.0							
TRQA	**Tornquist**	**14.69**	**164**	*e*P		**Pn**	**22 31 53.2**	**+0.2**
	2.2nm,0.6s							
TORD	**Torodi Ar. Bea**	**76.50**	**69**	P		**P**	**22 40 01.8**	**-0.6**
	183nm,0.4s,baz=251,slow=5.8,SNR=1.9							
MAW	**Mawson**	**81.47**	**163**	P		**P**	**22 40 29.5**	**+1.1**
	1.5nm,0.9s,baz=225,slow=8.6,SNR=3.9							
ASAR	**Alice Springs**	**128.53**	**205**	PKP		PKPdf	22 47 18.3	+0.7
	0.2nm,0.3s,baz=144,slow=3.4,SNR=3.6							
ZALV	**Zalesovo Beam**	**143.32**	**28**	PKP		PKPdf	22 47 42.3	-1.7
	0.7nm,0.3s,baz=298,slow=3.7,SNR=3.7							
MKAR	**Makanchi Array**	**146.45**	**39**	PKPbc		PKPbc	22 47 52.3	+1.0
	1.0nm,0.5s,baz=306,slow=3.7,SNR=7.0							

IDC ***24*** *22:30:23.1± 1.3, 0.15N× 9662E, h0km, mb3.9/8, mb1 4.0/9, mb1mx3.8/20, mbtmp3.9/9, ML4.3/1, Error ellipse: s-maj=62.3km s-min=19.0km az=59.0*
ISCJB ***24*** *22:30:27.2± 0.8, 041N± 010× 97.1E± 02, h33km, mb4.0/8, Error ellipse: s-maj=23.4km s-min=12.1km az=157.2*
NEIC ***24*** *22:30:28.6± 0.8, 030N× 9689E, h35km, mb3.3/3, Error ellipse: s-maj=32.9km s-min=10.2km az=64.0*
ISC 24 22:30:29.7± 0.9, 04N± 01× 972E± 02, h35km, n17, σ 0§ 90/15, mb4.0/8, 1D, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
PSI	**Prapat**	**2.93**	**37**	*e*P		**Pn**	**22 31 12.8**	**-1.0**
CMAR	**Chiang Mai Arr**	**17.98**	**5**	P		**Pn**	**22 34 37.8**	**+0.7**
	0.3nm,0.3s,baz=194,slow=11,SNR=10							
CHTO	**Chiang Mai**	**18.34**	**5**	*e*P		**Pn**	**22 34 41.2**	**-0.2**
	1.0nm,0.6s							
LSA	**Lhasa**	**29.65**	**349**	P		**P**	**22 36 32.4**	**+0.3**
FITZ	**Fitzroy Crossi**	**33.52**	**125**	*e*P		**P**	**22 37 05.5**	**-0.8**
ASAR	**Alice Springs**	**42.98**	**126**	P		**P**	**22 38 26.1**	**+0.3**
	1.0nm,0.5s,mb3.8,baz=299,slow=8.1,SNR=28							
SONM	**Songino Array**	**47.88**	**8**	P		**P**	**22 39 06.0**	**+1.8**
	0.2nm,0.4s,mb3.5,baz=197,slow=8.4,SNR=3.8							
MK31	**Makanchi Array**	**47.96**	**346**	*e*P		**P**	**22 39 04.8**	**-0.1**
MKAR	**Makanchi Array**	**47.96**	**346**	P		**P**	**22 39 05.2**	**+0.3**
	1.3nm,0.5s,mb4.2,baz=167,slow=8.6,SNR=6.9							
KURK	**Kurchatov**	**52.51**	**345**	P		**P**	**22 39 38.4**	**-0.8**
	0.2nm,0.2s,mb3.7,baz=154,slow=26,SNR=2.7							
STKA	**Stephens Creek**	**52.88**	**132**	P		**P**	**22 39 43.1**	**+0.9**
	1.5nm,0.5s,mb4.2,baz=302,slow=8.1,SNR=6.2							
STKA	**Stephens Creek**	**52.88**	**132**	*e*P		**P**	**22 39 43.1**	**+0.7**
	1.6nm,0.5s,mb4.2							
ZALV	**Zalesovo Beam**	**54.29**	**351**	P		**P**	**22 39 52.7**	**+0.4**
	1.7nm,0.4s,mb4.3,baz=176,slow=6.5,SNR=8.2							
AKASG	**Malin Array Be**	**75.83**	**323**	P		**P**	**22 42 10.1**	**-2.2**
	0.4nm,0.4s,mb3.8,baz=110,slow=3.9,SNR=2.7							
ARCES	**ARCESS Array B**	**83.23**	**340**	P		**P**	**22 42 52.6**	**+0.4**
	1.8nm,0.8s,mb4.2,baz=89,slow=5.0,SNR=3.6							
TXAR	**Lajitas Array**	**144.32**	**32**	PKP		PKPdf	22 50 01.6	-1.3
	0.3nm,0.7s,baz=169,slow=0.9,SNR=5.2							
TXAR	**Lajitas Array**	**144.32**	**32**	PKP		PKPdf	22 50 01.6	-1.4

LDG ***24*** *22:43:36.5± 0.1, 4500N× 737E, h10km, Ml3.5/41, Error ellipse: s-maj=1.7km s-min=1.4km az=106.0*
CSEM ***24*** *22:43:36.9± 0.1, 4500N× 734E, h15km, ML3.6/39, Error ellipse: s-maj=1.1km s-min=0.9km az=64.0*
BGR ***24*** *22:43:36.9± 1.0, 4512N× 727E, h10km, ML3.4, Error ellipse: s-maj=18.9km s-min=16.7km az=175.0*
ZUR ***24*** *22:43:36.7, 4501N× 756E, h7km± 1km, ML3.1/8*
NEIC ***24*** *22:43:37.0, 4503N× 729E, h17km, ML3.3(STR), ML3.2(ROM), ML3.5(LDG), After ROM.*
ROM ***24*** *22:43:37.0± 0.1, 4503N× 729E, h17km± 3km, Md3.0/14, Ml3.2/15, Error ellipse: s-maj=2.4km s-min=2.2km az=68.0*
GEN ***24*** *22:43:37.6, 4502N× 728E, h11km, ML3.0*
STR ***24*** *22:43:37.2± 0.1, 4496N× 742E, h5km, Ml3.3, Error ellipse: s-maj=0.0km s-min=0.0km az=0.0*
ISCJB ***24*** *22:43:37.1± 0.2, 4502N± 001× 735E± 002, h21km± 2km, Error ellipse: s-maj=2.2km s-min=1.8km az=144.4*
PRU ***24*** *22:43:38.0, 4521N× 729E, h0km*
ISC 24 22:43:36.5± 0.2, 4503N± 001× 735E± 001, h5km± 1km, n229, σ 1§ 24/393, 27C-14D, Northern Italy

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
RSP	**Reno Superiore**	**0.14**	**335**	*i* Pg		**Pg**	**22 43 41.3**	**+2.1**
RSP				Sg		**Sg**	**22 43 43.6**	**+2.5**
	31μm,0.1s							
MONC	**Moncucco Torin**	**0.41**	**83**	*i* Pg		**Pg**	**22 43 47.6**	**+3.1**
MONC				Sg		**Sg**	**22 43 55.4**	**+5.5**
	4μm,0.5s							
LSD	**Lago del Serru**	**0.46**	**341**	*i* Pg		**Pg**	**22 43 46.5**	**+1.2**
LSD				Sg		**Sg**	**22 43 52.1**	**+0.8**
	3μm,0.4s							
BNI	**Bardonecchia**	**0.47**	**273**	*i* Pg		**Pg**	**22 43 46.6**	**+1.0**
BNI				Sg		**Sg**	**22 43 52.4**	**+0.6**
	796nm,0.2s							
MBDF	**Montbardon**	**0.51**	**234**	*e*P		**Pg**	**22 43 48.1**	**+1.9**
MBDF				*e*Sg		**Sg**	**22 43 54.1**	**+1.3**
	2μm,0.3s							
MBDF	**Montbardon**	**0.51**	**234**	*e*P		**Pg**	**22 43 48.1**	**+1.9**
MBDF				*e*Sg		**Sg**	**22 43 54.1**	**+1.3**
	834nm,0.3s							
MBDF	**Montbardon**	**0.51**	**234**	*e*Pg		**Pg**	**22 43 47.5**	**+1.3**
MBDF				*e*P			22 43 48.1	
MBDF				*e*Sg		**Sg**	**22 43 54.1**	**+1.3**
DOI	**San Dam

LMR	**La Mourre**	1.80	200	*e*Pg		**Pg**	22 44 09.5	-1.4
LMR				*e*Sg		**Sg**	22 44 32.3	-1.8
	93nm,0.2s							
LMR	**La Mourre**	1.80	200	*e*Pg		**Pg**	22 44 09.5	-1.4
LMR				*e*Sg		**Sg**	22 44 32.3	-1.8
	46nm,0.2s							
LMR	**La Mourre**	1.80	200	*e*P		**Pn**	22 44 08.2	+0.1
LMR				*e*Pg		**Pg**	22 44 09.5	-1.4
LMR				*e*Sg		**Sg**	22 44 32.3	-1.8
CABF	**La Chapelle**	1.81	331	*e*Pg		**Pg**	22 44 12.2	+1.0
CABF				*e*Sg		**Sg**	22 44 33.7	-1.0
	308nm,0.7s							
CABF	**La Chapelle**	1.81	331	*e*Pg		**Pg**	22 44 12.2	+1.0
CABF				*e*Sg		**Sg**	22 44 33.7	-1.0
	154nm,0.7s							
CABF	**La Chapelle**	1.81	331	*e*P		**Pn**	22 44 09.1	+0.8
CABF				*e*Pg		**Pg**	22 44 12.2	+1.0
CABF				*e*Sg		**Sg**	22 44 33.7	-1.0
MDI	**Monti di Nese**	1.83	65	Pg		**Pn**	22 44 07.1	-1.4
	126nm,0.3s							
VIVF	**Saint-Julien-l**	1.91	266	*e*Pg		**Pg**	22 44 12.8	-0.2
VIVF				*e*Sg		**Sg**	22 44 36.3	-1.4
	147nm,0.4s							
VIVF	**Saint-Julien-l**	1.91	266	*e*Pg		**Pg**	22 44 12.8	-0.2
VIVF				*e*Sg		**Sg**	22 44 36.3	-1.4
	73nm,0.4s							
VIVF	**Saint-Julien-l**	1.91	266	*e*P		**Pn**	22 44 10.5	+0.9
VIVF				*e*Pg		**Pg**	22 44 12.8	-0.2
VIVF				*e*Sg		**Sg**	22 44 36.3	-1.4
BRANT	**Les Verrieres**	2.01	343⇓	*e*P		**Pn**	22 44 11.8	+0.8
	406nm,0.5s							
GRAM	**Graiana**	2.01	104	P		**Pn**	22 44 12.2	+1.2
TUE	**Stuetta**	2.01	43	Pg		**Pn**	22 44 10.9	-0.2
	83nm,0.5s							
BACM	**Baccana**	2.08	110	P		**Pn**	22 44 12.0	0.0
VALM	**Valbona**	2.18	107	P		**Pn**	22 44 14.3	+1.0
BALST	**Balsthal**	2.32	6⇑	*i*P		**Pn**	22 44 16.5	+1.2
BERNI	**Berninapass**	2.33	53⇑	*i*P		**Pn**	22 44 15.6	+0.2
SARO	**Sassorosso**	2.34	110	P		**Pn**	22 44 15.6	+0.1
LOMF	**Lomont**	2.35	351	Pn		**Pn**	22 44 16.8	+1.1
LOMF				Pg		**Pg**	22 44 22.5	+0.9
BOURR	**Bourrignon**	2.37	358⇓	*e*P		**Pn**	22 44 16.8	+0.8
MAGA	**Magasa**	2.43	71	Pg		**Pn**	22 44 15.7	-1.1
	161nm,0.3s							
MABI	**Malga Bissina**	2.45	64	Pg		**Pn**	22 44 16.7	-0.4
BRMO	**Bormio**	2.57	55	Pg		**Pn**	22 44 19.0	+0.3
	15nm,0.4s							
PII	**Pisa**	2.63	119	Pg		**Pg**	22 44 19.5	-7.3
	12nm,0.2s							
LASF	**Ste Croix**	2.67	250	*e*Pn		**Pn**	22 44 20.1	0.0
LASF				*e*Sn		**Sn**	22 44 48.7	-4.1
	23nm,0.2s							
LASF	**Ste Croix**	2.67	250	*e*Pn		**Pn**	22 44 20.1	0.0
LASF				*e*Sn		**Sn**	22 44 48.7	-4.1
	12nm,0.2s							
PGF	**Pioggiola**	2.75	154	*e*Pn		**Pn**	22 44 19.6	-1.6
PGF				*e*Sn		**Sn**	22 44 49.8	-5.0
	11nm,0.2s							
PGF	**Pioggiola**	2.75	154	*e*Pn		**Pn**	22 44 19.6	-1.6
PGF				*e*Sn		**Sn**	22 44 49.8	-5.0
	5.6nm,0.2s							
HINF	**Hinteralfeld**	2.81	353	*e*Pn		**Pn**	22 44 22.2	+0.2
HINF				*e*Sn		**Sn**	22 44 52.1	-4.2
HINF				*e*Sg		**Sg**	22 45 05.2	-1.6
	42nm,0.3s							
HINF	**Hinteralfeld**	2.81	353	*e*Pn		**Pn**	22 44 22.2	+0.2
HINF				*e*Sn		**Sn**	22 44 52.1	-4.2
HINF				*e*Sg		**Sg**	22 45 05.2	-1.6
	21nm,0.3s							
MOF	**Molkenrain**	2.83	357	Pn		**Pn**	22 44 22.7	+0.4
MOF				Sg		**Sg**	22 45 06.9	-0.5
DAVA	**Damuels**	2.87	37	*e*Pn		**Pn**	22 44 24.7	+1.9
DAVA				*e*Sn		**Sn**	22 45 00.3	+2.7
DAVA	**Damuels**	2.87	37⇓	*e*Pn		**Pn**	22 44 24.6	+1.8
	6.0nm,0.2s							
DAVA			⇑	*e*Sn		**Sn**	22 44 59.5	+1.9
	31nm,0.3s							
FELD	**Feldberg im Sc**	2.89	9	Pn		**Pn**	22 44 23.3	+0.2
SMF	**Signal de Mont**	2.94	305	*e*Pn		**Pn**	22 44 24.3	+0.5
SMF				*e*Sn		**Sn**	22 44 54.8	-4.6
SMF				*e*Sg		**Sg**	22 45 08.9	-1.9
	62nm,0.2s							
SMF	**Signal de Mont**	2.94	305	*e*Pn		**Pn**	22 44 24.3	+0.5
SMF				*e*Sn		**Sn**	22 44 54.8	-4.6
SMF				*e*Sg		**Sg**	22 45 08.9	-1.9
	31nm,0.2s							
HAU	**Haudompre**	3.06	347	*e*Pn		**Pn**	22 44 25.6	+0.2
HAU				*e*Sn		**Sn**	22 44 58.0	-4.4
HAU				*e*Sg		**Sg**	22 45 12.6	-2.1
	79nm,0.4s							
HAU	**Haudompre**	3.06	347	*e*Pn		**Pn**	22 44 25.6	+0.2
HAU				*e*Sn		**Sn**	22 44 58.0	-4.4
HAU				*e*Sg		**Sg**	22 45 12.6	-2.1
	40nm,0.4s							
APPI	**Appiano**	3.08	60	Pg		**Pg**	22 44 27.1	-8.4
	34nm,0.4s							
FETA	**Feichten**	3.09	49⇑	*i*Pn		**Pn**	22 44 27.3	+1.4
	1.0nm,0.1s,SNR=10							
FETA			⇑	*i*Sn		**Sn**	22 45 03.7	+0.6
	5.5nm,0.3s							
LIBD	**Limburg**	3.13	3	Pn		**Pn**	22 44 26.5	+0.1
CTI	**Castel Tesino**	3.19	70	Pg		**Pn**	22 44 26.7	-0.6
	14nm,0.3s							
ECH	**Echery**	3.19	358	Pn		**Pn**	22 44 27.5	+0.2
SPAK	**Spaichingen-Ko**	3.23	17	Pn		**Pn**	22 44 27.7	-0.1
AVF	**Avril sur Loir**	3.30	304	*e*Pn		**Pn**	22 44 29.7	+1.0
AVF				*e*Sn		**Sn**	22 45 03.5	-4.8
AVF				*e*Sg		**Sg**	22 45 19.8	-2.6
	70nm,0.6s							
AVF	**Avril sur Loir**	3.30	304	*e*Pn		**Pn**	22 44 29.7	+1.0
AVF				*e*Sn		**Sn**	22 45 03.5	-4.8
AVF				*e*Sg		**Sg**	22 45 19.8	-2.6
	35nm,0.6s							
LOR	**Lormes**	3.30	314	*e*P		**Pn**	22 44 29.5	+0.7
	baz=136							
LOR				*e*Sn		**Sn**	22 45 03.6	-4.8
LOR				*e*Sg		**Sg**	22 45 20.0	-2.5
	42nm,0.3s							
LOR	**Lormes**	3.30	314	*e*P		**Pn**	22 44 29.5	+0.7
LOR				*e*Sn		**Sn**	22 45 03.6	-4.8
LOR				*e*Sg		**Sg**	22 45 20.0	-2.5
	21nm,0.3s							
THEF	**They Montfort**	3.34	344	Pn		**Pn**	22 44 29.7	+0.5
SSF	**Saint Saulge**	3.36	309	*e*P		**Pn**	22 44 30.4	+0.8
SSF				*e*Sn		**Sn**	22 45 05.0	-4.8
SSF				*e*Sg		**Sg**	22 45 22.2	-2.2
	49nm,0.5s							
SSF	**Saint Saulge**	3.36	309	*e*P		**Pn**	22 44 30.4	+0.8
SSF				*e*Sn		**Sn**	22 45 05.0	-4.8
SSF				*e*Sg		**Sg**	22 45 22.2	-2.2
	25nm,0.5s							
BFO	**Black Forest**	3.37	11	*e*Pn		**Pn**	22 44 29.6	-0.1
BFO				*e*Sn		**Sn**	22 45 08.8	-1.4
BFO	**Black Forest**	3.37	11	*e*Pn		**Pn**	22 44 29.6	-0.2
BFO				*e*Sn		**Sn**	22 45 08.8	-1.3
CDF	**Champ du Feu**	3.39	359	*e*P		**Pn**	22 44 30.1	+0.1
CDF				*e*Sn		**Sn**	22 45 05.4	-5.1
	13nm,0.2s							
CDF	**Champ du Feu**	3.39	359	*e*P		**Pn**	22 44 30.1	+0.1
CDF				*e*Sn		**Sn**	22 45 05.4	-5.1
	6.5nm,0.2s							
RETA	**Reutte**	3.42	43⇑	*i*Pn		**Pn**	22 44 30.7	+0.4
	1.9nm,0.2s							
RETA			⇓	*i*Sn		**Sn**	22 45 10.7	-0.5
	2.3nm,0.2s							
SQTA	**Sankt Quirin**	3.47	49⇓	*i*Pn		**Pn**	22 44 32.2	+1.1
MOTA	**Moosalm**	3.49	47⇑	*i*Pn		**Pn**	22 44 31.8	+0.5
	2.4nm,0.1s,SNR=9.1							
MOTA			⇓	*i*Sn		**Sn**	22 45 13.2	+0.2
	5.3nm,0.2s							
MOTA	**Moosalm**	3.49	47	Pn		**Pn**	22 44 31.8	+0.4
	2.4nm,0.1s,SNR=9.1							
MOTA				Sn		**Sn**	22 45 13.2	+0.2
	5.3nm,0.2s							
BGF	**Bois d'Agland**	3.50	298	*e*Pn		**Pn**	22 44 32.3	+0.8
BGF				*e*Sn		**Sn**	22 45 08.1	-5.2
BGF				*e*Sg		**Sg**	22 45 26.5	-2.4
	108nm,0.4s							
BGF	**Bois d'Agland**	3.50	298	*e*Pn		**Pn**	22 44 32.3	+0.8
BGF				*e*Sn		**Sn**	22 45 08.1	-5.2
BGF				*e*Sg		**Sg**	22 45 26.5	-2.4
	54nm,0.4s							
SFTF	**Sexfontaines**	3.56	334	*e*P		**Pn**	22 44 33.9	+1.6
	baz=146							
SFTF				*e*Sg		**Sg**	22 45 29.2	-1.4
	46nm,0.4s							
SFTF	**Sexfontaines**	3.56	334	*e*Pn		**Pn**	22 44 33.9	+1.6
SFTF				*e*Sg		**Sg**	22 45 29.2	-1.4
	23nm,0.4s							
SFTF	**Sexfontaines**	3.56	334	*e*Pn		**Pn**	22 44 31.0	-1.3
SFTF				*e*P			22 44 33.9	
SFTF				*e*Sg		**Sg**	22 45 29.2	-1.4
WTTA	**Wattenberg**	3.73	52	*e*Pn		**Pn**	22 44 35.9	+1.3
WTTA				*e*Sn		**Sn**	22 45 20.2	+1.3
WTTA	**Wattenberg**	3.73	52⇑	*i*Pn		**Pn**	22 44 35.9	+1.2
	2.8nm,0.1s,SNR=8.9							
WTTA			⇓	*i*Sn		**Sn**	22 45 20.2	+1.4
	18nm,0.5s							
WATA	**Walderalm**	3.74	50⇑	*i*Pn		**Pn**	22 44 35.4	+0.6
	3.1nm,0.2s							
WATA			⇑	*i*Sn		**Sn**	22 45 18.7	-0.4
	3.4nm,0.2s							
CAF	**Calviac**	3.75	270	*e*P		**Pn**	22 44 36.5	+1.6
CAF				*e*Sn		**Sn**	22 45 14.6	-4.8
CAF				*e*Sg		**Sg**	22 45 34.9	-2.0
	31nm,0.5s							
CAF	**Calviac**	3.75	270	*e*P		**Pn**	22 44 36.5	+1.6
CAF				*e*Sn		**Sn**	22 45 14.6	-4.8
CAF				*e*Sg		**Sg**	22 45 34.9	-2.0
	16nm,0.5s							
TCF	**Toulx Ste Croi**	3.82	291	*e*P		**Pn**	22 44 36.9	+1.1
TCF				*e*Sn		**Sn**	22 45 16.1	-5.0
TCF				*e*Sg		**Sg**	22 45 36.6	-2.4
	51nm,0.6s							
TCF	**Toulx Ste Croi**	3.82	291	*e*P		**Pn**	22 44 36.9	+1.1
TCF				*e*Sn		**Sn**	22 45 16.1	-5.0
TCF				*e*Sg		**Sg**	22 45 36.6	-2.4
	26nm,0.6s							
MEZF	**Maizieres J'vi**	3.82	336	*e*Pn		**Pn**	22 44 34.4	-1.5
	baz=151							
MEZF	**Maizieres J'vi**	3.82	336	*e*P		**Pn**	22 44 37.3	+1.4
	baz=152							
MEZF				*e*Sn		**Sn**	22 45 16.0	-5.1
MEZF				*e*Sg		**Sg**	22 45 36.4	-2.7
	55nm,0.6s							
MEZF	**Maizieres J'vi**	3.82	336	*e*P		**Pn**	22 44 37.3	+1.4
MEZF				*e*Sn		**Sn**	22 45 16.0	-5.1
MEZF				*e*Sg		**Sg**	22 45 36.4	-2.7
	28nm,0.6s							
MEZF	**Maizieres J'vi**	3.82	336	*e*Pn		**Pn**	22 44 34.4	-1.5
MEZF				*e*P			22 44 37.3	
MEZF				*e*Sn		**Sn**	22 45 16.0	-5.1
MEZF				*e*Sg		**Sg**	22 45 36.4	-2.7
RFYF	**Reffroy**	3.83	341	*e*P		**Pn**	22 44 37.8	+1.8
RFYF				*e*Sn		**Sn**	22 45 17.1	-4.2
	44nm,0.2s							
RFYF	**Reffroy**	3.83	341	*e*P		**Pn**	22 44 37.8	+1.8
RFYF				*e*Sn		**Sn**	22 45 17.1	-4.2
	22nm,0.2s							
RFYF	**Reffroy**	3.83	341	*e*Pn		**Pn**	22 44 34.6	-1.4
RFYF				*e*P			22 44 37.8	
RFYF				*e*Sn		**Sn**	22 45 17.1	-4.2
HYF	**Humbligny**	3.97	306	*e*P		**Pn**	22 44 39.2	+1.3
HYF				*e*Sn		**Sn**	22 45 19.4	-5.3
HYF				*e*Sg		**Sg**	22 45 41.1	-2.7
ABTA	**Abfaltersbach**	4.00	63⇑	*i*Pn		**Pn**	22 44 39.3	+1.0
	3.4nm,0.2s,SNR=13							
ABTA			⇑	*i*Sn		**Sn**	22 45 25.7	+0.2
MTLF	**Montolieu**	4.05	247	*e*Pn		**Pn**	22 44 39.5	+0.4
MTLF				*e*Sn		**Sn**	22 45 21.8	-5.2
	7.7nm,0.3s							
MTLF	**Montolieu**	4.05	247	*e*Pn		**Pn**	22 44 39.5	+0.4
MTLF				*e*Sn		**Sn**	22 45 21.8	-5.2
	3.8nm,0.3s							
EJON	**La Jonquera**	4.13	233	P		**Pn**	22 44 40.8	+0.6
	0.9nm,0.3s,SNR=7.9							
EJON	**La Jonquera**	4.13	233	P		**Pn**	22 44 40.8	+0.6
RJF	**Les Rejaudoux**	4.13	276	*e*P		**Pn**	22 44 41.8	+1.6
RJF				*e*Sg		**Sg**	22 45 46.2	-3.0
	47nm,0.5s							
RJF	**Les Rejaudoux**	4.13	276	*e*P		**Pn**	22 44 41.8	+1.6
RJF				*e*Sg		**Sg**	22 45 46.2	-3.0
	23nm,0.5s							
FUR	**Furstenfeldbru**	4.15	39	*e*Sn		**Sn**	22 45 26.0	-3.2
PTCC	**Patocco-Chiusa**	4.43	70	Pg		**Pn**	22 44 44.3	+0.1
	3.0nm,0.2s							
CADS	**Cadrg**	4.64	73	*i* Pn		**Pn**	22 44 46.1	-1.1
CADS				*i* Sn		**Sn**	22 45 36.9	-4.5
RJOB	**Jochberg**	4.64	52	*e*Sn		**Sn**	22 45 40.3	-1.2
KBA	**Koelnbreinsper**	4.65	62	*e*Pn		**Pn**	22 44 48.5	+1.1
KBA	**Koelnbreinsper**	4.65	62⇑	*i*Pn		**Pn**	22 44 48.7	+1.4
	2.6nm,0.2s							
KBA			⇑	*e*Sn		**Sn**	22 45 42.3	+0.6
	2.9nm,0.3s							
KBA	**Koelnbreinsper**	4.65	62	Pn		**Pn**	22 44 48.5	+1.2
KBA				Sn		**Sn**	22 45 42.3	+0.6
	2.9nm,0.3s							
RUP	**Ruppelstein**	4.68	358	Pn		**Pn**	22 44 48.3	+0.6
MYKA	**Terra Mystica**	4.68	68⇑	*e*Pn		**Pn**	22 44 48.2	+0.4
	1.8nm,0.3s							
LFF	**La Frestale**	4.69	271	*e*P		**Pn**	22 44 49.9	+2.1
LFF				*e*Sg		**Sg**	22 46 03.8	-3.2
	30nm,0.5s							
LFF	**La Frestale**	4.69	271	*e*P		**Pn**	22 44 49.9	+2.1
LFF				*e*Sg		**Sg**	22 46 03.8	-3.2
	15nm,0.5s							
VOY	**Vojsko**	4.71	75	*e*Pn		**Pn**	22 44 46.9	-1.2
VOY				*e*Sn		**Sn**	22 45 41.5	-1.6
WLF	**Walferdange**	4.71	351	P		**Pn**	22 44 50.3	+2.2
SKDS	**Skadanscina**	4.73	81	*i* Pn		**Pn**	22 44 46.6	-1.9
SKDS				*i* Sn		**Sn**	22 45 38.8	-4.9
JAVS	**Javornik**	4.80	77	*i* Pn		**Pn**	22 44 48.1	-1.4
JAVS				*i* Sn		**Sn**	22 45 43.2	-2.2
OBKA	**Obir**	5.25	71⇓	*e*Pn		**Pn**	22 44 55.5	-0.1
	1.4nm,0.2s							
OBKA			⇑	*e*Sn		**Sn**	22 45 56.1	-0.4
	3.1nm,0.3s							
TNS	**Taunus Mts**	5.25	8	*e*Pn		**Pn**	22 44 55.4	-0.1
TNS	**Taunus Mts**	5.25	8	*e*Pn		**Pn**	22 44 55.4	-0.2
EMIR	**Miracle**	5.25	236	P		**Pn**	22 44 57.7	+2.1
	1.9nm,0.3s,SNR=6.9							
EMIR				S		**Sn**	22 45 57.2	+0.7
	5.0nm,0.4s							
EMIR	**Miracle**	5.25	236	P		**Pn**	22 44 57.7	+2.1
EMIR				S		**Sn**	22 45 57.2	+0.7
GIVF	**Givet**	5.36	342	*e*P		**Pn**	22 44 57.9	+0.9
GIVF				*e*Sg		**Sg**	22 46 24.5	-4.0
	4.2nm,0.3s							
GIVF	**Givet**	5.36	342	*e*P		**Pn**	22 44 57.9	+0.9
GIVF				*e*Sg		**Sg**	22 46 24.5	-4.0
	2.1nm,0.3s							
DOU	**Dourbes**	5.40	341	P		**Pn**	22 44 58.6	+0.9
DOU	**Dourbes**	5.40	341	P		**Pn**	22 44 58.5	+0.9
EPF	**Esparros**	5.43	251	*e*Pn		**Pn**	22 44 57.1	-0.9
EPF				*e*Sn		**Sn**	22 45 54.6	-6.3
	2.3nm,0.3s							
EPF	**Esparros**	5.43	251	*e*Pn		**Pn**	22 44 57.1	-0.9
EPF				*e*Sn		**Sn**	22 45 54.6	-6.3
	1.1nm,0.3s							
BAIF	**Baives**	5.47	338	*e*P		**Pn**	22 44 59.4	+0.9
BAIF				*e*Sg		**Sg**	22 46 27.8	-4.1
	7.3nm,0.5s							
BAIF	**Baives**	5.47	338	*e*P		**Pn**	22 44 59.4	+0.9
BAIF				*e*Sg		**Sg**	22 46 27.8	-4.1
	3.7nm,0.5s							
BAIF	**Baives**	5.47	338	*e*Pn		**Pn**	22 44 57.7	-0.8
BAIF				*e*P			22 44 59.4	
BAIF				*e*Sg		**Sg**	22 46 27.8	-4.1
MFF	**Saint Martin d**	5.47	289	*e*P		**Pn**	22 45 00.1	+1.5
MFF				*e*Sg		**Sg**	22 46 27.5	-4.6
	19nm,0.6s							
MFF	**Saint Martin d**	5.47	289	*e*P		**Pn**	22 45 00.1	+1.5
MFF				*e*Sg		**Sg**	22 46 27.5	-4.6
	9.3nm,0.6s							
MOA	**Mollin**	5.55	57	*e*Pn		**Pn**	22 44 59.8	+0.1
MOA	**Mollin**	5.55	57⇑	*i*Pn		**Pn**	22 44 59.8	+0.1
	1.7nm,0.2s							
MOA			⇓	*e*Sn		**Sn**	22 46 01.4	-2.5
	3.0nm,0.2s							
BCLA	**Clavier**	5.57	346	P		**Pn**	22 45 01.1	+1.1
BCLA	**Clavier**	5.57	346	P		**Pn**	22 45 01.0	+1.1
WET	**Wettzell**	5.59	41	*e*Pn		**Pn**	22 44 58.6	-1.5
WET	**Wettzell**	5.59	41	Pn		**Pn**	22 44 58.6	-1.6
WET	**Wettzell**	5.59	41	*e*Pn		**Pn**	22 44 58.6	-1.6
SOKA	**Soboth**	5.62	70⇑	*e*Pn		**Pn**	22 45 00.4	-0.2
	0.8nm,0.2s							
MEM	**Membach**	5.66	351	P		**Pn**	22 45 02.1	+1.0
EBIE	**Bielsa**	5.71	248	P		**Pn**	22 45 03.5	+1.6
	3.3nm,0.3s,SNR=15							
EBIE				S		**Sn**	22 46 09.5	+1.8
	1.2nm,0.4s							
EBIE	**Bielsa**	5.71	248	P		**Pn**	22 45 03.5	+1.6
EBIE				S		**Sn**	22 46 09.5	+1.8
GEC2	**GERESS Array S**	5.79	46	*e*Pn		**Pn**	22 45 01.8	-1.2
GEC2	**GERESS Array S**	5.79	46	*e*Pn		**Pn**	22 45 01.8	-1.1
EPOB	**Poblet**	5.87	233	P		**Pn**	22 45 06.6	+2.5
	0.7nm,0.4s,SNR=7.9							
EPOB	**Poblet**	5.87	233	P		**Pn**	22 45 06.6	+2.6
KHC	**Kasperske Hory**	5.91	44	*e*PN		**Pn**	22 45 04.4	-0.2
KHC				*e*SN		**Sn**	22 46 09.3	-3.4
ETSF	**Etsaut**	6.09	252	*e*P		**Pn**	22 45 09.4	+2.3
ETSF				*e*Sn		**Sn**	22 46 10.5	-6.6
	4.6nm,0.4s							
ETSF	**Etsaut**	6.09	252	*e*P		**Pn**	22 45 09.4	+2.3
ETSF				*e*Sn		**Sn**	22 46 10.5	-6.6
	2.3nm,0.4s							
ARSA	**Arzberg**	6.10	66⇑	*i*Pn		**Pn**	22 45 07.2	0.0
	0.8nm,0.2s							
ARSA	**Arzberg**	6.10	66	Pn		**Pn**	22 45 07.2	0.0
	0.8nm,0.2s							
ETOS	**Mallorca**	6.23	214	P		**Pn**	22 45 11.0	+1.9
	1.2nm,0.3s,SNR=7.9							
ETOS	**Mallorca**	6.23	214	P		**Pn**	22 45 11.0	+2.0
LDF	**La Druitiere**	6.25	308	*e*Pn		**Pn**	22 45 09.1	-0.1
LDF				*e*Sg		**Sg**	22 46 52.0	-4.9
	11nm,0.5s							
NKC	**Novy Kostel**	6.25	32	*e*SN		**Sn**	22 46 16.3	-4.6
SJPF	**Ste Jean**	6.46	256	*e*Pn		**Pn**	22 45 10.6	-1.6
SJPF				*e*Sn		**Sn**	22 46 19.1	-7.2
	0.9nm,0.2s							
FLN	**La Foliniere**	6.54	308	*e*Pn		**Pn**	22 45 13.3	+0.1
	baz=122							
FLN				*e*Sn		**Sn**	22 46 20.9	-7.2
	13nm,0.5s							
FLN				*e*Sg		**Sg**	22 47 01.3	-5.0
	21nm,0.7s							
ERTA	**Horta de San J**	6.55	234	P		**Pn**	22 45 15.0	+1.5
	0.7nm,0.3s,SNR=5.9							
ERTA	**Horta de San J**	6.55	234	P		**Pn**	22 45 15.0	+1.5
GRR	**Gorron**	6.57	304	*e*Pn		**Pn**	22 45 14.2	+0.6
GRR				*e*Sn		**Sn**	22 46 21.7	-7.1
	13nm,0.4s							
GRR				*e*Sg		**Sg**	22 47 02.1	-5.1
	6.5nm,0.5s							
EORO	**Oroz-Betelu**	6.60	254	P		**Pn**	22 45 16.0	+1.9
	1.6nm,0.3s,SNR=9.2							
EORO				S		**Sn**	22 46 29.9	+0.2
	4.4nm,0.4s,SNR=5.0							
EALK	**Alkurruntz**	6.62	257	P		**Pn**	22 45 14.3	-0.1
	1.1nm,0.3s,SNR=7.9							
EALK	**Alkurruntz**	6.62	257	P		**Pn**	22 45 14.3	-0.1
EALK				S		**Sn**	22 46 27.7	-2.5
ELIZ	**Elizondo**	6.66	257	P		**Pn**	22 45 15.8	+0.9
	0.7nm,0.3s,SNR=7.9							
ELIZ	**Elizondo**	6.66	257	P		**Pn**	22 45 15.8	+1.0
ELIZ				S		**Sn**	22 46 30.3	-0.7
IPRE	**Itoiz**	6.67	254	P		**Pn**	22 45 16.9	+1.9
	1.0nm,0.3s,SNR=7.9							
IPRE				S		**Sn**	22 46 31.7	+0.4
	1.6nm,0.3s,SNR=7.9							
IZUN	**Zunzarren**	6.71	254	P		**Pn**	22 45 16.6	+1

SMLA					*ex*		x	23 16 25.5	
	comp=N,463nm,0.3s								
DDI	**Dehra Dun**	**5.42**	**174**		*eP*		**Pn**	**23 15 42.3**	**+0.7**
DDI					*ex*		x	23 16 24.8	
JOSI	**Joshimath**	**5.46**	**160**		*eP*		**Pn**	**23 15 43.6**	**+1.5**
JOSI					*eS*		**Sn**	**23 16 41.9**	**-1.7**
LGTI	**Lohaghat**	**6.70**	**158**		*eP*		**Pn**	**23 16 01.0**	**+2.0**
LGTI					*eS*		**Sn**	**23 17 09.4**	**-4.4**
SONA	**Sohna**	**7.47**	**182**		*eP*		**Pn**	**23 16 09.4**	**0.0**
SONA					*eS*		**Sn**	**23 17 26.3**	**-6.3**
KHET	**Khetri**	**7.76**	**191**		*eP*		**Pn**	**23 16 12.9**	**-0.5**
KHET					*eS*		**Sn**	**23 17 32.5**	**-7.2**
KK31	**Karatay Array**	**9.10**	**326**	⇑	Pn		**Pn**	**23 16 29.0**	**-2.7**
	comp=N,0.4nm,0.3s,baz=138,slow=13								
KK31						⇓	**Sn**	**23 18 06.6**	**-5.6**
	comp=N,3.4nm,0.6s,baz=139,slow=24								
MK31	**Makanchi Array**	**11.64**	**17**	⇓	Pn		**Pn**	**23 17 06.6**	**+0.5**
	comp=N,0.4nm,0.2s,baz=200,slow=13,SNR=40								
MK31	**Makanchi Array**	**11.64**	**17**		*eP*	n	**Pn**	**23 17 06.7**	**+0.6**
MK31					*eS*	n	**Sn**	**23 19 07.9**	**-6.1**
MKAR	**Makanchi Array**	**11.64**	**17**		P		**Pn**	**23 17 06.8**	**+0.6**
	comp=N,0.7nm,0.3s,baz=201,slow=13,SNR=25								
MKAR					S		**Sn**	**23 19 07.3**	**-6.7**
	comp=N,0.6nm,0.3s,baz=200,slow=24,SNR=7.7								
MKAR	**Makanchi Array**	**11.64**	**17**		P		**Pn**	**23 17 06.8**	**+0.7**
MKAR					S		**Sn**	**23 19 07.3**	**-6.7**
MKAR					pmax	pmax			
	comp=Z,1.0nm,0.3s								
MKAR					smax				
	comp=N,1.0nm,0.3s								
LSA	**Lhasa**	**13.02**	**114**		*eP*		**Pn**	**23 17 24.0**	**-0.8**
LSA					pmax	pmax			
	comp=Z,4.0nm,1.0s								
LSA	**Lhasa**	**13.02**	**114**		*ePn*		**Pn**	**23 17 24.0**	**-0.8**
	comp=Z,4.4nm,1.0s								
KURK	**Kurchatov**	**15.00**	**3**	⇑	P		**Pn**	**23 17 48.8**	**-1.5**
	comp=Z,3.0nm,0.7s								
KURK	**Kurchatov**	**15.00**	**3**		P		**Pn**	**23 17 51.6**	**+1.3**
	comp=Z,0.1nm,0.3s,baz=190,slow=10,SNR=8.4								
VOSK	**Vostochnaya**	**17.59**	**347**	⇓	P		**Pn**	**23 18 21.9**	**-0.7**
	comp=Z,4.6nm,0.7s								
BVA0	**Borovoye Array**	**17.99**	**346**	⇑	P		**Pn**	**23 18 27.2**	**-0.2**
	comp=Z,1.1nm,0.8s,baz=151,slow=12,SNR=25								
BVAR	**Borovoye Array**	**17.99**	**346**		P		**Pn**	**23 18 27.5**	**+0.1**
	comp=Z,0.4nm,0.3s,baz=153,slow=11,SNR=37								
AB31	**Akbulak array**	**18.62**	**322**	⇑	P		**Pn**	**23 18 34.8**	**-0.2**
	comp=Z,0.4nm,0.6s,baz=126,slow=12,SNR=8.0								
ZALV	**Zalesovo Beam**	**18.93**	**14**		P		**Pn**	**23 18 36.3**	**-2.3**
	comp=Z,0.5nm,0.3s,baz=207,slow=9.5,SNR=12								
ZALV	**Zalesovo Beam**	**18.93**	**14**		P		**Pn**	**23 18 36.3**	**-2.3**
ZALV					pmax	pmax			
	comp=Z,1.0nm,0.3s								
NVS	**Novosibirsk**	**19.53**	**10**		*eP*		**Pn**	**23 18 43.8**	**-1.8**
AKTK	**Aktyubinsk**	**20.33**	**322**		P		**P**	**23 18 52.1**	**-0.2**
AKTO	**Aktyubinsk**	**20.33**	**322**	⇑	P		**P**	**23 18 53.7**	**+1.4**
	comp=Z,0.5nm,0.7s								
AKTO	**Aktyubinsk**	**20.33**	**322**		P		**P**	**23 18 52.1**	**-0.2**
	comp=Z,3.5nm,0.7s,baz=111,slow=12,SNR=7.5								
AKTO	**Aktyubinsk**	**20.33**	**322**		P		**P**	**23 18 52.1**	**-0.2**
AKTO					pmax	pmax			
	comp=Z,4.0nm,0.7s								
SONM	**Songino Array**	**24.60**	**52**		P		**P**	**23 19 36.2**	**+1.1**
	comp=Z,2.4nm,0.8s,mb3.7,baz=249,slow=9.5,SNR=15								
SONM	**Songino Array**	**24.60**	**52**		P		**P**	**23 19 36.2**	**+1.1**
SONM					pmax	pmax			
	comp=Z,2.0nm,0.8s								
ULN	**Ulaanbaatar**	**25.03**	**52**		*eP*		**P**	**23 19 40.1**	**+1.0**
ULN					pmax	pmax			
	comp=Z,2.0nm,0.7s,mb3.7								
ULN	**Ulaanbaatar**	**25.03**	**52**		*eP*		**P**	**23 19 40.0**	**+1.0**
	comp=Z,1.5nm,0.7s,mb3.5								
CMAR	**Chiang Mai Arr**	**25.65**	**126**		P		**P**	**23 19 44.4**	**-0.6**
	comp=Z,0.8nm,0.4s,mb3.5,baz=312,slow=8.1,SNR=4.2								
CMAR	**Chiang Mai Arr**	**25.65**	**126**		P		**P**	**23 19 44.4**	**-0.6**
CMAR					pmax	pmax			
	comp=Z,1.0nm,0.4s								
GNI	**Garni**	**26.07**	**290**		*eP*		**P**	**23 19 49.4**	**+0.8**
GNI					pmax	pmax			
	comp=Z,10.0nm,1.2s								
GNI	**Garni**	**26.07**	**290**		*eP*		**P**	**23 19 49.4**	**+0.8**
	comp=Z,9.9nm,1.2s,mb4.1								
BR131	**Keskin Array S**	**34.61**	**290**		P		**P**	**23 21 03.6**	**-0.3**
JOF	**Joensuu**	**39.19**	**329**		*ep*		**P**	**23 21 43.0**	**+0.6**
	comp=Z,1.9nm,0.4s,mb4.3								
ARCES	**ARCESS Array B**	**43.89**	**336**		P		**P**	**23 22 21.4**	**+0.7**
	comp=Z,4.6nm,0.9s,mb4.2,baz=106,slow=9.5,SNR=6.4								
ARCES	**ARCESS Array B**	**43.89**	**336**		P		**P**	**23 22 21.4**	**+0.7**
ARCES					pmax	pmax			
	comp=Z,5.0nm,0.9s								
TIXI	**Tiksi**	**44.59**	**21**		P		**P**	**23 22 26.5**	**+0.2**
TIXI					pmax	pmax			
	comp=Z,4.0nm,0.4s,mb4.5								
TIXI	**Tiksi**	**44.59**	**21**		P		**P**	**23 22 26.5**	**+0.2**
	comp=Z,3.8nm,0.4s,mb4.5								
NOA	**NORSAR Array B**	**48.12**	**323**		P		**P**	**23 22 54.2**	**+0.2**
	comp=Z,1.9nm,1.1s,mb3.9,baz=97,slow=7.2,SNR=3.5								
NOA	**NORSAR Array B**	**48.12**	**323**		P		**P**	**23 22 54.2**	**+0.2**
NOA					pmax	pmax			
	comp=Z,2.0nm,1.1s								
MAJO	**Matsushiro**	**48.35**	**70**		P		**P**	**23 22 55.7**	**-0.5**
FITZ	**Fitzroy Crossi**	**70.36**	**131**		*eP*		**P**	**23 25 27.6**	**-0.3**

JSN 24 23:53:59.2±1.4, 1781N×7966W, h32km±32km, MD4.4, 5C-1D, North of Honduras

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
MCJ	**Malvern**	**1.88**	**86**	⇑	*eP*	Pn	23 54 28.9	-0.3
MCJ					*eS*	Sn	23 54 51.3	-0.6
BBJ	**Bamboo Saint A**	**2.35**	**76**	⇓	*iP*	Pn	23 54 35.0	-0.6
PCJ	**Portland Cotta**	**2.39**	**91**	⇑	*eP*	Pn	23 54 35.9	-0.2
PCJ					*eS*	Sn	23 55 02.7	-1.7
BNJ	**Bonny Gate**	**2.63**	**78**	⇑	*eP*	Pn	23 54 38.4	-1.0
STH	**Stony Hill**	**2.73**	**84**	⇑	*eP*	Pn	23 54 41.4	+0.5
GWJ	**Greenwich**	**2.81**	**84**	⇑	*eP*	Pn	23 54 40.9	-1.0

IDC 25 00:38:49.2±2.3, 024N×12685E, h0km, mb3.4/3, mb1 3.7/3, mb1mx3.5/15, mbtmp3.5/3, Error ellipse: s-maj=223.4km s-min=24.6km az=66.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**21.36**	**160**		P	P	00 43 38.3	0.0
	0.5nm,0.4s,baz=340,slow=9.8,SNR=4.9							
ASAR	**Alice Springs**	**24.73**	**164**		P	P	00 44 12.6	+0.1
	0.6nm,0.4s,baz=350,slow=14,SNR=8.6							
MKAR	**Makanchi Array**	**60.49**	**326**		P	P	00 49 01.1	+0.1
	0.2nm,0.3s,baz=118,slow=7.4,SNR=12							

*ISCJB **25** 00:45:28.3±0.7, 29.13N±0.08×135.5E±0.07, h10km, Error ellipse: s-maj=12.4km s-min=5.8km az=32.3*
*THR **25** 00:45:28.6±0.5, 29.12N×5126E, h18km±31km, ML2.7*
*CSEM **25** 00:45:30.0, 2908N×5126E, h39km, ML3.1, After THR*
*KISR **25** 00:45:51.3, 2925N×4956E, h33km, ML1.9*

ISC 25 00:45:29.7±0.7, 2908N±0.08×5133E±0.07, h10km, n9, σ0°45/12, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
GHIR	**Ghir-Karzin**	**1.66**	**118**		*ePg*	**Pg**	**00 46 00.4**	**-1.1**
GHIR					*eSg*	**Sg**	**00 46 23.6**	**+0.5**
GHIR					AML	AML	00 46 35.3	
	comp=N,232nm,0.5s							
GHIR					AML	AML	00 46 35.8	
	comp=E,153nm,0.8s							
GHIR	**Ghir-Karzin**	**1.66**	**118**		*eP*	**Pn**	**00 45 59.1**	**+0.3**
	SNR=54							
GHIR					*eSg*	**Sg**	**00 46 23.6**	**+0.6**
	comp=E,153nm,0.8s,SNR=98							
UMR	**Umm Al-Rimmam**	**3.19**	**279**		*eP*	**Pn**	**00 46 19.8**	**0.0**
	baz=281							
MIB	**Mutribah**	**3.55**	**283**		*eP*	**Pn**	**00 46 25.1**	**+0.2**
	baz=287							
MIB					*eS*	**Sn**	**00 46 50.5**	**-16**
	baz=287							
MIB					AML	AML	00 47 02.6	
	comp=Z,12nm,0.5s,baz=287							
NAY	**Al-Naaiem**	**3.58**	**274**		*eP*	**Pn**	**00 46 25.3**	**+0.1**
	baz=271							
NAY					AML	AML	00 46 59.4	
	comp=Z,6.0nm,0.5s,baz=271							
NASN	**Na'in**	**3.92**	**19**		*ePn*	**Pn**	**00 46 30.1**	**+0.2**
NASN					AML	AML	00 47 18.6	
	comp=N,3.6nm,0.2s							
NASN					AML	AML	00 47 19.6	
	comp=E,6.0nm,0.7s							
ASAO	**Ashtian**	**5.56**	**349**		*ePn*	**Pn**	**00 46 52.6**	**+0.1**
DAMV	**Damavand**	**6.55**	**5**		*ePn*	**Pn**	**00 47 06.1**	**0.0**
SNGE	**Sanandaj**	**6.88**	**332**		*ePn*	**Pn**	**00 47 10.1**	**-0.5**

KRSC 25 00:55:54.2±0.3, 5238N×16096E, h22km±21km, ML3.7, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
SPN	**Mys Shipunski**	**0.92**	**322**		*eP*	Pb	00 56 12.4	+1.0
SPN					*i* S	Sb	00 56 24.8	+1.7
NLC	**Nalytchevo**	**1.26**	**310**		*eP*	Pn	00 56 17.5	+1.0
NLC					*eS*	Sn	00 56 34.1	+1.4
RUS	**Russkaya**	**1.50**	**273**		*eP*	Pn	00 56 20.6	+0.9
RUS					*i* S	Sn	00 56 39.3	+0.7
PET	**Petropavlovsk**	**1.54**	**296**		*eP*	Pn	00 56 22.0	+1.6
PET					*eS*	Sn	00 56 41.6	+1.9
AVH	**Avacha**	**1.61**	**304**		*eP*	Pn	00 56 23.4	+2.1
AVH					*eS*	Sn	00 56 44.3	+2.9
KII	**Karymskiy**	**1.89**	**332**		*eP*	Pn	00 56 27.7	+2.6
KII					*i* S	Sn	00 56 51.7	+3.4
GNL	**Ganaly**	**2.25**	**307**		*eP*	Pn	00 56 32.4	+2.4
GNL					*i* S	Sn	00 57 01.3	+4.2
BZMR	**Bezymyannaya**	**3.57**	**356**		P	Pn	00 56 51.3	+3.1
BZMR					*i* S	Sn	00 57 33.1	+3.4
ZLN	**Zelenaya**	**3.65**	**359**		*eP*	Pn	00 56 51.3	+2.1
ZLN					*i* S	Sn	00 57 33.4	+1.9
KOZ	**Kozyrevsk**	**3.74**	**351**		*eP*	Pn	00 56 53.7	+3.2
KOZ					*i* S	Sn	00 57 37.4	+3.6
KRSR	**Krestovskiy**	**3.85**	**357**		*eP*	Pn	00 56 55.3	+3.3
KRSR					*i* S	Sn	00 57 40.3	+3.7
KBTR	**Krutoberegovo**	**3.99**	**15**		*eP*	Pn	00 56 55.3	+1.4
KBTR					*i* S	Sn	00 57 40.3	+0.4

*IDC **25** 01:00:51.5±0.6, 1684S×17326W, h0km, mb4.3/11, mb1 4.5/11, mb1mx4.3/19, mbtmp4.3/11, MS4.0/3, Ms1 4.0/3, ms1mx3.6/29, Error ellipse: s-maj=27.0km s-min=19.0km az=147.0*
*ISCJB **25** 01:00:55.0±0.4, 166S±0.1×1735W±0.1, h33km, mb4.3/20, MS4.2/2, Error ellipse: s-maj=17.7km s-min=10.6km az=44.2*
*NEIC **25** 01:00:57.0±0.3, 1687S×17330W, h35km, mb4.3/8, Error ellipse: s-maj=17.0km s-min=9.9km az=138.0*
*SZGRF **25** 01:01:01.7, 1582S×17244W, h33km, Samoa Islands region*

ISC 25 01:00:56.8±0.4, 167S±01×1734W±01, h35km, n86, σ0°72/27, mb4.3/20, MS4.2/2, 13C-4D, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**3.21**	**29**		Pn	**Pn**	**01 01 39.1**	**-5.7**
	22nm,0.3s,baz=44,slow=11,SNR=16							
AFI					Sn	**Sn**	**01 02 09.6**	**-12**
	30nm,0.3s,baz=47,slow=23,SNR=3.7							
AFI					LR	LR	01 02 57.6	
	comp=Z,628nm,21.2s,baz=175,slow=39							
URZ	**Urewera**	**23.01**	**199**		P	**P**	**01 05 58.4**	**-0.1**
	8.9nm,0.5s,mb4.5,baz=358,slow=2.7,SNR=10							
HNR	**Honiara**	**26.95**	**282**		LR	LR	01 15 41.1	
	comp=Z,718nm,20.9s,MS4.2,baz=320,slow=33							
RPZ	**Rata Peaks**	**29.96**	**203**		P	**P**	**01 07 05.6**	**+4.0**
	19nm,0.9s,mb4.8,baz=311,slow=23,SNR=3.6							
CTA	**Charters Tower**	**38.38**	**259**		P	**P**	**01 08 14.2**	**-0.6**
	1.0nm,0.3s,mb4.0,baz=92,slow=11,SNR=4.2							
STKA	**Stephens Creek**	**43.39**	**241**		P	**P**	**01 08 55.8**	**-0.4**
	4.7nm,0.8s,mb4.3,baz=94,slow=9.7,SNR=6.4							
STKA					LR	LR	01 24 01.4	
	comp=Z,351nm,22.0s,MS4.2,baz=215,slow=32							
WRAB	**Tennant Creek**	**49.56**	**258**		*eP*	**P**	**01 09 44.0**	**-0.6**
	2.8nm,0.8s,mb4.3							
WRA	**Warramunga Arr**	**49.57**	**258**		P	**P**	**01 09 44.1**	**-0.6**
	1.7nm,0.8s,mb4.1,baz=94,slow=7.2,SNR=8.7							
ASAR	**Alice Springs**	**49.72**	**253**		P	**P**	**01 09 45.8**	**-0.1**
	7.9nm,0.6s,mb4.9,baz=87,slow=8.6,SNR=123							
PETK	**Petropavlovsk-**	**73.90**	**342**		P	**P**	**01 12 29.3**	**+1.4**
	5.0nm,0.8s,mb4.5,baz=108,slow=8.9,SNR=5.1							
TUC	**Tucson**	**77.22**	**50**		*eP*	**P**	**01 12 47.2**	**-0.3**
	2.5nm,1.0s,mb4.1							
WVOR	**Wild Horse Val**	**77.47**	**38**		*eP*	**P**	**01 12 48.7**	**+0.1**
	2.1nm,0.9s,mb4.1							
HLID	**Hailey**	**80.65**	**39**		*eP*	**P**	**01 13 06.0**	**0.0**
	2.4nm,1.0s,mb4.1							
TXAR	**Lajitas Array**	**81.34**	**56**		P	**P**	**01 13 09.3**	**-0.7**
	0.3nm,0.8s,mb3.3,baz=235,slow=4.4,SNR=4.2							
BW06	**Boulder Array**	**83.25**	**42**		*eP*	**P**	**01 13 19.0**	**-0.7**
	2.3nm,1.0s,mb4.2							
PDAR	**Pinedale Array**	**83.25**	**42**		P	**P**	**01 13 18.9**	**-0.8**
	1.1nm,0.9s,mb3.9,baz=242,slow=3.2,SNR=5.9							
COLA	**College**	**83.67**	**11**		*eP*	**P**	**01 13 21.0**	**-0.3**
	18nm,1.0s,mb5.1							
DAWY	**Dawson**	**84.71**	**14**		*eP*	**P**	**01 13 27.0**	**+0.4**
MAW	**Mawson**	**86.53**	**199**		P	**P**	**01 13 35.9**	**0.0**
	1.9nm,0.8s,mb4.4,baz=234,slow=7.0,SNR=5.7							
PLCA	**Paso Flores**	**88.61**	**132**		P	**P**	**01 13 46.0**	**-0.4**
	1.0nm,0.7s,mb4.3,baz=245,slow=17,SNR=2.9							
JTS	**JuntasAbangare**	**91.43**	**80**		*eP*	**P**	**01 14 00.5**	**+0.5**
	7.1nm,1.2s,mb4.9							
VNA3	**Neumayer Olymp**	**91.53**	**175**		*e*	**P**	**01 13 59.7**	**+0.3**
VNA3					*e*		01 14 05.3	
SNAA	**Sanae**	**91.58**	**177**		*e*	**P**	**01 13 59.4**	**-0.2**
SNAA					*e*		01 14 05.3	
SNAA					*e*	pP	01 14 10.5	-0.2
SNAA	**Sanae**	**91.58**	**177**		*eP*	**P**	**01 13 59.2**	**-0.4**
	2.7nm,1.0s,mb4.5							
VNA2	**Neumayer--Watz**	**92.02**	**175**		*e*	**P**	**01 14 02.1**	**+0.4**
	baz=200,slow=3.8							
VNA2					*e*		01 14 08.4	
VNA2					*e*	pP	01 14 12.1	-0.7
VNA1	**Neumayer--Stat**	**92.22**	**175**		*e*	**P**	**01 14 03.4**	**+0.8**
CMAR	**Chiang Mai Arr**	**93.05**	**288**		P	**P**	**01 14 09.9**	**+2.5**
	0.8nm,0.3s,mb4.6,baz=117,slow=1.9,SNR=5.5							
BVAR	**Borovoye Array**	**118.94**	**322**		PKP	PKPdf	01 19 42.4	+1.0
	0.2nm,0.3s,baz=70,slow=1.7,SNR=2.6							
KWP	**Kalwaria**	**144.70**	**342**		*iP*	PKPdf	01 20 30.3	+0.6
KMBO	**Kilima Mbogo**	**144.95**	**243**		PKPbc	PKPdf	01 20 32.6	+1.3
	2.4nm,0.9s,baz=68,slow=4.1,SNR=6.7							
KMBO	**Kilima Mbogo**	**144.95**	**243**		*ePKPdf*	PKPdf	01 20 32.4	+1.1
KMBO					PKPbc	PKPdf	01 20 32.6	+1.3
OJC	**Ojcow**	**144.95**	**345**		*ePX*		01 20 30.7	
CLL	**Collm**	**145.14**	**353**		*ePKPdf*	PKPdf	01 20 30.0	-0.4
	comp=Z,4.0nm,0.9s							
STHS	**Stebnicka Huta**	**145.31**	**343**		*ePKP*	PKPdf	01 20 32.5	+1.7
BRG	**Berggiesshubel**	**145.45**	**352**		*i* P	PKPbc	01 20 32.0	+1.0
	comp=Z,26nm,1.7s							
KOLS	**Kolonicke sedl**	**145.45**	**342**		*ePKP*	PKPdf	01 20 32.7	+1.7
UPC	**Upice**	**145.48**	**349**		*ePKP*	PKPdf	01 20 32.2	+1.2
NIE	**Niedzica**	**145.56**	**344**		*ePX*	PKPdf	01 20 33.5	+2.3
DPC	**Dobruska-Polom**	**145.57**	**349**		*ePKP*	PKPdf	01 20 32.7	+1.5
DPC					*ex*		x 01 20 37.3	
BUR08	**Bucovina Ar. S**	**145.59**	**338**		*ePKPdf*	PKPdf	01 20 33.3	+2.0
OKC	**Ostrava-Krasne**	**145.69**	**347**		*ePKP*	PKPdf	01 20 33.0	+1.6
OKC					*ep*	PKPdf	01 20 39.7	-3.2
PVCC	**Panska Ves**	**145.69**	**351**		*ePKP*	PKPdf	01 20 32.9	+1.5
CRVS	**Cervenica-Dubn**	**145.71**	**343**		*ePKP*	PKPdf	01 20 33.8	+2.3
MORC	**Moravsky Berou**	**145.88**	**347**	⇑	*iP*	PKPdf	01 20 33.9	+2.2
MORC	**Moravsky Berou**	**145.88**	**347**		*ePKPbc*	PKPbc	01 20 33.6	+1.2
MOX	**Moxa**	**145.94**	**354**		*ePKP*	PKPdf	01 20 33.5	+1.7
	comp=Z,17nm,1.3s							
MOX					*e*		01 20 38.9	
MOX	**Moxa**	**145.94**	**354**		*ePKPbc*	PKPbc	01 20 33.4	+0.9
TANN	**Tannenbergstha**	**146.08**	**353**		*ePKPbc*	PKPbc	01 20 33.8	+0.9
PRU	**Pruhonice**	**146.22**	**351**		*ePKP*	PKPdf	01 20 33.9	+1.6
PRU					*ep*	PKPdf	01 20 40.5	-3.3
NKC	**Novy Kostel**	**146.26**	**353**		*ePKP*	PKPbc	01 20 34.5	+1.0
VRI	**Vrincioaia**	**146.46**	**334**	⇓	*iP*	PKPab	01 20 39.5	+4.4
MANZ	**Manzenberg**	**146.54**	**354**		*ePKPbc*	PKPbc	01 20 35.2	+0.9
TNS	**Taunus Mts**	**146.57**	**358**		*ePKPbc*	PKPbc	01 20 36.0	+1.6
GIVF	**Givet**	**146.69**	**2**	⇑	*iPKP1*	PKPbc	01 20 36.4	+1.7
BAIF	**Baives**	**146.71**	**3**		*ePKP1*	PKPbc	01 20 35.7	+0.9
	comp=Z,6.3nm,0.7s							
TREC	**Trest**	**146.74**	**349**		*ePKP*	PKPab	01 20 36.0	-0.1
VYHS	**Vyhne**	**146.79**	**345**		*ePKP*	PKPab	01 20 36.6	+0.3
TIRR	**Tirgusor**	**146.81**	**331**	⇓	*iP*	PKPab	01 20 42.6	+6.0
KOLL	**Kolacno**	**146.81**	**346**		*ePKP*	PKPab	01 20 38.0	+1.6
GRA1	**Grafenberg Arr**	**146.92**	**355**		*ePKPbc*	PKPab	01 20 37.6	+0.8
GRF	**Grafenberg Arr**	**146.92**	**355**		*ePKPbc*	PKPab	01 20 37.6	+0.8
PSZ	**Piszkesteto**	**147.05**	**343**	⇑	*iP*	PKPab	01 20 39.6	+2.2
PSZ	**Piszkesteto**	**147.05**	**343**		*ePKPbc*	PKPab	01 20 38.5	+1.2
MLR	**Muntele Rosu**	**147.08**	**335**	⇓	*iP*	PKPab	01 20 37.2	-0.4
WLF	**Walferdange**	**147.16**	**1**		*ePKPbc*	PKPbc	01 20 37.9	+1.8
WLF	**Walferdange**	**147.16**	**1**		*ePKPbc*	PKPbc	01 20 36.8	+0.7
BR131	**Keskin Array S**	**147.19**	**320**		*ePKPbc*	PKPbc	01 20 38.0	+1.4
KHC	**Kasperske Hory**	**147.20**	**352**		*ePKP*	PKPab	01 20 37.2	-0.7
KHC					*ep*	PKPdf	01 20 43.5	-2.0
KHC	**Kasperske Hory**	**147.20**	**352**		*ePKP*	PKPab	01 20 37.2	-0.7
KHC					*e*		01 20 43.5	
MODS	**Modra-Piesok**	**147.26**	**347**		*ePKP*	PKPab	01 20 39.8	+1.6
GERES	**GERESS Array B**	**147.46**	**351**		PKPbc	PKPbc	01 20 37.6	+0.6
	comp=Z,1.6nm,0.9s,baz=27,slow=3.3,SNR=9.7							
ZST	**Bratislava**	**147.47**	**347**		*ePKP*	PKPbc	01 20 38.8	+1.8
CDF	**Champ du Feu**	**148.41**	**359**	⇑	*iPKP1*	PKPbc	01 20 40.6	+1.1
	comp=Z,22nm,1.2s							
BZS	**Buzias**	**148.59**	**340**	⇑	*iP*	PKPbc	01 20 41.1	+1.0
PKSM	**Moragy**	**148.95**	**344**	⇓	*iP*	PKPbc	01 20 42.4	+1.4
MMAI	**Mount Meron Ar**	**149.40**	**307**		PKPbc	PKPab	01 20 44.7	-2.6
	comp=Z,2.5nm,0.7s,baz=313,slow=53,SNR=3.0							
LOR	**Lormes**	**149.47**	**4**	⇑	*iPKP1*	PKPbc	01 20 43.5	+1.3
	comp=Z,19nm,1.3s							
SSF	**Saint Saulge**	**149.66**	**4**	⇑	*iPKP1*	PKPbc	01 20 43.9	+1.2
	comp=Z,52nm,1.3s							
AVF	**Avril sur Loir**	**149.91**	**4**	⇑	*iPKP1*	PKPbc	01 20 44.2	+0.9
CABF	**La Chapelle**	**150.21**	**1**	⇑	*iPKP1*	PKPbc	01 20 45.8	+1.7
	comp=Z,40nm,1.1s							
TCF	**Toulx Ste Croi**	**150.31**	**6**	⇑	*iPKP1*	PKPbc	01 20 45.0	+0.7
	comp=Z,34nm,1.3s							
EIL	**Elat**	**151.04**	**301**		PKPbc	PKPbc	01 20 47.4	+0.8
	comp=Z,6.0nm,0.9s,baz=62,slow=4.6,SNR=4.4							
LPG	**La Plagne**	**151.33**	**360**	⇑	*iPKP1*	PKPbc	01 20 48.9	+2.2
LFF	**La Frestale**	**151.46**	**9**	⇑	*iPKP1*	PKPbc	01 20 47.7	+0.6
	comp=Z,61nm,1.2s							
TORD	**Torodi Ar. Bea**	**174.05**	**126**		PKP	PKPdf	01 21 02.5	-1.1
	comp=Z,1.6nm,1.1s,baz=301,slow=0.4,SNR=5.1							
TORD					PKPab	PKPab	01 22 33.7	-1.1
	comp=Z,1.9nm,0.8s,baz=255,slow=4.6,SNR=10							
TORD	**Torodi Ar. Bea**	**174.05**	**126**		PKP	PKPdf	01 21 02.5	-1.1
TORD					PKPab	PKPab	01 22 33.7	-1.1

IDC 25 01:11:18.5±9.2, 2118S×6688W, h222km±77km, mb3.7/1, mb1 3.5/2, mb1mx3.1/14, mbtmp3.4/2, Error ellipse: s-maj=106.8km s-min=88.9km az=35.0, Southern Bolivia

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**5.01**	**346**		P	Pn	01 12 34.2	+0.6
	1.6nm,0.3s,baz=159,slow=8.5,SNR=44							
LPAZ					S	S	01 13 34.8	+1.5
	baz=25,slow=13,SNR=1.7							
TORD	**Torodi Ar. Bea**	**75.47**	**70**		P	P	01 22 38.8	+0.1
	1.1nm,0.5s,baz=252,slow=5.7,SNR=6.7

MUN				*e*S	Sn	01 31 38.8	-7.6
NWAO	**Narrogin (SRO)**	**9.39**	**167**	*e*P	Pn	01 30 23.9	-4.6
	24nm,0.7s						
NWAO				*e*S	Sn	01 32 02.9	-11
	28nm,0.3s						
KMBL	**Kambalda**	**9.90**	**141**	*e*P	Pn	01 30 30.0	-5.6
KMBL				*e*S	Sn	01 32 12.1	-14
	15nm,0.3s						
KMBL	**Kambalda**	**9.90**	**141**	*e*P	Pn	01 30 30.0	-5.6
	15nm,0.3s						
KMBL				*e*S	Sn	01 32 12.1	-14
FORT	**Forrest**	**13.79**	**123**	*e*P	Pn	01 31 26.8	-2.0
FORT				*e*S	Sn	01 33 44.0	-17
	6.7nm,0.5s						
FORT	**Forrest**	**13.79**	**123**	*e*P	Pn	01 31 26.8	-2.0
	6.7nm,0.5s						
FORT				*e*S	Sn	01 33 44.0	-17

IDC ***25*** *01:35:02.0±80.0, 38.98S×177.63E, h0km, mb4.2/3, mb1 4.4/3, mb1mx4.0/12, mbtmp4.2/3, Error ellipse: s-maj=1450.0km s-min=248.2km az=117.0*

ISCJB ***25*** *01:35:41.3±0.5, 3922S±006×17476E±008, h227km±5km, mb3.8/3, Error ellipse: s-maj=12.4km s-min=6.6km az=36.9*

NEIC ***25*** *01:35:43.5, 39.18S×174.84E, h215km, MG4.9(WEL), After WEL.*

NEIC Felt at Paraparaumu.

ISC 25 01:35:42.2±0.5, 3922S±006×17477E±008, h221km±5km, n57,σ0°91/57, mb3.8/3, 2C, North Island

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
VRZ	**Vera Road**	**0.09**	**355**	⇑P		**Pn**	**01 36 10.7**	**-0.3**
RAEZ	**Rainy Point**	**0.30**	**256**	P		**Pn**	**01 36 11.6**	**+0.4**
NEZ	**North Egmont**	**0.53**	**264**	P		**Pn**	**01 36 12.7**	**+0.9**
WAZ	**Wanganui**	**0.56**	**163**	P		**Pn**	**01 36 13.0**	**+1.1**
WPVZ	**Whakapapa**	**0.60**	**89**	P		**Pn**	**01 36 12.5**	**+0.4**
PKE	**Pukeiti**	**0.61**	**272**	P		**Pn**	**01 36 12.6**	**+0.5**
FWVZ	**Far West T-bar**	**0.61**	**94**	P		**Pn**	**01 36 12.7**	**+0.6**
WTVZ	**West Tongariro**	**0.65**	**81**	P		**Pn**	**01 36 12.7**	**+0.4**
NGZ	**Ngauruhoe**	**0.65**	**87**	P		**Pn**	**01 36 12.8**	**+0.5**
WNVZ	**Wahianoa**	**0.65**	**100**	P		**Pn**	**01 36 13.1**	**+0.8**
TUVZ	**Tukino**	**0.69**	**95**	P		**Pn**	**01 36 13.1**	**+0.6**
NWEZ	**Newall Road**	**0.70**	**265**	P		**Pn**	**01 36 13.3**	**+0.8**
MOVZ	**Moawhango**	**0.79**	**104**	P		**Pn**	**01 36 13.1**	**+0.2**
RATZ	**Rangitukua**	**0.85**	**66**	P		**Pn**	**01 36 13.2**	**-0.1**
RITZ	**Rihia Road**	**0.88**	**75**	P		**Pn**	**01 36 13.7**	**+0.2**
WATZ	**Wairara**	**0.91**	**56**	P		**Pn**	**01 36 13.6**	**0.0**
WHTZ	**Whakaora**	**1.08**	**60**	P		**Pn**	**01 36 14.0**	**-0.7**
HATZ	**Hinemaiaia**	**1.08**	**73**	P		**Pn**	**01 36 14.2**	**-0.5**
TSZ	**Takapari Road**	**1.25**	**133**	P		**Pn**	**01 36 16.7**	**+0.9**
BKZ	**Black Stump Fm**	**1.34**	**88**	⇑P		**Pn**	**01 36 16.3**	**-0.2**
MRZ	**Mangatainoka R**	**1.57**	**157**	P		**Pn**	**01 36 18.9**	**+0.6**
KIW	**Kapiti Island**	**1.65**	**176**	P		**Pn**	**01 36 19.7**	**+0.7**
CAW	**Cannon Point**	**1.90**	**173**	P		**Pn**	**01 36 22.0**	**+0.7**
MRW	**Makara Radio**	**2.01**	**181**	P		**Pn**	**01 36 23.0**	**+0.7**
MTW	**Mount Morrison**	**2.02**	**164**	P		**Pn**	**01 36 22.8**	**+0.4**
TCW	**Tory Channel**	**2.03**	**191**	P		**Pn**	**01 36 23.4**	**+0.9**
URZ	**Urewera**	**2.07**	**63**	P		**Pn**	**01 36 21.3**	**-1.7**
WEL	**Wellington**	**2.07**	**180**	P		**Pn**	**01 36 23.5**	**+0.6**
SNZO	**South Karori**	**2.09**	**181**	P		**Pn**	**01 36 23.6**	**+0.5**
BHW	**Baring Head**	**2.19**	**178**	P		**Pn**	**01 36 24.4**	**+0.3**
PAWZ	**Paruwai Farm**	**2.22**	**167**	P		**Pn**	**01 36 24.9**	**+0.5**
MSWZ	**Moikau Station**	**2.23**	**171**	P		**Pn**	**01 36 24.9**	**+0.4**
NNZ	**Nelson**	**2.26**	**208**	P		**Pn**	**01 36 25.0**	**+0.1**
KNZ	**Kokohu**	**2.27**	**86**	P		**Pn**	**01 36 24.6**	**-0.4**
MWZ	**Matawai**	**2.33**	**69**	P		**Pn**	**01 36 24.1**	**-1.5**
QRZ	**Quartz Range**	**2.35**	**226**	P		**Pn**	**01 36 25.2**	**-0.6**
BSWZ	**Blackbirch Sta**	**2.59**	**195**	P		**Pn**	**01 36 29.0**	**+0.7**
THZ	**Tophouse**	**2.91**	**209**	P		**Pn**	**01 36 32.0**	**+0.1**
PUZ	**Puketiti**	**2.96**	**68**	P		**Pn**	**01 36 30.9**	**-1.6**
MXZ	**Matakaoa Point**	**3.23**	**60**	P		**Pn**	**01 36 33.8**	**-1.9**
KHZ	**Kahutara**	**3.33**	**196**	P		**Pn**	**01 36 36.6**	**-0.1**
DSZ	**Denniston Nort**	**3.39**	**221**	P		**Pn**	**01 36 36.8**	**-0.6**
LTZ	**Lake Taylor**	**4.03**	**207**	P		**Pn**	**01 36 44.6**	**-0.5**
CRLZ	**Canterbury Las**	**4.64**	**200**	P		**Pn**	**01 36 51.4**	**-1.2**
MQZ	**McQueen's Vall**	**4.76**	**199**	P		**Pn**	**01 36 52.3**	**-1.7**
WVZ	**Waitaha Valley**	**4.91**	**217**	P		**Pn**	**01 36 54.7**	**-1.2**
RPZ	**Rata Peaks**	**5.29**	**211**	P		**Pn**	**01 36 59.4**	**-1.3**
FOZ	**Fox Glacier**	**5.78**	**220**	P		**Pn**	**01 37 04.2**	**-2.7**
LBZ	**Lake Benmore**	**6.20**	**212**	P		**Pn**	**01 37 10.7**	**-1.5**
ODZ	**Otahua Downs**	**6.58**	**206**	P		**Pn**	**01 37 16.5**	**-0.5**
JCZ	**Jackson Bay**	**6.62**	**221**	P		**Pn**	**01 37 15.8**	**-1.7**
TUZ	**Tuapeka**	**7.72**	**208**	P		**Pn**	**01 37 31.7**	**0.0**
STKA	**Stephens Creek**	**27.86**	**275**	P		**P**	**01 41 13.0**	**+1.7**
	1.9nm,0.8s,mb3.8,baz=112,slow=11,SNR=4.6							
ASAR	**Alice Springs**	**37.81**	**282**	P		**P**	**01 42 37.9**	**+0.4**
	2.1nm,0.6s,mb3.8,baz=124,slow=7.6,SNR=26							
WRA	**Warramunga Arr**	**39.66**	**287**	P		**P**	**01 42 53.0**	**+0.2**
	1.9nm,0.4s,mb3.9,baz=124,slow=8.3,SNR=15							
VNA3	**Neumayer Olymp**	**69.80**	**178**	*e*		**P**	**01 46 29.5**	**+1.6**
VNA3				*e*		pP	01 47 20.9	+1.4
VNA2	**Neumayer--Watz**	**70.16**	**179**	*e*		**P**	**01 46 31.9**	**+1.8**
	baz=175,slow=5.4							
VNA2				*e*		pP	01 47 24.5	+2.8

MOS ***25*** *01:45:02.2±0.9, 5076N×156.00E, h124km, mb4.5/42, Error ellipse: s-maj=10.5km s-min=6.1km az=88.5*

IDC ***25*** *01:45:04.6±0.7, 5083N×155.97E, h132km±5km, mb3.9/20, mb1 4.1/21, mb1mx4.1/23, mbtmp3.9/21, Error ellipse: s-maj=15.5km s-min=11.0km az=155.0*

ISCJB ***25*** *01:45:05.0±0.5, 5076N±004×156.03E±004, h148km±3km, mb4.3/80, Error ellipse: s-maj=6.7km s-min=3.6km az=172.2*

BJI ***25*** *01:45:04.4, 5025N×156.15E, h164km, mB4.8, mb4.5*

KRSC ***25*** *01:45:04.2±0.1, 5049N×156.99E, h134km±74km, ML4.7*

NEIC ***25*** *01:45:07.0±0.7, 5085N×155.92E, h152km±5km, mb4.6/50, Error ellipse: s-maj=7.4km s-min=3.9km az=173.0*

ISC 25 01:45:07.1±0.5, 5086N±004×155.92E±004, h149km±3km, h146km±4.7km; pP-P, n390, σ0°70/411, mb4.3/80, 87C-89D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**0.21**	**145**	⇑*i*PN		**Pn**	**01 45 22.4**	**-4.8**
SKR				*e*S		**Sn**	**01 45 35.5**	**-6.9**
SKR				pmax	pmax			
	comp=Z,1μm,0.5s							
SKR				pmax	pmax			
	comp=E,460μm,0.5s							
SKR				pmax	pmax			
	comp=N,2μm,0.2s							
SKR				smax				
	comp=E,20μm,0.2s							
SKR				smax				
	comp=N,42μm,2.0s							
SKR				smax				
	comp=E,25μm,2.0s							
MIPR	**Malaya Ipel'ka**	**1.51**	**20**	*e*P		**Pn**	**01 45 36.3**	**-0.3**
MIPR				*e*S		**Sn**	**01 46 00.5**	**+1.2**
GRL	**Gorelyy**	**2.16**	**37**	*e*P		**Pn**	**01 45 43.3**	**-0.6**
GRL				*e*S		**Sn**	**01 46 11.5**	**-0.8**
RUS	**Russkaya**	**2.26**	**45**	*i*P		**Pn**	**01 45 42.4**	**-2.6**
RUS				*i*S		**Sn**	**01 46 09.2**	**-5.2**
PEA0B	**Petropavlovsk-**	**2.51**	**25**	*e*Pn		**Pn**	**01 45 48.1**	**0.0**
PETK	**Petropavlovsk-**	**2.51**	**25**	P		**Pn**	**01 45 48.2**	**+0.1**
	comp=E,37nm,0.3s,baz=207,slow=11,SNR=184							
PET	**Petropavlovsk**	**2.75**	**37**	*e*PN		**Pn**	**01 45 49.8**	**-1.3**
PET				*e*S		**Sn**	**01 46 23.2**	**-2.0**
PET				pmax	pmax			
	comp=Z,76nm,0.6s							
PET				smax				
	comp=N,2μm,0.7s							
PET				smax				
	comp=E,900nm,0.6s							
PET				smax				
	comp=N,2μm,0.6s							
PET				smax				
	comp=E,1μm,0.7s							
PET				MLR	MLR			
	comp=Z,300nm,18.0s							
PET	**Petropavlovsk**	**2.75**	**37**	*e*P		**Pn**	**01 45 49.5**	**-1.6**
PET				*i*S		**Sn**	**01 46 23.0**	**-2.2**
GNL	**Ganaly**	**3.10**	**23**	*e*P		**Pn**	**01 45 56.3**	**+0.8**
GNL				*i*S		**Sn**	**01 46 35.6**	**+2.5**
NLC	**Nalytchevo**	**3.14**	**41**	*e*P		**Pn**	**01 45 53.3**	**-2.7**
NLC				*i*S		**Sn**	**01 46 28.7**	**-5.2**
SPN	**Mys Shipunski**	**3.39**	**47**	*e*P		**Pn**	**01 45 56.7**	**-2.5**
SPN				*i*S		**Sn**	**01 46 34.1**	**-5.5**
KII	**Karymskiy**	**3.85**	**33**	*e*P		**Pn**	**01 46 05.5**	**+0.4**
KII				*i*S		**Sn**	**01 46 50.3**	**0.0**
KMNR	**Kamenistaya**	**5.55**	**26**	*e*P		**Pn**	**01 46 29.1**	**+1.6**
KMNR				*e*S		**Sn**	**01 47 30.9**	**+0.5**
KOZ	**Kozyrevsk**	**5.72**	**23**	*e*P		**Pn**	**01 46 31.6**	**+1.8**
KPT	**Kopyto**	**5.73**	**25**	*e*P		**Pn**	**01 46 30.3**	**+0.4**
KPT				*i*S		**Sn**	**01 47 34.3**	**-0.4**
KOZR	**Kozyr**	**5.73**	**23**	PN		**Pn**	**01 46 31.6**	**+1.6**
KIRR	**Kirishev**	**5.75**	**26**	*e*P		**Pn**	**01 46 31.2**	**+1.0**
KIRR				*i*S		**Sn**	**01 47 35.0**	**-0.2**
BZMR	**Bezymyannaya**	**5.77**	**26**	*e*P		**Pn**	**01 46 31.7**	**+1.2**
BZMR				*i*S		**Sn**	**01 47 36.3**	**+0.5**
KRSR	**Krestovskiy**	**6.04**	**25**	*e*P		**Pn**	**01 46 34.3**	**+0.2**
KLY	**Klyuchi**	**6.15**	**25**	*e*P		**Pn**	**01 46 36.9**	**+1.4**
SRKR	**Sorokina**	**6.59**	**26**	*e*P		**Pn**	**01 46 42.0**	**+0.6**
SRKR				*i*S		**Sn**	**01 47 54.8**	**-0.5**
KBTR	**Krutoberegovo**	**6.75**	**35**	P		**Pn**	**01 46 41.6**	**-2.0**
KBTR				*i*S		**Sn**	**01 47 54.7**	**-4.6**
SEY	**Seymchan**	**12.26**	**352**	⇑*e*PN		**Pn**	**01 47 58.3**	**+1.9**
KLR	**Kul'dur**	**15.60**	**273**	*e*P		**Pn**	**01 48 39.0**	**+0.3**
BILL	**Bilibino**	**17.97**	**13**	⇑*e*P		**Pn**	**01 49 06.0**	**-1.1**
BILL				pmax	pmax			
	comp=Z,19nm,0.9s							
BILL	**Bilibino**	**17.97**	**13**	*e*P		**Pn**	**01 49 05.7**	**-1.4**
	comp=Z,12nm,0.5s							
YAK	**Yakutsk**	**18.17**	**318**	*e*P		**P**	**01 49 08.4**	**+0.6**
YAK				*e*S		**S**	**01 52 26.3**	**-1.5**
YAK				pmax	pmax			
	comp=Z,57nm,1.0s							
YAK				pmax	pmax			
	comp=E,36nm,1.3s							
YAK				pmax	pmax			
	comp=N,18nm,1.2s							
YAK				smax				
	comp=E,61nm,2.2s							
YAK				smax				
	comp=N,68nm,2.2s							
YAK	**Yakutsk**	**18.17**	**318**	*e*P		**P**	**01 49 09.0**	**+1.1**
	comp=N,66nm,0.7s							
MDJ	**Mudanjiang**	**18.72**	**261**	P		**P**	**01 49 14.3**	**+0.3**
MDJ				AMB	AMB			
	comp=Z,4.0nm,0.5s							
MJAR	**Matsushiro Arr**	**19.13**	**228**	P		**P**	**01 49 18.9**	**+0.3**
	comp=Z,0.6nm,0.3s,baz=31,slow=7.1,SNR=2.9							
MJAR	**Matsushiro Arr**	**19.13**	**228**	P		**P**	**01 49 18.9**	**+0.4**
MJAR				pmax	pmax			
	comp=Z,1.0nm,0.3s							
CN2	**Changchun**	**21.72**	**263**	*e*P		**P**	**01 49 44.6**	**-1.5**
HIA	**Hailar**	**23.14**	**280**	⇓*e*P		**P**	**01 49 59.4**	**-0.4**
KSRS	**Korea Array**	**23.97**	**247**	P		**P**	**01 50 08.7**	**+1.1**
	comp=Z,0.7nm,0.3s,mb3.6,baz=48,slow=8.8,SNR=5.0							
KSRS	**Korea Array**	**23.97**	**247**	P		**P**	**01 50 08.7**	**+1.2**
KSRS				pmax	pmax			
	comp=Z,1.0nm,0.3s,mb3.8							
TIXI	**Tiksi**	**24.15**	**339**	⇓*i*P		**P**	**01 50 08.8**	**0.0**
TIXI				pmax	pmax			
	comp=Z,15nm,0.6s,mb4.7							
TIXI	**Tiksi**	**24.15**	**339**	*e*P		**P**	**01 50 08.7**	**-0.1**
	comp=Z,19nm,0.6s,mb4.8							
IMA2	**Indian Mountai**	**29.42**	**40**	*e*P		**P**	**01 50 55.5**	**-0.5**
ULN	**Ulaanbaatar**	**31.51**	**284**	*e*P		**P**	**01 51 14.6**	**0.0**
ULN				pmax	pmax			
	comp=Z,2.0nm,0.7s,mb4.0							
ULN	**Ulaanbaatar**	**31.51**	**284**	*e*P		**P**	**01 51 14.6**	**+0.1**
	comp=Z,2.0nm,0.7s,mb4.0							
COLA	**College**	**31.80**	**42**	⇓*e*P		**P**	**01 51 16.1**	**-0.8**
COLA	**College**	**31.80**	**42**	*e*P		**P**	**01 51 16.3**	**-0.6**
	comp=Z,18nm,1.0s,mb4.8							
SONM	**Songino Array**	**31.92**	**284**	P		**P**	**01 51 18.7**	**+0.5**
	comp=Z,0.6nm,0.5s,mb3.5,baz=70,slow=8.1,SNR=4.7							
SONM				PcP	PcP		01 54 04.2	-0.5
	comp=Z,0.8nm,0.7s,baz=126,slow=2.6,SNR=4.4							
SONM	**Songino Array**	**31.92**	**284**	P		**P**	**01 51 18.7**	**+0.5**
SONM							01 54 04.2	
SONM				pmax	pmax			
	comp=Z,1.0nm,0.5s							
HHC	**Hu-ho-hao-te**	**32.03**	**269**	*e*P		**P**	**01 51 19.8**	**+0.6**
HHC				AP	pP		01 51 53.5	+2.7
HHC				XP	sP		01 52 12.3	+4.4
HHC				PP	PP		01 52 32.3	-2.1
HHC				S	**S**		**01 56 17.8**	**-2.1**
HHC				SCP	ScP		01 57 33.6	-0.9
HHC				PCS	PcS		01 57 49.8	-0.2
HHC				SS	SS		01 58 22.8	-21
HHC				SCS	ScS		02 01 30.5	-2.9
HHC				AMB	AMB			
	comp=Z,10.0nm,1.1s,mb4.5							
HHC				AMB	AMB			
	comp=Z,109nm,5.5s							
HHC				LR	LR			
	comp=N,140nm,11.6s							
HHC				LR	LR			
	comp=E,141nm,12.0s							
HHC				LR	LR			
	comp=Z,153nm,11.3s							
ZAK	**Zakamensk**	**32.82**	**290**	*e*P		**P**	**01 51 26.7**	**+0.7**
ZAK				pmax	pmax			
	comp=Z,5.0nm,1.2s,mb4.1							
NJ2	**Nanjing**	**33.08**	**250**	*e*P		**P**	**01 51 21.9**	**-6.5**
NJ2				AMB	AMB			
	comp=Z,10.0nm,0.7s,mb4.7							
EGAK	**Eagle**	**34.66**	**42**	*e*P		**P**	**01 51 40.8**	**-1.0**
	comp=Z,11nm,0.8s,mb4.5							
DAWY	**Dawson**	**35.53**	**43**	*e*P		**P**	**01 51 48.5**	**-0.6**
INK	**Inuvik**	**37.20**	**35**	*e*P		**P**	**01 52 03.5**	**+0.2**
	comp=Z,312nm,0.9s							
LZH	**Lanzhou**	**39.73**	**269**	*e*P		**P**	**01 52 24.9**	**+0.2**
LZH				AP	pP		01 52 58.6	+1.3
LZH				XP	sP		01 53 16.5	+2.4
LZH				AMB	AMB			
	comp=Z,13nm,1.0s,mb4.5							
LZH				AMB	AMB			
	comp=Z,52nm,4.0s							
GTA	**Gaotai**	**40.28**	**276**	*e*P		**P**	**01 52 30.5**	**+1.2**
GTA				AP	pP		01 53 05.6	+3.7
GTA				XP	sP		01 53 23.8	+5.1
GTA				S	**S**		**01 58 27.3**	**+2.0**
GTA				XS	sS		01 59 28.6	+6.4
GTA				AMB	AMB			
	comp=Z,4.0nm,1.3s,mb3.9							
GTA				AMB	AMB			
	comp=Z,32nm,4.8s							
GTA				LR	LR			
	comp=N,65nm,15.0s							
GTA				LR	LR			
	comp=E,90nm,15.0s							
GTA				LR	LR			
	comp=Z,179nm,15.3s							
DLBC	**Dease Lake**	**41.46**	**50**	P		**P**	**01 52 39.6**	**+1.0**
	comp=Z,4.4nm,0.8s,mb4.1,baz=61,slow=16,SNR=5.1							
ZALV	**Zalesovo Beam**	**41.82**	**303**	P		**P**	**01 52 41.3**	**-0.4**
	comp=Z,1.1nm,0.3s,mb3.9,baz=56,slow=6.6,SNR=8.8							
ZALV				PcP	PcP		01 54 34.1	-0.5
	comp=Z,1.9nm,0.8s,baz=66,slow=3.6,SNR=7.0							
ZALV	**Zalesovo Beam**	**41.82**	**303**	P		**P**	**01 52 41.3**	**-0.4**
ZALV							01 54 34.2	
ZALV				pmax	pmax			
	comp=Z,1.0nm,0.3s,mb3.9							
NVS	**Novosibirsk**	**42.27**	**305**	*i*P		**P**	**01 52 45.0**	**-0.2**
CD2	**Chengdu**	**43.15**	**263**	*e*P		**P**	**01 52 52.5**	**-0.2**
CD2				AP	pP		01 53 28.0	+2.3
CD2				XP	sP		01 53 46.3	+3.9
CD2				AMB	AMB			
	comp=Z,10.0nm,0.8s,mb4.5							
CD2				AMB	AMB			
	comp=Z,30nm,4.2s							
GYA	**Guiyang**	**44.47**	**256**	P		**P**	**01 53 04.8**	**+1.5**
GYA				AP	pP		01 53 39.3	+2.9
GYA				XP	sP		01 53 57.0	+3.9
GYA				PCP	PcP		01 54 46.8	+2.7
GYA				PP	PP		01 54 52.9	+3.0
GYA				PCS	PcS		01 58 38.0	+0.2
GYA				S	**S**		**01 59 27.3**	**+0.3**
GYA				XS	sS		02 00 28.4	+3.8
GYA				AMB	AMB			
	comp=Z,10.0nm,0.8s,mb4.5							
GYA				AMB	AMB			
	comp=Z,60nm,4.9s							
WMQ	**Urumqi**	**45.26**	**289**	P		**P**	**01 53 09.5**	**+0.2**
RES	**Resolute Bay**	**46.34**	**20**	*e*P		**P**	**01 53 17.4**	**0.0**
	comp=Z,170nm,0.8s							
YKA	**Yellowknife Ar**	**46.55**	**40**	P		**P**	**01 53 19.0**	**-0.1**
	comp=Z,5.6nm,0.6s,mb4.3,baz=291,slow=7.7,SNR=11							
YKA	**Yellowknife Ar**	**46.55**	**40**	P		**P**	**01 53 19.0**	**-0.1**
YKA				pmax	pmax			
	comp=Z,6.0nm,0.6s							
KURK	**Kurchatov**	**46.72**	**302**	P		**P**	**01 53 20.8**	**+0.2**
	comp=Z,7.1nm,0.6s,mb4.5,baz=62,slow=7.7,SNR=22							
KURK				PcP	PcP		01 54 51.1	-0.4
	comp=Z,1.6nm,0.7s,baz=62,slow=3.2,SNR=5.4							
KURK	**Kurchatov**	**46.72**	**302**	P		**P**	**01 53 20.8**	**+0.2**
KURK							01 54 51.1	
KURK				pmax	pmax			
	comp=Z,7.0nm,0.6s,mb4.5							
MK31	**Makanchi Array**	**46.79**	**295**	*e*P		**P**	**01 53 21.0**	**-0.2**
MKAR	**Makanchi Array**	**46.79**	**295**	P		**P**	**01 53 20.9**	**-0.2**
	comp=Z,1.8nm,0.5s,mb4.0,baz=61,slow=6.8,SNR=25							
MKAR	**Makanchi Array**	**46.79**	**295**	P		**P**	**01 53 21.0**	**-0.2**
MKAR				pmax	pmax			
	comp=Z,2.0nm,0.5s							
BVAR	**Borovoye Array**	**49.74**	**308**	P		**P**	**01 53 43.1**	**-0.7**
	comp=Z,4.9nm,0.5s,mb4.4,baz=59,slow=8.0,SNR=39							
BVAR				PcP	PcP		01 55 01.6	-0.8
	comp=Z,1.0nm,0.5s,baz=63,slow=3.6,SNR=4.9							
BVAR	**Borovoye Array**	**49.74**	**308**	P		**P**	**01 53 43.1**	**-0.6**
BVAR							01 55 01.6	
BVAR				pmax	pmax			
	comp=Z,5.0nm,0.5s							
A07A	**Ashnola River,**	**51.08**	**57**	⇑P		**P**	**01 53 52.9**	**-0.9**
	baz=51							
B07A	**Winthrop**	**51.56**	**58**	⇑P		**P**	**01 53 57.3**	**-0.1**
	baz=51							
A08A	**Turner Farm, O**	**51.72**	**57**	⇑P		**P**	**01 53 58.0**	**-0.6**
	baz=52							
B08A	**Colville Reser**	**52.05**	**57**	⇑P		**P**	**01 54 00.9**	**-0.1**
	baz=52							
C07A	**Waterville**	**52.06**	**58**	⇓P		**P**	**01 54 00.4**	**-0.7**
	baz=52							
A09A	**Danville**	**52.07**	**56**	⇓P		**P**	**01 54 01.1**	**-0.1**
	baz=52							
EDM	**Edmonton**	**52.18**	**50**	*e*P		**P**	**01 54 01.2**	**-0.7**
A10A	**Northport**	**52.61**	**56**	⇓P		**P**	**01 54 04.8**	**-0.4**
	baz=52							
B09A	**Rice**	**52.64**	**57**	⇑P		**P**	**01 54 04.9**	**-0.5**
	baz=52							
D08A	**Wollman Farm,**	**53.06**	**58**	⇓P		**P**	**01 54 08.0**	**-0.5**
	baz=53							
A11A	**Hall Mountain,**	**53.25**	**55**	⇓P		**P**	**01 54 09.3**	**-0.5**
	baz=53							
ARU	**Arti**	**53.27**	**317**	*d i*P		**P**	**01 54 09.3**	**-0.6**
ARU				*e*			01 55 11.0	
ARU							01 56 08.4	
ARU				*e*S		**S**	**02 01 31.9**	**+2.6**
ARU				pmax	pmax			
	comp=Z,15nm,1.7s,mb4.5							
NEW	**Newport**	**53.28**	**56**	*e*P		**P**	**01 54 08.4**	**-1.6**
NEW				pmax	pmax			
	comp=Z,3.0nm,0.9s							
NEW	**Newport**	**53.28**	**56**	*e*P		**P**	**01 54 08.4**	**-1.6**
	comp=Z,3.0nm,0.9s,mb4.0							
H06A	**Lindquist Farm**	**53.72**	**62**	⇓P		**P**	**01 54 12.7**	**-0.7**
	baz=54							
E09A	**Wood Farm, Sta**	**53.81**	**59**	⇓P		**P**	**01 54 13.5**	**-0.5**
	baz=54							
D10A	**Wagner Farm, O**	**53.94**	**58**	⇓P		**P**	**01 54 14.5**	**-0.4**
	baz=54							
C11A	**Tepee Creek (N**	**54.00**	**56**	⇑P		**P**	**01 54 15.1**	**-0.1**
	baz=54							
J05A	**Fort Rock**	**54.12**	**63**	⇓P		**P**	**01 54 16.6**	**+0.4**
	baz=54							
G08A	**Pilot Rock**	**54.13**	**60**	⇑P		**P**	**01 54 15.7**	**-0.6**
	baz=54							
D11A	**Klaveano Farm,**	**54.45**	**57**	⇓P		**P**	**01 54 17.8**	**-0.7**
	baz=54							
C12B	**Naegeli Ranch,**	**54.49**	**56**	⇑P		**P**	**01 54 18.7**	**-0.1**
	baz=54							
ARCES	**ARCESS Array B**	**54.58**	**341**	P		**P**	**01 54 17.7**	**-1.5**
	comp=Z,8.8nm,0.9s,mb4.5,baz=41,slow=8.0,SNR=9.6							
ARCES				pP	pP		01 54 51.0	-2.6
	comp=Z,3.8nm,0.8s,baz=47,slow=3.3,SNR=1.8							
ARCES	**ARCESS Array B**	**54.58**	**341**	P		**P**	**01 54 17.7**	**-1.5**
ARCES				*PP	pP		01 54 51.0	-2.6
ARCES				pmax	pmax			
	comp=Z,9.0nm,0.9s							
ARCES	**ARCESS Array B**	**54.58**	**341**	P		**P**	**01 54 17.7**	**-1.5**
ARCES				pP	pP		01 54 51.0	-2.6
B13A	**Whitefish**	**54.60**	**55**	⇑P		**P**	**01 54 18.8**	**-0.8**
	baz=54,SNR=5.5							
K05A	**Summer Lake**	**54.67**	**64**	⇑P		**P**	**01 54 20.6**	**+0.4**
	baz=54							
J06A	**Christmas Vall**	**54.75**	**63**	⇑P		**P**	**01 54 20.4**	**-0.4**
	baz=54,SNR=5.2							
BSMT	**Bassoon Peak**	**54.76**	**56**	*e*P		**P**	**01 54 21.4**	**+0.6**
CHTO	**Chiang Mai**	**54.89**	**256**	*e*P		**P**	**01 54 22.4**	**+0.3**
CHTO				pmax	pmax			
	comp=Z,12n

baz=56,SNR=5.2
L08A Fields 56.45 63 ⇑P P 01 54 33.4 +0.4
baz=56
D15A Lincoln 56.46 55 ⇓P P 01 54 32.7 -0.3
baz=56
K09A Rome 56.47 62 ⇓P P 01 54 33.3 +0.2
baz=56
M07A Soldier Meadow 56.51 64 ⇓P P 01 54 33.8 +0.4
baz=56
N06A Buffalo Meadow 56.55 65 ⇑P P 01 54 33.7 0.0
baz=56
E15A Deer Lodge 56.80 56 ⇑P P 01 54 35.2 -0.1
baz=56
BEKR Beckwourth 56.82 66 ⇓P P 01 54 35.6 0.0
baz=57
FCC Fort Churchill 56.82 36 eP P 01 54 35.0 -0.3
FCC pmax pmax
comp=Z,15nm,0.6s,mb5.0
FCC Fort Churchill 56.82 36 eP P 01 54 35.0 -0.3
comp=Z,15nm,0.6s,mb5.0
G13A Cobalt 56.83 58 ⇑P P 01 54 34.7 -0.9
baz=57,SNR=5.7
H12A Diamond D Ranc 56.84 59 ⇓P P 01 54 35.5 -0.2
baz=57
M08A Happy Creek Ra 56.92 63 ⇑P P 01 54 36.5 +0.3
baz=57
O06A Flanigan 56.94 65 ⇓P P 01 54 36.3 -0.1
baz=57
D16A Dana Ranch, Ca 56.97 55 ⇑P P 01 54 36.4 -0.2
baz=57
C17A Wharram Farm, 56.98 54 ⇓P P 01 54 35.8 -0.8
baz=57,SNR=7.2
HRY Holter Researc 57.03 55 eP P 01 54 36.5 -0.5
H13A Challis 57.16 58 ⇓P P 01 54 37.8 -0.1
baz=57
I12A Atlanta 57.19 59 ⇓P P 01 54 38.1 -0.1
baz=57
EGMT Eagleton 57.23 53 ⇓P P 01 54 38.4 0.0
baz=57
F15A Butte 57.26 56 ⇑P P 01 54 38.7 +0.1
baz=57
D17A Six Diamond Ra 57.33 54 ⇓P P 01 54 39.0 -0.1
baz=57
LAVA Lava Cap Winer 57.34 67 ⇑P P 01 54 39.2 0.0
baz=57
K11A Parker Ranch, 57.37 61 ⇑P P 01 54 39.8 +0.5
baz=57
O07A Toulon 57.48 65 ⇓P P 01 54 40.6 +0.3
baz=57
J12A Stokes Ranch, 57.57 60 ⇓P P 01 54 40.8 +0.1
baz=57,SNR=6.8
L10A Juniper Basin 57.58 62 ⇑P P 01 54 41.1 +0.2
baz=57
H14A Leadore 57.60 58 ⇓P P 01 54 40.8 -0.2
baz=57
I13A Wildhorse Cree 57.66 59 ⇓P P 01 54 41.2 -0.2
baz=57,SNR=6.6
E17A Martinsdale 57.70 55 ⇓P P 01 54 41.8 +0.1
baz=57,SNR=5.9
G15A Dillon 57.71 57 ⇓P P 01 54 41.7 0.0
baz=57,SNR=5.5
HLID Hailey 57.73 59 ⇓P P 01 54 42.0 +0.1
baz=58
HLID Hailey 57.73 59 eP P 01 54 42.5 +0.6
O08A Rochester Mine 57.81 64 ⇑P P 01 54 43.0 +0.4
baz=58
M10A I.L. Ranch, Tu 57.91 62 ⇓P P 01 54 43.9 +0.7
baz=58
L11A Cat Creek Ranc 57.92 61 ⇑P P 01 54 43.7 +0.5
baz=58
J13A Cove Ranch, Pi 57.97 59 ⇑P P 01 54 43.8 +0.2
baz=58
H15A Lima 57.99 57 ⇓P P 01 54 43.8 +0.1
baz=58
I14A Mackay 58.01 58 ⇑P P 01 54 44.3 +0.4
baz=58,SNR=7.2
CMB Columbia Colle 58.02 68 ⇓P P 01 54 43.6 -0.5
baz=58
K12A Draper Farm, C 58.08 60 ⇑P P 01 54 44.6 +0.2
baz=58
E18A Harlowton 58.12 54 ⇑P P 01 54 44.9 +0.3
baz=58
R06C Coleville 58.24 67 ⇓P P 01 54 45.8 +0.2
baz=58
L12A House Creek Ra 58.34 61 ⇑P P 01 54 46.4 +0.2
baz=58
J14A Carey 58.38 59 ⇑P P 01 54 46.6 +0.2
baz=58,SNR=7.2
JOF Joensuu 58.47 334 ep P 01 54 45.6 -1.2
comp=Z,0.5nm,0.3s,mb3.8
QLMT Earthquake Lak 58.49 56 eP P 01 54 48.6 +1.4
F18A Big Timber 58.67 55 ⇓P P 01 54 48.5 +0.1
baz=58,SNR=7.5
H16A Russell Place, 58.67 56 ⇓P P 01 54 48.8 +0.4
baz=58,SNR=6.6
GCMT Greycliff 58.77 55 eP P 01 54 49.4 +0.4
J15A Blackfoot 58.92 58 ⇑P P 01 54 50.9 +0.8
baz=59
I16A Newdale 59.10 57 ⇓P P 01 54 51.8 +0.4
baz=59
ELK Elko 59.16 62 eP P 01 54 50.9 -1.0
ELK pmax pmax
comp=Z,1.0nm,0.5s
ELK Elko 59.16 62 eP P 01 54 50.9 -1.0
comp=Z,1.2nm,0.5s,mb4.0
N12A Clover Valley, 59.20 62 ⇓P P 01 54 52.9 +0.7
baz=59
H17A Grant Village 59.23 56 ⇑P P 01 54 53.9 +1.6
baz=59,SNR=8.7
K15A Arbon 59.34 59 ⇑P P 01 54 53.8 +0.7
baz=59
IMW Indian Meadow 59.38 57 eP P 01 54 54.7 +1.4
L14A Malta 59.40 60 ⇑P P 01 54 54.3 +0.8
baz=59
RLMT Red Lodge 59.43 55 ⇓P P 01 54 54.4 +0.7
baz=59,SNR=7.9
RLMT Red Lodge 59.43 55 eP P 01 54 54.2 +0.6
comp=Z,14nm,1.3s,mb4.6
J16A Bone 59.44 58 ⇓P P 01 54 54.5 +0.8
baz=59
I17A Pilgram Creek 59.56 57 ⇑P P 01 54 56.2 +1.6
baz=59
MOOW Moose Ponds 59.58 57 eP P 01 54 55.4 +0.6
comp=Z,2.8nm,1.0s,mb4.0
TPAW Teton Pass 59.65 57 eP P 01 54 56.0 +0.8
comp=Z,7.4nm,1.3s,mb4.4
DGMT Dagmar 59.67 49 ⇓P P 01 54 55.4 +0.1
baz=59
M14A Sheep Mountain 59.70 60 ⇓P P 01 54 55.8 +0.2
baz=59
LOHW Long Hollow 59.75 57 eP P 01 54 56.8 +0.9
comp=Z,7.1nm,1.3s,mb4.3
K16A Soda Springs 59.76 58 ⇓P P 01 54 56.6 +0.7
baz=60,SNR=5.6
SNOW Snow King Moun 59.77 57 eP P 01 54 57.3 +1.3
R09A Tonopah 59.81 65 ⇓P P 01 54 56.5 +0.1
baz=60
S09A Goldfield 60.08 66 ⇓P P 01 54 58.2 0.0
baz=60
M15A Larsen Ranch, 60.22 60 ⇓P P 01 54 59.3 +0.2
baz=60
KAF Kangasniemi 60.49 335 ep P 01 55 10.5 +10
comp=Z,0.9nm,0.4s,mb4.0
KAF Kangasniemi 60.49 335 eP P 01 55 10.5 +10
KAF pmax pmax
comp=Z,1.0nm,0.4s,mb4.0
N15A Stansbury Isla 60.57 60 ⇓P P 01 55 01.9 +0.4
baz=60
R11A Troy Canyon, C 60.59 64 ⇑P P 01 55 01.6 0.0
baz=60
HWUT Hardware Ranch 60.60 59 eP P 01 55 01.9 +0.2
comp=Z,1.2nm,0.6s,mb3.9
BW06 Boulder Array 60.89 57 ⇑P P 01 55 03.6 0.0
baz=61,SNR=7.9
BW06 Boulder Array 60.89 57 eP P 01 55 03.6 0.0
comp=Z,6.9nm,1.1s,mb4.4
DUG Dugway 60.89 61 ⇓P P 01 55 03.6 0.0
baz=61
PDAR Pinedale Array 60.89 57 P P 01 55 03.4 -0.2
comp=Z,3.6nm,0.9s,mb4.2,baz=315,slow=2.8,SNR=27
S11A Rachel 60.98 65 ⇓P P 01 55 04.7 +0.3
baz=61
MPMC Manual Prospec 61.06 68 ⇓P P 01 55 04.8 -0.1
baz=61
Q13A Wheeler Ranch, 61.06 63 ⇓P P 01 55 05.2 +0.3
baz=61
P14A Drum Mountains 61.16 62 ⇓P P 01 55 05.1 -0.4
baz=61
TPNV Topopah Spring 61.17 66 ⇑P P 01 55 05.6 0.0
baz=61
LRMC Laurel Mountai 61.35 68 ⇓P P 01 55 06.3 -0.5
baz=61
Q14A Sevier Lake (B 61.46 63 ⇓P P 01 55 07.8 +0.3
baz=61
T11A Corn Creek, Al 61.56 65 ⇑P P 01 55 08.3 +0.1
baz=61
O16A Springville 61.60 60 ⇓P P 01 55 09.0 +0.5
baz=61
S13A Holt Ranch, En 62.11 64 ⇑P P 01 55 12.3 +0.5
baz=62
ULM Lac du Bonnet 62.23 44 P P 01 55 11.5 -1.0
comp=Z,3.7nm,1.0s,mb4.2,baz=315,slow=7.8,SNR=4.1
ULM Lac du Bonnet 62.23 44 eP P 01 55 11.6 -0.9
RSSD Black Hills 62.81 53 eP P 01 55 16.0 -0.4
RSSD pmax pmax
comp=Z,7.0nm,1.0s,mb4.5
RSSD Black Hills 62.81 53 eP P 01 55 16.0 -0.4
comp=Z,6.7nm,1.0s,mb4.4
O19A Miners Draw (B 62.84 59 ⇓P P 01 55 17.0 +0.3
baz=63
U13A Pakoon Wash 62.86 65 ⇑P P 01 55 17.4 +0.5
baz=63
SRU San Rafael 62.91 61 ⇓P P 01 55 17.3 +0.1
baz=63
V13A Grand Canyon W 63.24 65 ⇑P P 01 55 19.8 +0.4
baz=63
U14A Mt Trumbull 63.31 65 ⇓P P 01 55 20.1 +0.2
baz=63
VSU Vasula 63.42 333 i P P 01 55 15.9 -4.3
Q19A Hogan Spring (63.72 60 ⇑P P 01 55 22.0 -0.5
baz=64
IRM Iron Mountain 63.76 68 ⇑P P 01 55 22.9 +0.1
baz=64
R18A Canyonlands Na 63.77 61 ⇑P P 01 55 22.7 -0.1
baz=64
S17A Black Ridge (B 63.80 62 ⇓P P 01 55 22.9 -0.1
baz=64
U15A North Rim 63.81 64 ⇑P P 01 55 23.4 +0.2
baz=64
W13A Hualapai Mount 63.83 66 ⇓P P 01 55 23.3 0.0
baz=64
V14A Boquillas Ranc 63.91 65 ⇓P P 01 55 24.1 +0.4
baz=64
BC3 Big Chuckw Mtn 63.94 68 ⇑P P 01 55 23.9 -0.1
baz=64
R19A Curley Farm, L 64.19 61 ⇑P P 01 55 25.3 -0.2
baz=64
S18A Hurst Farm, Bl 64.21 62 ⇑P P 01 55 25.9 +0.2
baz=64
W14A Seligman 64.22 65 ⇑P P 01 55 25.8 0.0
baz=64
X13A Yucca 64.22 66 ⇑P P 01 55 25.7 -0.2
baz=64
PDMCI Parker Dam,Lak 64.25 67 ⇑P P 01 55 25.6 -0.5
baz=64
V15A Kaibab Nationa 64.31 64 ⇓P P 01 55 26.6 +0.2
baz=64
S19A Harvey Farm, M 64.64 61 ⇑P P 01 55 28.5 -0.1
baz=64
T18A Mexican Hat 64.67 62 ⇓P P 01 55 28.2 -0.6
baz=64
X14A Yava 64.86 66 ⇓P P 01 55 30.1 +0.2
baz=65
NB2 NORSAR Subarra 64.92 342 P P 01 55 29.0 -0.9
comp=Z,3.0nm,0.7s,mb4.2,baz=24,slow=6.9
NOA NORSAR Array B 64.92 342 P P 01 55 29.0 -0.9
comp=Z,4.0nm,0.7s,mb4.3,baz=24,slow=6.7,SNR=16
NOA pP pP 01 56 01.3 -4.1
comp=Z,1.3nm,0.8s,baz=27,slow=2.9,SNR=4.0
NOA NORSAR Array B 64.92 342 P P 01 55 29.0 -0.9
NOA *PP pP 01 56 01.3 -4.1
NOA pmax pmax
comp=Z,4.0nm,0.7s
WUAZ Wupatki 64.98 64 ⇑P P 01 55 30.7 0.0
baz=65
NAO01 NORSAR Array S 65.16 342 eP P 01 55 30.5 -1.0
comp=Z,3.7nm,0.8s,mb4.3
Y14A Wickenburg 65.17 66 ⇓P P 01 55 31.9 -0.1
baz=65
X15A Humboldt 65.22 65 ⇑P P 01 55 32.9 +0.5
baz=65
MVCO Mesa Verde 65.38 61 ⇑P P 01 55 33.6 +0.3
baz=65
X16A Lo Mia Camp, P 65.73 65 ⇑P P 01 55 36.1 +0.5
baz=66
115A Sonoran Desert 66.51 67 ⇑P P 01 55 41.0 +0.5
baz=66
Y17A Roosevelt 66.59 65 ⇓P P 01 55 41.8 +0.7
baz=66
SDCO Great Sand Dun 66.64 59 eP P 01 55 41.2 -0.1
comp=Z,2.3nm,1.2s,mb3.9
214A Organ Pipe Nat 66.70 68 ⇑P P 01 55 42.3 +0.5
baz=66
X19A St. Johns 66.95 64 ⇑P P 01 55 43.7 +0.4
baz=67
Y18A Canyon Day Jun 67.00 65 ⇓P P 01 55 44.1 +0.4
baz=67
Y19A Nutrioso 67.31 64 ⇑P P 01 55 46.5 +0.9
baz=67
TUC Tucson 67.63 66 eP P 01 55 47.8 +0.1
118A Homack Ranch, 67.86 65 ⇓P P 01 55 49.4 +0.3
baz=68
119A Ashpeak Ranch, 68.15 65 ⇑P P 01 55 51.2 +0.3
baz=68
ANMO Albuquerque 68.16 61 eP P 01 55 51.1 +0.2
ANMO pmax pmax
comp=Z,1.0nm,0.9s
ANMO Albuquerque 68.16 61 eP P 01 55 51.1 +0.2
comp=Z,1.4nm,0.9s,mb3.7
LAZ Ladron 68.18 62 eP P 01 55 51.1 0.0
318A Bisbee 68.72 66 ⇑P P 01 55 54.4 -0.1
baz=68
219A White Tail Can 68.74 65 ⇑P P 01 55 54.5 0.0
baz=68
HYB Hyderabad 68.75 272 i P P 01 55 54.5 -0.3
HYB Hyderabad 68.75 272 eP P 01 55 54.5 -0.3
AKASG Malin Array Be 69.14 327 P P 01 55 55.1 -1.6
comp=Z,2.3nm,0.5s,mb4.2,baz=32,slow=6.3,SNR=9.3
AKASG Malin Array Be 69.14 327 P P 01 55 55.1 -1.6
AKASG pmax pmax
comp=Z,2.0nm,0.5s
AKBB Malin Array Si 69.14 327 eP P 01 55 55.3 -1.4
SCIA State Center 69.75 48 eP P 01 55 59.8 -0.8
comp=Z,11nm,0.4s,mb4.9
SOC Sochi 70.86 316 i P P 01 56 11.3 +4.0
KWP Kalwaria 72.22 330 ⇓P P 01 56 15.4 +0.1
WRA Warramunga Arr 73.01 201 P P 01 56 18.4 -1.9
comp=Z,0.3nm,0.5s,mb3.3,baz=18,slow=6.2,SNR=3.9
WRA pP pP 01 56 50.7 -5.8
comp=Z,0.7nm,0.6s,baz=21,slow=6.8,SNR=4.8
BUR08 Bucovina Ar. S 73.13 328 eP P 01 56 19.9 -0.9
BURAR Bucovina Array 73.15 328 ⇓P P 01 56 20.0 -0.9
BURAR Bucovina Array 73.15 328 ⇓P P 01 56 20.0 -0.9
CLL Collm 73.46 337 eP P 01 56 22.0 -0.6
TXAR Lajitas Array 73.92 63 P P 01 56 25.4 -0.3
comp=Z,2.9nm,0.7s,mb4.1,baz=303,slow=5.0,SNR=40
TXAR pP pP 01 56 58.5 -3.6
comp=Z,0.8nm,0.6s,baz=302,slow=4.9,SNR=4.1
TXAR Lajitas Array 73.92 63 P P 01 56 25.4 -0.3
TXAR *PP pP 01 56 58.5 -3.5
TXAR pmax pmax
comp=Z,3.0nm,0.7s
VRAC Vranov 74.33 334 ⇑P P 01 56 27.6 -0.1
VRAC Vranov 74.33 334 ⇑P P 01 56 27.6 -0.1
DRGR 74.70 329 ⇓P P 01 56 28.4 -1.5
DRGR 74.70 329 ⇓P P 01 56 28.4 -1.5
MLR Muntele Rosu 74.73 326 ⇑P P 01 56 30.7 +0.6
MLR Muntele Rosu 74.73 326 ⇑P P 01 56 30.7 +0.6
VOIR 75.09 327 ⇓P P 01 56 32.3 +0.1
JCT Junction City 75.20 60 eP P 01 56 32.2 -0.9
KHC Kasperske Hory 75.31 335 i P P 01 56 34.8 +1.4
GERES GERESS Array B 75.54 335 P P 01 56 34.1 -0.6
comp=Z,1.0nm,0.7s,mb3.6,baz=33,slow=5.4,SNR=10
GERES GERESS Array B 75.54 335 P P 01 56 34.1 -0.6
GERES pmax pmax
comp=Z,1.0nm,0.7s
WCI Wyandotte Cave 75.88 46 eP P 01 56 36.1 -0.7
WCI pmax pmax
comp=Z,12nm,0.8s,mb4.6
WCI Wyandotte Cave 75.88 46 eP P 01 56 36.1 -0.7
comp=Z,12nm,0.8s,mb4.6
BR131 Keskin Array S 76.63 318 eP P 01 56 41.1 +0.1
comp=Z,1.6nm,0.7s,mb3.8
ASAR Alice Springs 76.70 201 P P 01 56 39.8 -1.6
comp=Z,0.2nm,0.4s,baz=2.3,slow=4.6,SNR=3.1
ASAR pP pP 01 57 12.7 -5.3
comp=Z,0.4nm,0.6s,baz=14,slow=5.2,SNR=2.7
WVT Waverly 76.87 48 eP P 01 56 41.6 -0.8
WVT pmax pmax
comp=Z,3.0nm,0.7s,mb4.0
WVT Waverly 76.87 48 eP P 01 56 41.6 -0.9
comp=Z,3.2nm,0.7s,mb4.1
HKT Hockley 77.76 58 eP P 01 56 46.6 -0.9
HKT pmax pmax
comp=Z,5.0nm,1.1s,mb4.1
HKT Hockley 77.76 58 eP P 01 56 46.6 -0.9
comp=Z,4.5nm,1.1s,mb4.0
MEZF Maizieres J'vi 77.92 341 eP P 01 56 48.2 +0.2
comp=Z,33nm,1.1s,mb4.6
MEZF Maizieres J'vi 77.92 341 eP P 01 56 48.2 +0.2
comp=Z,33nm,1.1s,mb4.9
MIB Mutribah 78.06 303 eP P 01 56 48.9 -0.2
MIB AMb AMB 01 56 49.6
comp=Z,31nm,0.9s,mb4.9
HAU Haudompre 78.11 340 eP P 01 56 48.9 -0.2
NAY Al-Naaiem 78.55 302 eP P 01 56 51.4 -0.4
NAY AMb AMB 01 56 52.7
comp=Z,19nm,1.8s,mb4.4
FLN La Foliniere 78.72 344 eP P 01 56 52.2 -0.2
comp=Z,58nm,1.2s,mb4.8
FLN La Foliniere 78.72 344 eP P 01 56 52.2 -0.2
FLN pmax pmax
comp=Z,29nm,1.2s,mb4.8
FLN La Foliniere 78.72 344 eP P 01 56 52.2 -0.2
comp=Z,29nm,1.2s,mb4.8
LDF La Druitiere 78.82 344 eP P 01 56 52.6 -0.4
comp=Z,35nm,1.2s,mb4.6
LDF La Druitiere 78.82 344 eP P 01 56 52.6 -0.4
LDF pmax pmax
comp=Z,18nm,1.2s,mb4.6
LDF La Druitiere 78.82 344 eP P 01 56 52.6 -0.4
comp=Z,18nm,1.2s,mb4.6
GRR Gorron 79.15 344 eP P 01 56 54.8 0.0
comp=Z,25nm,0.8s,mb4.6
GRR Gorron 79.15 344 eP P 01 56 54.8 0.0
GRR pmax pmax
comp=Z,13nm,0.8s,mb4.6
GRR Gorron 79.15 344 eP P 01 56 54.8 0.0
comp=Z,13nm,0.8s,mb4.6
LOR Lormes 79.34 341 eP P 01 56 55.6 -0.2
comp=Z,16nm,1.0s,mb4.3
LOR Lormes 79.34 341 eP P 01 56 55.6 -0.2
LOR pmax pmax
comp=Z,8.0nm,1.0s,mb4.3
LOR Lormes 79.34 341 eP P 01 56 55.6 -0.2
comp=Z,8.3nm,1.0s,mb4.3
CABF La Chapelle 79.48 339 eP P 01 56 56.7 +0.1
comp=Z,28nm,1.2s,mb4.5
CABF La Chapelle 79.48 339 eP P 01 56 56.7 +0.1
CABF pmax pmax
comp=Z,14nm,1.2s,mb4.5
CABF La Chapelle 79.48 339 eP P 01 56 56.7 +0.1
comp=Z,14nm,1.2s,mb4.5
SGMF Saint Gilles 79.55 346 eP P 01 56 57.0 0.0
comp=Z,44nm,0.9s,mb4.8
SGMF Saint Gilles 79.55 346 eP P 01 56 57.0 0.0
SGMF pmax pmax
comp=Z,22nm,0.9s,mb4.8
SGMF Saint Gilles 79.55 346 eP P 01 56 57.0 0.0
comp=Z,22nm,0.9s,mb4.8
ROSF Rostrenen 79.59 346 eP P 01 56 57.2 +0.1
comp=Z,15nm,0.7s,mb4.5
ROSF Rostrenen 79.59 346 eP P 01 56 57.2 +0.1
ROSF pmax pmax
comp=Z,8.0nm,0.6s,mb4.5
ROSF Rostrenen 79.59 346 eP P 01 56 57.2 +0.1
comp=Z,7.6nm,0.6s,mb4.5
SSF Saint Saulge 79.61 341 eP P 01 56 57.6 +0.3
comp=Z,31nm,1.3s,mb4.5
SSF Saint Saulge 79.61 341 eP P 01 56 57.6 +0.3
SSF pmax pmax
comp=Z,16nm,1.3s,mb4.5
SSF Saint Saulge 79.61 341 eP P 01 56 57.6 +0.3
comp=Z,16nm,1.3s,mb4.5
AVF Avril sur Loir 79.90 341 eP P 01 56 58.8 0.0
comp=Z,24nm,0.9s,mb4.5
AVF Avril sur Loir 79.90 341 eP P 01 56 58.8 0.0
AVF pmax pmax
comp=Z,12nm,0.9s,mb4.5
AVF Avril sur Loir 79.90 341 eP P 01 56 58.8 0.0
comp=Z,12nm,0.9s,mb4.5
SMF Signal de Mont 79.94 341 eP P 01 56 59.1 0.0
comp=Z,36nm,1.0s,mb4.7
SMF Signal de Mont 79.94 341 eP P 01 56 59.1 0.0
SMF pmax pmax
comp=Z,18nm,1.0s,mb4.7
SMF Signal de Mont 79.94 341 eP P 01 56 59.1 0.0
comp=Z,18nm,1.0s,mb4.7
QUIF Quistinic 79.98 346 eP P 01 56 58.6 -0.7
comp=Z,32nm,0.9s,mb4.6
QUIF Quistinic 79.98 346 eP P 01 56 58.6 -0.7
QUIF pmax pmax
comp=Z,16nm,0.9s,mb4.7
QUIF Quistinic 79.98 346 eP P 01 56 58.6 -0.7
comp=Z,16nm,0.9s,mb4.7
BGF Bois d'Agland 80.22 342 eP P 01 56 58.8 -1.8
LPL La Plagne 80.37 339 eP P 01 57 02.3 +0.9
comp=Z,14nm,0.8s,mb4.3
LPL La Plagne 80.37 339 eP P 01 57 02.3 +0.9
LPL pmax pmax
comp=Z,7.0nm,0.8s,mb4.3
LPL La Plagne 80.37 339 eP P 01 57 02.3 +0.9
comp=Z,7.2nm,0.8s,mb4.3
LPG La Plagne 80.39 339 eP P 01 57 02.5 +1.0
TCF Toulx Ste Croi 80.61 342 eP P 01 57 02.8 +0.1
comp=Z,21nm,1.0s,mb4.4
TCF Toulx Ste Croi 80.61 342 eP P 01 57 02.8 +0.1
TCF pmax pmax
comp=Z,10.0nm,1.0s,mb4.4
TCF Toulx Ste Croi 80.61 342 eP P 01 57 02.8 +0.1
comp=Z,10nm,1.0s,mb4.4
MFF Saint Martin d 80.75 344 eP P 01 57 03.6 +0.2
ORIF Oris-en-Rattie 81.13 339 eP P 01 57 05.3 -0.2
comp=Z,12nm,0.8s,mb4.3
ORIF Oris-en-Rattie 81.13 339 eP P 01 57 05.3 -0.2
ORIF pmax pmax
comp=Z,6.0nm,0.8s,mb4.3
ORIF Oris-en-Rattie 81.13 339 eP P 01 57 05.3 -0.2
comp=Z,6.1nm,0.8s,mb4.3
VIVF Saint-Julien-l 81.46 340 eP P 01 57 07.6 +0.4
comp=Z,30nm,0.9s,mb4.6
VIVF Saint-Julien-l 81.46 340 eP P 01 57 07.6 +0.4
VIVF pmax pmax
comp=Z,15nm,0.9s,mb4.6
VIVF Saint-Julien-l 81.46 340 eP P 01 57 07.6 +0.4
comp=Z,15nm,0.9s,mb4.6
RJF Les Rejaudoux 81.69 342 eP P 01 57 08.6 +0.2
comp=Z,35nm,1.1s,mb4.6
RJF Les Rejaudoux 81.69 342 eP P 01 57 08.6 +0.2
RJF pmax pmax
comp=Z,18nm,1.1s,mb4.6
RJF Les Rejaudoux 81.69 342 eP P 01 57 08.6 +0.2
comp=Z,18nm,1.1s,mb4.6
CAF Calviac 81.94 342 eP P 01 57 10.4 +0.7
comp=Z,13nm,0.7s,mb4.4
CAF Calviac 81.94 342 eP P 01 57 10.4 +0.7
CAF pmax pmax
comp=Z,6.0nm,0.7s,mb4.3
CAF Calviac 81.94 342 eP P 01 57 10.4 +0.7
comp=Z,6.4nm,0.7s,mb4.4
LFF La Frestale 82.19 342 eP P 01 57 11.5 +0.5
comp=Z,68nm,1.0s,mb4.9
LFF La Frestale 82.19 342 eP P 01 57 11.5 +0.5
LFF pmax pmax
comp=Z,34nm,1.0s,mb4.9
LFF La Frestale 82.19 342 eP P 01 57 11.5 +0.5
comp=Z,34nm,1.0s,mb4.9
LASF Ste Croix 82.38 340 eP P 01 57 12.7 +0.7
comp=Z,22nm,1.0s,mb4.4
PGF Pioggiola 82.61 336 eP P 01 57 12.8 -0.4
comp=Z,35nm,0.8s,mb4.8
PGF Pioggiola 82.61 336 eP P 01 57 12.8 -0.4
PGF pmax pmax
comp=Z,17nm,0.8s,mb4.8
PGF Pioggiola 82.61 336 eP P 01 57 12.8 -0.4
comp=Z,17nm,0.8s,mb4.8
MTLF Montolieu 83.43 341 eP P 01 57 17.9 +0.5
comp=Z,16nm,0.8s,mb4.5
MTLF Montolieu 83.43 341 eP P 01 57 17.9 +0.5
MTLF pmax pmax
comp=Z,8.0nm,0.8s,mb4.5
MTLF Montolieu 83.43 341 eP P 01 57 17.9 +0.5

comp=Z,8.2nm,0.8s,mb4.5
EPF Esparros 84.10 342 *e*P **P 01 57 21.5 +0.6**
comp=Z,21nm,0.9s,mb4.6
EPF Esparros 84.10 342 *e*P **P 01 57 21.5 +0.6**
EPF pmax pmax
comp=Z,11nm,0.9s,mb4.6
EPF Esparros 84.10 342 *e*P **P 01 57 21.5 +0.6**
comp=Z,10nm,0.9s,mb4.6
SJPF Ste Jean 84.32 343 *e*P **P 01 57 22.1 +0.2**
ETSF Etsaut 84.40 343 *e*P **P 01 57 23.0 +0.6**
comp=Z,11nm,0.7s,mb4.4
ETSF Etsaut 84.40 343 *e*P **P 01 57 23.0 +0.6**
ETSF pmax pmax
comp=Z,6.0nm,0.7s,mb4.4
ETSF Etsaut 84.40 343 *e*P **P 01 57 23.0 +0.6**
comp=Z,5.6nm,0.7s,mb4.4
ESDC Sonseca Array 88.14 345 P **P 01 57 39.3 -1.4**
comp=Z,2.3nm,0.7s,mb4.1,baz=1.6,slow=3.8,SNR=9.8
KEST Kesra 88.89 333 P **P 01 57 44.8 +0.5**
comp=Z,2.4nm,0.6s,mb4.3,baz=305,slow=2.8,SNR=11

NEIC ***25*** *02:11:04.1, 1778N×10044W, h61km, MD4.0(MEX), After MEX.*
MEX 25 02:11:04.1±0.7, 1779N×10045W, h61km±15km**, MD4.0, Guerrero**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CAIG	**El Cayaco**	**0.76**	**167**	*i* P	Pn	02 11 17.4	-1.6
CAIG				*e*S	Sn	02 11 28.3	-1.7
ZIIG	**Zihuatanejo**	**0.99**	**260**	*i* P	Pn	02 11 20.1	-1.9
ZIIG				*e*S	Sn	02 11 33.5	-1.7
ACX	**Acapulco**	**1.05**	**151**	*i* P	Pn	02 11 21.7	-1.1
ACX				*i* S	Sn	02 11 35.5	-1.1
PLIG	**Platanillo**	**1.08**	**56**	*i* P	Pn	02 11 21.7	-1.5
PLIG				*i* S	Sn	02 11 35.9	-1.6
YAIG	**Yautepec**	**1.69**	**51**	*i* P	Pn	02 11 29.7	-1.7
YAIG				*i* S	Sn	02 11 50.1	-1.9
MOIG	**Morelia**	**2.01**	**340**	*i* P	Pn	02 11 35.5	-0.2
MOIG				*i* S	Sn	02 11 58.5	-1.2
PPM	**Popocatepetl**	**2.15**	**53**	*i* P	Pn	02 11 36.7	-0.8
PPM				*i* P		02 11 37.2	
PPM				*i* S	Sn	02 12 01.6	-1.5
PPM	**Popocatepetl**	**2.15**	**53**	*i* P	Pn	02 11 37.2	-0.4
PPM				*i* S	Sn	02 12 01.6	-1.5
MMIG	**Aquila**	**2.80**	**281**	*e*P	Pn	02 11 45.3	-1.2
MMIG				*i* S	Sn	02 12 16.9	-2.3

CSEM ***25*** *02:15:25.9, 1394N×4265E, h13km, ML3.6, After DHMR*
DHMR 25 02:15:25.9±1.6, 1394N×4265E, h13km±19km**, ML3.6, 2C, Ethiopia**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
UDYN	**Al 'Udayn**	**1.28**	**88**	*i* P	Pn	02 15 50.6	+1.2
UDYN				*i* S	Sb	02 16 08.7	+2.5
UDYN				AML	AML	02 16 10.8	
	comp=N,975nm,0.3s						
KAMRY	**Kamaran Island**	**1.39**	**359**	*i* P	Pn	02 15 51.5	+0.6
KAMRY				*i* S	Sn	02 16 11.0	+1.8
KAMRY				AML	AML	02 16 31.2	
	comp=E,912nm,0.6s						
DHBB	**Dhamar BB**	**1.80**	**69**	*i* P	Pn	02 15 58.1	+1.5
DHBB				*i* S	Sn	02 16 23.0	+3.7
HAJJ	**Hajjah**	**1.98**	**27**↑	*i* P	Pn	02 16 00.1	+1.0
HAJJ				*i* S	Sn	02 16 27.0	+3.2
	comp=E,245nm,0.3s						
HAJJ	**Hajjah**	**1.98**	**27**↑	*i* P	Pn	02 16 00.1	+1.0
HAJJ				*i* S	Sn	02 16 27.0	+3.2
HAJJ				AML	AML	02 16 43.9	
	comp=E,490nm,0.3s						
LBOS		**2.52**	**91**	*i* P	Pn	02 16 08.6	+2.0
LBOS				*i* S	Sn	02 16 43.7	+6.5
BDHA	**Al Bayda'**	**2.83**	**89**	*i* P	Pn	02 16 13.1	+2.3
BDHA				*i* S	Sn	02 16 51.2	+6.4
	comp=E,226nm,0.5s						
BDHA	**Al Bayda'**	**2.83**	**89**	*i* P	Pn	02 16 13.1	+2.3
BDHA				*i* S	Sn	02 16 51.2	+6.4
BDHA				AML	AML	02 17 00.5	
	comp=N,452nm,0.5s						

KRSC 25 02:24:17.1±0.0, 5555N×16377E, h22km±22km**, ML3.7, Off east coast of Kamchatka Peninsula**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KBTR	**Krutoberegovo**	**0.85**	**321**	*e*P	Pb	02 24 34.1	+1.0
KBTR				*e*S	Sb	02 24 46.2	+2.1
SRKR	**Sorokina**	**1.83**	**308**	*e*P	Pn	02 24 48.4	+1.2
SRKR				*e*S	Sn	02 25 12.2	+2.6
BZMR	**Bezymyannaya**	**1.89**	**283**	*e*P	Pn	02 24 50.0	+2.0
BZMR				*e*S	Sn	02 25 13.7	+2.5
KLY	**Klyuchi**	**1.91**	**295**	*e*P	Pn	02 24 48.5	+0.2
KLY				*e*S	Sn	02 25 10.5	-1.2
KRSR	**Krestovskiy**	**1.93**	**292**	*e*P	Pn	02 24 49.9	+1.4
KRSR				*e*S	Sn	02 25 13.9	+1.9
KIRR	**Kirishev**	**1.98**	**283**	*e*P	Pn	02 24 51.0	+1.8
KIRR				*e*S	Sn	02 25 15.4	+2.1
KMNR	**Kamenistaya**	**2.01**	**277**	*e*P	Pn	02 24 51.5	+1.8
KMNR				*e*S	Sn	02 25 15.9	+1.8
KPT	**Kopyto**	**2.05**	**283**	*e*P	Pn	02 24 51.8	+1.6
KPT				*e*S	Sn	02 25 17.1	+2.1
KOZ	**Kozyrevsk**	**2.26**	**285**	*e*P	Pn	02 24 54.5	+1.5
KOZ				*e*S	Sn	02 25 21.4	+1.2
SRDR	**Sredinnyy**	**2.41**	**290**	*e*S	Sn	02 25 26.4	+2.6
AVH	**Avacha**	**3.73**	**234**	*e*P	Pn	02 25 15.4	+2.2
GNL	**Ganaly**	**3.86**	**244**	*e*P	Pn	02 25 18.4	+3.3

IDC ***25*** *02:26:13.2±0.9, 3461N×2500E, h0km, mb3.6/7, mb1 3.7/12, mb1mx3.7/26, mbtmp3.6/12, ML3.8/5, MS3.0/2, Ms1 3.0/2, ms1mx2.6/33, Error ellipse: s-maj=17.5km s-min=10.2km az=75.0*
CSEM ***25*** *02:26:16.9±0.1, 3455N×2514E, h8km, ML3.8/3, Error ellipse: s-maj=2.9km s-min=1.4km az=56.0*
ISCJB ***25*** *02:26:15.3±0.7, 3453N±002×2506E±003, h20km±6km, mb3.6/6, Error ellipse: s-maj=5.3km s-min=3.0km az=142.7*
THE ***25*** *02:26:17.8, 3472N×2503E, h0km±2km, ML3.8/3, Error ellipse: s-maj=5.4km s-min=1.1km az=194.0*
HLW ***25*** *02:26:17.4, 3468N×2503E, h33km, Mb3.8*
ATH ***25*** *02:26:18.0, 3479N×2499E, h21km±1km, MD4.0/21, ML4.0*
NEIC ***25*** *02:26:18.0, 3479N×2499E, h21km, ML4.0(ATH), After ATH.*
GII ***25*** *02:26:25.6±0.0, 3444N×2589E, h0km, mb4.0/1, ML3.7/2*
ISC 25 02:26:16.2±0.6, 3461N±002×2505E±003, h6km±4km**, n118,** σ1§**08**/147**, mb3.6/6, Crete**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SIVA	**Sivas**	**0.46**	**334**	P	**Pg**	**02 26 24.2**	**-0.8**
SIVA				S	**Sg**	**02 26 29.6**	**-1.4**
LAST	**Lasithi**	**0.66**	**32**	P	**Pg**	**02 26 28.9**	**+0.1**
LAST				S	**Sg**	**02 26 37.1**	**-0.2**
LAST	**Lasithi**	**0.66**	**32**	P	**Pg**	**02 26 28.7**	**-0.1**
IDI	**Anoyia**	**0.69**	**349**	Pg	**Pg**	**02 26 27.8**	**-1.8**
	195nm,0.3s,baz=320,slow=17,SNR=1503						
IDI				Lg		02 26 35.6	
	2μm,0.3s,baz=52,slow=19,SNR=78						
NPS	**Neapolis**	**0.80**	**35**	*e*Pb	**Pb**	**02 26 31.0**	**-1.5**
NPS				*e*Sn	**Sg**	**02 26 40.9**	**-1.1**
NPS	**Neapolis**	**0.80**	**35**	*e*PB	**Pb**	**02 26 31.0**	**-1.5**
NPS				*e*SN	**Sg**	**02 26 40.9**	**-1.1**
GVD	**Gavdhos**	**0.83**	**287**	*e*Pn	**Pn**	**02 26 32.0**	**-2.4**
GVD	**Gavdhos**	**0.83**	**287**	*e*PN	**Pn**	**02 26 32.0**	**-2.4**
VAM	**Vamos**	**1.06**	**319**	*e*Pn	**Pn**	**02 26 35.1**	**-2.6**
VAM				*e*Sn	**Sn**	**02 26 48.5**	**-4.3**
VAM	**Vamos**	**1.06**	**319**	*e*PN	**Pn**	**02 26 35.1**	**-2.6**
VAM				*e*SN	**Sn**	**02 26 48.5**	**-4.3**
ZKR	**Zakros**	**1.08**	**62**	P	**Pg**	**02 26 37.9**	**+0.9**
ZKR				S	**Sg**	**02 26 53.8**	**+2.8**
THR6	**Thira Island,**	**1.77**	**9**	P	**Pn**	**02 26 47.0**	**-0.4**
THR6				S	**Sn**	**02 27 10.2**	**0.0**
THR1	**Thera Island**	**1.79**	**11**	P	**Pn**	**02 26 47.4**	**-0.3**
THR1				S	**Sn**	**02 27 09.8**	**-1.0**
THR3	**Thira Island,**	**1.82**	**9**	P	**Pn**	**02 26 47.8**	**-0.3**
THR3				S	**Sn**	**02 27 12.5**	**+1.0**
THR5	**Thira Island,**	**1.82**	**7**	P	**Pn**	**02 26 48.3**	**+0.2**
THR5				S	**Sn**	**02 27 12.1**	**+0.5**
THR4	**Thira Island,**	**1.87**	**9**	P	**Pn**	**02 26 49.3**	**+0.5**
THR4				S	**Sn**	**02 27 12.3**	**-0.4**
KARP	**Karpathos**	**1.97**	**61**	*e*Pn	**Pn**	**02 26 52.5**	**+2.4**
KARP				*e*Sn	**Sn**	**02 27 16.1**	**+1.0**
KARP	**Karpathos**	**1.97**	**61**	*e*PN	**Pn**	**02 26 52.5**	**+2.4**
KARP				*e*SN	**Sn**	**02 27 16.1**	**+1.0**
KYTH	**Kithira**	**2.35**	**316**	*e*Pn	**Pn**	**02 26 55.5**	**+0.2**
KYTH	**Kithira**	**2.35**	**316**	*e*PN	**Pn**	**02 26 55.5**	**+0.2**
APE	**Apeiranthos**	**2.49**	**9**	*e*Pn	**Pn**	**02 26 57.0**	**-0.3**
APE				*e*Sn	**Sn**	**02 27 25.7**	**-2.3**
APE				S	**Sn**	**02 27 26.8**	**-1.2**
APE	**Apeiranthos**	**2.49**	**9**	*e*Pn	**Pn**	**02 26 57.0**	**-0.3**
APE				*e*Sn	**Sn**	**02 27 25.7**	**-2.3**
APE	**Apeiranthos**	**2.49**	**9**	*e*PN	**Pn**	**02 26 57.0**	**-0.3**
APE				*e*SN	**Sn**	**02 27 25.7**	**-2.3**
VLI	**Veliai**	**2.72**	**321**	*e*Pn	**Pn**	**02 27 00.0**	**-0.5**
VLI	**Veliai**	**2.72**	**321**	*e*PN	**Pn**	**02 27 00.0**	**-0.5**
ARG	**Arkhangelos**	**2.98**	**56**	*e*Pn	**Pn**	**02 27 06.2**	**+2.2**
ARG	**Arkhangelos**	**2.98**	**56**	*e*PN	**Pn**	**02 27 06.2**	**+2.2**
DID	**Didima**	**3.25**	**334**	P	**Pn**	**02 27 07.0**	**-0.7**
DID				S	**Sn**	**02 27 48.4**	**+1.7**
NAIG	**Nisos Aigina**	**3.39**	**339**	*e*Pn	**Pn**	**02 27 10.5**	**+0.8**
NAIG	**Nisos Aigina**	**3.39**	**339**	*e*PN	**Pn**	**02 27 10.5**	**+0.8**
SMG	**Samos**	**3.42**	**24**	*e*Pn	**Pn**	**02 27 10.7**	**+0.7**
SMG	**Samos**	**3.42**	**24**	*e*PN	**Pn**	**02 27 10.7**	**+0.7**
VLX	**Vlachokerasia**	**3.51**	**323**	P	**Pn**	**02 27 12.1**	**+0.8**
ATH	**Athens Observa**	**3.53**	**343**	*e*Pn	**Pn**	**02 27 11.6**	**0.0**
ATH	**Athens Observa**	**3.53**	**343**	*e*PN	**Pn**	**02 27 11.6**	**0.0**
PYL	**PYLOS**	**3.53**	**311**	P	**Pn**	**02 27 12.5**	**+0.9**
PTL	**Penteli**	**3.57**	**345**	*e*Pn	**Pn**	**02 27 12.0**	**-0.1**
PTL	**Penteli**	**3.57**	**345**	*e*PN	**Pn**	**02 27 12.0**	**-0.1**
ITM	**Ithomi**	**3.61**	**316**	*e*Pn	**Pn**	**02 27 13.0**	**+0.3**
ITM	**Ithomi**	**3.61**	**316**	*e*PN	**Pn**	**02 27 13.0**	**+0.3**
LTK	**Loutraki**	**3.80**	**334**	P	**Pn**	**02 27 16.1**	**+0.8**
CHOS	**Chios island**	**3.86**	**12**	P	**Pn**	**02 27 16.3**	**+0.2**
CHOS				S	**Sn**	**02 28 01.4**	**-0.4**
LKR	**Lokris**	**4.36**	**338**	P	**Pn**	**02 27 22.8**	**-0.2**
LKR	**Lokris**	**4.36**	**338**	*e*Pn	**Pn**	**02 27 23.1**	**+0.1**
LKR	**Lokris**	**4.36**	**338**	*e*PN	**Pn**	**02 27 23.1**	**+0.1**
RLS	**Riolos of Patr**	**4.50**	**321**	*e*Pn	**Pn**	**02 27 26.3**	**+1.4**
RLS	**Riolos of Patr**	**4.50**	**321**	*e*PN	**Pn**	**02 27 26.3**	**+1.4**
AOS	**Alonnisos**	**4.65**	**349**	P	**Pn**	**02 27 27.7**	**+0.7**
PRK	**Paraskevi**	**4.73**	**12**	P	**Pn**	**02 27 27.9**	**-0.2**
PRK	**Paraskevi**	**4.73**	**12**	*e*Pn	**Pn**	**02 27 28.0**	**-0.1**
PRK	**Paraskevi**	**4.73**	**12**	*e*PN	**Pn**	**02 27 28.0**	**-0.1**
AGG	**Agios Georgios**	**4.92**	**334**	P	**Pn**	**02 27 32.2**	**+1.5**
XOR	**Xorichti**	**4.98**	**343**	P	**Pn**	**02 27 30.6**	**-0.9**
EVR	**Evrytania**	**5.03**	**330**	*e*Pn	**Pn**	**02 27 33.3**	**+1.1**
EVR	**Evrytania**	**5.03**	**330**	*e*PN	**Pn**	**02 27 33.3**	**+1.1**
VLS	**Valsamata**	**5.07**	**316**	*e*Pn	**Pn**	**02 27 33.0**	**+0.3**
VLS	**Valsamata**	**5.07**	**316**	P	**Pn**	**02 27 33.7**	**+1.0**
VLS	**Valsamata**	**5.07**	**316**	*e*PN	**Pn**	**02 27 33.0**	**+0.3**
LIA	**Limnos Island**	**5.28**	**1**	P	**Pn**	**02 27 37.6**	**+1.9**
LKD	**Levkas**	**5.41**	**320**	P	**Pn**	**02 27 36.6**	**-0.8**
PAIG	**Paliouri**	**5.42**	**349**	P	**Pn**	**02 27 37.6**	**0.0**
THL	**Klokotos Trika**	**5.51**	**335**	*e*Pn	**Pn**	**02 27 39.5**	**+0.7**
THL	**Klokotos Trika**	**5.51**	**335**	P	**Pn**	**02 27 40.4**	**+1.6**
THL	**Klokotos Trika**	**5.51**	**335**	*e*PN	**Pn**	**02 27 39.5**	**+0.7**
OUR	**Ouranopolis**	**5.78**	**352**	P	**Pn**	**02 27 42.5**	**0.0**
LIT	**Litokhoron**	**5.85**	**340**	P	**Pn**	**02 27 44.2**	**+0.7**
PLG	**Polygyros**	**5.90**	**348**	P	**Pn**	**02 27 44.6**	**+0.5**
PLG	**Polygyros**	**5.90**	**348**	*e*Pn	**Pn**	**02 27 44.4**	**+0.3**
PLG	**Polygyros**	**5.90**	**348**	*e*PN	**Pn**	**02 27 44.4**	**+0.3**
HORT	**Hortiatis**	**6.18**	**346**	P	**Pn**	**02 27 49.7**	**+1.7**
SOH	**Sokhos**	**6.35**	**348**	P	**Pn**	**02 27 50.6**	**+0.3**
KEK	**Kerkira**	**6.60**	**322**	*e*Pn	**Pn**	**02 27 54.4**	**+0.6**
KEK	**Kerkira**	**6.60**	**322**	*e*PN	**Pn**	**02 27 54.4**	**+0.6**
GRG	**Griva**	**6.68**	**342**	P	**Pn**	**02 27 54.9**	**+0.1**
CSS	**Prodhromos**	**6.82**	**85**	P	**Pn**	**02 27 57.9**	**+1.1**
FNA	**Florina**	**6.82**	**336**	P	**Pn**	**02 27 57.1**	**+0.3**
AWBH		**7.08**	**151**	P	**Pn**	**02 28 00.6**	**+0.2**
HSAF	**As Saff**	**7.42**	**130**	P	**Pn**	**02 28 04.9**	**-0.2**
AMAG	**Maghara**	**7.93**	**118**	P	**Pn**	**02 28 11.9**	**-0.2**
HFRF	**Wahat Farafira**	**7.94**	**159**	P	**Pn**	**02 28 12.1**	**-0.2**
HFRF				S	**Sn**	**02 29 36.3**	**-6.2**
TIP	**Timpagrande**	**8.06**	**307**	P	**Pn**	**02 28 16.4**	**+2.6**
ANTO	**Ankara**	**8.10**	**47**	*e*Pn	**Pn**	**02 28 12.9**	**-1.5**
	7.1nm,0.8s						
SUZ		**8.12**	**124**	P	**Pn**	**02 28 14.6**	**-0.1**
RSH		**8.15**	**114**	P	**Pn**	**02 28 15.1**	**0.0**
SLTI	**Sal'it**	**8.68**	**103**	Pn	**Pn**	**02 28 23.3**	**+1.0**
KZIT	**Kziot**	**8.69**	**113**	Pn	**Pn**	**02 28 22.6**	**+0.1**
HRSH	**Kfar Ka'horesh**	**8.73**	**100**	P	**Pn**	**02 28 15.1**	**-8.0**
MMAI	**Mount Meron Ar**	**8.76**	**98**	Pn	**Pn**	**02 28 20.2**	**-3.1**
	1.3nm,0.3s,baz=259,slow=22,SNR=5.0						
MMAI					Sn	**Sn**	**02 29 58.8**	**-3.7**
	2.4nm,0.3s,baz=271,slow=9.9,SNR=4.7						
RTMI	**Retamim**	**8.85**	**111**	Pn	**Pn**	**02 28 24.4**	**-0.2**
MMLI	**Mount Malkishu**	**8.92**	**101**	Pn	**Pn**	**02 28 25.9**	**+0.3**
MMLI					Sn	**Sn**	**02 29 59.8**	**-6.8**
KSDI	**Kefar Szold**	**8.93**	**96**	Pn	**Pn**	**02 28 26.3**	**+0.6**
YTIR	**Yattir**	**9.05**	**108**	Pn	**Pn**	**02 28 28.4**	**+1.0**
HMDT	**Nahal Hemdat**	**9.06**	**102**	Pn	**Pn**	**02 28 27.4**	**-0.1**
DSI	**Dead Sea**	**9.18**	**106**	Pn	**Pn**	**02 28 29.3**	**+0.2**
DSI					Sn	**Sn**	**02 30 07.4**	**-5.4**
MZDA	**Masada**	**9.26**	**108**	Pn	**Pn**	**02 28 30.4**	**+0.1**
MZDA					Sn	**Sn**	**02 30 09.2**	**-5.7**
KRMI	**Paran Flat**	**9.32**	**116**	Pn	**Pn**	**02 28 31.2**	**0.0**
PRNI	**Paran**	**9.41**	**114**	Pn	**Pn**	**02 28 33.8**	**+1.4**
PRNI					Sn	**Sn**	**02 30 13.0**	**-5.6**
HRFI	**Mount Harif**	**9.60**	**116**	Pn	**Pn**	**02 28 35.3**	**+0.4**
MBRI	**Mt Berech**	**9.63**	**117**	Pn	**Pn**	**02 28 36.1**	**+0.7**
MBRI					Sn	**Sn**	**02 30 19.3**	**-4.7**
TR2		**9.65**	**128**	P	**Pn**	**02 28 35.7**	**0.0**
EIL	**Elat**	**9.73**	**118**	Pn	**Pn**	**02 28 36.2**	**-0.5**
	1.3nm,0.3s,baz=227,slow=3.3,SNR=13						
EIL					Sn	**Sn**	**02 30 19.6**	**-6.6**
	0.5nm,0.3s,baz=295,slow=14,SNR=3.2						
EIL	**Elat**	**9.73**	**118**	Pn	**Pn**	**02 28 36.2**	**-0.5**
EIL					Sn	**Sn**	**02 30 19.6**	**-6.6**
EIL	**Elat**	**9.73**	**118**	Pn	**Pn**	**02 28 36.4**	**-0.2**
HKAT	**Jabal Katrina**	**9.74**	**126**	P	**Pn**	**02 28 36.8**	**-0.1**
ASF	**Jabal al Asfar**	**10.20**	**100**	Pn	**Pn**	**02 28 40.4**	**-2.7**
	0.1nm,0.3s,baz=202,slow=4.7,SNR=3.2						
ASF					Sn	**Sn**	**02 30 33.8**	**-4.0**
	0.3nm,0.3s,baz=251,slow=16,SNR=3.1						
ASF					LR	LR	02 33 36.7	
	comp=Z,39nm,20.0s,baz=255,slow=43						
VRAC	**Vranov**		**15.96**	**340**	LR	LR	02 37 08.6	
	comp=Z,111nm,18.4s,baz=116,slow=41						
AKASG	**Malin Array Be**		**16.37**	**9**	Pn	**Pn**	**02 30 04.8**	**-1.7**
	0.7nm,0.3s,baz=202,slow=11,SNR=6.1						
AKASG	**Malin Array Be**		**16.37**	**9**	Pn	**Pn**	**02 30 04.8**	**-1.7**
GERES	**GERESS Array B**		**16.53**	**333**	Pn	**Pn**	**02 30 08.9**	**+0.3**
	0.1nm,0.3s,baz=147,slow=12,SNR=10						
ESDC	**Sonseca Array**		**23.62**	**291**	P	**P**	**02 31 24.7**	**-3.5**
	0.7nm,0.8s,baz=82,slow=9.4,SNR=2.7						
HFS	**Hagfors**		**26.59**	**347**	P	**P**	**02 31 51.3**	**-3.6**
	2.4nm,0.9s,mb3.7,baz=156,slow=7.4,SNR=3.1						
NOA	**NORSAR Array B**		**27.91**	**346**	P	**P**	**02 32 03.8**	**-3.0**
	0.6nm,0.7s,mb3.4,baz=149,slow=11,SNR=2.6						
EKA	**Eskdalemuir Ar**		**28.44**	**325**	P	**P**	**02 32 08.0**	**-3.6**
	0.6nm,0.9s,baz=121,slow=8.3,SNR=2.5						
AKTK	**Aktyubinsk**		**28.69**	**46**	P	**P**	**02 32 10.6**	**-3.3**
AKTO	**Aktyubinsk**		**28.69**	**46**	P	**P**	**02 32 10.6**	**-3.3**
	0.6nm,0.4s,mb3.7,baz=336,slow=6.7,SNR=3.2						
TORD	**Torodi Ar. Bea**		**30.07**	**230**	P	**P**	**02 32 25.1**	**-1.3**
	0.5nm,0.4s,mb3.6,baz=35,slow=8.8,SNR=13						
MKAR	**Makanchi Array**		**44.16**	**56**	P	**P**	**02 34 24.8**	**-0.7**
	1.0nm,0.6s,mb3.7,baz=285,slow=6.5,SNR=8.0						
SONM	**Songino Array**		**59.91**	**50**	P	**P**	**02 36 21.6**	**-1.3**
	0.3nm,0.5s,mb3.6,baz=286,slow=7.3,SNR=2.6						

IDC ***25*** *02:32:41.5±2.1, 1435S×7620W, h0km, mb3.8/2, mb1 3.9/5, mb1mx3.8/16, mbtmp3.7/5, ML3.6/3, Error ellipse: s-maj=58.2km s-min=23.3km az=52.0*
ISCJB ***25*** *02:32:46.2±1.8, 1425±01×7630W±02, h45km±16km, mb4.0/5, Error ellipse: s-maj=32.4km s-min=9.4km az=145.3*
NEIC ***25*** *02:32:49.1±1.5, 1405S×7617W, h54km±13km, mb4.1/3, Error ellipse: s-maj=28.4km s-min=10.2km az=54.0*
ISC 25 02:32:49.2±1.5, 1413S±01×7629W±02, h51km±13km**, n13,** σ1§**04**/14**, mb4.0/5, Near coast of Peru**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NNA	**Nana**	**2.15**	**342**	Pn	**Pn**	**02 33 22.1**	**-0.5**
	19nm,0.3s,baz=181,slow=14,SNR=28						
NNA					Sn	**Sn**	**02 33 53.5**	**+5.5**
	69nm,0.3s,baz=222,slow=12,SNR=6.2						
ATAH	**Atahualpa**		**7.33**	**343**	Pn	**Pn**	**02 34 33.6**	**-0.2**
	0.4nm,0.3s,baz=117,slow=14,SNR=2.3						
ATAH					Sn	**Sn**	**02 36 01.1**	**+5.5**
	1.2nm,0.3s,baz=61,slow=10,SNR=2.4						
LPAZ	**La Paz**		**8.09**	**107**	Pn	**Pn**	**02 34 45.1**	**+1.0**
	1.0nm,0.3s,baz=286,slow=8.6,SNR=16						
LVC	**Limon Verde**		**10.96**	**142**	*e*Pn	**Pn**	**02 35 24.4**	**+1.0**
OTAV	**Otavalo**		**14.37**	**351**	*e*Pn	**Pn**	**02 36 09.3**	**-0.6**
SIV	**San Ignacio**		**14.72**	**99**	Pn	**Pn**	**02 36 13.0**	**-1.5**
	0.2nm,0.3s,baz=274,slow=15,SNR=3.4						
SDV	**Santo Domingo**		**23.44**	**14**	P	**P**	**02 37 54.8**	**+0.6**
	1.8nm,0.4s,mb3.8,baz=185,slow=8.5,SNR=3.6						
TXAR	**Lajitas Array**		**50.64**	**329**	P	**P**	**02 41 45.4**	**+2.0**
	0.6nm,0.8s,mb3.6,baz=148,slow=5.3,SNR=2.5						
DUG	**Dugway**		**63.80**	**329**	*e*P	**P**	**02 43 15.9**	**-0.2**
	1.4nm,0.8s,mb4.0						
SNAA	**Sanae**		**71.53**	**161**	*e*P	**P**	**02 44 02.2**	**-2.2**
	1.2nm,0.7s,mb3.9						
TOA0	**Torodi Ar. Sit**		**81.72**	**74**	*e*P	**P**	**02 45 03.1**	**+0.1**
TORD	**Torodi Ar. Bea**		**81.72**	**74**	P	**P**	**02 45 03.4**	**+0.4**
	3.0nm,0.6s,mb4.4,baz=261,slow=4.1,SNR=30						
SONM	**Songino Array**		**146.25**	**357**	PKPbc	PKPbc	02 52 23.0	-1.1
	0.7nm,0.7s,baz=354,slow=2.9,SNR=4.6						

DJA 25 02:54:48, 463S×12719E, h50km**, MLv4.4/5, 1C, Banda Sea**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AAI	**Ambon**	**1.37**	**47**↑‖	*e*P	Pn	02 55 13.3	+2.5
AAI				*e*S	Sn	02 55 28.3	+0.5
AAI	**Ambon**	**1.37**	**47**	P	Pn	02 55 13.7	+2.9
AAI	**Ambon**	**1.37**	**47**	S	Sn	02 55 27.7	-0.1
AAI	**Ambon**	**1.37**	**47**	P	Pn	02 55 12.8	+2.0
AAI	**Ambon**	**1.37**	**47**	S	Sn	02 55 28.5	+0.7
LBMI	**Labuha**	**3.98**	**4**	P	Pn	02 55 44.0	-2.5

MOS ***25*** *02:58:10.0±0.6, 5038N×15734E, h147km, mb4.3/1, Error ellipse: s-maj=99.9km s-min=14.4km az=75.3*
ISCJB ***25*** *02:58:16.7±1.4, 509N±0.1×1573E±02, h103km±15km, Error ellipse: s-maj=28.8km s-min=8.7km az=38.2*
KRSC ***25*** *02:58:17.1±0.1, 5095N×15753E, h100km±100km, ML4.2*
ISC 25 02:58:18.0±1.6, 509N±01×1573E±02, h91km±21km**, n11,** σ1§**11**/21**, 1D, Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**0.77**	**257**‖	*i* PN	**Pn**	**02 58 34.0**	**-1.2**
SKR				*i* S	**Sn**	**02 58 48.0**	**-0.2**
SKR				pmax	pmax		
	comp=N,90nm,0.5s						
SKR				pmax	pmax		
	comp=E,170nm,0.5s						
SKR				pmax	pmax		
	comp=Z,480nm,0.5s						
SKR				smax			
	comp=N,950nm,0.5s						
SKR				smax			
	comp=E,2μm,0.5s						
MIPR	**Malaya Ipel'ka**	**1.45**	**347**	*e*P	**Pn**	**02 58 43.7**	**+0.6**
RUS	**Russkaya**	**1.74**	**25**	*e*P	**Pn**	**02 58 47.4**	**+0.6**
RUS				*i* S	**Sn**	**02 59 10.3**	**+1.6**
PET	**Petropavlovsk**	**2.32**	**21**	*e*PN	**Pn**	**02 58 55.2**	**+0.8**
PET				*e*S	**Sn**	**02 59 23.6**	**+1.4**
PET				smax			
	comp=N,226nm,0.6s						
PET	**Petropavlovsk**	**2.32**	**21**	*e*P	**Pn**	**02 58 55.0**	**+0.6**
PET

nsta2 refers to surface/mantle waves, cutoff=50s.
*IDC **25** 03:44:40.3±0.3,637S×15489E,h56km±2km,mb5.0/21, mb1 5.1/21,mb1mx5.0/22,mbtmp4.9/21,MS4.6/23, Ms1 4.6/23,ms1mx4.5/27 Error ellipse: s-maj=13.7km s-min=9.9km az=82.0*
*NEIC **25** 03:44:40.8±0.1,632S×15483E,mb5.6/76,MW5.6,Error ellipse: s-maj=6.6km s-min=4.9km az=130.0,Moment Tensor Solution. s31 Moment tensor: Scale 10^17^Nm; Mrr3.92; Mθθ-1.99; Mφφ-1.94; Mrθ-0.18; Mθφ1.40; Mφr0.36; Best double couple: M0 3.70000×10^17^ NP1:φs133.00000°, δ42.00000°,λ87.00000° NP2:φs316.00000°,δ48.00000°, λ92.00000°. Principal axes: T 3.9400, Plg86.0000°, Azm254.0000°; N -0.5700, Plg1.0000°, Azm134.0000°; P -3.3900, Plg2.0000°, Azm44.0000°;*
*DJA **25** 03:44:44,636S×15497E,h78km,Mw5.9/27*
ISC 25 03:44:41.1±0.1,634S±003×15489E±002,h57km, h57km±.7km:pP-P,n639,σ0s82/512,mb5.4/127,MS4.7/36, 145C-120D,Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**5.88**	**122**	P	**Pn**	**03 46 08.2**	**+2.6**
	104nm,0.3s,baz=196,slow=2.8,SNR=11						
HNR				S	**Sn**	**03 47 20.5**	**+8.8**
	131nm,0.3s,baz=241,slow=23,SNR=10						
HNR				LR	LR	03 47 25.2	
	comp=Z,2μm,19.5s,baz=137,slow=28						
HNR	**Honiara**	**5.88**	**122**	P	**Pn**	**03 46 08.2**	**+2.6**
HNR				S	**Sn**	**03 47 20.5**	**+8.9**
HNR				pmax	pmax		
	comp=Z,104nm,0.3s						
HNR				smax			
	comp=N,131nm,0.3s						
HNR				MLR	MLR		
	comp=Z,2μm,19.5s						
HNR	**Honiara**	**5.88**	**122**	*e*Pn	**Pn**	**03 46 06.9**	**+1.3**
	comp=Z,3μm,1.1s						
PMG	**Port Moresby**	**8.24**	**248**	*d*iP	**Pn**	**03 46 40.5**	**+2.5**
PMG	**Port Moresby**	**8.24**	**248**	*e*Pn	**Pn**	**03 46 40.6**	**+2.6**
PMG				*e*Sn	**Sn**	**03 48 14.8**	**+5.1**
COEN	**Coen**	**13.79**	**236**	*e*Pn	**Pn**	**03 47 54.8**	**+1.0**
	comp=Z,128nm,0.9s						
CTA	**Charters Tower**	**16.03**	**211**	*e*P	**Pn**	**03 48 24.7**	**+1.8**
	comp=Z,32nm,0.9s						
CTA				*e*		03 48 36.5	
CTA				*e*S	**S**	**03 51 35.5**	**+4.7**
CTA	**Charters Tower**	**16.03**	**211**	P	**Pn**	**03 48 24.5**	**+1.6**
	comp=Z,1.9nm,0.3s,baz=34,slow=14,SNR=31						
CTA				S	**S**	**03 51 27.1**	**-3.7**
	comp=Z,0.3nm,0.3s,baz=13,slow=18,SNR=1.3						
CTA				LR	LR	03 53 41.2	
	comp=Z,8μm,21.4s,baz=23,slow=34						
CTA	**Charters Tower**	**16.03**	**211**	*e*P	**Pn**	**03 48 24.7**	**+1.8**
CTA				pmax	pmax		
	comp=Z,33nm,0.9s						
CTAO	**Charters Tower**	**16.03**	**211**	*e*P	**Pn**	**03 48 24.8**	**+1.9**
CTAO				pmax	pmax		
	comp=Z,127nm,1.0s						
CTAO	**Charters Tower**	**16.03**	**211**	*e*P	**Pn**	**03 48 24.8**	**+1.8**
	comp=Z,127nm,1.0s						
NOUC	**Port Laguerre**	**19.16**	**146**	*e*P	**Pn**	**03 49 00.2**	**-1.1**
DZM	**Mont Dzumac**	**19.21**	**146**	*e*P	**Pn**	**03 48 59.3**	**-2.7**
EIDS	**Eidsvold**	**19.27**	**190**	*e*P	**Pn**	**03 49 02.0**	**-0.5**
	comp=Z,374nm,1.1s						
NORM	**Noumea**	**19.36**	**146**	*e*P	**Pn**	**03 49 02.4**	**-1.3**
TLE	**Tual**	**22.04**	**271**	⇑*e*P	**P**	**03 49 31.5**	**+0.3**
GUMO	**Guam**	**22.16**	**333**	P	**P**	**03 49 32.9**	**+0.5**
	comp=Z,36nm,0.4s,mb5.2,baz=182,slow=6.9,SNR=3.1						
GUMO				LR	LR	03 57 19.4	
	comp=Z,1μm,20.9s,MS4.4,baz=153,slow=34						
GUMO	**Guam**	**22.16**	**333**	P	**P**	**03 49 32.9**	**+0.5**
GUMO				pmax	pmax		
	comp=Z,36nm,0.4s,mb5.2						
GUMO				MLR	MLR		
	comp=Z,1μm,20.9s,MS4.4						
KAKA	**Kakadu**	**23.01**	**252**	*e*P	**P**	**03 49 35.7**	**-5.8**
	comp=Z,30nm,0.4s,mb5.1						
KAKA				*e*		03 49 47.5	
WRAB	**Tennant Creek**	**24.09**	**234**	*c* i*P*	**P**	**03 49 52.1**	**+0.6**
WRA	**Warramunga Arr**	**24.11**	**234**	P	**P**	**03 49 51.6**	**0.0**
	comp=Z,111nm,1.0s,mb5.2,baz=57,slow=9.5,SNR=262						
WRA				PcP	PcP	03 53 30.3	-1.6
	comp=Z,7.6nm,0.5s,baz=61,slow=2.7,SNR=7.2						
WRA				pPcP		03 53 47.7	
	comp=Z,30nm,0.9s,baz=51,slow=2.1,SNR=9.7						
WRA				S	**S**	**03 54 01.6**	**-4.0**
	comp=Z,12nm,0.9s,baz=55,slow=1.6,SNR=4.7						
WRA				LR	LR	03 59 15.2	
	comp=Z,5μm,19.6s,MS5.0,baz=60,slow=36						
WRA	**Warramunga Arr**	**24.11**	**234**	P	**P**	**03 49 51.6**	**0.0**
WRA						03 53 30.3	
WRA				S	**S**	**03 54 01.6**	**-4.0**
WRA				pmax	pmax		
	comp=Z,111nm,1.0s						
WRA				smax			
	comp=N,12nm,1.0s						
WRA				MLR	MLR		
	comp=Z,5μm,19.6s						
ARMA	**Armidale**	**24.14**	**187**	*e*P	**P**	**03 49 52.3**	**+0.4**
ARMA				*e*S	**S**	**03 54 15.4**	**+9.4**
ASAR	**Alice Springs**	**26.53**	**227**	P	**P**	**03 50 13.4**	**-0.1**
	comp=Z,16nm,0.7s,mb4.7,baz=58,slow=8.9,SNR=160						
ASAR				PcP	PcP	03 53 36.5	-0.7
	comp=Z,11nm,0.7s,baz=64,slow=2.5,SNR=5.7						
ASAR				pPcP		03 53 53.2	
	comp=Z,28nm,0.9s,baz=55,slow=2.6,SNR=11						
STKA	**Stephens Creek**	**28.28**	**204**	*e*P	**P**	**03 50 28.5**	**-0.7**
	comp=Z,20nm,0.8s,mb4.8						
STKA				*e*		03 53 56.1	
STKA				*e*S	**S**	**03 55 09.4**	**-2.0**
STKA	**Stephens Creek**	**28.28**	**204**	P	**P**	**03 50 28.5**	**-0.7**
	comp=Z,11nm,0.6s,mb4.7,baz=9.2,slow=8.6,SNR=22						
STKA				PcP	PcP	03 53 42.5	+1.1
	comp=Z,12nm,0.8s,baz=45,slow=7.1,SNR=3.2						
STKA				pPcP		03 53 56.6	
	comp=Z,38nm,0.9s,baz=23,slow=3.5,SNR=7.1						
STKA				LR	LR	04 01 58.0	
	comp=Z,6μm,18.8s,MS5.2,baz=14,slow=37						
CNB	**Canberra Magne**	**29.28**	**189**	*e*P	**P**	**03 50 38.6**	**+0.6**
BATI	**Baumata**	**31.13**	**261**	P	**P**	**03 50 56.6**	**+2.0**
	baz=139,slow=2.5						
DAV	**Davao City (W)**	**32.13**	**294**	LR	LR	04 02 04.4	
	comp=Z,1μm,20.2s,MS4.6,baz=283,slow=32						
DAV	**Davao City (W)**	**32.13**	**294**	⇓*e*P	**P**	**03 51 03.4**	**-0.1**
ADE	**Adelaide**	**32.15**	**205**	*e*P	**P**	**03 51 03.7**	**+0.3**
KDI	**Kendari**	**32.22**	**273**	⇑*e*P	**P**	**03 51 05.5**	**+1.2**
KDI				*e*S	S	03 56 33.7	+20
TOO	**Toolangi**	**32.24**	**194**	*e*P	**P**	**03 51 04.0**	**-0.1**
TOO				*e*		03 54 06.7	
AFI	**Afiamalu**	**33.63**	**106**	LR	LR	04 02 53.6	
	comp=Z,2μm,19.3s,MS4.9,baz=282,slow=32						
RAO	**Raoul Island**	**34.31**	**135**	LR	LR	04 02 44.1	
	comp=Z,1μm,21.9s,MS4.6,baz=197,slow=32						
WSI	**Waingapu**	**34.40**	**262**	⇑*e*P	**P**	**03 51 24.5**	**+1.2**
KAPI	**Kappang**	**34.99**	**270**	P	**P**	**03 51 27.3**	**-1.1**
	comp=Z,20nm,0.7s,mb5.2,baz=172,slow=3.6,SNR=8.4						
KAPI	**Kappang**	**34.99**	**270**	P	**P**	**03 51 27.3**	**-1.1**
FORT	**Forrest**	**34.99**	**223**	*e*P	**P**	**03 51 27.5**	**-0.6**
	comp=Z,77nm,0.6s,mb5.8						
PCI	**Palu**	**35.38**	**277**	⇓*e*P	**P**	**03 51 33.0**	**+1.3**
CBIJ	**Chichi jima**	**35.44**	**340**	LR	LR	04 05 17.7	
	comp=Z,307nm,18.2s,MS4.1,baz=143,slow=35						
RCP	**Roxas**	**36.59**	**299**	⇑*e*P	**P**	**03 51 43.2**	**+1.1**
MBWA	**Marble Bar**	**37.07**	**243**	*e*P	**P**	**03 51 45.3**	**-0.7**
	comp=Z,37nm,0.8s,mb5.3						
MBWA				*e*PcP	PcP	03 54 06.5	+0.6
URZ	**Urewera**	**37.62**	**151**	P	**P**	**03 51 50.2**	**-0.2**
	comp=Z,28nm,0.5s,mb5.2,baz=40,slow=1.3,SNR=20						
URZ				LR	LR	04 05 30.1	
	comp=Z,745nm,20.1s,MS4.5,baz=121,slow=33						
MYLDM	**Lahad Datu**	**38.09**	**287**	⇓P	**P**	**03 51 56.0**	**+1.3**
TSM	**Tawau**	**38.44**	**285**	⇓P	**P**	**03 51 58.3**	**+0.6**
SDKM	**Sandakan**	**39.46**	**287**	⇑P	**P**	**03 52 07.5**	**+1.2**
RPZ	**Rata Peaks**	**39.84**	**162**	P	**P**	**03 52 08.9**	**-0.1**
	comp=Z,51nm,0.6s,mb5.5,baz=42,slow=1.3,SNR=30						
RPZ				LR	LR	04 06 56.6	
	comp=Z,3μm,19.1s,MS5.1,baz=325,slow=34						
KKM	**Kota Kinabalu**	**40.51**	**287**	⇓P	**P**	**03 52 17.2**	**+2.2**
BTM	**Bintulu**	**42.80**	**282**	⇑P	**P**	**03 52 36.1**	**+2.3**
KLBR	**Kellerberrin**	**42.82**	**229**	*e*P	**P**	**03 52 32.4**	**-1.3**
	comp=Z,53nm,0.8s,mb5.3						
SBUM	**Sibu**	**43.49**	**280**	⇓P	**P**	**03 52 42.0**	**+2.7**
MIDW	**Midway**	**43.55**	**37**	*e*P	**P**	**03 52 38.4**	**-1.2**
	comp=Z,126nm,1.1s,mb5.6						
MIDW				*e*pP	pP	03 52 56.2	+1.9
NWAO	**Narrogin (SRO)**	**43.85**	**228**	*e*P	**P**	**03 52 41.3**	**-0.6**
NWAO				pmax	pmax		
	comp=Z,22nm,1.0s						
NWAO	**Narrogin (SRO)**	**43.85**	**228**	*e*P	**P**	**03 52 41.3**	**-0.5**
	comp=Z,22nm,1.0s,mb4.8						
MUN	**Mundaring**	**44.17**	**230**	*e*P	**P**	**03 52 43.8**	**-0.7**
MUN				*e*		03 54 35.9	
KSM	**Kuching**	**45.18**	**278**	⇑P	**P**	**03 52 54.8**	**+2.0**
MJAR	**Matsushiro Arr**	**45.44**	**341**	P	**P**	**03 52 53.8**	**-0.6**
	comp=Z,2.4nm,0.4s,mb4.3,baz=163,slow=6.0,SNR=9.0						
MJAR				pP	pP	03 53 07.6	-1.6
	comp=Z,1.8nm,0.7s,baz=172,slow=8.4,SNR=3.1						
MJAR				LR	LR	04 11 34.7	
	comp=Z,124nm,18.4s,MS3.9,baz=175,slow=36						
MJAR	**Matsushiro Arr**	**45.44**	**341**	P	**P**	**03 52 53.8**	**-0.6**
MJAR				*PP	pP	03 53 07.6	-1.6
MJAR				pmax	pmax		
	comp=Z,2.0nm,0.4s						
MJAR				MLR	MLR		
	comp=Z,124nm,18.5s						
MAJO	**Matsushiro**	**45.44**	**341**	*e*P	**P**	**03 52 54.6**	**+0.2**
MAT	**Matsushiro**	**45.44**	**341**	P	**P**	**03 52 52.6**	**-1.8**
MAT				S	**S**	**03 59 32.0**	**+0.2**
RAR	**Rarotonga**	**46.26**	**113**	LR	LR	04 09 57.5	
	comp=Z,360nm,19.4s,MS4.3,baz=284,slow=33						
QZH	**Quanzhou**	**47.06**	**313**	⇑*i*P	**P**	**03 53 09.0**	**+1.6**
QZH				AP	pP	03 53 24.3	+2.1
QZH				S	**S**	**03 59 56.0**	**+0.5**
QZH				XS	sS	04 00 24.3	+3.8
QZH				AMB	AMB		
	comp=Z,190nm,1.1s,mb5.9						
QZH				LR	LR		
	comp=Z,3μm,26.2s,MS5.1						
SSE	**Sheshan**	**49.24**	**321**	P	**P**	**03 53 26.4**	**+2.3**
SSE				XP	sP	03 53 52.4	+6.9
SSE				PP	PP	03 55 20.3	+1.8
SSE				S	**S**	**04 00 26.0**	**0.0**
SSE				XS	sS	04 00 56.4	+5.2
SSE				AMB	AMB		
	comp=Z,14nm,0.8s,mb5.0						
SSE				AMB	AMB		
	comp=Z,248nm,6.1s						
SSE				LR	LR		
	comp=N,410nm,20.3s,MS4.6						
SSE				LR	LR		
	comp=E,458nm,20.3s,MS4.6						
SSE				LR	LR		
	comp=Z,735nm,15.6s,MS4.8						
KSRS	**Korea Array**	**50.32**	**332**	P	**P**	**03 53 31.1**	**-1.0**
	comp=Z,13nm,0.7s,mb5.1,baz=147,slow=7.8,SNR=28						
KSRS				pP	pP	03 53 46.6	-0.5
	comp=Z,29nm,1.1s,baz=146,slow=7.9,SNR=9.9						
KSRS				LR	LR	04 13 08.7	
	comp=Z,392nm,21.4s,MS4.4,baz=145,slow=34						
KS15	**Wonju Array Si**	**50.33**	**332**	*e*P	**P**	**03 53 33.1**	**+0.9**
KS15				*e*pP	pP	03 53 47.1	-0.1
INCN	**Inchon**	**50.95**	**331**	*e*P	**P**	**03 53 37.9**	**+0.9**
	comp=Z,136nm,1.2s,mb5.8						
INCN				*e*pP	pP	03 53 52.4	+0.4
QIZ	**Qiongzhong**	**51.04**	**301**	P	**P**	**03 53 38.1**	**+0.2**
QIZ				S	**S**	**04 00 51.9**	**+0.4**
QIZ				SS	SS	04 04 28.8	+1.4
QIZ				AMB	AMB		
	comp=Z,77nm,1.1s,mb5.5						
QIZ				LR	LR		
	comp=E,614nm,28.2s						
QIZ				LR	LR		
	comp=Z,1μm,34.2s						
QIZ	**Qiongzhong**	**51.04**	**301**	*e*P	**P**	**03 53 38.1**	**+0.2**
	comp=Z,71nm,1.1s,mb5.5						
QIZ				*e*pP	pP	03 53 52.2	-0.7
NJ2	**Nanjing**	**51.35**	**320**	*e*P	**P**	**03 53 41.3**	**+1.3**
NJ2				AP	pP	03 54 00.3	+5.2
NJ2				XP	sP	03 54 08.3	+6.8
NJ2				PP	PP	03 55 38.6	+0.9
NJ2				S	**S**	**04 00 54.0**	**-1.4**
NJ2				XS	sS	04 01 26.0	+5.3
NJ2				AMB	AMB		
	comp=Z,30nm,0.8s,mb5.3						
NJ2				AMB	AMB		
	comp=Z,520nm,5.4s						
NJ2				LR	LR		
	comp=N,2μm,22.2s,MS5.2						
NJ2				LR	LR		
	comp=E,2μm,21.5s,MS5.2						
ASAJ	**Asahikawa**	**51.44**	**349**	P	**P**	**03 53 40.6**	**+0.2**
	comp=E,11nm,0.6s,mb4.9,baz=202,slow=17,SNR=11						
ASAJ				pP	pP	03 53 56.3	+0.8
	comp=E,15nm,0.7s,baz=212,slow=17,SNR=4.8						
ASAJ	**Asahikawa**	**51.44**	**349**	P	**P**	**03 53 40.6**	**+0.2**
ASAJ				*PP	pP	03 53 56.3	+0.8
ASAJ				pmax	pmax		
	comp=Z,11nm,0.6s						
MYKOM	**Kota Tinggi**	**51.59**	**277**	⇑P	**P**	**03 53 42.8**	**+0.6**
KGM	**Kluang**	**52.15**	**277**	⇑P	**P**	**03 53 47.0**	**+0.7**
KTGM	**Kuala Trenggan**	**52.95**	**282**	⇑P	**P**	**03 53 52.6**	**+0.3**
WHN	**Wuhan**	**53.40**	**316**	⇑P	**P**	**03 53 55.0**	**-0.3**
WHN				AP	pP	03 54 11.3	+0.9
WHN				S	**S**	**04 01 24.1**	**+0.6**
WHN				XS	sS	04 01 51.8	+2.8
WHN				LR	LR		
	comp=N,3μm,37.4s,MS5.1						
WHN				LR	LR		
	comp=E,2μm,39.5s,MS5.1						
WHN				LR	LR		
	comp=Z,3μm,30.0s						
FRIM	**Kepong**	**54.02**	**279**	⇑P	**P**	**03 53 59.6**	**-0.6**
YSS	**Yuzh-Sakhalins**	**54.15**	**350**	*e*P	**P**	**03 54 01.5**	**+1.1**
YSS				*e*	pP	03 54 13.0	-2.5
YSS				*e*S	**S**	**04 01 30.0**	**-3.0**
YSS				*e*PS		04 01 48.0	
YSS				MLR	MLR		
	comp=Z,900nm,18.0s,MS4.9						
DL2	**Dalian**	**54.56**	**328**	P	**P**	**03 54 02.6**	**-1.0**
DL2				*e*S	**S**	**04 01 35.9**	**-3.0**
DL2				AMB	AMB		
	comp=Z,20nm,0.8s,mb5.2						
DL2				AMB	AMB		
	comp=Z,70nm,3.9s						
DL2				LR	LR		
	comp=N,270nm,23.2s,MS4.4						
DL2				LR	LR		
	comp=E,300nm,23.2s,MS4.4						
DL2				LR	LR		
	comp=Z,630nm,28.8s						
IPM	**Ipoh**	**54.84**	**280**	⇑P	**P**	**03 54 04.8**	**-1.3**
PPT	**Papeete**	**55.28**	**107**	*e*S	**S**	**04 01 55.3**	**+6.0**
	comp=Z,698nm,23.8s						
PPT				*e*LQ		04 08 11.4	
	comp=Z,2μm,27.5s						
PPT				*e*LR	LR	04 10 22.4	
	comp=Z,2μm,27.0s,baz=277						
PPT	**Papeete**	**55.28**	**107**	LR	LR	04 13 09.9	
	comp=Z,662nm,19.6s,MS4.7,baz=288,slow=31						
KULM	**Kulim**	**55.36**	**281**	⇓P	**P**	**03 54 09.7**	**-0.1**
MDJ	**Mudanjiang**	**55.60**	**338**	P	**P**	**03 54 10.8**	**-0.1**
MDJ				S	**S**	**04 01 52.5**	**-0.1**
MDJ				AMB	AMB		
	comp=Z,9.0nm,1.3s,mb4.6						
MDJ				AMB	AMB		
	comp=Z,142nm,4.0s						
MDJ				LR	LR		
	comp=Z,561nm,23.6s,MS4.6						
MDJ	**Mudanjiang**	**55.60**	**338**	*e*P	**P**	**03 54 11.2**	**+0.3**
	comp=Z,9.7nm,0.6s,mb5.0						
MDJ				*e*pP	pP	03 54 25.2	-0.9
SNG	**Songkhla**	**55.78**	**283**	P	**P**	**03 54 12.0**	**-0.9**
	comp=Z,160nm,1.1s,mb6.0						
TBI	**Tubuai**	**56.03**	**114**	*e*S	**S**	**04 02 05.8**	**+6.6**
	comp=Z,766nm,26.2s						
TBI				*e*LQ		04 08 20.6	
	comp=Z,1μm,41.8s						
TBI				*e*LR	LR	04 10 50.5	
	comp=Z,5μm,29.5s,baz=285						
KKTK	**Khon Kaen**	**56.22**	**294**	P	**P**	**03 54 15.0**	**-0.9**
	comp=Z,370nm,0.4s						
CN2	**Changchun**	**56.56**	**335**	*e*P	**P**	**03 54 18.8**	**+1.0**
CN2				*e*AP	pP	03 54 38.0	+5.0
CN2				*e*XP	sP	03 54 48.4	+8.9
CN2				*e*S	**S**	**04 02 03.5**	**-1.9**
CN2				AMB	AMB		
	comp=Z,30nm,1.0s,mb5.3						
CN2				AMB	AMB		
	comp=Z,200nm,5.0s						
CN2				LR	LR		
	comp=N,800nm,20.0s,MS4.9						
CN2				LR	LR		
	comp=E,600nm,20.0s,MS4.9						
CN2				LR	LR		
	comp=Z,700nm,23.0s,MS4.7						
GYA	**Guiyang**	**56.98**	**307**	⇓*i*P	**P**	**03 54 22.9**	**+1.8**
GYA				AP	pP	03 54 43.1	+6.7
GYA				XP	sP	03 54 50.8	+8.0
GYA				PCP	PcP	03 55 18.3	+2.4
GYA				PP	PP	03 56 33.4	+5.0
GYA				SCP	ScP	03 59 10.3	-0.6
GYA				PCS	PcS	03 59 18.0	+1.1
GYA				XS	sS	04 02 42.9	+5.7
GYA				SS	SS	04 06 01.8	+0.8
GYA				AMB	AMB		
	comp=Z,50nm,1.0s,mb5.5						
GYA				AMB	AMB		
	comp=Z,180nm,5.2s						
GYA				LR	LR		
	comp=Z,6μm,20.4s,MS5.7						
HABR	**Khabarovsk**	**57.30**	**344**	*e*P	**P**	**03 54 23.2**	**+0.3**
HABR				*e*S	**S**	**04 02 13.9**	**-1.0**
BJI	**Beijing**	**58.33**	**326**	P	**P**	**03 54 31.5**	**+1.2**
BJI				PP	PP	03 56 40.4	+0.3
BJI				S	**S**	**04 02 31.4**	**+2.7**
BJI				SS	SS	04 06 21.3	-0.4
BJI				AMB	AMB		
	comp=Z,22nm,0.8s,mb5.2						
BJI				AMB	AMB		
	comp=Z,243nm,5.7s						
BJI				LR	LR		
	comp=N,334nm,26.4s,MS4.7						
BJI				LR	LR		
	comp=E,591nm,25.8s,MS4.7						
BJI				LR	LR		
	comp=Z,1μm,40.5s						
KLR	**Kul'dur**	**58.92**	**342**	*e*P	**P**	**03 54 29.6**	**-4.6**
KLR				*e*	pP	03 54 45.2	-4.4
KLR				*e*S	**S**	**04 02 29.5**	**-6.5**
XAN	**Xi'an**	**59.17**	**316**	P	**P**	**03 54 35.1**	**-1.2**
XAN				AP	pP	03 54 51.4	-0.2
XAN				XP	sP	03 55 01.3	+3.2
XAN				PP	PP	03 56 44.8	-2.9
XAN				SCS	ScS	04 04 10.9	-11
XAN				SS	SS	04 06 32.8	-2.4
XAN				AMB	AMB		
	comp=Z,10.0nm,0.5s,mb5.1						
XAN				AMB	AMB		
	comp=Z,289nm,9.3s						
XAN				LR	LR		
	comp=N,144nm,26.3s,MS4.6						
XAN				LR	LR		
	comp=E,515nm,24.3s,MS4.6						
XAN				LR	LR		
	comp=Z,1μm,31.8s						
PET	**Petropavlovsk**	**59.23**	**3**	*e*P	**P**	**03 54 36.4**	**+0.1**
PET				*e*S	**S**	**04 02 41.3**	**+1.4**
PET				pmax	pmax		
	comp=Z,500nm,17.2s						
PET				pmax	pmax		
	comp=Z,87nm,1.4s,mb5.6						
PEA0B	**Petropavlovsk-**	**59.27**	**2**	*e*P	**P**	**03 54 36.4**	**-0.2**
PEA0B				*e*pP	pP	03 54 49.7	-2.2
PETK	**Petropavlovsk-**	**59.27**	**2**	P	**P**	**03 54 36.5**	**-0.1**
	comp=Z,17nm,0.6s,mb5.2,baz=143,slow=6.4,SNR=26						
PETK				pP	pP	03 54 53.2	+1.3
	comp=Z,48nm,1.0s,baz=149,slow=6.6,SNR=6.6						
PETK				LR	LR	04 16 17.0	
	comp=Z,914nm,21.5s,MS4.9,baz=182,slow=32						
PETK	**Petropavlovsk-**	**59.27**	**2**	P	**P**	**03 54 36.5**	**-0.1**
PETK				pP	pP	03 54 53.2	+1.3
PETK				LR	LR	04 16 17.0	
KMI	**Kunming**	**59.57**	**304**	P	**P**	**03 54 40.6**	**+1.4**
KMI				AP	pP	03 54 56.1	+1.5
KMI				PP	PP	03 56 55.0	+3.6
KMI				PCS	PcS	03 59 27.1	-1.3
KMI				S	**S**	**04 02 45.5**	**+0.2**
KMI				SCS	ScS	04 04 21.9	-3.1
KMI				SS	SS	04 06 43.8	+2.0
KMI				AMB	AMB		
	comp=Z,45nm,1.0s,mb5.5						
KMI				AMB	AMB		
	comp=Z,301nm,7.8s						
KMI				LR	LR		
	comp=N,325nm,19.6s						
KMI				LR	LR		
	comp=E,705nm,25.1s						
KMI				LR	LR		
	comp=Z,1μm,28.1s						
BDT	**Bhumibol Dam**	**59.98**	**294**	P	**P**	**03 54 42.0**	**-0.2**
	comp=Z,27nm,1.0s,mb5.2						
CHRT	**Chiangrai**	**60.13**	**297**	P	**P**	**03 54 44.0**	**+0.8**
	comp=Z,658nm,0.9s						
CMAR	**Chiang Mai Arr**	**60.41**	**295**	P	**P**	**03 54 45.5**	**+0.4**
	comp=Z,107nm,0.8s,mb5.9,baz=124,slow=5.2,SNR=72						
CMAR				pP	pP	03 55 01.8	+1.3
	comp=Z,129nm,0.8s,baz=112,slow=5.1,SNR=19						
CMAR				LR	LR	04 20 00.9	
	comp=Z,397nm,21.2s,MS4.5,baz=262,slow=35						
CHTO	**Chiang Mai**	**60.52**	**296**	*e*P	**P**	**03 54 46.0**	**+0.1**
CHTO				pmax	pmax		
	comp=Z,268nm,1.3s,mb6.2						
CHTO	**Chiang Mai**	**60.52**	**296**	*e*P	**P**	**03 54 46.0**	**0.0**
	comp=Z,268nm,1.3s,mb6.2						
SMY	**Shemya**	**61.07**	**13**	*e*P	**P**	**03 54 49.1**	**+0.2**
SMY				pmax	pmax		
	comp=Z,70nm,0.5s,mb6.0						
SMY	**Shemya**	**61.07**	**13**	*e*P	**P**	**03 54 49.1**	**+0.2**
	comp=Z,70nm,0.5s,mb6.0						
DRV	**Dumont d'Urvil**	**61.09**	**187**	P	**P**	**03 54 51.0**	**+2.1**
DRV				S	**S**	**04 03 09.0**	**+5.5**
DRV				L		04 10 00.0	
CD2	**Chengdu**	**61.31**	**310**	P	**P**	**03 54 48.3**	**-2.8**
CD2				AMB	AMB		
	comp=Z,60nm,0.8s,mb5.8						
BTO	**Baotou**	**62.28**	**323**	*e*P	**P**	**03 54 57.9**	**+0.6**
ADK	**Adak**	**62.89**	**19**	*e*P	**P**	**03 55 01.3**	**+0.1**
HIA	**Hailar**	**63.29**	**335**	*e*P	**P**	**03 55 03.0**	**-0.9**
HIA				*e**PP	pP	03 55 18.9	-0.4
HIA				pmax	pmax		
	comp=Z,37nm,0.8s						
HIA	**Hailar**	**63.29**	**335**	*e*P	**P**	**03 55 03.0**	**-0.9**
	comp=Z,37nm,0.8s,mb5.6						
HIA				*e*pP	pP	03 55 18.9	-0.5
LZH	**Lanzhou

SONM PKPPKP 04 23 56.7
comp=Z,2.1nm,1.0s,baz=320,slow=4.4,SNR=7.9
SONM LR LR 04 26 12.8
comp=Z,246nm,19.4s,MS4.5,baz=148,slow=36
SHL Shillong 68.88 300 *eP* **P 03 55 40.0 -0.2**
SHL *ex* x 04 05 03.0
SEY Seymchan 69.10 359 *i* P **P 03 55 41.9 +1.1**
RKT Rikitea 69.28 112 *eS* S 04 04 51.5 +6.1
comp=Z,248nm,27.8s
RKT *eLQ* 04 13 58.2
comp=Z,793nm,38.2s
RKT *eLR* LR 04 16 53.5
comp=Z,3μm,30.2s,baz=275
LSA Lhasa 70.82 304 P **P 03 55 50.0 -2.1**
LSA Lhasa 70.82 304 *eP* **P 03 55 54.6 +2.5**
LSA *e**PP pP 03 56 08.6 +0.8
LSA pmax pmax
comp=Z,105nm,0.8s,mb5.8
LSA Lhasa 70.82 304 *eP* **P 03 55 54.6 +2.5**
comp=Z,105nm,0.8s,mb5.8
LSA *epP* pP 03 56 08.6 +0.8
YAK Yakutsk 70.90 348 *eP* **P 03 55 51.8 -0.1**
YAK *e* pP 03 56 05.8 -1.8
YAK *e**PP pP 03 56 16.8 +9.2
YAK *eS* S 04 04 57.9 -4.9
YAK *e**SS sS 04 05 45.6 +16
YAK *e* 04 05 53.5
YAK *eSS* SS 04 09 37.8 +1.1
YAK *eSSS* 04 12 46.9
YAK pmax pmax
comp=Z,38nm,1.4s,mb5.1
YAK pmax pmax
comp=N,14nm,1.5s
YAK pmax pmax
comp=E,6.0nm,1.2s
YAK smax
comp=E,185nm,14.1s
YAK smax
comp=N,45nm,12.4s
YAK Yakutsk 70.90 348 *eP* **P 03 55 51.3 -0.6**
comp=N,126nm,1.1s,mb5.8
YAK *epP* pP 03 56 07.5 -0.1
SBA Scott Base 71.74 177 *eP* **P 03 55 57.9 +1.1**
SBA *e**PP pP 03 56 11.9 -0.6
ZAK Zakamensk 71.89 328⇑ *i* P **P 03 55 57.2 -0.9**
ZAK *e* pP 03 56 13.4 -0.4
ZAK pmax pmax
comp=Z,33nm,0.9s,mb5.3
BOD Bodaibo 71.97 338 *eP* **P 03 55 56.3 -2.1**
BOD *e* pP 03 56 12.1 -2.1
BOD pmax pmax
comp=Z,11nm,0.9s,mb4.8
TLY Talaya 72.45 329 *eP* **P 03 56 01.1 -0.3**
TLY *ePPP* 04 00 23.2
TLY *eS* S 04 05 28.7 +7.7
TLY *eSS* SS 04 10 00.0 -0.8
TLY pmax pmax
comp=Z,24nm,1.0s,mb5.1
TLY MLR MLR
comp=Z,433nm,20.0s,MS4.7
IRK Irkutsk 72.47 330 *eP* pP 03 56 17.1 -0.2
IRK *e* sP 03 56 32.9 +9.3
IRK pmax pmax
comp=Z,56nm,0.9s,mb5.5
TAPN Taplejung 72.98 301 *eP* **P 03 56 05.7 +0.6**
comp=Z,55nm,0.6s,mb5.7
ODAN Odare 73.11 300 *eP* **P 03 56 06.2 +0.3**
comp=Z,166nm,0.6s,mb6.1
MIR Mirnyy 73.25 202⇓ *i* P **P 03 56 06.0 0.0**
MIR *i* pP 03 56 21.0 -0.7
MIR *eS* S 04 05 32.0 +2.2
MIR pmax pmax
comp=Z,200nm,1.5s,mb5.8
BOK Bokaro 73.61 297 *eP* **P 03 56 07.7 -1.2**
BOK AMb AMB 03 56 27.5
comp=Z,248nm,1.5s,mb5.9
RAMN Ramite 73.81 300 *eP* **P 03 56 10.0 0.0**
comp=Z,48nm,0.6s,mb5.6
JIRN Jiri 74.36 301 *eP* **P 03 56 13.4 +0.2**
comp=Z,84nm,0.6s,mb5.9
VIS Vishakhapatnam 74.55 290 *eP* **P 03 56 12.8 -1.6**
VIS AMb AMB 03 56 33.5
comp=Z,232nm,1.5s,mb5.9
BILL Bilibino 74.64 4 *eP* **P 03 56 13.2 -0.8**
BILL *e**PP pP 03 56 30.5 +0.7
BILL pmax pmax
comp=Z,59nm,0.8s,mb5.6
BILL Bilibino 74.64 4 *eP* **P 03 56 13.2 -0.8**
comp=Z,59nm,0.8s,mb5.6
BILL *epP* pP 03 56 30.5 +0.8
GUN Gumba 74.69 301 *eP* **P 03 56 15.3 +0.2**
comp=Z,164nm,0.5s,mb6.2
PKI Pulchoki 75.00 301 *eP* **P 03 56 16.7 -0.2**
comp=Z,47nm,0.4s,mb5.8
PKI Pulchoki 75.00 301 *eP* **P 03 56 16.7 -0.2**
PKI pmax pmax
comp=Z,47nm,0.4s,mb5.8
PKIN Phulchoki 75.02 301 *eP* **P 03 56 16.6 -0.4**
comp=Z,49nm,0.4s,mb5.8
KKN Kakani 75.17 301 *eP* **P 03 56 17.8 -0.1**
comp=Z,75nm,0.4s,mb6.0
KKN Kakani 75.17 301 *eP* **P 03 56 17.8 -0.1**
KKN pmax pmax
comp=Z,75nm,0.4s,mb6.0
DMN Daman 75.27 301 *eP* **P 03 56 18.6 +0.1**
comp=Z,189nm,0.7s,mb6.1
GKN Gorkha 75.78 301 *eP* **P 03 56 21.1 -0.2**
comp=Z,114nm,0.6s,mb6.0
OHAK Old Harbor 75.99 26 *eP* **P 03 56 20.4 -1.5**
comp=Z,22nm,0.8s,mb5.1
KOLN Koldanda 76.60 300 *eP* **P 03 56 25.6 -0.5**
comp=Z,87nm,0.5s,mb5.9
DANN Dangsing 76.61 301 *eP* **P 03 56 25.1 -1.0**
comp=Z,73nm,0.6s,mb5.8
KDAK Kodiak Island 76.63 26 P **P 03 56 25.8 +0.3**
comp=Z,24nm,1.0s,mb5.1,baz=293,slow=2.8,SNR=5.4
KDAK pP pP 03 56 41.1 -0.2
comp=Z,62nm,0.9s,baz=252,slow=2.6,SNR=12
KDAK Kodiak Island 76.63 26 *eP* **P 03 56 26.5 +1.0**
comp=Z,82nm,1.1s,mb5.6
KDAK *epP* pP 03 56 41.7 +0.3
SVW2 Sparrevohn 77.44 22 *eP* **P 03 56 30.4 +0.4**
KOD Kodaikanal 78.83 282 *eP* **P 03 56 39.1 +0.4**
HYB Hyderabad 78.96 289 *i* P **P 03 56 38.5 -0.8**
HYB *e* pP 03 56 54.5 -0.8
HYB Hyderabad 78.96 289 *eP* **P 03 56 38.5 -0.8**
HYB *e* pP 03 56 54.5 -0.8
TRD Trivandrum 79.08 280 *eP* **P 03 56 38.3 -1.8**
TRD AMb AMB 03 56 58.8
comp=Z,243nm,1.4s,mb5.9
NGP Nagpur 79.19 293 *eP* **P 03 56 40.6 0.0**
NGP AMb AMB 03 56 56.4
comp=Z,220nm,2.2s,mb5.7
SLKM Skilak Lake 79.19 24 *eP* **P 03 56 38.6 -1.1**
SLKM *e**PP pP 03 56 55.3 -0.3
SLKM Skilak Lake 79.19 24 P **P 03 56 39.1 -0.6**
TIXI Tiksi 79.70 352 *i* P **P 03 56 42.7 +0.5**
TIXI pmax pmax
comp=Z,17nm,2.2s,mb4.6
TIXI Tiksi 79.70 352 *eP* **P 03 56 42.3 +0.1**
comp=Z,31nm,1.3s,mb5.1
TIXI *epP* pP 03 56 59.2 +1.0
LGTI Lohaghat 79.87 301 *eP* **P 03 56 44.1 0.0**
LGTI *ex* x 03 58 09.0
PMR Palmer 80.24 24 *eP* **P 03 56 44.4 -0.9**
PMR pmax pmax
comp=Z,6.0nm,0.6s,mb4.7
PMR Palmer 80.24 24 *eP* **P 03 56 44.4 -0.9**
comp=Z,6.1nm,0.6s,mb4.7
AKL Akola 80.97 292 *eP* **P 03 56 48.9 -1.3**
BHPL Bhopal 81.06 295 *eP* **P 03 56 49.5 -1.1**
BHPL AMb AMB 03 57 08.8
comp=Z,130nm,1.4s,mb5.7
EYAK Cordova Ski Ar 81.09 25 *eP* **P 03 56 51.4 +1.5**
comp=Z,45nm,1.0s,mb5.3
EYAK *epP* pP 03 57 06.6 +0.7
IMA2 Indian Mountai 81.22 19 *eP* **P 03 56 51.1 +0.6**
DDI Dehra Dun 81.92 302 *ex* x 03 57 07.2
NDI New Delhi 82.30 300 *ex* x 03 57 09.0
COLA College 82.52 21 *i* P **P 03 56 56.9 -0.4**
COLA College 82.52 21 *eP* **P 03 56 56.6 -0.7**
comp=Z,30nm,1.0s,mb5.3
SMLA Simla 82.83 302 *ex* x 03 56 56.0
SMLA AMb AMB 03 57 17.6
comp=Z,130nm,1.3s,mb5.8
MK31 Makanchi Array 82.85 319 *eP* **P 03 56 58.0 -1.5**
MK31 *e**PP pP 03 57 15.1 -0.4
MK31 Makanchi Array 82.85 319 *i* P **P 03 56 58.1 -1.4**
MK31 pmax pmax
comp=Z,36nm,0.6s,mb5.6
MKAR Makanchi Array 82.85 319 P **P 03 56 58.0 -1.5**
comp=Z,47nm,0.7s,mb5.6,baz=92,slow=7.8,SNR=112
MKAR pP pP 03 57 14.4 -1.1
comp=Z,52nm,0.8s,baz=99,slow=5.5,SNR=15
MKAR PKKPbc PKKPbc 04 15 35.2 +11
comp=Z,1.2nm,1.0s,baz=316,slow=3.3,SNR=5.0
MKAR LR LR 04 34 16.9
comp=Z,339nm,21.6s,MS4.7,baz=128,slow=36
KAD Karad 83.06 288 *eP* **P 03 57 00.6 -0.6**
KAD AMb AMB 03 57 18.2
comp=Z,228nm,1.2s,mb6.1
MENT Mentasta 83.10 24 *eP* **P 03 57 00.8 +0.4**
POO Poona 83.56 289 *eP* **P 03 57 02.2 -1.6**
POO AMb AMB 03 57 22.5
comp=Z,184nm,1.7s,mb5.9
ZAA0 Zalesovo Array 83.58 326 *eP* **P 03 57 00.1 -2.9**
ZAA0 *epP* pP 03 57 16.3 -2.8
ZALV Zalesovo Beam 83.58 326 P **P 03 57 00.9 -2.2**
comp=Z,22nm,0.5s,mb5.6,baz=111,slow=5.4,SNR=29
ZALV pP pP 03 57 17.1 -2.0
comp=Z,40nm,0.7s,baz=114,slow=5.0,SNR=12
ZALV LR LR 04 31 48.7
comp=Z,181nm,20.1s,MS4.4,baz=93,slow=34
ZALV Zalesovo Beam 83.58 326 P **P 03 57 00.9 -2.2**
ZALV *PP pP 03 57 17.1 -2.0
ZALV pmax pmax
comp=Z,22nm,0.5s,mb5.5
ZALV pmax pmax
comp=Z,40nm,0.7s,mb5.7
AJM Ajmer 84.13 297 *eP* **P 03 57 05.5 -1.0**
AJM AMb AMB 03 57 23.0
comp=Z,279nm,1.1s,mb6.3
THN Thein Dam 84.30 303 *ex* x 03 57 21.0
NVS Novosibirsk 84.75 327 *eP* **P 03 57 06.8 -2.2**
NVS pmax pmax
comp=N,7.0nm,0.7s
NVS pmax pmax
comp=Z,16nm,0.7s,mb5.3
NVS pmax pmax
comp=E,13nm,0.9s
HYT Haines Junctio 84.84 27 *eP* **P 03 57 09.3 0.0**
HYT *epP* pP 03 57 26.1 +0.7
MAW Mawson 84.95 203 *eP* **P 03 57 05.6 -4.2**
comp=E,68nm,0.9s,mb5.8
MAW Mawson 84.95 203 P **P 03 57 09.4 -0.5**
comp=E,42nm,0.5s,mb5.8,baz=97,slow=6.7,SNR=60
MAW pP pP 03 57 23.9 -2.0
comp=E,80nm,0.9s,baz=85,slow=6.2,SNR=16
MAW LR LR 04 31 24.9
comp=E,656nm,21.9s,MS5.0,baz=82,slow=33
MAW Mawson 84.95 203 *eP* **P 03 57 09.0 -0.8**
MAW *PP pP 03 57 23.9 -2.0
MAW pmax pmax
comp=Z,197nm,1.2s
MAW Mawson 84.95 203 *eP* **P 03 57 09.0 -0.8**
comp=Z,198nm,1.2s,mb6.1
MAW pP pP 03 57 23.9 -2.0
MAW *epP* pP 03 57 24.1 -1.8
MAW LR LR 04 31 24.9
EGAK Eagle 84.96 23 *eP* **P 03 57 08.9 -0.9**
comp=Z,58nm,1.0s,mb5.7
EGAK *epP* pP 03 57 26.9 +1.0
DAWY Dawson 85.35 24 *eP* **P 03 57 12.3 +0.6**
DAWY *epP* pP 03 57 28.8 +0.9
SKAG Skagway 85.35 29 *eP* **P 03 57 14.4 +2.5**
comp=Z,34nm,0.7s,mb5.6
SKAG *epP* pP 03 57 29.1 +1.1
WRAK Wrangell Islan 85.85 32 *eP* **P 03 57 15.2 +0.8**
comp=Z,376nm,1.8s,mb6.3
WRAK *epP* pP 03 57 30.8 +0.3
KURK Kurchatov 86.26 322 *d* *i* P **P 03 57 14.6 -2.0**
KURK pmax pmax
comp=Z,14nm,0.8s,mb5.2
FRU Bishkek 87.18 313 *eP* pP 03 57 34.0 -3.4
FRU pmax pmax
comp=Z,60nm,1.9s,mb5.5
DLBC Dease Lake 87.64 31 *eP* **P 03 57 23.6 +0.5**
DLBC *epP* pP 03 57 40.2 +0.9
BHJ Bhuj 88.12 294 *eP* **P 03 57 25.7 -0.5**
BHJ AMb AMB 03 57 42.6
comp=Z,147nm,1.3s,mb6.1
MNRC McLaughlin Nat 88.26 51⇑ P **P 03 57 27.2 +0.7**
baz=88
HUMO Hull Mountain 88.50 47⇓ P **P 03 57 27.7 +0.1**
baz=89
YBH Yreka Blue Hor 88.53 48 *eP* **P 03 57 29.9 +2.1**
YBH *e**PP pP 03 57 45.2 +1.2
YBH pmax pmax
comp=Z,16nm,1.1s
YBH Yreka Blue Hor 88.53 48 *eP* **P 03 57 29.9 +2.1**
comp=Z,16nm,1.1s,mb5.2
YBH *epP* pP 03 57 45.2 +1.2
V03C Hunter Liggett 88.76 54⇓ P **P 03 57 29.1 +0.2**
baz=89
PACP Pacheco Peak 88.86 53⇑ P **P 03 57 29.5 +0.1**
baz=89
M03C McCloud 88.89 48⇑ P **P 03 57 29.7 +0.2**
baz=89
OHCM Honcut 89.07 50 *eP* **P 03 57 32.5 +2.2**
OHCM *epP* pP 03 57 46.4 -0.1
ORV Oroville 89.09 50⇓ P **P 03 57 30.5 0.0**
baz=89
I04A Tendick Farm, 89.10 46⇑ P **P 03 57 31.2 +0.9**
baz=89
INK Inuvik 89.15 21 *eP* **P 03 57 29.4 -0.6**
comp=Z,1μm,1.3s
INK *epP* pP 03 57 47.2 +0.9
U04C Hernandez Rese 89.17 53⇑ P **P 03 57 30.8 0.0**
baz=89
J04A Umpqua Nationa 89.22 47⇑ P **P 03 57 30.6 -0.4**
baz=89
PKD Parkfield 89.30 54⇑ P **P 03 57 30.8 -0.7**
baz=89
E04A Onalaska 89.35 43⇓ P **P 03 57 31.9 +0.5**
baz=90
C04A Brinnon 89.38 42⇑ P **P 03 57 32.3 +0.7**
baz=90
O04C Chester 89.52 50⇑ P **P 03 57 32.3 -0.1**
baz=90
LAVA Lava Cap Winer 89.55 51⇓ P **P 03 57 32.2 -0.4**
baz=90
O05C Quincy 89.59 50⇓ P **P 03 57 32.8 0.0**
baz=90
SMMC Simmler 89.65 55⇑ P **P 03 57 33.5 +0.3**
baz=90
S05C Merced 89.67 53⇑ P **P 03 57 33.3 +0.1**
baz=90
CMB Columbia Colle 89.72 52 P **P 03 57 36.5 +3.1**
CMB *e* 03 57 46.5
CMB pmax pmax
comp=Z,18nm,1.2s,mb5.3
CMB Columbia Colle 89.72 52⇑ P **P 03 57 33.3 -0.1**
baz=90
CMB Columbia Colle 89.72 52 *eP* **P 03 57 34.9 +1.4**
comp=Z,6.2nm,1.2s,mb4.8
CMB *epP* pP 03 57 49.4 -0.3
PKM Peak Mountain 89.74 55⇑ P **P 03 57 33.6 0.0**
baz=90,SNR=6.9
SNCC San Nicolas Is 89.76 57⇑ P **P 03 57 33.7 0.0**
baz=90
SNCC San Nicolas Is 89.76 57 *eP* **P 03 57 35.5 +1.8**
comp=Z,29nm,1.0s,mb5.6
SNCC *epP* pP 03 57 51.2 +1.3
SBC Santa Barbara 89.76 55⇑ P **P 03 57 33.6 -0.1**
baz=90
J05A Fort Rock 89.86 47⇓ P **P 03 57 34.0 +0.1**
baz=90,SNR=5.1
E05A Randle 90.00 43⇓ P **P 03 57 34.2 -0.3**
baz=90
K05A Summer Lake 90.02 47⇑ P **P 03 57 34.6 -0.2**
baz=90
B05A Bryant 90.05 42⇓ P **P 03 57 34.9 +0.2**
baz=90
T06C Millerton Lake 90.11 53⇑ P **P 03 57 35.2 -0.1**
baz=90,SNR=7.4
KBL Kabul 90.14 305 P **P 03 57 36.7 +1.2**
KBL *e* pP 03 57 50.9 -0.8
KBL pmax pmax
comp=Z,9.0nm,0.7s,mb5.2
KBL Kabul 90.14 305 *eP* **P 03 57 35.9 +0.4**
comp=Z,5.5nm,0.7s,mb5.0
KBL *epP* pP 03 57 48.6 -3.1
KK31 Karatay Array 90.19 313 *i* P **P 03 57 34.4 -1.1**
KK31 pmax pmax
comp=Z,1.0nm,0.3s,mb4.6
CROR Criterion Ridg 90.29 45 P pP 03 57 52.9 +0.8
MOD Modoc 90.34 48⇓ P **P 03 57 36.4 +0.2**
baz=90
MOD Modoc 90.34 48 *eP* **P 03 57 37.4 +1.2**
comp=Z,31nm,1.4s,mb5.4
MOD *epP* pP 03 57 52.5 +0.1
WCN Washoe City 90.39 51⇓ P **P 03 57 36.6 +0.1**
baz=90,SNR=8.3
O06A Flanigan 90.45 50⇑ P **P 03 57 37.2 +0.4**
baz=91,SNR=7.7
VES Vestal, Richgr 90.46 54⇑ P **P 03 57 37.1 +0.2**
baz=91,SNR=6.9
RPW Rockport 90.46 41 *eP* **P 03 57 37.0 +0.3**
RPW *epP* pP 03 57 51.2 -1.7
KCC Kaiser Creek 90.47 53⇑ P **P 03 57 36.7 -0.2**
baz=91,SNR=5.0
VIPM Ingram Point 90.48 45 P pP 03 57 53.9 +0.9
K06A Valley Falls 90.50 47⇓ P **P 03 57 37.1 +0.2**
baz=91
R06C Coleville 90.52 51⇓ P **P 03 57 37.4 +0.2**
baz=91,SNR=7.8
N06A Buffalo Meadow 90.53 49⇑ P **P 03 57 37.1 0.0**
baz=91,SNR=8.6
E06A Yakima 90.53 43⇓ P **P 03 57 36.9 -0.1**
baz=91,SNR=6.1
SCI San Clemente I 90.54 57⇑ P **P 03 57 37.1 -0.3**
baz=91
F06A Goldendale 90.55 44⇓ P **P 03 57 37.4 +0.3**
baz=91
ARVC Arvin 90.58 55⇓ P **P 03 57 37.7 +0.3**
baz=91,SNR=6.0
J06A Christmas Vall 90.64 47⇓ P **P 03 57 37.8 +0.2**
baz=91
I06A Prineville 90.69 46⇓ P **P 03 57 38.2 +0.3**
baz=91
CIS Catalina Islan 90.71 57⇑ P **P 03 57 38.2 0.0**
baz=91,SNR=6.0
H06A Lindquist Farm 90.72 45⇓ P **P 03 57 38.0 +0.1**
baz=91,SNR=5.8
PAHR Pah Rah Range 90.73 50 *eP* **P 03 57 40.2 +2.1**
comp=Z,52nm,1.2s,mb5.7
PAHR *epP* pP 03 57 55.0 +0.7
TBM Table Mountain 90.88 43 P pP 03 57 54.9 +0.1
ISA Isabella 90.93 54 *eP* **P 03 57 39.2 +0.1**
ISA pmax pmax
comp=Z,37nm,1.2s,mb5.6
ISA Isabella 90.93 54⇑ P **P 03 57 39.0 -0.1**
baz=91,SNR=7.1
ISA Isabella 90.93 54 *eP* **P 03 57 39.2 +0.1**
comp=Z,38nm,1.2s,mb5.6
L07A Adell 91.06 48⇓ P **P 03 57 39.5 -0.1**
baz=91,SNR=11
MTUM Tungsten Hills 91.07 53 *eP* **P 03 57 40.3 +0.6**
MTUM *epP* pP 03 57 56.7 +0.8
MWC Mount Wilson 91.09 56 *eP* **P 03 57 40.4 +0.5**
comp=Z,167nm,1.3s,mb6.2
MWC *epP* pP 03 57 55.1 -1.0
M07A Soldier Meadow 91.11 49⇓ P **P 03 57 39.8 0.0**
baz=91,SNR=6.0
ETW Entiat 91.12 42 *eP* **P 03 57 40.4 +0.7**
ETW *epP* pP 03 57 55.6 -0.3
O07A Toulon 91.17 50⇓ P **P 03 57 40.4 +0.2**
baz=91,SNR=10
N07B Gerlach 91.18 49⇓ P **P 03 57 40.3 +0.1**
baz=91,SNR=11
I07A Izee 91.22 46⇑ P **P 03 57 39.8 -0.4**
baz=91
K07A Rock Creek Ran 91.22 47⇓ P **P 03 57 40.1 -0.2**
baz=91
EDW2 Edwards Air Fo 91.23 55⇓ P **P 03 57 40.6 +0.1**
baz=91,SNR=11
H07A Lands Inn, Kim 91.24 45⇓ P **P 03 57 40.2 -0.1**
baz=91
G07A Ruggs Ranch, H 91.26 45⇑ P **P 03 57 39.9 -0.5**
baz=91
A07A Ashnola River, 91.29 41⇓ P **P 03 57 40.3 -0.2**
baz=91
TIN Tinemaha 91.30 53⇑ P **P 03 57 40.4 -0.3**
baz=91
E07A Sunnyside 91.30 43⇑ P **P 03 57 40.2 -0.4**
baz=91
D07A Quincy 91.31 43⇑ P **P 03 57 40.5 -0.1**
baz=91
CWC Cottonwood Cre 91.34 54⇓ P **P 03 57 41.3 +0.3**
baz=92,SNR=6.0
B07A Winthrop 91.38 42⇑ P **P 03 57 41.2 +0.3**
baz=92
NVAR Mina Array Bea 91.40 52 P **P 03 57 41.1 -0.1**
comp=Z,16nm,0.9s,mb5.3,baz=256,slow=5.6,SNR=26
NVAR pP pP 03 57 58.0 +0.5
comp=Z,40nm,1.0s,baz=247,slow=3.1,SNR=23
NVAR PKKPbc PKKPbc 04 15 04.8 +1.2
comp=Z,0.8nm,0.7s,baz=109,slow=4.2,SNR=5.5
BFSC Mount Baldy St 91.42 56⇓ P **P 03 57 42.0 +0.6**
baz=92,SNR=11
HAWA Hanford 91.50 44 *eP* **P 03 57 42.9 +1.4**
comp=Z,33nm,1.1s,mb5.6
HAWA *epP* pP 03 57 56.9 -0.9
LRMC Laurel Mountai 91.54 55⇑ P **P 03 57 42.2 +0.3**
baz=92,SNR=19
WVOR Wild Horse Val 91.64 48 P **P 03 57 43.1 +0.9**
WVOR pmax pmax
comp=Z,18nm,1.1s,mb5.3
WVOR Wild Horse Val 91.64 48 *eP* **P 03 57 42.8 +0.5**
comp=Z,27nm,1.3s,mb5.4
WVOR *epP* pP 03 57 58.9 +0.4
M08A Happy Creek Ra 91.71 49⇑ P **P 03 57 42.7 +0.1**
baz=92
BVA0 Borovoye Array 91.72 323 *i* P **P 03 57 40.0 -2.3**
BVA0 pmax pmax
comp=Z,7.0nm,0.9s,mb5.0
P08A Dixie Valley 91.72 50⇑ P **P 03 57 43.0 +0.3**
baz=92
MURC Murrieta 91.73 57⇑ P **P 03 57 42.6 -0.3**
baz=92,SNR=5.7
O08A Rochester Mine 91.74 50⇓ P **P 03 57 43.0 +0.2**
baz=92,SNR=26
Q08A Gabbs 91.74 51⇑ P **P 03 57 42.5 -0.3**
baz=92,SNR=11
G08A Pilot Rock 91.76 45⇑ P **P 03 57 42.6 -0.1**
baz=92,SNR=5.4
MPMC Manual Prospec 91.77 54⇓ P **P 03 57 43.0 0.0**
baz=92,SNR=25
K08A Mann Creek Ran 91.78 47⇑ P **P 03 57 42.6 -0.3**
baz=92
N08A GE Springer Mi 91.81 49⇓ P **P 03 57 42.7 -0.4**
baz=92,SNR=7.0
L08A Fields 91.82 48⇑ P **P 03 57 42.9 -0.2**
baz=92,SNR=5.7
E08A Dider Farm, El 91.84 44⇓ P **P 03 57 43.2 +0.1**
baz=92
I08A Drewsey 91.86 46⇑ P **P 03 57 43.6 +0.3**
baz=92
J08A Circle Bar Ran 91.87 47⇑ P **P 03 57 43.2 -0.1**
baz=92,SNR=7.5
B08A Colville Reser 91.89 42⇑ P **P 03 57 43.7 +0.4**
baz=92
GRAC Grapevine Rang 91.97 53⇑ P **P 03 57 43.9 0.0**
baz=92,SNR=5.0
A08A Turner Farm, O 92.00 41⇑ P **P 03 57 44.1 +0.3**
baz=92
BBRC Big Bear Sol-O 92.03 56⇓ P **P 03 57 44.3 +0.1**
baz=92
S09A Goldfield 92.17 52⇓ P **P 03 57 45.1 +0.3**
baz=92,SNR=32
OD2 Odessa Site #2 92.19 43 *eP* **P 03 57 44.9 +0.3**
OD2 *epP* pP 03 57 59.8 -1.1
TPH Tonopah 92.21 52 P **P 03 57 45.4 +0.4**
TPH pmax pmax
comp=Z,55nm,1.1s,mb5.8
TPH Tonopah 92.21 52 *eP* **P 03 57 45.1 +0.2**
comp=Z,54nm,1.1s,mb5.8
TPH *epP* pP 03 58 01.6 +0.4
GSC Goldstone 92.24 55 *eP* **P 03 57 45.8 +0.6**
GSC *e**PP pP 03 58 02.3 +0.9
GSC pmax pmax
comp=Z,38nm,1.3s,mb5.6
GSC Goldstone 92.24 55⇑ P **P 03 57 45.2 0.0**
baz=92
GSC Goldstone 92.24 55 *eP* **P 03 57 45.8 +0.6**
comp=Z,38nm,1.3s,mb5.6
GSC *epP* pP 03 58 02.3 +0.8
N09A Rock Creek Ran 92.28 49⇑ P **P 03 57 45.2 0.0**

baz=92
L09A **Wilkinson Ranc** 92.30 48 ⇓P P 03 57 45.2 -0.1
baz=92
MONP **Monument Peak** 92.31 57 ⇓P P 03 57 45.2 -0.3
baz=92,SNR=7.8
FURC **Furnace Creek,** 92.32 54 ⇑P P 03 57 45.4 -0.1
baz=92,SNR=24
K09A **Rome** 92.33 47 ⇑P P 03 57 45.5 0.0
baz=92
R09A **Tonopah** 92.34 52 ⇓P P 03 57 45.8 +0.2
baz=92,SNR=18
PFO **Pinyon Flat Ob** 92.35 57 ⇓P P 03 57 45.0 -0.7
baz=92,SNR=7.5
J09A **Fry Pan Ranch,** 92.39 47 ⇓P P 03 57 45.7 0.0
baz=92
M09A **Marrel Ranch,** 92.40 49 ⇑P P 03 57 45.8 0.0
baz=92
D09A **Jones Farm, Ri** 92.42 43 ⇓P P 03 57 46.1 +0.4
baz=92
A09A **Danville** 92.46 41 ⇓P P 03 57 46.3 +0.4
baz=93,SNR=6.1
BMN **Battle Mountai** 92.46 50 P P 03 57 49.2 +3.1
BMN *e* pP 03 58 03.4 +1.1
BMN pmax pmax
comp=Z,49nm,1.1s,mb5.8
BMN **Battle Mountai** 92.46 50 *eP* P 03 57 48.7 +2.6
comp=Z,13nm,1.0s,mb5.2
BMN *epP* pP 03 58 03.4 +1.1
E09A **Wood Farm, Sta** 92.47 44 ⇑P P 03 57 45.6 -0.4
baz=93
C09A **Chrisman Ranch** 92.53 42 ⇓P P 03 57 46.3 +0.1
baz=93
HEC **Hector,Ludlow** 92.58 55 ⇑P P 03 57 46.6 -0.2
baz=93,SNR=7.9
G09A **Cove** 92.58 45 ⇓P P 03 57 46.4 -0.2
baz=93
B09A **Rice** 92.68 42 ⇓P P 03 57 46.9 0.0
baz=93
S10A **Tonopah Range,** 92.68 52 ⇑P P 03 57 47.4 +0.3
baz=93,SNR=28
SHOC **Shoshone** 92.73 54 ⇑P P 03 57 47.3 -0.1
baz=93,SNR=12
U10A **Ash Meadows, A** 92.74 54 ⇑P P 03 57 47.6 +0.1
baz=93,SNR=9.2
BELC **Belle Mtn.** 92.77 56 ⇓P P 03 57 47.6 -0.1
baz=93,SNR=27
TPNV **Topopah Spring** 92.86 53 *eP* P 03 57 48.4 +0.4
TPNV pmax pmax
comp=Z,65nm,1.2s,mb5.9
TPNV **Topopah Spring** 92.86 53 ⇑P P 03 57 48.3 +0.2
baz=93,SNR=19
TPNV **Topopah Spring** 92.86 53 *eP* P 03 57 48.4 +0.4
comp=Z,65nm,1.2s,mb5.9
BMO **Blue Mountains** 92.87 45 *eP* P 03 57 46.4 -1.5
BMO *e*PP pP 03 58 02.5 -1.6
BMO pmax pmax
comp=Z,31nm,1.4s,mb5.5
BMO **Blue Mountains** 92.87 45 *eP* P 03 57 46.4 -1.5
comp=Z,31nm,1.4s,mb5.5
BMO *epP* pP 03 58 02.5 -1.6
SYO **Syowa Base** 92.90 199 ⇓*eP* P 03 57 44.7 -2.9
Q10A **Clear Creek Ra** 92.93 51 ⇑P P 03 57 48.1 -0.2
baz=93,SNR=9.6
R10A **Warm Springs** 92.95 52 ⇑P P 03 57 48.7 +0.3
baz=93
P10A **Eureka** 92.96 51 ⇑P P 03 57 48.1 -0.3
baz=93
K10A **MacKenzie Ranc** 92.97 47 ⇑P P 03 57 48.5 +0.1
baz=93
TUQ **Turquoise Moun** 92.97 55 ⇑P P 03 57 48.5 0.0
baz=93,SNR=7.6
O10A **Cortez Mining,** 93.00 50 ⇓P P 03 57 48.5 -0.1
baz=93
N10A **Dunphy** 93.03 50 ⇑P P 03 57 48.5 -0.2
baz=93
F10A **Beach Ranch, E** 93.04 44 ⇑P P 03 57 48.5 -0.2
baz=93
G10A **Bishop Farm, J** 93.05 45 ⇓P P 03 57 48.4 -0.3
baz=93,SNR=7.7
D10A **Wagner Farm, O** 93.12 43 ⇑P P 03 57 48.2 -0.8
baz=93,SNR=5.3
GMRC **Granite Mounta** 93.12 56 ⇑P P 03 57 49.3 +0.1
baz=93,SNR=20
A10A **Northport** 93.13 41 ⇓P P 03 57 48.9 -0.1
baz=93
BC3 **Big Chuckw Mtn** 93.19 57 ⇓P P 03 57 49.4 -0.2
baz=93,SNR=8.3
L10A **Juniper Basin** 93.19 48 ⇑P P 03 57 48.5 -0.9
baz=93
H10A **Noah's Angus R** 93.24 46 ⇑P P 03 57 49.4 -0.2
baz=93
S11A **Rachel** 93.33 53 ⇑P P 03 57 49.5 -0.6
baz=93
NEW **Newport** 93.34 42 P P 03 57 51.3 +1.3
NEW pmax pmax
comp=Z,7.0nm,1.0s
NEW **Newport** 93.34 42 *eP* P 03 57 50.8 +0.8
comp=Z,7.1nm,1.0s,mb5.0
NEW *epP* pP 03 58 05.8 -0.4
V11A **Goodsprings** 93.41 54 ⇑P P 03 57 50.4 -0.2
baz=94,SNR=8.9
IRM **Iron Mountain** 93.48 56 ⇑P P 03 57 50.9 -0.1
baz=94,SNR=26
U11A **Corn Creek** 93.50 54 ⇑P P 03 57 50.8 -0.2
baz=94
Q11A **Duckwater** 93.51 51 ⇓P P 03 57 50.9 -0.1
baz=94,SNR=24
R11A **Troy Canyon, C** 93.52 52 ⇑P P 03 57 50.8 -0.2
baz=94,SNR=19
K11A **Parker Ranch,** 93.58 48 ⇓P P 03 57 50.9 -0.3
baz=94
LDFC **Landfair** 93.60 55 *eP* P 03 57 52.4 +1.0
comp=Z,112nm,1.4s,mb6.1
LDFC *epP* pP 03 58 09.3 +1.6
O11A **Cowboy Ranch,** 93.62 50 ⇑P P 03 57 51.3 -0.2
baz=94
N11A **Elko Archery C** 93.63 50 ⇓P P 03 57 51.9 +0.4
baz=94
G11A **Walters Elk Ra** 93.66 45 ⇑P P 03 57 51.0 -0.5
baz=94,SNR=5.7
T11A **Corn Creek, Al** 93.71 53 ⇓P P 03 57 51.8 -0.2
baz=94,SNR=11
L11A **Cat Creek Ranc** 93.73 48 ⇓P P 03 57 51.9 0.0
baz=94
I11A **Placerville** 93.74 46 ⇑P P 03 57 51.7 -0.2
baz=94
D11A **Klaveano Farm,** 93.76 43 ⇑P P 03 57 51.7 -0.2
baz=94,SNR=5.2
H11A **Donnelly** 93.77 46 ⇑P P 03 57 51.8 -0.2
baz=94
F11A **Grangeville** 93.78 44 ⇑P P 03 57 51.4 -0.6
baz=94
E11A **Bogner Ranch,** 93.78 44 ⇓P P 03 57 51.2 -0.8
baz=94
B11A **Sandpoint** 93.86 42 ⇓P P 03 57 51.8 -0.5
baz=94
C11A **Tepee Creek (N** 93.88 42 ⇑P P 03 57 52.2 -0.3
baz=94
A11A **Hall Mountain,** 93.91 41 ⇓P P 03 57 52.5 0.0
baz=94
ELK **Elko** 94.00 50 *eP* P 03 57 53.6 +0.4
ELK *e*PP pP 03 58 08.3 -1.1
ELK pmax pmax
comp=Z,31nm,1.1s
ELK **Elko** 94.00 50 *eP* P 03 57 53.6 +0.4
comp=Z,31nm,1.1s,mb5.7
ELK *epP* pP 03 58 08.3 -1.1
S12A **Delamar Landin** 94.03 53 ⇑P P 03 57 53.6 +0.2
baz=94
T12A **Moapa** 94.06 54 ⇑P P 03 57 53.1 -0.4
baz=94
N12A **Clover Valley,** 94.16 50 ⇑P P 03 57 53.8 -0.1
baz=94,SNR=8.1
Q12A **Willow Creek R** 94.17 51 ⇑P P 03 57 53.7 -0.3
baz=94,SNR=7.9
U12A **Valley of Fire** 94.18 54 ⇑P P 03 57 53.8 -0.3
baz=94
E12A **Beaver Dam Sad** 94.23 44 ⇑P P 03 57 54.0 -0.1
baz=94,SNR=6.7
L12A **House Creek Ra** 94.28 48 ⇓P P 03 57 54.1 -0.3
baz=94
R12A **Pony Springs,** 94.28 52 ⇓P P 03 57 54.4 -0.2
baz=94,SNR=6.0
M12A **Wells** 94.30 49 ⇓P P 03 57 54.6 0.0
baz=94,SNR=7.8
J12A **Stokes Ranch,** 94.31 47 ⇓P P 03 57 54.6 +0.1
baz=94,SNR=7.5
I12A **Atlanta** 94.33 47 ⇑P P 03 57 54.3 -0.3
baz=94
O12A **Currie** 94.33 50 ⇑P P 03 57 54.6 -0.1
baz=94,SNR=5.9
F12A **Elk City** 94.39 45 ⇓P P 03 57 54.8 -0.1
baz=94
C12B **Naegeli Ranch,** 94.40 43 ⇓P P 03 57 54.1 -0.7
baz=94
K12A **Draper Farm, C** 94.40 48 ⇓P P 03 57 54.2 -0.8
baz=94
D12A **Red Ives Fores** 94.43 43 ⇑P P 03 57 54.7 -0.3
baz=94
V13A **Grand Canyon W** 94.58 55 ⇓P P 03 57 55.9 -0.1
baz=95,SNR=20
W13A **Hualapai Mount** 94.60 55 ⇓P P 03 57 56.0 -0.1
baz=95,SNR=11
X13A **Yucca** 94.61 56 ⇓P P 03 57 56.1 0.0
baz=95,SNR=7.7
U13A **Pakoon Wash** 94.64 54 ⇓P P 03 57 56.5 +0.3
baz=95
T13A **Saint George** 94.73 53 ⇓P P 03 57 56.7 0.0
baz=95,SNR=9.1
R13A **O'Grain Ranch,** 94.77 52 ⇑P P 03 57 56.7 -0.1
baz=95,SNR=5.4
Q13A **Wheeler Ranch,** 94.79 51 ⇓P P 03 57 56.7 -0.2
baz=95,SNR=6.2
S13A **Holt Ranch, En** 94.81 53 ⇑P P 03 57 56.9 -0.1
baz=95,SNR=7.0
HLID **Hailey** 94.83 47 ⇑P P 03 57 56.8 -0.1
baz=95
HLID **Hailey** 94.83 47 *eP* P 03 57 55.9 -1.0
comp=Z,4.7nm,1.0s,mb4.9
P13A **Bates Ranch, G** 94.83 51 ⇑P P 03 57 57.2 +0.2
baz=95
O13A **Hicks Ranch, I** 94.90 50 ⇑P P 03 57 57.2 -0.1
baz=95
H13A **Challis** 95.01 46 ⇓P P 03 57 57.2 -0.5
baz=95
F13A **Darby** 95.04 45 ⇓P P 03 57 57.4 -0.4
baz=95
G13A **Cobalt** 95.06 45 ⇓P P 03 57 57.4 -0.5
baz=95
I13A **Wildhorse Cree** 95.07 47 ⇑P P 03 57 57.3 -0.7
baz=95
B13A **Whitefish** 95.12 42 ⇑P P 03 57 58.2 0.0
baz=95
ARUT **Antelope Range** 95.16 53 *eP* P 03 57 59.2 +0.6
ARUT *e*PP pP 03 58 15.6 +0.8
CCUT **Cedar City** 95.20 53 *eP* P 03 57 58.9 +0.1
W14A **Seligman** 95.27 55 ⇓P P 03 57 59.1 0.0
baz=95
U14A **Mt Trumbull** 95.27 54 ⇑P P 03 57 59.9 +0.8
baz=95,SNR=22
V14A **Boquillas Ranc** 95.28 55 ⇓P P 03 57 59.5 +0.4
baz=95,SNR=8.7
Q14A **Sever Lake (B** 95.37 51 ⇓P P 03 57 59.6 +0.1
baz=96
T14A **Hurricane** 95.39 53 ⇑P P 03 58 00.0 +0.4
baz=96,SNR=5.3
M14A **Sheep Mountain** 95.48 49 ⇓P P 03 57 59.9 0.0
baz=96
I14A **Mackay** 95.55 47 ⇓P P 03 57 59.5 -0.7
baz=96
N14A **Grayback Hills** 95.56 50 ⇑P P 03 58 00.2 -0.1
baz=96
P14A **Drum Mountains** 95.57 51 ⇓P P 03 57 59.8 -0.6
baz=96
L14A **Malta** 95.59 48 ⇓P P 03 58 00.7 +0.2
baz=96
K14A **Jones Ranch, D** 95.67 48 ⇓P P 03 58 01.0 +0.3
baz=96
Y15A **Casa Rosa Ranc** 95.80 57 ⇓P P 03 58 01.3 -0.3
baz=96
DUG **Dugway** 95.80 50 *eP* P 03 58 03.5 +2.1
DUG *e*PP pP 03 58 17.8 +0.1
DUG pmax pmax
comp=Z,8.0nm,1.3s,mb5.0
DUG **Dugway** 95.80 50 *eP* P 03 58 03.5 +2.1
comp=Z,7.6nm,1.3s,mb5.0
DUG *epP* pP 03 58 17.8 +0.1
YKA **Yellowknife Ar** 95.81 28 P P 03 58 00.0 -0.9
comp=Z,8.3nm,0.7s,mb5.3,baz=268,slow=4.7,SNR=13
YKA pP pP 03 58 16.7 -0.5
comp=Z,19nm,0.8s,baz=269,slow=5.0,SNR=12
YKA LR LR 04 39 42.5
comp=Z,96nm,19.4s,MS4.3,baz=210,slow=34
YKA **Yellowknife Ar** 95.81 28 P P 03 58 00.1 -0.8
YKA *PP pP 03 58 16.7 -0.5
YKA **Yellowknife Ar** 95.81 28 P P 03 58 00.1 -0.9
YKA pP pP 03 58 16.7 -0.5
YKA LR LR 04 39 42.5
CHMT **Chamberlain Mo** 95.86 44 *eP* P 03 58 02.9 +1.4
CHMT *epP* pP 03 58 17.4 -0.4
X15A **Humboldt** 95.91 56 ⇓P P 03 58 02.0 -0.1
baz=96
HVU **Hansel Valley** 95.92 49 *eP* P 03 58 04.5 +2.6
HVU *e*PP pP 03 58 18.5 +0.3
HVU pmax pmax
comp=Z,6.0nm,0.9s,mb5.0
HVU **Hansel Valley** 95.92 49 *eP* P 03 58 04.5 +2.5
comp=Z,6.1nm,0.9s,mb5.0
HVU *epP* pP 03 58 18.5 +0.3
U15A **North Rim** 95.99 54 ⇑P P 03 58 02.7 +0.3
baz=96,SNR=8.9
MCMT **McKenzie Canyo** 96.03 46 *eP* P 03 58 04.7 +2.4
MCMT *epP* pP 03 58 17.0 -1.6
V15A **Kaibab Nationa** 96.05 55 ⇑P P 03 58 03.0 +0.3
baz=96,SNR=8.1
EDM **Edmonton** 96.09 37 P P 03 58 01.8 -0.6
EDM **Edmonton** 96.09 37 *eP* P 03 58 01.7 -0.7
EDM *epP* pP 03 58 17.9 -0.8
K15A **Arbon** 96.15 48 ⇑P P 03 58 03.1 +0.1
baz=96
H15A **Lima** 96.17 46 ⇑P P 03 58 02.9 -0.1
baz=96
MSU **Marysvale** 96.20 52 *eP* P 03 58 06.2 +2.9
MSU *e*PP pP 03 58 21.0 +1.5
L15A **Malad City** 96.22 48 ⇑P P 03 58 03.3 0.0
baz=96
E15A **Deer Lodge** 96.25 44 ⇓P P 03 58 03.3 -0.1
baz=96
J15A **Blackfoot** 96.26 47 ⇑P P 03 58 03.7 +0.2
baz=96
A15A **Johnson Ranch,** 96.30 41 ⇑P P 03 58 04.1 +0.6
baz=96
NLU **North Lily Min** 96.35 51 *eP* P 03 58 04.9 +1.0
NLU *epP* pP 03 58 19.0 -1.2
Y16A **Circle Bar Ran** 96.51 57 ⇑P P 03 58 04.9 +0.1
baz=97
X16A **Lo Mia Camp, P** 96.57 56 ⇓P P 03 58 05.5 +0.4
baz=97
S16A **Weppner Ranch,** 96.61 53 ⇓P P 03 58 05.7 +0.5
baz=97
WUAZ **Wupatki** 96.68 55 *eP* P 03 58 06.3 +0.7
comp=Z,5.1nm,1.0s,mb4.9
WUAZ *epP* pP 03 58 23.5 +1.7
MPU **Maple Canyon** 96.70 51 *eP* P 03 58 05.2 -0.3
comp=Z,5.1nm,1.0s,mb4.9
MPU *epP* pP 03 58 21.8 0.0
R16A **Teasdale** 96.73 52 ⇑P P 03 58 05.9 +0.2
baz=97,SNR=10
O16A **Springville** 96.81 50 ⇑P P 03 58 06.3 +0.3
baz=97
HWUT **Hardware Ranch** 96.82 49 *eP* P 03 58 07.6 +1.6
comp=Z,6.6nm,0.9s,mb5.1
J16A **Bone** 96.85 47 ⇑P P 03 58 06.5 +0.3
baz=97
K16A **Soda Springs** 96.85 48 ⇑P P 03 58 06.5 +0.3
baz=97
JLU **Jordanelle** 96.86 50 *eP* P 03 58 09.0 +2.7
JLU *epP* pP 03 58 22.8 +0.3
U16A **Tuba City** 96.91 54 ⇑P P 03 58 07.1 +0.5
baz=97
LPIG **La Paz** 96.93 67 P P 03 58 06.5 -0.4
baz=132,slow=3.5
L16A **Fish Haven** 96.93 49 ⇑P P 03 58 06.3 -0.2
baz=97
I16A **Newdale** 96.96 47 ⇓P P 03 58 07.0 +0.3
baz=97
TMUT **Trail Mountain** 96.99 51 *eP* P 03 58 07.7 +0.8
TMUT *epP* pP 03 58 23.8 +0.7
TUC **Tucson** 97.00 58 *eP* P 03 58 07.1 0.0
TUC *e*PP pP 03 58 23.5 +0.2
TUC pmax pmax
comp=Z,3.0nm,1.1s,mb4.6
TUC **Tucson** 97.00 58 *eP* P 03 58 07.0 0.0
comp=Z,3.1nm,1.1s,mb4.7
TUC *epP* pP 03 58 23.5 +0.2
Q16A **Castle Valley** 97.00 52 ⇑P P 03 58 06.9 0.0
baz=97
D16A **Dana Ranch, Ca** 97.03 43 ⇓P P 03 58 07.3 +0.5
baz=97
A16A **West Butte Ran** 97.05 42 ⇓P P 03 58 06.1 -0.8
baz=97
H16A **Russell Place,** 97.16 46 ⇑P P 03 58 06.7 -0.8
baz=97
S17A **Black Ridge (B** 97.24 53 ⇓P P 03 58 07.8 -0.2
baz=97,SNR=5.5
U17A **Shonto** 97.31 54 ⇑P P 03 58 08.3 -0.1
baz=97
TPAW **Teton Pass** 97.34 47 *eP* P 03 58 08.1 -0.3
comp=Z,11nm,1.1s,mb5.2
TPAW *epP* pP 03 58 24.5 -0.1
R17A **Hanksville Air** 97.34 52 ⇑P P 03 58 08.5 +0.1
baz=98,SNR=6.7
IMW **Indian Meadow** 97.36 47 *eP* P 03 58 10.2 +1.8
comp=Z,7.2nm,1.0s,mb5.1
IMW *epP* pP 03 58 24.7 0.0
O17A **Robinson Place** 97.39 50 ⇓P P 03 58 08.6 0.0
baz=98,SNR=8.1
SNOW **Snow King Moun** 97.48 47 *eP* P 03 58 06.6 -2.4
comp=Z,7.0nm,1.0s,mb5.0
SNOW *epP* pP 03 58 25.1 -0.1
MOOW **Moose Ponds** 97.50 47 *eP* P 03 58 09.3 +0.3
comp=Z,6.4nm,1.2s,mb4.9
MOOW *epP* pP 03 58 25.0 -0.3
SRU **San Rafael** 97.52 51 *eP* P 03 58 09.1 -0.1
SRU *e*PP pP 03 58 25.6 +0.1
SRU pmax pmax
comp=Z,11nm,1.3s,mb5.2
SRU **San Rafael** 97.52 51 *eP* P 03 58 09.1 -0.2
comp=Z,11nm,1.3s,mb5.2
SRU *epP* pP 03 58 25.6 +0.1
LOHW **Long Hollow** 97.59 47 *eP* P 03 58 09.3 -0.1
comp=Z,8.5nm,1.4s,mb5.1
D17A **Six Diamond Ra** 97.62 43 ⇓P P 03 58 09.4 -0.1
baz=98
P18A **Preston Nutter** 97.75 51 ⇑P P 03 58 09.8 -0.4
baz=98
Q18A **Rafter H Ranch** 97.82 51 ⇑P P 03 58 09.8 -0.8
baz=98
S18A **Hurst Farm, Bl** 97.88 53 ⇑P P 03 58 10.3 -0.6
baz=98
T18A **Mexican Hat** 97.96 53 ⇓P P 03 58 10.7 -0.6
baz=98
R18A **Canyonlands Na** 97.98 52 ⇑P P 03 58 10.9 -0.5
baz=98
AB31 **Akbulak array** 97.99 319 *i* P P 03 58 07.3 -3.8
AB31 pmax pmax
comp=Z,3.0nm,0.6s,mb5.0
E18A **Harlowton** 98.14 44 ⇓P P 03 58 11.7 -0.2
baz=98
N18A **Larsen Ranch,** 98.22 50 ⇑P P 03 58 12.2 -0.2
baz=98
319A **Douglas** 98.23 59 ⇑P P 03 58 12.1 -0.5
baz=98
EGMT **Eagleton** 98.26 42 ⇓P P 03 58 12.2 -0.2
baz=98
BW06 **Boulder Array** 98.34 48 ⇑P P 03 58 13.2 +0.4
baz=98,SNR=5.8
BW06 **Boulder Array** 98.34 48 *eP* P 03 58 13.8 +0.9
comp=Z,10nm,1.0s,mb5.3
BW06 *epP* pP 03 58 27.5 -1.7
PDAR **Pinedale Array** 98.34 48 P P 03 58 11.1 -1.8
comp=Z,2.0nm,0.8s,mb4.7,baz=231,slow=1.6,SNR=14
PDAR pP pP 03 58 27.9 -1.2
comp=Z,5.4nm,0.9s,baz=245,slow=3.1,SNR=18
PDAR PKKPbc PKKPbc 04 14 44.4 -0.8
comp=Z,0.5nm,0.5s,baz=112,slow=7.5,SNR=5.5
PDAR LR LR 04 38 42.2
comp=Z,915nm,19.7s,MS5.3,baz=297,slow=33
S19A **Harvey Farm, M** 98.56 53 ⇓P P 03 58 14.1 +0.1
baz=99,SNR=5.1
RLMT **Red Lodge** 98.58 45 ⇓P P 03 58 13.2 -0.6
baz=99
O19A **Miners Draw (B** 98.63 50 ⇓P P 03 58 13.7 -0.5
baz=99,SNR=5.9
P19A **Cripple Cowboy** 98.73 51 ⇓P P 03 58 14.2 -0.5
baz=99
ARU **Arti** 98.75 326 *d* iP P 03 58 13.8 -0.5
ARU *PP pP 03 58 27.8 -2.8
ARU 04 02 14.3
ARU S SKSac 04 08 45.1 -2.4
ARU pmax pmax
comp=Z,15nm,1.7s,mb5.2
PV01 **Paradox Valley** 99.02 52 *eP* P 03 58 16.1 +0.1
PV01 *epP* pP 03 58 32.9 +0.6
AKTK **Aktyubinsk** 99.23 320 P P 03 58 15.1 -1.5
AKTO **Aktyubinsk** 99.23 320 P P 03 58 15.1 -1.5
comp=Z,1.7nm,0.8s,mb4.6,baz=85,slow=6.8,SNR=5.9
SMCO **Snowmass** 100.28 51 *e*Pdif Pdif 03 58 22.1 +0.9
comp=Z,14nm,1.1s
SMCO *e* 03 58 36.0
Y22D **IRIS PASSCAL I** 100.30 57 ⇓P Pdif 03 58 20.5 -0.8
baz=100
BNM **Barren Site** 100.54 57 *e*Pdif Pdif 03 58 25.0 +2.6
BNM *epP* 03 58 42.0
LAO **LASA Array** 100.68 44 *e*P Pdif 03 58 22.2 -0.8
comp=Z,24nm,1.0s
LAO *epP* 03 58 38.3
ANMO **Albuquerque** 100.69 56 *e*P Pdif 03 58 24.6 +1.6
ANMO pmax pmax
comp=Z,4.0nm,1.2s
ANMO **Albuquerque** 100.69 56 *e*Pdif Pdif 03 58 24.6 +1.5
comp=Z,4.5nm,1.2s
ANMO *e* 03 58 41.4
SNAA **Sanae** 100.77 187 *e*Pdiff Pdif 03 58 21.5 -1.9
SNAA *e* 03 58 37.1
RES **Resolute Bay** 101.37 15 *e*P Pdif 03 58 26.4 +0.3
SDCO **Great Sand Dun** 101.45 53 *e*Pdif Pdif 03 58 28.6 +2.1
VNA3 **Neumayer Olymp** 101.89 185 *e*Pdiff Pdif 03 58 26.6 -1.8
VNA3 *e* 03 58 43.2
VNA3 **Neumayer Olymp** 101.89 185 *e*PKiKP PKiKP 04 02 51.1 +0.4
VNA3 *e* 04 03 06.4
DGMT **Dagmar** 101.96 42 *e*Pdif Pdif 03 58 28.7 +0.1
comp=Z,12nm,1.0s
DGMT *e* 03 58 44.3
VNA2 **Neumayer--Watz** 101.98 186 *e*Pdiff Pdif 03 58 29.0 +0.2
VNA2 *e* 03 58 44.9
VNA2 **Neumayer--Watz** 101.98 186 *e*PKiKP PKiKP 04 02 52.8 +1.9
baz=185,slow=1.4
VNA2 *e* 04 03 08.4
TXAR **Lajitas Array** 103.04 61 Pdiff Pdif 03 58 35.8 +2.2
comp=Z,0.1nm,0.6s,baz=210,slow=4.7,SNR=2.6
TXAR PKKPbc PKKPbc 04 14 32.9 +1.7
comp=Z,1.8nm,0.8s,baz=109,slow=3.9,SNR=13
PMSA **Palmer Station** 103.42 164 *e*Pdif Pdif 03 58 33.6 -1.6
ARCES **ARCESS Array B** 108.94 343 PKKPbc PKKPbc 04 14 12.2 -2.2
comp=Z,4.9nm,0.9s,baz=46,slow=5.2,SNR=3.9
KIV **Kislovodsk** 110.31 315 *i* PKiKP PKiKP 04 03 04.2 -2.8
KIV *e* 04 03 39.7
KIV *e* 04 09 36.2
KIV *e*SP SP 04 13 01.0 -4.5
KIV *e*PS PS 04 13 07.3 -5.5
KIV pmax pmax
comp=Z,7.0nm,1.1s
SCIA **State Center** 110.47 48 *e*PKP PKiKP 04 03 10.1 +2.7
UALR **University of** 112.27 55 *e*PKP PKiKP 04 03 15.7 +4.7
CCM **Cathedral Cave** 112.64 51 *e*PKiKP PKiKP 04 03 12.2 +0.6
HDIL **Hopedale** 113.64 48 *e*PKP PKiKP 04 03 14.3 +0.9
SIUC **Southern Illin** 114.27 52 *e*PKP PKiKP 04 03 18.6 +3.9
OLIL **Olney** 114.93 50 *e*PKP PKiKP 04 03 16.1 +0.2
WVT **Waverly** 115.67 53 *e*PKiKP PKPdf 04 03 16.9 -0.6
WVT *e* 04 03 31.6
BLO **Bloomington** 116.03 49 *e*PKiKP PKPdf 04 03 19.0 +0.9
BLO *e* 04 03 33.2
WCI **Wyandotte Cave** 116.42 50 *e*PKiKP PKPdf 04 03 19.0 +0.1
WCI *e* 04 03 33.8
LRAL **Lakeview Retre** 116.94 56 *e*PKPdf PKPdf 04 03 20.1 +0.1
AKASG **Malin Array Be** 116.95 325 PKP PKPdf 04 03 17.7 -1.8
comp=Z,2.0nm,0.5s,baz=54,slow=2.5,SNR=8.4
AKASG pPKP pPKPdf 04 03 33.9 -2.4
comp=Z,2.4nm,0.7s,baz=62,slow=2.1,SNR=4.3
AKASG PKKPbc PKKPbc 04 13 44.5 -2.4
comp=Z,0.3nm,0.4s,baz=255,slow=4.5,SNR=4.5
PLCA **Paso Flores** 117.30 142 PKP PKPdf 04 03 18.3 -2.2
comp=Z,1.8nm,0.6s,baz=358,slow=11,SNR=6.1
PLCA **Paso Flores** 117.30 142 PKiKP PKPdf 04 03 18.3 -2.2
PLCA pmax pmax
comp=Z,2.0nm,0.6s
KMBO **Kilima Mbogo** 117.31 265 *e*PKiKP PKPdf 04 03 22.4 +1.1
KMBO *e* 04 03 38.3
SWET **Sewanee** 117.37 54 *e*PKPdf PKPdf 04 03 20.3 -0.5

SWET					*e*			04 03 35.0	
BR131	**Keskin Array S**	**117.88**	**312**	*e*PKPdf		PKPdf		04 03 21.3	-0.3
BR131				*e*				04 03 35.9	
TKL	**Tuckaleechee C**	**118.99**	**53**	*e*PKIKP		PKPdf		04 03 23.3	-0.6
TKL				*e*				04 03 38.7	
NB2	**NORSAR Subarra**	**119.05**	**341**	PKPdf		PKPdf		04 03 20.9	-2.3
	comp=Z,1.2nm,0.6s,baz=43,slow=1.8								
NOA	**NORSAR Array B**	**119.05**	**341**	PKP		PKPdf		04 03 21.1	-2.1
	comp=Z,1.4nm,0.6s,baz=45,slow=1.8,SNR=6.5								
NOA				pPKP		pPKPdf		04 03 38.2	-1.8
	comp=Z,2.2nm,0.8s,baz=45,slow=1.9,SNR=5.0								
NOA				PKKPbc		PKKPbc		04 13 53.4	+14
	comp=Z,2.8nm,0.9s,baz=222,slow=4.4,SNR=4.7								
NOA	**NORSAR Array B**	**119.05**	**341**	PKP		PKPdf		04 03 21.1	-2.1
NOA				pPKP		pPKPdf		04 03 38.2	-1.8
NOA				PKKPbc		PKKPbc		04 13 53.4	+14
GOGA	**Godfrey**	**119.76**	**55**	*e*PKIKP		PKPdf		04 03 25.4	0.0
GOGA				*e*				04 03 40.3	
BOSA	**Boshof**	**120.34**	**232**	PKP		PKPdf		04 03 25.4	-1.3
	comp=Z,5.4nm,0.6s,baz=125,slow=1.6,SNR=17								
BOSA	**Boshof**	**120.34**	**232**	*e*PKPdf		PKPdf		04 03 26.3	-0.4
BURAR	**Bucovina Array**	**120.67**	**323**	⇑*i*P		PKPdf		04 03 26.7	0.0
BURAR	**Bucovina Array**	**120.67**	**323**	⇑P		PKPdf		04 03 26.7	0.0
MCWV	**Mont Chateau**	**120.85**	**47**	*e*PKPdf		PKPdf		04 03 27.0	-0.3
MCWV				*e*				04 03 41.8	
MATP	**Matopo**	**121.00**	**242**	PKP		PKPdf		04 03 26.5	-1.7
	comp=Z,7.2nm,0.6s,baz=73,slow=2.7,SNR=18								
KWP	**Kalwaria**	**121.16**	**326**	⇓*i*P		PKPdf		04 03 29.1	+1.5
KWP	**Kalwaria**	**121.16**	**326**	⇓P		PKPdf		04 03 29.1	+1.5
MLR	**Muntele Rosu**	**121.16**	**320**	⇑*i*P		PKPdf		04 03 21.8	-5.9
MLR	**Muntele Rosu**	**121.16**	**320**	⇑P		PKPdf		04 03 21.8	-6.0
JSC	**Jenkinsville**	**121.33**	**54**	*e*PKIKP		PKPdf		04 03 26.9	-1.5
LBTB	**Lobatse**	**121.66**	**236**	PKP		PKPdf		04 03 27.6	-1.7
	comp=Z,3.9nm,0.4s,baz=128,slow=6.9,SNR=14								
LBTB	**Lobatse**	**121.66**	**236**	*e*PKPdf		PKPdf		04 03 27.8	-1.5
KOLS	**Kolonicke sedl**	**121.76**	**325**	*e*PKP		PKPdf		04 03 29.9	+1.1
KOLS				*e*				04 04 06.2	
KOLS				*e*				04 13 39.4	
KOLS	**Kolonicke sedl**	**121.76**	**325**	*e*PKP		PKPdf		04 03 29.9	+1.1
KOLS				*e*				04 04 06.3	
SUR	**Sutherland**	**121.77**	**226**	PKP		PKPdf		04 03 29.3	-0.1
	comp=Z,7.3nm,0.6s,baz=130,slow=11,SNR=9.1								
SSPA	**Standing Stone**	**121.92**	**46**	*e*PKPdf		PKPdf		04 03 29.0	-0.4
SSPA				*e*				04 03 44.6	
STHS	**Stebnicka Huta**	**122.08**	**326**	*e*PKP		PKPdf		04 03 29.8	+0.4
CRVS	**Cervenica-Dubn**	**122.23**	**325**	*e*PKP		PKPdf		04 03 28.8	-0.9
CRVS				*e*				04 13 41.9	
LONY	**Lake Ozonia**	**122.55**	**40**	*e*PKPdf		PKPdf		04 03 30.6	+0.2
LONY				*e*				04 03 45.4	
LSZ	**Lusaka**	**123.00**	**247**	*e*PKIKP		PKPdf		04 03 30.4	-1.7
LSZ				*e*				04 03 46.7	
FRNY	**Flat Rock**	**123.09**	**39**	*e*PKPdf		PKPdf		04 03 30.1	-1.4
FRNY				*e*				04 03 45.3	
SDMD	**Soldier's Deli**	**123.12**	**47**	*e*PKPdf		PKPdf		04 03 32.8	+1.1
SDMD				*e*				04 03 46.5	
CBN	**Corbin**	**123.15**	**48**	*e*PKPdf		PKPdf		04 03 32.3	+0.5
CBN				*e*				04 03 46.3	
MVL	**Millersville**	**123.25**	**46**	*e*PKPdf		PKPdf		04 03 30.2	-1.7
MVL				*e*				04 03 46.9	
MDV	**Middlebury**	**123.73**	**40**	*e*PKPdf		PKPdf		04 03 33.3	+0.6
MDV				*e*				04 03 47.1	
LCO	**Las Campanas**	**123.80**	**131**	*e*PKPdf		PKPdf		04 03 31.9	-1.4
LCO				*e*				04 03 48.3	
BZS	**Buzias**	**123.81**	**322**	⇓*i*P		PKPdf		04 03 33.8	+1.0
BZS	**Buzias**	**123.81**	**322**	⇓P		PKPdf		04 03 33.8	+1.0
TRQA	**Tornquist**	**124.08**	**145**	*e*PKPdf		PKPdf		04 03 33.6	-0.1
KOLL	**Kolacno**	**124.11**	**326**	*e*PKP		PKPdf		04 03 34.4	+1.1
KOLL				*e*				04 13 32.1	
BRNJ	**Basking Ridge**	**124.24**	**44**	*e*PKPdf		PKPdf		04 03 35.3	+1.5
BRNJ				*e*				04 03 49.2	
PAL	**Palisades**	**124.56**	**44**	*e*PKIKP		PKPdf		04 03 36.2	+0.7
PAL				*e*				04 03 49.7	
CPNY	**Central Park**	**124.61**	**44**	*e*PKPdf		PKPdf		04 03 35.0	+0.5
CPNY				*e*				04 03 49.7	
VRAC	**Vranov**	**124.66**	**328**	⇑*i*P		PKPdf		04 03 36.1	+1.8
VRAC	**Vranov**	**124.66**	**328**	⇑P		PKPdf		04 03 36.1	+1.8
MODS	**Modra-Piesok**	**124.84**	**327**	*e*PKP		PKPdf		04 03 36.0	+1.3
BRG	**Berggiesshubel**	**125.03**	**331**	*e*PKIKP		PKPdf		04 03 36.9	+1.9
BRG				*e*				04 03 51.0	
BRG	**Berggiesshubel**	**125.03**	**331**	*e*PKP		PKPdf		04 03 36.9	+1.9
	comp=Z,3.7nm,0.7s								
BRG				*e*				04 03 51.0	
	comp=Z,5.0nm,0.9s								
BRG				*e*				04 04 06.2	
	comp=Z,41nm,2.0s								
BRG				*e*				04 09 47.8	
	comp=Z,17nm,1.6s								
QUA2	**Belchertown**	**125.06**	**42**	*e*PKPdf		PKPdf		04 03 36.1	+0.8
QUA2				*e*				04 03 50.8	
CLL	**Collm**	**125.19**	**332**	*e*PKIKP		PKPdf		04 03 36.0	+0.7
CLL				pmax		pmax			
	comp=Z,8.0nm,0.9s								
CLL				MLR		MLR			
	comp=Z,500nm,21.2s,MS5.2								
CLL	**Collm**	**125.19**	**332**	*e*PKPdf		PKPdf		04 03 36.8	+1.5
CLL	**Collm**	**125.19**	**332**	*i* PKPdf		PKPdf		04 03 36.6	-1.7
CLL				*e*PKiKP		PKiKP		04 03 36.0	+0.4
	comp=Z,8.0nm,0.9s								
CLL				*ep*PKPdf		pPKPdf		04 03 50.0	-2.1
CLL				*e*(PP)				04 05 30.0	
	comp=Z,100nm,27.5s								
CLL				*e*SP		SP		04 15 18.0	-0.7
CLL				*e*SS		SS		04 22 30.0	+13
CLL				L				05 00 00.0	
	comp=Z,500nm,21.2s								
PKSM	**Moragy**	**125.28**	**324**	⇓*i*P		PKPdf		04 03 33.9	-1.7
PKSM	**Moragy**	**125.28**	**324**	⇓P		PKPdf		04 03 33.9	-1.7
BCIP	**Isla Barro Col**	**125.74**	**83**	*e*PKPdf		PKPdf		04 03 36.8	-0.7
BCIP				*e*				04 03 51.3	
IDI	**Anoyia**	**125.86**	**309**	PKP		PKPdf		04 03 36.9	-0.2
	comp=Z,3.8nm,0.4s,baz=4.0,slow=18,SNR=6.6								
CLZ	**Clausthal**	**126.03**	**334**	*e*PKPdf		PKPdf		04 03 38.2	+1.3
NKC	**Novy Kostel**	**126.17**	**331**	*e*PKPdf		PKPdf		04 03 39.3	+2.1
NKC				*ep*PKP		pPKPdf		04 03 52.8	-1.2
KHC	**Kasperske Hory**	**126.33**	**329**	*e*PKIKP		PKPdf		04 03 36.5	-1.0
KHC				*e*				04 03 52.1	
KHC	**Kasperske Hory**	**126.33**	**329**	*e*PKPdf		PKPdf		04 03 36.5	-1.0
KHC				*ep*PKP		pPKPdf		04 03 52.1	-2.2
KHC				*ex*		x		04 04 08.0	
OTAV	**Otavalo**	**126.44**	**94**	*e*PKPdf		PKPdf		04 03 39.7	+0.9
OTAV				*ep*PKPdf		pPKPdf		04 03 53.7	-1.9
GERES	**GERESS Array B**	**126.44**	**329**	PKP		PKPdf		04 03 36.4	-1.3
	comp=Z,3.1nm,0.7s,baz=62,slow=1.6,SNR=20								
GERES				pPKP		pPKPdf		04 03 52.7	-1.9
	comp=Z,3.2nm,0.8s,baz=48,slow=2.0,SNR=9.2								
GERES	**GERESS Array B**	**126.44**	**329**	PKIKP		PKPdf		04 03 36.4	-1.4
GERES								04 03 52.7	
GERES				pmax		pmax			
	comp=Z,3.0nm,0.7s								
MANZ	**Manzenberg**	**126.50**	**331**	*e*PKPdf		PKPdf		04 03 38.6	+0.8
GRA1	**Grafenberg Arr**	**127.12**	**331**	*e*PKP		PKPdf		04 03 37.5	-1.5
GRF	**Grafenberg Arr**	**127.12**	**331**	*e*PKPdf		PKPdf		04 03 37.5	-1.5
LVC	**Limon Verde**	**128.38**	**125**	*e*PKPdf		PKPdf		04 03 44.1	+1.8
LVC				*ep*PKPdf		pPKPdf		04 03 58.4	-0.7
GIVF	**Givet**	**129.69**	**335**	*e*PKIKP		PKPdf		04 03 42.5	-1.4
CDF	**Champ du Feu**	**129.87**	**332**	*e*PKIKP		PKPdf		04 03 42.9	-1.4
HINF	**Hinteralfeld**	**130.50**	**332**	*e*PKIKP		PKPdf		04 03 43.9	-1.6
TSUM	**Tsumeb**	**130.88**	**238**	PKP		PKPdf		04 03 47.0	-0.1
	comp=Z,3.5nm,0.6s,baz=116,slow=2.5,SNR=7.6								
TSUM				pPKP		pPKPdf		04 04 02.6	-1.3
	comp=Z,9.1nm,0.8s,baz=77,slow=3.8,SNR=6.5								
TSUM	**Tsumeb**	**130.88**	**238**	*e*PKPdf		PKPdf		04 03 47.2	+0.1
TSUM				*ep*PKPdf		pPKPdf		04 04 02.1	-1.8
ROSC	**El Rosal**	**131.01**	**89**	PKP		PKPdf		04 03 46.7	-0.8
	comp=Z,16nm,0.5s,baz=281,slow=22,SNR=9.7								
ROSC				pPKP		pPKPdf		04 04 03.3	-1.0
	comp=Z,24nm,0.9s,baz=84,slow=19,SNR=6.8								
ROSC	**El Rosal**	**131.01**	**89**	*e*PKPdf		PKPdf		04 03 46.5	-1.0
ROSC				*ep*PKPdf		pPKPdf		04 04 02.5	-1.8
CABF	**La Chapelle**	**131.73**	**331**	*e*PKIKP		PKPdf		04 03 45.9	-2.0
	comp=Z,19nm,0.9s								
LPAZ	**La Paz**	**131.86**	**118**	PKP		PKPdf		04 03 49.1	+0.1
	comp=Z,2.7nm,0.5s,baz=310,slow=4.3,SNR=10								
LPAZ				pPKP		pPKPdf		04 04 05.3	-0.5
	comp=Z,15nm,1.1s,baz=319,slow=2.2,SNR=12								
LPAZ	**La Paz**	**131.86**	**118**	*e*PKPdf		PKPdf		04 03 49.2	+0.2
LOR	**Lormes**	**132.27**	**334**	*e*PKIKP		PKPdf		04 03 47.3	-1.6
	comp=Z,16nm,1.0s								
SSF	**Saint Saulge**	**132.58**	**334**	*e*PKIKP		PKPdf		04 03 47.8	-1.7
	comp=Z,11nm,0.9s								
MBDF	**Montbardon**	**132.74**	**329**	*e*PKIKP		PKPdf		04 03 46.1	-3.8
SMF	**Signal de Mont**	**132.75**	**333**	*e*PKIKP		PKPdf		04 03 47.5	-2.3
AVF	**Avril sur Loir**	**132.86**	**333**	*e*PKIKP		PKPdf		04 03 48.0	-2.0
ORIF	**Oris-en-Rattie**	**133.05**	**330**	*e*PKIKP		PKPdf		04 03 46.8	-3.6
	comp=Z,35nm,1.2s								
BGF	**Bois d'Agland**	**133.26**	**334**	*e*PKIKP		PKPdf		04 03 48.6	-2.2
	comp=Z,28nm,1.1s								
TCF	**Toulx Ste Croi**	**133.75**	**334**	*e*PKIKP		PKPdf		04 03 49.7	-2.0
	comp=Z,28nm,1.1s								
SDV	**Santo Domingo**	**134.83**	**84**	*e*PKPdf		PKPdf		04 03 53.3	-1.4
SDV				*ep*PKPdf		pPKPdf		04 04 09.8	-1.7
SDV				*e*SKPbc		SKPbc		04 07 21.5	+1.1
SDV				*e*SKPab				04 07 26.2	
KEST	**Kesra**	**136.94**	**318**	PKP		PKPdf		04 03 57.3	-0.7
	comp=Z,0.6nm,0.6s,baz=299,slow=12,SNR=5.3								
SIV	**San Ignacio**	**138.05**	**122**	PKhKP				04 03 51.3	
	comp=Z,1.3nm,0.5s,baz=253,slow=7.4,SNR=6.2								
SIV				PKP		PKPdf		04 03 59.6	-1.0
	comp=Z,3.3nm,0.8s,baz=236,slow=1.4,SNR=10								
SIV				pPKP		pPKPdf		04 04 15.5	-1.9
	comp=Z,8.3nm,0.9s,baz=227,slow=4.2,SNR=8.2								
SJG	**San Juan**	**138.33**	**70**	*e*PKIKP		PKPdf		04 04 02.1	+1.1
SJG				*e*				04 04 16.2	
ESDC	**Sonseca Array**	**141.75**	**333**	PKhKP				04 04 00.6	
	comp=Z,0.2nm,0.6s,baz=105,slow=19,SNR=2.7								
PMRV	**Marv??o**	**143.39**	**337**	*e*PKP		PKPdf		04 04 08.7	-0.9
PTOM	**Tomar**	**143.62**	**338**	*e*PKP		PKPdf		04 04 08.4	-1.6
EVO	**Evora**	**144.41**	**337**	*e*PKIKP		PKPdf		04 04 08.9	-2.5
	comp=Z,14nm,0.8s								
EVO	**Evora**	**144.41**	**337**	*e*PKP		PKPdf		04 04 10.4	-1.0
MORF	**Marmelete**	**145.72**	**336**	*e*PKP		PKPdf		04 04 12.6	-1.1
MDT	**Midelt**	**147.48**	**327**	PKPbc		PKPbc		04 04 20.2	+0.8
	comp=Z,6.3nm,0.8s,baz=28,slow=4.8,SNR=9.2								
MDT				pPKPbc		pPKPbc		04 04 35.9	-0.1
	comp=Z,15nm,1.1s,baz=51,slow=4.3,SNR=7.9								
BDFB	**Brasilia**	**148.51**	**134**	PKPbc		PKPbc		04 04 20.6	-1.9
	comp=Z,6.1nm,0.8s,baz=67,slow=2.1,SNR=10.0								
BDFB				pPKPbc		pPKPbc		04 04 37.8	-1.4
	comp=Z,25nm,0.9s,baz=179,slow=3.5,SNR=15								
TOA0	**Torodi Ar. Sit**	**152.75**	**286**	*e*PKPdf		PKPdf		04 04 25.2	-0.3
TOA0				*e*PKPbc		PKPbc		04 04 33.2	+0.5
TORD	**Torodi Ar. Bea**	**152.75**	**286**	PKP		PKPdf		04 04 23.9	-1.7
	comp=Z,3.2nm,0.9s,baz=23,slow=1.1,SNR=15								
TORD				PKPbc		PKPbc		04 04 30.3	-2.3
	comp=Z,12nm,0.7s,baz=27,slow=2.4,SNR=118								
TORD				PKPab		PKPab		04 04 40.4	-3.2
	comp=Z,14nm,0.9s,baz=73,slow=1.9,SNR=12								
TORD				pPKPbc		pPKPbc		04 04 47.4	-2.1
	comp=Z,32nm,0.9s,baz=53,slow=2.0,SNR=15								
TORD				pPKPab		pPKPab		04 04 58.8	-1.2
	comp=Z,29nm,0.9s,baz=70,slow=3.8,SNR=13								
KIC	**Kosan Boka**	**159.75**	**271**	*e*PKIKP		pPKPdf		04 04 50.5	-1.1
	comp=Z,430nm,1.0s								
DBIC	**Dimbokro**	**159.87**	**272**	PKPab		PKPab		04 05 14.6	+0.3
	comp=Z,19nm,0.8s,baz=73,slow=6.6,SNR=13								
DBIC	**Dimbokro**	**159.87**	**272**	*e*PKIKP		PKPdf		04 04 34.6	-0.3
DBIC				*e*				04 04 49.7	
DBIC				*e*				04 05 14.2	
TIC	**Toumodi**	**160.03**	**272**	*e*PKIKP		pPKPdf		04 04 50.8	-1.2
	comp=Z,410nm,1.3s								
LIC	**Lamto**	**160.04**	**271**	⇑*i*PKIKP		PKPdf		04 04 36.3	+1.2
	comp=Z,14nm,1.0s								
LIC	**Lamto**	**160.04**	**271**	*e*PKIKP		pPKPdf		04 04 50.6	-1.4
	comp=Z,189nm,1.1s								
LIC	**Lamto**	**160.04**	**271**	⇑*i*PKPdf		PKPdf		04 04 36.3	+1.2
LIC				*e*PKPdf		pPKPdf		04 04 50.6	-1.4

*ISCJB **25** 03:54:42.7±1.6, 192S±01×1770W±01, h269km±18km, mb3.8/8, Error ellipse: s-maj=27.6km s-min=14.7km az=137.8*
*IDC **25** 03:54:42.9±2.1, 1920S×17699W, h254km±24km, mb3.6/6, mb1 3.9/8, mb1mx3.6/19, mbtmp3.7/8, Error ellipse: s-maj=19.3km s-min=13.3km az=119.0*
*NEIC **25** 03:54:43.8±1.4, 1918S×17704W, h265km±15km, mb4.0/2, Error ellipse: s-maj=21.5km s-min=11.0km az=136.0*
ISC 25 03:54:43.3±1.5, 192S±01×1770W±01, h262km±17km, n14, σ0°98/19, mb3.8/8, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**7.22**	**45**	P		**Pn**	**03 56 28.3**	**+1.4**
	4.5nm,0.3s,baz=194,slow=18,SNR=4.5							
AFI				S		**S**	**03 57 49.3**	**-1.0**
	0.8nm,0.3s,baz=15,slow=20,SNR=2.4							
AFI	**Afiamalu**	**7.22**	**45**	P		**Pn**	**03 56 28.3**	**+1.4**
AFI				S		**S**	**03 57 49.3**	**-1.0**
URZ	**Urewera**	**19.72**	**194**	P		**P**	**03 58 53.1**	**-0.3**
	5.4nm,0.3s,baz=359,slow=6.1,SNR=21							
URZ				S		**S**	**04 02 22.0**	**+0.8**
	1.8nm,0.3s,baz=90,slow=23,SNR=8.0							
STKA	**Stephens Creek**	**39.24**	**243**	P		**P**	**04 01 46.9**	**+0.1**
	3.9nm,0.5s,mb4.1,baz=87,slow=9.0,SNR=14							
WRAB	**Tennant Creek**	**45.74**	**261**	*e*P		**P**	**04 02 38.7**	**-0.3**
	1.3nm,0.3s,mb3.7							
WRA	**Warramunga Arr**	**45.75**	**261**	P		**P**	**04 02 39.0**	**-0.1**
	1.4nm,0.3s,mb3.8,baz=97,slow=6.8,SNR=66							
WRA				S		**S**	**04 08 56.0**	**-6.4**
	0.6nm,0.9s,baz=98,slow=14,SNR=3.6							
ASAR	**Alice Springs**	**45.77**	**255**	P		**P**	**04 02 39.6**	**+0.4**
	5.7nm,0.7s,mb4.0,baz=93,slow=7.8,SNR=38							
ASAR				S		**S**	**04 08 56.6**	**-6.1**
	0.7nm,0.6s,baz=91,slow=16,SNR=6.5							
QSPA	**South Pole Qui**	**70.91**	**180**	P		**P**	**04 05 31.8**	**+0.3**
	1.7nm,0.6s,mb3.8,baz=24,slow=1.3,SNR=11							
QSPA	**South Pole Qui**	**70.91**	**180**	P		**P**	**04 05 31.8**	**+0.3**
NVAR	**Mina Array Bea**	**79.39**	**43**	P		**P**	**04 06 21.6**	**+1.2**
	0.6nm,0.7s,mb3.4,baz=240,slow=10.0,SNR=3.6							
TXAR	**Lajitas Array**	**85.53**	**57**	P		**P**	**04 06 53.6**	**+1.4**
	0.4nm,1.0s,mb3.2,baz=205,slow=4.0,SNR=2.4							
COLA	**College**	**86.69**	**12**	*e*P		**P**	**04 06 56.3**	**-0.7**
	5.1nm,1.0s,mb4.3							
VNA3	**Nemayer Olymp**	**89.42**	**176**	*e*		**P**	**04 07 08.5**	**-1.5**
VNA2	**Neumayer--Watz**	**89.87**	**177**	*e*		**P**	**04 07 10.2**	**-1.9**
	baz=212,slow=4.2							

IDC 25 04:00:40.0±4.5, 420S×10078E, h0km, mb3.5/5, mb1 3.6/5, mb1mx3.5/19, mbtmp3.5/5, 1D, Error ellipse: s-maj=194.2km s-min=22.7km az=54.0, Southwest of Sumatera

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
TRD	**Trivandrum**	**26.90**	**298**	‖*e*P		P	04 06 30.0	+7.0
WRA	**Warramunga Arr**	**36.24**	**118**	P		P	04 07 44.1	-1.0
	0.2nm,0.6s,baz=298,slow=9.3,SNR=3.3							
ASAR	**Alice Springs**	**37.36**	**124**	P		P	04 07 55.0	+0.5
	0.1nm,0.3s,baz=308,slow=8.1,SNR=3.2							
SONM	**Songino Array**	**52.05**	**5**	P		P	04 09 52.0	+0.6
	0.4nm,0.6s,baz=183,slow=8.7,SNR=3.9							
MKAR	**Makanchi Array**	**53.34**	**344**	P		P	04 10 01.0	0.0
	0.8nm,0.8s,baz=146,slow=7.7,SNR=4.4							
ZALV	**Zalesovo Beam**	**59.46**	**349**	P		P	04 10 43.2	-1.3
	0.4nm,0.3s,baz=191,slow=2.9,SNR=2.8							
TXAR	**Lajitas Array**	**145.92**	**40**	PKPbc		PKPbc	04 20 22.8	+0.6
	0.6nm,1.0s,baz=288,slow=3.4,SNR=3.4							

*ISK **25** 04:10:33.3, 3877N×2628E, h19km, MD3.1*
*DDA **25** 04:10:33.1, 3888N×2633E, h6km±3km, Md3.4*
*CSEM **25** 04:10:33.9±0.1, 3879N×2633E, h20km, MD3.1, Error ellipse: s-maj=3.1km s-min=1.8km az=48.0*
*ISCJB **25** 04:10:34.7±0.5, 3881N±003×2629E±005, h18km±8km, Error ellipse: s-maj=7.0km s-min=4.4km az=147.0*
*THE **25** 04:10:35.0, 3885N×2614E, h0km±2km, ML2.9/4, Error ellipse: s-maj=2.9km s-min=0.9km az=99.0*
ISC 25 04:10:34.6±0.6, 3882N±003×2631E±005, h12km±5km, n17, σ0°90/28, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
PRK	**Paraskevi**	**0.42**	**356**	P		**Pg**	**04 10 42.4**	**-0.6**
PRK				S		**Sg**	**04 10 49.1**	**+0.4**
CHOS	**Chios island**	**0.48**	**205**	P		**Pg**	**04 10 44.5**	**+0.5**
CHOS				S		**Sg**	**04 10 51.3**	**+0.9**
URLA	**Izmir**	**0.51**	**154**	*i* P		**Pg**	**04 10 43.8**	**-0.9**
URLA				*i* S		**Sg**	**04 10 52.4**	**+1.0**
BLCB	**Balcova**	**0.72**	**127**	*e*PG		**Pg**	**04 10 47.8**	**-0.7**
BLCB				*e*SG		**Sg**	**04 10 58.2**	**+0.3**
IZM	**Izmir**	**0.86**	**119**	*e*PG		**Pg**	**04 10 50.5**	**-0.6**
IZM				*e*SG		**Sg**	**04 11 02.6**	**+0.3**
AKS	**Akhisar**	**1.17**	**87**	*e*PN		**Pn**	**04 10 55.4**	**-1.4**
AKS				*e*SN		**Sn**	**04 11 12.3**	**-0.4**
BALY	**Balya**	**1.37**	**47**	*i* P		**Pn**	**04 10 58.2**	**-1.3**
BALY				*i* S		**Sn**	**04 11 19.4**	**+2.0**
LIA	**Limnos Island**	**1.39**	**321**	P		**Pn**	**04 10 59.4**	**-0.3**
LIA				S		**Sn**	**04 11 16.9**	**-1.0**
GADA	**Gvkgeada**	**1.40**	**347**	*e*PN		**Pn**	**04 10 59.3**	**-0.7**
GADA				*e*SN		**Sn**	**04 11 17.7**	**-0.6**
BALB	**Balikesir**	**1.47**	**56**	*e*PN		**Pn**	**04 11 00.3**	**-0.5**
ENEZ	**Enez**	**1.92**	**356**	*e*PN		**Pn**	**04 11 06.8**	**-0.1**
ENEZ	**Enez**	**1.92**	**356**	*e*Pn		**Pn**	**04 11 06.8**	**-0.2**
BNT	**Bandirma**	**1.97**	**39**	*e*PN		**Pn**	**04 11 07.2**	**-0.5**
RKY	**Sarkoy-Tekirda**	**1.98**	**19**	*e*PN		**Pn**	**04 11 08.4**	**+0.5**
SART	**Tekirdag**	**1.98**	**19**	*i* P		**Pn**	**04 11 08.2**	**+0.3**
SART				*i* S		**Sn**	**04 11 35.7**	**+3.1**
ALN	**Alexandroupoli**	**2.08**	**354**	P		**Pn**	**04 11 09.9**	**+0.6**
ALN				S		**Sn**	**04 11 37.0**	**+1.9**
MFT	**Murefte**	**2.10**	**21**	*e*Pn		**Pn**	**04 11 09.8**	**+0.3**

*KRSC **25** 04:45:17.3±0.4, 5550N×164.08E, h10km±10km, ML4.9*
*ISCJB **25** 04:45:19.8±0.5, 5543N±003×16387E±006, h10km, mb4.1/20, Error ellipse: s-maj=4.9km s-min=4.3km az=23.0*
*MOS **25** 04:45:20.1±1.4, 5555N×163.41E, h7km, mb4.3/13, Error ellipse: s-maj=13.0km s-min=8.3km az=73.5*
*NEIC **25** 04:45:27.6±1.3, 5565N×163.02E, h45km±13km, mb4.5/6, Error ellipse: s-maj=12.2km s-min=8.4km az=148.0*
*IDC **25** 04:45:27.9±3.4, 5565N×162.91E, h45km±32km, mb3.7/15, mb1 4.0/17, mb1mx3.9/25, mbtmp3.8/17, ML3.8/2, MS3.4/1, Ms1 3.4/1, ms1mx2.6/37, Error ellipse: s-maj=19.3km s-min=16.4km az=151.0*
ISC 25 04:45:22.0±0.5, 5552N±003×16366E±006, h10km, n68, σ1°46/87, mb4.1/20, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
KBTR	**Krutoberegovo**	**0.84**	**326**	*e*P		**Pg**	**04 45 37.5**	**-0.6**
ZLN	**Zelenaya**	**1.69**	**288**	*e*P		**Pn**	**04 45 50.0**	**-1.5**
ZLN				*i* S		**Sn**	**04 46 14.5**	**+1.3**
SRKR	**Sorokina**	**1.80**	**310**	*e*P		**Pn**	**04 45 53.5**	**+0.4**
SRKR				*i* S		**Sn**	**04 46 19.6**	**+3.6**
BZMR	**Bezymyannaya**	**1.84**	**284**	*e*P		**Pn**	**04 45 52.6**	**-1.0**
BZMR				*i* S		**Sn**	**04 46 18.6**	**+1.7**
KLY	**Klyuchi**	**1.87**	**296**	*e*P		**Pn**	**04 45 50.7**	**-3.3**

CMAR pmax pmax
comp=Z,1.0nm,0.3s
NOA NORSAR Array B 61.76 345 P **P** **04 55 39.8 -0.3**
comp=Z,0.6nm,0.8s,mb3.8,baz=34,slow=3.3,SNR=2.3
NOA NORSAR Array B 61.76 345 P **P** **04 55 39.8 -0.3**
NOA pmax pmax
comp=Z,1.0nm,0.8s
AKASG Malin Array Be 67.57 331 P **P** **04 56 17.5 -0.6**
comp=Z,0.9nm,0.4s,mb4.1,baz=28,slow=6.5,SNR=5.2
AKASG Malin Array Be 67.57 331 P **P** **04 56 17.5 -0.6**
AKASG pmax pmax
comp=Z,1.0nm,0.4s
TXAR Lajitas Array 67.81 70 P **P** **04 56 23.1 +3.1**
comp=Z,2.8nm,0.9s,mb4.3,baz=301,slow=3.8,SNR=19
TXAR Lajitas Array 67.81 70 P **P** **04 56 23.1 +3.1**
TXAR pmax pmax
comp=Z,3.0nm,0.9s
GERES GERESS Array B 73.01 340 P **P** **04 56 52.5 +1.1**
comp=Z,0.4nm,0.6s,mb3.5,baz=248,slow=2.5,SNR=4.9
WRA Warramunga Arr 79.19 208 P **P** **04 57 26.9 +0.1**
comp=Z,1.3nm,0.8s,mb3.9,baz=15,slow=5.8,SNR=11
WRA Warramunga Arr 79.19 208 P **P** **04 57 26.9 +0.1**
WRA pmax pmax
comp=Z,1.0nm,0.8s
ASAR Alice Springs 82.86 207 P **P** **04 57 47.6 +1.4**
comp=Z,2.8nm,1.0s,mb4.3,baz=9.7,slow=5.2,SNR=19
ASAR Alice Springs 82.86 207 P **P** **04 57 47.7 +1.4**
ASAR pmax pmax
comp=Z,3.0nm,1.0s
QSPA South Pole Qui 145.27 180 PKPbc PKPbc 05 04 58.2 +0.5
comp=Z,21nm,0.9s,baz=348,slow=1.2,SNR=51

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*ATH **25** 05:02:01.7, 39.36N×2783E, h13km±3km, MD4.1/8, ML4.2*
*IDC **25** 05:02:02.5±0.9, 39.19N×2786E, h0km, mb3.7/6, mb1 3.8/13, mb1mx3.7/28, mbtmp3.8/13, ML3.8/6, MS3.1/1, Ms1 3.1/1, ms1mx2.7/43, Error ellipse: s-maj=18.0km s-min=16.1km az=82.0*
*ISK **25** 05:02:02.8, 39.34N×2773E, h8km, ML4.4*
*ISCJB **25** 05:02:02.9±0.3, 39.34N±001×2775E±002, h8km±3km, mb3.8/11, Error ellipse: s-maj=2.2km s-min=1.9km az=159.8*
*CSEM **25** 05:02:02.6±0.0, 39.32N×2775E, h10km, mb3.9/6, Error ellipse: s-maj=0.9km s-min=0.9km az=110.0*
*NEIC **25** 05:02:02.0, 39.34N×2773E, h8km, mb4.0/5, ML4.8(THE), ML4.2(ATH), ML4.4(ISK), After ISK.*
*MOS **25** 05:02:02.4±1.2, 39.31N×2786E, h10km, mb4.0/9, Error ellipse: s-maj=6.4km s-min=4.4km az=112.4*
*DDA **25** 05:02:04.0, 39.37N×2769E, h5km±7km, Md4.2, Ml4.4*
*SOF **25** 05:02:05.7, 39.55N×2766E, h11km, MD3.8*
*THE **25** 05:02:06.0, 39.32N×2775E, h20km±8km, ML4.8/7, Error ellipse: s-maj=8.8km s-min=1.8km az=94.0*

ISC 25 05:02:04.0±0.3, 3934N±001×2774E±002, h8km±2km, n235, σ0s97/288, mb3.8/11, 12C-11D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BALB	**Balikesir**	**0.32**	**19**	PG	**Pg**	**05 02 10.3**	**-0.1**
BALB				*e*SG	**Sg**	**05 02 15.1**	**+0.4**
BALY	**Balya**	**0.42**	**347**	*i* P	**Pg**	**05 02 11.9**	**-0.3**
BALY				*i* S	**Sg**	**05 02 18.2**	**+0.5**
AKS	**Akhisar**	**0.46**	**173**	PG	**Pg**	**05 02 12.2**	**-0.8**
AKS				*e*SG	**Sg**	**05 02 19.8**	**+0.8**
AKHS	**Akhisar**	**0.46**	**173**	*i* P	**Pg**	**05 02 12.2**	**-0.8**
AKHS				*i* S	**Sg**	**05 02 19.6**	**+0.7**
DST	**Dursunbey**	**0.74**	**68**	PG	**Pg**	**05 02 17.4**	**-0.9**
DEMI	**Demirci**	**0.81**	**111**	*i* P	**Pg**	**05 02 19.0**	**-0.6**
DEMI				*i* S	**Sg**	**05 02 32.9**	**+2.7**
DEMI	**Demirci**	**0.81**	**111**	*i* P	**Pg**	**05 02 19.0**	**-0.6**
DEMI				*i* S	**Sg**	**05 02 32.8**	**+2.7**
AYVA	**Ayvalik**	**0.82**	**268**	*i* P	**Pg**	**05 02 19.0**	**-0.8**
AYVA				*i* S	**Sg**	**05 02 32.2**	**+1.8**
IZM	**Izmir**	**1.01**	**202**	PG	**Pg**	**05 02 22.2**	**-1.2**
EDC	**Edincik**	**1.01**	**5**	*e*PG	**Pg**	**05 02 22.7**	**-0.9**
EDC				*e*SG	**Sg**	**05 02 37.2**	**+0.4**
BNT	**Bandirma**	**1.03**	**8**	*e*PG	**Pg**	**05 02 22.8**	**-1.0**
KCT	**Karacabey**	**1.04**	**27**	*e*PG	**Pg**	**05 02 22.5**	**-1.6**
MANT	**Manisa**	**1.05**	**143**	*i* P	**Pg**	**05 02 23.4**	**-0.9**
MANT				*i* S	**Sg**	**05 02 37.6**	**-0.4**
KULA	**Kula-Manisa**	**1.09**	**139**	*e*PN	**Pn**	**05 02 23.8**	**-1.7**
BLCB	**Balcova**	**1.09**	**210**	*e*PN	**Pn**	**05 02 24.0**	**-1.6**
PRK	**Paraskevi**	**1.15**	**266**	P	**Pg**	**05 02 24.7**	**-1.3**
PRK				S	**Sg**	**05 02 41.6**	**+0.7**
PRK	**Paraskevi**	**1.15**	**266**	*e*Pb	**Pb**	**05 02 25.0**	**-1.1**
PRK				*e*Sb	**Sb**	**05 02 41.0**	**-0.1**
PRK				S	**Sg**	**05 02 41.6**	**+0.7**
PRK	**Paraskevi**	**1.15**	**266**	*e*Pb	**Pb**	**05 02 25.0**	**-1.1**
PRK				*e*Sb	**Sb**	**05 02 41.0**	**-0.1**
PRK	**Paraskevi**	**1.15**	**266**	*e*PB	**Pb**	**05 02 25.0**	**-1.1**
PRK				*e*SB	**Sb**	**05 02 41.0**	**-0.1**
EZN	**Ezine**	**1.20**	**295**	*e*PN	**Pn**	**05 02 26.2**	**-0.9**
URLA	**Izmir**	**1.32**	**223**	*i* P	**Pn**	**05 02 27.2**	**-1.6**
URLA				*i* S	**Sb**	**05 02 46.0**	**-0.2**
ULDT	**Uludag**	**1.34**	**53**	*i* P	**Pn**	**05 02 28.6**	**-0.4**
ULDT				*i* S	**Sb**	**05 02 46.5**	**-0.2**
ULDT	**Uludag**	**1.34**	**53**	*i* P	**Pn**	**05 02 28.6**	**-0.4**
ULDT				*i* S	**Sb**	**05 02 46.5**	**-0.2**
GDZ	**Gediz**	**1.37**	**100**	*i* P	**Pn**	**05 02 29.1**	**-0.4**
GDZ				*i* S	**Sb**	**05 02 48.7**	**+1.1**
BOZC	**Bozcaada**	**1.40**	**292**	*i* P	**Pn**	**05 02 29.1**	**-0.7**
BOZC				*i* S	**Sb**	**05 02 48.2**	**-0.2**
RKY	**Sarkoy-Tekirda**	**1.42**	**342**	*e*PN	**Pn**	**05 02 29.8**	**-0.3**
SART	**Tekirdag**	**1.42**	**342**	*i* P	**Pn**	**05 02 29.9**	**-0.3**
SART				*i* S	**Sn**	**05 02 49.1**	**+0.2**
MFT	**Murefte**	**1.49**	**346**	*e*PN	**Pn**	**05 02 30.3**	**-0.8**
GEMT	**Gemlik**	**1.56**	**45**	*e*PN	**Pn**	**05 02 31.7**	**-0.4**
CHOS	**Chios island**	**1.62**	**235**	P	**Pn**	**05 02 31.8**	**-1.1**
CHOS				S	**Sn**	**05 02 53.6**	**-0.4**
GADA	**Gvkgeada**	**1.66**	**302**	*e*PN	**Pn**	**05 02 32.9**	**-0.5**
TKR	**Tekirdag**	**1.66**	**355**	*e*PN	**Pn**	**05 02 33.5**	**0.0**
AYDN	**Tasoluk**	**1.68**	**176**	*i* P	**Pn**	**05 02 32.4**	**-1.2**
AYDN				*i* S	**Sn**	**05 02 56.8**	**+1.6**
KHL	**Karahalli**	**1.72**	**125**	*e*PN	**Pn**	**05 02 34.4**	**+0.2**
YLV	**Yalova**	**1.75**	**45**	*e*PN	**Pn**	**05 02 33.8**	**-0.9**
SMG	**Samos**	**1.77**	**204**	*e*PN	**Pn**	**05 02 35.1**	**+0.1**
SMG				*e*Sn	**Sn**	**05 02 59.6**	**+2.0**
SMG	**Samos**	**1.77**	**204**	*e*PN	**Pn**	**05 02 35.1**	**+0.1**
SMG				*e*SN	**Sn**	**05 02 59.6**	**+2.0**
CRLT	**Corlu**	**1.79**	**360**	*e*PN	**Pn**	**05 02 35.3**	**+0.1**
CAVI	**Cavuskoy**	**1.83**	**61**	*e*PN	**Pn**	**05 02 35.5**	**-0.3**
ENEZ	**Enez**	**1.86**	**319**	*e*PN	**Pn**	**05 02 36.3**	**+0.2**
ALT	**Altintas**	**1.86**	**98**	*e*PN	**Pn**	**05 02 36.1**	**0.0**
DENT	**Denizli**	**1.87**	**147**	*e*PN	**Pn**	**05 02 35.6**	**-0.7**
CTT	**Catalca**	**1.89**	**16**	*e*PN	**Pn**	**05 02 35.4**	**-1.1**
ELBA	**Catalca**	**1.89**	**16**	*i* P	**Pn**	**05 02 35.4**	**-1.1**
ELBA				*i* S	**Sn**	**05 03 01.2**	**+0.8**
ADVT	**Abdulvahap**	**1.89**	**54**	*e*PN	**Pn**	**05 02 36.4**	**-0.1**
SLVT	**Silivri**	**1.93**	**11**	*e*PN	**Pn**	**05 02 36.7**	**-0.4**
CTKS	**Kestanelik-??a**	**1.99**	**17**	*e*PN	**Pn**	**05 02 37.3**	**-0.6**
ISK	**Istanbul-Kandi**	**2.00**	**30**	*e*PN	**Pn**	**05 02 36.9**	**-1.2**
BGKT	**Bogazkoy**	**2.00**	**23**	*e*PN	**Pn**	**05 02 38.0**	**-0.1**
ALN	**Alexandroupoli**	**2.03**	**321**	P	**Pn**	**05 02 38.6**	**+0.1**
ALN				S	**Sn**	**05 03 04.2**	**+0.1**
MLSB	**Milas**	**2.04**	**179**	*e*PN	**Pn**	**05 02 38.8**	**+0.2**
LIA	**Limnos Island**	**2.06**	**287**	P	**Pn**	**05 02 38.3**	**-0.6**
LIA				S	**Sn**	**05 03 04.5**	**-0.2**
LIA	**Limnos Island**	**2.06**	**287**	*e*Pn	**Pn**	**05 02 38.6**	**-0.3**
LIA				S	**Sn**	**05 03 04.5**	**-0.2**
LIA	**Limnos Island**	**2.06**	**287**	*e*PN	**Pn**	**05 02 38.6**	**-0.3**
HRT	**Hereke**	**2.09**	**44**	*e*PN	**Pn**	**05 02 38.7**	**-0.7**
KLYT	**Kilyos**	**2.16**	**27**	*e*PN	**Pn**	**05 02 39.3**	**-0.9**
CTYL	**Yal??k??y-??at**	**2.18**	**11**	*e*PN	**Pn**	**05 02 39.9**	**-0.6**
GPA	**Golpazari**	**2.19**	**63**	*e*PN	**Pn**	**05 02 40.5**	**-0.2**
YER	**Yerkesik**	**2.24**	**169**	*e*PN	**Pn**	**05 02 40.5**	**-0.9**
BDRM	**Kayabasi**	**2.28**	**186**	*i* P	**Pn**	**05 02 46.5**	**+4.6**
BODT	**Bodrum**	**2.29**	**189**	*e*PN	**Pn**	**05 02 41.4**	**-0.7**
SHUT	**Suhut-Afyon**	**2.32**	**109**	*e*PN	**Pn**	**05 02 43.0**	**+0.5**
SILT	**Sile**	**2.33**	**38**	*e*PN	**Pn**	**05 02 42.1**	**-0.5**
TKTP	**Tekketepe**	**2.40**	**122**	*i* P	**Pn**	**05 02 43.7**	**+0.2**
TKTP				*i* S	**Sg**	**05 03 26.7**	**+5.7**
GULT	**Gulveren**	**2.40**	**62**	*e*PN	**Pn**	**05 02 44.5**	**+0.9**
ESKT	**Eskisehir**	**2.41**	**85**	*i* P	**Pn**	**05 02 43.7**	**-0.1**
ESKT				*i* S	**Sn**	**05 03 19.8**	**+6.4**
SEYT	**Eskypehyr**	**2.41**	**85**	*i* P	**Pn**	**05 02 43.7**	**-0.1**
RDO	**Rodhopi**	**2.48**	**318**	*e*Pn	**Pn**	**05 02 44.9**	**+0.3**
RDO	**Rodhopi**	**2.48**	**318**	*e*PN	**Pn**	**05 02 44.9**	**+0.3**
GOLH	**Golhisar**	**2.54**	**145**	*i* P	**Pn**	**05 02 45.6**	**+0.1**
GOLH				*i* S	**Sg**	**05 03 26.3**	**+0.8**
TURN	**Turunc**	**2.55**	**164**	*i* P	**Pn**	**05 02 44.8**	**-0.8**
TURN				*i* S	**Sg**	**05 03 26.3**	**+0.3**
EDRB	**Edirne**	**2.62**	**343**	*e*PN	**Pn**	**05 02 46.3**	**-0.4**
DALT	**Dalyan (Mudla)**	**2.66**	**164**	*e*PN	**Pn**	**05 02 46.9**	**-0.2**
APE	**Apeiranthos**	**2.86**	**218**	P	**Pn**	**05 02 47.6**	**-2.3**
APE	**Apeiranthos**	**2.86**	**218**	⇓*i*P	**Pn**	**05 02 48.0**	**-1.9**
APE	**Apeiranthos**	**2.86**	**218**	P	**Pn**	**05 02 48.1**	**-1.8**
APE	**Apeiranthos**	**2.86**	**218**	*e*Pn	**Pn**	**05 02 50.4**	**+0.5**
APE	**Apeiranthos**	**2.86**	**218**	*e*Pn	**Pn**	**05 02 50.4**	**+0.5**
APE	**Apeiranthos**	**2.86**	**218**	*e*PN	**Pn**	**05 02 50.4**	**+0.5**
BCK	**Bucak**	**2.92**	**129**	*e*PN	**Pn**	**05 02 51.2**	**+0.5**
KDZ	**Kurdzhali**	**2.92**	**323**	P	**Pn**	**05 02 50.8**	**+0.1**
AOS	**Alonnisos**	**3.00**	**268**	P	**Pn**	**05 02 52.5**	**+0.6**
AOS				S	**Sn**	**05 03 27.1**	**-1.0**
OUR	**Ouranopolis**	**3.06**	**290**	P	**Pn**	**05 02 52.3**	**-0.4**
ELL	**Elmali**	**3.10**	**146**	*e*PN	**Pn**	**05 02 54.1**	**+1.0**
ARG	**Arkhangelos**	**3.13**	**174**	*e*Pn	**Pn**	**05 02 53.4**	**-0.2**
ARG				*e*Sb	**Sb**	**05 03 31.0**	**-7.1**
ARG	**Arkhangelos**	**3.13**	**174**	*e*PN	**Pn**	**05 02 53.4**	**-0.2**
ARG				*e*SB	**Sb**	**05 03 31.0**	**-7.1**
DIM	**Dimitrovgrad**	**3.19**	**329**	P	**Pn**	**05 02 54.3**	**-0.2**
PAIG	**Paliouri**	**3.19**	**282**	P	**Pn**	**05 02 53.7**	**-0.8**
KIZT	**Kizilcal**	**3.25**	**97**	*e*PN	**Pn**	**05 02 55.8**	**+0.6**
JMB	**Yambol**	**3.25**	**345**	P	**Pn**	**05 02 55.6**	**+0.3**
JMB	**Yambol**	**3.25**	**345**	P	**Pn**	**05 02 56.0**	**+0.7**
RZN	**Rozhen**	**3.29**	**316**	P	**Pn**	**05 02 56.3**	**+0.4**
ANTB	**Antalya**	**3.34**	**136**	*e*PN	**Pn**	**05 02 56.7**	**+0.2**
THR4	**Thira Island,**	**3.42**	**214**	P	**Pn**	**05 02 56.6**	**-1.0**
ATH	**Athens Observa**	**3.43**	**248**	*e*Pn	**Pn**	**05 02 59.0**	**+1.2**
ATH	**Athens Observa**	**3.43**	**248**	*e*PN	**Pn**	**05 02 59.0**	**+1.2**
KDZE	**Karadeniz Ereo**	**3.45**	**54**	*e*PN	**Pn**	**05 02 58.9**	**+0.9**
THR5	**Thira Island,**	**3.48**	**214**	P	**Pn**	**05 03 00.0**	**+1.6**
XOR	**Xorichti**	**3.53**	**272**	P	**Pn**	**05 02 58.5**	**+0.6**
NVR	**Nevrokopi**	**3.58**	**305**	*e*Pn	**Pn**	**05 03 00.0**	**+0.1**
NVR	**Nevrokopi**	**3.58**	**305**	*e*PN	**Pn**	**05 03 00.0**	**+0.1**
PLD	**Plovdiv**	**3.60**	**321**	P	**Pn**	**05 03 00.4**	**+0.3**
PLD				S	**Sn**	**05 03 41.4**	**-1.5**
SOH	**Sokhos**	**3.68**	**295**	P	**Pn**	**05 03 01.6**	**+0.4**
SOH				S	**Sn**	**05 03 42.6**	**-2.1**
LKR	**Lokris**	**3.76**	**261**	P	**Pn**	**05 03 02.9**	**+0.6**
HORT	**Hortiatis**	**3.79**	**291**	P	**Pn**	**05 03 02.7**	**+0.1**
LADK	**Ladik-KONYA**	**3.79**	**106**	*e*PN	**Pn**	**05 03 03.8**	**+1.1**
MMB	**Musomiste**	**3.80**	**308**	P	**Pn**	**05 03 03.0**	**+0.1**
KARP	**Karpathos**	**3.81**	**187**	*e*Pn	**Pn**	**05 03 03.1**	**+0.1**
KARP	**Karpathos**	**3.81**	**187**	*e*PN	**Pn**	**05 03 03.1**	**+0.1**
KONT	**Konya--Tatoy**	**3.87**	**110**	*e*PN	**Pn**	**05 03 04.9**	**+1.1**
LOD	**Lodumlu**	**3.92**	**80**	*e*PN	**Pn**	**05 03 05.2**	**+0.8**
ANTO	**Ankara**	**3.94**	**81**	*e*Pn	**Pn**	**05 03 06.0**	**+1.2**
ANTO	**Ankara**	**3.94**	**81**	⇑*i*P	**Pn**	**05 03 05.6**	**+0.9**
ANTO	**Ankara**	**3.94**	**81**	*e*Pn	**Pn**	**05 03 06.0**	**+1.3**
ANTO				*e*Sg	**Sg**	**05 04 12.2**	**+1.7**
ANTO	**Ankara**	**3.94**	**81**	⇑P	**Pn**	**05 03 05.6**	**+0.9**
ANTO				*e*Sg	**Sg**	**05 04 12.2**	**+1.8**
LIT	**Litokhoron**	**4.12**	**282**	P	**Pn**	**05 03 06.9**	**-0.4**
KNT	**Kendrikon**	**4.13**	**298**	P	**Pn**	**05 03 07.7**	**+0.3**
SZH	**Strazhica**	**4.16**	**341**	P	**Pn**	**05 03 07.2**	**-0.5**
PGB	**Panagyurishte**	**4.20**	**321**	P	**Pn**	**05 03 08.1**	**-0.2**
AGG	**Agios Georgios**	**4.22**	**267**	P	**Pn**	**05 03 08.6**	**0.0**
AGG				S	**Sn**	**05 03 58.6**	**+0.6**
PVL	**Pavlikeni**	**4.28**	**336**	P	**Pn**	**05 03 09.6**	**+0.1**
KKB	**Krupnik**	**4.36**	**307**	*e*P	**Pn**	**05 03 09.1**	**-1.4**
ZKR	**Zakros**	**4.38**	**197**	P	**Pn**	**05 03 12.2**	**+1.3**
GRG	**Griva**	**4.40**	**293**	P	**Pn**	**05 03 12.4**	**+1.3**
GRG				S	**Sn**	**05 04 01.9**	**-0.6**
VAY	**Valandovo**	**4.42**	**298**	*e*Pn	**Pn**	**05 03 12.1**	**+0.7**
VAY	**Valandovo**	**4.42**	**298**	*e*Pn	**Pn**	**05 03 12.0**	**+0.6**
VAY	**Valandovo**	**4.42**	**298**	P	**Pn**	**05 03 12.8**	**+1.4**
THL	**Klokotos Trika**	**4.44**	**275**	P	**Pn**	**05 03 11.7**	**+0.1**
THL	**Klokotos Trika**	**4.44**	**275**	*e*Pn	**Pn**	**05 03 12.0**	**+0.4**
THL	**Klokotos Trika**	**4.44**	**275**	*e*PN	**Pn**	**05 03 12.0**	**+0.4**
LAST	**Lasithi**	**4.54**	**204**	P	**Pn**	**05 03 11.4**	**-1.6**
BR131	**Keskin Array S**	**4.58**	**83**	*e*Pn	**Pn**	**05 03 13.9**	**+0.4**
BR131				*e*Sg	**Sg**	**05 04 31.9**	**+1.0**
BR131	**Keskin Array S**	**4.58**	**83**	*e*PN	**Pn**	**05 03 13.9**	**+0.4**
BR131				*e*Sg	**Sg**	**05 04 31.9**	**+1.0**
VLI	**Veliai**	**4.61**	**237**	*e*Pn	**Pn**	**05 03 14.9**	**+1.0**
VLI	**Veliai**	**4.61**	**237**	*e*PN	**Pn**	**05 03 14.9**	**+1.0**
IDI	**Anoyia**	**4.64**	**210**	Pn	**Pn**	**05 03 12.6**	**-1.7**
	0.7nm,0.3s,baz=59,slow=16,SNR=4.1						
IDI				Sn	**Sn**	**05 04 04.7**	**-3.6**
	4.3nm,0.3s,baz=315,slow=19,SNR=4.8						
IDI				LR	LR	05 05 11.2	
	comp=Z,240nm,20.8s,baz=45,slow=41						
IDI	**Anoyia**	**4.64**	**210**	Pn	**Pn**	**05 03 12.6**	**-1.7**
IDI				Sn	**Sn**	**05 04 04.7**	**-3.6**
VLX	**Vlachokerasia**	**4.65**	**247**	P	**Pn**	**05 03 14.5**	**0.0**
SIVA	**Sivas**	**4.91**	**209**	P	**Pn**	**05 03 19.8**	**+1.8**
FNA	**Florina**	**5.10**	**289**	P	**Pn**	**05 03 21.6**	**+1.0**
TIRR	**Tirgusor**	**5.14**	**5**	⇓*i*P	**Pn**	**05 03 20.9**	**-0.4**
TIRR	**Tirgusor**	**5.14**	**5**	⇓P	**Pn**	**05 03 20.9**	**-0.4**
HARR	**Harsova**	**5.35**	**1**	⇑*i*P	**Pn**	**05 03 23.7**	**-0.5**
HARR	**Harsova**	**5.35**	**1**	⇑P	**Pn**	**05 03 23.7**	**-0.4**
KRUS	**Krusevo**	**5.36**	**294**	*e*Pn	**Pn**	**05 03 25.6**	**+1.4**
LKD	**Levkas**	**5.56**	**266**	P	**Pn**	**05 03 28.4**	**+1.4**
BARS	**Barje**	**5.67**	**310**	*e*P	**Pn**	**05 03 29.1**	**+0.6**
CSS	**Prodhromos**	**6.24**	**133**	P	**Pn**	**05 03 36.6**	**+0.2**
	1.2nm,0.5s						
BOLS	**Boljevac**	**6.25**	**318**	*e*P	**Pn**	**05 03 36.8**	**+0.4**
MLR	**Muntele Rosu**	**6.29**	**348**	⇑*i*P	**Pn**	**05 03 38.4**	**+1.3**
MLR	**Muntele Rosu**	**6.29**	**348**	⇑P	**Pn**	**05 03 38.4**	**+1.3**
VOIR		**6.42**	**343**	⇑*i*P	**Pn**	**05 03 38.9**	**+0.2**
VOIR		**6.42**	**343**	⇑P	**Pn**	**05 03 38.9**	**+0.2**
PLOR	**Plostina**	**6.56**	**353**	⇓*i*P	**Pn**	**05 03 43.9**	**+3.1**
PLOR	**Plostina**	**6.56**	**353**	P	**Pn**	**05 03 44.2**	**+3.4**
VRI	**Vrincioaia**	**6.57**	**354**	⇓*i*P	**Pn**	**05 03 41.6**	**+0.7**
VRI	**Vrincioaia**	**6.57**	**354**	⇓P	**Pn**	**05 03 41.6**	**+0.7**
SEV	**Sevastopol'**	**6.83**	**38**	⇓*i*P	**Pn**	**05 03 43.3**	**-1.1**
SEV				*i* S	**Sn**	**05 04 56.1**	**-6.1**
SVIS	**Svilajnac**	**6.93**	**317**	*e*P	**Pn**	**05 03 45.8**	**0.0**
GRUS	**Gruza**	**6.96**	**313**	*e*P	**Pn**	**05 03 46.1**	**-0.1**
YAL	**Yalta**	**7.02**	**41**	*e*P	**Pn**	**05 03 46.7**	**-0.4**
YAL				*e*S	**Sn**	**05 05 01.3**	**-5.8**
GZR	**Gura Zlata**	**7.08**	**330**	⇓*i*P	**Pn**	**05 03 47.2**	**-0.7**
GZR	**Gura Zlata**	**7.08**	**330**	⇓P	**Pn**	**05 03 47.2**	**-0.7**
ALU	**Alushta**	**7.29**	**41**	*e*P	**Pn**	**05 03 49.4**	**-1.3**
ALU				*e*S	**Sn**	**05 05 07.4**	**-6.2**
SIM	**Simferopol'**	**7.34**	**38**	*e*P	**Pn**	**05 03 52.3**	**+0.9**
SIM				*e*S	**Sn**	**05 05 10.9**	**-3.9**
BZS	**Buzias**	**7.74**	**326**	⇓*i*P	**Pn**	**05 03 56.5**	**-0.4**
BZS	**Buzias**	**7.74**	**326**	P	**Pn**	**05 03 57.4**	**+0.5**
BZS	**Buzias**	**7.74**	**326**	⇓P	**Pn**	**05 03 56.5**	**-0.4**
SUDU	**Sudak**	**7.74**	**42**	*e*P	**Pn**	**05 03 56.9**	**0.0**
SUDU				*e*S	**Sn**	**05 05 19.0**	**-5.6**
TREB	**Trebinje**	**7.86**	**298**	*e*P	**Pn**	**05 03 58.7**	**+0.1**
FGSL	**Fruska Gora**	**8.27**	**317**	*e*P	**Pn**	**05 04 04.6**	**+0.4**
DRGR		**8.31**	**335**	P	**Pn**	**05 04 12.1**	**+7.4**
BURAR	**Bucovina Array**	**8.48**	**348**	⇑*i*P	**Pn**	**05 04 08.7**	**+1.7**
BURAR	**Bucovina Array**	**8.48**	**348**	⇑P	**Pn**	**05 04 08.7**	**+1.7**
BUR08	**Bucovina Ar. S**	**8.51**	**348**	*e*Pn	**Pn**	**05 04 08.5**	**+1.1**
BUR08	**Bucovina Ar. S**	**8.51**	**348**	*e*Pn	**Pn**	**05 04 08.5**	**+1.1**
MMAI	**Mount Meron Ar**	**8.84**	**133**	Pn	**Pn**	**05 04 08.8**	**-3.2**
	9.1nm,0.3s,baz=326,slow=14,SNR=6.3						
MMAI				Sn	**Sn**	**05 05 45.7**	**-6.0**
	baz=240,slow=16,SNR=2.1						
PKSM	**Moragy**		**9.59**	**319**	⇑*i*P	**Pn**	**05 04 22.0**	**-0.2**
PKSM	**Moragy**		**9.59**	**319**	P	**Pn**	**05 04 22.1**	**-0.1**
PKSM	**Moragy**		**9.59**	**319**	*e*P	**Pn**	**05 04 22.0**	**-0.2**
ASF	**Jabal al Asfar**	**10.31**	**131**	Pn	**Pn**	**05 04 31.3**	**-0.9**
	0.5nm,0.3s,baz=316,slow=12,SNR=3.5						
ASF				Sn	**Sn**	**05 06 16.3**	**-12**
	0.4nm,0.3s,baz=109,slow=21,SNR=4.0						
KOLS	**Kolonicke sedl**	**10.37**	**340**	*e*PN	**Pn**	**05 04 33.8**	**+0.9**
CRVS	**Cervenica-Dubn**	**10.57**	**337**	*e*PN	**Pn**	**05 04 33.6**	**-2.1**
VYHS	**Vyhne**	**11.18**	**328**	*e*PN	**Pn**	**05 04 48.3**	**+4.3**
EIL	**Elat**	**11.32**	**146**	Pn	**Pn**	**05 04 43.3**	**-2.8**
	0.8nm,0.3s,baz=9.2,slow=14,SNR=2.8						
EIL				Sn	**Sn**	**05 06 45.3**	**-7.4**
	0.8nm,0.3s,baz=15,slow=16,SNR=3.1						
EIL	**Elat**	**11.32**	**146**	Sn	**Sn**	**05 06 45.3**	**-7.4**
AKASG	**Malin Array Be**	**11.41**	**5**	Pn	**Pn**	**05 04 48.5**	**+1.3**
	0.5nm,0.3s,baz=192,slow=11,SNR=2.5						
MODS	**Modra-Piesok**	**11.77**	**324**	*e*PN	**Pn**	**05 05 01.1**	**+9.0**
GERES	**GERESS Array B**	**13.84**	**318**	Pn	**Pn**	**05 05 22.5**	**+2.1**
	0.2nm,0.3s,baz=110,slow=12,SNR=5.0						
DAVOX	**Davos/Dischmat**	**15.01**	**306**	Pn	**Pn**	**05 05 39.6**	**+3.3**
	baz=270,slow=7.6,SNR=2.7						
DAVOS	**Davos**	**15.09**	**306**	P	**Pn**	**05 05 39.6**	**+2.2**
MBDF	**Montbardon**	**16.47**	**296**	*e*P	**Pn**	**05 05 56.2**	**+0.8**
	95nm,1.4s						
MBDF	**Montbardon**	**16.47**	**296**	*e*P	**Pn**	**05 05 56.2**	**+0.8**
MBDF				pmax	pmax		
	comp=Z,47nm,1.4s						
MBDF	**Montbardon**	**16.47**	**296**	*e*P	**Pn**	**05 05 56.2**	**+0.8**
	comp=Z,47nm,1.4s						
LPG	**La Plagne**	**16.66**	**298**	*e*P	**Pn**	**05 06 03.0**	**+5.3**
	comp=Z,16nm,0.8s						
LPG	**La Plagne**	**16.66**	**298**	*e*P	**Pn**	**05 06 03.0**	**+5.3**
LPG				pmax	pmax		
	comp=Z,8.0nm,0.8s						
LPG	**La Plagne**	**16.66**	**298**	*e*P	**Pn**	**05 06 03.0**	**+5.3**
	comp=Z,7.9nm,0.8s						
LPL	**La Plagne**	**16.68**	**299**	*e*P	**Pn**	**05 06 02.5**	**+4.5**
	comp=Z,28nm,1.1s						
LPL	**La Plagne**	**16.68**	**299**	*e*P	**Pn**	**05 06 02.5**	**+4.5**
LPL				pmax	pmax		
	comp=Z,14nm,1.1s						
LPL	**La Plagne**	**16.68**	**299**	*e*P	**Pn**	**05 06 02.5**	**+4.5**
	comp=Z,14nm,1.1s						
OBN	**Obninsk**	**16.86**	**18**	⇑*e*P	**Pn**	**05 06 05.6**	**+5.4**
OBN				pmax	pmax		
	comp=Z,13nm,1.0s						
OBN				MLR	MLR		
	comp=Z,100nm,16.0s						
CDF	**Champ du Feu**	**17.28**	**308**	*e*P	**Pn**	**05 06 07.8**	**+2.3**
MIB	**Mutribah**	**18.70**	**115**	*e*P	**Pn**	**05 06 22.8**	**-0.3**
	comp=Z,25nm,0.7s						
MIB	**Mutribah**	**18.70**	**115**	*e*P	**Pn**	**05 06 22.8**	**-0.2**
	baz=115						
MIB				AMb	AMB	05 06 23.5	
	comp=Z,25nm,0.7s,baz=115						
NAY	**Al-Naaiem**	**18.96**	**116**	*e*P	**Pn**	**05 06 25.8**	**-0.5**
LOR	**Lormes**	**19.05**	**302**	*

EMHD	**Djebel Mahouad**	**2.29**	**256**	P		**Pn**	**05 18 59.1**	**+1.1**
EBNR	**Beni Rached**	**3.39**	**263**	P		**Pn**	**05 19 13.5**	**+0.3**
ETOS	**Mallorca**	**3.74**	**324**	P		**Pn**	**05 19 19.1**	**+1.0**
	12nm,0.3s,SNR=14							
ETOS				S		**Sn**	**05 19 59.7**	**-2.6**
	2.2nm,0.2s,SNR=9.1							
ETOS	**Mallorca**	**3.74**	**324**	P		**Pn**	**05 19 19.1**	**+1.0**
	12nm,0.3s,SNR=14							
EIBI	**Ibiza**	**4.11**	**304**	P		**Pn**	**05 19 23.8**	**+0.7**
	6.5nm,0.2s,SNR=7.9							
EIBI				S		**Sn**	**05 20 10.2**	**-1.0**
	7.0nm,0.2s,SNR=7.9							
EIBI	**Ibiza**	**4.11**	**304**	P		**Pn**	**05 19 23.8**	**+0.7**
	6.5nm,0.2s,SNR=7.9							
EIBI				S		**Sn**	**05 20 10.2**	**-1.1**
	7.0nm,0.2s,SNR=7.9							
EPOB	**Poblet**	**5.80**	**323**	P		**Pn**	**05 19 47.3**	**+0.9**
	1.2nm,0.2s,SNR=7.9							
EPOB				S		**Sn**	**05 20 49.9**	**-3.3**
	1.2nm,0.2s,SNR=7.9							
EPOB	**Poblet**	**5.80**	**323**	P		**Pn**	**05 19 47.3**	**+0.9**
	1.2nm,0.2s,SNR=7.9							
ERTA	**Horta de San J**	**5.90**	**317**	P		**Pn**	**05 19 48.6**	**+0.9**
	0.3nm,0.1s,SNR=7.9							
ERTA				S		**Sn**	**05 20 52.8**	**-2.8**
	0.6nm,0.7s,SNR=7.9							
ERTA	**Horta de San J**	**5.90**	**317**	P		**Pn**	**05 19 48.6**	**+0.8**
	0.3nm,0.1s,SNR=7.9							
ECHE	**Chera**	**5.95**	**300**	S		**Sn**	**05 20 50.3**	**-6.4**
	0.1nm,0.5s,SNR=4.0							
EMOS	**Mosqueruela**	**6.01**	**308**	P		**Pn**	**05 19 50.2**	**+1.0**
	1.6nm,0.2s,SNR=5.7							
EMOS				S		**Sn**	**05 20 54.6**	**-3.6**
	1.2nm,0.4s							
EMOS	**Mosqueruela**	**6.01**	**308**	P		**Pn**	**05 19 50.2**	**+1.0**
	1.6nm,0.2s,SNR=5.7							
ETOB	**Tobarra**	**6.04**	**290**	P		**Pn**	**05 19 51.5**	**+1.9**
	1.6nm,0.2s,SNR=6.0							
ETOB				S		**Sn**	**05 20 54.5**	**-4.4**
	1.5nm,0.4s							
ETOB	**Tobarra**	**6.04**	**290**	P		**Pn**	**05 19 51.5**	**+1.9**
	1.6nm,0.2s,SNR=6.0							
EMIR	**Miracle**	**6.06**	**329**	P		**Pn**	**05 19 52.3**	**+2.4**
	3.5nm,0.2s,SNR=7.9							
EMIR				S		**Sn**	**05 20 57.8**	**-1.5**
	7.5nm,0.4s,SNR=7.9							
EMIR	**Miracle**	**6.06**	**329**	P		**Pn**	**05 19 52.3**	**+2.5**
	3.5nm,0.2s,SNR=7.9							
EJON	**La Jonquera**	**6.06**	**340**	P		**Pn**	**05 19 50.9**	**+1.1**
	1.7nm,0.2s,SNR=7.9							
EJON				S		**Sn**	**05 20 58.5**	**-0.9**
	4.3nm,0.5s,SNR=7.9							
EJON	**La Jonquera**	**6.06**	**340**	P		**Pn**	**05 19 51.0**	**+1.1**
EBER	**Berja**	**6.89**	**274**	P		**Pn**	**05 20 01.3**	**0.0**
	0.5nm,0.3s,SNR=7.9							
EBER	**Berja**	**6.89**	**274**	P		**Pn**	**05 20 01.3**	**0.0**
	0.5nm,0.3s,SNR=7.9							
EQES	**Quesada**	**7.06**	**281**	P		**Pn**	**05 20 05.2**	**+1.5**
	3.3nm,0.4s,SNR=7.9							
EQES				S		**Sn**	**05 21 22.6**	**-1.5**
	1.2nm,0.3s,SNR=7.9							
EQES	**Quesada**	**7.06**	**281**	P		**Pn**	**05 20 05.2**	**+1.5**
	3.3nm,0.4s,SNR=7.9							
EQES				S		**Sn**	**05 21 22.6**	**-1.5**
	1.2nm,0.3s,SNR=7.9							
ETOR	**Torete**	**7.27**	**306**	P		**Pn**	**05 20 06.3**	**-0.2**
	1.4nm,0.4s,SNR=4.0							
ETOR	**Torete**	**7.27**	**306**	P		**Pn**	**05 20 06.3**	**-0.2**
	1.4nm,0.4s,SNR=4.0							
EBIE	**Bielsa**	**7.28**	**326**	P		**Pn**	**05 20 09.1**	**+2.4**
	1.0nm,0.2s,SNR=5.0							
EBIE	**Bielsa**	**7.28**	**326**	P		**Pn**	**05 20 09.1**	**+2.4**
	1.0nm,0.2s,SNR=5.0							

IDC 25 05:22:10.3±2.6, 693N×9136E, h0km, mb3.7/4, mb1 3.8/5, mb1mx3.6/20, mbtmp3.7/5, ML4.7/1, Error ellipse: s-maj=84.5km s-min=31.1km az=65.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**13.63**	**32**	Pn		Pn	05 25 25.0	0.0
	1.2nm,0.3s,baz=203,slow=12,SNR=4.5							
MKAR	**Makanchi Array**	**40.47**	**350**	P		P	05 29 50.5	-0.2
	0.8nm,0.8s,baz=169,slow=7.4,SNR=6.1							
SONM	**Songino Array**	**42.73**	**15**	P		P	05 30 09.4	+0.2
	0.4nm,0.5s,baz=204,slow=9.8,SNR=6.0							
ZALV	**Zalesovo Beam**	**47.18**	**355**	P		P	05 30 44.5	0.0
	1.5nm,0.5s,baz=172,slow=6.5,SNR=9.0							
ASAR	**Alice Springs**	**51.48**	**128**	P		P	05 31 17.9	0.0
	0.1nm,0.3s,baz=312,slow=8.3,SNR=3.3							

*BJI **25** 05:25:27.3, 423S×10056E, h29km, mB5.6, mb5.5, Ms5.6, Msz5.5*

*ISCJB **25** 05:25:31.7±0.2, 360S±003×10071E±002, h29km, mb5.5/135, MS5.3/188, Error ellipse: s-maj=4.0km s-min=3.0km az=33.5*

*MOS **25** 05:25:32.7±1.1, 344S×10087E, h33km, mb5.6/46, MS5.2/40, Error ellipse: s-maj=9.8km s-min=4.9km az=113.9*

*NEIC **25** 05:25:33.5±0.2, 354S×10079E, mb5.5/54, MS5.3/148, Error ellipse: s-maj=6.9km s-min=4.5km az=49.0*

*GCMT **25** 05:25:33.5±0.2, 395S×10036E, h30km, MW5.5/85, Moment Tensor Solution. s85,c148; s85,c142; Duration: 1s3 Moment tensor: Scale 10^17 Nm; Mrr 1.20±.03; Mθθ -0.65±.02; Mϕϕ -0.55±.03; Mrθ 1.16±.04; Mrϕ 0.73±.02; Mθϕ -0.77±.05; Best double couple: M0 1.88200×10^17 NP1:ϕs 322.00000°, δ22.00000°, λ105.00000°. NP2:ϕs 126.00000°, δ69.00000°, λ84.00000°. Principal axes: T 1.8270, Plg66.0000°, Azm26.0000°; N 0.1090, Plg6.0000°, Azm128.0000°; P -1.9370, Plg24.0000°, Azm220.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*IDC **25** 05:25:33.9±1.7, 356S×10082E, h34km±11km, mb4.7/22, mb1 4.8/23, mb1mx4.8/24, mbtmp4.7/23, ML4.8/1, MS5.0/15, Ms1 5.0/15, ms1mx4.9/26 Error ellipse: s-maj=12.7km s-min=8.3km az=61.0*

*SZGRF **25** 05:25:34.8, 340S×10044E, h31km, mb5.7, MS4.9, Southern Sumatera, Indonesia*

*DJA **25** 05:25:35.0±0.7, 4S±6×101E±, h35km, mB5.8/9, Mjma5.5/14, MLv5.7/14, Mw(mB)5.5/9, Mwp5.2/12*

ISC 25 05:25:33.8±0.2, 361S±003×10069E±002, h31km, h31km±6km: pP-P, n834, σ1°07/426, mb5.5/135, MS5.3/188, 195C-175D, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
KRJI	**Kerinci**	**1.69**	**27**	P		**Pn**	**05 26 01.8**	**+0.5**
KSI	**Kapahiang**	**1.90**	**91**	P		**Pn**	**05 26 03.9**	**-0.3**
PDSI	**Padang**	**2.69**	**355**	P		**Pn**	**05 26 13.7**	**-1.2**
PPI	**Padang Panjang**	**3.14**	**355**	P		**Pn**	**05 26 20.8**	**-0.4**
RGRI	**Rengat**	**3.63**	**27**	P		**Pn**	**05 26 29.5**	**+1.6**
KLI	**Kotabumi**	**4.34**	**107**	P		**Pn**	**05 26 40.5**	**+2.7**
BLSI	**Bandar Lampung**	**4.87**	**111**	P		**Pn**	**05 26 46.6**	**+1.6**
DSRI	**Dabo**	**4.98**	**51**	P		**Pn**	**05 26 47.5**	**+1.0**
	560nm,1.4s,4.6nm							
PPBI	**Pangkal Pinang**	**5.63**	**75**	P		**Pn**	**05 26 57.3**	**+1.9**
	299nm,1.3s,5μm2.9nm							
SBJI	**Serang**	**5.97**	**115**	P		**Pn**	**05 27 09.4**	**+9.2**
KGM	**Kluang**	**6.17**	**25**	⇓P		**Pn**	**05 27 03.6**	**+0.7**
MYKOM	**Kota Tinggi**	**6.22**	**31**	⇓P		**Pn**	**05 27 05.5**	**+1.9**
MYKOM	**Kota Tinggi**	**6.22**	**31**	P		**Pn**	**05 27 04.3**	**+0.7**
DBJI	**Dramaga**	**6.71**	**116**	P		**Pn**	**05 27 11.4**	**+1.1**
	724nm,1.1s,3.1nm							
FRIM	**Kepong**	**6.86**	**8**	⇑P		**Pn**	**05 27 14.4**	**+2.1**
TPI	**Tanjungpandan**	**7.01**	**83**	P		**Pn**	**05 27 16.2**	**+1.8**
	90nm,1.0s,2μm1.3nm							
TSI	**Tuntungan**	**7.37**	**343**	P		**Pn**	**05 27 22.2**	**+2.8**
	618nm,1.3s							
LEM	**Lembang**	**7.61**	**115**	P		**Pn**	**05 27 25.2**	**+2.6**
	554nm,1.2s,9μm2.4nm							
IPM	**Ipoh**	**8.04**	**2**	⇓P		**Pn**	**05 27 31.8**	**+3.3**
IPM	**Ipoh**	**8.04**	**2**	P		**Pn**	**05 27 30.7**	**+2.2**
	244nm,0.8s,3μm0.7nm							
KULM	**Kulim**	**8.84**	**360**	⇑P		**Pn**	**05 27 41.1**	**+1.6**
KTGM	**Kuala Trenggan**	**9.20**	**15**	⇓P		**Pn**	**05 27 46.8**	**+2.3**
BJII	**Banjamegara**	**9.71**	**113**	P		**Pn**	**05 27 52.3**	**+0.7**
BSI	**Banda Aceh**	**10.52**	**329**	P		**Pn**	**05 28 01.7**	**-0.9**
	390nm,1.1s,3μm							
SNG	**Songkhla**	**10.71**	**360**	P		**Pn**	**05 28 04.0**	**-1.2**
	640nm,1.0s							
KSM	**Kuching**	**10.86**	**62**	⇓P		**Pn**	**05 28 08.0**	**+0.7**
PBKI	**Pangkalan Bun**	**11.00**	**86**	P		**Pn**	**05 28 14.4**	**+5.2**
TRT	**Tretes**	**12.57**	**109**	⇑*e*P		**Pn**	**05 28 31.0**	**+0.4**
SBUM	**Sibu**	**13.00**	**63**	⇓P		**Pn**	**05 28 40.8**	**+4.2**
BTM	**Bintulu**	**14.11**	**62**	⇑P		**Pn**	**05 28 53.0**	**+1.2**
MKS	**Makassar**	**18.80**	**96**	⇑*e*P		**Pn**	**05 29 50.7**	**-0.9**
KAPI	**Kappang**	**19.06**	**95**	P		**Pn**	**05 29 52.3**	**-2.5**
	1μm,1.3s,SNR=21							
KAPI	**Kappang**	**19.06**	**95**	⇓P		**Pn**	**05 29 53.1**	**-1.7**
	SNR=33							
KAPI	**Kappang**	**19.06**	**95**	P		**Pn**	**05 29 50.5**	**-4.3**
	2.7nm,0.3s,baz=274,slow=9.2,SNR=39							
KAPI				S		**Sn**	**05 33 19.5**	**-8.2**
	0.3nm,0.3s,baz=65,slow=18,SNR=1.8							
KDM	**Kudat**	**19.21**	**57**	⇑P		**Pn**	**05 29 59.6**	**+3.0**
PCI	**Palu**	**19.32**	**82**	⇑*e*P		**Pn**	**05 29 57.0**	**-0.9**
MYLDM	**Lahad Datu**	**19.82**	**64**	⇑P		**Pn**	**05 29 59.6**	**-4.3**
KDI	**Kendari**	**21.89**	**92**	⇑*e*P		**P**	**05 30 23.7**	**-0.8**
KDI				*e*S		**S**	**05 34 17.9**	**-7.0**
CM31	**Chiang Mai Arr**	**21.99**	**356**	*e*P		**P**	**05 30 23.4**	**-2.0**
	63nm,0.7s,mb5.2							
CM31				LR		LR		
	comp=Z,3μm,20.0s,MS4.7							
CMAR	**Chiang Mai Arr**	**21.99**	**356**	P		**P**	**05 30 22.9**	**-2.6**
	comp=Z,89nm,0.7s,mb5.3,baz=186,slow=10,SNR=70							
CMAR				S		**S**	**05 34 27.9**	**+1.2**
	comp=Z,1.1nm,0.4s,baz=298,slow=3.1,SNR=2.5							
CMAR				LR		LR	05 39 44.8	
	comp=Z,3μm,20.9s,MS4.6,baz=10,slow=39							
CMAR	**Chiang Mai Arr**	**21.99**	**356**	P		**P**	**05 30 22.9**	**-2.6**
CMAR				S		**S**	**05 34 27.9**	**+1.3**
CMAR	**Chiang Mai Arr**	**21.99**	**356**	P		**P**	**05 30 22.9**	**-2.6**
CMAR				S		**S**	**05 34 27.9**	**+1.2**
CMAR				LR		LR	05 39 44.8	
CHTO	**Chiang Mai**	**22.34**	**356**	⇑P		**P**	**05 30 27.2**	**-2.1**
	SNR=26							
CHTO	**Chiang Mai**	**22.34**	**356**	*e*P		**P**	**05 30 26.9**	**-2.3**
CHTO				pmax		pmax		
	comp=Z,80nm,0.9s,mb5.2							
CHTO				MLR		MLR		
	comp=Z,4μm,22.0s,MS4.8							
CHTO	**Chiang Mai**	**22.34**	**356**	*e*P		**P**	**05 30 26.9**	**-2.3**
	comp=Z,80nm,0.9s,mb5.2							
CHTO				LR		LR		
	comp=Z,4μm,22.0s,MS4.8							
CHRT	**Chiangrai**	**23.35**	**358**	⇑P		**P**	**05 30 39.0**	**-0.8**
	comp=Z,684nm,0.9s,mb6.1							
BATI	**Baumata**	**23.72**	**107**	P		**P**	**05 30 40.8**	**-2.7**
	comp=Z,18nm,0.3s,mb5.0,baz=299,slow=7.1,SNR=6.0							
BATI				S		**S**	**05 34 49.8**	**-7.0**
	comp=Z,86nm,1.0s,baz=233,slow=18,SNR=6.6							
QIZ	**Qiongzhong**	**24.23**	**22**	P		**P**	**05 30 48.0**	**0.0**
QIZ				XP		sP	05 30 56.8	-4.0
QIZ				S		**S**	**05 35 05.5**	**+0.7**
QIZ				AMB		AMB		
	comp=Z,130nm,2.0s,mb5.0							
QIZ				LR		LR		
	comp=N,5μm,13.2s							
QIZ				LR		LR		
	comp=Z,6μm,17.4s,MS5.1							
QIZ	**Qiongzhong**	**24.23**	**22**	*e*P		**P**	**05 30 47.6**	**-0.5**
	comp=Z,560nm,1.8s,mb5.7							
QIZ				*e*pP			05 30 57.7	
QIZ				LR		LR		
	comp=Z,5μm,20.0s,MS5.0							
MBWA	**Marble Bar**	**25.45**	**135**	P		**P**	**05 30 59.4**	**+0.3**
	comp=Z,76nm,1.3s,mb5.1							
MBWA				LR		LR		
	comp=Z,4μm,21.0s,MS4.9							
MDRS	**Chennai**	**26.20**	**310**	*ex*		x	05 30 33.2	
TRD	**Trivandrum**	**26.55**	**297**	*e*P		**P**	**05 31 09.1**	**-0.1**
TRD				AMb		AMB	05 31 26.6	
	comp=Z,107nm,1.6s,mb5.1							
TRD				*e*S		**S**	**05 35 43.9**	**+2.0**
RCP	**Roxas**	**26.62**	**55**	⇓*e*P		**P**	**05 31 10.2**	**+0.4**
KOD	**Kodaikanal**	**26.90**	**301**	*ex*		x	05 31 20.0	
DAV	**Davao City (W)**	**27.01**	**67**	P		**P**	**05 31 10.7**	**-2.7**
	comp=Z,106nm,0.3s,mb5.8,baz=61,slow=13,SNR=2.0							
DAV				S		**S**	**05 35 44.0**	**-5.3**
	comp=Z,122nm,0.4s,baz=290,slow=18,SNR=1.6							
DAV	**Davao City (W)**	**27.01**	**67**	⇑*e*P		**P**	**05 31 10.9**	**-2.5**
DAV	**Davao City (W)**	**27.01**	**67**	P		**P**	**05 31 10.7**	**-2.7**
DAV				S		**S**	**05 35 44.0**	**-5.3**
DAV				LR		LR		
	comp=Z,4μm,19.0s,MS5.0							
VIS	**Vishakhapatnam**	**27.24**	**322**	*e*P		**P**	**05 31 14.8**	**-0.6**
VIS				AMb		AMB	05 31 29.6	
	comp=Z,129nm,1.6s,mb5.2							
VIS				*i* x		x	05 36 07.8	
BWNR	**Bhubaneshwar**	**27.89**	**329**	*e*P		**P**	**05 31 22.1**	**+1.0**
BWNR				*ex*		x	05 35 13.1	
KMI	**Kunming**	**28.63**	**4**	P		**P**	**05 31 28.3**	**+0.7**
KMI				AP		pP	05 31 36.8	+0.1
KMI				XP		sP	05 31 40.0	-0.5
KMI				PP		PP	05 32 21.9	-11
KMI				S		**S**	**05 36 15.0**	**+0.7**
KMI				XS		sS	05 36 29.4	+0.1
KMI				AMB		AMB		
	comp=Z,31nm,0.8s,mb5.1							
KMI				AMB		AMB		
	comp=Z,505nm,7.9s							
KMI				LR		LR		
	comp=N,8μm,13.9s,MS5.6							
KMI				LR		LR		
	comp=E,7μm,12.9s,MS5.6							
KMI				LR		LR		
	comp=Z,10μm,14.2s,MS5.5							
CAL	**Calcutta**	**28.65**	**336**	*e*P		**P**	**05 31 27.9**	**0.0**
CAL				*ex*		x	05 36 33.4	
IMP	**Imphal**	**28.97**	**347**	*e*P		**P**	**05 31 31.0**	**+0.3**
IMP				*ex*		x	05 32 00.0	
IMP				*ex*		x	05 32 55.0	
GZH	**Guangzhou**	**29.27**	**24**	P		**P**	**05 31 39.5**	**+6.2**
GZH				LR		LR		
	comp=N,3μm,21.0s,MS5.2							
GZH				LR		LR		
	comp=E,5μm,18.2s,MS5.2							
GZH				LR		LR		
	comp=Z,7μm,14.2s,MS5.4							
HYB	**Hyderabad**	**30.22**	**314**	*e*P		**P**	**05 31 42.5**	**+0.6**
HYB				*e*S		**S**	**05 36 40.0**	**+0.4**
HYB	**Hyderabad**	**30.22**	**314**	*i* P		**P**	**05 31 42.5**	**+0.6**
HYB				*e*S		**S**	**05 36 40.0**	**+0.4**
HYB				LR		LR	05 44 46.0	
	comp=Z,3.8nm,18.0s							
HYB	**Hyderabad**	**30.22**	**314**	*e*P		**P**	**05 31 42.5**	**+0.6**
HYB				*e*S		**S**	**05 36 40.0**	**+0.4**
HYB				*e*			05 44 46.0	
SHL	**Shillong**	**30.23**	**344**	*i* P		**P**	**05 31 43.0**	**+1.1**
SHL				*ex*		x	05 36 40.0	
GYA	**Guiyang**	**30.44**	**11**	⇑*i*P		**P**	**05 31 45.6**	**+1.9**
GYA				AP		pP	05 31 56.3	+3.5
GYA				XP		sP	05 32 01.8	+5.2
GYA				PP		PP	05 32 47.9	-5.0
GYA				PCP		PcP	05 34 45.5	+2.6
GYA				S		**S**	**05 36 44.0**	**+1.2**
GYA				XS		sS	05 37 01.4	+3.6
GYA				SCP		ScP	05 38 24.6	+1.3
GYA				AMB		AMB		
	comp=Z,80nm,1.0s,mb5.4							
GYA				AMB		AMB		
	comp=Z,240nm,5.6s							
GYA				LR		LR		
	comp=N,19μm,18.2s,MS5.8							
GYA				LR		LR		
	comp=E,13μm,19.8s,MS5.8							
GYA				LR		LR		
	comp=Z,14μm,18.4s,MS5.7							
BOK	**Bokaro**	**30.82**	**333**	*e*P		**P**	**05 31 46.6**	**-0.4**
BOK				AMb		AMB	05 31 54.5	
	comp=Z,124nm,0.8s,mb5.8							
BOK				*ex*		x	05 36 48.1	
KAKA	**Kakadu**	**32.67**	**108**	*e*P		**P**	**05 31 54.9**	**-8.6**
	comp=Z,16nm,0.6s,mb5.1							
ODAN	**Odare**	**32.90**	**338**	*e*P		**P**	**05 32 06.3**	**+1.0**
	comp=Z,431nm,0.8s,mb6.4							
NWAO	**Narrogin (SRO)**	**33.03**	**154**	P		**P**	**05 32 05.8**	**-0.6**
	comp=Z,4.6nm,0.7s,mb4.5,baz=294,slow=7.0,SNR=3.4							
NWAO	**Narrogin (SRO)**	**33.03**	**154**	P		**P**	**05 32 05.8**	**-0.6**
NWAO				*e*pP		pP	05 32 18.5	+3.0
NWAO				LR		LR		
	comp=Z,4μm,20.0s,MS5.1							
TAPN	**Taplejung**	**33.23**	**339**	*e*P		**P**	**05 32 09.8**	**+1.6**
	comp=Z,1μm,0.9s							
QZH	**Quanzhou**	**33.28**	**31**	⇑*i*P		**P**	**05 32 07.5**	**-1.2**
QZH				*e*S		**S**	**05 37 22.4**	**-4.9**
QZH				AMB		AMB		
	comp=Z,300nm,1.6s,mb6.0							
QZH				LR		LR		
	comp=N,11μm,15.6s,MS5.8							
QZH				LR		LR		
	comp=E,8μm,14.0s,MS5.8							
QZH				LR		LR		
	comp=Z,8μm,14.5s,MS5.6							
RAMN	**Ramite**	**33.29**	**337**	*e*P		**P**	**05 32 10.0**	**+1.3**
	comp=Z,203nm,0.9s,mb6.1							
JBP	**Jabalpur**	**33.41**	**324**	*e*P		**P**	**05 32 10.2**	**+0.4**
JBP				*ex*		x	05 37 28.3	
KAD	**Karad**	**33.41**	**309**	*e*P		**P**	**05 32 09.2**	**-0.7**
JIRN	**Jiri**	**34.08**	**337**	*e*P		**P**	**05 32 17.1**	**+1.5**
	comp=Z,400nm,0.8s,mb6.4							
PKI	**Pulchoki**	**34.32**	**335**	*e*P		**P**	**05 32 18.7**	**+1.0**
	comp=Z,125nm,1.0s,mb5.8							
PKI	**Pulchoki**	**34.32**	**335**	*e*P		**P**	**05 32 18.8**	**+1.1**
PKI				pmax		pmax		
	comp=Z,66nm,0.8s,mb5.6							
PKI	**Pulchoki**	**34.32**	**335**	*e*P		**P**	**05 32 18.8**	**+1.1**
	comp=Z,66nm,0.8s,mb5.6							
PKIN	**Phulchoki**	**34.33**	**335**	*e*P		**P**	**05 32 18.8**	**+1.0**
	comp=Z,66nm,0.8s,mb5.6							
LSA	**Lhasa**	**34.35**	**345**	P		**P**	**05 32 19.4**	**+1.4**
LSA				S		**S**	**05 37 42.3**	**-1.4**
LSA				LR		LR		
	comp=N,2μm,20.0s							
LSA				LR		LR		
	comp=E,3μm,36.1s							
LSA				LR		LR		
	comp=Z,3μm,18.7s,MS5.0							
LSA	**Lhasa**	**34.35**	**345**	*e*P		**P**	**05 32 19.2**	**+1.2**
LSA				*e**PP		pP	05 32 28.1	+1.0
LSA				pmax		pmax		
	comp=Z,39nm,0.8s,mb5.4							
LSA				MLR		MLR		
	comp=Z,2μm,20.0s,MS4.9							
LSA	**Lhasa**	**34.35**	**345**	*e*P		**P**	**05 32 19.2**	**+1.2**
	comp=Z,39nm,0.8s,mb5.4							
LSA				*e*pP		pP	05 32 28.1	+1.0
LSA				LR		LR		
	comp=Z,2μm,20.0s,MS4.9							
POO	**Poona**	**34.39**	**311**	*e*P		**P**	**05 32 18.1**	**-0.3**
GUN	**Gumba**	**34.43**	**336**	*e*P		**P**	**05 32 19.9**	**+1.3**
	comp=Z,444nm,0.9s,mb6.4							
CD2	**Chengdu**	**34.45**	**5**	⇑*i*P		**P**	**05 32 17.8**	**-0.9**
CD2				AP		pP	05 32 27.4	-0.5
CD2				XP		sP	05 32 31.3	-0.3
CD2				PP		PP	05 33 34.6	-2.6
CD2				PCP		PcP	05 34 52.0	-1.8
CD2				S		**S**	**05 37 43.8**	**-1.3**
CD2				XS		sS	05 37 59.8	-0.3
CD2				PCS		PcS	05 38 37.3	-3.0
CD2				SCS		ScS	05 42 35.3	-4.4
CD2				AMB		AMB		
	comp=Z,90nm,0.9s,mb5.7							
CD2				AMB		AMB		
	comp=Z,600nm,6.0s							
CD2				LR		LR		
	comp=N,6μm,14.4s,MS5.8							
CD2				LR		LR		
	comp=E,12μm,18.0s,MS5.8							
CD2				LR		LR		
	comp=Z,8μm,13.2s,MS5.6							
DMN	**Daman**	**34.48**	**335**	*e*P		**P**	**05 32 19.9**	**+0.8**
	comp=Z,159nm,0.9s,mb5.9							
KKN	**Kakani**	**34.56**	**335**	*e*P		**P**	**05 32 20.7**	**+0.9**
	comp=Z,343nm,0.9s,mb6.3							
TATO	**Taipei**	**34.86**	**34**	PFAKE			05 32 30.0	+7.6
TATO				LR		LR		
	comp=Z,2μm,19.0s,MS4.9							
GKN	**Gorkha**	**35.02**	**335**	*e*P		**P**	**05 32 24.7**	**+0.9**
	comp=Z,398nm,0.9s,mb6.3							
BHPL	**Bhopal**	**35.03**	**321**	*e*P		**P**	**05 32 22.5**	**-1.4**
BHPL				AMb		AMB	05 32 37.6	
	comp=Z,85nm,1.8s,mb5.4							
KOLN	**Koldanda**	**35.27**	**333**	*e*P		**P**	**05 32 27.1**	**+1.2**
	comp=Z,282nm,0.8s,mb6.2							
BOM	**Bombay**	**35.39**	**310**	*ex*		x	05 32 21.9	
BOM				*ex*		x	05 32 30.7	
	comp=Z,239nm,2.9s							
BOM				*ex*		x	05 37 19.3	
BOM				*ex*		x	05 37 26.0	
DANN	**Dangsing**	**35.70**	**334**	*e*P		**P**	**05 32 30.6**	**+1.0**
	comp=Z,512nm,0.9s,mb6.5							
WHN	**Wuhan**	**36.38**	**20**	⇑P		**P**	**05 32 35.0**	**-0.4**
WHN				S		**S**	**05 38 24.3**	**+9.5**
WHN				LR		LR		
	comp=N,18μm,14.6s,MS6.0							
WHN				LR		LR		
	comp=E,7μm,17.6s,MS6.0							
WHN				LR		LR		
	comp=Z,24μm,14.2s,MS6.1							
WRAB	**Tennant Creek**	**36.61**	**119**	P		**P**	**05 32 37.0**	**-0.6**
	comp=Z,210nm,0.7s,mb6.1,SNR=17							
WRAB	**Tennant Creek**	**36.61**	**119**	*c* iP		**P**	**05 32 36.4**	**-1.2**
FORT	**Forrest**	**37.38**	**139**	*e*P		**P**	**05 32 44.4**	**+0.4**
	comp=Z,20nm,0.7s,mb5.1							
ASAR	**Alice Springs**	**37.77**	**125**	P		**P**	**05 32 46.4**	**-0.9**
	comp=Z,3.6nm,0.3s,m

SSE AMB AMB
comp=Z,387nm,5.9s
SSE LR LR
comp=N,4μm,10.4s,MS5.7
SSE LR LR
comp=E,5μm,10.4s,MS5.7
SSE LR LR
comp=Z,8μm,11.1s,MS5.8
DDI Dehra Dun 40.08 329 *e*P **P** **05 33 03.6 -3.0**
DDI *ex* x 05 39 06.5
BHJ Bhuj 40.36 313 *ex* x 05 33 05.7
BHJ AMb AMB 05 33 24.0
comp=Z,101nm,1.5s,mb5.3
SMLA Simla 41.18 329 *i* P **P** **05 33 15.9 +0.2**
SMLA *ex* x 05 33 17.5
comp=Z,317nm,0.9s
SMLA *i* x x 05 39 25.3
PONG Pong 42.47 328 *e*P **P** **05 33 25.0 -1.2**
TIA Tai'an 42.49 20 *e*P **P** **05 33 25.4 -0.8**
TIA LR LR
comp=N,4μm,14.0s,MS5.6
TIA LR LR
comp=E,3μm,15.0s,MS5.6
TIY Taiyuan 42.53 14 P **P** **05 33 27.4 +0.8**
TIY S **S** **05 39 47.3 +0.3**
TIY LR LR
comp=N,3μm,14.0s,MS5.5
TIY LR LR
comp=E,2μm,13.3s,MS5.5
TIY LR LR
comp=Z,4μm,15.4s,MS5.4
GTA Gaotai 42.81 359⇑ *i*P **P** **05 33 29.1 +0.3**
GTA AP pP 05 33 39.1 +1.0
GTA XP sP 05 33 42.8 +1.0
GTA PP PP 05 35 11.4 +2.8
GTA S **S** **05 39 50.6 -0.4**
GTA XS sS 05 40 06.8 +0.5
GTA AMB AMB
comp=Z,61nm,1.0s,mb5.3
GTA AMB AMB
comp=Z,968nm,7.2s
GTA LR LR
comp=N,4μm,15.3s,MS5.6
GTA LR LR
comp=E,5μm,18.6s,MS5.6
GTA LR LR
comp=Z,4μm,15.6s,MS5.5
THN Thein Dam 42.97 328 *e*P **P** **05 33 28.5 -1.7**
BTO Baotou 44.82 10 *e*P **P** **05 33 44.3 -0.6**
HHC Hu-ho-hao-te 45.35 12 ⇑P **P** **05 33 49.9 +0.8**
HHC AP pP 05 34 00.3 +1.8
HHC XP sP 05 34 03.9 +1.7
HHC PCP PcP 05 35 29.8 +1.4
HHC PP PP 05 35 36.4 +0.7
HHC SCP ScP 05 39 18.3 -0.7
HHC S **S** **05 40 28.5 +0.5**
HHC XS sS 05 40 44.6 +1.3
HHC SS SS 05 43 44.8 -7.3
HHC AMB AMB
comp=Z,116nm,1.2s,mb5.6
HHC AMB AMB
comp=Z,777nm,7.3s
HHC LR LR
comp=N,6μm,15.5s,MS5.7
HHC LR LR
comp=E,1μm,15.7s,MS5.7
HHC LR LR
comp=Z,6μm,15.1s,MS5.7
BJT Baijiatuau 45.68 17 *e*P **P** **05 33 52.0 +0.2**
BJT pmax pmax
comp=Z,79nm,0.6s
BJT MLR MLR
comp=Z,7μm,19.0s
BJT Baijiatuau 45.68 17 *e*P **P** **05 33 52.0 +0.2**
comp=Z,79nm,0.6s,mb5.8
BJT LR LR
comp=Z,7μm,19.0s,MS5.6
BJI Beijing 45.70 17 P **P** **05 33 51.8 -0.2**
BJI PP PP 05 35 38.5 -1.0
BJI S **S** **05 40 36.3 +3.2**
BJI SS SS 05 43 58.8 +0.8
BJI AMB AMB
comp=Z,108nm,0.7s,mb5.9
BJI LR LR
comp=N,2μm,25.6s,MS5.4
BJI LR LR
comp=E,5μm,22.5s,MS5.4
BJI LR LR
comp=Z,4μm,19.1s,MS5.4
PMG Port Moresby 46.50 99 *e*P **P** **05 33 57.7 -1.0**
PMG pmax pmax
comp=Z,140nm,1.6s
PMG MLR MLR
comp=Z,2μm,20.0s
PMG Port Moresby 46.50 99 *e*P **P** **05 33 57.7 -1.0**
comp=Z,140nm,1.6s,mb5.6
PMG LR LR
comp=Z,2μm,20.0s,MS5.0
DL2 Dalian 46.51 23 P **P** **05 33 58.3 -0.1**
DL2 PP PP 05 35 44.8 -3.2
DL2 S **S** **05 40 43.8 -1.0**
DL2 AMB AMB
comp=Z,30nm,1.3s,mb5.1
DL2 AMB AMB
comp=Z,260nm,5.2s
DL2 LR LR
comp=N,2μm,14.8s,MS5.3
DL2 LR LR
comp=E,1μm,13.1s,MS5.3
DL2 LR LR
comp=Z,3μm,14.3s,MS5.4
GUMO Guam 47.05 68 PFAKE 05 34 10.0 +7.0
GUMO LR LR
comp=Z,651nm,19.0s,MS4.6
CTA Charters Tower 47.31 114 *e*P **P** **05 34 04.1 -0.9**
comp=Z,23nm,1.2s,mb5.0
CTA *e*S **S** **05 40 56.4 -0.4**
CTA Charters Tower 47.31 114 *e*P **P** **05 34 04.1 -0.9**
CTA *e*S **S** **05 40 56.4 -0.4**
CTA pmax pmax
comp=Z,23nm,1.2s
CTAO Charters Tower 47.31 114 *e*P **P** **05 34 04.1 -0.9**
CTAO pmax pmax
comp=Z,109nm,1.5s,mb5.6
CTAO MLR MLR
comp=Z,2μm,20.0s,MS5.1
CTAO Charters Tower 47.31 114 *e*P **P** **05 34 04.1 -0.8**
comp=Z,109nm,1.5s,mb5.6
CTAO LR LR
comp=Z,2μm,20.0s,MS5.1
INCN Inchon 47.46 28 PFAKE 05 34 20.0 +14
INCN LR LR
comp=Z,2μm,19.0s,MS5.0
STKA Stephens Creek 47.58 131 *e*P **P** **05 34 06.9 0.0**
comp=Z,18nm,0.7s,mb5.2
STKA Stephens Creek 47.58 131 P **P** **05 34 07.0 +0.1**
comp=Z,6.3nm,0.6s,mb4.8,baz=298,slow=8.6,SNR=14
STKA S **S** **05 40 58.5 -1.9**
comp=Z,1.2nm,0.9s,baz=28,slow=23,SNR=1.5
STKA LR LR 05 55 31.4
comp=Z,4μm,21.7s,MS5.3,baz=297,slow=38
KS15 Wonju Array Si 48.03 29 *e*P **P** **05 34 10.1 -0.2**
KSRS Korea Array 48.06 29 P **P** **05 34 09.9 -0.5**
comp=Z,56nm,0.9s,mb5.6,baz=224,slow=8.1,SNR=116
KSRS S **S** **05 41 03.7 -3.2**
comp=Z,0.5nm,0.3s,baz=205,slow=40,SNR=2.9
KSRS LR LR 05 56 53.1
comp=Z,1μm,18.1s,MS5.0,baz=247,slow=39
KBL Kabul 48.23 325 *e*P **P** **05 34 11.5 -0.3**
KBL pmax pmax
comp=Z,28nm,0.8s,mb5.3
KBL Kabul 48.23 325 *e*P **P** **05 34 11.5 -0.4**
comp=Z,28nm,0.8s,mb5.3
WBK Wadi Bani Khal 48.35 305 ⇓P **P** **05 34 17.7 +4.7**
SNR=13
KSH Kashi 48.57 334⇑ *i*P **P** **05 34 15.3 +1.0**
KSH *e*AP pP 05 34 25.3 +1.6
KSH *e*XP sP 05 34 29.4 +2.0
KSH PCP PcP 05 35 41.9 +2.1
KSH PP PP 05 36 06.9 -0.6
KSH *e*SCP ScP 05 39 32.8 +0.2
KSH *e*PCS PcS 05 39 36.8 +1.0
KSH *e*S **S** **05 41 11.0 -3.0**
KSH *e*XS sS 05 41 27.3 -2.2
KSH *e*SCS ScS 05 44 02.6 -2.2
KSH AMB AMB
comp=Z,4.0nm,0.4s,mb4.8
KSH LR LR
comp=N,4μm,6.2s
KSH LR LR
comp=E,5μm,11.5s
KSH LR LR
comp=Z,13μm,19.0s
JMDO Jabal Madar 48.96 304⇑P **P** **05 34 22.6 +4.9**
SNR=13
SMDO Samad 49.31 305⇓P **P** **05 34 25.5 +5.2**
SNR=11
BIDO Bidbid 49.46 305⇑P **P** **05 34 26.8 +5.3**
SNR=5.8
SNY Shenyang 49.78 22⇑P **P** **05 34 22.3 -1.3**
SNY AP pP 05 34 34.8 +1.8
SNY S **S** **05 41 35.4 +4.4**
SNY SS SS 05 45 08.3 +4.3
SNY AMB AMB
comp=Z,40nm,1.6s,mb5.2
SNY LR LR
comp=E,5μm,15.7s
SNY LR LR
comp=Z,5μm,15.5s,MS5.6
BSY Bisya 49.87 304⇑P **P** **05 34 29.4 +4.8**
SNR=24
RBK Rabkut 50.42 296⇑P **P** **05 34 34.9 +6.1**
SNR=5.7
ULHL Ulahol 50.74 337 P **P** **05 34 31.5 +0.7**
SNR=8.5
KZA Kyzart 51.00 336 P **P** **05 34 33.8 +1.0**
SNR=14
SONM Songino Array 51.47 5 P **P** **05 34 36.7 +0.5**
comp=Z,73nm,0.8s,mb5.7,baz=185,slow=8.5,SNR=396
SONM PcP PcP 05 35 50.7 +0.5
comp=Z,15nm,0.8s,baz=185,slow=4.4,SNR=1.6
SONM S **S** **05 41 55.7 +1.5**
comp=Z,0.3nm,0.8s,baz=66,slow=29,SNR=2.7
ULN Ulaanbaatar 51.56 5⇓P **P** **05 34 37.2 +0.3**
SNR=54
ULN Ulaanbaatar 51.56 5*c* *i*P **P** **05 34 37.5 +0.6**
ULN Ulaanbaatar 51.56 5 *e*P **P** **05 34 36.9 +0.1**
comp=Z,93nm,0.8s,mb5.8
ULN *e*pP pP 05 34 47.2 +0.9
ULN LR LR
comp=Z,2μm,20.0s,MS5.2
TKM2 Tokmak 2 51.57 337 P **P** **05 34 37.7 +0.7**
SNR=76
KBK Karagaybulak 51.61 336 P **P** **05 34 38.5 +1.2**
SNR=6.1
HATD Hatta, Dubai 51.67 306⇓P **P** **05 34 43.3 +5.1**
SNR=8.1
AML Almayashu 51.70 335 P **P** **05 34 39.0 +1.0**
SNR=28
AAK Ala-Archa 51.77 336 P **P** **05 34 39.4 +0.9**
SNR=12
FRU Bishkek 51.89 336⇑ *i*P **P** **05 34 40.0 +0.6**
FRU *e* 05 36 41.0
FRU *e*S **S** **05 42 02.0 +1.8**
FRU pmax pmax
comp=Z,460nm,2.2s,mb6.0
FRU MLR MLR
comp=Z,2μm,20.0s,MS5.2
CHMS Chumysh 51.97 336 P **P** **05 34 39.8 -0.3**
SNR=12
EKS2 Erkin-Say 52.10 335 P **P** **05 34 41.8 +0.8**
SNR=70
CN2 Changchun 52.18 23⇑P **P** **05 34 40.5 -1.1**
CN2 *e*AP pP 05 34 50.4 -0.7
CN2 PP PP 05 36 39.8 -0.5
CN2 *e*S **S** **05 42 01.6 -2.6**
CN2 AMB AMB
comp=Z,20nm,0.8s,mb5.1
CN2 LR LR
comp=N,4μm,15.0s,MS5.6
CN2 LR LR
comp=E,2μm,15.0s,MS5.6
CN2 LR LR
comp=Z,4μm,15.0s,MS5.6
USP Ospenovka 52.30 336 P **P** **05 34 42.8 +0.4**
SNR=34
MK31 Makanchi Array 52.75 344 *e*P **P** **05 34 45.7 0.0**
MK31 *e**PP pP 05 34 55.3 +0.1
MKAR Makanchi Array 52.75 344 P **P** **05 34 45.6 -0.1**
comp=Z,89nm,0.8s,mb5.8,baz=148,slow=7.4,SNR=445
MKAR S **S** **05 42 12.0 +0.2**
comp=Z,0.2nm,0.6s,baz=122,slow=36,SNR=2.4
MKAR LR LR 06 02 04.2
comp=Z,1μm,18.4s,MS5.0,baz=160,slow=42
MKAR Makanchi Array 52.75 344 P **P** **05 34 45.6 -0.1**
MKAR S **S** **05 42 12.0 +0.2**
MAJO Matsushiro 53.10 38 *e*P **P** **05 34 47.3 -1.2**
MAJO pmax pmax
comp=Z,325nm,2.2s,mb5.9
MAJO MLR MLR
comp=Z,965nm,19.0s,MS4.9
MAJO Matsushiro 53.10 38 *e*P **P** **05 34 47.3 -1.2**
comp=Z,325nm,2.2s,mb5.9
MAJO LR LR
comp=Z,965nm,19.0s,MS4.9
MAT Matsushiro 53.10 38 P **P** **05 34 46.8 -1.7**
MAT S **S** **05 42 21.0 +4.1**
MJAR Matsushiro Arr 53.10 38 P **P** **05 34 46.6 -1.9**
comp=Z,20nm,0.8s,mb5.1,baz=216,slow=6.7,SNR=32
MJAR PcP PcP 05 35 56.7 +0.1
comp=Z,1.4nm,0.4s,baz=207,slow=4.1,SNR=2.0
MJAR S **S** **05 42 15.2 -1.8**
comp=Z,0.9nm,0.5s,baz=328,slow=40,SNR=2.9
MJAR LR LR 05 59 45.5
comp=Z,788nm,18.1s,MS4.8,baz=240,slow=39
MJAR Matsushiro Arr 53.10 38 P **P** **05 34 46.6 -1.9**
MJAR 05 35 56.7
MJAR S **S** **05 42 15.2 -1.7**
ZAK Zakamensk 53.82 2 *e*P **P** **05 34 53.2 -0.3**
ZAK *e* 05 35 53.8
ZAK pmax pmax
comp=Z,27nm,0.9s,mb5.2
KK31 Karatay Array 53.88 333 *i* P **P** **05 34 53.0 -1.2**
KK31 pmax pmax
comp=Z,6.0nm,0.5s,mb4.8
OPO Ambohidratompo 54.34 250 P **P** **05 34 57.1 -0.8**
comp=Z,3.2nm,0.8s,mb4.3,baz=70,slow=9.7,SNR=4.8
MDJ Mudanjiang 54.53 25 P **P** **05 34 58.5 -0.3**
MDJ AP pP 05 35 07.5 -0.8
MDJ XP sP 05 35 11.4 -0.6
MDJ PP PP 05 37 00.5 -1.0
MDJ SCP ScP 05 39 57.3 -0.9
MDJ PCS PcS 05 40 01.8 +0.5
MDJ S **S** **05 42 35.6 -0.4**
MDJ XS sS 05 42 50.1 -1.6
MDJ SCS ScS 05 44 45.3 -0.6
MDJ SS SS 05 46 18.4 -0.7
MDJ AMB AMB
comp=Z,17nm,1.7s,mb4.8
MDJ AMB AMB
comp=Z,447nm,6.1s
MDJ LR LR
comp=N,3μm,14.6s,MS5.7
MDJ LR LR
comp=E,2μm,13.9s,MS5.7
MDJ LR LR
comp=Z,5μm,14.6s,MS5.7
MDJ Mudanjiang 54.53 25 *e*P **P** **05 34 58.5 -0.4**
comp=Z,31nm,0.8s,mb5.4
MDJ LR LR
comp=Z,3μm,21.0s,MS5.3
ARMA Armidale 54.92 125 *e*P **P** **05 35 03.6 +1.6**
TLY Talaya 55.13 2 P **P** **05 35 04.2 +1.2**
comp=Z,327nm,0.8s,mb6.4,SNR=14
TLY Talaya 55.13 2 P **P** **05 35 04.3 +1.2**
SNR=18
TLY Talaya 55.13 2*c* *i*P **P** **05 35 03.4 +0.4**
TLY pmax pmax
comp=Z,57nm,0.9s,mb5.6
HIA Hailar 55.20 15 *e*P **P** **05 35 02.9 -0.7**
HIA *e**PP pP 05 35 12.3 -0.8
HIA pmax pmax
comp=Z,26nm,0.8s
HIA MLR MLR
comp=Z,4μm,19.0s
HIA Hailar 55.20 15 *e*P **P** **05 35 02.9 -0.7**
comp=Z,26nm,0.8s,mb5.3
HIA *e*pP pP 05 35 12.3 -0.8
HIA LR LR
comp=Z,4μm,19.0s,MS5.5
IRK Irkutsk 55.72 3 *i* P **P** **05 35 07.9 +0.6**
IRK *e* 05 36 02.1
IRK pmax pmax
comp=Z,150nm,2.1s,mb5.7
ABKT Ailbek 57.11 320 P **P** **05 35 17.8 +0.3**
comp=Z,329nm,0.9s,mb6.4,SNR=11
KURK Kurchatov 57.33 344 P **P** **05 35 18.6 -0.2**
comp=Z,668nm,1.0s,mb6.6,SNR=68
KURK Kurchatov 57.33 344⇓P **P** **05 35 20.8 +2.0**
SNR=46
KURK Kurchatov 57.33 344*c* *i*P **P** **05 35 18.5 -0.3**
KURK pmax pmax
comp=Z,88nm,0.7s,mb5.9
KURK MLR MLR
comp=Z,3μm,27.0s,MS5.3
ZAA0 Zalesovo Array 58.86 349 *e*P **P** **05 35 28.9 -0.5**
ZALV Zalesovo Beam 58.86 349 P **P** **05 35 28.9 -0.5**
comp=Z,98nm,0.8s,mb5.9,baz=174,slow=5.2,SNR=229
ZALV S **S** **05 43 31.0 -1.9**
comp=Z,0.3nm,0.3s,baz=128,slow=2.4,SNR=2.9
ZALV LR LR 06 02 33.7
comp=Z,686nm,21.6s,MS4.7,baz=165,slow=38
ZALV Zalesovo Beam 58.86 349 P **P** **05 35 28.9 -0.5**
ZALV S **S** **05 43 31.0 -2.0**
ZALV Zalesovo Beam 58.86 349 P **P** **05 35 28.9 -0.5**
ZALV S **S** **05 43 31.0 -1.9**
ZALV LR LR 06 02 33.7
HNR Honiara 59.10 99 S **S** **05 43 34.8 -2.7**
comp=Z,100nm,0.8s,baz=270,slow=14,SNR=2.0
HNR Honiara 59.10 99 PFAKE 05 35 40.0 +8.1
HNR LR LR
comp=Z,844nm,21.0s,MS4.8
KLR Kul'dur 59.12 23⇓ *i*P **P** **05 35 27.2 -4.1**
KLR *e*S **S** **05 43 48.0 +12**
KLR pmax pmax
comp=E,90nm,2.0s
KLR pmax pmax
comp=Z,360nm,2.0s,mb6.1
ERM Erimo 59.54 36⇓ *e*P **P** **05 35 34.0 -0.4**
KRAR Krasnoyarsk 59.76 355⇓ *e*P **P** **05 35 35.9 +0.3**
KRAR pmax pmax
comp=Z,108nm,1.0s,mb5.8
KRAR MLR MLR
comp=Z,3μm,21.0s,MS5.4
HABR Khabarovsk 59.89 26 *e*P **P** **05 35 34.3 -2.4**
HABR *e*S **S** **05 43 44.4 -2.1**
NVS Novosibirsk 60.01 348 *i* P **P** **05 35 36.1 -1.3**
NVS *i* S **S** **05 43 46.2 -1.6**
NVS pmax pmax
comp=N,79nm,1.5s
NVS pmax pmax
comp=Z,62nm,1.5s,mb5.4
NVS pmax pmax
comp=E,15nm,0.6s
NVS smax
comp=N,42nm,2.0s
NVS smax
comp=E,26nm,1.6s
UMR Umm Al-Rimmam 60.46 307 *e*P **P** **05 35 40.5 -0.4**
baz=307
UMR AMb AMB 05 35 53.4
comp=Z,99nm,1.4s,mb5.7,baz=307
NAY Al-Naaiem 60.72 306 *e*P **P** **05 35 41.4 -1.3**
baz=306
NAY AMb AMB 05 35 54.8
comp=Z,39nm,1.3s,mb5.4,baz=306
MIB Mutribah 60.86 307 *e*P **P** **05 35 43.0 -0.7**
baz=307
MIB AMb AMB 05 35 58.2
comp=Z,140nm,1.0s,mb6.0,baz=307
RST Umm Al-Ruwaisa 61.01 307 *e*P **P** **05 35 43.5 -1.3**
baz=306
RST AMb AMB 05 35 58.1
comp=Z,79nm,1.5s,mb5.6,baz=306
BVA0 Borovoye Array 61.92 340 P **P** **05 35 48.4 -1.9**
BVA0 pmax pmax
comp=Z,16nm,0.9s,mb5.2
BVAR Borovoye Array 61.92 340 P **P** **05 35 49.3 -1.0**
comp=Z,48nm,0.7s,mb5.7,baz=143,slow=8.3,SNR=178
BRVK Borovoye 61.98 340 P **P** **05 35 49.5 -1.3**
comp=Z,309nm,0.7s,mb6.5,SNR=21
BRVK Borovoye 61.98 340⇓P **P** **05 35 53.4 +2.6**
SNR=24
BRVK Borovoye 61.98 340⇑ *i*P **P** **05 35 49.8 -1.0**
BOD Bodaibo 62.16 8⇓ *i*P **P** **05 35 51.0 -0.9**
BOD pmax pmax
comp=Z,49nm,1.0s,mb5.6
YSS Yuzh-Sakhalins 62.48 31α *i*P **P** **05 35 52.0 -2.2**
YSS *e* 05 35 59.0
YSS *e*S **S** **05 44 30.0 +11**
YSS *e*PS 05 44 52.0
YSS pmax pmax
comp=E,80nm,0.9s
YSS pmax pmax
comp=Z,160nm,0.9s,mb6.2
YSS Yuzh-Sakhalins 62.48 31 *e*P **P** **05 35 54.0 -0.3**
comp=Z,141nm,0.9s,mb6.1
YSS LR LR
comp=Z,328nm,20.0s,MS4.5
CASY Casey 62.94 176 *e*P **P** **05 35 58.2 +1.3**
comp=Z,47nm,1.9s,mb5.3
CASY *e*pP pP 05 36 09.6 +3.0
CASY LR LR
comp=Z,3μm,20.0s,MS5.4
MIR Mirnyy 63.06 183 *e*P **P** **05 35 58.0 +0.2**
MIR *e* 05 36 35.0
MIR *e*S **S** **05 44 30.0 +3.9**
MIR *e*PS 05 45 00.0
MIR *e* 05 45 48.0
MIR pmax pmax
comp=Z,100nm,1.8s,mb5.6
MIR MLR MLR
comp=Z,2μm,18.0s,MS5.4
AB31 Akbulak array 63.37 331⇑ *e*P **P** **05 35 59.1 -1.0**
CLNS Chul'man 63.38 15 *e*P **P** **05 35 59.1 -0.9**
CLNS pmax pmax
comp=Z,37nm,1.0s,mb5.5
CLNS pmax pmax
comp=E,14nm,1.0s
CLNS pmax pmax
comp=N,22nm,0.9s
KMBO Kilima Mbogo 63.42 271 P **P** **05 36 01.4 +0.2**
comp=N,2.2nm,0.8s,mb4.4,baz=51,slow=11,SNR=6.2
KMBO LR LR 05 58 25.7
comp=N,803nm,21.5s,MS4.9,baz=97,slow=31
KMBO Kilima Mbogo 63.42 271 *e*P **P** **05 36 02.2 +1.0**
KMBO *e**PP pP 05 36 13.2 +2.4
KMBO pmax pmax
comp=Z,15nm,1.3s
KMBO MLR MLR
comp=Z,931nm,19.0s
KMBO Kilima Mbogo 63.42 271 *e*P **P** **05 36 02.2 +1.1**
comp=Z,15nm,1.3s,mb5.0
KMBO *e*pP pP 05 36 13.2 +2.4
KMBO LR LR
comp=Z,931nm,19.0s,MS5.0
BHD Baghdad 64.55 309 *ex* x 05 36 12.0
BHD *ex* x 05 44 49.0
AKTK Aktyubinsk 65.08 331 P **P** **05 36 10.2 -1.1**
AKTO Aktyubinsk 65.08 331 P **P** **05 36 10.2 -1.1**
comp=Z,15nm,0.9s,mb5.0,baz=134,slow=6.9,SNR=36
MAK Makhachkala 66.63 320 *e*P **P** **05 36 20.9 -0.6**
MAK *e*S S 05 45 10.0 -0.9
MAK pmax pmax
comp=Z,392nm,1.4s,mb6.2
MAK MLR MLR
comp=Z,871nm,18.0s,MS5.0
GNI Garni 67.15 316⇓P **P** **05 36 29.6 +4.8**
SNR=6.1
GNI Garni 67.15 316*c* *i*P **P** **05 36 24.8 0.0**
GNI pmax pmax
comp=Z,48nm,2.3s
GNI MLR MLR
comp=Z,1μm,30.0s
GNI Garni 67.15 316 *e*P **P** **05 36 25.7 +0.8**
comp=Z,205nm,1.9s,mb5.8
GNI *e*pP pP 05 36 35.0 +0.4
GNI LR LR
comp=Z,648nm,20.0s,MS4.8
SVE Sverdlovsk 68.42 338⇓ *e*P **P** **05 36 31.5 -0.9**
SVE *e*S S 05 45 27.1 -4.7
SVE *e*SS SS 05 50 00.9 +4.9
SVE pmax pmax
comp=Z,85nm,1.0s,mb5.7
DRV Dumont d'Urvil 68.60 164 P **P** **05 36 40.0 +6.5**
DRV S S 05 45 36.0 +2.3
DRV L 05 53 00.0

DRV R 05 57 00.0
MAW Mawson 68.91 195 *e*P pP 05 36 43.6 -1.5
comp=Z,3,6nm,0.9s
MAW Mawson 68.91 195 P **P** **05 36 36.1 +0.7**
comp=Z,2.0nm,1.0s,baz=65,slow=14,SNR=3.1
MAW S S 05 45 39.7 +2.4
comp=Z,1.0nm,0.9s,baz=278,slow=13,SNR=1.7
MAW LR LR 06 00 13.3
comp=Z,2µm,21.6s,MS5.4,baz=36,slow=30
MAW Mawson 68.91 195 *e*P **P** **05 36 36.2 +0.8**
MAW pmax pmax
comp=Z,12nm,1.2s
MAW MLR MLR
comp=Z,4µm,22.0s
MAW Mawson 68.91 195 *e*P **P** **05 36 36.2 +0.8**
comp=Z,12nm,1.2s,mb4.7
MAW LR LR
comp=Z,4µm,22.0s,MS5.6
ARU Arti 68.94 336 P **P** **05 36 35.1 -0.6**
comp=Z,226nm,0.8s,mb6.2,SNR=8.5
ARU Arti 68.94 336 *d* *i*P **P** **05 36 35.5 -0.2**
ARU *e* 05 36 58.9
ARU *e* 05 39 05.6
ARU *e*PPP 05 40 49.1
ARU *e*S S 05 45 40.9 +2.9
ARU 05 46 30.8
ARU SS SS 05 50 08.6 +4.5
ARU pmax pmax
comp=Z,76nm,1.7s,mb5.3
ARU MLR MLR
comp=Z,1µm,21.0s,MS5.2
ARU Arti 68.94 336 ⇑ *i*P **P** **05 36 35.0 -0.7**
YAK Yakutsk 69.12 14 *e*P **P** **05 36 34.9 -1.8**
YAK *e**PP pP 05 36 43.0 -3.4
YAK *e* 05 36 55.6
YAK *e*S S 05 45 32.4 -7.5
YAK *e* 05 46 35.6
YAK *e*SS SS 05 49 58.0 -8.5
YAK pmax pmax
comp=Z,59nm,1.0s,mb5.5
YAK pmax pmax
comp=E,17nm,1.1s
YAK pmax pmax
comp=N,18nm,0.9s
YAK smax
comp=N,176nm,11.1s
YAK MLR MLR
comp=Z,3µm,17.0s,MS5.6
YAK MLR MLR
comp=E,850nm,18.0s,MS5.5
YAK MLR MLR
comp=N,2µm,16.0s,MS5.5
YAK Yakutsk 69.12 14 *e*P **P** **05 36 35.4 -1.3**
comp=N,106nm,0.8s,mb5.8
YAK LR LR
comp=Z,3µm,20.0s,MS5.5
KIV Kislovodsk 70.20 319 P **P** **05 36 45.8 +2.0**
comp=Z,276nm,1.2s,mb6.1,SNR=5.7
KIV Kislovodsk 70.20 319 ⇓P **P** **05 36 48.4 +4.7**
SNR=7.1
KIV Kislovodsk 70.20 319 *e*P **P** **05 36 43.9 +0.1**
KIV *e* 05 37 04.5
KIV *e*S S 05 45 52.0 -1.3
KIV pmax pmax
comp=Z,38nm,1.1s,mb5.2
KIV Kislovodsk 70.20 319 ⇓ *i*P **P** **05 36 43.8 0.0**
KIV Kislovodsk 70.20 319 ⇓P **P** **05 36 43.8 +0.1**
SKR Severo-Kuril's 71.82 33 *e*P **P** **05 36 53.5 +0.1**
SOC Sochi 72.00 318 *e*P **P** **05 36 53.9 -0.8**
SOC *e**PP pP 05 37 02.3 -2.1
SOC *e**SP sP 05 37 06.2 -1.9
SOC *e* 05 37 09.9
SOC *e* 05 39 32.9
SOC *e*PPP 05 41 15.7
SOC *e*S S 05 46 11.5 -2.7
SOC *e* 05 46 55.0
SOC pmax pmax
comp=Z,58nm,1.1s,mb5.4
SOC MLR MLR
comp=Z,490nm,17.0s,MS4.8
LSZ Lusaka 72.18 255 P **P** **05 36 57.3 +1.0**
LSZ pmax pmax
comp=Z,14nm,1.2s,mb4.8
LSZ Lusaka 72.18 255 *e*P **P** **05 36 56.8 +0.5**
comp=Z,14nm,1.3s,mb4.7
LSZ LR LR
comp=Z,2µm,19.0s,MS5.3
PETK Petropavlovsk- 73.87 32 P **P** **05 37 05.2 -0.3**
comp=Z,10.0nm,0.7s,mb4.9,baz=226,slow=2.3,SNR=12
ANN Anapa 73.98 319 *e*P **P** **05 37 07.7 +1.3**
ANN *e*S S 05 46 43.2 +6.5
ANN pmax pmax
comp=Z,49nm,1.3s,mb5.3
PET Petropavlovsk 74.34 32 *e*P **P** **05 37 08.3 0.0**
PET *e*S S 05 46 40.5 +0.2
PET pmax pmax
comp=Z,800nm,5.9s
PET pmax pmax
comp=Z,73nm,0.9s,mb5.6
PET MLR MLR
comp=Z,1µm,16.0s,MS5.3
PET MLR MLR
comp=Z,1µm,15.0s
PET Petropavlovsk 74.34 32 PFAKE 05 37 20.0 +12
PET LR LR
comp=Z,1µm,19.0s,MS5.3
BR131 Keskin Array S 74.91 313 *e*P **P** **05 37 11.2 -0.7**
comp=Z,17nm,0.8s,mb5.0
BR131 *e*pP pP 05 37 19.8 -1.9
BR131 LR LR
comp=Z,815nm,20.0s,MS5.0
LBTB Lobatse 74.97 245 PFAKE 05 37 30.0 +17
LBTB LR LR
comp=Z,2µm,20.0s,MS5.3
VSR Storozhevoye 75.48 325 *e*P **P** **05 37 13.7 -1.2**
VSR *e**PP pP 05 37 22.4 -2.3
VSR *e* 05 37 30.7
VSR pmax pmax
comp=Z,10.0nm,0.8s,mb4.8
VSR pmax pmax
comp=N,4.0nm,0.5s
VSR pmax pmax
comp=E,20nm,0.6s
BOSA Boshof 75.49 242 P **P** **05 37 14.9 -0.6**
comp=E,5.5nm,0.9s,mb4.5,baz=32,slow=3.7,SNR=5.4
BOSA LR LR 06 04 27.1
comp=E,944nm,19.6s,MS5.1,baz=84,slow=31
BOSA Boshof 75.49 242 *e*P **P** **05 37 16.7 +1.2**
BOSA pmax pmax
comp=Z,4.0nm,0.9s,mb4.3
BOSA MLR MLR
comp=Z,2µm,22.0s,MS5.3
BOSA Boshof 75.49 242 *e*P **P** **05 37 16.7 +1.1**
comp=Z,4.1nm,0.9s,mb4.4
BOSA LR LR
comp=Z,2µm,22.0s,MS5.3
ANTO Ankara 75.57 313 ⇓P **P** **05 37 20.6 +4.9**
SNR=7.1
ANTO Ankara 75.57 313 *e*P **P** **05 37 13.3 -2.4**
ANTO *e**PP pP 05 37 24.0 -1.5
ANTO pmax pmax
comp=Z,54nm,1.3s,mb5.3
ANTO MLR MLR
comp=Z,951nm,19.0s,MS5.1
ANTO Ankara 75.57 313 *e*P **P** **05 37 13.3 -2.4**
comp=Z,54nm,1.3s,mb5.3
ANTO *e*pP pP 05 37 24.0 -1.5
ANTO LR LR
comp=Z,951nm,19.0s,MS5.1
SNZO South Karori 75.64 132 PFAKE 05 37 30.0 +14
SNZO LR LR
comp=Z,2µm,22.0s,MS5.4
SYO Syowa Base 76.58 199 ⇓ *e*P **P** **05 37 20.3 -0.6**
SYO Syowa Base 76.58 199 ⇓ *e*pP pP 05 37 33.6 +2.9
SEY Seymchan 76.85 22 ⇑ *e*P **P** **05 37 22.1 -0.4**
SEY Seymchan 76.85 22 ⇑ *e*P **P** **05 37 22.2 -0.3**
URZ Urewera 77.12 128 S S 05 47 12.6 +0.8
comp=Z,5.3nm,0.9s,baz=264,slow=11,SNR=2.1
TIXI Tiksi 77.33 9 *c* *i*P **P** **05 37 23.1 -1.9**
TIXI pmax pmax
comp=Z,61nm,1.6s,mb5.3
TIXI MLR MLR
comp=Z,5µm,20.0s,MS5.8
TIXI Tiksi 77.33 9 *e*P **P** **05 37 23.2 -1.7**
comp=Z,90nm,1.5s,mb5.5
TIXI LR LR
comp=Z,4µm,19.0s,MS5.7
FUNA Funafuti 78.12 98 PFAKE 05 37 40.0 +9.4
FUNA LR LR
comp=Z,14µm,20.0s,MS6.3
MOS Moscow 78.22 329 *e*P **P** **05 37 25.3 -5.0**
MOS *e* pP 05 37 35.9 -4.2
MOS *e*S S 05 47 17.5 -5.4
MOS pmax pmax
comp=Z,107nm,1.3s,mb5.6
MOS MLR MLR
comp=Z,1µm,22.0s,MS5.2
OBN Obninsk 78.51 328 ⇓ *e*P **P** **05 37 31.6 -0.3**
OBN *e* 05 40 32.9
OBN *i*S S 05 47 20.0 -6.0
OBN pmax pmax
comp=Z,127nm,2.1s,mb5.5
OBN Obninsk 78.51 328 ⇑ *i*P **P** **05 37 31.6 -0.3**
OBN LR LR
comp=Z,2µm,29.0s,MS5.2
TIRR Tirgusor 79.98 316 ⇑ *i*P **P** **05 37 39.6 -0.6**
TIRR Tirgusor 79.98 316 ⇑P **P** **05 37 39.6 -0.6**
HARR Harsova 80.37 316 ⇓ *i*P **P** **05 37 43.0 +0.7**
HARR Harsova 80.37 316 ⇓P **P** **05 37 43.0 +0.8**
KIS Kishinev 80.38 319 *e*P **P** **05 37 42.0 -0.3**
KIS *e* pP 05 37 51.0 -1.2
KIS *e*S S 05 47 44.0 -2.2
KIS MLR MLR
comp=Z,500nm,20.0s,MS4.9
KIS Kishinev 80.38 319 *e*P **P** **05 37 42.0 -0.3**
KIS *e*S S 05 47 44.0 -2.2
KIS *e*L 06 10 00.0
KIS LRM 06 17 46.0
comp=Z,500nm,20.0s
AKASG Malin Array Be 81.17 322 P **P** **05 37 44.7 -1.7**
comp=Z,7.7nm,0.8s,mb4.7,baz=91,slow=4.8,SNR=19
AKASG PP PP 05 40 49.0 -2.9
comp=Z,0.3nm,0.3s,baz=90,slow=6.5,SNR=4.1
AKASG LR LR 06 18 02.7
comp=Z,978nm,21.6s,MS5.1,baz=60,slow=39
AKASG Malin Array Be 81.17 322 P **P** **05 37 44.7 -1.7**
AKASG 05 40 49.0
AKASG Malin Array Be 81.17 322 P **P** **05 37 44.7 -1.7**
AKASG PP PP 05 40 49.0 -2.9
AKASG LR LR 06 18 02.7
AKBB Malin Array Si 81.17 322 P **P** **05 37 45.7 -0.7**
AKBB Malin Array Si 81.17 322 *e*P **P** **05 37 45.4 -0.9**
KIEV Kiev 81.17 322 P **P** **05 37 45.7 -0.7**
KIEV *e* pP 05 37 53.8 -2.5
KIEV pmax pmax
comp=Z,17nm,1.0s,mb4.9
KIEV Kiev 81.17 322 *e*P **P** **05 37 45.5 -1.0**
comp=Z,5.8nm,0.8s,mb4.6
KIEV LR LR
comp=Z,1µm,21.0s,MS5.2
VRI Vrincioaia 81.49 317 P **P** **05 37 49.1 +0.9**
VRI Vrincioaia 81.49 317 ⇓ *i*P **P** **05 37 48.9 +0.7**
PLOR Plostina 81.54 317 ⇑ *i*P **P** **05 37 49.7 +1.2**
SBA Scott Base 81.56 169 *e*P pP 05 37 56.8 -1.1
SBA pmax pmax
comp=Z,47nm,1.7s,mb5.1
SBA MLR MLR
comp=Z,689nm,19.0s,MS5.0
SBA Scott Base 81.56 169 *e*P pP 05 37 56.8 -1.1
comp=Z,47nm,1.7s
SBA LR LR
comp=Z,689nm,19.0s,MS5.0
ZIMR 81.92 315 ⇓ *i*P **P** **05 37 51.6 +1.1**
ZIMR 81.92 315 ⇓P **P** **05 37 51.6 +1.1**
MLR Muntele Rosu 81.93 317 ⇓ *i*P **P** **05 37 51.3 +0.7**
MLR Muntele Rosu 81.93 317 ⇓P **P** **05 37 51.3 +0.7**
TSUM Tsumeb 82.32 251 PFAKE 05 38 10.0 +17
TSUM LR LR
comp=Z,1µm,20.0s,MS5.2
VOIR 82.53 317 ⇓ *i*P **P** **05 37 53.6 -0.1**
VOIR 82.53 317 ⇓P **P** **05 37 53.6 -0.1**
BURAR Bucovina Array 82.91 319 ⇓ *i*P **P** **05 37 56.9 +1.3**
BURAR Bucovina Array 82.91 319 ⇓P **P** **05 37 56.9 +1.3**
BUR08 Bucovina Ar. S 82.93 319 *e*P **P** **05 37 56.5 +0.8**
MNK Minsk 83.06 326 *e*P **P** **05 37 53.0 -3.2**
JOF Joensuu 83.95 334 ep **P** **05 38 00.6 0.0**
comp=Z,16nm,0.7s,mb5.2
GZR Gura Zlata 84.09 316 P pP 05 38 12.3 +0.6
GZR Gura Zlata 84.09 316 ⇓ *i*P **P** **05 38 02.8 +1.1**
GZR Gura Zlata 84.09 316 ⇓P **P** **05 38 02.8 +1.1**
DRGR 84.41 318 P **P** **05 38 03.7 +0.4**
DRGR 84.41 318 ⇑ *i*P **P** **05 38 03.3 0.0**
DRGR 84.41 318 ⇑P **P** **05 38 03.4 0.0**
BILL Bilibino 84.42 20 ⇓ *e*P **P** **05 38 02.5 -0.4**
BILL *e* 05 41 14.7
BILL *e*S S 05 48 24.9 -1.8
BILL pmax pmax
comp=Z,28nm,1.2s,mb5.3
BILL Bilibino 84.42 20 *e*P **P** **05 38 02.3 -0.6**
comp=Z,13nm,0.4s,mb5.4
BILL LR LR
comp=Z,1µm,20.0s,MS5.3
SKO Skopje 84.42 313 *e*P **P** **05 38 02.9 -0.6**
KRUS Krusevo 84.46 312 *e*P **P** **05 38 02.9 -0.9**
OHR Ohrid 84.75 312 *e*P **P** **05 38 04.7 -0.5**
BZS Buzias 84.93 316 P **P** **05 38 06.6 +0.6**
BZS Buzias 84.93 316 ⇑ *i*P **P** **05 38 05.9 -0.1**
BZS Buzias 84.93 316 ⇑P **P** **05 38 05.9 -0.1**
UZH Uzhgorod 85.04 319 ⇑ *i*P **P** **05 38 15.3 +8.8**
UZH *e* 05 38 28.0
UZH *e* 05 48 29.0
KOLS Kolonicke sedl 85.11 320 *e*P **P** **05 38 07.4 +0.6**
KOLS *e*pP pP 05 38 16.3 -0.4
SUW Suwalki 85.58 325 *e*P **P** **05 38 08.7 -0.4**
SUW Suwalki 85.58 325 *e*P **P** **05 38 08.6 -0.4**
CRVS Cervenica-Dubn 85.63 319 *e*P **P** **05 38 10.3 +0.9**
STHS Stebnicka Huta 85.86 320 *e*P **P** **05 38 11.0 +0.5**
STHS *e* 05 38 17.1
STHS pmax pmax
comp=Z,12nm,0.8s,mb5.2
STHS Stebnicka Huta 85.86 320 *e*P **P** **05 38 11.0 +0.5**
comp=Z,12nm,0.8s,mb5.2
STHS *e* 05 38 17.1
KAF Kangasniemi 85.92 333 ep **P** **05 38 10.5 0.0**
comp=Z,15nm,0.8s,mb5.3
KAF Kangasniemi 85.92 333 *e*P **P** **05 38 10.5 0.0**
KAF pmax pmax
comp=Z,15nm,0.8s,mb5.3
NIE Niedzica 86.46 320 *e*P **P** **05 38 13.4 -0.1**
NIE *e*pP pP 05 38 22.5 -1.0
PSZ Piszkesteto 86.49 318 ⇑ *e*P **P** **05 38 13.7 0.0**
PSZ Piszkesteto 86.49 318 ⇑ *i*P **P** **05 38 14.4 +0.7**
OJC Ojcow 86.92 321 *e*P **P** **05 38 15.5 -0.2**
OJC *e*pP pP 05 38 24.5 -1.2
PKSM Moragy 87.08 316 ⇓ *i*P **P** **05 38 16.8 +0.2**
PKSM Moragy 87.08 316 ⇑ *e*P **P** **05 38 16.5 -0.1**
VYHS Vyhne 87.28 319 *e*P **P** **05 38 17.1 -0.4**
KEV Kevo 87.76 340 PFAKE 05 38 30.0 +11
KEV LR LR
comp=Z,2µm,21.0s,MS5.5
OKC Ostrava-Krasne 87.92 320 *e*P **P** **05 38 20.9 +0.4**
OKC *e**PP pP 05 38 29.6 -0.9
OKC Ostrava-Krasne 87.92 320 *e*P **P** **05 38 20.9 +0.4**
OKC *e*pP pP 05 38 29.6 -0.9
OKC *e*XS sS 05 49 15.3 -2.8
ARCES ARCESS Array B 88.21 340 P **P** **05 38 22.1 +0.6**
comp=Z,16nm,0.8s,mb5.3,baz=101,slow=5.1,SNR=16
ARCES LR LR 06 22 15.1
comp=Z,2µm,20.1s,MS5.4,baz=102,slow=39
MODS Modra-Piesok 88.29 318 *e*P **P** **05 38 22.4 +0.1**
MODS *e* pP 05 38 30.9 -1.4
MODS pmax pmax
comp=Z,39nm,1.7s,mb5.4
MODS Modra-Piesok 88.29 318 *e*P **P** **05 38 22.4 +0.1**
comp=Z,39nm,1.7s,mb5.4
MODS *e* pP 05 38 30.9 -1.4
MORC Moravsky Berou 88.30 320 ⇑ *i*P **P** **05 38 23.5 +1.2**
MORC Moravsky Berou 88.30 320 ⇑P **P** **05 38 23.5 +1.1**
ZST Bratislava 88.38 318 *e*P **P** **05 38 23.6 +0.8**
ZST *e* pP 05 38 31.7 -1.1
ZST pmax pmax
comp=Z,15nm,1.1s,mb5.1
ZST Bratislava 88.38 318 *e*P **P** **05 38 23.6 +0.8**
comp=Z,15nm,1.1s,mb5.2
ZST *e* pP 05 38 31.7 -1.1
DPC Dobruska-Polom 89.15 320 *e*P **P** **05 38 27.1 +0.8**
DPC *e*pP pP 05 38 36.0 -0.3
DPC *e*S S 05 49 13.2 0.0
KSP Ksiaz 89.22 321 *e*P **P** **05 38 28.1 +1.4**
KSP *e* pP 05 38 36.1 -0.5
KSP Ksiaz 89.22 321 *e*P **P** **05 38 27.4 +0.7**
KSP *e*pP pP 05 38 36.2 -0.5
KSP *e*S S 05 49 14.0 +0.1
UPC Upice 89.36 321 *e*P **P** **05 38 29.4 +2.1**
UPC *e*pP pP 05 38 36.4 -0.9
PERS Pernice 89.55 317 *e*P **P** **05 38 28.5 +0.2**
PERS *e*pP pP 05 38 37.8 -0.5
PERS *e*S S 05 49 16.8 -0.3
TREC Trest 89.57 319 *e*P **P** **05 38 28.2 -0.1**
TREC *e*pP pP 05 38 37.7 -0.6
TREC AMS AMS 06 25 00.0
comp=Z,700nm,15.6s
LJU Ljubljana 89.90 316 *e*P **P** **05 38 29.5 -0.5**
LJU *e* pP 05 38 38.5 -1.5
PRU Pruhonice 90.25 320 *e*P **P** **05 38 31.7 +0.2**
PRU *e*pP pP 05 38 40.0 -1.5
PRU *e*S S 05 49 19.4 -4.1
PRU AMS AMS 06 21 40.0
comp=Z,500nm,27.7s
VOY Vojsko 90.34 316 *e*P **P** **05 38 30.9 -1.1**
VOY *e*pP pP 05 38 40.6 -1.4
GEC2 GERESS Array S 90.70 319 P **P** **05 38 34.5 +0.9**
GEC2 *e* pP 05 38 42.5 -1.1
GEC2 GERESS Array S 90.70 319 *e*P **P** **05 38 33.7 +0.1**
comp=Z,106nm,1.9s,mb5.8
GEC2 *e*pP pP 05 38 42.6 -1.0
comp=Z,106nm,1.9s
GEC2 *e*S S 05 49 24.9 -2.8
GERES GERESS Array B 90.70 319 P **P** **05 38 33.7 +0.1**
comp=Z,3.6nm,0.7s,mb4.8,baz=90,slow=5.3,SNR=23
GERES LR LR 06 24 51.9
comp=Z,498nm,19.8s,MS5.0,baz=204,slow=39
BRG Berggiesshubel 90.71 321 *i*P **P** **05 38 33.9 +0.3**
BRG *i* *PP pP 05 38 42.1 -1.5
BRG pmax pmax
comp=Z,17nm,1.6s,mb5.1
BRG MLR MLR
comp=Z,540nm,19.7s,MS5.0
BRG Berggiesshubel 90.71 321 *e*P **P** **05 38 33.7 +0.1**
comp=Z,129nm,2.2s,mb5.9
BRG *e*pP pP 05 38 42.3 -1.3
comp=Z,129nm,2.2s
BRG *e*S S 05 49 27.1 -0.6
BRG Berggiesshubel 90.71 321 *i*P **P** **05 38 33.9 +0.3**
comp=Z,29nm,1.6s,mb5.3
BRG *i* pP pP 05 38 42.1 -1.5
comp=Z,129nm,2.2s
BRG
comp=N,543nm,19.0s
BRG
comp=E,386nm,23.6s
BRG
comp=Z,895nm,19.7s
BRG Berggiesshubel 90.71 321 *i*P **P** **05 38 33.9 +0.3**
comp=Z,17nm,1.6s,mb5.1
BRG *i* pP pP 05 38 42.1 -1.5
BRG LR LR
comp=Z,540nm,19.7s,MS5.0
KHC Kasperske Hory 90.80 319 *e*P **P** **05 38 32.6 -1.5**
KHC *e*pP pP 05 38 42.9 -1.2
KHC *e*S S 05 49 29.4 +0.8
KHC AMS AMS 06 26 00.0
comp=Z,1µm,22.2s
SNAA Sanae 90.84 198 *e*P **P** **05 38 35.6 +1.8**
SNAA *e* pP 05 38 43.8 0.0
SNAA *e* 05 38 49.3
RJOB Jochberg 91.22 318 *e*P **P** **05 38 35.6 -0.5**
comp=Z,14nm,0.9s,mb5.3
RJOB *e*S S 05 49 28.8 -3.7
WET Wettzell 91.26 319 *e*P **P** **05 38 36.1 -0.1**
WET *e**PP pP 05 38 45.5 -0.7
WET *e*S S 05 49 31.7 -1.1
WET pmax pmax
comp=Z,88nm,1.9s,mb5.8
WET Wettzell 91.26 319 *e*P **P** **05 38 36.1 -0.1**
comp=Z,88nm,1.9s,mb5.8
WET *e*pP pP 05 38 45.5 -0.7
WET *e*S S 05 49 31.7 -1.1
CLL Collm 91.33 321 ⇑ *i*P **P** **05 38 45.3 +2.0**
CLL *e*S S 05 49 33.0 -0.4
CLL pmax pmax
comp=Z,6.0nm,0.8s,mb5.0
CLL MLR MLR
comp=Z,700nm,19.2s,MS5.1
CLL Collm 91.33 321 *e*P **P** **05 38 36.3 -0.2**
comp=Z,59nm,2.1s,mb5.5
CLL *e*S S 05 49 31.2 -2.2
CLL Collm 91.33 321 ⇑ *i*P **P** **05 38 38.5 +2.0**
comp=Z,6.0nm,0.8s,mb5.0
CLL *i* pP pP 05 38 44.9 -1.6
CLL *e*PP PP 05 42 13.0 -1.1
CLL *e*SKSac SKSac 05 49 14.0 +7.4
CLL *e*S S 05 49 33.0 -0.4
CLL *e*PS PS 05 50 54.0 +8.1
CLL *e*SSS 05 59 18.0
CLL *e*SSSS 06 02 30.0
CLL LmV 06 30 00.0
comp=Z,700nm,19.2s
CLL Collm 91.33 321 ⇑ *i*P **P** **05 38 38.5 +2.0**
comp=Z,6.0nm,0.8s,mb5.0
CLL *e*S S 05 49 33.0 -0.4
CLL LR LR
comp=Z,700nm,19.2s,MS5.1
NKC Novy Kostel 91.61 320 *e*P **P** **05 38 39.0 +1.2**
TANN Tannenbergstha 91.62 320 *e*P **P** **05 38 37.7 -0.1**
comp=Z,112nm,2.4s,mb5.8
TANN *e*pP pP 05 38 47.0 -0.8
TANN *e*S S 05 49 35.7 -0.2
ROTZ Rotzenmuhle 91.74 320 *e*P **P** **05 38 39.0 +0.6**
comp=Z,132nm,2.4s,mb5.8
ROTZ *e*S S 05 49 37.1 0.0
MANZ Manzenberg 91.82 320 *e*P **P** **05 38 39.1 +0.3**
comp=Z,78nm,1.7s,mb5.8
MANZ *e*pP pP 05 38 47.8 -1.0
MANZ *e*S S 05 49 37.8 0.0
MOX Moxa 92.17 320 *e*P pP 05 38 50.5 +0.1
comp=Z,69nm,2.0s
MOX
comp=Z,400nm,21.0s
MOX Moxa 92.17 320 *e*P pP 05 38 50.5 +0.1
MOX pmax pmax
comp=Z,69nm,2.0s,mb5.6
MOX MLR MLR
comp=Z,400nm,21.0s,MS4.8
MOX Moxa 92.17 320 *e*P **P** **05 38 39.9 -0.5**
comp=Z,93nm,2.5s,mb5.7
MOX *e*S S 05 49 40.0 -0.9
FUR Furstenfeldbru 92.26 318 *e*S S 05 49 39.1 -2.8
GRA1 Grafenberg Arr 92.38 319 *e*P **P** **05 38 41.5 +0.1**
comp=Z,88nm,1.9s,mb5.8
GRA1 *e*pP pP 05 38 50.2 -1.2
GRA1 *e*S S 05 49 42.3 -0.5
GRA1 LR LR
comp=Z,500nm,21.0s,MS4.9
GRF Grafenberg Arr 92.38 319 *e*P **P** **05 38 41.5 +0.1**
GRF *e**PP pP 05 38 50.2 -1.2
GRF *e*S S 05 49 42.3 -0.5
GRF pmax pmax
comp=Z,88nm,1.9s,mb5.8
GRF MLR MLR
comp=Z,500nm,21.0s,MS4.9
GRF Grafenberg Arr 92.38 319 *e*P **P** **05 38 41.5 +0.1**
comp=Z,88nm,1.9s,mb5.8
GRF *e*pP pP 05 38 50.2 -1.2
GRF *e*S S 05 49 42.3 -0.5
GRF pmax pmax
comp=Z,88nm,1.9s,mb5.8
GRF MLR MLR
comp=Z,500nm,21.0s,MS4.9
GRF Grafenberg Arr 92.38 319 *e*P **P** **05 38 41.5 +0.1**
comp=Z,88nm,1.9s,mb5.8
GRF *e*pP pP 05 38 50.2 -1.2
GRF *e*S S 05 49 42.3 -0.5
GRF *e*L 06 24 45.4
comp=Z,451nm,21.0s
VNA2 Neumayer--Watz 92.45 198 *e*P **P** **05 38 42.9 +1.6**
VNA2 *e* pP 05 38 51.8 +0.5
VNA2 *e* 05 38 57.9
VNA1 Neumayer--Stat 92.82 198 *e*P pP 05 38 54.1 +1.1
NB2 NORSAR Subarra 92.87 331 P **P** **05 38 42.6 -0.8**
comp=Z,8.4nm,1.1s,mb5.1,baz=94,slow=4.8
NOA NORSAR Array B 92.87 331 P **P** **05 38 42.9 -0.5**
comp=Z,2.5nm,0.8s,mb4.7,baz=93,slow=4.7,SNR=6.5

NOA LR LR 06 27 03.0
comp=Z,670nm,18.9s,MS5.1,baz=75,slow=40
NOA NORSAR Array B 92.87 331 P **P** **05 38 42.9 -0.5**
NOA LR LR 06 27 03.0
CLZ Clausthal 93.00 322 *e*P **P** **05 38 44.1 -0.1**
CLZ *e**PP pP 05 38 53.2 -1.0
CLZ pmax pmax
comp=Z,77nm,2.2s,mb5.7
CLZ Clausthal 93.00 322 *e*P **P** **05 38 44.1 -0.1**
comp=Z,77nm,2.2s,mb5.7
CLZ *ep*P pP 05 38 53.2 -1.0
VNA3 Neumayer Olymp 93.05 198 *e*P **P** **05 38 44.5 +0.4**
VNA3 *e* pP 05 38 52.9 -1.2
VNA3 *e* 05 38 59.8
BSEG Bad Segeberg 93.11 324 *e*P **P** **05 38 44.4 -0.2**
comp=Z,94nm,2.2s,mb5.8
BSEG *e*S S 05 49 46.2 -2.9
KEST Kesra 93.17 305 P **P** **05 38 46.7 +1.3**
comp=Z,1.4nm,0.7s,mb4.5,baz=335,slow=1.2,SNR=4.0
KEST LR LR 06 23 16.6
comp=Z,365nm,18.1s,MS4.9,baz=15,slow=37
UBBA Unterbreizbach 93.20 321 *e*P **P** **05 38 44.9 -0.3**
comp=Z,38nm,1.9s,mb5.5
UBBA *ep*P pP 05 38 54.0 -1.2
UBBA *e*S S 05 49 48.3 -1.8
KBS Kingsbay 93.27 349 PFAKE 05 39 00.0 +15
KBS LR LR
comp=Z,2μm,19.0s,MS5.5
KONO Kongsberg 93.64 329 PFAKE 05 39 00.0 +13
KONO LR LR
comp=Z,814nm,19.0s,MS5.2
STU Stuttgart 93.67 318 *e*P **P** **05 38 46.9 -0.5**
comp=Z,15nm,0.5s,mb5.7
STU *e*S S 05 49 52.3 -2.0
TNS Taunus Mts 94.18 320 *e*P **P** **05 38 49.3 -0.4**
TNS *e*S S 05 49 58.3 -0.4
TNS pmax pmax
comp=Z,16nm,1.0s,mb5.4
TNS Taunus Mts 94.18 320 *e*P **P** **05 38 49.3 -0.4**
comp=Z,16nm,1.0s,mb5.4
TNS *e*S S 05 49 58.3 -0.4
BFO Black Forest 94.24 318 *e*P **P** **05 38 49.2 -0.8**
BFO *e*S S 05 49 57.7 -1.6
BFO pmax pmax
comp=Z,8.0nm,1.2s,mb5.0
BFO Black Forest 94.24 318 *e*P **P** **05 38 49.2 -0.8**
comp=Z,8.0nm,1.2s,mb5.0
BFO *e*S S 05 49 57.7 -1.6
IBBN Ibbenburen 94.62 322 *e*S S 05 49 56.9 -5.6
BUG Bochum--Univer 94.93 321 *e*S S 05 50 03.6 -1.6
LPG La Plagne 95.31 315 *e*P **P** **05 38 55.2 +0.2**
LPL La Plagne 95.33 315 *e*P **P** **05 38 54.5 -0.5**
comp=Z,20nm,1.0s,mb5.2
LPL La Plagne 95.33 315 *e*P **P** **05 38 54.5 -0.5**
LPL pmax pmax
comp=Z,10.0nm,1.0s,mb5.2
LPL La Plagne 95.33 315 *e*P **P** **05 38 54.5 -0.5**
comp=Z,9.8nm,1.0s,mb5.2
WLF Walferdange 95.67 319 *e*P **P** **05 38 56.1 -0.4**
comp=Z,24nm,1.5s,mb5.4
WLF *e*S S 05 50 10.4 -1.3
SMF Signal de Mont 97.31 316 *e*P **P** **05 39 02.1 -1.9**
comp=Z,3.1nm,0.5s,mb4.7
SMF Signal de Mont 97.31 316 *e*P **P** **05 39 02.1 -1.9**
SMF pmax pmax
comp=Z,2.0nm,0.5s,mb4.8
SMF Signal de Mont 97.31 316 *e*P **P** **05 39 02.1 -1.9**
comp=Z,1.5nm,0.5s,mb4.7
TORD Torodi Ar. Bea 99.56 283 LR LR 06 20 47.0
comp=Z,854nm,21.7s,MS5.2,baz=80,slow=33
IMA2 Indian Mountai 99.60 23 *e*P Pdif 05 39 13.7 -0.4
KDAK Kodiak Island 101.93 32 PFAKE 05 39 40.0 +16
KDAK LR LR
comp=Z,337nm,21.0s,MS4.8
COLA College 102.26 24 PFAKE 05 39 40.0 +14
COLA LR LR
comp=Z,761nm,19.0s,MS5.2
PMR Palmer 102.68 27 PFAKE 05 39 40.0 +12
PMR LR LR
comp=Z,925nm,20.0s,MS5.3
ESLA Sonseca Array 103.56 310 PFAKE 05 39 40.0 +8.3
ESLA LR LR
comp=Z,2μm,21.0s,MS5.7
PAB San Pablo 103.87 310 PFAKE 05 39 50.0 +17
PAB LR LR
comp=Z,432nm,21.0s,MS5.0
EGAK Eagle 104.97 23 PFAKE 05 39 50.0 +12
EGAK LR LR
comp=Z,990nm,19.0s,MS5.4
DBIC Dimbokro 105.83 276 PFAKE 05 44 10.0 +14
DBIC LR LR
comp=Z,635nm,21.0s,MS5.1
TBI Tubuai 106.67 116 *e*SS SS 05 59 18.7 +3.6
comp=Z,543nm,25.8s
TBI Tubuai 106.67 116 *e*LR LR 06 15 09.3
comp=Z,2μm,22.8s
PPT Papeete 107.63 110 *e*LR LR 06 15 35.3
comp=Z,707nm,21.8s
SIT Sitka 110.93 29 PFAKE 05 44 20.0 +16
SIT LR LR
comp=Z,926nm,20.0s,MS5.4
WRAK Wrangell Islan 112.67 29 PFAKE 05 44 20.0 +13
WRAK LR LR
comp=Z,830nm,20.0s,MS5.3
RKT Rikitea 119.60 119 *e*SS SS 06 02 08.6 +2.4
comp=Z,449nm,27.5s
RKT Rikitea 119.60 119 *e*LR LR 06 21 00.7
comp=Z,1μm,26.2s
C04A Brinnon 122.25 33 ⇑P PKPdf 05 44 26.0 +0.2
baz=122
B05A Bryant 122.41 33 ⇑P PKPdf 05 44 26.2 +0.1
baz=122
B06A Marblemount 122.58 32 ⇑P PKPdf 05 44 26.3 -0.1
baz=122
D04A Dobbs Creek Ra 122.70 34 ⇓P PKPdf 05 44 26.1 -0.5
baz=122
A07A Ashnola River, 122.83 31 ⇑P PKPdf 05 44 26.9 0.0
baz=123
F03A Seaside 122.94 35 ⇑P PKPdf 05 44 27.2 0.0
baz=123
C05A Tolt Reservoir 122.97 33 ⇓P PKPdf 05 44 27.4 +0.2
baz=123
D05A Enumclaw 123.10 33 ⇓P PKPdf 05 44 27.5 +0.1
baz=123
EDM Edmonton 123.18 24 PKIKP PKPdf 05 44 27.4 0.0
EDM Edmonton 123.18 24 *e*PKPdf PKPdf 05 44 27.5 0.0
B07A Winthrop 123.33 31 ⇓P PKPdf 05 44 27.8 0.0
baz=123
A08A Turner Farm, O 123.45 30 ⇓P PKPdf 05 44 27.8 -0.3
baz=123
F04A Amboy 123.59 35 ⇑P PKPdf 05 44 28.4 -0.1
baz=123
D06A Cle Elum 123.73 33 ⇓P PKPdf 05 44 28.5 -0.2
baz=124
H03A Soap Creek Ran 123.79 37 ⇑P PKPdf 05 44 28.7 -0.1
baz=124
B08A Colville Reser 123.80 31 ⇑P PKPdf 05 44 28.6 -0.2
baz=124
C07A Waterville 123.84 32 ⇑P PKPdf 05 44 28.7 -0.2
baz=124
I03A Eugene 124.19 37 ⇓P PKPdf 05 44 29.7 +0.1
baz=124
A10A Northport 124.29 30 ⇓P PKPdf 05 44 29.9 +0.2
baz=124
C08A Higginbotham F 124.32 31 ⇑P PKPdf 05 44 29.3 -0.4
baz=124
J02A Umpqua 124.33 38 ⇓P PKPdf 05 44 29.5 -0.4
baz=124
B09A Rice 124.36 30 ⇓P PKPdf 05 44 30.0 +0.2
baz=124
H04A Detroit Lake 124.44 36 ⇓P PKPdf 05 44 30.0 -0.1
baz=124
F06A Goldendale 124.62 34 ⇑P PKPdf 05 44 30.8 +0.4
baz=124
E07A Sunnyside 124.65 33 ⇑P PKPdf 05 44 30.6 +0.1
baz=124
C09A Chrisman Ranch 124.70 31 ⇓P PKPdf 05 44 30.4 -0.1
baz=124
I04A Tendick Farm, 124.81 37 ⇑P PKPdf 05 44 30.9 +0.1
baz=125
D08A Wollman Farm, 124.84 32 ⇓P PKPdf 05 44 31.0 +0.1
baz=125
A11A Hall Mountain, 124.89 29 ⇓P PKPdf 05 44 30.9 +0.1
baz=125
RSW Rattlesnake Hi 124.90 33 *e*PKPdf PKPdf 05 44 31.4 +0.5
RSW *ep*PKPdf pPKPdf 05 44 42.2 +1.0

HAWA Hanford 124.93 33 *e*PKPdf PKPdf 05 44 31.5 +0.5
HAWA LR LR
comp=Z,567nm,19.0s,MS5.3
NEW Newport 124.98 30 PFAKE 05 44 40.0 +9.0
NEW LR LR
comp=Z,813nm,22.0s,MS5.3
G06A Carlson Farm, 125.02 35 ⇓P PKPdf 05 44 31.1 -0.1
baz=125
F07A Phinny Hill Vi 125.02 34 ⇓P PKPdf 05 44 31.7 +0.5
baz=125
H05A Madras 125.02 36 ⇑P PKPdf 05 44 31.8 +0.6
baz=125
E08A Dider Farm, El 125.12 33 ⇓P PKPdf 05 44 31.9 +0.5
baz=125
HUMO Hull Mountain 125.12 39 ⇓P PKPdf 05 44 31.8 +0.3
baz=125
HUMO Hull Mountain 125.12 39 PFAKE 05 44 40.0 +8.5
HUMO LR LR
comp=Z,404nm,20.0s,MS5.1
D09A Jones Farm, Ri 125.16 32 ⇑P PKPdf 05 44 31.3 -0.1
baz=125
I05A Bend 125.28 36 ⇑P PKPdf 05 44 31.9 +0.2
baz=125
J04A Umpqua Nationa 125.30 37 ⇑P PKPdf 05 44 32.4 +0.5
baz=125
H06A Lindquist Farm 125.49 35 ⇑P PKPdf 05 44 32.7 +0.6
baz=125
G07A Ruggs Ranch, H 125.55 34 ⇓P PKPdf 05 44 32.8 +0.6
baz=125
B12A Libby 125.60 29 ⇓P PKPdf 05 44 32.8 +0.5
baz=125
E09A Wood Farm, Sta 125.60 32 ⇑P PKPdf 05 44 32.6 +0.4
baz=125
C11A Tepee Creek (N 125.70 30 ⇑P PKPdf 05 44 32.8 +0.4
baz=126
D10A Wagner Farm, O 125.71 31 ⇑P PKPdf 05 44 33.1 +0.6
baz=126
F08A Pendleton 125.71 33 ⇑P PKPdf 05 44 32.9 +0.3
baz=126
YBH Yreka Blue Hor 125.75 39 ⇓P PKPdf 05 44 33.2 +0.5
baz=126
YBH Yreka Blue Hor 125.75 39 PFAKE 05 44 40.0 +7.3
YBH LR LR
comp=Z,509nm,20.0s,MS5.2
J05A Fort Rock 125.80 37 ⇑P PKPdf 05 44 33.3 +0.5
baz=126
M02C Callahan 125.84 40 ⇑P PKPdf 05 44 33.4 +0.5
baz=126
N02C Big Bar 125.85 41 ⇑P PKPdf 05 44 33.4 +0.5
baz=126
G08A Pilot Rock 125.93 34 ⇑P PKPdf 05 44 33.5 +0.6
baz=126
H07A Lands Inn, Kim 126.01 35 ⇓P PKPdf 05 44 33.9 +0.8
baz=126
L04A Klamath Falls 126.02 38 ⇑P PKPdf 05 44 33.2 0.0
baz=126
I06A Prineville 126.03 36 ⇑P PKPdf 05 44 33.7 +0.5
baz=126
C12B Naegeli Ranch, 126.18 30 ⇑P PKPdf 05 44 33.0 -0.4
baz=126
B13A Whitefish 126.20 28 ⇑P PKPdf 05 44 33.3 -0.1
baz=126
F09A S2 Ranch, Elgi 126.24 33 ⇓P PKPdf 05 44 33.9 +0.3
baz=126
K05A Summer Lake 126.33 37 ⇑P PKPdf 05 44 34.4 +0.6
baz=126
I07A Izee 126.35 35 ⇑P PKPdf 05 44 34.2 +0.4
baz=126
M03C McCloud 126.37 40 ⇑P PKPdf 05 44 34.0 +0.1
baz=126
F10A Beach Ranch, E 126.44 32 ⇓P PKPdf 05 44 34.4 +0.5
baz=126
J06A Christmas Vall 126.47 36 ⇓P PKPdf 05 44 34.4 +0.4
baz=126
WDC Whiskeytown Da 126.47 40 ⇓P PKPdf 05 44 34.2 +0.1
baz=126
WDC Whiskeytown Da 126.47 40 PFAKE 05 44 50.0 +16
WDC LR LR
comp=Z,693nm,21.0s,MS5.3
H08A Prairie City 126.56 34 ⇓P PKPdf 05 44 34.5 +0.3
baz=126
G09A Cove 126.58 33 ⇑P PKPdf 05 44 34.1 -0.1
baz=126
C13A Hot Springs 126.64 29 ⇑P PKPdf 05 44 34.1 -0.1
baz=126
K06A Valley Falls 126.67 37 ⇓P PKPdf 05 44 34.6 +0.1
baz=126
D12A Red Ives Fores 126.69 30 ⇓P PKPdf 05 44 34.3 0.0
baz=126
E11A Bogner Ranch, 126.72 31 ⇓P PKPdf 05 44 34.3 -0.2
baz=126
B14A Marquette Ranc 126.77 28 ⇓P PKPdf 05 44 34.6 +0.1
baz=126
GASB Alder Springs 126.83 42 ⇑P PKPdf 05 44 34.5 -0.3
baz=127
J07A Hines 126.89 36 ⇓P PKPdf 05 44 34.9 0.0
baz=127
G10A Bishop Farm, J 126.93 33 ⇑P PKPdf 05 44 35.1 +0.2
baz=127
HOPS Hopland 126.93 42 PFAKE 05 44 50.0 +15
HOPS LR LR
comp=Z,645nm,19.0s,MS5.3
C14A Swan Lake 126.97 29 ⇑P PKPdf 05 44 34.7 -0.1
baz=127
I08A Drewsey 126.99 35 ⇓P PKPdf 05 44 35.3 +0.3
baz=127
H09A Durkee 127.03 34 ⇑P PKPdf 05 44 35.3 +0.2
baz=127
F11A Grangeville 127.06 32 ⇑P PKPdf 05 44 34.8 -0.3
baz=127
D13A Huson 127.10 30 ⇑P PKPdf 05 44 34.7 -0.4
baz=127
A16A West Butte Ran 127.10 26 ⇑P PKPdf 05 44 35.1 0.0
baz=127
BMO Blue Mountains 127.11 33 PKIKP PKPdf 05 44 35.5 +0.3
BMO Blue Mountains 127.11 33 *e*PKPdf PKPdf 05 44 34.3 -0.9
BMO LR LR
comp=Z,460nm,20.0s,MS5.2
B15A Bradely Ranch, 127.14 27 ⇑P PKPdf 05 44 34.2 -1.0
baz=127,SNR=5.2
MOD Modoc 127.15 38 ⇓P PKPdf 05 44 35.1 -0.3
baz=127
MOD Modoc 127.15 38 *e*PKPdf PKPdf 05 44 36.2 +0.8
MOD LR LR
comp=Z,570nm,19.0s,MS5.3
G11A Walters Elk Ra 127.32 32 ⇓P PKPdf 05 44 35.5 -0.1
baz=127
K07A Rock Creek Ran 127.33 37 ⇑P PKPdf 05 44 36.3 +0.6
baz=127
J08A Circle Bar Ran 127.39 35 ⇑P PKPdf 05 44 36.0 +0.2
baz=127
MNRC McLaughlin Nat 127.42 42 ⇓P PKPdf 05 44 35.3 -0.7
baz=127
C15A Salmond Ranch, 127.50 28 ⇑P PKPdf 05 44 35.4 -0.5
baz=127,SNR=6.9
MSO Missoula 127.54 29 PFAKE 05 44 50.0 +14
MSO LR LR
comp=Z,506nm,19.0s,MS5.2
O04C Chester 127.55 40 ⇑P PKPdf 05 44 36.1 -0.1
baz=127
D14A Greenough 127.57 29 ⇑P PKPdf 05 44 35.9 -0.2
baz=127
H10A Noah's Angus R 127.59 33 ⇑P PKPdf 05 44 35.3 -0.9
baz=127
F12A Elk City 127.61 31 ⇑P PKPdf 05 44 36.1 -0.1
baz=127
E13A Victor 127.69 30 ⇓P PKPdf 05 44 35.7 -0.6
baz=127
K08A Mann Creek Ran 127.76 36 ⇑P PKPdf 05 44 36.9 +0.4
baz=128
J09A Fr'pan Ranch, 127.81 35 ⇑P PKPdf 05 44 36.8 +0.2
baz=128
CHMT Chamberlain Mo 127.82 29 *e*PKPdf PKPdf 05 44 36.5 0.0
WVOR Wild Horse Val 127.85 36 PFAKE 05 44 50.0 +13
WVOR LR LR
comp=Z,537nm,21.0s,MS5.2
I10A Payette 127.88 34 ⇓P PKPdf 05 44 37.2 +0.5
baz=128
C16A Fuhringer Ranc 127.88 27 ⇑P PKPdf 05 44 36.3 -0.3
baz=128
H11A Donnelly 127.91 33 ⇓P PKPdf 05 44 36.8 +0.1
baz=128
E14A Clinton 128.05 30 ⇓P PKPdf 05 44 37.0 +0.1
baz=128
F13A Darby 128.06 31 ⇓P PKPdf 05 44 36.9 -0.1
baz=128
D15A Lincoln 128.07 28 ⇑P PKPdf 05 44 36.9 -0.1
baz=128

N06A Buffalo Meadow 128.10 39 ⇑P PKPdf 05 44 37.3 +0.1
baz=128
M07A Soldier Meadow 128.14 38 ⇑P PKPdf 05 44 37.6 +0.3
baz=128
L08A Fields 128.17 37 ⇑P PKPdf 05 44 37.7 +0.3
baz=128
K09A Rome 128.22 36 ⇑P PKPdf 05 44 37.5 +0.1
baz=128
BEKR Beckwourth 128.26 40 ⇑P PKPdf 05 44 37.6 0.0
baz=128
O06A Flanigan 128.43 39 ⇓P PKPdf 05 44 37.6 -0.3
baz=128
C17A Wharram Farm, 128.45 27 ⇑P PKPdf 05 44 37.4 -0.3
baz=128
I11A Placerville 128.46 33 ⇓P PKPdf 05 44 37.7 -0.1
baz=128
E15A Deer Lodge 128.46 29 ⇑P PKPdf 05 44 37.4 -0.3
baz=128
D16A Dana Ranch, Ca 128.54 28 ⇓P PKPdf 05 44 37.3 -0.6
baz=128,SNR=6.2
M08A Happy Creek Ra 128.59 37 ⇑P PKPdf 05 44 38.7 +0.6
baz=128
G13A Cobalt 128.59 31 ⇑P PKPdf 05 44 37.8 -0.2
baz=128
EGMT Eagleton 128.60 26 ⇑P PKPdf 05 44 37.8 -0.2
baz=128
EGMT Eagleton 128.60 26 *e*PKPdf PKPdf 05 44 38.8 +0.8
EGMT LR LR
comp=Z,774nm,20.0s,MS5.4
LAVA Lava Cap Winer 128.61 41 ⇑P PKPdf 05 44 38.4 +0.1
baz=128
N07B Gerlach 128.62 38 ⇓P PKPdf 05 44 38.8 +0.5
baz=128
H12A Diamond D Ranc 128.63 32 ⇓P PKPdf 05 44 38.6 +0.5
baz=128
K10A MacKenzie Ranc 128.67 35 ⇑P PKPdf 05 44 38.6 +0.3
baz=128
L09A Wilkinson Ranc 128.67 36 ⇓P PKPdf 05 44 39.1 +0.8
baz=128
E16A East Helena 128.84 28 ⇓P PKPdf 05 44 39.3 +0.8
baz=129
D17A Six Diamond Ra 128.85 27 ⇓P PKPdf 05 44 38.3 -0.2
baz=129
MFID Camas Ranch 128.85 34 ⇑P PKPdf 05 44 39.2 +0.6
baz=129
G14A Jackson 128.88 31 ⇑P PKPdf 05 44 38.9 +0.3
baz=129
H13A Challis 128.94 32 ⇑P PKPdf 05 44 38.3 -0.4
baz=129
F15A Butte 128.95 29 ⇓P PKPdf 05 44 38.4 -0.4
baz=129
WCN Washoe City 128.96 40 ⇑P PKPdf 05 44 38.9 0.0
baz=129
I12A Atlanta 128.99 33 ⇓P PKPdf 05 44 38.7 -0.2
baz=129
O07A Toulon 129.03 39 ⇓P PKPdf 05 44 39.1 0.0
baz=129
K11A Parker Ranch, 129.15 35 ⇑P PKPdf 05 44 39.8 +0.6
baz=129
PACP Pacheco Peak 129.16 44 ⇑P PKPdf 05 44 39.4 +0.1
baz=129
M09A Marrel Ranch, 129.16 37 ⇑P PKPdf 05 44 39.3 0.0
baz=129
SAO San Andreas Ge 129.17 44 PFAKE 05 44 50.0 +11
SAO LR LR
comp=Z,361nm,19.0s,MS5.1
D18A Linhart Farms, 129.21 27 ⇑P PKPdf 05 44 39.5 +0.3
baz=129
CMB Columbia Colle 129.23 42 ⇓P PKPdf 05 44 39.6 +0.1
baz=129
CMB Columbia Colle 129.23 42 PFAKE 05 44 50.0 +11
CMB LR LR
comp=Z,461nm,21.0s,MS5.2
DLMT Dillon 129.24 30 *e*PKPdf PKPdf 05 44 39.3 0.0
DLMT *ep*PKPdf pPKPdf 05 44 50.6 +1.0
E17A Martinsdale 129.28 28 ⇑P PKPdf 05 44 39.2 -0.1
baz=129
L10A Juniper Basin 129.34 36 ⇑P PKPdf 05 44 40.4 +0.8
baz=129
J12A Stokes Ranch, 129.36 34 ⇓P PKPdf 05 44 40.1 +0.6
baz=129
H14A Leadore 129.37 31 ⇓P PKPdf 05 44 40.1 +0.6
baz=129
O08A Rochester Mine 129.41 38 ⇓P PKPdf 05 44 40.3 +0.5
baz=129
G15A Dillon 129.43 30 ⇑P PKPdf 05 44 40.1 +0.5
baz=129,SNR=9.6
I13A Wildhorse Cree 129.45 32 ⇓P PKPdf 05 44 40.3 +0.6
baz=129
N09A Rock Creek Ran 129.46 37 ⇓P PKPdf 05 44 40.6 +0.8
baz=129
MCMT McKenzie Canyo 129.49 31 *e*PKPdf PKPdf 05 44 40.5 +0.8
BOZ Bozeman (W) 129.51 29 ⇑P PKPdf 05 44 40.2 +0.4
baz=129
BOZ Bozeman (W) 129.51 29 PFAKE 05 44 50.0 +10
BOZ LR LR
comp=Z,581nm,21.0s,MS5.2
HLID Hailey 129.53 33 ⇑P PKPdf 05 44 40.8 +0.9
baz=129
HLID Hailey 129.53 33 PFAKE 05 44 50.0 +10
HLID LR LR
comp=Z,668nm,20.0s,MS5.3
R06C Coleville 129.59 41 ⇑P PKPdf 05 44 40.7 +0.6
baz=129
E18A Harlowton 129.64 27 ⇑P PKPdf 05 44 40.5 +0.5
baz=129
M10A I.L. Ranch, Tu 129.64 36 ⇑P PKPdf 05 44 40.3 +0.2
baz=129
V03C Hunter Liggett 129.69 45 ⇓P PKPdf 05 44 39.8 -0.6
baz=130
L11A Cat Creek Ranc 129.69 35 ⇑P PKPdf 05 44 41.5 +1.2
baz=130
G16A Moss Hill, Enn 129.72 30 ⇑P PKPdf 05 44 40.4 +0.2
baz=130
H15A Lima 129.74 31 ⇑P PKPdf 05 44 40.3 +0.1
baz=130
J13A Cove Ranch, Pi 129.77 33 ⇑P PKPdf 05 44 40.5 +0.2
baz=130
I14A Mackay 129.80 32 ⇓P PKPdf 05 44 40.6 +0.2
baz=130
K12A Draper Farm, C 129.87 34 ⇑P PKPdf 05 44 40.5 -0.1
baz=130
BMN Battle Mountai 129.90 38 PFAKE 05 44 50.0 +9.3
BMN LR LR
comp=Z,595nm,20.0s,MS5.3
L12A House Creek Ra 130.13 35 ⇓P PKPdf 05 44 41.2 +0.2
baz=130
J14A Carey 130.17 32 ⇓P PKPdf 05 44 41.2 +0.1
baz=130
QLMT Earthquake Lak 130.19 30 *e*PKPdf PKPdf 05 44 42.1 +1.0
QLMT *ep*PKPdf pPKPdf 05 44 52.7 +1.3
F18A Big Timber 130.23 28 ⇑P PKPdf 05 44 41.2 +0.1
baz=130
T06C Millerton Lake 130.23 43 ⇑P PKPdf 05 44 41.6 +0.2
baz=130
K13A Stover Farm, H 130.32 33 ⇓P PKPdf 05 44 41.8 +0.4
baz=130
KCC Kaiser Creek 130.33 42 ⇓P PKPdf 05 44 41.5 -0.1
baz=130
H16A Russell Place, 130.38 30 ⇓P PKPdf 05 44 41.9 +0.5
baz=130
Q08A Gabbs 130.38 40 ⇓P PKPdf 05 44 41.9 +0.2
baz=130
NVAR Mina Array Bea 130.39 40 PKP PKPdf 05 44 42.0 +0.3
comp=Z,2.5nm,0.8s,baz=270,slow=2.2,SNR=17
DGMT Dagmar 130.48 22 PFAKE 05 44 50.0 +8.5
DGMT LR LR
comp=Z,830nm,20.0s,MS5.4
YMR Madison River 130.54 30 *e*PKPdf PKPdf 05 44 44.1 +2.4
YMR LR LR
comp=Z,1μm,20.0s,MS5.5
N11A Elko Archery C 130.56 36 ⇓P PKPdf 05 44 42.7 +0.7
baz=130
M12A Wells 130.66 35 ⇑P PKPdf 05 44 42.7 +0.6
baz=130
J15A Blackfoot 130.70 32 ⇓P PKPdf 05 44 42.5 +0.4
baz=130,SNR=6.7
L13A Double Diamond 130.77 34 ⇑P PKPdf 05 44 43.5 +1.3
baz=130
I16A Newdale 130.85 31 ⇑P PKPdf 05 44 43.3 +0.9
baz=131
P10A Eureka 130.85 38 ⇑P PKPdf 05 44 43.4 +0.8
baz=131
K14A Jones Ranch, D 130.88 33 ⇑P PKPdf 05 44 43.3 +0.8
baz=131
LKWY Lake 130.89 29 PFAKE 05 44 50.0 +7.6
LKWY LR LR
comp=Z,1μm,20.0s,MS5.6

ELK	**Elko**	**130.90**	**36**	PFAKE		05 44 50.0	+7.4
ELK				LR	LR		
comp=Z,539nm,21.0s,MS5.2							
H17A	**Grant Village**	**130.93**	**30**	⇓P	PKPdf	05 44 43.3	+0.8
	baz=131						
N12A	**Clover Valley,**	**130.94**	**36**	⇓P	PKPdf	05 44 42.9	+0.2
	baz=131						
RLMT	**Red Lodge**	**131.02**	**28**	PFAKE		05 44 50.0	+7.3
RLMT				LR	LR		
comp=Z,1μm,19.0s,MS5.6							
O11A	**Cowboy Ranch,**	**131.03**	**37**	⇑P	PKPdf	05 44 43.6	+0.7
	baz=131						
K15A	**Arbon**	**131.14**	**32**	⇑P	PKPdf	05 44 43.5	+0.5
	baz=131						
LAO	**LASA Array**	**131.15**	**24**	*e*PKPdf	PKPdf	05 44 44.7	+1.8
LAO				LR	LR		
comp=Z,861nm,19.0s,MS5.5							
L14A	**Malta**	**131.19**	**34**	⇑P	PKPdf	05 44 43.3	+0.3
	baz=131						
J16A	**Bone**	**131.21**	**31**	⇓P	PKPdf	05 44 43.1	0.0
	baz=131						
PKM	**Peak Mountain**	**131.25**	**45**	⇓P	PKPdf	05 44 43.8	+0.4
	baz=131						
I17A	**Pilgram Creek**	**131.28**	**30**	⇓P	PKPdf	05 44 43.7	+0.5
	baz=131						
TPH	**Tonopah**	**131.29**	**40**	PFAKE		05 45 00.0	+17
TPH				LR	LR		
comp=Z,407nm,20.0s,MS5.1							
R09A	**Tonopah**	**131.29**	**40**	⇓P	PKPdf	05 44 43.4	0.0
	baz=131						
MOOW	**Moose Ponds**	**131.32**	**30**	*e*PKPdf	PKPdf	05 44 43.5	+0.2
TPAW	**Teton Pass**	**131.40**	**31**	*ep*PKPdf	PKPdf	05 44 43.8	+0.3
ULM	**Lac du Bonnet**	**131.46**	**14**	PKP	PKPdf	05 44 43.7	+0.4
comp=Z,6.8nm,0.8s,baz=83,slow=1.6,SNR=4.2							
ULM	**Lac du Bonnet**	**131.46**	**14**	PKP	PKPdf	05 44 43.7	+0.3
ULM				LR	LR		
comp=Z,1μm,20.0s,MS5.6							
S09A	**Goldfield**	**131.49**	**41**	⇑P	PKPdf	05 44 44.3	+0.5
	baz=131						
O12A	**Currie**	**131.49**	**36**	⇑P	PKPdf	05 44 43.8	+0.1
	baz=131						
M14A	**Sheep Mountain**	**131.49**	**34**	⇓P	PKPdf	05 44 43.8	+0.1
	baz=131,SNR=11						
SNOW	**Snow King Moun**	**131.52**	**30**	*e*PKPdf	PKPdf	05 44 44.3	+0.7
SNOW				*ep*PKPdf	pPKPdf	05 44 54.9	+0.9
K16A	**Soda Springs**	**131.53**	**32**	⇑P	PKPdf	05 44 44.3	+0.6
	baz=131						
REDW	**Red Top Meadow**	**131.54**	**31**	*e*PKPdf	PKPdf	05 44 44.2	+0.5
REDW				*ep*PKPdf	pPKPdf	05 44 55.9	+1.9
L15A	**Malad City**	**131.68**	**33**	⇓P	PKPdf	05 44 44.4	+0.4
	baz=131						
R10A	**Warm Springs**	**131.75**	**39**	⇓P	PKPdf	05 44 44.5	+0.3
	baz=132						
S10A	**Tonopah Range,**	**131.78**	**40**	⇓P	PKPdf	05 44 44.5	+0.2
	baz=132						
ISA	**Isabella**	**131.79**	**44**	⇓P	PKPdf	05 44 44.5	+0.1
	baz=132						
ISA	**Isabella**	**131.79**	**44**	PFAKE		05 45 00.0	+16
ISA				LR	LR		
comp=Z,425nm,21.0s,MS5.1							
GRAC	**Grapevine Rang**	**131.80**	**41**	⇑P	PKPdf	05 44 44.8	+0.4
	baz=132						
Q11A	**Duckwater**	**131.82**	**38**	⇑P	PKPdf	05 44 44.7	+0.3
	baz=132						
AHID	**Auburn Hatcher**	**131.84**	**31**	PFAKE		05 45 00.0	+16
AHID				LR	LR		
comp=Z,456nm,20.0s,MS5.2							
N14A	**Grayback Hills**	**132.01**	**35**	⇑P	PKPdf	05 44 44.7	+0.1
	baz=132,SNR=12						
M15A	**Larsen Ranch,**	**132.02**	**34**	⇑P	PKPdf	05 44 44.9	+0.2
	baz=132,SNR=5.1						
O13A	**Hicks Ranch, I**	**132.03**	**36**	⇑P	PKPdf	05 44 45.7	+0.9
	baz=132						
BGU	**Big Grassy Mou**	**132.05**	**35**	*e*PKPdf	PKPdf	05 44 45.5	+0.7
BGU				*ep*PKPdf	pPKPdf	05 44 54.9	-0.1
DAC	**Darwin (Calif)**	**132.06**	**42**	PFAKE		05 45 00.0	+15
DAC				LR	LR		
comp=Z,452nm,20.0s,MS5.2							
R11A	**Troy Canyon, C**	**132.17**	**39**	⇓P	PKPdf	05 44 45.9	+0.9
	baz=132,SNR=20						
L16A	**Fish Haven**	**132.19**	**32**	⇓P	PKPdf	05 44 46.1	+1.1
	baz=132						
MPMC	**Manual Prospec**	**132.25**	**43**	⇑P	PKPdf	05 44 46.0	+0.7
	baz=132,SNR=6.6						
N15A	**Stansbury Isla**	**132.36**	**34**	⇑P	PKPdf	05 44 45.3	-0.1
	baz=132,SNR=9.0						
HWUT	**Hardware Ranch**	**132.40**	**33**	*e*PKPdf	PKPdf	05 44 46.3	+0.9
HWUT				*ep*PKPdf	pPKPdf	05 44 56.3	+0.6
HWUT				LR	LR		
comp=Z,685nm,20.0s,MS5.4							
LRMC	**Laurel Mountai**	**132.43**	**43**	⇓P	PKPdf	05 44 46.9	+1.2
	baz=132						
P13A	**Bates Ranch, G**	**132.44**	**37**	⇓P	PKPdf	05 44 46.3	+0.8
	baz=132						
FURC	**Furnace Creek,**	**132.44**	**42**	⇑P	PKPdf	05 44 46.4	+0.7
	baz=132						
EDW2	**Edwards Air Fo**	**132.54**	**44**	⇓P	PKPdf	05 44 46.0	+0.2
	baz=132,SNR=7.0						
M16A	**Huntsville**	**132.57**	**33**	⇑P	PKPdf	05 44 46.3	+0.6
	baz=132						
TPNV	**Topopah Spring**	**132.57**	**41**	⇓P	PKPdf	05 44 46.5	+0.6
	baz=132						
TPNV	**Topopah Spring**	**132.57**	**41**	PFAKE		05 45 00.0	+14
TPNV				LR	LR		
comp=Z,595nm,20.0s,MS5.3							
BW06	**Boulder Array**	**132.62**	**30**	⇑P	PKPdf	05 44 46.3	+0.5
	baz=132						
BW06	**Boulder Array**	**132.62**	**30**	PFAKE		05 45 00.0	+14
BW06				LR	LR		
comp=Z,593nm,20.0s,MS5.3							
PDAR	**Pinedale Array**	**132.62**	**30**	PKP	PKPdf	05 44 46.4	+0.6
comp=Z,0.8nm,0.8s,baz=158,slow=4.3,SNR=3.6							
PDAR				PP	PP	05 47 07.5	-1.8
comp=Z,0.8nm,0.8s,baz=333,slow=1.7,SNR=4.0							
DUG	**Dugway**	**132.66**	**35**	⇓P	PKPdf	05 44 46.3	+0.4
	baz=132,SNR=6.8						
DUG	**Dugway**	**132.66**	**35**	*e*PKPdf	PKPdf	05 44 47.5	+1.5
DUG				*ep*PKPdf	pPKPdf	05 44 57.3	+1.1
DUG				LR	LR		
comp=Z,622nm,21.0s,MS5.3							
Q13A	**Wheeler Ranch,**	**132.75**	**37**	⇑P	PKPdf	05 44 46.8	+0.6
	baz=132						
U10A	**Ash Meadows, A**	**132.82**	**41**	⇑P	PKPdf	05 44 46.8	+0.5
	baz=133						
MWC	**Mount Wilson**	**132.84**	**45**	PFAKE		05 45 00.0	+14
MWC				LR	LR		
comp=Z,552nm,19.0s,MS5.3							
P14A	**Drum Mountains**	**132.91**	**36**	⇓P	PKPdf	05 44 47.0	+0.6
	baz=133,SNR=10						
N16A	**Rees Ranch, Co**	**132.97**	**33**	⇓P	PKPdf	05 44 47.4	+0.9
	baz=133						
T11A	**Corn Creek, Al**	**133.06**	**40**	⇓P	PKPdf	05 44 48.0	+1.3
	baz=133,SNR=7.3						
S12A	**Delamar Landin**	**133.08**	**39**	⇓P	PKPdf	05 44 48.4	+1.6
	baz=133,SNR=7.0						
BFSC	**Mount Baldy St**	**133.12**	**45**	⇓P	PKPdf	05 44 48.0	+1.0
	baz=133						
SCI	**San Clemente I**	**133.13**	**47**	⇓P	PKPdf	05 44 47.5	+0.5
	baz=133						
GSC	**Goldstone**	**133.13**	**43**	⇓P	PKPdf	05 44 47.9	+0.9
	baz=133						
GSC	**Goldstone**	**133.13**	**43**	PFAKE		05 45 00.0	+13
GSC				LR	LR		
comp=Z,491nm,20.0s,MS5.2							
SHOC	**Shoshone**	**133.15**	**42**	⇓P	PKPdf	05 44 47.4	+0.5
	baz=133						
Q14A	**Sevier Lake (B**	**133.18**	**37**	⇑P	PKPdf	05 44 47.6	+0.6
	baz=133						
N17A	**Moffit Pass**	**133.26**	**33**	⇓P	PKPdf	05 44 47.6	+0.6
	baz=133						
AGMN	**Agassiz Refuge**	**133.26**	**15**	PFAKE		05 45 00.0	+13
AGMN				LR	LR		
comp=Z,941nm,20.0s,MS5.5							
DAU	**Daniels Canyon**	**133.39**	**34**	*e*PKIKP	PKPdf	05 44 48.1	+0.8
MPU	**Maple Canyon**	**133.45**	**34**	PFAKE		05 45 00.0	+13
MPU				LR	LR		
comp=Z,883nm,21.0s,MS5.5							
S13A	**Holt Ranch, En**	**133.71**	**39**	⇑P	PKPdf	05 44 49.0	+1.0
	baz=134,SNR=5.4						
HEC	**Hector,Ludlow**	**133.72**	**43**	⇓P	PKPdf	05 44 48.1	0.0
	baz=134						
V11A	**Goodsprings**	**133.75**	**42**	⇑P	PKPdf	05 44 48.3	+0.2
	baz=134						
MURC	**Murrieta**	**133.78**	**45**	⇑P	PKPdf	05 44 49.5	+1.3
	baz=134						
O17A	**Robinson Place**	**133.83**	**34**	⇑P	PKPdf	05 44 49.4	+1.3
	baz=134						
N18A	**Larsen Ranch,**	**133.86**	**32**	⇑P	PKPdf	05 44 49.4	+1.3
	baz=134						
U12A	**Valley of Fire**	**133.98**	**40**	⇓P	PKPdf	05 44 49.8	+1.3
	baz=134						
S14A	**Cedar City**	**134.03**	**38**	⇓P	PKPdf	05 44 49.8	+1.2
	baz=134						
T13A	**Saint George**	**134.03**	**39**	⇓P	PKPdf	05 44 49.8	+1.2
	baz=134						
CCUT	**Cedar City**	**134.04**	**38**	*e*PKPdf	PKPdf	05 44 50.3	+1.7
MVU	**Marysvale**	**134.12**	**36**	PFAKE		05 45 00.0	+11
MVU				LR	LR		
comp=Z,568nm,20.0s,MS5.3							
RSSD	**Black Hills**	**134.13**	**25**	*e*PKIKP	PKPdf	05 44 48.9	+0.3
RSSD				MLR	MLR		
comp=Z,888nm,21.0s,MS5.5							
MSU	**Marysvale**	**134.14**	**36**	*e*PKIKP	PKPdf	05 44 50.4	+1.6
N19A	**John Jarvie Ra**	**134.18**	**32**	⇓P	PKPdf	05 44 49.8	+1.0
	baz=134						
O18A	**Roosevelt**	**134.18**	**33**	⇓P	PKPdf	05 44 49.8	+1.0
	baz=134						
GMRC	**Granite Mounta**	**134.20**	**43**	⇑P	PKPdf	05 44 50.1	+1.1
	baz=134						
PFO	**Pinyon Flat Ob**	**134.30**	**45**	⇑P	PKPdf	05 44 50.0	+0.7
	baz=134						
Q16A	**Castle Valley**	**134.46**	**35**	⇓P	PKPdf	05 44 50.6	+1.2
	baz=134						
EYMN	**Ely**	**134.60**	**11**	PFAKE		05 45 00.0	+11
EYMN				LR	LR		
comp=Z,1μm,21.0s,MS5.5							
O19A	**Miners Draw (B**	**134.63**	**32**	⇓P	PKPdf	05 44 50.5	+0.9
	baz=134						
SRU	**San Rafael**	**134.70**	**35**	⇓P	PKPdf	05 44 50.9	+1.1
	baz=134						
SRU	**San Rafael**	**134.70**	**35**	*e*PKPdf	PKPdf	05 44 50.3	+0.5
R16A	**Teasdale**	**134.70**	**36**	⇑P	PKPdf	05 44 50.6	+0.8
	baz=134						
MONP	**Monument Peak**	**134.71**	**46**	⇑P	PKPdf	05 44 50.7	+0.7
	baz=134						
IRM	**Mountain**	**134.90**	**43**	⇓P	PKPdf	05 44 50.9	+0.6
	baz=135						
Q18A	**Rafter H Ranch**	**134.92**	**34**	⇓P	PKPdf	05 44 50.7	+0.5
	baz=135						
BC3	**Big Chuckw Mtn**	**134.97**	**44**	⇓P	PKPdf	05 44 51.3	+0.9
	baz=135						
S16A	**Weppner Ranch,**	**135.00**	**37**	⇓P	PKPdf	05 44 51.1	+0.7
	baz=135						
R17A	**Hanksville Air**	**135.06**	**35**	⇓P	PKPdf	05 44 51.7	+1.2
	baz=135						
SWSC	**Sam W. Stewart**	**135.12**	**45**	⇑P	PKPdf	05 44 51.6	+0.8
	baz=135						
PLCA	**Paso Flores**	**135.15**	**189**	PFAKE		05 45 00.0	+9.4
PLCA				LR	LR		
comp=Z,968nm,21.0s,MS5.5							
P19A	**Cripple Cowboy**	**135.19**	**33**	⇓P	PKPdf	05 44 51.7	+1.0
	baz=135						
W13A	**Hualapai Mount**	**135.20**	**41**	⇑P	PKPdf	05 44 52.1	+1.3
	baz=135						
V14A	**Boquillas Ranc**	**135.39**	**40**	⇑P	PKPdf	05 44 52.7	+1.5
	baz=135						
U15A	**North Rim**	**135.41**	**39**	⇓P	PKPdf	05 44 52.4	+1.2
	baz=135						
Q19A	**Hogan Spring (**	**135.51**	**34**	⇑P	PKPdf	05 44 52.4	+1.1
	baz=135						
TRQA	**Tornquist**	**135.54**	**200**	PFAKE		05 45 00.0	+8.6
TRQA				LR	LR		
comp=Z,662nm,20.0s,MS5.4							
R18A	**Canyonlands Na**	**135.55**	**35**	⇑P	PKPdf	05 44 52.7	+1.3
	baz=135						
Y12C	**Blythe**	**135.56**	**43**	⇑P	PKPdf	05 44 53.2	+1.6
	baz=135						
RCBR	**Riachuelo**	**135.64**	**258**	PFAKE		05 45 00.0	+7.7
RCBR				LR	LR		
comp=Z,820nm,19.0s,MS5.5							
W14A	**Seligman**	**135.66**	**41**	⇓P	PKPdf	05 44 53.3	+1.6
	baz=136						
GLA	**Glamis**	**135.74**	**44**	PFAKE		05 45 00.0	+8.1
GLA				LR	LR		
comp=Z,483nm,22.0s,MS5.2							
V15A	**Kaibab Nationa**	**135.87**	**39**	⇓P	PKPdf	05 44 53.8	+1.8
	baz=136						
T17A	**Navajo Res., N**	**135.96**	**37**	⇑P	PKPdf	05 44 53.7	+1.5
	baz=136						
S18A	**Hurst Farm, Bl**	**135.97**	**36**	⇓P	PKPdf	05 44 54.0	+1.8
	baz=136						
R19A	**Curley Farm, L**	**135.98**	**34**	⇓P	PKPdf	05 44 53.6	+1.4
	baz=136						
PV10	**Paradox Valley**	**136.04**	**34**	*e*PKPdf	PKPdf	05 44 53.8	+1.5
X14A	**Yava**	**136.24**	**41**	⇑P	PKPdf	05 44 54.6	+1.8
	baz=136						
U17A	**Shonto**	**136.30**	**37**	⇑P	PKPdf	05 44 54.2	+1.4
	baz=136						
T18A	**Mexican Hat**	**136.41**	**36**	⇓P	PKPdf	05 44 54.6	+1.5
	baz=136						
S19A	**Harvey Farm, M**	**136.43**	**35**	⇓P	PKPdf	05 44 54.0	+0.9
	baz=136						
PV01	**Paradox Valley**	**136.47**	**34**	*e*PKPdf	PKPdf	05 44 51.9	-1.2
Y14A	**Wickenburg**	**136.48**	**42**	⇑P	PKPdf	05 44 54.2	+1.0
	baz=136						
WUAZ	**Wupatki**	**136.56**	**39**	⇓P	PKPdf	05 44 54.4	+1.0
	baz=136						
WUAZ	**Wupatki**	**136.56**	**39**	*e*PKPdf	PKPdf	05 44 54.5	+1.1
WUAZ				LR	LR		
comp=Z,455nm,20.0s,MS5.2							
113A	**Mohawk Valley,**	**136.64**	**44**	⇑P	PKPdf	05 44 54.8	+1.2
	baz=136						
X15A	**Humboldt**	**136.66**	**41**	⇓P	PKPdf	05 44 55.0	+1.5
	baz=136						
W16A	**Flagstaff**	**136.73**	**40**	⇑P	PKPdf	05 44 55.5	+1.8
	baz=136						
ISCO	**Idaho Springs**	**136.81**	**30**	PFAKE		05 45 10.0	+16
ISCO				LR	LR		
comp=Z,602nm,20.0s,MS5.3							
COWI	**Conover**	**136.81**	**10**	PFAKE		05 45 10.0	+16
COWI				LR	LR		
comp=Z,779nm,20.0s,MS5.4							
Z14A	**Wintersburg**	**136.86**	**43**	⇓P	PKPdf	05 44 55.4	+1.4
	baz=137						
Y15A	**Casa Rosa Ranc**	**136.91**	**42**	⇓P	PKPdf	05 44 55.4	+1.3
	baz=137						
MVCO	**Mesa Verde**	**137.16**	**35**	⇓P	PKPdf	05 44 56.0	+1.6
	baz=137						
MVCO	**Mesa Verde**	**137.16**	**35**	PFAKE		05 45 10.0	+16
MVCO				LR	LR		
comp=Z,587nm,20.0s,MS5.3							
ECSD	**EROS,Sioux Fal**	**137.20**	**18**	*e*PKPdf	PKPdf	05 44 52.4	-1.9
ECSD				LR	LR		
comp=Z,1μm,19.0s,MS5.6							
X16A	**Lo Mia Camp, P**	**137.21**	**40**	⇓P	PKPdf	05 44 55.8	+1.2
	baz=137						
V18A	**Ganado**	**137.33**	**38**	⇑P	PKPdf	05 44 56.5	+1.7
	baz=137						
Y16A	**Circle Bar Ran**	**137.52**	**41**	⇑P	PKPdf	05 44 57.2	+2.0
	baz=137						
OGNE	**Ogallala**	**137.57**	**26**	PFAKE		05 45 10.0	+15
OGNE				LR	LR		
comp=Z,658nm,20.0s,MS5.4							
PKME	**Peaks-Kenny Pk**	**137.59**	**350**	PFAKE		05 45 10.0	+15
PKME				LR	LR		
comp=Z,685nm,21.0s,MS5.4							
X17A	**Forest Lakes**	**137.67**	**40**	⇑P	PKPdf	05 44 57.4	+1.9
	baz=138						
115A	**Sonoran Desert**	**137.73**	**43**	⇑P	PKPdf	05 44 57.4	+1.8
	baz=138						
V19A	**Window Rock**	**137.87**	**37**	⇓P	PKPdf	05 44 58.1	+2.3
	baz=138						
Y17A	**Roosevelt**	**138.05**	**41**	⇓P	PKPdf	05 44 57.3	+1.2
	baz=138						
W19A	**Sanders**	**138.06**	**38**	⇓P	PKPdf	05 44 57.5	+1.3
	baz=138						
X18A	**Snowflake**	**138.09**	**39**	⇑P	PKPdf	05 44 58.0	+1.8
	baz=138						
SDCO	**Great Sand Dun**	**138.42**	**32**	*e*PKPdf	PKPdf	05 44 56.7	0.0
SDCO				LR	LR		
comp=Z,729nm,20.0s,MS5.4							
Y18A	**Canyon Day Jun**	**138.52**	**40**	⇓P	PKPdf	05 44 58.7	+1.6
	baz=138						
X19A	**St. Johns**	**138.57**	**39**	⇓P	PKPdf	05 44 59.1	+2.0
	baz=138						
GLMI	**Grayling**	**138.69**	**6**	PFAKE		05 45 10.0	+13
GLMI				LR	LR		
comp=Z,864nm,21.0s,MS5.5							
117A	**Oracle**	**138.81**	**42**	⇓P	PKPdf	05 44 59.5	+1.9
	baz=139						
Y19A	**Nutrioso**	**138.90**	**39**	⇓P	PKPdf	05 44 59.6	+1.9
	baz=139						
LONY	**Lake Ozonia**	**138.94**	**355**	PFAKE		05 45 10.0	+13
LONY				LR	LR		
comp=Z,673nm,20.0s,MS5.4							
TUC	**Tucson**	**138.94**	**42**	PFAKE		05 45 10.0	+12
TUC				LR	LR		
comp=Z,458nm,20.0s,MS5.2							
LBNH	**Lisbon**	**139.01**	**352**	PFAKE		05 45 10.0	+12
LBNH				LR	LR		
comp=Z,1μm,20.0s,MS5.6							
Z19A	**T-Link Ranch,**	**139.33**	**40**	⇑P	PKPdf	05 45 00.0	+1.5
	baz=139						
NCB	**Newcomb**	**139.55**	**354**	PFAKE		05 45 10.0	+11
NCB				LR	LR		
comp=Z,673nm,20.0s,MS5.4							
JFWS	**Jewell Farm**	**139.67**	**12**	PFAKE		05 45 10.0	+11
JFWS				LR	LR		
comp=Z,738nm,21.0s,MS5.4							
SCIA	**State Center**	**139.88**	**16**	PFAKE		05 45 10.0	+11
SCIA				LR	LR		
comp=Z,649nm,19.0s,MS5.4							
ANMO	**Albuquerque**	**139.92**	**36**	⇑*i*PKIKP	PKPdf	05 44 55.1	-4.5
ANMO	**Albuquerque**	**139.92**	**36**	*e*PKPdf	PKPdf	05 44 54.6	-5.0
ANMO				LR	LR		
comp=Z,706nm,20.0s,MS5.4							
219A	**White Tail Can**	**140.15**	**41**	⇓P	PKPdf	05 45 01.8	+1.7
	baz=140						
CBKS	**Cedar Bluff**	**140.33**	**25**	*e*PKHKP		05 44 53.9	
CBKS				MLR	MLR		
comp=Z,804nm,21.0s,MS5.5							
BNM	**Barren Site**	**140.38**	**37**	*e*PKPdf	PKPdf	05 45 00.3	-0.1
HRV	**Adam Dziewonsk**	**140.65**	**351**	PFAKE		05 45 10.0	+9.3
HRV				LR	LR		
comp=Z,904nm,20.0s,MS5.5							
WES	**Weston**	**140.73**	**351**	PFAKE		05 45 10.0	+9.2
WES				LR	LR		
comp=Z,886nm,20.0s,MS5.5							
AAM	**Ann Arbor**	**141.28**	**5**	PFAKE		05 45 10.0	+8.2
AAM				LR	LR		
comp=Z,759nm,19.0s,MS5.5							
KSU1	**Kansas State U**	**141.33**	**22**	PFAKE		05 45 10.0	+8.0
KSU1				LR	LR		
comp=Z,842nm,20.0s,MS5.5							
BINY	**Binghamton**	**141.46**	**356**	PFAKE		05 45 10.0	+7.9
BINY				LR	LR		
comp=Z,997nm,21.0s,MS5.5							
ERPA	**Erie**	**141.65**	**1**	PFAKE		05 45 10.0	+7.5
ERPA				LR	LR		
comp=Z,789nm,20.0s,MS5.5							
HDIL	**Hopedale**	**142.13**	**12**	PFAKE		05 45 10.0	+6.6
HDIL				LR	LR		
comp=Z,784nm,20.0s,MS5.5							
AMTX	**Amarillo**	**142.59**	**31**	*e*PKPdf	PKPdf	05 45 03.5	-0.9
AMTX				LR	LR		
comp=Z,674nm,20.0s,MS5.4							
SSPA	**Standing Stone**	**143.11**	**358**	PFAKE		05 45 20.0	+15
SSPA				LR	LR		
comp=Z,755nm,19.0s,MS5.5							
ACSO	**Alum Creek Sta**	**143.39**	**5**	PFAKE		05 45 20.0	+14
ACSO				LR	LR		
comp=Z,921nm,20.0s,MS5.5							
BDFB	**Brasilia**	**143.60**	**238**	PFAKE		05 45 20.0	+13
BDFB				LR	LR		
comp=Z,731nm,19.0s,MS5.5							
BLO	**Bloomington**	**144.00**	**10**	*e*PKIKP	PKPdf	05 45 03.4	-3.3
CCM	**Cathedral Cave**	**144.02**	**16**	*e*PKIKP	PKPdf	05 45 03.4	-3.4
CCM				MLR	MLR		
comp=Z,555nm,21.0s,MS5.3							
MCWV	**Mont Chateau**	**144.11**	**1**	PFAKE		05 45 20.0	+13
MCWV				LR	LR		
comp=Z,965nm,19.0s,MS5.6							
OLIL	**Olney**	**144.13**	**12**	*e*PKPdf	PKPdf	05 45 03.9	-3.1
FVM	**French Village**	**144.31**	**15**	*e*PKIKP	PKPdf	05 45 04.7	-2.6
SIUC	**Southern Illin**	**144.86**	**14**	*e*PKPdf	PKPdf	05 45 06.6	-1.7
WCI	**Wyandotte Cave**	**144.96**	**10**	*e*PKIKP	PKPdf	05 45 06.7	-1.7
WCI				MLR	MLR		
comp=Z,961nm,22.0s,MS5.5							
USIN	**University of**	**144.96**	**12**	*e*PKPdf	PKPdf	05 45 06.7	-1.8
CBN	**Corbin**	**145.52**	**357**	*e*PKPbc	PKPbc	05 45 09.2	-0.2
CBN				LR	LR		
comp=Z,557nm,21.0s,MS5.3							
TXAR	**Lajitas Array**	**145.53**	**40**	PKPbc	PKPbc	05 45 10.1	+0.4
comp=Z,45nm,0.7s,baz=293,slow=1.1,SNR=381							
URVA	**University of**	**146.16**	**357**	*e*PKPbc	PKPbc	05 45 11.3	-0.2
UTMT	**University of**	**146.25**	**14**	*e*PKPbc	PKPbc	05 45 11.6	-0.1
GNAR	**Gosnell**	**146.31**	**16**	*e*PKPdf	PKPdf	05 45 11.4	+0.6
MIAR	**Mount Ida**	**146.48**	**22**	*e*PKP2	PKPab	05 45 12.0	-1.4
MIAR				MLR	MLR		
comp=Z,749nm,20.0s,MS5.5							
ELN	**Prospectdale**	**146.51**	**2**	*e*PKPbc	PKPbc	05 45 11.3	-1.2
ELN				*ep*PKPdf	pPKPdf	05 45 21.9	+0.5
LCO	**Las Campanas**	**146.53**	**194**	*e*PKPdf	PKPdf	05 45 11.9	+0.5
LCO				*e*PKPbc	PKPbc	05 45 13.8	+1.0
LCO				LR	LR		
comp=Z,769nm,22.0s,MS5.4							
BLA	**Blacksburg**	**146.54**	**2**	*e*PKP2	PKPab	05 45 11.6	-1.9
BLA				MLR	MLR		
comp=Z,1μm,21.0s,MS5.6							
WVT	**Waverly**	**146.69**	**13**	*e*PKP2	PKPab	05 45 12.0	-2.2
WVT				MLR	MLR		
comp=Z,686nm,21.0s,MS5.4							
UALR	**University of**	**146.71**	**20**	*e*PKPdf	PKPdf	05 45 11.2	-0.3
TZTN	**Tazewell**	**146.99**	**6**	*e*PKPbc	PKPbc	05 45 12.8	-1.0
TZTN				LR	LR		
comp=Z,1μm,20.0s,MS5.6							
JCT	**Junction City**	**147.00**	**34**	*e*PKP2	PK

GRGR				LR	LR			
	comp=Z,383nm,21.0s							
SJG	**San Juan**	**160.66**	**319**	PFAKE		05 45 40.0	+8.3	
SJG				LR	LR			
	comp=Z,786nm,22.0s							
TEIG	**Tepich**	**161.31**	**27**	PFAKE		05 45 40.0	+7.7	
TEIG				LR	LR			
	comp=Z,786nm,19.0s							
TGUH	**Tegucigalpa,Un**	**166.98**	**37**	PFAKE		05 45 50.0	+12	
TGUH				LR	LR			
	comp=Z,511nm,20.0s							
PAYG	**Puerto Ayora**	**168.24**	**111**	PFAKE		05 45 50.0	+11	
PAYG				LR	LR			
	comp=Z,789nm,20.0s							
SDV	**Santo Domingo**	**169.90**	**302**	PFAKE		05 45 50.0	+10	
SDV				LR	LR			
	comp=Z,196nm,20.0s							
BCIP	**Isla Barro Col**	**174.45**	**5**	PFAKE		05 45 50.0	+8.4	
BCIP				LR	LR			
	comp=Z,602nm,20.0s							
ROSC	**El Rosal**	**174.88**	**284**	PKP	PKPdf	05 45 42.9	+1.2	
	comp=Z,1.3nm,0.5s,baz=95,slow=23,SNR=2.5							
OTAV	**Otavalo**	**176.54**	**194**	*e*PKPdf	PKPdf	05 45 42.8	+0.6	
OTAV				LR	LR			
	comp=Z,877nm,20.0s							

IDC 25 05:31:54.2±5.2, 358S×10062E, h0km, mb3.8/3, mb1 3.8/3, mb1mx3.6/18, mbtmp3.8/3, Error ellipse: s-maj=200.2km s-min=67.8km az=53.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SONM	**Songino Array**	**51.45**	**5**	P	P	05 41 01.3	+0.1
	0.8nm,1.0s,baz=181,slow=8.2,SNR=3.7						
MKAR	**Makanchi Array**	**52.71**	**344**	P	P	05 41 10.9	+0.3
	0.7nm,0.8s,baz=168,slow=7.4,SNR=4.8						
ZALV	**Zalesovo Beam**	**58.82**	**349**	P	P	05 41 54.0	-0.3
	0.6nm,0.4s,baz=152,slow=6.5,SNR=2.8						
TXAR	**Lajitas Array**	**145.55**	**39**	PKPbc	PKPbc	05 51 34.6	-0.7
	0.6nm,0.4s,baz=246,slow=0.8,SNR=18						

*IDC **25** 06:01:36.5±0.6, 067N×12635E, h0km, mb4.2/9, mb1 4.3/10, mb1mx4.3/15, mbtmp4.2/10, ML4.4/1, Error ellipse: s-maj=34.0km s-min=12.3km az=79.0*
*DJA **25** 06:01:40, 070N×12628E, h12km, MLv4.5/2*
*NEIC **25** 06:01:41.7±2.0, 068N×12640E, h37km±20km, mb4.3/3, Error ellipse: s-maj=15.6km s-min=9.7km az=60.0*
*ISCJB **25** 06:01:44.6±0.5, 074N±006×126 64E±005, h80km±5km, mb4.2/12, Error ellipse: s-maj=9.8km s-min=7.7km az=8.1*
ISC 25 06:01:44.5±0.6, 058N±007×12655E±005, h63km±6km, n34, σ1f50/36, mb4.2/12, 4C-5D, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**0.84**	**77**	P	**Pn**	**06 01 59.2**	**-1.5**
TNTI	**Ternate**	**0.84**	**77**	S	**Sn**	**06 02 14.5**	**+1.9**
TNE	**Ternate**	**0.85**	**76**	*e*P	**Pn**	**06 01 58.5**	**-2.3**
TNE				eS	**Sn**	**06 02 13.0**	**+0.2**
MNI	**Manado**	**1.91**	**297**	P	**Pn**	**06 02 07.7**	**-7.2**
KDI	**Kendari**	**5.98**	**221**	eP	**Pn**	**06 03 07.5**	**-2.9**
KDI				eS	**Sn**	**06 04 25.5**	**+7.9**
KAPI	**Kappang**	**8.77**	**231**	Pn	**Pn**	**06 03 45.6**	**-3.1**
	4.1nm,0.3s,baz=348,slow=18,SNR=5.2						
KAPI				Sn	**Sn**	**06 05 12.5**	**-14**
	baz=72,slow=20,SNR=2.1						
MYLDM	**Lahad Datu**	**9.25**	**300**	P	**Pn**	**06 03 56.5**	**+1.3**
SDKM	**Sandakan**	**10.61**	**298**	P	**Pn**	**06 04 15.7**	**+1.9**
KDM	**Kudat**	**11.56**	**303**	P	**Pn**	**06 04 29.9**	**+3.1**
KKM	**Kota Kinabalu**	**11.66**	**298**	P	**Pn**	**06 04 29.9**	**+1.7**
KAKA	**Kakadu**	**14.44**	**156**	*e*P	**Pn**	**06 04 59.2**	**-6.4**
	14nm,0.5s						
SBUM	**Sibu**	**14.44**	**278**	P	**Pn**	**06 05 08.2**	**+2.5**
KSM	**Kuching**	**16.26**	**273**	P	**Pn**	**06 05 30.6**	**+1.5**
COEN	**Coen**	**21.90**	**132**	*e*P	**P**	**06 06 34.9**	**+2.3**
	1.6nm,0.5s,mb3.7						
PMG	**Port Moresby**	**22.79**	**116**	*e*P	**P**	**06 06 41.4**	**-0.7**
	5.5nm,0.6s,mb4.2						
ASAR	**Alice Springs**	**25.14**	**164**	P	**P**	**06 07 04.3**	**+0.6**
	5.4nm,0.3s,mb4.5,baz=347,slow=12,SNR=98						
ASAR				PcP	PcP	06 10 37.1	+0.5
	0.4nm,0.6s,baz=344,slow=2.9,SNR=4.1						
ASAR				S	**S**	**06 11 33.3**	**+9.0**
	0.6nm,0.8s,baz=341,slow=16,SNR=4.3						
KULM	**Kulim**	**26.28**	**281**	P	**P**	**06 07 19.3**	**+5.0**
FORT	**Forrest**	**31.22**	**177**	*e*P	**P**	**06 07 58.9**	**+0.9**
	12nm,0.5s,mb5.0						
STKA	**Stephens Creek**	**35.28**	**158**	*e*P	**P**	**06 08 34.6**	**+1.2**
	5.2nm,0.6s,mb4.6						
STKA	**Stephens Creek**	**35.28**	**158**	P	**P**	**06 08 34.8**	**+1.4**
	4.5nm,0.5s,mb4.7,baz=330,slow=7.8,SNR=17						
KSRS	**Korea Array**	**36.72**		P	**P**	**06 08 44.9**	**-0.7**
	1.0nm,0.5s,mb3.9,baz=176,slow=9.8,SNR=3.8						
MJAR	**Matsushiro Arr**	**37.38**	**16**	P	**P**	**06 08 51.1**	**-0.1**
	1.1nm,0.4s,mb4.0,baz=199,slow=9.2,SNR=4.4						
SONM	**Songino Array**	**50.22**	**342**	P	**P**	**06 10 33.4**	**-0.6**
	1.1nm,0.7s,mb4.0,baz=163,slow=7.3,SNR=5.4						
SONM				PcP	PcP	06 11 54.7	+2.4
	0.3nm,0.4s,baz=160,slow=4.6,SNR=3.1						
SONM	**Songino Array**	**50.22**	**342**	P	**P**	**06 10 33.4**	**-0.6**
SONM				PcP	PcP	06 11 54.7	+2.3
PETK	**Petropavlovsk-**	**58.40**	**21**	P	**P**	**06 11 33.9**	**+0.5**
	3.0nm,0.8s,mb4.4,baz=215,slow=4.4,SNR=4.3						
MK31	**Makanchi Array**	**60.04**	**326**	*e*P	**P**	**06 11 42.7**	**-2.1**
MKAR	**Makanchi Array**	**60.04**	**326**	P	**P**	**06 11 43.2**	**-1.6**
	1.1nm,0.4s,mb4.3,baz=123,slow=7.9,SNR=22						
MKAR				PcP	PcP	06 12 30.9	+0.6
	0.5nm,0.5s,baz=126,slow=5.3,SNR=3.8						
MKAR	**Makanchi Array**	**60.04**	**326**	P	**P**	**06 11 43.2**	**-1.6**
MKAR				PcP	PcP	06 12 30.9	+0.6
ZALV	**Zalesovo Beam**	**63.31**	**334**	P	**P**	**06 12 05.2**	**-1.4**
	0.4nm,0.3s,mb4.0,baz=151,slow=6.3,SNR=2.8						
ZALV	**Zalesovo Beam**	**63.31**	**334**	P	**P**	**06 12 05.2**	**-1.4**
MAW	**Mawson**	**80.75**	**200**	P	**P**	**06 13 51.4**	**+0.7**
	3.0nm,0.7s,mb4.3,baz=63,slow=5.8,SNR=16						
IMA2	**Indian Mountai**	**85.32**	**24**	*e*P	**P**	**06 14 14.9**	**+0.5**
TXAR	**Lajitas Array**	**123.63**	**54**	PKP	PKPdf	06 20 36.5	+0.9
	0.2nm,0.8s,baz=199,slow=7.4,SNR=3.2						
TXAR	**Lajitas Array**	**123.63**	**54**	PKP	PKPdf	06 20 36.5	+0.9

*IDC **25** 06:18:07.0±2.5, 743S×11482E, h0km, mb4.0/4, mb1 4.1/4, mb1mx3.9/15, mbtmp4.0/4, Error ellipse: s-maj=174.4km s-min=21.0km az=58.0*
*DJA **25** 06:18:26.7±0.6, 85S±11×117E±, h303km±9km, mb4.8/5, mB5.4/1, MLv4.3/5, Mw(mB)5.2/1*
ISC 25 06:18:33.6±1.8, 78S±02×1168E±02, h299km±14km, n11, σ0f96/9, mb3.4/2, Bali Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHKI	**Kahang-Kahang**	**1.28**	**245**	P	**Pn**	**06 19 16.1**	**+0.7**
DNP	**Denpasar**	**1.77**	**241**	P	**Pn**	**06 19 18.0**	**-0.6**
KMMI	**Kalianget**	**2.89**	**285**	P	**Pn**	**06 19 20.5**	**-7.8**
BBKI	**Banjar Baru**	**4.75**	**336**	P	**Pn**	**06 19 47.8**	**-0.5**
SJI	**Sawahan**	**4.97**	**271**	P	**Pn**	**06 19 50.5**	**-0.3**
PPBI	**Pangkal Pinang**	**12.00**	**297**	P	**Pn**	**06 21 17.5**	**+1.2**
DSRI	**Dabo**	**14.18**	**300**	P	**Pn**	**06 21 42.2**	**-0.4**
ASAR	**Alice Springs**	**22.75**	**136**	P	Px	06 23 27.6	
	1.0nm,0.4s,baz=309,slow=8.6,SNR=21						
STKA	**Stephens Creek**	**33.26**	**139**	P	Px	06 24 59.7	
	4.1nm,0.4s,baz=322,slow=7.9,SNR=18						
SONM	**Songino Array**	**56.17**	**352**	P	**P**	**06 27 44.1**	**+1.4**
	0.8nm,0.6s,mb3.3,baz=166,slow=8.3,SNR=6.2						
MKAR	**Makanchi Array**	**62.43**	**334**	P	**P**	**06 28 23.6**	**-1.7**
	0.5nm,0.3s,mb3.5,baz=146,slow=6.7,SNR=12						

NEIC 25 06:22:40.1, 5123N×17872E, h5km, ML3.5(AEIC), After AEIC., Rat Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AMKA	**Amchitka**	**0.40**	**68**	P	Pg	06 22 49.1	+1.3
AMKA				S	Sg	06 22 55.6	+2.7
ADK	**Adak**	**2.94**	**75**	P	Pn	06 23 27.6	0.0
ADK				S	Sn	06 24 05.1	+1.9
SMY	**Shemya**	**3.23**	**300**	P	Pn	06 23 31.3	-0.1
FX1	**Attu Island--F**	**3.81**	**298**	P	Pn	06 23 38.1	-1.3
FX1				S	Sn	06 24 27.9	+3.4
EGAK	**Eagle**	**24.69**	**41**	*e*P	P	06 27 59.8	-1.8
	9.5nm,1.2s						

IDC 25 06:50:27.5±3.4, 552S×10238E, h0km, mb3.7/6, mb1 3.8/6, mb1mx3.7/18, mbtmp3.7/6, Error ellipse: s-maj=154.4km s-min=27.1km az=55.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**24.06**	**352**	P	P	06 55 44.5	-0.1
	2.2nm,0.4s,baz=182,slow=9.0,SNR=5.0						
ASAR	**Alice Springs**	**35.30**	**124**	P	P	06 57 24.1	-0.4
	0.1nm,0.3s,baz=297,slow=8.1,SNR=3.6						
SONM	**Songino Array**	**53.24**	**3**	P	P	06 59 48.1	+0.3
	0.2nm,0.3s,baz=188,slow=8.7,SNR=3.6						
MKAR	**Makanchi Array**	**55.05**	**343**	P	P	07 00 01.2	+0.3
	1.0nm,0.7s,baz=153,slow=9.2,SNR=7.9						
KURK	**Kurchatov**	**59.64**	**343**	P	P	07 00 33.0	-0.3
	0.4nm,0.8s,baz=142,slow=7.7,SNR=2.6						
ZALV	**Zalesovo Beam**	**61.06**	**348**	P	P	07 00 42.1	-0.8
	0.9nm,0.5s,baz=145,slow=5.4,SNR=5.8						
TXAR	**Lajitas Array**	**145.84**	**43**	PKPbc	PKPbc	07 10 09.6	+0.1
	0.6nm,0.5s,baz=235,slow=1.1,SNR=16						

*IDC **25** 06:55:23.3±0.8, 826N×12746E, h0km, mb3.9/8, mb1 4.0/9, mb1mx3.9/20, mbtmp3.9/9, Error ellipse: s-maj=28.3km s-min=15.8km az=74.0*
*MAN **25** 06:55:23, 820N×12736E, h1km, mb4.5, ML3.4, MS3.3*
*ISCJB **25** 06:55:27.2±2.1, 824N±007×1273E±02, h43km±20km, mb3.9/9, Error ellipse: s-maj=27.8km s-min=9.7km az=162.3*
*NEIC **25** 06:55:30.7±6.1, 8.15N×12728E, h56km±57km, mb4.3/2, Error ellipse: s-maj=72.3km s-min=11.6km az=62.0*
ISC 25 06:55:28.8±1.8, 821N±007×1273E±01, h37km±19km, n22, σ0f92/25, mb3.9/9, 1C-1D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BIPH	**Bislig**	**0.91**	**268**	*i*P	**Pn**	**06 55 43.7**	**-1.3**
BIPH				*i* S	**Sn**	**06 55 55.8**	**-1.1**
MATI	**Mati**	**1.62**	**219**	*e*P	**Pn**	**06 55 53.6**	**-1.1**
BUTP	**Butuan**	**1.80**	**295**	*e*P	**Pn**	**06 55 57.3**	**0.0**
DAV	**Davao City (W)**	**2.03**	**236**	Pn	**Pn**	**06 56 02.3**	**+1.8**
	63nm,0.3s,baz=194,slow=6.8,SNR=5.5						
DAV				Sn	**Sn**	**06 56 30.3**	**+5.6**
	84nm,0.3s,baz=127,slow=9.9,SNR=5.6						
BUKP	**Musuan**	**2.22**	**262**	*e*P	**Pn**	**06 56 04.3**	**+1.2**
SCPH	**Surigao**	**2.36**	**312**	*e*P	**Pn**	**06 56 03.9**	**-1.1**
SCPH				eS	**Sn**	**06 56 32.0**	**-0.7**
MSLP	**Maasin**	**3.06**	**309**	*e*P	**Pn**	**06 56 15.1**	**+0.5**
TBP	**Tagbilaran**	**3.68**	**294**	*e*P	**Pn**	**06 56 24.0**	**+0.8**
TBP				eS	**Sn**	**06 57 01.5**	**-3.9**
PAGZ	**Pagadian**	**3.88**	**265**	*e*P	**Pn**	**06 56 27.5**	**+1.6**
GUIM	**Jordan**	**5.21**	**298**	*e*P	**Pn**	**06 56 44.6**	**+0.3**
KAKA	**Kakadu**	**21.41**	**166**	*e*P	**P**	**07 00 07.2**	**-6.5**
	11nm,0.6s,mb4.4						
KSRS	**Korea Array**	**29.11**	**1**	P	**P**	**07 01 25.9**	**-0.2**
	0.6nm,0.4s,mb3.7,baz=182,slow=12,SNR=4.6						
ASAR	**Alice Springs**	**32.34**	**169**	P	**P**	**07 01 54.7**	**0.0**
	0.2nm,0.4s,mb3.3,baz=346,slow=11,SNR=5.1						
ASAR				PcP	PcP	07 04 41.6	-0.5
	0.5nm,0.6s,baz=355,slow=2.9,SNR=5.0						
CTA	**Charters Tower**	**33.76**	**147**	P	**P**	**07 02 06.2**	**-0.9**
	1.3nm,0.3s,mb4.3,baz=315,slow=2.9,SNR=4.2						
CTA	**Charters Tower**	**33.76**	**147**	P	**P**	**07 02 06.2**	**-0.9**
STKA	**Stephens Creek**	**42.15**	**162**	*e*P	**P**	**07 03 17.1**	**-0.6**
	4.7nm,0.8s,mb4.2						
STKA	**Stephens Creek**	**42.15**	**162**	P	**P**	**07 03 17.4**	**-0.3**
	5.0nm,0.7s,mb4.2,baz=335,slow=7.6,SNR=13						
SONM	**Songino Array**	**43.28**	**339**	P	**P**	**07 03 27.8**	**+1.0**
	0.6nm,0.8s,mb3.4,baz=152,slow=9.9,SNR=4.5						
MKAR	**Makanchi Array**	**54.26**	**323**	P	**P**	**07 04 50.6**	**-0.4**
	0.5nm,0.4s,mb3.6,baz=118,slow=8.0,SNR=11						
ZALV	**Zalesovo Beam**	**56.90**	**332**	P	**P**	**07 05 10.4**	**+0.5**
	0.6nm,0.4s,mb4.0,baz=115,slow=7.0,SNR=4.2						
KURK	**Kurchatov**	**58.32**	**326**	P	**P**	**07 05 19.9**	**0.0**
	0.7nm,0.5s,mb4.0,baz=131,slow=5.4,SNR=9.6						
TXAR	**Lajitas Array**	**118.39**	**50**	PKP	PKPdf	07 14 14.0	+0.9
	0.1nm,0.5s,baz=103,slow=0.1,SNR=3.5						

*ISCJB **25** 07:11:43.7±0.7, 3438N±008×138.15E±008, h282km±6km, mb2.7/2, Error ellipse: s-maj=12.9km s-min=10.5km az=15.9*
*IDC **25** 07:11:43.7±1.5, 3428N×138.19E, h266km±26km, mb2.7/2, mb1 2.9/4, mb1mx2.8/22, mbtmp2.8/4, Error ellipse: s-maj=56.0km s-min=25.5km az=52.0*
*JMA **25** 07:11:43.2±0.4, 3426N×13806E, h283km±4km, M3.5*
ISC 25 07:11:44.7±0.7, 3439N±008×13816E±008, h277km±6km, n20, σ0f64/29, mb2.7/2, Near south coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TK04	**Tokai 4**	**0.24**	**269**	P	**Pn**	**07 12 19.9**	**-0.2**
TK04				S	**S**	**07 12 48.6**	**+0.6**
JSG	**Sagara**	**0.29**	**4**	P	**Pn**	**07 12 20.5**	**+0.4**
JKKG	**Kakegawa**	**0.43**	**339**	P	**Pn**	**07 12 20.4**	**0.0**
HMMJ	**Hamamatsu 2**	**0.59**	**322**	P	**Pn**	**07 12 20.3**	**-0.5**
JNY	**Yasuok**	**1.00**	**346**	P	**Pn**	**07 12 22.5**	**0.0**
JAO	**Obara**	**1.15**	**320**	P	**Pn**	**07 12 22.9**	**-0.4**
JYN	**Shimob**	**1.15**	**16**	P	**Pn**	**07 12 23.9**	**+0.6**
JOD2	**Odawara 2**	**1.16**	**41**	P	**Pn**	**07 12 23.9**	**+0.6**
JIE	**Ise**	**1.20**	**271**	P	**Pn**	**07 12 22.4**	**-1.2**
JHU	**Hanno**	**1.73**	**32**	P	**Pn**	**07 12 27.0**	**+0.7**
JHU				eS	**S**	**07 13 00.2**	**-0.6**
JRY	**Ryogami san**	**1.73**	**20**	P	**Pn**	**07 12 28.1**	**+0.9**
JRY				eS	**S**	**07 13 01.7**	**+0.8**
BSO4	**Boso 4**	**1.89**	**71**	P	**Pn**	**07 12 29.3**	**+0.9**
BSO4				eS	**S**	**07 13 03.9**	**+0.7**
BSO3	**Boso 3**	**1.98**	**77**	P	**Pn**	**07 12 29.0**	**-0.2**
BSO3				S	**S**	**07 13 05.1**	**+0.6**
MJAR	**Matsushiro Arr**	**2.15**	**1**	P	**Pn**	**07 12 30.6**	**0.0**
	5.7nm,0.3s,baz=185,slow=10,SNR=58						
MJAR				S	**S**	**07 13 06.3**	**-0.7**
	baz=159,slow=14,SNR=3.6						
MAT	**Matsushiro**	**2.15**	**1**	P	**Pn**	**07 12 30.9**	**+0.3**
MAT				eS	**S**	**07 13 06.5**	**-0.6**
JAG	**Ashikaga**	**2.29**	**27**	P	**Pn**	**07 12 31.8**	**0.0**
JAG				eS	**S**	**07 13 08.4**	**-0.9**
BSO1	**Boso 1**	**2.34**	**83**	P	**Pn**	**07 12 31.6**	**-0.8**
BSO1				eS	**S**	**07 13 09.0**	**-1.2**
KSRS	**Korea Array**	**8.85**	**293**	P	**Pn**	**07 13 48.8**	**+0.3**
	0.4nm,0.3s,baz=106,slow=13,SNR=10						
MKAR	**Makanchi Array**	**43.34**	**304**	P	**P**	**07 19 20.3**	**+0.6**
	0.2nm,0.5s,mb2.6,baz=95,slow=8.8,SNR=3.0						
ASAR	**Alice Springs**	**57.87**	**185**	P	**P**	**07 21 07.1**	**-0.8**
	0.2nm,0.6s,mb2.8,baz=23,slow=12,SNR=6.6						

*GEN **25** 07:15:19.8, 4448N×724E, h16km, ML2.0*
*NEIC **25** 07:15:19.4, 4450N×726E, h16km, ML2.9(STR), ML2.6(ROM), ML3.1(LDG), After ROM.*
*ISCJB **25** 07:15:19.5±0.2, 4449N±001×727E±003, h24km±2km, Error ellipse: s-maj=3.4km s-min=2.2km az=159.8*
*ROM **25** 07:15:19.4±0.2, 4450N×726E, h16km±2km, Md2.6/9, Ml2.6/8, Error ellipse: s-maj=3.1km s-min=1.9km az=51.0*
*STR **25** 07:15:20.2±0.1, 4446N×725E, h5km, Ml2.9, Error ellipse: s-maj=0.0km s-min=0.0km az=0.0*
*LDG **25** 07:15:20.1±0.1, 4446N×731E, h6km, Md3.2/3, Ml3.1/26, Error ellipse: s-maj=2.6km s-min=1.6km az=76.0*
*CSEM **25** 07:15:20.1±0.1, 4445N×727E, h10km, ML3.1/23, Error ellipse: s-maj=1.4km s-min=0.7km az=62.0*
ISC 25 07:15:19.5±0.2, 4447N±001×726E±002, h19km±1km, n91, σ1f11/163, 4C-2D, Northern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DOI	**San Damiano**	**0.04**	**340**	*i*Pg	**Pg**	**07 15 22.7**	**-0.2**
DOI				Sg	**Sg**	**07 15 24.2**	**-0.9**
	15µm,0.2s						
PZZ	**Stroppo**	**0.11**	**289**	*i*Pg	**Pg**	**07 15 23.3**	**-0.1**
ENR	**Entracque**	**0.27**	**155**	P	**Pg**	**07 15 25.5**	**-0.1**
ENR				S	**Sg**	**07 15 35.7**	**+6.0**
SURF	**Saint Ours**	**0.32**	**272**	Pg	**Pg**	**07 15 26.6**	**+0.1**
SURF				Sg	**Sg**	**07 15 31.1**	**-0.1**
OG22	**Abries**	**0.42**	**327**	Pg	**Pg**	**07 15 28.2**	**0.0**
OG22				Sg	**Sg**	**07 15 33.9**	**-0.1**
MBDF	**Montbardon**	**0.43**	**306**	*e*Pg	**Pg**	**07 15 28.6**	**+0.2**
MBDF				*e*Sg	**Sg**	**07 15 34.8**	**+0.3**
	508nm,0.2s						

MBDF	**Montbardon**	**0.43**	**306**	*e*Pg		**Pg**	**07 15 28.6**	**+0.2**
MBDF				*e*Sg		**Sg**	**07 15 34.8**	**+0.3**
	254nm,0.2s							
TOUF	**Mont Tournerai**	**0.46**	**181**	Pg		**Pg**	**07 15 29.0**	**+0.2**
TOUF				Sg		**Sg**	**07 15 34.3**	**-0.8**
AUTN	**L'Aution**	**0.49**	**166**	Pg		**Pg**	**07 15 29.5**	**+0.1**
AUTN				Sg		**Sg**	**07 15 35.9**	**-0.2**
SAOF	**Saorge**	**0.53**	**156**	Pg		**Pg**	**07 15 30.0**	**-0.1**
SAOF				Sg		**Sg**	**07 15 36.7**	**-0.5**
RRL	**Rocca Remolon**	**0.56**	**323**	P		**Pb**	**07 15 30.7**	**0.0**
RRL				S		**Sg**	**07 15 40.2**	**+1.9**
MVIF	**Mont Vial**	**0.58**	**188**	Pg		**Pg**	**07 15 31.2**	**+0.1**
MVIF				Sg		**Sg**	**07 15 39.1**	**+0.3**
LUCF	**Luceram**	**0.58**	**174**	Pg		**Pg**	**07 15 31.1**	**0.0**
LUCF				Sg		**Sg**	**07 15 39.0**	**+0.1**
SBF	**Sospel**	**0.62**	**168**	*e*Pg		**Pg**	**07 15 31.6**	**-0.2**
SBF				*e*Sg		**Sg**	**07 15 38.7**	**-1.4**
	268nm,0.2s							
SBF	**Sospel**	**0.62**	**168**	*e*Pg		**Pg**	**07 15 31.6**	**-0.2**
SBF				*e*Sg		**Sg**	**07 15 38.7**	**-1.4**
	134nm,0.2s							
RSP	**Reno Superiore**	**0.68**	**0**	*i*Pg		**Pg**	**07 15 31.9**	**-1.0**
RSP				Sg		**Sg**	**07 15 40.7**	**-1.2**
	199nm,0.2s							
NEGI	**Seborga**	**0.70**	**153**	P		**Pb**	**07 15 33.0**	**0.0**
BNI	**Bardonecchia**	**0.71**	**325**	Pg		**Pg**	**07 15 33.6**	**0.0**
BNI				Sg		**Sg**	**07 15 42.7**	**-0.4**
	60nm,0.5s							
IMI	**Imperia**	**0.72**	**141**	Pg		**Pg**	**07 15 33.5**	**-0.2**
IMI				Sg		**Sg**	**07 15 42.9**	**-0.4**
	278nm,0.3s							
FIN	**Finale Ligure**	**0.73**	**111**	*i*Pg		**Pg**	**07 15 33.7**	**-0.1**
FIN				Sg		**Sg**	**07 15 43.2**	**-0.3**
REVF	**Revere**	**0.73**	**174**	Pg		**Pg**	**07 15 34.4**	**+0.5**
REVF				Sg		**Sg**	**07 15 44.2**	**+0.5**
CALN	**Calern**	**0.77**	**201**	Pg		**Pg**	**07 15 34.8**	**+0.3**
CALN				Sg		**Sg**	**07 15 44.6**	**-0.1**
QLNO	**Quiliano**	**0.79**	**100**	Pg		**Pg**	**07 15 35.0**	**0.0**
	146nm,0.3s							
PCP	**Piancastagn**	**0.92**	**85**	*i*Pg		**Pg**	**07 15 37.2**	**-0.2**
PCP				Sg		**Sg**	**07 15 49.7**	**+0.1**
	152nm,0.2s							
PCP	**Piancastagn**	**0.92**	**85**	*i*Pg		**Pg**	**07 15 37.2**	**-0.2**
PCP				S		**Sb**	**07 15 49.0**	**+0.4**
LSD	**Lago del Serru**	**0.99**	**355**	Pg		**Pg**	**07 15 37.3**	**-1.5**
FRF	**La Foret Royal**	**1.01**	**206**	*e*Pg		**Pg**	**07 15 38.7**	**-0.5**
FRF				*e*Sg		**Sg**	**07 15 50.9**	**-1.6**
	392nm,0.2s							
FRF	**La Foret Royal**	**1.01**	**206**	*e*Pg		**Pg**	**07 15 38.7**	**-0.5**
FRF				*e*Sg		**Sg**	**07 15 50.9**	**-1.6**
	196nm,0.2s							
ORIF	**Oris-en-Rattie**	**1.08**	**295**	*e*Pn		**Pn**	**07 15 40.0**	**+0.4**
ORIF				*e*Sg		**Sg**	**07 15 53.2**	**-1.5**
	112nm,0.2s							
ORIF	**Oris-en-Rattie**	**1.08**	**295**	*e*Pn		**Pn**	**07 15 40.0**	**+0.4**
ORIF				*e*Sg		**Sg**	**07 15 53.2**	**-1.5**
	56nm,0.2s							
LPG	**La Plagne**	**1.09**	**341**	*e*Pn		**Pn**	**07 15 40.3**	**+0.6**
LPG				*e*Sg		**Sg**	**07 15 54.9**	**0.0**
	88nm,0.3s							
LPG	**La Plagne**	**1.09**	**341**	*e*Pn		**Pn**	**07 15 40.3**	**+0.6**
LPG				*e*Sg		**Sg**	**07 15 54.9**	**0.0**
	44nm,0.3s							
GDM	**Grand'Maison**	**1.10**	**312**	Pg		**Pg**	**07 15 41.5**	**+0.7**
LPL	**La Plagne**	**1.11**	**340**	*e*Pn		**Pn**	**07 15 40.3**	**+0.3**
LPL				*e*Sg		**Sg**	**07 15 55.4**	**-0.2**
	68nm,0.2s							
LPL	**La Plagne**	**1.11**	**340**	*e*Pn		**Pn**	**07 15 40.3**	**+0.3**
LPL				*e*Sg		**Sg**	**07 15 55.4**	**-0.2**
	34nm,0.2s							
LMR	**La Mourre**	**1.26**	**206**	*e*Pn		**Pn**	**07 15 42.9**	**+0.8**
LMR				*e*Sg		**Sg**	**07 15 58.9**	**-1.4**
	438nm,0.2s							
LMR	**La Mourre**	**1.26**	**206**	*e*Pn		**Pn**	**07 15 42.9**	**+0.8**
LMR				*e*Sg		**Sg**	**07 15 58.9**	**-1.4**
	219nm,0.2s							
RSL	**Roselend**	**1.30**	**340**	Pg		**Pg**	**07 15 44.6**	**0.0**
RSL				Sg		**Sg**	**07 16 06.6**	**+5.0**
SMRF	**Simiane la Rot**	**1.31**	**248**	*e*Pn		**Pn**	**07 15 45.1**	**+2.3**
SMRF				*e*Sg		**Sg**	**07 16 02.1**	**+0.2**
	361nm,0.4s							
SMRF	**Simiane la Rot**	**1.31**	**248**	*e*Pn		**Pn**	**07 15 45.1**	**+2.3**
SMRF				*e*Sg		**

BGF	**Bois d'Agland**	**3.74**	**305**	*e*Pn		**Pn**	**07 16 18.1**	**+1.9**
BGF				*e*Sn		**Sn**	**07 16 58.0**	**-1.6**
	5.7nm,0.4s							
MTLF	**Montolieu**	**3.82**	**255**	*e*Pn		**Pn**	**07 16 18.7**	**+1.5**
MTLF				*e*Sn		**Sn**	**07 16 58.5**	**-3.0**
	6.5nm,0.3s							
MTLF	**Montolieu**	**3.82**	**255**	*e*Pn		**Pn**	**07 16 18.7**	**+1.5**
MTLF				*e*Sn		**Sn**	**07 16 58.5**	**-3.0**
	3.2nm,0.3s							
CDF	**Champ du Feu**	**3.94**	**0**	*e*Pn		**Pn**	**07 16 19.3**	**+0.4**
CDF				*e*Sn		**Sn**	**07 17 03.1**	**-1.5**
	4.3nm,0.3s							
CDF	**Champ du Feu**	**3.94**	**0**	*e*Pn		**Pn**	**07 16 19.3**	**+0.4**
CDF				*e*Sn		**Sn**	**07 17 03.1**	**-1.5**
	2.2nm,0.3s							
TCF	**Toulx Ste Croi**	**4.00**	**299**	*e*Pn		**Pn**	**07 16 21.9**	**+2.2**
TCF				*e*Sn		**Sn**	**07 17 03.6**	**-2.4**
	5.3nm,0.5s							
TCF	**Toulx Ste Croi**	**4.00**	**299**	*e*Pn		**Pn**	**07 16 21.9**	**+2.2**
TCF				*e*Sn		**Sn**	**07 17 03.6**	**-2.4**
	2.7nm,0.5s							
SFTF	**Sexfontaines**	**4.04**	**338**	*e*Pn		**Pn**	**07 16 20.7**	**+0.4**
SFTF				*e*Sn		**Sn**	**07 17 05.3**	**-1.7**
	12nm,0.3s							
SFTF	**Sexfontaines**	**4.04**	**338**	*e*Pn		**Pn**	**07 16 20.7**	**+0.4**
SFTF				*e*Sn		**Sn**	**07 17 05.3**	**-1.7**
	5.8nm,0.3s							
HYF	**Humbligny**	**4.27**	**313**	*e*Pn		**Pn**	**07 16 24.7**	**+1.2**
MEZF	**Maizieres J'vi**	**4.31**	**340**	*e*Pn		**Pn**	**07 16 23.3**	**-0.7**
MEZF				*e*Sn		**Sn**	**07 17 11.6**	**-2.1**
	10nm,0.3s							
MEZF	**Maizieres J'vi**	**4.31**	**340**	*e*Pn		**Pn**	**07 16 23.3**	**-0.7**
MEZF				*e*Sn		**Sn**	**07 17 11.6**	**-2.1**
	5.1nm,0.3s							
RFYF	**Reffroy**	**4.34**	**344**	*e*Pn		**Pn**	**07 16 24.8**	**+0.4**
RFYF				*e*Sn		**Sn**	**07 17 12.9**	**-1.5**
MFF	**Saint Martin d**	**5.62**	**295**	*e*Pn		**Pn**	**07 16 44.2**	**+2.2**
ETSF	**Etsaut**	**5.89**	**257**	*e*Pn		**Pn**	**07 16 45.3**	**-0.3**
ETSF				*e*Sn		**Sn**	**07 17 47.6**	**-4.9**
	2.7nm,0.3s							
BAIF	**Baives**	**5.96**	**341**	*e*Pn		**Pn**	**07 16 46.4**	**-0.3**
LDF	**La Druitiere**	**6.55**	**312**	*e*Pn		**Pn**	**07 16 56.9**	**+2.1**
GRR	**Gorron**	**6.84**	**308**	*e*Pn		**Pn**	**07 17 00.0**	**+1.3**
FLN	**La Foliniere**	**6.84**	**312**	*e*Sn		**Sn**	**07 18 12.1**	**-4.0**
	4.2nm,0.4s							
FLN	**La Foliniere**	**6.84**	**312**	*e*Sn		**Sn**	**07 18 12.1**	**-4.0**
	2.1nm,0.4s							

MAN ***25*** *07:15:38,441N×12656E,h75km,mb5.2,ML4.1,MS4.3*
MOS ***25*** *07:15:45.2±1.1,524N×12644E,h33km,mb4.9/3,Error ellipse: s-maj=35.7km s-min=14.6km az=110.0*
BJI ***25*** *07:15:47.4,493N×12616E,h58km,mB4.9,mb4.4*
NEIC ***25*** *07:15:48.4±1.2,525N×12648E,h43km±11km,mb4.8/12, Error ellipse: s-maj=12.9km s-min=5.9km az=70.0*
IDC ***25*** *07:15:48.3±2.0,523N×12640E,h41km±17km,mb4.2/13, mb1 4.2/15,mb1mx4.1/22,mbtmp4.2/15,ML3.9/2,MS3.5/8, Ms1 3.6/8,ms1mx3.2/24,Error ellipse: s-maj=28.6km s-min=12.6km az=76.0*
ISCJB ***25*** *07:15:49.6±0.8,529N±005×12654E±009,h72km±7km, mb4.5/27,Error ellipse: s-maj=16.6km s-min=6.5km az=160.4*
DJA ***25*** *07:16:04,491N×12609E,h65km,mb4.7/5*
ISC 25 07:15:51.7±0.8,529N±005×12663E±009,h76km±6km,n64,σ1°22/60,mb4.5/27,2C-3D,Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MATI	**Mati**	**1.68**	**347**	*e*P	**Pn**	**07 16 18.0**	**-1.4**
GSPH	**General Santos**	**1.85**	**295**	*e*P	**Pn**	**07 16 14.4**	**-7.1**
DAV	**Davao City (W)**	**2.05**	**330**	P	**Pn**	**07 16 20.4**	**-3.8**
	86nm,0.3s,baz=45,slow=12,SNR=6.7						
DAV				S	**Sn**	**07 16 49.3**	**+0.7**
	121nm,0.3s,baz=207,slow=18,SNR=9.0						
DAV				LR	LR	07 17 13.8	
	comp=Z,548nm,21.2s,baz=332,slow=43						
KCP	**Kidapawan**	**2.29**	**318**	*e*P	**Pn**	**07 16 29.1**	**+1.7**
KCP				*i* S	**Sn**	**07 16 56.2**	**+1.8**
BIPH	**Bislig**	**2.89**	**355**	*e*P	**Pn**	**07 16 43.1**	**+7.6**
BIPH				*i* S	**Sn**	**07 17 20.7**	**+12**
BUKP	**Musuan**	**3.00**	**329**	*e*P	**Pn**	**07 16 34.3**	**-2.8**
CTBH	**Cotabato--PC H**	**3.05**	**309**	*e*P	**Pn**	**07 16 33.8**	**-3.9**
CTBH				*e*S	**Sn**	**07 17 15.1**	**+2.1**
PAGZ	**Pagadian**	**4.10**	**308**	*e*P	**Pn**	**07 16 50.3**	**-1.7**
TNE	**Ternate**	**4.54**	**171**	*e*P	**Pn**	**07 16 57.0**	**-1.0**
SCPH	**Surigao**	**4.60**	**346**	*e*P	**Pn**	**07 17 01.5**	**+2.6**
TBP	**Tagbilaran**	**5.16**	**328**	*e*P	**Pn**	**07 17 05.6**	**-0.9**
TBP				*e*S	**Sn**	**07 18 02.1**	**-2.6**
LBMI	**Labuha**	**5.95**	**172**	P	**Pn**	**07 17 25.2**	**+7.8**
	204nm,0.8s,2μm0.7nm						
MYLDM	**Lahad Datu**	**8.10**	**270**	P	**Pn**	**07 17 50.2**	**+3.6**
KAPI	**Kappang**	**12.33**	**214**	P	**Pn**	**07 18 38.6**	**-5.7**
	0.4nm,0.3s,baz=260,slow=21,SNR=2.3						
KAPI				LR	LR	07 23 45.2	
	comp=Z,258nm,20.1s,baz=249,slow=39						
KAPI	**Kappang**	**12.33**	**214**	P	**Pn**	**07 18 48.2**	**+3.8**
	26nm,1.2s						
SBUM	**Sibu**	**14.65**	**259**	P	**Pn**	**07 19 20.1**	**+5.0**
BATI	**Baumata**	**15.68**	**191**	P	**Pn**	**07 19 28.6**	**+0.4**
	5.6nm,0.3s,baz=202,slow=5.5,SNR=3.1						
KAKA	**Kakadu**	**18.80**	**162**	*e*P	**Pn**	**07 19 59.8**	**-6.7**
	12nm,0.6s						
GUMO	**Guam**	**19.78**	**64**	LR	LR	07 26 47.8	
	comp=Z,155nm,19.3s,baz=344,slow=33						
MBWA	**Marble Bar**	**27.14**	**194**	P	**P**	**07 21 26.6**	**-1.3**
	6.2nm,0.8s,mb4.2						
ASAR	**Alice Springs**	**29.64**	**166**	P	**P**	**07 21 49.2**	**-0.9**
	3.5nm,0.7s,mb4.1,baz=349,slow=7.2,SNR=25						
ASAR				PcP	PcP	07 24 53.2	+0.1
	1.0nm,0.7s,baz=356,slow=2.8,SNR=4.2						
ASAR				ScP	ScP	07 28 33.2	+4.8
	1.5nm,0.8s,baz=342,slow=3.1,SNR=11						
CMAR	**Chiang Mai Arr**	**30.02**	**298**	P	**P**	**07 21 53.7**	**+0.1**
	1.4nm,0.3s,mb4.0,baz=123,slow=6.6,SNR=3.4						
CMAR				ScP	ScP	07 28 33.8	+3.9
	1.2nm,0.3s,baz=104,slow=2.2,SNR=4.9						
CMAR				LR	LR	07 33 16.6	
	comp=Z,137nm,19.6s,baz=248,slow=35						
KSRS	**Korea Array**	**32.03**	**2**	P	**P**	**07 22 12.9**	**+1.9**
	1.0nm,0.6s,mb3.8,baz=180,slow=9.2,SNR=4.0						
KSRS				LR	LR	07 33 30.4	
	comp=Z,38nm,20.8s,baz=180,slow=33						
MJAR	**Matsushiro Arr**	**32.87**	**17**	LR	LR	07 33 32.8	
	comp=Z,64nm,20.9s,baz=170,slow=32						
XAN	**Xi'an**	**32.99**	**332**	P	**P**	**07 22 18.0**	**-1.5**
XAN				AMB	AMB		
	comp=Z,3.0nm,0.8s,mb4.2						
XAN				AMB	AMB		
	comp=Z,28nm,4.6s						
FORT	**Forrest**	**35.89**	**178**	*e*P	**P**	**07 22 45.5**	**+1.0**
	comp=Z,9.7nm,0.6s,mb4.9						
LZH	**Lanzhou**	**37.12**	**329**	*e*P	**P**	**07 22 55.5**	**+0.5**
LZH				AMB	AMB		
	comp=Z,19nm,1.4s,mb4.8						
LZH				AMB	AMB		
	comp=Z,85nm,4.0s						
EIDS	**Eidsvold**	**38.65**	**143**	*e*P	**P**	**07 23 08.4**	**+0.4**
	comp=Z,59nm,1.3s,mb5.2						
NWAO	**Narrogin (SRO)**	**39.04**	**193**	P	**P**	**07 23 10.3**	**-0.9**
	comp=Z,3.5nm,0.6s,mb4.4,baz=67,slow=1.0,SNR=3.8						
NWAO	**Narrogin (SRO)**	**39.04**	**193**	P	**P**	**07 23 10.3**	**-0.9**
STKA	**Stephens Creek**	**39.62**	**160**	*e*P	**P**	**07 23 16.6**	**+0.6**
	comp=Z,7.3nm,0.4s,mb4.9						
STKA	**Stephens Creek**	**39.62**	**160**	P	**P**	**07 23 16.4**	**+0.4**
	comp=Z,6.3nm,0.4s,mb4.8,baz=338,slow=8.0,SNR=35						
STKA	**Stephens Creek**	**39.62**	**160**	*e*P	**P**	**07 23 16.1**	**+0.1**
	comp=Z,6.8nm,0.5s,mb4.7						
ARMA	**Armidale**	**42.82**	**148**	*e*P	**P**	**07 23 44.2**	**+1.9**
TAPN	**Taplejung**	**43.03**	**305**	*e*P	**P**	**07 23 43.8**	**-0.2**
	comp=Z,11nm,0.5s,mb4.8						
ODAN	**Odare**	**43.10**	**304**	*e*P	**P**	**07 23 44.8**	**+0.2**
RAMN	**Ramite**	**43.78**	**304**	*e*P	**P**	**07 23 50.6**	**+0.5**
	comp=Z,10nm,0.7s,mb4.7						
JIRN	**Jiri**	**44.39**	**305**	*e*P	**P**	**07 23 54.8**	**-0.2**
	comp=Z,11nm,0.5s,mb4.8						
GUN	**Gumba**	**44.74**	**305**	*e*P	**P**	**07 23 58.0**	**+0.2**
	comp=Z,14nm,0.6s,mb4.8						
ULN	**Ulaanbaatar**	**45.61**	**342**	*e*P	**P**	**07 24 05.0**	**+0.7**
ULN				pmax	pmax		
	comp=Z,6.0nm,0.8s,mb4.4						
ULN	**Ulaanbaatar**	**45.61**	**342**	*e*P	**P**	**07 24 05.0**	**+0.7**
	comp=Z,5.6nm,0.8s,mb4.3						
SONM	**Songino Array**	**45.80**	**341**	P	**P**	**07 24 06.2**	**+0.4**
	comp=Z,1.5nm,0.7s,mb3.8,baz=162,slow=8.0,SNR=8.6						
SONM				PcP	PcP	07 25 43.1	+1.0
	comp=Z,1.3nm,0.8s,baz=169,slow=5.0,SNR=3.8						
KOLN	**Koldanda**	**46.57**	**304**	*e*P	**P**	**07 24 12.2**	**0.0**
	comp=Z,7.3nm,0.3s,mb4.9						
DANN	**Dangsing**	**46.64**	**304**	*e*P	**P**	**07 24 12.9**	**+0.1**
	comp=Z,17nm,0.6s,mb5.0						
BOD	**Bodaibo**	**53.31**	**352**	*e*P	**P**	**07 25 03.5**	**+0.8**
BOD				pmax	pmax		
	comp=Z,7.0nm,1.1s,mb4.6						
PETK	**Petropavlovsk-**	**54.03**	**23**	P	**P**	**07 25 09.5**	**+1.4**
	comp=Z,6.1nm,0.9s,mb4.7,baz=242,slow=3.2,SNR=4.9						
MK31	**Makanchi Array**	**56.23**	**325**	*e*P	**P**	**07 25 24.1**	**+0.1**
MKAR	**Makanchi Array**	**56.23**	**325**	P	**P**	**07 25 23.6**	**-0.4**
	comp=Z,1.4nm,0.5s,mb4.3,baz=118,slow=7.4,SNR=18						
MKAR				LR	LR	07 49 35.0	
	comp=Z,64nm,20.4s,baz=174,slow=36						
YAK	**Yakutsk**	**56.66**	**2**	*e*P	**P**	**07 25 26.6**	**-0.2**
YAK				pmax	pmax		
	comp=Z,10.0nm,0.9s,mb4.8						
YAK				pmax	pmax		
	comp=N,3.0nm,1.1s						
ZAA0	**Zalesovo Array**	**59.16**	**333**	*e*P	**P**	**07 25 43.1**	**-1.4**
ZALV	**Zalesovo Beam**	**59.16**	**333**	P	**P**	**07 25 43.3**	**-1.2**
	comp=N,1.0nm,0.4s,mb4.2,baz=130,slow=9.2,SNR=5.5						
AKTK	**Aktyubinsk**	**72.38**	**321**	P	**P**	**07 27 08.3**	**-1.2**
AKTO	**Aktyubinsk**	**72.38**	**321**	P	**P**	**07 27 08.3**	**-1.2**
	comp=N,3.2nm,0.8s,mb4.2,baz=103,slow=7.9,SNR=12						
KDAK	**Kodiak Island**	**80.63**	**32**	P	**P**	**07 27 56.0**	**0.0**
	comp=N,10nm,0.9s,mb4.7,baz=103,slow=4.0,SNR=3.0						
IMA2	**Indian Mountai**	**81.00**	**24**	*e*P	**P**	**07 27 54.9**	**-2.9**
ARCES	**ARCESS Array B**	**88.96**	**340**	P	**P**	**07 28 37.5**	**0.0**
	comp=N,5.8nm,0.9s,mb4.6,baz=65,slow=5.8,SNR=8.8						
QSPA	**South Pole Qui**	**95.19**	**180**	P	**P**	**07 29 08.1**	**+2.0**
	comp=N,1.4nm,1.1s,mb4.3,baz=236,slow=12,SNR=3.1						
NOA	**NORSAR Array B**	**97.35**	**334**	LR	LR	08 19 52.6	
	comp=N,75nm,20.6s,baz=310,slow=40						
TXAR	**Lajitas Array**	**120.72**	**51**	PKP	PKPdf	07 34 36.8	+1.1
	comp=N,0.2nm,0.8s,baz=354,slow=2.7,SNR=2.5						
TORD	**Torodi Ar. Bea**	**122.33**	**289**	PKP	PKPdf	07 34 38.9	-0.2
	comp=N,237nm,0.5s,baz=45,slow=1.5,SNR=1.9						
TORD	**Torodi Ar. Bea**	**122.33**	**289**	PKP	PKPdf	07 34 38.9	-0.2
DBIC	**Dimbokro**	**130.14**	**283**	SKPbc	SKPbc	07 38 13.7	+3.3
	comp=N,5.1nm,0.9s,baz=80,slow=4.3,SNR=5.4						
JTS	**JuntasAbangare**	**144.94**	**64**	PKPbc	PKPdf	07 35 22.4	+1.2
	comp=N,11nm,0.8s,baz=311,slow=5.4,SNR=12						
CFAA	**Coronel Fontan**	**150.34**	**154**	PKPbc	PKPbc	07 35 35.7	+0.8
	comp=N,0.5nm,0.6s,baz=238,slow=3.3,SNR=13						

ISCJB ***25*** *07:31:58.1±2.8,1471S±005×7551W±007,h8km±17km, mb4.8/72,MS4.2/6,Error ellipse: s-maj=12.2km s-min=5.6km az=148.6*
IDC ***25*** *07:31:58.2±0.5,1480S×7565W,h0km,mb4.5/15, mb1 4.5/18,mb1mx4.5/21,mbtmp4.4/18,ML4.0/3,MS4.1/7, Ms1 4.1/7,ms1mx3.7/23,Error ellipse: s-maj=21.8km s-min=11.5km az=67.0*
MOS ***25*** *07:32:01.8±1.3,1469S×7568W,h33km,mb4.9/18,Error ellipse: s-maj=19.4km s-min=9.1km az=114.2*
NEIC ***25*** *07:32:03.0±1.8,1476S×7561W,h30km±12km,mb4.9/59, ML4.7(LIM),Error ellipse: s-maj=9.1km s-min=4.4km az=61.0*
NEIC Felt [III] at San Juan de Marcona.
BJI ***25*** *07:32:11.9,1480S×7560W,h100km,mB5.0*
ISC 25 07:32:00.4±2.6,1471S±005×7547W±007,h9km±16km, h8km±.3km:pP-P,n428,σ0§53/406,mb4.8/72,MS4.2/6, 126C-136D,Near coast of Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NNA	**Nana**	**3.02**	**333**	Pn	**Pn**	**07 32 47.5**	**-0.8**
	54nm,0.3s,baz=166,slow=14,SNR=49						
NNA				Sn	**Sn**	**07 33 28.8**	**+4.2**
	285nm,0.3s,baz=194,slow=15,SNR=8.7						
NNA				Lg		07 33 35.2	
	702nm,0.3s,baz=204,slow=20,SNR=12						
NNA				LR	LR	07 34 08.5	
	comp=Z,2μm,19.4s,baz=283,slow=43						
LPAZ	**La Paz**	**7.25**	**104**	Pn	**Pn**	**07 33 55.2**	**+8.7**
	9.1nm,0.3s,baz=284,slow=8.8,SNR=260						
LPAZ				LR	LR	07 37 06.8	
	comp=Z,1μm,20.3s,baz=280,slow=42						
LPAZ	**La Paz**	**7.25**	**104**	*e*P	**Pn**	**07 33 52.3**	**+5.8**
LPAZ				pmax	pmax		
	comp=Z,30nm,0.6s						
LPAZ	**La Paz**	**7.25**	**104**	*e*Pn	**Pn**	**07 33 52.2**	**+5.8**
	comp=Z,30nm,0.6s						
ATAH	**Atahualpa**	**8.18**	**339**	Pn	**Pn**	**07 34 00.3**	**+1.0**
	comp=Z,2.9nm,0.3s,baz=170,slow=4.5,SNR=12						
ATAH				Sn	**Sn**	**07 35 38.5**	**+6.6**
	comp=Z,3.7nm,0.3s,baz=38,slow=16,SNR=1.9						
LVC	**Limon Verde**	**10.02**	**143**	*e*Pn	**Pn**	**07 34 25.8**	**+1.3**
LVC				*e*S	**Sn**	**07 36 10.6**	**-6.5**
SIV	**San Ignacio**	**13.94**	**97**	Pn	**Pn**	**07 35 19.4**	**+1.2**
	comp=Z,1.1nm,0.3s,baz=274,slow=13,SNR=50						
LCO	**Las Campanas**	**14.90**	**164**	*e*Pn	**Pn**	**07 35 32.0**	**+0.7**
	comp=Z,17nm,0.9s						
OTAV	**Otavalo**	**15.14**	**348**	*e*Pn	**Pn**	**07 35 35.2**	**+0.6**
OTAV				*e*Sn	**Sn**	**07 38 33.6**	**+11**
CFAA	**Coronel Fontan**	**18.08**	**160**	P	**Pn**	**07 36 11.5**	**-0.3**
	comp=Z,0.1nm,0.3s,baz=331,slow=12,SNR=14						
ROSC	**El Rosal**	**19.47**	**3**	P	**Pn**	**07 36 33.7**	**+4.9**
	comp=Z,0.4nm,0.3s,baz=78,slow=22,SNR=3.1						
ROSC	**El Rosal**	**19.47**	**3**	*e*P	**Pn**	**07 36 30.7**	**+1.9**
SDV	**Santo Domingo**	**23.92**	**12**	P	**P**	**07 37 16.5**	**+1.7**
	comp=Z,14nm,0.8s,mb4.5,baz=225,slow=5.8,SNR=15						
SDV				LR	LR	07 47 40.5	
	comp=Z,604nm,21.4s,MS4.0,baz=10,slow=39						
SDV	**Santo Domingo**	**23.92**	**12**	*e*P	**P**	**07 37 16.0**	**+1.2**
	comp=Z,28nm,0.7s,mb4.8						
PLCA	**Paso Flores**	**26.28**	**172**	P	**P**	**07 37 34.1**	**-2.0**
	comp=Z,4.6nm,0.9s,mb4.0,baz=356,slow=7.8,SNR=4.7						
BDFB	**Brasilia**	**26.51**	**96**	P	**P**	**07 37 38.2**	**-0.1**
	comp=Z,3.6nm,0.9s,mb3.9,baz=253,slow=17,SNR=7.3						
BDFB				LR	LR	07 49 21.6	
	comp=Z,639nm,18.7s,MS4.2,baz=193,slow=39						
BDFB	**Brasilia**	**26.51**	**96**	*e*P	**P**	**07 37 37.8**	**-0.6**
BDFB				pmax	pmax		
	comp=Z,11nm,0.8s						
BDFB	**Brasilia**	**26.51**	**96**	*e*P	**P**	**07 37 37.8**	**-0.6**
	comp=Z,11nm,0.8s,mb4.4						
JTS	**JuntasAbangare**	**26.55**	**339**	P	**P**	**07 37 37.1**	**-1.7**
	comp=Z,0.9nm,0.2s,mb3.9,baz=295,slow=20,SNR=1.8						
JTS				LR	LR	07 47 18.3	
	comp=Z,348nm,19.6s,MS3.9,baz=337,slow=35						
PCRV	**Puerto La Cruz**	**26.95**	**24**	P	**P**	**07 37 42.4**	**0.0**
	comp=Z,4.6nm,0.8s,mb4.1,baz=335,slow=21,SNR=3.1						
PCRV				LR	LR	07 49 46.2	
	comp=Z,538nm,19.3s,MS4.1,baz=200,slow=39						
USHA	**Ushuaia**	**40.41**	**174**	P	**P**	**07 39 37.5**	**-1.1**
	comp=Z,16nm,1.1s,mb4.6,baz=12,slow=9.8,SNR=3.0						
LRAL	**Lakeview Retre**	**48.73**	**347**	*e*P	**P**	**07 40 44.6**	**-0.8**
	comp=Z,12nm,0.8s,mb5.0						
JSC	**Jenkinsville**	**49.02**	**354**	*e*P	**P**	**07 40 47.3**	**-0.3**
SWET	**Sewanee**	**50.63**	**349**	*e*P	**P**	**07 40 58.3**	**-1.5**
JCT	**Junction City**	**50.67**	**333**	*e*P	**P**	**07 40 59.9**	**-0.3**
JCT				pmax	pmax		
	comp=Z,9.0nm,1.3s,mb4.5						
JCT	**Junction City**	**50.67**	**333**	*e*P	**P**	**07 40 59.9**	**-0.3**
	comp=Z,9.2nm,1.3s,mb4.5						
TKL	**Tuckaleechee C**	**50.70**	**351**	*e*P	**P**	**07 40 59.5**	**-0.8**
TXAR	**Lajitas Array**	**51.56**	**328**	P	**P**	**07 41 06.3**	**-0.6**
	comp=Z,2.8nm,0.7s,mb4.3,baz=148,slow=9.1,SNR=38						
TXAR				LR	LR	08 01 41.4	
	comp=Z,157nm,18.0s,MS4.1,baz=105,slow=35						
WVT	**Waverly**	**51.89**	**347**	*e*P	**P**	**07 41 07.7**	**-1.6**
WVT				pmax	pmax		
	comp=Z,19nm,1.3s,mb4.9						
WVT	**Waverly**	**51.89**	**347**	*e*P	**P**	**07 41 07.7**	**-1.6**
	comp=Z,19nm,1.3s,mb4.9						
MIAR	**Mount Ida**	**51.92**	**341**	*e*P	**P**	**07 41 09.3**	**-0.2**
MIAR				pmax	pmax		
	comp=Z,8.0nm,0.6s,mb4.8						
MIAR	**Mount Ida**	**51.92**	**341**	*e*P	**P**	**07 41 09.3**	**-0.2**
	comp=Z,7.9nm,0.6s,mb4.8						
WCI	**Wyandotte Cave**	**53.62**	**349**	*e*P	**P**	**07 41 20.7**	**-1.3**
WCI				pmax	pmax		
	comp=Z,45nm,0.7s,mb5.5						
WCI	**Wyandotte Cave**	**53.62**	**349**	*e*P	**P**	**07 41 20.7**	**-1.3**
	comp=Z,45nm,0.7s,mb5.5						
USIN	**University of**	**53.63**	**348**	*e*P	**P**	**07 41 20.4**	**-1.6**
	comp=Z,43nm,0.7s,mb5.5						
SIUC	**Southern Illin**	**53.72**	**346**	*e*P	**P**	**07 41 21.6**	**-1.1**
	comp=Z,49nm,0.6s,mb5.6						
FVM	**French Village**	**54.26**	**345**	*e*P	**P**	**07 41 25.7**	**-1.0**
FVM				pmax	pmax		
	comp=Z,13nm,0.6s,mb5.0						
FVM	**French Village**	**54.26**	**345**	*e*P	**P**	**07 41 25.7**	**-1.0**
	comp=Z,13nm,0.6s,mb5.0						
OLIL	**Olney**	**54.46**	**348**	*e*P	**P**	**07 41 26.8**	**-1.3**
	comp=Z,64nm,0.7s,mb5.7						
CCM	**Cathedral Cave**	**54.53**	**345**	*e*P	**P**	**07 41 27.6**	**-1.1**
CCM				pmax	pmax		
	comp=Z,8.0nm,0.8s,mb4.8						
CCM	**Cathedral Cave**	**54.53**	**345**	*e*P	**P**	**07 41 27.6**	**-1.0**
	comp=Z,7.8nm,0.8s,mb4.8						
BLO	**Bloomington**	**54.58**	**349**	*e*P	**P**	**07 41 27.6**	**-1.4**
BLO				*e*		07 42 31.1	
BLO				pmax	pmax		
	comp=Z,25nm,0.7s,mb5.3						
BLO	**Bloomington**	**54.58**	**349**	*e*P	**P**	**07 41 27.6**	**-1.4**
	comp=Z,25nm,0.7s,mb5.4						
BLO				*e*PcP	PcP	07 42 31.1	-1.0
ACSO	**Alum Creek Sta**	**55.10**	**353**	*e*P	**P**	**07 41 32.0**	**-0.8**
	comp=Z,27nm,0.8s,mb5.3						
SSPA	**Standing Stone**	**55.10**	**358**	*e*P	**P**	**07 41 32.2**	**-0.6**
	comp=Z,75nm,2.0s,mb5.4						
319A	**Douglas**	**56.15**	**325**	⇓P	**P**	**07 41 40.2**	**-0.3**
	baz=56,SNR=6.0						
HDIL	**Hopedale**	**56.46**	**347**	*e*P	**P**	**07 41 40.7**	**-1.8**
	comp=Z,36nm,0.6s,mb5.6						
RKT	**Rikitea**	**56.60**	**252**	*e*S	**S**	**07 49 38.4**	**+2.1**
	comp=Z,320nm,28.0s						
RKT				*e*LR	LR	07 58 18.7	
	comp=Z,182nm,24.0s						
318A	**Bisbee**	**56.60**	**325**	⇑P	**P**	**07 41 43.5**	**-0.2**
	baz=57,SNR=10						
219A	**White Tail Can**	**56.62**	**326**	⇑P	**P**	**07 41 43.6**	**-0.2**
	baz=57,SNR=7.7						
218A	**Dragoon**	**57.03**	**325**	⇑P	**P**	**07 41 46.7**	**-0.1**
	baz=57						
217A	**Green Valley**	**57.31**	**324**	⇓P	**P**	**07 41 48.5**	**-0.2**
	baz=58						
LAZ	**Ladron**	**57.38**	**329**	*e*P	**P**	**07 41 49.1**	**0.0**
ANMO	**Albuquerque**	**57.48**	**330**	*e*P	**P**	**07 41 49.0**	**-0.9**
ANMO				pmax	pmax		
	comp=Z,6.0nm,0.9s						
ANMO	**Albuquerque**	**57.48**	**330**	*e*P	**P**	**07 41 49.0**	**-0.9**
	comp=Z,5.7nm,0.9s,mb4.6						
118A	**Homack Ranch,**	**57.49**	**325**	⇓P	**P**	**07 41 49.8**	**-0.2**
	baz=58,SNR=5.7						
TUC	**Tucson**	**57.70**	**325**	*e*P	**P**	**07 41 51.2**	**-0.2**
TUC				pmax	pmax		
	comp=Z,3.0nm,0.9s,mb4.3						
TUC	**Tucson**	**57.70**	**325**	*e*P	**P**	**07 41 51.2**	**-0.2**
	comp=Z,3.3nm,0.9s,mb4.4						
216A	**Three Points,**	**57.85**	**324**	⇑P	**P**	**07 41 52.5**	**0.0**
	baz=58						
117A	**Oracle**	**57.87**	**325**	⇑P	**P**	**07 41 52.4**	**-0.2**
	baz=58,SNR=6.9						
CBKS	**Cedar Bluff**	**57.88**	**338**	*e*P	**P**	**07 41 51.6**	**-1.0**
CBKS				pmax	pmax		
	comp=Z,23nm,0.9s,mb5.2						
CBKS	**Cedar Bluff**	**57.88**	**338**	*e*P	**P**	**07 41 51.6**	**-1.0**
	comp=Z,22nm,0.9s,mb5.2						
Y19A	**Nutrioso**	**58.12**	**327**	⇑P	**P**	**07 41 54.6**	**+0.3**
	baz=58,SNR=7.8						
Z17A	**San Carlos Hig**	**58.26**	**326**	⇓P	**P**	**07 41 55.3**	**-0.1**
	baz=59						
Y18A	**Canyon Day Jun**	**58.39**	**326**	⇓P	**P**	**07 41 56.3**	**0.0**
	baz=59						
116A	**Eloy**	**58.40**	**324**	⇑P	**P**	**07 41 56.7**	**+0.3**
	baz=59						
MDV	**

Q19A	Hogan Spring (	62.03	331	⇓P		P	07 42 20.9	-0.2	
	baz=62,SNR=8.0								
U14A	Mt Trumbull	62.07	326	⇓P		P	07 42 21.8	+0.4	
	baz=62,SNR=7.9								
T15A	Red Dirt Ranch	62.09	327	⇓P		P	07 42 21.6	0.0	
	baz=62,SNR=6.0								
V13A	Grand Canyon W	62.10	325	⇓P		P	07 42 21.6	0.0	
	baz=62								
R17A	Hanksville Air	62.31	329	⇑P		P	07 42 22.9	-0.1	
	baz=63,SNR=12								
P19A	Cripple Cowboy	62.43	331	⇑P		P	07 42 23.9	+0.1	
	baz=63,SNR=5.7								
U13A	Pakoon Wash	62.50	326	⇓P		P	07 42 24.7	+0.3	
	baz=63								
T14A	Hurricane	62.50	327	⇑P		P	07 42 24.7	+0.4	
	baz=63								
Q18A	Rafter H Ranch	62.56	330	⇓P		P	07 42 24.5	-0.2	
	baz=63,SNR=5.7								
S15A	Panguitch	62.58	328	⇓P		P	07 42 25.2	+0.4	
	baz=63								
R16A	Teasdale	62.59	329	⇑P		P	07 42 24.9	0.0	
	baz=63,SNR=5.6								
SRU	San Rafael	62.76	330	*e*P		P	07 42 25.9	-0.1	
SRU					pmax	pmax			
	comp=Z,6.0nm,0.9s,mb4.7								
SRU	San Rafael	62.76	330	⇑P		P	07 42 25.8	-0.2	
	baz=63,SNR=6.3								
SRU	San Rafael	62.76	330	*e*P		P	07 42 25.9	-0.1	
	comp=Z,5.5nm,0.9s,mb4.7								
U12A	Valley of Fire	62.83	325	⇓P		P	07 42 26.9	+0.4	
	baz=63								
TUQ	Turquoise Moun	62.89	323	⇓P		P	07 42 26.9	-0.1	
	baz=63								
V11A	Goodsprings	62.90	324	⇑P		P	07 42 26.9	-0.1	
	baz=63								
T13A	Saint George	62.91	326	⇑P		P	07 42 27.3	+0.2	
	baz=63								
Q16A	Castle Valley	62.92	329	⇑P		P	07 42 27.4	+0.3	
	baz=63								
CCUT	Cedar City	63.01	327	*e*P		P	07 42 28.4	+0.7	
CCUT				*e*PcP		PcP	07 43 05.9	+0.3	
O19A	Miners Draw (B	63.03	332	⇑P		P	07 42 27.7	-0.1	
	baz=63,SNR=15								
BFSC	Mount Baldy St	63.08	321	⇑P		P	07 42 28.6	+0.3	
	baz=63								
MSU	Marysvale	63.12	328	*e*P		P	07 42 28.6	+0.2	
P17A	Butcher Ranch,	63.14	330	⇓P		P	07 42 28.5	-0.1	
	baz=64,SNR=5.8								
SHPR	Sheep Range	63.22	325	*e*P		P	07 42 29.6	+0.5	
ARUT	Antelope Range	63.23	327	*e*P		P	07 42 29.7	+0.5	
S13A	Holt Ranch, En	63.30	326	⇓P		P	07 42 30.1	+0.5	
	baz=64,SNR=16								
RWWY	Rawlins	63.31	334	*e*P		P	07 42 28.5	-1.1	
	comp=Z,16nm,0.9s,mb5.2								
GSC	Goldstone	63.31	323	⇓P		P	07 42 30.1	+0.4	
	baz=64								
O18A	Roosevelt	63.41	331	⇑P		P	07 42 30.4	0.0	
	baz=64,SNR=6.8								
TAOE	Nuku Hiva Isla	63.41	267	*e*LR		LR	08 01 22.8		
	comp=Z,994nm,25.1s								
SHOC	Shoshone	63.43	324	⇑P		P	07 42 30.5	0.0	
	baz=64								
N19A	John Jarvie Ra	63.53	332	⇓P		P	07 42 31.1	0.0	
	baz=64								
Q15A	Fillmore	63.59	328	⇑P		P	07 42 32.1	+0.6	
	baz=64								
O17A	Robinson Place	63.70	330	⇓P		P	07 42 32.6	+0.4	
	baz=64,SNR=14								
T11A	Corn Creek, Al	63.79	325	⇑P		P	07 42 33.1	+0.3	
	baz=64,SNR=10								
R13A	O'Grain Ranch,	63.80	327	⇓P		P	07 42 33.4	+0.4	
	baz=64								
U10A	Ash Meadows, A	63.82	324	⇓P		P	07 42 33.6	+0.5	
	baz=64								
N18A	Larsen Ranch,	63.82	332	⇓P		P	07 42 33.4	+0.4	
	baz=64,SNR=6.8								
LRMC	Laurel Mountai	63.95	322	⇑P		P	07 42 34.4	+0.4	
	baz=64								
MPU	Maple Canyon	64.00	330	*e*P		P	07 42 34.0	-0.2	
	comp=Z,7.7nm,1.0s,mb4.7								
Q14A	Sevier Lake (B	64.04	328	⇑P		P	07 42 35.1	+0.6	
	baz=64,SNR=7.1								
O16A	Springville	64.08	330	⇑P		P	07 42 35.2	+0.5	
	baz=64,SNR=7.0								
RSSD	Black Hills	64.08	337	*e*P		P	07 42 34.5	-0.1	
RSSD					pmax	pmax			
	comp=Z,14nm,1.4s,mb4.8								
RSSD	Black Hills	64.08	337	*e*P		P	07 42 34.5	-0.1	
	comp=Z,14nm,1.4s,mb4.8								
DAU	Daniels Canyon	64.12	330	*e*P		P	07 42 35.4	+0.4	
TPNV	Topopah Spring	64.15	324	*e*P		P	07 42 36.0	+0.7	
TPNV					pmax	pmax			
	comp=Z,5.0nm,1.0s,mb4.5								
TPNV	Topopah Spring	64.15	324	⇑P		P	07 42 35.6	+0.4	
	baz=64,SNR=5.1								
TPNV	Topopah Spring	64.15	324	*e*P		P	07 42 36.0	+0.7	
	comp=Z,4.9nm,1.0s,mb4.5								
FURC	Furnace Creek,	64.16	324	⇑P		P	07 42 35.7	+0.4	
	baz=64								
MPMC	Manual Prospec	64.24	323	⇑P		P	07 42 35.7	-0.2	
	baz=64								
R12A	Pony Springs,	64.25	327	⇓P		P	07 42 36.4	+0.5	
	baz=64,SNR=12								
N17A	Moffit Pass	64.33	331	⇓P		P	07 42 37.1	+0.7	
	baz=65,SNR=10								
JLU	Jordanelle	64.36	330	*e*P		P	07 42 37.1	+0.6	
S11A	Rachel	64.37	325	⇑P		P	07 42 37.2	+0.5	
	baz=65								
P14A	Drum Mountains	64.39	328	⇑P		P	07 42 37.2	+0.4	
	baz=65,SNR=10								
Q13A	Wheeler Ranch,	64.40	327	⇑P		P	07 42 37.2	+0.3	
	baz=65,SNR=7.3								
ISA	Isabella	64.54	322	⇓P		P	07 42 37.9	0.0	
	baz=65								
N16A	Rees Ranch, Co	64.58	330	⇓P		P	07 42 38.2	+0.2	
	baz=65,SNR=5.2								
O15A	The Old Anders	64.61	329	⇓P		P	07 42 38.5	+0.3	
	baz=65								
DUG	Dugway	64.72	329	*e*P		P	07 42 39.3	+0.4	
DUG					pmax	pmax			
	comp=Z,14nm,0.8s,mb5.0								
DUG	Dugway	64.72	329	⇓P		P	07 42 39.1	+0.2	
	baz=65,SNR=20								
DUG	Dugway	64.72	329	*e*P		P	07 42 39.3	+0.4	
	comp=Z,14nm,0.8s,mb5.0								
P13A	Bates Ranch, G	64.77	328	⇓P		P	07 42 39.6	+0.3	
	baz=65,SNR=6.2								
R11A	Troy Canyon, C	64.79	326	⇓P		P	07 42 39.7	+0.3	
	baz=65,SNR=8.3								
PKM	Peak Mountain	64.84	321	⇑P		P	07 42 40.0	+0.2	
	baz=65								
Q12A	Willow Creek R	64.89	327	⇑P		P	07 42 39.9	-0.1	
	baz=65,SNR=5.5								
M16A	Huntsville	65.00	331	⇑P		P	07 42 40.2	-0.5	
	baz=65,SNR=5.4								
S10A	Tonopah Range,	65.04	325	⇓P		P	07 42 40.9	-0.1	
	baz=65,SNR=7.1								
N15A	Stansbury Isla	65.10	330	⇓P		P	07 42 42.2	+0.8	
	baz=65								
R10A	Warm Springs	65.14	325	⇓P		P	07 42 42.5	+0.9	
	baz=65								
Q11A	Duckwater	65.19	326	⇓P		P	07 42 42.1	+0.1	
	baz=66,SNR=9.8								
HWUT	Hardware Ranch	65.20	331	*e*P		P	07 42 41.5	-0.4	
	comp=Z,12nm,0.9s,mb4.9								
BW06	Boulder Array	65.20	333	⇓P		P	07 42 41.6	-0.4	
	baz=66								
BW06	Boulder Array	65.20	333	*e*P		P	07 42 41.0	-1.0	
	comp=Z,6.0nm,1.3s,mb4.5								
PDAR	Pinedale Array	65.20	333	P		P	07 42 41.4	-0.6	
	comp=Z,1.8nm,0.8s,mb4.2,baz=142,slow=7.4,SNR=12								
PDAR					PcP	PcP	07 43 13.8	-0.7	
	comp=Z,2.0nm,0.7s,baz=134,slow=5.2,SNR=7.6								
S09A	Goldfield	65.25	324	⇓P		P	07 42 42.7	+0.3	
	baz=66								
O13A	Hicks Ranch, I	65.26	328	⇓P		P	07 42 43.1	+0.7	
	baz=66								
AGMN	Agassiz Refuge	65.30	345	*e*P		P	07 42 41.8	-0.7	
	comp=Z,25nm,0.8s,mb5.3								
SPUT	South Promonto	65.39	330	*e*P		P	07 42 42.9	-0.4	
N14A	Grayback Hills	65.40	329	⇓P		P	07 42 42.9	-0.4	
	baz=66,SNR=6.5								
L16A	Fish Haven	65.45	331	⇑P		P	07 42 43.4	-0.3	
	baz=66								
M15A	Larsen Ranch,	65.51	330	⇓P		P	07 42 43.7	-0.3	
	baz=66,SNR=6.5								
R09A	Tonopah	65.53	325	⇑P		P	07 42 43.8	-0.4	
	baz=66,SNR=5.0								
Q10A	Clear Creek Ra	65.57	326	⇓P		P	07 42 44.7	+0.2	
	baz=66,SNR=5.1								
O12A	Currie	65.75	328	⇓P		P	07 42 45.7	+0.1	
	baz=66,SNR=8.4								
MTUM	Tungsten Hills	65.75	323	*e*P		P	07 42 46.2	+0.5	
L15A	Malad City	65.89	331	⇑P		P	07 42 45.8	-0.7	
	baz=66,SNR=7.7								
HVU	Hansel Valley	65.91	330	*e*P		P	07 42 46.4	-0.2	
HVU					pmax	pmax			
	comp=Z,8.0nm,0.9s,mb4.8								
HVU	Hansel Valley	65.91	330	*e*P		P	07 42 46.4	-0.1	
	comp=Z,8.4nm,0.9s,mb4.8								
N13A	Wendover, West	65.91	329	⇑P		P	07 42 46.5	-0.1	
	baz=66								
M14A	Sheep Mountain	65.97	330	⇓P		P	07 42 46.3	-0.7	
	baz=66,SNR=16								
O11A	Cowboy Ranch,	66.12	327	⇓P		P	07 42 48.5	+0.5	
	baz=66								
K16A	Soda Springs	66.16	332	⇓P		P	07 42 48.3	+0.1	
	baz=66,SNR=8.6								
P10A	Eureka	66.18	326	⇓P		P	07 42 49.0	+0.6	
	baz=66								
REDW	Red Top Meadow	66.25	333	*e*P		P	07 42 48.4	-0.3	
	comp=Z,11nm,1.3s,mb4.7								
SNOW	Snow King Moun	66.28	333	*e*P		P	07 42 49.0	+0.1	
	comp=Z,3.7nm,0.8s,mb4.5								
L14A	Malta	66.33	330	⇓P		P	07 42 48.8	-0.5	
	baz=67,SNR=6.9								
N12A	Clover Valley,	66.33	328	⇑P		P	07 42 49.6	+0.2	
	baz=67								
LOHW	Long Hollow	66.33	333	*e*P		P	07 42 48.8	-0.5	
	comp=Z,3.8nm,0.8s,mb4.5								
NVAR	Mina Array Bea	66.35	324	P		P	07 42 49.5	0.0	
	comp=Z,1.6nm,0.8s,mb4.1,baz=140,slow=7.3,SNR=12								
NVAR					PcP	PcP	07 43 19.0	-0.3	
	comp=Z,1.1nm,0.8s,baz=134,slow=5.2,SNR=4.1								
TPAW	Teton Pass	66.39	333	*e*P		P	07 42 49.1	-0.6	
	comp=Z,21nm,1.8s,mb4.9								
U04C	Hernandez Rese	66.40	321	⇑P		P	07 42 49.8	-0.1	
	baz=67								
Q08A	Gabbs	66.44	325	⇑P		P	07 42 50.1	0.0	
	baz=67								
RRI2	Red Ridge	66.44	332	*e*P		P	07 42 49.9	-0.1	
	comp=Z,16nm,0.8s,mb5.1								
K15A	Arbon	66.49	331	⇑P		P	07 42 50.3	0.0	
	baz=67								
MOOW	Moose Ponds	66.50	333	*e*P		P	07 42 49.8	-0.6	
	comp=Z,4.6nm,1.1s,mb4.4								
J16A	Bone	66.52	332	⇑P		P	07 42 50.2	-0.3	
	baz=67,SNR=5.8								
I17A	Pilgram Creek	66.57	333	⇓P		P	07 42 50.6	-0.2	
	baz=67,SNR=6.7								
DCID1	Drake Creek	66.58	332	*e*P		P	07 42 51.1	+0.2	
O10A	Cortez Mining,	66.68	327	⇑P		P	07 42 51.9	+0.3	
	baz=67								
K14A	Jones Ranch, D	66.68	331	⇓P		P	07 42 51.6	0.0	
	baz=67,SNR=5.5								
M12A	Wells	66.69	329	⇑P		P	07 42 51.3	-0.3	
	baz=67								
IMW	Indian Meadow	66.71	333	*e*P		P	07 42 51.3	-0.4	
	comp=Z,6.3nm,0.9s,mb4.7								
L13A	Double Diamond	66.71	330	⇑P		P	07 42 51.8	+0.1	
	baz=67								
I16A	Newdale	66.94	332	⇓P		P	07 42 53.2	0.0	
	baz=67,SNR=7.1								
J15A	Blackfoot	66.99	332	⇓P		P	07 42 53.4	-0.1	
	baz=67,SNR=9.2								
LKWY	Lake	67.00	334	*e*P		P	07 42 55.1	+1.6	
LKWY					pmax	pmax			
	comp=Z,8.0nm,0.8s,mb4.8								
LKWY	Lake	67.00	334	*e*P		P	07 42 55.0	+1.5	
	comp=Z,8.1nm,0.8s,mb4.8								
LAO	LASA Array	67.08	338	*e*P		P	07 42 53.8	-0.2	
	comp=Z,10nm,0.8s,mb4.9								
ULM	Lac du Bonnet	67.12	346	P		P	07 42 53.3	-0.8	
	comp=Z,17nm,0.8s,mb5.2,baz=153,slow=7.3,SNR=10								
ULM	Lac du Bonnet	67.12	346	*e*P		P	07 42 52.9	-1.2	
	comp=Z,16nm,0.9s,mb5.0								
PACP	Pacheco Peak	67.13	321	⇓P		P	07 42 55.1	+0.5	
	baz=67								
K13A	Stover Farm, H	67.20	330	⇓P		P	07 42 54.7	-0.1	
	baz=68								
L12A	House Creek Ra	67.28	329	⇓P		P	07 42 55.4	+0.1	
	baz=68								
YMR	Madison River	67.33	333	*e*P		P	07 42 56.4	+0.8	
	comp=Z,6.1nm,0.7s,mb4.7								
J14A	Carey	67.44	331	⇑P		P	07 42 56.6	+0.2	
	baz=68,SNR=6.9								
H16A	Russell Place,	67.48	333	⇑P		P	07 42 56.8	+0.3	
	baz=68,SNR=11								
I15A	Monteview	67.48	332	⇓P		P	07 42 57.1	+0.5	
	baz=68								
O08A	Rooster Mine	67.57	326	⇑P		P	07 42 57.4	+0.1	
	baz=68								
K12A	Draper Farm, C	67.59	330	⇓P		P	07 42 57.5	+0.2	
	baz=68,SNR=14								
QLMT	Earthquake Lak	67.66	333	*e*P		P	07 42 58.3	+0.6	
L11A	Cat Creek Ranc	67.66	329	⇑P		P	07 42 57.5	-0.3	
	baz=68,SNR=8.9								
GCMT	Greycliff	67.68	335	P		P	07 42 57.4	-0.4	
R04C	Big Horse Ranc	67.75	323	⇓P		P	07 42 58.9	+0.5	
	baz=68								
WCN	Washoe City	67.77	324	⇓P		P	07 42 59.1	+0.6	
	baz=68								
F18A	Big Timber	67.79	335	⇑P		P	07 42 58.3	-0.2	
	baz=68,SNR=14								
J13A	Cove Ranch, Pi	67.81	331	⇓P		P	07 42 58.8	+0.1	
	baz=68,SNR=5.6								
PAHR	Pah Rah Range	67.84	325	*e*P		P	07 42 59.3	+0.3	
	comp=Z,12nm,1.1s,mb4.8								
I14A	Mackay	67.87	331	⇑P		P	07 42 59.4	+0.3	
	baz=68,SNR=5.2								
O07A	Toulon	67.87	325	⇓P		P	07 42 59.0	-0.1	
	baz=68								
DGMT	Dagmar	67.89	340	⇓P		P	07 42 58.9	-0.2	
	baz=68,SNR=5.6								
DGMT	Dagmar	67.89	340	*e*P		P	07 42 59.0	0.0	
	comp=Z,19nm,0.9s,mb5.1								
L10A	Juniper Basin	67.96	328	⇓P		P	07 42 59.2	-0.5	
	baz=68,SNR=8.1								
M09A	Marrel Ranch,	68.00	327	⇑P		P	07 42 59.8	-0.1	
	baz=68								
HLID	Hailey	68.05	330	⇓P		P	07 43 00.4	+0.2	
	baz=68,SNR=11								
G16A	Moss Hill, Enn	68.14	333	⇓P		P	07 43 01.1	+0.4	
	baz=68								
J12A	Stokes Ranch,	68.14	330	⇑P		P	07 43 01.0	+0.2	
	baz=68								
I13A	Wildhorse Cree	68.17	331	⇓P		P	07 43 01.1	+0.2	
	baz=68,SNR=12								
K11A	Parker Ranch,	68.25	329	⇓P		P	07 43 01.5	0.0	
	baz=69								
MCMT	McKenzie Canyo	68.29	332	*e*P		P	07 43 02.0	+0.3	
N07B	Gerlach	68.35	326	⇓P		P	07 43 02.4	+0.2	
	baz=69								
H14A	Leadore	68.36	332	⇑P		P	07 43 02.2	+0.1	
	baz=69,SNR=9.9								
G15A	Dillon	68.39	333	⇓P		P	07 43 02.4	+0.1	
	baz=69,SNR=8.1								
BOZ	Bozeman (W)	68.39	334	*e*P		P	07 43 02.2	-0.1	
BOZ					pmax	pmax			
	comp=Z,6.0nm,0.7s,mb4.7								
BOZ	Bozeman (W)	68.39	334	⇓P		P	07 43 01.8	-0.5	
	baz=69,SNR=5.1								
BOZ	Bozeman (W)	68.39	334	*e*P		P	07 43 02.2	-0.1	
	comp=Z,5.5nm,0.7s,mb4.7								
E18A	Harlowton	68.41	335	⇑P		P	07 43 02.2	-0.1	
	baz=69								
VNA3	Neumayer Olymp	68.47	162	*e*P		P	07 43 02.1	-0.4	
VNA3				*e*		pP	07 43 04.5	-0.9	
L09A	Wilkinson Ranc	68.53	327	⇑P		P	07 43 03.0	-0.2	
	baz=69,SNR=7.2								
I12A	Atlanta	68.56	330	⇑P		P	07 43 03.6	+0.2	
	baz=69,SNR=5.2								
DLMT	Dillon	68.59	333	*e*P		P	07 43 03.9	+0.4	
	comp=Z,6.4nm,0.9s,mb4.5								
MFID	Camas Ranch	68.62	330	⇓P		P	07 43 03.8	0.0	
	baz=69,SNR=8.4								
K10A	MacKenzie Ranc	68.67	328	⇑P		P	07 43 03.9	-0.2	
	baz=69,SNR=8.5								
E17A	Martinsdale	68.71	335	⇓P		P	07 43 04.1	-0.1	
	baz=69								
VNA1	Neumayer--Stat	68.73	161	*e*P		P	07 43 04.2	+0.1	
VNA1				*e*		pP	07 43 06.7	-0.4	
H13A	Challis	68.73	331	⇑P		P	07 43 04.4	-0.1	
	baz=69,SNR=7.0								
N06A	Buffalo Meadow	68.81	325	⇓P		P	07 43 05.0	+0.1	
	baz=69,SNR=6.8								
G14A	Jackson	68.89	332	⇓P		P	07 43 05.6	+0.2	
	baz=69								
LRM	Limekiln Ridge	68.89	333	*e*P		P	07 43 05.3	0.0	
F15A	Butte	68.92	333	⇓P		P	07 43 05.5	0.0	
	baz=69								
ORV	Oroville	68.94	323	⇑P		P	07 43 06.0	+0.1	
	baz=69,SNR=7.0								
H12A	Diamond D Ranc	69.00	331	⇓P		P	07 43 05.9	-0.2	
	baz=69,SNR=6.5								
L08A	Fields	69.01	327	⇓P		P	07 43 06.1	-0.2	
	baz=69								
I11A	Placerville	69.05	330	⇓P		P	07 43 06.1	-0.4	
	baz=69,SNR=8.7								
K09A	Rome	69.05	328	⇓P		P	07 43 06.5	0.0	
	baz=69								
VNA2	Neumayer--Watz	69.08	161	*e*P		P	07 43 06.0	-0.3	
	baz=298,slow=8.1								
VNA2				*e*		pP	07 43 08.1	-1.2	
J10A	Berg Farm, Mel	69.09	329	⇑P		P	07 43 06.6	-0.1	
	baz=69								
E16A	East Helena	69.11	334	⇑P		P	07 43 06.6	-0.2	
	baz=69								
G13A	Cobalt	69.12	332	⇑P		P	07 43 06.6	-0.2	
	baz=69,SNR=9.4								
D17A	Six Diamond Ra	69.20	335	⇑P		P	07 43 07.2	0.0	
	baz=70,SNR=5.8								
O04C	Chester	69.21	324	⇑P		P	07 43 07.4	-0.1	
	baz=70								
HRY	Holter Researc	69.32	334	*e*P		P	07 43 08.3	+0.2	
L07A	Adell	69.42	327	⇑P		P	07 43 08.9	+0.2	
	baz=70								
E15A	Deer Lodge	69.44	333	⇓P		P	07 43 09.0	+0.2	
	baz=70								
D16A	Dana Ranch, Ca	69.45	335	⇑P		P	07 43 08.9	+0.1	
	baz=70								
EGMT	Eagleton	69.53	336	⇑P		P	07 43 09.1	-0.2	
	baz=70								
J09A	Fry Pan Ranch,	69.53	328	⇑P		P	07 43 09.1	-0.3	
	baz=70								
C17A	Wharram Farm,	69.61	335	⇓P		P	07 43 09.5	-0.3	
	baz=70,SNR=8.6								
H11A	Donnelly	69.66	330	⇓P		P	07 43 10.1	-0.1	
	baz=70								
F13A	Darby	69.70	332	⇓P		P	07 43 10.2	-0.2	
	baz=70,SNR=10								
E14A	Clinton	69.80	333	⇑P		P	07 43 11.1	0.0	
	baz=70,SNR=11								
K07A	Rock Creek Ran	69.84	327	⇓P		P	07 43 11.3	-0.1	
	baz=70								
TBI	Tubuai	69.84	250	*e*LR		LR	08 04 25.1		
	comp=Z,185nm,26.8s								
MOD	Modoc	69.85	326	⇓P		P	07 43 11.4	-0.1	
	baz=70								
D15A	Lincoln	69.87	334	⇓P		P	07 43 11.8	+0.4	
	baz=70								
J08A	Circle Bar Ran	69.91	328	⇓P		P	07 43 12.1	+0.3	
	baz=70								
I09A	Lost Marbles R	69.97	329	⇑P		P	07 43 12.1	0.0	
	baz=70								
F12A	Elk City	70.09	332	⇑P		P	07 43 12.8	0.0	
	baz=70								
E13A	Victor	70.13	333	⇑P		P	07 43 13.3	+0.3	
	baz=70,SNR=12								
C16A	Fuhringer Ranc	70.15	335	⇓P		P	07 43 13.0	-0.1	
	baz=70,SNR=5.8								
G11A	Walters Elk Ra	70.30	331	⇓P		P	07 43 13.8	-0.3	
	baz=71,SNR=6.3								
MSO	Missoula	70.32	333	*e*P		P	07 43 14.8	+0.6	
	comp=Z,6.1nm,1.0s,mb4.5								
D14A	Greenough	70.33	333	⇑P		P	07 43 14.5	+0.3	
	baz=71								
I08A	Drewsey	70.35	328	⇓P		P	07 43 15.1	+0.7	
	baz=71								
J07A	Hines	70.35	328	⇑P		P	07 43 15.1	+0.7	
	baz=71								
BMO	Blue Mountains	70.40	330	*e*P		P	07 43 14.3	-0.4	
	comp=Z,5.2nm,1.1s,mb4.4								
K06A	Valley Falls	70.44	327	⇑P		P	07 43 15.2	+0.1	
	baz=71,SNR=7.2								
C15A	Salmond Ranch,	70.48	334	⇑P		P	07 43 15.7	+0.5	
	baz=71,SNR=9.8								
F11A	Grangeville	70.61	331	⇓P		P	07 43 15.6	-0.4	
	baz=71,SNR=14								
G10A	Bishop Farm, J	70.63	330	⇑P		P	07 43 15.9	-0.2	
	baz=71,SNR=10								
SNAA	Sanae	70.69	161	*e*P		P	07 43 15.5	-0.7	
SNAA				*e*		pP	07 43 17.8	-1.3	
J06A	Christmas Vall	70.70	327	⇑P		P	07 43 16.4	-0.2	
	baz=71,SNR=7.2								
E12A	Beaver Dam Sad	70.73	332	⇑P		P	07 43 16.2	-0.5	
	baz=71,SNR=5.4								
D13A	Huson	70.75	333	⇓P		P	07 43 16.8	0.0	
	baz=71								
N02C	Big Bar	70.81	323	⇓P		P	07 43 16.9	-0.4	
	baz=71								
PPT	Papeete	70.83	256

F06A	**Goldendale**	**72.77**	**329**	⇑P		**P**	**07 43 29.5**	**+0.4**
	baz=73							
LIC	**Lamto**	**72.85**	**79**	*e*P		**P**	**07 43 30.7**	**+0.5**
	comp=Z,25nm,1.0s,mb5.1							
E07A	**Sunnyside**	**72.87**	**330**	⇓P		**P**	**07 43 30.0**	**+0.5**
	baz=73							
HOOD	**Mount Hood Mea**	**72.91**	**328**	*e*P		**P**	**07 43 33.5**	**+3.7**
	comp=Z,76nm,0.8s,mb5.7							
OD2	**Odessa Site #2**	**72.91**	**331**	*e*P		**P**	**07 43 29.7**	**-0.1**
TIC	**Toumodi**	**72.98**	**78**	*e*P		**P**	**07 43 31.5**	**+0.5**
	comp=Z,8.1nm,0.2s,mb5.3							
A11A	**Hall Mountain,**	**73.00**	**333**	⇑P		**P**	**07 43 30.4**	**+0.1**
	baz=73							
DBIC	**Dimbokro**	**73.14**	**78**	P		**P**	**07 43 32.7**	**+0.8**
	comp=Z,7.2nm,0.9s,mb4.6,baz=232,slow=7.6,SNR=12							
DBIC	**Dimbokro**	**73.14**	**78**	P		**P**	**07 43 32.7**	**+0.8**
KIC	**Kosan Boka**	**73.16**	**79**	*e*P		**P**	**07 43 32.7**	**+0.7**
	comp=Z,51nm,0.8s,mb5.5							
D07A	**Quincy**	**73.37**	**330**	⇑P		**P**	**07 43 32.8**	**+0.3**
	baz=74							
B09A	**Rice**	**73.40**	**332**	⇓P		**P**	**07 43 33.0**	**+0.3**
	baz=74							
F04A	**Amboy**	**73.72**	**328**	⇑P		**P**	**07 43 35.0**	**+0.4**
	baz=74							
C07A	**Waterville**	**73.77**	**330**	⇑P		**P**	**07 43 35.3**	**+0.4**
	baz=74							
E05A	**Randle**	**73.81**	**329**	⇑P		**P**	**07 43 34.9**	**-0.2**
	baz=74							
B08A	**Colville Reser**	**73.90**	**331**	⇑P		**P**	**07 43 35.5**	**-0.1**
	baz=74							
A09A	**Danville**	**74.00**	**332**	⇓P		**P**	**07 43 36.6**	**+0.4**
	baz=74							
A08A	**Turner Farm, O**	**74.30**	**332**	⇓P		**P**	**07 43 38.3**	**+0.4**
	baz=75							
B07A	**Winthrop**	**74.34**	**331**	⇑P		**P**	**07 43 38.1**	**-0.1**
	baz=75							
D05A	**Enumclaw**	**74.36**	**329**	⇑P		**P**	**07 43 38.9**	**+0.6**
	baz=75							
C05A	**Tolt Reservoir**	**74.56**	**330**	⇓P		**P**	**07 43 39.6**	**+0.1**
	baz=75							
A07A	**Ashnola River,**	**74.88**	**331**	⇓P		**P**	**07 43 41.7**	**+0.4**
	baz=75							
B06A	**Marblemount**	**75.03**	**330**	⇓P		**P**	**07 43 42.1**	**0.0**
	baz=75							
EDM	**Edmonton**	**75.07**	**338**	*e*P		**P**	**07 43 41.3**	**-1.0**
B05A	**Bryant**	**75.15**	**330**	⇓P		**P**	**07 43 42.6**	**-0.3**
	baz=75							
QSPA	**South Pole Qui**	**75.44**	**180**	P		**P**	**07 43 43.8**	**-0.4**
	comp=Z,5.5nm,0.9s,mb4.5,baz=139,slow=4.6,SNR=14							
TOA0	**Torodi Ar. Sit**	**81.23**	**74**	*e*P		**P**	**07 44 18.4**	**+1.0**
TORD	**Torodi Ar. Bea**	**81.23**	**74**	P		**P**	**07 44 18.2**	**+0.9**
	comp=Z,246nm,0.4s,baz=261,slow=5.3,SNR=2.3							
YKA	**Yellowknife Ar**	**82.81**	**343**	P		**P**	**07 44 23.4**	**-1.2**
	comp=Z,5.5nm,0.9s,mb4.6,baz=140,slow=5.2,SNR=6.3							
SYO	**Syowa Base**	**84.97**	**161**	⇓*e*P		**P**	**07 44 33.0**	**-2.7**
DLBC	**Dease Lake**	**85.38**	**335**	*e*P		**P**	**07 44 38.4**	**+0.6**
ESDC	**Sonseca Array**	**85.61**	**47**	P		**P**	**07 44 40.1**	**+0.7**
	comp=Z,0.7nm,0.5s,mb4.2,baz=243,slow=4.2,SNR=5.9							
DAWY	**Dawson**	**92.27**	**337**	*e*P		**P**	**07 45 09.9**	**-0.5**
INK	**Inuvik**	**92.51**	**342**	*e*P		**P**	**07 45 11.0**	**-0.4**
MAW	**Mawson**	**92.52**	**165**	P		**P**	**07 45 11.0**	**-0.7**
	comp=Z,4.5nm,1.1s,mb4.8,baz=225,slow=4.3,SNR=5.7							
GERES	**GERESS Array B**	**100.38**	**42**	P		Pdif	07 45 48.7	+1.1
	comp=Z,0.9nm,0.6s,baz=260,slow=3.5,SNR=5.4							
STKA	**Stephens Creek**	**121.63**	**217**	PKP		PKPdf	07 50 53.0	-2.2
	comp=Z,0.6nm,0.5s,baz=68,slow=5.4,SNR=4.8							
ASAR	**Alice Springs**	**132.26**	**217**	PKP		PKPdf	07 51 13.9	-1.7
	comp=Z,1.1nm,0.5s,baz=115,slow=1.8,SNR=8.2							
ZAA0	**Zalesovo Array**	**137.90**	**17**	*e*PKPdf		PKPdf	07 51 25.0	-0.2
ZALV	**Zalesovo Beam**	**137.90**	**17**	PKP		PKPdf	07 51 25.2	0.0
	comp=Z,8.7nm,0.9s,baz=318,slow=2.0,SNR=23							
MK31	**Makanchi Array**	**143.00**	**26**	*e*PKIKP		PKPdf	07 51 31.8	-2.9
MKAR	**Makanchi Array**	**143.00**	**26**	PKhKP			07 51 30.6	
	comp=Z,1.1nm,0.6s,baz=344,slow=3.9,SNR=9.0							
MDJ	**Mudanjiang**	**143.38**	**330**	PKP		PKPdf	07 51 32.8	-2.6
ZAK	**Zakamensk**	**144.40**	**1**	*e*PKIKP		PKPdf	07 51 35.5	-1.5
ZAK				pmax		pmax		
	comp=Z,8.0nm,1.1s							
ULN	**Ulaanbaatar**	**146.87**	**357**	*e*PKP2		PKPab	07 51 41.9	-2.5
SONM	**Songino Array**	**146.93**	**358**	PKPbc		PKPbc	07 51 41.8	-1.5
	comp=Z,6.2nm,0.7s,baz=327,slow=1.6,SNR=31							
SONM				PP		PP	07 55 06.0	-0.6
	comp=Z,1.1nm,1.1s,baz=355,slow=6.4,SNR=4.2							
WMQ	**Urumqi**	**147.61**	**23**	PKP		PKPdf	07 51 39.3	-3.4
WMQ				APKP			07 52 05.3	
WMQ				XPKP			07 52 16.3	
THN	**Thein Dam**	**148.39**	**51**	*e*P		PKPdf	07 51 45.4	+1.1
KSRS	**Korea Array**	**149.27**	**322**	PKP		PKPdf	07 51 44.9	-0.6
	comp=Z,4.7nm,1.1s,baz=17,slow=1.3,SNR=6.8							
KSRS				PKPbc		PKPbc	07 51 49.2	-0.7
	comp=Z,1.6nm,0.5s,baz=16,slow=2.6,SNR=12							
POO	**Poona**	**150.37**	**78**	*ex*		x	07 52 21.0	
BJI	**Beijing**	**152.78**	**340**	PKP		PKPdf	07 51 46.5	-4.4
HHC	**Hu-ho-hao-te**	**153.24**	**348**	*e*PKP		PKPdf	07 51 47.0	-4.5
HHC				XPKP			07 52 25.0	
HHC				PKS			07 55 20.0	
HHC				PP		PP	07 55 43.5	+0.5
HHC				SKS		SKSdf	07 58 42.8	-16
HHC				SKKS		SKKSac	08 02 22.8	-12
HHC				SS		SS	08 15 10.0	-6.4
HHC				PP		PP		
	comp=Z,90nm,5.5s							
HHC				LR		LR		
	comp=N,217nm,21.2s,MS5.0							
HHC				LR		LR		
	comp=E,166nm,22.8s,MS5.0							
HHC				LR		LR		
	comp=Z,237nm,21.0s,MS5.0							
GTA	**Gaotai**	**155.04**	**9**	*e*PKP		PKPdf	07 51 55.0	+0.9
GTA				APKP			07 52 21.5	
GTA				XPKP			07 52 32.3	
NJ2	**Nanjing**	**158.34**	**325**	*e*PKP		PKPdf	07 51 53.5	-5.1
LZH	**Lanzhou**	**158.70**	**2**	*e*PKP		PKPdf	07 51 55.5	-3.4
LZH				APKP			07 52 20.3	
CD2	**Chengdu**	**163.85**	**2**	*e*PKP		PKPdf	07 51 59.0	-5.5
CD2				APKP			07 52 25.8	
CD2				XPKP			07 52 36.5	
CD2				PKP2		PKPab	07 52 53.3	-3.4
CD2				PP		PP	07 56 40.5	-0.4
CD2				SKS		SKSdf	07 58 52.0	-17
CD2				SKKS		SKKSac	08 03 16.8	-14
CD2				SS		SS	08 16 58.5	-11
CD2				PP		PP		
	comp=Z,120nm,10.2s							
CD2				LR		LR		
	comp=N,180nm,18.4s							
CD2				LR		LR		
	comp=Z,160nm,16.8s							
GYA	**Guiyang**	**168.14**	**351**	*e*PKP		PKPdf	07 52 03.0	-5.1
GYA				APKP			07 52 28.5	
GYA				PKP2		PKPab	07 53 15.0	-0.7
GYA				PKS			07 55 33.8	
GYA				PP		PP		
	comp=Z,80nm,8.9s							
CMAR	**Chiang Mai Arr**	**173.47**	**54**	PKP		PKPdf	07 52 10.9	-0.2
	comp=Z,1.3nm,0.3s,baz=235,slow=1.6,SNR=5.5							

MAN 25 07:51:14,1396N×12266E,h1km,mb3.8,ML2.6,MS2.1, 1D,Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GQP	**Guinayangan**	**0.22**	**256**	⇓*i*P	Pg	07 51 18.1	-0.1
GQP				*i* S	Sg	07 51 21.5	+0.5
AUQP	**San Andres**	**0.63**	**179**	*e*P	Pg	07 51 27.4	+1.3
POLP	**Polilio Island**	**1.04**	**318**	*e*P	Pg	07 51 32.9	-1.1
POLP				*e*S	Sg	07 51 47.9	+0.4
PVCP	**Virac**	**1.49**	**104**	*e*P	Pn	07 51 41.9	0.0
PVCP				*e*S	Sb	07 52 02.4	+0.4
OTRP	**Odiongan**	**1.70**	**202**	*e*P	Pn	07 51 43.7	-1.1
BALP	**Baler**	**2.06**	**329**	*e*P	Pn	07 51 50.5	+0.7
SJMP	**San Jose**	**2.12**	**225**	*e*P	Pn	07 51 51.6	+1.1
LUBP	**Lubang**	**2.36**	**265**	*e*P	Pn	07 51 55.5	+1.6
CAUP	**Cauayan**	**3.08**	**345**	*e*P	Pn	07 52 04.5	+0.8

*NIED **25** 07:54:00,26.30N×142.50E,h32km,Mw4.1 Best double couple: M₀1.34000×10¹⁵ NP1:φ₀151.00000°,δ56.00000°, λ-93.00000°. NP2:φ₀336.00000°,δ34.00000°, λ-86.00000°.*
*IDC **25** 07:54:37.2±0.8,26.35N×142.10E,h0km,mb3.9/10, mb1 4.1/11,mb1mx4.0/19,mbtmp3.8/11,ML3.6/1,MS3.3/2, Ms1 3.3/2,ms1mx2.5/29,Error ellipse: s-maj=28.9km s-min=14.3km az=89.0*
*ISCJB **25** 07:54:40.6±1.8,26.29N0.010×1419E±0.1,h33km±15km, mb3.9/10,Error ellipse: s-maj=19.6km s-min=16.0km az=157.9*
*JMA **25** 07:54:40.7,26.34N×142.45E,h4km±1km,M4.0*
*NEIC **25** 07:54:43.1±1.9,26.34N×142.06E,h41km±16km, MG4.0(JMA),Error ellipse: s-maj=20.8km s-min=14.5km az=77.0*

ISC 25 07:54:42.8±1.3,2634N±010×1421E±02,h37km±10km,n21, σ0§89/21,mb3.9/10,Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHHJ	**Haha-jima-NKT**	**0.29**	**14**	P	**Pn**	**07 54 50.1**	**-0.7**
JHHJ				*e*S	**Sn**	**07 54 56.9**	**+0.7**
CBIJ	**Chichi jima**	**0.75**	**6**	Pn	**Pn**	**07 54 55.7**	**-1.2**
	237nm,0.3s,baz=191,slow=7.3,SNR=132						
CBIJ				Sn	**Sn**	**07 55 06.8**	**-0.4**
	274nm,0.3s,baz=268,slow=21,SNR=24						
CBIJ	**Chichi jima**	**0.75**	**6**	P	**Pn**	**07 54 55.6**	**-1.4**
CBIJ				*e*S	**Sn**	**07 55 06.4**	**-0.7**
JRY	**Ryogami san**	**10.02**	**345**	P	**Pn**	**07 57 06.9**	**+2.7**
MJAR	**Matsushiro Arr**	**10.69**	**343**	Pn	**Pn**	**07 57 12.2**	**-1.2**
	0.4nm,0.3s,baz=154,slow=11,SNR=4.3						
MAJO	**Matsushiro**	**10.70**	**343**	*e*Pn	**Pn**	**07 57 15.1**	**+1.6**
KSRS	**Korea Array**	**16.34**	**316**	LR	LR	08 04 23.8	
	comp=Z,41nm,18.9s,baz=125,slow=36						
SONM	**Songino Array**	**35.21**	**317**	P	**P**	**08 01 33.5**	**+0.1**
	0.2nm,0.3s,mb3.5,baz=98,slow=8.0,SNR=3.5						
SONM				LR	LR	08 16 16.2	
	comp=Z,98nm,19.8s,baz=203,slow=37						
SONM	**Songino Array**	**35.21**	**317**	P	**P**	**08 01 33.5**	**+0.1**
SONM				LR	LR	08 16 16.2	
ASAR	**Alice Springs**	**50.34**	**190**	P	**P**	**08 03 36.4**	**+0.2**
	0.3nm,0.5s,mb3.6,baz=12,slow=7.2,SNR=7.5						
MKAR	**Makanchi Array**	**50.90**	**310**	P	**P**	**08 03 39.7**	**-0.4**
	0.2nm,0.5s,mb3.3,baz=93,slow=8.9,SNR=3.7						
KURK	**Kurchatov**	**53.46**	**315**	P	**P**	**08 03 58.3**	**-0.8**
	0.6nm,0.5s,mb3.8,baz=90,slow=7.6,SNR=3.9						
STKA	**Stephens Creek**	**57.90**	**181**	P	**P**	**08 04 30.6**	**-0.5**
	0.6nm,0.3s,mb4.1,baz=340,slow=9.1,SNR=4.0						
ARCES	**ARCESS Array B**	**74.22**	**341**	P	**P**	**08 06 16.0**	**+0.5**
	5.5nm,1.0s,mb4.4,baz=52,slow=5.8,SNR=5.1						
NVAR	**Mina Array Bea**	**81.04**	**52**	P	**P**	**08 06 54.5**	**+0.4**
	0.5nm,0.7s,mb3.6,baz=257,slow=6.6,SNR=4.3						
NB2	**NORSAR Subarra**	**84.28**	**338**	P	**P**	**08 07 10.1**	**-0.4**
	comp=Z,2.5nm,0.8s,mb4.4,baz=45,slow=4.8						
NOA	**NORSAR Array B**	**84.28**	**338**	P	**P**	**08 07 10.4**	**0.0**
	comp=Z,1.6nm,0.7s,mb4.2,baz=45,slow=4.8,SNR=5.6						
PDAR	**Pinedale Array**	**84.80**	**45**	P	**P**	**08 07 13.4**	**0.0**
	comp=Z,0.3nm,0.3s,mb3.9,baz=268,slow=4.5,SNR=4.3						
TXAR	**Lajitas Array**	**96.11**	**53**	P	**P**	**08 08 07.7**	**+0.6**
	comp=Z,0.6nm,0.8s,mb4.1,baz=294,slow=2.3,SNR=7.4						
PLCA	**Paso Flores**	**149.43**	**126**	PKPbc	PKPbc	08 14 28.5	+0.5
	comp=Z,1.0nm,0.6s,baz=218,slow=6.8,SNR=3.4						
LPAZ	**La Paz**	**150.18**	**76**	PKPbc	PKPbc	08 14 30.1	-0.5
	comp=Z,0.9nm,0.7s,baz=239,slow=5.9,SNR=3.3						

MAN 25 07:55:28,1392N×12263E,h9km,mb3.5,ML2.2,MS1.6, 1D,Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GQP	**Guinayangan**	**0.18**	**265**	⇓*i*P	Pg	07 55 31.5	-0.2
GQP				*i* S	Sg	07 55 34.7	+0.5
AUQP	**San Andres**	**0.60**	**175**	*e*P	Pg	07 55 41.0	+1.4
POLP	**Polilio Island**	**1.04**	**320**	*e*P	Pg	07 55 46.5	-1.5
POLP				*e*S	Sg	07 56 00.3	-1.3
PVCP	**Virac**	**1.52**	**102**	*e*P	Pn	07 55 55.1	-0.3
PVCP				*e*S	Sn	07 56 15.7	+0.4
OTRP	**Odiongan**	**1.66**	**201**	*e*P	Pn	07 55 57.6	+0.3
OTRP				*e*S	Sn	07 56 19.1	+0.4
SJMP	**San Jose**	**2.06**	**225**	*e*P	Pn	07 56 05.0	+2.1
BALP	**Baler**	**2.08**	**331**	*e*P	Pn	07 56 03.4	+0.3
PCPH	**Palayan**	**2.20**	**318**	*e*P	Pn	07 56 06.0	+1.2
LUBP	**Lubang**	**2.32**	**266**	*e*P	Pn	07 56 09.3	+2.9
CAUP	**Cauayan**	**3.10**	**346**	*e*P	Pn	07 56 18.1	+0.9

*CSEM **25** 08:04:07.4±0.1,4065N×3299E,h5km,MD3.0,Error ellipse: s-maj=3.1km s-min=2.1km az=144.0*
*ISK **25** 08:04:07.8,4062N×3298E,h10km,MD2.7*
*ISCJB **25** 08:04:08.1±0.6,4065N0.003×3292E±0.005,h10km,Error ellipse: s-maj=5.3km s-min=4.3km az=23.6*
*DDA **25** 08:04:09.2,4069N×3304E,h7km±3km,Md3.0*

ISC 25 08:04:08.3±0.7,4065N±003×3293E±005,h4km±6km,n16, σ0§84/25,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ELDT	**Eldivan**	**0.41**	**113**	*i* P	**Pg**	**08 04 16.0**	**-0.2**
ELDT				*i* P		08 04 16.0	
ELDT				*i* S	**Sg**	**08 04 22.6**	**+1.0**
CANT	**Cankiri**	**0.53**	**95**	*e*PG	**Pg**	**08 04 17.5**	**-1.0**
CANT				*e*SG	**Sg**	**08 04 25.7**	**+0.4**
SAFT	**Safranbolu**	**0.61**	**343**	*e*PG	**Pg**	**08 04 21.1**	**+1.0**
ILGA	**Ilgaz**	**0.72**	**56**	*i* P	**Pg**	**08 04 21.2**	**-0.9**
ILGA				*i* S	**Sg**	**08 04 33.0**	**+1.6**
ILGA	**Ilgaz**	**0.72**	**56**	*i* P	**Pg**	**08 04 21.2**	**-0.9**
ILGA				*i* S	**Sg**	**08 04 33.0**	**+1.6**
LOD	**Lodumlu**	**0.78**	**189**	*e*PG	**Pg**	**08 04 23.1**	**-0.1**
LOD				*e*SG	**Sg**	**08 04 33.0**	**-0.2**
ANTO	**Ankara**	**0.79**	**188**	*e*PG	**Pg**	**08 04 23.2**	**-0.3**
TOS	**Tosya**	**0.91**	**65**	*e*PG	**Pg**	**08 04 24.9**	**-0.9**
BALT	**Daday**	**0.94**	**21**	*i* P	**Pg**	**08 04 26.7**	**+0.2**
BALT				*i* S	**Sg**	**08 04 38.5**	**-0.2**
CORM	**Corum**	**1.38**	**110**	*e*PN	**Pn**	**08 04 33.2**	**-1.2**
CTKT	**Corum**	**1.42**	**91**	*i* P	**Pn**	**08 04 34.8**	**0.0**
CTKT				*i* S	**Sb**	**08 04 53.4**	**-0.3**
CDAG	**Cicekdag**	**1.51**	**132**	*i* P	**Pn**	**08 04 37.2**	**+1.0**
CDAG				*i* S	**Sn**	**08 04 57.6**	**+1.3**
GULT	**Gulveren**	**1.85**	**264**	*e*PN	**Pn**	**08 04 41.6**	**+0.8**
ESKT	**Eskisehir**	**1.96**	**235**	*i* P	**Pn**	**08 04 47.1**	**+4.8**
ESKT				*i* S	**Sn**	**08 05 17.8**	**+11**
DIKM	**Dikmen**	**2.02**	**60**	*e*PN	**Pn**	**08 04 41.7**	**-1.4**
YOZ	**Yozgat**	**2.10**	**118**	*e*PN	**Pn**	**08 04 43.5**	**-0.6**

*ISK **25** 08:08:02.0,38.14N×38.12E,h2km,MD2.8*
*CSEM **25** 08:08:02.1±0.2,38.15N×38.17E,h2km,MD2.9,Error ellipse: s-maj=5.9km s-min=5.4km az=46.0*
*DDA **25** 08:08:04.8,3830N×3812E,h7km±1km,Md2.9*
*ISCJB **25** 08:08:05.0±0.7,3832N0.006×3817E±0.006,h10km,Error ellipse: s-maj=9.1km s-min=6.1km az=144.4*

ISC 25 08:08:05.0±0.8,3831N±005×3820E±006,h3km±13km,n9, σ0§82/11,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKCD	**Akcadag**	**0.22**	**267**	*i* P	**Pg**	**08 08 08.2**	**-0.9**
AKCD				*i* S	**Sg**	**08 08 11.1**	**-0.9**
DARE	**Darende-Malaty**	**0.71**	**335**	*e*PG	Px	08 08 15.3	
DARE				*e*SG	Sx	08 08 25.3	
SVRC	**Sivrice-ELAZID**	**0.88**	**85**	*e*PG	**Pg**	**08 08 21.5**	**-0.3**
KEMA	**Kemaliye**	**0.99**	**14**	*i* P	**Pg**	**08 08 24.2**	**+0.3**
KEMA				*i* S	**Sg**	**08 08 41.0**	**+4.3**
URFA	**Urfa**	**1.00**	**150**	*e*PG	**Pg**	**08 08 19.9**	**-4.2**
GZT	**Gaziantep**	**1.07**	**208**	*i* P	**Pg**	**08 08 27.0**	**+1.4**
GZT				*i* S	**Sg**	**08 08 39.4**	**-0.1**
PTK	**Pertek**	**1.10**	**58**	*e*PN	**Pn**	**08 08 26.6**	**-0.7**
SARI	**SarD1z-Kayseri**	**1.23**	**288**	*e*PN	**Pg**	**08 08 29.6**	**+1.0**
SVSK	**Karacayir**	**1.86**	**330**	*e*PN	**Pn**	**08 08 38.0**	**+0.3**

*MOS **25** 08:35:16.8±0.9,2039S×6870W,h96km,mb5.5/49,Error ellipse: s-maj=11.1km s-min=6.6km az=100.7*
*ISCJB **25** 08:35:16.8±0.1,2048S0.003×6871W±0.003,h101km, mb5.2/153,Error ellipse: s-maj=4.5km s-min=3.2km az=148.3*
*BJI **25** 08:35:17.5,2060S×6880W,h100km,mB5.4*
*NEIC **25** 08:35:17.6±0.2,2060S×6875W,mb5.2/116,Error ellipse: s-maj=5.7km s-min=4.3km az=56.0*
NEIC Felt [IV] at Alto Hospicio, Camina, Colchane, Iquique and Pica; [III] at Huara, Pozo Almonte and Putre; [II] at Arica and Tocopilla.
*GCMT **25** 08:35:17.6±0.1,2069S×6906W,h126km±1km,MW5.6/102, Moment Tensor Solution. s92,c180; s102,c218; Duration: 1s5 Moment tensor: Scale 10¹⁷Nm;*
Mrr-1.50±.04; Mθθ-0.55±.04; Mφφ2.05±.05; Mrθ2.01±.03; Mrφ-0.84±.04; Mθr-1.18±.04; Best double couple: M₀3.08500×10¹⁷ NP1:φ₀194.00000°,δ32.00000°, λ-32.00000°. NP2:φ₀312.00000°,δ73.00000°, λ-118.00000°. Principal axes: T 3.0440, Plg23.0000°, Azm63.0000°; N 0.0780, Plg27.0000°, Azm321.0000°; P -3.1260, Plg53.0000°, Azm188.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.
*IDC **25** 08:35:18.2±0.4,2045S×6875W,h103km±3km,mb4.7/15, mb1 4.9/16,mb1mx4.9/17,mbtmp4.8/16,MS4.4/17, Ms1 4.4/17,ms1mx4.3/24 Error ellipse: s-maj=11.0km s-min=8.9km az=57.0*
*LDG **25** 08:35:18.5±0.4,2022S×6870W,h103km,Mb5.2/15, Ms4.4/10,Error ellipse: s-maj=23.9km s-min=11.7km az=29.0*
*GUC **25** 08:35:21.4±1.9,2131S×6985W,h100km,mb5.5,ML5.8*

ISC 25 08:35:18.6±0.1,2054S0.002×6868W±0.003,h103km, h103km±.4km:pP-P,n818,σ0§65/724,mb5.2/153, 178C-200D,Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**2.08**	**186**	*e*Pn	**Pn**	**08 35 51.7**	**-0.5**
LVC				*e*Sn	**Sn**	**08 36 17.6**	**-0.3**
SPCH	**San Pedro de A**	**2.40**	**169**	*e*P	**Pn**	**08 35 58.0**	**+1.5**
SPCH				*i* S	**Sn**	**08 36 25.9**	**+0.4**
SPCH				AML	AML	08 36 48.6	
	comp=E,45μm,0.4s						
CEN1	**Los Morros**	**3.17**	**206**	*e*P	**Pn**	**08 36 04.0**	**-2.6**
CEN1				*e*S	**Sn**	**08 36 31.9**	**-12**
CEN1				AML	AML	08 36 55.3	
	comp=N,76μm,0.7s						
ANCH	**Antofagasta**	**3.52**	**207**	*e*P	**Pn**	**08 36 05.8**	**-5.4**
ANCH				*e*S	**Sn**	**08 36 35.3**	**-17**
LPAZ	**La Paz**	**4.26**	**7**	P	**Pn**	**08 36 24.2**	**+2.9**
	comp=N,116nm,0.3s,baz=194,slow=9.1,SNR=1591						
LPAZ				S	**Sn**	**08 37 12.8**	**+2.8**
	comp=N,30nm,0.3s,baz=0.0,slow=20,SNR=1.8						
LPAZ	**La Paz**	**4.26**	**7**	*e*P	**Pn**	**08 36 24.0**	**+2.7**
LPAZ	**La Paz**	**4.26**	**7**	*e*Pn	**Pn**	**08 36 24.4**	**+3.0**
CPCH	**Copiapo**	**6.96**	**192**	*e*P	**Pn**	**08 36 50.8**	**-7.1**
CPCH				*e*S	**Sn**	**08 37 58.7**	**-17**
VACH	**Vallenar**	**8.22**	**193**	*e*P	**Pn**	**08 37 08.0**	**-7.1**
VACH				*e*S	**Sn**	**08 38 29.4**	**-17**
SIV	**San Ignacio**	**8.53**	**59**	P	**Pn**	**08 37 19.7**	**+0.4**
	comp=N,184nm,0.3s,baz=250,slow=12,SNR=1330						
LCO	**Las Campanas**	**8.63**	**192**	*e*P	**Pn**	**08 37 13.1**	**-7.5**
LCO				*e*S	**Sn**	**08 38 39.3**	**-17**
LCO	**Las Campanas**	**8.63**	**192**	*e*Pn	**Pn**	**08 37 14.3**	**-6.3**
	comp=N,769nm,0.6s						
LCO				*e*Sn	**Sn**	**08 38 52.7**	**-3.5**
TLL	**Tololo Astrono**	**9.78**	**191**	*e*P	**Pn**	**08 37 29.6**	**-6.6**
CFAA	**Coronel Fontan**	**11.03**	**178**	P	**Pn**	**08 37 47.2**	**-5.9**
	comp=N,1.0nm,0.3s,baz=351,slow=13,SNR=142						
CFAA				S	**Sn**	**08 40 05.2**	**+11**
	comp=N,0.8nm,0.3s,baz=220,slow=16,SNR=2.0						
NNA	**Nana**	**11.56**	**316**	P	**Pn**	**08 37 55.3**	**-5.1**
	comp=N,9.1nm,0.3s,baz=159,slow=15,SNR=22						
NNA				S	**Sn**	**08 40 12.3**	**+4.8**
	comp=N,11nm,0.3s,baz=299,slow=19,SNR=3.5						
NNA				LR	LR	08 43 07.6	
	comp=N,1μm,18.7s,baz=154,slow=41						
PEL	**Peldehue**	**12.68**	**188**	*e*P	**Pn**	**08 38 06.8**	**-8.3**
FCH	**Farellones**	**12.82**	**186**	*e*P	**Pn**	**08 38 09.3**	**-7.6**
CLCH	**Cerro Calan**	**12.91**	**187**	*e*P	**Pn**	**08 38 11.9**	**-6.2**
LMEL	**Las Melosas**	**13.33**	**185**	*e*P	**Pn**	**08 38 21.7**	**-1.9**
CCHI	**Chillan**	**16.28**	**190**	*e*P	**Pn**	**08 38 52.4**	**-8.6**
CCHI				AMb	AMB	08 39 03.6	
	comp=Z,716nm,1.7s						
ATAH	**Atahualpa**	**16.42**	**324**	P	**Pn**	**08 38 59.4**	**-3.6**
	comp=Z,0.3nm,0.3s,baz=228,slow=22,SNR=6.6						
ATAH				S	**S**	**08 42 00.1**	**-10**
	comp=Z,0.4nm,0.3s,baz=168,slow=20,SNR=2.1						
LPA	**La Plata**	**17.17**	**149**	*ce*P	**Pn**	**08 39 08.0**	**-4.1**
LPA				*ep*P	pP	08 39 34.0	+2.9
LPA				*es*P	sP	08 39 40.0	-4.1
LPA				*e*S	**S**	**08 42 43.0**	**+19**
LPA				*e*SCP	ScP	08 47 16.0	0.0
TRQA	**Tornquist**	**18.40**	**163**	*e*P	**P**	**08 39 24.9**	**-0.7**
	comp=Z,244nm,1.0s						
PLCA	**Paso Flores**	**20.19**	**184**	P	**P**	**08 39 43.9**	**-1.1**
	comp=Z,252nm,1.0s,baz=7.5,slow=12,SNR=129						
PLCA				S	**S**	**

PMSA Palmer Station 44.32 177 P P 08 43 18.4 +0.5
PMSA epP pP 08 43 42.8 +0.8
TEIG Tepich 44.82 333 eP P 08 43 22.3 -0.2
comp=Z,280nm,1.9s,mb5.7
DWPF Disney 49.91 345 eP P 08 44 01.7 -0.1
comp=Z,79nm,0.6s,mb5.8
BBSR BB Station 52.75 4 eP P 08 44 21.7 -1.2
comp=Z,70nm,1.0s,mb5.7
BRAL Brewton 54.21 341 eP P 08 44 33.2 -0.4
comp=Z,325nm,1.2s,mb6.2
NHSC New Hope 54.46 348 eP P 08 44 35.0 -0.4
comp=Z,265nm,0.8s,mb6.3
GOGA Godfrey 55.47 345 eP P 08 44 42.0 -0.7
GOGA pmax pmax
comp=Z,53nm,1.3s,mb5.4
GOGA Godfrey 55.47 345 eP P 08 44 42.0 -0.7
comp=Z,53nm,1.3s,mb5.4
JSC Jenkinsville 55.81 347 eP P 08 44 44.6 -0.5
JSC e*PP pP 08 45 10.0 0.0
LRAL Lakeview Retre 56.07 341 eP P 08 44 45.5 -1.4
comp=Z,9.3nm,0.6s,mb5.0
LRAL epP pP 08 45 09.5 -2.5
VBMS Vicksburg 56.47 338 eP P 08 44 47.3 -2.5
comp=Z,16nm,0.8s,mb5.1
VBMS epP pP 08 45 13.6 -1.2
HKT Hockley 56.59 332 P P 08 44 50.3 -0.5
HKT e*PP pP 08 45 14.4 -1.3
HKT pmax pmax
comp=Z,63nm,2.0s,mb5.3
HKT Hockley 56.59 332 P P 08 44 50.3 -0.5
comp=Z,63nm,2.0s,mb5.3
HKT epP pP 08 45 14.4 -1.4
CPCT Cooper Cave 57.67 345 eP P 08 44 56.8 -1.5
CPCT epP pP 08 45 22.0 -1.3
TKL Tuckaleechee C 57.69 345 eP P 08 44 57.0 -1.4
TKL e*PP pP 08 45 22.2 -1.2
SWET Sewanee 57.81 343 eP P 08 44 57.5 -1.8
SWET epP pP 08 45 23.0 -1.3
OXF Oxford 58.19 340 eP P 08 44 59.5 -2.4
OXF e*PP pP 08 45 23.9 -3.0
OXF pmax pmax
comp=Z,62nm,1.0s,mb5.6
OXF Oxford 58.19 340 eP P 08 44 59.5 -2.4
comp=Z,62nm,1.0s,mb5.6
OXF epP pP 08 45 23.9 -3.1
BLA Blacksburg 58.49 349 eP P 08 45 03.7 -0.2
BLA pmax pmax
comp=Z,46nm,0.7s,mb5.6
BLA Blacksburg 58.49 349 eP P 08 45 03.7 -0.3
comp=Z,46nm,0.7s,mb5.6
ELN Prospectdale 58.57 349 eP P 08 45 04.2 -0.2
ELN epP pP 08 45 29.2 -0.3
JCT Junction City 58.89 329 eP P 08 45 06.2 -0.7
JCT e*PP pP 08 45 29.9 -2.1
JCT pmax pmax
comp=Z,12nm,0.8s,mb5.0
JCT Junction City 58.89 329 eP P 08 45 06.2 -0.6
comp=Z,12nm,0.8s,mb5.0
JCT epP pP 08 45 29.9 -2.1
WVT Waverly 59.20 342 eP P 08 45 06.5 -2.4
WVT pmax pmax
comp=Z,96nm,1.2s,mb5.7
WVT Waverly 59.20 342 epP pP 08 45 31.3 -2.7
HALT Halls 59.45 341 eP P 08 45 09.2 -1.4
HALT epP pP 08 45 33.4 -2.3
MIAR Mount Ida 59.67 336 eP P 08 45 10.5 -1.7
MIAR e*PP pP 08 45 35.6 -1.8
MIAR pmax pmax
comp=Z,43nm,1.0s,mb5.4
MIAR Mount Ida 59.67 336 eP P 08 45 10.5 -1.6
comp=Z,43nm,1.0s,mb5.4
MIAR epP pP 08 45 35.6 -1.8
TXAR Lajitas Array 59.97 325 P P 08 45 13.0 -1.3
comp=Z,2.6nm,0.7s,mb4.4,baz=151,slow=8.1,SNR=33
TXAR pP pP 08 45 37.4 -2.1
comp=Z,7.1nm,0.9s,baz=139,slow=7.9,SNR=10
SDMD Soldier's Deli 60.12 353 eP P 08 45 14.4 -0.7
comp=Z,20nm,0.7s,mb5.2
PARMO Parma 60.27 341 eP P 08 45 15.8 -0.4
PARMO epP pP 08 45 39.6 -1.8
WCI Wyandotte Cave 60.75 344 eP P 08 45 17.8 -1.6
WCI pmax pmax
comp=Z,330nm,1.8s,mb6.1
USIN University of 60.87 343 epP pP 08 45 43.7 -1.8
comp=Z,234nm,1.6s
VNA3 Neumayer Olymp 60.92 161 eP P 08 45 20.4 +0.2
VNA3 e pP 08 45 46.7 +1.3
VNA3 e 08 45 59.0
SIUC Southern Illin 61.08 341 eP P 08 45 20.3 -1.4
comp=Z,70nm,1.0s,mb5.7
SIUC epP pP 08 45 44.9 -2.1
RKT Rikitea 61.11 254 eS S 08 53 34.4 +0.6
comp=Z,815nm,22.5s
RKT Rikitea 61.11 254 eLR LR 09 03 36.0
comp=Z,2μm,32.8s
VNA1 Neumayer--Stat 61.12 161 eP P 08 45 22.2 +0.7
VNA1 e pP 08 45 48.4 +1.6
VNA1 e 08 46 00.7
SSPA Standing Stone 61.46 352 eP P 08 45 23.7 -0.5
comp=Z,12nm,0.6s,mb5.1
SSPA epP pP 08 45 49.0 -0.5
VNA2 Neumayer--Watz 61.48 161 eP P 08 45 24.5 +0.5
baz=301,slow=6.1
VNA2 e pP 08 45 50.7 +1.4
VNA2 e 08 46 03.3
FVM French Village 61.70 341 eP P 08 45 24.0 -1.8
FVM pmax pmax
comp=Z,140nm,1.1s,mb5.9
BLO Bloomington 61.70 344 eP P 08 45 24.3 -1.5
BLO pmax pmax
comp=Z,77nm,0.9s,mb5.7
OLIL Olney 61.71 343 eP P 08 45 23.9 -1.9
comp=Z,248nm,1.6s,mb6.0
OLIL epP pP 08 45 49.3 -1.9
ACSO Alum Creek Sta 61.91 348 eP P 08 45 26.1 -1.1
comp=Z,77nm,1.0s,mb5.7
ACSO epP pP 08 45 51.5 -1.0
CCM Cathedral Cave 62.02 340 eP P 08 45 26.5 -1.5
CCM e*PP pP 08 45 51.6 -1.7
CCM pmax pmax
comp=Z,54nm,1.1s,mb5.5
CCM Cathedral Cave 62.02 340 eP P 08 45 26.5 -1.5
comp=Z,54nm,1.1s,mb5.5
CCM epP pP 08 45 51.6 -1.8
WES Weston 62.65 358 eP P 08 45 31.8 -0.3
HRV Adam Dziewonsk 62.78 358 eP P 08 45 32.9 0.0
HRV e*PP pP 08 45 58.1 -0.3
HRV pmax pmax
comp=Z,62nm,0.6s,mb5.7
SNAA Sanae 63.12 161 eP P 08 45 35.0 +0.1
SNAA e pP 08 46 01.2 +0.9
SNAA e 08 46 13.7
HDIL Hopedale 63.74 343 eP P 08 45 37.5 -1.8
comp=Z,37nm,0.7s,mb5.3
HDIL epP pP 08 46 02.7 -2.1
FFD Franklin Falls 63.75 358 eP P 08 45 39.1 -0.2
comp=Z,47nm,0.6s,mb5.5
FFD epP pP 08 46 05.6 +0.8
AAM Ann Arbor 64.03 348 eP P 08 45 41.5 +0.3
AAM e*PP pP 08 46 05.3 -1.4
AAM pmax pmax
comp=Z,50nm,1.1s,mb5.3
AAM Ann Arbor 64.03 348 eP P 08 45 41.5 +0.3
comp=Z,50nm,1.1s,mb5.3
AAM epP pP 08 46 05.3 -1.4
LBNH Lisbon 64.53 357 eP P 08 45 38.7 -5.7
LBNH e*PP pP 08 46 11.5 +1.6
LBNH pmax pmax
comp=Z,54nm,1.1s,mb5.3
319A Douglas 64.66 322 ⇑P P 08 45 45.5 -0.1
baz=65,SNR=18
219A White Tail Can 65.11 322 ⇑P P 08 45 48.3 -0.1
baz=65,SNR=17
318A Bisbee 65.12 322 ⇑P P 08 45 48.4 -0.2
baz=65,SNR=30
BNM Barren Site 65.29 326 eP P 08 45 48.8 -0.7
BNM epP pP 08 46 14.6 -0.6
218A Dragoon 65.54 322 ⇑P P 08 45 51.1 -0.1
baz=66,SNR=9.9
119A Ashpeak Ranch, 65.70 323 ⇑P P 08 45 52.3 +0.1
baz=66,SNR=10
LAZ Ladron 65.75 326 eP P 08 45 52.5 0.0
LAZ epP pP 08 46 17.4 -0.7
ANMO Albuquerque 65.82 327 eP P 08 45 52.9 0.0
ANMO pmax pmax
comp=Z,330nm,2.8s
ANMO Albuquerque 65.82 327 eP P 08 45 52.5 -0.5
comp=Z,4.9nm,0.8s,mb4.4
CBKS Cedar Bluff 65.82 334 eP P 08 45 52.5 -0.4
CBKS pmax pmax
comp=Z,93nm,1.0s,mb5.6
CBKS Cedar Bluff 65.82 334 eP P 08 45 52.5 -0.3
comp=Z,93nm,1.0s,mb5.6
217A Green Valley 65.84 321 ⇑P P 08 45 53.2 0.0
baz=66,SNR=5.6
118A Homack Ranch, 65.98 322 ⇓P P 08 45 53.9 -0.2
baz=66,SNR=12
Z19A T-Link Ranch, 66.07 323 ⇓P P 08 45 54.5 -0.1
baz=66
SCIA State Center 66.15 340 eP P 08 45 53.8 -1.1
comp=Z,45nm,0.8s,mb5.3
SCIA epP pP 08 46 19.4 -1.2
JFWS Jewell Farm 66.19 343 eP P 08 45 54.1 -1.0
JFWS pmax pmax
comp=Z,58nm,1.0s,mb5.4
TUC Tucson 66.21 322 eP P 08 45 55.0 -0.5
TUC e*PP pP 08 46 20.0 -1.2
TUC pmax pmax
comp=Z,3.0nm,0.6s,mb4.3
TUC Tucson 66.21 322 eP P 08 45 55.0 -0.5
comp=Z,3.0nm,0.6s,mb4.3
TUC epP pP 08 46 20.0 -1.1
Z18A Geronimo 66.35 323 ⇑P P 08 45 56.3 -0.1
baz=67,SNR=5.1
117A Oracle 66.38 322 ⇑P P 08 45 56.5 -0.1
baz=67,SNR=6.9
216A Three Points, 66.39 321 ⇓P P 08 45 56.5 -0.1
baz=67,SNR=26
Y19A Nutrioso 66.56 324 ⇑P P 08 45 58.0 +0.3
baz=67,SNR=39
Z17A San Carlos Hig 66.75 323 ⇓P P 08 45 58.7 -0.2
baz=67
Y18A Canyon Day Jun 66.86 323 ⇑P P 08 45 59.6 0.0
baz=67,SNR=15
X19A St. Johns 66.93 324 ⇑P P 08 46 00.0 0.0
baz=67
116A Eloy 66.93 321 ⇓P P 08 46 00.1 0.0
baz=67,SNR=7.8
214A Organ Pipe Nat 67.16 320 ⇓P P 08 46 01.5 0.0
baz=67,SNR=19
Y17A Roosevelt 67.26 323 ⇓P P 08 46 02.5 +0.3
baz=68,SNR=17
Z16A Peralta Trail, 67.33 322 ⇑P P 08 46 02.7 +0.1
baz=68,SNR=9.7
115A Sonoran Desert 67.34 321 ⇓P P 08 46 02.6 -0.1
baz=68
X18A Snowflake 67.37 324 ⇓P P 08 46 02.9 +0.1
baz=68,SNR=5.7
SDCO Great Sand Dun 67.53 329 eP P 08 46 04.1 +0.3
comp=Z,12nm,0.9s,mb4.7
MAIT Maitri 67.62 159 eP P 08 46 05.2 +1.3
NVL N'lazarevskaya 67.65 159 d/P P 08 46 04.6 +0.5
NVL e pP 08 46 30.8 +1.0
NVL i 08 46 41.6
NVL pmax pmax
comp=Z,184nm,1.5s,mb5.7
X17A Forest Lakes 67.70 323 ⇓P P 08 46 05.5 +0.5
baz=68,SNR=16
Z15A Gila River Ind 67.72 321 ⇓P P 08 46 05.2 +0.1
baz=68,SNR=9.0
Y16A Circle Bar Ran 67.75 322 ⇑P P 08 46 05.6 +0.3
baz=68,SNR=11
V19A Window Rock 67.76 325 ⇓P P 08 46 05.3 +0.1
baz=68,SNR=8.7
LIC Lamto 67.92 74 ⇑/P P 08 46 06.7 -0.1
comp=Z,140nm,0.7s,mb5.6
LIC eMLR MLR
comp=Z,554nm,22.2s
LIC Lamto 67.92 74 eP P 08 46 06.7 -0.1
comp=Z,235nm,0.7s,mb6.2
LIC Lamto 67.92 74 ⇑/P P 08 46 06.7 -0.1
comp=Z,70nm,0.7s,mb5.6
LIC LR LR
comp=Z,280nm,22.3s
TIC Toumodi 68.10 74 eP P 08 46 08.0 +0.1
comp=Z,1μm,1.2s
X16A Lo Mia Camp, P 68.12 323 ⇓P P 08 46 07.9 +0.3
baz=68,SNR=21
KIC Kosan Boka 68.23 74 eP P 08 46 08.9 +0.2
comp=Z,944nm,0.7s
Z14A Wintersburg 68.23 321 ⇑P P 08 46 07.4 -0.9
baz=68
V18A Ganado 68.24 325 ⇓P P 08 46 07.9 -0.4
baz=68,SNR=5.4
DBIC Dimbokro 68.26 74 P P 08 46 09.1 +0.2
comp=Z,231nm,0.8s,mb6.1,baz=222,slow=6.5,SNR=321
DBIC pP pP 08 46 34.5 -0.1
comp=Z,52nm,1.0s,baz=250,slow=5.9,SNR=3.3
DBIC S S 08 54 58.8 -3.1
comp=Z,2.1nm,0.8s,baz=5.6,slow=19,SNR=7.0
DBIC LR LR 09 16 12.1
comp=Z,368nm,18.2s,baz=217,slow=36
DBIC Dimbokro 68.26 74 eP P 08 46 09.0 +0.1
DBIC pmax pmax
comp=Z,244nm,0.8s
DBIC Dimbokro 68.26 74 eP P 08 46 09.0 +0.1
comp=Z,244nm,0.8s,mb6.1
Y15A Casa Rosa Ranc 68.30 322 ⇓P P 08 46 08.7 +0.1
baz=68,SNR=14
113A Mohawk Valley, 68.31 320 ⇓P P 08 46 08.2 -0.5
baz=68
OGNE Ogallala 68.57 333 eP P 08 46 10.2 0.0
comp=Z,14nm,0.6s,mb5.0
T19A Beclabito 68.59 326 ⇓P P 08 46 10.1 -0.3
baz=69,SNR=7.6
MVCO Mesa Verde 68.61 327 ⇓P P 08 46 10.5 -0.1
baz=69,SNR=12
CHIE El Hierro 68.62 47 P P 08 46 11.8 +1.0
X15A Humboldt 68.62 322 ⇓P P 08 46 10.8 +0.1
baz=69,SNR=16
112A Yuma 68.64 319 ⇓P P 08 46 10.2 -0.7
baz=69
W16A Flagstaff 68.66 323 ⇓P P 08 46 11.6 +0.6
baz=69,SNR=9.8
Y14A Wickenburg 68.68 321 ⇑P P 08 46 11.0 -0.1
baz=69,SNR=8.8
COWI Conover 68.87 345 eP P 08 46 10.4 -1.5
comp=Z,103nm,1.5s,mb5.4
WUAZ Wupatki 68.88 324 ⇑P P 08 46 12.6 +0.3
baz=69,SNR=21
X14A Yava 68.99 322 ⇓P P 08 46 13.4 +0.4
baz=69,SNR=18
W15A Williams 69.14 323 ⇓P P 08 46 14.6 +0.7
baz=69,SNR=6.2
GLA Glamis 69.14 320 eP P 08 46 14.4 +0.5
GLA e*PP pP 08 46 37.9 -1.9
GLA pmax pmax
comp=Z,50nm,1.3s,mb5.2
GLA Glamis 69.14 320 ⇓P P 08 46 13.9 0.0
baz=69
U16A Tuba City 69.21 324 ⇑P P 08 46 14.6 +0.4
baz=70,SNR=11
ISCO Idaho Springs 69.22 330 eP P 08 46 14.6 +0.4
ISCO pmax pmax
comp=Z,23nm,1.0s,mb5.0
T18A Mexican Hat 69.27 326 ⇑P P 08 46 14.6 0.0
baz=70,SNR=20
U17A Shonto 69.29 325 ⇓P P 08 46 15.0 +0.3
baz=70,SNR=11
S19A Harvey Farm, M 69.34 327 ⇓P P 08 46 15.1 0.0
baz=70,SNR=11
PV01 Paradox Valley 69.35 327 eP P 08 46 15.6 +0.5
EGOM La Gomera 69.41 48 P P 08 46 14.9 -0.8
comp=Z,82nm,0.7s,mb5.7
Y12C Blythe 69.44 320 ⇑P P 08 46 15.9 +0.1
baz=70,SNR=7.7
V15A Kaibab Nationa 69.55 323 ⇑P P 08 46 17.1 +0.8
baz=70,SNR=32
PDMCI Parker Dam,Lak 69.60 321 ⇓P P 08 46 16.6 -0.1
baz=70
X13A Yucca 69.62 321 ⇑P P 08 46 17.0 +0.1
baz=70,SNR=13
W14A Seligman 69.63 322 ⇑P P 08 46 17.6 +0.7
baz=70,SNR=18
TAOE Nuku Hiva Isla 69.65 268 eS S 08 55 16.9 -1.4
comp=Z,986nm,24.4s
TAOE Nuku Hiva Isla 69.65 268 eLR LR 09 07 24.8
comp=Z,2μm,39.5s
SWSC Sam W. Stewart 69.66 319 ⇓P P 08 46 17.1 -0.1
baz=70
T17A Navajo Res., N 69.66 325 ⇑P P 08 46 17.7 +0.6
baz=70,SNR=25
S18A Hurst Farm, Bl 69.75 326 ⇓P P 08 46 17.9 +0.3
baz=70,SNR=29
PV10 Paradox Valley 69.77 327 eP P 08 46 17.9 +0.2
R19A Curley Farm, L 69.82 327 ⇑P P 08 46 17.7 -0.3
baz=70
CCAN Las Canadas 69.86 48 P P 08 46 19.6 +1.1
comp=Z,18nm,0.8s,mb5.0
BC3 Big Chuckw Mtn 69.94 320 ⇓P P 08 46 19.1 +0.3
baz=70,SNR=18
V14A Boquillas Ranc 69.94 323 ⇑P P 08 46 19.6 +0.8
baz=70,SNR=28
W13A Hualapai Mount 70.01 322 ⇓P P 08 46 19.8 +0.6
baz=70,SNR=6.5
MONP Monument Peak 70.01 319 ⇓P P 08 46 19.8 +0.5
baz=70,SNR=16
T16A Glen Canyon Da 70.03 325 ⇑P P 08 46 19.7 +0.4
baz=70,SNR=6.2
U15A North Rim 70.06 324 ⇓P P 08 46 20.4 +0.9
baz=70,SNR=28
IRM Iron Mountain 70.10 320 ⇑P P 08 46 20.0 +0.2
baz=70,SNR=26
S17A Black Ridge (B 70.13 326 ⇓P P 08 46 20.2 +0.3
baz=70,SNR=8.0
R18A Canyonlands Na 70.22 327 ⇓P P 08 46 20.2 -0.2
baz=70,SNR=8.1
EBAJ Bajamar 70.24 48 P P 08 46 20.0 -0.8
comp=Z,452nm,2.6s,mb5.8
Q19A Hogan Spring (70.33 327 ⇓P P 08 46 21.3 +0.2
baz=71,SNR=12
109C Camp Elliot, M 70.44 318 ⇑P P 08 46 21.5 -0.4
baz=71
BELC Belle Mtn. 70.50 320 ⇑P P 08 46 22.6 +0.3
baz=71,SNR=12
EOSO Osorio 70.51 49 P P 08 46 26.1 +3.7
comp=Z,712nm,2.3s,mb6.1
PFO Pinyon Flat Ob 70.52 319 ⇓P P 08 46 22.8 +0.4
baz=71,SNR=17
T15A Red Dirt Ranch 70.53 324 ⇑P P 08 46 23.1 +0.8
baz=71,SNR=26
U14A Mt Trumbull 70.54 323 ⇑P P 08 46 23.4 +0.9
baz=71,SNR=37
V13A Grand Canyon W 70.60 322 ⇑P P 08 46 23.2 +0.4
baz=71,SNR=27
S16A Weppner Ranch, 70.62 325 ⇑P P 08 46 23.0 +0.2
baz=71,SNR=12
R17A Hanksville Air 70.67 326 ⇓P P 08 46 23.1 0.0
baz=71,SNR=26
P19A Cripple Cowboy 70.70 328 ⇓P P 08 46 23.6 +0.3
baz=71,SNR=18
W12A Cal Nev Ari 70.73 321 ⇑P P 08 46 23.7 +0.1
baz=71
CMLA Cha da Macela 70.78 35 eS S 08 55 10.5 -20
CMLA eLQ 09 03 18.2
CMLA eLR LR 09 07 56.4
GMRC Granite Mounta 70.83 320 ⇑P P 08 46 24.8 +0.5
baz=71,SNR=23
Q18A Rafter H Ranch 70.88 327 ⇓P P 08 46 25.0 +0.5
baz=71
T14A Hurricane 70.95 324 ⇑P P 08 46 25.6 +0.7
baz=71,SNR=9.6
MURC Murrieta 70.97 319 ⇓P P 08 46 24.9 -0.2
baz=71
R16A Teasdale 70.97 326 ⇓P P 08 46 25.2 +0.2
baz=71
U13A Pakoon Wash 70.99 323 ⇑P P 08 46 25.6 +0.5
baz=71,SNR=8.7
S15A Panguitch 71.00 325 ⇑P P 08 46 25.7 +0.5
baz=71,SNR=6.7
SRU San Rafael 71.09 327 eP P 08 46 26.1 +0.4
SRU pmax pmax
comp=Z,23nm,0.9s,mb5.0
SRU San Rafael 71.09 327 ⇑P P 08 46 25.5 -0.1
baz=71,SNR=9.7
BBRC Big Bear Sol-O 71.24 319 ⇓P P 08 46 26.9 +0.2
baz=72
HEC Hector,Ludlow 71.27 320 ⇑P P 08 46 27.5 +0.6
baz=72,SNR=8.7
Q16A Castle Valley 71.28 326 ⇑P P 08 46 27.1 +0.3
baz=72,SNR=11
O19A Miners Draw (B 71.28 328 ⇓P P 08 46 26.8 0.0
baz=72,SNR=15
U12A Valley of Fire 71.33 322 ⇑P P 08 46 27.7 +0.5
baz=72,SNR=11
P18A Preston Nutter 71.33 327 ⇓P P 08 46 27.7 +0.5
baz=72,SNR=17
T13A Saint George 71.38 323 ⇓P P 08 46 28.3 +0.8
baz=72,SNR=16
SCI San Clemente I 71.41 317 ⇓P P 08 46 28.1 +0.3
baz=72
V11A Goodsprings 71.43 321 ⇓P P 08 46 27.9 +0.1
baz=72,SNR=10.0
TUQ Turquoise Moun 71.44 321 ⇓P P 08 46 28.2 +0.3
baz=72,SNR=16
CCUT Cedar City 71.46 324 eP P 08 46 28.7 +0.8
P17A Butcher Ranch, 71.47 327 ⇑P P 08 46 28.0 0.0
baz=72,SNR=16
S14A Cedar City 71.50 324 ⇓P P 08 46 28.8 +0.6
baz=72,SNR=6.3
MSU Marysvale 71.51 325 eP P 08 46 28.7 +0.5
TMUT Trail Mountain 71.58 326 P P 08 46 29.1 +0.4
CIS Catalina Islan 71.59 318 ⇓P P 08 46 28.9 0.0
baz=72
T12A Moapa 71.63 322 ⇑P P 08 46 29.0 0.0
baz=72
ARUT Antelope Range 71.67 324 eP P 08 46 30.2 +1.0
ARUT e*PP pP 08 46 56.0 +0.8
BFSC Mount Baldy St 71.68 319 ⇓P P 08 46 29.5 +0.2
baz=72,SNR=22
O18A Roosevelt 71.70 328 ⇑P P 08 46 29.7 +0.4
baz=72,SNR=5.3
S13A Holt Ranch, En 71.75 324 ⇓P P 08 46 30.5 +0.8
baz=72,SNR=36
N19A John Jarvie Ra 71.77 329 ⇓P P 08 46 29.6 -0.2
baz=72,SNR=13
R14A James Farms, M 71.81 325 ⇑P P 08 46 30.5 +0.5
baz=72,SNR=7.6
GSC Goldstone 71.88 320 eP P 08 46 31.3 +0.8
GSC e*PP pP 08 47 02.2 +5.7
GSC pmax pmax
comp=Z,53nm,1.2s,mb5.2
GSC Goldstone 71.88 320 ⇓P P 08 46 31.0 +0.5
baz=72
GSC Goldstone 71.88 320 eP P 08 46 31.1 +0.6
comp=Z,4.7nm,0.6s,mb4.5
GSC epP pP 08 46 56.2 -0.3
MWC Mount Wilson 71.92 319 eP P 08 46 30.9 +0.1
MWC Mount Wilson 71.92 319 eP P 08 46 30.8 0.0
comp=Z,31nm,1.1s,mb5.0
MWC epP pP 08 46 56.5 -0.2
SHOC Shoshone 71.97 321 ⇑P P 08 46 31.2 +0.2
baz=72
Q15A Fillmore 71.97 326 ⇑P P 08 46 31.6 +0.5
baz=72
O17A Robinson Place 72.01 327 ⇑P P 08 46 31.8 +0.6
baz=72,SNR=20
RSSD Black Hills 72.03 334 eP P 08 46 31.9 +0.7
RSSD e*PP pP 08 46 55.8 -1.4
P16A Fountain Green 72.05 326 ⇓P P 08 46 31.5 +0.1
baz=72
N18A Larsen Ranch, 72.07 329 ⇑P P 08 46 31.5 -0.1
baz=72
DECC Green Verdugo 72.10 318 ⇓P P 08 46 32.4 +0.5
baz=72
SNCC San Nicolas Is 72.20 317 ⇑P P 08 46 32.6 +0.1
baz=72
R13A O'Grain Ranch, 72.24 324 ⇓P P 08 46 33.7 +1.1
baz=72,SNR=18
T11A Corn Creek, Al 72.28 323 ⇓P P 08 46 33.6 +0.8
baz=72,SNR=26
EDW2 Edwards Air Fo 72.31 319 ⇓P P 08 46 32.9 -0.2
baz=72,SNR=17
S12A Delamar Landin 72.33 323 ⇓P P 08 46 33.5 +0.4
baz=73
MPU Maple Canyon 72.33 327 eP P 08 46 33.2 +0.1
comp=Z,12nm,0.8s,mb4.8
MPU epP pP 08 46 58.5 -0.6
U10A Ash Meadows, A 72.35 321 ⇑P P 08 46 33.9 +0.6
baz=73,SNR=10
O16A Springville 72.41 327 ⇑P P 08 46 33.8 +0.2
baz=73,SNR=13
DAU Daniels Canyon 72.44 327 eP P 08 46 34.5 +0.8
DAU e*PP pP 08 46 59.8 +0.1
DAU e*SP sP 08 47 10.4 -0.4
Q14A Sevier Lake (B 72.45 325 ⇓P P 08 46 34.7 +0.9
baz=73,SNR=32
BLG Laguna Peak 72.47 318 ⇓P P 08 46 34.1 0.0
baz=73

NLU	**North Lily Min**	**72.52**	**326**	*eP*		**P**	**08 46 33.8**	**-0.4**
NLU				*epP*		pP	08 46 59.2	-1.1
LRMC	**Laurel Mountai**	**72.53**	**320**	⇓P		**P**	**08 46 34.4**	**+0.1**
	baz=73,SNR=11							
EFAM	**Famara**	**72.56**	**49**	P		**P**	**08 46 36.8**	**+2.0**
	comp=Z,905nm,2.6s,mb6.1							
N17A	**Moffit Pass**	**72.62**	**328**	⇑P		**P**	**08 46 35.3**	**+0.5**
	baz=73,SNR=31							
TPNV	**Topopah Spring**	**72.67**	**322**	*eP*		**P**	**08 46 36.1**	**+0.9**
TPNV				*e*PP		pP	08 47 01.1	-0.1
TPNV				pmax		pmax		
	comp=Z,15nm,0.8s,mb4.9							
TPNV	**Topopah Spring**	**72.67**	**322**	⇑P		**P**	**08 46 35.8**	**+0.6**
	baz=73,SNR=24							
TPNV	**Topopah Spring**	**72.67**	**322**	*eP*		**P**	**08 46 36.1**	**+0.9**
	comp=Z,15nm,0.8s,mb4.9							
TPNV				*epP*		pP	08 47 01.1	-0.2
JLU	**Jordanelle**	**72.67**	**327**	*eP*		**P**	**08 46 35.4**	**+0.2**
JLU				*epP*		pP	08 47 00.9	-0.3
FURC	**Furnace Creek,**	**72.70**	**321**	⇑P		**P**	**08 46 35.7**	**+0.3**
	baz=73,SNR=21							
R12A	**Pony Springs,**	**72.70**	**324**	⇓P		**P**	**08 46 36.3**	**+0.9**
	baz=73,SNR=31							
AGMN	**Agassiz Refuge**	**72.72**	**341**	*eP*		**P**	**08 46 34.1**	**-1.1**
	comp=Z,25nm,0.8s,mb5.1							
AGMN				*epP*		pP	08 47 01.9	+0.6
BSC	**Santa Cruz Isl**	**72.75**	**318**	⇓P		**P**	**08 46 35.6**	**-0.2**
	baz=73							
P14A	**Drum Mountains**	**72.77**	**326**	⇓P		**P**	**08 46 36.5**	**+0.7**
	baz=73,SNR=29							
MPMC	**Manual Prospec**	**72.80**	**320**	⇑P		**P**	**08 46 35.9**	**0.0**
	baz=73,SNR=15							
Q13A	**Wheeler Ranch,**	**72.83**	**325**	⇑P		**P**	**08 46 36.6**	**+0.6**
	baz=73,SNR=16							
S11A	**Rachel**	**72.86**	**323**	⇓P		**P**	**08 46 37.3**	**+1.0**
	baz=73,SNR=6.3							
N16A	**Rees Ranch, Co**	**72.88**	**327**	⇓P		**P**	**08 46 36.8**	**+0.5**
	baz=73							
ARVC	**Arvin**	**72.99**	**319**	⇑P		**P**	**08 46 37.3**	**+0.1**
	baz=73							
NOQ	**North Oquirrh**	**73.06**	**327**	*eP*		**P**	**08 46 37.4**	**0.0**
	comp=Z,7.8nm,0.6s,mb4.7							
NOQ				*epP*		pP	08 47 02.7	-0.7
DUG	**Dugway**	**73.08**	**326**	*eP*		**P**	**08 46 37.7**	**+0.2**
DUG				*e*PP		pP	08 47 03.2	-0.4
DUG				pmax		pmax		
	comp=Z,17nm,1.2s,mb4.8							
DUG	**Dugway**	**73.08**	**326**	⇓P		**P**	**08 46 37.8**	**+0.2**
	baz=73,SNR=19							
DUG	**Dugway**	**73.08**	**326**	*eP*		**P**	**08 46 37.6**	**+0.1**
	comp=Z,17nm,1.2s,mb4.8							
DUG				*epP*		pP	08 47 03.2	-0.4
ISA	**Isabella**	**73.13**	**319**	*eP*		**P**	**08 46 38.1**	**+0.2**
ISA				*e*PP		pP	08 47 03.9	-0.1
ISA				pmax		pmax		
	comp=Z,22nm,0.9s,mb5.0							
ISA	**Isabella**	**73.13**	**319**	⇑P		**P**	**08 46 38.3**	**+0.4**
	baz=73,SNR=30							
ISA	**Isabella**	**73.13**	**319**	*eP*		**P**	**08 46 38.1**	**+0.2**
	comp=Z,22nm,0.9s,mb5.0							
ISA				*epP*		pP	08 47 03.9	-0.1
P13A	**Bates Ranch, G**	**73.18**	**325**	⇓P		**P**	**08 46 38.7**	**+0.6**
	baz=73,SNR=15							
R11A	**Troy Canyon, C**	**73.26**	**323**	⇑P		**P**	**08 46 39.4**	**+0.7**
	baz=74,SNR=17							
M16A	**Huntsville**	**73.30**	**328**	⇑P		**P**	**08 46 38.7**	**-0.1**
	baz=74,SNR=11							
Q12A	**Willow Creek R**	**73.33**	**324**	⇑P		**P**	**08 46 39.3**	**+0.2**
	baz=74,SNR=12							
GRAC	**Grapevine Rang**	**73.36**	**321**	⇓P		**P**	**08 46 39.3**	**0.0**
	baz=74							
PDAR	**Pinedale Array**	**73.39**	**330**	P		**P**	**08 46 39.1**	**-0.2**
	comp=Z,2.1nm,0.6s,mb4.1,baz=139,slow=7.3,SNR=16							
PDAR				pP		pP	08 47 03.7	-1.7
	comp=Z,2.1nm,0.5s,baz=132,slow=8.8,SNR=5.0							
PDAR				LR		LR	09 22 41.6	
	comp=Z,159nm,19.7s,baz=330,slow=39							
BW06	**Boulder Array**	**73.39**	**330**	⇑P		**P**	**08 46 39.6**	**+0.3**
	baz=74							
CWC	**Cottonwood Cre**	**73.41**	**320**	⇓P		**P**	**08 46 39.6**	**0.0**
	baz=74							
N15A	**Stansbury Isla**	**73.44**	**327**	⇓P		**P**	**08 46 39.6**	**0.0**
	baz=74,SNR=12							
PKM	**Peak Mountain**	**73.45**	**318**	⇓P		**P**	**08 46 40.1**	**+0.2**
	baz=74,SNR=25							
S10A	**Tonopah Range,**	**73.54**	**322**	⇓P		**P**	**08 46 40.8**	**+0.5**
	baz=74,SNR=21							
VES	**Vestal, Richgr**	**73.62**	**319**	⇓P		**P**	**08 46 40.8**	**0.0**
	baz=74,SNR=16							
R10A	**Warm Springs**	**73.62**	**323**	⇓P		**P**	**08 46 41.8**	**+1.0**
	baz=74,SNR=24							
O13A	**Hicks Ranch, I**	**73.65**	**325**	⇓P		**P**	**08 46 41.3**	**+0.4**
	baz=74							
Q11A	**Duckwater**	**73.65**	**323**	⇑P		**P**	**08 46 41.5**	**+0.6**
	baz=74,SNR=36							
SPUT	**South Promonto**	**73.71**	**327**	*eP*		**P**	**08 46 41.3**	**+0.1**
SPUT				*epP*		pP	08 47 06.6	-0.7
L16A	**Fish Haven**	**73.72**	**328**	⇑P		**P**	**08 46 41.0**	**-0.3**
	baz=74,SNR=14							
BGU	**Big Grassy Mou**	**73.72**	**327**	*eP*		**P**	**08 46 41.1**	**-0.2**
BGU				*epP*		pP	08 47 07.0	-0.4
N14A	**Grayback Hills**	**73.75**	**326**	⇑P		**P**	**08 46 41.3**	**-0.2**
	baz=74,SNR=16							
S09A	**Goldfield**	**73.77**	**322**	⇑P		**P**	**08 46 41.9**	**+0.3**
	baz=74,SNR=8.4							
M15A	**Larsen Ranch,**	**73.82**	**327**	⇓P		**P**	**08 46 41.4**	**-0.4**
	baz=74,SNR=32							
SMMC	**Simmler**	**73.83**	**318**	⇓P		**P**	**08 46 42.4**	**+0.3**
	baz=74,SNR=9.4							
TIN	**Tinemaha**	**73.90**	**321**	⇓P		**P**	**08 46 42.2**	**-0.2**
	baz=74							
TPH	**Tonopah**	**74.00**	**322**	*eP*		**P**	**08 46 43.4**	**+0.4**
TPH				*e*PP		pP	08 47 09.4	+0.3
TBI	**Tubuai**	**74.01**	**251**	*eS*		S	08 56 07.8	-0.3
	comp=Z,265nm,29.8s							
TBI	**Tubuai**	**74.01**	**251**	*eLQ*			09 06 22.1	
	comp=Z,441nm,30.0s							
TBI				*eLR*		LR	09 09 37.2	
	comp=Z,1µm,30.8s							
RCTC	**Rector, Farmer**	**74.02**	**320**	⇑P		**P**	**08 46 42.3**	**-0.8**
	baz=74							
R09A	**Tonopah**	**74.03**	**322**	⇑P		**P**	**08 46 43.3**	**+0.2**
	baz=74,SNR=12							
Q10A	**Clear Creek Ra**	**74.05**	**323**	⇓P		**P**	**08 46 43.8**	**+0.5**
	baz=74,SNR=14							
AHID	**Auburn Hatcher**	**74.12**	**329**	*eP*		**P**	**08 46 43.8**	**+0.2**
	comp=Z,13nm,0.8s,mb4.7							
AHID				*epP*		pP	08 47 09.2	-0.5
O12A	**Currie**	**74.15**	**325**	⇑P		**P**	**08 46 43.9**	**+0.1**
	baz=74,SNR=18							
L15A	**Malad City**	**74.19**	**328**	⇓P		**P**	**08 46 43.6**	**-0.4**
	baz=74,SNR=34							
PTRM	**Twissleman Ran**	**74.19**	**318**	P		**P**	**08 46 44.2**	**+0.1**
PTRM				*epP*		pP	08 47 10.3	0.0
HVU	**Hansel Valley**	**74.22**	**327**	*eP*		**P**	**08 46 44.4**	**+0.2**
HVU	**Hansel Valley**	**74.22**	**327**	*eP*		**P**	**08 46 44.1**	**0.0**
	comp=Z,6.2nm,0.7s,mb4.5							
HVU				*epP*		pP	08 47 09.5	-0.8
N13A	**Wendover, West**	**74.29**	**326**	⇓P		**P**	**08 46 44.3**	**-0.3**
	baz=74							
M14A	**Sheep Mountain**	**74.31**	**327**	⇑P		**P**	**08 46 44.6**	**-0.1**
	baz=75,SNR=20							
K16A	**Soda Springs**	**74.41**	**329**	⇓P		**P**	**08 46 45.5**	**+0.3**
	baz=75,SNR=16							
REDW	**Red Top Meadow**	**74.45**	**329**	*eP*		**P**	**08 46 45.6**	**+0.1**
	comp=Z,6.8nm,0.7s,mb4.5							
REDW				*epP*		pP	08 47 11.4	-0.2
ULM	**Lac du Bonnet**	**74.47**	**342**	P		**P**	**08 46 44.2**	**-1.2**
	comp=Z,15nm,0.6s,mb4.9,baz=146,slow=5.8,SNR=13							
ULM				pP		pP	08 47 10.0	-1.5
	comp=Z,49nm,0.8s,baz=155,slow=5.4,SNR=11							
ULM				LR		LR	09 24 04.0	
	comp=Z,165nm,19.7s,baz=256,slow=39							
ULM	**Lac du Bonnet**	**74.47**	**342**	*eP*		**P**	**08 46 44.2**	**-1.2**
	comp=Z,210nm,1.5s,mb5.7							
ULM				*epP*		pP	08 47 10.4	-1.2
SNOW	**Snow King Moun**	**74.48**	**330**	*eP*		**P**	**08 46 45.3**	**-0.4**
	comp=Z,11nm,0.9s,mb4.6							
SNOW				*epP*		pP	08 47 11.4	-0.4
Q09A	**Carvers**	**74.50**	**323**	⇓P		**P**	**08 46 45.5**	**-0.4**
	baz=75							
LOHW	**Long Hollow**	**74.53**	**330**	*eP*		**P**	**08 46 46.2**	**+0.3**
	comp=Z,6.5nm,0.8s,mb4.4							
LOHW				*epP*		pP	08 47 11.4	-0.7
O11A	**Cowboy Ranch,**	**74.55**	**324**	⇓P		**P**	**08 46 46.0**	**-0.1**
	baz=75							
PKD	**Parkfield**	**74.58**	**319**	⇑P		**P**	**08 46 46.2**	**-0.2**
	baz=75,SNR=6.4							
TPAW	**Teton Pass**	**74.60**	**329**	*eP*		**P**	**08 46 46.3**	**0.0**
	comp=Z,10nm,0.9s,mb4.6							
TPAW				*epP*		pP	08 47 12.3	-0.2
P10A	**Eureka**	**74.64**	**324**	⇑P		**P**	**08 46 46.6**	**0.0**
	baz=75							
L14A	**Malta**	**74.64**	**327**	⇓P		**P**	**08 46 46.3**	**-0.3**
	baz=75,SNR=22							
MLAC	**Mammoth Lakes**	**74.65**	**321**	⇑P		**P**	**08 46 46.8**	**0.0**
	baz=75							
RRI2	**Red Ridge**	**74.67**	**329**	*eP*		**P**	**08 46 47.4**	**+0.7**
	comp=Z,15nm,0.7s,mb4.8							
RRI2				*epP*		pP	08 47 12.8	-0.1
MOOW	**Moose Ponds**	**74.70**	**330**	*eP*		**P**	**08 46 46.6**	**-0.2**
	comp=Z,3.7nm,0.7s,mb4.2							
MOOW				*epP*		pP	08 47 12.0	-1.0
N12A	**Clover Valley,**	**74.73**	**325**	⇑P		**P**	**08 46 47.0**	**-0.1**
	baz=75							
KCC	**Kaiser Creek**	**74.73**	**320**	⇑P		**P**	**08 46 46.6**	**-0.6**
	baz=75,SNR=8.1							
I17A	**Pilgram Creek**	**74.75**	**330**	⇓P		**P**	**08 46 47.8**	**+0.6**
	baz=75,SNR=26							
J16A	**Bone**	**74.75**	**329**	⇑P		**P**	**08 46 47.5**	**+0.3**
	baz=75,SNR=12							
ELK	**Elko**	**74.76**	**325**	*eP*		**P**	**08 46 47.4**	**+0.1**
ELK				*e*			08 47 01.3	
ELK				*e*PP		pP	08 47 12.7	-0.8
ELK				pmax		pmax		
	comp=Z,28nm,1.2s							
ELK	**Elko**	**74.76**	**325**	*eP*		**P**	**08 46 47.4**	**+0.1**
	comp=Z,28nm,1.2s,mb4.9							
ELK				*e*PcP		PcP	08 47 01.3	+0.4
ELK				*epP*		pP	08 47 12.7	-0.8
T06C	**Millerton Lake**	**74.76**	**320**	⇓P		**P**	**08 46 46.9**	**-0.5**
	baz=75							
K15A	**Arbon**	**74.76**	**328**	⇓P		**P**	**08 46 47.2**	**-0.1**
	baz=75,SNR=13							
DCID1	**Drake Creek**	**74.79**	**329**	*eP*		**P**	**08 46 47.8**	**+0.4**
	comp=Z,18nm,0.9s,mb4.8							
DCID1				*epP*		pP	08 47 13.6	0.0
NVAR	**Mina Array Bea**	**74.87**	**322**	P		**P**	**08 46 48.4**	**+0.3**
	comp=Z,5.5nm,0.7s,mb4.4,baz=150,slow=6.6,SNR=28							
NVAR				pP		pP	08 47 13.2	-1.0
	comp=Z,13nm,1.0s,baz=151,slow=5.9,SNR=7.2							
IMW	**Indian Meadow**	**74.90**	**330**	*eP*		**P**	**08 46 48.6**	**+0.6**
	comp=Z,10.0nm,0.8s,mb4.6							
IMW				*epP*		pP	08 47 13.9	-0.3
Q08A	**Gabbs**	**74.95**	**322**	⇓P		**P**	**08 46 48.4**	**-0.1**
	baz=75,SNR=14							
P09A	**Austin**	**74.97**	**323**	⇑P		**P**	**08 46 48.6**	**+0.1**
	baz=75							
K14A	**Jones Ranch, D**	**74.98**	**328**	⇓P		**P**	**08 46 48.6**	**0.0**
	baz=75,SNR=7.6							
U04C	**Hernandez Rese**	**75.00**	**319**	⇑P		**P**	**08 46 49.0**	**+0.2**
	baz=75,SNR=9.8							
LAO	**LASA Array**	**75.01**	**334**	*eP*		**P**	**08 46 48.4**	**-0.2**
	comp=Z,12nm,0.7s,mb4.7							
LAO				*epP*		pP	08 47 13.8	-1.0
L13A	**Double Diamond**	**75.04**	**327**	⇓P		**P**	**08 46 49.2**	**+0.3**
	baz=75,SNR=12							
M12A	**Wells**	**75.06**	**326**	⇓P		**P**	**08 46 48.8**	**-0.2**
	baz=75							
V03C	**Hunter Liggett**	**75.06**	**318**	⇑P		**P**	**08 46 49.2**	**0.0**
	baz=75							
RLMT	**Red Lodge**	**75.07**	**332**	⇓P		**P**	**08 46 48.9**	**-0.1**
	baz=75							
N11A	**Elko Archery C**	**75.08**	**325**	⇓P		**P**	**08 46 48.9**	**-0.2**
	baz=75							
H17A	**Grant Village**	**75.11**	**330**	⇑P		**P**	**08 46 50.4**	**+1.1**
	baz=75,SNR=7.8							
O10A	**Cortez Mining,**	**75.12**	**324**	⇑P		**P**	**08 46 49.5**	**+0.1**
	baz=75							
I16A	**Newdale**	**75.14**	**329**	⇓P		**P**	**08 46 49.7**	**+0.2**
	baz=75,SNR=9.2							
LKWY	**Lake**	**75.16**	**331**	*eP*		**P**	**08 46 51.7**	**+2.2**
LKWY				*e*PP		pP	08 47 16.0	+0.3
LKWY				pmax		pmax		
	comp=Z,10.0nm,0.7s,mb4.7							
LKWY	**Lake**	**75.16**	**331**	*eP*		**P**	**08 46 51.7**	**+2.2**
	comp=Z,9.6nm,0.7s,mb4.6							
LKWY				*epP*		pP	08 47 16.0	+0.3
J15A	**Blackfoot**	**75.25**	**329**	⇓P		**P**	**08 46 50.4**	**+0.4**
	baz=76,SNR=23							
S05C	**Merced**	**75.36**	**320**	⇓P		**P**	**08 46 50.9**	**0.0**
	baz=76,SNR=17							
N10A	**Dunphy**	**75.42**	**324**	⇑P		**P**	**08 46 51.1**	**0.0**
	baz=76							
YMR	**Madison River**	**75.50**	**330**	*eP*		**P**	**08 46 52.3**	**+0.9**
	comp=Z,99nm,1.2s,mb5.4							
YMR				*epP*		pP	08 47 18.4	+0.8
Q07A	**Schurz**	**75.50**	**322**	⇓P		**P**	**08 46 51.8**	**+0.2**
	baz=76							
K13A	**Stover Farm, H**	**75.52**	**327**	⇓P		**P**	**08 46 52.1**	**+0.4**
	baz=76							
M11A	**Holland Ranch,**	**75.54**	**325**	⇓P		**P**	**08 46 51.9**	**+0.1**
	baz=76							
P08A	**Dixie Valley**	**75.60**	**323**	⇑P		**P**	**08 46 52.2**	**+0.1**
	baz=76							
R06C	**Coleville**	**75.60**	**321**	⇓P		**P**	**08 46 52.5**	**+0.3**
	baz=76							
L12A	**House Creek Ra**	**75.64**	**326**	⇓P		**P**	**08 46 52.3**	**0.0**
	baz=76							
H16A	**Russell Place,**	**75.66**	**330**	⇑P		**P**	**08 46 53.2**	**+0.9**
	baz=76,SNR=12							
DGMT	**Dagmar**	**75.68**	**336**	⇑P		**P**	**08 46 52.9**	**+0.5**
	baz=76,SNR=11							
DGMT	**Dagmar**	**75.68**	**336**	*eP*		**P**	**08 46 52.6**	**+0.2**
	comp=Z,21nm,0.5s,mb5.1							
DGMT				*epP*		pP	08 47 18.1	-0.5
I15A	**Monteview**	**75.72**	**329**	⇓P		**P**	**08 46 53.3**	**+0.6**
	baz=76,SNR=15							
J14A	**Carey**	**75.72**	**328**	⇓P		**P**	**08 46 53.5**	**+0.7**
	baz=76,SNR=16							
PACP	**Pacheco Peak**	**75.72**	**319**	⇑P		**P**	**08 46 52.7**	**-0.2**
	baz=76							
PPT	**Papeete**	**75.75**	**256**	*eS*		S	08 56 28.0	+0.4
	comp=Z,364nm,25.5s							
PPT	**Papeete**	**75.75**	**256**	*eLR*		LR	09 10 25.2	
	comp=Z,919nm,27.8s							
PPT	**Papeete**	**75.75**	**256**	LR		LR	09 12 03.0	
	comp=Z,394nm,18.6s,baz=314,slow=29							
GCMT	**Greycliff**	**75.77**	**332**	*eP*		**P**	**08 46 53.3**	**+0.4**
GCMT				*epP*		pP	08 47 19.1	-0.1
QLMT	**Earthquake Lak**	**75.84**	**330**	*eP*		**P**	**08 46 54.4**	**+1.0**
QLMT				*epP*		pP	08 47 19.4	-0.2
CMB	**Columbia Colle**	**75.84**	**320**	*eP*		**P**	**08 46 53.6**	**0.0**
CMB	**Columbia Colle**	**75.84**	**320**	⇓P		**P**	**08 46 53.4**	**-0.1**
	baz=76							
CMB	**Columbia Colle**	**75.84**	**320**	*eP*		**P**	**08 46 53.5**	**-0.1**
	comp=Z,2.3nm,0.7s,mb4.0							
CMB				*epP*		pP	08 47 18.9	-0.8
F18A	**Big Timber**	**75.88**	**332**	⇑P		**P**	**08 46 53.7**	**+0.1**
	baz=76,SNR=35							
K12A	**Draper Farm, C**	**75.93**	**327**	⇓P		**P**	**08 46 54.6**	**+0.6**
	baz=76,SNR=24							
M10A	**I.L. Ranch, Tu**	**76.00**	**325**	⇓P		**P**	**08 46 54.5**	**+0.1**
	baz=76							
L11A	**Cat Creek Ranc**	**76.04**	**326**	⇓P		**P**	**08 46 54.8**	**+0.2**
	baz=76,SNR=12							
O08A	**Rochester Mine**	**76.04**	**323**	⇓P		**P**	**08 46 54.6**	**-0.1**
	baz=76							
N09A	**Rock Creek Ran**	**76.07**	**324**	⇑P		**P**	**08 46 54.0**	**-0.8**
	baz=76							
J13A	**Cove Ranch, Pi**	**76.11**	**328**	⇓P		**P**	**08 46 55.2**	**+0.3**
	baz=76,SNR=11							
I14A	**Mackay**	**76.13**	**328**	⇑P		**P**	**08 46 55.8**	**+0.7**
	baz=76,SNR=26							
H15A	**Lima**	**76.25**	**329**	⇑P		**P**	**08 46 56.1**	**+0.3**
	baz=76							
WCN	**Washoe City**	**76.30**	**322**	⇓P		**P**	**08 46 56.2**	**0.0**
	baz=76							
G16A	**Moss Hill, Enn**	**76.31**	**330**	⇓P		**P**	**08 46 56.3**	**+0.2**
	baz=77							
R04C	**Big Horse Ranc**	**76.31**	**320**	⇑P		**P**	**08 46 56.3**	**+0.1**
	baz=76,SNR=10.0							
HLID	**Hailey**	**76.34**	**328**	⇑P		**P**	**08 46 56.7**	**+0.4**
	baz=77,SNR=39							
HLID	**Hailey**	**76.34**	**328**	*eP*		**P**	**08 46 57.1**	**+0.8**
	comp=Z,29nm,1.1s,mb4.9							
HLID				*epP*		pP	08 47 22.5	-0.1
PAHR	**Pah Rah Range**	**76.35**	**322**	*eP*		**P**	**08 46 57.2**	**+0.8**
	comp=Z,24nm,0.8s,mb5.0							
PAHR				*epP*		pP	08 47 22.9	+0.3
L10A	**Juniper Basin**	**76.35**	**325**	⇑P		**P**	**08 46 56.6**	**+0.3**
	baz=77,SNR=16							
N08A	**GE Springer Mi**	**76.36**	**324**	⇑P		**P**	**08 46 56.3**	**-0.2**
	baz=77							
O07A	**Toulon**	**76.36**	**323**	⇓P		**P**	**08 46 56.5**	**+0.1**
	baz=77							
M09A	**Marrel Ranch,**	**76.42**	**324**	⇓P		**P**	**08 46 56.9**	**+0.1**
	baz=77							
I13A	**Wildhorse Cree**	**76.45**	**328**	⇓P		**P**	**08 46 57.6**	**+0.7**
	baz=77,SNR=16							
J12A	**Stokes Ranch,**	**76.47**	**327**	⇑P		**P**	**08 46 57.2**	**+0.2**
	baz=77,SNR=19							
E18A	**Harlowton**	**76.47**	**332**	⇑P		**P**	**08 46 57.1**	**+0.2**
	baz=77,SNR=11							
MCMT	**McKenzie Canyo**	**76.50**	**329**	*eP*		**P**	**08 46 58.1**	**+0.9**
MCMT				*epP*		pP	08 47 24.1	+0.7
LAVA	**Lava Cap Winer**	**76.52**	**321**	⇓P		**P**	**08 46 57.3**	**-0.1**
	baz=77							
BOZ	**Bozeman (W)**	**76.55**	**331**	⇓P		**P**	**08 46 57.9**	**+0.5**
	baz=77							
JRSC	**Jasper Ridge**	**76.56**	**319**	⇑P		**P**	**08 46 57.7**	**+0.1**
	baz=77							
G15A	**Dillon**	**76.58**	**330**	⇑P		**P**	**08 46 58.0**	**+0.4**
	baz=77,SNR=15							
H14A	**Leadore**	**76.60**	**329**	⇑P		**P**	**08 46 58.3**	**+0.6**
	baz=77,SNR=17							
K11A	**Parker Ranch,**	**76.61**	**326**	⇑P		**P**	**08 46 58.0**	**+0.2**
	baz=77,SNR=10							
P06A	**Stead Airport,**	**76.63**	**322**	⇓P		**P**	**08 46 58.1**	**+0.1**
	baz=77							
DLMT	**Dillon**	**76.78**	**330**	*eP*		**P**	**08 46 58.8**	**+0.1**
	comp=Z,19nm,1.1s,mb4.7							
DLMT				*epP*		pP	08 47 24.4	-0.6
SBA	**Scott Base**	**76.81**	**190**	*eP*		**P**	**08 46 59.4**	**+0.9**
E17A	**Martinsdale**	**76.81**	**332**	⇓P		**P**	**08 46 59.2**	**+0.3**
	baz=77,SNR=22							
TOA0	**Torodi Ar. Sit**	**76.83**	**70**	*eP*		**P**	**08 46 59.5**	**-0.2**
TOA0				*epP*		pP	08 47 26.9	+1.0
TORD	**Torodi Ar. Bea**	**76.83**	**70**	P		**P**	**08 46 59.4**	**-0.4**
	comp=Z,205nm,0.3s,mb6.3,baz=254,slow=5.2,SNR=2.5							
TORD				pP		pP	08 47 26.7	+0.7
	comp=Z,179nm,0.3s,baz=62,slow=3.5,SNR=1.6							
TORD				S		S	08 56 38.6	-0.8
	comp=Z,258nm,0.4s,baz=252,slow=10,SNR=2.1							
TORD				LR		LR	09 20 28.1	
	comp=Z,482nm,18.9s,baz=235,slow=35							
I12A	**Atlanta**	**76.87**	**327**	⇓P		**P**	**08 46 59.7**	**+0.4**
	baz=77,SNR=24							
O06A	**Flanigan**	**76.91**	**322**	⇓P		**P**	**08 47 00.1**	**+0.5**
	baz=77							
D18A	**Linhart Farms,**	**76.91**	**333**	⇓P		**P**	**08 46 59.6**	**+0.2**
	baz=77,SNR=20							
M08A	**Happy Creek Ra**	**76.95**	**324**	⇓P		**P**	**08 47 00.2**	**+0.4**
	baz=77							
L09A	**Wilkinson Ranc**	**76.95**	**325**	⇑P		**P**	**08 47 00.2**	**+0.5**
	baz=77							
MFID	**Camas Ranch**	**76.96**	**327**	⇓P		**P**	**08 47 00.0**	**+0.3**
	baz=77,SNR=17							
H13A	**Challis**	**76.99**	**328**	⇑P		**P**	**08 47 00.4**	**+0.5**
	baz=77,SNR=22							
BEKR	**Beckwourth**	**77.02**	**322**	⇑P		**P**	**08 47 00.4**	**+0.2**
	baz=77,SNR=8.2							
K10A	**MacKenzie Ranc**	**77.05**	**326**	⇑P		**P**	**08 47 00.6**	**+0.2**
	baz=77,SNR=14							
F15A	**Butte**	**77.09**	**330**	⇑P		**P**	**08 47 00.8**	**+0.3**
	baz=77							
G14A	**Jackson**	**77.10**	**329**	⇑P		**P**	**08 47 01.0**	**+0.5**
	baz=77							
Q03C	**Winters**	**77.20**	**320**	⇓P		**P**	**08 47 01.2**	**-0.1**
	baz=77							
E16A	**East Helena**	**77.23**	**331**	⇑P		**P**	**08 47 01.5**	**+0.2**
	baz=78							
D17A	**Six Diamond Ra**	**77.27**	**332**	⇓P		**P**	**08 47 01.4**	**0.0**
	baz=78,SNR=24							
H12A	**Diamond D Ranc**	**77.28**	**328**	⇑P		**P**	**08 47 02.0**	**+0.5**
	baz=78,SNR=7.5							
CVS	**Carmenet Viney**	**77.29**	**319**	⇓P		**P**	**08 47 01.9**	**+0.2**
	baz=78							
N06A	**Buffalo Meadow**	**77.30**	**323**	⇓P		**P**	**08 47 01.7**	**0.0**
	baz=78,SNR=20							
G13A	**Cobalt**	**77.37**	**329**	⇑P		**P**	**08 47 02.6**	**+

WDC epP pP 08 47 33.9 -2.3
J07A Hines 78.76 325 ⇓P P 08 47 10.3 +0.5
baz=79,SNR=7.2
H09A Durkee 78.78 327 ⇓P P 08 47 09.4 -0.4
baz=79
F11A Grangeville 78.88 328 ⇓P P 08 47 10.0 -0.3
baz=79,SNR=18
K06A Valley Falls 78.89 324 ⇓P P 08 47 10.9 +0.4
baz=79,SNR=8.0
D13A Huson 78.93 330 ⇓P P 08 47 10.5 -0.1
baz=79,SNR=20
G10A Bishop Farm, J 78.94 327 ⇓P P 08 47 10.8 +0.1
baz=79,SNR=45
M03C McCloud 78.95 322 ⇓P P 08 47 10.0 -0.9
baz=79,SNR=6.5
E12A Beaver Dam Sad 78.97 329 ⇓P P 08 47 10.8 0.0
baz=79,SNR=7.5
B15A Bradely Ranch, 78.97 332 ⇑P P 08 47 10.2 -0.6
baz=79,SNR=19
A16A West Butte Ran 79.03 333 ⇓P P 08 47 11.0 -0.1
baz=79,SNR=15
C14A Swan Lake 79.10 331 ⇑P P 08 47 11.5 0.0
baz=79,SNR=11
J06A Christmas Vall 79.14 324 ⇓P P 08 47 11.9 +0.1
baz=79,SNR=11
K05A Summer Lake 79.20 324 ⇓P P 08 47 12.4 +0.2
baz=79,SNR=9.5
H08A Prairie City 79.20 326 ⇓P P 08 47 12.6 +0.4
baz=80
E11A Bogner Ranch, 79.24 329 ⇓P P 08 47 11.8 -0.5
baz=80,SNR=7.2
G09A Cove 79.26 327 ⇓P P 08 47 12.7 +0.3
baz=80,SNR=26
B14A Marquette Ranc 79.32 332 ⇓P P 08 47 12.1 -0.6
baz=80
D12A Red Ives Fores 79.32 330 ⇓P P 08 47 12.8 0.0
baz=80,SNR=10.0
I07A Izee 79.34 325 ⇓P P 08 47 13.2 +0.3
baz=80,SNR=9.8
N02C Big Bar 79.36 321 ⇓P P 08 47 13.1 0.0
baz=80,SNR=8.9
L04A Klamath Falls 79.40 323 ⇓P P 08 47 12.9 -0.4
baz=80
C13A Hot Springs 79.41 330 ⇑P P 08 47 13.4 +0.2
baz=80,SNR=11
M02C Callahan 79.45 322 ⇑P P 08 47 13.1 -0.5
baz=80
F10A Beach Ranch, E 79.47 328 ⇑P P 08 47 13.5 -0.1
baz=80
A15A Johnson Ranch, 79.55 332 ⇑P P 08 47 13.1 -0.8
baz=80,SNR=9.7
YBH Yreka Blue Hor 79.58 322 *eP* **P 08 47 13.5 -0.8**
YBH Yreka Blue Hor 79.58 322 ⇑P P 08 47 13.2 -1.1
baz=80
F09A S2 Ranch, Elgi 79.63 327 ⇑P P 08 47 14.2 -0.2
baz=80,SNR=9.2
I06A Prineville 79.63 325 ⇓P P 08 47 14.7 +0.2
baz=80,SNR=12
H07A Lands Inn, Kim 79.72 326 ⇓P P 08 47 14.7 -0.3
baz=80
J05A Fort Rock 79.75 324 ⇓P P 08 47 15.3 +0.1
baz=80,SNR=7.4
E10A Myers Farm, Un 79.77 328 ⇓P P 08 47 15.2 0.0
baz=80,SNR=11
JCC Jacoby Creek 79.78 321 ⇓P P 08 47 15.0 -0.4
baz=80
D11A Klaveano Farm, 79.79 329 ⇓P P 08 47 15.2 0.0
baz=80
A14A Double T Ranch 79.84 332 ⇑P P 08 47 15.4 -0.1
baz=80
C12B Naegeli Ranch, 79.85 330 ⇑P P 08 47 15.6 0.0
baz=80
B13A Whitefish 79.87 331 ⇓P P 08 47 15.7 0.0
baz=80,SNR=10
G08A Pilot Rock 79.88 327 ⇑P P 08 47 15.8 0.0
baz=80,SNR=7.4
LNOR Lincton Mounta 79.93 327 *eP* **P 08 47 15.6 -0.4**
LNOR *e*PP pP 08 47 41.9 -0.6*
TSUM Tsumeb 80.11 107 *eP* **P 08 47 19.0 +1.2**
comp=Z,22nm,0.8s,mb5.0
WALA Waterton Lakes 80.12 332 *eP* **P 08 47 17.1 +0.1**
comp=Z,37nm,1.4s,mb5.0
WALA epP pP 08 47 42.7 -0.8
F08A Pendleton 80.13 327 ⇑P P 08 47 16.9 -0.2
baz=80
J04A Umpqua Nationa 80.21 323 ⇑P P 08 47 17.3 -0.3
baz=80
H06A Lindquist Farm 80.22 325 ⇑P P 08 47 18.1 +0.5
baz=80,SNR=10
VIPM Ingram Point 80.22 325 P P 08 47 18.6 +0.9
G07A Ruggs Ranch, H 80.23 326 ⇑P P 08 47 18.2 +0.6
baz=80,SNR=6.8
D10A Wagner Farm, O 80.25 329 ⇓P P 08 47 17.3 -0.4
baz=80,SNR=9.3
HUMO Hull Mountain 80.28 323 ⇓P P 08 47 17.3 -0.7
baz=80
E09A Wood Farm, Sta 80.30 328 ⇓P P 08 47 17.6 -0.4
baz=81
C11A Tepee Creek (N 80.31 330 ⇑P P 08 47 17.9 -0.1
baz=81,SNR=12
I05A Bend 80.35 325 ⇑P P 08 47 18.9 +0.6
baz=81,SNR=11
PFVI Vila Bisbo 80.42 44 *eS* S 08 57 22.2 +5.5
B12A Libby 80.45 330 ⇑P P 08 47 19.2 +0.4
baz=81
MORF Marmelete 80.63 44 *eP* **P 08 47 21.2 +1.2**
comp=Z,61nm,1.3s,mb5.3
MORF epP pP 08 47 47.7 +1.2
MORF *eS* S 08 57 29.6 +11
H05A Madras 80.64 325 ⇓P P 08 47 19.6 -0.3
baz=81
K02A Glendale 80.69 322 ⇑P P 08 47 19.9 -0.3
baz=81
G06A Carlson Farm, 80.72 326 ⇑P P 08 47 20.0 -0.3
baz=81
HBO Huckleberry Mo 80.72 324 P P 08 47 20.4 +0.1
PTEO Sao Teotonio 80.72 44 *eP* **P 08 47 22.0 +1.5**
comp=Z,103nm,1.4s,mb5.5
PTEO epP pP 08 47 49.6 +2.6
I04A Tendick Farm, 80.73 324 ⇑P P 08 47 20.1 -0.3
baz=81
E08A Dider Farm, El 80.75 327 ⇑P P 08 47 20.4 0.0
baz=81
D09A Jones Farm, Ri 80.76 328 ⇓P P 08 47 20.2 -0.3
baz=81
F07A Phinny Hill Vi 80.79 327 ⇑P P 08 47 20.5 -0.1
baz=81
B11A Sandpoint 80.79 330 ⇑P P 08 47 20.6 0.0
baz=81
C10A Spilker Farm, 80.80 329 ⇓P P 08 47 20.9 +0.2
baz=81
A12A Yaak River Ran 80.82 331 ⇑P P 08 47 21.0 +0.2
baz=81
FRIS Frissel Point 80.83 324 P P 08 47 23.3 +2.4
HAWA Hanford 80.92 327 *eP* **P 08 47 21.6 +0.2**
comp=Z,30nm,1.2s,mb5.0
HAWA epP pP 08 47 47.9 +0.1
RSW Rattlesnake Hi 80.95 327 *eP* **P 08 47 21.3 -0.2**
RSW epP pP 08 47 47.3 -0.7
NEW Newport 81.03 330 *eP* **P 08 47 21.9 0.0**
NEW *e*PP pP 08 47 47.5 -0.9*
NEW pmax pmax
comp=Z,35nm,1.4s
NEW Newport 81.03 330 *eP* **P 08 47 21.9 0.0**
comp=Z,35nm,1.4s,mb5.0
NEW epP pP 08 47 47.5 -0.9
BROR Big Rock Looko 81.06 324 P P 08 47 21.9 -0.2
D08A Wollman Farm, 81.06 328 ⇑P P 08 47 21.7 -0.3
baz=81
PBDV Barranco-do-Ve 81.07 45 *eP* **P 08 47 23.4 +1.0**
comp=Z,30nm,1.1s,mb5.0
PBDV epP pP 08 47 49.6 +0.7
PBDV *eS* S 08 57 32.6 +9.1
G05A Wamic 81.08 325 ⇓P P 08 47 22.0 -0.3
baz=81
J02A Umpqua 81.11 323 ⇓P P 08 47 22.3 -0.2
baz=81
F06A Goldendale 81.14 326 ⇑P P 08 47 22.2 -0.4
baz=81
A11A Hall Mountain, 81.16 330 ⇑P P 08 47 22.3 -0.2
baz=81,SNR=14
PMAFR Mafra 81.16 43 *eS* S 08 57 32.3 +7.8
H04A Detroit Lake 81.19 325 ⇓P P 08 47 22.4 -0.4
baz=81
OD2 Odessa Site #2 81.19 328 P P 08 47 23.0 +0.3
E07A Sunnyside 81.19 327 ⇓P P 08 47 22.6 -0.2
baz=82

C09A Chrisman Ranch 81.26 329 ⇓P P 08 47 23.1 0.0
baz=82,SNR=14
PVAQ Vaqueiros 81.30 45 *eP* **P 08 47 24.9 +1.3**
comp=Z,11nm,0.7s,mb4.8
PVAQ epP pP 08 47 51.4 +1.3
PVAQ *eS* S 08 57 32.2 +6.3
I03A Eugene 81.33 323 ⇑P P 08 47 23.7 +0.2
baz=82
EGRO El Granado 81.53 45 P P 08 47 24.8 0.0
comp=Z,244nm,3.0s
PBEJ Beja 81.55 44 *eP* **P 08 47 25.9 +1.0**
comp=Z,22nm,0.8s,mb5.0
F05A White Salmon 81.58 326 ⇓P P 08 47 24.4 -0.4
baz=82
B09A Rice 81.63 329 ⇑P P 08 47 24.7 -0.3
baz=82
G04A Mulino 81.68 325 ⇑P P 08 47 25.0 -0.4
baz=82
D07A Quincy 81.68 327 ⇓P P 08 47 25.5 +0.1
baz=82
A10A Northport 81.74 330 ⇓P P 08 47 25.3 -0.3
baz=82
EVO Evora 81.74 44 *i/P* **P 08 47 26.1 +0.2**
comp=Z,48nm,1.0s,mb5.0
EVO epP pP 08 47 53.6 +1.2
EVO *e*MLR MLR
comp=Z,255nm,22.0s
EVO Evora 81.74 44 *eP* **P 08 47 26.6 +0.7**
comp=Z,16nm,0.9s,mb4.8
FCC Fort Churchill 81.75 347 *eP* **P 08 47 25.5 +0.1**
FCC Fort Churchill 81.75 347 *eP* **P 08 47 25.2 -0.2**
comp=Z,36nm,0.6s,mb5.4
FCC epP pP 08 47 52.4 +0.4
E06A Yakima 81.76 327 ⇓P P 08 47 25.6 -0.1
baz=82,SNR=6.0
H03A Soap Creek Ran 81.78 324 ⇑P P 08 47 25.9 -0.1
baz=82
TBM Table Mountain 81.98 327 P P 08 47 27.6 +0.6
WTV Waterville 82.01 328 P P 08 47 27.2 +0.1
C07A Waterville 82.06 328 ⇑P P 08 47 27.3 -0.1
baz=82,SNR=22
F04A Amboy 82.12 325 ⇓P P 08 47 27.1 -0.5
baz=82
D06A Cle Elum 82.12 327 ⇓P P 08 47 27.3 -0.4
baz=82
ETW Entiat 82.14 328 *eP* **P 08 47 27.8 0.0**
ETW epP pP 08 47 53.5 -0.8
B08A Colville Reser 82.16 329 ⇓P P 08 47 27.2 -0.6
baz=82
PBAR Barrancos 82.17 44 *eP* **P 08 47 29.1 +0.9**
comp=Z,22nm,0.9s,mb5.0
PBAR epP pP 08 47 56.1 +1.4
PBAR *eS* S 08 57 39.5 +4.6
E05A Randle 82.18 326 ⇑P P 08 47 27.4 -0.5
baz=82
G03A Yamhill 82.19 325 ⇑P P 08 47 27.8 -0.2
baz=82
EMIN Mina Concepcio 82.19 45 P P 08 47 28.8 +0.5
comp=Z,499nm,3.8s
PESTR Estremoz 82.20 44 *eP* **P 08 47 28.8 +0.5**
comp=Z,21nm,0.9s,mb5.0
PESTR epP pP 08 47 56.4 +1.6
PESTR *eS* S 08 57 42.2 +7.1
A09A Danville 82.22 329 ⇑P P 08 47 27.6 -0.5
baz=82,SNR=11
ESPR Espera 82.25 46 P P 08 47 28.7 +0.1
comp=Z,580nm,4.0s
EJIF Jimena Fronter 82.29 47 P P 08 47 30.0 +1.2
EJIF pmax pmax
comp=Z,40nm,1.4s,mb5.1
EJIF Jimena Fronter 82.29 47 P P 08 47 30.0 +1.2
comp=Z,40nm,1.4s,mb5.1
LON Longmire 82.33 326 *eP* **P 08 47 28.1 -0.6**
LON *e*PP pP 08 47 53.6 -1.7*
LON pmax pmax
comp=Z,26nm,1.3s,mb4.9
LON Longmire 82.33 326 *eP* **P 08 47 28.1 -0.6**
comp=Z,26nm,1.3s,mb4.9
LON epP pP 08 47 53.6 -1.7
EBAD Badajoz 82.51 44 P P 08 47 29.8 -0.1
comp=Z,237nm,2.9s,mb5.5
A08A Turner Farm, O 82.53 329 ⇑P P 08 47 29.6 -0.1
baz=83,SNR=20
B07A Winthrop 82.61 328 ⇓P P 08 47 29.8 -0.4
baz=83,SNR=11
PMRV Marv??o 82.64 43 *eP* **P 08 47 30.9 +0.3**
comp=Z,18nm,1.6s,mb4.7
D05A Enumclaw 82.71 327 ⇑P P 08 47 30.3 -0.4
baz=83
EMIJ Mijas 82.82 47 P P 08 47 31.9 +0.3
comp=Z,236nm,2.8s,mb5.5
C05A Tolt Reservoir 82.89 327 ⇓P P 08 47 31.1 -0.5
baz=83
BMW Boistfort Moun 82.90 325 *eP* **P 08 47 31.4 -0.3**
EDM Edmonton 82.98 335 *eP* **P 08 47 31.0 -1.0**
EDM Edmonton 82.98 335 *eP* **P 08 47 30.8 -1.2**
EDM epP pP 08 47 56.6 -2.0
MTE Manteigas 83.09 42 *eP* **P 08 47 33.8 +1.0**
comp=Z,57nm,1.3s,mb5.2
MTE *eS* S 08 57 58.0 +14
A07A Ashnola River, 83.14 329 ⇑P P 08 47 32.8 0.0
baz=83,SNR=20
RPW Rockport 83.29 328 *eP* **P 08 47 32.6 -1.1**
RPW epP pP 08 47 59.0 -1.3
B06A Marblemount 83.33 328 ⇓P P 08 47 33.1 -0.8
baz=84
JCW Jim Creek 83.34 327 P P 08 47 33.2 -0.8
B05A Bryant 83.47 327 ⇑P P 08 47 33.6 -1.0
baz=84,SNR=6.3
ELOJ Sierra Loja 83.55 47 P P 08 47 36.0 +0.7
ELOJ pmax pmax
comp=Z,49nm,1.1s,mb5.2
ELOJ Sierra Loja 83.55 47 P P 08 47 36.0 +0.7
comp=Z,49nm,1.1s,mb5.2
C04A Brinnon 83.56 327 ⇓P P 08 47 34.6 -0.5
baz=84
ELOB Lobios 83.60 41 P P 08 47 32.0 -3.4
comp=Z,203nm,2.6s,mb5.5
BOSA Boshof 83.71 118 P P 08 47 37.5 +1.0
comp=Z,30nm,1.2s,mb5.0,baz=281,slow=4.7,SNR=14
BOSA pP pP 08 48 03.7 +0.6
comp=Z,9.3nm,0.8s,baz=247,slow=5.7,SNR=2.9
BOSA LR LR 09 19 06.3
comp=Z,226nm,19.7s,baz=156,slow=31
BOSA Boshof 83.71 118 *eP* **P 08 47 36.7 +0.2**
BOSA pmax pmax
comp=Z,18nm,0.9s,mb4.9
BOSA Boshof 83.71 118 *eP* **P 08 47 36.7 +0.3**
comp=Z,18nm,0.9s,mb4.9
EADA Adamuz 83.80 46 P P 08 47 35.4 -1.2
comp=Z,79nm,2.0s,mb5.2
EPLA Plasencia 83.83 43 P P 08 47 35.7 -1.0
EPLA pmax pmax
comp=Z,456nm,2.2s,mb5.9
EPLA Plasencia 83.83 43 P P 08 47 35.7 -1.0
comp=Z,456nm,2.2s,mb5.9
MVO Moncorvo 83.84 42 *eP* **P 08 47 37.3 +0.6**
comp=Z,52nm,1.7s,mb5.1
MVO epP pP 08 48 04.8 +1.5
MVO *eS* S 08 57 57.7 +6.1
A05A Maple Falls 83.94 328 ⇑P P 08 47 36.5 -0.5
baz=84
EBER Berja 84.28 47 P P 08 47 38.4 -0.7
comp=Z,252nm,2.4s,mb5.6
EBAN Banos Encina 84.33 46 P P 08 47 39.2 0.0
EBAN pmax pmax
comp=Z,47nm,1.0s,mb5.3
EBAN Banos Encina 84.33 46 P P 08 47 39.2 -0.1
comp=Z,47nm,1.0s,mb5.3
PBRG Braganca 84.38 42 *eP* **P 08 47 39.8 +0.4**
comp=Z,31nm,1.3s,mb5.0
PBRG epP pP 08 48 07.3 +1.2
ECAL Calabor 84.45 41 P P 08 47 39.4 -0.4
comp=Z,222nm,1.9s,mb5.7
ERUA La Rua 84.46 41 P P 08 47 39.2 -0.6
ERUA pmax pmax
comp=Z,30nm,0.9s,mb5.1
ERUA La Rua 84.46 41 P P 08 47 39.2 -0.6
comp=Z,30nm,0.9s,mb5.1
EQES Quesada 84.62 46 P P 08 47 40.0 -0.7
comp=Z,299nm,3.3s
PAB San Pablo 84.68 44 *eP* **P 08 47 41.2 +0.2**
PAB *e*PP pP 08 48 08.9 +1.2*
PAB pmax pmax
comp=Z,21nm,0.8s,mb5.1
PAB San Pablo 84.68 44 *eP* **P 08 47 41.2 +0.2**
comp=Z,21nm,0.8s,mb5.1
PAB *eP* pP 08 48 08.9 +1.2
EHUE Huescar 84.96 47 P P 08 47 41.1 -1.3
EHUE pmax pmax
comp=Z,24nm,1.2s,mb5.0
EHUE Huescar 84.96 47 P P 08 47 41.1 -1.3
comp=Z,24nm,1.2s,mb5.0
ESDC Sonseca Array 85.00 44 P P 08 47 43.2 +0.6
comp=Z,8.4nm,0.8s,mb4.7,baz=245,slow=5.1,SNR=22
ESDC pP pP 08 48 09.2 -0.1
comp=Z,9.6nm,0.9s,baz=244,slow=4.7,SNR=4.1
ESDC LR LR 09 20 45.1
comp=Z,207nm,21.3s,baz=330,slow=32
ESDC Sonseca Array 85.00 44 P P 08 47 41.6 -0.9
comp=Z,50nm,1.6s,mb5.2
ESLA Sonseca Array 85.00 44 *eP* **P 08 47 43.0 +0.5**
comp=Z,3.0nm,0.9s,mb4.2
MAW Mawson 85.19 163 *eP* **P 08 47 43.3 +0.2**
comp=Z,15nm,0.6s,mb5.1
MAW epP pP 08 48 10.6 +0.8
MAW *eS* S 08 58 03.0 -1.3
MAW *es*S sS 08 58 50.9 +0.7
MAW Mawson 85.19 163 P P 08 47 43.5 +0.3
comp=Z,16nm,0.6s,mb5.1,baz=228,slow=6.2,SNR=80
MAW pP pP 08 48 10.6 +0.8
comp=Z,10nm,0.7s,baz=221,slow=7.0,SNR=4.7
MAW LR LR 09 29 49.7
comp=Z,153nm,18.1s,baz=239,slow=38
MAW Mawson 85.19 163 *eP* **P 08 47 43.3 +0.2**
MAW *e*PP pP 08 48 10.6 +0.8*
MAW *eS* S 08 58 03.0 -1.3
MAW pmax pmax
comp=Z,15nm,0.6s
LBTB Lobatse 85.23 115 *eP* **P 08 47 44.8 +0.6**
LBTB pmax pmax
comp=Z,10.0nm,0.8s,mb4.8
LBTB Lobatse 85.23 115 *eP* **P 08 47 44.8 +0.6**
comp=Z,10nm,0.8s,mb4.8
GUD Guadarrama 85.39 44 P P 08 47 42.8 -1.7
GUD pmax pmax
comp=Z,84nm,1.9s,mb5.3
GUD Guadarrama 85.39 44 P P 08 47 42.8 -1.7
comp=Z,84nm,1.9s,mb5.3
EVIA Vianos 85.44 46 P P 08 47 44.8 0.0
EVIA pmax pmax
comp=Z,14nm,0.8s,mb4.9
EVIA Vianos 85.44 46 P P 08 47 44.8 0.0
comp=Z,14nm,0.8s,mb5.0
ETOR Torete 86.84 44 P P 08 47 51.6 0.0
ETOR pmax pmax
comp=Z,17nm,2.3s,mb4.6
ETOR Torete 86.84 44 P P 08 47 51.6 0.0
comp=Z,17nm,2.3s,mb4.6
ECHE Chera 86.95 46 P P 08 47 52.2 0.0
ECHE pmax pmax
comp=Z,35nm,1.2s,mb5.2
ECHE Chera 86.95 46 P P 08 47 52.2 0.0
comp=Z,35nm,1.2s,mb5.2
SJPF Ste Jean 88.53 43 *eP* **P 08 48 00.0 +0.4**
comp=Z,55nm,1.3s,mb5.1
SJPF Ste Jean 88.53 43 *eP* **P 08 48 00.0 +0.4**
SJPF pmax pmax
comp=Z,28nm,1.3s,mb5.1
SJPF Ste Jean 88.53 43 *eP* **P 08 48 00.0 +0.4**
comp=Z,28nm,1.3s,mb5.1
ETSF Etsaut 88.85 43 *eP* **P 08 48 01.6 +0.5**
ROSF Rostrenen 89.97 37 *eP* **P 08 48 07.2 +1.0**
comp=Z,71nm,1.4s,mb5.3
ROSF Rostrenen 89.97 37 *eP* **P 08 48 07.2 +1.0**
ROSF pmax pmax
comp=Z,36nm,1.4s,mb5.3
ROSF Rostrenen 89.97 37 *eP* **P 08 48 07.2 +1.0**
comp=Z,36nm,1.4s,mb5.3
SGMF Saint Gilles 90.34 38 *eP* **P 08 48 06.5 -1.4**
YKA Yellowknife Ar 90.35 341 P P 08 48 07.2 -0.4
comp=Z,16nm,0.8s,mb5.2,baz=132,slow=4.3,SNR=15
YKA pP pP 08 48 34.8 +0.2
comp=Z,65nm,0.9s,baz=134,slow=4.7,SNR=15
YKA LR LR 09 29 09.8
comp=Z,33nm,20.7s,baz=215,slow=36
YKA Yellowknife Ar 90.35 341 P P 08 48 07.2 -0.4
YKA pP pP 08 48 34.9 +0.2
DRV Dumont d'Urvil 90.44 191 P P 08 48 10.0 +1.8
DRV Dumont d'Urvil 90.44 191 PP PP 08 51 40.0 -3.2
DRV S S 08 58 49.0 -5.3
DRV L 09 13 00.0
DRV R 09 18 00.0
LFF La Frestale 90.66 42 *eP* **P 08 48 09.4 -0.1**
comp=Z,49nm,0.7s,mb5.5
LFF La Frestale 90.66 42 *eP* **P 08 48 09.4 -0.1**
LFF pmax pmax
comp=Z,25nm,0.7s,mb5.5
LFF La Frestale 90.66 42 *eP* **P 08 48 09.4 -0.1**
comp=Z,25nm,0.7s,mb5.5
MTLF Montolieu 90.85 44 *eP* **P 08 48 10.0 -0.4**
comp=Z,39nm,1.3s,mb5.1
MTLF Montolieu 90.85 44 *eP* **P 08 48 10.0 -0.4**
MTLF pmax pmax
comp=Z,20nm,1.3s,mb5.1
MTLF Montolieu 90.85 44 *eP* **P 08 48 10.0 -0.4**
comp=Z,20nm,1.3s,mb5.1
MFF Saint Martin d 90.92 40 *eP* **P 08 48 10.5 -0.2**
comp=Z,25nm,0.8s,mb5.1
MFF epP pP 08 48 38.0 +0.3
MFF Saint Martin d 90.92 40 *eP* **P 08 48 10.5 -0.2**
MFF *e*PP pP 08 48 38.0 +0.3*
MFF pmax pmax
comp=Z,12nm,0.8s,mb5.1
MFF Saint Martin d 90.92 40 *eP* **P 08 48 10.5 -0.2**
comp=Z,12nm,0.8s,mb5.1
MFF epP pP 08 48 38.0 +0.3
RJF Les Rejaudoux 91.32 42 *eP* **P 08 48 12.2 -0.4**
comp=Z,15nm,0.8s,mb4.9
RJF *e*MLR MLR
comp=Z,422nm,19.2s
RJF Les Rejaudoux 91.32 42 *eP* **P 08 48 12.2 -0.4**
RJF pmax pmax
comp=Z,8.0nm,0.8s,mb4.9
RJF MLR MLR
comp=Z,420nm,19.3s
RJF Les Rejaudoux 91.32 42 *eP* **P 08 48 12.2 -0.4**
comp=Z,7.6nm,0.8s,mb4.9
RJF LR LR
comp=Z,420nm,19.3s
CAF Calviac 91.48 42 *eP* **P 08 48 13.1 -0.3**
comp=Z,16nm,0.8s,mb4.9
CAF Calviac 91.48 42 *eP* **P 08 48 13.1 -0.3**
CAF pmax pmax
comp=Z,8.0nm,0.8s,mb4.9
CAF Calviac 91.48 42 *eP* **P 08 48 13.1 -0.3**
comp=Z,8.1nm,0.8s,mb4.9
LDF La Druitiere 91.91 38 *eP* **P 08 48 14.5 -0.7**
MIR Mirnyy 92.09 173 *⇓i/P* **P 08 48 16.0 +0.1**
MIR *i* 08 48 54.0
TCF Toulx Ste Croi 92.21 41 *eP* **P 08 48 16.0 -0.7**
comp=Z,8.4nm,0.7s,mb4.8
TCF epP pP 08 48 43.6 0.0
TCF Toulx Ste Croi 92.21 41 *eP* **P 08 48 16.0 -0.7**
TCF *e*PP pP 08 48 43.6 0.0*
TCF pmax pmax
comp=Z,4.0nm,0.7s,mb4.8
TCF Toulx Ste Croi 92.21 41 *eP* **P 08 48 16.0 -0.7**
comp=Z,4.2nm,0.7s,mb4.8
TCF epP pP 08 48 43.6 0.0
BORG Borgarnes 92.45 18 P P 08 48 18.2 +0.8
comp=Z,37nm,1.0s,mb5.6,baz=296,slow=5.4,SNR=3.0
KEST Kesra 92.56 53 P P 08 48 19.2 +0.7
comp=Z,2.5nm,0.7s,mb4.7,baz=152,slow=5.3,SNR=6.1
KEST LR LR 09 30 40.1
comp=Z,139nm,18.6s,baz=95,slow=36
VIVF Saint-Julien-l 93.11 43 *eP* **P 08 48 20.8 -0.1**
VIVF epP pP 08 48 48.6 +0.8
AVF Avril sur Loir 93.14 41 *eP* **P 08 48 20.2 -0.8**
comp=Z,11nm,0.8s,mb4.9
AVF Avril sur Loir 93.14 41 *eP* **P 08 48 20.2 -0.8**
AVF pmax pmax
comp=Z,6.0nm,0.8s,mb5.0
AVF Avril sur Loir 93.14 41 *eP* **P 08 48 20.2 -0.8**
comp=Z,5.5nm,0.8s,mb4.9
SSF Saint Saulge 93.36 41 *eP* **P 08 48 21.1 -0.8**
comp=Z,13nm,0.8s,mb5.0
SSF Saint Saulge 93.36 41 *eP* **P 08 48 21.1 -0.8**
SSF pmax pmax
comp=Z,6.0nm,0.8s,mb5.0
SSF Saint Saulge 93.36 41 *eP* **P 08 48 21.1 -0.8**
comp=Z,6.3nm,0.8s,mb5.0

SMF	**Signal de Mont**	**93.38**	**41**	*e*P		**P**		**08 48 21.7**	**-0.3**
	comp=Z,22nm,0.8s,mb5.2								
SMF				*e*pP		pP		08 48 49.3	+0.3
SMF	**Signal de Mont**	**93.38**	**41**	*e*P		**P**		**08 48 21.7**	**-0.3**
SMF				*e**PP		pP		08 48 49.3	+0.3
SMF				pmax		pmax			
	comp=Z,11nm,0.8s,mb5.2								
SMF	**Signal de Mont**	**93.38**	**41**	*e*P		**P**		**08 48 21.7**	**-0.3**
	comp=Z,11nm,0.8s,mb5.2								
SMF				*e*pP		pP		08 48 49.3	+0.3
CASY	**Casey**	**93.45**	**180**	*e*P		**P**		**08 48 22.2**	**0.0**
DLBC	**Dease Lake**	**93.45**	**332**	*e*P		**P**		**08 48 22.3**	**+0.2**
DLBC				*e*pP		pP		08 48 50.6	+1.5
LOR	**Lormes**	**93.66**	**41**	*e*P		**P**		**08 48 22.4**	**-1.0**
LOR				*e*pP		pP		08 48 50.2	-0.1
LOR				*e*MLR		MLR			
	comp=Z,312nm,20.5s								
LOR	**Lormes**	**93.66**	**41**	*e*P		**P**		**08 48 22.4**	**-1.0**
LOR				*e*pP		pP		08 48 50.2	-0.1
LOR				LR		LR			
	comp=Z,310nm,20.5s								
EKA	**Eskdalemuir Ar**	**93.69**	**31**	P		**P**		**08 48 22.4**	**-0.9**
	comp=Z,3.5nm,0.8s,mb4.7,baz=246,slow=8.1,SNR=6.4								
FRF	**La Foret Royal**	**93.84**	**45**	*e*P		**P**		**08 48 24.4**	**+0.1**
FRF				*e*pP		pP		08 48 51.6	+0.4
POHA	**Pohakuloa**	**93.94**	**289**	*e*P		**P**		**08 48 25.2**	**-0.1**
	comp=Z,152nm,1.2s,mb6.2								
URZ	**Urewera**	**95.02**	**226**	LR		LR		09 21 12.8	
	comp=Z,241nm,19.5s,baz=100,slow=29								
GIVF	**Givet**	**95.48**	**38**	*e*P		**P**		**08 48 30.9**	**-0.7**
GIVF				*e*pP		pP		08 48 58.3	-0.3
HINF	**Hinteralfeld**	**95.73**	**41**	*e*P		**P**		**08 48 31.9**	**-0.9**
RAO	**Raoul Island**	**95.75**	**236**	LR		LR		09 20 57.8	
	comp=Z,264nm,20.3s,baz=1.7,slow=29								
RPZ	**Rata Peaks**	**95.87**	**219**	LR		LR		09 25 31.5	
	comp=Z,263nm,18.9s,baz=301,slow=31								
CDF	**Champ du Feu**	**96.23**	**41**	*e*P		**P**		**08 48 34.5**	**-0.6**
RES	**Resolute Bay**	**96.47**	**353**	*e*P		**P**		**08 48 33.5**	**-2.1**
	comp=Z,113nm,1.0s,mb6.2								
RES				*e*pP		pP		08 49 03.4	+0.8
GRF	**Grafenberg Arr**	**99.12**	**40**	*e*PP		PP		08 52 47.9	-4.1
CLZ	**Clausthal**	**99.39**	**38**	*e*PP		PP		08 52 50.8	-3.2
MOX	**Moxa**	**99.69**	**40**	*e*PP		PP		08 52 52.1	-4.2
MOX	**Moxa**	**99.69**	**40**	*e*PP		PP		08 52 50.9	-5.4
ROTZ	**Rotzenmuhle**	**99.75**	**41**	*e*PP		PP		08 52 52.6	-4.1
WET	**Wettzell**	**99.94**	**41**	*e*PP		PP		08 52 54.5	-3.8
WERN	**Wernitzgruen**	**100.03**	**40**	*e*PP		PP		08 52 55.8	-3.1
BSEG	**Bad Segeberg**	**100.11**	**36**	*e*PP		PP		08 52 56.8	-2.6
TANN	**Tannenbergstha**	**100.12**	**40**	*e*PP		PP		08 52 54.0	-5.6
GERES	**GERESS Array B**	**100.36**	**42**	PP		PP		08 52 58.4	-3.0
	comp=Z,0.6nm,0.3s,baz=234,slow=8.4,SNR=4.4								
KHC	**Kasperske Hory**	**100.37**	**41**	*e*PP		PP		08 52 56.0	-5.5
CLL	**Collm**	**100.74**	**39**	*e*P		Pdif		08 48 55.0	-0.4
CLL				*e*				08 59 29.0	
CLL				pmax		pmax			
	comp=Z,4.0nm,0.4s								
CLL				MLR		MLR			
	comp=Z,200nm,22.0s								
CLL	**Collm**	**100.74**	**39**	*e*PP		PP		08 52 58.8	-5.4
CLL	**Collm**	**100.74**	**39**	*e*Pdif		Pdif		08 48 55.0	-0.4
	comp=Z,4.0nm,0.4s								
CLL				*e*PP		PP		08 53 02.0	-2.2
CLL				*e*SKSac		SKSac		08 59 29.0	+4.4
CLL				*e*Sdif		Sdif		09 00 24.0	-0.2
CLL				*e*SP		SP		09 02 00.0	+5.5
CLL				*e*PPS				09 02 54.0	
CLL				LmV				09 30 00.0	
	comp=Z,200nm,22.0s								
FBE	**Freiberg**	**100.83**	**40**	*e*PP		PP		08 52 59.6	-5.3
BRG	**Berggiesshubel**	**101.16**	**40**	*e*PP		PP		08 53 02.4	-5.0
NOA	**NORSAR Array B**	**102.98**	**29**	PP		PP		08 53 19.1	-1.7
	comp=Z,3.6nm,1.0s,baz=247,slow=7.7,SNR=3.5								
HFS	**Hagfors**	**103.87**	**31**	PP		PP		08 53 21.8	-5.6
	comp=Z,4.8nm,1.0s,baz=255,slow=9.1,SNR=3.8								
ARCES	**ARCESS Array B**	**110.52**	**22**	PKKPbc		PKKPbc		09 04 38.1	-2.6
	comp=Z,5.3nm,0.9s,baz=57,slow=3.3,SNR=5.8								
AKASG	**Malin Array Be**	**110.56**	**42**	PKiKP		PKiKP		08 53 38.9	+0.1
	comp=Z,0.3nm,0.3s,baz=300,slow=2.1,SNR=3.2								
AKASG				PP		PP		08 54 07.9	-8.7
	comp=Z,3.1nm,0.9s,baz=256,slow=7.7,SNR=4.2								
BR131	**Keskin Array S**	**112.10**	**54**	*e*PKPdf		PKiKP		08 53 40.6	-1.5
OBN	**Obninsk**	**115.28**	**38**	⇓*i*PKIKP		PKPdf		08 53 46.8	-0.9
OBN				*i*				08 54 48.0	
OBN				*e*				08 57 18.8	
OBN				*e*				09 00 43.9	
OBN				*i* PS		PS		09 04 25.2	-5.9
OBN				*e*SS		SS		09 10 46.2	+6.4
OBN				pmax		pmax			
	comp=Z,8.0nm,0.7s								
OBN				MLR		MLR			
	comp=Z,200nm,16.0s								
STKA	**Stephens Creek**	**120.35**	**210**	*e*PKP		PKPdf		08 53 57.4	-0.9
	comp=Z,2.0nm,0.6s								
STKA				*e*pPKP		pPKPdf		08 54 26.1	-0.3
STKA	**Stephens Creek**	**120.35**	**210**	PKP		PKPdf		08 53 57.7	-0.7
	comp=Z,2.5nm,0.7s,baz=309,slow=2.0,SNR=9.3								
STKA				pPKP		pPKPdf		08 54 25.5	-0.9
	comp=Z,1.6nm,0.7s,baz=118,slow=5.3,SNR=3.1								
GNI	**Garni**	**120.64**	**55**	⇑*i*PKIKP		PKPdf		08 53 59.7	+1.2
FORT	**Forrest**	**126.50**	**198**	*e*PKP		PKPdf		08 54 08.6	-1.6
	comp=Z,8.7nm,0.5s								
FORT				*e*pPKP		pPKPdf		08 54 40.6	+2.3
CTA	**Charters Tower**	**127.09**	**222**	*e*PKP		PKPdf		08 54 10.6	-0.9
	comp=Z,5.8nm,1.5s								
CTA				*e*pPKP		pPKPdf		08 54 39.3	-0.3
ARU	**Arti**	**127.24**	**34**	PKIKP		PKPdf		08 54 11.6	+1.0
MUN	**Mundaring**	**127.57**	**185**	*e*PKP		PKPdf		08 54 11.4	-0.8
KLBR	**Kellerberrin**	**127.80**	**187**	*e*PKP		PKPdf		08 54 12.0	-0.6
	comp=Z,11nm,0.6s								
AKTK	**Aktyubinsk**	**128.78**	**41**	PKP		PKPdf		08 54 14.9	+1.1
AKTK				PP		PP		08 56 26.6	+5.1
AKTO	**Aktyubinsk**	**128.78**	**41**	PKP		PKPdf		08 54 14.9	+1.1
	comp=Z,2.2nm,0.7s,baz=249,slow=0.5,SNR=9.3								
AKTO				PP		PP		08 56 26.6	+5.1
	comp=Z,1.1nm,0.6s,baz=289,slow=9.1,SNR=4.4								
SEY	**Seymchan**	**129.30**	**337**	⇑*i*PKIKP		PKPdf		08 54 13.7	-0.7
ASAR	**Alice Springs**	**130.86**	**208**	PKP		PKPdf		08 54 17.4	-1.2
	comp=Z,7.3nm,0.8s,baz=129,slow=1.3,SNR=5.8								
ASAR				pPKP		pPKPdf		08 54 46.1	-0.6
	comp=Z,3.9nm,0.7s,baz=136,slow=2.0,SNR=4.9								
PETK	**Petropavlovsk-**	**131.92**	**324**	PKP		PKPdf		08 54 19.9	+0.3
	comp=Z,7.1nm,1.1s,baz=64,slow=18,SNR=4.7								
BVAR	**Borovoye Array**	**134.88**	**34**	PKP		PKPdf		08 54 24.5	-0.7
	comp=Z,2.0nm,0.7s,baz=276,slow=1.3,SNR=8.2								
BVAR				pPKP		pPKPdf		08 54 53.2	-0.1
	comp=Z,2.5nm,0.8s,baz=248,slow=2.4,SNR=2.7								
BVAR	**Borovoye Array**	**134.88**	**34**	PKP		PKPdf		08 54 24.4	-0.7
BVAR				pPKP		pPKPdf		08 54 53.2	-0.2
MBWA	**Marble Bar**	**137.75**	**192**	*e*PKPdf		PKPdf		08 54 29.6	-2.0
NVS	**Novosibirsk**	**139.71**	**25**	*i* PKIKP		PKPdf		08 54 34.6	+0.5
NVS				pmax		pmax			
	comp=Z,20nm,1.3s								
NVS				pmax		pmax			
	comp=N,2.0nm,0.6s								
NVS				pmax		pmax			
	comp=E,3.0nm,0.4s								
KURK	**Kurchatov**	**140.41**	**33**	PKhKP				08 54 30.2	
	comp=E,1.2nm,0.6s,baz=302,slow=3.3,SNR=4.8								
KURK				PKP		PKPdf		08 54 36.2	+0.8
	comp=E,3.7nm,0.6s,baz=300,slow=2.8,SNR=11								
KURK	**Kurchatov**	**140.41**	**33**	⇑*i*PKIKP		PKPdf		08 54 37.2	+1.7
ZAA0	**Zalesovo Array**	**141.00**	**25**	*e*PKPdf		PKPdf		08 54 33.5	-2.9
ZALV	**Zalesovo Beam**	**141.00**	**25**	PKhKP				08 54 29.6	
	comp=E,3.6nm,0.6s,baz=330,slow=4.3,SNR=7.0								
ZALV				PKP		PKPdf		08 54 36.7	+0.3
	comp=E,10.0nm,0.6s,baz=295,slow=2.6,SNR=18								
ZALV				pPKP		pPKPdf		08 55 03.3	-1.3
	comp=E,13nm,0.8s,baz=304,slow=2.8,SNR=5.4								
ZALV				SKPbc		SKPbc		08 58 04.7	+0.7
	comp=E,4.8nm,1.0s,baz=308,slow=3.6,SNR=3.7								
ZALV	**Zalesovo Beam**	**141.00**	**25**	PKIKP		PKPdf		08 54 36.7	+0.3
ZALV								08 55 03.3	
ZALV	**Zalesovo Beam**	**141.00**	**25**	PKP		PKPdf		08 54 36.7	+0.3
ZALV				pPKP		pPKPdf		08 55 03.3	-1.3
ZALV				SKPbc		SKPbc		08 58 04.7	+0.7
BOD	**Bodaibo**	**142.72**	**358**	*e*PKHKP				08 54 33.2	
BOD				pmax		pmax			
	comp=Z,6.0nm,0.7s								
MK31	**Makanchi Array**	**144.73**	**35**	*e*PKIKP		PKPdf		08 54 42.9	-0.3
MKAR	**Makanchi Array**	**144.73**	**35**	PKP		PKPdf		08 54 42.8	-0.5
	comp=Z,25nm,0.6s,baz=323,slow=4.2,SNR=219								
MKAR				pPKP		pPKPdf		08 55 10.8	-0.5
	comp=Z,22nm,0.8s,baz=318,slow=3.3,SNR=6.1								
KAD	**Karad**	**144.77**	**89**	*e*P		PKPdf		08 54 42.7	-1.5
AJM	**Ajmer**	**145.93**	**73**	*i* P		PKPdf		08 54 46.0	0.0
AJM				*ex*		x		08 55 15.0	
THN	**Thein Dam**	**146.16**	**62**	*e*P		PKPdf		08 54 46.6	+0.4
HABR	**Khabarovsk**	**146.23**	**331**	*e*PKP2		PKPdf		08 54 45.4	-0.4
HABR				*e*				09 01 46.2	
KLR	**Kul'dur**	**147.04**	**335**	*e*PKHKP				08 54 43.0	
SMLA	**Simla**	**147.62**	**64**	*i* P		PKPdf		08 54 50.5	+1.9
IRK	**Irkutsk**	**147.88**	**8**	*e*PKIKP		PKPdf		08 54 48.6	+0.2
IRK				*e*				08 55 21.1	
IRK				pmax		pmax			
	comp=Z,54nm,2.7s								
NDI	**New Delhi**	**148.04**	**69**	*e*P		PKPdf		08 54 48.0	-1.4
TLY	**Talaya**	**148.34**	**9**	*i* PKP2		PKPbc		08 54 53.7	+1.0
TLY				*e*PPS				09 11 16.9	
TLY				pmax		pmax			
	comp=Z,39nm,0.9s								
DDI	**Dehra Dun**	**148.52**	**65**	*e*P		PKPdf		08 54 49.0	-1.2
DDI				*ex*		x		08 55 16.0	
HYB	**Hyderabad**	**148.89**	**90**	*i* PKP		PKPdf		08 54 49.0	-2.1
HYB				*e*				08 55 24.0	
HYB	**Hyderabad**	**148.89**	**90**	*e*PKP		PKPdf		08 54 49.0	-2.1
HYB				*e*				08 55 24.0	
ZAK	**Zakamensk**	**149.55**	**10**	*e*PKHKP				08 54 51.6	
ZAK				*e*				08 58 27.9	
ZAK				pmax		pmax			
	comp=Z,14nm,1.4s								
WMQ	**Urumqi**	**149.56**	**35**	PKP		PKPdf		08 54 51.5	+0.1
WMQ				PKP2		PKPab		08 55 03.5	+2.2
WMQ				APKP				08 55 17.5	
WMQ				XPKP				08 55 28.5	
WMQ				SKKS		SKKSac		09 05 11.0	0.0
WMQ				PP		PP			
	comp=Z,254nm,6.9s								
WMQ				LR		LR			
	comp=N,258nm,28.8s								
WMQ				LR		LR			
	comp=E,140nm,26.5s								
WMQ				LR		LR			
	comp=Z,354nm,28.1s								
PTH	**Pithoragarh**	**150.50**	**66**	*ex*		PKPbc		08 55 00.0	+1.2
PTH				*ex*		x		08 58 34.4	
LGTI	**Lohaghat**	**150.55**	**66**	*ex*		PKPbc		08 55 00.2	+1.3
MDJ	**Mudanjiang**	**151.61**	**332**	PKP		PKPdf		08 54 54.5	0.0
MJAR	**Matsushiro Arr**	**151.63**	**310**	PKPbc		PKPbc		08 54 60.0	-1.2
	comp=Z,11nm,1.0s,baz=84,slow=1.5,SNR=21								
MJAR				PKPab		PKPab		08 55 08.6	-1.5
	comp=Z,2.0nm,0.4s,baz=94,slow=2.9,SNR=5.5								
MJAR				pPKPbc		pPKPbc		08 55 27.6	-1.6
	comp=Z,13nm,0.9s,baz=85,slow=1.2,SNR=7.2								
MAT	**Matsushiro**	**151.63**	**310**	PKP		PKPbc		08 55 00.1	-1.1
SONM	**Songino Array**	**152.48**	**7**	PKP		PKPdf		08 54 56.6	+0.9
	comp=Z,2.9nm,0.8s,baz=323,slow=0.6,SNR=14								
SONM				PKPbc		PKPbc		08 55 03.4	+0.7
	comp=Z,8.2nm,0.6s,baz=321,slow=1.3,SNR=36								
ULN	**Ulaanbaatar**	**152.52**	**6**	⇑*i*PKIKP		PKPdf		08 54 54.5	-1.3
ULN	**Ulaanbaatar**	**152.52**	**6**	*e*PKPdf		PKPdf		08 54 56.5	+0.7
ULN				*e*PKPbc		PKPbc		08 55 04.0	+1.2
KOLN	**Koldanda**	**153.74**	**69**	*e*P		PKPdf		08 54 57.7	-0.5
DANN	**Dangsing**	**153.78**	**67**	*e*P		PKPdf		08 54 58.2	0.0
	comp=Z,127nm,0.8s								
CN2	**Changchun**	**153.98**	**336**	*e*PKP		PKPdf		08 54 57.3	-0.7
CN2				*e*PKP2		PKPab		08 55 22.0	+2.3
CN2				APKP				08 55 24.0	
CN2				PP		PP		08 58 58.0	+4.0
CN2				PP		PP			
	comp=Z,200nm,6.0s								
GKN	**Gorkha**	**154.60**	**68**	*e*P		PKPdf		08 55 01.8	+2.4
DMN	**Daman**	**155.09**	**69**	*e*P		PKPdf		08 55 04.1	+4.0
KKN	**Kakani**	**155.20**	**68**	*e*P		PKPdf		08 55 04.5	+4.3
	comp=Z,72nm,0.8s								
PKIN	**Phulchoki**	**155.34**	**68**	*e*P		PKPdf		08 55 04.7	+4.3
PKI	**Pulchoki**	**155.36**	**68**	*e*P		PKPdf		08 55 04.8	+4.3
	comp=Z,36nm,0.8s								
GUN	**Gumba**	**155.70**	**67**	*e*P		PKPdf		08 55 05.3	+4.4
	comp=Z,31nm,0.5s								
JIRN	**Jiri**	**156.02**	**68**	*e*P		PKPdf		08 55 07.9	+6.6
RAMN	**Ramite**	**156.51**	**69**	*e*P		PKPdf		08 55 10.0	+8.0
	comp=Z,149nm,1.2s								
ODAN	**Odare**	**157.22**	**69**	*e*P		PKPdf		08 55 13.2	+10
	comp=Z,43nm,0.8s								
TAPN	**Taplejung**	**157.41**	**68**	*e*P		PKPdf		08 55 13.5	+10
	comp=Z,38nm,0.9s								
KSRS	**Korea Array**	**157.81**	**323**	PKP		PKPdf		08 55 03.0	-0.3
	comp=Z,4.7nm,1.0s,baz=72,slow=0.6,SNR=18								
KSRS				pPKP		pPKPdf		08 55 30.4	-1.1
	comp=Z,3.0nm,0.8s,baz=347,slow=1.7,SNR=4.4								
KSRS				PKPab		PKPab		08 55 35.8	-0.6
	comp=Z,6.3nm,0.8s,baz=69,slow=3.4,SNR=12								
GTA	**Gaotai**	**158.75**	**25**	PKP		PKPdf		08 55 05.5	+1.1
GTA				APKP				08 55 35.0	
GTA				XPKP				08 55 46.5	
GTA				PP		PP			
	comp=Z,46nm,6.6s								
GTA				LR		LR			
	comp=N,126nm,20.4s								
GTA				LR		LR			
	comp=E,114nm,19.8s								
GTA				LR		LR			
	comp=Z,226nm,21.0s								
HHC	**Hu-ho-hao-te**	**159.75**	**359**	*e*PKP		PKPdf		08 55 04.0	-1.5
HHC				XPKP				08 55 41.5	
HHC				PKS				08 58 36.8	
HHC				PP		PP		08 59 27.5	+2.0
HHC				SKS		SKSdf		09 01 58.5	-3.1
HHC				SKKS		SKKSac		09 06 04.3	-1.2
HHC				SS		SS		09 19 25.5	+1.3
HHC				PP		PP			
	comp=Z,91nm,6.5s								
HHC				LR		LR			
	comp=N,177nm,22.3s								
HHC				LR		LR			
	comp=E,194nm,20.0s								
HHC				LR		LR			
	comp=Z,273nm,22.6s								
BJI	**Beijing**	**160.12**	**349**	PKP		PKPdf		08 55 06.3	+0.4
BJI				PP		PP		08 59 31.0	+3.4
BJI				SS		SS		09 19 31.0	+2.7
BJI				LR		LR			
	comp=N,185nm,23.0s								
BJI				LR		LR			
	comp=E,186nm,19.9s								
BJI				LR		LR			
	comp=Z,168nm,30.7s								
SHL	**Shillong**	**161.43**	**71**	*e*P		PKPdf		08 55 10.0	+2.2
LZH	**Lanzhou**	**163.18**	**21**	*e*PKP		PKPdf		08 55 10.0	+0.8
LZH				APKP				08 55 35.5	
LZH				XPKP				08 55 46.0	
LZH				PP		PP		08 59 48.3	+4.2
LZH				SKKS		SKKSac		09 06 22.5	-0.9
LZH				SS		SS		09 20 02.0	+1.4
LZH				PP		PP			
	comp=Z,112nm,5.3s								
LZH				LR		LR			
	comp=E,360nm,20.0s								
LZH				LR		LR			
	comp=Z,530nm,21.0s								
XAN	**Xi'an**	**166.38**	**8**	PKP		PKPdf		08 55 11.8	-0.3
XAN				APKP				08 55 39.0	
XAN				XPKP				08 55 49.8	
XAN				SKS		SKSdf		09 02 03.5	-3.4
XAN				LR		LR			
	comp=N,75nm,28.0s								
XAN				LR		LR			
	comp=E,161nm,28.2s								
XAN				LR		LR			
	comp=Z,285nm,35.3s								
CMAR	**Chiang Mai Arr**	**168.15**	**98**	PKP		PKPdf		08 55 13.2	-0.6
	comp=Z,0.8nm,0.3s,baz=281,slow=1.6,SNR=11								
CMAR				pPKP		pPKPdf		08 55 41.7	-0.4
	comp=Z,2.4nm,0.9s,baz=258,slow=1.5,SNR=2.2								
CMAR				PKPab		PKPab		08 56 23.7	+1.3
	comp=Z,2.1nm,0.7s,baz=268,slow=5.7,SNR=3.6								
CMAR	**Chiang Mai Arr**	**168.15**	**98**	PKIKP		PKPdf		08 55 13.2	-0.6
CMAR								08 55 41.7	
KMI	**Kunming**	**170.87**	**58**	PKP		PKPdf		08 55 15.0	-0.3
KMI				PKP2		PKPab		08 56 34.5	+0.2
KMI				PP		PP		09 00 27.8	+2.9
KMI				SS		SS		09 21 19.0	-1.6
KMI				LR		LR			
	comp=N,153nm,30.7s								
KMI				LR		LR			
	comp=E,186nm,34.0s								
GYA	**Guiyang**	**172.72**	**35**	PKP		PKPdf		08 55 14.3	-1.8
GYA				APKP				08 55 42.5	
GYA				XPKP				08 55 53.8	
GYA				PKP2		PKPab		08 56 42.5	+0.2
GYA				PKS				08 58 45.5	
GYA				PP		PP		09 00 35.3	+2.1
GYA				SKS		SKSdf		09 02 06.0	-4.3
GYA				SKKS		SKKSac		09 07 09.8	-1.3
GYA				SS		SS		09 21 36.5	-0.5
GYA				PP		PP			
	comp=Z,190nm,9.4s								
GYA				LR		LR			
	comp=N,2μm,22.2s								
GYA				LR		LR			
	comp=E,1μm,24.8s								
GYA				LR		LR			
	comp=Z,2μm,24.4s								

MOS ***25*** *09:06:30.9±1.0,3764N×7173E,h110km,mb4.2/5,Error ellipse: s-maj=21.6km s-min=10.0km az=85.6*
ISCJB ***25*** *09:06:30.4±0.4,3744N±002×7196E±006,h135km±7km, mb4.0/8,Error ellipse: s-maj=7.4km s-min=3.7km az=3.0*
NEIC ***25*** *09:06:31.2±1.1,3771N×7176E,h91km±13km, mb4.1/2, Error ellipse: s-maj=20.8km s-min=10.1km az=134.0*
BJI ***25*** *09:06:32.5,3708N×7224E,h78km,mb3.9*
IDC ***25*** *09:06:34.5±8.7,3796N×7170E,h106km±59km, mb3.9/4, mb1 4.1/9,mb1mx3.7/25,mbtmp4.0/9,Error ellipse: s-maj=72.5km s-min=30.5km az=1.0*
NNC ***25*** *09:06:36.9±4.6,3794N×7162E,h153km±46km, mb3.3, mpv4.2,Error ellipse: s-maj=37.8km s-min=22.4km az=13.0*

ISC 25 09:06:31.5±0.3,3744N±002×7195E±006,h126km±6km, n66,σ1s24/91,mb4.2/8,4C-5D,Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CEP	**Cherat**	**3.60**	**181**	P	**Pn**	**09 07 28.0**	**+2.0**
CEP				S	**Sn**	**09 08 10.0**	**+2.0**
KBL	**Kabul**	**3.73**	**220**	*e*Pn	**Pn**	**09 07 28.4**	**+0.7**
KBL				*e*Sn	**Sn**	**09 08 11.6**	**+0.6**
KSH	**Kashi**	**3.78**	**55**	P	**Pn**	**09 07 31.0**	**+2.8**
KSH				S	**Sn**	**09 08 14.3**	**+2.2**
KSH				Smax			
	comp=N,481nm,0.3s						
KSH				Smax			
	comp=E,322nm,0.2s						
CHCP	**Chirah Chowk**	**3.92**	**164**	P	**Pn**	**09 07 33.2**	**+3.1**
THW	**Thamme Wali**	**4.63**	**182**	P	**Pn**	**09 07 40.4**	**+0.7**
AML	**Almayashu**	**4.88**	**15**	P	**Pn**	**09 07 43.0**	**+0.1**
	SNR=92						
UCH	**Uchtor**	**5.18**	**22**	P	**Pn**	**09 07 47.8**	**+1.0**
	SNR=5.2						
KZA	**Kyzart**	**5.29**	**28**	P	**Pn**	**09 07 48.4**	**+0.1**
	SNR=9.4						
EKS2	**Erkin-Say**	**5.41**	**14**	P	**Pn**	**09 07 49.7**	**-0.2**
	SNR=28						
SARP	**Sargodha**	**5.53**	**174**	P	**Pn**	**09 07 54.1**	**+2.4**
SARP				S	**Sn**	**09 08 53.0**	**-1.2**
AAK	**Ala-Archa**	**5.55**	**20**	P	**Pn**	**09 07 52.5**	**+0.6**
	SNR=41						
KBK	**Karagaybulak**	**5.70**	**23**	P	**Pn**	**09 07 53.2**	**-0.6**
	SNR=6.7						
KK31	**Karatay Array**	**5.77**	**349**	P	**Pn**	**09 07 53.4**	**-1.4**
	comp=E,22nm,0.5s,baz=171,slow=12,SNR=477						
KK31				S	**Sn**	**09 08 54.9**	**-4.9**
	comp=E,127nm,0.6s,baz=170,slow=21,SNR=22						
ULHL	**Ulahol**	**5.83**	**33**	P	**Pn**	**09 07 56.3**	**+0.7**
	SNR=13						
THN	**Thein Dam**	**5.87**	**147**	*e*P	**Pn**	**09 07 56.7**	**+0.4**
THN				*e*S	**Sn**	**09 09 01.8**	**-0.5**
CHMS	**Chumysh**	**5.96**	**20**	P	**Pn**	**09 07 57.5**	**+0.2**
	SNR=21						
USP	**Ospenovka**	**6.14**	**18**	P	**Pn**	**09 07 59.6**	**-0.2**
	SNR=10						
TKM2	**Tokmak 2**	**6.15**	**26**	⇓P	**Pn**	**09 08 00.3**	**+0.3**
	comp=E,13nm,0.6s						
TKM2				⇑S	**Sn**	**09 09 07.9**	**-1.0**
	comp=E,21nm,0.9s						
TKM2	**Tokmak 2**	**6.15**	**26**	P	**Pn**	**09 08 00.3**	**+0.4**
	SNR=20						
SDNR	**Sundarnagar**	**7.22**	**144**	*e*P	**Pn**	**09 08 14.0**	**-0.6**
SDNR				*e*S	**Sn**	**09 09 29.0**	**-6.1**
SMLA

AKTO	Aktyubinsk	16.38	327	P	Pn	09 10 12.3	-1.6
AKTO				S	S	09 13 02.1	-14
AKTO				pmax	pmax		
	comp=Z,2.0nm,0.3s						
ZAA0	Zalesovo Array	18.75	24	*e*P	P	09 10 40.8	+0.4
ZALV	Zalesovo Beam	18.75	24	P	P	09 10 41.1	+0.7
	comp=Z,2.3nm,0.3s,baz=218,slow=11,SNR=38						
ZALV	Zalesovo Beam	18.75	24	P	P	09 10 41.1	+0.7
ZALV				pmax	pmax		
	comp=Z,2.0nm,0.3s						
NVS	Novosibirsk	19.04	20	*e*P	P	09 10 43.4	-0.1
GTA	Gaotai	21.89	76	P	P	09 11 19.3	+5.1
GTA				AMB	AMB		
	comp=Z,5.0nm,0.7s,mb4.0						
AKASG	Malin Array Be	32.97	308	P	P	09 12 54.2	+0.2
	comp=Z,2.2nm,0.6s,mb4.2,baz=81,slow=6.8,SNR=8.4						
AKASG	Malin Array Be	32.97	308	P	P	09 12 54.2	+0.2
AKASG				pmax	pmax		
	comp=Z,2.0nm,0.6s						
AKASG	Malin Array Be	32.97	308	P	P	09 12 54.2	+0.2
JOF	Joensuu	35.45	329	*e*p	P	09 13 16.3	+1.1
	comp=Z,1.3nm,0.3s,mb4.2						
KAF	Kangasniemi	37.27	326	*e*p	P	09 13 31.6	+0.9
	comp=Z,0.7nm,0.3s,mb4.1						
KAF	Kangasniemi	37.27	326	*e*P	P	09 13 31.6	+0.9
KAF				pmax	pmax		
	comp=Z,1.0nm,0.3s,mb4.2						
KEV	Kevo	40.22	338	*e*p	P	09 13 56.3	+1.1
	comp=Z,0.5nm,0.2s,mb4.0						
KEV	Kevo	40.22	338	*e*P	P	09 13 56.3	+1.1
KEV				pmax	pmax		
	comp=Z,1.0nm,0.2s,mb4.3						
ARCES	ARCESS Array B	40.58	337	P	P	09 13 59.5	+1.3
	comp=Z,2.9nm,0.7s,mb4.2,baz=74,slow=4.4,SNR=14						
ARCES	ARCESS Array B	40.58	337	P	P	09 13 59.5	+1.3
ARCES				pmax	pmax		
	comp=Z,3.0nm,0.7s						
NB2	NORSAR Subarra	44.10	322	P	P	09 14 27.2	+0.4
	comp=Z,2.3nm,0.5s,mb4.2,baz=92,slow=7.9						
NOA	NORSAR Array B	44.10	322	P	P	09 14 27.5	+0.8
	comp=Z,2.6nm,0.5s,mb4.2,baz=94,slow=7.7,SNR=12						
NOA	NORSAR Array B	44.10	322	P	P	09 14 27.5	+0.7
NOA				pmax	pmax		
	comp=Z,3.0nm,0.5s						
NOA	NORSAR Array B	44.10	322	P	P	09 14 27.5	+0.8
INK	Inuvik	72.86	10	*e*P	P	09 17 47.8	+1.7
	comp=Z,72nm,1.1s						
YKA	Yellowknife Ar	80.28	3	P	P	09 18 29.6	+1.8
	comp=Z,2.5nm,0.6s,mb4.2,baz=350,slow=5.6,SNR=7.4						

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*NEIC **25** 09:50:16.0, 1798N×9957W, h67^{km}, MD3.8(MEX), After MEX.*

MEX 25 09:50:16.1±0.5**, 1798N×9957W, h66^{km}**±10^{km}**, MD3.8, Guerrero**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLIG	Platanillo	0.41	9	*e*P	Pn	09 50 26.6	-1.2
PLIG				*i* S	Sn	09 50 34.7	-1.6
CAIG	El Cayaco	1.15	216	*i* P	Pn	09 50 34.4	-1.9
CAIG				*i* S	Sn	09 50 49.9	-1.4
ACX	Acapulco	1.16	197	*i* P	Pn	09 50 35.5	-1.0
ACX				*i* S	Sn	09 50 49.3	-2.4
ZIIG	Zihuatanejo	1.84	259	*i* P	Pn	09 50 44.9	-0.7
ZIIG				*i* S	Sn	09 51 06.6	-1.4
PNIG	Pinotepa	2.10	139	*e*P	Pn	09 50 48.1	-0.9
PNIG				*i* S	Sn	09 51 12.8	-1.3

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*ISCJB **25** 09:53:26.8±0.7, 3239S±0.03×6975W±0.08, h126^{km}, Error ellipse: s-maj=10.0km s-min=3.6km az=179.0*
*NEIC **25** 09:53:26.8, 3240S×6972W, h126^{km}, MD3.6(GUC), After GUC.*
*GUC **25** 09:53:26.8±0.8, 3240S×6972W, h126^{km}±6^{km}, MD3.6, ML3.5*

ISC 25 09:53:27.0±0.8**, 3240S**±0.03×**698W**±0.1**, h135^{km}**±10^{km}**, n28,** σ0^{s}**53**/55**, 11C-2D, Mendoza Province**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JACH	Jahuel	0.72	247⇑	*i*P	Pn	09 53 47.9	-0.1
JACH				*i* S	Sn	09 54 03.5	-0.4
PTCH	Petorca	0.96	278	*e*P	Pn	09 53 50.0	0.0
PTCH				*i* S	Sn	09 54 07.5	+0.2
PTCH				AML	AML	09 54 09.2	
	comp=E,911nm,0.2s						
PTCH	Petorca	0.96	278	*e*P	Pn	09 53 50.0	0.0
PTCH				*i* S	Sn	09 54 07.5	+0.2
FCH	Farellones	1.01	203⇓	*i*P	Pn	09 53 50.4	0.0
FCH				*i* S	Sn	09 54 08.1	-0.1
FCH				AML	AML	09 54 09.2	
	comp=N,1µm,0.4s						
PEL	Peldehue	1.04	225⇑	*i*P	Pn	09 53 50.4	-0.4
PEL				*i* S	Sn	09 54 08.1	-0.7
PEL				AML	AML	09 54 09.1	
	comp=N,2µm,0.3s						
ROCH	El Roble	1.16	240⇑	*i*P	Pn	09 53 51.9	+0.1
ROCH				*i* S	Sn	09 54 11.1	+0.3
CLCH	Cerro Calan	1.16	211⇓	*i*P	Pn	09 53 51.8	-0.1
CLCH				*i* S	Sn	09 54 11.0	+0.1
CLCH				AML	AML	09 54 13.3	
	comp=E,1µm,0.5s						
SJCH	San Jose de Ma	1.32	200	*e*P	Pn	09 53 53.1	-0.4
SJCH				*e*S	Sn	09 54 13.0	-0.7
SJCH				AML	AML	09 54 14.6	
	comp=E,336nm,0.5s						
SJCH	San Jose de Ma	1.32	200	*e*P	Pn	09 53 53.1	-0.4
SJCH				*e*S	Sn	09 54 13.0	-0.7
PCH	Pirque	1.35	206	*e*P	Pn	09 53 53.8	0.0
ANTU	Antumapu	1.35	210	*e*P	Pn	09 53 53.6	-0.3
ANTU				*i* S	Sn	09 54 13.8	-0.6
ANTU				AML	AML	09 54 17.3	
	comp=E,793nm,0.3s						
ANTU	Antumapu	1.35	210	*e*P	Pn	09 53 53.6	-0.3
ANTU				*i* S	Sn	09 54 13.8	-0.6
RCDM	Rinconada Maip	1.37	217⇑	*i*P	Pn	09 53 54.0	0.0
RCDM				*i* S	Sn	09 54 14.4	-0.2
RCDM				AML	AML	09 54 16.1	
	comp=E,2µm,0.2s						
RCDM	Rinconada Maip	1.37	217⇑	*i*P	Pn	09 53 54.0	0.0
RCDM				*i* S	Sn	09 54 14.4	-0.2
LMEL	Las Melosas	1.48	193	*e*P	Pn	09 53 54.9	-0.3
LMEL				*i* S	Sn	09 54 18.5	+1.7
LMEL				AML	AML	09 54 30.1	
	comp=N,349nm,0.2s						
LMEL	Las Melosas	1.48	193	*e*P	Pn	09 53 54.9	-0.3
LMEL				S	Sn	09 54 18.5	+1.7
CHNG	Los Chungos	1.52	289	*e*P	Pn	09 53 55.8	+0.1
CHNG				*i* S	Sn	09 54 18.0	+0.5
TACH	Talagante	1.57	217⇑	*i*P	Pn	09 53 56.0	-0.1
TACH				*i* S	Sn	09 54 18.6	+0.1
CHCH	Chadas Angostu	1.68	205⇑	*i*P	Pn	09 53 57.6	+0.1
CHCH				*i* S	Sn	09 54 20.9	+0.1
LCCH	Las Cruces	1.82	234	*e*P	Pn	09 53 59.0	-0.1
LCCH				*i* S	Sn	09 54 24.5	+0.8
CACH	El Canelo	1.83	201⇑	*i*P	Pn	09 54 00.1	+0.8
CACH				*i* S	Sn	09 54 24.8	+0.8
CICH	Cipreses	1.98	195	*e*P	Pn	09 54 01.4	+0.4
CICH				*i* S	Sn	09 54 27.3	+0.2
LNV	Longovilo	2.05	220	*e*P	Pn	09 54 01.0	-0.9
LNV				*i* S	Sn	09 54 27.6	-1.0
OVCH	Ovalle	2.15	326	*i* P	Pn	09 54 03.4	+0.3
OVCH				*i* S	Sn	09 54 30.5	-0.2
TLL	Tololo Astrono	2.38	339⇑	*i*P	Pn	09 54 06.8	+0.8
TLL				*i* S	Sn	09 54 36.9	+1.0
TLL				AML	AML	09 54 39.1	
	comp=E,176nm,0.3s						
TLL	Tololo Astrono	2.38	339⇑	*i*P	Pn	09 54 06.8	+0.8
TLL				*i* S	Sn	09 54 36.9	+1.0
SFDO	San Fernando	2.42	204⇑	*i*P	Pn	09 54 06.2	-0.2
SFDO				*i* S	Sn	09 54 36.7	-0.1
LCO	Las Campanas	3.46	347	*e*Pn	Pn	09 54 19.7	-0.2
LCO				*e*Sn	Sn	09 54 59.5	-1.2

IDC 25 10:01:11.4±2.1**, 280S×14023E, h39^{km}**±7^{km}**, mb3.9**/3**, mb1 4.1**/3**, mb1mx3.6**/12**, mbtmp4.0**/3**, MS3.6**/6**, Ms1 3.6**/6**, ms1mx3.2**/21**, Error ellipse: s-maj=68.9km s-min=14.9km az=89.0, Near north coast of Irian Jaya**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	Guam	16.92	16	LR	LR	10 11 19.5	
	comp=Z,105nm,18.5s,baz=108,slow=36						
CTA	Charters Tower	18.16	162	LR	LR	10 12 31.8	
	comp=Z,256nm,21.9s,baz=192,slow=38						
ASAR	Alice Springs	21.63	196	P	P	10 05 58.0	-0.4
	2.2nm,0.4s,baz=23,slow=10,SNR=52						
ASAR				pP	pP	10 06 10.2	+2.0
	11nm,0.8s,baz=29,slow=8.8,SNR=14						
ASAR				S	S	10 09 54.0	-1.9
	2.2nm,0.9s,baz=15,slow=26,SNR=4.7						
STKA	Stephens Creek	28.95	178	LR	LR	10 19 43.0	
	comp=Z,248nm,21.6s,baz=19,slow=38						
KSRS	Korea Array	41.65	345	LR	LR	10 23 51.3	
	comp=Z,36nm,18.2s,baz=280,slow=33						
CMAR	Chiang Mai Arr	45.80	299	P	P	10 09 28.1	-1.6
	1.2nm,0.3s,baz=122,slow=5.3,SNR=7.3						
CMAR				pP	pP	10 09 39.7	-1.2
	1.5nm,0.4s,baz=125,slow=6.6,SNR=2.4						
PETK	Petropavlovsk-	57.61	12	LR	LR	10 31 12.1	
	comp=Z,75nm,21.3s,baz=225,slow=31						
MKAR	Makanchi Array	70.79	322	P	P	10 12 25.0	+1.1
	1.2nm,0.4s,baz=99,slow=8.1,SNR=18						
MKAR				pP	pP	10 12 36.8	+1.2
	1.5nm,0.7s,baz=129,slow=4.8,SNR=6.3						
YKA	Yellowknife Ar	99.46	27	LR	LR	10 56 40.2	
	comp=Z,23nm,19.2s,baz=210,slow=34						
TORD	Torodi Ar. Bea	137.74	286	PKP	PKPdf	10 20 33.4	+0.8
	508nm,0.4s,baz=97,slow=2.7,SNR=2.0						
KIC	Kosan Boka	144.91	277	*e*PKP1	PKPdf	10 20 44.9	-0.6
	62nm,1.0s						
DBIC	Dimbokro	145.00	278	PKPbc	PKPbc	10 20 45.3	+0.3
	7.4nm,0.6s,baz=93,slow=4.2,SNR=16						
DBIC				pPKP	pPKPdf	10 20 56.4	-1.7
	2.4nm,0.6s,baz=84,slow=8.0,SNR=4.8						
TIC	Toumodi	145.16	278	*e*PKP1	PKPbc	10 20 45.7	+0.1
	19nm,0.2s						
LIC	Lamto	145.20	277	*e*PKP1	PKPbc	10 20 45.7	0.0
	43nm,1.1s						

CASC 25 10:11:40.2±2.3**, 1081N×8680W, h44^{km}**±157^{km}**, MD4.0, ML2.8, 4C-7D, Off coast of Costa Rica**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CRUN	El Crucero	1.26	23⇓	*e*P	Pn	10 12 02.0	+0.6
CRUN				AML	AML	10 12 24.5	
	comp=Z,114nm,0.4s						
APON	Apoyo	1.31	33⇓	*e*P	Pn	10 12 02.6	+0.5
TICN	Ticuantepe	1.33	24⇓	*e*P	Pn	10 12 02.4	0.0
CONN	Concepcion	1.37	57⇑	*e*P	Pn	10 12 03.1	+0.2
COPN	Copaltepe	1.38	8⇓	*i*P	Pn	10 12 02.7	-0.3
CSAN		1.41	15⇓	*e*P	Pn	10 12 02.9	-0.6
TISN	Laguna Tiscapa	1.42	21⇓	*e*P	Pn	10 12 03.4	-0.2
MGAN	Managua	1.43	22⇑	*e*P	Pn	10 12 03.5	-0.2
MGAN				AML	AML	10 12 12.8	
	comp=Z,184nm,0.2s						
MGAN				*e*S	Sn	10 12 22.7	+1.4
APYN	Apoyeque	1.48	17⇑	*e*P	Pn	10 12 04.4	+0.1
2RIO	Dos Rios de Up	1.56	100	*e*P	Pn	10 12 04.7	-0.8
2RIO				*e*S	Sn	10 12 22.9	-1.6
CUI	Cuipilapa	1.60	95	*e*P	Pn	10 12 05.1	-0.9
CUI				*e*S	Sn	10 12 25.1	-0.4
MOMN	Momotombo	1.61	9	*e*P	Pn	10 12 06.2	0.0
MIRN	Miramar	1.62	3⇓	*e*P	Pn	10 12 06.2	-0.1
HUEN		1.64	22⇑	*e*P	Pn	10 12 06.3	-0.2
TEL3	Telica 3	1.75	358	*e*P	Pn	10 12 08.2	+0.1
JCR	Jicaral	1.91	120	*e*P	Pn	10 12 10.6	+0.3
JCR				*e*S	Sn	10 12 33.1	0.0
CGA2	Cerro Gallo 2	2.42	109	*e*P	Pn	10 12 19.2	+1.9
CGA2				*e*S	Sn	10 12 47.0	+1.2
PRS1	Puriscal	2.58	108	*e*P	Pn	10 12 21.2	+1.8
PRS1				*e*S	Sn	10 12 50.1	+0.5
URSC	Urasca	3.12	108	*e*P	Pn	10 12 30.1	+3.1
BUS	Buena Vista	3.24	112	*e*P	Pn	10 12 29.8	+1.2
BUS				*e*S	Sn	10 13 07.6	+1.7
LAPE	La Pedrera	15.37	101	*e*P		10 12 03.2	
LAPE				*e*S		10 12 19.5	

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*IDC **25** 10:20:26.0±3.1, 969S×10825E, h0^{km}, mb3.9/6, mb1 4.0/6, mb1mx3.8/15, mbtmp3.9/6, MS2.8/1, Ms1 2.8/1, ms1mx2.0/23, Error ellipse: s-maj=168.2km s-min=20.5km az=54.0*
*ISCJB **25** 10:20:28.7±1.0, 966S±0.10×1083E±0.1, h33^{km}, mb3.8/6, Error ellipse: s-maj=16.0km s-min=12.0km az=136.4*
*DJA **25** 10:20:31.5±1.5, 10S±9×108E±, h30^{km}±18^{km}, Mjma3.8/8, MLv4.2/8*

ISC 25 10:20:31.4±1.0**, 96S**±0.1×**1084E**±0.1**, h35^{km}, n15,** σ0^{s}**97**/13**, mb3.8**/6**, South of Jawa**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BJII	Banjamegara	2.62	31	P	Pn	10 21 11.3	+0.1
UGM	Wanagama	2.71	52	P	Pn	10 21 11.9	-0.6
LEM	Lembang	2.86	345	P	Pn	10 21 16.8	+2.3
JCJI	Jatiwangi	3.09	358	P	Pn	10 21 16.9	-0.9
SMRI	Semarang	3.26	39	P	Pn	10 21 20.2	+0.1
CBJI	Citeko	3.50	334	P	Pn	10 21 22.0	-1.4
SJI	Sawahan	3.84	61	P	Pn	10 21 28.3	+0.3
KAPI	Kappang	12.17	69	LR	LR	10 29 25.9	
	comp=Z,44nm,20.7s,baz=198,slow=44						
ASAR	Alice Springs	28.11	123	P	P	10 26 20.1	-0.1
	0.2nm,0.7s,mb2.9,baz=303,slow=9.2,SNR=4.8						
CMAR	Chiang Mai Arr	29.39	342	P	P	10 26 31.1	-0.4
	0.6nm,0.3s,mb3.8,baz=189,slow=11,SNR=4.2						
STKA	Stephens Creek	37.91	131	P	P	10 27 45.5	0.0
	2.1nm,0.8s,mb3.9,baz=346,slow=5.7,SNR=5.9						
SONM	Songino Array	57.21	358	P	P	10 30 16.2	+1.3
	0.7nm,0.5s,mb3.9,baz=181,slow=8.0,SNR=6.9						
MKAR	Makanchi Array	60.78	340	P	P	10 30 40.8	+1.1
	2.1nm,0.5s,mb4.5,baz=144,slow=8.4,SNR=25						
ZALV	Zalesovo Beam	66.38	345	P	P	10 31 15.2	-1.3
	0.4nm,0.3s,mb3.9,baz=108,slow=4.8,SNR=4.3						
TXAR	Lajitas Array	144.17	52	PKP	PKPdf	10 40 05.5	+1.3
	0.1nm,0.6s,baz=342,slow=1.1,SNR=2.6						

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*GII **25** 10:23:49.8±0.0, 3372N×3531E, h0^{km}, EXPLOSION*
*ISCJB **25** 10:23:51.5±1.0, 3363N±0.04×3539E±0.08, h0^{km}, Error ellipse: s-maj=10.2km s-min=4.3km az=21.0*
*CSEM **25** 10:23:52.7, 3360N×3543E, h0^{km}, ML2.8, After GRAL*
*GRAL **25** 10:23:52.7±0.4, 3360N×3543E, h0^{km}±227^{km}, MD2.8*

ISC 25 10:23:52.1±1.0**, 3363N**±0.04×**3540E**±0.08**, h0^{km}, n12,** σ0^{s}**68**/16**, Jordan - Syria region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BHL	Bhannes	0.34	37	*e*P	Pg	10 23 59.1	+0.4
BHL				*e*S	Sg	10 24 03.8	+0.6
RCY	Rachaya	0.38	113	*e*P	Pg	10 23 59.0	-0.3
RCY				*e*S	Sg	10 24 04.0	-0.2
HRI	Mount Hermon	0.46	143	Pg	Pg	10 24 00.4	-0.4
KSDI	Kefar Szold	0.49	154	Pg	Pg	10 24 01.2	-0.3
MMC7	Mount Meron ar	0.61	181	Pg	Pg	10 24 03.5	-0.2
MMB3	Mount Meron ar	0.61	181	Pg	Pg	10 24 03.2	-0.6
MMA0	Mount Meron ar	0.61	180	Pg	Pg	10 24 03.3	-0.6
MMC6	Mount Meron ar	0.62	181	Pg	Pg	10 24 03.6	-0.4
MMC5	Mount Meron ar	0.62	179	Pg	Pg	10 24 03.4	-0.6
MMC5				Sg	Sg	10 24 14.3	+2.3
KSHT	Keshet	0.73	152	Pg	Pg	10 24 06.0	-0.1
HWQ	Hawqa	0.79	35	*e*P	Pg	10 24 07.2	0.0
MMLI	Mount Malkishu	1.19	179	Pg	Pg	10 24 14.7	-0.2
MMLI				Sg	Sg	10 24 31.3	+1.0

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*GII **25** 10:37:14.5±0.0, 3491N×3658E, h0^{km}, EXPLOSION*
*ISCJB **25** 10:37:18.1±0.9, 3450N±0.06×3674E±0.09, h0^{km}, Error ellipse: s-maj=12.3km s-min=7.0km az=38.3*
*GRAL **25** 10:37:20.7±0.4, 3439N×3673E, h8^{km}±6^{km}, MD3.2*

ISC 25 10:37:18.5±0.9**, 3448N**±0.07×**3675E**±0.08**, h0^{km}, n11,** σ0^{s}**97**/16**, Jordan - Syria region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HWQ	Hawqa	0.70	254	*e*P	Pg	10 37 32.5	+0.6
HWQ				*e*S	Sg	10 37 41.4	+0.5
BHL	Bhannes	1.08	238	*e*P	Pg	10 37 38.7	-0.4
BHL				*e*S	Sg	10 37 51.8	-1.3
RCY	Rachaya	1.26	218	*e*P	Pg	10 37 41.0	-1.6
HRI	Mount Hermon	1.48	215	Pn	Pn	10 37 45.5	-0.8
KSDI	Kefar Szold	1.57	216	Pn	Pn	10 37 46.9	-0.8
YAYL	Yayladag	1.64	341	*i* P	Pn	10 37 49.1	+0.5
KSHT	Keshet	1.69	208	Pn	Pn	10 37 49.6	+0.4
HNTI	Hanita	1.92	224	Pn	Pn	10 37 52.4	+0.1
HNTI				Sn	Sn	10 38 20.1	+2.9
MMLI	Mount Malkishu	2.32	209	Pn	Pn	10 37 58.9	+0.9
MMLI				Sn	Sn	10 38 32.1	+5.0
HMDT	Nahal Hemdat	2.44	205	Pn	Pn	10 38 00.6	+0.9
HMDT				Sn	Sn	10 38 36.0	+5.7
GZT	Gaziantep	2.94	13	*i* P	Pn	10 38 06.0	-0.6

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*IDC **25** 10:58:22.1±1.1, 3433N×13773E, h297^{km}±12^{km}, mb3.2/3, mb1 3.2/7, mb1mx3.1/24, mbtmp3.3/7, Error ellipse: s-maj=31.7km s-min=15.2km az=63.0*
*ISCJB **25** 10:58:24.1±0.7, 3460N±0.08×13746E±0.07, h308^{km}±4^{km}, mb3.3/3, Error ellipse: s-maj=13.3km s-min=7.4km az=154.7*
*JMA **25** 10:58:24.4±0.2, 3459N×13742E, h310^{km}±2^{km}, M3.3*

ISC 25 10:58:24.9±0.7**, 3459N**±0.08×**13748E**±0.07**, h302^{km}**±4^{km}**, n22,** σ0^{s}**90**/36**, mb3.3**/3**, Near south coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAA	Atsumi	0.28	279	P	Pn	10 59 04.0	+0.7
JAA				*e*S	S	10 59 34.7	+0.8
JIE	Ise	0.66	253	P	Pn	10 59 04.6	+0.4
JIE				*e*S	S	10 59 35.9	+0.4
JYN	Shimob	1.26	44	P	Pn	10 59 07.3	+0.5
JGM	Miyama	1.27	331	P	Pn	10 59 07.5	+0.7
JGM				S	S	10 59 40.4	+0.2
JOD2	Odawara 2	1.49	63	P	Pn	10 59 09.1	+0.9
JOD2				S	S	10 59 45.8	+3.2
JWY	Kouya	1.60	257	P	Pn	10 59 09.1	+0.2
JWY				S	S	10 59 43.0	-1.0
JWZ	Kozaga	1.80	235	P	Pn	10 59 10.0	-0.4
JWZ				*e*S	S	10 59 45.5	-1.1
JWT	Wachi	1.84	293	P	Pn	10 59 10.8	+0.2
JWT				*e*S	S	10 59 45.7	-1.3
JRY	Ryogami san	1.84	39	P	Pn	10 59 11.6	+1.0
JRY				*e*S	S	10 59 48.3	+1.3
JKG	Kaga	1.93	331	P	Pn	10 59 11.4	+0.2
MJAR	Matsushiro Arr	2.04	17	P	Pn	10 59 12.5	+0.4
	6.0nm,0.3s,baz=188,slow=9.6,SNR=90						
MJAR				S	S	10 59 49.3	-0.4
	1.2nm,0.3s,baz=200,slow=16,SNR=15						
MAT	Matsushiro	2.04	17	P	Pn	10 59 12.6	+0.5
MAT				S	S	10 59 49.6	-0.1
MAT	Matsushiro	2.04	17	P	Pn	10 59 12.6	+0.5
MAT				S	S	10 59 49.4	-0.3
JAG	Ashikaga	2.44	41	P	Pn	10 59 15.0	-0.5
JAG				S	S	10 59 54.1	-1.8
BSO1	Boso 1	2.89	88	P	Pn	10 59 18.5	-1.2
BSO1				*e*S	S	11 00 02.8	-0.7
JHS	Saijyo	3.61	278	P	Pn	10 59 26.9	-0.1
KSRS	Korea Array	8.25	293	P	Pn	11 00 22.1	+0.6
	0.2nm,0.3s,baz=106,slow=13,SNR=9.9						
CBIJ	Chichi jima	8.49	150	P	Pn	11 00 18.1	-6.5
	7.6nm,0.3s,baz=263,slow=20,SNR=7.5						
CBIJ				S	S	11 01 49.8	-12
	10nm,0.3s,baz=295,slow=19,SNR=5.8						
ASAJ	Asahikawa	10.31	21	P	Pn	11 00 44.2	-2.3
	0.5nm,0.3s,baz=111,slow=7.0,SNR=6.3						
SONM	Songino Array	26.67	309	P	P	11 03 37.6	+1.2
	1.4nm,0.8s,mb3.5,baz=111,slow=8.4,SNR=10						
ZALV	Zalesovo Beam	41.27	315	P	P	11 05 40.2	-0.8
	0.4nm,0.3s,mb3.1,baz=116,slow=6.6,SNR=2.5						
ZALV				PcP	PcP	11 07 32.0	-1.1
	0.7nm,0.5s,baz=92,slow=4.5,SNR=4.1						
MKAR	Makanchi Array	42.76	304	P	P	11 05 53.2	+0.2
	1.1nm,0.7s,mb3.2,baz=89,slow=9.9,SNR=9.6						
MKAR				PcP	PcP	11 07 37.8	-0.5
	0.2nm,0.3s,baz=71,slow=5.0,SNR=4.2						

IDC 25 10:59:48.5±2.2**, 429S×10086E, h0^{km}, mb4.1**/6**, mb1 4.2**/6**, mb1mx3.9**/18**, mbtmp4.1**/6**, Error ellipse: s-maj=81.4km s-min=22.9km az=58.0, Southwest of Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	22.68	355	P	P	11 04 52.6	+0.9
	3.3nm,0.7s,baz=187,slow=8.7,SNR=18						
ASAR	Alice Springs	37.24	124	P	P	11 07 02.2	+0.1
	1.1nm,0.5s,baz=299,slow=7.7,SNR=27						
KSRS	Korea Array	48.57	29	P	P	11 08 32.6	-1.1
	1.0nm,0.7s,baz=223,slow=6.4,SNR=4.9						
SONM	Songino Array	52.13	5	P	P	11 09 01.1	+0.6
	3.4nm,0.7s,baz=185,slow=9.1,SNR=26						
SONM				PcP	PcP	11 10 11.4	-1.0
	0.3nm,0.5s,baz=178,slow=2.1,SNR=2.6						
MKAR	Makanchi Array	53.45	344	P	P	11 09 10.5	+0.2
	3.9nm,0.7s,baz=147,slow=8.4,SNR=25						
ZALV	Zalesovo Beam	59.56	349	P	P	11 09 53.3	-0.5
	3.1nm,0.7s,baz=169,slow=4.9,SNR=14						
TXAR	Lajitas Array	145.94	40	PKPbc	PKPbc	11 19 30.9	+0.1
	1.1nm,0.8s,baz=285,slow=1.0,SNR=10						

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*ISCJB **25** 11:02:32.8±0.3, 4087N±0.02×2870E±0.03, h10^{km}, Error ellipse: s-maj=3.6km s-min=3.2km az=26.0*
*CSEM **25** 11:02:32.4±0.1, 4085N×2869E, h10^{km}, MD2.8, Error ellipse: s-maj=1.1km s-min=0.9km az=135.0*
*NEIC **25** 11:02:32.4, 4085N×2869E, h5^{km}, MD2.7(ISK), After ISK.*
*ISK **25** 11:02:32.4, 4085N×2870E, h5^{km}, MD2.8*
*DDA **25** 11:02:33.2, 4081N×2867E, h18^{km}±2^{km}, Md3.1*

ISC 25 11:02:33.1±0.4**, 4085N**±0.02×**2868E**±0.03**, h1^{km}**±6^{km}**, n27,** σ0^{s}**76**/37**, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BGKT	Bogazkoy	0.34	12	PG	Pg	11 02 39.9	+0.3
BGKT				*e*SG	Sg	11 02 44.1	+0.2
BGKT	Bogazkoy	0.34	12	*i* Pg	Pg	11 02 39.9	+0.3
BGKT				Sg	Sg	11 02 44.9	+0.9
BGKT	Bogazkoy	0.34	12	Pg	Pg	11 02 39.9	+0.3
BGKT				Sg	Sg	11 02 44.9	+0.9
ISK	Istanbul-Kandi	0.36	53	PG	Pg	11 02 40.1	+0.1
ISK				*e*SG	Sg	11 02 45.1	+0.5
CTKS	Kestanelik-??a	0.41	341	PG	Pg	11 02 41.0	0.0
CTKS				*e*SG	Sg	11 02 46.9	+0.6
KLYT	Kilyos	0.48	34	PG	Pg	11 02 42.4	-0.1
KLYT	Kilyos	0.48	34	Pg	Pg	11 02 42.3	-0.1
SLVT	Silivri	0.52	317	*e*PG	Pg	11 02 43.3	+0.2
GEMT	Gemlik	0.57	137	*e*PG	Pg	11 02 43.7	-0.3
YLV	Yalova	0.60	118	*e*PG	Pg	11 02 43.7	-0.9
KCT	Karacabey	0.64	203	*e*PG	Pg	11 02 45.6	+0.3
CTYL	Yal??k??y-??at	0.69	335	*e*PG	Pg	11 02 46.2	-0.2
HRT	Hereke	0.75	92	*e*PG	Pg	11 02 47.2	-0.3
BNT	Bandirma	0.76	230	*e*PG	Pg	11 02 47.7	0.0
SILT	Sile	0.79	67	*e*PG	Pg	11 02 47.8	-0.4
ULDT	Uludag	0.79	154	*i* P	Pg	11 02 47.8	-0.4
ULDT				*i* S	Sg	11 02 59.9	+1.4
EDC	Edincik	0.80	231	*e*PG	Pg	11 02 48.2	-0.3
TKR	Tekirdag	0.88	279	*e*PG	Pg	11 02 50.0	0.0
ADVT	Abdulvahap	0.91	117	*e*PG	Pg	11 02 50.1	-0.4
MFT	Murefte	1.06	267	*e*PG	Pg	11 02 53.7	+0.2
SART	Tekirdag	1.15	262	*i* P	Pg	11 02 51.8	-3.5
SART				*i* S	Sg	11 03 09.9	-0.2
RKY	Sarkoy-Tekirda	1.15	262	*e*PN	Pn	11 02 54.8	-1.6
BALY	Balya	1.38	217	*i* P	Pn	11 02 58.2	-1.2
BALY				*i* S	Sg	11 03 17.0	-0.4
GULT	Gulveren	1.46	106	*e*PN	Pn	11 02 59.8	-0.8
EDRB	Edirne	1.77	305	*e*PN	Pn	11 03 04.8	0.0
DEMI	Demirci	1.81	179	*i* P	Pg	11 03 09.4	+1.6
DEMI				*i* S	Sn	11 03 29.8	+0.8
BOZC	Bozcaada	2.25	244	*i* P	Pn	11 03 11.5	0.0
BOZC				*i* S	Sn	11 03 41.5	+1.7

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*ISCJB **25** 11:26:10.6±1.0, 2985N±0.06×3631E±0.07, h0^{km}, Error ellipse: s-maj=8.6km s-min=7.7km az=145.2*
*GII **25** 11:26:10.8±1.6, 2981N×3628E, h0^{km}, ML1.8/2, EXPLOSION*
*SGS **25** 11:26:11.8, 3006N×3614E, h7^{km}*
*CSEM **25** 11:26:11.8, 3006N×3614E, h7^{km}, ML2.6, After SNSN*

ISC 25 11:26:10.8±1.0**, 2984N**±0.05×**3633E**±0.07**, h0^{km}, n16,** σ1^{s}**08**/18**, Western Arabian Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AQBJ	Aqaba	1.12	264	Pg	Pg	11 26 32.5	+0.3

AQBJ				Sg	Sg	11 26 49.0	+2.3	
HRFI	Mount Harif	1.14	280	Pg	Pg	11 26 31.8	-0.9	
EIL	Elat	1.21	262	Pg	Pg	11 26 33.5	-0.5	
ZFRI	Zfri	1.22	306	Pg	Pg	11 26 33.8	-0.5	
HQLS		1.23	244	P	Pg	11 26 33.1	-1.3	
MBRI	Mt Berech	1.23	268	Pg	Pg	11 26 33.7	-0.7	
MBRI				Sg	Sg	11 26 52.4	+2.0	
PRNI	Paran	1.25	294	Pg	Pg	11 26 33.5	-1.3	
JLOS		1.32	214	P	Pg	11 26 36.4	+0.1	
JLOS		1.32	214	P	Pg	11 26 36.3	+0.1	
KRMI	Paran Flat	1.42	282	Pn	Pn	11 26 36.6	-1.2	
RMNI	Mount Ramon	1.55	299	Pn	Pn	11 26 40.2	+0.5	
TBKS	Tabuk	1.63	173	P	Pn	11 26 42.3	+1.5	
MZDA	Masada	1.68	331	Pn	Pn	11 26 42.2	+0.7	
BDAS	Al Bad'	1.77	218	P	Pn	11 26 42.6	-0.1	
DSI	Dead Sea	1.90	335	Pn	Pn	11 26 45.9	+1.3	
RSHS		2.04	221	P	Pn	11 26 45.6	-0.9	

*BUC **25** 11:37:33.0±0.8, 4562N×2653E, h89^{km}±8^{km}, MD3.5/3, Error ellipse: s-maj=6.8km s-min=4.8km az=35.0*
*NEIC **25** 11:37:33.6, 4566N×2645E, h85^{km}, MG2.9(BUC), After BUC.*
*ISCJB **25** 11:37:34.2±0.5, 4565N±004×2660E±005, h82^{km}±5^{km}, Error ellipse: s-maj=7.1km s-min=5.4km az=23.8*
*CSEM **25** 11:37:36.9±0.1, 4576N×2641E, h40^{km}, MD3.5/3, Error ellipse: s-maj=4.5km s-min=3.4km az=132.0*
ISC 25 11:37:35.3±0.6, **4567N**±004×**2664E**±005, **h75**^{km}±6^{km}, **n26**, σ1§**16**/42, **8C-10D**, **Romania**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
PLOR	Plostina	0.18	3	⇑*i*P		Pn	11 37 45.7	-0.7
VRI	Vrincioaia	0.21	18	⇑P		Pn	11 37 46.1	-0.4
VRI				*i* S		Sn	11 37 55.8	+1.0
VRI	Vrincioaia	0.21	18	⇑P		Pn	11 37 46.1	-0.4
VRI				S		Sn	11 37 55.8	+1.0
ODB	Odobesti	0.31	70	⇑*i*P		Pn	11 37 47.4	+0.3
ODB				*i* S		Sn	11 37 59.2	+3.4
MLR	Muntele Rosu	0.52	250	⇑*i*P		Pn	11 37 47.7	-1.0
MLR				*i* S		Sn	11 37 57.7	-0.9
MLR	Muntele Rosu	0.52	250	⇑P		Pn	11 37 47.7	-1.0
MLR				S		Sn	11 37 57.7	-0.9
ISR	Istrita	0.55	187	⇓*i*P		Pn	11 37 48.8	-0.2
ISR				*i* S		Sn	11 38 00.2	+1.1
ISR	Istrita	0.55	187	⇓P		Pn	11 37 48.8	-0.3
ISR				S		Sn	11 38 00.2	+1.0
VARR		0.88	76	⇓*i*P		Pn	11 37 52.5	-0.1
VARR				*i* S		Sn	11 38 06.5	+1.1
CFR	Carcaliu	1.16	114	⇓*i*P		Pn	11 37 55.1	-0.9
CFR				*i* S		Sn	11 38 11.4	-0.2
HARR	Harsova	1.34	136	⇓*i*P		Pn	11 37 57.6	-0.7
HARR				*i* S		Sn	11 38 15.6	0.0
BUC1	Bucharest	1.39	198	*i* S		Sn	11 38 15.3	-1.4
TLCR		1.61	107	⇑*i*P		Pn	11 38 01.8	0.0
TLCR				*i* S		Sn	11 38 24.6	+2.8
TLCR		1.61	107	⇑P		Pn	11 38 01.8	0.0
TLCR				S		Sn	11 38 24.6	+2.8
TIRR	Tirgusor	1.75	133	⇓*i*P		Pn	11 38 02.8	-0.8
TIRR				*i* S		Sn	11 38 23.5	-1.6
TIRR	Tirgusor	1.75	133	⇓P		Pn	11 38 02.8	-0.8
BURAR	Bucovina Array	2.18	334	⇓*e*P		Pn	11 38 08.3	-1.1
BURAR				*i* S		Sn	11 38 34.8	-0.7
BURAR	Bucovina Array	2.18	334	⇓P		Pn	11 38 08.3	-1.1
BURAR				S		Sn	11 38 34.8	-0.6
DRGR		2.95	294	⇓*i*P		Pn	11 38 17.2	-2.5
DRGR				*i* S		Sn	11 38 48.8	-5.2
FGMS	Monte Sant'Ang 372nm,0.7s	8.69	247	Pn		Pn	11 39 38.7	+0.6
MS1	Monte Sant'Ang	8.70	247	*e*Pn		Pn	11 39 38.8	+0.6
RGNG	Rignano Grg	8.95	247	Pn		Pn	11 39 41.8	+0.2
FG2	Serracapriola 364nm,0.4s	9.16	249	Pn		Pn	11 39 46.9	+2.4
MIDA	Miranda 245nm,0.8s	9.83	250	Pn		Pn	11 39 55.8	+2.1
RNI2	Rionero Sannit 211nm,0.6s	9.87	251	Pn		Pn	11 39 57.1	+2.9
SGG	Gregorio Mates 242nm,0.6s	9.88	249	Pn		Pn	11 39 54.5	+0.2

*BJI **25** 11:38:26.7, 3893N×1986E, h24^{km}, mB5.0, mb4.8*
*LDG **25** 11:38:32.9±0.2, 3984N×2092E, h10^{km}, Mb5.0/11, Ms3.3/8, Error ellipse: s-maj=11.9km s-min=6.0km az=19.0*
*HLW **25** 11:38:33.4, 3963N×2085E, h33^{km}, Mb4.6*
*IDC **25** 11:38:33.1±0.5, 3982N×2083E, h0^{km}, mb4.5/18, mb1 4.5/27, mb1mx4.5/35, mbtmp4.4/27, ML4.3/7, MS3.6/22, Ms1 3.6/22, ms1mx3.4/42, Error ellipse: s-maj=11.1km s-min=10.2km az=54.0*
*BEO **25** 11:38:33.9±0.7, 3959N×2062E, ML4.5/2*
*ISCJB **25** 11:38:34.6±0.1, 3974N±001×2061E±001, h10^{km}, mb4.7/50, MS3.7/19, Error ellipse: s-maj=1.8km s-min=1.4km az=35.1*
*MOS **25** 11:38:35.9±1.4, 3975N×2067E, h26^{km}, mb4.7/24, Error ellipse: s-maj=4.3km s-min=2.9km az=91.9*
*NEIC **25** 11:38:35.9, 3975N×2070E, h24^{km}, mb4.8/20, ML4.2(PDG), ML4.4(ATH), ML5.1(THE), After ATH.*
*ATH **25** 11:38:35.9, 3975N×2070E, h24^{km}±1^{km}, MD4.4/19, ML4.4*
*PDG **25** 11:38:36.2±0.6, 3976N×2064E, h11^{km}±1^{km}, MD4.4/9, ML4.2/10, Error ellipse: s-maj=1.0km s-min=1.0km az=0.0*
*CSEM **25** 11:38:36.2±0.0, 3980N×2066E, h15^{km}, mb4.3/1, Ms3.3, Error ellipse: s-maj=1.1km s-min=0.9km az=47.0*
*SKO **25** 11:38:36.7, 3972N×2078E, h6^{km}, M4.1, ML4.3*
*THE **25** 11:38:37.0, 3975N×2077E, h2^{km}±1^{km}, ML5.1/14, Error ellipse: s-maj=2.0km s-min=0.8km az=270.0*
*TIR **25** 11:38:41.0±6.2, 4026N×2001E, h6^{km}±22^{km}, ML2.6*
*GII **25** 11:38:41.1±0.0, 3867N×2091E, h0^{km}±1^{km}, mb4.8/2, ML4.8/2*
ISC 25 11:38:37.1±0.3, **3972N**±001×**2066E**±001, **h19**^{km}±2^{km}, **n451**, σ1§**60**/552, **mb4.7**/50, **MS3.7**/19, **30C-20D**, **Greece-Albania border region**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
JAN	Janina	0.16	113	⇓*i*Pb		Pg	11 38 40.8	-0.8
JAN				*e*Sb		Sg	11 38 44.4	-0.2
JAN	Janina	0.16	113	⇓*i*PB		Pg	11 38 40.8	-0.8
JAN				*e*SB		Sg	11 38 44.4	-0.2
SRN	Sarande	0.53	288	*e*PG		Pg	11 38 47.3	-0.5
SRN				*i* SG		Sg	11 38 57.4	+2.4
KEK	Kerkira	0.66	270	*e*Pn		Pn	11 38 49.5	-1.9
KEK	Kerkira	0.66	270	*e*PN		Pn	11 38 49.5	-1.9
KBN	Korca	0.91	6	*e*PG		Pg	11 38 52.2	-2.6
KBN				*i* SG		Sg	11 39 06.6	-0.2
LKD	Levkas	1.01	180	P		Pb	11 38 55.8	+1.1
LKD				S		Sb	11 39 12.9	+4.1
KZN	Kozani	1.04	55	*e*Pn		Pn	11 38 54.6	-2.0
KZN				*e*Sn		Sn	11 39 09.6	-0.9
KZN	Kozani	1.04	55	*e*PN		Pn	11 38 54.6	-2.0
KZN				*e*SN		Sn	11 39 09.6	-0.9
THL	Klokotos Trika	1.06	98	P		Pb	11 38 54.5	-2.2
THL				S		Sn	11 39 10.5	-0.5
THL	Klokotos Trika	1.06	98	*e*Pb		Pb	11 38 55.0	-1.7
THL				Sn		Sn	11 39 10.5	-0.5
THL	Klokotos Trika	1.06	98	*e*PB		Pb	11 38 55.0	-1.7
THL				SN		Sn	11 39 10.5	-0.5
FNA	Florina	1.20	27	P		Pn	11 38 57.3	-1.5
FNA				S		Sb	11 39 16.6	+2.4
EVR	Evrytania	1.20	132	*e*Pn		Pn	11 38 58.7	-0.1
EVR				*e*Sn		Sn	11 39 14.6	+0.1
EVR	Evrytania	1.20	132	*e*PN		Pn	11 38 58.7	-0.1
EVR				*e*SN		Sn	11 39 14.6	+0.1
BIA	Bitola	1.40	21	*e*Pg		Pg	11 39 00.6	-3.4
BIA				*e*Sg		Sg	11 39 22.0	-0.2
BIA	Bitola	1.40	21	P		Pn	11 39 00.3	-1.2
BIA				S		Sn	11 39 21.8	+2.4
BIA	Bitola	1.40	21	*e*Pg		Pg	11 39 01.3	-2.7
BIA				*e*Sg		Sg	11 39 19.8	-2.4
BIA				*e*Lg			11 39 22.6	
	comp=N,4μm,0.7s							
BIA				*e*Lg			11 39 23.2	
	comp=E,4μm,0.6s							
BIA	Bitola	1.40	21	*e*Pg		Pg	11 39 01.2	-2.8
BIA				S		Sn	11 39 21.8	+2.4
BIA				*e*Sg		Sg	11 39 22.0	-0.2
OHR	Ohrid	1.40	4	*e*Pn		Pn	11 39 01.9	+0.4
OHR				*e*Sg		Sg	11 39 23.0	+0.8
OHR	Ohrid	1.40	4	P		Pn	11 39 01.4	-0.1
OHR				S		Sn	11 39 22.7	+3.3
OHR	Ohrid	1.40	4	*e*Pg		Pg	11 39 01.6	-2.4
OHR				*e*Sg		Sg	11 39 21.0	-1.3
OHR				*e*Lg			11 39 23.3	
OHR				*e*Lg			11 39 23.5	
	comp=E,7μm,0.6s							
OHR	Ohrid	1.40	4	*e*Pn		Pn	11 39 01.9	+0.4
OHR				*e*Sg		Sg	11 39 20.9	-1.3
OHR				S		Sn	11 39 22.7	+3.3
LIT	Litokhoron	1.46	74	P		Pn	11 39 01.3	-1.1
LIT				S		Sn	11 39 22.6	+1.7
AGG	Agios Georgios comp=E,8μm,0.8s	1.47	118	P		Pn	11 39 03.0	+0.5
AGG				S		Sn	11 39 24.7	+3.5
VLS	Valsamata	1.54	182	P		Pn	11 39 05.5	+2.0
VLS				S		Sn	11 39 26.1	+3.2
VLS	Valsamata	1.54	182	*e*Pn		Pn	11 39 05.6	+2.1
VLS				*e*Sn		Sn	11 39 25.0	+2.1
VLS				S		Sn	11 39 26.1	+3.2
VLS	Valsamata	1.54	182	*e*Pn		Pn	11 39 05.6	+2.1
VLS				*e*Sn		Sn	11 39 25.0	+2.1
VLS	Valsamata	1.54	182	*e*PN		Pn	11 39 05.6	+2.1
VLS				*e*SN		Sn	11 39 25.0	+2.1
KFL	Anninata	1.61	176	P		Pn	11 39 06.4	+2.0
KFL				S		Sn	11 39 30.0	+5.4
KRUS	Krusevo	1.71	15	*e*Pn		Pn	11 39 06.8	+1.0
KRUS				*e*Sg		Sg	11 39 30.4	-1.8
KRUS	Krusevo	1.71	15	*e*PN		Pn	11 39 06.7	+0.9
KRUS				*e*Sg		Sg	11 39 30.4	-1.8
TIR	Tirane	1.74	340	*e*PN		Pn	11 39 07.8	+1.6
TIR	Tirane	1.74	340	*e*Pg		Pg	11 39 07.5	-3.0
RLS	Riolos of Patr	1.77	159	*e*Pn		Pn	11 39 08.1	+1.4
RLS	Riolos of Patr	1.77	159	*e*PN		Pn	11 39 08.1	+1.4
GRG	Griva	1.82	47	P		Pn	11 39 07.1	-0.2
GRG				S		Sn	11 39 31.6	+1.8
QSH	Qafa e Shtames	1.89	343	*i* PN		Pn	11 39 10.0	+1.7
PHP	Peshkopia	1.97	355	*e*PN		Pn	11 39 12.1	+2.7
THE	Thessaloniki	1.99	62	P		Pn	11 39 10.1	+0.5
THE				S		Sn	11 39 35.4	+1.4
XOR	Xorichti	1.99	99	P		Pn	11 39 10.1	+0.4
HORT	Hortiatis	2.07	64	P		Pn	11 39 10.4	-0.3
HORT				S		Sn	11 39 37.3	+1.4
LKR	Lokris	2.11	120	P		Pn	11 39 12.7	+1.4
LKR	Lokris	2.11	120	*e*Pb		Pb	11 39 12.8	-1.9
LKR	Lokris	2.11	120	*e*PB		Pb	11 39 12.8	-1.9
VAY	Valandovo	2.17	42	P		Pn	11 39 11.5	+0.2
VAY				S		Sn	11 39 39.5	+1.2
VAY	Valandovo	2.17	42	*e*Pn		Pn	11 39 12.7	+0.6
VAY	Valandovo	2.17	42	*e*Pn		Pn	11 39 12.6	+0.5
VAY				S		Sn	11 39 39.5	+1.2
KNT	Kendrikon	2.24	49	P		Pn	11 39 12.8	-0.2
KNT				S		Sn	11 39 42.3	+2.2
PLG	Polygyros	2.24	72	P		Pn	11 39 12.3	-0.8
PLG				S		Sn	11 39 42.1	+2.0
PLG	Polygyros	2.24	72	*e*Pn		Pn	11 39 12.2	-0.9
PLG				S		Sn	11 39 42.1	+2.0
PLG	Polygyros	2.24	72	*e*PN		Pn	11 39 12.2	-0.9
STIP	Stip	2.29	30	*e*Pn		Pn	11 39 15.2	+1.4
STIP	Stip	2.29	30	P		Pn	11 39 14.7	+0.9
STIP	Stip	2.29	30	*e*Pn		Pn	11 39 14.5	+0.7
STIP	Stip	2.29	30	*e*Pn		Pn	11 39 14.4	+0.6
SKO	Skopje	2.33	14	P		Pn	11 39 16.6	+2.3
SKO				S		Sn	11 39 41.4	+3.7
SKO	Skopje	2.33	14	*e*Pn		Pn	11 39 15.6	+1.3
SKO	Skopje	2.33	14	P		Pn	11 39 16.6	+2.3
SKO				S		Sn	11 39 46.1	+3.7
PAIG	Paliouri	2.34	84	P		Pn	11 39 14.0	-0.4
PAIG				S		Sn	11 39 42.5	-0.1
SOH	Sokhos	2.34	61	P		Pn	11 39 14.8	+0.4
SOH				S		Sn	11 39 44.0	+1.4
PUK	Puka	2.39	346	*e*PN		Pn	11 39 16.5	+1.3
LTK	Loutraki	2.47	132	P		Pn	11 39 17.5	+1.2
ULC	Ulcinj	2.48	335	⇑*i*Pn		Pn	11 39 16.6	+0.2
ULC				*e*Sn		Sn	11 39 49.2	+3.0
AOS	Alonnisos	2.55	101	P		Pn	11 39 17.5	+0.1
OUR	Ouranopolis	2.62	75	P		Pn	11 39 18.5	+0.1
OUR				S		Sn	11 39 51.6	+1.9
BCI	Bajram Curri	2.68	351	*e*PN		Pn	11 39 21.9	+2.7
PE1	Pezze di Greco	2.70	295	*e*Pn		Pn	11 39 19.5	0.0
VLX	Vlachokerasia	2.71	150	P		Pn	11 39 22.2	+2.7
VLX				S		Sn	11 39 53.4	+1.7
ITM	Ithomi	2.72	158	*e*Pb		Pb	11 39 21.6	-3.5
ITM	Ithomi	2.72	158	*e*PB		Pb	11 39 21.6	-3.5
BUM	Brajici-Budva	2.90	333	⇓*i*Pn		Pn	11 39 22.2	0.0
BUM				*e*Sn		Sn	11 39 59.7	+3.2
PDG	Podgorica	2.91	339	*i* PG		Pn	11 39 23.0	+0.7
PDG				*i* SG		Sn	11 39 59.4	+2.7
PDG	Podgorica	2.91	339	⇓*i*Pn		Pn	11 39 23.0	+0.7
PDG				*e*Sn		Sn	11 39 59.4	+2.7
TTG	Podgorica	2.91	339	⇓*i*Pn		Pn	11 39 23.0	+0.7
TTG				*e*Sn		Sn	11 39 59.4	+2.7
PVY	Plav	2.92	350	⇑*i*Pn		Pn	11 39 23.9	+1.5
PVY				*e*Sn		Sn	11 40 00.0	+3.0
PVY	Plav	2.92	350	*i* PG		Pn	11 39 23.9	+1.5
PVY				*i* SG		Sn	11 40 00.0	+3.0
NVR	Nevrokopi	2.94	55	*e*Pn		Pn	11 39 23.0	+0.3
NVR	Nevrokopi	2.94	55	*e*PN		Pn	11 39 23.0	+0.3
PYL	PYLOS	2.94	163	P		Pn	11 39 23.8	+1.0
PYL				S		Sn	11 40 00.6	+3.0
NAIG	Nisos Aigina	2.96	131	*e*Pn		Pn	11 39 24.0	+1.1
NAIG	Nisos Aigina	2.96	131	*e*PN		Pn	11 39 24.0	+1.1
ATH	Athens Observa	2.96	125	*e*Pn		Pn	11 39 24.6	+1.6
ATH	Athens Observa	2.96	125	*e*PN		Pn	11 39 24.6	+1.6
DID	Didima	2.99	137	P		Pn	11 39 24.3	+0.8
DID				S		Sn	11 40 02.3	+3.5
PTL	Penteli	3.01	123	*e*Pn		Pn	11 39 25.0	+1.4
PTL	Penteli	3.01	123	*e*PN		Pn	11 39 25.0	+1.4
TIP	Timpagrande	3.07	261	P		Pn	11 39 24.7	+0.2
LTRZ	Laterza	3.07	288	Pn		Pn	11 39 24.3	-0.2
KVR	Kavouri	3.08	127	*e*Pn		Pn	11 39 26.0	+1.4
KVR	Kavouri	3.08	127	*e*PN		Pn	11 39 26.0	+1.4
HCY	Herceg Novi	3.18	330	⇑*i*Pn		Pn	11 39 25.9	-0.1
HCY				*e*Sn		Sn	11 40 05.8	+2.5
HCY	Herceg Novi	3.18	330	*i* PG		Pn	11 39 25.9	-0.1
HCY				*i* SG		Sn	11 40 05.8	+2.5
BAI	Bari	3.20	297	*e*Pn		Pn	11 39 26.0	-0.3
BEY	Berane	3.20	350	⇑*i*Pn		Pn	11 39 27.3	+1.0
BEY				*e*Sn		Sn	11 40 06.7	+2.8
IVA	Berane	3.20	350	⇑*i*Pn		Pn	11 39 27.3	+1.0
IVA				*e*Sn		Sn	11 40 06.7	+2.8
BARS	Barje	3.21	15	*e*Pn		Pn	11 39 28.0	+1.5
SG1	Sgolgore (BA)	3.24	291	*e*Pn		Pn	11 39 26.7	-0.2
ORI	Oriolo Calabro	3.26	277	Pn		Pn	11 39 29.2	+2.1
NKY	Niksic	3.33	339	⇑*i*Pn		Pn	11 39 28.7	+0.6
NKY				*e*Sn		Sn	11 40 09.8	+2.6
NKY	Niksic	3.33	339	*i* PG		Pn	11 39 28.7	+0.6
NKY				*i* SG		Sn	11 40 09.8	+2.6
GRI	Girifalco	3.41	256	Pn		Pn	11 39 29.3	+0.1
TREB	Trebinje	3.46	331	*e*Pn		Pn	11 39 29.8	-0.1
TREB				*e*Sn		Sn	11 40 09.5	-0.9
LIA	Limnos Island	3.49	86	P		Pn	11 39 30.2	-0.1
LIA				S		Sn	11 40 13.0	+2.0
LIA	Limnos Island	3.49	86	*e*Pn		Pn	11 39 30.5	+0.2
LIA	Limnos Island	3.49	86	*e*PN		Pn	11 39 30.5	+0.2
VLI	Veliai	3.49	148	*e*Pn		Pn	11 39 31.5	+1.2
VLI	Veliai	3.49	148	*e*PN		Pn	11 39 31.5	+1.2
BRY	Bratogost	3.56	334	⇓*i*Pn		Pn	11 39 31.2	0.0
BRY				*e*Sn		Sn	11 40 14.8	+2.2
SJES	Sjenica	3.58	352	*e*Pn		Pn	11 39 32.4	+0.9
SJES				*e*Sn		Sn	11 40 12.4	-0.8
PTRP	Pietrapertosa	3.62	284	Pn		Pn	11 39 33.2	+1.2
UPM	Unac-Piva	3.72	340	⇑*i*Pn		Pn	11 39 34.4	+1.0
UPM				*e*Sn		Sn	11 40 18.9	+2.2
PLE	Pljevlja	3.73	346	⇑*i*Pn		Pn	11 39 34.4	+0.8
PLE				*e*Sn		Sn	11 40 19.4	+2.4
CUC	Castrocucco	3.74	276	P		Pn	11 39 35.5	+1.8
STON	Ston	3.86	326	*e*Pn		Pn	11 39 34.4	-1.0
STON				Sn		Sn	11 40 18.5	-1.6
STON	Ston	3.86	326	*e*Pn		Pn	11 39 34.3	-1.0
STON				Sn		Sn	11 40 18.5	-1.6
PLD	Plovdiv	3.88	51	P		Pn	11 39 37.3	+1.6
PLD				S		Sn	11 40 23.2	+2.5
KYTH	Kithira	3.91	151	*e*Pn		Pn	11 39 39.0	+2.9
KYTH	Kithira	3.91	151	*e*PN		Pn	11 39 39.0	+2.9
MGR	Morigerati	3.95	278	Pn		Pn	11 39 37.9	+1.3
SOI	Samo	3.95	247	Pn		Pn	11 39 36.5	-0.1
RDO	Rodhopi	3.99	67	*e*Pn		Pn	11 39 36.7	-0.4
RDO	Rodhopi	3.99	67	*e*PN		Pn	11 39 36.7	-0.4
MRLC	Muro Lucano comp=E,206nm,0.7s	4.09	286	Pn		Pn	11 39 39.3	+0.8
SCLL	Scilla	4.12	251	Pn		Pn	11 39 38.5	-0.4
BOZC	Bozcaada	4.16	87	*i* P		Pn	11 39 39.8	+0.3
GRUS	Gruza	4.17	1	*e*Pn		Pn	11 39 40.1	+0.5
SGO	Sicignano comp=E,89nm,0.3s	4.19	283	Pn		Pn	11 39 40.9	+1.1
BOLS	Boljevac	4.22	13	*e*Pn		Pn	11 39 40.7	+0.4
MTTG	Motta San Giov	4.24	248	Pn		Pn	11 39 40.6	0.0
BBLS	Lazići	4.25	348	*e*Pn		Pn	11 39 41.1	+0.4
ALN	Alexandroupoli	4.28	72	P		Pn	11 39 41.1	-0.1
ALN				S		Sn	11 40 30.4	-0.2
PRK	Paraskevi	4.37	94	P		Pn	11 39 43.8	+1.4
PRK				S		Sn	11 40 35.1	+2.4
PRK	Paraskevi	4.37	94	*e*Pn		Pn	11 39 44.0	+1.6
PRK				S		Sn	11 40 35.1	+2.4
PRK	Paraskevi	4.37	94	*e*PN		Pn	11 39 44.0	+1.6
FG5	Orsara di Pugl comp=E,598nm,0.8s	4.40	293	Pn		Pn	11 39 44.8	+2.1
DIVS	Divibare	4.40	354	*e*Pn		Pn	11 39 42.9	+0.1
CHOS	Chios island	4.41	106	P		Pn	11 39 44.6	+1.7
CHOS				S		Sn	11 40 37.4	+3.7
SVIS	Svilajnac	4.56	5	*e*Pn		Pn	11 39 46.0	+1.0
APE	Apeiranthos	4.65	123	P		Pn	11 39 47.4	+1.1
APE	Apeiranthos	4.65	123	*c* P		Pn	11 39 47.5	+1.2
APE	Apeiranthos	4.65	123	⇑*i*P		Pn	11 39 47.5	+1.2
APE	Apeiranthos	4.65	123	*e*Pn		Pn	11 39 47.6	+1.3
APE	Apeiranthos	4.65	123	*e*PN		Pn	11 39 47.6	+1.3
AYVA	Ayvalik	4.68	93	*i* P		Pn	11 39 49.0	+2.3
URLA	Izmir	4.82	104	*i* P		Pn	11 39 50.6	+2.1
THR4	Thira Island,	4.96	130	P		Pn	11 39 52.2	+1.8
THR5	Thira Island,	4.96	130	P		Pn	11 39 51.9	+1.5
THR3	Thira Island,	4.99	130	P		Pn	11 39 52.8	+1.9
THR6	Thira Island,	5.03	130	P		Pn	11 39 53.0	+1.6
SART	Tekirdag	5.09	77	*i* P		Pn	11 39 52.3	+0.1
DJES	Djerdap	5.13	15	*e*Pn		Pn	11 39 53.8	+1.0
VAM	Vamos	5.14	146	*e*Pn		Pn	11 39 55.1	+2.1
VAM	Vamos	5.14	146	*e*PN		Pn	11 39 55.1	+2.1
HAVL	Avola comp=E,1μm,0.3s	5.15	239	Pn		Pn	11 39 50.5	-2.6
SMG	Samos	5.23	111	*e*Pn		Pn	11 39 56.3	+2.1
SMG	Samos	5.23	111	*e*PN		Pn	11 39 56.3	+2.1
JMB	Yambol	5.25	57	P		Pn	11 39 54.7	+0.2
JMB				S		Sn	11 40 55.0	+0.6
KDAG	Bornova	5.31	102	*i* P		Pn	11 39 58.2	+2.9
VAE	Valguarnera comp=E,4.3nm,0.3s,baz=344,slow=7.4,SNR=2.8	5.38	247	Pn		Pn	11 39 58.1	+1.9
VAE						Sn		Sn 11 41 01.6 +3.9
	comp=E,20nm,0.3s,baz=168,slow=19,SNR=5.9							
FGSL	Fruska Gora	5.47	354	*e*Pn		Pn	11 39 57.5	0.0
FGSL				*e*Sn		Sn	11 40 57.7	-2.1
IDI	Anoyia comp=E,12nm,0.3s,baz=316,slow=15,SNR=29	5.56	141	Pn		Pn	11 39 57.6	-1.1
IDI				Sn		Sn	11 40 60.0	-2.0
	comp=E,29nm,0.3s,baz=90,slow=23,SNR=9.5							
IDI				LR		LR	11 42 09.8	
	comp=E,183nm,19.6s,baz=276,slow=39							
IDI	Anoyia	5.56	141	Pn		Pn	11 39 57.6	-1.1
IDI				Sn		Sn	11 41 00.0	-2.0
SDI	San Donato	5.57	293	P		Pn	11 40 01.1	+2.2
SDI				pmax		pmax		
	comp=Z,54nm,0.4s							
SDI	San Donato comp=Z,54nm,0.4s	5.57	293	Pn		Pn	11 40 01.1	+2.2
INTR	Introdacqua comp=Z,343nm,0.8s	5.61	296	Pn		Pn	11 40 00.8	+1.4
BLY	Banja Luka	5.65	334	*e*Pn		Pn	11 40 00.1	+0.2
SIVA	Sivas	5.74	144	P		Pn	11 40 01.8	+0.6
BZS	Buzias

KIS MLR MLR
comp=Z,1μm,14.0s
KIS Kishinev 9.39 37 *e*P **Pn 11 40 53.0 +1.8**
KIS *e*S **Sn 11 42 41.0 +4.8**
KIS LRM 11 45 22.0
comp=Z,1μm,14.0s
NIE Niedzica 9.70 359 *e*P **Pn 11 40 57.9 +2.4**
STHS Stebnicka Huta 9.71 2 *e*PN **Pn 11 40 58.4 +2.9**
KEST Kesra 9.80 250 Pn **Pn 11 40 59.2 +2.3**
comp=Z,0.2nm,0.3s,baz=6.3,slow=4.4,SNR=12
KEST Sn **Sn 11 42 49.8 +3.4**
comp=Z,0.1nm,0.3s,baz=60,slow=20,SNR=3.9
RJOB Jochberg 9.82 327 *e*Pn **Pn 11 40 57.1 -0.1**
BALT Daday 9.85 75 *i* P **Pn 11 40 51.5 -6.0**
WTTA Wattenberg 9.99 322⇑ *i*Pn **Pn 11 40 57.4 -2.0**
WTTA ⇑ *i*Sn **Sn 11 42 46.7 -4.2**
BR131 Keskin Array S 10.00 86 *e*Pn **Pn 11 41 03.0 +3.3**
BR131 Keskin Array S 10.00 86 *e*Pn **Pn 11 41 03.0 +3.3**
KWP Kalwaria 10.02 8 *e*P **Pn 11 41 02.3 +2.5**
MORC Moravsky Berou 10.30 349⇓ *i*P **Pn 11 41 05.3 +1.7**
MORC Moravsky Berou 10.30 349 *e*Pn **Pn 11 41 03.7 +0.1**
GEC2 GERESS Array S 10.39 334 *e*P **Pn 11 41 05.7 +0.7**
GEC2 GERESS Array S 10.39 334 *e*Pn **Pn 11 41 05.7 +0.7**
GERES GERESS Array B 10.39 334 Pn **Pn 11 41 03.8 -1.2**
comp=Z,0.5nm,0.3s,baz=163,slow=14,SNR=6.9
GERES Sn **Sn 11 42 58.7 -2.1**
comp=Z,0.7nm,0.3s,baz=149,slow=23,SNR=2.7
GERES GERESS Array B 10.39 334 P **Pn 11 41 03.8 -1.2**
GERES 11 42 58.7
GERES pmax pmax
comp=Z,1.0nm,0.3s
GERES smax
comp=N,1.0nm,0.3s
DAVOX Davos/Dischmat 10.56 315 Pn **Pn 11 41 08.5 +1.3**
comp=N,1.3nm,0.3s,baz=151,slow=20,SNR=8.4
DAVOX Sn **Sn 11 43 02.3 -2.6**
comp=N,1.1nm,0.3s,baz=330,slow=20,SNR=2.3
DAVOX LR LR 11 44 41.6
comp=N,119nm,21.5s,baz=79,slow=35
DAVOS Davos 10.64 316 P **Pn 11 41 08.5 +0.1**
DAVOS 11 43 02.3
KHC Kasperske Hory 10.68 334 *e*P **Pn 11 41 07.8 -1.1**
KHC *ex* x 11 41 16.1
KHC *ex* x 11 41 24.3
KHC *ex* x 11 42 07.0
KHC AMS AMS 11 45 50.0
comp=N,800nm,19.4s
DPC Dobruska-Polom 11.06 345 *e*P **Pn 11 41 20.0 +5.9**
DPC *ex* x 11 41 29.5
DPC AMS AMS 11 45 50.0
comp=N,1μm,8.0s
DPC Dobruska-Polom 11.06 345 *e*P **Pn 11 41 20.0 +5.9**
DPC *e* 11 41 29.5
PRU Pruhonice 11.14 339 *e*P **Pn 11 41 14.3 -0.9**
comp=N,700nm,12.6s
PRU Pruhonice 11.14 339 *e*P **Pn 11 41 14.3 -0.9**
PRU AMS AMS 11 46 00.0
comp=N,700nm,12.6s
FRF La Foret Royal 11.16 295 *e*P **Pn 11 41 17.9 +2.3**
LMR La Mourre 11.21 293 *e*P **Pn 11 41 18.6 +2.5**
MBDF Montbardon 11.45 300 *e*P **Pn 11 41 21.6 +2.2**
comp=N,16nm,0.7s
MBDF Montbardon 11.45 300 *e*P **Pn 11 41 21.6 +2.2**
MBDF pmax pmax
comp=Z,8.0nm,0.7s
MBDF Montbardon 11.45 300 *e*P **Pn 11 41 21.6 +2.2**
comp=Z,7.9nm,0.7s
LPG La Plagne 11.76 304 *e*P **Pn 11 41 26.3 +2.7**
comp=Z,33nm,0.9s
LPG La Plagne 11.76 304 *e*P **Pn 11 41 26.3 +2.7**
LPG pmax pmax
comp=Z,17nm,0.9s
LPG La Plagne 11.76 304 *e*P **Pn 11 41 26.3 +2.7**
comp=Z,16nm,0.9s
LPL La Plagne 11.78 304 *e*P **Pn 11 41 26.2 +2.3**
comp=Z,16nm,0.6s
LPL La Plagne 11.78 304 *e*P **Pn 11 41 26.2 +2.3**
LPL pmax pmax
comp=Z,8.0nm,0.6s
LPL La Plagne 11.78 304 *e*P **Pn 11 41 26.2 +2.3**
comp=Z,7.8nm,0.6s
NKC Novy Kostel 12.00 334 AMS AMS 11 46 30.0
comp=Z,800nm,16.6s
BRG Berggiesshubel 12.11 339 *e*P **Pn 11 41 35.1 +6.7**
comp=Z,7.2nm,1.3s
BRG
comp=N,349nm,12.3s
BRG
comp=E,386nm,10.4s
BRG
comp=Z,641nm,22.5s
AKASG Malin Array Be 12.52 26 Pn **Pn 11 41 30.6 -3.5**
baz=211,slow=11,SNR=2.2
MOX Moxa 12.64 333 *e*PN **Pn 11 41 36.6 +0.9**
MOX
comp=Z,500nm,19.0s
MOX Moxa 12.64 333 *e*P **Pn 11 41 36.6 +0.9**
comp=Z,500nm,19.0s
CABF La Chapelle 12.66 308 *e*P **Pn 11 41 35.1 -0.9**
CLL Collm 12.76 338 *e*P **Pn 11 41 36.0 -1.3**
CLL *e*(PP) 11 41 47.0
comp=Z,12nm,1.1s
CLL Lm 11 46 54.0
comp=N,400nm,19.1s
CLL Lm 11 46 54.0
comp=E,300nm,20.9s
CLL Lm 11 46 54.0
comp=Z,500nm,19.3s
CLL Collm 12.76 338 *e*P **Pn 11 41 36.0 -1.3**
comp=Z,500nm,19.3s
HINF Hinteralfeld 12.83 314 *e*P **Pn 11 41 37.8 -0.5**
CDF Champ du Feu 12.95 317 *e*P **Pn 11 41 39.6 -0.3**
FYM Al Fayyum 13.14 136 P **Pn 11 41 37.1 -5.5**
HAU Haudompre 13.22 313 *e*P **Pn 11 41 42.2 -1.4**
comp=Z,9.9nm,0.3s
HAU *e*MLR MLR
comp=Z,169nm,22.2s
HAU Haudompre 13.22 313 *e*P **Pn 11 41 42.2 -1.4**
HAU pmax pmax
comp=Z,5.0nm,0.3s
HAU Haudompre 13.22 313 *e*P **Pn 11 41 42.2 -1.4**
comp=Z,4.9nm,0.3s
AWBH 13.26 147 P **Pn 11 41 39.0 -5.3**
KOT Kottamia 13.39 133 P **Pn 11 41 40.3 -5.7**
ANN Anapa 13.42 62 *e*P **Pn 11 41 45.2 -1.1**
ANN *e*S **Sn 11 44 17.1 +2.3**
ANN pmax pmax
comp=Z,20nm,0.9s
ANN Anapa 13.42 62 *e*P **Pn 11 41 45.2 -1.1**
comp=Z,20nm,0.9s
HSAF As Saff 13.48 135 P **Pn 11 41 41.7 -5.5**
HHAG Hagoal 13.52 133 P **Pn 11 41 42.4 -5.5**
HHAG S **Sn 11 44 00.7 -17**
HHAG Hagoal 13.52 133 P **Pn 11 41 42.4 -5.5**
comp=Z,2μm,0.5s
HHAG S **Sn 11 44 00.7 -17**
GLL Jalalah 13.59 135 P **Pn 11 41 42.9 -5.9**
MMAI Mount Meron Ar 13.63 115 Pn **Pn 11 41 47.4 -1.8**
comp=Z,3.6nm,0.3s,baz=295,slow=11,SNR=4.0
MMAI Sn **Sn 11 44 18.5 -1.6**
comp=Z,3.1nm,0.3s,baz=314,slow=24,SNR=2.8
AMAG Maghara 13.68 128 P **Pn 11 41 44.6 -5.3**
AMAG S **Sn 11 44 04.6 -17**
KSDI Kefar Szold 13.71 114 Pn **Pn 11 41 48.4 -2.0**
HRSH Kfar Ka'horesh 13.72 116 P **Pn 11 41 45.7 -4.8**
RSH 13.77 125 P **Pn 11 41 45.7 -5.6**
MMLI Mount Malkishu 13.97 117 Pn **Pn 11 41 52.3 -1.6**
HFRF Wahat Farafira 14.06 151 P **Pn 11 41 50.2 -5.0**
SMF Signal de Mont 14.07 305 *e*P **Pn 11 41 54.1 -1.2**
HMDT Nahal Hemdat 14.15 117 Pn **Pn 11 41 54.4 -2.0**
LOR Lormes 14.32 307 *e*P **Pn 11 41 59.0 +0.4**
comp=Z,5.7nm,0.4s
LOR *e*MLR MLR
comp=Z,205nm,22.5s
LOR Lormes 14.32 307 *e*P **Pn 11 41 59.0 +0.4**
LOR pmax pmax
comp=Z,3.0nm,0.4s
LOR Lormes 14.32 307 *e*P **Pn 11 41 59.0 +0.4**
comp=Z,2.8nm,0.4s
SUW Suwalki 14.40 6 *e*P **Pn 11 42 01.5 +1.8**
AVF Avril sur Loir 14.44 305 *e*P **Pn 11 41 58.7 -1.6**
SSF Saint Saulge 14.45 306 *e*P **Pn 11 42 02.7 +2.3**
DSI Dead Sea 14.46 120 Pn **Pn 11 41 57.1 -3.4**
MZDA Masada 14.61 121 Pn **Pn 11 41 59.5 -3.1**
MZDA Sn **Sn 11 44 36.8 -7.2**

ZFRI Zfri 14.97 123 Pn **Pn 11 42 04.9 -2.8**
KRMI Paran Flat 14.98 125 Pn **Pn 11 42 03.9 -3.8**
PRNI Paran 15.00 124 Pn **Pn 11 42 04.1 -3.9**
PRNI Sn **Sn 11 44 44.4 -9.1**
ASF Jabal al Asfar 15.14 115 Pn **Pn 11 42 08.0 -1.9**
comp=Z,0.5nm,0.3s,baz=176,slow=8.3,SNR=3.7
ASF LR LR 11 49 12.4
comp=Z,144nm,19.6s,baz=8.5,slow=42
ASF Jabal al Asfar 15.14 115 P **Pn 11 42 08.0 -1.8**
ASF pmax pmax
comp=Z,1.0nm,0.3s
ASF MLR MLR
comp=Z,144nm,19.6s
HRFI Mount Harif 15.23 125 Pn **Pn 11 42 07.7 -3.3**
MBRI Mt Berech 15.32 126 Pn **Pn 11 42 07.8 -4.4**
MBRI Sn **Sn 11 44 51.3 -10**
EIL Elat 15.43 126 Pn **Pn 11 42 10.9 -2.7**
comp=Z,1.2nm,0.3s,baz=334,slow=9.1,SNR=12
EIL Sn **Sn 11 44 47.1 -17**
comp=Z,0.9nm,0.3s,baz=84,slow=23,SNR=2.3
EIL Elat 15.43 126 Pn **Pn 11 42 10.3 -3.4**
MNK Minsk 15.56 16 *e*P **Pn 11 42 13.0 -2.1**
HBST Basata 15.62 128 P **Pn 11 42 12.0 -4.0**
TR2 15.63 132 P **Pn 11 42 12.0 -4.3**
HKAT Jabal Katrina 15.68 131 P **Pn 11 42 12.9 -4.0**
HDK1 Dakhla 15.93 150 P **Pn 11 42 16.3 -3.8**
HHRG Al Ghardaqah 16.45 135 P **Pn 11 42 23.1 -3.7**
KIV Kislovodsk 16.94 68⇑ *e*P **Pn 11 42 31.8 -1.1**
KIV pmax pmax
comp=Z,25nm,1.3s
KIV Kislovodsk 16.94 68 *e*P **Pn 11 42 31.8 -1.1**
comp=Z,25nm,1.3s
GNI Garni 18.47 81 Pn **Pn 11 42 51.4 -0.4**
comp=Z,2.0nm,0.3s,baz=120,slow=20,SNR=6.0
GNI LR LR 11 51 23.7
comp=Z,114nm,19.3s,baz=125,slow=42
GNI Garni 18.47 81⇑ *e*P **Pn 11 42 50.9 -0.9**
GNI pmax pmax
comp=Z,22nm,1.8s
GNI Garni 18.47 81 *e*P **Pn 11 42 50.9 -0.9**
comp=Z,22nm,1.8s
GNI Garni 18.47 81 *e*P **Pn 11 42 51.6 -0.2**
comp=Z,8.1nm,0.6s
GNI LR LR 11 51 23.7
OBN Obninsk 18.72 29⇑ *e*P **Pn 11 42 52.7 -2.0**
OBN *e*S **Sn 11 46 17.2 -6.2**
OBN pmax pmax
comp=Z,48nm,1.0s
OBN MLR MLR
comp=Z,500nm,16.0s
OBN Obninsk 18.72 29 *e*P **Pn 11 42 52.7 -2.0**
comp=Z,48nm,1.0s
OBN *e*S **Sn 11 46 17.2 -6.2**
comp=Z,500nm,16.0s
ESDC Sonseca Array 18.94 278 P **Pn 11 42 58.0 +0.5**
comp=Z,0.6nm,0.3s,baz=71,slow=8.9,SNR=4.0
ESDC LR LR 11 49 37.6
comp=Z,91nm,20.4s,baz=90,slow=35
VSU Vasula 19.16 10 *i* P **Pn 11 42 58.8 -1.2**
HFS Hagfors 20.90 350 P **P 11 43 16.2 -1.8**
comp=Z,17nm,0.6s,baz=156,slow=11,SNR=24
HFS LR LR 11 51 56.7
comp=Z,185nm,18.6s,MS3.5,baz=344,slow=39
HFS Hagfors 20.90 350 P **P 11 43 16.2 -1.8**
HFS pmax pmax
comp=Z,17nm,0.6s
HFS MLR MLR
comp=Z,185nm,18.6s
KONO Kongsberg 21.14 344 *e*P **P 11 43 18.6 -2.0**
KONO pmax pmax
comp=Z,17nm,1.0s,mb4.3
KONO Kongsberg 21.14 344 *e*P **P 11 43 18.6 -2.0**
comp=Z,17nm,1.0s,mb4.3
KONO Kongsberg 21.14 344 *e*P **P 11 43 18.6 -2.0**
comp=Z,17nm,1.0s,mb4.3
MDT Midelt 21.47 259 P **P 11 43 23.1 -1.3**
comp=Z,2.9nm,0.9s,mb3.6,baz=309,slow=7.0,SNR=3.1
NAO01 NORSAR Array S 22.00 347 *e*P **P 11 43 26.7 -3.1**
comp=Z,18nm,0.7s,mb4.6
NAO01 NORSAR Array S 22.00 347 *e*P **P 11 43 26.7 -3.1**
comp=Z,18nm,0.7s,mb4.6
NB2 NORSAR Subarra 22.13 348 P **P 11 43 29.3 -1.9**
comp=Z,48nm,1.0s,mb4.9,baz=163,slow=11
NOA NORSAR Array B 22.13 348 P **P 11 43 28.7 -2.5**
comp=Z,18nm,0.8s,mb4.5,baz=165,slow=10,SNR=25
NOA LR LR 11 52 43.9
comp=Z,155nm,21.2s,MS3.4,baz=190,slow=39
NOA NORSAR Array B 22.13 348 P **P 11 43 28.7 -2.5**
NOA pmax pmax
comp=Z,19nm,0.8s
NOA MLR MLR
comp=Z,155nm,21.2s
EKA Eskdalemuir Ar 22.25 322 P **P 11 43 31.4 -1.1**
comp=Z,7.7nm,0.7s,mb4.2,baz=125,slow=10,SNR=19
EKA Eskdalemuir Ar 22.25 322 P **P 11 43 31.5 -1.0**
EKA pmax pmax
comp=Z,8.0nm,0.7s
KAF Kangasniemi 22.69 7 *ep* **P 11 43 35.0 -2.1**
comp=Z,3.3nm,0.4s,mb4.1
KAF Kangasniemi 22.69 7 *e*P **P 11 43 35.0 -2.1**
KAF pmax pmax
comp=Z,3.0nm,0.4s,mb4.1
RST Umm Al-Ruwaisa 23.88 107 *e*P **P 11 43 46.2 -3.2**
comp=Z,31nm,0.9s,mb4.7
RST Umm Al-Ruwaisa 23.88 107 *e*P **P 11 43 46.2 -3.2**
baz=107
RST AMb AMB 11 43 54.6
comp=Z,31nm,0.9s,mb4.7,baz=107
MIB Mutribah 23.97 106 *e*P **P 11 43 47.3 -2.9**
comp=Z,89nm,0.5s,mb5.5
MIB Mutribah 23.97 106 *e*P **P 11 43 47.3 -2.9**
baz=106
MIB AMb AMB 11 43 48.1
comp=Z,89nm,0.5s,mb5.5,baz=106
JOF Joensuu 24.10 12 *ep* **P 11 43 48.2 -2.9**
comp=Z,2.8nm,0.4s,mb4.0
NAY Al-Naaiem 24.19 107 *e*P **P 11 43 49.5 -2.8**
comp=Z,18nm,0.5s,mb4.7
NAY Al-Naaiem 24.19 107 *e*P **P 11 43 49.5 -2.8**
baz=107
NAY AMb AMB 11 43 50.2
comp=Z,18nm,0.5s,mb4.8,baz=107
UMR Umm Al-Rimmam 24.38 106 *e*P **P 11 43 51.5 -2.5**
comp=Z,55nm,0.7s,mb5.1
UMR Umm Al-Rimmam 24.38 106 *e*P **P 11 43 51.5 -2.5**
baz=106
UMR AMb AMB 11 43 52.3
comp=Z,55nm,0.7s,mb5.1,baz=106
AKTK Aktyubinsk 28.19 55 P **P 11 44 26.1 -2.1**
comp=Z,156nm,19.7s
AKTK Aktyubinsk 28.19 55 P **P 11 44 26.1 -2.1**
AKTK LR LR 11 57 40.1
AKTO Aktyubinsk 28.19 55 P **P 11 44 26.1 -2.1**
comp=Z,2.1nm,0.4s,mb4.1,baz=247,slow=7.0,SNR=14
AKTO LR LR 11 57 40.1
comp=Z,156nm,19.7s,MS3.6,baz=101,slow=41
AKTO Aktyubinsk 28.19 55 P **P 11 44 26.1 -2.1**
AKTO pmax pmax
comp=Z,2.0nm,0.4s,mb4.1
AKTO MLR MLR
comp=Z,156nm,19.7s,MS3.6
ARU Arti 29.85 43*d iP* **P 11 44 41.1 -1.8**
ARU *e*S **S 11 49 36.1 -2.5**
ARU *e*SS SS 11 51 07.2 -38
ARU pmax pmax
comp=Z,26nm,2.5s,mb4.5
ARU Arti 29.85 43 *i* P **P 11 44 41.1 -1.8**
comp=Z,26nm,2.5s,mb4.5
ARCES ARCESS Array B 29.99 3 P **P 11 44 41.6 -2.3**
comp=Z,5.5nm,0.6s,mb4.5,baz=189,slow=10,SNR=35
ARCES LR LR 11 55 31.9
comp=Z,112nm,19.7s,MS3.5,baz=50,slow=34
ARCES ARCESS Array B 29.99 3 P **P 11 44 41.6 -2.3**
ARCES pmax pmax
comp=Z,6.0nm,0.6s
ARCES MLR MLR
comp=Z,112nm,19.7s
ARCES ARCESS Array B 29.99 3 P **P 11 44 41.6 -2.3**
ARCES LR LR 11 55 31.9
KEV Kevo 30.29 4 *ep* **P 11 44 43.9 -2.7**
comp=Z,2.0nm,0.4s,mb4.2
KEV Kevo 30.29 4 *e*P **P 11 44 43.9 -2.7**
KEV pmax pmax
comp=Z,2.0nm,0.4s,mb4.2
SVE Sverdlovsk 31.07 43 *e*P **P 11 44 52.5 -1.1**
SVE pmax pmax
comp=Z,16nm,0.6s,mb5.0
SVE Sverdlovsk 31.07 43 *e*P **P 11 44 52.5 -1.1**
comp=Z,16nm,0.6s,mb5.0
TOA0 Torodi Ar. Sit 31.30 218 *e*P **P 11 44 55.5 -0.6**
TOA0 Torodi Ar. Sit 31.30 218 *e*P **P 11 44 55.5 -0.5**
TORD Torodi Ar. Bea 31.30 218 P **P 11 44 56.5 +0.4**
comp=Z,171nm,0.4s,baz=35,slow=9.3,SNR=1.9
TORD LR LR 11 59 50.4
comp=Z,88nm,20.2s,MS3.4,baz=10.0,slow=41
TORD Torodi Ar. Bea 31.30 218 P **P 11 44 56.5 +0.4**
TORD LR LR 11 59 50.4
BVAR Borovoye Array 36.06 52 P **P 11 45 34.9 -2.1**
comp=Z,1.0nm,0.4s,mb4.1,baz=260,slow=4.1,SNR=7.8
BVAR LR LR 12 01 01.5
comp=Z,78nm,21.0s,MS3.5,baz=270,slow=38
BVAR Borovoye Array 36.06 52 P **P 11 45 34.9 -2.2**
BVAR pmax pmax
comp=Z,1.0nm,0.4s
BVAR MLR MLR
comp=Z,78nm,21.0s
FRU Bishkek 40.09 67 *e*P **P 11 46 10.0 -1.2**
DBIC Dimbokro 40.10 222 P **P 11 46 12.9 +1.3**
comp=Z,5.0nm,0.7s,mb4.4,baz=358,slow=9.0,SNR=3.5
DBIC LR LR 12 04 07.1
comp=Z,130nm,18.7s,MS3.8,baz=32,slow=38
DBIC Dimbokro 40.10 222 P **P 11 46 12.9 +1.4**
DBIC pmax pmax
comp=Z,5.0nm,0.7s
DBIC MLR MLR
comp=Z,130nm,18.7s
TIC Toumodi 40.21 222 *e*P **P 11 46 16.4 +4.0**
comp=Z,15nm,0.2s,mb5.4
KIC Kosan Boka 40.31 221 *e*P **P 11 46 12.6 -0.6**
comp=Z,48nm,1.0s,mb5.2
LIC Lamto 40.57 221 *e*P **P 11 46 15.2 -0.2**
comp=Z,34nm,0.9s,mb4.7
LIC *e*MLR MLR
comp=Z,146nm,18.8s,MS3.6
LIC Lamto 40.57 221 *e*P **P 11 46 14.7 -0.7**
comp=Z,68nm,1.2s,mb5.2
LIC Lamto 40.57 221 *e*P **P 11 46 15.2 -0.2**
comp=Z,17nm,0.9s,mb4.7
LIC LR LR
comp=Z,70nm,18.8s,MS3.5
KURK Kurchatov 41.29 55 P **P 11 46 18.6 -2.3**
comp=Z,1.7nm,0.3s,mb4.1,baz=279,slow=9.4,SNR=14
KURK LR LR 12 05 43.9
comp=Z,2.2nm,20.7s,baz=225,slow=40
KURK Kurchatov 41.29 55⇑ *e*P **P 11 46 18.8 -2.1**
KURK Kurchatov 41.29 55 P **P 11 46 18.6 -2.3**
KURK LR LR 12 05 43.9
KMBO Kilima Mbogo 43.40 155 P **P 11 46 39.1 +0.7**
comp=Z,2.1nm,0.7s,mb4.0,baz=218,slow=23,SNR=4.4
KMBO LR LR 12 07 14.5
comp=Z,60nm,20.8s,MS3.5,baz=272,slow=40
KMBO Kilima Mbogo 43.40 155 P **P 11 46 39.2 +0.7**
KMBO pmax pmax
comp=Z,2.0nm,0.7s
KMBO MLR MLR
comp=Z,60nm,20.8s
KMBO Kilima Mbogo 43.40 155 *e*P **P 11 46 39.2 +0.7**
comp=Z,3.2nm,0.9s,mb4.0
KMBO Kilima Mbogo 43.40 155 *e*P **P 11 46 39.2 +0.8**
comp=Z,3.2nm,0.9s,mb4.0
KMBO LR LR 12 07 14.5
NVS Novosibirsk 43.56 48 *e*P **P 11 46 37.6 -1.8**
MK31 Makanchi Array 44.42 60 *e*P **P 11 46 44.8 -1.6**
MK31 Makanchi Array 44.42 60 *e*P **P 11 46 44.8 -1.6**
MKAR Makanchi Array 44.42 60 P **P 11 46 44.8 -1.6**
comp=Z,18nm,0.4s,mb5.1,baz=280,slow=7.4,SNR=218
MKAR LR LR 12 08 03.7
comp=Z,69nm,18.1s,MS3.6,baz=346,slow=40
ZAA0 Zalesovo Array 44.59 49 *e*P **P 11 46 45.5 -2.2**
ZAA0 Zalesovo Array 44.59 49 *e*P **P 11 46 45.5 -2.2**
ZALV Zalesovo Beam 44.59 49 P **P 11 46 45.5 -2.1**
comp=Z,5.5nm,0.4s,mb4.8,baz=279,slow=8.6,SNR=37
ZALV LR LR 12 07 20.4
comp=Z,73nm,18.2s,MS3.6,baz=59,slow=39
ZALV Zalesovo Beam 44.59 49 P **P 11 46 45.6 -2.1**
ZALV pmax pmax
comp=Z,6.0nm,0.4s,mb4.8
ZALV MLR MLR
comp=Z,73nm,18.2s,MS3.6
ZALV Zalesovo Beam 44.59 49 P **P 11 46 45.5 -2.2**
DANN Dangsing 52.54 82 *e*P **P 11 47 46.9 -2.3**
comp=Z,22nm,0.7s,mb5.2
KOLN Koldanda 52.71 83 *e*P **P 11 47 47.0 -3.4**
comp=Z,7.8nm,0.5s,mb4.9
GKN Gorkha 53.38 82 *e*P **P 11 47 52.5 -2.9**
comp=Z,14nm,0.7s,mb5.0
DMN Daman 53.94 82 *e*P **P 11 47 56.9 -2.6**
KKN Kakani 53.98 82 *e*P **P 11 47 56.8 -3.0**
PKIN Phulchoki 54.18 82 *e*P **P 11 47 57.7 -3.5**
comp=Z,8.2nm,0.7s,mb4.8
PKI Pulchoki 54.19 82 *e*P **P 11 47 58.6 -2.7**
GUN Gumba 54.38 81 *e*P **P 11 48 00.2 -2.5**
JIRN Jiri 54.74 81 *e*P **P 11 48 02.7 -2.6**
comp=Z,9.3nm,0.6s,mb5.0
RAMN Ramite 55.42 82 *e*P **P 11 48 07.1 -3.1**
comp=Z,23nm,0.8s,mb5.2
TAPN Taplejung 56.06 81 *e*P **P 11 48 12.0 -2.8**
comp=Z,14nm,0.7s,mb5.1
TLY Talaya 56.17 48 *e*P **P 11 48 14.5 -0.8**
TLY *e* 11 59 51.3
TLY pmax pmax
comp=Z,12nm,1.1s,mb4.8
TLY MLR MLR
comp=Z,165nm,16.0s,MS4.2
TLY Talaya 56.17 48 *e*P **P 11 48 14.5 -0.8**
comp=Z,165nm,16.0s
ZAK Zakamensk 56.47 50 *e*P **P 11 48 14.5 -2.9**
ZAK pmax pmax
comp=Z,5.0nm,1.0s,mb4.5
ZAK Zakamensk 56.47 50 *e*P **P 11 48 14.5 -2.9**
comp=Z,5.0nm,1.0s,mb4.5
TIXI Tiksi 58.17 21 *e*P **P 11 48 26.6 -2.5**
TIXI pmax pmax
comp=Z,6.0nm,1.3s,mb4.5
TIXI Tiksi 58.17 21 *e*P **P 11 48 28.0 -1.1**
comp=Z,9.8nm,1.4s,mb4.7
TIXI Tiksi 58.17 21 *e*P **P 11 48 28.0 -1.1**
comp=Z,9.8nm,1.4s,mb4.7
GTA Gaotai 59.01 63 *e*P **P 11 48 34.0 -1.5**
GTA AP pP 11 48 38.5 -3.1
GTA XP sP 11 48 41.0 -2.9
GTA AMB AMB
comp=Z,9.0nm,0.8s,mb4.8
BOD Bodaibo 59.10 39 *e*P **P 11 48 33.0 -2.8**
BOD pmax pmax
comp=Z,5.0nm,1.0s,mb4.5
BOD Bodaibo 59.10 39 *e*P **P 11 48 33.0 -2.8**
comp=Z,5.0nm,1.0s,mb4.5
SONM Songino Array 59.41 51 P **P 11 48 36.5 -1.5**
comp=Z,7.4nm,0.8s,mb4.7,baz=289,slow=8.7,SNR=30
SONM Songino Array 59.41 51 P **P 11 48 36.5 -1.6**
SONM pmax pmax
comp=Z,7.0nm,0.9s
ULN Ulaanbaatar 59.79 51 *e*P **P 11 48 39.1 -1.6**
ULN pmax pmax
comp=Z,9.0nm,0.9s,mb4.8
ULN Ulaanbaatar 59.79 51 *e*P **P 11 48 39.1 -1.6**
comp=Z,8.6nm,0.9s,mb4.8
ULN Ulaanbaatar 59.79 51 *e*P **P 11 48 39.1 -1.6**
comp=Z,8.6nm,0.9s,mb4.8
YAK Yakutsk 63.72 30 *e*P **P 11 49 04.1 -2.8**
YAK pmax pmax
comp=Z,17nm,0.9s,mb5.1
YAK pmax pmax
comp=E,3.0nm,1.1s
YAK pmax pmax
comp=N,2.0nm,0.9s
YAK Yakutsk 63.72 30 *e*P **P 11 49 04.1 -2.8**
comp=N,2.0nm,0.9s,mb4.2
XAN Xi'an 68.03 64 P **P 11 49 32.5 -2.7**
XAN AP pP 11 49 40.5 -0.9
XAN AMB AMB
comp=Z,7.0nm,1.0s,mb4.7
XAN AMB AMB
comp=Z,64nm,4.6s
BOSA Boshof 68.11 176 P **P 11 49 35.6 +0.1**
comp=Z,4.1nm,0.8s,mb4.5,baz=348,slow=9.3,SNR=7.2
BOSA LR LR 12 21 38.2
comp=Z,161nm,19.0s,MS4.3,baz=122,slow=38
BOSA Boshof 68.11 176 P **P 11 49 35.6 +0.1**
BOSA pmax pmax
comp=Z,4.0nm,0.8s,mb4.5

BOSA					MLR	MLR				
	comp=Z,161nm,19.0s,MS4.3									
CMAR	**Chiang Mai Arr**	**69.58**	**83**	P		**P**	**11 49 41.9**	**-3.1**		
	comp=Z,0.7nm,0.4s,mb4.0,baz=313,slow=6.8,SNR=6.5									
CMAR					LR	LR	12 23 57.0			
	comp=Z,23nm,19.7s,MS3.4,baz=175,slow=39									
CMAR	**Chiang Mai Arr**	**69.58**	**83**	*i* P		**P**	**11 49 43.2**	**-1.8**		
CMAR					pmax	pmax				
	comp=Z,1.0nm,0.4s									
INK	**Inuvik**	**70.57**	**350**	*e*P		**P**	**11 49 48.5**	**-1.8**		
	comp=Z,37nm,0.6s,mb5.5									
INK	**Inuvik**	**70.57**	**350**	*e*P		**P**	**11 49 48.5**	**-1.8**		
	comp=Z,37nm,0.6s,mb5.5									
YKA	**Yellowknife Ar**	**71.98**	**340**	LR		LR	12 22 01.4			
	comp=Z,40nm,18.1s,MS3.7,baz=170,slow=36									
DAWY	**Dawson**	**75.36**	**351**	*e*P		**P**	**11 50 18.5**	**-0.2**		
KSRS	**Korea Array**	**78.27**	**51**	P		**P**	**11 50 33.7**	**-2.0**		
	comp=Z,6.6nm,0.7s,mb4.7,baz=311,slow=4.8,SNR=29									
KSRS					LR	LR	12 30 57.7			
	comp=Z,44nm,21.4s,MS3.8,baz=344,slow=40									
YSS	**Yuzh-Sakhalins**	**79.46**	**36**	*e*P		**P**	**11 50 40.0**	**-2.0**		
YSS	**Yuzh-Sakhalins**	**79.46**	**36**	*e*P		**P**	**11 50 41.3**	**-0.7**		
	comp=Z,32nm,0.8s,mb5.3									
PETK	**Petropavlovsk-**	**80.36**	**25**	LR		LR	12 31 24.4			
	comp=Z,70nm,18.2s,MS4.0,baz=240,slow=40									
LAO	**LASA Array**	**81.78**	**326**	*e*P		**P**	**11 50 55.0**	**+0.6**		
EGMT	**Eagleton**	**82.18**	**329**	*e*P		**P**	**11 50 56.8**	**+0.3**		
	comp=Z,8.5nm,0.9s,mb4.7									
MJAR	**Matsushiro Arr**	**84.84**	**46**	P		**P**	**11 51 07.9**	**-2.5**		
	comp=Z,6.6nm,0.8s,mb4.8,baz=310,slow=4.6,SNR=14									
MJAR	**Matsushiro Arr**	**84.84**	**46**	P		**P**	**11 51 07.9**	**-2.5**		
MJAR					pmax	pmax				
	comp=Z,7.0nm,0.8s									
SDV	**Santo Domingo**	**85.38**	**278**	*e*P		**P**	**11 51 12.9**	**-0.5**		
	comp=Z,2.2nm,0.4s,mb4.6									
JOW	**Kunigami**	**85.57**	**59**	LR		LR	12 35 26.1			
	comp=Z,71nm,19.7s,MS4.1,baz=172,slow=40									
JHJ	**Hachijo jima 2**	**88.22**	**47**	LR		LR	12 35 50.8			
	comp=Z,34nm,20.4s,MS3.8,baz=324,slow=39									
TXAR	**Lajitas Array**	**93.99**	**314**	P		**P**	**11 51 53.6**	**-0.3**		
	comp=Z,1.1nm,0.8s,mb4.4,baz=76,slow=3.9,SNR=13									
TXAR	**Lajitas Array**	**93.99**	**314**	P		**P**	**11 51 53.7**	**-0.2**		
TXAR					pmax	pmax				
	comp=Z,1.0nm,0.8s									
ASAR	**Alice Springs**	**122.22**	**95**	PKP		PKPdf	11 57 28.5	-2.2		
	comp=Z,2.1nm,0.8s,baz=331,slow=1.7,SNR=30									
ASAR	**Alice Springs**	**122.22**	**95**	PKIKP		PKPdf	11 57 28.5	-2.2		
ASAR					pmax	pmax				
	comp=Z,2.0nm,0.8s									
STKA	**Stephens Creek**	**132.21**	**100**	PKP		PKPdf	11 57 47.5	-2.0		
	comp=Z,2.2nm,1.0s,baz=342,slow=3.2,SNR=3.8									

KRSC 25 11:55:42.7±0.6, 5365N×16154E, h16km±16km, ML3.6, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	**Mys Shipunski**	**1.06**	**239**	*e*P	Pb	11 56 02.7	0.0
SPN				*i* S	Sb	11 56 18.0	+1.7
KII	**Karymskiy**	**1.30**	**288**	*e*P	Pn	11 56 06.0	-0.1
KII				*i* S	Sb	11 56 23.6	+0.5
NLC	**Nalytchevo**	**1.40**	**251**	*e*P	Pn	11 56 07.9	+0.4
NLC				*i* S	Sn	11 56 27.0	+1.4
AVH	**Avacha**	**1.72**	**258**	*e*P	Pn	11 56 13.2	+1.3
AVH				*i* S	Sn	11 56 35.0	+1.5
PET	**Petropavlovsk**	**1.84**	**251**	*e*P	Pn	11 56 14.1	+0.5
PET				*i* S	Sn	11 56 37.2	+0.7
GNL	**Ganaly**	**2.14**	**273**	*e*P	Pn	11 56 19.6	+1.9
GNL				*i* S	Sn	11 56 46.7	+2.8
RUS	**Russkaya**	**2.20**	**238**	*e*P	Pn	11 56 20.5	+2.0
RUS				*i* S	Sn	11 56 48.0	+2.7
KMNR	**Kamenistaya**	**2.24**	**341**	*e*P	Pn	11 56 20.5	+1.4
KMNR				*i* S	Sn	11 56 47.8	+1.4
BZMR	**Bezymyannaya**	**2.37**	**346**	*e*P	Pn	11 56 21.8	+1.0
BZMR				*i* S	Sn	11 56 50.8	+1.3
KIRR	**Kirishev**	**2.41**	**344**	*e*P	Pn	11 56 23.0	+1.6
KIRR				*i* S	Sn	11 56 52.4	+1.9
KPT	**Kopyto**	**2.44**	**342**	*e*P	Pn	11 56 23.4	+1.5
KPT				*i* S	Sn	11 56 53.1	+1.7
KOZ	**Kozyrevsk**	**2.60**	**339**	*e*P	Pn	11 56 25.8	+1.8
KOZ				*i* S	Sn	11 56 57.4	+2.2
KRSR	**Krestovskiy**	**2.63**	**348**	*e*P	Pn	11 56 26.3	+1.8
KRSR				*i* S	Sn	11 56 58.2	+2.2
KBTR	**Krutoberegovo**	**2.67**	**16**	*e*P	Pn	11 56 25.8	+0.9
KBTR				*i* S	Sn	11 56 58.1	+1.2
KLY	**Klyuchi**	**2.72**	**350**	*e*P	Pn	11 56 26.6	+1.0
KLY				*i* S	Sn	11 56 59.1	+1.0

*IDC **25** 12:39:06.2±0.9, 2099S×16809E, h0km, mb4.3/10, mb1 4.4/10, mb1mx4.4/14, mbtmp4.3/10, MS3.9/7, Ms1 3.9/7, ms1mx3.4/21, Error ellipse: s-maj=31.4km s-min=21.0km az=102.0*

*DJA **25** 12:39:08, 2132S×16898E, h10km, mb5.3/12*

*ISCJB **25** 12:39:08.3±0.4, 2136S±008×16842E±007, h33km, mb4.6/25, MS3.9/6, Error ellipse: s-maj=12.4km s-min=6.9km az=145.9*

*MOS **25** 12:39:09.1±1.6, 2137S×16846E, h33km, mb4.9/6, Error ellipse: s-maj=16.3km s-min=13.8km az=7.6*

*NEIC **25** 12:39:10.2±0.6, 2140S×16846E, h35km, mb4.9/12, Error ellipse: s-maj=17.5km s-min=11.8km az=138.0*

*BJI **25** 12:39:10.1, 2140S×16850E, h35km, mB5.1, mb4.9, Ms5.3, Msz4.9*

ISC 25 12:39:10.2±0.4, 2138S±007×16845E±007, h35km, n72, σ1§39/58, mb4.6/25, MS3.9/6, Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**1.98**	**249**	*e*P	**Pn**	**12 39 38.0**	**-3.3**
DZM				*e*S	**Sn**	**12 40 03.8**	**-1.2**
NOUC	**Port Laguerre**	**2.12**	**250**	*e*P	**Pn**	**12 39 40.0**	**-3.1**
NOUC				*e*S	**Sn**	**12 40 10.0**	**+1.7**
EIDS	**Eidsvold**	**16.43**	**253**	*e*P	**Pn**	**12 42 55.5**	**-2.6**
	68nm,1.0s						
ARMA	**Armidale**	**17.59**	**236**	*e*P	**Pn**	**12 43 12.6**	**0.0**
ARMA	**Armidale**	**17.59**	**236**	*e*P	**Pn**	**12 43 12.1**	**-0.5**
	0.3nm,0.5s						
URZ	**Urewera**	**18.41**	**158**	LR	LR	12 49 13.4	
	comp=Z,282nm,21.0s,baz=203,slow=32						
AFI	**Afiamalu**	**20.25**	**72**	LR	LR	12 49 43.9	
	comp=Z,296nm,20.8s,MS3.6,baz=269,slow=31						
CTA	**Charters Tower**	**20.80**	**270**	*e*P	**P**	**12 43 50.0**	**+1.4**
	29nm,0.9s						
CTA	**Charters Tower**	**20.80**	**270**	P	**P**	**12 43 48.6**	**0.0**
	22nm,0.8s,baz=88,slow=12,SNR=7.2						
CTA	**Charters Tower**	**20.80**	**270**	*e*P	**P**	**12 43 50.0**	**+1.4**
CTA				pmax	pmax		
	comp=Z,29nm,0.9s						
CTAO	**Charters Tower**	**20.80**	**270**	*e*P	**P**	**12 43 50.1**	**+1.5**
CTAO				pmax	pmax		
	comp=Z,52nm,1.0s						
CTAO	**Charters Tower**	**20.80**	**270**	*e*P	**P**	**12 43 50.1**	**+1.5**
	comp=Z,52nm,1.0s						
CNB	**Canberra Magne**	**21.74**	**226**	*e*P	**P**	**12 43 57.9**	**-0.7**
RPZ	**Rata Peaks**	**22.38**	**175**	P	**P**	**12 44 12.2**	**+6.9**
	comp=Z,7.6nm,0.4s,mb4.5,baz=188,slow=17,SNR=8.7						
PMG	**Port Moresby**	**23.69**	**297**	*e*P	**P**	**12 44 21.8**	**+2.8**
PMG				pmax	pmax		
	comp=Z,15nm,0.9s						
PMG	**Port Moresby**	**23.69**	**297**	*e*P	**P**	**12 44 21.8**	**+2.8**
	comp=Z,15nm,0.9s,mb4.4						
COEN	**Coen**	**25.16**	**283**	*e*P	**P**	**12 44 37.2**	**+4.8**
	comp=Z,11nm,0.8s,mb4.4						
TOO	**Toolangi**	**25.58**	**226**	*e*P	**P**	**12 44 35.7**	**-0.3**
STKA	**Stephens Creek**	**26.11**	**241**	*e*P	**P**	**12 44 40.4**	**-0.5**
	comp=Z,18nm,1.0s,mb4.5						
STKA	**Stephens Creek**	**26.11**	**241**	P	**P**	**12 44 40.6**	**-0.3**
	comp=Z,6.9nm,0.8s,mb4.2,baz=66,slow=9.2,SNR=10						
STKA				LR	LR	12 55 31.5	
	comp=Z,466nm,18.9s,MS4.0,baz=283,slow=38						
STKA	**Stephens Creek**	**26.11**	**241**	*e*P	**P**	**12 44 40.3**	**-0.6**
	comp=Z,31nm,1.0s,mb4.8						
RAR	**Rarotonga**	**29.59**	**96**	P	**P**	**12 45 21.5**	**+9.4**
	comp=Z,21nm,0.6s,mb5.1,baz=219,slow=7.8,SNR=3.7						
WRAB	**Tennant Creek**	**31.90**	**266**	*e*P	**P**	**12 45 35.0**	**+2.4**
ASAR	**Alice Springs**	**31.95**	**259**	P	**P**	**12 45 31.3**	**-1.6**
	comp=Z,16nm,0.8s,mb4.9,baz=81,slow=8.9,SNR=29						
ASAR				PcP	PcP	12 48 23.2	+0.5
	comp=Z,1.0nm,0.9s,baz=104,slow=3.1,SNR=3.3						
KAKA	**Kakadu**	**35.42**	**278**	*e*P	**P**	**12 45 59.9**	**-3.3**
	comp=Z,12nm,0.8s,mb4.9						
KAKA	**Kakadu**	**35.42**	**278**	*e*P	**P**	**12 46 01.6**	**-1.6**
	comp=Z,37nm,0.9s,mb5.3						

FORT	**Forrest**	**37.30**	**247**	*e*P		**P**	**12 46 20.3**	**+1.2**		
	comp=Z,21nm,0.7s,mb5.1									
FORT	**Forrest**	**37.30**	**247**	*e*P		**P**	**12 46 20.0**	**+0.9**		
	comp=Z,10nm,1.4s,mb4.5									
PPT	**Papeete**	**39.67**	**92**	*e*LR		LR	12 57 52.8			
	comp=Z,183nm,26.8s									
PPT	**Papeete**	**39.67**	**92**	LR		LR	12 58 44.6			
	comp=Z,202nm,18.3s,MS4.0,baz=349,slow=29									
MBWA	**Marble Bar**	**45.25**	**261**	*e*P		**P**	**12 47 26.1**	**+1.6**		
	comp=Z,32nm,0.8s,mb5.2									
KLBR	**Kellerberrin**	**46.15**	**246**	*e*P		**P**	**12 47 32.3**	**+0.8**		
	comp=Z,54nm,1.3s,mb5.3									
MUN	**Mundaring**	**47.46**	**246**	*e*P		**P**	**12 47 42.5**	**+0.7**		
SBA	**Scott Base**	**56.53**	**180**	*e*P		**P**	**12 48 48.6**	**+0.1**		
SBA				pmax		pmax				
	comp=Z,41nm,1.6s,mb5.2									
SBA	**Scott Base**	**56.53**	**180**	*e*P		**P**	**12 48 48.6**	**0.0**		
	comp=Z,41nm,1.6s,mb5.2									
MJAR	**Matsushiro Arr**	**64.30**	**333**	P		**P**	**12 49 41.1**	**-1.0**		
	comp=Z,3.3nm,1.1s,mb4.3,baz=180,slow=6.8,SNR=4.3									
QSPA	**South Pole Qui**	**68.68**	**180**	P		**P**	**12 50 09.6**	**0.0**		
	comp=Z,10.0nm,1.0s,mb4.7,baz=16,slow=2.9,SNR=34									
KSRS	**Korea Array**	**69.86**	**327**	P		**P**	**12 50 14.3**	**-3.1**		
	comp=Z,0.7nm,0.9s,mb3.6,baz=142,slow=6.6,SNR=3.6									
KSRS				LR		LR	13 19 07.0			
	comp=Z,26nm,18.3s,MS3.5,baz=226,slow=35									
NJ2	**Nanjing**	**71.24**	**317**	*e*P		**P**	**12 50 27.0**	**+1.0**		
NJ2				AMB		AMB				
	comp=Z,10.0nm,0.6s,mb4.9									
YSS	**Yuzh-Sakhalins**	**71.86**	**342**	*e*P		**P**	**12 50 30.7**	**+1.4**		
YSS				pmax		pmax				
	comp=Z,13nm,1.0s,mb4.8									
WHN	**Wuhan**	**73.25**	**313**	*e*P		**P**	**12 50 44.5**	**+6.5**		
PETK	**Petropavlovsk-**	**74.76**	**353**	P		**P**	**12 50 45.5**	**-0.8**		
	comp=Z,3.3nm,0.4s,mb4.6,baz=218,slow=12,SNR=4.6									
PETK				LR		LR	13 19 39.3			
	comp=Z,54nm,18.7s,MS3.9,baz=246,slow=33									
PETK	**Petropavlovsk-**	**74.76**	**353**	P		**P**	**12 50 45.5**	**-0.8**		
PETK				LR		LR	13 19 39.3			
MAW	**Mawson**	**76.18**	**202**	P		**P**	**12 50 56.4**	**+2.0**		
	comp=Z,1.3nm,0.8s,mb3.9,baz=102,slow=4.1,SNR=5.4									
MAW				LR		LR	13 19 16.8			
	comp=Z,102nm,19.3s,MS4.2,baz=89,slow=32									
CMAR	**Chiang Mai Arr**	**78.71**	**295**	P		**P**	**12 51 08.8**	**-0.7**		
	comp=Z,1.0nm,0.7s,mb3.8,baz=137,slow=4.4,SNR=4.6									
CMAR	**Chiang Mai Arr**	**78.71**	**295**	*i* P		**P**	**12 51 12.5**	**+3.1**		
CMAR				pmax		pmax				
	comp=Z,1.0nm,0.7s									
XAN	**Xi'an**	**79.02**	**313**	P		**P**	**12 51 11.5**	**+0.8**		
XAN				AMB		AMB				
	comp=Z,6.0nm,1.4s,mb4.3									
XAN				AMB		AMB				
	comp=Z,76nm,5.7s									
SEY	**Seymchan**	**84.98**	**353**	*e*P		**P**	**12 51 40.2**	**-1.2**		
SNAA	**Sanae**	**87.00**	**183**	*e*P		**P**	**12 51 52.6**	**+1.1**		
SNAA				*e*			12 51 54.8			
SNAA				*e*			12 51 57.0			
SNAA	**Sanae**	**87.00**	**183**	*e*P		**P**	**12 51 53.3**	**+1.8**		
VNA3	**Neumayer Olymp**	**87.61**	**181**	*e*P		**P**	**12 51 52.7**	**-1.8**		
VNA3				*e*			12 51 55.6			
VNA3				*e*			12 51 57.7			
VNA3				*e*			12 52 00.0			
VNA2	**Neumayer--Watz**	**87.90**	**181**	*e*P		**P**	**12 51 54.6**	**-1.2**		
	baz=196,slow=4.0									
VNA2				*e*			12 51 57.4			
VNA2				*e*			12 51 59.4			
VNA2				*e*			12 52 01.8			
ULN	**Ulaanbaatar**	**88.14**	**324**	*e*P		**P**	**12 51 56.5**	**-0.7**		
VNA1	**Neumayer--Stat**	**88.19**	**181**	*e*P		**P**	**12 51 58.5**	**+1.3**		
SONM	**Songino Array**	**88.48**	**323**	P		**P**	**12 51 59.6**	**+0.8**		
	comp=Z,1.2nm,0.8s,mb4.2,baz=127,slow=2.2,SNR=7.5									
BILL	**Bilibino**	**89.17**	**359**	*e*P		**P**	**12 52 03.0**	**+1.4**		
BILL				pmax		pmax				
	comp=Z,28nm,1.7s,mb5.3									
NVAR	**Mina Array Bea**	**90.77**	**49**	P		**P**	**12 52 10.4**	**+0.7**		
	comp=Z,1.0nm,0.8s,mb4.2,baz=276,slow=2.6,SNR=6.2									
ZAK	**Zakamensk**	**91.59**	**324**	*e*P		**P**	**12 52 12.3**	**-1.0**		
ZAK				pmax		pmax				
	comp=Z,3.0nm,1.3s,mb4.5									
COLA	**College**	**92.30**	**17**	*e*P		**P**	**12 52 14.1**	**-2.1**		
EGAK	**Eagle**	**94.18**	**19**	*e*P		**P**	**12 52 23.9**	**-1.0**		
	comp=Z,4.5nm,1.0s,mb4.8									
POO	**Poona**	**100.68**	**286**	*ex*		x	12 53 42.5			
ARCES	**ARCESS Array B**	**126.93**	**345**	PKP		PKPdf	12 58 08.6	-1.1		
	comp=Z,3.3nm,0.8s,baz=20,slow=3.9,SNR=4.0									
ARCES	**ARCESS Array B**	**126.93**	**345**	PKP		PKPdf	12 58 08.6	-1.1		
BRG	**Berggiesshubel**	**144.43**	**332**	*e*PKP		PKPdf	12 58 41.5	-1.1		
	comp=Z,5.8nm,1.2s									
KHC	**Kasperske Hory**	**145.85**	**330**	*e*PKP		PKPdf	12 58 46.0	+0.9		
GEC2	**GERESS Array S**	**145.99**	**330**	*e*PKP2		PKPab	12 58 46.3	-0.4		
GERES	**GERESS Array B**	**145.99**	**330**	PKPbc		PKPbc	12 58 46.6	+0.5		
	comp=Z,1.7nm,0.7s,baz=31,slow=0.8,SNR=8.7									
BOJS	**Bojanci**	**147.43**	**324**	*e*PKPdf		PKPbc	12 58 51.9	+1.5		
JAVS	**Javornik**	**147.82**	**325**	*i* PKPdf		PKPbc	12 58 54.3	+2.9		
LOR	**Lormes**	**151.32**	**338**	*e*PKP1		PKPbc	12 59 03.7	+3.7		
	comp=Z,26nm,1.3s									
LPL	**La Plagne**	**151.63**	**332**	*e*PKP1		PKPbc	12 59 03.3	+2.5		
LPG	**La Plagne**	**151.64**	**332**	*e*PKP1		PKPbc	12 59 03.1	+2.3		

*TRN **25** 13:28:14.0, 1883N×6450W, h31km*

*ISCJB **25** 13:28:14.5±0.8, 1890N±008×6447W±004, h46km±11km, mb3.7/2, Error ellipse: s-maj=12.7km s-min=6.2km az=176.2*

*RSPR **25** 13:28:16.2, 1892N×6446W, h26km±5km, MD3.7/17, MD3.7/17*

*NEIC **25** 13:28:16.2, 1892N×6446W, h26km, MD3.7(RSPR), After RSPR.*

*IDC **25** 13:28:19.3±3.2, 1872N×6437W, h87km±34km, mb3.4/3, mb1 3.8/3, mb1mx3.4/19, mbtmp3.4/3, MS2.9/2, Ms1 2.9/2, ms1mx2.6/35, Error ellipse: s-maj=44.9km s-min=19.8km az=24.0*

ISC 25 13:28:15.4±0.8, 1887N±006×6445W±004, h39km±10km, n36, σ0§85/57, mb3.7/2, 21C-5D, Virgin Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ABV	**Anegada**	**0.18**	**140**	*i*P	**Pn**	**13 28 21.7**	**-0.7**
TBVI	**Tortola**	**0.47**	**199**	*i*P	**Pn**	**13 28 25.2**	**-0.6**
STVI	**Saint Thomas**	**0.70**	**223**	*e*P	**Pn**	**13 28 28.4**	**-0.4**
STVI				*e*S	**Sn**	**13 28 38.3**	**-0.1**
CDVI	**St. Croix**	**1.15**	**195**	*e*P	**Pn**	**13 28 36.0**	**+1.0**
CDVI	**St. Croix**	**1.15**	**195**	*e*P	**Pn**	**13 28 36.2**	**+1.2**
CDVI				*e*S	**Sn**	**13 28 50.5**	**+1.0**
CDVI	**St. Croix**	**1.15**	**195**	*e*P	**Pn**	**13 28 36.0**	**+1.0**
CDVI				*e*S	**Sn**	**13 28 50.5**	**+1.0**
MTP	**Monte Pirata**	**1.29**	**234**	*e*P	**Pn**	**13 28 33.1**	**-3.8**
MTP				*e*S	**Sn**	**13 28 49.6**	**-3.5**
CBYP	**Canovanas**	**1.46**	**246**	*e*P	**Pn**	**13 28 35.6**	**-3.6**
CBYP				*e*S	**Sn**	**13 28 54.4**	**-2.7**
HUMP	**Col San Antoni**	**1.51**	**242**	*e*P	**Pn**	**13 28 39.5**	**-0.4**
HUMP				*e*S	**Sn**	**13 28 57.7**	**-0.7**
CPD	**Cerro la Pandu**	**1.61**	**239**	*e*P	**Pn**	**13 28 40.5**	**-0.9**
CPD				*e*S	**Sn**	**13 29 01.4**	**+0.4**
SJG	**San Juan**	**1.78**	**245**	*e*P	**Pn**	**13 28 43.2**	**-0.4**
SJG	**San Juan**	**1.78**	**245**	*e*P	**Pn**	**13 28 43.2**	**-0.4**
SJG				*e*S	**Sn**	**13 29 04.5**	**-0.5**
SJG	**San Juan**	**1.78**	**245**	*e*P	**Pn**	**13 28 43.2**	**-0.4**
SJG				*e*S	**Sn**	**13 29 04.5**	**-0.5**
SJG				*e*S	**Sn**	**13 29 04.9**	**0.0**
SJG	**San Juan**	**1.78**	**245**	*e*P	**Pn**	**13 28 43.2**	**-0.4**
SJG				*e*S	**Sn**	**13 29 04.9**	**0.0**
CELP	**Cerrillos**	**2.17**	**249**	*e*P	**Pn**	**13 28 49.2**	**+0.2**
CELP				*e*S	**Sn**	**13 29 14.0**	**-0.6**
CELP	**Cerrillos**	**2.17**	**249**	*e*P	**Pn**	**13 28 49.2**	**+0.2**
CELP				*e*S	**Sn**	**13 29 14.2**	**-0.4**
ICM	**Isla Caja Muer**	**2.19**	**244**	*e*P	**Pn**	**13 28 50.1**	**+0.8**
ICM	**Isla Caja Muer**	**2.19**	**244**	*e*P	**Pn**	**13 28 50.9**	**+1.6**
ICM				*e*S	**Sn**	**13 29 15.8**	**+0.7**
ICM	**Isla Caja Muer**	**2.19**	**244**	*e*P	**Pn**	**13 28 50.1**	**+0.8**
ICM				*e*S	**Sn**	**13 29 15.8**	**+0.7**
OBIP	**Obispado Ponce**	**2.20**	**248**	*e*P	**Pn**	**13 28 49.6**	**+0.2**
OBIP				*e*S	**Sn**	**13 29 15.3**	**-0.2**
AOPR	**Arecibo Observ**	**2.24**	**257**	*e*P	**Pn**	**13 28 50.3**	**+0.3**
AOPR				*e*S	**Sn**	**13 29 17.1**	**+0.6**
AOPR	**Arecibo Observ**	**2.24**	**257**	*e*P	**Pn**	**13 28 50.3**	**+0.3**
AOPR				*e*S	**Sn**	**13 29 17.0**	**+0.5**
GBPR	**Guanica, Bosqu**	**2.47**	**249**	*e*P	**Pn**	**13 28 54.5**	**+1.4**
GBPR				*e*S	**Sn**	**13 29 22.2**	**+0.2**
AGPR	**Aguadilla, PR**	**2.55**	**261**	*e*P	**Pn**	**13 28 54.2**	**-0.1**
AGPR				*e*S	**Sn**	**13 29 24.3**	**+0.2**
LSP	**Las Mesas**	**2.59**	**255**	*e*P	**Pn**	**13 28 55.5**	**+0.7**
LSP				*e*S	**Sn**	**13 29 24.6**	**-0.5**
LSP	**Las Mesas**	**2.59**	**255**	*e*P	**Pn**	**13 28 55.5**	**+0.7**
LSP				*e*S	**Sn**	**13 29 24.6**	**-0.5**
CRPR	**Cabo Rojo, PR**	**2.66**	**252**	*e*P	**Pn**	**13 28 56.5**	**+0.7**
CRPR				*e*S	**Sn**	**13 29 27.6**	**+0.8**
LZG	**Guadaloupe-1**	**3.73**	**136**	*e*P	**Pn**	**13 29 11.4**	**+0.9**
PCDR	**Punta Cana, DR**	**3.74**	**265**	*e*S	**Sn**	**13 29 53.4**	**-0.1**
PCRV	**Puerto La Cruz**	**8.64**	**181**	LR	LR	13 33 37.9	
	comp=Z,82nm,18.9s,baz=157,slow=38						
SDV	**Santo Domingo**	**11.59**	**212**	LR	LR	13 35 54.0	
	comp=Z,55nm,18.0s,baz=167,slow=40						
SDV	**Santo Domingo**	**11.59**	**212**	*e*Pn	**Pn**	**13 31 04.2**	**+5.8**
	7.8nm,0.6s						
SDV				*e*Sn	**Sn**	**13 33 06.1**	**-0.5**
TXAR	**Lajitas Array**	**37.13**	**294**	P	**P**	**13 35 22.6**	**+0.2**
	0.6nm,0.6s,mb3.6,baz=113,slow=11,SNR=7.1						
PDAR	**Pinedale Array**	**44.79**	**312**	P	**P**	**13 36 25.8**	**+0.5**
	1.3nm,0.6s,baz=115,slow=9.5,SNR=11						
TORD	**Torodi Ar. Bea**	**63.54**	**84**	P	**P**	**13 38 40.3**	**-2.0**
	0.7nm,0.8s,mb3.7,baz=289,slow=7.5,SNR=3.4						
ASAR	**Alice Springs**	**162.24**	**251**	PKPab	PKPab	13 48 59.2	-1.4
	0.4nm,0.6s,baz=105,slow=4.7,SNR=8.7						

IDC 25 13:40:26.9±2.2, 1853S×17347W, h0km, mb4.2/3, mb1 4.5/4, mb1mx4.0/17, mbtmp4.4/4, ML2.9/1, Error ellipse: s-maj=106.3km s-min=26.0km az=138.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**4.87**	**20**	Pn	Pn	13 41 42.6	+1.1
	30nm,0.3s,baz=292,slow=5.4,SNR=83						
AFI				Sn	Sn	13 42 26.2	-12
	77nm,0.3s,baz=48,slow=21,SNR=19						
STKA	**Stephens Creek**	**42.49**	**243**	P	P	13 48 25.3	+1.3
	1.1nm,0.4s,baz=93,slow=6.6,SNR=5.0						
ASAR	**Alice Springs**	**49.15**	**254**	P	P	13 49 15.8	-0.9
	6.0nm,0.7s,baz=88,slow=8.5,SNR=116						
PDAR	**Pinedale Array**	**84.63**	**42**	P	P	13 53 02.4	0.0
	1.1nm,1.0s,baz=226,slow=3.4,SNR=7.1						

*IGIL **25** 13:49:59.0, 4606N×154.11E, h6km, MS5.9*

*ISCJB **25** 13:49:59.5±0.6, 4597N±002×15426E±001, h1km±3km, mb6.0/403, MS5.7/202, Error ellipse: s-maj=3.8km s-min=1.6km az=169.6*

*NIED **25** 13:50:00, 46.10N×154.20E, h23km, Mw6.1 Best double couple: M0 1.33000×10^18 NP1:φs219.00000°, δ89.00000°, λ167.00000°. NP2:φs309.00000°, δ77.00000°, λ1.00000°.*

*IDC **25** 13:50:01.1±0.5, 4603N×154.20E, h0km, mb5.4/21, mb1 5.5/25, mb1mx5.5/26, mbtmp5.5/25, ML5.6/4, MS5.7/24, Ms1 5.7/24, ms1mx5.4/36, Error ellipse: s-maj=16.2km s-min=11.0km az=146.0*

*GCMT **25** 13:50:02.6±0.1, 4589N×154.33E, h36km, MW6.1/117, Moment Tensor Solution. s110,c238; s117,c416; Duration: 2s7 Moment tensor: Scale 10^18Nm; Mrr0.37±.01; Mθθ1.28±.01; Mφφ-1.65±.01; Mrθ0.57±.02; Mrφ0.26±.01; Mθφ0.05±.01; Best double couple: M0 1.62500×10^18 NP1:φs133.00000°, δ72.00000°, λ

SKR					A			13 52 11.5	
	comp=Z,850nm,0.5s								
SKR					A			13 52 11.5	
	comp=Z,30μm,6.0s								
SKR					A			13 52 11.5	
	comp=Z,66μm,6.0s								
SKR					A			13 52 11.5	
	comp=Z,30μm,6.0s								
SKR					A			13 52 11.5	
	comp=Z,66μm,6.0s								
SKR					A			13 52 11.5	
	comp=Z,39μm,10.0s								
SKR					A			13 52 11.5	
	comp=Z,3μm,0.2s								
SKR					A			13 52 11.5	
	comp=Z,6μm,0.2s								
SKR					AMS	AMS		13 53 30.0	
	comp=Z,225μm,14.0s								
SKR					AMS	AMS		13 53 30.0	
	comp=Z,51μm,14.0s								
SKR					AMS	AMS		13 53 30.0	
	comp=Z,399μm,14.0s								
SKR					AMS	AMS		13 53 30.0	
	comp=Z,223μm,14.0s								
SKR					AMS	AMS		13 53 30.0	
	comp=Z,52μm,14.0s								
SKR					AMS	AMS		13 53 30.0	
	comp=Z,457μm,14.0s								
SKR	**Severo-Kuril's**	**4.80**	**15**	*e*P		**Pn**		**13 51 14.0**	**-1.5**
YUK	**Yuzh-Kuril'sk**	**6.23**	**254**	⇓*i*P		**Pn**		**13 51 34.6**	**-0.6**
YUK					AMB	AMB		13 51 36.1	
	comp=Z,19μm,3.0s								
YUK					AMB	AMB		13 51 36.1	
	comp=Z,65μm,3.0s								
YUK					AMB	AMB		13 51 36.1	
	comp=Z,45μm,2.0s								
YUK					AMB	AMB		13 51 37.5	
	comp=Z,2μm,0.5s								
YUK					AMB	AMB		13 51 37.5	
	comp=Z,3μm,0.5s								
YUK					AMB	AMB		13 51 37.5	
	comp=Z,9μm,0.5s								
YUK					A			13 52 45.4	
	comp=Z,40μm,3.0s								
YUK					A			13 52 45.4	
	comp=Z,34μm,2.0s								
YUK					A			13 52 46.6	
	comp=Z,21μm,0.6s								
YUK					A			13 52 46.6	
	comp=Z,18μm,0.6s								
NEM2	**Nemuro 2**	**6.59**	**249**	⇓P		**Pn**		**13 51 37.9**	**-2.2**
NEM2				*e*S		**Sn**		**13 52 48.8**	**-6.2**
JRA	**Rausu**	**6.77**	**255**	⇓P		**Pn**		**13 51 42.8**	**+0.3**
JRA				*e*S		**Sn**		**13 52 55.8**	**-3.5**
JNK	**Nakash**	**7.17**	**253**	P		**Pn**		**13 51 47.4**	**-0.7**
JNK				*e*S		**Sn**		**13 53 03.2**	**-6.0**
PEA0B	**Petropavlovsk-**	**7.41**	**17**	⇑*i*Pn		**Pn**		**13 51 51.3**	**0.0**
PEA0B				*e*Sn		**Sn**		**13 53 13.5**	**-1.7**
PETK	**Petropavlovsk-**	**7.41**	**17**	Pn		**Pn**		**13 51 51.2**	**-0.1**
	comp=Z,206nm,0.3s,baz=182,slow=12,SNR=358								
PETK				Sn		**Sn**		**13 53 17.7**	**+2.6**
	comp=Z,17nm,0.3s,baz=119,slow=19,SNR=2.7								
PETK				LR		LR		13 54 56.7	
	comp=Z,36μm,20.3s,baz=27,slow=40								
PETK	**Petropavlovsk-**	**7.41**	**17**	Pn		**Pn**		**13 51 51.2**	**-0.1**
PETK				Sn		**Sn**		**13 53 17.7**	**+2.6**
PETK				LR		LR		13 54 56.8	
JAK	**Akkeshi**	**7.44**	**249**	P		**Pn**		**13 51 49.5**	**-2.3**
JAK				*e*S		**Sn**		**13 53 08.9**	**-7.0**
PET	**Petropavlovsk**	**7.55**	**21**α	*i*PN		**Pn**		**13 51 51.6**	**-1.6**
PET				pmax		pmax			
	comp=Z,582nm,0.6s								
PET				pmax		pmax			
	comp=Z,4μm,9.2s								
PET				pmax		pmax			
	comp=Z,3μm,8.5s								
PET				MLR		MLR			
	comp=Z,72μm,15.0s								
PET				MLR		MLR			
	comp=Z,71μm,16.0s								
PET	**Petropavlovsk**	**7.55**	**21**	⇑*i*Pn		**Pn**		**13 51 51.5**	**-1.7**
	comp=Z,308nm,0.5s								
PET				*e*Pn		**Pn**		**13 51 51.8**	**-1.4**
PET				*e*Sn		**Sn**		**13 53 12.3**	**-6.2**
JTKR	**Abashiri--Toko**	**7.58**	**258**	⇓P		**Pn**		**13 51 54.0**	**+0.4**
JAR	**Ashorobuto**	**7.92**	**253**	P		**Pn**		**13 51 58.0**	**-0.3**
JAR				*e*S		**Sn**		**13 53 23.7**	**-4.0**
YSS	**Yuzh-Sakhalins**	**7.94**	**281**κ	*i*PN		**Pn**		**13 52 01.0**	**+2.5**
YSS				pmax		pmax			
	comp=E,3μm,0.5s								
YSS				pmax		pmax			
	comp=Z,3μm,0.5s								
YSS				pmax		pmax			
	comp=Z,7μm,6.0s								
YSS				pmax		pmax			
	comp=E,15μm,4.0s								
YSS				MLR		MLR			
	comp=Z,42μm,22.0s								
YSS				MLR		MLR			
	comp=N,52μm,14.0s								
YSS				MLR		MLR			
	comp=E,40μm,23.0s								
YSS	**Yuzh-Sakhalins**	**7.94**	**281**	⇓*i*P		**Pn**		**13 52 01.0**	**+2.5**
YSS					AMB	AMB		13 52 04.0	
	comp=E,3μm,0.5s								
YSS					AMB	AMB		13 52 04.0	
	comp=E,3μm,0.5s								
YSS					AMB	AMB		13 52 09.0	
	comp=E,7μm,6.0s								
YSS					AMB	AMB		13 52 09.0	
	comp=E,15μm,4.0s								
YSS					AMS	AMS		13 55 25.0	
	comp=E,51μm,16.0s								
YSS					AMS	AMS		13 55 25.0	
	comp=E,31μm,18.0s								
YSS					AMS	AMS		13 55 25.0	
	comp=E,34μm,16.0s								
YSS					AMS	AMS		13 55 25.0	
	comp=E,23μm,16.0s								
YSS	**Yuzh-Sakhalins**	**7.94**	**281**	*e*Pn		**Pn**		**13 52 00.9**	**+2.3**
	comp=E,5μm,1.0s								
YSS				*e*Pn		**Pn**		**13 52 01.4**	**+2.8**
YSS				*e*Sn		**Sn**		**13 53 27.5**	**-0.5**
JMP	**Maruseppu**	**7.94**	**259**	P		**Pn**		**13 51 59.3**	**+0.7**
JOB	**Onbets**	**8.04**	**251**	P		**Pn**		**13 51 58.6**	**-1.5**
JOB				*e*S		**Sn**		**13 53 24.5**	**-6.3**
JSE	**Soyaes**	**8.22**	**266**	⇓P		**Pn**		**13 52 04.6**	**+2.1**
JKK2	**Kamakawa 2**	**8.40**	**259**	P		**Pn**		**13 52 05.7**	**+0.8**
ASAJ	**Asahikawa**	**8.43**	**261**	Pn		**Pn**		**13 52 05.2**	**0.0**
	comp=E,182nm,0.3s,baz=93,slow=17,SNR=348								
ASAJ				Sn		**Sn**		**13 53 43.0**	**+2.9**
	comp=E,11nm,0.3s,baz=260,slow=31,SNR=1.5								
ASAJ	**Asahikawa**	**8.43**	**261**	P		**Pn**		**13 52 06.7**	**+1.4**
ASAJ	**Asahikawa**	**8.43**	**261**	P		**Pn**		**13 52 06.6**	**+1.3**
JCH	**Churui**	**8.49**	**250**	P		**Pn**		**13 52 04.5**	**-1.6**
JCH				*e*S		**Sn**		**13 53 34.6**	**-7.0**
JWK2	**Keihoku**	**8.63**	**269**	P		**Pn**		**13 52 11.9**	**+3.8**
UGL	**Uglegorsk**	**8.73**	**295**	⇓*i*PN		**Pn**		**13 52 13.5**	**+4.1**
UGL				pmax		pmax			
	comp=N,6μm,4.0s								
UGL				pmax		pmax			
	comp=E,12μm,4.0s								
UGL				pmax		pmax			
	comp=Z,18μm,4.0s								
UGL				pmax		pmax			
	comp=Z,3μm,0.9s								
UGL				MLR		MLR			
	comp=Z,105μm,22.0s								
UGL				MLR		MLR			
	comp=N,58μm,16.0s								
UGL				MLR		MLR			
	comp=E,58μm,18.0s								
UGL	**Uglegorsk**	**8.73**	**295**	⇓*i*P		**Pn**		**13 52 13.5**	**+4.1**
UGL				⇓*i*P				13 52 13.5	
UGL					AMB	AMB		13 52 16.0	
	comp=E,6μm,4.0s								
UGL					AMB	AMB		13 52 16.0	
	comp=E,12μm,4.0s								
UGL					AMB	AMB		13 52 16.0	
	comp=E,18μm,4.0s								
UGL					AMB	AMB		13 52 17.0	
	comp=E,3μm,0.9s								
UGL				*e*S		**Sn**		**13 53 49.0**	**+1.5**
UGL				A				13 53 55.5	
	comp=E,450nm,0.7s								
UGL				A				13 53 55.5	
	comp=E,1μm,0.7s								
UGL				A				13 53 55.5	
	comp=E,460nm,0.6s								
UGL				A				13 53 58.0	
	comp=E,20μm,8.0s								
UGL				A				13 53 58.0	
	comp=E,18μm,8.0s								
UGL				*e*L				13 54 12.0	
UGL				*e*L				13 55 04.0	
UGL					AMS	AMS		13 55 14.0	
	comp=E,58μm,18.0s								
UGL					AMS	AMS		13 55 14.0	
	comp=E,58μm,16.0s								
UGL					AMS	AMS		13 55 14.0	
	comp=E,105μm,22.0s								
JFR	**Furan**	**8.76**	**255**	P		**Pn**		**13 52 09.7**	**-0.2**
JSS	**Shosan**	**8.86**	**264**	P		**Pn**		**13 52 14.0**	**+2.8**
JAB	**Ashibetsu**	**8.88**	**258**	P		**Pn**		**13 52 12.8**	**+1.3**
JEM	**Erimo**	**8.91**	**247**	P		**Pn**		**13 52 09.8**	**-2.1**
ERM	**Erimo**	**8.91**	**247**	Pn		**Pn**		**13 52 11.3**	**-0.6**
	comp=E,16μm,0.9s								
ERM	**Erimo**	**8.91**	**247**	⇑*i*P		**Pn**		**13 52 10.2**	**-1.7**
TYV	**Tymovskoe**	**9.04**	**306**	⇓*i*P		**Pn**		**13 52 16.0**	**+2.4**
TYV					AMB	AMB		13 52 17.0	
	comp=E,520nm,1.0s								
TYV					AMB	AMB		13 52 18.0	
	comp=E,4μm,4.0s								
TYV					AMB	AMB		13 52 18.0	
	comp=E,3μm,4.0s								
TYV					AMB	AMB		13 52 18.0	
	comp=E,4μm,2.0s								
TYV					AMS	AMS		13 55 48.0	
	comp=E,88μm,15.0s								
JNBK	**Urakawa-nobuka**	**9.04**	**249**	P		**Pn**		**13 52 11.3**	**-2.4**
JBT2	**Biratori 2**	**9.07**	**253**	P		**Pn**		**13 52 12.6**	**-1.5**
JHR	**Hokuryu**	**9.14**	**260**	P		**Pn**		**13 52 16.5**	**+1.4**
JEW	**Eniwo**	**9.66**	**255**	P		**Pn**		**13 52 21.7**	**-0.5**
JNB	**Noboribetsu**	**10.09**	**254**	P		**Pn**		**13 52 26.3**	**-1.8**
JNB				*e*S		**Sn**		**13 54 13.8**	**-7.2**
JSK	**Shakotan**	**10.13**	**259**	P		**Pn**		**13 52 28.9**	**+0.3**
JKB	**Kayabe**	**10.35**	**251**	⇓P		**Pn**		**13 52 28.9**	**-2.8**
JKB				*e*S		**Sn**		**13 54 17.1**	**-10**
OKH	**Okha**	**10.43**	**320**	⇑*i*PN		**Pn**		**13 52 35.8**	**+3.1**
OKH				*i* S		**Sn**		**13 54 37.6**	**+8.4**
OKH				pmax		pmax			
	comp=Z,12μm,8.0s								
OKH				smax					
	comp=N,31μm,7.0s								
OKH	**Okha**	**10.43**	**320**	*e*P		**Pn**		**13 52 35.0**	**+2.3**
OKH				⇑*i*P				13 52 35.8	
OKH					AMB	AMB		13 52 37.8	
	comp=N,12μm,8.0s								
OKH					AMB	AMB		13 52 37.8	
	comp=N,8μm,5.0s								
OKH					AMB	AMB		13 52 37.8	
	comp=N,9μm,5.0s								
OKH					AMB	AMB		13 52 38.2	
	comp=N,900nm,1.0s								
OKH				*e*S		**Sn**		**13 54 35.1**	**+5.9**
OKH				A				13 54 35.4	
	comp=N,600nm,0.5s								
OKH				⇓*i*S		**Sn**		**13 54 35.6**	**+6.4**
OKH				A				13 54 39.0	
	comp=N,31μm,7.0s								
OKH				*e*LQ				13 55 54.4	
OKH					AMS	AMS		13 57 30.0	
	comp=N,68μm,16.0s								
OKH					AMS	AMS		13 57 30.0	
	comp=N,14μm,11.0s								
OKH					AMS	AMS		13 57 30.0	
	comp=N,55μm,14.0s								
JSH	**Shimam**	**10.69**	**256**	⇓P		**Pn**		**13 52 35.4**	**-0.8**
JYM2	**Yakumo 2**	**10.69**	**253**	⇓P		**Pn**		**13 52 34.1**	**-2.2**
JANG	**Nango**	**10.85**	**243**	P		**Pn**		**13 52 33.9**	**-4.6**
JANG				*e*S		**Sn**		**13 54 24.2**	**-15**
JTM	**Tenmabayashi**	**10.89**	**246**	P		**Pn**		**13 52 35.5**	**-3.6**
JTM				*e*S		**Sn**		**13 54 29.0**	**-12**
JTH	**Tanohata**	**10.90**	**240**	P		**Pn**		**13 52 34.3**	**-4.8**
JTH				*e*S		**Sn**		**13 54 25.7**	**-15**
JSR	**Shiriuchi**	**10.93**	**250**	P		**Pn**		**13 52 36.9**	**-2.7**
JSR				*e*S		**Sn**		**13 54 31.2**	**-10**
NKL	**Nikolayevsk**	**11.26**	**314**	*i* P		**Pn**		**13 52 42.0**	**-2.0**
NKL					AMB	AMB		13 52 46.0	
	comp=N,220nm,2.0s								
NKL					AMB	AMB		13 52 46.0	
	comp=N,580nm,2.0s								
NKL					AMB	AMB		13 52 46.0	
	comp=N,60nm,1.2s								
NKL					AMB	AMB		13 52 52.0	
	comp=N,4μm,11.0s								
NKL					AMB	AMB		13 52 52.0	
	comp=N,2μm,8.5s								
NKL					AMB	AMB		13 52 52.0	
	comp=N,10μm,8.5s								
NKL				A				13 54 54.0	
	comp=N,8μm,12.0s								
NKL				*e*L				13 56 01.0	
JOSM	**Okushiri--Mats**	**11.30**	**255**	P		**Pn**		**13 52 42.4**	**-2.3**
JOSM				*e*S		**Sn**		**13 54 43.1**	**-7.6**
OFUJ	**Ofunato**	**11.56**	**237**	P		**Pn**		**13 52 43.8**	**-4.4**
OFUJ				*e*S		**Sn**		**13 54 43.0**	**-14**
JRG	**Rokugo**	**11.98**	**241**	P		**Pn**		**13 52 49.8**	**-4.1**
JIO	**Ouri**	**12.16**	**236**	P		**Pn**		**13 52 51.9**	**-4.6**
JIO				*e*S		**Sn**		**13 54 57.0**	**-15**
JOG2	**Oga 2**	**12.19**	**245**	P		**Pn**		**13 52 53.3**	**-3.5**
TEY	**Ternei**	**12.37**	**272**	*e*P		**Pn**		**13 53 01.0**	**+1.7**
TEY					AMB	AMB		13 53 03.0	
	comp=N,13μm,4.0s								
TEY					AMB	AMB		13 53 03.0	
	comp=N,14μm,3.0s								
TEY					AMB	AMB		13 53 04.0	
	comp=N,1μm,4.0s								
TEY				A				13 56 41.0	
	comp=N,24μm,20.0s								
TEY				A				13 56 52.4	
	comp=N,20μm,22.0s								
TEY				*e*L				13 59 40.0	
JYA	**Atsumi**	**13.04**	**240**	P		**Pn**		**13 53 04.5**	**-3.9**
JFK	**Kawauchi**	**13.19**	**233**	P		**Pn**		**13 53 05.8**	**-4.7**
JFK				*e*S		**Sn**		**13 55 20.5**	**-16**
HABR	**Khabarovsk**	**13.21**	**287**	⇓*i*PN		**Pn**		**13 53 13.5**	**+2.7**
HABR				pmax		pmax			
	comp=Z,1μm,2.4s								
JFY	**Yanaizu**	**13.83**	**236**	P		**Pn**		**13 53 15.8**	**-3.4**
JFY				*e*S		**Sn**		**13 55 41.8**	**-11**
SMY	**Shemya**	**14.56**	**56**	*e*P		**Pn**		**13 53 27.7**	**-1.4**
SMY				pmax		pmax			
	comp=Z,437nm,0.7s								
SMY	**Shemya**	**14.56**	**56**	*e*P		**Pn**		**13 53 27.7**	**-1.4**
	comp=Z,436nm,0.7s								
MAJO	**Matsushiro**	**15.29**	**237**	⇓*e*P		**Pn**		**13 53 35.3**	**-3.7**
MAJO				pmax		pmax			
	comp=Z,5μm,1.6s								
MAJO	**Matsushiro**	**15.29**	**237**	⇓*e*Pn		**Pn**		**13 53 35.3**	**-3.7**
	comp=Z,5μm,1.6s								
MAJO				*e*Pn		**Pn**		**13 53 35.8**	**-3.2**
MAJO				*e*Sn		**Sn**		**13 56 21.1**	**-7.1**
MAT	**Matsushiro**	**15.29**	**237**	P		**Pn**		**13 53 35.4**	**-3.6**
MAT				S		**Sn**		**13 56 20.5**	**-7.6**
MJAR	**Matsushiro Arr**	**15.29**	**237**	Pn		**Pn**		**13 53 36.0**	**-3.0**
	comp=Z,8.0nm,0.3s,baz=30,slow=12,SNR=225								
MJAR				Sn		**Sn**		**13 56 25.7**	**-2.4**
	comp=Z,7.3nm,0.3s,baz=18,slow=3.5,SNR=4.7								
MJAR	**Matsushiro Arr**	**15.29**	**237**	P		**Pn**		**13 53 36.0**	**-3.0**
MJAR								13 56 25.7	
MJAR				pmax		pmax			
	comp=Z,8.0nm,0.3s								
MJAR				smax					
	comp=N,7.0nm,0.3s								
MJAR	**Matsushiro Arr**	**15.29**	**237**	Pn		**Pn**		**13 53 36.0**	**-3.0**
MJAR				Sn		**Sn**		**13 56 25.7**	**-2.4**
KLR	**Kul'dur**	**15.44**	**290**	⇑*i*P		**Pn**		**13 53 38.0**	**-2.8**
KLR				*e*S		**Sn**		**13 56 30.0**	**-1.5**
KLR				pmax		pmax			
	comp=E,1μm,1.6s								
KLR				pmax		pmax			
	comp=Z,2μm,1.6s								
KLR				pmax		pmax			
	comp=E,6μm,11.0s								
KLR				pmax		pmax			
	comp=Z,12μm,11.0s								
KLR				MLR		MLR			
	comp=Z,46μm,12.5s								
SEY	**Seymchan**	**16.94**	**357**	*c i*P		**Pn**		**13 53 58.1**	**-1.9**
JHJ	**Hachijo jima 2**	**17.00**	**226**	Pn		**Pn**		**13 54 01.3**	**+0.3**
	comp=Z,26nm,0.3s,baz=128,slow=7.4,SNR=5.2								
JHJ				Sn		**Sn**		**13 56 55.2**	**-14**
	comp=Z,112nm,0.3s,baz=61,slow=22,SNR=11								
MDJ	**Mudanjiang**	**17.33**	**274**	P		**Pn**		**13 54 04.3**	**-0.8**
MDJ				S		**Sn**		**13 57 11.5**	**-6.1**
MDJ				SCP		ScP		14 02 23.5	+2.4
MDJ				SCS		ScS		14 06 03.5	+2.6
MDJ				AMB		AMB			
	comp=Z,1μm,1.8s								
MDJ				AMB		AMB			
	comp=Z,4μm,5.0s								
MDJ				LR		LR			
	comp=N,16μm,19.8s								
MDJ				LR		LR			
	comp=E,16μm,22.9s								
MDJ				LR		LR			
	comp=Z,24μm,24.8s								
MDJ	**Mudanjiang**	**17.33**	**274**	⇓*e*Pn		**Pn**		**13 54 02.7**	**-2.3**
	comp=Z,3μm,1.6s								
MDJ				*e*Pn		**Pn**		**13 54 03.8**	**-1.3**
AMKA	**Amchitka**	**17.37**	**63**	*e*P		**Pn**		**13 54 05.3**	**-0.1**
	comp=Z,251nm,1.1s								
ZEA	**Zeya**	**18.89**	**304**	⇑*e*P		**Pn**		**13 54 20.3**	**-3.8**
ZEA				⇑*e*P				13 54 20.3	
ZEA					AMB	AMB		13 54 24.1	
	comp=Z,220nm,1.2s								
ZEA					AMB	AMB		13 54 24.1	
	comp=Z,270nm,1.2s								
ZEA					AMB	AMB		13 54 24.1	
	comp=Z,380nm,1.2s								
ZEA					AMB	AMB		13 54 30.0	
	comp=Z,6μm,9.0s								
ZEA					AMB	AMB		13 54 30.0	
	comp=Z,5μm,10.0s								
ZEA				*i* S		**Sn**		**13 57 48.0**	**-7.0**
ZEA				A				13 57 55.0	
	comp=Z,20μm,9.0s								
ZEA				A				13 57 55.0	
	comp=Z,7μm,9.0s								
ZEA				*e*LQ				13 59 30.0	
ZEA				*e*LR		LR		14 00 44.0	
ZEA					AMS	AMS		14 02 30.0	
	comp=Z,27μm,15.0s								
ZEA					AMS	AMS		14 02 30.0	
	comp=Z,32μm,14.0s								
ZEA					AMS	AMS		14 02 30.0	
	comp=Z,16μm,13.0s								
ADK	**Adak**	**19.91**	**62**	⇓*i*P		**Pn**		**13 54 33.6**	**-2.7**
ADK				*e*				13 58 02.5	
ADK				pmax		pmax			
	comp=Z,751nm,1.4s								
ADK	**Adak**	**19.91**	**62**	⇓*i*Pn		**Pn**		**13 54 33.6**	**-2.7**
	comp=Z,751nm,1.4s								
ADK				*e*P				13 54 34.8	
ADK				*e*Sn		**Sn**		**13 58 02.5**	**-17**
CN2	**Changchun**	**20.42**	**274**	⇓P		**P**		**13 54 38.3**	**-2.0**
CN2				*e*AP				13 54 42.3	
CN2				*e*S		**S**		**13 58 19.0**	**-9.5**
CN2				AMB		AMB			
	comp=Z,3μm,6.0s								
CN2				LR		LR			
	comp=N,26μm,14.0s,MS5.9								
CN2				LR		LR			
	comp=E,25μm,14.0s,MS5.9								
CN2				LR		LR			
	comp=Z,26μm,14.0s,MS5.7								
CLNS	**Chul'man**	**21.03**	**311**	*e*P		**P**		**13 54 46.6**	**-0.1**
CLNS				*e*				13 55 08.8	
CLNS				*e*S		**S**		**13 58 38.8**	**-1.5**
CLNS				*e*				13 58 50.9	
CLNS				*e*SS				13 59 05.4	
CLNS				pmax		pmax			
	comp=Z,253nm,1.1s,mb5.5								
CLNS				pmax		pmax			
	comp=E,182nm,1.2s								
CLNS				pmax		pmax			
	comp=N,188nm,1.2s								
CLNS				pmax		pmax			
	comp=E,118nm,1.0s								
CLNS				pmax		pmax			
	comp=Z,205nm,1.1s,mb5.4								
CLNS				pmax		pmax			
	comp=N,201nm,1.1s								
CLNS				smax					
	comp=E,1μm,2.1s								
CLNS				smax					
	comp=N,1μm,1.9s								
CLNS				MLR		MLR			
	comp=N,34μm,13.0s,MS6.0								
CLNS				MLR		MLR			
	comp=E,33μm,16.0s,MS6.0								
CLNS				MLR		MLR			
	comp=Z,28μm,15.0s,MS5.8								
CBIJ	**Chichi jima**	**21.20**	**211**	P		**P**		**13 54 48.6**	**-0.2**
	comp=Z,505nm,1.1s,mb5.8,baz=0.4,slow=11,SNR=5.5								
CBIJ				S		**S**		**13 58 31.4**	**-13**
	comp=Z,267nm,0.6s,baz=281,slow=23,SNR=9.4								
CBIJ				LR		LR		14 00 29.9	
	comp=Z,13μm,21.6s,MS5.3,baz=11,slow=30								
YAK	**Yakutsk**	**21.30**	**327**	*c i*P		**P**		**13 54 47.3**	**-2.3**
YAK				*e*				13 55 04.6	
YAK				*e*S		**S**		**13 58 36.7**	**-8.8**
YAK				*e*				13 58 53.5	
YAK				*e*SS				13 59 05.9	
YAK				pmax		pmax			
	comp=Z,419nm,1.1s,mb5.7								
YAK				pmax		pmax			
	comp=E,360nm,1.4s								
YAK				pmax		pmax			
	comp=N,344nm,1.4s								
YAK				smax					
	comp=N,4μm,2.4s								
YAK				smax					
	comp=E,6μm,2.8s								
YAK				MLR		MLR			
	comp=Z,13μm,15.0s,MS5.4								
YAK				MLR		MLR			
	comp=E,4μm,14.0s,MS5.3								
YAK				MLR		MLR			
	comp=N,7μm,14.0s,MS5.3								
KSRS	**Korea Array**	**21.32**	**256**	P		**P**		**13 54 50.5**	**+0.4**
	comp=N,115nm,0.8s,mb5.2,baz=71,slow=9.7,SNR=176								
KSRS				LR		LR		14 03 50.1	
	comp=N,16μm,18.4s,MS5.5,baz=57,slow=39								
KSRS	**Korea Array**	**21.32**	**256**	P		**P**		**13 54 50.5**	**+0.5**
KSRS				pmax		pmax			
	comp=Z,115nm,0.8s,mb5.3								
KSRS				MLR		MLR			
	comp=Z,16μm,18.5s,MS5.4								
KS15	**Wonju Array Si**	**21.35**	**256**	*e*P		**P**		**13 54 51.1**	**+0.8**
INCN	**Inchon**	**22.18**	**257**	P		**P**		**13 55 00.3**	**+1.1**
	SNR=89								
INCN	**Inchon**	**22.18**	**257**	⇓*i*P		**P**		**13 54 59.6**	**+0.4**
	comp=Z,2μm,1.4s,mb6.3								
INCN				*e*P				13 55 00.0	
INCN				*e*Sn		**S**		**13 59 04.0**	**+0.9**
INCN				LR		LR			
	comp=Z,19μm,20.0s,MS5.5								
SNY	**Shenyang**	**22.36**	**270**	P		**P**		**13 55 00.0**	**-1.2**
SNY				S		**S**		**13 58 57.0**	**-10**
SNY				AMB		AMB			
	comp=Z,8μm,8.4s								
SNY				LR		LR			
	comp=N,17μm,15.7s,MS5.7								
SNY				LR		L

HIA LR LR
comp=Z,17µm,20.0s,MS5.5
DL2 Dalian 24.93 265 ⇑P **P 13 55 26.0 -0.2**
DL2 S **S 13 59 50.5 +1.4**
DL2 AMB AMB
comp=Z,200nm,1.2s,mb5.5
DL2 AMB AMB
comp=Z,4µm,7.5s
DL2 LR LR
comp=N,5µm,13.8s,MS5.3
DL2 LR LR
comp=E,4µm,13.2s,MS5.3
DL2 LR LR
comp=Z,6µm,16.7s,MS5.2
GAMB Gambell 25.95 35 *e*P **P 13 55 37.3 +2.0**
BOD Bodaibo 27.00 310 ⇑*i*P **P 13 55 43.1 -1.7**
BOD pmax pmax
comp=Z,136nm,1.9s,mb5.2
CIT Chita 27.02 298 *e*P **P 13 55 45.0 0.0**
CIT *e* 13 55 59.4
CIT *e* 13 56 41.0
CIT *e* 13 59 09.6
CIT *e* 14 00 13.2
CIT *e* 14 01 57.7
JOW Kunigami 28.13 236 P **P 13 55 55.1 -0.1**
comp=Z,54nm,1.0s,mb5.1,baz=34,slow=11,SNR=5.9
BJI Beijing 28.22 271 P **P 13 55 57.0 +1.1**
BJI S **S 14 00 40.5 -0.6**
BJI AMB AMB
comp=Z,676nm,1.5s,mb6.0
BJI AMB AMB
comp=Z,6µm,4.4s
BJI LR LR
comp=E,17µm,19.1s
BJI LR LR
comp=N,12µm,14.1s
BJI LR LR
comp=Z,15µm,17.6s,MS5.7
BJT Baijiatuau 28.24 271 ⇓*e*P **P 13 55 55.9 -0.2**
BJT pmax pmax
comp=Z,1µm,1.4s
BJT MLR MLR
comp=Z,17µm,20.0s
BJT Baijiatuau 28.24 271 ⇓*e*P **P 13 55 55.9 -0.1**
comp=Z,1µm,1.4s,mb6.4
BJT *e*P pP 13 55 57.9 -2.5
BJT LR LR
comp=Z,17µm,20.0s,MS5.6
TIXI Tiksi 28.34 343 *c i*P **P 13 55 55.3 -1.3**
TIXI *e* 13 56 43.6
TIXI *e*S **S 14 00 42.1 -0.3**
TIXI pmax pmax
comp=N,198nm,2.2s
TIXI pmax pmax
comp=Z,370nm,2.0s,mb5.7
TIXI pmax pmax
comp=Z,611nm,5.6s
TIXI MLR MLR
comp=Z,15µm,13.0s,MS5.8
TIXI Tiksi 28.34 343 ⇑*i*P **P 13 55 55.0 -1.6**
comp=Z,74nm,0.5s,mb5.6
TIXI *e*P 13 55 55.3
TIXI *e*PcP PcP 13 59 05.1 -3.8
MIDW Midway 28.62 119 PFAKE 13 56 10.0 +10
MIDW LR LR
comp=Z,13µm,20.0s,MS5.5
TIA Tai'an 29.36 264 *e*P **P 13 56 05.5 -0.6**
TIA S **S 14 00 59.0 -0.1**
TIA LR LR
comp=N,6µm,14.0s,MS5.5
TIA LR LR
comp=E,6µm,14.0s,MS5.5
SSE Sheshan 29.56 251 P **P 13 56 08.3 +0.4**
SSE XP sP 13 56 12.8 -1.2
SSE S **S 14 01 02.0 -0.3**
SSE XS sS 14 01 07.5 -1.9
SSE AMB AMB
comp=Z,95nm,0.8s,mb5.6
SSE AMB AMB
comp=Z,1µm,7.3s
SSE LR LR
comp=N,16µm,13.4s,MS5.9
SSE LR LR
comp=E,8µm,13.4s,MS5.9
SSE LR LR
comp=Z,9µm,13.2s,MS5.6
NJ2 Nanjing 30.52 255 *e*P **P 13 56 16.3 -0.1**
NJ2 AP pP 13 56 20.3 -0.4
NJ2 XP sP 13 56 23.0 +0.5
NJ2 PP PP 13 57 17.5 -7.7
NJ2 S **S 14 01 15.0 -2.4**
NJ2 XS sS 14 01 23.5 -1.0
NJ2 AMB AMB
comp=Z,20nm,0.6s,mb5.1
NJ2 AMB AMB
comp=Z,2µm,5.3s
NJ2 LR LR
comp=N,7µm,18.0s,MS5.6
NJ2 LR LR
comp=E,11µm,16.3s,MS5.6
NJ2 LR LR
comp=Z,57µm,16.3s,MS6.3
HHC Hu-ho-hao-te 31.09 276 ⇓P **P 13 56 23.0 +1.7**
HHC AP pP 13 56 30.8 +5.1
HHC PP PP 13 57 24.3 -7.1
HHC PCP PcP 13 59 20.8 +4.3
HHC S **S 14 01 24.5 -1.6**
HHC SCP ScP 14 02 59.8 +1.0
HHC SS SS 14 03 07.0 -32
HHC SCS ScS 14 06 54.0 -1.8
HHC AMB AMB
comp=Z,255nm,1.3s,mb5.9
HHC AMB AMB
comp=Z,4µm,7.2s
HHC LR LR
comp=N,18µm,15.4s,MS6.0
HHC LR LR
comp=E,20µm,16.3s,MS6.0
HHC LR LR
comp=Z,18µm,15.3s,MS5.9
ULN Ulaanbaatar 31.83 291 P **P 13 56 29.3 +1.5**
SNR=61
ULN Ulaanbaatar 31.83 291 *e*P **P 13 56 27.2 -0.6**
ULN *e*S **S 14 01 40.0 +2.5**
ULN pmax pmax
comp=Z,249nm,1.5s,mb5.8
ULN Ulaanbaatar 31.83 291 *e*P **P 13 56 27.2 -0.6**
comp=Z,249nm,1.5s,mb5.8
ULN ⇑*i*P 13 56 28.3
ULN *e*S **S 14 01 40.0 +2.5**
TIY Taiyuan 31.88 270 P **P 13 56 31.5 +3.2**
TIY PP PP 13 57 34.0 -6.2
TIY S **S 14 01 44.0 +5.5**
TIY AMB AMB
comp=Z,2µm,6.5s
TIY LR LR
comp=N,7µm,13.9s,MS5.5
TIY LR LR
comp=E,5µm,16.2s,MS5.5
TIY LR LR
comp=Z,8µm,17.0s,MS5.4
BTO Baotou 32.26 276 *e*P **P 13 56 32.5 +0.9**
BTO AMB AMB
comp=Z,44nm,1.6s,mb5.0
SONM Songino Array 32.26 291 P **P 13 56 32.5 +0.9**
comp=Z,13nm,0.7s,mb4.9,baz=84,slow=7.9,SNR=37
SONM S **S 14 01 37.1 -7.3**
comp=Z,1.7nm,0.8s,baz=99,slow=8.9,SNR=2.1
SONM LR LR 14 11 30.7
comp=Z,17µm,18.8s,MS5.8,baz=78,slow=40
SONM Songino Array 32.26 291 P **P 13 56 32.5 +0.9**
SONM S **S 14 01 37.1 -7.2**
SONM pmax pmax
comp=Z,13nm,0.7s
SONM smax
comp=N,2.0nm,0.9s
SONM MLR MLR
comp=Z,17µm,18.8s
SVW2 Sparrevohn 32.46 44 *e*P **P 13 56 33.8 +0.6**
IRK Irkutsk 32.67 299 *e*P **P 13 56 33.0 -2.1**
IRK *e* 13 59 19.0
IRK pmax pmax
comp=Z,92nm,1.9s,mb5.4
TLY Talaya 33.16 298 P **P 13 56 40.6 +1.3**
comp=Z,340nm,0.8s,mb6.3,SNR=10
TLY Talaya 33.16 298 *c i*P **P 13 56 40.1 +0.8**
SNR=22
TLY Talaya 33.16 298 *c i*P **P 13 56 38.3 -1.0**
TLY pmax pmax
comp=Z,32nm,1.3s,mb5.1
TLY MLR MLR
comp=Z,21µm,15.0s,MS6.0
GUMO Guam 33.31 197 LR LR 14 07 31.3
comp=Z,7µm,19.9s,MS5.4,baz=33,slow=32
GUMO Guam 33.31 197 P **P 13 56 40.0 -1.0**
GUMO pmax pmax
comp=Z,147nm,1.0s,mb5.9
GUMO MLR MLR
comp=Z,7µm,20.0s,MS5.4
GUMO Guam 33.31 197 P **P 13 56 40.0 -1.0**
comp=Z,147nm,1.0s,mb5.9
GUMO LR LR
comp=Z,7µm,20.0s,MS5.4
OHAK Old Harbor 33.62 51 *e*P **P 13 56 43.0 -0.4**
comp=Z,354nm,1.7s,mb6.0
IMA2 Indian Mountai 33.93 35 *e*P **P 13 56 46.4 +0.5**
KDAK Kodiak Island 33.97 50 P **P 13 56 46.2 -0.1**
comp=Z,862nm,1.4s,mb6.5,SNR=9.5
KDAK Kodiak Island 33.97 50 LR LR 14 10 08.1
comp=Z,21µm,21.7s,MS5.8,baz=263,slow=36
KDAK Kodiak Island 33.97 50 ⇑*i*P **P 13 56 45.0 -1.4**
comp=Z,124nm,0.9s,mb5.8
KDAK *e*P 13 56 45.1
KDAK LR LR
comp=Z,5µm,20.0s,MS5.2
WHN Wuhan 34.49 257 ⇓P **P 13 56 50.5 -0.7**
WHN AP pP 13 56 57.8 +2.3
WHN S **S 14 02 11.3 -7.8**
WHN AMB AMB
comp=Z,61nm,0.6s,mb5.7
WHN AMB AMB
comp=Z,2µm,9.9s
WHN LR LR
comp=N,11µm,12.3s,MS6.1
WHN LR LR
comp=E,18µm,13.7s,MS6.1
WHN LR LR
comp=Z,18µm,16.2s,MS5.9
MOY Mondy 34.78 299 *e*P **P 13 56 53.2 -0.2**
MOY pmax pmax
comp=Z,135nm,2.4s,mb5.5
SLKM Skilak Lake 35.08 45 *e*P **P 13 56 55.4 -0.5**
QZH Quanzhou 35.41 246 ⇓*i*P **P 13 56 59.3 +0.2**
QZH PP PP 13 58 18.8 -0.7
QZH S **S 14 02 27.5 -5.9**
QZH AMB AMB
comp=Z,1µm,1.8s,mb6.6
QZH AMB AMB
comp=Z,6µm,5.9s
QZH LR LR
comp=N,18µm,17.4s,MS6.0
QZH LR LR
comp=E,13µm,15.1s,MS6.0
QZH LR LR
comp=Z,18µm,15.9s,MS5.9
PMR Palmer 35.59 43 P **P 13 56 57.4 -2.9**
PMR pmax pmax
comp=Z,140nm,1.4s,mb5.7
PMR Palmer 35.59 43 *e*P **P 13 56 57.7 -2.6**
comp=Z,165nm,1.2s,mb5.8
PMR LR LR
comp=Z,11µm,22.0s,MS5.6
XAN Xi'an 36.21 267 P **P 13 57 05.5 -0.4**
XAN AP pP 13 57 08.0 -2.3
XAN PP PP 13 58 24.5 -3.7
XAN S **S 14 02 39.3 -6.2**
XAN AMB AMB
comp=Z,55nm,1.4s,mb5.3
XAN AMB AMB
comp=Z,2µm,7.3s
XAN LR LR
comp=N,5µm,15.6s,MS5.7
XAN LR LR
comp=E,9µm,14.8s,MS5.7
XAN LR LR
comp=Z,14µm,14.4s,MS5.9
COLA College 36.22 38 ⇑*i*P **P 13 57 06.2 +0.5**
COLA College 36.22 38 ⇑*e*P **P 13 57 06.1 +0.4**
comp=Z,284nm,1.0s,mb6.2
COLA LR LR
comp=Z,9µm,19.0s,MS5.6
EYAK Cordova Ski Ar 37.28 45 *e*P **P 13 57 14.4 -0.4**
comp=Z,387nm,1.0s,mb6.2
MENT Mentasta 38.06 41 *e*P **P 13 57 22.4 +1.1**
KRAR Krasnoyarsk 38.59 308 *e*P **P 13 57 25.0 -0.9**
KRAR pmax pmax
comp=Z,56nm,1.0s,mb5.2
LZH Lanzhou 38.66 273 *e*P **P 13 57 28.8 +2.1**
LZH AP pP 13 57 32.3 +1.3
LZH XP sP 13 57 33.5 +0.7
LZH PP PP 13 58 59.3 +4.2
LZH S **S 14 03 22.3 -0.4**
LZH XS sS 14 03 28.5 -1.4
LZH SS SS 14 06 03.8 -9.0
LZH AMB AMB
comp=Z,400nm,1.3s,mb6.0
LZH AMB AMB
comp=Z,1µm,4.2s
LZH LR LR
comp=E,11µm,14.4s
LZH LR LR
comp=Z,13µm,15.8s,MS5.8
EGAK Eagle 39.08 38 ⇑*e*P **P 13 57 29.3 -0.6**
comp=Z,224nm,1.0s,mb5.8
EGAK *e*P 13 57 29.5
EGAK *e*PP PP 13 59 07.5 +8.3
EGAK LR LR
comp=Z,8µm,20.0s,MS5.6
GTA Gaotai 39.82 280 ⇑P **P 13 57 38.3 +2.0**
GTA AP pP 13 57 41.5 +0.8
GTA XP sP 13 57 43.3 +0.9
GTA PP PP 13 59 15.0 +7.3
GTA PCP PcP 13 59 42.5 +0.4
GTA SCP ScP 14 03 30.5 +0.1
GTA PCS PcS 14 03 31.5 -0.7
GTA S **S 14 03 45.0 +5.0**
GTA XS sS 14 03 51.8 +4.5
GTA SCS ScS 14 07 42.5 -0.7
GTA AMB AMB
comp=Z,39nm,1.1s,mb5.0
GTA AMB AMB
comp=Z,4µm,7.2s
GTA LR LR
comp=N,13µm,16.5s,MS5.9
GTA LR LR
comp=E,7µm,15.6s,MS5.9
GTA LR LR
comp=Z,10µm,15.6s,MS5.8
DAWY Dawson 39.91 39 ⇑*i*P **P 13 57 37.1 +0.4**
DAWY *e*P 13 57 37.3
DAWY *e*PP PP 13 59 07.1 -1.1
GZH Guangzhou 40.10 249 P **P 13 57 34.8 -4.0**
GZH PP PP 13 59 10.0 -1.0
GZH S **S 14 03 35.5 -9.0**
GZH LR LR
comp=N,12µm,20.7s,MS5.8
GZH LR LR
comp=E,9µm,21.6s,MS5.8
GZH LR LR
comp=Z,14µm,14.8s
HKC Hong Kong Obse 40.12 248 ⇑*i*P **P 13 57 44.0 +5.0**
PVCP Virac 41.08 228 *e*P **P 13 57 46.3 -0.6**
CD2 Chengdu 41.57 267 ⇑*i*P **P 13 57 51.3 +0.4**
CD2 AP pP 13 57 58.0 +2.7
CD2 XP sP 13 58 03.5 +6.5
CD2 PP PP 13 59 30.5 +3.7
CD2 S **S 14 04 04.5 -1.8**
CD2 XS sS 14 04 16.8 +3.2
CD2 SS SS 14 07 04.0 -7.1
CD2 SCS ScS 14 07 51.5 -2.5
CD2 AMB AMB
comp=Z,970nm,1.0s,mb6.4
CD2 AMB AMB
comp=Z,4µm,7.2s
CD2 LR LR
comp=N,8µm,19.2s,MS5.8
CD2 LR LR
comp=E,9µm,20.4s,MS5.8
CD2 LR LR
comp=Z,10µm,18.0s,MS5.7
INK Inuvik 41.84 32 ⇑*i*P **P 13 57 53.0 +0.3**
comp=Z,2µm,0.6s,mb6.9
INK *e*P 13 57 53.5
INK *e*PP PP 13 59 32.3 +3.1
GYA Guiyang 42.30 259 P **P 13 57 55.5 -1.4**
GYA PP PP 13 59 37.3 +2.5
GYA PCP PcP 13 59 51.5 +1.1
GYA SCP ScP 14 03 42.3 +1.9
GYA S **S 14 04 15.8 -1.4**
GYA AMB AMB
comp=Z,50nm,0.6s,mb5.3
GYA AMB AMB
comp=Z,550nm,4.3s
GYA LR LR
comp=N,10µm,16.8s,MS5.8
GYA LR LR
comp=E,6µm,17.4s,MS5.8
GYA LR LR
comp=Z,5µm,17.4s,MS5.5
SKAG Skagway 42.62 45 *e*P **P 13 58 01.1 +2.0**
comp=Z,1µm,2.8s,mb6.1
OTRP Odiongan 43.23 229 *e*P **P 13 58 04.7 +0.2**
SIT Sitka 43.27 49 *e*P **P 13 58 05.4 +1.1**
SIT pmax pmax
comp=Z,369nm,1.7s,mb5.8
SIT MLR MLR
comp=Z,17µm,19.0s,MS6.0
SIT Sitka 43.27 49 *e*P **P 13 58 05.4 +1.1**
comp=Z,290nm,1.7s,mb5.7
SIT *e*P 13 58 06.2
SIT LR LR
comp=Z,17µm,19.0s,MS6.0
ZAA0 Zalesovo Array 43.62 307 ⇑*i*P **P 13 58 05.5 -1.7**
ZAA0 *e*P 13 58 06.5
ZAA0 *e*PcP PcP 13 59 52.8 -1.6
ZALV Zalesovo Beam 43.62 307 P **P 13 58 06.4 -0.8**
comp=Z,18nm,0.4s,mb5.1,baz=63,slow=7.7,SNR=76
ZALV PcP PcP 13 59 52.5 -1.9
comp=Z,17nm,0.9s,baz=110,slow=2.2,SNR=5.5
ZALV LR LR 14 17 15.6
comp=Z,12µm,20.6s,MS5.8,baz=68,slow=38
ZALV Zalesovo Beam 43.62 307 P **P 13 58 06.4 -0.8**
ZALV 13 59 52.5
ZALV pmax pmax
comp=Z,18nm,0.4s,mb5.2
ZALV pmax pmax
comp=Z,17nm,0.9s,mb4.8
ZALV MLR MLR
comp=Z,12µm,20.6s,MS5.8
ZALV Zalesovo Beam 43.62 307 P **P 13 58 06.4 -0.8**
ZALV PcP PcP 13 59 52.5 -1.9
ZALV LR LR 14 17 15.6
SJMP San Jose 43.63 231 *e*P **P 13 58 07.7 0.0**
MSLP Maasin 43.68 224 *e*P **P 13 58 07.7 -0.4**
NVS Novosibirsk 44.20 308 ⇑*i*P **P 13 58 10.7 -1.1**
NVS *e* 13 59 53.4
NVS *e*S **S 14 04 36.9 -7.5**
NVS *e*SS SS 14 08 04.6 +2.8
NVS pmax pmax
comp=Z,282nm,2.3s,mb5.6
NVS pmax pmax
comp=N,100nm,1.7s
NVS pmax pmax
comp=E,174nm,2.2s
BUSP Coron 44.50 231 *e*P **P 13 58 14.7 0.0**
BIPH Bisig 44.67 221 ⇓*e*P **P 13 58 14.4 -1.7**
CRAG Craig 44.93 50 *e*P **P 13 58 17.5 -0.2**
WRAK Wrangell Islan 45.02 49 *e*P **P 13 58 19.8 +1.4**
comp=E,64nm,0.9s,mb5.5
QIZ Qiongzhong 45.27 249 P **P 13 58 21.0 +0.2**
QIZ PP PP 14 00 06.5 -0.2
QIZ S **S 14 05 02.0 +1.3**
QIZ AMB AMB
comp=Z,50nm,1.6s,mb5.1
QIZ AMB AMB
comp=Z,2µm,7.8s
QIZ LR LR
comp=N,7µm,18.5s,MS5.8
QIZ LR LR
comp=E,8µm,19.3s,MS5.8
QIZ LR LR
comp=Z,7µm,17.5s,MS5.7
QIZ Qiongzhong 45.27 249 *e*P **P 13 58 22.0 +1.1**
comp=Z,191nm,1.5s,mb5.7
QIZ *e*P pP 13 58 24.0 -1.3
BUKP Musuan 45.54 222 *e*P **P 13 58 22.6 -0.4**
DLBC Dease Lake 45.55 46 ⇑*i*P **P 13 58 24.2 +1.7**
DLBC *e*P 13 58 24.7
MATI Mati 45.81 220 *e*P **P 13 58 24.5 -0.6**
KMI Kunming 45.85 261 P **P 13 58 25.8 +0.4**
KMI AP pP 13 58 28.3 -1.6
KMI XP sP 13 58 29.5 -2.1
KMI PP PP 14 00 13.0 +0.2
KMI S **S 14 05 07.3 -1.8**
KMI XS sS 14 05 12.0 -4.4
KMI SS SS 14 08 22.5 -11
KMI AMB AMB
comp=Z,160nm,1.6s,mb5.7
KMI AMB AMB
comp=Z,3µm,5.7s
KMI LR LR
comp=N,5µm,14.9s,MS5.8
KMI LR LR
comp=E,8µm,15.6s,MS5.8
KMI LR LR
comp=Z,6µm,18.4s,MS5.6
WMQ Urumqi 45.87 292 P **P 13 58 27.0 +1.7**
WMQ AP pP 13 58 37.0 +7.3
WMQ PCP PcP 14 00 04.5 +2.2
WMQ PP PP 14 00 14.5 +1.9
WMQ SCP ScP 14 03 53.5 -1.2
WMQ PCS PcS 14 03 57.5 +1.0
WMQ S **S 14 05 07.8 -1.1**
WMQ SCS ScS 14 08 17.5 -3.1
WMQ SS SS 14 08 24.0 -9.1
WMQ AMB AMB
comp=Z,98nm,1.3s,mb5.6
WMQ AMB AMB
comp=Z,5µm,5.2s
WMQ LR LR
comp=N,22µm,24.4s,MS6.1
WMQ LR LR
comp=E,14µm,27.7s,MS6.1
WMQ LR LR
comp=Z,8µm,20.0s
DAV Davao City (W) 46.01 221 ⇑*e*P **P 13 58 21.6 -5.1**
DAV Davao City (W) 46.01 221 PFAKE 13 58 40.0 +13
DAV LR LR
comp=Z,6µm,19.0s,MS5.6
PAGZ Pagadian 46.38 224 *e*P **P 13 58 30.1 +0.5**
MK31 Makanchi Array 47.92 298 ⇑*e*P **P 13 58 40.9 -0.3**
MK31 *e*P 13 58 41.6
MKAR Makanchi Array 47.92 298 P **P 13 58 41.2 0.0**
comp=Z,56nm,0.7s,mb5.7,baz=68,slow=7.3,SNR=156
MKAR S **S 14 05 31.8 -6.2**
comp=Z,0.6nm,0.7s,baz=200,slow=13,SNR=2.2
MKAR LR LR 14 19 44.9
comp=Z,17µm,19.6s,MS6.0,baz=64,slow=37
MKAR Makanchi Array 47.92 298 *i* P **P 13 58 41.2 -0.1**
MKAR pmax pmax
comp=Z,56nm,0.7s
KURK Kurchatov 48.36 305 P **P 13 58 44.6 -0.1**
comp=Z,850nm,0.8s,mb6.8,SNR=19
KURK Kurchatov 48.36 305 P **P 13 58 44.5 -0.2**
SNR=60
KURK Kurchatov 48.36 305 S **S 14 05 41.3 -3.0**
comp=Z,3.3nm,0.7s,baz=75,slow=30,SNR=3.6
KURK LR LR 14 20 09.2
comp=Z,14µm,18.2s,MS6.0,baz=55,slow=37
KURK Kurchatov 48.36 305 ⇑*e*P **P 13 58 44.6 -0.1**
KURK pmax pmax
comp=Z,208nm,1.4s,mb6.0
KURK MLR MLR
comp=Z,17µm,21.0s,MS6.0
KURK Kurchatov 48.36 305 ⇑*e*P **P 13 58 44.7 0.0**
POHA Pohakuloa 48.68 105 *e*P **P 13 58 46.7 -0.8**
comp=Z,179nm,1.1s,mb6.0
ALE Alert 50.35 6 P **P 13 58 59.4 -0.1**
comp=Z,748nm,1.7s,mb6.4,SNR=21
KDM Kudat 50.55 231 ⇓P **P 13 59 00.5 -1.2**
TNE Ternate 50.87 216 ⇑*e*P **P 13 59 09.0 +4.9**
YKW3 Yellowknife Ar 51.00 37 *e*P **P 13 59 05.3 +0.8**
YKA Yellowknife Ar 51.03 37 P **P 13 59 05.0 +0.2**
comp=Z,36nm,0.8s,mb5.4,baz=298,slow=7.5,SNR=25
YKA LR LR 14 22 55.8

comp=Z,933nm,20.9s,MS4.8,baz=150,slow=39
YKA Yellowknife Ar 51.03 37 P P 13 59 05.0 +0.2
YKA pmax pmax
comp=Z,36nm,0.8s
YKA MLR MLR
comp=Z,933nm,20.9s
YKA Yellowknife Ar 51.03 37 P P 13 59 05.0 +0.2
YKA LR LR 14 22 55.8
LSA Lhasa 51.06 274 P P 13 59 08.0 +2.5
LSA PP PP 14 01 02.5 +0.6
LSA S **S 14 06 13.0 -9.4**
LSA LR LR
comp=E,5µm,17.5s
LSA LR LR
comp=Z,8µm,16.7s,MS5.8
LSA Lhasa 51.06 274 *eP* **P 13 59 07.6 +2.1**
LSA *eS* **S 14 06 16.9 -5.5**
LSA pmax pmax
comp=Z,212nm,1.0s,mb6.0
LSA MLR MLR
comp=Z,6µm,22.0s,MS5.6
LSA Lhasa 51.06 274 *eP* **P 13 59 07.6 +2.2**
comp=Z,212nm,1.0s,mb6.0
LSA *eP* 13 59 08.3
LSA *eS* **S 14 06 16.9 -5.5**
LSA LR LR
comp=Z,6µm,22.0s,MS5.6
MYLDM **Lahad Datu 51.12 228** ⇓P **P 13 59 07.9 +1.8**
RES Resolute Bay 51.25 19 ⇑*eP* **P 13 59 06.7 +0.4**
comp=Z,13µm,1.3s
RES *eP* 13 59 06.9
RES *ePP* PP 14 01 04.5 +1.7
CHRT Chiangrai 51.39 258 ⇑P **P 13 59 10.0 +2.0**
comp=Z,684nm,1.0s,mb6.5
KKM Kota Kinabalu 51.61 231 ⇓P **P 13 59 10.9 +1.1**
VOSK Vostochnaya 51.70 310 P **P 13 59 10.2 +0.3**
VOSK pmax pmax
comp=Z,182nm,1.3s,mb5.8
BVAR Borovoye Array 51.87 310 S **S 14 06 30.2 -2.8**
comp=Z,1.4nm,0.7s,baz=25,slow=25,SNR=4.1
BVAR LR LR 14 22 50.5
comp=Z,14µm,20.2s,MS6.0,baz=220,slow=38
BRVK Borovoye 51.91 310 P **P 13 59 11.4 -0.1**
comp=Z,633nm,0.9s,mb6.5,SNR=46
BRVK Borovoye 51.91 310 P **P 13 59 11.8 +0.3**
SNR=83
BRVK Borovoye 51.91 310 ⇑*eP* **P 13 59 11.5 0.0**
IMP Imphal 52.17 268 *ex* x 13 59 20.0
TSM Tawau 52.20 228 ⇓P **P 13 59 10.9 -3.3**
CHTO Chiang Mai 52.69 258 P **P 13 59 19.4 +1.7**
SNR=37
CHTO Chiang Mai 52.69 258 P **P 13 59 17.3 -0.4**
CHTO pmax pmax
comp=Z,89nm,0.9s,mb5.7
CHTO Chiang Mai 52.69 258 *eP* **P 13 59 17.4 -0.4**
comp=Z,89nm,0.8s,mb5.8
CHTO *e* 13 59 24.7
CHTO LR LR
comp=Z,8µm,20.0s,MS5.7
CM31 Chiang Mai Arr 52.94 258 *eP* **P 13 59 19.6 +0.1**
CM31 *e* 13 59 26.8
CMAR Chiang Mai Arr 52.94 258 P **P 13 59 20.1 +0.5**
comp=Z,17nm,0.9s,mb5.0,baz=35,slow=8.0,SNR=74
CMAR LR LR 14 24 18.6
comp=Z,6µm,18.7s,MS5.7,baz=56,slow=39
CMAR PKPPKP 14 29 47.7
comp=Z,0.5nm,0.7s,baz=262,slow=3.5,SNR=5.1
AAA Alma-Ata 52.94 297 *i* P **P 13 59 20.7 +1.4**
AAA *eS* **S 14 06 40.0 -8.0**
AAA pmax pmax
comp=Z,3µm,3.5s
AAA smax
comp=N,3µm,6.8s
AAA MLR MLR
comp=Z,15µm,15.0s,MS6.2
C03A Quillayute Air 52.95 56 ⇑P **P 13 59 18.6 -0.7**
baz=53
SHL Shillong 53.10 270 *eP* **P 13 59 20.0 -0.7**
SHL *ex* x 14 06 34.0
KBS Kingsbay 53.29 352 *eP* **P 13 59 20.1 -1.3**
KBS *e* 14 01 21.2
KBS Kingsbay 53.29 352 ⇑*eP* **P 13 59 21.8 +0.4**
KBS Kingsbay 53.29 352 *eP* **P 13 59 21.6 +0.1**
comp=Z,243nm,0.9s,mb6.1
KBS LR LR
comp=Z,4µm,22.0s,MS5.4
SPITS Spitsbergen Ar 53.42 350 P **P 13 59 22.2 -0.1**
comp=Z,549nm,1.3s,mb6.3
SPITS Spitsbergen Ar 53.42 350 P **P 13 59 22.3 -0.1**
SPITS pmax pmax
comp=Z,549nm,1.3s
SPB4 Spitsbergen Ar 53.42 350 *eP* **P 13 59 22.5 +0.1**
SPB4 *eP* 13 59 23.1
B04A Port Angeles 53.51 56 ⇑P **P 13 59 23.3 -0.1**
baz=53
BDT Bhumibol Dam 53.74 257 ⇓P **P 13 59 27.0 +1.5**
comp=Z,27nm,1.0s,mb5.1
VDB Vedder Mountai 53.81 54 P **P 13 59 25.6 0.0**
A05A Maple Falls 53.83 54 ⇑P **P 13 59 24.7 -1.1**
baz=54,SNR=6.8
D03A Wishkah Elem. 53.84 57 ⇑P **P 13 59 25.1 -0.7**
baz=54
ULHL Ulahol 53.93 296 P **P 13 59 29.0 +2.4**
SNR=11
TKM2 Tokmak 2 53.97 297 P **P 13 59 28.3 +1.4**
SNR=107
C04A Brinnon 53.99 56 ⇓P **P 13 59 27.0 +0.1**
baz=54,SNR=5.8
A06A Chilliwack 54.12 54 ⇓P **P 13 59 27.3 -0.6**
baz=54
GNW Green Mountain 54.15 56 *eP* **P 13 59 28.3 +0.2**
comp=Z,159nm,1.8s,mb5.7
GNW *eP* 13 59 29.0
B05A Bryant 54.21 55 ⇓P **P 13 59 28.2 -0.3**
baz=54,SNR=10
JCW Jim Creek 54.34 55 *eP* **P 13 59 28.6 -0.9**
D04A Dobbs Creek Ra 54.40 56 ⇑P **P 13 59 30.5 +0.5**
baz=54
B06A Marblemount 54.42 54 ⇑P **P 13 59 29.5 -0.6**
baz=54,SNR=5.4
RPW Rockport 54.44 55 *eP* **P 13 59 29.7 -0.5**
comp=Z,97nm,1.6s,mb5.5
CHMS Chumysh 54.45 298 P **P 13 59 32.4 +2.1**
SNR=42
USP Ospenovka 54.46 298 P **P 13 59 31.8 +1.3**
SNR=192
BMW Boistfort Moun 54.49 57 *eP* **P 13 59 31.0 +0.4**
KBK Karagaybulak 54.51 297 P **P 13 59 33.0 +2.2**
SNR=102
F03A Seaside 54.59 58 ⇑P **P 13 59 31.0 -0.3**
baz=54
FRU Bishkek 54.62 297 ⇑*iP* **P 13 59 32.5 +0.9**
FRU *eS* **S 14 07 10.0 -0.7**
FRU *e* 14 09 18.0
FRU pmax pmax
comp=Z,980nm,2.1s,mb6.5
FRU pmax pmax
comp=Z,4µm,7.0s
KZA Kyzart 54.64 296 P **P 13 59 34.1 +2.4**
SNR=73
E04A Onalaska 54.73 57 ⇑P **P 13 59 32.1 -0.2**
baz=55
C05A Tolt Reservoir 54.74 55 ⇓P **P 13 59 31.9 -0.5**
baz=55,SNR=8.7
A07A Ashnola River, 54.76 53 ⇓P **P 13 59 32.2 -0.4**
baz=55,SNR=21
RMW Rattlesnake Mo 54.80 56 P **P 13 59 33.7 +0.9**
AAK Ala-Archa 54.81 297 P **P 13 59 34.3 +1.3**
SNR=118
D05A Enumclaw 54.83 56 ⇑P **P 13 59 33.5 +0.4**
baz=55,SNR=5.5
SVE Sverdlovsk 54.84 318 ⇓*eP* **P 13 59 33.3 +0.3**
SVE *ePPP* 14 02 44.2
SVE *eS* **S 14 07 10.0 -3.2**
SVE *e* 14 09 18.5
SVE *eSS* SS 14 10 50.0 -5.8
SVE *eSSS* 14 12 54.1
SVE pmax pmax
comp=Z,434nm,1.6s,mb6.2
SVE MLR MLR
comp=Z,10µm,15.0s,MS6.0
TAPN Taplejung 54.88 274 *eP* **P 13 59 35.3 +1.6**
comp=Z,446nm,1.0s,mb6.5
TAPN Taplejung 54.88 274 *eP* **P 13 59 35.6 +1.9**
comp=Z,446nm,1.0s,mb6.5
TAPN Taplejung 54.88 274 *eP* **P 13 59 35.6 +1.9**
comp=Z,446nm,1.0s,mb6.5
H02A Toledo 55.00 60 ⇓P **P 13 59 33.7 -0.6**
baz=55
UCH Uchtor 55.02 297 P **P 13 59 37.3 +2.8**
SNR=6.1
C06A Tall Timber Ra 55.07 55 ⇓P **P 13 59 34.9 +0.1**
baz=55
G03A Yamhill 55.08 59 ⇑P **P 13 59 35.5 +0.6**
baz=55
LON Longmire 55.17 56 *eP* **P 13 59 35.6 +0.1**
LON pmax pmax
comp=Z,11nm,1.1s,mb4.8
LON Longmire 55.17 56 *eP* **P 13 59 35.6 +0.1**
comp=Z,11nm,1.1s,mb4.8
LON *eP* 13 59 36.7
B07A Winthrop 55.22 54 ⇑P **P 13 59 35.7 -0.1**
baz=55,SNR=14
EKS2 Erkin-Say 55.23 298 P **P 13 59 38.2 +2.2**
SNR=12
F04A Amboy 55.26 58 ⇓P **P 13 59 36.1 -0.1**
baz=55
E05A Randle 55.30 57 ⇓P **P 13 59 36.3 -0.2**
baz=55,SNR=9.6
ODAN Odare 55.41 274 *eP* **P 13 59 38.6 +1.1**
comp=Z,1µm,1.7s,mb6.7
ODAN Odare 55.41 274 *eP* **P 13 59 38.7 +1.2**
comp=Z,1µm,1.7s,mb6.7
ODAN Odare 55.41 274 *eP* **P 13 59 38.7 +1.2**
comp=Z,1µm,1.7s,mb6.7
H03A Soap Creek Ran 55.42 59 ⇑P **P 13 59 38.3 +1.0**
baz=55
A08A Turner Farm, O 55.43 53 ⇓P **P 13 59 36.9 -0.5**
baz=55,SNR=30
I02A Mapleton 55.46 60 ⇑P **P 13 59 38.0 +0.4**
baz=55
HNR Honiara 55.48 173 *eP* **P 13 59 40.8 +2.8**
HNR pmax pmax
comp=Z,349nm,1.1s,mb6.3
HNR MLR MLR
comp=Z,8µm,22.0s,MS5.8
HNR Honiara 55.48 173 *eP* **P 13 59 40.8 +2.8**
comp=Z,349nm,1.1s,mb6.3
HNR LR LR
comp=Z,8µm,22.0s,MS5.8
D06A Cle Elum 55.49 56 ⇑P **P 13 59 37.6 -0.2**
baz=55,SNR=6.4
ETW Entiat 55.56 55 *eP* **P 13 59 37.8 -0.6**
comp=Z,171nm,1.4s,mb5.9
PMG Port Moresby 55.57 188 *eP* **P 13 59 41.8 +3.1**
PMG pmax pmax
comp=Z,121nm,1.1s
PMG Port Moresby 55.57 188 *eP* **P 13 59 41.8 +3.1**
comp=Z,121nm,1.1s,mb5.8
PMG *eP* 13 59 43.8
AML Almayashu 55.58 297 P **P 13 59 40.7 +2.1**
SNR=34
KSH Kashi 55.60 293 P **P 13 59 41.0 +2.3**
KSH AP pP 13 59 45.8 +2.5
KSH *eXP* sP 13 59 48.5 +3.5
KSH *ePCP* PcP 14 00 41.0 +2.7
KSH *ePP* PP 14 01 46.8 +4.2
KSH *eSCP* ScP 14 04 37.3 +0.7
KSH PCS PcS 14 04 39.0 +0.6
KSH S **S 14 07 24.5 +0.5**
KSH XS sS 14 07 32.3 +0.9
KSH SCS ScS 14 09 26.3 -1.1
KSH SS SS 14 11 04.0 -4.6
KSH LR LR
comp=Z,63µm,21.4s,MS6.7
G04A Mulino 55.62 58 ⇓P **P 13 59 39.0 +0.2**
baz=56
C07A Waterville 55.67 55 ⇑P **P 13 59 38.5 -0.6**
baz=56,SNR=15
BTM Bintulu 55.69 233 ⇑P **P 13 59 41.7 +2.0**
B08A Colville Reser 55.72 54 ⇑P **P 13 59 39.2 -0.3**
baz=56,SNR=28
K01A Sixes 55.73 62 ⇑P **P 13 59 39.9 +0.3**
baz=56
JIRN Jiri 55.74 276 *eP* **P 13 59 41.2 +1.3**
comp=Z,3µm,1.7s,mb7.1
JIRN Jiri 55.74 276 *eP* **P 13 59 41.3 +1.4**
comp=Z,3µm,1.7s,mb7.1
JIRN Jiri 55.74 276 *eP* **P 13 59 41.3 +1.4**
comp=Z,3µm,1.7s,mb7.1
E06A Yakima 55.77 56 ⇑P **P 13 59 39.6 -0.2**
baz=56,SNR=9.5
A09A Danville 55.80 53 ⇓P **P 13 59 39.9 -0.1**
baz=56,SNR=51
EBG Ellensburg 55.80 56 P **P 13 59 41.0 +0.9**
GUN Gumba 55.80 276 *eP* **P 13 59 41.5 +1.1**
comp=Z,2µm,1.3s,mb6.9
GUN Gumba 55.80 276 *eP* **P 13 59 41.5 +1.1**
comp=Z,2µm,1.3s,mb6.9
I03A Eugene 55.81 60 ⇑P **P 13 59 40.4 +0.2**
baz=56,SNR=6.8
SSOR Sweet Springs 55.82 59 P **P 13 59 41.7 +1.5**
F05A White Salmon 55.85 57 ⇓P **P 13 59 40.3 -0.1**
baz=56,SNR=6.9
RAMN Ramite 55.90 275 *eP* **P 13 59 41.7 +0.6**
comp=Z,455nm,0.7s,mb6.6
RAMN Ramite 55.90 275 *eP* **P 13 59 41.5 +0.4**
comp=Z,455nm,0.7s,mb6.6
RAMN Ramite 55.90 275 *eP* **P 13 59 41.5 +0.4**
comp=Z,455nm,0.7s,mb6.6
J02A Umpqua 55.97 61 ⇓P **P 13 59 41.7 +0.4**
baz=56,SNR=11
D07A Quincy 55.99 55 ⇑P **P 13 59 41.0 -0.4**
baz=56,SNR=9.8
BJO Bjornoya 56.01 347 *eP* **P 13 59 40.4 -0.8**
BJO AMS AMS 14 26 09.5
comp=Z,3µm,18.2s,MS5.4
ARU Arti 56.02 318 P **P 13 59 41.4 -0.1**
comp=Z,2µm,0.6s,mb7.3,SNR=86
ARU Arti 56.02 318 *cP* **P 13 59 41.4 -0.1**
ARU *e* 14 00 40.7
ARU *e* 14 01 47.8
ARU *ePPP* 14 03 02.0
ARU *eS* **S 14 07 27.4 -1.6**
ARU 14 09 25.3
ARU *eSS* SS 14 11 10.9 -3.5
ARU pmax pmax
comp=Z,1µm,2.5s,mb6.5
ARU MLR MLR
comp=Z,11µm,19.0s,MS6.0
ARU Arti 56.02 318 ⇑*eP* **P 13 59 41.5 0.0**
HOOD Mount Hood Mea 56.04 58 *eP* **P 13 59 42.6 +0.8**
comp=Z,540nm,1.5s,mb6.4
HOOD *eP* 13 59 43.3
H04A Detroit Lake 56.08 59 ⇑P **P 13 59 42.3 +0.2**
baz=56,SNR=15
C08A Higginbotham F 56.19 54 ⇑P **P 13 59 42.6 -0.3**
baz=56,SNR=6.2
EDM Edmonton 56.26 46 *eP* **P 13 59 42.6 -0.6**
EDM *eP* 13 59 42.9
G05A Wamic 56.28 58 ⇑P **P 13 59 44.1 +0.5**
baz=56,SNR=13
KKN Kakani 56.29 276 *eP* **P 13 59 44.8 +0.9**
comp=Z,5µm,1.9s,mb7.2
KKN Kakani 56.29 276 *eP* **P 13 59 45.1 +1.2**
comp=Z,5µm,1.9s,mb7.2
KKN Kakani 56.29 276 *eP* **P 13 59 45.1 +1.2**
comp=Z,5µm,1.9s,mb7.2
F06A Goldendale 56.31 57 ⇑P **P 13 59 44.1 +0.4**
baz=56,SNR=12
PKI Pulchoki 56.34 276 *eP* **P 13 59 45.0 +0.8**
comp=Z,2µm,1.8s,mb6.9
PKI Pulchoki 56.34 276 *eP* **P 13 59 45.2 +1.0**
comp=Z,2µm,1.8s,mb6.9
PKI Pulchoki 56.34 276 *eP* **P 13 59 45.2 +1.0**
comp=Z,2µm,1.8s,mb6.9
B09A Rice 56.34 53 ⇑P **P 13 59 43.8 -0.1**
baz=56,SNR=17
PKIN Phulchoki 56.35 276 *eP* **P 13 59 45.0 +0.8**
comp=Z,2µm,1.7s,mb6.8
PKIN Phulchoki 56.35 276 *eP* **P 13 59 45.1 +0.9**
comp=Z,2µm,1.7s,mb6.8
K02A Glendale 56.35 61 ⇑P **P 13 59 44.4 +0.4**
baz=56,SNR=9.2
A10A Northport 56.37 52 ⇓P **P 13 59 43.5 -0.5**
baz=56,SNR=16
FRIS Frissel Point 56.39 59 P **P 13 59 47.5 +3.2**
E07A Sunnyside 56.41 56 ⇓P **P 13 59 44.3 -0.1**
baz=56,SNR=11
IRO Indian Ridge 56.41 59 P **P 13 59 47.7 +3.3**
I04A Tendick Farm, 56.44 60 ⇓P **P 13 59 44.6 0.0**
baz=56,SNR=24
HBO Huckleberry Mo 56.46 60 P **P 13 59 46.2 +1.4**
M01C Crescent City 56.48 62 ⇓P **P 13 59 45.8 +0.8**
baz=56
DMN Daman 56.53 276 *eP* **P 13 59 47.0 +1.5**
comp=Z,1µm,1.2s,mb6.8
DMN Daman 56.53 276 *eP* **P 13 59 47.1 +1.6**
comp=Z,1µm,1.2s,mb6.8
DMN Daman 56.53 276 *eP* **P 13 59 47.1 +1.6**
comp=Z,1µm,1.2s,mb6.8
NNT Nongplab 56.59 252 P **P 13 59 48.0 +2.0**
OD2 Odessa Site #2 56.60 54 *eP* **P 13 59 45.2 -0.6**
comp=Z,185nm,1.7s,mb5.8
GKN Gorkha 56.61 277 *eP* **P 13 59 47.3 +1.2**
comp=Z,2µm,1.4s,mb7.0
GKN Gorkha 56.61 277 *eP* **P 13 59 47.3 +1.2**
comp=Z,2µm,1.4s,mb7.0
C09A Chrisman Ranch 56.62 54 ⇑P **P 13 59 45.4 -0.5**
baz=56,SNR=16
L02A Cave Junction 56.63 62 ⇑P **P 13 59 46.0 0.0**
baz=56,SNR=5.1
RSW Rattlesnake Hi 56.65 56 *eP* **P 13 59 46.6 +0.5**
comp=Z,183nm,1.5s,mb5.9
D08A Wollman Farm, 56.66 55 ⇑P **P 13 59 45.7 -0.5**
baz=56,SNR=9.3
H05A Madras 56.67 58 ⇑P **P 13 59 46.3 +0.1**
baz=56,SNR=9.7
HAWA Hanford 56.68 56 *eP* **P 13 59 46.5 +0.1**
comp=Z,108nm,1.4s,mb5.7
HAWA *eP* 13 59 47.2
HAWA LR LR
comp=Z,5µm,22.0s,MS5.6
G06A Carlson Farm, 56.69 57 ⇑P **P 13 59 46.6 +0.2**
baz=56,SNR=19
F07A Phinny Hill Vi 56.73 56 ⇑P **P 13 59 47.2 +0.5**
baz=57,SNR=9.1
VTHM Trough 56.76 57 P **P 13 59 48.2 +1.2**
HUMO Hull Mountain 56.77 61 ⇓P **P 13 59 47.5 +0.5**
baz=57,SNR=11
HUMO Hull Mountain 56.77 61 *eP* **P 13 59 48.0 +1.0**
comp=Z,70nm,1.4s,mb5.5
HUMO *eP* 13 59 48.6
HUMO LR LR
comp=Z,4µm,21.0s,MS5.5
SBUM Sibu 56.79 233 ⇓P **P 13 59 48.6 +1.1**
E08A Dider Farm, El 56.90 55 ⇑P **P 13 59 47.7 -0.2**
baz=57
I05A Bend 56.91 59 ⇓P **P 13 59 48.7 +0.7**
baz=57
B10A Chitwood Farm, 56.93 53 ⇓P **P 13 59 47.6 -0.4**
baz=57
J04A Umpqua Nationa 56.93 60 ⇑P **P 13 59 48.5 +0.3**
baz=57,SNR=9.7
KK31 Karatay Array 56.98 300 *i* P **P 13 59 49.2 +0.7**
KK31 pmax pmax
comp=Z,218nm,0.9s,mb6.2
DANN Dangsing 57.00 278 *eP* **P 13 59 50.2 +1.4**
comp=Z,7µm,2.0s,mb7.3
DANN Dangsing 57.00 278 *eP* **P 13 59 50.2 +1.4**
comp=Z,1µm,1.0s,mb6.8
NEW Newport 57.00 53 *eP* **P 13 59 47.9 -0.7**
NEW pmax pmax
comp=Z,119nm,1.5s
NEW MLR MLR
comp=Z,3µm,20.0s
NEW Newport 57.00 53 *eP* **P 13 59 47.9 -0.7**
comp=Z,119nm,1.5s,mb5.7
NEW *eP* 13 59 49.0
NEW LR LR
comp=Z,3µm,20.0s,MS5.5
D09A Jones Farm, Ri 57.01 55 ⇓P **P 13 59 48.4 -0.3**
baz=57,SNR=6.6
A11A Hall Mountain, 57.03 52 ⇑P **P 13 59 49.3 +0.4**
baz=57,SNR=29
JCC Jacoby Creek 57.12 63 ⇓P **P 13 59 49.1 -0.5**
baz=57
KDI Kendari 57.13 218 ⇑*eP* **P 13 59 50.2 +0.3**
KDI *eS* **S 14 07 43.5 -1.2**
H06A Lindquist Farm 57.14 58 ⇓P **P 13 59 49.9 +0.3**
baz=57,SNR=30
C10A Spilker Farm, 57.15 53 ⇑P **P 13 59 49.0 -0.7**
baz=57
G07A Ruggs Ranch, H 57.23 57 ⇑P **P 13 59 50.4 +0.2**
baz=57,SNR=13
B11A Sandpoint 57.32 52 ⇓P **P 13 59 50.9 +0.1**
baz=57,SNR=18
DAG Danmarks Havn 57.36 358 ⇓*iP* **P 13 59 50.6 -0.1**
DAG pmax pmax
comp=Z,880nm,2.1s,mb6.4
DAG Danmarks Havn 57.36 358 ⇓*iP* **P 13 59 50.6 -0.1**
comp=Z,879nm,2.1s,mb6.4
BUOR Burton Butte 57.39 61 P **P 13 59 52.8 +1.3**
YBH Yreka Blue Hor 57.42 62 *eP* **P 13 59 52.7 +1.1**
YBH pmax pmax
comp=Z,60nm,1.3s
YBH MLR MLR
comp=Z,3µm,20.0s
YBH Yreka Blue Hor 57.42 62 ⇑P **P 13 59 52.6 +1.0**
baz=57,SNR=16
YBH Yreka Blue Hor 57.42 62 *eP* **P 13 59 52.7 +1.1**
comp=Z,60nm,1.3s,mb5.5
YBH *eP* 13 59 53.0
YBH LR LR
comp=Z,3µm,20.0s,MS5.4
J05A Fort Rock 57.43 60 ⇓P **P 13 59 52.4 +0.7**
baz=57,SNR=24
A12A Yaak River Ran 57.44 51 ⇓P **P 13 59 52.1 +0.4**
baz=57,SNR=9.9
F08A Pendleton 57.45 56 ⇓P **P 13 59 51.7 -0.1**
baz=57,SNR=16
KOLN Koldanda 57.47 278 *eP* **P 13 59 53.2 +1.0**
comp=Z,559nm,1.1s,mb6.5
KOLN Koldanda 57.47 278 *eP* **P 13 59 53.4 +1.2**
comp=Z,559nm,1.1s,mb6.5
KOLN Koldanda 57.47 278 *eP* **P 13 59 53.4 +1.2**
comp=Z,559nm,1.1s,mb6.5
K04A Chilguin 57.51 61 ⇓P **P 13 59 52.6 +0.3**
baz=57
M02C Callahan 57.52 62 ⇓P **P 13 59 53.0 +0.6**
baz=57,SNR=9.1
CAL Calcutta 57.53 270 *eP* **P 13 59 52.8 +0.1**
CAL *eS* **S 14 07 50.1 +0.2**
LAMM Antelope Mount 57.54 62 P **P 13 59 54.0 +1.5**
N02C Big Bar 57.57 63 ⇓P **P 13 59 53.1 +0.4**
baz=57
D10A Wagner Farm, O 57.60 54 ⇓P **P 13 59 52.0 -0.8**
baz=57,SNR=20
G08A Pilot Rock 57.63 57 ⇑P **P 13 59 53.4 +0.3**
baz=58,SNR=29
O01C Eel River Cons 57.64 64 ⇑P **P 13 59 54.2 +0.9**
baz=58
I06A Prineville 57.66 58 ⇓P **P 13 59 54.0 +0.7**
baz=58,SNR=28
L04A Klamath Falls 57.66 61 ⇓P **P 13 59 54.1 +0.7**
baz=58,SNR=10
H07A Lands Inn, Kim 57.68 58 ⇓P **P 13 59 53.3 -0.1**
baz=58,SNR=11
LNOR Lincton Mounta 57.69 56 *eP* **P 13 59 54.0 +0.4**
comp=Z,122nm,1.8s,mb5.6
C11A Tepee Creek (N 57.72 53 ⇓P **P 13 59 53.5 -0.2**
baz=58,SNR=32
B12A Libby 57.73 52 ⇑P **P 13 59 53.8 +0.1**
baz=58
K05A Summer Lake 57.95 60 ⇑P **P 13 59 55.6 +0.2**
baz=58,SNR=16
F09A S2 Ranch, Elgi 58.00 56 ⇓P **P 13 59 55.9 +0.2**
baz=58,SNR=13
I07A Izee 58.00 58 ⇑P **P 13 59 55.8 0.0**
baz=58,SNR=24
E10A Myers Farm, Un 58.02 55 ⇓P **P 13 59 55.2 -0.5**
baz=58,SNR=19
M03C McCloud 58.04 62 ⇓P **P 13 59 56.8 +0.7**
baz=58
J06A Christmas Vall 58.10 59 ⇓P **P 13 59 56.7 +0.3**
baz=58,SNR=24
D11A Klaveano Farm, 58.13 54 ⇑P **P 13 59 55.9 -0.7**
baz=58
WDC Whiskeytown Da 58.19 63 *eP* **P 13 59 57.4 +0.4**
WDC pmax pmax
comp=Z,49nm,1.2s,mb5.4
WDC MLR MLR
comp=Z,3µm,20.0s,MS5.4
WDC Whiskeytown Da 58.19 63 ⇑P **P 13 59 57.3 +0.3**
baz=58,SNR=11
WDC Whiskeytown Da 58.19 63 *eP* **P 13 59 57.4 +0.4**
comp=Z,49nm,1.2s,mb5.4
WDC *eP* 13 59 58.1
WDC LR LR
comp=Z,3µm,20.0s,MS5.4

C12B Naegeli Ranch, 58.23 53 ⇑P P **13 59 57.2 -0.1**
baz=58,SNR=12
KEV Kevo 58.24 341 *e*P P **13 59 56.7 -0.3**
KEV pmax pmax
comp=Z,24nm,0.7s,mb5.3
KEV MLR MLR
comp=Z,8μm,21.0s,MS5.8
KEV Kevo 58.24 341 *e*P P **13 59 56.7 -0.3**
comp=Z,24nm,0.7s,mb5.3
KEV LR LR
comp=Z,8μm,21.0s,MS5.8
F10A Beach Ranch, E 58.24 55 ⇑P P **13 59 56.7 -0.6**
baz=58,SNR=23
H08A Prairie City 58.24 57 ⇓P P **13 59 57.3 -0.1**
baz=58,SNR=29
K06A Valley Falls 58.30 60 ⇓P P **13 59 58.5 +0.7**
baz=58,SNR=29
WALA Waterton Lakes 58.31 51 *e*P P **13 59 57.3 -0.5**
comp=Z,104nm,1.2s,mb5.7
WALA *e*P 13 59 58.0
G09A Cove 58.32 56 ⇑P P **13 59 58.1 +0.1**
baz=58,SNR=21
B13A Whitefish 58.40 52 ⇓P P **13 59 59.0 +0.6**
baz=58,SNR=48
BOK Bokaro 58.41 272 *e*P P **14 00 00.2 +1.4**
BOK AMb AMB 14 00 09.5
comp=Z,536nm,1.9s,mb6.2
BSMT Bassoo Peak 58.53 52 *e*P P **14 00 00.1 +0.8**
J07A Hines 58.53 59 ⇓P P **13 59 59.9 +0.5**
baz=58,SNR=10
E11A Bogner Ranch, 58.60 54 ⇑P P **13 59 59.3 -0.5**
baz=58,SNR=36
GASB Alder Springs 58.62 64 ⇑P P **14 00 00.5 +0.4**
baz=58,SNR=11
A14A Double T Ranch 58.62 50 ⇓P P **13 59 59.6 -0.3**
baz=58,SNR=27
I08A Drewsey 58.65 58 ⇑P P **14 00 00.3 0.0**
baz=58,SNR=12
KSM Kuching 58.66 234 ⇑P P **14 00 02.7 +2.0**
D12A Red Ives Fores 58.68 53 ⇑P P **13 59 59.8 -0.5**
baz=58
PTH Pithoragarh 58.68 281 *e*P P **14 00 00.0 -0.7**
PTH *e*S S **14 08 06.2 +1.4**
G10A Bishop Farm, J 58.70 56 ⇓P P **14 00 00.5 0.0**
baz=58,SNR=70
LGTI Lohaghat 58.73 281 *e*P P **14 00 03.5 +2.5**
LGTI *ex* x 14 02 14.1
ARCES ARCESS Array B 58.74 341 P P **14 00 00.6 +0.1**
ARCES LR LR 14 28 18.4
comp=Z,82nm,0.8s,mb5.8,baz=32,slow=1.9,SNR=48
comp=Z,9μm,21.1s,MS5.9,baz=35,slow=39
ARCES ARCESS Array B 58.74 341 P P **14 00 00.6 +0.1**
ARCES pmax pmax
comp=Z,82nm,0.9s
ARCES MLR MLR
comp=Z,9μm,21.2s
ARCES ARCESS Array B 58.74 341 P P **14 00 00.6 +0.1**
ARCES LR LR 14 28 18.4
ARE0 ARCESS Array S 58.74 341 *e*P P **13 59 60.0 -0.5**
ARE0 *e*P 14 00 01.5
C13A Hot Springs 58.74 52 ⇑P P **14 00 01.0 +0.2**
baz=59,SNR=13
H09A Durkee 58.74 57 ⇓P P **14 00 00.9 0.0**
baz=59,SNR=22
FUNA Funafuti 58.78 151 PFAKE 14 00 10.0 +8.6
FUNA LR LR
comp=Z,12μm,19.0s,MS6.0
HOPS Hopland 58.78 65 ⇓P P **14 00 01.6 +0.4**
baz=59
HOPS Hopland 58.78 65 PFAKE 14 00 10.0 +8.8
HOPS LR LR
comp=Z,4μm,19.0s,MS5.6
MOD Modoc 58.79 60 ⇑P P **14 00 01.6 +0.3**
baz=59,SNR=18
MOD Modoc 58.79 60 *e*P P **14 00 01.5 +0.3**
comp=Z,297nm,1.8s,mb6.0
MOD *e*P 14 00 02.4
MOD LR LR
comp=Z,5μm,22.0s,MS5.6
BMO Blue Mountains 58.84 56 *e*P P **14 00 02.1 +0.5**
comp=Z,63nm,1.3s,mb5.5
BMO *e*P 14 00 02.4
BMO LR LR
comp=Z,4μm,22.0s,MS5.5
F11A Grangeville 58.90 55 ⇑P P **14 00 01.8 -0.1**
baz=59,SNR=35
E12A Beaver Dam Sad 58.92 54 ⇑P P **14 00 01.8 -0.3**
baz=59,SNR=60
K07A Rock Creek Ran 58.96 59 ⇑P P **14 00 03.1 +0.7**
baz=59,SNR=33
A15A Johnson Ranch, 58.99 50 ⇑P P **14 00 01.8 -0.7**
baz=59,SNR=34
J08A Circle Bar Ran 59.03 58 ⇓P P **14 00 03.2 +0.3**
baz=59,SNR=24
B14A Marquette Ranc 59.06 51 ⇑P P **14 00 03.2 +0.2**
baz=59,SNR=16
I09A Lost Marbles R 59.10 57 ⇓P P **14 00 03.5 +0.1**
baz=59,SNR=16
G11A Walters Elk Ra 59.12 55 ⇑P P **14 00 03.2 -0.3**
baz=59,SNR=39
C14A Swan Lake 59.15 52 ⇓P P **14 00 03.7 +0.1**
baz=59
D13A Huson 59.15 53 ⇑P P **14 00 03.5 -0.2**
baz=59,SNR=30
O04C Chester 59.24 62 ⇓P P **14 00 04.7 +0.4**
baz=59,SNR=6.8
MNRC McLaughlin Nat 59.24 64 ⇑P P **14 00 04.9 +0.4**
baz=59,SNR=6.1
L07A Adell 59.30 60 ⇓P P **14 00 05.4 +0.6**
baz=59,SNR=25
H10A Noah's Angus R 59.32 56 ⇑P P **14 00 05.0 +0.1**
baz=59,SNR=34
K08A Mann Creek Ran 59.39 59 ⇑P P **14 00 06.0 +0.5**
baz=59,SNR=24
MCCM Marconi Confer 59.41 65 ⇑P P **14 00 05.6 +0.1**
baz=59
MCCM Marconi Confer 59.41 65 PFAKE 14 00 20.0 +14
MCCM LR LR
comp=Z,2μm,20.0s,MS5.3
ORV Oroville 59.43 63 ⇓P P **14 00 05.3 -0.5**
baz=59,SNR=17
AB31 Akbulak array 59.44 311 *i* P P **14 00 05.8 +0.2**
J09A Fry Pan Ranch, 59.46 58 ⇓P P **14 00 06.3 +0.4**
baz=59,SNR=44
B15A Bradely Ranch, 59.47 51 ⇑P P **14 00 05.4 -0.5**
baz=59,SNR=41
WVOR Wild Horse Val 59.48 59 *e*P P **14 00 06.5 +0.5**
WVOR pmax pmax
comp=Z,73nm,1.3s,mb5.5
WVOR Wild Horse Val 59.48 59 *e*P P **14 00 06.5 +0.5**
comp=Z,73nm,1.3s,mb5.5
F12A Elk City 59.49 54 ⇑P P **14 00 06.1 +0.1**
baz=59,SNR=85
CVS Carmenet Viney 59.55 65 ⇓P P **14 00 06.3 -0.3**
baz=59
O05C Quincy 59.55 63 ⇑P P **14 00 07.1 +0.5**
baz=59
OHCM Honcut 59.57 64 *e*P P **14 00 06.2 -0.5**
OHCM *e*P 14 00 06.5
I10A Payette 59.59 57 ⇓P P **14 00 07.0 +0.3**
baz=59,SNR=5.9
MSO Missoula 59.59 53 *e*P P **14 00 07.0 +0.3**
comp=Z,120nm,1.3s,mb5.8
MSO *e*P 14 00 07.3
MSO LR LR
comp=Z,2μm,20.0s,MS5.2
FARB Farallon Islan 59.59 66 ⇓P P **14 00 07.2 +0.3**
baz=59
A16A West Butte Ran 59.61 50 ⇑P P **14 00 06.6 -0.2**
baz=59,SNR=33
Q03C Winters 59.66 64 ⇑P P **14 00 07.0 -0.3**
baz=60
DDI Dehra Dun 59.67 283 *e*P P **14 00 05.2 -2.3**
DDI *ex* x 14 08 09.0
H11A Donnelly 59.68 56 ⇓P P **14 00 06.8 -0.5**
baz=60,SNR=49
D14A Greenough 59.68 52 ⇓P P **14 00 07.1 -0.2**
baz=60,SNR=55
E13A Victor 59.68 53 ⇑P P **14 00 07.0 -0.3**
baz=60,SNR=30
AKTK Aktyubinsk 59.74 313 *i* P P **14 00 07.3 -0.4**
AKTO Aktyubinsk 59.74 313 *i* P P **14 00 07.2 -0.5**
AKTO pmax pmax
comp=Z,54nm,1.5s,mb5.4
N06A Buffalo Meadow 59.75 61 ⇑P P **14 00 08.0 +0.1**
baz=60,SNR=30
C15A Salmond Ranch, 59.76 51 ⇓P P **14 00 08.2 +0.3**
baz=60,SNR=68
SMLA Simla 59.78 285 *i* P P **14 00 08.4 +0.1**
SMLA *ex* x 14 00 15.3
comp=Z,1μm,0.7s
SMLA *i* x x 14 08 16.5
L08A Fields 59.80 59 ⇓P P **14 00 08.5 +0.3**
baz=60,SNR=34
KTGM Kuala Trenggan 59.86 244 ⇓P P **14 00 10.4 +1.5**
K09A Rome 59.86 58 ⇓P P **14 00 09.2 +0.5**
baz=60
B16A M & M Farms, S 59.87 50 ⇓P P **14 00 08.0 -0.6**
baz=60,SNR=5.6
CHMT Chamberlain Mo 59.92 52 *e*P P **14 00 08.4 -0.6**
comp=Z,26nm,1.1s,mb5.2
CHMT *e*P 14 00 09.2
THN Thein Dam 59.95 287 *e*P P **14 00 09.0 -0.4**
THN *e*S S **14 08 20.6 -0.5**
BEKR Beckwourth 59.95 62 ⇓P P **14 00 09.2 -0.1**
baz=60,SNR=26
F13A Darby 59.99 54 ⇓P P **14 00 09.2 -0.3**
baz=60,SNR=44
J10A Berg Farm, Mel 60.00 57 ⇑P P **14 00 09.6 0.0**
baz=60
SNG Songkhla 60.04 247 P P **14 00 11.0 +0.8**
comp=Z,180nm,1.1s,mb6.0
TRO Tromso 60.05 343 *e*P P **14 00 10.0 +0.4**
TRO *e*S S **14 08 23.4 +2.0**
E14A Clinton 60.09 53 ⇑P P **14 00 10.1 -0.1**
baz=60,SNR=29
BHK Bhaka 60.10 285 *ex* x 14 00 16.2
O06A Flanigan 60.10 62 ⇓P P **14 00 10.3 0.0**
baz=60,SNR=30
BDM Black Diamond 60.16 65 ⇓P P **14 00 10.9 +0.2**
baz=60
I11A Placerville 60.18 56 ⇓P P **14 00 10.4 -0.4**
baz=60,SNR=12
C16A Fuhringer Ranc 60.21 51 ⇓P P **14 00 11.0 0.0**
baz=60,SNR=57
M08A Happy Creek Ra 60.22 60 ⇓P P **14 00 11.4 +0.3**
baz=60,SNR=25
D15A Lincoln 60.25 52 ⇓P P **14 00 10.9 -0.3**
baz=60,SNR=23
N07B Gerlach 60.26 61 ⇓P P **14 00 11.4 0.0**
baz=60,SNR=22
L09A Wilkinson Ranc 60.30 59 ⇓P P **14 00 12.2 +0.5**
baz=60,SNR=14
K10A MacKenzie Ranc 60.32 58 ⇓P P **14 00 12.2 +0.4**
baz=60,SNR=29
P06A Stead Airport, 60.35 62 ⇓P P **14 00 12.5 +0.5**
baz=60
LAVA Lava Cap Winer 60.38 64 ⇓P P **14 00 12.3 0.0**
baz=60
WENL Wente Vineyard 60.43 65 ⇓P P **14 00 12.4 -0.2**
baz=60
H12A Diamond D Ranc 60.43 55 ⇓P P **14 00 12.3 -0.3**
baz=60,SNR=28
G13A Cobalt 60.46 54 ⇓P P **14 00 12.3 -0.4**
baz=60,SNR=82
F14A Wisdom 60.52 53 ⇑P P **14 00 12.9 -0.2**
baz=60,SNR=13
E15A Deer Lodge 60.55 52 ⇑P P **14 00 13.0 -0.3**
baz=60,SNR=40
MFID Camas Ranch 60.55 57 ⇓P P **14 00 13.4 0.0**
baz=60,SNR=18
R04C Big Horse Ranc 60.56 64 ⇑P P **14 00 13.7 +0.2**
baz=60
PAHR Pah Rah Range 60.65 62 *e*P P **14 00 14.1 0.0**
comp=Z,97nm,1.3s,mb5.8
PAHR *e*P 14 00 14.9
WCN Washoe City 60.67 63 ⇑P P **14 00 14.4 +0.2**
baz=60,SNR=16
O07A Toulon 60.69 61 ⇑P P **14 00 14.3 0.0**
baz=60,SNR=46
I12A Atlanta 60.73 56 ⇓P P **14 00 14.8 +0.2**
baz=60,SNR=63
N08A GE Springer Mi 60.77 60 ⇓P P **14 00 15.3 +0.4**
baz=61,SNR=17
H13A Challis 60.77 55 ⇓P P **14 00 14.9 +0.1**
baz=61,SNR=44
D16A Dana Ranch, Ca 60.78 51 ⇑P P **14 00 15.2 +0.3**
baz=61,SNR=53
FFC Flin Flon 60.79 40 P P **14 00 15.4 +0.6**
comp=Z,697nm,1.4s,mb6.6,SNR=17
M09A Marrel Ranch, 60.79 59 ⇑P P **14 00 15.2 +0.2**
baz=61,SNR=14
G14A Jackson 60.81 54 ⇓P P **14 00 15.3 +0.2**
baz=61
K11A Parker Ranch, 60.82 57 ⇑P P **14 00 15.3 +0.1**
baz=61,SNR=23
HRY Holter Researc 60.82 52 *e*P P **14 00 15.0 -0.2**
comp=Z,233nm,1.8s,mb6.0
HRY *e*P 14 00 15.8
C17A Wharram Farm, 60.84 50 ⇑P P **14 00 15.0 -0.2**
baz=61,SNR=64
L10A Juniper Basin 60.98 58 ⇓P P **14 00 16.9 +0.7**
baz=61,SNR=32
F15A Butte 60.99 53 ⇓P P **14 00 16.6 +0.3**
baz=61,SNR=76
E16A East Helena 61.02 52 ⇓P P **14 00 16.9 +0.4**
baz=61,SNR=24
LRM Limekiln Ridge 61.02 53 *e*P P **14 00 16.6 +0.1**
CMB Columbia Colle 61.04 64 *e*P P **14 00 16.8 0.0**
CMB pmax pmax
comp=Z,86nm,1.4s,mb5.7
CMB MLR MLR
comp=Z,3μm,20.0s,MS5.4
CMB Columbia Colle 61.04 64 ⇓P P **14 00 16.9 +0.2**
baz=61,SNR=24
CMB Columbia Colle 61.04 64 *e*P P **14 00 16.8 0.0**
comp=Z,86nm,1.4s,mb5.7
CMB *e*P 14 00 17.5
CMB LR LR
comp=Z,3μm,20.0s,MS5.4
O08A Rochester Mine 61.05 61 ⇓P P **14 00 17.5 +0.7**
baz=61
P07A Fallon 61.06 62 ⇑P P **14 00 17.6 +0.7**
baz=61
J12A Stokes Ranch, 61.08 57 ⇓P P **14 00 17.3 +0.4**
baz=61,SNR=60
N09A Rock Creek Ran 61.09 60 ⇑P P **14 00 17.1 +0.1**
baz=61,SNR=31
PACP Pacheco Peak 61.10 66 ⇑P P **14 00 17.0 -0.2**
baz=61,SNR=8.9
EGMT Eagleton 61.14 50 ⇓P P **14 00 17.1 -0.2**
baz=61,SNR=44
EGMT Eagleton 61.14 50 *e*P P **14 00 17.3 0.0**
comp=Z,183nm,1.2s,mb6.1
EGMT *e*P 14 00 17.5
EGMT LR LR
comp=Z,4μm,20.0s,MS5.6
SAO San Andreas Ge 61.15 66 PFAKE 14 00 30.0 +12
SAO LR LR
comp=Z,3μm,19.0s,MS5.4
D17A Six Diamond Ra 61.18 51 ⇓P P **14 00 17.7 +0.1**
baz=61,SNR=46
DLMT Dillon 61.22 53 *e*P P **14 00 17.9 0.0**
comp=Z,254nm,1.8s,mb6.0
DLMT *e*P 14 00 18.6
H14A Leadore 61.24 54 ⇓P P **14 00 18.0 0.0**
baz=61,SNR=23
I13A Wildhorse Cree 61.24 55 ⇓P P **14 00 18.1 +0.1**
baz=61,SNR=56
NDI New Delhi 61.27 283 *e*P P **14 00 18.0 -0.5**
NDI *ex* x 14 08 36.0
M10A I.L. Ranch, Tu 61.28 59 ⇑P P **14 00 18.6 +0.3**
baz=61,SNR=41
HLID Hailey 61.28 56 ⇓P P **14 00 18.4 +0.1**
baz=61,SNR=51
HLID Hailey 61.28 56 *e*P P **14 00 17.4 -0.9**
comp=Z,63nm,1.3s,mb5.6
HLID *e*P 14 00 18.3
HLID LR LR
comp=Z,5μm,22.0s,MS5.6
R06C Coleville 61.33 63 ⇑P P **14 00 19.6 +0.9**
baz=61,SNR=25
WAKR Walker 61.35 63 *e*P P **14 00 19.7 +0.9**
L11A Cat Creek Ranc 61.35 58 ⇓P P **14 00 19.4 +0.6**
baz=61,SNR=38
G15A Dillon 61.40 54 ⇑P P **14 00 18.7 -0.4**
baz=61,SNR=29
MCMT McKenzie Canyo 61.41 54 *e*P P **14 00 19.1 0.0**
comp=Z,15nm,1.0s,mb5.1
FCC Fort Churchill 61.43 33 *e*P P **14 00 18.4 -0.7**
FCC pmax pmax
comp=Z,146nm,1.0s,mb6.1
FCC Fort Churchill 61.43 33 *e*P P **14 00 18.4 -0.6**
comp=Z,146nm,1.0s,mb6.1
FCC *e*P 14 00 19.3
KULM Kulim 61.45 246 ⇓P P **14 00 21.8 +2.0**
P08A Dixie Valley 61.46 61 ⇑P P **14 00 20.4 +0.8**
baz=61,SNR=10
Q07A Schurz 61.47 62 ⇑P P **14 00 20.0 +0.4**
baz=61
S05C Merced 61.50 65 ⇑P P **14 00 19.4 -0.5**
baz=61,SNR=6.5
E17A Martinsdale 61.51 52 ⇓P P **14 00 20.3 +0.5**
baz=61,SNR=55
J13A Cove Ranch, Pi 61.52 56 ⇑P P **14 00 20.4 +0.5**
baz=61,SNR=33
BMN Battle Mountai 61.53 60 *e*P P **14 00 20.4 +0.4**
BMN pmax pmax
comp=Z,106nm,1.3s,mb5.8
BMN MLR MLR
comp=Z,4μm,19.0s,MS5.6
BMN Battle Mountai 61.53 60 *e*P P **14 00 20.4 +0.3**
comp=Z,106nm,1.3s,mb5.8
BMN *e*P 14 00 20.9
BMN LR LR
comp=Z,4μm,19.0s,MS5.6
K12A Draper Farm, C 61.56 57 ⇓P P **14 00 20.4 +0.1**
baz=61,SNR=13
BOZ Bozeman (W) 61.59 53 *e*P P **14 00 20.0 -0.3**
BOZ pmax pmax
comp=Z,199nm,1.4s,mb6.0
BOZ MLR MLR
comp=Z,3μm,22.0s,MS5.4
BOZ Bozeman (W) 61.59 53 ⇑P P **14 00 20.5 +0.2**
baz=61,SNR=118
BOZ Bozeman (W) 61.59 53 *e*P P **14 00 20.0 -0.3**
comp=Z,200nm,1.4s,mb6.0
BOZ *e*P 14 00 20.1
BOZ LR LR
comp=Z,3μm,22.0s,MS5.4
I14A Mackay 61.61 55 ⇑P P **14 00 20.8 +0.2**
baz=61,SNR=87
D18A Linhart Farms, 61.63 50 ⇑P P **14 00 21.0 +0.4**
baz=61
H15A Lima 61.65 54 ⇓P P **14 00 20.2 -0.5**
baz=62,SNR=13
KAKA Kakadu 61.69 204 *e*P P **14 00 14.4 -6.9**
comp=Z,22nm,0.6s,mb5.5
KAKA *e* 14 00 21.3
KAKA *e* 14 00 29.5
V03C Hunter Liggett 61.74 66 ⇑P P **14 00 22.1 +0.6**
baz=62
G16A Moss Hill, Enn 61.74 53 ⇑P P **14 00 21.3 -0.1**
baz=62,SNR=67
M11A Holland Ranch, 61.78 59 ⇑P P **14 00 22.1 +0.4**
baz=62,SNR=7.7
N10A Dunphy 61.78 60 ⇓P P **14 00 22.4 +0.7**
baz=62
L12A House Creek Ra 61.80 58 ⇓P P **14 00 22.3 +0.5**
baz=62,SNR=20
U04C Hernandez Rese 61.81 66 ⇑P P **14 00 21.8 -0.2**
baz=62,SNR=5.3
IPM Ipoh 61.84 245 ⇑P P **14 00 23.9 +1.4**
J14A Carey 61.95 56 ⇑P P **14 00 24.0 +1.2**
baz=62,SNR=55
E18A Harlowton 61.96 51 ⇑P P **14 00 23.5 +0.6**
baz=62,SNR=41
K13A Stover Farm, H 62.03 57 ⇓P P **14 00 23.9 +0.5**
baz=62
O10A Cortez Mining, 62.05 60 ⇓P P **14 00 24.2 +0.7**
baz=62,SNR=20
Q08A Gabbs 62.06 62 ⇓P P **14 00 23.7 +0.1**
baz=62,SNR=23
NVAR Mina Array Bea 62.10 63 P P **14 00 24.6 +0.7**
comp=Z,19nm,0.9s,mb5.2,baz=291,slow=6.3,SNR=97
NVAR PKP2bc 14 29 36.9
comp=Z,0.6nm,0.9s,baz=148,slow=3.9,SNR=4.0
NVAR Mina Array Bea 62.10 63 P P **14 00 24.6 +0.7**
NVAR ⇑*e* 14 29 36.9
T06C Millerton Lake 62.10 65 ⇑P P **14 00 23.2 -0.7**
baz=62,SNR=14
I15A Monteview 62.12 55 ⇑P P **14 00 24.4 +0.5**
baz=62,SNR=6.2
P09A Austin 62.12 61 ⇑P P **14 00 24.7 +0.7**
baz=62
KCC Kaiser Creek 62.15 64 ⇓P P **14 00 24.1 -0.1**
baz=62,SNR=17
N11A Elko Archery C 62.19 59 ⇓P P **14 00 25.0 +0.5**
baz=62
MYKOM Kota Tinggi 62.19 240 ⇓P P **14 00 27.4 +2.6**
QLMT Earthquake Lak 62.20 53 *e*P P **14 00 24.8 +0.3**
comp=Z,67nm,1.1s,mb5.7
PKD Parkfield 62.23 66 ⇑P P **14 00 25.0 +0.2**
baz=62
U05C Westside ANR, 62.25 65 ⇑P P **14 00 25.5 +0.6**
baz=62
MLAC Mammoth Lakes 62.26 64 ⇓P P **14 00 25.3 +0.3**
baz=62
R08A Mina 62.27 63 ⇑P P **14 00 25.8 +0.7**
baz=62,SNR=6.3
JOF Joensuu 62.28 334 *ep* P **14 00 23.7 -1.0**
comp=Z,56nm,0.6s,mb5.9
M12A Wells 62.31 58 ⇑P P **14 00 25.8 +0.5**
baz=62,SNR=39
KGM Kluang 62.34 241 ⇓P P **14 00 28.1 +2.4**
BATI Baumata 62.35 214 LR LR 14 24 06.1
comp=Z,2μm,21.2s,MS5.2,baz=204,slow=33
LOF Lofoten 62.37 344 *e*P P **14 00 26.9 +1.6**
LOF AMb AMB 14 00 32.3
comp=Z,345nm,1.3s,mb6.3
H16A Russell Place, 62.38 53 ⇑P P **14 00 26.1 +0.4**
baz=62,SNR=66
FRIM Kepong 62.42 243 ⇑P P **14 00 27.5 +1.2**
L13A Double Diamond 62.46 57 ⇑P P **14 00 26.9 +0.6**
baz=62,SNR=11
F18A Big Timber 62.48 52 ⇑P P **14 00 26.6 +0.3**
baz=62,SNR=52
P10A Eureka 62.49 61 ⇑P P **14 00 27.1 +0.6**
baz=62,SNR=20
J15A Blackfoot 62.52 55 ⇑P P **14 00 27.2 +0.6**
baz=62,SNR=23
ELK Elko 62.53 59 P P **14 00 27.6 +0.9**
comp=Z,14nm,1.1s,mb5.0,baz=305,slow=6.0,SNR=34
ELK Elko 62.53 59 *e*P P **14 00 26.8 +0.1**
ELK pmax pmax
comp=Z,60nm,1.4s
ELK MLR MLR
comp=Z,5μm,19.0s
ELK Elko 62.53 59 *e*P P **14 00 26.8 +0.1**
comp=Z,60nm,1.4s,mb5.5
ELK *e*P 14 00 27.6
ELK LR LR
comp=Z,5μm,19.0s,MS5.7
Q09A Carvers 62.54 62 ⇑P P **14 00 27.4 +0.6**
baz=62
YMR Madison River 62.56 53 *e*P P **14 00 27.7 +0.8**
comp=Z,180nm,1.4s,mb6.0
YMR LR LR
comp=Z,4μm,22.0s,MS5.5
GCMT Greycliff 62.57 52 *e*P P **14 00 27.5 +0.6**
comp=Z,123nm,1.5s,mb5.8
N12A Clover Valley, 62.58 59 ⇑P P **14 00 27.9 +0.8**
baz=62,SNR=15
JMIC Jan Mayen 62.60 354 *e*P P **14 00 28.0 +1.3**
JMIC *e*S S **14 08 56.1 +2.4**
JMIC AMS AMS 14 26 59.1
comp=Z,2μm,20.0s,MS5.3
MTUM Tungsten Hills 62.60 64 *e*P P **14 00 27.5 +0.2**
MTUM *e*P 14 00 28.3
PTRM Twissleman Ran 62.62 66 *e*P P **14 00 27.3 -0.2**
K14A Jones Ranch, D 62.62 56 ⇓P P **14 00 27.8 +0.5**
baz=62,SNR=16
O11A Cowboy Ranch, 62.66 60 ⇓P P **14 00 28.2 +0.6**
baz=62,SNR=20
V05C Boulder Hill, 62.68 66 ⇑P P **14 00 28.4 +0.6**
baz=62
YNR Norris Junctio 62.69 53 *e*P P **14 00 28.8 +1.0**
comp=Z,122nm,1.4s,mb5.8
YNR *e*P 14 00 29.8
I16A Newdale 62.76 54 ⇑P P **14 00 29.1 +0.8**
baz=63,SNR=21
YFT Old Faithful 62.77 53 *e*P P **14 00 30.3 +2.1**
comp=Z,88nm,1.0s,mb5.8
YFT *e*P 14 00 30.9
RCTC Rector, Farmer 62.82 65 ⇑P P **14 00 28.0 -0.8**
baz=63
L14A Malta 62.91 57 ⇓P P **14 00 29.9 +0.6**
baz=63,SNR=19
K15A Arbon 62.91 56 ⇓P P **14 00 30.2 +1.0**
baz=63,SNR=30
JBP Jabalpur 62.92 276 *ex* x 14 00 36.6

JBP eS **S** 14 08 57.4 -1.6
LKWY Lake 62.94 53 eP **P** 14 00 31.2 +1.8
LKWY pmax pmax
comp=Z,290nm,2.0s,mb6.1
LKWY MLR MLR
comp=Z,6µm,19.0s,MS5.8
LKWY Lake 62.94 53 eP **P** 14 00 31.2 +1.8
comp=Z,368nm,2.0s,mb6.2
LKWY eP 14 00 32.1
LKWY LR LR
comp=Z,7µm,19.0s,MS5.9
H17A Grant Village 62.95 53 ⇑P **P** 14 00 31.8 +2.3
baz=63,SNR=60
P11A Circle Ranch, 62.96 60 ⇑P **P** 14 00 30.1 +0.4
baz=63
SMMC Simmler 62.97 66 ⇓P **P** 14 00 30.4 +0.7
baz=63,SNR=6.6
R09A Tonopah 62.97 62 ⇓P **P** 14 00 29.7 0.0
baz=63,SNR=76
TPH Tonopah 62.98 62 eP **P** 14 00 30.3 +0.5
TPH pmax pmax
comp=Z,130nm,1.4s,mb5.9
TPH MLR MLR
comp=Z,4µm,20.0s,MS5.5
TPH Tonopah 62.98 62 eP **P** 14 00 30.2 +0.4
comp=Z,130nm,1.4s,mb5.9
TPH eP 14 00 30.8
TPH LR LR
comp=Z,4µm,20.0s,MS5.5
TIN Tinemaha 62.99 64 ⇓P **P** 14 00 30.4 +0.5
baz=63,SNR=6.0
KBL Kabul 63.01 293 eP **P** 14 00 29.9 -0.2
KBL pmax pmax
comp=Z,267nm,1.3s,mb6.2
KBL Kabul 63.01 293 eP **P** 14 00 29.9 -0.2
comp=Z,267nm,1.3s,mb6.2
Q10A Clear Creek Ra 63.02 61 ⇓P **P** 14 00 30.1 +0.1
baz=63,SNR=50
IMW Indian Meadow 63.06 54 eP **P** 14 00 31.2 +1.0
comp=Z,123nm,1.3s,mb5.9
IMW eP 14 00 31.7
J16A Bone 63.07 55 ⇓P **P** 14 00 31.0 +0.7
baz=63,SNR=49
N13A Wendover, West 63.07 58 ⇓P **P** 14 00 30.9 +0.5
baz=63
DCID1 Drake Creek 63.11 54 eP **P** 14 00 31.4 +0.8
comp=Z,126nm,1.1s,mb6.0
DCID1 eP 14 00 32.5
O12A Currie 63.12 59 ⇓P **P** 14 00 31.0 +0.3
baz=63,SNR=64
M14A Sheep Mountain 63.17 57 ⇑P **P** 14 00 31.3 +0.3
baz=63,SNR=26
RRI2 Red Ridge 63.19 55 eP **P** 14 00 31.5 +0.4
comp=Z,254nm,1.4s,mb6.2
RRI2 eP 14 00 32.6
S09A Goldfield 63.20 63 ⇑P **P** 14 00 31.4 +0.1
baz=63,SNR=45
RLMT Red Lodge 63.21 52 ⇓P **P** 14 00 31.9 +0.7
baz=63,SNR=32
RLMT Red Lodge 63.21 52 eP **P** 14 00 31.9 +0.6
comp=Z,506nm,1.5s,mb6.4
RLMT eP 14 00 32.6
RLMT LR LR
comp=Z,5µm,21.0s,MS5.6
VES Vestal, Richgr 63.22 65 ⇓P **P** 14 00 30.7 -0.7
baz=63
I17A Pilgram Creek 63.25 54 ⇓P **P** 14 00 32.7 +1.2
baz=63,SNR=42
MOOW Moose Ponds 63.26 54 eP **P** 14 00 31.8 +0.3
comp=Z,183nm,1.6s,mb6.0
MOOW eP 14 00 32.1
TPAW Teton Pass 63.31 54 eP **P** 14 00 32.4 +0.6
comp=Z,292nm,1.4s,mb6.2
TPAW eP 14 00 32.8
HVU Hansel Valley 63.34 57 eP **P** 14 00 32.6 +0.5
HVU pmax pmax
comp=Z,60nm,1.2s,mb5.6
HVU Hansel Valley 63.34 57 eP **P** 14 00 32.6 +0.5
comp=Z,60nm,1.2s,mb5.6
HVU eP 14 00 33.2
PKM Peak Mountain 63.34 67 ⇑P **P** 14 00 32.8 +0.5
baz=63,SNR=9.3
K16A Soda Springs 63.36 55 ⇓P **P** 14 00 33.2 +1.0
baz=63,SNR=31
R10A Warm Springs 63.41 62 ⇓P **P** 14 00 33.3 +0.6
baz=63,SNR=19
L15A Malad City 63.42 56 ⇑P **P** 14 00 32.9 +0.2
baz=63,SNR=23
LOHW Long Hollow 63.42 54 eP **P** 14 00 33.1 +0.4
comp=Z,200nm,1.5s,mb6.0
LOHW eP 14 00 33.3
SNOW Snow King Moun 63.43 54 eP **P** 14 00 33.2 +0.5
comp=Z,142nm,1.2s,mb6.0
SNOW eP 14 00 34.7
REDW Red Top Meadow 63.44 54 eP **P** 14 00 32.9 +0.1
comp=Z,241nm,1.4s,mb6.1
REDW eP 14 00 33.8
Q11A Duckwater 63.46 61 ⇑P **P** 14 00 33.2 +0.2
baz=63,SNR=22
S10A Tonopah Range, 63.47 62 ⇑P **P** 14 00 33.3 +0.2
baz=63,SNR=51
CWC Cottonwood Cre 63.47 64 ⇑P **P** 14 00 33.6 +0.5
baz=63,SNR=6.2
GRAC Grapevine Rang 63.56 63 ⇑P **P** 14 00 34.0 +0.3
baz=63,SNR=29
TPI Tanjungpandan 63.63 234⇓eP **P** 14 00 44.0 +10
O13A Hicks Ranch, I 63.66 59 ⇑P **P** 14 00 34.3 0.0
baz=64,SNR=12
AHID Auburn Hatcher 63.68 55 eP **P** 14 00 34.5 +0.2
comp=Z,169nm,1.6s,mb5.8
AHID eP 14 00 35.5
AHID LR LR
comp=Z,5µm,22.0s,MS5.7
N14A Grayback Hills 63.68 58 ⇑P **P** 14 00 34.5 +0.1
baz=64,SNR=6.8
SBC Santa Barbara 63.69 67 ⇑P **P** 14 00 34.8 +0.2
baz=64
ISA Isabella 63.71 65 eP **P** 14 00 33.5 -1.2
ISA pmax pmax
comp=Z,69nm,1.5s,mb5.5
ISA MLR MLR
comp=Z,2µm,19.0s,MS5.4
ISA Isabella 63.71 65 ⇓P **P** 14 00 33.4 -1.3
baz=64,SNR=23
ISA Isabella 63.71 65 eP **P** 14 00 33.5 -1.2
comp=Z,69nm,1.5s,mb5.5
ISA eP 14 00 34.1
ISA LR LR
comp=Z,2µm,19.0s,MS5.4
BGU Big Grassy Mou 63.72 58 eP **P** 14 00 34.8 +0.1
comp=Z,31nm,1.2s,mb5.2
M15A Larsen Ranch, 63.73 57 ⇓P **P** 14 00 34.8 +0.1
baz=64,SNR=73
DGMT Dagmar 63.74 47 ⇑P **P** 14 00 34.5 -0.2
baz=64,SNR=14
DGMT Dagmar 63.74 47 eP **P** 14 00 34.0 -0.7
comp=Z,113nm,1.0s,mb5.8
DGMT eP 14 00 35.0
DGMT LR LR
comp=Z,9µm,20.0s,MS6.0
R11A Troy Canyon, C 63.82 61 ⇓P **P** 14 00 35.2 -0.2
baz=64,SNR=91
SPUT South Promonto 63.82 57 eP **P** 14 00 35.5 +0.1
comp=Z,132nm,1.4s,mb5.8
SPUT eP 14 00 36.5
ARVC Arvin 63.83 66 ⇑P **P** 14 00 35.3 -0.2
baz=64
Q12A Willow Creek R 63.84 60 ⇑P **P** 14 00 35.8 +0.3
baz=64,SNR=20
LAO LASA Array 63.85 49 eP **P** 14 00 35.3 -0.1
comp=Z,214nm,1.4s,mb6.0
LAO eP 14 00 35.7
LAO eP'P' 14 29 31.5
LAO LR LR
comp=Z,6µm,20.0s,MS5.8
DAC Darwin (Calif) 63.88 64 PFAKE 14 00 50.0 +14
DAC LR LR
comp=Z,3µm,20.0s,MS5.4
MOR8 Moi Rana 63.90 343 eP **P** 14 00 33.5 -1.9
MOR8 AMb AMB 14 00 37.2
comp=Z,363nm,1.6s,mb6.2
MOR8 esP sP 14 00 39.1 -2.6
L16A Fish Haven 63.96 56 ⇑P **P** 14 00 36.7 +0.5
baz=64,SNR=21
BSC Santa Cruz Isl 64.03 67 ⇓P **P** 14 00 36.9 +0.1
baz=64
STOK Stokkvaagen 64.04 344 eP **P** 14 00 40.1 +3.7
STOK AMb AMB 14 00 41.5
comp=Z,227nm,1.6s,mb5.9
N15A Stansbury Isla 64.05 57 ⇓P **P** 14 00 36.9 +0.1
baz=64,SNR=24
P13A Bates Ranch, G 64.07 59 ⇓P **P** 14 00 36.9 -0.1
baz=64,SNR=39
MPMC Manual Prospec 64.08 64 ⇑P **P** 14 00 37.4 +0.3
baz=64,SNR=52
HWUT Hardware Ranch 64.15 56 eP **P** 14 00 37.6 +0.1
comp=Z,164nm,1.5s,mb5.8
HWUT eP 14 00 38.2
HWUT LR LR
comp=Z,3µm,19.0s,MS5.5
S11A Rachel 64.16 62 ⇓P **P** 14 00 37.8 +0.2
baz=64,SNR=38
FURC Furnace Creek, 64.22 64 ⇓P **P** 14 00 38.1 +0.1
baz=64,SNR=14
VIS Vishakhapatnam 64.23 269 eP **P** 14 00 39.9 +1.6
VIS AMb AMB 14 00 50.9
comp=Z,169nm,1.2s,mb6.0
VIS *i* S **S** 14 09 15.3 -0.1
TPNV Topopah Spring 64.29 63 eP **P** 14 00 38.4 -0.1
TPNV pmax pmax
comp=Z,141nm,1.3s,mb5.8
TPNV MLR MLR
comp=Z,3µm,21.0s,MS5.5
TPNV Topopah Spring 64.29 63 ⇑P **P** 14 00 38.7 +0.2
baz=64,SNR=81
TPNV Topopah Spring 64.29 63 eP **P** 14 00 38.4 -0.1
comp=Z,141nm,1.3s,mb5.8
TPNV eP 14 00 39.0
TPNV LR LR
comp=Z,3µm,21.0s,MS5.5
M16A Huntsville 64.29 56 ⇑P **P** 14 00 38.5 +0.1
baz=64,SNR=7.9
DUG Dugway 64.31 58 eP **P** 14 00 38.7 +0.1
DUG pmax pmax
comp=Z,134nm,1.4s,mb5.8
DUG MLR MLR
comp=Z,4µm,20.0s,MS5.6
DUG Dugway 64.31 58 ⇓P **P** 14 00 38.7 +0.1
baz=64,SNR=52
DUG Dugway 64.31 58 eP **P** 14 00 38.7 +0.1
comp=Z,134nm,1.4s,mb5.8
DUG eP 14 00 39.4
DUG LR LR
comp=Z,4µm,20.0s,MS5.6
BLG Laguna Peak 64.32 67 ⇑P **P** 14 00 37.9 -0.8
baz=64
LRMC Laurel Mountai 64.33 65 ⇓P **P** 14 00 38.3 -0.4
baz=64,SNR=27
KAF Kangasniemi 64.38 336 ep **P** 14 00 37.4 -1.2
comp=Z,58nm,0.8s,mb5.7,baz=36,slow=6.1
KAF Kangasniemi 64.38 336 eP **P** 14 00 37.4 -1.2
KAF pmax pmax
comp=Z,58nm,0.8s,mb5.7
Q13A Wheeler Ranch, 64.38 60 ⇓P **P** 14 00 39.3 +0.3
baz=64
R12A Pony Springs, 64.42 61 ⇓P **P** 14 00 39.4 +0.1
baz=64,SNR=41
AJM Ajmer 64.43 282 eP **P** 14 00 40.0 +0.5
AJM AMb AMB 14 00 50.0
comp=Z,258nm,2.2s,mb5.9
NOQ North Oquirrh 64.43 57 eP **P** 14 00 39.6 +0.3
comp=Z,153nm,1.2s,mb5.9
NOQ eP 14 00 40.5
PSI Prapat 64.46 245⇓eP **P** 14 00 39.8 0.0
O15A The Old Anders 64.46 58 ⇓P **P** 14 00 39.7 +0.1
baz=64,SNR=10
EDW2 Edwards Air Fo 64.51 66 ⇓P **P** 14 00 39.8 -0.2
baz=64,SNR=54
P14A Drum Mountains 64.55 59 ⇑P **P** 14 00 40.1 0.0
baz=64,SNR=54
BW06 Boulder Array 64.55 54 ⇑P **P** 14 00 40.3 +0.2
baz=64,SNR=73
BW06 Boulder Array 64.55 54 eP **P** 14 00 39.2 -0.8
comp=Z,154nm,1.4s,mb5.8
BW06 eP 14 00 39.8
BW06 LR LR
comp=Z,5µm,21.0s,MS5.7
PDAR Pinedale Array 64.55 54 P **P** 14 00 40.5 +0.4
comp=Z,36nm,1.0s,mb5.3,baz=300,slow=2.9,SNR=165
SNCC San Nicolas Is 64.57 68 ⇑P **P** 14 00 40.4 0.0
baz=64
SNCC San Nicolas Is 64.57 68 PFAKE 14 00 50.0 +10
SNCC LR LR
comp=Z,4µm,20.0s,MS5.6
U10A Ash Meadows, A 64.58 63 ⇓P **P** 14 00 40.4 0.0
baz=64,SNR=40
BHPL Bhopal 64.64 278 eP **P** 14 00 41.4 +0.5
BHPL AMb AMB 14 00 51.0
comp=Z,549nm,1.4s,mb6.4
N16A Rees Ranch, Co 64.68 57 ⇓P **P** 14 00 41.3 +0.4
baz=64,SNR=8.0
DECC Green Verdugo 64.70 66 ⇑P **P** 14 00 41.2 +0.1
baz=64
S12A Delamar Landin 64.73 61 ⇑P **P** 14 00 41.8 +0.5
baz=65,SNR=24
T11A Corn Creek, Al 64.74 62 ⇓P **P** 14 00 41.4 0.0
baz=65,SNR=62
Q14A Sevier Lake (B 64.81 59 ⇓P **P** 14 00 42.4 +0.5
baz=65,SNR=66
JLU Jordanelle 64.85 57 eP **P** 14 00 42.1 0.0
comp=Z,166nm,1.6s,mb5.8
JLU eP 14 00 43.2
MWC Mount Wilson 64.89 66 eP **P** 14 00 42.3 -0.1
MWC pmax pmax
comp=Z,133nm,1.4s,mb5.8
MWC MLR MLR
comp=Z,3µm,20.0s,MS5.5
MWC Mount Wilson 64.89 66 eP **P** 14 00 42.3 -0.2
comp=Z,133nm,1.4s,mb5.8
MWC eP 14 00 42.8
MWC LR LR
comp=Z,3µm,20.0s,MS5.5
NGP Nagpur 64.90 275 ex x 14 00 47.0
NGP ex x 14 09 17.9
NLU North Lily Min 64.90 58 eP **P** 14 00 41.7 -0.7
comp=Z,40nm,1.0s,mb5.4
NLU eP 14 00 42.6
R13A O'Grain Ranch, 64.91 60 ⇑P **P** 14 00 42.7 +0.2
baz=65,SNR=21
SHOC Shoshone 64.94 64 ⇓P **P** 14 00 42.9 +0.2
baz=65
GSC Goldstone 64.99 64 eP **P** 14 00 42.8 -0.3
GSC pmax pmax
comp=Z,154nm,1.8s,mb5.7
GSC MLR MLR
comp=Z,2µm,21.0s,MS5.3
GSC Goldstone 64.99 64 ⇓P **P** 14 00 42.5 -0.6
baz=65,SNR=19
GSC Goldstone 64.99 64 eP **P** 14 00 42.8 -0.3
comp=Z,154nm,1.8s,mb5.7
GSC eP 14 00 43.5
GSC LR LR
comp=Z,2µm,21.0s,MS5.3
PUL Pulkovo 64.99 332⇑eP **P** 14 00 43.7 +1.0
N17A Moffit Pass 65.00 56 ⇑P **P** 14 00 43.0 0.0
baz=65,SNR=46
FMP Fort Macarthur 65.06 67 ⇑P **P** 14 00 43.5 0.0
baz=65
O16A Springville 65.08 57 ⇑P **P** 14 00 43.7 +0.1
baz=65,SNR=24
DAU Daniels Canyon 65.09 57 eP **P** 14 00 44.0 +0.4
comp=Z,186nm,1.5s,mb5.9
DAU eP 14 00 44.7
TRT Tretes 65.11 226⇑eP **P** 14 00 44.5 +0.5
MPU Maple Canyon 65.12 58 eP **P** 14 00 44.1 +0.3
comp=Z,70nm,1.2s,mb5.6
MPU eP 14 00 45.0
MPU LR LR
comp=Z,4µm,21.0s,MS5.6
BFSC Mount Baldy St 65.13 66 ⇓P **P** 14 00 43.6 -0.4
baz=65,SNR=19
RRX Edison Barstow 65.14 65 ⇑P **P** 14 00 44.1 +0.1
baz=65
U11A Corn Creek 65.16 63 ⇓P **P** 14 00 44.2 0.0
baz=65,SNR=7.3
CIS Catalina Islan 65.19 67 ⇑P **P** 14 00 43.7 -0.7
baz=65,SNR=12
SHPR Sheep Range 65.25 63 eP **P** 14 00 45.0 +0.2
SHPR eP'P' 14 29 36.6
Q15A Fillmore 65.33 59 ⇓P **P** 14 00 45.3 0.0
baz=65,SNR=7.1
S13A Holt Ranch, En 65.36 61 ⇓P **P** 14 00 45.6 +0.2
baz=65,SNR=43
P16A Fountain Green 65.37 58 ⇓P **P** 14 00 45.6 +0.1
baz=65
SCI San Clemente I 65.37 67 ⇓P **P** 14 00 44.9 -0.6
baz=65,SNR=5.1
T12A Moapa 65.38 62 ⇑P **P** 14 00 45.4 -0.1
baz=65,SNR=9.5
R14A James Farms, M 65.40 60 ⇑P **P** 14 00 45.6 -0.1
baz=65,SNR=6.1
MOS Moscow 65.43 326*c iP* **P** 14 00 45.0 -0.5
MOS *e* 14 01 16.6
MOS *i* 14 03 05.3
MOS *i* S S 14 09 24.9 -4.3
MOS eP S 14 09 53.7
MOS eSS SS 14 13 37.6 -3.9
MOS pmax pmax
comp=Z,4µm,3.0s
MOS pmax pmax
comp=Z,787nm,2.0s,mb6.4
MOS MLR MLR
comp=Z,7µm,17.0s,MS5.9
TUQ Turquoise Moun 65.46 64 ⇓P **P** 14 00 45.9 -0.2
baz=65,SNR=45
ARUT Antelope Range 65.48 60 eP **P** 14 00 46.5 +0.3
comp=Z,43nm,1.0s,mb5.4
V11A Goodsprings 65.51 63 ⇑P **P** 14 00 46.2 -0.2
baz=65,SNR=8.6
O17A Robinson Place 65.53 57 ⇓P **P** 14 00 46.6 +0.1
baz=65,SNR=17
BBRC Big Bear Sol-O 65.59 65 ⇓P **P** 14 00 46.6 -0.3
baz=65,SNR=6.1
HEC Hectour Ludlow 65.59 65 ⇓P **P** 14 00 46.5 -0.5
baz=65,SNR=27
N18A Larsen Ranch, 65.64 56 ⇑P **P** 14 00 46.8 -0.4
baz=66,SNR=30
S14A Cedar City 65.66 60 ⇑P **P** 14 00 47.6 +0.2
baz=66
CCUT Cedar City 65.68 61 eP **P** 14 00 48.0 +0.6
comp=Z,67nm,1.1s,mb5.6
U12A Valley of Fire 65.68 62 ⇓P **P** 14 00 47.4 -0.1
baz=66,SNR=10
T13A Saint George 65.69 61 ⇓P **P** 14 00 47.9 +0.3
baz=66,SNR=13
SFJD Kangerlussuaq 65.70 10 P **P** 14 00 47.1 0.0
SFJD pmax pmax
comp=Z,330nm,1.1s,mb6.3
SFJD Kangerlussuaq 65.70 10⇑*iP* **P** 14 00 47.3 +0.2
comp=Z,141nm,0.9s,mb6.0
SFJD *i* S S 14 09 26.9 -5.3
SFJD
comp=Z,5µm,18.0s
MVU Marysvale 65.75 59 PFAKE 14 01 00.0 +12
MVU LR LR
comp=Z,4µm,19.0s,MS5.6
MSU Marysvale 65.77 59 eP **P** 14 00 48.4 +0.3
comp=Z,117nm,1.7s,mb5.6
MSU eP 14 00 48.7
MSU eP'P' 14 29 28.2
MURC Murrieta 65.83 66 ⇓P **P** 14 00 48.0 -0.5
baz=66,SNR=9.4
TMUT Trail Mountain 65.84 58 eP **P** 14 00 48.9 +0.4
comp=Z,43nm,1.0s,mb5.4
TMUT eP 14 00 50.1
NSS Namsos 65.84 343 eP **P** 14 00 47.2 -0.9
NSS eS S 14 09 33.2 -0.8
NSS AMS AMS 14 33 02.0
comp=Z,5µm,20.6s,MS5.7
O18A Roosevelt 65.91 57 ⇑P **P** 14 00 49.2 +0.2
baz=66,SNR=16
N19A John Jarvie Ra 65.98 56 ⇓P **P** 14 00 49.1 -0.3
baz=66,SNR=9.1
P17A Butcher Ranch, 66.00 58 ⇑P **P** 14 00 49.5 0.0
baz=66,SNR=15
U13A Pakoon Wash 66.04 62 ⇓P **P** 14 00 50.1 +0.2
baz=66,SNR=65
GMRC Granite Mounta 66.05 64 ⇓P **P** 14 00 49.4 -0.5
baz=66,SNR=28
Q16A Castle Valley 66.11 58 ⇑P **P** 14 00 50.2 0.0
baz=66,SNR=21
T14A Hurricane 66.16 61 ⇓P **P** 14 00 50.4 -0.2
baz=66,SNR=9.4
P18A Preston Nutter 66.19 57 ⇑P **P** 14 00 50.9 +0.1
baz=66,SNR=34
LDFC Landfair 66.20 64 eP **P** 14 00 50.4 -0.5
comp=Z,210nm,1.3s,mb6.0
LDFC eP 14 00 51.4
S15A Panguitch 66.20 60 ⇓P **P** 14 00 51.5 +0.7
baz=66,SNR=14
W12A Cal Nev Ari 66.20 63 ⇑P **P** 14 00 50.9 0.0
baz=66,SNR=7.2
CTA Charters Tower 66.23 188 eP **P** 14 00 49.4 -1.6
comp=Z,4.2nm,1.0s
CTA *e* 14 00 55.7
CTA *e* 14 01 04.1
CTA eS S 14 09 45.0 +5.5
CTAO Charters Tower 66.23 188 P **P** 14 00 49.4 -1.6
CTAO pmax pmax
comp=Z,150nm,1.4s,mb5.8
CTAO Charters Tower 66.23 188 eP **P** 14 00 49.6 -1.4
comp=Z,125nm,1.3s,mb5.8
CTAO eP 14 00 49.8
CTAO *e* 14 00 55.8
CTAO *e* 14 01 03.8
CTAO LR LR
comp=Z,5µm,21.0s,MS5.7
OBN Obninsk 66.29 326 P **P** 14 00 50.6 -0.5
comp=Z,1µm,1.8s,mb6.7,SNR=23
OBN Obninsk 66.29 326⇑eP **P** 14 00 50.9 -0.2
OBN *i* 14 03 15.6
OBN *i* S S 14 09 35.1 -4.7
OBN eSS SS 14 13 49.4 -5.6
OBN pmax pmax
comp=Z,489nm,1.5s,mb6.3
OBN MLR MLR
comp=Z,6µm,16.0s,MS5.9
PFO Pinyon Flat Ob 66.30 66 P **P** 14 00 51.8 +0.2
comp=Z,143nm,1.6s,mb5.8,SNR=7.0
PFO Pinyon Flat Ob 66.30 66 ⇑P **P** 14 00 50.9 -0.7
baz=66,SNR=10
R16A Teasdale 66.33 59 ⇓P **P** 14 00 52.1 +0.4
baz=66,SNR=42
BELC Belle Mtn. 66.34 65 ⇓P **P** 14 00 51.4 -0.4
baz=66,SNR=20
109C Camp Elliot, M 66.36 67 ⇓P **P** 14 00 51.8 -0.2
baz=66
SRU San Rafael 66.36 58 eP **P** 14 00 51.2 -0.7
SRU pmax pmax
comp=Z,57nm,1.1s,mb5.5
SRU San Rafael 66.36 58 ⇓P **P** 14 00 51.7 -0.1
baz=66,SNR=51
SRU San Rafael 66.36 58 eP **P** 14 00 51.1 -0.7
comp=Z,85nm,1.1s,mb5.7
SRU eP 14 00 52.1
V13A Grand Canyon W 66.39 62 ⇓P **P** 14 00 52.1 0.0
baz=66,SNR=74
O19A Miners Draw (B 66.40 56 ⇑P **P** 14 00 51.9 -0.1
baz=66,SNR=9.1
U14A Mt Trumbull 66.52 61 ⇓P **P** 14 00 53.3 +0.3
baz=66
ULM Lac du Bonnet 66.56 41 P **P** 14 00 52.6 -0.3
comp=Z,30nm,1.1s,mb5.3,baz=318,slow=6.4,SNR=18
ULM LR LR 14 30 09.1
comp=Z,7µm,19.8s,MS5.9,baz=319,slow=36
ULM Lac du Bonnet 66.56 41 eP **P** 14 00 51.5 -1.4
comp=Z,185nm,1.7s,mb5.8
RWWY Rawlins 66.58 54 eP **P** 14 00 52.7 -0.5
comp=Z,79nm,1.2s,mb5.6
RWWY eP 14 00 53.5
Q18A Rafter H Ranch 66.60 58 ⇑P **P** 14 00 52.6 -0.7
baz=66,SNR=20
AKL Akola 66.61 276⇑*iP* **P** 14 00 54.7 +1.0
AKL eS S 14 09 42.8 -1.7
T15A Red Dirt Ranch 66.62 61 ⇓P **P** 14 00 53.7 +0.2
baz=66,SNR=30
S16A Weppner Ranch, 66.63 59 ⇓P **P** 14 00 54.0 +0.4
baz=66,SNR=8.4
RSSD Black Hills 66.70 50 eP **P** 14 00 53.6 -0.3
RSSD pmax pmax
comp=Z,94nm,1.1s,mb5.7
RSSD Black Hills 66.70 50 eP **P** 14 00 53.5 -0.4
comp=Z,94nm,1.1s,mb5.7
R17A Hanksville Air 66.70 58 ⇑P **P** 14 00 54.0 -0.1
baz=66
NEE2 Needles Airpor 66.71 64 ⇑P **P** 14 00 53.9 -0.2
baz=66
IRM Iron Mountain 66.77 64 ⇑P **P** 14 00 54.1 -0.4
baz=67,SNR=47
MONP Monument Peak 66.79 66 ⇑P **P** 14 00 54.2 -0.6
baz=67,SNR=20

BC3	**Big Chuckw Mtn**	**66.91**	**65**	⇑P		**P**	**14 00 54.5**	**-0.9**
	baz=67,SNR=23								
P19A	**Cripple Cowboy**	**66.92**	**56**	⇓P		**P**	**14 00 55.2**	**-0.3**
	baz=67,SNR=34								
W13A	**Hualapai Mount**	**66.95**	**63**	⇑P		**P**	**14 00 55.5**	**-0.1**
	baz=67,SNR=28								
U15A	**North Rim**	**67.06**	**61**	⇓P		**P**	**14 00 56.8**	**+0.5**
	baz=67,SNR=67								
V14A	**Boquillas Ranc**	**67.08**	**62**	⇑P		**P**	**14 00 56.7**	**+0.2**
	baz=67,SNR=66								
AFI	**Afiamalu**	**67.12**	**144**	*e*P		**P**	**14 00 58.1**	**+1.3**
AFI					pmax	pmax			
	comp=Z,100nm,1.0s,mb5.8								
AFI					MLR	MLR			
	comp=Z,5μm,21.0s,MS5.7								
AFI	**Afiamalu**	**67.12**	**144**	*e*P		**P**	**14 00 58.1**	**+1.3**
	comp=Z,100nm,1.0s,mb5.8								
AFI					LR	LR			
	comp=Z,5μm,21.0s,MS5.7								
SWSC	**Sam W. Stewart**	**67.16**	**66**	⇑P		**P**	**14 00 56.0**	**-1.0**
	baz=67,SNR=7.4								
S17A	**Black Ridge (B**	**67.16**	**59**	⇑P		**P**	**14 00 56.9**	**-0.1**
	baz=67,SNR=66								
T16A	**Glen Canyon Da**	**67.17**	**60**	⇑P		**P**	**14 00 56.5**	**-0.6**
	baz=67,SNR=10								
Q19A	**Hogan Spring (**	**67.20**	**57**	⇓P		**P**	**14 00 56.5**	**-0.7**
	baz=67,SNR=67								
R18A	**Canyonlands Na**	**67.21**	**58**	⇑P		**P**	**14 00 56.2**	**-1.1**
	baz=67,SNR=63								
PDMCI	**Parker Dam,Lak**	**67.31**	**64**	⇑P		**P**	**14 00 57.5**	**-0.5**
	baz=67,SNR=22								
X13A	**Yucca**	**67.31**	**63**	⇓P		**P**	**14 00 58.0**	**0.0**
	baz=67,SNR=44								
W14A	**Seligman**	**67.37**	**62**	⇑P		**P**	**14 00 58.7**	**+0.4**
	baz=67,SNR=72								
Y12C	**Blythe**	**67.43**	**64**	⇓P		**P**	**14 00 58.4**	**-0.3**
	baz=67,SNR=13								
V15A	**Kaibab Nationa**	**67.53**	**61**	⇑P		**P**	**14 00 59.7**	**+0.3**
	baz=67,SNR=70								
T17A	**Navajo Res., N**	**67.58**	**60**	⇑P		**P**	**14 00 58.7**	**-0.9**
	baz=67,SNR=18								
ABKT	**Ailbek**	**67.59**	**302**	P		**P**	**14 01 00.7**	**+1.0**
	comp=Z,780nm,0.9s,mb6.7,SNR=39								
S18A	**Hurst Farm, Bl**	**67.61**	**59**	⇑P		**P**	**14 00 59.0**	**-0.8**
	baz=67,SNR=54								
R19A	**Curley Farm, L**	**67.64**	**58**	⇓P		**P**	**14 00 59.7**	**-0.4**
	baz=68,SNR=12								
GLA	**Glamis**	**67.70**	**65**	*e*P		**P**	**14 00 53.6**	**-6.8**
GLA					pmax	pmax			
	comp=Z,80nm,1.3s,mb5.6								
GLA					MLR	MLR			
	comp=Z,3μm,20.0s,MS5.5								
GLA	**Glamis**	**67.70**	**65**	⇓P		**P**	**14 01 00.0**	**-0.4**
	baz=68,SNR=6.2								
GLA	**Glamis**	**67.70**	**65**	*e*P		**P**	**14 00 53.6**	**-6.9**
	comp=Z,80nm,1.3s,mb5.6								
GLA				*e*P			14 00 59.8		
GLA					LR	LR			
	comp=Z,3μm,20.0s,MS5.5								
VOR	**Voronezh**	**67.72**	**322**	*e*P		**P**	**14 00 58.8**	**-1.4**
VOR				*e*S		S	14 09 50.0	-7.1
VOR					pmax	pmax			
	comp=Z,800nm,2.0s,mb6.4								
PV10	**Paradox Valley**	**67.72**	**58**	*e*P		**P**	**14 01 00.9**	**+0.4**
	comp=Z,2μm,1.0s,mb7.0								
HYB	**Hyderabad**	**67.76**	**272**	*i* P		**P**	**14 01 01.0**	**0.0**
HYB				*e*PP		PP	14 03 36.0	+5.7
HYB				*e*S		S	14 09 56.0	-2.5
HYB				*e*ScS		ScS	14 10 52.0	-7.4
HYB				LR		LR	14 34 54.0	
	comp=Z,4.4nm,14.0s								
PHWY	**Pilot Hill**	**67.82**	**53**	*e*P		**P**	**14 01 00.9**	**-0.1**
	comp=Z,201nm,2.0s,mb5.8								
PHWY				*e*P			14 01 01.6		
PHWY				*e*P'P'			14 29 37.5		
Y13A	**Salome**	**67.82**	**64**	⇑P		**P**	**14 01 01.0**	**-0.2**
	baz=68,SNR=11								
W15A	**Williams**	**67.89**	**62**	⇓P		**P**	**14 01 02.0**	**+0.4**
	baz=68,SNR=19								
U17A	**Shonto**	**67.93**	**60**	⇑P		**P**	**14 01 01.7**	**-0.2**
	baz=68,SNR=23								
AGMN	**Agassiz Refuge**	**67.94**	**43**	*e*P		**P**	**14 01 01.1**	**-0.6**
	comp=Z,251nm,1.4s,mb6.0								
AGMN				*e*P			14 01 01.7		
AGMN				LR		LR			
	comp=Z,4μm,20.0s,MS5.6								
U16A	**Tuba City**	**67.95**	**61**	⇓P		**P**	**14 01 02.4**	**+0.4**
	baz=68,SNR=64								
X14A	**Yava**	**67.98**	**63**	⇓P		**P**	**14 01 02.4**	**+0.3**
	baz=68,SNR=38								
T18A	**Mexican Hat**	**68.05**	**59**	⇑P		**P**	**14 01 01.9**	**-0.7**
	baz=68,SNR=38								
S19A	**Harvey Farm, M**	**68.08**	**58**	⇓P		**P**	**14 01 02.3**	**-0.5**
	baz=68,SNR=57								
WRAB	**Tennant Creek**	**68.10**	**200**	P		**P**	**14 01 01.0**	**-1.9**
	comp=Z,1μm,1.4s,mb6.7,SNR=17								
WRAB	**Tennant Creek**	**68.10**	**200**	⇓*i*P		**P**	**14 01 01.7**	**-1.2**
PV01	**Paradox Valley**	**68.16**	**57**	*e*P		**P**	**14 01 02.5**	**-0.8**
	comp=Z,7μm,1.3s,mb7.5								
112A	**Yuma**	**68.19**	**65**	⇑P		**P**	**14 01 03.1**	**-0.4**
	baz=68								
WUAZ	**Wupatki**	**68.22**	**61**	⇓P		**P**	**14 01 03.8**	**+0.1**
	baz=68,SNR=24								
WUAZ	**Wupatki**	**68.22**	**61**	*e*P		**P**	**14 01 03.8**	**+0.2**
	comp=Z,112nm,1.5s,mb5.7								
WUAZ				*e*P			14 01 04.6		
Y14A	**Wickenburg**	**68.26**	**63**	⇑P		**P**	**14 01 03.3**	**-0.6**
	baz=68,SNR=23								
X15A	**Humboldt**	**68.37**	**62**	⇑P		**P**	**14 01 05.0**	**+0.4**
	baz=68,SNR=57								
SMCO	**Snowmass**	**68.38**	**56**	*e*P		**P**	**14 01 02.0**	**-2.6**
	comp=Z,77nm,1.2s,mb5.6								
W16A	**Flagstaff**	**68.40**	**62**	⇓P		**P**	**14 01 05.2**	**+0.3**
	baz=68,SNR=10								
113A	**Mohawk Valley,**	**68.55**	**65**	⇓P		**P**	**14 01 05.0**	**-0.8**
	baz=68,SNR=6.1								
DOMB	**Dombas**	**68.66**	**343**	*e*P		**P**	**14 01 06.2**	**+0.2**
DOMB				AMb		AMB	14 01 09.2		
	comp=Z,300nm,1.5s,mb6.0								
Y15A	**Casa Rosa Ranc**	**68.66**	**63**	⇑P		**P**	**14 01 06.6**	**+0.1**
	baz=68,SNR=35								
Z14A	**Wintersburg**	**68.67**	**64**	⇓P		**P**	**14 01 06.2**	**-0.3**
	baz=68								
DZM	**Mont Dzumac**	**68.72**	**168**	*e*P		**P**	**14 01 14.5**	**+7.7**
NOUC	**Port Laguerre**	**68.72**	**168**	*e*P		**P**	**14 01 13.2**	**+6.4**
ISCO	**Idaho Springs**	**68.74**	**54**	*e*P		**P**	**14 01 06.9**	**0.0**
ISCO					pmax	pmax			
	comp=Z,160nm,1.5s,mb5.7								
ISCO					MLR	MLR			
	comp=Z,5μm,20.0s,MS5.7								
ISCO	**Idaho Springs**	**68.74**	**54**	*e*P		**P**	**14 01 06.9**	**0.0**
	comp=Z,160nm,1.5s,mb5.7								
ISCO				*e*P			14 01 07.1		
ISCO				LR		LR			
	comp=Z,5μm,20.0s,MS5.7								
T19A	**Beclabito**	**68.76**	**59**	⇑P		**P**	**14 01 06.9**	**-0.1**
	baz=69,SNR=16								
MVCO	**Mesa Verde**	**68.81**	**58**	⇓P		**P**	**14 01 06.9**	**-0.5**
	baz=69,SNR=31								
MVCO	**Mesa Verde**	**68.81**	**58**	*e*P		**P**	**14 01 06.9**	**-0.5**
	comp=Z,121nm,1.4s,mb5.6								
MVCO				*e*P			14 01 07.9		
X16A	**Lo Mia Camp, P**	**68.91**	**62**	⇓P		**P**	**14 01 08.2**	**+0.2**
	baz=69,SNR=37								
W17A	**Winslow**	**68.91**	**61**	⇑P		**P**	**14 01 08.0**	**0.0**
	baz=69								
V18A	**Ganado**	**68.96**	**60**	⇑P		**P**	**14 01 08.4**	**+0.1**
	baz=69								
NB2	**NORSAR Subarra**	**69.12**	**342**	P		**P**	**14 01 08.5**	**-0.3**
	comp=Z,894nm,1.7s,mb6.4,baz=26,slow=6.5								
NOA	**NORSAR Array B**	**69.12**	**342**	P		**P**	**14 01 08.5**	**-0.3**
	comp=Z,53nm,0.7s,mb5.5,baz=27,slow=6.2,SNR=161								
NOA				LR		LR	14 33 50.7		
	comp=Z,5μm,19.3s,MS5.8,baz=15,slow=38								
NOA	**NORSAR Array B**	**69.12**	**342**	P		**P**	**14 01 08.5**	**-0.3**
NOA					pmax	pmax			
	comp=Z,53nm,0.7s								
NOA					MLR	MLR			
	comp=Z,5μm,19.3s								
NOA	**NORSAR Array B**	**69.12**	**342**	P		**P**	**14 01 08.5**	**-0.3**
NOA				LR		LR	14 33 50.7		
Z15A	**Gila River Ind**	**69.22**	**63**	⇓P		**P**	**14 01 09.5**	**-0.5**
	baz=69								
Y16A	**Circle Bar Ran**	**69.24**	**63**	⇓P		**P**	**14 01 10.1**	**0.0**
	baz=69,SNR=21								
BHV	**Bhavnagar**	**69.26**	**280**	*ex*		x	14 01 17.0		
X17A	**Forest Lakes**	**69.35**	**62**	⇓P		**P**	**14 01 10.9**	**+0.1**
	baz=69,SNR=16								
W18A	**Petrified Fore**	**69.48**	**61**	⇑P		**P**	**14 01 11.7**	**+0.2**
	baz=69								
V19A	**Window Rock**	**69.49**	**60**	⇓P		**P**	**14 01 11.7**	**+0.1**
	baz=69,SNR=26								
115A	**Sonoran Desert**	**69.56**	**64**	⇓P		**P**	**14 01 11.9**	**-0.2**
	baz=69,SNR=10								
MDRS	**Chennai**	**69.57**	**268**	*ex*		x	14 00 45.2		
MDRS				*ex*		x	14 03 05.2		
MDRS				*ex*		x	14 09 31.2		
Z16A	**Peralta Trail,**	**69.63**	**63**	⇑P		**P**	**14 01 12.5**	**0.0**
	baz=70								
W19A	**Sanders**	**69.69**	**60**	⇑P		**P**	**14 01 13.2**	**+0.3**
	baz=70,SNR=6.2								
214A	**Organ Pipe Nat**	**69.70**	**65**	⇓P		**P**	**14 01 12.2**	**-0.7**
	baz=70,SNR=12								
X18A	**Snowflake**	**69.74**	**61**	⇑P		**P**	**14 01 13.1**	**0.0**
	baz=70,SNR=19								
Y17A	**Roosevelt**	**69.76**	**62**	⇓P		**P**	**14 01 13.4**	**+0.1**
	baz=70,SNR=27								
OGNE	**Ogallala**	**69.95**	**52**	*e*P		**P**	**14 01 13.5**	**-0.8**
	comp=Z,410nm,1.4s,mb6.2								
BHJ	**Bhuj**	**69.95**	**283**	*e*P		**P**	**14 01 16.6**	**+2.0**
BHJ				AMb		AMB	14 01 24.0		
	comp=Z,405nm,1.2s,mb6.2								
MNK	**Minsk**	**69.98**	**330**	*c i*P		**P**	**14 01 13.0**	**-1.3**
MNK				*e*			14 03 46.0		
MNK				*e*PPP			14 05 34.0		
MNK				*e*S		S	14 10 20.0	-3.8
MNK				*e*PS			14 10 54.0		
MNK				*e*			14 11 09.0		
MNK					pmax	pmax			
	comp=Z,1μm,1.2s,mb6.7								
MNK					pmax	pmax			
	comp=E,750nm,1.4s								
MNK					smax				
	comp=N,6μm,8.0s								
MNK					smax				
	comp=E,7μm,8.0s								
MNK					MLR	MLR			
	comp=Z,23μm,18.0s,MS6.5								
MNK					MLR	MLR			
	comp=N,11μm,16.0s,MS6.4								
MNK					MLR	MLR			
	comp=E,9μm,12.0s,MS6.4								
116A	**Eloy**	**69.98**	**64**	⇓P		**P**	**14 01 14.7**	**0.0**
	baz=70								
HYA	**Hoyanger**	**70.03**	**344**	*e*P		**P**	**14 01 15.0**	**+0.5**
HYA				AMb		AMB	14 01 18.5		
	comp=Z,407nm,1.5s,mb6.2								
MAK	**Makhachkala**	**70.08**	**312**	*c i*P		**P**	**14 01 15.5**	**+0.4**
MAK				*e*PPP			14 05 34.5		
MAK				*i* S		S	14 10 28.9	+3.6
MAK				*e*SS		SS	14 14 52.2	-1.9
MAK					pmax	pmax			
	comp=Z,2μm,2.3s,mb6.7								
MAK					pmax	pmax			
	comp=N,647nm,1.4s								
MAK					pmax	pmax			
	comp=Z,637nm,1.8s,mb6.2								
MAK					pmax	pmax			
	comp=N,586nm,1.4s								
MAK					pmax	pmax			
	comp=E,663nm,1.3s								
MAK					smax				
	comp=E,2μm,3.4s								
MAK					smax				
	comp=N,2μm,3.7s								
MAK					smax				
	comp=Z,1μm,2.3s								
MAK					MLR	MLR			
	comp=Z,17μm,18.0s,MS6.3								
Y18A	**Canyon Day Jun**	**70.20**	**62**	⇑P		**P**	**14 01 16.2**	**+0.2**
	baz=70,SNR=26								
SDCO	**Great Sand Dun**	**70.20**	**56**	*e*P		**P**	**14 01 16.1**	**+0.2**
	comp=Z,109nm,1.6s,mb5.5								
SDCO				*e*P			14 01 16.5		
SDCO				*e*P'P'			14 29 18.3		
SDCO				LR		LR			
	comp=Z,3μm,21.0s,MS5.5								
EYMN	**Ely**	**70.21**	**41**	*e*P		**P**	**14 01 14.8**	**-1.0**
	comp=Z,178nm,1.4s,mb5.8								
EYMN				*e*P			14 01 15.6		
EYMN				LR		LR			
	comp=Z,6μm,20.0s,MS5.8								
X19A	**St. Johns**	**70.22**	**61**	⇓P		**P**	**14 01 16.3**	**+0.2**
	baz=70,SNR=40								
Z17A	**San Carlos Hig**	**70.25**	**62**	⇑P		**P**	**14 01 17.0**	**+0.6**
	baz=70								
POO	**Poona**	**70.27**	**276**	*i* P		**P**	**14 01 16.0**	**-0.6**
POO				*e*P			14 01 17.2		
POO				AMb		AMB	14 01 27.3		
	comp=Z,244nm,2.0s,mb5.8								
216A	**Three Points,**	**70.52**	**64**	⇓P		**P**	**14 01 17.4**	**-0.6**
	baz=70,SNR=13								
Y19A	**Nutrioso**	**70.56**	**61**	⇑P		**P**	**14 01 18.8**	**+0.6**
	baz=70,SNR=35								
117A	**Oracle**	**70.58**	**63**	⇓P		**P**	**14 01 18.0**	**-0.4**
	baz=70,SNR=8.8								
Z18A	**Geronimo**	**70.67**	**62**	⇑P		**P**	**14 01 19.2**	**+0.4**
	baz=70								
KONO	**Kongsberg**	**70.72**	**342**	*e*P		**P**	**14 01 19.1**	**+0.3**
KONO				*e*S		S	14 10 33.3	+1.1
KONO				*e*			14 15 48.2		
KONO	**Kongsberg**	**70.72**	**342**	*e*P		**P**	**14 01 18.6**	**-0.1**
KONO					pmax	pmax			
	comp=Z,320nm,1.4s,mb6.1								
KONO					MLR	MLR			
	comp=Z,6μm,20.0s,MS5.8								
KONO	**Kongsberg**	**70.72**	**342**	*e*P		**P**	**14 01 18.6**	**-0.1**
	comp=Z,320nm,1.4s,mb6.1								
KONO				*e*P			14 01 19.1		
KONO				LR		LR			
	comp=Z,6μm,20.0s,MS5.8								
TUC	**Tucson**	**70.73**	**63**	*e*P		**P**	**14 01 18.4**	**-0.8**
TUC					pmax	pmax			
	comp=Z,59nm,1.6s,mb5.3								
TUC	**Tucson**	**70.73**	**63**	*e*P		**P**	**14 01 18.4**	**-0.8**
	comp=Z,59nm,1.6s,mb5.3								
TUC				*e*P			14 01 19.7		
ECSD	**EROS,Sioux Fal**	**70.83**	**46**	*e*P		**P**	**14 01 18.0**	**-1.7**
	comp=Z,147nm,1.4s,mb5.7								
ECSD				*e*P			14 01 18.3		
ECSD				LR		LR			
	comp=Z,7μm,22.0s,MS5.9								
ASK	**Askoy**	**70.85**	**344**	*e*P		**P**	**14 01 18.7**	**-0.8**
ASK				AMb		AMB	14 01 20.8		
	comp=Z,567nm,1.4s,mb6.3								
KAD	**Karad**	**70.87**	**275**	*e*P		**P**	**14 01 19.9**	**-0.4**
KAD				AMb		AMB	14 01 30.9		
	comp=Z,234nm,1.6s,mb5.9								
RUND	**Rundenannen**	**70.88**	**344**	*e*P		**P**	**14 01 22.3**	**+2.6**
RUND				AMb		AMB	14 01 25.4		
	comp=Z,454nm,1.2s,mb6.3								
BER	**Bergen**	**70.92**	**344**	*e*P		**P**	**14 01 20.1**	**+0.2**
BER				*e*			14 03 43.2		
BER				*e*S		S	14 10 36.3	+1.8
BER				*e*SS		SS	14 15 11.4	+5.5
Z19A	**T-Link Ranch,**	**71.00**	**62**	⇓P		**P**	**14 01 21.1**	**+0.2**
	baz=71,SNR=12								
118A	**Homack Ranch,**	**71.01**	**63**	⇓P		**P**	**14 01 20.7**	**-0.2**
	baz=71,SNR=44								
EGD	**Espegrend**	**71.04**	**344**	*e*P		**P**	**14 01 20.1**	**-0.6**
EGD				AMb		AMB	14 01 21.9		
	comp=Z,596nm,1.7s,mb6.2								
217A	**Green Valley**	**71.07**	**64**	⇑P		**P**	**14 01 20.9**	**-0.5**
	baz=71,SNR=13								
ODD1	**Odda**	**71.10**	**343**	*e*P		**P**	**14 01 20.5**	**-0.5**
ODD1				AMb		AMB	14 01 23.9		
	comp=Z,327nm,1.8s,mb6.0								
119A	**Ashpeak Ranch,**	**71.33**	**62**	⇓P		**P**	**14 01 22.8**	**-0.1**
	baz=71,SNR=14								
218A	**Dragoon**	**71.41**	**63**	⇑P		**P**	**14 01 23.4**	**0.0**
	baz=71,SNR=22								
LAZ	**Ladron**	**71.53**	**60**	*e*P		**P**	**14 01 24.1**	**0.0**
	comp=Z,57nm,1.5s,mb5.3								
ANMO	**Albuquerque**	**71.56**	**59**	*e*P		**P**	**14 01 24.3**	**+0.1**
ANMO					pmax	pmax			
	comp=Z,116nm,1.7s								
ANMO					MLR	MLR			
	comp=Z,3μm,22.0s								
ANMO	**Albuquerque**	**71.56**	**59**	*e*P		**P**	**14 01 24.3**	**0.0**
	comp=Z,116nm,1.7s,mb5.5								
ANMO				*e*P			14 01 24.9		
ANMO				LR		LR			
	comp=Z,3μm,22.0s,MS5.5								
BLS5	**Blasjo**	**71.58**	**343**	*e*P		**P**	**14 01 25.7**	**+1.8**
BLS5				AMb		AMB	14 01 29.0		
	comp=Z,92nm,1.7s,mb5.4								
LENM	**Lemitar**	**71.79**	**60**	*e*P		**P**	**14 01 25.5**	**-0.2**
	comp=Z,77nm,1.7s,mb5.4								
LENM				*e*P			14 01 26.1		
ASAR	**Alice Springs**	**71.80**	**200**	P		**P**	**14 01 24.9**	**-0.7**
	comp=Z,14nm,1.0s,mb4.8,baz=13,slow=5.5,SNR=71								
ASAR				PKPPKP			14 29 14.8		
	comp=Z,0.3nm,0.4s,baz=176,slow=2.0,SNR=4.8								
KIV	**Kislovodsk**	**71.81**	**315**	P		**P**	**14 01 27.1**	**+1.5**
	comp=Z,2μm,1.0s,mb7.1,SNR=52								
KIV	**Kislovodsk**	**71.81**	**315**	P		**P**	**14 01 27.1**	**+1.5**
	SNR=94								
KIV	**Kislovodsk**	**71.81**	**315**	*c i*P		**P**	**14 01 26.7**	**+1.1**
KIV				*e*			14 01 46.7		
KIV				*e*			14 04 03.2		
KIV				*e*PPP			14 05 48.6		
KIV				*e*S		S	14 10 46.1	+0.7
KIV					pmax	pmax			
	comp=Z,478nm,1.1s,mb6.3								
KIV					pmax	pmax			
	comp=Z,1μm,5.6s								
KIV					MLR	MLR			
	comp=Z,8μm,18.0s,MS6.0								
KIV	**Kislovodsk**	**71.81**	**315**	⇑*i*P		**P**	**14 01 26.9**	**+1.3**
KIV	**Kislovodsk**	**71.81**	**315**	⇑*i*P		**P**	**14 01 26.5**	**+0.9**
318A	**Bisbee**	**71.81**	**64**	⇓P		**P**	**14 01 25.4**	**-0.5**
	baz=72,SNR=24								
219A	**White Tail Can**	**71.89**	**63**	⇑P		**P**	**14 01 26.3**	**0.0**
	baz=72,SNR=42								
Y22D	**IRIS PASSCAL I**	**71.89**	**60**	⇑P		**P**	**14 01 26.4**	**+0.1**
	baz=72								
LPM	**Los Pinos Moun**	**71.90**	**59**	*e*P		**P**	**14 01 26.6**	**+0.4**
LPM				*e*P			14 01 26.9		
SUW	**Suwalki**	**71.95**	**332**	*e*P		**P**	**14 01 25.6**	**-0.7**
	comp=Z,2μm,1.7s,mb6.7								
SUW				*e*S		S	14 10 44.2	-2.5
SUW				LMZ			14 36 11.2		
	comp=Z,6μm,19.5s								
SUW	**Suwalki**	**71.95**	**332**	⇑*e*P		**P**	**14 01 25.6**	**-0.7**
SUW				*e*S		S	14 10 44.2	-2.5
BNM	**Barren Site**	**72.01**	**59**	*e*P		**P**	**14 01 26.4**	**-0.6**
	comp=Z,71nm,1.5s,mb5.4								
KMY	**Karmoy**	**72.02**	**344**	*e*P		**P**	**14 01 27.0**	**+0.4**
KMY				AMb		AMB	14 01 30.3		
	comp=Z,335nm,1.7s,mb6.0								
DGRG	**David-gareji**	**72.27**	**312**	P		**P**	**14 01 29.5**	**+1.1**
DGRG				S		S	14 10 53.6	+2.9
319A	**Douglas**	**72.30**	**63**	⇓P		**P**	**14 01 28.6**	**-0.1**
	baz=72,SNR=38								
GOA	**Goa**	**72.36**	**274**	⇑*i*P		**P**	**14 01 26.9**	**-2.4**
GOA				*i* S		S	14 10 50.0	-2.5
GOA				*i* S		S	14 10 50.4	-2.1
MTA	**Mtatsminda**	**72.39**	**312**	P		**P**	**14 01 30.0**	**+0.9**
MTA				S		S	14 10 52.1	-0.1
TBLG	**Delisi**	**72.39**	**312**	P		**P**	**14 01 30.9**	**+1.8**
TBLG	**Delisi**	**72.39**	**312**	P		**P**	**14 01 30.9**	**+1.8**
SNART	**Snartemo**	**72.43**	**342**	*e*P		**P**	**14 01 29.6**	**+0.5**
SNART				AMb		AMB	14 01 32.6		
	comp=Z,328nm,1.5s,mb6.0								
ONI	**Oni**	**72.43**	**314**	P		**P**	**14 01 30.8**	**+1.5**
ONI				S		S	14 10 55.0	+2.4
AKASG	**Malin Array Be**	**72.53**	**327**	P		**P**	**14 01 29.2**	**-0.5**
	comp=Z,157nm,0.7s,mb6.1,baz=35,slow=6.2,SNR=364								
AKASG				S		S	14 10 51.5	-1.9
	comp=Z,3.7nm,0.8s,baz=35,slow=12,SNR=6.1								
AKASG				LR		LR	14 36 03.6		
	comp=Z,9μm,18.1s,MS6.1,baz=70,slow=38								
AKASG	**Malin Array Be**	**72.53**	**327**	P		**P**	**14 01 29.2**	**-0.6**
AKASG				S		S	14 10 51.5	-1.9
AKASG					pmax	pmax			
	comp=Z,157nm,0.7s								
AKASG					smax				
	comp=N,4.0nm,0.8s								
AKASG					MLR	MLR			
	comp=Z,9μm,18.1s								
AKBB	**Malin Array Si**	**72.53**	**327**	*e*P		**P**	**14 01 29.0**	**-0.8**
GOR	**Gori**	**72.53**	**313**	P		**P**	**14 01 32.2**	**+2.3**
KIEV	**Kiev**	**72.54**	**327**	*e*P		**P**	**14 01 29.0**	**-0.8**
KIEV				*e*S		S	14 10 50.6	-2.9
KIEV					pmax	pmax			
	comp=Z,987nm,1.4s,mb6.5								
KIEV					MLR	MLR			
	comp=Z,8μm,21.0s,MS6.0								
KIEV	**Kiev**	**72.54**	**327**	*e*P		**P**	**14 01 28.9**	**-0.9**
	comp=Z,987nm,1.4s,mb6.5								
KIEV				*e*S		S	14 10 50.6	-2.9
KIEV				LR		LR			
	comp=Z,8μm,21.0s,MS6.0								
COWI	**Conover**	**72.67**	**41**	*e*P		**P**	**14 01 29.2**	**-1.4**
	comp=Z,174nm,1.5s,mb5.8								
COWI				*e*P			14 01 30.1		
COWI				LR		LR			
	comp=Z,6μm,20.0s,MS5.8								
CBKS	**Cedar Bluff**	**72.70**	**52**	*e*P		**P**	**14 01 29.6**	**-1.4**
CBKS					pmax	pmax			
	comp=Z,119nm,1.2s,mb5.7								
CBKS					MLR	MLR			
	comp=Z,3μm,21.0s,MS5.6								
CBKS	**Cedar Bluff**	**72.70**	**52**	*e*P		**P**	**14 01 29.6**	**-1.4**
	comp=Z,119nm,1.2s,mb5.7								
CBKS				*e*P			14 01 30.2		
CBKS				LR		LR			
	comp=Z,3μm,21.0s,MS5.6								
KOD	**Kodaikanal**	**73.49**	**268**	*ex*		x	14 01 40.0		
SOC	**Sochi**	**73.53**	**316**	*c i*P		**P**	**14 01 36.7**	**+0.9**
SOC				*e**SP		sP	14 01 47.6	+5.4
SOC				*e*		

SCIA	**State Center**	**73.87**	**46**	*e*P		**P**	**14 01 37.2**	**-0.7**
	comp=Z,270nm,1.1s,mb6.1								
SCIA				*e*P			14 01 37.6		
SCIA				*e*			14 01 47.9		
WAR	**Warsaw**	**74.15**	**332**	*e*P		**P**	**14 01 40.0**	**+0.8**
WAR				*e*S		S	14 11 13.0	+1.3
WAR				LMZ			14 39 08.5		
	comp=Z,7μm,19.7s								
WAR	**Warsaw**	**74.15**	**332**	*e*P		**P**	**14 01 40.1**	**+0.8**
WAR				*e*S		S	14 11 13.0	+1.3
WAR				LR		LR			
	comp=Z,7μm,19.7s,MS5.9								
KSU1	**Kansas State U**	**74.18**	**50**	P		**P**	**14 01 36.0**	**-3.7**
	comp=Z,87nm,1.0s,mb5.6								
KSU1				LR		LR			
	comp=Z,6μm,20.0s,MS5.9								
MLA1	**Latheron**	**74.35**	**348**	*e*P		**P**	**14 01 39.6**	**-0.7**
AMTX	**Amarillo**	**74.41**	**56**	*e*P		**P**	**14 01 41.1**	**0.0**
	comp=Z,417nm,1.9s,mb6.0								
AMTX				*e*P			14 01 41.6		
AMTX				LR		LR			
	comp=Z,3μm,20.0s,MS5.5								
RGN	**Rugen**	**74.41**	**338**	*e*P		**P**	**14 01 41.1**	**+0.3**
	comp=Z,2μm,1.8s,mb6.6								
RGN				*e*PP		PP	14 04 26.5	+0.2	
RGN				*e*S		S	14 11 13.3	-1.3	
GKP	**Gorka Klasztor**	**74.44**	**335**	*e*P		**P**	**14 01 41.0**	**+0.1**
GKP				*e*S		S	14 11 12.6	-2.4	
GKP				LMZ			14 36 49.3		
	comp=Z,9μm,21.8s								
GKP	**Gorka Klasztor**	**74.44**	**335**	*e*P		**P**	**14 01 41.0**	**0.0**
GKP				*e*S		S	14 11 12.6	-2.3	
GKP				LR		LR			
	comp=Z,9μm,21.8s,MS6.0								
JFWS	**Jewell Farm**	**74.56**	**43**	*e*P		**P**	**14 01 40.3**	**-1.6**
JFWS				pmax		pmax			
	comp=Z,37nm,0.8s,mb5.4								
JFWS				MLR		MLR			
	comp=Z,7μm,21.0s,MS5.9								
JFWS	**Jewell Farm**	**74.56**	**43**	*e*P		**P**	**14 01 40.2**	**-1.6**
	comp=Z,37nm,0.8s,mb5.4								
JFWS				*e*P			14 01 41.1		
JFWS				LR		LR			
	comp=Z,7μm,21.0s,MS5.9								
GDL2	**Guadalupe Moun**	**74.73**	**59**	*e*P		**P**	**14 01 43.2**	**+0.2**
MVH1	**Achvaich**	**74.83**	**348**⇑	*e*P		**P**	**14 01 43.1**	**0.0**
MCD	**Coleburn Disti**	**75.03**	**348**	*e*P		**P**	**14 01 43.4**	**-0.9**
TRD	**Trivandrum**	**75.06**	**267**	*e*P		**P**	**14 01 45.6**	**+0.5**
SIM	**Simferopol'**	**75.07**	**321**	*d* i P		**P**	**14 01 47.1**	**+2.3**
SIM				*e*			14 04 33.0		
SIM				*e*PPP			14 06 18.0		
SIM				*e*S		S	14 11 23.0	+0.8	
SIM				pmax		pmax			
	comp=Z,225nm,1.7s,mb5.8								
SIM				MLR		MLR			
	comp=Z,6μm,16.0s,MS6.0								
SIM	**Simferopol'**	**75.07**	**321**	*i* P		**P**	**14 01 45.9**	**+1.1**
LVV	**L'vov**	**75.17**	**329**⇓	*i* P		**P**	**14 01 45.1**	**-0.1**
LVV				*e*			14 02 00.1		
LVV				*e*			14 04 31.7		
LVV				*e*S		S	14 11 22.1	-1.1	
LVV				*e*			14 11 41.3		
LVV				pmax		pmax			
	comp=Z,700nm,1.6s,mb6.3								
LVV				smax					
	comp=E,2μm,3.1s								
LVV				smax					
	comp=N,1μm,3.2s								
LVV				MLR		MLR			
	comp=E,3μm,19.0s,MS5.6								
LVV				MLR		MLR			
	comp=Z,4μm,19.0s,MS5.8								
LVV				MLR		MLR			
	comp=N,2μm,20.0s,MS5.6								
MDO	**Dochfour**	**75.33**	**348**⇑	*e*P		**P**	**14 01 45.5**	**-0.5**
KAC	**Achnashellach**	**75.40**	**349**⇑	*e*P		**P**	**14 01 46.6**	**+0.2**
KPL	**Plockton**	**75.60**	**349**	P		**P**	**14 01 47.6**	**0.0**
KPL				AMb		AMB	14 01 50.1		
	comp=N,256nm,1.4s,mb6.0								
KPL				AMS		AMS	14 39 46.7		
	comp=N,2μm,20.8s								
KPL	**Plockton**	**75.60**	**349**	*e*P		**P**	**14 01 47.6**	**0.0**
KPL				AMb		AMB	14 01 50.1		
	comp=Z,256nm,1.4s,mb6.0								
KPL				AMS		AMS	14 39 46.7		
	comp=Z,2μm,20.8s,MS5.3								
GLMI	**Grayling**	**75.67**	**39**	PFAKE			14 02 00.0	+12	
GLMI				LR		LR			
	comp=Z,5μm,20.0s,MS5.8								
KIS	**Kishinev**	**75.67**	**325**	*α* i P		**P**	**14 01 48.0**	**-0.2**
KIS				*i*			14 01 57.0		
KIS				*e*			14 04 36.0		
KIS				*e*PPP			14 06 20.0		
KIS				*i* S		S	14 11 27.0	-1.9	
KIS				*i* PS			14 11 56.0		
KIS				*e*SS		SS	14 16 20.0	+0.9	
KIS				pmax		pmax			
	comp=Z,2μm,1.8s,mb6.7								
KIS				pmax		pmax			
	comp=N,1μm,2.0s								
KIS				pmax		pmax			
	comp=E,570nm,2.0s								
KIS				smax					
	comp=E,7μm,8.0s								
KIS				smax					
	comp=N,5μm,7.0s								
KIS				MLR		MLR			
	comp=N,7μm,18.0s,MS6.1								
KIS				MLR		MLR			
	comp=Z,9μm,18.0s,MS6.1								
KIS				MLR		MLR			
	comp=E,4μm,15.0s,MS6.1								
KIS				MLR		MLR			
	comp=Z,9μm,18.0s								
KIS	**Kishinev**	**75.67**	**325**	*i* P		**P**	**14 01 48.0**	**-0.2**
	comp=Z,2μm,1.8s,mb6.7								
KIS	**Kishinev**	**75.67**	**325**	*i* PcP		PcP	14 01 57.0	-4.0	
KIS	**Kishinev**	**75.67**	**325**	*i* PP		PP	14 04 36.0	-1.2	
KSB	**Sheil Bridge**	**75.70**	**349**⇑	*e*P		**P**	**14 01 47.2**	**-0.9**
BSEG	**Bad Segeberg**	**75.74**	**339**	*e*P		**P**	**14 01 48.7**	**+0.3**
	comp=Z,788nm,1.8s,mb6.3								
BSEG				*e*S		S	14 11 27.6	-1.8	
KWP	**Kalwaria**	**75.79**	**330**	*e*P		**P**	**14 01 49.5**	**+0.7**
	comp=Z,3μm,1.3s,mb7.0								
KWP				*e*S		S	14 11 29.0	-1.1	
KWP				LMZ			14 38 28.2		
	comp=Z,8μm,18.5s								
KWP	**Kalwaria**	**75.79**	**330**⇓	*i* P		**P**	**14 01 49.4**	**+0.6**
KWP	**Kalwaria**	**75.79**	**330**⇑	*e*P		**P**	**14 01 49.5**	**+0.7**
KWP				*e*S		S	14 11 29.0	-1.1	
IAS	**Iasi**	**76.01**	**326**⇑	*i* P		**P**	**14 01 50.9**	**+0.8**
IAS	**Iasi**	**76.01**	**326**	P		**P**	**14 01 51.2**	**+1.1**
HLG	**Helgoland**	**76.10**	**340**	*e*S		S	14 11 31.5	-1.8	
RUE	**Ruedersdorf**	**76.13**	**336**	*e*P		**P**	**14 01 50.7**	**0.0**
	comp=Z,1μm,1.8s,mb6.6								
RUE				*e*S		S	14 11 30.5	-3.2	
ARMA	**Armidale**	**76.16**	**182**	*e*P		**P**	**14 01 57.9**	**+7.0**
ARMA				*e*			14 02 06.0		
ARMA				*e*S		S	14 11 42.8	+8.6	
OJC	**Ojcow**	**76.28**	**332**	*i* P		**P**	**14 01 51.7**	**+0.1**
OJC				*e*PcP		PcP	14 02 00.9	-2.6	
OJC				*e*S		S	14 11 33.6	-1.8	
OJC				*e*ScS		ScS	14 12 03.8	-2.4	
OJC				*e*SS		SS	14 16 30.5	+2.5	
OJC				L			14 38 47.3		
	comp=Z,6.6nm,21.6s								
EBH	**Black Hill**	**76.35**	**347**⇑	*i* P		**P**	**14 01 52.0**	**+0.1**
STHS	**Stebnicka Huta**	**76.48**	**331**	*e*P		**P**	**14 01 53.8**	**+1.1**
STHS				pmax		pmax			
	comp=Z,141nm,0.8s,mb6.0								
STHS	**Stebnicka Huta**	**76.48**	**331**	*e*P		**P**	**14 01 53.8**	**+1.1**
	comp=Z,141nm,0.8s,mb5.9								
ESY	**Stoneypath**	**76.53**	**347**⇑	*i* P		**P**	**14 01 52.4**	**-0.5**
EAB	**Aberfoyle**	**76.53**	**348**⇑	*e*P		**P**	**14 01 52.3**	**-0.6**
KOLS	**Kolonicke sedl**	**76.53**	**330**	*e*P		**P**	**14 01 53.3**	**+0.2**
KOLS				*e*S		S	14 11 36.0	-2.3	
BUR08	**Bucovina Ar. S**	**76.55**	**327**	*e*P		**P**	**14 01 53.0**	**-0.2**
BURAR	**Bucovina Array**	**76.57**	**327**⇑	*i* P		**P**	**14 01 53.5**	**+0.2**
BURAR	**Bucovina Array**	**76.57**	**327**	P		**P**	**14 01 53.7**	**+0.4**
EDI	**Edinburgh**	**76.61**	**347**	P		**P**	**14 01 53.1**	**-0.3**
EDI				AMb		AMB	14 01 55.8		
	comp=Z,220nm,1.8s,mb5.8								
EDI				AMS		AMS	14 37 43.8		
	comp=Z,2μm,20.2s								
EDI	**Edinburgh**	**76.61**	**347**	*e*P		**P**	**14 01 53.1**	**-0.3**
EDI				AMb		AMB	14 01 55.8		
	comp=Z,220nm,1.8s,mb5.8								
EDI				AMS		AMS	14 37 43.8		
	comp=Z,2μm,20.2s,MS5.4								
EAU	**Auchinoon**	**76.73**	**347**⇑	*e*P		**P**	**14 01 53.9**	**-0.2**
EBL	**Broad Law**	**76.74**	**347**⇑	*i* P		**P**	**14 01 53.7**	**-0.4**
UZH	**Uzhgorod**	**76.78**	**330**⇓	*i* P		**P**	**14 01 53.7**	**-0.8**
UZH				*i*			14 02 09.0		
UZH				*i*			14 04 42.0		
UZH				*e*PPP			14 06 38.0		
UZH				*i* S		S	14 11 37.9	-3.1	
UZH				*e*SS		SS	14 16 39.0	+3.3	
NIE	**Niedzica**	**76.80**	**331**	*e*P		**P**	**14 01 55.3**	**+0.8**
NIE				*e*PP		PP	14 04 38.8	-7.7	
HDIL	**Hopedale**	**76.82**	**44**	*e*P		**P**	**14 01 53.5**	**-1.4**
	comp=Z,358nm,1.2s,mb6.2								
HDIL				*e*P			14 01 54.1		
HDIL				LR		LR			
	comp=Z,5μm,20.0s,MS5.8								
CRVS	**Cervenica-Dubn**	**76.84**	**330**	*e*P		**P**	**14 01 55.1**	**+0.3**
CRVS				*e*pP		pP	14 02 00.8	+1.3	
CRVS				*e*S		S	14 11 37.9	-3.8	
KSP	**Ksiaz**	**76.85**	**334**	*e*P		**P**	**14 01 54.9**	**+0.1**
	comp=Z,2μm,1.8s,mb6.7								
KSP				*e*S		S	14 11 39.3	-2.3	
KSP				LMZ			14 38 02.9		
	comp=Z,16μm,22.8s								
KSP	**Ksiaz**	**76.85**	**334**⇑	*i* P		**P**	**14 01 54.7**	**-0.1**
KSP				*e*S		S	14 11 38.5	-3.1	
KSP				LR		LR			
	comp=Z,18μm,23.0s,MS6.3								
XSO	**Sourhope Farm**	**76.88**	**346**⇑	*e*P		**P**	**14 01 54.4**	**-0.5**
RAC	**Raciborz**	**76.92**	**333**	*e*P		**P**	**14 01 56.0**	**+0.8**
RAC				*e*S		S	14 11 40.9	-1.5	
RAC				MLR		MLR			
	comp=Z,8μm,18.0s,MS6.1								
PGBU	**Glenifferbraes**	**76.92**	**348**	P		**P**	**14 01 55.1**	**0.0**
PGBU				AMb		AMB	14 01 57.8		
	comp=Z,613nm,1.6s,mb6.3								
PGBU	**Glenifferbraes**	**76.92**	**348**	*e*P		**P**	**14 01 55.1**	**0.0**
PGBU				AMb		AMB	14 01 57.8		
	comp=Z,613nm,1.6s,mb6.3								
PCA1	**Carrot**	**76.99**	**348**⇑	*e*P		**P**	**14 01 55.6**	**+0.1**
OKC	**Ostrava-Krasne**	**77.14**	**333**	*e*P		**P**	**14 01 56.8**	**+0.3**
OKC				*e*			14 04 51.2		
OKC				*e*S		S	14 11 44.0	-0.9	
OKC				MLR		MLR			
	comp=Z,5μm,25.4s,MS5.7								
OKC	**Ostrava-Krasne**	**77.14**	**333**	*e*P		**P**	**14 01 56.8**	**+0.3**
OKC				*e*PP		PP	14 04 51.2	+1.7	
OKC				*e*S		S	14 11 44.0	-0.9	
OKC				*e*SS		SS	14 16 52.0	+11	
OKC				AMS		AMS	14 36 20.0		
	comp=Z,5μm,25.4s								
OKC	**Ostrava-Krasne**	**77.14**	**333**	*e*P		**P**	**14 01 56.8**	**+0.3**
OKC				*e*PP		PP	14 04 51.2	+1.7	
OKC				*e*S		S	14 11 44.0	-0.9	
OKC				*e*SS		SS	14 16 52.0	+11	
BMR	**Baia Mare**	**77.16**	**328**⇑	*i* P		**P**	**14 01 57.6**	**+1.0**
MSL	**Mosul**	**77.17**	**309**	*ex*		x	14 01 58.0		
MSL				*ex*		x	14 11 45.0		
TXAR	**Lajitas Array**	**77.18**	**61**	P		**P**	**14 01 56.7**	**-0.4**
	comp=Z,42nm,0.8s,mb5.4,baz=296,slow=3.7,SNR=223								
TXAR				PKPPKP			14 29 04.0		
	comp=Z,0.2nm,0.4s,baz=141,slow=6.1,SNR=4.1								
ESK	**Eskdalemuir**	**77.20**	**347**	P		**P**	**14 01 57.5**	**+0.8**
	comp=Z,414nm,1.6s,mb6.1,SNR=6.7								
ESK	**Eskdalemuir**	**77.20**	**347**	P		**P**	**14 01 56.8**	**+0.1**
ESK				AMb		AMB	14 01 59.4		
	comp=Z,201nm,1.6s,mb5.8								
ESK				AMS		AMS	14 41 47.5		
	comp=Z,2μm,18.6s								
ESK	**Eskdalemuir**	**77.20**	**347**	*e*P		**P**	**14 01 56.8**	**+0.1**
ESK				AMb		AMB	14 01 59.4		
	comp=Z,201nm,1.6s,mb5.8								
ESK				AMS		AMS	14 41 47.5		
	comp=Z,2μm,18.6s,MS5.4								
UPC	**Upice**	**77.23**	**334**	*e*P		**P**	**14 01 56.9**	**0.0**
DPC	**Dobruska-Polom**	**77.27**	**334**	*e*P		**P**	**14 01 57.7**	**+0.5**
DPC				*e*PP		PP	14 04 52.7	+2.2	
DPC				*e*S		S	14 11 45.9	-0.3	
DPC				*e*SS		SS	14 16 41.9	-1.1	
DPC				AMS		AMS	14 40 20.0		
	comp=Z,9μm,17.3s								
ECK	**Cauldkaine Hil**	**77.32**	**347**⇑	*e*P		**P**	**14 01 57.5**	**+0.1**
ODB	**Odobesti**	**77.38**	**325**⇓	*i* P		**P**	**14 01 58.8**	**+0.9**
MORC	**Moravsky Berou**	**77.39**	**333**	P		**P**	**14 01 57.9**	**0.0**
MORC	**Moravsky Berou**	**77.39**	**333**⇑	*i* P		**P**	**14 01 58.0**	**+0.1**
MORC	**Moravsky Berou**	**77.39**	**333**	*e*P		**P**	**14 01 57.8**	**-0.1**
CLL	**Collm**	**77.40**	**336**⇑	*i* P		**P**	**14 01 57.5**	**-0.4**
CLL				*e*S		S	14 11 45.0	-2.6	
CLL				pmax		pmax			
	comp=Z,1μm,1.7s,mb6.5								
CLL				MLR		MLR			
	comp=Z,6μm,19.3s,MS5.9								
CLL	**Collm**	**77.40**	**336**	*e*P		**P**	**14 01 57.4**	**-0.5**
	comp=Z,1μm,1.7s,mb6.5								
CLL				*e*S		S	14 11 43.6	-4.0	
CLL	**Collm**	**77.40**	**336**⇑	*i* P		**P**	**14 01 57.5**	**-0.4**
	comp=Z,1μm,1.7s,mb6.5								
CLL				*e*Plp		pP	14 02 00.0	-2.5	
CLL				*e*Pmax		pP	14 02 00.0	-2.5	
CLL				*es*P		sP	14 02 07.0	+2.8	
CLL				*e*PP		PP	14 04 51.0	-0.5	
CLL				*e*S		S	14 11 45.0	-2.6	
CLL				*e*S		S	14 11 45.0	-2.6	
	comp=E,1μm,10.1s								
CLL				*e*SS		SS	14 16 50.0	+5.2	
CLL				LmH			14 34 00.0		
	comp=N,6μm,21.8s								
CLL				LmH			14 34 00.0		
	comp=E,10μm,20.3s								
CLL				LmV			14 40 00.0		
	comp=Z,6μm,19.3s								
CLL	**Collm**	**77.40**	**336**⇑	*i* P		**P**	**14 01 57.5**	**-0.4**
	comp=Z,1μm,1.7s,mb6.5								
CLL				*e*S		S	14 11 45.0	-2.6	
CLL				LR		LR			
	comp=Z,6μm,19.3s,MS5.9								
VRI	**Vrincioaia**	**77.43**	**325**⇓	*i* P		**P**	**14 01 59.1**	**+0.9**
VRI	**Vrincioaia**	**77.43**	**325**	P		**P**	**14 01 58.9**	**+0.7**
BIDO	**Bidbid**	**77.44**	**291**	P		**P**	**14 01 59.8**	**+1.2**
SNR=22									
PLOR	**Plostina**	**77.48**	**325**	P		**P**	**14 01 59.7**	**+1.3**
PLOR	**Plostina**	**77.48**	**325**⇑	*i* P		**P**	**14 01 59.5**	**+1.1**
XAL	**Allendale**	**77.48**	**346**⇑	*e*P		**P**	**14 01 56.8**	**-1.5**
BRG	**Berggiesshubel**	**77.52**	**335**	*i* P		**P**	**14 01 58.9**	**+0.4**
BRG				*e*			14 02 09.2		
BRG				S		S	14 11 50.0	+1.1	
BRG				pmax		pmax			
	comp=Z,248nm,1.5s,mb5.9								
BRG				MLR		MLR			
	comp=Z,5μm,16.8s,MS5.9								
BRG	**Berggiesshubel**	**77.52**	**335**	*e*P		**P**	**14 01 58.3**	**-0.2**
	comp=Z,416nm,1.5s,mb6.1								
BRG				*e*S		S	14 11 45.7	-3.2	
BRG	**Berggiesshubel**	**77.52**	**335**	*i* P		**P**	**14 01 58.9**	**+0.4**
	comp=Z,414nm,1.5s,mb6.1								
BRG				*e*			14 02 09.2		
	comp=Z,81nm,1.2s								
BRG				PP		PP	14 04 36.0	-17	
	comp=Z,175nm,2.2s								
BRG				S		S	14 11 50.0	+1.1	
BRG				SS		SS	14 16 57.0	+10	
BRG									
	comp=N,6μm,16.1s								
BRG									
	comp=E,4μm,16.9s								
BRG									
	comp=Z,8μm,16.8s								
BRG	**Berggiesshubel**	**77.52**	**335**	*i* P		**P**	**14 01 58.9**	**+0.4**
	comp=Z,248nm,1.5s,mb5.9								
BRG				*e*			14 02 09.2		
BRG				PP		PP	14 04 36.0	-17	
BRG				S		S	14 11 50.0	+1.1	
BRG				SS		SS	14 16 57.0	+10	
BRG				LR		LR			
	comp=Z,5μm,16.8s,MS5.9								
WBK	**Wadi Bani Khal**	**77.53**	**290**	P		**P**	**14 02 01.1**	**+2.0**
SNR=46									
CLZ	**Clausthal**	**77.63**	**338**	*e*P		**P**	**14 01 59.6**	**+0.5**
CLZ				*e*			14 04 53.3		
CLZ				*e*S		S	14 11 48.0	-2.1	
CLZ				pmax		pmax			
	comp=Z,1μm,1.6s,mb6.6								
CLZ	**Clausthal**	**77.63**	**338**	*e*P		**P**	**14 01 59.6**	**+0.5**
	comp=Z,1μm,1.6s,mb6.6								
CLZ				*e*PP		PP	14 04 53.3	-0.1	
CLZ				*e*S		S	14 11 48.0	-2.1	
PVCC	**Panska Ves**	**77.64**	**335**	*e*P		**P**	**14 02 00.1**	**+0.9**
PVCC				*e*S		S	14 11 49.4	-0.9	
PVCC				AMS		AMS	14 41 30.0		
	comp=Z,6μm,14.7s								
FBE	**Freiberg**	**77.64**	**336**	*e*P		**P**	**14 01 59.1**	**-0.1**
	comp=Z,949nm,1.6s,mb6.5								
GCD	**Castle Douglas**	**77.75**	**347**⇑	*e*P		**P**	**14 01 59.0**	**-0.8**
GCD				*e*			14 02 06.0		
CCM	**Cathedral Cave**	**77.76**	**47**	*e*P		**P**	**14 01 58.8**	**-1.4**
CCM				pmax		pmax			
	comp=Z,136nm,1.4s,mb5.7								
CCM				MLR		MLR			
	comp=Z,4μm,21.0s,MS5.7								
CCM	**Cathedral Cave**	**77.76**	**47**	*e*P		**P**	**14 01 58.8**	**-1.4**
	comp=Z,136nm,1.4s,mb5.7								
CCM				*e*P			14 01 58.9		
CCM				LR		LR			
	comp=Z,4μm,21.0s,MS5.7								
SMDO	**Samad**	**77.82**	**290**	P		**P**	**14 02 01.9**	**+1.2**
SNR=32									
IBBN	**Ibbenburen**	**77.86**	**340**	*e*P		**P**	**14 02 00.5**	**+0.1**
	comp=Z,1μm,1.8s,mb6.5								
IBBN				*e*S		S	14 11 50.0	-2.6	
GAL1	**Galloway**	**77.87**	**348**	P		**P**	**14 02 00.1**	**-0.3**
GAL1				AMb		AMB	14 02 02.8		
	comp=Z,300nm,1.6s,mb6.0								
GAL1	**Galloway**	**77.87**	**348**	*e*P		**P**	**14 02 00.1**	**-0.3**
GAL1				AMb		AMB	14 02 02.8		
	comp=Z,300nm,1.6s,mb6.0								
TIRR	**Tirgusor**	**77.91**	**324**⇑	*i* P		**P**	**14 02 01.1**	**+0.3**
TIRR	**Tirgusor**	**77.91**	**324**	P		**P**	**14 02 01.7**	**+0.9**
HARR	**Harsova**	**77.92**	**324**	P		**P**	**14 02 02.0**	**+1.1**
HOQ	**Hoqain**	**77.93**	**291**	P		**P**	**14 02 02.4**	**+1.0**
SNR=46									
SADO	**Sadowa**	**78.02**	**36**	LR		LR	14 37 46.3		
	comp=Z,4μm,19.1s,MS5.8,baz=345,slow=37								
MLR	**Muntele Rosu**	**78.05**	**326**⇓	*i* P		**P**	**14 02 02.2**	**+0.6**
MLR	**Muntele Rosu**	**78.05**	**326**	P		**P**	**14 02 02.5**	**+0.9**
VYHS	**Vyhne**	**78.09**	**331**	*e*P		**P**	**14 02 02.2**	**+0.4**
VYHS				*e*			14 02 19.0		
VYHS				*e*S		S	14 11 54.6	-0.5	
AAM	**Ann Arbor**	**78.09**	**40**	*e*P		**P**	**14 02 00.7**	**-1.2**
AAM				pmax		pmax			
	comp=Z,33nm,0.3s,mb5.7								
AAM				MLR		MLR			
	comp=Z,4μm,19.0s,MS5.8								
AAM	**Ann Arbor**	**78.09**	**40**	*e*P		**P**	**14 02 00.7**	**-1.2**
	comp=Z,33nm,0.3s,mb5.8								
AAM				*e*P			14 02 02.2		
AAM				LR		LR			
	comp=Z,4μm,19.0s,MS5.8								
VRAC	**Vranov**	**78.10**	**333**	P		**P**	**14 02 02.4**	**+0.6**
VRAC	**Vranov**	**78.10**	**333**⇑	*i* P		**P**	**14 02 01.5**	**-0.3**
VRAC	**Vranov**	**78.10**	**333**	*e*P		**P**	**14 02 02.2**	**+0.4**
PRU	**Pruhonice**	**78.13**	**335**	*e*P		**P**	**14 02 02.2**	**+0.2**
PRU				*e*			14 04 59.2		
PRU				*e*S		S	14 11 55.4	-0.1	
PRU				MLR		MLR			
	comp=Z,6μm,21.8s,MS5.9								
PRU	**Pruhonice**	**78.13**	**335**	*e*P		**P**	**14 02 02.2**	**+0.2**
PRU				*e*PP		PP	14 04 59.2	+1.5	
PRU				*e*S		S	14 11 55.4	-0.1	
PRU				*ex*		x	14 17 13.9		
PRU				AMS		AMS	14 36 50.0		
	comp=Z,6μm,21.8s								
KOLL	**Kolacno**	**78.16**	**332**	*i* P		**P**	**14 02 03.2**	**+1.0**
		78.19	**328**⇓	*i* P		**P**	**14 02 02.6**	**+0.2**
DRGR		**78.19**	**328**	P		**P**	**14 02 02.4**	**0.0**
PSZ	**Piszkesteto**	**78.23**	**331**	P		**P**	**14 02 02.9**	**+0.3**
PSZ	**Piszkesteto**	**78.23**	**331**⇑	*e*P		**P**	**14 02 03.0**	**+0.4**
PSZ	**Piszkesteto**	**78.23**	**331**⇓	*i* P		**P**	**14 02 02.6**	**0.0**
PSZ	**Piszkesteto**	**78.23**	**331**⇑	*i* P		**P**	**14 02 03.0**	**+0.4**
FVM	**French Village**	**78.23**	**47**	*e*P		**P**	**14 02 01.0**	**-1.8**
FVM				pmax		pmax			
	comp=Z,110nm,1.3s,mb5.6								
FVM	**French Village**	**78.23**	**47**	*e*P		**P**	**14 02 01.0**	**-1.8**
	comp=Z,145nm,1.3s,mb5.8								
FVM				*e*P			14 02 01.1		
HPK	**Haverah Park**	**78.25**	**346**	*e*P		**P**	**14 02 03.0**	**+0.4**
HPK				AMb		AMB	14 02 05.4		
	comp=Z,632nm,1.4s,mb6.3								
HPK				AMS		AMS	14 40 35.3		
	comp=Z,3μm,19.4s,MS5.6								
JMDO	**Jabal Madar**	**78.27**	**290**	P		**P**	**14 02 04.3**	**+1.1**
SNR=73									
TANN	**Tannenbergstha**	**78.35**	**336**	*e*P		**P**	**14 02 03.3**	**+0.1**
	comp=Z,381nm,1.6s,mb6.1								
TANN				*e*S		S	14 11 55.4	-2.5	
TANN	**Tannenbergstha**	**78.35**	**336**	P		**P**	**14 02 03.2**	**0.0**
WERD	**Werda**	**78.36**	**336**	*e*P		**P**	**14 02 03.3**	**0.0**
	comp=Z,649nm,1.7s,mb6.3								
MOX	**Moxa**	**78.38**	**337**	*e*P		**P**	**14 02 03.3

comp=Z,230nm,1.4s,mb5.9
JCT eP 14 02 05.2
JCT LR LR
comp=Z,3µm,21.0s,MS5.7
LHO Holmfirth 78.68 346⇑ *e*P **P 14 02 04.5 -0.5**
MODS Modra-Piesok 78.70 332 *e*P **P 14 02 06.1 +0.9**
MODS *e* 14 04 59.9
MODS *e*S S 14 11 58.2 -3.6
MODS pmax pmax
comp=Z,290nm,1.7s,mb5.9
MODS Modra-Piesok 78.70 332 *e*P **P 14 02 06.1 +0.9**
comp=Z,290nm,1.7s,mb5.9
MODS *e*PP PP 14 04 59.9 -2.6
MODS *e*S S 14 11 58.2 -3.6
BUG Bochum--Univer 78.78 340 *e*P **P 14 02 05.4 -0.1**
comp=Z,769nm,1.6s,mb6.4
BUG *e*S S 14 12 00.8 -1.6
BHD Baghdad 78.80 307 *ex* x 14 02 10.0
BHD *ex* x 14 12 07.0
OLIL Olney 78.82 45 *e*P **P 14 02 05.2 -0.8**
comp=Z,227nm,1.4s,mb5.9
MANZ Manzenberg 78.83 336 *e*P **P 14 02 05.9 0.0**
comp=Z,368nm,1.5s,mb6.1
MANZ *e*PP PP 14 05 04.2 +0.7
MANZ *e*S S 14 12 00.7 -2.4
BUD Budapest 78.90 331⇑ *i*P **P 14 02 06.9 +0.6**
KBI1 Birley Grange 78.91 345⇑ *e*P **P 14 02 06.0 -0.2**
ZST Bratislava 78.92 332 *e*P **P 14 02 06.7 +0.4**
ZST pmax pmax
comp=Z,570nm,1.7s,mb6.2
ZST MLR MLR
comp=Z,5µm,21.0s,MS5.8
ZST Bratislava 78.92 332 *e*P **P 14 02 06.7 +0.4**
ZST *e*PP PP 14 04 58.4 -5.9
ZST Bratislava 78.92 332 *e*P **P 14 02 06.7 +0.4**
comp=Z,570nm,1.7s,mb6.2
ZST *e*PP PP 14 04 58.4 -5.9
ZST LR LR
comp=Z,5µm,21.0s,MS5.8
BUC1 Bucharest 78.97 325 P **P 14 02 07.6 +0.9**
AEU East Anglia Un 79.00 344 *e*P **P 14 02 07.3 +0.6**
ROTZ Rotzenmuhle 79.00 336 *e*P **P 14 02 07.2 +0.4**
comp=Z,668nm,1.6s,mb6.3
ROTZ *e*PP PP 14 05 05.3 +0.3
ROTZ *e*S S 14 12 03.7 -1.2
SIUC Southern Illin 79.05 46 *e*P **P 14 02 06.6 -0.7**
comp=Z,193nm,1.2s,mb5.9
SIUC *e*P 14 02 07.0
DMUB Kingscourt 79.12 349 *e*P **P 14 02 04.7 -2.7**
DMUB Kingscourt 79.12 349⇑ *i*P **P 14 02 07.5 +0.1**
KHC Kasperske Hory 79.18 335 *e*P **P 14 02 08.2 +0.4**
KHC *e*pP pP 14 02 12.0 -0.4
KHC *e*PP PP 14 05 08.2 +1.8
KHC *e*S S 14 12 07.5 +0.7
KHC *e*SS SS 14 17 12.1 +0.5
KHC AMS AMS 14 40 00.0
comp=Z,7µm,17.5s
MIAR Mount Ida 79.19 51 *e*P **P 14 02 07.2 -0.9**
MIAR pmax pmax
comp=Z,71nm,1.2s,mb5.5
MIAR MLR MLR
comp=Z,6µm,20.0s,MS5.9
MIAR Mount Ida 79.19 51 *e*P **P 14 02 07.2 -0.9**
comp=Z,71nm,1.2s,mb5.5
MIAR *e*P 14 02 07.5
MIAR LR LR
comp=Z,6µm,20.0s,MS5.9
KWE Weaver Farm 79.19 346⇑ *e*P **P 14 02 08.2 +0.5**
PKSG 79.19 331⇓ *e*P **P 14 02 09.0 +1.1**
BLO Bloomington 79.24 44 *e*P **P 14 02 07.0 -1.3**
BLO pmax pmax
comp=Z,109nm,1.4s,mb5.6
BLO Bloomington 79.24 44 *e*P **P 14 02 07.0 -1.3**
comp=Z,110nm,1.4s,mb5.6
BLO *e*P 14 02 08.1
GRA1 Grafenberg Arr 79.35 337 *e*P **P 14 02 09.1 +0.4**
comp=Z,1µm,1.7s,mb6.6
GRA1 *e*PP PP 14 05 08.3 +0.5
GRA1 *e*S S 14 12 06.7 -1.9
GRA1 LR LR
comp=Z,4µm,21.8s,MS5.7
GRF Grafenberg Arr 79.35 337 *e*P **P 14 02 09.1 +0.4**
GRF *e* 14 05 08.3
GRF *e*S S 14 12 06.7 -1.9
GRF pmax pmax
comp=Z,1µm,1.7s,mb6.6
GRF MLR MLR
comp=Z,4µm,21.8s,MS5.7
GRF Grafenberg Arr 79.35 337 *e*P **P 14 02 09.1 +0.4**
GRF *e* 14 05 08.3
GRF *e*S S 14 12 06.7 -1.9
GRF pmax pmax
comp=Z,1µm,1.7s,mb6.6
GRF MLR MLR
comp=Z,4µm,21.8s,MS5.7
GRF Grafenberg Arr 79.35 337 *e*P **P 14 02 09.1 +0.4**
comp=Z,1µm,1.7s,mb6.6
GRF *e*PP PP 14 05 08.3 +0.5
GRF *e*S S 14 12 06.7 -1.9
GRF *e*L 14 37 43.7
comp=Z,4µm,21.8s
GRFO Grafenberg 79.35 337 *e*P **P 14 02 09.2 +0.5**
comp=Z,1µm,1.7s,mb6.6
GRFO *e*PP PP 14 05 08.7 +0.9
PRD Provadia 79.36 323 P **P 14 02 09.4 +0.5**
CWF Charnwood Fore 79.36 345 P **P 14 02 08.7 0.0**
CWF AMb AMB 14 02 11.4
comp=Z,441nm,1.5s,mb6.2
CWF Charnwood Fore 79.36 345 *e*P **P 14 02 08.7 0.0**
CWF AMb AMB 14 02 11.4
comp=Z,441nm,1.5s,mb6.2
WET Wettzell 79.37 335 *e*P **P 14 02 09.2 +0.4**
WET *e* 14 05 08.8
WET *e*S S 14 12 07.6 -1.2
WET pmax pmax
comp=Z,784nm,1.6s,mb6.4
WET Wettzell 79.37 335 *e*P **P 14 02 09.2 +0.4**
comp=Z,784nm,1.6s,mb6.4
WET *e*PP PP 14 05 08.8 +0.8
WET *e*S S 14 12 07.6 -1.2
BR131 Keskin Array S 79.40 317 *e*P **P 14 02 09.7 +0.5**
BR131 *e*P 14 02 09.8
GEC2 GERESS Array S 79.40 335 *e*P **P 14 02 09.0 0.0**
GEC2 *e* 14 05 09.2
GEC2 *e*S S 14 12 07.2 -1.9
GEC2 pmax pmax
comp=Z,421nm,1.8s,mb6.1
GEC2 GERESS Array S 79.40 335 *e*P **P 14 02 09.0 0.0**
comp=Z,421nm,1.8s,mb6.1
GEC2 *e*PP PP 14 05 09.2 +0.9
GEC2 *e*S S 14 12 07.2 -1.9
GERES GERESS Array B 79.40 335 P **P 14 02 08.9 -0.1**
comp=Z,21nm,0.7s,mb5.2,baz=35,slow=4.9,SNR=136
GERES LR LR 14 38 25.3
comp=Z,8µm,21.6s,MS6.0,baz=25,slow=37
GERES GERESS Array B 79.40 335 P **P 14 02 08.9 -0.1**
GERES pmax pmax
comp=Z,21nm,0.7s
GERES MLR MLR
comp=Z,8µm,21.6s
SBD1 Bryn Du 79.54 346⇑ *i*P **P 14 02 10.0 +0.4**
CONA Conrad Observa 79.55 333 *i* pP pP 14 02 10.4 -4.1
comp=Z,324nm,1.6s,SNR=142
CSNA Conrad Observa 79.55 333⇑ *i*pP pP 14 02 10.5 -4.0
comp=Z,294nm,1.6s
BZS Buzias 79.59 328⇑ *i*P **P 14 02 09.5 -0.6**
BZS Buzias 79.59 328 P **P 14 02 10.4 +0.3**
TNS Taunus Mts 79.60 338 *e*P **P 14 02 10.3 +0.2**
TNS *e* 14 05 09.9
TNS *e*S S 14 12 09.1 -2.2
TNS pmax pmax
comp=Z,865nm,1.8s,mb6.4
TNS Taunus Mts 79.60 338 *e*P **P 14 02 10.3 +0.2**
comp=Z,865nm,1.8s,mb6.4
TNS *e*PP PP 14 05 09.9 0.0
TNS *e*S S 14 12 09.1 -2.2
UMR Umm Al-Rimmam 79.62 302 *e*P **P 14 02 10.4 -0.1**
baz=302
UMR AMb AMB 14 02 20.7
comp=Z,314nm,1.6s,mb6.0,baz=302
USIN University of 79.63 45 *e*P **P 14 02 09.8 -0.6**
comp=Z,241nm,1.3s,mb6.0
USIN *e*P 14 02 10.4
MIB Mutribah 79.66 302 *e*P **P 14 02 10.9 +0.2**
baz=302
MIB AMb AMB 14 02 19.3
comp=Z,508nm,0.9s,mb6.5,baz=302
DLF Lyons Farm 79.66 348 *e*P **P 14 02 07.7 -2.6**
DLF Lyons Farm 79.66 348⇑ *i*P **P 14 02 10.2 -0.1**
UALR University of 79.68 50 *e*P **P 14 02 09.5 -1.2**
comp=Z,39nm,1.4s,mb5.1
UALR *e*P 14 02 10.2
ANTO Ankara 79.68 318 P **P 14 02 11.9 +1.2**
SNR=56
ANTO Ankara 79.68 318 P **P 14 02 12.3 +1.6**
ANTO pmax pmax
comp=Z,510nm,1.6s,mb6.2
ANTO Ankara 79.68 318⇑ *i*P **P 14 02 11.4 +0.7**
ANTO Ankara 79.68 318 *e*P **P 14 02 11.3 +0.7**
comp=Z,508nm,1.6s,mb6.2
ANTO LR LR
comp=Z,6µm,20.0s,MS6.0
HGN Heimansgroeve 79.72 340⇑ *i*P **P 14 02 10.7 -0.1**
comp=Z,484nm,1.6s,mb6.2
HGN Heimansgroeve 79.72 340 *e*PP PP 14 05 14.3 +3.4
HGN Heimansgroeve 79.72 340 *i* S S 14 12 15.5 +3.0
BEBN Eben Emael 79.75 340 P **P 14 02 10.7 -0.1**
comp=Z,166nm,1.7s,mb5.7
ZIMR 79.81 325 P **P 14 02 11.8 +0.5**
ERPA Erie 79.84 38 *e*P **P 14 02 10.7 -0.9**
comp=Z,397nm,1.3s,mb6.2
ERPA *e*P 14 02 11.1
ERPA LR LR
comp=Z,3µm,22.0s,MS5.6
HLM1 Long Mynd 79.85 346⇑ *e*P **P 14 02 11.5 +0.2**
MEM Membach 79.85 340 P **P 14 02 12.0 +0.6**
comp=Z,292nm,1.7s,mb5.9
CRAR CRAIOVA 79.86 326 P **P 14 02 12.8 +1.2**
SZH Strazhica 79.90 324 P **P 14 02 11.4 -0.4**
KBD Kabd 79.91 302 *e*P **P 14 02 11.9 -0.2**
baz=302
KBD AMb AMB 14 02 20.9
comp=Z,223nm,1.2s,mb6.0,baz=302
LONY Lake Ozonia 79.94 33 *e*P **P 14 02 09.9 -2.1**
comp=Z,235nm,1.9s,mb5.8
LONY *e*P 14 02 10.5
LONY *e*PP PP 14 04 58.8 -14
LONY LR LR
comp=Z,3µm,22.0s,MS5.5
GNAR Gosnell 79.99 48 *e*P **P 14 02 11.6 -0.9**
comp=Z,4µm,1.2s,mb7.2
GNAR *e*P 14 02 12.8
TAOE Nuku Hiva Isla 80.00 114 *e*PP PP 14 05 26.1 +11
comp=Z,602nm,30.1s
TAOE *e*S S 14 12 04.3 -12
comp=Z,3µm,27.0s
TAOE Nuku Hiva Isla 80.00 114 *e*LR LR 14 26 47.7
comp=Z,21µm,22.1s,baz=327
ACSO Alum Creek Sta 80.05 41 *e*P **P 14 02 11.8 -0.9**
comp=Z,348nm,1.4s,mb6.1
ACSO LR LR
comp=Z,4µm,20.0s,MS5.8
UCC Uccle 80.05 341 P **P 14 02 11.9 -0.6**
FORT Forrest 80.06 203 *e*P **P 14 02 19.1 +6.5**
comp=Z,93nm,1.0s,mb5.7
TOD Tromm 80.08 338⇑ *e*P **P 14 02 12.6 0.0**
RST Umm Al-Ruwaisa 80.08 302 *e*P **P 14 02 12.8 -0.3**
baz=302
RST AMb AMB 14 02 21.4
comp=Z,560nm,0.9s,mb6.5,baz=302
WCI Wyandotte Cave 80.09 44 *e*P **P 14 02 12.5 -0.4**
WCI pmax pmax
comp=Z,180nm,1.1s,mb5.9
WCI Wyandotte Cave 80.09 44 *e*P **P 14 02 12.5 -0.5**
comp=Z,180nm,1.1s,mb5.9
MOA Molln 80.11 334⇓ *i*P **P 14 02 12.8 -0.1**
comp=Z,137nm,1.8s,mb5.6,SNR=8.4
MOA Molln 80.11 334 P **P 14 02 13.6 +0.7**
NAY Al-Naaiem 80.12 302 *e*P **P 14 02 12.7 -0.5**
baz=302
NAY AMb AMB 14 02 21.8
comp=Z,244nm,1.2s,mb6.0,baz=302
FRNY Flat Rock 80.13 32 *e*P **P 14 02 11.1 -2.0**
comp=Z,323nm,2.5s,mb5.8
FRNY *e*P 14 02 11.9
PKSM Moragy 80.13 330 P **P 14 02 12.4 -0.6**
PKSM Moragy 80.13 330⇑ *i*P **P 14 02 12.2 -0.8**
PKSM Moragy 80.13 330⇑ *i*P **P 14 02 12.3 -0.7**
ABH Alteburg 80.15 339⇑ *e*P **P 14 02 12.8 -0.2**
ALLY Alegheny Colle 80.16 38 *e*P **P 14 02 13.0 -0.3**
comp=Z,448nm,1.3s,mb6.2
ALLY *e*P 14 02 13.2
RDF Al-Radifah 80.17 302 *e*P **P 14 02 13.8 +0.2**
baz=302
RDF AMb AMB 14 02 22.4
comp=Z,724nm,1.2s,mb6.5,baz=302
PVL Pavlikeni 80.19 325 P **P 14 02 13.4 0.0**
BCLA Clavier 80.19 340 P **P 14 02 13.3 0.0**
comp=Z,228nm,1.8s,mb5.8
ARSA Arzberg 80.25 333 *i* pP pP 14 02 14.0 -4.3
comp=Z,164nm,1.4s,SNR=60
ARSA Arzberg 80.25 333 P **P 14 02 14.0 +0.4**
UTMT University of 80.29 47 *e*P **P 14 02 13.7 -0.4**
comp=Z,237nm,0.3s,mb6.6
JMB Yambol 80.30 324 P **P 14 02 14.5 +0.5**
JMB Yambol 80.30 324 P **P 14 02 14.4 +0.4**
HTR Trewern Hill 80.33 346⇑ *i*P **P 14 02 13.6 -0.4**
SNF Seneffe 80.34 341 P **P 14 02 14.2 +0.2**
comp=Z,197nm,2.3s,mb5.6
MCH1 Michaelchurch 80.37 346⇑ *e*P **P 14 02 14.5 +0.3**
MCH1 AMb AMB 14 02 16.9
comp=Z,327nm,1.6s,mb6.0
MCH1 AMS AMS 14 45 24.3
comp=Z,3µm,18.9s,MS5.7
RUP Ruppelstein 80.43 339⇑ *e*P **P 14 02 14.8 +0.2**
TFO1 Folkestone 80.44 343 *e*P **P 14 02 15.1 +0.5**
KTD Kalmit 80.53 338⇓ *e*P **P 14 02 15.2 +0.1**
RHK3 Tenkes 80.55 330⇓ *e*P **P 14 02 15.2 -0.1**
GIVF Givet 80.60 341⇑ *i*P **P 14 02 15.2 -0.2**
comp=Z,1µm,1.8s,mb6.2
GIVF Givet 80.60 341⇑ *i*P **P 14 02 15.2 -0.2**
GIVF pmax pmax
comp=Z,551nm,1.8s,mb6.2
GIVF Givet 80.60 341⇑ *i*P **P 14 02 15.2 -0.2**
comp=Z,551nm,1.8s,mb6.2
SWN1 Swindon 80.62 345 *e*P **P 14 02 16.0 +0.4**
SWN1 AMb AMB 14 02 18.6
comp=Z,1µm,1.5s,mb6.5
NCB Newcomb 80.63 33 *e*P **P 14 02 14.7 -1.0**
comp=Z,59nm,1.1s,mb5.4
NCB *e*P 14 02 15.2
NCB *e* 14 02 36.0
NCB LR LR
comp=Z,3µm,19.0s,MS5.7
HDH Heidenheim-Cha 80.63 337 P **P 14 02 16.5 +0.8**
DOU Dourbes 80.66 341 P **P 14 02 15.2 -0.6**
RJOB Jochberg 80.66 335 *e*P **P 14 02 16.5 +0.7**
comp=Z,650nm,2.0s,mb6.2
RJOB *e*S S 14 12 22.5 0.0
HGH Gray Hill 80.68 346⇑ *e*P **P 14 02 15.3 -0.6**
MET Memphis--Engin 80.68 48 *e*P **P 14 02 15.6 -0.6**
NATX Nacogdoches 80.68 54 *e*P **P 14 02 16.2 -0.1**
comp=Z,267nm,1.2s,mb6.0
NATX *e*P 14 02 16.8
NATX LR LR
comp=Z,4µm,21.0s,MS5.8
WLF Walferdange 80.69 340 P **P 14 02 16.5 +0.5**
comp=Z,244nm,2.3s,mb5.7
WLF Walferdange 80.69 340 *e*P **P 14 02 16.6 +0.7**
comp=Z,839nm,2.0s,mb6.3
WLF *e*S S 14 12 22.2 -0.5
WOL Wolverton 80.71 345 *e*P **P 14 02 16.0 0.0**
WOL AMb AMB 14 02 18.6
comp=Z,601nm,1.8s,mb6.2
FUR Furstenfeldbru 80.72 336 *e*P **P 14 02 16.4 +0.3**
FUR *e*S S 14 12 20.5 -2.5
FUR pmax pmax
comp=Z,940nm,1.6s,mb6.5
FUR Furstenfeldbru 80.72 336 *e*P **P 14 02 16.4 +0.3**
comp=Z,940nm,1.6s,mb6.5
FUR *e*S S 14 12 20.5 -2.5
STU Stuttgart 80.74 337 *e*P **P 14 02 16.2 0.0**
comp=Z,694nm,1.6s,mb6.3
STU *e*S S 14 12 21.6 -1.6
MENF Mencas 80.76 342 *e*P **P 14 02 16.6 +0.3**
BAIF Baives 80.78 341⇑ *i*P **P 14 02 16.4 0.0**
comp=Z,647nm,1.6s,mb6.0
BAIF Baives 80.78 341⇑ *i*P **P 14 02 16.4 0.0**
BAIF pmax pmax
comp=Z,323nm,1.6s,mb6.0
BAIF Baives 80.78 341⇑ *i*P **P 14 02 16.4 0.0**
comp=Z,324nm,1.6s,mb6.0
MIV Mineville/With 80.80 33 *e*PP PP 14 05 20.8 +0.8
LANF Langenberg 80.91 338⇑ *e*P **P 14 02 17.4 +0.3**
SOKA Soboth 80.92 333⇑ *i*pP pP 14 02 17.3 -4.6
comp=Z,291nm,1.5s
PERS Pernice 80.93 333 *i* P **P 14 02 17.2 -0.1**
PERS *i* PcP PcP 14 02 25.3 +1.5
LBG Lerchenberg 80.94 338 P **P 14 02 18.4 +1.1**
WVT Waverly 80.98 46 *e*P **P 14 02 16.6 -1.1**
WVT pmax pmax
comp=Z,92nm,1.3s,mb5.5
WVT Waverly 80.98 46 *e*P **P 14 02 16.6 -1.2**
comp=Z,92nm,1.3s,mb5.5
WVT *e*P 14 02 16.8
BUCH Bad Urach 80.99 337 P **P 14 02 18.5 +0.9**
MDV Middlebury 81.00 33 *e*P **P 14 02 16.6 -1.1**
comp=Z,3µm,0.8s,mb7.3
MDV *e*P 14 02 17.0
DIM Dimitrovgrad 81.08 324 P **P 14 02 18.9 +0.7**
KBA Koelnbreinsper 81.08 334⇑ *i*pP pP 14 02 18.8 -4.0
comp=Z,454nm,1.8s,SNR=24
KBA Koelnbreinsper 81.08 334 P **P 14 02 18.7 +0.6**
CNB Canberra Magne 81.12 184 *e*P **P 14 02 24.5 +6.4**
CNB *e*S S 14 12 37.6 +11
PPT Papeete 81.15 127 *e*S S 14 12 24.9 -3.3
comp=Z,3µm,26.2s
PPT *e*SS SS 14 17 38.2 -5.7
comp=Z,1µm,27.8s
PPT *e*LQ 14 23 48.2
comp=Z,7µm,31.2s
PPT *e*LR LR 14 27 24.7
comp=Z,11µm,24.8s,baz=328
PPT Papeete 81.15 127 LR LR 14 33 11.1
comp=Z,5µm,19.0s,MS5.9,baz=314,slow=32
PGB Panagyurishte 81.21 325 P **P 14 02 18.7 -0.2**
OBKA Obir 81.22 333⇑ *i*P **P 14 02 18.4 -0.4**
comp=Z,90nm,1.4s,mb5.5,SNR=22
OBKA Obir 81.22 333 P **P 14 02 19.3 +0.5**
LBNH Lisbon 81.25 32 *e*P **P 14 02 18.1 -1.0**
LBNH pmax pmax
comp=Z,274nm,2.0s,mb5.8
LBNH MLR MLR
comp=Z,4µm,19.0s,MS5.8
LBNH Lisbon 81.25 32 *e*P **P 14 02 18.1 -1.0**
comp=Z,274nm,2.0s,mb5.8
LBNH *e*P 14 02 19.2
LBNH LR LR
comp=Z,4µm,19.0s,MS5.8
STR Strasbourg 81.29 338⇑ *e*P **P 14 02 20.0 +0.9**
PKME Peaks-Kenny Pk 81.30 29 *e*P **P 14 02 18.1 -1.1**
comp=Z,337nm,1.8s,mb6.0
PKME *e*P 14 02 19.4
ACCN Adirondack Com 81.34 33 *e*P **P 14 02 18.6 -1.0**
comp=Z,174nm,1.4s,mb5.8
ACCN *e*P 14 02 19.1
ACCN *e* 14 02 34.0
PLD Plovdiv 81.37 324 P **P 14 02 19.4 -0.3**
PLD Plovdiv 81.37 324 P **P 14 02 19.8 +0.1**
BFO Black Forest 81.37 338 P **P 14 02 19.9 +0.3**
comp=Z,983nm,1.1s,mb6.7,SNR=30
BFO Black Forest 81.37 338 *e*P **P 14 02 19.5 -0.1**
BFO *e* 14 05 25.0
BFO *e*S S 14 12 28.3 -1.6
BFO pmax pmax
comp=Z,405nm,1.4s,mb6.2
BFO Black Forest 81.37 338 *e*P **P 14 02 19.5 -0.1**
comp=Z,405nm,1.4s,mb6.2
BFO *e*PP PP 14 05 25.0 +0.4
BFO *e*S S 14 12 28.3 -1.6
HKT Hockley 81.37 56 *e*P **P 14 02 19.4 -0.5**
HKT pmax pmax
comp=Z,87nm,1.6s,mb5.4
HKT MLR MLR
comp=Z,3µm,19.0s,MS5.7
HKT Hockley 81.37 56 *e*P **P 14 02 19.4 -0.6**
comp=Z,87nm,1.6s,mb5.4
HKT LR LR
comp=Z,3µm,19.0s,MS5.7
WATA Walderalm 81.38 335⇑ *i*pP pP 14 02 20.1 -4.2
comp=Z,307nm,1.1s,SNR=9.1
WATA Walderalm 81.38 335 P **P 14 02 21.0 +1.3**
MYKA Terra Mystica 81.39 334⇑ *i*P **P 14 02 19.4 -0.4**
comp=Z,517nm,1.7s,mb6.2
GRUS Gruza 81.40 328 P **P 14 02 19.7 -0.1**
GUT Gutenstein 81.40 337 P **P 14 02 20.9 +1.1**
OXF Oxford 81.43 48 P **P 14 02 19.8 -0.4**
OXF pmax pmax
comp=Z,230nm,1.1s,mb6.0
OXF Oxford 81.43 48 *e*P **P 14 02 19.0 -1.2**
comp=Z,230nm,1.2s,mb6.0
OXF LR LR
comp=Z,5µm,21.0s,MS5.8
WTTA Wattenberg 81.43 335⇑ *i*pP pP 14 02 20.5 -4.1
comp=Z,475nm,1.3s,SNR=35
WTTA Wattenberg 81.43 335 P **P 14 02 21.3 +1.4**
BINY Binghamton 81.44 35 *e*P **P 14 02 18.9 -1.2**
comp=Z,89nm,1.3s,mb5.5
BINY *e*P 14 02 19.6
BINY LR LR
comp=Z,4µm,19.0s,MS5.8
KDZ Kurdzhali 81.46 324 P **P 14 02 20.8 +0.6**
SPAK Spaichingen-Ko 81.46 337⇓ *e*P **P 14 02 20.2 +0.1**
RETA Reutte 81.48 336⇑ *i*pP pP 14 02 20.5 -4.3
comp=Z,286nm,1.5s,SNR=41
UBR Ueberruh 81.48 336 P **P 14 02 21.1 +0.9**
MOTA Moosalm 81.51 336⇑ *i*pP pP 14 02 20.8 -4.3
comp=Z,347nm,1.1s,SNR=72
MOTA Moosalm 81.51 336 P **P 14 02 21.8 +1.5**
CRES Cresnjev 81.54 332 P **P 14 02 20.7 +0.2**
SISC Sisak 81.55 331 P **P 14 02 20.1 -0.5**
CDF Champ du Feu 81.57 338⇑ *i*P **P 14 02 20.8 +0.1**
comp=Z,1µm,1.5s,mb6.3
CDF Champ du Feu 81.57 338⇑ *i*P **P 14 02 20.8 +0.1**
CDF pmax pmax
comp=Z,602nm,1.5s,mb6.3
CDF Champ du Feu 81.57 338⇑ *i*P **P 14 02 20.8 +0.1**
comp=Z,602nm,1.5s,mb6.3
HTL Hartland 81.58 347⇑ *e*P **P 14 02 20.9 +0.3**
HTL AMb AMB 14 02 23.6
comp=Z,343nm,1.6s,mb6.0
HTL AMS AMS 14 44 54.0
comp=Z,3µm,18.3s,MS5.7
HNH Hanover 81.58 32 *e*P **P 14 02 19.3 -1.5**
comp=Z,178nm,1.2s,mb5.9
HNH *e*P 14 02 20.8
HNH *e* 14 02 41.7
ABTA Abfaltersbach 81.63 334⇑ *i*P **P 14 02 20.6 -0.4**
comp=Z,102nm,1.3s,mb5.6,SNR=24
LJU Ljubljana 81.64 333 *i* P **P 14 02 20.3 -0.8**
LJU *e*PP PP 14 05 27.3 +0.4
LJU *e*S S 14 12 27.5 -5.2
PTCC Patocco-Chiusa 81.69 334 P **P 14 02 20.5 -0.8**
FVI Forni Avoltri 81.69 334 P **P 14 02 21.0 -0.3**
RZN Rozhen 81.72 324 P **P 14 02 22.0 +0.4**
SEST Monte Rota 81.72 335 P **P 14 02 21.7 +0.2**
LIBD Limburg 81.73 338⇑ *e*P **P 14 02 21.7 +0.2**
ECH Echery 81.78 338⇑ *e*P **P 14 02 21.9 +0.1**
SISB Singen-Schiene 81.79 337 P **P 14 02 23.9 +2.1**
KIZ Kirchzarten 81.83 338 P **P 14 02 22.1 +0.1**
ALN Alexandroupoli 81.83 323 P **P 14 02 21.7 -0.5**
RDO Rodhopi 81.83 323 *e*P **P 14 02 22.0 -0.2**
RDO Rodhopi 81.83 323 *e*P **P 14 02 22.0 -0.2**
GMNA Gemona 81.84 334 P **P 14 02 21.8 -0.3**
SLE Schleitheim 81.85 337 ⇑P **P 14 02 22.0 -0.1**
VOJY Vojsko 81.85 333 *e*P **P 14 02 21.3 -0.9**
VOJY *e*PcP PcP 14 02 30.4 +2.6
VOJY *e* 14 02 47.6
FELD Feldberg im Sc 81.88 338⇑ *e*P **P 14 02 22.4 +0.1**
BOJS Bojanci 81.89 332 *i* P **P 14 02 21.8 -0.6**
BOJS *i* PcP PcP 14 02 30.8 +2.8
BOJS *e*PP PP 14 05 29.1 +0.1
BOJS *e*S S 14 12 30.7 -4.6
BBLS Lazići 81.90 329 P **P 14 02 23.0 +0.5**
BARS Barje 81.91 327 P **P 14 02 18.6 -3.9**
DAVA Damuels 81.91 336⇑ *i*pP pP 14 02 22.8 -4.3
comp=Z,229nm,1.6s,SNR=47
DAVA Damuels 81.91 336 P **P 14 02 23.5 +1.1**
FETA Feichten 81.91 336⇑ *i*pP pP 14 02 23.0 -4.2
comp=Z,180nm,1.4s,SNR=24
JAVS Javornik 81.92 333 *i* P **P 14 02 21.4 -1.2**
JAVS *i* PcP PcP 14 02 30.4 +2.2
MCWV Mont Chateau 81.92 39 *e*P **P 14 02 22.6 0.0**

MCWV eP 14 02 22.8
MCWV LR LR
comp=Z,8µm,20.0s,MS6.1
KVTX Kingsville 81.96 59 PFAKE 14 02 30.0 +6.9
KVTX LR LR
comp=Z,3µm,19.0s,MS5.6
SSPA Standing Stone 81.96 37 eP **P 14 02 21.5 -1.3**
comp=Z,195nm,1.4s,mb5.8
SSPA eP 14 02 21.7
DYA Yadsworthy 82.03 346⇑eP **P 14 02 23.1 +0.1**
DYA AMb AMB 14 02 25.7
comp=Z,639nm,1.6s,mb6.3
MEZF Maizieres J'vi 82.04 340⇑iP **P 14 02 23.3 +0.2**
comp=Z,2µm,1.6s,mb6.5
MEZF Maizieres J'vi 82.04 340⇑iP **P 14 02 23.3 +0.2**
comp=Z,2µm,1.6s,mb6.8
WILA Wila 82.06 337⇑P **P 14 02 23.5 +0.3**
THEF They Montfort 82.07 339⇑eP **P 14 02 23.4 +0.1**
MOF Molkenrain 82.13 338⇑eP **P 14 02 23.7 +0.1**
SULZ Cheisacher 82.17 338⇑P **P 14 02 24.0 +0.2**
HAU Haudompre 82.18 339⇑iP **P 14 02 23.7 -0.2**
comp=Z,1µm,1.8s,mb6.3
HAU eMLR MLR
comp=Z,8µm,21.5s,MS5.7
HAU Haudompre 82.18 339⇑iP **P 14 02 23.7 -0.2**
HAU pmax pmax
comp=Z,673nm,1.8s,mb6.3
HAU MLR MLR
comp=Z,8µm,21.5s,MS6.0
HAU Haudompre 82.18 339⇑iP **P 14 02 23.7 -0.2**
comp=Z,673nm,1.8s,mb6.3
HAU LR LR
comp=Z,8µm,21.5s,MS6.0
ZUR Degenried 82.19 337⇑P **P 14 02 24.3 +0.4**
MMB Musomiste 82.20 325 P **P 14 02 21.2 -2.9**
KKB Krupnik 82.22 325 P **P 14 02 24.5 +0.3**
HINF Hinteralfeld 82.23 338⇑iP **P 14 02 23.8 -0.3**
comp=Z,556nm,1.6s,mb6.0
HINF Hinteralfeld 82.23 338⇑iP **P 14 02 23.8 -0.3**
HINF pmax pmax
comp=Z,278nm,1.6s,mb5.9
HINF Hinteralfeld 82.23 338⇑iP **P 14 02 23.8 -0.3**
comp=Z,278nm,1.6s,mb5.9
APPI Appiano 82.26 335 P **P 14 02 25.2 +0.9**
NVR Nevrokopi 82.35 325 eP **P 14 02 24.5 -0.4**
NVR Nevrokopi 82.35 325 eP **P 14 02 24.5 -0.4**
PLE Pljevlja 82.37 328⇑iP **P 14 02 25.7 +0.8**
BBS Basel-Blauen 82.39 338⇑eP **P 14 02 25.0 0.0**
EMMW East Machias 82.40 29 eP **P 14 02 25.1 0.0**
BRMO Bormio 82.51 336 P **P 14 02 26.4 +0.8**
CTI Castel Tesino 82.52 335 P **P 14 02 25.2 -0.5**
MUO Muotathal 82.54 337⇑P **P 14 02 26.2 +0.4**
LLS Linth-Limmern 82.55 337⇑P **P 14 02 26.3 +0.5**
HWQ Hawqa 82.55 313 eP **P 14 02 26.1 0.0**
IVA Berane 82.58 328⇑iP **P 14 02 26.4 +0.3**
VBMS Vicksburg 82.61 51 eP **P 14 02 25.9 -0.5**
comp=Z,33nm,0.3s,mb5.8
VBMS eP 14 02 26.8
VBMS LR LR
comp=Z,4µm,20.0s,MS5.8
SWET Sewanee 82.65 46 eP **P 14 02 24.8 -1.8**
SWET eP 14 02 25.2
UPM Unac-Piva 82.65 329⇑iP **P 14 02 25.9 -0.5**
LOMF Lomont 82.67 338 eP **P 14 02 26.7 +0.3**
TZTN Tazewell 82.75 43 eP **P 14 02 26.6 -0.5**
comp=Z,158nm,1.4s,mb5.8
TZTN eP 14 02 26.8
TZTN LR LR
comp=Z,7µm,21.0s,MS6.0
VDL Val di Lei 82.76 336⇑P **P 14 02 27.6 +0.7**
SKO Skopje 82.77 326 P **P 14 02 27.4 +0.3**
SKO Skopje 82.77 326 eP **P 14 02 27.0 -0.1**
QUA2 Belchertown 82.78 33 eP **P 14 02 26.2 -1.0**
comp=Z,32nm,0.9s,mb5.3
PVY Plav 82.79 328⇑iP **P 14 02 26.6 -0.6**
TUE Stuetta 82.80 336 P **P 14 02 27.2 +0.1**
NVLJ Novalja 82.85 332 P **P 14 02 26.2 -1.2**
MABI Malga Bissina 82.85 335⇑P **P 14 02 27.0 -0.4**
JLP Les Platons 82.86 345⇑eP **P 14 02 27.5 +0.1**
JLP e 14 02 34.6
HRV Adam Dziewonsk 82.89 32 eP **P 14 02 27.4 -0.3**
HRV pmax pmax
comp=Z,159nm,1.3s,mb5.9
HRV MLR MLR
comp=Z,3µm,20.0s,MS5.7
HRV Adam Dziewonsk 82.89 32 eP **P 14 02 27.4 -0.3**
comp=Z,159nm,1.3s,mb5.9
HRV eP 14 02 27.7
HRV LR LR
comp=Z,3µm,20.0s,MS5.7
VAY Valandovo 82.89 325 P **P 14 02 26.9 -0.8**
VAY Valandovo 82.89 325 eP **P 14 02 26.8 -0.9**
JQE Queens East 82.89 345⇑eP **P 14 02 26.8 -0.8**
JQE e 14 02 34.8
KNT Kendrikon 82.89 325 P **P 14 02 27.5 -0.2**
JVM Valle D.L. Mar 82.90 345 eP **P 14 02 26.8 -0.8**
JVM e 14 02 35.3
JRS Jersey 82.91 345 eP **P 14 02 27.3 -0.4**
JRS e 14 02 34.8
JSA Saint Aubin 82.92 345 eP **P 14 02 27.7 -0.1**
JSA AMb AMB 14 02 30.3
comp=Z,419nm,1.7s,mb6.2
PHNC Paralimni 82.95 314 P **P 14 02 29.6 +1.5**
comp=Z,1.1nm,0.4s
BCI Bajram Curri 82.95 328 ePN **P 14 02 27.3 -0.7**
NKY Niksic 82.96 328⇑iP **P 14 02 27.4 -0.6**
BHL Bhannes 83.00 313 eP **P 14 02 28.1 -0.3**
SOH Sokhos 83.00 325 P **P 14 02 27.4 -0.9**
FLN La Foliniere 83.01 343⇑iP **P 14 02 27.7 -0.5**
comp=Z,1µm,1.8s,mb6.3
FLN eMLR MLR
comp=Z,6µm,22.8s,MS5.6
FLN La Foliniere 83.01 343⇑iP **P 14 02 27.7 -0.5**
FLN pmax pmax
comp=Z,622nm,1.8s,mb6.3
FLN MLR MLR
comp=Z,6µm,22.8s,MS5.9
FLN La Foliniere 83.01 343⇑iP **P 14 02 27.7 -0.5**
comp=Z,622nm,1.8s,mb6.3
FLN LR LR
comp=Z,6µm,22.8s,MS5.9
LIA Limnos Island 83.02 323 P **P 14 02 27.5 -0.9**
BRY Bratogost 83.05 329⇑iP **P 14 02 27.2 -1.3**
MAGA Magasa 83.07 335 P **P 14 02 28.1 -0.4**
WES Weston 83.08 32 eP **P 14 02 28.2 -0.5**
WES e 14 02 49.4
WES pmax pmax
comp=Z,202nm,1.3s,mb6.0
WES Weston 83.08 32 eP **P 14 02 28.2 -0.5**
comp=Z,202nm,1.3s,mb6.0
WES eP 14 02 28.6
WES e 14 02 49.4
LDF La Druitiere 83.10 343⇑iP **P 14 02 28.1 -0.5**
comp=Z,634nm,1.6s,mb6.1
LDF La Druitiere 83.10 343⇑iP **P 14 02 28.1 -0.5**
LDF pmax pmax
comp=Z,317nm,1.6s,mb6.1
LDF La Druitiere 83.10 343⇑iP **P 14 02 28.1 -0.5**
comp=Z,317nm,1.6s,mb6.1
PRK Paraskevi 83.11 322 P **P 14 02 28.2 -0.7**
PRK Paraskevi 83.11 322 eP **P 14 02 28.0 -0.9**
PRK Paraskevi 83.11 322 eP **P 14 02 28.0 -0.9**
MVL Millersville 83.13 37 eP **P 14 02 28.2 -0.8**
comp=Z,99nm,1.2s,mb5.7
MVL eP 14 02 28.9
OUR Ouranopolis 83.16 324 P **P 14 02 28.7 -0.4**
CPCT Cooper Cave 83.16 45 eP **P 14 02 28.3 -0.9**
CPCT eP 14 02 28.6
TTG Podgorica 83.20 328⇑iP **P 14 02 28.1 -1.2**
MAMC Mammari 83.22 315⇑P **P 14 02 30.9 +1.4**
RCY Rachaya 83.24 312 eP **P 14 02 30.1 +0.4**
GRG Griva 83.26 325 P **P 14 02 29.1 -0.5**
PAL Palisades 83.27 35 eP **P 14 02 29.2 -0.5**
PAL pmax pmax
comp=Z,331nm,1.6s,mb6.1
PAL Palisades 83.27 35 eP **P 14 02 29.2 -0.5**
comp=Z,331nm,1.6s,mb6.1
BRNJ Basking Ridge 83.29 35 eP **P 14 02 29.3 -0.4**
comp=Z,32nm,0.7s,mb5.5
HORT Hortiatis 83.29 325 P **P 14 02 28.3 -1.5**
PUK Puka 83.30 328 ePN **P 14 02 29.2 -0.6**
THE Thessaloniki 83.31 325 P **P 14 02 28.8 -1.1**
CSS Prodhromos 83.33 315⇑P **P 14 02 30.7 +0.6**
comp=Z,2.7nm,1.5s
PLG Polygyros 83.34 324 P **P 14 02 29.2 -0.8**
PLG Polygyros 83.34 324 eP **P 14 02 29.3 -0.7**
PLG Polygyros 83.34 324 eP **P 14 02 29.3 -0.7**
LKBD Leukerbad 83.35 337⇑P **P 14 02 30.3 +0.3**
LKBD ⇓P 14 02 31.3
TKL Tuckaleechee C 83.36 44 LR LR 14 38 07.5
comp=Z,6µm,21.0s,MS5.9,baz=332,slow=35
TKL Tuckaleechee C 83.36 44 eP **P 14 02 29.0 -1.2**
KRUS Krusevo 83.36 326 eP **P 14 02 29.4 -0.8**
SALA Sala 83.37 311⇑P **P 14 02 32.6 +2.3**
STON Ston 83.38 329 P **P 14 02 28.3 -1.9**
BRYW Bryant College 83.40 33 eP **P 14 02 29.9 -0.4**
SDMD Soldier's Deli 83.42 37 eP **P 14 02 29.1 -1.4**
comp=Z,725nm,2.1s,mb6.3
SDMD eP 14 02 30.4
CPNY Central Park 83.44 35 eP **P 14 02 29.9 -0.6**
comp=Z,148nm,1.2s,mb5.9
CPNY eP 14 02 30.5
GRR Gorron 83.44 344⇑iP **P 14 02 30.1 -0.3**
comp=Z,1µm,1.7s,mb6.4
GRR Gorron 83.44 344⇑iP **P 14 02 30.1 -0.3**
GRR pmax pmax
comp=Z,630nm,1.7s,mb6.4
GRR Gorron 83.44 344⇑iP **P 14 02 30.1 -0.3**
comp=Z,630nm,1.7s,mb6.4
BUM Brajici-Budva 83.44 328⇑iP **P 14 02 30.0 -0.5**
HCY Herceg Novi 83.46 329⇑iP **P 14 02 29.8 -0.8**
LOR Lormes 83.48 340⇑iP **P 14 02 30.4 -0.2**
comp=Z,2µm,1.7s,mb6.5
LOR eMLR MLR
comp=Z,11µm,22.8s,MS5.9
LOR Lormes 83.48 340⇑iP **P 14 02 30.4 -0.2**
LOR pmax pmax
comp=Z,751nm,1.7s,mb6.5
LOR MLR MLR
comp=Z,11µm,22.8s,MS6.2
LOR Lormes 83.48 340⇑iP **P 14 02 30.4 -0.2**
comp=Z,751nm,1.7s,mb6.5
LOR LR LR
comp=Z,11µm,22.8s,MS6.2
ELN Prospectdale 83.51 41 eP **P 14 02 29.2 -1.7**
VAI Varese 83.52 336 P **P 14 02 30.7 -0.1**
ALFC Alevriga 83.53 315⇓P **P 14 02 31.4 +0.3**
CABF La Chapelle 83.54 338⇑iP **P 14 02 31.1 +0.1**
comp=Z,1µm,1.8s,mb6.5
CABF La Chapelle 83.54 338⇑iP **P 14 02 31.1 +0.1**
CABF pmax pmax
comp=Z,696nm,1.8s,mb6.5
CABF La Chapelle 83.54 338⇑iP **P 14 02 31.1 +0.1**
comp=Z,696nm,1.8s,mb6.5
MMK Mattmark 83.57 337⇑P **P 14 02 32.0 +0.9**
ULC Ulcinj 83.61 328⇑iP **P 14 02 31.1 -0.3**
TOO Toolangi 83.62 187 eP **P 14 02 36.6 +5.5**
TOO eS S 14 13 02.2 +10
PAIG Paliouri 83.62 324 eP **P 14 02 30.4 -1.1**
BLA Blacksburg 83.67 41 eP **P 14 02 31.0 -0.8**
BLA pmax pmax
comp=Z,144nm,1.1s,mb6.0
BLA MLR MLR
comp=Z,4µm,19.0s,MS5.8
BLA Blacksburg 83.67 41 eP **P 14 02 31.0 -0.8**
comp=Z,144nm,1.1s,mb6.0
BLA LR LR
comp=Z,4µm,19.0s,MS5.8
DIX Grande Dixence 83.69 337⇑P **P 14 02 32.6 +0.9**
QSH Qafa e Shtames 83.74 327 ePN **P 14 02 32.5 +0.4**
SSF Saint Saulge 83.75 340⇑iP **P 14 02 31.8 -0.2**
comp=Z,594nm,1.7s,mb6.1
SSF Saint Saulge 83.75 340⇑iP **P 14 02 31.8 -0.2**
SSF pmax pmax
comp=Z,297nm,1.7s,mb6.1
SSF Saint Saulge 83.75 340⇑iP **P 14 02 31.8 -0.2**
comp=Z,297nm,1.7s,mb6.1
OHR Ohrid 83.76 326 P **P 14 02 30.8 -1.4**
OHR Ohrid 83.76 326 eP **P 14 02 30.6 -1.6**
HYF Humbligny 83.76 341 eP **P 14 02 32.1 0.0**
AKMC Akamas 83.77 315⇑P **P 14 02 32.0 -0.3**
FNA Flevina 83.81 326 P **P 14 02 31.6 -0.9**
LRAL Lakeview Retre 83.83 48 eP **P 14 02 31.1 -1.6**
comp=Z,34nm,1.0s,mb5.4
LRAL eP 14 02 31.6
LRAL LR LR
comp=Z,4µm,21.0s,MS5.8
EMV Vieux Emosson 83.84 338⇑P **P 14 02 33.1 +0.6**
SGMF Saint Gilles 83.89 345⇑iP **P 14 02 32.5 -0.2**
comp=Z,195nm,0.7s,mb6.1
SGMF Saint Gilles 83.89 345⇑iP **P 14 02 32.5 -0.2**
SGMF pmax pmax
comp=Z,97nm,0.7s,mb6.0
SGMF Saint Gilles 83.89 345⇑iP **P 14 02 32.5 -0.2**
comp=Z,97nm,0.7s,mb6.0
TIR Tirane 83.91 327 P **P 14 02 31.9 -1.0**
CHOS Chios island 83.91 322 P **P 14 02 32.3 -0.7**
ROSF Rostrenen 83.94 345⇑iP **P 14 02 32.7 -0.3**
comp=Z,530nm,1.1s,mb6.3
ROSF Rostrenen 83.94 345⇑iP **P 14 02 32.7 -0.3**
ROSF pmax pmax
comp=Z,265nm,1.1s,mb6.3
ROSF Rostrenen 83.94 345⇑iP **P 14 02 32.7 -0.3**
comp=Z,265nm,1.1s,mb6.3
LIT Litokhoron 83.96 325 P **P 14 02 31.8 -1.4**
KLBR Kellerberrin 84.03 211 eP **P 14 02 39.3 +5.9**
comp=Z,77nm,0.9s,mb5.8
AVF Avril sur Loir 84.05 340⇑iP **P 14 02 33.4 -0.1**
comp=Z,2µm,1.8s,mb6.5
AVF Avril sur Loir 84.05 340⇑iP **P 14 02 33.4 -0.1**
AVF pmax pmax
comp=Z,823nm,1.8s,mb6.6
AVF Avril sur Loir 84.05 340⇑iP **P 14 02 33.4 -0.1**
comp=Z,823nm,1.8s,mb6.6
SMF Signal de Mont 84.07 340⇑iP **P 14 02 33.5 -0.1**
comp=Z,2µm,1.8s,mb6.7
SMF Signal de Mont 84.07 340⇑iP **P 14 02 33.5 -0.1**
SMF pmax pmax
comp=Z,1µm,1.8s,mb6.7
SMF Signal de Mont 84.07 340⇑iP **P 14 02 33.5 -0.1**
comp=Z,1µm,1.8s,mb6.7
KZN Kozani 84.07 325 eP **P 14 02 32.7 -1.1**
KZN Kozani 84.07 325 eP **P 14 02 32.7 -1.1**
SMG Samos 84.14 321 eP **P 14 02 32.9 -1.3**
SMG Samos 84.14 321 eP **P 14 02 32.9 -1.3**
AOS Alonnisos 84.18 323 P **P 14 02 34.5 +0.1**
KBN Korca 84.18 326 ePN **P 14 02 34.1 -0.2**
RSM Repubblica di 84.19 333 P **P 14 02 34.8 +0.5**
CBN Corbin 84.20 38 eP **P 14 02 33.9 -0.6**
comp=Z,124nm,1.1s,mb6.0
CBN eP 14 02 34.7
CBN LR LR
comp=Z,4µm,20.0s,MS5.8
OG05 Jujurieux 84.23 339 eP **P 14 02 34.8 +0.3**
RSL Roselend 84.26 338 eP **P 14 02 35.1 +0.4**
ZCCA Zocca 84.26 334 P **P 14 02 36.2 +1.5**
WHFO Wadi Hawf 84.28 290⇑P **P 14 02 35.4 +0.2**
SNR=73
RBK Rabkut 84.29 289⇓P **P 14 02 36.2 +0.9**
SNR=24
XOR Xorichti 84.30 324 P **P 14 02 33.4 -1.6**
FSSB Fossombrone 84.30 333 P **P 14 02 35.2 +0.3**
QUIF Quistinic 84.33 345⇑iP **P 14 02 34.4 -0.6**
BOB Bobbio (Coli) 84.33 336 P **P 14 02 36.0 +1.0**
BGF Bois d'Agland 84.38 341⇑iP **P 14 02 35.1 -0.2**
comp=Z,231nm,1.3s,mb5.8
BGF Bois d'Agland 84.38 341⇑iP **P 14 02 35.1 -0.2**
BGF pmax pmax
comp=Z,116nm,1.3s,mb5.8
BGF Bois d'Agland 84.38 341⇑iP **P 14 02 35.1 -0.2**
comp=Z,116nm,1.3s,mb5.8
FNVD Fontana Vidola 84.38 334 P **P 14 02 36.3 +1.0**
LPL La Plagne 84.39 338⇑iP **P 14 02 36.2 +0.9**
comp=Z,1µm,1.5s,mb6.5
LPL La Plagne 84.39 338⇑iP **P 14 02 36.2 +0.9**
LPL pmax pmax
comp=Z,582nm,1.5s,mb6.5
LPL La Plagne 84.39 338⇑iP **P 14 02 36.2 +0.9**
comp=Z,582nm,1.5s,mb6.5
SFI Santa Sofia 84.40 334 P **P 14 02 36.4 +1.0**
LPG La Plagne 84.40 338⇑iP **P 14 02 36.3 +0.9**
comp=Z,2µm,1.4s,mb6.6
LPG La Plagne 84.40 338⇑iP **P 14 02 36.3 +0.9**
LPG pmax pmax
comp=Z,760nm,1.4s,mb6.6
LPG La Plagne 84.40 338⇑iP **P 14 02 36.3 +0.9**
comp=Z,760nm,1.4s,mb6.6
VMG Vicchio 84.44 334 P **P 14 02 37.2 +1.6**
CING Cingoli 84.45 333 P **P 14 02 36.0 +0.3**
PIEI Pieia 84.52 333 P **P 14 02 36.5 +0.5**
RSP Reno Superiore 84.59 337 P **P 14 02 36.3 0.0**
THL Klokotos Trika 84.61 325 P **P 14 02 34.7 -1.8**
THL Klokotos Trika 84.61 325 eP **P 14 02 34.4 -2.1**
THL Klokotos Trika 84.61 325 eP **P 14 02 34.4 -2.1**
VLC Villacollemand 84.61 335 P **P 14 02 37.1 +0.6**
CRE Caprese Michel 84.62 333 P **P 14 02 37.1 +0.6**
SNTG Esanatoglia 84.64 333 P **P 14 02 37.1 +0.5**
URVA University of 84.66 39 eP **P 14 02 36.2 -0.7**
CDCA Citt' di Caste 84.68 333 P **P 14 02 38.2 +1.4**
MEV Metsovon 84.73 326 P **P 14 02 37.4 +0.3**
PLDF La Plantade 84.75 340 eP **P 14 02 37.5 +0.4**
MURB Monte Urbino 84.77 333 P **P 14 02 38.0 +0.7**
TCF Toulx Ste Croi 84.78 341⇑iP **P 14 02 36.6 -0.7**
comp=Z,298nm,1.1s,mb6.0
TCF Toulx Ste Croi 84.78 341⇑iP **P 14 02 36.6 -0.7**
TCF pmax pmax
comp=Z,149nm,1.1s,mb6.0
TCF Toulx Ste Croi 84.78 341⇑iP **P 14 02 36.6 -0.7**
comp=Z,149nm,1.1s,mb6.0
ARG Arkhangelos 84.79 319 eP **P 14 02 36.7 -0.8**
ARG Arkhangelos 84.79 319 eP **P 14 02 36.7 -0.8**
AGO Saint Agoulin 84.79 340 eP **P 14 02 37.3 0.0**
BNI Bardonecchia 84.84 338 P **P 14 02 39.1 +1.5**
GDM Grand'Maison 84.84 338 eP **P 14 02 38.5 +0.9**
GRN Grenoble 84.91 338 eP **P 14 02 38.8 +0.9**
ASS Assisi 84.91 333 P **P 14 02 38.2 +0.2**
AGG Agios Georgios 84.94 324 P **P 14 02 36.0 -2.2**
MUN Mundaring 84.94 212 eP **P 14 02 44.1 +6.1**
MUN eS S 14 12 58.7 -7.4
CSNT Castellina Chi 84.96 334 P **P 14 02 37.7 -0.5**
NRCA Norcia 84.96 332 P **P 14 02 38.0 -0.3**
OG22 Abries 84.98 337 eP **P 14 02 39.0 +0.7**
LKR Lokris 84.98 324 eP **P 14 02 36.6 -1.8**
LKR Lokris 84.98 324 eP **P 14 02 36.6 -1.8**
JAN Janina 84.99 326 eP **P 14 02 38.2 -0.2**
JAN Janina 84.99 326 eP **P 14 02 38.2 -0.2**
TERO Teramo 84.99 332 P **P 14 02 38.5 +0.1**
ABTO Aybut 85.00 290 P **P 14 02 39.3 +0.5**
SNR=22
MFF Saint Martin d 85.00 343⇑iP **P 14 02 37.5 -0.9**
comp=Z,271nm,1.1s,mb6.0
MFF Saint Martin d 85.00 343⇑iP **P 14 02 37.5 -0.9**
MFF pmax pmax
comp=Z,136nm,1.1s,mb6.0
MFF Saint Martin d 85.00 343⇑iP **P 14 02 37.5 -0.9**
comp=Z,136nm,1.1s,mb6.0
FGMS Monte Sant'Ang 85.01 330 P **P 14 02 38.0 -0.5**
SGRT San Giovanni R 85.05 330 P **P 14 02 38.1 -0.6**
QLNO Quiliano 85.05 336 P **P 14 02 37.9 -0.8**
PYM Petit Puy Mans 85.11 340 eP **P 14 02 39.0 +0.1**
MBDF Montbardon 85.11 337⇑iP **P 14 02 39.1 +0.1**
comp=Z,815nm,1.6s,mb6.3
MBDF Montbardon 85.11 337⇑iP **P 14 02 39.1 +0.1**
MBDF pmax pmax
comp=Z,408nm,1.6s,mb6.3
MBDF Montbardon 85.11 337⇑iP **P 14 02 39.1 +0.1**
comp=Z,408nm,1.6s,mb6.3
SRN Sarande 85.13 326 ePN **P 14 02 39.5 +0.4**
COLF Collangettes 85.16 340 eP **P 14 02 40.9 +1.7**
ORIF Oris-en-Rattie 85.17 338⇑iP **P 14 02 39.3 0.0**
comp=Z,272nm,0.9s,mb6.1
ORIF eMLR MLR
comp=Z,5µm,21.2s,MS5.6
ORIF Oris-en-Rattie 85.17 338⇑iP **P 14 02 39.3 0.0**
ORIF pmax pmax
comp=Z,136nm,0.9s,mb6.1
ORIF Oris-en-Rattie 85.17 338⇑iP **P 14 02 39.3 0.0**
comp=Z,136nm,0.9s,mb6.1
RGNG Rignano Grg 85.17 330 P **P 14 02 39.3 0.0**
SSB Saint Sauveur 85.18 339 eP **P 14 02 39.5 +0.2**
EVR Evrytania 85.24 325 eP **P 14 02 38.5 -1.2**
EVR Evrytania 85.24 325 eP **P 14 02 38.5 -1.2**
APE Apeiranthos 85.24 321 eP **P 14 02 37.7 -2.1**
APE Apeiranthos 85.24 321 P **P 14 02 38.7 -1.1**
APE Apeiranthos 85.24 321⇑iP **P 14 02 37.5 -2.3**
APE Apeiranthos 85.24 321 eP **P 14 02 37.7 -2.1**
ATH Athens Observa 85.26 323 eP **P 14 02 37.4 -2.4**
ATH Athens Observa 85.26 323 eP **P 14 02 37.4 -2.4**
AQU L'Aquila 85.30 332 P **P 14 02 40.6 +0.6**
GOGA Godfrey 85.31 45 P **P 14 02 40.1 -0.1**
GOGA pmax pmax
comp=Z,81nm,1.2s,mb5.7
GOGA Godfrey 85.31 45 eP **P 14 02 39.1 -1.1**
comp=Z,81nm,1.3s,mb5.7
GOGA eP 14 02 39.8
GOGA LR LR
comp=Z,5µm,19.0s,MS5.9
SURF Saint Ours 85.33 337 eP **P 14 02 40.9 +0.8**
KEK Kerkira 85.35 326 eP **P 14 02 38.9 -1.3**
KEK Kerkira 85.35 326 eP **P 14 02 38.9 -1.3**
BRAL Brewton 85.39 49 eP **P 14 02 40.0 -0.6**
comp=Z,264nm,1.1s,mb6.3
BRAL eP 14 02 40.7
BRAL LR LR
comp=Z,3µm,20.0s,MS5.7
CIGN Sant'Elia a Pi 85.42 331 P **P 14 02 40.7 +0.1**
NWAO Narrogin (SRO) 85.43 210 eP **P 14 02 39.2 -1.2**
NWAO e 14 02 56.7
NWAO pmax pmax
comp=Z,92nm,1.0s
NWAO Narrogin (SRO) 85.43 210 eP **P 14 02 39.2 -1.3**
comp=Z,92nm,1.0s,mb5.9
NWAO eP 14 02 39.5
NWAO e 14 02 46.8
NWAO e 14 02 56.7
INTR Introdacqua 85.44 331 P **P 14 02 40.5 -0.2**
FIAM Fiamignano 85.47 332 P **P 14 02 40.9 +0.1**
LTK Loutraki 85.53 323 P **P 14 02 38.5 -2.7**
LBL Lubilhac 85.54 340 eP **P 14 02 41.0 -0.1**
VIVF Saint-Julien-l 85.54 339 eP **P 14 02 41.6 +0.5**
comp=Z,389nm,1.3s,mb6.2
VIVF Saint-Julien-l 85.54 339 eP **P 14 02 41.6 +0.5**
VIVF pmax pmax
comp=Z,195nm,1.3s,mb6.2
VIVF Saint-Julien-l 85.54 339 eP **P 14 02 41.6 +0.5**
comp=Z,195nm,1.3s,mb6.2
FRNF Fournols 85.55 340 eP **P 14 02 41.3 +0.1**
IMI Imperia 85.56 336 P **P 14 02 40.5 -0.7**
LATE Laterza 85.58 333 P **P 14 02 41.3 0.0**
PTQR Pietraquaria 85.60 332 P **P 14 02 41.7 +0.2**
AUTN L'Aution 85.61 337 eP **P 14 02 41.5 0.0**
FG5 Orsara di Pugl 85.63 330 P **P 14 02 41.9 +0.3**
RNI2 Rionero Sannit 85.64 331 P **P 14 02 42.2 +0.6**
OCF Saint Nazaire 85.64 338 eP **P 14 02 42.9 +1.3**
OG26 St.-Nazaire-De 85.64 338 eP **P 14 02 42.9 +1.3**
TOUF Mont Tournerai 85.64 337 eP **P 14 02 42.0 +0.4**
MIDA Miranda 85.66 331 P **P 14 02 42.0 +0.3**
VVLO Villa Vallelon 85.66 332 P **P 14 02 41.4 -0.4**
JSC Jenkinsville 85.68 43 eP **P 14 02 41.1 -0.9**
JSC e 14 03 02.2
LTRZ Laterza 85.68 329 P **P 14 02 41.5 -0.4**
LUCF Luceram 85.73 337 eP **P 14 02 42.3 +0.2**
SBF Sospel 85.73 337⇑iP **P 14 02 41.8 -0.3**
comp=Z,1µm,1.5s,mb6.7
SBF Sospel 85.73 337⇑iP **P 14 02 41.8 -0.3**
SBF pmax pmax
comp=Z,706nm,1.5s,mb6.7
SBF Sospel 85.73 337⇑iP **P 14 02 41.8 -0.3**
comp=Z,706nm,1.5s,mb6.7
SDI San Donato 85.74 331 P **P 14 02 41.8 -0.4**
MVIF Mont Vial 85.78 337 eP **P 14 02 42.8 +0.5**
KARP Karpathos 85.78 319 eP **P 14 02 41.0 -1.5**
KARP Karpathos 85.78 319 eP **P 14 02 41.0 -1.5**
CERT Cerreto 85.80 332 P **P 14 02 42.0 -0.5**
MTCE Montecelio 85.81 332 P **P 14 02 42.1 -0.4**
PSB1 Pescosannita 85.84 330 P **P 14 02 42.5 -0.2**
SGG Gregorio Mates 85.84 331 P **P 14 02 42.4 -0.3**
DID Didima 85.86 323 P **P 14 02 39.3 -3.5**
RJF Les Rejaudoux 85.87 341⇑iP **P 14 02 41.6 -1.1**
comp=Z,321nm,1.4s,mb6.1
RJF eMLR MLR
comp=Z,8µm,22.0s,MS5.7
RJF Les Rejaudoux 85.87 341⇑iP **P 14 02 41.6 -1.1**
RJF pmax pmax
comp=Z,161nm,1.4s,mb6.1
RJF MLR MLR
comp=Z,8µm,22.0s,MS6.0
RJF Les Rejaudoux 85.87 341⇑iP **P 14 02 41.6 -1.1**
comp=Z,160nm,1.4s,mb6.1
RJF LR LR
comp=Z,8µm,22.0s,MS6.0

LKD	Levkas	85.88	325	P	P	14 02 41.6	-1.3
TBI	Tubuai	85.89	130	eS	S	14 13 08.7	-7.1
	comp=Z,2μm,25.8s						
TBI				eSS	SS	14 18 48.2	-5.8
	comp=Z,1μm,28.8s						
TBI				eLQ		14 25 32.7	
	comp=Z,7μm,32.5s						
TBI				eLR	LR	14 29 25.4	
	comp=Z,7μm,31.8s,baz=323						
CALN	Calern	85.98	337	eP	P	14 02 43.6	+0.3
MRLC	Muro Lucano	86.02	330	P	P	14 02 44.4	+0.8
STOF	St-Etienne Org	86.02	338	eP	P	14 02 44.7	+1.2
PTRP	Pietrapertosa	86.03	329	P	P	14 02 43.7	+0.1
RFI	Roccamonfina	86.05	331	P	P	14 02 44.1	+0.4
RDP	Rocca di Papa	86.06	332	P	P	14 02 43.4	-0.3
CSSN	Cassano Irpino	86.09	330	P	P	14 02 43.9	0.0
CAF	Calviac	86.11	341⇑	iP	P	14 02 43.4	-0.5
	comp=Z,80nm,0.7s,mb5.8						
CAF	Calviac	86.11	341	iP	P	14 02 43.4	-0.5
CAF				pmax	pmax		
	comp=Z,40nm,0.7s,mb5.8						
CAF	Calviac	86.11	341⇑	iP	P	14 02 43.4	-0.5
	comp=Z,40nm,0.7s,mb5.8						
RLS	Riolos of Patr	86.11	324	eP	P	14 02 43.3	-0.8
RLS	Riolos of Patr	86.11	324	eP	P	14 02 43.3	-0.8
SMRF	Simiane la Rot	86.13	338	eP	P	14 02 44.8	+0.8
	comp=Z,670nm,1.6s,mb6.3						
SMRF	Simiane la Rot	86.13	338	eP	P	14 02 44.8	+0.8
	comp=Z,670nm,1.6s,mb6.6						
VILF	Villemus	86.21	338	eP	P	14 02 44.9	+0.5
FRF	La Foret Royal	86.23	337	eP	P	14 02 44.3	-0.2
	comp=Z,1μm,1.6s,mb6.5						
FRF	La Foret Royal	86.23	337	eP	P	14 02 44.3	-0.2
FRF				pmax	pmax		
	comp=Z,532nm,1.6s,mb6.5						
FRF	La Foret Royal	86.23	337	eP	P	14 02 44.3	-0.2
	comp=Z,532nm,1.6s,mb6.5						
SGO	Sicignano	86.26	330	P	P	14 02 44.5	-0.2
ORI	Oriolo Calabro	86.29	329	P	P	14 02 44.5	-0.4
VLX	Vlachokerasia	86.33	323	P	P	14 02 43.2	-2.0
TAVF	Tavernes	86.33	337	eP	P	14 02 45.1	0.0
VLS	Valsamata	86.36	325	P	P	14 02 44.0	-1.3
VLS	Valsamata	86.36	325	eP	P	14 02 43.8	-1.5
VLS	Valsamata	86.36	325	eP	P	14 02 43.8	-1.5
LFF	La Frestale	86.39	341⇑	iP	P	14 02 44.4	-0.9
	comp=Z,78nm,0.7s,mb5.8						
LFF	La Frestale	86.39	341⇑	iP	P	14 02 44.4	-0.9
LFF				pmax	pmax		
	comp=Z,39nm,0.7s,mb5.8						
LFF	La Frestale	86.39	341⇑	iP	P	14 02 44.4	-0.9
	comp=Z,39nm,0.7s,mb5.8						
PRAF	Pradon	86.39	338	eP	P	14 02 46.6	+1.2
CNNC	Cliffs of the	86.45	40	eP	P	14 02 45.5	-0.2
	comp=Z,44nm,0.6s,mb5.9						
CNNC				LR	LR		
	comp=Z,5μm,21.0s,MS5.8						
LASF	Ste Croix	86.47	339	eP	P	14 02 45.4	-0.3
	comp=Z,293nm,1.4s,mb6.0						
LMR	La Mourre	86.47	337	eP	P	14 02 45.8	0.0
	comp=Z,1μm,1.5s,mb6.7						
LMR	La Mourre	86.47	337	eP	P	14 02 45.8	0.0
LMR				pmax	pmax		
	comp=Z,687nm,1.5s,mb6.7						
LMR	La Mourre	86.47	337	eP	P	14 02 45.8	0.0
	comp=Z,687nm,1.5s,mb6.7						
PGF	Pioggiola	86.49	335⇑	iP	P	14 02 45.5	-0.4
	comp=Z,775nm,1.6s,mb6.4						
PGF	Pioggiola	86.49	335⇑	iP	P	14 02 45.5	-0.4
PGF				pmax	pmax		
	comp=Z,388nm,1.6s,mb6.4						
PGF	Pioggiola	86.49	335⇑	iP	P	14 02 45.5	-0.4
	comp=Z,388nm,1.6s,mb6.4						
TREF	Trevaresse	86.51	338	eP	P	14 02 47.5	+1.6
PUYF	Puyloubier	86.51	338	eP	P	14 02 47.0	+1.1
MGR	Morigerati	86.55	329	P	P	14 02 45.0	-1.2
VLI	Veliai	86.65	323	eP	P	14 02 46.2	-0.5
VLI	Veliai	86.65	323	eP	P	14 02 46.2	-0.5
CORF	Corte	86.68	335	eP	P	14 02 47.0	+0.2
ITM	Ithomi	86.68	324	eP	P	14 02 45.2	-1.7
ITM	Ithomi	86.68	324	eP	P	14 02 45.2	-1.7
BERF	Bertagne	86.72	338	eP	P	14 02 48.1	+1.2
NPS	Neapolis	86.72	320	eP	P	14 02 45.3	-1.8
NPS	Neapolis	86.72	320	eP	P	14 02 45.3	-1.8
GELF	Grande-Etoile	86.72	338	eP	P	14 02 48.3	+1.3
PYL	PYLOS	87.00	324	P	P	14 02 45.9	-2.5
NHSC	New Hope	87.15	43	eP	P	14 02 49.8	+0.5
	comp=Z,327nm,1.3s,mb6.4						
NHSC				LR	LR		
	comp=Z,7μm,21.0s,MS6.0						
VAM	Vamos	87.22	321	eP	P	14 02 49.8	+0.3
VAM	Vamos	87.22	321	eP	P	14 02 49.8	+0.3
OSPF	L'Ospedale	87.25	335	eP	P	14 02 50.0	+0.4
GRI	Girifalco	87.40	328	P	P	14 02 50.2	-0.1
MTLF	Montolieu	87.57	340	eP	P	14 02 50.2	-0.9
	comp=Z,52nm,0.7s,mb5.5						
MTLF	Montolieu	87.57	340	eP	P	14 02 50.2	-0.9
MTLF				pmax	pmax		
	comp=Z,26nm,0.7s,mb5.6						
MTLF	Montolieu	87.57	340	eP	P	14 02 50.2	-0.9
	comp=Z,26nm,0.7s,mb5.6						
SOI	Samo	88.19	328	P	P	14 02 53.4	-0.8
MLS	Moulis	88.19	341	eP	P	14 02 53.5	-0.6
EPF	Esparros	88.30	341⇑	iP	P	14 02 52.9	-1.6
	comp=Z,42nm,0.7s,mb5.5						
EPF	Esparros	88.30	341⇑	iP	P	14 02 52.9	-1.6
EPF				pmax	pmax		
	comp=Z,21nm,0.7s,mb5.5						
EPF	Esparros	88.30	341⇑	iP	P	14 02 52.9	-1.6
	comp=Z,21nm,0.7s,mb5.5						
RESF	Ens	88.51	341	eP	P	14 02 55.3	-0.3
EALK	Alkurruntz	88.52	342	P	PP	14 06 22.1	-0.6
SJPF	Ste Jean	88.56	342⇑	iP	P	14 02 53.0	-2.8
	comp=Z,70nm,1.2s,mb5.5						
SJPF	Ste Jean	88.56	342⇑	iP	P	14 02 53.0	-2.8
SJPF				pmax	pmax		
	comp=Z,35nm,1.2s,mb5.6						
SJPF	Ste Jean	88.56	342⇑	iP	P	14 02 53.0	-2.8
	comp=Z,35nm,1.2s,mb5.6						
ELIZ	Elizondo	88.58	342	P	PP	14 06 24.4	+1.2
ETSF	Etsaut	88.62	342⇑	iP	P	14 02 55.1	-1.0
	comp=Z,37nm,0.6s,mb5.6						
ETSF	Etsaut	88.62	342⇑	iP	P	14 02 55.1	-1.0
ETSF				pmax	pmax		
	comp=Z,19nm,0.6s,mb5.6						
ETSF	Etsaut	88.62	342⇑	iP	P	14 02 55.1	-1.0
	comp=Z,18nm,0.6s,mb5.6						
EBIE	Bielsa	88.67	341	P	PP	14 06 25.9	+2.0
ELAN	Lanestosa	88.89	344	P	PP	14 06 28.4	+2.7
ERC	Erice	89.45	331	P	P	14 03 00.4	+0.3
EPON	Pontenova	89.46	346	P	PP	14 06 31.1	+0.9
EMAZ	Mazaricos	90.12	348	P	PP	14 06 36.7	+1.3
DWPF	Disney	90.63	47	PFAKE		14 03 20.0	+14
DWPF				LR	LR		
	comp=Z,6μm,21.0s,MS6.0						
ECAL	Calabor	90.75	346	P	PP	14 06 41.0	+0.6
PBRG	Braganca	90.88	346	eP	P	14 03 05.5	-1.2
	comp=Z,78nm,1.7s,mb5.8						
PBRG	Braganca	90.88	346	ePP	PP	14 06 43.6	+2.1
ETOR	Torete	90.93	342	P	PP	14 06 42.9	+0.9
ELOB	Lobios	91.03	347	P	PP	14 06 45.7	+3.0
PCAB	Cabril	91.18	347	eP	P	14 03 07.2	-0.9
	comp=Z,88nm,1.4s,mb5.9						
PCAB	Cabril	91.18	347	ePP	PP	14 06 44.9	+1.0
GUD	Guadarrama	91.53	344	P	PP	14 06 48.8	+2.1
MVO	Moncorvo	91.55	346	eP	P	14 03 08.6	-1.2
	comp=Z,94nm,1.5s,mb5.9						
MVO	Moncorvo	91.55	346	ePP	PP	14 06 43.5	-3.3
MVO				eSKS		14 13 46.4	
MVO				eLR	LR	14 34 58.8	
	comp=Z,3μm,20.0s						
PVIS	Viseu	92.13	346	eP	P	14 03 11.6	-0.9
	comp=Z,80nm,1.4s,mb5.9						
PVIS	Viseu	92.13	346	ePP	PP	14 06 50.0	-1.4
MTE	Manteigas	92.38	346	eP	P	14 03 12.6	-1.1
	comp=Z,85nm,1.7s,mb5.8						
MTE	Manteigas	92.38	346	ePP	PP	14 06 52.6	-0.8
MTE				eSKS		14 13 46.5	
MTE				eLR	LR	14 35 05.6	
	comp=Z,3μm,20.3s						
CMAH	Djebel Manchou	92.42	334	P	P	14 03 13.0	-0.9
ESDC	Sonseca Array	92.43	343	P	P	14 03 12.9	-0.9
	comp=Z,9.1nm,0.9s,mb5.1,baz=5.2,slow=3.8,SNR=28						
ESDC				PP	PP	14 06 57.0	+3.2
	comp=Z,14nm,1.1s,baz=18,slow=7.9,SNR=14						
ESDC				LR	LR	14 50 53.0	
	comp=Z,3μm,18.4s,MS5.8,baz=40,slow=40						
ESDC	Sonseca Array	92.43	343	P	P	14 03 12.9	-0.9
ESDC				P		14 06 56.7	
ESDC				PP	PP	14 06 57.0	+3.2
ESDC				LR	LR	14 50 53.0	
ESLA	Sonseca Array	92.43	343	eP	P	14 03 11.7	-2.1
	comp=Z,94nm,2.1s,mb5.8						
ESLA				ePP	PP	14 06 56.2	+2.4
ESLA				LR	LR		
	comp=Z,24μm,20.0s,MS6.6						
CAEH	'Ain El Ouahch	92.45	334	P	P	14 03 14.0	0.0
EPLA	Plasencia	92.45	345	P	PP	14 06 53.7	-0.3
KEST	Kesra	92.63	332	P	P	14 03 14.8	-0.1
	comp=Z,7.2nm,0.9s,mb5.1,baz=213,slow=1.0,SNR=12						
KEST				LR	LR	14 48 54.2	
	comp=Z,2μm,18.7s,MS5.5,baz=333,slow=38						
PAB	San Pablo	92.63	344	eP	P	14 03 12.6	-2.2
PAB				e		14 06 53.4	
PAB				pmax	pmax		
	comp=Z,33nm,1.4s,mb5.6						
PAB	San Pablo	92.63	344	eP	P	14 03 12.6	-2.2
	comp=Z,33nm,1.4s,mb5.6						
PAB				ePP	PP	14 06 53.4	-1.9
ABSA	Djebel Ababsia	92.72	334	P	P	14 03 11.0	-4.3
CKFL	Kef-Lekhel	92.84	334	P	P	14 03 15.0	-0.8
ETOB	Tobarra	92.91	341	P	PP	14 06 58.7	+1.2
PCBR	Castelo Branco	92.92	346	eP	P	14 03 15.3	-0.8
	comp=Z,53nm,1.7s,mb5.7						
PCBR	Castelo Branco	92.92	346	ePP	PP	14 06 59.6	+2.0
DFRA	Djebel Bou Aff	92.96	335	P	P	14 03 16.0	-0.4
CASM	Ain Smara	93.04	334	P	P	14 03 16.0	-0.8
EVIA	Vianos	93.12	342	P	PP	14 07 00.0	+0.8
AKF	Akfadou	93.25	336	P	P	14 03 17.5	-0.2
PMRV	Marv??o	93.30	346	eP	P	14 03 15.9	-2.0
	comp=Z,43nm,1.5s,mb5.7						
PMRV	Marv??o	93.30	346	ePP	PP	14 06 58.7	-1.9
PMRV				eSKS		14 13 52.9	
PMRV				eLR	LR	14 35 58.5	
	comp=Z,4μm,25.0s						
SET	Setif	93.42	335	P	P	14 03 19.0	+0.5
ABA	Alger-Bouzarea	93.52	337	P	P	14 03 20.0	+1.0
CKHR	Kef el Ahmar	93.55	335	P	P	14 03 18.0	-1.1
EBAN	Banos Encina	93.85	343	P	PP	14 07 09.5	+4.6
PESTR	Estremoz	93.88	346	eP	P	14 03 19.0	-1.6
	comp=Z,48nm,1.7s,mb5.7						
PESTR	Estremoz	93.88	346	ePP	PP	14 07 02.8	-2.4
PESTR				eSKS		14 13 53.3	
PESTR				eLR	LR	14 36 18.7	
	comp=Z,4μm,22.6s						
EBAD	Badajoz	93.89	345	P	PP	14 07 05.4	+0.2
EHUE	Huescar	93.93	342	P	PP	14 07 07.1	+1.5
EADA	Adamuz	94.01	343	P	PP	14 07 06.8	+0.7
RKT	Rikitea	94.01	119	eSKSac	SKSac	14 13 49.9	-5.6
	comp=Z,1μm,26.2s						
RKT	Rikitea	94.01	119	ePS	PS	14 15 42.6	-4.6
	comp=Z,1μm,29.2s						
RKT				eSS	SS	14 20 48.0	-3.6
	comp=Z,1μm,29.2s						
RKT				eLQ		14 28 53.9	
	comp=Z,5μm,30.8s						
RKT				eLR	LR	14 33 19.5	
	comp=Z,6μm,32.5s,baz=321						
ADJB	Djebel Djouab	94.01	337	P	P	14 03 21.8	+0.5
EQES	Quesada	94.05	342	P	PP	14 07 07.8	+1.3
PMAFR	Mafra	94.07	347	eP	P	14 03 20.0	-1.5
	comp=Z,90nm,1.0s,mb6.2						
PMAFR				eSKS		14 13 55.7	
PMAFR				eLR	LR	14 36 16.4	
	comp=Z,3μm,20.3s						
EVO	Evora	94.28	346⇑	iP	P	14 03 21.0	-1.4
	comp=Z,96nm,1.5s,mb5.7						
EVO				eMLR	MLR		
	comp=Z,5μm,20.8s,MS5.7						
EVO	Evora	94.28	346	eP	P	14 03 20.9	-1.5
	comp=Z,50nm,1.9s,mb5.6						
LIS	Lisbon	94.29	347	eP	P	14 03 22.3	-0.1
LIS				eS	SKSac	14 13 49.3	-7.8
LIS				eS	SKSac	14 13 49.8	-7.3
LIS				AMS	AMS	14 47 04.8	
	comp=E,3μm,19.0s						
LIS	Lisbon	94.29	347	eP	P	14 03 22.3	-0.1
LIS				eS	SKSac	14 13 49.3	-7.8
BBSR	BB Station	94.37	32	PFAKE		14 03 30.0	+7.0
BBSR				LR	LR		
	comp=Z,2μm,20.0s,MS5.5						
PBAR	Barrancos	94.46	345	eP	P	14 03 21.4	-1.9
	comp=Z,51nm,1.9s,mb5.6						
PBAR	Barrancos	94.46	345	ePP	PP	14 07 11.2	+1.5
PBAR				eSKS		14 13 59.8	
PBAR				eLR	LR	14 36 25.2	
	comp=Z,3μm,21.5s						
ECOG	Cogollos-Vega	94.66	342	P	PP	14 07 14.9	+3.7
PBEJ	Beja	94.75	346	eP	P	14 03 24.1	-0.5
	comp=Z,60nm,1.5s,mb5.8						
EMIN	Mina Concepcio	94.79	345	P	PP	14 07 14.8	+2.5
ERON	Agron	94.96	342	P	PP	14 07 17.2	+3.6
EGRO	El Granado	95.16	345	P	PP	14 07 17.7	+2.6
PVAQ	Vaqueiros	95.33	346	eP	P	14 03 25.9	-1.4
	comp=Z,30nm,1.9s,mb5.4						
PVAQ	Vaqueiros	95.33	346	ePP	PP	14 07 17.4	+0.9
PVAQ				eS	SKSac	14 14 03.1	+0.4
PVAQ				eLR	LR	14 36 22.7	
	comp=Z,3μm,19.9s						
ESPR	Espera	95.51	344	P	PP	14 07 20.6	+2.7
PBDV	Barranco-do-Ve	95.53	346	eP	P	14 03 27.0	-1.1
	comp=Z,60nm,1.7s,mb5.8						
PBDV	Barranco-do-Ve	95.53	346	ePP	PP	14 07 19.1	+1.1
PBDV				eSKS		14 14 05.8	
PBDV				eLR	LR	14 36 40.8	
	comp=Z,3μm,19.4s						
MORF	Marmelete	95.58	346	eP	P	14 03 27.8	-0.6
	comp=Z,86nm,1.5s,mb6.0						
MORF				eSKS		14 14 07.0	
MORF				eLR	LR	14 37 02.3	
	comp=Z,3μm,18.0s						
EMIJ	Mijas	95.59	343	P	PP	14 07 21.6	+3.1
PFVI	Vila Bisbo	95.78	346	eSKS		14 16 11.6	
PFVI				eLR	LR	14 37 09.0	
	comp=Z,3μm,19.2s						
BCIP	Isla Barro Col	106.88	57	PFAKE		14 08 40.0	+11
BCIP				LR	LR		
	comp=Z,1μm,22.0s,MS5.5						
KMBO	Kilima Mbogo	109.23	289	ePP	PP	14 09 07.8	+5.6
KMBO				LR	LR		
	comp=Z,3μm,21.0s,MS5.8						
DRV	Dumont d'Urvil	112.92	186	SP	SP	14 19 11.0	+11
DRV				SS	SS	14 25 09.0	-1.8
DRV				L		14 36 00.0	
DRV				R		14 42 00.0	
BBGH	Gun Hill	113.69	36	PFAKE		14 08 50.0	+8.0
BBGH				LR	LR		
	comp=Z,3μm,20.0s,MS5.8						
GRGR	Grenville	113.71	39	PFAKE		14 08 50.0	+8.0
GRGR				LR	LR		
	comp=Z,2μm,20.0s,MS5.6						
TOAO	Torodi Ar. Sit	116.06	330	ePP	PP	14 09 44.5	-5.6
CASY	Casey	116.91	198	PFAKE		14 09 00.0	+14
CASY				LR	LR		
	comp=Z,2μm,20.0s,MS5.7						
SBA	Scott Base	123.88	177	ePKIKP	PKPdf	14 08 58.6	-1.0
DBIC	Dimbokro	124.27	335	PKP	PKPdf	14 09 00.8	-1.6
	comp=Z,8.9nm,0.7s,baz=20,slow=2.6,SNR=12						
DBIC	Dimbokro	124.27	335	PKP	PKPdf	14 09 00.8	-1.6
DBIC				LR	LR		
	comp=Z,2μm,21.0s,MS5.8						
LIC	Lamto	124.74	335	ePKIKP	PKPdf	14 09 01.5	-1.8
	comp=Z,75nm,1.3s						
LIC				eMLR	MLR		
	comp=Z,3μm,20.2s,MS5.7						
LIC	Lamto	124.74	335	ePKPdf	PKPdf	14 09 01.5	-1.8
LIC				LR	LR		
	comp=Z,2μm,20.3s,MS5.7						
LSZ	Lusaka	125.65	286	ePKIKP	PKPdf	14 09 04.6	-0.2
LSZ				e		14 11 04.6	
LSZ				MLR	MLR		
	comp=Z,3μm,20.0s,MS6.0						
MAW	Mawson	132.00	211	ePKP	PKPdf	14 09 14.2	-1.1
	comp=Z,3.5nm,0.7s						
MAW				ePP	PP	14 11 41.0	+3.4
MAW				eSKP		14 12 37.6	
MAW	Mawson	132.00	211	PKP	PKPdf	14 09 14.1	-1.3
	comp=Z,2.9nm,0.6s,baz=159,slow=2.3,SNR=6.1						
MAW	Mawson	132.00	211	ePKIKP	PKPdf	14 09 14.2	-1.1
MAW				e		14 11 41.0	
MAW				MLR	MLR		
	comp=Z,2μm,19.0s						
MAW	Mawson	132.00	211	ePKP	PKPdf	14 09 14.2	-1.1
MAW				ePP	PP	14 11 41.0	+3.4
MAW				eSKP		14 12 37.6	
MAW				LR	LR		
	comp=Z,2μm,19.0s,MS5.8						
LPAZ	La Paz	133.99	64	PKP	PKPdf	14 09 20.6	0.0
	comp=Z,9.5nm,1.2s,baz=360,slow=5.4,SNR=25						
LPAZ	La Paz	133.99	64	PKP	PKPdf	14 09 20.6	0.0
LPAZ				LR	LR		
	comp=Z,1μm,21.0s,MS5.6						
LBTB	Lobatse	134.09	279	PFAKE		14 09 30.0	+9.4
LBTB				LR	LR		
	comp=Z,2μm,20.0s,MS5.8						
TSUM	Tsumeb	135.46	292	ePKPdf	PKPdf	14 09 09.0	-14
TSUM				ePP	PP	14 12 07.5	+7.3
BOSA	Boshof	136.60	275	PFAKE		14 09 40.0	+15
BOSA				LR	LR		
	comp=Z,2μm,20.0s,MS5.9						
LVC	Limon Verde	138.09	71	ePKPdf	PKPdf	14 09 28.1	0.0
LVC				ePKPdf	PKPdf	14 09 28.9	+0.8
LVC				LR	LR		
	comp=Z,2μm,21.0s,MS5.9						
SYO	Syowa Base	140.71	211⇑	eX		14 09 28.9	
LCO	Las Campanas	141.12	80	PKPdf	PKPdf	14 09 34.7	+1.2
LCO				LR	LR		
	comp=Z,5μm,19.0s,MS6.3						
FCH	Farellones	143.95	85⇑	eP	PKPdf	14 09 34.3	-4.0
BDFB	Brasilia	144.43	39	PKP	PKPdf	14 09 37.5	-2.1
	comp=Z,30nm,1.0s,baz=334,slow=12						
BDFB	Brasilia	144.43	39	PKIKP	PKPdf	14 09 37.5	-2.2
BDFB				pmax	pmax		
	comp=Z,30nm,1.0s						
PLCA	Paso Flores	147.40	97	PKPbc	PKPbc	14 09 45.6	-0.9
	comp=Z,80nm,0.9s,baz=303,slow=3.8,SNR=61						
PLCA	Paso Flores	147.40	97	PKP2	PKPab	14 09 45.6	-2.9
PLCA				pmax	pmax		
	comp=Z,80nm,0.9s						
NVL	N'lazarevskaya	149.31	203	cPKHKP		14 09 48.4	
NVL				i		14 09 55.9	
NVL				e		14 13 22.3	
NVL				e		14 32 36.3	
NVL				pmax	pmax		
	comp=Z,110nm,1.6s						
MAIT	Maitri	149.33	203	ePKPdif		14 09 49.8	
SNAA	Sanae	152.09	195	ePKPdf	PKPdf	14 09 48.2	-2.3
SNAA				e		14 09 55.3	
SNAA				e		14 10 02.9	
SNAA				e		14 10 05.3	
SNAA				e		14 10 09.4	
SNAA				e		14 10 20.4	
SNAA				e		14 13 46.1	
SNAA				e		14 13 53.4	
TRQA	Tornquist	152.18	86	ePKPdf	PKPdf	14 09 48.7	-3.0
TRQA				ePKPdf	PKPdf	14 09 49.3	-2.4
TRQA				e		14 09 57.0	
VNA2	Neumayer--Watz	153.51	193	ePKPdf	PKPdf	14 09 50.4	-2.2
VNA2				e		14 09 58.4	
VNA2				e		14 10 06.5	
VNA2				e		14 10 09.8	
VNA2				e		14 10 14.5	
VNA2				e		14 10 19.7	
VNA2				e		14 10 32.7	
VNA2				e		14 13 54.5	
VNA2				e		14 14 01.4	
VNA3	Neumayer Olymp	153.58	192	ePKPdf	PKPdf	14 09 49.9	-2.8
VNA3				e		14 09 58.7	
VNA3				e		14 10 06.1	
VNA3				e		14 10 09.6	
VNA3				e		14 10 14.2	
VNA3				e		14 10 19.4	
VNA3				e		14 10 32.4	
VNA3				e		14 13 54.0	
VNA3				e		14 14 00.9	
VNA1	Neumayer--Stat	153.90	193	ePKPdf	PKPdf	14 09 51.7	-1.4
VNA1				e		14 09 59.8	
VNA1				e		14 10 07.2	
VNA1				e		14 10 11.7	
VNA1				e		14 10 16.5	
VNA1				e		14 10 21.2	
VNA1				e		14 10 34.3	
VNA1				e		14 13 56.5	

IDC 25 13:56:45.5±27.0, 5031N×14382E, h0km, mb4.2/3, mb1 4.5/3, mb1mx3.9/18, mbtmp4.2/3, Error ellipse: s-maj=1316.0km s-min=32.1km az=178.0, Sakhalin Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MKAR	Makanchi Array	39.86	290	P	P	14 04 20.5	0.0
	3.8nm,0.8s,baz=61,slow=5.9,SNR=3.1						
NVAR	Mina Array Bea	66.05	58	P	P	14 07 34.1	+0.3
	1.4nm,0.8s,baz=284,slow=7.2,SNR=4.3						
TXAR	Lajitas Array	80.81	55	P	P	14 09 01.3	+0.3
	1.9nm,0.8s,baz=297,slow=4.6,SNR=5.4						

MAN 25 14:35:16, 1399N×12262E, h1km, mb4.2, ML3.0, MS2.7, 1C-1D, Luzon

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GQP	Guinayangan	0.18	244⇓	iP	Pg	14 35 20.9	+1.3
GQP				i	Sg	14 35 24.0	+2.0
AUQP	San Andres	0.66	175	eP	Pg	14 35 30.3	+1.6
POLP	Polilio Island	0.99	318	eP	Pg	14 35 35.7	+0.7
POLP				eS	Sg	14 35 50.8	+3.1
PVCP	Virac	1.54	104⇑	eP	Pn	14 35 44.4	-0.2
PVCP				eS	Sn	14 36 05.1	-0.3
OTRP	Odiongan	1.72	200	eP	Pn	14 35 46.6	-0.4
BALP	Baler	2.01	330	eP	Pn	14 35 52.9	+1.8
SJMP	San Jose	2.10	224	eP	Pn	14 35 54.3	+1.9
CAUP	Cauayan	3.04	346	eP	Pn	14 36 06.9	+1.7

*BJI **25** 15:02:25.7, 2899S×7194W, h43km, mB4.8, Ms5.2, Msz5.1*
*MOS **25** 15:02:25.0±1.1, 2874S×7144W, h33km, mb5.1/13, Error ellipse: s-maj=21.8km s-min=8.7km az=102.3*
*ISCJB **25** 15:02:26.9±0.4, 2886S±0.002×7120W±0.06, h54km±4km, mb4.8/51, MS4.8/3, Error ellipse: s-maj=9.3km s-min=4.0km az=1.4*
*GUC **25** 15:02:27.4±0.7, 2886S×7119W, h45km±4km, ML5.1*
*NEI

CHNG **Los Chungos** 3.05 185 *e*P Pn 15 03 12.0 -1.6
CHNG *i* S Sn 15 03 46.8 -2.1
CFAA Coronel Fontan 3.77 138 P Pn 15 03 27.4 +4.0
comp=E,7.7nm,0.3s,baz=315,slow=13,SNR=147
CFAA S Sn 15 04 13.4 +6.9
comp=E,13nm,0.3s,baz=66,slow=20,SNR=9.2
CFAA LR LR 15 05 10.4
comp=E,372nm,20.7s,baz=314,slow=41
PEL Peldehue 4.32 174 ⇓*i*P Pn 15 03 30.9 -0.1
PEL *i* S Sn 15 04 19.3 -0.8
FCH Farellones 4.55 170 *e*P Pn 15 03 33.8 -0.3
FCH *i* S Sn 15 04 25.5 -0.3
CLCH Cerro Calan 4.58 173 *e*P Pn 15 03 34.7 +0.1
RCDM Rinconada Maip 4.65 176 *e*P Pn 15 03 35.5 -0.1
LVC Limon Verde 6.53 19 *e*Pn Pn 15 03 58.4 -3.0
comp=E,113nm,0.6s
PLCA Paso Flores 11.88 178 P Pn 15 05 16.1 +1.5
comp=E,0.3nm,0.3s,baz=350,slow=15,SNR=4.8
TRQA Tornquist 11.99 142 *e*Pn Pn 15 05 16.2 +0.1
comp=E,102nm,0.9s
LPAZ La Paz 12.80 13 P Pn 15 05 27.9 +0.6
comp=E,0.3nm,0.3s,baz=205,slow=3.9,SNR=4.5
ATAH Atahualpa 22.75 341 P P 15 07 25.0 -1.2
comp=E,2.9nm,0.5s,mb4.0,baz=203,slow=7.9,SNR=2.8
BDFB Brasilia 25.09 63 P P 15 07 50.1 +1.8
comp=E,5.8nm,0.8s,mb4.2,baz=210,slow=15,SNR=4.7
USHA Ushuaia 26.06 176 P P 15 07 56.5 -0.1
comp=E,38nm,0.9s,mb4.9,baz=338,slow=5.4,SNR=17
USHA LR LR 15 18 12.7
comp=E,3µm,18.5s,MS4.8,baz=286,slow=36
OTAV Otavalo 29.73 345 P P 15 08 25.7 -4.1
ROSC El Rosal 33.63 354 *e*P P 15 09 05.5 +1.4
SDV Santo Domingo 37.50 1 P P 15 09 35.4 -1.9
comp=E,1.6nm,0.3s,mb4.2,baz=294,slow=5.3,SNR=6.2
SDV Santo Domingo 37.50 1 *e*P P 15 09 33.8 -3.5
comp=E,4.8nm,0.8s,mb4.3
VNA3 Neumayer Olymp 53.90 159 *e*P P 15 11 46.4 +0.4
VNA3 *e* pP 15 11 57.0 -2.1
VNA3 *e* pP 15 12 03.5 +4.4
VNA1 Neumayer--Stat 54.17 159 *e*P P 15 11 49.1 +1.1
VNA1 *e* pP 15 11 59.8 -1.3
VNA1 *e* 15 12 07.1
VNA2 Neumayer--Watz 54.52 159 *e*P P 15 11 51.2 +0.7
VNA2 *e* pP 15 12 01.6 -2.0
VNA2 *e* pP 15 12 08.0 +4.4
SNAA Sanae 56.12 159 *e*P P 15 12 02.2 +0.2
SNAA *e* pP 15 12 12.6 -2.6
SNAA *e* pP 15 12 19.1 +3.9
SNAA Sanae 56.12 159⇑*e*P P 15 12 02.1 +0.1
QSPA South Pole Qui 61.39 180 P P 15 12 38.1 -0.4
comp=E,13nm,0.7s,mb5.1,baz=138,slow=2.3,SNR=23
JCT Junction City 64.98 333 *e*P P 15 13 02.1 -0.8
JCT pmax pmax
comp=Z,12nm,0.6s,mb5.1
JCT Junction City 64.98 333 *e*P P 15 13 02.1 -0.8
comp=Z,12nm,0.6s,mb5.1
TXAR Lajitas Array 65.64 329 P P 15 13 06.8 -0.4
comp=Z,4.1nm,0.8s,mb4.5,baz=149,slow=8.1,SNR=29
WVT Waverly 66.49 345 *e*P P 15 13 10.6 -1.9
WVT pmax pmax
comp=Z,7.0nm,0.8s,mb4.7
WVT Waverly 66.49 345 *e*P P 15 13 10.6 -1.9
comp=Z,6.7nm,0.8s,mb4.7
MIAR Mount Ida 66.49 340 *e*P P 15 13 11.2 -1.3
MIAR pmax pmax
comp=Z,6.0nm,0.8s,mb4.7
MIAR Mount Ida 66.49 340 *e*P P 15 13 11.2 -1.3
comp=Z,6.1nm,0.8s,mb4.7
BBTS Babate 68.25 58 P P 15 13 23.6 -0.5
comp=Z,25nm,1.0s,mb5.2,baz=243,slow=5.5,SNR=4.7
SBA Scott Base 68.27 191 *e*P P 15 13 24.2 +0.9
SBA pmax pmax
comp=Z,5.0nm,1.1s,mb4.5
SBA Scott Base 68.27 191 *e*P P 15 13 24.2 +0.9
comp=Z,4.7nm,1.1s,mb4.4
SIUC Southern Illin 68.32 345 *e*P P 15 13 22.5 -1.6
comp=Z,34nm,0.9s,mb5.4
FVM French Village 68.86 344 *e*P P 15 13 26.1 -1.3
FVM pmax pmax
comp=Z,66nm,1.2s,mb5.4
FVM French Village 68.86 344 *e*P P 15 13 26.1 -1.3
comp=Z,66nm,1.2s,mb5.4
AMTX Amarillo 69.61 334 *e*P P 15 13 31.9 -0.1
comp=Z,9.6nm,0.8s,mb4.8
319A Douglas 69.99 326 ⇑P P 15 13 34.9 +0.3
baz=70
318A Bisbee 70.40 325 ⇓P P 15 13 37.0 0.0
baz=71,SNR=7.3
SYO Syowa Base 70.41 159⇓*e*P P 15 13 35.0 -1.6
SYO Syowa Base 70.41 159⇑*e*pP pP 15 13 45.2 -5.0
219A White Tail Can 70.49 326 ⇓P P 15 13 37.9 +0.3
baz=71,SNR=11
218A Dragoon 70.86 326 ⇑P P 15 13 39.9 +0.1
baz=71,SNR=7.3
217A Green Valley 71.08 325 ⇓P P 15 13 41.4 +0.2
baz=71
119A Ashpeak Ranch, 71.14 327 ⇑P P 15 13 42.3 +0.8
baz=71
118A Homack Ranch, 71.36 326 ⇓P P 15 13 43.1 +0.3
baz=72
Z19A T-Link Ranch, 71.55 327 ⇓P P 15 13 44.6 +0.6
baz=72
216A Three Points, 71.59 325 ⇑P P 15 13 44.3 +0.1
baz=72
ANMO Albuquerque 71.64 330⇑*e*P P 15 13 45.1 +0.6
ANMO Albuquerque 71.64 330 *e*P P 15 13 44.1 -0.4
comp=Z,6.7nm,1.1s,mb4.5
117A Oracle 71.68 326 ⇑P P 15 13 44.9 +0.1
baz=72
Y19A Nutrioso 72.09 327 ⇑P P 15 13 48.1 +0.9
baz=72,SNR=8.7
214A Organ Pipe Nat 72.25 324 ⇓P P 15 13 48.5 +0.3
baz=72
X19A St. Johns 72.49 328 ⇑P P 15 13 50.0 +0.4
baz=73
LIC Lamto 72.50 72 *e*P P 15 13 50.0 -0.1
comp=Z,29nm,0.8s,mb5.2
115A Sonoran Desert 72.53 325 ⇓P P 15 13 50.5 +0.6
baz=73
Y17A Roosevelt 72.64 326 ⇑P P 15 13 50.8 +0.3
baz=73,SNR=11
TIC Toumodi 72.73 72 *e*P P 15 13 51.5 0.0
comp=Z,18nm,0.2s,mb5.6
KIC Kosan Boka 72.81 73 *e*P P 15 13 52.1 +0.1
comp=Z,84nm,1.0s,mb5.6
DBIC Dimbokro 72.88 72 P P 15 13 51.3 -1.1
comp=Z,10nm,0.7s,mb4.8,baz=213,slow=6.3,SNR=18
DBIC LR LR 15 42 25.8
comp=Z,646nm,21.6s,MS4.9,baz=195,slow=33
DBIC Dimbokro 72.88 72 *e*P P 15 13 52.3 -0.1
DBIC *e* pP 15 14 02.9 -3.1
DBIC pmax pmax
comp=Z,17nm,0.8s
DBIC Dimbokro 72.88 72 *e*P P 15 13 52.3 -0.1
comp=Z,17nm,0.8s,mb5.0
DBIC *e* pP 15 14 02.9 -3.1
X18A Snowflake 72.89 327 ⇓P P 15 13 52.5 +0.5
baz=73
W19A Sanders 73.10 328 ⇓P P 15 13 53.9 +0.7
baz=73
Y16A Circle Bar Ran 73.10 326 ⇓P P 15 13 53.6 +0.4
baz=73
W18A Petrified Fore 73.27 328 ⇑P P 15 13 54.7 +0.6
baz=73
V19A Window Rock 73.44 329 ⇑P P 15 13 55.7 +0.5
baz=74,SNR=5.0
X16A Lo Mia Camp, P 73.52 326 ⇓P P 15 13 56.1 +0.4
baz=74,SNR=9.0
Y15A Casa Rosa Ranc 73.59 325 ⇑P P 15 13 56.5 +0.4
baz=74
SADO Sadowa 73.60 354 P P 15 13 53.6 -2.3
SDCO Great Sand Dun 73.61 332 *e*P P 15 13 56.1 -0.1
comp=Z,8.1nm,1.3s,mb4.5
W17A Winslow 73.70 327 ⇑P P 15 13 57.1 +0.4
baz=74
V18A Ganado 73.85 328 ⇑P P 15 13 57.4 -0.2
baz=74
Y14A Wickenburg 73.91 325 ⇑P P 15 13 58.0 0.0
baz=74
X15A Humboldt 73.96 326 ⇓P P 15 13 58.5 +0.2
baz=74,SNR=6.8
W16A Flagstaff 74.11 327 ⇓P P 15 13 59.9 +0.8
baz=74,SNR=8.5
Y13A Salome 74.23 324 ⇓P P 15 14 00.4 +0.5
baz=74
X14A Yava 74.28 325 ⇑P P 15 14 00.6 +0.5
baz=74
T19A Beclabito 74.35 329 ⇑P P 15 14 00.8 +0.3
baz=74,SNR=6.3
WUAZ Wupatki 74.37 327 ⇓P P 15 14 01.2 +0.6
baz=74
WUAZ Wupatki 74.37 327 *e*P P 15 14 00.7 0.0
comp=Z,17nm,1.3s,mb4.8
MVCO Mesa Verde 74.44 330 ⇓P P 15 14 01.1 +0.1
baz=75
MVCO Mesa Verde 74.44 330 *e*P P 15 14 00.8 -0.1
comp=Z,24nm,1.4s,mb4.9
W15A Williams 74.53 326 ⇑P P 15 14 02.2 +0.7
baz=75
Y12C Blythe 74.54 324 ⇑P P 15 14 02.0 +0.4
baz=75
SWSC Sam W. Stewart 74.59 322 ⇑P P 15 14 02.4 +0.5
baz=75
U16A Tuba City 74.76 327 ⇑P P 15 14 03.3 +0.5
baz=75
X13A Yucca 74.85 325 ⇓P P 15 14 03.5 +0.1
baz=75,SNR=6.7
MONP Monument Peak 74.89 322 ⇑P P 15 14 03.9 +0.2
baz=75
U17A Shonto 74.91 328 ⇓P P 15 14 04.4 +0.7
baz=75
BC3 Big Chuckw Mtn 74.96 323 ⇓P P 15 14 04.3 +0.2
baz=75,SNR=6.4
W14A Seligman 74.96 326 ⇑P P 15 14 04.2 +0.2
baz=75
T18A Mexican Hat 74.99 329 ⇑P P 15 14 04.3 +0.1
baz=75,SNR=6.2
V15A Kaibab Nationa 75.00 327 ⇑P P 15 14 04.9 +0.6
baz=75,SNR=6.4
S19A Harvey Farm, M 75.16 330 ⇑P P 15 14 05.4 +0.3
baz=75,SNR=9.3
IRM Iron Mountain 75.19 323 ⇑P P 15 14 05.4 0.0
baz=75
PV01 Paradox Valley 75.24 330 *e*P P 15 14 05.9 +0.3
W13A Hualapai Mount 75.27 325 ⇓P P 15 14 06.4 +0.5
baz=75,SNR=5.5
V14A Boquillas Ranc 75.31 326 ⇓P P 15 14 06.6 +0.5
baz=76,SNR=8.2
ISCO Idaho Springs 75.42 333 *e*P P 15 14 05.8 -0.8
ISCO pmax pmax
comp=Z,12nm,1.2s,mb4.7
ISCO Idaho Springs 75.42 333 *e*P P 15 14 05.8 -0.7
comp=Z,12nm,1.2s,mb4.7
SMCO Snowmass 75.44 332 *e*P P 15 14 03.6 -3.0
comp=Z,19nm,1.0s,mb5.0
PFO Pinyon Flat Ob 75.46 322 ⇓P P 15 14 07.6 +0.6
baz=76
S18A Hurst Farm, BI 75.50 329 ⇑P P 15 14 07.6 +0.6
baz=76,SNR=24
U15A North Rim 75.54 327 ⇓P P 15 14 08.0 +0.7
baz=75,SNR=8.9
T16A Glen Canyon Da 75.62 328 ⇓P P 15 14 08.1 +0.3
baz=76
PV10 Paradox Valley 75.64 330 *e*P P 15 14 07.2 -0.7
PV10 *e* pP 15 14 18.2 -3.3
R19A Curley Farm, L 75.67 330 ⇓P P 15 14 08.2 +0.2
baz=76
S17A Black Ridge (B 75.82 329 ⇑P P 15 14 09.3 +0.4
baz=76
MURC Murrieta 75.85 322 ⇑P P 15 14 09.3 +0.1
baz=76
ECSD EROS,Sioux Fal 75.88 341 *e*P P 15 14 08.2 -0.9
comp=Z,40nm,0.8s,mb5.4
V13A Grand Canyon W 75.91 325 ⇑P P 15 14 09.8 +0.3
baz=76,SNR=9.5
GMRC Granite Mounta 75.93 324 ⇓P P 15 14 10.0 +0.4
baz=76,SNR=5.2
U14A Mt Trumbull 75.97 326 ⇓P P 15 14 10.6 +0.8
baz=76
R18A Canyonlands Na 76.03 330 ⇓P P 15 14 10.3 +0.3
baz=76
T15A Red Dirt Ranch 76.06 327 ⇓P P 15 14 11.1 +0.8
baz=76
SCI San Clemente I 76.13 320 ⇑P P 15 14 10.7 -0.1
baz=76
Q19A Hogan Spring (76.22 330 ⇑P P 15 14 11.6 +0.4
baz=76
S16A Weppner Ranch, 76.26 328 ⇓P P 15 14 12.3 +0.9
baz=76
HEC Hector,Ludlow 76.32 323 ⇓P P 15 14 12.4 +0.5
baz=76
U13A Pakoon Wash 76.35 326 ⇓P P 15 14 12.8 +0.8
baz=76
R17A Hanksville Air 76.42 329 ⇑P P 15 14 12.5 +0.2
baz=77,SNR=6.4
T14A Hurricane 76.43 327 ⇓P P 15 14 12.6 +0.2
baz=77
TUQ Turquoise Moun 76.58 324 ⇑P P 15 14 13.5 +0.2
baz=77,SNR=5.9
BFSC Mount Baldy St 76.58 322 ⇑P P 15 14 13.4 +0.1
baz=77
U12A Valley of Fire 76.65 325 ⇓P P 15 14 14.2 +0.6
baz=77
P19A Cripple Cowboy 76.66 331 ⇑P P 15 14 14.3 +0.6
baz=77,SNR=9.3
Q18A Rafter H Ranch 76.72 330 ⇓P P 15 14 14.3 +0.3
baz=77,SNR=7.8
T13A Saint George 76.80 326 ⇓P P 15 14 15.3 +0.8
baz=77
SRU San Rafael 76.90 330 *e*P P 15 14 14.5 -0.5
SRU pmax pmax
comp=Z,7.0nm,1.0s,mb4.5
SRU San Rafael 76.90 330 ⇑P P 15 14 15.0 0.0
baz=77,SNR=8.2
SRU San Rafael 76.90 330 *e*P P 15 14 14.5 -0.6
comp=Z,6.5nm,1.0s,mb4.5
GSC Goldstone 76.94 323 ⇓P P 15 14 15.4 +0.1
baz=77
CCUT Cedar City 76.95 327 *e*P P 15 14 16.2 +0.9
Q16A Castle Valley 77.03 329 ⇓P P 15 14 16.1 +0.3
baz=77,SNR=6.2
MSU Marysvale 77.17 328 *e*P P 15 14 16.8 +0.3
ARUT Antelope Range 77.18 327 *e*P P 15 14 16.9 +0.3
P18A Preston Nutter 77.20 330 ⇑P P 15 14 17.2 +0.6
baz=77,SNR=9.7
S13A Holt Ranch, En 77.22 326 ⇑P P 15 14 17.5 +0.7
baz=77,SNR=7.3
EDW2 Edwds Air Fo 77.25 322 ⇓P P 15 14 17.3 +0.3
baz=77
BLG Laguna Peak 77.26 321 ⇓P P 15 14 17.2 +0.1
baz=77
O19A Miners Draw (B 77.28 331 ⇑P P 15 14 17.5 +0.4
baz=77
P17A Butcher Ranch, 77.29 330 ⇓P P 15 14 17.6 +0.4
baz=78
BSC Santa Cruz Isl 77.49 320 ⇑P P 15 14 18.8 +0.3
baz=78
LRMC Laurel Mountai 77.54 323 ⇑P P 15 14 19.3 +0.6
baz=78
U10A Ash Meadows, A 77.54 324 ⇑P P 15 14 19.2 +0.5
baz=78
T11A Corn Creek, Al 77.62 325 ⇑P P 15 14 19.7 +0.6
baz=78,SNR=9.2
O18A Roosevelt 77.63 331 ⇓P P 15 14 19.7 +0.7
baz=78
Q15A Fillmore 77.65 328 ⇓P P 15 14 20.1 +0.9
baz=78
RWWY Rawlins 77.66 333 *e*P P 15 14 19.3 +0.1
comp=Z,29nm,1.0s,mb5.2
S12A Delamar Landin 77.72 326 ⇑P P 15 14 20.5 +0.8
baz=78
R13A O'Grain Ranch, 77.75 327 ⇓P P 15 14 20.5 +0.7
baz=78,SNR=5.0
N19A John Jarvie Ra 77.79 331 ⇓P P 15 14 20.1 +0.1
baz=78,SNR=8.5
FURC Furnace Creek, 77.86 324 ⇓P P 15 14 20.8 +0.4
baz=78
MPMC Manual Prospec 77.87 323 ⇑P P 15 14 20.4 -0.1
baz=78
O17A Robinson Place 77.88 330 ⇓P P 15 14 21.1 +0.6
baz=78,SNR=12
TPNV Topopah Spring 77.91 325 *e*P P 15 14 21.2 +0.5
TPNV pmax pmax
comp=Z,7.0nm,1.0s,mb4.5
TPNV Topopah Spring 77.91 325 ⇓P P 15 14 21.2 +0.4
baz=78
TPNV Topopah Spring 77.91 325 *e*P P 15 14 21.1 +0.4
comp=Z,6.6nm,1.0s,mb4.5
MAW Mawson 77.92 164 P P 15 14 19.9 -0.5
comp=Z,13nm,0.7s,mb4.9,baz=213,slow=6.4,SNR=23
MAW Mawson 77.92 164 *e*P P 15 14 20.2 -0.2
MAW pmax pmax
comp=Z,28nm,1.3s
MAW Mawson 77.92 164 *e*P P 15 14 20.2 -0.2
comp=Z,28nm,1.3s,mb5.0
Q14A Sevier Lake (B 78.06 328 ⇑P P 15 14 22.0 +0.6
baz=78,SNR=8.5
N18A Larsen Ranch, 78.07 331 ⇑P P 15 14 21.8 +0.3
baz=78
ISA Isabella 78.09 322 ⇓P P 15 14 22.0 +0.3
baz=78,SNR=5.4
ISA Isabella 78.09 322 *e*P P 15 14 22.0 +0.3
R12A Pony Springs, 78.17 326 ⇑P P 15 14 22.8 +0.7
baz=78,SNR=7.0
O16A Springville 78.23 330 ⇓P P 15 14 22.7 +0.3
baz=78
PKM Peak Mountain 78.26 321 ⇑P P 15 14 23.4 +0.7
baz=78
DAU Daniels Canyon 78.29 330 *e*P P 15 14 23.0 +0.3
P14A Drum Mountains 78.44 328 ⇓P P 15 14 24.2 +0.6
baz=79,SNR=12
CWC Cottonwood Cre 78.47 323 ⇓P P 15 14 24.2 +0.4
baz=79
GRAC Grapevine Rang 78.53 324 ⇓P P 15 14 24.4 +0.3
baz=79
N17A Moffit Pass 78.54 330 ⇑P P 15 14 24.6 +0.5
baz=79,SNR=7.4
RSSD Black Hills 78.57 337 *e*P P 15 14 24.1 -0.1
RSSD pmax pmax
comp=Z,13nm,0.9s,mb4.9
RSSD Black Hills 78.57 337 *e*P P 15 14 24.1 -0.1
comp=Z,13nm,0.9s,mb4.9
R11A Troy Canyon, C 78.66 326 ⇓P P 15 14 25.4 +0.5
baz=79,SNR=9.1
O15A The Old Anders 78.72 329 ⇑P P 15 14 25.8 +0.6
baz=79
N16A Rees Ranch, Co 78.76 330 ⇑P P 15 14 25.7 +0.4
baz=79
P13A Bates Ranch, G 78.78 328 ⇑P P 15 14 25.9 +0.5
baz=79,SNR=7.0
DUG Dugway 78.81 329 *e*P P 15 14 25.2 -0.4
DUG pmax pmax
comp=Z,19nm,1.4s,mb4.8
DUG Dugway 78.81 329 ⇓P P 15 14 25.9 +0.3
baz=79
DUG Dugway 78.81 329 *e*P P 15 14 25.2 -0.4
comp=Z,19nm,1.4s,mb4.8
Q12A Willow Creek R 78.84 327 ⇑P P 15 14 26.2 +0.5
baz=79
S10A Tonopah Range, 78.84 325 ⇑P P 15 14 25.9 +0.1
baz=79,SNR=6.3
R10A Warm Springs 78.97 325 ⇑P P 15 14 27.1 +0.6
baz=79,SNR=8.6
S09A Goldfield 79.00 324 ⇑P P 15 14 27.1 +0.4
baz=79
Q11A Duckwater 79.08 326 ⇓P P 15 14 27.3 +0.2
baz=79
M16A Huntsville 79.19 330 ⇓P P 15 14 27.5 -0.2
baz=79,SNR=8.0
N15A Stansbury Isla 79.24 329 ⇑P P 15 14 27.8 -0.2
baz=79,SNR=7.3
O13A Hicks Ranch, I 79.30 328 ⇑P P 15 14 28.5 +0.2
baz=80
R09A Tonopah 79.32 325 ⇑P P 15 14 28.2 -0.2
baz=80
HWUT Hardware Ranch 79.40 330 *e*P P 15 14 28.3 -0.5
comp=Z,24nm,0.9s,mb5.1
Q10A Clear Creek Ra 79.43 326 ⇓P P 15 14 29.4 +0.4
baz=80,SNR=5.5
N14A Grayback Hills 79.51 329 ⇓P P 15 14 29.4 0.0
baz=80
BW06 Boulder Array 79.51 332 ⇓P P 15 14 29.2 -0.2
baz=80,SNR=9.2
PDAR Pinedale Array 79.51 332 P P 15 14 28.4 -1.0
comp=Z,3.6nm,0.7s,mb4.4,baz=129,slow=7.7,SNR=24
SPUT South Promonto 79.55 330 *e*P P 15 14 28.9 -0.7
M15A Larsen Ranch, 79.67 330 ⇑P P 15 14 30.0 -0.2
baz=80,SNR=21
L16A Fish Haven 79.67 331 ⇓P P 15 14 30.0 -0.2
baz=80,SNR=13
O12A Currie 79.76 328 ⇑P P 15 14 30.7 -0.1
baz=80,SNR=6.8
KCC Kaiser Creek 79.79 323 ⇑P P 15 14 30.8 -0.2
baz=80
U04C Hernandez Rese 79.87 321 ⇑P P 15 14 31.7 +0.2
baz=80
V03C Hunter Liggett 79.87 321 ⇑P P 15 14 31.3 -0.2
baz=80
TSUM Tsumeb 79.95 106 *e*P P 15 14 33.3 +0.9
comp=Z,7.2nm,0.8s,mb4.7
TSUM *e* pP 15 14 42.8 -3.4
HVU Hansel Valley 80.07 330 *e*P P 15 14 31.6 -0.8
HVU pmax pmax
comp=Z,13nm,1.0s,mb4.8
HVU Hansel Valley 80.07 330 *e*P P 15 14 31.6 -0.8
comp=Z,13nm,1.0s,mb4.8
L15A Malad City 80.08 330 ⇓P P 15 14 32.0 -0.5
baz=80,SNR=10
P10A Eureka 80.08 326 ⇓P P 15 14 33.0 +0.5
baz=80
O11A Cowboy Ranch, 80.09 327 ⇓P P 15 14 32.7 +0.2
baz=80,SNR=8.0
NVAR Mina Array Bea 80.09 324 P P 15 14 33.0 +0.4
comp=Z,2.2nm,0.7s,mb4.2,baz=154,slow=6.4,SNR=17
M14A Sheep Mountain 80.10 329 ⇓P P 15 14 32.3 -0.3
baz=80,SNR=16
N12A Clover Valley, 80.36 328 ⇑P P 15 14 34.1 +0.1
baz=80
K16A Soda Springs 80.41 331 ⇑P P 15 14 34.5 +0.3
baz=81
L14A Malta 80.48 330 ⇓P P 15 14 34.2 -0.4
baz=81,SNR=13
REDW Red Top Meadow 80.53 332 *e*P P 15 14 34.7 -0.2
comp=Z,8.8nm,1.0s,mb4.6
LOHW Long Hollow 80.64 332 *e*P P 15 14 34.9 -0.5
comp=Z,10nm,1.2s,mb4.6
TPAW Teton Pass 80.68 332 *e*P P 15 14 35.6 -0.1
comp=Z,6.6nm,1.0s,mb4.5
K15A Arbon 80.69 330 ⇓P P 15 14 35.4 -0.4
baz=81,SNR=5.8
RRI2 Red Ridge 80.72 332 *e*P P 15 14 35.3 -0.5
comp=Z,3.8nm,0.7s,mb4.4
M12A Wells 80.75 328 ⇑P P 15 14 35.7 -0.4
baz=81,SNR=6.0
J16A Bone 80.78 331 ⇓P P 15 14 35.9 -0.3
baz=81
MOOW Moose Ponds 80.81 332 *e*P P 15 14 34.7 -1.6
comp=Z,2.8nm,0.8s,mb4.2
L13A Double Diamond 80.84 329 ⇑P P 15 14 36.6 +0.1
baz=81,SNR=11
I17A Pilgram Creek 80.88 332 ⇑P P 15 14 37.1 +0.4
baz=81,SNR=9.0
IMW Indian Meadow 81.01 332 *e*P P 15 14 37.0 -0.4
comp=Z,10nm,1.3s,mb4.6
M11A Holland Ranch, 81.17 328 ⇑P P 15 14 38.4 +0.1
baz=81,SNR=5.9
I16A Newdale 81.22 332 ⇓P P 15 14 38.7 +0.2
baz=81
J15A Blackfoot 81.23 331 ⇓P P 15 14 38.5 0.0
baz=81,SNR=5.7
RLMT Red Lodge 81.36 334 ⇑P P 15 14 39.1 -0.1
baz=82,SNR=8.8
RLMT Red Lodge 81.36 334 *e*P P 15 14 38.7 -0.5
comp=Z,4.5nm,0.6s,mb4.6
L12A House Creek Ra 81.37 329 ⇓P P 15 14 39.3 -0.1
baz=82
LAO LASA Array 81.57 336 *e*P P 15 14 39.3 -1.0
comp=Z,32nm,1.2s,mb5.1
LAO *e* pP 15 14 49.4 -4.7
LAVA Lava Cap Winer 81.60 323 ⇑P P 15 14 40.7 0.0
baz=82
J14A Carey 81.64 330 ⇓P P 15 14 40.5 -0.2
baz=82
O07A Toulon 81.69 325 ⇓P P 15 14 41.2 +0.1
baz=82
K12A Draper Farm, C 81.70 329 ⇑P P 15 14 41.2 +0.1
baz=82
ULM Lac du Bonnet 81.72 344 P P 15 14 40.1 -0.9
comp=Z,17nm,0.8s,mb5.0,baz=161,slow=4.1,SNR=9.2
ULM Lac du Bonnet 81.72 344 *e*P P 15 14 39.3 -1.7
comp=Z,47nm,1.4s,mb5.2
ULM *e* pP 15 14 49.7 -5.0
L11A Cat Creek Ranc 81.72 328 ⇑P P 15 14 41.2 0.0
baz=82,SNR=10
I15A Monteview 81.74 331 ⇓P P 15 14 41.9 +0.7
baz=82
TOA0 Torodi Ar. Sit 81.78 70 *e*P P 15 14 41.8 -0.4
TOA0 *e* pP 15 14 52.3 -3.6
TORD Torodi Ar. Bea 81.78 70 P P 15 14 42.0 -0.2
comp=Z,359nm,0.6s,baz=256,slow=5.1,SNR=2.9
N08A GE Springer Mi 81.79 326 ⇑P P 15 14 41.8 +0.2
baz=82

H16A	**Russell Place,** baz=82	**81.80**	332	⇓P		**P**	15 14 41.8	+0.2
M09A	**Marrel Ranch,** baz=82	**81.95**	327	⇓P		**P**	15 14 42.4	0.0
QLMT	**Earthquake Lak**	**81.98**	332	*e*P		**P**	15 14 42.9	+0.4
J13A	**Cove Ranch, Pi** baz=82	**81.98**	330	⇓P		**P**	15 14 42.8	+0.3
L10A	**Juniper Basin** baz=82,SNR=13	**81.99**	328	⇓P		**P**	15 14 42.6	-0.1
I14A	**Mackay** baz=82	**82.09**	331	⇓P		**P**	15 14 43.4	+0.3
F18A	**Big Timber** baz=82,SNR=16	**82.19**	334	⇑P		**P**	15 14 43.3	-0.3
N07B	**Gerlach** baz=82,SNR=5.2	**82.20**	325	⇓P		**P**	15 14 43.7	-0.1
HLID	**Hailey** baz=82,SNR=12	**82.22**	330	⇑P		**P**	15 14 44.2	+0.4
HLID	**Hailey** comp=Z,7.9nm,0.9s,mb4.6	**82.22**	330	*e*P		**P**	15 14 43.6	-0.1
BEKR	**Beckwourth** baz=82	**82.22**	324	⇓P		**P**	15 14 43.8	-0.1
J12A	**Stokes Ranch,** baz=82,SNR=13	**82.28**	329	⇓P		**P**	15 14 43.9	-0.2
H15A	**Lima** baz=82	**82.31**	332	⇑P		**P**	15 14 44.9	+0.7
K11A	**Parker Ranch,** baz=82,SNR=5.2	**82.33**	328	⇓P		**P**	15 14 44.2	-0.1
I13A	**Wildhorse Cree** baz=82,SNR=17	**82.37**	330	⇓P		**P**	15 14 44.8	+0.3
M08A	**Happy Creek Ra** baz=83	**82.42**	326	⇑P		**P**	15 14 44.5	-0.4
DGMT	**Dagmar** baz=83	**82.44**	339	⇓P		**P**	15 14 44.9	+0.2
DGMT	**Dagmar** comp=Z,16nm,0.7s,mb5.1	**82.44**	339	*e*P		**P**	15 14 43.9	-0.9
DGMT				*e*		pP	15 14 54.7	-3.9
G16A	**Moss Hill, Enn** baz=83	**82.46**	332	⇓P		**P**	15 14 44.8	-0.2
L09A	**Wilkinson Ranc** baz=83	**82.51**	327	⇑P		**P**	15 14 44.9	-0.4
MCMT	**McKenzie Canyo**	**82.56**	332	*e*P		**P**	15 14 45.4	-0.2
O05C	**Quincy** baz=83	**82.58**	324	⇑P		**P**	15 14 45.8	0.0
ORV	**Oroville** baz=83	**82.59**	323	⇓P		**P**	15 14 45.5	-0.4
H14A	**Leadore** baz=83	**82.61**	331	⇑P		**P**	15 14 46.2	+0.4
N06A	**Buffalo Meadow** baz=83,SNR=9.4	**82.61**	325	⇓P		**P**	15 14 45.9	0.0
G15A	**Dillon** baz=83	**82.69**	332	⇓P		**P**	15 14 46.5	+0.3
I12A	**Atlanta** baz=83,SNR=7.8	**82.72**	330	⇓P		**P**	15 14 46.4	0.0
BOZ	**Bozeman (W)** baz=83	**82.73**	333	⇓P		**P**	15 14 46.1	-0.2
MFID	**Camas Ranch** baz=83	**82.73**	329	⇓P		**P**	15 14 46.1	-0.4
DLMT	**Dillon** comp=Z,6.3nm,1.2s,mb4.5	**82.89**	332	*e*P		**P**	15 14 46.5	-0.8
H13A	**Challis** baz=83,SNR=10	**82.95**	331	⇑P		**P**	15 14 47.5	-0.1
L08A	**Fields** baz=83,SNR=6.2	**82.97**	327	⇓P		**P**	15 14 47.4	-0.3
K09A	**Rome** baz=83,SNR=5.3	**83.06**	327	⇑P		**P**	15 14 47.8	-0.4
E17A	**Martinsdale** baz=83	**83.09**	334	⇓P		**P**	15 14 48.1	-0.2
H12A	**Diamond D Ranc** baz=83	**83.20**	330	⇑P		**P**	15 14 48.6	-0.2
F15A	**Butte** baz=83	**83.24**	332	⇑P		**P**	15 14 49.1	+0.1
GASB	**Alder Springs** baz=84	**83.31**	323	⇑P		**P**	15 14 50.6	+1.1
L07A	**Adell** baz=84,SNR=5.7	**83.32**	326	⇑P		**P**	15 14 49.6	0.0
G13A	**Cobalt** baz=84,SNR=12	**83.36**	331	⇓P		**P**	15 14 49.7	0.0
J09A	**Fry Pan Ranch,** baz=84	**83.57**	328	⇓P		**P**	15 14 51.5	+0.7
F14A	**Wisdom** baz=84	**83.57**	332	⇓P		**P**	15 14 50.9	+0.2
D17A	**Six Diamond Ra** baz=84,SNR=11	**83.60**	334	⇓P		**P**	15 14 50.5	-0.3
I10A	**Payette** baz=84	**83.70**	329	⇑P		**P**	15 14 51.4	0.0
MOD	**Modoc** baz=84	**83.71**	325	⇓P		**P**	15 14 51.8	+0.3
K07A	**Rock Creek Ran** baz=84,SNR=7.9	**83.78**	327	⇓P		**P**	15 14 51.8	-0.1
H11A	**Donnelly** baz=84	**83.83**	330	⇑P		**P**	15 14 51.7	-0.4
D16A	**Dana Ranch, Ca** baz=84,SNR=5.8	**83.83**	334	⇓P		**P**	15 14 51.9	-0.1
WDC	**Whiskeytown Da** baz=84	**83.88**	323	⇓P		**P**	15 14 51.6	-0.9
J08A	**Circle Bar Ran** baz=84,SNR=10	**83.92**	327	⇓P		**P**	15 14 52.4	-0.2
F13A	**Darby** baz=84,SNR=8.8	**83.96**	331	⇓P		**P**	15 14 52.5	-0.2
EGMT	**Eagleton** baz=84	**83.97**	335	⇓P		**P**	15 14 52.1	-0.7
C17A	**Wharram Farm,** baz=84,SNR=9.8	**84.02**	334	⇑P		**P**	15 14 52.1	-0.9
I09A	**Lost Marbles R** baz=84	**84.04**	328	⇓P		**P**	15 14 52.9	-0.3
H10A	**Noah's Angus R** baz=84	**84.07**	329	⇓P		**P**	15 14 53.2	-0.1
E14A	**Clinton** baz=84	**84.11**	332	⇑P		**P**	15 14 53.5	0.0
D15A	**Lincoln** baz=84	**84.22**	333	⇓P		**P**	15 14 53.7	-0.3
F12A	**Elk City** baz=84,SNR=5.0	**84.32**	331	⇑P		**P**	15 14 54.2	-0.3
J07A	**Hines** baz=84	**84.33**	327	⇑P		**P**	15 14 55.0	+0.3
K06A	**Valley Falls** baz=84	**84.35**	326	⇓P		**P**	15 14 55.0	+0.2
I08A	**Drewsey** baz=84	**84.38**	328	⇓P		**P**	15 14 54.9	0.0
E13A	**Victor** baz=85	**84.42**	332	⇑P		**P**	15 14 55.1	0.0
N02C	**Big Bar** baz=85	**84.46**	323	⇓P		**P**	15 14 55.5	+0.1
G11A	**Walters Elk Ra** baz=85,SNR=9.4	**84.48**	330	⇓P		**P**	15 14 55.1	-0.3
BMO	**Blue Mountains** comp=Z,2.9nm,1.1s,mb4.3	**84.52**	329	*e*P		**P**	15 14 54.4	-1.2
C16A	**Fuhringer Ranc** baz=85	**84.54**	334	⇑P		**P**	15 14 55.3	-0.3
H09A	**Durkee** baz=85	**84.54**	329	⇑P		**P**	15 14 55.6	-0.1
K05A	**Summer Lake** baz=85,SNR=5.0	**84.61**	326	⇑P		**P**	15 14 56.3	+0.2
J06A	**Christmas Vall** baz=85	**84.64**	326	⇓P		**P**	15 14 55.9	-0.3
D14A	**Greenough** baz=85	**84.65**	332	⇓P		**P**	15 14 56.5	+0.3
G10A	**Bishop Farm, J** baz=85	**84.78**	329	⇓P		**P**	15 14 57.1	+0.2
YBH	**Yreka Blue Hor** baz=85	**84.80**	324	⇓P		**P**	15 14 56.5	-0.6
F11A	**Grangeville** baz=85	**84.82**	330	⇑P		**P**	15 14 56.7	-0.4
C15A	**Salmond Ranch,** baz=85,SNR=5.8	**84.85**	333	⇓P		**P**	15 14 56.9	-0.3
H08A	**Prairie City** baz=85	**84.89**	328	⇑P		**P**	15 14 57.2	-0.3
I07A	**Izee** baz=85	**84.95**	327	⇓P		**P**	15 14 58.1	+0.3
E12A	**Beaver Dam Sad** baz=85	**84.98**	331	⇓P		**P**	15 14 57.6	-0.2
D13A	**Huson** baz=85	**85.05**	332	⇓P		**P**	15 14 58.1	-0.1
G09A	**Cove** baz=85,SNR=7.8	**85.06**	329	⇑P		**P**	15 14 57.9	-0.4
CASY	**Casey** comp=Z,41nm,1.5s,mb5.3	**85.19**	181	*e*P		**P**	15 14 58.8	-0.1
CASY				*e*		pP	15 15 09.8	-2.9
I06A	**Prineville** baz=85	**85.19**	327	⇓P		**P**	15 14 58.7	-0.3
J05A	**Fort Rock** baz=85	**85.19**	326	⇓P		**P**	15 14 58.9	-0.1
E11A	**Bogner Ranch,** baz=85	**85.21**	331	⇓P		**P**	15 14 58.6	-0.4
B15A	**Bradely Ranch,** baz=85,SNR=6.8	**85.27**	334	⇓P		**P**	15 14 58.2	-1.1
C14A	**Swan Lake** baz=86	**85.30**	333	⇑P		**P**	15 14 59.2	-0.2
D12A	**Red Ives Fores** baz=86	**85.39**	331	⇓P		**P**	15 14 59.7	-0.2
A16A	**West Butte Ran** baz=86,SNR=17	**85.42**	335	⇓P		**P**	15 14 59.3	-0.7
C13A	**Hot Springs** baz=86,SNR=5.0	**85.56**	332	⇑P		**P**	15 15 00.2	-0.5
B14A	**Marquette Ranc** baz=86	**85.59**	333	⇑P		**P**	15 15 00.7	-0.2
J04A	**Umpqua Nationa** baz=86	**85.60**	325	⇑P		**P**	15 15 01.1	0.0
E10A	**Myers Farm, Un** baz=86	**85.70**	330	⇑P		**P**	15 15 01.1	-0.4
H06A	**Lindquist Farm** baz=86	**85.83**	327	⇑P		**P**	15 15 02.2	+0.1
A15A	**Johnson Ranch,** baz=86	**85.88**	334	⇓P		**P**	15 15 01.4	-0.9
G07A	**Ruggs Ranch, H** baz=86	**85.92**	328	⇓P		**P**	15 15 02.3	-0.3
B13A	**Whitefish** baz=86	**86.08**	333	⇑P		**P**	15 15 02.7	-0.6
A14A	**Double T Ranch** baz=86	**86.14**	334	⇑P		**P**	15 15 02.9	-0.7
D10A	**Wagner Farm, O** baz=86	**86.21**	330	⇓P		**P**	15 15 03.0	-1.0
G06A	**Carlson Farm,** baz=86	**86.35**	327	⇑P		**P**	15 15 04.9	+0.2
C11A	**Tepee Creek (N** baz=86,SNR=6.9	**86.39**	331	⇓P		**P**	15 15 03.8	-1.0
WALA	**Waterton Lakes** comp=Z,13nm,1.1s,mb5.1	**86.40**	333	*e*P		**P**	15 15 03.9	-1.0
J02A	**Umpqua** baz=87	**86.42**	325	⇑P		**P**	15 15 05.0	-0.1
H04A	**Detroit Lake** baz=87	**86.69**	326	⇓P		**P**	15 15 05.9	-0.5
I03A	**Eugene** baz=87	**86.71**	325	⇑P		**P**	15 15 06.5	0.0
OD2	**Odessa Site #2**	**87.10**	330	*e*P		**P**	15 15 07.2	-1.1
OD2				*e*		pP	15 15 17.2	-5.0
H03A	**Soap Creek Ran** baz=87	**87.22**	326	⇑P		**P**	15 15 09.1	+0.1
A11A	**Hall Mountain,** baz=88,SNR=5.5	**87.31**	332	⇑P		**P**	15 15 08.4	-0.9
B09A	**Rice** baz=88	**87.64**	331	⇑P		**P**	15 15 10.4	-0.5
F04A	**Amboy** baz=88	**87.71**	327	⇑P		**P**	15 15 11.2	-0.1
A10A	**Northport** baz=88	**87.82**	332	⇑P		**P**	15 15 11.2	-0.5
C07A	**Waterville** baz=88	**87.92**	329	⇓P		**P**	15 15 11.4	-0.8
ETW	**Entiat**	**87.98**	329	*e*P		**P**	15 15 11.7	-0.8
ETW				*e*		pP	15 15 21.7	-4.8
A09A	**Danville** baz=88	**88.25**	331	⇑P		**P**	15 15 12.9	-0.9
B07A	**Winthrop** baz=89	**88.53**	330	⇑P		**P**	15 15 14.0	-1.0
A08A	**Turner Farm, O** baz=89	**88.53**	331	⇑P		**P**	15 15 14.4	-0.7
A07A	**Ashnola River,** baz=89	**89.08**	330	⇓P		**P**	15 15 17.5	-0.2
EDM	**Edmonton**	**89.55**	336	*e*P		**P**	15 15 18.3	-1.5
LSZ	**Lusaka**	**90.72**	108	P		**P**	15 15 26.9	+0.7
AKASG	**Malin Array Be** comp=Z,0.7nm,0.4s,baz=272,slow=2.0,SNR=4.1	**118.11**	45	PKP	PKPdf		15 21 07.5	-1.7
ASAR	**Alice Springs** comp=Z,3.1nm,0.8s,baz=132,slow=1.7,SNR=50	**122.48**	207	PKP	PKPdf		15 21 17.4	-1.2
OBN	**Obninsk**	**123.13**	41	⇑*i* PKIKP	PKPdf		15 21 14.0	-4.7
OBN				*e*			15 28 10.5	
OBN	comp=Z,12nm,0.5s			pmax	pmax			
OBN	comp=Z,200nm,18.0s,MS4.8			MLR	MLR			
WRAB	**Tennant Creek**	**125.61**	210	*i* PKIKP	PKPdf		15 21 23.3	-1.4
BILL	**Bilibino**	**128.46**	336	⇑*i* PKIKP	PKPdf		15 21 28.3	-0.3
BILL				*e*			15 23 32.3	
BILL	comp=Z,16nm,2.1s			pmax	pmax			
ARU	**Arti**	**135.29**	37	*i* PKIKP	PKPdf		15 21 41.2	-0.6
ARU							15 24 15.4	
ARU				SS	SS		15 42 09.1	-1.3
TIXI	**Tiksi**	**135.73**	351	*e*PKIKP	PKPdf		15 21 40.6	-1.6
SEY	**Seymchan**	**135.84**	333	⇑*i* PKIKP	PKPdf		15 21 42.4	-0.2
BATI	**Baumata** comp=Z,44nm,0.8s	**138.62**	202	P	SKPbc		15 25 21.8	+1.6
YAK	**Yakutsk**	**144.06**	343	*e*PKIKP	PKPdf		15 21 53.9	-3.6
YAK	comp=Z,20nm,0.8s			pmax	pmax			
YAK	comp=N,3.0nm,0.9s			pmax	pmax			
DBJI	**Dramaga**	**144.76**	176	P	PKPdf		15 21 59.5	-0.9
CBJI	**Citeko**	**144.90**	177	P	PKPdf		15 21 59.4	-1.2
YSS	**Yuzh-Sakhalins**	**148.00**	314	⇑*i* PKP2	PKPdf		15 22 06.4	+1.7
NVS	**Novosibirsk**	**148.12**	28	⇑*i* PKIKP	PKPdf		15 22 04.9	+0.2
NVS	comp=Z,38nm,1.4s			pmax	pmax			
NVS	comp=N,5.0nm,0.9s			pmax	pmax			
NVS	comp=E,15nm,1.6s			pmax	pmax			
KURK	**Kurchatov**	**148.48**	38	*i* PKIKP	PKPdf		15 22 04.8	-0.6
TPI	**Tanjungpandan**	**148.57**	178	⇑*e*P	PKPbc		15 22 10.0	-0.4
TPI	**Tanjungpandan** comp=E,59nm,1.1s,comp=E,0.1nm	**148.57**	178	P	PKPbc		15 22 10.3	-0.1
PPBI	**Pangkal Pinang**	**149.08**	175	P	PKPbc		15 22 11.3	-0.4
FRU	**Bishkek**	**149.19**	54	*e*PKP2	PKPbc		15 22 11.0	-0.1
FRU	comp=Z,75nm,1.0s			pmax	pmax			
PDSI	**Padang** comp=Z,54nm,1.2s,comp=Z,0.2nm	**149.37**	163	P	PKPbc		15 22 12.0	-0.4
ZAA0	**Zalesovo Array**	**149.41**	28	*e*PKPdf	PKPdf		15 22 06.3	-0.4
ZAA0				*e*PKPbc	PKPbc		15 22 11.0	-0.2
ZALV	**Zalesovo Beam** comp=Z,37nm,0.8s,baz=295,slow=2.1,SNR=76	**149.41**	28	PKP	PKPdf		15 22 07.0	+0.2
ZALV	comp=Z,37nm,0.8s,baz=302,slow=3.2,SNR=85			PKPbc	PKPbc		15 22 11.4	+0.2
PPI	**Padang Panjang** comp=Z,27nm,0.9s,comp=Z,1μmcomp=Z,0.1nm	**149.79**	163	P	PKPbc		15 22 13.1	-0.4
HYB	**Hyderabad**	**150.04**	106	*i* P	PKPab		15 22 15.0	-4.8
HYB	**Hyderabad**	**150.04**	106	*e*P	PKPab		15 22 15.0	-4.8
BOD	**Bodaibo**	**150.80**	354	*e*PKIKP	PKPdf		15 22 12.8	+4.0
BOD	comp=Z,10.0nm,0.9s			pmax	pmax			
HABR	**Khabarovsk**	**151.86**	321	*i* PKIKP	PKPab		15 22 16.9	-10
HABR				*e*			15 29 13.8	
MK31	**Makanchi Array**	**152.63**	42	*e*PKIKP	PKPdf		15 22 11.3	-0.7
MK31				*e*			15 22 18.8	
MKAR	**Makanchi Array** comp=Z,1.3nm,0.8s,baz=56,slow=0.4,SNR=6.8	**152.63**	42	PKP	PKPdf		15 22 12.1	+0.1
MKAR	comp=Z,9.0nm,0.8s,baz=308,slow=2.4,SNR=34			PKPbc	PKPbc		15 22 18.8	-0.2
MKAR	comp=Z,4.9nm,0.8s,baz=318,slow=1.7,SNR=11			PKPab	PKPab		15 22 28.4	-1.4
KLR	**Kul'dur**	**153.12**	326	*e*PKIKP	PKPdf		15 22 08.2	-4.4
MJAR	**Matsushiro Arr** comp=Z,1.2nm,0.9s,baz=90,slow=1.6,SNR=3.8	**154.16**	295	PKP	PKPdf		15 22 14.1	-0.4
MJAR	comp=Z,0.8nm,0.5s,baz=319,slow=10,SNR=4.5			PKPbc	PKPbc		15 22 22.1	-0.6
MJAR	comp=Z,2.4nm,0.7s,baz=117,slow=3.0,SNR=5.5			PKPab	PKPab		15 22 36.1	-0.4
MJAR	**Matsushiro Arr**	**154.16**	295	PKIKP	PKPdf		15 22 14.1	-0.4
MJAR							15 22 22.1	
MDJ	**Mudanjiang**	**157.17**	319	PKP	PKPdf		15 22 18.0	-0.3
WMQ	**Urumqi**	**157.44**	43	PKP	PKPdf		15 22 19.0	+0.4
WMQ				APKP			15 22 30.0	
WMQ				XPKP			15 22 33.5	
WMQ				PKP2	PKPab		15 22 52.5	+2.1
WMQ				PP	PP		15 26 32.3	+2.8
ZAK	**Zakamensk** comp=Z,4.0nm,1.4s	**158.07**	9	*e*PKIKP	PKPdf		15 22 14.7	-4.5
ZAK				pmax	pmax			
SONM	**Songino Array** comp=Z,1.4nm,0.7s,baz=332,slow=2.2,SNR=3.6	**160.94**	5	PKP	PKPdf		15 22 22.9	+0.3
SONM	comp=Z,0.9nm,0.3s,baz=338,slow=3.5,SNR=3.6			PKPab	PKPab		15 23 06.0	+0.6
KSRS	**Korea Array** comp=Z,2.0nm,1.0s,baz=40,slow=2.1,SNR=7.7	**161.85**	303	PKP	PKPdf		15 22 23.6	-0.3
CMAR	**Chiang Mai Arr** comp=Z,1.0nm,0.9s,baz=246,slow=2.6,SNR=8.3	**166.29**	137	PKP	PKPdf		15 22 28.6	+0.1
CMAR	comp=Z,0.7nm,0.7s,baz=228,slow=5.6,SNR=5.0			PKPab	PKPab		15 23 29.1	-0.5
GTA	**Gaotai**	**167.09**	33	*e*PKP	PKPdf		15 22 29.5	+1.0
GTA				APKP			15 22 40.3	
GTA				XPKP			15 22 44.3	
HHC	**Hu-ho-hao-te**	**167.80**	350	*e*PKP	PKPdf		15 22 29.5	+0.6
HHC				APKP			15 22 40.3	
HHC				XPKP			15 22 45.5	
HHC				PKS			15 26 01.8	
HHC				PP	PP		15 27 26.8	+3.2
HHC				SKS	SKSdf		15 29 29.5	+0.7
HHC				SKKS	SKKSac		15 34 10.0	+2.5
HHC				PP	PP			
HHC	comp=Z,73nm,8.8s			LR	LR			
HHC	comp=N,180nm,20.2s			LR	LR			
HHC	comp=E,117nm,23.7s			LR	LR			
HHC	comp=Z,164nm,21.1s			LR	LR			
LZH	**Lanzhou**	**171.64**	29	*e*PKP	PKPdf		15 22 32.5	+1.2
LZH				APKP			15 22 42.5	
LZH				XPKP			15 22 45.5	
CD2	**Chengdu**	**175.15**	63	*e*PKP	PKPdf		15 22 32.8	0.0
CD2				APKP			15 22 41.8	
CD2				XPKP			15 22 48.3	
CD2				PKP2	PKPab		15 24 10.0	+1.1
CD2				PP	PP		15 28 03.8	+2.1
CD2				SKS	SKSdf		15 29 30.5	-1.6
CD2				SKKS	SKKSac		15 34 44.5	+0.4
CD2				PP	PP			
CD2	comp=Z,90nm,10.2s			LR	LR			
CD2	comp=N,180nm,18.8s			LR	LR			
CD2	comp=Z,140nm,16.8s			LR	LR			
GYA	**Guiyang**	**176.97**	141	*e*PKP	PKPdf		15 22 32.0	-1.4
GYA				APKP			15 22 46.3	
GYA				XPKP			15 22 51.5	
GYA				PKP2	PKPab		15 24 18.5	+1.6
GYA				PKS			15 26 03.5	
GYA				PP	PP		15 28 13.0	+3.6
GYA				PP	PP			
GYA	comp=Z,90nm,8.7s							

*ISCJB **25** 15:16:49.4±1.8,2366S±009×1798W±0.1,h494km±24km, mb4.0/14,Error ellipse: s-maj=16.4km s-min=11.9km az=32.0*

*NEIC **25** 15:16:50.1±1.1,2363S×17974W,h491km±15km,mb4.4/10, Error ellipse: s-maj=14.6km s-min=9.4km az=147.0*

*IDC **25** 15:16:52.3±5.9,2379S×17974W,h514km±69km,mb3.4/7, mb1 3.6/8,mb1mx3.4/16,mbtmp3.4/8,Error ellipse: s-maj=28.2km s-min=22.8km az=51.0*

ISC 25 15:16:49.9±1.5,237S±01×1797W±01,h485km±20km,n24, σ0§90/26,mb4.0/14,1D,South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**12.30**	**39**	*e*P		**P**		**15 19 31.0**	**-0.7**
AFI				*e*S		**S**		**15 21 37.3**	**-8.0**
URZ	**Urewera** 1.6nm,0.3s,baz=27,slow=2.3,SNR=8.1	**14.78**	**190**	P		**P**		**15 19 58.5**	**+0.8**
URZ				S		**S**		**15 22 29.8**	**-3.0**
FUNA	**Funafuti** 0.7nm,0.3s,baz=64,slow=20,SNR=9.4	**15.11**	**356**	P		**P**		**15 20 06.3**	**+4.8**
EIDS	**Eidsvold** 51nm,0.8s	**26.57**	**260**	*e*P		**P**		**15 21 48.7**	**+0.5**
CNB	**Canberra Magne** 17nm,0.5s,mb4.7	**29.16**	**240**	*e*P		**P**		**15 22 12.1**	**+1.3**
CTA	**Charters Tower** 13nm,0.4s,mb4.7	**31.71**	**270**	*e*P		**P**		**15 22 33.9**	**+0.9**
CTA	**Charters Tower** 15nm,0.3s,mb4.8,baz=96,slow=11,SNR=47	**31.71**	**270**	P		**P**		**15 22 34.0**	**+1.0**
CTAO	**Charters Tower**	**31.71**	**270**	*e*P		**P**		**15 22 33.8**	**+0.8**
TOO	**Toolangi**	**32.76**	**237**	*e*P		**P**		**15 22 42.3**	**+0.6**
PMG	**Port Moresby** 14nm,0.9s,mb4.4	**34.65**	**289**	P		**P**		**15 22 58.1**	**+0.1**
STKA	**Stephens Creek** 2.4nm,0.6s,mb3.8	**35.02**	**248**	⇓*i* P		**P**		**15 23 01.2**	**+0.3**
STKA	**Stephens Creek** 2.8nm,0.5s,mb3.9,baz=78,slow=7.9,SNR=10.0	**35.02**	**248**	P		**P**		**15 23 01.3**	**+0.4**
ASAR	**Alice Springs** 3.2nm,0.5s,mb4.0,baz=96,slow=7.1,SNR=55	**42.30**	**260**	P		**P**		**15 24 00.1**	**-0.2**
KAKA	**Kakadu** 7.5nm,0.8s,mb4.2	**46.52**	**275**	*e*P		**P**		**15 24 26.9**	**-6.2**
FORT	**Forrest** 28nm,0.6s,mb4.9	**46.61**	**249**	*e*P		**P**		**15 24 32.3**	**-1.2**
SBA	**Scott Base** 2.1nm,0.8s,mb3.5	**54.61**	**183**	*e*P		**P**		**15 25 32.4**	**+1.1**
KLBR	**Kellerberrin** 6.4nm,0.7s,mb4.1	**55.29**	**247**	*e*P		**P**		**15 25 35.8**	**-1.1**
MBWA	**Marble Bar** 8.0nm,0.8s,mb4.1	**55.64**	**260**	*e*P		**P**		**15 25 38.1**	**-1.3**
MUN	**Mundaring**	**56.53**	**246**	*e*P		**P**		**15 25 44.7**	**-0.8**
QSPA	**South Pole Qui** 1.5nm,0.6s,mb3.8,baz=5.6,slow=1.1,SNR=18	**66.40**	**180**	P		**P**		**15 26 49.3**	**-0.1**
QSPA	**South Pole Qui**	**66.40**	**180**	P		**P**		**15 26 49.3**	**-0.1**
NVAR	**Mina Array Bea** 0.3nm,0.7s,mb2.9,baz=229,slow=8.2,SNR=2.7	**84.43**	**44**	P		**P**		**15 28 30.9**	**+0.3**
TXAR	**Lajitas Array** 0.7nm,0.7s,mb3.6,baz=207,slow=5.3,SNR=5.0	**90.12**	**58**	P		**P**		**15 28 58.3**	**+0.5**
PDAR	**Pinedale Array** 0.2nm,0.5s,mb3.3,baz=232,slow=4.4,SNR=2.9	**92.37**	**44**	P		**P**		**15 29 07.6**	**-0.2**

*IDC **25** 15:32:34.1±0.5,1525N×12255E,h0km,mb4.6/21, mb1 4.6/22,mb1mx4.6/25,mbtmp4.6/22,ML3.6/1,MS4.2/8, Ms1 4.3/8,ms1mx3.8/31,Error ellipse: s-maj=20.6km s-min=9.9km az=75.0*

*BJI **25** 15:32:35.0,1535N×12245E,h14km,mB4.8,mb4.6,Ms4.4, Msz4.2*

*NEIC **25** 15:32:37.8±2.3,1524N×12253E,h25km±16km,mb5.0/35, Error ellipse: s-maj=5.1km s-min=4.1km az=70.0*

NEIC Felt [III PIVS] at Infanta. Also felt at Manila, Luzon.

*DJA **25** 15:32:37,1515N×12321E,h10km,mb4.9/13*

*MAN **25** 15:32:37,1537N×12247E,h17km,mb5.4,ML4.4,MS4.7*

MAN INTENSITY III - INFANTA QUEZON.

*MOS **25** 15:32:37.1±0.9,1527N×12254E,h33km,mb5.0/26, MS4.4/4,Error ellipse: s-maj=11.6km s-min=6.7km az=109.3*

*ISCJB **25** 15:32:38.5±0.4,1534N±002×12256E±003,h40km±3km, mb4.8/67,MS4.2/17,Error ellipse: s-maj=5.7km s-min=3.5km az=162.8*

ISC 25 15:32:39.8±0.9,1534N±002×12254E±003,h35km±7km, n168,σ1§09/185,mb4.8/67,MS4.2/17,14C-8D,Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
PCPH	**Palayan**	**1.41**	**279**	⇑*i*P		**Pn**		**15 32 59.0**	**-3.9**
GQP	**Guinayangan**	**1.43**	**183**	⇓*e*P		**Pn**		**15 33 03.1**	**-0.2**
GQP				*e*S		**Sn**		**15 33 21.8**	**+0.9**
QVPH	**Quezon City--P**	**1.58**	**244**	⇓*e*P		**Pn**		**15 33 05.4**	**0.0**
QVPH				*e*S		**Sn**		**15 33 28.3**	**+3.6**
PALP	**Palanan**	**1.71**	**356**	*e*P		**Pn**		**15 33 05.6**	**-1.6**
PALP				*e*S		**Sn**		**15 33 27.7**	**-0.2**
PALP	**Palanan**	**1.71**	**356**	⇑*e*P		**Pn**		**15 33 05.8**	**-1.4**
PALP				*e*S		**Sn**		**15 33 29.7**	**+1.8**
CAUP	**Cauayan**	**1.73**	**337**	*e*P		**Pn**		**15 33 06.1**	**-1.4**
LBPH	**Los Banos**	**1.77**	**228**	⇑*e*P		**Pn**		**15 33 07.6**	**-0.

ENPP El Nido 5.11 217 *e*P **Pn** **15 33 54.6 +0.8**
LLP Lapu-Lapu 5.19 164 *e*P **Pn** **15 34 00.8 +5.8**
TBP Tagbilaran 5.76 167 *e*P **Pn** **15 34 01.4 -1.5**
DAV Davao City (W) 8.75 160 LR LR 15 39 08.2
comp=Z,2μm,18.3s,baz=319,slow=46
JOW Kunigami 12.62 24 Pn **Pn** **15 35 37.0 +0.1**
0.8nm,0.3s,baz=106,slow=24,SNR=3.9
JOW LR LR 15 39 40.8
comp=Z,740nm,20.1s,baz=125,slow=34
QIZ Qiongzhong 12.67 289 P **Pn** **15 35 38.3 +0.7**
QIZ S **Sn** **15 37 56.8 -0.7**
QIZ LR LR
comp=E,1μm,17.7s
QIZ LR LR
comp=Z,2μm,16.2s
NJ2 Nanjing 16.97 349 *e*P **Pn** **15 36 37.0 +2.5**
NJ2 PP 15 36 52.0
NJ2 AMB AMB
comp=Z,10.0nm,0.7s
GYA Guiyang 18.48 309 P **Pn** **15 36 54.0 +0.9**
GYA PP 15 37 10.8
GYA S **Sn** **15 40 15.5 -3.2**
GYA AMB AMB
comp=Z,20nm,1.0s
GYA AMB AMB
comp=Z,250nm,6.2s
GYA LR LR
comp=N,760nm,15.2s
GYA LR LR
comp=E,530nm,14.9s
GYA LR LR
comp=Z,910nm,17.0s
KAPI Kappang 20.41 188 P **P** **15 37 11.7 -2.4**
comp=Z,10nm,0.5s,baz=121,slow=21,SNR=3.2
KMI Kunming 20.94 301 P **P** **15 37 21.3 +1.6**
KMI S **S** **15 41 08.5 -2.9**
KMI AMB AMB
comp=Z,13nm,1.5s
KMI AMB AMB
comp=Z,292nm,11.0s
KMI LR LR
comp=N,412nm,13.2s,MS4.2
KMI LR LR
comp=E,667nm,15.1s,MS4.2
KMI LR LR
comp=Z,808nm,17.2s,MS4.2
GUMO Guam 21.70 92 LR LR 15 43 56.7
comp=Z,531nm,18.4s,MS4.0,baz=258,slow=32
CBIJ Chichi jima 21.70 54 P **P** **15 37 23.9 -3.9**
comp=Z,152nm,1.1s,mb5.3,baz=277,slow=20,SNR=3.7
CBIJ LR LR 15 43 57.6
comp=Z,480nm,20.0s,MS3.9,baz=229,slow=31
XAN Xi'an 22.31 329 P **P** **15 37 34.3 +0.1**
XAN AMB AMB
comp=Z,18nm,1.5s,mb4.3
XAN AMB AMB
comp=Z,265nm,9.1s
KSRS Korea Array 22.54 11 P **P** **15 37 36.1 -0.5**
comp=Z,5.7nm,0.8s,mb4.0,baz=195,slow=11,SNR=22
CM31 Chiang Mai Arr 22.78 281 *e*P **P** **15 37 39.8 +0.4**
comp=Z,5.2nm,0.6s,mb4.1
CMAR Chiang Mai Arr 22.78 281 P **P** **15 37 40.1 +0.7**
comp=Z,6.9nm,0.6s,mb4.2,baz=93,slow=7.7,SNR=66
CMAR PcP PcP 15 41 31.4 +1.0
comp=Z,1.2nm,0.8s,baz=276,slow=0.3,SNR=6.1
CMAR LR LR 15 47 07.3
comp=Z,755nm,19.0s,MS4.2,baz=87,slow=38
CMAR Chiang Mai Arr 22.78 281 P **P** **15 37 40.2 +0.8**
CMAR 15 41 31.5
CHTO Chiang Mai 22.81 282 *e*P **P** **15 37 38.5 -1.2**
comp=Z,9.6nm,1.4s,mb4.0
CD2 Chengdu 23.14 315 P **P** **15 37 43.0 -0.2**
CD2 PP 15 38 15.0
CD2 S **S** **15 41 47.8 -4.4**
CD2 SS 15 42 35.5
CD2 AMB AMB
comp=Z,40nm,1.2s,mb4.7
CD2 AMB AMB
comp=Z,120nm,4.2s
CD2 LR LR
comp=N,890nm,19.2s,MS4.5
CD2 LR LR
comp=E,1μm,16.8s,MS4.5
CD2 LR LR
comp=Z,970nm,15.6s,MS4.4
JHJ Hachijo jima 2 23.61 38 LR LR 15 44 53.3
comp=Z,461nm,22.0s,MS3.9,baz=288,slow=31
BJT Baijiatuau 25.20 348 *e*P **P** **15 38 02.8 +0.6**
BJT pmax pmax
comp=Z,50nm,1.3s
BJT Baijiatuau 25.20 348 *e*P **P** **15 38 02.8 +0.6**
comp=Z,50nm,1.3s,mb4.9
BJI Beijing 25.23 348 P **P** **15 38 02.5 +0.1**
BJI S **S** **15 42 23.3 -2.2**
BJI AMB AMB
comp=Z,23nm,0.8s,mb4.8
BJI AMB AMB
comp=Z,323nm,10.8s
BJI LR LR
comp=N,197nm,24.0s
BJI LR LR
comp=E,309nm,13.6s
BJI LR LR
comp=Z,238nm,25.6s,MS3.6
MAJO Matsushiro 25.31 31 *e*P **P** **15 38 02.7 -0.5**
MAJO pmax pmax
comp=Z,13nm,1.0s,mb4.4
MAJO Matsushiro 25.31 31 *e*P **P** **15 38 02.7 -0.5**
comp=Z,13nm,1.0s,mb4.4
MJAR Matsushiro Arr 25.31 31 P **P** **15 38 02.4 -0.8**
comp=Z,1.5nm,0.7s,baz=224,slow=8.8,SNR=6.6
BATI Baumata 25.41 177 P **P** **15 38 03.2 -1.0**
comp=Z,54nm,0.6s,mb5.2,baz=321,slow=2.1,SNR=14
LZH Lanzhou 26.56 325 *e*P **P** **15 38 15.0 +0.5**
LZH AMB AMB
comp=Z,31nm,1.5s,mb4.6
LZH AMB AMB
comp=Z,140nm,5.7s
LZH LR LR
comp=N,673nm,13.7s
LZH LR LR
comp=Z,705nm,13.8s,MS4.4
HHC Hu-ho-hao-te 27.14 342 *e*P **P** **15 38 22.5 +2.8**
HHC PP 15 39 10.0
HHC PCP PcP 15 41 42.0 +2.2
HHC S **S** **15 42 58.3 +2.4**
HHC SS 15 44 13.5
HHC SCP ScP 15 45 18.0 +0.4
HHC AMB AMB
comp=Z,18nm,1.0s,mb4.6
HHC AMB AMB
comp=Z,157nm,7.3s
HHC LR LR
comp=N,520nm,15.3s,MS4.3
HHC LR LR
comp=E,435nm,15.5s,MS4.3
HHC LR LR
comp=Z,420nm,16.2s,MS4.1
CN2 Changchun 28.47 4 *e*P **P** **15 38 33.3 +1.8**
KAKA Kakadu 29.55 160 *e*P **P** **15 38 33.1 -8.2**
comp=Z,16nm,0.6s,mb4.9
MDJ Mudanjiang 29.79 10 P **P** **15 38 44.3 +1.1**
MDJ S **S** **15 43 38.8 +1.5**
MDJ AMB AMB
comp=Z,8.0nm,1.5s,mb4.2
MDJ AMB AMB
comp=Z,334nm,11.1s
MDJ LR LR
comp=N,513nm,17.2s
MDJ LR LR
comp=E,243nm,27.0s
MDJ LR LR
comp=Z,402nm,18.1s,MS4.1
MDJ Mudanjiang 29.79 10 P **P** **15 38 43.9 +0.7**
SHL Shillong 30.40 294 *e*P **P** **15 38 51.0 +2.1**
LSA Lhasa 32.20 302 P **P** **15 39 06.0 +1.3**
LSA Lhasa 32.20 302 *e*P **P** **15 39 05.2 +0.5**
LSA pmax pmax
comp=Z,4.0nm,0.6s,mb4.4
LSA Lhasa 32.20 302 *e*P **P** **15 39 05.2 +0.5**
comp=Z,4.5nm,0.6s,mb4.5
TAPN Taplejung 34.45 296 *e*P **P** **15 39 24.4 +0.1**
comp=Z,50nm,1.3s,mb5.3
HABR Khabarovsk 34.61 15 *e*P **P** **15 39 22.2 -3.2**
ODAN Odare 34.62 295 *e*P **P** **15 39 26.0 +0.2**
comp=Z,44nm,0.8s,mb5.5

PMG Port Moresby 34.64 134 *e*P **P** **15 39 25.1 -1.0**
PMG pmax pmax
comp=Z,24nm,1.1s
PMG Port Moresby 34.64 134 *e*P **P** **15 39 25.1 -1.0**
comp=Z,24nm,1.1s,mb5.0
ULN Ulaanbaatar 34.87 342 *e*P **P** **15 39 27.9 +0.3**
ULN pmax pmax
comp=Z,7.0nm,0.9s,mb4.6
ULN Ulaanbaatar 34.87 342 *e*P **P** **15 39 27.9 +0.2**
comp=Z,6.7nm,0.9s,mb4.6
SONM Songino Array 35.04 341 P **P** **15 39 29.7 +0.6**
comp=Z,2.4nm,0.5s,mb4.4,baz=158,slow=9.0,SNR=9.1
SONM LR LR 15 54 31.2
comp=Z,509nm,19.1s,MS4.3,baz=7.0,slow=38
RAMN Ramite 35.33 295 *e*P **P** **15 39 32.0 +0.1**
comp=Z,34nm,0.6s,mb5.5
YSS Yuzh-Sakhalins 35.73 24 P **P** **15 39 35.4 +0.3**
YSS pmax pmax
comp=Z,14nm,0.9s,mb4.9
YSS Yuzh-Sakhalins 35.73 24 P **P** **15 39 35.4 +0.2**
comp=Z,14nm,0.9s,mb4.9
JIRN Jiri 35.83 296 *e*P **P** **15 39 36.8 +0.5**
comp=Z,32nm,0.7s,mb5.4
GUN Gumba 36.16 296 *e*P **P** **15 39 39.4 +0.4**
comp=Z,103nm,1.1s,mb5.7
MBWA Marble Bar 36.38 184 *e*P **P** **15 39 38.8 -2.1**
comp=Z,5.1nm,0.7s,mb4.6
PKI Pulchoki 36.49 296 *e*P **P** **15 39 41.8 -0.1**
comp=Z,16nm,0.6s,mb5.1
PKI Pulchoki 36.49 296 *e*P **P** **15 39 41.8 -0.1**
PKI pmax pmax
comp=Z,16nm,0.6s,mb5.1
PKIN Phulchoki 36.51 296 *e*P **P** **15 39 41.4 -0.6**
comp=Z,11nm,0.5s,mb5.0
KKN Kakani 36.65 296 *e*P **P** **15 39 42.8 -0.4**
comp=Z,59nm,1.2s,mb5.3
KKN Kakani 36.65 296 *e*P **P** **15 39 42.8 -0.4**
KKN pmax pmax
comp=Z,59nm,1.2s,mb5.3
DMN Daman 36.76 296 *e*P **P** **15 39 44.2 0.0**
comp=Z,66nm,1.2s,mb5.3
WRAB Tennant Creek 36.93 161 *e*P **P** **15 39 41.3 -4.3**
GKN Gorkha 37.25 296 *e*P **P** **15 39 47.9 -0.5**
comp=Z,40nm,0.7s,mb5.4
DANN Dangsing 38.08 296 *e*P **P** **15 39 55.0 -0.4**
comp=Z,86nm,1.0s,mb5.5
KOLN Koldanda 38.10 296 *e*P **P** **15 39 55.5 -0.1**
comp=Z,29nm,0.9s,mb5.0
ZAK Zakamensk 38.27 340 *e*P **P** **15 39 51.6 -5.0**
TLY Talaya 39.27 341 *e*P **P** **15 40 05.2 +0.2**
TLY pmax pmax
comp=Z,10.0nm,0.9s,mb4.5
TLY MLR MLR
comp=Z,268nm,16.0s,MS4.2
MOY Mondy 40.12 339 *e*P **P** **15 40 12.7 +0.6**
ASAR Alice Springs 40.33 164 P **P** **15 40 12.3 -1.8**
comp=Z,4.5nm,0.6s,mb4.3,baz=342,slow=7.6,SNR=68
ASAR S **S** **15 46 21.0 +1.3**
comp=Z,0.7nm,1.1s,baz=0.0,slow=25,SNR=5.0
WMQ Urumqi 41.01 321 P **P** **15 40 20.0 +0.5**
WMQ PP PP 15 41 59.0 +4.5
WMQ PCP PcP 15 42 20.0 +0.8
WMQ SCP ScP 15 46 04.0 -2.4
WMQ S **S** **15 46 30.3 +0.8**
WMQ AMB AMB
comp=Z,10.0nm,0.5s,mb4.7
WMQ AMB AMB
comp=Z,255nm,5.8s
WMQ LR LR
comp=N,212nm,21.1s,MS4.1
WMQ LR LR
comp=E,237nm,24.5s,MS4.1
WMQ LR LR
comp=Z,400nm,21.8s,MS4.2
HYB Hyderabad 42.18 279 *i*P **P** **15 40 33.5 +4.0**
HYB Hyderabad 42.18 279 *e*P **P** **15 40 33.5 +4.0**
CTA Charters Tower 42.23 146 *e*P **P** **15 40 29.5 -0.3**
comp=Z,5.5nm,0.7s,mb4.3
CTA Charters Tower 42.23 146 P **P** **15 40 29.1 -0.7**
comp=Z,5.9nm,0.6s,mb4.4,baz=325,slow=11,SNR=11
CTA Charters Tower 42.23 146 *e*P **P** **15 40 29.5 -0.3**
CTA pmax pmax
comp=Z,6.0nm,0.7s
CTAO Charters Tower 42.23 146 *e*P **P** **15 40 29.7 -0.1**
CTAO pmax pmax
comp=Z,25nm,1.3s,mb4.7
CTAO Charters Tower 42.23 146 *e*P **P** **15 40 29.7 -0.1**
comp=Z,25nm,1.3s,mb4.7
BOD Bodaibo 42.88 353 *e*P **P** **15 40 34.7 +0.1**
DDI Dehra Dun 43.34 298 *ex* x 15 40 34.2
MK31 Makanchi Array 45.81 322 *e*P **P** **15 40 58.5 +0.3**
MK31 *e* 15 42 34.2
MKAR Makanchi Array 45.81 322 P **P** **15 40 59.0 +0.8**
comp=Z,10.0nm,0.7s,mb4.9,baz=113,slow=9.4,SNR=76
MKAR PcP PcP 15 42 35.3 0.0
comp=Z,3.5nm,0.8s,baz=103,slow=5.4,SNR=4.1
MKAR Makanchi Array 45.81 322 P **P** **15 40 59.0 +0.8**
MKAR PcP PcP 15 42 35.3 0.0
FORT Forrest 46.16 173 *e*P **P** **15 40 59.1 -2.0**
comp=Z,18nm,0.7s,mb5.1
PETK Petropavlovsk- 46.74 28 P **P** **15 41 06.2 +0.8**
comp=Z,15nm,0.9s,mb4.9,baz=186,slow=1.7,SNR=19
KLBR Kelberrin 46.89 186 *e*P **P** **15 41 04.4 -2.4**
comp=Z,16nm,0.9s,mb5.0
YAK Yakutsk 46.90 5 *e*P **P** **15 41 05.9 -0.6**
YAK pmax pmax
comp=Z,32nm,1.1s,mb5.2
YAK pmax pmax
comp=E,3.0nm,1.1s
YAK pmax pmax
comp=N,17nm,1.2s
PET Petropavlovsk 47.13 29⇑ *e*P **P** **15 41 08.5 +0.1**
PET pmax pmax
comp=Z,25nm,1.1s,mb5.1
PET Petropavlovsk 47.13 29 *e*P **P** **15 41 08.2 -0.3**
comp=Z,27nm,1.0s,mb5.1
MUN Mundaring 47.44 187 *e*P **P** **15 41 09.8 -1.3**
NWAO Narrogin (SRO) 48.26 186 P **P** **15 41 15.8 -1.6**
comp=Z,12nm,0.7s,mb5.0,baz=342,slow=8.0,SNR=8.4
NWAO Narrogin (SRO) 48.26 186 *e*P **P** **15 41 15.2 -2.2**
NWAO pmax pmax
comp=Z,13nm,0.8s
NWAO Narrogin (SRO) 48.26 186 *e*P **P** **15 41 15.2 -2.2**
comp=Z,13nm,0.8s,mb5.0
ZAA0 Zalesovo Array 48.45 331 *e*P **P** **15 41 18.3 -0.4**
ZALV Zalesovo Beam 48.45 331 P **P** **15 41 18.7 0.0**
comp=Z,11nm,0.6s,mb5.0,baz=123,slow=6.7,SNR=52
ZALV Zalesovo Beam 48.45 331 P **P** **15 41 18.7 0.0**
NVS Novosibirsk 49.73 331⇑ *i*P **P** **15 41 28.4 -0.1**
NVS *e* 15 43 26.4
NVS *e*S **S** **15 48 35.7 +0.6**
NVS pmax pmax
comp=Z,29nm,1.4s,mb5.1
NVS pmax pmax
comp=N,22nm,1.6s
NVS pmax pmax
comp=E,25nm,1.5s
NVS pmax pmax
comp=Z,11nm,1.5s,mb4.7
NVS smax
comp=E,25nm,1.9s
KURK Kurchatov 49.85 325⇑ *e*P **P** **15 41 29.4 0.0**
KURK pmax pmax
comp=Z,78nm,1.0s,mb5.7
STKA Stephens Creek 50.38 159 *e*P **P** **15 41 32.7 -1.0**
comp=Z,5.8nm,0.6s,mb4.8
STKA Stephens Creek 50.38 159 P **P** **15 41 32.9 -0.8**
comp=Z,4.9nm,0.8s,mb4.6,baz=337,slow=7.9,SNR=11
KBL Kabul 51.52 302 *e*P **P** **15 41 41.8 -0.5**
KBL pmax pmax
comp=Z,6.0nm,0.7s,mb4.6
KBL Kabul 51.52 302 *e*P **P** **15 41 41.8 -0.5**
comp=Z,5.6nm,0.7s,mb4.6
SEY Seymchan 51.93 17⇑ *e*P **P** **15 41 45.6 +0.7**
TIXI Tiksi 56.42 2 *e*P **P** **15 42 17.1 -0.3**
TIXI pmax pmax
comp=Z,22nm,1.0s,mb5.1
TIXI MLR MLR
comp=Z,380nm,18.0s,MS4.5
TIXI Tiksi 56.42 2 *e*P **P** **15 42 16.8 -0.7**
comp=Z,16nm,0.8s,mb5.1
BILL Bilibino 59.61 18 *e*P **P** **15 42 39.2 -0.7**
BILL pmax pmax
comp=Z,10.0nm,1.3s,mb4.7
BILL Bilibino 59.61 18 *e*P **P** **15 42 39.8 -0.1**
comp=Z,10nm,1.0s,mb4.8

SVE Sverdlovsk 62.00 327 *e*P **P** **15 42 56.6 +0.3**
SVE *e*S **S** **15 51 18.8 +0.6**
SVE pmax pmax
comp=Z,20nm,1.2s,mb5.1
ARU Arti 63.01 326*d i*P **P** **15 43 01.8 -1.3**
ARU 15 43 40.2
ARU *e* 15 45 24.2
ARU *e*S **S** **15 51 32.3 +1.3**
ARU *e*SS SS 15 55 37.8 +1.1
ARU pmax pmax
comp=Z,8.0nm,1.0s,mb4.8
KIV Kislovodsk 72.26 312 *e*P **P** **15 44 01.2 -0.5**
KIV *e*S S 15 53 23.7 +1.4
KIV pmax pmax
comp=Z,19nm,1.1s,mb4.9
KIV MLR MLR
comp=Z,211nm,19.0s,MS4.4
RPZ Rata Peaks 73.60 146 P **P** **15 44 08.6 -0.9**
comp=Z,13nm,0.9s,mb4.9,baz=243,slow=19,SNR=4.5
URZ Urewera 73.85 138 P **P** **15 44 10.8 -0.3**
comp=Z,7.4nm,0.8s,mb4.7,baz=237,slow=12,SNR=3.5
SOC Sochi 74.44 312 *i*P **P** **15 44 16.8 +2.3**
OBN Obninsk 75.27 324⇓ *e*P **P** **15 44 18.1 -1.0**
OBN *e* 15 47 11.1
OBN pmax pmax
comp=Z,9.0nm,0.7s,mb4.8
OBN MLR MLR
comp=Z,300nm,21.0s,MS4.6
PMR Palmer 75.86 30 *e*P **P** **15 44 21.6 -0.7**
PMR pmax pmax
comp=Z,18nm,1.2s,mb4.9
PMR Palmer 75.86 30 *e*P **P** **15 44 21.6 -0.7**
comp=Z,18nm,1.2s,mb4.9
COLA College 76.08 26 P **P** **15 44 21.9 -1.6**
ARCES ARCESS Array B 78.19 339 P **P** **15 44 35.4 +0.1**
comp=Z,4.4nm,0.8s,mb4.4,baz=66,slow=7.1,SNR=5.8
ARCES ARCESS Array B 78.19 339 P **P** **15 44 35.4 +0.1**
EGAK Eagle 78.92 26 *e*P **P** **15 44 39.8 +0.3**
comp=Z,8.2nm,0.9s,mb4.7
FINES FINESS Array B 79.72 331 *e*P **P** **15 44 42.1 -1.7**
DAWY Dawson 79.83 26 *e*P **P** **15 44 45.6 +1.2**
AKASG Malin Array Be 80.36 320 P **P** **15 44 46.7 -0.8**
comp=Z,1.0nm,0.5s,mb4.0,baz=59,slow=6.1,SNR=5.9
AKASG Malin Array Be 80.36 320 P **P** **15 44 46.7 -0.8**
INK Inuvik 80.93 21 *e*P **P** **15 44 50.2 0.0**
comp=Z,204nm,1.0s,mb6.0
VRI Vrincioaia 83.11 316⇓ *i*P **P** **15 45 03.6 +1.4**
BURAR Bucovina Array 83.66 318⇑ *i*P **P** **15 45 05.2 +0.3**
BUR08 Bucovina Ar. S 83.66 318 *e*P **P** **15 45 04.4 -0.5**
MLR Muntele Rosu 83.74 315⇑ *i*P **P** **15 45 06.2 +0.8**
KWP Kalwaria 84.68 320⇓ *i*P **P** **15 45 10.6 +0.5**
DRGR 85.53 317⇓ *i*P **P** **15 45 14.8 +0.4**
KMBO Kilima Mbogo 85.75 268 P **P** **15 45 16.1 0.0**
comp=Z,2.8nm,0.7s,mb4.6,baz=216,slow=23,SNR=4.6
KMBO Kilima Mbogo 85.75 268 *e*P **P** **15 45 14.3 -1.8**
KMBO pmax pmax
comp=Z,3.0nm,0.9s
KMBO Kilima Mbogo 85.75 268 *e*P **P** **15 45 14.3 -1.8**
comp=Z,3.5nm,0.9s,mb4.6
NIE Niedzica 86.23 320 *e*P **P** **15 45 19.1 +1.3**
OJC Ojcow 86.28 321 *e*P **P** **15 45 18.6 +0.6**
NB2 NORSAR Subarra 86.62 333 P **P** **15 45 18.4 -1.1**
comp=Z,4.5nm,0.7s,mb4.8,baz=65,slow=5.1
NOA NORSAR Array B 86.62 333 P **P** **15 45 18.8 -0.7**
comp=Z,5.7nm,0.7s,mb4.9,baz=65,slow=4.9,SNR=22
NOA LR LR 16 25 54.6
comp=Z,154nm,18.4s,MS4.4,baz=250,slow=37
RES Resolute Bay 87.14 9 *e*P **P** **15 45 22.0 +0.2**
comp=Z,448nm,0.9s
BRG Berggiesshubel 89.51 323 *e*P **P** **15 45 38.6 +5.1**
BRG pmax pmax
comp=Z,3.0nm,1.0s,mb4.6
BRG Berggiesshubel 89.51 323 *e*P **P** **15 45 38.6 +5.1**
comp=Z,4.7nm,1.0s,mb4.8
GERES GERESS Array B 90.48 321 P **P** **15 45 37.4 -0.6**
comp=Z,1.4nm,1.0s,mb4.3,baz=36,slow=5.3,SNR=6.3
YKA Yellowknife Ar 90.58 23 P **P** **15 45 39.0 +0.8**
comp=Z,1.9nm,0.5s,mb4.7,baz=305,slow=4.6,SNR=5.6
YKA Yellowknife Ar 90.58 23 P **P** **15 45 39.0 +0.8**
PLCA Paso Flores 152.26 158 PKPbc PKPbc 15 52 32.8 +0.7
comp=Z,4.9nm,1.1s,baz=183,slow=5.2,SNR=3.8

NOU 25 15:36:43.0±0.7, 2133S×16802E, h193km±63km, MD2.6, ML3.8, Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PLUM	**Mont Dore**	**1.59**	**233**	*e*P		Pn	15 37 16.5	-0.4
PLUM				*e*S		Sn	15 37 42.4	-0.8
DZM	**Mont Dzumac**	**1.64**	**243**	*e*P		Pn	15 37 17.8	+0.4
DZM				*e*S		Sn	15 37 43.2	-0.8
DZM				AMP			15 37 52.9	
	comp=Z,1μm,0.0s							
NORM	**Noumea**	**1.69**	**238**	*e*S		Sn	15 37 43.6	-1.2
NOUC	**Port Laguerre**	**1.77**	**244**	*e*P		Pn	15 37 19.9	+1.3
NOUC				*e*S		Sn	15 37 46.6	+0.4

*NEIC **25** 15:54:59.8, 3983N×2076E, h24km, MD3.2(ATH), After ATH.*
*ATH **25** 15:54:59.8, 3983N×2076E, h24km±1km, MD3.2/5*
*CSEM **25** 15:55:01.4±0.2, 3978N×2070E, h10km, MD3.2, Error ellipse: s-maj=4.5km s-min=3.8km az=98.0*
*ISCJB **25** 15:55:01.8±0.7, 3971N±003×2065E±004, h16km±6km, Error ellipse: s-maj=5.8km s-min=4.7km az=12.1*
*THE **25** 15:55:01.6, 3974N×2074E, h0km±1km, ML3.0/5, Error ellipse: s-maj=1.9km s-min=0.8km az=265.0*
*SKO **25** 15:55:03.3, 3977N×2077E, h22km*
ISC 25 15:55:02.0±0.5, 3975N±002×2071E±004, h8km±3km, n33, σ0°99/59, Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JAN	**Janina**	**0.14**	**131**	*e*Pb		Pg	15 55 05.2	+0.3
JAN				*e*Sb		Sg	15 55 08.8	+1.9
JAN	**Janina**	**0.14**	**131**	*e*PB		Pg	15 55 05.2	+0.3
JAN				*e*SB		Sg	15 55 08.8	+1.9
MEV	**Metsovon**	**0.40**	**85**	P		Pg	15 55 09.4	-0.3
MEV				S		Sg	15 55 14.3	-0.7
KEK	**Kerkira**	**0.71**	**267**	*e*Pn		Pn	15 55 14.3	-4.0
KEK				*e*Sn		Sg	15 55 25.6	+0.9
KEK	**Kerkira**	**0.71**	**267**	*e*PN		Pn	15 55 14.3	-4.0
KEK				*e*SN		Sg	15 55 25.6	+0.9
KZN	**Kozani**	**0.98**	**55**	*e*Pn		Pn	15 55 17.2	-4.9
KZN				*e*Sn		Sn	15 55 31.0	-5.3
KZN	**Kozani**	**0.98**	**55**	*e*PN		Pn	15 55 17.2	-4.9
KZN				*e*SN		Sn	15 55 31.0	-5.3
THL	**Klokotos Trika**	**1.02**	**100**	P		Pg	15 55 19.7	-1.9
THL				S		Sg	15 55 35.7	+0.9
THL	**Klokotos Trika**	**1.02**	**100**	*e*PN		Pn	15 55 18.8	-3.8
LKD	**Levkas**	**1.04**	**183**	P		Pg	15 55 21.0	-0.9
LKD				S		Sg	15 55 36.7	+1.2
FNA	**Florina**	**1.15**	**26**	P		Pg	15 55 22.6	-1.5
FNA				S		Sg	15 55 39.3	+0.3
EVR	**Evrytania**	**1.19**	**134**	*e*Pn		Pn	15 55 22.7	-2.2
EVR	**Evrytania**	**1.19**	**134**	*e*PN		Pn	15 55 22.7	-2.2
BIA	**Bitola**	**1.35**	**20**	P		Pn	15 55 26.5	-0.7
BIA				S		Sb	15 55 47.0	+2.0
BIA	**Bitola**	**1.35**	**20**	*e*Pg		Pg	15 55 28.1	+0.2
BIA				*e*Sg		Sg	15 55 45.2	-0.2
BIA	**Bitola**	**1.35**	**20**	*e*Pg		Pg	15 55 28.0	+0.1
BIA				*e*Sg		Sg	15 55 45.2	-0.2
BIA				S		Sb	15 55 47.0	+2.0
OHR	**Ohrid**	**1.36**	**3**	*e*Pg		Pg	15 55 27.4	-0.7
OHR				*e*Sg		Sg	15 55 45.8	+0.1
OHR	**Ohrid**	**1.36**	**3**	P		Pn	15 55 27.6	+0.3
OHR				*e*Sg		Sg	15 55 45.8	0.0
OHR				S		Sb	15 55 47.6	+2.3
LIT	**Litokhoron**	**1.41**	**75**	P		Pn	15 55 27.7	-0.3
LIT				S		Sb	15 55 47.5	+0.8
AGG	**Agios Georgios**	**1.45**	**120**	P		Pn	15 55 27.5	-1.0
AGG				S		Sn	15 55 48.1	+0.4
VLS	**Valsamata**	**1.57**	**184**	P		Pn	15 55 29.3	-0.9
VLS				S		Sn	15 55 51.4	+0.7
VLS	**Valsamata**	**1.57**	**184**	*e*Pn		Pn	15 55 29.3	-0.9
VLS				S		Sn	15 55 51.4	+0.7
VLS				*e*Sn		Sn	15 55 52.2	+1.5
VLS	**Valsamata**	**1.57**	**184**	*e*PN		Pn	15 55 29.3	-0.9
VLS				*e*SN		Sn	15 55 52.2	+1.5
KRUS	**Krusevo**	**1.67**	**14**	*e*Pn		Pn	15 55 31.0	-0.5
KRUS				*e*Sg		Sg	15 55 55.6	0.0

KRUS	**Krusevo**	**1.67**	**14**	*e*Pn		**Pn**	**15 55 31.0**	**-0.5**
KRUS				*e*Sg		**Sg**	**15 55 55.5**	**-0.1**
GRG	**Griva**	**1.77**	**46**	P		**Pn**	**15 55 33.0**	**+0.1**
HORT	**Hortiatis**	**2.02**	**64**	P		**Pn**	**15 55 35.8**	**-0.5**
VAY	**Valandovo**	**2.11**	**41**	*e*Pn		**Pn**	**15 55 36.7**	**-0.9**
VAY	**Valandovo**	**2.11**	**41**	*e*Pn		**Pn**	**15 55 36.6**	**-1.0**
KNT	**Kendrikon**	**2.18**	**49**	P		**Pn**	**15 55 39.2**	**+0.6**
PLG	**Polygyros**	**2.19**	**73**	P		**Pn**	**15 55 39.2**	**+0.5**
PLG				S		**Sn**	**15 56 07.0**	**+1.1**
STIP	**Stip**	**2.24**	**29**	*e*Pn		**Pn**	**15 55 39.1**	**-0.3**
PAIG	**Paliouri**	**2.29**	**85**	P		**Pn**	**15 55 39.8**	**-0.3**

*CSEM **25** 16:12:31.5±0.1, 3972N×2074E, h2km, MD3.4, Error ellipse: s-maj=2.0km s-min=1.7km az=137.0*
*ATH **25** 16:12:31.2, 3974N×2072E, h22km, MD3.4/6*
*NEIC **25** 16:12:31.2, 3974N×2072E, h22km, MD3.4(ATH), After ATH.*
*ISCJB **25** 16:12:31.4±0.4, 3979N±002×2063E±004, h10km, Error ellipse: s-maj=4.1km s-min=2.9km az=5.2*
*THE **25** 16:12:32.6, 3974N×2076E, h0km±1km, ML3.4/5, Error ellipse: s-maj=1.7km s-min=0.7km az=242.0*
*SKO **25** 16:12:33.3, 3979N×2071E, h6km*
ISC 25 16:12:32.0±0.5, **3976N**±002×**2070E**±003, **h4**km±4km, **n39, σ1°08/63, Greece-Albania border region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JAN	**Janina**	**0.16**	**130**	*e*Pb	**Pg**	**16 12 35.8**	**+0.7**
JAN				*e*Sb	**Sg**	**16 12 38.6**	**+1.5**
JAN	**Janina**	**0.16**	**130**	*e*PB	**Pg**	**16 12 35.8**	**+0.7**
JAN				*e*SB	**Sg**	**16 12 38.6**	**+1.5**
MEV	**Metsovon**	**0.41**	**86**	P	**Pg**	**16 12 39.8**	**-0.1**
KEK	**Kerkira**	**0.69**	**267**	*e*Pn	**Pg**	**16 12 44.8**	**-0.5**
KEK				*e*Sn	**Sg**	**16 12 55.4**	**+1.1**
KEK	**Kerkira**	**0.69**	**267**	*e*PN	**Pg**	**16 12 44.8**	**-0.5**
KEK				*e*SN	**Sg**	**16 12 55.4**	**+1.1**
KZN	**Kozani**	**0.99**	**56**	*e*Pn	**Pn**	**16 12 50.2**	**-2.5**
KZN	**Kozani**	**0.99**	**56**	*e*PN	**Pn**	**16 12 50.2**	**-2.5**
THL	**Klokotos Trika**	**1.03**	**100**	P	**Pg**	**16 12 50.0**	**-1.9**
THL				S	**Sg**	**16 13 05.5**	**+0.2**
THL	**Klokotos Trika**	**1.03**	**100**	*e*Pb	**Pb**	**16 12 50.1**	**-2.4**
THL				*e*Sn	**Sg**	**16 13 05.5**	**+0.2**
THL	**Klokotos Trika**	**1.03**	**100**	*e*PB	**Pb**	**16 12 50.1**	**-2.4**
THL				*e*SN	**Sg**	**16 13 05.5**	**+0.2**
LKD	**Levkas**	**1.05**	**182**	P	**Pg**	**16 12 51.9**	**-0.2**
LKD				S	**Sg**	**16 13 07.6**	**+1.9**
FNA	**Florina**	**1.15**	**27**	P	**Pg**	**16 12 53.5**	**-0.6**
FNA				S	**Sg**	**16 13 11.3**	**+2.3**
EVR	**Evrytania**	**1.20**	**134**	*e*Pn	**Pn**	**16 12 53.9**	**-1.7**
EVR	**Evrytania**	**1.20**	**134**	*e*PN	**Pn**	**16 12 53.9**	**-1.7**
BIA	**Bitola**	**1.35**	**21**	*e*Pg	**Pg**	**16 12 56.5**	**-1.4**
BIA				*e*Sg	**Sg**	**16 13 14.9**	**-0.5**
BIA	**Bitola**	**1.35**	**21**	*e*Pg	**Pg**	**16 12 56.4**	**-1.5**
BIA	**Bitola**	**1.35**	**21**	P	**Pn**	**16 12 58.0**	**+0.4**
BIA				*e*Sg	**Sg**	**16 13 14.8**	**-0.6**
BIA				S	**Sb**	**16 13 17.2**	**+1.7**
OHR	**Ohrid**	**1.35**	**3**	*e*Pg	**Pg**	**16 12 57.2**	**-0.8**
OHR				*e*Sg	**Sg**	**16 13 15.1**	**-0.5**
OHR	**Ohrid**	**1.35**	**3**	P	**Pn**	**16 12 58.5**	**+0.8**
OHR				*e*Sg	**Sg**	**16 13 15.1**	**-0.5**
OHR				S	**Sb**	**16 13 17.8**	**+2.2**
LIT	**Litokhoron**	**1.42**	**75**	P	**Pn**	**16 12 58.4**	**-0.2**
LIT				S	**Sb**	**16 13 18.6**	**+1.1**
AGG	**Agios Georgios**	**1.46**	**120**	P	**Pn**	**16 12 58.2**	**-1.0**
AGG				S	**Sn**	**16 13 19.6**	**+0.8**
VLS	**Valsamata**	**1.58**	**183**	P	**Pn**	**16 13 00.4**	**-0.4**
VLS				S	**Sn**	**16 13 22.6**	**+0.9**
VLS	**Valsamata**	**1.58**	**183**	*e*Pn	**Pn**	**16 13 00.3**	**-0.5**
VLS				*e*Sn	**Sn**	**16 13 21.2**	**-0.5**
VLS				S	**Sn**	**16 13 22.6**	**+0.9**
VLS	**Valsamata**	**1.58**	**183**	*e*Pn	**Pn**	**16 13 00.3**	**-0.5**
VLS				*e*Sn	**Sn**	**16 13 21.2**	**-0.5**
VLS	**Valsamata**	**1.58**	**183**	*e*PN	**Pn**	**16 13 00.3**	**-0.5**
VLS				*e*SN	**Sn**	**16 13 21.2**	**-0.5**
KFL	**Anninata**	**1.65**	**178**	P	**Pn**	**16 13 02.6**	**+0.9**
KRUS	**Krusevo**	**1.66**	**14**	*e*Pn	**Pn**	**16 13 02.7**	**+0.8**
KRUS				*e*Sg	**Sg**	**16 13 25.2**	**-0.2**
GRG	**Griva**	**1.77**	**47**	P	**Pn**	**16 13 03.8**	**+0.4**
GRG				S	**Sn**	**16 13 27.2**	**+0.8**
XOR	**Xorichti**	**1.97**	**101**	P	**Pn**	**16 13 06.1**	**0.0**
KNT	**Kendrikon**	**2.19**	**49**	P	**Pn**	**16 13 09.3**	**+0.1**
PLG	**Polygyros**	**2.20**	**73**	P	**Pn**	**16 13 08.5**	**-0.8**
PLG	**Polygyros**	**2.20**	**73**	*e*Pb	**Pb**	**16 13 08.4**	**-3.9**
PLG	**Polygyros**	**2.20**	**73**	*e*PB	**Pb**	**16 13 08.4**	**-3.9**
PAIG	**Paliouri**	**2.30**	**85**	P	**Pn**	**16 13 10.5**	**-0.2**
AOS	**Alonnisos**	**2.53**	**102**	P	**Pn**	**16 13 14.1**	**+0.2**
ITM	**Ithomi**	**2.75**	**159**	*e*Pb	**Pb**	**16 13 17.0**	**-4.7**
ITM	**Ithomi**	**2.75**	**159**	*e*PB	**Pb**	**16 13 17.0**	**-4.7**
DID	**Didima**	**3.00**	**138**	P	**Pn**	**16 13 20.0**	**-0.3**
SG1	**Sgolgore (BA)**	**3.26**	**291**	*e*Pn	**Pn**	**16 13 22.7**	**-1.2**

*IDC **25** 16:19:07.7±1.6, 1405N×9361W, h0km, mb4.0/4, mb1 4.1/6, mb1mx3.9/22, mbtmp3.9/6, ML3.9/2, MS3.6/1, Ms1 3.6/1, ms1mx2.9/26, Error ellipse: s-maj=79.0km s-min=19.2km az=43.0*
*ISCJB **25** 16:19:13.3±2.1, 1454N±005×9340W±004, h32km±19km, mb4.0/7, Error ellipse: s-maj=8.9km s-min=5.9km az=17.6*
*NEIC **25** 16:19:14.2, 1449N×9339W, h12km, mb4.1/4, MD4.6(MEX), After MEX.*
*MEX **25** 16:19:14.4±0.9, 1448N×9338W, h17km±78km, MD4.6*
ISC 25 16:19:12.5±2.1, **1462N**±005×**9337W**±004, **h7**km±15km, **n36, σ1°38/37, mb4.0/7, Near coast of Chiapas**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PCIG		**1.09**	**7**	*i* P	**Pb**	**16 19 32.8**	**-1.0**
PCIG				*i* S	**Sb**	**16 19 47.8**	**-0.4**
THIG		**1.10**	**75**	*e*P	**Pb**	**16 19 32.6**	**-1.3**
THIG				*e*S	**Sb**	**16 19 46.1**	**-2.4**
TGIG		**2.16**	**6**	*e*P	**Pn**	**16 19 49.9**	**+0.9**
TGIG				*i* S	**Sn**	**16 20 16.2**	**+0.2**
SCX	**San Cristobal**	**2.22**	**18**	*i* P	**Pn**	**16 19 50.5**	**+0.7**
SCX				*i* S	**Sn**	**16 20 18.0**	**+0.5**
SCX	**San Cristobal**	**2.22**	**18**	*i* P	**Pn**	**16 19 52.5**	**+2.7**
SCX				*i* S	**Sn**	**16 20 19.0**	**+1.5**
CMIG	**Matias Romero**	**2.86**	**329**	Pn	**Pn**	**16 19 58.0**	**-0.6**
	7.4nm,0.3s,baz=142,slow=11,SNR=44						
CMIG				Sn	**Sn**	**16 20 29.1**	**-4.2**
	20nm,0.3s,baz=108,slow=15,SNR=6.7						
RBDL	**Robledal**	**3.60**	**98**	*e*P	x	16 20 07.5	
RTR	**El Retiro**	**3.68**	**101**	*e*P	x	16 20 08.7	
SBLS	**San Blas**	**3.71**	**102**	*e*P	x	16 20 08.2	
SBLS				*e*S	x	16 20 54.6	
SNJE	**San Jose**	**3.72**	**101**	*e*P	x	16 20 08.2	
MTO2	**Montecristo 2**	**3.88**	**93**	*e*P	x	16 20 14.0	
BOQS	**Boqueron**	**4.06**	**102**	*e*P	x	16 20 15.2	
BOQS				*e*S	x	16 21 00.5	
VHO	**Vista Hermosa**	**4.06**	**307**	*i* P	**Pn**	**16 20 16.3**	**+1.2**
VHO				*i* S	**Sn**	**16 21 02.2**	**-0.6**
LFRS	**El Faro**	**4.29**	**103**	*e*P	x	16 20 13.7	
LFRS				*e*S	x	16 21 05.8	
PNIG	**Pinotepa**	**4.92**	**292**	*i* P	**Pn**	**16 20 24.9**	**-2.0**
PNIG				*i* S	**Sn**	**16 21 22.5**	**-1.6**
PNIG	**Pinotepa**	**4.92**	**292**	*i* P	**Pn**	**16 20 24.7**	**-2.2**
TGUH	**Tegucigalpa,Un**	**5.93**	**95**	Pn	**Pn**	**16 20 40.8**	**0.0**
PPM	**Popocatepetl**	**6.71**	**312**	*i* P	**Pn**	**16 20 51.4**	**-0.1**
PPM				*i* S	**Sn**	**16 22 08.2**	**0.0**
PPM	**Popocatepetl**	**6.71**	**312**	*i* P	**Pn**	**16 20 53.9**	**+2.4**
JTS	**JuntasAbangare**	**9.27**	**117**	Pn	**Pn**	**16 21 28.4**	**+1.7**
	1.1nm,0.3s,baz=313,slow=20,SNR=4.5						
JTS	**JuntasAbangare**	**9.27**	**117**	Pn	**Pn**	**16 21 28.4**	**+1.7**
TXAR	**Lajitas Array**	**17.47**	**329**	P	**Pn**	**16 23 18.7**	**+2.0**
	0.1nm,0.3s,baz=150,slow=13,SNR=5.5						
MIAR	**Mount Ida**	**19.84**	**359**	*e*P	**Pn**	**16 23 48.8**	**+3.2**
	10nm,1.1s						
ROSC	**El Rosal**	**21.10**	**115**	P	**P**	**16 24 00.0**	**+2.2**
	9.8nm,0.8s,mb4.2,baz=73,slow=19,SNR=5.6						
AMTX	**Amarillo**	**21.53**	**341**	*e*P	**P**	**16 24 02.1**	**-0.1**
	5.0nm,0.5s,mb4.2						
BNM	**Barren Site**	**22.85**	**331**	*e*P	**P**	**16 24 17.9**	**+1.5**
SDV	**Santo Domingo**	**22.96**	**102**	P	**P**	**16 24 16.2**	**-1.6**
	3.6nm,0.6s,mb4.0,baz=351,slow=9.7,SNR=8.5						
SDV	**Santo Domingo**	**22.96**	**102**	*e*P	**P**	**16 24 16.1**	**-1.7**
	4.0nm,0.6s,mb4.0						
SDCO	**Great Sand Dun**	**25.43**	**337**	P	**P**	**16 24 40.5**	**-0.4**
	2.8nm,1.0s,mb3.8						
PV01	**Paradox Valley**	**27.02**	**333**	P	**P**	**16 24 55.4**	**+0.1**
NVAR	**Mina Array Bea**	**32.37**	**322**	P	**P**	**16 25 43.7**	**+1.0**
	1.3nm,0.8s,mb3.8,baz=135,slow=9.0,SNR=8.5						
HLID	**Hailey**	**34.01**	**332**	P	**P**	**16 25 54.6**	**-2.4**
MCMT	**McKenzie Canyo**	**34.35**	**335**	*e*P	**P**	**16 26 01.0**	**+1.1**
YBH	**Yreka Blue Hor**	**37.07**	**323**	P	**P**	**16 26 21.0**	**-2.3**
	1.7nm,0.5s,mb4.1,baz=90,slow=8.1,SNR=3.1						
SIV	**San Ignacio**	**44.08**	**132**	P	**P**	**16 27 15.5**	**-6.0**
	0.9nm,0.4s,mb3.9,baz=310,slow=12,SNR=5.2						
CMAR	**Chiang Mai Arr**	**144.97**	**339**	PKPbc	PKPdf	16 38 47.8	-3.7
	1.3nm,0.8s,baz=351,slow=4.0,SNR=7.8						

MEX 25 16:22:48.3±1.2, **1412N**×**9355W**, **h16**km±380km, **MD4.0, Near coast of Chiapas**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
THIG		**1.47**	**58**	*i* P	Pn	16 23 10.6	-3.5
THIG				*i* S	Sn	16 23 28.1	-5.0
PCIG		**1.60**	**11**	*e*P	Pn	16 23 11.6	-4.5
PCIG				*i* S	Sn	16 23 30.6	-5.9
TGIG		**2.67**	**9**	*i* P	Pn	16 23 28.8	-2.0
TGIG				*i* S	Sn	16 23 59.9	-2.9
SCX	**San Cristobal**	**2.74**	**19**	*i* P	Pn	16 23 31.0	-0.7
SCX				*i* S	Sn	16 24 02.3	-2.3

*NNC **25** 16:53:55.8±2.1, 4247N×7202E, h0km, mb3.7, mpv3.5, Error ellipse: s-maj=30.6km s-min=6.3km az=9.0*
*ISCJB **25** 16:53:58.4±0.9, 4265N±009×7189E±007, h33km, Error ellipse: s-maj=13.6km s-min=5.3km az=26.3*
ISC 25 16:53:59.8±0.9, **4250N**±009×**7194E**±007, **h35**km, **n16, σ1°44/22, 7C-5D, Kyrgyzstan**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KK31	**Karatay Array**	**1.21**	**300**	⇓P	**Pn**	**16 54 20.2**	**0.0**
	16nm,0.3s,baz=118,slow=17,SNR=1783						
KK31				⇑S	**Sn**	**16 54 37.7**	**+2.3**
	225nm,0.6s,baz=125,slow=28,SNR=21						
AML	**Almayashu**	**1.35**	**105**	P	**Pn**	**16 54 19.1**	**-2.9**
	SNR=20						
EKS2	**Erkin-Say**	**1.37**	**83**	P	**Pn**	**16 54 19.2**	**-3.1**
	SNR=27						
AAK	**Ala-Archa**	**1.89**	**85**	P	**Pn**	**16 54 28.9**	**-0.6**
	SNR=78						
UCH	**Uchtor**	**1.93**	**97**	P	**Pn**	**16 54 30.3**	**+0.3**
	SNR=8.9						
USP	**Ospenovka**	**2.03**	**67**	P	**Pn**	**16 54 30.7**	**-0.8**
	SNR=83						
CHMS	**Chumysh**	**2.13**	**75**	P	**Pn**	**16 54 32.2**	**-0.6**
	SNR=31						
KBK	**Karagaybulak**	**2.23**	**85**	P	**Pn**	**16 54 34.3**	**+0.2**
	SNR=74						
KZA	**Kyzart**	**2.49**	**99**	P	**Pn**	**16 54 39.2**	**+1.4**
	SNR=42						
TKM2	**Tokmak 2**	**2.73**	**80**	⇓Pn	**Pn**	**16 54 40.7**	**-0.3**
	8.9nm,0.5s						
TKM2				⇓Sn	**Sn**	**16 55 15.1**	**+2.3**
	94nm,0.5s						
TKM2	**Tokmak 2**	**2.73**	**80**	P	**Pn**	**16 54 40.9**	**-0.1**
	SNR=23						
ULHL	**Ulahol**	**3.20**	**93**	P	**Pn**	**16 54 49.9**	**+2.5**
	SNR=13						
KNDC	**Almaty**	**3.76**	**77**	⇑Pn	**Pn**	**16 54 54.4**	**-0.8**
	10nm,0.3s						
KNDC				⇑Sn	**Sn**	**16 55 41.3**	**+3.0**
	58nm,0.6s						
MK31	**Makanchi Array**	**8.54**	**56**	⇑Pn	**Pn**	**16 55 59.2**	**-1.5**
	0.5nm,0.4s,baz=236,slow=13,SNR=18						
MK31				⇑Sn	**Sn**	**16 57 46.4**	**+11**
	1.7nm,0.6s,baz=240,slow=26,SNR=4.7						
MK31				⇓Lg		16 58 22.9	
	5.0nm,0.8s,baz=243,slow=28,SNR=2.5						
VOSK	**Vostochnaya**	**10.25**	**357**	⇓Pn	**Pn**	**16 56 22.8**	**-1.4**
	0.6nm,0.6s						
VOSK				⇑Sn	**Sn**	**16 58 17.7**	**-0.1**
	2.7nm,0.9s						
AB31	**Akbulak array**	**10.74**	**313**	Pn	**Pn**	**16 56 29.3**	**-1.7**
	0.9nm,0.5s,baz=117,slow=14,SNR=21						
AB31				⇑Sn	**Sn**	**16 58 31.0**	**+1.1**
	1.2nm,0.6s,baz=121,slow=25,SNR=6.0						

KRSC 25 17:00:23.9±0.3, **5525N**×**16043E**, **h5**km±5km, **ML3.7, Kamchatka Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TUMR	**Tumrok**	**0.17**	**282**	*e*P	Pg	17 00 27.5	+0.3
TUMR				*i* S	Sg	17 00 30.7	+1.3
KMNR	**Kamenistaya**	**0.52**	**348**	*e*P	Pg	17 00 35.2	+1.3
KMNR				*i* S	Sg	17 00 43.8	+3.2
BZMR	**Bezymyannaya**	**0.69**	**3**	*e*P	Pg	17 00 38.7	+1.6
BZMR				*i* S	Sg	17 00 49.9	+3.9
KIRR	**Kirishev**	**0.71**	**356**	*e*P	Pg	17 00 38.4	+0.9
KIRR				*i* S	Sg	17 00 49.4	+2.8
KPT	**Kopyto**	**0.73**	**351**	*e*P	Pg	17 00 38.8	+0.9
KPT				*i* S	Sg	17 00 50.0	+2.7
KOZ	**Kozyrevsk**	**0.87**	**339**	*e*P	Pg	17 00 40.7	+0.1
KOZ				*i* S	Sg	17 00 53.1	+1.3
KRSR	**Krestovskiy**	**0.97**	**4**	*e*P	Pg	17 00 44.5	+2.0
KRSR				*i* S	Sg	17 01 00.2	+5.1
KLY	**Klyuchi**	**1.07**	**7**	*e*P	Pg	17 00 46.8	+2.3
KLY				*i* S	Sg	17 01 03.4	+5.0
KII	**Karymskiy**	**1.34**	**206**	*e*P	Pn	17 00 50.3	+1.0
KII				*i* S	Sb	17 01 08.9	+1.9
SRKR	**Sorokina**	**1.47**	**16**	*e*P	Pn	17 00 53.0	+2.0
SRKR				*i* S	Sn	17 01 13.6	+3.1
KBTR	**Krutoberegovo**	**1.66**	**54**	*e*P	Pn	17 00 56.1	+2.5
KBTR				*i* S	Sn	17 01 19.6	+4.4
GNL	**Ganaly**	**2.13**	**224**	*e*P	Pn	17 01 01.7	+1.6
GNL				*i* S	Sn	17 01 28.7	+1.9
SPN	**Mys Shipunski**	**2.17**	**186**	*e*P	Pn	17 01 02.1	+1.5
SPN				*i* S	Sn	17 01 30.9	+3.1
NLC	**Nalytchevo**	**2.18**	**197**	*e*P	Pn	17 01 03.9	+3.2
NLC				*i* S	Sn	17 01 32.1	+4.1
AVH	**Avacha**	**2.22**	**207**	*e*P	Pn	17 01 04.1	+2.8
AVH				*i* S	Sn	17 01 32.7	+3.6
PET	**Petropavlovsk**	**2.46**	**206**	*e*P	Pn	17 01 07.7	+3.1
PET				*i* S	Sn	17 01 39.2	+4.1
RUS	**Russkaya**	**3.04**	**203**	*e*P	Pn	17 01 15.0	+2.4
RUS				*i* S	Sn	17 01 52.2	+2.9
MIPR	**Malaya Ipel'ka**	**3.69**	**218**	*e*P	Pn	17 01 23.2	+1.7

SKHL 25 17:22:49.4±0.9, **4842N**×**14187E**, **h10**km, **mb4.1**/3, **Sakhalin Island**

*NEIC **25** 17:30:48.3, 1592N×9830W, h5km, MD4.1(MEX), After MEX.*
MEX 25 17:30:47.6±0.4, **1592N**×**9838W**, **h5**km±4km, **MD4.1, Off coast of Guerrero**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PNIG	**Pinotepa**	**0.52**	**27**	*i* P	Pg	17 30 57.1	-0.6
PNIG				*i* S	Sg	17 31 05.0	+0.5
VHO	**Vista Hermosa**	**1.94**	**54**	*i* P	Pn	17 31 18.3	-3.0
VHO				*i* S	Sn	17 31 41.3	-4.8
UTMO	**Huajuapan**	**1.97**	**16**	*e*P	Pn	17 31 19.5	-2.2
UTMO				*i* S	Sn	17 31 42.7	-4.1
CAIG	**El Cayaco**	**2.13**	**302**	*i* P	Pn	17 31 20.7	-3.2
CAIG				*i* S	Sn	17 31 45.9	-4.9
CAIG	**El Cayaco**	**2.13**	**302**	*e*P	Pn	17 31 22.0	-1.8
CAIG				*i* S	Sn	17 31 49.4	-1.4
TPIG	**Tehuac#an**	**2.66**	**21**	*i* P	Pn	17 31 29.5	-1.7
TPIG				*i* S	Sn	17 32 00.5	-3.4
PLIG	**Platanillo**	**2.68**	**336**	*e*P	Pn	17 31 29.6	-1.8
PLIG				*i* S	Sn	17 32 01.2	-3.1
PLIG	**Platanillo**	**2.68**	**336**	*e*P	Pn	17 31 30.4	-1.0
PLIG				*i* S	Sn	17 32 01.8	-2.5
PPM	**Popocatepetl**	**3.13**	**356**	*e*P	Pn	17 31 35.5	-2.2
PPM				*i* S	Sn	17 32 12.6	-2.9
PPM	**Popocatepetl**	**3.13**	**356**	*e*P	Pn	17 31 36.2	-1.5
PPM				*i* S	Sn	17 32 13.2	-2.3
ZIIG	**Zihuatanejo**	**3.40**	**300**	*i* P	Pn	17 31 39.2	-2.1
ZIIG				*i* S	Sn	17 32 17.4	-4.6
ZIIG	**Zihuatanejo**	**3.40**	**300**	*i* P	Pn	17 31 41.2	-0.1
ZIIG				*i* S	Sn	17 32 20.2	-1.8

*ISK **25** 17:30:50.4, 3781N×2700E, h14km, MD2.7*
*CSEM **25** 17:30:50.7±0.1, 3781N×2722E, h2km, MD2.9, Error ellipse: s-maj=5.1km s-min=2.2km az=85.0*
*ISCJB **25** 17:30:51.8±0.5, 3779N±002×2724E±006, h10km, Error ellipse: s-maj=6.6km s-min=3.3km az=169.0*
*DDA **25** 17:30:51.5, 3780N×2726E, h2km±1km, Md2.9*
ISC 25 17:30:52.3±0.5, **3780N**±002×**2725E**±006, **h6**km±9km, **n10, σ0°96/18, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GCAM	**G?zelcaml?**	**0.10**	**188**	*i* P	**Pg**	**17 30 53.5**	**-0.9**
GCAM				*i* S	**Sg**	**17 30 55.6**	**-0.3**
AYDN	**Tasoluk**	**0.52**	**106**	*i* P	**Pg**	**17 31 01.8**	**-0.5**
AYDN				*i* S	**Sg**	**17 31 08.9**	**0.0**
IZM	**Izmir**	**0.59**	**1**	*e*PG	**Pg**	**17 31 03.2**	**-0.6**
IZM				*e*SG	**Sg**	**17 31 12.6**	**+1.1**
BLCB	**Balcova**	**0.61**	**344**	*e*PG	**Pg**	**17 31 01.8**	**-2.1**
BLCB				*e*SG	**Sg**	**17 31 11.0**	**-0.8**
BODT	**Bodrum**	**0.74**	**176**	*e*PG	**Pg**	**17 31 06.4**	**0.0**
BODT				*e*SG	**Sg**	**17 31 16.9**	**+0.8**
BDRM	**Kayabasi**	**0.75**	**168**	*i* P	**Pg**	**17 31 06.9**	**+0.2**
BDRM				*i* S	**Sg**	**17 31 17.6**	**+1.1**
URLA	**Izmir**	**0.76**	**317**	*i* P	**Pg**	**17 31 06.5**	**-0.4**
URLA				*i* S	**Sg**	**17 31 18.8**	**+2.0**
AKHS	**Akhisar**	**1.16**	**22**	*i* P	**Pg**	**17 31 14.3**	**-0.3**
AKHS				*i* S	**Sg**	**17 31 31.5**	**+1.8**
AKS	**Akhisar**	**1.16**	**22**	*e*PN	**Pn**	**17 31 14.7**	**-0.4**
KULA	**Kula-Manisa**	**1.32**	**57**	*e*PN	**Pn**	**17 31 17.0**	**-0.3**

*NIED **25** 17:40:00, 3770N×13740E, h5km, Mw3.4 Best double couple: M0 1.41000×10^14 NP1:φs61.00000°, δ79.00000°, λ-142.00000°. NP2:φs322.00000°, δ53.00000°, λ-14.00000°.*
*ISCJB **25** 17:40:16.8±0.9, 3769N±004×13741E±006, h10km±7km, Error ellipse: s-maj=8.9km s-min=5.9km az=39.0*
*JMA **25** 17:40:17.1, 3767N×13742E, h12km±1km, M3.6*
JMA Felt I J1.
ISC 25 17:40:16.9±0.8, **3768N**±005×**13741E**±005, **h14**km±6km, **n8, σ0°43/15, 3C-3D, Near west coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JSZ	**Suzu**	**0.24**	**189**	⇑P	**Pg**	**17 40 21.9**	**-0.1**
JSZ				S	**Sg**	**17 40 25.6**	**+0.1**
JHG	**Hegura jima**	**0.42**	**293**	⇓P	**Pg**	**17 40 25.9**	**+0.6**
JSD	**Sado**	**0.76**	**62**	⇑P	**Pg**	**17 40 31.4**	**-0.2**
JSD				S	**Sg**	**17 40 41.6**	**0.0**
JJN	**Nakama**	**0.83**	**134**	⇓P	**Pb**	**17 40 33.1**	**0.0**
JJN				S	**Sb**	**17 40 44.9**	**+0.7**
JJH	**Hakui**	**0.91**	**214**	P	**Pb**	**17 40 34.1**	**-0.3**
JJH				S	**Sb**	**17 40 46.6**	**+0.3**
JIZZ	**Izumozaki**	**1.04**	**98**	⇓P	**Pb**	**17 40 36.2**	**-0.5**
JIZZ				S	**Sb**	**17 40 51.0**	**+0.8**
JTT	**Ttatey**	**1.08**	**183**	⇑P	**Pb**	**17 40 36.9**	**-0.4**
JTT				S	**Sb**	**17 40 51.5**	**+0.3**
MAT	**Matsushiro**	**1.30**	**151**	P	**Pn**	**17 40 40.0**	**-0.7**
MAT				S	**Sb**	**17 40 57.3**	**-0.4**

*ISCJB **25** 17:59:27.5±0.5, 687N±005×7291W±005, h177km±5km, mb3.8/8, Error ellipse: s-maj=9.4km s-min=7.0km az=135.6*
*IDC **25** 17:59:27.1±0.7, 676N×7299W, h155km±7km, mb3.6/7, mb1 3.9/10, mb1mx3.7/20, mbtmp3.7/10, Error ellipse: s-maj=16.1km s-min=7.6km az=130.0*
*FUNV **25** 17:59:27.2, 674N×7316W, h168km, MW4.0*
*NEIC **25** 17:59:28.1±0.6, 677N×7299W, h167km±7km, mb4.3/3, Error ellipse: s-maj=10.5km s-min=8.2km az=124.0*
ISC 25 17:59:28.4±0.5, **684N**±005×**7290W**±005, **h168**km±5km, **n33, σ1°11/44, mb3.8/8, 1C-11D, Northern Colombia**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CAPV	**Capacho**	**1.17**	**30**	⇓*i* P	**Pn**	**17 59 56.9**	**+0.7**
CAPV				*e*S	**Sn**	**18 00 17.9**	**+0.1**
ROSC	**El Rosal**	**2.43**	**216**	P	**Pn**	**18 00 08.1**	**-1.5**
	42nm,0.3s,baz=92,slow=22,SNR=43						
ROSC				S	**Sn**	**18 00 37.2**	**-4.3**
	92nm,0.3s,baz=108,slow=20,SNR=14						
SOCV	**Socops**	**2.48**	**55**	⇓*i* P	**Pn**	**18 00 11.5**	**+1.3**
SOCV				*e*S	**Sn**	**18 00 44.0**	**+1.4**
VIGV	**El Vigia**	**2.50**	**37**	⇓*i* P	**Pn**	**18 00 11.4**	**+0.9**
VIGV				*e*S	**Sn**	**18 00 44.3**	**+1.3**
SDV	**Santo Domingo**	**3.03**	**48**	P	**Pn**	**18 00 18.3**	**+1.5**

Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSI	**Kapahiang**	**1.60**	**73**	P	**Pn**	**18 00 25.5**	**+0.2**
PDSI	**Padang**	**3.26**	**349**	P	**Pn**	**18 00 46.9**	**-1.2**
PPI	**Padang Panjang**	**3.71**	**350**	P	**Pn**	**18 00 53.0**	**-1.4**
RGRI	**Rengat**	**3.97**	**19**	P	Px	18 01 10.8	
PPBI	**Pangkal Pinang**	**5.44**	**69**	P	**Pn**	**18 01 19.1**	**+1.1**
CBJI	**Citeko** 125nm,0.8s,8.3nm	**6.20**	**112**	P	**Pn**	**18 01 23.9**	**-4.6**
LEM	**Lembang** 39nm,1.0s,0.1nm	**7.05**	**113**	P	**Pn**	**18 01 40.7**	**+0.4**
CMAR	**Chiang Mai Arr** 3.5nm,0.7s,mb3.9,baz=184,slow=8.6,SNR=22	**22.55**	**355**	P	**P**	**18 04 57.2**	**+0.6**
ODAN	**Odare** 13nm,0.7s,mb5.0	**33.53**	**338**	*e*P	**P**	**18 06 36.9**	**+0.9**
TAPN	**Taplejung** 20nm,0.9s,mb5.1	**33.85**	**338**	*e*P	**P**	**18 06 39.4**	**+0.6**
RAMN	**Ramite** 9.3nm,0.8s,mb4.8	**33.92**	**336**	*e*P	**P**	**18 06 40.4**	**+1.0**
JIRN	**Jiri** 17nm,0.7s,mb5.1	**34.71**	**336**	*e*P	**P**	**18 06 47.3**	**+1.0**
GUN	**Gumba** 9.5nm,0.5s,mb5.0	**35.06**	**336**	*e*P	**P**	**18 06 50.1**	**+0.9**
KKN	**Kakani**	**35.20**	**335**	*e*P	**P**	**18 06 50.6**	**+0.2**
GKN	**Gorkha**	**35.66**	**335**	*e*P	**P**	**18 06 54.6**	**+0.2**
KOLN	**Koldanda** 6.6nm,0.7s,mb4.7	**35.91**	**333**	*e*P	**P**	**18 06 57.1**	**+0.5**
DANN	**Dangsing** 7.2nm,0.6s,mb4.8	**36.34**	**334**	*e*P	**P**	**18 06 59.9**	**-0.3**
ASAR	**Alice Springs** 1.4nm,0.5s,mb4.0,baz=300,slow=7.6,SNR=63	**37.16**	**125**	P	**P**	**18 07 06.6**	**-0.7**
ASAR	1.6nm,0.5s,baz=299,slow=8.2,SNR=15			pP	pP	18 07 13.9	-3.2
CTA	**Charters Tower** 2.4nm,1.0s,mb4.1,baz=328,slow=9.5,SNR=2.8	**46.76**	**114**	P	**P**	**18 08 24.8**	**-0.9**
CTAO	**Charters Tower** 1.2nm,0.5s,mb4.1	**46.76**	**114**	*e*P	**P**	**18 08 24.9**	**-0.9**
STKA	**Stephens Creek** 1.4nm,0.9s,mb3.9,baz=315,slow=14,SNR=2.5	**46.95**	**131**	P	**P**	**18 08 27.4**	**+0.2**
STKA	2.2nm,0.7s,baz=317,slow=8.4,SNR=4.1			pP	pP	18 08 35.1	-2.1
STKA	comp=Z,107nm,18.8s,baz=25,slow=38			LR	LR	18 29 54.5	
KSRS	**Korea Array** 1.6nm,0.8s,mb4.1,baz=218,slow=9.4,SNR=6.0	**48.34**	**29**	P	**P**	**18 08 36.9**	**-0.8**
SONM	**Songino Array** 3.7nm,0.7s,mb4.4,baz=186,slow=8.4,SNR=14	**51.96**	**5**	P	**P**	**18 09 05.5**	**+0.5**
MKAR	**Makanchi Array** 4.1nm,0.7s,mb4.5,baz=156,slow=8.8,SNR=27	**53.36**	**344**	P	**P**	**18 09 14.6**	**-0.7**
ZAA0	**Zalesovo Array**	**59.45**	**349**	*e*P	**P**	**18 09 57.4**	**-1.2**
ZALV	**Zalesovo Beam** 3.4nm,0.7s,mb4.5,baz=160,slow=4.7,SNR=17	**59.45**	**349**	P	**P**	**18 09 57.5**	**-1.2**
ZALV	1.4nm,0.4s,baz=167,slow=3.5,SNR=4.5			pP	pP	18 10 05.4	-3.5
TXAR	**Lajitas Array** 1.6nm,0.9s,baz=290,slow=3.6,SNR=9.4	**145.69**	**40**	PKPbc	PKPbc	18 19 35.6	+0.3
TXAR	0.9nm,0.7s,baz=238,slow=1.9,SNR=5.6			pPKPbc	pPKPbc	18 19 43.4	-3.0

MAN 25 18:00:30,1537N×12242E,h1km,mb4.1,ML2.9,MS2.6,
Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
POLP	**Polilio Island**	**0.79**	**216**	*e*P	Pg	18 00 45.7	+0.6
POLP				*e*S	Sg	18 00 56.7	+1.3
BALP	**Baler**	**0.90**	**295**	*e*P	Pg	18 00 48.1	+0.9
PCPH	**Palayan**	**1.29**	**279**	*e*P	Pg	18 00 55.5	+0.7
PCPH				*e*S	Sg	18 01 14.0	+2.4
CAUP	**Cauayan**	**1.67**	**340**	*e*P	Pn	18 00 60.0	-0.5
PVCP	**Virac**	**2.43**	**136**	*e*P	Pn	18 01 12.2	+1.4

*ISCJB **25** 18:05:53.2±0.6,2487N±003×12188E±002,h111km±4km, Error ellipse: s-maj=5.1km s-min=3.1km az=150.4*
*JMA **25** 18:05:53.7±0.3,2502N×12195E,h108km,M3.1*
*TAP **25** 18:05:53.1,2488N×12184E,h112km,ML4.0,B*
ISC 25 18:05:53.6±0.6,2488N±003×12187E±003,h110km±4km, n54,σ0°60/104,2C-13D,Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ILA	**Ilan** baz=207	**0.16**	**225**	*i* P	**Pn**	**18 06 09.6**	**+0.7**
ILA				*i* S	**Sn**	**18 06 21.6**	**+1.3**
TWB1	**Santiao Chiao** baz=48	**0.17**	**39**	*i* P	**Pn**	**18 06 09.0**	**+0.1**
TWB1				S	**Sn**	**18 06 20.1**	**-0.3**
NWF	**Wu-fen Shan** baz=352	**0.21**	**336**	P	**Pn**	**18 06 09.0**	**0.0**
NWF				S	**Sn**	**18 06 20.5**	**-0.1**
TWE	**Neicheng** baz=222	**0.24**	**230**	⇓*i*P	**Pn**	**18 06 09.4**	**+0.2**
TWE				S	**Sn**	**18 06 21.8**	**+1.0**
TWC	**Suao** baz=168	**0.27**	**185**	*i* P	**Pn**	**18 06 09.7**	**+0.4**
TWC				S	**Sn**	**18 06 21.3**	**+0.3**
TWA	**Mucha** baz=286	**0.28**	**291**	⇓*i*P	**Pn**	**18 06 09.4**	**+0.1**
TWA				S	**Sn**	**18 06 21.4**	**+0.3**
TAP1	**Taipei** baz=301	**0.35**	**297**	*i* P	**Pn**	**18 06 09.4**	**-0.2**
TAP1				S	**Sn**	**18 06 21.4**	**-0.3**
ENA	**Nanau** baz=179	**0.47**	**195**	⇑*i*P	**Pn**	**18 06 10.4**	**+0.1**
ENA				S	**Sn**	**18 06 23.8**	**+1.0**
TWY	**Chenhua** baz=326	**0.47**	**328**	*i* P	**Pn**	**18 06 10.0**	**-0.2**
TWY				*e*S	**Sn**	**18 06 22.6**	**-0.2**
TWS1	**Kuangyinshan** baz=292	**0.47**	**298**	⇓*i*P	**Pn**	**18 06 10.2**	**0.0**
TWS1				*e*S	**Sn**	**18 06 22.9**	**+0.1**
NSK	**Sanguang** baz=245	**0.51**	**247**	⇓*i*P	**Pn**	**18 06 10.1**	**-0.4**
NSK				S	**Sn**	**18 06 22.4**	**-0.9**
NCU	**National Centr** baz=273	**0.63**	**278**	P	**Pn**	**18 06 11.2**	**-0.2**
NCU				*e*S	**Sn**	**18 06 24.6**	**-0.2**
NNS	**Nan Shan** baz=227	**0.63**	**226**	⇓*i*P	**Pn**	**18 06 11.5**	**+0.1**
NNS				S	**Sn**	**18 06 25.5**	**+0.7**
PCYT	**Pengchaiyu** baz=13	**0.77**	**14**	P	**Pn**	**18 06 12.5**	**-0.1**
PCYT				*e*S	**Sn**	**18 06 26.4**	**-0.5**
HSN	**Hsinchu** baz=262	**0.82**	**265**	P	**Pn**	**18 06 12.5**	**-0.5**
HSN				*e*S	**Sn**	**18 06 26.9**	**-0.8**
NSTT	**Nanjuang** baz=247	**0.83**	**253**	⇓*i*P	**Pn**	**18 06 12.9**	**-0.2**
NSTT				*e*S	**Sn**	**18 06 27.0**	**-0.8**
TWD	**Chiawan** baz=193	**0.83**	**198**	P	**Pn**	**18 06 12.4**	**-0.8**
TWD				S	**Sn**	**18 06 27.3**	**-0.6**
WHF	**Hehuan Shan** baz=213	**0.92**	**217**	⇓*i*P	**Pn**	**18 06 14.6**	**+0.6**
WHF				*e*S	**Sn**	**18 06 30.3**	**+1.0**
HWA	**Hwalien** baz=202	**0.93**	**195**	P	**Pn**	**18 06 13.7**	**-0.5**
NSY	**Sanyi** baz=245	**1.11**	**246**	P	**Pn**	**18 06 16.0**	**0.0**
NSY				*e*S	**Sn**	**18 06 33.0**	**+0.1**
YOJ	**Yonaguni jima**	**1.12**	**112**	P	**Pn**	**18 06 16.1**	**+0.1**
YOJ				S	**Sn**	**18 06 33.2**	**+0.2**
TWQ1	**Liyutan** baz=242	**1.13**	**242**	P	**Pn**	**18 06 16.0**	**-0.2**
TWQ1				*e*S	**Sn**	**18 06 32.7**	**-0.6**
ESL	**Shilin** baz=192	**1.13**	**201**	P	**Pn**	**18 06 15.1**	**-1.2**
ESL				*e*S	**Sn**	**18 06 31.9**	**-1.4**
TCU	**Taichung** baz=235	**1.31**	**236**	P	**Pn**	**18 06 18.2**	**0.0**
TCU				*e*S	**Sn**	**18 06 36.7**	**-0.1**
SMLT	**Sun Moon Lake** baz=228	**1.33**	**222**	⇓*i*P	**Pn**	**18 06 18.8**	**+0.3**
SMLT				S	**Sn**	**18 06 37.7**	**+0.4**
TYC	**Yuchr** baz=231	**1.34**	**224**	⇓*i*P	**Pn**	**18 06 18.7**	**+0.1**
TYC				S	**Sn**	**18 06 37.5**	**0.0**
EHY	**Hungye** baz=188	**1.46**	**200**	*e*P	**Pn**	**18 06 19.0**	**-0.9**
EHY				*e*S	**Sn**	**18 06 38.4**	**-1.5**
WNT	**Mingjian** baz=235	**1.47**	**228**	P	**Pn**	**18 06 20.2**	**+0.1**
WNT				*e*S	**Sn**	**18 06 40.2**	**0.0**
TWF1	**Yuli** baz=195	**1.61**	**199**	P	**Pn**	**18 06 20.4**	**-1.4**
TWF1				*e*S	**Sn**	**18 06 43.2**	**+0.1**
YUS	**Yu-Shan** baz=201	**1.62**	**211**	⇓*i*P	**Pn**	**18 06 23.2**	**+1.3**
YUS				*e*S	**Sn**	**18 06 44.9**	**+1.5**
ALS	**Alishan** baz=213	**1.68**	**216**	⇓*i*P	**Pn**	**18 06 23.1**	**+0.6**
ALS				*e*S	**Sn**	**18 06 45.0**	**+0.4**
CHN5	**Tsauling** baz=219	**1.68**	**221**	⇓*i*P	**Pn**	**18 06 22.8**	**+0.1**
CHN5				*e*S	**Sn**	**18 06 44.8**	**+0.1**
WGK	**Gukeng** baz=233	**1.69**	**225**	P	**Pn**	**18 06 22.8**	**+0.1**
WGK				*e*S	**Sn**	**18 06 45.2**	**+0.4**
IRIF	**Iriomote-Funau**	**1.78**	**107**	P	**Pn**	**18 06 23.5**	**-0.3**
IRIF				*e*S	**Sn**	**18 06 46.2**	**-0.6**
CHKT	**Chengkung** baz=182	**1.83**	**195**	P	**Pn**	**18 06 24.1**	**-0.4**
CHKT				*e*S	**Sn**	**18 06 47.4**	**-0.7**
CHN2	**Minshiung** baz=231	**1.85**	**224**	*e*P	**Pn**	**18 06 25.6**	**+0.9**
CHN2				*e*S	**Sn**	**18 06 48.9**	**+0.4**
ELDTW	**Lidau** baz=194	**1.86**	**205**	P	**Pn**	**18 06 24.7**	**-0.1**
ELDTW				*e*S	**Sn**	**18 06 49.3**	**+0.8**
CHN4	**Tsaushan** baz=216	**1.92**	**218**	*e*P	**Pn**	**18 06 25.9**	**+0.3**
CHN4				*e*S	**Sn**	**18 06 49.8**	**-0.1**
HATJ	**Hateruma jima**	**1.94**	**115**	P	**Pn**	**18 06 26.5**	**+0.6**
HATJ				*e*S	**Sn**	**18 06 51.0**	**+0.5**
WSF	**Szhu** baz=231	**1.95**	**231**	*e*P	**Pn**	**18 06 25.7**	**-0.3**
WSF				*e*S	**Sn**	**18 06 50.3**	**-0.4**
STYT	**Tauyuan** baz=207	**1.99**	**211**	P	**Pn**	**18 06 26.8**	**+0.3**
STYT				*e*S	**Sn**	**18 06 51.8**	**+0.2**
WTP	**Ta-pu** baz=212	**1.99**	**216**	⇓*i*P	**Pn**	**18 06 26.5**	**0.0**
WTP				*e*S	**Sn**	**18 06 51.4**	**-0.3**
TWK	**Hsinying** baz=216	**2.04**	**219**	P	**Pn**	**18 06 27.1**	**-0.1**
TWK				*e*S	**Sn**	**18 06 52.9**	**+0.1**
JKRS	**Kuro-shima**	**2.05**	**108**	P	**Pn**	**18 06 27.4**	**+0.2**
JKRS				*e*S	**Sn**	**18 06 52.7**	**-0.2**
CHN1	**Nanshi** baz=213	**2.09**	**216**	⇑*i*P	**Pn**	**18 06 27.7**	**-0.1**
CHN1				*e*S	**Sn**	**18 06 53.3**	**-0.5**
JIJ	**Ishigaki jima**	**2.13**	**103**	P	**Pn**	**18 06 28.0**	**-0.2**
JIJ				S	**Sn**	**18 06 53.6**	**-1.1**
SGST	**Jiashian** baz=210	**2.14**	**214**	P	**Pn**	**18 06 28.7**	**+0.2**
SGST				S	**Sn**	**18 06 55.0**	**-0.1**
TWG	**Pinlang** baz=192	**2.18**	**200**	*e*P	**Pn**	**18 06 29.9**	**+1.1**
SSD	**Sandimen** baz=203	**2.41**	**208**	P	**Pn**	**18 06 32.3**	**+0.5**
SSD				*e*S	**Sn**	**18 07 01.1**	**-0.1**
ECL	**Taimali** baz=187	**2.42**	**201**	*e*P	**Pn**	**18 06 31.0**	**-1.1**
ECL				*e*S	**Sn**	**18 06 59.5**	**-2.0**
TWM1	**Shoushan** baz=212	**2.44**	**213**	*e*P	**Pn**	**18 06 32.6**	**+0.3**
JTJ	**Tarama**	**2.58**	**95**	P	**Pn**	**18 06 34.8**	**+0.7**
JTJ				*e*S	**Sn**	**18 07 05.5**	**+0.2**
EAST	**Anshuo** baz=187	**2.66**	**201**	*e*P	**Pn**	**18 06 36.0**	**+0.9**
EAST				*e*S	**Sn**	**18 07 07.4**	**+0.4**
SCZT	**Fangliau** baz=204	**2.75**	**205**	*e*P	**Pn**	**18 06 37.0**	**+0.7**

*DDA **25** 18:55:01.8,4040N×26.18E,h7km±4km,Md3.0*
*CSEM **25** 18:55:01.9±0.1,4043N×26.15E,h15km,MD2.8,Error ellipse: s-maj=2.3km s-min=1.7km az=90.0*
*ISK **25** 18:55:02.1,4040N×26.19E,h6km,MD2.8*
*ATH **25** 18:55:02.2,4045N×26.14E,h34km±3km,MD2.9/3*
*ISCJB **25** 18:55:02.1±0.5,4043N±002×26.13E±004,h13km±4km, Error ellipse: s-maj=5.8km s-min=3.4km az=173.8*
*NEIC **25** 18:55:02.0,4041N×26.18E,h6km,MD2.6(ISK), MD2.9(ATH),After ISK.*
*THE **25** 18:55:03.2,4041N×2609E,h11km±3km,ML2.6/2,Error ellipse: s-maj=3.7km s-min=0.9km az=300.0*
ISC 25 18:55:02.5±0.4,4043N±002×2612E±005,h15km±3km,n22, σ0°78/37,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GADA	**Gvkgeada**	**0.29**	**216**	PG	**Pg**	**18 55 08.8**	**+0.3**
GADA				SG	**Sg**	**18 55 13.4**	**+0.7**
ENEZ	**Enez**	**0.31**	**5**	*e*PG	**Pg**	**18 55 09.0**	**0.0**
ENEZ				*e*SG	**Sg**	**18 55 14.3**	**+0.9**
ALN	**Alexandroupoli**	**0.47**	**353**	P	**Pg**	**18 55 12.0**	**+0.1**
ALN				S	**Sg**	**18 55 19.6**	**+1.3**
BOZC	**Bozcaada**	**0.58**	**185**	*i* P	**Pg**	**18 55 13.2**	**-0.7**
BOZC				*i* S	**Sg**	**18 55 21.2**	**-0.6**
EZN	**Ezine**	**0.62**	**165**	*e*PG	**Pg**	**18 55 14.2**	**-0.4**
EZN				*e*SG	**Sg**	**18 55 22.0**	**-0.8**
RDO	**Rodhopi**	**0.84**	**329**	*e*Pn	**Pn**	**18 55 18.6**	**-1.2**
RDO				*e*Sn	**Sn**	**18 55 30.1**	**-1.8**
RDO	**Rodhopi**	**0.84**	**329**	*e*PN	**Pn**	**18 55 18.6**	**-1.2**
RDO				*e*SN	**Sn**	**18 55 30.1**	**-1.8**
RKY	**Sarkoy-Tekirda**	**0.85**	**72**	*e*PG	**Pg**	**18 55 17.9**	**-1.0**
LIA	**Limnos Island**	**0.89**	**234**	P	**Pb**	**18 55 19.5**	**-0.1**
LIA				S	**Sb**	**18 55 32.0**	**+0.7**
LIA	**Limnos Island**	**0.89**	**234**	*e*Pn	**Pn**	**18 55 19.8**	**-0.6**
LIA				S	**Sb**	**18 55 32.0**	**+0.7**
LIA	**Limnos Island**	**0.89**	**234**	*e*PN	**Pn**	**18 55 19.8**	**-0.6**
MFT	**Murefte**	**0.95**	**67**	*e*PG	**Pg**	**18 55 20.5**	**-0.4**
PRK	**Paraskevi**	**1.18**	**174**	P	**Pn**	**18 55 24.5**	**0.0**
PRK				S	**Sb**	**18 55 40.3**	**+0.6**
PRK	**Paraskevi**	**1.18**	**174**	*e*Pn	**Pn**	**18 55 24.5**	**0.0**
PRK				*e*Sn	**Sn**	**18 55 40.6**	**+0.3**
PRK	**Paraskevi**	**1.18**	**174**	*e*PN	**Pn**	**18 55 24.5**	**0.0**
PRK				*e*SN	**Sn**	**18 55 40.6**	**+0.3**
AYVA	**Ayvalik**	**1.20**	**158**	*i* P	**Pn**	**18 55 24.3**	**-0.4**
AYVA				*i* S	**Sb**	**18 55 40.0**	**-0.2**
BALY	**Balya**	**1.34**	**120**	*i* P	**Pn**	**18 55 26.4**	**-0.2**
BALY				*i* S	**Sn**	**18 55 45.6**	**+1.5**
OUR	**Ouranopolis**	**1.64**	**267**	P	**Pn**	**18 55 29.7**	**-1.0**
NVR	**Nevrokopi**	**1.94**	**299**	*e*Pn	**Pn**	**18 55 35.1**	**+0.2**
NVR	**Nevrokopi**	**1.94**	**299**	*e*PN	**Pn**	**18 55 35.1**	**+0.2**
PLD	**Plovdiv**	**1.99**	**328**	P	**Pn**	**18 55 36.7**	**+1.2**
CHOS	**Chios island**	**2.04**	**181**	P	**Pn**	**18 55 36.7**	**+0.5**
CHOS				S	**Sn**	**18 56 02.4**	**+1.1**

*DDA **25** 18:56:52.9,3913N×2903E,h5km±5km,Md3.3,Ml3.5*
*CSEM **25** 18:56:52.9±0.1,3910N×2903E,h5km,ML3.5,Error ellipse: s-maj=1.7km s-min=1.3km az=172.0*
*ISCJB **25** 18:56:53.7±0.3,3910N±002×2903E±002,h10km,Error ellipse: s-maj=3.2km s-min=2.6km az=164.1*
*ISK **25** 18:56:53.1,3911N×2904E,h5km,MD3.1*
ISC 25 18:56:53.7±0.4,3914N±002×2904E±002,h1km±5km,n37, σ0°67/51,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DEMI	**Demirci**	**0.27**	**250**	*i* P	**Pg**	**18 56 58.9**	**0.0**
DEMI				*i* S	**Sg**	**18 57 02.8**	**+0.4**
GDZ	**Gediz**	**0.35**	**98**	*i* P	**Pg**	**18 57 00.1**	**-0.2**
GDZ				*i* S	**Sg**	**18 57 05.2**	**+0.5**
DST	**Dursunbey**	**0.57**	**326**	*e*PG	**Pg**	**18 57 04.7**	**+0.2**
KULA	**Kula-Manisa**	**0.69**	**206**	PG	**Pg**	**18 57 06.4**	**-0.5**
KULA				*e*SG	**Sg**	**18 57 15.4**	**-0.3**
MANT	**Manisa**	**0.75**	**210**	*i* P	**Pg**	**18 57 07.3**	**-0.6**
MANT				*i* S	**Sg**	**18 57 16.7**	**-1.0**
ALT	**Altintas**	**0.84**	**95**	PG	**Pg**	**18 57 09.3**	**-0.4**
ALT				*e*SG	**Sg**	**18 57 21.1**	**+0.6**
KHAL	**Karahalli**	**0.84**	**155**	*i* P	**Pg**	**18 57 09.3**	**-0.5**
KHAL				*i* S	**Sg**	**18 57 20.8**	**+0.1**
AKHS	**Akhisar**	**0.99**	**255**	*i* P	**Pg**	**18 57 12.9**	**+0.2**
AKHS				*i* S	**Sg**	**18 57 25.8**	**+0.3**
AKS	**Akhisar**	**0.99**	**255**	PG	**Pg**	**18 57 12.9**	**+0.3**
AKS				*e*SG	**Sg**	**18 57 26.2**	**+0.7**
ULDT	**Uludag**	**1.01**	**4**	*i* P	**Pg**	**18 57 12.4**	**-0.6**
ULDT				*i* S	**Sg**	**18 57 26.1**	**+0.1**
BALB	**Balikesir**	**1.03**	**300**	PG	**Pg**	**18 57 13.3**	**-0.1**
CAVI	**Cavuskoy**	**1.23**	**30**	PN	**Pn**	**18 57 17.5**	**-0.5**
KCT	**Karacabey**	**1.24**	**335**	PN	**Pn**	**18 57 17.2**	**-1.0**
BALY	**Balya**	**1.25**	**299**	*i* P	**Pg**	**18 57 17.2**	**-0.5**
BALY				*i* S	**Sg**	**18 57 33.5**	**-0.5**
GEMT	**Gemlik**	**1.30**	**5**	*e*PN	**Pn**	**18 57 18.0**	**-0.9**
SHUT	**Suhut-Afyon**	**1.32**	**116**	*e*PN	**Pn**	**18 57 18.6**	**-0.6**
ADVT	**Abdulvahap**	**1.40**	**22**	*e*PN	**Pn**	**18 57 20.5**	**+0.1**
DNZL	**Cakiroluk**	**1.45**	**180**	*i* P	**Pn**	**18 57 20.4**	**-0.6**
DNZL				*i* S	**Sg**	**18 57 43.0**	**+2.9**
YLV	**Yalova**	**1.45**	**10**	*e*PN	**Pn**	**18 57 19.9**	**-1.2**
ESKT	**Eskisehir**	**1.45**	**74**	*i* P	**Pn**	**18 57 20.4**	**-0.7**
ESKT				*i* S	**Sg**	**18 57 41.0**	**+0.6**
SEYT	**Eskypehyr**	**1.45**	**74**	*i* P	**Pn**	**18 57 20.4**	**-0.7**
SEYT				*i* S	**Sg**	**18 57 41.0**	**+0.6**
BNT	**Bandirma**	**1.49**	**325**	*e*PN	**Pn**	**18 57 21.2**	**-0.4**
GPA	**Golpazari**	**1.51**	**40**	*e*PN	**Pn**	**18 57 21.7**	**-0.1**
EDC	**Edincik**	**1.51**	**323**	*e*PN	**Pn**	**18 57 21.9**	**0.0**
GULT	**Gulveren**	**1.72**	**41**	*e*PN	**Pn**	**18 57 25.2**	**+0.4**
HRT	**Hereke**	**1.75**	**16**	*e*PN	**Pn**	**18 57 25.8**	**+0.6**
ISK	**Istanbul-Kandi**	**1.93**	**0**	*e*PN	**Pn**	**18 57 27.8**	**+0.2**
BGKT	**Bogazkoy**	**2.05**	**354**	*e*PN	**Pn**	**18 57 29.8**	**+0.5**
CTT	**Catalca**	**2.06**	**347**	*e*PN	**Pn**	**18 57 28.8**	**-0.6**
SILT	**Sile**	**2.06**	**13**	*e*PN	**Pn**	**18 57 29.9**	**+0.4**
SART	**Tekirdag**	**2.11**	**318**	*i* P	**Pn**	**18 57 32.9**	**+2.8**
SART				*i* S	**Sn**	**18 58 01.2**	**+4.2**
RKY	**Sarkoy-Tekirda**	**2.11**	**318**	*e*PN	**Pn**	**18 57 30.9**	**+0.8**
MFT	**Murefte**	**2.13**	**321**	*e*PN	**Pn**	**18 57 30.6**	**+0.2**
CTKS	**Kestanelik-??a**	**2.14**	**349**	*e*PN	**Pn**	**18 57 30.7**	**+0.2**
KIZT	**Kizilcal**	**2.23**	**96**	*e*PN	**Pn**	**18 57 32.2**	**+0.6**
GADA	**Gvkgeada**	**2.64**	**294**	*e*PN	**Pn**	**18 57 37.8**	**+0.3**
ENEZ	**Enez**	**2.73**	**307**	*e*PN	**Pn**	**18 57 39.1**	**+0.4**

*IDC **25** 19:10:54.6±1.2,282S×13977E,h0km,mb4.0/6,mb1 4.2/6, mb1mx4.0/12,mbtmp4.0/6,MS4.4/18,Ms1 4.4/18, ms1mx4.2/23,Error ellipse: s-maj=44.0km s-min=14.3km az=87.0*
*MOS **25** 19:10:58.9±1.3,259S×13972E,h33km,mb5.0/5,Error ellipse: s-maj=30.9km s-min=9.7km az=120.2*
*DJA **25** 19:11:00.0±0.3,3S±4×140E±,h10km,mB5.3/8,Mjma5.0/2, MLv5.5/2,Mw(mB)5.2/8,Mwp4.8/8*
*BJI **25** 19:11:00.5,287S×13954E,h36km,mB5.1,mb4.8,Ms4.7, Msz4.5*
*ISCJB **25** 19:11:00.2±0.9,280S±005×13977E±005,h48km±9km, mb4.7/28,MS4.4/17,Error ellipse: s-maj=8.4km s-min=7.8km az=154.7*
*GCMT **25** 19:11:01.1±0.2,285S×13957E,h20km,MW5.1/80, Moment Tensor Solution. s57,c85; s80,c131; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_r=4.46±.18; $M_{\theta\theta}$=4.32±.12; $M_{\phi\phi}$=0.13±.14; $M_{r\theta}$=3.13±.25; $M_{r\phi}$=2.06±.10; $M_{\theta\phi}$=1.09±.30; Best double couple: $M_0$5.84400×10^{16} NP1:φs115.00000°,δ28.00000°,λ94.00000°. NP2: φs290.00000°,δ62.00000°,λ88.00000°. Principal axes: T 5.4940, Plg73.0000°, Azm195.0000°; N 0.7010, Plg2.0000°, Azm291.0000°; P -6.1930, Plg17.0000°, Azm22.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **25** 19:11:01.1±1.5,291S×13950E,h37km±15km,mb4.9/18 Error ellipse: s-maj=12.9km s-min=8.2km az=68.0*
ISC 25 19:11:02.1±0.7,280S±004×13985E±005,h50km±7km,n96, σ1°29/77,mb4.7/28,MS4.4/17,1C,Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAY	**Jayapura**	**0.90**	**72**	P	**Pn**	**19 11 17.5**	**-1.0**
JAY	**Jayapura**	**0.90**	**72**	S	**Sn**	**19 11 30.3**	**-0.3**
MMPI	**Merauke** 1µm,0.8s,4.7nm	**5.65**	**175**	P	**Pn**	**19 12 24.4**	**+0.8**
PMG	**Port Moresby**	**9.79**	**132**	*e*P	**Pn**	**19 13 21.9**	**+1.6**
PMG				pmax	pmax		
PMG	**Port Moresby** comp=Z,90nm,1.2s,comp=Z,854nm	**9.79**	**132**	P	**Pn**	**19 13 19.7**	**-0.6**
PMG	**Port Moresby** comp=Z,126nm,1.3s	**9.79**	**132**	*e*P	**Pn**	**19 13 21.9**	**+1.6**
COEN	**Coen** comp=Z,12nm,0.9s	**11.56**	**164**	*e*P	**Pn**	**19 13 43.8**	**-0.7**
AAI	**Ambon**	**11.67**	**265**	P	**Pn**	**19 13 35.8**	**-10**
KAKA	**Kakadu** comp=Z,198nm,0.4s	**12.27**	**216**	*e*P	Px	19 13 43.2	
KAKA				*e*S	Sx	19 15 56.2	
KAKA	**Kakadu**	**12.27**	**216**	P	Px	19 13 44.5	
LBMI	**Labuha** comp=Z,81nm,1.1s,comp=Z,921nm	**12.53**	**280**	P	**Pn**	**19 13 57.2**	**-0.6**
GUMO	**Guam** comp=Z,1µm,18.6s,baz=217,slow=36	**17.03**	**17**	LR	LR	19 21 01.4	
KDI	**Kendari**	**17.24**	**266**	⇑*e*P	**Pn**	**19 15 00.2**	**+0.7**
KDI				*e*S	**S**	**19 18 04.1**	**-13**
DAV	**Davao City (W)** comp=Z,971nm,18.4s,baz=139,slow=40	**17.29**	**305**	LR	LR	19 22 32.4	
BATI	**Baumata** comp=Z,10.0nm,0.3s,baz=0.1,slow=0.6,SNR=18	**17.67**	**245**	P	**Pn**	**19 15 05.7**	**+0.9**
BATI	**Baumata** comp=Z,74nm,1.1s	**17.67**	**245**	P	**Pn**	**19 15 05.9**	**+1.1**
WRAB	**Tennant Creek** comp=Z,73nm,1.3s,comp=Z,938nm	**17.85**	**197**	P	**Pn**	**19 15 02.2**	**-4.8**
CTA	**Charters Tower** comp=Z,6.9nm,0.7s	**18.28**	**160**	*e*P	**Pn**	**19 15 16.2**	**+4.0**
CTA				*e*S	**S**	**19 18 37.0**	**-1.5**
CTA	**Charters Tower** comp=Z,0.4nm,0.3s,baz=341,slow=11,SNR=9.9	**18.28**	**160**	P	**Pn**	**19 15 13.2**	**+1.0**
CTA				LR	LR	19 22 20.4	
CTA	**Charters Tower** comp=Z,2µm,21.5s,baz=345,slow=38	**18.28**	**160**	*e*P	**Pn**	**19 15 16.2**	**+4.0**
CTA				*e*S	**S**	**19 18 37.0**	**-1.5**
CTA	comp=Z,7.0nm,0.7s			pmax	pmax		
CTAO	**Charters Tower** comp=Z,12nm,0.8s	**18.28**	**160**	*e*P	**Pn**	**19 15 16.1**	**+3.9**
CTAO				pmax	pmax		
CTAO	**Charters Tower** comp=Z,22nm,1.2s,comp=Z,748nm	**18.28**	**160**	P	**Pn**	**19 15 16.3**	**+4.1**
CTAO	**Charters Tower** comp=Z,12nm,

OTRP	Odiongan	23.25	311	eP		P	19 16 05.3	-0.2
AUQP	San Andres	23.39	314	eP		P	19 16 10.2	+3.4
SJMP	San Jose	24.00	310	eP		P	19 16 12.6	+0.2
KHKI	Kahang-Kahang	24.74	256	P		P	19 16 19.1	0.0
BBKI	Banjar Baru	24.98	268	P		P	19 16 23.2	+1.9
	comp=Z,76nm,1.5s,comp=Z,2μm,mb5.0							
MBWA	Marble Bar	26.77	225	eP		P	19 16 34.5	-2.9
STKA	Stephens Creek	28.97	177	eP		P	19 16 54.6	-2.3
	comp=Z,3.0nm,1.0s,mb4.0							
STKA				eS	S		19 22 12.1	+28
STKA	Stephens Creek	28.97	177	P		P	19 16 55.3	-1.6
	comp=Z,2.0nm,0.6s,mb4.0,baz=360,slow=7.0,SNR=5.7							
STKA				LR	LR		19 29 42.1	
	comp=Z,3μm,19.6s,MS5.0,baz=121,slow=39							
CBIJ	Chichi jima	29.81	4	LR	LR		19 27 51.1	
	comp=Z,586nm,18.0s,MS4.3,baz=153,slow=34							
FORT	Forrest	29.98	201	eP		P	19 17 05.0	-0.9
	comp=Z,19nm,0.9s,mb4.8							
JOW	Kunigami	31.51	340	LR	LR		19 27 34.6	
	comp=Z,484nm,19.8s,MS4.2,baz=86,slow=32							
CNB	Canberra Magne	33.53	166	eP		P	19 17 38.4	+1.3
TOO	Toolangi	34.99	172	eP		P	19 17 51.6	+2.0
KLBR	Kellerberrin	35.40	214	eP		P	19 17 51.6	-1.7
	comp=Z,31nm,1.4s,mb5.0							
JHJ	Hachijo jima 2	35.73	360	LR	LR		19 30 16.1	
	comp=Z,1μm,18.6s,MS4.6,baz=270,slow=32							
MJAR	Matsushiro Arr	39.17	358	LR	LR		19 32 40.8	
	comp=Z,485nm,19.1s,MS4.3,baz=205,slow=33							
PDSI	Padang	39.41	272	P		P	19 18 34.6	+7.1
KSRS	Korea Array	41.55	346	LR	LR		19 36 35.6	
	comp=Z,310nm,18.8s,MS4.2,baz=163,slow=37							
CMAR	Chiang Mai Arr	45.47	299	P		P	19 19 15.3	-1.3
	comp=Z,2.5nm,0.9s,mb4.1,baz=125,slow=6.1,SNR=11							
CMAR				LR	LR		19 40 44.1	
	comp=Z,195nm,18.3s,MS4.1,baz=277,slow=39							
CMAR	Chiang Mai Arr	45.47	299	P		P	19 19 15.3	-1.3
CMAR				LR	LR		19 40 44.1	
ASAJ	Asahikawa	46.77	3	LR	LR		19 39 58.2	
	comp=Z,174nm,19.3s,MS4.0,baz=335,slow=37							
XAN	Xi'an	46.81	324	P		P	19 19 27.0	0.0
XAN				AP	pP		19 19 36.5	-4.0
XAN				XP	sP		19 19 40.5	-5.8
XAN				PP	PP		19 21 13.3	-4.5
XAN				SS	SS		19 29 30.5	-11
XAN				AMB	AMB			
	comp=Z,4.0nm,1.5s,mb4.1							
XAN				AMB	AMB			
	comp=Z,90nm,9.0s							
XAN				LR	LR			
	comp=N,116nm,20.3s,MS4.1							
XAN				LR	LR			
	comp=E,161nm,18.9s,MS4.1							
XAN				LR	LR			
	comp=Z,323nm,23.2s,MS4.2							
BJI	Beijing	47.84	335	P		P	19 19 36.5	+1.6
BJI				PP	PP		19 21 29.8	+2.6
BJI				AMB	AMB			
	comp=Z,13nm,1.7s,mb4.7							
BJI				AMB	AMB			
	comp=Z,82nm,4.2s							
BJI				LR	LR			
	comp=N,549nm,21.6s,MS4.6							
BJI				LR	LR			
	comp=E,311nm,18.6s,MS4.6							
BJI				LR	LR			
	comp=Z,519nm,20.4s,MS4.5							
KLR	Kul'dur	52.30	353	eP		P	19 20 07.4	-1.1
LSA	Lhasa	56.66	309	eP		P	19 20 38.6	-1.9
PETK	Petropavlovsk-	57.69	13	LR	LR		19 48 09.0	
	comp=Z,188nm,18.2s,MS4.2,baz=188,slow=39							
ULN	Ulaanbaatar	58.03	335	eP		P	19 20 51.6	+1.7
ULN				pmax	pmax			
	comp=Z,15nm,1.4s,mb4.8							
ULN	Ulaanbaatar	58.03	335	eP		P	19 20 51.6	+1.7
	comp=Z,15nm,1.4s,mb4.8							
SONM	Songino Array	58.29	334	P		P	19 20 51.4	-0.3
	comp=Z,0.4nm,0.5s,mb3.8,baz=151,slow=6.3,SNR=2.7							
SONM				LR	LR		19 46 44.8	
	comp=Z,423nm,18.9s,MS4.6,baz=326,slow=37							
TAPN	Taplejung	58.46	305	eP		P	19 20 51.6	-1.7
	comp=Z,13nm,0.9s,mb5.0							
ODAN	Odare	58.54	304	eP		P	19 20 53.3	-0.5
	comp=Z,14nm,0.7s,mb5.1							
RAMN	Ramite	59.23	304	eP		P	19 20 58.3	-0.3
	comp=Z,11nm,0.8s,mb5.0							
JIRN	Jiri	59.83	304	eP		P	19 21 02.0	-0.7
	comp=Z,5.6nm,0.5s,mb4.8							
GUN	Gumba	60.17	304	eP		P	19 21 04.8	-0.3
PKI	Pulchoki	60.44	304	eP		P	19 21 06.5	-0.4
PKI				pmax	pmax			
	comp=Z,5.0nm,0.8s,mb4.6							
PKI	Pulchoki	60.44	304	eP		P	19 21 06.5	-0.4
	comp=Z,5.0nm,0.8s,mb4.6							
PKIN	Phulchoki	60.45	304	eP		P	19 21 06.5	-0.5
	comp=Z,5.0nm,0.8s,mb4.6							
KKN	Kakani	60.63	304	eP		P	19 21 07.6	-0.6
	comp=Z,19nm,0.8s,mb5.2							
KKN	Kakani	60.63	304	eP		P	19 21 07.6	-0.6
KKN				pmax	pmax			
	comp=Z,19nm,0.8s,mb5.3							
DMN	Daman	60.71	304	eP		P	19 21 08.3	-0.5
	comp=Z,10nm,0.7s,mb5.0							
GKN	Gorkha	61.23	304	eP		P	19 21 11.6	-0.7
	comp=Z,15nm,0.7s,mb5.2							
ZAK	Zakamensk	61.56	334	eP		P	19 21 05.3	-8.7
ZAK				pmax	pmax			
	comp=Z,10.0nm,1.4s,mb4.8							
KOLN	Koldanda	62.01	303	eP		P	19 21 17.1	-0.5
	comp=Z,11nm,0.9s,mb5.0							
DANN	Dangsing	62.08	304	eP		P	19 21 16.9	-1.1
	comp=Z,14nm,0.8s,mb5.2							
BOD	Bodaibo	63.89	345	eP		P	19 21 27.0	-2.4
YAK	Yakutsk	65.12	355	eP		P	19 21 38.0	+0.6
YAK				pmax	pmax			
	comp=Z,16nm,1.0s,mb5.0							
YAK				pmax	pmax			
	comp=N,6.0nm,1.0s							
YAK				pmax	pmax			
	comp=E,3.0nm,1.1s							
WMQ	Urumqi	65.79	321	P		P	19 21 44.3	+2.2
MK31	Makanchi Array	70.56	322	eP		P	19 22 13.1	+1.2
MKAR	Makanchi Array	70.56	322	P		P	19 22 11.8	-0.2
	comp=E,1.5nm,0.8s,mb4.0,baz=102,slow=8.3,SNR=13							
PPT	Papeete	70.64	108	eLR	LR		19 43 19.8	
	comp=E,506nm,24.8s							
PPT	Papeete	70.64	108	LR	LR		19 48 25.8	
	comp=E,408nm,21.6s,MS4.7,baz=291,slow=32							
ZALV	Zalesovo Beam	72.59	329	P		P	19 22 23.1	-0.8
	comp=E,0.9nm,0.6s,mb3.9,baz=146,slow=8.2,SNR=3.5							
ZALV				LR	LR		19 53 52.5	
	comp=E,175nm,19.7s,MS4.3,baz=93,slow=36							
NVS	Novosibirsk	73.84	330	eP		P	19 22 30.3	-1.0
SBA	Scott Base	76.34	174	P		P	19 22 46.0	+0.6
SBA				pmax	pmax			
	comp=Z,11nm,1.4s,mb4.6							
SBA	Scott Base	76.34	174	P		P	19 22 46.0	+0.6
	comp=Z,11nm,1.4s,mb4.6							
TAOE	Nuku Hiva Isla	79.70	98	eLR	LR		19 47 33.1	
	comp=Z,2μm,25.7s							
MAW	Mawson	82.47	202	LR	LR		20 00 23.5	
	comp=Z,504nm,18.2s,MS4.9,baz=156,slow=36							
QSPA	South Pole Qui	87.14	180	eP		P	19 23 43.3	+1.1
	comp=Z,3.2nm,0.8s,mb4.6							
EGAK	Eagle	87.83	25	eP		P	19 23 47.3	+1.5
	comp=Z,7.0nm,1.0s,mb4.8							
DAWY	Dawson	88.46	26	eP		P	19 23 50.7	+2.0
HYT	Haines Junctio	88.84	29	eP		P	19 23 52.9	+2.3
GNI	Garni	95.70	310	LR	LR		20 10 01.9	
	comp=Z,88nm,20.3s,MS4.2,baz=328,slow=37							
YKA	Yellowknife Ar	99.63	27	LR	LR		20 06 27.4	
	comp=Z,98nm,19.9s,MS4.3,baz=300,slow=33							
KIC	Kosan Boka	144.53	277	ePKIKP	PKPdf		19 30 32.1	-2.1
	comp=Z,41nm,0.9s							
DBIC	Dimbokro	144.62	278	PKP	PKPdf		19 30 32.5	-1.8
	comp=Z,3.2nm,0.5s,baz=101,slow=2.0,SNR=5.3							
TIC	Toumodi	144.79	278	ePKIKP	PKPdf		19 30 32.3	-2.3
	comp=Z,56nm,0.2s							
LIC	Lamto	144.83	277	ePKIKP	PKPdf		19 30 32.0	-2.7
	comp=Z,72nm,1.8s							
LPAZ	La Paz	146.47	125	PKPbc	PKPbc		19 30 39.8	+1.0
	comp=Z,1.7nm,0.8s,baz=358,slow=2.1,SNR=9.4							
SDV	Santo Domingo	149.10	77	ePKPbc	PKPab		19 30 51.7	+1.4

*IDC **25** 19:19:28.4±1.4, 15.29N×122.77E, h0km, mb3.9/7, mb1 4.0/7, mb1mx3.7/20, mbtmp3.9/7, Error ellipse: s-maj=55.8km s-min=23.7km az=62.0*

*MAN **25** 19:19:29, 15.43N×122.51E, h1km, mb4.5, ML3.3, MS3.2*

*ISCJB **25** 19:19:32.4±1.2, 15.40N×122.42E±0.007, h24km±8km, mb4.2/14, Error ellipse: s-maj=11.4km s-min=6.2km az=168.3*

*NEIC **25** 19:19:33.9±0.9, 15.17N×122.46E, h35km, mb4.7/6, Error ellipse: s-maj=26.5km s-min=15.9km az=50.0*

ISC 25 19:19:31.7±1.2, 15.43N±0.004×122.43E±0.005, h8km±8km, n36, σ0s97/42, mb4.2/14, 3C-1D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
						ISC	h m s	ISC
POLP	Polilio Island	0.84	214	eP		Pg	19 19 46.3	-1.6
POLP				eS		Sg	19 19 56.9	-2.0
BALP	Baler	0.88	291	eP		Pg	19 19 48.8	+0.1
PCPH	Palayan	1.29	276	eP		Pn	19 19 56.0	-0.2
PCPH				eS		Sb	19 20 16.0	+2.8
CAUP	Cauayan	1.62	339	eP		Pn	19 20 00.8	+0.2
PALP	Palanan	1.63	360	ePi		Pn	19 20 00.3	-0.4
TGY	Tagaytay City	1.96	228	ePi		Pn	19 20 07.3	+2.0
TGY				eS		Sn	19 20 35.2	+5.2
BCPH	Baguio City Da	2.02	298	iP		Pn	19 20 06.0	-0.2
BCPH				i S		Sn	19 20 26.6	-5.0
AUQP	San Andres	2.10	174	eP		Pn	19 20 07.5	+0.2
CVP	Callao Caves	2.34	346	eP		Pn	19 20 09.8	-0.7
CVP				eS		Sn	19 20 38.9	-0.6
SCZP	Santa Cruz	2.45	278	eP		Pn	19 20 12.8	+0.7
PVCP	Virac	2.47	137	ePi		Pn	19 20 12.3	-0.1
PVCP				eS		Pg	19 20 21.4	+2.3
BOLP	Bolinao	2.60	292	eP		Pn	19 20 15.0	+0.8
LUBP	Lubang	2.70	232	eP		Pn	19 20 16.2	+0.6
ABRA	Dolores	2.76	324	eP		Pn	19 20 17.9	+1.6
OTRP	Odiongan	3.07	187	eP		Pn	19 20 19.8	-0.9
SJMP	San Jose	3.21	204	eP		Pn	19 20 23.4	+0.8
CNP	Catarman	3.62	143	eP		Pn	19 20 29.0	+0.8
BUSP	Coron	4.04	213	eP		Pn	19 20 33.4	-0.5
CMAR	Chiang Mai Arr	22.67	281	P		P	19 24 34.8	+1.1
	1.2nm,0.6s,mb3.5,baz=93,slow=7.9,SNR=9.4							
RAMN	Ramite	35.20	295	eP		P	19 26 26.7	0.0
	8.4nm,0.6s,mb4.8							
JIRN	Jiri	35.71	296	eP		P	19 26 30.7	-0.3
	6.3nm,0.6s,mb4.7							
GUN	Gumba	36.03	296	eP		P	19 26 33.9	+0.1
PKI	Pulchoki	36.37	296	eP		P	19 26 36.0	-0.7
	3.3nm,0.6s,mb4.4							
PKIN	Phulchoki	36.38	296	eP		P	19 26 36.0	-0.8
	3.3nm,0.6s,mb4.5							
KKN	Kakani	36.52	296	eP		P	19 26 38.2	+0.2
DMN	Daman	36.64	296	eP		P	19 26 38.5	-0.5
GKN	Gorkha	37.12	296	eP		P	19 26 42.2	-0.9
	7.5nm,0.7s,mb4.6							
DANN	Dangsing	37.95	296	eP		P	19 26 49.7	-0.4
	9.2nm,0.6s,mb4.7							
KOLN	Koldanda	37.98	295	eP		P	19 26 48.2	-2.2
	4.5nm,0.7s,mb4.3							
ASAR	Alice Springs	40.44	164	P		P	19 27 07.0	-3.9
	0.4nm,0.5s,mb3.4,baz=346,slow=8.2,SNR=4.7							
MKAR	Makanchi Array	45.68	322	P		P	19 27 53.3	+0.2
	1.6nm,0.7s,mb4.1,baz=120,slow=8.7,SNR=13							
ZALV	Zalesovo Beam	48.33	331	P		P	19 28 12.7	-1.0
	0.8nm,0.5s,mb4.0,baz=120,slow=5.8,SNR=5.7							
KURK	Kurchatov	49.72	325	P		P	19 28 24.3	-0.1
	5.2nm,0.6s,mb4.7,baz=120,slow=8.5,SNR=12							
BVAR	Borovoye Array	55.32	325	P		P	19 29 06.9	+1.0
	0.5nm,0.6s,mb3.7,baz=93,slow=5.8,SNR=3.1							
NOA	NORSAR Array B	86.50	333	P		P	19 32 15.2	+0.1
	1.0nm,0.8s,mb4.1,baz=67,slow=4.7,SNR=4.0							
CLL	Collm	89.75	324	eP		P	19 32 30.0	-0.8

MAN 25 19:44:58, 15.40N×122.44E, h1km, mb4.4, ML3.2, MS3.0, 2C, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
						ISC	h m s	ISC
POLP	Polilio Island	0.82	216	eP		Pg	19 45 14.3	+0.5
POLP				eS		Sg	19 45 25.3	+0.8
BALP	Baler	0.90	292	eP		Pg	19 45 17.0	+1.7
PCPH	Palayan	1.30	277	eP		Pg	19 45 23.0	0.0
CAUP	Cauayan	1.65	339	eP		Pn	19 45 28.8	+0.7
PALP	Palanan	1.66	360	ePi		Pn	19 45 27.7	-0.5
PALP				eS		Sn	19 45 50.6	+0.5
AUQP	San Andres	2.08	174	eP		Pn	19 45 37.9	+3.9
PVCP	Virac	2.44	137	ePi		Pn	19 45 41.4	+2.4
PVCP				eS		Sn	19 46 14.7	+5.1
LUBP	Lubang	2.69	232	eP		Pn	19 45 47.0	+4.6
ABRA	Dolores	2.79	324	eP		Pn	19 45 47.4	+3.6
OTRP	Odiongan	3.04	188	eP		Pn	19 45 48.7	+1.3
SJMP	San Jose	3.19	204	eP		Pn	19 45 51.7	+2.4

IDC 25 19:53:44.4±2.0, 339N×6418E, h0km, mb3.7/7, mb1 3.8/7, mb1mx3.6/22, mbtmp3.7/7, MS3.7/3, Ms1 3.7/3, ms1mx3.1/26, Error ellipse: s-maj=55.2km s-min=28.8km az=62.0, Carlsberg Ridge

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
						ISC	h m s	ISC
CMAR	Chiang Mai Arr	37.16	64	P		P	20 00 58.3	+0.9
	0.3nm,0.7s,baz=238,slow=8.0,SNR=2.8							
CMAR				LR		LR	20 14 04.1	
	comp=Z,44nm,18.8s,baz=205,slow=33							
MKAR	Makanchi Array	46.00	17	P		P	20 02 09.5	0.0
	0.3nm,0.6s,baz=222,slow=7.8,SNR=2.6							
AKTO	Aktyubinsk	47.16	355	P		P	20 02 18.0	-0.6
	0.9nm,0.6s,baz=206,slow=7.7,SNR=4.4							
KURK	Kurchatov	48.70	12	P		P	20 02 29.6	-0.9
	0.3nm,0.4s,baz=221,slow=7.6,SNR=2.6							
BOSA	Boshof	49.09	227	LR		LR	20 23 45.7	
	comp=Z,113nm,18.4s,baz=252,slow=37							
ZALV	Zalesovo Beam	53.16	15	P		P	20 03 02.9	-1.1
	0.7nm,0.4s,baz=202,slow=8.2,SNR=7.0							
SONM	Songino Array	57.21	33	P		P	20 03 33.7	+0.4
	0.8nm,0.8s,baz=224,slow=6.2,SNR=3.9							
KSRS	Korea Array	67.23	51	LR		LR	20 35 55.1	
	comp=Z,62nm,18.2s,baz=254,slow=38							
ASAR	Alice Springs	72.92	116	P		P	20 05 15.6	-0.5
	1.1nm,0.7s,baz=285,slow=5.2,SNR=12							
TXAR	Lajitas Array	145.44	341	PKPbc		PKPbc	20 13 25.8	+0.7
	1.0nm,0.7s,baz=74,slow=3.7,SNR=7.4							

*NEIC **25** 20:31:11.7±0.7, 21.91N×143.46E, h250km, mb4.3/10, Error ellipse: s-maj=19.9km s-min=15.4km az=55.0*

*ISCJB **25** 20:31:14.3±2.2, 21.9N±0.1×143.2E±0.03, h278km±18km, mb4.1/16, Error ellipse: s-maj=38.6km s-min=23.1km az=173.3*

*IDC **25** 20:31:14.4±2.4, 21.96N×143.57E, h273km±20km, mb3.2/6, mb1 3.3/7, mb1mx3.1/18, mbtmp3.3/7, Error ellipse: s-maj=41.6km s-min=19.9km az=71.0*

ISC 25 20:31:15.2±2.2, 21.9N±0.1×143.3E±0.03, h273km±18km, n22, σ0s38/22, mb4.1/16, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
						ISC	h m s	ISC
CBIJ	Chichi jima	5.25	349	P		Pn	20 32 35.0	+0.4
	12nm,0.3s,baz=274,slow=18,SNR=9.0							
CBIJ					S	S	20 33 38.0	-0.4
	9.9nm,0.3s,baz=254,slow=22,SNR=9.2							
KSRS	Korea Array	20.40	323	P		P	20 35 32.5	+0.7
	2.9nm,0.6s,baz=146,slow=8.8,SNR=12							
SONM	Songino Array	39.23	320	P		P	20 38 17.8	+0.4
	0.6nm,0.4s,mb3.4,baz=129,slow=7.7,SNR=8.6							
ASAR	Alice Springs	46.22	192	P		P	20 39 13.4	-0.1
	0.2nm,0.5s,baz=15,slow=12,SNR=5.1							
TAPN	Taplejung	50.47	288	eP		P	20 39 46.1	+0.2
	5.4nm,0.4s,mb4.2							
ODAN	Odare	50.81	287	eP		P	20 39 48.2	-0.2
	5.1nm,0.6s,mb4.0							
RAMN	Ramite	51.50	288	eP		P	20 39 53.3	-0.2
	2.9nm,0.4s,mb4.0							
JIRN	Jiri	51.77	289	eP		P	20 39 56.0	+0.5
	15nm,0.6s,mb4.5							
GUN	Gumba	52.02	289	eP		P	20 39 57.5	+0.2
	5.6nm,0.4s,mb4.3							
PKI	Pulchoki	52.47	289	eP		P	20 40 00.5	-0.1
PKIN	Phulchoki	52.48	289	eP		P	20 40 00.3	-0.4
	3.3nm,0.5s,mb4.0							
KKN	Kakani	52.56	289	eP		P	20 40 01.4	+0.1
	3.5nm,0.2s,mb4.3							
DMN	Daman	52.73	289	eP		P	20 40 02.1	-0.5
	4.4nm,0.4s,mb4.1							
GKN	Gorkha	53.09	289	eP		P	20 40 04.8	-0.4
	4.2nm,0.3s,mb4.2							
DANN	Dangsing	53.82	290	eP		P	20 40 10.9	+0.5
	43nm,0.5s,mb5.0							
KOLN	Koldanda	54.03	289	eP		P	20 40 11.8	-0.2
	4.7nm,0.5s,mb4.1							
ZALV	Zalesovo Beam	54.10	322	P		P	20 40 11.4	-0.5
	1.9nm,0.5s,mb3.7,baz=103,slow=7.6,SNR=9.8							
MKAR	Makanchi Array	54.62	313	P		P	20 40 16.0	+0.1
	0.2nm,0.4s,mb2.9,baz=87,slow=8.0,SNR=6.5							
MKAR				PcP	PcP	PcP	20 41 15.6	+0.4
	0.3nm,0.5s,baz=76,slow=3.8,SNR=5.5							
ARCES	ARCESS Array B	78.75	342	P		P	20 42 47.7	+0.5
	3.9nm,0.8s,mb4.2,baz=65,slow=7.7,SNR=7.2							
ARCES	ARCESS Array B	78.75	342	P		P	20 42 47.7	+0.5
JOF	Joensuu	80.16	334	ep		P	20 42 54.3	-0.6
	2.3nm,0.3s,mb4.4							
LPAZ	La Paz	149.82	85	PKPbc	PKPbc	PKPbc	20 50 31.8	-1.9
	0.7nm,0.4s,baz=351,slow=13,SNR=4.8							

*NIED **25** 20:36:00, 38.30N×141.90E, h53km, Mw3.6 Best double couple: M0 3.31000×10^14 NP1:φs41.00000°, δs69.00000°, λ101.00000°. NP2:φs192.00000°, δ24.00000°, λ64.00000°.*

JMA 25 20:36:29.6±0.1, 38.30N×141.85E, h47km±1km, M3.8, 1C-9D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
						ISC	h m s	ISC
JIO	Ouri	0.42	292	iP		Pn	20 36 39.8	+0.1
JIO				S		Sn	20 36 46.8	-0.1
OFUJ	Ofunato	0.79	350	iP		Pn	20 36 44.3	-0.1
OFUJ				S		Sn	20 36 54.9	-0.3
JMK	Ichinoseki	0.82	323	iP		Pn	20 36 45.0	+0.2
JMK				S		Sn	20 36 56.3	+0.5
JOU	Okura	0.94	274	iP		Pn	20 36 46.7	+0.4
JOU				S		Sn	20 36 59.3	+0.7
JMM	Marumori	0.94	243	iP		Pn	20 36 46.0	-0.4
JMM				eS		Sn	20 36 58.0	-0.7
JFK	Kawauchi	1.21	220	iP		Pn	20 36 49.7	-0.4
JFK				S		Sn	20 37 04.8	-0.5
JOM	Ohasama	1.25	340	iP		Pn	20 36 51.1	+0.5
JOM				S		Sn	20 37 07.5	+1.2
JYK	Kaneyama	1.32	298	iP		Pn	20 36 52.0	+0.4
JYS	Shirataka	1.41	267	iP		Pn	20 36 53.2	+0.4
JYS				eS		Sn	20 37 10.9	+0.8
JFT	Otama	1.43	237	iP		Pn	20 36 53.5	+0.4
JFT				eS		Sn	20 37 11.0	+0.3
MAT	Matsushiro	3.39	240	P		Pn	20 37 20.6	+0.7
MAT				S		Sn	20 38 00.7	+1.8

*SKO **25** 20:42:56.7, 40.83N×19.73E, h2km, M1.8, ML2.2*

*CSEM **25** 20:42:58.7±0.2, 40.95N×19.86E, h0km±1km, ML3.1/4, Error ellipse: s-maj=3.8km s-min=2.9km az=42.0*

*ISCJB **25** 20:42:59.5±0.5, 41.01N±0.02×19.83E±0.03, h10km, Error ellipse: s-maj=4.2km s-min=2.2km az=44.9*

*THE **25** 20:43:00.0, 40.96N×19.85E, h2km±1km, ML3.1/4, Error ellipse: s-maj=2.4km s-min=0.9km az=28.0*

*TIR **25** 20:43:00.0±2.8, 41.02N×19.76E, h36km±189km*

*NEIC **25** 20:43:02.6, 41.12N×19.61E, h14km, ML2.6(PDG), After PDG.*

*PDG **25** 20:43:02.6±0.2, 41.12N×19.61E, h14km, ML2.6/9, Error ellipse: s-maj=1.3km s-min=1.6km az=0.0*

ISC 25 20:42:59.3±0.7, 4097N±0.003×1981E±0.004, h3km±3km, n43, σ0s89/82, 8C-4D, Albania

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
						ISC	h m s	ISC
TIR	Tirane	0.38	7	P		Pg	20 43 07.0	+0.4
TIR				S		Sg	20 43 13.7	+2.2
OHR	Ohrid	0.76	79	ePg		Pg	20 43 12.6	-1.3
OHR				eSg		Sg	20 43 23.4	-0.4
	comp=N,56nm,0.6s							
OHR				eLg			20 43 24.0	
OHR				eLg			20 43 24.4	
OHR	Ohrid	0.76	79	ePg		Pg	20 43 12.5	-1.4
OHR	Ohrid	0.76	79	P		Pg	20 43 12.9	-1.0
OHR				eSg		Sg	20 43 23.4	-0.4
OHR				S		Sg	20 43 24.5	+0.7
PHP	Peshkopia	0.86	34	ePG		Pg	20 43 14.3	-1.4
PHP				i SG		Sg	20 43 28.4	+1.5
PUK	Puka	1.07	3	ePG		Pg	20 43 20.2	+0.4
ULC	Ulcinj	1.08	337	iPg		Pg	20 43 19.5	-0.4
ULC				eSg		Sg	20 43 33.6	-0.3
ULC	Ulcinj	1.08	337	i PG		Pg	20 43 19.5	-0.4
ULC				i SG		Sg	20 43 33.6	-0.3
SRN	Sarande	1.10	172	ePG		Pg	20 43 22.5	+2.2
BIA	Bitola	1.15	87	ePn		Pn	20 43 20.7	-1.5
BIA				eSg		Sg	20 43 35.7	-0.4
	comp=E,36nm,0.6s							
BIA				eLg			20 43 37.0	
BIA				eLg			20 43 37.6	
BIA	Bitola	1.15	87	ePn		Pn	20 43 20.7	-1.6
BIA				eSg		Sg	20 43 35.7	-0.5
BIA				S		Sg	20 43 37.8	+1.6
KRUS	Krusevo	1.16	69	ePn		Pg	20 43 20.3	-1.2
KRUS				eSg		Sg	20 43 37.9	+1.4
	comp=N,34nm,0.5s							
KRUS				eLg			20 43 38.8	
KRUS				eLg			20 43 39.8	

KNT	**Kendrikon**	**2.34**	**84**	P		**Pn**	**20 43 38.4**	**-0.3**
LKD	**Levkas**	**2.35**	**164**	P		**Pn**	**20 43 38.4**	**-0.4**
PLE	**Pljevlja**	**2.38**	**353**	⇑*i*Pn		**Pn**	**20 43 40.1**	**+0.9**
PLE				*e*Sn		**Sn**	**20 44 09.0**	**+0.2**
AGG	**Agios Georgios**	**2.75**	**134**	P		**Pn**	**20 43 44.0**	**-0.2**
AGG				S		**Sn**	**20 44 18.6**	**+0.7**

SZGRF ***25*** *20:44:57.2,2041S×17670W,h33km, Fiji Islands region*
ISCJB ***25*** *20:45:22.3±1.1,2012S±005×17673W±007,h237km±10km, mb4.6/52, Error ellipse: s-maj=11.7km s-min=6.3km az=33.6*
MOS ***25*** *20:45:23.7±2.4, 1993S×17663W,h230km, mb4.9/18, Error ellipse: s-maj=13.9km s-min=9.0km az=135.2*
NEIC ***25*** *20:45:23.7±0.9,2003S×17673W,h237km±8km, mb4.7/38, Error ellipse: s-maj=8.5km s-min=4.8km az=142.0*
IDC ***25*** *20:45:30.1±0.8,2030S×17674W,h305km±7km, mb4.3/20, mb1 4.4/22, mb1mx4.3/27, mbtmp4.3/22, Error ellipse: s-maj=12.5km s-min=8.3km az=142.0*

ISC 25 20:45:22.9±1.2, 2011S±006×17672W±006, h229km±11km, n202, σ0≧84/125, mb4.6/52, 17C-3D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID		ISC	Time	Res
				Op			h m s	ISC
AFI	**Afiamalu**	**7.76**	**38**	P		**Pn**	**20 47 12.5**	**-0.7**
	19nm,0.3s,baz=21,slow=3.7,SNR=20							
AFI				S		**S**	**20 48 32.0**	**-10**
	54nm,0.3s,baz=52,slow=23,SNR=11							
AFI	**Afiamalu**	**7.76**	**38**	P		**Pn**	**20 47 12.5**	**-0.7**
AFI				S		**S**	**20 48 32.0**	**-10**
RAO	**Raoul Island**	**9.17**	**187**	P		**Pn**	**20 47 32.2**	**+1.1**
	78nm,0.3s,baz=81,slow=22,SNR=4.3							
RAO				S		**S**	**20 49 11.7**	**-2.7**
	367nm,0.3s,baz=237,slow=23,SNR=14							
DZM	**Mont Dzumac**	**15.84**	**260**	*e*P		**Pn**	**20 48 59.7**	**+5.6**
RAR	**Rarotonga**	**15.90**	**97**	P		**Pn**	**20 48 55.6**	**+0.9**
	3.8nm,0.3s,baz=263,slow=8.4,SNR=10							
RAR				S		**S**	**20 51 52.4**	**+3.2**
	1.5nm,0.3s,baz=120,slow=12,SNR=2.8							
RAR	**Rarotonga**	**15.90**	**97**	*e*P		**Pn**	**20 48 55.2**	**+0.5**
RAR				pmax		pmax		
	comp=Z,130nm,1.3s							
RAR	**Rarotonga**	**15.90**	**97**	*e*P		**Pn**	**20 48 55.2**	**+0.5**
	comp=Z,130nm,1.3s							
NOUC	**Port Laguerre**	**15.97**	**260**	*e*P		**Pn**	**20 49 01.0**	**+5.4**
URZ	**Urewera**	**18.87**	**195**	P		**P**	**20 49 25.9**	**-0.1**
	comp=Z,28nm,0.3s,baz=349,slow=4.3,SNR=120							
URZ				S		**S**	**20 52 41.8**	**-6.3**
	comp=Z,6.3nm,0.3s,baz=77,slow=22,SNR=7.7							
TBI	**Tubuai**	**25.51**	**102**	*e*LR		LR	20 56 02.8	
	comp=Z,146nm,29.0s							
RPZ	**Rata Peaks**	**25.67**	**201**	P		**P**	**20 50 31.2**	**-0.5**
	comp=Z,17nm,0.5s,mb4.9,baz=315,slow=3.6,SNR=4.2							
PPT	**Papeete**	**25.80**	**89**	*e*LR		LR	20 56 06.6	
	comp=Z,86nm,22.2s							
PPT	**Papeete**	**25.80**	**89**	P		**P**	**20 50 32.9**	**-0.3**
	comp=Z,46nm,0.4s,mb5.4,baz=66,slow=9.4,SNR=4.4							
ARMA	**Armidale**	**30.32**	**244**	*e*P		**P**	**20 51 15.3**	**+2.1**
CNB	**Canberra Magne**	**33.44**	**236**	*e*P		**P**	**20 51 41.9**	**+1.6**
CTA	**Charters Tower**	**34.73**	**264**	*e*P		**P**	**20 51 52.3**	**+0.8**
	comp=Z,9.9nm,0.5s,mb4.6							
CTA	**Charters Tower**	**34.73**	**264**	P		**P**	**20 51 52.4**	**+0.9**
	comp=Z,12nm,0.6s,mb4.6,baz=99,slow=9.9,SNR=40							
CTA	**Charters Tower**	**34.73**	**264**	*e*P		**P**	**20 51 52.3**	**+0.8**
CTA				pmax		pmax		
	comp=Z,10.0nm,0.5s							
CTAO	**Charters Tower**	**34.73**	**264**	*e*P		**P**	**20 51 52.3**	**+0.8**
CTAO				pmax		pmax		
	comp=Z,14nm,0.7s,mb4.6							
CTAO	**Charters Tower**	**34.73**	**264**	*e*P		**P**	**20 51 52.3**	**+0.7**
	comp=Z,14nm,0.7s,mb4.6							
TOO	**Toolangi**	**37.10**	**234**	*e*P		**P**	**20 52 14.3**	**+2.9**
STKA	**Stephens Creek**	**39.04**	**244**	*e*P		**P**	**20 52 28.0**	**+0.3**
	comp=Z,4.2nm,0.4s,mb4.3							
STKA	**Stephens Creek**	**39.04**	**244**	P		**P**	**20 52 28.8**	**+1.1**
	comp=Z,4.3nm,0.4s,mb4.3,baz=90,slow=10,SNR=47							
STKA				pP		pP	20 53 27.1	+12
	comp=Z,12nm,1.0s,baz=85,slow=9.9,SNR=6.2							
ASAR	**Alice Springs**	**45.78**	**256**	P		**P**	**20 53 21.8**	**-0.3**
	comp=Z,18nm,0.7s,mb4.5,baz=92,slow=8.0,SNR=223							
ASAR				pP		pP	20 54 23.8	+13
	comp=Z,6.4nm,0.8s,baz=85,slow=7.9,SNR=3.8							
ASAR				ScP		ScP	20 58 21.2	-5.5
	comp=Z,1.4nm,0.9s,baz=111,slow=4.3,SNR=4.9							
ASAR				S		**S**	**20 59 41.6**	**-6.6**
	comp=Z,1.8nm,0.8s,baz=91,slow=15,SNR=13							
GUMO	**Guam**	**50.49**	**308**	P		**P**	**20 53 57.1**	**-0.8**
	comp=Z,34nm,0.4s,mb5.0,baz=221,slow=9.3,SNR=3.2							
FORT	**Forrest**	**50.56**	**246**	*e*P		**P**	**20 53 58.4**	**0.0**
	comp=Z,11nm,0.6s,mb4.5							
SBA	**Scott Base**	**58.34**	**184**	*e*P		**P**	**20 54 56.0**	**+2.4**
SBA				pmax		pmax		
	comp=Z,10.0nm,1.0s,mb4.4							
SBA	**Scott Base**	**58.34**	**184**	*e*P		**P**	**20 54 56.0**	**+2.5**
	comp=Z,10nm,1.0s,mb4.4							
QSPA	**South Pole Qui**	**69.96**	**180**	*e*P		**P**	**20 56 09.4**	**+0.6**
	comp=Z,9.9nm,0.8s,mb4.5							
MJAR	**Matsushiro Arr**	**70.62**	**323**	P		**P**	**20 56 12.1**	**-1.4**
	comp=Z,2.5nm,0.6s,mb4.0,baz=158,slow=6.4,SNR=8.2							
PEA0B	**Petropavlovsk-**	**76.21**	**344**	*e*P		**P**	**20 56 43.8**	**-1.8**
PETK	**Petropavlovsk-**	**76.21**	**344**	P		**P**	**20 56 44.3**	**-1.3**
	comp=Z,2.5nm,0.6s,mb4.0,baz=94,slow=9.5,SNR=5.8							
MWC	**Mount Wilson**	**77.66**	**46**	*e*P		**P**	**20 56 54.3**	**+0.1**
MWC				pmax		pmax		
	comp=Z,15nm,0.8s,mb4.7							
MWC	**Mount Wilson**	**77.66**	**46**	*e*P		**P**	**20 56 54.3**	**+0.2**
	comp=Z,15nm,0.8s,mb4.7							
ISA	**Isabella**	**78.20**	**45**	*e*P		**P**	**20 56 57.5**	**+0.4**
ISA				pmax		pmax		
	comp=Z,32nm,0.9s,mb5.0							
ISA	**Isabella**	**78.20**	**45**	*e*P		**P**	**20 56 57.5**	**+0.3**
	comp=Z,32nm,0.9s,mb5.0							
CMB	**Columbia Colle**	**78.36**	**42**	*e*P		**P**	**20 56 57.7**	**-0.2**
CMB				pmax		pmax		
	comp=Z,21nm,1.0s,mb4.7							
CMB	**Columbia Colle**	**78.36**	**42**	*e*P		**P**	**20 56 57.7**	**-0.2**
	comp=Z,21nm,1.0s,mb4.7							
OHCM	**Honcut**	**78.47**	**41**	*e*P		**P**	**20 56 58.1**	**-0.4**
GSC	**Goldstone**	**79.12**	**46**	*e*P		**P**	**20 57 02.3**	**+0.2**
GSC				pmax		pmax		
	comp=Z,9.0nm,0.7s,mb4.5							
GSC	**Goldstone**	**79.12**	**46**	*e*P		**P**	**20 57 02.2**	**+0.1**
	comp=Z,9.0nm,0.7s,mb4.5							
YBH	**Yreka Blue Hor**	**79.23**	**38**	P		**P**	**20 57 02.9**	**+0.3**
	comp=Z,15nm,0.7s,mb4.7,baz=194,slow=0.2,SNR=22							
YBH	**Yreka Blue Hor**	**79.23**	**38**	*e*P		**P**	**20 57 03.0**	**+0.4**
YBH				pmax		pmax		
	comp=Z,14nm,0.9s							
YBH	**Yreka Blue Hor**	**79.23**	**38**	*e*P		**P**	**20 57 03.0**	**+0.4**
	comp=Z,14nm,0.9s,mb4.6							
GLA	**Glamis**	**79.26**	**49**	*e*P		**P**	**20 57 03.7**	**+0.8**
GLA				pmax		pmax		
	comp=Z,32nm,1.2s,mb4.8							
GLA	**Glamis**	**79.26**	**49**	*e*P		**P**	**20 57 03.7**	**+0.8**
	comp=Z,32nm,1.2s,mb4.8							
LBCM	**Butte Creek Ri**	**79.47**	**39**	P		**P**	**20 57 04.3**	**+0.4**
BUOR	**Burton Butte**	**79.85**	**38**	P		**P**	**20 57 06.6**	**+0.8**
NVAR	**Mina Array Bea**	**79.91**	**43**	P		**P**	**20 57 06.8**	**+0.5**
	comp=Z,16nm,0.7s,mb4.8,baz=222,slow=8.7,SNR=86							
NVAR	**Mina Array Bea**	**79.91**	**43**	P		**P**	**20 57 06.8**	**+0.5**
PAHR	**Pah Rah Range**	**79.98**	**41**	*e*P		**P**	**20 57 06.9**	**+0.3**
	comp=Z,18nm,1.0s,mb4.7							
LDFC	**Landfair**	**80.15**	**47**	*e*P		**P**	**20 57 08.5**	**+0.8**
	comp=Z,74nm,1.1s,mb5.2							
KDAK	**Kodiak Island**	**80.16**	**13**	P		**P**	**20 57 06.9**	**-0.3**
	comp=Z,16nm,1.0s,mb4.6,baz=198,slow=9.6,SNR=3.9							
TPH	**Tonopah**	**80.41**	**44**	*e*P		**P**	**20 57 09.5**	**+0.5**
TPH				pmax		pmax		
	comp=Z,14nm,1.1s,mb4.5							
TPH	**Tonopah**	**80.41**	**44**	*e*P		**P**	**20 57 09.5**	**+0.6**
	comp=Z,14nm,1.1s,mb4.5							
TPNV	**Topopah Spring**	**80.41**	**45**	*e*P		**P**	**20 57 09.3**	**+0.3**
TPNV				pmax		pmax		
	comp=Z,11nm,0.7s,mb4.6							
TPNV	**Topopah Spring**	**80.41**	**45**	*e*P		**P**	**20 57 09.3**	**+0.3**
	comp=Z,11nm,0.7s,mb4.6							
MOD	**Modoc**	**80.75**	**39**	*e*P		**P**	**20 57 10.2**	**-0.5**
	comp=Z,35nm,1.4s,mb4.8							
TUC	**Tucson**	**81.79**	**51**	*e*P		**P**	**20 57 17.1**	**+0.7**
TUC				pmax		pmax		
	comp=Z,32nm,0.8s,mb5.0							
TUC	**Tucson**	**81.79**	**51**	*e*P		**P**	**20 57 17.1**	**+0.7**
	comp=Z,32nm,0.8s,mb5.0							
WVOR	**Wild Horse Val**	**82.06**	**39**	*e*P		**P**	**20 57 17.8**	**+0.3**
WVOR				pmax		pmax		
	comp=Z,25nm,1.0s,mb4.8							
WVOR	**Wild Horse Val**	**82.06**	**39**	*e*P		**P**	**20 57 17.8**	**+0.2**
	comp=Z,25nm,1.0s,mb4.8							
CCUT	**Cedar City**	**82.67**	**46**	*e*P		**P**	**20 57 21.6**	**+0.8**
HDW	**Hoodsport**	**82.83**	**33**	P		**P**	**20 57 21.9**	**+0.5**
WUAZ	**Wupatki**	**82.98**	**48**	*e*P		**P**	**20 57 23.1**	**+0.6**
	comp=Z,31nm,1.0s,mb5.0							
ELK	**Elko**	**83.18**	**42**	P		**P**	**20 57 23.6**	**+0.3**
	comp=Z,14nm,0.9s,mb4.7,baz=242,slow=4.8,SNR=56							
USHA	**Ushuaia**	**83.79**	**146**	P		**P**	**20 57 25.8**	**-0.5**
	comp=Z,8.0nm,0.8s,mb4.5,baz=202,slow=7.5,SNR=3.6							
RSW	**Rattlesnake Hi**	**83.89**	**36**	*e*P		**P**	**20 57 26.9**	**+0.1**
HAWA	**Hanford**	**83.92**	**36**	*e*P		**P**	**20 57 27.2**	**+0.2**
	comp=Z,54nm,1.4s,mb5.1							
MSU	**Marysvale**	**83.97**	**45**	*e*P		**P**	**20 57 28.2**	**+0.8**
ETW	**Entiat**	**84.23**	**35**	*e*P		**P**	**20 57 28.4**	**-0.1**
BMO	**Blue Mountains**	**84.26**	**38**	*e*P		**P**	**20 57 28.5**	**-0.2**
BMO				pmax		pmax		
	comp=Z,7.0nm,0.8s,mb4.4							
BMO	**Blue Mountains**	**84.26**	**38**	*e*P		**P**	**20 57 28.5**	**-0.2**
	comp=Z,7.1nm,0.8s,mb4.5							
LNOR	**Lincton Mounta**	**84.30**	**37**	*e*P		**P**	**20 57 28.6**	**-0.3**
DUG	**Dugway**	**84.43**	**44**	*e*P		**P**	**20 57 29.5**	**-0.2**
DUG				pmax		pmax		
	comp=Z,5.0nm,1.0s,mb4.2							
DUG	**Dugway**	**84.43**	**44**	*e*P		**P**	**20 57 29.5**	**-0.2**
	comp=Z,5.0nm,1.0s,mb4.2							
OD2	**Odessa Site #2**	**84.97**	**35**	P		**P**	**20 57 32.3**	**+0.1**
TMUT	**Trail Mountain**	**85.02**	**45**	*e*P		**P**	**20 57 33.5**	**+0.8**
HLID	**Hailey**	**85.25**	**40**	*e*P		**P**	**20 57 33.9**	**+0.2**
	comp=Z,6.7nm,0.9s,mb4.4							
SRU	**San Rafael**	**85.38**	**46**	*e*P		**P**	**20 57 34.6**	**+0.1**
SRU				pmax		pmax		
	comp=Z,9.0nm,0.9s,mb4.5							
SRU	**San Rafael**	**85.38**	**46**	*e*P		**P**	**20 57 34.6**	**+0.2**
	comp=Z,8.9nm,0.9s,mb4.5							
LAZ	**Ladron**	**85.47**	**51**	*e*P		**P**	**20 57 35.5**	**+0.5**
LENM	**Lemitar**	**85.48**	**51**	*e*P		**P**	**20 57 35.6**	**+0.6**
BNM	**Barren Site**	**85.73**	**51**	*e*P		**P**	**20 57 36.8**	**+0.5**
LPM	**Los Pinos Moun**	**85.80**	**51**	*e*P		**P**	**20 57 36.7**	**+0.1**
TXAR	**Lajitas Array**	**85.83**	**57**	P		**P**	**20 57 37.5**	**+0.6**
	comp=Z,21nm,0.8s,mb5.0,baz=217,slow=7.9,SNR=179							
PV10	**Paradox Valley**	**86.03**	**47**	*e*P		**P**	**20 57 37.3**	**-0.4**
ANMO	**Albuquerque**	**86.22**	**51**	P		**P**	**20 57 39.0**	**+0.3**
	comp=Z,10nm,0.8s,mb4.6,baz=226,slow=4.7,SNR=28							
ANMO	**Albuquerque**	**86.22**	**51**	*e*P		**P**	**20 57 38.7**	**0.0**
ANMO				pmax		pmax		
	comp=Z,10.0nm,0.8s							
ANMO	**Albuquerque**	**86.22**	**51**	*e*P		**P**	**20 57 38.7**	**0.0**
	comp=Z,10.0nm,0.8s,mb4.6							
PV01	**Paradox Valley**	**86.23**	**47**	*e*P		**P**	**20 57 38.4**	**-0.3**
MCMT	**McKenzie Canyo**	**86.88**	**40**	*e*P		**P**	**20 57 42.0**	**+0.5**
DLMT	**Dillon**	**87.31**	**39**	*e*P		**P**	**20 57 43.6**	**0.0**
	comp=Z,7.8nm,0.8s,mb4.5							
MSO	**Missoula**	**87.32**	**38**	*e*P		**P**	**20 57 43.1**	**-0.5**
	comp=Z,2.0nm,0.7s,mb4.0							
SYO	**Syowa Base**	**87.37**	**192**	⇑*e*P		**P**	**20 57 40.9**	**-2.8**
LOHW	**Long Hollow**	**87.62**	**42**	*e*P		**P**	**20 57 44.9**	**-0.3**
	comp=Z,2.5nm,0.7s,mb4.2							
QLMT	**Earthquake Lak**	**87.74**	**40**	*e*P		**P**	**20 57 46.6**	**+0.9**
CHMT	**Chamberlain Mo**	**87.76**	**38**	*e*P		**P**	**20 57 45.2**	**-0.5**
SMCO	**Snowmass**	**87.83**	**47**	*e*P		**P**	**20 57 43.4**	**-2.9**
	comp=Z,8.4nm,0.7s,mb4.7							
BW06	**Boulder Array**	**87.85**	**43**	*e*P		**P**	**20 57 45.6**	**-0.6**
	comp=Z,4.4nm,1.0s,mb4.2							
PDAR	**Pinedale Array**	**87.85**	**43**	P		**P**	**20 57 46.0**	**-0.3**
	comp=Z,2.8nm,0.7s,mb4.2,baz=209,slow=3.8,SNR=21							
BOZ	**Bozeman (W)**	**88.04**	**40**	*e*P		**P**	**20 57 47.0**	**-0.1**
BOZ				pmax		pmax		
	comp=Z,9.0nm,0.8s,mb4.7							
BOZ	**Bozeman (W)**	**88.04**	**40**	*e*P		**P**	**20 57 47.0**	**-0.1**
	comp=Z,9.0nm,0.8s,mb4.7							
SNAA	**Sanae**	**88.37**	**178**	*e*		**P**	**20 57 47.1**	**-1.2**
SNAA				*e*			20 57 48.4	
SNAA				*e*			20 58 57.7	
CMIG	**Matias Romero**	**88.40**	**71**	P		**P**	**20 57 49.1**	**-0.3**
	comp=Z,6.3nm,0.7s,mb4.6,baz=301,slow=2.4,SNR=8.2							
VNA3	**Neumayer Olymp**	**88.45**	**176**	*e*		**P**	**20 57 47.6**	**-1.1**
VNA3				*e*			20 57 48.9	
VNA3				*e*			20 58 57.6	
HRY	**Holter Researc**	**88.48**	**39**	*e*P		**P**	**20 57 49.1**	**0.0**
WALA	**Waterton Lakes**	**88.56**	**36**	*e*P		**P**	**20 57 49.1**	**-0.3**
	comp=Z,22nm,1.5s,mb4.8							
DAWY	**Dawson**	**88.75**	**15**	*e*P		**P**	**20 57 49.5**	**-0.5**
VNA2	**Neumayer--Watz**	**88.91**	**177**	*e*		**P**	**20 57 50.0**	**-0.9**
	baz=206,slow=3.5							
VNA2				*e*			20 57 51.6	
VNA2				*e*			20 59 00.0	
VNA1	**Neumayer--Stat**	**89.13**	**176**	*e*		**P**	**20 57 51.5**	**-0.4**
VNA1				*e*			20 57 52.5	
VNA1				*e*			20 59 02.0	
RLMT	**Red Lodge**	**89.21**	**41**	*e*P		**P**	**20 57 52.7**	**+0.1**
	comp=Z,7.6nm,0.9s,mb4.5							
JCT	**Junction City**	**89.36**	**57**	*e*P		**P**	**20 57 53.2**	**-0.4**
JCT				pmax		pmax		
	comp=Z,7.0nm,0.6s,mb4.7							
JCT	**Junction City**	**89.36**	**57**	*e*P		**P**	**20 57 53.2**	**-0.4**
	comp=Z,7.3nm,0.6s,mb4.7							
AMTX	**Amarillo**	**89.72**	**53**	*e*P		**P**	**20 57 54.8**	**-0.5**
	comp=Z,16nm,0.9s,mb4.8							
CMAR	**Chiang Mai Arr**	**91.12**	**289**	P		**P**	**20 58 01.9**	**-0.3**
	comp=Z,1.4nm,0.8s,mb3.9,baz=100,slow=2.9,SNR=11							
RSSD	**Black Hills**	**92.04**	**43**	*e*P		**P**	**20 58 04.8**	**-0.9**
RSSD				pmax		pmax		
	comp=Z,25nm,1.0s,mb5.1							
RSSD	**Black Hills**	**92.04**	**43**	*e*P		**P**	**20 58 04.8**	**-0.9**
	comp=Z,25nm,1.0s,mb5.1							
INK	**Inuvik**	**93.58**	**15**	*e*P		**P**	**20 58 11.0**	**-1.3**
	comp=Z,491nm,1.4s							
CFAA	**Coronel Fontan**	**94.36**	**126**	P		**P**	**20 58 15.7**	**-1.1**
	comp=Z,0.4nm,0.6s,mb3.6,baz=234,slow=2.9,SNR=6.1							
SONM	**Songino Array**	**96.25**	**319**	P		**P**	**20 58 25.9**	**+0.9**
	comp=Z,0.3nm,0.6s,mb3.7,baz=133,slow=6.1,SNR=2.6							
SUR	**Sutherland**	**125.18**	**198**	PKP		PKPdf	21 03 55.0	-1.6
	comp=Z,12nm,0.9s,baz=143,slow=1.9,SNR=4.1							
ARCES	**ARCESS Array B**	**128.75**	**350**	PKP		PKPdf	21 04 00.7	-1.5
	comp=Z,4.3nm,0.6s,baz=18,slow=1.1,SNR=22							
TSUM	**Tsumeb**	**138.50**	**201**	PKP		PKPdf	21 04 18.9	-3.1
	comp=Z,1.8nm,0.8s,baz=241,slow=19,SNR=5.2							
NB2	**NORSAR Subarra**	**138.72**	**354**	PKPdf		PKPdf	21 04 20.5	-0.6
	comp=Z,2.1nm,0.9s,baz=68,slow=1.9							
NOA	**NORSAR Array B**	**138.72**	**354**	PKP		PKPdf	21 04 19.2	-1.9
	comp=Z,1.9nm,0.7s,baz=13,slow=4.0,SNR=5.1							
AKASG	**Malin Array Be**	**143.24**	**332**	PKhKP			21 04 23.9	
	comp=Z,1.4nm,0.4s,baz=40,slow=4.1,SNR=8.1							
BSEG	**Bad Segeberg**	**145.80**	**353**	*e*PKPbc		PKPbc	21 04 33.5	-1.3
BURGB	**Bucovina Ar. S**	**147.28**	**332**	*e*PKPdf		PKPbc	21 04 38.1	+1.6
BURAR	**Bucovina Array**	**147.29**	**332**	⇑*i*P		PKPbc	21 04 38.5	-0.7
STHS	**Stebnicka Huta**	**147.42**	**338**	*e*PKP		PKPbc	21 04 39.2	-0.3
STHS	**Stebnicka Huta**	**147.42**	**338**	*e*PKPbc		PKPbc	21 04 39.3	-0.2
IBBN	**Ibbenburen**	**147.67**	**355**	*e*PKPbc		PKPbc	21 04 39.1	-1.0
CRVS	**Cervenica-Dubn**	**147.77**	**337**	*e*PKP		PKPab	21 04 42.1	-1.4
CLZ	**Clausthal**	**147.84**	**352**	*e*PKPbc		PKPbc	21 04 39.1	-1.4
CLL	**Collm**	**147.94**	**348**	*e*PKPbc		PKPbc	21 04 39.1	-1.7
CLL	**Collm**	**147.94**	**348**	⇑*i*PKPbc		PKPbc	21 04 39.5	-1.3
	comp=Z,14nm,1.1s							
UPC	**Upice**	**148.03**	**345**	*e*PKP		PKPbc	21 04 40.1	-1.0
DPC	**Dobruska-Polom**	**148.10**	**344**	*e*PKP		PKPbc	21 04 40.8	-0.5
BRG	**Berggiesshubel**	**148.16**	**347**	*e*PKPbc		PKPbc	21 04 39.7	-1.7
BRG	**Berggiesshubel**	**148.16**	**347**	*i* P		PKPbc	21 04 40.2	-1.2
	comp=Z,7.7nm,0.8s							
PVCC	**Panska Ves**	**148.35**	**346**	*e*PKP		PKPbc	21 04 40.3	-1.6
MLR	**Muntele Rosu**	**148.53**	**329**	⇓*i*P		PKPbc	21 04 41.3	-1.2
BUG	**Bochum--Univer**	**148.57**	**355**	*e*PKPbc		PKPbc	21 04 41.0	-1.4
MOX	**Moxa**	**148.82**	**350**	*e*PKP		PKPbc	21 04 42.1	-1.0
MOX	**Moxa**	**148.82**	**350**	*e*PKPbc		PKPbc	21 04 41.2	-1.9
PRU	**Pruhonice**	**148.87**	**346**	*e*PKP		PKPbc	21 04 41.9	-1.3
TANN	**Tannenbergstha**	**148.89**	**349**	*e*PKPbc		PKPbc	21 04 41.9	-1.4
UBBA	**Unterbreizbach**	**148.90**	**352**	*e*PKPbc		PKPbc	21 04 41.6	-1.7
DRGR		**149.01**	**334**	⇓*i*P		PKPbc	21 04 43.3	-0.4
VYHS	**Vyhne**	**149.03**	**340**	*e*PKP		PKPbc	21 04 42.4	-1.3
NKC	**Novy Kostel**	**149.07**	**349**	*e*PKP		PKPbc	21 04 42.7	-1.0
KOLL	**Kolacno**	**149.09**	**340**	*i* PKP		PKPbc	21 04 42.9	-0.9
UCC	**Uccle**	**149.36**	**359**	PKPdf		PKPbc	21 04 43.3	-1.2
MANZ	**Manzenberg**	**149.37**	**349**	*e*PKPbc		PKPbc	21 04 43.0	-1.5
MEM	**Membach**	**149.49**	**357**	PKPdf		PKPbc	21 04 42.8	-1.9
ROTZ	**Rotzenmuhle**	**149.56**	**349**	*e*PKPbc		PKPbc	21 04 43.9	-1.0
MODS	**Modra-Piesok**	**149.62**	**341**	*e*PKP		PKPbc	21 04 44.5	-0.6
SNF	**Seneffe**	**149.65**	**359**	PKPdf		PKPbc	21 04 43.1	-2.0
TNS	**Taunus Mts**	**149.67**	**353**	*e*PKPbc		PKPbc	21 04 44.1	-1.1
GRA1	**Grafenberg Arr**	**149.81**	**350**	*e*PKPbc		PKPbc	21 04 44.3	-1.2
GRF	**Grafenberg Arr**	**149.81**	**350**	*e*PKPbc		PKPbc	21 04 44.3	-1.2
KHC	**Kasperske Hory**	**149.89**	**346**	*e*PKP		PKPbc	21 04 44.7	-1.1
KHC				*ex*		x	21 06 01.5	
WET	**Wettzell**	**150.02**	**347**	*e*PKPbc		PKPbc	21 04 45.0	-1.1
GIVF	**Givet**	**150.04**	**358**	⇑*i*PKP1		PKPbc	21 04 44.9	-1.2
	comp=Z,35nm,0.6s							
DOU	**Dourbes**	**150.06**	**358**	PKPdf		PKPbc	21 04 44.8	-1.3
BAIF	**Baives**	**150.10**	**359**	⇑*i*PKP1		PKPbc	21 04 45.2	-1.0
	comp=Z,29nm,0.7s							
GEC2	**GERESS Array S**	**150.13**	**346**	*e*PKHKP		PKPbc	21 04 44.6	-1.7
GEC2	**GERESS Array S**	**150.13**	**346**	*e*PKPbc		PKPbc	21 04 44.7	-1.6
GEC2	**GERESS Array S**	**150.13**	**346**	*e*PKPdf		PKPdf	21 04 38.6	-2.5
GEC2				*e*PKPbc		PKPbc	21 04 44.6	-1.8
GERES	**GERESS Array B**	**150.13**	**346**	PKP		PKPdf	21 04 38.5	-2.6
	comp=Z,3.6nm,0.9s,baz=318,slow=1.8,SNR=6.1							
GERES				PKPbc		PKPbc	21 04 45.3	-1.1
	comp=Z,5.3nm,0.8s,baz=154,slow=1.7,SNR=38							
GERES				pPKPbc		pPKPbc	21 06 01.9	+17
	comp=Z,1.5nm,0.9s,baz=24,slow=3.6,SNR=3.2							
WLF	**Walferdange**	**150.42**	**356**	PKPdf		PKPbc	21 04 45.4	-1.6
WLF	**Walferdange**	**150.42**	**356**	*e*PKPbc		PKPbc	21 04 46.1	-0.9
CONA	**Conrad Observa**	**150.43**	**343**	⇑*i*PKPbc		PKPbc	21 04 46.1	-1.0
	comp=Z,11nm,1.1s							
CSNA	**Conrad Observa**	**150.43**	**343**	⇑*i*PKPbc		PKPbc	21 04 46.0	-1.1
	comp=Z,10nm,1.1s							
STU	**Stuttgart**	**151.01**	**352**	*e*PKPbc		PKPbc	21 04 47.2	-1.2
PKSM	**Moragy**	**151.07**	**338**	⇓*i*P		PKPbc	21 04 47.4	-1.2
FLN	**La Foliniere**	**151.25**	**5**	⇑*i*PKP1		PKPbc	21 04 47.5	-1.5
	comp=Z,33nm,0.5s							
**F

n56,σ1§00/74,mb3.7/2,4C-2D,Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KSH	**Kashi**	**3.10**	**54**	*e*P	**Pn**	**21 39 55.8**	**+1.1**
KSH				S	**Sn**	**21 40 35.0**	**+2.1**
KSH				Smax			
	comp=N,777nm,0.9s						
KSH				Smax			
	comp=E,781nm,0.5s						
CEP	**Cherat**	**3.97**	**190**	P	**Pn**	**21 40 07.5**	**+1.7**
CEP				S	**Sn**	**21 40 53.0**	**+0.3**
CHCP	**Chirah Chowk**	**4.10**	**174**	P	**Pn**	**21 40 09.3**	**+1.8**
CHCP				S	**Sn**	**21 40 54.0**	**-1.8**
KBL	**Kabul**	**4.37**	**224**	*e*Pn	**Pn**	**21 40 11.2**	**+0.3**
KBL				*e*Sn	**Sn**	**21 41 01.5**	**-0.4**
AML	**Almayashu**	**4.45**	**9**	P	**Pn**	**21 40 11.0**	**-0.8**
	SNR=53						
UCH	**Uchtor**	**4.69**	**17**	P	**Sn**	**21 41 01.0**	**-8.3**
	SNR=11						
UCH	**Uchtor**	**4.69**	**17**	*e*Pn	**Pn**	**21 40 14.8**	**-0.2**
UCH				*e*Sn	**Sn**	**21 41 04.7**	**-4.6**
EKS2	**Erkin-Say**	**4.98**	**9**	P	**Pn**	**21 40 18.3**	**-0.5**
	SNR=17						
EKS2	**Erkin-Say**	**4.98**	**9**	*e*Pn	**Pn**	**21 40 18.6**	**-0.2**
THW	**Thamme Wali**	**5.00**	**189**	P	**Pn**	**21 40 20.1**	**+0.8**
AAK	**Ala-Archa**	**5.07**	**15**	P	**Pn**	**21 40 19.7**	**-0.3**
	SNR=18						
KBK	**Karagaybulak**	**5.20**	**19**	P	**Pn**	**21 40 22.3**	**+0.6**
	SNR=7.3						
ULHL	**Ulahol**	**5.25**	**30**	P	**Pn**	**21 40 21.8**	**-0.6**
	SNR=9.6						
CHMS	**Chumysh**	**5.47**	**16**	P	**Pn**	**21 40 25.1**	**-0.3**
	SNR=12						
KK31	**Karatay Array**	**5.61**	**343**	⇓Pn	**Pn**	**21 40 25.5**	**-1.6**
	comp=E,5.0nm,0.4s,baz=151,slow=12,SNR=200						
KK31				⇑Sn	**Sn**	**21 41 23.4**	**-7.7**
	comp=E,27nm,0.3s,baz=170,slow=24,SNR=29						
TKM2	**Tokmak 2**	**5.62**	**22**	⇑Pn	**Pn**	**21 40 26.7**	**-0.6**
	comp=E,2.7nm,0.5s						
TKM2				⇑Sn	**Sn**	**21 41 31.3**	**0.0**
	comp=E,5.9nm,0.6s						
TKM2	**Tokmak 2**	**5.62**	**22**	*e*PN	**Pn**	**21 40 27.0**	**-0.2**
TKM2				pmax	pmax		
	comp=Z,7.0nm,0.6s						
TKM2	**Tokmak 2**	**5.62**	**22**	P	**Pn**	**21 40 28.6**	**+1.4**
	SNR=7.9						
TKM2	**Tokmak 2**	**5.62**	**22**	*e*Pn	**Pn**	**21 40 27.0**	**-0.3**
	comp=Z,7.1nm,0.6s						
USP	**Ospenovka**	**5.68**	**13**	P	**Pn**	**21 40 28.0**	**-0.1**
	SNR=6.7						
THN	**Thein Dam**	**5.84**	**154**	*e*P	**Pn**	**21 40 29.8**	**-0.5**
THN				*e*S	**Sn**	**21 41 33.2**	**-3.5**
SMLA	**Simla**	**7.55**	**150**	*i* P	**Pn**	**21 40 53.2**	**+0.2**
SMLA				*i* S	**Sn**	**21 42 11.3**	**-6.3**
SMLA				*i* S	**Sn**	**21 42 11.4**	**-6.2**
SMLA				*ex*	x	21 42 12.5	
	comp=N,528nm,0.4s						
SMLA				*ex*	x	21 42 16.5	
	comp=E,531nm,0.4s						
KLP	**Kalpa**	**7.69**	**142**	*e*P	**Pn**	**21 40 56.6**	**+1.8**
KLP				*e*S	**Sn**	**21 42 14.9**	**-6.0**
KLP				AML	AML	21 42 27.6	
	comp=E,103nm,0.7s						
KLP				AML	AML	21 42 28.2	
	comp=N,109nm,0.6s						
JOSI	**Joshimath**	**9.14**	**140**	*e*P	**Pn**	**21 41 15.8**	**+1.8**
JOSI				*e*S	**Sn**	**21 42 47.9**	**-7.7**
JOSI				AML	AML	21 42 56.9	
	comp=E,118nm,0.8s						
JOSI				AML	AML	21 42 57.6	
	comp=N,84nm,0.9s						
KHET	**Khetri**	**9.99**	**164**	*e*S	**Sn**	**21 43 09.2**	**-6.8**
SONA	**Sohna**	**10.15**	**158**	*e*S	**Sn**	**21 43 12.3**	**-7.7**
MK31	**Makanchi Array**	**11.48**	**35**	*e*P	**Pn**	**21 41 44.8**	**+0.2**
MKAR	**Makanchi Array**	**11.48**	**35**	P	**Pn**	**21 41 43.5**	**-1.1**
	comp=N,0.2nm,0.3s,baz=222,slow=14,SNR=17						
DANN	**Dangsing**	**13.16**	**132**	*e*P	**Pn**	**21 42 05.8**	**-0.6**
	comp=N,19nm0.5s						
KOLN	**Koldanda**	**13.51**	**134**	*e*P	**Pn**	**21 42 09.2**	**-1.5**
	comp=N,4.5nm,0.3s						
KURK	**Kurchatov**	**13.63**	**16**	P	**Pn**	**21 42 07.7**	**-4.4**
	comp=N,0.0nm,0.3s,baz=206,slow=12,SNR=10						
GKN	**Gorkha**	**13.94**	**131**	*e*P	**Pn**	**21 42 15.2**	**-1.0**
	comp=N,8.3nm,0.4s						
KKN	**Kakani**	**14.49**	**130**	*e*P	**Pn**	**21 42 22.1**	**-0.9**
	comp=N,5.8nm,0.5s						
KKN	**Kakani**	**14.49**	**130**	*e*P	**Pn**	**21 42 22.1**	**-0.9**
KKN				pmax	pmax		
	comp=Z,6.0nm,0.5s						
DMN	**Daman**	**14.51**	**131**	*e*P	**Pn**	**21 42 22.2**	**-1.1**
PKIN	**Phulchoki**	**14.71**	**130**	*e*P	**Pn**	**21 42 25.5**	**-0.3**
	comp=Z,4.8nm,0.4s						
PKI	**Pulchoki**	**14.72**	**130**	*e*P	**Pn**	**21 42 25.5**	**-0.4**
PKI				pmax	pmax		
	comp=Z,5.0nm,0.4s						
PKI	**Pulchoki**	**14.72**	**130**	*e*P	**Pn**	**21 42 25.5**	**-0.4**
	comp=Z,4.8nm,0.4s						
AB31	**Akbulak array**	**14.75**	**325**	⇑Pn	**Pn**	**21 42 25.0**	**-1.0**
	comp=Z,1.0nm,0.5s,baz=144,slow=10,SNR=36						
AB31				⇓Sn	**Sn**	**21 44 57.2**	**-13**
	comp=Z,5.1nm,0.9s,baz=146,slow=22,SNR=9.2						
GUN	**Gumba**	**14.77**	**128**	*e*P	**Pn**	**21 42 25.5**	**-1.0**
	comp=Z,7.2nm,0.4s						
JIRN	**Jiri**	**15.14**	**128**	*e*P	**Pn**	**21 42 31.3**	**+0.2**
	comp=Z,18nm,0.4s						
BVAR	**Borovoye Array**	**15.37**	**355**	P	**Pn**	**21 42 32.5**	**-1.1**
	comp=Z,0.5nm,0.3s,baz=167,slow=13,SNR=5.7						
BVAR				S	**S**	**21 45 15.6**	**-8.9**
	baz=155,slow=18,SNR=4.2						
BVAR	**Borovoye Array**	**15.37**	**355**	P	**Pn**	**21 42 32.5**	**-1.1**
BVAR				S	**S**	**21 45 15.6**	**-8.9**
BVAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
RAMN	**Ramite**	**15.90**	**129**	*e*P	**Pn**	**21 42 39.8**	**-0.6**
	comp=Z,9.0nm,0.5s						
TAPN	**Taplejung**	**16.33**	**125**	*e*P	**Pn**	**21 42 46.1**	**+0.5**
	comp=Z,2.8nm,0.3s						
ODAN	**Odare**	**16.46**	**127**	*e*P	**Pn**	**21 42 47.9**	**+0.7**
	comp=Z,5.4nm,0.4s						
AKTK	**Aktyubinsk**	**16.46**	**325**	P	**Pn**	**21 42 46.8**	**-0.2**
AKTK				S	**S**	**21 45 42.1**	**-7.7**
AKTO	**Aktyubinsk**	**16.46**	**325**	P	**Pn**	**21 42 46.8**	**-0.2**
	comp=Z,0.7nm,0.3s,baz=122,slow=11,SNR=12						
AKTO				S	**S**	**21 45 42.1**	**-7.7**
	comp=Z,0.3nm,0.3s,baz=266,slow=23,SNR=6.6						
AKTO	**Aktyubinsk**	**16.46**	**325**	P	**Pn**	**21 42 46.8**	**-0.2**
AKTO				S	**S**	**21 45 42.1**	**-7.6**
AKTO				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ZAA0	**Zalesovo Array**	**18.22**	**23**	*e*P	**P**	**21 43 06.9**	**+1.0**
ZALV	**Zalesovo Beam**	**18.22**	**23**	P	**P**	**21 43 07.1**	**+1.1**
	comp=Z,1.4nm,0.3s,baz=218,slow=10.0,SNR=24						
ZALV	**Zalesovo Beam**	**18.22**	**23**	P	**P**	**21 43 07.1**	**+1.1**
ZALV				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ZALV	**Zalesovo Beam**	**18.22**	**23**	P	**P**	**21 43 07.1**	**+1.1**
ARCES	**ARCESS Array B**	**40.53**	**337**	P	**P**	**21 46 29.9**	**+1.8**
	comp=Z,3.6nm,1.1s,mb3.9,baz=106,slow=9.5,SNR=3.5						
ARCES	**ARCESS Array B**	**40.53**	**337**	P	**P**	**21 46 29.9**	**+1.8**
ARCES				pmax	pmax		
	comp=Z,4.0nm,1.1s						
TORD	**Torodi Ar. Bea**	**67.11**	**269**	P	**P**	**21 49 43.1**	**+1.4**
	comp=Z,0.5nm,0.7s,mb3.5,baz=49,slow=5.6,SNR=12						

NEIC ***25*** *22:09:56.4±1.0, 1.17N×9825E, h35km, mb4.1/1, Error ellipse: s-maj=42.8km s-min=15.2km az=63.0*
ISCJB ***25*** *22:10:07.9±2.5, 17N±03×990E±04, h137km±14km, mb3.7/8, Error ellipse: s-maj=79.0km s-min=18.5km az=148.8*
IDC ***25*** *22:10:10.2±15.0, 163N×9892E, h145km±135km, mb3.5/7, mb1 3.6/8, mb1mx3.4/21, mbtmp3.5/8, ML4.6/1, Error ellipse: s-maj=117.5km s-min=20.3km az=59.0*

ISC 25 22:10:08.8±2.3,17N±03×991E±04,h128km±13km,n12,σ0§33/11,mb3.9/8,1D,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PSI	**Prapat**	**1.09**	**353**	⇓*e*P	**Pn**	**22 10 32.4**	**-0.1**
CMAR	**Chiang Mai Arr**	**16.64**	**360**	P	**Pn**	**22 13 54.8**	**+0.2**
	0.8nm,0.3s,baz=190,slow=11,SNR=5.6						
WRAB	**Tennant Creek**	**40.76**	**124**	*e*P	**P**	**22 17 37.4**	**-0.3**
	8.3nm,2.2s,mb4.2						
ASAR	**Alice Springs**	**42.25**	**129**	P	**P**	**22 17 50.0**	**+0.3**
	0.3nm,0.4s,mb3.4,baz=298,slow=7.8,SNR=6.6						

SONM	**Songino Array**	**46.38**	**7**	P	**P**	**22 18 21.9**	**-0.3**
	0.6nm,0.6s,mb3.5,baz=189,slow=8.8,SNR=3.8						
MKAR	**Makanchi Array**	**47.22**	**344**	P	**P**	**22 18 29.2**	**+0.4**
	0.4nm,0.4s,mb3.5,baz=156,slow=8.5,SNR=16						
MKAR	**Makanchi Array**	**47.22**	**344**	P	**P**	**22 18 29.2**	**+0.4**
KURK	**Kurchatov**	**51.80**	**344**	P	**P**	**22 19 03.8**	**+0.4**
	0.4nm,0.2s,mb4.0,baz=164,slow=7.2,SNR=3.3						
ZALV	**Zalesovo Beam**	**53.37**	**350**	P	**P**	**22 19 14.7**	**-0.2**
	0.8nm,0.4s,mb4.1,baz=160,slow=5.8,SNR=6.5						
BVAR	**Borovoye Array**	**56.40**	**340**	P	**P**	**22 19 36.1**	**-0.6**
	0.6nm,0.5s,mb3.9,baz=133,slow=6.3,SNR=4.3						
ARCES	**ARCESS Array B**	**82.68**	**340**	P	**P**	**22 22 17.9**	**+0.1**
	3.8nm,0.9s,mb4.2,baz=116,slow=5.5,SNR=5.4						
BDFB	**Brasilia**	**144.71**	**245**	PKP	PKPdf	22 29 28.1	-3.4
	0.8nm,0.5s,baz=152,slow=18,SNR=3.3						

ISCJB ***25*** *22:57:13.3±0.7, 3973N±002×2066E±003, h3km±5km, Error ellipse: s-maj=4.4km s-min=3.6km az=5.9*
ATH ***25*** *22:57:14.3, 3975N×2070E, h25km, MD3.4/6*
NEIC ***25*** *22:57:14.3, 3975N×2070E, h25km, MD3.4(ATH), After ATH.*
CSEM ***25*** *22:57:14.7±0.1, 3978N×2072E, h10km, MD3.4, Error ellipse: s-maj=1.5km s-min=1.4km az=129.0*
THE ***25*** *22:57:15.9, 3975N×2080E, h2km±1km, ML3.2/7, Error ellipse: s-maj=1.5km s-min=0.8km az=251.0*
SKO ***25*** *22:57:15.3, 3972N×2069E, h3km*

ISC 25 22:57:15.1±0.5,3975N±002×2070E±003,h10km±3km,n53,σ1§16/88,2D,Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JAN	**Janina**	**0.15**	**128**	⇓*i*Pb	**Pg**	**22 57 19.3**	**+0.9**
JAN				*e*Sb	**Sg**	**22 57 22.6**	**+1.9**
JAN	**Janina**	**0.15**	**128**	⇓*i*PB	**Pg**	**22 57 19.3**	**+0.9**
JAN				*e*SB	**Sg**	**22 57 22.6**	**+1.9**
MEV	**Metsovon**	**0.41**	**85**	P	**Pg**	**22 57 23.3**	**+0.2**
KEK	**Kerkira**	**0.70**	**267**	*e*Pn	**Pn**	**22 57 27.9**	**-3.1**
KEK				*e*Sn	**Sg**	**22 57 38.2**	**+0.6**
KEK	**Kerkira**	**0.70**	**267**	*e*PN	**Pn**	**22 57 27.9**	**-3.1**
KEK				*e*SN	**Sg**	**22 57 38.2**	**+0.6**
KZN	**Kozani**	**0.99**	**55**	*e*Pn	**Pn**	**22 57 33.4**	**-1.7**
KZN				*e*Sn	**Sn**	**22 57 47.6**	**-1.6**
KZN	**Kozani**	**0.99**	**55**	*e*PN	**Pn**	**22 57 33.4**	**-1.7**
KZN				*e*SN	**Sn**	**22 57 47.6**	**-1.6**
THL	**Klokotos Trika**	**1.03**	**100**	P	**Pg**	**22 57 33.5**	**-1.4**
THL				S	**Sg**	**22 57 47.5**	**-0.8**
THL	**Klokotos Trika**	**1.03**	**100**	*e*Pn	**Pn**	**22 57 33.8**	**-1.8**
THL				S	**Sg**	**22 57 47.5**	**-0.8**
THL				Sn	**Sn**	**22 57 49.2**	**-0.9**
THL	**Klokotos Trika**	**1.03**	**100**	*e*PN	**Pn**	**22 57 33.8**	**-1.8**
THL				SN	**Sn**	**22 57 49.2**	**-0.9**
LKD	**Levkas**	**1.04**	**182**	P	**Pg**	**22 57 34.7**	**-0.4**
LKD				S	**Sg**	**22 57 51.3**	**+2.7**
FNA	**Florina**	**1.16**	**26**	P	**Pb**	**22 57 36.6**	**-0.6**
FNA				S	**Sb**	**22 57 52.7**	**+0.5**
EVR	**Evrytania**	**1.20**	**134**	*e*Pn	**Pn**	**22 57 37.1**	**-0.7**
EVR	**Evrytania**	**1.20**	**134**	*e*PN	**Pn**	**22 57 37.1**	**-0.7**
BIA	**Bitola**	**1.36**	**20**	P	**Pn**	**22 57 39.9**	**-0.2**
BIA				S	**Sb**	**22 57 59.0**	**+1.0**
BIA	**Bitola**	**1.36**	**20**	*e*Pg	**Pg**	**22 57 39.6**	**-1.5**
BIA				*e*Sg	**Sg**	**22 57 58.9**	**+0.1**
BIA	**Bitola**	**1.36**	**20**	*e*Pg	**Pg**	**22 57 39.5**	**-1.6**
BIA				*e*Sg	**Sg**	**22 57 58.9**	**+0.1**
OHR	**Ohrid**	**1.36**	**3**	*e*Pg	**Pg**	**22 57 40.6**	**-0.7**
OHR				*e*Sg	**Sg**	**22 57 59.7**	**+0.7**
OHR	**Ohrid**	**1.36**	**3**	*e*Pg	**Pg**	**22 57 40.5**	**-0.8**
OHR				*e*Sg	**Sg**	**22 57 59.7**	**+0.7**
LIT	**Litokhoron**	**1.42**	**75**	P	**Pn**	**22 57 40.4**	**-0.6**
LIT				S	**Sn**	**22 58 00.6**	**+0.9**
AGG	**Agios Georgios**	**1.46**	**119**	P	**Pn**	**22 57 41.7**	**+0.3**
AGG				S	**Sn**	**22 58 00.9**	**+0.3**
VLS	**Valsamata**	**1.57**	**183**	P	**Pn**	**22 57 43.7**	**+0.7**
VLS	**Valsamata**	**1.57**	**183**	*e*Pn	**Pn**	**22 57 43.2**	**+0.2**
VLS				*e*Sn	**Sn**	**22 58 03.6**	**+0.2**
VLS	**Valsamata**	**1.57**	**183**	*e*PN	**Pn**	**22 57 43.2**	**+0.2**
VLS				*e*SN	**Sn**	**22 58 03.6**	**+0.2**
KRUS	**Krusevo**	**1.67**	**14**	*e*Pn	**Pn**	**22 57 45.5**	**+1.1**
KRUS				*e*Sg	**Sg**	**22 58 08.7**	**-0.1**
TIR	**Tirane**	**1.72**	**339**	P	**Pn**	**22 57 46.5**	**+1.4**
TIR				S	**Sn**	**22 58 11.0**	**+3.9**
TIR	**Tirane**	**1.72**	**339**	Pn	**Pn**	**22 57 43.3**	**-1.8**
TIR				S	**Sn**	**22 58 11.0**	**+3.9**
TIR	**Tirane**	**1.72**	**339**	Pn	**Pn**	**22 57 43.3**	**-1.8**
GRG	**Griva**	**1.77**	**47**	P	**Pn**	**22 57 46.3**	**+0.5**
GRG				S	**Sn**	**22 58 09.9**	**+1.5**
RLS	**Riolos of Patr**	**1.79**	**160**	*e*Pb	**Pb**	**22 57 45.4**	**-2.6**
RLS	**Riolos of Patr**	**1.79**	**160**	*e*PB	**Pb**	**22 57 45.4**	**-2.6**
LKR	**Lokris**	**2.10**	**121**	P	**Pn**	**22 57 50.9**	**+0.7**
LKR				S	**Sn**	**22 58 17.4**	**+1.0**
LKR	**Lokris**	**2.10**	**121**	*e*Pb	**Pb**	**22 57 50.8**	**-2.4**
LKR				S	**Sn**	**22 58 17.4**	**+1.0**
LKR	**Lokris**	**2.10**	**121**	*e*PB	**Pb**	**22 57 50.8**	**-2.4**
VAY	**Valandovo**	**2.12**	**42**	*e*Pn	**Pn**	**22 57 52.5**	**+1.9**
VAY	**Valandovo**	**2.12**	**42**	P	**Pn**	**22 57 50.3**	**-0.3**
VAY	**Valandovo**	**2.12**	**42**	*e*Pn	**Pn**	**22 57 52.4**	**+1.8**
KNT	**Kendrikon**	**2.19**	**49**	P	**Pn**	**22 57 51.2**	**-0.4**
PLG	**Polygyros**	**2.20**	**73**	P	**Pn**	**22 57 52.1**	**+0.5**
PLG				S	**Sn**	**22 58 20.3**	**+1.4**
PLG	**Polygyros**	**2.20**	**73**	*e*Pb	**Pb**	**22 57 52.2**	**-2.7**
PLG				*e*Sn	**Sn**	**22 58 18.1**	**-0.8**
PLG				S	**Sn**	**22 58 20.3**	**+1.4**
PLG	**Polygyros**	**2.20**	**73**	*e*Pb	**Pb**	**22 57 52.2**	**-2.7**
PLG				*e*Sn	**Sn**	**22 58 18.1**	**-0.8**
PLG	**Polygyros**	**2.20**	**73**	*e*PB	**Pb**	**22 57 52.2**	**-2.7**
PLG				*e*SN	**Sn**	**22 58 18.1**	**-0.8**
STIP	**Stip**	**2.25**	**30**	*e*Pn	**Pn**	**22 57 54.4**	**+2.0**
STIP	**Stip**	**2.25**	**30**	*e*Pn	**Pn**	**22 57 54.3**	**+2.0**
SOH	**Sokhos**	**2.30**	**61**	P	**Pn**	**22 57 53.7**	**+0.7**
SOH				S	**Sn**	**22 58 22.1**	**+0.8**
PAIG	**Paliouri**	**2.30**	**85**	P	**Pn**	**22 57 52.9**	**-0.2**
PAIG				S	**Sn**	**22 58 21.2**	**-0.2**
LTK	**Loutraki**	**2.47**	**134**	P	**Pn**	**22 57 56.2**	**+0.8**
LTK				S	**Sn**	**22 58 26.4**	**+0.8**
OUR	**Ouranopolis**	**2.59**	**76**	P	**Pn**	**22 57 57.2**	**+0.2**
ITM	**Ithomi**	**2.74**	**159**	*e*Pb	**Pb**	**22 58 00.0**	**-4.1**
ITM	**Ithomi**	**2.74**	**159**	*e*PB	**Pb**	**22 58 00.0**	**-4.1**
TIP	**Timpagrande**	**3.10**	**261**	Pn	**Pn**	**22 58 02.2**	**-1.9**
TIP	**Timpagrande**	**3.10**	**261**	Pn	**Pn**	**22 58 02.2**	**-1.8**
SG1	**Sgolgore (BA)**	**3.26**	**291**	*e*Pn	**Pn**	**22 58 07.2**	**+0.9**

SKO ***25*** *23:34:11.4, 3942N×2060E, h0km*
NEIC ***25*** *23:34:14.9, 3975N×2071E, h16km, MD3.5(ATH), After ATH.*
ISCJB ***25*** *23:34:14.3±0.9, 3974N±002×2068E±003, h1km±7km, Error ellipse: s-maj=4.4km s-min=3.8km az=169.7*
ATH ***25*** *23:34:14.9, 3975N×2071E, h16km, MD3.5/6*
CSEM ***25*** *23:34:15.2±0.1, 3978N×2074E, h2km, MD3.5, Error ellipse: s-maj=1.5km s-min=1.3km az=154.0*
THE ***25*** *23:34:16.2, 3977N×2078E, h1km±1km, ML3.4/6, Error ellipse: s-maj=1.7km s-min=0.8km az=263.0*

ISC 25 23:34:15.6±0.5,3977N±002×2071E±003,h4km±4km,n60,σ0§97/84,Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JAN	**Janina**	**0.16**	**135**	*e*Pb	**Pg**	**23 34 19.2**	**+0.6**
JAN				*e*Sb	**Sg**	**23 34 21.5**	**+0.8**
JAN	**Janina**	**0.16**	**135**	*e*PB	**Pg**	**23 34 19.2**	**+0.6**
JAN				*e*SB	**Sg**	**23 34 21.5**	**+0.8**
MEV	**Metsovon**	**0.40**	**87**	P	**Pg**	**23 34 23.6**	**+0.3**
KEK	**Kerkira**	**0.70**	**266**	*e*Pn		23 34 28.6	
KEK				*e*Sn	**Sg**	**23 34 38.4**	**+0.2**
KEK	**Kerkira**	**0.70**	**266**	*e*PN		23 34 28.6	
KEK				*e*SN	**Sg**	**23 34 38.4**	**+0.2**
KZN	**Kozani**	**0.98**	**56**	*e*Pn	**Pn**	**23 34 33.6**	**-2.5**
KZN	**Kozani**	**0.98**	**56**	*e*PN	**Pn**	**23 34 33.6**	**-2.5**
THL	**Klokotos Trika**	**1.03**	**101**	P	**Pg**	**23 34 33.6**	**-1.7**
THL				S	**Sg**	**23 34 47.7**	**-0.9**
THL	**Klokotos Trika**	**1.03**	**101**	*e*Pn	**Pn**	**23 34 33.7**	**-3.1**
THL				*e*Sn	**Sg**	**23 34 47.7**	**-0.9**
THL	**Klokotos Trika**	**1.03**	**101**	*e*PN	**Pn**	**23 34 33.7**	**-3.1**
THL				*e*SN	**Sg**	**23 34 47.7**	**-0.9**
LKD	**Levkas**	**1.06**	**182**	P	**Pg**	**23 34 35.7**	**-0.2**
LKD				S	**Sg**	**23 34 51.8**	**+2.2**
FNA	**Florina**	**1.14**	**26**	P	**Pg**	**23 34 36.4**	**-1.0**
FNA				S	**Sg**	**23 34 53.5**	**+1.4**
EVR	**Evrytania**	**1.20**	**135**	*e*Pn	**Pn**	**23 34 37.4**	**-1.8**
EVR	**Evrytania**	**1.20**	**135**	*e*PN	**Pn**	**23 34 37.4**	**-1.8**
BIA	**Bitola**	**1.34**	**20**	P	**Pn**	**23 34 40.3**	**-0.7**
BIA				S	**Sb**	**23 35 00.5**	**+1.8**
BIA	**Bitola**	**1.34**	**20**	*e*Pn	**Pn**	**23 34 41.0**	**0.0**
BIA				S	**Sb**	**23 35 00.5**	**+1.8**
OHR	**Ohrid**	**1.34**	**3**	*e*Pg	**Pg**	**23 34 41.4**	**0.0**
OHR	**Ohrid**	**1.34**	**3**	*e*Pg	**Pg**	**23 34 41.3**	**-0.1**
LIT	**Litokhoron**	**1.41**	**76**	P	**Pn**	**23 34 40.8**	**-1.2**
LIT				S	**Sb**	**23 35 00.7**	**-0.1**
AGG	**Agios Georgios**	**1.46**	**120**	P	**Pn**	**23 34 41.9**	**-0.8**
AGG				S	**Sn**	**23 35 02.6**	**+0.3**
VLS	**Valsamata**	**1.59**	**183**	P	**Pn**	**23 34 44.1**	**-0.4**
VLS				S	**Sn**	**23 35 06.5**	**+1.0**
VLS	**Valsamata**	**1.59**	**183**	*e*Pn	**Pn**	**23 34 44.5**	**0.0**
VLS				S	**Sn**	**23 35 06.5**	**+1.0**
VLS	**Valsamata**	**1.59**	**183**	*e*PN	**Pn**	**23 34 44.5**	**0.0**
KRUS	**Krusevo**	**1.65**	**14**	*e*Pn	**Pn**	**23 34 46.7**	**+1.4**
KFL	**Anninata**	**1.66**	**178**	P	**Pn**	**23 34 46.5**	**+1.1**
TIR	**Tirane**	**1.71**	**338**	P	**Pn**	**23 34 47.3**	**+1.2**
TIR				S	**Sn**	**23 35 09.6**	**+1.3**
TIR	**Tirane**	**1.71**	**338**	*e*Pn	**Pn**	**23 34 44.2**	**-1.9**
TIR	**Tirane**	**1.71**	**338**	P	**Pn**	**23 34 47.3**	**+1.2**
TIR				S	**Sn**	**23 35 09.6**	**+1.3**
TIR	**Tirane**	**1.71**	**338**	*e*Pn	**Pn**	**23 34 44.1**	**-1.9**
GRG	**Griva**	**1.76**	**47**	P	**Pn**	**23 34 46.3**	**-0.5**
GRG				S	**Sn**	**23 35 09.9**	**+0.3**
RLS	**Riolos of Patr**	**1.81**	**161**	*e*Pn	**Pn**	**23 34 47.5**	**0.0**
RLS	**Riolos of Patr**	**1.81**	**161**	*e*PN	**Pn**	**23 34 47.5**	**0.0**
XOR	**Xorichti**	**1.96**	**101**	P	**Pn**	**23 34 49.9**	**+0.3**
LKR	**Lokris**	**2.10**	**121**	*e*Pn	**Pn**	**23 34 51.3**	**-0.2**
LKR	**Lokris**	**2.10**	**121**	*e*PN	**Pn**	**23 34 51.3**	**-0.2**
VAY	**Valandovo**	**2.10**	**42**	*e*Pn	**Pn**	**23 34 51.5**	**-0.1**
VAY	**Valandovo**	**2.10**	**42**	*e*PN	**Pn**	**23 34 51.4**	**-0.1**
KNT	**Kendrikon**	**2.17**	**49**	P	**Pn**	**23 34 52.6**	**+0.1**
PLG	**Polygyros**	**2.19**	**73**	P	**Pn**	**23 34 52.6**	**-0.1**
PLG				S	**Sn**	**23 35 20.9**	**+0.7**
PLG	**Polygyros**	**2.19**	**73**	*e*Pn	**Pn**	**23 34 52.8**	**+0.1**
PLG				*e*Sn	**Sn**	**23 35 19.3**	**-0.9**
PLG				S	**Sn**	**23 35 20.9**	**+0.7**
PLG	**Polygyros**	**2.19**	**73**	*e*PN	**Pn**	**23 34 52.8**	**+0.1**
PLG				*e*SN	**Sn**	**23 35 19.3**	**-0.9**
STIP	**Stip**	**2.23**	**30**	*e*Pn	**Pn**	**23 34 54.0**	**+0.7**
STIP	**Stip**	**2.23**	**30**	*e*Pn	**Pn**	**23 34 53.9**	**+0.6**
SOH	**Sokhos**	**2.28**	**62**	P	**Pn**	**23 34 53.9**	**-0.1**
SOH				S	**Sn**	**23 35 23.4**	**+0.9**
PAIG	**Paliouri**	**2.29**	**85**	P	**Pn**	**23 34 54.5**	**+0.3**
PAIG				S	**Sn**	**23 35 22.3**	**-0.5**
LTK	**Loutraki**	**2.48**	**134**	P	**Pn**	**23 34 57.0**	**+0.3**
LTK				S	**Sn**	**23 35 28.5**	**+1.1**
OUR	**Ouranopolis**	**2.58**	**76**	P	**Pn**	**23 34 57.8**	**-0.2**
ITM	**Ithomi**	**2.75**	**159**	*e*Pb	**Pb**	**23 35 01.1**	**-4.3**
ITM	**Ithomi**	**2.75**	**159**	*e*PB	**Pb**	**23 35 01.1**	**-4.3**
NVR	**Nevrokopi**	**2.88**	**56**	*e*Pn	**Pn**	**23 35 02.9**	**+0.7**
NVR	**Nevrokopi**	**2.88**	**56**	*e*PN	**Pn**	**23 35 02.9**	**+0.7**
DID	**Didima**	**3.00**	**138**	P	**Pn**	**23 35 03.8**	**-0.1**
TIP	**Timpagrande**	**3.11**	**260**	*e*Pn	**Pn**	**23 35 04.2**	**-1.2**
TIP	**Timpagrande**	**3.11**	**260**	*e*Pn	**Pn**	**23 35 04.2**	**-1.2**
**SG

DEMI					*i* S		**Sg**	**23 50 18.9**	**+0.5**
GDZ	**Gediz**	**0.35**	**97**	*i* P			**Pg**	**23 50 16.3**	**-0.1**
GDZ				*i* S			**Sg**	**23 50 21.4**	**+0.5**
DST	**Dursunbey**	**0.57**	**326**	PG			**Pg**	**23 50 20.6**	**-0.2**
DST				SG			**Sg**	**23 50 28.7**	**+0.5**
KULA	**Kula-Manisa**	**0.68**	**206**	PG			**Pg**	**23 50 22.6**	**-0.2**
KULA				*e*SG			**Sg**	**23 50 31.5**	**-0.2**
MANT	**Manisa**	**0.74**	**211**	*i* P			**Pg**	**23 50 23.5**	**-0.4**
MANT				*i* S			**Sg**	**23 50 33.2**	**-0.3**
ALT	**Altintas**	**0.84**	**95**	PG			**Pg**	**23 50 25.9**	**+0.2**
KHAL	**Karahalli**	**0.84**	**155**	*i* P			**Pg**	**23 50 25.4**	**-0.4**
KHAL				*i* S			**Sg**	**23 50 36.4**	**-0.2**
KHL	**Karahalli**	**0.89**	**155**	PG			**Pg**	**23 50 26.6**	**-0.2**
KHL				*e*SG			**Sg**	**23 50 38.8**	**+0.4**
AKHS	**Akhisar**	**0.99**	**256**	*i* P			**Pg**	**23 50 28.7**	**0.0**
AKHS				*i* S			**Sg**	**23 50 42.3**	**+0.8**
AKS	**Akhisar**	**0.99**	**256**	PG			**Pg**	**23 50 28.1**	**-0.5**
ULDT	**Uludag**	**1.01**	**4**	*i* P			**Pg**	**23 50 28.7**	**-0.4**
ULDT				*i* S			**Sg**	**23 50 42.2**	**-0.1**
CAVI	**Cavuskoy**	**1.24**	**30**	*e*PN			**Pn**	**23 50 33.7**	**+0.1**
KCT	**Karacabey**	**1.25**	**335**	PN			**Pn**	**23 50 33.4**	**-0.3**
BALY	**Balya**	**1.26**	**299**	*i* P			**Pg**	**23 50 33.3**	**-0.6**
BALY				*i* S			**Sg**	**23 50 50.3**	**+0.2**
GEMT	**Gemlik**	**1.31**	**5**	*e*PN			**Pn**	**23 50 34.0**	**-0.5**
SHUT	**Suhut-Afyon**	**1.31**	**116**	*e*PN			**Pn**	**23 50 35.2**	**+0.6**
ADVT	**Abdulvahap**	**1.41**	**22**	*e*PN			**Pn**	**23 50 36.2**	**+0.3**
YLV	**Yalova**	**1.46**	**10**	*e*PN			**Pn**	**23 50 36.0**	**-0.6**
EDC	**Edincik**	**1.52**	**324**	*e*PN			**Pn**	**23 50 37.5**	**+0.1**
IZM	**Izmir**	**1.57**	**243**	*e*PN			**Pn**	**23 50 38.4**	**+0.2**
GULT	**Gulveren**	**1.73**	**41**	*e*PN			**Pn**	**23 50 40.7**	**+0.4**
BLCB	**Balcova**	**1.73**	**245**	*e*PN			**Pn**	**23 50 40.4**	**+0.1**
KLYT	**Kilyos**	**2.12**	**0**	*e*PN			**Pn**	**23 50 45.8**	**+0.1**

MAN 26 00:06:45, 1535N×12236E, h1km, mb4.2, ML3.1, MS2.8, 1C-1D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
POLP	**Polilio Island**	**0.74**	**213**	*e*P	Pg	00 06 59.9	+0.7
POLP				*e*S	Sg	00 07 11.2	+2.4
BALP	**Baler**	**0.85**	**297**	*e*P	Pg	00 07 02.4	+1.1
BALP				*e*S	Sg	00 07 17.6	+5.3
PCPH	**Palayan**	**1.24**	**280**	*e*P	Pg	00 07 09.5	+0.8
GQP	**Guinayangan**	**1.44**	**177**⇓	*e*P	Pn	00 07 11.9	-0.3
GQP				*e*S	Sg	00 07 30.9	-0.4
CAUP	**Cauayan**	**1.67**	**342**	*e*P	Pn	00 07 14.4	-0.9
PALP	**Palanan**	**1.70**	**2**	*e*P	Sn	00 07 36.5	-1.9
PVCP	**Virac**	**2.46**	**135**	*e*P	Pn	00 07 27.5	+1.2
PVCP	**Virac**	**2.46**	**135**⇑	*e*P	Pn	00 07 27.8	+1.5
PVCP				*e*S	Sn	00 07 58.3	+1.3
LUBP	**Lubang**	**2.60**	**232**	*e*P	Pn	00 07 32.9	+4.7
OTRP	**Odiongan**	**2.99**	**186**	*e*P	Pn	00 07 37.2	+3.6

*IDC **26** 00:08:09.7±1.6, 3913N×7184E, h0km, mb3.6/3, mb1 3.5/5, mb1mx3.4/23, mbtmp3.5/5, ML3.3/2, Error ellipse: s-maj=40.7km s-min=25.7km az=147.0*
*ISCJB **26** 00:08:13.5±1.1, 3930N±008×717E±0.1, h33km, mb3.6/3, Error ellipse: s-maj=12.2km s-min=11.8km az=33.1*
*NNC **26** 00:08:13.6±4.9, 3967N×7155E, h0km, mb3.8, mpv3.5, Error ellipse: s-maj=47.0km s-min=30.5km az=44.0*
ISC 26 00:08:11.8±4.5, 3927N±009×716E±01, h11km±30km, n17, σ0§89/20, mb3.6/3, 5C-3D, Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AML	**Almayashu**	**3.28**	**29**	P	**Pn**	**00 09 03.0**	**-0.1**
	SNR=88						
EKS2	**Erkin-Say**	**3.78**	**26**	P	**Pn**	**00 09 10.2**	**+0.2**
	SNR=11						
KK31	**Karatay Array**	**3.91**	**349**	⇓Pn	**Pn**	**00 09 12.4**	**+0.6**
	1.8nm,0.3s,baz=156,slow=12,SNR=200						
KK31				⇑Pg	**Pg**	**00 09 21.3**	**-5.4**
	26nm,0.7s,baz=167,slow=15,SNR=12						
KK31				⇓Sn	**Sn**	**00 09 57.3**	**-0.4**
	5.7nm,0.4s,baz=170,slow=15,SNR=4.1						
KK31				⇑Lg		00 10 09.4	
	13nm,0.5s,baz=171,slow=28,SNR=7.7						
KZA	**Kyzart**	**3.96**	**44**	P	**Pn**	**00 09 12.7**	**+0.2**
	SNR=11						
AAK	**Ala-Archa**	**4.02**	**32**	P	**Pn**	**00 09 14.0**	**+0.6**
	SNR=16						
KBK	**Karagaybulak**	**4.24**	**36**	P	**Pn**	**00 09 17.5**	**+1.1**
	SNR=10						
CHMS	**Chumysh**	**4.43**	**32**	P	**Pn**	**00 09 18.6**	**-0.4**
	SNR=12						
USP	**Ospenovka**	**4.56**	**28**	P	**Pn**	**00 09 20.6**	**-0.1**
	SNR=13						
ULHL	**Ulahol**	**4.63**	**49**	P	**Pn**	**00 09 21.0**	**-0.6**
	SNR=7.9						
TKM2	**Tokmak 2**	**4.75**	**39**	⇑Pn	**Pn**	**00 09 21.9**	**-1.4**
	6.5nm,0.6s						
TKM2				⇑Lg		00 10 35.1	
	21nm,0.7s						
TKM2	**Tokmak 2**	**4.75**	**39**	P	**Pn**	**00 09 24.5**	**+1.2**
	SNR=5.2						
MKAR	**Makanchi Array**	**10.86**	**43**	Pn	**Pn**	**00 10 46.9**	**-0.2**
	0.1nm,0.3s,baz=219,slow=14,SNR=3.2						
AB31	**Akbulak array**	**12.99**	**324**	⇑Pn	**Pn**	**00 11 14.0**	**-2.1**
	0.5nm,0.4s,baz=132,slow=14,SNR=5.4						
AB31				⇓Sn	**Sn**	**00 13 33.3**	**-7.2**
	1.8nm,0.6s,baz=135,slow=25,SNR=3.7						
ZALV	**Zalesovo Beam**	**17.23**	**27**	P	**Pn**	**00 12 12.3**	**+0.1**
	0.4nm,0.3s,baz=221,slow=13,SNR=6.5						
HFS	**Hagfors**	**41.20**	**320**	P	**P**	**00 15 57.9**	**+1.7**
	1.5nm,0.9s,mb3.6,baz=102,slow=13,SNR=4.2						
TORD	**Torodi Ar. Bea**	**66.26**	**268**	P	**P**	**00 19 01.0**	**+0.7**
	0.2nm,0.5s,mb3.4,baz=51,slow=5.5,SNR=2.0						
ASAR	**Alice Springs**	**85.48**	**125**	P	**P**	**00 20 48.4**	**-1.4**
	0.2nm,0.3s,mb3.7,baz=297,slow=4.1,SNR=3.0						

*CSEM **26** 00:26:39.6±0.6, 3829N×2663E, h27km±6km, MD2.9, Error ellipse: s-maj=22.4km s-min=11.3km az=24.0*
*ISCJB **26** 00:26:41.0±1.6, 3823N±007×2666E±009, h22km±13km, Error ellipse: s-maj=12.4km s-min=11.6km az=154.8*
*DDA **26** 00:26:41.4, 3819N×2673E, h7km±2km, Md2.9*
ISC 26 00:26:41.1±1.5, 3822N±007×2666E±010, h21km±14km, n5, σ0§36/10, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
URLA	**Izmir**	**0.15**	**339**	*i* P	**Pb**	**00 26 45.5**	**-0.1**
URLA				*i* S	**Sb**	**00 26 49.2**	**+0.4**
BLCB	**Balcova**	**0.34**	**61**	*e*PG	**Pb**	**00 26 48.3**	**-0.2**
BLCB				*e*SG	**Sb**	**00 26 52.9**	**-0.6**
IZM	**Izmir**	**0.50**	**69**	*e*PG	**Pb**	**00 26 51.3**	**0.0**
IZM				*e*SG	**Sb**	**00 26 58.6**	**+0.5**
GCAM	**G?zelcaml?**	**0.69**	**139**	*i* P	**Pb**	**00 26 53.9**	**-0.5**
GCAM				*i* S	**Sb**	**00 27 03.4**	**0.0**
AYDN	**Tasoluk**	**1.11**	**120**	*i* P	**Pn**	**00 27 01.6**	**+0.2**
AYDN				*i* S	**Sb**	**00 27 16.1**	**+0.4**

*ISCJB **26** 00:35:31.9±0.9, 3948N±004×3319E±004, h5km±8km, Error ellipse: s-maj=6.2km s-min=5.4km az=178.1*
*DDA **26** 00:35:31.2, 3952N×3314E, h7km±5km, Md2.9*
*CSEM **26** 00:35:31.4±0.1, 3951N×3322E, h12km, MD2.9, Error ellipse: s-maj=2.4km s-min=1.8km az=2.0*
*ISK **26** 00:35:31.6, 3950N×3321E, h9km, MD2.9*
ISC 26 00:35:32.6±0.7, 3950N±004×3320E±005, h15km±8km, n11, σ0§72/18, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KAMT	**Kaman**	**0.42**	**108**	PG	**Pg**	**00 35 40.2**	**-0.8**
KAMT				SG	**Sg**	**00 35 46.4**	**-0.3**
ANTO	**Ankara**	**0.48**	**319**	*e*PG	**Pg**	**00 35 41.4**	**-0.8**
ANTO				*e*SG	**Sg**	**00 35 49.1**	**+0.4**
CDAG	**Cicekdag**	**0.91**	**82**	*i* P	**Pg**	**00 35 49.9**	**-0.4**
CDAG				*i* S	**Sg**	**00 36 03.4**	**+1.1**
CDAG	**Cicekdag**	**0.91**	**82**	*i* P	**Pg**	**00 35 49.8**	**-0.5**
CDAG				*i* S	**Sg**	**00 36 03.3**	**+1.0**
ELDT	**Eldivan**	**1.00**	**10**	*i* P	**Pb**	**00 35 50.5**	**-1.2**
ELDT				*i* S	**Sg**	**00 36 06.2**	**+1.1**
KIZT	**Kizilcal**	**1.20**	**239**	*e*PN	**Pn**	**00 35 54.8**	**-0.1**
KDHN	**Kadinhani**	**1.29**	**221**	*i* P	**Pn**	**00 35 55.5**	**-0.7**
KDHN				*i* S	**Sb**	**00 36 13.8**	**+0.8**
LADK	**Ladik-KONYA**	**1.46**	**207**	*e*PN	**Pn**	**00 35 59.0**	**+0.7**
YOZ	**Yozgat**	**1.64**	**85**	*e*PN	**Pn**	**00 36 01.4**	**+0.5**
CTKT	**Corum**	**1.66**	**47**	*i* P	**Pn**	**00 36 00.3**	**-0.8**
CTKT				*i* S	**Sn**	**00 36 27.4**	**+5.3**
BNN	**Bunyan**	**2.16**	**107**	*e*PN	**Pn**	**00 36 08.3**	**+0.3**

*ISCJB **26** 01:00:34.1±0.5, 5033N±003×1869E±003, h0km, Error ellipse: s-maj=4.8km s-min=2.4km az=15.6*
*CSEM **26** 01:00:36.9±0.3, 5029N×1866E, h1km±1km, ML3.1/7, Error ellipse: s-maj=7.7km s-min=3.9km az=13.0*
*IPEC **26** 01:00:36.5±0.1, 5021N×1869E, h6km±1km, ML2.1/3, Error ellipse: s-maj=2.0km s-min=0.7km az=168.0*
*WAR **26** 01:00:36.2, 5021N×1873E, ML2.6, Mining Induced*
*VIE **26** 01:00:37.7±0.7, 4967N×1881E, h0km, mb1.8/2, ML2.5/4, Error ellipse: s-maj=4.1km s-min=2.8km az=88.0, Suspected Mining induced.*
*PRU **26** 01:00:37.1, 5026N×1862E, h0km*
ISC 26 01:00:36.0±0.4, 5025N±003×1869E±003, h0km, n32, σ1§28/56, 2C-3D, Poland

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RAC	**Raciborz**	**0.36**	**242**	*e*Pg	**Pg**	**01 00 44.3**	**+1.5**
RAC				*e*Sg	**Sg**	**01 00 50.0**	**+2.5**
OKC	**Ostrava-Krasne**	**0.54**	**220**	*e*PG	**Pg**	**01 00 46.7**	**+0.4**
OKC				*e*SG	**Sg**	**01 00 54.0**	**+0.7**
	62nm,0.5s						
OJC	**Ojcow**	**0.71**	**92**	*e*Pg	**Pg**	**01 00 49.6**	**0.0**
OJC				*e*Sg	**Sg**	**01 00 59.6**	**+0.7**
OJC	**Ojcow**	**0.71**	**92**	*e*Pg	**Pg**	**01 00 49.8**	**+0.2**
OJC				*e*Sg	**Sg**	**01 00 59.0**	**+0.1**
MORC	**Moravsky Berou**	**0.88**	**238**	*e*Pg	**Pg**	**01 00 52.6**	**-0.2**
MORC				*e*Sg	**Sg**	**01 01 04.3**	**+0.2**
	30nm,0.2s						
NIE	**Niedzica**	**1.34**	**128**	*e*Pg	**Pg**	**01 01 00.8**	**-0.9**
NIE				*e*Sg	**Sg**	**01 01 20.1**	**+1.0**
DPC	**Dobruska-Polom**	**1.52**	**275**	*e*Pn	**Pn**	**01 01 04.2**	**-0.1**
DPC				Sg	**Sg**	**01 01 24.5**	**-0.2**
	26nm,0.4s						
DPC	**Dobruska-Polom**	**1.52**	**275**	*e*PG	**Pg**	**01 01 03.9**	**-1.1**
DPC				*e*SG	**Sg**	**01 01 24.5**	**-0.2**
	26nm,0.4s						
JAVC	**Velka Javorina**	**1.54**	**206**	*e*Pn	**Pn**	**01 01 04.7**	**0.0**
KSP	**Ksiaz**	**1.64**	**292**	*e*Pn	**Pn**	**01 01 07.6**	**+1.7**
KSP				*e*Pg	**Pg**	**01 01 11.1**	**+3.8**
KSP				*e*Sn	**Sn**	**01 01 28.4**	**+0.7**
KSP				*e*Sg	**Sg**	**01 01 30.0**	**+1.5**
KSP	**Ksiaz**	**1.64**	**292**	*e*Pg	**Pg**	**01 01 07.5**	**+0.2**
KSP				*e*Sg	**Sg**	**01 01 28.3**	**-0.2**
VRAC	**Vranov**	**1.65**	**236**	*e*Pn	**Pn**	**01 01 06.1**	**-0.1**
VRAC				*e*Sg	**Sg**	**01 01 27.6**	**-1.4**
	17nm,0.3s						
KOLL	**Kolacno**	**1.69**	**186**	*e*PN	**Pn**	**01 01 07.4**	**+0.8**
UPC	**Upice**	**1.73**	**279**	*e*SG	**Sg**	**01 01 31.2**	**-0.3**
VYHS	**Vyhne**	**1.76**	**177**	*e*PN	**Pn**	**01 01 07.0**	**-0.7**
VYHS				*e*SN	**Sn**	**01 01 31.4**	**+0.6**
VYHS	**Vyhne**	**1.76**	**177**	*e*Pn	**Pn**	**01 01 06.8**	**-0.9**
VYHS				*e*Sn	**Sn**	**01 01 31.4**	**+0.6**
STHS	**Stebnicka Huta**	**1.85**	**116**	*e*PN	**Pg**	**01 01 10.7**	**-0.8**
STHS				*e*SN	**Sg**	**01 01 35.5**	**0.0**
KRUC	**Moravsky**	**1.91**	**232**	*e*Sg	**Sn**	**01 01 34.8**	**+0.4**
	14nm,0.2s						
SMOL	**Smolenice**	**1.93**	**206**	*e*SN	**Sn**	**01 01 34.5**	**-0.3**
MODS	**Modra-Piesok**	**2.10**	**207**	*e*PN	**Pn**	**01 01 13.7**	**+1.5**
CRVS	**Cervenica-Dubn**	**2.26**	**126**	*e*PN	**Pg**	**01 01 18.6**	**-0.6**
PVCC	**Panska Ves**	**2.65**	**278**	*e*SG	**Sg**	**01 02 00.2**	**-0.8**
	19nm,0.4s						
KWP	**Kalwaria**	**2.67**	**102**	*e*Pn	**Pn**	**01 01 23.8**	**+3.6**
KWP				*e*Pg	**Pg**	**01 01 38.4**	**+11**
KWP				*e*Sn	**Sg**	**01 01 59.8**	**-1.9**
KOLS	**Kolonicke sedl**	**2.68**	**118**	*e*PG	**Pg**	**01 01 28.1**	**+0.8**
PRU	**Pruhonice**	**2.68**	**266**	*e*PG	**Pg**	**01 01 24.6**	**-2.7**
PRU				*e*SG	**Sg**	**01 01 58.8**	**-3.2**
	7.2nm,0.6s						
CONA	**Conrad Observa**	**2.98**	**220**⇓	*i*Sg	**Sn**	**01 02 04.1**	**+3.3**
	6.9nm,0.5s						
CSNA	**Conrad Observa**	**2.98**	**220**⇑	*i*Pn	**Pn**	**01 01 21.4**	**-2.9**
CSNA				⇓*i*Sg	**Sn**	**01 02 04.4**	**+3.6**
	3.5nm,0.4s						
BRG	**Berggiesshubel**	**3.09**	**283**	PG	**Pg**	**01 01 33.7**	**-1.4**
BRG				SG	**Sg**	**01 02 13.7**	**-1.4**
	8.2nm,0.3s						
KHC	**Kasperske Hory**	**3.50**	**253**	*e*PG	**Pg**	**01 01 39.6**	**-3.4**
KHC				*e*SG	**Sg**	**01 02 26.3**	**-2.1**
	16nm,0.7s						
CLL	**Collm**	**3.76**	**288**	*e*Pg	**Pg**	**01 01 50.0**	**+2.1**
CLL				*e*Sg	**Sg**	**01 02 38.0**	**+1.4**
MOA	**Molln**	**3.77**	**232**⇓	*i*Pg	**Pg**	**01 01 44.7**	**-3.5**
MOA				⇑*i*Sg	**Sg**	**01 02 33.6**	**-3.5**
	6.0nm,0.6s						
MOX	**Moxa**	**4.54**	**278**	(SG)	**Sg**	**01 03 03.1**	**+1.5**

*ISCJB **26** 01:21:28.9±0.9, 3793N±004×3322E±004, h2km±8km, Error ellipse: s-maj=6.7km s-min=5.7km az=164.2*
*DDA **26** 01:21:28.4, 3787N×3323E, h5km±4km, Md3.2*
*CSEM **26** 01:21:28.7±0.1, 3787N×3318E, h5km, MD3.0, Error ellipse: s-maj=3.3km s-min=1.7km az=29.0*
*ISK **26** 01:21:29.0, 3789N×3319E, h6km, MD3.0*
ISC 26 01:21:29.7±0.9, 3791N±004×3320E±005, h8km±8km, n12, σ0§90/16, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KONT	**Konya--Tatoy**	**0.67**	**274**	*e*PG	**Pg**	**01 21 42.3**	**-0.3**
KONT				*e*SG	**Sg**	**01 21 52.1**	**+0.8**
LADK	**Ladik-KONYA**	**0.72**	**294**	*e*PG	**Pg**	**01 21 43.1**	**-0.6**
LADK				*e*SG	**Sg**	**01 21 53.8**	**+0.7**
KDHN	**Kadinhani**	**1.05**	**306**	*i* P	**Pg**	**01 21 49.0**	**-1.0**
KDHN				*i* S	**Sn**	**01 22 05.2**	**-0.4**
HDMB	**Hadim**	**1.10**	**211**	*e*PN	**Pn**	**01 21 50.2**	**-1.2**
NIG	**Nigde**	**1.13**	**79**	*e*PN	**Pn**	**01 21 51.4**	**-0.4**
ERMK	**Ermenek**	**1.28**	**190**	*i* P	**Pn**	**01 21 53.0**	**-0.9**
ERMK				*i* S	**Sb**	**01 22 12.6**	**+1.9**
GULE	**Gulek**	**1.40**	**116**	*i* P	Px	01 21 41.0	
GULE				*i* S	Sx	01 22 02.1	
KIZT	**Kizilcal**	**1.42**	**314**	*e*PN	**Pn**	**01 21 56.2**	**+0.4**
MERS	**Mersin**	**1.48**	**134**	*e*PN	**Pn**	**01 21 56.5**	**-0.1**
KAMT	**Kaman**	**1.52**	**15**	*e*PN	**Pn**	**01 21 58.0**	**+0.9**
KARA	**Karaisali**	**1.61**	**113**	*e*PN	**Pn**	**01 21 58.6**	**+0.3**
CDAG	**Cicekdag**	**1.94**	**28**	*i* P	**Pg**	**01 22 05.6**	**-1.4**
CDAG				*i* S	**Sg**	**01 22 33.6**	**+1.4**

*TIR **26** 01:35:57.4±3.3, 4104N×1983E, h22km±18km, ML3.5*
*IDC **26** 01:36:54.4±1.1, 4101N×1994E, h0km, mb4.3/2, mb1 4.0/3, mb1mx3.6/19, mbtmp4.0/3, ML3.4/1, Error ellipse: s-maj=22.7km s-min=15.2km az=71.0*
*BEO **26** 01:36:54.1, 4078N×1986E, ML3.6/4*
*SKO **26** 01:36:55.1, 4088N×1970E, h8km, M2.9, ML3.4*
*ISCJB **26** 01:36:56.4±0.3, 4106N×1001×1977E±002, h12km±2km, mb3.7/4, Error ellipse: s-maj=2.5km s-min=1.8km az=44.4*
*ATH **26** 01:36:56.3, 4115N×1962E, h41km±12km, MD3.8/9*
*PDG **26** 01:36:57.3±0.8, 4101N×1978E, h15km±2km, MD3.5/5, ML3.5/9, Error ellipse: s-maj=1.1km s-min=1.3km az=0.0*
*CSEM **26** 01:36:57.0±0.1, 4104N×1987E, h11km±1km, Ms3.7, Error ellipse: s-maj=1.5km s-min=1.0km az=6.0*
*MOS **26** 01:36:57.0±0.9, 4101N×1978E, h19km, mb4.5/2, Error ellipse: s-maj=9.3km s-min=5.3km az=89.3*
*NEIC **26** 01:36:57.3, 4101N×1978E, h15km, MD3.8(ATH), ML2.8(BUC), ML3.5(PDG), After PDG.*
*VIE **26** 01:36:57.6±0.4, 4108N×1970E, h10km, mb3.2/3, Ms3.7/4, Error ellipse: s-maj=4.5km s-min=2.5km az=28.0*
*THE **26** 01:36:58.5, 4100N×1995E, h4km±2km, ML4.3/2, Error ellipse: s-maj=3.5km s-min=1.4km az=37.0*
ISC 26 01:36:57.3±0.3, 4102N±001×1978E±002, h9km±2km, n181, σ1§17/264, mb3.7/4, 24C-13D, Albania

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TIR	**Tirane**	**0.33**	**11**	P	**Pg**	**01 37 04.4**	**+0.5**
TIR				S	**Sg**	**01 37 11.5**	**+3.2**
TIR	**Tirane**	**0.33**	**11**	*e*Pg	**Pg**	**01 37 04.6**	**+0.7**
TIR				*e*Sg	**Sg**	**01 37 11.6**	**+3.3**
TIR	**Tirane**	**0.33**	**11**	P	**Pg**	**01 37 03.8**	**-0.1**
QSH	**Qafa e Shtames**	**0.51**	**11**	*e*PG	**Pg**	**01 37 08.5**	**+1.3**
QSH				*i* SG	**Sg**	**01 37 12.5**	**-1.4**
TPE	**Tepelena**	**0.75**	**166**	*i* PG	**Pg**	**01 37 12.5**	**+0.8**
TPE				*i* SG	**Sg**	**01 37 25.0**	**+3.5**
OHR	**Ohrid**	**0.78**	**83**	P	**Pg**	**01 37 10.3**	**-2.0**
OHR				S	**Sg**	**01 37 20.9**	**-1.5**
OHR	**Ohrid**	**0.78**	**83**	*e*Pg	**Pg**	**01 37 09.9**	**-2.3**
OHR				*e*Sg	**Sg**	**01 37 21.9**	**-0.5**
OHR				*e*Lg		01 37 22.1	
	comp=N,584nm,0.6s						
OHR				*e*Lg		01 37 23.2	
	comp=E,640nm,0.6s						
OHR	**Ohrid**	**0.78**	**83**	*i* Pg	**Pg**	**01 37 10.4**	**-1.9**
OHR				*i* Sg	**Sg**	**01 37 22.2**	**-0.3**
OHR				*e*Lg		01 37 23.0	
	comp=N,584nm,0.6s						
OHR				*e*Lg		01 37 23.5	
	comp=E,706nm,0.7s						
OHR	**Ohrid**	**0.78**	**83**	*i* Pg	**Pg**	**01 37 10.3**	**-2.0**
OHR				S	**Sg**	**01 37 20.9**	**-1.5**
OHR				*i* Sg	**Sg**	**01 37 22.1**	**-0.3**
PHP	**Peshkopia**	**0.83**	**37**	*e*PG	**Pg**	**01 37 12.0**	**-1.3**
PHP				*i* SG	**Sg**	**01 37 26.4**	**+2.3**
KBN	**Korca**	**0.86**	**117**	*e*PG	**Pg**	**01 37 12.4**	**-1.5**
KBN				*i* SG	**Sg**	**01 37 25.1**	**-0.1**
ULC	**Ulcinj**	**1.02**	**337**⇑	*i*Pg	**Pg**	**01 37 17.3**	**+0.4**
ULC				*e*Sg	**Sg**	**01 37 32.7**	**+2.5**
ULC	**Ulcinj**	**1.02**	**337**	*i* PG	**Pg**	**01 37 17.3**	**+0.4**
ULC				*i* SG	**Sg**	**01 37 32.7**	**+2.5**
PUK	**Puka**	**1.02**	**5**	*e*PG	**Pg**	**01 37 17.9**	**+0.9**
SRN	**Sarande**	**1.16**	**171**	*i* PG	**Pg**	**01 37 19.7**	**+0.2**
SRN				*i* SG	**Sg**	**01 37 35.5**	**+1.0**
KRUS	**Krusevo**	**1.16**	**72**	*e*Pg	**Pg**	**01 37 17.5**	**-2.1**
KRUS				*e*Sg	**Sg**	**01 37 33.2**	**-1.5**
KRUS				*e*Lg		01 37 36.3	
	comp=E,470nm,0.5s						
KRUS				*e*Lg		01 37 36.5	
	comp=N,412nm,0.6s						
KRUS	**Krusevo**	**1.16**	**72**	*i* Pg	**Pg**	**01 37 17.9**	**-1.7**
KRUS				*i* Sn	**Sn**	**01 37 36.9**	**+1.1**
KRUS	**Krusevo**	**1.16**	**72**	*e*Pg	**Pg**	**01 37 17.5**	**-2.1**
KRUS				*e*Sg	**Sg**	**01 37 33.2**	**-1.5**
KRUS				*i* Sn	**Sn**	**01 37 36.8**	**+1.1**
BIA	**Bitola**	**1.17**	**90**	P	**Pb**	**01 37 17.5**	**-2.2**
BIA	**Bitola**	**1.17**	**90**	*e*Pg	**Pg**	**01 37 17.0**	**-2.8**
BIA				*e*Sg	**Sg**	**01 37 32.9**	**-2.0**
BIA				*e*Lg		01 37 35.6	
	comp=N,410nm,0.7s						
BIA				*e*Lg		01 37 36.6	
	comp=E,486nm,0.4s						
BIA	**Bitola**	**1.17**	**90**	*i* Pg	**Pg**	**01 37 17.3**	**-2.5**
BIA				*i* Sg	**Sg**	**01 37 35.6**	**+0.6**
BIA	**Bitola**	**1.17**	**90**	*i* Pg	**Pg**	**01 37 17.3**	**-2.5**
BIA				*i* Sg	**Sg**	**01 37 35.6**	**+0.6**
FNA	**Florina**	**1.23**	**101**	P	**Pn**	**01 37 18.9**	**-1.8**
FNA				S	**Sb**	**01 37 35.8**	**-1.0**
KEK	**Kerkira**	**1.31**	**179**	*e*P	**Pn**	**01 37 21.5**	**-0.3**
KEK				*e*S	**Sb**	**01 37 39.8**	**+0.9**
KEK	**Kerkira**	**1.31**	**179**	*e*P	**Pn**	**01 37 21.5**	**-0.3**
KEK				*e*S	**Sb**	**01 37 39.8**	**+0.9**
BCI	**Bajram Curri**	**1.36**	**9**	*e*PN	**Pn**	**01 37 24.5**	**+2.0**
BCI				*i* SN	**Sn**	**01 37 43.0**	**+2.4**
BUM	**Brajici-Budva**	**1.44**	**333**⇓	*i*Pg	**Pg**	**01 37 24.0**	**-0.9**
BUM				*e*Sg	**Sg**	**01 37 45.2**	**+1.7**
BUM	**Brajici-Budva**	**1.44**	**333**	*i* PG	**Pg**	**01 37 24.0**	**-0.9**
BUM				*i* SG	**Sg**	**01 37 45.2**	**+1.7**
PDG	**Podgorica**	**1.46**	**345**	*i* PG	**Pg**	**01 37 24.4**	**-0.9**
PDG				*i* SG	**Sg**	**01 37 45.9**	**+1.7**
PDG	**Podgorica**	**1.46**	**345**⇑	*i*Pg	**Pg**	**01 37 24.4**	**-0.9**
PDG				*e*Sg	**Sg**	**01 37 45.9**	**+1.7**
TTG	**Podgorica**	**1.46**	**345**⇑	*i*Pg	**Pg**	**01 37 24.4**	**-0.9**
TTG				*e*Sg	**Sg**	**01 37 45.9**	**+1.7**
SKO	**Skopje**	**1.57**	**52**	P	**Pn**	**01 37 25.9**	**+0.6**
SKO	**Skopje**	**1.57**	**52**	*e*Pn	**Pn**	**01 37 26.0**	**+0.7**
SKO				*e*Sg	**Sg**	**01 37 47.0**	**-0.7**
SKO				*e*Lg		01 37 47.5	
	comp=N,522nm,0.5s						
SKO				*e*Lg		01 37 48.2	
	comp=E,641nm,0.8s						
SKO	**Skopje**	**1.57**	**52**	*i* Pn	**Pn**	**01 37 26.1**	**+0.8**
SKO				*i* Sn	**Sn**	**01 37 47.2**	**+1.5**
SKO				*e*Lg		01 37 48.0	

EVR	Evrytania	2.62 143	*e*P	Pn	01 37 40.8	+1.0
EVR	Evrytania	2.62 143	*e*P	Pn	01 37 40.8	+1.0
ORI	Oriolo Calabro	2.71 250	Pn	Pn	01 37 41.0	-0.1
SOH	Sokhos	2.72 93	P	Pn	01 37 40.8	-0.3
AGG	Agios Georgios	2.80 135	P	Pn	01 37 42.9	+0.6
BBLS	Lazići	2.85 355	*e*Pn	Pn	01 37 43.7	+0.7
BBLS			*e*Sn	Sn	01 38 25.6	+8.1
BBLS	Lazići	2.85 355	*e*Pn	Pn	01 37 43.6	+0.6
BBLS			*e*Sn	Sg	01 38 34.6	+5.6
PLG	Polygyros	2.86 102	P	Pn	01 37 42.9	-0.2
PLG			*e*S	Sn	01 38 17.0	-0.7
PLG	Polygyros	2.86 102	*e*P	Pn	01 37 43.3	+0.2
PLG			*e*S	Sn	01 38 17.0	-0.7
PLG	Polygyros	2.86 102	*e*P	Pn	01 37 43.3	+0.2
PLG			*e*S	Sn	01 38 17.0	-0.7
VLS	Valsamata	2.91 167	*e*P	Pn	01 37 42.6	-1.2
VLS	Valsamata	2.91 167	*e*P	Pn	01 37 42.6	-1.2
ACER	Acerenza	2.92 267	Pn	Pn	01 37 44.0	+0.1
GRUS	Gruza	2.95 13	*e*Pn	Pn	01 37 43.2	-1.1
FGMS	Monte Sant'Ang	2.96 285	Pn	Pn	01 37 43.7	-0.7
TIP	Timpagrande	2.96 232	P	Pn	01 37 44.1	-0.4
MS1	Monte Sant'Ang	2.97 285	*e*Pn	Pn	01 37 44.1	-0.5
NVR	Nevrokopi	3.10 83	*e*P	Pn	01 37 46.9	+0.5
NVR	Nevrokopi	3.10 83	*e*P	Pn	01 37 46.9	+0.5
PAIG	Paliouri	3.17 109	P	Pn	01 37 46.6	-0.8
CUC	Castrocucco	3.19 252	P	Pn	01 37 48.2	+0.6
RGNG	Rignano Grg	3.22 283	Pn	Pn	01 37 47.6	-0.5
BOLS	Boljevac	3.23 29	*e*Pn	Pn	01 37 48.0	-0.2
RLS	Riolos of Patr	3.24 156	*e*P	Pn	01 37 48.2	-0.1
RLS	Riolos of Patr	3.24 156	*e*P	Pn	01 37 48.2	-0.1
MRLC	Muro Lucano	3.26 267	Pn	Pn	01 37 49.3	+0.7
OUR	Ouranopolis	3.27 101	P	Pn	01 37 47.7	-1.0
MGR	Morigerati	3.34 256	Pn	Pn	01 37 50.0	+0.4
GRI	Girifalco	3.39 231	Pn	Pn	01 37 49.5	-0.9
SVIS	Svilajnac	3.41 18	*e*Pn	Pn	01 37 52.0	+1.4
FG5	Orsara di Pugl	3.42 276	Pn	Pn	01 37 51.3	+0.6
LKR	Lokris	3.43 133	P	Pn	01 37 51.1	+0.2
LKR	Lokris	3.43 133	*e*P	Pn	01 37 51.0	+0.1
LKR	Lokris	3.43 133	*e*P	Pn	01 37 51.0	+0.1
PLD	Plovdiv	3.85 72	P	Pn	01 37 57.2	+0.5
SGG	Gregorio Mates	4.09 277	Pn	Pn	01 38 01.2	+1.2
FGSL	Fruska Gora	4.13 0	*e*Pn	Pn	01 38 00.0	-0.6
FGSL	Fruska Gora	4.13 0	*e*Pn	Pn	01 38 00.3	-0.3
FGSL	Fruska Gora	4.13 0	*e*Pn	Pn	01 38 00.3	-0.3
FGSL			*e*Sn	Sn	01 38 49.2	+0.2
DJES	Djerdap	4.16 28	*e*Pn	Pn	01 38 01.4	+0.4
BLY	Banja Luka	4.18 334	*e*Pn	Pn	01 38 01.9	+0.6
BLY			*e*Sn	Sn	01 38 50.1	-0.1
ITM	Ithomi	4.19 156	*e*P	Pn	01 38 01.5	+0.2
ITM	Ithomi	4.19 156	*e*P	Pn	01 38 01.5	+0.2
MIDA	Miranda	4.21 280	Pn	Pn	01 38 01.8	+0.2
LIA	Limnos Island	4.27 103	P	Pn	01 38 03.2	+0.7
RNI2	Rionero Sannit	4.29 281	Pn	Pn	01 38 03.7	+1.0
RDO	Rodhopi	4.36 86	*e*P	Pn	01 38 03.3	-0.3
RDO	Rodhopi	4.36 86	*e*P	Pn	01 38 03.3	-0.3
SDI	San Donato	4.54 281	Pn	Pn	01 38 07.1	+0.9
VVLD	Villa Vallelon	4.70 282	Pn	Pn	01 38 09.3	+0.9
BZS	Buzias	4.78 16	⇑P	Pn	01 38 09.8	+0.3
BZS	Buzias	4.78 16	⇑P	Pn	01 38 09.8	+0.3
GZR	Gura Zlata	4.89 26	⇓P	Pn	01 38 12.0	+1.1
GZR	Gura Zlata	4.89 26	⇓P	Pn	01 38 12.0	+1.0
PTQR	Pietraquaria	4.89 284	Pn	Pn	01 38 12.2	+1.2
VLI	Veliai	4.96 149	*e*P	Pn	01 38 13.1	+1.2
VLI	Veliai	4.96 149	*e*P	Pn	01 38 13.1	+1.2
NVLJ	Novalja	5.05 316	*e*Pn	Pn	01 38 13.1	-0.1
NVLJ			Sn	Sn	01 39 09.5	-2.2
NVLJ	Novalja	5.05 316	*e*Pn	Pn	01 38 13.1	-0.1
NVLJ			Sn	Sn	01 39 09.4	-2.3
FIAM	Fiamignano	5.14 286	Pn	Pn	01 38 15.7	+1.2
	comp=N,52nm,0.5s					
PKSM	Moragy	5.25 351	⇑P	Pn	01 38 15.6	-0.3
NRCA	Norcia	5.29 292	Pn	Pn	01 38 16.7	+0.2
	comp=N,25nm,0.5s					
BOJS	Bojanci	5.56 325	*i* Pn	Pn	01 38 20.4	+0.1
BOJS			*i* Sn	Sn	01 39 21.5	-2.8
CRES	Cresnjev	5.74 328	*e*Pn	Pn	01 38 22.3	-0.3
FSSB	Fossombrone	5.83 300	Pn	Pn	01 38 23.3	-0.6
	comp=N,13nm,0.4s					
VOIR		5.86 39	⇑P	Pn	01 38 25.6	+1.4
CEY	Cerknica	6.12 322	*e*Pn	Pn	01 38 27.7	-0.1
DRGR		6.14 19	P	Pn	01 38 29.3	+1.1
DRGR		6.14 19	⇓P	Pn	01 38 29.2	+1.1
SKDS	Skadanscina	6.17 319	*i* Pn	Pn	01 38 27.1	-1.5
SKDS			*i* Sn	Sn	01 39 35.9	-3.4
MLR	Muntele Rosu	6.34 43	⇓P	Pn	01 38 32.7	+1.8
MLR	Muntele Rosu	6.34 43	⇓P	Pn	01 38 32.6	+1.8
JAVS	Javornik	6.40 321	*i* Pn	Pn	01 38 31.5	-0.2
JAVS			*e*Sn	Sn	01 39 41.1	-3.7
PERS	Pernice	6.54 331	*i* Sn	Sn	01 39 42.8	-5.6
VOY	Vojsko	6.58 321	*e*Pn	Pn	01 38 34.9	+0.7
VOY			*e*Sn	Sn	01 39 46.2	-3.2
OBKA	Obir	6.66 327	⇑*i*Pn	Pn	01 38 34.8	-0.5
OBKA			⇑*i*Sn	Sn	01 39 50.5	-0.8
VRI	Vrincioaia	7.00 44	⇑P	Pn	01 38 42.1	+2.2
VRI	Vrincioaia	7.00 44	⇑P	Pn	01 38 42.1	+2.1
VYHS	Vyhne	7.50 355	*e*SN	Sn	01 40 09.0	-2.9
BURAR	Bucovina Array	7.66 29	⇑P	Pn	01 38 50.4	+1.5
BURAR	Bucovina Array	7.66 29	⇑P	Pn	01 38 50.4	+1.5
TLCR		7.81 55	⇓P	Pn	01 38 52.8	+1.7
TLCR		7.81 55	⇓P	Pn	01 38 52.9	+1.8
MOA	Molln	7.88 332	⇑*i*Pn	Pn	01 38 51.3	-0.7
MOA			⇑*i*Sn	Sn	01 40 20.1	-1.1
STHS	Stebnicka Huta	8.46 7	*e*PN	Pn	01 38 59.8	-0.1
WTTA	Wattenberg	8.55 320	⇑*i*Pn	Pn	01 39 00.7	-0.5
WTTA			⇓*i*Sn	Sn	01 40 37.1	-0.7
WATA	Walderalm	8.63 320	⇑*i*Pn	Pn	01 39 01.8	-0.5
WATA			⇓*i*Sn	Sn	01 40 38.7	-1.0
WATA	Walderalm	8.63 320	Pn	Pn	01 39 01.8	-0.5
WATA			Sn	Sn	01 40 38.7	-1.0
MOTA	Moosalm	8.87 318	⇑*i*Pn	Pn	01 39 04.7	-0.9
MOTA			⇓*i*Sn	Sn	01 40 44.6	-1.0
GERES	GERESS Array B	8.93 333	Pn	Pn	01 39 07.9	+1.5
	comp=N,0.2nm,0.3s,baz=147,slow=16,SNR=3.2					
GERES			Sn	Sn	01 40 45.5	-1.5
	comp=N,0.5nm,0.3s,baz=149,slow=24,SNR=4.5					
GERES	GERESS Array B	8.93 333	P	Pn	01 39 07.9	+1.5
GERES					01 40 45.5	
GERES			smax			
	comp=N,1.0nm,0.3s					
KHC	Kasperske Hory	9.21 334	*e*SN	Sn	01 40 50.5	-3.5
KEST	Kesra	9.74 241	Pn	Pn	01 39 21.4	+3.7
	comp=N,0.1nm,0.3s,baz=13,slow=12,SNR=4.5					
TORD	Torodi Ar. Bea	31.96 215	P	P	01 43 22.6	-1.0
	comp=N,0.2nm,0.5s,mb3.2,baz=11,slow=8.5,SNR=4.9					
DBIC	Dimbokro	40.66 219	P	P	01 44 36.5	-1.5
	comp=N,2.5nm,0.9s,mb3.8,baz=356,slow=11,SNR=5.2					
DBIC	Dimbokro	40.66 219	P	P	01 44 36.5	-1.4
DBIC			pmax	pmax		
	comp=Z,3.0nm,0.9s					
DBIC	Dimbokro	40.66 219	P	P	01 44 36.5	-1.5
ZAA0	Zalesovo Array	44.27 50	*e*P	P	01 45 04.3	-2.6
ZALV	Zalesovo Beam	44.27 50	P	P	01 45 04.5	-2.4
	comp=Z,4.9nm,0.6s,mb4.4,baz=278,slow=8.6,SNR=17					
ZALV	Zalesovo Beam	44.27 50	P	P	01 45 04.5	-2.4
ZALV			pmax	pmax		
	comp=Z,5.0nm,0.6s,mb4.4					
MKAR	Makanchi Array	44.35 61	P	P	01 45 05.0	-2.7
	comp=Z,0.2nm,0.3s,mb3.3,baz=281,slow=7.7,SNR=6.7					

*IDC **26** 01:53:59.9±0.9, 2075N×12124E, h0km, mb3.8/8, mb1 4.0/10, mb1mx3.9/20, mbtmp3.9/10, ML3.8/1, MS3.3/7, Ms1 3.3/7, ms1mx3.1/27, Error ellipse: s-maj=26.7km s-min=18.5km az=73.0*

*ISCJB **26** 01:54:03.1±3.5, 2080N±009×1213E±01, h38km±34km, mb3.9/12, MS3.1/5, Error ellipse: s-maj=22.2km s-min=13.5km az=155.1*

*NEIC **26** 01:54:05.6±2.0, 2080N×12129E, h45km±20km, mb4.2/3, Error ellipse: s-maj=14.3km s-min=9.4km az=62.0*

ISC 26 01:54:06.4±2.5, 2083N±009×1213E±01, h50km±26km, n19, σ0s83/16, mb3.9/12, MS3.1/5, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JOW	Kunigami	8.73	46	Pn	Pn	01 56 09.7	-0.4
	3.4nm,0.3s,baz=210,slow=18,SNR=6.1						
JOW				LR	LR	01 59 30.6	
	comp=Z,237nm,18.2s,baz=313,slow=37						
DAV	Davao City (W)	14.29 163		LR	LR	02 02 54.6	
	comp=Z,139nm,19.6s,baz=44,slow=38						

KSRS	Korea Array	17.53	18	P	Pn	01 58 07.5	+0.4
	0.3nm,0.3s,baz=204,slow=11,SNR=4.2						
CMAR	Chiang Mai Arr	21.19	267	P	P	01 58 47.6	-0.3
	0.7nm,0.3s,mb3.5,baz=74,slow=9.5,SNR=4.1						
CMAR				LR	LR	02 07 49.2	
	comp=Z,95nm,18.6s,MS3.2,baz=100,slow=39						
MJAR	Matsushiro Ar	21.50	40	P	P	01 58 51.7	+0.7
	0.7nm,0.3s,mb3.5,baz=206,slow=11,SNR=4.3						
MJAR				LR	LR	02 07 31.2	
	comp=Z,48nm,18.5s,MS2.9,baz=255,slow=38						
KAPI	Kappang	25.73	184	P	P	01 59 34.9	+2.6
	16nm,0.9s,mb4.5,baz=350,slow=4.1,SNR=6.7						
ASAJ	Asahikawa	29.19	32	LR	LR	02 12 49.0	
	comp=Z,40nm,18.4s,MS3.1,baz=230,slow=39						
ULN	Ulaanbaatar	29.32	340	*e*P	P	02 00 03.3	-0.8
	1.1nm,0.4s,mb3.9						
SONM	Songino Array	29.51	339	P	P	02 00 05.9	+0.1
	0.7nm,0.5s,mb3.6,baz=153,slow=10.0,SNR=3.7						
MKAR	Makanchi Array	40.87	319	P	P	02 01 43.0	-0.4
	0.4nm,0.5s,mb3.4,baz=109,slow=8.7,SNR=6.8						
WRAB	Tennant Creek	42.48	162	*e*P	P	02 01 55.1	-1.7
	3.7nm,0.7s,mb4.1						
PETK	Petropavlovsk-	42.60	32	LR	LR	02 21 41.3	
	comp=Z,26nm,18.7s,MS3.1,baz=151,slow=39						
ZALV	Zalesovo Beam	43.14	329	P	P	02 02 02.2	+0.4
	0.8nm,0.6s,mb3.6,baz=104,slow=6.3,SNR=4.0						
ZALV				LR	LR	02 19 55.0	
	comp=Z,31nm,20.4s,MS3.2,baz=123,slow=36						
ZALV	Zalesovo Beam	43.14	329	P	P	02 02 02.2	+0.4
ZALV				LR	LR	02 19 55.0	
KURK	Kurchatov	44.76	322	P	P	02 02 15.4	+0.6
	0.5nm,0.5s,mb3.6,baz=116,slow=7.9,SNR=2.6						
ASAR	Alice Springs	45.90	164	P	P	02 02 23.6	-0.5
	1.5nm,0.6s,mb4.1,baz=344,slow=6.6,SNR=19						
CTAO	Charters Tower	47.43	147	*e*P	P	02 02 36.6	+0.5
	16nm,1.5s,mb4.7						
STKA	Stephens Creek	55.90	159	P	P	02 03 39.3	+0.2
	2.4nm,0.8s,mb4.3,baz=345,slow=9.7,SNR=5.1						
RES	Resolute Bay	81.94	9	*e*P	P	02 06 19.7	-0.5

IDC 26 02:10:17.1±2.1, 1975S×17365W, h0km, mb3.9/4, mb1 4.1/5, mb1mx3.9/17, mbtmp4.0/5, ML2.4/1, Error ellipse: s-maj=91.1km s-min=25.5km az=142.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	Afiamalu	6.08	17	Pn	Pn	02 11 48.1	-0.3
	4.9nm,0.3s,baz=312,slow=12,SNR=5.3						
AFI				Sn	Sn	02 12 47.1	-12
	6.2nm,0.3s,baz=174,slow=19,SNR=3.3						
CTA	Charters Tower	37.63	262	P	P	02 17 34.5	+0.5
	1.0nm,0.3s,baz=94,slow=8.5,SNR=4.0						
STKA	Stephens Creek	41.79	244	P	P	02 18 08.1	-0.5
	1.2nm,0.5s,baz=88,slow=12,SNR=2.8						
ASAR	Alice Springs	48.66	255	P	P	02 19 03.1	-0.2
	0.8nm,0.5s,baz=90,slow=8.2,SNR=12						
PDAR	Pinedale Array	85.66	42	P	P	02 22 58.2	+0.5
	0.3nm,0.8s,baz=235,slow=4.3,SNR=3.4						
AKASG	Malin Array Be	144.20	335	PKP	PKPdf	02 29 54.0	-0.8
	0.3nm,0.3s,baz=45,slow=4.6,SNR=4.7						

MAN 26 02:33:53, 1169N×12526E, h33km, mb4.3, ML3.1, MS2.9, 2C-1D, Samar

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BESP	Borongan	0.20	116	*e*P	Pb	02 34 00.8	+1.2
BESP				*e*S	Sb	02 34 06.9	+2.9
PLP	Palo	0.59	208	⇑*e*P	Pb	02 34 05.3	+0.3
PLP				*i* S	Sb	02 34 15.5	+2.3
OCLP	Ormoc	0.90	225	*e*P	Pn	02 34 09.5	+0.1
CNP	Catarman	1.00	325	*e*P	Pn	02 34 10.1	-0.7
CNP				*e*S	Sn	02 34 24.3	+0.5
MSLP	Maasin	1.59	194	*e*P	Pn	02 34 21.0	+2.1
SCPH	Surigao	1.91	173	⇓*e*P	Pn	02 34 25.4	+1.2
SCPH				*e*S	Sn	02 34 51.0	+4.8
PVCP	Virac	2.18	330	*e*P	Pn	02 34 28.7	+1.7
TBP	Tagbilaran	2.41	215	*e*P	Pn	02 34 30.2	0.0
TBP				*e*S	Sn	02 34 59.6	+1.0
RCP	Roxas	2.47	267	⇑*e*P	Pn	02 34 32.0	+1.1
BUTP	Butuan	2.73	172	*e*P	Pn	02 34 33.8	-0.7
BUKP	Musuan	3.79	183	*e*P	Pn	02 34 51.0	+1.8

*ISK **26** 02:59:07.5, 3890N×2589E, h12km, MD3.0*

*ISCJB **26** 02:59:08.0±1.1, 3891N±003×2590E±007, h4km±7km, Error ellipse: s-maj=9.9km s-min=5.1km az=170.4*

*ATH **26** 02:59:08.7, 3894N×2594E, h22km, MD2.9/3*

*CSEM **26** 02:59:08.4±0.3, 3890N×2593E, h12km, MD3.0, Error ellipse: s-maj=6.9km s-min=2.2km az=75.0*

*DDA **26** 02:59:09.8, 3895N×2607E, h4km±3km, Md3.0*

ISC 26 02:59:08.7±1.0, 3890N±003×2588E±008, h9km±5km, n21, σ0s81/29, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PRK	Paraskevi	0.46	42	*e*Pb	Pg	02 59 17.6	-0.1
PRK				*e*Sb	Sg	02 59 23.2	-0.6
PRK	Paraskevi	0.46	42	*e*PB	Pg	02 59 17.6	-0.1
PRK				*e*SB	Sg	02 59 23.2	-0.6
URLA	Izmir	0.78	134	*i* P	Pg	02 59 23.8	+0.1
URLA				*i* S	Sg	02 59 35.0	+1.1
BOZC	Bozcaada	0.95	8	*i* P	Pg	02 59 26.9	0.0
BOZC				*i* S	Sg	02 59 40.8	+1.4
EZN	Ezine	0.99	21	*e*PG	Pg	02 59 27.1	-0.6
EZN				*e*SG	Sg	02 59 40.8	+0.3
BLCB	Balcova	1.05	119	*e*PG	Pg	02 59 28.3	-0.6
BLCB				*e*SG	Sg	02 59 42.6	+0.1
IZM	Izmir	1.20	114	*e*PN	Pn	02 59 30.1	-1.5
GADA	Gvkgeada	1.29	1	*e*PN	Pn	02 59 31.5	-1.4
SMG	Samos	1.41	147	*e*Pn	Pn	02 59 35.3	+0.8
SMG	Samos	1.41	147	*e*PN	Pn	02 59 35.3	+0.8
AKS	Akhisar	1.51	90	*e*PN	Pn	02 59 35.2	-0.7
BALY	Balya	1.59	58	*i* P	Pn	02 59 36.7	-0.3
BALY				*i* S	Sn	02 59 58.2	+0.5
ENEZ	Enez	1.84	7	*e*PN	Pn	02 59 40.0	-0.5
APE	Apeiranthos	1.85	189	*e*Pn	Pn	02 59 41.8	+1.2
APE	Apeiranthos	1.85	189	*e*PN	Pn	02 59 41.8	+1.2
RKY	Sarkoy-Tekirda	2.05	29	*e*PN	Pn	02 59 43.5	+0.2
SART	Tekirdag	2.05	29	*i* P	Pn	02 59 43.4	+0.1
SART				*i* S	Sn	03 00 11.3	+2.3
EDC	Edincik	2.11	46	*e*PN	Pn	02 59 43.9	-0.2
BNT	Bandirma	2.15	47	*e*PN	Pn	02 59 44.3	-0.4
MRMT	Marmara Adasi	2.15	37	*e*PN	Pn	02 59 44.9	+0.1
DST	Dursunbey	2.25	71	*e*PN	Pn	02 59 45.3	-0.8

NEIC 26 03:40:58.4, 3841S×17597E, h148km, MG4.3(WEL), 2C, After WEL., North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WATZ	Wairara	0.35	212	P	Pn	03 41 18.9	+0.1
WTVZ	West Tongariro	0.77	203	⇑P	Pn	03 41 21.2	+0.1
TWVZ	Taurewa	0.78	212	⇑P	Pn	03 41 21.2	0.0
NGZ	Ngauruhoe	0.82	201	P	Pn	03 41 21.5	0.0
BKZ	Black Stump Fm	0.86	152	P	Pn	03 41 21.8	0.0
HIZ	Hauiti	0.88	263	P	Pn	03 41 21.5	-0.4
HIZ				S	Sn	03 41 39.8	-0.1
TUVZ	Tukino	0.89	196	P	Pn	03 41 22.2	+0.2
FWVZ	Far West T-bar	0.91	201	P	Pn	03 41 22.2	+0.1
URZ	Urewera	0.91	81	P	Pn	03 41 21.8	-0.4
WNVZ	Wahianoa	0.96	197	P	Pn	03 41 22.7	+0.1
MOVZ	Moawhango	1.01	190	P	Pn	03 41 22.8	-0.2
VRZ	Vera Road	1.19	233	P	Pn	03 41 24.6	0.0
MWZ	Matawai	1.23	87	P	Pn	03 41 25.0	0.0
KNZ	Kokohu	1.47	115	P	Pn	03 41 27.8	+0.4
WAZ	Wanganui	1.55	209	P	Pn	03 41 28.0	-0.2
TSZ	Takapari Road	1.65	180	P	Pn	03 41 29.0	-0.3
NEZ	North Egmont	1.70	239	P	Pn	03 41 30.2	+0.3
PUZ	Puketiti	1.83	80	P	Pn	03 41 31.4	0.0
MXZ	Matakaoa Point	2.03	66	P	Pn	03 41 33.9	+0.2
MRZ	Mangatainoka R	2.27	188	P	Pn	03 41 35.2	-1.3
KIW	Kapiti Island	2.58	198	P	Pn	03 41 38.5	-1.9
MTW	Mount Morrison	2.77	187	P	Pn	03 41 40.5	-2.2
CAW	Cannon Point	2.78	194	P	Pn	03 41 40.9	-2.0
MRW	Makara Radio	2.98	199	P	Pn	03 41 43.1	-2.3
PAWZ	Paruwai Farm	3.00	188	P	Pn	03 41 43.2	-2.4
WEL	Wellington	3.02	197	P	Pn	03 41 43.5	-2.3
MSWZ	Moikau Station	3.05	190	P	Pn	03 41 43.8	-2.5
SNZO	South Karori	3.06	198	P	Pn	03 41 43.7	-2.6
TCW	Tory Channel	3.09	204	P	Pn	03 41 44.1	-2.6
BHW	Baring Head	3.11	195	P	Pn	03 41 44.5	-2.5
NNZ	Nelson	3.44	215	P	Pn	03 41 48.4	-2.9
QRZ	Quartz Range	3.59	227	P	Pn	03 41 49.8	-3.4
BSWZ	Blackbirch Sta	3.67	205	P	Pn	03 41 51.2	-3.0
THZ	Tophouse	4.09	214	P	Pn	03 41 56.4	-3.3
KHZ	Kahutara	4.41	204	P	Pn	03 42 00.5	-3.4
DSZ	Denniston Nort	4.62	222	P	Pn	03 42 02.3	-4.3
LTZ	Lake Taylor	5.20	212	P	Pn	03 42 09.7	-4.6
MQZ	McQueen's Vall	5.86	204	P	Pn	03 42 17.5	-5.5
WVZ	Waitaha Valley	6.12	219	P	Pn	03 42 20.8	-5.8
LBZ	Lake Benmore	7.39	214	P	Pn	03 42 37.9	-5.6
JCZ	Jackson Bay	7.84	222	P	Pn	03 42 43.6	-6.0
TUZ	Tuapeka	8.88	210	P	Pn	03 42 59.2	-4.2

*ISCJB **26** 03:44:38.8±0.6, 5139N±003×1607E±003, h0km, Error ellipse: s-maj=4.6km s-min=2.5km az=17.0*

*WAR **26** 03:44:39.9, 5150N×1610E, ML2.6, Mining Induced*

*CSEM **26** 03:44:39.4±0.2, 5148N×1608E, h1km, ML3.3/10, Error ellipse: s-maj=3.9km s-min=1.9km az=33.0*

*NEIC **26** 03:44:39.8±1.2, 5146N×1606E, h5km, ML2.8(SZGRF), Error ellipse: s-maj=12.9km s-min=6.8km az=199.0*

*IPEC **26** 03:44:40.2±0.3, 5146N×1614E, h4km±1km, ML2.2/3, Error ellipse: s-maj=1.9km s-min=0.7km az=26.0*

*PRU **26** 03:44:41.1, 5141N×1606E, h0km, Felt In Harrachov*

*VIE **26** 03:44:41.7±0.7, 5129N×1612E, h0km, mb2.3/4, ML2.8/4, Error ellipse: s-maj=4.7km s-min=4.5km az=110.0, Suspected Mining induced.*

ISC 26 03:44:39.4±0.6, 5146N±003×1609E±003, h0km, n34, σ1s04/69, 5C-2D, Poland

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KSP	Ksiaz	0.63	168	*e*Pg	Pg	03 44 52.2	+0.8
KSP				*e*Sg	Sg	03 45 01.4	+1.8
KSP	Ksiaz	0.63	168	*e*Pg	Pg	03 44 52.0	+0.6
KSP				*e*Sg	Sg	03 45 00.7	+1.2
KSP	Ksiaz	0.63	168	⇓*i*Pg	Pg	03 44 52.2	+0.8
KSP				*e*Sg	Sg	03 45 01.4	+1.9
UPC	Upice	0.95	183	*e*PG	Pg	03 44 58.2	+0.6
DPC	Dobruska-Polom	1.12	172	Pg	Pg	03 45 01.0	+0.2
DPC				*e*Sg	Sg	03 45 15.6	+0.3
DPC	Dobruska-Polom	1.12	172	*e*PG	Pg	03 45 01.0	+0.2
DPC				*e*SG	Sg	03 45 15.1	-0.2
	66nm,0.5s						
PVCC	Panska Ves	1.34	227	*e*Pn	Pn	03 45 05.4	+0.1
PVCC				Sg	Sg	03 45 23.6	+1.3
	139nm,0.3s						
PVCC	Panska Ves	1.34	227	*e*PG	Pg	03 45 05.0	0.0
PVCC				*e*SG	Sg	03 45 23.6	+1.3
	139nm,0.3s						
BRG	Berggiesshubel	1.47	247	PN	Pn	03 45 06.7	-0.5
BRG				PG	Pg	03 45 08.9	+1.3
BRG				SG	Sg	03 45 27.7	+1.0
	65nm,0.5s						
PRU	Pruhonice	1.77	214	*e*Pn	Pn	03 45 12.3	+1.1
PRU	Pruhonice	1.77	214	Pg	Pg	03 45 12.6	-0.7
PRU				Sg	Sg	03 45 35.7	-0.5
	40nm,0.4s						
PRU	Pruhonice	1.77	214	*e*PG	Pg	03 45 12.6	-0.7
PRU				*e*SG	Sg	03 45 35.7	-0.5
	40nm,0.4s						
MORC	Moravsky Berou	1.92	151	*e*Pn	Pn	03 45 12.8	-0.5
MORC				*e*Sg	Sg	03 45 39.9	-1.1
	22nm,0.4s						
CLL	Collm	1.94	267	*i* Pn	Pn	03 45 12.3	-1.3
	comp=Z,4.0nm,0.4s						
CLL				*e*Pg	Pg	03 45 16.0	-0.6
CLL				*ex*	x	03 45 19.0	
CLL				*e*Sg	Sg	03 45 42.0	+0.3
	comp=Z,27nm,0.6s						
CLL	Collm	1.94	267	*e*Pg	Pg	03 45 16.0	-0.6
CLL				*e*Sg	Sg	03 45 41.1	-0.6
CLL	Collm	1.94	267	*i* Pn	Pn	03 45 12.3	-1.3
CLL				*e*Pg	Pg	03 45 16.0	-0.6
CLL				*e*Sg	Sg	03 45 42.0	+0.3
OKC	Ostrava-Krasne	2.08	140	*e*SG	Sg	03 45 44.1	-2.2
VRAC	Vranov	2.18	171

BJI ***26*** *04:53:11.8, 480S×10060E, h35km, mB5.1, mb4.9, Ms5.0, Msz4.8*
DJA ***26*** *04:53:12, 442S×100.13E, h10km, Mw5.4/15*
ISCJB ***26*** *04:53:15.2±0.9, 421S±004×10049E±004, h26km±6km, mb4.9/68, MS4.5/30, Error ellipse: s-maj=7.4km s-min=4.8km az=42.2*
MOS ***26*** *04:53:16.3±1.1, 406S×10067E, h33km, mb5.1/27, MS4.5/5, Error ellipse: s-maj=14.8km s-min=7.3km az=102.6*
NEIC ***26*** *04:53:18.4±0.4, 4.17S×10063E, h35km, mb5.1/25, Error ellipse: s-maj=11.3km s-min=6.9km az=225.0*
IDC ***26*** *04:53:19.5±3.5, 4.13S×10064E, h44km±31km, mb4.3/14, mb1 4.4/15, mb1mx4.3/23, mbtmp4.4/15, ML4.3/1, MS4.0/10, Ms1 4.1/10, ms1mx3.8/21, Error ellipse: s-maj=18.9km s-min=12.7km az=39.0*
ISC 26 04:53:18.6±0.6, 421S±004×10052E±004, h36km±4km, h33km±1.6km: pP-P, n175, σ1§07/171, mb4.9/68, MS4.5/30, 19C-12D, Southwest of Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op		h m s	ISC
KSI	**Kapahiang**	**2.14**	**75**	P	**Pn**	**04 53 50.4**	**-1.4**
KRJI	**Kerinci**	**2.30**	**24**	P	**Pn**	**04 53 54.4**	**+0.4**
PDSI	**Padang**	**3.27**	**359**	P	**Pn**	**04 54 05.2**	**-2.2**
PPI	**Padang Panjang**	**3.73**	**358**	P	**Pn**	**04 54 12.2**	**-1.5**
RGRI	**Rengat**	**4.24**	**25**	P	**Pn**	**04 54 20.9**	**+0.2**
KLI	**Kotabumi**	**4.37**	**99**	P	**Pn**	**04 54 22.8**	**+0.3**
BLSI	**Bandar Lampung**	**4.84**	**104**	P	**Pn**	**04 54 29.5**	**+0.5**
	307nm,0.5s,4μm1.1nm						
SBJI	**Serang**	**5.90**	**109**	P	**Pn**	**04 54 43.0**	**-0.5**
	230nm,1.2s,7μm1.1nm						
PPBI	**Pangkal Pinang**	**5.96**	**70**	P	**Pn**	**04 54 44.0**	**-0.4**
TNG	**Tangerang**	**6.40**	**108**	P	**Pn**	**04 54 50.7**	**+0.2**
	1μm,0.9s,4.1nm						
DBJI	**Dramaga**	**6.62**	**111**	P	**Pn**	**04 54 53.2**	**-0.3**
	275nm,1.0s,4μm1.1nm						
CBJI	**Citeko**	**6.67**	**110**	P	**Pn**	**04 54 56.3**	**+2.1**
	860nm,0.9s,3.9nm						
KGM	**Kluang**	**6.78**	**24**	⇑P	**Pn**	**04 54 55.2**	**-0.5**
MYKOM	**Kota Tinggi**	**6.82**	**29**	⇑P	**Pn**	**04 54 56.1**	**-0.1**
MYKOM	**Kota Tinggi**	**6.82**	**29**	P	**Pn**	**04 54 55.6**	**-0.6**
TPI	**Tanjungpandan**	**7.26**	**79**	⇑*e*P	**Pn**	**04 55 03.0**	**+0.7**
TPI				*e*S	Sn	04 56 48.0	+24
TPI	**Tanjungpandan**	**7.26**	**79**	P	**Pn**	**04 55 02.9**	**+0.6**
	34nm,1.2s,0.2nm						
FRIM	**Kepong**	**7.47**	**8**	⇓P	**Pn**	**04 55 04.9**	**-0.3**
LEM	**Lembang**	**7.53**	**111**	P	**Pn**	**04 55 06.1**	**+0.2**
	338nm,1.0s,4μm1.1nm						
IPM	**Ipoh**	**8.64**	**3**	⇑P	**Pn**	**04 55 21.9**	**+0.7**
IPM	**Ipoh**	**8.64**	**3**	P	**Pn**	**04 55 21.4**	**+0.2**
	48nm,1.4s,0.2nm						
KULM	**Kulim**	**9.43**	**1**	⇑P	**Pn**	**04 55 31.3**	**-0.8**
BJII	**Banjarmegara**	**9.65**	**109**	P	**Pn**	**04 55 34.5**	**-0.6**
KTGM	**Kuala Trenggan**	**9.82**	**15**	⇑P	**Pn**	**04 55 36.8**	**-0.6**
PBKI	**Pangkalan Bun**	**11.22**	**83**	P	**Pn**	**04 56 00.1**	**+3.5**
KSM	**Kuching**	**11.29**	**60**	⇓P	**Pn**	**04 55 60.0**	**+2.5**
SNG	**Songkhla**	**11.31**	**0**	P	**Pn**	**04 55 56.0**	**-1.8**
SJI	**Sawahan**	**11.72**	**108**	P	**Pn**	**04 56 02.4**	**-1.0**
STKI	**Sintang**	**11.74**	**69**	P	**Pn**	**04 56 06.2**	**+2.5**
	42nm,1.1s						
SBUM	**Sibu**	**13.43**	**61**	⇓P	**Pn**	**04 56 29.2**	**+2.4**
SBUM	**Sibu**	**13.43**	**61**	P	**Pn**	**04 56 28.9**	**+2.1**
BBKI	**Banjar Baru**	**14.30**	**88**	P	**Pn**	**04 56 44.5**	**+5.8**
BTM	**Bintulu**	**14.55**	**60**	⇑P	**Pn**	**04 56 43.6**	**+1.6**
KKM	**Kota Kinabalu**	**18.69**	**57**	⇓P	**Pn**	**04 57 34.6**	**+0.1**
KKM	**Kota Kinabalu**	**18.69**	**57**	P	**Pn**	**04 57 35.3**	**+0.8**
	174nm,0.9s,1μm						
KAPI	**Kappang**	**19.18**	**93**	P	**Pn**	**04 57 37.9**	**-2.6**
	0.9nm,0.3s,baz=271,slow=9.7,SNR=8.2						
KAPI	**Kappang**	**19.18**	**93**	P	**Pn**	**04 57 40.1**	**-0.4**
	40nm,1.1s,730nm						
TSM	**Tawau**	**19.28**	**64**	⇑P	**Pn**	**04 57 41.6**	**0.0**
SDKM	**Sandakan**	**19.31**	**60**	⇑P	**Pn**	**04 57 42.0**	**0.0**
PCI	**Palu**	**19.57**	**81**	⇑*e*P	**Pn**	**04 57 44.0**	**-1.1**
PCI	**Palu**	**19.57**	**81**	P	**Pn**	**04 57 44.0**	**-1.1**
	300nm,1.3s,3μm						
KDM	**Kudat**	**19.68**	**56**	⇓P	**Pn**	**04 57 46.6**	**+0.3**
MYLDM	**Lahad Datu**	**20.23**	**63**	⇓P	**P**	**04 57 53.0**	**+2.2**
KKTK	**Khon Kaen**	**20.54**	**6**	⇑P	**P**	**04 57 53.5**	**-0.6**
	247nm,0.9s						
BDT	**Bhumibol Dam**	**21.37**	**356**	P	**P**	**04 58 03.0**	**0.0**
	11nm,1.0s,mb4.2						
KDI	**Kendari**	**22.04**	**90**	⇑*e*P	**P**	**04 58 09.0**	**-1.3**
KDI				*e*S	**S**	**05 02 07.9**	**-3.8**
KDI	**Kendari**	**22.04**	**90**	P	**P**	**04 58 12.1**	**+1.8**
	87nm,1.1s,1μm,mb5.1						
CMAR	**Chiang Mai Arr**	**22.57**	**356**	P	**P**	**04 58 14.6**	**-1.3**
	31nm,1.1s,mb4.7,baz=185,slow=10.0,SNR=38						
CMAR				LR	LR	05 07 42.7	
	comp=Z,300nm,18.4s,MS3.8,baz=185,slow=38						
CMAR	**Chiang Mai Arr**	**22.57**	**356**	*i* P	**P**	**04 58 14.6**	**-1.3**
CMAR				pmax	pmax		
	comp=Z,31nm,1.1s						
NANT	**Nan**	**22.86**	**0**	P	**P**	**04 58 18.1**	**-0.8**
	comp=Z,178nm,1.0s,mb5.5						
CHG	**Chiang Mai**	**22.93**	**356**	⇓P	**P**	**04 58 18.8**	**-0.8**
	comp=Z,26nm,1.3s,mb4.5						
CHTO	**Chiang Mai**	**22.93**	**356**	*e*P	**P**	**04 58 16.7**	**-2.9**
CHTO				pmax	pmax		
	comp=Z,16nm,0.8s,mb4.5						
CHTO	**Chiang Mai**	**22.93**	**356**	*e*P	**P**	**04 58 16.7**	**-2.9**
	comp=Z,16nm,0.8s,mb4.5						
BATI	**Baumata**	**23.71**	**106**	P	**P**	**04 58 26.4**	**-1.1**
	comp=Z,12nm,0.3s,mb4.8,baz=218,slow=4.7,SNR=3.6						
CHRT	**Chiangrai**	**23.94**	**358**	⇑P	**P**	**04 58 29.0**	**-0.5**
	comp=Z,434nm,1.0s,mb5.8						
QIZ	**Qiongzhong**	**24.85**	**21**	P	**P**	**04 58 38.3**	**+0.5**
QIZ				XP	sP	04 58 48.5	-3.9
QIZ				S	**S**	**05 03 02.0**	**+3.6**
QIZ				XS	sS	05 03 14.3	-1.0
QIZ				AMB	AMB		
	comp=Z,43nm,1.5s,mb4.8						
QIZ				AMB	AMB		
	comp=Z,224nm,6.1s						
QIZ				LR	LR		
	comp=E,3μm,13.7s						
QIZ				LR	LR		
	comp=Z,896nm,14.1s,MS4.4						
MBWA	**Marble Bar**	**25.14**	**134**	*e*P	**P**	**04 58 47.6**	**+7.1**
	comp=Z,15nm,1.1s,mb4.4						
KMI	**Kunming**	**29.23**	**4**	P	**P**	**04 59 18.8**	**+1.6**
KMI				AP	pP	04 59 28.5	+1.1
KMI				XP	sP	04 59 32.0	+0.2
KMI				PP	PP	05 00 14.0	-10
KMI				S	**S**	**05 04 08.8**	**+1.2**
KMI				XS	sS	05 04 23.5	-1.1
KMI				SS	SS	05 05 43.5	-29
KMI				AMB	AMB		
	comp=Z,17nm,1.1s,mb4.7						
KMI				AMB	AMB		
	comp=Z,195nm,3.2s						
KMI				LR	LR		
	comp=N,1μm,12.5s,MS5.0						
KMI				LR	LR		
	comp=E,2μm,12.5s,MS5.0						
KMI				LR	LR		
	comp=Z,1μm,11.8s,MS4.8						
HYB	**Hyderabad**	**30.53**	**315**	*i* P	**P**	**04 59 28.0**	**-0.8**
HYB	**Hyderabad**	**30.53**	**315**	*e*P	**P**	**04 59 28.0**	**-0.8**
SHL	**Shillong**	**30.76**	**345**	*e*P	**P**	**04 59 31.5**	**+0.8**
GYA	**Guiyang**	**31.06**	**11**	⇓*i*P	**P**	**04 59 34.0**	**+0.7**
GYA				AP	pP	04 59 44.5	+0.9
GYA				XP	sP	04 59 49.3	+1.4
GYA				PP	PP	05 00 39.0	-4.9
GYA				S	**S**	**05 04 38.8**	**+2.6**
GYA				XS	sS	05 04 53.3	+0.1
GYA				SCP	ScP	05 06 09.5	+0.6
GYA				SS	SS	05 06 25.8	-24
GYA				AMB	AMB		
	comp=Z,30nm,1.0s,mb5.1						
GYA				AMB	AMB		
	comp=Z,140nm,3.2s						
GYA				LR	LR		
	comp=N,860nm,13.5s,MS4.8						
GYA				LR	LR		
	comp=E,1μm,13.5s,MS4.8						
GYA				LR	LR		
	comp=Z,1μm,15.3s,MS4.6						
KAKA	**Kakadu**	**32.65**	**107**	*e*P	**P**	**04 59 39.8**	**-7.7**
	comp=Z,14nm,0.8s,mb5.0						
KAKA	**Kakadu**	**32.65**	**107**	P	**P**	**04 59 39.8**	**-7.7**
	comp=Z,38nm,0.8s,comp=Z,281nm,mb5.4						

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op		h m s	ISC
ODAN	**Odare**	**33.39**	**338**	*e*P	**P**	**04 59 54.9**	**+1.1**
	comp=Z,58nm,0.9s,mb5.5						
TAPN	**Taplejung**	**33.72**	**339**	*e*P	**P**	**04 59 58.0**	**+1.3**
	comp=Z,210nm,1.0s,mb6.0						
RAMN	**Ramite**	**33.77**	**337**	*e*P	**P**	**04 59 58.3**	**+1.2**
	comp=Z,33nm,0.9s,mb5.3						
JIRN	**Jiri**	**34.57**	**337**	*e*P	**P**	**05 00 05.1**	**+1.1**
	comp=Z,62nm,0.9s,mb5.6						
PKI	**Pulchoki**	**34.80**	**336**	*e*P	**P**	**05 00 07.0**	**+1.0**
LSA	**Lhasa**	**34.89**	**346**	P	**P**	**05 00 08.8**	**+2.1**
LSA				AMB	AMB		
	comp=Z,20nm,1.0s,mb5.0						
LSA	**Lhasa**	**34.89**	**346**	*e*P	**P**	**05 00 08.3**	**+1.6**
LSA				pmax	pmax		
	comp=Z,30nm,1.1s,mb5.1						
LSA	**Lhasa**	**34.89**	**346**	*e*P	**P**	**05 00 08.3**	**+1.5**
	comp=Z,30nm,1.1s,mb5.1						
GUN	**Gumba**	**34.91**	**337**	*e*P	**P**	**05 00 08.1**	**+1.1**
	comp=Z,110nm,1.0s,mb5.7						
DMN	**Daman**	**34.95**	**336**	*e*P	**P**	**05 00 08.3**	**+1.0**
	comp=Z,31nm,1.0s,mb5.2						
KKN	**Kakani**	**35.04**	**336**	*e*P	**P**	**05 00 08.7**	**+0.6**
	comp=Z,42nm,1.0s,mb5.3						
KKN	**Kakani**	**35.04**	**336**	*e*P	**P**	**05 00 08.7**	**+0.6**
KKN				pmax	pmax		
	comp=Z,42nm,1.0s,mb5.3						
CD2	**Chengdu**	**35.05**	**5**	⇑*i*P	**P**	**05 00 07.5**	**-0.6**
CD2				AP	pP	05 00 17.3	-1.2
CD2				XP	sP	05 00 21.3	-1.5
CD2				PP	PP	05 01 27.0	-1.2
CD2				S	**S**	**05 05 38.0**	**-0.2**
CD2				XS	sS	05 05 53.8	-1.5
CD2				AMB	AMB		
	comp=Z,50nm,1.0s,mb5.4						
CD2				AMB	AMB		
	comp=Z,110nm,6.0s						
CD2				LR	LR		
	comp=N,1μm,15.6s,MS5.0						
CD2				LR	LR		
	comp=E,2μm,15.6s,MS5.0						
CD2				LR	LR		
	comp=Z,1μm,15.6s,MS4.8						
GKN	**Gorkha**	**35.49**	**335**	*e*P	**P**	**05 00 12.7**	**+0.7**
KOLN	**Koldanda**	**35.74**	**334**	*e*P	**P**	**05 00 14.8**	**+0.8**
	comp=Z,42nm,0.8s,mb5.5						
DANN	**Dangsing**	**36.17**	**334**	*e*P	**P**	**05 00 18.5**	**+0.8**
WRAB	**Tennant Creek**	**36.47**	**118**	*e*P	**P**	**05 00 18.3**	**-2.2**
WRAB	**Tennant Creek**	**36.47**	**118**	P	**P**	**05 00 20.2**	**-0.3**
	comp=Z,29nm,0.9s,mb5.2						
WHN	**Wuhan**	**37.00**	**20**	P	**P**	**05 00 26.0**	**+1.2**
WHN				S	**S**	**05 06 01.5**	**-6.4**
WHN				LR	LR		
	comp=Z,1μm,14.2s,MS4.8						
ASAR	**Alice Springs**	**37.56**	**124**	P	**P**	**05 00 29.4**	**-0.3**
	comp=Z,4.1nm,1.0s,mb4.1,baz=300,slow=8.5,SNR=28						
ASAR				PcP	PcP	05 02 47.4	0.0
	comp=Z,1.3nm,0.9s,baz=332,slow=3.2,SNR=2.4						
ASAR				S	**S**	**05 06 15.3**	**-1.5**
	comp=Z,0.5nm,0.7s,baz=281,slow=16,SNR=4.6						
XAN	**Xi'an**	**38.86**	**11**	P	**P**	**05 00 39.8**	**-0.6**
XAN				AP	pP	05 00 48.8	-2.1
XAN				XP	sP	05 00 53.5	-1.7
XAN				S	**S**	**05 06 34.3**	**-1.7**
XAN				AMB	AMB		
	comp=Z,25nm,1.2s,mb4.8						
XAN				AMB	AMB		
	comp=Z,149nm,7.5s						
XAN				LR	LR		
	comp=E,767nm,14.1s						
XAN				LR	LR		
	comp=Z,1μm,14.8s,MS4.8						
NDI	**New Delhi**	**39.65**	**327**	*e*P	**P**	**05 00 53.0**	**+5.9**
NJ2	**Nanjing**	**40.05**	**25**	*e*P	**P**	**05 00 50.5**	**+0.1**
NJ2				AP	pP	05 00 59.3	-1.6
NJ2				XP	sP	05 01 03.3	-1.9
NJ2				PP	PP	05 02 25.3	+2.3
NJ2				S	**S**	**05 06 52.5**	**-1.5**
NJ2				XS	sS	05 07 09.0	-2.3
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.6						
NJ2				AMB	AMB		
	comp=Z,190nm,8.7s						
NJ2				LR	LR		
	comp=N,380nm,14.8s,MS4.7						
NJ2				LR	LR		
	comp=E,700nm,14.6s,MS4.7						
NJ2				LR	LR		
	comp=Z,11μm,15.2s,MS5.8						
LZH	**Lanzhou**	**40.20**	**4**	*e*P	**P**	**05 00 52.0**	**+0.4**
LZH				AP	pP	05 01 00.0	-2.1
LZH				XP	sP	05 01 04.3	-2.1
LZH				PP	PP	05 02 29.5	+4.9
LZH				*e*S	**S**	**05 06 58.0**	**+1.9**
LZH				XS	sS	05 07 14.0	+0.5
LZH				SS	SS	05 09 52.0	-3.3
LZH				AMB	AMB		
	comp=Z,80nm,1.0s,mb5.4						
LZH				AMB	AMB		
	comp=Z,270nm,4.5s						
LZH				LR	LR		
	comp=E,1μm,13.1s						
LZH				LR	LR		
	comp=Z,2μm,14.2s,MS5.0						
SSE	**Sheshan**	**40.26**	**28**	P	**P**	**05 00 53.3**	**+1.1**
SSE				S	**S**	**05 07 01.8**	**+4.6**
SSE				AMB	AMB		
	comp=Z,32nm,0.7s,mb5.2						
SSE				AMB	AMB		
	comp=Z,166nm,3.7s						
SSE				LR	LR		
	comp=N,389nm,13.9s,MS4.4						
SSE				LR	LR		
	comp=E,115nm,14.0s,MS4.4						
SSE				LR	LR		
	comp=Z,309nm,15.2s,MS4.3						
DDI	**Dehra Dun**	**40.51**	**329**	*ex*	x	05 00 52.0	
GTA	**Gaotai**	**43.40**	**359**	⇑P	**P**	**05 01 17.8**	**+0.1**
GTA				AP	pP	05 01 26.8	-1.5
GTA				XP	sP	05 01 31.0	-1.6
GTA				PP	PP	05 03 01.8	+2.6
GTA				PCP	PcP	05 03 06.3	+0.5
GTA				S	**S**	**05 07 44.5**	**+1.1**
GTA				XS	sS	05 08 01.0	+0.1
GTA				AMB	AMB		
	comp=Z,11nm,1.4s,mb4.4						
GTA				AMB	AMB		
	comp=Z,183nm,4.5s						
GTA				LR	LR		
	comp=N,856nm,14.1s,MS4.9						
GTA				LR	LR		
	comp=E,776nm,13.8s,MS4.9						
GTA				LR	LR		
	comp=Z,982nm,13.8s,MS4.9						
HHC	**Hu-ho-hao-te**	**45.96**	**12**	*e*P	**P**	**05 01 39.0**	**+0.9**
HHC				AP	pP	05 01 51.5	+2.8
HHC				XP	sP	05 01 57.0	+4.0
HHC				PP	PP	05 03 27.3	+0.9
HHC				SCP	ScP	05 07 03.0	-2.1
HHC				PCS	PcS	05 07 08.5	-0.3
HHC				S	**S**	**05 08 21.5**	**+1.0**
HHC				XS	sS	05 08 42.5	+4.5
HHC				SCS	ScS	05 11 27.5	-3.6
HHC				SS	SS	05 11 42.3	-3.6
HHC				AMB	AMB		
	comp=Z,28nm,1.1s,mb5.1						
HHC				AMB	AMB		
	comp=Z,128nm,7.4s						
HHC				LR	LR		
	comp=N,565nm,14.7s,MS4.8						
HHC				LR	LR		
	comp=E,673nm,14.1s,MS4.8						
HHC				LR	LR		
	comp=Z,524nm,14.9s,MS4.6						
BJT	**Baijiatuau**	**46.30**	**17**	*e*P	**P**	**05 01 41.5**	**+0.7**
BJT				pmax	pmax		
	comp=Z,52nm,1.2s						
BJT	**Baijiatuau**	**46.30**	**17**	*e*P	**P**	**05 01 41.5**	**+0.7**
	comp=Z,52nm,1.2s,mb5.3						
BJI	**Beijing**	**46.32**	**17**	P	**P**	**05 01 41.0**	**0.0**
BJI				PP	PP	05 03 27.5	-2.7
BJI				S	**S**	**05 08 27.5**	**+1.8**
BJI				AMB	AMB		
	comp=Z,36nm,1.1s,mb5.2						
BJI				AMB	AMB		
	comp=Z,189nm,4.6s						

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op		h m s	ISC
BJI				LR	LR		
	comp=N,800nm,17.2s,MS4.9						
BJI				LR	LR		
	comp=E,867nm,14.3s,MS4.9						
BJI				LR	LR		
	comp=Z,562nm,17.9s,MS4.6						
CTA	**Charters Tower**	**47.22**	**114**	*e*P	**P**	**05 01 48.7**	**+0.4**
	comp=Z,7.7nm,0.9s,mb4.6						
CTA	**Charters Tower**	**47.22**	**114**	*e*P	**P**	**05 01 48.7**	**+0.4**
CTA				pmax	pmax		
	comp=Z,8.0nm,0.9s						
CTAO	**Charters Tower**	**47.22**	**114**	*e*P	**P**	**05 01 48.5**	**+0.2**
CTAO				pmax	pmax		
	comp=Z,27nm,1.3s,mb5.0						
CTAO	**Charters Tower**	**47.22**	**114**	P	**P**	**05 01 48.7**	**+0.4**
	comp=Z,19nm,1.4s,mb4.8						
CTAO	**Charters Tower**	**47.22**	**114**	*e*P	**P**	**05 01 48.5**	**+0.1**
	comp=Z,27nm,1.3s,mb5.0						
STKA	**Stephens Creek**	**47.31**	**130**	⇓*i*P	**P**	**05 01 49.5**	**+0.6**
	comp=Z,9.9nm,0.9s,mb4.7						
STKA	**Stephens Creek**	**47.31**	**130**	P	**P**	**05 01 49.5**	**+0.6**
	comp=Z,9.0nm,0.8s,mb4.7,baz=304,slow=7.7,SNR=17						
KS15	**Wonju Array Si**	**48.63**	**29**	*e*P	**P**	**05 01 59.6**	**+0.6**
KSRS	**Korea Array**	**48.66**	**29**	P	**P**	**05 01 58.2**	**-0.9**
	comp=Z,22nm,1.0s,mb5.2,baz=216,slow=8.2,SNR=34						
KSRS				LR	LR	05 25 01.6	
	comp=Z,101nm,19.5s,MS3.8,baz=136,slow=39						
WMQ	**Urumqi**	**49.19**	**348**	⇑*i*P	**P**	**05 02 04.0**	**+0.9**
WMQ				AP	pP	05 02 14.0	+0.2
WMQ				XP	sP	05 02 18.5	+0.5
WMQ				PCP	PcP	05 03 28.0	+2.0
WMQ				PP	PP	05 03 58.0	+0.8
WMQ				PPP		05 04 52.5	
WMQ				SCP	ScP	05 07 18.5	-0.1
WMQ				PCS	PcS	05 07 22.3	0.0
WMQ				S	**S**	**05 09 06.0**	**-0.2**
WMQ				XS	sS	05 09 23.0	-0.8
WMQ				SCS	ScS	05 11 50.5	-1.8
WMQ				AMB	AMB		
	comp=Z,57nm,1.1s,mb5.5						
WMQ				AMB	AMB		
	comp=Z,272nm,3.6s						
WMQ				LR	LR		
	comp=N,176nm,20.5s,MS4.2						
WMQ				LR	LR		
	comp=E,191nm,21.6s,MS4.2						
WMQ				LR	LR		
	comp=Z,104nm,17.0s,MS3.9						
SONM	**Songino Array**	**52.08**	**5**	P	**P**	**05 02 25.5**	**+0.6**
	comp=Z,21nm,0.9s,mb5.0,baz=188,slow=8.0,SNR=82						
SONM				LR	LR	05 27 29.6	
	comp=Z,278nm,18.4s,MS4.3,baz=175,slow=39						
ULN	**Ulaanbaatar**	**52.17**	**6**	*e*P	**P**	**05 02 24.9**	**-0.6**
ULN				pmax	pmax		
	comp=Z,28nm,1.3s,mb5.0						
ULN	**Ulaanbaatar**	**52.17**	**6**	*e*P	**P**	**05 02 24.9**	**-0.6**
	comp=Z,28nm,1.3s,mb5.0						
CN2	**Changchun**	**52.80**	**23**	⇑P	**P**	**05 02 29.3**	**-0.9**
CN2				*e*AP	pP	05 02 39.5	-1.5
CN2				*e*S	**S**	**05 09 54.5**	**-1.7**
CN2				AMB	AMB		
	comp=Z,30nm,0.9s,mb5.2						
CN2				AMB	AMB		
	comp=Z,200nm,3.0s						
CN2				LR	LR		
	comp=N,800nm,14.0s,MS5.1						
CN2				LR	LR		
	comp=E,800nm,14.0s,MS5.1						
CN2				LR	LR		
	comp=Z,700nm,14.0s,MS4.9						
MK31	**Makanchi Array**	**53.28**	**344**	*e*P	**P**	**05 02 33.7**	**0.0**
MKAR	**Makanchi Array**	**53.28**	**344**	P	**P**	**05 02 33.5**	**-0.2**
	comp=Z,16nm,0.9s,mb5.0,baz=150,slow=8.7,SNR=84						
MKAR				LR	LR	05 31 43.2	
	comp=Z,122nm,18.1s,MS4.0,baz=349,slow=43						
MKAR	**Makanchi Array**	**53.28**	**344**	*i* P	**P**	**05 02 34.0**	**+0.3**
MKAR				pmax	pmax		
	comp=Z,16nm,0.9s						
MAJO	**Matsushiro**	**53.67**	**38**	*e*P	**P**	**05 02 34.9**	**-1.9**
MAJO				pmax	pmax		
	comp=Z,7.0nm,0.8s,mb4.6						
MAJO	**Matsushiro**	**53.67**	**38**	*e*P	**P**	**05 02 34.9**	**-1.9**
	comp=Z,6.8nm,0.8s,mb4.6						
MJAR	**Matsushiro Arr**	**53.67**	**38**	P	**P**	**05 02 35.1**	**-1.7**
	comp=Z,5.1nm,0.8s,mb4.5,baz=221,slow=7.4,SNR=11						
MJAR				LR	LR	05 28 09.9	
	comp=Z,144nm,18.7s,MS4.1,baz=215,slow=39						
OPO	**Ambohidratompo**	**53.99**	**250**	P	**P**	**05 02 40.8**	**+1.3**
	comp=Z,3.0nm,0.8s,mb4.3,baz=84,slow=18,SNR=2.0						
KK31	**Karatay Array**	**54.34**	**333**	*i* P	**P**	**05 02 40.5**	**-1.1**
KK31				pmax	pmax		
	comp=Z,3.0nm,0.7s,mb4.3						
ZAK	**Zakamensk**	**54.42**	**2**	*e*P	**P**	**05 02 41.8**	**-0.2**
ZAK				pmax	pmax		
	comp=Z,7.0nm,1.0s,mb4.5						
MDJ	**Mudanjiang**	**55.14**	**25**	P	**P**	**05 02 47.5**	**+0.2**
MDJ				AMB	AMB		
	comp=Z,18nm,1.4s,mb4.9						
MDJ				AMB	AMB		
	comp=Z,61nm,3.6s						
MDJ	**Mudanjiang**	**55.14**	**25**	*e*P	**P**	**05 02 47.6**	**+0.2**
	comp=Z,42nm,1.5s,mb5.2						
TLY	**Talaya**	**55.73**	**2**	*e*P	**P**	**05 02 52.6**	**+1.1**
TLY				*e*S	**S**	**05 10 26.8**	**-8.7**
TLY				pmax	pmax		
	comp=Z,16nm,1.3s,mb4.9						
TLY				MLR	MLR		
	comp=Z,601nm,15.0s,MS4.8						
HIA	**Hailar**	**55.81**	**15**	*e*P	**P**	**05 02 51.3**	**-0.8**
KURK	**Kurchatov**	**57.86**	**344**	⇑*e*P	**P**	**05 03 06.1**	**-0.5**
KURK				pmax	pmax		
	comp=Z,21nm,1.1s,mb5.1						
KURK				MLR	MLR		
	comp=Z,200nm,16.0s,MS4.3						
ZAA0	**Zalesovo Array**	**59.42**	**349**	*e*P	**P**	**05 03 16.7**	**-0.6**
ZALV	**Zalesovo Beam**	**59.42**	**349**	P	**P**	**05 03 16.9**	**-0.5**
	comp=Z,26nm,0.8s,mb5.3,baz=160,slow=4.7,SNR=89						
ZALV				LR	LR	05 30 45.0	
	comp=Z,86nm,18.2s,MS3.9,baz=56,slow=38						
KLR	**Kul'dur**	**59.73**	**23**	*e*P	**P**	**05 03 15.2**	**-4.4**
KLR				MLR	MLR		
	comp=E,600nm,13.0s						
KLR				MLR	MLR		
	comp=Z,2μm,13.0s,MS5.3						
**K

comp=N,6.0nm,0.9s
YAK pmax pmax
comp=E,8.0nm,1.3s
YAK MLR MLR
comp=Z,680nm,18.0s,MS4.9
YAK MLR MLR
comp=N,426nm,15.0s,MS4.8
YAK MLR MLR
comp=E,286nm,20.0s,MS4.8
ASF Jabal al Asfar 70.30 306 P **P 05 04 29.8 +1.1**
comp=E,1.0nm,0.4s,mb4.1,baz=148,slow=15,SNR=4.4
MATP Matopo 71.70 250 P **P 05 04 37.8 +0.3**
comp=E,5.3nm,1.1s,mb4.4,baz=107,slow=5.8,SNR=3.0
PETK Petropavlovsk- 74.47 32 LR LR 05 43 34.5
comp=E,70nm,18.4s,MS4.0,baz=144,slow=41
PET Petropavlovsk 74.93 32⇑ *eP* **P 05 04 54.5 -1.3**
PET pmax pmax
comp=Z,12nm,1.2s,mb4.7
PET Petropavlovsk 74.93 32 *eP* **P 05 04 54.5 -1.3**
comp=Z,13nm,0.9s,mb4.9
BR131 Keskin Array S 75.19 313 *eP* **P 05 04 57.1 -0.5**
comp=Z,2.1nm,0.8s,mb4.1
SEY Seymchan 77.47 22 *eP* **P 05 05 09.4 -0.6**
TIXI Tiksi 77.94 9 *eP* **P 05 05 10.1 -2.4**
TIXI pmax pmax
comp=Z,19nm,1.9s,mb4.7
TIXI Tiksi 77.94 9 *eP* **P 05 05 10.8 -1.7**
comp=Z,12nm,1.2s,mb4.7
MOS Moscow 78.64 329 *eP* **P 05 05 23.3 +6.6**
OBN Obninsk 78.93 328⇓ *iP* **P 05 05 18.5 +0.2**
OBN *i* pP 05 05 27.1 -2.4
OBN pmax pmax
comp=Z,10.0nm,1.1s,mb4.7
OBN MLR MLR
comp=Z,100nm,17.0s,MS4.2
AKASG Malin Array Be 81.54 322 P **P 05 05 31.2 -1.2**
comp=E,0.3nm,0.3s,baz=104,slow=3.9,SNR=5.7
KIEV Kiev 81.55 322 *eP* **P 05 05 32.3 -0.2**
KIEV pmax pmax
comp=Z,3.0nm,0.6s,mb4.4
KIEV Kiev 81.55 322 *eP* **P 05 05 32.2 -0.2**
comp=Z,2.8nm,0.6s,mb4.4
BUR08 Bucovina Ar. S 83.27 319 *eP* **P 05 05 42.5 +1.0**
BILL Bilibino 85.03 20 *eP* **P 05 05 49.1 -0.9**
BILL pmax pmax
comp=Z,7.0nm,1.0s,mb4.8
OKC Ostrava-Krasne 88.27 320 *ep*P pP 05 06 13.9 -3.8
ARCES ARCESS Array B 88.71 340 LR LR 05 49 30.8
comp=Z,206nm,20.0s,MS4.5,baz=104,slow=38
DPC Dobruska-Polom 89.51 320 *ep*P pP 05 06 20.4 -3.1
SNAA Sanae 90.22 198 *eP* **P 05 06 15.4 +0.4**
SNAA *e* 05 06 17.6
SNAA *e* pP 05 06 25.0 -1.4
PVCC Panska Ves 90.64 320 *ep*P pP 05 06 26.0 -2.8
GERES GERESS Array B 91.04 319 P **P 05 06 20.2 +0.9**
comp=Z,0.5nm,0.8s,mb3.9,baz=155,slow=4.4,SNR=4.5
BRG Berggiesshubel 91.07 321 *eP* **P 05 06 27.3 +8.0**
BRG pmax pmax
comp=Z,6.0nm,1.3s,mb4.8
BRG Berggiesshubel 91.07 321 *eP* **P 05 06 27.3 +8.0**
comp=Z,9.5nm,1.3s,mb5.0
KHC Kasperske Hory 91.15 319 *ep*P pP 05 06 28.0 -3.1
NOA NORSAR Array B 93.31 331 LR LR 05 51 15.3
comp=Z,88nm,18.6s,MS4.2,baz=210,slow=37
PDAR Pinedale Array 133.22 30 PKP PKPdf 05 12 30.6 -0.3
comp=Z,0.3nm,0.7s,baz=344,slow=3.0,SNR=2.9
MIV Mineville/With 139.95 353 *e*PKPdf PKPdf 05 12 48.2 +4.9
MIV *e*PP PP 05 15 39.4 +0.7
ANMO Albuquerque 140.50 36 *i* PKIKP PKPdf 05 12 44.4 -0.2
GDL2 Guadalupe Moun 143.68 37 *e*PKPdf PKPdf 05 12 49.4 -1.0
CCM Cathedral Cave 144.64 16 *e*PKIKP PKPdf 05 12 49.1 -2.8
SIUC Southern Illin 145.48 14 *e*PKPbc PKPbc 05 12 52.5 -0.9
SIUC *e*PKPdf PKPdf 05 12 53.3 0.0
SIUC *e*PKPab PKPab 05 13 01.7 +8.2
WCI Wyandotte Cave 145.57 10 *e*PKIKP PKPdf 05 12 52.8 -0.7
WCI *e* 05 13 01.6
TXAR Lajitas Array 146.09 40 PKPbc PKPbc 05 12 55.9 +0.4
comp=Z,7.3nm,0.8s,baz=287,slow=1.6,SNR=76
MIAR Mount Ida 147.10 22 *e*PKPbc PKPbc 05 12 58.2 -0.1
MIAR *ep*PKPdf pPKPdf 05 13 06.2 -1.8
WVT Waverly 147.31 13 *e*PKP2 PKPab 05 12 58.4 -2.2
JCT Junction City 147.58 34 *e*PKPbc PKPbc 05 12 59.6 -0.1
JCT *e* 05 13 10.9
TKL Tuckaleechee C 148.45 7 *e*PKP2 PKPab 05 13 01.3 -3.8

ISCJB ***26*** *04:57:58.4±0.9, 1952N±007×15526W±006, h13km±6km, mb4.0/5, Error ellipse: s-maj=12.0km s-min=8.4km az=20.4*
NEIC ***26*** *04:57:58.0, 1933N×155.12W, h10km, ML4.0(HVO), After HVO.*
NEIC Felt [IV] at Kurtistown and Volcano; [III] at Hawaii National Park, Hilo, Honomu, Kea'au, Mountain View, Pahoa and Pepeekeo; [II] at Captain Cook, Hakalau, Kamuela and Papa'ikou.
IDC ***26*** *04:57:58.3±1.6, 1947N×15523W, h0km, mb3.8/4, mb1 4.1/4, mb1mx3.8/19, mbtmp3.8/4, Error ellipse: s-maj=77.3km s-min=29.9km az=160.0*
BJI ***26*** *04:57:58.0, 1930N×155.10W, h9km, mB5.0, mb5.0, Ms5.2, Ms2.4*

ISC 26 04:57:59.4±1.1, 1952N±007×15528W±006, h11km±7km, n17, σ1§16/18, mb4.0/5, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
STCH	**Steam Cracks**	**0.20**	**133**	*e*Pg		**Pg**	**04 58 00.7**	**-2.9**
KHU	**Kahuku**	**0.42**	**230**	*e*Pg		**Pg**	**04 58 07.5**	**-0.1**
KHU				*e*Sg		**Sg**	**04 58 13.6**	**+0.4**
KKH	**Kailua Kona**	**0.71**	**281**	*e*Pg		**Pg**	**04 58 13.7**	**+0.6**
HKL	**Haleakala**	**1.50**	**322**	*e*Pn		**Pn**	**04 58 25.6**	**-0.7**
HKL				*e*Pg		**Pg**	**04 58 30.3**	**+2.2**
HKL				*e*Sn		**Sn**	**04 58 51.1**	**+5.3**
HON	**Honolulu**	**3.12**	**306**	*e*Pn		**Pn**	**04 58 47.1**	**-1.5**
HON				*e*Sn		**Sn**	**04 59 24.9**	**-0.9**
KIP	**Kipapa**	**3.19**	**307**	*e*Pn		**Pn**	**04 58 48.3**	**-1.2**
KIP				*e*Sn		**Sn**	**04 59 27.0**	**-0.5**
PPT	**Papeete**	**37.28**	**171**	T			05 44 24.0	
	19nm,0.3s,baz=339,slow=22,SNR=5.0							
DIB	**Dawson Inlet,**	**37.96**	**22**	T			05 45 28.1	
	SNR=218							
VIB	**Van Inlet**	**37.98**	**22**	T			05 45 28.6	
	SNR=39							
PDAR	**Pinedale Array**	**44.79**	**48**	P		**P**	**05 06 13.4**	**+0.1**
	0.9nm,0.9s,mb3.6,baz=250,slow=4.3,SNR=6.5							
TXAR	**Lajitas Array**	**47.67**	**68**	P		**P**	**05 06 37.1**	**+0.9**
	1.1nm,0.7s,mb4.0,baz=253,slow=8.8,SNR=18							
RPN	**Rapa Nui**	**64.29**	**135**	T			06 18 08.6	
	232µm,0.3s,baz=106,slow=11,SNR=9.2							
NJ2	**Nanjing**	**76.52**	**299**	*e*P		**P**	**05 09 51.3**	**+1.4**
NJ2				AMB		AMB		
	comp=Z,40nm,0.6s							
SONM	**Songino Array**	**81.17**	**318**	P		**P**	**05 10 16.8**	**+1.6**
	comp=Z,0.9nm,0.7s,mb3.8,baz=62,slow=5.0,SNR=4.3							
ASAR	**Alice Springs**	**81.28**	**241**	P		**P**	**05 10 16.8**	**+0.6**
	comp=Z,0.4nm,0.8s,mb3.4,baz=68,slow=6.1,SNR=3.6							
GYA	**Guiyang**	**88.36**	**297**	P		**P**	**05 10 52.5**	**+0.6**
GYA				AMB		AMB		
	comp=Z,10.0nm,1.0s,mb5.0							
GTA	**Gaotai**	**88.73**	**312**	*e*P		**P**	**05 10 51.8**	**-1.6**

ISCJB ***26*** *05:02:29.7±2.0, 5594S±009×273W±02, h73km±20km, mb4.3/13, Error ellipse: s-maj=18.1km s-min=10.5km az=138.7*
IDC ***26*** *05:02:33.5±0.8, 5595S×2743W, h94km±7km, mb4.1/9, mb1 4.2/10, mb1mx4.0/18, mbtmp4.1/10, Error ellipse: s-maj=17.1km s-min=15.8km az=139.0*
NEIC ***26*** *05:02:33.1±1.6, 5598S×2752W, h93km±15km, mb4.4/3, Error ellipse: s-maj=14.9km s-min=10.4km az=46.0*

ISC 26 05:02:31.9±1.7, 5601S±009×274W±02, h78km±18km, n30, σ0§69/23, mb4.3/13, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
HOPE	**Hope Point**	**5.48**	**285**	*e*Pn		**Pn**	**05 03 50.9**	**0.0**
	92nm,0.5s							
HOPE				*e*Sn		**Sn**	**05 04 47.2**	**-5.2**
VNA1	**Neumayer--Stat**	**16.88**	**158**	*e*P		**Pn**	**05 06 22.8**	**+0.1**
VNA1				*e*			05 06 25.2	
VNA3	**Neumayer Olymp**	**17.07**	**160**	*e*P		**Pn**	**05 06 25.5**	**+0.4**
VNA3				*e*			05 06 28.7	
VNA2	**Neumayer--Watz**	**17.28**	**158**	*e*P		**Pn**	**05 06 26.9**	**-0.7**
VNA2				*e*			05 06 29.9	
SNAA	**Sanae**	**18.83**	**156**	P		**Pn**	**05 06 46.0**	**-0.3**
	18nm,0.6s							
PMSA	**Palmer Station**	**19.83**	**229**	P		**Pn**	**05 06 58.2**	**+0.1**
	1.8nm,0.3s,baz=94,slow=6.4,SNR=5.0							
PMSA	**Palmer Station**	**19.83**	**229**	P		**Pn**	**05 06 58.2**	**+0.1**
PMSA				*e*P			05 07 01.4	
QSPA	**South Pole Qui**	**34.24**	**180**	P		**P**	**05 09 11.0**	**+1.5**
	2.0nm,0.5s,mb4.2,baz=157,slow=1.8,SNR=18							
QSPA				PcP		PcP	05 11 43.8	-0.2
	2.1nm,0.4s,baz=360,slow=0.7,SNR=7.0							
CFAA	**Coronel Fontan**	**37.43**	**293**	P		**P**	**05 09 35.3**	**-1.9**
	0.1nm,0.3s,mb3.2,baz=174,slow=9.2,SNR=5.0							
CFAA				PcP		PcP	05 11 53.5	-0.8
	0.4nm,0.5s,baz=155,slow=2.3,SNR=11							
CFAA	**Coronel Fontan**	**37.43**	**293**	P		**P**	**05 09 35.3**	**-1.9**
CFAA				PcP		PcP	05 11 53.5	-0.8
BDFB	**Brasilia**	**43.27**	**330**	P		**P**	**05 10 26.4**	**+0.9**
	1.7nm,0.8s,mb3.9,baz=162,slow=16,SNR=3.0							
LBTB	**Lobatse**	**49.12**	**73**	P		**P**	**05 11 11.2**	**-0.2**
	2.4nm,0.7s,mb4.3,baz=237,slow=7.4,SNR=3.6							
LPAZ	**La Paz**	**50.25**	**305**	P		**P**	**05 11 20.9**	**+0.8**
	9.2nm,0.5s,mb5.0,baz=139,slow=5.6,SNR=69							
LPAZ				PcP		PcP	05 12 38.5	+0.5
	1.8nm,0.5s,baz=143,slow=3.7,SNR=5.0							
LPAZ	**La Paz**	**50.25**	**305**	P		**P**	**05 11 20.9**	**+0.8**
LPAZ				PcP		PcP	05 12 38.5	+0.5
MATP	**Matopo**	**54.39**	**73**	P		**P**	**05 11 50.8**	**+0.1**
	1.8nm,0.4s,mb4.4,baz=223,slow=6.9,SNR=7.6							
LSZ	**Lusaka**	**58.48**	**69**	P		**P**	**05 12 19.9**	**+0.2**
	0.6nm,0.3s,mb4.1,baz=207,slow=11,SNR=5.1							
DBIC	**Dimbokro**	**65.18**	**25**	P		**P**	**05 13 04.3**	**-0.3**
	3.2nm,0.5s,mb4.4,baz=169,slow=7.2,SNR=9.1							
OTAV	**Otavalo**	**69.53**	**304**	*e*P		**P**	**05 13 32.5**	**+0.4**
	5.7nm,1.1s,mb4.3							
TORD	**Torodi Ar. Bea**	**73.08**	**30**	P		**P**	**05 13 53.8**	**+0.3**
	6.4nm,0.5s,mb4.7,baz=200,slow=6.6,SNR=167							
TORD				pP		pP	05 14 17.8	+3.8
	1.1nm,0.5s,baz=198,slow=6.4,SNR=2.8							
SDV	**Santo Domingo**	**73.89**	**315**	*e*P		**P**	**05 13 57.8**	**-0.5**
	4.9nm,0.8s,mb4.3							
STKA	**Stephens Creek**	**91.96**	**171**	P		**P**	**05 15 31.4**	**-0.2**
	1.1nm,0.6s,mb4.2,baz=152,slow=10,SNR=4.5							
STKA				pP		pP	05 15 58.3	+5.6
	1.4nm,0.6s,baz=245,slow=5.5,SNR=2.0							
ASAR	**Alice Springs**	**99.07**	**163**	P		**P**	**05 16 03.2**	**-0.8**
	0.7nm,0.6s,mb4.4,baz=186,slow=3.8,SNR=11							
PDAR	**Pinedale Array**	**120.21**	**302**	PKP		PKPdf	05 21 11.3	-1.5
	0.3nm,0.4s,baz=118,slow=4.1,SNR=4.3							
CMAR	**Chiang Mai Arr**	**125.20**	**111**	PKP		PKPdf	05 21 21.6	-1.6
	0.9nm,0.4s,baz=229,slow=3.0,SNR=5.2							
ARCES	**ARCESS Array B**	**130.95**	**22**	PKP		PKPdf	05 21 30.5	-2.0
	5.6nm,1.1s,baz=204,slow=2.0,SNR=5.8							
YKA	**Yellowknife Ar**	**136.05**	**318**	PKP		PKPdf	05 21 42.5	+0.2
	1.6nm,0.6s,baz=136,slow=2.1,SNR=5.7							
YKA	**Yellowknife Ar**	**136.05**	**318**	PKP		PKPdf	05 21 42.5	+0.2
MKAR	**Makanchi Array**	**137.00**	**72**	PKP		PKPdf	05 21 45.4	+0.8
	0.4nm,0.5s,baz=229,slow=2.6,SNR=4.1							
ZALV	**Zalesovo Beam**	**142.47**	**64**	PKhKP			05 21 45.3	
	0.6nm,0.4s,baz=236,slow=1.6,SNR=2.0							
SONM	**Songino Array**	**150.85**	**87**	PKPbc		PKPbc	05 22 13.8	-0.4
	6.9nm,0.5s,baz=222,slow=3.4,SNR=47							
SONM				pPKPbc		pPKPbc	05 22 37.8	+1.7
	1.1nm,0.5s,baz=241,slow=3.3,SNR=2.6							

ISK ***26*** *05:43:27.3, 3864N×4039E, h14km, MD2.9*
CSEM ***26*** *05:43:27.3, 3864N×4039E, h14km, MD2.9, After ISK*
ISCJB ***26*** *05:43:31.3±1.7, 3856N±007×40.1E±0.1, h12km±14km, Error ellipse: s-maj=20.3km s-min=8.6km az=151.1*

ISC 26 05:43:31.3±1.8, 3857N±008×402E±01, h12km±15km, n7, σ1§17/9, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
PTK	**Pertek**	**0.70**	**298**	*e*PG		**Pg**	**05 43 43.5**	**-1.4**
PTK				*e*SG		**Sg**	**05 43 55.5**	**+1.5**
SVRC	**Sivrice-ELAZID**	**0.71**	**255**	*e*PG		**Pg**	**05 43 45.1**	**0.0**
BEST	**Besiri**	**1.09**	**128**	*i* P		**Pb**	**05 43 52.0**	**-0.2**
EZC	**Erzincan**	**1.21**	**347**	*e*PN		**Pn**	**05 43 53.1**	**-1.0**
EZC				*e*SN		**Sn**	**05 44 11.0**	**+0.5**
MARD	**Mardin**	**1.34**	**159**	*i* P		**Pn**	**05 43 57.9**	**+2.0**
URFA	**Urfa**	**1.55**	**224**	*e*PN		**Pn**	**05 43 57.5**	**-1.3**
EZM	**Erzurum**	**1.62**	**34**	*e*PN		**Pn**	**05 43 54.2**	**-5.6**

MEX 26 05:48:53.0±0.6, 1814N×10349W, h4km±6km, MD3.7, Near coast of Michoacan

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
MMIG	**Aquila**	**0.20**	**44**	*i* P		Pg	05 48 56.8	-0.1
MMIG				*i* S		Sg	05 48 59.4	-0.3
R15V		**1.12**	**336**	*i* P		Pg	05 49 11.5	-3.1
R15V				*i* S		Sg	05 49 25.7	-3.4
EZ5V		**1.33**	**356**	*i* P		Pn	05 49 15.2	-3.3
EZ5V				*i* S		Sg	05 49 32.2	-3.7
ZIIG	**Zihuatanejo**	**2.00**	**105**	*e*P		Pn	05 49 24.2	-3.5
ZIIG				*i* S		Sn	05 49 48.2	-5.0
SFJM	**Santa Fe**	**2.37**	**10**	*i* P		Pn	05 49 28.6	-4.1
SFJM				*e*S		Sn	05 49 59.4	-2.9

IDC 26 06:06:57.1±2.3, 1663S×17762W, h337km±31km, mb3.5/3, mb1 3.8/4, mb1mx3.4/15, mbtmp3.6/4, Error ellipse: s-maj=163.4km s-min=23.0km az=154.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
AFI	**Afiamalu**	**6.25**	**65**	P		Pn	06 08 28.7	-1.9
	12nm,0.3s,baz=98,slow=2.7,SNR=16							
STKA	**Stephens Creek**	**39.91**	**240**	P		P	06 13 59.2	-0.4
	2.0nm,0.5s,baz=70,slow=7.8,SNR=5.7							
RKT	**Rikitea**	**40.52**	**106**	*e*T			06 13 45.6	
	9.6nm,0.2s							
ASAR	**Alice Springs**	**45.87**	**253**	P		P	06 14 48.1	+1.0
	6.1nm,0.5s,baz=87,slow=8.3,SNR=104							
ASAR				S		S	06 21 04.2	-1.3
	0.6nm,0.8s,baz=88,slow=16,SNR=8.0							
TXAR	**Lajitas Array**	**84.68**	**57**	P		P	06 18 54.7	+0.8
	1.2nm,1.1s,baz=232,slow=6.2,SNR=5.2							

JMA 26 06:47:49.2±0.7, 3097N×14219E, h0km, M4.4, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
BSO1	**Boso 1**	**3.81**	**345**	P		Pn	06 48 50.5	+1.3
BSO1				*e*S		Sn	06 49 37.7	+3.0
JMY	**Miyakejima3**	**3.83**	**325**	P		Pn	06 48 53.5	+4.1
BSO3	**Boso 3**	**4.07**	**340**	P		Pn	06 48 55.7	+2.9
BSO3				*e*S		Sn	06 49 43.8	+2.7
BSO4	**Boso 4**	**4.30**	**339**	P		Pn	06 48 59.5	+3.6
JHU	**Hanno**	**5.44**	**334**	P		Pn	06 49 13.4	+1.8
JHU				*e*S		Sn	06 50 15.5	+0.6
JRY	**Ryogami san**	**5.73**	**332**	P		Pn	06 49 18.2	+2.6
JRY				*e*S		Sn	06 50 22.4	+0.3
JHO	**Hitachi**	**5.79**	**347**	P		Pn	06 49 17.9	+1.6
JHO				*e*S		Sn	06 50 22.1	-1.2
JAG	**Ashikaga**	**5.90**	**338**	P		Pn	06 49 19.9	+2.1
JAG				*e*S		Sn	06 50 26.8	+0.7
JFK	**Kawauchi**	**6.47**	**351**	P		Pn	06 49 26.8	+1.1
JFK				*e*S		Sn	06 50 38.2	-2.1
JMK	**Ichinoseki**	**8.00**	**355**	*e*S		Sn	06 51 15.8	-2.1

LDG ***26*** *06:50:03.6±0.1, 3521N×7667E, h10km, Mb5.3/37, Ms4.5/10, Error ellipse: s-maj=7.5km s-min=4.4km az=50.0*
BJI ***26*** *06:50:05.7, 3530N×7680E, h10km, mB5.2, mb5.1, ML5.6, Ms5.1, Msz4.9*
ISCJB ***26*** *06:50:05.6±0.6, 3526N±002×7671E±002, h15km±4km, mb5.2/194, MS4.7/74, Error ellipse: s-maj=2.9km s-min=2.4km az=24.5*
BGS ***26*** *06:50:06.6±2.7, 3530N×7675E, h10km, mb5.6, MS4.8*
NEIC ***26*** *06:50:06.7±0.2, 3530N×7675E, h10km, mb5.3/108, MS4.8/12, Error ellipse: s-maj=5.6km s-min=3.3km az=210.0*
NEIC One person killed and landslides injured at least 12 people in Ghanche. Felt in Ladakh.
GCMT ***26*** *06:50:06.7±0.2, 3527N×7662E, h12km, MW5.2/89, Moment Tensor Solution. s49,c78; s89,c155; Duration: 0 Moment tensor: Scale 10^16 Nm; Mrr-2.21±.14; Mθθ2.18±.15; Mθθ0.03±.12; Mrθ-0.29±.35; Mθθ6.15±.11; Mθr-2.18±.33; Best double couple: M×6.70500×10^16 NP1:ϕ=274.00000°, δ66.00000°, λ-10.00000°. NP2: ϕ=8.00000°, δ80.00000°, λ-156.00000°. Principal axes: T 7.6210, Plg10.0000°, Azm139.0000°; N -1.8310, Plg64.0000°, Azm28.0000°; P -5.7890, Plg24.0000°, Azm233.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
MOS ***26*** *06:50:08.2±1.2, 3529N×7674E, h33km, mb5.4/101, MS4.7/45 Error ellipse: s-maj=6.1km s-min=3.2km az=127.5*
IDC ***26*** *06:50:09.0±2.8, 3537N×7673E, h26km±18km, mb4.8/23, mb1 4.9/27, mb1mx4.9/27, mbtmp4.8/27, ML4.7/4, MS4.5/24, Ms1 4.5/24, ms1mx4.5/27, Error ellipse: s-maj=11.0km s-min=9.0km az=68.0*
NNC ***26*** *06:50:11.4±4.7, 3585N×7654E, h0km, mb5.7, mpv5.6, Error ellipse: s-maj=36.2km s-min=21.5km az=177.0*
DJA ***26*** *06:50:11, 3521N×7685E, h14km, Mw6.0/7*
SZGRF ***26*** *06:50:14.0, 3498N×7598E, h33km, mb4.9, MS4.7, Eastern Kashmir*

ISC 26 06:50:09.8±0.6, 3525N±002×7671E±002, h30km±4km, h25km±3.0km; pP-P, n708, σ1§15/747, mb5.2/194, MS4.7/74, 51C-30D, Eastern Kashmir

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
SRNI	**Srinagar**	**1.91**	**234**	*e*P		**Pn**	**06 50 39.5**	**-0.8**
SRNI				*e*S		**Sn**	**06 51 02.5**	**-0.8**
THN	**Thein Dam**	**2.93**	**197**	*e*P		**Pn**	**06 50 55.6**	**+1.3**
THN				*e*S		**Sn**	**06 51 29.2**	**+0.8**
JMU	**Jammu**	**2.94**	**211**	*i* P		**Pn**	**06 50 59.5**	**+5.1**
JMU				*i* S		**Sn**	**06 51 35.5**	**+6.8**
CHCP	**Chirah Chowk**	**3.26**	**242**	⇑P		**Pn**	**06 51 00.4**	**+1.6**
SDNR	**Sundarnagar**	**3.75**	**177**	*e*P		**Pn**	**06 51 07.0**	**+1.5**
SDNR				*ex*		x	06 52 01.5	
BHK	**Bhakra**	**3.83**	**184**	*e*P		**Pn**	**06 51 08.4**	**+1.7**
BHK				*ex*		x	06 52 05.2	
KLP	**Kalpa**	**3.93**	**160**	*e*P		**Pb**	**06 51 18.9**	**+0.6**
KLP				*e*S		**Sn**	**06 52 02.1**	**+9.0**
KLP				AML		AML	06 52 23.0	
	comp=N,9µm,0.7s							
KLP				AML		AML	06 52 24.0	
	comp=E,13µm,1.0s							
SMLA	**Simla**	**4.13**	**174**	*i* P		**Pn**	**06 51 12.7**	**+1.9**
SMLA				*i* x		x	06 52 15.6	
SMLA				*ex*		x	06 52 22.3	
	comp=N,14µm,0.5s							
SMLA				*ex*		x	06 52 22.7	
	comp=E,24µm,0.5s							
CEP	**Cherat**	**4.21**	**252**	P		**Pn**	**06 51 12.6**	**+0.8**
CEP				S		**Sn**	**06 51 54.0**	**-5.9**
KSH	**Kashi**	**4.30**	**352**	*e*PG		**Pn**	**06 51 18.0**	**+5.0**
KSH				SG		**Sn**	**06 52 18.3**	**+16**
KSH				Smax				
	comp=N,2µm,0.9s							
KSH				Smax				
	comp=E,4µm,1.2s							
SARP	**Sargodha**	**4.73**	**227**	P		**Pn**	**06 51 21.2**	**+2.2**
THW	**Thamme Wali**	**4.79**	**241**	P		**Pn**	**06 51 19.6**	**-0.3**
DDI	**Dehra Dun**	**5.05**	**167**	*e*P		**Pn**	**06 51 22.1**	**-1.3**
DDI				*ex*		x	06 52 39.0	
KBL	**Kabul**	**6.34**	**266**	*e*P		**Pn**	**06 51 40.0**	**-1.1**
KBL				*e*			06 52 51.5	
KBL				pmax		pmax		
	comp=Z,364nm,0.9s							
KBL	**Kabul**	**6.34**	**266**	*e*Pn		**Pn**	**06 51 40.0**	**-1.1**
	comp=Z,364nm,0.9s							
KBL				*e*Sn		**Sn**	**06 52 51.5**	**-0.9**
KBL				*e*Sg		Sn	06 53 22.1	+30
PTH	**Pithoragarh**	**6.41**	**151**	*e*P		**Pn**	**06 51 44.0**	**+1.8**
LGTI	**Lohaghat**	**6.51**	**152**	*e*P		**Pn**	**06 51 44.3**	**+0.7**
LGTI				*ex*		x	06 52 59.6	
NDI	**New Delhi**	**6.56**	**176**	*e*P		**Pn**	**06 51 43.0**	**-1.2**
NDI				*e*S		**Sn**	**06 52 55.0**	**-3.1**
AYAN	**Aya Nagar**	**6.76**	**177**	*e*P		**Pn**	**06 51 47.0**	**+0.1**
KZA	**Kyzart**	**6.91**	**351**	P		**Pn**	**06 51 52.0**	**+3.1**
	SNR=13							
SONA	**Sohna**	**6.99**	**177**	*e*P		**Pn**	**06 51 50.9**	**+0.9**
ULHL	**Ulahol**	**6.99**	**357**	P		**Pn**	**06 51 54.7**	**+4.7**
	SNR=9.1							
UCH	**Uchtor**	**7.17**	**347**	P		**Pn**	**06 52 00.3**	**+7.8**
	SNR=7.8							
KHET	**Khetri**	**7.20**	**186**	*e*P		**Pn**	**06 51 52.7**	**-0.2**
KHET				*e*S		**Sn**	**06 53 09.6**	**-4.0**
AML	**Almayashu**	**7.26**	**342**	P		**Pn**	**06 51 56.6**	**+2.8**
	SNR=6.2							
KBK	**Karagaybulak**	**7.52**	**350**	P		**Pn**	**06 52 01.0**	**+3.8**
	SNR=23							
AAK	**Ala-Archa**	**7.57**	**348**	P		**Pn**	**06 52 00.7**	**+2.7**
	SNR=19							
TKM2	**Tokmak 2**	**7.71**	**354**	⇑Pn		**Pn**	**06 52 01.9**	**+2.1**
	comp=Z,229nm,0.8s							
TKM2				⇑Lg			06 53 60.0	
	comp=Z,1µm,1.4s							
TKM2	**Tokmak 2**	**7.71**	**354**	P		**Pn**	**06 52 02.7**	**+2.9**
	SNR=23							
EKS2	**Erkin-Say**	**7.74**	**344**	P		**Pn**	**06 52 05.1**	**+4.7**
	SNR=12							
FRU	**Bishkek**	**7.74**	**349**	*i* P		**Pn**	**06 52 03.0**	**+2.7**
FRU				*e*S		**Sn**	**06 53 32.0**	**+5.1**
FRU				pmax		pmax		
	comp=Z,1µm,2.0s							
FRU				MLR		MLR		
	comp=E,3µm,12.0s							
CHMS	**Chumysh**	**7.88**	**349**	P		**Pn**	**06 52 04.7**	**+2.4**
	SNR=12							
KNDC	**Almaty**	**7.96**	**1**	⇑Pn		**Pn**	**06 52 03.2**	**-0.1**
	comp=E,578nm,1.3s							
KNDC				⇑Lg			06 54 08.3	
	comp=E,6µm,0.9s							
AGRA	**Agra**	**8.07**	**172**	*e*P		**Pn**	**06 52 04.2**	**-0.6**
AGRA				*ex*		x	06 53 34.9	
USP	**Ospenovka**	**8.18**	**349**	P		**Pn**	**06 52 08.3**	**+1.9**
	SNR=9.3							
AJM	**Ajmer**	**8.92**	**192**	*i* P		**Pn**	**06 52 16.0**	**-0.6**
AJM				*i* x		x	06 53 57.0	
DANN	**

comp=Z,394nm,0.7s
PKI Pulchoki 10.67 133 *e*P Pn 06 52 40.4 -0.1
PKI Pulchoki 10.67 133 *e*P Pn 06 52 40.4 -0.1
GUN Gumba 10.71 131 *e*P Pn 06 52 40.4 -0.7
comp=Z,721nm,0.7s
GUN Gumba 10.71 131 *e*P Pn 06 52 40.8 -0.3
GUN Gumba 10.71 131 *e*P Pn 06 52 40.8 -0.3
JIRN Jiri 11.08 130 *e*P Pn 06 52 45.2 -0.9
comp=Z,2μm,0.7s
JIRN Jiri 11.08 130 *e*P Pn 06 52 45.6 -0.5
comp=Z,2μm,0.7s
JIRN Jiri 11.08 130 *e*P Pn 06 52 45.6 -0.5
comp=Z,2μm,0.7s
RAMN Ramite 11.84 132 *e*P Pn 06 52 54.3 -2.3
comp=Z,506nm,0.8s
RAMN Ramite 11.84 132 *e*P Pn 06 52 54.4 -2.2
comp=Z,506nm,0.8s
RAMN Ramite 11.84 132 *e*P Pn 06 52 54.4 -2.2
comp=Z,506nm,0.8s
BHPL Bhopal 11.99 177 *e*S Sn 06 55 02.8 -8.4
BHPL AML AML 06 55 25.8
comp=N,272nm,1.2s
BHPL AML AML 06 55 26.6
comp=E,370nm,0.4s
WMQ Urumqi 12.04 41⇑*i*P Pn 06 52 59.0 -0.2
WMQ AP 06 53 02.5
WMQ XP 06 53 05.5
WMQ PP 06 53 09.0
WMQ PPP 06 53 16.0
WMQ S **Sn 06 55 14.0 +1.6**
WMQ XS 06 55 19.0
WMQ SS 06 55 28.0
WMQ PCP PcP 06 58 44.0 +0.8
WMQ AMB AMB
comp=Z,151nm,1.1s
WMQ AMB AMB
comp=Z,548nm,5.2s
WMQ LR LR
comp=N,2μm,14.6s
WMQ LR LR
comp=E,1μm,14.6s
WMQ LR LR
comp=Z,2μm,14.3s
TAPN Taplejung 12.27 127 *e*P Pn 06 52 59.5 -2.9
comp=Z,389nm,0.8s
TAPN Taplejung 12.27 127 *e*P Pn 06 52 59.8 -2.6
comp=Z,389nm,0.8s
TAPN Taplejung 12.27 127 *e*P Pn 06 52 59.8 -2.6
comp=Z,389nm,0.8s
MK31 Makanchi Array 12.27 18 ⇑Pn Pn 06 53 02.2 -0.1
comp=Z,147nm,0.8s,baz=201,slow=12,SNR=419
MK31 ⇓Sn **Sn 06 55 18.1 +0.1**
comp=Z,277nm,1.1s,baz=192,slow=22,SNR=11
MK31 Makanchi Array 12.27 18 *i*P Pn 06 53 01.2 -1.1
MK31 pmax pmax
comp=Z,147nm,0.8s
MK31 Makanchi Array 12.27 18 *e*Pn Pn 06 53 01.7 -0.7
MK31 *e*Sn **Sn 06 55 14.9 -3.1**
MKAR Makanchi Array 12.27 18 Pn Pn 06 53 01.5 -0.9
comp=Z,6.2nm,0.3s,baz=203,slow=6.0,SNR=236
MKAR Sn **Sn 06 55 17.8 -0.2**
comp=Z,2.9nm,0.3s,baz=195,slow=23,SNR=9.5
MKAR LR LR 06 57 38.9
comp=Z,814nm,18.1s,baz=200,slow=37
MKAR Makanchi Array 12.27 18 P Pn 06 53 01.5 -0.8
MKAR 06 55 17.8
MKAR pmax pmax
comp=Z,6.0nm,0.3s
MKAR smax
comp=N,3.0nm,0.3s
MKAR MLR MLR
comp=Z,814nm,18.1s
JBP Jabalpur 12.38 166 *e*P Pn 06 53 03.5 -0.4
JBP *ex* x 06 54 59.9
ODAN Odare 12.40 130 *e*P Pn 06 53 01.3 -2.9
comp=Z,312nm,0.5s
ODAN Odare 12.40 130 *e*P Pn 06 53 01.5 -2.7
comp=Z,312nm,0.5s
ODAN Odare 12.40 130 *e*P Pn 06 53 01.5 -2.7
comp=Z,312nm,0.5s
LSA Lhasa 13.39 110 P Pn 06 53 17.0 -0.7
LSA AP 06 53 25.0
LSA S **Sn 06 55 45.8 +0.3**
LSA AMB AMB
comp=Z,20nm,0.8s
LSA AMB AMB
comp=Z,170nm,6.0s
LSA LR LR
comp=N,3μm,9.0s
LSA LR LR
comp=E,4μm,9.0s
LSA LR LR
comp=Z,8μm,10.0s
LSA Lhasa 13.39 110 *e*P Pn 06 53 17.0 -0.7
LSA *e* 06 55 45.8
LSA pmax pmax
comp=Z,60nm,0.6s
LSA Lhasa 13.39 110 *e*Pn Pn 06 53 17.0 -0.7
comp=Z,60nm,0.6s
LSA *e*Sn **Sn 06 55 45.8 +0.3**
BHJ Bhuj 13.44 209 *e*P Pn 06 53 16.4 -2.0
BHJ *ex* x 06 55 40.9
SHBG Sahibganj 13.77 134 *ex* Pn 06 53 17.5 -5.4
BOK Bokaro 13.93 143 *ex* Pn 06 53 21.3 -3.8
BOK *e*S **Sn 06 55 48.1 -11**
BHV Bhavnagar 14.03 198 *e*P Pn 06 53 23.0 -3.6
BHV *ex* x 06 53 56.0
NGP Nagpur 14.20 171 *ex* Pn 06 53 24.4 -4.4
NGP *e*S **Sn 06 55 56.4 -8.9**
AKL Akola 14.50 179 *ex* Pn 06 53 28.1 -4.8
AKL *ex* x 06 56 05.6
ABKT Ailbek 15.17 286 Pn Pn 06 53 35.1 -6.7
comp=Z,376nm,1.0s,SNR=13
VAN Vannovskaya 15.18 286 *e*P Pn 06 53 35.4 -6.5
KURK Kurchatov 15.52 5 Pn Pn 06 53 43.3 -2.9
comp=Z,2μm,0.8s,SNR=18
KURK Kurchatov 15.52 5 ⇓Pn Pn 06 53 44.6 -1.6
comp=Z,243nm,0.9s
KURK ⇑Sn **Sn 06 56 35.4 -1.6**
comp=Z,144nm,1.3s
KURK Kurchatov 15.52 5 P Pn 06 53 44.0 -2.2
SNR=103
KURK Kurchatov 15.52 5 Pn Pn 06 53 42.3 -3.9
comp=Z,0.1nm,0.3s,baz=190,slow=12,SNR=46
KURK Sn **Sn 06 56 31.7 -5.4**
comp=Z,0.1nm,0.3s,baz=199,slow=17,SNR=3.0
KURK Lg 06 58 12.7
comp=Z,0.2nm,0.3s,baz=199,slow=30,SNR=5.1
KURK LR LR 07 00 01.9
comp=Z,1μm,19.6s,baz=195,slow=39
KURK Kurchatov 15.52 5⇑*e*P Pn 06 53 44.0 -2.2
KURK pmax pmax
comp=Z,363nm,1.3s
KURK Kurchatov 15.52 5 Pn Pn 06 53 42.3 -3.9
KURK Sn **Sn 06 56 31.7 -5.4**
KURK Lg 06 58 12.7
KURK LR LR 07 00 01.9
CAL Calcutta 16.23 138 *ex* Pn 06 53 49.8 -5.8
CAL *ex* x 06 57 12.4
SHL Shillong 16.25 122 *i* x Pn 06 53 50.0 -5.8
SHL *e*S **Sn 06 56 44.0 -11**
LATR Latur 16.77 180 *ex* x 06 54 05.1
POO Poona 16.85 189 *e*P Pn 06 54 02.8 -0.6
BWNR Bhubaneshwar 16.92 149 *ex* Pn 06 53 59.9 -4.4
BWNR *ex* x 06 56 26.6
HYB Hyderabad 17.84 174 *e*P Pn 06 54 10.5 -5.2
HYB *e*S **Sn 06 57 36.0 +2.2**
HYB pmax pmax
comp=Z,57nm,0.8s
HYB Hyderabad 17.84 174 *i* P Pn 06 54 10.5 -5.2
comp=Z,57nm,0.8s
HYB *e* 06 54 17.0
HYB *e*S **Sn 06 57 32.0 -1.8**
HYB LR LR 07 02 00.0
comp=Z,3.5nm,12.0s
HYB Hyderabad 17.84 174 *e*P Pn 06 54 10.5 -5.2
comp=Z,57nm,0.8s
HYB *e*S **Sn 06 57 36.0 +2.2**
VOSK Vostochnaya 17.93 349 ⇓Pn Pn 06 54 17.0 +0.3
comp=Z,109nm,0.8s
VOSK Vostochnaya 17.93 349 P Pn 06 54 17.0 +0.3
VOSK pmax pmax
comp=Z,105nm,0.7s
KAD Karad 18.01 188 *e*P Pn 06 54 17.1 -0.8
IMP Imphal 18.18 120 *ex* Pn 06 54 14.0 -5.9
IMP *ex* x 06 55 18.0
BVAR Borovoye Array 18.32 348 P Pn 06 54 18.7 -2.7
comp=Z,3.9nm,0.3s,baz=156,slow=9.9,SNR=112
BVAR S **Sn 06 57 43.3 -1.7**
comp=Z,0.2nm,0.3s,baz=164,slow=28,SNR=1.8
BVAR Lg 06 59 45.5
comp=Z,0.3nm,0.3s,baz=161,slow=18,SNR=3.5
BVAR LR LR 07 01 51.4
comp=Z,2μm,19.0s,baz=163,slow=39
BRVK Borovoye 18.37 348 ⇑Pn Pn 06 54 21.6 -0.5
comp=Z,236nm,0.8s
BRVK ⇓Sn **Sn 06 57 37.3 -8.9**
comp=Z,228nm,2.1s
BRVK Borovoye 18.37 348 P Pn 06 54 20.6 -1.5
SNR=68
BRVK Borovoye 18.37 348⇑*e*P Pn 06 54 20.5 -1.5
VIS Vishakhapatnam 18.43 160 *i* x Pn 06 54 20.4 -2.5
VIS *i* x 06 57 37.3
AB31 Akbulak array 18.64 324 ⇓Pn Pn 06 54 21.0 -4.4
comp=Z,70nm,1.0s,baz=130,slow=12,SNR=472
AB31 ⇑Sn **Sn 06 57 44.8 -8.0**
comp=Z,80nm,1.4s
AB31 Akbulak array 18.64 324 *i* P Pn 06 54 20.9 -4.4
AB31 pmax pmax
comp=Z,37nm,0.6s
AB31 Akbulak array 18.64 324 *i* P Pn 06 54 20.0 -5.3
GTA Gaotai 18.83 70 P Pn 06 54 27.8 +0.1
GTA AP pP 06 54 31.3 -3.7
GTA AMB AMB
comp=Z,799nm,4.8s
GTA LR LR
comp=N,3μm,15.3s
GTA LR LR
comp=E,1μm,14.7s
GTA LR LR
comp=Z,2μm,17.7s
ZAA0 Zalesovo Array 19.54 14 *e*P Pn 06 54 32.9 -3.2
ZALV Zalesovo Beam 19.54 14 P Pn 06 54 32.4 -3.7
comp=Z,7.9nm,0.3s,baz=202,slow=9.8,SNR=73
ZALV S **Sn 06 58 10.0 -4.4**
comp=Z,0.1nm,0.3s,baz=193,slow=24,SNR=2.2
ZALV LR LR 07 02 38.0
comp=Z,481nm,20.7s,baz=24,slow=39
ZALV Zalesovo Beam 19.54 14 P Pn 06 54 32.4 -3.7
ZALV S **Sn 06 58 10.0 -4.4**
ZALV pmax pmax
comp=Z,8.0nm,0.3s
ZALV MLR MLR
comp=Z,481nm,20.7s
ZALV Zalesovo Beam 19.54 14 P Pn 06 54 32.4 -3.7
ZALV S **Sn 06 58 10.0 -4.4**
ZALV LR LR 07 02 38.0
GOA Goa 19.85 188⇓*ex* Pn 06 54 35.8 -4.2
GOA *ex* x 07 00 16.6
BIDO Bidbid 19.93 239 P Pn 06 54 41.0 0.0
SNR=11
WBK Wadi Bani Khal 19.95 236 P Pn 06 54 41.2 0.0
SNR=30
NVS Novosibirsk 20.11 11 ⇓*i*P P 06 54 39.6 -1.2
NVS *e*PPP 06 55 12.6
NVS *e*S **S 06 58 20.9 -4.0**
NVS pmax pmax
comp=Z,422nm,2.0s
NVS pmax pmax
comp=N,351nm,1.9s
NVS pmax pmax
comp=E,74nm,1.4s
NVS smax
comp=N,148nm,1.8s
NVS smax
comp=E,360nm,2.3s
SMDO Samad 20.28 238 P P 06 54 44.4 +1.4
SNR=19
AKTK Aktyubinsk 20.36 324 P P 06 54 42.6 -1.0
AKTK S **S 06 58 28.3 -1.7**
AKTK LR LR 07 03 01.6
AKTO Aktyubinsk 20.36 324 P P 06 54 42.6 -1.0
comp=E,94nm,0.6s,baz=120,slow=10,SNR=235
AKTO S **S 06 58 28.3 -1.7**
comp=E,34nm,1.2s,baz=201,slow=12,SNR=3.7
AKTO LR LR 07 03 01.6
comp=E,3μm,19.6s,MS4.7,baz=139,slow=38
AKTO Aktyubinsk 20.36 324 P P 06 54 42.6 -1.0
AKTO S **S 06 58 28.3 -1.7**
AKTO pmax pmax
comp=Z,94nm,0.6s
AKTO smax
comp=N,34nm,1.2s
AKTO MLR MLR
comp=Z,3μm,19.6s,MS4.7
HOQ Hoqain 20.47 241 P pP 06 54 55.8 +2.7
SNR=11
JMDO Jabal Madar 20.70 237 P P 06 54 49.1 +1.6
SNR=45
BSY Bisya 21.08 239 P P 06 54 53.7 +2.0
SNR=34
LZH Lanzhou 22.04 80 ⇑P P 06 55 02.0 +0.1
LZH AP 06 55 05.5
LZH XP sP 06 55 07.3 -6.6
LZH PP 06 55 28.0
LZH S **S 06 59 01.0 -2.4**
LZH XS sS 06 59 07.0 -9.5
LZH SS 06 59 40.3
LZH AMB AMB
comp=Z,300nm,1.5s,mb5.5
LZH AMB AMB
comp=Z,780nm,5.0s
LZH LR LR
comp=N,3μm,12.4s
LZH LR LR
comp=Z,5μm,14.7s,MS5.0
MNGI Mangalore 22.28 185 *ex* x 06 59 09.4
MNGI *ex* x 07 01 24.5
CD2 Chengdu 23.05 93⇑*i*P P 06 55 12.8 +0.2
CD2 AP 06 55 17.0
CD2 XP sP 06 55 19.8 -4.8
CD2 PP 06 55 42.8
CD2 PCP PcP 06 59 03.8 +2.6
CD2 S **S 06 59 18.5 -2.9**
CD2 XS sS 06 59 25.5 -10
CD2 SS 07 00 02.8
CD2 AMB AMB
comp=Z,150nm,1.0s,mb5.4
CD2 AMB AMB
comp=Z,450nm,5.4s
CD2 LR LR
comp=N,3μm,12.0s,MS5.2
CD2 LR LR
comp=E,4μm,10.8s,MS5.2
CD2 LR LR
comp=Z,4μm,9.6s
KRAR Krasnoyarsk 23.53 23⇑*i*P P 06 55 17.0 -0.2
KRAR pmax pmax
comp=Z,196nm,1.7s,mb5.3
MAK Makhachkala 23.85 298*c i*P P 06 55 15.9 -4.4
MAK *i* PPP 06 55 51.9
MAK *i* S **S 06 59 28.7 -5.5**
MAK pmax pmax
comp=Z,613nm,1.6s,mb5.8
MAK MLR MLR
comp=Z,6μm,15.0s,MS5.2
MAK Makhachkala 23.85 298 *e*P P 06 55 17.5 -2.8
MOY Mondy 23.91 39 *e*P P 06 55 22.4 +1.6
MOY pmax pmax
comp=Z,140nm,2.0s,mb5.0
SVE Sverdlovsk 24.17 338 *e*P P 06 55 24.3 +1.2
SVE *e*S **S 06 59 32.5 -6.6**
SVE pmax pmax
comp=Z,76nm,1.1s,mb5.0
SVE MLR MLR
comp=Z,976nm,10.0s,MS4.6
ARU Arti 24.52 335 P P 06 55 25.0 -1.2
comp=Z,713nm,0.8s,SNR=12
ARU Arti 24.52 335*c i*P P 06 55 25.7 -0.5
ARU *e*PPP 06 56 05.2
ARU *e*S **S 06 59 47.8 +3.1**
ARU *e*SS 07 00 36.9
ARU *e*SSS 07 00 51.0
ARU pmax pmax
comp=Z,56nm,1.0s,mb5.0
ARU MLR MLR
comp=Z,1μm,14.0s,MS4.5
ARU Arti 24.52 335⇑*e*P P 06 55 25.5 -0.7
KMI Kunming 24.60 107 P P 06 55 27.5 +0.2
KMI AP 06 55 30.8
KMI XP sP 06 55 32.0 -7.7
KMI PP 06 56 04.0
KMI PPP 06 56 14.0
KMI PCP PcP 06 59 06.8 +2.1
KMI S **S 06 59 45.3 -1.3**
KMI XS sS 06 59 50.8 -10
KMI SS 07 00 40.0
KMI SSS 07 00 57.3
KMI AMB AMB
comp=Z,37nm,0.7s,mb5.0
KMI AMB AMB
comp=Z,453nm,3.6s
KMI LR LR
comp=N,2μm,12.5s
KMI LR LR
comp=E,2μm,9.6s
KMI LR LR
comp=Z,1μm,13.5s,MS4.7
UMR Umm Al-Rimmam 25.08 265 *e*P P 06 55 31.1 -0.5
baz=265
UMR AMb AMB 06 55 42.4
comp=Z,176nm,1.0s,mb5.5,baz=265
KBD Kabd 25.23 264 *e*P P 06 55 32.5 -0.5
baz=264
KBD AMb AMB 06 55 35.3
comp=Z,101nm,1.1s,mb5.3,baz=264
DGRG David-gareji 25.25 294 P P 06 55 35.1 +2.1
MIB Mutribah 25.30 266 *e*P P 06 55 33.3 -0.3
baz=266
MIB AMb AMB 06 55 50.3
comp=Z,206nm,0.8s,mb5.7,baz=266
TLY Talaya 25.32 41 P P 06 55 35.6 +2.0
comp=Z,270nm,0.9s,mb5.8,SNR=13
TLY Talaya 25.32 41 ⇑P P 06 55 34.4 +0.8
SNR=18
TLY Talaya 25.32 41*d i*P P 06 55 34.8 +1.2
TLY pmax pmax
comp=Z,69nm,1.3s,mb5.0
TLY Talaya 25.32 41 *i* P P 06 55 34.9 +1.3
SONM Songino Array 25.36 51 P P 06 55 34.8 +0.8
comp=Z,147nm,0.8s,mb5.6,baz=250,slow=9.7,SNR=260
SONM LR LR 07 07 03.3
comp=Z,3μm,18.1s,MS4.9,baz=246,slow=40
SONM Songino Array 25.36 51 P P 06 55 34.8 +0.8
SONM pmax pmax
comp=Z,147nm,0.8s
SONM MLR MLR
comp=Z,3μm,18.1s
CHRT Chiangrai 25.47 121 ⇓P P 06 55 35.0 -0.2
comp=Z,276nm,0.9s,mb5.8
NAY Al-Naaiem 25.57 265 *e*P P 06 55 35.5 -0.6
baz=264
NAY AMb AMB 06 55 43.3
comp=Z,119nm,1.0s,mb5.4,baz=264
CHG Chiang Mai 25.61 124 ⇑P P 06 55 37.6 +1.1
comp=Z,70nm,0.7s,mb5.3
CHTO Chiang Mai 25.61 124 ⇓P P 06 55 40.4 +3.9
SNR=20
CHTO Chiang Mai 25.61 124 *e*P P 06 55 37.0 +0.5
CHTO pmax pmax
comp=Z,53nm,0.8s,mb5.1
CHTO Chiang Mai 25.61 124 *e*P P 06 55 37.0 +0.5
comp=Z,54nm,0.8s,mb5.1
GNI Garni 25.68 291 P P 06 55 37.4 +0.4
comp=Z,66nm,1.0s,mb5.1,baz=348,slow=5.7,SNR=33
GNI LR LR 07 07 45.2
comp=Z,917nm,19.5s,MS4.3,baz=95,slow=41
GNI Garni 25.68 291 P P 06 55 37.4 +0.4
GNI pmax pmax
comp=Z,66nm,1.0s
GNI MLR MLR
comp=Z,917nm,19.5s
GNI Garni 25.68 291⇑*e*P P 06 55 37.7 +0.7
comp=Z,286nm,1.3s,mb5.6
RST Umm Al-Ruwaisa 25.68 265 *e*P P 06 55 36.3 -0.8
baz=265
RST AMb AMB 06 55 48.2
comp=Z,250nm,1.1s,mb5.7,baz=265
MTA Mtatsminda 25.70 294 P P 06 55 37.6 +0.4
TBLG Delisi 25.75 294 P P 06 55 38.6 +1.1
ULN Ulaanbaatar 25.79 51 P P 06 55 39.1 +1.2
SNR=52
ULN Ulaanbaatar 25.79 51 *i* P P 06 55 38.8 +0.9
ULN Ulaanbaatar 25.79 51 ⇓*i*P P 06 55 38.6 +0.7
comp=Z,128nm,0.9s,mb5.5
CMAR Chiang Mai Arr 25.86 125 P P 06 55 39.2 +0.5
comp=Z,75nm,0.7s,mb5.3,baz=310,slow=11,SNR=66
CMAR ScP ScP 07 02 46.5 +1.7
comp=Z,1.4nm,0.3s,baz=307,slow=4.3,SNR=6.1
CMAR LR LR 07 07 42.3
comp=Z,536nm,21.4s,MS4.0,baz=328,slow=41
CMAR Chiang Mai Arr 25.86 125 P P 06 55 39.2 +0.5
CMAR pmax pmax
comp=Z,75nm,0.7s
CMAR pmax pmax
comp=N,1.0nm,0.3s
CMAR MLR MLR
comp=Z,536nm,21.5s
IRK Irkutsk 25.94 41⇑*i*P P 06 55 40.4 +1.2
IRK *e* 06 55 53.2
IRK *e* 06 56 23.5
IRK pmax pmax
comp=Z,107nm,1.6s,mb5.1
GOR Gori 26.23 295 P P 06 55 42.8 +0.8
XAN Xi'an 26.47 83 P P 06 55 43.8 -0.4
XAN AP pP 06 55 55.0 +2.0
XAN AMB AMB
comp=Z,41nm,1.2s,mb4.8
XAN AMB AMB
comp=Z,171nm,6.9s
XAN LR LR
comp=N,2μm,20.3s,MS4.7
XAN LR LR
comp=E,1μm,21.4s,MS4.7
XAN LR LR
comp=Z,2μm,14.2s
DYDN Diyadin 26.49 289 *i* P P 06 55 45.9 +1.6
HAKT HAKKARI 26.59 285 *i* P P 06 55 40.0 -5.2
WHFO Wadi Hawf 26.70 236 ⇓P P 06 55 48.4 +2.0
SNR=31
RBK Rabkut 26.71 234 ⇓P P 06 55 48.6 +2.1
SNR=20
BTO Baotou 26.72 68 *e*P P 06 55 46.5 +0.1
BHD Baghdad 26.73 275 *ex* x 06 55 48.0
BHD *ex* x 07 00 26.0
BDT Bhumibol Dam 26.76 126 P P 06 55 47.0 +0.1
comp=Z,33nm,1.0s,mb4.8
ONI Oni 26.77 296 P P 06 55 47.5 +0.7
NANT Nan 26.83 121 P P 06 55 47.0 -0.5
comp=Z,315nm,1.0s,mb5.8
GYA Guiyang 27.09 101 ⇓*i*P P 06 55 51.0 +1.1
GYA PP 06 56 37.3
GYA PPP 06 56 49.0
GYA PCP PcP 06 59 14.0 +3.7
GYA S **S 07 00 27.5 +1.4**
GYA SS 07 01 37.0
GYA SCP ScP 07 02 52.0 +3.6
GYA SCS ScS 07 06 41.0 +1.3
GYA AMB AMB
comp=Z,40nm,1.0s,mb4.9
GYA AMB AMB
comp=Z,270nm,4.9s
GYA LR LR
comp=N,2μm,11.2s,MS5.1
GYA LR LR
comp=E,2μm,10.6s,MS5.1
GYA LR LR
comp=Z,2μm,10.6s,MS4.9
MSL Mosul 27.19 282 *ex* x 06 55 50.0
MSL *ex* x 07 00 29.0
ABTO Aybut 27.42 235 ⇓P P 06 55 54.8 +2.0
SNR=25
KIV Kislovodsk 27.46 299 P P 06 55 53.5 +0.5
SNR=6.0
KIV Kislovodsk 27.46 299⇑*i*P P 06 55 51.7 -1.3
KIV pmax pmax
comp=Z,58nm,1.5s,mb4.9
KIV MLR MLR
comp=Z,2μm,20.0s,MS4.8
DAGI Agillar 27.84 293 *i* P P 06 55 46.9 -10
HOMI Horasan 27.85 290 *i* P P 06 55 56.9 +0.4
HHC Hu-ho-hao-te 27.89 68 *e*P P 06 55 57.5 +0.6
HHC PP 06 56 47.8
HHC PCP PcP 06 59 12.8 +0.8
HHC S **S 07 00 38.5 0.0**
HHC SS 07 01 58.0

HHC SCP ScP 07 02 48.8 -1.8
HHC SCS ScS 07 06 40.5 -2.3
HHC AMB AMB
comp=Z,25nm,1.1s,mb4.8
HHC AMB AMB
comp=Z,259nm,5.0s
HHC LR LR
comp=N,2μm,13.5s,MS4.9
HHC LR LR
comp=E,1μm,13.0s,MS4.9
HHC LR LR
comp=Z,1μm,14.7s,MS4.7
DBAD Bademkaya 28.01 292 *i* P **P 06 55 51.0 -6.9**
TIY Taiyuan 28.73 74 *eP* **P 06 56 09.0 +4.6**
TIY S **S 07 01 01.5 +10**
TIY LR LR
comp=N,1μm,9.9s
TIY LR LR
comp=E,691nm,11.2s
TIY LR LR
comp=Z,1μm,11.3s,MS4.7
SOC Sochi 29.57 298 *eP* **P 06 56 10.3 -1.5**
SOC *ePPP* 06 57 18.0
SOC *eS* **S 07 01 05.8 +1.1**
SOC *e* 07 06 51.6
SOC MLR MLR
comp=Z,689nm,16.0s,MS4.4
KKTK Khon Kaen 29.98 122 P **P 06 56 15.5 -0.1**
comp=Z,247nm,0.9s,mb5.9
KEMA Kemaliye 30.52 289 *i* P **P 06 56 21.1 +0.8**
ANN Anapa 31.29 300 *eP* **P 06 56 26.0 -0.9**
ANN *e**PP pP 06 56 32.3 -3.4
ANN *ePPP* 06 57 36.5
ANN *eS* **S 07 01 32.3 +0.6**
ANN pmax pmax
comp=Z,139nm,1.7s,mb5.5
ANN MLR MLR
comp=N,853nm,15.0s,MS4.9
ANN MLR MLR
comp=E,2μm,15.0s,MS4.9
ANN MLR MLR
comp=Z,1μm,15.0s,MS4.6
VOR Voronezh 31.38 313 P **P 06 56 27.0 -0.7**
VOR pmax pmax
comp=Z,200nm,1.2s,mb5.8
BJT Baijiatuan 31.43 69 *eP* **P 06 56 28.7 +0.4**
BJT pmax pmax
comp=Z,43nm,0.8s
BJT Baijiatuan 31.43 69 *eP* **P 06 56 28.7 +0.4**
comp=Z,43nm,0.8s,mb5.3
BJI Beijing 31.43 69 P **P 06 56 29.8 +1.5**
BJI S **S 07 01 35.5 +1.4**
BJI AMB AMB
comp=Z,48nm,1.0s,mb5.3
BJI AMB AMB
comp=Z,231nm,5.8s
BJI LR LR
comp=N,1μm,15.0s,MS4.8
BJI LR LR
comp=E,991nm,13.9s,MS4.8
BJI LR LR
comp=Z,601nm,17.4s,MS4.3
GZT Gaziantep 31.46 285 *i* P **P 06 56 26.0 -2.6**
WHN Wuhan 31.83 88 P **P 06 56 32.3 +0.4**
WHN S **S 07 01 42.8 +2.4**
WHN LR LR
comp=N,2μm,12.5s,MS5.2
WHN LR LR
comp=E,2μm,12.0s,MS5.2
WHN LR LR
comp=Z,3μm,10.5s,MS5.2
PINB Pinarbasi 32.20 288 *i* P **P 06 56 35.3 +0.2**
COBT Iskenderun 32.63 284 *i* P **P 06 56 38.6 -0.2**
CTKT Corum 33.26 292 *i* P **P 06 56 37.8 -6.5**
QIZ Qiongzhong 33.43 110 P **P 06 56 45.3 -0.7**
QIZ S **S 07 02 06.0 +0.5**
QIZ LR LR
comp=E,867nm,20.4s
QIZ LR LR
comp=Z,868nm,18.2s,MS4.5
BOD Bodaibo 33.51 36 *eP* **P 06 56 45.8 -0.4**
BOD pmax pmax
comp=Z,24nm,0.8s,mb5.2
MOS Moscow 33.57 320 *eP* **P 06 56 44.1 -2.7**
MOS *e* 06 57 55.9
MOS *eS* **S 07 02 04.9 -2.1**
MOS pmax pmax
comp=Z,107nm,1.1s,mb5.7
MOS MLR MLR
comp=Z,2μm,18.0s,MS4.8
MOS Moscow 33.57 320 *eP* **P 06 56 44.2 -2.6**
SIM Simferopol' 33.65 300 *eP* **P 06 56 49.7 +2.1**
SIM *e**PP pP 06 56 59.0 +2.5
SIM *ePPP* 06 58 04.0
SIM pmax pmax
comp=Z,59nm,1.3s,mb5.4
OBN Obninsk 33.92 318⇑ *iP* **P 06 56 49.1 -0.8**
OBN *e* 06 57 57.0
OBN *i* S **S 07 02 11.7 -0.7**
OBN pmax pmax
comp=Z,111nm,1.2s,mb5.7
OBN MLR MLR
comp=Z,2μm,21.0s,MS4.8
OBN Obninsk 33.92 318⇑ *iP* **P 06 56 48.8 -1.1**
OBN LR LR
comp=Z,2μm,21.0s,MS4.8
MERS Mersin 33.94 285 *eP* **P 06 56 49.8 -0.5**
ILGA Ilgaz 34.03 293 *iP* **P 06 56 48.6 -2.5**
KAMT Kaman 34.20 290 *eP* **P 06 56 52.2 -0.3**
BR131 Keskin Array S 34.22 291⇑ *eP* **P 06 56 51.9 -0.8**
comp=Z,6.8nm,0.6s,mb4.8
ELDT Eldivan 34.30 292 *iP* **P 06 56 45.5 -7.8**
HIA Hailar 34.31 52 *eP* **P 06 56 54.0 +0.7**
HIA pmax pmax
comp=Z,21nm,0.9s
HIA Hailar 34.31 52 *eP* **P 06 56 54.0 +0.7**
comp=Z,21nm,0.9s,mb5.1
SAFT Safranbolu 34.80 293 *eP* **P 06 56 57.9 +0.3**
ANTO Ankara 34.85 291 *eP* **P 06 56 57.4 -0.7**
ANTO Ankara 34.85 291⇑ **P 06 56 57.7 -0.4**
SNR=9.3
ANTO Ankara 34.85 291 *eP* **P 06 56 57.7 -0.4**
ANTO pmax pmax
comp=Z,23nm,0.9s,mb5.1
ANTO Ankara 34.85 291 *eP* **P 06 56 57.7 -0.4**
comp=Z,23nm,0.9s,mb5.1
LOD Lodumlu 34.87 291 *eP* **P 06 56 52.6 -5.7**
NJ2 Nanjing 35.04 83 *eP* **P 06 57 00.8 +0.9**
NJ2 AP pP 06 57 05.0 -3.7
NJ2 XP sP 06 57 08.0 -4.4
NJ2 PP PP 06 58 20.0 +0.5
NJ2 S **S 07 02 33.0 +2.8**
NJ2 XS sS 07 02 40.0 -4.9
NJ2 AMB AMB
comp=Z,30nm,1.2s,mb5.1
NJ2 AMB AMB
comp=Z,1μm,4.2s
NJ2 LR LR
comp=N,210nm,11.7s,MS4.7
NJ2 LR LR
comp=E,900nm,14.0s,MS4.7
NJ2 LR LR
comp=Z,9μm,16.6s,MS5.6
HDMB Hadim 35.53 286 *eP* **P 06 57 02.9 -1.1**
SNG Songkhla 35.54 136 P **P 06 57 07.0 +2.8**
comp=Z,100nm,0.7s,mb5.8
KDHN Kadinhani 35.55 289 *i* P **P 06 57 02.4 -1.7**
KIZT Kizilcal 35.68 289 *eP* **P 06 57 03.4 -1.9**
DL2 Dalian 35.75 71 P **P 06 57 06.8 +0.9**
DL2 *eS* **S 07 02 45.0 +4.0**
DL2 AMB AMB
comp=Z,50nm,1.0s,mb5.4
DL2 LR LR
comp=N,430nm,13.2s,MS4.5
DL2 LR LR
comp=E,500nm,15.6s,MS4.5
DL2 LR LR
comp=Z,590nm,17.8s,MS4.4
BOLV Bolvadin 36.42 289 *iP* **P 06 57 10.7 -0.9**
GULT Gulveren 36.52 292 *eP* **P 06 57 11.5 -0.9**
SHUT Suhut-Afyon 36.76 289 *eP* **P 06 57 14.0 -0.5**
SNY Shenyang 36.88 65⇓ **P 06 57 15.3 -0.1**
SNY AMB AMB
comp=Z,25nm,0.9s,mb5.0
SNY AMB AMB
comp=Z,222nm,5.9s
SNY LR LR
comp=N,1μm,19.6s
SNY LR LR
comp=Z,827nm,12.4s
ADVT Abdulvahap 37.10 292 *eP* **P 06 57 16.6 -0.8**
HRT Hereke 37.11 293 *eP* **P 06 57 16.6 -0.8**
SSE Sheshan 37.23 83 P **P 06 57 19.8 +1.2**
SSE S **S 07 03 07.5 +3.8**
SSE AMB AMB
comp=Z,49nm,1.1s,mb5.2
SSE AMB AMB
comp=Z,204nm,3.9s
SSE LR LR
comp=N,1μm,20.4s,MS4.7
SSE LR LR
comp=E,536nm,21.2s,MS4.7
SSE LR LR
comp=Z,495nm,21.5s,MS4.3
AKASG Malin Array Be 37.33 309 P **P 06 57 17.9 -1.2**
comp=Z,10nm,0.7s,mb4.8,baz=84,slow=6.6,SNR=26
AKASG PP PP 06 58 48.1 +3.7
comp=Z,15nm,0.9s,baz=92,slow=9.2,SNR=6.7
AKASG LR LR 07 15 13.1
comp=Z,2μm,19.3s,MS4.9,baz=100,slow=40
AKASG Malin Array Be 37.33 309 *i* P **P 06 57 17.8 -1.3**
AKASG pmax pmax
comp=Z,10.0nm,0.7s
AKBB Malin Array Si 37.33 309 *eP* **P 06 57 17.6 -1.5**
AKBB *ePP* PP 06 58 38.9 -5.5
KIEV Kiev 37.34 309 *eP* **P 06 57 17.8 -1.4**
KIEV *e* 06 58 40.1
KIEV pmax pmax
comp=Z,15nm,0.8s,mb4.9
KIEV Kiev 37.34 309 *eP* **P 06 57 17.8 -1.4**
comp=Z,15nm,0.8s,mb4.9
KIEV *ePP* PP 06 58 40.1 -4.4
YLV Yalova 37.37 293 *eP* **P 06 57 18.3 -1.3**
KIS Kishinev 37.39 303 *eP* **P 06 57 19.0 -0.7**
KIS *e* 06 57 33.0
KIS *ePPP* 06 59 05.0
KIS *eS* **S 07 03 06.0 +0.3**
KIS pmax pmax
comp=Z,260nm,1.8s,mb5.8
KIS MLR MLR
comp=Z,1μm,16.0s,MS4.8
KIS MLR MLR
comp=E,800nm,14.0s
KIS MLR MLR
comp=Z,1μm,16.0s
KIS Kishinev 37.39 303 *eP* **P 06 57 19.0 -0.7**
comp=Z,300nm,1.8s,mb5.8
KIS Kishinev 37.39 303 *ePP* PP 06 58 40.0 -5.1
KIS Kishinev 37.39 303 *ePPP* 06 59 05.0
KIS *eS* **S 07 03 06.0 +0.3**
KIS *eL* 07 13 36.0
KIS LRM 07 15 56.0
comp=Z,1μm,16.0s
GDZ Gediz 37.50 290 *i* P **P 06 57 20.1 -0.6**
GEMT Gemlik 37.52 292 *eP* **P 06 57 19.7 -1.2**
ISK Istanbul-Kandi 37.54 293 *eP* **P 06 57 19.6 -1.5**
ELL Elmali 37.60 286 *eP* **P 06 57 19.5 -2.1**
ULDT Uludag 37.60 292 *iP* **P 06 57 20.3 -1.3**
KHAL Karahalli 37.61 289 *iP* **P 06 57 20.4 -1.3**
GOLH Golhisar 37.77 287 *iP* **P 06 57 17.2 -5.8**
PSN Preselentsi 37.93 298 *iP* **P 06 57 25.0 +0.6**
HARR Harsova 38.05 300 P **P 06 57 25.5 +0.1**
KULA Kula-Manisa 38.23 289 *eP* **P 06 57 26.4 -0.5**
MANT Manisa 38.31 289 *iP* **P 06 57 24.1 -3.6**
PRD Provadia 38.54 297 *iP* **P 06 57 29.1 -0.4**
MNK Minsk 38.67 315⇓ *eP* **P 06 57 30.0 -0.4**
MNK pmax pmax
comp=Z,170nm,1.0s,mb5.7
MNK MLR MLR
comp=Z,5μm,12.0s,MS5.6
MNK MLR MLR
comp=E,5μm,14.0s
CLNS Chul'man 38.75 41 *eP* **P 06 57 31.8 +0.8**
CLNS *e**PP pP 06 57 39.4 -0.5
CLNS *e* 06 58 57.8
CLNS *e* 06 59 43.2
CLNS *eS* **S 07 03 22.4 -3.7**
CLNS *eSSS* 07 06 43.8
CLNS pmax pmax
comp=Z,29nm,1.0s,mb5.0
CLNS pmax pmax
comp=E,20nm,1.1s
CLNS pmax pmax
comp=N,11nm,1.1s
CLNS pmax pmax
comp=Z,16nm,1.3s,mb4.6
CLNS pmax pmax
comp=E,13nm,1.2s
CLNS pmax pmax
comp=N,9.0nm,1.0s
CLNS smax
comp=E,63nm,11.8s
CLNS smax
comp=N,39nm,13.3s
CLNS MLR MLR
comp=N,1μm,11.0s,MS5.0
CLNS MLR MLR
comp=Z,1μm,13.0s,MS4.9
CLNS MLR MLR
comp=E,865nm,13.0s,MS5.0
VRI Vrincioaia 38.85 301 P **P 06 57 32.6 +0.6**
VRI Vrincioaia 38.85 301⇓ **P 06 57 32.8 +0.8**
PLOR Plostina 38.90 301 P **P 06 57 33.6 +1.1**
ARG Arkhangelos 39.12 286 *eP* **P 06 57 35.0 +0.6**
ARG Arkhangelos 39.12 286 *eP* **P 06 57 35.0 +0.6**
JMB Yambol 39.21 296 *iP* **P 06 57 35.7 +0.6**
JOF Joensuu 39.29 329 *ep* **P 06 57 34.7 -0.8**
comp=E,55nm,0.6s,mb5.5
JOF Joensuu 39.29 329 *eP* **P 06 57 34.7 -0.8**
JOF pmax pmax
comp=Z,55nm,0.6s,mb5.5
KDAG Bornova 39.32 290 *iP* **P 06 57 32.1 -4.0**
IZM Izmir 39.33 290 *eP* **P 06 57 34.3 -1.8**
MLR Muntele Rosu 39.41 301⇑ **P 06 57 37.9 +1.1**
GCAM G?zelcaml? 39.49 289 *iP* **P 06 57 36.2 -1.2**
SZH Strazhica 39.60 297 *iP* **P 06 57 38.2 -0.2**
EZN Ezine 39.78 292 *eP* **P 06 57 38.3 -1.6**
SMG Samos 39.79 289 *eP* **P 06 57 40.0 0.0**
SMG Samos 39.79 289 *eP* **P 06 57 40.0 0.0**
BURAR Bucovina Array 39.83 304⇑ **P 06 57 40.4 +0.2**
BUR08 Bucovina Ar. S 39.84 304 *eP* **P 06 57 39.9 -0.4**
BUR08 *ePP* PP 06 59 09.5 -2.5
INCN Inchon 39.89 72 P **P 06 57 41.8 +1.0**
SNR=5.7
INCN Inchon 39.89 72 *eP* **P 06 57 41.0 +0.2**
comp=Z,69nm,0.9s,mb5.4
PRK Paraskevi 39.93 291 *eP* **P 06 57 43.0 +1.9**
PRK Paraskevi 39.93 291 *eP* **P 06 57 43.0 +1.9**
ZIMR 39.97 298 P **P 06 57 42.4 +1.0**
BOZC Bozcaada 39.99 292 *iP* **P 06 57 40.4 -1.2**
KARP Karpathos 40.04 285 *eP* **P 06 57 41.5 -0.6**
KARP Karpathos 40.04 285 *eP* **P 06 57 41.5 -0.6**
VOIR 40.05 301⇓ **P 06 57 42.3 +0.3**
KDZ Kurdzhali 40.18 295 *iP* **P 06 57 42.6 -0.6**
LVZ Lovozero 40.37 337⇑ *iP* **P 06 57 43.4 -1.0**
LVZ pmax pmax
comp=Z,84nm,1.2s,mb5.3
LVV L'vov 40.61 308 *eP* **P 06 57 45.9 -0.7**
LVV *e* 06 59 20.1
LVV *eS* **S 07 03 54.3 +0.2**
LVV pmax pmax
comp=Z,100nm,1.6s,mb5.2
LVV MLR MLR
comp=E,800nm,18.0s,MS4.7
LVV MLR MLR
comp=Z,900nm,18.0s,MS4.7
LVV MLR MLR
comp=N,300nm,15.0s,MS4.7
RZN Rozhen 40.69 295 *iP* **P 06 57 47.4 0.0**
KS15 Wonju Array Si 40.87 71 *eP* **P 06 57 49.1 +0.1**
KSRS Korea Array 40.90 71 P **P 06 57 48.5 -0.7**
comp=N,13nm,0.9s,mb4.5,baz=277,slow=8.4,SNR=28
KSRS PcP PcP 06 59 49.5 +0.2
comp=N,5.5nm,0.9s,baz=273,slow=2.7,SNR=5.3
KSRS LR LR 07 16 02.5
comp=N,432nm,19.0s,MS4.3,baz=282,slow=38
KSRS Korea Array 40.90 71 P **P 06 57 48.5 -0.7**
KSRS 06 59 49.6
KSRS pmax pmax
comp=Z,13nm,0.9s,mb4.6
KSRS MLR MLR
comp=Z,432nm,19.0s,MS4.3
PGB Panagyurishte 40.98 297 *i* P **P 06 57 50.2 +0.5**
MDJ Mudanjiang 40.98 60 P **P 06 57 50.0 +0.2**
MDJ AMB AMB
comp=Z,62nm,1.2s,mb5.1
MDJ AMB AMB
comp=Z,92nm,4.5s
MDJ LR LR
comp=N,406nm,9.3s
MDJ LR LR
comp=E,850nm,9.3s
MDJ LR LR
comp=Z,1μm,9.3s
MDJ Mudanjiang 40.98 60⇓ *eP* **P 06 57 50.1 +0.3**
comp=Z,76nm,1.2s,mb5.2
MDJ *e* 06 58 38.9
KAF Kangasniemi 41.20 327 *ep* **P 06 57 50.4 -0.9**
comp=Z,26nm,0.7s,mb5.0,baz=106,slow=8.2
KAF Kangasniemi 41.20 327 *eP* **P 06 57 50.4 -0.9**
KAF pmax pmax
comp=Z,26nm,0.7s,mb5.0
SUW Suwalki 41.32 314 *eP* **P 06 57 53.2 +0.8**
SUW LMZ 07 16 19.0
comp=Z,2μm,22.6s
MMB Musomiste 41.44 295 *i* P **P 06 57 53.1 -0.5**
KWP Kalwaria 41.47 307 *eP* **P 06 57 55.0 +1.3**
KWP LMZ 07 17 36.0
comp=Z,1μm,19.1s
DRGR 41.58 303⇑ P **P 06 57 55.1 +0.5**
GZR Gura Zlata 41.65 301 P **P 06 57 57.1 +1.9**
GZR Gura Zlata 41.65 301⇓ P **P 06 57 56.5 +1.3**
VTS Vitosha 41.67 297 *iP* **P 06 57 55.0 -0.5**
UZH Uzhgorod 41.76 306 *eP* **P 06 57 56.0 -0.1**
UZH *e* 06 59 47.0
UZH *i* 07 00 07.7
UZH *eS* **S 07 04 12.0 +0.7**
UZH MLR MLR
comp=N,800nm,12.0s,MS5.0
UZH MLR MLR
comp=E,1μm,12.0s,MS5.0
UZH MLR MLR
comp=Z,500nm,12.0s,MS4.6
KOLS Kolonicke sedl 41.77 306 *eP* **P 06 57 55.7 -0.4**
KOLS *ePP* PP 06 59 29.9 -2.9
KOLS *ePCP* PcP 06 59 49.9 -2.1
PLG Polygyros 41.86 293 *eP* **P 06 57 57.0 0.0**
PLG Polygyros 41.86 293 *eP* **P 06 57 57.0 0.0**
KKB Krupnik 41.87 296 *iP* **P 06 57 56.6 -0.5**
PTL Penteli 42.02 290 *eP* **P 06 57 58.5 +0.2**
PTL Penteli 42.02 290 *eP* **P 06 57 58.5 +0.2**
KLR Kul'dur 42.16 53 *eP* **P 06 57 55.0 -4.3**
KLR pmax pmax
comp=E,80nm,1.8s
KLR pmax pmax
comp=Z,120nm,1.8s,mb5.2
KLR MLR MLR
comp=E,2μm,12.0s
KLR MLR MLR
comp=Z,7μm,12.0s,MS5.8
CRVS Cervenica-Dubn 42.30 306 *eP* **P 06 57 59.8 -0.7**
CRVS *ePP* PP 06 59 47.9 +9.3
VAY Valandovo 42.34 295 *eP* **P 06 57 59.4 -1.6**
YAK Yakutsk 42.35 34 *eP* **P 06 57 59.0 -1.7**
YAK pmax pmax
comp=Z,56nm,0.9s,mb5.2
YAK pmax pmax
comp=E,24nm,1.1s
YAK pmax pmax
comp=N,7.0nm,1.3s
YAK MLR MLR
comp=Z,1μm,13.0s,MS4.9
YAK MLR MLR
comp=E,559nm,13.0s,MS4.8
YAK MLR MLR
comp=N,363nm,11.0s,MS4.8
YAK Yakutsk 42.35 34 *eP* **P 06 57 59.4 -1.3**
comp=N,139nm,1.3s,mb5.4
NAIG Nisos Aigina 42.37 290 *eP* **P 06 57 49.5 -12**
VAM Vamos 42.41 286 *eP* **P 06 58 00.5 -1.1**
VAM Vamos 42.41 286 *eP* **P 06 58 00.5 -1.1**
STHS Stebnicka Huta 42.42 307 *eP* **P 06 57 58.6 -2.9**
STHS pmax pmax
comp=Z,10.0nm,1.1s,mb4.4
STHS Stebnicka Huta 42.42 307 *eP* **P 06 57 58.6 -2.9**
comp=Z,10nm,1.1s,mb4.4
STHS *ePcP* PcP 06 59 47.9 -6.2
BZS Buzias 42.44 301 P **P 06 58 02.3 +0.7**
BZS Buzias 42.44 301⇓ **P 06 58 02.8 +1.1**
NIE Niedzica 43.03 307 *eP* **P 06 58 08.8 +2.4**
VLI Veliai 43.05 288 *eP* **P 06 58 05.0 -1.8**
VLI Veliai 43.05 288 *eP* **P 06 58 05.0 -1.8**
SKO Skopje 43.06 296 *eP* **P 06 58 03.3 -3.5**
KYTH Kithira 43.09 288 *eP* **P 06 58 00.0 -7.1**
KYTH Kithira 43.09 288 *eP* **P 06 58 00.0 -7.1**
KRUS Krusevo 43.31 295 *eP* **P 06 58 08.2 -0.7**
OJC Ojcow 43.33 308 *eP* **P 06 58 08.0 -0.8**
EVR Evrytania 43.39 292 *eP* **P 06 58 08.5 -1.0**
EVR Evrytania 43.39 292 *eP* **P 06 58 08.5 -1.0**
PSZ Piszkesteto 43.40 305⇓ *eP* **P 06 58 09.7 +0.3**
PSZ *ePP* PP 06 59 51.9 +1.4
PSZ Piszkesteto 43.40 305⇑ P **P 06 58 10.2 +0.7**
KEV Kevo 43.70 337 *eP* **P 06 58 06.5 -5.1**
KEV pmax pmax
comp=Z,17nm,0.8s,mb4.8
KEV Kevo 43.70 337 *eP* **P 06 58 06.5 -5.0**
comp=Z,17nm,0.8s,mb4.8
BUD Budapest 44.03 304⇓ *eP* **P 06 58 15.0 +0.5**
VYHS Vyhne 44.06 306 *eP* **P 06 58 14.5 -0.2**
VYHS *ePP* PP 06 59 57.8 +0.3
ARCES ARCESS Array B 44.09 337 P **P 06 58 14.5 -0.1**
comp=Z,9.5nm,0.6s,mb4.7,baz=116,slow=9.5,SNR=41
ARCES LR LR 07 17 16.2
comp=Z,1μm,19.8s,MS4.7,baz=116,slow=37
ARCES ARCESS Array B 44.09 337 P **P 06 58 14.5 -0.2**
ARCES pmax pmax
comp=Z,10.0nm,0.6s
ARCES MLR MLR
comp=Z,1μm,19.8s
ARCES ARCESS Array B 44.09 337 P **P 06 58 14.5 -0.1**
ARCES LR LR 07 17 16.2
ARE0 ARCESS Array S 44.09 337 *eP* **P 06 58 12.7 -1.9**
KOLL Kolacno 44.34 306 *eP* **P 06 58 16.5 -0.5**
KOLL *ePP* PP 07 00 00.6 +0.1
KOLL Kolacno 44.34 306 *eP* **P 06 58 16.6 -0.4**
KOLL *ePcP* PcP 07 00 00.6 0.0
HABR Khabarovsk 44.38 54 *eP* **P 06 58 16.1 -1.2**
HABR *eS* **S 07 04 51.1 +1.4**
OKC Ostrava-Krasne 44.41 308 *eP* **P 06 58 18.8 +1.3**
OKC *ePP* PP 06 59 59.4 -1.8
OKC AMS AMS 07 19 10.0
comp=Z,900nm,18.4s
OKC Ostrava-Krasne 44.41 308 *eP* **P 06 58 18.8 +1.3**
OKC *ePP* PP 06 59 59.4 -1.8
PKSM Moragy 44.43 303⇓ P **P 06 58 18.2 +0.5**
MORC Moravsky Berou 44.81 308⇓ P **P 06 58 22.0 +1.3**
GKP Gorka Klasztor 44.84 313 *eP* **P 06 58 25.4 +4.6**
GKP LMZ 07 19 24.8
comp=Z,2μm,20.5s
GKP Gorka Klasztor 44.84 313 *eP* **P 06 58 25.4 +4.6**
GKP LR LR
comp=Z,2μm,20.5s,MS4.9
MODS Modra-Piesok 45.11 306 *eP* **P 06 58 21.4 -1.7**
MODS pmax pmax
comp=Z,8.0nm,1.1s,mb4.5
MODS Modra-Piesok 45.11 306 *eP* **P 06 58 21.4 -1.7**
comp=Z,8.4nm,1.1s,mb4.5
MODS *e* 07 00 23.1
ZST Bratislava 45.24 306 *eP* **P 06 58 25.5 +1.4**
ZST *ePP* PP 07 00 16.5 +6.4
ZST Bratislava 45.24 306 *eP* **P 06 58 25.5 +1.4**
comp=Z,13nm,0.7s,mb4.9
ZST *e* 07 00 16.5
ZST LR LR
comp=Z,200nm,19.6s,MS4.1
TIXI Tiksi 45.25 21 *eP* **P 06 58 23.1 -0.8**
TIXI pmax pmax
comp=Z,73nm,1.8s,mb5.2
TIXI MLR MLR
comp=Z,719nm,13.0s,MS4.8
TIXI Tiksi 45.25 21 *eP* **P 06 58 21.7 -2.2**
comp=Z,48nm,1.1s,mb5.2
VRAC Vranov 45.46 307⇑ P **P 06 58 27.0 +1.1**

KSP Ksiaz 45.53 309 *e*P **P** **06 58 27.5 +1.1**
KSP MLR MLR
comp=Z,2μm,21.2s,MS5.0
DPC Dobruska-Polom 45.55 309 *e*P **P** **06 58 26.6 +0.1**
DPC *e*PP PP 07 00 16.7 +3.4
DPC AMS AMS 07 19 50.0
comp=Z,1μm,13.4s
UPC Upice 45.73 309 *e*P **P** **06 58 28.3 +0.3**
CONA Conrad Observa 46.10 305⇑*i*P **P** **06 58 30.9 0.0**
comp=Z,61nm,1.0s,mb5.5,SNR=19
CSNA Conrad Observa 46.10 305⇑*i*P **P** **06 58 31.0 +0.1**
comp=Z,60nm,1.0s,mb5.5
TREC Trest 46.19 307 *e*P **P** **06 58 33.5 +1.9**
TREC MLR MLR
comp=Z,1μm,17.0s,MS5.0
TREC MLR MLR
comp=Z,900nm,16.3s
ARSA Arzberg 46.42 305⇑*i*P **P** **06 58 33.2 -0.2**
comp=Z,23nm,0.9s,mb5.1
PVCC Panska Ves 46.65 309 *e*P **P** **06 58 36.5 +1.3**
PVCC AMS AMS 07 20 20.0
comp=Z,1μm,10.6s
PRU Pruhonice 46.72 308 *e*P **P** **06 58 35.6 -0.2**
PRU *e*PP PP 07 00 27.7 +2.1
PRU AMS AMS 07 20 30.0
comp=Z,900nm,17.1s
PERS Pernice 46.78 304 *i*P **P** **06 58 38.6 +2.2**
SOKA Soboth 46.84 304⇑*i*P **P** **06 58 36.8 +0.1**
comp=Z,67nm,1.0s,mb5.5
BOJS Bojanci 46.88 302 *i*P **P** **06 58 40.8 +3.7**
HFS Hagfors 46.90 322 P **P** **06 58 35.9 -1.0**
comp=Z,40nm,0.6s,mb5.6,baz=106,slow=11,SNR=44
HFS Hagfors 46.90 322 P **P** **06 58 35.9 -1.1**
HFS pmax pmax
comp=Z,40nm,0.6s
BRG Berggiesshubel 47.01 310 *e*P **P** **06 58 38.7 +0.7**
BRG S **S** **07 05 28.0 +0.5**
BRG pmax pmax
comp=Z,20nm,1.5s,mb4.8
BRG MLR MLR
comp=Z,799nm,19.3s,MS4.7
BRG MLR MLR
comp=N,573nm,12.4s
BRG MLR MLR
comp=E,470nm,12.4s
BRG Berggiesshubel 47.01 310 *e*P **P** **06 58 38.3 +0.3**
comp=Z,25nm,1.0s,mb5.1
BRG Berggiesshubel 47.01 310 *e*P **P** **06 58 38.7 +0.7**
comp=Z,33nm,1.5s,mb5.0
BRG *i* 06 58 42.3
comp=Z,42nm,1.5s
BRG PP PP 06 59 51.2 -37
comp=Z,32nm,1.7s
BRG *i* 07 00 50.5
comp=Z,12nm,1.2s
BRG S **S** **07 05 28.0 +0.5**
BRG SS SS 07 08 55.0 +0.8
BRG
comp=Z,1μm,19.3s
BRG
comp=N,957nm,12.4s
BRG
comp=E,785nm,12.4s
BRG Berggiesshubel 47.01 310 *e*P **P** **06 58 38.7 +0.7**
comp=E,20nm,1.5s,mb4.8
BRG *i* 06 58 42.3
BRG PP PP 06 59 51.2 -37
BRG *i* 07 00 50.5
BRG S **S** **07 05 28.0 +0.5**
BRG SS SS 07 08 55.0 +0.8
BRG LR LR
comp=Z,800nm,19.3s,MS4.7
MOR8 Moi Rana 47.17 331 *e*P **P** **06 58 38.0 -1.1**
MOR8 AMb AMB 06 58 42.9
comp=Z,85nm,1.0s,mb5.6
MOR8 Moi Rana 47.17 331 *e*P **P** **06 58 37.6 -1.4**
MOA Molln 47.17 305⇑*i*P **P** **06 58 37.4 -2.0**
comp=Z,51nm,1.9s,mb5.1,SNR=7.7
LJU Ljubljana 47.28 303 *i*P **P** **06 58 44.1 +3.8**
GEC2 GERESS Array S 47.41 307 *e*P **P** **06 58 42.7 +1.6**
GEC2 *e* 07 00 16.5
GEC2 pmax pmax
comp=Z,43nm,1.8s,mb5.1
GEC2 GERESS Array S 47.41 307 *e*P **P** **06 58 42.7 +1.6**
comp=Z,43nm,1.8s,mb5.1
GEC2 *e*PP PP 07 00 16.5 -16
GERES GERESS Array B 47.41 307 P **P** **06 58 41.6 +0.4**
comp=Z,3.4nm,0.8s,mb4.3,baz=90,slow=5.3,SNR=13
GERES LR LR 07 21 21.1
comp=Z,990nm,19.6s,MS4.8,baz=85,slow=40
GERES GERESS Array B 47.41 307 P **P** **06 58 41.6 +0.5**
GERES pmax pmax
comp=Z,3.0nm,0.9s
GERES MLR MLR
comp=Z,990nm,19.6s
KHC Kasperske Hory 47.45 307 *e*P **P** **06 58 41.0 -0.5**
KHC *e*pP pP 06 58 46.5 -4.0
KHC AMS AMS 07 20 40.0
comp=Z,1μm,21.0s
CLL Collm 47.55 310 *e*P **P** **06 58 42.0 -0.2**
CLL pmax pmax
comp=Z,16nm,0.8s,mb5.1
CLL MLR MLR
comp=Z,1μm,17.4s,MS4.9
CLL Collm 47.55 310 *e*P **P** **06 58 43.0 +0.8**
comp=Z,18nm,0.9s,mb5.1
CLL *e*PP PP 07 00 19.4 -14
CLL Collm 47.55 310 *e*P **P** **06 58 42.0 -0.2**
comp=Z,16nm,0.8s,mb5.1
CLL *i* sP sP 06 58 49.0 -6.0
CLL *e*PP PP 07 00 32.0 -1.6
CLL *e*S **S** **07 05 36.0 +0.8**
CLL *e*SS SS 07 09 06.0 +3.0
CLL Collm 47.55 310 *e*P **P** **06 58 42.0 -0.2**
comp=Z,16nm,0.8s,mb5.1
CLL LR LR
comp=Z,1μm,17.4s,MS4.9
JAVS Javornik 47.63 303 *i*P **P** **06 58 44.8 +1.9**
VOY Vojsko 47.72 303 *e*P **P** **06 58 44.8 +1.2**
VOY *e* pP 06 58 51.9 -0.8
WET Wettzell 47.90 307 *e*P **P** **06 58 45.7 +0.7**
WET pmax pmax
comp=Z,54nm,2.0s,mb5.2
WET Wettzell 47.90 307 *e*P **P** **06 58 45.7 +0.7**
comp=Z,54nm,2.0s,mb5.2
WET *e*PP PP 07 00 23.3 -14
TANN Tannenbergstha 48.00 309 *e*P **P** **06 58 46.1 +0.4**
comp=Z,35nm,1.8s,mb5.1
NSS Namsos 48.00 328 *e*P **P** **06 58 45.3 -0.2**
NKC Novy Kostel 48.03 309 *e*P **P** **06 58 48.0 +2.0**
NKC AMS AMS 07 21 10.0
comp=Z,1μm,18.0s
WERD Werda 48.09 309 *e*P **P** **06 58 45.8 -0.6**
comp=Z,14nm,1.1s,mb4.9
NB2 NORSAR Subarra 48.15 324 P **P** **06 58 45.7 -1.0**
comp=Z,21nm,0.6s,mb5.3,baz=92,slow=7.9
NOA NORSAR Array B 48.15 324 P **P** **06 58 45.5 -1.2**
comp=Z,33nm,0.8s,mb5.4,baz=93,slow=7.6,SNR=52
NOA LR LR 07 19 48.8
comp=Z,1μm,19.4s,MS5.0,baz=100,slow=37
NOA NORSAR Array B 48.15 324 P **P** **06 58 45.5 -1.2**
NOA pmax pmax
comp=Z,33nm,0.8s
NOA MLR MLR
comp=Z,1μm,19.4s
RJOB Jochberg 48.17 306 *e*P **P** **06 58 46.5 -0.6**
comp=Z,14nm,0.9s,mb5.0
ROTZ Rotzenmuhle 48.25 308 *e*P **P** **06 58 48.5 +0.9**
comp=Z,21nm,1.2s,mb5.0
ROTZ *e*PP PP 07 00 26.8 -13
MANZ Manzenberg 48.28 309 *e*P **P** **06 58 48.5 +0.6**
comp=Z,14nm,1.0s,mb5.0
NAO01 NORSAR Array S 48.31 323 *e*P **P** **06 58 46.4 -1.5**
comp=Z,17nm,0.7s,mb5.2
MOX Moxa 48.50 310 *e*P **P** **06 58 49.3 -0.3**
MOX
comp=Z,1μm,17.0s
MOX Moxa 48.50 310 *e*P **P** **06 58 49.4 -0.2**
comp=Z,16nm,0.9s,mb5.0
ABTA Abfaltersbach 48.53 304⇑*i*pP pP 06 58 50.5 -8.5
comp=Z,16nm,1.2s
GRA1 Grafenberg Arr 48.89 308 *e*P **P** **06 58 53.6 +1.0**
comp=Z,47nm,1.4s,mb5.3
GRA1 *e*PP PP 07 00 31.3 -15
GRA1 LR LR
comp=Z,900nm,18.2s,MS4.8
GRF Grafenberg Arr 48.89 308 *e*P **P** **06 58 53.6 +1.0**
GRF pmax pmax
comp=Z,47nm,1.4s,mb5.3
GRF MLR MLR
comp=Z,900nm,18.2s,MS4.8
GRF Grafenberg Arr 48.89 308 *e*P **P** **06 58 53.6 +1.0**
GRF pmax pmax
comp=Z,47nm,1.4s,mb5.3
GRF MLR MLR
comp=Z,900nm,18.2s,MS4.8
GRF Grafenberg Arr 48.89 308 *e*P **P** **06 58 53.6 +1.0**
comp=Z,47nm,1.4s,mb5.3
GRF *e*PP PP 07 00 31.3 -15
GRF *e*L 07 22 11.6
comp=Z,889nm,18.2s
BSEG Bad Segeberg 48.91 314 *e*P **P** **06 58 53.3 +0.6**
BSEG pmax pmax
comp=Z,37nm,1.1s,mb5.3
BSEG Bad Segeberg 48.91 314 *e*P **P** **06 58 53.3 +0.6**
comp=Z,37nm,1.1s,mb5.3
KONO Kongsberg 48.95 322 *e*P **P** **06 58 51.4 -1.5**
comp=Z,512nm,2.6s
MAJO Matsushiro 49.07 70 *e*P **P** **06 58 53.8 -0.4**
MAJO pmax pmax
comp=Z,38nm,0.9s
MAJO Matsushiro 49.07 70 *e*P **P** **06 58 53.8 -0.4**
comp=Z,38nm,0.9s,mb5.4
MAT Matsushiro 49.07 70 P **P** **06 58 53.2 -1.0**
MAT S **S** **07 05 55.0 -2.1**
MJAR Matsushiro Arr 49.07 70 P **P** **06 58 53.9 -0.3**
comp=Z,17nm,0.8s,mb5.1,baz=288,slow=9.3,SNR=39
MJAR Matsushiro Arr 49.07 70 P **P** **06 58 53.9 -0.3**
MJAR pmax pmax
comp=Z,17nm,0.8s
FUR Furstenfeldbru 49.11 306 *e*P **P** **06 58 56.2 +1.9**
FUR pmax pmax
comp=Z,68nm,1.1s,mb5.6
FUR Furstenfeldbru 49.11 306 *e*P **P** **06 58 56.2 +1.9**
comp=Z,68nm,1.1s,mb5.6
CLZ Clausthal 49.12 311 *e*P **P** **06 58 54.6 +0.3**
CLZ pmax pmax
comp=Z,44nm,1.3s,mb5.3
CLZ Clausthal 49.12 311 *e*P **P** **06 58 54.6 +0.3**
comp=Z,44nm,1.3s,mb5.3
DOMB Dombas 49.19 325 *e*P **P** **06 58 54.6 -0.1**
MUD Monsted U'grnd 49.34 317 *i*P **P** **06 59 01.3 +5.4**
MUD pmax pmax
comp=Z,17nm,1.0s,mb5.0
MUD MLR MLR
comp=Z,960nm,18.0s,MS4.8
MUD Monsted U'grnd 49.34 317 *i*P **P** **06 59 01.3 +5.4**
comp=Z,17nm,1.0s,mb5.0
MUD
comp=Z,950nm,18.0s
UBBA Unterbreizbach 49.49 310 *e*P **P** **06 58 56.8 -0.4**
comp=Z,13nm,1.0s,mb4.9
YSS Yuzh-Sakhalins 49.74 55⇑*e*P **P** **06 58 59.4 +0.2**
YSS pmax pmax
comp=Z,58nm,1.3s,mb5.5
YSS MLR MLR
comp=Z,200nm,16.0s,MS4.2
YSS Yuzh-Sakhalins 49.74 55 *e*P **P** **06 58 59.3 +0.1**
SPITS Spitsbergen Ar 49.78 346 P **P** **06 58 58.4 -0.6**
comp=Z,10nm,0.6s,mb5.0,baz=117,slow=0.4,SNR=7.9
SPITS Spitsbergen Ar 49.78 346 P **P** **06 58 58.4 -0.6**
SPITS pmax pmax
comp=Z,10.0nm,0.6s
SPITS Spitsbergen Ar 49.78 346 P **P** **06 58 58.4 -0.6**
SPB4 Spitsbergen Ar 49.78 346 *e*P **P** **06 58 58.5 -0.6**
DAVA Damuels 50.20 305⇑*i*P **P** **06 59 01.4 -1.2**
comp=Z,72nm,0.9s,mb5.7,SNR=8.3
STU Stuttgart 50.36 307 *e*P **P** **06 59 05.9 +2.1**
comp=Z,31nm,1.0s,mb5.3
BLS5 Blasjo 50.56 321 *e*P **P** **06 59 09.7 +4.5**
TNS Taunus Mts 50.57 309 *e*P **P** **06 59 07.7 +2.3**
TNS pmax pmax
comp=Z,14nm,0.9s,mb4.9
TNS Taunus Mts 50.57 309 *e*P **P** **06 59 07.7 +2.3**
comp=Z,14nm,0.9s,mb4.9
IBBN Ibbenburen 50.65 312 *e*P **P** **06 59 08.2 +2.3**
BFO Black Forest 51.01 307 *e*P **P** **06 59 10.3 +1.6**
BFO pmax pmax
comp=Z,34nm,1.8s,mb5.0
BFO Black Forest 51.01 307 *e*P **P** **06 59 10.3 +1.6**
comp=Z,34nm,1.8s,mb5.0
BUG Bochum--Univer 51.09 311 *e*P **P** **06 59 10.7 +1.4**
comp=Z,24nm,1.0s,mb5.1
LANF Langenberg 51.22 308 *e*P **P** **06 59 12.4 +2.2**
FELD Feldberg im Sc 51.32 307 *e*P **P** **06 59 12.0 +1.0**
RUP Ruppelstein 51.55 309 *e*P **P** **06 59 14.8 +2.1**
KMBO Kilima Mbogo 51.64 234 P **P** **06 59 16.9 +3.1**
SNR=13
KMBO Kilima Mbogo 51.64 234 P **P** **06 59 14.7 +0.9**
comp=Z,27nm,1.1s,mb5.1,baz=30,slow=9.7,SNR=24
KMBO LR LR 07 21 36.1
comp=Z,328nm,20.3s,MS4.3,baz=69,slow=36
KMBO Kilima Mbogo 51.64 234 *e*P **P** **06 59 14.5 +0.7**
KMBO pmax pmax
comp=Z,45nm,1.3s
KMBO Kilima Mbogo 51.64 234 *e*P **P** **06 59 14.5 +0.7**
comp=Z,45nm,1.3s,mb5.2
CDF Champ du Feu 51.68 307 *e*P **P** **06 59 13.1 -0.6**
comp=Z,44nm,1.4s,mb4.9
CDF Champ du Feu 51.68 307 *e*P **P** **06 59 13.1 -0.6**
CDF pmax pmax
comp=Z,22nm,1.4s,mb4.9
CDF Champ du Feu 51.68 307 *e*P **P** **06 59 13.1 -0.6**
comp=Z,22nm,1.4s,mb4.9
ECH Echery 51.80 307 *e*P **P** **06 59 15.4 +0.8**
MOF Molkenrain 51.89 307 *e*P **P** **06 59 15.9 +0.6**
MEM Membach 52.03 310 P **P** **06 59 19.5 +3.2**
comp=Z,11nm,1.2s,mb4.7
HINF Hinteralfeld 52.09 307 *e*P **P** **06 59 15.8 -1.0**
comp=Z,33nm,0.9s,mb5.0
HINF Hinteralfeld 52.09 307 *e*P **P** **06 59 15.8 -1.0**
HINF pmax pmax
comp=Z,17nm,0.9s,mb5.0
HINF Hinteralfeld 52.09 307 *e*P **P** **06 59 15.8 -1.0**
comp=Z,17nm,0.9s,mb5.0
WLF Walferdange 52.13 309 P **P** **06 59 23.1 +6.1**
comp=Z,24nm,1.4s,mb4.9
WLF Walferdange 52.13 309 *e*P **P** **06 59 17.8 +0.7**
comp=Z,35nm,1.1s,mb5.2
HAU Haudompre 52.37 307 *e*P **P** **06 59 18.0 -0.9**
comp=Z,53nm,0.9s,mb5.2
HAU *e*MLR MLR
comp=Z,783nm,19.5s,MS4.5
HAU Haudompre 52.37 307 *e*P **P** **06 59 18.0 -0.9**
HAU pmax pmax
comp=Z,27nm,0.9s,mb5.2
HAU MLR MLR
comp=Z,780nm,19.5s,MS4.8
HAU Haudompre 52.37 307 *e*P **P** **06 59 18.0 -0.9**
comp=Z,26nm,0.9s,mb5.2
HAU LR LR
comp=Z,780nm,19.5s,MS4.8
BCLA Clavier 52.51 310 P **P** **06 59 24.3 +4.4**
SAOF Saorge 52.56 302 *e*P **P** **06 59 22.5 +2.2**
SBF Sospel 52.68 302 *e*P **P** **06 59 21.1 -0.1**
comp=Z,202nm,0.8s,mb5.8
SBF Sospel 52.68 302 *e*P **P** **06 59 21.1 -0.1**
comp=Z,101nm,0.8s,mb5.8
LPG La Plagne 52.72 304 *e*P **P** **06 59 21.3 -0.2**
comp=Z,108nm,1.1s,mb5.4
LPG La Plagne 52.72 304 *e*P **P** **06 59 21.3 -0.2**
LPG pmax pmax
comp=Z,54nm,1.1s,mb5.4
LPG La Plagne 52.72 304 *e*P **P** **06 59 21.3 -0.2**
comp=Z,54nm,1.1s,mb5.4
LPL La Plagne 52.72 304⇑*i*P **P** **06 59 21.3 -0.2**
comp=Z,76nm,0.8s,mb5.4
LPL La Plagne 52.72 304⇑*i*P **P** **06 59 21.3 -0.2**
LPL pmax pmax
comp=Z,38nm,0.8s,mb5.4
LPL La Plagne 52.72 304⇑*i*P **P** **06 59 21.3 -0.2**
comp=Z,38nm,0.8s,mb5.4
LUCF Luceram 52.73 302 *e*P **P** **06 59 24.2 +2.6**
TOUF Mont Tournerai 52.77 302 *e*P **P** **06 59 24.6 +2.7**
MVIF Mont Vial 52.87 302 *e*P **P** **06 59 25.5 +2.9**
SEY Seymchan 52.88 34⇑*e*P **P** **06 59 22.6 +0.2**
GIVF Givet 52.88 310 *e*P **P** **06 59 22.3 -0.3**
comp=Z,78nm,1.2s,mb5.2
GIVF Givet 52.88 310 *e*P **P** **06 59 22.3 -0.3**
GIVF pmax pmax
comp=Z,39nm,1.2s,mb5.2
GIVF Givet 52.88 310 *e*P **P** **06 59 22.3 -0.3**
comp=Z,39nm,1.2s,mb5.2
CABF La Chapelle 52.88 305 *e*P **P** **06 59 22.4 -0.3**
comp=Z,218nm,1.7s,mb5.5
CABF La Chapelle 52.88 305 *e*P **P** **06 59 22.4 -0.3**
CABF pmax pmax
comp=Z,109nm,1.7s,mb5.5
CABF La Chapelle 52.88 305 *e*P **P** **06 59 22.4 -0.3**
comp=Z,109nm,1.7s,mb5.5
MBDF Montbardon 52.90 303 *e*P **P** **06 59 23.1 +0.2**
comp=Z,64nm,0.9s,mb5.3
MBDF Montbardon 52.90 303 *e*P **P** **06 59 23.1 +0.2**
MBDF pmax pmax
comp=Z,32nm,0.9s,mb5.2
MBDF Montbardon 52.90 303 *e*P **P** **06 59 23.1 +0.2**
comp=Z,32nm,0.9s,mb5.2
DOU Dourbes 53.02 310 P **P** **06 59 25.2 +1.6**
comp=Z,8.6nm,1.0s,mb4.6
MEZF Maizieres J'vi 53.10 308 *e*P **P** **06 59 23.8 -0.4**
comp=Z,75nm,1.1s,mb5.2
MEZF Maizieres J'vi 53.10 308 *e*P **P** **06 59 23.8 -0.4**
comp=Z,75nm,1.1s,mb5.5
SNF Seneffe 53.13 310 P **P** **06 59 30.0 +5.6**
BAIF Baives 53.28 310 *e*P **P** **06 59 25.4 -0.1**
comp=Z,67nm,1.2s,mb5.2
BAIF Baives 53.28 310 *e*P **P** **06 59 25.4 -0.1**
BAIF pmax pmax
comp=Z,33nm,1.2s,mb5.1
BAIF Baives 53.28 310 *e*P **P** **06 59 25.4 -0.1**
comp=Z,34nm,1.2s,mb5.2
FRF La Foret Royal 53.31 302 *e*P **P** **06 59 25.0 -0.9**
comp=Z,97nm,0.9s,mb5.4
FRF La Foret Royal 53.31 302 *e*P **P** **06 59 25.0 -0.9**
FRF pmax pmax
comp=Z,48nm,0.9s,mb5.4
FRF La Foret Royal 53.31 302 *e*P **P** **06 59 25.0 -0.9**
comp=Z,48nm,0.9s,mb5.4
ORIF Oris-en-Rattie 53.46 303 *e*P **P** **06 59 25.8 -1.2**
ORIF *e*MLR MLR
comp=Z,920nm,22.0s,MS4.5
LMR La Mourre 53.47 301 *e*P **P** **06 59 25.9 -1.2**
KEST Kesra 53.81 292 P **P** **06 59 30.0 +0.3**
comp=Z,6.9nm,0.8s,mb4.6,baz=339,slow=5.9,SNR=12
KEST LR LR 07 29 35.2
comp=Z,95nm,18.6s,MS3.9,baz=41,slow=44
LOR Lormes 54.19 307 *e*P **P** **06 59 30.8 -1.4**
comp=Z,38nm,1.2s,mb4.9
LOR *e*MLR MLR
comp=Z,667nm,19.2s,MS4.4
LOR Lormes 54.19 307 *e*P **P** **06 59 30.8 -1.4**
LOR pmax pmax
comp=Z,19nm,1.2s,mb4.9
LOR MLR MLR
comp=Z,670nm,19.3s,MS4.7
LOR Lormes 54.19 307 *e*P **P** **06 59 30.8 -1.4**
comp=Z,19nm,1.2s,mb4.9
LOR LR LR
comp=Z,670nm,19.3s,MS4.7
VIVF Saint-Julien-l 54.30 304 *e*P **P** **06 59 32.6 -0.5**
LRW Lerwick 54.31 323 AMS AMS 07 24 11.0
comp=Z,910nm,18.1s,MS4.9
SMF Signal de Mont 54.37 306⇑*i*P **P** **06 59 32.5 -1.0**
comp=Z,50nm,0.8s,mb5.2
SMF Signal de Mont 54.37 306⇑*i*P **P** **06 59 32.5 -1.0**
SMF pmax pmax
comp=Z,25nm,0.8s,mb5.2
SMF Signal de Mont 54.37 306⇑*i*P **P** **06 59 32.5 -1.0**
comp=Z,25nm,0.8s,mb5.2
SSF Saint Saulge 54.48 306 *e*P **P** **06 59 33.3 -1.0**
comp=Z,61nm,1.0s,mb5.2
SSF Saint Saulge 54.48 306 *e*P **P** **06 59 33.3 -1.0**
SSF pmax pmax
comp=Z,30nm,1.0s,mb5.2
SSF Saint Saulge 54.48 306 *e*P **P** **06 59 33.3 -1.0**
comp=Z,30nm,1.0s,mb5.2
AVF Avril sur Loir 54.65 306 *e*P **P** **06 59 34.6 -1.0**
comp=Z,64nm,1.0s,mb5.3
AVF Avril sur Loir 54.65 306 *e*P **P** **06 59 34.6 -1.0**
AVF pmax pmax
comp=Z,32nm,1.0s,mb5.3
AVF Avril sur Loir 54.65 306 *e*P **P** **06 59 34.6 -1.0**
comp=Z,32nm,1.0s,mb5.3
PLDF La Plantade 54.70 305 *e*P **P** **06 59 38.5 +2.5**
CMAH Djebel Manchou 54.96 293 P **P** **06 59 36.0 -2.0**
AGO Saint Agoulin 55.00 305 *e*P **P** **06 59 39.4 +1.2**
BGF Bois d'Agland 55.05 306 *e*P **P** **06 59 37.3 -1.2**
LASF Ste Croix 55.09 303 *e*P **P** **06 59 38.2 -0.6**
comp=Z,87nm,1.1s,mb5.4
TCF Toulx Ste Croi 55.55 306 *e*P **P** **06 59 41.6 -0.5**
comp=Z,59nm,1.0s,mb5.3
TCF Toulx Ste Croi 55.55 306 *e*P **P** **06 59 41.6 -0.5**
TCF pmax pmax
comp=Z,30nm,1.0s,mb5.3
TCF Toulx Ste Croi 55.55 306 *e*P **P** **06 59 41.6 -0.5**
comp=Z,30nm,1.0s,mb5.3
CASM Ain Smara 55.79 293 P **P** **06 59 45.0 +1.0**
XSO Sourhope Farm 55.83 318 *e*P **P** **06 59 44.2 +0.2**
ESY Stoneypath 55.92 318 *e*P **P** **06 59 45.0 +0.4**
XAL Allendale 55.96 317 *e*P **P** **06 59 45.2 +0.3**
CWF Charnwood Fore 55.98 314 AMS AMS 07 28 09.1
comp=Z,137nm,18.3s,MS4.1
CAF Calviac 56.05 304 *e*P **P** **06 59 45.3 -0.5**
comp=Z,39nm,0.9s,mb5.1
CAF Calviac 56.05 304 *e*P **P** **06 59 45.3 -0.5**
CAF pmax pmax
comp=Z,20nm,0.9s,mb5.2
CAF Calviac 56.05 304 *e*P **P** **06 59 45.3 -0.5**
comp=Z,20nm,0.9s,mb5.1
DFRA Djebel Bou Aff 56.15 294 P **P** **06 59 49.0 +2.5**
EDI Edinburgh 56.24 318 AMS AMS 07 29 16.4
comp=Z,772nm,16.6s,MS4.9
RJF Les Rejaudoux 56.31 305 *e*P **P** **06 59 47.2 -0.3**
comp=Z,230nm,1.8s,mb5.6
RJF *e*MLR MLR
comp=Z,558nm,20.5s,MS4.3
RJF Les Rejaudoux 56.31 305 *e*P **P** **06 59 47.2 -0.3**
RJF pmax pmax
comp=Z,115nm,1.8s,mb5.6
RJF MLR MLR
comp=Z,560nm,20.5s,MS4.6
RJF Les Rejaudoux 56.31 305 *e*P **P** **06 59 47.2 -0.3**
comp=Z,115nm,1.8s,mb5.6
RJF LR LR
comp=Z,560nm,20.5s,MS4.6
EKA Eskdalemuir Ar 56.37 318 P **P** **06 59 47.8 -0.1**
comp=Z,17nm,0.9s,mb5.1,baz=85,slow=6.8,SNR=14
EKA Eskdalemuir Ar 56.37 318 P **P** **06 59 47.8 0.0**
EKA pmax pmax
comp=Z,17nm,0.9s
ECK Cauldkaine Hil 56.39 317 *e*P **P** **06 59 48.6 +0.7**
LDF La Druitiere 56.39 309 *e*P **P** **06 59 47.1 -1.0**
comp=Z,58nm,0.9s,mb5.3
LDF La Druitiere 56.39 309 *e*P **P** **06 59 47.1 -1.0**
LDF pmax pmax
comp=Z,29nm,0.9s,mb5.3
LDF La Druitiere 56.39 309 *e*P **P** **06 59 47.1 -1.0**
comp=Z,29nm,0.9s,mb5.3
ESK Eskdalemuir 56.40 317 AMS AMS 07 26 38.6
comp=Z,983nm,17.5s,MS5.0
MTLF Montolieu 56.45 302 *e*P **P** **06 59 48.1 -0.5**
comp=Z,51nm,1.2s,mb5.1
MTLF Montolieu 56.45 302 *e*P **P** **06 59 48.1 -0.5**
MTLF pmax pmax
comp=Z,26nm,1.2s,mb5.1
MTLF Montolieu 56.45 302 *e*P **P** **06 59 48.1 -0.5**
comp=Z,26nm,1.2s,mb5.1
FLN La Foliniere 56.57 309 *e*P **P** **06 59 48.7 -0.7**
comp=Z,124nm,1.3s,mb5.5
FLN *e*MLR MLR
comp=Z,1μm,19.2s,MS4.6
FLN La Foliniere 56.57 309 *e*P **P** **06 59 48.7 -0.7**
FLN pmax pmax
comp=Z,62nm,1.3s,mb5.5
FLN MLR MLR
comp=Z,1μm,19.3s,MS4.9
FLN La Foliniere 56.57 309 *e*P **P** **06 59 48.7 -0.7**
comp=Z,62nm,1.3s,mb5.5
FLN LR LR
comp=Z,1μm,19.3s,MS4.9
CKHR Kef el Ahmar 56.61 293 P **P** **06 59 52.0 +2.1**
SET Setif 56.63 293 P **P** **06 59 50.0 0.0**
GRR Gorron 56.92 309 *e*P **P** **06 59 50.8 -1.1**
comp=Z,75nm,0.9s,mb5.4
GRR Gorron 56.92 309 *e*P **P** **06 59 50.8 -1.1**
GRR pmax pmax
comp=Z,37nm,0.9s,mb5.4
GRR Gorron 56.92 309 *e*P **P** **06 59 50.8 -1.1**
comp=Z,38nm,0.9s,mb5.4

LFF	**La Frestale**	**56.94**	**305**	*e*P		**P**	**06 59 51.6**	**-0.5**
	comp=Z,83nm,1.1s,mb5.4								
LFF	**La Frestale**	**56.94**	**305**	*e*P		**P**	**06 59 51.6**	**-0.5**
LFF				pmax		pmax			
	comp=Z,42nm,1.1s,mb5.4								
LFF	**La Frestale**	**56.94**	**305**	*e*P		**P**	**06 59 51.6**	**-0.5**
	comp=Z,42nm,1.1s,mb5.4								
KAC	**Achnashellach**	**56.97**	**320**	*e*P		**P**	**06 59 52.3**	**+0.3**
PGBU	**Glenifferbraes**	**56.97**	**318**	AMS		AMS	07 28 57.6		
	comp=Z,728nm,17.5s,MS4.8								
MFF	**Saint Martin d**	**57.01**	**307**	*e*P		**P**	**06 59 51.4**	**-1.1**
	comp=Z,35nm,1.0s,mb5.0								
MFF	**Saint Martin d**	**57.01**	**307**	*e*P		**P**	**06 59 51.4**	**-1.1**
MFF				pmax		pmax			
	comp=Z,18nm,1.0s,mb5.1								
MFF	**Saint Martin d**	**57.01**	**307**	*e*P		**P**	**06 59 51.4**	**-1.1**
	comp=Z,18nm,1.0s,mb5.0								
MCH1	**Michaelchurch**	**57.18**	**314**	*e*P		**P**	**06 59 53.0**	**-0.6**
MCH1				AMb		AMB	06 59 59.4		
	comp=Z,71nm,0.9s,mb5.7								
MCH1				AMS		AMS	07 28 32.4		
	comp=Z,1µm,18.9s,MS5.0								
KPL	**Plockton**	**57.19**	**320**	AMS		AMS	07 26 01.6		
	comp=Z,1µm,19.4s,MS4.9								
DAG	**Danmarks Havn**	**57.21**	**344**⇓	*i*P		**P**	**06 59 53.9**	**+0.4**
DAG				pmax		pmax			
	comp=Z,84nm,1.4s,mb5.6								
DAG	**Danmarks Havn**	**57.21**	**344**⇓	*i*P		**P**	**06 59 53.9**	**+0.4**
	comp=Z,84nm,1.4s,mb5.6								
HTR	**Trewern Hill**	**57.31**	**314**	*e*P		**P**	**06 59 54.1**	**-0.5**
GAL1	**Galloway**	**57.35**	**317**	AMS		AMS	07 27 16.8		
	comp=Z,887nm,17.3s,MS4.9								
KAR1	**Arisaig**	**57.40**	**320**	*e*P		**P**	**06 59 54.3**	**-0.8**
PETK	**Petropavlovsk-**	**57.61**	**45**	P		**P**	**06 59 56.1**	**-0.6**
	comp=Z,19nm,1.1s,mb5.0,baz=274,slow=7.1,SNR=7.2								
PETK				LR		LR	07 27 00.5		
	comp=Z,509nm,18.6s,MS4.7,baz=289,slow=38								
BILL	**Bilibino**	**57.67**	**26**⇑	*i*P		**P**	**06 59 57.3**	**+0.4**
BILL				pmax		pmax			
	comp=Z,27nm,1.7s,mb5.0								
EPF	**Esparros**	**57.85**	**303**	*e*P		**P**	**06 59 58.0**	**-0.5**
SGMF	**Saint Gilles**	**58.04**	**309**	*e*P		**P**	**06 59 59.5**	**-0.2**
	comp=Z,63nm,1.1s,mb5.3								
SGMF	**Saint Gilles**	**58.04**	**309**	*e*P		**P**	**06 59 59.5**	**-0.2**
SGMF				pmax		pmax			
	comp=Z,31nm,1.1s,mb5.2								
SGMF	**Saint Gilles**	**58.04**	**309**	*e*P		**P**	**06 59 59.5**	**-0.2**
	comp=Z,32nm,1.1s,mb5.3								
EBIE	**Bielsa**	**58.10**	**302**	P		**P**	**07 00 01.1**	**+0.8**
	comp=Z,139nm,2.4s,mb5.6								
PET	**Petropavlovsk**	**58.19**	**45**	*e*P		**P**	**06 59 59.5**	**-1.2**
PET				*e*S		**S**	**07 07 55.0**	**-5.1**
PET				pmax		pmax			
	comp=Z,25nm,0.9s,mb5.2								
PET				MLR		MLR			
	comp=Z,800nm,16.0s,MS4.9								
PET	**Petropavlovsk**	**58.19**	**45**	*e*P		**P**	**06 59 58.5**	**-2.1**
	comp=Z,31nm,1.2s,mb5.2								
ROSF	**Rostrenen**	**58.47**	**310**	*e*P		**P**	**07 00 01.8**	**-0.9**
	comp=Z,65nm,1.2s,mb5.2								
ROSF	**Rostrenen**	**58.47**	**310**	*e*P		**P**	**07 00 01.8**	**-0.9**
ROSF				pmax		pmax			
	comp=Z,33nm,1.2s,mb5.2								
ROSF	**Rostrenen**	**58.47**	**310**	*e*P		**P**	**07 00 01.8**	**-0.9**
	comp=Z,33nm,1.2s,mb5.2								
ETSF	**Etsaut**	**58.51**	**303**	*e*P		**P**	**07 00 02.7**	**-0.4**
	comp=Z,87nm,1.1s,mb5.4								
ETSF	**Etsaut**	**58.51**	**303**	*e*P		**P**	**07 00 02.7**	**-0.4**
ETSF				pmax		pmax			
	comp=Z,44nm,1.1s,mb5.4								
ETSF	**Etsaut**	**58.51**	**303**	*e*P		**P**	**07 00 02.7**	**-0.4**
	comp=Z,44nm,1.1s,mb5.4								
QUIF	**Quistinic**	**58.53**	**309**	*e*P		**P**	**07 00 02.9**	**-0.3**
	comp=Z,21nm,0.8s,mb4.9								
QUIF	**Quistinic**	**58.53**	**309**	*e*P		**P**	**07 00 02.9**	**-0.3**
QUIF				pmax		pmax			
	comp=Z,10.0nm,0.8s,mb4.9								
QUIF	**Quistinic**	**58.53**	**309**	*e*P		**P**	**07 00 02.9**	**-0.3**
	comp=Z,10nm,0.8s,mb4.9								
ESAC	**San Caprasio**	**58.87**	**301**	P		**P**	**07 00 05.6**	**-0.1**
	comp=Z,853nm,2.7s								
SJPF	**Ste Jean**	**58.90**	**303**	*e*P		**P**	**07 00 05.1**	**-0.7**
	comp=Z,47nm,1.1s,mb5.1								
SJPF	**Ste Jean**	**58.90**	**303**	*e*P		**P**	**07 00 05.1**	**-0.7**
SJPF				pmax		pmax			
	comp=Z,24nm,1.1s,mb5.1								
SJPF	**Ste Jean**	**58.90**	**303**	*e*P		**P**	**07 00 05.1**	**-0.7**
	comp=Z,24nm,1.1s,mb5.1								
ELIZ	**Elizondo**	**59.08**	**303**	P		**P**	**07 00 09.4**	**+2.3**
ELIZ				pmax		pmax			
	comp=Z,79nm,1.9s,mb5.4								
ELIZ	**Elizondo**	**59.08**	**303**	P		**P**	**07 00 09.4**	**+2.3**
	comp=Z,79nm,1.9s,mb5.4								
ECRI	**Cripan**	**59.96**	**303**	P		**P**	**07 00 14.5**	**+1.4**
ECRI				pmax		pmax			
	comp=Z,5.0nm,0.8s,mb4.6								
ECRI	**Cripan**	**59.96**	**303**	P		**P**	**07 00 14.5**	**+1.3**
	comp=Z,5.4nm,0.8s,mb4.6								
ELAN	**Lanestosa**	**60.36**	**304**	P		**P**	**07 00 15.9**	**0.0**
	comp=Z,60nm,1.2s,mb5.5								
ETOB	**Tobarra**	**60.80**	**299**	P		**P**	**07 00 18.0**	**-1.0**
	comp=Z,330nm,2.6s								
EMUR	**La Murta**	**60.90**	**298**	P		**P**	**07 00 21.4**	**+1.8**
	comp=Z,53nm,1.8s,mb5.4								
EVIA	**Vianos**	**61.49**	**299**	P		**P**	**07 00 25.1**	**+1.5**
EVIA				pmax		pmax			
	comp=Z,47nm,1.5s,mb5.4								
EVIA	**Vianos**	**61.49**	**299**	P		**P**	**07 00 25.1**	**+1.4**
	comp=Z,47nm,1.5s,mb5.4								
EARI	**Arriondas**	**61.53**	**305**	P		**P**	**07 00 24.9**	**+1.1**
	comp=Z,54nm,1.2s,mb5.5								
GUD	**Guadarrama**	**61.85**	**302**	P		**P**	**07 00 25.7**	**-0.4**
GUD				pmax		pmax			
	comp=Z,21nm,1.2s,mb5.1								
GUD	**Guadarrama**	**61.85**	**302**	P		**P**	**07 00 25.7**	**-0.4**
	comp=Z,20nm,1.2s,mb5.1								
EHUE	**Huescar**	**61.89**	**298**	P		**P**	**07 00 25.4**	**-0.9**
EHUE				pmax		pmax			
	comp=Z,178nm,2.6s,mb5.7								
EHUE	**Huescar**	**61.89**	**298**	P		**P**	**07 00 25.4**	**-0.9**
	comp=Z,178nm,2.6s,mb5.7								
ENIJ	**Nijar**	**61.96**	**297**	P		**P**	**07 00 27.2**	**+0.4**
ENIJ				pmax		pmax			
	comp=Z,34nm,1.0s,mb5.4								
ENIJ	**Nijar**	**61.96**	**297**	P		**P**	**07 00 27.2**	**+0.3**
	comp=Z,34nm,1.0s,mb5.4								
ESDC	**Sonseca Array**	**62.11**	**300**	P		**P**	**07 00 26.9**	**-0.9**
	comp=Z,9.2nm,0.8s,mb5.0,baz=55,slow=7.5,SNR=15								
ESDC				LR		LR	07 32 25.9		
	comp=Z,272nm,18.9s,MS4.4,baz=20,slow=41								
ESDC	**Sonseca Array**	**62.11**	**300**	P		**P**	**07 00 27.1**	**-0.7**
	comp=Z,14nm,0.9s,mb5.1								
ESLA	**Sonseca Array**	**62.11**	**300**	*e*P		**P**	**07 00 27.1**	**-0.7**
	comp=Z,25nm,1.5s,mb5.1								
EQES	**Quesada**	**62.24**	**298**	P		**P**	**07 00 29.9**	**+1.2**
	comp=Z,47nm,1.1s,mb5.5								
PAB	**San Pablo**	**62.43**	**300**	*e*P		**P**	**07 00 28.7**	**-1.3**
PAB				pmax		pmax			
	comp=Z,58nm,1.4s,mb5.5								
PAB	**San Pablo**	**62.43**	**300**	*e*P		**P**	**07 00 28.7**	**-1.3**
	comp=Z,58nm,1.4s,mb5.5								
EBER	**Berja**	**62.48**	**297**	P		**P**	**07 00 32.7**	**+2.3**
	comp=Z,158nm,2.3s,mb5.7								
EBAN	**Banos Encina**	**62.60**	**299**	P		**P**	**07 00 30.4**	**-0.7**
EBAN				pmax		pmax			
	comp=Z,12nm,1.0s,mb5.0								
EBAN	**Banos Encina**	**62.60**	**299**	P		**P**	**07 00 30.4**	**-0.7**
	comp=Z,12nm,1.0s,mb5.0								
EGUA	**Guajares**	**63.00**	**297**	P		**P**	**07 00 32.9**	**-0.9**
EGUA				pmax		pmax			
	comp=Z,80nm,1.0s,mb5.8								
EGUA	**Guajares**	**63.00**	**297**	P		**P**	**07 00 32.9**	**-1.0**
	comp=Z,80nm,1.0s,mb5.8								
ERON	**Agron**	**63.10**	**298**	P		**P**	**07 00 36.7**	**+2.3**
ECAL	**Calabor**	**63.11**	**304**	P		**P**	**07 00 36.2**	**+1.8**
	comp=Z,23nm,1.0s,mb5.3								
EADA	**Adamuz**	**63.17**	**299**	P		**P**	**07 00 34.7**	**-0.2**
	comp=Z,78nm,1.9s,mb5.5								
ELUQ	**Luque**	**63.20**	**298**	P		**P**	**07 00 36.5**	**+1.4**
EPLA	**Plasencia**	**63.43**	**302**	P		**P**	**07 00 38.4**	**+1.8**
	comp=Z,223nm,1.8s								
MVO	**Moncorvo**	**63.63**	**303**	*e*P		**P**	**07 00 39.4**	**+1.5**
	comp=Z,27nm,1.1s,mb5.2								
ECAB	**El Cabril**	**63.81**	**299**	P		**P**	**07 00 38.9**	**-0.2**
	comp=Z,196nm,2.1s,mb5.8								
ELOB	**Lobios**	**64.04**	**304**	P		**P**	**07 00 41.6**	**+1.1**
	comp=Z,95nm,1.9s,mb5.5								
PCAB	**Cabril**	**64.08**	**304**	*e*P		**P**	**07 00 42.7**	**+1.9**
	comp=Z,71nm,1.7s,mb5.4								
MTE	**Manteigas**	**64.31**	**303**	*e*P		**P**	**07 00 44.1**	**+1.8**
	comp=Z,82nm,1.8s,mb5.5								
PVIS	**Viseu**	**64.41**	**303**	*e*P		**P**	**07 00 43.1**	**+0.1**
	comp=Z,68nm,1.7s,mb5.4								
GUMO	**Guam**	**64.52**	**91**	LR		LR	07 29 25.4		
	comp=Z,142nm,18.4s,MS4.2,baz=258,slow=36								
EJIF	**Jimena Fronter**	**64.55**	**298**	P		**P**	**07 00 44.9**	**+0.9**
PMRV	**Marv??o**	**64.62**	**301**	*e*P		**P**	**07 00 45.0**	**+0.6**
	comp=Z,54nm,1.7s,mb5.3								
EBAD	**Badajoz**	**64.64**	**301**	P		**P**	**07 00 44.5**	**-0.1**
	comp=Z,17nm,0.7s,mb5.2								
ESPR	**Espera**	**64.64**	**298**	P		**P**	**07 00 44.0**	**-0.6**
	comp=Z,38nm,1.2s,mb5.3								
EMIN	**Mina Concepcio**	**64.83**	**300**	P		**P**	**07 00 47.3**	**+1.4**
	comp=Z,18nm,0.7s,mb5.2								
PBAR	**Barrancos**	**64.92**	**300**	*e*P		**P**	**07 00 46.9**	**+0.5**
	comp=Z,112nm,1.6s,mb5.7								
EVO	**Evora**	**65.45**	**301**⇑	*i*P		**P**	**07 00 51.2**	**+1.4**
	comp=Z,154nm,1.6s,mb5.5								
EVO				*e*MLR		MLR			
	comp=Z,449nm,22.5s,MS4.3								
EVO	**Evora**	**65.45**	**301**	*e*P		**P**	**07 00 51.7**	**+1.9**
	comp=Z,71nm,1.6s,mb5.5								
EGRO	**El Granado**	**65.52**	**300**	P		**P**	**07 00 49.6**	**-0.6**
	comp=Z,18nm,0.8s,mb5.2								
PBEJ	**Beja**	**65.57**	**300**	*e*P		**P**	**07 00 50.9**	**+0.3**
	comp=Z,54nm,1.5s,mb5.4								
PVAQ	**Vaqueiros**	**65.74**	**300**	*e*P		**P**	**07 00 53.1**	**+1.4**
	comp=Z,103nm,1.4s,mb5.7								
PBDV	**Barranco-do-Ve**	**65.96**	**300**	*e*P		**P**	**07 00 53.1**	**-0.1**
	comp=Z,136nm,1.7s,mb5.7								
LSZ	**Lusaka**	**68.11**	**231**	*e*P		**P**	**07 01 04.4**	**-2.5**
LSZ				pmax		pmax			
	comp=Z,11nm,1.1s,mb4.8								
LSZ	**Lusaka**	**68.11**	**231**	*e*P		**P**	**07 01 04.4**	**-2.5**
	comp=Z,11nm,1.1s,mb4.8								
RES	**Resolute Bay**	**70.20**	**358**	*e*P		**P**	**07 01 18.8**	**-0.3**
	comp=Z,140nm,0.7s								
TOA0	**Torodi Ar. Sit**	**70.36**	**272**	*e*P		**P**	**07 01 19.1**	**-2.0**
TORD	**Torodi Ar. Bea**	**70.36**	**272**	P		**P**	**07 01 19.4**	**-1.6**
	comp=Z,192nm,0.3s,baz=44,slow=5.2,SNR=1.6								
TORD				LR		LR	07 37 42.9		
	comp=Z,224nm,19.6s,MS4.4,baz=80,slow=41								
SFJD	**Kangerlussuaq**	**70.53**	**341**	*i*P		**P**	**07 01 21.3**	**+0.1**
SFJD				pmax		pmax			
	comp=Z,19nm,0.9s,mb5.0								
SFJD	**Kangerlussuaq**	**70.53**	**341**	*i*P		**P**	**07 01 21.3**	**+0.1**
	comp=Z,19nm,0.9s,mb5.0								
IMA2	**Indian Mountai**	**71.83**	**19**	*e*P		**P**	**07 01 28.4**	**-0.8**
IMA2				*e*PP		PP	07 04 04.7	-3.5	
COLA	**College**	**74.30**	**18**	*d*P		**P**	**07 01 43.4**	**-0.3**
COLA	**College**	**74.30**	**18**	*e*P		**P**	**07 01 43.7**	**0.0**
	comp=Z,40nm,1.0s,mb5.3								
INK	**Inuvik**	**74.31**	**11**	*e*P		**P**	**07 01 43.5**	**-0.2**
	comp=Z,1µm,1.1s								
EGAK	**Eagle**	**75.98**	**16**	*e*P		**P**	**07 01 53.1**	**-0.3**
	comp=Z,29nm,1.3s,mb5.0								
DAWY	**Dawson**	**76.98**	**15**	*e*P		**P**	**07 01 58.8**	**-0.3**
LBTB	**Lobatse**	**77.02**	**226**	*e*P		**P**	**07 02 01.0**	**+1.2**
LBTB				pmax		pmax			
	comp=Z,59nm,1.5s,mb5.3								
LBTB	**Lobatse**	**77.02**	**226**	*e*P		**P**	**07 02 01.0**	**+1.2**
	comp=Z,59nm,1.5s,mb5.3								
WRAB	**Tennant Creek**	**77.45**	**125**	P		**P**	**07 02 02.0**	**-0.3**
	comp=Z,172nm,1.1s,mb5.9,SNR=6.5								
NWAO	**Narrogin (SRO)**	**77.74**	**146**	*e*P		**P**	**07 02 03.3**	**-0.3**
TSUM	**Tsumeb**	**77.93**	**236**	*e*P		**P**	**07 02 05.2**	**+0.2**
	comp=Z,12nm,0.9s,mb4.8								
DBIC	**Dimbokro**	**79.30**	**271**	P		**P**	**07 02 12.3**	**-0.5**
	comp=Z,114nm,1.0s,mb4.9,baz=26,slow=5.7,SNR=12								
DBIC				LR		LR	07 40 52.9		
	comp=Z,442nm,18.5s,MS4.8,baz=39,slow=38								
DBIC	**Dimbokro**	**79.30**	**271**	P		**P**	**07 02 12.3**	**-0.5**
DBIC				pmax		pmax			
	comp=Z,14nm,1.0s								
DBIC				MLR		MLR			
	comp=Z,442nm,18.5s								
DBIC	**Dimbokro**	**79.30**	**271**	*e*P		**P**	**07 02 12.5**	**-0.3**
	comp=Z,28nm,1.1s,mb5.1								
LIC	**Lamto**	**79.69**	**270**	*e*P		**P**	**07 02 15.9**	**+0.9**
	comp=Z,63nm,1.2s,mb5.1								
LIC				*e*MLR		MLR			
	comp=Z,559nm,17.5s,MS4.7								
LIC	**Lamto**	**79.69**	**270**	*e*P		**P**	**07 02 15.9**	**+0.9**
	comp=Z,32nm,1.2s,mb5.1								
LIC				LR		LR			
	comp=Z,280nm,17.5s,MS4.7								
ASAR	**Alice Springs**	**79.79**	**128**	P		**P**	**07 02 14.2**	**-0.9**
	comp=Z,3.3nm,0.8s,mb4.3,baz=315,slow=5.7,SNR=37								
ASAR	**Alice Springs**	**79.79**	**128**	P		**P**	**07 02 14.3**	**-0.9**
ASAR				pmax		pmax			
	comp=Z,3.0nm,0.8s								
BOSA	**Boshof**	**79.94**	**224**	P		**P**	**07 02 16.0**	**+0.2**
	comp=Z,15nm,0.9s,mb4.9,baz=54,slow=7.4,SNR=10								
BOSA				LR		LR	07 40 13.6		
	comp=Z,234nm,18.1s,MS4.6,baz=252,slow=38								
BOSA	**Boshof**	**79.94**	**224**	P		**P**	**07 02 16.0**	**+0.2**
BOSA				pmax		pmax			
	comp=Z,15nm,0.9s,mb4.9								
BOSA				MLR		MLR			
	comp=Z,234nm,18.1s,MS4.6								
BOSA	**Boshof**	**79.94**	**224**	*e*P		**P**	**07 02 16.2**	**+0.4**
	comp=Z,15nm,0.8s,mb5.0								
HYT	**Haines Junctio**	**80.26**	**16**	*e*P		**P**	**07 02 17.0**	**-0.2**
SKAG	**Skagway**	**81.97**	**16**	*e*P		**P**	**07 02 26.1**	**-0.2**
	comp=Z,45nm,1.1s,mb5.3								
YKA	**Yellowknife Ar**	**82.17**	**5**	P		**P**	**07 02 26.0**	**-1.3**
	comp=Z,12nm,0.8s,mb4.9,baz=346,slow=5.5,SNR=16								
YKA				LR		LR	07 40 35.7		
	comp=Z,120nm,21.2s,MS4.2,baz=345,slow=37								
YKA	**Yellowknife Ar**	**82.17**	**5**	P		**P**	**07 02 26.0**	**-1.3**
YKA				pmax		pmax			
	comp=Z,12nm,0.8s								
YKA				MLR		MLR			
	comp=Z,120nm,21.2s								
DLBC	**Dease Lake**	**84.02**	**14**	*e*P		**P**	**07 02 37.2**	**+0.3**
WRAK	**Wrangell Islan**	**85.41**	**16**	*e*P		**P**	**07 02 40.2**	**-3.8**
	comp=Z,40nm,1.2s,mb5.4								
CTA	**Charters Tower**	**85.84**	**118**	*e*P		**P**	**07 02 46.6**	**0.0**
	comp=Z,8.2nm,0.6s,mb5.1								
CTA	**Charters Tower**	**85.84**	**118**	*e*P		**P**	**07 02 46.6**	**0.0**
CTA				pmax		pmax			
	comp=Z,8.0nm,0.6s								
CTAO	**Charters Tower**	**85.84**	**118**	*e*P		**P**	**07 02 46.2**	**-0.4**
CTAO				pmax		pmax			
	comp=Z,15nm,0.9s,mb5.2								
CTAO	**Charters Tower**	**85.84**	**118**	*e*P		**P**	**07 02 46.2**	**-0.4**
	comp=Z,15nm,0.9s,mb5.2								
FCC	**Fort Churchill**	**86.02**	**355**	*e*P		**P**	**07 02 43.0**	**-4.0**
FCC				pmax		pmax			
	comp=Z,49nm,1.1s,mb5.7								
FCC	**Fort Churchill**	**86.02**	**355**	*e*P		**P**	**07 02 43.0**	**-4.0**
	comp=Z,49nm,1.1s,mb5.7								
STKA	**Stephens Creek**	**90.37**	**130**	*e*P		**P**	**07 03 07.2**	**-0.8**
	comp=Z,3.6nm,0.8s,mb4.8								
STKA	**Stephens Creek**	**90.37**	**130**	P		**P**	**07 03 06.1**	**-1.9**
	comp=Z,3.2nm,0.7s,mb4.7,baz=330,slow=6.1,SNR=5.9								
STKA				LR		LR	07 52 01.1		
	comp=Z,207nm,18.2s,MS4.6,baz=21,slow=41								
EDM	**Edmonton**	**91.46**	**6**	*e*P		**P**	**07 03 12.5**	**-0.4**
ULM	**Lac du Bonnet**	**94.62**	**355**	P		**P**	**07 03 25.2**	**-2.3**
	comp=Z,4.1nm,0.7s,mb5.0,baz=9.5,slow=6.1,SNR=2.8								
ULM				LR		LR	07 49 03.1		
	comp=Z,320nm,18.8s,MS4.8,baz=204,slow=37								
JCW	**Jim Creek**	**95.27**	**12**	*e*P		**P**	**07 03 30.5**	**0.0**
DGMT	**Dagmar**	**96.65**	**1**	*e*P		**P**	**07 03 36.0**	**-0.7**
	comp=Z,17nm,1.0s,mb5.4								
TXAR	**Lajitas Array**	**115.76**	**0**	PKKPbc		PKKPbc	07 19 26.8	+5.8	
	comp=Z,0.7nm,0.9s,baz=176,slow=3.8,SNR=4.6								
SNAA	**Sanae**	**119.87**	**201**	*e*PKPdf		PKPdf	07 08 56.1	+0.2	
SNAA				*e*			07 08 58.8		
VNA2	**Neumayer--Watz**	**121.00**	**202**	*e*PKPdf		PKPdf	07 08 58.4	+0.3	
	baz=18,slow=3.0								
VNA2				*e*			07 09 01.6		
VNA1	**Neumayer--Stat**	**121.18**	**203**	*e*PKPdf		PKPdf	07 09 01.4	+2.9	
VNA3	**Neumayer Olymp**	**121.80**	**202**	*e*PKPdf		PKPdf	07 08 59.4	-0.2	
VNA3				*e*			07 09 02.7		
SDV	**Santo Domingo**	**126.35**	**319**	*e*PKPdf		PKPdf	07 09 09.2	-0.9	
LPAZ	**La Paz**	**143.39**	**292**	PKP		PKPdf	07 09 41.1	-0.5	
	comp=Z,0.7nm,0.5s,baz=0.0,slow=4.0,SNR=4.5								
ATAH	**Atahualpa**	**143.75**	**315**	PKP		PKPdf	07 09 42.0	-0.4	
	comp=Z,7.1nm,1.0s,baz=127,slow=5.1,SNR=3.4								
TRQA	**Tornquist**	**146.93**	**253**	*e*PKPdf		PKPdf	07 09 46.7	-0.4	
LVC	**Limon Verde**	**147.54**	**284**	*e*PKPbc		PKPbc	07 09 52.1	+0.8	
PLCA	**Paso Flores**	**153.72**	**248**	PKPbc		PKPbc	07 10 06.3	+0.8	
	comp=Z,4.4nm,0.9s,baz=184,slow=1.7,SNR=5.2								
PLCA	**Paso Flores**	**153.72**	**248**	PKIKP		PKPbc	07 10 06.3	+0.8	
PLCA				pmax		pmax			
	comp=Z,4.0nm,0.9s								

*ISCJB **26** 06:57:32.4±0.7, 1473N±006×9298W±005, h42km±26km, Error ellipse: s-maj=11.2km s-min=5.5km az=32.6*
*MEX **26** 06:57:33.3±0.7, 1465N×9290W, h55km±22km, MD4.3*
*NEIC **26** 06:57:33.0, 1463N×9293W, h47km, MD4.3(MEX), After MEX.*
*CASC **26** 06:57:34.8±2.4, 1461N×9282W, h34km±915km, MD4.3*
ISC 26 06:57:33.8±0.7, 1479N±005×9290W±004, h44km±25km, n24, σ1°01/23, 2C-2D, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
THIG		**0.63**	**79**	*i* P		**Pn**	**06 57 45.4**	**-1.0**
THIG				*i* S		**Sn**	**06 57 54.7**	**-0.7**
PCIG		**0.96**	**342**	*i* P		**Pn**	**06 57 51.0**	**+0.1**
PCIG				*i* S		**Sn**	**06 58 04.7**	**+1.2**
JAT	**Jato**	**1.31**	**111**⇑	*e*P		**Pn**	**06 57 55.7**	**+0.1**
SCX	**San Cristobal**	**1.96**	**8**	*e*P		**Pn**	**06 58 05.6**	**+1.1**
SCX				*i* S		**Sn**	**06 58 28.7**	**+0.8**
SCX	**San Cristobal**	**1.96**	**8**	*e*P		**Pn**	**06 58 06.0**	**+1.4**
SCX				*i* P			06 58 06.8		
SCX				*i* S		**Sn**	**06 58 28.7**	**+0.8**
FG6		**1.97**	**96**⇓	*e*P		**Pn**	**06 58 05.0**	**+0.3**
FG6				*e*S		**Sn**	**06 58 27.9**	**-0.2**
TGIG		**1.99**	**354**	*e*P		**Pn**	**06 58 04.3**	**-0.7**
TGIG				*i* S		**Sn**	**06 58 28.9**	**+0.1**
FUG	**Fuego 3**	**2.02**	**99**⇑	*e*P		**Pn**	**06 58 05.0**	**-0.4**
NBG	**Las Nubes**	**2.48**	**94**	*e*P		**Pn**	**06 58 13.2**	**+1.5**
MRL	**Marmol**	**3.12**	**84**⇓	*e*P		**Pn**	**06 58 21.7**	**+1.2**
RBDL	**Robledal**	**3.19**	**102**	*e*P		x	06 58 21.0	
RBDL				*e*S		x	06 59 00.6	
RTR	**El Retiro**	**3.28**	**105**	*e*P		x	06 58 22.2	
SBLS	**San Blas**	**3.31**	**106**	*e*P		x	06 58 23.1	
SNJE	**San Jose**	**3.32**	**106**	*e*P		x	06 58 23.2	
SNJE				*e*S		x	06 59 01.7	
BOQS	**Boqueron**	**3.66**	**106**	*e*P		x	06 58 27.4	
BOQS				*e*S		x	06 59 10.1	
SNET	**Serv Nac Est T**	**3.72**	**107**	*e*P		x	06 58 28.3	
SNET				*e*S		x	06 59 10.5	
LBRS	**Las Brisas**	**3.88**	**105**	*e*P		x	06 58 32.1	
LFRS	**El Faro**	**3.90**	**107**	*e*P		x	06 58 30.2	
LFRS				*e*S		x	06 59 13.7	
VHO	**Vista Hermosa**	**4.33**	**302**	*i* P		**Pn**	**06 58 35.7**	**-1.4**
VHO				*i* S		**Sn**	**06 59 26.7**	**+0.3**
CAHU	**Cacacuatique**	**4.66**	**102**	*e*P		x	06 58 42.4	
CNCH	**Conchagua**	**5.14**	**106**	*e*P		x	06 58 49.6	
CNCH				*e*S		x	06 59 46.8	
PNIG	**Pinotepa**	**5.28**	**288**	*e*P		**Pn**	**06 58 51.0**	**+0.8**
PNIG				*i* S		**

3.3nm,0.7s,baz=126,slow=2.4,SNR=8.0
YKA Yellowknife Ar 135.91 318 PKP PKPdf 07 56 02.4 -2.4
MKAR Makanchi Array 137.14 72 PKhKP 07 55 57.6
0.2nm,0.5s,baz=228,slow=4.7,SNR=4.4
MKAR PKP PKPdf 07 56 07.6 0.0
0.8nm,0.6s,baz=228,slow=1.5,SNR=6.3
ZALV Zalesovo Beam 142.60 64 PKhKP 07 56 12.9
1.9nm,0.6s,baz=225,slow=3.4,SNR=6.3
HYT Haines Junctio 144.50 307 *e*PKPdf PKPdf 07 56 19.5 -0.9
INK Inuvik 145.55 321 *e*PKPbc PKPbc 07 56 21.9 -0.6
DAWY Dawson 146.52 312 *e*PKPbc PKPbc 07 56 24.5 -0.9
COLA College 150.26 312 *e*PKPbc PKPbc 07 56 33.9 -1.2
SONM Songino Array 151.02 87 PKPbc PKPbc 07 56 37.0 -0.4
19nm,0.6s,baz=221,slow=3.8,SNR=88
SONM pPKPbc pPKPbc 07 57 06.9 -0.3
2.1nm,0.6s,baz=223,slow=3.3,SNR=2.9
ULN Ulaanbaatar 151.40 87 *e*PKPbc PKPbc 07 56 37.6 -0.7

*ISCJB **26** 07:39:27.0±1.1,3958N±005×2065E±009, h22km±7km, Error ellipse: s-maj=12.2km s-min=8.3km az=170.9*
*ATH **26** 07:39:27.0, 3959N×2070E, h25km±1km, MD3.3/4*
*CSEM **26** 07:39:27.4±0.1, 3971N×2074E, h25km, MD3.3, Error ellipse: s-maj=4.4km s-min=3.3km az=72.0*
ISC 26 07:39:26.8±1.3, 3958N±005×206E±01, h19km±7km, n14, σ0§75/21, 1C, Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
JAN	**Janina**	**0.20**	**67**	*e*Pb		**Pg**	**07 39 32.0**	**+0.2**
JAN				*e*Sb		**Sg**	**07 39 35.3**	**+0.2**
JAN	**Janina**	**0.20**	**67**	*e*PB		**Pg**	**07 39 32.0**	**+0.2**
JAN				*e*SB		**Sg**	**07 39 35.3**	**+0.2**
KEK	**Kerkira**	**0.65**	**282**	*e*Pn		**Pn**	**07 39 41.0**	**0.0**
KEK	**Kerkira**	**0.65**	**282**	*e*PN		**Pn**	**07 39 41.0**	**0.0**
THL	**Klokotos Trika**	**1.08**	**90**	*e*Pn		**Pn**	**07 39 46.5**	**-0.5**
THL	**Klokotos Trika**	**1.08**	**90**	*e*PN		**Pn**	**07 39 46.5**	**-0.5**
EVR	**Evrytania**	**1.14**	**125**	*e*Pn		**Pb**	**07 39 47.9**	**0.0**
EVR	**Evrytania**	**1.14**	**125**	*e*PN		**Pb**	**07 39 47.9**	**0.0**
BIA	**Bitola**	**1.54**	**20**	*e*Pg		**Pb**	**07 39 53.6**	**-1.1**
BIA				*e*Sg		**Sb**	**07 40 13.8**	**+0.1**
OHR	**Ohrid**	**1.54**	**5**	*e*Pg		**Pb**	**07 39 53.7**	**-0.9**
OHR				*e*Sg		**Sb**	**07 40 15.1**	**+1.3**
OHR	**Ohrid**	**1.54**	**5**	*e*Pg		**Pb**	**07 39 53.7**	**-1.0**
OHR				*e*Sg		**Sb**	**07 40 15.0**	**+1.2**
KRUS	**Krusevo**	**1.85**	**15**	*e*Pg		**Pb**	**07 39 59.6**	**-0.4**
KRUS				*e*Sg		**Sb**	**07 40 21.9**	**-0.9**
VAY	**Valandovo**	**2.29**	**40**	*e*Pn		**Pn**	**07 40 04.5**	**+0.9**
VAY				*e*Sg		**Sg**	**07 40 31.2**	**-9.3**
BARS	**Barje**	**3.36**	**15**	*i*P		**Pn**	**07 40 19.5**	**+1.2**

*IDC **26** 07:49:59.4±2.1, 2139S×6831W, h99km±20km, mb4.0/2, mb1 4.0/6, mb1mx3.8/14, mbtmp3.9/6, Error ellipse: s-maj=28.0km s-min=15.7km az=110.0*
*ISCJB **26** 07:50:00.7±0.7, 2156S±006×683W±0.1, h140km±9km, Error ellipse: s-maj=19.2km s-min=8.5km az=17.8*
*NEIC **26** 07:50:00.8±0.8, 2137S×6833W, h115km±9km, mb4.1/1, Error ellipse: s-maj=21.5km s-min=10.0km az=110.0*
*GUC **26** 07:50:02.1±1.0, 2130S×6889W, h110km, ML4.2*
ISC 26 07:50:01.5±0.7, 2154S±006×683W±01, h130km±9km, n19, σ1§50/25, 1D, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
LVC	**Limon Verde**	**1.23**	**210**	*e*Pn		**Pn**	**07 50 28.1**	**+1.4**
LVC				*e*Sn		**Sn**	**07 50 47.4**	**+1.5**
SPCH	**San Pedro de A**	**1.36**	**178**	*i* P		**Pn**	**07 50 32.9**	**+4.8**
SPCH				*e*S		**Sn**	**07 50 56.3**	**+7.9**
SPCH				AML		AML	07 51 12.5	
	comp=E,1μm,0.8s							
CEN1	**Los Morros**	**2.58**	**224**	*i*P		**Pn**	**07 50 44.0**	**+1.3**
CEN1				*i* S		**Sn**	**07 51 16.4**	**+2.0**
CEN1				AML		AML	07 51 22.7	
	comp=N,1μm,0.8s							
ANCH	**Antofagasta**	**2.92**	**223**	*e*P		**Pn**	**07 50 46.5**	**-0.5**
ANCH				*i* S		**Sn**	**07 51 19.6**	**-2.7**
ANCH				AML		AML	07 51 23.6	
	comp=E,1μm,0.6s							
LPAZ	**La Paz**	**5.22**	**1**	P		**Pn**	**07 51 15.2**	**-2.4**
	comp=E,8.9nm,0.3s,baz=198,slow=5.9,SNR=303							
CPCH	**Copiapo**	**6.10**	**198**	*e*P		**Pn**	**07 51 28.3**	**-1.1**
CPCH				*i* S		**Sn**	**07 52 37.3**	**-0.7**
LCO	**Las Campanas**	**7.76**	**196**	*e*Pn		**Pn**	**07 51 52.5**	**+0.7**
LCO				*e*Sn		**Sn**	**07 53 17.0**	**-1.1**
SIV	**San Ignacio**	**8.75**	**52**	P		**Pn**	**07 52 03.1**	**-2.1**
	comp=E,2.9nm,0.3s,baz=254,slow=12,SNR=64							
SIV				S		**Sn**	**07 53 36.1**	**-6.0**
	comp=E,0.3nm,0.3s,baz=299,slow=21,SNR=5.5							
CFAA	**Coronel Fontan**	**10.03**	**180**	P		**Pn**	**07 52 22.0**	**-0.1**
	comp=E,0.4nm,0.3s,baz=0.5,slow=12,SNR=45							
CFAA				S		**Sn**	**07 54 10.6**	**-2.2**
	comp=E,0.5nm,0.3s,baz=189,slow=13,SNR=9.3							
CFAA	**Coronel Fontan**	**10.03**	**180**	P		**Pn**	**07 52 22.0**	**-0.1**
CFAA				S		**Sn**	**07 54 10.6**	**-2.2**
PLCA	**Paso Flores**	**19.23**	**185**	P		**P**	**07 54 19.2**	**+3.7**
	comp=E,0.6nm,0.3s,baz=355,slow=12,SNR=17							
BDFB	**Brasilia**	**20.05**	**76**	P		**P**	**07 54 26.7**	**+2.2**
	comp=E,3.5nm,0.5s,baz=250,slow=18,SNR=14							
TXAR	**Lajitas Array**	**61.01**	**325**	pP		pP	08 00 27.8	-4.7
	comp=E,0.5nm,0.9s,baz=157,slow=6.8,SNR=4.4							
DBIC	**Dimbokro**	**68.16**	**73**	P		**P**	**08 00 49.3**	**+1.2**
	comp=E,6.9nm,0.9s,baz=263,slow=4.3,SNR=6.2							
PDAR	**Pinedale Array**	**74.45**	**330**	P		**P**	**08 01 24.5**	**-0.8**
	comp=E,0.4nm,0.9s,baz=141,slow=6.4,SNR=2.7							
PDAR	**Pinedale Array**	**74.45**	**330**	P		**P**	**08 01 24.5**	**-0.8**
TORD	**Torodi Ar. Bea**	**76.79**	**70**	P		**P**	**08 01 40.5**	**+1.2**
	comp=E,141nm,0.3s,baz=253,slow=5.5,SNR=1.9							
MK31	**Makanchi Array**	**145.30**	**36**	PKPbc		PKPbc	08 09 25.0	+1.2
MKAR	**Makanchi Array**	**145.30**	**36**	PKPbc		PKPbc	08 09 25.0	+1.2
	comp=E,2.8nm,0.7s,baz=328,slow=3.6,SNR=27							

*DDA **26** 07:56:22.5, 3994N×2883E, h7km±2km, Md2.8*
*CSEM **26** 07:56:22.2±0.1, 3983N×2880E, h2km, MD2.8, Error ellipse: s-maj=1.9km s-min=1.7km az=36.0*
*ISCJB **26** 07:56:23.4±0.7, 3986N±004×2885E±004, h6km±7km, Error ellipse: s-maj=7.1km s-min=4.8km az=150.6*
*ISK **26** 07:56:23.2, 3984N×2880E, h9km, MD2.8*
ISC 26 07:56:23.9±0.6, 3986N±004×2886E±004, h9km±7km, n12, σ0§82/18, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
ULDT	**Uludag**	**0.36**	**37**	*i* P		**Pg**	**07 56 28.8**	**-2.0**
ULDT				*i* S		**Sg**	**07 56 35.3**	**-0.4**
DURS	**Dursunbey**	**0.39**	**229**	*i* P		**Pg**	**07 56 30.8**	**-0.6**
DURS				*i* S		**Sg**	**07 56 37.6**	**+1.0**
YLV	**Yalova**	**0.81**	**29**	*e*PG		**Pg**	**07 56 39.7**	**+0.2**
YLV				*e*SG		**Sg**	**07 56 52.2**	**+2.1**
BNT	**Bandirma**	**0.88**	**305**	*e*PG		**Pg**	**07 56 40.0**	**-0.7**
BNT				*e*SG		**Sg**	**07 56 52.7**	**+0.6**
ADVT	**Abdulvahap**	**0.89**	**49**	*e*PG		**Pg**	**07 56 41.4**	**+0.4**
EDC	**Edincik**	**0.91**	**303**	*e*PG		**Pg**	**07 56 40.6**	**-0.6**
GDZ	**Gediz**	**0.91**	**148**	*i* P		**Pg**	**07 56 41.4**	**+0.2**
BALY	**Balya**	**0.96**	**263**	*i* P		**Pg**	**07 56 41.3**	**-1.0**
BALY				*i* S		**Sg**	**07 56 55.6**	**+0.8**
ALT	**Altintas**	**1.26**	**129**	*e*PN		**Pn**	**07 56 47.8**	**+0.2**
KULA	**Kula-Manisa**	**1.35**	**187**	*e*PN		**Pn**	**07 56 48.8**	**0.0**
KULA				*e*SN		**Sn**	**07 57 06.9**	**+0.1**
GULT	**Gulveren**	**1.40**	**65**	*e*PN		**Pn**	**07 56 49.5**	**0.0**
RKY	**Sarkoy-Tekirda**	**1.53**	**303**	*e*PN		**Pn**	**07 56 51.1**	**-0.2**

FUNV 26 08:08:10.8, 677N×7313W, h164km, MW3.7, 2D, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
CAPV	**Capacho**	**1.35**	**36**	*i*P		Pn	08 08 39.8	-0.3
CAPV				*e*S		Sn	08 09 00.8	-1.8
VIGV	**El Vigia**	**2.70**	**40**	*e*P		Pn	08 08 54.1	-1.0
VIGV				*e*S		Sn	08 09 25.5	-3.8
SOCV	**Socops**	**2.71**	**56**	*e*P		Pn	08 08 54.2	-1.0
SOCV				*e*S		Sn	08 09 26.2	-3.3
ELOV	**Elorza**	**3.62**	**86**	*e*P		Pn	08 09 06.1	-0.6
VIRV	**Villa del Rosa**	**3.78**	**11**	*e*P		Pn	08 09 06.4	-2.2
VIRV				*e*S		Sn	08 09 49.0	-4.6
QARV	**Quebrada Arrib**	**4.28**	**37**	*i*P		Pn	08 09 14.3	-0.7
QARV				*e*S		Sn	08 10 00.8	-4.4
SANV	**Sanarito**	**4.47**	**52**	*e*P		Pn	08 09 16.2	-1.4
CURV	**Curarigua**	**4.49**	**44**	*e*P		Pn	08 09 16.6	-1.2
CURV				*e*S		Sn	08 10 04.7	-5.5
TEPV	**Terepaima**	**5.02**	**51**	*e*P		Pn	08 09 23.6	-1.2
SIQV	**Siquisique**	**5.06**	**40**	*e*P		Pn	08 09 23.8	-1.5
SIQV				*e*S		Sn	08 10 17.5	-6.0
BAUV	**El Baul**	**5.48**	**66**	*e*P		Pn	08 09 28.1	-2.7
CAOV	**Caicara del Or**	**6.78**	**85**	*e*P		Pn	08 09 45.0	-2.9

NNC 26 08:08:43.6±6.2, 5325N×8757E, h0km, mb4.0, mpv3.7, 8C-2D, Error ellipse: s-maj=50.9km s-min=31.1km az=66.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
KURK	**Kurchatov**	**6.08**	**249**	⇓Pn		Pn	08 10 15.4	+0.8
	5.9nm,0.6s							
KURK				⇑Sn		Sn	08 11 29.9	+5.0
	5.7nm,0.5s							
KURK				⇑Lg			08 11 59.4	
	21nm,0.7s							
MK31	**Makanchi Array**	**7.30**	**210**	⇑Pn		Pn	08 10 33.9	+2.6
	1.5nm,0.5s,baz=30,slow=13,SNR=47							
MK31				⇑Sn		Sn	08 12 00.9	+6.1
	2.3nm,0.6s,baz=29,slow=24,SNR=4.9							
MK31				⇑Lg			08 12 34.6	
	7.9nm,0.8s,baz=33,slow=29,SNR=6.0							
VOSK	**Vostochnaya**	**10.02**	**274**	⇑Pn		Pn	08 11 06.5	-2.2
	1.0nm,0.6s							
VOSK				⇑Sn		Sn	08 12 57.7	-3.9
	6.3nm,0.7s							
BRVK	**Borovoye**	**10.39**	**276**	⇑Pn		Pn	08 11 19.8	+6.2
	4.6nm,0.8s							
BRVK				⇓Sn		Sn	08 13 05.8	-4.8
	8.0nm,0.8s							

IDC 26 08:11:05.9±3.8, 353S×10040E, h0km, mb4.1/4, mb1 4.2/4, mb1mx3.8/18, mbtmp4.1/4, Error ellipse: s-maj=165.4km s-min=27.3km az=56.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
ASAR	**Alice Springs**	**38.05**	**125**	P		P	08 18 25.8	-0.5
	1.4nm,0.4s,baz=296,slow=7.7,SNR=5.6							
SONM	**Songino Array**	**51.41**	**5**	P		P	08 20 12.6	+0.1
	2.8nm,0.6s,baz=189,slow=9.4,SNR=13							
MKAR	**Makanchi Array**	**52.59**	**344**	P		P	08 20 21.3	0.0
	0.8nm,0.5s,baz=149,slow=8.6,SNR=14							
ZALV	**Zalesovo Beam**	**58.73**	**349**	P		P	08 21 04.8	-0.5
	1.7nm,0.7s,baz=193,slow=5.9,SNR=2.9							
TXAR	**Lajitas Array**	**145.65**	**39**	PKPbc		PKPbc	08 30 47.6	+0.4
	1.1nm,0.5s,baz=290,slow=0.8,SNR=20							

KRSC 26 08:21:12.1±0.4, 5340N×16194E, h51km±51km, ML3.8, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
MKZ	**Mys Kozlova**	**1.17**	**354**	*e*P		Pn	08 21 32.5	+0.5
MKZ				*e*S		Sn	08 21 47.4	+0.6
SPN	**Mys Shipunski**	**1.19**	**256**	*e*P		Pn	08 21 33.7	+1.3
SPN				*i* S		Sn	08 21 49.3	+1.9
NLC	**Nalytchevo**	**1.57**	**263**	*e*P		Pn	08 21 39.1	+1.5
NLC				*e*S		Sn	08 21 58.7	+1.9
KII	**Karymskiy**	**1.61**	**294**	*e*P		Pn	08 21 39.1	+1.0
KII				*i* S		Sn	08 21 59.2	+1.5
AVH	**Avacha**	**1.93**	**267**	*e*P		Pn	08 21 45.0	+2.6
AVH				*e*S		Sn	08 22 08.4	+3.1
PET	**Petropavlovsk**	**2.01**	**261**	*e*P		Pn	08 21 46.0	+2.5
PET				*i* S		Sn	08 22 10.1	+2.6
TUMR	**Tumrok**	**2.16**	**332**	*i* P		Sn	08 21 48.6	+3.0
TUMR				*e*S		Sn	08 22 14.7	+3.6
RUS	**Russkaya**	**2.29**	**246**	*e*P		Pn	08 21 49.6	+2.3
RUS				*e*S		Sn	08 22 16.3	+2.0
GNL	**Ganaly**	**2.40**	**279**	*e*P		Pn	08 21 51.8	+2.9
GNL				*i* S		Sn	08 22 21.0	+3.9
KMNR	**Kamenistaya**	**2.56**	**338**	*e*P		Pn	08 21 54.0	+3.0
KMNR				*i* S		Sn	08 22 24.9	+4.0
BZMR	**Bezymyannaya**	**2.68**	**342**	P		Pn	08 21 56.1	+3.5
BZMR				*e*S		Sn	08 22 27.3	+3.5
ZLN	**Zelenaya**	**2.70**	**346**	S		Sn	08 22 27.7	+3.2
KIRR	**Kirishev**	**2.72**	**341**	P		Pn	08 21 56.7	+3.5
KIRR				S		Sn	08 22 29.1	+4.2
KPT	**Kopyto**	**2.76**	**339**	P		Pn	08 21 57.0	+3.3
KBTR	**Krutoberegovo**	**2.86**	**10**	P		Pn	08 21 56.1	+1.0
KBTR				*e*S		Sn	08 22 27.4	-0.9
KOZ	**Kozyrevsk**	**2.92**	**337**	P		Pn	08 21 58.7	+2.7
KOZ				S		Sn	08 22 31.9	+2.1
KRSR	**Krestovskiy**	**2.93**	**345**	P		Pn	08 21 58.9	+2.8
KLY	**Klyuchi**	**3.01**	**346**	P		Pn	08 21 59.1	+1.9
KLY				*e*S		Sn	08 22 32.9	+0.9
SRKR	**Sorokina**	**3.29**	**353**	*e*P		Pn	08 22 04.0	+3.0
SRKR				S		Sn	08 22 41.6	+2.7

*ISCJB **26** 08:34:51.7±6.3, 1515S±02×1674E±04, h137km±53km, mb4.1/3, Error ellipse: s-maj=58.5km s-min=37.3km az=21.0*
*IDC **26** 08:34:54.9±12.0, 1495S×16728E, h153km±87km, mb3.9/4, mb1 3.9/5, mb1mx3.6/16, mbtmp4.0/5, Error ellipse: s-maj=112.1km s-min=31.3km az=113.0*
ISC 26 08:34:51.5±6.1, 1515S±02×1675E±04, h128km±51km, n9, σ0§93/8, mb4.1/3, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
HNR	**Honiara**	**9.26**	**306**	P		**Pn**	**08 37 01.9**	**-0.1**
	13nm,0.3s,baz=156,slow=10.0,SNR=3.7							
CTA	**Charters Tower**	**20.87**	**253**	P		**P**	**08 39 23.8**	**+0.3**
	2.0nm,0.6s,baz=99,slow=13,SNR=3.9							
STKA	**Stephens Creek**	**28.97**	**230**	*e*P		**P**	**08 40 40.1**	**+1.2**
	7.9nm,0.8s,mb4.5							
STKA	**Stephens Creek**	**28.97**	**230**	P		**P**	**08 40 39.6**	**+0.7**
	7.7nm,0.6s,mb4.6,baz=44,slow=7.7,SNR=33							
ASAR	**Alice Springs**	**32.78**	**250**	P		**P**	**08 41 11.2**	**-1.3**
	1.7nm,0.4s,mb4.2,baz=77,slow=9.7,SNR=36							
ASAR				PcP		PcP	08 43 54.6	-0.4
	0.3nm,0.6s,baz=90,slow=3.7,SNR=3.4							
VNA3	**Neumayer Olymp**	**93.90**	**181**	*e*		**P**	**08 47 53.8**	**-0.3**
VNA2	**Neumayer--Watz**	**94.17**	**182**	*e*		**P**	**08 47 55.3**	**0.0**
	baz=200,slow=5.1							
MKAR	**Makanchi Array**	**97.59**	**316**	P		**P**	**08 48 11.7**	**+0.4**
	0.1nm,0.3s,mb3.7,baz=101,slow=5.2,SNR=4.4							
ARCES	**ARCESS Array B**	**120.62**	**345**	PKP		PKPdf	08 53 26.8	-0.7
	1.6nm,0.7s,baz=58,slow=3.0,SNR=3.6							

*IDC **26** 08:42:33.9±0.8, 601S×13005E, h174km±7km, mb3.9/11, mb1 4.0/11, mb1mx3.9/15, mbtmp3.9/11, Error ellipse: s-maj=21.5km s-min=9.2km az=71.0*
*ISCJB **26** 08:42:34.1±0.5, 587S±005×13033E±004, h194km±5km, mb4.4/19, Error ellipse: s-maj=8.8km s-min=5.4km az=38.6*
*NEIC **26** 08:42:34.1±0.3, 596S×13003E, mb4.7/9, Error ellipse: s-maj=10.6km s-min=5.3km az=61.0*
*DJA **26** 08:42:36, 576S×13028E, h174km, Mw5.3/4*
ISC 26 08:42:34.7±0.5, 593S±005×13032E±004, h182km±5km, h175km±2.6km: pP-P, n53, σ1§19/55, mb4.5/19, 2C-1D, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
TLE	**Tual**	**2.43**	**83**	*e*P		**Pn**	**08 43 20.0**	**+3.4**
TLE				*e*S		**Sn**	**08 43 48.0**	**-1.1**
AAI	**Ambon**	**3.07**	**316**	P		**Pn**	**08 43 23.2**	**-1.1**
SWI	**Sorong**	**5.12**	**11**	P		**Pn**	**08 43 49.9**	**-0.4**
LBMI	**Labuha**	**5.96**	**332**	P		**Pn**	**08 44 00.7**	**-0.6**
	853nm,0.9s,7μm2.1nm							
KAKA	**Kakadu**	**7.05**	**163**	*e*P		**Sn**	**08 45 24.7**	**-11**
	5μm,1.1s							
BATI	**Baumata**	**7.84**	**237**	P		**Pn**	**08 44 23.2**	**-2.7**
	93nm,0.3s,baz=123,slow=2.8,SNR=26							
BATI				S		**Sn**	**08 45 45.6**	**-8.3**
	38nm,0.3s,baz=299,slow=23,SNR=12							
KDI	**Kendari**	**7.92**	**284**	*e*P		**Pn**	**08 44 27.9**	**+1.0**
KDI				*e*S		**Sn**	**08 45 56.7**	**+0.9**
KDI	**Kendari**	**7.92**	**284**	P		**Pn**	**08 44 27.2**	**+0.3**
	102nm,1.1s,2μm0.3nm							
MNI	**Manado**	**9.14**	**323**	P		**Pn**	**08 44 43.4**	**+0.4**
KAPI	**Kappang**	**10.56**	**274**	P		**Pn**	**08 45 02.3**	**+0.8**
	0.7nm,0.3s,baz=140,slow=12,SNR=4.1							
KHKI	**Kahang-Kahang**	**14.79**	**260**	P		**Pn**	**08 45 56.0**	**+0.8**
COEN	**Coen**	**14.96**	**123**	*e*Pn		**Pn**	**08 45 59.6**	**+2.3**
	7.8nm,0.6s							
COEN				*e*Sn		**Sn**	**08 48 38.1**	**-6.3**
BBKI	**Banjar Baru**	**15.62**	**278**	P		**Pn**	**08 46 07.2**	**+1.8**
	125nm,0.7s,4μm							
KMMI	**Kalianget**	**16.28**	**265**	P		**Pn**	**08 46 15.6**	**+2.2**
ASAR	**Alice Springs**	**17.97**	**169**	P		**Pn**	**08 46 32.6**	**-0.7**
	22nm,0.3s,baz=349,slow=11,SNR=300							
ASAR				S		**S**	**08 49 46.0**	**-2.2**
	1.0nm,0.3s,baz=350,slow=19,SNR=17							
ASAR				ScP		ScP	08 54 14.9	-1.7
	baz=312,slow=0.9,SNR=4.2							
MBWA	**Marble Bar**	**18.28**	**213**	*e*Pn		**Pn**	**08 46 34.1**	**-3.0**
	14nm,0.8s							
SJI	**Sawahan**	**18.50**	**263**	P		**P**	**08 46 38.6**	**+1.2**
SBUM	**Sibu**	**19.90**	**294**	P		**P**	**08 46 52.6**	**+0.2**
CTA	**Charters Tower**	**20.92**	**134**	*e*P		**P**	**08 47 05.5**	**+2.2**
	12nm,0.9s							
CTA	**Charters Tower**	**20.92**	**134**	P		**P**	**08 47 05.5**	**+2.2**
	13nm,0.8s,baz=309,slow=11,SNR=17							
CTAO	**Charters Tower**	**20.92**	**134**	*e*P		**P**	**08 47 05.4**	**+2.1**
	69nm,1.5s							
FORT	**Forrest**	**24.81**	**185**	*e*P		**P**	**08 47 39.3**	**-0.7**
	39nm,0.6s,mb5.1							
STKA	**Stephens Creek**	**27.88**	**159**	⇓*i*P		**P**	**08 48 08.2**	**+0.6**
	12nm,0.8s,mb4.7							
STKA	**Stephens Creek**	**27.88**	**159**	P		**P**	**08 48 08.3**	**+0.7**
	7.3nm,0.3s,mb4.9,baz=329,slow=8.2,SNR=85							
KLBR	**Kellerberrin**	**28.11**	**203**	*e*P		**P**	**08 48 08.7**	**-0.9**
	11nm,0.6s,mb4.8							
NWAO	**Narrogin (SRO)**	**29.49**	**203**	P		**P**	**08 48 20.8**	**-1.1**
	18nm,1.1s,mb4.7,baz=45,slow=10,SNR=4.6							
NWAO	**Narrogin (SRO)**	**29.49**	**203**	P		**P**	**08 48 20.8**	**-1.1**
ARMA	**Armidale**	**31.55**	**143**	*e*P		**P**	**08 48 42.1**	**+2.2**
CNB	**Canberra Magne**	**34.10**	**152**	*e*P		**P**	**08 49 03.5**	**+1.4**
TOO	**Toolangi**	**34.40**	**158**	*e*P		**P**	**08 49 06.9**	**+2.3**
CMAR	**Chiang Mai Arr**	**39.30**	**309**	P		**P**	**08 49 44.5**	**-1.7**
	2.5nm,0.5s,mb4.1,baz=145,slow=6.8,SNR=9.8							
TAPN	**Taplejung**	**52.82**	**311**	*e*P		**P**	**08 51 31.0**	**-0.7**
	10nm,0.4s,mb5.0							
RAMN	**Ramite**	**53.45**	**310**	*e*P		**P**	**08 51 35.9**	**-0.4**
	21nm,0.4s,mb5.2							
JIRN	**Jiri**	**54.13**	**310**	*e*P		**P**	**08 51 41.3**	**+0.1**
GUN	**Gumba**	**54.50**	**310**	*e*P		**P**	**08 51 43.3**	**-0.6**
	14nm,0.3s,mb5.1							
PKI	**Pulchoki**	**54.68**	**310**	*e*P		**P**	**08 51 44.5**	**-0.7**
	5.4nm,0.5s,mb4.5							
PKIN	**Phulchoki**	**54.69**	**310**	*e*P		**P**	**08 51 44.5**	**-0.8**
	5.4nm,0.5s,mb4.5							
GKN	**Gorkha**	**55.49**	**310**	*e*P		**P**	**08 51 50.2**	**-0.8**
	16nm,0.3s,mb5.2							
KOLN	**Koldanda**	**56.17**	**309**	*e*P		**P**	**08 51 56.1**	**+0.3**
	8.5nm,0.4s,mb5.0							
DANN	**Dangsing**	**56.33**	**310**	*e*P		**P**	**08 51 56.8**	**-0.1**
SONM	**Songino Array**	**57.54**	**341**	P		**P**	**08 52 05.5**	**+0.5**
	0.3nm,0.3s,mb3.5,baz=132,slow=1.4,SNR=2.4							
PETK	**Petropavlovsk-**	**63.22**	**18**	P		**P**	**08 52 44.2**	**+0.8**
	2.6nm,0.6s,mb4.2,baz=149,slow=2.1,SNR=5.6							
PETK	**Petropavlovsk-**	**63.22**	**18**	P		**P**	**08 52 44.2**	**+0.8**
MK31	**Makanchi Array**	**67.51**	**326**	*e*P		**P**	**08 53 11.4**	**+0.2**
MKAR	**Makanchi Array**	**67.51**	**326**	P		**P**	**08 53 11.1**	**0.0**
	1.5nm,0.4s,mb4.1,baz=122,slow=8.2,SNR=21							
MKAR				pP		pP	08 53 51.1	-2.9
	1.4nm,0.6s,baz=131,slow=7.1,SNR=2.6							
ZALV	**Zalesovo Beam**	**70.77**	**333**	P		**P**	**08 53 29.3**	**-1.7**
	0.5nm,0.3s,mb3.7,baz=128,slow=2.4,SNR=3.4							
ZALV				pP		pP	08 54 11.9	-2.5
	0.7nm,0.3s,baz=118,slow=5.4,SNR=1.9							
KURK	**Kurchatov**	**71.78**	**328**	P		**P**	**08 53 36.2**	**-0.9**
	1.1nm,0.6s,mb3.8,baz=126,slow=5.0,SNR=8.5							
KURK				pP		pP	08 54 18.5	-2.0
	1.2nm,0.7s,baz=129,slow=5.0,SNR=3.2							
MAW	**Mawson**	**76.05**	**201**	P		**P**	**08 54 01.5**	**-0.2**
	4.3nm,0.6s,mb4.3,baz=65,slow=13,SNR=4.0							
AKTK	**Aktyubinsk**	**83.43**	**322**	P		**P**	**08 54 42.3**	**+0.7**
AKTO	**Aktyubinsk**	**83.43**	**322**	P		**P**	**08 54 42.3**	**+0.7**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MMPI	**Merauke**	**5.54**	**172**	P	**Pn**	**09 12 08.4**	**+1.8**
TLE	**Tual**	**7.37**	**248**‖	*e*P	**Pn**	**09 12 33.5**	**+1.8**
SWI	**Sorong**	**8.61**	**284**	P	**Pn**	**09 12 49.4**	**+0.7**
	236nm,1.0s,2µm0.6nm						
AAI	**Ambon**	**11.43**	**266**⇑	*e*P	**Pn**	**09 13 26.2**	**-1.1**
AAI				*e*S	Sn	09 15 02.6	-31
AAI	**Ambon**	**11.43**	**266**	P	**Pn**	**09 13 26.3**	**-1.0**
	161nm,0.9s,2µm						
COEN	**Coen**	**11.49**	**162**	P	**Pn**	**09 13 27.0**	**-1.1**
	56nm,0.8s,589nm						
COEN	**Coen**	**11.49**	**162**	*e*Pn	**Pn**	**09 13 26.8**	**-1.4**
	31nm,0.7s						
KAKA	**Kakadu**	**12.03**	**216**	*e*P	**Pn**	**09 13 26.4**	**-9.1**
	639nm,0.9s						
KAKA	**Kakadu**	**12.03**	**216**	P	**Pn**	**09 13 26.8**	**-8.7**
	1µm,0.8s,8µm						
LBMI	**Labuha**	**12.33**	**280**	P	**Pn**	**09 13 40.1**	**+0.5**
	340nm,1.2s,3µm						
MATI	**Mati**	**16.57**	**306**	*e*P	**Pn**	**09 14 34.2**	**-1.3**
KDI	**Kendari**	**17.00**	**266**⇑	*e*P	**Pn**	**09 14 40.7**	**-0.2**
KDI				*e*S	**S**	**09 17 51.3**	**-5.4**
KDI	**Kendari**	**17.00**	**266**⇑	*e*P	**Pn**	**09 14 40.7**	**-0.2**
KDI				*e*S	**S**	**09 17 51.3**	**-5.4**
KDI	**Kendari**	**17.00**	**266**	P	**Pn**	**09 14 41.5**	**+0.6**
	75nm,1.9s,3µm						
BIPH	**Bislig**	**17.23**	**310**‖	*e*P	**Pn**	**09 14 44.2**	**+0.4**
BATI	**Baumata**	**17.41**	**245**	P	**Pn**	**09 14 45.7**	**-0.2**
	24nm,0.3s,baz=188,slow=1.9,SNR=21						
BATI	**Baumata**	**17.41**	**245**	P	**Pn**	**09 14 46.4**	**+0.4**
WRAB	**Tennant Creek**	**17.66**	**197**	*d* / P	**Pn**	**09 14 45.8**	**-3.1**
WRAB	**Tennant Creek**	**17.66**	**197**	P	**Pn**	**09 14 45.4**	**-3.5**
	343nm,1.1s,3µm						
WRAB	**Tennant Creek**	**17.66**	**197**	*e*Pn	**Pn**	**09 14 45.4**	**-3.5**
	213nm,0.8s						
BUKP	**Musuan**	**18.07**	**307**	*e*P	**Pn**	**09 14 53.1**	**-1.0**
CTA	**Charters Tower**	**18.23**	**160**	*e*P	**Pn**	**09 14 55.9**	**0.0**
	19nm,0.6s						
CTA	**Charters Tower**	**18.23**	**160**	P	**Pn**	**09 14 56.2**	**+0.3**
	0.5nm,0.3s,baz=331,slow=12,SNR=16						
CTA				Lg		09 20 26.4	
	0.5nm,0.3s,baz=85,slow=17,SNR=6.0						
CTA	**Charters Tower**	**18.23**	**160**	*e*P	**Pn**	**09 14 55.9**	**0.0**
CTA				pmax	pmax		
	comp=Z,19nm,0.6s						
CTAO	**Charters Tower**	**18.23**	**160**	*e*P	**Pn**	**09 14 56.0**	**+0.1**
CTAO				pmax	pmax		
	comp=Z,49nm,0.9s						
CTAO	**Charters Tower**	**18.23**	**160**	P	**Pn**	**09 14 59.3**	**+3.4**
	comp=Z,85nm,1.6s,comp=Z,2µm						
CTAO	**Charters Tower**	**18.23**	**160**	*e*Pn	**Pn**	**09 14 56.0**	**+0.1**
	comp=Z,49nm,0.9s						
PAGZ	**Pagadian**	**19.43**	**304**	*e*P	**Pn**	**09 15 09.0**	**-1.3**
MSLP	**Maasin**	**19.62**	**312**	*e*P	**Pn**	**09 15 09.8**	**-2.9**
PCI	**Palu**	**19.88**	**275**	P	**Pn**	**09 15 20.4**	**+4.7**
KAPI	**Kappang**	**19.93**	**263**	P	**Pn**	**09 15 14.0**	**-2.4**
	comp=Z,2.6nm,0.3s,baz=123,slow=8.1,SNR=6.1						
KAPI	**Kappang**	**19.93**	**263**	P	**Pn**	**09 15 17.7**	**+1.4**
	comp=Z,75nm,1.3s,comp=Z,2µm						
KAPI	**Kappang**	**19.93**	**263**	P	**Pn**	**09 15 13.9**	**-2.4**
TBP	**Tagbilaran**	**20.10**	**309**	*e*P	**P**	**09 15 17.2**	**+1.1**
HNR	**Honiara**	**21.20**	**109**	P	**P**	**09 15 28.2**	**+0.2**
	comp=Z,148nm,0.9s,mb5.3,baz=139,slow=3.1,SNR=4.1						
HNR	**Honiara**	**21.20**	**109**	*e*P	**P**	**09 15 24.8**	**-3.2**
HNR				pmax	pmax		
	comp=Z,217nm,0.9s,mb5.5						
HNR	**Honiara**	**21.20**	**109**	*e*Pn	**P**	**09 15 24.8**	**-3.3**
	comp=Z,217nm,0.9s,mb5.5						
ASAR	**Alice Springs**	**21.33**	**195**	P	**P**	**09 15 28.0**	**-1.3**
	comp=Z,18nm,0.9s,mb4.4,baz=24,slow=10,SNR=107						
ASAR				S	**S**	**09 19 22.5**	**-0.8**
	comp=Z,10nm,1.0s,baz=19,slow=13,SNR=3.0						
ASAR	**Alice Springs**	**21.33**	**195**	P	**P**	**09 15 28.0**	**-1.3**
ASAR				S	**S**	**09 19 22.5**	**-0.8**
GUIM	**Jordan**	**21.66**	**309**	*e*P	**P**	**09 15 36.7**	**+3.8**
RCP	**Roxas**	**22.12**	**311**⇑	*e*P	**P**	**09 15 38.8**	**+1.0**
PVCP	**Virac**	**22.48**	**317**	*e*P	**P**	**09 15 43.9**	**+2.2**
MYLDM	**Lahad Datu**	**22.59**	**291**	P	**P**	**09 15 50.0**	**+7.2**
CUYO	**Cuyo Island**	**23.03**	**307**	*e*P	**P**	**09 15 40.2**	**-7.2**
OTRP	**Odiongan**	**23.17**	**311**	*e*P	**P**	**09 15 48.9**	**0.0**
SJMP	**San Jose**	**23.92**	**310**	*e*P	**P**	**09 15 56.3**	**+0.5**
KHKI	**Kahang-Kahang**	**24.49**	**256**	P	**P**	**09 16 00.7**	**-0.4**
BBKI	**Banjar Baru**	**24.75**	**268**	P	**P**	**09 16 06.0**	**+2.5**
	comp=Z,250nm,0.9s,comp=Z,5µm,mb5.7						
EIDS	**Eidsvold**	**24.88**	**155**	*e*P	**P**	**09 15 58.8**	**-5.7**
	comp=Z,345nm,0.8s,mb5.9						
KKM	**Kota Kinabalu**	**25.02**	**291**	*e*P	**P**	**09 15 56.9**	**-9.0**
BALP	**Baler**	**25.75**	**317**	*e*P	**P**	**09 16 07.5**	**-5.0**
KMMI	**Kalianget**	**25.88**	**260**	P	**P**	**09 16 19.2**	**+5.5**
	comp=Z,204nm,1.3s,comp=Z,3µm,mb5.5						
MBWA	**Marble Bar**	**26.51**	**225**	P	**P**	**09 16 21.8**	**+2.5**
	comp=Z,82nm,1.2s,mb5.1						
MBWA	**Marble Bar**	**26.51**	**225**	*e*P	**P**	**09 16 19.4**	**+0.1**
	comp=Z,154nm,1.5s,mb5.3						
STKA	**Stephens Creek**	**28.84**	**177**	*e*P	**P**	**09 16 40.2**	**+0.1**
	comp=Z,4.5nm,0.6s,mb4.4						
STKA	**Stephens Creek**	**28.84**	**177**	P	**P**	**09 16 39.9**	**-0.2**
	comp=Z,6.1nm,0.8s,mb4.4,baz=338,slow=8.3,SNR=11						
ARMA	**Armidale**	**29.60**	**159**	*e*P	**P**	**09 16 49.4**	**+2.6**
KSM	**Kuching**	**29.63**	**278**	*e*P	**P**	**09 16 45.3**	**-2.0**
FORT	**Forrest**	**29.77**	**200**	*e*P	**P**	**09 16 49.1**	**+0.8**
	comp=Z,28nm,0.7s,mb5.1						
NACB	**Ninganchiao**	**32.15**	**328**	*e*P	**P**	**09 17 06.2**	**-3.2**
	comp=Z,148nm,0.7s,mb5.9						
CNB	**Canberra Magne**	**33.46**	**165**	*e*P	**P**	**09 17 20.5**	**-0.1**
TOO	**Toolangi**	**34.88**	**172**	*e*P	**P**	**09 17 34.7**	**+1.7**
KLBR	**Kellerberrin**	**35.16**	**213**	*e*P	**P**	**09 17 34.4**	**-1.1**
	comp=Z,50nm,1.2s,mb5.3						
NWAO	**Narrogin (SRO)**	**36.47**	**213**	*e*P	**P**	**09 17 45.9**	**-0.7**
QIZ	**Qiongzhong**	**36.53**	**308**	P	**P**	**09 17 47.5**	**+0.1**
QIZ				XP	sP	09 17 56.8	-11
QIZ				PP	PP	09 19 07.5	-3.9
QIZ				S	**S**	**09 23 27.5**	**+1.3**
QIZ				XS	sS	09 23 41.3	-8.1
QIZ				AMB	AMB		
	comp=Z,19nm,2.0s,mb4.6						
QIZ				AMB	AMB		
	comp=Z,225nm,5.9s						
QIZ				LR	LR		
	comp=E,1µm,17.5s						
QIZ				LR	LR		
	comp=Z,3µm,19.0s,MS5.0						
QIZ	**Qiongzhong**	**36.53**	**308**	*e*P	**P**	**09 17 46.3**	**-1.1**
	comp=Z,24nm,1.1s,mb4.9						
SSE	**Sheshan**	**38.13**	**334**	P	**P**	**09 18 00.5**	**-0.2**
SSE				S	**S**	**09 23 53.0**	**+2.8**
SSE				AMB	AMB		
	comp=Z,23nm,0.7s,mb5.0						
SSE				AMB	AMB		
	comp=Z,216nm,4.0s						
SSE				LR	LR		
	comp=N,866nm,19.3s,MS4.8						
SSE				LR	LR		
	comp=E,1µm,19.9s,MS4.8						
SSE				LR	LR		
	comp=Z,2µm,18.4s,MS5.0						
MJAR	**Matsushiro Arr**	**39.30**	**358**	P	**P**	**09 18 09.1**	**-1.3**
	comp=Z,1.5nm,0.8s,baz=101,slow=6.6,SNR=3.4						
MAT	**Matsushiro**	**39.30**	**358**	P	**P**	**09 18 06.7**	**-3.7**
MAT				S	**S**	**09 24 07.0**	**-0.6**
NJ2	**Nanjing**	**40.00**	**332**	*e*P	**P**	**09 18 17.8**	**+1.5**
NJ2				AP	pP	09 18 27.5	-2.7
NJ2				PP	PP	09 19 54.3	+5.1
NJ2				S	**S**	**09 24 20.0**	**+1.7**
NJ2				XS	sS	09 24 36.5	-5.1
NJ2				AMB	AMB		
	comp=Z,20nm,1.2s,mb4.7						
NJ2				AMB	AMB		
	comp=Z,180nm,9.8s						
NJ2				LR	LR		
	comp=N,880nm,24.2s,MS4.9						
NJ2				LR	LR		
	comp=E,2µm,23.3s,MS4.9						
NJ2				LR	LR		
	comp=Z,22µm,23.3s,MS5.9						
SNG	**Songkhla**	**40.20**	**285**	P	**P**	**09 18 18.0**	**-0.3**
	comp=Z,140nm,0.7s,mb5.8						
KSRS	**Korea Array**	**41.63**	**346**	P	**P**	**09 18 30.8**	**+1.1**
	comp=Z,1.5nm,0.6s,baz=156,slow=8.5,SNR=7.0						
GYA	**Guiyang**	**43.23**	**315**	*e*P	**P**	**09 18 43.0**	**+0.1**
GYA				AP	pP	09 18 54.3	-2.6
GYA				XP	sP	09 18 58.3	-4.8
GYA				PP	PP	09 20 27.0	+2.8
GYA				PCP	PcP	09 20 33.5	+2.0
GYA				SCP	ScP	09 24 21.8	+3.3
GYA				AMB	AMB		
	comp=Z,40nm,1.0s,mb5.1						
GYA				AMB	AMB		
	comp=Z,250nm,4.2s						
GYA				LR	LR		
	comp=N,1µm,18.2s,MS4.9						
GYA				LR	LR		
	comp=E,1µm,19.4s,MS4.9						
GYA				LR	LR		
	comp=Z,1µm,18.8s,MS4.9						
COCO	**West Island**	**43.34**	**255**	*e*P	**P**	**09 18 38.6**	**-5.4**
	comp=Z,86nm,1.0s,mb5.4						
NANT	**Nan**	**43.97**	**301**	P	**P**	**09 18 47.5**	**-1.4**
DL2	**Dalian**	**44.83**	**340**	P	**P**	**09 18 59.0**	**+3.5**
DL2				AMB	AMB		
	comp=Z,190nm,6.3s						
DL2				LR	LR		
	comp=N,530nm,18.9s,MS4.6						
DL2				LR	LR		
	comp=E,420nm,17.4s,MS4.6						
DL2				LR	LR		
	comp=Z,740nm,19.8s,MS4.6						
CMAR	**Chiang Mai Arr**	**45.34**	**300**	P	**P**	**09 18 59.5**	**-0.4**
	comp=Z,9.4nm,0.9s,mb4.6,baz=121,slow=6.4,SNR=25						
CMAR	**Chiang Mai Arr**	**45.34**	**300**	*i* P	**P**	**09 18 59.5**	**-0.4**
CMAR				pmax	pmax		
	comp=Z,9.0nm,0.9s						
KMI	**Kunming**	**45.36**	**310**	P	**P**	**09 19 00.8**	**+0.8**
KMI				AP	pP	09 19 11.8	-2.2
KMI				XP	sP	09 19 15.8	-4.4
KMI				PCP	PcP	09 20 41.0	+2.2
KMI				PP	PP	09 20 48.5	+1.5
KMI				PPP		09 21 29.0	
KMI				AMB	AMB		
	comp=Z,14nm,1.4s,mb4.6						
KMI				AMB	AMB		
	comp=Z,81nm,4.4s						
KMI				LR	LR		
	comp=N,829nm,21.0s,MS4.9						
KMI				LR	LR		
	comp=E,1µm,16.4s,MS4.9						
KMI				LR	LR		
	comp=Z,2µm,17.2s,MS5.0						
CHG	**Chiang Mai**	**45.48**	**300**	⇑P	**P**	**09 19 00.1**	**-0.9**
	comp=Z,16nm,0.6s,mb5.0						
CHTO	**Chiang Mai**	**45.48**	**300**	*e*P	**P**	**09 19 00.0**	**-1.0**
CHTO				pmax	pmax		
	comp=Z,100nm,2.3s,mb5.2						
CHTO	**Chiang Mai**	**45.48**	**300**	*e*P	**P**	**09 19 00.0**	**-1.0**
	comp=Z,100nm,2.3s,mb5.2						
XAN	**Xi'an**	**46.79**	**324**	P	**P**	**09 19 12.5**	**+1.5**
XAN				XP	sP	09 19 24.3	-7.0
XAN				PP	PP	09 21 01.8	-0.1
XAN				AMB	AMB		
	comp=Z,9.0nm,1.2s,mb4.6						
XAN				AMB	AMB		
	comp=Z,271nm,6.9s						
XAN				LR	LR		
	comp=E,1µm,20.6s						
XAN				LR	LR		
	comp=Z,2µm,21.0s,MS5.0						
SNY	**Shenyang**	**46.88**	**344**	P	**P**	**09 19 10.3**	**-1.3**
SNY				AMB	AMB		
	comp=Z,7.0nm,0.5s,mb4.8						
SNY				AMB	AMB		
	comp=Z,470nm,9.4s						
SNY				LR	LR		
	comp=N,2µm,19.1s						
SNY				LR	LR		
	comp=Z,2µm,20.6s,MS5.0						
ASAJ	**Asahikawa**	**46.92**	**3**	P	**P**	**09 19 13.2**	**+1.3**
	comp=Z,9.7nm,0.8s,mb4.8,baz=111,slow=5.4,SNR=7.3						
BJI	**Beijing**	**47.87**	**336**	P	**P**	**09 19 19.0**	**-0.3**
BJI				PP	PP	09 21 11.5	-0.2
BJI				AMB	AMB		
	comp=Z,21nm,1.1s,mb5.1						
BJI				AMB	AMB		
	comp=Z,308nm,4.3s						
BJI				LR	LR		
	comp=N,2µm,19.5s,MS5.1						
BJI				LR	LR		
	comp=E,1µm,23.4s,MS5.1						
BJI				LR	LR		
	comp=Z,2µm,20.3s,MS5.1						
CD2	**Chengdu**	**47.96**	**317**⇑	*i* P	**P**	**09 19 21.0**	**+0.8**
CD2				AP	pP	09 19 30.8	-3.6
CD2				XP	sP	09 19 34.8	-5.8
CD2				PP	PP	09 21 12.3	-0.4
CD2				PCS	PcS	09 24 43.3	-0.3
CD2				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb4.8						
CD2				AMB	AMB		
	comp=Z,240nm,8.4s						
CD2				LR	LR		
	comp=N,1µm,21.6s,MS5.1						
CD2				LR	LR		
	comp=E,2µm,18.0s,MS5.1						
CD2				LR	LR		
	comp=Z,2µm,18.0s,MS5.2						
RAO	**Raoul Island**	**48.04**	**127**	LR	LR	09 37 18.5	
	comp=Z,1µm,21.3s,MS4.8,baz=114,slow=33						
MDJ	**Mudanjiang**	**48.19**	**350**	P	**P**	**09 19 23.5**	**+1.8**
MDJ				AP	pP	09 19 32.5	-3.4
MDJ				XP	sP	09 19 36.8	-5.2
MDJ				PP	PP	09 21 16.8	+2.3
MDJ				SCP	ScP	09 24 41.8	+3.2
MDJ				PCS	PcS	09 24 45.3	+1.3
MDJ				AMB	AMB		
	comp=Z,10.0nm,1.2s,mb4.7						
MDJ				AMB	AMB		
	comp=Z,193nm,4.0s						
MDJ				LR	LR		
	comp=N,1µm,19.6s,MS4.9						
MDJ				LR	LR		
	comp=E,516nm,19.6s,MS4.9						
MDJ				LR	LR		
	comp=Z,2µm,18.7s,MS5.1						
CN2	**Changchun**	**48.24**	**346**	*e*P	**P**	**09 19 24.3**	**+2.2**
CN2				*e*AP	pP	09 19 34.0	-2.3
CN2				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.9						
CN2				AMB	AMB		
	comp=Z,400nm,6.0s						
CN2				LR	LR		
	comp=N,1µm,18.0s,MS5.0						
CN2				LR	LR		
	comp=E,900nm,18.0s,MS5.0						
CN2				LR	LR		
	comp=Z,2µm,21.0s,MS5.0						
AFI	**Afiamalu**	**49.20**	**106**	P	**P**	**09 19 29.8**	**-0.2**
	comp=Z,24nm,0.8s,mb5.3,baz=109,slow=11,SNR=5.2						
AFI	**Afiamalu**	**49.20**	**106**	P	**P**	**09 19 29.8**	**-0.2**
YSS	**Yuzh-Sakhalins**	**49.76**	**3**	*e*P	**P**	**09 19 32.8**	**-0.9**
YSS				*e*S	**S**	**09 26 38.0**	**-1.0**
YSS				*e*SS	SS	09 30 08.0	-4.3
YSS				MLR	MLR		
	comp=N,600nm,20.0s						
YSS				MLR	MLR		
	comp=Z,1µm,20.0s,MS4.9						
YSS	**Yuzh-Sakhalins**	**49.76**	**3**	*e*P	**P**	**09 19 33.3**	**-0.4**
	comp=Z,38nm,1.1s,mb5.3						
LZH	**Lanzhou**	**51.21**	**323**	*e*P	**P**	**09 19 46.5**	**+1.6**
LZH				AP	pP	09 19 56.3	-2.9
LZH				XP	sP	09 19 58.5	-6.8
LZH				PP	PP	09 21 44.0	+1.8
LZH				AMB	AMB		
	comp=Z,53nm,1.5s,mb5.2						
LZH				AMB	AMB		
	comp=Z,130nm,4.0s						
LZH				LR	LR		
	comp=E,2µm,16.4s						
LZH				LR	LR		
	comp=Z,3µm,17.6s,MS5.4						
KLR	**Kul'dur**	**52.41**	**353**	*e*P	**P**	**09 19 49.7**	**-3.8**
GTA	**Gaotai**	**55.80**	**323**	*e*P	**P**	**09 20 19.0**	**+0.6**
GTA				AP	pP	09 20 28.5	-4.4
GTA				XP	sP	09 20 32.5	-6.5
GTA				AMB	AMB		
	comp=Z,177nm,6.3s						
GTA				LR	LR		
	comp=N,790nm,18.0s,MS5.0						
GTA				LR	LR		
	comp=E,892nm,17.7s,MS5.0						
GTA				LR	LR		
	comp=Z,1µm,18.3s,MS5.1						
PETK	**Petropavlovsk-**	**57.88**	**13**	P	**P**	**09 20 32.8**	**-0.1**
	comp=Z,5.4nm,0.8s,mb4.6,baz=163,slow=6.5,SNR=5.1						
PET	**Petropavlovsk**	**58.02**	**13**	*e*P	**P**	**09 20 39.1**	**+5.3**
PET				*e*S	**S**	**09 28 35.9**	**+5.5**
PET				*e*PS		09 28 54.5	
PET				*e*SS	SS	09 32 28.6	+6.1
PET				pmax	pmax		
	comp=Z,300nm,17.1s						
ULN	**Ulaanbaatar**	**58.06**	**335**	*e*P	**P**	**09 20 33.8**	**-0.4**
ULN				pmax	pmax		
	comp=Z,82nm,2.0s,mb5.4						
ULN	**Ulaanbaatar**	**58.06**	**335**	*e*P	**P**	**09 20 33.8**	**-0.4**
	comp=Z,82nm,2.0s,mb5.4						
SONM	**Songino Array**	**58.32**	**334**	P	**P**	**09 20 36.4**	**+0.4**
	comp=Z,2.3nm,0.5s,mb4.5,baz=154,slow=7.6,SNR=10.0						
TAPN	**Taplejung**	**58.35**	**305**	*e*P	**P**	**09 20 36.6**	**-0.1**
	comp=Z,70nm,1.2s,mb5.5						
ODAN	**Odare**	**58.43**	**304**	*e*P	**P**	**09 20 37.3**	**0.0**
	comp=Z,36nm,0.7s,mb5.5						
RAMN	**Ramite**	**59.12**	**304**	*e*P	**P**	**09 20 42.3**	**+0.2**
JIRN	**Jiri**	**59.72**	**304**	*e*P	**P**	**09 20 46.1**	**-0.1**
	comp=Z,48nm,0.9s,mb5.5						
GUN	**Gumba**	**60.07**	**305**	*e*P	**P**	**09 20 48.6**	**0.0**
	comp=Z,52nm,0.8s,mb5.6						
PKI	**Pulchoki**	**60.33**	**304**	*e*P	**P**	**09 20 49.9**	**-0.5**
	comp=Z,32nm,0.9s,mb5.3						
PKI	**Pulchoki**	**60.33**	**304**	*e*P	**P**	**09 20 50.0**	**-0.4**
PKIN	**Phulchoki**	**60.34**	**304**	*e*P	**P**	**09 20 50.0**	**-0.5**
KKN	**Kakani**	**60.52**	**304**	*e*P	**P**	**09 20 51.4**	**-0.3**
DMN	**Daman**	**60.60**	**304**	*e*P	**P**	**09 20 52.2**	**0.0**
	comp=Z,51nm,0.8s,mb5.7						
CLNS	**Chul'man**	**60.77**	**351**	*e*P	**P**	**09 20 52.1**	**-0.7**
CLNS				pmax	pmax		
	comp=Z,11nm,1.3s,mb4.8						
CLNS				pmax	pmax		
	comp=N,12nm,1.0s						
CLNS				pmax	pmax		
	comp=E,6.0nm,0.7s						
GKN	**Gorkha**	**61.12**	**304**	*e*P	**P**	**09 20 55.7**	**-0.1**
	comp=E,7.1nm,1.0s,mb5.8						
ZAK	**Zakamensk**	**61.58**	**334**	*e*P	**P**	**09 20 57.9**	**-0.5**
ZAK				pmax	pmax		
	comp=Z,33nm,1.4s,mb5.3						
KOLN	**Koldanda**	**61.90**	**304**	*e*P	**P**	**09 21 01.0**	**0.0**
	comp=Z,23nm,0.7s,mb5.4						
DANN	**Dangsing**	**61.97**	**304**	*e*P	**P**	**09 21 01.3**	**-0.2**
	comp=Z,56nm,0.8s,mb5.7						
TLY	**Talaya**	**62.40**	**336**	*e*P	**P**	**09 21 08.2**	**+4.3**
TLY				*e*S	**S**	**09 29 38.5**	**+12**
TLY				*e*		09 30 42.3	
TLY				pmax	pmax		
	comp=Z,33nm,1.6s,mb5.2						
TLY				MLR	MLR		
	comp=Z,1µm,19.0s,MS5.1						
IRK	**Irkutsk**	**62.57**	**336**	*e*P	**P**	**09 21 02.6**	**-2.4**
IRK				pmax	pmax		
	comp=Z,53nm,1.9s,mb5.3						
MOY	**Mondy**	**63.51**	**334**	*e*P	**P**	**09 21 14.7**	**+3.5**
DRV	**Dumont d'Urvil**	**63.60**	**180**	P	**P**	**09 21 12.0**	**+0.4**
DRV				S	**S**	**09 29 57.0**	**+16**
DRV				R		09 41 00.0	
BOD	**Bodaibo**	**63.97**	**345**	*e*P	**P**	**09 21 13.0**	**-1.1**
BOD				pmax	pmax		
	comp=Z,14nm,2.0s,mb4.7						
YAK	**Yakutsk**	**65.24**	**355**	*e*P	**P**	**09 21 21.8**	**-0.5**
YAK				pmax	pmax		
	comp=Z,28nm,0.9s,mb5.3						
YAK				pmax	pmax		
	comp=N,10.0nm,1.0s						
YAK	**Yakutsk**	**65.24**	**355**	*e*P	**P**	**09 21 23.1**	**+0.7**
	comp=N,33nm,0.8s,mb5.4						
WMQ	**Urumqi**	**65.76**	**321**⇑	*i* P	**P**	**09 21 26.3**	**+0.2**
WMQ				AP	pP	09 21 36.8	-4.0
WMQ				XP	sP	09 21 40.8	-6.1
WMQ				PCP	PcP	09 21 57.8	+0.9
WMQ				PP	PP	09 23 52.8	+1.4
WMQ				PPP		09 25 27.8	
WMQ				SCP		09 25 56.8	
WMQ				PCS		09 26 00.8	
WMQ				AMB	AMB		
	comp=Z,34nm,1.3s,mb5.2						
WMQ				AMB	AMB		
	comp=Z,287nm,4.4s						
WMQ				LR	LR		
	comp=N,627nm,21.2s,MS4.9						
WMQ				LR	LR		
	comp=E,399nm,19.5s,MS4.9						
WMQ				LR	LR		
	comp=Z,605nm,19.5s,MS4.8						
CASY	**Casey**	**66.44**	**192**	*e*P	**P**	**09 21 30.0**	**0.0**
KRAR	**Krasnoyarsk**	**69.99**	**334**‖	*i* P	**P**	**09 21 52.1**	**-0.3**
KRAR				pmax	pmax		
	comp=Z,45nm,0.6s,mb5.6						
MK31	**Makanchi Array**	**70.53**	**322**	*e*P	**P**	**09 21 56.3**	**+0.4**
MKAR	**Makanchi Array**	**70.53**	**322**	P	**P**	**09 21 55.3**	**-0.6**
	comp=Z,3.9nm,0.7s,mb4.5,baz=102,slow=8.3,SNR=21						
PPT	**Papeete**	**70.82**	**107**	*e*S	S	09 31 12.2	+2.4
PPT				*e*LQ		09 40 31.4	
	comp=Z,824nm,25.2s						
PPT				*e*LR	LR	09 43 29.9	
	comp=Z,3µm,30.2s						
PPT	**Papeete**	**70.82**	**107**	P	**P**	**09 21 57.3**	**-1.0**
	comp=Z,2µm,24.0s						
MIR	**Mirnyy**	**71.26**	**198**	*e*P	**P**	**09 22 00.0**	**0.0**
MIR				*i*		09 22 09.0	
MIR				pmax	pmax		
	comp=Z,200nm,2.0s,mb5.7						
TBI	**Tubuai**	**71.33**	**114**	*e*S	S	09 31 19.9	+4.4
	comp=Z,519nm,28.8s						
TBI				*e*LQ		09 40 45.1	
	comp=Z,2µm,35.5s						
TBI				*e*LR	LR	09 43 46.2	
	comp=Z,512nm,25.5s						
ZALV	**Zalesovo Beam**	**72.59**	**330**	P	**P**	**09 22 07.5**	**-0.7**
	comp=Z,2.5nm,0.5s,mb4.4,baz=105,slow=6.2,SNR=4.3						
BILL	**Bilibino**	**73.23**	**10**⇑	*i* P	**P**	**09 22 12.0**	**+0.3**
BILL				pmax	pmax		
	comp=Z,23nm,2.5s,mb4.7						
NVS	**Novosibirsk**	**73.84**	**330**	*e*P	**P**	**09 22 16.9**	**+1.4**
NVS				pmax	pmax		
	comp=Z,67nm,1.8s,mb5.3						
NVS				pmax	pmax		
	comp=N,20nm,1.5s						
NVS				pmax	pmax		
	comp=E,50nm,1.7s						
FRU	**Bishkek**	**73.98**	**316**	*e*	**P**	**09 22 18.0**	**+1.4**
KURK	**Kurchatov**

comp=Z,14nm,1.0s,mb5.1
AKTK Aktyubinsk 86.90 321 P P 09 23 27.0 +1.3
AKTO Aktyubinsk 86.90 321 P P 09 23 27.0 +1.3
comp=Z,1.2nm,0.7s,mb4.3,baz=67,slow=9.2,SNR=3.6
ARU Arti 87.49 327 *d iP* **P 09 23 27.0 -1.4**
ARU S SKSac 09 33 51.3 -0.3
ARU SS SS 09 39 53.4 +1.9
ARU pmax pmax
comp=Z,9.0nm,1.2s,mb4.9
EGAK Eagle 88.05 25 *eP* **P 09 23 31.6 +0.7**
comp=Z,25nm,1.0s,mb5.4
DAWY Dawson 88.68 26 *eP* **P 09 23 34.6 +0.7**
HYT Haines Junctio 89.07 29 *eP* **P 09 23 36.3 +0.5**
INK Inuvik 91.54 22 *eP* **P 09 23 51.3 +4.1**
comp=Z,875nm,1.6s
MAK Makhachkala 93.54 313 *eP* **P 09 23 56.5 -0.5**
MAK *e* 09 27 41.8
MAK *eS* SKSac 09 34 28.1 +1.0
MAK *eSS* SS 09 41 22.6 +3.0
MAK pmax pmax
comp=Z,27nm,0.5s,mb5.9
GNI Garni 95.62 310 *i iP* **P 09 24 04.4 -2.2**
GNI pmax pmax
comp=Z,22nm,1.7s
YKA Yellowknife Ar 99.86 27 LR LR 10 06 11.7
comp=Z,441nm,22.0s,MS4.9,baz=245,slow=33
ARCES ARCESS Array B 101.02 341 P Pdif 09 24 30.3 -0.2
comp=Z,2.8nm,0.8s,baz=78,slow=5.9,SNR=5.0
JCT Junction City 117.66 57 *e*PKIKP PKPdf 09 29 29.8 +2.3
BLO Bloomington 124.75 43 PKIKP PKPdf 09 29 41.8 +1.0
KIC Kosan Boka 144.33 277 *eP* PKPdf 09 30 15.6 -2.3
comp=Z,144nm,1.0s
DBIC Dimbokro 144.42 277 PKP PKPdf 09 30 15.2 -2.9
comp=Z,17nm,0.6s,baz=78,slow=4.0,SNR=37
TIC Toumodi 144.58 277 *eP* PKPdf 09 30 17.4 -1.0
comp=Z,116nm,0.9s
LIC Lamto 144.62 277 *eP* PKPdf 09 30 16.5 -2.0
comp=Z,147nm,1.5s
ROSC El Rosal 146.08 86 PKPbc PKPbc 09 30 22.8 +0.9
comp=Z,18nm,0.7s,baz=155,slow=2.6,SNR=13
ROSC El Rosal 146.08 86 *e*PKPbc PKPbc 09 30 24.0 +2.1
LPAZ La Paz 146.57 126 PKPbc PKPbc 09 30 23.5 +0.3
comp=Z,5.9nm,0.8s,baz=307,slow=1.9,SNR=24
LPAZ La Paz 146.57 126 *e*PKPdf PKPdf 09 30 23.3 +1.7
SDV Santo Domingo 149.35 78 *e*PKPdf PKPdf 09 30 27.9 +1.6

BJI **26** *09:17:01.3, 34.5S×139.95E, h30km, mB5.4, mb5.3, Ms5.2, Msz5.0*

NEIC **26** *09:17:04.9±0.2, 285.5S×139.57E, h10km, mb5.8/35, MW5.4, Error ellipse: s-maj=6.9km s-min=4.4km az=71.0, Moment Tensor Solution. s7 Moment tensor: Scale 10^17Nm; Mrr 1.30; Mθθ -0.42; Mφφ -0.88; Mrθ -1.10; Mθφ 0.66; Mrφ 0.33; Best double couple: M0 1.80000×10^17 NP1:φs 163.00000°, δ 31.00000°, λ 126.00000°. NP2:φs 302.00000°, δ 66.00000°, λ 71.00000°. Principal axes: T 1.8400, Plg64.0000°, Azm180.0000°; N -0.1800, Plg17.0000°, Azm310.0000°; P -1.6600, Plg18.0000°, Azm46.0000°;*

GCMT **26** *09:17:04.9±0.1, 285.5S×139.60E, h21km, MW5.5/103, Moment Tensor Solution. s78, c127; s103, c221; Duration: 1s4 Moment tensor: Scale 10^17Nm; Mrr 1.83±.05; Mθθ -1.52±.03; Mφφ -0.30±.04; Mrθ -1.43±.07; Mθφ 0.66±.02; Mrφ 0.31±.07; Best double couple: M0 2.33400×10^17 NP1:φs 120.00000°, δ 26.00000°, λ 102.00000°. NP2:φs 287.00000°, δ 64.00000°, λ 84.00000°. Principal axes: T 2.3590, Plg70.0000°, Azm184.0000°; N -0.0450, Plg5.0000°, Azm289.0000°; P -2.3090, Plg19.0000°, Azm21.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*

ISCJB **26** *09:17:06.4±0.2, 287.5S±003×139.63E±003, h31km, mb5.5/93, MS5.0/23 Error ellipse: s-maj=4.4km s-min=3.6km az=150.3*

MOS **26** *09:17:06.7±0.8, 286S×139.46E, h33km, mb5.5/28, Error ellipse: s-maj=12.2km s-min=6.4km az=100.4*

IDC **26** *09:17:08.2±4.7, 293S×139.54E, h33km±36km, mb4.7/18, mb1 4.8/22, mb1mx4.8/24, mbtmp4.8/22, ML4.7/3, MS5.1/7, Ms1 5.1/7, ms1mx4.3/23, Error ellipse: s-maj=17.7km s-min=11.7km az=68.0*

DJA **26** *09:17:11, 285S×139.69E, h41km, Mw5.7/17*

ISC 26 09:17:08.6±0.2, 287.5S±003×139.62E±003, h33km, h33km±1.2km:pP-P, n284, σ1s 08/278, mb5.5/93, MS5.0/23, 35C-17D, Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
MMPI	**Merauke**	**5.61**	**172**	P		**Pn**	**09 18 32.2**	**+2.4**
	8μm,0.9s,49nm							
TLE	**Tual**	**7.39**	**248**	*eP*		**Pn**	**09 18 57.0**	**+2.7**
SWI	**Sorong**	**8.59**	**283**	P		**Pn**	**09 19 13.2**	**+2.5**
	406nm,1.0s,1.1nm							
AAI	**Ambon**	**11.43**	**266**	*eP*		**Pn**	**09 19 49.4**	**-0.3**
AAI				*eS*		Sn	09 21 22.9	-34
AAI	**Ambon**	**11.43**	**266**	P		**Pn**	**09 19 50.3**	**+0.6**
	293nm,0.9s							
KAKA	**Kakadu**	**12.09**	**216**	*i*P		**Pn**	**09 19 51.8**	**-6.8**
	4μm,1.3s							
KAKA				*eS*		**Sn**	**09 22 02.5**	**-10**
LBMI	**Labuha**	**12.31**	**280**	P		**Pn**	**09 20 03.8**	**+2.0**
	830nm,1.1s							
MATI	**Mati**	**16.52**	**306**	*eP*		**Pn**	**09 21 00.1**	**+2.0**
KDI	**Kendari**	**17.00**	**266**	*eP*		**Pn**	**09 21 03.1**	**-1.0**
KDI				*eS*		**Sn**	**09 24 10.0**	**-2.3**
KDI	**Kendari**	**17.00**	**266**	*eP*		**Pn**	**09 21 03.1**	**-1.0**
KDI				*eS*		**Sn**	**09 24 10.0**	**-2.3**
KDI	**Kendari**	**17.00**	**266**	P		**Pn**	**09 21 04.4**	**+0.3**
	189nm,1.3s,3μm							
DAV	**Davao City (W)**	**17.14**	**305**	P		**Pn**	**09 21 11.0**	**+5.1**
	55nm,0.3s,baz=92,slow=8.4,SNR=4.3							
DAV				LR		LR	09 28 28.1	
	comp=Z,4μm,18.4s,baz=145,slow=40							
DAV	**Davao City (W)**	**17.14**	**305**	P		**Pn**	**09 21 11.0**	**+5.1**
DAV				LR		LR	09 28 28.1	
GUMO	**Guam**	**17.16**	**18**	P		**Pn**	**09 21 08.2**	**+2.1**
	2.4nm,0.3s,baz=207,slow=11,SNR=4.0							
BATI	**Baumata**	**17.44**	**245**	P		**Pn**	**09 21 09.3**	**-0.2**
	96nm,0.3s,baz=117,slow=4.2,SNR=20							
BATI	**Baumata**	**17.44**	**245**	P		**Pn**	**09 21 10.6**	**+1.1**
	372nm,0.6s,4μm							
WRAB	**Tennant Creek**	**17.72**	**196**	P		**Pn**	**09 21 13.0**	**0.0**
	4μm,0.9s,SNR=7.4							
WRAB	**Tennant Creek**	**17.72**	**196**	*i*P		**Pn**	**09 21 11.5**	**-1.5**
WRAB	**Tennant Creek**	**17.72**	**196**	*e*Pn		**Pn**	**09 21 11.8**	**-1.1**
	702nm,1.0s							
BUKP	**Musuan**	**18.02**	**306**	*eP*		**Pn**	**09 21 17.0**	**+0.3**
BUTP	**Butuan**	**18.25**	**310**	*eP*		**Pn**	**09 21 18.6**	**-0.9**
CTA	**Charters Tower**	**18.30**	**160**	P		**Pn**	**09 21 19.9**	**-0.1**
	1.2nm,0.3s,baz=315,slow=12,SNR=3.6							
CTA				Lg			09 26 46.2	
	0.9nm,0.3s,baz=348,slow=4.0,SNR=4.1							
CTA	**Charters Tower**	**18.30**	**160**	P		**Pn**	**09 21 19.9**	**-0.1**
CTA				Lg			09 26 46.2	
PAGZ	**Pagadian**	**19.38**	**303**	*eP*		**Pn**	**09 21 31.9**	**-1.3**
MSLP	**Maasin**	**19.57**	**312**	*eP*		**Pn**	**09 21 34.1**	**-1.3**
PCI	**Palu**	**19.87**	**275**	*eP*		**Pn**	**09 21 41.0**	**+2.0**
PCI	**Palu**	**19.87**	**275**	P		**Pn**	**09 21 40.4**	**+1.4**
	1μm,1.1s,8μm							
KAPI	**Kappang**	**19.93**	**263**	Pn		**Pn**	**09 21 38.3**	**-1.5**
	786nm,0.9s,SNR=10							
KAPI	**Kappang**	**19.93**	**263**	P		**Pn**	**09 21 38.4**	**-1.3**
	3.2nm,0.3s,baz=86,slow=4.7,SNR=11							
KAPI	**Kappang**	**19.93**	**263**	P		**Pn**	**09 21 39.3**	**-0.5**
	174nm,1.3s,2μm							
TBP	**Tagbilaran**	**20.05**	**309**	*eP*		**P**	**09 21 38.5**	**-0.8**
MKS	**Makassar**	**20.23**	**263**	*eP*		**P**	**09 21 43.3**	**+2.1**
OCLP	**Ormoc**	**20.36**	**313**	*eP*		**P**	**09 21 38.6**	**-3.9**
HNR	**Honiara**	**21.23**	**109**	P		**P**	**09 21 51.4**	**-0.6**
	222nm,0.9s,mb5.5,baz=284,slow=5.2,SNR=5.5							
HNR	**Honiara**	**21.23**	**109**	*eP*		**P**	**09 21 56.9**	**+4.9**
HNR				pmax		pmax		
	comp=Z,420nm,1.0s,mb5.7							
HNR	**Honiara**	**21.23**	**109**	*eP*		**P**	**09 21 56.9**	**+5.0**
	comp=Z,420nm,1.0s,mb5.7							
ASAR	**Alice Springs**	**21.40**	**194**	P		**P**	**09 21 52.0**	**-1.7**
	comp=Z,338nm,0.9s,mb5.7,baz=17,slow=8.6,SNR=22							
GUIM	**Jordan**	**21.61**	**309**	*eP*		**P**	**09 21 57.4**	**+1.3**
RCP	**Roxas**	**22.07**	**311**	*e*P		**P**	**09 22 02.6**	**+1.6**
PVCP	**Virac**	**22.43**	**317**	*eP*		**P**	**09 22 03.3**	**-1.5**
SMKI	**Samarinda**	**22.53**	**276**	P		**P**	**09 22 10.5**	**+4.6**
	comp=Z,591nm,1.3s,comp=Z,9μm,mb5.9							
MYLDM	**Lahad Datu**	**22.56**	**291**	P		**P**	**09 22 10.4**	**+4.2**
MYLDM	**Lahad Datu**	**22.56**	**291**	P		**P**	**09 22 09.9**	**+3.6**
TSM	**Tawau**	**22.87**	**288**	P		**P**	**09 22 10.8**	**+1.3**
CUYO	**Cuyo Island**	**22.99**	**307**	*eP*		**P**	**09 22 11.1**	**+0.4**
OTRP	**Odiongan**	**23.12**	**311**	*eP*		**P**	**09 22 11.5**	**-0.7**
AUQP	**San Andres**	**23.27**	**314**	*eP*		**P**	**09 22 15.1**	**+1.3**
SJMP	**San Jose**	**23.87**	**310**	*eP*		**P**	**09 22 19.6**	**+0.3**
SDKM	**Sandakan**	**23.94**	**291**	P		**P**	**09 22 22.2**	**+2.1**
BUSP	**Coron**	**24.31**	**308**	*eP*		**P**	**09 22 23.6**	**+0.2**
KHKI	**Kahang-Kahang**	**24.50**	**256**	P		**P**	**09 22 24.0**	**-1.2**
BATP	**Bataraza**	**24.65**	**298**	*eP*		**P**	**09 22 26.0**	**-0.5**
KDM	**Kudat**	**24.73**	**293**	P		**P**	**09 22 28.8**	**+1.5**
BBKI	**Banjar Baru**	**24.75**	**268**	P		**P**	**09 22 28.9**	**+1.5**
	comp=Z,623nm,1.3s,comp=Z,9μm,mb6.0							
EIDS	**Eidsvold**	**24.94**	**155**	*eP*		**P**	**09 22 28.9**	**-0.1**
	comp=Z,750nm,1.0s,mb6.2							
KKM	**Kota Kinabalu**	**24.99**	**291**	P		**P**	**09 22 30.2**	**+0.6**
KKM	**Kota Kinabalu**	**24.99**	**291**	P		**P**	**09 22 30.4**	**+0.7**
	comp=Z,140nm,1.6s,mb5.2							
KKM	**Kota Kinabalu**	**24.99**	**291**	*eP*		**P**	**09 22 28.8**	**-0.8**
LUBP	**Lubang**	**25.33**	**311**	*eP*		**P**	**09 22 31.7**	**-1.0**
PLKI	**Palangkaraya**	**25.66**	**271**	P		**P**	**09 22 43.6**	**+7.9**
BALP	**Baler**	**25.70**	**317**	*eP*		**P**	**09 22 36.8**	**+0.8**
KMMI	**Kalianget**	**25.88**	**260**	P		**P**	**09 22 39.7**	**+1.9**
	comp=Z,791nm,1.0s,comp=Z,5μm,mb6.2							
MBWA	**Marble Bar**	**26.55**	**225**	*eP*		**P**	**09 22 43.8**	**+0.1**
	comp=Z,176nm,1.0s,mb5.5							
BTM	**Bintulu**	**27.20**	**283**	P		**P**	**09 22 51.6**	**+1.9**
SBUM	**Sibu**	**27.89**	**281**	P		**P**	**09 22 57.1**	**+1.3**
SBUM	**Sibu**	**27.89**	**281**	P		**P**	**09 22 56.9**	**+1.0**
PBKI	**Pangkalan Bun**	**27.92**	**270**	P		**P**	**09 23 01.8**	**+5.7**
	comp=Z,324nm,1.1s,mb5.9							
SJI	**Sawahan**	**28.14**	**259**	P		**P**	**09 22 59.6**	**+1.5**
STKA	**Stephens Creek**	**28.91**	**177**	*eP*		**P**	**09 23 04.6**	**-0.1**
	comp=Z,24nm,0.9s,mb4.9							
STKA	**Stephens Creek**	**28.91**	**177**	P		**P**	**09 23 03.3**	**-1.3**
	comp=Z,15nm,0.7s,mb4.9,baz=15,slow=7.4,SNR=15							
STKA	**Stephens Creek**	**28.91**	**177**	*eP*		**P**	**09 23 04.4**	**-0.3**
KSM	**Kuching**	**29.62**	**278**	P		**P**	**09 23 12.1**	**+0.9**
KSM	**Kuching**	**29.62**	**278**	P		**P**	**09 23 13.4**	**+2.2**
	comp=Z,50nm,2.0s,comp=Z,945nm,mb4.9							
KSM	**Kuching**	**29.62**	**278**	*eP*		**P**	**09 23 11.0**	**-0.2**
ARMA	**Armidale**	**29.66**	**159**	*eP*		**P**	**09 23 12.4**	**+1.0**
ARMA	**Armidale**	**29.66**	**159**	*eP*		**P**	**09 23 11.0**	**-0.3**
	comp=Z,3.1nm,1.0s							
FORT	**Forest**	**29.83**	**200**	*eP*		**P**	**09 23 13.1**	**+0.3**
	comp=Z,80nm,0.7s,mb5.6							
CBIJ	**Chichi jima**	**29.89**	**5**	P		**P**	**09 23 13.2**	**-0.2**
	comp=Z,53nm,0.8s,mb5.3,baz=287,slow=19,SNR=2.4							
CBIJ				LR		LR	09 33 58.5	
	comp=Z,3μm,18.1s,MS5.0,baz=144,slow=34							
BJII	**Banjamegara**	**30.11**	**260**	P		**P**	**09 23 19.5**	**+3.9**
JOW	**Kunigami**	**31.50**	**340**	LR		LR	09 33 51.9	
	comp=Z,2μm,18.9s,MS4.8,baz=123,slow=32							
TPI	**Tanjungpandan**	**31.93**	**269**	*eP*		**P**	**09 23 32.0**	**+0.4**
TPI	**Tanjungpandan**	**31.93**	**269**	P		**P**	**09 23 32.5**	**+0.9**
	comp=Z,109nm,1.4s,comp=Z,1μm,mb5.5							
ADE	**Adelaide**	**31.94**	**181**	P		**P**	**09 23 31.1**	**-0.3**
NACB	**Ninganchiao**	**32.09**	**328**	*eP*		**P**	**09 23 31.7**	**-1.2**
	comp=Z,261nm,0.7s,mb6.2							
CBJI	**Citeko**	**32.84**	**263**	P		**P**	**09 23 45.3**	**+5.7**
	comp=Z,575nm,0.3s							
PPBI	**Pangkal Pinang**	**33.46**	**270**	P		**P**	**09 23 45.7**	**+0.7**
	comp=Z,100nm,1.3s,comp=Z,4μm,mb5.6							
CNB	**Canberra Magne**	**33.52**	**165**	*eP*		**P**	**09 23 45.6**	**+0.3**
QZH	**Quanzhou**	**34.37**	**325**	P		**P**	**09 23 58.0**	**+5.3**
QZH				AMB		AMB		
	comp=Z,180nm,1.2s,mb5.9							
TOO	**Toolangi**	**34.95**	**172**	*eP*		**P**	**09 23 58.5**	**+0.9**
KLBR	**Kellerberrin**	**35.22**	**213**	*eP*		**P**	**09 23 58.5**	**-1.5**
	comp=Z,34nm,0.5s,mb5.5							
JHJ	**Hachijo jima 2**	**35.80**	**0**	LR		LR	09 37 26.3	
	comp=Z,4μm,18.4s,MS5.2,baz=254,slow=34							
MYKOM	**Kota Tinggi**	**36.05**	**277**	P		**P**	**09 24 08.1**	**+0.7**
MYKOM	**Kota Tinggi**	**36.05**	**277**	P		**P**	**09 24 07.9**	**+0.4**
MUN	**Mundaring**	**36.38**	**215**	*eP*		**P**	**09 24 10.1**	**+0.2**
QIZ	**Qiongzhong**	**36.49**	**308**	P		**P**	**09 24 10.0**	**-1.0**
QIZ				S		**S**	**09 29 47.3**	**-3.9**
QIZ				LR		LR		
	comp=E,1μm,18.6s							
QIZ				LR		LR		
	comp=Z,2μm,19.6s,MS4.9							
QIZ	**Qiongzhong**	**36.49**	**308**	*eP*		**P**	**09 24 09.5**	**-1.5**
	comp=Z,98nm,1.4s,mb5.5							
NWAO	**Narrogin (SRO)**	**36.52**	**213**	*eP*		**P**	**09 24 11.7**	**+0.5**
NWAO				pmax		pmax		
	comp=Z,278nm,1.8s							
NWAO	**Narrogin (SRO)**	**36.52**	**213**	*eP*		**P**	**09 24 11.7**	**+0.5**
	comp=Z,278nm,1.8s,mb5.8							
KGM	**Kluang**	**36.61**	**277**	P		**P**	**09 24 12.5**	**+0.3**
KSI	**Kapahiang**	**36.97**	**268**	P		**P**	**09 24 14.8**	**-0.5**
	comp=Z,180nm,1.2s,mb5.8							
KTGM	**Kuala Trenggan**	**37.34**	**283**	P		**P**	**09 24 19.0**	**+0.6**
FRIM	**Kepong**	**38.46**	**279**	P		**P**	**09 24 28.0**	**+0.2**
PDSI	**Padang**	**39.18**	**272**	P		**P**	**09 24 32.5**	**-1.4**
	comp=Z,152nm,1.4s,mb5.5							
MJAR	**Matsushiro Arr**	**39.23**	**358**	P		**P**	**09 24 33.2**	**-0.7**
	comp=Z,2.9nm,0.8s,baz=174,slow=9.5,SNR=6.8							
MAJO	**Matsushiro**	**39.23**	**358**	*eP*		**P**	**09 24 36.6**	**+2.6**
MAJO				pmax		pmax		
	comp=Z,19nm,1.1s,mb4.7							
MAJO	**Matsushiro**	**39.23**	**358**	*eP*		**P**	**09 24 36.6**	**+2.7**
	comp=Z,19nm,1.1s,mb4.7							
MAT	**Matsushiro**	**39.23**	**358**	P		**P**	**09 24 32.1**	**-1.9**
IPM	**Ipoh**	**39.25**	**281**	P		**P**	**09 24 34.4**	**-0.1**
IPM	**Ipoh**	**39.25**	**281**	P		**P**	**09 24 34.0**	**-0.5**
	comp=Z,68nm,1.4s,comp=Z,878nm,mb5.2							
PPI	**Padang Panjang**	**39.27**	**273**	P		**P**	**09 24 33.7**	**-1.0**
	comp=Z,219nm,1.0s,comp=Z,2μm,mb5.8							
KULM	**Kulim**	**39.76**	**282**	P		**P**	**09 24 38.7**	**-0.1**
NJ2	**Nanjing**	**39.94**	**332**	*eP*		**P**	**09 24 40.0**	**+0.1**
NJ2				AP		pP	09 24 49.0	-0.6
NJ2				XP		sP	09 24 54.0	+0.5
NJ2				PP		PP	09 26 16.3	+4.1
NJ2				S		**S**	**09 30 42.0**	**-1.1**
NJ2				AMB		AMB		
	comp=Z,2μm,5.2s							
NJ2				LR		LR		
	comp=N,1μm,21.2s,MS5.1							
NJ2				LR		LR		
	comp=E,2μm,23.3s,MS5.1							
SNG	**Songkhia**	**40.18**	**285**	P		**P**	**09 24 42.0**	**-0.3**
	comp=E,300nm,0.8s,mb6.1							
TAU	**Tamania Unive**	**40.45**	**171**	P		**P**	**09 24 44.2**	**+0.2**
	comp=E,406nm,0.6s,mb6.3,SNR=9.7							
WHN	**Wuhan**	**41.06**	**326**	P		**P**	**09 24 50.5**	**+1.3**
WHN				LR		LR		
	comp=Z,4μm,17.6s,MS5.3							
KSRS	**Korea Array**	**41.57**	**346**	P		**P**	**09 24 53.3**	**0.0**
	comp=Z,3.9nm,0.7s,mb4.2,baz=156,slow=8.2,SNR=12							
KSRS				PcP		PcP	09 26 49.5	-0.7
	comp=Z,7.2nm,1.0s,baz=162,slow=4.6,SNR=5.7							
KSRS				LR		LR	09 40 18.6	
	comp=Z,2μm,18.6s,MS5.0,baz=160,slow=33							
GYA	**Guiyang**	**43.18**	**315**	P		**P**	**09 25 07.3**	**+0.7**
GYA				AP		pP	09 25 18.5	+2.2
GYA				PP		PP	09 26 50.5	+3.2
GYA				PCP		PcP	09 26 55.8	0.0
GYA				SCP		ScP	09 30 45.5	+0.7
GYA				S		**S**	**09 31 31.3**	**0.0**
GYA				XS		sS	09 31 47.3	0.0
GYA				AMB		AMB		
	comp=Z,40nm,1.0s,mb5.1							
GYA				AMB		AMB		
	comp=Z,290nm,4.8s							
GYA				LR		LR		
	comp=N,1μm,18.6s,MS5.0							
GYA				LR		LR		
	comp=E,1μm,19.0s,MS5.0							
GYA				LR		LR		
	comp=Z,1μm,18.4s,MS4.9							
NANT	**Nan**	**43.93**	**301**	P		**P**	**09 25 12.0**	**-0.8**
	comp=Z,281nm,1.0s,mb6.0							
DL2	**Dalian**	**44.76**	**340**	P		**P**	**09 25 19.8**	**+0.7**
DL2				S		**S**	**09 31 58.8**	**+4.8**
DL2				AMB		AMB		
	comp=Z,240nm,4.5s							
DL2				LR		LR		
	comp=N,530nm,18.3s,MS4.6							
DL2				LR		LR		
	comp=E,420nm,15.6s,MS4.6							
DL2				LR		LR		
	comp=E,740nm,19.8s,MS4.6							
CHRT	**Chiangrai**	**45.17**	**302**	P		**P**	**09 25 22.5**	**-0.1**
	comp=Z,184nm,1.0s,mb5.9							
CM31	**Chiang Mai Arr**	**45.30**	**300**	*e*P		**P**	**09 25 22.4**	**-1.3**
	comp=Z,7.7nm,0.5s,mb4.8							
CMAR	**Chiang Mai Arr**	**45.30**	**300**	P		**P**	**09 25 23.1**	**-0.6**
	comp=Z,24nm,0.9s,mb5.0,baz=121,slow=6.3,SNR=71							
KMI	**Kunming**	**45.32**	**310**	P		**P**	**09 25 24.5**	**+0.8**
KMI				AP		pP	09 25 34.5	+1.0
KMI				PCP		PcP	09 27 02.5	-0.6
KMI				PP		PP	09 27 11.3	+1.1
KMI				PPP			09 27 53.0	
KMI				SCP		ScP	09 30 53.0	-0.6
KMI				PCS		PcS	09 30 57.3	+0.1
KMI				S		**S**	**09 32 01.5**	**-0.9**
KMI				XS		sS	09 32 18.8	+0.2
KMI				SSS			09 35 11.8	
KMI				SCS		ScS	09 35 16.0	-2.5
KMI				AMB		AMB		
	comp=Z,29nm,1.0s,mb5.1							
KMI				AMB		AMB		
	comp=Z,226nm,3.5s							
KMI				LR		LR		
	comp=N,865nm,14.6s,MS5.0							
KMI				LR		LR		
	comp=E,1μm,16.6s,MS5.0							
KMI				LR		LR		
	comp=Z,2μm,16.6s,MS5.0							
CHG	**Chiang Mai**	**45.45**	**300**	P		**P**	**09 25 24.2**	**-0.7**
	comp=Z,29nm,0.9s,mb5.1							
CHTO	**Chiang Mai**	**45.45**	**300**	*eP*		**P**	**09 25 24.4**	**-0.5**
CHTO				pmax		pmax		
	comp=Z,40nm,1.2s,mb5.1							
CHTO	**Chiang Mai**	**45.45**	**300**	*eP*		**P**	**09 25 24.4**	**-0.4**
	comp=Z,40nm,1.2s,mb5.1							
XAN	**Xi'an**	**46.73**	**324**	P		**P**	**09 25 34.5**	**-0.2**
XAN				AP		pP	09 25 43.8	-0.7
XAN				XP		sP	09 25 47.8	-0.7
XAN				PP		PP	09 27 24.3	-0.7
XAN				S		**S**	**09 32 23.0**	**+0.5**
XAN				XS		sS	09 32 38.5	-0.2
XAN				SCS		ScS	09 35 27.3	0.0
XAN				SS		SS	09 35 51.3	+2.0
XAN				LR		LR		
	comp=N,257nm,22.5s,MS4.5							
XAN				LR		LR		
	comp=E,459nm,19.9s,MS4.5							
XAN				LR		LR		
	comp=Z,1μm,21.4s,MS4.9							
SNY	**Shenyang**	**46.82**	**344**	P		**P**	**09 25 35.5**	**+0.2**
SNY				S		**S**	**09 32 27.0**	**+3.5**
SNY				AMB		AMB		
	comp=Z,659nm,5.6s							
SNY				LR		LR		
	comp=N,1μm,19.1s,MS5.0							
SNY				LR		LR		
	comp=E,689nm,15.2s,MS5.0							
SNY				LR		LR		
	comp=Z,2μm,19.2s,MS5.0							
ASAJ	**Asahikawa**	**46.85**	**3**	P		**P**	**09 25 36.2**	**+0.7**
	comp=Z,13nm,0.8s,mb4.9,baz=195,slow=16,SNR=8.0							
ASAJ				LR		LR	09 47 24.5	
	comp=Z,1μm,18.1s,MS4.9,baz=193,slow=39							
BJT	**Baijiatuan**	**47.80**	**336**	*eP*		**P**	**09 25 42.6**	**-0.3**
BJT				pmax		pmax		
	comp=Z,63nm,0.8s							
BJT	**Baijiatuan**	**47.80**	**336**	*eP*		**P**	**09 25 42.6**	**-0.3**
	comp=Z,63nm,0.8s,mb5.7							
BJI	**Beijing**	**47.81**	**336**	P		**P**	**09 25 43.0**	**0.0**
BJI				S		**S**	**09 32 39.5**	**+1.8**
BJI				AMB		AMB		
	comp=Z,67nm,1.0s,mb5.6							
BJI				AMB		AMB		
	comp=Z,170nm,3.6s							
BJI				LR		LR		
	comp=N,2μm,19.6s							
BJI				LR		LR		
	comp=E,959nm,25.1s							
BJI				LR		LR		
	comp=Z,3μm,20.0s,MS5.2							
CD2	**Chengdu**	**47.91**	**317**	*i*P		**P**	**09 25 44.0**	**0.0**
CD2				AP		pP	09 25 54.0	+0.2
CD2				XP		sP	09 25 58.0	+0.3
CD2				PP		PP	09 27 35.3	-0.9
CD2				PCS		PcS	09 31 07.3	-0.6
CD2				S		**S**	**09 32 37.5**	**-1.9**
CD2				XS		sS	09 32 54.3	-1.3
CD2				SCS		ScS	09 35 32.0	-3.2
CD2				AMB		AMB		
	comp=Z,30nm,1.2s,mb5.2							
CD2				AMB		AMB		
	comp=Z,360nm,9.6s							
CD2				LR		LR		
	comp=N,1μm,19.2s,MS5.2							
CD2				LR		LR		
	comp=E,2μm,19.2s,MS5.2							
CD2				LR		LR		
	comp=Z,2μm,18.0s,MS5.2							
MDJ	**Mudanjiang**	**48.12**	**350**	P		**P**	**09 25 46.0**	**+0.7**
MDJ				AP		pP	09 25 55.3	+0.1
MDJ				XP		sP	09 25 58.5	-0.6
MDJ				PP		PP	09 27 37.5	-0.4
MDJ				SCP		ScP	09 31 05.0	+0.1
MDJ				PCS		PcS	09 31 08.3	+0.1
MDJ				S		**S**	**09 32 44.

GTA XP sP 09 26 56.5 +0.4
GTA S **S** **09 34 27.5 +0.7**
GTA XS sS 09 34 44.5 +1.2
GTA AMB AMB
comp=Z,153nm,6.0s
GTA LR LR
comp=N,746nm,18.0s,MS4.9
GTA LR LR
comp=E,533nm,17.4s,MS4.9
GTA LR LR
comp=Z,824nm,19.2s,MS4.8
LSA Lhasa 56.52 309 P **P** **09 26 49.0 +1.0**
LSA AMB AMB
comp=Z,30nm,1.0s,mb5.3
LSA Lhasa 56.52 309 *eP* **P** **09 26 48.6 +0.6**
LSA pmax pmax
comp=Z,43nm,1.2s,mb5.3
LSA Lhasa 56.52 309 *eP* **P** **09 26 48.6 +0.6**
comp=Z,43nm,1.2s,mb5.3
PETK Petropavlovsk- 57.81 13 P **P** **09 26 57.4 +0.7**
comp=Z,12nm,0.8s,mb5.0,baz=172,slow=5.4,SNR=11
PET Petropavlovsk 57.95 13 *eP* **P** **09 26 59.2 +1.6**
PET *e* 09 27 49.7
PET *eS* **S** **09 34 57.6 +2.1**
PET pmax pmax
comp=Z,10.0nm,0.9s,mb4.8
PET MLR MLR
comp=Z,1μm,15.0s,MS5.1
PET Petropavlovsk 57.95 13⇓ *iP* **P** **09 26 57.4 -0.2**
ULN Ulaanbaatar 57.99 335⇑ *iP* **P** **09 26 58.8 +0.7**
ULN Ulaanbaatar 57.99 335 *eP* **P** **09 26 58.6 +0.6**
comp=Z,160nm,2.2s,mb5.7
SONM Songino Array 58.25 334 P **P** **09 27 00.0 +0.2**
comp=Z,4.7nm,0.8s,mb4.5,baz=153,slow=8.0,SNR=14
TAPN Taplejung 58.31 305 *eP* **P** **09 27 00.8 +0.1**
comp=Z,132nm,1.1s,mb5.9
ODAN Odare 58.39 304 *eP* **P** **09 27 01.2 0.0**
comp=Z,104nm,0.9s,mb5.9
BOK Bokaro 58.59 300 *eP* **P** **09 27 03.0 +0.3**
RAMN Ramite 59.08 304 *eP* **P** **09 27 06.1 +0.1**
comp=Z,127nm,1.0s,mb5.9
JIRN Jiri 59.68 304 *eP* **P** **09 27 10.1 -0.1**
comp=Z,105nm,1.1s,mb5.8
GUN Gumba 60.03 305 *eP* **P** **09 27 12.7 +0.1**
comp=Z,128nm,1.0s,mb5.9
PKI Pulchoki 60.29 304 *eP* **P** **09 27 14.0 -0.4**
comp=Z,47nm,0.8s,mb5.6
PKI Pulchoki 60.29 304 *eP* **P** **09 27 14.0 -0.4**
PKI pmax pmax
comp=Z,47nm,0.8s,mb5.6
PKIN Phulchoki 60.30 304 *eP* **P** **09 27 13.8 -0.7**
comp=Z,35nm,1.0s,mb5.3
KKN Kakani 60.48 304 *eP* **P** **09 27 15.5 -0.1**
comp=Z,144nm,1.0s,mb6.0
KKN Kakani 60.48 304 *eP* **P** **09 27 15.5 -0.1**
KKN pmax pmax
comp=Z,144nm,1.0s,mb6.0
DMN Daman 60.55 304 *eP* **P** **09 27 16.3 +0.1**
comp=Z,132nm,1.0s,mb6.0
CLNS Chul'man 60.70 351 *eP* **P** **09 27 17.3 +0.7**
CLNS *e**PP pP 09 27 25.4 -1.3
CLNS *e* 09 28 03.0
CLNS *e* 09 29 27.2
CLNS *eS* **S** **09 35 27.3 -3.7**
CLNS pmax pmax
comp=Z,44nm,0.9s,mb5.6
CLNS pmax pmax
comp=E,17nm,0.8s
CLNS pmax pmax
comp=N,30nm,1.1s
CLNS pmax pmax
comp=Z,5.0nm,0.9s,mb4.6
CLNS pmax pmax
comp=E,8.0nm,0.9s
CLNS pmax pmax
comp=N,4.0nm,0.8s
CLNS smax
comp=E,142nm,18.8s
CLNS smax
comp=N,249nm,13.5s
CLNS Chul'man 60.70 351 *eP* **P** **09 27 17.4 +0.8**
MDRS Chennai 61.01 287 *eP* **P** **09 27 20.2 +0.7**
MDRS AMb AMB 09 27 23.7
comp=Z,90nm,0.2s,mb6.6
GKN Gorkha 61.08 304 *eP* **P** **09 27 19.6 -0.2**
comp=Z,185nm,1.0s,mb6.2
ZAK Zakamensk 61.52 334⇑ *iP* **P** **09 27 22.7 +0.4**
ZAK pmax pmax
comp=Z,35nm,1.5s,mb5.3
KOLN Koldanda 61.86 304 *eP* **P** **09 27 25.0 0.0**
comp=Z,64nm,0.8s,mb5.8
DANN Dangsing 61.93 304 *eP* **P** **09 27 25.3 -0.2**
comp=Z,82nm,0.8s,mb5.9
TLY Talaya 62.34 336 *eP* **P** **09 27 28.3 +0.6**
TLY pmax pmax
comp=Z,48nm,1.9s,mb5.3
TLY Talaya 62.34 336⇑ *iP* **P** **09 27 28.2 +0.5**
IRK Irkutsk 62.51 336 *eP* **P** **09 27 22.1 -6.7**
IRK pmax pmax
comp=Z,66nm,3.4s
HYB Hyderabad 63.48 291 *i* P **P** **09 27 34.0 -2.0**
HYB Hyderabad 63.48 291 *eP* **P** **09 27 34.0 -2.0**
BOD Bodaibo 63.90 345 *eP* **P** **09 27 37.9 -0.1**
BOD pmax pmax
comp=Z,32nm,2.4s,mb4.9
YAK Yakutsk 65.17 355 *eP* **P** **09 27 45.6 -0.6**
YAK pmax pmax
comp=Z,90nm,0.9s,mb5.8
YAK pmax pmax
comp=N,46nm,1.2s
YAK Yakutsk 65.17 355 *eP* **P** **09 27 47.0 +0.8**
comp=N,110nm,0.9s,mb5.9
WMQ Urumqi 65.70 321⇑ *iP* **P** **09 27 50.5 +0.5**
WMQ AP pP 09 28 01.0 +0.8
WMQ PCP PcP 09 28 22.0 +0.8
WMQ PP PP 09 30 17.0 +2.1
WMQ PPP 09 31 52.0
WMQ SCP 09 32 21.0
WMQ PCS 09 32 25.0
WMQ S S 09 36 32.0 -1.9
WMQ XS sS 09 36 49.5 -1.2
WMQ SCS ScS 09 37 40.0 -3.5
WMQ AMB AMB
comp=Z,41nm,1.0s,mb5.4
WMQ AMB AMB
comp=Z,324nm,4.5s
WMQ LR LR
comp=N,717nm,19.5s,MS4.9
WMQ LR LR
comp=E,410nm,22.0s,MS4.9
WMQ LR LR
comp=Z,624nm,25.3s,MS4.7
BHPL Bhopal 65.86 297 *eP* **P** **09 27 49.6 -1.8**
SEY Seymchan 66.34 6⇓ *iP* **P** **09 27 54.3 +0.6**
SEY Seymchan 66.34 6⇓ *iP* **P** **09 27 54.4 +0.7**
CASY Casey 66.51 192 *eP* **P** **09 27 54.2 -0.6**
DDI Dehra Dun 67.28 304 *eP* **P** **09 27 59.0 -1.4**
NDI New Delhi 67.49 303 *ex* **P** **09 27 58.0 -3.8**
POO Poona 68.09 291⇑ *ix* **P** **09 28 02.0 -3.7**
comp=Z,90nm,1.0s,mb5.8
THN Thein Dam 69.82 306 *eP* **P** **09 28 14.1 -2.1**
MK31 Makanchi Array 70.47 322 *iP* **P** **09 28 19.1 -0.8**
MK31 pmax pmax
comp=Z,49nm,1.0s,mb5.4
MK31 Makanchi Array 70.47 322 *eP* **P** **09 28 19.9 0.0**
MKAR Makanchi Array 70.47 322 P **P** **09 28 19.7 -0.2**
comp=Z,17nm,1.0s,mb5.0,baz=110,slow=6.0,SNR=33
MKAR Makanchi Array 70.47 322 *iP* **P** **09 28 19.7 -0.2**
MKAR pmax pmax
comp=Z,17nm,1.0s
MIR Mirnyy 71.32 198⇑ *iP* **P** **09 28 25.0 +0.3**
MIR *i* pP 09 28 35.0 0.0
MIR *i* 09 28 49.0
ZAA0 Zalesovo Array 72.53 330 *eP* **P** **09 28 30.9 -1.2**
ZALV Zalesovo Beam 72.53 330 P **P** **09 28 30.4 -1.8**
comp=Z,3.3nm,0.5s,mb4.5,baz=106,slow=5.3,SNR=11
BHJ Bhuj 72.83 295 *eP* **P** **09 28 33.5 -1.1**
BILL Bilibino 73.16 10*c iP* **P** **09 28 35.6 0.0**
BILL pmax pmax
comp=Z,26nm,1.3s,mb5.0
BILL Bilibino 73.16 10⇑ *iP* **P** **09 28 35.7 +0.1**
KZA Kyzart 73.24 315 P **P** **09 28 37.8 +1.2**
SNR=20
TKM2 Tokmak 2 73.29 316 P **P** **09 28 37.1 +0.3**
SNR=8.9

NVS Novosibirsk 73.78 330 *eP* **P** **09 28 38.4 -1.2**
NVS pmax pmax
comp=Z,85nm,1.8s,mb5.4
NVS pmax pmax
comp=N,27nm,1.5s
NVS pmax pmax
comp=E,33nm,1.4s
AAK Ala-Archa 73.95 316 P **P** **09 28 41.6 +0.8**
SNR=7.9
USP Ospenovka 74.16 316 P **P** **09 28 42.0 0.0**
SNR=13
AML Almayashu 74.35 315 P **P** **09 28 44.5 +1.4**
SNR=12
KURK Kurchatov 74.37 325 P **P** **09 28 42.2 -0.9**
comp=E,5.2nm,0.8s,mb4.5,baz=114,slow=5.7,SNR=18
KURK Kurchatov 74.37 325⇑ *eP* **P** **09 28 42.3 -0.8**
KURK pmax pmax
comp=Z,22nm,1.4s,mb4.9
KURK Kurchatov 74.37 325 P **P** **09 28 42.2 -0.9**
TIXI Tiksi 74.72 356 *eP* **P** **09 28 42.9 -1.8**
TIXI pmax pmax
comp=Z,28nm,1.0s,mb5.2
TIXI Tiksi 74.72 356 *eP* **P** **09 28 43.9 -0.7**
comp=Z,29nm,1.1s,mb5.1
KBL Kabul 75.75 307 *eP* **P** **09 28 50.4 -1.0**
KBL pmax pmax
comp=Z,20nm,1.0s,mb5.0
KBL Kabul 75.75 307 *eP* **P** **09 28 50.4 -1.0**
comp=Z,20nm,1.0s,mb5.0
SBA Scott Base 76.30 174 *eP* **P** **09 28 54.3 +0.6**
SBA pmax pmax
comp=Z,75nm,1.4s,mb5.4
SBA Scott Base 76.30 174 *eP* **P** **09 28 54.3 +0.6**
comp=Z,75nm,1.4s,mb5.4
KK31 Karatay Array 76.88 315 *i* P **P** **09 28 56.5 -1.1**
KK31 pmax pmax
comp=Z,13nm,0.8s,mb4.9
KK31 Karatay Array 76.88 315 *i* P **P** **09 28 56.6 -1.0**
CHGN Chignik 77.27 30 *eP* **P** **09 29 00.1 +0.6**
VOSK Vostochnaya 79.53 325 P **P** **09 29 11.5 -0.6**
VOSK pmax pmax
comp=Z,81nm,2.2s,mb5.3
BVAR Borovoye Array 79.96 325 P **P** **09 29 13.7 -0.7**
comp=Z,16nm,0.9s,mb4.9,baz=117,slow=5.2,SNR=32
BRVK Borovoye 80.03 325⇑ *eP* **P** **09 29 14.1 -0.7**
comp=Z,186nm,1.1s,mb5.9,SNR=10
BRVK Borovoye 80.03 325 *eP* **P** **09 29 14.2 -0.6**
OHAK Old Harbor 80.23 31 *eP* **P** **09 29 13.7 -2.1**
SVW2 Sparrevohn 80.61 26 *eP* **P** **09 29 19.0 +1.3**
MAW Mawson 82.32 202 *eP* **P** **09 29 27.6 +0.9**
comp=Z,15nm,0.9s,mb4.9
MAW Mawson 82.32 202 P **P** **09 29 25.8 -0.9**
comp=Z,22nm,1.0s,mb5.0,baz=50,slow=5.9,SNR=9.9
MAW Mawson 82.32 202 *eP* **P** **09 29 27.6 +0.9**
MAW pmax pmax
comp=Z,15nm,0.9s
SLKM Skilak Lake 82.85 28 *eP* **P** **09 29 28.3 -1.2**
IMA2 Indian Mountai 83.35 22 *eP* **P** **09 29 32.4 +0.4**
PMR Palmer 83.69 27 *eP* **P** **09 29 33.5 -0.4**
PMR pmax pmax
comp=Z,74nm,1.5s,mb5.6
PMR Palmer 83.69 27 *eP* **P** **09 29 33.5 -0.4**
comp=Z,74nm,1.5s,mb5.6
ABKT Ailbek 85.05 308 P **P** **09 29 41.7 +0.4**
comp=Z,179nm,1.1s,mb6.1,SNR=8.5
COLA College 85.24 24*d iP* **P** **09 29 40.8 -0.8**
COLA College 85.24 24 *i* P **P** **09 29 40.8 -0.8**
AB31 Akbulak array 85.43 320 *i* P **P** **09 29 40.8 -2.1**
MENT Mentasta 86.50 26 *eP* **P** **09 29 48.8 +0.9**
AKTK Aktyubinsk 86.85 321 P **P** **09 29 49.8 -0.1**
AKTO Aktyubinsk 86.85 321 P **P** **09 29 49.8 -0.1**
comp=Z,2.5nm,0.6s,mb4.6,baz=69,slow=8.6,SNR=4.2
QSPA South Pole Qui 87.08 180 LR LR 10 06 11.2
comp=Z,2μm,18.4s,MS5.6,baz=13,slow=34
ARU Arti 87.43 327*d iP* **P** **09 29 50.2 -2.4**
ARU *e* 09 33 18.9
ARU S S 09 40 14.6 -16
ARU SS SS 09 46 14.5 -1.9
ARU pmax pmax
comp=Z,19nm,1.2s,mb5.2
ARU Arti 87.43 327⇑ *eP* **P** **09 29 50.2 -2.4**
EGAK Eagle 87.99 25 *eP* **P** **09 29 55.2 +0.1**
comp=Z,77nm,1.1s,mb5.8
DAWY Dawson 88.62 26 *eP* **P** **09 29 58.7 +0.6**
HYT Haines Junctio 89.01 29 *eP* **P** **09 30 00.4 +0.5**
HYT *e*pP pP 09 30 08.8 -1.7
SKAG Skagway 89.93 31 *eP* **P** **09 30 04.6 +0.3**
comp=Z,61nm,1.4s,mb5.7
INK Inuvik 91.48 22 *eP* **P** **09 30 11.1 -0.2**
comp=Z,457nm,1.2s
DLBC Dease Lake 92.61 32 *eP* **P** **09 30 17.2 +0.4**
QRN Al-Qurain 92.86 298 *eP* **P** **09 30 17.3 -1.3**
baz=298
QRN AMb AMB 09 30 19.9
comp=Z,26nm,0.9s,mb5.7,baz=298
RDF Al-Radifah 93.18 299 *eP* **P** **09 30 17.9 -2.3**
baz=299
RDF AMb AMB 09 30 21.4
comp=Z,22nm,0.9s,mb5.6,baz=299
MIB Mutribah 93.39 300 *eP* **P** **09 30 19.3 -1.7**
baz=300
MIB AMb AMB 09 30 31.5
comp=Z,36nm,1.2s,mb5.7,baz=300
NAY Al-Naaiem 93.46 299 *eP* **P** **09 30 19.4 -2.1**
baz=299
NAY AMb AMB 09 30 22.6
comp=Z,22nm,1.0s,mb5.5,baz=299
JCW Jim Creek 97.77 42 *eP* **P** **09 30 40.8 +0.2**
JCW *e*pP pP 09 30 47.7 -3.4
RPW Rockport 98.03 42 *eP* **P** **09 30 41.3 -0.5**
OBN Obninsk 99.81 325⇓ *eP* Pdif 09 30 48.1 -1.4
OBN pmax pmax
comp=Z,9.0nm,0.8s,mb5.2
OBN Obninsk 99.81 325⇓ *iP* Pdif 09 30 48.2 -1.3
WVOR Wild Horse Val 100.60 48 *eP* Pdif 09 30 53.6 +0.5
WVOR pmax pmax
comp=Z,5.0nm,0.9s
WVOR Wild Horse Val 100.60 48 *ePdif* Pdif 09 30 53.6 +0.6
comp=Z,4.9nm,0.9s
ARCES ARCESS Array B 100.96 341 P Pdif 09 30 52.7 -2.0
comp=Z,5.2nm,0.8s,baz=28,slow=5.5,SNR=5.7
RES Resolute Bay 101.66 13 *eP* Pdif 09 30 56.6 -1.2
VNA2 Neumayer--Watz 103.20 191 *ePdiff* Pdif 09 31 04.5 -0.2
VNA2 *e* 09 31 14.8
VNA3 Neumayer Olymp 103.34 190 *ePdiff* Pdif 09 31 04.4 -0.8
VNA3 *e* 09 31 15.4
HLID Hailey 103.53 46 *ePdif* Pdif 09 31 08.0 +1.9
CLL Collm 114.37 326 *ePP* PP 09 36 44.0 +3.1
CLL Lm 09 28 00.0
comp=N,500nm,19.0s
CLL Lm 09 28 00.0
comp=E,700nm,18.5s
CLL Lm 09 28 00.0
comp=Z,1μm,18.6s
CLL *e*(PPPP) 09 40 43.0
CLL *e*PS PS 09 46 19.0 -0.5
CLL *e*PPS 09 47 24.0
CLL *e*SS SS 09 52 30.0 -0.6
CLL *e*PSPS 09 53 12.0
CLL *ex* x 09 55 42.0
TXAR Lajitas Array 114.60 59 PKP PKiKP 09 35 45.1 -1.1
comp=Z,0.5nm,0.9s,baz=229,slow=0.7,SNR=4.2
TXAR PKKPbc PKKPbc 09 46 28.8 +3.9
comp=Z,1.9nm,1.1s,baz=104,slow=5.3,SNR=6.3
JCT Junction City 117.63 57 *ePKIKP* PKPdf 09 35 51.1 -0.9
TOA0 Torodi Ar. Sit 137.17 286 *ePKPdf* PKPdf 09 36 30.7 +1.1
KIC Kosan Boka 144.31 277 *ePKP1* PKPdf 09 36 39.6 -2.9
comp=Z,478nm,1.2s
DBIC Dimbokro 144.41 277 PKP PKPdf 09 36 39.9 -2.8
comp=Z,49nm,0.8s,baz=74,slow=4.6,SNR=64
DBIC Dimbokro 144.41 277 *ePKPdf* PKPdf 09 36 39.8 -2.8
TIC Toumodi 144.57 277 *ePKP1* PKPdf 09 36 40.4 -2.5
comp=Z,441nm,1.2s
LIC Lamto 144.61 277 *ePKP1* PKPdf 09 36 40.5 -2.5
comp=Z,335nm,1.5s
ROSC El Rosal 146.07 86 PKPbc PKPbc 09 36 46.8 +0.4
comp=Z,26nm,0.7s,baz=108,slow=1.5,SNR=16
LPAZ La Paz 146.62 126 PKPbc PKPbc 09 36 47.6 -0.3
comp=Z,11nm,1.0s,baz=237,slow=1.7,SNR=27
SDV Santo Domingo 149.34 77 *ePKPdf* PKPdf 09 36 49.7 -1.2

IDC 26 09:29:59.7±7.5, 1808N×14618E, h191km±44km, mb3.4/2, mb1 3.4/4, mb1mx3.1/18, mbtmp3.3/4, Error ellipse:
s-maj=226.6km s-min=20.7km az=89.0, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**4.63**	**196**	P	Pn	09 31 09.6	+0.3
	3.6nm,0.3s,baz=346,slow=17,SNR=2.6						
GUMO				S	Sn	09 32 03.7	-0.2
	14nm,0.3s,baz=3.2,slow=21,SNR=6.3						
MJAR	**Matsushiro Arr**	**19.69**	**341**	P	P	09 34 15.3	+0.9
	0.4nm,0.3s,baz=169,slow=10,SNR=5.1						
ASAR	**Alice Springs**	**43.18**	**197**	P	P	09 37 42.5	+0.7
	0.4nm,0.6s,baz=13,slow=6.9,SNR=6.1						
ARCES	**ARCESS Array B**	**83.22**	**342**	P	P	09 42 03.0	-1.2
	3.5nm,0.9s,baz=72,slow=8.6,SNR=5.1						

*ISCJB **26** 09:31:26.9±1.1, 4743N±010×1532E±01, h68km±9km, mb3.7/10, Error ellipse: s-maj=20.7km s-min=6.3km az=139.1*
*MOS **26** 09:31:26.6±1.8, 4737N×15328E, h69km, mb4.1/10, Error ellipse: s-maj=16.1km s-min=8.9km az=57.5*
*IDC **26** 09:31:28.9±4.7, 4742N×15299E, h76km±41km, mb3.5/5, mb1 3.7/6, mb1mx3.5/18, mbtmp3.5/6, ML3.3/1, Error ellipse: s-maj=36.3km s-min=26.8km az=113.0*
ISC 26 09:31:29.2±0.9, 4744N±009×1533E±01, h71km±8km, n30, σ1§20/35, mb3.7/10, 6C-1D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**3.74**	**29**	*e*PN	**Pn**	**09 32 24.0**	**-0.4**
SKR				*eS*	**Sn**	**09 33 06.0**	**-1.2**
SKR				pmax	pmax		
	comp=Z,80nm,0.6s						
SKR				smax			
	comp=N,150nm,0.5s						
SKR				smax			
	comp=E,90nm,0.5s						
KUR	**Kuril'sk**	**4.35**	**242**	*e*PN	**Pn**	**09 32 27.5**	**-5.3**
KUR				*eS*	**Sn**	**09 33 17.0**	**-5.2**
KUR				pmax	pmax		
	comp=Z,260nm,0.9s						
KUR				smax			
	comp=N,430nm,0.9s						
KUR				smax			
	comp=E,280nm,0.9s						
YUK	**Yuzh-Kuril'sk**	**6.21**	**239**	PN	**Pn**	**09 32 56.2**	**-1.9**
YUK				*eS*	**Sn**	**09 34 15.7**	**+8.0**
YUK				smax			
	comp=N,340nm,0.6s						
YUK				smax			
	comp=E,200nm,0.5s						
PETK	**Petropavlovsk-**	**6.34**	**25**	P	**Pn**	**09 33 01.1**	**+1.2**
	comp=E,0.7nm,0.3s,baz=174,slow=10,SNR=9.2						
PET	**Petropavlovsk**	**6.57**	**30**	*e*PN	**Pn**	**09 33 02.9**	**0.0**
YSS	**Yuzh-Sakhalins**	**7.19**	**270**⇑	*i*PN	**Pn**	**09 33 11.9**	**+0.4**
YSS				pmax	pmax		
	comp=Z,50nm,0.4s						
ASAJ	**Asahikawa**	**8.18**	**250**	P	**Pn**	**09 33 25.8**	**+0.8**
	comp=Z,0.7nm,0.3s,baz=64,slow=14,SNR=7.7						
ASAJ				S	**Sn**	**09 34 55.4**	**-0.4**
	baz=282,slow=10,SNR=2.5						
ASAJ	**Asahikawa**	**8.18**	**250**	PN	**Pn**	**09 33 25.8**	**+0.8**
ASAJ				S	**Sn**	**09 34 55.4**	**-0.4**
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ERM	**Erimo**	**9.02**	**237**⇑	*i*PN	**Pn**	**09 33 36.2**	**-0.3**
MJAR	**Matsushiro Arr**	**15.60**	**231**	P	**Pn**	**09 35 06.3**	**+1.7**
	comp=Z,0.4nm,0.3s,baz=36,slow=8.9,SNR=9.5						
KSRS	**Korea Array**	**21.12**	**251**	P	**P**	**09 36 10.0**	**+2.1**
	comp=Z,2.4nm,0.7s,mb3.6,baz=56,slow=10,SNR=6.0						
KSRS	**Korea Array**	**21.12**	**251**	P	**P**	**09 36 10.0**	**+2.1**
KSRS				pmax	pmax		
	comp=Z,2.0nm,0.7s,mb3.6						
TIXI	**Tiksi**	**26.84**	**343**⇑	*i*P	**P**	**09 37 04.0**	**+1.6**
TIXI				pmax	pmax		
	comp=Z,7.0nm,2.3s,mb3.8						
ULN	**Ulaanbaatar**	**30.79**	**288**	*i* P	**P**	**09 37 37.3**	**-0.4**
TLY	**Talaya**	**31.98**	**296**⇑	*i*P	**P**	**09 37 48.8**	**+0.7**
TLY				pmax	pmax		
	comp=Z,4.0nm,1.3s,mb4.0						
COLA	**College**	**35.53**	**39**⇓	*i*P	**P**	**09 38 20.3**	**+1.6**
COLA				*i* *PP	pP	09 38 45.3	+9.5
KURK	**Kurchatov**	**47.09**	**303**⇑	*i*P	**P**	**09 39 51.1**	**-2.4**
KURK				pmax	pmax		
	comp=Z,2.0nm,1.3s,mb3.7						
CMAR	**Chiang Mai Arr**	**52.65**	**256**	*i* P	**P**	**09 40 36.9**	**+0.8**
CMAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
PDAR	**Pinedale Array**	**64.25**	**54**	P	**P**	**09 41 57.2**	**+0.7**
	comp=Z,0.6nm,0.9s,mb3.4,baz=356,slow=1.9,SNR=4.2						
PDAR				pP	pP	09 42 13.2	-1.8
	comp=Z,1.1nm,0.8s,baz=323,slow=2.2,SNR=6.7						
NOA	**NORSAR Array B**	**67.62**	**341**	P	**P**	**09 42 16.9**	**-0.8**
	comp=Z,0.6nm,0.5s,mb3.7,baz=27,slow=6.1,SNR=6.4						
NOA	**NORSAR Array B**	**67.62**	**341**	P	**P**	**09 42 17.0**	**-0.8**
NOA				pmax	pmax		
	comp=Z,1.0nm,0.5s						
WRAB	**Tennant Creek**	**69.19**	**199**⇑	*i*P	**P**	**09 42 25.0**	**-3.0**
AKASG	**Malin Array Be**	**71.04**	**326**	P	**P**	**09 42 37.5**	**-1.6**
	comp=Z,0.6nm,0.3s,mb3.9,baz=32,slow=5.7,SNR=2.9						
AKASG	**Malin Array Be**	**71.04**	**326**	P	**P**	**09 42 37.5**	**-1.6**
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ASAR	**Alice Springs**	**72.90**	**199**	P	**P**	**09 42 49.2**	**-1.2**
	comp=Z,0.8nm,0.7s,mb3.7,baz=9.4,slow=5.6,SNR=14						
ASAR	**Alice Springs**	**72.90**	**199**	P	**P**	**09 42 49.2**	**-1.2**
ASAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
BRG	**Berggiesshubel**	**76.01**	**335**	*e*P	**P**	**09 43 08.0**	**-0.2**
BRG				pmax	pmax		
	comp=Z,1.0nm,0.8s,mb3.6						
BRG	**Berggiesshubel**	**76.01**	**335**	*e*(P)	**P**	**09 43 08.0**	**-0.2**
	comp=Z,1.8nm,0.8s,mb3.8						
TXAR	**Lajitas Array**	**77.05**	**61**	P	**P**	**09 43 14.9**	**+0.4**
	comp=Z,0.5nm,0.5s,mb3.5,baz=290,slow=4.7,SNR=12						
TXAR				pP	pP	09 43 31.3	-2.3
	comp=Z,1.6nm,0.6s,baz=299,slow=4.8,SNR=17						
TXAR	**Lajitas Array**	**77.05**	**61**	P	**P**	**09 43 14.9**	**+0.4**
TXAR				*PP	pP	09 43 31.3	-2.3
TXAR				pmax	pmax		
	comp=Z,1.0nm,0.5s						

*IDC **26** 09:53:17.1±1.5, 283S×13924E, h0km, mb3.8/3, mb1 3.9/3, mb1mx3.7/12, mbtmp3.8/3, MS3.6/2, Ms1 3.6/2, ms1mx2.9/24, Error ellipse: s-maj=64.2km s-min=19.4km az=94.0*
*ISCJB **26** 09:53:20.7±1.2, 31S±01×1386E±02, h33km, mb3.5/2, Error ellipse: s-maj=31.9km s-min=15.1km az=170.2*
*NEIC **26** 09:53:22.9±0.7, 306S×13868E, h35km, mb3.7/2, Error ellipse: s-maj=22.1km s-min=11.0km az=86.0*
ISC 26 09:53:22.8±1.2, 31S±01×1387E±02, h35km, n11, σ0§52/8, mb3.7/3, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KAKA	**Kakadu**	**11.42**	**213**	*e*P	**Pn**	**09 56 03.3**	**-0.2**
	48nm,0.5s						
WRAB	**Tennant Creek**	**17.30**	**194**	*e*Pn	**Pn**	**09 57 21.5**	**-0.3**
	15nm,0.9s						
GUMO	**Guam**	**17.64**	**20**	LR	LR	10 02 50.7	
	comp=Z,157nm,18.2s,baz=269,slow=33						
CTAO	**Charters Tower**	**18.46**	**157**	*e*P	**Pn**	**09 57 36.0**	**0.0**
	1.6nm,0.6s						
ASAR	**Alice Springs**	**21.00**	**192**	P	**P**	**09 58 04.2**	**+0.8**
	4.0nm,0.7s,mb3.9,baz=26,slow=9.8,SNR=20						
ASAR				S	**S**	**10 02 06.5**	**+11**
	0.7nm,0.8s,baz=21,slow=21,SNR=4.1						
STKA	**Stephens Creek**	**28.79**	**175**	P	**P**	**09 59 17.2**	**-0.3**
	0.7nm,0.6s,mb3.6,baz=354,slow=10,SNR=4.5						
STKA				LR	LR	10 11 25.0	
	comp=Z,152nm,18.5s,baz=111,slow=38						
MK31	**Makanchi Array**	**70.06**	**322**	P	**P**	**10 04 30.5**	**-0.7**
MKAR	**Makanchi Array**	**70.06**	**322**	P	**P**	**10 04 32.0**	**+0.7**
	0.3nm,0.5s,mb3.5,baz=107,slow=7.1,SNR=4.3						
DBIC	**Dimbokro**	**143.52**	**277**	PKP	PKPdf	10 12 55.4	+0.4
	2.5nm,0.8s,baz=64,slow=3.2,SNR=6.0						
LPAZ	**La Paz**	**147.25**	**127**	PKPbc	PKPbc	10 13 04.3	+0.8
	0.4nm,0.4s,baz=210,slow=3.3,SNR=3.7						
LPAZ	**La Paz**	**147.25**	**127**	PKPbc	PKPbc	10 13 04.3	+0.8

*ISCJB **26** 09:55:21.2±1.3, 2432S±007×17983W±009, h495km±18km, mb4.2/15, Error ellipse: s-maj=14.6km s-min=8.7km*

az=33.1
*NEIC **26** 09:55:22.0±1.3,2440S×17971W,h493km±16km,mb4.5/12, Error ellipse: s-maj=15.3km s-min=11.4km az=131.0*
*IDC **26** 09:55:24.6±2.6,2454S×17984W,h515km±28km,mb3.7/9, mb1 3.9/10,mb1mx3.7/16,mbtmp3.7/10,Error ellipse: s-maj=19.6km s-min=15.2km az=10.0*

ISC 26 09:55:21.0±1.1,2437S±007×17972W±010,h480km±15km, n38,σ1§12/37,mb4.2/15,South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**12.82**	**37**	P	**P**	**09 58 09.1**	**+0.5**
	2.7nm,0.3s,baz=266,slow=14,SNR=6.3						
AFI				S	**S**	**10 00 24.8**	**-1.9**
	8.9nm,0.3s,baz=217,slow=24,SNR=14						
AFI	**Afiamalu**	**12.82**	**37**	P	**P**	**09 58 09.1**	**+0.5**
AFI				S	**S**	**10 00 24.8**	**-2.0**
URZ	**Urewera**	**14.11**	**190**	P	**P**	**09 58 23.4**	**+1.5**
	3.3nm,0.3s,baz=302,slow=3.1,SNR=19						
URZ				S	**S**	**10 00 50.8**	**-0.4**
	2.6nm,0.3s,baz=49,slow=23,SNR=19						
SNZO	**South Karori**	**17.52**	**194**	*e*P	**P**	**09 58 56.6**	**-1.0**
	76nm,0.9s						
RPZ	**Rata Peaks**	**20.73**	**199**	P	**P**	**09 59 25.4**	**-1.7**
	23nm,0.6s,baz=15,slow=3.5,SNR=15						
CNB	**Canberra Magne**	**28.84**	**241**	*e*P	**P**	**10 00 40.9**	**+1.5**
CTA	**Charters Tower**	**31.74**	**271**	*e*P	**P**	**10 01 06.1**	**+1.5**
	5.2nm,0.3s,mb4.4						
CTA	**Charters Tower**	**31.74**	**271**	P	**P**	**10 01 05.7**	**+1.1**
	7.7nm,0.5s,mb4.4,baz=94,slow=10,SNR=17						
CTAO	**Charters Tower**	**31.74**	**271**	*e*P	**P**	**10 01 05.3**	**+0.7**
	6.8nm,0.4s,mb4.4						
TOO	**Toolangi**	**32.41**	**238**	*e*P	**P**	**10 01 11.2**	**+1.0**
TAU	**Tasmania Unive**	**32.80**	**228**	*e*P	**P**	**10 01 13.2**	**-0.2**
	12nm,0.4s,mb4.7						
STKA	**Stephens Creek**	**34.79**	**249**	*e*P	**P**	**10 01 31.1**	**+0.7**
	5.5nm,0.6s,mb4.2						
STKA	**Stephens Creek**	**34.79**	**249**	P	**P**	**10 01 30.9**	**+0.5**
	5.7nm,0.6s,mb4.2,baz=97,slow=9.4,SNR=16						
STKA				PcP	PcP	10 03 50.5	-0.2
	2.3nm,0.6s,baz=72,slow=8.5,SNR=5.4						
STKA	**Stephens Creek**	**34.79**	**249**	*e*P	**P**	**10 01 30.7**	**+0.3**
	8.5nm,0.8s,mb4.2						
ASAR	**Alice Springs**	**42.21**	**261**	P	**P**	**10 02 30.7**	**-0.3**
	2.7nm,0.5s,mb4.0,baz=96,slow=6.5,SNR=21						
ASAR				S	**S**	**10 08 12.8**	**-3.1**
	0.7nm,0.8s,baz=100,slow=14,SNR=5.2						
WRAB	**Tennant Creek**	**42.62**	**267**	*e*P	**P**	**10 02 33.6**	**-0.7**
	6.8nm,0.7s,mb4.2						
FORT	**Forrest**	**46.39**	**250**	*e*P	**P**	**10 03 02.6**	**-0.7**
	29nm,0.5s,mb5.0						
SBA	**Scott Base**	**53.92**	**184**	*e*P	**P**	**10 04 00.1**	**+2.1**
	63nm,1.9s,mb4.6						
KLBR	**Kellerberrin**	**55.05**	**247**	*e*P	**P**	**10 04 06.2**	**-0.4**
	65nm,1.5s,mb4.7						
MBWA	**Marble Bar**	**55.55**	**260**	*e*P	**P**	**10 04 09.2**	**-1.1**
MUN	**Mundaring**	**56.28**	**247**	*e*P	**P**	**10 04 14.9**	**-0.3**
CASY	**Casey**	**59.80**	**206**	*e*P	**P**	**10 04 37.1**	**-1.5**
	3.1nm,0.5s,mb4.0						
QSPA	**South Pole Qui**	**65.71**	**180**	P	**P**	**10 05 18.0**	**+1.3**
	9.7nm,0.7s,mb4.5,baz=30,slow=1.4,SNR=31						
MAW	**Mawson**	**77.40**	**200**	P	**P**	**10 06 25.1**	**-0.2**
	6.4nm,0.6s,mb4.4,baz=104,slow=5.7,SNR=5.0						
MAW	**Mawson**	**77.40**	**200**	*e*P	**P**	**10 06 25.4**	**+0.1**
	10nm,0.7s,mb4.5						
SNAA	**Sanae**	**84.19**	**179**	*e*	**P**	**10 06 59.2**	**-1.3**
SNAA				*e*		10 07 09.2	
SNAA	**Sanae**	**84.19**	**179**	*e*P	**P**	**10 06 59.1**	**-1.4**
	2.2nm,0.8s,mb3.7						
VNA3	**Neumayer Olymp**	**84.39**	**177**	*e*	**P**	**10 07 00.9**	**-0.6**
VNA3				*e*		10 07 11.6	
VNA2	**Neumayer--Watz**	**84.81**	**177**	*e*	**P**	**10 07 03.2**	**-0.4**
	baz=193,slow=3.3						
VNA2				*e*		10 07 12.2	
CMAR	**Chiang Mai Arr**	**89.93**	**290**	P	**P**	**10 07 30.4**	**+1.7**
	0.6nm,0.3s,mb3.9,baz=134,slow=3.5,SNR=4.1						
TXAR	**Lajitas Array**	**90.46**	**58**	P	**P**	**10 07 31.7**	**+0.8**
	0.9nm,0.7s,mb3.7,baz=212,slow=6.0,SNR=13						
PDAR	**Pinedale Array**	**92.85**	**44**	P	**P**	**10 07 42.8**	**+1.2**
	0.3nm,0.7s,mb3.4,baz=318,slow=1.2,SNR=2.8						
PDAR	**Pinedale Array**	**92.85**	**44**	P	**P**	**10 07 42.8**	**+1.2**
MKAR	**Makanchi Array**	**112.66**	**312**	PKiKP	PKiKP	10 13 00.9	-1.2
	0.3nm,0.4s,baz=110,slow=1.4,SNR=4.5						
ARCES	**ARCESS Array B**	**132.40**	**348**	PKP	PKPdf	10 13 38.4	-0.8
	2.9nm,0.9s,baz=73,slow=1.6,SNR=7.6						
AKASG	**Malin Array Be**	**145.50**	**327**	PKPbc	PKPbc	10 14 03.8	-0.9
	1.2nm,0.3s,baz=42,slow=3.4,SNR=7.9						
CLL	**Collm**	**151.38**	**343**	*i* PKPbc	PKPbc	10 14 19.2	-0.3
	comp=Z,5.0nm,0.7s						
TORD	**Torodi Ar. Bea**	**168.76**	**187**	PKPab	PKPab	10 15 45.1	-1.2
	comp=Z,165nm,0.3s,baz=175,slow=4.0,SNR=1.6						

*NEIC **26** 10:46:21.9,3970N×2075E,h29km,MD3.3(ATH),After ATH.*
*ATH **26** 10:46:21.9,3970N×2075E,h29km,MD3.3/5*
*CSEM **26** 10:46:22.7±0.1,3977N×2082E,h25km,MD3.3,Error ellipse: s-maj=5.9km s-min=2.3km az=89.0*
*ISCJB **26** 10:46:23.5±0.5,3967N±003×2075E±005,h24km±4km, Error ellipse: s-maj=6.2km s-min=5.4km az=162.6*
*THE **26** 10:46:23.1,3976N×2070E,h0km±4km,ML3.6/1,Error ellipse: s-maj=4.4km s-min=1.4km az=190.0*
*TIR **26** 10:46:24.1±0.3,4038N×1967E,h7km*
*SKO **26** 10:46:25.3,3981N×2085E,h0km*

ISC 26 10:46:23.6±0.5,3967N±004×2075E±005,h22km±4km,n23, σ0§95/37,Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JAN	**Janina**	**0.08**	**98**	*e*Pb	**Pb**	**10 46 27.1**	**-0.5**
JAN				*e*Sb	**Sb**	**10 46 30.9**	**+0.5**
JAN	**Janina**	**0.08**	**98**	*e*Pb	**Pb**	**10 46 27.1**	**-0.5**
JAN				*e*SB	**Sb**	**10 46 30.9**	**+0.5**
MEV	**Metsovon**	**0.39**	**72**	P	**Pb**	**10 46 30.7**	**-1.1**
MEV				S	**Sb**	**10 46 37.6**	**+0.2**
SRN	**Sarande**	**0.62**	**290**	*e*PG	**Pb**	**10 46 35.5**	**-0.2**
SRN				*i* SG	**Sb**	**10 46 43.8**	**-0.1**
KEK	**Kerkira**	**0.74**	**274**	*e*Pn	**Pn**	**10 46 36.5**	**-2.1**
KEK	**Kerkira**	**0.74**	**274**	*e*PN	**Pn**	**10 46 36.5**	**-2.1**
KBN	**Korca**	**0.95**	**2**	*e*PG	**Pb**	**10 46 41.8**	**+0.4**
LKD	**Levkas**	**0.96**	**185**	P	**Pb**	**10 46 42.8**	**+1.2**
THL	**Klokotos Trika**	**0.98**	**96**	*e*Pn	**Pn**	**10 46 41.0**	**-1.0**
THL	**Klokotos Trika**	**0.98**	**96**	*e*PN	**Pn**	**10 46 41.0**	**-1.0**
EVR	**Evrytania**	**1.11**	**132**	*e*Pn	**Pn**	**10 46 43.6**	**-0.2**
EVR				*e*SN	**Sn**	**10 46 58.9**	**+0.5**
EVR	**Evrytania**	**1.11**	**132**	*e*PN	**Pn**	**10 46 43.6**	**-0.2**
EVR				*e*SN	**Sn**	**10 46 58.9**	**+0.5**
FNA	**Florina**	**1.21**	**23**	P	**Pn**	**10 46 43.8**	**-1.4**
FNA				S	**Sn**	**10 47 01.0**	**+0.1**
BIA	**Bitola**	**1.42**	**18**	*e*Pg	**Pn**	**10 46 47.3**	**-0.8**
BIA				*e*Sg	**Sn**	**10 47 04.8**	**-1.2**
BIA	**Bitola**	**1.42**	**18**	*e*Pg	**Pn**	**10 46 47.2**	**-0.8**
BIA				*e*Sg	**Sn**	**10 47 04.8**	**-1.2**
OHR	**Ohrid**	**1.44**	**1**	*e*Pg	**Pn**	**10 46 48.7**	**+0.3**
OHR				*e*Sg	**Sn**	**10 47 06.7**	**+0.1**
OHR	**Ohrid**	**1.44**	**1**	*e*Pg	**Pn**	**10 46 48.6**	**+0.2**
OHR	**Ohrid**	**1.44**	**1**	P	**Pn**	**10 46 48.9**	**+0.5**
OHR				*e*Sg	**Sn**	**10 47 06.6**	**0.0**
OHR				S	**Sn**	**10 47 08.4**	**+1.8**
VLS	**Valsamata**	**1.49**	**185**	*e*Pn	**Pn**	**10 46 49.6**	**+0.5**
VLS	**Valsamata**	**1.49**	**185**	*e*PN	**Pn**	**10 46 49.6**	**+0.5**
KRUS	**Krusevo**	**1.74**	**12**	*e*Pg	**Pn**	**10 46 53.6**	**+1.1**
KRUS				*e*Sg	**Sn**	**10 47 16.0**	**+2.0**
KRUS	**Krusevo**	**1.74**	**12**	*e*Pg	**Pn**	**10 46 53.5**	**+1.0**
KRUS				*e*Sg	**Sn**	**10 47 16.0**	**+2.0**
QSH	**Qafa e Shtames**	**1.96**	**341**	*e*PN	**Pn**	**10 46 56.5**	**+1.0**

*IDC **26** 10:49:59.2±3.2,3.19N×7637W,h175km±15km,mb3.5/2, mb1 3.6/5,mb1mx3.3/19,mbtmp3.7/5, Error ellipse: s-maj=87.3km s-min=20.9km az=125.0*
*ISCJB **26** 10:50:00.1±3.9,32N±05×762W±08,h191km±12km, mb3.6/2,Error ellipse: s-maj=146.2km s-min=14.0km az=32.6*

ISC 26 10:50:00.4±3.8,32N±04×763W±07,h184km±13km,n6, σ1§26/7,mb3.6/2,Colombia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ROSC	**El Rosal**	**2.55**	**51**	P	**Pn**	**10 50 44.8**	**+0.9**
	73nm,0.3s,baz=284,slow=1.6,SNR=92						
ROSC				S	**Sn**	**10 51 18.4**	**+0.7**
	6.0nm,0.3s,baz=84,slow=20,SNR=5.0						
SDV	**Santo Domingo**	**7.96**	**45**	P	**Pn**	**10 51 53.0**	**-0.2**
	1.6nm,0.3s,baz=242,slow=10,SNR=31						
SDV				S	**Sn**	**10 53 20.9**	**-1.7**
	0.3nm,0.3s,baz=262,slow=22,SNR=2.7						
ATAH	**Atahualpa**	**10.38**	**192**	P	**Pn**	**10 52 24.0**	**-0.9**
	0.5nm,0.3s,baz=26,slow=7.7,SNR=5.7						
DBIC	**Dimbokro**	**71.22**	**84**	P	**P**	**11 01 00.9**	**+0.8**
	1.9nm,0.7s,mb3.9,baz=261,slow=4.9,SNR=4.1						
TORD	**Torodi Ar. Bea**	**77.59**	**77**	P	**P**	**11 01 37.0**	**+0.2**
	0.5nm,0.7s,mb3.3,baz=287,slow=5.5,SNR=4.1						
ASAR	**Alice Springs**	**144.44**	**232**	PKP	PKPdf	11 09 15.0	-0.6
	0.3nm,0.4s,baz=119,slow=3.8,SNR=12						

*IDC **26** 10:58:15.5±1.4,769S×15850E,h0km,mb4.0/4,mb1 4.0/5, mb1mx3.9/14,mbtmp4.1/5,ML4.5/1,MS3.5/3,Ms1 3.5/3, ms1mx3.1/25,Error ellipse: s-maj=37.3km s-min=22.2km az=62.0*
*ISCJB **26** 10:58:17.5±6.4,78S±02×1584E±0.1,h22km±46km, mb3.9/5,MS3.5/2,Error ellipse: s-maj=28.1km s-min=13.4km az=27.9*
*NEIC **26** 10:58:20.5±0.9,783S×15847E,h35km,mb4.0/3,Error ellipse: s-maj=18.7km s-min=15.6km az=224.0*

ISC 26 10:58:17.3±6.7,78S±01×1585E±01,h11km±41km,n11, σ0§65/10,mb3.9/5,MS3.5/2,Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**2.22**	**139**	Pn	**Pn**	**10 58 54.3**	**+0.1**
	133nm,0.3s,baz=229,slow=7.9,SNR=30						
HNR				Sn	**Sn**	**10 59 21.7**	**0.0**
	399nm,0.3s,baz=266,slow=21,SNR=8.5						
CTA	**Charters Tower**	**17.03**	**223**	LR	LR	11 07 43.3	
	comp=Z,139nm,19.3s,baz=218,slow=33						
CTAO	**Charters Tower**	**17.03**	**223**	Pn	**Pn**	**11 02 15.3**	**-0.4**
	10nm,1.3s						
WRAB	**Tennant Creek**	**26.30**	**240**	*e*P	**P**	**11 03 53.9**	**+0.6**
	4.3nm,0.8s,mb4.0						
ASAR	**Alice Springs**	**28.36**	**233**	P	**P**	**11 04 11.8**	**+0.2**
	0.4nm,0.4s,mb3.4,baz=61,slow=9.7,SNR=20						
STKA	**Stephens Creek**	**28.68**	**211**	P	**P**	**11 04 15.7**	**+1.2**
	1.4nm,0.8s,mb3.7,baz=45,slow=14,SNR=4.6						
STKA				LR	LR	11 14 09.7	
	comp=Z,168nm,19.7s,MS3.6,baz=27,slow=33						
STKA	**Stephens Creek**	**28.68**	**211**	*e*P	**P**	**11 04 12.7**	**-1.8**
	2.7nm,0.8s,mb4.0						
STKA				LR	LR	11 14 09.7	
MJAR	**Matsushiro Arr**	**47.99**	**338**	LR	LR	11 24 30.8	
	comp=Z,40nm,21.8s,MS3.4,baz=180,slow=33						
SONM	**Songino Array**	**71.85**	**326**	P	**P**	**11 09 40.7**	**+0.4**
	2.0nm,0.7s,mb4.1,baz=133,slow=6.1,SNR=9.1						
MKAR	**Makanchi Array**	**86.25**	**318**	P	**P**	**11 10 58.4**	**-0.7**
	0.7nm,0.6s,mb4.0,baz=102,slow=5.5,SNR=7.1						
MKAR	**Makanchi Array**	**86.25**	**318**	P	**P**	**11 10 58.4**	**-0.7**

*IDC **26** 11:15:47.2±6.0, 1193S×16534E, h0km, mb4.2/3, mb1 4.2/3,mb1mx3.8/14, mbtmp4.1/3, Error ellipse: s-maj=180.3km s-min=50.1km az=114.0*
*ISCJB **26** 11:15:48.2±1.5, 1213S±02×1657E±03, h33km, mb4.1/5, Error ellipse: s-maj=39.1km s-min=28.6km az=2.7*
*NEIC **26** 11:15:50.0±1.3, 1201S×16572E, h35km, mb4.0/3, Error ellipse: s-maj=35.5km s-min=25.5km az=93.0*

ISC 26 11:15:50.0±1.5,120S±02×1657E±03,h35km,n8,σ0§80/8, mb4.1/5,Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**29.74**	**225**	P	**P**	**11 21 53.3**	**+0.2**
	1.6nm,0.8s,mb3.8,baz=17,slow=14,SNR=3.2						
STKA	**Stephens Creek**	**29.74**	**225**	P	**P**	**11 21 52.7**	**-0.4**
	2.0nm,0.7s,mb4.0						
WRAB	**Tennant Creek**	**31.14**	**251**	P	**P**	**11 22 06.3**	**+0.6**
	1.6nm,0.8s,mb3.9						
ASAR	**Alice Springs**	**32.36**	**245**	P	**P**	**11 22 16.0**	**-0.4**
	2.9nm,0.7s,mb4.2,baz=69,slow=9.5,SNR=56						
CASY	**Casey**	**65.48**	**201**	*e*P	**P**	**11 26 28.8**	**-0.4**
	5.1nm,1.0s,mb4.5						
SBA	**Scott Base**	**65.84**	**180**	*e*P	**P**	**11 26 31.9**	**+0.4**
MK31	**Makanchi Array**	**94.22**	**317**	*e*P	**P**	**11 29 04.0**	**-1.4**
MKAR	**Makanchi Array**	**94.22**	**317**	P	**P**	**11 29 06.7**	**+1.3**
	0.4nm,0.6s,mb4.0,baz=94,slow=6.6,SNR=5.0						

*IDC **26** 11:28:13.4±0.9, 328S×14382E, h0km, mb4.4/14, mb1 4.5/15,mb1mx4.5/18,mbtmp4.4/15, ML4.2/1,MS3.8/6, Ms1 3.8/6,ms1mx3.5/21, Error ellipse: s-maj=29.7km s-min=16.1km az=98.0*
*MOS **26** 11:28:16.6±0.9, 325S×14377E, h33km, mb4.9/12, Error ellipse: s-maj=21.9km s-min=11.2km az=84.4*
*ISCJB **26** 11:28:16.9±0.4, 324S±005×14373E±009, h33km, mb4.6/32,MS3.9/5, Error ellipse: s-maj=13.2km s-min=6.6km az=5.3*
*BJI **26** 11:28:17.1, 324S×14456E, h36km, mB5.2, mb4.8*
*NEIC **26** 11:28:19.0±0.4, 325S×14373E, h35km, mb5.0/9, Error ellipse: s-maj=13.2km s-min=6.4km az=94.0*
*DJA **26** 11:28:32, 375S×14426E, h157km, Mw5.6/4*

ISC 26 11:28:19.6±2.0,327S±006×14377E±009,h42km±19km, n62,σ0§92/55,mb4.6/32,MS3.9/5,5C-2D,Near north coast of New Guinea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
COEN	**Coen**	**10.64**	**183**	*e*Pn	**Pn**	**11 30 50.3**	**+0.7**
	3.3nm,0.9s						
GUMO	**Guam**	**16.78**	**4**	LR	LR	11 37 46.9	
	comp=Z,157nm,19.3s,baz=270,slow=34						
CTA	**Charters Tower**	**16.89**	**172**	Pn	**Pn**	**11 32 13.2**	**+0.1**
	0.5nm,0.3s,baz=360,slow=12,SNR=3.3						
WRAB	**Tennant Creek**	**18.94**	**208**	*i* P	**Pn**	**11 32 36.8**	**-1.4**
WRAB	**Tennant Creek**	**18.94**	**208**	*e*Pn	**Pn**	**11 32 36.3**	**-1.9**
	25nm,0.9s						
BATI	**Baumata**	**21.11**	**250**	P	**P**	**11 33 00.9**	**0.0**
	34nm,0.5s,mb5.0,baz=105,slow=0.8,SNR=5.5						
ASAR	**Alice Springs**	**22.41**	**204**	P	**P**	**11 33 13.2**	**-1.5**
	7.7nm,0.9s,mb4.1,baz=27,slow=9.1,SNR=101						
ASAR				S	**S**	**11 37 18.9**	**0.0**
	0.9nm,0.8s,baz=39,slow=7.4,SNR=3.8						
EIDS	**Eidsvold**	**23.07**	**163**	*e*P	**P**	**11 33 22.4**	**+0.7**
	171nm,1.3s,mb5.3						
EIDS				*e*		11 36 19.3	
KAPI	**Kappang**	**24.01**	**265**	P	**P**	**11 33 30.3**	**-0.6**
	3.4nm,0.4s,mb4.1,baz=141,slow=13,SNR=4.3						
KAPI	**Kappang**	**24.01**	**265**	P	**P**	**11 33 30.2**	**-0.6**
PCI	**Palu**	**24.02**	**275**	*i* eP	**P**	**11 33 33.0**	**+2.0**
STKA	**Stephens Creek**	**28.53**	**184**	*e*P	**P**	**11 34 11.6**	**+0.2**
	7.5nm,0.8s,mb4.5						
STKA	**Stephens Creek**	**28.53**	**184**	P	**P**	**11 34 10.8**	**-0.6**
	9.1nm,0.8s,mb4.5,baz=348,slow=8.5,SNR=20						
STKA				LR	LR	11 47 09.1	
	comp=Z,915nm,18.5s,MS4.4,baz=280,slow=40						
STKA	**Stephens Creek**	**28.53**	**184**	*e*P	**P**	**11 34 11.5**	**+0.1**
	22nm,1.1s,mb4.8						
MBWA	**Marble Bar**	**29.38**	**231**	*e*P	**P**	**11 34 19.1**	**0.0**
	3.1nm,0.4s,mb4.4						
FORT	**Forrest**	**31.13**	**207**	*e*P	**P**	**11 34 34.9**	**+0.5**
	71nm,0.7s,mb5.6						
KSM	**Kuching**	**33.77**	**278**	*e*P	**P**	**11 34 56.4**	**-1.4**
KLBR	**Kellerberrin**	**37.32**	**218**	*e*P	**P**	**11 35 28.8**	**+0.7**
	69nm,1.4s,mb5.3						
MUN	**Mundaring**	**38.55**	**219**	*e*P	**P**	**11 35 40.1**	**+1.7**
NWAO	**Narrogin (SRO)**	**38.57**	**217**	*e*P	**P**	**11 35 37.6**	**-1.0**
NWAO				pmax	pmax		
	comp=Z,13nm,0.9s						
NWAO	**Narrogin (SRO)**	**38.57**	**217**	*e*P	**P**	**11 35 37.6**	**-1.0**
	comp=Z,13nm,0.9s,mb4.7						
MJAR	**Matsushiro Arr**	**39.94**	**353**	P	**P**	**11 35 49.4**	**-0.6**
	comp=Z,3.8nm,1.1s,mb4.1,baz=178,slow=8.5,SNR=6.3						
MJAR				LR	LR	11 48 26.4	
	comp=Z,102nm,21.6s,MS3.6,baz=200,slow=30						
MJAR	**Matsushiro Arr**	**39.94**	**353**	P	**P**	**11 35 49.4**	**-0.6**
MJAR				LR	LR	11 48 26.4	
KSRS	**Korea Array**	**43.11**	**341**	P	**P**	**11 36 15.0**	**-0.9**
	comp=Z,2.9nm,0.9s,mb4.0,baz=165,slow=10,SNR=6.7						
KSRS				LR	LR	11 51 41.6	
	comp=Z,113nm,18.3s,MS3.8,baz=293,slow=33						
CM31	**Chiang Mai Arr**	**49.13**	**298**	*e*P	**P**	**11 37 02.6**	**-1.0**
CMAR	**Chiang Mai Arr**	**49.13**	**298**	P	**P**	**11 37 04.7**	**+1.1**
	comp=Z,0.6nm,0.5s,mb3.9,baz=132,slow=6.9,SNR=5.0						
XAN	**Xi'an**	**49.54**	**321**	P	**P**	**11 37 11.0**	**+4.5**
XAN				AP	pP	11 37 21.3	+3.0
XAN				AMB	AMB		
	comp=Z,11nm,1.5s,mb4.7						
LZH	**Lanzhou**	**54.05**	**320**	*e*P	**P**	**11 37 46.5**	**+6.4**
LZH				AP	pP	11 37 56.3	+4.2
LZH				XP	sP	11 37 59.8	+2.9
LZH				AMB	AMB		
	comp=Z,31nm,1.5s,mb5.0						
LZH				AMB	AMB		
	comp=Z,110nm,4.0s						
PETK	**Petropavlovsk-**	**57.38**	**10**	P	**P**	**11 38 03.8**	**+0.1**
	comp=Z,5.1nm,0.8s,mb4.6,baz=168,slow=6.9,SNR=8.3						
GTA	**Gaotai**	**58.60**	**321**	*e*P	**P**	**11 38 14.0**	**+1.5**
GTA				AMB	AMB		
	comp=Z,5.0nm,1.1s,mb4.5						
ULN	**Ulaanbaatar**	**60.19**	**332**	*e*P	**P**	**11 38 24.3**	**+1.0**
ULN				pmax	pmax		
	comp=Z,18nm,1.4s,mb4.9						
ULN	**Ulaanbaatar**	**60.19**	**332**	*e*P	**P**	**11 38 24.3**	**+1.0**
	comp=Z,18nm,1.4s,mb4.9						
SONM	**Songino Array**	**60.48**	**332**	P	**P**	**11 38 25.8**	**+0.6**
	comp=Z,1.1nm,0.9s,mb3.9,baz=145,slow=3.6,SNR=5.8						
ZAK	**Zakamensk**	**63.73**	**332**	*e*P	**P**	**11 38 47.3**	**+0.3**
ZAK				pmax	pmax		
	comp=Z,11nm,1.2s,mb4.8						
TLY	**Talaya**	**64.47**	**334**	*i* P	**P**	**11 38 51.7**	**-0.1**
TLY				pmax	pmax		
	comp=Z,5.0nm,1.3s,mb4.4						
BOD	**Bodaibo**	**65.42**	**343**	*e*P	**P**	**11 38 56.2**	**-1.7**
BOD				pmax	pmax		
	comp=Z,5.0nm,1.1s,mb4.5						
YAK	**Yakutsk**	**66.01**	**353**	*i* P	**P**	**11 39 02.5**	**+0.9**
YAK				pmax	pmax		
	comp=Z,44nm,1.7s,mb5.2						
BILL	**Bilibino**	**72.87**	**9**	*i* P	**P**	**11 39 43.7**	**-0.2**
BILL				pmax	pmax		
	comp=Z,13nm,1.0s,mb4.8						
MK31	**Makanchi Array**	**73.35**	**321**	*e*P	**P**	**11 39 47.9**	**+0.7**
MKAR	**Makanchi Array**	**73.35**	**321**	P	**P**	**11 39 48.0**	**+0.9**
	comp=Z,3.4nm,0.8s,mb4.3,baz=102,slow=7.9,SNR=28						
MKAR	**Makanchi Array**	**73.35**	**321**	*i* P	**P**	**11 39 48.2**	**+1.0**
MKAR				pmax	pmax		
	comp=Z,3.0nm,0.8s						
ZAA0	**Zalesovo Array**	**75.00**	**328**	*e*P	**P**	**11 39 55.1**	**-1.5**
ZAA0				*e*		11 40 01.5	
ZALV	**Zalesovo Beam**	**75.00**	**328**	P	**P**	**11 39 56.0**	**-0.6**
	comp=Z,4.0nm,0.8s,mb4.4,baz=112,slow=5.8,SNR=16						
ZALV				LR	LR	12 12 05.7	
	comp=Z,53nm,21.0s,MS3.8,baz=126,slow=35						
ZALV	**Zalesovo Beam**	**75.00**	**328**	P	**P**	**11 39 56.0**	**-0.7**
ZALV				LR	LR	12 12 05.7	
TIXI	**Tiksi**	**75.41**	**355**	*i* P	**P**	**11 39 59.3**	**+0.7**
TIXI				pmax	pmax		
	comp=Z,9.0nm,2.2s,mb4.3						
NVS	**Novosibirsk**	**76.23**	**329**	*e*P	**P**	**11 40 03.1**	**-0.6**
NVS				pmax	pmax		
	comp=Z,18nm,1.3s,mb4.8						
NVS				pmax	pmax		
	comp=N,12nm,1.4s						
NVS				pmax	pmax		
	comp=E,23nm,1.5s						
KURK	**Kurchatov**	**77.11**	**324**	P	**P**	**11 40 08.1**	**-0.6**
	comp=E,4.4nm,0.8s,mb4.5,baz=114,slow=5.0,SNR=5.2						
KURK	**Kurchatov**	**77.11**	**324**	*i* P	**P**	**11 40 09.2**	**+0.5**
KURK				pmax	pmax		
	comp=Z,5.0nm,1.3s,mb4.3						
KDAK	**Kodiak Island**	**79.07**	**29**	P	**P**	**11 40 19.6**	**+0.2**
	comp=Z,25nm,1.1s,mb5.1,baz=281,slow=10,SNR=3.5						
BVAR	**Borovoye Array**	**82.68**	**324**	P	**P**	**11 40 39.7**	**+1.0**
	comp=Z,4.0nm,0.8s,mb4.5,baz=109,slow=6.8,SNR=16						
COLA	**College**	**83.92**	**24**	*e*P	**P**	**11 40 44.3**	**-0.6**
COLA				pmax	pmax		
	comp=Z,36nm,1.8s,mb5.2						
COLA	**College**	**83.92**	**24**	*e*P	**P**	**11 40 44.3**	**-0.6**
	comp=Z,36nm,1.8s,mb5.2						
DAWY	**Dawson**	**87.19**	**25**	*e*P	**P**	**11 41 01.4**	**+0.2**
HYT	**Haines Junctio**	**87.35**	**29**	*e*P	**P**	**11 41 01.2**	**-0.8**
ARU	**Arti**	**90.04**	**326**	*i* P	**P**	**11 41 13.9**	**-0.9**
ARU				pmax	pmax		
	comp=Z,13nm,1.7s,mb5.0						
YKA	**Yellowknife Ar**	**98.25**	**27**	LR	LR	12 21 15.7	
	comp=Z,34nm,20.9s,MS3.8,baz=45,slow=32						
LPAZ	**La Paz**	**142.97**	**123**	PKP	PKPdf	11 47 48.0	-1.9
	comp=Z,1.2nm,0.8s,baz=298,slow=2.8,SNR=4.3						
SDV	**Santo Domingo**	**145.36**	**79**

MK31	**Makanchi Array**	**51.00**	**345**	*e*P		**P**	**13 02 14.8**	**-0.2**
MKAR	**Makanchi Array**	**51.00**	**345**	P		**P**	**13 02 14.9**	**0.0**
	comp=Z,3.9nm,0.7s,mb4.5,baz=149,slow=8.3,SNR=46							
CN2	**Changchun**	**51.15**	**24**	*e*P		**P**	**13 02 15.5**	**-0.6**
CN2				AMB		AMB		
	comp=Z,10.0nm,0.8s,mb4.8							
MJAR	**Matsushiro Ar**	**52.50**	**39**	P		**P**	**13 02 25.5**	**-0.8**
	comp=Z,1.2nm,0.6s,mb4.0,baz=235,slow=8.4,SNR=3.7							
MJAR				LR		LR	13 25 03.6	
	comp=Z,33nm,19.2s,baz=240,slow=36							
ZAA0	**Zalesovo Array**	**57.16**	**350**	*e*P		**P**	**13 02 59.0**	**-0.7**
ZALV	**Zalesovo Beam**	**57.16**	**350**	P		**P**	**13 02 59.6**	**-0.1**
	comp=Z,5.6nm,0.5s,mb4.9,baz=179,slow=5.4,SNR=38							
TXAR	**Lajitas Array**	**144.92**	**37**	PKP		PKPdf	13 12 51.0	+0.8
	comp=Z,4.8nm,0.8s,baz=269,slow=1.1,SNR=43							
JCT	**Junction City**	**146.22**	**31**	*e*PKPbc		PKPbc	13 12 53.8	+0.3

IDC **26** *12:55:06.1±0.6, 466S×15386E, h192km±5km, mb4.1/13, mb1 4.1/14, mb1mx4.0/18, mbtmp4.1/14, Error ellipse: s-maj=14.4km s-min=10.1km az=102.0*
MOS **26** *12:55:06.0±0.8, 456S×15382E, h203km, mb4.6/6, Error ellipse: s-maj=15.4km s-min=10.8km az=85.8*
ISCJB **26** *12:55:07.3±1.6, 460S±006×15388E±009, h220km±16km, mb4.4/22, Error ellipse: s-maj=14.8km s-min=9.4km az=22.0*
NEIC **26** *12:55:08.8±1.3, 460S×15389E, h220km±13km, mb4.8/10, Error ellipse: s-maj=9.9km s-min=8.4km az=124.0*
DJA **26** *12:55:21, 501S×15343E, h295km, mb4.9/11*

ISC 26 12:55:08.8±1.6, 461S±006×15390E±009, h219km±16km, h195km±3.6km; pP-P, n52, σ0≠86/48, mb4.4/22, 6C-4D, New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**7.68**	**129**	P	**Pn**	**12 56 57.1**	**-0.8**
	6.5nm,0.3s,baz=211,slow=6.4,SNR=6.5						
COEN	**Coen**	**14.08**	**228**	⇑ *i* Pn	**Pn**	**12 58 20.1**	**+1.0**
	30nm,0.6s						
CTA	**Charters Tower**	**17.09**	**205**	*e*P	**P**	**12 58 55.0**	**+1.4**
	27nm,0.9s						
CTA				*e*S	**S**	**13 02 15.3**	**+15**
CTA	**Charters Tower**	**17.09**	**205**	P	**P**	**12 58 54.9**	**+1.3**
	1.5nm,0.3s,baz=31,slow=12,SNR=42						
CTA	**Charters Tower**	**17.09**	**205**	*e*P	**P**	**12 58 55.0**	**+1.4**
CTA				pmax	pmax		
	comp=Z,27nm,0.9s						
CTAO	**Charters Tower**	**17.09**	**205**	*e*P	**P**	**12 58 54.1**	**+0.5**
CTAO				pmax	pmax		
	comp=Z,37nm,0.8s						
CTAO	**Charters Tower**	**17.09**	**205**	*e*P	**P**	**12 58 54.1**	**+0.6**
	comp=Z,37nm,0.8s						
EIDS	**Eidsvold**	**20.82**	**187**	*e*P	**P**	**12 59 33.4**	**-0.2**
	comp=Z,189nm,1.0s						
KAKA	**Kakadu**	**22.68**	**248**	*e*P	**P**	**12 59 44.5**	**-7.3**
	comp=Z,150nm,0.5s						
KAKA				*e*S	**S**	**13 03 38.3**	**-5.2**
WRAB	**Tennant Creek**	**24.39**	**230**	⇓ *i* P	**P**	**13 00 07.1**	**-0.1**
WRAB				*i* *PP		13 00 53.8	
WRAB	**Tennant Creek**	**24.39**	**230**	*e*P	**P**	**13 00 06.3**	**-0.9**
	comp=Z,46nm,0.6s,mb5.3						
WRAB				*e*		13 00 55.0	
ARMA	**Armidale**	**25.76**	**185**	*e*P	**P**	**13 00 20.4**	**+0.9**
ASAR	**Alice Springs**	**27.04**	**224**	P	**P**	**13 00 30.9**	**-0.1**
	comp=Z,6.3nm,0.4s,mb4.6,baz=54,slow=9.1,SNR=326						
ASAR				S	**S**	**13 04 52.2**	**-0.2**
	comp=Z,4.9nm,0.8s,baz=56,slow=14,SNR=10						
STKA	**Stephens Creek**	**29.48**	**202**	⇓ *i* P	**P**	**13 00 52.4**	**-0.2**
	comp=Z,13nm,0.8s,mb4.6						
STKA	**Stephens Creek**	**29.48**	**202**	P	**P**	**13 00 52.3**	**-0.2**
	comp=Z,13nm,0.6s,mb4.7,baz=9.6,slow=9.5,SNR=28						
BATI	**Baumata**	**30.48**	**258**	P	**P**	**13 01 01.8**	**+0.1**
	comp=Z,99nm,0.7s,mb5.5,baz=160,slow=1.4,SNR=17						
CNB	**Canberra Magne**	**30.84**	**187**	*e*P	**P**	**13 01 05.5**	**+1.0**
TOO	**Toolangi**	**33.70**	**192**	*e*P	**P**	**13 01 29.8**	**+0.5**
KAPI	**Kappang**	**34.03**	**268**	P	**P**	**13 01 31.0**	**-1.5**
	comp=Z,13nm,0.6s,mb4.7,baz=109,slow=3.8,SNR=8.0						
MBWA	**Marble Bar**	**37.02**	**241**	*e*P	**P**	**13 01 56.4**	**-1.4**
	comp=Z,4.3nm,0.4s,mb4.3						
MBWA				*e*pP	pP	13 02 39.5	-3.6
RPZ	**Rata Peaks**	**41.79**	**161**	P	**P**	**13 02 36.2**	**-0.6**
	comp=Z,14nm,1.0s,mb4.3,baz=353,slow=4.3,SNR=6.1						
KLBR	**Kellerberrin**	**43.24**	**227**	*e*P	**P**	**13 02 47.7**	**-1.0**
	comp=Z,45nm,1.3s,mb4.7						
KSM	**Kuching**	**43.98**	**277**	*e*P	**P**	**13 02 54.6**	**-0.3**
NWAO	**Narrogin (SRO)**	**44.31**	**226**	P	**P**	**13 02 56.3**	**-0.9**
	comp=Z,17nm,1.0s,mb4.3,baz=121,slow=5.9,SNR=4.0						
KSRS	**Korea Array**	**48.33**	**332**	P	**P**	**13 03 28.5**	**+0.1**
	comp=Z,0.8nm,0.5s,baz=153,slow=8.8,SNR=3.8						
KSRS				pP	pP	13 04 09.0	-6.9
	comp=Z,2.4nm,0.9s,baz=150,slow=8.5,SNR=4.3						
PETK	**Petropavlovsk-**	**57.59**	**3**	P	**P**	**13 04 36.4**	**+0.8**
	comp=Z,6.7nm,0.8s,mb4.3,baz=143,slow=6.3,SNR=12						
PETK				pP	pP	13 05 19.4	-5.5
	comp=Z,5.8nm,0.9s,baz=162,slow=4.5,SNR=2.3						
CMAR	**Chiang Mai Arr**	**58.79**	**295**	P	**P**	**13 04 45.8**	**+1.1**
	comp=Z,3.0nm,0.7s,mb4.0,baz=116,slow=5.2,SNR=16						
CMAR				pP	pP	13 05 29.6	-4.5
	comp=Z,2.4nm,0.7s,baz=127,slow=5.7,SNR=4.0						
CMAR	**Chiang Mai Arr**	**58.79**	**295**	*i* P	**P**	**13 04 46.0**	**+1.4**
CMAR				pmax	pmax		
	comp=Z,3.0nm,0.7s						
HIA	**Hailar**	**61.31**	**335**	⇑ *i* P	**P**	**13 05 01.7**	**+0.6**
ULN	**Ulaanbaatar**	**66.42**	**328**	⇑ *i* P	**P**	**13 05 35.7**	**+1.3**
SONM	**Songino Array**	**66.75**	**327**	P	**P**	**13 05 37.3**	**+0.8**
	comp=Z,1.1nm,0.6s,mb3.6,baz=142,slow=5.6,SNR=3.9						
SONM				PcP	PcP	13 06 04.1	+0.4
	comp=Z,0.8nm,0.5s,baz=131,slow=2.2,SNR=4.1						
SONM				pP	pP	13 06 21.5	-5.7
	comp=Z,1.6nm,0.8s,baz=113,slow=3.3,SNR=2.7						
YAK	**Yakutsk**	**69.01**	**348**	⇓ *i* P	**P**	**13 05 47.9**	**-2.4**
YAK				pmax	pmax		
	comp=Z,15nm,1.0s,mb4.6						
ZAK	**Zakamensk**	**69.91**	**328**	*e*P	**P**	**13 05 56.3**	**+0.3**
ZAK				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.0						
BILL	**Bilibino**	**73.00**	**5**	⇓ *i* P	**P**	**13 06 14.8**	**+0.7**
BILL				pmax	pmax		
	comp=Z,18nm,1.1s,mb4.6						
MIR	**Mirnyy**	**74.50**	**201**	⇑ *i* P	**P**	**13 06 24.0**	**+1.1**
KDAK	**Kodiak Island**	**75.51**	**26**	P	**P**	**13 06 28.9**	**+0.1**
	comp=Z,11nm,0.9s,mb4.5,baz=285,slow=19,SNR=2.7						
MK31	**Makanchi Array**	**80.91**	**319**	*e*P	**P**	**13 06 58.7**	**+0.1**
MKAR	**Makanchi Array**	**80.91**	**319**	P	**P**	**13 06 59.0**	**+0.3**
	comp=Z,2.1nm,0.8s,mb3.8,baz=91,slow=8.1,SNR=17						
MKAR				pP	pP	13 07 46.5	-4.8
	comp=Z,1.8nm,0.8s,baz=101,slow=6.3,SNR=4.0						
MKAR	**Makanchi Array**	**80.91**	**319**	P	**P**	**13 06 59.0**	**+0.3**
MKAR				pP	pP	13 07 46.5	-4.8
COLA	**College**	**81.27**	**22**	*e*P	**P**	**13 06 59.5**	**-0.6**
COLA				pmax	pmax		
	comp=Z,9.0nm,0.9s,mb4.4						
COLA	**College**	**81.27**	**22**	*e*P	**P**	**13 06 59.5**	**-0.6**
	comp=Z,9.5nm,0.9s,mb4.4						
ZALV	**Zalesovo Beam**	**81.61**	**326**	P	**P**	**13 07 01.4**	**-0.7**
	comp=Z,1.2nm,0.4s,mb3.8,baz=104,slow=6.3,SNR=4.8						
ZALV				pP	pP	13 07 52.1	-2.8
	comp=Z,0.8nm,0.6s,baz=101,slow=7.5,SNR=2.2						
KURK	**Kurchatov**	**84.30**	**322**	⇑ *i* P	**P**	**13 07 16.2**	**+0.2**
KURK				pmax	pmax		
	comp=Z,10.0nm,1.2s,mb4.4						
MAW	**Mawson**	**86.17**	**203**	P	**P**	**13 07 25.2**	**+0.2**
	comp=Z,8.2nm,0.7s,mb4.6,baz=80,slow=9.5,SNR=7.9						
ARU	**Arti**	**96.77**	**326**	*e* *i* P	**P**	**13 08 12.7**	**-1.7**
ARU						13 12 11.8	
ARU				S		SKSac	13 18 24.9	-5.0
ARU				SP		SP	13 20 39.0	+0.4
ARU				pmax		pmax		
	comp=Z,4.0nm,1.2s,mb4.5							
GERES	**GERESS Array B**	**124.46**	**329**	PKP		PKPdf	13 13 42.3	+0.4
	comp=Z,0.8nm,0.5s,baz=75,slow=1.5,SNR=5.7							
GERES				pPKP		pPKPdf	13 14 32.6	-5.7
	comp=Z,0.3nm,0.5s,baz=5.7,slow=3.9,SNR=2.4							
LPAZ	**La Paz**	**133.53**	**118**	PKP		PKPdf	13 14 01.7	+1.6
	comp=Z,0.8nm,0.6s,baz=57,slow=2.8,SNR=3.9							
KEST	**Kesra**	**135.00**	**318**	PKP		PKPdf	13 14 06.0	+3.7
	comp=Z,1.3nm,0.5s,baz=72,slow=4.0,SNR=2.8							
SDV	**Santo Domingo**	**135.59**	**82**	*e*PKPdf		PKPdf	13 14 04.2	+0.2
BDFB	**Brasilia**	**150.41**	**133**	PKPbc		PKPbc	13 14 35.5	+0.2
	comp=Z,1.7nm,0.3s,baz=220,slow=10,SNR=4.7							
BDFB				pPKPbc		pPKPbc	13 15 24.0	-7.4
	comp=Z,1.7nm,0.4s,baz=200,slow=8.4,SNR=2.9							
TOA0	**Torodi Ar. Sit**	**151.29**	**289**	*e*PKPbc		PKPbc	13 14 36.6	-0.8
TORD	**Torodi Ar. Bea**	**151.29**	**289**	PKPbc		PKPbc	13 14 37.3	-0.1
	comp=Z,143nm,0.3s,baz=63,slow=2.5,SNR=1.8							

TIR **26** *13:17:27.1±0.4, 3957N×2076E, h26km±4km*
CSEM **26** *13:17:29.9±0.1, 3985N×2070E, h5km, MD3.6, Error ellipse: s-maj=1.9km s-min=1.4km az=97.0*
ATH **26** *13:17:29.6, 3982N×2068E, h18km, MD3.6/9*
ISCJB **26** *13:17:30.0±0.7, 3972N±002×2071E±004, h0km±6km, Error ellipse: s-maj=5.4km s-min=3.8km az=167.0*
NEIC **26** *13:17:31.2, 3973N×2075E, h0km, ML3.2(ATH), ML3.5(THE), After THE.*
THE **26** *13:17:31.2, 3974N×2075E, h0km±5km, ML3.5/2, Error ellipse: s-maj=5.6km s-min=1.0km az=104.0*

ISC 26 13:17:31.1±0.5, 3973N±002×2068E±004, h7km±4km, n49, σ1≠19/63, Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JAN	**Janina**	**0.15**	**117**	*e*Pb	**Pg**	**13 17 34.4**	**+0.2**
JAN				*e*Sb	**Sg**	**13 17 38.0**	**+1.7**
JAN	**Janina**	**0.15**	**117**	*e*PB	**Pg**	**13 17 34.4**	**+0.2**
JAN				*e*SB	**Sg**	**13 17 38.0**	**+1.7**
MEV	**Metsovon**	**0.43**	**82**	P	**Pg**	**13 17 38.9**	**-0.5**
SRN	**Sarande**	**0.54**	**287**	*e*PG	**Pg**	**13 17 40.5**	**-1.1**
SRN				*i* SG	**Sg**	**13 17 50.0**	**+1.3**
KEK	**Kerkira**	**0.68**	**269**	*e*Pn	**Pg**	**13 17 42.9**	**-1.2**
KEK	**Kerkira**	**0.68**	**269**	*e*PN	**Pg**	**13 17 42.9**	**-1.2**
TPE	**Tepelena**	**0.77**	**318**	*e*PG	**Pg**	**13 17 44.9**	**-0.9**
KBN	**Korca**	**0.90**	**5**	*e*PG	**Pg**	**13 17 47.4**	**-1.0**
KBN				*i* SG	**Sg**	**13 18 02.3**	**+2.2**
LKD	**Levkas**	**1.02**	**181**	P	**Pg**	**13 17 50.4**	**-0.2**
LKD				S	**Sg**	**13 18 06.0**	**+2.2**
LKD	**Levkas**	**1.02**	**181**	S	**Sg**	**13 18 06.0**	**+2.2**
KZN	**Kozani**	**1.02**	**55**	*e*Pn	**Pn**	**13 17 48.2**	**-3.5**
KZN	**Kozani**	**1.02**	**55**	*e*PN	**Pn**	**13 17 48.2**	**-3.5**
THL	**Klokotos Trika**	**1.04**	**98**	P	**Pg**	**13 17 49.3**	**-1.8**
THL	**Klokotos Trika**	**1.04**	**98**	*e*Pn	**Pn**	**13 17 49.7**	**-2.4**
THL	**Klokotos Trika**	**1.04**	**98**	*e*PN	**Pn**	**13 17 49.7**	**-2.4**
FNA	**Florina**	**1.18**	**27**	P	**Pg**	**13 17 52.2**	**-1.6**
FNA				S	**Sg**	**13 18 10.5**	**+1.3**
FNA	**Florina**	**1.18**	**27**	S	**Sg**	**13 18 10.5**	**+1.3**
EVR	**Evrytania**	**1.19**	**132**	*e*Pn	**Pn**	**13 17 53.5**	**-0.6**
EVR	**Evrytania**	**1.19**	**132**	*e*PN	**Pn**	**13 17 53.5**	**-0.6**
BIA	**Bitola**	**1.38**	**21**	*i* Pn	**Pn**	**13 17 55.6**	**-1.1**
BIA				*i* Sn	**Sn**	**13 18 16.3**	**+1.1**
BIA	**Bitola**	**1.38**	**21**	*i* Sn	**Sn**	**13 18 16.3**	**+1.1**
BIA	**Bitola**	**1.38**	**21**	*i* Pn	**Pn**	**13 17 55.5**	**-1.2**
BIA				*i* Sn	**Sn**	**13 18 16.3**	**+1.1**
OHR	**Ohrid**	**1.39**	**4**	*i* Pn	**Pn**	**13 17 56.0**	**-0.8**
OHR				*i* Sn	**Sn**	**13 18 16.6**	**+1.2**
OHR	**Ohrid**	**1.39**	**4**	*i* Pn	**Pn**	**13 17 55.9**	**-0.9**
OHR	**Ohrid**	**1.39**	**4**	P	**Pn**	**13 17 56.3**	**-0.5**
OHR				*i* Sn	**Sn**	**13 18 16.5**	**+1.2**
LIT	**Litokhoron**	**1.44**	**74**	P	**Pn**	**13 17 56.0**	**-1.5**
AGG	**Agios Georgios**	**1.46**	**118**	P	**Pn**	**13 17 57.0**	**-0.8**
VLS	**Valsamata**	**1.55**	**183**	P	**Pn**	**13 17 59.4**	**+0.4**
VLS	**Valsamata**	**1.55**	**183**	*e*Pn	**Pn**	**13 18 00.0**	**+1.0**
VLS	**Valsamata**	**1.55**	**183**	*e*PN	**Pn**	**13 18 00.0**	**+1.0**
KFL	**Anninata**	**1.62**	**177**	P	**Pn**	**13 18 00.9**	**+1.0**
KRUS	**Krusevo**	**1.70**	**15**	*i* Pn	**Pn**	**13 18 02.0**	**+1.0**
KRUS				*i* Sn	**Sn**	**13 18 26.2**	**+3.2**
KRUS	**Krusevo**	**1.70**	**15**	*i* Pn	**Pn**	**13 18 02.0**	**+0.9**
KRUS				*i* Sn	**Sn**	**13 18 26.1**	**+3.1**
RLS	**Riolos of Patr**	**1.78**	**159**	*e*Pn	**Pn**	**13 18 02.7**	**+0.6**
RLS	**Riolos of Patr**	**1.78**	**159**	*e*PN	**Pn**	**13 18 02.7**	**+0.6**
GRG	**Griva**	**1.80**	**46**	P	**Pn**	**13 18 02.1**	**-0.4**
QSH	**Qafa e Shtames**	**1.89**	**342**	*e*PN	**Pn**	**13 18 03.5**	**-0.2**
LKR	**Lokris**	**2.10**	**120**	*e*Pn	**Pn**	**13 18 06.6**	**0.0**
LKR	**Lokris**	**2.10**	**120**	*e*PN	**Pn**	**13 18 06.6**	**0.0**
VAY	**Valandovo**	**2.15**	**42**	*i* Pn	**Pn**	**13 18 06.7**	**-0.6**
VAY				*i* Sn	**Sn**	**13 18 33.9**	**-0.3**
VAY	**Valandovo**	**2.15**	**42**	*i* Pn	**Pn**	**13 18 06.7**	**-0.6**
VAY				*i* Sn	**Sn**	**13 18 33.8**	**-0.3**
KNT	**Kendrikon**	**2.22**	**49**	P	**Pn**	**13 18 08.2**	**0.0**
STIP	**Stip**	**2.28**	**30**	*e*Pn	**Pn**	**13 18 13.1**	**+4.1**
SKO	**Skopje**	**2.32**	**14**	*i* Pn	**Pn**	**13 18 12.7**	**+3.1**
SOH	**Sokhos**	**2.32**	**61**	P	**Pn**	**13 18 10.2**	**+0.6**
ITM	**Ithomi**	**2.73**	**159**	*e*Pn	**Pn**	**13 18 16.1**	**+0.9**
ITM	**Ithomi**	**2.73**	**159**	*e*PN	**Pn**	**13 18 16.1**	**+0.9**
TIP	**Timpagrande**	**3.08**	**261**	P	**Pn**	**13 18 19.6**	**-0.5**
SG1	**Sgolgore (BA)**	**3.25**	**291**	*e*Pn	**Pn**	**13 18 21.7**	**-0.7**

ISCJB **26** *13:21:43.8±0.6, 3692N±006×3546E±005, h20km±9km, Error ellipse: s-maj=10.2km s-min=6.2km az=178.5*
ISK **26** *13:21:43.1, 3691N×3545E, h18km, ML2.5*

ISC 26 13:21:43.7±0.6, 3690N±006×3546E±004, h17km±6km, n13, σ0≠44/15, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CEYT	**Ceyhan**	**0.26**	**65**	PG	**Pg**	**13 21 49.6**	**+0.2**
CEYT				*e*SG	**Sg**	**13 21 53.6**	**+0.2**
KARA	**Karaisali**	**0.48**	**318**	*e*PG	**Pg**	**13 21 53.0**	**-0.4**
COBT	**Iskenderun**	**0.74**	**120**	*i* P	**Pb**	**13 21 58.2**	**0.0**
MERS	**Mersin**	**0.75**	**268**	*e*PG	**Pg**	**13 21 58.3**	**0.0**
MERS				*e*SG	**Sg**	**13 22 08.7**	**+0.4**
HTY	**Hatay**	**0.95**	**145**	*e*PG	**Pg**	**13 22 01.8**	**-0.3**
ANDN	**Andirin**	**0.98**	**46**	*i* P	**Pb**	**13 22 01.8**	**-0.4**
YAYL	**Yayladag**	**1.01**	**149**	*i* P	**Pb**	**13 22 02.1**	**-0.6**
KMRS	**Kahramanmaras**	**1.30**	**62**	*e*PN	**Pn**	**13 22 07.8**	**+0.8**
NIG	**Nigde**	**1.38**	**331**	*e*PN	**Pn**	**13 22 07.3**	**-0.8**
GAZ	**Gaziantep**	**1.43**	**79**	*e*PN	**Pn**	**13 22 09.2**	**+0.4**
IKL	**Isikli**	**1.57**	**246**	*e*PN	**Pn**	**13 22 11.0**	**+0.3**
SARI	**SarD1z-Kayseri**	**2.03**	**29**	*e*PN	**Pn**	**13 22 11.9**	**-5.1**
HDMB	**Hadim**	**2.38**	**272**	*e*PN	**Pn**	**13 22 22.3**	**+0.4**

IDC 26 13:33:58.7±1.4, 4924S×12517E, h0km, mb4.0/5, mb1 4.1/5, mb1mx3.9/13, mbtmp4.0/5, MS3.5/3, Ms1 3.5/3, ms1mx3.2/16, Error ellipse: s-maj=51.3km s-min=26.4km az=105.0, Western Indian-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
NWAO	**Narrogin (SRO)**	**17.34**	**337**	LR	LR	13 43 10.0	
	comp=Z,118nm,21.4s,baz=187,slow=32						
STKA	**Stephens Creek**	**21.29**	**41**	P	P	13 38 46.1	-0.5
	3.1nm,1.0s,baz=202,slow=11,SNR=2.2						
STKA				LR	LR	13 46 34.1	
	comp=Z,94nm,18.8s,baz=36,slow=36						
ASAR	**Alice Springs**	**26.43**	**18**	P	P	13 39 36.9	-0.1
	3.4nm,0.8s,baz=191,slow=8.9,SNR=29						
CTA	**Charters Tower**	**33.63**	**38**	P	P	13 40 41.4	+0.7
	3.0nm,0.9s,baz=262,slow=7.1,SNR=2.9						
BATI	**Baumata**	**38.93**	**358**	LR	LR	13 56 11.8	
	comp=Z,145nm,21.8s,baz=178,slow=34						
QSPA	**South Pole Qui**	**40.88**	**180**	P	P	13 41 42.0	+0.3
	1.5nm,0.7s,baz=278,slow=5.8,SNR=4.0						
CMAR	**Chiang Mai Arr**	**71.31**	**334**	P	P	13 45 20.1	+0.2
	1.0nm,0.7s,baz=183,slow=5.9,SNR=7.7						

NEIC **26** *13:39:17.3, 1771N×10148W, h46km, MD3.8(MEX), After MEX.*

MEX 26 13:39:17.5±0.6, 1774N×10148W, h43km±6km, MD3.8, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ZIIG	**Zihuatanejo**	**0.13**	**176**	*i* P	Pn	13 39 23.0	-1.6
ZIIG				*i* S	Sn	13 39 27.9	-1.7
ZIIG	**Zihuatanejo**	**0.13**	**176**	*i* P	Pn	13 39 23.0	-1.6
ZIIG				*i* S	Sn	13 39 27.9	-1.7
CAIG	**El Cayaco**	**1.34**	**120**	*i* P	Pn	13 39 38.7	-1.0
CAIG				*i* S	Sn	13 39 53.9	-2.4
ACX	**Acapulco**	**1.72**	**120**	*e*P	Pn	13 39 42.0	-3.0
ACX				*i* S	Sn	13 40 04.0	-1.8
MMIG	**Aquila**	**1.86**	**287**	*e*P	Pn	13 39 45.7	-1.3
MMIG				*i* S	Sn	13 40 06.9	-2.3
MZVM		**2.58**	**55**	*e*P	Pn	13 39 56.1	-0.6
MZVM				*i* S	Sn	13 40 24.1	-2.7
PNIG	**Pinotepa**	**3.47**	**112**	*i* P	Pn	13 40 06.3	-2.7
PNIG				*i* S	Sn	13 40 45.8	-3.1
UTMO	**Huajuapan**	**3.50**	**88**	*e*P	Pn	13 40 08.8	-0.6
UTMO				*i* S	Sn	13 40 47.7	-1.9

ISCJB **26** *13:45:07.3±1.5, 178S±02×1788W±02, h497km±23km, mb3.9/9, Error ellipse: s-maj=36.4km s-min=17.1km az=148.0*
NEIC **26** *13:45:08.8±1.2, 1779S×17875W, h511km±16km, mb4.3/5, Error ellipse: s-maj=29.4km s-min=12.8km az=150.0*
IDC **26** *13:45:09.2±2.0, 1782S×17869W, h514km±25km, mb3.3/7, mb1 3.6/8, mb1mx3.4/17, mbtmp3.4/8, Error ellipse: s-maj=30.9km s-min=14.9km az=148.0*

ISC 26 13:45:08.5±1.5, 178S±02×1788W±02, h500km±22km, n16, σ0≠79/14, mb3.9/9, 1C-1D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**7.79**	**61**	P	**P**	**13 47 02.8**	**0.0**
	4.2nm,0.3s,baz=311,slow=1.6,SNR=11						
URZ	**Urewera**	**20.67**	**189**	P	**P**	**13 49 12.8**	**-0.2**
	4.9nm,0.8s,baz=15,slow=12,SNR=2.8						
CTA	**Charters Tower**	**33.10**	**260**	P	**P**	**13 51 03.0**	**+0.5**
	2.3nm,0.6s,mb3.8,baz=62,slow=12,SNR=4.6						
CTAO	**Charters Tower**	**33.10**	**260**	*e*P	**P**	**13 51 02.8**	**+0.3**
	11nm,1.3s,mb4.1						
STKA	**Stephens Creek**	**38.35**	**241**	⇓ *i* P	**P**	**13 51 47.6**	**+1.5**
	3.0nm,0.3s,mb4.2						
STKA	**Stephens Creek**	**38.35**	**241**	P	**P**	**13 51 47.1**	**+1.1**
	4.9nm,0.4s,mb4.3,baz=81,slow=8.3,SNR=23						
STKA	**Stephens Creek**	**38.35**	**241**	*e*P	**P**	**13 51 47.1**	**+1.0**
	5.4nm,0.5s,mb4.2						
WRAB	**Tennant Creek**	**44.28**	**260**	*e*P	**P**	**13 52 32.2**	**-1.2**
	1.2nm,0.5s,mb3.6						
ASAR	**Alice Springs**	**44.46**	**254**	P	**P**	**13 52 34.9**	**+0.1**
	13nm,0.6s,mb4.6,baz=88,slow=8.0,SNR=406						
ASAR				PcP	PcP	13 54 06.8	-0.8
	0.6nm,0.4s,baz=102,slow=4.0,SNR=5.3						
KAKA	**Kakadu**	**47.22**	**269**	⇑ *i* P	**P**	**13 52 49.6**	**-6.3**
	5.7nm,0.4s,mb4.3						
MBWA	**Marble Bar**	**57.74**	**256**	*e*P	**P**	**13 54 10.4**	**-1.0**
	25nm,1.4s,mb4.4						
TXAR	**Lajitas Array**	**86.26**	**58**	P	**P**	**13 56 57.8**	**+0.8**
	0.1nm,0.3s,mb2.9,baz=231,slow=10.0,SNR=3.2						
PDAR	**Pinedale Array**	**87.54**	**44**	P	**P**	**13 57 01.8**	**-0.9**
	0.3nm,0.8s,mb3.1,baz=198,slow=8.5,SNR=2.5						
CMAR	**Chiang Mai Arr**	**88.51**	**290**	P	**P**	**13 57 08.6**	**+0.8**
	0.9nm,0.6s,mb3.8,baz=109,slow=3.3,SNR=5.2						
ARCES	**ARCESS Array B**	**126.17**	**350**	PKP	PKPdf	14 03 11.4	-1.6
	4.0nm,0.9s,baz=34,slow=2.4,SNR=3.0						
GERES	**GERESS Array B**	**147.44**	**345**	PKPbc	PKPbc	14 03 53.8	-1.9
	0.8nm,0.5s,baz=8.5,slow=2.7,SNR=6.7						

NEIC **26** *13:58:21.8, 3983N×2069E, h4km, MD3.2(ATH), ML3.5(THE), After ATH.*
CSEM **26** *13:58:21.8, 3983N×2069E, h4km, MD3.2/5, After ATH*

ATH 26 13:58:21.8, 3983N×2069E, h4km, MD3.2/5, Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JAN	**Janina**	**0.21**	**144**	*e*Pg	Pg	13 58 25.7	-0.2
JAN	**Janina**	**0.21**	**144**	*e*PG	Pg	13 58 25.7	-0.2
KEK	**Kerkira**	**0.70**	**261**	*e*Pg	Pg	13 58 35.0	-0.2
KEK	**Kerkira**	**0.70**	**261**	*e*PG	Pg	13 58 35.0	-0.2
KZN	**Kozani**	**0.96**	**60**	*e*Pg	Pg	13 58 40.0	-0.1
KZN	**Kozani**	**0.96**	**60**	*e*PG	Pg	13 58 40.0	-0.1
EVR	**Evrytania**	**1.26**	**136**	*e*Pn	P

Msz4.1
*ISCJB **26** 14:17:36.0±0.4, 6602N±004×15562W±008, h10km, mb4.3/9, MS3.6/7, Error ellipse: s-maj=6.0km s-min=4.5km az=0.1*
*NEIC **26** 14:17:38.9, 6579N×15538W, h7km, mb4.4/1, ML4.1(AEIC), After AEIC.*
*IDC **26** 14:17:41.4±1.1, 6618N×15510W, h0km, mb3.7/4, mb1 4.0/6, mb1mx3.7/21, mbtmp3.9/6, ML3.2/2, MS3.4/8, Ms1 3.4/8, ms1mx3.3/28, Error ellipse: s-maj=35.4km s-min=18.4km az=55.0*

ISC 26 14:17:37.6±0.9, 6592N±004×15551W±008, h1km±6km, n47, σ1§17/52, mb4.3/9, MS3.6/7, Northern Alaska

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
IM3	**Indian Mountai**	**0.72**	**84**	P	**Pg**	**14 17 52.0**	**+0.6**
IM3				S	**Sg**	**14 18 01.8**	**+0.9**
IMA2	**Indian Mountai**	**0.76**	**78**	*eP*	**Pg**	**14 17 52.9**	**+0.7**
GCSA	**Galena City Sc**	**1.31**	**207**	P	**Pg**	**14 18 01.9**	**-0.8**
GCSA				S	**Sg**	**14 18 20.1**	**+0.5**
CHUM	**Lake Minchumin**	**2.46**	**145**	P	**Pn**	**14 18 18.1**	**-0.6**
CHUM				S	**Sg**	**14 18 52.3**	**-4.2**
COLD	**Coldfoot**	**2.50**	**56**	P	**Pn**	**14 18 17.9**	**-1.3**
BPAW	**Bear Paw Mtn.**	**2.65**	**131**	P	**Pn**	**14 18 21.8**	**+0.4**
BPAW				S	**Sg**	**14 18 57.1**	**-5.6**
TT01	**Tatalina**	**3.04**	**184**	P	**Pn**	**14 18 26.6**	**-0.1**
KTH	**Kantishna Hill**	**3.09**	**138**	P	**Pn**	**14 18 27.6**	**+0.2**
KTH				S	**Sn**	**14 19 05.0**	**+0.2**
TRF	**Thorofare Moun**	**3.34**	**135**	P	**Pn**	**14 18 31.1**	**+0.2**
PPLA	**Purkeypile**	**3.36**	**153**	P	**Pn**	**14 18 31.9**	**+0.8**
COLA	**College**	**3.37**	**105**	*e*Pn	**Pn**	**14 18 30.5**	**-0.8**
COLA				*e*Pg	**Pg**	**14 18 40.2**	**-2.0**
COLA				*e*Sn	**Sn**	**14 19 09.2**	**-2.6**
MCK	**McKinley**	**3.57**	**125**	P	**Pn**	**14 18 33.5**	**-0.4**
IL1	**Eielson Array**	**3.79**	**104**	P	**Pn**	**14 18 36.2**	**-0.9**
ILB	**Eielson Array**	**3.79**	**104**	P	**Pn**	**14 18 36.2**	**-0.9**
SKT	**Skwentna**	**4.33**	**154**	P	**Pn**	**14 18 45.0**	**+0.6**
SVW2	**Sparrevohn**	**4.84**	**180**	P	**Pn**	**14 18 51.9**	**+0.4**
TNA	**Tin City**	**5.13**	**272**	P	**Pn**	**14 18 54.1**	**-1.3**
PMR	**Palmer**	**5.18**	**144**	*e*P	**Pn**	**14 18 58.6**	**+2.5**
SML	**Sawmill**	**5.21**	**139**	P	**Pn**	**14 18 57.0**	**+0.6**
PAX	**Paxson**	**5.26**	**120**	P	**Pn**	**14 18 58.1**	**+0.9**
MENT	**Mentasta**	**5.92**	**115**	*e*P	**Pn**	**14 19 06.1**	**-0.1**
EGAK	**Eagle** 163nm,1.1s	**6.11**	**94**	*e*Pn	**Pn**	**14 19 09.2**	**+0.3**
EGAK				*e*S	**Sg**	**14 20 44.9**	**-8.9**
BCA3	**Beaver Creek A**	**6.58**	**109**	P	**Pn**	**14 19 15.1**	**-0.2**
DAWY	**Dawson**	**7.08**	**98**	*e*Pn	**Pn**	**14 19 22.1**	**0.0**
DAWY				*e*S	**Sg**	**14 21 14.9**	**-10**
KDAK	**Kodiak Island** 0.8nm,0.3s,baz=12,slow=9.4,SNR=9.1	**8.28**	**169**	Pn	**Pn**	**14 19 39.9**	**+1.2**
KDAK	**Kodiak Island** 34nm,1.1s	**8.28**	**169**	*e*Pn	**Pn**	**14 19 39.6**	**+1.0**
DLBC	**Dease Lake** 0.2nm,0.3s,baz=282,slow=9.8,SNR=3.9	**13.97**	**110**	Pn	**Pn**	**14 21 06.7**	**+10**
DLBC				Lg		14 24 59.6	
	0.4nm,0.3s,baz=222,slow=24,SNR=5.4						
DLBC				LR	LR	14 27 37.6	
	comp=Z,52nm,21.0s,baz=286,slow=43						
DLBC	**Dease Lake**	**13.97**	**110**	Pn	**Pn**	**14 21 06.7**	**+10**
DLBC				Lg		14 24 59.6	
DLBC				LR	LR	14 27 37.5	
BILL	**Bilibino** 8.6nm,0.6s	**14.93**	**295**	*e*Pn	**Pn**	**14 21 20.6**	**+11**
YKA	**Yellowknife Ar** 0.1nm,0.3s,baz=295,slow=12,SNR=4.4	**17.89**	**82**	P	**Pn**	**14 21 48.9**	**+1.7**
YKA				LR	LR	14 29 22.6	
	comp=Z,88nm,19.6s,baz=115,slow=40						
SMY	**Shemya** 43nm,0.3s	**20.09**	**244**	P	**P**	**14 22 07.3**	**-4.8**
PETK	**Petropavlovsk-** comp=Z,63nm,19.6s,MS3.2,baz=267,slow=39	**26.24**	**264**	LR	LR	14 34 41.6	
ULM	**Lac du Bonnet** comp=Z,230nm,18.3s,MS3.9,baz=282,slow=38	**33.66**	**88**	LR	LR	14 38 51.2	
PDAR	**Pinedale Array** 0.8nm,0.9s,mb3.6,baz=327,slow=6.5,SNR=5.1	**34.20**	**110**	P	**P**	**14 24 27.9**	**+3.7**
ARCES	**ARCESS Array B** comp=Z,62nm,18.4s,MS3.6,baz=108,slow=40	**44.81**	**359**	LR	LR	14 47 47.6	
CN2	**Changchun**	**46.73**	**282**	*e*P	**P**	**14 26 03.3**	**-4.4**
TXAR	**Lajitas Array** comp=Z,62nm,19.5s,MS3.6,baz=5.0,slow=37	**48.26**	**113**	LR	LR	14 47 31.4	
SONM	**Songino Array** 0.9nm,0.9s,mb3.7,baz=46,slow=8.3,SNR=3.8	**50.58**	**300**	P	**P**	**14 26 42.3**	**+5.0**
SONM				LR	LR	14 50 07.7	
	comp=Z,80nm,18.2s,MS3.8,baz=73,slow=38						
KSRS	**Korea Array** comp=Z,21nm,19.3s,MS3.2,baz=20,slow=36	**51.09**	**276**	LR	LR	14 48 36.3	
ZALV	**Zalesovo Beam** 0.5nm,0.3s,mb3.9,baz=37,slow=7.6,SNR=4.7	**52.01**	**319**	P	**P**	**14 26 51.2**	**+3.4**
HHC	**Hu-ho-hao-te**	**54.67**	**292**	*e*P	**P**	**14 27 05.8**	**-1.8**
HHC				AP		14 27 10.5	
HHC				XP	sP	14 27 13.0	+4.8
HHC				SCP	ScP	14 32 04.0	-5.4
HHC				S	**S**	**14 34 42.5**	**-5.6**
HHC				XS	sS	14 34 49.5	+0.7
HHC				SCS	ScS	14 36 51.0	-6.5
HHC				SS	SS	14 38 24.3	-5.9
HHC				AMB	AMB		
	comp=Z,14nm,1.0s,mb5.0						
HHC				AMB	AMB		
	comp=Z,166nm,5.2s						
HHC				LR	LR		
	comp=N,114nm,13.0s,MS4.3						
HHC				LR	LR		
	comp=E,117nm,13.3s,MS4.3						
HHC				LR	LR		
	comp=Z,107nm,13.7s,MS4.1						
MKAR	**Makanchi Array** comp=Z,0.8nm,0.8s,mb3.8,baz=35,slow=7.0,SNR=7.4	**59.18**	**317**	P	**P**	**14 27 42.2**	**+2.7**
WMQ	**Urumqi**	**60.31**	**312**	*e*P	**P**	**14 27 47.8**	**+0.5**
XAN	**Xi'an**	**61.64**	**290**	P	**P**	**14 27 53.0**	**-3.5**
XAN				AP		14 27 56.0	
XAN				XP	sP	14 27 57.5	+0.4
XAN				AMB	AMB		
	comp=Z,1.0nm,0.6s,mb4.1						
LZH	**Lanzhou**	**61.74**	**295**	*e*P	**P**	**14 27 56.0**	**-1.2**
LZH				AP		14 27 59.0	
LZH				XP	sP	14 28 01.0	+3.2
LZH				AMB	AMB		
	comp=Z,13nm,1.0s,mb5.0						
LZH				AMB	AMB		
	comp=Z,55nm,4.3s						
CD2	**Chengdu**	**66.39**	**293**	*e*P	**P**	**14 28 25.5**	**-2.3**
CD2				AP		14 28 30.5	
CD2				XP	sP	14 28 33.3	+4.9
CD2				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb5.0						
CD2				AMB	AMB		
	comp=Z,30nm,4.2s						
GYA	**Guiyang**	**69.26**	**288**	P	**P**	**14 28 44.5**	**-1.4**
GYA				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb4.7						

*ISCJB **26** 14:30:12.4±1.4, 3954N±006×207E±0.1, h17km±12km, Error ellipse: s-maj=14.9km s-min=10.8km az=173.3*
*ATH **26** 14:30:12.6, 3955N×2070E, h18km, MD3.2/4*
*CSEM **26** 14:30:12.6±0.1, 3963N×2074E, h24km, MD3.2, Error ellipse: s-maj=4.2km s-min=2.7km az=43.0*

ISC 26 14:30:12.3±1.4, 3953N±007×207E±01, h17km±8km, n13, σ1§01/18, Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JAN	**Janina**	**0.20**	**49**	*e*Pb	**Pg**	**14 30 16.8**	**-0.3**
JAN	**Janina**	**0.20**	**49**	*e*PB	**Pg**	**14 30 16.8**	**-0.3**
KEK	**Kerkira**	**0.69**	**286**	*e*Pn	**Pn**	**14 30 26.4**	**-0.9**
KEK	**Kerkira**	**0.69**	**286**	*e*PN	**Pn**	**14 30 26.4**	**-0.9**
THL	**Klokotos Trika**	**1.05**	**87**	*e*Pn	**Pn**	**14 30 32.1**	**-0.2**
THL	**Klokotos Trika**	**1.05**	**87**	*e*PN	**Pn**	**14 30 32.1**	**-0.2**
EVR	**Evrytania**	**1.08**	**124**	*e*Pn	**Pn**	**14 30 32.9**	**+0.2**
EVR	**Evrytania**	**1.08**	**124**	*e*PN	**Pn**	**14 30 32.9**	**+0.2**
BIA	**Bitola**	**1.58**	**19**	*i* Pn	**Pn**	**14 30 38.8**	**-0.7**
BIA				*i* Sn	**Sn**	**14 30 57.7**	**-1.9**
OHR	**Ohrid**	**1.59**	**4**	*e*Pn	**Pn**	**14 30 41.8**	**+2.0**
OHR				*i* Sn	**Sn**	**14 31 00.1**	**+0.3**
OHR	**Ohrid**	**1.59**	**4**	*e*Pn	**Pn**	**14 30 41.7**	**+2.0**
OHR				*i* Sn	**Sn**	**14 31 00.1**	**+0.2**
KRUS	**Krusevo**	**1.90**	**14**	*i* Pn	**Pn**	**14 30 45.2**	**+1.3**
KRUS				*i* Sn	**Sn**	**14 31 07.9**	**+0.4**
KRUS	**Krusevo**	**1.90**	**14**	*i* Pn	**Pn**	**14 30 45.2**	**+1.3**
KRUS				*i* Sn	**Sn**	**14 31 07.8**	**+0.3**

*ISCJB **26** 14:32:43.5±1.0, 3974N±003×2075E±005, h1km±7km, Error ellipse: s-maj=7.0km s-min=4.2km az=5.6*
*ATH **26** 14:32:43.2, 3976N×2069E, h18km, MD3.3/6*
*CSEM **26** 14:32:43.4±0.1, 3981N×2074E, h8km, MD3.3, Error ellipse: s-maj=3.9km s-min=2.6km az=96.0*
*THE **26** 14:32:44.3, 3975N×2070E, h7km±2km, ML3.5/2, Error ellipse: s-maj=3.2km s-min=1.1km az=111.0*
*NEIC **26** 14:32:44.3, 3975N×2070E, h7km, MD3.3(ATH), ML3.5(THE), After THE.*

ISC 26 14:32:45.6±0.7, 3972N±003×2083E±007, h12km±4km, n27, σ1§19/43, Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JAN	**Janina**	**0.06**	**167**	*e*Pb	**Pg**	**14 32 47.5**	**-0.5**
JAN				*e*Sb	**Sg**	**14 32 50.4**	**+0.6**
JAN	**Janina**	**0.06**	**167**	*e*PB	**Pg**	**14 32 47.5**	**-0.5**
JAN				*e*SB	**Sg**	**14 32 50.4**	**+0.6**
MEV	**Metsovon**	**0.31**	**78**	P	**Pg**	**14 32 51.7**	**-0.2**
MEV				S	**Sg**	**14 32 58.7**	**+2.5**
KEK	**Kerkira**	**0.80**	**270**	*e*Pn	**Pg**	**14 32 56.6**	**-4.4**
KEK	**Kerkira**	**0.80**	**270**	*e*PN	**Pg**	**14 32 56.6**	**-4.4**
THL	**Klokotos Trika**	**0.93**	**99**	P	**Pg**	**14 33 02.7**	**-0.7**
THL	**Klokotos Trika**	**0.93**	**99**	*e*Pn	**Pn**	**14 33 03.3**	**-1.0**
THL	**Klokotos Trika**	**0.93**	**99**	*e*PN	**Pn**	**14 33 03.3**	**-1.0**
KZN	**Kozani**	**0.93**	**51**	*e*Pn	**Pn**	**14 33 02.4**	**-2.0**
KZN				*e*Sn	**Sn**	**14 33 16.0**	**-1.7**
KZN	**Kozani**	**0.93**	**51**	*e*PN	**Pn**	**14 33 02.4**	**-2.0**
KZN				*e*SN	**Sn**	**14 33 16.0**	**-1.7**
LKD	**Levkas**	**1.02**	**188**	P	**Pb**	**14 33 03.6**	**-1.5**
LKD				S	**Sb**	**14 33 19.9**	**+1.5**
EVR	**Evrytania**	**1.10**	**136**	*e*Pn	**Pn**	**14 33 06.3**	**-0.5**
EVR	**Evrytania**	**1.10**	**136**	*e*PN	**Pn**	**14 33 06.3**	**-0.5**
FNA	**Florina**	**1.14**	**21**	P	**Pb**	**14 33 05.3**	**-1.9**
FNA				S	**Sb**	**14 33 23.5**	**+1.5**
LIT	**Litokhoron**	**1.33**	**73**	P	**Pn**	**14 33 09.5**	**-0.4**
AGG	**Agios Georgios**	**1.35**	**120**	P	**Pn**	**14 33 10.3**	**+0.1**
BIA	**Bitola**	**1.35**	**16**	*i* Pn	**Pn**	**14 33 09.0**	**-1.3**
BIA				*i* Sn	**Sn**	**14 33 28.0**	**-0.1**
BIA	**Bitola**	**1.35**	**16**	P	**Pn**	**14 33 08.5**	**-1.7**
BIA	**Bitola**	**1.35**	**16**	*i* Pn	**Pn**	**14 33 08.9**	**-1.3**
BIA				*i* Sn	**Sn**	**14 33 28.0**	**-0.1**
OHR	**Ohrid**	**1.39**	**359**	*e*Pn	**Pn**	**14 33 09.9**	**-0.9**
OHR				*i* Sn	**Sn**	**14 33 29.6**	**+0.5**
OHR	**Ohrid**	**1.39**	**359**	*e*Pn	**Pn**	**14 33 09.8**	**-1.0**
OHR				*i* Sn	**Sn**	**14 33 29.5**	**+0.4**
VLS	**Valsamata**	**1.55**	**187**	*e*Pn	**Pn**	**14 33 13.1**	**+0.2**
VLS				*e*Sn	**Sn**	**14 33 34.2**	**+1.3**
VLS	**Valsamata**	**1.55**	**187**	*e*PN	**Pn**	**14 33 13.1**	**+0.2**
VLS				*e*SN	**Sn**	**14 33 34.2**	**+1.3**
KRUS	**Krusevo**	**1.68**	**11**	*i* Pn	**Pn**	**14 33 15.8**	**+1.1**
KRUS				*i* Sn	**Sn**	**14 33 37.8**	**+1.7**
GRG	**Griva**	**1.72**	**44**	P	**Pn**	**14 33 15.2**	**-0.1**
VAY	**Valandovo**	**2.08**	**39**	*e*Pn	**Pn**	**14 33 47.0**	**+1.0**
VAY				*i* Sn	**Sn**	**14 33 47.0**	**+1.0**
VAY	**Valandovo**	**2.08**	**39**	*e*Pn	**Pn**	**14 33 22.0**	**+1.8**
VAY				*i* Sn	**Sn**	**14 33 46.9**	**+0.9**

*ISK **26** 14:55:10.6, 3724N×2788E, h22km, MD2.7*
*DDA **26** 14:55:11.0, 3707N×2797E, h7km±2km, Md2.0*
*ISCJB **26** 14:55:11.3±0.7, 3710N±005×2793E±004, h13km±5km, Error ellipse: s-maj=8.1km s-min=4.9km az=13.1*
*CSEM **26** 14:55:11.6±0.2, 3717N×2788E, h7km±2km, MD2.7, Error ellipse: s-maj=4.4km s-min=2.8km az=5.0*

ISC 26 14:55:11.6±1.2, 3711N±004×2795E±004, h11km±19km, n7, σ1§00/14, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MLSB	**Milas**	**0.23**	**323**	*e*PG	**Pg**	**14 55 14.9**	**-1.5**
MLSB				*e*SG	**Sg**	**14 55 18.5**	**-1.1**
YER	**Yerkesik**	**0.27**	**85**	*e*PG	**Pg**	**14 55 18.6**	**+1.5**
YER				*e*SG	**Sg**	**14 55 24.0**	**+3.3**
BDRM	**Kayabasi**	**0.41**	**263**	*i* P	**Pg**	**14 55 19.6**	**0.0**
BDRM				*i* S	**Sg**	**14 55 26.0**	**+1.0**
BODT	**Bodrum**	**0.51**	**265**	*e*PG	**Pg**	**14 55 20.9**	**-0.7**
BODT				*e*SG	**Sg**	**14 55 28.7**	**+0.3**
AYDN	**Tasoluk**	**0.55**	**354**	*i* P	**Pg**	**14 55 22.4**	**+0.1**
AYDN				*i* S	**Sg**	**14 55 29.4**	**-0.2**
TURN	**Turunc**	**0.57**	**114**	*i* P	**Pg**	**14 55 21.8**	**-1.0**
TURN				*i* S	**Sg**	**14 55 29.5**	**-0.9**
GCAM	**G?zelcaml?**	**0.82**	**316**	*e*P	**Pg**	**14 55 27.4**	**+0.1**
GCAM				*i* S	**Sg**	**14 55 39.4**	**+1.3**

IDC 26 14:59:30.0±2.7, 505N×9364E, h0km, mb3.7/3, mb1 3.8/4, mb1mx3.6/20, mbtmp3.7/4, ML4.1/1, Error ellipse: s-maj=106.7km s-min=26.5km az=62.0, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CMAR	**Chiang Mai Arr** 0.3nm,0.3s,baz=210,slow=14,SNR=8.0	**14.29**	**21**	Pn	Pn	15 02 53.5	-0.3
MKAR	**Makanchi Array** 1.1nm,0.6s,baz=166,slow=7.7,SNR=13	**42.73**	**349**	P	P	15 07 29.1	+0.2
ASAR	**Alice Springs** 0.2nm,0.4s,baz=297,slow=8.0,SNR=17	**48.54**	**128**	P	P	15 08 15.3	0.0
ZALV	**Zalesovo Beam** 0.5nm,0.3s,baz=180,slow=7.4,SNR=3.9	**49.28**	**353**	P	P	15 08 20.1	-0.4

*ISCJB **26** 15:10:11.9±0.5, 2478N±004×12289E±002, h122km±4km, Error ellipse: s-maj=6.3km s-min=2.7km az=170.4*
*TAP **26** 15:10:11.5, 2481N×12287E, h129km, ML4.2, C*
*JMA **26** 15:10:12.6±0.2, 2489N×12292E, h119km±3km, M3.3*

ISC 26 15:10:12.6±0.6, 2479N±004×12289E±002, h121km±5km, n53, σ0§72/93, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
YOJ	**Yonaguni jima**	**0.34**	**161**	P	**Pn**	**15 10 30.0**	**+0.2**
YOJ				S	**Sn**	**15 10 43.8**	**+1.0**
TWB1	**Santiao Chiao** baz=282	**0.85**	**285**	*i* P	**Pn**	**15 10 33.3**	**+0.1**
TWB1				S	**Sn**	**15 10 49.2**	**+0.3**
IRIF	**Iriomote-Funau** baz=282	**0.89**	**120**	P	**Pn**	**15 10 33.6**	**0.0**
IRIF				S	**Sn**	**15 10 50.0**	**+0.5**
TWC	**Suao** baz=252	**0.96**	**259**	*i* P	**Pn**	**15 10 33.9**	**-0.4**
TWC				S	**Sn**	**15 10 50.1**	**-0.7**
ILA	**Ilan** baz=261	**1.04**	**269**	*e*S	**Sn**	**15 10 52.5**	**+0.5**
NWF	**Wu-fen Shan** baz=284	**1.04**	**286**	*e*P	**Pn**	**15 10 35.3**	**+0.2**
NWF				*e*S	**Sn**	**15 10 52.3**	**+0.1**
ENA	**Nanau** baz=250	**1.11**	**251**	*i* P	**Pn**	**15 10 35.6**	**-0.1**
ENA				*e*S	**Sn**	**15 10 53.8**	**+0.5**
HATJ	**Hateruma jima**	**1.11**	**131**	P	**Pn**	**15 10 36.5**	**+0.7**
HATJ				*e*S	**Sn**	**15 10 53.9**	**+0.6**
TWE	**Neicheng** baz=261	**1.11**	**267**	*i* P	**Pn**	**15 10 35.7**	**-0.1**
TWE				*e*S	**Sn**	**15 10 53.1**	**-0.3**
JKRS	**Kuro-shima** baz=270	**1.16**	**118**	P	**Pn**	**15 10 36.8**	**+0.5**
JKRS				*e*S	**Sn**	**15 10 54.5**	**+0.3**
TWA	**Mucha** baz=270	**1.20**	**279**	P	**Pn**	**15 10 36.6**	**-0.1**
TWA				*e*S	**Sn**	**15 10 54.9**	**-0.1**
JIJ	**Ishigaki jima** baz=274	**1.22**	**110**	P	**Pn**	**15 10 36.8**	**-0.1**
JIJ				S	**Sn**	**15 10 54.7**	**-0.6**
TWS1	**Kuangyinshan** baz=274	**1.37**	**283**	*e*P	**Pn**	**15 10 38.6**	**0.0**
TWS1				*e*S	**Sn**	**15 10 58.1**	**-0.3**
TWD	**Chiawan** baz=234	**1.37**	**239**	*i* P	**Pn**	**15 10 37.9**	**-0.8**
TWD				*e*S	**Sn**	**15 10 57.9**	**-0.5**
NSK	**Sanguang** baz=258	**1.40**	**266**	*i* P	**Pn**	**15 10 38.9**	**0.0**
NSK				*e*S	**Sn**	**15 10 58.5**	**-0.3**
HWA	**Hwalien** baz=234	**1.42**	**256**	*i* P	**Pn**	**15 10 39.1**	**-0.1**
NNS	**Nan Shan** baz=250	**1.42**	**256**	*i* P	**Pn**	**15 10 39.1**	**-0.1**
NNS				*e*S	**Sn**	**15 10 59.0**	**-0.4**
WHF	**Hehuan Shan** baz=246	**1.61**	**247**	*i* P	**Pn**	**15 10 41.5**	**+0.1**
WHF				*e*S	**Sn**	**15 11 03.2**	**-0.1**
ESL	**Shilin** baz=233	**1.65**	**234**	*i* P	**Pn**	**15 10 40.8**	**-1.0**
ESL				*e*S	**Sn**	**15 11 02.4**	**-1.7**
JTJ	**Tarama**	**1.66**	**95**	P	**Pn**	**15 10 41.9**	**0.0**
JTJ				*e*S	**Sn**	**15 11 03.8**	**-0.4**
NSTT	**Nanjuang** baz=264	**1.73**	**265**	P	**Pn**	**15 10 42.4**	**-0.3**
NSTT				*e*S	**Sn**	**15 11 04.5**	**-1.2**
EHY	**Hungye** baz=235	**1.92**	**229**	*i* P	**Pn**	**15 10 43.9**	**-1.2**
NSY	**Sanyi** baz=258	**1.97**	**260**	*e*P	**Pn**	**15 10 45.8**	**+0.1**
NSY				*e*S	**Sn**	**15 11 11.0**	**-0.1**
TWQ1	**Liyutan** baz=256	**1.98**	**258**	*e*P	**Pn**	**15 10 45.7**	**-0.1**
TWQ1				*e*S	**Sn**	**15 11 10.8**	**-0.4**
SMLT	**Sun Moon Lake** baz=239	**2.03**	**244**	*i* P	**Pn**	**15 10 46.8**	**+0.4**
SMLT				*e*S	**Sn**	**15 11 12.7**	**+0.4**
TWF1	**Yuli** baz=232	**2.04**	**226**	*i* P	**Pn**	**15 10 45.7**	**-0.9**
TWF1				*e*S	**Sn**	**15 11 11.4**	**-1.2**
TYC	**Yuchr** baz=242	**2.05**	**245**	*i* P	**Pn**	**15 10 47.2**	**+0.5**
TYC				*e*S	**Sn**	**15 11 13.4**	**+0.5**
TCU	**Taichung** baz=252	**2.12**	**253**	*e*S	**Sn**	**15 11 13.8**	**-0.4**
CHKT	**Chengkung** baz=219	**2.19**	**220**	*i* P	**Pn**	**15 10 47.3**	**-1.1**
CHKT				*e*S	**Sn**	**15 11 14.1**	**-1.7**
JMJ	**Miyako jima 2**	**2.19**	**89**	P	**Pn**	**15 10 48.7**	**+0.3**
JMJ				*e*S	**Sn**	**15 11 15.5**	**-0.3**
YUS	**Yu-Shan** baz=231	**2.19**	**234**	*i* P	**Pn**	**15 10 49.0**	**+0.5**
YUS				*e*S	**Sn**	**15 11 15.9**	**-0.1**
WNT	**Mingjian** baz=253	**2.21**	**246**	*e*P	**Pn**	**15 10 49.1**	**+0.4**
JOGS	**Gusukube**	**2.29**	**90**	P	**Pn**	**15 10 50.1**	**+0.4**
JOGS				*e*S	**Sn**	**15 11 18.3**	**+0.2**
ALS	**Alishan** baz=236	**2.29**	**237**	*e*P	**Pn**	**15 10 50.5**	**+0.7**
ALS				*e*S	**Sn**	**15 11 19.1**	**+0.8**
ELDTW	**Lidau** baz=226	**2.34**	**227**	P	**Pn**	**15 10 49.8**	**-0.6**
CHN5	**Tsauling** baz=231	**2.34**	**240**	*i* P	**Pn**	**15 10 50.9**	**+0.5**
CHN5				S	**Sn**	**15 11 20.5**	**+1.1**
WGK	**Gukeng** baz=242	**2.39**	**243**	*e*P	**Pn**	**15 10 51.7**	**+0.7**
WGK				*e*S	**Sn**	**15 11 21.7**	**+1.2**
STYT	**Tauyuan** baz=230	**2.54**	**231**	*i* P	**Pn**	**15 10 53.2**	**+0.3**
STYT				*e*S	**Sn**	**15 11 24.6**	**+0.7**
CHN2	**Minshiung** baz=249	**2.54**	**241**	*e*S	**Sn**	**15 11 24.5**	**+0.7**
CHN4	**Tsaushan** baz=236	**2.54**	**236**	*e*P	**Pn**	**15 10 53.4**	**+0.5**
CHN4				*e*S	**Sn**	**15 11 24.5**	**+0.6**
TWG	**Pinlang** baz=220	**2.57**	**221**	*i* P	**Pn**	**15 10 52.0**	**-1.3**
TWG				*e*S	**Sn**	**15 11 23.6**	**-1.1**
WTP	**Ta-pu** baz=233	**2.59**	**234**	P	**Pn**	**15 10 53.7**	**+0.2**
WTP				*e*S	**Sn**	**15 11 26.7**	**+1.7**
TWK	**Hsinying** baz=235	**2.67**	**236**	*e*P	**Pn**	**15 10 55.2**	**+0.6**
TWK				*e*S	**Sn**	**15 11 27.3**	**+0.4**
CHN1	**Nanshi** baz=233	**2.69**	**234**	P	**Pn**	**15 10 55.2**	**+0.4**
CHN1				*e*S	**Sn**	**15 11 27.8**	**+0.5**
WSF	**Szhu** baz=245	**2.69**	**245**	*e*S	**Sn**	**15 11 27.1**	**-0.3**
SGST	**Jiashian** baz=231	**2.71**	**232**	P	**Pn**	**15 10 55.7**	**+0.6**
SGST				*e*S	**Sn**	**15 11 28.0**	**+0.1**
ECL	**Taimali** baz=219	**2.81**	**220**	P	**Pn**	**15 10 54.9**	**-1.5**
ECL				*e*S	**Sn**	**15 11 28.4**	**-1.9**
SSD	**Sandimen** baz=226	**2.90**	**226**	*i* P	**Pn**	**15 10 58.4**	**+0.7**
SSD				*e*S	**Sn**	**15 11 34.1**	**+1.8**
TWM1	**Shoushan** baz=229	**2.99**	**230**	*e*P	**Pn**	**15 11 00.8**	**+2.0**
LAY	**Lan-yu** baz=204	**3.00**	**204**	P	**Pn**	**15 10 58.0**	**-1.0**
EAST	**Anshuo** baz=220	**3.04**	**218**	P	**Pn**	**15 10 58.6**	**-0.9**
SCZT	**Fangliau** baz=216	**3.18**	**221**	*e*P	**Pn**	**15 11 01.5**	**+0.2**
JKE	**Kume jima 2**	**3.84**	**66**	*e*S	**Sn**	**15 11 53.8**	**-0.6**

*MOS **26** 15:23:27.5±1.1, 5472N×16172W, h39km, mb5.8/124, MS4.9/71, Error ellipse: s-maj=7.5km s-min=7.3km az=99.7*
*ISCJB **26** 15:23:28.7±0.4, 5457N±002×16170W±002, h42km±3km, mb5.6/357, MS4.9/181, Error ellipse: s-maj=3.9km s-min=1.8km az=17.8*
*SZGRF **26** 15:23:28.3, 5441N×16189W, h33km, mb6.0, MS4.6, Alaska Peninsula, United States*
*IDC **26** 15:23:29.1±1.6, 5455N×16175W, h34km±10km, mb5.3/32, mb1 5.3/34, mb1mx5.3/35, mbtmp5.2/34, ML4.7/2, MS4.7/15, Ms1 4.7/15, ms1mx4.6/25, Error ellipse: s-maj=14.6km s-min=9.2km az=3.0*
*GCMT **26** 15:23:30.0±0.1, 5411N×16165W, h52km, MW5.5/97, Moment Tensor Solution. s92,c173; s97,c192; Duration: 1§3 Moment tensor: Scale 10^{17}Nm; M_{rr}1.39±.03; $M_{\theta\theta}$-1.85±.02; $M_{\phi\phi}$0.46±.02; $M_{r\theta}$1.02±.02; $M_{\theta\phi}$-0.10±.02; $M_{r\phi}$0.23±.02; Best double couple: M_o1.93400×10^{17} NP1:ϕ_s277.00000°, δ29.00000°, λ105.00000°. NP2:ϕ_s80.00000°, δ62.00000°, λ82.00000°. Principal axes: T 1.7130, Plg72.0000°, Azm331.0000°; N 0.4430, Plg7.0000°, Azm84.0000°; P -2.1540, Plg16.0000°, Azm176.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **26** 15:23:30.0±0.3, 5452N×16171W, h43km±2km, mb5.5/222, MS4.9/135, ML5.2(PMR), ML5.4(AEIC) Error ellipse: s-maj=3.5km s-min=2.0km az=189.0*
*NEIC Felt at King Cove and Sand

AKUT	**Akutan**	2.40	261	*e*P		Pn	15 24 07.4	-0.3
AKLV	**Akutan Long Va**	2.50	262	P		Pn	15 24 09.3	+0.2
AKGG	**Akutan Green G**	2.51	263	P		Pn	15 24 09.8	+0.5
AKGG				S		Sn	15 24 43.3	+4.7
CHGN	**Chignik**	2.56	47	P		Pn	15 24 10.0	+0.2
UNV	**Unalaska Valle**	2.89	257	P		Pn	15 24 13.9	-0.5
UNV				S		Sn	15 24 50.7	+2.8
OKCD	**Okmok Cone D**	3.93	255	P		Pn	15 24 29.0	+0.3
OKCE	**Okmok Cone E**	3.96	256	P		Pn	15 24 29.7	+0.6
NIKO	**Nikolski**	4.52	252	P		Pn	15 24 36.8	+0.1
OHAK	**Old Harbor**	5.44	58	*e*P		Pn	15 24 46.7	-2.6
	59nm,1.1s							
SPIA	**Saint Paul Isl**	5.44	302	P		Pn	15 24 50.8	+1.4
KDAK	**Kodiak Island**	6.03	54	Pn		Pn	15 24 55.0	-2.5
	4µm,0.6s,SNR=97							
KDAK	**Kodiak Island**	6.03	54	Pn		Pn	15 24 55.2	-2.2
	31nm,0.3s,baz=226,slow=7.4,SNR=111							
KDAK				Sn		Sn	15 25 59.3	-5.8
	32nm,0.3s,baz=246,slow=7.0,SNR=3.8							
KDAK	**Kodiak Island**	6.03	54	P		Pn	15 24 55.6	-1.8
SVW2	**Sparrevohn**	7.30	24	*e*P		Pn	15 25 15.2	+0.3
SVW2				P			15 25 15.8	
SLKM	**Skilak Lake**	8.57	42	P		Pn	15 25 32.3	+0.1
SEW	**Seward**	8.64	45	P		Pn	15 25 32.5	-0.6
TT01	**Tatalina**	8.85	17	P		Pn	15 25 36.9	+0.8
RC01	**Rabbit Creek A**	9.12	40	P		Pn	15 25 39.1	-0.6
SKT	**Skwentna**	9.14	32	P		Pn	15 25 41.0	+1.0
ADK	**Adak**	9.36	259	P		Pn	15 25 42.9	-0.2
PMR	**Palmer**	9.67	38	*e*P		Pn	15 25 45.3	-2.0
PMR				pmax		pmax		
	comp=Z,110nm,0.8s							
PMR	**Palmer**	9.67	38	*e*Pn		Pn	15 25 45.3	-1.9
	comp=Z,110nm,0.8s							
PPLA	**Purkeypile**	9.69	27	P		Pn	15 25 49.5	+2.1
EYAK	**Cordova Ski Ar**	10.45	49	*e*Pn		Pn	15 25 55.1	-2.7
	comp=Z,118nm,0.5s							
GAMB	**Gambell**	10.52	335	*e*Pn		Pn	15 26 02.3	+3.5
TNA	**Tin City**	11.42	347	*e*Pn		Pn	15 26 14.2	+3.0
	comp=Z,276nm,0.7s							
AMKA	**Amchitka**	11.86	262	*e*Pn		Pn	15 26 14.1	-3.2
IMA2	**Indian Mountai**	12.17	16	*e*P		Pn	15 26 22.5	+1.1
COLA	**College**	12.43	28	⇑*i*P		Pn	15 26 21.4	-3.5
COLA	**College**	12.43	28	*e*Pn		Pn	15 26 21.2	-3.6
	comp=Z,110nm,0.9s							
HYT	**Haines Junctio**	14.32	54	*e*Pn		Pn	15 26 49.1	-1.6
SMY	**Shemya**	14.43	272	*e*P		Pn	15 26 50.2	-1.9
EGAK	**Eagle**	14.49	37	*e*Pn		Pn	15 26 49.0	-3.8
DAWY	**Dawson**	14.75	41	*e*Pn		Pn	15 26 54.0	-2.3
SKAG	**Skagway**	15.13	61	*e*P		Pn	15 27 02.5	+1.3
	comp=Z,30nm,0.7s							
WRAK	**Wrangell Islan**	16.70	72	*e*Pn		Pn	15 27 19.9	-1.3
	comp=Z,154nm,1.0s							
DLBC	**Dease Lake**	17.82	65	P		Pn	15 27 35.4	+0.3
	comp=Z,1.1nm,0.3s,baz=284,slow=8.5,SNR=11							
DLBC				LR		LR	15 34 46.3	
	comp=Z,2µm,18.1s,baz=279,slow=38							
DLBC	**Dease Lake**	17.82	65	*e*P		Pn	15 27 35.4	+0.3
INK	**Inuvik**	19.00	33	*e*P		Pn	15 27 44.9	-4.3
	comp=Z,2µm,0.8s							
BILL	**Bilibino**	20.09	325	*c i*P		P	15 27 57.9	-2.2
BILL				pmax		pmax		
	comp=Z,85nm,1.0s							
BILL	**Bilibino**	20.09	325	*e*Pn		P	15 28 00.3	+0.2
	comp=Z,211nm,1.0s							
BILL				LR		LR		
	comp=Z,12µm,19.0s,MS5.3							
BBB	**Bella Bella**	20.09	83	P		P	15 28 01.3	+1.1
	comp=Z,22nm,0.9s,baz=291,slow=14,SNR=4.2							
BBB				S		S	15 31 50.2	+7.2
	comp=Z,13nm,1.1s,baz=106,slow=11,SNR=2.1							
BBB				PcP		PcP	15 32 13.1	-0.5
	comp=Z,4.3nm,0.6s,baz=338,slow=5.4,SNR=8.2							
BBB				LR		LR	15 34 53.7	
	comp=Z,2µm,18.7s,MS4.4,baz=294,slow=34							
BBB	**Bella Bella**	20.09	83	P		P	15 28 01.3	+1.1
BBB				S		S	15 31 50.2	+7.2
BBB				PcP		PcP	15 32 13.1	-0.5
BBB				LR		LR	15 34 53.7	
PET	**Petropavlovsk**	23.23	282	*ce*P		P	15 28 31.9	-1.8
PET				*e**PP			15 28 46.9	
PET				*e*S		S	15 32 36.7	-5.0
PET				pmax		pmax		
	comp=Z,2µm,4.8s							
PET				pmax		pmax		
	comp=Z,600nm,9.4s							
PET				pmax		pmax		
	comp=Z,586nm,1.0s,mb6.0							
PET				MLR		MLR		
	comp=Z,3µm,21.0s,MS4.7							
PET				MLR		MLR		
	comp=Z,3µm,18.0s							
PET	**Petropavlovsk**	23.23	282	*e*P		P	15 28 32.6	-1.1
	comp=Z,509nm,1.0s,mb5.9							
PEA0B	**Petropavlovsk-**	23.74	283	*e*Pn		P	15 28 37.5	-1.0
PETK	**Petropavlovsk-**	23.74	283	P		P	15 28 37.6	-0.9
	comp=Z,205nm,0.6s,mb5.7,baz=76,slow=14,SNR=213							
PETK				PcP		PcP	15 32 20.2	-0.6
	comp=Z,10nm,0.9s,baz=75,slow=5.1,SNR=4.0							
PETK				LR		LR	15 37 54.8	
	comp=Z,2µm,20.2s,MS4.5,baz=82,slow=36							
PGC	**Sidney**	24.28	88	*e*P		P	15 28 43.6	+0.2
	comp=Z,60nm,0.9s,mb5.0							
B04A	**Port Angeles**	24.54	90	⇓P		P	15 28 46.3	+0.6
	baz=24							
SEY	**Seymchan**	24.70	308	⇑*e*P		P	15 28 45.9	-1.2
SEY	**Seymchan**	24.70	308	⇑*e*P		P	15 28 45.0	-2.1
A05A	**Maple Falls**	24.91	87	⇑P		P	15 28 49.9	+0.9
	baz=25							
C04A	**Brinnon**	25.02	90	⇓P		P	15 28 50.8	+0.7
	baz=25,SNR=9.6							
MBW	**Mount Baker**	25.11	87	P		P	15 28 51.5	+0.5
CMW	**Cultus Mountai**	25.16	88	P		P	15 28 52.2	+0.8
GNW	**Green Mountain**	25.18	90	*e*P		P	15 28 52.3	+0.7
	comp=Z,80nm,1.4s,mb5.1							
B05A	**Bryant**	25.25	88	⇓P		P	15 28 52.8	+0.6
	baz=25,SNR=15							
YKW3	**Yellowknife Ar**	25.30	53	*e*P		P	15 28 51.8	-0.7
YKA	**Yellowknife Ar**	25.31	53	P		P	15 28 52.2	-0.4
	comp=Z,14nm,0.5s,mb4.8,baz=272,slow=8.5,SNR=55							
YKA				PcP		PcP	15 32 23.3	-0.8
	comp=Z,10nm,0.6s,baz=282,slow=2.0,SNR=8.8							
YKA				ScP		ScP	15 35 59.7	+0.7
	comp=Z,6.5nm,0.9s,baz=274,slow=2.8,SNR=7.9							
YKA				LR		LR	15 39 55.4	
	comp=Z,2µm,19.5s,MS4.5,baz=155,slow=39							
YKA				P3KPbc			16 01 50.1	
	comp=Z,0.8nm,0.5s,baz=96,slow=5.0,SNR=8.6							
YKA	**Yellowknife Ar**	25.31	53	P		P	15 28 52.2	-0.4
YKA							15 32 23.3	
YKA	**Yellowknife Ar**	25.31	53	P		P	15 28 52.2	-0.4
YKA				PcP		PcP	15 32 23.3	-0.8
YKA				ScP		ScP	15 35 59.7	+0.7
YKA				LR		LR	15 39 55.4	
YKA				*e*			16 01 50.1	
JCW	**Jim Creek**	25.38	88	*e*P		P	15 28 53.4	0.0
RPW	**Rockport**	25.50	87	P		P	15 28 54.5	+0.1
SKR	**Severo-Kuril's**	25.58	279	*e*P		P	15 28 52.5	-2.7
SKR				pmax		pmax		
	comp=Z,270nm,0.8s,mb5.8							
SKR				pmax		pmax		
	comp=N,130nm,1.0s							
SKR				pmax		pmax		
	comp=E,180nm,1.0s							
SKR				pmax		pmax		
	comp=Z,2µm,6.0s							
SKR				MLR		MLR		
	comp=N,3µm,20.0s,MS5.0							
SKR				MLR		MLR		
	comp=E,3µm,20.0s,MS5.0							
SKR				MLR		MLR		
	comp=Z,3µm,20.0s,MS4.8							
HTW	**Haystack Looko**	25.67	89	P		P	15 28 56.5	+0.5
C05A	**Tolt Reservoir**	25.77	89	⇓P		P	15 28 57.1	+0.1
	baz=26,SNR=14							
D05A	**Enumclaw**	25.86	90	⇑P		P	15 28 58.4	+0.6
	baz=26,SNR=13							
A07A	**Ashnola River,**	25.87	85	⇓P		P	15 28 58.0	+0.2
	baz=26,SNR=13							
LON	**Longmire**	26.20	91	*e*P		P	15 29 02.0	+1.2
F04A	**Amboy**	26.29	93	⇓P		P	15 29 02.1	+0.5
	baz=26							
B07A	**Winthrop**	26.30	86	⇓P		P	15 29 02.2	+0.5
	baz=26,SNR=14							
E05A	**Randle**	26.33	91	⇑P		P	15 29 02.1	+0.1
	baz=26,SNR=5.9							
D06A	**Cle Elum**	26.52	89	⇑P		P	15 29 04.0	+0.2
	baz=26,SNR=7.0							
A08A	**Turner Farm, O**	26.56	85	⇓P		P	15 29 04.1	+0.1
	baz=26							
ETW	**Entiat**	26.61	88	*e*P		P	15 29 03.6	-0.9
TBM	**Table Mountain**	26.68	89	P		P	15 29 05.4	+0.3
C07A	**Waterville**	26.72	88	⇑P		P	15 29 05.4	-0.1
	baz=27,SNR=9.2							
E06A	**Yakima**	26.79	91	⇓P		P	15 29 06.5	+0.3
	baz=27,SNR=11							
B08A	**Colville Reser**	26.81	86	⇓P		P	15 29 06.5	+0.2
	baz=27,SNR=10.0							
EBG	**Ellensburg**	26.83	89	P		P	15 29 07.4	+0.9
F05A	**White Salmon**	26.87	92	⇓P		P	15 29 07.1	+0.2
	baz=27							
I03A	**Eugene**	26.92	97	⇓P		P	15 29 07.9	+0.6
	baz=27							
A09A	**Danville**	26.95	84	⇑P		P	15 29 08.1	+0.6
	baz=27							
D07A	**Quincy**	27.03	88	⇓P		P	15 29 08.0	-0.3
	baz=27,SNR=7.7							
J02A	**Umpqua**	27.12	99	⇑P		P	15 29 09.8	+0.7
	baz=27							
H04A	**Detroit Lake**	27.13	95	⇑P		P	15 29 09.7	+0.5
	baz=27							
C08A	**Higginbotham F**	27.27	87	⇑P		P	15 29 10.7	+0.3
	baz=27							
G05A	**Wamic**	27.31	93	⇓P		P	15 29 11.3	+0.5
	baz=27							
F06A	**Goldendale**	27.33	92	⇑P		P	15 29 11.3	+0.3
	baz=27							
E07A	**Sunnyside**	27.44	90	⇑P		P	15 29 11.9	0.0
	baz=27,SNR=8.7							
B09A	**Rice**	27.47	85	⇑P		P	15 29 12.4	+0.2
	baz=27							
I04A	**Tendick Farm,**	27.53	97	⇓P		P	15 29 13.0	+0.2
	baz=28,SNR=7.2							
A10A	**Northport**	27.54	83	⇓P		P	15 29 12.8	0.0
	baz=27							
CROR	**Criterion Ridg**	27.65	93	P		P	15 29 14.8	+0.9
OD2	**Odessa Site #2**	27.66	87	P		P	15 29 13.7	-0.2
RSW	**Rattlesnake Hi**	27.68	90	*e*P		P	15 29 14.2	+0.1
C09A	**Chrisman Ranch**	27.71	86	⇓P		P	15 29 14.5	+0.2
	baz=28							
H05A	**Madras**	27.71	94	⇑P		P	15 29 14.6	+0.2
	baz=28							
G06A	**Carlson Farm,**	27.71	93	⇓P		P	15 29 14.8	+0.3
	baz=28							
HAWA	**Hanford**	27.71	90	*e*P		P	15 29 14.4	0.0
	comp=Z,45nm,0.8s,mb5.2							
HAWA				LR		LR		
	comp=Z,2µm,20.0s,MS4.6							
D08A	**Wollman Farm,**	27.71	88	⇓P		P	15 29 14.4	0.0
	baz=28,SNR=10							
F07A	**Phinny Hill Vi**	27.75	91	⇑P		P	15 29 14.6	-0.2
	baz=28,SNR=7.8							
E08A	**Dider Farm, El**	27.93	89	⇑P		P	15 29 16.4	0.0
	baz=28,SNR=11							
HUMO	**Hull Mountain**	27.94	99	⇑P		P	15 29 16.4	-0.1
	baz=28							
HUMO	**Hull Mountain**	27.94	99	*e*ScP		ScP	15 36 09.3	+2.1
HUMO				LR		LR		
	comp=Z,3µm,22.0s,MS4.8							
D09A	**Jones Farm, Ri**	28.07	87	⇑P		P	15 29 17.5	0.0
	baz=28							
EDM	**Edmonton**	28.10	73	*e*P		P	15 29 17.8	0.0
NEW	**Newport**	28.14	84	*e*P		P	15 29 18.2	0.0
NEW				pmax		pmax		
	comp=Z,15nm,0.8s							
NEW				MLR		MLR		
	comp=Z,1µm,21.0s							
NEW	**Newport**	28.14	84	*e*P		P	15 29 18.2	0.0
	comp=Z,15nm,0.8s,mb4.7							
NEW				LR		LR		
	comp=Z,1µm,21.0s,MS4.5							
H06A	**Lindquist Farm**	28.18	93	⇓P		P	15 29 18.5	0.0
	baz=28,SNR=14							
A11A	**Hall Mountain,**	28.24	83	⇓P		P	15 29 19.2	+0.1
	baz=28,SNR=8.0							
G07A	**Ruggs Ranch, H**	28.26	92	⇑P		P	15 29 19.7	+0.5
	baz=28,SNR=6.8							
E09A	**Wood Farm, Sta**	28.45	88	⇓P		P	15 29 20.7	-0.3
	baz=28,SNR=23							
F08A	**Pendleton**	28.48	90	⇑P		P	15 29 21.2	0.0
	baz=28,SNR=15							
B11A	**Sandpoint**	28.49	84	⇑P		P	15 29 21.5	+0.2
	baz=28							
J05A	**Fort Rock**	28.52	96	⇓P		P	15 29 22.3	+0.7
	baz=28,SNR=11							
YBH	**Yreka Blue Hor**	28.64	100	P		P	15 29 23.7	+0.9
	comp=Z,8.3nm,0.8s,mb4.5,baz=327,slow=3.5,SNR=12							
YBH				LR		LR	15 38 07.8	
	comp=Z,4µm,19.8s,MS5.0,baz=312,slow=31							
YBH	**Yreka Blue Hor**	28.64	100	*e*P		P	15 29 23.8	+1.1
YBH				pmax		pmax		
	comp=Z,18nm,1.0s							
YBH				MLR		MLR		
	comp=Z,4µm,22.0s							
YBH	**Yreka Blue Hor**	28.64	100	⇑P		P	15 29 22.8	+0.1
	baz=29							
YBH	**Yreka Blue Hor**	28.64	100	*e*P		P	15 29 23.8	+1.1
	comp=Z,18nm,1.0s,mb4.8							
YBH				LR		LR		
	comp=Z,4µm,22.0s,MS5.0							
G08A	**Pilot Rock**	28.66	91	⇓P		P	15 29 22.3	-0.5
	baz=29,SNR=17							
A12A	**Yaak River Ran**	28.66	82	⇓P		P	15 29 22.9	+0.1
	baz=28							
D10A	**Wagner Farm, O**	28.67	87	⇑P		P	15 29 22.3	-0.7
	baz=29,SNR=13							
H07A	**Lands Inn, Kim**	28.71	93	⇓P		P	15 29 24.1	+0.8
	baz=29,SNR=18							
I06A	**Prineville**	28.71	94	⇑P		P	15 29 23.7	+0.3
	baz=29							
LNOR	**Lincton Mounta**	28.73	90	*e*P		P	15 29 22.3	-1.1
M02C	**Callahan**	28.78	101	⇓P		P	15 29 23.9	0.0
	baz=29							
N02C	**Big Bar**	28.89	102	⇑P		P	15 29 25.2	+0.3
	baz=29							
F09A	**S2 Ranch, Elgi**	29.03	90	⇓P		P	15 29 26.4	+0.2
	baz=29,SNR=28							
I07A	**Izee**	29.04	94	⇓P		P	15 29 26.7	+0.5
	baz=29,SNR=16							
K05A	**Summer Lake**	29.06	97	⇓P		P	15 29 26.9	+0.5
	baz=29,SNR=8.2							
E10A	**Myers Farm, Un**	29.07	88	⇓P		P	15 29 26.0	-0.5
	baz=29							
J06A	**Christmas Vall**	29.16	96	⇓P		P	15 29 28.2	+0.8
	baz=29,SNR=22							
D11A	**Klaveano Farm,**	29.22	86	⇓P		P	15 29 27.1	-0.7
	baz=29							
H08A	**Prairie City**	29.27	92	⇓P		P	15 29 28.6	+0.3
	baz=29,SNR=15							
F10A	**Beach Ranch, E**	29.28	89	⇓P		P	15 29 28.5	+0.1
	baz=29,SNR=13							
G09A	**Cove**	29.35	90	⇓P		P	15 29 28.9	0.0
	baz=29,SNR=18							
C12B	**Naegeli Ranch,**	29.38	84	⇓P		P	15 29 29.0	-0.2
	baz=29							
K06A	**Valley Falls**	29.38	96	⇑P		P	15 29 29.6	+0.3
	baz=29,SNR=14							
WDC	**Whiskeytown Da**	29.49	102	⇑P		P	15 29 30.3	0.0
	baz=29							
WDC	**Whiskeytown Da**	29.49	102		PFAKE		15 29 40.0	+10
WDC					LR	LR		
	comp=Z,3µm,22.0s,MS4.8							
J07A	**Hines**	29.58	95	⇑P		P	15 29 30.7	-0.3
	baz=30							
WALA	**Waterton Lakes**	29.60	81	*e*P		P	15 29 30.7	-0.5
	comp=Z,44nm,1.5s,mb5.0							
WALA				*e*ScP		ScP	15 36 13.8	+1.5
B13A	**Whitefish**	29.62	82	⇑P		P	15 29 30.9	-0.4
	baz=30							
E11A	**Bogner Ranch,**	29.67	87	⇑P		P	15 29 30.6	-1.2
	baz=30,SNR=5.5							
I08A	**Drewsey**	29.68	93	⇓P		P	15 29 32.3	+0.3
	baz=30,SNR=14							
BSMT	**Bassoo Peak**	29.70	83	*e*P		P	15 29 31.7	-0.4
BSMT				*e*ScP		ScP	15 36 13.6	+1.0
G10A	**Bishop Farm, J**	29.73	90	⇑P		P	15 29 32.4	+0.1
	baz=30,SNR=34							
H09A	**Durkee**	29.77	91	⇑P		P	15 29 32.6	0.0
	baz=30,SNR=12							
BMO	**Blue Mountains**	29.87	90	*e*P		P	15 29 33.7	+0.1
	comp=Z,18nm,1.1s,mb4.7							
BMO				LR		LR		
	comp=Z,2µm,22.0s,MS4.7							
C13A	**Hot Springs**	29.91	84	⇑P		P	15 29 33.9	-0.1
	baz=30,SNR=13							
MOD	**Modoc**	29.91	98	⇑P		P	15 29 33.9	-0.1
	baz=30							
MOD	**Modoc**	29.91	98	*e*P		P	15 29 35.3	+1.3
	comp=Z,61nm,1.3s,mb5.2							
MOD				*e*ScP		ScP	15 36 15.4	+1.9
MOD				LR		LR		
	comp=Z,2µm,22.0s,MS4.8							
A14A	**Double T Ranch**	29.92	81	⇑P		P	15 29 33.6	-0.4
	baz=30,SNR=13							
F11A	**Grangeville**	29.95	88	⇓P		P	15 29 33.9	-0.4
	baz=30							
E12A	**Beaver Dam Sad**	30.00	86	⇑P		P	15 29 34.2	-0.6
	baz=30,SNR=15							
K07A	**Rock Creek Ran**	30.03	96	⇓P		P	15 29 35.9	+0.8
	baz=30,SNR=9.0							
J08A	**Circle Bar Ran**	30.07	94	⇓P		P	15 29 35.5	+0.1
	baz=30,SNR=18							
I09A	**Lost Marbles R**	30.13	92	⇑P		P	15 29 36.1	+0.2
	baz=30							
G11A	**Walters Elk Ra**	30.16	89	⇓P		P	15 29 35.8	-0.3
	baz=30,SNR=19							
HOPS	**Hopland**	30.27	105		PFAKE		15 29 50.0	+13
HOPS					LR	LR		
	comp=Z,3µm,21.0s,MS4.9							
D13A	**Huson**	30.29	85	⇓P		P	15 29 36.8	-0.4
	baz=30							
B14A	**Marquette Ranc**	30.32	82	⇑P		P	15 29 37.1	-0.3
	baz=30							
A15A	**Johnson Ranch,**	30.32	80	⇓P		P	15 29 36.5	-0.9
	baz=30,SNR=6.8							
H10A	**Noah's Angus R**	30.35	90	⇑P		P	15 29 37.6	-0.2
	baz=30,SNR=67							
L07A	**Adell**	30.40	97	⇓P		P	15 29 38.9	+0.6
	baz=30,SNR=7.9							
K08A	**Mann Creek Ran**	30.45	95	⇓P		P	15 29 38.9	+0.2
	baz=30,SNR=30							
O04C	**Chester**	30.49	101	⇓P		P	15 29 38.7	-0.4
	baz=30							
J09A	**Fry Pan Ranch,**	30.50	93	⇓P		P	15 29 39.2	+0.1
	baz=30,SNR=25							
WVOR	**Wild Horse Val**	30.54	95	*e*P		P	15 29 39.6	0.0
WVOR				pmax		pmax		
	comp=Z,40nm,1.0s,mb5.2							
WVOR	**Wild Horse Val**	30.54	95	*e*P		P	15 29 39.6	0.0
	comp=Z,40nm,1.0s,mb5.2							
F12A	**Elk City**	30.55	87	⇓P		P	15 29 39.1	-0.4
	baz=30,SNR=18							
I10A	**Payette**	30.61	91	⇓P		P	15 29 39.8	-0.3
	baz=30							
H11A	**Donnelly**	30.71	90	⇓P		P	15 29 40.8	-0.2
	baz=31,SNR=18							
MSO	**Missoula**	30.73	85	*e*P		P	15 29 40.6	-0.6
	comp=Z,38nm,1.9s,mb4.9							
MSO				*e*PcP		PcP	15 32 36.9	-0.7
MSO				LR		LR		
	comp=Z,426nm,21.0s,MS4.1							
B15A	**Bradely Ranch,**	30.75	81	⇑P		P	15 29 40.8	-0.5
	baz=31							
ORV	**Oroville**	30.77	103	⇑P		P	15 29 41.0	-0.6
	baz=31							
E13A	**Victor**	30.79	85	⇓P		P	15 29 41.0	-0.7
	baz=31							
O05C	**Quincy**	30.83	101	⇑P		P	15 29 41.6	-0.5
	baz=31							
D14A	**Greenough**	30.84	84	⇑P		P	15 29 41.8	-0.3
	baz=31,SNR=7.9							
L08A	**Fields**	30.87	96	⇑P		P	15 29 42.7	+0.3
	baz=31,SNR=29							
M07A	**Soldier Meadow**	30.90	98	⇑P		P	15 29 43.7	+1.1
	baz=31,SNR=8.0							
K09A	**Rome**	30.91	94	⇓P		P	15 29 42.7	-0.1
	baz=31,SNR=16							
N06A	**Buffalo Meadow**	30.93	99	⇓P		P	15 29 43.0	+0.1
	baz=31							
OHCM	**Honcut**	30.93	103	*e*P		P	15 29 42.0	-1.0
MCCM	**Marconi Confer**	30.96	106		PFAKE		15 29 50.0	+6.7
MCCM					LR	LR		
	comp=Z,3µm,20.0s,MS4.9							
A16A	**West Butte Ran**	30.98	79	⇑P		P	15 29 42.3	-1.1
	baz=31,SNR=9.0							
C15A	**Salmond Ranch,**	31.00	82	⇑P		P	15 29 43.5	0.0
	baz=31,SNR=31							
F13A	**Darby**	31.07	87	⇓P		P	15 29 44.4	+0.3
	baz=31,SNR=11							
CHMT	**Chamberlain Mo**	31.08	84	*e*P		P	15 29 43.5	-0.7
B16A	**M & M Farms, S**	31.19	80	⇑P		P	15 29 44.7	-0.5
	baz=31							
I11A	**Placerville**	31.20	91	⇑P		P	15 29 45.1	-0.2
	baz=31,SNR=22							
E14A	**Clinton**	31.21	85	⇑P		P	15 29 45.3	-0.1
	baz=31,SNR=7.7							
BEKR	**Beckwourth**	31.21	101	⇓P		P	15 29 45.6	+0.1
	baz=31,SNR=12							
M08A	**Happy Creek Ra**	31.32	97	⇓P		P	15 29 47.5	+1.2
	baz=31,SNR=8.9							
K10A	**MacKenzie Ranc**	31.36	93	⇑P		P	15 29 47.1	+0.4
	baz=31,SNR=22							
L09A	**Wilkinson Ranc**	31.37	95	⇑P		P	15 29 47.5	+0.7
	baz=31,SNR=5.8							
N07B	**Gerlach**	31.40	98	⇑P		P	15 29 48.0	+0.8
	baz=31,SNR=8.0							
D15A	**Lincoln**	31.43	83	⇑P		P	15 29

comp=Z,3µm,22.0s,MS5.0
CMB Columbia Colle 32.45 103 ⇑P **P 15 29 56.4 +0.1**
baz=32
CMB Columbia Colle 32.45 103 *e*P **P 15 29 56.7 +0.4**
comp=Z,190nm,2.6s,mb5.5
CMB LR LR
comp=Z,3µm,22.0s,MS5.0
MCMT McKenzie Canyo 32.48 87 *e*P **P 15 29 56.2 -0.3**
MCMT *e*PcP PcP 15 32 41.4 -1.0
G15A Dillon 32.49 86 ⇓P **P 15 29 56.6 0.0**
baz=32
EGMT Eagleton 32.51 80 ⇓P **P 15 29 56.7 0.0**
baz=32
EGMT Eagleton 32.51 80 *e*P **P 15 29 56.5 -0.3**
comp=Z,98nm,1.6s,mb5.5
EGMT *e*PcP PcP 15 32 42.2 -0.3
EGMT LR LR
comp=Z,1µm,20.0s,MS4.6
J13A Cove Ranch, Pi 32.55 90 ⇑P **P 15 29 57.0 -0.1**
baz=32,SNR=26
K12A Draper Farm, C 32.59 92 ⇓P **P 15 29 57.6 +0.1**
baz=32
R06C Coleville 32.64 102 ⇓P **P 15 29 58.5 +0.5**
baz=33,SNR=8.0
I14A Mackay 32.65 89 ⇑P **P 15 29 58.1 0.0**
baz=32,SNR=7.0
WAKR Walker 32.66 102 *e*P **P 15 29 59.3 +1.1**
PACP Pacheco Peak 32.66 106 ⇓P **P 15 29 58.3 +0.1**
baz=33
E17A Martinsdale 32.71 83 ⇑P **P 15 29 58.5 0.0**
baz=33
BOZ Bozeman (W) 32.72 85 *e*P **P 15 29 58.7 +0.1**
BOZ *e* 15 32 42.6
BOZ pmax pmax
comp=Z,12nm,1.2s,mb4.7
BOZ MLR MLR
comp=Z,495nm,20.0s,MS4.2
BOZ Bozeman (W) 32.72 85 ⇓P **P 15 29 58.6 0.0**
baz=33
BOZ Bozeman (W) 32.72 85 *e*P **P 15 29 58.7 +0.1**
comp=Z,12nm,1.2s,mb4.7
BOZ *e*PcP PcP 15 32 42.6 -0.4
BOZ LR LR
comp=Z,495nm,20.0s,MS4.2
H15A Lima 32.72 87 ⇓P **P 15 29 58.4 -0.3**
baz=33
SAO San Andreas Ge 32.75 106 PFAKE 15 30 10.0 +11
SAO LR LR
comp=Z,3µm,22.0s,MS4.9
L12A House Creek Ra 32.83 93 ⇑P **P 15 29 59.9 +0.3**
baz=33,SNR=14
M11A Holland Ranch, 32.83 94 ⇑P **P 15 29 59.2 -0.4**
baz=33
G16A Moss Hill, Enn 32.85 86 ⇑P **P 15 29 59.5 -0.3**
baz=33
J14A Carey 32.98 90 ⇑P **P 15 30 01.1 +0.2**
baz=33,SNR=14
K13A Stover Farm, H 33.06 91 ⇓P **P 15 30 02.1 +0.5**
baz=33
O10A Cortez Mining, 33.15 97 ⇓P **P 15 30 03.0 +0.5**
baz=33
E18A Harlowton 33.20 82 ⇓P **P 15 30 02.9 +0.1**
baz=33,SNR=7.1
N11A Elko Archery C 33.25 95 ⇓P **P 15 30 03.6 +0.3**
baz=33
TIXI Tiksi 33.26 327 *e*P **P 15 30 01.7 -1.4**
TIXI pmax pmax
comp=Z,62nm,1.0s,mb5.5
TIXI MLR MLR
comp=Z,5µm,17.0s,MS5.3
TIXI Tiksi 33.26 327 *e*P **P 15 30 01.8 -1.2**
comp=Z,95nm,1.3s,mb5.6
TIXI LR LR
comp=Z,4µm,20.0s,MS5.1
P09A Austin 33.27 98 ⇓P **P 15 30 03.9 +0.4**
baz=33
Q08A Gabbs 33.28 100 ⇓P **P 15 30 03.8 +0.2**
baz=33,SNR=11
QLMT Earthquake Lak 33.30 86 *e*P **P 15 30 03.9 +0.2**
QLMT *e*ScP ScP 15 36 26.4 +1.6
M12A Wells 33.34 94 ⇑P **P 15 30 04.3 +0.1**
baz=33,SNR=13
U04C Hernandez Rese 33.41 106 ⇑P **P 15 30 04.8 +0.1**
baz=33
H16A Russell Place, 33.48 86 ⇑P **P 15 30 05.5 +0.2**
baz=33
L13A Double Diamond 33.48 92 ⇑P **P 15 30 05.3 0.0**
baz=33,SNR=16
KCC Kaiser Creek 33.55 103 ⇓P **P 15 30 06.3 +0.3**
baz=34,SNR=14
J15A Blackfoot 33.56 89 ⇑P **P 15 30 06.3 +0.3**
baz=33,SNR=12
ELK Elko 33.59 95 *e*P **P 15 30 06.9 +0.7**
ELK MLR MLR
comp=Z,2µm,22.0s
P10A Eureka 33.61 98 ⇑P **P 15 30 07.0 +0.5**
baz=34,SNR=5.4
N12A Clover Valley, 33.63 95 ⇓P **P 15 30 07.1 +0.5**
baz=34,SNR=21
YMR Madison River 33.66 86 *e*P **P 15 30 06.3 -0.6**
comp=Z,19nm,0.7s,mb5.1
YMR LR LR
comp=Z,662nm,21.0s,MS4.3
F18A Big Timber 33.68 83 ⇓P **P 15 30 07.3 +0.3**
baz=34
O11A Cowboy Ranch, 33.74 96 ⇓P **P 15 30 08.2 +0.6**
baz=34,SNR=11
YNR Norris Junctio 33.80 85 *e*P **P 15 30 08.6 +0.5**
I16A Newdale 33.83 87 ⇓P **P 15 30 08.5 +0.2**
baz=34
PKD Parkfield 33.84 106 ⇓P **P 15 30 08.6 +0.1**
baz=34
YFT Old Faithful 33.87 86 *e*P **P 15 30 10.0 +1.3**
YFT *e*PcP PcP 15 32 48.4 +2.1
L14A Malta 33.93 91 ⇑P **P 15 30 09.7 +0.5**
baz=34,SNR=16
K15A Arbon 33.94 90 ⇓P **P 15 30 09.6 +0.3**
baz=34,SNR=14
MTUM Tungsten Hills 33.95 103 *e*P **P 15 30 10.7 +1.2**
MTUM *e*ScP ScP 15 36 28.7 +1.5
H17A Grant Village 34.05 86 ⇓P **P 15 30 10.4 +0.2**
baz=34
LKWY Lake 34.05 86 *e*P **P 15 30 11.2 +1.0**
LKWY pmax pmax
comp=Z,18nm,1.0s,mb5.0
LKWY MLR MLR
comp=Z,898nm,20.0s,MS4.5
LKWY Lake 34.05 86 *e*P **P 15 30 11.2 +0.9**
comp=Z,18nm,1.0s,mb5.0
LKWY LR LR
comp=Z,898nm,20.0s,MS4.5
J16A Bone 34.11 88 ⇓P **P 15 30 10.9 +0.1**
baz=34
N13A Wendover, West 34.11 94 ⇓P **P 15 30 11.3 +0.5**
baz=34
IMW Indian Meadow 34.13 87 *e*P **P 15 30 11.6 +0.7**
comp=Z,12nm,0.9s,mb4.8
O12A Currie 34.18 95 ⇓P **P 15 30 11.8 +0.4**
baz=34,SNR=16
Q10A Clear Creek Ra 34.18 99 ⇓P **P 15 30 11.7 +0.3**
baz=34,SNR=15
R09A Tonopah 34.19 100 ⇑P **P 15 30 12.1 +0.5**
baz=34,SNR=18
M14A Sheep Mountain 34.20 92 ⇓P **P 15 30 11.7 +0.1**
baz=34,SNR=11
PTRM Twissleman Ran 34.24 106 *e*P **P 15 30 11.8 -0.2**
RRI2 Red Ridge 34.24 88 *e*P **P 15 30 12.6 +0.7**
comp=Z,82nm,1.8s,mb5.4
HVU Hansel Valley 34.36 91 *e*P **P 15 30 13.8 +0.9**
HVU *e* 15 32 47.8
HVU pmax pmax
comp=Z,32nm,1.0s,mb5.2
HVU Hansel Valley 34.36 91 *e*P **P 15 30 13.8 +0.8**
comp=Z,32nm,1.0s,mb5.2
HVU *e*PcP PcP 15 32 47.8 +0.1
TPAW Teton Pass 34.37 87 *e*P **P 15 30 13.5 +0.5**
comp=Z,22nm,1.2s,mb5.0
TPAW *e*ScP ScP 15 36 30.6 +2.0
RLMT Red Lodge 34.38 84 ⇑P **P 15 30 12.9 -0.2**
baz=34
RLMT Red Lodge 34.38 84 *e*P **P 15 30 13.3 +0.2**
comp=Z,32nm,1.3s,mb5.1
RLMT LR LR
comp=Z,720nm,21.0s,MS4.4
K16A Soda Springs 34.40 89 ⇑P **P 15 30 13.1 -0.2**
baz=34
L15A Malad City 34.44 91 ⇑P **P 15 30 13.4 -0.3**
baz=34,SNR=11
S09A Goldfield 34.46 101 ⇑P **P 15 30 13.8 -0.1**
baz=34,SNR=9.9
LOHW Long Hollow 34.50 87 *e*P **P 15 30 14.8 +0.7**
comp=Z,9.6nm,1.0s,mb4.7
REDW Red Top Meadow 34.50 88 *e*P **P 15 30 14.6 +0.5**
comp=Z,24nm,1.3s,mb5.0
Q11A Duckwater 34.60 98 ⇓P **P 15 30 15.3 +0.3**
baz=34,SNR=20
R10A Warm Springs 34.60 99 ⇓P **P 15 30 15.1 0.0**
baz=34,SNR=7.2
SMMC Simmler 34.61 107 ⇓P **P 15 30 15.1 0.0**
baz=35
S10A Tonopah Range, 34.68 100 ⇑P **P 15 30 15.6 -0.2**
baz=35,SNR=32
N14A Grayback Hills 34.71 93 ⇑P **P 15 30 16.1 +0.1**
baz=35
AHID Auburn Hatcher 34.72 89 *e*P **P 15 30 16.3 +0.2**
comp=Z,15nm,0.9s,mb4.9
AHID LR LR
comp=Z,1µm,20.0s,MS4.7
VES Vestal, Richgr 34.73 105 ⇑P **P 15 30 16.8 +0.6**
baz=35
BGU Big Grassy Mou 34.75 93 *e*P **P 15 30 14.2 -2.1**
CWC Cottonwood Cre 34.87 103 ⇓P **P 15 30 17.6 +0.2**
baz=35,SNR=7.7
GRAC Grapevine Rang 34.88 102 ⇑P **P 15 30 18.0 +0.5**
baz=35
Q12A Willow Creek R 34.94 97 ⇑P **P 15 30 18.3 +0.3**
baz=35
R11A Troy Canyon, C 34.97 98 ⇑P **P 15 30 18.5 +0.3**
baz=35,SNR=38
L16A Fish Haven 34.99 90 ⇓P **P 15 30 18.6 +0.2**
baz=35
PKM Peak Mountain 35.01 107 ⇑P **P 15 30 19.2 +0.6**
baz=35
YSS Yuzh-Sakhalins 35.09 281⇑ *e*P **P 15 30 17.0 -2.2**
YSS *e*S **S 15 35 44.0 -4.2**
YSS pmax pmax
comp=E,130nm,1.5s
YSS pmax pmax
comp=Z,180nm,1.5s,mb5.8
YSS MLR MLR
comp=Z,2µm,20.0s,MS5.0
YSS MLR MLR
comp=E,2µm,22.0s
YSS Yuzh-Sakhalins 35.09 281 *e*P **P 15 30 17.8 -1.4**
comp=E,182nm,1.7s,mb5.7
YSS LR LR
comp=Z,694nm,20.0s,MS4.4
P13A Bates Ranch, G 35.14 95 ⇓P **P 15 30 20.2 +0.5**
baz=35,SNR=21
HWUT Hardware Ranch 35.17 91 *e*P **P 15 30 20.3 +0.4**
comp=Z,23nm,1.1s,mb5.0
HWUT LR LR
comp=Z,1µm,22.0s,MS4.6
YAK Yakutsk 35.18 310 *e*P **P 15 30 17.8 -2.0**
YAK *e**PP pP 15 30 25.7 -6.6
YAK *e* 15 31 34.9
YAK *e*PPP 15 31 51.0
YAK *e* 15 32 47.1
YAK *e*S **S 15 35 45.3 -3.9**
YAK *e*SSS 15 38 31.7
YAK pmax pmax
comp=Z,455nm,0.9s
YAK pmax pmax
comp=N,17nm,0.8s
YAK pmax pmax
comp=E,201nm,1.1s
YAK pmax pmax
comp=Z,40nm,1.0s,mb5.3
YAK pmax pmax
comp=N,148nm,2.4s
YAK pmax pmax
comp=E,510nm,3.9s
YAK smax
comp=N,110nm,14.4s
YAK MLR MLR
comp=Z,5µm,24.0s,MS5.2
YAK MLR MLR
comp=E,4µm,22.0s
YAK MLR MLR
comp=N,769nm,15.0s
YAK Yakutsk 35.18 310 *e*P **P 15 30 18.0 -1.8**
comp=N,528nm,0.9s
YAK LR LR
comp=Z,4µm,22.0s,MS5.2
ISA Isabella 35.21 104 *e*P **P 15 30 20.1 -0.2**
ISA pmax pmax
comp=Z,33nm,1.3s,mb5.1
ISA MLR MLR
comp=Z,2µm,19.0s,MS4.8
ISA Isabella 35.21 104 ⇑P **P 15 30 20.4 +0.1**
baz=35,SNR=8.9
ISA Isabella 35.21 104 *e*P **P 15 30 20.1 -0.2**
comp=Z,33nm,1.3s,mb5.1
ISA LR LR
comp=Z,2µm,19.0s,MS4.8
LAO LASA Array 35.25 79 *e*P **P 15 30 20.8 +0.2**
comp=Z,50nm,1.4s,mb5.2
LAO LR LR
comp=Z,1µm,19.0s,MS4.7
M16A Huntsville 35.32 91 ⇑P **P 15 30 21.5 +0.3**
baz=35,SNR=7.6
DUG Dugway 35.35 93 *e*P **P 15 30 21.5 0.0**
DUG pmax pmax
comp=Z,30nm,0.9s,mb5.2
DUG MLR MLR
comp=Z,906nm,20.0s,MS4.5
DUG Dugway 35.35 93 ⇓P **P 15 30 21.5 0.0**
baz=35
DUG Dugway 35.35 93 *e*P **P 15 30 21.5 0.0**
comp=Z,30nm,0.9s,mb5.2
DUG LR LR
comp=Z,906nm,20.0s,MS4.5
DGMT Dagmar 35.43 76 ⇓P **P 15 30 21.9 -0.2**
baz=35
DGMT Dagmar 35.43 76 *e*P **P 15 30 21.7 -0.4**
comp=Z,92nm,1.4s,mb5.5
DGMT LR LR
comp=Z,2µm,20.0s,MS4.8
Q13A Wheeler Ranch, 35.47 96 ⇓P **P 15 30 23.3 +0.7**
baz=35,SNR=9.3
MPMC Manual Prospec 35.48 103 ⇑P **P 15 30 23.0 +0.3**
baz=35,SNR=12
O15A The Old Anders 35.49 93 ⇑P **P 15 30 22.7 0.0**
baz=35
FURC Furnace Creek, 35.55 102 ⇓P **P 15 30 23.5 +0.3**
baz=36
R12A Pony Springs, 35.55 97 ⇑P **P 15 30 23.4 +0.1**
baz=36,SNR=10
TPNV Topopah Spring 35.56 101 *e*P **P 15 30 23.8 +0.5**
TPNV pmax pmax
comp=Z,332nm,2.1s,mb5.9
TPNV MLR MLR
comp=Z,3µm,21.0s,MS5.0
TPNV Topopah Spring 35.56 101 ⇓P **P 15 30 23.6 +0.3**
baz=36
TPNV Topopah Spring 35.56 101 *e*P **P 15 30 23.8 +0.5**
comp=Z,332nm,2.1s,mb5.9
TPNV LR LR
comp=Z,3µm,21.0s,MS5.0
P14A Drum Mountains 35.60 94 ⇑P **P 15 30 24.0 +0.4**
baz=36,SNR=10.0
BW06 Boulder Array 35.62 87 ⇓P **P 15 30 23.6 -0.2**
baz=36
BW06 Boulder Array 35.62 87 *e*P **P 15 30 23.6 -0.1**
comp=Z,87nm,2.3s,mb5.3
BW06 LR LR
comp=Z,921nm,21.0s,MS4.5
PDAR Pinedale Array 35.62 87 P **P 15 30 23.2 -0.6**
comp=Z,3.6nm,0.5s,mb4.5,baz=300,slow=4.9,SNR=17
PDAR ScP ScP 15 36 32.2 -0.9
comp=Z,1.9nm,1.1s,baz=270,slow=1.5,SNR=4.9
PDAR LR LR 15 43 29.8
comp=Z,656nm,18.1s,MS4.4,baz=122,slow=34
PDAR P3KPbc 16 01 06.2
comp=Z,1.1nm,0.8s,baz=116,slow=7.4,SNR=7.4
PDAR Pinedale Array 35.62 87 P **P 15 30 23.2 -0.6**
PDAR ScP ScP 15 36 32.2 -0.9
PDAR LR LR 15 43 29.8
PDAR *e* 16 01 06.2
N16A Rees Ranch, Co 35.70 91 ⇑P **P 15 30 24.8 +0.3**
baz=36
LRMC Laurel Mountai 35.78 104 ⇓P **P 15 30 25.5 +0.2**
baz=36
Q14A Sevier Lake (B 35.88 95 ⇓P **P 15 30 26.6 +0.6**
baz=36,SNR=21
JLU Jordanelle 35.88 92 *e*P **P 15 30 27.9 +1.8**
U10A Ash Meadows, A 35.88 101 ⇓P **P 15 30 26.3 +0.2**
baz=36
S12A Delamar Landin 35.90 99 ⇓P **P 15 30 26.5 +0.3**
baz=36,SNR=11
NLU North Lily Min 35.94 93 *e*P **P 15 30 26.3 -0.2**
NLU *e*ScP ScP 15 36 36.5 +2.2
T11A Corn Creek, Al 35.94 99 ⇓P **P 15 30 26.9 +0.3**
baz=36,SNR=28
FCC Fort Churchill 35.97 55 *e*P **P 15 30 25.7 -0.9**
FCC pmax pmax
comp=Z,59nm,1.0s,mb5.5
FCC Fort Churchill 35.97 55 *e*P **P 15 30 25.7 -0.9**
comp=Z,59nm,1.0s,mb5.5
N17A Moffit Pass 36.02 91 ⇑P **P 15 30 27.5 +0.3**
baz=36
R13A O'Grain Ranch, 36.02 97 ⇓P **P 15 30 27.6 +0.4**
baz=36,SNR=7.1
EDW2 Edwards Air Fo 36.05 105 ⇑P **P 15 30 27.4 -0.1**
baz=36
O16A Springville 36.10 92 ⇑P **P 15 30 27.8 -0.2**
baz=36
DAU Daniels Canyon 36.11 92 *e*P **P 15 30 27.1 -0.9**
MPU Maple Canyon 36.15 93 PFAKE 15 30 40.0 +12
MPU LR LR
comp=Z,1µm,19.0s,MS4.7
GSC Goldstone 36.41 103 *e*P **P 15 30 30.9 +0.3**
GSC pmax pmax
comp=Z,31nm,1.1s,mb5.2
GSC MLR MLR
comp=Z,1µm,20.0s,MS4.8
GSC Goldstone 36.41 103 ⇑P **P 15 30 30.7 +0.1**
baz=36
GSC Goldstone 36.41 103 *e*P **P 15 30 30.9 +0.3**
comp=Z,31nm,1.1s,mb5.2
GSC *e*ScP ScP 15 36 37.0 +0.8
GSC LR LR
comp=Z,1µm,20.0s,MS4.8
MWC Mount Wilson 36.49 106 *e*P **P 15 30 31.6 +0.3**
MWC pmax pmax
comp=Z,46nm,1.3s,mb5.2
MWC MLR MLR
comp=Z,3µm,22.0s,MS5.0
MWC Mount Wilson 36.49 106 *e*P **P 15 30 31.6 +0.3**
comp=Z,46nm,1.3s,mb5.2
MWC LR LR
comp=Z,3µm,22.0s,MS5.0
SHPR Sheep Range 36.49 100 *e*P **P 15 30 31.2 0.0**
SHPR *e*ScP ScP 15 36 38.6 +2.2
S13A Holt Ranch, En 36.49 98 ⇓P **P 15 30 31.3 0.0**
baz=36,SNR=9.5
O17A Robinson Place 36.56 92 ⇓P **P 15 30 31.5 -0.3**
baz=36
ARUT Antelope Range 36.59 97 *e*P **P 15 30 32.7 +0.6**
N18A Larsen Ranch, 36.67 90 ⇓P **P 15 30 32.5 -0.3**
baz=37,SNR=5.1
BFSC Mount Baldy St 36.70 105 ⇑P **P 15 30 33.2 +0.1**
baz=37
CCUT Cedar City 36.80 97 *e*P **P 15 30 33.5 -0.4**
TUQ Turquoise Moun 36.81 102 ⇓P **P 15 30 34.5 +0.4**
baz=37
ASAJ Asahikawa 36.81 277 P **P 15 30 33.0 -0.9**
comp=Z,76nm,0.9s,mb5.5,baz=35,slow=8.2,SNR=33
MSU Marysvale 36.83 95 *e*P **P 15 30 34.9 +0.7**
MSU *e*ScP ScP 15 36 39.6 +1.9
T13A Saint George 36.85 98 ⇑P **P 15 30 34.7 +0.4**
baz=37,SNR=10.0
TMUT Trail Mountain 36.87 93 *e*P **P 15 30 35.2 +0.7**
U12A Valley of Fire 36.90 100 ⇑P **P 15 30 35.3 +0.5**
baz=37
O18A Roosevelt 36.94 91 ⇓P **P 15 30 35.3 +0.3**
baz=37
HEC Hector,Ludlow 37.02 103 ⇓P **P 15 30 36.1 +0.3**
baz=37
P17A Butcher Ranch, 37.03 93 ⇑P **P 15 30 36.1 +0.3**
baz=37
Q16A Castle Valley 37.15 94 ⇑P **P 15 30 36.8 0.0**
baz=37,SNR=11
P18A Preston Nutter 37.21 92 ⇑P **P 15 30 37.7 +0.3**
baz=37,SNR=9.2
U13A Pakoon Wash 37.24 99 ⇑P **P 15 30 38.7 +1.0**
baz=37,SNR=15
S15A Panguitch 37.29 96 ⇑P **P 15 30 38.7 +0.6**
baz=37,SNR=18
T14A Hurricane 37.30 98 ⇓P **P 15 30 38.4 +0.3**
baz=37
R16A Teasdale 37.39 95 ⇑P **P 15 30 40.0 +1.1**
baz=37,SNR=13
SRU San Rafael 37.39 93 *e*P **P 15 30 39.1 +0.2**
SRU pmax pmax
comp=Z,76nm,1.4s,mb5.3
SRU San Rafael 37.39 93 ⇓P **P 15 30 39.0 +0.1**
baz=37
SRU San Rafael 37.39 93 *e*P **P 15 30 39.1 +0.2**
comp=Z,76nm,1.4s,mb5.3
O19A Miners Draw (B 37.43 90 ⇑P **P 15 30 39.5 +0.3**
baz=37,SNR=10.0
GMRC Granite Mounta 37.44 103 ⇓P **P 15 30 39.4 0.0**
baz=37,SNR=10
ALE Alert 37.47 12 P **P 15 30 38.0 -1.1**
comp=Z,289nm,1.0s,mb6.1,SNR=20
LDFC Landfair 37.53 102 *e*P **P 15 30 40.1 -0.1**
Q18A Rafter H Ranch 37.62 93 ⇓P **P 15 30 40.8 0.0**
baz=38,SNR=20
V13A Grand Canyon W 37.63 100 ⇑P **P 15 30 41.0 0.0**
baz=38,SNR=14
RWWY Rawlins 37.65 87 *e*P **P 15 30 40.4 -0.7**
comp=Z,53nm,1.4s,mb5.1
S16A Weppner Ranch, 37.70 96 ⇑P **P 15 30 42.2 +0.6**
baz=38,SNR=10
T15A Red Dirt Ranch 37.73 97 ⇓P **P 15 30 42.3 +0.5**
baz=38,SNR=7.0
R17A Hanksville Air 37.75 94 ⇑P **P 15 30 41.9 0.0**
baz=38,SNR=12
ERM Erimo 37.78 274 P **P 15 30 41.4 -0.7**
comp=Z,904nm,1.5s,mb6.3,SNR=9.4
ERM Erimo 37.78 274⇑ *i*P **P 15 30 41.8 -0.3**
BELC Belle Mtn. 37.81 104 ⇑P **P 15 30 42.3 -0.2**
baz=38,SNR=18
PFO Pinyon Flat Ob 37.84 105 P **P 15 30 42.0 -0.8**
comp=Z,104nm,0.8s,mb5.6,SNR=6.5
PFO Pinyon Flat Ob 37.84 105 ⇓P **P 15 30 42.7 -0.1**
baz=38,SNR=9.2
P19A Cripple Cowboy 37.95 91 ⇓P **P 15 30 43.4 -0.2**
baz=38,SNR=18
RSSD Black Hills 37.99 82 *e*P **P 15 30 43.5 -0.4**
RSSD pmax pmax
comp=Z,19nm,0.6s,mb5.0
RSSD Black Hills 37.99 82 *e*P **P 15 30 43.5 -0.4**
comp=Z,19nm,0.6s,mb5.0
109C Camp Elliot, M 38.01 106 ⇑P **P 15 30 44.3 +0.1**
baz=38
IRM Iron Mountain 38.17 103 ⇑P **P 15 30 45.8 +0.2**
baz=38,SNR=29
U15A North Rim 38.20 98 ⇑P **P 15 30 46.3 +0.6**
baz=38,SNR=20
W13A Hualapai Mount 38.22 101 ⇑P **P 15 30 46.0 0.0**
baz=38,SNR=12
S17A Black Ridge (B 38.22 95 ⇓P **P 15 30 45.7 -0.3**
baz=38,SNR=35
Q19A Hogan Spring (38.23 92 ⇑P **P 15 30 45.2 -0.8**
baz=38,SNR=16
R18A Canyonlands Na 38.24 93 ⇓P **P 15 30 45.8 -0.3**
baz=38,SNR=9.9
T16A Glen Canyon Da 38.26 96 ⇑P **P 15 30 46.3 0.0**
baz=38
V14A Boquillas Ranc 38.28 99 ⇓P **P 15 30 46.5 0.0**
baz=38,SNR=18
BC3 Big Chuckw Mtn 38.37 104 ⇑P **P 15 30 46.8 -0.4**
baz=38,SNR=6.8
MONP Monument Peak 38.39 106 ⇑P **P 15 30 47.4 0.0**
baz=38,SNR=12
HABR Khabarovsk 38.59 288 *i*P **P 15 30 47.7 -1.2**
HABR *e*S **S 15 36 39.9 -1.6**
W14A Seligman 38.60 100 ⇑P **P 15 30 49.4 +0.3**
baz=38,SNR=12
X13A Yucca 38.61 101 ⇑P **P 15 30 48.9 -0.3**
baz=39,SNR=7.5
PDMCI Parker Dam,Lak 38.65 102 ⇓P **P 15 30 49.1 -0.5**
baz=39
S18A Hurst Farm, Bl 38.66 94 ⇑P **P 15 30 48.9 -0.6**
baz=39,SNR=23
T17A Navajo Res., N 38.66 96 ⇑P **P 15 30 49.6 0.0**
baz=39
R19A Curley Farm, L 38.67 93 ⇓P **P 15 30 49.5 -0.2**
baz=39
V15A Kaibab Nationa 38.69 98 ⇓P **P 15 30 50.4 +0.5**

baz=39,SNR=38
SWSC Sam W. Stewart 38.70 105 ⇓P P 15 30 50.0 0.0
baz=39
PV10 Paradox Valley 38.75 93 *e*P P 15 30 49.3 -1.0
Y12C Blythe 38.83 103 ⇓P P 15 30 50.9 -0.2
baz=39
U17A Shonto 39.02 96 ⇓P P 15 30 52.5 -0.1
baz=39,SNR=7.0
U16A Tuba City 39.06 97 ⇑P P 15 30 53.0 0.0
baz=39,SNR=13
ULM Lac du Bonnet 39.08 68 P P 15 30 52.5 -0.5
comp=Z,53nm,0.6s,mb5.5,baz=302,slow=8.1,SNR=29
ULM PcP PcP 15 33 00.3 -1.6
comp=Z,11nm,0.7s,baz=243,slow=3.0,SNR=2.8
ULM LR LR 15 47 05.1
comp=Z,1μm,20.3s,MS4.7,baz=70,slow=36
W15A Williams 39.09 99 ⇑P P 15 30 53.7 +0.5
baz=39,SNR=11
T18A Mexican Hat 39.10 95 ⇓P P 15 30 52.2 -1.1
baz=39,SNR=21
S19A Harvey Farm, M 39.12 93 ⇓P P 15 30 52.9 -0.5
baz=39,SNR=7.2
GLA Glamis 39.17 104 *e*P P 15 30 54.0 +0.1
GLA pmax pmax
comp=Z,43nm,1.2s,mb5.0
GLA MLR MLR
comp=Z,2μm,19.0s,MS5.0
GLA Glamis 39.17 104 ⇓P P 15 30 53.6 -0.3
baz=39
GLA Glamis 39.17 104 *e*P P 15 30 54.0 +0.1
comp=Z,42nm,1.2s,mb5.0
GLA LR LR
comp=Z,2μm,19.0s,MS5.0
Y13A Salome 39.18 102 ⇓P P 15 30 53.9 -0.1
baz=39
PV01 Paradox Valley 39.18 92 *e*P P 15 30 53.0 -1.0
X14A Yava 39.24 100 ⇓P P 15 30 54.5 +0.1
baz=39,SNR=20
WUAZ Wupatki 39.36 98 ⇓P P 15 30 55.3 -0.2
baz=39
SMCO Snowmass 39.41 90 *e*P P 15 30 53.1 -2.7
comp=Z,8.8nm,0.8s,mb4.5
Y14A Wickenburg 39.56 101 ⇑P P 15 30 56.7 -0.4
baz=40,SNR=9.2
CLNS Chul'man 39.56 304 *e*P P 15 30 56.0 -0.9
CLNS *e**PP pP 15 31 03.8 -5.8
CLNS *e* 15 32 28.2
CLNS *e*PPP 15 32 50.0
CLNS *e* 15 33 03.1
CLNS *e*S S 15 36 55.1 -0.7
CLNS pmax pmax
comp=Z,131nm,0.9s,mb5.7
CLNS pmax pmax
comp=N,56nm,0.9s
CLNS pmax pmax
comp=E,91nm,0.9s
CLNS pmax pmax
comp=N,16nm,0.9s
CLNS pmax pmax
comp=Z,10.0nm,1.0s,mb4.5
CLNS pmax pmax
comp=E,13nm,0.8s
CLNS smax
comp=N,19nm,1.2s
CLNS smax
comp=E,13nm,1.2s
CLNS MLR MLR
comp=Z,1μm,16.0s,MS4.8
CLNS MLR MLR
comp=E,701nm,16.0s,MS4.7
CLNS MLR MLR
comp=N,551nm,15.0s,MS4.7
W16A Flagstaff 39.57 98 ⇑P P 15 30 57.4 +0.2
baz=40,SNR=20
X15A Humboldt 39.60 100 ⇑P P 15 30 57.4 -0.1
baz=40,SNR=7.9
ISCO Idaho Springs 39.80 88 PFAKE 15 31 10.0 +11
ISCO LR LR
comp=Z,1μm,20.0s,MS4.8
T19A Beclabito 39.81 94 ⇑P P 15 30 58.5 -0.6
baz=40,SNR=37
MVCO Mesa Verde 39.85 93 ⇑P P 15 30 59.3 -0.3
baz=40
MVCO Mesa Verde 39.85 93 *e*P P 15 31 00.0 +0.5
comp=Z,33nm,1.1s,mb5.0
MVCO LR LR
comp=Z,951nm,20.0s,MS4.6
Y15A Casa Rosa Ranc 39.93 100 ⇑P P 15 31 00.3 +0.1
baz=40,SNR=8.7
113A Mohawk Valley, 39.98 103 ⇓P P 15 31 01.1 +0.5
baz=40
KLR Kul'dur 39.99 291 *e*P P 15 30 54.8 -5.7
KLR *e* 15 32 55.0
KLR *e* 15 40 26.5
KLR pmax pmax
comp=E,72nm,1.4s
KLR pmax pmax
comp=Z,170nm,1.4s,mb5.6
KLR MLR MLR
comp=N,2μm,13.0s,MS5.1
KLR MLR MLR
comp=E,700nm,13.0s,MS5.1
KLR MLR MLR
comp=Z,3μm,13.0s,MS5.3
V18A Ganado 40.06 96 ⇑P P 15 31 01.7 +0.4
baz=40
X16A Lo Mia Camp, P 40.11 99 ⇓P P 15 31 01.9 +0.2
baz=40,SNR=18
AGMN Agassiz Refuge 40.17 71 *e*P P 15 31 01.3 -0.7
comp=Z,87nm,1.0s,mb5.4
AGMN LR LR
comp=Z,879nm,22.0s,MS4.6
Y16A Circle Bar Ran 40.47 100 ⇓P P 15 31 05.8 +1.0
baz=40,SNR=17
X17A Forest Lakes 40.53 99 ⇑P P 15 31 06.1 +0.9
baz=40,SNR=6.3
W18A Petrified Fore 40.59 97 ⇓P P 15 31 05.8 +0.1
baz=40
X18A Snowflake 40.88 98 ⇓P P 15 31 08.5 +0.4
baz=41,SNR=9.4
Z16A Peralta Trail, 40.89 100 ⇑P P 15 31 08.4 +0.2
baz=41
115A Sonoran Desert 40.90 102 ⇑P P 15 31 08.6 +0.3
baz=41
Y17A Roosevelt 40.97 99 ⇑P P 15 31 08.9 +0.1
baz=41,SNR=12
214A Organ Pipe Nat 41.12 103 ⇓P P 15 31 10.2 +0.1
baz=41,SNR=11
OGNE Ogallala 41.13 84 PFAKE 15 31 20.0 +10
OGNE LR LR
comp=Z,793nm,19.0s,MS4.6
SDCO Great Sand Dun 41.23 90 *e*P P 15 31 10.8 -0.2
comp=Z,48nm,1.8s,mb4.8
SDCO LR LR
comp=Z,817nm,21.0s,MS4.6
116A Eloy 41.30 101 ⇑P P 15 31 12.0 +0.5
baz=41
X19A St. Johns 41.34 97 ⇓P P 15 31 12.7 +0.9
baz=41,SNR=9.7
Y18A Canyon Day Jun 41.38 98 ⇑P P 15 31 12.8 +0.7
baz=41
Z17A San Carlos Hig 41.47 99 ⇑P P 15 31 13.5 +0.6
baz=41
Y19A Nutrioso 41.70 98 ⇓P P 15 31 15.7 +0.9
baz=42,SNR=9.5
117A Oracle 41.85 100 ⇑P P 15 31 16.6 +0.6
baz=42,SNR=22
216A Three Points, 41.86 102 ⇑P P 15 31 16.3 +0.2
baz=42
TUC Tucson 42.01 101 *e*P P 15 31 17.6 +0.2
TUC pmax pmax
comp=Z,38nm,1.4s,mb4.8
TUC Tucson 42.01 101 *e*P P 15 31 17.6 +0.2
comp=Z,38nm,1.4s,mb4.8
217A Green Valley 42.39 101 ⇑P P 15 31 20.8 +0.4
baz=42,SNR=19
ECSD EROS,Sioux Fal 42.47 77 *e*P P 15 31 19.4 -1.5
comp=Z,30nm,0.8s,mb5.0
ECSD LR LR
comp=Z,2μm,20.0s,MS4.9
119A Ashpeak Ranch, 42.53 99 ⇓P P 15 31 22.0 +0.4
baz=42,SNR=23
LAZ Ladron 42.60 95 *e*P P 15 31 20.3 -1.8
ANMO Albuquerque 42.61 94⇑*e*P P 15 31 22.3 +0.1
ANMO Albuquerque 42.61 94 *e*P P 15 31 21.9 -0.3
comp=Z,18nm,1.2s,mb4.7
ANMO *e*PcP PcP 15 33 14.1 +0.5
ANMO LR LR
comp=Z,649nm,22.0s,MS4.5
218A Dragoon 42.68 100 ⇓P P 15 31 23.2 +0.3
baz=43,SNR=8.8
EYMN Ely 42.76 69 *e*P P 15 31 22.5 -0.8
comp=Z,88nm,0.7s,mb5.6
EYMN LR LR
comp=Z,1μm,20.0s,MS4.7
LENM Lemitar 42.87 95 *e*P P 15 31 25.7 +1.4
LPM Los Pinos Moun 42.96 95 *e*P P 15 31 25.8 +0.7
BNM Barren Site 43.08 95 *e*P P 15 31 25.4 -0.6
318A Bisbee 43.11 101 ⇑P P 15 31 26.4 +0.1
baz=43,SNR=17
219A White Tail Can 43.12 100 ⇑P P 15 31 26.8 +0.5
baz=43,SNR=20
319A Douglas 43.56 100 ⇓P P 15 31 30.4 +0.5
baz=44
CBKS Cedar Bluff 43.86 85 *e*P P 15 31 31.7 -0.5
CBKS pmax pmax
comp=Z,55nm,1.1s,mb5.2
CBKS MLR MLR
comp=Z,541nm,21.0s,MS4.4
CBKS Cedar Bluff 43.86 85 *e*P P 15 31 31.7 -0.5
comp=Z,55nm,1.1s,mb5.2
CBKS LR LR
comp=Z,541nm,21.0s,MS4.4
MDJ Mudanjiang 43.91 286 P P 15 31 30.8 -1.8
MDJ AP pP 15 31 44.5 -0.9
MDJ XP sP 15 31 50.3 -0.7
MDJ SCP ScP 15 37 03.3 -2.0
MDJ PCS PcS 15 37 09.0 -1.7
MDJ S **S** **15 37 58.8 -1.5**
MDJ XS sS 15 38 20.0 -1.9
MDJ AMB AMB
comp=Z,41nm,0.9s,mb5.2
MDJ AMB AMB
comp=Z,152nm,7.3s
MDJ LR LR
comp=N,703nm,18.6s,MS4.8
MDJ LR LR
comp=E,1μm,18.0s,MS4.8
MDJ LR LR
comp=Z,2μm,18.0s,MS5.0
MDJ Mudanjiang 43.91 286 *e*P P 15 31 30.5 -2.1
comp=Z,33nm,0.8s,mb5.1
MDJ LR LR
comp=Z,2μm,19.0s,MS5.0
BOD Bodaibo 44.10 310 *e*P P 15 31 32.8 -1.1
BOD pmax pmax
comp=Z,137nm,1.0s,mb5.6
MJAR Matsushiro Arr 44.27 271 P P 15 31 35.0 -0.5
comp=Z,68nm,1.0s,mb5.3,baz=38,slow=6.6,SNR=122
MJAR PcP PcP 15 33 18.8 -0.4
comp=Z,16nm,1.0s,baz=7.5,slow=1.6,SNR=5.8
MJAR ScP ScP 15 37 08.7 +1.9
comp=Z,11nm,1.2s,baz=353,slow=2.9,SNR=9.8
MJAR LR LR 15 49 14.2
comp=Z,513nm,20.6s,MS4.4,baz=65,slow=35
MJAR Matsushiro Arr 44.27 271 P P 15 31 35.0 -0.5
MJAR 15 33 18.8
MAJO Matsushiro 44.27 271 *e*P P 15 31 34.7 -0.8
MAJO pmax pmax
comp=Z,220nm,0.9s,mb5.9
MAJO MLR MLR
comp=Z,682nm,21.0s,MS4.5
MAJO Matsushiro 44.27 271 *e*P P 15 31 34.7 -0.9
comp=Z,220nm,0.9s,mb5.9
MAJO LR LR
comp=Z,682nm,21.0s,MS4.5
COWI Conover 45.16 69 *e*P P 15 31 41.5 -1.0
comp=Z,39nm,0.6s,mb5.4
COWI LR LR
comp=Z,1μm,19.0s,MS4.8
AMTX Amarillo 45.43 90 *e*P P 15 31 44.2 -0.6
comp=Z,165nm,2.3s,mb5.5
AMTX LR LR
comp=Z,1μm,22.0s,MS4.7
KSU1 Kansas State U 45.48 82 *e*P P 15 31 45.6 +0.5
KSU1 LR LR
comp=Z,742nm,21.0s,MS4.6
SCIA State Center 45.56 77 *e*P P 15 31 44.8 -1.0
comp=Z,236nm,1.7s,mb5.8
MNTX Cornudas Mount 45.57 96 PFAKE 15 32 00.0 +14
MNTX LR LR
comp=Z,4.0nm,22.0s
GDL2 Guadalupe Moun 45.80 95 *e*P P 15 31 48.1 +0.4
HIA Hailar 46.34 297 *e*P P 15 31 50.7 -1.1
HIA pmax pmax
comp=Z,36nm,0.8s
HIA MLR MLR
comp=Z,2μm,21.0s
HIA Hailar 46.34 297 *e*P P 15 31 50.7 -1.1
comp=Z,36nm,0.8s,mb5.3
HIA LR LR
comp=Z,2μm,21.0s,MS5.0
JFWS Jewell Farm 46.58 74 *e*P P 15 31 51.9 -1.8
JFWS pmax pmax
comp=Z,58nm,0.6s,mb5.7
JFWS MLR MLR
comp=Z,2μm,19.0s,MS5.0
JFWS Jewell Farm 46.58 74 *e*P P 15 31 51.9 -1.8
comp=Z,58nm,0.6s,mb5.7
JFWS LR LR
comp=Z,2μm,19.0s,MS5.0
KBS Kingsbay 46.69 2 *e*P P 15 31 54.6 +0.5
KBS *e* 15 46 48.2
KBS Kingsbay 46.69 2 *e*P P 15 31 54.0 -0.1
KBS pmax pmax
comp=Z,78nm,1.1s,mb5.5
KBS MLR MLR
comp=Z,1μm,19.0s,MS4.9
KBS Kingsbay 46.69 2⇑*e*P P 15 31 54.3 +0.2
KBS Kingsbay 46.69 2 *e*P P 15 31 54.0 -0.1
comp=Z,78nm,1.1s,mb5.5
KBS LR LR
comp=Z,1μm,19.0s,MS4.9
CN2 Changchun 46.73 288 ⇑P P 15 31 54.0 -0.9
CN2 *e*AP pP 15 32 09.5 +1.6
CN2 *e*XP sP 15 32 16.5 +3.1
CN2 PCP PcP 15 33 26.8 -0.8
CN2 PP PP 15 33 44.0 -1.1
CN2 *e*S S **15 38 36.5 -4.5**
CN2 SS SS 15 41 56.0 -11
CN2 AMB AMB
comp=Z,20nm,1.1s,mb5.0
CN2 AMB AMB
comp=Z,200nm,3.0s
CN2 LR LR
comp=N,1μm,19.0s,MS5.0
CN2 LR LR
comp=E,1μm,19.0s,MS5.0
CN2 LR LR
comp=Z,1μm,22.0s,MS4.8
DAG Danmarks Havn 46.83 11⇓*i*P P 15 31 55.0 -0.3
DAG pmax pmax
comp=Z,88nm,0.9s,mb5.7
DAG Danmarks Havn 46.83 11⇓*i*P P 15 31 55.0 -0.3
comp=Z,88nm,0.9s,mb5.7
SPB4 Spitsbergen Ar 47.49 1 *e*P P 15 31 58.6 -1.8
SPITS Spitsbergen Ar 47.49 1 P P 15 31 59.4 -1.0
comp=Z,38nm,1.1s,mb5.3,baz=47,slow=4.9,SNR=10
SPITS PcP PcP 15 33 29.7 -0.1
comp=Z,6.4nm,0.4s,baz=32,slow=5.4,SNR=12
CIT Chita 47.74 304 *e*P P 15 32 02.5 -0.1
CIT pmax pmax
comp=Z,275nm,1.4s,mb6.1
SFJD Kangerlussuaq 48.29 29 P P 15 32 06.9 +0.2
comp=Z,68nm,0.6s,mb5.8,baz=302,slow=8.5,SNR=34
SFJD Kangerlussuaq 48.29 29 *i* P P 15 32 06.6 -0.1
SFJD pmax pmax
comp=Z,70nm,0.8s,mb5.7
SFJD MLR MLR
comp=Z,1μm,19.0s,MS4.9
SFJD Kangerlussuaq 48.29 29 *i* P P 15 32 06.6 -0.1
comp=Z,70nm,0.8s,mb5.7
SFJD
comp=Z,1μm,19.0s
TXAR Lajitas Array 48.31 97 P P 15 32 06.6 -0.7
comp=Z,10nm,0.7s,mb5.0,baz=301,slow=5.6,SNR=42
TXAR PcP PcP 15 33 32.9 -0.6
comp=Z,3.1nm,0.5s,baz=218,slow=1.0,SNR=8.2
TXAR LR LR 15 50 49.3
comp=Z,1μm,20.2s,MS4.8,baz=0.0,slow=34
TXAR Lajitas Array 48.31 97 P P 15 32 06.6 -0.8
TXAR 15 33 32.9
TXAR Lajitas Array 48.31 97 P P 15 32 06.6 -0.7
TXAR PcP PcP 15 33 32.9 -0.6
TXAR LR LR 15 50 49.3
GLMI Grayling 48.43 68 PFAKE 15 32 20.0 +12
GLMI LR LR
comp=Z,980nm,20.0s,MS4.8
LPIG La Paz 48.56 108 P P 15 32 09.2 -0.2
comp=Z,31nm,0.4s,mb5.7,baz=28,slow=1.5,SNR=4.9
HDIL Hopedale 48.67 75 *e*P P 15 32 08.6 -1.4
comp=Z,297nm,0.7s
HDIL LR LR
comp=Z,1μm,19.0s,MS5.0
SNY Shenyang 49.06 287 ⇑P P 15 32 12.8 -0.2
SNY S **S** **15 39 12.8 -1.3**
SNY AMB AMB
comp=Z,236nm,1.2s,mb6.1
SNY AMB AMB
comp=Z,291nm,3.5s
SNY LR LR
comp=N,1μm,20.6s,MS5.0
SNY LR LR
comp=E,1μm,20.1s,MS5.0
SNY LR LR
comp=Z,1μm,22.0s,MS4.9
CCM Cathedral Cave 49.27 79 *e*P P 15 32 12.1 -2.5
CCM pmax pmax
comp=Z,19nm,0.8s,mb5.2
CCM MLR MLR
comp=Z,782nm,20.0s,MS4.7
CCM Cathedral Cave 49.27 79 *e*P P 15 32 12.1 -2.5
comp=Z,19nm,0.8s,mb5.2
CCM LR LR
comp=Z,782nm,20.0s,MS4.7
SLM Saint Louis 49.44 78 *e*P P 15 32 14.4 -1.5
SLM pmax pmax
comp=Z,81nm,0.6s,mb5.9
SLM Saint Louis 49.44 78 *e*P P 15 32 14.4 -1.6
comp=Z,81nm,0.6s,mb5.9
KSRS Korea Array 49.59 280 P P 15 32 17.3 +0.3
comp=Z,157nm,0.8s,mb6.1,baz=50,slow=7.0,SNR=320
KSRS PcP PcP 15 33 38.3 +0.3
comp=Z,13nm,0.9s,baz=49,slow=2.4,SNR=4.1
KSRS ScP ScP 15 37 31.7 +2.5
comp=Z,2.7nm,1.0s,baz=64,slow=5.7,SNR=4.7
KSRS LR LR 15 54 22.3
comp=Z,409nm,19.7s,MS4.4,baz=52,slow=37
KS15 Wonju Array Si 49.62 280 *e*P P 15 32 17.5 +0.2
JCT Junction City 49.70 93 *e*P P 15 32 16.3 -1.7
JCT pmax pmax
comp=Z,27nm,0.9s,mb5.3
JCT MLR MLR
comp=Z,384nm,19.0s,MS4.4
JCT Junction City 49.70 93 *e*P P 15 32 16.3 -1.7
comp=Z,27nm,0.9s,mb5.3
JCT LR LR
comp=Z,384nm,19.0s,MS4.4
FVM French Village 49.78 79 *e*P P 15 32 16.0 -2.5
FVM pmax pmax
comp=Z,55nm,1.1s,mb5.5
FVM French Village 49.78 79 *e*P P 15 32 16.0 -2.6
comp=Z,55nm,1.1s,mb5.5
INCN Inchon 50.30 281 *e*P P 15 32 22.4 -0.1
comp=Z,279nm,1.1s,mb6.2
INCN LR LR
comp=Z,586nm,20.0s,MS4.6
MIAR Mount Ida 50.38 84 *e*P P 15 32 21.2 -1.9
MIAR pmax pmax
comp=Z,34nm,1.0s,mb5.3
MIAR MLR MLR
comp=Z,673nm,20.0s,MS4.7
MIAR Mount Ida 50.38 84 *e*P P 15 32 21.2 -1.9
comp=Z,34nm,1.0s,mb5.3
MIAR LR LR
comp=Z,673nm,20.0s,MS4.7
OLIL Olney 50.59 76 *e*P P 15 32 23.1 -1.5
comp=Z,118nm,0.7s,mb5.9
AAM Ann Arbor 50.62 70 PFAKE 15 32 40.0 +15
AAM LR LR
comp=Z,852nm,22.0s,MS4.7
SIUC Southern Illin 50.66 78 *e*P P 15 32 23.4 -1.7
comp=Z,98nm,1.0s,mb5.7
BLO Bloomington 51.17 75 *e*P P 15 32 27.2 -1.8
BLO pmax pmax
comp=Z,75nm,1.0s,mb5.6
BLO Bloomington 51.17 75 *e*P P 15 32 27.2 -1.8
comp=Z,75nm,1.0s,mb5.6
USIN University of 51.37 77 *e*P P 15 32 28.9 -1.6
comp=Z,185nm,0.7s,mb6.1
GLAT Glass 51.63 79 *e*P P 15 32 30.6 -1.9
NATX Nacogdoches 51.76 87 PFAKE 15 32 50.0 +17
NATX LR LR
comp=Z,1μm,19.0s,MS5.0
UTMT University of 51.82 79 *e*P P 15 32 32.2 -1.6
comp=Z,281nm,1.6s,mb5.9
IRK Irkutsk 51.95 309 *e*P P 15 32 33.8 -0.8
IRK pmax pmax
comp=Z,196nm,1.0s,mb6.0
WCI Wyandotte Cave 51.96 75 *e*P P 15 32 33.1 -1.7
WCI pmax pmax
comp=Z,275nm,2.1s,mb5.8
WCI MLR MLR
comp=Z,1μm,20.0s,MS5.0
WCI Wyandotte Cave 51.96 75 *e*P P 15 32 33.1 -1.8
comp=Z,275nm,2.1s,mb5.8
WCI LR LR
comp=Z,1μm,20.0s,MS5.0
DL2 Dalian 52.15 286 P P 15 32 35.3 -0.9
DL2 AP pP 15 32 50.5 +1.1
DL2 S **S** **15 39 53.8 -3.1**
DL2 AMB AMB
comp=Z,100nm,1.0s,mb5.7
DL2 AMB AMB
comp=Z,70nm,5.1s
DL2 LR LR
comp=N,340nm,19.5s,MS4.6
DL2 LR LR
comp=E,480nm,18.3s,MS4.6
DL2 LR LR
comp=Z,640nm,18.0s,MS4.7
HKT Hockley 52.40 90 *e*P P 15 32 36.5 -1.8
HKT pmax pmax
comp=Z,32nm,1.4s,mb5.1
HKT MLR MLR
comp=Z,503nm,19.0s,MS4.6
HKT Hockley 52.40 90 *e*P P 15 32 36.5 -1.7
comp=Z,32nm,1.4s,mb5.1
HKT LR LR
comp=Z,503nm,19.0s,MS4.6
ACSO Alum Creek Sta 52.41 71 PFAKE 15 32 50.0 +12
ACSO LR LR
comp=Z,1μm,20.0s,MS4.9
WVT Waverly 52.56 78 *e*P P 15 32 36.8 -2.6
WVT pmax pmax
comp=Z,95nm,0.8s,mb5.8
WVT Waverly 52.56 78 *e*P P 15 32 36.8 -2.5
comp=Z,95nm,0.8s,mb5.8
TLY Talaya 52.61 309 P P 15 32 40.3 +0.8
comp=Z,796nm,1.1s,SNR=31
TLY Talaya 52.61 309 P P 15 32 40.3 +0.8
SNR=38
TLY Talaya 52.61 309*c* *i*P P 15 32 39.6 +0.1
TLY pmax pmax
comp=Z,254nm,1.6s,mb5.9
TLY Talaya 52.61 309⇑*i*P P 15 32 39.7 +0.2
ERPA Erie 52.74 68 *e*P P 15 32 39.3 -1.3
comp=Z,242nm,1.5s,mb5.9
ERPA LR LR
comp=Z,1μm,20.0s,MS4.9
OXF Oxford 52.81 81 *e*P P 15 32 38.3 -2.9
OXF pmax pmax
comp=Z,215nm,1.2s,mb6.0
OXF MLR MLR
comp=Z,877nm,19.0s,MS4.8
OXF Oxford 52.81 81 *e*P P 15 32 38.3 -2.9
comp=Z,216nm,1.2s,mb6.0
OXF LR LR
comp=Z,877nm,19.0s,MS4.8
ALLY Alegheny Colle 52.98 68 *e*P P 15 32 41.2 -1.2
comp=Z,154nm,1.0s,mb5.9
ALLY *e*pP pP 15 32 49.4 -6.1
KVTX Kingsville 53.00 94 PFAKE 15 32 50.0 +7.3
KVTX LR LR
comp=Z,738nm,21.0s,MS4.7
ULN Ulaanbaatar 53.63 303⇑*e*P P 15 32 47.1 0.0
ULN Ulaanbaatar 53.63 303 *e*P P 15 32 46.6 -0.5
comp=Z,140nm,0.9s,mb5.9
ZAK Zakamensk 53.67 308⇑*i*P P 15 32 47.6 +0.3
ZAK *e* 15 33 53.6

ZAK pmax pmax
comp=Z,54nm,1.2s,mb5.3
MOY Mondy 53.82 310 *e*P **P 15 32 49.4 +1.1**
MOY pmax pmax
comp=Z,102nm,1.6s,mb5.5
VBMS Vicksburg 53.83 84 *e*P **P 15 32 47.0 -1.7**
comp=Z,116nm,1.1s,mb5.7
VBMS LR LR
comp=Z,623nm,20.0s,MS4.7
LONY Lake Ozonia 53.86 62 *e*P **P 15 32 47.0 -1.7**
comp=Z,102nm,1.8s,mb5.5
LONY LR LR
comp=Z,1μm,19.0s,MS5.0
SONM Songino Array 53.97 304 P **P 15 32 50.0 +0.4**
comp=Z,122nm,0.9s,mb5.8,baz=46,slow=7.9,SNR=497
SONM PcP PcP 15 33 54.2 0.0
comp=Z,36nm,0.8s,baz=65,slow=1.9,SNR=18
SONM ScP ScP 15 37 50.1 +2.1
comp=Z,7.8nm,1.0s,baz=34,slow=3.6,SNR=8.5
SONM Songino Array 53.97 304 P **P 15 32 50.0 +0.4**
SONM 15 33 54.2
KRAR Krasnoyarsk 54.12 318 *d*P **P 15 32 50.6 +0.1**
KRAR pmax pmax
comp=Z,73nm,1.0s,mb5.6
FRNY Flat Rock 54.22 61 *e*P **P 15 32 49.1 -2.2**
comp=Z,20nm,0.9s,mb5.0
SWET Sewanee 54.29 78 *e*P **P 15 32 50.1 -2.0**
BJI Beijing 54.36 291 P **P 15 32 52.3 -0.2**
BJI PP PP 15 34 54.5 0.0
BJI S **S 15 40 27.5 +0.5**
BJI AMB AMB
comp=Z,117nm,0.9s,mb5.8
BJI AMB AMB
comp=Z,515nm,3.5s
BJI LR LR
comp=N,908nm,20.8s,MS5.0
BJI LR LR
comp=E,1μm,22.4s,MS5.0
BJI LR LR
comp=Z,2μm,23.5s,MS5.0
BJT Baijiatuau 54.38 291 *e*P **P 15 32 52.0 -0.7**
BJT *e* pP 15 33 02.6 -3.3
BJT pmax pmax
comp=Z,122nm,1.0s
BJT MLR MLR
comp=Z,1μm,22.0s
BJT Baijiatuau 54.38 291 *e*P **P 15 32 52.0 -0.7**
comp=Z,122nm,1.0s,mb5.8
BJT *e* pP 15 33 02.6 -3.2
BJT LR LR
comp=Z,1μm,22.0s,MS5.0
NCB Newcomb 54.49 62 *e*P **P 15 32 52.5 -0.9**
comp=Z,144nm,1.6s,mb5.7
NCB LR LR
comp=Z,1μm,21.0s,MS4.9
MCWV Mont Chateau 54.53 70 *e*P **P 15 32 52.2 -1.6**
comp=Z,80nm,0.9s,mb5.8
MCWV LR LR
comp=Z,1μm,21.0s,MS4.9
TZTN Tazewell 54.69 75 PFAKE 15 33 10.0 +15
TZTN LR LR
comp=Z,2μm,20.0s,MS5.1
BINY Binghamton 54.82 65 *e*P **P 15 32 54.7 -1.0**
comp=Z,187nm,1.8s,mb5.8
BINY LR LR
comp=Z,950nm,22.0s,MS4.8
SSPA Standing Stone 54.91 68 *e*P **P 15 32 54.8 -1.7**
comp=Z,81nm,1.0s,mb5.7
SSPA LR LR
comp=Z,1μm,19.0s,MS4.9
CPCT Cooper Cave 54.93 77 *e*P **P 15 32 54.8 -1.8**
ACCN Adirondack Com 55.19 63 *e*P **P 15 32 57.3 -1.1**
comp=Z,130nm,1.6s,mb5.7
TKL Tuckaleechee C 55.20 76 *e*P **P 15 32 56.1 -2.5**
LRAL Lakeview Retre 55.26 80 *e*P **P 15 32 56.5 -2.6**
LRAL LR LR
comp=Z,657nm,20.0s,MS4.7
LBNH Lisbon 55.48 61 *e*P **P 15 32 58.7 -1.8**
LBNH pmax pmax
comp=Z,183nm,2.1s,mb5.7
LBNH MLR MLR
comp=Z,2μm,19.0s,MS5.1
LBNH Lisbon 55.48 61 *e*P **P 15 32 58.7 -1.8**
comp=Z,183nm,2.1s,mb5.7
LBNH LR LR
comp=Z,2μm,19.0s,MS5.1
HNH Hanover 55.68 61 *e*P **P 15 33 01.2 -0.7**
ELN Prospectdale 55.76 72 *e*P **P 15 33 00.7 -1.9**
KEV Kevo 55.80 356 *e*P **P 15 33 00.5 -1.9**
comp=Z,36nm,0.7s,mb5.5
KEV LR LR
comp=Z,2μm,19.0s,MS5.2
BLA Blacksburg 55.96 72 *e*P **P 15 33 02.3 -1.8**
BLA pmax pmax
comp=Z,42nm,0.7s,mb5.6
BLA MLR MLR
comp=Z,1μm,20.0s,MS5.0
BLA Blacksburg 55.96 72 *e*P **P 15 33 02.3 -1.8**
comp=Z,42nm,0.7s,mb5.6
BLA LR LR
comp=Z,1μm,20.0s,MS5.0
ARCES ARCESS Array B 56.07 357 P **P 15 33 03.0 -1.3**
comp=Z,31nm,0.8s,mb5.4,baz=30,slow=6.2,SNR=50
ARCES PcP PcP 15 34 01.6 -0.3
comp=Z,30nm,0.8s,baz=4.3,slow=4.9,SNR=9.1
ARCES LR LR 15 56 15.4
comp=Z,761nm,21.8s,MS4.8,baz=8.7,slow=35
ARCES ARCESS Array B 56.07 357 P **P 15 33 03.1 -1.3**
ARCES 15 34 01.6
ARE0 ARCESS Array S 56.07 357 *e*P **P 15 33 03.1 -1.2**
PKME Peaks-Kenny Pk 56.07 58 *e*P **P 15 33 03.3 -1.4**
comp=Z,133nm,1.8s,mb5.7
PKME LR LR
comp=Z,880nm,19.0s,MS4.9
MVL Millersville 56.18 67 *e*P **P 15 33 04.1 -1.5**
comp=Z,22nm,0.5s,mb5.4
HHC Hu-ho-hao-te 56.27 294⇑ *i*P **P 15 33 06.5 +0.3**
HHC AP pP 15 33 22.5 +3.0
HHC XP sP 15 33 29.0 +4.1
HHC PCP PcP 15 34 04.3 +1.1
HHC PP PP 15 35 12.8 +1.3
HHC SCP ScP 15 37 56.3 -1.9
HHC PCS PcS 15 38 03.0 -0.7
HHC S **S 15 40 49.3 -3.1**
HHC XS sS 15 41 17.0 +2.4
HHC SCS ScS 15 42 46.5 -4.5
HHC SS SS 15 44 34.5 -4.5
HHC AMB AMB
comp=Z,123nm,1.0s,mb5.9
HHC AMB AMB
comp=Z,405nm,6.1s
HHC LR LR
comp=N,1μm,17.6s,MS5.2
HHC LR LR
comp=E,1μm,17.5s,MS5.2
HHC LR LR
comp=Z,1μm,19.2s,MS5.1
SDMD Soldier's Deli 56.34 68 *e*P **P 15 33 05.3 -1.5**
comp=Z,70nm,1.1s,mb5.6
BRAL Brewton 56.71 82 PFAKE 15 33 20.0 +11
BRAL LR LR
comp=Z,874nm,22.0s,MS4.8
HRV Adam Dziewonsk 56.91 62 *e*P **P 15 33 09.9 -0.8**
HRV pmax pmax
comp=Z,123nm,1.6s,mb5.7
HRV MLR MLR
comp=Z,1μm,20.0s,MS5.0
HRV Adam Dziewonsk 56.91 62 *e*P **P 15 33 09.9 -0.8**
comp=Z,123nm,1.6s,mb5.7
HRV LR LR
comp=Z,1μm,20.0s,MS5.0
CBN Corbin 56.92 69 PFAKE 15 33 20.0 +9.1
CBN LR LR
comp=Z,1μm,21.0s,MS5.0
GOGA Godfrey 57.00 78 *e*P **P 15 33 09.1 -2.4**
GOGA pmax pmax
comp=Z,33nm,0.9s,mb5.4
GOGA MLR MLR
comp=Z,959nm,20.0s,MS4.9
GOGA Godfrey 57.00 78 *e*P **P 15 33 09.1 -2.4**
comp=Z,33nm,0.9s,mb5.4
GOGA LR LR
comp=Z,959nm,20.0s,MS4.9
WES Weston 57.11 62 *e*P **P 15 33 11.4 -0.8**
LVZ Lovozero 57.22 353 P **P 15 33 11.3 -1.3**
comp=Z,1μm,0.9s,SNR=10
LVZ Lovozero 57.22 353⇑ *e*P **P 15 33 11.7 -0.9**
BTO Baotou 57.26 295 *e*P **P 15 33 13.0 -0.2**
URVA University of 57.29 70 *e*P **P 15 33 11.7 -1.8**
BRYW Bryant College 57.34 62 *e*P **P 15 33 12.4 -1.4**
EMMW East Machias 57.38 58 *e*P **P 15 33 12.4 -1.6**
JSC Jenkinsville 57.62 75 *e*P **P 15 33 13.4 -2.4**
LHS Liberty Hill 57.73 75 *e*P pP 15 33 26.6 -3.3
LHS Liberty Hill 57.73 75 *e*pP pP 15 33 26.6 -3.3
SSE Sheshan 58.02 280 P **P 15 33 18.5 -0.2**
SSE S **S 15 41 14.8 -0.9**
SSE XS sS 15 41 40.5 +2.6
SSE AMB AMB
comp=Z,204nm,1.2s,mb6.0
SSE LR LR
comp=N,260nm,26.1s,MS4.3
SSE LR LR
comp=E,215nm,26.1s,MS4.3
SSE LR LR
comp=Z,479nm,28.7s,MS4.5
TIY Taiyuan 58.06 291⇑ P **P 15 33 21.5 +2.6**
TIY LR LR
comp=N,850nm,15.2s,MS5.0
TIY LR LR
comp=E,354nm,13.2s,MS5.0
TIY LR LR
comp=Z,712nm,13.5s,MS5.0
NVS Novosibirsk 58.60 322 *i*P **P 15 33 20.7 -1.7**
NVS *e* 15 34 05.5
NVS pmax pmax
comp=Z,109nm,1.6s,mb5.6
NVS pmax pmax
comp=N,63nm,1.7s
NVS pmax pmax
comp=E,48nm,1.4s
NJ2 Nanjing 58.64 282 *e*P **P 15 33 22.5 -0.6**
NJ2 AP pP 15 33 38.0 +1.6
NJ2 XP sP 15 33 45.5 +3.7
NJ2 PP PP 15 35 33.8 +1.0
NJ2 S **S 15 41 20.0 -3.8**
NJ2 XS sS 15 41 46.0 -0.1
NJ2 AMB AMB
comp=Z,100nm,0.8s,mb5.9
NJ2 AMB AMB
comp=Z,150nm,8.0s
NJ2 LR LR
comp=N,240nm,24.2s,MS4.8
NJ2 LR LR
comp=E,900nm,26.6s,MS4.8
ZAA0 Zalesovo Array 58.73 321 *e*P **P 15 33 23.0 -0.3**
ZALV Zalesovo Beam 58.73 321 P **P 15 33 23.0 -0.3**
comp=E,14nm,0.8s,mb5.1,baz=49,slow=6.7,SNR=61
ZALV PcP PcP 15 34 12.2 -0.5
comp=E,18nm,0.9s,baz=25,slow=3.9,SNR=6.7
CNNC Cliffs of the 58.80 72 PFAKE 15 33 40.0 +16
CNNC LR LR
comp=Z,1μm,20.0s,MS5.1
NHSC New Hope 59.09 75 *e*P **P 15 33 25.1 -1.0**
comp=Z,124nm,1.0s,mb5.9
NHSC LR LR
comp=Z,1μm,19.0s,MS5.1
MOR8 Moi Rana 59.53 2 *e*P **P 15 33 24.5 -4.2**
MOR8 AMb AMB 15 33 28.5
comp=Z,56nm,1.4s,mb5.4
NSS Namsos 61.11 3 *e*P **P 15 33 35.4 -4.1**
DWPF Disney 62.12 80 PFAKE 15 34 00.0 +13
DWPF LR LR
comp=Z,566nm,19.0s,MS4.8
WHN Wuhan 62.32 284⇑ *i*P **P 15 33 47.5 -0.7**
WHN S **S 15 42 10.8 0.0**
WHN LR LR
comp=Z,1μm,15.4s,MS5.2
JOF Joensuu 62.39 353 *e*p **P 15 33 46.0 -2.1**
comp=Z,48nm,0.6s,mb5.8
JOF Joensuu 62.39 353 *e*P **P 15 33 46.0 -2.1**
JOF pmax pmax
comp=Z,48nm,0.6s,mb5.8
XAN Xi'an 62.70 291 P **P 15 33 50.3 -0.3**
XAN PP PP 15 36 07.5 -1.0
XAN S **S 15 42 06.3 -9.2**
XAN SCS ScS 15 43 34.0 -4.9
XAN AMB AMB
comp=Z,147nm,1.3s,mb6.0
XAN AMB AMB
comp=Z,279nm,7.2s
XAN LR LR
comp=E,597nm,18.6s
XAN LR LR
comp=Z,1μm,21.3s,MS5.0
GTA Gaotai 63.38 301⇑ P **P 15 33 54.5 -0.6**
GTA AP pP 15 34 10.8 +2.3
GTA XP sP 15 34 17.8 +3.8
GTA PP PP 15 36 16.8 +2.4
GTA S **S 15 42 22.0 -1.9**
GTA XS sS 15 42 50.0 +3.6
GTA SS SS 15 46 31.5 +1.0
GTA AMB AMB
comp=Z,170nm,1.5s,mb6.0
GTA AMB AMB
comp=Z,675nm,6.9s
GTA LR LR
comp=N,1μm,20.4s,MS5.2
GTA LR LR
comp=E,1μm,18.3s,MS5.2
GTA LR LR
comp=Z,2μm,21.0s,MS5.2
KAF Kangasniemi 63.47 356 *e*p **P 15 33 53.2 -2.1**
comp=Z,81nm,0.6s,mb6.0,baz=1.3,slow=6.3
KAF Kangasniemi 63.47 356 *e*P **P 15 33 53.2 -2.1**
KAF pmax pmax
comp=Z,81nm,0.6s,mb6.0
DOMB Dombas 63.48 5⇑ *i*P **P 15 33 55.0 -0.4**
DOMB AMb AMB 15 33 57.9
comp=Z,137nm,1.3s,mb5.9
KURK Kurchatov 63.59 322 P **P 15 33 56.8 +0.5**
comp=Z,566nm,1.0s,SNR=27
KURK Kurchatov 63.59 322 P **P 15 33 56.5 +0.2**
comp=Z,53nm,1.0s,mb5.5,baz=23,slow=6.6,SNR=92
KURK PcP PcP 15 34 32.1 -0.2
comp=Z,13nm,0.9s,baz=35,slow=3.8,SNR=4.1
SVE Sverdlovsk 63.71 336⇓ *e*P **P 15 33 56.9 0.0**
SVE *e* 15 36 16.9
SVE *e*SS SS 15 46 37.5 +2.8
SVE pmax pmax
comp=Z,210nm,1.0s,mb6.1
SVE MLR MLR
comp=Z,2μm,17.0s,MS5.3
LZH Lanzhou 63.86 296 ⇓P **P 15 33 58.3 0.0**
LZH AP pP 15 34 16.5 +4.8
LZH XP sP 15 34 22.5 +5.3
LZH PCP PcP 15 34 31.8 -1.9
LZH PP PP 15 36 20.5 +1.8
LZH S **S 15 42 26.0 -3.9**
LZH XS sS 15 42 52.0 -0.4
LZH SS SS 15 46 34.3 -3.7
LZH AMB AMB
comp=Z,320nm,1.1s,mb6.3
LZH AMB AMB
comp=Z,830nm,5.0s
LZH LR LR
comp=E,2μm,17.6s
LZH LR LR
comp=Z,3μm,18.6s,MS5.6
TEIG Tepich 64.22 91 *e*P **P 15 34 01.5 +0.7**
TEIG LR LR
comp=Z,477nm,19.0s,MS4.7
BVAR Borovoye Array 64.39 328 P **P 15 34 01.4 -0.1**
comp=Z,122nm,0.8s,mb6.0,baz=43,slow=6.2,SNR=400
BVAR PcP PcP 15 34 36.2 +0.6
comp=Z,30nm,0.8s,baz=47,slow=2.8,SNR=5.1
BRVK Borovoye 64.39 328 P **P 15 34 01.4 -0.1**
comp=Z,949nm,0.9s,SNR=62
BRVK Borovoye 64.39 328⇑ *e*P **P 15 34 01.4 -0.1**
ARU Arti 64.56 337 P **P 15 34 01.9 -0.6**
comp=Z,2μm,0.5s,SNR=58
ARU Arti 64.56 337 *c*P **P 15 34 01.8 -0.7**
ARU *e* 15 34 36.1
ARU *e* 15 36 22.6
ARU *e*S **S 15 42 36.6 -1.3**
ARU pmax pmax
comp=Z,225nm,1.0s,mb6.2
ARU MLR MLR
comp=Z,2μm,18.0s,MS5.3
ARU Arti 64.56 337⇑ *e*P **P 15 34 01.7 -0.8**
NB2 NORSAR Subarra 64.58 4 P **P 15 34 02.5 -0.1**
comp=Z,358nm,1.4s,mb6.2,baz=357,slow=6.5
NOA NORSAR Array B 64.58 4 P **P 15 34 02.3 -0.3**
comp=Z,35nm,0.7s,mb5.5,baz=356,slow=6.4,SNR=80
NOA LR LR 16 02 38.0
comp=Z,471nm,20.8s,MS4.7,baz=0.0,slow=36
NOA NORSAR Array B 64.58 4 P **P 15 34 02.3 -0.3**
NOA LR LR 16 02 38.0
NAO01 NORSAR Array S 64.76 4 *e*P **P 15 34 03.1 -0.6**
comp=Z,107nm,1.1s,mb5.8
ASK Askoy 64.80 7 *e*P **P 15 34 03.2 -0.8**
ASK AMb AMB 15 34 12.1
comp=Z,251nm,1.9s,mb5.9
EGD Espegrend 65.02 7 *e*P **P 15 34 04.5 -0.9**
EGD AMb AMB 15 34 06.0
comp=Z,271nm,1.6s,mb6.0
ENH Enshi 65.25 288 PFAKE 15 34 20.0 +13
ENH LR LR
comp=Z,10.0nm,19.0s
MK31 Makanchi Array 65.43 317 *e*P **P 15 34 06.9 -1.4**
MKAR Makanchi Array 65.43 317 P **P 15 34 07.3 -1.0**
comp=Z,29nm,0.9s,mb5.3,baz=46,slow=5.8,SNR=170
MKAR PKP2bc 16 02 53.7
comp=Z,1.1nm,1.0s,baz=241,slow=2.5,SNR=4.4
MKAR Makanchi Array 65.43 317 *i*P **P 15 34 07.3 -1.0**
MKAR pmax pmax
comp=Z,29nm,0.9s
MKAR Makanchi Array 65.43 317 P **P 15 34 07.3 -1.0**
MKAR ⇑*e* 16 02 53.7
PUL Pulkovo 65.58 353⇑ *e*P **P 15 34 09.1 0.0**
WMQ Urumqi 65.60 312⇑ *i*P **P 15 34 09.5 0.0**
WMQ AP pP 15 34 25.8 +2.8
WMQ XP sP 15 34 33.0 +4.6
WMQ PCP PcP 15 34 40.5 -0.2
WMQ PP PP 15 36 36.5 +2.8
WMQ PPP 15 38 12.0
WMQ SCP 15 38 37.0
WMQ PCS 15 38 43.5
WMQ S S 15 42 49.0 -2.1
WMQ XS sS 15 43 16.5 +2.8
WMQ SCS ScS 15 43 56.0 -4.8
WMQ AMB AMB
comp=Z,138nm,0.9s,mb6.0
WMQ AMB AMB
comp=Z,124nm,10.1s
WMQ LR LR
comp=N,1μm,23.0s,MS5.2
WMQ LR LR
comp=E,890nm,23.0s,MS5.2
WMQ LR LR
comp=Z,2μm,21.0s,MS5.2
TAOE Nuku Hiva Isla 65.77 156 *e*S S 15 42 58.5 +4.9
comp=Z,1μm,26.8s
TAOE *e*SS SS 15 47 10.2 +1.1
comp=Z,2μm,28.8s
TAOE *e*LQ 15 51 08.4
comp=Z,6μm,29.2s
TAOE *e*LR LR 15 53 57.1
comp=Z,8μm,23.8s,baz=356
KONO Kongsberg 65.90 5 *e*P **P 15 34 10.9 -0.2**
KONO Kongsberg 65.90 5 *e*P **P 15 34 11.3 +0.2**
BLS5 Blasjo 65.94 7 *e*P **P 15 34 11.9 +0.5**
BLS5 AMb AMB 15 34 12.8
comp=Z,56nm,0.6s,mb5.8
SNART Snartemo 67.07 6 *e*P **P 15 34 18.9 +0.3**
SNART AMb AMB 15 34 20.3
comp=Z,113nm,1.4s,mb5.7
CD2 Chengdu 67.89 292⇑ *i*P **P 15 34 24.5 +0.3**
CD2 AP pP 15 34 40.8 +3.0
CD2 XP sP 15 34 47.8 +4.6
CD2 PP PP 15 36 56.5 +2.5
CD2 PCS 15 38 54.5
CD2 S S 15 43 16.5 -2.6
CD2 XS sS 15 43 44.3 +2.5
CD2 SCS ScS 15 44 13.8 -5.1
CD2 SS SS 15 47 38.3 -2.5
CD2 AMB AMB
comp=Z,310nm,1.1s,mb6.2
CD2 AMB AMB
comp=Z,430nm,6.0s
CD2 LR LR
comp=N,730nm,18.0s,MS5.0
CD2 LR LR
comp=E,650nm,21.2s,MS5.0
CD2 LR LR
comp=Z,540nm,16.8s,MS4.8
BBSR BB Station 68.11 65 PFAKE 15 34 40.0 +14
BBSR LR LR
comp=Z,552nm,19.0s,MS4.8
AFI Afiamalu 68.76 190 LR LR 15 58 33.5
comp=Z,1μm,19.7s,MS5.1,baz=28,slow=31
MOS Moscow 68.89 348 *e*P **P 15 34 27.8 -2.3**
MOS *e* 15 34 52.0
MOS pmax pmax
comp=Z,276nm,1.5s,mb6.0
MOS MLR MLR
comp=Z,1μm,22.0s,MS5.2
EKA Eskdalemuir Ar 69.04 13 P **P 15 34 31.3 +0.3**
comp=Z,64nm,0.7s,mb5.7,baz=338,slow=4.7,SNR=121
ESK Eskdalemuir 69.05 13 P **P 15 34 31.0 -0.1**
comp=Z,578nm,0.8s,SNR=14
MUD Monsted U'grnd 69.07 5 *i*P **P 15 34 31.1 -0.1**
MUD pmax pmax
comp=Z,60nm,1.2s,mb5.4
MUD MLR MLR
comp=Z,390nm,22.0s,MS4.6
MUD Monsted U'grnd 69.07 5 *i*P **P 15 34 31.1 -0.1**
comp=Z,60nm,1.2s,mb5.4
MUD
comp=Z,390nm,22.0s
OBN Obninsk 69.63 349 P **P 15 34 33.3 -1.4**
comp=Z,969nm,1.1s,SNR=8.2
OBN Obninsk 69.63 349 *c*P **P 15 34 33.7 -1.0**
OBN *e* 15 34 57.3
OBN *e* 15 44 28.6
OBN pmax pmax
comp=Z,322nm,1.6s,mb6.0
OBN MLR MLR
comp=Z,900nm,20.0s,MS5.0
GYA Guiyang 69.77 287⇓ *i*P **P 15 34 35.8 -0.2**
GYA AP pP 15 34 54.3 +4.7
GYA XP sP 15 34 59.8 +4.8
GYA PP PP 15 37 13.3 +3.0
GYA PPP 15 38 56.0
GYA PCS 15 39 05.8
GYA S S 15 43 39.0 -2.4
GYA XS sS 15 44 05.3 +1.1
GYA SKS 15 44 27.5
GYA SS SS 15 48 09.0 -0.9
GYA AMB AMB
comp=Z,40nm,1.0s,mb5.3
GYA AMB AMB
comp=Z,280nm,6.2s
GYA LR LR
comp=N,1μm,19.8s,MS5.2
GYA LR LR
comp=E,1μm,20.2s,MS5.2
GYA LR LR
comp=Z,1μm,19.9s,MS5.1
DMUB Kingscourt 69.89 16 *e*P **P 15 34 33.0 -3.3**
COP Copenhagen 69.98 4 *e*P **P 15 34 36.8 0.0**
COP pmax pmax
comp=Z,39nm,1.3s,mb5.2
COP MLR MLR
comp=Z,220nm,21.0s,MS4.4
COP Copenhagen 69.98 4 *i*P **P 15 34 36.8 0.0**
comp=Z,39nm,1.3s,mb5.2
COP
comp=Z,220nm,21.0s
COP Copenhagen 69.98 4 *e*P **P 15 34 36.8 0.0**
comp=Z,39nm,1.3s,mb5.2
COP LR LR
comp=Z,220nm,21.0s,MS4.4
AKTK Aktyubinsk 70.18 334 P **P 15 34 38.0 -0.1**
AKTO Aktyubinsk 70.18 334 P **P 15 34 38.0 -0.1**
comp=Z,120nm,0.8s,mb5.9,baz=33,slow=6.4,SNR=318
DLF Lyons Farm 70.54 15 *e*P **P 15 34 37.0 -3.3**
MNK Minsk 70.99 354⇑ *i*P **P 15 34 41.0 -2.0**
MNK pmax pmax
comp=Z,980nm,1.0s
MNK pmax pmax
comp=N,880nm,1.0s
MNK pmax pmax
comp=E,360nm,1.0s
RGN Rugen 71.15 3 *e*P **P 15 34 44.5 +0.5**
comp=Z,528nm,1.4s,mb6.3
HLG Helgoland 71.25 6 *e*P **P 15 34 45.1 +0.5**

comp=Z,371nm,1.4s,mb6.1
TKM2 Tokmak 2 71.27 319 P P 15 34 45.6 +0.7
SNR=34
USP Ospenovka 71.39 320 P P 15 34 46.2 +0.6
SNR=53
HNR Honiara 71.44 220 PFAKE 15 35 00.0 +14
HNR LR LR
comp=Z,565nm,20.0s,MS4.8
CHMS Chumysh 71.53 320 P P 15 34 47.2 +0.7
SNR=55
BSEG Bad Segeberg 71.64 5 *e*P **P 15 34 47.3 +0.4**
BSEG pmax pmax
comp=Z,167nm,1.2s,mb5.8
BSEG Bad Segeberg 71.64 5 *e*P **P 15 34 47.3 +0.4**
comp=Z,167nm,1.2s,mb5.8
SUW Suwalki 71.69 357 *e*P **P 15 34 46.6 -0.6**
SUW LMZ 16 03 30.0
comp=Z,500nm,25.7s
FRU Bishkek 71.72 320 *i* P **P 15 34 48.0 +0.4**
FRU pmax pmax
comp=Z,700nm,2.0s,mb6.2
FRU MLR MLR
comp=Z,2µm,18.0s,MS5.4
KBK Karagaybulak 71.75 320 P P 15 34 48.7 +0.9
SNR=56
AAK Ala-Archa 71.94 320 P P 15 34 49.7 +0.8
SNR=60
EKS2 Erkin-Say 72.18 320 P P 15 34 51.2 +0.9
SNR=57
UCH Uchtor 72.28 320 P P 15 34 52.7 +1.7
SNR=7.1
GKP Gorka Klasztor 72.50 1 *e*P **P 15 34 52.1 0.0**
comp=Z,500nm,1.4s,mb6.2
GKP LMZ 16 02 06.3
comp=Z,1µm,29.6s
GKP Gorka Klasztor 72.50 1 *e*P **P 15 34 52.1 0.0**
comp=Z,0.5nm,1.4s
GKP LR LR
comp=Z,1µm,29.6s,MS4.9
PPT Papeete 72.62 168 *e*S S 15 44 21.2 +7.0
comp=Z,711nm,30.8s
PPT Papeete 72.62 168 *e*LR LR 15 57 00.3
comp=Z,3µm,23.8s,baz=355
VOR Voronezh 72.62 347 *e*P **P 15 34 50.0 -2.8**
VOR pmax pmax
comp=Z,300nm,1.6s,mb6.0
AML Almayashu 72.67 320 P P 15 34 54.7 +1.4
SNR=27
KMI Kunming 72.98 289 ⇑P **P 15 34 55.3 -0.1**
KMI AP pP 15 35 12.3 +3.2
KMI XP sP 15 35 18.8 +4.3
KMI PP PP 15 37 39.8 +1.9
KMI PPP 15 39 23.3
KMI S S 15 44 14.5 -4.1
KMI XS sS 15 44 41.3 -0.3
KMI SKS 15 44 50.8
KMI SS SS 15 48 57.3 -2.0
KMI SSS 15 52 08.5
KMI AMB AMB
comp=Z,36nm,1.4s,mb5.1
KMI AMB AMB
comp=Z,271nm,4.1s
KMI LR LR
comp=N,631nm,19.2s,MS5.1
KMI LR LR
comp=E,543nm,14.4s,MS5.1
KMI LR LR
comp=Z,716nm,20.8s
IBBN Ibbenburen 73.11 7 *e*P **P 15 34 56.1 +0.4**
comp=Z,232nm,1.3s,mb6.0
RUE Ruedersdorf 73.23 3 *e*P **P 15 34 56.6 +0.2**
comp=Z,421nm,1.5s,mb6.2
WTSB Winterswijk 73.39 7⇑*i*P **P 15 34 57.5 +0.1**
comp=Z,143nm,1.0s,mb5.8
WAR Warsaw 73.51 358 *e*P **P 15 34 59.2 +1.1**
WAR Warsaw 73.51 358 *e*P **P 15 34 59.2 +1.1**
CLZ Clausthal 73.73 5 *e*P **P 15 35 00.0 +0.6**
CLZ pmax pmax
comp=Z,354nm,1.6s,mb6.0
CLZ Clausthal 73.73 5 *e*P **P 15 35 00.0 +0.6**
comp=Z,354nm,1.6s,mb6.0
QIZ Qiongzhong 73.81 280 P **P 15 34 58.5 -1.8**
QIZ PP PP 15 37 48.0 +2.9
QIZ S S 15 44 28.8 +0.7
QIZ LR LR
comp=E,510nm,19.6s
QIZ LR LR
comp=Z,476nm,23.2s,MS4.7
QIZ Qiongzhong 73.81 280 PFAKE 15 35 10.0 +10
QIZ LR LR
comp=Z,506nm,22.0s,MS4.8
BUG Bochum–Univer 73.94 7 *e*P **P 15 35 00.5 -0.1**
comp=Z,126nm,0.9s,mb5.8
KSH Kashi 74.04 317 *e*P **P 15 35 02.3 +0.9**
KSH *e*PCP PcP 15 35 17.5 +1.1
KSH *e*XP sP 15 35 25.5 +5.0
KSH *e*PP PP 15 37 49.3 +2.8
KSH *e*PPP 15 39 39.0
KSH *e*S S 15 44 25.5 -4.7
KSH *e*XS sS 15 44 53.8 +0.6
KSH *e*SKS 15 44 58.5
KSH *e*SCS ScS 15 45 03.0 -4.4
KSH *e*PS 15 45 05.8
KSH AMB AMB
comp=Z,115nm,0.5s,mb6.1
KSH LR LR
comp=N,2µm,7.5s
KSH LR LR
comp=E,1µm,9.5s
KSH LR LR
comp=Z,2µm,9.7s
DAV Davao City (W) 74.25 260 PFAKE 15 35 10.0 +7.1
DAV LR LR
comp=Z,696nm,19.0s,MS5.0
UCC Uccle 74.34 9 P P 15 35 03.0 0.0
comp=Z,91nm,1.7s,mb5.4
MENF Mencas 74.36 11 *e*P **P 15 35 03.0 -0.1**
CLL Collm 74.38 3⇑*i*P **P 15 35 03.1 -0.1**
CLL pmax pmax
comp=Z,115nm,1.2s,mb5.7
CLL MLR MLR
comp=Z,600nm,20.8s,MS4.9
CLL Collm 74.38 3 *e*P **P 15 35 03.0 -0.2**
comp=Z,115nm,1.2s,mb5.7
CLL Collm 74.38 3⇑*i*P **P 15 35 03.1 -0.1**
comp=Z,115nm,1.2s,mb5.7
CLL *e*Pmax 15 35 04.0
CLL *e*PP PP 15 37 53.0 +4.1
CLL *e*SS SS 15 49 36.0 +17
CLL LmV 16 11 00.0
comp=Z,600nm,20.8s
BEBN Eben Emael 74.46 8 P P 15 35 03.7 +0.1
HGN Heimansgroeve 74.51 8⇑*i*P **P 15 35 04.0 0.0**
comp=Z,131nm,1.3s,mb5.7
SNF Seneffe 74.62 9 P P 15 35 04.8 +0.2
comp=Z,46nm,1.3s,mb5.2
MEM Membach 74.67 8 P P 15 35 05.0 +0.2
comp=Z,60nm,1.1s,mb5.4
AKASG Malin Array Be 74.68 353 P **P 15 35 04.2 -0.7**
comp=Z,104nm,0.6s,mb5.9,baz=7.1,slow=5.7,SNR=135
AKASG LR LR 16 08 16.6
comp=Z,1µm,21.9s,MS5.2,baz=15,slow=36
AKASG Malin Array Be 74.68 353 P **P 15 35 04.2 -0.7**
AKASG LR LR 16 08 16.6
AKBB Malin Array Si 74.68 353⇑*e*P **P 15 35 03.8 -1.1**
KIEV Kiev 74.69 353⇑*e*P **P 15 35 04.1 -0.9**
KIEV pmax pmax
comp=Z,269nm,1.0s,mb6.1
KIEV MLR MLR
comp=Z,1µm,20.0s,MS5.2
KIEV Kiev 74.69 353⇑*e*P **P 15 35 04.0 -0.9**
comp=Z,269nm,1.0s,mb6.1
KIEV LR LR
comp=Z,1µm,20.0s,MS5.2
UBBA Unterbreizbach 74.74 5 *e*P **P 15 35 05.2 0.0**
comp=Z,154nm,1.8s,mb5.6
FBE Freiberg 74.78 3 *e*P **P 15 35 05.7 +0.2**
comp=Z,338nm,1.5s,mb6.0
BCLA Clavier 74.80 9 P P 15 35 05.7 +0.1
comp=Z,43nm,1.3s,mb5.2
BRG Berggiesshubel 74.85 3⇑*i*P **P 15 35 06.0 +0.1**
BRG *e* 15 45 00.0
BRG pmax pmax
comp=Z,66nm,1.1s,mb5.5
BRG MLR MLR
comp=Z,607nm,23.0s,MS4.8
BRG MLR MLR
comp=N,407nm,18.1s,MS4.8
BRG MLR MLR
comp=E,264nm,18.1s,MS4.8
BRG Berggiesshubel 74.85 3 *e*P **P 15 35 05.9 0.0**
comp=Z,220nm,1.6s,mb5.8
BRG Berggiesshubel 74.85 3⇑*i*P **P 15 35 06.0 +0.2**
comp=Z,110nm,1.1s,mb5.7
BRG *e* 15 45 00.0
BRG
comp=Z,1µm,23.0s
BRG
comp=N,680nm,18.1s
BRG
comp=E,441nm,18.1s
BRG Berggiesshubel 74.85 3⇑*i*P **P 15 35 06.0 +0.2**
comp=E,66nm,1.1s,mb5.5
BRG *e* 15 45 00.0
BRG LR LR
comp=Z,610nm,23.0s,MS4.8
KSP Ksiaz 74.93 1 *e*P **P 15 35 06.5 +0.2**
comp=Z,700nm,2.2s,mb6.2
KSP LMZ 16 15 07.9
comp=Z,2µm,20.1s
KSP Ksiaz 74.93 1⇑*e*P **P 15 35 06.4 +0.1**
KSP LR LR
comp=Z,2µm,20.1s,MS5.4
MOX Moxa 74.99 4 *e*P **P 15 35 07.0 +0.3**
comp=Z,275nm,1.5s,mb6.0
MOX *e* pP 15 35 16.5 -4.0
MOX
comp=Z,400nm,17.0s
MOX Moxa 74.99 4 *e*P **P 15 35 07.0 +0.3**
MOX *e* pP 15 35 16.5 -4.0
MOX pmax pmax
comp=Z,275nm,1.5s,mb6.0
MOX MLR MLR
comp=Z,400nm,17.0s,MS4.8
MOX Moxa 74.99 4 *e*P **P 15 35 06.8 +0.1**
comp=Z,104nm,0.8s,mb5.8
DOU Dourbes 75.06 9 P **P 15 35 07.2 +0.1**
comp=Z,34nm,1.2s,mb5.2
BAIF Baives 75.06 9⇑*i*P **P 15 35 07.5 +0.4**
comp=Z,118nm,0.8s,mb5.6
BAIF Baives 75.06 9⇑*i*P **P 15 35 07.5 +0.4**
BAIF pmax pmax
comp=Z,59nm,0.8s,mb5.6
BAIF Baives 75.06 9⇑*i*P **P 15 35 07.5 +0.4**
comp=Z,59nm,0.8s,mb5.6
GIVF Givet 75.07 9⇑*i*P **P 15 35 07.3 +0.1**
comp=Z,83nm,0.7s,mb5.5
GIVF Givet 75.07 9⇑*i*P **P 15 35 07.3 +0.1**
GIVF pmax pmax
comp=Z,41nm,0.7s,mb5.5
GIVF Givet 75.07 9⇑*i*P **P 15 35 07.3 +0.1**
comp=Z,41nm,0.7s,mb5.5
PVCC Panska Ves 75.21 2⇑*i*P **P 15 35 08.3 +0.3**
PVCC AMS AMS 16 14 10.0
comp=Z,700nm,22.7s
WERD Werda 75.22 4 *e*P **P 15 35 08.3 +0.3**
comp=Z,244nm,1.9s,mb5.8
TNS Taunus Mts 75.24 6 *e*P **P 15 35 08.4 +0.3**
TNS pmax pmax
comp=Z,84nm,0.8s,mb5.7
TNS Taunus Mts 75.24 6 *e*P **P 15 35 08.4 +0.3**
comp=Z,84nm,0.8s,mb5.7
TANN Tannenbergstha 75.25 4 *e*P **P 15 35 08.6 +0.4**
comp=Z,247nm,1.9s,mb5.8
UPC Upice 75.26 1⇑*i*P **P 15 35 08.5 +0.3**
WERN Wernitzgruen 75.38 4 *e*P **P 15 35 09.4 +0.5**
comp=Z,76nm,0.9s,mb5.6
LSA Lhasa 75.41 301 P **P 15 35 10.5 +1.0**
LSA XP sP 15 35 40.3 +12
LSA AMB AMB
comp=Z,120nm,1.0s,mb5.8
LSA AMB AMB
comp=Z,270nm,6.0s
LSA LR LR
comp=N,610nm,18.0s,MS5.1
LSA LR LR
comp=E,660nm,18.0s,MS5.1
LSA LR LR
comp=Z,2µm,18.0s,MS5.4
LSA Lhasa 75.41 301⇑*i*P **P 15 35 10.5 +1.0**
LSA pmax pmax
comp=Z,179nm,1.1s,mb5.9
LSA MLR MLR
comp=Z,1µm,19.0s,MS5.2
LSA Lhasa 75.41 301⇑*i*P **P 15 35 10.5 +1.1**
comp=Z,179nm,1.1s,mb5.9
LSA LR LR
comp=Z,1µm,19.0s,MS5.2
DPC Dobruska-Polom 75.42 1⇑*i*P **P 15 35 09.9 +0.7**
DPC AMS AMS 16 15 00.0
comp=Z,1µm,19.9s
NKC Novy Kostel 75.44 4⇑*i*P **P 15 35 09.6 +0.3**
RAR Rarotonga 75.51 178 LR LR 15 59 49.7
comp=Z,717nm,21.4s,MS4.9,baz=275,slow=29
ABH Alteburg 75.51 7 *e*P **P 15 35 10.0 +0.3**
OJC Ojcow 75.56 359 *e*P **P 15 35 09.9 -0.1**
WLF Walferdange 75.62 8 P **P 15 35 11.1 +0.8**
comp=Z,95nm,1.6s,mb5.5
WLF Walferdange 75.62 8 *e*P **P 15 35 10.9 +0.6**
comp=Z,132nm,1.1s,mb5.8
RUP Ruppelstein 75.66 7 *e*P **P 15 35 10.7 +0.2**
MANZ Manzenberg 75.67 4 *e*P **P 15 35 10.8 +0.2**
comp=Z,156nm,1.6s,mb5.7
RAC Raciborz 75.70 0 *e*P **P 15 35 11.5 +0.7**
PRU Pruhonice 75.75 2⇑*i*P **P 15 35 11.2 +0.1**
PRU AMS AMS 16 15 40.0
comp=Z,800nm,19.3s
FLN La Foliniere 75.82 13⇑*i*P **P 15 35 11.4 -0.1**
comp=Z,170nm,1.0s,mb5.6
FLN *e*MLR MLR
comp=Z,1µm,18.8s,MS4.9
FLN La Foliniere 75.82 13⇑*i*P **P 15 35 11.4 -0.1**
FLN pmax pmax
comp=Z,85nm,1.0s,mb5.6
FLN MLR MLR
comp=Z,1µm,18.8s,MS5.2
FLN La Foliniere 75.82 13⇑*i*P **P 15 35 11.4 -0.1**
comp=Z,85nm,1.0s,mb5.6
FLN LR LR
comp=Z,1µm,18.8s,MS5.2
LVV L'vov 75.85 356⇓*i*P **P 15 35 11.7 0.0**
LVV *e* pP 15 35 22.7 -2.7
LVV *e* 15 38 00.1
LVV *e*S S 15 44 45.9 -4.0
LVV MLR MLR
comp=N,200nm,19.0s,MS4.6
LVV MLR MLR
comp=Z,600nm,19.0s,MS4.9
LVV MLR MLR
comp=E,200nm,20.0s,MS4.6
ROSF Rostrenen 75.85 15⇑*i*P **P 15 35 12.0 +0.3**
comp=E,166nm,1.2s,mb5.5
ROSF Rostrenen 75.85 15⇑*i*P **P 15 35 12.0 +0.3**
ROSF pmax pmax
comp=Z,83nm,1.2s,mb5.5
ROSF Rostrenen 75.85 15⇑*i*P **P 15 35 12.0 +0.3**
comp=Z,83nm,1.2s,mb5.5
TOD Tromm 75.87 6 *e*P **P 15 35 12.0 +0.2**
ROTZ Rotzenmuhle 75.89 4 *e*P **P 15 35 12.5 +0.6**
comp=Z,260nm,1.8s,mb5.9
GRA1 Grafenberg Arr 75.92 5 *e*P **P 15 35 12.6 +0.5**
comp=Z,136nm,1.2s,mb5.8
GRA1 LR LR
comp=Z,300nm,21.8s,MS4.6
GRF Grafenberg Arr 75.92 5 *e*P **P 15 35 12.6 +0.5**
GRF pmax pmax
comp=Z,136nm,1.2s,mb5.8
GRF MLR MLR
comp=Z,300nm,21.8s,MS4.6
GRF Grafenberg Arr 75.92 5 *e*P **P 15 35 12.6 +0.5**
comp=Z,136nm,1.2s,mb5.8
GRF *e*L 16 06 03.4
comp=Z,333nm,21.8s
OKC Ostrava-Krasne 75.94 0⇑*i*P **P 15 35 12.5 +0.3**
MORC Moravsky Berou 76.00 0⇑*i*P **P 15 35 12.9 +0.4**
MORC Moravsky Berou 76.00 0⇑P **P 15 35 12.9 +0.3**
LDF La Druitiere 76.03 12⇑*i*P **P 15 35 12.6 -0.1**
comp=Z,104nm,1.0s,mb5.4
LDF La Druitiere 76.03 12⇑*i*P **P 15 35 12.6 -0.1**
LDF pmax pmax
comp=Z,52nm,1.0s,mb5.4
LDF La Druitiere 76.03 12⇑*i*P **P 15 35 12.6 -0.1**
comp=Z,52nm,1.0s,mb5.4
SGMF Saint Gilles 76.04 14⇑*i*P **P 15 35 13.0 +0.3**
comp=Z,162nm,1.0s,mb5.6
SGMF Saint Gilles 76.04 14⇑*i*P **P 15 35 13.0 +0.3**
SGMF pmax pmax
comp=Z,81nm,1.0s,mb5.6
SGMF Saint Gilles 76.04 14⇑*i*P **P 15 35 13.0 +0.3**
comp=Z,81nm,1.0s,mb5.6
KWP Kalwaria 76.08 357 *e*P **P 15 35 13.7 +0.7**
comp=Z,600nm,1.3s
KWP *e*PcP PcP 15 35 20.7 -4.3
KWP *e*S S 15 44 56.8 +4.3
KWP *e*SKS 15 45 13.6
KWP LMZ 16 06 44.7
comp=Z,1µm,24.9s
KWP Kalwaria 76.08 357⇓*i*P **P 15 35 13.4 +0.4**
KWP Kalwaria 76.08 357 *e*P **P 15 35 13.7 +0.7**
KWP *e*PcP PcP 15 35 20.7 -4.3
KWP *e*S S 15 44 56.8 +4.3
KWP *e*SKS 15 45 13.6
KTD Kalmit 76.11 7 *e*P **P 15 35 13.5 +0.4**
GRR Gorron 76.14 13⇑*i*P **P 15 35 13.4 +0.1**
comp=Z,112nm,0.8s,mb5.5
GRR Gorron 76.14 13⇑*i*P **P 15 35 13.4 +0.1**
GRR pmax pmax
comp=Z,56nm,0.8s,mb5.5
GRR Gorron 76.14 13⇑*i*P **P 15 35 13.4 +0.1**
comp=Z,56nm,0.8s,mb5.5
QUIF Quistinic 76.28 15⇑*i*P **P 15 35 14.3 +0.2**
comp=Z,230nm,1.4s,mb5.6
QUIF Quistinic 76.28 15⇑*i*P **P 15 35 14.3 +0.2**
QUIF pmax pmax
comp=Z,115nm,1.4s,mb5.6
QUIF Quistinic 76.28 15⇑*i*P **P 15 35 14.3 +0.2**
comp=Z,115nm,1.4s,mb5.6
STHS Stebnicka Huta 76.34 358 *i* P **P 15 35 15.7 +1.3**
STHS pmax pmax
comp=Z,141nm,1.3s,mb5.7
STHS Stebnicka Huta 76.34 358 *i* P **P 15 35 15.7 +1.3**
comp=Z,141nm,1.3s,mb5.7
NIE Niedzica 76.35 359 *e*P **P 15 35 15.2 +0.7**
LANF Langenberg 76.43 7 *e*P **P 15 35 15.2 +0.3**
TREC Trest 76.46 2⇑*e*pP pP 15 35 24.6 -4.3
TREC AMS AMS 16 16 20.0
comp=Z,900nm,16.3s
VRAC Vranov 76.47 1⇑*i*P **P 15 35 15.8 +0.6**
VRAC Vranov 76.47 1 ⇑P **P 15 35 15.8 +0.7**
WET Wettzell 76.54 4 *e*P **P 15 35 16.1 +0.5**
WET pmax pmax
comp=Z,142nm,1.4s,mb5.7
WET Wettzell 76.54 4 *e*P **P 15 35 16.1 +0.5**
comp=Z,142nm,1.4s,mb5.7
KHC Kasperske Hory 76.58 3⇑*i*P **P 15 35 16.5 +0.7**
KHC *e*x x 15 35 20.0
KHC AMS AMS 16 16 30.0
comp=Z,600nm,14.4s
STU Stuttgart 76.73 6 *e*P **P 15 35 16.7 +0.1**
comp=Z,123nm,1.4s,mb5.6
KOLS Kolonicke sedl 76.80 357 *e*P **P 15 35 17.5 +0.5**
CRVS Cervenica-Dubn 76.85 358 *e*P **P 15 35 17.7 +0.4**
GEC2 GERESS Array S 76.87 3 *e*P **P 15 35 17.7 +0.3**
GEC2 pmax pmax
comp=Z,167nm,1.6s,mb5.7
GEC2 GERESS Array S 76.87 3 *e*P **P 15 35 17.7 +0.3**
comp=Z,167nm,1.6s,mb5.7
GERES GERESS Array B 76.87 3 P **P 15 35 17.8 +0.3**
comp=Z,30nm,0.7s,mb5.4,baz=0.5,slow=4.5,SNR=227
CDF Champ du Feu 76.95 7⇑*i*P **P 15 35 18.3 +0.4**
comp=Z,149nm,1.0s,mb5.6
CDF Champ du Feu 76.95 7⇑*i*P **P 15 35 18.3 +0.4**
CDF pmax pmax
comp=Z,74nm,1.0s,mb5.6
CDF Champ du Feu 76.95 7⇑*i*P **P 15 35 18.3 +0.4**
comp=Z,74nm,1.0s,mb5.6
THEF They Montfort 77.03 8 *e*P **P 15 35 18.5 +0.1**
UZH Uzhgorod 77.10 357⇓*i*P **P 15 35 18.3 -0.4**
UZH *e* pP 15 35 31.5 -1.0
UZH *i* pP 15 35 34.7 +2.2
UZH *e*S S 15 44 59.7 -3.9
BFO Black Forest 77.11 7 P **P 15 35 19.0 +0.2**
comp=Z,268nm,0.7s,mb6.3,SNR=15
BFO Black Forest 77.11 7 *e*P **P 15 35 18.9 +0.1**
BFO pmax pmax
comp=Z,51nm,0.9s,mb5.5
BFO Black Forest 77.11 7 *e*P **P 15 35 18.9 +0.1**
comp=Z,51nm,0.9s,mb5.5
ECH Echery 77.14 8 *e*P **P 15 35 19.3 +0.3**
KOLL Kolacno 77.20 360 *i* P **P 15 35 20.0 +0.7**
LIBD Limburg 77.24 7 *e*P **P 15 35 20.0 +0.5**
SMOL Smolence 77.27 1 *e*P **P 15 35 20.6 +0.9**
HAU Haudompre 77.28 8⇑*i*P **P 15 35 20.0 +0.2**
comp=Z,152nm,1.0s,mb5.6
HAU *e*MLR MLR
comp=Z,761nm,18.2s,MS4.8
HAU Haudompre 77.28 8⇑*i*P **P 15 35 20.0 +0.2**
HAU pmax pmax
comp=Z,76nm,1.0s,mb5.6
HAU MLR MLR
comp=Z,760nm,18.3s,MS5.0
HAU Haudompre 77.28 8⇑*i*P **P 15 35 20.0 +0.2**
comp=Z,76nm,1.0s,mb5.6
HAU LR LR
comp=Z,760nm,18.3s,MS5.0
VYHS Vyhne 77.29 360 *e*P **P 15 35 20.3 +0.5**
SPAK Spaichingen-Ko 77.37 6 *e*P **P 15 35 20.4 +0.1**
MODS Modra-Piesok 77.41 1 *i* P **P 15 35 21.6 +1.1**
MODS pmax pmax
comp=Z,67nm,1.0s,mb5.5
MODS Modra-Piesok 77.41 1 *i* P **P 15 35 21.5 +1.0**
MODS Modra-Piesok 77.41 1 *i* P **P 15 35 21.6 +1.1**
comp=Z,67nm,1.0s,mb5.5
FUR Furstenfeldbru 77.45 5 *e*P **P 15 35 21.0 +0.3**
FUR pmax pmax
comp=Z,135nm,1.0s,mb5.8
FUR Furstenfeldbru 77.45 5 *e*P **P 15 35 21.0 +0.3**
comp=Z,135nm,1.0s,mb5.8
MOF Molkenrain 77.50 8 *e*P **P 15 35 20.8 -0.2**
HINF Hinteralfeld 77.51 8⇑*i*P **P 15 35 21.1 0.0**
comp=Z,94nm,1.0s,mb5.4
HINF Hinteralfeld 77.51 8⇑*i*P **P 15 35 21.1 0.0**
HINF pmax pmax
comp=Z,47nm,1.0s,mb5.4
HINF Hinteralfeld 77.51 8⇑*i*P **P 15 35 21.1 0.0**
comp=Z,47nm,1.0s,mb5.4
FELD Feldberg im Sc 77.54 7 *e*P **P 15 35 21.3 +0.1**
ZST Bratislava 77.58 1 *i* P **P 15 35 22.3 +0.8**
comp=Z,98nm,0.7s,mb5.8
ZST LR LR
comp=Z,100nm,18.9s,MS4.2
HYF Humbligny 77.66 11⇑*i*P **P 15 35 22.4 +0.5**
LOR Lormes 77.79 10⇑*i*P **P 15 35 22.8 +0.2**
comp=Z,133nm,1.0s,mb5.5
LOR *e*MLR MLR
comp=Z,940nm,22.2s,MS4.8
LOR Lormes 77.79 10⇑*i*P **P 15 35 22.8 +0.2**
LOR pmax pmax
comp=Z,66nm,1.0s,mb5.5
LOR MLR MLR
comp=Z,940nm,22.3s,MS5.1
LOR Lormes 77.79 10⇑*i*P **P 15 35 22.8 +0.2**
comp=Z,66nm,1.0s,mb5.5
LOR LR LR
comp=Z,940nm,22.3s,MS5.1
CONA Conrad Observa 77.84 2⇑*i*P **P 15 35 23.7 +0.9**
comp=Z,76nm,0.6s,mb5.8,SNR=97
CSNA Conrad Observa 77.84 2⇑*i*P **P 15 35 23.7 +0.9**
comp=Z,66nm,0.6s,mb5.8
PSZ Piszkesteto 77.86 359 P **P 15 35 24.1 +1.1**
PSZ Piszkesteto 77.86 359⇑*e*P **P 15 35 24.0 +1.0**
PSZ Piszkesteto 77.86 359⇑*i*P **P 15 35 24.0 +1.0**
MOA Molln 77.88 3⇑*i*P **P 15 35 23.4 +0.3**
comp=Z,34nm,0.8s,mb5.3,SNR=19
BCIP Isla Barro Col 77.90 91 *e*P **P 15 35 21.1 -2.6**
comp=Z,46nm,1.0s,mb5.4
BCIP LR LR
comp=Z,525nm,21.0s,MS4.8
BBS Basel-Blauen 77.92 7 *e*P **P 15 35 23.4 +0.1**
RJOB Jochberg 77.94 4 *e*P **P 15 35 23.8 +0.3**
comp=Z,100nm,0.8s,mb5.8
SSF Saint Saulge 77.96 10⇑*i*P **P 15 35 23.7 +0.2**
comp=Z,167nm,1.1s,mb5.6
SSF Saint Saulge 77.96 10⇑*i*P **P 15 35 23.7 +0.2**
SSF pmax pmax
comp=Z,83nm,1.1s,mb5.6
SSF Saint Saulge 77.96 10⇑*i*P **P 15 35 23.7 +0.2**
comp=Z,83nm,1.1s,mb5.6

BUR08 **Bucovina Ar. S** 77.97 355⇑ *i*P P 15 35 23.9 +0.2
LOMF **Lomont** 77.97 8 *e*P P 15 35 23.9 +0.3
MFF **Saint Martin d** 77.98 13⇑ *i*P P 15 35 24.1 +0.4
comp=Z,172nm,0.9s,mb5.7
MFF **Saint Martin d** 77.98 13⇑ *i*P P 15 35 24.1 +0.4
MFF pmax pmax
comp=Z,86nm,0.9s,mb5.7
MFF **Saint Martin d** 77.98 13⇑ *i*P P 15 35 24.1 +0.4
comp=Z,86nm,0.9s,mb5.7
IMP **Imphal** 77.99 296 *e*P P 15 35 23.0 -1.1
BURAR **Bucovina Array** 78.00 355⇓ *i*P P 15 35 23.9 +0.1
BURAR **Bucovina Array** 78.00 355⇓ P P 15 35 23.9 +0.2
RETA **Reutte** 78.10 5 *i* P P 15 35 24.7 +0.3
comp=Z,63nm,1.3s,mb5.4,SNR=23
AVF **Avril sur Loir** 78.21 10⇑ *i*P P 15 35 24.9 0.0
comp=Z,141nm,1.1s,mb5.5
AVF **Avril sur Loir** 78.21 10⇑ *i*P P 15 35 24.9 0.0
AVF pmax pmax
comp=Z,70nm,1.1s,mb5.5
AVF **Avril sur Loir** 78.21 10⇑ *i*P P 15 35 24.9 0.0
comp=Z,70nm,1.1s,mb5.5
DAVA **Damuels** 78.25 6 *i* P P 15 35 25.5 +0.4
comp=Z,28nm,0.9s,mb5.2,SNR=11
MOTA **Moosalm** 78.26 5⇑ *i*P P 15 35 25.7 +0.5
comp=Z,121nm,1.1s,mb5.7,SNR=37
WATA **Walderalm** 78.29 5 *i* P P 15 35 26.0 +0.6
comp=Z,43nm,0.5s,mb5.6,SNR=19
BUD **Budapest** 78.30 359⇑ *e*P P 15 35 26.2 +0.8
TBI **Tubuai** 78.33 168 *e*S S 15 45 25.4 +8.1
comp=Z,1μm,31.2s
TBI *e*SS SS 15 50 31.3 +10
comp=Z,281nm,28.2s
TBI *e*LR LR 15 59 31.0
comp=Z,2μm,29.5s,baz=351
WTTA **Wattenberg** 78.37 5 *i* P P 15 35 26.6 +0.8
comp=Z,107nm,0.7s,mb5.9,SNR=52
BGF **Bois d'Agland** 78.38 11⇑ *i*P P 15 35 26.0 +0.1
comp=Z,118nm,1.1s,mb5.4
BGF **Bois d'Agland** 78.38 11⇑ *i*P P 15 35 26.0 +0.1
BGF pmax pmax
comp=Z,59nm,1.1s,mb5.4
BGF **Bois d'Agland** 78.38 11⇑ *i*P P 15 35 26.0 +0.1
comp=Z,59nm,1.1s,mb5.4
KIS **Kishinev** 78.39 353 *α i*P P 15 35 25.0 -1.0
KIS *i* 15 35 32.0
KIS *i* pP 15 35 35.0 -4.8
KIS *i* *PP pP 15 35 41.0 +1.2
KIS pmax pmax
comp=Z,700nm,1.4s
KIS pmax pmax
comp=N,320nm,1.6s
KIS pmax pmax
comp=Z,1μm,1.6s
KIS MLR MLR
comp=N,1μm,20.0s
KIS MLR MLR
comp=Z,1μm,20.0s,MS5.2
KIS MLR MLR
comp=Z,1μm,20.0s
KIS **Kishinev** 78.39 353 *i* P P 15 35 25.0 -1.0
comp=Z,1μm,1.6s
KIS **Kishinev** 78.39 353 *i* PcP PcP 15 35 35.0 -0.1
KIS *i* pP pP 15 35 41.0 +1.2
KIS *e*L 16 04 20.0
KIS LRM 16 10 06.0
comp=Z,1μm,20.0s
SMF **Signal de Mont** 78.40 10⇑ *i*P P 15 35 26.1 +0.1
comp=Z,131nm,1.0s,mb5.5
SMF **Signal de Mont** 78.40 10⇑ *i*P P 15 35 26.1 +0.1
SMF pmax pmax
comp=Z,66nm,1.0s,mb5.5
SMF **Signal de Mont** 78.40 10⇑ *i*P P 15 35 26.1 +0.1
comp=Z,66nm,1.0s,mb5.5
SHL **Shillong** 78.41 298 *i* P P 15 35 27.0 +0.6
ARSA **Arzberg** 78.51 2 *i* P P 15 35 27.4 +0.9
comp=Z,54nm,0.7s,mb5.6,SNR=57
GOF **Gofitskoye** 78.52 342⇑ *i*P pP 15 35 39.4 -1.1
FETA **Feichten** 78.56 5 *i* P P 15 35 27.7 +0.8
comp=Z,94nm,1.0s,mb5.7,SNR=42
TCF **Toulx Ste Croi** 78.58 11⇑ *i*P P 15 35 27.1 +0.1
comp=Z,73nm,1.1s,mb5.2
TCF **Toulx Ste Croi** 78.58 11⇑ *i*P P 15 35 27.1 +0.1
TCF pmax pmax
comp=Z,37nm,1.1s,mb5.2
TCF **Toulx Ste Croi** 78.58 11⇑ *i*P P 15 35 27.1 +0.1
comp=Z,37nm,1.1s,mb5.2
KBA **Koelnbreinsper** 78.62 3 *i* P P 15 35 28.4 +1.2
comp=Z,231nm,1.1s,mb6.0,SNR=45
SJG **San Juan** 78.62 75 *e*P P 15 35 26.5 -1.1
SJG MLR MLR
comp=Z,887nm,19.0s
CABF **La Chapelle** 78.65 9⇑ *i*P P 15 35 28.0 +0.6
comp=Z,162nm,1.1s,mb5.6
CABF **La Chapelle** 78.65 9⇑ *i*P P 15 35 28.0 +0.6
CABF pmax pmax
comp=Z,81nm,1.1s,mb5.6
CABF **La Chapelle** 78.65 9⇑ *i*P P 15 35 28.0 +0.6
comp=Z,81nm,1.1s,mb5.6
HUMP **Col San Antoni** 78.77 75 *e*P P 15 35 27.2 -1.2
CHRT **Chiangrai** 78.81 288 ⇑P P 15 35 28.5 -0.2
comp=Z,505nm,1.0s
CPD **Cerro la Pandu** 78.81 75 *e*P P 15 35 27.4 -1.3
AGO **Saint Agoulin** 78.91 11 *e*P P 15 35 29.4 +0.6
ABTA **Abfaltersbach** 78.92 4⇑ *i*P P 15 35 29.2 +0.3
comp=Z,105nm,1.2s,mb5.6,SNR=20
DRGR 78.92 357⇑ *i*P P 15 35 29.2 +0.3
DRGR 78.92 357 ⇑P P 15 35 29.2 +0.4
MTP **Monte Pirata** 78.97 74 *e*P P 15 35 25.0 -4.6
PLDF **La Plantade** 79.05 10 *e*P P 15 35 30.3 +0.7
TAPN **Taplejung** 79.05 302 *e*P P 15 35 30.2 +0.3
comp=Z,362nm,0.8s,mb6.3
SOKA **Soboth** 79.07 2⇑ *i*P P 15 35 30.4 +0.7
comp=Z,188nm,1.3s,mb5.9
BRMO **Bormio** 79.09 6 P P 15 35 30.8 +1.0
PERS **Pernice** 79.11 2 *i* P P 15 35 30.6 +0.6
APPI **Appiano** 79.13 5 P P 15 35 30.3 +0.3
NANT **Nan** 79.17 287 ⇑P P 15 35 29.9 -0.7
comp=Z,375nm,0.9s,mb6.3
PYM **Petit Puy Mans** 79.20 11 *e*P P 15 35 30.6 +0.2
OBKA **Obir** 79.23 3⇑ *i*P P 15 35 31.2 +0.6
comp=Z,240nm,0.6s,mb6.3,SNR=141
GMNA **Gemona** 79.42 4 P P 15 35 31.1 -0.5
comp=Z,154nm,0.8s,mb6.0
RJF **Les Rejaudoux** 79.47 12⇑ *i*P P 15 35 31.8 -0.1
comp=Z,100nm,1.2s,mb5.3
RJF *e*MLR MLR
comp=Z,1μm,20.8s,MS4.9
RJF **Les Rejaudoux** 79.47 12⇑ *i*P P 15 35 31.8 -0.1
RJF pmax pmax
comp=Z,50nm,1.2s,mb5.3
RJF MLR MLR
comp=Z,1μm,20.8s,MS5.2
RJF **Les Rejaudoux** 79.47 12⇑ *i*P P 15 35 31.8 -0.1
comp=Z,50nm,1.2s,mb5.3
RJF LR LR
comp=Z,1μm,20.8s,MS5.2
GUN **Gumba** 79.48 304 *e*P P 15 35 32.9 +0.6
MABI **Malga Bissina** 79.52 5 P P 15 35 32.1 0.0
JIRN **Jiri** 79.54 303 *e*P P 15 35 33.4 +0.8
comp=Z,576nm,0.7s
PKSM **Moragy** 79.57 360 P P 15 35 32.9 +0.5
PKSM **Moragy** 79.57 360⇑ *i*P P 15 35 32.6 +0.2
PKSM **Moragy** 79.57 360⇑ *e*P P 15 35 32.6 +0.2
CTI **Castel Tesino** 79.58 5 P P 15 35 32.5 0.0
VAI **Varese** 79.59 7 P P 15 35 33.0 +0.4
VAI pmax pmax
comp=Z,57nm,0.6s,mb5.7
VAI **Varese** 79.59 7 P P 15 35 33.0 +0.4
comp=Z,57nm,0.6s,mb5.7
ODAN **Odare** 79.62 302 *e*P P 15 35 33.1 +0.1
comp=Z,195nm,1.0s,mb6.0
KIV **Kislovodsk** 79.64 342 P P 15 35 33.9 +1.0
comp=Z,1μm,0.9s,SNR=24
KIV **Kislovodsk** 79.64 342⇑ *e*P P 15 35 33.4 +0.5
SNR=34
KIV **Kislovodsk** 79.64 342⇑ *e*P P 15 35 33.4 +0.5
KIV pmax pmax
comp=Z,270nm,0.9s,mb6.2
ANN **Anapa** 79.65 346 *e*P P 15 35 31.6 -1.3
ANN *e**PP pP 15 35 48.9 +2.2
ANN *e*S S 15 45 28.6 -2.5
ANN pmax pmax
comp=Z,171nm,1.7s,mb5.7
ANN MLR MLR
comp=N,702nm,15.0s,MS5.2
ANN MLR MLR
comp=E,508nm,15.0s,MS5.2
ANN MLR MLR
comp=Z,310nm,15.0s,MS4.8
VRI **Vrincioaia** 79.66 354 P P 15 35 33.3 +0.4
VRI **Vrincioaia** 79.66 354⇑ *i*P P 15 35 33.2 +0.3
VRI **Vrincioaia** 79.66 354 ⇑P P 15 35 33.2 +0.3
MAK **Makhachkala** 79.67 339 *e*P P 15 35 31.0 -2.0
MAK *e* 15 38 36.0
MAK *e*S S 15 45 32.2 +0.9
MAK pmax pmax
comp=Z,272nm,1.2s,mb6.1
PLOR **Plostina** 79.68 354⇑ *i*P P 15 35 33.6 +0.6
VOY **Vojsko** 79.69 3 *e*P P 15 35 32.5 -0.5
LJU **Ljubljana** 79.69 3 *i* P P 15 35 32.4 -0.7
LFF **La Frestale** 79.73 13⇑ *i*P P 15 35 33.6 +0.3
comp=Z,435nm,1.5s,mb5.9
LFF **La Frestale** 79.73 13⇑ *i*P P 15 35 33.6 +0.3
LFF pmax pmax
comp=Z,217nm,1.5s,mb5.9
LFF **La Frestale** 79.73 13⇑ *i*P P 15 35 33.6 +0.3
comp=Z,217nm,1.5s,mb5.9
LBL **Lubilhac** 79.74 11 *e*P P 15 35 33.8 +0.5
ORO **Oropa** 79.78 7 P P 15 35 34.5 +0.9
ORO pmax pmax
comp=Z,112nm,1.4s,mb5.6
ORO **Oropa** 79.78 7 P P 15 35 34.5 +0.9
comp=Z,112nm,1.4s,mb5.6
LPL **La Plagne** 79.79 8⇑ *i*P P 15 35 35.0 +1.4
comp=Z,65nm,1.0s,mb5.2
LPL **La Plagne** 79.79 8⇑ *i*P P 15 35 35.0 +1.4
LPL pmax pmax
comp=Z,32nm,1.0s,mb5.2
LPL **La Plagne** 79.79 8⇑ *i*P P 15 35 35.0 +1.4
comp=Z,32nm,1.0s,mb5.2
LPG **La Plagne** 79.81 8⇑ *i*P P 15 35 35.3 +1.6
comp=Z,112nm,1.3s,mb5.3
LPG **La Plagne** 79.81 8⇑ *i*P P 15 35 35.3 +1.6
LPG pmax pmax
comp=Z,56nm,1.3s,mb5.3
LPG **La Plagne** 79.81 8⇑ *i*P P 15 35 35.3 +1.6
comp=Z,56nm,1.3s,mb5.3
JAVS **Javornik** 79.83 3 *i* P P 15 35 33.5 -0.3
MYLDM **Lahad Datu** 79.86 265 ⇓P P 15 35 36.2 +1.7
KKN **Kakani** 79.87 304 *e*P P 15 35 34.6 +0.2
RHK3 **Tenkes** 79.90 0⇑ *e*P P 15 35 34.6 +0.4
CAF **Calviac** 79.91 12⇑ *i*P P 15 35 34.5 +0.2
comp=Z,98nm,1.2s,mb5.3
CAF **Calviac** 79.91 12⇑ *i*P P 15 35 34.5 +0.2
CAF pmax pmax
comp=Z,49nm,1.2s,mb5.3
CAF **Calviac** 79.91 12⇑ *i*P P 15 35 34.5 +0.2
comp=Z,49nm,1.2s,mb5.3
SIM **Simferopol'** 79.92 349 *ce*P P 15 35 35.2 +0.8
SIM *e**PP pP 15 35 55.0 +6.8
SIM pmax pmax
comp=Z,61nm,0.9s,mb5.5
SIM MLR MLR
comp=Z,1μm,20.0s,MS5.3
RAMN **Ramite** 79.93 303 *e*P P 15 35 34.9 +0.2
comp=Z,568nm,0.9s
KKTK **Khon Kaen** 79.96 284 ⇑P P 15 35 34.6 -0.3
comp=Z,741nm,0.6s
GRN **Grenoble** 79.97 9 *e*P P 15 35 35.3 +0.7
PKI **Pulchoki** 79.99 304 *e*P P 15 35 35.3 +0.3
PKIN **Phulchoki** 79.99 304 *e*P P 15 35 35.2 +0.2
comp=Z,173nm,0.7s,mb6.1
GKN **Gorkha** 80.00 305 *e*P P 15 35 35.1 0.0
comp=Z,412nm,1.0s,mb6.3
GDM **Grand'Maison** 80.05 9 *e*P P 15 35 35.9 +0.9
EPON **Pontenova** 80.08 19 P P 15 35 35.5 +0.3
comp=Z,35nm,0.7s,mb5.4
MLR **Muntele Rosu** 80.08 355 P P 15 35 35.8 +0.6
MLR **Muntele Rosu** 80.08 355⇓ *i*P P 15 35 35.7 +0.5
MLR **Muntele Rosu** 80.08 355 ⇓P P 15 35 35.7 +0.5
EMAZ **Mazaricos** 80.09 20 P P 15 35 35.7 +0.4
comp=Z,33nm,0.7s,mb5.4
DMN **Daman** 80.11 304 *e*P P 15 35 36.1 +0.5
comp=Z,227nm,0.7s,mb6.2
CHG **Chiang Mai** 80.13 288 ⇑P P 15 35 35.1 -0.8
comp=Z,52nm,0.9s,mb5.5
CHTO **Chiang Mai** 80.13 288⇑ *i*P P 15 35 34.9 -1.0
CHTO pmax pmax
comp=Z,53nm,1.0s,mb5.4
CHTO MLR MLR
comp=Z,430nm,20.0s,MS4.8
CHTO **Chiang Mai** 80.13 288⇑ *i*P P 15 35 34.9 -0.9
comp=Z,53nm,1.0s,mb5.4
CHTO LR LR
comp=Z,430nm,20.0s,MS4.8
BZS **Buzias** 80.13 358 P P 15 35 36.0 +0.6
BZS **Buzias** 80.13 358⇑ *i*P P 15 35 35.8 +0.4
BZS **Buzias** 80.13 358 ⇑P P 15 35 35.8 +0.3
DANN **Dangsing** 80.13 306 *e*P P 15 35 36.5 +0.7
comp=Z,730nm,0.6s
VOIR 80.18 355⇑ *i*P P 15 35 36.4 +0.7
VOIR 80.18 355 ⇑P P 15 35 36.4 +0.7
TLCR 80.19 352⇓ *i*P P 15 35 36.0 +0.2
STS **Santiago** 80.24 20 P P 15 35 36.6 +0.5
STS pmax pmax
comp=Z,65nm,1.1s,mb5.5
STS **Santiago** 80.24 20 P P 15 35 36.6 +0.6
comp=Z,65nm,1.1s,mb5.5
BOJS **Bojanci** 80.25 2 *i* P P 15 35 36.4 +0.3
THN **Thein Dam** 80.25 314 *e*P P 15 35 34.4 -2.0
VIVF **Saint-Julien-l** 80.26 10⇑ *i*P P 15 35 36.6 +0.4
comp=Z,107nm,1.1s,mb5.4
VIVF **Saint-Julien-l** 80.26 10⇑ *i*P P 15 35 36.6 +0.4
VIVF pmax pmax
comp=Z,54nm,1.1s,mb5.4
VIVF **Saint-Julien-l** 80.26 10⇑ *i*P P 15 35 36.6 +0.4
comp=Z,54nm,1.1s,mb5.4
SISC **Sisak** 80.30 1 P P 15 35 37.3 +0.9
ORIF **Oris-en-Rattie** 80.31 9⇑ *i*P P 15 35 37.2 +0.8
comp=Z,40nm,0.8s,mb5.1
ORIF *e*MLR MLR
comp=Z,852nm,21.8s,MS4.8
ORIF **Oris-en-Rattie** 80.31 9⇑ *i*P P 15 35 37.2 +0.8
ORIF pmax pmax
comp=Z,20nm,0.8s,mb5.1
ORIF **Oris-en-Rattie** 80.31 9⇑ *i*P P 15 35 37.2 +0.8
comp=Z,20nm,0.8s,mb5.1
GZR **Gura Zlata** 80.32 357⇓ *i*P P 15 35 37.3 +0.8
CM31 **Chiang Mai Arr** 80.42 288 *ep*P pP 15 35 57.6 +6.3
CM31 LR LR
comp=Z,516nm,19.0s,MS4.9
CMAR **Chiang Mai Arr** 80.42 288 P P 15 35 37.2 -0.2
comp=Z,106nm,0.9s,mb5.8,baz=18,slow=5.3,SNR=425
CMAR PKKPbc PKKPbc 15 54 16.9 +1.2
comp=Z,0.4nm,0.5s,baz=224,slow=5.0,SNR=5.2
CMAR **Chiang Mai Arr** 80.42 288⇑ *e*P P 15 35 37.2 -0.2
EARI **Arriondas** 80.45 17 P P 15 35 37.7 +0.5
comp=Z,42nm,1.0s,mb5.3
KKM **Kota Kinabalu** 80.49 267 ⇑P P 15 35 38.9 +1.0
SOC **Sochi** 80.50 344 *c i*P P 15 35 37.8 +0.3
SOC *e**PP pP 15 35 52.2 +0.8
SOC *e* 15 38 43.2
SOC *e*S S 15 45 39.3 -0.8
SOC *e*SS SS 15 50 56.9 +5.5
SOC *e*SSS 15 54 21.0
SOC pmax pmax
comp=Z,211nm,0.9s,mb6.1
SOC pmax pmax
comp=Z,95nm,3.3s
SOC MLR MLR
comp=Z,869nm,20.0s,MS5.1
SOC **Sochi** 80.50 344 *i* P P 15 35 38.0 +0.5
MBDF **Montbardon** 80.58 8⇑ *i*P P 15 35 39.3 +1.4
comp=Z,129nm,1.0s,mb5.5
MBDF **Montbardon** 80.58 8⇑ *i*P P 15 35 39.3 +1.4
MBDF pmax pmax
comp=Z,65nm,1.0s,mb5.5
MBDF **Montbardon** 80.58 8⇑ *i*P P 15 35 39.3 +1.4
comp=Z,64nm,1.0s,mb5.5
KOLN **Koldanda** 80.69 305 *e*P P 15 35 39.0 +0.2
comp=Z,148nm,0.6s,mb6.1
BOB **Bobbio (Coli)** 80.73 6 P P 15 35 40.0 +1.3
RKT **Rikitea** 80.74 155 *e*S S 15 45 45.9 +3.2
comp=Z,428nm,30.0s
RKT *e*SS SS 15 51 06.4 +8.9
comp=Z,250nm,28.0s
RKT *e*LR LR 16 00 48.3
comp=Z,2μm,30.8s,baz=344
HARR **Harsova** 80.75 353⇓ *i*P P 15 35 39.2 +0.4
HARR **Harsova** 80.75 353 ⇓P P 15 35 39.2 +0.3
PTH **Pithoragarh** 80.76 309 *e*P P 15 35 38.0 -1.1
PTH *e*P 15 35 38.4
SMLA **Simla** 80.76 312 *i* P P 15 35 39.1 0.0
ELAN **Lanestosa** 80.81 16 P P 15 35 39.6 +0.4
comp=Z,116nm,1.1s,mb5.7
SURF **Saint Ours** 80.82 8 *e*P P 15 35 41.0 +1.8
LGTI **Lohaghat** 80.83 309 *e*P P 15 35 39.7 +0.2
ONI **Oni** 80.84 341 P P 15 35 39.9 +0.6
TSM **Tawau** 80.94 265 ⇑P P 15 35 41.1 +0.8
LASF **Ste Croix** 80.94 10⇑ *i*P P 15 35 40.6 +0.7
TIRR **Tirgusor** 80.95 353 P P 15 35 40.4 +0.5
TIRR **Tirgusor** 80.95 353⇑ *i*P P 15 35 40.1 +0.2
TIRR **Tirgusor** 80.95 353 ⇑P P 15 35 40.1 +0.3
DDI **Dehra Dun** 81.06 311⇑ *ix* P P 15 35 37.3 -3.4
KBL **Kabul** 81.07 320⇑ *i*P P 15 35 39.7 -1.0
KBL pmax pmax
comp=Z,191nm,1.0s,mb6.0
KBL **Kabul** 81.07 320⇑ *i*P P 15 35 39.7 -1.0
comp=Z,191nm,1.0s,mb6.0
EALK **Alkurruntz** 81.11 14 P P 15 35 40.9 +0.1
comp=Z,19nm,0.7s,mb5.1
ELIZ **Elizondo** 81.17 15 P P 15 35 41.0 -0.1
ELIZ pmax pmax
comp=Z,7.0nm,0.8s,mb4.6
ELIZ **Elizondo** 81.17 15 P P 15 35 41.0 -0.1
comp=Z,7.0nm,0.8s,mb4.6
NVLJ **Novalja** 81.18 2 P P 15 35 40.7 -0.4
SMRF **Simiane la Rot** 81.22 9⇑ *i*P P 15 35 42.4 +1.1
comp=Z,174nm,1.3s,mb5.5
SMRF **Simiane la Rot** 81.22 9⇑ *i*P P 15 35 42.4 +1.1
comp=Z,174nm,1.3s,mb5.8
SJPF **Ste Jean** 81.26 14 *e*P P 15 35 41.6 +0.1
comp=Z,14nm,0.7s,mb4.7
SJPF **Ste Jean** 81.26 14 *e*P P 15 35 41.6 +0.1
SJPF pmax pmax
comp=Z,7.0nm,0.7s,mb4.7
SJPF **Ste Jean** 81.26 14 *e*P P 15 35 41.6 +0.1
comp=Z,7.1nm,0.7s,mb4.7
ELOB **Lobios** 81.31 20 P P 15 35 43.0 +1.2
comp=Z,14nm,0.6s,mb5.1
TOUF **Mont Tournerai** 81.32 8 *e*P P 15 35 42.5 +0.6
CRAR **CRAIOVA** 81.35 356 P P 15 35 42.7 +0.7
AUTN **L'Aution** 81.36 8 *e*P P 15 35 42.6 +0.6
BDT **Bhumibol Dam** 81.36 287 ⇓P P 15 35 42.0 -0.5
comp=Z,40nm,1.0s,mb5.3
LARF **Larrau** 81.37 14 *e*P P 15 35 43.0 +0.9
SAOF **Saorge** 81.38 8 *e*P P 15 35 42.5 +0.4
TBLG **Delisi** 81.41 340 P P 15 35 43.2 +0.8
MVIF **Mont Vial** 81.43 8 *e*P P 15 35 42.0 -0.4
LUCF **Luceram** 81.45 8 *e*P P 15 35 43.0 +0.4
PCAB **Cabril** 81.47 20 *e*P P 15 35 43.4 +0.7
comp=Z,110nm,1.6s,mb5.5
MTLF **Montolieu** 81.49 12⇑ *i*P P 15 35 43.1 +0.4
comp=Z,96nm,1.1s,mb5.3
MTLF **Montolieu** 81.49 12⇑ *i*P P 15 35 43.1 +0.4
MTLF pmax pmax
comp=Z,48nm,1.1s,mb5.3
MTLF **Montolieu** 81.49 12⇑ *i*P P 15 35 43.1 +0.4
comp=Z,48nm,1.1s,mb5.3
SBF **Sospel** 81.49 8⇑ *i*P P 15 35 43.1 +0.4
comp=Z,261nm,1.2s,mb5.7
SBF **Sospel** 81.49 8⇑ *i*P P 15 35 43.1 +0.4
SBF pmax pmax
comp=Z,131nm,1.2s,mb5.7
SBF **Sospel** 81.49 8⇑ *i*P P 15 35 43.1 +0.4
comp=Z,131nm,1.2s,mb5.7
ECAL **Calabor** 81.49 19 P P 15 35 44.2 +1.4
comp=Z,9.8nm,0.6s,mb4.9
SEI **Scarperia** 81.56 5 P P 15 35 45.3 +2.2
comp=Z,760nm,0.9s
DGRG **David-gareji** 81.56 340 P P 15 35 44.3 +1.1
EPF **Esparros** 81.56 13⇑ *i*P P 15 35 42.8 -0.3
comp=Z,43nm,1.0s,mb5.0
EPF **Esparros** 81.56 13⇑ *i*P P 15 35 42.8 -0.3
EPF pmax pmax
comp=Z,21nm,1.0s,mb5.0
EPF **Esparros** 81.56 13⇑ *i*P P 15 35 42.8 -0.3
comp=Z,21nm,1.0s,mb5.0
ECRI **Cripan** 81.56 15 P P 15 35 44.3 +1.1
ETSF **Etsaut** 81.56 14⇑ *i*P P 15 35 44.0 +0.8
comp=Z,74nm,0.9s,mb5.3
ETSF **Etsaut** 81.56 14⇑ *i*P P 15 35 44.0 +0.8
ETSF pmax pmax
comp=Z,37nm,0.9s,mb5.3
ETSF **Etsaut** 81.56 14⇑ *i*P P 15 35 44.0 +0.8
comp=Z,37nm,0.9s,mb5.3
REVF **Revere** 81.61 8 *e*P P 15 35 43.8 +0.4
PBRG **Braganca** 81.62 19 *e*P P 15 35 44.1 +0.6
comp=Z,94nm,1.8s,mb5.4
VMG **Vicchio** 81.66 5 P P 15 35 45.5 +1.9
comp=Z,52nm,0.6s,mb5.6
VIEF **Viey** 81.66 13 *e*P P 15 35 44.7 +1.0
VAN **Vannovskaya** 81.68 329⇑ *i*P P 15 35 44.5 +0.6
VAN *e*S S 15 45 42.6 -10
ABKT **Ailbek** 81.69 329 P P 15 35 44.6 +0.7
comp=Z,1μm,0.9s,SNR=84
FRF **La Foret Royal** 81.72 9⇑ *i*P P 15 35 44.4 +0.4
PSN **Preselentsi** 81.74 353 *i* P P 15 35 44.4 +0.3
RESF **Ens** 81.78 13 *e*P P 15 35 45.0 +0.7
PII **Pisa** 81.84 6 P P 15 35 44.3 -0.3
PII pmax pmax
comp=Z,60nm,0.8s,mb5.6
PII **Pisa** 81.84 6 P P 15 35 44.3 -0.3
comp=Z,60nm,0.8s,mb5.6
EBIE **Bielsa** 81.87 13 P P 15 35 45.6 +0.9
comp=Z,19nm,0.8s,mb5.1
LMR **La Mourre** 81.94 9⇑ *i*P P 15 35 45.6 +0.5
comp=Z,140nm,1.2s,mb5.5
LMR **La Mourre** 81.94 9⇑ *i*P P 15 35 45.6 +0.5
LMR pmax pmax
comp=Z,70nm,1.2s,mb5.5
LMR **La Mourre** 81.94 9⇑ *i*P P 15 35 45.6 +0.5
comp=Z,70nm,1.2s,mb5.5
ZIMR 81.94 355 P P 15 35 45.2 +0.1
PVRL **Vila Real** 81.95 19 *e*P P 15 35 45.8 +0.6
comp=Z,199nm,1.5s,mb5.8
NST **Nakhon Sawan** 82.00 286 P P 15 35 45.6 -0.3
MVO **Moncorvo** 82.19 19 *e*P P 15 35 47.0 +0.5
comp=Z,162nm,1.5s,mb5.7
MVO *e*LR LR 16 03 26.6
comp=Z,860nm,18.0s
PRD **Provadia** 82.27 353 *i* P P 15 35 47.6 +0.7
SZH **Strazhica** 82.30 354 *i* P P 15 35 46.5 -0.5
CING **Cingoli** 82.31 4 P P 15 35 48.0 +0.9
MURB **Monte Urbino** 82.40 4 P P 15 35 48.9 +1.4
PLE **Pljevlja** 82.45 359⇑ *i*P P 15 35 49.2 +1.4
PVIS **Viseu** 82.46 20 *e*P P 15 35 48.5 +0.6
comp=Z,239nm,1.3s,mb6.0
UPM **Unac-Piva** 82.58 360⇑ *i*P P 15 35 48.6 +0.1
ASS **Assisi** 82.60 4 P P 15 35 49.1 +0.5
ASS pmax pmax
comp=Z,98nm,1.1s,mb5.8
ASS **Assisi** 82.60 4 P P 15 35 49.1 +0.5
comp=Z,98nm,1.1s,mb5.8
COEN **Coen** 82.61 233 *e*P P 15 35 47.2 -1.7
comp=Z,20nm,1.3s,mb5.0
ESAC **San Caprasio** 82.73 14 P P 15 35 50.4 +1.1
comp=Z,43nm,0.8s,mb5.5
MTE **Manteigas** 82.83 20 *e*P P 15 35 50.5 +0.7
comp=Z,190nm,1.4s,mb5.9
NDI **New Delhi** 82.84 311 *e*P P 15 35 49.0 -1.1
NDI *ex* x 15 46 00.0
BRY **Bratogost** 82.88 360⇑ *i*P P 15 35 50.1 0.0
IVA **Berane** 82.90 359⇑ *i*P P 15 35 50.6 +0.4
STON **Ston** 82.91 0 P P 15 35 45.9 -4.3
PGF **Pioggiola** 82.91 7⇑ *i*P P 15 35 50.9 +0.7
comp=Z,144nm,0.9s,mb5.7
PGF **Pioggiola** 82.91 7⇑ *i*P P 15 35 50.9 +0.7
PGF pmax pmax
comp=Z,72nm,0.9s,mb5.7
PGF **Pioggiola** 82.91 7⇑ *i*P P 15 35 50.9 +0.7
comp=Z,72nm,0.9s,mb5.7
BOK **Bokaro** 82.92 301 *e*P P 15 35 50.2 -0.4
BOK AMb AMB 15 35 53.5
comp=Z,161nm,1.8s,mb5.8
GNI **Garni** 82.94 340 P P 15 35 52.2 +1.8
comp=Z,79nm,0.9s,mb5.7,baz=336,slow=2.5,SNR=27
GNI **Garni** 82.94 340 P P 15 35 52.2 +1.8
GNI LR LR
comp=Z,1μm,22.0s,MS5.3
NKY **Niksic** 82.97 359⇑ *i*P P 15 35 49.8 -0.7
JMB **Yambol** 83.06 354 *i* P P 15 35 51.2 +0.2
PGB **Panagyurishte** 83.10 356 *i* P P 15 35 51.4 +0.2
CORF **Corte** 83.17 7 *e*P P 15 35 52.0 +0.4
PVY **Plav** 83.18 359⇑ P P 15 35 51.4 -0.2
GUD **Guadarrama** 83.21 17 P P 15 35 51.8 0.0

GUD pmax pmax
comp=Z,30nm,0.7s,mb5.4
GUD Guadarrama 83.21 17 P **P 15 35 51.8 0.0**
comp=Z,30nm,0.7s,mb5.4
MNS Montasola 83.28 4 P **P 15 35 52.1 0.0**
EPOB Poblet 83.31 13 P **P 15 35 52.5 +0.3**
comp=Z,50nm,1.0s,mb5.5
HCY Herceg Novi 83.34 360⇑ *iP* **P 15 35 52.0 -0.4**
TTG Podgorica 83.35 359⇑ *iP* **P 15 35 51.9 -0.6**
ETOR Torete 83.38 15 P **P 15 35 53.4 +0.7**
ETOR pmax pmax
comp=Z,23nm,0.7s,mb5.3
ETOR Torete 83.38 15 P **P 15 35 53.4 +0.7**
comp=Z,23nm,0.7s,mb5.3
PCBR Castelo Branco 83.38 20 *e*P **P 15 35 52.9 +0.2**
comp=Z,128nm,1.3s,mb5.8
BCI Bajram Curri 83.41 359 *e*PN **P 15 35 54.0 +1.2**
PTOM Tomar 83.41 20 *e*P **P 15 35 53.3 +0.4**
comp=Z,260nm,1.3s,mb6.1
EPLA Plasencia 83.43 19 P **P 15 35 53.9 +0.9**
EPLA pmax pmax
comp=Z,79nm,0.8s,mb5.8
EPLA Plasencia 83.43 19 P **P 15 35 53.9 +0.9**
comp=Z,79nm,0.8s,mb5.8
SDV Santo Domingo 83.47 84 *e*P **P 15 35 50.9 -2.6**
comp=Z,15nm,0.6s,mb5.2
SDV LR LR
comp=Z,130nm,22.0s,MS4.3
BUM Brajici-Budva 83.48 360⇑ *iP* **P 15 35 53.0 -0.2**
PLD Plovdiv 83.52 355 P **P 15 35 53.2 -0.2**
ERTA Horta de San J 83.59 14 P **P 15 35 54.3 +0.6**
comp=Z,18nm,1.0s,mb5.2
PTQR Pietraquaria 83.67 4 P **P 15 35 54.9 +0.8**
comp=Z,364nm,1.5s,mb6.3
PUK Puka 83.73 359 *e*PN **P 15 35 54.8 +0.4**
SKO Skopje 83.77 358 P **P 15 35 55.7 +1.0**
SKO Skopje 83.77 358⇑ *iP* **P 15 35 55.9 +1.2**
PMRV Marv??o 83.80 20 *e*P **P 15 35 55.0 +0.2**
comp=Z,142nm,1.6s,mb5.8
PMRV *e*LR LR 16 04 28.4
comp=Z,513nm,22.0s
ULC Ulcinj 83.82 359⇑ *iP* **P 15 35 54.7 -0.2**
KKB Krupnik 83.83 356 *i* P **P 15 35 55.4 +0.5**
PTCN Pitcairn Islan 83.88 151 PFAKE 15 36 10.0 +15
PTCN LR LR
comp=Z,2µm,20.0s,MS5.4
RZN Rozhen 83.94 355 *i* P **P 15 35 56.3 +0.8**
PCI Palu 84.03 260⇓ *e*P **P 15 35 56.0 -0.3**
STIP Stip 84.03 357 P **P 15 35 55.6 -0.4**
STIP Stip 84.03 357 *i* P **P 15 35 55.8 -0.2**
EMOS Mosqueruela 84.06 14 P **P 15 35 56.7 +0.6**
comp=Z,32nm,0.8s,mb5.5
MMB Musomiste 84.08 356 *i* P **P 15 35 56.8 +0.6**
MIDA Miranda 84.08 3 P **P 15 35 57.2 +1.0**
LIS Lisbon 84.13 21 *e*P **P 15 35 57.5 +1.0**
ESDC Sonseca Array 84.19 17 P **P 15 35 57.1 +0.2**
comp=Z,40nm,1.0s,mb5.5,baz=346,slow=4.9,SNR=89
ESLA Sonseca Array 84.19 17 *e*P **P 15 35 57.0 +0.2**
ESLA LR LR
comp=Z,6µm,21.0s,MS5.9
PAB San Pablo 84.25 17 *e*P **P 15 35 56.3 -0.8**
PAB pmax pmax
comp=Z,52nm,1.3s,mb5.5
PAB MLR MLR
comp=Z,832nm,22.0s,MS5.1
PAB San Pablo 84.25 17 *e*P **P 15 35 56.3 -0.9**
comp=Z,52nm,1.3s,mb5.5
PAB LR LR
comp=Z,832nm,22.0s,MS5.1
PESTR Estremoz 84.30 20 *e*P **P 15 35 57.5 +0.1**
comp=Z,136nm,1.5s,mb5.9
PESTR *e*LR LR 16 04 32.3
comp=Z,776nm,20.0s
KRUS Krusevo 84.38 358⇑ *iP* **P 15 35 58.3 +0.6**
VAY Valandovo 84.39 357 P **P 15 35 57.5 -0.3**
VAY Valandovo 84.39 357⇑ *iP* **P 15 35 57.9 +0.1**
RFI Roccamonfina 84.41 3 P **P 15 35 59.2 +1.3**
comp=Z,58nm,1.8s,mb5.4
TIR Tirane 84.43 359 P **P 15 35 58.2 +0.2**
RDO Rodhopi 84.43 354 *e*P **P 15 35 58.5 +0.5**
RDO Rodhopi 84.43 354 *e*P **P 15 35 58.5 +0.5**
FG5 Orsara di Pugl 84.47 2 P **P 15 35 59.0 +0.8**
FG5 pmax pmax
comp=Z,364nm,1.9s,mb6.2
FG5 Orsara di Pugl 84.47 2 P **P 15 35 59.0 +0.8**
comp=Z,364nm,1.9s,mb6.2
EBAD Badajoz 84.52 20 P **P 15 35 58.0 -0.5**
comp=Z,75nm,1.3s,mb5.7
KNT Kendrikon 84.54 356 P **P 15 35 59.2 +0.6**
EVO Evora 84.54 20⇑ *iP* **P 15 35 58.5 -0.1**
comp=Z,163nm,1.3s,mb5.7
EVO *e*MLR MLR
comp=Z,1µm,22.5s,MS5.0
EVO Evora 84.54 20 *e*P **P 15 35 58.7 +0.1**
comp=Z,91nm,1.7s,mb5.6
ROSC El Rosal 84.58 89 P **P 15 35 58.3 -0.8**
comp=Z,8.1nm,0.4s,mb5.2,baz=121,slow=23,SNR=6.0
BTM Bintulu 84.61 268 ⇓P **P 15 36 00.3 +1.0**
OHR Ohrid 84.65 358 P **P 15 35 58.4 -0.7**
OHR Ohrid 84.65 358⇑ *iP* **P 15 35 58.8 -0.3**
ALN Alexandroupoli 84.65 354 P **P 15 35 59.1 0.0**
BIA Bitola 84.73 358 P **P 15 35 58.4 -1.1**
BIA Bitola 84.73 358 *i* P **P 15 35 58.8 -0.7**
ECHE Chera 84.75 15 P **P 15 36 00.4 +0.7**
ECHE pmax pmax
comp=Z,6.0nm,0.6s,mb4.9
ECHE Chera 84.75 15 P **P 15 36 00.4 +0.8**
comp=Z,6.1nm,0.6s,mb4.9
GRG Griva 84.76 357 P **P 15 36 00.1 +0.4**
SOH Sokhos 84.86 356 P **P 15 36 00.0 -0.2**
CSSN Cassano Irpino 84.88 2 P **P 15 36 00.5 +0.2**
comp=Z,148nm,1.3s,mb6.0
FNA Florina 84.96 358 P **P 15 36 00.6 -0.1**
PBEJ Beja 85.06 20 *e*P **P 15 36 01.2 0.0**
comp=Z,59nm,1.8s,mb5.4
PBAR Barrancos 85.08 20 *e*P **P 15 36 01.3 0.0**
comp=Z,120nm,1.8s,mb5.7
PBAR *e*LR LR 16 04 51.5
comp=Z,709nm,20.0s
ETOS Mallorca 85.08 12 P **P 15 36 02.0 +0.7**
comp=Z,42nm,0.9s,mb5.6
ANTO Ankara 85.09 349⇑ *iP* **P 15 36 02.7 +1.3**
ANTO Ankara 85.09 349⇑ P **P 15 36 02.7 +1.3**
ANTO LR LR
comp=Z,633nm,20.0s,MS5.0
HORT Hortiatis 85.09 356 P **P 15 36 00.9 -0.5**
BR131 Keskin Array S 85.13 348⇑ *iP* **P 15 36 02.0 +0.4**
comp=Z,96nm,0.9s,mb5.9
BR131 LR LR
comp=Z,630nm,20.0s,MS5.0
KBN Korca 85.13 358 *e*PN **P 15 35 52.6 -9.0**
PTRP Pietrapertosa 85.24 2 P **P 15 36 03.0 +0.9**
PLG Polygyros 85.30 356 P **P 15 36 01.6 -0.8**
PLG Polygyros 85.30 356 *e*P **P 15 36 02.5 +0.1**
PLG Polygyros 85.30 356 *e*P **P 15 36 02.5 +0.1**
OUR Ouranopolis 85.32 356 P **P 15 36 02.3 -0.2**
PTEO Sao Teotonio 85.34 21 *e*P **P 15 36 03.1 +0.4**
comp=Z,113nm,1.9s,mb5.7
KZN Kozani 85.43 357 *e*P **P 15 36 03.5 +0.5**
KZN Kozani 85.43 357 *e*P **P 15 36 03.5 +0.5**
EVIA Vianos 85.44 16 P **P 15 36 04.7 +1.6**
EVIA pmax pmax
comp=Z,15nm,0.9s,mb5.1
EVIA Vianos 85.44 16 P **P 15 36 04.7 +1.6**
comp=Z,15nm,0.9s,mb5.1
ECAB El Cabril 85.48 19 P **P 15 36 03.0 -0.4**
comp=Z,1.5nm,0.6s,mb4.3
EMIN Mina Concepcio 85.55 20 P **P 15 36 03.6 0.0**
comp=Z,27nm,1.1s,mb5.4
EADA Adamuz 85.55 18 P **P 15 36 03.8 +0.1**
comp=Z,10nm,0.8s,mb5.1
MORF Marmelete 85.59 21 *e*P **P 15 36 03.7 -0.2**
comp=Z,106nm,1.7s,mb5.8
MORF *e*LR LR 16 07 48.9
comp=Z,2µm,22.0s
EGRO El Granado 85.61 20 P **P 15 36 02.6 -1.4**
comp=Z,8.7nm,0.8s,mb5.0
LIT Litokhoron 85.61 357 P **P 15 36 03.6 -0.4**
MGR Morigerati 85.62 2 P **P 15 36 03.8 -0.2**
PVAQ Vaqueiros 85.69 20 *e*P **P 15 36 04.4 0.0**
comp=Z,85nm,1.7s,mb5.7
PVAQ *e*LR LR 16 04 43.4
comp=Z,837nm,22.0s
EBAN Banos Encina 85.69 17 P **P 15 36 05.0 +0.6**
EBAN pmax pmax
comp=Z,5.0nm,0.5s,mb5.0
EBAN Banos Encina 85.69 17 P **P 15 36 05.0 +0.6**
comp=Z,4.5nm,0.5s,mb5.0
LIA Limnos Island 85.70 355 P **P 15 36 04.3 -0.1**
ORI Oriolo Calabro 85.71 1 P **P 15 36 05.7 +1.3**
SBUM Sibu 85.72 268 ⇓P **P 15 36 06.0 +1.2**
PFVI Vila Bisbo 85.72 21 *e*LR LR 16 05 38.9
comp=Z,1µm,22.0s
PAIG Paliouri 85.74 356 P **P 15 36 03.8 -0.8**
PBDV Barranco-do-Ve 85.80 21 *e*P **P 15 36 05.2 +0.3**
PBDV *e*LR LR 16 05 21.4
comp=Z,1µm,22.0s
AJM Ajmer 85.88 312 *e*P **P 15 36 04.6 -0.9**
AJM AMb AMB 15 36 07.6
comp=Z,126nm,1.5s,mb5.9
OTAV Otavalo 85.91 95 PFAKE
OTAV LR LR 15 36 20.0 +14
comp=Z,247nm,21.0s,MS4.6
MEV Metsovon 85.96 358 P **P 15 36 06.6 +0.9**
GRGR Grenville 85.98 75 PFAKE 15 36 20.0 +14
GRGR LR LR
comp=Z,414nm,20.0s,MS4.8
KEK Kerkira 86.06 359 *e*P **P 15 36 07.0 +0.8**
KEK Kerkira 86.06 359 *e*P **P 15 36 07.0 +0.8**
JAN Janina 86.10 358 *e*P **P 15 36 08.0 +1.6**
JAN Janina 86.10 358 *e*P **P 15 36 08.0 +1.6**
THL Klokotos Trika 86.16 357 P **P 15 36 05.0 -1.7**
EHUE Huescar 86.23 16 P **P 15 36 07.0 -0.1**
EHUE pmax pmax
comp=Z,17nm,1.1s,mb5.2
EHUE Huescar 86.23 16 P **P 15 36 07.0 -0.1**
comp=Z,17nm,1.1s,mb5.2
PRK Paraskevi 86.28 354 P **P 15 36 06.5 -0.8**
PRK Paraskevi 86.28 354 *e*P **P 15 36 07.0 -0.3**
PRK Paraskevi 86.28 354 *e*P **P 15 36 07.0 -0.3**
XOR Xorichti 86.32 356 P **P 15 36 06.9 -0.6**
BBGH Gun Hill 86.33 73 PFAKE 15 36 20.0 +12
BBGH LR LR
comp=Z,923nm,19.0s,MS5.2
ESPR Espera 86.57 19 P **P 15 36 08.9 +0.1**
comp=Z,22nm,0.9s,mb5.4
ECOG Cogollos-Vega 86.59 17 P **P 15 36 09.3 +0.5**
ECOG pmax pmax
comp=Z,11nm,0.6s,mb5.3
ECOG Cogollos-Vega 86.59 17 P **P 15 36 09.3 +0.4**
comp=Z,10nm,0.6s,mb5.2
CTA Charters Tower 86.61 228⇑ *iP* **P 15 36 08.3 -0.6**
comp=Z,12nm,0.6s,mb5.3
CTA Charters Tower 86.61 228⇑ *iP* **P 15 36 08.3 -0.6**
CTA pmax pmax
comp=Z,12nm,0.6s
CTAO Charters Tower 86.61 228 *e*P **P 15 36 08.0 -0.9**
CTAO pmax pmax
comp=Z,25nm,0.9s,mb5.4
CTAO MLR MLR
comp=Z,713nm,21.0s,MS5.0
CTAO Charters Tower 86.61 228 *e*P **P 15 36 08.0 -1.0**
comp=Z,25nm,0.9s,mb5.5
CTAO LR LR
comp=Z,713nm,21.0s,MS5.0
ELOJ Sierra Loja 86.62 18 P **P 15 36 09.6 +0.6**
ELOJ pmax pmax
comp=Z,4.0nm,0.4s,mb5.0
ELOJ Sierra Loja 86.62 18 P **P 15 36 09.6 +0.6**
comp=Z,4.1nm,0.4s,mb5.0
AGG Agios Georgios 86.69 357 P **P 15 36 08.3 -1.0**
ERON Agron 86.80 18 P **P 15 36 09.9 +0.1**
comp=Z,8.3nm,0.6s,mb5.1
EVR Evrytania 86.81 357 *e*P **P 15 36 10.0 +0.1**
EVR Evrytania 86.81 357 *e*P **P 15 36 10.0 +0.1**
KAKA Kakadu 86.86 243 *e*P **P 15 36 03.4 -6.9**
comp=Z,54nm,0.9s,mb5.8
EGUA Guajares 87.03 17 P **P 15 36 10.7 -0.3**
EGUA pmax pmax
comp=Z,71nm,0.9s,mb5.9
EGUA Guajares 87.03 17 P **P 15 36 10.7 -0.2**
comp=Z,71nm,0.9s,mb5.9
LKR Lokris 87.04 356 P **P 15 36 09.7 -1.3**
LKD Levkas 87.05 358 P **P 15 36 10.5 -0.6**
EJIF Jimena Fronter 87.05 19 P **P 15 36 11.1 0.0**
EJIF pmax pmax
comp=Z,22nm,0.9s,mb5.4
EJIF Jimena Fronter 87.05 19 P **P 15 36 11.1 0.0**
comp=Z,22nm,0.9s,mb5.4
EMIJ Mijas 87.07 18 P **P 15 36 12.2 +1.0**
comp=Z,11nm,0.8s,mb5.1
EBER Berja 87.08 17 P **P 15 36 11.5 +0.3**
comp=Z,5.0nm,0.5s,mb5.0
CHOS Chios island 87.15 354 P **P 15 36 09.2 -2.3**
KAPI Kappang 87.42 258 P **P 15 36 11.5 -1.6**
comp=Z,341nm,1.2s,SNR=7.7
KAPI Kappang 87.42 258 P **P 15 36 11.6 -1.6**
SNR=9.3
KAPI Kappang 87.42 258 P **P 15 36 11.6 -1.5**
comp=Z,19nm,0.5s,mb5.5,baz=16,slow=2.0,SNR=16
BHPL Bhopal 87.44 308 *e*P **P 15 36 11.9 -1.2**
VLS Valsamata 87.58 358 *e*P **P 15 36 14.0 +0.4**
VLS Valsamata 87.58 358 *e*P **P 15 36 14.0 +0.4**
PTL Penteli 87.60 356 *e*P **P 15 36 13.0 -0.7**
PTL Penteli 87.60 356 *e*P **P 15 36 13.0 -0.7**
KSM Kuching 87.62 269 ⇑P **P 15 36 14.5 +0.4**
LTK Loutraki 87.67 356 P **P 15 36 13.6 -0.4**
SMG Samos 87.77 353 *e*P **P 15 36 14.0 -0.5**
SMG Samos 87.77 353 *e*P **P 15 36 14.0 -0.5**
DID Didima 88.17 356 P **P 15 36 15.5 -0.9**
SNG Songkhla 88.62 280 P **P 15 36 19.0 +0.1**
comp=Z,160nm,0.7s
VLI Veliai 88.97 356 *e*P **P 15 36 19.0 -1.2**
VLI Veliai 88.97 356 *e*P **P 15 36 19.0 -1.2**
ARG Arkhangelos 89.16 352 *e*P **P 15 36 21.0 -0.1**
ARG Arkhangelos 89.16 352 *e*P **P 15 36 21.0 -0.1**
VIS Vishakhapatnam 89.30 300 *e*P **P 15 36 20.8 -1.2**
EIDS Eisvold 89.34 222 *e*P **P 15 36 21.1 -0.8**
comp=Z,128nm,1.4s,mb6.1
KEST Kesra 89.72 7 P **P 15 36 23.9 +0.2**
comp=Z,13nm,1.2s,mb5.1,baz=359,slow=2.4,SNR=11
CSS Prodhromos 89.87 348 P **P 15 36 23.4 -1.1**
KULM Kulim 90.13 279 ⇓P **P 15 36 26.6 +0.6**
FKH Fakeheh 90.16 345 *e*P **P 15 36 26.7 +0.9**
VAM Vamos 90.22 355 *e*P **P 15 36 26.5 +0.4**
VAM Vamos 90.22 355 *e*P **P 15 36 26.5 +0.4**
ZKR Zakros 90.39 353 P **P 15 36 24.1 -2.8**
LAST Lasithi 90.40 354 P **P 15 36 27.8 +0.9**
IPM Ipoh 90.57 278 ⇓P **P 15 36 28.7 +0.7**
SIVA Sivas 90.58 355 P **P 15 36 27.2 -0.6**
BHL Bhannes 90.60 346 *e*P **P 15 36 27.8 0.0**
GVD Gavdhos 90.79 355 *e*P **P 15 36 29.0 +0.2**
GVD Gavdhos 90.79 355 *e*P **P 15 36 29.0 +0.2**
MYKOM Kota Tinggi 91.11 275 ⇓P **P 15 36 31.4 +0.9**
MMAI Mount Meron Ar 91.51 346 P **P 15 36 32.4 +0.3**
comp=Z,11nm,0.8s,mb5.2,baz=12,slow=4.5,SNR=9.4
HYB Hyderabad 91.92 304 *e*P **P 15 36 33.0 -1.2**
HYB pmax pmax
comp=Z,100nm,1.0s,mb6.1
HYB Hyderabad 91.92 304 *i* P **P 15 36 33.0 -1.2**
comp=Z,100nm,1.0s,mb6.1
HYB Hyderabad 91.92 304 *e*P **P 15 36 33.0 -1.2**
comp=Z,100nm,1.0s,mb6.1
WRAB Tennant Creek 91.99 238 P **P 15 36 33.0 -1.3**
comp=Z,94nm,1.0s,mb6.1,SNR=5.0
WRAB Tennant Creek 91.99 238 *e*P **P 15 36 31.4 -2.9**
WRAB pmax pmax
comp=Z,29nm,1.3s,mb5.5
WRAB Tennant Creek 91.99 238 *e*P **P 15 36 31.4 -2.9**
comp=Z,29nm,1.3s,mb5.5
ASF Jabal al Asfar 92.11 344 P **P 15 36 35.3 +0.4**
comp=Z,17nm,0.9s,mb5.4,baz=329,slow=0.6,SNR=30
MIB Mutribah 92.29 335 *e*P **P 15 36 35.7 -0.1**
baz=335
MIB AMb AMB 15 36 36.6
comp=Z,304nm,0.7s,baz=335
UMR Umm Al-Rimmam 92.44 335 *e*P **P 15 36 36.0 -0.4**
baz=335
UMR AMb AMB 15 36 38.4
comp=Z,214nm,1.3s,mb6.3,baz=335
RST Umm Al-Ruwaisa 92.66 335 *e*P **P 15 36 36.7 -0.8**
baz=335
RST AMb AMB 15 36 39.9
comp=Z,141nm,1.6s,mb6.2,baz=335
NAY Al-Naaiem 92.84 335 *e*P **P 15 36 37.9 -0.4**
baz=335
NAY AMb AMB 15 36 40.1
comp=Z,90nm,1.3s,mb6.0,baz=335
RDF Al-Radifah 93.08 335 *e*P **P 15 36 39.2 -0.2**
baz=335
RDF AMb AMB 15 36 41.4
comp=Z,181nm,1.5s,mb6.3,baz=335
PSI Prapat 93.14 279⇑ *e*P **P 15 36 38.9 -1.0**
POO Poona 93.16 308 *e*P **P 15 36 38.8 -1.1**
POO AMb AMB 15 36 40.4
comp=Z,68nm,1.3s,mb5.9
ARMA Armidale 93.69 219 *e*P **P 15 36 43.1 +1.2**
ARMA Armidale 93.69 219 *e*P **P 15 36 42.7 +0.8**
comp=Z,1.2nm,1.4s,mb4.1
KAD Karad 94.07 308⇓ *e*P **P 15 36 43.0 -1.2**
ASAR Alice Springs 95.37 236 P **P 15 36 48.8 -1.0**
comp=Z,6.6nm,0.8s,mb5.1,baz=33,slow=4.4,SNR=40
ASAR PKiKP PKiKP 15 41 28.9 -1.2
comp=Z,0.8nm,0.8s,baz=38,slow=1.3,SNR=5.6
ASAR PKKP PKKPbc 15 53 40.5 +0.1
comp=Z,1.8nm,0.6s,baz=201,slow=2.1,SNR=42
SNZO South Karori 97.63 198 PFAKE 15 37 10.0 +10
SNZO LR LR
comp=Z,619nm,19.0s,MS5.1
STKA Stephens Creek 98.93 226 P **P 15 37 05.3 -0.3**
comp=Z,5.8nm,1.1s,mb5.0,baz=82,slow=5.7,SNR=3.9
STKA Stephens Creek 98.93 226 *e*P **P 15 37 03.7 -2.0**
MBWA Marble Bar 100.59 249 PFAKE 15 37 20.0 +6.5
MBWA LR LR
comp=Z,301nm,22.0s,MS4.8
LPAZ La Paz 105.18 97 PFAKE 15 42 00.0 +12
LPAZ LR LR
comp=Z,220nm,22.0s,MS4.7
TORD Torodi Ar. Bea 111.08 17 PKiKP PKiKP 15 41 57.6 -1.5
comp=Z,241nm,0.4s,baz=345,slow=3.0,SNR=2.1
TORD Torodi Ar. Bea 111.08 17 PKPdf PKiKP 15 41 57.6 -1.5
RCBR Riachuelo 114.90 63 PFAKE 15 42 20.0 +14
RCBR LR LR
comp=Z,443nm,21.0s,MS5.0
DBIC Dimbokro 115.97 26 PKhKP 15 42 05.0
comp=Z,3.2nm,1.1s,baz=88,slow=5.8,SNR=3.9
DBIC Dimbokro 115.97 26 PKP PKPdf 15 42 05.0 -3.5
DBIC LR LR
comp=Z,574nm,19.0s,MS5.2
BDFB Brasilia 116.33 80 PFAKE 15 42 20.0 +11
BDFB LR LR
comp=Z,450nm,22.0s,MS5.0
PLCA Paso Flores 122.53 116 PKP PKPdf 15 42 19.0 -1.2
comp=Z,3.4nm,0.7s,baz=206,slow=4.2,SNR=8.1
KMBO Kilima Mbogo 124.48 337 PKP PKPdf 15 42 25.9 +1.0
comp=Z,13nm,0.9s,baz=11,slow=4.6,SNR=24
KMBO Kilima Mbogo 124.48 337 PKP PKPdf 15 42 25.9 +1.0
KMBO LR LR
comp=Z,391nm,22.0s,MS5.0
TRQA Tornquist 125.25 108 PFAKE 15 42 40.0 +15
TRQA LR LR
comp=Z,510nm,22.0s,MS5.2
SBA Scott Base 133.60 189 PFAKE 15 42 50.0 +10
SBA LR LR
comp=Z,685nm,19.0s,MS5.4
CASY Casey 137.25 217 PFAKE 15 43 00.0 +13
CASY LR LR
comp=Z,598nm,20.0s,MS5.3
LSZ Lusaka 140.01 345 PKhKP 15 42 44.6
comp=Z,4.8nm,0.6s,baz=59,slow=1.6,SNR=9.7
LSZ SKPbc SKPbc 15 46 27.4 +1.7
comp=Z,12nm,1.1s,baz=25,slow=3.9,SNR=4.9
LSZ Lusaka 140.01 345 PKP 15 42 44.6
LSZ SKPbc SKPbc 15 46 27.4 +1.7
LSZ LR LR
comp=Z,702nm,21.0s,MS5.4
PMSA Palmer Station 140.19 138 PFAKE 15 43 00.0 +7.3
PMSA LR LR
comp=Z,1µm,20.0s,MS5.6
MIR Mirnyy 143.75 221 ⇓*i* PKIKP PKPdf 15 42 55.0 -4.0
MIR *i* 15 43 05.0
MIR *i* 15 43 12.0
MIR pmax pmax
comp=Z,100nm,1.4s
QSPA South Pole Qui 144.37 180 PKP PKPdf 15 42 57.2 -2.6
comp=Z,25nm,0.5s,baz=306,slow=0.3,SNR=85
QSPA SKPbc SKPbc 15 46 34.4 -0.1
comp=Z,18nm,1.1s,baz=68,slow=1.0,SNR=9.6
QSPA South Pole Qui 144.37 180 PKP PKPdf 15 42 57.2 -2.6
QSPA SKPbc SKPbc 15 46 34.4 -0.1
QSPA LR LR
comp=Z,561nm,20.0s,MS5.3
TSUM Tsumeb 144.67 1 PKP PKPdf 15 43 00.4 -1.7
comp=Z,81nm,0.8s,baz=349,slow=5.8,SNR=148
TSUM SKPbc SKPbc 15 46 38.3 +1.2
comp=Z,9.4nm,1.1s,baz=76,slow=4.2,SNR=4.6
TSUM Tsumeb 144.67 1 PKP PKPdf 15 43 00.4 -1.7
TSUM SKPbc SKPbc 15 46 38.3 +1.2
TSUM LR LR
comp=Z,592nm,20.0s,MS5.4
MATP Matopo 145.01 343 PKPbc PKPbc 15 43 01.9 -0.2
comp=Z,173nm,0.8s,baz=0.1,slow=3.0,SNR=358
LBTB Lobatse 149.96 347 PKP PKPdf 15 43 11.2 +0.5
comp=Z,100nm,1.0s,baz=89,slow=1.3,SNR=4.6
LBTB PKPbc PKPbc 15 43 15.9 +0.3
comp=Z,78nm,0.9s,baz=360,slow=1.9,SNR=61
LBTB PP PP 15 46 46.8 -2.6
comp=Z,19nm,1.0s,baz=12,slow=3.6,SNR=4.3
LBTB Lobatse 149.96 347 PKP PKPdf 15 43 11.2 +0.5
LBTB PKPbc PKPbc 15 43 15.9 +0.3
LBTB PP PP 15 46 46.8 -2.6
LBTB LR LR
comp=Z,686nm,19.0s,MS5.5
BOSA Boshof 153.55 346 PKP PKPdf 15 43 15.9 -0.2
comp=Z,6.8nm,1.0s,baz=76,slow=4.2,SNR=3.3
BOSA PKPbc PKPbc 15 43 23.4 -0.4
comp=Z,14nm,1.0s,baz=127,slow=3.1,SNR=12
BOSA PP PP 15 47 07.0 -2.9
comp=Z,13nm,1.0s,baz=26,slow=5.8,SNR=5.0
BOSA Boshof 153.55 346 PKP PKPdf 15 43 15.9 -0.2
BOSA PKPbc PKPbc 15 43 23.4 -0.4
BOSA PP PP 15 47 07.0 -2.9
BOSA LR LR
comp=Z,1µm,21.0s,MS5.6
MAW Mawson 155.49 220 PKPbc PKPdf 15 43 25.4 +8.0
comp=Z,2.3nm,0.4s,baz=180,slow=6.1,SNR=3.9
MAW PKPab PKPab 15 43 43.4 -0.2
comp=Z,21nm,0.9s,baz=118,slow=3.9,SNR=12
SUR Sutherland 157.72 354 PKPab PKPab 15 43 54.2 +0.1
comp=Z,24nm,1.0s,baz=52,slow=4.6,SNR=6.0
VNA3 Neumayer Olymp 159.36 155 *e*PKPdf PKPdf 15 43 18.6 -3.6
VNA3 *e* 15 43 21.8
VNA3 *e* 15 43 33.2
VNA3 *e* 15 43 44.7
VNA3 *e* 15 43 58.4
VNA3 *e* 15 44 02.1
VNA3 *e* 15 44 13.3
VNA1 Neumayer--Stat 160.10 154 *e*PKPdf PKPab 15 44 01.6 -1.8
VNA1 *e* 15 44 05.8
VNA1 *e* 15 44 13.8
VNA2 Neumayer--Watz 160.13 155 *e*PKPdf PKPdf 15 43 19.9 -3.2
baz=254,slow=1.4
VNA2 *e* 15 43 22.9
VNA2 *e* 15 43 34.5
VNA2 *e* 15 43 46.9
VNA2 *e* 15 44 01.2
VNA2 *e* 15 44 05.4
VNA2 *e* 15 44 14.8
SNAA Sanae 160.60 160 *e*PKPdf PKPdf 15 43 19.5 -4.1
SNAA *e* 15 43 22.7
SNAA *e* 15 43 35.1
SNAA *e* 15 44 02.9
SNAA *e* 15 44 06.7
SNAA *e* 15 44 15.5

IDC **26** *15:25:43.9±3.7, 54.32N×161.35W, h0km, mb4.5/8, mb1 4.6/8, mb1mx4.3/22, mbtmp4.5/8, MS4.6/1, Ms1 4.6/1, ms1mx2.9/24, Error ellipse: s-maj=100.4km s-min=30.6km az=154.0*

ISCJB **26** *15:25:45.5±4.4, 5398N±010×1612W±01, h33km±30km, mb4.6/11, Error ellipse: s-maj=17.1km s-min=12.7km az=154.5*

NEIC **26** *15:25:45.1±1.2, 5389N×161.02W, h30km, mb4.9/3, Error ellipse: s-maj=29.6km s-min=16.6km az=189.0*

ISC 26 15:25:46.5±4.7, 541N±01×1613W±01, h24km±32km, n15, σ0.84/15, mb4.6/11, Alaska Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SDPT	**Sand Point**	**1.35**	**21**	P	**Pn**	**15 26 10.4**	**+0.6**
SDPT				S	**Sn**	**15 26 27.1**	**+0.2**
FALS	**False Pass**	**1.43**	**303**	P	**Pn**	**15 26 10.7**	**-0.3**
FALS				S	**Sn**	**15 26 28.7**	**-0.3**

PETK	**Petropavlovsk-**	**24.09**	**284**	P		**P**	**15 31 00.4**	**+0.6**
	10nm,0.5s,mb4.5,baz=83,slow=13,SNR=5.1							
HWUT	**Hardware Ranch**	**34.93**	**90**	P		**P**	**15 32 32.6**	**-3.5**
	7.8nm,1.1s,mb4.5							
HWUT				*e*			15 32 49.2	
YAK	**Yakutsk**	**35.68**	**311**	*e*P		**P**	**15 32 40.3**	**-2.0**
	24nm,0.8s,mb5.2							
YAK				*e*			15 32 49.3	
RSSD	**Black Hills**	**37.83**	**81**	*e*P		**P**	**15 32 54.9**	**-6.0**
	16nm,0.8s,mb4.8							
KSRS	**Korea Array**	**49.91**	**281**	P		**P**	**15 34 39.3**	**+1.4**
	5.2nm,0.7s,mb4.7,baz=48,slow=7.1,SNR=4.3							
SONM	**Songino Array**	**54.45**	**304**	P		**P**	**15 35 11.5**	**0.0**
	4.4nm,0.8s,mb4.5,baz=62,slow=7.6,SNR=2.1							
BVAR	**Borovoye Array**	**64.94**	**328**	P		**P**	**15 36 23.7**	**+0.2**
	5.1nm,0.7s,mb4.7,baz=37,slow=6.1,SNR=3.7							
NOA	**NORSAR Array B**	**65.06**	**4**	P		**P**	**15 36 24.1**	**-0.1**
	2.4nm,0.8s,mb4.3,baz=357,slow=6.7,SNR=2.4							
HNR	**Honiara**	**71.22**	**221**	LR		LR	16 02 14.4	
	comp=Z,393nm,20.2s,baz=130,slow=31							
AKASG	**Malin Array Be**	**75.20**	**353**	P		**P**	**15 37 26.0**	**-0.5**
	4.2nm,0.5s,mb4.6,baz=8.6,slow=5.8,SNR=4.2							
GERES	**GERESS Array B**	**77.35**	**3**	P		**P**	**15 37 39.5**	**+0.7**
	1.6nm,0.6s,mb4.1,baz=12,slow=5.0,SNR=3.8							
CMAR	**Chiang Mai Arr**	**80.80**	**289**	P		**P**	**15 37 58.5**	**+0.4**
	3.4nm,0.8s,mb4.3,baz=25,slow=6.1,SNR=4.9							
MATP	**Matopo**	**145.55**	**344**	PKPbc		PKPbc	15 45 22.8	+0.2
	10nm,0.7s,baz=346,slow=2.7,SNR=5.7							

*IDC **26** 15:28:11.6±1.9, 258N×95.82E, h0km, mb4.2/8, mb1 4.2/9, mb1mx4.0/21, mbtmp4.2/9, ML4.1/1, Error ellipse: s-maj=58.7km s-min=21.4km az=54.0*
*NEIC **26** 15:28:17.4±0.7, 268N×96.08E, h35km, mb4.8/10, Error ellipse: s-maj=16.8km s-min=6.7km az=220.0*
*ISCJB **26** 15:28:20.4±3.2, 28N±02°×962E±02, h77km±25km, mb4.4/18, Error ellipse: s-maj=40.5km s-min=11.9km az=136.7*

ISC 26 15:28:21.6±3.2, 28N±02°×962E±02, h69km±25km, n25, σ0§73/25, mb4.4/18, 1C, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PSI	**Prapat**	**2.71**	**90**↑	*e*P	**Pn**	**15 29 04.2**	**+1.3**
KSM	**Kuching**	**14.15**	**95**	*e*Pn	**Pn**	**15 31 37.4**	**-1.4**
CM31	**Chiang Mai Arr**	**15.79**	**10**	*e*Pn	**Pn**	**15 31 59.7**	**-0.1**
	1.8nm,0.6s						
CMAR	**Chiang Mai Arr**	**15.79**	**10**	Pn	**Pn**	**15 31 59.4**	**-0.4**
	0.3nm,0.3s,baz=198,slow=11,SNR=28						
KKM	**Kota Kinabalu**	**20.20**	**80**	*e*P	**P**	**15 32 49.3**	**-1.7**
KAPI	**Kappang**	**24.77**	**108**	P	**P**	**15 33 37.9**	**+0.8**
	2.9nm,0.4s,mb4.1,baz=275,slow=15,SNR=3.6						
ODAN	**Odare**	**25.37**	**341**	*e*P	**P**	**15 33 42.5**	**+0.1**
	16nm,0.7s,mb4.6						
RAMN	**Ramite**	**25.71**	**340**	*e*P	**P**	**15 33 46.4**	**+0.8**
	38nm,0.6s,mb5.0						
TAPN	**Taplejung**	**25.73**	**342**	*e*P	**P**	**15 33 45.8**	**+0.1**
	22nm,0.8s,mb4.6						
JIRN	**Jiri**	**26.51**	**340**	*e*P	**P**	**15 33 52.9**	**+0.2**
	43nm,0.7s,mb5.1						
GUN	**Gumba**	**26.85**	**339**	*e*P	**P**	**15 33 55.9**	**+0.1**
	31nm,0.7s,mb4.9						
DMN	**Daman**	**26.85**	**338**	*e*P	**P**	**15 33 56.2**	**+0.4**
KKN	**Kakani**	**26.95**	**338**	*e*P	**P**	**15 33 56.3**	**-0.4**
	19nm,0.9s,mb4.6						
LSA	**Lhasa**	**27.18**	**350**	*e*P	**P**	**15 33 59.2**	**+0.5**
	3.3nm,0.6s,mb4.0						
GKN	**Gorkha**	**27.39**	**337**	*e*P	**P**	**15 34 00.0**	**-0.6**
	23nm,0.8s,mb4.7						
KOLN	**Koldanda**	**27.60**	**335**	*e*P	**P**	**15 34 02.1**	**-0.4**
	9.7nm,0.6s,mb4.5						
DANN	**Dangsing**	**28.04**	**336**	*e*P	**P**	**15 34 06.0**	**-0.5**
	11nm,0.5s,mb4.6						
KSRS	**Korea Array**	**45.12**	**36**	P	**P**	**15 36 32.7**	**+1.4**
	1.0nm,0.7s,mb3.7,baz=237,slow=7.4,SNR=3.1						
ASAR	**Alice Springs**	**45.15**	**128**	P	**P**	**15 36 31.8**	**+0.1**
	0.7nm,0.5s,mb3.6,baz=302,slow=8.1,SNR=8.1						
MKAR	**Makanchi Array**	**45.46**	**347**	P	**P**	**15 36 33.7**	**0.0**
	3.1nm,0.5s,mb4.3,baz=155,slow=8.7,SNR=6.4						
MKAR	**Makanchi Array**	**45.46**	**347**	P	**P**	**15 36 33.7**	**0.0**
SONM	**Songino Array**	**45.71**	**10**	P	**P**	**15 36 36.7**	**+1.0**
	2.1nm,0.6s,mb4.0,baz=198,slow=10,SNR=4.0						
KURK	**Kurchatov**	**50.00**	**345**	P	**P**	**15 37 08.2**	**-0.6**
	1.1nm,0.6s,mb4.0,baz=167,slow=7.3,SNR=2.1						
ZALV	**Zalesovo Beam**	**51.83**	**351**	P	**P**	**15 37 22.1**	**-0.5**
	2.1nm,0.4s,mb4.5,baz=174,slow=7.5,SNR=5.2						
ARCES	**ARCESS Array B**	**80.70**	**340**	P	**P**	**15 40 26.4**	**-0.4**
	1.9nm,0.7s,mb4.0,baz=90,slow=5.3,SNR=4.3						

*ISCJB **26** 15:43:37.8±0.4, 3757N±004×318W±004, h10km, Error ellipse: s-maj=5.6km s-min=3.9km az=153.5*
*MDD **26** 15:43:39.7±0.3, 3753N×3.13W, h4km±6km, mb3.5/1, mbLg1.9/19, Error ellipse: s-maj=3.5km s-min=2.0km az=125.0, PRIMO*

ISC 26 15:43:38.5±0.5, 3756N±003×320W±003, h4km±5km, n27, σ0§90/32, Spain

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
EQES	**Quesada**	**0.26**	**22**	Pg	**Pg**	**15 43 44.7**	**+1.1**
	24nm,0.2s,SNR=68						
EQES				Lg		15 43 49.0	
	171nm,0.1s,SNR=5.0						
EQUE	**Quentar**	**0.41**	**209**	Pg	**Pg**	**15 43 46.5**	**+0.2**
	5.5nm,0.2s,SNR=7.9						
EQUE				Lg		15 43 53.9	
	19nm,0.2s,SNR=7.9						
ECOG	**Cogollos-Vega**	**0.41**	**226**	Pg	**Pg**	**15 43 47.6**	**+1.3**
	4.2nm,0.2s,SNR=7.1						
ECOG				Lg		15 43 54.7	
	19nm,0.2s,SNR=10						
EHUE	**Huescar**	**0.54**	**62**	Pg	**Pg**	**15 43 49.0**	**0.0**
	1.0nm,0.2s,SNR=7.9						
EHUE				Lg		15 43 56.4	
	8.1nm,0.2s,SNR=7.9						
EBER	**Berja**	**0.71**	**160**	Pg	**Pg**	**15 43 51.3**	**-0.8**
	9.2nm,0.2s,SNR=7.9						
EBER				Lg		15 44 01.2	
	16nm,0.2s,SNR=7.9						
EBAN	**Banos Encina**	**0.76**	**322**	Pg	**Pg**	**15 43 54.3**	**+1.2**
	13nm,0.1s,SNR=30						
EBAN				Lg		15 44 06.4	
	32nm,0.2s,SNR=5.0						
EGUA	**Guajares**	**0.78**	**202**	Pg	**Pg**	**15 43 53.4**	**-0.1**
	5.1nm,0.2s,SNR=7.9						
EGUA				Lg		15 44 05.6	
	4.9nm,0.2s,SNR=7.9						
ELUQ	**Luque**	**0.85**	**270**	Pg	**Pg**	**15 43 57.3**	**+2.5**
	7.1nm,0.2s,SNR=7.9						
ELUQ				Lg		15 44 08.9	
	2.2nm,0.3s,SNR=7.9						
EVIA	**Vianos**	**1.21**	**27**	Pg	**Pg**	**15 44 01.8**	**+0.1**
	13nm,0.1s,SNR=30						
EVIA				Lg		15 44 17.7	
	9.5nm,0.3s,SNR=17						
EADA	**Adamuz**	**1.25**	**299**	Pg	**Pg**	**15 44 03.2**	**+0.7**
	3.6nm,0.1s,SNR=18						
EADA				Lg		15 44 20.7	
	2.0nm,0.3s,SNR=15						
EMUR	**La Murta**	**1.58**	**79**	Pg	**Pg**	**15 44 07.8**	**-1.0**
	2.9nm,0.2s,SNR=5.8						
EMUR				Lg		15 44 28.5	
	3.9nm,0.3s,SNR=7.9						
EMIJ	**Mijas**	**1.61**	**232**	Pg	**Pg**	**15 44 10.0**	**+0.7**
	1.1nm,0.2s,SNR=7.9						
EMIJ				Lg		15 44 31.9	
	1.7nm,0.2s,SNR=7.9						
ETOB	**Tobarra**	**1.69**	**50**	Pn	**Pn**	**15 44 08.5**	**-0.4**
	2.3nm,0.1s,SNR=9.7						
ETOB				Pg	**Pg**	**15 44 10.2**	**-0.8**
	21nm,1.5s,SNR=7.9						
ETOB				Lg		15 44 32.8	
	15nm,0.2s,SNR=10						
ECAB	**El Cabril**	**1.83**	**287**	Pn	**Pn**	**15 44 11.6**	**+0.7**
	3.1nm,0.1s,SNR=11						
ECAB				Pg	**Pg**	**15 44 13.7**	**0.0**
	2.1nm,0.2s,SNR=7.9						
ECAB				Lg		15 44 39.6	
	12nm,0.2s,SNR=14						
ESDC	**Sonseca Array**	**2.19**	**344**	Pg	**Pg**	**15 44 21.5**	**+0.9**
	2.9nm,0.1s,baz=163,slow=16,SNR=11						
ESDC				Lg		15 44 48.4	
	6.6nm,0.1s,SNR=7.9						
ECHE	**Chera**	**2.68**	**40**	Pn	**Pn**	**15 44 22.4**	**0.0**
	0.9nm,0.2s,SNR=7.9						
ECHE				Pg	**Pg**	**15 44 29.2**	**-0.6**
	0.4nm,0.1s,SNR=7.9						
ECHE				Lg		15 45 04.4	
	0.8nm,0.1s,SNR=7.9						
EMIN	**Mina Concepcio**	**2.77**	**275**	Pn	**Pn**	**15 44 23.5**	**-0.2**
	0.5nm,0.1s,SNR=7.9						
EMIN				Lg		15 45 09.6	
	1.7nm,0.2s,SNR=7.9						
PBAR	**Barrancos**	**3.10**	**283**	*e*Sg	**Sg**	**15 45 18.0**	**-0.2**
PBAR				A		15 45 21.5	
	5.5nm,0.6s						
PBAR	**Barrancos**	**3.10**	**283**	Lg		15 45 18.0	
	5.5nm,0.6s						
GUD	**Guadarrama**	**3.17**	**347**	Lg		15 45 19.9	
	5.0nm,0.2s,SNR=7.9						
EBAD	**Badajoz**	**3.24**	**293**	Pg	**Pg**	**15 44 39.6**	**-0.9**
	0.6nm,0.1s,SNR=7.9						
EBAD				Lg		15 45 24.8	
	1.6nm,0.1s,SNR=7.9						
EPLA	**Plasencia**	**3.37**	**319**	Lg		15 45 28.7	
	3.6nm,0.2s,SNR=7.9						
ETOR	**Torete**	**3.37**	**15**	Pn	**Pn**	**15 44 32.9**	**+0.9**
	4.2nm,0.1s,SNR=5.8						
ETOR				Pg	**Pg**	**15 44 42.3**	**-0.9**
	5.7nm,0.1s,SNR=7.9						
ETOR				Lg		15 45 25.1	
	22nm,0.2s,SNR=9.0						
PVAQ	**Vaqueiros**	**3.60**	**269**	*e*Pn	**Pn**	**15 44 35.3**	**+0.2**
PVAQ				*e*Sn	**Sn**	**15 45 17.1**	**-1.0**
PVAQ				*e*Sg	**Sg**	**15 45 31.6**	**-2.6**
PVAQ				A		15 45 43.1	
	4.0nm,0.5s						
PVAQ	**Vaqueiros**	**3.60**	**269**	Pn	**Pn**	**15 44 35.3**	**+0.2**
PVAQ				Sn	**Sn**	**15 45 17.1**	**-1.0**
PVAQ				Lg		15 45 31.6	
	4.0nm,0.5s						
PMRV	**Marv??o**	**3.78**	**301**	*e*Sn	**Sn**	**15 45 23.2**	**+0.6**
PMRV				*e*Sg	**Sg**	**15 45 38.8**	**-1.2**
PMRV				A		15 45 49.8	
	8.8nm,0.4s						
MOE	**Montemor**	**4.18**	**285**	*e*Sg	**Sg**	**15 45 52.1**	**-0.7**

MAN 26 16:02:46, 1139N×12386E, h20km, mb4.3, ML3.1, MS2.9, 2C-2D, Cebu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
OCLP	**Ormoc**	**0.81**	**114**	*e*P	Pb	16 03 01.2	-0.3
LLP	**Lapu-Lapu**	**1.07**	**174**↑	*e*P	Pb	16 03 06.2	+0.4
LLP				*e*S	Sb	16 03 20.6	+1.2
RCP	**Roxas**	**1.10**	**279**↓	*e*P	Pn	16 03 05.9	-0.4
RCP				*e*S	Sb	16 03 22.4	+2.1
PLP	**Palo**	**1.12**	**101**↓	*e*P	Pn	16 03 06.6	0.0
PLP				*i* S	Sb	16 03 22.9	+2.0
CNP	**Catarman**	**1.37**	**35**	*e*P	Pn	16 03 10.3	+0.4
CNP				*e*S	Sn	16 03 29.4	+1.9
GUIM	**Jordan**	**1.46**	**239**	*e*P	Pn	16 03 11.8	+0.6
GUIM				*e*S	Sn	16 03 34.4	+4.7
KALP	**Kalibo**	**1.52**	**281**↑	*e*P	Pn	16 03 07.7	-4.3
BESP	**Borongan**	**1.57**	**82**	*e*P	Pn	16 03 13.4	+0.7
BESP				*e*S	Sn	16 03 31.5	-0.9
MSLP	**Maasin**	**1.59**	**142**	*e*P	Pn	16 03 14.7	+1.7
MSLP				*e*S	Sn	16 03 37.7	+4.7
TBP	**Tagbilaran**	**1.69**	**180**	*e*P	Pn	16 03 15.6	+1.2
TBP				*e*S	Sn	16 03 41.1	+5.7
PVCP	**Virac**	**2.21**	**8**	*e*P	Pn	16 03 23.1	+1.4
CUYO	**Cuyo Island**	**2.83**	**259**	*e*P	Pn	16 03 32.4	+2.2
PAGZ	**Pagadian**	**3.55**	**188**	*e*P	Pn	16 03 42.3	+2.3
ENPP	**El Nido**	**4.35**	**268**	*e*P	Pn	16 03 52.6	+1.6

*ISK **26** 16:10:19.8, 3771N×3620E, h5km, MD3.0*
*DDA **26** 16:10:20.1, 3778N×3620E, h7km±4km, Md3.1*
*CSEM **26** 16:10:20.1±0.1, 3774N×3618E, h2km, MD3.1, Error ellipse: s-maj=2.3km s-min=1.7km az=2.0*
*ISCJB **26** 16:10:21.4±0.5, 3773N±004×3619E±004, h10km, Error ellipse: s-maj=5.8km s-min=3.9km az=31.9*

ISC 26 16:10:21.7±0.5, 3772N±004×3619E±004, h10km, n18, σ0§90/24, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ANDN	**Andirin**	**0.19**	**139**	*i* P	**Pg**	**16 10 24.9**	**-0.8**
ANDN				*i* S	**Sg**	**16 10 28.4**	**0.0**
KMRS	**Kahramanmaras**	**0.61**	**111**	*e*PG	**Pg**	**16 10 32.5**	**-0.9**
KMRS				*e*SG	**Sg**	**16 10 40.9**	**-0.5**
CEYT	**Ceyhan**	**0.79**	**206**	*e*PG	**Pg**	**16 10 35.7**	**-1.3**
GAZ	**Gaziantep**	**0.98**	**124**	*e*PG	**Pg**	**16 10 40.4**	**-0.2**
KARA	**Karaisali**	**1.01**	**243**	*e*PG	**Pg**	**16 10 40.4**	**-0.8**
SARI	**SarD1z-Kayseri**	**1.03**	**23**	*e*PG	**Pg**	**16 10 34.8**	**-6.8**
SARI				*e*SG	**Sg**	**16 10 46.0**	**-9.1**
GZT	**Gaziantep**	**1.16**	**108**	*i* P	**Pb**	**16 10 42.8**	**-0.9**
GZT				*i* S	**Sb**	**16 10 59.0**	**+0.3**
BNN	**Bunyan**	**1.16**	**347**	*e*PN	**Pn**	**16 10 43.3**	**-0.7**
COBT	**Iskenderun**	**1.20**	**177**	*i* P	**Pb**	**16 10 44.7**	**+0.2**
COBT				*i* S	**Sb**	**16 11 01.5**	**+1.4**
NIG	**Nigde**	**1.31**	**288**	*e*PN	**Pn**	**16 10 46.0**	**+0.1**
AVNT	**Avonos**	**1.49**	**316**	*i* P	**Pn**	**16 10 46.5**	**-1.9**
AVNT				*i* S	**Sn**	**16 11 08.1**	**+0.1**
MERS	**Mersin**	**1.58**	**238**	*e*PN	**Pn**	**16 10 50.6**	**+0.9**
DARE	**Darende-Malaty**	**1.77**	**46**	*e*PN	**Pn**	**16 10 46.3**	**-6.0**
URFA	**Urfa**	**2.11**	**97**	*e*PN	**Pn**	**16 10 57.7**	**+0.7**
SVSK	**Karacayir**	**2.28**	**16**	*e*PN	**Pn**	**16 11 00.1**	**+0.7**
SVRC	**Sivrice-ELAZID**	**2.55**	**74**	*e*PN	**Pn**	**16 11 04.3**	**+1.3**
PTK	**Pertek**	**2.78**	**64**	*e*PN	**Pn**	**16 11 07.1**	**+0.9**
HDMB	**Hadim**	**3.04**	**257**	*e*PN	**Pn**	**16 11 11.3**	**+1.5**

*CSEM **26** 16:12:49.5±0.1, 3979N×2069E, h12km, MD3.4, Error ellipse: s-maj=2.2km s-min=1.8km az=68.0*
*ATH **26** 16:12:49.4, 3979N×2068E, h15km, MD3.4/5*
*THE **26** 16:12:50.4, 3976N×2072E, h2km±2km, ML3.6/3, Error ellipse: s-maj=2.8km s-min=1.5km az=225.0*
*NEIC **26** 16:12:50.4, 3976N×2072E, h2km, MD3.4(ATH), ML3.6(THE), After THE.*
*ISCJB **26** 16:12:51.0±0.6, 3972N±003×2074E±006, h10km, Error ellipse: s-maj=6.2km s-min=3.9km az=174.8*

ISC 26 16:12:50.2±0.8, 3975N±003×2069E±005, h2km±6km, n27, σ1§20/40, Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JAN	**Janina**	**0.15**	**125**	*e*Pb	**Pg**	**16 12 53.6**	**+0.4**
JAN				*e*Sb	**Sg**	**16 12 56.8**	**+1.6**
JAN	**Janina**	**0.15**	**125**	*e*PB	**Pg**	**16 12 53.6**	**+0.4**
JAN				*e*SB	**Sg**	**16 12 56.8**	**+1.6**
MEV	**Metsovon**	**0.42**	**84**	P	**Pg**	**16 12 57.8**	**-0.4**
MEV				S	**Sg**	**16 13 04.8**	**+1.1**
KEK	**Kerkira**	**0.69**	**268**	*e*Pn	**Pg**	**16 13 02.7**	**-0.6**
KEK	**Kerkira**	**0.69**	**268**	*e*PN	**Pg**	**16 13 02.7**	**-0.6**
KZN	**Kozani**	**1.00**	**56**	*e*Pn	**Pn**	**16 13 08.3**	**-3.0**
KZN	**Kozani**	**1.00**	**56**	*e*PN	**Pn**	**16 13 08.3**	**-3.0**
LKD	**Levkas**	**1.04**	**182**	P	**Pg**	**16 13 09.7**	**-0.4**
LKD				S	**Sg**	**16 13 25.3**	**+1.8**
THL	**Klokotos Trika**	**1.04**	**100**	P	**Pg**	**16 13 08.8**	**-1.3**
FNA	**Florina**	**1.16**	**27**	P	**Pg**	**16 13 11.3**	**-1.2**
EVR	**Evrytania**	**1.20**	**133**	*e*Pn	**Pn**	**16 13 12.9**	**-1.1**
EVR	**Evrytania**	**1.20**	**133**	*e*PN	**Pn**	**16 13 12.9**	**-1.1**
BIA	**Bitola**	**1.36**	**21**	*e*Pn	**Pn**	**16 13 14.4**	**-1.8**
BIA				*i* Sn	**Sn**	**16 13 36.0**	**+1.2**
BIA	**Bitola**	**1.36**	**21**	*e*Pn	**Pn**	**16 13 14.4**	**-1.8**
BIA				*i* Sn	**Sn**	**16 13 36.0**	**+1.2**
OHR	**Ohrid**	**1.37**	**4**	*e*Pn	**Pn**	**16 13 16.6**	**+0.3**
OHR				*i* Sn	**Sn**	**16 13 35.8**	**+0.9**
OHR	**Ohrid**	**1.37**	**4**	P	**Pn**	**16 13 15.9**	**-0.4**
OHR	**Ohrid**	**1.37**	**4**	*e*Pn	**Pn**	**16 13 16.5**	**+0.2**
OHR				*i* Sn	**Sn**	**16 13 35.8**	**+0.9**
LIT	**Litokhoron**	**1.43**	**75**	P	**Pn**	**16 13 15.2**	**-1.9**
LIT				S	**Sb**	**16 13 36.5**	**+0.3**
AGG	**Agios Georgios**	**1.46**	**119**	P	**Pn**	**16 13 16.2**	**-1.4**
AGG				S	**Sb**	**16 13 36.5**	**-0.6**
VLS	**Valsamata**	**1.57**	**183**	P	**Pn**	**16 13 20.0**	**+1.0**
VLS	**Valsamata**	**1.57**	**183**	*e*Pn	**Pn**	**16 13 19.6**	**+0.6**
VLS				P		16 13 20.0	
VLS	**Valsamata**	**1.57**	**183**	*e*PN	**Pn**	**16 13 19.6**	**+0.6**
KRUS	**Krusevo**	**1.68**	**15**	*i* Pn	**Pn**	**16 13 22.0**	**+1.5**
KRUS				*i* Sn	**Sn**	**16 13 44.0**	**+1.4**
KRUS	**Krusevo**	**1.68**	**15**	*i* Pn	**Pn**	**16 13 22.0**	**+1.5**
KRUS				*i* Sn	**Sn**	**16 13 43.9**	**+1.3**
GRG	**Griva**	**1.78**	**47**	P	**Pn**	**16 13 21.7**	**-0.3**
VAY	**Valandovo**	**2.13**	**42**	*i* Pn	**Pn**	**16 13 28.2**	**+1.5**
VAY				*i* Sn	**Sn**	**16 13 53.2**	**-0.5**
STIP	**Stip**	**2.25**	**30**	*i* Pn	**Pn**	**16 13 32.2**	**+3.8**

*CSEM **26** 16:25:18.9±0.2, 3981N×2072E, h2km, ML3.2/3, Error ellipse: s-maj=5.8km s-min=4.7km az=102.0*
*ATH **26** 16:25:19.0, 3979N×2072E, h20km±1km, MD3.1/4*
*ISCJB **26** 16:25:20.2±1.4, 3969N±004×2072E±007, h4km±9km, Error ellipse: s-maj=9.3km s-min=6.4km az=166.1*
*THE **26** 16:25:20.0, 3983N×2067E, h0km±3km, ML3.2/3, Error ellipse: s-maj=3.6km s-min=1.0km az=274.0*

ISC 26 16:25:21.6±1.0, 3964N±005×2078E±008, h14km±4km, n19, σ1§16/32, Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JAN	**Janina**	**0.06**	**73**	*e*Pb	**Pg**	**16 25 23.8**	**-0.5**
JAN				*e*Sb	**Sg**	**16 25 26.9**	**+0.7**
JAN	**Janina**	**0.06**	**73**	*e*PB	**Pg**	**16 25 23.8**	**-0.5**
JAN				*e*SB	**Sg**	**16 25 26.9**	**+0.7**
MEV	**Metsovon**	**0.38**	**67**	P	**Pg**	**16 25 28.1**	**-1.1**
MEV				S	**Sg**	**16 25 35.0**	**+0.7**
KEK	**Kerkira**	**0.76**	**276**	*e*Pn	**Pn**	**16 25 32.8**	**-5.1**
KEK	**Kerkira**	**0.76**	**276**	*e*PN	**Pn**	**16 25 32.8**	**-5.1**
LKD	**Levkas**	**0.94**	**186**	P	**Pb**	**16 25 40.8**	**+1.2**
LKD				S	**Sb**	**16 25 57.5**	**+5.6**
THL	**Klokotos Trika**	**0.96**	**94**	*e*Pn	**Pn**	**16 25 38.5**	**-2.1**
THL	**Klokotos Trika**	**0.96**	**94**	P	**Pb**	**16 25 40.3**	**+0.3**
THL	**Klokotos Trika**	**0.96**	**94**	*e*PN	**Pn**	**16 25 38.5**	**-2.1**
EVR	**Evrytania**	**1.08**	**132**	*e*Pn	**Pn**	**16 25 42.1**	**-0.2**
EVR	**Evrytania**	**1.08**	**132**	*e*PN	**Pn**	**16 25 42.1**	**-0.2**
FNA	**Florina**	**1.23**	**22**	P	**Pn**	**16 25 41.3**	**-3.1**
FNA				S	**Sb**	**16 25 55.8**	**-4.6**
LIT	**Litokhoron**	**1.40**	**70**	P	**Pn**	**16 25 45.4**	**-1.3**
LIT				S	**Sn**	**16 26 06.7**	**+1.8**
BIA	**Bitola**	**1.44**	**17**	P	**Pn**	**16 25 44.1**	**-3.2**
BIA				S	**Sn**	**16 26 03.9**	**-2.1**
BIA	**Bitola**	**1.44**	**17**	*i* Pn	**Pn**	**16 25 48.5**	**+1.2**
BIA				*i* Sn	**Sn**	**16 26 06.2**	**+0.2**
BIA	**Bitola**	**1.44**	**17**	*i* Pn	**Pn**	**16 25 48.5**	**+1.2**
BIA				S	**Sn**	**16 26 03.9**	**-2.1**
BIA				*i* Sn	**Sn**	**16 26 06.2**	**+0.2**
OHR	**Ohrid**	**1.47**	**1**	*e*Pn	**Pn**	**16 25 48.4**	**+0.7**
OHR				*i* Sn	**Sn**	**16 26 06.7**	**0.0**
OHR	**Ohrid**	**1.47**	**1**	*e*Pn	**Pn**	**16 25 48.3**	**+0.6**
OHR				*i* Sn	**Sn**	**16 26 06.7**	**0.0**
KRUS	**Krusevo**	**1.76**	**12**	*i* Pn	**Pn**	**16 25 52.2**	**+0.5**
KRUS				*i* Sn	**Sn**	**16 26 14.9**	**+1.0**

*BJI **26** 16:34:39.0, 388S×144.79E, h35km, mB5.5, mb5.2, Ms5.2, Msz5.0*
*IDC **26** 16:34:42.7±0.6, 326S×143.65E, h0km, mb5.0/18, mb1 5.0/21, mb1mx5.0/22, mbtmp5.0/21, ML4.3/3, MS5.0/10, Ms1 5.0/10, ms1mx4.6/19, Error ellipse: s-maj=20.1km s-min=10.8km az=94.0*
*ISCJB **26** 16:34:42.4±0.9, 327S±003×143.80E±004, h7km±5km, mb5.5/73, MS5.2/162, Error ellipse: s-maj=6.5km s-min=4.7km az=167.0*
*MOS **26** 16:34:45.7±1.1, 330S×143.79E, h33km, mb5.6/23, MS5.1/14, Error ellipse: s-maj=11.5km s-min=6.5km az=100.6*
*NEIC **26** 16:34:48.0±0.2, 327S×143.76E, h35km, mb5.7/33, MS5.3/136, Error ellipse: s-maj=8.6km s-min=5.6km az=84.0*
*GCMT **26** 16:34:48.0±0.1, 3.10S×143.64E, h12km, MW5.6/109, Moment Tensor Solution. s88,c153; s109,c262; Duration: 1§5 Moment tensor: Scale 10^{17}Nm; M_{rr}0.81±.03; $M_{\theta\theta}$-2.73±.03; $M_{\phi\phi}$1.93±.03; $M_{r\theta}$-0.04±.08; $M_{\theta\phi}$1.11±.03; $M_{\phi r}$-0.57±.09; Best double couple: M_o2.68200×10^{17} NP1:ϕ_s239.00000°, δ75.00000°, λ13.00000°. NP2:ϕ_s146.00000°, δ77.00000°, λ165.00000°. Principal axes: T 2810, Plg20.0000°, Azm102.0000°; N 0.6100, Plg70.0000°, Azm287.0000°; P -2.9830, Plg1.0000°, Azm193.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*
*DJA **26** 16:35:00.3, 75S×143.22E, h98km, Mw5.5/10*

ISC 26 16:34:45.9±0.9, 328S±003×14383E±004, h18km±5km, h35km±.8km:pP-P, n369, σ1§23/250, mb5.5/73, MS5.2/162, 27C-18D, Near north coast of New Guinea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
COEN	**Coen**	**10.63**	**183**	*e*Pn	**Pn**	**16 37 20.3**	**+2.9**
	140nm,1.4s						
COEN				*e*Sn	**Sn**	**16 39 15.4**

SDKM Sandakan 28.04 288 ⇑P **P** **16 40 37.1 +0.7**
ENPP El Nido 28.22 301 *e*P **P** **16 40 37.5 -0.5**
STKA Stephens Creek 28.53 184 *e*P **P** **16 40 39.8 -0.7**
comp=Z,52nm,0.8s,mb5.3
STKA *e*S **S** **16 45 27.9 +0.3**
STKA Stephens Creek 28.53 184 P **P** **16 40 40.0 -0.5**
comp=Z,59nm,0.7s,mb5.4,baz=352,slow=8.5,SNR=99
STKA LR LR 16 53 29.4
comp=Z,19µm,18.9s,MS5.7,baz=5.3,slow=40
STKA Stephens Creek 28.53 184 *e*P **P** **16 40 39.4 -1.1**
comp=Z,128nm,1.1s,mb5.6
KDM Kudat 28.79 291 ⇓P **P** **16 40 43.0 -0.1**
KKM Kota Kinabalu 29.09 289 ⇑P **P** **16 40 46.4 +0.6**
MBWA Marble Bar 29.42 231 *e*P **P** **16 40 47.5 -1.1**
comp=Z,48nm,0.8s,mb5.3
MBWA LR LR
comp=Z,4µm,22.0s,MS5.0
FORT Forrest 31.15 207 *e*P **P** **16 41 03.1 -0.7**
comp=Z,479nm,0.7s,mb6.4
BTM Bintulu 31.40 282 ⇑P **P** **16 41 05.2 -1.0**
ADE Adelaide 31.89 188 ⇑*i*P **P** **16 41 10.8 +0.6**
SBUM Sibu 32.10 280 ⇑P **P** **16 41 12.7 +0.2**
CNB Canberra Magne 32.29 172 *e*P **P** **16 41 15.3 +1.6**
CNB *e*S S 16 46 05.1 -21
KSM Kuching 33.84 278 ⇑P **P** **16 41 27.4 -0.3**
KSM Kuching 33.84 278 *e*P **P** **16 41 25.9 -1.7**
TOO Toolangi 34.17 178 *e*P **P** **16 41 31.5 +1.4**
TOO *e*S **S** **16 46 57.0 +1.4**
TATO Taipei 35.49 324 PFAKE 16 41 50.0 +8.3
TATO LR LR
comp=Z,3µm,20.0s,MS5.0
TPI Tanjungpandan 36.13 270 ⇑*e*P **P** **16 41 47.0 -0.4**
QZH Quanzhou 37.25 320 P **P** **16 41 57.5 +0.8**
QZH S **S** **16 47 44.0 +0.8**
QZH LR LR
comp=N,1µm,9.6s
QZH LR LR
comp=E,6µm,22.9s
QZH LR LR
comp=Z,3µm,18.7s,MS5.1
KLBR Kellerberrin 37.36 218 *e*P **P** **16 41 55.9 -1.7**
comp=Z,64nm,0.6s,mb5.6
MUN Mundaring 38.59 219 *e*P **P** **16 42 06.7 -1.3**
MUN *e*S **S** **16 48 03.8 +0.4**
NWAO Narrogin (SRO) 38.60 217 *e*P **P** **16 42 06.4 -1.7**
NWAO pmax pmax
comp=Z,45nm,0.8s
NWAO MLR MLR
comp=Z,4µm,19.0s
NWAO Narrogin (SRO) 38.60 217 *e*P **P** **16 42 06.4 -1.7**
comp=Z,45nm,0.8s,mb5.2
NWAO LR LR
comp=Z,4µm,19.0s,MS5.2
MOO Moorlands 39.11 176 *e*P **P** **16 42 15.0 +2.8**
MOO *e*S **S** **16 48 11.9 +0.9**
TAU Tasmania Unive 39.59 176 P **P** **16 42 18.2 +2.1**
comp=Z,138nm,0.8s,mb5.7,SNR=6.5
MJAR Matsushiro Arr 39.96 353 P **P** **16 42 17.6 -1.7**
comp=Z,5.1nm,1.1s,baz=180,slow=9.0,SNR=10
MJAR LR LR 16 57 52.0
comp=Z,2µm,20.2s,MS4.9,baz=160,slow=35
MAJO Matsushiro 39.96 353 *e*P **P** **16 42 18.3 -1.0**
MAJO pmax pmax
comp=Z,112nm,1.8s,mb5.3
MAJO MLR MLR
comp=Z,2µm,20.0s,MS4.9
MAJO Matsushiro 39.96 353 *e*P **P** **16 42 18.3 -1.0**
comp=Z,112nm,1.8s,mb5.3
MAJO LR LR
comp=Z,2µm,20.0s,MS4.9
MAT Matsushiro 39.96 353 P **P** **16 42 17.8 -1.5**
MAT S **S** **16 48 20.0 -3.8**
QIZ Qiongzhong 40.12 305 P **P** **16 42 23.8 +2.9**
QIZ S **S** **16 48 25.0 -1.7**
QIZ LR LR
comp=E,1µm,16.6s
QIZ LR LR
comp=Z,1µm,17.7s,MS4.8
QIZ Qiongzhong 40.12 305 *e*P **P** **16 42 20.2 -0.7**
comp=Z,90nm,1.3s,mb5.3
QIZ LR LR
comp=Z,1µm,19.0s,MS4.8
MYKOM Kota Tinggi 40.28 277 ⇓P **P** **16 42 22.7 +0.3**
SSE Sheshan 40.42 329 P **P** **16 42 27.5 +4.2**
SSE S **S** **16 48 31.5 +0.5**
SSE AMB AMB
comp=Z,36nm,0.9s,mb5.1
SSE AMB AMB
comp=Z,263nm,6.0s
SSE LR LR
comp=N,545nm,14.5s,MS5.1
SSE LR LR
comp=E,2µm,13.9s,MS5.1
SSE LR LR
comp=Z,1µm,13.9s,MS5.0
KGM Kluang 40.84 277 ⇑P **P** **16 42 29.3 +2.3**
KTGM Kuala Trenggan 41.54 282 ⇑P **P** **16 42 34.0 +1.2**
NJ2 Nanjing 42.39 328 *e*P **P** **16 42 41.8 +2.4**
NJ2 AP pP 16 42 51.0 +5.9
NJ2 XP sP 16 42 55.5 +8.1
NJ2 PP PP 16 44 23.0 +5.1
NJ2 S **S** **16 49 00.5 +0.3**
NJ2 AMB AMB
comp=Z,10.0nm,0.8s,mb4.5
NJ2 AMB AMB
comp=Z,320nm,5.6s
NJ2 LR LR
comp=N,450nm,15.5s
NJ2 LR LR
comp=E,840nm,22.8s
NJ2 LR LR
comp=Z,13µm,22.7s
FRIM Kepong 42.68 278 ⇑P **P** **16 42 40.2 -1.9**
KSRS Korea Array 43.13 341 P **P** **16 42 43.8 -1.6**
comp=Z,10nm,0.7s,mb4.7,baz=162,slow=9.1,SNR=32
KSRS LR LR 16 57 31.7
comp=Z,3µm,21.4s,MS5.1,baz=157,slow=32
KS15 Wonju Array Si 43.14 341 *e*P **P** **16 42 45.4 0.0**
IPM Ipoh 43.46 280 ⇓P **P** **16 42 48.8 +0.4**
WHN Wuhan 43.85 322 P **P** **16 42 52.5 +1.2**
WHN S **S** **16 49 24.0 +2.3**
WHN LR LR
comp=Z,2µm,25.1s,MS5.0
KULM Kulim 43.97 281 ⇓P **P** **16 42 50.7 -1.8**
RAO Raoul Island 44.54 130 PFAKE 16 43 10.0 +13
RAO LR LR
comp=Z,2µm,21.0s,MS5.0
PSI Prapat 45.29 277 ⇑*e*P **P** **16 43 01.3 -1.8**
GYA Guiyang 46.52 312 P **P** **16 43 15.8 +3.2**
GYA AP pP 16 43 26.5 +8.2
GYA XP sP 16 43 30.5 +10
GYA PP PP 16 45 06.0 +3.9
GYA SCP ScP 16 48 37.0 -2.7
GYA S **S** **16 50 01.5 +1.1**
GYA XS sS 16 50 18.8 +8.9
GYA SCS ScS 16 53 04.8 -2.5
GYA AMB AMB
comp=Z,40nm,1.0s,mb5.3
GYA AMB AMB
comp=Z,270nm,5.8s
GYA LR LR
comp=N,2µm,18.3s,MS5.2
GYA LR LR
comp=E,2µm,18.6s,MS5.2
GYA LR LR
comp=Z,2µm,18.9s,MS5.1
DL2 Dalian 46.71 336 P **P** **16 43 14.3 +0.5**
DL2 S **S** **16 50 02.3 -0.4**
DL2 SS SS 16 53 29.3 0.0
DL2 AMB AMB
comp=Z,160nm,4.7s
DL2 LR LR
comp=N,630nm,16.5s,MS4.8
DL2 LR LR
comp=E,590nm,19.5s,MS4.8
DL2 LR LR
comp=Z,1µm,19.2s,MS4.8
ENH Enshi 46.79 318 PFAKE 16 43 30.0 +15
ENH LR LR
comp=Z,4.0nm,22.0s
SNZO South Karori 46.93 148 PFAKE 16 43 30.0 +14
SNZO LR LR
comp=Z,1µm,19.0s,MS4.9
RPZ Rata Peaks 46.94 153 P **P** **16 43 17.4 +1.8**
comp=Z,50nm,0.9s,mb5.5,baz=276,slow=2.2,SNR=7.0

NST Nakhon Sawan 47.15 295 P **P** **16 43 18.2 +0.6**
NANT Nan 47.77 299 P **P** **16 43 22.3 -0.2**
comp=Z,125nm,1.0s,mb5.9
SNY Shenyang 48.52 340 ⇓P **P** **16 43 31.0 +3.2**
SNY S **S** **16 50 30.8 +2.5**
SNY AMB AMB
comp=Z,53nm,2.3s,mb5.2
SNY AMB AMB
comp=Z,663nm,3.5s
SNY LR LR
comp=N,1µm,13.9s,MS5.2
SNY LR LR
comp=E,1µm,17.6s,MS5.2
SNY LR LR
comp=Z,2µm,18.1s,MS5.2
KMI Kunming 48.84 308 P **P** **16 43 33.0 +2.4**
KMI AP pP 16 43 43.3 +6.9
KMI XP sP 16 43 46.8 +8.2
KMI PP PP 16 45 26.5 +2.4
KMI PPP 16 46 19.0
KMI SCP ScP 16 48 48.3 -1.3
KMI PCS PcS 16 48 52.3 +0.7
KMI S **S** **16 50 33.5 +0.1**
KMI SCS ScS 16 53 19.8 -2.9
KMI AMB AMB
comp=Z,46nm,1.1s,mb5.4
KMI AMB AMB
comp=Z,539nm,4.6s
KMI LR LR
comp=N,1µm,13.9s,MS5.1
KMI LR LR
comp=E,734nm,15.8s,MS5.1
CHRT Chiangrai 48.99 300 ⇑P **P** **16 43 32.0 +0.2**
comp=E,118nm,0.8s,mb6.0
CM31 Chiang Mai Arr 49.19 298 PFAKE 16 43 40.0 +6.6
CM31 LR LR
comp=Z,755nm,21.0s,MS4.7
CMAR Chiang Mai Arr 49.19 298 P **P** **16 43 33.4 0.0**
comp=Z,3.3nm,0.6s,mb4.5,baz=125,slow=6.4,SNR=22
CMAR Chiang Mai Arr 49.19 298 ⇑*e*P **P** **16 43 34.2 +0.8**
CHG Chiang Mai 49.32 298 ⇑P **P** **16 43 36.0 +1.6**
CHTO Chiang Mai 49.32 298 P **P** **16 43 35.4 +1.1**
SNR=13
CHTO Chiang Mai 49.32 298 *e*P **P** **16 43 34.1 -0.2**
MDJ Mudanjiang 49.35 347 PFAKE 16 43 50.0 +16
MDJ LR LR
comp=Z,2µm,22.0s,MS5.2
XAN Xi'an 49.59 321 P **P** **16 43 36.0 -0.2**
XAN AP pP 16 43 44.8 +2.8
XAN XP sP 16 43 48.5 +4.3
XAN S **S** **16 50 42.8 -0.9**
XAN AMB AMB
comp=Z,93nm,3.7s
XAN LR LR
comp=E,646nm,18.8s
XAN LR LR
comp=Z,1µm,23.7s,MS4.8
BJT Baijiatuan 50.00 332 PFAKE 16 43 50.0 +11
BJT LR LR
comp=Z,2µm,19.0s,MS5.1
BJI Beijing 50.02 332 P **P** **16 43 39.0 -0.3**
BJI PP PP 16 45 36.0 +1.5
BJI S **S** **16 50 49.3 -0.1**
BJI LR LR
comp=N,1µm,20.4s,MS5.2
BJI LR LR
comp=E,2µm,18.5s,MS5.2
BJI LR LR
comp=Z,1µm,28.9s
YSS Yuzh-Sakhalins 50.02 359 *e*P **P** **16 43 37.0 -2.2**
YSS *e*S **S** **16 50 44.0 -5.2**
YSS MLR MLR
comp=N,700nm,16.0s,MS4.9
YSS MLR MLR
comp=Z,1µm,16.0s,MS4.9
YSS MLR MLR
comp=E,500nm,14.0s,MS4.9
YSS Yuzh-Sakhalins 50.02 359 *e*P **P** **16 43 41.6 +2.4**
YSS LR LR
comp=Z,215nm,19.0s,MS4.2
CD2 Chengdu 51.12 315 ⇑*i*P **P** **16 43 48.5 +0.6**
CD2 AP pP 16 43 58.3 +4.6
CD2 XP sP 16 44 02.5 +6.6
CD2 PP PP 16 45 45.8 +1.0
CD2 PCS PcS 16 49 00.5 -0.6
CD2 S **S** **16 51 03.0 -2.1**
CD2 SCS ScS 16 53 33.3 -4.7
CD2 AMB AMB
comp=Z,40nm,0.6s,mb5.5
CD2 AMB AMB
comp=Z,570nm,7.2s
CD2 LR LR
comp=N,1µm,14.4s,MS5.2
CD2 LR LR
comp=E,1µm,19.2s,MS5.2
CD2 LR LR
comp=Z,1µm,16.8s,MS5.0
HABR Khabarovsk 52.10 353 *e*P **P** **16 43 53.8 -1.0**
HABR *e*S **S** **16 51 17.8 -0.2**
HHC Hu-ho-hao-te 52.88 329 *e*P **P** **16 44 03.5 +2.7**
HHC AP pP 16 44 13.8 +7.2
HHC XP sP 16 44 17.3 +8.5
HHC PP PP 16 46 05.5 +5.0
HHC SCP ScP 16 49 05.3 -1.3
HHC S **S** **16 51 29.5 +0.6**
HHC XS sS 16 51 46.0 +7.5
HHC SCS ScS 16 53 47.3 -2.5
HHC SS SS 16 55 10.3 +2.1
HHC AMB AMB
comp=Z,37nm,1.1s,mb5.2
HHC AMB AMB
comp=Z,325nm,6.8s
HHC LR LR
comp=N,888nm,17.3s,MS5.0
HHC LR LR
comp=E,800nm,18.8s,MS5.0
HHC LR LR
comp=Z,1µm,18.2s,MS5.0
KLR Kul'dur 53.34 350 *e*P **P** **16 44 00.0 -3.9**
KLR *e*S **S** **16 51 31.5 -3.3**
KLR pmax pmax
comp=Z,100nm,1.8s,mb5.4
KLR MLR MLR
comp=E,900nm,12.5s
KLR MLR MLR
comp=Z,2µm,12.5s,MS5.3
BTO Baotou 53.50 328 *e*P **P** **16 44 05.0 -0.3**
LZH Lanzhou 54.10 320 ⇑P **P** **16 44 11.0 +1.2**
LZH AP pP 16 44 21.5 +5.8
LZH XP sP 16 44 26.5 +8.6
LZH PP PP 16 46 14.5 +2.9
LZH S **S** **16 51 44.5 -1.2**
LZH AMB AMB
comp=Z,167nm,1.5s,mb5.8
LZH AMB AMB
comp=Z,520nm,4.0s
LZH LR LR
comp=N,2µm,14.3s
LZH LR LR
comp=Z,3µm,15.6s,MS5.4
SKR Severo-Kuril's 54.77 10 *e* **S** **16 51 55.0 +0.8**
HIA Hailar 56.35 341 PFAKE 16 44 40.0 +14
HIA LR LR
comp=Z,3µm,21.0s,MS5.3
PEA0B Petropavlovsk- 57.38 10 *e*P **P** **16 44 29.9 -3.1**
PETK Petropavlovsk- 57.38 10 P **P** **16 44 32.6 -0.4**
comp=Z,22nm,0.8s,mb5.2,baz=178,slow=7.0,SNR=19
PETK LR LR 17 10 04.3
comp=Z,888nm,18.9s,MS4.9,baz=194,slow=37
PET Petropavlovsk 57.47 11 *e*P **P** **16 44 33.3 -0.3**
PET *e* 16 45 29.4
PET *e*S **S** **16 52 28.2 -1.7**
PET *e*PS 16 52 45.6
PET *e*SS SS 16 56 22.1 +2.1
PET pmax pmax
comp=Z,800nm,7.8s
PET pmax pmax
comp=Z,43nm,2.0s,mb5.1
PET MLR MLR
comp=Z,1µm,21.0s,MS4.9
PET Petropavlovsk 57.47 11 PFAKE 16 44 50.0 +16
PET LR LR
comp=Z,898nm,19.0s,MS4.9
SHL Shillong 57.90 303 *e*P **P** **16 44 34.9 -2.3**
SHL *ex* x 16 52 40.0

GTA Gaotai 58.65 321 P **P** **16 44 43.0 +0.8**
GTA AP pP 16 44 52.3 +4.3
GTA XP sP 16 44 56.0 +5.7
GTA PP PP 16 46 55.3 +3.2
GTA PPP 16 48 20.0
GTA S **S** **16 52 45.0 -0.8**
GTA SS SS 16 56 41.3 +2.2
GTA AMB AMB
comp=Z,271nm,4.5s
GTA LR LR
comp=N,721nm,20.4s,MS4.9
GTA LR LR
comp=E,594nm,19.8s,MS4.9
GTA LR LR
comp=Z,701nm,18.6s,MS4.8
LSA Lhasa 60.09 307 *e*P **P** **16 44 54.0 +1.6**
LSA Lhasa 60.09 307 *e*P **P** **16 44 52.7 +0.3**
LSA pmax pmax
comp=Z,48nm,1.3s,mb5.4
LSA MLR MLR
comp=Z,564nm,21.0s,MS4.7
LSA Lhasa 60.09 307 *e*P **P** **16 44 52.7 +0.4**
comp=Z,48nm,1.3s,mb5.4
LSA LR LR
comp=Z,564nm,21.0s,MS4.7
ULN Ulaanbaatar 60.23 332 ⇓P **P** **16 44 55.8 +2.8**
SNR=18
ULN Ulaanbaatar 60.23 332 *d i*P **P** **16 44 53.8 +0.9**
ULN Ulaanbaatar 60.23 332 *e*P **P** **16 44 53.5 +0.5**
ULN LR LR
comp=Z,1µm,19.0s,MS5.0
SONM Songino Array 60.52 332 P **P** **16 44 54.3 -0.6**
comp=Z,4.6nm,0.9s,mb4.6,baz=150,slow=8.2,SNR=20
SMY Shemya 61.36 20 PFAKE 16 45 10.0 +9.5
SMY LR LR
comp=Z,4µm,21.0s,MS5.5
CLNS Chul'man 61.86 348 *e*P **P** **16 45 04.3 +0.5**
CLNS pmax pmax
comp=Z,20nm,1.4s,mb5.0
CLNS pmax pmax
comp=N,19nm,1.2s
CLNS pmax pmax
comp=E,10.0nm,1.0s
TAPN Taplejung 62.02 303 *e*P **P** **16 45 06.0 +0.5**
ODAN Odare 62.13 303 *e*P **P** **16 45 06.7 +0.5**
comp=E,302nm,1.4s,mb6.2
BOK Bokaro 62.45 299 *e*P **P** **16 45 07.1 -1.3**
RAMN Ramite 62.82 302 *e*P **P** **16 45 10.8 -0.1**
comp=E,303nm,1.5s,mb6.2
DRV Dumont d'Urvil 63.33 182 S Sx 16 54 16.0
DRV R 17 05 00.0
JIRN Jiri 63.40 303 *e*P **P** **16 45 15.5 +0.8**
GUN Gumba 63.74 303 *e*P **P** **16 45 18.0 +1.0**
ZAK Zakamensk 63.76 332 *e*P **P** **16 45 16.8 +0.2**
ZAK pmax pmax
comp=Z,39nm,1.4s,mb5.2
PKI Pulchoki 64.03 303 *e*P **P** **16 45 19.8 +0.9**
comp=Z,271nm,1.6s,mb6.0
PKI Pulchoki 64.03 303 *e*P **P** **16 45 19.8 +0.9**
PKI pmax pmax
comp=Z,271nm,1.6s,mb6.0
KKN Kakani 64.20 303 *e*P **P** **16 45 20.4 +0.4**
comp=Z,220nm,1.3s,mb6.0
KKN Kakani 64.20 303 *e*P **P** **16 45 20.4 +0.4**
KKN pmax pmax
comp=Z,220nm,1.3s,mb6.0
DMN Daman 64.29 303 *e*P **P** **16 45 21.6 +1.0**
comp=Z,292nm,1.3s,mb6.2
ADK Adak 64.34 26 PFAKE 16 45 30.0 +10
ADK LR LR
comp=Z,3µm,20.0s,MS5.4
TLY Talaya 64.50 334 P **P** **16 45 25.5 +4.0**
comp=Z,115nm,1.4s,mb5.7,SNR=5.7
TLY Talaya 64.50 334 P **P** **16 45 25.4 +3.9**
SNR=10
TLY Talaya 64.50 334 *e*P **P** **16 45 24.1 +2.6**
TLY *e* 16 47 47.6
TLY *e*PPP 16 49 12.1
TLY *e*S **S** **16 54 03.2 +3.5**
TLY *e*SS SS 16 58 12.5 +2.1
TLY pmax pmax
comp=Z,44nm,1.3s,mb5.3
IRK Irkutsk 64.62 334 ⇓*i*P **P** **16 45 24.3 +2.0**
IRK *e* 16 47 41.0
IRK *e* 16 54 17.3
IRK pmax pmax
comp=Z,63nm,2.9s,mb5.1
GKN Gorkha 64.81 303 *e*P **P** **16 45 24.2 +0.2**
comp=Z,323nm,1.3s,mb6.2
MDRS Chennai 65.16 286 *ex* x 16 46 08.0
BOD Bodaibo 65.44 343 *e*P **P** **16 45 26.2 -1.3**
BOD pmax pmax
comp=Z,27nm,1.4s,mb5.1
KOLN Koldanda 65.61 302 *e*P **P** **16 45 29.5 +0.3**
comp=Z,71nm,0.8s,mb5.8
DANN Dangsing 65.66 303 *e*P **P** **16 45 29.8 +0.3**
comp=Z,58nm,0.7s,mb5.8
MOY Mondy 65.70 332 *e*P **P** **16 45 30.6 +1.4**
MOY pmax pmax
comp=Z,146nm,2.5s,mb5.6
YAK Yakutsk 66.02 353 *e*P **P** **16 45 29.6 -1.5**
YAK *e* 16 54 11.5
YAK pmax pmax
comp=Z,30nm,1.4s,mb5.1
YAK pmax pmax
comp=N,18nm,1.2s
YAK pmax pmax
comp=E,5.0nm,1.2s
YAK Yakutsk 66.02 353 *e*P **P** **16 45 30.9 -0.3**
YAK LR LR
comp=Z,1µm,22.0s,MS5.0
SEY Seymchan 66.35 4 ⇑*e*P **P** **16 45 33.5 +0.3**
PPT Papeete 66.71 108 *e*S S 16 54 26.5 -1.4
comp=Z,688nm,23.1s
PPT *e*LQ 17 03 06.3
comp=Z,1µm,26.2s
PPT *e*LR LR 17 05 45.9
comp=Z,1µm,28.0s
PAE Paea 66.71 108 *e*P **P** **16 45 40.2 +3.7**
comp=Z,240nm,0.8s,mb6.3
PAE Paea 66.71 108 *e*P **P** **16 45 40.2 +3.7**
PAE pmax pmax
comp=Z,240nm,0.8s,mb6.3
TIAR Tiarei 66.93 108 *e*P **P** **16 45 42.1 +4.3**
comp=Z,400nm,0.9s,mb6.4
CASY Casey 67.08 194 *e*P **P** **16 45 37.2 -0.6**
CASY LR LR
comp=Z,425nm,20.0s,MS4.7
TBI Tubuai 67.34 114 *e*S S 16 54 34.2 -1.2
comp=Z,528nm,24.5s
TBI *e*SS SS 16 58 58.1 +2.5
comp=Z,338nm,30.5s
TBI *e*LQ 17 03 18.0
comp=Z,1µm,36.8s
TBI *e*LR LR 17 06 15.6
comp=Z,2µm,38.5s
KOD Kodaikanal 67.42 282 *e*P **P** **16 45 41.1 +0.1**
HYB Hyderabad 67.56 290 *i* P **P** **16 45 42.0 +0.2**
HYB *e*S S 16 54 44.0 +5.9
HYB Hyderabad 67.56 290 *e*P **P** **16 45 42.0 +0.2**
WMQ Urumqi 68.68 320 P **P** **16 45 49.0 +0.6**
WMQ AP pP 16 45 59.5 +5.2
WMQ XP sP 16 46 03.5 +7.0
WMQ PCP PcP 16 46 14.0 +0.9
WMQ PP PP 16 48 23.0 +2.8
WMQ S S 16 54 48.0 -2.7
WMQ SCS ScS 16 55 43.0 -4.7
WMQ AMB AMB
comp=Z,68nm,1.5s,mb5.4
WMQ AMB AMB
comp=Z,789nm,4.5s
WMQ LR LR
comp=N,443nm,19.0s,MS4.8
WMQ LR LR
comp=E,381nm,17.8s,MS4.8
WMQ LR LR
comp=Z,410nm,19.0s,MS4.7
LGTI Lohaghat 68.92 303 *e*P **P** **16 45 51.3 +1.1**
AKL Akola 69.63 293 *e*P **P** **16 45 53.4 -1.3**
BHPL Bhopal 69.80 296 *e*P **P** **16 45 55.6 -0.1**
DDI Dehra Dun 70.99 303 *ex* **P** **16 46 01.0 -1.9**
NDI New Delhi 71.27 302 *ex* **P** **16 46 07.0 +2.4**
KAD Karad 71.64 289 *e*P **P** **16 46 06.8 -0.2**
SMLA Simla 71.94 304 *e*P **P** **16 46 08.1 -0.5**
SMLA AMb AMB 16 46 16.2

comp=Z,106nm,1.1s,mb5.7
KRAR Krasnoyarsk 72.17 333 ⇓*i*P **P** **16 46 08.7 -0.7**
KRAR pmax pmax
comp=Z,10.0nm,0.5s,mb5.0
MIR Mirnyy 72.28 199 ⇑*i*P **P** **16 46 10.0 +0.1**
MIR *i* 16 46 20.0
MIR pmax pmax
comp=Z,200nm,0.7s,mb6.2
MIR MLR MLR
comp=Z,4μm,20.0s,MS5.7
BILL Bilibino 72.87 9 ⇑*i*P **P** **16 46 13.5 +0.1**
BILL pmax pmax
comp=Z,13nm,0.8s,mb4.9
BILL Bilibino 72.87 9 *e*P **P** **16 46 13.5 +0.1**
comp=Z,50nm,1.6s,mb5.2
BILL *e* 16 46 24.9
BILL LR LR
comp=Z,971nm,21.0s,MS5.1
AJM Ajmer 72.98 299 *e*P **P** **16 46 12.6 -2.3**
MK31 Makanchi Array 73.40 321 *e*P **P** **16 46 16.5 -0.4**
MKAR Makanchi Array 73.40 321 P **P** **16 46 16.5 -0.5**
comp=Z,9.7nm,0.6s,mb4.9,baz=101,slow=7.4,SNR=122
MKAR LR LR 17 20 54.4
comp=Z,362nm,21.9s,MS4.6,baz=226,slow=38
MKAR Makanchi Array 73.40 321 ⇑*e*P **P** **16 46 16.5 -0.4**
THN Thein Dam 73.48 305 *ex* **P** **16 46 20.8 +3.1**
ZAA0 Zalesovo Array 75.04 328 *e*P **P** **16 46 24.8 -1.6**
ZALV Zalesovo Beam 75.04 328 P **P** **16 46 25.4 -1.0**
comp=Z,15nm,0.7s,mb5.0,baz=112,slow=5.6,SNR=61
TIXI Tiksi 75.42 355 *e*P **P** **16 46 26.3 -1.9**
TIXI pmax pmax
comp=Z,36nm,2.1s,mb4.9
TIXI Tiksi 75.42 355 P **P** **16 46 26.3 -1.9**
comp=Z,8.3nm,0.8s,mb4.7
TIXI LR LR
comp=Z,407nm,21.0s,MS4.7
SBA Scott Base 75.51 175 *e*P **P** **16 46 26.4 -2.3**
SBA pmax pmax
comp=Z,40nm,1.4s,mb5.2
SBA MLR MLR
comp=Z,1μm,20.0s,MS5.2
SBA Scott Base 75.51 175 *e*P **P** **16 46 26.4 -2.3**
comp=Z,40nm,1.4s,mb5.2
SBA LR LR
comp=Z,1μm,20.0s,MS5.2
NVS Novosibirsk 76.28 329 ⇑*i*P **P** **16 46 33.2 -0.2**
NVS *e* 16 46 49.0
NVS *e*S S 16 56 20.2 +3.1
NVS pmax pmax
comp=Z,176nm,2.0s,mb5.6
NVS pmax pmax
comp=N,70nm,1.7s
NVS pmax pmax
comp=E,104nm,1.7s
NVS smax
comp=N,47nm,3.4s
NVS smax
comp=E,38nm,2.4s
KZA Kyzart 76.50 315 P **P** **16 46 36.4 +1.4**
SNR=19
BHJ Bhuj 76.81 295 *e*P **P** **16 46 35.7 -1.4**
KBK Karagaybulak 76.88 315 P **P** **16 46 37.9 +0.8**
SNR=7.5
CHMS Chumysh 77.12 315 P **P** **16 46 44.0 +5.6**
SNR=5.8
KURK Kurchatov 77.16 324 P **P** **16 46 38.0 -0.5**
comp=E,227nm,1.3s,mb5.9,SNR=15
KURK Kurchatov 77.16 324 ⇓P **P** **16 46 40.3 +1.9**
SNR=25
KURK Kurchatov 77.16 324 P **P** **16 46 38.2 -0.3**
comp=E,4.6nm,0.6s,mb4.6,baz=102,slow=7.4,SNR=36
KURK Kurchatov 77.16 324 P **P** **16 46 38.2 -0.3**
FRU Bishkek 77.16 315 *e*P **P** **16 46 42.0 +3.3**
FRU *e* 16 57 10.0
FRU pmax pmax
comp=Z,120nm,2.0s,mb5.5
FRU MLR MLR
comp=Z,400nm,20.0s,MS4.7
USP Ospenovka 77.37 316 P **P** **16 46 40.2 +0.4**
SNR=9.8
AML Almayashu 77.62 314 P **P** **16 46 42.2 +1.0**
SNR=7.7
EKS2 Erkin-Say 77.71 315 P **P** **16 46 42.5 +0.7**
SNR=8.6
OHAK Old Harbor 78.47 30 *e*P **P** **16 46 45.4 -0.2**
KDAK Kodiak Island 79.05 29 *e*P **P** **16 46 49.1 +0.3**
KDAK LR LR
comp=Z,491nm,21.0s,MS4.8
SVW2 Sparrevohn 79.13 26 *e*P **P** **16 46 49.6 +0.4**
KBL Kabul 79.38 306 *e*P **P** **16 46 49.8 -1.4**
KBL pmax pmax
comp=Z,47nm,1.5s,mb5.2
KBL Kabul 79.38 306 *e*P **P** **16 46 49.8 -1.4**
comp=Z,47nm,1.5s,mb5.2
RKT Rikitea 80.63 113 *e*S S 16 57 01.7 -3.3
comp=Z,349nm,25.5s
RKT *e*SS SS 17 02 21.9 +3.9
comp=Z,195nm,29.5s
RKT *e*LQ 17 08 29.5
comp=Z,493nm,30.5s
RKT *e*LR LR 17 12 19.8
comp=Z,1μm,34.8s
RKT Rikitea 80.63 113 *e*P **P** **16 46 59.8 +1.6**
RKT *e*S S 16 57 01.7 -3.3
RKT *e*SS SS 17 02 21.9 +3.9
RKT pmax pmax
comp=Z,65nm,1.0s,mb5.5
RKT Rikitea 80.63 113 *e*P **P** **16 46 59.8 +1.6**
comp=Z,65nm,1.0s,mb5.5
RKT *e*S S 16 57 01.7 -3.3
RKT *e*SS SS 17 02 21.9 +3.9
RKT *e*LQ 17 08 29.5
SLKM Skilak Lake 81.25 27 *e*P **P** **16 47 00.0 -0.6**
PMR Palmer 82.16 26 *e*P **P** **16 47 04.3 -1.1**
PMR pmax pmax
comp=Z,12nm,0.6s,mb5.0
PMR MLR MLR
comp=Z,2μm,21.0s,MS5.4
PMR Palmer 82.16 26 *e*P **P** **16 47 04.3 -1.1**
comp=Z,12nm,0.6s,mb5.0
PMR LR LR
comp=Z,2μm,21.0s,MS5.4
IMA2 Indian Mountai 82.16 21 *e*P **P** **16 47 05.9 +0.6**
BVAR Borovoye Array 82.72 324 P **P** **16 47 08.2 -0.4**
comp=Z,24nm,0.8s,mb5.3,baz=109,slow=6.7,SNR=70
BRVK Borovoye 82.80 324 P **P** **16 47 09.7 +0.8**
comp=Z,274nm,1.0s,mb6.2,SNR=18
BRVK Borovoye 82.80 324 ⇓P **P** **16 47 10.1 +1.2**
SNR=37
MAW Mawson 83.54 202 *e*P **P** **16 47 13.1 +0.6**
comp=Z,15nm,0.7s,mb5.2
MAW Mawson 83.54 202 P **P** **16 47 12.6 +0.1**
comp=Z,20nm,0.9s,mb5.3,baz=66,slow=6.1,SNR=17
MAW LR LR 17 21 54.4
comp=Z,1μm,20.2s,MS5.2,baz=66,slow=34
MAW Mawson 83.54 202 *e*P **P** **16 47 12.4 -0.1**
MAW pmax pmax
comp=Z,93nm,1.5s
MAW Mawson 83.54 202 *e*P **P** **16 47 12.4 -0.1**
comp=Z,93nm,1.5s,mb5.7
COLA College 83.91 24 *d*i*P* **P** **16 47 13.7 -0.7**
COLA College 83.91 24 PFAKE 16 47 30.0 +16
COLA LR LR
comp=Z,1μm,21.0s,MS5.2
EGAK Eagle 86.60 24 *e*P **P** **16 47 25.3 -2.5**
comp=Z,41nm,1.2s,mb5.5
EGAK LR LR
comp=Z,2μm,20.0s,MS5.5
QSPA South Pole Qui 86.67 180 *e*P **P** **16 47 26.9 -1.2**
comp=Z,24nm,0.7s,mb5.5
QSPA LR LR
comp=Z,6μm,19.0s,MS6.0
DAWY Dawson 87.17 25 *e*P **P** **16 47 30.5 -0.2**
HYT Haines Junctio 87.32 29 *e*P **P** **16 47 31.5 +0.1**
BIDO Bidbid 87.36 294 ⇓P **P** **16 47 33.4 +0.9**
SNR=5.2
SIT Sitka 87.75 33 PFAKE 16 47 40.0 +6.4
SIT LR LR
comp=Z,2μm,21.0s,MS5.6
SKAG Skagway 88.14 30 *e*P **P** **16 47 36.0 +0.6**
comp=Z,378nm,2.4s,mb6.2
SKAG LR LR
comp=Z,1μm,22.0s,MS5.2
CRAG Craig 88.73 34 *e*P **P** **16 47 38.0 -0.3**
comp=Z,494nm,2.0s
CRAG LR LR
comp=Z,1μm,23.0s,MS5.3
WRAK Wrangell Islan 89.28 34 PFAKE 16 47 50.0 +9.1
WRAK LR LR
comp=Z,1μm,21.0s,MS5.4
AKTK Aktyubinsk 89.83 320 P **P** **16 47 42.1 -1.5**
AKTO Aktyubinsk 89.83 320 P **P** **16 47 42.1 -1.5**
comp=Z,4.6nm,0.8s,mb4.9,baz=106,slow=2.2,SNR=6.3
ARU Arti 90.08 326 *c*i*P* **P** **16 47 43.3 -1.3**
ARU 16 51 17.7
ARU S SKSac 16 58 07.5 -7.1
ARU SS SS 17 04 28.0 -7.6
ARU pmax pmax
comp=Z,40nm,2.0s,mb5.4
INK Inuvik 90.30 22 *e*P **P** **16 47 44.9 -0.5**
comp=Z,2μm,1.8s
HOPS Hopland 94.45 51 PFAKE 16 48 20.0 +15
HOPS LR LR
comp=Z,1μm,21.0s,MS5.4
HUMO Hull Mountain 94.56 48 PFAKE 16 48 20.0 +14
HUMO LR LR
comp=Z,2μm,20.0s,MS5.5
MCCM Marconi Confer 94.59 52 PFAKE 16 48 20.0 +14
MCCM LR LR
comp=Z,1μm,22.0s,MS5.4
YBH Yreka Blue Hor 94.74 49 PFAKE 16 48 20.0 +13
YBH LR LR
comp=Z,1μm,20.0s,MS5.4
WDC Whiskeytown Da 94.87 50 PFAKE 16 48 20.0 +13
WDC LR LR
comp=Z,1μm,21.0s,MS5.4
OPO Ambohidratompo 95.26 251 P **P** **16 48 07.1 -2.3**
comp=Z,3.9nm,0.8s,mb4.9,baz=249,slow=6.4,SNR=3.8
SAO San Andreas Ge 95.73 54 PFAKE 16 48 20.0 +8.9
SAO LR LR
comp=Z,2μm,21.0s,MS5.6
ETW Entiat 96.34 43 *e*P **P** **16 48 14.2 +0.5**
MOD Modoc 96.54 48 PFAKE 16 48 30.0 +15
MOD LR LR
comp=Z,1μm,22.0s,MS5.3
CMB Columbia Colle 96.56 52 PFAKE 16 48 30.0 +15
CMB LR LR
comp=Z,1μm,20.0s,MS5.5
HAWA Hanford 96.94 44 PFAKE 16 48 30.0 +14
HAWA LR LR
comp=Z,739nm,20.0s,MS5.2
WVOR Wild Horse Val 97.76 48 PFAKE 16 48 30.0 +10
WVOR LR LR
comp=Z,1μm,20.0s,MS5.3
ISA Isabella 98.15 55 PFAKE 16 48 30.0 +7.9
ISA LR LR
comp=Z,1μm,20.0s,MS5.5
YKA Yellowknife Ar 98.23 27 P **P** **16 48 21.0 -0.8**
comp=Z,3.6nm,0.8s,mb5.0,baz=280,slow=4.7,SNR=9.8
YKA LR LR 17 30 26.2
comp=Z,470nm,20.8s,MS5.0,baz=150,slow=34
NEW Newport 98.46 42 PFAKE 16 48 30.0 +6.8
NEW LR LR
comp=Z,836nm,19.0s,MS5.2
MWC Mount Wilson 98.54 56 PFAKE 16 48 40.0 +16
MWC LR LR
comp=Z,697nm,19.0s,MS5.2
BMO Blue Mountains 98.59 45 *e*P **P** **16 48 24.1 +0.3**
BMO pmax pmax
comp=Z,48nm,2.0s,mb5.7
BMO MLR MLR
comp=Z,885nm,19.0s,MS5.3
BMO Blue Mountains 98.59 45 *e*P **P** **16 48 24.1 +0.3**
comp=Z,48nm,2.0s,mb5.7
BMO LR LR
comp=Z,885nm,19.0s,MS5.3
GNI Garni 99.05 310 PFAKE 16 48 40.0 +14
GNI LR LR
comp=Z,256nm,19.0s,MS4.7
GSC Goldstone 99.53 55 PFAKE 16 48 40.0 +12
GSC LR LR
comp=Z,1μm,21.0s,MS5.4
TPNV Topopah Spring 99.89 53 PFAKE 16 48 40.0 +11
TPNV LR LR
comp=Z,1μm,19.0s,MS5.4
KIV Kislovodsk 100.29 314 *e*P Pdif 16 48 31.0 -0.2
KIV *i* 16 52 41.5
KIV *i* SS SS 17 07 01.4 +0.1
KIV pmax pmax
comp=Z,10.0nm,1.5s
ELK Elko 100.41 49 PFAKE 16 48 40.0 +8.3
ELK LR LR
comp=Z,768nm,21.0s,MS5.2
KBS Kingsbay 100.64 352 PFAKE 16 48 40.0 +7.3
KBS LR LR
comp=Z,878nm,20.0s,MS5.3
MSO Missoula 100.75 43 PFAKE 16 48 40.0 +6.8
MSO LR LR
comp=Z,477nm,19.0s,MS5.0
HLID Hailey 100.77 46 PFAKE 16 48 50.0 +17
HLID LR LR
comp=Z,1μm,21.0s,MS5.3
GLA Glamis 101.29 57 PFAKE 16 48 50.0 +14
GLA LR LR
comp=Z,800nm,22.0s,MS5.2
KEV Kevo 102.12 341 PFAKE 16 48 50.0 +11
KEV LR LR
comp=Z,2μm,20.0s,MS5.7
SNAA Sanae 102.13 190 ⇑*i*P Pdif 16 48 38.5 -0.9
DUG Dugway 102.31 50 PFAKE 16 48 50.0 +10
DUG LR LR
comp=Z,649nm,19.0s,MS5.2
BOZ Bozeman (W) 102.49 44 PFAKE 16 48 50.0 +9.0
BOZ LR LR
comp=Z,673nm,19.0s,MS5.2
ARCES ARCESS Array B 102.69 341 P Pdif 16 48 40.1 -1.8
comp=Z,3.8nm,0.7s,baz=60,slow=7.2,SNR=9.9
HWUT Hardware Ranch 103.08 48 PFAKE 16 49 00.0 +16
HWUT LR LR
comp=Z,663nm,20.0s,MS5.2
YMR Madison River 103.10 45 PFAKE 16 49 00.0 +16
YMR LR LR
comp=Z,1μm,19.0s,MS5.4
MPU Maple Canyon 103.22 50 PFAKE 16 49 00.0 +16
MPU LR LR
comp=Z,1μm,21.0s,MS5.4
AHID Auburn Hatcher 103.27 47 PFAKE 16 49 00.0 +16
AHID LR LR
comp=Z,973nm,20.0s,MS5.3
EGMT Eagleton 103.38 41 PFAKE 16 49 00.0 +15
EGMT LR LR
comp=Z,658nm,19.0s,MS5.2
LKWY Lake 103.51 45 PFAKE 16 49 00.0 +14
LKWY LR LR
comp=Z,401nm,19.0s,MS5.0
WUAZ Wupatki 103.93 54 PFAKE 16 49 00.0 +13
WUAZ LR LR
comp=Z,861nm,21.0s,MS5.3
RLMT Red Lodge 104.22 44 PFAKE 16 49 00.0 +11
RLMT LR LR
comp=Z,787nm,20.0s,MS5.2
BW06 Boulder Array 104.39 47 PFAKE 16 49 00.0 +11
BW06 LR LR
comp=Z,1μm,20.0s,MS5.4
TUC Tucson 104.74 58 PFAKE 16 49 00.0 +9.0
TUC LR LR
comp=Z,557nm,19.0s,MS5.1
LAO LASA Array 106.00 42 PFAKE 16 53 20.0 +11
LAO LR LR
comp=Z,767nm,20.0s,MS5.2
MVCO Mesa Verde 106.03 52 PFAKE 16 53 20.0 +11
MVCO LR LR
comp=Z,1μm,21.0s,MS5.5
KMBO Kilima Mbogo 106.48 268 PFAKE 16 53 20.0 +9.1
KMBO LR LR
comp=Z,352nm,20.0s,MS4.9
DGMT Dagmar 106.92 40 PFAKE 16 53 20.0 +9.4
DGMT LR LR
comp=Z,750nm,19.0s,MS5.3
BR131 Keskin Array S 107.57 311 PFAKE 16 53 20.0 +7.9
BR131 LR LR
comp=Z,243nm,19.0s,MS4.8
ISCO Idaho Springs 107.83 49 PFAKE 16 53 20.0 +7.4
ISCO LR LR
comp=Z,966nm,20.0s,MS5.4
KIEV Kiev 107.96 323 PFAKE 16 53 20.0 +7.5
KIEV LR LR
comp=Z,732nm,20.0s,MS5.2
ANMO Albuquerque 108.00 54 PFAKE 16 53 20.0 +6.9
ANMO LR LR
comp=Z,545nm,19.0s,MS5.1
ANTO Ankara 108.18 311 PFAKE 16 53 20.0 +6.7
ANTO LR LR
comp=Z,431nm,21.0s,MS5.0
SDCO Great Sand Dun 108.30 51 PFAKE 16 53 30.0 +16
SDCO LR LR
comp=Z,1μm,20.0s,MS5.5
MNTX Cornudas Mount 109.37 58 PFAKE 16 53 30.0 +14
MNTX LR LR
comp=Z,4.0nm,19.0s
OGNE Ogallala 110.26 47 PFAKE 16 53 30.0 +13
OGNE LR LR
comp=Z,911nm,20.0s,MS5.3
TXAR Lajitas Array 111.18 60 PKiKP PKiKP 16 53 20.2 +1.0
comp=Z,0.5nm,0.9s,baz=318,slow=2.6,SNR=3.3
ULM Lac du Bonnet 111.52 37 PFAKE 16 53 30.0 +11
ULM LR LR
comp=Z,2μm,22.0s,MS5.6
AMTX Amarillo 111.87 54 PFAKE 16 53 30.0 +10
AMTX LR LR
comp=Z,677nm,22.0s,MS5.2
AGMN Agassiz Refuge 112.25 39 PFAKE 16 53 30.0 +9.3
AGMN LR LR
comp=Z,1μm,22.0s,MS5.5
CBKS Cedar Bluff 112.50 49 PFAKE 16 53 30.0 +8.5
CBKS LR LR
comp=Z,1μm,20.0s,MS5.5
BOSA Boshof 113.13 237 PFAKE 16 53 30.0 +7.0
BOSA LR LR
comp=Z,740nm,21.0s,MS5.3
ECSD EROS,Sioux Fal 113.33 43 PFAKE 16 53 30.0 +7.1
ECSD LR LR
comp=Z,696nm,20.0s,MS5.2
LSZ Lusaka 113.71 252 PFAKE 16 53 40.0 +16
LSZ LR LR
comp=Z,603nm,22.0s,MS5.2
KONO Kongsberg 113.74 337 PFAKE 16 53 30.0 +6.8
KONO LR LR
comp=Z,1μm,19.0s,MS5.5
LBTB Lobatse 113.87 241 PFAKE 16 53 40.0 +16
LBTB LR LR
comp=Z,863nm,19.0s,MS5.4
JCT Junction City 114.29 58 PFAKE 16 53 40.0 +15
JCT LR LR
comp=Z,760nm,21.0s,MS5.3
KSU1 Kansas State U 114.76 48 PFAKE 16 53 40.0 +14
KSU1 LR LR
comp=Z,709nm,19.0s,MS5.3
EYMN Ely 115.08 38 PFAKE 16 53 40.0 +14
EYMN LR LR
comp=Z,1μm,22.0s,MS5.5
SCIA State Center 116.31 44 PFAKE 16 53 40.0 +11
SCIA LR LR
comp=Z,718nm,20.0s,MS5.3
KVTX Kingsville 116.49 61 PFAKE 16 53 40.0 +11
KVTX LR LR
comp=Z,668nm,19.0s,MS5.3
CLL Collm 117.00 328 *e*PKP PKPdf 16 53 31.0 +1.3
CLL *e*SS SS 17 10 48.0 +2.4
CLL LmV 17 45 00.0
comp=Z,900nm,19.3s
COWI Conover 117.33 39 PFAKE 16 53 40.0 +9.5
COWI LR LR
comp=Z,314nm,20.0s,MS4.9
HKT Hockley 117.76 58 PFAKE 16 53 40.0 +8.2
HKT LR LR
comp=Z,646nm,20.0s,MS5.2
GERES GERESS Array B 117.89 325 PKP PKPdf 16 53 31.0 -0.5
comp=Z,0.4nm,0.6s,baz=52,slow=1.6,SNR=3.4
JFWS Jewell Farm 117.96 42 PFAKE 16 53 40.0 +8.2
JFWS LR LR
comp=Z,764nm,19.0s,MS5.3
NATX Nacogdoches 118.31 56 PFAKE 16 53 40.0 +7.2
NATX LR LR
comp=Z,1μm,21.0s,MS5.4
MIAR Mount Ida 118.42 52 PFAKE 16 53 40.0 +7.0
MIAR LR LR
comp=Z,807nm,22.0s,MS5.3
CCM Cathedral Cave 119.08 48 PFAKE 16 53 50.0 +16
CCM LR LR
comp=Z,685nm,21.0s,MS5.3
HDIL Hopedale 119.55 44 PFAKE 16 53 50.0 +15
HDIL LR LR
comp=Z,722nm,21.0s,MS5.3
GLMI Grayling 120.74 38 PFAKE 16 53 50.0 +13
GLMI LR LR
comp=Z,2μm,22.0s,MS5.8
VBMS Vicksburg 121.56 54 PFAKE 16 53 50.0 +11
VBMS LR LR
comp=Z,852nm,20.0s,MS5.4
OXF Oxford 121.70 51 PFAKE 16 53 50.0 +11
OXF LR LR
comp=Z,794nm,22.0s,MS5.3
WVT Waverly 122.32 49 PFAKE 16 53 50.0 +10
WVT LR LR
comp=Z,1μm,21.0s,MS5.6
HAU Haudompre 122.43 327 *e*PKIKP PKPdf 16 53 37.4 -2.8
AAM Ann Arbor 122.59 40 PFAKE 16 53 50.0 +9.3
AAM LR LR
comp=Z,1μm,20.0s,MS5.5
WCI Wyandotte Cave 122.62 46 PFAKE 16 53 50.0 +9.1
WCI LR LR
comp=Z,864nm,21.0s,MS5.4
TSUM Tsumeb 122.64 245 PFAKE 16 53 50.0 +8.5
TSUM LR LR
comp=Z,564nm,20.0s,MS5.2
ACSO Alum Creek Sta 124.03 42 PFAKE 16 53 50.0 +6.4
ACSO LR LR
comp=Z,744nm,20.0s,MS5.3
LRAL Lakeview Retre 124.09 52 PFAKE 16 54 00.0 +16
LRAL LR LR
comp=Z,1μm,21.0s,MS5.5
MBDF Montbardon 124.11 324 *e*PKIKP PKPdf 16 53 40.9 -2.7
ORIF Oris-en-Rattie 124.52 325 *e*PKIKP PKPdf 16 53 40.9 -3.5
comp=Z,33nm,1.3s
SMF Signal de Mont 124.61 327 *e*PKIKP PKPdf 16 53 39.4 -5.1
BRAL Brewton 124.74 54 PFAKE 16 54 00.0 +15
BRAL LR LR
comp=Z,907nm,22.0s,MS5.4
AVF Avril sur Loir 124.78 328 *e*PKIKP PKPdf 16 53 40.0 -4.8
ERPA Erie 125.02 39 PFAKE 16 54 00.0 +15
ERPA LR LR
comp=Z,999nm,20.0s,MS5.5
TZTN Tazewell 125.31 47 PFAKE 16 54 00.0 +14
TZTN LR LR
comp=Z,1μm,21.0s,MS5.5
TCF Toulx Ste Croi 125.71 328 *e*PKIKP PKPdf 16 53 43.4 -3.2
comp=Z,17nm,1.0s
PLCA Paso Flores 126.11 148 PKP PKPdf 16 53 46.5 -1.0
comp=Z,2.9nm,0.7s,baz=230,slow=5.5,SNR=5.7
PLCA Paso Flores 126.11 148 PKP PKPdf 16 53 46.5 -1.0
PLCA LR LR
comp=Z,638nm,19.0s,MS5.3
MCWV Mont Chateau 126.41 41 PFAKE 16 54 00.0 +12
MCWV LR LR
comp=Z,1μm,19.0s,MS5.6
TEIG Tepich 126.54 67 PFAKE 16 54 00.0 +11
TEIG LR LR
comp=Z,502nm,20.0s,MS5.2
GOGA Godfrey 126.69 50 PFAKE 16 54 00.0 +11
GOGA LR LR
comp=Z,699nm,20.0s,MS5.3
LONY Lake Ozonia 126.75 34 PFAKE 16 54 00.0 +11
LONY LR LR
comp=Z,465nm,20.0s,MS5.2
KEST Kesra 127.03 313 PKP PKPdf 16 53 50.5 +1.1
comp=Z,4.0nm,1.1s,baz=153,slow=2.3,SNR=2.9
SSPA Standing Stone 127.15 39 PFAKE 16 54 00.0 +10
SSPA LR LR
comp=Z,940nm,19.0s,MS5.5
NCB Newcomb 127.36 34 PFAKE 16 54 00.0 +10
NCB LR LR
comp=Z,906nm,20.0s,MS5.5
BINY Binghamton 127.43 37 PFAKE 16 54 00.0 +10
BINY LR LR
comp=Z,1μm,21.0s,MS5.6
LBNH Lisbon 128.45 32 PFAKE 16 54 00.0 +8.1
LBNH LR LR
comp=Z,2μm,22.0s,MS5.7
TGUH Tegucigalpa,Un 128.47 75 PFAKE 16 54 00.0 +7.3
TGUH LR LR
comp=Z,489nm,20.0s,MS5.2
CBN Corbin 128.81 42 PFAKE 16 54 00.0 +7.2
CBN LR LR
comp=Z,969nm,20.0s,MS5.5
PKME Peaks-Kenny Pk 129.10 30 PFAKE 16 54 00.0 +6.9

PKME					LR	LR				
	comp=Z,1μm,22.0s,MS5.5									
NHSC	**New Hope**	**129.31**	**49**	PFAKE			16 54 10.0	+16		
NHSC				LR	LR					
	comp=Z,1μm,20.0s,MS5.5									
HRV	**Adam Dziewonsk**	**129.80**	**34**	PFAKE			16 54 10.0	+15		
HRV				LR	LR					
	comp=Z,935nm,20.0s,MS5.5									
DWPF	**Disney**	**130.34**	**55**	PFAKE			16 54 10.0	+14		
DWPF				LR	LR					
	comp=Z,730nm,21.0s,MS5.3									
TRQA	**Tornquist**	**132.43**	**152**	PFAKE			16 54 10.0	+10		
TRQA				LR	LR					
	comp=Z,734nm,20.0s,MS5.4									
ESLA	**Sonseca Array**	**133.48**	**325**	PFAKE			16 54 10.0	+8.4		
ESLA				LR	LR					
	comp=Z,5μm,21.0s,MS6.2									
PAB	**San Pablo**	**133.78**	**326**	PFAKE			16 54 10.0	+7.8		
PAB				LR	LR					
	comp=Z,749nm,21.0s,MS5.4									
BCIP	**Isla Barro Col**	**136.22**	**80**	PFAKE			16 54 20.0	+13		
BCIP				LR	LR					
	comp=Z,857nm,21.0s,MS5.5									
OTAV	**Otavalo**	**137.64**	**93**	PFAKE			16 54 20.0	+10		
OTAV				LR	LR					
	comp=Z,463nm,19.0s,MS5.2									
BBSR	**BB Station**	**140.58**	**40**	PFAKE			16 54 30.0	+15		
BBSR				LR	LR					
	comp=Z,865nm,22.0s,MS5.5									
TOA0	**Torodi Ar. Sit**	**141.32**	**287**	PKPdf	PKPdf		16 54 12.1	-4.6		
TORD	**Torodi Ar. Bea**	**141.32**	**287**	PKhKP			16 54 08.9			
	comp=Z,146nm,0.4s,baz=79,slow=3.5,SNR=2.2									
LPAZ	**La Paz**	**142.91**	**123**	PKhKP			16 54 16.6			
	comp=Z,5.3nm,0.9s,baz=73,slow=0.9,SNR=14									
LPAZ	**La Paz**	**142.91**	**123**	PKP	PKPdf		16 54 16.6	-2.9		
LPAZ				LR	LR					
	comp=Z,294nm,21.0s,MS5.0									
SDV	**Santo Domingo**	**145.30**	**79**	*e*PKPdf	PKPdf		16 54 22.8	-0.9		
SDV				LR	LR					
	comp=Z,199nm,20.0s,MS4.9									
SJG	**San Juan**	**147.14**	**61**	*e*PKP2	PKPab		16 54 26.5	-4.0		
SJG				MLR	MLR					
	comp=Z,1μm,22.0s									
KIC	**Kosan Boka**	**148.54**	**277**	*e*PKP1	PKPbc		16 54 32.3	-0.5		
	comp=Z,156nm,1.1s									
DBIC	**Dimbokro**	**148.63**	**277**	PKPbc	PKPbc		16 54 32.7	-0.4		
	comp=Z,10nm,0.6s,baz=52,slow=3.4,SNR=17									
DBIC	**Dimbokro**	**148.63**	**277**	PKPbc	PKPbc		16 54 32.7	-0.4		
DBIC				LR	LR					
	comp=Z,630nm,19.0s,MS5.4									
TIC	**Toumodi**	**148.79**	**277**	*e*PKP1	PKPbc		16 54 33.0	-0.5		
	comp=Z,96nm,0.7s									
LIC	**Lamto**	**148.83**	**277**	*e*PKP1	PKPbc		16 54 32.4	-1.2		
	comp=Z,162nm,1.2s									
LIC	**Lamto**	**148.83**	**277**	*e*PKP1	PKPbc		16 54 33.1	-0.5		
	comp=Z,177nm,1.2s									
GRGR	**Grenville**	**153.28**	**69**	PFAKE			16 54 50.0	+14		
GRGR				LR	LR					
	comp=Z,436nm,19.0s,MS5.3									
BBGH	**Gun Hill**	**154.89**	**66**	PFAKE			16 54 50.0	+11		
BBGH				LR	LR					
	comp=Z,1μm,22.0s,MS5.7									
BDFB	**Brasilia**	**157.85**	**148**	PFAKE			16 54 50.0	+7.4		
BDFB				LR	LR					
	comp=Z,958nm,20.0s,MS5.6									
RCBR	**Riachuelo**	**170.95**	**182**	PFAKE			16 55 00.0	+5.7		
RCBR				LR	LR					
	comp=Z,1μm,21.0s									

IDC 26 17:06:01.8±10.0, 2425S×6708W, h168km±84km, mb3.4/1, mb1 3.4/2, mb1mx3.1/13, mbtmp3.3/2, Error ellipse: s-maj=84.6km s-min=62.5km az=149.0, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**7.98**	**353**	P	Pn	17 07 57.1	+2.2
	0.5nm,0.3s,baz=146,slow=11,SNR=5.2						
LPAZ				S	Sn	17 09 23.4	-0.8
	0.1nm,0.3s,baz=223,slow=18,SNR=3.2						
TORD	**Torodi Ar. Bea**	**76.73**	**69**	P	P	17 17 34.4	-0.5
	0.6nm,0.5s,baz=255,slow=6.2,SNR=3.9						
ASAR	**Alice Springs**	**128.20**	**205**	PKP	PKPdf	17 24 47.6	-1.0
	0.3nm,0.8s,baz=155,slow=1.9,SNR=4.8						
ZALV	**Zalesovo Beam**	**143.65**	**28**	PKP	PKPdf	17 25 14.3	-1.8
	0.8nm,0.6s,baz=308,slow=4.7,SNR=4.8						
MKAR	**Makanchi Array**	**146.76**	**40**	PKPbc	PKPbc	17 25 24.2	+0.4
	0.7nm,0.4s,baz=300,slow=3.0,SNR=15						

*BEO **26** 17:24:33.4, 4100N×3290E, ML4.5/2*
*ISCJB **26** 17:25:34.2±1.0, 4266N±003×2524E±005, h4km±11km, Error ellipse: s-maj=6.9km s-min=4.5km az=161.3*
*NEIC **26** 17:25:45.2, 4329N×2487E, h18km, ML2.5(BUC), After BUC.*
*CSEM **26** 17:25:50.9, 4090N×2476E, h10km, MD3.4/3, After ATH*
*ATH **26** 17:25:50.9, 4090N×2476E, h10km, MD3.4/3*

ISC 26 17:25:35.1±0.6, 4263N±003×2529E±003, h3km±6km, n43, σ0:96/49, 12C-6D, Bulgaria

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLD	**Plovdiv**	**0.68**	**220**	P	**Pg**	**17 25 48.6**	**+0.4**
PLD				S	**Sg**	**17 25 58.2**	**+1.2**
JMB	**Yambol**	**0.97**	**99**	P	**Pg**	**17 25 53.4**	**-0.3**
JMB				S	**Sg**	**17 26 05.5**	**-0.8**
ZIMR		**1.02**	**3**	↑*i*P	**Pg**	**17 25 55.2**	**+0.5**
ZIMR		**1.02**	**3**	↑↑P	**Pg**	**17 25 55.1**	**+0.4**
EDRB	**Edirne**	**1.34**	**126**	*e*PN	**Pn**	**17 26 00.2**	**-0.4**
EDRB				*e*SN	**Sn**	**17 26 17.9**	**-1.0**
RDO	**Rodhopi**	**1.50**	**173**	*e*Pb	**Pb**	**17 26 03.1**	**-0.4**
RDO	**Rodhopi**	**1.50**	**173**	*e*PB	**Pb**	**17 26 03.1**	**-0.4**
NVR	**Nevrokopi**	**1.67**	**220**	*e*Pb	**Pb**	**17 26 06.3**	**-0.1**
NVR	**Nevrokopi**	**1.67**	**220**	*e*PB	**Pb**	**17 26 06.3**	**-0.1**
ALN	**Alexandroupoli**	**1.82**	**162**	P	**Pn**	**17 26 07.6**	**+0.3**
ENEZ	**Enez**	**2.00**	**161**	*e*PN	**Pn**	**17 26 09.6**	**-0.2**
KNT	**Kendrikon**	**2.31**	**231**	P	**Pn**	**17 26 15.2**	**+1.2**
MFT	**Murefte**	**2.37**	**140**	*e*PN	**Pn**	**17 26 15.3**	**+0.4**
RKY	**Sarkoy-Tekirda**	**2.41**	**143**	*e*PN	**Pn**	**17 26 14.6**	**-0.7**
GADA	**Gvkgeada**	**2.48**	**169**	*e*PN	**Pn**	**17 26 15.5**	**-0.9**
OUR	**Ouranopolis**	**2.50**	**204**	P	**Pn**	**17 26 17.3**	**+0.7**
CTYL	**Yal??k??y-??at**	**2.52**	**116**	*e*PN	**Pn**	**17 26 17.3**	**+0.5**
BARS	**Barje**	**2.56**	**275**	*e*Pn	**Pg**	**17 26 23.6**	**-0.6**
BARS				*e*Sn	**Sg**	**17 26 57.6**	**+0.1**
NISS		**2.57**	**289**	*e*Pn	**Pg**	**17 26 22.1**	**-2.2**
NISS				*e*Sn	**Sg**	**17 26 59.5**	**+2.0**
SLVT	**Silivri**	**2.59**	**122**	*e*PN	**Pn**	**17 26 18.2**	**+0.4**
PLG	**Polygyros**	**2.65**	**212**	*e*Pb	**Pn**	**17 26 11.8**	**-6.8**
PLG	**Polygyros**	**2.65**	**212**	*e*PB	**Pn**	**17 26 11.8**	**-6.8**
BOLS	**Boljevac**	**2.71**	**297**	*e*Pn	**Pg**	**17 26 25.1**	**-2.0**
BOLS				*e*Sn	**Sg**	**17 27 02.1**	**-0.1**
CTT	**Catalca**	**2.78**	**121**	*e*PN	**Pn**	**17 26 20.3**	**-0.1**
CTKS	**Kestanelik-??a**	**2.78**	**119**	*e*PN	**Pn**	**17 26 20.4**	**-0.1**
VOIR		**2.81**	**357**	↑*i*P	**Pn**	**17 26 20.4**	**-0.4**
VOIR		**2.81**	**357**	↑↑P	**Pn**	**17 26 20.4**	**-0.4**
HARR	**Harsova**	**2.81**	**42**	↑*i*P	**Pb**	**17 26 27.3**	**+1.4**
HARR	**Harsova**	**2.81**	**42**	↑↑P	**Pb**	**17 26 27.3**	**+1.4**
MLR	**Muntele Rosu**	**2.90**	**9**	↑*i*P	**Pn**	**17 26 23.0**	**+1.0**
MLR	**Muntele Rosu**	**2.90**	**9**	↑↑P	**Pn**	**17 26 23.0**	**+0.9**
TIRR	**Tirgusor**	**2.91**	**50**	↓*i*P	**Pb**	**17 26 28.6**	**+1.0**
TIRR	**Tirgusor**	**2.91**	**50**	↓↓P	**Pb**	**17 26 28.6**	**+0.9**
KLYT	**Kilyos**	**3.12**	**115**	*e*P	**Pn**	**17 26 25.5**	**+0.4**
GZR	**Gura Zlata**	**3.30**	**328**	↑*i*P	**Pn**	**17 26 26.5**	**-1.1**
GZR	**Gura Zlata**	**3.30**	**328**	↑↑P	**Pn**	**17 26 26.5**	**-1.1**
PLOR	**Plostina**	**3.36**	**16**	↓*i*P	**Pn**	**17 26 30.1**	**+1.6**
VRI	**Vrincioaia**	**3.39**	**17**	↑*i*P	**Pn**	**17 26 29.9**	**+1.0**
VRI	**Vrincioaia**	**3.39**	**17**	↑↑P	**Pn**	**17 26 29.9**	**+1.1**
BZS	**Buzias**	**3.98**	**320**	↓*i*P	**Pn**	**17 26 35.6**	**-1.4**
BZS	**Buzias**	**3.98**	**320**	*e*Pn	**Pn**	**17 26 35.0**	**-2.0**
DRGR		**4.54**	**337**	↓*i*P	**Pn**	**17 26 43.0**	**-1.7**
DRGR		**4.54**	**337**	↓↓P	**Pn**	**17 26 43.0**	**-1.7**

*ISCJB **26** 18:01:45.3±0.4, 3708N±007×13525E±009, h361km±6km, mb3.3/8, Error ellipse: s-maj=12.2km s-min=10.1km az=43.2*
*MOS **26** 18:01:45.3±0.9, 3701N×13535E, h373km, mb3.6/1, Error ellipse: s-maj=23.1km s-min=17.0km az=38.8*
*NEIC **26** 18:01:46.3±0.6, 3705N×13539E, h368km±14km, mb3.6/1, Error ellipse: s-maj=30.5km s-min=17.1km az=66.0*
*JMA **26** 18:01:46.2±0.2, 3689N×13526E, h360km±2km, M3.3*

*IDC **26** 18:01:46.2±0.9, 3706N×13544E, h367km±12km, mb3.1/7, mb1 3.2/11, mb1mx3.1/23, mbtmp3.2/11, Error ellipse: s-maj=19.3km s-min=12.8km az=63.0*

ISC 26 18:01:46.2±0.4, 3698N±008×13523E±009, h357km±6km, n28, σ0:66/34, mb3.3/8, Sea of Japan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JKG	**Kaga**	**1.13**	**128**	P	**Pn**	**18 02 33.4**	**+0.1**
JJH	**Hakui**	**1.25**	**92**	P	**Pn**	**18 02 34.1**	**+0.4**
JKY	**Yasaka**	**1.35**	**184**	S	**S**	**18 03 12.1**	**-0.8**
JWT	**Wachi**	**1.70**	**175**	P	**Pn**	**18 02 36.1**	**-0.2**
JWT				S	**S**	**18 03 15.4**	**-1.0**
JTT	**Ttatey**	**1.73**	**102**	P	**Pn**	**18 02 36.6**	**+0.2**
JGM	**Miyama**	**1.75**	**136**	P	**Pn**	**18 02 36.5**	**-0.1**
JGM				S	**S**	**18 03 16.4**	**-0.6**
JSZ	**Suzu**	**1.77**	**74**	P	**Pn**	**18 02 37.0**	**+0.4**
JNG	**Nsakai**	**2.38**	**103**	P	**Pn**	**18 02 41.3**	**+0.4**
MAJO	**Matsushiro**	**2.43**	**99**	*e*P	**Pn**	**18 02 41.3**	**0.0**
MAT	**Matsushiro**	**2.43**	**99**	P	**Pn**	**18 02 41.4**	**+0.1**
MAT				*e*S	**S**	**18 03 25.0**	**-0.6**
MJAR	**Matsushiro Arr**	**2.44**	**99**	P	**Pn**	**18 02 41.9**	**+0.6**
	11nm,0.3s,baz=276,slow=9.6,SNR=183						
JSD	**Sado**	**2.63**	**65**	P	**Pn**	**18 02 43.3**	**+0.4**
JYN	**Shimob**	**3.06**	**118**	P	**Pn**	**18 02 46.3**	**-0.3**
JHJ	**Hachijo jima 2**	**5.37**	**135**	P	**Pn**	**18 03 10.6**	**+0.4**
	4.9nm,0.3s,baz=227,slow=20,SNR=5.1						
JHJ				S	**S**	**18 04 19.1**	**+0.9**
	7.4nm,0.3s,baz=65,slow=23,SNR=7.0						
KSRS	**Korea Array**	**5.85**	**277**	P	**Pn**	**18 03 17.3**	**+1.8**
	0.8nm,0.3s,baz=96,slow=12,SNR=20						
KSRS	**Korea Array**	**5.85**	**277**	P	**Pn**	**18 03 17.3**	**+1.8**
KSRS				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ASAJ	**Asahikawa**	**9.07**	**36**	P	**Pn**	**18 03 52.6**	**-0.3**
	comp=Z,2.4nm,0.3s,baz=226,slow=13,SNR=26						
ASAJ				S	**S**	**18 05 30.1**	**-6.5**
	comp=Z,0.9nm,0.3s,baz=354,slow=22,SNR=12						
ASAJ	**Asahikawa**	**9.07**	**36**	P	**Pn**	**18 03 52.6**	**-0.3**
ASAJ				S	**S**	**18 05 30.1**	**-6.5**
ASAJ				pmax	pmax		
	comp=Z,2.0nm,0.3s						
ASAJ				smax			
	comp=N,1.0nm,0.3s						
ULN	**Ulaanbaatar**	**23.34**	**307**	*e*P	**P**	**18 06 23.3**	**-0.6**
ULN				pmax	pmax		
	comp=Z,3.0nm,1.0s,mb3.5						
ULN	**Ulaanbaatar**	**23.34**	**307**	*e*P	**P**	**18 06 23.2**	**-0.6**
	comp=Z,3.0nm,1.0s,mb3.5						
SONM	**Songino Array**	**23.76**	**306**	P	**P**	**18 06 27.1**	**-0.5**
	comp=Z,0.9nm,0.6s,mb3.2,baz=106,slow=6.9,SNR=6.5						
CMAR	**Chiang Mai Arr**	**36.75**	**250**	P	**P**	**18 08 22.6**	**+1.5**
	comp=Z,0.4nm,0.5s,mb2.9,baz=44,slow=7.2,SNR=4.9						
ZALV	**Zalesovo Beam**	**38.30**	**313**	P	**P**	**18 08 33.1**	**-0.3**
	comp=Z,0.6nm,0.5s,mb3.0,baz=132,slow=8.4,SNR=2.8						
MKAR	**Makanchi Array**	**39.93**	**301**	P	**P**	**18 08 46.7**	**-0.2**
	comp=Z,0.6nm,0.5s,mb3.1,baz=84,slow=9.7,SNR=15						
MKAR				ScP	ScP	18 13 57.4	-1.1
	comp=Z,0.2nm,0.5s,baz=98,slow=3.7,SNR=4.2						
MKAR	**Makanchi Array**	**39.93**	**301**	P	**P**	**18 08 46.7**	**-0.2**
MKAR				ScP	ScP	18 13 57.4	-1.1
ASAR	**Alice Springs**	**60.33**	**181**	P	**P**	**18 11 17.4**	**-1.0**
	comp=Z,0.4nm,0.5s,mb3.1,baz=356,slow=6.5,SNR=12						
ARCES	**ARCESS Array B**	**62.25**	**338**	P	**P**	**18 11 30.2**	**-0.5**
	comp=Z,5.5nm,1.0s,mb4.0,baz=40,slow=6.3,SNR=3.6						
AKASG	**Malin Array Be**	**71.23**	**320**	P	**P**	**18 12 26.9**	**-0.2**
	comp=Z,1.0nm,0.5s,mb3.8,baz=53,slow=6.0,SNR=5.1						

*ISCJB **26** 18:19:03.6±3.7, 2045S±02×17877W±02, h634km±47km, mb3.7/9, Error ellipse: s-maj=36.9km s-min=20.9km az=157.4*
*IDC **26** 18:19:05.5±3.3, 2047S×17867W, h645km±38km, mb3.0/7, mb1 3.2/7, mb1mx3.1/14, mbtmp3.0/7, Error ellipse: s-maj=57.7km s-min=17.6km az=154.0*
*NEIC **26** 18:19:07.3±3.7, 2045S×17874W, h670km±46km, mb3.9/3, Error ellipse: s-maj=32.0km s-min=29.2km az=141.0*

ISC 26 18:19:04.6±3.8, 2045S±02×1787W±02, h628km±46km, n16, σ0:54/12, mb3.7/9, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**32.84**	**264**	P	**P**	**18 24 49.2**	**+0.2**
	1.5nm,0.5s,mb3.9,baz=105,slow=11,SNR=5.8						
CTA	**Charters Tower**	**32.84**	**264**	P	**P**	**18 24 49.2**	**+0.2**
CTAO	**Charters Tower**	**32.84**	**264**	*e*P	**P**	**18 24 49.1**	**+0.1**
	1.6nm,0.5s,mb3.9						
STKA	**Stephens Creek**	**37.23**	**244**	P	**P**	**18 25 25.0**	**-0.1**
	1.6nm,0.9s,mb3.6,baz=77,slow=14,SNR=2.7						
ASAR	**Alice Springs**	**43.90**	**257**	P	**P**	**18 26 17.9**	**+0.1**
	2.4nm,0.5s,mb4.0,baz=92,slow=7.5,SNR=42						
ASAR				PcP	PcP	18 27 49.5	-0.1
	0.4nm,0.5s,baz=101,slow=3.9,SNR=6.3						
ASAR				S	**S**	**18 32 05.0**	**-0.4**
	0.4nm,0.8s,baz=91,slow=15,SNR=4.5						
MBWA	**Marble Bar**	**57.23**	**257**	P	**P**	**18 27 53.4**	**-0.9**
	16nm,1.0s,mb4.2						
QSPA	**South Pole Qui**	**69.65**	**180**	*e*P	**P**	**18 29 12.4**	**+0.3**
	1.3nm,0.6s,mb3.5						
PETK	**Petropavlovsk-**	**76.02**	**346**	P	**P**	**18 29 48.5**	**-0.1**
	3.7nm,1.0s,mb3.8,baz=133,slow=4.5,SNR=4.1						
TXAR	**Lajas Array**	**87.57**	**58**	P	**P**	**18 30 47.3**	**-0.3**
	0.5nm,0.9s,mb3.2,baz=207,slow=5.0,SNR=4.6						
PDAR	**Pinedale Array**	**89.35**	**43**	P	**P**	**18 30 55.4**	**-0.2**
	0.6nm,0.7s,mb3.6,baz=224,slow=5.3,SNR=3.8						
CMAR	**Chiang Mai Arr**	**89.46**	**290**	P	**P**	**18 30 58.0**	**+1.3**
	0.8nm,0.7s,mb3.6,baz=116,slow=2.4,SNR=5.3						
MKAR	**Makanchi Array**	**110.66**	**314**	PKiKP	PKiKP	18 36 26.2	-0.9
	0.2nm,0.4s,baz=151,slow=1.5,SNR=4.9						
ARCES	**ARCESS Array B**	**128.72**	**349**	PKP	PKPdf	18 36 60.0	-1.1
	2.5nm,0.8s,baz=54,slow=1.6,SNR=5.6						
AKASG	**Malin Array Be**	**142.62**	**331**	PKhKP		18 37 23.5	
	2.8nm,0.4s,baz=42,slow=4.0,SNR=20						
CLL	**Collm**	**147.83**	**346**	*i* PKPbc	PKPbc	18 37 39.9	-0.1
	comp=Z,5.0nm,0.7s						
GERES	**GERESS Array B**	**149.94**	**344**	PKPbc	PKPbc	18 37 44.2	-1.0
	comp=Z,0.5nm,0.5s,baz=46,slow=3.9,SNR=6.3						

*MOS **26** 18:28:26.4±1.1, 1447N×9188W, h33km, mb4.9/7, Error ellipse: s-maj=16.8km s-min=8.7km az=103.3*
*BJI **26** 18:28:26.7, 1410N×9220W, h35km, mB5.2, Ms4.9, Msz4.6*
*NEIC **26** 18:28:26.7±0.9, 1415N×9220W, h35km±8km, mb4.6/29, MD4.7(MEX), Error ellipse: s-maj=13.0km s-min=7.5km az=210.0*
*ISCJB **26** 18:28:27.7±0.5, 1422N±004×9231W±003, h42km±4km, mb4.5/34, MS3.9/4, Error ellipse: s-maj=8.4km s-min=3.3km az=34.5*
*IDC **26** 18:28:27.5±4.1, 1432N×9201W, h36km±32km, mb3.9/11, mb1 4.2/13, mb1mx4.1/22, mbtmp4.0/13, ML4.3/2, MS3.6/5, Ms1 3.6/5, ms1mx3.3/33, Error ellipse: s-maj=31.8km s-min=15.9km az=52.0*
*MEX **26** 18:28:28.1±1.4, 1411N×9250W, h12km±79km, MD4.7*
*CASC **26** 18:28:28.0±2.5, 1419N×9238W, h28km±13km, MD4.3, ML4.0, mb4.6(NEIC)*

ISC 26 18:28:29.2±1.2, 1428N±004×9232W±003, h32km±9km, n334, σ0:87/325, mb4.5/34, MS3.9/4, 105C-104D, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THIG		**0.63**	**5**	*i* P	**Pn**	**18 28 41.4**	**-0.5**
THIG				*i* S	**Sn**	**18 28 51.8**	**+0.9**
JAT	**Jato**	**0.67**	**86**	↓*e*P	**Pn**	**18 28 43.4**	**+0.9**
JAT				*e*S	**Sn**	**18 28 51.5**	**-0.3**
FG6		**1.42**	**78**	↓*i*P	**Pn**	**18 28 53.4**	**+0.5**
FUG	**Fuego 3**	**1.45**	**83**	*e*P	**Pn**	**18 28 53.1**	**-0.1**
PCIG		**1.66**	**329**	*i* P	**Pn**	**18 28 54.1**	**-2.1**
PCIG				*i* S	**Sn**	**18 29 14.4**	**-2.0**
PCG	**Pacaya**	**1.67**	**86**	↓*e*P	**Pn**	**18 28 56.5**	**+0.3**
NBG	**Las Nubes**	**1.94**	**81**	↑*e*P	**Pn**	**18 29 01.9**	**+2.0**
SCX	**San Cristobal**	**2.46**	**353**	*i* P	**Pn**	**18 29 08.1**	**+0.9**
SCX				*i* S	**Sn**	**18 29 39.5**	**+3.3**
RBDL	**Robledal**	**2.56**	**93**	*e*P	x	18 29 08.5	
RBDL				*e*S	x	18 29 39.5	
TGIG		**2.60**	**343**	*i* P	**Pn**	**18 29 09.6**	**+0.5**
TGIG				*i* S	**Sn**	**18 29 41.5**	**+1.8**
RTR	**El Retiro**	**2.62**	**98**	*e*P	x	18 29 09.1	
RTR				*e*S	x	18 29 43.9	
SBLS	**San Blas**	**2.66**	**99**	↑*e*P	x	18 29 09.0	
SBLS				*e*S	x	18 29 43.3	
MRL	**Marmol**	**2.67**	**73**	*e*P	**Pn**	**18 29 11.7**	**+1.8**
SNJE	**San Jose**	**2.67**	**98**	↑*e*P	x	18 29 09.4	
SNJE				*e*S	x	18 29 43.7	
MTO2	**Montecristo 2**	**2.87**	**87**	*e*P	x	18 29 12.4	
BOQS	**Boqueron**	**3.00**	**100**	↑*e*P	x	18 29 14.2	
BOQS				*e*S	x	18 29 50.9	
BOQS				AML	x	18 29 54.5	
	comp=Z,949nm,0.5s						
SNET	**Serv Nac Est T**	**3.06**	**101**	*e*P	x	18 29 14.9	
SNET				*e*S	x	18 29 53.5	
LBRS	**Las Brisas**	**3.23**	**99**	↑*e*P	x	18 29 17.5	
LFRS	**El Faro**	**3.23**	**101**	↑*e*P	x	18 29 17.2	
LFRS				*e*S	x	18 29 55.4	
CMIG	**Matias Romero**	**3.73**	**319**	Pn	**Pn**	**18 29 23.0**	**-1.6**
	comp=Z,24nm,0.3s,baz=141,slow=12,SNR=149						
CMIG				Sn	**Sn**	**18 30 01.6**	**-5.9**
	comp=Z,59nm,0.3s,baz=134,slow=14,SNR=7.1						
CMIG				LR	LR	18 30 17.9	
	comp=Z,118nm,21.2s,baz=144,slow=28						
CMIG	**Matias Romero**	**3.73**	**319**	Pn	**Pn**	**18 29 23.0**	**-1.6**
CMIG				Sn	**Sn**	**18 30 01.6**	**-5.9**
CMIG				LR	LR	18 30 17.9	
VSM	**San Miguel**	**4.02**	**102**	*e*P	x	18 29 20.0	
CAHU	**Cacacuatique**	**4.02**	**97**	*e*P	x	18 29 27.9	
BLLM	**Bellamira**	**4.05**	**101**	*e*P	x	18 29 29.6	
BLLM				*e*S	x	18 30 19.2	
TUIG	**Tuzandepetl**	**4.25**	**332**	*i* S	**Sn**	**18 30 20.0**	**-0.2**
CNCH	**Conchagua**	**4.47**	**102**	*e*P	x	18 29 35.7	
CNCH				*e*S	x	18 30 25.6	
TGUH	**Tegucigalpa,Un**	**4.90**	**92**	*e*P	**Pn**	**18 29 43.0**	**+2.2**
TGUH	**Tegucigalpa,Un**	**4.90**	**92**	*e*Pn	**Pn**	**18 29 37.3**	**-3.5**
OXX	**Oaxaca**	**5.07**	**304**	*e*P	**Pn**	**18 29 42.0**	**-1.1**
OXX				*i* S	**Sn**	**18 30 40.3**	**-0.3**
VHO	**Vista Hermosa**	**5.08**	**304**	*i* P	**Pn**	**18 29 42.2**	**-0.9**
VHO				*i* S	**Sn**	**18 30 39.6**	**-1.1**
CRIN	**San Cristobal**	**5.36**	**106**	*e*P	**Pn**	**18 29 47.1**	**0.0**
MIRN	**Miramar**	**5.76**	**108**	*e*P	**Pn**	**18 29 52.5**	**0.0**
MOMN	**Momotombo**	**5.93**	**108**	*e*P	**Pn**	**18 29 54.6**	**-0.2**
COPN	**Copaltepe**	**5.96**	**110**	↑*e*P	**Pn**	**18 29 55.2**	**-0.1**
PNIG	**Pinotepa**	**5.98**	**291**	*e*P	**Pn**	**18 29 53.2**	**-2.4**
PNIG				*i* S	**Sn**	**18 31 01.6**	**-1.4**
CSAN		**6.11**	**109**	*e*P	**Pn**	**18 29 57.0**	**-0.3**
UTMO	**Huajuapan**	**6.34**	**305**	*e*P	**Pn**	**18 30 00.3**	**-0.2**
UTMO				*i* S	**Sn**	**18 31 09.8**	**-2.1**
TPIG	**Tehuac#an**	**6.35**	**311**	*e*P	**Pn**	**18 30 01.9**	**+1.2**
TPIG				*i* S	**Sn**	**18 31 11.6**	**-0.5**
LVIG	**Laguna Verde**	**6.69**	**325**	*e*P	**Pn**	**18 30 01.6**	**-3.6**
LVIG				*i* S	**Sn**	**18 31 14.4**	**-5.9**
TEIG	**Tepich**	**7.07**	**33**	Pn	**Pn**	**18 30 09.9**	**-0.6**
	comp=Z,33nm,0.3s,baz=180,slow=0.6,SNR=97						
TEIG				LR	LR	18 33 26.8	
	comp=Z,626nm,18.6s,baz=176,slow=44						
TEIG	**Tepich**	**7.07**	**33**	*e*Pn	**Pn**	**18 30 10.0**	**-0.4**
	comp=Z,1.7nm,0.3s						
TEIG				*e*		18 30 20.6	
IIO	**Organos**	**8.09**	**312**	*e*P	**Pn**	**18 30 21.7**	**-2.8**
IIO				*i* S	**Sn**	**18 31 56.3**	**+1.4**
CAIG	**El Cayaco**	**8.13**	**291**	*i* P	**Pn**	**18 30 23.9**	**-1.2**
CAIG				*i* S	**Sn**	**18 31 57.4**	**+1.4**
JTS	**JuntasAbangare**	**8.22**	**118**	Pn	**Pn**	**18 30 24.5**	**-1.8**
	comp=Z,2.0nm,0.3s,baz=305,slow=20,SNR=6.6						
JTS				Sn	**Sn**	**18 31 55.0**	**-3.1**
	baz=209,slow=23,SNR=1.4						
MZVM		**8.22**	**307**	*e*P	**Pn**	**18 30 26.6**	**+0.2**
MZVM				*i* S	**Sn**	**18 32 01.6**	**+3.4**
JCR	**Jicaral**	**8.31**	**121**	*e*P	**Pn**	**18 30 29.0**	**+1.4**
PRS1	**Puriscal**	**8.92**	**118**	*e*P	**Pn**	**18 30 37.9**	**+1.9**
ZIIG	**Zihuatanejo**

W16A	Flagstaff	27.00	324	⇑P	P	18 34 08.6	+0.3
	baz=27						
MVCO	Mesa Verde	27.01	331	⇓P	P	18 34 09.2	+0.9
	baz=27						
MVCO	Mesa Verde	27.01	331	*e*P	P	18 34 08.7	+0.4
	comp=Z,20nm,0.8s,mb4.7						
X14A	Yava	27.38	321	⇑P	P	18 34 12.4	+0.7
	baz=28						
T18A	Mexican Hat	27.62	329	⇓P	P	18 34 13.5	-0.3
	baz=28						
S19A	Harvey Farm, M	27.74	330	⇓P	P	18 34 15.3	+0.4
	baz=28						
PV01	Paradox Valley	27.79	332	*e*P	P	18 34 16.4	+1.1
V15A	Kaibab Nationa	27.88	324	⇓P	P	18 34 16.1	0.0
	baz=28						
W14A	Seligman	28.00	322	⇓P	P	18 34 17.5	+0.3
	baz=28						
X13A	Yucca	28.04	320	⇓P	P	18 34 18.0	+0.4
	baz=28						
PDMCI	Parker Dam,Lak	28.05	319	⇓P	P	18 34 17.8	+0.2
	baz=28						
S18A	Hurst Farm, Bl	28.11	329	⇓P	P	18 34 18.3	+0.1
	baz=28						
V14A	Boquillas Ranc	28.30	322	⇑P	P	18 34 20.4	+0.6
	baz=28						
U15A	North Rim	28.38	325	⇓P	P	18 34 21.1	+0.5
	baz=29						
W13A	Hualapai Mount	28.41	321	⇓P	P	18 34 21.4	+0.5
	baz=29						
BC3	Big Chuckw Mtn	28.50	317	⇓P	P	18 34 22.6	+0.9
	baz=29						
IRM	Iron Mountain	28.61	318	⇑P	P	18 34 23.3	+0.6
	baz=29						
R18A	Canyonlands Na	28.61	330	⇑P	P	18 34 22.8	+0.2
	baz=29						
Q19A	Hogan Spring (	28.77	332	⇑P	P	18 34 24.4	+0.4
	baz=29						
T15A	Red Dirt Ranch	28.86	325	⇓P	P	18 34 25.2	+0.4
	baz=29						
U14A	Mt Trumbull	28.88	324	⇓P	P	18 34 25.7	+0.7
	baz=29						
S16A	Weppner Ranch,	28.95	327	⇑P	P	18 34 26.3	+0.6
	baz=29						
V13A	Grand Canyon W	28.97	322	⇓P	P	18 34 26.8	+1.0
	baz=29						
BELC	Belle Mtn.	29.07	317	⇑P	P	18 34 27.3	+0.6
	baz=29						
T14A	Hurricane	29.28	325	⇓P	P	18 34 29.3	+0.7
	baz=30						
Q18A	Rafter H Ranch	29.29	331	⇑P	P	18 34 29.0	+0.4
	baz=30						
GMRC	Granite Mounta	29.32	318	⇓P	P	18 34 29.8	+0.8
	baz=30						
R16A	Teasdale	29.32	328	⇑P	P	18 34 29.3	+0.3
	baz=30						
U13A	Pakoon Wash	29.34	323	⇑P	P	18 34 29.9	+0.8
	baz=30						
Q16A	Castle Valley	29.65	329	⇓P	P	18 34 32.6	+0.8
	baz=30						
S14A	Cedar City	29.83	325	⇓P	P	18 34 34.3	+0.9
	baz=30						
P17A	Butcher Ranch,	29.87	331	⇓P	P	18 34 34.2	+0.4
	baz=30						
ARUT	Antelope Range	30.00	325	*e*P	P	18 34 35.8	+0.9
ARUT				*e*	pP	18 34 44.8	+0.6
O18A	Roosevelt	30.17	332	⇑P	P	18 34 37.0	+0.6
	baz=30						
N19A	John Jarvie Ra	30.32	334	⇓P	P	18 34 37.9	+0.2
	baz=30						
R13A	O'Grain Ranch,	30.57	325	⇑P	P	18 34 41.2	+1.2
	baz=31						
N18A	Larsen Ranch,	30.60	334	⇓P	P	18 34 40.5	+0.2
	baz=31						
U10A	Ash Meadows, A	30.77	320	⇓P	P	18 34 42.7	+0.9
	baz=31						
Q14A	Sevier Lake (B	30.78	327	⇑P	P	18 34 42.1	+0.3
	baz=31						
O16A	Springville	30.81	331	⇑P	P	18 34 42.6	+0.5
	baz=31						
R12A	Pony Springs,	31.03	325	⇓P	P	18 34 44.9	+0.9
	baz=31						
TPNV	Topopah Spring	31.06	321	⇓P	P	18 34 45.4	+1.1
	baz=31						
LRMC	Laurel Mountai	31.06	317	⇓P	P	18 34 45.3	+0.9
	baz=31						
P14A	Drum Mountains	31.12	328	⇓P	P	18 34 45.6	+0.8
	baz=31						
Q13A	Wheeler Ranch,	31.15	326	⇓P	P	18 34 46.0	+0.9
	baz=31						
MPMC	Manual Prospec	31.28	318	⇓P	P	18 34 46.7	+0.4
	baz=32						
RSSD	Black Hills	31.38	344	*e*P	P	18 34 45.5	-1.6
DUG	Dugway	31.44	329	⇑P	P	18 34 48.5	+0.8
	baz=32						
R11A	Troy Canyon, C	31.60	324	⇑P	P	18 34 49.9	+0.8
	baz=32						
GRAC	Grapevine Rang	31.79	320	⇑P	P	18 34 51.8	+1.0
	baz=32						
HWUT	Hardware Ranch	31.95	332	*e*P	P	18 34 51.7	-0.4
	comp=Z,5.6nm,0.8s,mb4.5						
R10A	Warm Springs	31.98	323	⇑P	P	18 34 53.7	+1.3
	baz=32						
Q11A	Duckwater	31.98	324	⇓P	P	18 34 53.1	+0.7
	baz=32						
PDAR	Pinedale Array	32.04	336	P	P	18 34 52.2	-0.7
	comp=Z,0.8nm,0.7s,mb3.7,baz=143,slow=7.9,SNR=5.9						
PDAR				PcP	PcP	18 37 40.1	-2.0
	comp=Z,1.2nm,0.8s,baz=139,slow=3.2,SNR=6.9						
BW06	Boulder Array	32.04	336	⇑P	P	18 34 53.2	+0.3
	baz=32						
N14A	Grayback Hills	32.12	329	⇓P	P	18 34 54.4	+0.7
	baz=32						
S09A	Goldfield	32.16	321	⇑P	P	18 34 54.7	+0.7
	baz=32						
VES	Vestal, Richgr	32.20	317	⇑P	P	18 34 54.9	+0.5
	baz=32						
L16A	Fish Haven	32.21	333	⇓P	P	18 34 54.3	-0.1
	baz=32,SNR=8.0						
M15A	Larsen Ranch,	32.24	331	⇓P	P	18 34 55.0	+0.4
	baz=32						
Q10A	Clear Creek Ra	32.39	323	⇓P	P	18 34 57.2	+1.2
	baz=33						
R09A	Tonopah	32.40	322	⇓P	P	18 34 56.6	+0.5
	baz=33						
O12A	Currie	32.49	327	⇑P	P	18 34 57.6	+0.7
	baz=33						
L15A	Malad City	32.64	332	⇑P	P	18 34 58.1	0.0
	baz=33,SNR=5.2						
N13A	Wendover, West	32.64	328	⇓P	P	18 34 58.7	+0.6
	baz=33						
M14A	Sheep Mountain	32.70	330	⇑P	P	18 34 59.3	+0.6
	baz=33,SNR=5.2						
O11A	Cowboy Ranch,	32.88	326	⇑P	P	18 35 00.9	+0.6
	baz=33						
K16A	Soda Springs	32.94	333	⇑P	P	18 35 01.2	+0.4
	baz=33						
P10A	Eureka	32.97	325	⇓P	P	18 35 01.8	+0.7
	baz=33						
L14A	Malta	33.06	331	⇑P	P	18 35 02.1	+0.3
	baz=33,SNR=19						
REDW	Red Top Meadow	33.06	335	*e*P	P	18 35 01.9	+0.1
	comp=Z,17nm,0.9s,mb5.0						
N12A	Clover Valley,	33.06	328	⇓P	P	18 35 02.4	+0.5
	baz=33						
SNOW	Snow King Moun	33.10	335	*e*P	P	18 35 02.0	-0.2
	comp=Z,24nm,0.8s,mb5.2						
LOHW	Long Hollow	33.17	335	*e*P	P	18 35 01.8	-1.0
	comp=Z,4.7nm,0.7s,mb4.5						
TPAW	Teton Pass	33.21	335	*e*P	P	18 35 03.4	+0.3
	comp=Z,5.8nm,0.8s,mb4.6						
KCC	Kaiser Creek	33.22	319	⇑P	P	18 35 03.8	+0.5
	baz=34						
K15A	Arbon	33.24	332	⇑P	P	18 35 03.6	+0.2
	baz=33,SNR=7.3						
RRI2	Red Ridge	33.24	334	*e*P	P	18 35 03.4	-0.1
	comp=Z,3.5nm,0.6s,mb4.5						
J16A	Bone	33.31	334	⇓P	P	18 35 04.0	0.0
	baz=34						
Q08A	Gabbs	33.31	322	⇓P	P	18 35 04.4	+0.3
	baz=34						
I17A	Pilgram Creek	33.41	336	⇓P	P	18 35 05.0	+0.1
	baz=34						
M12A	Wells	33.41	328	⇓P	P	18 35 05.2	+0.3
	baz=34,SNR=13						
K14A	Jones Ranch, D	33.42	331	⇓P	P	18 35 05.2	+0.2
	baz=34,SNR=5.6						
L13A	Double Diamond	33.44	330	⇓P	P	18 35 05.3	+0.2
	baz=34						
IMW	Indian Meadow	33.54	335	*e*P	P	18 35 05.8	-0.2
	comp=Z,3.5nm,0.7s,mb4.4						
J15A	Blackfoot	33.76	333	⇓P	P	18 35 08.1	+0.1
	baz=34						
M11A	Holland Ranch,	33.88	328	⇓P	P	18 35 09.7	+0.7
	baz=34						
L12A	House Creek Ra	34.00	329	⇓P	P	18 35 10.5	+0.4
	baz=34						
J14A	Carey	34.19	332	⇑P	P	18 35 11.8	+0.2
	baz=34,SNR=11						
K12A	Draper Farm, C	34.31	330	⇑P	P	18 35 13.2	+0.5
	baz=34						
H16A	Russell Place,	34.33	336	⇑P	P	18 35 13.1	+0.2
	baz=34						
M10A	I.L. Ranch, Tu	34.33	327	⇓P	P	18 35 13.6	+0.6
	baz=34						
L11A	Cat Creek Ranc	34.39	328	⇓P	P	18 35 13.9	+0.6
	baz=35,SNR=12						
N09A	Rock Creek Ran	34.40	325	⇓P	P	18 35 13.9	+0.4
	baz=35						
J13A	Cove Ranch, Pi	34.55	331	⇑P	P	18 35 14.6	-0.1
	baz=35						
I14A	Mackay	34.63	333	⇑P	P	18 35 15.6	+0.1
	baz=35,SNR=9.2						
GCMT	Greycliff	34.66	338	*e*P	P	18 35 14.5	-1.2
WCN	Washoe City	34.69	321	⇑P	P	18 35 16.1	+0.1
	baz=35						
L10A	Juniper Basin	34.69	328	⇓P	P	18 35 16.7	+0.7
	baz=35						
O07A	Toulon	34.71	323	⇓P	P	18 35 16.9	+0.7
	baz=35						
F18A	Big Timber	34.77	339	⇑P	P	18 35 16.1	-0.5
	baz=35						
HLID	Hailey	34.78	331	⇓P	P	18 35 16.8	0.0
	baz=35,SNR=12						
HLID	Hailey	34.78	331	*e*P	P	18 35 16.9	+0.1
	comp=Z,6.6nm,0.9s,mb4.6						
H15A	Lima	34.83	334	⇑P	P	18 35 17.9	+0.8
	baz=35,SNR=8.4						
J12A	Stokes Ranch,	34.87	330	⇑P	P	18 35 18.1	+0.6
	baz=35						
I13A	Wildhorse Cree	34.92	332	⇑P	P	18 35 18.3	+0.4
	baz=35,SNR=12						
K11A	Parker Ranch,	34.97	329	⇓P	P	18 35 19.0	+0.5
	baz=35						
G16A	Moss Hill, Enn	34.99	336	⇓P	P	18 35 18.7	+0.2
	baz=35						
MCMT	McKenzie Canyo	35.09	334	*e*P	P	18 35 20.2	+0.8
H14A	Leadore	35.14	334	⇓P	P	18 35 20.7	+0.9
	baz=35,SNR=8.3						
G15A	Dillon	35.21	335	⇑P	P	18 35 20.8	+0.3
	baz=35,SNR=6.3						
BOZ	Bozeman (W)	35.27	336	⇑P	P	18 35 20.7	-0.3
	baz=35						
I12A	Atlanta	35.30	331	⇓P	P	18 35 21.8	+0.6
	baz=36,SNR=25						
MFID	Camas Ranch	35.35	330	⇓P	P	18 35 22.1	+0.5
	baz=36						
K10A	MacKenzie Ranc	35.40	328	⇑P	P	18 35 22.7	+0.6
	baz=36						
E18A	Harlowton	35.41	339	⇓P	P	18 35 22.4	+0.2
	baz=36						
DGMT	Dagmar	35.48	346	⇓P	P	18 35 21.6	-1.1
	baz=36						
N06A	Buffalo Meadow	35.65	323	⇑P	P	18 35 24.4	+0.2
	baz=36						
E17A	Martinsdale	35.66	338	⇑P	P	18 35 24.5	+0.3
	baz=36						
G14A	Jackson	35.68	334	⇑P	P	18 35 24.4	-0.1
	baz=36						
H12A	Diamond D Ranc	35.75	332	⇑P	P	18 35 25.7	+0.7
	baz=36,SNR=17						
L08A	Fields	35.77	326	⇑P	P	18 35 25.4	+0.1
	baz=36						
F15A	Butte	35.77	336	⇑P	P	18 35 25.2	0.0
	baz=36						
I11A	Placerville	35.78	330	⇑P	P	18 35 25.9	+0.5
	baz=36,SNR=8.0						
K09A	Rome	35.79	327	⇓P	P	18 35 26.0	+0.5
	baz=36,SNR=14						
G13A	Cobalt	35.89	333	⇑P	P	18 35 26.4	0.0
	baz=36						
E16A	East Helena	36.02	337	⇓P	P	18 35 27.3	-0.1
	baz=36						
O04C	Chester	36.12	321	⇓P	P	18 35 27.8	-0.5
	baz=36						
D17A	Six Diamond Ra	36.19	339	⇑P	P	18 35 28.4	-0.4
	baz=36						
L07A	Adell	36.20	325	⇑P	P	18 35 29.2	+0.3
	baz=36						
K08A	Mann Creek Ran	36.21	327	⇑P	P	18 35 29.4	+0.3
	baz=36,SNR=8.1						
HRY	Holter Researc	36.23	337	*e*P	P	18 35 28.8	-0.4
J09A	Fry Pan Ranch,	36.26	328	⇑P	P	18 35 29.8	+0.3
	baz=36						
E15A	Deer Lodge	36.31	336	⇑P	P	18 35 30.0	+0.2
	baz=36						
I10A	Payette	36.32	330	⇑P	P	18 35 30.6	+0.7
	baz=36						
H11A	Donnelly	36.40	331	⇑P	P	18 35 30.8	+0.1
	baz=37,SNR=7.0						
F13A	Darby	36.49	334	⇑P	P	18 35 31.0	-0.4
	baz=37,SNR=7.9						
K07A	Rock Creek Ran	36.59	326	⇓P	P	18 35 32.2	-0.2
	baz=37						
EGMT	Eagleton	36.62	340	⇑P	P	18 35 32.1	-0.4
	baz=37						
C17A	Wharram Farm,	36.63	339	⇑P	P	18 35 32.6	+0.1
	baz=37						
J08A	Circle Bar Ran	36.64	327	⇓P	P	18 35 33.0	+0.3
	baz=37,SNR=17						
H10A	Noah's Angus R	36.66	330	⇑P	P	18 35 32.6	-0.2
	baz=37						
I09A	Lost Marbles R	36.70	329	⇓P	P	18 35 33.0	-0.2
	baz=37,SNR=26						
D15A	Lincoln	36.77	337	⇓P	P	18 35 33.3	-0.5
	baz=37						
F12A	Elk City	36.86	333	⇑P	P	18 35 34.4	-0.2
	baz=37,SNR=30						
E13A	Victor	36.95	335	⇓P	P	18 35 34.7	-0.6
	baz=37,SNR=6.6						
G11A	Walters Elk Ra	37.04	332	⇑P	P	18 35 35.5	-0.6
	baz=37,SNR=16						
I08A	Drewsey	37.08	328	⇑P	P	18 35 37.0	+0.6
	baz=37						
C16A	Fuhringer Ranc	37.12	338	⇑P	P	18 35 36.2	-0.5
	baz=37						
D14A	Greenough	37.19	336	⇑P	P	18 35 36.5	-0.8
	baz=37						
G10A	Bishop Farm, J	37.36	331	⇑P	P	18 35 38.1	-0.7
	baz=38,SNR=6.3						
F11A	Grangeville	37.37	332	⇓P	P	18 35 38.1	-0.8
	baz=38						
C15A	Salmond Ranch,	37.41	337	⇓P	P	18 35 38.7	-0.5
	baz=38						
J06A	Christmas Vall	37.46	326	⇑P	P	18 35 39.2	-0.5
	baz=38						
E12A	Bear Dam Sad	37.51	333	⇓P	P	18 35 39.4	-0.6
	baz=38,SNR=13						
H08A	Prairie City	37.56	329	⇓P	P	18 35 40.4	-0.1
	baz=38						
D13A	Huson	37.58	335	⇑P	P	18 35 39.8	-0.8
	baz=38,SNR=7.4						
G09A	Cove	37.67	330	⇑P	P	18 35 40.7	-0.7
	baz=38,SNR=6.8						
I07A	Izee	37.68	327	⇓P	P	18 35 40.4	-1.2
	baz=38						
E11A	Bogner Ranch,	37.75	333	⇓P	P	18 35 40.9	-1.2
	baz=38,SNR=6.3						
F10A	Beach Ranch, E	37.92	331	⇓P	P	18 35 42.8	-0.7
	baz=38,SNR=17						
F09A	S2 Ranch, Elgi	38.04	331	⇑P	P	18 35 44.0	-0.6
	baz=38						
H07A	Lands Inn, Kim	38.06	328	⇓P	P	18 35 44.7	-0.1
	baz=38						
C13A	Hot Springs	38.09	335	⇑P	P	18 35 44.0	-1.0
	baz=38						
D11A	Klaveano Farm,	38.34	333	⇓P	P	18 35 46.2	-0.8
	baz=38						
A15A	Johnson Ranch,	38.46	338	⇓P	P	18 35 47.5	-0.6
	baz=39						
F08A	Pendleton	38.52	330	⇑P	P	18 35 47.7	-0.9
	baz=39						
H06A	Lindquist Farm	38.56	328	⇓P	P	18 35 48.1	-0.9
	baz=39						
G07A	Ruggs Ranch, H	38.59	329	⇑P	P	18 35 48.5	-0.7
	baz=39						
B13A	Whitefish	38.61	336	⇑P	P	18 35 48.6	-0.7
	baz=39						
LPAZ	La Paz	38.65	141	P	P	18 35 46.8	-3.2
	comp=Z,1.2nm,0.7s,mb3.7,baz=310,slow=6.1,SNR=4.6						
LPAZ				LR	LR	18 51 08.9	
	comp=Z,125nm,20.7s,MS3.7,baz=265,slow=35						
LPAZ	La Paz	38.65	141	*e*P	P	18 35 47.7	-2.2
LPAZ				pmax	pmax		
	comp=Z,1.0nm,0.6s						
LPAZ	La Paz	38.65	141	*e*P	P	18 35 47.7	-2.3
	comp=Z,1.2nm,0.6s,mb3.8						
A14A	Double T Ranch	38.71	338	⇓P	P	18 35 49.6	-0.5
	baz=39						
E09A	Wood Farm, Sta	38.75	331	⇑P	P	18 35 49.6	-0.9
	baz=39,SNR=6.1						
D10A	Wagner Farm, O	38.76	333	⇓P	P	18 35 49.2	-1.3
	baz=39						
B12A	Libby	39.14	335	⇓P	P	18 35 53.4	-0.3
	baz=39						
D09A	Jones Farm, Ri	39.23	332	⇑P	P	18 35 54.2	-0.3
	baz=39						
B11A	Sandpoint	39.43	335	⇑P	P	18 35 55.6	-0.5
	baz=40						
H04A	Detroit Lake	39.51	326	⇓P	P	18 35 56.2	-0.7
	baz=40						
NEW	Newport	39.61	334	*e*P	P	18 35 56.5	-1.2
NEW				pmax	pmax		
	comp=Z,4.0nm,0.8s						
NEW	Newport	39.61	334	*e*P	P	18 35 56.5	-1.2
	comp=Z,3.8nm,0.8s,mb4.2						
HOOD	Mount Hood Mea	39.65	327	P	P	18 35 57.5	-0.6
	comp=Z,65nm,0.7s,mb5.5						
OD2	Odessa Site #2	39.66	332	*e*P	P	18 35 57.7	-0.4
C09A	Chrisman Ranch	39.76	333	⇓P	P	18 35 58.5	-0.4
	baz=40						
A11A	Hall Mountain,	39.84	335	⇓P	P	18 35 59.2	-0.4
	baz=40						
C08A	Higginbotham F	40.10	332	⇓P	P	18 36 01.6	-0.2
	baz=40,SNR=6.9						
E06A	Yakima	40.13	329	⇓P	P	18 36 01.7	-0.4
	baz=40						
B09A	Rice	40.18	333	⇓P	P	18 36 01.9	-0.4
	baz=40						
C07A	Waterville	40.50	331	⇓P	P	18 36 05.0	-0.1
	baz=41						
G03A	Yamhill	40.51	326	⇑P	P	18 36 04.8	-0.4
	baz=41						
E05A	Randle	40.54	329	⇓P	P	18 36 05.4	0.0
	baz=41						
B08A	Colville Reser	40.65	332	⇓P	P	18 36 05.6	-0.7
	baz=41						
A09A	Danville	40.78	333	⇓P	P	18 36 06.7	-0.6
	baz=41,SNR=6.6						
A08A	Turner Farm, O	41.07	333	⇓P	P	18 36 09.0	-0.7
	baz=41						
A07A	Ashnola River,	41.63	332	⇑P	P	18 36 14.4	+0.1
	baz=42						
B05A	Bryant	41.88	330	⇓P	P	18 36 15.6	-0.8
	baz=42						
C04A	Brinnon	41.93	329	⇓P	P	18 36 16.3	-0.5
	baz=42						
EDM	Edmonton	42.27	341	*e*P	P	18 36 17.0	-2.5
YKA	Yellowknife Ar	50.69	347	P	P	18 37 23.2	-2.2
	comp=Z,10nm,0.7s,mb4.9,baz=151,slow=7.3,SNR=28						
YKA	Yellowknife Ar	50.69	347	P	P	18 37 23.2	-2.2
DLBC	Dease Lake	52.28	336	*e*P	P	18 37 37.2	-0.1
PLCA	Paso Flores	58.34	161	LR	LR	18 59 32.9	
	comp=Z,110nm,18.7s,MS4.0,baz=190,slow=32						
RCBR	Riachuelo	59.42	106	*e*P	P	18 38 26.3	-2.9
	comp=Z,20nm,1.0s,mb5.1						
INK	Inuvik	60.09	344	*e*P	P	18 38 31.4	-1.6
	comp=Z,315nm,0.8s						
COLA	College	62.88	337	⇑*i*P	P	18 38 51.5	-0.4
COLA				*i* *PP	PcP	18 39 28.4	-1.5
QUIF	Quistinic	79.00	43	*e*P	P	18 40 25.1	-4.9
ESDC	Sonseca Array	79.79	52	P	P	18 40 30.0	-4.5
	comp=Z,1.3nm,0.8s,mb3.9,baz=268,slow=5.0,SNR=6.1						
ESLA	Sonseca Array	79.79	52	P	P	18 40 28.2	-6.3
	comp=Z,1.3nm,1.0s,mb3.8						
GRR	Gorron	80.44	43	*e*P	P	18 40 32.9	-4.9
FLN	La Foliniere	80.61	42	*e*P	P	18 40 34.1	-4.6
BILL	Bilibino	81.09	338	⇑*i*P	P	18 40 39.0	-1.9
BILL				pmax	pmax		
	comp=Z,24nm,1.8s,mb4.8						
LFF	La Frestale	82.20	46	*e*P	P	18 40 42.3	-5.0
LOR	Lormes	83.78	43	⇑*i*P	P	18 40 51.5	-3.9
	comp=Z,7.9nm,0.8s,mb4.6						
LOR	Lormes	83.78	43	⇑*i*P	P	18 40 51.5	-3.9
LOR				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.6						
LOR	Lormes	83.78	43	⇑*i*P	P	18 40 51.5	-3.9
	comp=Z,4.0nm,0.8s,mb4.6						
SMF	Signal de Mont	83.92	44	*e*P	P	18 40 51.7	-4.4
HAU	Haudompre	85.22	42	*e*P	P	18 40 56.9	-5.7
	comp=Z,12nm,0.9s,mb4.7						
HAU	Haudompre	85.22	42	*e*P	P	18 40 56.9	-5.7
HAU				pmax	pmax		
	comp=Z,6.0nm,0.9s,mb4.7						
HAU	Haudompre	85.22	42	*e*P	P	18 40 56.9	-5.7
	comp=Z,6.2nm,0.9s,mb4.7						
ARCES	ARCESS Array B	85.98	18	P	P	18 41 02.4	-3.6
	comp=Z,1.8nm,0.7s,mb4.4,baz=269,slow=4.5,SNR=5.0						
GERES	GERESS Array B	89.59	39	P	P	18 41 20.2	-3.5
	comp=Z,0.4nm,0.7s,mb3.9,baz=232,slow=3.2,SNR=3.7						
TIXI	Tiksi	89.93	348	*e*P	P	18 41 20.9	-3.9
TIXI				pmax	pmax		
	comp=Z,5.0nm,0.7s,mb5.0						
TIXI	Tiksi	89.93	348	*e*P	P	18 41 21.8	-3.0
	comp=Z,6.1nm,0.8s,mb5.0						
TORD	Torodi Ar. Bea	90.62	76	P	P	18 41 24.3	-4.8
	comp=Z,0.5nm,0.9s,mb3.9,baz=284,slow=6.0,SNR=4.5						
SONM	Songino Array	115.95	346	PKP	PKPdf	18 47 06.7	-2.2
	comp=Z,0.4nm,0.6s,baz=310,slow=1.8,SNR=2.7						
MKAR	Makanchi Array	119.02	4	PKP	PKPdf	18 47 11.8	-3.1
	comp=Z,0.2nm,0.6s,baz=315,slow=3.4,SNR=6.0						
BOSA	Boshof	120.76	115	PKP	PKPdf	18 47 17.2	-1.4
	comp=Z,4.3nm,1.0s,baz=333,slow=2.3,SNR=4.4						
HHC	Hu-ho-hao-te	120.85	339	*e*PKP	PKPdf	18 47 11.8	-6.8
HHC				PKS		18 50 47.8	
HHC				PP	PP		
	comp=Z,82nm,5.7s						
HHC				LR	LR		
	comp=N,102nm,20.5s,MS4.7						
HHC				LR	LR		
	comp=E,138nm,21.4s,MS4.7						
HHC				LR	LR		
	comp=Z,126nm,20.0s,MS4.6						
WMQ	Urumqi	122.19	360	*e*PKP	PKPdf	18 47 14.3	-6.7
LZH	Lanzhou	127.63	343	*e*PKP	PKPdf	18 47 25.0	-6.7
LZH				PP	PP		
	comp=Z,55nm,4.3s						
STKA	Stephens Creek	127.92	241	PKP	PKPdf	18 47 29.9	-2.3
	comp=Z,1.3nm,0.9s,baz=0.0,slow=6.1,SNR=2.9						
STKA

EIDS	**Eidsvold**	**26.18**	**260**	*e*P	P		20 05 36.0	-0.6
	9.0nm,0.6s							
CTAO	**Charters Tower**	**31.28**	**270**	*e*P	P		20 06 20.2	-0.3
	14nm,0.3s							
STKA	**Stephens Creek**	**34.68**	**248**	P	P		20 06 49.0	+0.3
	1.7nm,0.4s,baz=71,slow=8.5,SNR=14							
STKA	**Stephens Creek**	**34.68**	**248**	*e*P			20 06 48.5	-0.2
	1.9nm,0.4s							
ASAR	**Alice Springs**	**41.90**	**260**	P	P		20 07 46.8	0.0
	2.4nm,0.5s,baz=96,slow=7.3,SNR=41							
KAKA	**Kakadu**	**46.09**	**275**	*e*P	P		20 08 12.0	-6.8
	15nm,1.5s							
QSPA	**South Pole Qui**	**66.55**	**180**	*e*P	P		20 10 38.3	+1.1
	1.4nm,0.6s							
MKAR	**Makanchi Array**	**111.76**	**313**	PKiKP	PKiKP		20 18 12.5	+0.1
	0.2nm,0.5s,baz=27,slow=3.5,SNR=3.4							
BVAR	**Borovoye Array**	**120.04**	**319**	PKP	PKPdf		20 18 27.9	-0.1
	0.3nm,0.3s,baz=144,slow=2.0,SNR=4.0							
ARCES	**ARCESS Array B**	**131.49**	**348**	PKP	PKPdf		20 18 49.2	-0.3
	7.4nm,1.1s,baz=48,slow=1.8,SNR=5.0							
AKASG	**Malin Array Be**	**144.56**	**327**	PKP	PKPdf		20 19 14.0	+0.2
	0.8nm,0.3s,baz=43,slow=4.4,SNR=6.5							
EKA	**Eskdalemuir Ar**	**148.17**	**3**	PKPbc	PKPbc		20 19 23.6	-0.4
	0.5nm,0.3s,baz=345,slow=2.7,SNR=6.2							
CLL	**Collm**	**150.45**	**343**	*i* PKPbc	PKPbc		20 19 30.1	+0.6
TORD	**Torodi Ar. Bea**	**169.51**	**190**	PKPab	PKPab		20 21 02.8	-0.3
	0.6nm,1.1s,baz=163,slow=3.2,SNR=3.0							

ATH ***26*** *20:20:18.4, 40.12N×2087E, h3km, MD3.1/4*
NEIC ***26*** *20:20:18.4, 40.12N×2087E, h3km, MD3.1(ATH), After ATH.*
ISCJB ***26*** *20:20:22.8±1.1, 3966N±009×207E±0.1, h10km±10km, Error ellipse: s-maj=15.0km s-min=12.4km az=29.3*
CSEM ***26*** *20:20:22.7±0.1, 3978N×2072E, h15km, MD3.1, Error ellipse: s-maj=3.3km s-min=2.8km az=65.0*

ISC 26 20:20:23.1±1.1, 3965N±008×2066E±010, h11km±10km, n12, σ0§78/18, Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
JAN	**Janina**	**0.15**	**87**	*e*Pg		**Pg**	**20 20 26.6**	**+0.1**
JAN	**Janina**	**0.15**	**87**	*e*PG		**Pg**	**20 20 26.6**	**+0.1**
KEK	**Kerkira**	**0.67**	**276**	*e*Pg		**Pg**	**20 20 36.0**	**-0.1**
KEK	**Kerkira**	**0.67**	**276**	*e*PG		**Pg**	**20 20 36.0**	**-0.1**
EVR	**Evrytania**	**1.15**	**129**	*e*Pn		**Pn**	**20 20 45.3**	**+0.1**
EVR	**Evrytania**	**1.15**	**129**	*e*PN		**Pn**	**20 20 45.3**	**+0.1**
BIA	**Bitola**	**1.46**	**20**	*e*Pn		**Pn**	**20 20 46.7**	**-2.7**
BIA				*i* Sn		**Sn**	**20 21 08.2**	**-0.3**
BIA	**Bitola**	**1.46**	**20**	*e*Pn		**Pn**	**20 20 46.6**	**-2.8**
BIA				*i* Sn		**Sn**	**20 21 08.2**	**-0.3**
OHR	**Ohrid**	**1.47**	**4**	*e*Pn		**Pn**	**20 20 50.1**	**+0.7**
OHR				*i* Sn		**Sn**	**20 21 08.8**	**+0.1**
OHR	**Ohrid**	**1.47**	**4**	*e*Pn		**Pn**	**20 20 50.1**	**+0.6**
OHR				*i* Sn		**Sn**	**20 21 08.7**	**0.0**
KRUS	**Krusevo**	**1.78**	**14**	*e*Pn		**Pn**	**20 20 54.2**	**+0.4**
KRUS				*i* Sn		**Sn**	**20 21 16.9**	**+0.5**
KRUS	**Krusevo**	**1.78**	**14**	*e*Pn		**Pn**	**20 20 54.1**	**+0.4**
KRUS				*i* Sn		**Sn**	**20 21 16.8**	**+0.5**

IGQ 26 20:25:37.2, 055S×7794W, h7km±4km, Mb4.3, Ms4.1, 2C-14D, Error ellipse: s-maj=1.2km s-min=0.6km az=11.7, Ecuador

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
ANTI	**Antisana**	**0.24**	**295**	⇓P		Pg	20 25 42.3	+0.3
COV1	**Cotopaxi Volc**	**0.41**	**255**	⇓P		Pg	20 25 47.8	+2.6
TAMB	**Tambo**	**0.45**	**252**	⇓P		Pg	20 25 46.6	+0.7
VC1	**Cotopaxi 1**	**0.47**	**259**	⇓P		Pg	20 25 46.9	+0.6
PITA	**Cotopaxi Volc**	**0.49**	**269**	⇓P		Pg	20 25 46.9	+0.3
MOV1	**Cotopaxi Vol s**	**0.52**	**252**	⇓P		Pg	20 25 47.8	+0.5
NAS2	**Nasa**	**0.53**	**260**	⇓P		Pg	20 25 48.1	+0.7
LAV3	**Lava3-Reventad**	**0.55**	**35**	⇓P		Pg	20 25 48.7	+0.9
CONE	**Cono NE Rev Vo**	**0.56**	**32**	⇓P		Pg	20 25 49.0	+0.9
CAMI	**Rancho Maria**	**0.57**	**258**	⇓P		Pg	20 25 49.1	+0.8
CAYA	**Cayambe**	**0.62**	**356**	⇑P		Pg	20 25 49.4	+0.2
PISA	**Pisayambo**	**0.67**	**221**	P		Pg	20 25 50.4	+0.3
JUA2	**San Juan 2**	**0.74**	**297**	P		Pg	20 25 52.0	+0.5
GGP	**Refugio Guagua**	**0.75**	**300**	⇓P		Pg	20 25 52.4	+0.7
TERV	**Terraza Guagua**	**0.76**	**300**	P		Pg	20 25 52.6	+0.7
YANA	**Yana**	**0.76**	**304**	P		Pg	20 25 52.4	+0.5
YANA	**Yana**	**0.76**	**304**	S		Sg	20 26 04.6	+2.8
PINO	**Pino**	**0.77**	**300**	⇓P		Pg	20 25 52.8	+0.7
COTA	**Cotacachi**	**0.96**	**336**	⇓P		Pg	20 25 56.4	+0.6
COTA	**Cotacachi**	**0.96**	**336**	⇓S		Sg	20 26 09.9	+1.6
RUN5	**Runtun**	**0.98**	**209**	P		Pg	20 25 55.9	-0.2
RUN5	**Runtun**	**0.98**	**209**	S		Sg	20 26 09.6	+0.7
ULBA	**Ulba**	**1.00**	**207**	P		Pg	20 25 56.0	-0.5
ULBA	**Ulba**	**1.00**	**207**	S		Sg	20 26 10.3	+0.8
JUI6	**Juive**	**1.01**	**211**	P		Pg	20 25 56.4	-0.2
QIL2	**Quilotoa**	**1.02**	**252**	P		Pg	20 25 57.4	+0.6
RETU	**Refugio**	**1.02**	**209**	P		Pg	20 25 57.0	+0.1
BIL2	**Estacion Bilba**	**1.06**	**212**	P		Pg	20 25 56.9	-0.6
BIL2	**Estacion Bilba**	**1.06**	**212**	S		Sg	20 26 13.6	+2.4
PATA	**Patacocha**	**1.06**	**207**	P		Pg	20 25 57.4	-0.2
ARRY	**Arrayan**	**1.08**	**208**	⇑P		Pg	20 25 57.6	-0.3
IGUA	**Igualata**	**1.16**	**217**	P		Pg	20 25 59.6	0.0
IGUA	**Igualata**	**1.16**	**217**	S		Sg	20 26 16.9	+2.3

IDC 26 20:25:53.8±3.6, 184N×12693E, h0km, mb3.5/3, mb1 3.6/3, mb1mx3.4/14, mbtmp3.5/3, Error ellipse: s-maj=435.5km s-min=26.4km az=65.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
ASAR	**Alice Springs**	**26.25**	**165**	P		P	20 31 30.8	0.0
	0.2nm,0.3s,baz=343,slow=8.2,SNR=7.6							
STKA	**Stephens Creek**	**36.31**	**159**	P		P	20 32 59.3	0.0
	0.4nm,0.3s,baz=356,slow=8.4,SNR=6.4							
MKAR	**Makanchi Array**	**59.21**	**326**	P		P	20 35 56.8	0.0
	0.1nm,0.3s,baz=115,slow=8.1,SNR=6.1							

IGQ 26 20:26:43.8, 054S×7797W, h10km±6km, Mb4.2, Ms4.0, 1C-7D, Error ellipse: s-maj=2.2km s-min=1.0km az=34.4, Ecuador

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
ANTI	**Antisana**	**0.21**	**295**	P		Pg	20 26 47.9	-0.3
TAMB	**Tambo**	**0.43**	**249**	⇓P		Pg	20 26 53.0	+0.9
VC1	**Cotopaxi 1**	**0.44**	**256**	P		Pg	20 26 52.9	+0.5
CAMI	**Rancho Maria**	**0.55**	**255**	⇓P		Pg	20 26 55.5	+1.0
LAV3	**Lava3-Reventad**	**0.55**	**38**	P		Pg	20 26 55.1	+0.6
CONE	**Cono NE Rev Vo**	**0.57**	**35**	⇑P		Pg	20 26 55.6	+0.8
CAYA	**Cayambe**	**0.60**	**358**	⇓P		Pg	20 26 55.7	+0.2
CAYA	**Cayambe**	**0.60**	**358**	⇓S		Sg	20 27 03.8	+0.3
PISA	**Pisayambo**	**0.66**	**219**	⇓P		Pg	20 26 57.0	+0.4
PISA	**Pisayambo**	**0.66**	**219**	⇓S		Sg	20 27 06.5	+1.2
JUA2	**San Juan 2**	**0.71**	**297**	⇓P		Pg	20 26 58.6	+1.1
GGP	**Refugio Guagua**	**0.72**	**300**	P		Pg	20 26 58.8	+1.1
PINO	**Pino**	**0.74**	**301**	P		Pg	20 26 59.3	+1.2
PINO	**Pino**	**0.74**	**301**	S		Sg	20 27 10.8	+3.1
RUN5	**Runtun**	**0.98**	**207**	P		Pg	20 27 02.7	0.0
ULBA	**Ulba**	**1.01**	**206**	P		Pg	20 27 02.6	-0.5
ULBA	**Ulba**	**1.01**	**206**	S		Sg	20 27 16.0	-0.2
IGUA	**Igualata**	**1.16**	**215**	P		Pb	20 27 08.0	+2.1

IDC ***26*** *20:45:07.8±1.1, 1266N×12121E, h0km, mb3.9/8, mb1 4.0/8, mb1mx3.8/20, mbtmp3.9/8, MS3.3/6, Ms1 3.3/6, ms1mx2.9/34, Error ellipse: s-maj=54.7km s-min=16.2km az=65.0*
NEIC ***26*** *20:45:09.3±0.6, 1269N×12123E, h10km, mb4.0/4, Error ellipse: s-maj=24.9km s-min=10.3km az=60.0*
MAN ***26*** *20:45:11, 1248N×12088E, h17km, mb4.9, ML3.8, MS3.9*
ISCJB ***26*** *20:45:12.8±0.4, 1247N±003×12085E±003, h49km±6km, mb4.0/12, MS3.3/4, Error ellipse: s-maj=5.8km s-min=4.6km az=161.1*

ISC 26 20:45:13.9±0.4, 1247N±003×12085E±004, h40km±6km, n46, σ1§08/49, mb4.0/12, MS3.3/4, 4C-2D, Mindoro

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
SJMP	**San Jose**	**0.26**	**91**	*e*P		**Pn**	**20 45 16.9**	**-4.8**
SJMP				*e*S		**Sn**	**20 45 21.5**	**-5.6**
BUSP	**Coron**	**0.79**	**234**	*e*P		**Pn**	**20 45 26.9**	**-1.7**
BUSP				*e*S		**Sn**	**20 45 39.9**	**+0.8**
OTRP	**Odiongan**	**1.15**	**95**	*e*P		**Pn**	**20 45 31.4**	**-2.0**
LUBP	**Lubang**	**1.39**	**335**	*e*P		**Pn**	**20 45 34.6**	**-2.2**
LUBP				*e*S		**Sn**	**20 45 54.0**	**0.0**
CUYO	**Cuyo Island**	**1.62**	**174**	*e*P		**Pn**	**20 45 38.7**	**-1.2**
TGY	**Tagaytay City**	**1.63**	**3**⇑	*e*P		**Pn**	**20 45 40.0**	**-0.1**
TGY				*e*S		**Sn**	**20 46 02.4**	**+2.6**
KALP	**Kalibo**	**1.65**	**118**⇓	*e*P		**Pn**	**20 45 40.8**	**+0.5**
LBPH	**Los Banos**	**1.71**	**11**⇓	*e*P		**Pn**	**20 45 40.9**	**-0.2**
ENPP	**El Nido**	**1.88**	**228**	*e*P		**Pn**	**20 45 43.7**	**+0.2**
AUQP	**San Andres**	**1.97**	**64**	*e*P		**Pn**	**20 45 44.2**	**-0.5**
RCP	**Roxas**	**2.06**	**116**⇓	*e*P		**Pn**	**20 45 45.2**	**-0.8**
RCP				*e*S		**Sn**	**20 46 10.4**	**0.0**
GQP	**Guinayangan**	**2.11**	**47**⇑	*e*P		**Pn**	**20 45 45.9**	**-0.8**
GQP				*e*S		**Sn**	**20 46 11.9**	**+0.2**
NBP	**Mount Natib**	**2.30**	**349**⇑	*e*P		**Pn**	**20 45 47.7**	**-1.6**
POLP	**Polilio Island**	**2.48**	**25**	*e*P		**Pn**	**20 45 50.8**	**-1.0**
GUIM	**Jordan**	**2.50**	**137**	*e*P		**Pn**	**20 45 51.7**	**-0.4**
BALP	**Baler**	**3.33**	**12**	*e*P		**Pn**	**20 46 04.3**	**+0.9**
PVCP	**Virac**	**3.41**	**70**	*e*P		**Pn**	**20 46 04.2**	**-0.3**
SCZP	**Santa Cruz**	**3.41**	**345**	*e*P		**Pn**	**20 46 05.7**	**+1.1**
LLP	**Lapu-Lapu**	**3.73**	**125**	*e*P		**Pn**	**20 46 09.7**	**+0.8**
LLP				*e*S		**Sn**	**20 46 47.6**	**-4.0**
BOLP	**Bolinao**	**4.00**	**347**	*e*P		**Pn**	**20 46 13.1**	**+0.5**
TBP	**Tagbilaran**	**4.04**	**133**	*e*P		**Pn**	**20 46 14.5**	**+1.2**
CAUP	**Cauayan**	**4.55**	**12**	*e*P		**Pn**	**20 46 26.1**	**+5.9**
MSLP	**Maasin**	**4.56**	**120**	*e*P		**Pn**	**20 46 21.2**	**+0.8**
BATP	**Bataraza**	**4.72**	**220**	*e*P		**Pn**	**20 46 22.0**	**-0.6**
PALP	**Palanan**	**4.81**	**18**	*e*P		**Pn**	**20 46 24.2**	**+0.4**
ABRA	**Dolores**	**5.15**	**359**	*e*P		**Pn**	**20 46 30.0**	**+1.5**
PAGZ	**Pagadian**	**5.22**	**151**	*e*P		**Pn**	**20 46 30.5**	**+1.0**
BUKP	**Musuan**	**6.16**	**137**	*e*P		**Pn**	**20 46 44.6**	**+2.2**
DAV	**Davao City (W)**	**7.10**	**139**	LR		LR	20 50 21.6	
	comp=Z,226nm,18.5s,baz=135,slow=45							
KAPI	**Kappang**	**17.40**	**184**	LR		LR	20 56 03.6	
	comp=Z,83nm,18.3s,baz=198,slow=37							
CM31	**Chiang Mai Arr**	**21.93**	**288**	P		**P**	**20 50 00.9**	**-3.2**
	3.5nm,0.8s,mb3.8							
CMAR	**Chiang Mai Arr**	**21.93**	**288**	P		**P**	**20 50 06.8**	**+2.7**
	1.7nm,0.8s,mb3.5,baz=102,slow=8.9,SNR=12							
BATI	**Baumata**	**22.70**	**173**	P		**P**	**20 50 12.1**	**-0.2**
	19nm,0.6s,mb4.7,baz=310,slow=3.1,SNR=7.6							
BATI				LR		LR	21 01 59.9	
	comp=Z,120nm,19.0s,MS3.4,baz=315,slow=44							
KSRS	**Korea Array**	**25.67**	**13**	LR		LR	20 59 46.4	
	comp=Z,27nm,21.1s,MS2.8,baz=200,slow=35							
LSA	**Lhasa**	**32.45**	**307**	P		**P**	**20 51 41.7**	**+1.2**
	7.6nm,1.2s,mb4.4							
ULN	**Ulaanbaatar**	**37.13**	**345**	P		**P**	**20 52 19.3**	**-1.3**
	1.1nm,0.8s,mb3.7							
SONM	**Songino Array**	**37.27**	**344**	P		**P**	**20 52 21.7**	**-0.2**
	0.4nm,0.5s,mb3.5,baz=158,slow=9.2,SNR=4.0							
SONM				LR		LR	21 08 58.4	
	comp=Z,71nm,19.0s,MS3.5,baz=127,slow=38							
ASAR	**Alice Springs**	**38.11**	**160**	P		**P**	**20 52 29.9**	**+0.8**
	2.7nm,0.5s,mb4.2,baz=341,slow=7.3,SNR=84							
MK31	**Makanchi Array**	**47.11**	**324**	*e*P		**P**	**20 53 41.7**	**-0.3**
MKAR	**Makanchi Array**	**47.11**	**324**	P		**P**	**20 53 41.5**	**-0.5**
	1.6nm,0.8s,mb4.0,baz=123,slow=8.8,SNR=7.9							
MKAR	**Makanchi Array**	**47.11**	**324**	P		**P**	**20 53 41.5**	**-0.5**
STKA	**Stephens Creek**	**48.37**	**156**	P		**P**	**20 53 51.5**	**-0.4**
	1.6nm,0.8s,mb4.1,baz=354,slow=9.2,SNR=3.3							
ZALV	**Zalesovo Beam**	**50.22**	**333**	P		**P**	**20 54 05.0**	**-0.7**
	0.4nm,0.3s,mb3.9,baz=131,slow=7.2,SNR=2.8							
KURK	**Kurchatov**	**51.29**	**327**	P		**P**	**20 54 13.2**	**-0.7**
	0.5nm,0.4s,mb3.8,baz=123,slow=8.8,SNR=8.6							
KBL	**Kabul**	**51.72**	**304**	*e*P		**P**	**20 54 18.3**	**+0.9**
	2.3nm,0.9s,mb4.1							
GNI	**Garni**	**71.49**	**308**	LR		LR	21 32 08.9	
	comp=Z,28nm,18.1s,MS3.6,baz=305,slow=39							

ISCJB ***26*** *21:07:53.9±0.8, 2407S±005×667W±0.1, h192km±9km, mb3.7/4, Error ellipse: s-maj=17.7km s-min=8.5km az=176.4*
IDC ***26*** *21:07:53.0±1.6, 24.12S×6683W, h174km±15km, mb3.8/3, mb1 3.9/7, mb1mx3.7/14, mbtmp3.8/7, Error ellipse: s-maj=20.6km s-min=13.2km az=94.0*
NEIC ***26*** *21:07:54.7±0.7, 2409S×6671W, h191km±8km, mb4.5/1, Error ellipse: s-maj=13.3km s-min=8.6km az=91.0*

ISC 26 21:07:54.7±0.8, 2405S±005×667W±01, h183km±9km, n25, σ1§05/23, mb3.8/4, Salta Province

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
LVC	**Limon Verde**	**2.47**	**305**	*e*Pn		**Pn**	**21 08 38.6**	**+1.3**
CFAA	**Coronel Fontan**	**7.65**	**190**	P		**Pn**	**21 09 42.5**	**-0.8**
	0.2nm,0.3s,baz=8.5,slow=11,SNR=9.8							
CFAA				S		**Sn**	**21 11 02.8**	**-6.6**
	0.8nm,0.3s,baz=274,slow=21,SNR=20							
LPAZ	**La Paz**	**7.83**	**350**	P		**Pn**	**21 09 47.1**	**+1.3**
	1.1nm,0.3s,baz=164,slow=7.3,SNR=7.1							
LPAZ				S		**Sn**	**21 11 12.6**	**-1.2**
	0.6nm,0.3s,baz=71,slow=24,SNR=8.2							
SIV	**San Ignacio**	**9.61**	**34**	P		**Pn**	**21 10 08.6**	**-0.5**
	4.1nm,0.3s,baz=238,slow=11,SNR=40							
SIV				S		**Sn**	**21 11 46.5**	**-10**
	0.1nm,0.3s,baz=230,slow=14,SNR=3.4							
TRQA	**Tornquist**	**14.54**	**165**	*e*Pn		**Pn**	**21 11 11.3**	**-0.6**
	32nm,1.4s							
PLCA	**Paso Flores**	**16.95**	**190**	P		**Pn**	**21 11 39.3**	**-1.8**
	0.1nm,0.3s,baz=13,slow=14,SNR=3.5							
BDFB	**Brasilia**	**19.46**	**68**	P		**P**	**21 12 09.0**	**+1.4**
	1.9nm,0.3s,baz=234,slow=17,SNR=51							
VNA3	**Neumayer Olymp**	**57.02**	**161**	*e*		**P**	**21 17 21.7**	**+0.7**
VNA3				*e*			21 17 24.3	
VNA1	**Neumayer--Stat**	**57.22**	**160**	*e*		**P**	**21 17 23.9**	**+1.6**
VNA1				*e*			21 17 25.8	
VNA2	**Neumayer--Watz**	**57.59**	**160**	*e*		**P**	**21 17 25.9**	**+1.0**
	baz=302,slow=5.9							
VNA2				*e*			21 17 28.2	
SNAA	**Sanae**	**59.22**	**161**	*e*		**P**	**21 17 36.6**	**+0.4**
SNAA				*e*			21 17 39.2	
GLAT	**Glass**	**63.67**	**340**	*e*P		**P**	**21 18 02.5**	**-3.9**
TXAR	**Lajitas Array**	**63.87**	**324**	P		**P**	**21 18 07.3**	**-0.6**
	0.6nm,0.6s,mb3.6,baz=156,slow=8.4,SNR=8.8							
DBIC	**Dimbokro**	**67.57**	**71**	P		**P**	**21 18 31.1**	**-0.7**
	3.6nm,1.0s,mb4.1,baz=92,slow=9.1,SNR=4.1							
CCUT	**Cedar City**	**75.35**	**323**	*e*P		**P**	**21 19 19.4**	**+1.5**
TOA0	**Torodi Ar. Sit**	**76.34**	**69**	*e*P		**P**	**21 19 23.1**	**-0.9**
TORD	**Torodi Ar. Bea**	**76.34**	**69**	P		**P**	**21 19 23.5**	**-0.5**
	186nm,0.4s,baz=251,slow=5.8,SNR=2.2							
PDAR	**Pinedale Array**	**77.32**	**329**	P		**P**	**21 19 28.6**	**-0.3**
	0.7nm,0.6s,mb3.5,baz=138,slow=9.4,SNR=6.2							
YKA	**Yellowknife Ar**	**94.26**	**340**	P		**P**	**21 20 51.5**	**-0.9**
	0.8nm,0.5s,mb4.1,baz=133,slow=4.9,SNR=6.1							
YKA	**Yellowknife Ar**	**94.26**	**340**	P		**P**	**21 20 51.5**	**-0.9**
ASAR	**Alice Springs**	**128.52**	**204**	PKP		PKPdf	21 26 39.5	-0.9
	0.8nm,0.7s,baz=154,slow=2.5,SNR=9.9							
ZALV	**Zalesovo Beam**	**143.31**	**28**	PKP		PKPdf	21 27 03.7	-3.1
	1.2nm,0.6s,baz=300,slow=3.7,SNR=5.3							
ZALV	**Zalesovo Beam**	**143.31**	**28**	PKP		PKPdf	21 27 03.7	-3.1
MKAR	**Makanchi Array**	**146.39**	**40**	PKPbc		PKPbc	21 27 13.9	0.0
	1.3nm,0.6s,baz=295,slow=3.6,SNR=19							
MKAR				pPKPbc		pPKPbc	21 28 00.3	-0.6
	0.4nm,0.6s,baz=279,slow=7.5,SNR=6.2							
MKAR	**Makanchi Array**	**146.39**	**40**	PKPbc		PKPbc	21 27 13.9	0.0
MKAR				pPKPbc		pPKPbc	21 28 00.3	-0.7

TIR ***26*** *21:19:51.4±2.6, 3967N×2075E, h6km±18km*
ATH ***26*** *21:19:51.8, 3979N×2069E, h18km±1km, MD3.4/6*
NEIC ***26*** *21:19:51.8, 3979N×2069E, h18km, MD3.4(ATH), After ATH.*
CSEM ***26*** *21:19:52.2±0.1, 3980N×2070E, h10km, MD3.4, Error ellipse: s-maj=2.6km s-min=1.9km az=79.0*
THE ***26*** *21:19:52.9, 3980N×2070E, h4km±1km, ML3.8/4, Error ellipse: s-maj=1.8km s-min=1.0km az=279.0*
ISCJB ***26*** *21:19:52.3±0.7, 3975N±003×2074E±004, h2km±6km, Error ellipse: s-maj=5.5km s-min=4.1km az=149.9*

ISC 26 21:19:53.2±0.5, 3975N±003×2074E±004, h7km±4km, n37, σ1§22/53, Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
JAN	**Janina**	**0.13**	**138**	*e*Pb		**Pg**	**21 19 56.3**	**+0.3**
JAN				*e*Sb		**Sg**	**21 19 59.8**	**+2.0**
JAN	**Janina**	**0.13**	**138**	*e*PB		**Pg**	**21 19 56.3**	**+0.3**
JAN				*e*SB		**Sg**	**21 19 59.8**	**+2.0**
MEV	**Metsovon**	**0.38**	**85**	P		**Pg**	**21 20 00.6**	**0.0**
MEV				S		**Sg**	**21 20 07.3**	**+1.7**
SRN	**Sarande**	**0.58**	**283**	*e*PG		**Pg**	**21 20 03.0**	**-1.4**
SRN				*i* SG		**Sg**	**21 20 12.4**	**+0.4**
KEK	**Kerkira**	**0.72**	**267**	*e*Pn		**Pn**	**21 20 05.2**	**-4.7**
KEK	**Kerkira**	**0.72**	**267**	*e*PN		**Pn**	**21 20 05.2**	**-4.7**
TPE	**Tepelena**	**0.78**	**314**	*e*PG		**Pg**	**21 20 09.0**	**+0.9**
KBN	**Korca**	**0.87**	**3**	*e*PG		**Pg**	**21 20 09.2**	**-0.7**
KZN	**Kozani**	**0.97**	**55**	*e*Pn		**Pn**	**21 20 10.6**	**-2.6**
KZN	**Kozani**	**0.97**	**55**	*e*PN		**Pn**	**21 20 10.6**	**-2.6**
THL	**Klokotos Trika**	**1.00**	**100**	*e*Pb		**Pb**	**21 20 10.8**	**-2.1**
THL	**Klokotos Trika**	**1.00**	**100**	P		**Pg**	**21 20 11.8**	**-0.7**
THL	**Klokotos Trika**	**1.00**	**100**	*e*PB		**Pb**	**21 20 10.8**	**-2.1**
LKD	**Levkas**	**1.05**	**184**	P		**Pg**	**21 20 12.5**	**-0.8**
LKD				S		**Sg**	**21 20 29.7**	**+2.8**
FNA	**Florina**	**1.14**	**25**	P		**Pg**	**21 20 13.8**	**-1.3**
FNA				S		**Sg**	**21 20 29.7**	**-0.1**
EVR	**Evrytania**	**1.18**	**135**	*e*Pb		**Pb**	**21 20 13.8**	**-2.1**
EVR	**Evrytania**	**1.18**	**135**	*e*PB		**Pb**	**21 20 13.8**	**-2.1**
BIA	**Bitola**	**1.34**	**19**	*i* Pn		**Pn**	**21 20 17.2**	**-1.1**
BIA				*i* Sn		**Sn**	**21 20 35.9**	**-0.6**
BIA	**Bitola**	**1.34**	**19**	P		**Pn**	**21 20 16.9**	**-1.4**
BIA	**Bitola**	**1.34**	**19**	*i* Pn		**Pn**	**21 20 17.2**	**-1.1**
BIA				*i* Sn		**Sn**	**21 20 35.8**	**-0.6**
OHR	**Ohrid**	**1.36**	**2**	*i* Pn		**Pn**	**21 20 18.2**	**-0.3**
OHR				*i* Sn		**Sn**	**21 20 38.5**	**+1.7**
OHR	**Ohrid**	**1.36**	**2**	*i* Pn		**Pn**	**21 20 18.2**	**-0.4**
OHR				*i* Sn		**Sn**	**21 20 38.4**	**+1.6**
LIT	**Litokhoron**	**1.39**	**75**	P		**Pn**	**21 20 17.7**	**-1.3**
LIT				S		**Sb**	**21 20 37.7**	**+0.2**
AGG	**Agios Georgios**	**1.44**	**120**	P		**Pn**	**21 20 19.1**	**-0.5**
AGG				S		**Sn**	**21 20 40.5**	**+1.8**
VLS	**Valsamata**	**1.58**	**184**	*e*Pn		**Pn**	**21 20 21.9**	**+0.3**
VLS	**Valsamata**	**1.58**	**184**	*e*PN		**Pn**	**21 20 21.9**	**+0.3**
KRUS	**Krusevo**	**1.66**	**13**	*i* Pn		**Pn**	**21 20 23.8**	**+1.1**
KRUS				*i* Sn		**Sn**	**21 20 47.1**	**+2.8**
KRUS	**Krusevo**	**1.66**	**13**	*i* Pn		**Pn**	**21 20 23.8**	**+1.1**
KRUS				*i* Sn		**Sn**	**21 20 47.0**	**+2.7**
GRG	**Griva**	**1.75**	**46**	P		**Pn**	**21 20 23.5**	**-0.4**
QSH	**Qafa e Shtames**	**1.88**	**341**	*e*PN		**Pn**	**21 20 30.0**	**+4.3**
VAY	**Valandovo**	**2.10**	**41**	P		**Pn**	**21 20 28.8**	**+0.1**
VAY	**Valandovo**	**2.10**	**41**	*i* Pn		**Pn**	**21 20 28.9**	**+0.2**
VAY				*i* Sn		**Sn**	**21 20 55.3**	**+0.3**
KNT	**Kendrikon**	**2.17**	**49**	P		**Pn**	**21 20 29.2**	**-0.5**
PLG	**Polygyros**	**2.17**	**73**	P		**Pn**	**21 20 29.4**	**-0.3**
STIP	**Stip**	**2.23**	**29**	*i* Pn		**Pn**	**21 20 31.1**	**+0.6**
STIP				*i* Sn	

RUP Sg Sg 22 06 11.5 +0.8
WLF Walferdange 0.50 308 ePg Pg 22 06 09.9 +2.2
SNR=33
WLF eSg Sg 22 06 16.1 +2.0
SNR=4.2
ABH Alteburg 0.73 44 P* Pb 22 06 12.2 -1.4
ABH Alteburg 0.73 44 Pg Pg 22 06 12.1 0.0
LANF Langenberg 0.79 119 Pg Pg 22 06 13.3 +0.1
LANF Sg Sg 22 06 24.9 +1.6
LANF Langenberg 0.79 119 ⇓Pg Pg 22 06 13.5 +0.3
KTD Kalmit 0.87 92 P* Pb 22 06 15.1 -0.5
KTD Kalmit 0.87 92 Pg Pg 22 06 15.1 +0.4
KTD Sg Sg 22 06 27.8 +1.9
BGG Burgeitz 0.92 24 ePg Pg 22 06 15.5 -0.3
HILG Hillesheim 0.93 357 ePg Pg 22 06 17.1 +1.2
CDF Champ du Feu 1.01 160 ePg Pg 22 06 18.9 +1.4
CDF eSg Sg 22 06 31.1 +0.6
156nm,0.2s
CDF Champ du Feu 1.01 160 ePg Pg 22 06 18.9 +1.4
CDF eSg Sg 22 06 31.1 +0.6
78nm,0.2s
CDF Champ du Feu 1.01 160 ePn Pn 22 06 17.8 -1.7
CDF ePg Pg 22 06 18.9 +1.4
CDF eSg Sg 22 06 31.1 +0.6
STR Strasbourg 1.02 139 ePg Pg 22 06 19.3 +1.6
SNR=2.6
RFYF Reffroy 1.12 230 ePg Pg 22 06 21.7 +2.1
baz=48
RFYF eSn Sn 22 06 37.6 +0.5
321nm,0.3s,baz=44
RFYF Reffroy 1.12 230 ePg Pg 22 06 21.7 +2.1
RFYF eSn Sn 22 06 37.6 +0.5
160nm,0.3s
ECH Echery 1.18 167 P Pg 22 06 21.2 +0.5
ECH Pg Pg 22 06 22.1 +1.5
ECH S Sn 22 06 37.5 -1.0
ECH Sg Sg 22 06 39.0 +3.1
ECH Echery 1.18 167 Pn Pg 22 06 21.2 +0.5
ECH Sn Sn 22 06 37.5 -1.0
ECH Echery 1.18 167 P Pg 22 06 22.1 +1.5
ECH S Sg 22 06 39.0 +3.1
ECH Echery 1.18 167 Pg Pg 22 06 21.9 +1.2
ECH Sg Sg 22 06 37.3 +1.4
STB Steinbach 1.23 2 ePg Pg 22 06 22.5 +0.7
STB eSg Sg 22 06 38.9 +1.1
46nm,0.5s
KOE Koeppel 1.23 30 ePg Pg 22 06 21.3 -0.5
KOE eSg Sg 22 06 39.3 +1.5
THEF They Montfort 1.25 205 Pg Pg 22 06 22.9 +0.9
THEF Sg Sg 22 06 39.4 +1.3
THEF They Montfort 1.25 205 Pn Pn 22 06 23.1 +0.3
THEF Sn Sn 22 06 39.6 -0.6
SWS Schriesheim-Wi 1.27 84 P Pg 22 06 21.7 -0.8
SWS Pg Pg 22 06 22.6 +0.1
SWS Schriesheim-Wi 1.27 84 P Pg 22 06 22.6 +0.1
SWS Schriesheim-Wi 1.27 84 Pg Pg 22 06 22.6 +0.1
KLL Kalltalsperre 1.32 347 ePg Pg 22 06 23.4 +0.1
LIBD Limburg 1.33 155 P Pg 22 06 25.0 +1.3
LIBD S* Sb 22 06 42.7 +1.1
LIBD Limburg 1.33 155 Pg Pg 22 06 24.9 +1.2
LIBD Sg Sg 22 06 42.6 +1.6
MEM Membach 1.34 339 P Pg 22 06 24.0 +0.2
MEM Membach 1.34 339 P Pg 22 06 23.9 +0.1
DREG Dreilaegerbach 1.34 346 ePg Pg 22 06 23.7 -0.2
DREG eSg Sg 22 06 41.6 +0.2
TOD Tromm 1.35 79 P Pg 22 06 22.7 -1.4
TOD Pg Pg 22 06 23.7 -0.4
TOD Sg Sg 22 06 42.2 +0.6
TOD Tromm 1.35 79 P Pg 22 06 23.7 -0.4
TOD S Sg 22 06 42.2 +0.6
TOD Tromm 1.35 79 Pg Sg 22 06 23.7 -0.4
TOD Sg Sg 22 06 39.0 -2.6
TOD Tromm 1.35 79 Pg Pg 22 06 23.4 -0.7
TOD Sg Sg 22 06 39.0 -2.6
HAU Haudompre 1.39 192 ePn Pn 22 06 25.1 +0.4
HAU eSg Sg 22 06 44.3 +1.7
233nm,0.3s
HAU Haudompre 1.39 192 ePn Pn 22 06 25.1 +0.4
HAU eSg Sg 22 06 44.3 +1.7
117nm,0.3s
TNS Taunus Mts 1.39 51 P Pn 22 06 23.4 -1.4
TNS Sg Sg 22 06 43.1 +0.3
TNS Taunus Mts 1.39 51 ePg Pg 22 06 23.1 -1.7
TNS Sg Sg 22 06 43.1 +0.3
TNS Taunus Mts 1.39 51 ePg Pg 22 06 23.1 -1.7
TNS eSg Sg 22 06 43.1 +0.3
BCLA Clavier 1.42 319 P Pn 22 06 25.4 +0.3
BCLA Clavier 1.42 319 P Pn 22 06 25.4 +0.3
MEZF Maizieres J'vi 1.42 233 ePn Pn 22 06 26.1 +1.0
MEZF eSg Sg 22 06 46.5 +2.9
129nm,0.4s
MEZF Maizieres J'vi 1.42 233 ePn Pn 22 06 26.1 +1.0
MEZF eSg Sg 22 06 46.5 +2.9
64nm,0.4s
GIVF Givet 1.46 301 ePg Pg 22 06 27.5 +1.4
GIVF eSg Sg 22 06 47.0 +2.0
150nm,0.5s
GIVF Givet 1.46 301 ePg Pg 22 06 27.5 +1.4
GIVF eSg Sg 22 06 47.0 +2.0
75nm,0.5s
GIVF Givet 1.46 301 ePn Pn 22 06 26.2 +0.5
GIVF ePg Pg 22 06 27.5 +1.4
GIVF eSg Sg 22 06 47.0 +2.0
BFO Black Forest 1.46 134 ePn Pn 22 06 25.0 -0.7
SNR=4.1
BFO ePg Pg 22 06 26.6 +0.4
SNR=27
BFO eSg Sg 22 06 46.4 +1.3
BFO Black Forest 1.46 134 Pn Pn 22 06 25.0 -0.7
SNR=4.1
BFO Black Forest 1.46 134 ePg Pg 22 06 24.9 -1.2
BFO eSg Sg 22 06 46.4 +1.3
HGN Heimansgroeve 1.50 339 ePn Pn 22 06 26.1 -0.2
4.6nm,0.7s
HGN Heimansgroeve 1.50 339 ePg Pg 22 06 28.1 +1.2
38nm,0.7s
HGN eSg Sg 22 06 47.9 +1.6
HGN Heimansgroeve 1.50 339 ePn Pn 22 06 26.1 -0.1
4.6nm,0.7s,baz=160
HGN Heimansgroeve 1.50 339 ePg Pg 22 06 28.1 +1.2
38nm,0.7s
HGN eSg Sg 22 06 47.9 +1.6
HGN Heimansgroeve 1.50 339 eRg 22 07 02.8
LBG Lerchenberg 1.51 117 P Pn 22 06 25.7 -0.7
LBG Pg Pg 22 06 27.1 +0.1
LBG Lerchenberg 1.51 117 P Pg 22 06 27.1 +0.1
MOF Molkenrain 1.53 171 Pg Pg 22 06 28.2 +0.7
MOF Sg Sg 22 06 48.1 +0.8
MOF Molkenrain 1.53 171 P Pg 22 06 28.5 +1.0
MOF S Sn 22 06 49.0 +1.7
MOF Molkenrain 1.53 171 Pg Pg 22 06 28.5 +1.0
MOF Sg Sg 22 06 48.1 +0.8
HINF Hinteralfeld 1.55 178 ePg Pg 22 06 28.4 +0.6
HINF eSg Sg 22 06 48.8 +1.0
267nm,0.3s
HINF Hinteralfeld 1.55 178 ePg Pg 22 06 28.4 +0.6
HINF eSg Sg 22 06 48.8 +1.0
133nm,0.3s
HINF Hinteralfeld 1.55 178 ePn Pn 22 06 26.6 -0.3
HINF ePg Pg 22 06 28.4 +0.6
HINF eSg Sg 22 06 48.8 +1.0
DOU Dourbes 1.58 298 P Pn 22 06 28.2 +0.8
DOU Dourbes 1.58 298 P Pn 22 06 28.1 +0.7
KIZ Kirchzarten 1.60 151 P Pn 22 06 26.8 -0.9
KIZ Pg Pg 22 06 28.9 +0.1
KIZ S Sn 22 06 46.3 -2.8
KIZ Sg Sg 22 06 50.1 +0.5
KIZ Kirchzarten 1.60 151 Px Px 22 06 26.8
KIZ Sn Sn 22 06 46.3 -2.8
KIZ Kirchzarten 1.60 151 P Pg 22 06 28.9 +0.1
KIZ S Sg 22 06 50.1 +0.5
SFTF Sexfontaines 1.62 225 ePn Pn 22 06 28.4 +0.5
baz=49
SFTF eSn Sn 22 06 48.5 -1.0
SFTF eSg Sg 22 06 52.8 +2.5
56nm,0.3s
SFTF Sexfontaines 1.62 225 ePn Pn 22 06 28.4 +0.5
SFTF eSn Sn 22 06 48.5 -1.0
SFTF eSg Sg 22 06 52.8 +2.5
28nm,0.3s
HOBG Hohbusch 1.66 13 ePg Pg 22 06 28.8 -1.2
FELD Feldberg im Sc 1.70 151 Pg Pg 22 06 30.5 -0.2
FELD Sg Sg 22 06 53.6 +0.9
FELD Feldberg im Sc 1.70 151 Pg Pg 22 06 30.9 +0.2
FELD Sg Sg 22 06 53.6 +0.9
BAIF Baives 1.80 294 ePg Pg 22 06 33.9 +1.3
BAIF eSg Sg 22 06 57.8 +2.0
121nm,0.7s
BAIF Baives 1.80 294 ePg Pg 22 06 33.9 +1.3
BAIF eSg Sg 22 06 57.8 +2.0
60nm,0.7s
BAIF Baives 1.80 294 ePn Pn 22 06 30.9 +0.6
BAIF ePg Pg 22 06 33.9 +1.3
BAIF eSg Sg 22 06 57.8 +2.0
SPAK Spaichingen-Ko 1.84 132 Pg Pg 22 06 33.6 +0.2
SPAK Sg Sg 22 06 59.5 +2.3
SPAK Spaichingen-Ko 1.84 132 Pg Pg 22 06 33.5 +0.1
SPAK Sg Sg 22 06 58.4 +1.2
BBS Basel-Blauen 1.96 165 Pg Pg 22 06 36.4 +0.7
SNF Seneffe 1.97 307 P Pn 22 06 34.9 +2.2
LOMF Lomont 2.01 179 Pg Pg 22 06 35.7 -1.0
LOMF Lomont 2.01 179 Pg Pg 22 06 37.0 +0.3
LOMF Sg Sg 22 07 04.2 +1.4
GUT Gutenstein 2.03 129 P Pn 22 06 33.0 -0.5
GUT Pg Pg 22 06 37.0 +0.1
GUT Sg Sg 22 07 03.0 -0.2
GUT Gutenstein 2.03 129 P Pg 22 06 37.0 +0.1
GUT S Sg 22 07 03.0 -0.2
GUT Gutenstein 2.03 129 Pg Pg 22 06 37.0 +0.1
GUT Sg Sg 22 07 03.0 -0.2
BUG Bochum--Univer 2.11 9 ePg Pg 22 06 35.9 -2.5
BUG eSg Sg 22 07 03.0 -2.7
SNR=3.9
UCC Uccle 2.11 314 P Pn 22 06 40.9 +6.3
SISB Singen-Schiene 2.23 138 P Pn 22 06 36.4 +0.2
SISB S* Sb 22 07 10.3 +3.0
HDH Heidenheim-Cha 2.40 108 Pg Pg 22 06 43.3 -0.8
HDH Sg Sg 22 07 14.7 -0.5
WTSB Winterswijk 2.61 1 ePg Pg 22 06 49.6 +1.5
16nm,0.9s
WTSB eSg Sg 22 07 21.0 -0.8
CABF La Chapelle 2.79 190 ePn Pn 22 06 44.1 +0.1
CABF eSn Sn 22 07 16.5 -1.8
7.1nm,0.3s
CABF eSg Sg 22 07 28.4 +0.7
73nm,0.6s
CABF La Chapelle 2.79 190 ePn Pn 22 06 44.1 +0.1
CABF eSn Sn 22 07 16.5 -1.8
3.5nm,0.3s
CABF eSg Sg 22 07 28.4 +0.7
36nm,0.6s
UBR Ueberruh 2.79 126 P Pn 22 06 44.7 +0.7
LOR Lormes 2.85 224 ePn Pn 22 06 44.7 -0.1
baz=49
LOR eSn Sn 22 07 18.9 -1.0
56nm,0.4s
LOR eSg Sg 22 07 31.3 +1.6
39nm,0.3s
LOR Lormes 2.85 224 ePn Pn 22 06 44.7 -0.1
LOR eSn Sn 22 07 18.9 -1.0
28nm,0.4s
LOR eSg Sg 22 07 31.3 +1.6
20nm,0.3s
GRA1 Grafenberg Arr 2.92 82 Pg Pg 22 06 51.3 -2.9
GRA1 Sg Sg 22 07 31.9 -0.2
GRA1 Grafenberg Arr 2.92 82 ePg Pg 22 06 51.3 -2.9
GRA1 eSg Sg 22 07 31.9 -0.2
GRF Grafenberg Arr 2.92 82 ePg Pg 22 06 51.3 -2.9
GRF eSg Sg 22 07 31.9 -0.1
DAVA Damuels 2.94 134 ⇑*i*Pn Pn 22 06 47.0 +1.0
DAVA ⇑*i*Sn Sn 22 07 24.2 +2.1
SSF Saint Saulge 3.17 225 ePn Pn 22 06 48.9 -0.3
SSF eSn Sn 22 07 26.0 -1.6
22nm,0.4s
SSF eSg Sg 22 07 41.2 +1.4
63nm,0.6s
SSF Saint Saulge 3.17 225 ePn Pn 22 06 48.9 -0.3
SSF eSn Sn 22 07 26.0 -1.6
11nm,0.4s
SSF eSg Sg 22 07 41.2 +1.4
32nm,0.6s
FUR Furstenfeldbru 3.22 110 ePn Pn 22 06 51.0 +1.1
SNR=3.0
FUR eSg Sg 22 07 41.3 -0.2
RETA Reutte 3.26 124 ⇑*i*Pn Pn 22 06 51.7 +1.3
SMF Signal de Mont 3.35 217 ePn Pn 22 06 51.1 -0.6
SMF eSn Sn 22 07 30.6 -1.5
25nm,0.3s
SMF eSg Sg 22 07 46.8 +1.1
46nm,0.5s
SMF Signal de Mont 3.35 217 ePn Pn 22 06 51.1 -0.6
SMF eSn Sn 22 07 30.6 -1.5
12nm,0.3s
SMF eSg Sg 22 07 46.8 +1.1
23nm,0.5s
CLZ Clausthal 3.38 41 ePn Pn 22 06 50.8 -1.4
SNR=1.8
CLZ ePg Pg 22 07 01.4 -1.5
SNR=3.3
CLZ eSg Sg 22 07 43.0 -3.7
SNR=2.4
MOX Moxa 3.38 66 ePg Pg 22 07 00.7 -2.2
SNR=2.4
MOX Moxa 3.38 66 ePg Pg 22 07 00.8 -2.2
AVF Avril sur Loir 3.44 223 ePn Pn 22 06 52.6 -0.3
AVF eSn Sn 22 07 32.8 -1.6
21nm,0.4s
AVF eSg Sg 22 07 49.5 +0.9
25nm,0.5s
AVF Avril sur Loir 3.44 223 ePn Pn 22 06 52.6 -0.3
AVF eSn Sn 22 07 32.8 -1.6
10nm,0.4s
AVF eSg Sg 22 07 49.5 +0.9
12nm,0.5s
HYF Humbligny 3.46 234 ePn Pn 22 06 53.7 +0.6
HYF ePg Pg 22 07 05.0 +0.7
HYF eSn Sn 22 07 33.3 -1.5
HYF eSg Sg 22 07 50.4 +1.3
MOTA Moosalm 3.53 123 ⇑*i*Pn Pn 22 06 55.2 +1.0
MOTA ⇑*i*Sn Sn 22 07 37.5 +1.0
FETA Feichten 3.54 130 ⇑*i*Pn Pn 22 06 56.1 +1.8
FETA ⇑*i*Sn Sn 22 07 39.4 +2.6
WERD Werda 3.75 71 ePg Pg 22 07 08.1 -1.8
SNR=2.4
WERD eSg Sg 22 07 56.6 -1.8
SNR=4.0
NKC Novy Kostel 3.79 75 ePG Pg 22 07 07.8 -2.8
NKC eSG Sg 22 07 57.4 -2.3
24nm,0.8s
TANN Tannenbergstha 3.83 72 eSg Sg 22 07 58.4 -2.8
SNR=3.1
BGF Bois d'Agland 3.85 225 ePn Pn 22 06 58.3 -0.2
BGF eSn Sn 22 07 42.3 -2.0
90nm,0.4s
BGF eSg Sg 22 08 02.5 +0.9
126nm,0.4s
BGF Bois d'Agland 3.85 225 ePn Pn 22 06 58.3 -0.2
BGF eSn Sn 22 07 42.3 -2.0
45nm,0.4s
BGF eSg Sg 22 08 02.5 +0.9
63nm,0.4s
LPL La Plagne 3.85 180 ePn Pn 22 06 59.4 +0.9
LPL eSn Sn 22 07 41.7 -2.7
5.2nm,0.4s
LPL eSg Sg 22 08 01.0 -0.7
9.4nm,0.5s
LPL La Plagne 3.85 180 ePn Pn 22 06 59.4 +0.9
LPL eSn Sn 22 07 41.7 -2.7
2.6nm,0.4s
LPL eSg Sg 22 08 01.0 -0.7
4.7nm,0.5s
LPG La Plagne 3.87 180 ePn Pn 22 06 59.6 +0.8
LPG eSn Sn 22 07 42.2 -2.7
8.4nm,0.4s
LPG eSg Sg 22 08 01.4 -0.9
16nm,0.6s
LPG La Plagne 3.87 180 ePn Pn 22 06 59.6 +0.8
LPG eSn Sn 22 07 42.2 -2.7
4.2nm,0.4s
LPG eSg Sg 22 08 01.4 -0.9
7.9nm,0.6s
WTTA Wattenberg 3.87 121 ⇑*i*Pn Pn 22 07 00.3 +1.5
WET Wettzell 4.01 91 ePn Pn 22 07 00.9 +0.1
SNR=4.7
TCF Toulx Ste Croi 4.34 227 ePg Pg 22 07 20.8 -0.5
TCF eSn Sn 22 07 54.4 -2.2
4.1nm,0.4s
TCF eSg Sg 22 08 17.8 +0.3
44nm,0.7s
TCF Toulx Ste Croi 4.34 227 ePg Pg 22 07 20.8 -0.5
TCF eSn Sn 22 07 54.4 -2.2
2.0nm,0.4s
TCF eSg Sg 22 08 17.8 +0.3
22nm,0.7s
TCF Toulx Ste Croi 4.34 227 ePn Pn 22 07 05.8 +0.5
TCF ePg Pg 22 07 20.8 -0.5
TCF eSn Sn 22 07 54.4 -2.2
TCF eSg Sg 22 08 17.8 +0.3
CLL Collm 4.45 62 eSg Sg 22 08 20.0 -0.9
KHC Kasperske Hory 4.47 90 ePN Pn 22 07 06.8 -0.3
KHC ePG Pg 22 07 25.5 +1.7
KHC eSN Sn 22 07 56.7 -3.1
KHC eSG Sg 22 08 20.0 -1.7
6.6nm,0.7s
ORIF Oris-en-Rattie 4.49 188 ePn Pn 22 07 07.4 +0.1
ORIF eSn Sn 22 07 56.5 -3.6
5.6nm,0.5s
ORIF eSg Sg 22 08 21.3 -0.9
17nm,0.5s
ORIF Oris-en-Rattie 4.49 188 ePn Pn 22 07 07.4 +0.1
ORIF eSn Sn 22 07 56.5 -3.6
2.8nm,0.5s
ORIF eSg Sg 22 08 21.3 -0.9
8.4nm,0.5s
GEC2 GERESS Array S 4.59 94 ePn Pn 22 07 09.0 +0.3
SNR=27
GEC2 GERESS Array S 4.59 94 ePn Pn 22 07 09.1 +0.4
LDF La Druitiere 4.60 263 ePn Pn 22 07 09.2 +0.4
LDF eSn Sn 22 08 00.1 -2.8
9.9nm,0.6s
LDF eSg Sg 22 08 25.9 +0.2
15nm,0.5s
LDF La Druitiere 4.60 263 ePn Pn 22 07 09.2 +0.4
LDF eSn Sn 22 08 00.1 -2.8
4.9nm,0.6s
LDF eSg Sg 22 08 25.9 +0.2
7.6nm,0.5s
MBDF Montbardon 4.64 180 ePn Pn 22 07 09.9 +0.5
MBDF eSn Sn 22 08 00.3 -3.6
3.3nm,0.4s
MBDF eSg Sg 22 08 25.8 -1.2
8.6nm,0.7s
MBDF Montbardon 4.64 180 ePn Pn 22 07 09.9 +0.5
MBDF eSn Sn 22 08 00.3 -3.6
1.6nm,0.4s
MBDF eSg Sg 22 08 25.8 -1.2
4.3nm,0.7s
VIVF Saint-Julien-l 4.73 198 ePn Pn 22 07 10.9 +0.3
VIVF eSn Sn 22 08 02.8 -3.3
4.7nm,0.5s
VIVF eSg Sg 22 08 28.9 -1.0
15nm,0.5s
VIVF Saint-Julien-l 4.73 198 ePn Pn 22 07 10.9 +0.3
VIVF eSn Sn 22 08 02.8 -3.3
2.3nm,0.5s
VIVF eSg Sg 22 08 28.9 -1.0
7.3nm,0.5s
FLN La Foliniere 4.80 266 ePn Pn 22 07 11.9 +0.3
FLN eSn Sn 22 08 05.4 -2.4
13nm,0.4s
FLN eSg Sg 22 08 32.4 +0.2
13nm,0.4s
FLN La Foliniere 4.80 266 ePn Pn 22 07 11.9 +0.3
FLN eSn Sn 22 08 05.4 -2.4
6.6nm,0.4s
FLN eSg Sg 22 08 32.4 +0.2
6.6nm,0.4s
BRG Berggiesshubel 4.86 69 PG Pg 22 07 27.8 -3.4
BRG SG Sg 22 08 32.8 -1.4
9.9nm,0.9s
KBA Koelnbreinsper 4.96 115 ⇓*i*Pn Pn 22 07 14.9 +1.1
KBA ⇑*i*Sn Sn 22 08 12.8 +1.0
PRU Pruhonice 5.09 80 eSG Sg 22 08 37.6 -4.0
10nm,0.9s
GRR Gorron 5.12 262 ePn Pn 22 07 16.4 +0.4
GRR eSn Sn 22 08 13.0 -2.8
12nm,0.4s
GRR eSg Sg 22 08 42.5 0.0
8.2nm,0.4s
GRR Gorron 5.12 262 ePn Pn 22 07 16.4 +0.4
GRR eSn Sn 22 08 13.0 -2.8
6.2nm,0.4s
GRR eSg Sg 22 08 42.5 0.0
4.1nm,0.4s
MOA Molln 5.20 104 ⇑*i*Pn Pn 22 07 17.9 +0.8
MFF Saint Martin d 5.40 242 ePn Pn 22 07 20.0 +0.2
MFF eSn Sn 22 08 19.2 -3.4
6.4nm,0.5s
MFF eSg Sg 22 08 51.1 -0.3
20nm,0.7s
MFF Saint Martin d 5.40 242 ePn Pn 22 07 20.0 +0.2
MFF eSn Sn 22 08 19.2 -3.4
3.2nm,0.5s
MFF eSg Sg 22 08 51.1 -0.3
9.9nm,0.7s
RJF Les Rejaudoux 5.40 223 ePn Pn 22 07 20.3 +0.4
RJF eSn Sn 22 08 19.4 -3.3
4.5nm,0.4s
RJF eSg Sg 22 08 50.9 -0.7
14nm,0.6s
RJF Les Rejaudoux 5.40 223 ePn Pn 22 07 20.3 +0.4
RJF eSn Sn 22 08 19.4 -3.3
2.2nm,0.4s
RJF eSg Sg 22 08 50.9 -0.7
7.0nm,0.6s
SMRF Simiane la Rot 5.45 189 ePn Pn 22 07 20.3 -0.2
SMRF eSn Sn 22 08 19.8 -4.1
3.7nm,0.6s
SMRF eSg Sg 22 08 51.0 -2.1
11nm,0.8s
SMRF Simiane la Rot 5.45 189 ePn Pn 22 07 20.3 -0.2
SMRF eSn Sn 22 08 19.8 -4.1
1.9nm,0.6s
SMRF eSg Sg 22 08 51.0 -2.1
5.3nm,0.8s
CAF Calviac 5.47 218 ePn Pn 22 07 20.2 -0.6
CAF eSn Sn 22 08 21.3 -3.1
2.4nm,0.3s
CAF eSg Sg 22 08 53.1 -0.7
10nm,0.5s
CAF Calviac 5.47 218 ePn Pn 22 07 20.2 -0.6
CAF eSn Sn 22 08 21.3 -3.1
1.2nm,0.3s
CAF eSg Sg 22 08 53.1 -0.7
5.2nm,0.5s
LASF Ste Croix 5.65 202 ePn Pn 22 07 23.5 +0.2
LASF eSg Sg 22 08 57.3 -2.3
39nm,0.9s
LASF Ste Croix 5.65 202 ePn Pn 22 07 23.5 +0.2
LASF eSg Sg 22 08 57.3 -2.3
19nm,0.9s
FRF La Foret Royal 5.80 181 ePn Pn 22 07 24.6 -0.8
FRF eSn Sn 22 08 27.0 -5.6
0.8nm,0.3s
FRF eSg Sg 22 09 01.9 -2.6
0.9nm,0.3s
FRF La Foret Royal 5.80 181 ePn Pn 22 07 24.6 -0.8
FRF eSg Sg 22 09 01.9 -2.6
0.4nm,0.3s
LMR La Mourre 6.03 182 ePn Pn 22 07 27.6 -0.9
LMR eSn Sn 22 08 32.5 -5.7
1.0nm,0.3s
LMR eSg Sg 22 09 09.1 -2.7
3.3nm,0.6s
LMR La Mourre 6.03 182 ePn Pn 22 07 27.6 -0.9
LMR eSg Sg 22 09 09.1 -2.7
1.6nm,0.6s
LFF La Frestale 6.04 225 ePn Pn 22 07 28.7 +0.1
LFF eSn Sn 22 08 34.2 -4.1
6.5nm,0.6s
LFF eSg Sg 22 09 10.6 -1.3
32nm,0.6s
LFF La Frestale 6.04 225 ePn Pn 22 07 28.7 +0.1
LFF eSn Sn 22 08 34.2 -4.1
3.2nm,0.6s
LFF eSg Sg 22 09 10.6 -1.3
16nm,0.6s
CONA Conrad Observa 6.20 100 ⇑*i*Pn Pn 22 07 31.2 +0.3
SGMF Saint Gilles 6.25 263 ePn Pn 22 07 31.4 -0.2
SGMF eSn Sn 22 08 39.8 -3.9
8.6nm,0.6s
SGMF eSg Sg 22 09 17.6 -1.3

	9.2nm,0.5s							
SGMF	**Saint Gilles**	**6.25**	**263**	*e*Pn	**Pn**	**22 07 31.4**	**-0.2**
SGMF				*e*Sn	**Sn**	**22 08 39.8**	**-3.9**
	4.3nm,0.6s						
SGMF				*e*Sg	**Sg**	**22 09 17.6**	**-1.3**
	4.6nm,0.5s						
DPC	**Dobruska-Polom**	**6.26**	**77**	*e*SG	**Sg**	**22 09 15.1**	**-4.1**
ROSF	**Rostrenen**	**6.70**	**265**	*e*Pn	**Pn**	**22 07 37.7**	**0.0**
ROSF				*e*Sn	**Sn**	**22 08 50.8**	**-3.9**
	4.7nm,0.4s						
ROSF				*e*Sg	**Sg**	**22 09 31.7**	**-1.5**
	22nm,0.8s						
ROSF	**Rostrenen**	**6.70**	**265**	*e*Pn	**Pn**	**22 07 37.7**	**0.0**
ROSF				*e*Sn	**Sn**	**22 08 50.8**	**-3.9**
	2.3nm,0.4s						
ROSF				*e*Sg	**Sg**	**22 09 31.7**	**-1.5**
	11nm,0.8s						
QUIF	**Quistinic**	**6.74**	**261**	*e*Pn	**Pn**	**22 07 38.0**	**-0.2**
QUIF				*e*Sn	**Sn**	**22 08 50.7**	**-4.8**
	4.2nm,0.5s						
QUIF				*e*Sg	**Sg**	**22 09 32.8**	**-1.5**
	6.2nm,0.5s						
QUIF	**Quistinic**	**6.74**	**261**	*e*Pn	**Pn**	**22 07 38.0**	**-0.2**
QUIF				*e*Sn	**Sn**	**22 08 50.7**	**-4.8**
	2.1nm,0.5s						
QUIF				*e*Sg	**Sg**	**22 09 32.8**	**-1.5**
	3.1nm,0.5s						
MTLF	**Montolieu**	**6.79**	**209**	*e*Pn	**Pn**	**22 07 38.8**	**-0.2**
MTLF				*e*Sn	**Sn**	**22 08 52.1**	**-4.8**
	1.0nm,0.4s						
MTLF				*e*Sg	**Sg**	**22 09 33.9**	**-2.3**
	3.4nm,0.4s						
MTLF	**Montolieu**	**6.79**	**209**	*e*Pn	**Pn**	**22 07 38.8**	**-0.2**
MTLF				*e*Sn	**Sn**	**22 08 52.1**	**-4.8**
	0.5nm,0.4s						
MTLF				*e*Sg	**Sg**	**22 09 33.9**	**-2.3**
	1.7nm,0.4s						
MODS	**Modra-Piesok**	**7.01**	**94**	*e*SG	**Sg**	**22 09 44.9**	**+1.8**

MAN 26 22:16:00,1086N×12285E,h13km,mb4.1,ML2.9,MS2.7, 1C,Panay

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUIM	**Jordan**	**0.35**	**228**	*e*P	Pg	22 16 08.3	+1.3
GUIM				*e*S	Sg	22 16 14.0	+2.2
RCP	**Roxas**	**0.70**	**351⇑**	*e*P	Pg	22 16 14.7	+1.0
RCP				*e*S	Sg	22 16 25.5	+2.6
LLP	**Lapu-Lapu**	**1.22**	**116**	*e*P	Pn	22 16 22.8	0.0
LLP				*e*S	Sb	22 16 37.7	-1.0
TBP	**Tagbilaran**	**1.53**	**139**	*e*P	Pn	22 16 26.9	-0.2
CUYO	**Cuyo Island**	**1.80**	**270**	*e*P	Pn	22 16 31.3	+0.6
MSLP	**Maasin**	**2.10**	**110**	*e*P	Pn	22 16 43.0	+8.1
MSLP				*e*S	Sn	22 17 13.1	+12
BUSP	**Coron**	**2.84**	**294**	*e*P	Pn	22 16 46.5	+1.5
PAGZ	**Pagadian**	**3.04**	**170**	*e*P	Pn	22 16 49.4	+1.5
ENPP	**El Nido**	**3.38**	**276**	*e*P	Pn	22 16 54.2	+1.6

*ISCJB **26** 22:33:36.4±0.5,763S±005×12381E±008,h275km±5km, mb4.0/9,Error ellipse: s-maj=14.0km s-min=7.6km az=163.4*
*IDC **26** 22:33:37.5±1.2,770S×12370E,h272km±11km,mb3.7/8, mb1 3.8/11,mb1mx3.6/18,mbtmp3.7/11,Error ellipse: s-maj=36.6km s-min=8.1km az=62.0*
*NEIC **26** 22:33:37.3±1.0,763S×12374E,h270km±10km,mb4.4/4, Error ellipse: s-maj=14.9km s-min=7.6km az=61.0*
*DJA **26** 22:33:40.2±0.6,8S±6×124E±,h205km±12km,mB5.0/1, MLv4.1/3,Mw(mB)4.9/1,Mwp3.1/1*
ISC 26 22:33:37.2±0.5,763S±005×12383E±008,h267km±5km, n26,σθ78/30,mb4.0/9,1D,Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	**Baumata**	**2.57**	**184**	P	**Pn**	**22 34 26.5**	**+0.1**
	181nm,0.3s,baz=15,slow=1.4,SNR=278						
BATI				S	**S**	**22 35 05.0**	**-0.4**
	260nm,0.3s,baz=329,slow=22,SNR=4.7						
BATI	**Baumata**	**2.57**	**184**	P	**Pn**	**22 34 26.1**	**-0.3**
KDI	**Kendari**	**3.84**	**342⇓**	*e*P	**Pn**	**22 34 40.2**	**+0.2**
KDI				*e*S	**S**	**22 35 29.3**	**-0.8**
KDI	**Kendari**	**3.84**	**342**	P	**Pn**	**22 34 40.0**	**0.0**
KAPI	**Kappang**	**4.82**	**302**	P	**Pn**	**22 34 50.6**	**-0.8**
	10nm,0.3s,baz=133,slow=4.9,SNR=73						
KAPI	**Kappang**	**4.82**	**302**	P	**Pn**	**22 34 50.9**	**-0.5**
BBKI	**Banjar Baru**	**9.86**	**294**	P	**Pn**	**22 35 56.8**	**+2.9**
	34nm,1.3s						
KAKA	**Kakadu**	**9.86**	**122**	*e*P	**Pn**	**22 35 47.5**	**-6.4**
	23nm,0.6s						
KAKA				*e*S	**S**	**22 37 34.8**	**-10**
SWI	**Sorong**	**10.00**	**48**	P	**Pn**	**22 35 56.2**	**+0.6**
	90nm,0.6s,800nm						
KRKI	**Karangkates**	**11.29**	**267**	P	**Pn**	**22 36 17.0**	**+5.3**
SJI	**Sawahan**	**11.96**	**269**	P	**Pn**	**22 36 21.2**	**+1.2**
ASAR	**Alice Springs**	**18.64**	**150**	P	**P**	**22 37 36.9**	**+1.2**
	0.9nm,0.3s,baz=321,slow=9.3,SNR=43						
ASAR				S	**S**	**22 40 53.3**	**-0.6**
	0.2nm,0.3s,baz=334,slow=23,SNR=23						
COEN	**Coen**	**20.00**	**110**	*e*P	**P**	**22 37 50.3**	**0.0**
	3.3nm,0.6s						
KLBR	**Kellerberrin**	**24.51**	**193**	*e*P	**P**	**22 38 31.9**	**-0.6**
	114nm,1.8s,mb5.0						
MUN	**Mundaring**	**25.25**	**195**	*e*P	**P**	**22 38 38.8**	**-0.4**
NWAO	**Narrogin (SRO)**	**25.91**	**193**	P	**P**	**22 38 44.6**	**-0.4**
	15nm,1.0s,mb4.4,baz=9.1,slow=11,SNR=6.3						
STKA	**Stephens Creek**	**29.25**	**148**	*e*P	**P**	**22 39 15.8**	**+1.0**
	2.4nm,0.3s,mb4.1						
STKA	**Stephens Creek**	**29.25**	**148**	P	**P**	**22 39 15.9**	**+1.2**
	3.3nm,0.4s,mb4.2,baz=318,slow=8.5,SNR=16						
STKA				S	**S**	**22 43 47.7**	**+0.2**
	2.0nm,0.8s,baz=343,slow=20,SNR=3.3						
CMAR	**Chiang Mai Arr**	**35.71**	**317**	P	**P**	**22 40 10.9**	**+0.1**
	1.1nm,0.5s,mb3.7,baz=140,slow=6.7,SNR=6.5						
SONM	**Songino Array**	**57.34**	**346**	P	**P**	**22 42 57.8**	**+0.4**
	0.7nm,0.5s,mb3.3,baz=156,slow=7.5,SNR=5.8						
MKAR	**Makanchi Array**	**65.55**	**330**	P	**P**	**22 43 52.2**	**0.0**
	1.5nm,0.5s,mb4.0,baz=131,slow=7.5,SNR=26						
ZALV	**Zalesovo Beam**	**69.58**	**337**	P	**P**	**22 44 16.2**	**-1.0**
	1.4nm,0.7s,mb3.8,baz=113,slow=3.4,SNR=5.6						
ZALV	**Zalesovo Beam**	**69.58**	**337**	P	**P**	**22 44 16.2**	**-1.0**
KURK	**Kurchatov**	**69.99**	**331**	P	**P**	**22 44 19.2**	**-0.5**
	1.3nm,0.6s,mb3.8,baz=145,slow=5.4,SNR=6.9						
BOSA	**Boshof**	**93.85**	**241**	P	**P**	**22 46 23.9**	**-0.9**
	1.3nm,0.8s,mb4.0,baz=95,slow=12,SNR=5.4						
TXAR	**Lajitas Array**	**130.47**	**58**	PKP	PKPdf	22 52 17.1	+0.4
	0.1nm,0.5s,baz=230,slow=5.4,SNR=3.6						

*NEIC **26** 22:41:16.2,3976N×2073E,h24km,ML4.1(ATH),After ATH.*
*SKO **26** 22:41:16.4,3967N×2066E,h3km*
*ATH **26** 22:41:16.2,3976N×2073E,h24km,MD3.7/12,ML3.9*
*ISCJB **26** 22:41:17.9±0.2,3971N±002×2078E±002,h10km,mb3.7/5, Error ellipse: s-maj=2.9km s-min=2.0km az=144.0*
*BEO **26** 22:41:18.6,3974N×2104E,h5km,ML3.1/3*
*PDG **26** 22:41:18.1±0.5,3971N×2074E,h11km±1km,ML3.3/9, Error ellipse: s-maj=1.3km s-min=1.5km az=0.0*
*THE **26** 22:41:18.1,3976N×2078E,h3km±2km,ML4.1/3,Error ellipse: s-maj=2.1km s-min=0.9km az=115.0*
*IDC **26** 22:41:19.9±1.9,3976N×2092E,h43km±27km,mb3.5/5, mb1 3.5/9,mb1mx3.4/24,mbtmp3.5/9,ML3.2/4,Error ellipse: s-maj=19.0km s-min=13.7km az=38.0*
*CSEM **26** 22:41:19.6±0.1,3973N×2102E,h10km,ML4.1,Error ellipse: s-maj=2.1km s-min=1.4km az=50.0*
*MOS **26** 22:41:19.0±1.4,3968N×2083E,h27km,mb4.1/4,Error ellipse: s-maj=12.0km s-min=5.6km az=98.4*
*TIR **26** 22:41:21.6±5.2,4020N×2031E,h6km±33km*
ISC 26 22:41:17.6±0.5,3970N±002×2080E±002,h0km±3km,n130, σ1832/176,mb3.7/5,15C-10D,Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAN	**Janina**	**0.06**	**138**	*e*Pb	**Pg**	**22 41 21.1**	**+2.3**
JAN				*e*Sb	**Sg**	**22 41 24.4**	**+4.8**
JAN	**Janina**	**0.06**	**138**	*e*PB	**Pg**	**22 41 21.1**	**+2.3**
JAN				*e*SB	**Sg**	**22 41 24.4**	**+4.8**
MEV	**Metsovon**	**0.34**	**76**	P	**Pg**	**22 41 25.4**	**+1.2**
MEV				S	**Sg**	**22 41 29.8**	**+1.2**
SRN	**Sarande**	**0.64**	**286**	*e*PG	**Pg**	**22 41 28.2**	**-1.6**
SRN				*i* SG	**Sg**	**22 41 37.1**	**-1.0**
KEK	**Kerkira**	**0.77**	**271**	*e*Pn	**Pn**	**22 41 30.3**	**-5.4**
KEK	**Kerkira**	**0.77**	**271**	*e*Pn	**Pn**	**22 41 30.3**	**-5.4**
KBN	**Korca**	**0.92**	**360**	*e*PG	**Pg**	**22 41 34.2**	**-1.0**
THL	**Klokotos Trika**	**0.95**	**98**	P	**Pg**	**22 41 35.4**	**-0.4**
THL				S	**Sg**	**22 41 51.2**	**+3.1**
THL	**Klokotos Trika**	**0.95**	**98**	*e*Pn	**Pn**	**22 41 35.8**	**-2.4**
THL				S	**Sg**	**22 41 51.2**	**+3.1**
THL	**Klokotos Trika**	**0.95**	**98**	*e*PN	**Pn**	**22 41 35.8**	**-2.4**
KZN	**Kozani**	**0.96**	**51**	*e*Pn	**Pn**	**22 41 35.0**	**-3.3**
KZN	**Kozani**	**0.96**	**51**	*e*PN	**Pn**	**22 41 35.0**	**-3.3**
LKD	**Levkas**	**1.00**	**187**	P	**Pg**	**22 41 37.2**	**+0.4**
LKD				S	**Sg**	**22 41 53.3**	**+3.6**
EVR	**Evrytania**	**1.11**	**135**	*e*Pn	**Pn**	**22 41 38.7**	**-1.7**
EVR				*e*Sn	**Sn**	**22 41 55.2**	**-1.2**
EVR	**Evrytania**	**1.11**	**135**	*e*PN	**Pn**	**22 41 38.7**	**-1.7**
EVR				*e*SN	**Sn**	**22 41 55.2**	**-1.2**
FNA	**Florina**	**1.17**	**22**	P	**Pg**	**22 41 38.5**	**-1.5**
FNA				S	**Sg**	**22 41 55.8**	**+0.7**
LIT	**Litokhoron**	**1.36**	**73**	P	**Pn**	**22 41 42.5**	**-1.3**
AGG	**Agios Georgios**	**1.37**	**119**	P	**Pn**	**22 41 43.4**	**-0.5**
BIA	**Bitola**	**1.38**	**17**	*i* Pg	**Pg**	**22 41 42.0**	**-2.0**
BIA				*i* Sg	**Sg**	**22 42 02.0**	**+0.2**
BIA	**Bitola**	**1.38**	**17**	*i* Pg	**Pg**	**22 41 41.9**	**-2.1**
BIA				*i* Sg	**Sg**	**22 42 02.0**	**+0.2**
OHR	**Ohrid**	**1.41**	**0**	*i* Pn	**Pn**	**22 41 42.9**	**-1.6**
OHR				*i* Sn	**Sn**	**22 42 02.6**	**-1.1**
OHR	**Ohrid**	**1.41**	**0**	*i* Pn	**Pn**	**22 41 42.8**	**-1.7**
OHR				*i* Sn	**Sn**	**22 42 02.5**	**-1.2**
VLS	**Valsamata**	**1.53**	**186**	P	**Pn**	**22 41 45.5**	**-0.7**
VLS	**Valsamata**	**1.53**	**186**	*e*Pn	**Pn**	**22 41 45.2**	**-1.0**
VLS	**Valsamata**	**1.53**	**186**	*e*PN	**Pn**	**22 41 45.2**	**-1.0**
KFL	**Anninata**	**1.59**	**180**	P	**Pn**	**22 41 47.9**	**+0.9**
KRUS	**Krusevo**	**1.70**	**12**	*i* Pn	**Pn**	**22 41 47.8**	**-0.7**
KRUS				*i* Sn	**Sn**	**22 42 11.4**	**+0.5**
KRUS	**Krusevo**	**1.70**	**12**	*i* Pn	**Pn**	**22 41 47.7**	**-0.8**
KRUS				*i* Sn	**Sn**	**22 42 11.4**	**+0.5**
RLS	**Riolos of Patr**	**1.72**	**162**	P	**Pn**	**22 41 50.7**	**+1.9**
GRG	**Griva**	**1.75**	**44**	P	**Pn**	**22 41 48.9**	**-0.3**
TIR	**Tirane**	**1.79**	**337**	P	**Pn**	**22 41 48.7**	**-1.0**
TIR	**Tirane**	**1.79**	**337**	*e*PN	**Pn**	**22 41 50.9**	**+1.2**
TIR	**Tirane**	**1.79**	**337**	*e*Pg	**Pg**	**22 41 49.6**	**-2.3**
TIR				*e*Sg	**Sg**	**22 42 18.2**	**+3.1**
TIR	**Tirane**	**1.79**	**337**	P	**Pn**	**22 41 49.4**	**-0.3**
XOR	**Xorichti**	**1.88**	**100**	P	**Pn**	**22 41 50.5**	**-0.5**
THE	**Thessaloniki**	**1.90**	**60**	P	**Pn**	**22 41 50.0**	**-1.3**
THE				S	**Sn**	**22 42 15.5**	**-0.4**
NEO	**Neokhori**	**1.92**	**101**	P	**Pn**	**22 41 52.2**	**+0.7**
QSH	**Qafa e Shtames**	**1.94**	**340**	*e*PN	**Pn**	**22 41 51.2**	**-0.6**
HORT	**Hortiatis**	**1.98**	**62**	P	**Pn**	**22 41 51.5**	**-0.8**
PHP	**Peshkopia**	**2.00**	**352**	*e*PN	**Pn**	**22 41 53.6**	**+1.0**
LKR	**Lokris**	**2.01**	**121**	*e*Pn	**Pn**	**22 41 51.9**	**-0.8**
LKR	**Lokris**	**2.01**	**121**	P	**Pn**	**22 41 53.8**	**+1.1**
LKR	**Lokris**	**2.01**	**121**	*e*PN	**Pn**	**22 41 51.9**	**-0.8**
VAY	**Valandovo**	**2.11**	**39**	P	**Pn**	**22 41 53.0**	**-1.1**
VAY	**Valandovo**	**2.11**	**39**	*i* Pn	**Pn**	**22 41 52.7**	**-1.4**
VAY				*i* Sn	**Sn**	**22 42 20.5**	**-0.4**
VAY	**Valandovo**	**2.11**	**39**	*i* Pn	**Pn**	**22 41 52.6**	**-1.5**
VAY				*i* Sn	**Sn**	**22 42 20.5**	**-0.5**
PLG	**Polygyros**	**2.14**	**71**	*e*Pn	**Pn**	**22 41 52.5**	**-2.0**
PLG	**Polygyros**	**2.14**	**71**	P	**Pn**	**22 41 54.3**	**-0.2**
PLG	**Polygyros**	**2.14**	**71**	*e*PN	**Pn**	**22 41 52.5**	**-2.0**
KNT	**Kendrikon**	**2.17**	**47**	P	**Pn**	**22 41 54.2**	**-0.7**
PAIG	**Paliouri**	**2.23**	**83**	P	**Pn**	**22 41 54.8**	**-1.0**
STIP	**Stip**	**2.25**	**28**	*i* Pn	**Pn**	**22 41 55.9**	**-0.2**
STIP				*i* Sn	**Sn**	**22 42 26.4**	**+1.9**
STIP	**Stip**	**2.25**	**28**	*i* Pn	**Pn**	**22 41 55.8**	**-0.3**
STIP				*i* Sn	**Sn**	**22 42 26.4**	**+1.8**
SOH	**Sokhos**	**2.25**	**59**	P	**Pn**	**22 41 55.5**	**-0.6**
SKO	**Skopje**	**2.32**	**12**	*i* Pn	**Pn**	**22 41 57.3**	**+0.3**
SKO				*i* Sn	**Sn**	**22 42 25.6**	**-0.6**
SKO	**Skopje**	**2.32**	**12**	*e*Pn	**Pn**	**22 41 57.5**	**+0.5**
SKO				*i* Sn	**Sn**	**22 42 25.5**	**-0.7**
LTK	**Loutraki**	**2.38**	**134**	P	**Pn**	**22 41 58.8**	**+0.9**
ULC	**Ulcinj**	**2.54**	**333⇓**	*i* Pn	**Pn**	**22 42 00.8**	**+0.7**
ULC				*e*Sn	**Sn**	**22 42 33.5**	**+1.7**
VLX	**Vlachokerasia**	**2.64**	**151**	P	**Pn**	**22 42 02.3**	**+0.9**
ITM	**Ithomi**	**2.67**	**160**	P	**Pn**	**22 42 04.1**	**+2.3**
BCI	**Bajram Curri**	**2.72**	**349**	*e*PN	**Pn**	**22 42 02.6**	**+0.1**
NVR	**Nevrokopi**	**2.86**	**54**	P	**Pn**	**22 42 05.7**	**+1.3**
ATH	**Athens Observa**	**2.86**	**126**	*e*Pn	**Pn**	**22 42 06.0**	**+1.6**
ATH	**Athens Observa**	**2.86**	**126**	*e*PB	**Pn**	**22 42 06.0**	**+1.6**
NAIG	**Nisos Aigina**	**2.86**	**132**	*e*Pn	**Pn**	**22 42 03.7**	**-0.8**
NAIG	**Nisos Aigina**	**2.86**	**132**	*e*PN	**Pn**	**22 42 03.7**	**-0.8**
PTL	**Penteli**	**2.91**	**126**	*e*Pb	**Pb**	**22 42 06.5**	**-3.8**
PTL	**Penteli**	**2.91**	**124**	*e*PB	**Pb**	**22 42 06.5**	**-3.8**
DID	**Didima**	**2.91**	**138**	P	**Pn**	**22 42 05.0**	**-0.1**
PVY	**Plav**	**2.96**	**348⇓**	*i* Pn	**Pn**	**22 42 06.7**	**+1.0**
PVY				*e*Sn	**Sn**	**22 42 42.7**	**+0.8**
PVY	**Plav**	**2.96**	**348**	*i* PG	**Pg**	**22 42 06.8**	**-7.4**
PVY				*i* SG	**Sn**	**22 42 42.7**	**+0.8**
PDG	**Podgorica**	**2.96**	**337**	*i* PG	**Pn**	**22 42 05.8**	**0.0**
PDG				*i* SG	**Sn**	**22 42 43.0**	**+1.0**
PDG	**Podgorica**	**2.96**	**337⇑**	*i* Pn	**Pn**	**22 42 05.8**	**0.0**
PDG				*e*Sn	**Sn**	**22 42 43.0**	**+1.0**
TTG	**Podgorica**	**2.96**	**337⇑**	*i* Pn	**Pn**	**22 42 05.8**	**0.0**
TTG				*e*Sn	**Sn**	**22 42 43.0**	**+1.0**
BUM	**Brajici-Budva**	**2.97**	**332⇓**	*i* Pn	**Pn**	**22 42 05.8**	**-0.1**
BUM				*e*Sn	**Sn**	**22 42 43.1**	**+1.0**
BUM	**Brajici-Budva**	**2.97**	**332**	*i* PG	**Pn**	**22 42 05.8**	**-0.1**
BUM				*i* SG	**Sn**	**22 42 43.1**	**+1.0**
KVR	**Kavouri**	**2.98**	**128**	*e*PB	**Pb**	**22 42 07.6**	**-4.0**
TIP	**Timpagrande**	**3.17**	**262**	P	**Pn**	**22 42 06.1**	**-2.6**
BARS	**Barje**	**3.20**	**14**	*e*Pn	**Pn**	**22 42 08.7**	**-0.5**
BARS				*e*Sn	**Sn**	**22 42 46.2**	**-1.8**
BEY	**Berane**	**3.24**	**348**	*i* PG	**Pn**	**22 42 10.2**	**+0.6**
BEY				*i* SG	**Sn**	**22 42 50.5**	**+1.7**
BEY	**Berane**	**3.24**	**348⇑**	*i* Pn	**Pn**	**22 42 10.2**	**+0.6**
BEY				*e*Sn	**Sn**	**22 42 50.5**	**+1.7**
IVA	**Berane**	**3.24**	**348⇑**	*i* Pn	**Pn**	**22 42 10.2**	**+0.6**
IVA				*e*Sn	**Sn**	**22 42 50.5**	**+1.7**
HCY	**Herceg Novi**	**3.25**	**328⇑**	*i* Pn	**Pn**	**22 42 09.5**	**-0.2**
HCY				*e*Sn	**Sn**	**22 42 49.1**	**+0.1**
HCY	**Herceg Novi**	**3.25**	**328**	*i* PG	**Pn**	**22 42 09.5**	**-0.2**
HCY				*i* SG	**Sn**	**22 42 49.1**	**+0.1**
SG1	**Sgolgore (BA)**	**3.35**	**291**	*e*Pn	**Pn**	**22 42 08.7**	**-2.4**
LIA	**Limnos Island**	**3.38**	**85**	P	**Pn**	**22 42 12.8**	**+1.2**
NKY	**Niksic**	**3.39**	**337⇓**	*i* Pn	**Pn**	**22 42 12.3**	**+0.6**
NKY				*e*Sn	**Sn**	**22 42 53.0**	**+0.4**
BRY	**Bratogost**	**3.62**	**333⇑**	*i* Pn	**Pn**	**22 42 12.8**	**+0.1**
BRY				*e*Sn	**Sn**	**22 42 57.9**	**-0.3**
UPM	**Unac-Piva**	**3.77**	**339⇑**	*i* Pn	**Pn**	**22 42 16.9**	**-0.1**
UPM				*e*Sn	**Sn**	**22 43 02.2**	**+0.2**
CUC	**Castrocucco**	**3.84**	**276**	P	**Pn**	**22 42 20.1**	**+2.1**
RDO	**Rodhopi**	**3.90**	**67**	P	**Pn**	**22 42 18.8**	**+0.1**
GRUS	**Gruza**	**4.18**	**359**	*e*Pn	**Pn**	**22 42 24.9**	**+2.3**
BOLS	**Boljevac**	**4.21**	**11**	*e*Pn	**Pn**	**22 42 21.6**	**-1.4**
BBLS	**Lazići**	**4.29**	**346**	*e*Pn	**Pn**	**22 42 25.7**	**+1.7**
APE	**Apeiranthos**	**4.55**	**124**	P	**Pn**	**22 42 28.8**	**+1.1**
VAE	**Valguarnera**	**5.47**	**248**	P	**Pn**	**22 42 42.2**	**+1.9**
	0.9nm,0.3s,baz=78,slow=9.3,SNR=3.1						
VAE				S	**Sn**	**22 43 45.2**	**+1.3**
	1.9nm,0.3s,baz=87,slow=14,SNR=4.4						
IDI	**Anoyia**	**5.48**	**142**	P	**Pn**	**22 42 37.8**	**-2.6**
	0.6nm,0.3s,baz=328,slow=21,SNR=12						
IDI				S	**Sn**	**22 43 40.7**	**-3.4**
	2.4nm,0.3s,baz=108,slow=22,SNR=8.2						
BLY	**Banja Luka**	**5.71**	**333**	*e*Pn	**Pn**	**22 42 43.3**	**-0.3**
GZR	**Gura Zlata**	**5.87**	**14⇑**	*i* P	**Pn**	**22 42 47.5**	**+1.7**
GZR	**Gura Zlata**	**5.87**	**14⇑**	P	**Pn**	**22 42 47.5**	**+1.7**
BZS	**Buzias**	**5.94**	**6**	*e*Pn	**Pn**	**22 42 44.8**	**-1.9**
BZS				*e*Sn	**Sn**	**22 43 50.0**	**-5.5**
BZS	**Buzias**	**5.94**	**6⇓**	*i* P	**Pn**	**22 42 46.6**	**-0.1**
BZS	**Buzias**	**5.94**	**6⇓**	P	**Pn**	**22 42 46.6**	**-0.1**
VOIR		**6.53**	**27⇑**	*i* P	**Pn**	**22 42 55.9**	**+1.0**
VOIR		**6.53**	**27⇑**	P	**Pn**	**22 42 55.9**	**+1.0**
PKSM	**Moragy**	**6.69**	**347⇓**	*i* P	**Pn**	**22 42 56.1**	**-1.0**
PKSM	**Moragy**	**6.69**	**347⇓**	P	**Pn**	**22 42 56.1**	**-1.0**
MLR	**Muntele Rosu**	**6.92**	**32⇑**	*i* P	**Pn**	**22 43 02.9**	**+2.7**
MLR	**Muntele Rosu**	**6.92**	**32⇑**	P	**Pn**	**22 43 02.9**	**+2.8**
BOJS	**Bojanci**	**7.09**	**327**	*i* Pn	**Pn**	**22 43 01.3**	**-1.2**
BOJS				*i* Sn	**Sn**	**22 44 16.5**	**-7.4**
PLOR	**Plostina**	**7.50**	**33⇑**	*i* P	**Pn**	**22 43 10.1**	**+1.9**
VRI	**Vrincioaia**	**7.55**	**33⇓**	*i* P	**Pn**	**22 43 10.8**	**+2.0**
VRI	**Vrincioaia**	**7.55**	**33⇓**	P	**Pn**	**22 43 10.8**	**+2.0**
JAVS	**Javornik**	**7.92**	**324**	*i* Pn	**Pn**	**22 43 11.3**	**-2.6**
JAVS				*i* Sn	**Sn**	**22 44 34.9**	**-9.3**
BURAR	**Bucovina Array**	**8.53**	**21⇑**	*i* P	**Pn**	**22 43 30.5**	**+8.2**
GERES	**GERESS Array B**	**10.45**	**333**	P	**Pn**	**22 43 47.7**	**-0.9**
	0.1nm,0.3s,baz=164,slow=14,SNR=4.1						
DAVOX	**Davos/Dischmat**	**10.64**	**315**	P	**Pn**	**22 43 50.7**	**-0.5**
	0.2nm,0.3s,baz=138,slow=15,SNR=2.7						
HFS	**Hagfors**	**20.93**	**350**	P	**P**	**22 45 57.0**	**-4.6**
	1.1nm,0.6s,baz=90,slow=13,SNR=3.7						
HFS	**Hagfors**	**20.93**	**350**	P	**P**	**22 45 57.0**	**-4.6**
HFS				pmax	pmax		
	comp=Z,1.0nm,0.6s						
NOA	**NORSAR Array B**	**22.17**	**348**	P	**P**	**22 46 11.2**	**-3.7**
	comp=Z,1.6nm,0.9s,mb3.4,baz=165,slow=10,SNR=2.6						
NOA	**NORSAR Array B**	**22.17**	**348**	P	**P**	**22 46 11.2**	**-3.7**
NOA				pmax	pmax		
	comp=Z,2.0nm,0.9s						
EKA	**Eskdalemuir Ar**	**22.33**	**322**	P	**P**	**22 46 18.8**	**+2.2**
	comp=Z,1.4nm,0.8s,mb3.5,baz=118,slow=14,SNR=3.6						
EKA	**Eskdalemuir Ar**	**22.33**	**322**	P	**P**	**22 46 18.8**	**+2.2**
EKA				pmax	pmax		
	comp=Z,1.0nm,0.8s						
ARCES	**ARCESS Array B**	**30.00**	**3**	P	**P**	**22 47 22.7**	**-4.8**
	comp=Z,3.1nm,0.8s,mb4.2,baz=191,slow=8.2,SNR=3.3						
ARCES	**ARCESS Array B**	**30.00**	**3**	P	**P**	**22 47 22.7**	**-4.8**
ARCES				pmax	pmax		
	comp=Z,3.0nm,0.8s						
TORD	**Torodi Ar. Bea**	**31.36**	**218**	P	**P**	**22 47 36.8**	**-3.1**
	comp=Z,260nm,0.4s,baz=31,slow=8.4,SNR=2.9						
MKAR	**Makanchi Array**	**44.34**	**60**	P	**P**	**22 49 25.4**	**-3.8**
	comp=Z,1.0nm,0.4s,mb3.9,baz=282,slow=7.3,SNR=24						
MKAR	**Makanchi Array**	**44.34**	**60**	P	**P**	**22 49 25.5**	**-3.7**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.4s						
SONM	**Songino Array**	**59.33**	**51**	P	**P**	**22 51 17.2**	**-3.9**
	comp=Z,0.6nm,1.0s,mb3.6,baz=313,slow=14,SNR=2.8						
SONM	**Songino Array**	**59.33**	**51**	P	**P**	**22 51 17.2**	**-3.9**
SONM				pmax	pmax		
	comp=Z,1.0nm,1.0s						

*BJI **26** 22:45:03.1,184N×9646E,h23km,mB5.1,mb4.6*
*IDC **26** 22:45:04.9±1.8,224N×9637E,h0km,mb4.1/9,mb1 4.2/10, mb1mx4.0/23,mbtmp4.1/10,ML4.6/1,MS3.7/5,Ms1 3.7/5, ms1mx3.2/29,Error ellipse: s-maj=69.2km s-min=18.1km az=53.0*
*MOS **26** 22:45:07.2±0.7,2.14N×9626E,h33km,mb4.9/4,Error ellipse: s-maj=29.2km s-min=10.9km az=96.0*
*NEIC **26** 22:45:10.1±0.6,222N×9641E,h35km,mb4.7/9,Error ellipse: s-maj=16.5km s-min=6.7km az=52.0*
*ISCJB **26** 22:45:13.8±2.0,239N±0.10×966E±0.1,h80km±16km, mb4.4/22,Error ellipse: s-maj=26.4km s-min=10.3km az=147.4*
*DJA **26** 22:45:28.3±0.6,3N±5×98E±,h10km,mB4.8/1,Mjma3.6/4, MLv4.3/5,Mw(mB)4.8/1,Mwp3.4/1*
**ISC 26 22:45:15.6±1.9,24N±01×966E±01,h77km±16km, h15km±8.2km:pP-P,n45,σθ60/41,mb4.

CGP	**Cagayan de Oro**	**2.43**	**19**↑	*eP*		Pn	23 19 18.5	+3.4
CGP				*i* S		Sn	23 19 53.5	+8.9

MAN 26 23:25:07,606N×12371E,h19km,mb4.4,ML3.3,MS3.1, 2C,Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GSPH	**General Santos**	**1.23**	**89**↑	*eP*		Pn	23 25 32.1	+2.9
CTBH	**Cotabato--PC H**	**1.27**	**25**	*eP*		Pn	23 25 28.6	-1.1
CTBH				*i* S		Sn	23 25 44.3	-2.0
PAGZ	**Pagadian**	**1.81**	**350**	*eP*		Pn	23 25 37.8	+0.7
PAGZ				*eS*		Sn	23 25 59.8	+0.2
BUKP	**Musuan**	**2.25**	**36**	*eP*		Pn	23 25 44.3	+1.1
BUKP				*eS*		Sn	23 25 59.5	-11
CGP	**Cagayan de Oro**	**2.57**	**22**↑	*iP*		Pn	23 25 50.3	+2.6
CGP				*i* S		Sn	23 26 20.1	+1.7

IDC 26 23:57:47.5±3.8,285N×12866E,h0km,mb3.8/3,mb1 3.9/3, mb1mx3.6/15,mbtmp3.8/3,Error ellipse: s-maj=368.7km s-min=25.8km az=66.0,Halmahera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ASAR	**Alice Springs**	**26.85**	**169**	P		P	00 03 30.0	+0.1
	0.8nm,0.6s,baz=346,slow=8.2,SNR=10							
STKA	**Stephens Creek**	**36.66**	**161**	P		P	00 04 55.9	-0.1
	1.5nm,0.5s,baz=324,slow=8.7,SNR=3.5							
MKAR	**Makanchi Array**	**59.37**	**325**	P		P	00 07 51.7	+0.1
	0.2nm,0.5s,baz=113,slow=7.8,SNR=7.2							

TUN 27 00:02:40.0,3395N×9.15E,h14km,MD3.8
ISCJB 27 00:02:43.2±0.9,3409N±0.06×931E±0.06,h8km±8km,Error ellipse: s-maj=11.4km s-min=7.2km az=34.1
CSEM 27 00:02:43.0±0.1,3405N×929E,h5km,MD3.8,Error ellipse: s-maj=5.6km s-min=2.7km az=43.0
ISC 27 00:02:44.2±0.8,3412N±007×931E±006,h8km±10km,n13, σ0§54/16,Tunisia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BERT	**Berda**	**0.27**	**297**	*iP*		**Pg**	**00 02 48.7**	**-0.9**
MEDT	**Meda**	**0.51**	**91**	*iP*		**Pg**	**00 02 54.0**	**-0.1**
SGNT	**Sidi Gnaou**	**0.66**	**134**	*iP*		**Pg**	**00 02 57.2**	**+0.3**
SYA	**Sidi Yaiche**	**0.74**	**327**	*iP*		**Pg**	**00 02 59.4**	**+0.8**
OAR	**Oum El Arais**	**0.86**	**299**	*iP*		**Pg**	**00 03 01.3**	**+0.6**
BTHT	**Jabal bu Thady**	**1.29**	**38**	*iP*		**Pg**	**00 03 09.4**	**+0.3**
TROT	**Trozza**	**1.46**	**9**	*iP*		**Pg**	**00 03 11.5**	**-0.7**
ALAS	**Alassa**	**2.31**	**123**	*iP*		**Pn**	**00 03 22.9**	**+0.3**
	SNR=24							
ALAS				*eS*		**Sn**	**00 03 51.5**	**+0.3**
	218nm,0.5s,SNR=24							
GHAR	**Gharyan**	**3.75**	**121**	*iP*		**Pn**	**00 03 42.7**	**+0.4**
	SNR=23							
GHAR				*eS*		**Sn**	**00 04 26.6**	**0.0**
	216nm,0.5s,SNR=23							
LGHD	**Ghdames**	**4.09**	**178**	*iP*		**Pn**	**00 03 47.5**	**+0.4**
	SNR=23							
LGHD				*eS*		**Sn**	**00 04 35.2**	**0.0**
	190nm,0.7s,SNR=23							
LSHF	**Shwairf**	**5.88**	**133**	*iP*		**Pn**	**00 04 11.7**	**0.0**
	SNR=23							
LJFR	**Jufra**	**7.47**	**130**	*iP*		**Pn**	**00 04 32.7**	**-0.8**
	SNR=22							
LUMB	**Murzuk**	**9.24**	**148**	*iP*		**Pn**	**00 04 56.9**	**-1.0**
	SNR=22							

IDC 27 00:10:32.4±5.4,5470N×16166W,h39km±43km,mb3.8/7, mb1 4.0/8,mb1mx3.7/22,mbtmp3.8/8,ML3.3/1,Error ellipse: s-maj=108.6km s-min=25.7km az=157.0
ISCJB 27 00:10:34.1±1.0,549N±02×1619W±0.1,h58km±8km, mb4.2/9,Error ellipse: s-maj=27.1km s-min=9.1km az=162.1
NEIC 27 00:10:34.3±1.0,5487N×16178W,h47km±9km,mb4.1/1, Error ellipse: s-maj=22.7km s-min=8.4km az=164.0
ISC 27 00:10:34.7±1.0,549N±02×1618W±01,h49km±9km,n15, σ1§13/18,mb4.2/9,Alaska Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SDPT	**Sand Point**	**0.88**	**60**	P		**Pn**	**00 10 49.7**	**-1.0**
SDPT				S		**Sn**	**00 11 04.7**	**+2.2**
FALS	**False Pass**	**0.93**	**267**	P		**Pn**	**00 10 51.2**	**-0.1**
FALS				S		**Sn**	**00 11 08.8**	**+5.2**
UNV	**Unalaska Valle**	**2.94**	**251**	P		**Pn**	**00 11 19.1**	**+0.3**
KDAK	**Kodiak Island**	**5.88**	**57**	Pn		**Pn**	**00 11 56.6**	**-2.5**
	0.7nm,0.3s,baz=247,slow=12,SNR=16							
KDAK				Sn		**Sn**	**00 13 02.1**	**-3.0**
	0.5nm,0.3s,baz=222,slow=16,SNR=1.6							
SVW2	**Sparrevohn**	**7.02**	**26**	*e*Pn		**Pn**	**00 12 17.0**	**+2.3**
PEA0B	**Petropavlovsk-**	**23.63**	**282**	*eP*		**P**	**00 15 40.4**	**-0.6**
PETK	**Petropavlovsk-**	**23.63**	**282**	P		**P**	**00 15 40.8**	**-0.3**
	4.8nm,0.5s,mb4.2,baz=81,slow=13,SNR=26							
YMR	**Madison River**	**33.68**	**86**	*eP*		**P**	**00 17 11.7**	**+1.1**
	32nm,0.4s,mb5.6							
SRU	**San Rafael**	**37.45**	**93**	*eP*		**P**	**00 17 43.5**	**+0.5**
	1.2nm,0.5s,mb4.0							
KSRS	**Korea Array**	**49.49**	**280**	P		**P**	**00 19 19.7**	**-0.2**
	3.2nm,0.9s,mb4.3,baz=53,slow=6.4,SNR=5.2							
SONM	**Songino Array**	**53.76**	**303**	P		**P**	**00 19 52.2**	**+0.6**
	0.9nm,0.8s,mb3.8,baz=42,slow=6.9,SNR=7.6							
SONM				PcP		PcP	00 20 56.5	-0.5
	0.4nm,0.7s,baz=62,slow=3.4,SNR=2.7							
MKAR	**Makanchi Array**	**65.17**	**317**	P		**P**	**00 21 10.1**	**-0.1**
	0.2nm,0.5s,mb3.5,baz=43,slow=6.9,SNR=2.2							
AKASG	**Malin Array Be**	**74.35**	**353**	P		**P**	**00 22 06.2**	**-0.4**
	2.5nm,0.6s,mb4.3,baz=6.8,slow=5.4,SNR=6.2							
GERES	**GERESS Array B**	**76.54**	**3**	P		**P**	**00 22 19.8**	**+0.7**
	0.7nm,0.7s,mb3.7,baz=349,slow=4.1,SNR=6.3							
CMAR	**Chiang Mai Arr**	**80.28**	**288**	P		**P**	**00 22 39.9**	**-0.4**
	1.2nm,0.3s,mb4.3,baz=2.0,slow=5.4,SNR=4.7							

ISCJB 27 00:58:31.3±0.6,5365N±005×1593E±0.1,h135km±5km, mb3.4/3,Error ellipse: s-maj=13.1km s-min=5.8km az=29.5
KRSC 27 00:58:31.0±0.2,5367N×15930E,h136km±23km,ML3.7
IDC 27 00:58:32.5±1.1,5373N×15887E,h143km±16km,mb3.2/3, mb1 3.5/3,mb1mx3.1/20,mbtmp3.2/3,Error ellipse: s-maj=40.1km s-min=22.2km az=22.0
ISC 27 00:58:32.1±0.6,5366N±005×1593E±01,h135km±4km,n17, σ0§94/28,mb3.4/3,Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KII	**Karymskiy**	**0.39**	**17**	*eP*		**Pn**	**00 58 51.0**	**-0.1**
KII				*i* S		**Sn**	**00 59 06.5**	**+0.9**
NLC	**Nalytchevo**	**0.50**	**174**	*eP*		**Pn**	**00 58 51.5**	**-0.2**
NLC				*i* S		**Sn**	**00 59 06.9**	**+0.4**
AVH	**Avacha**	**0.51**	**218**	*eP*		**Pn**	**00 58 52.0**	**+0.3**
AVH				*i* S		**Sn**	**00 59 08.1**	**+1.5**
SPN	**Mys Shipunski**	**0.73**	**141**	*eP*		**Pn**	**00 58 52.9**	**-0.3**
SPN				*i* S		**Sn**	**00 59 09.0**	**-0.2**
PET	**Petropavlovsk**	**0.74**	**210**	*eP*		**Pn**	**00 58 53.1**	**-0.1**
PET				*i* S		**Sn**	**00 59 08.9**	**-0.3**
GNL	**Ganaly**	**0.78**	**273**	*eP*		**Pn**	**00 58 52.9**	**-0.7**
PETK	**Petropavlovsk-**	**1.09**	**240**	P		**Pn**	**00 58 55.6**	**-0.7**
	34nm,0.3s,baz=68,slow=13,SNR=886							
PETK				S		**Sn**	**00 59 14.7**	**+0.1**
	2.4nm,0.3s,baz=33,slow=20,SNR=5.9							
RUS	**Russkaya**	**1.31**	**200**	*eP*		**Pn**	**00 58 57.9**	**-0.6**
RUS				*i* S		**Sn**	**00 59 18.1**	**-0.5**
TUMR	**Tumrok**	**1.70**	**17**	*eP*		**Pn**	**00 59 04.1**	**+1.3**
TUMR				*i* S		**Sn**	**00 59 27.8**	**+1.5**
MKZ	**Mys Kozlova**	**1.71**	**58**	*eP*		**Pn**	**00 59 02.8**	**0.0**
MKZ				*i* S		**Sn**	**00 59 25.2**	**-1.2**
KMNR	**Kamenistaya**	**2.17**	**15**	*eP*		**Pn**	**00 59 07.8**	**-0.5**
KMNR				*i* S		**Sn**	**00 59 34.9**	**-1.3**
KOZ	**Kozyrevsk**	**2.42**	**8**	P		**Pn**	**00 59 12.3**	**+0.8**
SRKR	**Sorokina**	**3.19**	**19**	P		**Pn**	**00 59 21.8**	**+0.6**
KBTR	**Krutoberegovo**	**3.27**	**37**	*eP*		**Pn**	**00 59 22.4**	**+0.1**
KBTR				*i* S		**Sn**	**00 59 59.4**	**-1.8**
KURK	**Kurchatov**	**47.01**	**301**	P		**P**	**01 06 46.9**	**-2.3**
	0.5nm,0.4s,mb3.5,baz=59,slow=7.5,SNR=5.7							
PDAR	**Pinedale Array**	**57.68**	**61**	P		**P**	**01 08 09.8**	**+1.8**
	0.5nm,0.6s,mb3.5,baz=344,slow=4.8,SNR=3.5							
TXAR	**Lajitas Array**	**70.87**	**67**	P		**P**	**01 09 35.4**	**+1.2**
	0.3nm,0.6s,mb3.2,baz=307,slow=5.5,SNR=3.6							

ISCJB 27 01:13:07.4±0.6,2526S±003×690W±0.1,h100km±9km, Error ellipse: s-maj=15.6km s-min=4.9km az=3.5
IDC 27 01:13:07.6±1.9,2527S×6875W,h82km±18km,mb3.7/3, mb1 4.1/7,mb1mx3.8/18,mbtmp4.0/7,MS3.5/1,Ms1 3.5/1, ms1mx2.8/19,Error ellipse: s-maj=32.3km s-min=14.0km az=89.0
GUC 27 01:13:10.2±0.4,2520S×6920W,h109km±7km,MD4.1, ML4.5
NEIC 27 01:13:10.2,2520S×6920W,h109km,mb4.1/1, MD4.1(GUC),After GUC.
ISC 27 01:13:08.4±0.5,2528S±003×6895W±009,h90km±9km,n26, σ1§23/35,5C-3D,Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CPN1	**Cerro Paranal**	**1.47**	**296**	*iP*		**Pn**	**01 13 34.8**	**+1.1**
CPN1				*i* S		**Sn**	**01 13 53.6**	**+0.6**
CPN1				AML	AML	01 13 55.6		
	comp=E,4μm,0.2s							
ANCH	**Antofagasta**	**2.07**	**320**	*iP*		**Pn**	**01 13 41.8**	**+0.3**
ANCH				*i* S		**Sn**	**01 14 05.5**	**-1.4**
ANCH				AML	AML	01 14 07.9		
	comp=N,4μm,0.5s							
ANCH	**Antofagasta**	**2.07**	**320**	*iP*		**Pn**	**01 13 41.8**	**+0.3**
ANCH				*i* S		**Sn**	**01 14 05.5**	**-1.4**
CEN1	**Los Morros**	**2.20**	**328**	*iP*		**Pn**	**01 13 42.6**	**-0.6**
CEN1				*i* S		**Sn**	**01 14 07.1**	**-2.7**
CEN1				AML	AML	01 14 09.7		
	comp=N,3μm,0.6s							
CPCH	**Copiapo**	**2.43**	**211**	*iP*		**Pn**	**01 13 47.0**	**+0.8**
CPCH				*i* S		**Sn**	**01 14 16.0**	**+0.7**
CPCH				AML	AML	01 14 23.3		
	comp=E,11μm,0.1s							
CPCH	**Copiapo**	**2.43**	**211**	*iP*		**Pn**	**01 13 47.0**	**+0.8**
CPCH				*i* S		**Sn**	**01 14 16.0**	**+0.7**
SPCH	**San Pedro de A**	**2.45**	**16**	*iP*		**Pn**	**01 13 50.0**	**+3.4**
SPCH				*i* S		**Sn**	**01 14 20.5**	**+4.6**
SPCH				AML	AML	01 14 21.4		
	comp=E,5μm,0.4s							
SPCH	**San Pedro de A**	**2.45**	**16**	*iP*		**Pn**	**01 13 50.0**	**+3.4**
SPCH				*i* S		**Sn**	**01 14 20.5**	**+4.6**
LVC	**Limon Verde**	**2.65**	**1**	*e*Pn		**Pn**	**01 13 50.8**	**+1.5**
LVC				*e*Sn		**Sn**	**01 14 18.9**	**-1.7**
VACH	**Vallenar**	**3.66**	**206**	*eP*		**Pn**	**01 14 02.2**	**-0.7**
VACH				*i* S		**Sn**	**01 14 44.1**	**-0.9**
LCO	**Las Campanas**	**4.04**	**202**	*e*Pn		**Pn**	**01 14 08.0**	**+0.1**
CFAA	**Coronel Fontan**	**6.34**	**174**	P		**Pn**	**01 14 40.1**	**+0.9**
	comp=E,2.7nm,0.3s,baz=350,slow=13,SNR=406							
CFAA				S		**Sn**	**01 15 47.8**	**-2.3**
	comp=E,2.3nm,0.3s,baz=226,slow=19,SNR=22							
LPAZ	**La Paz**	**8.97**	**5**	P		**Pn**	**01 15 15.4**	**+0.2**
	comp=E,3.2nm,0.3s,baz=200,slow=8.2,SNR=76							
LPAZ				S		**Sn**	**01 16 55.4**	**+0.8**
	comp=E,0.2nm,0.3s,baz=218,slow=18,SNR=1.6							
LPAZ	**La Paz**	**8.97**	**5**	*e*Pn		**Pn**	**01 15 15.0**	**-0.2**
	comp=E,13nm,0.6s							
SIV	**San Ignacio**	**11.81**	**40**	P		**Pn**	**01 15 50.3**	**-3.6**
	comp=E,7.3nm,0.3s,baz=230,slow=12,SNR=106							
TRQA	**Tornquist**	**14.05**	**157**	Pn		**Pn**	**01 16 22.5**	**-0.8**
PLCA	**Paso Flores**	**15.47**	**185**	P		**Pn**	**01 16 43.3**	**+1.9**
	comp=E,0.3nm,0.3s,baz=2.9,slow=13,SNR=17							
PLCA	**Paso Flores**	**15.47**	**185**	*eP*		**Pn**	**01 16 44.4**	**+2.9**
	comp=E,11nm,0.8s							
PCRV	**Puerto La Cruz**	**35.48**	**7**	LR		LR	01 34 51.7	
	comp=E,90nm,21.8s,baz=324,slow=37							
TEIG	**Tepich**	**48.98**	**336**	P		**P**	**01 21 45.1**	**-0.8**
	comp=E,4.3nm,0.9s,baz=180,slow=1.0,SNR=4.5							
TXAR	**Lajitas Array**	**63.71**	**326**	P		**P**	**01 23 32.0**	**+1.6**
	comp=E,0.1nm,0.6s,baz=139,slow=7.2,SNR=2.3							
DBIC	**Dimbokro**	**69.88**	**72**	P		**P**	**01 24 09.4**	**-0.7**
	comp=E,6.3nm,1.1s,baz=222,slow=8.0,SNR=4.0							
TORD	**Torodi Ar. Bea**	**78.68**	**70**	P		**P**	**01 25 00.5**	**-0.6**
	comp=E,159nm,0.3s,baz=258,slow=5.4,SNR=1.6							
TORD	**Torodi Ar. Bea**	**78.68**	**70**	P		**P**	**01 25 00.5**	**-0.6**
ZALV	**Zalesovo Beam**	**145.34**	**27**	PKPbc	PKPbc		01 32 34.8	-0.5
	comp=E,3.5nm,0.5s,baz=307,slow=4.0,SNR=18							
MKAR	**Makanchi Array**	**148.63**	**39**	PKPbc	PKPbc		01 32 44.0	-0.8
	comp=E,1.7nm,0.6s,baz=311,slow=2.9,SNR=16							

MOS 27 01:16:51.3±1.1,3158S×6885W,h97km,mb5.1/24,Error ellipse: s-maj=16.2km s-min=6.9km az=110.2
ISCJB 27 01:16:52.4±0.3,3159S±002×6894W±004,h106km±3km, mb5.0/84,Error ellipse: s-maj=5.8km s-min=3.7km az=169.8
GUC 27 01:16:53.2±0.6,3162S×6917W,h131km±10km,ML5.2
IDC 27 01:16:54.1±0.4,3166S×6888W,h110km±2km,mb4.6/16, mb1 4.6/17,mb1mx4.6/20,mbtmp4.6/17,MS3.7/4, Ms1 3.7/4,ms1mx3.3/17,Error ellipse: s-maj=13.2km s-min=8.0km az=32.0
BJI 27 01:16:54.6±0.1,3169S×6903W,mb5.1/70,MD4.4(SJA), Error ellipse: s-maj=5.8km s-min=3.7km az=80.0
NEIC Felt [III] at San Juan.
GCMT 27 01:16:54.6±0.3,3185S×6921W,h114km±3km,MW5.0/55, Moment Tensor Solution. s30,c35; s55,c72; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-1.73±.17; $M_{\theta\theta}$3.72±.18; $M_{\phi\phi}$-1.99±.24; $M_{r\theta}$-0.78±.12; $M_{r\phi}$0.78±.20; $M_{\theta\phi}$-2.34±.14; Best double couple: M≈4.13100×10^{16} NP1:ϕ299.00000°,δ51.00000°,λ-26.00000°. NP2: ϕ46.00000°,δ70.00000°,λ-138.00000°. Principal axes: T 4.0580, Plg12.0000°, Azm168.0000°; N 0.1450, Plg44.0000°, Azm66.0000°; P -4.2040, Plg43.0000°, Azm270.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.
ISC 27 01:16:53.6±0.3,3160S±002×6896W±004,h101km±3km, h118km±1.9km;pP-P,n339,σ0§73/305,mb5.0/84,47C-31D, San Juan Province

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CFAA	**Coronel Fontan**	**0.61**	**91**	P		**Pn**	**01 17 11.7**	**+1.5**
	671nm,0.3s,baz=267,slow=7.6,SNR=1910							
CFAA				S		**Sn**	**01 17 25.8**	**+2.9**
	354nm,0.3s,baz=49,slow=20,SNR=32							
PTCH	**Petorca**	**1.80**	**248**	*eP*		**Pn**	**01 17 23.3**	**-0.3**
PTCH				*i* S		**Sn**	**01 17 45.9**	**-0.7**
PTCH				AML	AML	01 17 49.8		
	comp=E,14μm,0.2s							
PTCH	**Petorca**	**1.80**	**248**	*eP*		**Pn**	**01 17 23.3**	**-0.3**
PTCH				*i* S		**Sn**	**01 17 45.9**	**-0.7**
TLL	**Tololo Astrono**	**2.13**	**311**	*iP*		**Pn**	**01 17 28.5**	**+0.6**
TLL				*i* S		**Sn**	**01 17 55.0**	**+0.8**
TLL				AML	AML	01 17 59.1		
	comp=N,17μm,0.4s							
TLL	**Tololo Astrono**	**2.13**	**311**	*iP*		**Pn**	**01 17 28.5**	**+0.6**
TLL				*i* S		**Sn**	**01 17 55.0**	**+0.8**
OVCH	**Ovalle**	**2.16**	**297**	*iP*		**Pn**	**01 17 27.7**	**-0.6**
OVCH				*i* S		**Sn**	**01 17 54.1**	**-0.7**
OVCH				AML	AML	01 18 05.0		
	comp=N,20μm,0.7s							
OVCH	**Ovalle**	**2.16**	**297**	*iP*		**Pn**	**01 17 27.7**	**-0.6**
OVCH				*i* S		**Sn**	**01 17 54.1**	**-0.7**
CHNG	**Los Chungos**	**2.18**	**262**	*iP*		**Pn**	**01 17 27.5**	**-1.0**
CHNG				*i* S		**Sn**	**01 17 53.6**	**-1.7**
CHNG				AML	AML	01 18 02.2		
	comp=E,6μm,0.7s							
CLCH	**Cerro Calan**	**2.23**	**216**	*iP*		**Pn**	**01 17 29.4**	**+0.3**
CLCH				*i* S		**Sn**	**01 17 56.6**	**+0.2**
CLCH				AML	AML	01 18 00.0		
	comp=E,33μm,0.6s							
CLCH				AML	AML	01 18 00.6		
	comp=E,38μm,0.6s							
YECH	**El Yeso**	**2.27**	**204**	*iP*		**Pn**	**01 17 30.7**	**+1.0**
YECH				*i* S		**Sn**	**01 17 59.0**	**+1.8**
YECH				AML	AML	01 18 11.1		
	comp=N,7μm,0.5s							
PCH	**Pirque**	**2.41**	**213**	*iP*		**Pn**	**01 17 31.6**	**+0.1**
PCH				*i* S		**Sn**	**01 18 00.6**	**+0.1**
ANTU	**Antumapu**	**2.42**	**215**	*eP*		**Pn**	**01 17 31.8**	**+0.1**
ANTU				*i* S		**Sn**	**01 18 00.7**	**-0.1**
ANTU				AML	AML	01 18 02.9		
	comp=N,9μm,0.5s							
ANTU	**Antumapu**	**2.42**	**215**	*eP*		**Pn**	**01 17 31.8**	**+0.1**
ANTU				*i* S		**Sn**	**01 18 00.7**	**-0.1**
RCDM	**Rinconada Maip**	**2.45**	**219**	*iP*		**Pn**	**01 17 31.8**	**-0.2**
RCDM				*i* S		**Sn**	**01 18 01.1**	**-0.3**
RCDM				AML	AML	01 18 02.3		
	comp=E,12μm,0.3s							

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RCDM	**Rinconada Maip**	**2.45**	**219**	*iP*		**Pn**	**01 17 31.8**	**-0.2**
RCDM				*i* S		**Sn**	**01 18 01.1**	**-0.3**
LMEL	**Las Melosas**	**2.48**	**205**	*iP*		**Pn**	**01 17 32.8**	**+0.4**
LMEL				*i* S		**Sn**	**01 18 02.8**	**+0.7**
LMEL				AML	AML	01 18 13.3		
	comp=E,4μm,0.7s							
LMEL	**Las Melosas**	**2.48**	**205**	*iP*		**Pn**	**01 17 32.8**	**+0.4**
LMEL				*i* S		**Sn**	**01 18 02.8**	**+0.7**
LSCH	**La Serena**	**2.59**	**310**	*iP*		**Pn**	**01 17 33.2**	**-0.7**
LSCH				AML	AML	01 18 03.4		
	comp=N,10μm,0.6s							
TACH	**Talagante**	**2.64**	**219**	*iP*		**Pn**	**01 17 33.7**	**-0.8**
TACH				*i* S		**Sn**	**01 18 05.2**	**-0.9**
CACH	**El Canelo**	**2.87**	**208**	*iP*		**Pn**	**01 17 38.0**	**+0.5**
CACH				*i* S		**Sn**	**01 18 12.4**	**+1.0**
CICH	**Cipreses**	**2.98**	**204**	*iP*		**Pn**	**01 17 39.4**	**+0.4**
CICH				*i* S		**Sn**	**01 18 14.1**	**+0.1**
LCO	**Las Campanas**	**2.99**	**329**	*e*Pn		**Pn**	**01 17 39.4**	**+0.2**
LCO				*e*Sn		**Sn**	**01 18 14.2**	**-0.1**
VACH	**Vallenar**	**3.39**	**332**	AML	AML	01 18 24.1		
	comp=N,16μm,0.6s							
TRQA	**Tornquist**	**8.62**	**140**	*e*Pn		**Pn**	**01 18 55.0**	**-0.5**
LVC	**Limon Verde**	**8.95**	**0**	*e*Pn		**Pn**	**01 18 58.0**	**-2.0**
PLCA	**Paso Flores**	**9.21**	**188**	P		**Pn**	**01 19 01.3**	**-2.0**
	comp=N,7.1nm,0.3s,baz=2.6,slow=13,SNR=104							
PLCA	**Paso Flores**	**9.21**	**188**	*eP*		**Pn**	**01 19 01.2**	**-2.1**
PLCA				pmax	pmax			
	comp=E,38nm,0.5s							
PLCA	**Paso Flores**	**9.21**	**188**	*ePn*		**Pn**	**01 19 01.2**	**-2.1**
	comp=E,38nm,0.5s							
LPA	**La Plata**	**9.80**	**113**	*ceP*		**Pn**	**01 19 09.0**	**-2.5**
LPA				*eS*		**Sn**	**01 20 54.0**	**-5.7**
LPAZ	**La Paz**	**15.26**	**3**	P		**Pn**	**01 20 22.7**	**-0.9**
	comp=E,6.0nm,0.3s,baz=178,slow=8.8,SNR=203							
LPAZ				S		**S**	**01 23 22.4**	**+0.3**
	baz=6.5,slow=19,SNR=1.3							
LPAZ				LR	LR	01 26 57.1		
	comp=Z,249nm,20.0s,baz=283,slow=39							
LPAZ	**La Paz**	**15.26**	**3**	*ePn*		**Pn**	**01 20 22.9**	**-0.7**
SIV	**San Ignacio**	**17.12**	**27**	P		**Pn**	**01 20 44.5**	**-2.1**
	comp=Z,3.0nm,0.3s,baz=211,slow=13,SNR=48							
SIV				S		**S**	**01 24 00.1**	**+2.3**
	comp=Z,0.1nm,0.3s,baz=358,slow=20,SNR=2.1							
NNA	**Nana**	**20.83**	**338**	P		**P**	**01 21 28.2**	**+1.0**
	comp=Z,23nm,0.8s,baz=192,slow=12,SNR=7.2							
NNA				PP			01 22 06.7	
	comp=Z,22nm,0.7s,baz=214,slow=10,SNR=5.8							
NNA	**Nana**	**20.83**	**338**	P		**P**	**01 21 28.3**	**+1.1**
	comp=Z,21nm,0.8s							
NNA				PP			01 22 06.7	
VAO	**Valinhos**	**21.31**	**72**↑	*eP*		**P**	**01 21 33.3**	**+1.1**
VAO				*i*			01 21 34.2	
VAO				*i*			01 21 37.2	
VAO				*i*			01 21 52.3	
VAO				*i*			01 22 07.5	
EFI	**East Falkland**	**21.60**	**161**	P		**P**	**01 21 33.5**	**-1.6**
	comp=Z,2μm,0.7s,SNR=63							
EFI	**East Falkland**	**21.60**	**161**	*eP*		**P**	**01 21 33.4**	**-1.7**
EFI				pmax	pmax			
	comp=Z,231nm,0.8s,mb5.6							
EFI	**East Falkland**	**21.60**	**161**	*eP*		**P**	**01 21 33.4**	**-1.7**
	comp=Z,231nm,0.8s,mb5.6							
USHA	**Ushuaia**	**23.23**	**179**	P		**P**	**01 21 51.4**	**-0.2**
	comp=Z,262nm,0.9s,mb5.6,baz=342,slow=7.3,SNR=63							
BDFB	**Brasilia**	**24.84**	**55**	P		**P**	**01 22 07.8**	**+1.2**
	comp=Z,4.6nm,0.8s,mb4.0,baz=236,slow=12,SNR=4.6							
BDFB				pP			01 22 28.1	
	comp=Z,20nm,1.0s,baz=218,slow=14,SNR=12							
BDFB				sP	sP		01 22 42.8	+2.3
	comp=Z,12nm,0.9s,baz=215,slow=16,SNR=5.0							
BDFB	**Brasilia**	**24.84**	**55**	*eP*		**P**	**01 22 04.7**	**-1.9**
BDFB				*e*pP			01 22 30.2	
BDFB				sP	sP		01 22 42.8	+2.3
ATAH	**Atahualpa**	**26.01**	**338**	P		**P**	**01 22 18.5**	**+1.3**
	comp=Z,7.1nm,0.9s,mb4.1,baz=159,slow=6.6,SNR=5.2							
HOPE	**Hope Point**	**32.38**	**144**	P		**P**	**01 23 14.4**	**+1.1**
	comp=Z,72nm,1.3s,mb5.2							
OTAV	**Otavalo**	**32.92**	**342**	*eP*		**P**	**01 23 20.6**	**+2.2**
	comp=Z,19nm,1.3s,mb4.8							
OTAV				*e*PcP	PcP		01 26 01.8	+1.1
ROSC	**El Rosal**	**36.61**	**351**	P		**P**	**01 23 51.8**	**+1.6**
	comp=Z,5.1nm,0.5s,mb4.7,baz=74,slow=22,SNR=4.3							
ROSC	**El Rosal**	**36.61**	**351**	P		**P**	**01 23 50.9**	**+0.8**
**SD

comp=Z,70nm,0.9s,mb5.5
WVT Waverly 69.66 344 *e*P P **01 27 51.0 -1.0**
comp=Z,70nm,0.9s,mb5.5
MIAR Mount Ida 69.75 339 *e*P P **01 27 52.1 -0.5**
MIAR pmax pmax
comp=Z,35nm,1.2s,mb5.1
MIAR Mount Ida 69.75 339 *e*P P **01 27 52.1 -0.6**
comp=Z,35nm,1.2s,mb5.1
HALT Halls 69.83 342 *e*P P **01 27 52.8 -0.2**
GNAR Gosnell 70.05 342 *e*P P **01 27 53.8 -0.7**
comp=Z,2µm,1.2s
UTMT University of 70.11 343 *e*P P **01 27 54.1 -0.7**
comp=Z,352nm,1.1s,mb6.1
GLAT Glass 70.15 343 *e*P P **01 27 54.8 -0.2**
PVMO Portageville 70.39 342 *e*P P **01 27 56.9 +0.4**
comp=Z,258nm,0.8s,mb6.1
WCI Wyandotte Cave 71.33 346 *e*P P **01 28 00.6 -1.5**
WCI pmax pmax
comp=Z,39nm,0.8s,mb5.3
WCI Wyandotte Cave 71.33 346 *e*P P **01 28 00.6 -1.5**
comp=Z,40nm,0.8s,mb5.3
USIN University of 71.37 344 *e*P P **01 28 01.1 -1.3**
comp=Z,65nm,1.1s,mb5.4
SIUC Southern Illin 71.50 343 *e*P P **01 28 02.2 -0.9**
comp=Z,49nm,1.1s,mb5.2
MVL Millersville 71.56 354 *e*P P **01 28 03.8 +0.3**
MCWV Mont Chateau 71.61 351 *e*P P **01 28 03.4 -0.4**
comp=Z,234nm,2.3s,mb5.6
GDL2 Guadalupe Moun 71.75 329 *e*P P **01 28 04.8 0.0**
DBIC Dimbokro 71.94 70 P P **01 28 06.0 -0.3**
comp=Z,12nm,0.8s,mb4.8,baz=206,slow=6.9,SNR=18
DBIC pP pP 01 28 33.0 +1.0
comp=Z,12nm,0.8s,baz=212,slow=8.3,SNR=4.7
DBIC LR LR 01 58 09.1
comp=Z,31nm,19.4s,baz=29,slow=34
DBIC Dimbokro 71.94 70 *e*P P **01 28 06.2 -0.2**
DBIC *PP pP 01 28 33.0 +1.1
DBIC pmax pmax
comp=Z,58nm,1.5s
DBIC Dimbokro 71.94 70 *e*P P **01 28 06.2 -0.2**
comp=Z,58nm,1.5s,mb5.2
DBIC pP pP 01 28 33.0 +1.0
DBIC LR LR 01 58 09.1
FVM French Village 72.06 342 *e*P P **01 28 05.6 -0.9**
FVM pmax pmax
comp=Z,91nm,1.2s,mb5.5
FVM French Village 72.06 342 *e*P P **01 28 05.6 -1.0**
comp=Z,91nm,1.2s,mb5.5
OLIL Olney 72.21 344 *e*P P **01 28 06.0 -1.4**
comp=Z,71nm,1.2s,mb5.4
BLO Bloomington 72.28 346 *e*P P **01 28 06.5 -1.3**
BLO pmax pmax
comp=Z,20nm,0.7s,mb5.1
BLO Bloomington 72.28 346 *e*P P **01 28 06.5 -1.3**
comp=Z,20nm,0.7s,mb5.1
CCM Cathedral Cave 72.35 342 *e*P P **01 28 07.5 -0.7**
CCM pmax pmax
comp=Z,58nm,0.9s,mb5.4
CCM Cathedral Cave 72.35 342 *e*P P **01 28 07.5 -0.7**
comp=Z,58nm,0.9s,mb5.4
ACSO Alum Creek Sta 72.64 349 *e*P P **01 28 08.8 -1.1**
comp=Z,37nm,0.8s,mb5.3
AMTX Amarillo 72.94 332 *e*P P **01 28 11.5 -0.3**
comp=Z,66nm,1.3s,mb5.3
319A Douglas 73.36 325 ⇑P P **01 28 14.9 +0.5**
baz=74,SNR=28
318A Bisbee 73.77 324 P P **01 28 17.2 +0.5**
baz=74,SNR=39
219A White Tail Can 73.86 325 P P **01 28 17.9 +0.6**
baz=74,SNR=58
HDIL Hopedale 74.22 344 *e*P P **01 28 18.0 -1.2**
comp=Z,38nm,0.8s,mb5.2
218A Dragoon 74.23 325 P P **01 28 20.0 +0.6**
baz=74,SNR=5.4
BNM Barren Site 74.41 328 *e*P P **01 28 21.1 +0.7**
BNM *e*PcP PcP 01 28 34.2 -0.3
217A Green Valley 74.45 324 ⇓P P **01 28 20.6 -0.1**
baz=75,SNR=27
119A Ashpeak Ranch, 74.51 326 ⇓P P **01 28 21.3 +0.3**
baz=75,SNR=10
LPM Los Pinos Moun 74.54 328 *e*P P **01 28 21.8 +0.6**
LENM Lemitar 74.58 328 *e*P P **01 28 22.3 +0.9**
MAW Mawson 74.72 163 P P **01 28 21.7 -0.1**
comp=Z,6.7nm,0.9s,mb4.3,baz=182,slow=4.6,SNR=9.6
118A Homack Ranch, 74.73 325 ⇑P P **01 28 22.1 -0.2**
baz=75,SNR=9.6
LAZ Ladron 74.85 328 *e*P P **01 28 24.0 +1.0**
TUC Tucson 74.86 324 *e*P P **01 28 22.8 -0.3**
TUC pmax pmax
comp=Z,2.0nm,0.7s,mb4.0
TUC Tucson 74.86 324 *e*P P **01 28 22.8 -0.3**
comp=Z,2.2nm,0.7s,mb4.0
Z19A T-Link Ranch, 74.92 326 ⇑P P **01 28 23.3 -0.1**
baz=75,SNR=5.9
216A Three Points, 74.96 324 ⇑P P **01 28 23.6 0.0**
baz=75,SNR=17
ANMO Albuquerque 75.00 329 *e*P P **01 28 24.3 +0.5**
ANMO pmax pmax
comp=Z,41nm,1.3s
ANMO Albuquerque 75.00 329 *e*P P **01 28 24.3 +0.5**
comp=Z,41nm,1.3s,mb5.0
117A Oracle 75.05 324 ⇓P P **01 28 23.9 -0.3**
baz=75,SNR=20
Y19A Nutrioso 75.46 326 ⇑P P **01 28 27.0 +0.6**
baz=76,SNR=58
LBNH Lisbon 75.52 358 *e*P P **01 28 27.2 +0.6**
116A Eloy 75.53 324 ⇓P P **01 28 26.8 -0.1**
baz=76,SNR=8.1
214A Organ Pipe Nat 75.61 323 ⇓P P **01 28 27.1 -0.3**
baz=76,SNR=17
CBKS Cedar Bluff 75.68 336 *e*P P **01 28 27.6 0.0**
CBKS pmax pmax
comp=Z,85nm,1.3s,mb5.3
CBKS Cedar Bluff 75.68 336 *e*P P **01 28 27.6 0.0**
comp=Z,85nm,1.3s,mb5.3
Y18A Canyon Day Jun 75.69 326 ⇓P P **01 28 27.7 0.0**
baz=76,SNR=13
X19A St. Johns 75.86 327 ⇓P P **01 28 28.5 -0.3**
baz=76,SNR=8.7
115A Sonoran Desert 75.91 323 ⇑P P **01 28 29.7 +0.6**
baz=76,SNR=15
Y17A Roosevelt 76.01 325 ⇑P P **01 28 30.1 +0.5**
baz=76,SNR=41
Z16A Peralta Trail, 76.01 324 ⇓P P **01 28 29.9 +0.2**
baz=76,SNR=5.7
FRNY Flat Rock 76.19 357 *e*P P **01 28 30.4 +0.1**
X18A Snowflake 76.26 326 ⇓P P **01 28 31.8 +0.8**
baz=77,SNR=6.7
Z15A Gila River Ind 76.34 324 ⇓P P **01 28 32.1 +0.6**
baz=77
W19A Sanders 76.47 327 ⇑P P **01 28 32.5 +0.3**
baz=77
Y16A Circle Bar Ran 76.47 325 ⇑P P **01 28 31.8 -0.4**
baz=77,SNR=20
SCIA State Center 76.48 342 *e*P P **01 28 31.3 -0.8**
comp=Z,43nm,1.0s,mb5.1
PKME Peaks-Kenny Pk 76.50 360 *e*P P **01 28 32.4 +0.3**
comp=Z,30nm,1.3s,mb4.9
X17A Forest Lakes 76.51 325 ⇑P P **01 28 33.4 +0.9**
baz=77,SNR=14
W18A Petrified Fore 76.64 327 ⇑P P **01 28 33.9 +0.7**
baz=77,SNR=8.8
JFWS Jewell Farm 76.68 344 *e*P P **01 28 32.3 -0.9**
JFWS pmax pmax
comp=Z,33nm,1.2s,mb4.9
JFWS Jewell Farm 76.68 344 *e*P P **01 28 32.3 -0.9**
comp=Z,33nm,1.2s,mb4.9
113A Mohawk Valley, 76.75 322 ⇑P P **01 28 34.0 +0.2**
baz=77,SNR=5.9
V19A Window Rock 76.81 327 P P **01 28 35.0 +0.9**
baz=77,SNR=19
X16A Lo Mia Camp, P 76.89 325 ⇓P P **01 28 35.0 +0.4**
baz=77,SNR=46
Y15A Casa Rosa Ranc 76.96 324 ⇑P P **01 28 35.0 +0.1**
baz=77,SNR=18
112A Yuma 77.00 322 ⇑P P **01 28 35.5 +0.3**
baz=77
W17A Winslow 77.07 326 ⇓P P **01 28 36.5 +1.0**
baz=77
V18A Ganado 77.21 327 ⇓P P **01 28 36.4 +0.1**
baz=78,SNR=7.2
Y14A Wickenburg 77.28 324 ⇑P P **01 28 36.7 -0.1**
baz=78,SNR=19
X15A Humboldt 77.33 325 ⇓P P **01 28 36.7 -0.3**
baz=78,SNR=39
TSUM Tsumeb 77.34 105 *e*P P **01 28 38.4 +0.8**
comp=Z,8.9nm,1.1s,mb4.4

W16A Flagstaff 77.47 325 ⇑P P **01 28 38.8 +0.9**
baz=78,SNR=26
GLA Glamis 77.53 322 ⇑P P **01 28 38.2 0.0**
baz=78,SNR=6.7
GLA Glamis 77.53 322 *e*P P **01 28 38.8 +0.7**
Y13A Salome 77.60 323 ⇑P P **01 28 39.0 +0.4**
baz=78,SNR=7.4
X14A Yava 77.64 324 ⇓P P **01 28 39.0 +0.2**
baz=78,SNR=15
T19A Beclabito 77.72 328 ⇓P P **01 28 39.0 -0.1**
baz=78,SNR=37
WUAZ Wupatki 77.74 326 ⇑P P **01 28 39.2 -0.1**
baz=78
WUAZ Wupatki 77.74 326 *e*P P **01 28 40.0 +0.7**
comp=Z,25nm,1.1s,mb4.9
U18A Rough Rock, Ch 77.76 327 ⇑P P **01 28 39.6 +0.2**
baz=78,SNR=29
MVCO Mesa Verde 77.80 329 ⇑P P **01 28 39.7 +0.2**
baz=78
MVCO Mesa Verde 77.80 329 *e*P P **01 28 40.0 +0.5**
W15A Williams 77.90 325 ⇑P P **01 28 40.5 +0.3**
baz=78,SNR=8.5
Y12C Blythe 77.91 323 ⇓P P **01 28 40.5 +0.2**
baz=78,SNR=9.0
SWSC Sam W. Stewart 77.96 321 ⇑P P **01 28 40.7 +0.1**
baz=78
U16A Tuba City 78.13 326 ⇑P P **01 28 41.6 +0.2**
baz=78,SNR=19
PDMCI Parker Dam,Lak 78.14 323 ⇑P P **01 28 41.1 -0.5**
baz=78
X13A Yucca 78.22 324 ⇓P P **01 28 41.6 -0.4**
baz=78,SNR=24
MONP Monument Peak 78.25 321 ⇓P P **01 28 42.1 -0.1**
baz=79,SNR=7.8
U17A Shonto 78.28 327 ⇑P P **01 28 41.8 -0.4**
baz=79,SNR=20
BC3 Big Chuskw Mtn 78.32 322 ⇑P P **01 28 42.0 -0.5**
baz=79,SNR=28
W14A Seligman 78.33 324 ⇑P P **01 28 42.7 +0.2**
baz=79,SNR=17
T18A Mexican Hat 78.35 328 ⇑P P **01 28 42.3 -0.3**
baz=79,SNR=29
V15A Kaibab Nationa 78.37 325 P P **01 28 43.7 +0.9**
baz=79,SNR=39
S19A Harvey Farm, M 78.52 329 ⇑P P **01 28 43.5 -0.1**
baz=79,SNR=30
IRM Iron Mountain 78.56 322 ⇓P P **01 28 43.7 -0.1**
baz=79,SNR=15
PV01 Paradox Valley 78.59 329 *e*P P **01 28 44.5 +0.6**
W13A Hualapai Mount 78.64 324 ⇓P P **01 28 44.5 +0.3**
baz=79,SNR=8.4
T17A Navajo Res., N 78.67 327 ⇑P P **01 28 44.7 +0.4**
baz=79,SNR=32
V14A Boquillas Ranc 78.68 325 ⇓P P **01 28 45.4 +1.0**
baz=79,SNR=20
ISCO Idaho Springs 78.76 332 *e*P P **01 28 45.4 +0.6**
ISCO *e* 01 28 53.0
ISCO pmax pmax
comp=Z,17nm,1.0s,mb4.8
ISCO Idaho Springs 78.76 332 *e*P P **01 28 45.4 +0.6**
comp=Z,17nm,1.0s,mb4.8
ISCO *e*PcP PcP 01 28 53.0 -0.3
PFO Pinyon Flat Ob 78.82 321 P P **01 28 45.6 +0.3**
comp=Z,136nm,1.1s,mb5.7,SNR=8.4
BOSA Boshof 78.86 117 P P **01 28 45.8 -0.1**
comp=Z,4.4nm,0.8s,mb4.4,baz=194,slow=7.0,SNR=8.4
BOSA PcP PcP 01 28 55.2 +1.0
comp=Z,9.0nm,0.6s,baz=252,slow=3.6,SNR=17
BOSA pP pP 01 29 13.8 +2.0
comp=Z,19nm,0.9s,baz=230,slow=4.4,SNR=8.4
BOSA LR LR 01 59 07.9
comp=Z,60nm,18.6s,baz=141,slow=32
BOSA Boshof 78.86 117 *e*P P **01 28 45.7 -0.1**
BOSA 01 28 55.2
BOSA *PP pP 01 29 13.8 +2.0
BOSA pmax pmax
comp=Z,42nm,1.9s,mb4.9
BOSA Boshof 78.86 117 *e*P P **01 28 45.7 -0.1**
comp=Z,42nm,1.9s,mb5.0
BOSA PcP PcP 01 28 55.2 +1.0
BOSA pP pP 01 29 13.8 +2.0
BOSA LR LR 01 59 07.9
PV10 Paradox Valley 79.00 329 *e*P P **01 28 46.4 +0.3**
R19A Curley Farm, L 79.03 329 ⇓P P **01 28 45.9 -0.4**
baz=79,SNR=11
LDFC Landfair 79.25 323 *e*P P **01 28 48.3 +0.7**
comp=Z,32nm,1.3s,mb5.0
LDFC *e*PcP PcP 01 28 55.9 +0.4
COWI Conover 79.47 346 *e*P P **01 28 47.7 -0.7**
comp=Z,5.7nm,0.7s,mb4.5
PHWY Pilot Hill 79.98 333 *e*P P **01 28 51.8 +0.4**
comp=Z,22nm,0.8s,mb5.0
PHWY *e*pP pP 01 29 20.1 +2.6
MWC Mount Wilson 80.15 321 *e*P P **01 28 53.0 +0.5**
MWC pmax pmax
comp=Z,26nm,1.1s,mb5.0
MWC Mount Wilson 80.15 321 *e*P P **01 28 53.0 +0.5**
comp=Z,26nm,1.1s,mb5.0
SRU San Rafael 80.26 328 *e*P P **01 28 53.0 0.0**
GSC Goldstone 80.30 322 *e*P P **01 28 54.1 +0.8**
CCUT Cedar City 80.32 326 *e*P P **01 28 54.6 +1.2**
SHPR Sheep Range 80.39 324 *e*P P **01 28 54.1 +0.4**
MSU Marysvale 80.53 327 *e*P P **01 28 54.8 +0.4**
ARUT Antelope Range 80.55 326 *e*P P **01 28 55.7 +1.2**
TMUT Trail Mountain 80.72 328 *e*P P **01 28 55.3 -0.1**
TMUT *e*PcP PcP 01 29 02.8 +1.0
LBTB Lobatse 80.92 114 *e*P P **01 28 57.0 0.0**
LBTB pmax pmax
comp=Z,14nm,0.8s,mb4.8
LBTB Lobatse 80.92 114 *e*P P **01 28 57.0 -0.1**
comp=Z,14nm,0.8s,mb4.8
TOA0 Torodi Ar. Sit 80.94 69 *e*P P **01 28 56.6 -0.5**
TOA0 pP pP 01 29 24.6 +1.4
TORD Torodi Ar. Bea 80.94 69 P P **01 28 56.4 -0.7**
comp=Z,178nm,0.3s,baz=251,slow=4.8,SNR=1.6
TORD pP pP 01 29 24.5 +1.3
comp=Z,255nm,0.4s,baz=285,slow=7.5,SNR=1.7
TORD LR LR 02 00 56.4
comp=Z,58nm,18.7s,baz=145,slow=33
TORD Torodi Ar. Bea 80.94 69 P P **01 28 56.5 -0.7**
TORD pP pP 01 29 24.5 +1.3
TORD LR LR 02 00 56.4
RWWY Rawlins 81.00 332 *e*P P **01 28 57.4 +0.6**
comp=Z,34nm,1.1s,mb5.1
TPNV Topopah Spring 81.28 323 *e*P P **01 28 59.1 +0.6**
ISA Isabella 81.46 321 *e*P P **01 29 00.2 +0.8**
ISA pmax pmax
comp=Z,14nm,1.0s,mb4.8
ISA Isabella 81.46 321 *e*P P **01 29 00.2 +0.8**
comp=Z,14nm,1.0s,mb4.8
MPU Maple Canyon 81.50 328 *e*P P **01 28 59.9 +0.4**
NLU North Lily Min 81.65 328 *e*P P **01 28 59.7 -0.6**
DAU Daniels Canyon 81.65 329 *e*P P **01 29 00.7 +0.4**
EYMN Ely 81.73 345 *e*P P **01 29 00.1 -0.4**
RSSD Black Hills 81.88 335 *e*P P **01 29 01.4 0.0**
RSSD pmax pmax
comp=Z,25nm,1.0s,mb5.0
RSSD Black Hills 81.88 335 *e*P P **01 29 01.4 0.0**
comp=Z,26nm,1.0s,mb5.0
JLU Jordanelle 81.89 329 *e*P P **01 29 01.5 -0.1**
DUG Dugway 82.17 328 *e*P P **01 29 03.2 +0.1**
DUG pmax pmax
comp=Z,16nm,0.9s,mb4.8
DUG Dugway 82.17 328 *e*P P **01 29 03.2 +0.1**
comp=Z,16nm,0.9s,mb4.8
HWUT Hardware Ranch 82.76 329 *e*P P **01 29 05.6 -0.5**
comp=Z,14nm,0.9s,mb4.8
HWUT *e*pP pP 01 29 36.9 +4.7
MTUM Tungsten Hills 82.78 322 *e*P P **01 29 07.0 +0.7**
PDAR Pinedale Array 82.86 331 P P **01 29 05.8 -0.7**
comp=Z,7.5nm,0.8s,mb4.6,baz=139,slow=5.9,SNR=41
PDAR pP pP 01 29 36.6 +3.9
comp=Z,4.8nm,0.8s,baz=144,slow=5.3,SNR=5.1
PDAR sP sP 01 29 46.8 +3.3
comp=Z,5.1nm,0.9s,baz=145,slow=5.4,SNR=3.5
BW06 Boulder Array 82.86 331 *e*P P **01 29 06.0 -0.6**
BGU Big Grassy Mou 82.86 328 *e*P P **01 29 06.2 -0.4**
SPUT South Promonto 82.91 328 *e*P P **01 29 07.0 +0.2**
AGMN Agassiz Refuge 83.11 342 *e*P P **01 29 07.0 -0.7**
comp=Z,17nm,0.9s,mb4.9
HVU Hansel Valley 83.43 329 *e*P P **01 29 09.3 -0.2**
HVU pmax pmax
comp=Z,11nm,0.9s,mb4.7
HVU Hansel Valley 83.43 329 *e*P P **01 29 09.3 -0.2**
comp=Z,11nm,0.9s,mb4.7
NVAR Mina Array Bea 83.46 323 P P **01 29 09.9 +0.1**

comp=Z,9.1nm,0.8s,mb4.7,baz=152,slow=6.2,SNR=59
NVAR pP pP 01 29 38.1 +2.1
comp=Z,4.8nm,0.8s,baz=157,slow=5.5,SNR=5.4
NVAR sP sP 01 29 50.9 +4.2
comp=Z,4.8nm,0.9s,baz=148,slow=5.5,SNR=3.5
ELK Elko 83.74 326 *e*P P **01 29 11.1 0.0**
ELK *e*PP pP 01 29 42.9 +5.6
ELK pmax pmax
comp=Z,12nm,1.0s
ELK Elko 83.74 326 *e*P P **01 29 11.1 0.0**
comp=Z,12nm,1.0s,mb4.7
ELK *e*pP pP 01 29 42.9 +5.5
REDW Red Top Meadow 83.88 331 *e*P P **01 29 11.5 -0.3**
SNOW Snow King Moun 83.93 331 *e*P P **01 29 11.9 -0.1**
comp=Z,5.1nm,0.8s,mb4.4
LOHW Long Hollow 83.99 331 *e*P P **01 29 12.0 -0.3**
comp=Z,5.4nm,0.8s,mb4.4
TPAW Teton Pass 84.03 331 *e*pP pP 01 29 39.8 +1.0
RRI2 Red Ridge 84.07 330 *e*P P **01 29 12.5 -0.2**
WAKR Walker 84.10 323 *e*P P **01 29 13.8 +0.7**
CMB Columbia Colle 84.25 322 *e*P P **01 29 13.8 0.0**
IMW Indian Meadow 84.36 331 *e*P P **01 29 14.0 -0.2**
RLMT Red Lodge 84.69 333 *e*P P **01 29 15.4 -0.4**
comp=Z,15nm,0.9s,mb4.9
YFT Old Faithful 84.77 331 *e*P P **01 29 17.4 +1.2**
LAO LASA Array 84.88 335 *e*P P **01 29 16.2 -0.5**
comp=Z,21nm,0.9s,mb5.1
ULM Lac du Bonnet 84.91 343 P P **01 29 15.7 -1.1**
comp=Z,17nm,0.8s,mb5.0,baz=154,slow=4.9,SNR=16
ULM pP pP 01 29 45.4 +2.3
comp=Z,11nm,0.8s,baz=129,slow=4.6,SNR=4.7
ULM Lac du Bonnet 84.91 343 *e*P P **01 29 15.8 -1.0**
comp=Z,22nm,0.9s,mb5.1
PAHR Pah Rah Range 84.97 323 *e*P P **01 29 17.8 +0.4**
comp=Z,41nm,1.4s,mb5.2
PAHR *e*pP pP 01 29 48.3 +4.6
YMR Madison River 85.00 331 *e*P P **01 29 18.0 +0.6**
comp=Z,37nm,0.9s,mb5.3
QLMT Earthquake Lak 85.32 331 *e*P P **01 29 19.8 +0.8**
GCMT Greycliff 85.41 333 *e*P P **01 29 19.2 -0.1**
HLID Hailey 85.58 329 *e*P P **01 29 20.6 +0.3**
comp=Z,31nm,1.0s,mb5.2
HLID *e*pP pP 01 29 52.5 +5.9
DGMT Dagmar 85.72 337 *e*P P **01 29 20.8 -0.1**
comp=Z,40nm,0.8s,mb5.4
DGMT *e*pP pP 01 29 51.7 +4.5
OHCM Honcut 85.79 322 *e*P P **01 29 21.6 +0.1**
MCMT McKenzie Canyo 85.91 330 *e*P P **01 29 22.9 +0.9**
BOZ Bozeman (W) 86.07 332 *e*P P **01 29 22.0 -0.7**
BOZ pmax pmax
comp=Z,5.0nm,0.8s,mb4.5
BOZ Bozeman (W) 86.07 332 *e*P P **01 29 22.0 -0.7**
comp=Z,5.2nm,0.8s,mb4.5
DLMT Dillon 86.24 331 *e*P P **01 29 23.5 0.0**
comp=Z,19nm,1.2s,mb4.9
LRM Limekiln Ridge 86.55 331 *e*P P **01 29 25.1 +0.1**
LRM *e*pP pP 01 29 57.4 +6.0
WVOR Wild Horse Val 86.66 326 *e*P P **01 29 25.7 0.0**
WVOR pmax pmax
comp=Z,19nm,1.3s,mb4.9
WVOR Wild Horse Val 86.66 326 *e*P P **01 29 25.7 0.0**
comp=Z,19nm,1.3s,mb4.9
LBCM Butte Creek Ri 86.82 323 P P **01 29 25.9 -0.6**
HRY Holter Researc 87.02 332 *e*P P **01 29 27.5 +0.2**
MOD Modoc 87.08 324 *e*P P **01 29 27.6 -0.1**
comp=Z,16nm,0.8s,mb5.0
EGMT Eagleton 87.30 334 *e*P P **01 29 28.0 -0.6**
comp=Z,24nm,1.0s,mb5.1
CHMT Chamberlain Mo 87.76 331 *e*P P **01 29 30.6 -0.2**
BMO Blue Mountains 87.89 328 *e*P P **01 29 30.9 -0.6**
comp=Z,3.4nm,0.9s,mb4.4
LSZ Lusaka 88.05 107 *e*P P **01 29 33.7 +0.6**
LSZ pmax pmax
comp=Z,5.0nm,1.3s,mb4.4
LSZ Lusaka 88.05 107 *e*P P **01 29 33.7 +0.6**
comp=Z,4.6nm,1.3s,mb4.3
BSMT Bassoo Peak 89.14 331 *e*P P **01 29 37.3 0.0**
BSMT *e*pP pP 01 30 08.2 +4.4
VIPM Ingram Point 89.17 326 P P **01 29 37.8 +0.3**
WALA Waterton Lakes 89.74 332 *e*P P **01 29 39.8 -0.3**
comp=Z,14nm,1.0s,mb5.0
HAWA Hanford 90.07 328 *e*P P **01 29 41.4 -0.3**
comp=Z,25nm,1.4s,mb5.2
RSW Rattlesnake Hi 90.10 328 *e*P P **01 29 42.0 +0.1**
OD2 Odessa Site #2 90.46 329 *e*P P **01 29 43.0 -0.4**
OD2 *e*sP sP 01 30 24.7 +4.0
EBG Ellensburg 90.93 327 P P **01 29 45.8 +0.1**
TBM Table Mountain 91.14 328 P P **01 29 46.6 -0.1**
ETW Entiat 91.34 328 *e*P P **01 29 47.4 -0.2**
GERES GERESS Array B 108.63 44 PKiKP PKiKP 01 35 08.9 -1.3
comp=Z,0.2nm,0.5s,baz=218,slow=6.2,SNR=4.6
HFS Hagfors 113.38 33 PKKPab PKKPab 01 46 09.3 +0.3
comp=Z,3.4nm,1.0s,baz=95,slow=1.8,SNR=8.9
IMA2 Indian Mountai 116.36 333 *e*PKPdf PKPdf 01 35 24.5 +0.2
BR131 Keskin Array S 118.39 59 *e*PKPdf PKPdf 01 35 28.4 -0.6
AKASG Malin Array Be 118.66 46 PKP PKPdf 01 35 27.5 -1.7
comp=Z,0.4nm,0.4s,baz=267,slow=2.3,SNR=6.2
ARCES ARCESS Array B 120.76 24 PKKPbc PKKPbc 01 45 35.9 -3.4
comp=Z,2.2nm,0.8s,baz=34,slow=4.7,SNR=4.0
ASAR Alice Springs 120.85 205 PKP PKPdf 01 35 32.2 -2.2
comp=Z,1.2nm,0.7s,baz=132,slow=1.9,SNR=13
ASAR pPKP pPKPdf 01 36 02.6 +0.5
comp=Z,3.1nm,0.9s,baz=166,slow=2.4,SNR=9.9
ASAR PKKPbc PKKPbc 01 45 37.0 -1.0
comp=Z,0.6nm,0.7s,baz=348,slow=3.7,SNR=5.2
ASAR Alice Springs 120.85 205 PKIKP PKPdf 01 35 32.3 -2.2
ASAR 01 36 02.6
ANN Anapa 122.52 54 *i* PKIKP PKPdf 01 35 35.8 -1.1
ANN pmax pmax
comp=Z,89nm,1.3s
OBN Obninsk 123.92 42 *i* PKIKP PKPdf 01 35 37.0 -2.2
OBN pmax pmax
comp=Z,11nm,1.0s
WRAB Tennant Creek 124.10 207 *i* PKIKP PKPdf 01 35 37.3 -3.5
BILL Bilibino 131.77 336 *i* PKIKP PKPdf 01 35 51.0 -2.8
BILL pmax pmax
comp=Z,8.0nm,0.9s
ARU Arti 136.24 40 *i* PKIKP PKPdf 01 36 02.0 -0.5
ARU 01 38 41.4
ARU SS SS 01 56 31.0 -6.1
TIXI Tiksi 138.75 352 *i* PKIKP PKPdf 01 36 05.4 -1.4
TIXI pmax pmax
comp=Z,8.0nm,1.0s
SEY Seymchan 139.18 332 ⇑ *i* PKIKP PKPdf 01 36 07.7 0.0
PETK Petropavlovsk- 140.27 317 PKhKP 01 36 02.4
comp=Z,3.3nm,0.6s,baz=78,slow=10.0,SNR=4.8
PETK PKP PKPdf 01 36 10.3 +0.3
comp=Z,11nm,0.8s,baz=109,slow=5.7,SNR=6.4
GUMO Guam 144.19 248 *e*PKIKP PKPdf 01 36 15.1 -3.1
YAK Yakutsk 147.25 344 *e*PKP2 PKPbc 01 36 22.6 +0.7
YAK pmax pmax
comp=Z,85nm,0.9s
YAK Yakutsk 147.25 344 *e*PKPbc PKPbc 01 36 23.8 -0.6
HYB Hyderabad 147.38 108 *i* PKP PKPbc 01 36 26.0 -0.1
HYB Hyderabad 147.38 108 *e*P PKPbc 01 36 26.0 -0.1
EKS2 Erkin-Say 148.54 59 P PKPbc 01 36 29.0 +0.5
SNR=12
AML Almayashu 148.55 60 P PKPbc 01 36 28.7 +0.2
SNR=10
USP Ospenovka 148.97 58 P PKPbc 01 36 29.4 -0.1
SNR=12
AAK Ala-Archa 149.06 59 P PKPbc 01 36 30.0 +0.2
SNR=18
CHMS Chumysh 149.19 58 P PKPbc 01 36 29.8 -0.3
SNR=7.2
KURK Kurchatov 149.36 42 *d* i PKP2 PKPbc 01 36 29.4 -0.8
KBK Karagaybulak 149.39 59 P PKPbc 01 36 30.9 +0.3
SNR=11
NVS Novosibirsk 149.53 32 ⇓ *i* PKP2 PKPbc 01 36 29.7 -0.8
NVS *e* 01 43 30.7
NVS pmax pmax
comp=E,14nm,1.2s
NVS pmax pmax
comp=Z,45nm,1.2s
NVS pmax pmax
comp=N,8.0nm,1.8s
TKM2 Tokmak 2 149.82 58 P PKPbc 01 36 31.6 0.0
SNR=16
NDI New Delhi 150.67 87 *e*P pPKPbc 01 37 02.0 +0.4
ZAA0 Zalesovo Array 150.81 32 *e*PKPbc PKPbc 01 36 33.2 -0.4
ZALV Zalesovo Beam 150.81 32 PKP PKPdf 01 36 28.1 +0.1
comp=N,0.9nm,0.6s,baz=261,slow=2.4,SNR=4.7
ZALV PKPbc PKPbc 01 36 32.9 -0.7
comp=N,36nm,0.7s,baz=302,slow=3.1,SNR=113
ZALV pPKP pPKPdf 01 36 56.8 +1.1

comp=N,3.0nm,0.5s,baz=317,slow=3.4,SNR=1.6
ZALV pPKPbc pPKPbc 01 37 03.6 +2.5
comp=N,15nm,0.7s,baz=303,slow=3.2,SNR=5.4
ZALV Zalesovo Beam 150.81 32 PKP PKPdf 01 36 28.1 +0.1
ZALV PKPbc PKPbc 01 36 32.9 -0.7
ZALV pPKP pPKPdf 01 36 56.8 +1.1
ZALV pPKPbc pPKPbc 01 37 03.6 +2.5
YSS Yuzh-Sakhalins 151.30 311⇑ *e*PKIKP PKPdf 01 36 32.0 +3.1
YSS pmax pmax
comp=Z,60nm,0.7s
YSS Yuzh-Sakhalins 151.30 311 *e*PKPbc PKPbc 01 36 34.1 -0.9
DDI Dehra Dun 151.74 84 *e*P PKPbc 01 36 32.6 -4.0
DDI *e*S pPKPbc 01 37 03.0 -1.1
MK31 Makanchi Array 153.23 47 *e*PKPbc PKPbc 01 36 38.9 -0.4
MK31 *e*PKPab PKPab 01 36 51.5 0.0
MKAR Makanchi Array 153.23 47 PKPbc PKPbc 01 36 38.4 -1.0
comp=Z,7.3nm,0.9s,baz=321,slow=1.7,SNR=14
MKAR PKPab PKPab 01 36 51.0 -0.6
comp=Z,6.1nm,0.7s,baz=292,slow=4.4,SNR=11
MKAR pPKPbc pPKPbc 01 37 08.1 +1.2
comp=Z,4.0nm,0.9s,baz=306,slow=2.9,SNR=3.4
BOD Bodaibo 153.70 356 *e*PKIKP PKPbc 01 36 37.7 -2.3
BOD *e* 01 36 50.8
BOD pmax pmax
comp=Z,12nm,0.5s
BOD pmax pmax
comp=Z,9.0nm,1.5s
MJAR Matsushiro Arr 157.00 290 PKPab PKPab 01 37 06.2 -1.9
comp=Z,7.3nm,0.7s,baz=110,slow=2.6,SNR=12
MAT Matsushiro 157.00 290 PKP2 PKPab 01 37 07.1 -0.9
WMQ Urumqi 157.95 50 *e*PKP PKPdf 01 36 38.3 +0.1
WMQ APKP 01 37 04.8
WMQ PKP2 PKPab 01 37 14.3 +2.4
WMQ PP PP
comp=Z,178nm,9.3s
WMQ LR LR
comp=N,332nm,19.0s
WMQ LR LR
comp=E,734nm,16.5s
WMQ LR LR
comp=Z,43nm,18.0s
LSA Lhasa 162.78 91 *e*PKIKP PKPdf 01 36 45.2 +1.2
CMAR Chiang Mai Arr 162.95 137 PKP PKPdf 01 36 44.0 -0.4
comp=Z,1.3nm,0.5s,baz=254,slow=2.8,SNR=7.7
CMAR pPKP pPKPdf 01 37 15.0 +2.8
comp=Z,1.0nm,0.3s,baz=223,slow=2.1,SNR=1.4
CN2 Changchun 163.35 321 *e*PKP PKPdf 01 36 42.8 -1.3
SONM Songino Array 163.40 11 PKP PKPdf 01 36 43.2 -0.7
comp=Z,1.5nm,1.0s,baz=218,slow=1.2,SNR=6.7
SONM PKPab PKPab 01 37 35.2 -0.1
comp=Z,2.6nm,0.8s,baz=321,slow=4.8,SNR=13
SONM pPKPab pPKPab 01 38 04.3 +2.3
comp=Z,1.2nm,0.7s,baz=331,slow=3.7,SNR=3.8
SONM Songino Array 163.40 11 PKIKP PKPdf 01 36 43.2 -0.8
SONM 01 37 35.2
KSRS Korea Array 164.92 297 PKP PKPdf 01 36 45.0 -0.7
comp=Z,0.6nm,0.3s,baz=101,slow=33,SNR=4.6
GTA Gaotai 167.99 46 *e*PKP PKPdf 01 36 47.8 -0.2
GTA APKP 01 37 14.8
GTA XPKP 01 37 25.0
GTA PKP2 PKPab 01 37 57.3 +1.3
KMI Kunming 170.25 129 PKP PKPdf 01 36 51.5 +1.6
BJI Beijing 170.60 335 PKP PKPdf 01 36 48.5 -1.1
HHC Hu-ho-hao-te 170.76 358 *e*PKP PKPdf 01 36 48.3 -1.3
HHC APKP 01 37 16.0
HHC XPKP 01 37 26.3
HHC PKS 01 40 20.5
HHC PP PP 01 42 00.0 +2.1
HHC SKS SKSdf 01 43 40.5 -3.3
HHC SKKS SKKSac 01 48 37.8 +2.0
HHC SS SS 02 02 52.3 +0.5
HHC PP PP
comp=Z,105nm,5.4s
HHC LR LR
comp=N,155nm,20.4s
HHC LR LR
comp=E,170nm,20.9s
HHC LR LR
comp=Z,141nm,20.0s
LZH Lanzhou 172.53 51 *e*PKP PKPdf 01 36 52.0 +1.4
LZH APKP 01 37 22.3
LZH XPKP 01 37 36.3
LZH PP PP 01 42 11.3 +3.5
LZH SKKS SKKSac 01 48 46.0 +1.0
LZH SS SS 02 03 14.0 +2.7
LZH PP PP
comp=Z,110nm,5.0s
LZH LR LR
comp=E,134nm,18.6s
LZH LR LR
comp=Z,199nm,19.3s
CD2 Chengdu 173.72 94 *e*PKP PKPdf 01 36 49.3 -2.0
CD2 APKP 01 37 16.3
CD2 PKP2 PKPab 01 38 22.0 +0.1
CD2 PP PP 01 42 14.8 +0.3
CD2 SKS SKSdf 01 43 41.0 -4.3
CD2 SKKS SKKSac 01 48 50.0 -1.2
CD2 SS SS 02 03 21.0 -3.3
CD2 PP PP
comp=Z,180nm,10.8s
CD2 LR LR
comp=N,180nm,18.4s
CD2 LR LR
comp=Z,160nm,18.6s

*ISCJB **27** 01:31:02.1±1.1, 605S±02°×27.1W±0.6, h10^km, mb3.9/2, Error ellipse: s-maj=51.6km s-min=13.5km az=152.2*
*IDC **27** 01:31:04.0±1.9, 6015S×27.19W, h0^km, mb4.1/1, mb1 4.3/1, mb1mx3.8/11, mbtmp4.1/1, MS3.2/1, Ms1 3.2/1, ms1mx2.5/15, Error ellipse: s-maj=77.6km s-min=38.2km az=21.0*
ISC 27 01:31:04.4±1.1, 605S±02°×270W±0.6, h10^km, n8, σ0⁰26/6, mb3.9/2, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
VNA1	**Neumayer--Stat**	**12.76**	**151**	*e*P		**Pn**		**01 34 05.7**	**+0.2**
VNA1				*e*				01 34 09.9	
VNA1				*e*				01 34 17.0	
VNA3	**Neumayer Olymp**	**12.87**	**154**	*e*P		**Pn**		**01 34 06.8**	**-0.2**
VNA2	**Neumayer--Watz**	**13.15**	**151**	*e*P		**Pn**		**01 34 11.1**	**+0.2**
	baz=315,slow=16								
VNA2				*e*				01 34 16.0	
VNA2				*e*				01 34 22.1	
SNAA	**Sanae**	**14.76**	**149**	*e*P		**Pn**		**01 34 32.5**	**-0.3**
SNAA				*e*				01 34 35.8	
SNAA				*e*				01 34 42.2	
PLCA	**Paso Flores**	**33.12**	**287**	LR		LR		01 50 18.9	
	comp=Z,37nm,19.1s,baz=196,slow=35								
LPAZ	**La Paz**	**53.09**	**308**	P		**P**		**01 40 21.8**	**0.0**
	1.6nm,0.6s,mb4.2,baz=164,slow=5.7,SNR=13								
TORD	**Torodi Ar. Bea**	**76.86**	**29**	P		**P**		**01 42 56.3**	**0.0**
	0.4nm,0.4s,mb3.7,baz=202,slow=6.2,SNR=15								
SONM	**Songino Array**	**150.60**	**94**	PKPbc	PKPbc			01 50 55.9	+0.7
	0.6nm,0.6s,baz=214,slow=4.1,SNR=5.2								
SONM				PKPab	PKPab			01 51 04.7	+2.6
	1.0nm,0.9s,baz=208,slow=2.7,SNR=4.7								

*ISCJB **27** 01:44:29.0±0.5, 3158S±003°×6905W±005, h114^km±5^km, mb3.6/3, Error ellipse: s-maj=7.2km s-min=5.1km az=176.9*
*GUC **27** 01:44:29.2±0.6, 3162S×6936W, h153^km±8^km, ML3.7*
*IDC **27** 01:44:29.8±1.9, 3165S×6898W, h105^km±8^km, mb3.5/2, mb1 3.5/4, mb1mx3.4/14, mbtmp3.3/4, Error ellipse: s-maj=44.3km s-min=31.1km az=39.0*
*NEIC **27** 01:44:29.2, 3162S×6936W, h153^km, MG3.7(GUC), After GUC.*
ISC 27 01:44:30.1±0.5, 3158S±003°×6905W±005, h107^km±6^km, n26, σ1⁰3/39, mb3.6/3, 10C-1D, San Juan Province

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CFAA	**Coronel Fontan**	**0.69**	**92**	P		**Pn**		**01 44 47.9**	**-0.2**
	10nm,0.3s,baz=271,slow=6.8,SNR=840								
CFAA				S		**Sn**		**01 45 01.7**	**+0.1**
	28nm,0.3s,baz=3.8,slow=20,SNR=82								
PTCH	**Petorca**	**1.74**	**246**	AML		AML		01 45 22.9	
	comp=E,1μm,0.1s								
FCH	**Farellones**	**2.03**	**211⇑**	*i*P		**Pn**		**01 45 04.3**	**+1.0**
FCH				*i* S		**Sn**		**01 45 30.9**	**+2.1**
FCH				AML		AML		01 45 41.0	
	comp=N,223nm,0.3s								
TLL	**Tololo Astrono**	**2.06**	**313⇑**	*i*P		**Pn**		**01 45 04.5**	**+0.7**
TLL				*i* S		**Sn**		**01 45 31.2**	**+1.7**
TLL				AML		AML		01 45 34.9	
	comp=N,311nm,0.4s								
TLL	**Tololo Astrono**	**2.06**	**313⇑**	*i*P		**Pn**		**01 45 04.5**	**+0.7**
TLL				*i* S		**Sn**		**01 45 31.2**	**+1.7**
OVCH	**Ovalle**	**2.08**	**297**	*e*P		**Pn**		**01 45 03.5**	**-0.5**
OVCH				*i* S		**Sn**		**01 45 29.4**	**-0.6**
OVCH				AML		AML		01 45 31.1	
	comp=N,698nm,0.3s								
OVCH	**Ovalle**	**2.08**	**297**	*e*P		**Pn**		**01 45 03.5**	**-0.5**
OVCH				*i* S		**Sn**		**01 45 29.4**	**-0.6**
PEL	**Peldehue**	**2.08**	**221⇑**	*i*P		**Pn**		**01 45 03.5**	**-0.5**
PEL				*i* S		**Sn**		**01 45 29.8**	**-0.1**
PEL				AML		AML		01 45 31.7	
	comp=E,508nm,0.3s								
CHNG	**Los Chungos**	**2.11**	**261**	*i*P		**Pn**		**01 45 02.7**	**-1.5**
CHNG				*i* S		**Sn**		**01 45 28.8**	**-1.7**
CHNG				AML		AML		01 45 38.8	
	comp=N,319nm,0.7s								
CLCH	**Cerro Calan**	**2.20**	**214⇓**	*i*P		**Pn**		**01 45 05.5**	**0.0**
CLCH				*i* S		**Sn**		**01 45 32.7**	**0.0**
CLCH				AML		AML		01 45 41.2	
	comp=E,366nm,0.6s								
ANTU	**Antumapu**	**2.39**	**214**	AML		AML		01 45 38.4	
	comp=E,312nm,0.4s								
RCDM	**Rinconada Maip**	**2.41**	**217⇑**	*i*P		**Pn**		**01 45 07.9**	**-0.3**
RCDM				*i* S		**Sn**		**01 45 37.2**	**-0.3**
RCDM				AML		AML		01 45 42.6	
	comp=E,484nm,0.2s								
RCDM	**Rinconada Maip**	**2.41**	**217⇑**	*i*P		**Pn**		**01 45 07.9**	**-0.3**
RCDM				*i* S		**Sn**		**01 45 37.2**	**-0.3**
LMEL	**Las Melosas**	**2.46**	**203⇑**	*i*P		**Pn**		**01 45 09.2**	**+0.3**
LMEL				*i* S		**Sn**		**01 45 39.9**	**+1.3**
LMEL				AML		AML		01 45 49.1	
	comp=N,243nm,0.2s								
LMEL	**Las Melosas**	**2.46**	**203⇑**	*i*P		**Pn**		**01 45 09.2**	**+0.3**
LMEL				*i* S		**Sn**		**01 45 39.9**	**+1.3**
LSCH	**La Serena**	**2.52**	**311⇑**	*i*P		**Pn**		**01 45 09.0**	**-0.7**
LSCH				*i* S		**Sn**		**01 45 38.9**	**-1.1**
LSCH				AML		AML		01 45 39.6	
	comp=N,213nm,0.3s								
LSCH	**La Serena**	**2.52**	**311⇑**	*i*P		**Pn**		**01 45 09.0**	**-0.7**
LSCH				*i* S		**Sn**		**01 45 38.9**	**-1.1**
LCO	**Las Campanas**	**2.93**	**330**	*e*Pn		**Pn**		**01 45 15.5**	**+0.4**
LCO				*e*Sn		**Sn**		**01 45 51.2**	**+1.5**
TRQA	**Tornquist**	**8.69**	**140**	*e*Pn		**Pn**		**01 46 30.8**	**-2.0**
	comp=N,8.6nm,0.6s								
LVC	**Limon Verde**	**8.93**	**1**	*e*Pn		**Pn**		**01 46 34.3**	**-2.0**
LPAZ	**La Paz**	**15.25**	**3**	P		**Pn**		**01 48 01.4**	**+1.8**
	comp=N,0.1nm,0.3s,baz=162,slow=8.1,SNR=8.0								
SIV	**San Ignacio**	**17.14**	**27**	P		**Pn**		**01 48 23.3**	**+0.3**
	comp=N,0.1nm,0.3s,baz=223,slow=13,SNR=5.6								
TXAR	**Lajitas Array**	**68.94**	**328**	P		**P**		**01 55 24.1**	**+0.6**
	comp=N,0.2nm,0.5s,mb3.2,baz=157,slow=9.1,SNR=5.1								
DBIC	**Dimbokro**	**72.00**	**70**	P		**P**		**01 55 42.3**	**-0.3**
	comp=N,2.9nm,0.9s,mb4.1,baz=229,slow=9.3,SNR=2.8								
TORD	**Torodi Ar. Bea**	**81.00**	**69**	P		**P**		**01 56 33.1**	**-0.2**
	comp=N,0.4nm,0.5s,mb3.5,baz=266,slow=3.9,SNR=8.5								
ZALV	**Zalesovo Beam**	**150.84**	**32**	PKPbc	PKPbc			02 04 09.2	-0.2
	comp=N,1.3nm,0.5s,baz=303,slow=2.8,SNR=6.2								

*ISCJB **27** 02:03:05.4±0.4, 1070N±003°×6244W±002, h84^km±5^km, Error ellipse: s-maj=4.7km s-min=3.3km az=147.9*
*NEIC **27** 02:03:07.3, 1071N×6240W, h71^km, MD3.7(TRN), After TRN.*
*TRN **27** 02:03:07.3, 1071N×6240W, h72^km, MD3.7*
*FUNV **27** 02:03:07.3, 1073N×6240W, h72^km, MW3.0*
ISC 27 02:03:06.5±0.4, 1070N±003°×6243W±002, h76^km±6^km, n37, σ0⁰81/64, 13C-4D, Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
GUIV	**Guiria**	**0.21**	**106⇑**	*i*P		**Pn**		**02 03 18.0**	**+0.1**
GUIV				*e*S		**Sn**		**02 03 25.8**	**-0.5**
TCE	**Chacachacare**	**0.67**	**91⇑**	*e*P		**Pn**		**02 03 21.7**	**+0.2**
TCE				*e*S		**Sn**		**02 03 32.5**	**-0.1**
TCE	**Chacachacare**	**0.67**	**91⇑**	*e*P		**Pn**		**02 03 21.7**	**+0.2**
TCE				*e*S		**Sn**		**02 03 32.5**	**-0.1**
GUNV	**Guanoco**	**0.74**	**223⇓**	*i*P		**Pn**		**02 03 23.6**	**+1.4**
GUNV				*e*S		**Sn**		**02 03 35.5**	**+1.6**
CRUV	**Carupano**	**0.79**	**268⇓**	*i*P		**Pn**		**02 03 23.3**	**+0.5**
CRUV				*e*S		**Sn**		**02 03 34.3**	**-0.7**
ITEV	**Isla Los Testi**	**0.94**	**313⇓**	*e*P		**Pn**		**02 03 24.9**	**+0.2**
ITEV				*e*S		**Sn**		**02 03 38.1**	**-0.1**
TRN	**Trinidad (W)**	**1.01**	**93⇑**	*i*P		**Pn**		**02 03 25.8**	**+0.3**
TRN				*e*S		**Sn**		**02 03 38.5**	**-1.1**
TRN	**Trinidad (W)**	**1.01**	**93⇑**	*i*P		**Pn**		**02 03 25.8**	**+0.3**
TRN				*e*S		**Sn**		**02 03 38.5**	**-1.1**
TPP	**Pointe-a-Pierr**	**1.04**	**112**	*e*P		**Pn**		**02 03 26.8**	**+1.0**
TPP				*e*S		**Sn**		**02 03 40.2**	**0.0**
TBH	**Brigand Hill**	**1.36**	**99⇓**	*e*P		**Pn**		**02 03 30.3**	**+0.5**
TBH				*e*S		**Sn**		**02 03 47.7**	**+0.3**
GRGR	**Grenville**	**1.61**	**28**	*e*Pn		**Pn**		**02 03 32.7**	**-0.4**
GRGR				*e*Sn		**Sn**		**02 03 52.8**	**-0.4**
GRW	**Mount Saint Ca**	**1.63**	**28**	*e*P		**Pn**		**02 03 33.4**	**0.0**
GRW				*e*S		**Sn**		**02 03 53.0**	**-0.8**
TPR	**Prospect**	**1.69**	**73**	*e*P		**Pn**		**02 03 34.6**	**+0.4**
TPR				*e*S		**Sn**		**02 03 54.7**	**-0.5**
GRHS	**Sauteurs**	**1.70**	**27**	*e*P		**Pn**		**02 03 34.7**	**+0.4**
GRHS				*e*S		**Sn**		**02 03 55.2**	**-0.1**
GRHS				*e*S		**Sn**		**02 03 55.4**	**+0.1**
GRHS	**Sauteurs**	**1.70**	**27**	*e*P		**Pn**		**02 03 34.7**	**+0.4**
GRHS				*e*S		**Sn**		**02 03 55.4**	**+0.1**
BOT	**Bacolet**	**1.74**	**75**	*e*P		**Pn**		**02 03 35.8**	**+0.9**
BOT				*e*S		**Sn**		**02 03 56.2**	**-0.2**
GRSS	**Sisters**	**1.78**	**27⇑**	*e*P		**Pn**		**02 03 36.3**	**+1.0**
GRSS	**Sisters**	**1.78**	**27⇑**	*i*P		**Pn**		**02 03 36.3**	**+1.0**
GRSS				*e*S		**Sn**		**02 03 57.6**	**+0.4**
GRSS				*e*S		**Sn**		**02 03 57.7**	**+0.6**
GRSS	**Sisters**	**1.78**	**27⇑**	*i*P		**Pn**		**02 03 36.3**	**+1.0**
GRSS				*e*S		**Sn**		**02 03 57.7**	**+0.6**
GRIC	**Isle de Caille**	**1.78**	**28**	*e*P		**Pn**		**02 03 36.1**	**+0.8**
GRIC	**Isle de Caille**	**1.78**	**28⇑**	*i*P		**Pn**		**02 03 36.2**	**+0.9**
GRIC				*e*S		**Sn**		**02 03 57.3**	**+0.1**
ORIV	**Oritupano**	**1.89**	**211⇑**	*i*P		**Pn**		**02 03 37.8**	**+0.9**
ORIV				*e*S		**Sn**		**02 04 00.0**	**+0.2**
TOSP	**Speyside**	**1.95**	**72**	*e*P		**Pn**		**02 03 37.3**	**-0.4**
TOSP				*e*S		**Sn**		**02 03 59.2**	**-2.2**
PCRV	**Puerto La Cruz**	**2.23**	**257**	*e*P		**Pn**		**02 03 42.1**	**+0.8**
PCRV				*e*S		**Sn**		**02 04 06.0**	**-2.1**
IBAV	**Isla La Blanqu**	**2.38**	**298⇑**	*i*P		**Pn**		**02 03 44.0**	**+0.6**
IBAV				*e*S		**Sn**		**02 04 10.1**	**-1.6**
RIOV	**Rio Grande**	**2.69**	**167**	*e*P		**Pn**		**02 03 48.3**	**+0.7**
SVB	**Belmont**	**2.80**	**24**	*e*P		**Pn**		**02 03 50.2**	**+1.1**
SVB				*e*S		**Sn**		**02 04 21.2**	**-0.6**
PRGV	**PARIAGUAN**	**2.92**	**229⇑**	*e*P		**Pn**		**02 03 50.9**	**+0.2**
GURV	**El Guri**	**3.00**	**192**	*e*P		**Pn**		**02 03 51.3**	**-0.4**
GURV				*e*S		**Sn**		**02 04 24.9**	**-1.8**
BIRV	**Birongo**	**3.78**	**267**	*e*P		**Pn**		**02 04 03.4**	**+1.0**
ORCV	**Isla La Orchil**	**3.85**	**287**	*e*P		**Pn**		**02 04 03.9**	**+0.6**
LUEV	**Luepa**	**4.92**	**169**	*e*P		**Pn**		**02 04 16.8**	**-1.3**
CAOV	**Caicara del Or**	**5.10**	**229**	*e*P		**Pn**		**02 04 20.1**	**-0.4**
TURV	**Turiamo**	**5.32**	**268**	*e*P		**Pn**		**02 04 23.8**	**+0.3**
BAUV	**El Baul**	**5.80**	**253⇑**	*i*P		**Pn**		**02 04 29.2**	**-0.7**
TEPV	**Terepaima**	**6.69**	**264**	*e*P		**Pn**		**02 04 41.7**	**-0.5**
SDV	**Santo Domingo**	**8.28**	**258**	Pn		**Pn**		**02 05 03.0**	**-0.9**

*NEIC **27** 02:23:27.8, 3126S×69.11W, h141^km, MG3.4(GUC), After GUC.*
GUC 27 02:23:27.8±0.8, 3126S×6911W, h141^km±15^km, MD3.6, ML3.4, 1C-2D, San Juan Province

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
TLL	**Tololo Astrono**	**1.82**	**306**	*i*P		**Pn**		02 24 01.6	+1.3
TLL				*i* S		Sn		02 24 26.5	+1.4
TLL				AML		AML		02 24 32.3	
	comp=N,168nm,0.7s								
TLL	**Tololo Astrono**	**1.82**	**306**	*i*P		**Pn**		02 24 01.6	+1.3
TLL				*i* S		Sn		02 24 26.5	+1.4
PTCH	**Petorca**	**1.84**	**237**	*i*P		**Pn**		02 24 00.5	0.0
PTCH				*i* S		Sn		02 24 26.0	+0.4
PTCH				AML		AML		02 24 28.1	
	comp=E,569nm,0.3s								
PTCH	**Petorca**	**1.84**	**237**	*i*P		**Pn**		02 24 00.5	0.0
PTCH				*i* S		Sn		02 24 26.0	+0.4
OVCH	**Ovalle**	**1.91**	**289⇓**	*i*P		**Pn**		02 24 02.0	+0.7
OVCH				*i* S		Sn		02 24 27.5	+0.6
OVCH				AML		AML		02 24 30.4	
	comp=N,302nm,0.5s								
OVCH	**Ovalle**	**1.91**	**289⇓**	*i*P		**Pn**		02 24 02.0	+0.7
OVCH				*i* S		Sn		02 24 27.5	+0.6
CHNG	**Los Chungos**	**2.13**	**252**	*i*P		**Pn**		02 24 04.6	+0.7
CHNG				*i* S		Sn		02 24 31.8	+0.1
CHNG				AML		AML		02 24 43.3	
	comp=E,138nm,0.5s								
LSCH	**La Serena**	**2.28**	**306**	*i*P		**Pn**		02 24 06.5	+0.7
LSCH				*i* S		Sn		02 24 35.1	+0.2
FCH	**Farellones**	**2.29**	**206**	*i*P		**Pn**		02 24 07.2	+1.3
FCH				*i* S		Sn		02 24 37.4	+2.2
FCH				AML		AML		02 24 43.3	
	comp=E,93nm,0.3s								
PEL	**Peldehue**	**2.30**	**215**	*i*P		**Pn**		02 24 06.3	+0.3
PEL				*i* S		Sn		02 24 36.0	+0.6
PEL				AML		AML		02 24 37.9	
	comp=E,226nm,0.4s								
CLCH	**Cerro Calan**	**2.45**	**209**	*i*P		**Pn**		02 24 08.2	+0.4
CLCH				*i* S		Sn		02 24 39.3	+0.7
CLCH				AML		AML		02 24 51.1	
	comp=E,168nm,0.4s								
LCO	**Las Campanas**	**2.63**	**328⇑**	*i*P		**Pn**		02 24 11.0	+0.9
LCO				*i* Sn		Sn		02 24 44.0	+1.3
LCO	**Las Campanas**	**2.63**	**328**	*e*Pn		**Pn**		02 24 10.8	+0.6
LCO				*e*Sn		Sn		02 24 44.4	+1.6
RCDM	**Rinconada Maip**	**2.65**	**212**	*i*P		**Pn**		02 24 10.4	+0.1
RCDM				*i* S		Sn		02 24 43.1	0.0
RCDM				AML		AML		02 24 44.5	
	comp=E,197nm,0.2s								
RCDM	**Rinconada Maip**	**2.65**	**212**	*i*P		**Pn**		02 24 10.4	+0.1
RCDM				*i* S		Sn		02 24 43.1	0.0
LMEL	**Las Melosas**	**2.74**	**199**	*i*P		**Pn**		02 24 12.3	+0.9
LMEL				*i* S		Sn		02 24 46.5	+1.3
LMEL				AML		AML		02 24 55.0	
	comp=N,82nm,0.3s								
LMEL	**Las Melosas**	**2.74**	**199**	*i*P		**Pn**		02 24 12.3	+0.9
LMEL				*i* S		Sn		02 24 46.5	+1.3
VACH	**Vallenar**	**3.03**	**331**	*e*P		**Pn**		02 24 15.7	+0.5
VACH				*i* S		Sn		02 24 52.5	+0.6
LVC	**Limon Verde**	**8.62**	**1**	Pn		Pn		02 25 28.0	-1.5
TRQA	**Tornquist**	**8.97**	**141**	Pn		Pn		02 25 31.6	-2.5

IDC 27 02:23:47.9±7.8, 1860S×6900W, h82^km±70^km, mb1 2.1/1, mb1mx2.1/16, mbtmp1.9/1, ML1.7/1, Error ellipse: s-maj=168.8km s-min=63.0km az=114.0, Northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**2.44**	**20**	P		Pn		02 24 26.5	+0.6
	0.2nm,0.3s,baz=226,slow=15,SNR=5.6								
LPAZ				S		Sn		02 24 56.5	+1.6
	0.2nm,0.3s,baz=55,slow=13,SNR=3.6								
TORD	**Torodi Ar. Bea**	**76.48**	**71**	P		P		02 35 29.4	0.0
	0.7nm,0.8s,baz=238,slow=5.3,SNR=8.3								
ZALV	**Zalesovo Beam**	**139.36**	**24**	PKP	PKPdf			02 43 06.2	+0.8
	1.0nm,0.5s,baz=336,slow=3.2,SNR=4.0								

*ISCJB **27** 02:27:20.6±0.6, 687N±006°×7300W±006, h174^km±5^km, mb3.6/6, Error ellipse: s-maj=11.2km s-min=7.9km az=140.0*
*IDC **27** 02:27:21.4±1.2, 681N×7291W, h168^km±10^km, mb3.5/6, mb1 3.7/9, mb1mx3.4/20, mbtmp3.5/9, Error ellipse: s-maj=17.7km s-min=13.0km az=157.0*
*FUNV **27** 02:27:21.4, 676N×7309W, h172^km, MW3.6*
*NEIC **27** 02:27:21.1±0.8, 680N×7306W, h167^km±8^km, Error ellipse: s-maj=17.4km s-min=11.1km az=168.0*
ISC 27 02:27:21.8±0.6, 686N±006°×7298W±006, h168^km±5^km, n28, σ0⁰81/35, mb3.6/6, 9C-2D, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CAPV	**Capacho**	**1.20**	**33⇓**	*e*P		**Pn**		**02 27 50.5**	**+0.5**
CAPV				*e*S		**Sn**		**02 28 12.2**	**+0.6**
ROSC	**El Rosal**	**2.40**	**214**	P		**Pn**		**02 28 02.5**	**-0.1**
	48nm,0.3s,baz=44,slow=1.6,SNR=222								
ROSC				S		**Sn**		**02 28 28.5**	**-5.8**
	28nm,0.3s,baz=95,slow=17,SNR=8.4								
ROSC	**El Rosal**	**2.40**	**214**	*e*Pn		**Pn**		**02 28 02.0**	**-0.6**
ROSC				*e*Sn		**Sn**		**02 28 33.8**	**-0.5**
SOCV	**Socops**	**2.54**	**56⇑**	*i*P		**Pn**		**02 28 05.0**	**+0.7**
SOCV				*e*S		**Sn**		**02 28 36.9**	**-0.3**
VIGV	**El Vigia**	**2.54**	**39⇑**	*i*P		**Pn**		**02 28 04.9**	**+0.6**
VIGV				*e*S		**Sn**		**02 28 36.5**	**-0.7**
SDV	**Santo Domingo**	**3.08**	**49**	P		**Pn**		**02 28 12.0**	**+1.2**
	32nm,0.3s,baz=243,slow=3.7,SNR=157								
SDV				S		**Sn**		**02 28 48.3**	**-0.6**
	38nm,0.3s,baz=67,slow=20,SNR=34								
SDV	**Santo Domingo**	**3.08**	**49**	*e*Pn		**Pn**		**02 28 11.9**	**+1.1**
SDV				*e*Sn		**Sn**		**02 28 50.6**	**+1.7**
ELOV	**Elorza**	**3.47**	**87⇑**	*i*P		**Pn**		**02 28 16.5**	**+0.7**
VIRV	**Villa del Rosa**	**3.67**	**9⇓**	*e*P		**Pn**		**02 28 17.2**	**-1.0**
VIRV				*e*S		**Sn**		**02 29 00.5**	**-1.8**
QARV	**Quebrada Arrib**	**4.12**	**36⇑**	*i*P		**Pn**		**02 28 24.7**	**+0.7**
SANV	**Sanarito**	**4.30**	**52⇑**	*i*P		**Pn**		**02 28 26.6**	**+0.2**
CURV	**Curarigua**	**4.33**	**43⇑**	*e*P		**Pn**		**02 28 27.0**	**+0.2**
DABV	**Dabajuro**	**4.66**	**30**	*e*P		**Pn**		**02 28 31.3**	**+0.3**
TEPV	**Terepaima**	**4.85**	**50⇑**	*e*P		**Pn**		**02 28 33.9**	**+0.3**
SIQV	**Siquisique**	**4.90**	**40⇑**	*i*P		**Pn**		**02 28 34.1**	**-0.1**
BAUV	**El Baul**	**5.31**	**67⇑**	*i*P		**Pn**		**02 28 38.4**	**-1.2**
TURV	**Turiamo**	**6.21**	**55**	*e*P		**Pn**		**02 28 50.9**	**-0.5**
CAOV	**Caicara del Or**	**6.62**	**86**	*e*P		**Pn**		**02 28 55.5**	**-1.4**
BCIP	**Isla Barro Col**	**7.17**

mb4.7/43,Error ellipse: s-maj=9.1km s-min=5.2km az=154.6
NEIC ***27*** *02:48:13.6s 1.0,2016S×17774W,h444km±11km,mb4.9/20, Error ellipse: s-maj=13.4km s-min=7.2km az=148.0*
MOS ***27*** *02:48:14.5±2.7,20.15S×17800W,h446km,mb5.2/7,Error ellipse: s-maj=11.7km s-min=10.8km az=136.1*
DJA ***27*** *02:48:15,20.34S×17768W,h485km,Mw5.4/13*
SZGRF ***27*** *02:48:17.6,2004S×177.13W,h498km,Fiji Islands region*
IDC ***27*** *02:48:18.8s 0.7,2026S×17774W,h515km±7km,mb4.2/15, mb1 4.3/15,mb1mx4.3/19,mbtmp4.2/15,Error ellipse: s-maj=16.5km s-min=9.9km az=150.0*

ISC 27 02:48:14.9±0.8,2033S.0×17762W±004,h470km±9km, h472km±5.5km:pP-P,n407,s0%73/268,mb4.7/43, 116C-109D,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**8.48**	**42**	P	**P**	**02 50 15.0**	**-0.9**
	19nm,0.3s,baz=24,slow=0.1,SNR=17						
AFI				S	**S**	**02 51 47.4**	**-7.7**
	80nm,0.3s,baz=16,slow=22,SNR=16						
AFI	**Afiamalu**	**8.48**	**42**	*e*P	**P**	**02 50 15.0**	**-0.9**
AFI				*e*		02 51 48.2	
AFI				pmax	pmax		
	comp=Z,83nm,0.9s						
AFI	**Afiamalu**	**8.48**	**42**	*e*Pn	**P**	**02 50 15.0**	**-0.9**
	comp=Z,83nm,0.9s						
AFI				*e*Sn	**S**	**02 51 48.2**	**-7.0**
RAO	**Raoul Island**	**8.89**	**182**	P	**P**	**02 50 20.2**	**+0.2**
	comp=Z,52nm,0.3s,baz=114,slow=19,SNR=5.1						
RAO				S	**S**	**02 52 00.9**	**-2.0**
	comp=Z,134nm,0.3s,baz=57,slow=24,SNR=6.8						
FUNA	**Funafuti**	**12.13**	**345**	*e*P	**P**	**02 50 56.6**	**+1.4**
	comp=Z,423nm,1.1s						
RAR	**Rarotonga**	**16.72**	**96**	P	**P**	**02 51 45.1**	**+1.3**
	comp=Z,0.5nm,0.3s,baz=232,slow=5.3,SNR=5.6						
URZ	**Urewera**	**18.44**	**193**	P	**P**	**02 51 59.1**	**-1.7**
	comp=Z,2.8nm,0.3s,baz=340,slow=3.4,SNR=15						
URZ				S	**S**	**02 54 57.0**	**-8.2**
	comp=Z,0.2nm,0.3s,baz=12,slow=18,SNR=3.1						
EIDS	**Eidsvold**	**29.24**	**254**	*e*P	**P**	**02 53 37.7**	**+0.2**
	comp=Z,243nm,1.6s,mb5.4						
ARMA	**Armidale**	**29.46**	**244**	⇓*i*P	**P**	**02 53 40.6**	**+1.2**
CNB	**Canberra Magne**	**32.62**	**236**	⇓*i*P	**P**	**02 54 07.4**	**+0.9**
CTA	**Charters Tower**	**33.86**	**264**	⇓*i*P	**P**	**02 54 17.4**	**+0.1**
	comp=Z,50nm,0.5s,mb5.2						
CTA	**Charters Tower**	**33.86**	**264**	P	**P**	**02 54 17.5**	**+0.2**
	comp=Z,62nm,0.5s,mb5.3,baz=94,slow=10,SNR=117						
CTA	**Charters Tower**	**33.86**	**264**	⇓*i*P	**P**	**02 54 17.4**	**+0.1**
CTA				pmax	pmax		
	comp=Z,50nm,0.5s						
CTAO	**Charters Tower**	**33.86**	**264**	*e*P	**P**	**02 54 17.5**	**+0.2**
CTAO				pmax	pmax		
	comp=Z,64nm,0.6s,mb5.2						
CTAO	**Charters Tower**	**33.86**	**264**	*e*P	**P**	**02 54 17.5**	**+0.2**
	comp=Z,64nm,0.6s,mb5.2						
PMG	**Port Moresby**	**35.65**	**282**	*e*P	**P**	**02 54 32.5**	**+0.1**
PMG				*e*		02 56 47.4	
PMG				pmax	pmax		
	comp=Z,85nm,0.9s						
PMG	**Port Moresby**	**35.65**	**282**	*e*P	**P**	**02 54 32.5**	**+0.1**
	comp=Z,85nm,0.9s,mb5.2						
PMG				*e*PcP	PcP	02 56 47.4	-1.0
TOO	**Toolangi**	**36.28**	**234**	⇓*i*P	**P**	**02 54 37.8**	**+0.4**
COEN	**Coen**	**37.93**	**273**	*e*P	**P**	**02 54 51.3**	**+0.1**
	comp=Z,14nm,0.8s,mb4.5						
STKA	**Stephens Creek**	**38.18**	**244**	*e*P	**P**	**02 54 53.5**	**+0.4**
	comp=Z,36nm,0.8s,mb4.9						
STKA	**Stephens Creek**	**38.18**	**244**	P	**P**	**02 54 53.5**	**+0.4**
	comp=Z,47nm,0.8s,mb5.0,baz=89,slow=9.1,SNR=58						
STKA	**Stephens Creek**	**38.18**	**244**	*e*P	**P**	**02 54 53.9**	**+0.8**
	comp=Z,91nm,1.1s,mb5.1						
ASAR	**Alice Springs**	**44.91**	**257**	P	**P**	**02 55 46.5**	**-0.3**
	comp=Z,90nm,0.9s,mb5.2,baz=98,slow=7.7,SNR=718						
ASAR				PcP	PcP	02 57 17.4	-1.2
	comp=Z,11nm,0.8s,baz=104,slow=3.5,SNR=8.9						
ASAR				S	**S**	**03 01 45.8**	**-3.9**
	comp=Z,5.3nm,0.9s,baz=94,slow=16,SNR=14						
WRAB	**Tennant Creek**	**44.97**	**262**	*c i*P	**P**	**02 55 45.0**	**-2.3**
KAKA	**Kakadu**	**48.33**	**271**	*e*P	**P**	**02 56 05.9**	**-7.0**
	comp=Z,46nm,0.9s,mb4.8						
FORT	**Forrest**	**49.69**	**246**	⇓*i*P	**P**	**02 56 21.9**	**-0.9**
	comp=Z,195nm,0.7s,mb5.5						
BATI	**Baumata**	**57.28**	**271**	P	**P**	**02 57 17.8**	**+0.7**
	comp=Z,48nm,0.6s,mb5.0,baz=274,slow=1.7,SNR=6.7						
SBA	**Scott Base**	**58.06**	**184**	*e*P	**P**	**02 57 24.1**	**+2.6**
SBA				*e*		02 58 08.2	
SBA				pmax	pmax		
	comp=Z,23nm,0.9s,mb4.5						
SBA	**Scott Base**	**58.06**	**184**	*e*P	**P**	**02 57 24.1**	**+2.6**
	comp=Z,23nm,0.9s,mb4.5						
SBA				*e*PcP	PcP	02 58 08.2	+1.1
KLBR	**Kellerberrin**	**58.45**	**245**	⇓*i*P	**P**	**02 57 24.1**	**-0.8**
	comp=Z,176nm,1.0s,mb5.3						
NWAO	**Narrogin (SRO)**	**58.76**	**243**	P	**P**	**02 57 26.3**	**-0.7**
	comp=Z,37nm,0.7s,mb4.8,baz=95,slow=7.0,SNR=15						
MUN	**Mundaring**	**59.72**	**244**	*e*P	**P**	**02 57 33.4**	**0.0**
CASY	**Casey**	**64.27**	**205**	*e*P	**P**	**02 58 02.5**	**0.0**
CASY	**Casey**	**64.27**	**205**	*e*P	**P**	**02 58 02.6**	**+0.1**
	comp=Z,34nm,1.0s,mb4.8						
MYLDM	**Lahad Datu**	**67.63**	**285**	⇑P	**P**	**02 58 25.0**	**+0.5**
TSM	**Tawau**	**67.84**	**284**	⇑P	**P**	**02 58 26.7**	**+0.9**
SDKM	**Sandakan**	**69.01**	**285**	⇓P	**P**	**02 58 33.4**	**+0.5**
QSPA	**South Pole Qui**	**69.74**	**180**	P	**P**	**02 58 37.5**	**+1.3**
	comp=Z,36nm,0.8s,mb4.9,baz=36,slow=1.7,SNR=74						
KDM	**Kudat**	**69.86**	**286**	⇓P	**P**	**02 58 39.2**	**+1.2**
KKM	**Kota Kinabalu**	**70.06**	**285**	⇓P	**P**	**02 58 39.4**	**+0.1**
MJAR	**Matsushiro Arr**	**70.28**	**323**	P	**P**	**02 58 38.5**	**-1.5**
	comp=Z,4.7nm,0.8s,mb4.1,baz=158,slow=6.0,SNR=8.7						
MAT	**Matsushiro**	**70.28**	**323**	P	**P**	**02 58 38.3**	**-1.7**
BTM	**Bintulu**	**71.81**	**281**	⇓P	**P**	**02 58 50.6**	**+1.0**
SBUM	**Sibu**	**72.33**	**279**	⇓P	**P**	**02 58 53.2**	**+0.6**
KSM	**Kuching**	**73.74**	**278**	⇓P	**P**	**02 58 53.2**	**-7.6**
YSS	**Yuzh-Sakhalins**	**75.90**	**333**	*e*P	**P**	**02 59 10.4**	**-1.7**
YSS				pmax	pmax		
	comp=Z,30nm,1.0s,mb4.8						
YSS	**Yuzh-Sakhalins**	**75.90**	**333**	*e*P	**P**	**02 59 12.8**	**+0.8**
	comp=Z,30nm,1.0s,mb4.8						
PETK	**Petropavlovsk-**	**76.20**	**345**	P	**P**	**02 59 12.8**	**-0.8**
	comp=Z,9.9nm,0.8s,mb4.4,baz=115,slow=7.5,SNR=6.7						
PETK	**Petropavlovsk-**	**76.20**	**345**	P	**P**	**02 59 12.8**	**-0.8**
SDPT	**Sand Point**	**76.78**	**10**	*e*P	**P**	**02 59 08.3**	**-8.4**
	comp=Z,91nm,0.3s,mb5.8						
KSRS	**Korea Array**	**76.99**	**318**	P	**P**	**02 59 18.1**	**-0.3**
	comp=Z,3.6nm,0.9s,mb3.9,baz=141,slow=7.3,SNR=9.1						
PACP	**Pacheco Peak**	**77.91**	**43**	⇑P	**P**	**02 59 24.1**	**+0.7**
	baz=78						
FMP	**Fort Macarthur**	**77.98**	**47**	⇑P	**P**	**02 59 24.3**	**+0.5**
	baz=78						
BFSC	**Mount Baldy St**	**78.71**	**47**	⇑P	**P**	**02 59 28.2**	**+0.5**
	baz=79						
MONP	**Monument Peak**	**78.83**	**49**	⇑P	**P**	**02 59 28.7**	**+0.2**
	baz=79						
EDW2	**Edwards Air Fo**	**78.84**	**46**	⇑P	**P**	**02 59 29.2**	**+0.7**
	baz=79						
T06C	**Millerton Lake**	**78.92**	**44**	⇓P	**P**	**02 59 29.1**	**+0.3**
	baz=79						
N02C	**Big Bar**	**79.01**	**39**	⇓P	**P**	**02 59 29.1**	**-0.1**
	baz=79						
CMB	**Columbia Colle**	**79.09**	**43**	⇑P	**P**	**02 59 29.9**	**+0.2**
	baz=79						
ORV	**Oroville**	**79.31**	**41**	⇑P	**P**	**02 59 29.5**	**-1.3**
	baz=80						
WDC	**Whiskeytown Da**	**79.31**	**39**	⇓P	**P**	**02 59 29.9**	**-0.9**
	baz=80						
BELC	**Belle Mtn.**	**79.73**	**48**	⇓P	**P**	**02 59 32.7**	**-0.4**
	baz=80						
MPMC	**Manual Prospec**	**79.84**	**46**	⇑P	**P**	**02 59 33.5**	**-0.2**
	baz=80						
YBH	**Yreka Blue Hor**	**79.93**	**38**	P	**P**	**02 59 35.1**	**+1.0**
	comp=Z,5.1nm,0.7s,mb4.2,baz=103,slow=1.3,SNR=12						
YBH	**Yreka Blue Hor**	**79.93**	**38**	⇓P	**P**	**02 59 34.3**	**+0.2**
	baz=80						
HEC	**Hector,Ludlow**	**79.95**	**47**	⇑P	**P**	**02 59 34.7**	**+0.4**
	baz=80						
R06C	**Coleville**	**79.98**	**43**	⇓P	**P**	**02 59 34.3**	**0.0**
	baz=80						
BEKR	**Beckwourth**	**80.20**	**41**	⇑P	**P**	**02 59 35.2**	**-0.4**
	baz=80						
WCN	**Washoe City**	**80.24**	**42**	⇑P	**P**	**02 59 35.2**	**-0.5**
	baz=80						
IRM	**Iron Mountain**	**80.41**	**48**	⇓P	**P**	**02 59 36.6**	**-0.1**
	baz=81						
KGM	**Kluang**	**80.45**	**276**	⇑P	**P**	**02 59 37.9**	**+0.4**
HABR	**Khabarovsk**	**80.47**	**330**	*e*P	**P**	**02 59 35.3**	**-1.4**
HABR				*e*S	S	03 09 01.2	-2.4
TUQ	**Turquoise Moun**	**80.56**	**47**	⇓P	**P**	**02 59 37.5**	**0.0**
	baz=81						
MDJ	**Mudanjiang**	**80.58**	**325**	P	**P**	**02 59 37.8**	**+0.4**
MDJ				AP	pP	03 01 17.5	-3.2
MDJ				XP	sP	03 02 07.8	-1.6
MDJ				AMB	AMB		
	comp=Z,28nm,0.8s,mb4.8						
MDJ				AMB	AMB		
	comp=Z,58nm,4.9s						
MDJ	**Mudanjiang**	**80.58**	**325**	*e*P	**P**	**02 59 37.9**	**+0.5**
	comp=Z,24nm,0.9s,mb4.7						
113A	**Mohawk Valley,**	**80.65**	**50**	⇓P	**P**	**02 59 38.1**	**+0.1**
	baz=81						
NVAR	**Mina Array Bea**	**80.66**	**43**	P	**P**	**02 59 38.2**	**+0.3**
	comp=Z,4.2nm,0.9s,mb4.0,baz=224,slow=9.0,SNR=17						
NVAR				pP	pP	03 01 28.9	+7.6
	comp=Z,3.6nm,1.1s,baz=218,slow=8.4,SNR=4.6						
NVAR	**Mina Array Bea**	**80.66**	**43**	P	**P**	**02 59 38.2**	**+0.3**
NVAR				pP	pP	03 01 28.9	+7.6
O06A	**Flanigan**	**80.71**	**41**	⇓P	**P**	**02 59 38.5**	**+0.3**
	baz=81						
LDFC	**Landfair**	**80.92**	**47**	*e*P	**P**	**02 59 40.6**	**+1.2**
	comp=Z,14nm,1.0s,mb4.5						
N06A	**Buffalo Meadow**	**81.05**	**41**	⇑P	**P**	**02 59 40.0**	**+0.1**
	baz=81						
V11A	**Goodsprings**	**81.11**	**47**	⇑P	**P**	**02 59 39.8**	**-0.6**
	baz=81						
Q08A	**Gabbs**	**81.14**	**43**	⇓P	**P**	**02 59 40.6**	**+0.1**
	baz=81,SNR=6.7						
Y13A	**Salome**	**81.15**	**49**	⇑P	**P**	**02 59 40.8**	**+0.2**
	baz=81,SNR=5.8						
TPNV	**Topopah Spring**	**81.17**	**45**	⇓P	**P**	**02 59 40.9**	**+0.2**
	baz=81						
PDMCI	**Parker Dam,Lak**	**81.19**	**49**	⇑P	**P**	**02 59 41.7**	**+0.9**
	baz=81						
O07A	**Toulon**	**81.30**	**42**	⇓P	**P**	**02 59 41.5**	**+0.3**
	baz=82,SNR=6.5						
R09A	**Topaph**	**81.34**	**44**	⇓P	**P**	**02 59 42.1**	**+0.6**
	baz=82,SNR=5.3						
MOD	**Modoc**	**81.46**	**39**	⇓P	**P**	**02 59 42.3**	**+0.3**
	baz=82						
S10A	**Tonopah Range,**	**81.48**	**44**	⇓P	**P**	**02 59 42.8**	**+0.6**
	baz=82,SNR=5.7						
Z14A	**Wintersburg**	**81.55**	**50**	⇓P	**P**	**02 59 43.3**	**+0.6**
	baz=82						
X13A	**Yucca**	**81.56**	**48**	⇓P	**P**	**02 59 43.2**	**+0.5**
	baz=82						
K05A	**Summer Lake**	**81.61**	**39**	⇑P	**P**	**02 59 43.4**	**+0.7**
	baz=82						
J05A	**Fort Rock**	**81.75**	**38**	⇓P	**P**	**02 59 44.1**	**+0.7**
	baz=82,SNR=11						
W13A	**Hualapai Mount**	**81.79**	**48**	⇑P	**P**	**02 59 44.2**	**+0.3**
	baz=82						
Y14A	**Wickenburg**	**81.80**	**49**	⇑P	**P**	**02 59 44.6**	**+0.7**
	baz=82,SNR=7.0						
KTGM	**Kuala Trenggan**	**81.81**	**279**	⇑P	**P**	**02 59 45.3**	**+0.8**
O08A	**Rochester Mine**	**81.82**	**42**	⇓P	**P**	**02 59 44.5**	**+0.6**
	baz=82,SNR=5.6						
R10A	**Warm Springs**	**81.87**	**44**	⇑P	**P**	**02 59 44.8**	**+0.6**
	baz=82,SNR=9.2						
T11A	**Corn Creek, Al**	**82.02**	**46**	⇓P	**P**	**02 59 45.5**	**+0.5**
	baz=82,SNR=5.8						
K06A	**Valley Falls**	**82.03**	**39**	⇓P	**P**	**02 59 45.4**	**+0.5**
	baz=82,SNR=7.3						
L07A	**Adell**	**82.10**	**40**	⇑P	**P**	**02 59 45.6**	**+0.3**
	baz=82,SNR=5.5						
Q10A	**Clear Creek Ra**	**82.11**	**44**	⇓P	**P**	**02 59 45.9**	**+0.5**
	baz=82						
V13A	**Grand Canyon W**	**82.11**	**47**	⇑P	**P**	**02 59 44.9**	**-0.6**
	baz=82,SNR=5.3						
N08A	**GE Springer Mi**	**82.12**	**41**	⇑P	**P**	**02 59 45.3**	**-0.1**
	baz=82,SNR=8.0						
X14A	**Yava**	**82.16**	**49**	⇑P	**P**	**02 59 45.8**	**0.0**
	baz=82,SNR=6.3						
Y15A	**Casa Rosa Ranc**	**82.29**	**50**	⇑P	**P**	**02 59 46.5**	**+0.1**
	baz=82,SNR=7.7						
217A	**Green Valley**	**82.31**	**52**	⇓P	**P**	**02 59 47.0**	**+0.4**
	baz=82						
M08A	**Happy Creek Ra**	**82.35**	**41**	⇓P	**P**	**02 59 47.3**	**+0.7**
	baz=82						
R11A	**Troy Canyon, C**	**82.38**	**44**	⇓P	**P**	**02 59 46.5**	**-0.3**
	baz=82						
CN2	**Changchun**	**82.38**	**322**	⇑P	**P**	**02 59 46.8**	**+0.1**
CN2				*e*AP	pP	03 01 31.0	+0.4
CN2				*e*S	S	03 09 23.0	-0.2
CN2				AMB	AMB		
	comp=Z,20nm,0.8s,mb4.7						
CN2				AMB	AMB		
	comp=Z,200nm,5.0s						
W14A	**Seligman**	**82.41**	**48**	⇓P	**P**	**02 59 47.2**	**+0.2**
	baz=83,SNR=6.9						
U13A	**Pakoon Wash**	**82.42**	**47**	⇑P	**P**	**02 59 47.6**	**+0.5**
	baz=83,SNR=9.1						
FRIM	**Kepong**	**82.46**	**276**	⇓P	**P**	**02 59 47.8**	**0.0**
S12A	**Delamar Landin**	**82.46**	**45**	⇑P	**P**	**02 59 47.8**	**+0.5**
	baz=83						
N09A	**Rock Creek Ran**	**82.54**	**42**	⇑P	**P**	**02 59 47.9**	**+0.3**
	baz=83						
K07A	**Rock Creek Ran**	**82.56**	**39**	⇑P	**P**	**02 59 47.9**	**+0.3**
	baz=83,SNR=8.1						
KLR	**Kul'dur**	**82.56**	**329**	*e*P	**P**	**02 59 43.7**	**-3.8**
TUC	**Tucson**	**82.59**	**52**	*e*P	**P**	**02 59 49.8**	**+1.8**
TUC				pmax	pmax		
	comp=Z,5.0nm,1.1s,mb4.0						
TUC	**Tucson**	**82.59**	**52**	*e*P	**P**	**02 59 49.8**	**+1.7**
	comp=Z,4.9nm,1.1s,mb4.0						
Q11A	**Duckwater**	**82.60**	**44**	⇑P	**P**	**02 59 48.0**	**+0.1**
	baz=83,SNR=5.7						
V14A	**Boquillas Ranc**	**82.61**	**48**	⇑P	**P**	**02 59 48.1**	**0.0**
	baz=83,SNR=6.7						
X15A	**Humboldt**	**82.63**	**49**	⇓P	**P**	**02 59 48.6**	**+0.5**
	baz=83,SNR=6.4						
F04A	**Amboy**	**82.73**	**35**	⇓P	**P**	**02 59 48.3**	**-0.1**
	baz=83						
I06A	**Prineville**	**82.74**	**38**	⇓P	**P**	**02 59 49.0**	**+0.5**
	baz=83,SNR=8.7						
117A	**Oracle**	**82.75**	**52**	⇑P	**P**	**02 59 49.0**	**+0.2**
	baz=83,SNR=5.8						
318A	**Bisbee**	**82.76**	**53**	⇑P	**P**	**02 59 49.3**	**+0.4**
	baz=83						
L08A	**Fields**	**82.80**	**40**	⇓P	**P**	**02 59 48.9**	**0.0**
	baz=83,SNR=6.5						
Y16A	**Circle Bar Ran**	**82.87**	**50**	⇑P	**P**	**02 59 49.8**	**+0.4**
	baz=83,SNR=6.4						
M09A	**Marrel Ranch,**	**82.91**	**41**	⇑P	**P**	**02 59 50.0**	**+0.6**
	baz=83,SNR=5.4						
U14A	**Mt Trumbull**	**82.96**	**47**	⇓P	**P**	**02 59 50.7**	**+0.9**
	baz=83,SNR=11						
218A	**Dragoon**	**82.97**	**52**	⇓P	**P**	**02 59 50.7**	**+0.7**
	baz=83,SNR=6.1						
K08A	**Mann Creek Ran**	**83.03**	**40**	⇓P	**P**	**02 59 50.6**	**+0.6**
	baz=83,SNR=8.6						
H06A	**Linquist Farm**	**83.15**	**37**	⇓P	**P**	**02 59 50.5**	**0.0**
	baz=83,SNR=7.5						
X16A	**Lo Mia Camp, P**	**83.16**	**50**	⇑P	**P**	**02 59 51.0**	**+0.1**
	baz=83,SNR=9.3						
I07A	**Izee**	**83.23**	**38**	⇓P	**P**	**02 59 51.2**	**+0.2**
	baz=83,SNR=6.7						
319A	**Douglas**	**83.26**	**53**	⇑P	**P**	**02 59 52.1**	**+0.7**
	baz=83,SNR=5.1						
G06A	**Carlson Farm,**	**83.28**	**37**	⇓P	**P**	**02 59 51.3**	**+0.1**
	baz=84						
O11A	**Cowboy Ranch,**	**83.31**	**43**	⇓P	**P**	**02 59 51.6**	**+0.2**
	baz=84						
V15A	**Kaibab Nationa**	**83.35**	**48**	⇓P	**P**	**02 59 52.2**	**+0.4**
	baz=84,SNR=5.8						
T14A	**Hurricane**	**83.36**	**47**	⇓P	**P**	**02 59 51.3**	**-0.5**
	baz=84						
IPM	**Ipoh**	**83.46**	**277**	⇓P	**P**	**02 59 53.3**	**+0.5**
K09A	**Rome**	**83.47**	**40**	⇓P	**P**	**02 59 52.2**	**0.0**
	baz=84,SNR=5.8						
H07A	**Lands Inn, Kim**	**83.50**	**38**	⇓P	**P**	**02 59 52.3**	**0.0**
	baz=84,SNR=6.1						
M10A	**I.L. Ranch, Tu**	**83.53**	**41**	⇑P	**P**	**02 59 52.8**	**+0.3**
	baz=84,SNR=6.9						
219A	**White Tail Can**	**83.57**	**53**	⇑P	**P**	**02 59 52.6**	**-0.4**
	baz=84						
U15A	**North Rim**	**83.58**	**48**	⇑P	**P**	**02 59 53.1**	**+0.2**
	baz=84,SNR=11						
Q13A	**Wheeler Ranch,**	**83.73**	**45**	⇑P	**P**	**02 59 53.4**	**-0.2**
	baz=84,SNR=5.9						
WUAZ	**Wupatki**	**83.76**	**49**	⇓P	**P**	**02 59 54.3**	**+0.5**
	baz=84						
T15A	**Red Dirt Ranch**	**83.82**	**47**	⇑P	**P**	**02 59 54.6**	**+0.5**
	baz=84,SNR=6.2						
J09A	**Fry Pan Ranch,**	**83.83**	**39**	⇑P	**P**	**02 59 54.4**	**+0.4**
	baz=84						
G07A	**Ruggs Ranch, H**	**83.85**	**37**	⇓P	**P**	**02 59 54.3**	**+0.3**
	baz=84						
Y18A	**Canyon Day Jun**	**83.86**	**51**	⇑P	**P**	**02 59 54.6**	**+0.2**
	baz=84,SNR=5.8						
L10A	**Juniper Basin**	**83.88**	**41**	⇑P	**P**	**02 59 54.1**	**-0.2**
	baz=84,SNR=6.1						
P13A	**Bates Ranch, G**	**84.00**	**44**	⇓P	**P**	**02 59 54.5**	**-0.5**
	baz=84						
KULM	**Kulim**	**84.10**	**278**	⇑P	**P**	**02 59 56.0**	**0.0**
Q14A	**Sevier Lake (B**	**84.24**	**45**	⇑P	**P**	**02 59 56.4**	**+0.3**
	baz=84,SNR=6.1						
U16A	**Tuba City**	**84.25**	**48**	⇓P	**P**	**02 59 56.7**	**+0.5**
	baz=84						
G08A	**Pilot Rock**	**84.26**	**37**	⇑P	**P**	**02 59 56.5**	**+0.4**
	baz=84,SNR=7.8						
B05A	**Bryant**	**84.37**	**34**	⇓P	**P**	**02 59 56.0**	**-0.5**
	baz=85						
L11A	**Cat Creek Ranc**	**84.37**	**41**	⇑P	**P**	**02 59 56.5**	**-0.2**
	baz=84						
Y19A	**Nutrioso**	**84.52**	**51**	⇑P	**P**	**02 59 57.6**	**0.0**
	baz=85,SNR=6.5						
HAWA	**Hanford**	**84.60**	**36**	*e*P	**P**	**02 59 58.4**	**+0.7**
F08A	**Pendleton**	**84.67**	**37**	⇓P	**P**	**02 59 58.0**	**0.0**
	baz=85						
X19A	**St. Johns**	**84.72**	**50**	⇓P	**P**	**02 59 58.5**	**-0.1**
	baz=85						
V18A	**Ganado**	**84.88**	**49**	⇓P	**P**	**02 59 59.2**	**-0.2**
	baz=85						
ETW	**Entiat**	**84.90**	**35**	*e*P	**P**	**02 59 59.8**	**+0.7**
T17A	**Navajo Res., N**	**84.90**	**48**	⇑P	**P**	**02 59 59.7**	**+0.3**
	baz=85						
E08A	**Dider Farm, El**	**84.92**	**36**	⇓P	**P**	**02 59 59.5**	**+0.3**
	baz=85						
G09A	**Cove**	**84.93**	**38**	⇓P	**P**	**02 59 59.6**	**+0.2**
	baz=85						
BMO	**Blue Mountains**	**84.96**	**38**	*e*P	**P**	**03 00 00.1**	**+0.6**
BMO				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb3.8						
BMO	**Blue Mountains**	**84.96**	**38**	*e*P	**P**	**03 00 00.1**	**+0.6**
	comp=Z,2.2nm,0.8s,mb3.8						
C07A	**Waterville**	**85.09**	**35**	⇑P	**P**	**02 59 58.8**	**-1.2**
	baz=85						
H10A	**Noah's Angus R**	**85.14**	**39**	⇑P	**P**	**02 59 59.6**	**-0.8**
	baz=85,SNR=7.0						
I11A	**Placerville**	**85.22**	**40**	⇓P	**P**	**03 00 01.1**	**+0.3**
	baz=85						
G10A	**Bishop Farm, J**	**85.32**	**38**	⇓P	**P**	**03 00 00.7**	**-0.6**
	baz=86,SNR=6.2						
D08A	**Wollman Farm,**	**85.33**	**36**	⇓P	**P**	**03 00 01.4**	**+0.1**
	baz=86						
M14A	**Sheep Mountain**	**85.53**	**43**	⇓P	**P**	**03 00 01.7**	**-0.6**
	baz=86						
B07A	**Winthrop**	**85.53**	**34**	⇑P	**P**	**03 00 01.9**	**-0.3**
	baz=86						
T18A	**Mexican Hat**	**85.62**	**48**	⇑P	**P**	**03 00 03.3**	**+0.3**
	baz=86,SNR=13						
H11A	**Donnelly**	**85.63**	**39**	⇓P	**P**	**03 00 03.0**	**+0.2**
	baz=86,SNR=7.7						
OD2	**Odessa Site #2**	**85.65**	**36**	*e*P	**P**	**03 00 03.4**	**+0.6**
F10A	**Beach Ranch, E**	**85.65**	**37**	P	**P**	**03 00 03.1**	**+0.2**
	baz=86,SNR=14						
I12A	**Atlanta**	**85.65**	**40**	⇓P	**P**	**03 00 03.2**	**+0.3**
	baz=86						
R17A	**Hanksville Air**	**85.67**	**46**	⇓P	**P**	**03 00 02.1**	**-1.1**
	baz=86						
G11A	**Walters Elk Ra**	**85.88**	**38**	⇓P	**P**	**03 00 03.5**	**-0.4**
	baz=86,SNR=12						
B08A	**Colville Reser**	**85.89**	**35**	⇓P	**P**	**03 00 02.5**	**-1.5**
	baz=86						
HLID	**Hailey**	**85.96**	**41**	⇑P	**P**	**03 00 03.9**	**-0.5**
	baz=86						
E10A	**Myers Farm, Un**	**86.01**	**37**	⇑P	**P**	**03 00 04.3**	**-0.3**
	baz=86						
BJI	**Beijing**	**86.02**	**315**	P	**P**	**03 00 04.3**	**-0.5**
BJI				AMB	AMB		
	comp=Z,26nm,0.7s,mb5.0						
SRU	**San Rafael**	**86.15**	**46**	⇓P	**P**	**03 00 05.3**	**-0.1**
	baz=86						
SRU	**San Rafael**	**86.15**	**46**	*e*P	**P**	**03 00 06.5**	**+1.1**
F11A	**Grangeville**	**86.22**	**38**	⇑P	**P**	**03 00 04.4**	**-1

XAN					S	S	03 10 21.0	+0.3	
XAN					AMB	AMB			
	comp=Z,45nm,0.9s,mb5.2								
L19A	**Farson**	**88.40**	**44**	⇓P	**P**		**03 00 14.8**	**-1.1**	
	baz=89								
D14A	**Greenough**	**88.40**	**38**	⇑P	**P**		**03 00 14.7**	**-1.1**	
	baz=89								
G16A	**Moss Hill, Enn**	**88.43**	**40**	⇑P	**P**		**03 00 15.1**	**-0.9**	
	baz=89								
QLMT	**Earthquake Lak**	**88.46**	**41**	*e*P	**P**		**03 00 17.7**	**+1.6**	
CHMT	**Chamberlain Mo**	**88.46**	**38**	*e*P	**P**		**03 00 16.4**	**+0.3**	
H16A	**Russell Place,**	**88.50**	**41**	⇑P	**P**		**03 00 16.3**	**0.0**	
	baz=89,SNR=7.5								
BW06	**Boulder Array**	**88.59**	**43**	⇓P	**P**		**03 00 16.0**	**-0.8**	
	baz=89								
PDAR	**Pinedale Array**	**88.59**	**43**	P	**P**		**03 00 16.6**	**-0.2**	
	comp=Z,3.0nm,0.9s,mb4.1,baz=218,slow=3.0,SNR=19								
C14A	**Swan Lake**	**88.63**	**37**	⇑P	**P**		**03 00 15.6**	**-1.3**	
	baz=89								
VNA2	**Neumayer--Watz**	**88.74**	**177**	*e*P	**P**		**03 00 16.9**	**-0.2**	
	baz=198,slow=3.6								
VNA2				*e*			03 00 22.0		
D15A	**Lincoln**	**88.95**	**38**	⇑P	**P**		**03 00 18.6**	**+0.2**	
	baz=89								
VNA1	**Neumayer--Stat**	**88.96**	**176**	*e*P	**P**		**03 00 18.1**	**0.0**	
VNA1				*e*			03 00 24.2		
DAWY	**Dawson**	**89.20**	**16**	*e*P	**P**		**03 00 19.1**	**0.0**	
B14A	**Marquette Ranc**	**89.22**	**37**	⇓P	**P**		**03 00 18.4**	**-1.2**	
	baz=89								
EGAK	**Eagle**	**89.35**	**15**	*e*P	**P**		**03 00 19.4**	**-0.4**	
	comp=Z,6.6nm,0.9s,mb4.5								
A14A	**Double T Ranch**	**89.46**	**36**	⇑P	**P**		**03 00 19.6**	**-1.1**	
	baz=90								
HHC	**Hu-ho-hao-te**	**89.49**	**314**	*e*P	**P**		**03 00 21.8**	**+0.8**	
HHC				AP	pP		03 02 09.0	+2.1	
HHC				XP	sP		03 02 57.3	+2.4	
HHC				PP	PP		03 04 04.8	+3.8	
HHC				SKS			03 10 06.0		
HHC				S	S		03 10 30.0	-1.1	
HHC				SS	SS		03 16 43.3	+2.4	
HHC				AMB	AMB				
	comp=Z,18nm,1.0s,mb4.9								
HHC				AMB	AMB				
	comp=Z,99nm,6.4s								
KMI	**Kunming**	**89.59**	**297**	P	**P**		**03 00 23.0**	**+1.1**	
KMI				AMB	AMB				
	comp=Z,32nm,0.9s,mb5.2								
A15A	**Johnson Ranch,**	**89.85**	**37**	⇑P	**P**		**03 00 21.4**	**-1.1**	
	baz=90								
B16A	**M & M Farms, S**	**90.13**	**37**	⇑P	**P**		**03 00 22.9**	**-0.9**	
	baz=90								
C17A	**Wharram Farm,**	**90.28**	**38**	⇑P	**P**		**03 00 23.9**	**-0.6**	
	baz=90								
CMAR	**Chiang Mai Arr**	**90.39**	**289**	P	**P**		**03 00 26.4**	**+0.7**	
	comp=Z,24nm,0.8s,mb5.1,baz=124,slow=2.6,SNR=59								
CMAR	**Chiang Mai Arr**	**90.39**	**289**	⇑*e*P	**P**		**03 00 26.8**	**+1.1**	
A16A	**West Butte Ran**	**90.47**	**37**	⇓P	**P**		**03 00 25.1**	**-0.2**	
	baz=91								
CHTO	**Chiang Mai**	**90.52**	**290**	*e*P	**P**		**03 00 26.7**	**+0.4**	
CHTO				pmax	pmax				
	comp=Z,26nm,0.8s,mb5.2								
CHTO	**Chiang Mai**	**90.52**	**290**	*e*P	**P**		**03 00 26.7**	**+0.4**	
	comp=Z,26nm,0.8s,mb5.2								
CD2	**Chengdu**	**91.00**	**303**	*e*P	**P**		**03 00 28.5**	**+0.2**	
CD2				AP	pP		03 02 16.5	+2.2	
CD2				XP	sP		03 03 04.0	+1.8	
CD2				AMB	AMB				
	comp=Z,10.0nm,0.8s,mb4.8								
CD2				AMB	AMB				
	comp=Z,50nm,8.2s								
YAK	**Yakutsk**	**92.09**	**338**	*e*P	**P**		**03 00 29.8**	**-2.7**	
YAK				pmax	pmax				
	comp=Z,13nm,1.0s,mb4.8								
LZH	**Lanzhou**	**92.95**	**307**	*e*P	**P**		**03 00 37.3**	**+0.2**	
LZH				AMB	AMB				
	comp=Z,26nm,1.2s,mb5.1								
LZH				AMB	AMB				
	comp=Z,102nm,4.0s								
ULN	**Ulaanbaatar**	**95.47**	**319**	⇑*e*P	**P**		**03 00 47.0**	**-1.3**	
SONM	**Songino Array**	**95.86**	**319**	P	**P**		**03 00 48.9**	**-1.2**	
	comp=Z,0.5nm,0.6s,mb3.8,baz=141,slow=7.3,SNR=4.2								
GTA	**Gaotai**	**97.14**	**309**	⇑*e*P	**P**		**03 00 56.0**	**0.0**	
GTA				AP	pP		03 02 44.3	+1.8	
GTA				XP	sP		03 03 32.0	+1.7	
GTA				S	S		03 11 33.5	-4.4	
GTA				XS	sS		03 14 46.0	-3.6	
GTA				SS	SS		03 18 27.0	-2.2	
GTA				AMB	AMB				
	comp=Z,3.0nm,1.3s,mb4.4								
GTA				AMB	AMB				
	comp=Z,75nm,5.4s								
ZALV	**Zalesovo Beam**	**110.58**	**321**	PKiKP	PKiKP		03 05 50.5	-2.5	
	comp=Z,2.1nm,0.7s,baz=202,slow=1.0,SNR=8.6								
MKAR	**Makanchi Array**	**111.34**	**313**	PKiKP	PKiKP		03 05 52.2	-2.3	
	comp=Z,1.9nm,0.6s,baz=82,slow=0.6,SNR=15								
MKAR	**Makanchi Array**	**111.34**	**313**	⇑*i*PKiKP	PKiKP		03 05 52.4	-2.2	
KURK	**Kurchatov**	**114.11**	**317**	⇑*i*PKiKP	PKiKP		03 05 57.4	-2.4	
SCG	**Saint Claude**	**119.31**	**83**	*e*P	PKPdf		03 06 00.1	-11	
ARU	**Arti**	**125.26**	**326**	⇑*i*PKiKP	PKPdf		03 06 19.2	-1.8	
BOSA	**Boshof**	**126.56**	**205**	PKP	PKPdf		03 06 23.7	-0.8	
	comp=Z,5.9nm,0.9s,baz=326,slow=4.0,SNR=5.7								
ARCES	**ARCESS Array B**	**128.82**	**350**	PKP	PKPdf		03 06 26.3	-1.1	
	comp=Z,2.7nm,0.8s,baz=344,slow=4.0,SNR=5.8								
LBTB	**Lobatse**	**129.59**	**208**	PKP	PKPdf		03 06 29.4	-1.0	
	comp=Z,2.1nm,0.7s,baz=31,slow=10,SNR=4.8								
LSZ	**Lusaka**	**136.47**	**218**	PKP	PKPdf		03 06 44.2	+0.8	
	comp=Z,3.7nm,0.7s,baz=77,slow=3.1,SNR=9.0								
OBN	**Obninsk**	**136.78**	**332**	*i* PKiKP	PKPdf		03 06 41.0	-1.8	
OBN				pmax	pmax				
	comp=Z,14nm,1.5s								
NOA	**NORSAR Array B**	**138.85**	**353**	PKhKP			03 06 38.8		
	comp=Z,1.2nm,0.7s,baz=21,slow=3.9,SNR=4.0								
GNI	**Garni**	**138.88**	**308**	⇑*i*PKiKP	PKPdf		03 06 46.4	-0.7	
SUW	**Suwalki**	**142.80**	**340**	*e*PKP	PKPdf		03 06 50.0	-3.7	
AKASG	**Malin Array Be**	**143.03**	**331**	PKhKP			03 06 49.8		
	comp=Z,24nm,0.7s,baz=42,slow=4.3,SNR=54								
MUD	**Monsted U'grnd**	**143.57**	**354**	*i* P	PKPdf		03 06 52.2	-2.8	
	comp=Z,29nm,1.2s								
COP	**Copenhagen**	**143.90**	**350**	⇑*i*P	PKPdf		03 06 54.1	-1.5	
	comp=Z,18nm,0.8s								
COP									
	comp=Z,560nm,18.0s								
SIM	**Simferopol'**	**144.09**	**320**	*e*PKHKP			03 06 55.5		
SIM				pmax	pmax				
	comp=Z,71nm,0.9s								
GKP	**Gorka Klasztor**	**145.18**	**344**	*e*PKP	PKPdf		03 06 57.5	-0.4	
GKP	**Gorka Klasztor**	**145.18**	**344**	*e*PKP	PKPdf		03 06 57.5	-0.4	
BSEG	**Bad Segeberg**	**145.90**	**352**	*e*pPKPbc			03 08 58.4		
LVV	**L'vov**	**145.90**	**335**	*i* PKiKP	PKPdf		03 07 00.3	+1.1	
KWP	**Kalwaria**	**146.57**	**336**	*e*PKP	PKPdf		03 07 01.8	+1.4	
KWP				*e*			03 07 04.6		
KWP	**Kalwaria**	**146.57**	**336**	⇓*i*P	PKPdf		03 07 01.8	+1.4	
KWP	**Kalwaria**	**146.57**	**336**	*e*PKP	PKPdf		03 07 01.8	+1.4	
KWP				*e*			03 07 04.6		
TLCR		**146.98**	**325**	⇑*i*P	PKPdf		03 07 03.0	+1.8	
BR131	**Keskin Array S**	**146.99**	**313**	*e*PKPbc	PKPbc		03 07 03.3	-0.9	
BUR08	**Bucovina Ar. S**	**147.07**	**331**	PKPbc	PKPbc		03 07 04.2	0.0	
BURAR	**Bucovina Array**	**147.09**	**331**	⇑*i*P	PKPbc		03 07 04.0	-0.2	
BURAR	**Bucovina Array**	**147.09**	**331**	⇑P	PKPbc		03 07 04.0	-0.2	
OJC	**Ojcow**	**147.13**	**339**	*e*PKP	PKPdf		03 07 03.1	+1.8	
STHS	**Stebnicka Huta**	**147.30**	**337**	*e*PKP	PKPbc		03 07 03.8	-0.9	
STHS				*e*			03 07 08.0		
KOLS	**Kolonicke sedl**	**147.31**	**335**	*e*PKP	PKPbc		03 07 04.4	-0.3	
KOLS				*e*			03 07 07.4		
ANTO	**Ankara**	**147.50**	**314**	⇓*i*P	PKPbc		03 07 04.4	-1.1	
ANTO	**Ankara**	**147.50**	**314**	*e*PKPbc	PKPbc		03 07 05.0	-0.6	
UZH	**Uzhgorod**	**147.54**	**335**	⇓*i*PKiKP	PKPbc		03 07 04.7	-0.7	
UZH				*e*			03 07 09.3		
KSP	**Ksiaz**	**147.63**	**343**	*e*PKP	PKPbc		03 07 05.0	-0.5	
KSP	**Ksiaz**	**147.63**	**343**	*e*PKP	PKPbc		03 07 04.9	-0.6	
NIE	**Niedzica**	**147.63**	**338**	*e*PKP	PKPbc		03 07 05.1	-0.5	
CRVS	**Cervenica-Dubn**	**147.64**	**336**	*e*PKP	PKPbc		03 07 04.5	-1.1	
TIRR	**Tirgusor**	**147.66**	**324**	⇑*i*P	PKPdf		03 07 03.9	+1.6	
TIRR	**Tirgusor**	**147.66**	**324**	⇑P	PKPdf		03 07 03.9	+1.5	
PLOR	**Plostina**	**147.67**	**328**	⇑*i*P	PKPbc		03 07 04.6	-1.2	
HARR	**Harsova**	**147.78**	**325**	⇑*i*P	PKPbc		03 07 05.4	-0.7	
HARR	**Harsova**	**147.78**	**325**	⇑P	PKPbc		03 07 05.4	-0.7	
BMR	**Baia Mare**	**147.80**	**333**	⇑*i*P	PKPbc		03 07 06.1	0.0	
BMR	**Baia Mare**	**147.80**	**333**	⇑P	PKPbc		03 07 06.1	+0.1	
IBBN	**Ibbenburen**	**147.81**	**354**	*e*PKPbc	PKPbc		03 07 05.1	-0.8	
IBBN				*e*pPKPbc	pPKPbc		03 09 02.4	+5.2	
CLL	**Collm**	**147.97**	**347**	⇓*i*PKiKP	PKPbc		03 07 05.5	-0.9	
CLL				*i*			03 07 09.3		
CLL	**Collm**	**147.97**	**347**	*e*PKPbc	PKPbc		03 07 05.5	-0.9	
CLL				*e*pPKPbc	pPKPbc		03 09 02.0	+4.3	
CLL	**Collm**	**147.97**	**347**	*e*PKPdf	PKPdf		03 07 02.0	-0.6	
CLL				⇓*i*PKPbc	PKPbc		03 07 05.5	-0.9	
	comp=Z,41nm,0.9s								
CLL				*i* PKPab	PKPab		03 07 09.3	-1.4	
	comp=Z,15nm,0.9s								
CLL				*e*pPKPbc	pPKPbc		03 09 03.0	+5.3	
CLL	**Collm**	**147.97**	**347**	⇓*i*PKP	PKPbc		03 07 05.5	-0.9	
CLL				*i* PKP	PKPab		03 07 09.3	-1.4	
CLL				*e*pPKP	pPKPbc		03 09 03.3	+5.3	
OKC	**Ostrava-Krasne**	**147.99**	**341**	*e*PKPbc	PKPbc		03 07 05.8	-0.7	
OKC				*e*PKPab	PKPab		03 07 14.4	-0.4	
UPC	**Upice**	**148.01**	**343**	*e*PKPbc	PKPbc		03 07 05.8	-0.7	
UPC				*e*PKPab	PKPab		03 07 10.8	0.0	
DPC	**Dobruska-Polom**	**148.07**	**343**	*e*PKPbc	PKPbc		03 07 06.2	-0.4	
DPC				*e*PKPab	PKPab		03 07 11.1	0.0	
BRG	**Berggiesshubel**	**148.18**	**346**	PKHKP			03 07 02.2		
BRG				*i*			03 07 06.0		
BRG				*i*			03 07 10.5		
BRG				*e*			03 10 37.5		
BRG	**Berggiesshubel**	**148.18**	**346**	*e*PKPbc	PKPbc		03 07 06.2	-0.7	
BRG	**Berggiesshubel**	**148.18**	**346**	PKP	PKPdf		03 07 02.2	-0.8	
	comp=Z,7.7nm,1.2s								
BRG				*i*			03 07 06.0		
	comp=Z,29nm,1.1s								
BRG				*i*			03 07 10.5		
	comp=Z,15nm,1.0s								
BRG				pPKP	pPKPdf		03 09 03.6	+7.8	
	comp=Z,9.7nm,1.6s								
BRG				*e*			03 10 37.5		
	comp=Z,4.8nm,1.3s								
MORC	**Moravsky Berou**	**148.23**	**341**	⇑*i*P	PKPbc		03 07 06.5	-0.6	
MORC	**Moravsky Berou**	**148.23**	**341**	⇑P	PKPbc		03 07 06.5	-0.5	
WTSB	**Winterswijk**	**148.24**	**355**	⇓*e*P	PKPbc		03 07 05.9	-1.1	
	comp=Z,49nm,1.0s								
MLR	**Muntele Rosu**	**148.27**	**328**	⇓*i*P	PKPbc		03 07 06.0	-1.3	
MLR	**Muntele Rosu**	**148.27**	**328**	⇓P	PKPbc		03 07 06.0	-1.3	
PVCC	**Panska Ves**	**148.36**	**345**	*e*PKPbc	PKPbc		03 07 06.5	-0.9	
BUG	**Bochum--Univer**	**148.71**	**354**	*e*PKPbc	PKPbc		03 07 07.1	-1.1	
VOIR		**148.75**	**328**	⇑*i*P	PKPbc		03 07 07.4	-1.1	
VOIR		**148.75**	**328**	⇑P	PKPbc		03 07 07.4	-1.1	
DRGR		**148.82**	**333**	⇓*i*P	PKPbc		03 07 07.6	-1.0	
PRU	**Pruhonice**	**148.86**	**345**	*e*PKPbc	PKPbc		03 07 07.9	-0.7	
PRU				*e*PKPab	PKPab		03 07 13.7	-0.6	
MOX	**Moxa**	**148.88**	**349**	*e*PKP	PKPbc		03 07 07.7	-0.9	
	comp=Z,31nm,1.4s								
MOX	**Moxa**	**148.88**	**349**	*e*PKPbc	PKPbc		03 07 07.9	-0.7	
VRAC	**Vranov**	**148.93**	**342**	PKHKP			03 07 08.0		
VRAC	**Vranov**	**148.93**	**342**	⇑*i*P	PKPbc		03 07 08.3	-0.5	
VRAC	**Vranov**	**148.93**	**342**	⇑P	PKPbc		03 07 08.3	-0.6	
TANN	**Tannenbergstha**	**148.93**	**347**	*e*PKPbc	PKPbc		03 07 08.2	-0.6	
TANN				*e*PKPab	PKPab		03 07 13.4	-1.2	
VYHS	**Vyhne**	**148.93**	**339**	*e*PKP	PKPbc		03 07 07.7	-1.2	
UBBA	**Unterbreizbach**	**148.98**	**351**	*e*PKPbc	PKPbc		03 07 07.7	-1.2	
KOLL	**Kolacno**	**149.01**	**339**	*e*PKP	PKPbc		03 07 08.4	-0.6	
PSZ	**Piszkesteto**	**149.04**	**337**	PKHKP	PKPbc		03 07 08.5	-0.6	
PSZ	**Piszkesteto**	**149.04**	**337**	⇓*i*P	PKPbc		03 07 08.8	-0.3	
PSZ	**Piszkesteto**	**149.04**	**337**	⇓P	PKPbc		03 07 08.8	-0.3	
NKC	**Novy Kostel**	**149.11**	**347**	*e*PKPbc	PKPbc		03 07 08.3	-0.9	
NKC				*e*PKPab	PKPab		03 07 14.6	-0.7	
TREC	**Trest**	**149.25**	**343**	*e*PKPbc	PKPbc		03 07 08.6	-1.0	
SMOL	**Smolenice**	**149.38**	**340**	*i* PKP	PKPbc		03 07 09.8	-0.1	
MANZ	**Manzenberg**	**149.41**	**348**	*e*PKPbc	PKPbc		03 07 09.3	-0.7	
HGN	**Heimansgroeve**	**149.50**	**356**	⇓*e*P	PKPbc		03 07 09.0	-1.1	
	comp=Z,17nm,1.0s								
MODS	**Modra-Piesok**	**149.55**	**340**	*i* PKHKP	PKPbc		03 07 09.8	-0.6	
MODS	**Modra-Piesok**	**149.55**	**340**	*i* PKP	PKPbc		03 07 10.4	0.0	
UCC	**Uccle**	**149.55**	**358**	PKP	PKPdf		03 07 08.4	+3.2	
ROTZ	**Rotzenmuhle**	**149.60**	**347**	*e*PKPbc	PKPbc		03 07 09.7	-0.7	
ROTZ				*e*PKPab	PKPab		03 07 16.6	-0.8	
MEM	**Membach**	**149.65**	**355**	PKPbc	PKPbc		03 07 09.5	-1.0	
ZST	**Bratislava**	**149.76**	**340**	*e*PKP	PKPbc		03 07 10.6	-0.3	
TNS	**Taunus Mts**	**149.78**	**352**	*e*PKPbc	PKPbc		03 07 10.0	-0.8	
TNS				*e*PKPab	PKPab		03 07 16.2	-1.9	
SNF	**Seneffe**	**149.85**	**358**	PKPbc	PKPbc		03 07 09.9	-1.0	
GRA1	**Grafenberg Arr**	**149.86**	**349**	*e*PKPbc	PKPbc		03 07 10.3	-0.8	
GRA1				*e*PKPab	PKPab		03 07 17.2	-1.3	
GRF	**Grafenberg Arr**	**149.86**	**349**	*e*PKP2	PKPab		03 07 17.2	-1.3	
GRF	**Grafenberg Arr**	**149.86**	**349**	*e*PKHKP			03 07 10.3		
GRF				*e*			03 07 17.2		
GRF	**Grafenberg Arr**	**149.86**	**349**	*e*PKPbc	PKPbc		03 07 10.3	-0.8	
GRF				*e*PKPab	PKPab		03 07 17.2	-1.3	
GZR	**Gura Zlata**	**149.87**	**331**	⇑*i*P	PKPbc		03 07 10.1	-1.1	
GZR	**Gura Zlata**	**149.87**	**331**	⇑P	PKPbc		03 07 10.1	-1.1	
BCLA	**Clavier**	**149.88**	**356**	PKPbc	PKPbc		03 07 10.2	-0.9	
BCLA				PKPab	PKPab		03 07 17.0	-1.5	
KHC	**Kasperske Hory**	**149.89**	**345**	*e*PKPdf	PKPdf		03 07 04.7	-1.0	
KHC				*e*PKPbc	PKPbc		03 07 10.4	-0.7	
KHC				*e*PKPab	PKPab		03 07 18.2	-0.4	
WET	**Wettzell**	**150.04**	**346**	*e*PKP2	PKPab		03 07 18.6	-0.7	
WET	**Wettzell**	**150.04**	**346**	*e*PKPbc	PKPbc		03 07 10.4	-1.1	
WET				*e*PKPab	PKPab		03 07 18.6	-0.7	
GEC2	**GERESS Array S**	**150.13**	**345**	*e*PKPbc	PKPbc		03 07 10.8	-0.9	
GERES	**GERESS Array B**	**150.13**	**345**	PKP	PKPdf		03 07 05.1	-1.1	
	comp=Z,1.2nm,0.9s,baz=346,slow=0.6,SNR=7.6								
GERES				PKPbc	PKPbc		03 07 10.6	-1.1	
	comp=Z,11nm,0.9s,baz=42,slow=2.2,SNR=64								
GERES				pPKPbc	pPKPbc		03 09 11.8	+8.3	
	comp=Z,1.8nm,0.9s,baz=8.5,slow=2.7,SNR=5.4								
GERES	**GERESS Array B**	**150.13**	**345**	PKIKP	PKPdf		03 07 05.1	-1.0	
GERES							03 07 10.6		
BZS	**Buzias**	**150.22**	**332**	⇓*i*P	PKPdf		03 07 05.2	-1.2	
BZS	**Buzias**	**150.22**	**332**	P	PKPbc		03 07 10.8	-1.2	
GIVF	**Givet**	**150.23**	**357**	*e*PKP1	PKPbc		03 07 10.9	-1.0	
	comp=Z,78nm,1.0s								
DOU	**Dourbes**	**150.24**	**357**	PKPbc	PKPbc		03 07 11.1	-0.9	
BAIF	**Baives**	**150.30**	**358**	*e*PKP1	PKPbc		03 07 11.1	-1.0	
	comp=Z,49nm,1.0s								
CONA	**Conrad Observa**	**150.38**	**342**	⇓*i*PKPbc	PKPbc		03 07 11.6	-0.7	
	comp=Z,13nm,0.8s								
CSNA	**Conrad Observa**	**150.38**	**342**	⇓*i*PKPbc	PKPbc		03 07 11.6	-0.7	
	comp=Z,13nm,0.8s								
WLF	**Walferdange**	**150.57**	**355**	PKPbc	PKPbc		03 07 12.4	-0.3	
WLF	**Walferdange**	**150.57**	**355**	*e*PKPbc	PKPbc		03 07 12.4	-0.3	
PKSM	**Moragy**	**150.94**	**336**	⇑*i*P	PKPdf		03 07 11.1	+3.6	
PKSM	**Moragy**	**150.94**	**336**	⇑P	PKPdf		03 07 11.1	+3.6	
STU	**Stuttgart**	**151.10**	**351**	*e*PKPbc	PKPbc		03 07 13.2	-0.7	
FUR	**Furstenfeldbru**	**151.31**	**348**	*e*PKPbc	PKPbc		03 07 13.7	-0.8	
FUR				*e*PKPab	PKPab		03 07 23.8	-0.8	
FLN	**La Foliniere**	**151.54**	**4**	*e*PKP1	PKPbc		03 07 13.4	-1.5	
	comp=Z,64nm,1.1s								
KOGS	**Kog**	**151.58**	**340**	*i* PKPbc	PKPbc		03 07 13.4	-1.7	
BFO	**Black Forest**	**151.65**	**352**	*e*PKPbc	PKPbc		03 07 14.1	-1.1	
ROSF	**Rostrenen**	**151.69**	**8**	*e*PKP1	PKPbc		03 07 13.6	-1.7	
CDF	**Champ du Feu**	**151.71**	**353**	*e*PKP1	PKPbc		03 07 14.1	-1.2	
	comp=Z,15nm,0.8s								
LDF	**La Druitiere**	**151.73**	**4**	*e*PKP1	PKPbc		03 07 13.7	-1.7	
	comp=Z,26nm,0.9s								
SOKA	**Soboth**	**151.75**	**341**	⇑*i*PKPbc	PKPbc		03 07 14.0	-1.5	
	comp=Z,15nm,1.6s								
MEZF	**Maizieres J'vi**	**151.81**	**356**	*e*PKP1	PKPbc		03 07 14.7	-0.9	
	comp=Z,34nm,0.9s								
SGMF	**Saint Gilles**	**151.86**	**7**	*e*PKP1	PKPbc		03 07 14.0	-1.7	
	comp=Z,30nm,0.8s								
GRR	**Gorron**	**151.88**	**5**	*e*PKP1	PKPbc		03 07 14.4	-1.3	
	comp=Z,36nm,0.9s								
HAU	**Haudompre**	**152.20**	**354**	*e*PKP1	PKPbc		03 07 15.1	-1.3	
	comp=Z,6.8nm,0.7s								
HINF	**Hinteralfeld**	**152.34**	**353**	*e*PKP1	PKPbc		03 07 15.3	-1.5	
	comp=Z,4.9nm,0.8s								
LJU	**Ljubljana**	**152.48**	**342**	*i* PKPbc	PKPbc		03 07 15.8	-1.3	
BOJS	**Bojanci**	**152.74**	**340**	*e*PKPbc	PKPbc		03 07 16.7	-1.0	
LOR	**Lormes**	**153.10**	**358**	*e*PKP1	PKPbc		03 07 17.2	-1.2	
	comp=Z,11nm,0.9s								
SSF	**Saint Saulge**	**153.32**	**358**	*e*PKP1	PKPbc		03 07 17.7	-1.2	
	comp=Z,13nm,1.0s								
CABF	**La Chapelle**	**153.61**	**354**	*e*PKP1	PKPbc		03 07 18.8	-0.7	
	comp=Z,40nm,1.3s								
MFF	**Saint Martin d**	**153.71**	**4**	*e*PKP1	PKPbc		03 07 18.2	-1.6	
	comp=Z,15nm,1.1s								
BGF	**Bois d'Agland**	**153.84**	**359**	*e*PKP1	PKPbc		03 07 18.6	-1.4	
TCF	**Toulx Ste Croi**	**154.11**	**0**	*e*PKP1	PKPbc		03 07 19.0	-1.6	
	comp=Z,9.3nm,1.0s								
DBIC	**Dimbokro**	**164.72**	**152**	PKP	PKPdf		03 07 23.1	-2.0	
	comp=Z,3.9nm,0.9s,baz=151,slow=6.7,SNR=3.6								
TOA0	**Torodi Ar. Sit**	**172.83**	**175**	*e*PKPdf	PKPdf		03 07 28.3	-1.8	
TOA0				*e*PKPab	PKPab		03 08 59.0	-0.3	
TORD	**Torodi Ar. Bea**	**172.83**	**175**	PKP	PKPdf		03 07 27.6	-2.5	
	comp=Z,5.1nm,0.9s,baz=307,slow=0.8,SNR=22								
TORD				PKPab	PKPab		03 08 58.4	-1.0	
	comp=Z,1.8nm,0.7s,baz=180,slow=2.7,SNR=8.9								
TORD				PP	PP		03 12 49.0	-1.0	
	comp=Z,2.3nm,1.1s,baz=173,slow=4.0,SNR=6.6								

KRSC 27 02:51:31.5±0.9, 5070N×15639E, h93km±93km, ML3.7, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
MIPR	**Malaya Ipel'ka**	**1.59**	**8**	*e*P		Pn	02 52 01.4	+2.9
RUS	**Russkaya**	**2.18**	**37**	*e*P		Pn	02 52 06.8	+0.7
RUS				*i* S		Sn	02 52 32.2	-0.4
PET	**Petropavlovsk**	**2.72**	**30**	P		Pn	02 52 15.8	+2.6
AVH	**Avacha**	**2.95**	**29**	*e*P		Pn	02 52 18.6	+2.3
NLC	**Nalytchevo**	**3.08**	**35**	*e*P		Pn	02 52 20.1	+2.1
GNL	**Ganaly**	**3.15**	**17**	*e*P		Pn	02 52 20.9	+1.9
SPN	**Mys Shipunski**	**3.29**	**42**	*e*P		Pn	02 52 23.4	+2.5
SPN				*i* S		Sn	02 53 02.1	+3.1
KBTR	**Krutoberegovo**	**6.72**	**32**	*e*P		Pn	02 53 07.7	+0.3

TAP 27 03:01:14.7, 2406N×12149E, h21km, ML3.8, 8C-3D, B, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
TWD	**Chiawan**	**0.10**	**79**	⇑*i*P		Pb	03 01 18.9	+0.2
	baz=79							
TWD				*i* S		Sb	03 01 21.6	+0.1
	baz=79							
HWA	**Hwalien**	**0.13**	**129**	⇑*i*P		Pb	03 01 19.4	+

	baz=259							
WTCT				*e*S		Sb	03 01 52.2	+2.5
	baz=259							
WTP	**Ta-pu**	**1.14**	**225**	*e*P		Pn	03 01 36.3	+0.9
	baz=214							
WTP				*e*S		Sb	03 01 52.6	+2.4
	baz=214							
TWY	**Chenhua**	**1.21**	**5**	*e*P		Pn	03 01 37.4	+1.0
	baz=6.0							
TWY				*e*S		Sb	03 01 52.9	+0.7
	baz=6.0							
TWK	**Hsinying**	**1.21**	**230**	*e*P		Pn	03 01 38.0	+1.6
	baz=228							
TWK				*e*S		Sb	03 01 54.0	+1.9
	baz=228							
WSF	**Szhu**	**1.24**	**250**	*e*P		Pn	03 01 37.7	+0.9
	baz=249							
WSF				*e*S		Sn	03 01 55.3	+2.5
	baz=249							
CHN1	**Nanshi**	**1.24**	**226**	*e*P		Pn	03 01 38.4	+1.6
	baz=224							
CHN1				*e*S		Sn	03 01 55.4	+2.5
	baz=224							
SGST	**Jiashian**	**1.28**	**221**	*e*P		Pn	03 01 36.9	-0.5
	baz=219							
SGST				*e*S		Sn	03 01 56.0	+2.1
	baz=219							
TWG	**Pinlang**	**1.29**	**197**	*e*P		Pn	03 01 38.1	+0.6
	baz=183							
CHN8	**Yiju**	**1.37**	**239**	*e*P		Pn	03 01 40.4	+1.8
	baz=223							
CHN8				*e*S		Sn	03 01 58.9	+2.7
	baz=223							
YOJ	**Yonaguni jima**	**1.44**	**74**	*e*P		Pn	03 01 38.1	-1.4
	baz=74							
SSD	**Sandimen**	**1.53**	**211**	*e*P		Pn	03 01 42.0	+1.2
	baz=209							
SSD				*e*S		Sn	03 02 02.4	+2.4
	baz=209							
TWM1	**Shoushan**	**1.58**	**219**	*e*P		Pn	03 01 43.9	+2.5
	baz=210							
EAST	**Anshuo**	**1.77**	**200**	*e*P		Pn	03 01 46.4	+2.3
	baz=185							
PNG	**Penghu**	**1.84**	**255**	*e*P		Pn	03 01 45.4	+0.4
	baz=253							
PNG				*e*S		Sn	03 02 09.4	+1.7
	baz=253							
SCZT	**Fangliau**	**1.86**	**206**	*e*P		Pn	03 01 47.2	+1.9
	baz=189							
KNM	**Kinmen**	**2.81**	**278**	*e*P		Pn	03 01 59.9	+1.5
	baz=276							

CSEM ***27*** *03:22:26.9±0.1, 3985N×4034E, h12km, MD2.9, Error ellipse: s-maj=3.5km s-min=3.1km az=151.0*
ISK ***27*** *03:22:27.2, 3986N×4033E, h14km, MD2.9*
DDA ***27*** *03:22:27.7, 4000N×4020E, h7km±8km, Md2.7*
ISCJB ***27*** *03:22:28.5±1.2, 398N±0.1×4034E±008, h16km±26km, Error ellipse: s-maj=20.1km s-min=7.2km az=23.1*

ISC 27 03:22:28.3±0.9, 398N±01×4032E±008, h13km±16km, n9, σ1$00/15, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KOPT	**Kop Dagi**	**0.23**	**37**	*i* P	**Pg**	**03 22 32.6**	**-0.5**
KOPT				*i* S	**Sg**	**03 22 37.5**	**+1.1**
KOPT	**Kop Dagi**	**0.23**	**37**	*i* P	**Pg**	**03 22 32.6**	**-0.6**
KOPT				*i* S	**Sg**	**03 22 37.5**	**+1.0**
EZC	**Erzincan**	**0.40**	**257**	*e*PG	**Pg**	**03 22 42.5**	**+6.2**
EZM	**Erzurum**	**0.80**	**85**	*e*PG	**Pg**	**03 22 43.0**	**-0.8**
EZM				*e*SG	**Sg**	**03 22 54.5**	**+0.1**
ERZM	**Erzurum**	**0.81**	**85**	*i* P	**Pg**	**03 22 42.2**	**-1.7**
ERZM				*i* S	**Sg**	**03 22 57.1**	**+2.7**
GUMT	**Gumushane**	**0.90**	**314**	*e*PG	**Pg**	**03 22 44.9**	**-0.7**
GUMT				*e*SG	**Sg**	**03 22 57.7**	**+0.3**
PTK	**Pertek**	**1.19**	**218**	*e*PN	**Pn**	**03 22 50.5**	**-0.1**
PTK				*e*SN	**Sn**	**03 23 06.7**	**+0.2**
KEMA	**Kemaliye**	**1.52**	**249**	*i* P	**Pn**	**03 22 56.3**	**+1.2**
ESPY	**Espiye-Giresun**	**1.63**	**312**	*e*PN	**Pn**	**03 22 56.0**	**-0.5**

IDC ***27*** *03:49:49.8±0.8, 5164N×1592E, h0km, mb1 3.5/8, mb1mx3.4/27, mbtmp3.4/8, ML3.2/7, Error ellipse: s-maj=12.5km s-min=7.6km az=100.0*
NEIC ***27*** *03:49:49.4±0.5, 5164N×1622E, h5km, ML2.9(SZGRF), Error ellipse: s-maj=6.5km s-min=5.1km az=223.0*
ISCJB ***27*** *03:49:50.3±0.5, 5140N±002×1611E±003, h0km, Error ellipse: s-maj=3.6km s-min=2.0km az=20.9*
IPEC ***27*** *03:49:50.1±0.3, 5156N×1622E, h0km, ML2.3/3, Error ellipse: s-maj=2.0km s-min=1.5km az=34.0*
PRU ***27*** *03:49:52.8, 5142N×1607E, h0km*
WAR ***27*** *03:49:52, 5147N×1610E, Mw2.8*
VIE ***27*** *03:49:53.9±0.6, 5127N×1616E, h0km, mb2.4/4, ML2.8/4, Error ellipse: s-maj=3.7km s-min=3.4km az=173.0 62 km WNW of Wroclaw Suspected Mining induced.*
CSEM ***27*** *03:49:53.0±0.2, 5144N×1605E, h0km, ML3.4/11, Error ellipse: s-maj=2.8km s-min=1.8km az=5.0*

ISC 27 03:49:51.0±0.5, 5148N±002×1612E±003, h0km, n52, σ0$89/102, 3C-2D, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.65**	**170**	*e*Pg	**Pg**	**03 50 04.3**	**+0.9**
KSP				*e*Sg	**Sg**	**03 50 13.3**	**+1.6**
KSP	**Ksiaz**	**0.65**	**170**	*e*Pg	**Pg**	**03 50 04.2**	**+0.8**
KSP				*e*Sg	**Sg**	**03 50 13.2**	**+1.5**
KSP	**Ksiaz**	**0.65**	**170**	⇓*i*Pg	**Pg**	**03 50 04.2**	**+0.8**
KSP				*e*Sg	**Sg**	**03 50 13.2**	**+1.5**
UPC	**Upice**	**0.98**	**184**	*e*PG	**Pg**	**03 50 10.4**	**+0.7**
DPC	**Dobruska-Polom**	**1.14**	**173**	*e*Pg	**Pg**	**03 50 13.0**	**+0.2**
DPC				*e*Sg	**Sg**	**03 50 27.7**	**+0.2**
DPC	**Dobruska-Polom**	**1.14**	**173**	*e*PG	**Pg**	**03 50 13.1**	**+0.3**
DPC				*e*SG	**Sg**	**03 50 26.3**	**-1.2**
	41nm,0.4s						
DPC	**Dobruska-Polom**	**1.14**	**173**	*e*Pg	**Pg**	**03 50 13.0**	**+0.2**
DPC				*e*Sg	**Sg**	**03 50 27.8**	**+0.2**
PVCC	**Panska Ves**	**1.37**	**226**	*e*PG	**Pg**	**03 50 17.3**	**+0.1**
PVCC				*e*SG	**Sg**	**03 50 35.2**	**+0.3**
	144nm,0.2s						
BRG	**Berggiesshubel**	**1.50**	**247**	PN	**Pn**	**03 50 18.4**	**-0.7**
BRG				PG	**Pg**	**03 50 20.0**	**+0.3**
BRG				SG	**Sg**	**03 50 39.9**	**+0.8**
	69nm,0.3s						
RUE	**Ruedersdorf**	**1.76**	**306**	*e*Pn	**Pn**	**03 50 22.0**	**-0.7**
RUE				*e*Sn	**Sn**	**03 50 47.4**	**+1.6**
RUE	**Ruedersdorf**	**1.76**	**306**	*e*Pn	**Pn**	**03 50 22.0**	**-0.7**
RUE				*e*Sn	**Sn**	**03 50 47.4**	**+1.6**
PRU	**Pruhonice**	**1.80**	**215**	*e*PN	**Pn**	**03 50 22.9**	**-0.3**
PRU				*e*PG	**Pg**	**03 50 24.6**	**-0.8**
PRU				*e*SG	**Sg**	**03 50 48.2**	**-0.5**
	30nm,0.4s						
MORC	**Moravsky Berou**	**1.93**	**151**	*e*Pn	**Pn**	**03 50 24.9**	**-0.1**
MORC				Sn	**Sn**	**03 50 49.5**	**-0.5**
MORC				*e*Sg	**Sg**	**03 50 52.1**	**-0.9**
	19nm,0.3s						
MORC	**Moravsky Berou**	**1.93**	**151**	*e*Pn	**Pn**	**03 50 24.9**	**-0.1**
MORC				Sn	**Sn**	**03 50 49.5**	**-0.5**
CLL	**Collm**	**1.96**	**266**	*i* Pn	**Pn**	**03 50 24.8**	**-0.7**
	comp=Z,6.0nm,0.4s						
CLL				*e*Pg	**Pg**	**03 50 27.0**	**-1.6**
CLL				*ex*	x	03 50 30.0	
CLL				*e*Sg	**Sg**	**03 50 54.0**	**0.0**
	comp=Z,24nm,0.5s						
CLL	**Collm**	**1.96**	**266**	*i* Pn	**Pn**	**03 50 24.8**	**-0.7**
CLL				*e*Pg	**Pg**	**03 50 27.0**	**-1.6**
CLL				*e*Sg	**Sg**	**03 50 54.0**	**0.0**
OKC	**Ostrava-Krasne**	**2.09**	**141**	*e*PG	**Pg**	**03 50 30.8**	**-0.2**
OKC				*e*SG	**Sg**	**03 50 56.9**	**-1.2**
	comp=Z,46nm,0.6s						
VRAC	**Vranov**	**2.19**	**172**	Pn	**Pn**	**03 50 29.5**	**+0.8**
	comp=Z,2.1nm,0.3s,baz=329,slow=14,SNR=13						
VRAC				Pg	**Pg**	**03 50 33.1**	**0.0**
	comp=Z,3.3nm,0.3s,baz=347,slow=18,SNR=13						
VRAC				Lg		03 51 00.0	
	comp=Z,3.5nm,0.3s,baz=94,slow=20,SNR=4.9						
VRAC	**Vranov**	**2.19**	**172**	*e*Pn	**Pn**	**03 50 29.1**	**+0.4**
VRAC	**Vranov**	**2.19**	**172**	Pg	**Pg**	**03 50 33.1**	**+0.1**
VRAC				*e*Sg	**Sg**	**03 51 01.0**	**-0.5**
	comp=Z,13nm,0.2s						
TREC	**Trest**	**2.22**	**191**	*e*PN	**Pn**	**03 50 29.7**	**+0.6**
TREC				*e*PG	**Pg**	**03 50 32.9**	**-0.7**
KRUC	**Moravsky**	**2.43**	**176**	*e*Pn	**Pn**	**03 50 32.3**	**+0.4**
KRUC				*e*Sg	**Sg**	**03 51 08.7**	**-0.2**
	comp=Z,13nm,0.3s						
NKC	**Novy Kostel**	**2.64**	**243**	*e*PN	**Pn**	**03 50 35.2**	**+0.4**
NKC				*e*PG	**Pg**	**03 50 41.0**	**-0.6**
NKC				*e*SG	**Sg**	**03 51 15.6**	**-0.2**
	comp=Z,40nm,0.3s						
OJC	**Ojcow**	**2.65**	**117**	*e*Pg	**Pg**	**03 50 40.9**	**-0.9**
OJC				*e*Sg	**Sg**	**03 51 16.8**	**+0.7**
JAVC	**Velka Javorina**	**2.81**	**159**	*e*Sg	**Sg**	**03 51 23.1**	**+2.0**
	comp=Z,13nm,0.4s						
KHC	**Kasperske Hory**	**2.86**	**216**	*e*PN	**Pn**	**03 50 38.3**	**+0.5**
KHC				*e*PG	**Pg**	**03 50 43.9**	**-1.9**
KHC				*e*SN	**Sn**	**03 51 12.5**	**-0.4**
KHC				*e*SG	**Sg**	**03 51 20.6**	**-2.2**
	comp=Z,9.7nm,0.4s						
MOX	**Moxa**	**2.96**	**255**	*e*PN	**Pn**	**03 50 39.0**	**-0.2**
MOX				*e*PG	**Pg**	**03 50 48.0**	**+0.2**
MOX				*e*SG	**Sg**	**03 51 27.1**	**+1.0**
GEC2	**GERESS Array S**	**3.06**	**211**	*e*Pn	**Pn**	**03 50 41.4**	**+0.8**
GERES	**GERESS Array B**	**3.06**	**211**	Pn	**Pn**	**03 50 41.2**	**+0.7**
	comp=Z,1.2nm,0.3s,baz=27,slow=12,SNR=47						
GERES				Pg	**Pg**	**03 50 47.9**	**-1.8**
	comp=Z,3.3nm,0.3s,baz=28,slow=16,SNR=50						
GERES				Sn	**Sn**	**03 51 17.3**	**-0.5**
	comp=Z,1.9nm,0.3s,baz=43,slow=18,SNR=6.0						
GERES				Lg		03 51 27.4	
	comp=Z,4.3nm,0.3s,baz=47,slow=28,SNR=10						
GERES	**GERESS Array B**	**3.06**	**211**	Pg	**Pg**	**03 50 47.9**	**-1.7**
SMOL	**Smolenice**	**3.09**	**164**	*e*PG	**Pg**	**03 50 50.8**	**+0.7**
SMOL				*e*SG	**Sg**	**03 51 29.6**	**-0.5**
WET	**Wettzell**	**3.13**	**223**	*e*Pn	**Pn**	**03 50 41.9**	**+0.4**
WET				*e*Sg	**Sg**	**03 51 31.2**	**-0.2**
MODS	**Modra-Piesok**	**3.20**	**166**	*e*PG	**Pg**	**03 50 52.1**	**-0.1**
MODS				*e*SG	**Sg**	**03 51 33.1**	**-0.6**
KOLL	**Kolacno**	**3.25**	**152**	*e*SG	**Sg**	**03 51 36.1**	**+0.6**
ZST	**Bratislava**	**3.35**	**169**	*e*PG	**Pg**	**03 50 53.1**	**-2.0**
ZST				*e*SG	**Sg**	**03 51 38.4**	**-0.1**
NIE	**Niedzica**	**3.38**	**126**	*e*P	**Pg**	**03 50 55.4**	**-0.4**
NIE				*e*S	**Sg**	**03 51 39.2**	**-0.4**
VYHS	**Vyhne**	**3.46**	**149**	*e*PN	**Pn**	**03 50 46.2**	**+0.1**
VYHS				*e*PG	**Pg**	**03 50 57.0**	**-0.4**
VYHS				*e*SG	**Sg**	**03 51 43.5**	**+1.3**
CONA	**Conrad Observa**	**3.56**	**183**	⇑*i*Pn	**Pn**	**03 50 48.1**	**+0.7**
CONA				⇑*i*Sg	**Sg**	**03 51 45.8**	**+0.5**
	comp=Z,11nm,0.3s						
GRA1	**Grafenberg Arr**	**3.60**	**242**	*e*Pn	**Pn**	**03 50 48.3**	**+0.3**
GRA1				*e*Sg	**Sg**	**03 51 46.6**	**+0.1**
GRF	**Grafenberg Arr**	**3.60**	**242**	*e*Pn	**Pn**	**03 50 48.3**	**+0.3**
GRF				*e*Sg	**Sg**	**03 51 46.6**	**+0.1**
GRFO	**Grafenberg**	**3.60**	**242**	*e*Pn	**Pn**	**03 50 48.8**	**+0.8**
GRFO				Sn	**Sn**	**03 51 33.8**	**+2.7**
GRFO	**Grafenberg**	**3.60**	**242**	*e*Pn	**Pn**	**03 50 48.8**	**+0.8**
GRFO				Sn	**Sn**	**03 51 33.8**	**+2.7**
MOA	**Molln**	**3.83**	**199**	⇓*i*Pn	**Pn**	**03 50 51.9**	**+0.8**
MOA				⇑*i*Sg	**Sg**	**03 51 54.1**	**+0.2**
	comp=Z,14nm,0.4s						
STHS	**Stebnicka Huta**	**3.87**	**120**	*e*PN	**Pn**	**03 50 52.5**	**+0.8**
STHS				*e*PG	**Pg**	**03 51 05.6**	**+0.5**
STHS				*e*SG	**Sg**	**03 51 59.4**	**+4.1**
CRVS	**Cervenica-Dubn**	**4.29**	**125**	*e*PG	**Pg**	**03 51 14.0**	**+0.8**
DAVOX	**Davos/Dischmat**	**6.24**	**223**	Pn	**Pn**	**03 51 25.1**	**+1.0**
	comp=Z,0.1nm,0.3s,baz=34,slow=7.3,SNR=2.8						
AKASG	**Malin Array Be**	**8.29**	**90**	Pn	**Pn**	**03 51 50.1**	**-2.2**
	comp=Z,0.5nm,0.3s,baz=282,slow=12,SNR=3.0						
HFS	**Hagfors**	**8.78**	**352**	Pn	**Pn**	**03 51 52.5**	**-6.6**
	comp=Z,0.0nm,0.3s,baz=199,slow=7.7,SNR=3.5						
NOA	**NORSAR Array B**	**9.96**	**346**	Pn	**Pn**	**03 52 08.8**	**-6.4**
	comp=Z,0.1nm,0.3s,baz=148,slow=7.9,SNR=3.0						
NOA	**NORSAR Array B**	**9.96**	**346**	Pn	**Pn**	**03 52 08.8**	**-6.4**
EKA	**Eskdalemuir Ar**	**12.13**	**296**	Pn	**Pn**	**03 52 41.5**	**-3.3**
	comp=Z,0.1nm,0.3s,baz=102,slow=14,SNR=3.0						
ARCES	**ARCESS Array B**	**18.65**	**10**	P	**Pn**	**03 54 05.7**	**-4.6**
	comp=Z,0.3nm,0.3s,baz=196,slow=13,SNR=7.8						

GII ***27*** *04:01:32.7±0.0, 4317N×4242E, h0km, mb5.1/4, ML5.1/4*
ISK ***27*** *04:02:21.8, 3930N×4075E, h5km, ML4.5*
IDC ***27*** *04:02:22.5±0.6, 3931N×4086E, h0km, mb4.1/14, mb1 4.2/21, mb1mx4.1/31, mbtmp4.1/21, ML3.8/5, MS3.5/13, Ms1 3.5/13, ms1mx3.3/35, Error ellipse: s-maj=14.7km s-min=8.2km az=167.0*
NEIC ***27*** *04:02:22.0, 3932N×4072E, h5km, mb4.5/21, ML4.5(ISK), After ISK.*
DDA ***27*** *04:02:23.6, 3937N×4076E, h27km, Md4.2*
ISCJB ***27*** *04:02:23.8±0.6, 3934N±002×4077E±002, h11km±4km, mb4.3/33, MS3.5/9, Error ellipse: s-maj=2.9km s-min=2.2km az=138.8*
CSEM ***27*** *04:02:23.1±0.0, 3932N×4075E, h10km, mb4.5/3, Error ellipse: s-maj=1.3km s-min=1.0km az=165.0*
MOS ***27*** *04:02:23.0±1.2, 3929N×4082E, h14km, mb4.6/23, Error ellipse: s-maj=7.7km s-min=4.6km az=119.4*

ISC 27 04:02:23.8±0.5, 3934N±002×4083E±002, h3km±3km, n240, σ1$20/265, mb4.3/33, MS3.5/9, 6C-2D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EZM	**Erzurum**	**0.70**	**36**	PG	**Pg**	**04 02 37.1**	**-0.1**
ERZM	**Erzurum**	**0.70**	**36**	*i* P	**Pg**	**04 02 37.1**	**-0.1**
KOPT	**Kop Dagi**	**0.72**	**339**	*i* P	**Pg**	**04 02 37.3**	**-0.5**
KOPT				*i* S	**Sg**	**04 02 49.1**	**+2.0**
EZC	**Erzincan**	**0.89**	**298**	PN	**Pn**	**04 02 45.0**	**+1.8**
HOMI	**Horasan**	**1.09**	**49**	*i* P	**Pg**	**04 02 43.7**	**-1.0**
HOMI				*i* S	**Sg**	**04 02 59.2**	**+0.5**
PTK	**Pertek**	**1.21**	**249**	PN	**Pn**	**04 02 43.9**	**-3.6**
PTK				SN	**Sn**	**04 03 01.2**	**-3.2**
BEST	**Besiri**	**1.49**	**167**	*i* P	**Pn**	**04 02 51.1**	**-0.3**
BEST				*i* S	**Sn**	**04 03 11.6**	**+0.3**
DIYA	**Diyarbakir**	**1.52**	**202**	*i* P	**Pn**	**04 02 50.8**	**-1.1**
DIYA				*i* S	**Sn**	**04 03 09.8**	**-2.3**
GUMT	**Gumushane**	**1.53**	**317**	*e*PN	**Pn**	**04 02 51.1**	**-0.8**
SVRC	**Sivrice-ELAZID**	**1.53**	**232**	*e*PN	**Pn**	**04 02 50.4**	**-1.6**
SVRC				*e*SN	**Sn**	**04 03 11.5**	**-0.9**
TUTA	**Tutak**	**1.54**	**87**	*i* P	**Pn**	**04 02 51.1**	**-1.0**
TUTA				*i* S	**Sn**	**04 03 14.1**	**+1.6**
ELZG	**Elazig**	**1.67**	**240**	*i* P	**Pn**	**04 02 51.6**	**-2.3**
AGRB	**Hanur-Agry**	**1.69**	**81**	*e*PN	**Pn**	**04 02 53.8**	**-0.4**
AGRB				*e*SN	**Sn**	**04 03 19.4**	**+3.1**
DDEM	**Demirkent**	**1.70**	**24**	*i* P	**Pn**	**04 02 54.6**	**+0.3**
DDEM				*i* S	**Sn**	**04 03 18.6**	**+1.9**
DDEM	**Demirkent**	**1.70**	**24**	*i* P	**Pn**	**04 02 54.6**	**+0.2**
DDEM				*i* S	**Sn**	**04 03 18.5**	**+1.9**
MACK	**Trabzon**	**1.80**	**333**	*i* P	**Pn**	**04 02 55.9**	**+0.2**
DBAD	**Bademkaya**	**1.80**	**21**	*i* P	**Pn**	**04 02 56.2**	**+0.5**
DBAD				*i* S	**Sn**	**04 03 20.4**	**+1.4**
KEMA	**Kemaliye**	**1.82**	**268**	*i* P	**Pn**	**04 02 55.4**	**-0.5**
KEMA				*i* S	**Sn**	**04 03 19.2**	**-0.2**
PZAR	**Pazar-Rize**	**1.84**	**2**	*e*PN	**Pn**	**04 02 57.0**	**+0.7**
KTUT	**Trabzon**	**1.84**	**334**	*e*PN	**Pn**	**04 02 56.4**	**+0.2**
DAGI	**Agillar**	**1.92**	**25**	*i* P	**Pn**	**04 02 57.7**	**+0.3**
MARD	**Mardin**	**2.02**	**181**	*i* P	**Pn**	**04 02 57.8**	**-0.9**
DBOC	**Borcka**	**2.10**	**17**	*i* P	**Pn**	**04 02 59.9**	**0.0**
DBOC				*i* S	**Sn**	**04 03 27.2**	**+0.8**
VANB	**Van**	**2.13**	**110**	*e*PN	**Pn**	**04 03 00.9**	**+0.7**
KARS	**Kars**	**2.15**	**53**	*e*PN	**Pn**	**04 03 01.0**	**+0.5**
TVAN	**Van**	**2.16**	**111**	*i* P	**Pn**	**04 03 01.1**	**+0.4**
VANT	**Van**	**2.19**	**113**	*e*PN	**Pn**	**04 03 00.2**	**-0.7**
BCA	**Borcka**	**2.19**	**16**	*e*PN	**Pn**	**04 03 01.1**	**+0.1**
DYDN	**Diyadin**	**2.22**	**84**	*i* P	**Pn**	**04 03 01.3**	**-0.2**
DYDN				*i* S	**Sn**	**04 03 31.1**	**+1.7**
SIRT	**Sirnak**	**2.23**	**145**	*e*PN	**Pn**	**04 03 01.7**	**+0.1**
ESPY	**Espiye-Giresun**	**2.25**	**315**	*e*PN	**Pn**	**04 03 01.3**	**-0.6**
DARE	**Darende-Malaty**	**2.39**	**262**	*e*PN	**Pn**	**04 03 07.7**	**+4.0**
CLDR	**Caldiran**	**2.40**	**94**	*e*PN	**Pn**	**04 03 04.9**	**+0.9**
URFA	**Urfa**	**2.47**	**220**	*e*PN	**Pn**	**04 03 04.0**	**-0.9**
AKCD	**Akcadag**	**2.50**	**246**	*i* P	**Pn**	**04 03 05.3**	**0.0**
AKCD				*i* S	**Sg**	**04 03 45.2**	**+1.1**
GRSN	**GIRESUNGRSN**	**2.52**	**310**	*i* P	**Pn**	**04 03 05.6**	**-0.1**
ATAB	**Bozova**	**2.73**	**228**	*i* P	**Pn**	**04 03 07.0**	**-1.5**
HAKT	**HAKKARI**	**2.87**	**127**	*i* P	**Pn**	**04 03 13.9**	**+3.4**
HAKT				*i* S	**Sn**	**04 03 52.0**	**+6.5**
HKR	**Hakkari**	**2.88**	**127**	*e*PN	**Pn**	**04 03 11.1**	**+0.5**
SVSK	**Karacayir**	**3.02**	**282**	*e*PN	**Pn**	**04 03 11.9**	**-0.5**
GNI	**Garni**	**3.12**	**74**	*e*PN	**Pn**	**04 03 15.0**	**+1.2**
GNI	**Garni**	**3.12**	**74**	Pn	**Pn**	**04 03 14.0**	**+0.2**
	5.8nm,0.3s,baz=287,slow=3.7,SNR=16						
GNI				Pg	**Pg**	**04 03 20.8**	**-2.8**
	158nm,0.3s,baz=260,slow=3.5,SNR=133						
GNI				Lg		04 04 12.0	
	9.8nm,0.3s,baz=342,slow=19,SNR=1.2						
GZT	**Gaziantep**	**3.25**	**233**	*i* P	**Pn**	**04 03 14.0**	**-1.5**
SARI	**SarD1z-Kayseri**	**3.29**	**260**	*e*PN	**Pn**	**04 03 19.4**	**+3.3**
MSL	**Mosul**	**3.44**	**148**	*ex*	x	04 03 19.0	
MSL				*ex*	x	04 03 25.5	
MSL				*i* x	x	04 03 32.5	
MSL				*i* x	x	04 04 02.0	
MSL				*i* x	x	04 04 11.0	
MSL				*i* x	x	04 04 19.5	
TOKT	**Tokat**	**3.44**	**288**	*e*PN	**Pn**	**04 03 18.0**	**-0.3**
PINB	**Pinarbasi**	**3.52**	**261**	*i* P	**Pn**	**04 03 19.4**	**+0.1**
GAZ	**Gaziantep**	**3.58**	**234**	*e*PN	**Pn**	**04 03 19.9**	**-0.3**
KMRS	**Kahramanmaras**	**3.59**	**241**	*e*PN	**Pn**	**04 03 19.9**	**-0.4**
GOR	**Gori**	**3.63**	**42**	P	**Pn**	**04 03 21.3**	**+0.4**
GOR				S	**Sg**	**04 04 26.7**	**+6.3**
ONI	**Oni**	**3.79**	**31**	P	**Pn**	**04 03 24.0**	**+0.9**
ONI				S	**Sg**	**04 04 26.7**	**+1.0**
TBLG	**Delisi**	**3.81**	**50**	P	**Pn**	**04 03 23.8**	**+0.4**
TBLG				S	**Sg**	**04 04 23.5**	**-2.9**
MTA	**Mtatsminda**	**3.83**	**51**	P	**Pn**	**04 03 23.8**	**+0.2**
MTA				S	**Sg**	**04 04 25.3**	**-1.4**
BNN	**Bunyan**	**3.91**	**264**	*e*PN	**Pn**	**04 03 24.6**	**-0.1**
ANDN	**Andirin**	**3.94**	**245**	*i* P	**Pn**	**04 03 27.0**	**+1.9**
KVT	**Kavak**	**4.06**	**297**	*e*PN	**Pn**	**04 03 26.9**	**+0.2**
YOZ	**Yozgat**	**4.28**	**276**	*e*PN	**Pn**	**04 03 29.7**	**0.0**
SOC	**Sochi**	**4.32**	**349**	*e*P	**Pn**	**04 03 30.1**	**-0.3**
SOC				*e*		04 04 21.8	
SOC				pmax	pmax		
	comp=Z,171nm,0.5s						
SOC				MLR	MLR		
	comp=Z,199nm,8.0s						
SOC	**Sochi**	**4.32**	**349**	*e*P	**Pn**	**04 03 30.1**	**-0.3**
	comp=Z,171nm,0.5s						
SOC				*e*S	**Sn**	**04 04 21.8**	**+0.6**
	comp=Z,199nm,8.0s						
COBT	**Iskenderun**	**4.58**	**234**	*i* P	**Pn**	**04 03 33.3**	**-0.7**
CEYT	**Ceyhan**	**4.63**	**241**	*e*PN	**Pn**	**04 03 34.9**	**+0.2**
AVNT	**Avonos**	**4.69**	**265**	*i* P	**Pn**	**04 03 32.9**	**-2.5**
AVNT	**Avonos**	**4.69**	**265**	*i* P	**Pn**	**04 03 32.8**	**-2.6**
KIV	**Kislovodsk**	**4.81**	**16**	⇓*e*P	**Pn**	**04 03 37.9**	**+0.8**
KIV				pmax	pmax		
	comp=Z,8.0nm,0.7s						
KIV				MLR	MLR		
	comp=Z,300nm,15.0s						
KIV	**Kislovodsk**	**4.81**	**16**	*e*P	**Pn**	**04 03 37.9**	**+0.8**
	comp=Z,300nm,15.0s						
CTKT	**Corum**	**4.82**	**287**	*i* P	**Pn**	**04 03 38.0**	**+0.8**
DIKM	**Dikmen**	**4.84**	**300**	*e*PN	**Pn**	**04 03 38.1**	**+0.7**
CORM	**Corum**	**4.85**	**282**	*e*PN	**Pn**	**04 03 37.7**	**0.0**
HTY	**Hatay**	**4.92**	**231**	*e*PN	**Pn**	**04 03 38.6**	**+0.1**
KARA	**Karaisali**	**5.00**	**247**	*e*PN	**Pn**	**04 03 40.0**	**+0.4**
CDAG	**Cicekdag**	**5.01**	**275**	*i* P	**Pb**	**04 03 50.6**	**-1.5**
NIG	**Nigde**	**5.02**	**258**	*e*PN	**Pn**	**04 03 40.0**	**+0.1**
BYBT	**Boyabat**	**5.10**	**297**	*e*PN	**Pn**	**04 03 41.4**	**+0.4**
GULE	**Gulek**	**5.19**	**249**	*i* P	Px	04 03 28.6	
TOS	**Tosya**	**5.48**	**290**	*e*PN	**Pn**	**04 03 47.0**	**+0.7**
KAMT	**Kaman**	**5.52**	**273**	*e*PN	**Pn**	**04 03 47.0**	**+0.2**
MERS	**Mersin**	**5.55**	**246**	*e*PN	**Pn**	**04 03 47.5**	**+0.2**
BR131	**Keskin Array S**	**5.58**	**276**	*e*Pn	**Pn**	**04 03 47.6**	**0.0**
	comp=Z,11nm,0.4s						
BR131	**Keskin Array S**	**5.58**	**276**	*e*Pn	**Pn**	**04 03 47.6**	**0.0**
	comp=Z,11nm,0.4s						
CANT	**Cankiri**	**5.68**	**285**	*e*PN	**Pn**	**04 03 50.3**	**+1.2**
BZK	**Bozkurt**	**5.82**	**299**	*e*PN	**Pn**	**04 03 52.7**	**+1.8**
ANN	**Anapa**	**6.01**	**336**	*e*P	**Pn**	**04 03 58.4**	**+4.8**
ANN				*e*S	**Sn**	**04 05 14.7**	**+12**
ANN				pmax	pmax		
	comp=Z,164nm,1.4s						
ANN	

AKTK	**Aktyubinsk**	**16.43**	**42**	Pn	**Pn**	**04 06 13.3**	**-1.8**
AKTK				LR	LR	04 14 20.6	
AKTO	**Aktyubinsk**	**16.43**	**42**	Pn	**Pn**	**04 06 13.3**	**-1.8**
	comp=Z,0.2nm,0.3s,baz=233,slow=13,SNR=3.3						
AKTO				LR	LR	04 14 20.6	
	comp=Z,167nm,19.9s,baz=46,slow=44						
MOS	**Moscow**	**16.55**	**354**	*e*P	**Pn**	**04 06 18.1**	**+1.5**
MOS				*e*S	**Sn**	**04 09 28.9**	**+8.3**
MOS				pmax	pmax		
	comp=Z,53nm,1.0s						
MOS	**Moscow**	**16.55**	**354**	*e*P	**Pn**	**04 06 18.1**	**+1.5**
	comp=Z,53nm,1.0s						
CRVS	**Cervenica-Dubn**	**16.84**	**311**	*e*P	**Pn**	**04 06 22.6**	**+2.3**
CRVS				*e*		04 06 33.8	
STHS	**Stebnicka Huta**	**17.20**	**312**	*e*P	**Pn**	**04 06 28.7**	**+3.8**
STHS				pmax	pmax		
	comp=Z,5.0nm,1.0s						
STHS	**Stebnicka Huta**	**17.20**	**312**	*e*P	**Pn**	**04 06 28.7**	**+3.8**
STHS				*e*		04 06 35.9	
STHS	**Stebnicka Huta**	**17.20**	**312**	*e*P	**Pn**	**04 06 28.7**	**+3.8**
	comp=Z,5.0nm,1.0s						
PSZ	**Piszkesteto**	**17.38**	**306**	*e*P	**Pn**	**04 06 28.1**	**+1.0**
PSZ				pmax	pmax		
	comp=Z,9.0nm,1.0s						
PSZ	**Piszkesteto**	**17.38**	**306**	*e*P	**Pn**	**04 06 28.1**	**+1.0**
	comp=Z,9.0nm,1.0s						
PSZ	**Piszkesteto**	**17.38**	**306**	*e*Pn	**Pn**	**04 06 28.1**	**+1.0**
	comp=Z,9.1nm,1.0s						
VYHS	**Vyhne**	**18.25**	**307**	*e*P	**Pn**	**04 06 40.0**	**+2.1**
KOLL	**Kolacno**	**18.55**	**307**	*e*P	**Pn**	**04 06 42.3**	**+0.8**
KOLL				*e*		04 06 46.5	
SUW	**Suwalki**	**18.95**	**327**	*e*P	**Pn**	**04 06 46.4**	**+0.1**
MODS	**Modra-Piesok**	**19.18**	**306**	*e*P	**Pn**	**04 06 47.0**	**-2.2**
MODS				pmax	pmax		
	comp=Z,9.0nm,1.3s						
MODS	**Modra-Piesok**	**19.18**	**306**	*e*P	**Pn**	**04 06 47.0**	**-2.2**
MODS				*e*		04 06 51.0	
MODS	**Modra-Piesok**	**19.18**	**306**	*e*P	**Pn**	**04 06 47.0**	**-2.2**
	comp=Z,8.6nm,1.3s						
ZST	**Bratislava**	**19.23**	**305**	*e*P	**Pn**	**04 06 49.5**	**-0.3**
ZST				pmax	pmax		
	comp=Z,10.0nm,0.9s						
ZST	**Bratislava**	**19.23**	**305**	*e*P	**Pn**	**04 06 49.5**	**-0.3**
ZST				*e*		04 06 54.1	
ZST	**Bratislava**	**19.23**	**305**	*e*P	**Pn**	**04 06 49.5**	**-0.3**
	comp=Z,10.0nm,0.9s						
VRAC	**Vranov**	**19.92**	**308**	P	**Pn**	**04 06 57.7**	**-0.4**
	comp=Z,0.2nm,0.3s,baz=116,slow=15,SNR=2.5						
VRAC				LR	LR	04 14 52.8	
	comp=Z,114nm,21.5s,baz=116,slow=38						
CONA	**Conrad Observa**	**19.94**	**304**⇑	*i*P	**Pn**	**04 06 57.4**	**-1.0**
	comp=Z,24nm,1.1s						
CSNA	**Conrad Observa**	**19.94**	**304**⇑	*i*P	**Pn**	**04 06 57.3**	**-1.0**
	comp=Z,22nm,1.2s						
DPC	**Dobruska-Polom**	**20.48**	**311**	*e*P	**P**	**04 07 06.4**	**+3.9**
TREC	**Trest**	**20.60**	**307**	*e*P	**P**	**04 07 06.7**	**+2.9**
ARU	**Arti**	**20.72**	**29***c*	*i*P	**P**	**04 07 05.0**	**-0.1**
ARU				*e*S	**S**	**04 10 57.4**	**+0.6**
ARU				*e*SS		04 11 14.2	
ARU				pmax	pmax		
	comp=Z,9.0nm,0.8s						
ARU	**Arti**	**20.72**	**29**	*i* P	**P**	**04 07 05.0**	**-0.1**
	comp=Z,9.0nm,0.8s						
MOA	**Molln**	**20.96**	**303**⇑	*i*P	**P**	**04 07 08.3**	**+0.6**
	comp=Z,15nm,0.9s						
PRU	**Pruhonice**	**21.41**	**308**	*e*P	**P**	**04 07 12.1**	**-0.5**
GERES	**GERESS Array B**	**21.58**	**305**	P	**P**	**04 07 13.9**	**-0.5**
	comp=Z,2.1nm,0.6s,mb3.7,baz=112,slow=9.1,SNR=20						
GERES				LR	LR	04 17 04.7	
	comp=Z,142nm,20.5s,MS3.4,baz=278,slow=41						
GERES	**GERESS Array B**	**21.58**	**305**	P	**P**	**04 07 13.9**	**-0.5**
GERES				pmax	pmax		
	comp=Z,2.0nm,0.6s						
GERES				MLR	MLR		
	comp=Z,142nm,20.5s						
GERES	**GERESS Array B**	**21.58**	**305**	P	**P**	**04 07 13.9**	**-0.5**
GERES				LR	LR	04 17 04.7	
PVCC	**Panska Ves**	**21.58**	**310**	*e*P	**P**	**04 07 14.7**	**+0.3**
KHC	**Kasperske Hory**	**21.74**	**306**	*e*P	**P**	**04 07 15.0**	**-1.1**
KHC				*e*pP		04 07 18.0	
SVE	**Sverdlovsk**	**21.80**	**30**	*e*P	**P**	**04 07 19.3**	**+2.6**
SVE				pmax	pmax		
	comp=Z,14nm,0.9s,mb4.4						
BRG	**Berggiesshubel**	**22.08**	**310**	*e*P	**P**	**04 07 19.7**	**0.0**
BRG				pmax	pmax		
	comp=Z,6.0nm,1.4s,mb3.8						
BRG	**Berggiesshubel**	**22.08**	**310**	*e*P	**P**	**04 07 19.7**	**-0.1**
	comp=Z,9.5nm,1.4s,mb4.0						
NKC	**Novy Kostel**	**22.76**	**308**	*e*P	**P**	**04 07 24.7**	**-2.3**
CLL	**Collm**	**22.79**	**311**	*e*P	**P**	**04 07 27.0**	**-0.3**
CLL				pmax	pmax		
	comp=Z,11nm,1.3s,mb4.1						
CLL	**Collm**	**22.79**	**311**	*e*(P)	**P**	**04 07 27.0**	**-0.3**
	comp=Z,11nm,1.3s,mb4.1						
GRA1	**Grafenberg Arr**	**23.37**	**306**	*e*P	**P**	**04 07 33.5**	**0.0**
	comp=Z,26nm,1.6s,mb4.4						
GRF	**Grafenberg Arr**	**23.37**	**306**	*e*P	**P**	**04 07 33.5**	**0.0**
GRF				pmax	pmax		
	comp=Z,26nm,1.6s,mb4.4						
GRF	**Grafenberg Arr**	**23.37**	**306**	*e*P	**P**	**04 07 33.5**	**0.0**
GRF				pmax	pmax		
	comp=Z,26nm,1.6s,mb4.4						
GRF	**Grafenberg Arr**	**23.37**	**306**	*e*P	**P**	**04 07 33.5**	**0.0**
	comp=Z,26nm,1.6s,mb4.4						
GRFO	**Grafenberg**	**23.37**	**306**	*e*P	**P**	**04 07 33.4**	**-0.1**
GRFO				pmax	pmax		
	comp=Z,36nm,1.1s,mb4.7						
GRFO	**Grafenberg**	**23.37**	**306**	*e*P	**P**	**04 07 33.4**	**-0.1**
	comp=Z,36nm,1.1s,mb4.7						
DAVOX	**Davos/Dischmat**	**23.70**	**298**	P	**P**	**04 07 36.1**	**-0.6**
	comp=Z,2.3nm,0.8s,mb3.7,baz=124,slow=14,SNR=4.0						
DAVOX				LR	LR	04 19 23.1	
	comp=Z,144nm,19.4s,MS3.5,baz=86,slow=43						
DAVOS	**Davos**	**23.76**	**299**	P	**P**	**04 07 36.1**	**-1.2**
PGF	**Pioggiola**	**24.18**	**288**	*e*P	**P**	**04 07 35.3**	**-5.9**
	comp=Z,80nm,1.2s,mb4.7						
PGF	**Pioggiola**	**24.18**	**288**	*e*P	**P**	**04 07 35.3**	**-5.9**
PGF				pmax	pmax		
	comp=Z,40nm,1.2s,mb4.7						
PGF	**Pioggiola**	**24.18**	**288**	*e*P	**P**	**04 07 35.3**	**-5.9**
	comp=Z,40nm,1.2s,mb4.7						
JOF	**Joensuu**	**24.30**	**349**	*e*p	**P**	**04 07 40.2**	**-1.9**
	comp=Z,22nm,0.6s,mb4.8						
JOF	**Joensuu**	**24.30**	**349**	*e*P	**P**	**04 07 40.2**	**-1.9**
JOF				pmax	pmax		
	comp=Z,22nm,0.6s,mb4.8						
BVAR	**Borovoye Array**	**24.41**	**46**	P	**P**	**04 07 43.1**	**0.0**
	comp=Z,1.2nm,0.6s,mb3.5,baz=224,slow=4.1,SNR=4.5						
BVAR				LR	LR	04 18 42.2	
	comp=Z,158nm,19.9s,MS3.5,baz=69,slow=40						
KAF	**Kangasniemi**	**24.47**	**343**	*e*p	**P**	**04 07 42.9**	**-0.7**
	comp=Z,4.7nm,0.8s,mb4.0,baz=150,slow=9.9						
KAF	**Kangasniemi**	**24.47**	**343**	*e*P	**P**	**04 07 42.9**	**-0.7**
KAF				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.0						
KEST	**Kesra**	**25.16**	**272**	P	**P**	**04 07 50.3**	**+0.1**
	comp=Z,9.8nm,0.9s,mb4.3,baz=341,slow=2.2,SNR=12						
SBF	**Sospel**	**25.28**	**291**	*e*P	**P**	**04 07 49.5**	**-1.7**
	comp=Z,94nm,1.1s,mb4.9						
SBF	**Sospel**	**25.28**	**291**	*e*P	**P**	**04 07 49.5**	**-1.7**
	comp=Z,47nm,1.1s,mb4.9						
MBDF	**Montbardon**	**25.74**	**293**	*e*P	**P**	**04 07 55.1**	**-0.3**
	comp=Z,38nm,1.0s,mb4.6						
MBDF	**Montbardon**	**25.74**	**293**	*e*P	**P**	**04 07 55.1**	**-0.3**
MBDF				pmax	pmax		
	comp=Z,19nm,1.0s,mb4.6						
MBDF	**Montbardon**	**25.74**	**293**	*e*P	**P**	**04 07 55.1**	**-0.3**
	comp=Z,19nm,1.0s,mb4.6						
LPG	**La Plagne**	**25.77**	**295**	*e*P	**P**	**04 07 55.4**	**-0.2**
	comp=Z,28nm,1.1s,mb4.4						
LPG	**La Plagne**	**25.77**	**295**	*e*P	**P**	**04 07 55.4**	**-0.2**
LPG				pmax	pmax		
	comp=Z,14nm,1.1s,mb4.4						
LPG	**La Plagne**	**25.77**	**295**	*e*P	**P**	**04 07 55.4**	**-0.2**
	comp=Z,14nm,1.1s,mb4.4						
LPL	**La Plagne**	**25.78**	**295**	*e*P	**P**	**04 07 55.4**	**-0.4**
	comp=Z,32nm,1.2s,mb4.4						
LPL	**La Plagne**	**25.78**	**295**	*e*P	**P**	**04 07 55.4**	**-0.4**
LPL				pmax	pmax		
	comp=Z,16nm,1.2s,mb4.4						
LPL	**La Plagne**	**25.78**	**295**	*e*P	**P**	**04 07 55.4**	**-0.4**
	comp=Z,16nm,1.2s,mb4.4						
BNI	**Bardonecchia**	**25.81**	**294**	*e*P	**P**	**04 07 55.5**	**-0.5**
BNI				pmax	pmax		
	comp=Z,23nm,1.2s,mb4.6						
BNI	**Bardonecchia**	**25.81**	**294**	*e*P	**P**	**04 07 55.5**	**-0.5**
	comp=Z,23nm,1.2s,mb4.6						
FRF	**La Foret Royal**	**25.86**	**291**	*e*P	**P**	**04 07 56.6**	**+0.2**
	comp=Z,44nm,1.2s,mb4.6						
FRF	**La Foret Royal**	**25.86**	**291**	*e*P	**P**	**04 07 56.6**	**+0.2**
FRF				pmax	pmax		
	comp=Z,22nm,1.2s,mb4.6						
FRF	**La Foret Royal**	**25.86**	**291**	*e*P	**P**	**04 07 56.6**	**+0.2**
	comp=Z,22nm,1.2s,mb4.6						
CABF	**La Chapelle**	**26.28**	**297**	*e*P	**P**	**04 08 00.1**	**-0.1**
	comp=Z,45nm,1.0s,mb4.7						
CABF	**La Chapelle**	**26.28**	**297**	*e*P	**P**	**04 08 00.1**	**-0.1**
CABF				pmax	pmax		
	comp=Z,23nm,1.0s,mb4.7						
CABF	**La Chapelle**	**26.28**	**297**	*e*P	**P**	**04 08 00.1**	**-0.1**
	comp=Z,22nm,1.0s,mb4.7						
ORIF	**Oris-en-Rattie**	**26.38**	**294**	*e*P	**P**	**04 08 00.8**	**-0.3**
SMRF	**Simiane la Rot**	**26.62**	**292**	*e*P	**P**	**04 08 03.1**	**-0.2**
HFS	**Hagfors**	**26.87**	**330**	P	**P**	**04 08 04.1**	**-1.3**
	comp=Z,2.8nm,0.6s,mb4.0,baz=129,slow=12,SNR=7.1						
HFS	**Hagfors**	**26.87**	**330**	P	**P**	**04 08 04.1**	**-1.4**
HFS				pmax	pmax		
	comp=Z,3.0nm,0.6s						
VIVF	**Saint-Julien-l**	**27.24**	**294**	*e*P	**P**	**04 08 08.6**	**-0.3**
SMF	**Signal de Mont**	**27.83**	**297**	*e*P	**P**	**04 08 13.4**	**-0.8**
AVF	**Avril sur Loir**	**28.17**	**298**	*e*P	**P**	**04 08 15.6**	**-1.6**
	comp=Z,4.0nm,0.6s,mb3.9						
AVF	**Avril sur Loir**	**28.17**	**298**	*e*P	**P**	**04 08 15.6**	**-1.6**
AVF				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb3.9						
AVF	**Avril sur Loir**	**28.17**	**298**	*e*P	**P**	**04 08 15.6**	**-1.6**
	comp=Z,4.0nm,0.6s,mb4.2						
NOA	**NORSAR Array B**	**28.40**	**330**	P	**P**	**04 08 17.4**	**-1.7**
	comp=Z,1.0nm,0.8s,mb3.5,baz=119,slow=7.5,SNR=3.3						
NOA	**NORSAR Array B**	**28.40**	**330**	P	**P**	**04 08 17.4**	**-1.7**
NOA				pmax	pmax		
	comp=Z,1.0nm,0.8s						
KURK	**Kurchatov**	**28.72**	**54**	P	**P**	**04 08 20.0**	**-2.1**
	comp=Z,1.6nm,0.6s,mb3.9,baz=264,slow=9.0,SNR=4.1						
KURK				LR	LR	04 21 55.4	
	comp=Z,202nm,18.2s,MS3.8,baz=310,slow=41						
KURK	**Kurchatov**	**28.72**	**54**⇑	*i*P	**P**	**04 08 21.9**	**-0.2**
KURK				pmax	pmax		
	comp=Z,4.0nm,1.3s,mb4.0						
MKAR	**Makanchi Array**	**30.90**	**62**	P	**P**	**04 08 40.7**	**-0.7**
	comp=Z,2.1nm,0.9s,mb4.0,baz=269,slow=7.2,SNR=6.6						
MKAR				LR	LR	04 24 06.2	
	comp=Z,52nm,20.0s,MS3.2,baz=346,slow=42						
MKAR	**Makanchi Array**	**30.90**	**62**	P	**P**	**04 08 40.7**	**-0.7**
MKAR				pmax	pmax		
	comp=Z,2.0nm,0.9s						
MKAR				MLR	MLR		
	comp=Z,52nm,20.0s						
MKAR	**Makanchi Array**	**30.90**	**62**	P	**P**	**04 08 40.7**	**-0.7**
MKAR				LR	LR	04 24 06.2	
ARCES	**ARCESS Array B**	**31.34**	**350**	P	**P**	**04 08 44.9**	**-0.2**
	comp=Z,4.6nm,0.7s,mb4.4,baz=165,slow=11,SNR=12						
ARCES				LR	LR	04 23 30.3	
	comp=Z,133nm,20.4s,MS3.6,baz=157,slow=40						
ARCES	**ARCESS Array B**	**31.34**	**350**	P	**P**	**04 08 44.9**	**-0.2**
ARCES				pmax	pmax		
	comp=Z,5.0nm,0.7s						
ARCES				MLR	MLR		
	comp=Z,133nm,20.4s						
KEV	**Kevo**	**31.35**	**351**	*e*p	**P**	**04 08 43.2**	**-1.9**
SJPF	**Ste Jean**	**31.61**	**291**	*e*P	**P**	**04 08 47.6**	**-0.2**
	comp=Z,25nm,1.3s,mb4.6						
SJPF	**Ste Jean**	**31.61**	**291**	*e*P	**P**	**04 08 47.6**	**-0.2**
SJPF				pmax	pmax		
	comp=Z,13nm,1.3s,mb4.6						
SJPF	**Ste Jean**	**31.61**	**291**	*e*P	**P**	**04 08 47.6**	**-0.2**
	comp=Z,25nm,1.3s,mb4.9						
ZALV	**Zalesovo Beam**	**32.96**	**49**	LR	LR	04 22 37.2	
	comp=Z,42nm,19.3s,MS3.1,baz=96,slow=37						
ESDC	**Sonseca Array**	**34.29**	**285**	P	**P**	**04 09 10.3**	**-0.9**
	comp=Z,2.7nm,0.6s,mb4.3,baz=68,slow=9.1,SNR=13						
SPITS	**Spitsbergen Ar**	**40.24**	**352**	P	**P**	**04 10 01.7**	**+0.5**
	comp=Z,21nm,1.0s,mb4.8,baz=170,slow=23,SNR=2.8						
SPITS	**Spitsbergen Ar**	**40.24**	**352**	P	**P**	**04 10 01.7**	**+0.5**
SPITS				pmax	pmax		
	comp=Z,21nm,1.0s						
TORD	**Torodi Ar. Bea**	**43.23**	**244**	P	**P**	**04 10 24.5**	**-1.8**
	comp=Z,1.4nm,0.9s,mb3.7,baz=42,slow=5.6,SNR=8.3						
SONM	**Songino Array**	**46.94**	**57**	P	**P**	**04 10 54.4**	**-1.2**
	comp=Z,0.3nm,0.4s,mb3.5,baz=316,slow=6.0,SNR=3.4						
SONM				LR	LR	04 33 03.7	
	comp=Z,209nm,18.7s,MS4.1,baz=316,slow=39						
ULN	**Ulaanbaatar**	**47.36**	**57**⇓	*i*P	**P**	**04 10 58.5**	**-0.4**
DBIC	**Dimbokro**	**52.34**	**244**	P	**P**	**04 11 34.5**	**-2.6**
	comp=Z,2.8nm,0.7s,mb4.3,baz=76,slow=5.1,SNR=6.7						
DBIC	**Dimbokro**	**52.34**	**244**	P	**P**	**04 11 34.5**	**-2.6**
DBIC				pmax	pmax		
	comp=Z,3.0nm,0.7s						
LIC	**Lamto**	**52.78**	**244**	*e*P	**P**	**04 11 42.2**	**+1.9**
	comp=Z,34nm,1.0s,mb4.9						
LIC	**Lamto**	**52.78**	**244**	*e*P	**P**	**04 11 42.2**	**+1.9**
	comp=Z,17nm,1.0s,mb4.9						
CMAR	**Chiang Mai Arr**	**54.02**	**95**	LR	LR	04 36 03.3	
	comp=Z,38nm,19.4s,MS3.5,baz=270,slow=37						
BOSA	**Boshof**	**69.15**	**195**	P	**P**	**04 13 31.5**	**+0.2**
	comp=Z,1.9nm,0.8s,mb4.1,baz=19,slow=7.3,SNR=3.7						
BOSA	**Boshof**	**69.15**	**195**	P	**P**	**04 13 31.5**	**+0.2**
BOSA				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb4.1						

KRSC 27 04:16:03.5±1.4, 5341N×16304E, h5^{km}±5^{km}, ML3.6, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MKZ	**Mys Kozlova**	**1.39**	**327**	P	Pn	04 16 30.0	+0.6
SPN	**Mys Shipunski**	**1.84**	**261**	P	Pn	04 16 36.9	+1.2
SPN				*i* S	Sn	04 17 01.2	+1.9
NLC	**Nalytchevo**	**2.23**	**265**	P	Pn	04 16 42.6	+1.5
NLC				*i* S	Sn	04 17 11.1	+2.2
AVH	**Avacha**	**2.58**	**268**	P	Pn	04 16 47.2	+1.3
GNL	**Ganaly**	**3.06**	**277**	P	Pn	04 16 53.6	+1.2

*ISCJB **27** 04:39:15.4±1.9, 218S±02×1794W±02, h602^{km}±30^{km}, mb4.2/9, Error ellipse: s-maj=32.8km s-min=21.8km az=170.6*

*NEIC **27** 04:39:16.0±1.7, 2173S×17931W, h603^{km}±22^{km}, mb4.3/5, Error ellipse: s-maj=27.2km s-min=15.8km az=186.0*

*IDC **27** 04:39:16.5±1.7, 2182S×17934W, h608^{km}±22^{km}, mb3.5/6, mb1 3.7/8, mb1mx3.4/17, mbtmp3.6/8, Error ellipse: s-maj=27.6km s-min=16.3km az=160.0*

ISC 27 04:39:16.1±1.7, 218S±02×1794W±02, h596^{km}±25^{km}, n18, o0^{s}75/17, mb4.2/9, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**7.54**	**170**	P	**P**	**04 41 11.3**	**+0.6**
	52nm,0.3s,baz=120,slow=20,SNR=3.5						
RAO				S	**S**	**04 42 44.0**	**-0.7**
	21nm,0.3s,baz=83,slow=21,SNR=2.6						
URZ	**Urewera**	**16.68**	**190**	P	**P**	**04 42 39.6**	**0.0**
	0.6nm,0.3s,baz=194,slow=22,SNR=3.6						
CTA	**Charters Tower**	**32.09**	**267**	*e*P	**P**	**04 44 56.7**	**+0.7**
	3.8nm,0.4s,mb4.4						
CTA	**Charters Tower**	**32.09**	**267**	P	**P**	**04 44 56.5**	**+0.5**
	6.5nm,0.5s,mb4.5,baz=92,slow=11,SNR=14						
CTAO	**Charters Tower**	**32.09**	**267**	*e*P	**P**	**04 44 56.7**	**+0.7**
	5.4nm,0.8s,mb4.2						
PMG	**Port Moresby**	**34.40**	**286**	*e*P	**P**	**04 45 15.3**	**-0.2**
	11nm,0.8s,mb4.5						
STKA	**Stephens Creek**	**36.06**	**245**	*e*P	**P**	**04 45 30.4**	**+1.5**
	2.8nm,1.1s,mb3.7						
STKA	**Stephens Creek**	**36.06**	**245**	P	**P**	**04 45 28.9**	**-0.1**
	2.4nm,0.4s,mb4.1,baz=89,slow=11,SNR=9.7						
STKA	**Stephens Creek**	**36.06**	**245**	*e*P	**P**	**04 45 29.0**	**+0.1**
	17nm,1.7s,mb4.3						
ASAR	**Alice Springs**	**42.97**	**258**	P	**P**	**04 46 24.6**	**+0.3**
	8.1nm,0.5s,mb4.5,baz=92,slow=8.0,SNR=145						
ASAR				PcP	PcP	04 48 01.0	+0.1
	1.0nm,0.5s,baz=105,slow=3.8,SNR=5.7						
ASAR				ScP	ScP	04 50 54.3	-1.7
	0.6nm,0.7s,baz=85,slow=3.9,SNR=3.4						
ASAR				S	**S**	**04 52 06.5**	**-1.1**
	1.9nm,0.9s,baz=91,slow=15,SNR=8.9						
WRAB	**Tennant Creek**	**43.14**	**264**	*e*P	**P**	**04 46 25.4**	**-0.3**
	5.9nm,0.8s,mb4.2						
KAKA	**Kakadu**	**46.72**	**273**	*e*P	**P**	**04 46 46.5**	**-6.6**
	9.0nm,0.4s,mb4.7						
MJAR	**Matsushiro Arr**	**70.50**	**325**	P	**P**	**04 49 30.3**	**-1.6**
	2.0nm,0.5s,mb3.9,baz=159,slow=5.6,SNR=5.8						
TXAR	**Lajitas Array**	**88.85**	**58**	P	**P**	**04 51 08.1**	**+0.1**
	0.3nm,0.7s,mb3.2,baz=216,slow=5.0,SNR=4.8						
CMAR	**Chiang Mai Arr**	**89.33**	**290**	P	**P**	**04 51 11.6**	**+1.1**
	1.8nm,0.3s,mb4.3,baz=131,slow=4.3,SNR=12						
ARCES	**ARCESS Array B**	**129.95**	**349**	PKP	PKPdf	04 57 16.7	-1.4
	3.8nm,1.0s,baz=64,slow=4.1,SNR=3.7						
AKASG	**Malin Array Be**	**143.49**	**329**	PKP	PKPdf	04 57 40.3	-3.2
	1.9nm,0.3s,baz=42,slow=4.3,SNR=20						
GERES	**GERESS Array B**	**151.06**	**342**	PKPbc	PKPbc	04 58 01.3	-1.1
	0.7nm,0.6s,baz=2.9,slow=2.7,SNR=6.4						
GERES				PKPab	PKPab	04 58 12.1	-0.8
	0.2nm,0.5s,baz=2.8,slow=6.0,SNR=2.8						

*SZGRF **27** 05:29:22.8, 3681N×2185E, h33^{km}, mb4.5, Southern Greece*

*BJI **27** 05:29:35.1, 3777N×2122E, h6^{km}, mB5.2, mb4.8, Ms5.2, Msz4.8*

*PRU **27** 05:29:36.8, 3772N×2059E, h0^{km}, M4.8*

*IDC **27** 05:29:37.1±0.4, 3780N×2140E, h0^{km}, mb4.7/27, mb1 4.7/37, mb1mx4.7/40, mbtmp4.6/37, ML4.5/9, MS4.3/26, Ms1 4.3/26, ms1mx4.2/36, Error ellipse: s-maj=10.6km s-min=9.9km az=106.0*

*BGS **27** 05:29:38.1±1.9, 3742N×2129E, h10^{km}, mb5.2*

*BEO **27** 05:29:38.6, 3773N×2122E, ML5.1/3*

*CSEM **27** 05:29:38.6±0.0, 3769N×2121E, h13^{km}, mb5.0/10, Ms4.2, Mw5.1, Error ellipse: s-maj=1.2km s-min=0.8km az=4.0*

*ISCJB **27** 05:29:38.1±0.1, 3773N±001×2124E±001, h10^{km}, mb4.9/131, MS4.5/38, Error ellipse: s-maj=1.7km s-min=1.2km az=8.9*

*NEIC **27** 05:29:39.0, 3772N×2130E, h16^{km}, mb4.8/109, ML4.9(PDG), ML4.8(ATH), ML5.5(THE), After ATH.*

NEIC Felt [V] at Zakynthos. Also felt at Patrai, Pirgos, Planos, Thessaloniki and Vanaton.

*THE **27** 05:29:39.6, 3771N×2135E, h0^{km}±2^{km}, ML5.5/4, Error ellipse: s-maj=2.9km s-min=0.8km az=230.0*

*GCMT **27** 05:29:39.0±0.3, 3770N×2133E, h28^{km}±1^{km}, MW5.1/85, Moment Tensor Solution. s50,c66; s85,c139; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-1.00±.18; $M_{\theta\theta}$5.15±.14; $M_{\phi\phi}$-4.15±.14; $M_{r\theta}$-0.35±.25; $M_{r\phi}$2.93±.14; $M_{\theta\phi}$-1.87±.28; Best double couple: M_o5.86600×10^{16} NP1:ϕ297.00000°, δ70.00000°, λ-160.00000°. NP2: ϕ31.00000°, δ81.00000°, λ-160.00000°. Principal axes: T 6.1040, Plg7.0000°, Azm163.0000°; N -0.4740, Plg68.0000°, Azm54.0000°; P -5.6280, Plg20.0000°, Azm255.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*ATH **27** 05:29:39.0, 3772N×2130E, h16^{km}, MD4.5/27, ML4.8*

*MOS **27** 05:29:39.7±1.4, 3776N×2131E, h26^{km}, mb5.0/50, MS4.3/30, Error ellipse: s-maj=3.4km s-min=2.0km az=106.9*

*PDG **27** 05:29:39.5±1.1, 3772N×2122E, h14^{km}±3^{km}, MD5.0/8, ML4.9/10, Error ellipse: s-maj=1.4km s-min=1.1km az=90.0*

*DDA **27** 05:30:20.5, 3860N×25.15E, h6^{km}±3^{km}, Md3.4*

ISC 27 05:29:39.5±0.1, 3770N±001×2125E±001, h10^{km}, (h14^{km}±.6^{km}:pP-P), n1076, σ1^{s}28/1128, mb4.9/131, MS4.5/38, 85C-92D, Southern Greece

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RLS	**Riolos of Patr**	**0.40**	**25**	*e*Pb	**Pg**	**05 29 46.8**	**-0.5**
RLS				*e*Sb	**Sg**	**05 29 52.3**	**-0.3**
RLS	**Riolos of Patr**	**0.40**	**25**	*e*PB	**Pg**	**05 29 46.8**	**-0.5**
RLS				*e*SB	**Sg**	**05 29 52.3**	**-0.3**
KFL	**Anninata**	**0.55**	**318**	P	**Pg**	**05 29 50.9**	**+0.7**
VLS	**Valsamata**	**0.71**	**313**	P	**Pn**	**05 29 53.3**	**-2.3**
VLS				S	**Sg**	**05 30 05.6**	**+3.1**
VLS	**Valsamata**	**0.71**	**313**	*e*Pn	**Pn**	**05 29 53.2**	**-2.4**
VLS				S	**Sg**	**05 30 05.6**	**+3.1**
VLS	**Valsamata**	**0.71**	**313**	*e*PN	**Pn**	**05 29 53.2**	**-2.4**
ITM	**Ithomi**	**0.75**	**134**	*e*Pn	**Pn**	**05 29 52.9**	**-3.2**
ITM				*e*Sn	**Sg**	**05 30 03.5**	**-0.2**
ITM	**Ithomi**	**0.75**	**134**	*e*PN	**Pn**	**05 29 52.9**	**-3.2**
ITM				*e*S

IDI Sn Sn 05 31 21.1 -1.6
TIR Tirane 3.80 344 P Pn 05 30 39.1 +1.0
TIR Tirane 3.80 344 *e*PN Pn 05 30 39.9 +1.8
TIR Tirane 3.80 344 *e*Pn Pn 05 30 39.0 +0.9
TIP Timpagrande 3.82 294 P Pn 05 30 39.7 +1.3
CHOS Chios island 3.85 78 P Pn 05 30 39.3 +0.4
SIVA Sivas 3.93 132 P Pn 05 30 40.9 +1.1
QSH Qafa e Shtames 3.96 345 *e*PN Pn 05 30 41.2 +0.9
GRI Girifalco 3.96 288 P Pn 05 30 41.7 +1.3
PHP Peshkopia 4.03 351 *e*PN Pn 05 30 42.6 +1.3
STIP Stip 4.05 10 P Pn 05 30 42.6 +1.0
STIP Stip 4.05 10 *i* Pn Pn 05 30 42.5 +0.9
STIP Stip 4.05 10 *i* Pn Pn 05 30 42.4 +0.8
SOI Samo 4.13 277 P Pn 05 30 42.7 +0.1
NVR Nevrokopi 4.17 28 *e*Pn Pn 05 30 44.0 +0.8
NVR Nevrokopi 4.17 28 *e*PN Pn 05 30 44.0 +0.8
PRK Paraskevi 4.23 67 P Pn 05 30 44.2 +0.2
PRK Paraskevi 4.23 67 *e*Pn Pn 05 30 45.5 +1.5
PRK Paraskevi 4.23 67 *e*PN Pn 05 30 45.5 +1.5
LAST Lasithi 4.25 125 P Pn 05 30 44.5 +0.2
CEL Celeste 4.27 279 P Pn 05 30 46.9 +2.3
SKO Skopje 4.27 2 P Pn 05 30 45.5 +0.9
SKO Skopje 4.27 2⇑*i*Pn Pn 05 30 45.3 +0.7
URLA Izmir 4.27 79 *i* P Pn 05 30 45.8 +1.2
NPS Neapolis 4.27 123 *e*Pn Pn 05 30 45.6 +1.0
NPS Neapolis 4.27 123 *e*PN Pn 05 30 45.6 +1.0
PE1 Pezze di Greco 4.29 317 *e*Pn Pn 05 30 45.5 +0.6
BOZC Bozcaada 4.32 59 *i* P Pn 05 30 46.7 +1.5
GADA Gvkgeada 4.39 54 *e*P Pn 05 30 46.2 -0.1
MTTG Motta San Giov 4.41 276 P Pn 05 30 46.6 +0.1
SCLL Scilla 4.41 279 P Pn 05 30 46.6 +0.1
ORI Oriolo Calabro 4.43 304 P Pn 05 30 47.7 +0.9
SMG Samos 4.43 88 *e*Pn Pn 05 30 47.9 +1.1
SMG Samos 4.43 88 *e*PN Pn 05 30 47.9 +1.1
PUK Puka 4.46 347 *e*PN Pn 05 30 48.2 +1.0
EZN Ezine 4.50 60 *e*P Pn 05 30 49.6 +1.9
LTRZ Laterza 4.50 311 P Pn 05 30 48.2 +0.4
ULC Ulcinj 4.53 341⇓*i*Pn Pn 05 30 47.8 -0.3
ULC *e*Sn Sn 05 31 40.8 0.0
MSI Messina ING 4.53 278 P Pn 05 30 49.6 +1.4
AYVA Ayvalik 4.56 68 *i* P Pn 05 30 50.6 +2.0
BLCB Balcova 4.62 80 *e*P Pn 05 30 51.1 +1.7
SG1 Sgolgore (BA) 4.74 313 *e*Pn Pn 05 30 52.0 +1.0
GCAM G?zelcaml? 4.74 88 *i* P Pn 05 30 52.6 +1.5
BCI Bajram Curri 4.75 349 *e*PN Pn 05 30 52.6 +1.4
ZKR Zakros 4.76 121 P Pn 05 30 52.7 +1.3
RDO Rodhopi 4.78 43 *e*Pn Pn 05 30 52.8 +1.2
RDO Rodhopi 4.78 43 *e*PN Pn 05 30 52.8 +1.2
IZM Izmir 4.80 80 *e*P Pn 05 30 52.9 +1.1
BAI Bari 4.80 316 *e*Pn Pn 05 30 52.6 +0.6
AGST Augusta-Monte 4.81 267 P Pn 05 30 50.6 -1.4
CUC Castrocucco 4.82 300 P Pn 05 30 54.5 +2.3
BODT Bodrum 4.87 96 *e*P Pn 05 30 54.2 +1.4
ENEZ Enez 4.87 50 *e*P Pn 05 30 54.6 +1.8
ALN Alexandroupoli 4.90 48 P Pn 05 30 53.4 +0.2
PTRP Pietrapertosa 4.92 307 P Pn 05 30 55.2 +1.7
BUM Brajici-Budva 4.94 339⇓*i*Pn Pn 05 30 53.2 -0.5
BUM *e*Sn Sn 05 31 51.0 +0.1
HAVL Avola 4.94 263 P Pn 05 30 52.8 -1.0
SSY Sortino 4.95 266 P Pn 05 30 52.5 -1.4
PDG Podgorica 4.96 343⇑*i*Pn Pn 05 30 53.6 -0.5
PDG *e*Sn Sn 05 31 51.7 +0.1
TTG Podgorica 4.96 343⇑*i*Pn Pn 05 30 53.6 -0.5
TTG *e*Sn Sn 05 31 51.7 +0.1
BDRM Kayabasi 4.97 95 *i* P Pn 05 30 56.1 +1.9
PVY Plav 4.99 349⇑*i*Pn Pn 05 30 54.9 +0.5
PVY *e*Sn Sn 05 31 52.9 +0.8
MGR Morigerati 5.07 300 P Pn 05 30 54.7 -0.8
BARS Barje 5.13 5 *e*Pn Pn 05 30 56.5 +0.1
SLNA Salina 5.13 282 P Pn 05 30 57.1 +0.7
PLD Plovdiv 5.14 30 P Pn 05 30 58.1 +1.6
HCY Herceg Novi 5.19 337⇓*i*Pn Pn 05 30 56.1 -1.1
HCY *e*Sn Sn 05 31 56.8 -0.3
MNO Monte Soro 5.20 275 P Pn 05 30 57.9 +0.6
MLSB Milas 5.21 92 *e*P Pn 05 30 58.5 +1.1
HMDC Modica 5.21 264 P Pn 05 30 56.5 -1.0
KARP Karpathos 5.22 113 *e*Pn Pn 05 30 59.0 +1.4
KARP Karpathos 5.22 113 *e*PN Pn 05 30 59.0 +1.4
HVZN Vizzini 5.23 266 P Pn 05 30 56.7 -1.0
AYDN Tasoluk 5.26 88 *i* P Pn 05 30 59.5 +1.4
BEY Berane 5.27 349⇑*i*Pn Pn 05 30 58.9 +0.6
BEY *e*Sn Sn 05 31 59.6 +0.6
IVA Berane 5.27 349⇑*i*Pn Pn 05 30 58.9 +0.6
IVA *e*Sn Sn 05 31 59.6 +0.6
AKHS Akhisar 5.29 75 *i* P Pn 05 30 57.0 -1.6
AKS Akhisar 5.29 75 *e*P Pn 05 31 00.2 +1.5
BALY Balya 5.38 66 *i* P Pn 05 31 00.5 +0.7
NKY Niksic 5.39 342⇓*i*Pn Pn 05 30 59.6 -0.4
NKY *e*Sn Sn 05 32 02.0 0.0
SGO Sicignano 5.43 304 P Pn 05 31 02.7 +2.2
VAE Valguarnera 5.44 270 Pn Pn 05 31 01.4 +0.8
11nm,0.3s,baz=352,slow=2.0,SNR=18
VAE Sn Sn 05 32 04.6 +1.4
42nm,0.3s,baz=196,slow=20,SNR=3.3
TREB Trebinje 5.48 337 *e*Pn Pn 05 30 59.9 -1.3
TREB *e*Sn Sn 05 32 01.6 -2.7
RKY Sarkoy-Tekirda 5.49 55 *e*P Pn 05 31 00.7 -0.6
SART Tekirdag 5.49 55 *i* P Pn 05 31 00.4 -0.9
RAFF Raffo Rosso 5.52 267 P Pn 05 31 01.1 -0.4
BRY Bratogost 5.59 339⇓*i*Pn Pn 05 31 01.8 -0.9
BRY *e*Sn Sn 05 32 06.3 -0.7
MFT Murefte 5.60 55 *e*P Pn 05 31 03.2 +0.3
YER Yerkesik 5.63 94 *e*P Pn 05 31 05.0 +1.8
SJES Sjenica 5.64 350 *e*Pn Pn 05 31 03.3 -0.1
CSLB Castelbuono 5.70 275 P Pn 05 31 04.8 +0.6
ARG Arkhangelos 5.70 103 *e*Pn Pn 05 31 05.7 +1.5
ARG Arkhangelos 5.70 103 *e*PN Pn 05 31 05.7 +1.5
WDD Wield Dalam 5.70 253 P Pn 05 31 04.9 +0.7
WDD S Sn 05 32 08.7 -1.0
FGMS Monte Sant'Ang 5.72 316 P Pn 05 31 04.6 +0.1
GIB Gibilmanna 5.72 275 P Pn 05 31 04.7 +0.1
MSAG Monte S. Angel 5.75 316 P Pn 05 31 05.1 +0.3
CSSN Cassano Irpino 5.77 305 P Pn 05 31 06.9 +1.7
UPM Unac-Piva 5.78 343⇓*i*Pn Pn 05 31 05.2 -0.1
UPM *e*Sn Sn 05 32 11.7 +0.1
PLJ Pljevlja 5.80 346⇓*i*Pn Pn 05 31 06.0 +0.4
PLJ *e*Sn Sn 05 32 11.6 -0.5
MANT Manisa 5.82 80 *i* P Pn 05 31 07.3 +1.5
BNT Bandirma 5.83 61 *e*P Pn 05 31 07.8 +1.8
STON Ston 5.84 333 *e*Pn Pn 05 31 04.3 -1.8
STON Sn Sn 05 32 07.2 -5.8
FG5 Orsara di Pugl 5.85 310 P Pn 05 31 06.9 +0.6
SGRT San Giovanni R 5.87 315 P Pn 05 31 06.6 +0.1
TKR Tekirdag 5.88 54 *e*P Pn 05 31 08.3 +1.7
KULA Kula-Manisa 5.90 80 *e*P Pn 05 31 09.1 +2.1
RGNG Rignano Grg 5.90 314 P Pn 05 31 07.1 +0.1
EDRB Edirne 5.92 44 *e*P Pn 05 31 08.2 +1.0
TURN Turunc 5.92 96 *i* P Pn 05 31 06.6 -0.6
DALT Dalyan (Mudla) 5.97 97 *e*P Pn 05 31 11.6 +3.8
LTBQ Tobruq 6.04 158 *i* P Pn 05 31 09.1 +0.2
SNR=22
FAVR Favara 6.05 268 P Pn 05 31 10.2 +1.2
DST Dursunbey 6.08 69 *e*P Pn 05 31 11.2 +1.8
PSB1 Pescosannita 6.10 307 P Pn 05 31 11.3 +1.6
BOLS Boljevac 6.15 5 *e*Pn Pn 05 31 09.2 -1.1
DENT Denizli 6.17 87 *e*P Pn 05 31 14.6 +3.9
GRUS Gruza 6.20 356 *e*Pn Pn 05 31 09.9 -1.1
GRUS Gruza 6.20 356 P Pn 05 31 09.8 -1.2
FG2 Serracapriola 6.23 313 Pn Pn 05 31 12.2 +0.7
MPG Monte Pellegri 6.25 277 P Pn 05 31 12.6 +0.7
JMB Yambol 6.28 39 P Pn 05 31 13.0 +0.9
CIGN Sant'Elia a Pi 6.29 311 P Pn 05 31 12.9 +0.6
BBLS Lazići 6.32 348 *e*Pn Pn 05 31 11.7 -1.0
BBLS Lazići 6.32 348 P Pn 05 31 11.9 -0.8
SLVT Silivri 6.43 55 *e*P Pn 05 31 15.8 +1.5
USI Ustica 6.44 281 P Pn 05 31 14.2 -0.1
SGG Gregorio Mates 6.46 307 P Pn 05 31 16.9 +2.2
DIVS Divibare 6.46 352 *e*Pn Pn 05 31 12.9 -1.8
CTT Catalca 6.54 56 *e*P Pn 05 31 17.1 +1.3
SVIS Svilajnac 6.56 360 *e*Pn Pn 05 31 14.9 -1.1
GDZ Gediz 6.61 75 *i* P Pn 05 31 18.6 +1.9
CTYL Yal??k??y-??at 6.61 53 *e*P Pn 05 31 18.7 +2.0
ULDT Uludag 6.61 66 *i* P Pn 05 31 18.0 +1.3
GOLH Golhisar 6.63 91 *i* P Pn 05 31 21.4 +4.4
CTKS Kestanelik-??a 6.63 56 *e*P Pn 05 31 17.9 +0.9
RFI Roccamonfina 6.67 305 P Pn 05 31 18.8 +1.3
MIDA Miranda 6.68 308 P Pn 05 31 19.8 +2.1
ZIMR 6.72 26 P Pn 05 31 20.4 +2.2
ZIMR 6.72 26⇑*i*P Pn 05 31 18.6 +0.4
ZIMR 6.72 26⇑P Pn 05 31 18.6 +0.4
GEMT Gemlik 6.75 64 *e*P Pn 05 31 20.4 +1.7
RNI2 Rionero Sannit 6.78 308 P Pn 05 31 21.4 +2.4
BGKT Bogazkoy 6.78 57 *e*P Pn 05 31 20.9 +1.9
LJBD Adjabya 6.83 188 *i* P Pn 05 31 19.5 -0.2
SNR=22
LJBD *e*S Sn 05 32 36.8 -0.6
277nm,0.6s,SNR=22
KSL Kastellorizon 6.85 101 *e*Pn Pn 05 31 22.5 +2.5
KSL Kastellorizon 6.85 101 *e*PN Pn 05 31 22.5 +2.5
ERC Erice 6.86 275 P Pn 05 31 22.5 +2.3
ISK Istanbul-Kandi 6.92 59 *e*P Pn 05 31 22.6 +1.6
YLV Yalova 6.93 63 *e*P Pn 05 31 20.2 -0.9
ELL Elmali 6.97 95 *e*P Pn 05 31 25.8 +4.1
KLYT Kilyos 6.99 57 *e*P Pn 05 31 23.8 +1.9
SDI San Donato 7.00 307 P Pn 05 31 23.6 +1.6
DJES Djerdap 7.03 7 *e*Pn Pn 05 31 22.3 -0.1
DJES Djerdap 7.03 7 P Pn 05 31 26.5 +4.1
ALT Altintas 7.09 76 *e*P Pn 05 31 25.8 +2.5
INTR Introdacqua 7.10 310 P Pn 05 31 25.5 +2.0
BEO Beograd 7.13 356 P Pn 05 31 25.4 +1.6
ADVT Abdulvahap 7.14 65 *e*P Pn 05 31 24.2 +0.2
CAVI Cavuskoy 7.15 67 *e*P Pn 05 31 24.2 +0.2
TKTP Tekketepe 7.18 85 *i* P Pn 05 31 28.2 +3.6
VVLD Villa Vallelon 7.20 308 P Pn 05 31 27.9 +3.1
HRT Hereke 7.24 62 *e*P Pn 05 31 26.1 +0.8
SILT Sile 7.35 59 *e*P Pn 05 31 28.1 +1.2
SHUT Suhut-Afyon 7.38 81 *e*P Pn 05 31 30.4 +3.1
BCK Bucak 7.42 89 *e*P Pn 05 31 32.5 +4.6
LMSR Misrath 7.42 225 *i* P Pn 05 31 27.8 -0.1
SNR=22
PTQR Pietraquaria 7.42 308 P Pn 05 31 29.8 +2.0
GPA Golpazari 7.51 67 *e*P Pn 05 31 28.7 -0.4
FGSL Fruska Gora 7.53 352 *e*Pn Pn 05 31 27.1 -2.2
ANTB Antalya 7.54 93 *e*P Pn 05 31 34.1 +4.7
AQU L'Aquila 7.61 310 P Pn 05 31 34.0 +3.6
TERO Teramo 7.64 312 P Pn 05 31 31.6 +0.7
CERT Cerreto 7.65 306 P Pn 05 31 34.4 +3.5
BLY Banja Luka 7.68 338 *e*Pn Pn 05 31 30.4 -1.0
BOLV Bolvadin 7.70 79 *i* P Pn 05 31 35.1 +3.4
GULT Gulveren 7.71 66 *e*P Pn 05 31 33.7 +2.0
ESKT Eskisehir 7.73 73 *i* P Pn 05 31 35.0 +2.8
FIAM Fiamignano 7.73 309 P Pn 05 31 36.0 +3.9
GZR Gura Zlata 7.77 8 ⇑*i*P Pn 05 31 32.0 -0.3
GZR Gura Zlata 7.77 8 P Pn 05 31 32.5 -0.1
GZR Gura Zlata 7.77 8 ⇑P Pn 05 31 32.4 -0.3
BZS Buzias 7.92 2 ⇑*i*P Pn 05 31 33.5 -1.1
BZS Buzias 7.92 2 P Pn 05 31 34.8 +0.2
BZS Buzias 7.92 2 ⇑P Pn 05 31 33.5 -1.1
NRCA Norcia 8.06 312 P Pn 05 31 38.6 +2.0
MNS Montasola 8.07 308 P Pn 05 31 38.2 +1.5
HENT Hendek 8.11 64 *i* P Pn 05 31 38.6 +1.3
VOIR 8.24 19⇓*i*P Pn 05 31 40.5 +1.5
VOIR 8.24 19⇓P Pn 05 31 40.5 +1.5
CING Cingoli 8.35 315 P Pn 05 31 43.7 +3.1
NVLJ Novalja 8.38 327 *e*Pn Pn 05 31 40.5 -0.4
NVLJ Sn Sn 05 33 11.2 -4.3
SNTG Esanatoglia 8.42 314 P Pn 05 31 43.0 +1.5
KIZT Kizilcal 8.44 79 *e*P Pn 05 31 45.0 +3.1
ASS Assisi 8.47 312 P Pn 05 31 42.3 +0.1
RHK3 Tenkes 8.48 346 *e*P Pn 05 31 40.8 -1.6
MLR Muntele Rosu 8.54 21 ⇑*i*P Pn 05 31 45.2 +2.1
MLR Muntele Rosu 8.54 23 ⇑P Pn 05 31 45.2 +2.1
SISC Sisak 8.58 336 *e*Pn Pn 05 31 43.3 -0.4
KDHN Kadinhani 8.61 81 *i* P Pn 05 31 45.0 +0.9
HARR Harsova 8.61 34⇓*i*P Pn 05 31 45.4 +1.3
HARR Harsova 8.61 34 P Pn 05 31 46.2 +2.1
HARR Harsova 8.61 34 ⇓P Pn 05 31 45.4 +1.3
TIRR Tirgusor 8.65 36⇑*i*P Pn 05 31 46.7 +2.0
TIRR Tirgusor 8.65 36 ⇑P Pn 05 31 46.7 +2.1
MURB Monte Urbino 8.66 313 P Pn 05 31 49.5 +4.6
KDZE Karadeniz Ereo 8.66 62 *e*P Pn 05 31 45.8 +0.9
GHAR Gharyan 8.71 233 *i* P Pn 05 31 45.6 0.0
SNR=22
PKSM Moragy 8.72 348⇓*i*P Pn 05 31 43.4 -2.3
PKSM Moragy 8.72 348 *e*P Pn 05 31 45.1 -0.6
FSSB Fossombrone 8.79 316 P Pn 05 31 47.6 +1.0
LAAK Ladik-KONYA 8.79 83 *e*P Pn 05 31 50.0 +3.3
KONT Konya--Tatoy 8.80 85 *e*P Pn 05 31 48.7 +2.0
PIEI Pieia 8.82 314 P Pn 05 31 48.4 +1.3
CDCA Citt' di Caste 8.95 313 P Pn 05 31 52.5 +3.7
BADI Badiali 8.97 313 P Pn 05 31 49.5 +0.4
HDMB Hadim 8.98 91 *e*P Pn 05 31 52.5 +3.2
BOJS Bojanci 9.00 332 *e*Pn Pn 05 31 48.2 -1.2
PLOR Plostina 9.09 25 ⇑*i*P Pn 05 31 52.9 +2.2
RSM Repubblica di 9.12 316 P Pn 05 31 54.3 +3.2
VRI Vrincioaia 9.12 25 ⇑*i*P Pn 05 31 53.3 +2.1
VRI Vrincioaia 9.12 25 P Pn 05 31 53.5 +2.3
VRI Vrincioaia 9.12 25 ⇑P Pn 05 31 53.3 +2.1
DRGR 9.15 6⇓*i*P Pn 05 31 51.1 -0.4
DRGR 9.15 6 P Pn 05 31 51.4 -0.1
DRGR 9.15 6 ⇓P Pn 05 31 51.1 -0.4
CRES Cresnjev 9.20 334 *e*Pn Pn 05 31 50.1 -2.1
CRES *e*Sn Sn 05 33 28.1 -7.6
CRE Caprese Michel 9.21 313 P Pn 05 31 56.8 +4.4
ALAS Alassa 9.25 241 *i* P Pn 05 31 52.1 -0.8
SNR=22
LOD Lodumlu 9.25 73 *e*P Pn 05 31 52.5 -0.4
ANTO Ankara 9.27 73 *e*P Pn 05 31 55.3 +2.1
ANTO Ankara 9.27 73 P Pn 05 31 59.8 +6.5
SNR=7.7
ANTO Ankara 9.27 73 P Pn 05 31 52.0 -1.2
ANTO pmax pmax
comp=Z,42nm,1.0s
ANTO Ankara 9.27 73⇓*i*P Pn 05 32 01.3 +8.1
ANTO Ankara 9.27 73 Pn Pn 05 31 52.0 -1.2
comp=Z,42nm,1.0s
TLCR 9.39 35⇑*i*P Pn 05 31 56.9 +2.1
TLCR 9.39 35 ⇑P Pn 05 31 56.9 +2.1
SFI Santa Sofia 9.44 314 P Pn 05 31 59.4 +3.8
KOGS Kog 9.50 339 *e*Pn Pn 05 31 53.4 -2.9
CEY Cerknica 9.51 330 *e*Pn Pn 05 31 55.8 -0.7
CEY Cerknica 9.51 330 P Pn 05 31 56.4 -0.1
CEY Cerknica 9.51 330 ⇑P Pn 05 31 56.4 -0.1
SKDS Skadanscina 9.53 328 *e*Pn Pn 05 31 55.2 -1.5
LSHF Shwairf 9.64 219 *i* P Pn 05 31 57.8 -0.6
comp=Z,84nm,0.9s,SNR=22
VMG Vicchio 9.65 313 P Pn 05 32 01.6 +3.2
LJU Ljubljana 9.72 331 *i* Pn Pn 05 31 58.4 -1.0
LJU *e*Sn Sn 05 33 41.5 -7.1
LEF Lefka 9.73 102 *e*P Pn 05 31 58.0 -1.5
KEST Kesra 9.76 262 Pn Pn 05 32 00.9 +1.0
comp=Z,0.9nm,0.3s,baz=346,slow=0.8,SNR=44
KEST Sn Sn 05 33 46.3 -3.3
comp=Z,0.3nm,0.3s,baz=18,slow=19,SNR=3.0
SEI Scarperia 9.82 313 P Pn 05 32 04.6 +3.9
BR131 Keskin Array S 9.89 74 Pn Pn 05 32 03.7 +2.0
BR131 Keskin Array S 9.89 74 Pn Pn 05 32 03.7 +2.0
BUD Budapest 9.91 351 P Pn 05 32 08.2 +6.2
VOY Vojsko 9.97 329⇑*e*Pn Pn 05 32 02.1 -0.6
VOY *e*Sn Sn 05 33 50.1 -4.5
FNVD Fontana Vidola 10.02 313 P Pn 05 32 06.8 +3.4
SOKA Soboth 10.09 335⇓*i*Pn Pn 05 32 02.4 -1.9
OBKA Obir 10.11 333⇓*i*Pn Pn 05 32 03.2 -1.5
OBKA Obir 10.11 333 P Pn 05 32 05.0 +0.3
PENC Penc 10.19 352 *e*P Pn 05 32 05.1 -0.7
PSZ Piszkesteto 10.26 355 P Pn 05 32 06.4 -0.4
PSZ Piszkesteto 10.26 355 *e*P Pn 05 32 09.0 +2.2
PSZ Piszkesteto 10.26 355⇓*e*P Pn 05 32 06.3 -0.5
PSZ Piszkesteto 10.26 355⇑*i*P Pn 05 32 06.2 -0.6
PSZ Piszkesteto 10.26 355⇑*e*P Pn 05 32 06.3 -0.5
PSZ *e*P 05 32 09.0
BURAR Bucovina Array 10.33 15⇓*i*P Pn 05 32 09.0 +1.3
BURAR Bucovina Array 10.33 15 ⇓P Pn 05 32 09.0 +1.3
BUR08 Bucovina Ar. S 10.35 15 *e*Pn Pn 05 32 08.7 +0.7
BUR08 Bucovina Ar. S 10.35 15 *e*Pn Pn 05 32 08.7 +0.7
CORF Corte 10.35 300 *e*P Pn 05 32 09.6 +1.6
GMNA Gemona 10.44 328 P Pn 05 32 13.0 +3.9
ARSA Arzberg 10.44 338⇓*i*Pn Pn 05 32 07.4 -1.8
ARSA ⇓*i*Sn Sn 05 33 58.6 -7.4
GSCL Gusciola 10.44 313 P Pn 05 32 12.5 +3.3
PTCC Patocco-Chiusa 10.49 329 P Pn 05 32 09.2 -0.7
PGF Pioggiola 10.55 301 *e*P Pn 05 32 05.1 -5.7
comp=Z,154nm,1.2s
PGF Pioggiola 10.55 301 *e*P Pn 05 32 05.1 -5.7
PGF pmax pmax
comp=Z,77nm,1.2s
PGF Pioggiola 10.55 301 *e*P Pn 05 32 05.1 -5.7
comp=Z,77nm,1.2s
AVNT Avonos 10.76 80 *i* P Pn 05 32 16.5 +2.9
GULE Gulek 10.76 88 *i* P Px 05 32 04.4
FVI Forni Avoltri 10.88 327 P Pn 05 32 17.1 +1.8
ZST Bratislava 10.92 345 *e*P Pn 05 32 14.2 -1.6
ZST MLR MLR
comp=Z,1µm,14.2s
ZST Bratislava 10.92 345 *e*PN Pn 05 32 14.2 -1.6
ZST *e*SN Sn 05 34 08.2 -10
VYHS Vyhne 10.93 352 *e*PN Pn 05 32 14.1 -1.8
VYHS *e*SN Sn 05 34 11.0 -7.2
VYHS Vyhne 10.93 352 *e*Pn Pn 05 32 14.2 -1.7
VYHS *e*Sn Sn 05 34 11.0 -7.2
UZH Uzhgorod 10.95 4 *e*P Pn 05 32 16.0 -0.2
UZH *e*S Sn 05 34 16.0 -0.7
CONA Conrad Observa 10.96 341⇓*i*Pn Pn 05 32 15.6 -0.7
CONA ⇓*i*Sn Sn 05 34 11.7 -7.2
CTI Castel Tesino 10.98 322 P Pn 05 32 16.6 -0.1
KBA Koelnbreinsper 11.04 331 *i* Pn Pn 05 32 16.7 -0.7
SNR=16
KBA ⇑*i*Sn Sn 05 34 16.0 -4.8
MODS Modra-Piesok 11.06 346 *e*PN Pn 05 32 16.1 -1.5
MODS Modra-Piesok 11.06 346 *e*P Pn 05 32 18.0 +0.4
KOLL Kolacno 11.07 350 *e*PN Pn 05 32 16.0 -1.8
KOLL *e*SN Sn 05 34 16.7 -4.9
CMAH Djebel Manchou 11.09 269 P Pn 05 32 21.0 +2.8
ABSA Djebel Ababsia 11.11 267 P Pn 05 32 21.0 +2.6
ABTA Abfaltersbach 11.12 327⇑*i*Pn Pn 05 32 17.2 -1.2
SNR=12
SMOL Smolenice 11.16 347 *e*PN Pn 05 32 18.0 -1.1
CRVS Cervenica-Dubn 11.20 1 *e*PN Pn 05 32 19.1 -0.5
SEST Monte Rota 11.24 326 P Pn 05 32 20.5 +0.3
KOLS Kolonicke sedl 11.25 3 *e*PN Pn 05 32 20.1 -0.2
MAGA Magasa 11.31 319 P Pn 05 32 21.6 +0.5
MOA Molln 11.36 335⇓*i*Pn Pn 05 32 20.5 -1.3
SNR=15
MOA ⇑*i*Sn Sn 05 34 22.2 -6.5
CAEH 'Ain El Ouahch 11.52 270 P Pn 05 32 27.0 +3.0
CKFL Kef-Lekhel 11.69 268 P Pn 05 32 29.0 +2.7
STHS Stebnicka Huta 11.71 360 *e*PN Pn 05 32 26.7 +0.1
NIE Niedzica 11.73 357 *e*P Pn 05 32 26.5 -0.4
CASM Ain Smara 11.89 268 P Pn 05 32 31.0 +1.8
WTTA Wattenberg 11.89 327⇓*i*Pn Pn 05 32 28.4 -0.7
SNR=12
KWP Kalwaria 11.97 5 *e*P Pn 05 32 35.7 +5.6
KWP Kalwaria 11.97 5⇓*i*P Pn 05 32 30.8 +0.6
KWP Kalwaria 11.97 5 ⇓P Pn 05 32 30.8 +0.7
WATA Walderalm 11.98 327⇓*i*Pn Pn 05 32 29.8 -0.4
SNR=9.5
WATA ⇓*i*Sn Sn 05 34 39.5 -4.2
CTEI Djebel Teioual 12.00 267 P Pn 05 32 30.5 -0.1
YAYL Yayladag 12.02 93 *i* P Pn 05 32 31.1 +0.3
SIM Simferopol' 12.07 49 *e*P Pn 05 32 35.4 +3.8
SIM S Sn 05 34 54.7 +8.5
SIM pmax pmax
comp=Z,32nm,1.0s
SIM Simferopol'† 12.07 49 *e*P Pn 05 32 35.4 +3.8
comp=Z,32nm,1.0s
VRAC Vranov 12.08 345 Pn Pn 05 32 29.4 -2.2
comp=Z,0.8nm,0.3s,baz=175,slow=13,SNR=5.6
VRAC Vranov 12.08 345⇑*i*P Pn 05 32 30.1 -1.6
VRAC Vranov 12.08 345 *e*Pn Pn 05 32 29.3 -2.4
VRAC Vranov 12.08 345 ⇑P Pn 05 32 30.1 -1.5
FETA Feichten 12.13 324⇓*i*Pn Pn 05 32 32.0 -0.2
SBF Sospel 12.14 305 *e*P Pn 05 32 27.8 -4.7
comp=Z,138nm,0.9s
SBF Sospel 12.14 305 *e*P Pn 05 32 27.8 -4.7
SBF pmax pmax
comp=Z,69nm,0.9s
SBF Sospel 12.14 305 *e*P Pn 05 32 27.8 -4.7
comp=Z,69nm,0.9s
MOTA Moosalm 12.19 325⇓*i*Pn Pn 05 32 33.0 -0.1
SNR=21
MOTA ⇓*i*Sn Sn 05 34 44.4 -4.6
LVV L'vov 12.28 8 *e*P Pn 05 32 35.9 +1.6
LVV *e*S Sn 05 34 56.9 +5.7
LVV MLR MLR
comp=N,550nm,10.0s
LVV MLR MLR
comp=E,450nm,10.0s
LVV MLR MLR
comp=Z,700nm,10.0s
LVV L'vov 12.28 8 *e*P Pn 05 32 36.4 +2.1
TREC Trest 12.32 342 *e*P Pn 05 32 35.5 +0.6
comp=Z,5µm,17.3s
TREC Trest 12.32 342 *e*P Pn 05 32 35.5 +0.6
TREC AMS AMS 05 38 10.0
comp=Z,5µm,17.3s
DFRA Djebel Bou Aff 12.33 269 P Pn 05 32 38.5 +3.4
TOUF Mont Tournerai 12.33 305 *e*P Pn 05 32 38.9 +3.9
OKC Ostrava-Krasne 12.34 351 *e*P Pn 05 32 33.4 -1.7
OKC *ex* x 05 32 43.7
OKC AMS AMS 05 38 50.0
comp=Z,2µm,11.0s
MORC Moravsky Berou 12.37 349⇓*i*P Pn 05 32 33.4 -2.1
MORC Moravsky Berou 12.37 349 *e*Pn Pn 05 32 33.8 -1.7
MORC Moravsky Berou 12.37 349 ⇓P Pn 05 32 33.4 -2.1
DAVOX Davos/Dischmat 12.37 321 Pn Pn 05 32 37.1 +1.5
comp=Z,1.5nm,0.3s,baz=310,slow=17,SNR=3.9
DAVOX Sn Sn 05 34 49.9 -3.5
DAVOX LR LR 05 37 55.1
comp=Z,3µm,20.4s,baz=120,slow=40
HWQ Hawqa 12.38 102 *e*P Pn 05 32 33.5 -2.3
GEC2 GERESS Array S 12.42 336 *e*P Pn 05 32 34.0 -2.2
GEC2 pmax pmax
comp=Z,16nm,0.9s
GEC2 GERESS Array S 12.42 336 *e*P Pn 05 32 34.0 -2.2
comp=Z,16nm,0.9s
GERES GERESS Array B 12.42 336 Pn Pn 05 32 35.2 -1.0
comp=Z,2.0nm,0.3s,baz=159,slow=14,SNR=59
GERES Sn Sn 05 34 45.9 -8.6
comp=Z,0.9nm,0.3s,baz=156,slow=22,SNR=3.7
GERES LR LR 05 38 03.6
comp=Z,733nm,18.4s,baz=147,slow=41
GERES GERESS Array B 12.42 336 P Pn 05 32 35.2 -1.0
GERES 05 34 45.9
GERES pmax pmax
comp=Z,2.0nm,0.3s
GERES smax
comp=N,1.0nm,0.3s
GERES MLR MLR
comp=Z,733nm,18.4s
KMRS Kahramanmaras 12.42 86 *e*P Pn 05 32 39.5 +3.2
CALN Calern 12.45 304 *e*P Pn 05 32 42.6 +5.9
DAVOS Davos 12.45 321 P Pn 05 32 37.1 +0.4
DAVOS 05 34 49.9
MMAI Mount Meron Ar 12.46 108 Pn Pn 05 32 33.9 -3.0
comp=Z,3.1nm,0.3s,baz=336,slow=12,SNR=6.4
MMAI Sn Sn 05 34 44.6 -11
comp=Z,4.4nm,0.3s,baz=311,slow=22,SNR=4.9
MMAI LR LR 05 37 37.2
comp=Z,842nm,21.9s,baz=285,slow=39
SVSK Karacayir 12.48 75 *e*P Pn 05 32 40.0 +2.8
FRF La Foret Royal 12.54 302 *e*P Pn 05 32 41.2 +3.3
comp=Z,128nm,1.3s
FRF La Foret Royal 12.54 302 *e*P Pn 05 32 41.2 +3.3
FRF pmax pmax
comp=Z,64nm,1.3s
FRF La Foret Royal 12.54 302 *e*P Pn 05 32 41.2 +3.3
comp=Z,64nm,1.3s
LMR La Mourre 12.54 301 *e*P Pn 05 32 39.5 +1.5
comp=Z,179nm,1.7s
LMR La Mourre 12.54 301 *e*P Pn 05 32 39.5 +1.5
LMR pmax pmax
comp=Z,90nm,1.7s
LMR La Mourre 12.54 301 *e*P Pn 05 32 39.5 +1.5
comp=Z,90nm,1.7s
OJC Ojcow 12.56 356 *e*P Pn 05 32 38.9 +0.7
OJC *e*PP 05 32 52.1
RCY Rachaya 12.58 105 *e*P Pn 05 32 34.4 -4.1
KHC Kasperske Hory 12.71 336 *e*P Pn 05 32 39.7 -0.5
comp=Z,3µm,15.7s
KHC Kasperske Hory 12.71 336 *e*P Pn 05 32 39.7 -0.5
KHC *ex* x 05 32 41.5
KHC *ex* x 05 32 53.5
KHC AMS AMS 05 38 20.0
comp=Z,3µm,15.7s
**KHC Kasper

WET Wettzell 12.95 335 *e*P Pn 05 32 42.0 -1.5
comp=Z,53nm,1.6s
MBDF Montbardon 12.96 307 *e*P Pn 05 32 41.7 -1.9
comp=Z,71nm,0.8s
MBDF Montbardon 12.96 307 *e*P Pn 05 32 41.7 -1.9
MBDF pmax pmax
comp=Z,36nm,0.8s
MBDF Montbardon 12.96 307 *e*P Pn 05 32 41.7 -1.9
comp=Z,36nm,0.8s
GZT Gaziantep 12.96 87 *i* P Pn 05 32 50.4 +6.7
DARE Darende-Malaty 13.06 79 *e*P Pn 05 32 50.4 +5.3
DPC Dobruska-Polom 13.13 346 *e*P Pn 05 32 46.6 +0.6
comp=Z,3µm,10.6s
DPC Dobruska-Polom 13.13 346 *e*P Pn 05 32 46.6 +0.6
DPC *ex* x 05 32 56.5
DPC AMS AMS 05 38 40.0
comp=Z,3µm,10.6s
PRU Pruhonice 13.20 341 *e*P Pn 05 32 45.9 -1.0
PRU AMS AMS 05 38 30.0
comp=Z,4µm,11.3s
UPC Upice 13.34 345 *e*P Pn 05 32 47.1 -1.7
LPG La Plagne 13.35 310 *e*P Pn 05 32 51.3 +2.4
comp=Z,58nm,0.8s
LPG La Plagne 13.35 310 *e*P Pn 05 32 51.3 +2.4
LPG pmax pmax
comp=Z,29nm,0.8s
LPG La Plagne 13.35 310 *e*P Pn 05 32 51.3 +2.4
comp=Z,29nm,0.8s
AKF Akfadou 13.35 271 P Pn 05 32 54.0 +4.9
LPL La Plagne 13.37 310 *e*P Pn 05 32 51.2 +2.0
comp=Z,29nm,0.6s
LPL La Plagne 13.37 310 *e*P Pn 05 32 51.2 +2.0
LPL pmax pmax
comp=Z,14nm,0.6s
LPL La Plagne 13.37 310 *e*P Pn 05 32 51.2 +2.0
comp=Z,14nm,0.6s
SMRF Simiane la Rot 13.41 303 *e*P Pn 05 32 50.2 +0.3
comp=Z,209nm,1.8s
SMRF Simiane la Rot 13.41 303 *e*P Pn 05 32 50.2 +0.3
comp=Z,105nm,1.8s
KSP Ksiaz 13.61 347 *e*P Pn 05 32 51.5 -1.0
ORIF Oris-en-Rattie 13.61 307 *e*P Pn 05 32 51.7 -0.8
comp=Z,62nm,1.2s
ORIF *e*MLR MLR
comp=Z,3µm,22.2s
ORIF Oris-en-Rattie 13.61 307 *e*P Pn 05 32 51.7 -0.8
ORIF pmax pmax
comp=Z,31nm,1.2s
ORIF Oris-en-Rattie 13.61 307 *e*P Pn 05 32 51.7 -0.8
comp=Z,31nm,1.2s
PVCC Panska Ves 13.69 342 AMS AMS 05 38 50.0
comp=Z,3µm,10.8s
ESPY Espiye-Giresun 13.91 71 *e*P Pn 05 32 58.3 +1.6
EIL Elat 13.93 121 Pn Pn 05 32 51.8 -5.1
comp=Z,1.7nm,0.3s,baz=334,slow=12,SNR=17
EIL Sn Sn 05 35 18.2 -13
comp=Z,5.4nm,0.3s,baz=65,slow=7.4,SNR=6.6
MANZ Manzenberg 13.93 335 *e*P Pn 05 32 56.4 -0.4
URFA Urfa 13.94 86 *e*P Pn 05 32 58.7 +1.6
ASF Jabal al Asfar 13.96 109 Pn Pn 05 32 56.6 -0.9
comp=Z,0.7nm,0.3s,baz=151,slow=7.5,SNR=9.8
ASF LR LR 05 38 44.4
comp=Z,464nm,19.6s,baz=173,slow=39
ASF Jabal al Asfar 13.96 109 P Pn 05 32 56.6 -0.8
ASF pmax pmax
comp=Z,1.0nm,0.3s
ASF MLR MLR
comp=Z,464nm,19.6s
GRA1 Grafenberg Arr 13.99 332 *e*P Pn 05 32 58.0 +0.2
comp=Z,125nm,1.3s
GRF Grafenberg Arr 13.99 332 *e*P Pn 05 32 58.0 +0.2
GRF pmax pmax
comp=Z,125nm,1.3s
GRF MLR MLR
comp=Z,4µm,19.8s
GRF Grafenberg Arr 13.99 332 *e*P Pn 05 32 58.0 +0.2
comp=Z,125nm,1.3s
GRF *e*L 05 39 23.1
comp=Z,4µm,19.8s
NKC Novy Kostel 14.03 336 AMS AMS 05 39 20.0
comp=Z,3µm,12.9s
BBS Basel-Blauen 14.04 318 *e*P Pn 05 33 00.3 +1.9
FELD Feldberg im Sc 14.05 321 *e*P Pn 05 32 59.2 +0.6
ANN Anapa 14.08 55 *e*P Pn 05 33 04.3 +5.4
ANN pmax pmax
comp=Z,109nm,1.9s
ANN MLR MLR
comp=N,536nm,14.0s
ANN MLR MLR
comp=E,385nm,14.0s
ANN MLR MLR
comp=Z,671nm,14.0s
STU Stuttgart 14.11 325 *e*P Pn 05 32 59.4 +0.1
comp=Z,50nm,0.7s
KIZ Kirchzarten 14.15 321 P Pn 05 33 02.9 +3.0
BRG Berggiesshubel 14.16 341 *e*P Pn 05 33 00.8 +0.8
comp=Z,21nm,1.3s
BRG Berggiesshubel 14.16 341 *e*P Pn 05 33 01.2 +1.2
comp=Z,7.3nm,1.0s
BRG *i* 05 33 16.5
comp=Z,23nm,1.2s
BRG
comp=Z,4µm,13.8s
BRG
comp=N,3µm,16.0s
BRG
comp=E,1µm,16.0s
BRG Berggiesshubel 14.16 341 *e*P Pn 05 33 01.2 +1.2
comp=E,4.4nm,1.0s
BRG *i* 05 33 16.5
KIEV Kiev 14.18 21 *e*P Pn 05 32 57.7 -2.5
KIEV pmax pmax
comp=Z,18nm,0.7s
KIEV Kiev 14.18 21 *e*Pn Pn 05 32 57.7 -2.5
comp=Z,18nm,0.7s
TANN Tannenbergstha 14.18 336 *e*P Pn 05 33 00.8 +0.5
comp=Z,26nm,1.1s
AKASG Malin Array Be 14.19 21 Pn Pn 05 32 57.7 -2.7
comp=Z,0.9nm,0.3s,baz=211,slow=12,SNR=11
AKASG LR LR 05 38 44.0
comp=Z,3µm,21.2s,baz=215,slow=39
AKASG Malin Array Be 14.19 21 P Pn 05 32 57.7 -2.7
AKASG pmax pmax
comp=Z,1.0nm,0.3s
AKASG MLR MLR
comp=Z,3µm,21.2s
AKBB Malin Array Si 14.19 21 *e*Pn Pn 05 32 58.3 -2.1
BFO Black Forest 14.20 323 *e*P Pn 05 33 00.9 +0.3
BFO pmax pmax
comp=Z,43nm,1.2s
BFO Black Forest 14.20 323 *e*P Pn 05 33 00.9 +0.3
comp=Z,43nm,1.2s
LBG Lerchenberg 14.21 324 P Pn 05 33 01.6 +0.8
PTK Pertek 14.30 80 *e*P Pn 05 33 03.3 +1.3
CABF La Chapelle 14.33 313 *e*P Pn 05 33 01.5 -0.8
comp=Z,53nm,0.8s
CABF La Chapelle 14.33 313 *e*P Pn 05 33 01.5 -0.8
CABF pmax pmax
comp=Z,27nm,0.8s
CABF La Chapelle 14.33 313 *e*P Pn 05 33 01.5 -0.8
comp=Z,26nm,0.8s
LOMF Lomont 14.34 317 *e*P Pn 05 33 04.8 +2.4
VIVF Saint-Julien-l 14.36 305 *e*P Pn 05 33 04.7 +2.0
comp=Z,64nm,1.3s
VIVF Saint-Julien-l 14.36 305 *e*P Pn 05 33 04.7 +2.0
VIVF pmax pmax
comp=Z,32nm,1.3s
VIVF Saint-Julien-l 14.36 305 *e*P Pn 05 33 04.7 +2.0
comp=Z,32nm,1.3s
GUMT Gumushane 14.43 73 *e*P Pn 05 33 09.7 +6.0
MOF Molkenrain 14.48 319 P Pn 05 33 07.1 +2.7
HINF Hinteralfeld 14.61 318 *e*P Pn 05 33 04.5 -1.6
comp=Z,104nm,1.0s
HINF Hinteralfeld 14.61 318 *e*P Pn 05 33 04.5 -1.6
HINF pmax pmax
comp=Z,52nm,1.0s
HINF Hinteralfeld 14.61 318 *e*P Pn 05 33 04.5 -1.6
comp=Z,52nm,1.0s
EZC Erzincan 14.64 76 *e*P Pn 05 33 08.8 +2.3
MOX Moxa 14.65 335 *e*P Pn 05 33 05.3 -1.4
MOX
comp=Z,2µm,18.0s
MOX Moxa 14.65 335 *e*P Pn 05 33 06.1 -0.6
comp=Z,18nm,0.8s
MOX Moxa 14.65 335 *e*P Pn 05 33 05.3 -1.4
comp=Z,2µm,18.0s

ECH Echery 14.70 320 *e*P Pn 05 33 07.9 +0.5
EMHD Djebel Mahouad 14.71 270 P Pn 05 33 15.6 +8.0
CDF Champ du Feu 14.77 321 *e*P Pn 05 33 08.8 +0.4
comp=Z,156nm,1.1s
CDF Champ du Feu 14.77 321 *e*P Pn 05 33 08.8 +0.4
CDF pmax pmax
comp=Z,78nm,1.1s
CDF Champ du Feu 14.77 321 *e*P Pn 05 33 08.8 +0.4
comp=Z,78nm,1.1s
CLL Collm 14.81 339 *e*P Pn 05 33 09.7 +0.9
comp=Z,44nm,1.2s
CLL Collm 14.81 339 *e*P Pn 05 33 09.0 +0.2
CLL *i* PP 05 33 15.3
comp=Z,45nm,1.3s
CLL *e*(PPP) 05 33 24.0
comp=Z,51nm,0.9s
CLL Collm 14.81 339 *e*P Pn 05 33 09.0 +0.2
comp=Z,51nm,0.9s
LANF Langenberg 14.90 323 *e*P Pn 05 33 17.6 +7.5
TOD Tromm 14.90 327 *e*P Pn 05 33 11.8 +1.7
HAU Haudompre 14.99 318 *e*P Pn 05 33 11.3 -0.1
comp=Z,194nm,1.0s
HAU *e*MLR MLR
comp=Z,3µm,20.5s
HAU Haudompre 14.99 318 *e*P Pn 05 33 11.3 -0.1
HAU pmax pmax
comp=Z,97nm,1.0s
HAU Haudompre 14.99 318 *e*P Pn 05 33 11.3 -0.1
comp=Z,97nm,1.0s
KTD Kalmit 15.01 325 *e*P Pn 05 33 18.9 +7.3
SOC Sochi 15.19 61 *e*P Pn 05 33 18.8 +4.8
SOC *e* 05 36 07.5
SOC pmax pmax
comp=Z,29nm,1.0s
SOC MLR MLR
comp=Z,434nm,13.0s
THEF They Montfort 15.32 318 *e*P Pn 05 33 15.9 +0.2
UBBA Unterbreizbach 15.37 332 *e*P Pn 05 33 19.5 +3.2
comp=Z,20nm,1.2s
LBL Lubilhac 15.43 305 *e*P Pn 05 33 19.4 +2.2
PLDF La Plantade 15.50 308 *e*P Pn 05 33 22.2 +4.1
TNS Taunus Mts 15.52 328 *e*P Pn 05 33 19.0 +0.7
MTLF Montolieu 15.52 297 *e*P Pn 05 33 16.5 -1.9
SMF Signal de Mont 15.67 310 *e*P Pn 05 33 21.9 +1.6
comp=Z,30nm,0.8s
SMF Signal de Mont 15.67 310 *e*P Pn 05 33 21.9 +1.6
SMF pmax pmax
comp=Z,15nm,0.8s
SMF Signal de Mont 15.67 310 *e*P Pn 05 33 21.9 +1.6
comp=Z,15nm,0.8s
RUP Ruppelstein 15.75 324 *e*P Pn 05 33 25.2 +3.8
PYM Petit Puy Mans 15.79 306 *e*P Pn 05 33 22.2 +0.3
GKP Gorka Klasztor 15.82 351 *e*P Pn 05 33 26.0 +3.9
GKP epP pP 05 33 28.6 -0.2
GKP Gorka Klasztor 15.82 351 *e*pP pP 05 33 28.6 -0.2
GKP Gorka Klasztor 15.82 351 *e*P Pn 05 33 26.0 +3.8
GKP epP pP 05 33 28.6 -0.2
EBNR Beni Rached 15.82 271 P Pn 05 33 25.7 +3.4
EZM Erzurum 15.83 76 *e*P Pn 05 33 26.9 +4.5
AGO Saint Agoulin 15.84 307 *e*P Pn 05 33 25.5 +3.0
LOR Lormes 15.97 312 *e*P Pn 05 33 22.3 -1.9
comp=Z,80nm,1.1s
LOR *e*MLR MLR
comp=Z,2µm,21.5s
LOR Lormes 15.97 312 *e*P Pn 05 33 22.3 -1.9
LOR pmax pmax
comp=Z,40nm,1.1s
LOR Lormes 15.97 312 *e*P Pn 05 33 22.3 -1.9
comp=Z,40nm,1.1s
ECHA Ech Chlef 15.98 270 P Pn 05 33 25.0 +0.6
MEZF Maizieres J'vi 15.98 318 *e*P Pn 05 33 25.1 +0.8
comp=Z,385nm,1.3s
MEZF Maizieres J'vi 15.98 318 *e*P Pn 05 33 25.1 +0.8
comp=Z,192nm,1.3s
EPOB Poblet 15.98 289 P Pn 05 33 27.7 +3.3
comp=Z,89nm,1.5s
AVF Avril sur Loir 16.04 310 *e*P Pn 05 33 26.3 +1.2
comp=Z,79nm,1.1s
AVF Avril sur Loir 16.04 310 *e*P Pn 05 33 26.3 +1.2
AVF pmax pmax
comp=Z,39nm,1.1s
AVF Avril sur Loir 16.04 310 *e*P Pn 05 33 26.3 +1.2
comp=Z,39nm,1.1s
SSF Saint Saulge 16.08 311 *e*P Pn 05 33 24.2 -1.3
comp=Z,134nm,1.1s
SSF Saint Saulge 16.08 311 *e*P Pn 05 33 24.2 -1.3
SSF pmax pmax
comp=Z,67nm,1.1s
SSF Saint Saulge 16.08 311 *e*P Pn 05 33 24.2 -1.3
comp=Z,67nm,1.1s
CAF Calviac 16.10 303 *e*P Pn 05 33 25.3 -0.6
comp=Z,147nm,1.6s
CAF Calviac 16.10 303 *e*P Pn 05 33 25.3 -0.6
CAF pmax pmax
comp=Z,74nm,1.6s
CAF Calviac 16.10 303 *e*P Pn 05 33 25.3 -0.6
comp=Z,74nm,1.6s
BCA Borcka 16.14 70 *e*P Pn 05 33 27.0 +0.6
WLF Walferdange 16.16 323 P Pn 05 33 31.6 +5.0
comp=Z,96nm,1.4s
WLF Walferdange 16.16 323 *e*P Pn 05 33 29.7 +3.1
comp=Z,131nm,1.2s
ETRT Tiaret 16.20 268 P Pn 05 33 31.2 +4.0
EANR 'Ain N'Sour 16.23 270 P Pn 05 33 28.0 +0.4
BGF Bois d'Agland 16.24 309 *e*P Pn 05 33 26.8 -0.9
comp=Z,55nm,1.0s
BGF Bois d'Agland 16.24 309 *e*P Pn 05 33 26.8 -0.9
BGF pmax pmax
comp=Z,27nm,1.0s
BGF Bois d'Agland 16.24 309 *e*P Pn 05 33 26.8 -0.9
comp=Z,27nm,1.0s
SUW Suwalki 16.37 4 *e*P Pn 05 33 30.7 +1.4
SUW *e*pP pP 05 33 33.9 -1.0
ERTA Horta de San J 16.50 288 P Pn 05 33 35.4 +4.3
comp=Z,267nm,1.8s
TCF Toulx Ste Croi 16.52 307 *e*P Pn 05 33 32.8 +1.5
comp=Z,38nm,1.1s
TCF Toulx Ste Croi 16.52 307 *e*P Pn 05 33 32.8 +1.5
TCF pmax pmax
comp=Z,19nm,1.1s
TCF Toulx Ste Croi 16.52 307 *e*P Pn 05 33 32.8 +1.5
comp=Z,19nm,1.1s
RJF Les Rejaudoux 16.60 303 *e*P Pn 05 33 31.8 -0.4
comp=Z,111nm,1.4s
RJF *e*MLR MLR
comp=Z,2µm,19.2s
RJF Les Rejaudoux 16.60 303 *e*P Pn 05 33 31.8 -0.4
RJF pmax pmax
comp=Z,55nm,1.4s
RJF Les Rejaudoux 16.60 303 *e*P Pn 05 33 31.8 -0.4
comp=Z,55nm,1.4s
RESF Ens 16.75 294 *e*P Pn 05 33 35.2 +1.1
EPF Esparros 16.79 295 *e*P Pn 05 33 35.8 +1.1
comp=Z,43nm,1.2s
EPF Esparros 16.79 295 *e*P Pn 05 33 35.8 +1.1
EPF pmax pmax
comp=Z,22nm,1.2s
EPF Esparros 16.79 295 *e*P Pn 05 33 35.8 +1.1
comp=Z,22nm,1.2s
EBIE Bielsa 16.87 294 P Pn 05 33 37.3 +1.7
comp=Z,56nm,1.4s
EBIE Bielsa 16.87 294 P Pn 05 33 37.3 +1.6
comp=Z,56nm,1.4s
MEM Membach 16.87 325 P Pn 05 33 39.6 +4.0
comp=Z,48nm,1.3s
BUG Bochum-Univer 16.93 329 *e*P Pn 05 33 40.8 +4.5
LFF La Frestale 17.00 302 *e*P Pn 05 33 35.9 -1.3
comp=Z,88nm,1.3s
LFF La Frestale 17.00 302 *e*P Pn 05 33 35.9 -1.3
LFF pmax pmax
comp=Z,44nm,1.3s
LFF La Frestale 17.00 302 *e*P Pn 05 33 35.9 -1.3
comp=Z,44nm,1.3s
HGN Heimansgroeve 17.02 325 *e*P Pn 05 33 41.3 +3.9
comp=Z,92nm,2.4s
HGN Heimansgroeve 17.02 325 *e*S Sn 05 36 57.9 +11
BCLA Clavier 17.07 323 P Pn 05 33 42.2 +4.0
comp=Z,33nm,2.0s
EMOS Mosqueruela 17.08 286 P Pn 05 33 42.2 +3.8
comp=Z,126nm,1.3s
AGRB Hanur-Agry 17.09 77 *e*P Pn 05 33 41.6 +3.2
GIVF Givet 17.09 322 *e*P Pn 05 33 39.8 +1.4
comp=Z,98nm,0.9s
GIVF Givet 17.09 322 *e*P Pn 05 33 39.8 +1.4
GIVF pmax pmax
comp=Z,49nm,0.9s

GIVF Givet 17.09 322 *e*P Pn 05 33 39.8 +1.4
comp=Z,49nm,0.9s
ESAC San Caprasio 17.18 290 P Pn 05 33 43.0 +3.4
comp=Z,117nm,1.3s
KARS Kars 17.18 73 *e*P Pn 05 33 42.0 +2.4
DOU Dourbes 17.20 321 P Pn 05 33 42.0 +2.2
comp=Z,33nm,1.5s
KIV Kislovodsk 17.36 62 *e*P Pn 05 33 41.6 -0.2
KIV pmax pmax
comp=Z,24nm,1.0s
KIV MLR MLR
comp=Z,400nm,15.0s
KIV Kislovodsk 17.36 62 P Pn 05 33 44.0 +2.2
SNR=6.4
BAIF Baives 17.37 321 *e*P Pn 05 33 43.2 +1.3
comp=Z,156nm,1.2s
BAIF Baives 17.37 321 *e*P Pn 05 33 43.2 +1.3
BAIF pmax pmax
comp=Z,78nm,1.2s
BAIF Baives 17.37 321 *e*P Pn 05 33 43.2 +1.3
comp=Z,78nm,1.2s
MNK Minsk 17.40 13 *e*P Pn 05 33 37.0 -5.2
MNK *e*S Sn 05 36 46.0 -10
MNK pmax pmax
comp=Z,110nm,1.5s
MNK MLR MLR
comp=Z,6µm,8.0s
IBBN Ibbenburen 17.40 331 *e*P Pn 05 33 44.6 +2.3
ETSF Etsaut 17.41 294 *e*P Pn 05 33 44.2 +1.7
comp=Z,77nm,1.1s
ETSF Etsaut 17.41 294 *e*P Pn 05 33 44.2 +1.7
ETSF pmax pmax
comp=Z,39nm,1.1s
ETSF Etsaut 17.41 294 *e*P Pn 05 33 44.2 +1.7
comp=Z,39nm,1.1s
ECHE Chera 17.46 283 P Pn 05 33 44.3 +1.3
ECHE pmax pmax
comp=Z,22nm,0.8s
ECHE Chera 17.46 283 P Pn 05 33 44.3 +1.3
comp=Z,22nm,0.8s
ECHE Chera 17.46 283 P Pn 05 33 44.3 +1.2
comp=Z,22nm,0.8s
MSL Mosul 17.50 88 *ex* x 05 33 43.0
MSL *ex* x 05 36 56.0
WTSB Winterswijk 17.52 329 *e*P Pn 05 33 46.4 +2.7
comp=Z,43nm,1.0s
ATE Arette 17.55 295 *e*P Pn 05 33 45.5 +1.3
NE53 Naroch' 17.62 11 *e*PcP PcP 05 38 20.2 -3.5
SNF Seneffe 17.62 322 P Pn 05 33 48.3 +3.3
comp=Z,42nm,1.7s
UCC Uccle 17.77 323 P Pn 05 33 48.9 +2.0
comp=Z,68nm,1.4s
EMUR La Murta 17.78 277 P Pn 05 33 48.2 +1.1
comp=Z,152nm,1.6s
EMUR La Murta 17.78 277 P Pn 05 33 48.2 +1.1
comp=Z,152nm,1.6s
CLDR Caldiran 17.82 78 *e*P Pn 05 33 49.1 +1.6
BSEG Bad Segeberg 17.90 339 *e*P Pn 05 33 47.4 -1.0
SJPF Ste Jean 17.93 295 *e*P Pn 05 33 49.4 +0.5
comp=Z,84nm,1.2s
SJPF Ste Jean 17.93 295 *e*P Pn 05 33 49.4 +0.5
SJPF pmax pmax
comp=Z,42nm,1.2s
SJPF Ste Jean 17.93 295 *e*P Pn 05 33 49.4 +0.5
comp=Z,42nm,1.2s
ETOB Tobarra 17.95 280 P Pn 05 33 49.0 -0.1
comp=Z,92nm,2.0s
ETOB Tobarra 17.95 280 P Pn 05 33 49.0 -0.2
comp=Z,92nm,2.0s
MFF Saint Martin d 18.14 306 *e*P Pn 05 33 52.6 +1.1
comp=Z,193nm,1.5s
MFF Saint Martin d 18.14 306 *e*P Pn 05 33 52.6 +1.1
MFF pmax pmax
comp=Z,97nm,1.5s
MFF Saint Martin d 18.14 306 *e*P Pn 05 33 52.6 +1.1
comp=Z,97nm,1.5s
EALK Alkurruntz 18.15 295 P Pn 05 33 52.3 +0.7
comp=Z,36nm,1.3s
EALK Alkurruntz 18.15 295 P Pn 05 33 52.3 +0.7
comp=Z,36nm,1.3s
ELIZ Elizondo 18.16 295 P Pn 05 33 52.9 +1.2
ELIZ Elizondo 18.16 295 P Pn 05 33 52.9 +1.2
ETOR Torete 18.30 287 P Pn 05 33 54.5 +1.0
ETOR pmax pmax
comp=Z,41nm,0.5s
ETOR Torete 18.30 287 P Pn 05 33 54.5 +1.0
comp=Z,41nm,0.5s
ETOR Torete 18.30 287 P Pn 05 33 54.5 +1.0
comp=Z,41nm,0.5s
GNI Garni 18.43 75 Pn Pn 05 33 55.6 +0.5
comp=Z,0.8nm,0.3s,baz=114,slow=1.6,SNR=5.5
GNI LR LR 05 41 11.9
comp=Z,790nm,21.3s,baz=280,slow=38
GNI Garni 18.43 75 *e*P Pn 05 33 56.3 +1.2
GNI pmax pmax
comp=Z,153nm,1.3s
GNI Garni 18.43 75 *e*P Pn 05 33 56.3 +1.2
comp=Z,153nm,1.3s
GNI Garni 18.43 75 *e*Pn Pn 05 33 56.3 +1.3
comp=Z,153nm,1.3s
TBLG Delisi 18.50 70 P Pn 05 33 56.7 +0.9
ENIJ Nijar 18.66 275 P Pn 05 33 58.5 +0.6
ENIJ pmax pmax
comp=Z,6.0nm,0.6s
ENIJ Nijar 18.66 275 P Pn 05 33 58.5 +0.6
comp=Z,6.1nm,0.6s
ENIJ Nijar 18.66 275 P Pn 05 33 58.5 +0.6
comp=Z,6.1nm,0.6s
EVIA Vianos 18.70 280 P Pn 05 34 00.1 +1.8
EVIA pmax pmax
comp=Z,12nm,0.7s
EVIA Vianos 18.70 280 P Pn 05 34 00.1 +1.8
comp=Z,12nm,0.7s
EVIA Vianos 18.70 280 P Pn 05 34 00.1 +1.8
comp=Z,12nm,0.7s
MENF Mencas 18.72 319 *e*P Pn 05 33 58.4 -0.1
ECRI Cripan 18.79 293 P Pn 05 34 00.0 +0.6
ECRI pmax pmax
comp=Z,20nm,0.6s
ECRI Cripan 18.79 293 P Pn 05 34 00.0 +0.6
comp=Z,20nm,0.6s
ECRI Cripan 18.79 293 P Pn 05 34 00.0 +0.6
comp=Z,20nm,0.6s
EHUE Huescar 18.85 278 P Pn 05 34 00.4 +0.3
EHUE pmax pmax
comp=Z,24nm,1.0s
EHUE Huescar 18.85 278 P Pn 05 34 00.4 +0.3
comp=Z,24nm,1.0s
EHUE Huescar 18.85 278 P Pn 05 34 00.4 +0.3
comp=Z,24nm,1.0s
VOR Voronezh 18.89 36 P Pn 05 34 08.0 +7.5
VOR pmax pmax
comp=Z,150nm,1.4s
LDF La Druitiere 18.95 312 *e*P Pn 05 34 01.1 -0.2
comp=Z,90nm,1.0s
LDF La Druitiere 18.95 312 *e*P Pn 05 34 01.1 -0.2
LDF pmax pmax
comp=Z,45nm,1.0s
LDF La Druitiere 18.95 312 *e*P Pn 05 34 01.1 -0.2
comp=Z,45nm,1.0s
NAX Nakhchivan 19.04 78 P Pn 05 34 01.4 -1.0
SNR=38
EBER Berja 19.21 275 P Pn 05 34 05.4 +0.8
comp=Z,83nm,1.3s
EBER Berja 19.21 275 P Pn 05 34 05.4 +0.8
comp=Z,83nm,1.3s
EQES Quesada 19.23 278 P Pn 05 34 04.8 +0.1
comp=Z,50nm,1.0s
EQES Quesada 19.23 278 P Pn 05 34 04.8 +0.1
comp=Z,50nm,1.0s
FLN La Foliniere 19.24 312 *e*P Pn 05 34 04.2 -0.6
comp=Z,188nm,1.2s
FLN *e*MLR MLR
comp=Z,2µm,20.5s
FLN La Foliniere 19.24 312 *e*P Pn 05 34 04.2 -0.6
FLN pmax pmax
comp=Z,94nm,1.2s
FLN La Foliniere 19.24 312 *e*P Pn 05 34 04.2 -0.6
comp=Z,94nm,1.2s
GRR Gorron 19.30 311 *e*P Pn 05 34 03.4 -2.1
comp=Z,24nm,0.6s
GRR Gorron 19.30 311 *e*P Pn 05 34 03.4 -2.1
GRR pmax pmax
comp=Z,12nm,0.6s
GRR Gorron 19.30 311 *e*P Pn 05 34 03.4 -2.1
comp=Z,12nm,0.6s
BHD Baghdad 19.33 96 *ex* x 05 34 07.0

BHD ex x 05 37 44.0
EALB Alboran 19.51 272 ⇓P Pn 05 34 07.4 -0.7
comp=Z,272nm,0.9s
EALB Alboran 19.51 272 ⇓P Pn 05 34 07.4 -0.7
comp=Z,272nm,0.9s
ELAN Lanestosa 19.55 294 P Pn 05 34 07.9 -0.6
comp=Z,130nm,1.5s
GANJ Ganja 19.64 74 P Pn 05 34 10.8 +1.2
SNR=24
ECOG Cogollos-Vega 19.69 276 P Pn 05 34 11.4 +1.2
ECOG pmax pmax
comp=Z,12nm,0.6s
ECOG Cogollos-Vega 19.69 276 P Pn 05 34 11.4 +1.2
comp=Z,12nm,0.6s
EBAN Banos Encina 19.74 279 ⇑P Pn 05 34 10.2 -0.7
EBAN pmax pmax
comp=Z,25nm,0.8s
EBAN Banos Encina 19.74 279 ⇑P Pn 05 34 10.2 -0.7
comp=Z,25nm,0.8s
EBAN Banos Encina 19.74 279 ⇑P Pn 05 34 10.2 -0.6
comp=Z,25nm,0.8s
EGUA Guajares 19.76 275 ⇑P Pn 05 34 10.3 -0.8
EGUA pmax pmax
comp=Z,357nm,1.1s
EGUA Guajares 19.76 275 ⇑P Pn 05 34 10.3 -0.8
comp=Z,357nm,1.1s
EGUA Guajares 19.76 275 ⇑P Pn 05 34 10.3 -0.8
comp=Z,357nm,1.1s
ESDC Sonseca Array 19.77 284 P Pn 05 34 11.0 -0.2
comp=Z,1.2nm,0.3s,baz=81,slow=11,SNR=41
ESDC Sonseca Array 19.77 284 P Pn 05 34 09.8 -1.3
comp=Z,33nm,0.9s
ESDC Sonseca Array 19.77 284 P Pn 05 34 09.8 -1.3
comp=Z,33nm,0.9s
ESLA Sonseca Array 19.77 284 eP Pn 05 34 11.7 +0.6
comp=Z,16nm,1.4s
ESLA Sonseca Array 19.77 284 eP Pn 05 34 11.7 +0.5
comp=Z,16nm,1.4s
GUD Guadarrama 19.90 286 P Pn 05 34 11.4 -1.3
GUD pmax pmax
comp=Z,50nm,1.0s
GUD Guadarrama 19.90 286 P Pn 05 34 11.4 -1.3
comp=Z,50nm,1.0s
GUD Guadarrama 19.90 286 P Pn 05 34 11.4 -1.3
comp=Z,50nm,1.0s
ERON Agron 19.92 276 P Pn 05 34 13.0 0.0
comp=Z,12nm,1.0s
ERON Agron 19.92 276 P Pn 05 34 13.0 +0.1
comp=Z,12nm,1.0s
PAB San Pablo 20.07 283 eP P 05 34 14.0 +1.0
PAB pmax pmax
comp=Z,52nm,1.3s
PAB San Pablo 20.07 283 eP P 05 34 14.0 +1.0
comp=Z,52nm,1.3s
PAB San Pablo 20.07 283 eP P 05 34 14.0 +1.0
comp=Z,52nm,1.3s
ELOJ Sierra Loja 20.17 276 P P 05 34 14.4 +0.3
ELOJ pmax pmax
comp=Z,7.0nm,0.7s
ELOJ Sierra Loja 20.17 276 P P 05 34 14.4 +0.3
comp=Z,6.7nm,0.7s
ELUQ Luque 20.20 277 P P 05 34 14.0 -0.4
ELUQ pmax pmax
comp=Z,56nm,1.0s
ELUQ Luque 20.20 277 P P 05 34 14.0 -0.4
comp=Z,56nm,1.0s
ELUQ Luque 20.20 277 P P 05 34 14.0 -0.4
comp=Z,56nm,1.0s
SGMF Saint Gilles 20.28 309 eP P 05 34 14.7 -0.5
comp=Z,58nm,0.9s
SGMF Saint Gilles 20.28 309 eP P 05 34 14.7 -0.5
SGMF pmax pmax
comp=Z,29nm,0.9s
SGMF Saint Gilles 20.28 309 eP P 05 34 14.7 -0.5
comp=Z,29nm,0.9s
OBN Obninsk 20.29 26⇑eP P 05 34 13.7 -1.5
OBN *i* 05 34 27.5
OBN *e* 05 34 38.1
OBN eS S **05 37 59.0 -3.5**
OBN *e* 05 38 04.1
OBN pmax pmax
comp=Z,66nm,1.7s
OBN MLR MLR
comp=Z,2μm,15.0s,MS4.5
SEKA Sheki 20.31 72 P P 05 34 19.7 +4.1
SNR=10
JQE Queens East 20.36 312 eP P 05 34 16.0 0.0
EADA Adamuz 20.36 279 P P 05 34 16.7 +0.5
comp=Z,176nm,1.5s
EADA Adamuz 20.36 279 P P 05 34 16.7 +0.5
comp=Z,176nm,1.5s
JLP Les Platons 20.41 312 eP P 05 34 16.7 +0.1
JSA Saint Aubin 20.43 312 eP P 05 34 17.3 +0.5
JSA AMb AMB 05 34 25.6
comp=Z,156nm,1.9s
JSA Saint Aubin 20.43 312 eP P 05 34 17.3 +0.5
comp=Z,156nm,1.9s
MUD Monsted U'grnd 20.43 341 *i* P P 05 34 15.9 -0.8
MUD pmax pmax
comp=Z,35nm,0.9s
MUD MLR MLR
comp=Z,1μm,19.0s,MS4.3
MUD Monsted U'grnd 20.43 341 *i* P P 05 34 15.9 -0.8
comp=Z,35nm,0.9s
MUD eS S 05 37 28.9 -36
MUD *i* 05 38 17.8
MUD
comp=Z,1μm,19.0s
MUD Monsted U'grnd 20.43 341 *i* P P 05 34 15.9 -0.8
comp=Z,35nm,0.9s
MUD eS S 05 37 28.9 -36
MUD *i* 05 38 17.8
QUIF Quistinic 20.54 308 eP P 05 34 17.9 -0.1
comp=Z,114nm,1.2s
QUIF Quistinic 20.54 308 eP P 05 34 17.9 -0.1
QUIF pmax pmax
comp=Z,57nm,1.2s
QUIF Quistinic 20.54 308 eP P 05 34 17.9 -0.1
comp=Z,57nm,1.2s
ROSF Rostrenen 20.76 309 eP P 05 34 20.4 +0.1
comp=Z,61nm,0.8s
ROSF Rostrenen 20.76 309 eP P 05 34 20.4 +0.1
ROSF pmax pmax
comp=Z,30nm,0.8s
ROSF Rostrenen 20.76 309 eP P 05 34 20.4 +0.1
comp=Z,30nm,0.8s
EMIJ Mijas 20.76 275 P P 05 34 20.8 +0.3
comp=Z,32nm,0.7s
EMIJ Mijas 20.76 275 P P 05 34 20.8 +0.3
comp=Z,32nm,0.7s
EARI Arriondas 20.84 294 P P 05 34 20.8 -0.5
comp=Z,57nm,1.3s
EARI Arriondas 20.84 294 P P 05 34 20.8 -0.5
comp=Z,57nm,1.3s
TZK Tazeka 20.90 268 *i* P P 05 34 23.0 +1.0
WOL Wolverton 20.92 318 eP P 05 34 21.9 -0.2
ECAB El Cabril 21.03 279 P P 05 34 23.2 -0.2
comp=Z,39nm,0.9s,mb4.7
ECAB El Cabril 21.03 279 P P 05 34 23.2 -0.2
comp=Z,39nm,0.9s,mb4.7
MOS Moscow 21.15 26 eP P 05 34 21.3 -3.2
MOS *e* 05 34 41.3
MOS eS S **05 38 16.6 -3.0**
MOS pmax pmax
comp=Z,122nm,1.0s,mb5.2
MOS pmax pmax
comp=Z,100nm,1.0s,mb5.1
MOS MLR MLR
comp=Z,2μm,14.0s,MS4.7
EJIF Jimena Fronter 21.34 275 P P 05 34 27.8 +1.1
EJIF pmax pmax
comp=Z,81nm,1.4s,mb4.9
EJIF Jimena Fronter 21.34 275 P P 05 34 27.8 +1.1
comp=Z,81nm,1.4s,mb4.9
EPLA Plasencia 21.38 285 P P 05 34 26.7 -0.4
EPLA pmax pmax
comp=Z,64nm,1.5s,mb4.7
EPLA Plasencia 21.38 285 P P 05 34 26.7 -0.4
comp=Z,64nm,1.5s,mb4.7
EPLA Plasencia 21.38 285 P P 05 34 26.7 -0.4
comp=Z,64nm,1.5s,mb4.7
DKH Dar Kharkhour 21.46 272 *i* P P 05 34 30.0 +2.0
ESPR Espera 21.56 276 P P 05 34 27.7 -1.4
comp=Z,22nm,0.9s,mb4.6
MDT Midelt 21.65 265 P P 05 34 30.4 +0.3
comp=Z,31nm,0.9s,mb4.7,baz=80,slow=12,SNR=34
ZFT Errachidia 21.72 263 *i* P P 05 34 31.0 +0.1

CWF Charnwood Fore 21.75 321 eP P 05 34 31.4 +0.5
CWF AMb AMB 05 34 39.1
comp=Z,101nm,1.6s,mb5.0
PBRG Braganca 21.87 290 eP P 05 34 31.3 -1.0
comp=Z,103nm,1.7s,mb5.0
ECAL Calabor 21.87 290 P P 05 34 31.9 -0.4
comp=Z,66nm,1.2s,mb4.9
CZD Col de Zad 21.91 266 *i* P P 05 34 35.0 +2.1
HGH Gray Hill 21.93 317⇑eP P 05 34 32.8 -0.2
MIF Mishlifen 21.94 267 *i* P P 05 34 32.0 -1.2
RSA Sarsar 21.98 271 *i* P P 05 34 33.0 -0.6
EMIN Mina Concepcio 22.06 279 P P 05 34 33.4 -1.0
comp=Z,31nm,1.0s,mb4.7
MVO Moncorvo 22.07 288 *i* P P 05 34 33.8 -0.8
comp=Z,84nm,1.1s,mb5.1
MVO eS S **05 38 35.7 -2.2**
MVO eLR LR 05 40 21.1
comp=Z,504nm,18.0s
MVO Moncorvo 22.07 288 eP P 05 34 33.7 -0.9
KBI1 Birley Grange 22.15 322⇑eP P 05 34 35.5 +0.3
KWE Weaver Farm 22.17 321⇑eP P 05 34 34.8 -0.6
EBAD Badajoz 22.20 281 P P 05 34 34.6 -1.3
comp=Z,26nm,1.0s,mb4.6
MCH1 Michaelchurch 22.22 318 eP P 05 34 35.0 -1.0
MCH1 AMb AMB 05 34 43.9
comp=Z,237nm,1.4s,mb5.4
EPON Pontenova 22.25 294 P P 05 34 36.0 -0.5
comp=Z,24nm,0.8s,mb4.7
PBAR Barrancos 22.29 280 eP P 05 34 34.9 -2.0
comp=Z,41nm,1.2s,mb4.7
PBAR eS S **05 38 41.8 -0.3**
PBAR eLR LR 05 40 50.0
comp=Z,464nm,18.0s
STNC Stoke 22.39 321 eP P 05 34 37.4 -0.5
HTR Trewern Hill 22.40 318 eP P 05 34 37.0 -0.9
HLM1 Long Mynd 22.43 319⇑eP P 05 34 37.3 -0.9
PMRV Marv??o 22.43 283 *i* P P 05 34 37.1 -1.2
comp=Z,77nm,1.3s,mb5.0
PMRV eS S **05 38 45.0 +0.2**
PMRV eLR LR 05 40 06.1
comp=Z,457nm,16.0s
PMRV Marv??o 22.43 283 eP P 05 34 37.1 -1.2
PCBR Castelo Branco 22.46 284 eP P 05 34 37.6 -1.1
comp=Z,69nm,2.2s,mb4.7
PCBR Castelo Branco 22.46 284 eP P 05 34 37.5 -1.2
LHO Holmfirth 22.48 322 P P 05 34 38.9 +0.1
LHO Holmfirth 22.48 322 eP P 05 34 39.0 +0.3
MTE Manteigas 22.48 286 eP P 05 34 37.9 -1.0
comp=Z,80nm,1.1s,mb5.1
MTE eS S **05 38 46.2 +0.3**
MTE Manteigas 22.48 286 eP P 05 34 37.7 -1.2
HTL Hartland 22.56 314 eP P 05 34 39.0 -0.6
HTL AMb AMB 05 34 43.4
comp=Z,169nm,1.2s,mb5.3
PVRL Vila Real 22.59 288 eP P 05 34 39.2 -0.9
comp=Z,56nm,1.9s,mb4.7
PVRL Vila Real 22.59 288 eP P 05 34 39.3 -0.8
HPK Haverah Park 22.61 323 eP P 05 34 40.2 0.0
HPK AMb AMB 05 34 49.0
comp=Z,175nm,2.2s,mb5.1
PESTR Estremoz 22.63 282 eP P 05 34 39.0 -1.5
comp=Z,56nm,1.4s,mb4.8
PESTR eS S **05 38 48.6 -0.2**
PESTR eLR LR 05 40 23.9
comp=Z,450nm,18.0s
EGRO El Granado 22.73 278 P P 05 34 41.7 +0.1
comp=Z,27nm,1.1s,mb4.6
PVIS Viseu 22.74 287 eP P 05 34 40.5 -1.1
comp=Z,93nm,1.7s,mb4.9
SBD1 Bryn Du 22.83 320 eP P 05 34 41.8 -0.6
ELOB Lobios 22.85 290 P P 05 34 40.8 -2.0
comp=Z,21nm,1.3s,mb4.4
KIB El Ksiba 22.86 265 *i* P P 05 34 43.0 0.0
RST Umm Al-Ruwaisa 22.90 103 eP P 05 34 40.2 -3.2
baz=103
RST AMb AMB 05 34 50.8
comp=Z,105nm,0.6s,mb5.4,baz=103
PVAQ Vaqueiros 22.93 278 eP P 05 34 43.5 -0.2
comp=Z,63nm,1.3s,mb4.9
PVAQ eS S **05 38 51.1 -2.7**
PVAQ eLR LR 05 40 17.1
comp=Z,314nm,18.0s
PBEJ Beja 22.95 280 eP P 05 34 42.2 -1.7
comp=Z,42nm,1.3s,mb4.7
HFS Hagfors 22.97 350 P P 05 34 41.8 -2.1
comp=Z,33nm,0.6s,mb5.0,baz=149,slow=12,SNR=110
HFS Hagfors 22.97 350 P P 05 34 41.8 -2.0
HFS pmax pmax
comp=Z,33nm,0.6s
HFA0 Hagfors New Ar 22.98 350 P P 05 34 41.0 -2.9
EVO Evora 23.00 281 eP P 05 34 42.9 -1.5
comp=Z,63nm,1.3s,mb4.6
EVO eMLR MLR
comp=Z,886nm,22.5s,MS3.9
EVO Evora 23.00 281 eP P 05 34 42.8 -1.6
comp=Z,36nm,1.4s,mb4.6
EVO Evora 23.00 281 eP P 05 34 42.3 -2.1
MIB Mutribah 23.03 102 eP P 05 34 42.0 -2.8
baz=102
MIB AMb AMB 05 34 52.4
comp=Z,145nm,0.7s,mb5.5,baz=102
PBDV Barranco-do-Ve 23.13 278 eP P 05 34 44.5 -1.3
comp=Z,108nm,1.4s,mb5.1
PBDV eS S **05 39 01.1 +4.1**
PTOM Tomar 23.20 284 eP P 05 34 46.7 +0.2
comp=Z,86nm,1.6s,mb4.9
PTOM Tomar 23.20 284 eP P 05 34 45.4 -1.1
KONO Kongsberg 23.21 345 eP P 05 34 45.3 -1.1
KONO pmax pmax
comp=Z,55nm,1.0s,mb4.9
KONO Kongsberg 23.21 345 eP P 05 34 45.3 -1.1
comp=Z,55nm,1.0s,mb4.9
NAY Al-Naaiem 23.21 104 eP P 05 34 43.0 -3.7
baz=104
NAY AMb AMB 05 35 00.1
comp=Z,87nm,0.7s,mb5.3,baz=104
TZC Tazercounte 23.37 265 *i* P P 05 34 49.0 +0.7
XAL Allendale 23.43 325 eP P 05 34 47.9 -0.9
MORF Marmelete 23.68 278 eLR LR 05 39 52.2
comp=Z,419nm,18.0s
BLS5 Blasjo 23.73 341 eP P 05 34 51.5 -0.2
BLS5 AMb AMB 05 35 00.1
comp=Z,35nm,1.1s,mb4.7
BLS5 Blasjo 23.73 341 eP P 05 34 51.5 -0.2
comp=Z,35nm,1.1s,mb4.7,SNR=33
XSO Sourhope Farm 23.84 326⇑eP P 05 34 52.3 -0.4
PFVI Vila Bisbo 23.85 278 eS S 05 39 14.2 +5.4
PFVI eLR LR 05 40 35.7
comp=Z,405nm,18.0s
PMAFR Mafra 23.94 282 eLR LR 05 39 19.0
comp=Z,363nm,18.0s
ECK Cauldkaine Hil 24.05 324 eP P 05 34 53.8 -0.8
NAO01 NORSAR Array S 24.07 348 eP P 05 34 53.7 -1.1
comp=Z,22nm,0.9s,mb4.6
EKA Eskdalemuir Ar 24.15 325 P P 05 34 54.9 -0.6
comp=Z,19nm,0.8s,mb4.6,baz=126,slow=11,SNR=42
EKA Eskdalemuir Ar 24.15 325 P P 05 34 54.9 -0.6
EKA pmax pmax
comp=Z,19nm,0.8s
ESK Eskdalemuir 24.16 325 P P 05 34 55.4 -0.2
comp=Z,494nm,0.8s,mb6.0,SNR=9.4
ESK Eskdalemuir 24.16 325 eP P 05 34 54.3 -1.4
ESK AMb AMB 05 35 04.5
comp=Z,212nm,1.8s,mb5.3
NB2 NORSAR Subarra 24.20 348 P P 05 34 54.4 -1.5
comp=Z,99nm,1.0s,mb5.2,baz=159,slow=9.3
NB2 NORSAR Subarra 24.20 348 P P 05 34 54.2 -1.7
NOA NORSAR Array B 24.20 348 P P 05 34 54.5 -1.5
comp=Z,29nm,0.9s,mb4.7,baz=153,slow=9.1,SNR=40
NOA LR LR 05 45 41.0
comp=Z,489nm,19.7s,MS4.0,baz=185,slow=40
NOA NORSAR Array B 24.20 348 P P 05 34 54.5 -1.4
NOA pmax pmax
comp=Z,29nm,0.9s
NOA MLR MLR
comp=Z,489nm,19.7s
ESY Stoneypath 24.27 326 eP P 05 34 56.8 +0.2
EBL Broad Law 24.37 326 eP P 05 34 56.9 -0.6
EDI Edinburgh 24.52 326 eP P 05 34 58.6 -0.3
EDI AMb AMB 05 35 08.1
comp=Z,138nm,1.4s,mb5.3
KAF Kangasniemi 24.64 6 ep P 05 34 57.8 -2.1
comp=Z,62nm,0.9s,mb5.1,baz=186,slow=9.2
KAF Kangasniemi 24.64 6 eP P 05 34 57.8 -2.1
KAF pmax pmax
comp=Z,62nm,0.9s,mb5.1

DLF Lyons Farm 24.73 318 eP P 05 34 59.2 -1.6
EBH Black Hill 24.86 326 eP P 05 35 01.2 -0.8
EAB Aberfoyle 25.20 325 eP P 05 35 05.1 0.0
HYA Hoyanger 25.32 343 eP P 05 35 05.8 -0.4
HYA AMb AMB 05 35 16.3
comp=Z,96nm,1.3s,mb5.2
HYA Hoyanger 25.32 343 eP P 05 35 05.8 -0.3
comp=Z,96nm,1.3s,mb5.2,SNR=28
CIA Chichaoua 25.38 265 *i* P P 05 35 08.0 +1.1
DOMB Dombas 25.51 347 eP P 05 35 07.7 -0.2
DOMB AMb AMB 05 35 18.2
comp=Z,100nm,1.0s,mb5.3
DOMB Dombas 25.51 347 eP P 05 35 07.7 -0.1
comp=Z,100nm,1.0s,mb5.3,SNR=28
MCD Coleburn Disti 25.60 329 eP P 05 35 07.2 -1.4
JOF Joensuu 25.99 11 ep P 05 35 09.0 -3.1
comp=Z,42nm,0.9s,mb5.0
JOF Joensuu 25.99 11 eP P 05 35 09.0 -3.1
JOF pmax pmax
comp=Z,42nm,0.9s,mb5.0
NSS Namsos 27.43 351 eP P 05 35 22.5 -2.6
MOR8 Moi Rana 28.79 354 eP P 05 35 38.2 +1.0
AKTK Aktyubinsk 29.01 52 P P 05 35 37.3 -2.1
AKTK LR LR 05 49 39.7
AKTO Aktyubinsk 29.01 52 P P 05 35 37.3 -2.1
comp=Z,12nm,1.0s,mb4.6,baz=258,slow=10,SNR=11
AKTO LR LR 05 49 39.7
comp=Z,304nm,19.3s,MS3.9,baz=262,slow=42
AKTO Aktyubinsk 29.01 52 P P 05 35 37.3 -2.1
AKTO pmax pmax
comp=Z,12nm,1.0s,mb4.6
AKTO MLR MLR
comp=Z,304nm,19.3s,MS3.9
TOA0 Torodi Ar. Sit 30.03 221 eP P 05 35 48.9 +0.1
TORD Torodi Ar. Bea 30.03 221 P P 05 35 48.6 -0.1
comp=Z,18nm,0.8s,mb4.8,baz=30,slow=9.2,SNR=119
AB31 Akbulak array 30.04 55 P P 05 35 46.9 -1.6
AB31 pmax pmax
comp=Z,3.0nm,0.4s,mb4.4
ARU Arti 31.04 41*d i*P P 05 35 54.4 -2.8
ARU *e* 05 36 52.0
ARU *e* 05 38 52.4
ARU eS S **05 40 58.7 -3.3**
ARU *e* 05 46 26.0
ARU pmax pmax
comp=Z,12nm,1.0s,mb4.7
ARCES ARCESS Array B 31.98 3 P P 05 36 03.5 -1.8
comp=Z,10nm,0.6s,mb4.8,baz=191,slow=10.0,SNR=41
ARCES LR LR 05 49 30.7
comp=Z,504nm,18.5s,MS4.2,baz=182,slow=38
ARCES ARCESS Array B 31.98 3 P P 05 36 03.5 -1.9
ARCES pmax pmax
comp=Z,10.0nm,0.6s
ARCES MLR MLR
comp=Z,504nm,18.5s
ARE0 ARCESS Array S 31.98 3 eP P 05 36 04.0 -1.3
SVE Sverdlovsk 32.25 41⇑eP P 05 36 06.3 -1.6
SVE *e* 05 43 14.3
SVE pmax pmax
comp=Z,64nm,1.2s,mb5.3
SVE MLR MLR
comp=Z,1μm,13.0s,MS4.7
KEV Kevo 32.27 4 ep P 05 36 05.7 -2.2
comp=Z,12nm,0.7s,mb4.8
KEV Kevo 32.27 4 eP P 05 36 05.7 -2.2
KEV pmax pmax
comp=Z,13nm,0.7s,mb4.9
WHFO Wadi Hawf 34.61 116 P P 05 36 26.7 -2.2
SNR=5.4
ABTO Aybut 34.65 117 P P 05 36 27.8 -1.4
SNR=9.7
SMDO Samad 34.70 104 P P 05 36 27.4 -2.1
SNR=9.3
RBK Rabkut 35.20 116 P P 05 36 31.9 -2.0
SNR=9.2
CMLA Cha da Macela 36.69 285 eP S 05 42 19.3 -11
CMLA eLQ 05 45 11.0
CMLA eLR LR 05 46 29.1
CMLA eP 05 50 55.4
BRVK Borovoye 36.93 49 P P 05 36 47.3 -1.1
comp=Z,244nm,0.8s,mb6.1,SNR=8.8
BRVK Borovoye 36.93 49 P P 05 36 47.4 -0.9
SNR=21
BRVK Borovoye 36.93 49 P P 05 36 46.7 -1.7
BRVK pmax pmax
comp=Z,79nm,1.2s,mb5.4
BVAR Borovoye Array 36.99 49 P P 05 36 47.4 -1.5
comp=Z,5.6nm,0.6s,mb4.6,baz=256,slow=6.0,SNR=20
BVAR Borovoye Array 36.99 49 P P 05 36 47.4 -1.5
BVAR pmax pmax
comp=Z,6.0nm,0.6s
VOSK Vostochnaya 37.32 50 P P 05 36 51.0 -0.7
VOSK pmax pmax
comp=Z,34nm,1.0s,mb5.1
KK31 Karatay Array 37.46 66 *i* P P 05 36 51.8 -1.2
KK31 pmax pmax
comp=Z,9.0nm,0.6s,mb4.8
DBIC Dimbokro 38.94 224 P P 05 37 05.2 -0.6
comp=Z,22nm,0.7s,mb5.0,baz=11,slow=9.7,SNR=23
DBIC LR LR 05 55 54.9
comp=Z,436nm,18.1s,MS4.3,baz=11,slow=40
DBIC Dimbokro 38.94 224 eP P 05 37 05.9 +0.1
DBIC pmax pmax
comp=Z,41nm,0.9s
DBIC Dimbokro 38.94 224 eP P 05 37 05.9 +0.1
comp=Z,41nm,0.9s,mb5.2
LIC Lamto 39.40 224 eP P 05 37 09.3 -0.3
comp=Z,130nm,1.0s,mb5.3
LIC eMLR MLR
comp=Z,806nm,20.8s,MS4.2
LIC Lamto 39.40 224 eP P 05 37 09.3 -0.3
comp=Z,65nm,1.0s,mb5.3
FRU Bishkek 40.48 65 eP P 05 37 17.0 -1.3
FRU pmax pmax
comp=Z,45nm,1.8s,mb4.9
BBTS Babate 40.55 246 P P 05 37 20.4 +1.2
comp=Z,45nm,0.9s,mb5.1,baz=130,slow=1.2,SNR=4.7
SPITS Spitsbergen Ar 40.64 358 P P 05 37 18.2 -1.0
comp=Z,4.2nm,0.4s,mb4.4,baz=299,slow=10,SNR=11
SPB4 Spitsbergen Ar 40.64 358 P P 05 37 19.9 +0.6
KMBO Kilima Mbogo 41.37 155 P P 05 37 26.8 +0.9
comp=Z,2.1nm,0.2s,mb4.4,baz=51,slow=23,SNR=3.8
KMBO LR LR 05 55 58.3
comp=Z,334nm,19.8s,MS4.2,baz=293,slow=38
KMBO Kilima Mbogo 41.37 155 P P 05 37 26.8 +0.9
KMBO pmax pmax
comp=Z,2.0nm,0.2s
KMBO MLR MLR
comp=Z,334nm,19.8s
KURK Kurchatov 42.10 53 P P 05 37 29.8 -1.7
comp=Z,246nm,0.8s,mb5.9,SNR=13
KURK Kurchatov 42.10 53 P P 05 37 29.9 -1.6
SNR=25
KURK Kurchatov 42.10 53 P P 05 37 29.2 -2.3
KURK pmax pmax
comp=Z,89nm,1.6s,mb5.2
NVS Novosibirsk 44.58 47⇑*i*P P 05 37 50.4 -1.1
NVS *i* S S **05 44 21.0 -6.0**
NVS pmax pmax
comp=Z,58nm,1.2s,mb5.3
NVS pmax pmax
comp=N,15nm,1.4s
NVS pmax pmax
comp=E,24nm,1.1s
NVS smax
comp=N,52nm,2.2s
NVS smax
comp=E,16nm,1.9s
MK31 Makanchi Array 45.06 58 eP P 05 37 54.2 -1.2
MKAR Makanchi Array 45.06 58 P P 05 37 53.0 -2.4
comp=E,9.9nm,0.6s,mb4.8,baz=276,slow=7.0,SNR=59
MKAR LR LR 05 59 19.0
comp=E,257nm,20.1s,MS4.2,baz=284,slow=40
MKAR Makanchi Array 45.06 58 P P 05 37 53.0 -2.4
MKAR pmax pmax
comp=Z,10.0nm,0.6s
MKAR MLR MLR
comp=Z,257nm,20.1s
ZAA0 Zalesovo Array 45.58 48 eP P 05 37 57.4 -2.1
ZALV Zalesovo Beam 45.58 48 P P 05 37 57.1 -2.4
comp=Z,13nm,0.5s,mb5.1,baz=278,slow=9.2,SNR=23
ZALV LR LR 05 58 03.5
comp=Z,166nm,18.2s,MS4.0,baz=278,slow=38
ZALV Zalesovo Beam 45.58 48 P P 05 37 57.1 -2.4
ZALV pmax pmax
comp=Z,13nm,0.5s,mb5.1

ZALV MLR MLR
comp=Z,166nm,18.2s,MS4.0
WMQ Urumqi 49.49 61 ⇑P **P 05 38 29.0 -1.0**
WMQ AP pP 05 38 33.5 +0.4
WMQ XP sP 05 38 36.0 +1.6
WMQ PCP PcP 05 39 51.5 -0.4
WMQ PP PP 05 40 23.5 -0.5
WMQ PPP 05 41 18.0
WMQ S **S 05 45 34.0 -3.3**
WMQ XS sS 05 45 42.0 -0.5
WMQ SCS ScS 05 48 17.5 -4.3
WMQ AMB AMB
comp=Z,14nm,0.9s,mb5.0
WMQ AMB AMB
comp=Z,202nm,4.3s
WMQ LR LR
comp=N,331nm,23.2s,MS4.4
WMQ LR LR
comp=E,360nm,25.0s,MS4.4
WMQ LR LR
comp=Z,296nm,24.0s,MS4.2
DANN Dangsing 52.38 81 *e*P **P 05 38 49.4 -2.6**
comp=Z,151nm,0.7s,mb6.0
KOLN Koldanda 52.52 82 *e*P **P 05 38 49.6 -3.4**
comp=Z,37nm,0.6s,mb5.5
LSZ Lusaka 53.09 172 P **P 05 38 57.1 -0.1**
comp=Z,4.2nm,0.7s,mb4.5,baz=11,slow=8.8,SNR=7.3
LSZ Lusaka 53.09 172 P **P 05 38 57.1 -0.1**
LSZ pmax pmax
comp=Z,4.0nm,0.7s,mb4.5
GKN Gorkha 53.23 81 *e*P **P 05 38 54.7 -3.5**
comp=Z,61nm,0.6s,mb5.7
DMN Daman 53.78 81 *e*P **P 05 38 59.3 -3.0**
comp=Z,68nm,0.6s,mb5.7
HYB Hyderabad 53.83 96 *i*P **P 05 39 01.5 -1.2**
HYB Hyderabad 53.83 96 *e*P **P 05 39 01.5 -1.2**
KKN Kakani 53.83 81 *e*P **P 05 38 59.6 -3.1**
comp=Z,33nm,0.6s,mb5.4
KKN Kakani 53.83 81 *e*P **P 05 38 59.6 -3.1**
KKN pmax pmax
comp=Z,33nm,0.6s,mb5.4
GUN Gumba 54.24 80 *e*P **P 05 39 03.4 -2.3**
comp=Z,74nm,0.9s,mb5.6
JIRN Jiri 54.60 80 *e*P **P 05 39 05.5 -2.8**
comp=Z,28nm,0.6s,mb5.4
RAMN Ramite 55.26 81 *e*P **P 05 39 09.7 -3.4**
comp=Z,71nm,0.8s,mb5.8
MOY Mondy 55.64 48 *e*P **P 05 39 15.6 +0.2**
TAPN Taplejung 55.94 80 *e*P **P 05 39 15.7 -2.2**
comp=Z,34nm,0.7s,mb5.5
TSUM Tsumeb 56.70 184 P **P 05 39 23.1 -0.1**
comp=Z,3.5nm,0.8s,mb4.5,baz=20,slow=5.7,SNR=6.7
TSUM Tsumeb 56.70 184 *e*P **P 05 39 23.5 +0.3**
comp=Z,4.2nm,0.9s,mb4.5
TSUM Tsumeb 56.70 184 *e*P **P 05 39 23.5 +0.2**
comp=Z,4.2nm,0.9s,mb4.5
TLY Talaya 57.19 47 *e*P **P 05 39 19.3 -7.2**
TLY MLR MLR
comp=Z,389nm,18.0s,MS4.5
IRK Irkutsk 57.35 46 *e*P **P 05 39 32.1 +4.5**
IRK pmax pmax
comp=Z,30nm,1.7s,mb5.0
ZAK Zakamensk 57.44 49 *e*P **P 05 39 25.3 -2.9**
ZAK pmax pmax
comp=Z,8.0nm,1.5s,mb4.5
LSA Lhasa 57.50 76 P **P 05 39 28.4 -0.6**
LSA pmax pmax
comp=Z,15nm,0.6s,mb5.2
LSA Lhasa 57.50 76 P **P 05 39 28.4 -0.6**
comp=Z,15nm,0.6s,mb5.2
LSA Lhasa 57.50 76 P **P 05 39 28.4 -0.6**
comp=Z,15nm,0.6s,mb5.2
GTA Gaotai 59.54 62 *e*P **P 05 39 41.0 -2.1**
GTA AP pP 05 39 44.5 -1.8
GTA XP sP 05 39 46.0 -1.5
GTA S **S 05 47 48.8 -4.1**
GTA XS sS 05 47 56.0 -2.1
GTA SS SS 05 51 47.3 -0.4
GTA AMB AMB
comp=Z,4.0nm,1.1s,mb4.4
GTA AMB AMB
comp=Z,65nm,4.5s
GTA LR LR
comp=N,292nm,18.0s,MS4.6
GTA LR LR
comp=E,279nm,17.4s,MS4.6
GTA LR LR
comp=Z,245nm,19.2s,MS4.3
TIXI Tiksi 59.90 20 *e*P **P 05 39 41.8 -3.2**
TIXI pmax pmax
comp=Z,9.0nm,1.5s,mb4.6
TIXI MLR MLR
comp=Z,825nm,17.0s,MS4.9
TIXI Tiksi 59.90 20 P **P 05 39 44.6 -0.4**
comp=Z,13nm,1.3s,mb4.8
TIXI Tiksi 59.90 20 P **P 05 39 44.6 -0.5**
comp=Z,13nm,1.3s,mb4.8
SONM Songino Array 60.32 51 P **P 05 39 46.7 -1.6**
comp=Z,4.2nm,0.9s,mb4.5,baz=283,slow=5.1,SNR=16
SONM LR LR 06 09 30.0
comp=Z,293nm,20.6s,MS4.4,baz=157,slow=40
SONM Songino Array 60.32 51 P **P 05 39 46.7 -1.6**
SONM pmax pmax
comp=Z,4.0nm,1.0s
SONM MLR MLR
comp=Z,293nm,20.6s
BOD Bodaibo 60.40 38 *e*P **P 05 39 45.6 -3.1**
BOD pmax pmax
comp=Z,16nm,1.0s,mb5.0
ULN Ulaanbaatar 60.71 50 *e*P **P 05 39 48.9 -2.0**
ULN pmax pmax
comp=Z,9.0nm,1.0s,mb4.8
ULN Ulaanbaatar 60.71 50 *e*P **P 05 39 48.9 -2.1**
comp=Z,8.8nm,1.0s,mb4.8
LZH Lanzhou 63.90 63 *e*P **P 05 40 11.5 -1.1**
LZH AP pP 05 40 15.5 -0.3
LZH XP sP 05 40 18.0 +1.0
LZH PP PP 05 42 33.0 +0.2
LZH *e*S **S 05 48 44.0 -4.2**
LZH XS sS 05 48 51.0 -2.5
LZH SS SS 05 52 50.5 -5.5
LZH AMB AMB
comp=Z,18nm,1.0s,mb5.1
LZH AMB AMB
comp=Z,160nm,5.2s
LZH LR LR
comp=N,591nm,17.4s
LZH LR LR
comp=Z,775nm,18.6s,MS4.9
YAK Yakutsk 65.24 30 *e*P **P 05 40 17.1 -3.8**
YAK pmax pmax
comp=Z,15nm,0.9s,mb5.0
CLNS Chul'man 66.05 36 *e*P **P 05 40 23.5 -2.7**
CLNS pmax pmax
comp=Z,12nm,0.7s,mb5.0
CLNS pmax pmax
comp=N,12nm,0.9s
CLNS pmax pmax
comp=E,6.0nm,0.8s
CLNS MLR MLR
comp=Z,322nm,14.0s,MS4.7
CLNS MLR MLR
comp=N,297nm,16.0s,MS4.7
CLNS MLR MLR
comp=E,177nm,12.0s,MS4.7
BOSA Boshof 66.07 176 P **P 05 40 26.1 -0.4**
comp=E,3.1nm,0.6s,mb4.5,baz=3.1,slow=5.1,SNR=8.2
BOSA LR LR 06 10 18.6
comp=E,324nm,19.1s,MS4.5,baz=0.5,slow=37
BOSA Boshof 66.07 176 P **P 05 40 26.1 -0.4**
BOSA pmax pmax
comp=Z,3.0nm,0.6s,mb4.5
BOSA MLR MLR
comp=Z,324nm,19.1s,MS4.5
CD2 Chengdu 66.41 68 P **P 05 40 27.5 -1.4**
CD2 AP pP 05 40 32.3 +0.1
CD2 XP sP 05 40 35.8 +2.4
CD2 PP PP 05 42 55.0 +0.1
CD2 S S 05 49 13.5 -5.7
CD2 SS SS 05 53 30.0 -5.3
CD2 AMB AMB
comp=Z,20nm,0.8s,mb5.2
CD2 AMB AMB
comp=Z,60nm,4.8s
CD2 LR LR
comp=E,320nm,13.2s
CD2 LR LR
comp=Z,210nm,10.8s,MS4.6
HHC Hu-ho-hao-te 66.83 56 *e*P **P 05 40 30.5 -0.9**
HHC AP pP 05 40 35.0 +0.3
HHC XP sP 05 40 37.5 +1.6
HHC PCP PcP 05 40 59.8 -0.4
HHC PP PP 05 43 00.0 +1.7
HHC SCP 05 45 00.8
HHC S S 05 49 20.3 -3.6
HHC XS sS 05 49 28.0 -1.3
HHC SCS ScS 05 50 22.5 -6.3
HHC SS SS 05 53 39.3 -2.0
HHC AMB AMB
comp=Z,25nm,1.3s,mb5.1
HHC AMB AMB
comp=Z,231nm,5.1s
HHC LR LR
comp=N,318nm,17.5s,MS4.8
HHC LR LR
comp=E,476nm,19.2s,MS4.8
HHC LR LR
comp=Z,195nm,18.0s,MS4.4
XAN Xi'an 68.53 63 P **P 05 40 40.0 -2.3**
XAN AP pP 05 40 44.0 -1.5
XAN XP sP 05 40 45.3 -1.4
XAN PCP PcP 05 41 06.3 -1.1
XAN PP PP 05 43 11.0 -2.2
XAN S S 05 49 42.0 -2.5
XAN SS SS 05 54 06.0 -1.9
XAN AMB AMB
comp=Z,3.0nm,0.9s,mb4.2
XAN LR LR
comp=N,71nm,21.5s,MS4.2
XAN LR LR
comp=E,141nm,19.5s,MS4.2
XAN LR LR
comp=Z,166nm,27.4s
KMI Kunming 68.68 74 P **P 05 40 44.3 +0.9**
KMI AMB AMB
comp=Z,11nm,0.7s,mb4.9
CHTO Chiang Mai 69.19 82 *e*P **P 05 40 44.5 -2.1**
CHTO pmax pmax
comp=Z,13nm,1.4s,mb4.7
CHTO Chiang Mai 69.19 82 *e*P **P 05 40 44.5 -2.0**
comp=Z,13nm,1.4s,mb4.7
CM31 Chiang Mai Arr 69.38 82 *e*P **P 05 40 45.1 -2.7**
comp=Z,14nm,0.6s,mb5.1
CMAR Chiang Mai Arr 69.38 82 P **P 05 40 45.4 -2.5**
comp=Z,2.6nm,0.6s,mb4.3,baz=304,slow=7.4,SNR=11
CMAR LR LR 06 16 46.6
comp=Z,91nm,19.5s,MS4.0,baz=292,slow=41
CMAR Chiang Mai Arr 69.38 82 *i*P **P 05 40 45.4 -2.4**
CMAR pmax pmax
comp=Z,3.0nm,0.6s
SUR Sutherland 69.72 180 LR LR 06 13 47.7
comp=Z,492nm,19.2s,MS4.8,baz=219,slow=38
BJI Beijing 70.25 54 P **P 05 40 49.3 -3.5**
BJI PP PP 05 43 26.5 -1.4
BJI S S 05 50 00.5 -4.1
BJI SS SS 05 54 32.0 -2.1
BJI AMB AMB
comp=Z,10.0nm,0.6s,mb4.9
BJI LR LR
comp=N,543nm,17.5s,MS5.0
BJI LR LR
comp=E,394nm,15.1s,MS5.0
BJI LR LR
comp=Z,258nm,32.9s
SADO Sadowa 71.01 312 P **P 05 40 57.2 -0.1**
comp=Z,2.1nm,0.5s,mb4.3,baz=115,slow=6.4,SNR=3.1
SADO Sadowa 71.01 312 P **P 05 40 57.2 -0.1**
BILL Bilibino 71.35 13 P **P 05 40 58.0 -1.0**
BILL *PP pP 05 41 02.0 -0.3
BILL *e* 05 41 12.5
BILL pmax pmax
comp=Z,53nm,2.5s,mb5.0
BILL MLR MLR
comp=Z,400nm,17.0s,MS4.8
BILL Bilibino 71.35 13 P **P 05 40 58.0 -1.0**
comp=Z,53nm,2.5s,mb5.0
SEY Seymchan 72.38 21⇑*e*P **P 05 41 05.0 -0.3**
CN2 Changchun 73.79 47 *e*P **P 05 41 13.0 -1.0**
KLR Kul'dur 73.87 40 *e*P **P 05 41 08.2 -6.2**
KLR MLR MLR
comp=Z,1μm,12.0s,MS5.3
YKA Yellowknife Ar 74.04 340 P **P 05 41 13.5 -1.6**
comp=Z,4.3nm,1.0s,mb4.3,baz=41,slow=6.2,SNR=3.4
YKA LR LR 06 15 09.6
comp=Z,139nm,18.4s,MS4.3,baz=90,slow=37
YKA Yellowknife Ar 74.04 340 P **P 05 41 13.5 -1.6**
YKA pmax pmax
comp=Z,4.0nm,1.0s
YKA MLR MLR
comp=Z,139nm,18.4s
YKA Yellowknife Ar 74.04 340 P **P 05 41 13.5 -1.6**
YKA LR LR 06 15 09.6
COWI Conover 75.81 318 *e*P **P 05 41 25.6 0.0**
comp=Z,15nm,0.9s,mb4.9
ULM Lac du Bonnet 76.43 324 P **P 05 41 28.0 -1.1**
comp=Z,14nm,0.8s,mb5.0,baz=48,slow=5.0,SNR=14
ULM LR LR 06 16 19.1
comp=Z,291nm,19.9s,MS4.6,baz=13,slow=37
ULM Lac du Bonnet 76.43 324 *e*P **P 05 41 28.5 -0.6**
comp=Z,12nm,0.8s,mb4.9
IMA2 Indian Mountai 76.49 358 *e*P **P 05 41 29.1 0.0**
COLA College 77.40 355⇑*i*P **P 05 41 32.2 -2.1**
DAWY Dawson 77.42 351 *e*P **P 05 41 34.2 -0.2**
BLO Bloomington 78.76 311 *e*P **P 05 41 42.5 +0.2**
BLO pmax pmax
comp=Z,14nm,0.7s,mb5.0
BLO Bloomington 78.76 311 *e*P **P 05 41 42.5 +0.1**
comp=Z,14nm,0.7s,mb5.0
KSRS Korea Array 79.19 51 P **P 05 41 43.3 -1.4**
comp=Z,3.2nm,0.5s,mb4.5,baz=301,slow=5.1,SNR=6.9
KSRS LR LR 06 23 47.5
comp=Z,156nm,18.5s,MS4.4,baz=320,slow=41
WCI Wyandotte Cave 79.23 310 *e*P **P 05 41 43.9 -1.0**
WCI pmax pmax
comp=Z,17nm,1.0s,mb4.9
WCI Wyandotte Cave 79.23 310 *e*P **P 05 41 43.9 -1.0**
comp=Z,17nm,1.0s,mb4.9
HYT Haines Junctio 80.30 350 *e*P **P 05 41 48.6 -1.6**
YSS Yuzh-Sakhalins 80.81 36⇑*i*P **P 05 41 51.1 -2.2**
YSS *e* 05 41 56.5
YSS pmax pmax
comp=Z,50nm,1.0s,mb5.4
YSS MLR MLR
comp=E,500nm,18.0s
YSS MLR MLR
comp=Z,500nm,18.0s,MS4.9
YSS Yuzh-Sakhalins 80.81 36 *e*P **P 05 41 52.8 -0.5**
comp=Z,35nm,1.0s,mb5.2
ECSD EROS,Sioux Fal 81.33 320 *e*P **P 05 41 56.0 -0.2**
comp=Z,8.7nm,0.9s,mb4.7
SVW2 Sparrevohn 81.52 358 P **P 05 41 58.2 +1.4**
PETK Petropavlovsk- 82.00 25 P **P 05 41 55.8 -3.6**
comp=Z,10nm,1.0s,mb4.7,baz=306,slow=3.3,SNR=3.8
PETK LR LR 06 23 09.4
comp=Z,280nm,18.2s,MS4.7,baz=121,slow=39
CCM Cathedral Cave 82.29 313 *e*P **P 05 42 01.3 0.0**
comp=Z,336nm,1.0s
LRAL Lakeview Retre 83.01 307 *e*P **P 05 42 04.3 -0.8**
comp=Z,30nm,1.6s,mb5.1
LAO LASA Array 83.72 327 *e*P **P 05 42 08.7 +0.2**
comp=Z,14nm,1.0s,mb5.0
BDFB Brasilia 83.83 245 *e*P **P 05 42 09.8 +0.3**
A16A West Butte Ran 84.13 331 ⇓P **P 05 42 09.6 -1.0**
baz=84,SNR=6.6
EGMT Eagleton 84.15 329 ⇑P **P 05 42 11.0 +0.3**
baz=84
EGMT Eagleton 84.15 329 *e*P **P 05 42 11.2 +0.5**
comp=Z,38nm,1.1s,mb5.4
A15A Johnson Ranch, 84.54 332 ⇑P **P 05 42 12.3 -0.4**
baz=84,SNR=16
A14A Double T Ranch 84.80 332 ⇑P **P 05 42 13.6 -0.4**
baz=84,SNR=15
D18A Linhart Farms, 84.83 329 ⇓P **P 05 42 13.4 -0.7**
baz=84
C17A Wharram Farm, 84.87 330 ⇓P **P 05 42 13.7 -0.6**
baz=84,SNR=7.1
WALA Waterton Lakes 84.92 332 *e*P **P 05 42 14.0 -0.6**
comp=Z,9.9nm,1.0s,mb4.9
B15A Bradely Ranch, 85.02 331 ⇓P **P 05 42 14.2 -0.9**
baz=85,SNR=9.0
C16A Fuhringer Ranc 85.12 330 ⇑P **P 05 42 14.8 -0.8**
baz=85
B14A Marquette Ranc 85.25 332 ⇓P **P 05 42 15.7 -0.5**
baz=85,SNR=11
E18A Harlowton 85.38 329 ⇑P **P 05 42 16.4 -0.5**
baz=85
C15A Salmond Ranch, 85.48 331 ⇓P **P 05 42 16.4 -1.0**
baz=85
D16A Dana Ranch, Ca 85.67 330 ⇑P **P 05 42 18.1 -0.3**
baz=85,SNR=10.0
B13A Whitefish 85.69 332 ⇓P **P 05 42 19.3 +0.9**
baz=85,SNR=6.9
F18A Big Timber 85.83 328 ⇓P **P 05 42 19.5 +0.3**
baz=86
E17A Martinsdale 85.85 329 ⇑P **P 05 42 19.5 +0.2**
baz=86,SNR=10
GCMT Greycliff 85.90 328 *e*P **P 05 42 21.1 +1.6**
MJAR Matsushiro Arr 85.91 46 P **P 05 42 17.3 -2.4**
comp=Z,5.1nm,1.0s,mb4.7,baz=320,slow=5.3,SNR=7.2
MJAR LR LR 06 24 02.9
comp=Z,210nm,20.2s,MS4.5,baz=295,slow=38
MJAR Matsushiro Arr 85.91 46 P **P 05 42 17.3 -2.5**
MJAR pmax pmax
comp=Z,5.0nm,1.0s
MJAR MLR MLR
comp=Z,210nm,20.2s
C14A Swan Lake 85.92 331 ⇓P **P 05 42 18.8 -0.8**
baz=86
HRY Holter Researc 86.04 330 *e*P **P 05 42 20.2 0.0**
D15A Lincoln 86.05 330 ⇓P **P 05 42 19.7 -0.5**
baz=86
MIAR Mount Ida 86.05 311 *e*P **P 05 42 20.8 +0.3**
MIAR pmax pmax
comp=Z,7.0nm,1.1s,mb4.8
MIAR Mount Ida 86.05 311 *e*P **P 05 42 20.8 +0.3**
comp=Z,7.0nm,1.1s,mb4.8
SDV Santo Domingo 86.12 278 P **P 05 42 21.0 -0.1**
comp=Z,5.1nm,0.7s,mb4.9,baz=52,slow=2.2,SNR=10
SDV Santo Domingo 86.12 278 *e*P **P 05 42 21.4 +0.3**
comp=Z,7.1nm,0.8s,mb5.0
F17A Fitzpatrick Pl 86.22 329 ⇓P **P 05 42 21.6 +0.4**
baz=86,SNR=6.2
BSMT Bassoo Peak 86.24 332 *e*P **P 05 42 21.9 +0.7**
RLMT Red Lodge 86.26 327 *e*P **P 05 42 23.2 +1.8**
comp=Z,12nm,1.3s,mb5.0
C13A Hot Springs 86.31 332 ⇓P **P 05 42 21.9 +0.3**
baz=86,SNR=6.8
D14A Greenough 86.40 331 ⇑P **P 05 42 21.2 -0.7**
baz=86,SNR=6.4
CHMT Chamberlain Mo 86.44 331 *e*P **P 05 42 22.9 +0.8**
C12B Naegeli Ranch, 86.62 332 ⇓P **P 05 42 22.6 -0.4**
baz=86,SNR=9.1
G17A Pierce Place, 86.72 328 ⇑P **P 05 42 23.5 -0.1**
baz=86,SNR=5.8
NEW Newport 86.74 334 *e*P **P 05 42 24.1 +0.5**
NEW pmax pmax
comp=Z,13nm,1.1s
NEW Newport 86.74 334 *e*P **P 05 42 24.1 +0.4**
comp=Z,13nm,1.1s,mb5.1
D13A Huson 86.75 331 ⇓P **P 05 42 22.9 -0.8**
baz=86,SNR=7.4
MSO Missoula 86.77 331 *e*P **P 05 42 24.4 +0.6**
comp=Z,5.6nm,1.2s,mb4.7
E14A Clinton 86.94 331 ⇓P **P 05 42 24.2 -0.4**
baz=87,SNR=6.4
LRM Limekiln Ridge 87.02 330 *e*P **P 05 42 25.7 +0.7**
D12A Red Ives Fores 87.12 332 ⇓P **P 05 42 24.8 -0.7**
baz=87
E13A Victor 87.19 331 ⇑P **P 05 42 25.4 -0.5**
baz=87,SNR=7.7
G16A Moss Hill, Enn 87.24 329 ⇑P **P 05 42 24.9 -1.2**
baz=87,SNR=9.4
DLMT Dillon 87.45 329 P **P 05 42 28.1 +1.0**
comp=Z,9.3nm,1.3s,mb4.8
PHWY Pilot Hill 87.53 323 *e*P **P 05 42 28.7 +1.1**
comp=Z,6.1nm,0.8s,mb4.9
E12A Beaver Dam Sad 87.74 332 ⇓P **P 05 42 27.7 -0.8**
baz=87
F13A Darby 87.79 331 ⇓P **P 05 42 28.3 -0.5**
baz=88,SNR=8.8
IMW Indian Meadow 87.96 328 *e*P **P 05 42 31.6 +2.0**
comp=Z,6.1nm,1.1s,mb4.7
MOOW Moose Ponds 88.00 327 *e*P **P 05 42 30.3 +0.5**
comp=Z,8.8nm,1.7s,mb4.7
LOHW Long Hollow 88.05 327 *e*P **P 05 42 31.4 +1.4**
F12A Elk City 88.17 331 ⇑P **P 05 42 30.0 -0.6**
baz=88,SNR=7.4
SNOW Snow King Moun 88.23 327 *e*P **P 05 42 32.3 +1.4**
C07A Waterville 88.25 335 ⇓P **P 05 42 30.2 -0.7**
baz=88
PDAR Pinedale Array 88.27 326 P **P 05 42 28.4 -2.7**
comp=Z,1.9nm,0.9s,mb4.3,baz=54,slow=3.0,SNR=11
PDAR LR LR 06 22 10.0
comp=Z,327nm,21.2s,MS4.7,baz=42,slow=36
BW06 Boulder Array 88.27 326 ⇓P **P 05 42 30.4 -0.6**
baz=88
TPAW Teton Pass 88.29 327 *e*P **P 05 42 31.8 +0.6**
comp=Z,5.9nm,1.0s,mb4.8
ETW Entiat 88.41 335 *e*P **P 05 42 31.8 +0.2**
RRI2 Red Ridge 88.57 327 *e*P **P 05 42 33.0 +0.5**
comp=Z,2.2nm,0.9s,mb4.5
J16A Bone 88.75 328 ⇓P **P 05 42 33.7 +0.3**
baz=88,SNR=6.9
ISCO Idaho Springs 88.76 322 *e*P **P 05 42 35.7 +2.2**
I14A Mackay 88.98 329 ⇓P **P 05 42 35.0 +0.6**
baz=89,SNR=7.7
J15A Blackfoot 88.99 328 ⇓P **P 05 42 35.2 +0.7**
baz=89
H12A Diamond D Ranc 89.03 330 ⇑P **P 05 42 35.0 +0.3**
baz=89
K16A Soda Springs 89.10 327 ⇓P **P 05 42 36.2 +1.2**
baz=89
C04A Brinnon 89.17 337 ⇓P **P 05 42 36.6 +1.3**
baz=89
I13A Wildhorse Cree 89.26 329 ⇓P **P 05 42 35.8 0.0**
baz=89,SNR=8.3
G10A Bishop Farm, J 89.27 332 ⇓P **P 05 42 35.4 -0.3**
baz=89
G09A Cove 89.52 332 ⇓P **P 05 42 37.1 +0.1**
baz=89
K15A Arbon 89.62 328 ⇑P **P 05 42 37.5 +0.1**
baz=89,SNR=6.5
BMO Blue Mountains 89.71 332 *e*P **P 05 42 37.6 -0.2**
comp=Z,3.3nm,0.7s,mb4.8
H10A Noah's Angus R 89.72 331 ⇓P **P 05 42 36.8 -1.1**
baz=89
I12A Atlanta 89.77 330 ⇓P **P 05 42 37.1 -1.0**
baz=89
K14A Jones Ranch, D 90.01 328 ⇓P **P 05 42 38.8 -0.5**
baz=90
O19A Miners Draw (B 90.04 324 ⇓P **P 05 42 38.8 -0.7**
baz=90
HWUT Hardware Ranch 90.08 327 *e*P **P 05 42 39.8 +0.2**
comp=Z,14nm,1.1s,mb5.2
I10A Payette 90.17 331 ⇓P **P 05 42 38.5 -1.5**
baz=90
N17A Moffit Pass 90.30 326 ⇑P **P 05 42 39.9 -0.7**
baz=90,SNR=5.7
M16A Huntsville 90.35 326 ⇓P **P 05 42 40.1 -0.8**
baz=90,SNR=9.6
MFID Camas Ranch 90.36 330 ⇓P **P 05 42 40.2 -0.6**
baz=90,SNR=7.0
L14A Malta 90.45 328 ⇓P **P 05 42 39.7 -1.7**
baz=90
G06A Carlson Farm, 90.58 334 ⇑P **P 05 42 42.2 +0.3**
baz=90
L13A Double Diamond 90.70 328 ⇓P **P 05 42 42.0 -0.5**
baz=90,SNR=7.3
H07A Lands Inn, Kim 90.76 333 ⇑P **P 05 42 41.8 -0.9**
baz=90
JLU Jordanelle 90.85 326 *e*P **P 05 42 44.2 +0.9**
O17A Robinson Place 90.86 325 ⇓P **P 05 42 42.9 -0.4**
baz=91
M14A Sheep Mountain 90.94 328 ⇑P **P 05 42 43.0 -0.6**
baz=91
K11A Parker Ranch, 90.98 330 ⇑P **P 05 42 43.1 -0.6**
baz=91,SNR=6.6
P18A Preston Nutter 91.09 325 ⇑P **P 05 42 43.9 -0.5**
baz=91
L12A House Creek Ra 91.10 329 ⇓P **P 05 42 44.5 +0.2**
baz=91
J09A Fry Pan Ranch, 91.16 331 ⇓P **P 05 42 44.2 -0.5**
baz=91
Q19A Hogan Spring (91.17 324 ⇓P **P 05 42 44.1 -0.7**
baz=91
I07A Izee 91.18 333 ⇓P **P 05 42 44.1 -0.6**
baz=91
L11A Cat Creek Ranc 91.38 330 ⇑P **P 05 42 45.4 -0.2**
baz=91,SNR=5.8
N14A Grayback Hills 91.41 327 ⇑P **P 05 42 45.1 -0.7**

baz=91,SNR=5.6
Q18A Rafter H Ranch 91.46 324 ⇓P P 05 42 45.3 -0.8
baz=91,SNR=6.7
PV01 Paradox Valley 91.50 323 *e*P P 05 42 46.8 +0.5
SRU San Rafael 91.64 325 ⇓P P 05 42 46.1 -0.8
baz=91,SNR=9.7
SRU San Rafael 91.64 325 *e*P P 05 42 46.2 -0.7
M12A Wells 91.67 329 ⇑P P 05 42 46.3 -0.7
baz=91,SNR=6.1
K09A Rome 91.70 331 ⇑P P 05 42 46.3 -0.9
baz=91
DUG Dugway 91.78 327 ⇑P P 05 42 47.1 -0.5
baz=92,SNR=6.9
DUG Dugway 91.78 327 *e*P P 05 42 48.5 +1.0
R18A Canyonlands Na 91.93 324 ⇑P P 05 42 46.3 -1.9
baz=92
S19A Harvey Farm, M 92.08 323 ⇑P P 05 42 47.7 -1.2
baz=92
Q16A Castle Valley 92.09 325 ⇑P P 05 42 48.1 -0.9
baz=92
MVCO Mesa Verde 92.19 322 *e*P P 05 42 55.8 +6.3
M10A I.L. Ranch, Tu 92.24 330 ⇑P P 05 42 48.7 -1.0
baz=92
L09A Wilkinson Ranc 92.26 331 ⇓P P 05 42 48.4 -1.4
baz=92
R17A Hanksville Air 92.28 324 ⇓P P 05 42 48.5 -1.4
baz=92
K07A Rock Creek Ran 92.29 332 ⇓P P 05 42 48.3 -1.5
baz=92
ELK Elko 92.36 328 P P 05 42 50.6 +0.4
comp=Z,2.5nm,1.0s,mb4.5,baz=49,slow=5.6,SNR=5.2
ELK Elko 92.36 328 P P 05 42 50.7 +0.5
ELK pmax pmax
comp=Z,3.0nm,1.0s
P14A Drum Mountains 92.39 326 ⇓P P 05 42 49.3 -1.1
baz=92
MSU Marysvale 92.88 325 *e*P P 05 42 53.3 +0.7
T18A Mexican Hat 92.92 323 ⇑P P 05 42 52.3 -0.6
baz=93
ANMO Albuquerque 92.94 319 ⇓*i*P P 05 42 53.8 +0.8
S17A Black Ridge (B 92.95 324 ⇑P P 05 42 51.9 -1.1
baz=93
Q14A Sevier Lake (B 92.98 326 ⇓P P 05 42 52.6 -0.5
baz=93
M08A Happy Creek Ra 93.03 331 ⇑P P 05 42 52.0 -1.2
baz=93
S16A Weppner Ranch, 93.25 324 ⇓P P 05 42 52.7 -1.7
baz=93,SNR=5.7
M07A Soldier Meadow 93.38 331 ⇓P P 05 42 55.2 +0.3
baz=93
NVAR Mina Array Bea 95.58 329 P P 05 43 04.6 -0.4
comp=Z,1.2nm,0.8s,mb4.4,baz=37,slow=2.9,SNR=7.8
TXAR Lajitas Array 95.72 314 P P 05 43 05.8 -0.1
comp=Z,1.3nm,1.0s,mb4.3,baz=75,slow=5.3,SNR=8.7
TXAR LR LR 06 28 32.2
comp=Z,229nm,19.6s,MS4.7,baz=5.0,slow=37
TXAR Lajitas Array 95.72 314 P P 05 43 05.8 -0.1
TXAR pmax pmax
comp=Z,1.0nm,1.0s
TXAR MLR MLR
comp=Z,229nm,19.6s
ISA Isabella 98.01 328 ⇓P P 05 43 15.2 -0.9
baz=98
PKD Parkfield 98.62 329 ⇑P P 05 43 18.0 -0.9
baz=98
LPAZ La Paz 99.29 257 LR LR 06 34 10.1
comp=Z,106nm,18.7s,MS4.4,baz=227,slow=39
ASAR Alice Springs 121.55 97 PKP PKPdf 05 48 31.7 -1.9
comp=Z,0.7nm,0.6s,baz=315,slow=1.5,SNR=10
ASAR Alice Springs 121.55 97 PKIKP PKPdf 05 48 31.7 -1.9
ASAR pmax pmax
comp=Z,1.0nm,0.6s

NIED ***27*** *05:40:00,24.10N×121.80E,h47km,Mw3.8 Best double couple: M0 5.83000×10^14 NP1:φs 89.00000°,δ61.00000°, λ110.00000°. NP2:φs 232.00000°,δ34.00000°,λ59.00000°.*
ISCJB ***27*** *05:40:09.4±0.3,2398N±002×12176E±002,h29km±2km, Error ellipse: s-maj=3.2km s-min=2.4km az=135.4*
TAP ***27*** *05:40:09.4,2401N×121.66E,h36km,ML3.9,B*
JMA ***27*** *05:40:10.0±0.2,2410N×121.75E,h58km,M3.5*

ISC 27 05:40:09.7±0.3,2399N±002×12174E±002,h29km±2km, n56,σ0s93/95,11C-4D,Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HWA	**Hwalien**	**0.12**	**263**	⇓*i*P	**Pb**	**05 40 15.8**	**+0.8**
HWA	baz=238			S	**Sb**	**05 40 21.3**	**+2.7**
TWD	**Chiawan**	**0.16**	**303**	⇓*i*P	**Pb**	**05 40 15.8**	**+0.5**
TWD	baz=309			*i* S	**Sb**	**05 40 20.4**	**+1.2**
ESF	**Shoufeng Towns**	**0.24**	**240**	*e*P	**Pb**	**05 40 16.4**	**+0.1**
ESF	baz=236			S	**Sb**	**05 40 21.9**	**+1.1**
EHP	**Heping Village**	**0.32**	**0**	*e*P	**Pb**	**05 40 17.1**	**-0.1**
EHP	baz=19			*e*S	**Sb**	**05 40 23.3**	**+0.8**
ESL	**Shilin**	**0.33**	**238**	⇓*i*P	**Pb**	**05 40 17.2**	**-0.3**
ESL	baz=235			S	**Sb**	**05 40 22.6**	**-0.2**
TEGC	**Jichi Village**	**0.34**	**213**	*e*P	**Pb**	**05 40 18.2**	**+0.7**
ENA	**Nanau**	**0.43**	**0**	⇑P	**Pb**	**05 40 18.9**	**-0.2**
baz=17							
WHF	**Hehuan Shan**	**0.46**	**289**	⇓*i*P	**Pb**	**05 40 19.1**	**-0.3**
WHF	baz=283			S	**Sb**	**05 40 25.7**	**-0.4**
NNS	**Nan Shan**	**0.56**	**323**	⇑*i*P	**Pb**	**05 40 20.6**	**-0.5**
NNS	baz=328			*i* S	**Sb**	**05 40 28.2**	**-0.5**
EHY	**Hungye**	**0.62**	**218**	P	**Pb**	**05 40 20.6**	**-1.5**
TWC	**Suao**	**0.62**	**9**	P	**Pb**	**05 40 21.9**	**-0.2**
TWC	baz=21			S	**Sb**	**05 40 31.9**	**+1.4**
TWE	**Neicheng**	**0.73**	**355**	⇑*i*P	**Pb**	**05 40 23.4**	**-0.6**
TWE	baz=355			*i* S	**Sb**	**05 40 33.4**	**-0.1**
TWF1	**Yuli**	**0.76**	**213**	*e*P	**Pb**	**05 40 22.5**	**-1.9**
NSK	**Sanguang**	**0.76**	**333**	⇑*i*P	**Pb**	**05 40 23.7**	**-0.8**
NSK	baz=338			*i* S	**Sb**	**05 40 33.4**	**-1.2**
SMLT	**Sun Moon Lake**	**0.78**	**262**	⇑*i*P	**Pn**	**05 40 23.8**	**-1.0**
SMLT	baz=255			S	**Sb**	**05 40 33.4**	**-1.5**
TYC	**Yuchr**	**0.81**	**264**	⇑P	**Pn**	**05 40 24.1**	**-1.1**
TYC	baz=261			S	**Sb**	**05 40 34.2**	**-1.7**
YUS	**Yu-Shan**	**0.88**	**235**	⇑*i*P	**Pn**	**05 40 25.9**	**-0.3**
YUS	baz=224			S	**Sb**	**05 40 36.5**	**-1.3**
NSTT	**Nanjuang**	**0.93**	**313**	⇑*i*P	**Pn**	**05 40 26.9**	**0.0**
NSTT	baz=315			S	**Sn**	**05 40 38.0**	**-1.1**
TWQ1	**Liyutan**	**0.95**	**292**	⇑*i*P	**Pn**	**05 40 27.2**	**0.0**
TWQ1	baz=292			S	**Sn**	**05 40 38.4**	**-1.4**
CHKT	**Chengkung**	**0.95**	**201**	*e*P	**Pn**	**05 40 26.4**	**-0.8**
WNT	**Mingjian**	**0.97**	**263**	P	**Pn**	**05 40 27.0**	**-0.5**
WNT	baz=261			S	**Sn**	**05 40 40.5**	**+0.2**
ALS	**Alishan**	**0.98**	**241**	⇑P	**Pn**	**05 40 27.4**	**-0.2**
ALS	baz=229			*e*S	**Sn**	**05 40 39.6**	**-1.0**
TCU	**Taichung**	**0.98**	**279**	P	**Pn**	**05 40 27.5**	**-0.1**
TCU	baz=278			*e*S	**Sn**	**05 40 41.2**	**+0.6**
NSY	**Sanyi**	**0.99**	**295**	P	**Pn**	**05 40 27.4**	**-0.3**
NSY	baz=295			*e*S	**Sn**	**05 40 41.4**	**+0.7**
TWA	**Mucha**	**0.99**	**352**	*i* P	**Pn**	**05 40 27.6**	**-0.2**
TWA	baz=346			*e*S	**Sn**	**05 40 40.2**	**-0.7**
TWB1	**Santiao Chiao**	**1.04**	**13**	P	**Pn**	**05 40 28.7**	**+0.3**
TWB1	baz=30			S	**Sn**	**05 40 43.3**	**+1.3**
ELDTW	**Lidau**	**1.04**	**220**	*e*P	**Pn**	**05 40 26.4**	**-2.0**
TAP1	**Taipei**	**1.06**	**349**	*e*P	**Pn**	**05 40 28.3**	**-0.4**
TAP1	baz=354			*e*S	**Sn**	**05 40 42.1**	**-0.4**
HSN	**Hsinchu**	**1.07**	**319**	*e*P	**Pn**	**05 40 28.8**	**0.0**
HSN	baz=323			*e*S	**Sn**	**05 40 44.0**	**+1.2**
NWF	**Wu-fen Shan**	**1.07**	**2**	⇑*i*P	**Pn**	**05 40 28.9**	**0.0**
NWF	baz=355			S	**Sn**	**05 40 44.2**	**+1.3**
NCU	**National Centr**	**1.09**	**333**	P	**Pn**	**05 40 29.1**	**-0.1**
NCU	baz=335			S	**Sn**	**05 40 44.1**	**+0.8**
TWS1	**Kuangyinshan**	**1.14**	**345**	*e*P	**Pn**	**05 40 29.3**	**-0.5**
TWS1	baz=349			*e*S	**Sn**	**05 40 45.1**	**+0.5**
CHN4	**Tsaushan**	**1.23**	**239**	P	**Pn**	**05 40 31.4**	**+0.3**
CHN4	baz=225			S	**Sn**	**05 40 47.8**	**+1.1**
CHN2	**Minshiung**	**1.25**	**249**	*e*P	**Pn**	**05 40 32.2**	**+0.9**
CHN2	baz=246			*e*S	**Sn**	**05 40 48.9**	**+1.8**
YOJ	**Yonaguni jima**	**1.25**	**68**	P	**Pn**	**05 40 31.0**	**-0.3**
YOJ				S	**Sn**	**05 40 46.6**	**-0.6**
YOJ	**Yonaguni jima**	**1.25**	**68**	*e*P	**Pn**	**05 40 31.2**	**-0.1**
YOJ	baz=70			*e*S	**Sn**	**05 40 46.8**	**-0.4**
WTP	**Ta-pu**	**1.27**	**234**	P	**Pn**	**05 40 31.9**	**+0.3**
TWY	**Chenhua**	**1.28**	**354**	*e*P	**Pn**	**05 40 31.1**	**-0.7**
TWG	**Pinlang**	**1.32**	**208**	*e*P	**Pn**	**05 40 29.5**	**-2.7**
WTCT	**Ta-ch'eng**	**1.34**	**265**	*e*P	**Pn**	**05 40 33.1**	**+0.5**
TWK	**Hsinying**	**1.36**	**238**	*e*P	**Pn**	**05 40 32.6**	**-0.1**
TWK	baz=225			*e*S	**Sn**	**05 40 51.3**	**+1.5**
CHN1	**Nanshi**	**1.37**	**234**	*e*P	**Pn**	**05 40 33.4**	**+0.4**
CHN1	baz=231			*e*S	**Sn**	**05 40 53.2**	**+3.0**
SGST	**Jiashian**	**1.40**	**230**	*e*P	**Pn**	**05 40 33.4**	**0.0**
SGST	baz=217			*e*S	**Sn**	**05 40 52.2**	**+1.5**
ECL	**Taimali**	**1.57**	**208**	*e*P	**Pn**	**05 40 35.0**	**-0.6**
SSD	**Sandimen**	**1.60**	**220**	*e*P	**Pn**	**05 40 37.0**	**+0.8**
SSD	baz=217			*e*S	**Sn**	**05 40 57.3**	**+1.4**
TWM1	**Shoushan**	**1.68**	**226**	*e*P	**Pn**	**05 40 38.7**	**+1.5**
EAST	**Anshuo**	**1.80**	**207**	*e*P	**Pn**	**05 40 40.5**	**+1.6**
IRIF	**Iriomote-Funau**	**1.85**	**79**	P	**Pn**	**05 40 39.8**	**+0.3**
IRIF				S	**Sn**	**05 41 01.9**	**-0.1**
HATJ	**Hateruma jima**	**1.89**	**88**	P	**Pn**	**05 40 40.3**	**+0.2**
HATJ				S	**Sn**	**05 41 03.2**	**+0.2**
SCZT	**Fangliau**	**1.91**	**213**	*e*P	**Pn**	**05 40 41.4**	**+0.9**
LAY	**Lan-yu**	**1.95**	**185**	*e*P	**Pn**	**05 40 39.1**	**-1.8**
PNG	**Penghu**	**2.05**	**258**	*e*P	**Pn**	**05 40 41.2**	**-1.0**
JKRS	**Kuro-shima**	**2.09**	**83**	P	**Pn**	**05 40 43.4**	**+0.6**
JKRS				*e*S	**Sn**	**05 41 07.7**	**-0.2**
JIJ	**Ishigaki jima**	**2.23**	**80**	P	**Pn**	**05 40 44.6**	**-0.1**
JIJ				S	**Sn**	**05 41 10.2**	**-1.1**
JTJ	**Tarama**	**2.78**	**76**	P	**Pn**	**05 40 52.8**	**+0.5**
JTJ				*e*S	**Sn**	**05 41 25.0**	**+0.1**
KNM	**Kinmen**	**3.05**	**279**	*e*P	**Pn**	**05 40 56.2**	**+0.2**
	baz=277						

IDC ***27*** *05:44:57.5±0.9,4233N×14442E,h0km,mb3.7/8, mb1 3.9/9,mb1mx3.8/20,mbtmp3.7/9,ML3.8/1,MS2.9/1, Ms1 2.9/1,ms1mx2.0/37,Error ellipse: s-maj=26.2km s-min=15.0km az=58.0*
NIED ***27*** *05:45:00,4230N×14440E,h32km,Mw3.9 Best double couple: M0 7.51000×10^14 NP1:φs 285.00000°,δ61.00000°, λ-139.00000°. NP2:φs 171.00000°,δ55.00000°, λ-37.00000°.*
MOS ***27*** *05:45:01.0±1.9,4226N×14446E,h46km,mb4.0/6,Error ellipse: s-maj=22.9km s-min=13.9km az=81.8*
JMA ***27*** *05:45:02.5,4231N×14438E,h58km±1km,M3.9*
NEIC ***27*** *05:45:02.5,4231N×14438E,h58km,MG4.1(JMA),After JMA.*
ISCJB ***27*** *05:45:02.3±0.7,4228N±005×14439E±006,h49km±6km, mb3.7/7,Error ellipse: s-maj=9.9km s-min=5.1km az=145.4*

ISC 27 05:45:03.1±0.7,4229N±005×14440E±005,h38km±8km, n37,σ0s78/42,mb3.7/7,1C-5D,Hokkaido region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JAK	**Akkeshi**	**0.74**	**17**	⇑P	**Pn**	**05 45 16.9**	**-0.2**
JAK				*e*S	**Sn**	**05 45 27.8**	**+0.7**
JOB	**Onbets**	**0.74**	**326**	⇓P	**Pn**	**05 45 17.0**	**-0.1**
JOB				*e*S	**Sn**	**05 45 27.6**	**+0.5**
JCH	**Churui**	**0.83**	**294**	P	**Pn**	**05 45 18.1**	**-0.2**
JCH				*e*S	**Sn**	**05 45 29.4**	**+0.1**
JEM	**Erimo**	**0.96**	**254**	⇓P	**Pn**	**05 45 20.3**	**+0.3**
JEM				*e*S	**Sn**	**05 45 32.8**	**+0.4**
JAR	**Ashorobuto**	**1.11**	**336**	⇓P	**Pn**	**05 45 21.7**	**-0.4**
JAR				*e*S	**Sn**	**05 45 35.8**	**-0.4**
JNBK	**Urakawa-nobuka**	**1.22**	**270**	P	**Pn**	**05 45 23.1**	**-0.5**
JNK	**Nakash**	**1.32**	**10**	P	**Pn**	**05 45 24.3**	**-0.7**
JNK				*e*S	**Sn**	**05 45 40.5**	**-0.8**
NEM2	**Nemuro 2**	**1.46**	**42**	P	**Pn**	**05 45 26.8**	**-0.2**
NEM2				*e*S	**Sn**	**05 45 44.8**	**-0.1**
JBT2	**Biratori 2**	**1.58**	**289**	⇓P	**Pn**	**05 45 27.7**	**-0.8**
JFR	**Furan**	**1.59**	**304**	⇓P	**Pn**	**05 45 28.9**	**+0.2**
JFR				*e*S	**Sn**	**05 45 48.0**	**0.0**
JTKR	**Abashiri--Toko**	**1.72**	**348**	P	**Pn**	**05 45 31.1**	**+0.6**
JTKR				*e*S	**Sn**	**05 45 51.8**	**+0.6**
JRA	**Rausu**	**1.73**	**18**	P	**Pn**	**05 45 31.2**	**+0.5**
YUK	**Yuzh-Kuril'sk**	**2.05**	**31**	PN	**Pn**	**05 45 35.3**	**+0.3**
YUK				*i* S	**Sn**	**05 45 59.8**	**+0.5**
YUK				pmax	pmax		
	comp=Z,880nm,0.4s						
YUK				pmax	pmax		
	comp=N,690nm,0.5s						
YUK				pmax	pmax		
	comp=E,380nm,0.5s						
YUK				pmax	pmax		
	comp=Z,2μm,1.0s						
YUK				pmax	pmax		
	comp=N,2μm,3.0s						
YUK				pmax	pmax		
	comp=E,2μm,2.0s						
YUK				smax			
	comp=N,6μm,1.0s						
YUK				smax			
	comp=E,6μm,1.0s						
YUK				smax			
	comp=N,2μm,0.5s						
YUK				smax			
	comp=E,2μm,0.5s						
ASAJ	**Asahikawa**	**2.25**	**325**	Pg	**Pn**	**05 45 38.9**	**+1.1**
ASAJ				Lg		05 46 08.9	
	comp=E,30nm,0.3s,baz=225,slow=30,SNR=17						
ASAJ	**Asahikawa**	**2.25**	**325**	PN	**Pn**	**05 45 38.9**	**+1.1**
ASAJ						05 46 08.9	
ASAJ				pmax	pmax		
	comp=Z,12nm,0.3s						
KUR	**Kuril'sk**	**3.87**	**39**	*e*PN	**Pn**	**05 45 57.2**	**-2.8**
KUR				pmax	pmax		
	comp=N,80nm,0.5s						
KUR				pmax	pmax		
	comp=E,150nm,0.5s						
KUR				pmax	pmax		
	comp=Z,150nm,0.5s						
MJAR	**Matsushiro Arr**	**7.47**	**222**	Pn	**Pn**	**05 46 49.4**	**-0.1**
	comp=Z,1.4nm,0.3s,baz=28,slow=16,SNR=12						
MJAR	**Matsushiro Arr**	**7.47**	**222**	PN	**Pn**	**05 46 49.4**	**-0.1**
MJAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
KSRS	**Korea Array**	**13.54**	**255**	LR	LR	05 53 19.2	
	comp=Z,49nm,20.0s,baz=55,slow=37						
SONM	**Songino Array**	**27.21**	**295**	P	**P**	**05 50 44.6**	**+1.6**
	comp=Z,0.5nm,0.5s,baz=90,slow=7.8,SNR=3.9						
SONM	**Songino Array**	**27.21**	**295**	P	**P**	**05 50 44.6**	**+1.6**
SONM				pmax	pmax		
	comp=Z,1.0nm,0.5s						
ZALV	**Zalesovo Beam**	**40.29**	**308**	P	**P**	**05 52 35.6**	**-0.6**
	comp=Z,0.8nm,0.5s,mb3.7,baz=79,slow=7.7,SNR=5.0						
ZALV	**Zalesovo Beam**	**40.29**	**308**	P	**P**	**05 52 35.6**	**-0.5**
ZALV				pmax	pmax		
	comp=Z,1.0nm,0.5s,mb3.8						
MKAR	**Makanchi Array**	**43.48**	**298**	P	**P**	**05 53 01.3**	**-1.0**
	comp=Z,0.6nm,0.8s,mb3.4,baz=72,slow=9.3,SNR=3.0						
MKAR	**Makanchi Array**	**43.48**	**298**	P	**P**	**05 53 01.3**	**-1.0**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
ASAR	**Alice Springs**	**66.33**	**191**	P	**P**	**05 55 48.1**	**+0.5**
	comp=Z,0.7nm,0.7s,mb3.8,baz=2.3,slow=5.1,SNR=12						
ASAR	**Alice Springs**	**66.33**	**191**	P	**P**	**05 55 48.1**	**+0.5**
ASAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
NVAR	**Mina Array Bea**	**70.07**	**56**	P	**P**	**05 56 12.9**	**+1.8**
	comp=Z,0.4nm,0.7s,mb3.5,baz=292,slow=4.8,SNR=3.8						
NOA	**NORSAR Array B**	**70.22**	**338**	P	**P**	**05 56 10.3**	**-1.2**
	comp=Z,0.6nm,0.7s,mb3.6,baz=34,slow=6.3,SNR=2.7						
NOA	**NORSAR Array B**	**70.22**	**338**	P	**P**	**05 56 10.3**	**-1.2**
NOA				pmax	pmax		
	comp=Z,1.0nm,0.7s						
HFS	**Hagfors**	**70.24**	**336**	P	**P**	**05 56 10.4**	**-1.2**
	comp=Z,1.2nm,0.6s,mb4.0,baz=57,slow=9.0,SNR=5.9						
HFS	**Hagfors**	**70.24**	**336**	P	**P**	**05 56 10.4**	**-1.3**
HFS				pmax	pmax		
	comp=Z,1.0nm,0.6s						
TXAR	**Lajitas Array**	**85.14**	**54**	P	**P**	**05 57 35.8**	**+0.5**
	comp=Z,0.3nm,0.7s,mb3.5,baz=304,slow=2.2,SNR=4.3						
SNAA	**Sanae**	**146.44**	**198**	*e*	PKPdf	06 04 38.5	+1.3
SNAA				*e*		06 04 41.7	
VNA2	**Neumayer--Watz**	**148.00**	**197**	*e*	PKPbc	06 04 43.8	+0.8
	baz=134,slow=3.2						
VNA2				*e*		06 04 46.8	
VNA3	**Neumayer Olymp**	**148.23**	**196**	*e*	PKPbc	06 04 43.6	0.0
VNA3				*e*		06 04 47.0	
VNA1	**Neumayer--Stat**	**148.40**	**197**	*e*	PKPbc	06 04 47.8	+3.8
VNA1				*e*		06 04 50.3	

NEIC 27 06:06:13.2,4478S×16743E,h5km,ML3.9(WEL),After WEL., South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSZ	**Milford Sound**	**0.37**	**73**	P	Pg	06 06 20.3	0.0
MSZ				S	Sg	06 06 24.5	-0.7
DCZ	**Deep Cove**	**0.72**	**196**	P	Pg	06 06 26.7	-0.4
MLZ	**Mavora Lakes**	**0.77**	**137**	P	Pg	06 06 28.2	+0.1
WKZ	**Wanaka**	**1.13**	**93**	P	Pg	06 06 34.2	-0.7
WHZ	**Wether Hill Ro**	**1.17**	**162**	P	Pg	06 06 35.2	-0.5
JCZ	**Jackson Bay**	**1.18**	**54**	P	Pg	06 06 34.9	-1.0
EAZ	**Earnscleugh**	**1.41**	**109**	P	Pn	06 06 38.9	-0.6
TUZ	**Tuapeka**	**1.95**	**128**	P	Pn	06 06 47.1	+0.2
LBZ	**Lake Benmore**	**2.01**	**80**	P	Pn	06 06 47.7	0.0
FOZ	**Fox Glacier**	**2.03**	**54**	P	Pn	06 06 46.8	-1.2
ODZ	**Otahua Downs**	**2.30**	**98**	P	Pn	06 06 51.8	+0.1
RPZ	**Rata Peaks**	**2.81**	**69**	P	Pn	06 06 58.2	-0.6
WVZ	**Waitaha Valley**	**2.93**	**56**	P	Pn	06 06 57.6	-2.8
DSZ	**Denniston Nort**	**4.40**	**48**	P	Pn	06 07 18.5	-2.1
THZ	**Tophouse**	**5.01**	**55**	P	Pn	06 07 27.6	-1.3
QRZ	**Quartz Range**	**5.45**	**45**	P	Pn	06 07 32.6	-2.4
NNZ	**Nelson**	**5.63**	**53**	P	Pn	06 07 36.1	-1.4

IDC ***27*** *06:37:47.0±1.2,449S×13927E,h0km,mb3.8/3,mb1 4.1/5, mb1mx3.9/12,mbtmp4.0/5,ML3.9/2,Error ellipse: s-maj=74.0km s-min=24.8km az=73.0*
ISCJB ***27*** *06:37:49.7±3.9,470S±007×1386E±02,h21km±30km, mb3.8/3,Error ellipse: s-maj=26.0km s-min=11.6km az=11.4*
NEIC ***27*** *06:37:53.3±3.3,476S×13884E,h45km±30km,mb4.3/1, Error ellipse: s-maj=28.5km s-min=18.2km az=48.0*

ISC 27 06:37:55.5±2.1,485S±008×1387E±01,h60km±19km,n11, σ0s84/11,mb3.8/3,Irian Jaya

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KAKA	**Kakadu**	**9.98**	**218**	*e*Pn	**Pn**	**06 40 15.5**	**-0.7**
KAKA	24nm,0.4s			*e*Sn	**Sn**	**06 42 06.6**	**-0.2**
WRAB	**Tennant Creek**	**15.59**	**195**	*e*Pn	**Pn**	**06 41 31.7**	**0.0**
	12nm,0.6s						
CTA	**Charters Tower**	**16.83**	**155**	Pn	**Pn**	**06 41 46.9**	**-0.4**
	0.1nm,0.3s,baz=318,slow=13,SNR=4.6						
ASAR	**Alice Springs**	**19.28**	**193**	P	**Pn**	**06 42 18.7**	**+1.7**
	1.0nm,0.3s,baz=30,slow=8.7,SNR=50						
ASAR				S	**S**	**06 45 49.9**	**-0.8**
	0.1nm,0.3s,baz=12,slow=28,SNR=4.1						
MBWA	**Marble Bar**	**24.55**	**227**	*e*P	**P**	**06 43 11.2**	**+1.4**
SONM	**Songino Array**	**59.65**	**335**	P	**P**	**06 47 53.2**	**-0.2**
	0.2nm,0.4s,mb3.5,baz=132,slow=2.1,SNR=2.3						
MKAR	**Makanchi Array**	**71.48**	**323**	P	**P**	**06 49 10.2**	**+0.4**
	1.2nm,0.7s,mb4.0,baz=110,slow=7.8,SNR=9.0						
ZALV	**Zalesovo Beam**	**73.78**	**330**	P	**P**	**06 49 22.3**	**-1.0**
	0.5nm,0.4s,mb3.8,baz=100,slow=7.5,SNR=3.8						
ZALV	**Zalesovo Beam**	**73.78**	**330**	P	**P**	**06 49 22.3**	**-1.0**
DBIC	**Dimbokro**	**143.72**	**275**	PKP	PKPdf	06 57 24.2	-0.7
	1.4nm,0.5s,baz=0.0,slow=2.0,SNR=4.4						
LPAZ	**La Paz**	**146.14**	**129**	PKPbc	PKPbc	06 57 29.2	-0.8
	1.5nm,0.8s,baz=185,slow=3.8,SNR=8.3						

BJI ***27*** *06:45:12.1,6554N×156.17W,h7km,mB5.0,mb4.8,Ms4.6, Msz4.4*
ISCJB ***27*** *06:45:14.7±1.7,6614N±005×1559W±0.1,h11km±11km, mb4.3/8,MS3.6/12,Error ellipse: s-maj=8.3km s-min=6.2km az=30.1*
IDC ***27*** *06:45:14.3±27.0,6636N×15731W,h0km,mb3.5/3, mb1 4.0/3,mb1mx3.5/20,mbtmp3.5/3,MS3.5/13, Ms1 3.5/13,ms1mx3.4/30,Error ellipse: s-maj=484.6km s-min=224.0km az=107.0*
NEIC ***27*** *06:45:20.6,6586N×155.37W,h15km,ML4.2(AEIC),After AEIC.*

ISC 27 06:45:16.3±1.3,6609N±005×1560W±0.1,h9km±8km, h15km±.3km:pP-P,n46,σ0s82/39,mb4.3/8,MS3.6/12, Northern Alaska

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IM3	**Indian Mountai**	**0.91**	**96**	P	**Pg**	**06 45 33.5**	**-0.3**
IMA2	**Indian Mountai**	**0.93**	**91**	*e*P	**Pg**	**06 45 34.3**	**+0.2**
GCSA	**Galena City Sc**	**1.41**	**196**	P	**Pn**	**06 45 40.9**	**-1.1**
GCSA				S	**Sb**	**06 46 01.6**	**+1.0**
CHUM	**Lake Minchumin**	**2.71**	**143**	P	**Pn**	**06 45 59.7**	**-0.2**
CHUM				S	**Sn**	**06 46 33.0**	**+0.3**
BPAW	**Bear Paw Mtn.**	**2.91**	**131**	P	**Pn**	**06 46 01.8**	**-0.8**
BPAW				S	**Sn**	**06 46 37.9**	**+0.3**
TT01	**Tatalina**	**3.20**	**180**	P	**Pn**	**06 46 07.3**	**+0.6**
KTH	**Kantishna Hill**	**3.34**	**138**	P	**Pn**	**06 46 08.4**	**-0.1**
COLA	**College**	**3.60**	**106**	P	**Pn**	**06 46 12.7**	**+0.6**
TRF	**Thorofare Moun**	**3.60**	**135**	P	**Pn**	**06 46 12.0**	**-0.1**
PPLA	**Purkeypile**	**3.60**	**151**	P	**Pn**	**06 46 12.4**	**+0.3**
MCK	**McKinley**	**3.82**	**125**	P	**Pn**	**06 46 14.8**	**-0.3**
IL1	**Eielson Array**	**4.02**	**105**	P	**Pn**	**06 46 17.5**	**-0.4**
ILB	**Eielson Array**	**4.02**	**105**	P	**Pn**	**06 46 17.6**	**-0.3**

SKT	Skwentna	4.56	153	P	Pn	06 46 25.9	+0.5
TNA	Tin City	4.95	269	P	Pn	06 46 31.1	+0.5
SVW2	Sparrevohn	5.02	178	*eP*	Pn	06 46 32.2	+0.6
PMR	Palmer	5.43	143	P	Pn	06 46 37.6	+0.3
SML	Sawmill	5.46	138	P	Pn	06 46 37.8	+0.1
MENT	Mentasta	6.16	115	*eP*	Pn	06 46 47.3	+0.1
SLKM	Skilak Lake	6.17	153	Pn	Pn	06 46 45.4	-2.1
EGAK	Eagle	6.31	95	P	Pn	06 46 49.9	+0.5
BCA3	Beaver Creek A	6.81	110	P	Pn	06 46 56.2	0.0
DAWY	Dawson	7.29	99	P	Pn	06 47 03.1	+0.4
KDAK	Kodiak Island	8.49	168	LR	LR	06 50 35.1	
	comp=Z,398nm,20.6s,baz=326,slow=36						
KDAK	Kodiak Island	8.49	168	Pn	Pn	06 47 17.9	-1.3
YKA	Yellowknife Ar	18.04	82	LR	LR	06 56 22.3	
	comp=Z,35nm,21.9s,baz=140,slow=36						
PETK	Petropavlovsk-	26.08	263	LR	LR	07 01 34.8	
	comp=Z,38nm,20.9s,MS2.9,baz=248,slow=38						
ULM	Lac du Bonnet	33.84	88	LR	LR	07 06 07.4	
	comp=Z,116nm,19.8s,MS3.6,baz=28,slow=36						
PDAR	Pinedale Array	34.44	109	P	P	06 52 08.4	+4.7
	1.5nm,0.9s,mb3.9,baz=328,slow=5.4,SNR=8.5						
PDAR				LR	LR	07 07 25.0	
	comp=Z,109nm,18.9s,MS3.6,baz=77,slow=38						
NVAR	Mina Array Bea	35.05	123	P	P	06 52 14.0	+5.0
	0.2nm,0.5s,mb3.3,baz=312,slow=8.4,SNR=3.1						
NVAR	Mina Array Bea	35.05	123	P	P	06 52 14.0	+5.0
ARCES	ARCESS Array B	44.64	359	LR	LR	07 14 02.6	
	comp=Z,98nm,18.3s,MS3.8,baz=258,slow=39						
CN2	Changchun	46.51	282	*eP*	P	06 53 42.3	-1.1
MJAR	Matsushiro Arr	47.49	265	LR	LR	07 14 29.6	
	comp=Z,62nm,18.8s,MS3.6,baz=75,slow=37						
TXAR	Lajitas Array	48.49	113	P	P	06 54 03.1	+4.1
	0.4nm,0.9s,mb3.4,baz=327,slow=6.5,SNR=3.1						
TXAR				LR	LR	07 14 17.0	
	comp=Z,50nm,20.1s,MS3.5,baz=350,slow=36						
TKL	Tuckaleechee C	50.84	89	LR	LR	07 16 43.1	
	comp=Z,155nm,18.4s,MS4.1,baz=303,slow=37						
KSRS	Korea Array	50.89	275	LR	LR	07 17 25.8	
	comp=Z,23nm,19.3s,MS3.2,baz=285,slow=38						
HHC	Hu-ho-hao-te	54.43	291	*eP*	P	06 54 44.0	+0.6
HHC				AP	pP	06 54 48.5	+2.3
HHC				XP	sP	06 54 51.0	+3.7
HHC				PCP	PcP	06 55 47.3	+0.4
HHC				PP	PP	06 56 48.0	+2.9
HHC				SCP	ScP	06 59 43.5	-1.4
HHC				S	S	07 02 20.3	-1.3
HHC				XS	sS	07 02 27.5	+1.2
HHC				SCS	ScS	07 04 29.5	-2.8
HHC				SS	SS	07 06 02.5	-0.7
HHC				AMB	AMB		
	comp=Z,18nm,1.0s,mb5.0						
HHC				AMB	AMB		
	comp=Z,172nm,7.4s						
HHC				LR	LR		
	comp=N,284nm,15.3s,MS4.5						
HHC				LR	LR		
	comp=E,211nm,15.4s,MS4.5						
HHC				LR	LR		
	comp=Z,179nm,16.5s,MS4.2						
MKAR	Makanchi Array	58.92	317	LR	LR	07 23 54.3	
	comp=Z,52nm,18.3s,MS3.7,baz=203,slow=40						
WMQ	Urumqi	60.05	312	*eP*	P	06 55 25.0	+2.0
XAN	Xi'an	61.40	290	P	P	06 55 30.0	-2.4
XAN				AP	pP	06 55 34.3	-0.9
XAN				AMB	AMB		
	comp=Z,2.0nm,0.5s,mb4.5						
LZH	Lanzhou	61.51	295	*eP*	P	06 55 34.0	+1.0
LZH				AP	pP	06 55 38.3	+2.4
LZH				XP	sP	06 55 42.0	+5.0
LZH				AMB	AMB		
	comp=Z,13nm,1.0s,mb5.0						
LZH				AMB	AMB		
	comp=Z,68nm,5.0s						
CMIG	Matias Romero	62.92	110	LR	LR	07 24 45.2	
	comp=Z,41nm,20.9s,MS3.6,baz=166,slow=37						
CD2	Chengdu	66.16	292	*eP*	P	06 56 03.8	+0.1
CD2				AP	pP	06 56 08.0	+1.4
CD2				XP	sP	06 56 11.0	+3.3
CD2				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.9						
CD2				AMB	AMB		
	comp=Z,30nm,5.2s						
GYA	Guiyang	69.04	288	P	P	06 56 22.0	+0.1
GYA				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb4.7						
CMAR	Chiang Mai Arr	79.24	291	LR	LR	07 37 08.9	
	comp=Z,29nm,18.4s,MS3.6,baz=205,slow=40						

*ISCJB **27** 06:53:34.8±1.0, 187S±0.1×1777W±0.1, h536km±14km, mb3.8/8, Error ellipse: s-maj=26.1km s-min=12.9km az=40.9*
*NEIC **27** 06:53:35.9±1.0, 1876S×17765W, h544km±14km, mb4.1/3, Error ellipse: s-maj=24.5km s-min=12.3km az=135.0*
*IDC **27** 06:53:35.5±1.5, 1867S×17768W, h536km±20km, mb3.4/8, mb1 3.6/9, mb1mx3.4/18, mbtmp3.4/9, Error ellipse: s-maj=31.3km s-min=12.8km az=146.0*

ISC 27 06:53:35.4±0.9, 187S±01×1777W±01, h532km±13km, n15, σ0§72/16, mb3.8/8, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
AFI	Afiamalu	7.40	51	P		P	06 55 28.2	+1.5
	3.2nm,0.3s,baz=239,slow=18,SNR=7.5							
AFI				S		S	06 56 57.0	-0.8
	1.3nm,0.3s,baz=238,slow=22,SNR=2.3							
RAO	Raoul Island	10.52	181	*eP*		P	06 55 57.9	-0.5
	193nm,0.5s							
URZ	Urewera	20.02	192	P		P	06 57 32.1	-0.3
	7.2nm,0.4s,baz=13,slow=7.2,SNR=6.1							
CTA	Charters Tower	34.01	262	*eP*		P	06 59 34.8	-0.3
	4.3nm,1.0s,mb3.9							
CTA	Charters Tower	34.01	262	P		P	06 59 34.9	-0.2
	4.8nm,0.8s,mb4.1,baz=78,slow=8.8,SNR=7.9							
STKA	Stephens Creek	38.87	242	*eP*		P	07 00 16.0	+0.9
	4.8nm,0.9s,mb4.0							
STKA	Stephens Creek	38.87	242	P		P	07 00 15.8	+0.8
	5.8nm,0.8s,mb4.2,baz=93,slow=8.4,SNR=6.7							
ASAR	Alice Springs	45.25	255	P		P	07 01 04.9	-0.6
	7.1nm,0.6s,mb4.3,baz=83,slow=8.9,SNR=62							
KAKA	Kakadu	48.27	269	*eP*		P	07 01 20.7	-7.6
	5.8nm,0.6s,mb4.3							
NVAR	Mina Array Bea	79.51	43	P		P	07 04 46.9	0.0
	0.8nm,0.7s,mb3.2,baz=228,slow=8.5,SNR=8.0							
TXAR	Lajitas Array	85.83	57	P		P	07 05 19.6	+0.8
	1.2nm,0.8s,mb3.6,baz=218,slow=5.7,SNR=14							
PDAR	Pinedale Array	87.44	43	P		P	07 05 24.9	-1.3
	0.4nm,0.8s,mb3.1,baz=188,slow=4.5,SNR=3.8							
CMAR	Chiang Mai Arr	89.80	289	P		P	07 05 37.7	0.0
	1.0nm,0.3s,mb4.1,baz=149,slow=3.0,SNR=4.6							
VNA3	Neumayer Olymp	89.92	176	*e*PKPdf		P	07 05 37.3	0.0
VNA2	Neumayer--Watz	90.36	177	*e*PKPdf		P	07 05 39.9	+0.6

*ATH **27** 07:26:19.6, 3986N×2069E, h10km, MD3.3/5*
*NEIC **27** 07:26:19.6, 3986N×2069E, h10km, MD3.3(ATH), After ATH.*
*CSEM **27** 07:26:19.9±0.1, 3985N×2065E, h2km, MD3.3, Error ellipse: s-maj=4.0km s-min=2.9km az=58.0*
*ISCJB **27** 07:26:20.9±1.3, 3974N±006×2064E±008, h6km±11km, Error ellipse: s-maj=11.1km s-min=9.2km az=141.6*

ISC 27 07:26:20.8±1.4, 3972N±007×2062E±008, h6km±13km, n16, σ1§13/23, Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
JAN	Janina	0.19	108	*e*Pg		Pg	07 26 24.4	-0.2
JAN				*e*Sg		Sg	07 26 28.0	+0.9
JAN	Janina	0.19	108	*e*PG		Pg	07 26 24.4	-0.2
JAN				*e*SG		Sg	07 26 28.0	+0.9
KEK	Kerkira	0.63	270	*e*Pb		Pb	07 26 33.1	-1.1
KEK	Kerkira	0.63	270	*e*PB		Pb	07 26 33.1	-1.1
THL	Klokotos Trika	1.09	97	*e*Pb		Pb	07 26 39.7	-2.3
THL	Klokotos Trika	1.09	97	*e*PB		Pb	07 26 39.7	-2.3
EVR	Evrytania	1.22	130	*e*Pb		Pb	07 26 44.0	-0.2
EVR	Evrytania	1.22	130	*e*PB		Pb	07 26 44.0	-0.2
OHR	Ohrid	1.40	6	*e*Pn		Pn	07 26 46.2	-0.6
OHR				*i* Sn		Sn	07 27 05.8	+0.2
BIA	Bitola	1.41	22	*e*Pn		Pn	07 26 46.8	-0.2
BIA				*i* Sn		Sn	07 27 06.8	+1.0
BIA	Bitola	1.41	22	*e*Pn		Pn	07 26 46.7	-0.3
VLS	Valsamata	1.54	181	*e*Pb		Pb	07 26 51.5	+1.9
VLS	Valsamata	1.54	181	*e*PB		Pb	07 26 51.5	+1.9
KRUS	Krusevo	1.72	16	*i* Pn		Pn	07 26 51.7	+0.5
KRUS				*i* Sn		Sn	07 27 15.5	+2.0
VAY	Valandovo	2.19	42	*e*Pn		Pn	07 26 57.3	-0.3
VAY				*i* Sn		Sn	07 27 23.4	-1.7
VAY	Valandovo	2.19	42	*e*Pn		Pn	07 26 57.3	-0.4
VAY				*i* Sn		Sn	07 27 23.3	-1.7

*NEIC **27** 07:45:34.0, 3763N×2125E, h13km, MD3.4(ATH), After ATH.*
*CSEM **27** 07:45:34.0, 3763N×2125E, h13km, MD3.5/4, After ATH*

ATH 27 07:45:34.0, 3763N×2125E, h13km, MD3.4/4, Southern Greece

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
ITM	Ithomi	0.70	130	*e*Pb		Pb	07 45 47.4	-0.7
ITM	Ithomi	0.70	130	*e*PB		Pb	07 45 47.4	-0.7
VLS	Valsamata	0.76	316	*e*Pb		Pb	07 45 48.8	-0.2
VLS	Valsamata	0.76	316	*e*PB		Pb	07 45 48.8	-0.2
EVR	Evrytania	1.36	19	*e*Pb		Pb	07 45 59.7	+0.4
EVR	Evrytania	1.36	19	*e*PB		Pb	07 45 59.7	+0.4
VLI	Veliai	1.63	124	*e*Pb		Pb	07 46 04.5	+0.7
VLI	Veliai	1.63	124	*e*PB		Pb	07 46 04.5	+0.7

*IDC **27** 07:54:57.9±0.8, 3572S×17798E, h0km, mb4.5/9, mb1 4.7/12, mb1mx4.6/17, mbtmp4.6/12, ML4.4/3, MS4.6/16, Ms1 4.6/16, ms1mx4.5/23, Error ellipse: s-maj=23.9km s-min=17.5km az=103.0*
*NEIC **27** 07:54:58.9±2.7, 3565S×17793E, h6km±18km, mb4.8/6, ML4.7(WEL), Error ellipse: s-maj=7.9km s-min=6.8km az=92.0*
*ISCJB **27** 07:54:59.8±2.1, 3565S±006×17798E±009, h25km±15km, mb4.6/13, MS4.6/13, Error ellipse: s-maj=12.0km s-min=9.9km az=165.0*
*GCMT **27** 07:55:02.0±0.2, 3551S×17835E, h12km, MW5.3/98, Moment Tensor Solution. s64,c95; s98,c166; Duration: 1s1 Moment tensor: Scale 10^17 Nm; Mrr=0.26±.02; Mθθ=0.83±.02; Mφφ=1.09±.02; Mrθ=0.03±.05; Mθφ=0.59±.02; Mφr=0.07±.05; Best double couple: M0=1.12900×10^17 NP1:φs151.00000°, δ88.00000°, λ178.00000°. NP2: φs241.00000°, δ88.00000°, λ2.00000°. Principal axes: T 1.2610, Plg3.0000°, Azm106.0000°; N -0.2670, Plg87.0000°, Azm277.0000°; P -0.9970, Plg0.0000°, Azm16.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*DJA **27** 07:55:32, 4078S×17066E, h10km, mb5.1/10*

ISC 27 07:55:01.1±2.2, 3568S±005×17795E±008, h22km±16km, n46, σ1§03/39, mb4.6/13, MS4.6/13, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
KUZ	Kuaotunu	2.10	239	P		Pn	07 55 34.9	+0.1
PUZ	Puketiti	2.40	174	P		Pn	07 55 39.6	+0.6
URZ	Urewera	2.67	194	Pn		Pn	07 55 42.4	-0.2
	20nm,0.3s,baz=30,slow=7.9,SNR=56							
URZ				Sn		Sn	07 56 20.0	+5.7
	39nm,0.3s,baz=212,slow=10,SNR=5.9							
URZ				LR		LR	07 57 01.4	
	comp=Z,18μm,19.2s,baz=9.8,slow=47							
URZ	Urewera	2.67	194	P		Pn	07 55 42.5	-0.1
WCZ	Waipu Caves	2.94	264	P		Pn	07 55 46.3	-0.2
KNZ	Kokohu	3.35	184	P		Pn	07 55 52.8	+0.8
OUZ	Omahuta	3.58	276	P		Pn	07 55 53.9	-1.4
BKZ	Black Stump Fm	3.67	198	P		Pn	07 55 57.4	+0.9
RAO	Raoul Island	7.29	30	Pn		Pn	07 56 45.5	-0.8
	21nm,0.3s,baz=84,slow=22,SNR=3.8							
RAO				LR		LR	07 59 10.9	
	comp=Z,7μm,18.2s,baz=195,slow=35							
RPZ	Rata Peaks	9.62	211	Pn		Pn	07 57 17.0	-1.2
	5.1nm,0.3s,baz=128,slow=2.7,SNR=21							
RPZ				Sn		Sn	07 59 05.4	-0.1
	0.2nm,0.3s,baz=347,slow=23,SNR=2.4							
RPZ				LR		LR	08 01 27.5	
	comp=Z,6μm,20.0s,baz=32,slow=41							
ARMA	Armidale	22.65	276	*eP*		P	08 00 04.9	+4.3
ARMA				*eS*		S	08 04 28.0	+20
AFI	Afiamalu	23.56	26	P		P	08 00 10.4	+0.2
	33nm,0.9s,mb4.8,baz=91,slow=14,SNR=4.5							
AFI				LR		LR	08 07 13.6	
	comp=Z,438nm,19.1s,MS3.9,baz=202,slow=31							
RAR	Rarotonga	24.24	59	LR		LR	08 07 41.4	
	comp=Z,805nm,19.9s,MS4.2,baz=228,slow=32							
EIDS	Eidsvold	25.25	287	*eP*		P	08 00 26.2	+0.6
	38nm,1.3s,mb4.8							
STKA	Stephens Creek	30.35	267	*eP*		P	08 01 14.9	+3.8
	5.5nm,1.0s,mb4.2							
STKA				*eS*		S	08 06 19.0	+8.7
STKA	Stephens Creek	30.35	267	P		P	08 01 14.9	+3.8
	3.5nm,0.9s,mb4.1,baz=68,slow=16,SNR=2.8							
STKA				LR		LR	08 12 58.1	
	comp=Z,3μm,18.6s,MS5.0,baz=103,slow=36							
TBI	Tubuai	30.76	75	*e*LQ			08 07 22.6	
	3μm,27.8s							
TBI				*e*LR		LR	08 08 57.0	
	4μm,30.0s,baz=237							
HNR	Honiara	30.85	324	LR		LR	08 11 17.4	
	comp=Z,1μm,19.8s,MS4.6,baz=161,slow=32							
CTA	Charters Tower	31.86	291	*eP*		P	08 01 25.2	+0.7
	7.7nm,1.0s,mb4.5							
CTA				*eS*		S	08 06 47.6	+14
CTA	Charters Tower	31.86	291	P		P	08 01 25.1	+0.6
	8.0nm,0.9s,mb4.5,baz=122,slow=9.6,SNR=8.9							
CTAO	Charters Tower	31.86	291	*eP*		P	08 01 24.7	+0.2
	20nm,1.3s,mb4.8							
PPT	Papeete	33.96	66	*e*LQ			08 09 00.6	
	2μm,23.5s							
PPT				*e*LR		LR	08 10 37.4	
	3μm,25.5s,baz=232							
PPT	Papeete	33.96	66	LR		LR	08 11 52.1	
	comp=Z,1μm,18.5s,MS4.7,baz=241,slow=30							
COEN	Coen	37.96	296	*eP*		P	08 02 17.0	-0.3
	16nm,1.0s,mb4.7							
ASAR	Alice Springs	39.80	275	P		P	08 02 32.9	+0.3
	8.8nm,0.8s,mb4.5,baz=114,slow=7.5,SNR=46							
RKT	Rikitea	42.51	86	*eS*		S	08 09 10.4	-5.6
	300nm,29.5s							
RKT				*e*LQ			08 12 32.6	
	2μm,28.5s							
RKT				*e*LR		LR	08 14 28.9	
	3μm,29.5s,baz=241							
TAOE	Nuku Hiva Isla	46.55	65	*eS*		S	08 10 11.6	-3.3
	711nm,27.5s							
TAOE				*e*LQ			08 13 34.7	
	20μm,32.9s							
TAOE				*e*LQ			08 16 13.8	
	6μm,28.6s							
MBWA	Marble Bar	52.51	270	*eP*		P	08 04 12.5	-0.2
	46nm,1.1s,mb5.3							
MBWA				*e*			08 04 20.9	
QSPA	South Pole Qui	54.45	180	P		P	08 04 26.8	+0.8
	8.3nm,0.7s,mb4.8,baz=14,slow=1.3,SNR=33							
QSPA	South Pole Qui	54.45	180	P		P	08 04 26.8	+0.7
MAW	Mawson	66.17	202	LR		LR	08 34 35.6	
	comp=Z,619nm,18.8s,MS4.8,baz=115,slow=36							
SNAA	Sanae	72.95	180	*e*		P	08 06 27.1	-1.0
SNAA				*e*			08 06 29.9	
SNAA				*e*		pP	08 06 35.0	-0.3
SNAA				*e*			08 07 16.4	
SNAA				*e*			08 07 19.6	
VNA3	Neumayer Olymp	73.24	177	*e*		P	08 06 28.1	-1.8
VNA3				*e*			08 06 31.0	
VNA3				*e*		pP	08 06 36.5	-0.5
VNA3				*e*			08 07 17.9	
VNA3				*e*			08 07 20.2	
VNA2	Neumayer--Watz	73.63	178	*e*		P	08 06 30.2	-2.0
	baz=173,slow=4.5							
VNA2				*e*			08 06 33.7	
VNA2				*e*			08 06 39.1	
VNA2				*e*			08 07 19.9	
VNA2				*e*			08 07 22.9	
VNA1	Neumayer--Stat	73.88	178	*e*		P	08 06 36.0	+2.4
VNA1				*e*			08 06 39.5	
VNA1				*e*			08 06 45.2	
VNA1				*e*			08 07 25.0	
VNA1				*e*			08 07 28.6	
MJAR	Matsushiro Arr	80.80	329	P		P	08 07 14.4	+1.8
	4.2nm,1.0s,mb4.3,baz=168,slow=5.7,SNR=5.9							
MJAR				LR		LR	08 40 12.5	
	comp=Z,219nm,18.7s,MS4.5,baz=135,slow=34							
PLCA	Paso Flores	81.33	134	P		P	08 07 15.2	-0.6
	2.6nm,0.8s,mb4.2,baz=226,slow=8.6,SNR=4.8							
PLCA				LR		LR	08 35 32.5	
	comp=Z,341nm,18.4s,MS4.7,baz=227,slow=30							
ASAJ	Asahikawa	85.67	335	LR		LR	08 39 46.3	
	comp=Z,242nm,19.4s,MS4.6,baz=171,slow=31							
KSRS	Korea Array	86.29	322	P		P	08 07 40.7	-0.2
	1.5nm,0.9s,mb4.2,baz=181,slow=30,SNR=3.5							
KSRS				LR		LR	08 44 38.5	
	comp=Z,202nm,19.5s,MS4.5,baz=314,slow=34							
PETK	Petropavlovsk-	90.16	348	LR		LR	08 43 30.1	
	comp=Z,176nm,21.9s,MS4.5,baz=161,slow=32							
CMAR	Chiang Mai Arr	92.03	291	P		P	08 08 08.5	0.0
	1.0nm,0.3s,mb4.6,baz=137,slow=3.7,SNR=5.1							
NVAR	Mina Array Bea	94.39	45	P		P	08 08 20.4	+1.6
	1.3nm,1.1s,mb4.3,baz=204,slow=6.5,SNR=5.3							
TXAR	Lajitas Array	98.04	60	LR		LR	08 47 28.9	
	comp=Z,446nm,18.2s,MS5.0,baz=350,slow=32							
LPAZ	La Paz	98.93	117	LR		LR	08 46 40.6	
	comp=Z,212nm,20.2s,MS4.6,baz=41,slow=31							
KAF	Kangasniemi	148.14	335	*ep*		PKPdf	08 14 44.8	+3.9
GERES	GERESS Array B	162.47	323	PKPab		PKPab	08 15 49.2	+0.8
	0.6nm,0.7s,baz=52,slow=11,SNR=3.7							

*ISCJB **27** 08:06:45.7±1.5, 1898N±009×1454E±02, h248km±17km, mb3.7/11, Error ellipse: s-maj=34.4km s-min=12.9km az=168.7*
*IDC **27** 08:06:45.7±2.0, 1899N×14549E, h234km±21km, mb3.5/9, mb1 3.7/11, mb1mx3.6/19, mbtmp3.5/11, Error ellipse: s-maj=27.3km s-min=12.5km az=79.0*
*NEIC **27** 08:06:46.3±1.3, 1901N×14540E, h242km±14km, mb4.0/2, Error ellipse: s-maj=23.2km s-min=10.8km az=82.0*

ISC 27 08:06:46.1±1.5, 1898N±009×1455E±02, h238km±17km, n17, σ0§57/16, mb3.7/11, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
GUMO	Guam	5.39	186	P		Pn	08 08 07.1	+0.8
	9.5nm,0.3s,baz=169,slow=8.4,SNR=11							
GUMO				S		S	08 09 09.7	-0.6
	40nm,0.3s,baz=9.1,slow=22,SNR=6.7							
MJAR	Matsushiro Arr	18.63	341	P		P	08 10 45.4	-0.8
	0.7nm,0.3s,baz=170,slow=13,SNR=6.8							
MAT	Matsushiro	18.63	341	P		P	08 10 46.4	+0.2
KSRS	Korea Array	23.97	324	P		P	08 11 40.0	+1.1
	1.0nm,0.6s,mb3.6,baz=143,slow=9.0,SNR=3.5							
KAKA	Kakadu	34.00	203	*eP*		P	08 13 02.4	-5.3
	5.2nm,0.6s,mb4.2							
CTA	Charters Tower	38.83	179	*eP*		P	08 13 48.6	+0.2
	2.1nm,0.7s,mb3.8							
SONM	Songino Array	42.79	321	P		P	08 14 19.8	-0.6
	0.5nm,0.6s,mb3.1,baz=115,slow=9.7,SNR=3.0							
ASAR	Alice Springs	43.86	195	P		P	08 14 29.5	+0.4
	3.2nm,0.6s,mb3.8,baz=19,slow=7.9,SNR=64							
STKA	Stephens Creek	50.70	184	*eP*		P	08 15 20.9	-0.7
	2.7nm,1.1s,mb3.6							
STKA	Stephens Creek	50.70	184	P		P	08 15 21.0	-0.6
	2.3nm,0.8s,mb3.7,baz=50,slow=5.7,SNR=6.6							
YKA	Yellowknife Ar	77.85	28	P		P	08 18 16.4	-0.6
	1.4nm,0.6s,mb3.8,baz=281,slow=6.3,SNR=3.4							
ARCES	ARCESS Array B	82.17	342	P		P	08 18 39.9	-0.1
	2.3nm,0.8s,mb3.9,baz=83,slow=8.4,SNR=3.2							
NVAR	Mina Array Bea	83.14	52	P		P	08 18 46.3	+0.7
	2.7nm,0.6s,mb4.2,baz=267,slow=5.6,SNR=23							
PDAR	Pinedale Array	87.79	45	P		P	08 19 08.3	-0.1
	0.5nm,0.9s,mb3.4,baz=223,slow=1.0,SNR=3.7							
TXAR	Lajitas Array	97.86	55	P		P	08 19 55.1	+0.1
	0.3nm,1.0s,mb3.6,baz=260,slow=5.4,SNR=2.8							
LPAZ	La Paz	147.90	91	PKPbc		PKPbc	08 26 04.7	+0.8
	1.3nm,0.6s,baz=299,slow=2.3,SNR=4.0							
LPAZ	La Paz	147.90	91	PKPbc		PKPbc	08 26 04.7	+0.8

NEIC 27 08:07:19.1, 3545S×17839E, h0km, ML4.3(WEL), After WEL., Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
KUZ	Kuaotunu	2.52	238	P		Pn	08 08 00.0	-1.3
URZ	Urewera	2.99	200	P		Pn	08 08 08.0	+0.3
MKAZ	Moumakai	3.09	237	P		Pn	08 08 08.3	-0.8
WCZ	Waipu Caves	3.33	260	P		Pn	08 08 12.2	-0.2
OUZ	Omahuta	3.93	272	P		Pn	08 08 19.5	-1.1
BKZ	Black Stump Fm	4.01	202	P		Pn	08 08 22.2	+0.5
HIZ	Hauiti	4.17	222	P		Pn	08 08 23.6	-0.3

*TEH **27** 08:12:36.1, 3046N×5075E, h15km, ML3.5*
*CSEM **27** 08:13:13.6±0.1, 3051N×5076E, h10km, ML3.4, Error ellipse: s-maj=2.7km s-min=1.6km az=134.0*
*THR **27** 08:13:13.1±0.6, 3043N×5081E, h15km, ML3.4*
*ISCJB **27** 08:13:14.2±0.4, 3049N±004×5072E±005, h10km, Error ellipse: s-maj=6.6km s-min=4.7km az=38.7*

ISC 27 08:13:15.1±0.4, 3046N±004×5074E±005, h10km, n24, σ0§58/25, 1D, Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
IPAR	Pars	2.09	107	*e*Pn		Pn	08 13 50.0	-0.2
IPIR	Pirpir	2.22	3	*e*Pn		Pn	08 13 53.3	+1.3
IPIR				*e*Sg		Sg	08 14 25.4	-1.1
IPIR				*e*			08 14 27.0	
IPIR				*e*			08 14 28.1	
IGAR	Gharneh	2.23	30	*e*Pn		Pn	08 13 52.5	+0.3
IGAR				*e*			08 14 28.1	
ISRV	Sarvestan	2.33	117	*e*Pn		Pn	08 13 54.2	+0.8
ISRV				*e*			08 14 40.8	
SHGR	Shooshtar-Gavs	2.33	315	*e*Pn		Pn	08 13 53.8	+0.3
SHGR				AML		AML	08 14 33.6	
	comp=N,235nm,0.5s							
SHGR	

comp=E,20nm,0.4s
CHTH Charan 5.44 3 *e*Pn **Pn 08 14 36.5 +0.3**

*ISCJB **27** 08:13:31.1±1.9,413N±0.1×3928E±008,h13^{km}±15^{km}, Error ellipse: s-maj=19.9km s-min=9.8km az=176.2*
*ISK **27** 08:13:31.5,4125N×3924E,h10^{km},ML2.5*
ISC 27 08:13:31.2±2.4,**413N**±01×**3928E**±008,**h11**km±17km**,n7,** σ0**56**/9**,Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KTUT	**Trabzon**	**0.49**	**131**	*e*PG	**Pg**	**08 13 41.7**	**+1.0**
ESPY	**Espiye-Giresun**	**0.57**	**227**	*e*PG	**Pg**	**08 13 41.5**	**-0.8**
ESPY				*e*SG	**Sg**	**08 13 50.0**	**+0.2**
GUMT	**Gumushane**	**0.86**	**170**	*e*PG	**Pg**	**08 13 47.5**	**-0.3**
GUMT				*e*SG	**Sg**	**08 13 58.8**	**-0.2**
DBAD	**Bademkaya**	**1.85**	**98**	*i* P	**Pn**	**08 14 02.5**	**-0.4**
DDEM	**Demirkent**	**1.91**	**102**	*i* P	**Pn**	**08 13 57.0**	**-6.7**
DAGI	**Agillar**	**2.00**	**96**	*i* P	**Pn**	**08 14 04.6**	**-0.3**
SVSK	**Karacayir**	**2.23**	**232**	*e*PN	**Pn**	**08 14 08.8**	**+0.7**

*ISCJB **27** 08:48:00.7±0.9,541S±004×147.17E±006,h201km±9km, mb4.7/59,Error ellipse: s-maj=9.1km s-min=6.4km az=4.5*
*MOS **27** 08:48:00.9±0.7,534S×14709E,h201km,mb4.8/19,Error ellipse: s-maj=12.4km s-min=6.8km az=99.8*
*BJI **27** 08:48:01.5,528S×14727E,h209km,mB4.9,mb4.8*
*NEIC **27** 08:48:01.8±0.1,541S×147.14E,mb4.9/24,Error ellipse: s-maj=7.8km s-min=4.3km az=88.0*
*DJA **27** 08:48:03,547S×14686E,h184km,Mw5.2/4*
*IDC **27** 08:48:05.0±1.6,549S×147.10E,h229km±15km,mb4.4/23, mb1 4.4/26,mb1mx4.4/28,mbtmp4.4/26,Error ellipse: s-maj=10.5km s-min=7.4km az=90.0*
ISC 27 08:48:03.3±0.8,**546S**±004×**14716E**±005,**h211**km±8km**, h207**km±2.5km**;pP-P,n205,**σ0**86**/126**,mb4.7**/59,**8C-4D, Eastern New Guinea region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.92**	**180**	*d* P	**Pn**	**08 49 03.5**	**-1.1**
PMG	**Port Moresby**	**3.92**	**180**	*e*Pn	**Pn**	**08 49 02.6**	**-1.9**
COEN	**Coen**	**9.31**	**205**	*e*Pn	**Pn**	**08 50 14.3**	**+0.7**
	5.2nm,0.6s						
COEN				*e*Sn	**S**	**08 51 59.1**	**+0.9**
HNR	**Honiara**	**13.28**	**108**	P	**Pn**	**08 51 06.6**	**+2.6**
	44nm,0.3s,baz=133,slow=2.5,SNR=8.5						
HNR	**Honiara**	**13.28**	**108**	*e*Pn	**Pn**	**08 51 03.1**	**-0.9**
CTA	**Charters Tower**	**14.57**	**183**	*e*P	**Pn**	**08 51 21.0**	**+1.1**
	38nm,0.8s						
CTA	**Charters Tower**	**14.57**	**183**	P	**Pn**	**08 51 21.1**	**+1.3**
	2.9nm,0.3s,baz=358,slow=12,SNR=54						
CTA				S	**S**	**08 54 01.4**	**-0.3**
	0.3nm,0.3s,baz=24,slow=12,SNR=1.8						
CTA	**Charters Tower**	**14.57**	**183**	*e*P	**Pn**	**08 51 21.0**	**+1.1**
CTA				pmax	pmax		
	comp=Z,38nm,0.8s						
CTAO	**Charters Tower**	**14.57**	**183**	*e*P	**Pn**	**08 51 21.1**	**+1.2**
KAKA	**Kakadu**	**16.21**	**243**	*e*P	**P**	**08 51 32.5**	**-6.5**
	comp=Z,733nm,0.9s						
KAKA				*e*S	**S**	**08 54 25.1**	**-13**
WRAB	**Tennant Creek**	**19.04**	**220**	*d* P	**P**	**08 52 09.7**	**0.0**
GUMO	**Guam**	**19.06**	**353**	P	**P**	**08 52 09.2**	**-0.7**
	comp=Z,4.8nm,0.3s,baz=166,slow=9.2,SNR=6.9						
GUMO	**Guam**	**19.06**	**353**	*e*P	**P**	**08 52 09.0**	**-0.9**
GUMO				pmax	pmax		
	comp=Z,58nm,0.7s						
GUMO	**Guam**	**19.06**	**353**	*e*P	**P**	**08 52 08.9**	**-1.0**
	comp=Z,58nm,0.7s						
EIDS	**Eidsvold**	**20.16**	**170**	*e*P	**P**	**08 52 22.1**	**+0.5**
	comp=Z,73nm,0.6s						
ASAR	**Alice Springs**	**22.15**	**214**	P	**P**	**08 52 42.5**	**+0.5**
	comp=Z,110nm,0.7s,mb5.5,baz=48,slow=7.9,SNR=1270						
ASAR				S	**S**	**08 56 28.8**	**-1.9**
	comp=Z,12nm,0.9s,baz=29,slow=17,SNR=7.5						
BATI	**Baumata**	**23.74**	**257**	P	**P**	**08 52 56.9**	**+0.2**
	comp=Z,30nm,0.4s,mb5.3,baz=97,slow=6.1,SNR=5.1						
BATI				S	**S**	**08 56 55.6**	**-0.8**
	comp=Z,14nm,0.4s,baz=65,slow=5.7,SNR=3.1						
ARMA	**Armidale**	**25.19**	**171**	*e*P	**P**	**08 53 10.1**	**+0.6**
STKA	**Stephens Creek**	**26.80**	**191**	*e*P	**P**	**08 53 23.4**	**-0.5**
	comp=Z,11nm,0.7s,mb4.6						
STKA	**Stephens Creek**	**26.80**	**191**	P	**P**	**08 53 23.2**	**-0.7**
	comp=Z,6.5nm,0.5s,mb4.5,baz=347,slow=8.0,SNR=8.5						
CNB	**Canberra Magne**	**29.78**	**176**	*e*P	**P**	**08 53 50.4**	**0.0**
MBWA	**Marble Bar**	**30.83**	**237**	*e*P	**P**	**08 53 59.0**	**-0.8**
	comp=Z,9.7nm,0.6s,mb4.6						
MBWA				*e*pP	pP	08 54 42.1	-0.5
FORT	**Forrest**	**30.94**	**213**	*e*P	**P**	**08 54 00.3**	**-0.3**
	comp=Z,82nm,0.6s,mb5.5						
TOO	**Toolangi**	**32.00**	**182**	*e*P	**P**	**08 54 10.2**	**+0.4**
CBIJ	**Chichi jima**	**32.71**	**352**	P	**P**	**08 54 15.4**	**-0.7**
	comp=Z,97nm,0.5s,mb5.6,baz=267,slow=19,SNR=4.9						
JOW	**Kunigami**	**36.94**	**331**	P	**P**	**08 54 52.8**	**+0.5**
	comp=Z,20nm,0.4s,mb5.0,baz=291,slow=26,SNR=5.3						
KLBR	**Kellerberrin**	**37.87**	**223**	*e*P	**P**	**08 54 59.1**	**-1.0**
	comp=Z,27nm,0.6s,mb5.0						
NWAO	**Narrogin (SRO)**	**39.04**	**222**	P	**P**	**08 55 08.8**	**-0.9**
	comp=Z,18nm,0.9s,mb4.6,baz=67,slow=9.8,SNR=5.3						
NWAO	**Narrogin (SRO)**	**39.04**	**222**	*e*P	**P**	**08 55 09.4**	**-0.3**
NWAO				*e**PP	pP	08 55 50.6	-3.3
NWAO				pmax	pmax		
	comp=Z,49nm,1.3s						
NWAO	**Narrogin (SRO)**	**39.04**	**222**	*e*P	**P**	**08 55 09.4**	**-0.4**
	comp=Z,49nm,1.3s,mb4.9						
NWAO				*e*pP	pP	08 55 50.6	-3.3
AFI	**Afiamalu**	**41.29**	**105**	P	**P**	**08 55 28.6**	**+0.1**
	comp=Z,16nm,0.7s,mb4.6,baz=274,slow=23,SNR=9.5						
URZ	**Urewera**	**42.50**	**144**	P	**P**	**08 55 37.9**	**0.0**
	comp=Z,8.5nm,0.6s,mb4.3,baz=269,slow=4.5,SNR=6.3						
MJAR	**Matsushiro Arr**	**42.61**	**349**	P	**P**	**08 55 38.2**	**-0.5**
	comp=Z,3.7nm,0.5s,mb4.1,baz=236,slow=14,SNR=20						
MJAR				ScP	ScP	09 00 55.8	-2.0
	comp=Z,1.1nm,0.5s,baz=165,slow=5.2,SNR=4.8						
MAJO	**Matsushiro**	**42.61**	**349**	*e*P	**P**	**08 55 38.4**	**-0.4**
MAJO				pmax	pmax		
	comp=Z,108nm,1.6s,mb5.0						
MAJO	**Matsushiro**	**42.61**	**349**	*e*P	**P**	**08 55 38.4**	**-0.4**
	comp=Z,108nm,1.6s,mb5.0						
MAT	**Matsushiro**	**42.61**	**349**	P	**P**	**08 55 37.8**	**-1.0**
RPZ	**Rata Peaks**	**43.53**	**155**	P	**P**	**08 55 46.0**	**-0.1**
	comp=Z,7.2nm,0.6s,mb4.2,baz=0.0,slow=4.0,SNR=4.7						
QIZ	**Qiongzhong**	**44.08**	**304**	*e*P	**P**	**08 55 52.1**	**+1.3**
	comp=Z,4.5nm,0.5s,mb4.0						
KSRS	**Korea Array**	**46.30**	**339**	P	**P**	**08 56 08.2**	**+0.3**
	comp=Z,13nm,0.8s,mb4.3,baz=153,slow=8.7,SNR=40						
KSRS				PcP	PcP	08 57 39.8	+0.1
	comp=Z,1.9nm,0.6s,baz=178,slow=3.4,SNR=5.3						
KS15	**Wonju Array Si**	**46.31**	**339**	*e*P	**P**	**08 56 08.4**	**+0.4**
INCN	**Inchon**	**46.81**	**338**	*e*P	**P**	**08 56 11.1**	**-0.8**
	comp=Z,26nm,0.6s,mb4.7						
ASAJ	**Asahikawa**	**49.51**	**356**	P	**P**	**08 56 33.4**	**+0.9**
	comp=Z,10.0nm,0.5s,mb4.4,baz=220,slow=12,SNR=14						
GYA	**Guiyang**	**50.44**	**311**	P	**P**	**08 56 41.5**	**+1.7**
GYA				AP	pP	08 57 26.8	+0.6
GYA				XP	sP	08 57 49.3	-0.3
GYA				PCP	PcP	08 57 56.8	+1.9
GYA				PP	PP	08 58 40.0	+2.2
GYA				SCP	ScP	09 01 31.5	+0.7
GYA				PCS	PcS	09 01 52.5	-0.1
GYA				S	**S**	**09 03 39.0**	**+1.9**
GYA				XS	sS	09 04 57.0	-1.5
GYA				SCS	ScS	09 06 08.5	-0.5
GYA				AMB	AMB		
	comp=Z,20nm,1.0s,mb4.4						
GYA				AMB	AMB		
	comp=Z,130nm,4.9s						
MDJ	**Mudanjiang**	**52.28**	**344**	P	**P**	**08 56 53.3**	**+0.2**
MDJ				PCP	PcP	08 58 01.0	-0.4
MDJ				S	**S**	**09 04 04.0**	**+2.3**
MDJ				AMB	AMB		
	comp=Z,12nm,0.6s,mb4.5						
MDJ				AMB	AMB		
	comp=Z,185nm,5.1s						
MDJ				LR	LR		
	comp=N,36nm,18.1s						
MDJ				LR	LR		
	comp=Z,56nm,16.2s						
MDJ	**Mudanjiang**	**52.28**	**344**	*e*P	**P**	**08 56 53.3**	**+0.2**
	comp=Z,6.8nm,0.6s,mb4.2						
YSS	**Yuzh-Sakhalins**	**52.33**	**356**	↑*e*P	**P**	**08 56 52.0**	**-1.3**
YSS				pmax	pmax		
	comp=Z,30nm,1.0s,mb4.7						
YSS	**Yuzh-Sakhalins**	**52.33**	**356**	*e*P	**P**	**08 56 53.8**	**+0.5**
	comp=Z,7.2nm,0.6s,mb4.3						
KMI	**Kunming**	**52.79**	**307**	P	**P**	**08 56 56.5**	**-0.7**
KMI				AMB	AMB		
	comp=Z,13nm,0.8s,mb4.4						
CN2	**Changchun**	**52.80**	**340**	*e*P	**P**	**08 56 58.8**	**+1.9**
CMAR	**Chiang Mai Arr**	**53.13**	**298**	P	**P**	**08 56 59.9**	**+0.1**
	comp=Z,1.5nm,0.3s,mb3.9,baz=127,slow=5.5,SNR=5.7						
CMAR				PcP	PcP	08 58 06.0	+0.9
	comp=Z,1.7nm,0.4s,baz=122,slow=2.6,SNR=8.7						
XAN	**Xi'an**	**53.37**	**320**	P	**P**	**08 57 01.0**	**-0.2**
XAN				AP	pP	08 57 46.0	-2.1
XAN				XP	sP	08 58 08.8	-2.6
XAN				AMB	AMB		
	comp=Z,37nm,1.0s,mb4.8						
XAN				AMB	AMB		
	comp=Z,151nm,5.7s						
BJT	**Baijiatuan**	**53.49**	**331**	*e*P	**P**	**08 57 01.8**	**-0.2**
BJT				pmax	pmax		
	comp=Z,12nm,0.4s						
BJT	**Baijiatuan**	**53.49**	**331**	*e*P	**P**	**08 57 01.8**	**-0.2**
	comp=Z,12nm,0.4s,mb4.7						
BJI	**Beijing**	**53.51**	**331**	P	**P**	**08 57 02.0**	**-0.1**
BJI				AMB	AMB		
	comp=Z,27nm,1.3s,mb4.6						
BJI				AMB	AMB		
	comp=Z,152nm,3.4s						
HABR	**Khabarovsk**	**54.74**	**350**	*e*P	**P**	**08 57 09.1**	**-1.7**
HABR				*e*S	**S**	**09 04 33.8**	**-0.8**
CD2	**Chengdu**	**55.01**	**314**	⇓*i*P	**P**	**08 57 13.5**	**+0.4**
CD2				AP	pP	08 58 00.0	-0.3
CD2				XP	sP	08 58 22.8	-0.7
CD2				PP	PP	08 59 20.5	+1.7
CD2				S	**S**	**09 04 38.0**	**-0.8**
CD2				XS	sS	09 05 58.8	-2.6
CD2				SS	SS	09 08 24.8	-1.3
CD2				AMB	AMB		
	comp=Z,40nm,0.5s,mb5.2						
CD2				AMB	AMB		
	comp=Z,120nm,4.2s						
KLR	**Kul'dur**	**56.09**	**348**	*e*P	**P**	**08 57 16.8**	**-3.7**
KLR				pmax	pmax		
	comp=Z,57nm,1.6s,mb4.8						
HHC	**Hu-ho-hao-te**	**56.45**	**328**	*e*P	**P**	**08 57 24.0**	**+0.8**
HHC				AP	pP	08 58 10.8	+0.2
HHC				PCP	PcP	08 58 18.0	+0.5
HHC				XP	sP	08 58 33.0	-0.8
HHC				PP	PP	08 59 36.0	+4.6
HHC				SCP	ScP	09 01 58.0	+1.3
HHC				PCS	PcS	09 02 17.8	-0.5
HHC				S	**S**	**09 04 58.0**	**+0.4**
HHC				XS	sS	09 06 19.0	-1.6
HHC				SCS	ScS	09 06 49.5	-1.5
HHC				SS	SS	09 08 50.3	+1.8
HHC				AMB	AMB		
	comp=Z,15nm,1.1s,mb4.4						
HHC				AMB	AMB		
	comp=Z,149nm,8.9s						
HHC				LR	LR		
	comp=N,209nm,14.4s						
HHC				LR	LR		
	comp=E,527nm,15.3s						
HHC				LR	LR		
	comp=Z,181nm,16.0s						
LZH	**Lanzhou**	**57.90**	**319**	*e*P	**P**	**08 57 34.0**	**+0.6**
LZH				AP	pP	08 58 21.0	-0.1
LZH				XP	sP	08 58 43.5	-0.7
LZH				PP	PP	08 59 46.5	+2.1
LZH				S	**S**	**09 05 17.0**	**+0.3**
LZH				XS	sS	09 06 39.0	-1.0
LZH				SS	SS	09 09 13.0	+1.6
LZH				AMB	AMB		
	comp=Z,53nm,1.5s,mb5.0						
LZH				AMB	AMB		
	comp=Z,150nm,4.9s						
PEA0B	**Petropavlovsk-**	**59.02**	**7**	*e*P	**P**	**08 57 41.7**	**+1.0**
PETK	**Petropavlovsk-**	**59.02**	**7**	P	**P**	**08 57 41.4**	**+0.6**
	comp=Z,21nm,0.8s,mb4.8,baz=164,slow=6.2,SNR=27						
HIA	**Hailar**	**59.50**	**340**	*e*P	**P**	**08 57 44.6**	**+0.4**
HIA				pmax	pmax		
	comp=Z,56nm,1.4s						
HIA	**Hailar**	**59.50**	**340**	*e*P	**P**	**08 57 44.6**	**+0.5**
	comp=Z,56nm,1.4s,mb5.0						
GTA	**Gaotai**	**62.43**	**320**	⇑P	**P**	**08 58 04.8**	**+0.7**
GTA				AP	pP	08 58 52.3	-0.1
GTA				XP	sP	08 59 14.5	-0.8
GTA				S	**S**	**09 06 15.8**	**+1.7**
GTA				XS	sS	09 07 38.5	-0.1
GTA				SS	SS	09 10 26.5	+4.3
GTA				AMB	AMB		
	comp=Z,20nm,1.1s,mb4.7						
GTA				AMB	AMB		
	comp=Z,167nm,5.7s						
GTA				LR	LR		
	comp=N,144nm,15.6s						
GTA				LR	LR		
	comp=E,91nm,14.7s						
GTA				LR	LR		
	comp=Z,156nm,15.3s						
ULN	**Ulaanbaatar**	**63.71**	**331**	*e*P	**P**	**08 58 12.5**	**+0.2**
ULN				pmax	pmax		
	comp=Z,23nm,0.8s,mb4.9						
ULN	**Ulaanbaatar**	**63.71**	**331**	*e*P	**P**	**08 58 12.5**	**+0.2**
	comp=Z,23nm,0.8s,mb4.9						
SONM	**Songino Array**	**64.01**	**331**	P	**P**	**08 58 14.8**	**+0.6**
	comp=Z,11nm,0.8s,mb4.5,baz=152,slow=6.3,SNR=54						
SONM				PcP	PcP	08 58 47.3	-0.4
	comp=Z,1.2nm,0.5s,baz=144,slow=4.1,SNR=3.7						
CASY	**Casey**	**65.82**	**195**	*e*P	**P**	**08 58 25.0**	**-0.6**
ZAK	**Zakamensk**	**67.24**	**331**	⇓*i*P	**P**	**08 58 34.7**	**-0.2**
ZAK				*e*	pP	08 59 25.9	+2.0
ZAK				pmax	pmax		
	comp=Z,27nm,1.0s,mb4.8						
TLY	**Talaya**	**67.94**	**332**	*e*P	**P**	**08 58 39.6**	**+0.4**
TLY				pmax	pmax		
	comp=Z,15nm,0.9s,mb4.6						
BOD	**Bodaibo**	**68.51**	**342**	*e*P	**P**	**08 58 42.1**	**-0.5**
BOD				pmax	pmax		
	comp=Z,19nm,0.9s,mb4.7						
YAK	**Yakutsk**	**68.63**	**351**	*e*P	**P**	**08 58 42.5**	**-0.8**
YAK				pmax	pmax		
	comp=Z,30nm,0.9s,mb4.9						
YAK				pmax	pmax		
	comp=N,18nm,1.2s						
YAK	**Yakutsk**	**68.63**	**351**	*e*P	**P**	**08 58 43.1**	**-0.2**
	comp=N,188nm,1.8s,mb5.4						
MOY	**Mondy**	**69.17**	**331**	*e*P	**P**	**08 58 47.7**	**+0.9**
MOY				pmax	pmax		
	comp=Z,25nm,1.5s,mb4.6						
WMQ	**Urumqi**	**72.48**	**319**	⇑*i*P	**P**	**08 59 07.5**	**+0.5**
WMQ				PCP	PcP	08 59 24.5	+1.0
WMQ				AP	pP	08 59 55.5	-1.3
WMQ				XP	sP	09 00 18.0	-1.3
WMQ				PP	PP	09 01 53.0	+1.7
WMQ				S	S	09 08 12.5	-1.2
WMQ				SKS		09 08 47.5	
WMQ				SCS	ScS	09 08 51.0	-2.9
WMQ				AMB	AMB		
	comp=Z,161nm,0.9s,mb5.7						
WMQ				AMB	AMB		
	comp=Z,115nm,5.5s						
WMQ				LR	LR		
	comp=N,86nm,16.6s						
WMQ				LR	LR		
	comp=Z,37nm,15.0s						
SBA	**Scott Base**	**73.08**	**176**	*e*P	**P**	**08 59 11.4**	**+1.5**
SBA				pmax	pmax		
	comp=Z,1.0nm,0.5s,mb3.7						
SBA	**Scott Base**	**73.08**	**176**	*e*P	**P**	**08 59 11.4**	**+1.5**
	comp=Z,1.0nm,0.5s,mb3.7						
BILL	**Bilibino**	**74.56**	**7**	⇑*e*P	**P**	**08 59 18.8**	**+0.3**
BILL				*e*		08 59 38.2	
BILL				pmax	pmax		
	comp=Z,20nm,1.2s,mb4.6						
BILL	**Bilibino**	**74.56**	**7**	*e*P	**P**	**08 59 17.8**	**-0.7**
MK31	**Makanchi Array**	**77.18**	**320**	*i* P	**P**	**08 59 33.4**	**-0.4**
MK31				pmax	pmax		
	comp=Z,5.0nm,0.4s,mb4.5						
MKAR	**Makanchi Array**	**77.18**	**320**	P	**P**	**08 59 33.4**	**-0.4**
	comp=Z,12nm,0.8s,mb4.5,baz=101,slow=6.3,SNR=40						
MKAR				PP	PP	09 02 28.3	-2.5
	comp=Z,1.1nm,0.9s,baz=116,slow=8.6,SNR=3.7						
TIXI	**Tiksi**	**77.89**	**354**	⇑*i*P	**P**	**08 59 35.7**	**-1.5**
TIXI				pmax	pmax		
	comp=Z,13nm,1.2s,mb4.4						
TIXI	**Tiksi**	**77.89**	**354**	*e*P	**P**	**08 59 35.9**	**-1.3**
	comp=Z,8.2nm,0.8s,mb4.4						
ZALV	**Zalesovo Beam**	**78.64**	**328**	P	**P**	**08 59 40.2**	**-1.4**
	comp=Z,17nm,0.6s,mb4.9,baz=111,slow=5.7,SNR=66						
ZALV	**Zalesovo Beam**	**78.64**	**328**	P	**P**	**08 59 40.2**	**-1.4**
KDAK	**Kodiak Island**	**79.35**	**28**	P	**P**	**08 59 46.6**	**+1.1**
	comp=Z,8.0nm,0.8s,mb4.4,baz=208,slow=12,SNR=2.4						
NVS	**Novosibirsk**	**79.86**	**328**	*e*P	**P**	**08 59 46.2**	**-2.0**
TKM2	**Tokmak 2**	**80.37**	**315**	P	**P**	**08 59 51.0**	**-0.2**
	SNR=13						
KZA	**Kyzart**	**80.38**	**314**	P	**P**	**08 59 53.0**	**+1.6**
	SNR=19						
KURK	**Kurchatov**	**80.87**	**323**	P	**P**	**08 59 53.2**	**-0.5**
	comp=Z,4.3nm,0.9s,mb4.1,baz=111,slow=4.5,SNR=14						
KURK	**Kurchatov**	**80.87**	**323**	P	**P**	**08 59 53.2**	**-0.6**
AAK	**Ala-Archa**	**81.07**	**315**	P	**P**	**08 59 55.3**	**+0.4**
	SNR=8.1						
USP	**Ospenovka**	**81.24**	**315**	P	**P**	**08 59 55.9**	**+0.1**
	SNR=13						
EKS2	**Erkin-Say**	**81.59**	**314**	P	**P**	**08 59 58.0**	**+0.3**
	SNR=8.8						
MAW	**Mawson**	**82.81**	**203**	P	**P**	**09 00 03.2**	**-0.3**
	comp=Z,1.6nm,0.6s,mb4.0,baz=101,slow=6.2,SNR=8.7						
MAW	**Mawson**	**82.81**	**203**	*e*P	**P**	**09 00 02.8**	**-0.7**
MAW				pmax	pmax		
	comp=Z,2.0nm,0.5s						
MAW	**Mawson**	**82.81**	**203**	*e*P	**P**	**09 00 02.8**	**-0.7**
	comp=Z,2.0nm,0.5s,mb4.1						
IMA2	**Indian Mountai**	**82.99**	**21**	*e*P	**P**	**09 00 04.7**	**+0.2**
KK31	**Karatay Array**	**84.02**	**314**	*i* P	**P**	**09 00 09.8**	**-0.4**
KK31				pmax	pmax		
	comp=Z,3.0nm,0.4s,mb4.4						
COLA	**College**	**84.59**	**23**	*e*P	**P**	**09 00 11.1**	**-1.4**
COLA				pmax	pmax		
	comp=Z,8.0nm,0.8s,mb4.5						
COLA	**College**	**84.59**	**23**	*e*P	**P**	**09 00 11.1**	**-1.4**
	comp=Z,7.6nm,0.8s,mb4.5						
BVAR	**Borovoye Array**	**86.42**	**324**	P	**P**	**09 00 20.5**	**-1.3**
	comp=Z,5.2nm,0.5s,mb4.5,baz=136,slow=7.2,SNR=24						
EGAK	**Eagle**	**87.21**	**24**	*e*P	**P**	**09 00 25.0**	**-0.3**
	comp=Z,95nm,2.5s,mb5.1						
DAWY	**Dawson**	**87.72**	**25**	*e*P	**P**	**09 00 28.0**	**+0.3**
AB31	**Akbulak array**	**92.27**	**319**	*i* P	**P**	**09 00 46.6**	**-2.8**
AB31				pmax	pmax		
	comp=Z,1.0nm,0.4s,mb4.1						
YBH	**Yreka Blue Hor**	**93.69**	**49**	P	**P**	**09 00 57.1**	**+1.0**
	comp=Z,8.5nm,1.0s,mb4.7,baz=193,slow=1.9,SNR=9.2						
CMB	**Columbia Colle**	**95.26**	**52**	*e*P	**P**	**09 01 02.7**	**-0.6**
CMB				pmax	pmax		
	comp=Z,12nm,1.6s,mb4.8						
CMB	**Columbia Colle**	**95.26**	**52**	*e*P	**P**	**09 01 02.7**	**-0.6**
	comp=Z,12nm,1.6s,mb4.8						
ETW	**Entiat**	**95.69**	**43**	*e*P	**P**	**09 01 04.8**	**-0.3**
HAWA	**Hanford**	**96.20**	**44**	*e*P	**P**	**09 01 07.2**	**-0.2**
	comp=Z,6.8nm,1.0s,mb4.8						
OD2	**Odessa Site #2**	**96.78**	**43**	*e*P	**P**	**09 01 09.8**	**-0.2**
NVAR	**Mina Array Bea**	**96.91**	**52**	P	**P**	**09 01 11.8**	**+1.0**
	comp=Z,2.9nm,0.7s,mb4.6,baz=254,slow=6.7,SNR=24						
BMO	**Blue Mountains**	**97.74**	**46**	*e*P	**P**	**09 01 14.2**	**-0.2**
NEW	**Newport**	**97.85**	**42**	*e*P	**P**	**09 01 15.1**	**+0.3**
PDAR	**Pinedale Array**	**103.44**	**47**	Pdiff	Pdif	09 01 39.8	+0.2
	comp=Z,1.9nm,0.8s,baz=256,slow=2.8,SNR=12						
ARCES	**ARCESS Array B**	**105.79**	**342**	Pdiff	Pdif	09 01 48.9	-1.2
	comp=Z,7.5nm,1.0s,baz=90,slow=6.6,SNR=4.9						
TXAR	**Lajitas Array**	**109.36**	**61**	PKiKP	PKiKP	09 06 08.2	-0.8
	comp=Z,0.4nm,0.7s,baz=243,slow=0.6,SNR=4.9						
KMBO	**Kilima Mbogo**	**109.70**	**267**	*e*PKPdf	PKiKP	09 06 11.0	+0.9
BR131	**Keskin Array S**	**111.50**	**311**	*e*PKPdf	PKiKP	09 06 08.7	-4.1
AKASG	**Malin Array Be**	**111.68**	**323**	PKiKP	PKiKP	09 06 10.7	-2.1
	comp=Z,0.9nm,0.4s,baz=56,slow=2.8,SNR=4.0						
AKASG				PP	PP	09 06 56.5	-1.4
	comp=Z,0.2nm,0.3s,baz=65,slow=5.2,SNR=3.7						
KOLS	**Kolonicke sedl**	**116.52**	**323**	*e*PP	PP	09 07 49.2	+17
STHS	**Stebnicka Huta**	**116.93**	**324**	*e*PP	PP	09 07 59.3	+25
DRGR		**117.10**	**320**	⇑*i*P	PKPdf	09 06 22.2	-1.1
BZS	**Buzias**	**118.26**	**320**	⇑*i*P	PKPdf	09 06 24.4	-1.2
CMIG	**Matias Romero**	**118.29**	**74**	PKP	PKPdf	09 06 25.5	-0.9
	comp=Z,2.0nm,0.8s,baz=278,slow=7.1,SNR=3.0						
VYHS	**Vyhne**	**118.76**	**323**	*e*PKP	PKPdf	09 06 25.1	-1.3
MODS	**Modra-Piesok**	**119.73**	**324**	*e*PKP	PKPdf	09 06 27.8	-0.5
MODS				*e*PP	PP	09 08 10.6	+16
PKSM	**Moragy**	**119.90**	**321**	⇑*i*P	PKPdf	09 06 27.6	-1.1
VBMS	**Vicksburg**	**120.09**	**56**	*e*PKPdf	PKPdf	09 06 21.4	-8.1
PVCC	**Panska Ves**	**120.18**	**327**	*e*PKPdf	PKPdf	09 06 28.5	-0.6
TREC	**Trest**	**120.31**	**325**	*e*PKPdf	PKPdf	09 06 28.3	-1.1
BRG	**Berggiesshubel**	**120.33**	**328**	*e*PKPdf	PKPdf	09 06 28.4	-1.0
BRG	**Berggiesshubel**	**120.33**	**328**	*i*	PKPdf	09 06 28.3	-1.1
	comp=Z,6.0nm,0.8s						
PRU	**Pruhonice**	**120.48**	**327**	*e*PKPdf	PKPdf	09 06 28.7	-1.0
CLL	**Collm**	**120.59**	**328**	*e*PKPdf	PKPdf	09 06 28.9	-0.9
CLL	**Collm**	**120.59**	**328**

comp=Z,7.0nm,0.6s,baz=265,slow=22,SNR=4.3
LPAZ La Paz 138.94 122 PKhKP 09 06 56.0
comp=Z,0.9nm,0.5s,baz=2.2,slow=5.4,SNR=5.0
LPAZ PKP PKPdf 09 07 06.5 +0.9
comp=Z,1.6nm,0.5s,baz=316,slow=2.0,SNR=6.4
LPAZ La Paz 138.94 122 *e*PKPdf 09 06 56.3
LPAZ PKP PKPdf 09 07 06.5 +0.9
SDV Santo Domingo 142.36 83 PKhKP 09 07 07.6
comp=Z,6.6nm,0.4s,baz=322,slow=4.7,SNR=15
SDV Santo Domingo 142.36 83 *e*PKPdf PKPdf 09 07 07.6 -4.2
SIV San Ignacio 144.86 128 PKP PKPdf 09 07 14.5 -1.7
comp=Z,24nm,0.5s,baz=240,slow=5.1,SNR=210
TOA0 Torodi Ar. Sit 145.10 285 *e*PKPbc PKPbc 09 07 15.6 -0.9
TORD Torodi Ar. Bea 145.10 285 PKPbc PKPbc 09 07 14.7 -1.8
comp=Z,197nm,0.3s,baz=72,slow=2.1,SNR=1.9
MTP Monte Pirata 145.68 66 *e*PKPdf PKPdf 09 07 13.4 -4.1
PCRV Puerto La Cruz 148.17 80 PKPbc PKPbc 09 07 23.6 -1.7
comp=Z,9.4nm,0.6s,baz=349,slow=13,SNR=7.2
KIC Kosan Boka 152.03 273 *e*PKIKP PKPbc 09 07 33.9 -0.7
comp=Z,24nm,0.7s
DBIC Dimbokro 152.15 274 PKPbc PKPbc 09 07 34.4 -0.5
comp=Z,2.1nm,0.6s,baz=106,slow=23,SNR=5.0
DBIC PKPab PKPab 09 07 44.5 -0.8
comp=Z,2.4nm,0.5s,baz=71,slow=9.5,SNR=5.1
DBIC Dimbokro 152.15 274 *e*PKPdf PKPdf 09 07 28.1 +0.1
DBIC *e*PKPbc PKPbc 09 07 34.4 -0.4
DBIC *e*PKPab PKPab 09 07 44.8 -0.5
TIC Toumodi 152.31 274 *e*PKIKP PKPbc 09 07 34.3 -0.9
comp=Z,28nm,0.2s
LIC Lamto 152.32 273 *e*PKP1 PKPbc 09 07 34.3 -1.0
comp=Z,15nm,0.7s
LIC Lamto 152.32 273 *e*PKIKP PKPbc 09 07 34.3 -1.0
comp=Z,30nm,0.9s

*ISCJB **27** 08:49:23.8±1.0, 175S±0.1×1786W±0.1, h517km±16km, mb4.2/15, Error ellipse: s-maj=23.0km s-min=11.0km az=43.9*
*IDC **27** 08:49:24.9±1.8, 1760S×17857W, h521km±22km, mb3.4/14, mb1 3.6/15, mb1mx3.5/20, mbtmp3.4/15, Error ellipse: s-maj=17.7km s-min=12.6km az=137.0*
*NEIC **27** 08:49:25.1±1.0, 1755S×17856W, h524km±14km, mb4.5/4, Error ellipse: s-maj=17.9km s-min=9.6km az=137.0*
ISC 27 08:49:24.5±1.0, 175S±01×1786W±01, h513km±16km, n30, σ0§94/27, mb4.2/15, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**7.46**	**62**	P		**P**		**08 51 16.8**	**+1.1**
	8.9nm,0.3s,baz=252,slow=1.1,SNR=18								
AFI				S		**S**		**08 52 46.1**	**-0.8**
	baz=156,slow=20,SNR=1.8								
AFI	**Afiamalu**	**7.46**	**62**	P		P		**08 51 16.8**	**+1.1**
AFI				S		**S**		**08 52 46.1**	**-0.8**
URZ	**Urewera**	**20.99**	**190**	P		**P**		**08 53 29.8**	**-1.5**
	6.6nm,0.6s,baz=349,slow=11,SNR=5.8								
RPZ	**Rata Peaks**	**27.54**	**196**	P		**P**		**08 54 27.9**	**-1.5**
	5.2nm,0.8s,mb4.2,baz=110,slow=24,SNR=3.2								
ARMA	**Armidale**	**30.00**	**239**	*e*P		**P**		**08 54 52.6**	**+1.5**
CTA	**Charters Tower**	**33.37**	**260**	*e*P		**P**		**08 55 19.8**	**-0.3**
	4.3nm,0.4s,mb4.3								
CTA	**Charters Tower**	**33.37**	**260**	P		**P**		**08 55 20.1**	**0.0**
	5.1nm,0.4s,mb4.4,baz=88,slow=8.8,SNR=5.7								
CNB	**Canberra Magne**	**33.54**	**232**	*e*P		**P**		**08 55 22.6**	**+1.3**
TOO	**Toolangi**	**37.29**	**230**	*e*P		**P**		**08 55 53.6**	**+1.1**
STKA	**Stephens Creek**	**38.69**	**241**	*e*P		**P**		**08 56 04.8**	**+0.8**
	10nm,0.6s,mb4.5								
STKA	**Stephens Creek**	**38.69**	**241**	P		**P**		**08 56 04.9**	**+0.9**
	11nm,0.4s,mb4.7,baz=75,slow=7.2,SNR=11								
ASAR	**Alice Springs**	**44.76**	**254**	P		**P**		**08 56 52.1**	**0.0**
	12nm,0.7s,mb4.5,baz=86,slow=8.3,SNR=29								
KAKA	**Kakadu**	**47.45**	**269**	*e*P		**P**		**08 57 06.2**	**-6.5**
	19nm,0.3s,mb5.1								
GUMO	**Guam**	**47.53**	**308**	P		**P**		**08 57 12.8**	**-0.5**
	25nm,0.4s,mb5.1,baz=218,slow=21,SNR=2.5								
MBWA	**Marble Bar**	**58.03**	**256**	*e*P		**P**		**08 58 27.6**	**-0.8**
	7.3nm,0.3s,mb4.4								
KAPI	**Kappang**	**61.53**	**274**	P		**P**		**08 58 50.5**	**-1.4**
	4.2nm,0.6s,mb4.1,baz=213,slow=21,SNR=2.8								
MJAR	**Matsushiro Arr**	**67.53**	**323**	P		**P**		**08 59 28.5**	**-0.8**
	1.4nm,0.4s,mb3.8,baz=134,slow=7.1,SNR=4.9								
ASAJ	**Asahikawa**	**70.88**	**331**	P		**P**		**08 59 50.0**	**+0.7**
	2.9nm,0.5s,mb4.1,baz=353,slow=33,SNR=4.2								
PETK	**Petropavlovsk-**	**73.28**	**345**	P		**P**		**09 00 02.4**	**-0.7**
	1.5nm,0.7s,mb3.5,baz=128,slow=8.5,SNR=2.7								
KSRS	**Korea Array**	**74.33**	**318**	P		**P**		**09 00 09.7**	**+0.3**
	1.0nm,0.7s,mb3.4,baz=125,slow=7.2,SNR=3.4								
NVAR	**Mina Array Bea**	**79.26**	**44**	P		**P**		**09 00 36.9**	**+0.5**
	0.3nm,0.8s,baz=224,slow=10.0,SNR=4.2								
TXAR	**Lajitas Array**	**85.92**	**58**	P		**P**		**09 01 11.9**	**+1.7**
	0.2nm,0.8s,baz=238,slow=3.1,SNR=3.4								
PDAR	**Pinedale Array**	**87.18**	**43**	P		**P**		**09 01 15.9**	**0.0**
	0.3nm,0.6s,mb3.1,baz=177,slow=3.6,SNR=3.5								
CMAR	**Chiang Mai Arr**	**88.63**	**290**	P		**P**		**09 01 22.8**	**-0.4**
	1.7nm,0.3s,mb4.3,baz=96,slow=2.6,SNR=5.2								
SONM	**Songino Array**	**93.18**	**319**	P		**P**		**09 01 43.1**	**-0.4**
	0.4nm,0.5s,mb3.8,baz=121,slow=6.7,SNR=3.1								
ARCES	**ARCESS Array B**	**125.93**	**350**	PKP		PKPdf		09 07 25.9	-1.4
	2.7nm,0.8s,baz=337,slow=1.2,SNR=3.1								
BUR08	**Bucovina Ar. S**	**144.21**	**332**	*e*PKPbc		PKPdf		09 08 01.5	-0.2
CLL	**Collm**	**145.07**	**347**	*e*PKPbc		PKPbc		09 08 02.0	-1.8
	comp=Z,5.0nm,0.8s								
GERES	**GERESS Array B**	**147.22**	**345**	PKPbc		PKPbc		09 08 09.3	-0.6
	comp=Z,1.5nm,0.6s,baz=13,slow=2.8,SNR=9.4								
DAVOX	**Davos/Dischmat**	**150.01**	**348**	PKPbc		PKPbc		09 08 16.5	-0.3
	comp=Z,4.9nm,0.4s,baz=349,slow=5.2,SNR=8.4								

*ISCJB **27** 09:26:22.8±0.5, 3653N±004×7106E±007, h198km±9km, Error ellipse: s-maj=9.8km s-min=5.8km az=173.7*
*IDC **27** 09:26:22.6±16.0, 3639N×7106E, h187km±153km, mb3.3/1, mb1 3.2/5, mb1mx3.0/23, mbtmp3.1/5, ML3.7/3, Error ellipse: s-maj=98.0km s-min=48.1km az=24.0*
*NEIC **27** 09:26:24.0±1.1, 3659N×7103E, h177km±17km, Error ellipse: s-maj=32.3km s-min=12.6km az=131.0*
*NDI **27** 09:27:13.0±1.9, 3462N×7216E, h33km, ML3.3*
ISC 27 09:26:23.7±0.5, 3652N±004×7108E±007, h191km±9km, n28, σ1§02/34, 4C, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KBL	**Kabul**	**2.58**	**221**	*e*Pn		**Pn**		**09 27 08.1**	**+0.1**
KBL				*e*Sn		**Sn**		**09 27 41.0**	**-1.5**
CEP	**Cherat**	**2.78**	**166**	⇑P		**Pn**		**09 27 11.9**	**+1.6**
CEP				S		**Sn**		**09 27 48.0**	**+1.4**
THW	**Thamme Wali**	**3.76**	**171**	P		**Pn**		**09 27 22.1**	**-0.1**
SARP	**Sargodha**	**4.78**	**164**	P		**Pn**		**09 27 36.7**	**+1.6**
THN	**Thein Dam**	**5.59**	**135**	*e*S		**Sn**		**09 28 48.6**	**-1.5**
AML	**Almayashu**	**5.95**	**19**	P		**Pn**		**09 27 50.7**	**+0.6**
	SNR=21								
AML	**Almayashu**	**5.95**	**19**	*e*Pn		**Pn**		**09 27 50.6**	**+0.5**
	79nm,0.5s								
AML				*e*Sn		**Sn**		**09 28 56.3**	**-2.1**
KZA	**Kyzart**	**6.42**	**29**	P		**Pn**		**09 27 55.1**	**-1.0**
	SNR=6.0								
EKS2	**Erkin-Say**	**6.47**	**18**	P		**Pn**		**09 27 57.3**	**+0.5**
	SNR=66								
EKS2	**Erkin-Say**	**6.47**	**18**	*e*Pn		**Pn**		**09 27 56.0**	**-0.8**
	25nm,0.3s								
EKS2				*e*Sn		**Sn**		**09 29 06.0**	**-4.5**
KK31	**Karatay Array**	**6.58**	**356**	⇑P		**Pn**		**09 27 57.6**	**-0.7**
	2.5nm,0.3s,baz=185,slow=12,SNR=196								
KK31				⇑S		**Sn**		**09 29 07.3**	**-5.9**
	6.6nm,0.4s,baz=188,slow=24,SNR=14								
AAK	**Ala-Archa**	**6.65**	**22**	P		**Pn**		**09 27 59.9**	**+0.7**
	SNR=19								
KBK	**Karagaybulak**	**6.81**	**25**	P		**Pn**		**09 28 02.2**	**+1.0**
	SNR=7.9								
ULHL	**Ulahoi**	**6.97**	**33**	P		**Pn**		**09 28 03.9**	**+0.5**
	SNR=6.0								
CHMS	**Chumysh**	**7.06**	**22**	P		**Pn**		**09 28 05.0**	**+0.6**
	SNR=6.5								
USP	**Ospenovka**	**7.23**	**20**	P		**Pn**		**09 28 06.9**	**+0.2**
	SNR=13								
TKM2	**Tokmak 2**	**7.27**	**27**	P		**Pn**		**09 28 08.0**	**+0.6**
	SNR=48								
SMLA	**Simla**	**7.39**	**135**	*i* x		**Pn**		**09 28 09.7**	**+0.8**
SMLA				*i* S		**Sn**		**09 29 29.8**	**-2.6**
SMLA				*ex*		x		09 29 31.4	
	comp=N,296nm,0.2s								
SMLA				*ex*		x		09 29 34.5	
	comp=E,333nm,0.3s								
KLP	**Kalpa**	**7.76**	**128**	*e*S		**Sn**		**09 29 31.9**	**-9.3**
KLP					AML	AML		09 29 46.3	
	comp=E,36nm,0.5s								
KLP					AML	AML		09 29 47.4	
	comp=N,47nm,0.6s								
KHET	**Khetri**	**9.32**	**153**	*e*S		**Sn**		**09 30 11.2**	**-7.3**
KHET					AML	AML		09 30 20.2	
	comp=N,9.3nm,0.2s								
KHET					AML	AML		09 30 20.3	
	comp=E,6.0nm,0.1s								
SONA	**Sohna**	**9.68**	**147**	*e*S		**Sn**		**09 30 19.5**	**-7.6**
SONA					AML	AML		09 30 20.1	
	comp=E,13nm,0.2s								
SONA					AML	AML		09 30 20.5	
	comp=N,10nm,0.2s								
MKAR	**Makanchi Array**	**13.23**	**36**	P		**Pn**		**09 29 24.6**	**+0.5**
	comp=N,0.2nm,0.3s,baz=227,slow=9.7,SNR=4.8								
AB31	**Akbulak array**	**15.09**	**331**	⇑P		**Pn**		**09 29 47.3**	**+0.1**
	comp=N,0.6nm,0.5s,baz=160,slow=12,SNR=10								
BVAR	**Borovoye Array**	**16.51**	**359**	P		**Pn**		**09 30 04.4**	**+0.2**
	comp=N,0.5nm,0.3s,baz=162,slow=10,SNR=4.1								
AKTK	**Aktyubinsk**	**16.79**	**330**	P		**Pn**		**09 30 06.9**	**-0.8**
AKTO	**Aktyubinsk**	**16.79**	**330**	P		**Pn**		**09 30 06.9**	**-0.8**
	comp=N,0.4nm,0.3s,baz=130,slow=11,SNR=6.2								
ZALV	**Zalesovo Beam**	**19.87**	**24**	P		**P**		**09 30 40.8**	**+0.8**
	comp=N,0.4nm,0.3s,baz=220,slow=11,SNR=5.4								
ASAR	**Alice Springs**	**84.21**	**125**	P		**P**		**09 38 32.9**	**-0.8**
	comp=N,0.5nm,0.6s,baz=314,slow=4.8,SNR=10								

*CSEM **27** 09:31:51.9±0.2, 3890N×22.13E, h5km, MD3.2, Error ellipse: s-maj=4.8km s-min=3.8km az=134.0*
*ISCJB **27** 09:31:52.3±0.6, 3888N±003×2207E±005, h7km±6km, Error ellipse: s-maj=6.3km s-min=5.6km az=26.7*
*ATH **27** 09:31:52.5, 3889N×2207E, h9km±7km, MD3.2/6*
*NEIC **27** 09:31:52.5, 3889N×2209E, h7km, MD3.2(ATH), After ATH.*
*THE **27** 09:31:52.9, 3889N×2209E, h7km±2km, ML3.2/2, Error ellipse: s-maj=3.0km s-min=1.7km az=86.0*
ISC 27 09:31:52.4±0.6, 3888N±004×2207E±005, h12km±5km, n17, σ0§91/25, Greece

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
EVR	**Evrytania**	**0.20**	**281**	*e*Pg		**Pg**		**09 31 56.7**	**-0.1**
EVR				*e*Sg		**Sg**		**09 32 00.0**	**+0.2**
EVR	**Evrytania**	**0.20**	**281**	*e*PG		**Pg**		**09 31 56.7**	**-0.1**
EVR				*e*SG		**Sg**		**09 32 00.0**	**+0.2**
AGG	**Agios Georgios**	**0.25**	**55**	P		**Pg**		**09 31 57.3**	**-0.3**
AGG				S		**Sg**		**09 32 01.6**	**+0.4**
THL	**Klokotos Trika**	**0.69**	**357**	P		**Pg**		**09 32 04.8**	**-0.9**
THL				S		**Sg**		**09 32 16.1**	**+1.4**
THL	**Klokotos Trika**	**0.69**	**357**	*e*Pb		**Pb**		**09 32 04.9**	**-1.4**
THL				*e*Sb		**Sb**		**09 32 15.1**	**-0.6**
THL	**Klokotos Trika**	**0.69**	**357**	*e*PB		**Pb**		**09 32 04.9**	**-1.4**
THL				*e*SB		**Sb**		**09 32 15.1**	**-0.6**
LKR	**Lokris**	**0.76**	**107**	*e*Pb		**Pb**		**09 32 07.0**	**-0.6**
LKR	**Lokris**	**0.76**	**107**	*e*PB		**Pb**		**09 32 07.0**	**-0.6**
RLS	**Riolos of Patr**	**0.94**	**210**	*e*Pg		**Pg**		**09 32 10.3**	**-0.3**
RLS	**Riolos of Patr**	**0.94**	**210**	*e*PG		**Pg**		**09 32 10.3**	**-0.3**
NEO	**Neokhori**	**1.00**	**64**	*e*Pb		**Pb**		**09 32 11.3**	**-0.3**
NEO	**Neokhori**	**1.00**	**64**	*e*PB		**Pb**		**09 32 11.3**	**-0.3**
XOR	**Xorichti**	**1.00**	**61**	P		**Pb**		**09 32 11.1**	**-0.5**
XOR				S		**Sg**		**09 32 24.7**	**-0.1**
LTK	**Loutraki**	**1.11**	**140**	P		**Pb**		**09 32 14.1**	**+0.7**
LIT	**Litokhoron**	**1.26**	**15**	P		**Pn**		**09 32 15.3**	**-0.5**
LIT				S		**Sb**		**09 32 34.2**	**+1.9**
ITM	**Ithomi**	**1.70**	**184**	*e*Pn		**Pn**		**09 32 24.8**	**+3.0**
ITM	**Ithomi**	**1.70**	**184**	*e*PN		**Pn**		**09 32 24.8**	**+3.0**

*ATH **27** 09:51:04.7, 3734N×2084E, h4km, MD3.4/3*
*CSEM **27** 09:51:04.7, 3734N×2084E, h4km, MD3.5/3, After ATH*
ISC 27 09:51:03.0±4.3, 372N±02×207E±02, h7km±25km, n6, σ0§35/10, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
VLS	**Valsamata**	**0.94**	**353**	*e*Pg		**Pg**		**09 51 20.6**	**-0.5**
VLS				*e*Sg		**Sg**		**09 51 33.6**	**+0.3**
VLS	**Valsamata**	**0.94**	**353**	*e*PG		**Pg**		**09 51 20.6**	**-0.5**
VLS				*e*SG		**Sg**		**09 51 33.6**	**+0.3**
ITM	**Ithomi**	**0.95**	**93**	*e*Pg		**Pg**		**09 51 21.7**	**+0.5**
ITM				*e*Sg		**Sg**		**09 51 33.3**	**-0.3**
ITM	**Ithomi**	**0.95**	**93**	*e*PG		**Pg**		**09 51 21.7**	**+0.5**
ITM				*e*SG		**Sg**		**09 51 33.3**	**-0.3**
EVR	**Evrytania**	**1.88**	**26**	*e*Pb		**Pb**		**09 51 37.5**	**0.0**
EVR	**Evrytania**	**1.88**	**26**	*e*PB		**Pb**		**09 51 37.5**	**0.0**

BJI 27 09:53:57.6, 3373N×12241E, h7km, ML3.5, Yellow Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SSE	**Sheshan**	**2.82**	**202**	PG		Pg		09 54 47.0	-4.7
SSE				SG		Sg		09 55 24.5	-3.8
SSE				Smax					
	comp=N,167nm,0.5s								
SSE				Smax					
	comp=E,237nm,0.5s								
NJ2	**Nanjing**	**3.43**	**242**	*e*PG		Pg		09 54 57.5	-5.8
NJ2				SG		Sg		09 55 43.5	-4.2
NJ2				Smax					
	comp=N,40nm,0.4s								
NJ2				Smax					
	comp=E,70nm,0.8s								

*ISCJB **27** 10:08:10.1±0.7, 4562N±004×2061E±005, h8km±8km, Error ellipse: s-maj=6.7km s-min=5.5km az=1.4*
*BUC **27** 10:08:10.6±2.6, 4569N×2065E, h10km±9km, MD2.7/2, Error ellipse: s-maj=20.8km s-min=15.3km az=36.0*
*BEO **27** 10:08:11.9±0.4, 4560N×2063E, h7km±6km, ML2.2/4*
ISC 27 10:08:11.1±0.7, 4562N±004×2062E±005, h12km±7km, n9, σ0§74/16, 1C-2D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
BZS	**Buzias**	**0.70**	**90**	*e*Pg		**Pg**		**10 08 24.1**	**-0.5**
BZS				*e*Sg		**Sg**		**10 08 34.5**	**+0.7**
BZS	**Buzias**	**0.70**	**90**	⇓*i*P		**Pg**		**10 08 24.5**	**-0.1**
BZS				*i* S		**Sg**		**10 08 35.2**	**+1.4**
FGSL	**Fruska Gora**	**0.73**	**231**	*e*Pg		**Pg**		**10 08 24.5**	**-0.8**
FGSL				*e*Sg		**Sg**		**10 08 35.3**	**+0.4**
BEO	**Beograd**	**0.81**	**188**	*e*SG		**Sg**		**10 08 38.2**	**+0.7**
PKSM	**Moragy**	**1.50**	**294**	*e*Pg		**Pg**		**10 08 39.7**	**-0.3**
PKSM				*e*Sg		**Sg**		**10 08 59.9**	**+0.4**
GZR	**Gura Zlata**	**1.53**	**98**	⇑*i*P		**Pn**		**10 08 38.8**	**+0.6**
GZR				*i* S		**Sn**		**10 08 58.0**	**0.0**
GRUS	**Gruza**	**1.73**	**178**	*e*Pg		**Pg**		**10 08 42.7**	**-1.6**
GRUS				*e*Sg		**Sg**		**10 09 06.1**	**-0.6**
DRGR		**1.87**	**50**	⇓*i*P		**Pn**		**10 08 42.8**	**0.0**
DRGR				*i* S		**Sn**		**10 09 05.5**	**-0.8**
BBLS	**Lazići**	**1.95**	**207**	*e*Pn		**Pn**		**10 08 45.1**	**+1.1**

*LDG **27** 10:10:33.0±0.2, 1444S×16670E, h100km, Mb4.9/4, Error ellipse: s-maj=28.8km s-min=6.8km az=85.0*
*IDC **27** 10:10:37.4±0.8, 1481S×16726E, h152km±6km, mb4.2/18, mb1 4.3/18, mb1mx4.3/20, mbtmp4.2/18, MS2.8/1, Ms1 2.8/1, ms1mx2.5/18, Error ellipse: s-maj=12.5km s-min=11.4km az=134.0*
*BJI **27** 10:10:38.4, 1490S×16730E, h177km, mB5.4, mb4.5*
*MOS **27** 10:10:40.1±1.5, 1481S×16721E, h177km, mb4.3/6, Error ellipse: s-maj=15.1km s-min=10.3km az=20.9*
*NEIC **27** 10:10:40.5±1.5, 1485S×16729E, h177km±13km, mb5.0/15, Error ellipse: s-maj=10.2km s-min=9.7km az=219.0*
*ISCJB **27** 10:10:40.2±1.4, 1485S±006×16734E±007, h194km±13km, mb4.5/29, Error ellipse: s-maj=10.8km s-min=9.0km az=147.1*
ISC 27 10:10:41.0±1.3, 1484S±006×16731E±006, h188km±11km, h153km±2.0km:pP-P, n147, σ0§74/63, mb4.6/29, 23C-2D, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**8.98**	**306**	P		**Pn**		**10 12 48.5**	**+1.3**
	23nm,0.3s,baz=69,slow=3.6,SNR=5.8								
HNR				S		**Sn**		**10 14 26.1**	**-1.6**
	2.7nm,0.3s,baz=266,slow=18,SNR=2.5								
HNR				LR		LR		10 15 00.7	
	comp=Z,62nm,20.6s,baz=179,slow=30								
HNR	**Honiara**	**8.98**	**306**	P		**Pn**		**10 12 48.5**	**+1.3**
HNR				S		**Sn**		**10 14 26.1**	**-1.7**
EIDS	**Eidsvold**	**18.48**	**233**	*e*Pn		**Pn**		**10 14 44.2**	**-1.1**
	187nm,0.7s								
AFI	**Afiamalu**	**20.28**	**90**	P		**P**		**10 15 02.9**	**+0.5**
	17nm,0.6s,baz=58,slow=11,SNR=6.4								
AFI	**Afiamalu**	**20.28**	**90**	P		**P**		**10 15 02.9**	**+0.5**
AFI				*e*P				10 15 03.4	
PMG	**Port Moresby**	**20.42**	**283**	*e*P		**P**		**10 15 04.4**	**+0.4**
PMG				pmax		pmax			
	comp=Z,13nm,0.8s								
PMG	**Port Moresby**	**20.42**	**283**	*e*P		**P**		**10 15 04.4**	**+0.4**
	comp=Z,12nm,0.8s								
CTA	**Charters Tower**	**20.75**	**252**	⇓*i*P		**P**		**10 15 07.6**	**+0.2**
	comp=Z,18nm,0.8s								
CTA	**Charters Tower**	**20.75**	**252**	P		**P**		**10 15 07.7**	**+0.3**
	comp=Z,22nm,0.7s,baz=81,slow=11,SNR=34								
CTA	**Charters Tower**	**20.75**	**252**	⇓*i*P		**P**		**10 15 07.6**	**+0.2**
CTA				pmax		pmax			
	comp=Z,18nm,0.8s								
CTAO	**Charters Tower**	**20.75**	**252**	*e*P		**P**		**10 15 07.7**	**+0.3**
CTAO				pmax		pmax			
	comp=Z,34nm,1.0s								
CTAO	**Charters Tower**	**20.75**	**252**	*e*P		**P**		**10 15 07.7**	**+0.3**
	comp=Z,34nm,1.0s								
ARMA	**Armidale**	**21.17**	**220**	*e*P		**P**		**10 15 12.6**	**+0.8**
URZ	**Urewera**	**24.89**	**161**	P		**P**		**10 15 46.0**	**-0.5**
	comp=Z,5.8nm,0.4s,mb4.5,baz=166,slow=6.4,SNR=8.2								
CNB	**Canberra Magne**	**26.00**	**215**	*e*P		**P**		**10 15 57.4**	**+0.9**
STKA	**Stephens Creek**	**28.96**	**230**	*e*P		**P**		**10 16 23.8**	**+0.9**
	comp=Z,11nm,0.4s,mb4.9								
STKA	**Stephens Creek**	**28.96**	**230**	P		**P**		**10 16 23.9**	**+1.0**
	comp=Z,15nm,0.5s,mb5.0,baz=49,slow=8.1,SNR=57								
STKA				PcP		PcP		10 19 27.4	+0.4
	comp=Z,5.9nm,0.6s,baz=62,slow=2.7,SNR=9.7								
RPZ	**Rata Peaks**	**28.96**	**174**	P		**P**		**10 16 22.0**	**-0.8**
	comp=Z,8.7nm,0.5s,mb4.7,baz=139,slow=9.3,SNR=6.9								
TOO	**Toolangi**	**29.79**	**216**	*e*P		**P**		**10 16 31.0**	**+0.8**
RAR	**Rarotonga**	**31.89**	**106**	P		**P**		**10 16 49.1**	**+0.2**
	comp=Z,7.1nm,0.6s,mb4.5,baz=192,slow=7.0,SNR=4.1								
ASAR	**Alice Springs**	**32.67**	**249**	P		**P**		**10 16 54.6**	**-1.0**
	comp=Z,14nm,1.0s,mb4.7,baz=78,slow=9.2,SNR=110								
ASAR				pP		pP		10 17 27.9	-6.7
	comp=Z,2.7nm,0.6s,baz=76,slow=9.2,SNR=2.6								
ASAR				PcP		PcP		10 19 37.2	+0.2
	comp=Z,2.2nm,0.6s,baz=67,slow=2.8,SNR=8.5								
ASAR				S		**S**		**10 21 57.4**	**-0.7**
	comp=Z,1.7nm,1.0s,baz=76,slow=17,SNR=7.0								
ASAR				ScP		ScP		10 23 08.4	+5.0
	comp=Z,1.9nm,0.9s,baz=80,slow=3.3,SNR=8.1								
ASAR	**Alice Springs**	**32.67**	**249**	P		**P**		**10 16 54.7**	**-1.0**
ASAR				*PP		pP		10 17 27.9	-6.7
ASAR								10 19 37.3	
ASAR				S		**S**		**10 21 57.4**	**-0.7**
FORT	**Forrest**	**39.28**	**239**	*e*P		**P**		**10 17 51.8**	**+0.1**
	comp=Z,36nm,1.1s,mb4.9								
MJAR	**Matsushiro Arr**	**58.02**	**332**	P		**P**		**10 20 13.5**	**-0.7**
	comp=Z,2.0nm,0.6s,mb4.1,baz=172,slow=8.3,SNR=9.2								
MJAR	**Matsushiro Arr**	**58.02**	**332**	P		**P**		**10 20 13.5**	**-0.7**
CASY	**Casey**	**63.45**	**202**	*e*P		**P**		**10 20 50.8**	**+0.4**
KSRS	**Korea Array**	**63.85**	**326**	P		**P**		**10 20 53.3**	**-0.2**
	comp=Z,2.2nm,0.8s,mb4.0,baz=140,slow=8.1,SNR=7.6								
KSRS				pP		pP		10 21 29.4	-7.9
	comp=Z,1.0nm,0.8s,baz=136,slow=4.1,SNR=2.1								
PETK	**Petropavlovsk-**	**68.17**	**354**	P		**P**		**10 21 20.6**	**-0.1**
	comp=Z,11nm,0.8s,mb4.7,baz=151,slow=5.1,SNR=9.5								
CMAR	**Chiang Mai Arr**	**75.03**	**294**	P		**P**		**10 22 03.4**	**+0.9**
	comp=Z,3.3nm,0.6s,mb4.2,baz=130,slow=4.6,SNR=12								
CHTO	**Chiang Mai**	**75.16**	**294**	*e*P		**P**		**10 22 03.9**	**+0.7**
CHTO				pmax		pmax			
	comp=Z,3.0nm,0.6s,mb4.1								
CHTO	**Chiang Mai**	**75.16**	**294**	*e*P		**P**		**10 22 03.9**	**+0.7**
	comp=Z,3.0nm,0.6s,mb4.1								
MAW	**Mawson**	**81.80**	**202**	*e*P		**P**		**10 22 39.2**	**+0.6**
	comp=Z,3.2nm,0.6s,mb4.1								
MAW	**Mawson**	**81.80**	**202**	P		**P**		**10 22 39.3**	**+0.6**
	comp=Z,3.2nm,0.5s,mb4.2,baz=119,slow=3.1,SNR=24						

	comp=Z,6.7nm,0.5s							
HINF	**Hinteralfeld**	**143.34**	**338**	*e*PKP1	PKPdf	10 29 49.9	-3.1	
	comp=Z,5.6nm,0.5s							
HAU	**Haudompre**	**143.37**	**338**	*e*PKP1	PKPdf	10 29 50.4	-2.6	
	comp=Z,10.0nm,0.6s							
TUE	**Stuetta**	**143.46**	**334**	PKP	PKPdf	10 29 52.5	-0.7	
FSSB	**Fossombrone**	**143.95**	**328**	PKP	PKPdf	10 29 53.8	-0.4	
SNTG	**Esanatoglia**	**144.17**	**327**	PKP	PKPdf	10 29 54.4	-0.2	
VAI	**Varese**	**144.19**	**334**	PKIKP	PKPdf	10 29 53.3	-1.2	
SFI	**Santa Sofia**	**144.27**	**329**	PKIKP	PKPdf	10 29 55.1	+0.4	
BADI	**Badiali**	**144.35**	**328**	PKP	PKPdf	10 29 54.9	0.0	
NRCA	**Norcia**	**144.38**	**327**	PKP	PKPdf	10 29 54.9	0.0	
VMG	**Vicchio**	**144.38**	**329**	PKP	PKPdf	10 29 55.5	+0.6	
MURB	**Monte Urbino**	**144.38**	**328**	PKP	PKPdf	10 29 56.6	+1.7	
CDCA	**Citt' di Caste**	**144.39**	**328**	PKP	PKPdf	10 29 54.9	-0.1	
SEI	**Scarperia**	**144.40**	**330**	PKP	PKPdf	10 29 55.7	+0.8	
ASS	**Assisi**	**144.46**	**327**	PKIKP	PKPdf	10 29 54.5	-0.6	
ERBM	**Eremo**	**144.58**	**331**	PKP	PKPdf	10 29 55.8	+0.6	
SGO	**Sicignano**	**144.63**	**322**	PKIKP	PKPdf	10 29 55.1	-0.3	
CABF	**La Chapelle**	**144.64**	**337**	⇑*i*PKP1	PKPdf	10 29 55.6	+0.3	
FLN	**La Foliniere**	**144.71**	**346**	⇑*i*PKP1	PKPdf	10 29 54.6	-0.7	
	comp=Z,43nm,0.5s							
LOR	**Lormes**	**144.85**	**340**	⇑*i*PKP1	PKPdf	10 29 55.8	+0.2	
	comp=Z,80nm,1.1s							
PII	**Pisa**	**145.05**	**330**	PKIKP	PKPdf	10 29 55.5	-0.6	
GRR	**Gorron**	**145.15**	**346**	⇑*i*PKP1	PKPbc	10 29 56.4	+0.4	
	comp=Z,68nm,0.6s							
SSF	**Saint Saulge**	**145.15**	**341**	⇑*i*PKP1	PKPbc	10 29 56.8	+0.7	
	comp=Z,114nm,0.7s							
HYF	**Humbligny**	**145.24**	**342**	*e*PKP1	PKPbc	10 29 57.4	+1.0	
LPL	**La Plagne**	**145.31**	**336**	⇑*i*PKP1	PKPbc	10 29 57.8	+1.2	
	comp=Z,61nm,0.7s							
LPG	**La Plagne**	**145.31**	**336**	⇑*i*PKP1	PKPbc	10 29 58.0	+1.3	
	comp=Z,81nm,0.9s							
SMF	**Signal de Mont**	**145.40**	**340**	⇑*i*PKP1	PKPbc	10 29 57.5	+0.6	
	comp=Z,104nm,1.1s							
AVF	**Avril sur Loir**	**145.44**	**340**	⇑*i*PKP1	PKPbc	10 29 57.4	+0.4	
	comp=Z,30nm,0.7s							
SOI	**Samo**	**145.64**	**318**	PKP2	PKPab	10 29 58.9	+0.4	
SGMF	**Saint Gilles**	**145.64**	**348**	*e*PKP1	PKPbc	10 29 57.9	+0.3	
	comp=Z,122nm,1.0s							
ROSF	**Rostrenen**	**145.70**	**349**	*e*PKP1	PKPbc	10 29 58.2	+0.5	
	comp=Z,41nm,0.9s							
FIN	**Finale Ligure**	**145.75**	**333**	PKIKP	PKPdf	10 29 58.1	+0.9	
BGF	**Bois d'Agland**	**145.81**	**341**	⇑*i*PKP1	PKPbc	10 29 58.7	+0.6	
	comp=Z,47nm,0.6s							
MBDF	**Montbardon**	**145.94**	**335**	⇑*i*PKP1	PKPbc	10 29 59.1	+0.5	
	comp=Z,26nm,0.5s							
PLDF	**La Plantade**	**146.07**	**339**	PKP	PKPbc	10 30 00.0	+1.1	
QUIF	**Quistinic**	**146.09**	**348**	*e*PKP1	PKPbc	10 29 58.9	0.0	
	comp=Z,12nm,0.7s							
ORIF	**Oris-en-Rattie**	**146.14**	**336**	⇑*i*PKP1	PKPbc	10 30 00.0	+0.8	
	comp=Z,43nm,0.5s							
AGO	**Saint Agoulin**	**146.16**	**340**	PKP	PKPbc	10 30 00.2	+1.0	
SAOF	**Saorge**	**146.21**	**333**	PKP	PKPdf	10 29 59.7	+1.7	
TCF	**Toulx Ste Croi**	**146.25**	**341**	⇑*i*PKP1	PKPbc	10 30 00.0	+0.6	
	comp=Z,23nm,0.6s							
AUTN	**L'Aution**	**146.26**	**333**	PKP	PKPbc	10 30 00.1	+0.6	
TOUF	**Mont Tournerai**	**146.32**	**334**	PKP	PKPdf	10 30 00.0	+1.8	
SSB	**Saint Sauveur**	**146.34**	**338**	PKP	PKPbc	10 30 00.4	+0.7	
SBF	**Sospel**	**146.36**	**333**	⇑*i*PKP1	PKPbc	10 30 00.0	+0.2	
	comp=Z,62nm,0.6s							
LUCF	**Luceram**	**146.37**	**333**	PKP	PKPbc	10 30 00.5	+0.6	
PYM	**Petit Puy Mans**	**146.47**	**340**	PKP	PKPbc	10 30 00.9	+0.8	
MFF	**Saint Martin d**	**146.64**	**344**	⇑*i*PKP1	PKPbc	10 30 01.1	+0.6	
	comp=Z,48nm,0.6s							
VIVF	**Saint-Julien-l**	**146.66**	**337**	⇑*i*PKP1	PKPbc	10 30 01.4	+0.7	
PGF	**Pioggiola**	**146.67**	**330**	*e*PKP1	PKPbc	10 30 01.0	+0.2	
	comp=Z,27nm,0.6s							
CALN	**Calern**	**146.68**	**334**	PKP	PKPbc	10 30 01.8	+1.0	
CORF	**Corte**	**146.78**	**330**	PKP	PKPbc	10 30 02.1	+1.0	
LBL	**Lubilhac**	**146.84**	**339**	PKP	PKPbc	10 30 02.5	+1.3	
FRF	**La Foret Royal**	**146.94**	**334**	⇑*i*PKP1	PKPbc	10 30 01.7	+0.2	
	comp=Z,31nm,0.8s							
SMRF	**Simiane la Rot**	**147.04**	**335**	⇑*i*PKP1	PKPbc	10 30 02.6	+0.8	
	comp=Z,29nm,0.8s							
LMR	**La Mourre**	**147.18**	**334**	⇑*i*PKP1	PKPbc	10 30 02.4	+0.2	
	comp=Z,18nm,0.6s							
OSPF	**L'Ospedale**	**147.24**	**329**	PKP	PKPbc	10 30 02.7	+0.3	
RJF	**Les Rejaudoux**	**147.34**	**341**	⇑*i*PKP1	PKPbc	10 30 03.2	+0.6	
	comp=Z,31nm,0.5s							
CAF	**Calviac**	**147.51**	**340**	*e*PKP1	PKPbc	10 30 03.7	+0.7	
	comp=Z,24nm,0.7s							
LASF	**Ste Croix**	**147.62**	**337**	⇑*i*PKP1	PKPbc	10 30 04.1	+0.7	
	comp=Z,23nm,0.7s							
LFF	**La Frestale**	**147.91**	**342**	⇑*i*PKP1	PKPbc	10 30 04.7	+0.6	
	comp=Z,50nm,0.5s							
MTLF	**Montolieu**	**148.85**	**339**	*e*PKP1	PKPbc	10 30 07.2	+0.6	
	comp=Z,28nm,0.6s							
EPF	**Esparros**	**149.76**	**341**	*e*PKP1	PKPbc	10 30 09.7	+0.9	
	comp=Z,18nm,0.9s							
ATE	**Arette**	**150.03**	**342**	PKP	PKPbc	10 30 10.1	+0.7	
SJPF	**Ste Jean**	**150.15**	**343**	*e*PKP1	PKPbc	10 30 10.6	+0.9	
	comp=Z,30nm,1.0s							
LARF	**Larrau**	**150.15**	**343**	PKP	PKPbc	10 30 10.9	+1.1	
ETSF	**Etsaut**	**150.16**	**342**	⇑*i*PKP1	PKPbc	10 30 10.9	+1.1	
	comp=Z,29nm,0.5s							
KEST	**Kesra**	**151.32**	**321**	PKPbc	PKPbc	10 30 13.6	+0.9	
	comp=Z,2.0nm,0.4s,baz=150,slow=5.3,SNR=13							
KEST				PKPab	PKPab	10 30 21.1	-0.4	
	comp=Z,1.8nm,0.6s,baz=249,slow=8.7,SNR=4.2							
ESDC	**Sonseca Array**	**154.10**	**344**	PKPbc	PKPbc	10 30 18.9	+0.2	
	comp=Z,0.5nm,0.6s,baz=298,slow=35,SNR=2.6							
ESDC				PKPab	PKPab	10 30 33.3	+0.3	
	comp=Z,1.4nm,0.7s,baz=29,slow=3.0,SNR=6.5							
TORD	**Torodi Ar. Bea**	**165.94**	**265**	PKP	PKPdf	10 30 25.1	+0.7	
	comp=Z,0.8nm,0.5s,baz=63,slow=1.5,SNR=8.8							
TORD				PKPab	PKPab	10 31 25.8	+0.4	
	comp=Z,2.5nm,0.8s,baz=95,slow=4.1,SNR=12							

ATH ***27*** *10:12:08.7, 3999N×2072E, h21km±5km, MD3.3/5*
CSEM ***27*** *10:12:08.7, 3999N×2072E, h21km, MD3.3/5, After ATH*
NEIC ***27*** *10:12:08.7, 3999N×2072E, h21km, MD3.3(ATH), After ATH.*
ISCJB ***27*** *10:12:10.5±0.9, 3974N±005×2112E±010, h10km, Error ellipse: s-maj=11.1km s-min=5.6km az=20.5*

ISC 27 10:12:10.9±0.9, 3969N±005×2110E±009, h10km, n14, σ0§91/18, Greece

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JAN	**Janina**	**0.20**	**261**	*e*Pb	**Pg**	**10 12 15.8**	**+0.8**
JAN	**Janina**	**0.20**	**261**	*e*PB	**Pg**	**10 12 15.8**	**+0.8**
KZN	**Kozani**	**0.80**	**40**	*e*Pn	**Pg**	**10 12 25.5**	**-0.9**
KZN	**Kozani**	**0.80**	**40**	*e*PN	**Pg**	**10 12 25.5**	**-0.9**
EVR	**Evrytania**	**0.95**	**144**	*e*Pn	**Pg**	**10 12 34.8**	**+5.7**
EVR	**Evrytania**	**0.95**	**144**	*e*PN	**Pg**	**10 12 34.8**	**+5.7**
KEK	**Kerkira**	**1.00**	**272**	*e*Pn	**Pg**	**10 12 23.5**	**-6.7**
KEK	**Kerkira**	**1.00**	**272**	*e*PN	**Pg**	**10 12 23.5**	**-6.7**
BIA	**Bitola**	**1.34**	**7**	*i* Pn	**Pg**	**10 12 36.5**	**-0.2**
BIA				*i* Sn	**Sg**	**10 12 57.5**	**+3.5**
OHR	**Ohrid**	**1.44**	**351**	*i* Pn	**Pg**	**10 12 37.0**	**-1.6**
OHR				*i* Sn	**Sg**	**10 12 57.3**	**+0.1**
VLS	**Valsamata**	**1.56**	**195**	*e*Pb	**Pb**	**10 12 40.2**	**+0.3**
VLS	**Valsamata**	**1.56**	**195**	*e*PB	**Pb**	**10 12 40.2**	**+0.3**
KRUS	**Krusevo**	**1.68**	**4**	*i* Pn	**Pg**	**10 12 42.3**	**-0.9**
KRUS				*i* Sn	**Sg**	**10 13 05.7**	**+0.7**
VAY	**Valandovo**	**1.98**	**34**	*i* Pn	**Pg**	**10 12 48.8**	**-0.1**
VAY				*i* Sn	**Sg**	**10 13 15.6**	**+1.1**

JMA 27 10:41:02.1, 2671N×12808E, h12km±3km, M3.6, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JOW	**Kunigami**	**0.21**	**55**	P	Pg	10 41 06.7	0.0
JOW				*e*S	Sg	10 41 09.5	-0.3
JIH	**Iheya**	**0.34**	**343**	P	Pg	10 41 09.0	+0.1
JIH				*e*S	Sg	10 41 13.9	+0.4
NAH1	**Naha**	**0.61**	**215**	P	Pg	10 41 14.0	-0.1
NAH1				S	Sg	10 41 21.9	-0.2
JJT2	**Tamagusuku 2**	**0.64**	**208**	P	Pg	10 41 14.8	+0.2
JJT2				S	Sg	10 41 23.4	+0.4
JAGN	**Aguni-jima**	**0.76**	**261**	P	Pg	10 41 16.4	-0.4
JAGN				*e*S	Sg	10 41 26.5	-0.3
JKE	**Kume jima 2**	**1.22**	**252**	P	Pn	10 41 23.8	-1.2
JKE				*e*S	Sb	10 41 39.9	-0.9
JTK	**Tokunoshima**	**1.32**	**36**	P	Pn	10 41 26.2	-0.2
JTK				*e*S	Sb	10 41 42.1	-1.7
JAM	**Amami Oshima**	**2.17**	**38**	P	Pn	10 41 39.7	+1.7
JAM				*e*S	Sn	10 42 05.3	+0.5
JMZ	**Minamidaito 2**	**2.96**	**107**	P	Pn	10 41 48.8	-0.1
JMZ				*e*S	Sn	10 42 21.0	-3.3

IDC 27 11:38:07.0±2.9, 755S×14869E, h0km, mb3.8/5, mb1 3.9/5, mb1mx3.7/13, mbtmp3.8/5, MS3.0/1, Ms1 3.0/1, ms1mx2.6/16, Error ellipse: s-maj=87.7km s-min=32.0km az=116.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CTA	**Charters Tower**	**12.68**	**190**	LR	LR	11 45 21.7	
	comp=Z,71nm,19.1s,baz=68,slow=34						
ASAR	**Alice Springs**	**21.40**	**220**	P	P	11 42 56.9	+0.3
	0.4nm,0.4s,baz=55,slow=9.8,SNR=7.7						
CMAR	**Chiang Mai Arr**	**55.46**	**298**	P	P	11 47 43.7	-0.3
	0.6nm,0.7s,baz=120,slow=5.3,SNR=3.9						
PETK	**Petropavlovsk-**	**60.91**	**6**	P	P	11 48 21.8	+0.3
	8.0nm,1.1s,baz=159,slow=7.3,SNR=5.5						
SONM	**Songino Array**	**66.57**	**330**	P	P	11 49 00.0	+1.0
	0.6nm,0.8s,baz=150,slow=6.3,SNR=3.6						
ZALV	**Zalesovo Beam**	**81.22**	**328**	P	P	11 50 23.6	-1.0
	0.4nm,0.3s,baz=61,slow=6.8,SNR=3.6						

IDC ***27*** *11:48:11.0±1.0, 5157S×16102E, h0km, mb4.2/5, mb1 4.3/7, mb1mx4.2/12, mbtmp4.3/7, ML3.9/2, MS4.3/16, Ms1 4.3/16, ms1mx4.2/19, Error ellipse: s-maj=33.9km s-min=20.9km az=90.0*
ISCJB ***27*** *11:48:11.0±0.7, 5159S±008×1609E±02, h10km, mb4.2/7, MS4.3/15, Error ellipse: s-maj=21.5km s-min=11.7km az=11.7*
NEIC ***27*** *11:48:12.3±0.7, 5160S×16101E, h10km, mb4.6/1, Error ellipse: s-maj=20.7km s-min=11.2km az=113.0*
GCMT ***27*** *11:48:12.3±0.3, 5160S×16097E, h32km±1km, MW5.1/75, Moment Tensor Solution. s39,c51; s75,c108; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-0.05±.24; $M_{\theta\theta}$4.62±.18; $M_{\phi\phi}$-4.57±.17; $M_{r\theta}$-2.08±.28; $M_{r\phi}$2.11±.16; $M_{\theta\phi}$-0.04±.26; Best double couple: M_o5.43100×10^{16} NP1:ϕ=211.00000°,δ73.00000°,λ170.00000°. NP2: ϕ=304.00000°,δ80.00000°,λ17.00000°. Principal axes: T 5.7950, Plg19.0000°, Azm168.0000°; N -0.7310, Plg70.0000°, Azm333.0000°; P -5.0670, Plg5.0000°, Azm77.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

ISC 27 11:48:12.4±0.7, 5159S±009×1610E±02, h10km, n27, σ1§06/17, mb4.2/7, MS4.3/15, North of Macquarie Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MCQ	**Macquarie Isla**	**3.16**	**202**	*e*Pn	**Pn**	**11 49 00.3**	**-1.9**
MCQ				*e*Sn	**Sn**	**11 49 34.5**	**-5.5**
RPZ	**Rata Peaks**	**10.39**	**45**	Pn	**Pn**	**11 50 39.7**	**-1.6**
	0.7nm,0.3s,baz=67,slow=20,SNR=1.8						
RPZ				Sn	**Sn**	**11 52 30.5**	**-7.2**
	0.5nm,0.3s,baz=58,slow=9.6,SNR=3.4						
RPZ				LR	LR	11 53 55.5	
	comp=Z,2μm,19.2s,baz=294,slow=33						
RPZ	**Rata Peaks**	**10.39**	**45**	Pn	**Pn**	**11 50 39.7**	**-1.6**
RPZ				Sn	**Sn**	**11 52 30.5**	**-7.2**
RPZ				LR	LR	11 53 55.5	
URZ	**Urewera**	**17.49**	**47**	P	**Pn**	**11 52 17.0**	**+0.7**
	0.7nm,0.3s,baz=233,slow=8.4,SNR=5.5						
STKA	**Stephens Creek**	**24.31**	**317**	P	**P**	**11 53 36.6**	**+6.7**
	2.3nm,0.7s,mb3.7,baz=143,slow=15,SNR=2.9						
STKA				LR	LR	12 01 40.3	
	comp=Z,1μm,20.1s,MS4.3,baz=169,slow=33						
SBA	**Scott Base**	**26.45**	**177**	*e*P	**P**	**11 53 50.2**	**+1.2**
	18nm,1.2s,mb4.5						
RAO	**Raoul Island**	**27.30**	**43**	LR	LR	12 04 18.3	
	comp=Z,364nm,21.3s,MS3.9,baz=186,slow=36						
CTA	**Charters Tower**	**33.50**	**334**	P	**P**	**11 54 53.1**	**+1.2**
	2.5nm,0.8s,mb4.2,baz=211,slow=10.0,SNR=2.8						
CTA				LR	LR	12 07 10.8	
	comp=Z,616nm,18.2s,MS4.4,baz=159,slow=34						
ASAR	**Alice Springs**	**34.80**	**313**	P	**P**	**11 55 02.5**	**-0.6**
	1.4nm,0.7s,mb4.0,baz=149,slow=8.1,SNR=19						
QSPA	**South Pole Qui**	**38.53**	**180**	P	**P**	**11 55 34.9**	**+0.5**
	19nm,1.1s,mb4.7,baz=9.2,slow=3.3,SNR=26						
QSPA				LR	LR	12 09 20.5	
	comp=Z,618nm,18.7s,MS4.5,baz=214,slow=33						
QSPA	**South Pole Qui**	**38.53**	**180**	P	**P**	**11 55 34.9**	**+0.5**
QSPA				LR	LR	12 09 20.5	
MAW	**Mawson**	**46.52**	**212**	P	**P**	**11 56 39.9**	**+0.5**
	4.0nm,1.0s,mb4.3,baz=121,slow=12,SNR=4.4						
MAW				LR	LR	12 15 11.3	
	comp=Z,425nm,19.2s,MS4.4,baz=297,slow=35						
TBI	**Tubuai**	**47.15**	**73**	*e*S	**S**	**12 03 53.4**	**+16**
	181nm,28.3s						
TBI				*e*LR	LR	12 10 30.8	
	266nm,21.8s,baz=214						
BATI	**Baumata**	**51.25**	**310**	LR	LR	12 17 52.2	
	comp=Z,516nm,21.1s,MS4.5,baz=173,slow=35						
PPT	**Papeete**	**51.57**	**68**	*e*S	**S**	**12 04 53.5**	**+14**
	174nm,26.8s						
PPT				*e*LR	LR	12 12 30.1	
	379nm,22.8s,baz=232						
PPT	**Papeete**	**51.57**	**68**	LR	LR	12 14 07.3	
	comp=Z,400nm,18.5s,MS4.5,baz=233,slow=30						
RKT	**Rikitea**	**56.18**	**85**	*e*LR	LR	12 14 50.3	
	251nm,26.5s						
KAPI	**Kappang**	**57.65**	**309**	LR	LR	12 24 05.8	
	comp=Z,336nm,18.0s,MS4.5,baz=157,slow=37						
GUMO	**Guam**	**66.41**	**343**	LR	LR	12 24 37.8	
	comp=Z,105nm,18.0s,MS4.1,baz=271,slow=33						
PLCA	**Paso Flores**	**77.69**	**142**	LR	LR	12 26 02.0	
	comp=Z,145nm,20.4s,MS4.3,baz=215,slow=29						
JOW	**Kunigami**	**83.22**	**331**	LR	LR	12 35 43.1	
	comp=Z,136nm,20.7s,MS4.3,baz=86,slow=34						
CMAR	**Chiang Mai Arr**	**88.19**	**303**	P	**P**	**12 01 03.1**	**-0.4**
	0.8nm,0.4s,mb4.3,baz=170,slow=3.9,SNR=6.3						
CMAR				LR	LR	12 40 17.3	
	comp=Z,62nm,18.4s,MS4.0,baz=147,slow=35						
MJAR	**Matsushiro Arr**	**90.01**	**342**	LR	LR	12 33 24.1	
	comp=Z,68nm,21.4s,MS4.0,baz=245,slow=30						
BOSA	**Boshof**	**91.17**	**218**	LR	LR	12 36 27.0	
	comp=Z,119nm,18.7s,MS4.4,baz=271,slow=32						
KSRS	**Korea Array**	**93.28**	**334**	LR	LR	12 40 53.3	
	comp=Z,90nm,18.2s,MS4.3,baz=8.7,slow=34						
AKASG	**Malin Array Be**	**150.16**	**288**	PKPbc	PKPbc	12 08 01.1	-1.3
	0.5nm,0.4s,baz=99,slow=1.6,SNR=5.3						
AKASG				PKPab	PKPab	12 08 08.9	+0.4
	0.8nm,0.5s,baz=115,slow=2.2,SNR=5.0						
KEST	**Kesra**	**154.30**	**243**	PKPab	PKPab	12 08 27.2	+0.8
	2.0nm,1.1s,baz=53,slow=5.1,SNR=4.0						

NNC ***27*** *12:07:35.9±5.0, 3969N×7110E, h0km, mb4.1, mpv3.8, Error ellipse: s-maj=49.2km s-min=35.8km az=16.0*

ISC 27 12:07:29.0±10.0, 388N±09×708E±02, h35km, n9, σ0§55/9, 2C-2D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KK31	**Karatay Array**	**4.26**	**358**	⇑Pn	**Pn**	**12 08 31.7**	**+0.4**
	12nm,0.6s,baz=173,slow=12,SNR=67						
KK31				Lg		12 09 24.8	
	42nm,0.7s,baz=171,slow=26,SNR=9.0						
EKS2	**Erkin-Say**	**4.45**	**30**	P	**Pn**	**12 08 33.8**	**-0.2**
	SNR=9.9						
AAK	**Ala-Archa**	**4.74**	**36**	P	**Pn**	**12 08 38.4**	**+0.6**
	SNR=11						
KBK	**Karagaybulak**	**4.97**	**39**	P	**Pn**	**12 08 41.8**	**+0.8**
	SNR=15						
CHMS	**Chumysh**	**5.14**	**35**	P	**Pn**	**12 08 43.0**	**-0.3**
	SNR=6.8						
USP	**Ospenovka**	**5.25**	**31**	P	**Pn**	**12 08 43.9**	**-1.0**
	SNR=22						
TKM2	**Tokmak 2**	**5.49**	**40**	⇓Pn	**Pn**	**12 08 47.8**	**-0.3**
	11nm,0.5s						
TKM2				⇓Lg		12 10 03.0	
	23nm,0.7s						
TKM2	**Tokmak 2**	**5.49**	**40**	P	**Pn**	**12 08 48.1**	**0.0**
	SNR=29						
AB31	**Akbulak array**	**12.98**	**327**	⇑P	**Pn**	**12 10 30.6**	**-0.1**
	1.3nm,0.7s,baz=3.1,slow=27,SNR=16						

ISCJB ***27*** *12:10:36.0±0.7, 299N±008×1287E±02, h33km, mb4.7/15, Error ellipse: s-maj=24.8km s-min=8.3km az=158.9*
IDC ***27*** *12:11:02.0±5.9, 300N×12885E, h283km±65km, mb3.6/9, mb1 3.7/9, mb1mx3.6/15, mbtmp3.6/9, Error ellipse: s-maj=32.0km s-min=12.6km az=77.0*

ISC 27 12:10:38.7±0.7, 309N±010×1287E±02, h35km, n19, σ0§98/19, mb4.7/15, North of Halmahera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KAKA	**Kakadu**	**16.13**	**167**	*e*P	**Pn**	**12 14 24.0**	**+1.0**
	5.7nm,0.6s						
KAKA				*e*S	**S**	**12 17 15.7**	**-18**
ASAR	**Alice Springs**	**27.07**	**169**	P	**P**	**12 16 17.9**	**-0.3**
	1.8nm,0.4s,mb4.0,baz=355,slow=8.0,SNR=48						
CMAR	**Chiang Mai Arr**	**32.89**	**300**	P	**P**	**12 17 11.8**	**+2.1**
	1.5nm,0.5s,mb4.2,baz=115,slow=7.1,SNR=5.5						
KSRS	**Korea Array**	**34.20**	**359**	P	**P**	**12 17 22.6**	**+1.6**
	1.6nm,0.4s,mb4.3,baz=178,slow=9.8,SNR=9.7						
MJAR	**Matsushiro Arr**	**34.42**	**14**	P	**P**	**12 17 23.0**	**+0.1**
	2.0nm,0.5s,mb4.3,baz=181,slow=9.2,SNR=7.1						
STKA	**Stephens Creek**	**36.87**	**162**	*e*P	**P**	**12 17 43.2**	**-0.8**
	2.2nm,0.8s,mb4.0						
STKA	**Stephens Creek**	**36.87**	**162**	P	**P**	**12 17 43.2**	**-0.8**
	2.0nm,0.4s,mb4.3,baz=349,slow=7.2,SNR=8.4						
TAPN	**Taplejung**	**45.98**	**306**	*e*P	**P**	**12 18 59.0**	**+0.2**
	10nm,0.7s,mb4.9						
RAMN	**Ramite**	**46.72**	**305**	*e*P	**P**	**12 19 04.8**	**+0.2**
	22nm,0.5s,mb5.4						
JIRN	**Jiri**	**47.34**	**305**	*e*P	**P**	**12 19 09.5**	**+0.1**
	13nm,0.3s,mb5.3						
GUN	**Gumba**	**47.69**	**306**	*e*P	**P**	**12 19 12.2**	**0.0**
	24nm,0.7s,mb5.3						
DMN	**Daman**	**48.20**	**305**	*e*P	**P**	**12 19 15.7**	**-0.4**
SONM	**Songino Array**	**48.54**	**340**	P	**P**	**12 19 18.6**	**+0.2**
	1.0nm,0.6s,mb4.0,baz=151,slow=7.5,SNR=6.9						
KOLN	**Koldanda**	**49.50**	**304**	*e*P	**P**	**12 19 26.0**	**-0.1**
	21nm,0.5s,mb5.4						
DANN	**Dangsing**	**49.58**	**305**	*e*P	**P**	**12 19 26.4**	**-0.3**
	29nm,0.6s,mb5.5						
MKAR	**Makanchi Array**	**59.20**	**325**	P	**P**	**12 20 34.8**	**-1.5**
	0.9nm,0.3s,mb4.2,baz=111,slow=7.4,SNR=20						
ZALV	**Zalesovo Beam**	**62.05**	**332**	P	**P**	**12 20 53.0**	**-2.7**
	1.1nm,0.3s,mb4.4,baz=116,slow=6.8,SNR=5.4						
ARCES	**ARCESS Array B**	**91.72**	**340**	P	**P**	**12 23 37.5**	**-4.8**
	3.8nm,0.9s,mb4.7,baz=55,slow=6.4,SNR=5.5						
TORD	**Torodi Ar. Bea**	**124.98**	**288**	PKP	PKPdf	12 29 30.6	-5.7
	257nm,0.4s,baz=56,slow=3.6,SNR=2.1						

SGS ***27*** *12:16:20.7, 30.18N×3623E, h12km*
CSEM ***27*** *12:16:20.7, 30.18N×3623E, h12km, ML2.9, After SNSN*
ISCJB ***27*** *12:16:21.0±1.0, 2987N±006×3625E±006, h0km, Error ellipse: s-maj=8.8km s-min=6.9km az=40.2*
GII ***27*** *12:16:22.4±1.4, 2989N×3616E, h0km, ML1.9/4, EXPLOSION*

ISC 27 12:16:21.1±1.1, 2986N±006×3629E±006, h0km, n14, σ0§84/18, Western Arabian Peninsula

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AQBJ	**Aqaba**	**1.09**	**263**	Pg	**Pg**	**12 16 41.8**	**-0.1**
HRFI	**Mount Harif**	**1.10**	**279**	Pg	**Pg**	**12 16 41.8**	**-0.5**
EIL	**Elat**	**1.18**	**261**	Pg	**Pg**	**12 16 43.6**	**-0.2**
EIL				Sg	**Sg**	**12 17 01.1**	**+2.1**
ZFRI	**Zfri**	**1.19**	**306**	Pg	**Pg**	**12 16 43.4**	**-0.4**
MBRI	**Mt Berech**	**1.20**	**267**	Pg	**Pg**	**12 16 43.6**	**-0.5**
MBRI				Sg	**Sg**	**12 17 01.0**	**+1.3**
HQLS		**1.21**	**243**	P	**Pg**	**12 16 43.3**	**-1.0**
PRNI	**Paran**	**1.22**	**294**	Pg	**Pg**	**12 16 43.9**	**-0.6**
JLOS		**1.32**	**212**	P	**Pg**	**12 16 46.5**	**0.0**
KRMI	**Paran Flat**	**1.38**	**281**	Pg	**Pg**	**12 16 46.7**	**-1.0**
KRMI			

KZN	Kozani	1.00	51	*e*Pn	Pn	14 01 15.0	-1.9
KZN	Kozani	1.00	51	*e*PN	Pn	14 01 15.0	-1.9
EVR	Evrytania	1.12	132	*e*Pn	Pn	14 01 19.4	+0.9
EVR	Evrytania	1.12	132	*e*PN	Pn	14 01 19.4	+0.9
FNA	Florina	1.21	23	P	Pn	14 01 18.3	-1.4
FNA				S	Sb	14 01 34.4	-0.9
LIT	Litokhoron	1.41	72	P	Pn	14 01 21.9	-0.5
LIT				S	Sn	14 01 42.3	+1.8
BIA	Bitola	1.41	18	P	Pn	14 01 21.2	-1.3
BIA				S	Sn	14 01 39.9	-0.8
BIA	Bitola	1.41	18	*e*Pn	Pn	14 01 22.3	-0.2
BIA				*i* Sn	Sn	14 01 41.6	+0.9
BIA	Bitola	1.41	18	*e*Pn	Pn	14 01 22.2	-0.3
BIA				S	Sn	14 01 39.9	-0.8
BIA				*i* Sn	Sn	14 01 41.6	+0.9
OHR	Ohrid	1.43	2	*i* Pn	Pn	14 01 23.0	+0.1
OHR				*i* Sn	Sn	14 01 43.0	+1.8
OHR	Ohrid	1.43	2	*i* Pn	Pn	14 01 22.9	+0.1
OHR				*i* Sn	Sn	14 01 43.0	+1.8
VLS	Valsamata	1.50	185	*e*Pn	Pn	14 01 25.4	+1.6
VLS	Valsamata	1.50	185	*e*PN	Pn	14 01 25.4	+1.6
KRUS	Krusevo	1.73	13	*i* Pn	Pn	14 01 28.1	+1.1
KRUS				*i* Sn	Sn	14 01 51.3	+2.7
KRUS	Krusevo	1.73	13	*i* Pn	Pn	14 01 28.0	+1.1
KRUS				*i* Sn	Sn	14 01 51.3	+2.7
PLG	Polygyros	2.18	71	*e*Pb	Pb	14 01 33.7	-3.0
PLG	Polygyros	2.18	71	*e*PB	Pb	14 01 33.7	-3.0
KNT	Kendrikon	2.21	47	P	Pn	14 01 32.4	-1.1

ISC 27 14:29:15.7±1.7,**4862N**±008×**2014E**±007,**h13**km±9km,**n8,** σ1§**24/14,Czech and Slovak Republics**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIE	**Niedzica**	**0.80**	**8**	*e*Pg	**Pg**	**14 29 31.0**	**-0.2**
NIE				*e*Sg	**Sg**	**14 29 41.4**	**-0.4**
VYHS	**Vyhne**	**0.87**	**262**	*e*PN	**Pn**	**14 29 32.7**	**-1.0**
VYHS				*e*SN	**Sn**	**14 29 44.7**	**-1.6**
CRVS	**Cervenica-Dubn**	**0.92**	**72**	*e*PN	**Pn**	**14 29 33.4**	**-0.9**
CRVS				*e*SN	**Sn**	**14 29 45.4**	**-2.0**
STHS	**Stebnicka Huta**	**1.08**	**42**	*e*PN	**Pn**	**14 29 36.6**	**+0.1**
STHS				*e*SN	**Sn**	**14 29 51.4**	**+0.1**
KOLL	**Kolacno**	**1.15**	**268**	*e*SN	**Sn**	**14 29 54.7**	**+1.6**
KOLS	**Kolonicke sedl**	**1.45**	**77**	*e*PN	**Pn**	**14 29 43.8**	**+2.3**
KOLS				*e*SN	**Sn**	**14 30 03.1**	**+2.7**
OJC	**Ojcow**	**1.61**	**352**	*e*Pg	**Pg**	**14 29 45.8**	**-0.8**
OJC				*e*Sg	**Sg**	**14 30 08.4**	**+0.9**
MODS	**Modra-Piesok**	**1.92**	**264**	*e*SN	**Sg**	**14 30 17.9**	**+0.6**

MDD 27 14:32:01.0±3.5,**3232N**×**760W,h0**km,**mb4.3**/2,**Error ellipse: s-maj=50.7km s-min=27.9km az=80.0,PRIMO, Morocco**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBDV	**Barranco-do-Ve**	**4.92**	**357**	*e*Pn	Pn	14 33 15.1	-1.0
PBDV				*e*Sn	Sn	14 34 09.2	-4.5
PBDV				A		14 34 15.7	
	3.9nm,0.4s						
PBDV	**Barranco-do-Ve**	**4.92**	**357**	Pn	Pn	14 33 15.1	-1.0
PBDV				Sn	Sn	14 34 09.2	-4.5
	3.9nm,0.4s						
MORF	**Marmelete**	**5.05**	**350**	*e*Pn	Pn	14 33 16.8	-1.1
MORF				*e*Sn	Sn	14 34 12.1	-4.8
MORF				A		14 34 16.2	
	3.8nm,0.4s						
MORF	**Marmelete**	**5.05**	**350**	Pn	Pn	14 33 16.8	-1.1
MORF				Sn	Sn	14 34 12.1	-4.8
	3.8nm,0.4s						
PVAQ	**Vaqueiros**	**5.07**	**359**	*e*Pn	Pn	14 33 17.0	-1.2
PVAQ				*e*Sn	Sn	14 34 12.4	-5.1
PVAQ				A		14 34 14.4	
	4.7nm,0.5s						
PVAQ	**Vaqueiros**	**5.07**	**359**	Pn	Pn	14 33 17.0	-1.2
PVAQ				Sn	Sn	14 34 12.4	-5.1
	4.7nm,0.5s						
EGRO	**El Granado**	**5.20**	**1**	Pn	Pn	14 33 18.6	-1.5
	4.0nm,0.4s,SNR=5.9						
EGRO				Sn	Sn	14 34 15.9	-4.8
	0.3nm,0.5s,SNR=7.9						
PTEO	**Sao Teotonio**	**5.29**	**350**	*e*Sn	Sn	14 34 18.8	-4.1
EMIN	**Mina Concepcio**	**5.49**	**8**	Pn	Pn	14 33 22.0	-1.9
	8.0nm,0.4s,SNR=29						
PBEJ	**Beja**	**5.69**	**358**	*e*Sn	Sn	14 34 28.1	-4.8
PBEJ				A		14 34 30.8	
	3.4nm,0.4s						
PBEJ	**Beja**	**5.69**	**358**	Sn	Sn	14 34 28.1	-4.8
	1.7nm,0.4s						
PBAR	**Barrancos**	**5.86**	**4**	*e*Pn	Pn	14 33 28.0	-1.0
PBAR				*e*Sn	Sn	14 34 32.1	-4.8
PBAR				A		14 34 34.8	
	2.9nm,0.4s						
PBAR	**Barrancos**	**5.86**	**4**	Pn	Pn	14 33 28.0	-1.0
PBAR				Sn	Sn	14 34 32.1	-4.8
	2.9nm,0.4s						
EVO	**Evora**	**6.20**	**357**	*e*Sn	Sn	14 34 40.7	-4.7
EADA	**Adamuz**	**6.33**	**22**	Pn	Pn	14 33 35.4	-0.2
	SNR=7.9						
EADA				Sn	Sn	14 34 42.3	-6.4
	0.9nm,1.1s,SNR=7.9						

TIR **27** *14:53:07.0*±*0.6,3970N*×*2076E,h14km*±*6km*
BEO **27** *14:53:08.9,3976N*×*2057E,h1km, ML2.9/1*
ISCJB **27** *14:53:08.2*±*0.7,3971N*±*003*×*2065E*±*004,h3km*±*5km, Error ellipse: s-maj=5.2km s-min=4.0km az=43.6*
NEIC **27** *14:53:08.0,3979N*×*2068E,h20km,MD3.5(ATH), ML3.7(THE),After ATH.*
ATH **27** *14:53:08.0,3979N*×*2068E,h20km,MD3.5/8*
CSEM **27** *14:53:08.9*±*0.1,3979N*×*2067E,h12km,MD3.5, Error ellipse: s-maj=2.7km s-min=2.0km az=82.0*
THE **27** *14:53:09.4,3975N*×*2069E,h0km*±*2km, ML3.7/3,Error ellipse: s-maj=3.2km s-min=1.3km az=252.0*

ISC 27 14:53:09.2±0.5,**3971N**±003×**2065E**±003,**h5**km±4km,**n48,** σ1§**11/63,Greece-Albania border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAN	**Janina**	**0.17**	**110**	*e*Pb	**Pg**	**14 53 12.9**	**+0.4**
JAN				*e*Sb	**Sg**	**14 53 16.4**	**+1.7**
JAN	**Janina**	**0.17**	**110**	*e*PB	**Pg**	**14 53 12.9**	**+0.4**
JAN				*e*SB	**Sg**	**14 53 16.4**	**+1.7**
MEV	**Metsovon**	**0.45**	**81**	P	**Pg**	**14 53 17.3**	**-0.6**
MEV				S	**Sg**	**14 53 24.4**	**+0.6**
SRN	**Sarande**	**0.53**	**289**	*e*PG	**Pg**	**14 53 19.2**	**-0.1**
SRN				*i* SG	**Sg**	**14 53 28.1**	**+2.0**
KEK	**Kerkira**	**0.66**	**270**	*e*Pn	**Pg**	**14 53 21.4**	**-0.3**
KEK	**Kerkira**	**0.66**	**270**	*e*PN	**Pg**	**14 53 21.4**	**-0.3**
TPE	**Tepelena**	**0.76**	**320**	*e*PG	**Pg**	**14 53 23.4**	**-0.3**
KBN	**Korca**	**0.92**	**7**	*e*PG	**Pg**	**14 53 25.2**	**-1.5**
LKD	**Levkas**	**1.00**	**180**	P	**Pg**	**14 53 29.7**	**+1.3**
KZN	**Kozani**	**1.05**	**55**	*e*Pn	**Pn**	**14 53 27.0**	**-3.4**
KZN	**Kozani**	**1.05**	**55**	*e*PN	**Pn**	**14 53 27.0**	**-3.4**
THL	**Klokotos Trika**	**1.07**	**98**	*e*Pn	**Pn**	**14 53 27.9**	**-2.8**
THL	**Klokotos Trika**	**1.07**	**98**	P	**Pg**	**14 53 28.3**	**-1.3**
THL	**Klokotos Trika**	**1.07**	**98**	*e*PN	**Pn**	**14 53 27.9**	**-2.8**
EVR	**Evrytania**	**1.20**	**131**	*e*Pn	**Pn**	**14 53 31.5**	**-1.0**
EVR	**Evrytania**	**1.20**	**131**	*e*PN	**Pn**	**14 53 31.5**	**-1.0**
FNA	**Florina**	**1.21**	**27**	P	**Pg**	**14 53 30.6**	**-1.7**
FNA				S	**Sg**	**14 53 48.7**	**+0.8**
OHR	**Ohrid**	**1.40**	**5**	P	**Pn**	**14 53 34.7**	**-0.6**
OHR	**Ohrid**	**1.40**	**5**	*i* Pn	**Pn**	**14 53 34.5**	**-0.8**
OHR				*i* Sn	**Sn**	**14 53 55.1**	**+1.0**
OHR	**Ohrid**	**1.40**	**5**	*i* Pn	**Pn**	**14 53 34.4**	**-0.9**
OHR				*i* Sn	**Sn**	**14 53 55.1**	**+1.0**
BIA	**Bitola**	**1.40**	**21**	P	**Pn**	**14 53 34.0**	**-1.3**
BIA				S	**Sb**	**14 53 55.5**	**+1.6**
BIA	**Bitola**	**1.40**	**21**	*i* Pn	**Pn**	**14 53 34.0**	**-1.4**
BIA				*i* Sn	**Sn**	**14 53 55.4**	**+1.2**
BIA	**Bitola**	**1.40**	**21**	*i* Pn	**Pn**	**14 53 33.9**	**-1.4**
BIA				*i* Sn	**Sn**	**14 53 55.4**	**+1.2**
LIT	**Litokhoron**	**1.47**	**74**	P	**Pn**	**14 53 35.8**	**-0.4**
LIT				S	**Sn**	**14 53 55.7**	**-0.1**
AGG	**Agios Georgios**	**1.48**	**117**	P	**Pn**	**14 53 35.8**	**-0.5**
AGG				S	**Sn**	**14 53 57.6**	**+1.7**
VLS	**Valsamata**	**1.54**	**182**	*e*Pn	**Pn**	**14 53 37.7**	**+0.6**
VLS	**Valsamata**	**1.54**	**182**	*e*PN	**Pn**	**14 53 37.7**	**+0.6**
KRUS	**Krusevo**	**1.72**	**15**	*i* Pn	**Pn**	**14 53 40.4**	**+0.7**
KRUS				*i* Sn	**Sn**	**14 54 03.7**	**+1.9**
KRUS	**Krusevo**	**1.72**	**15**	*i* Pn	**Pn**	**14 53 40.3**	**+0.7**
KRUS				*i* Sn	**Sn**	**14 54 03.7**	**+1.8**
TIR	**Tirane**	**1.74**	**340**	*e*Pn	**Pn**	**14 53 38.9**	**-1.0**
RLS	**Riolos of Patr**	**1.77**	**159**	*e*Pn	**Pn**	**14 53 40.8**	**+0.4**
RLS	**Riolos of Patr**	**1.77**	**159**	*e*PN	**Pn**	**14 53 40.8**	**+0.4**
GRG	**Griva**	**1.83**	**47**	P	**Pn**	**14 53 41.5**	**+0.4**
QSH	**Qafa e Shtames**	**1.89**	**343**	*e*PN	**Pn**	**14 53 43.0**	**+1.0**
VAY	**Valandovo**	**2.17**	**42**	*i* Pn	**Pn**	**14 53 44.0**	**-1.9**
VAY	**Valandovo**	**2.17**	**42**	*i* Pn	**Pn**	**14 53 43.9**	**-2.0**
KNT	**Kendrikon**	**2.25**	**49**	P	**Pn**	**14 53 47.0**	**+0.1**
PLG	**Polygyros**	**2.25**	**72**	*e*Pn	**Pn**	**14 53 45.4**	**-1.5**
PLG	**Polygyros**	**2.25**	**72**	P	**Pn**	**14 53 46.6**	**-0.3**
PLG	**Polygyros**	**2.25**	**72**	*e*PN	**Pn**	**14 53 45.4**	**-1.5**
STIP	**Stip**	**2.30**	**30**	*e*Pn	**Pn**	**14 53 48.6**	**+1.0**
SKO	**Skopje**	**2.33**	**15**	*e*Pn	**Pn**	**14 53 48.8**	**+0.6**
SKO	**Skopje**	**2.33**	**15**	*e*PN	**Pn**	**14 53 48.7**	**+0.6**
BCI	**Bajram Curri**	**2.69**	**351**	*e*PN	**Pn**	**14 53 53.9**	**+0.9**
BARS	**Barje**	**3.22**	**15**	*e*Pn	**Pn**	**14 54 00.3**	**0.0**
BARS				*e*Sn	**Sn**	**14 54 38.8**	**-0.2**
SG1	**Sgolgore (BA)**	**3.24**	**292**	*e*Pn	**Pn**	**14 53 59.2**	**-1.3**
BOLS	**Boljevac**	**4.23**	**13**	*e*Sn	**Sn**	**14 55 02.5**	**-1.3**
BBLS	**Lazići**	**4.25**	**348**	*e*Pn	**Pn**	**14 54 14.1**	**-0.4**

CSEM **27** *16:47:41.1,3809N*×*2355E,h12km,MD2.8/4,After ATH*
ATH 27 16:47:40.7,3808N×**2356E,h19**km,**ML2.4,Greece**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATH	**Athens Observa**	**0.16**	**131**	*e*Pg	Pg	16 47 45.0	-0.2
ATH	**Athens Observa**	**0.16**	**131**	*e*PB	Pg	16 47 45.2	0.0
PTL	**Penteli**	**0.24**	**97**	*e*Pg	Pg	16 47 46.0	-0.4
PTL	**Penteli**	**0.24**	**97**	*e*PB	Pg	16 47 46.0	-0.4
KVR	**Kavouri**	**0.30**	**147**	*e*Pb	Pg	16 47 47.5	+0.2
KVR	**Kavouri**	**0.30**	**147**	*e*PB	Pg	16 47 47.4	+0.1
NAIG	**Nisos Aigina**	**0.33**	**190**	*e*Pb	Pg	16 47 47.8	+0.1
NAIG	**Nisos Aigina**	**0.33**	**190**	*e*PB	Pg	16 47 47.8	+0.1
LKR	**Lokris**	**0.72**	**322**	*e*Pb	Pb	16 47 54.0	-0.6
NEO	**Neokhori**	**1.25**	**348**	*e*Pb	Pb	16 48 02.8	-0.9
APE	**Apeiranthos**	**1.86**	**122**	*e*Pn	Pn	16 48 12.3	+0.7

ATH **27** *17:09:01.7,3905N*×*2526E,h45km,MD3.2/3*
CSEM **27** *17:09:03.7*±*1.1,3880N*×*2552E,h10km,MD2.7, Error ellipse: s-maj=27.1km s-min=12.6km az=113.0*
ISCJB **27** *17:09:04.7*±*1.1,3876N*±*003*×*2557E*±*008,h10km, Error ellipse: s-maj=8.7km s-min=4.8km az=176.5*
DDA **27** *17:09:06.0,3881N*×*2576E,h7km*±*3km, Md2.7*
ISC 27 17:09:05.0±1.0,**3877N**±003×**2558E**±007,**h10**km,**n16,** σ1§**08/27,Aegean Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHOS	**Chios island**	**0.53**	**136**	P	**Pg**	**17 09 15.4**	**0.0**
CHOS				S	**Sg**	**17 09 21.9**	**-0.4**
PRK	**Paraskevi**	**0.72**	**48**	P	**Pg**	**17 09 17.9**	**-0.9**
PRK				S	**Sg**	**17 09 29.4**	**+1.2**
PRK	**Paraskevi**	**0.72**	**48**	*e*P	**Pg**	**17 09 17.8**	**-1.0**
PRK				S	**Sg**	**17 09 29.4**	**+1.2**
PRK	**Paraskevi**	**0.72**	**48**	*e*P	**Pg**	**17 09 17.8**	**-1.0**
PRK				*e*S	**Sg**	**17 09 29.2**	**+1.0**
URLA	**Izmir**	**0.89**	**117**	*i* P	**Pg**	**17 09 21.5**	**-0.7**
URLA				*i* S	**Sg**	**17 09 33.6**	**-0.2**
AYVA	**Ayvalik**	**1.01**	**58**	*i* P	**Pg**	**17 09 23.6**	**-1.0**
AYVA				*i* S	**Sg**	**17 09 35.5**	**-2.2**
BOZC	**Bozcaada**	**1.13**	**19**	*i* P	**Pb**	**17 09 25.9**	**-0.7**
BOZC				*i* S	**Sb**	**17 09 40.9**	**-0.5**
KDAG	**Bornova**	**1.37**	**105**	*i* P	**Pn**	**17 09 29.0**	**-1.2**
KDAG				*i* S	**Sb**	**17 09 47.6**	**-0.6**
SMG	**Samos**	**1.45**	**137**	*e*P	**Pn**	**17 09 32.2**	**+1.0**
SMG	**Samos**	**1.45**	**137**	*e*P	**Pn**	**17 09 32.2**	**+1.0**
APE	**Apeiranthos**	**1.70**	**181**	*e*P	**Pn**	**17 09 34.2**	**-0.5**
APE	**Apeiranthos**	**1.70**	**181**	*e*P	**Pn**	**17 09 34.2**	**-0.5**
AKHS	**Akhisar**	**1.75**	**86**	*i* P	**Pn**	**17 09 36.6**	**+1.3**
AKHS				*i* S	**Sn**	**17 09 58.9**	**+1.3**
BALY	**Balya**	**1.85**	**58**	*e*P	**Pn**	**17 09 38.0**	**+1.2**
BALY				*i* S	**Sn**	**17 10 02.8**	**+2.5**
AYDN	**Tasoluk**	**2.12**	**121**	*i* P	**Pn**	**17 09 41.5**	**+1.1**
AYDN				*i* S	**Sn**	**17 10 12.0**	**+5.1**
AYDN	**Tasoluk**	**2.12**	**121**	*i* P	**Pn**	**17 09 41.5**	**+1.0**

NEIC **27** *17:12:23.5,1578N*×*9659W,h25km,MD3.8(MEX),After MEX.*
MEX 27 17:12:23.1±0.6,**1577N**×**9655W,h16**km±10km,**MD3.8, Near coast of Oaxaca**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VHO	**Vista Hermosa**	**1.30**	**352**	*i* P	Pn	17 12 43.4	-3.3
VHO				*i* S	Sb	17 12 58.8	-5.0
VHO	**Vista Hermosa**	**1.30**	**352**	*i* P	Pn	17 12 43.4	-3.3
VHO				*i* S	Sb	17 12 58.8	-5.0
OXX	**Oaxaca**	**1.31**	**353**	*i* P	Pn	17 12 43.5	-3.3
OXX				*i* S	Sn	17 12 58.2	-5.8
OXX	**Oaxaca**	**1.31**	**353**	*i* P	Pn	17 12 44.3	-2.5
OXX				*i* S	Sn	17 12 59.7	-4.3
PNIG	**Pinotepa**	**1.64**	**292**	*e*P	Pn	17 12 47.8	-3.4
PNIG				*i* S	Sn	17 13 06.9	-5.1
PNIG	**Pinotepa**	**1.64**	**292**	*e*P	Pn	17 12 47.8	-3.4
PNIG				*i* S	Sn	17 13 06.3	-5.7
CMIG	**Matias Romero**	**2.07**	**50**	*e*P	Pn	17 12 53.2	-4.0
CMIG				*i* S	Sn	17 13 17.9	-4.7
UTMO	**Huajuapan**	**2.37**	**330**	*e*P	Pn	17 12 59.1	-2.2
UTMO				*i* S	Sn	17 13 26.0	-4.2
TPIG	**Tehuac#an**	**2.75**	**344**	*e*P	Pn	17 13 03.4	-3.1
TPIG				*i* S	Sn	17 13 35.5	-3.9
PCIG		**3.21**	**91**	*e*P	Pn	17 13 10.8	-2.1
PCIG				*i* S	Sn	17 13 46.7	-4.0
TGIG		**3.44**	**73**	*i* P	Pn	17 13 14.4	-1.7
TGIG				*i* S	Sn	17 13 51.9	-4.6
CAIG	**El Cayaco**	**3.79**	**290**	*i* P	Pn	17 13 17.8	-3.0
CAIG	**El Cayaco**	**3.79**	**290**	*e*P	Pn	17 13 15.5	-5.3
CAIG				*i* S	Sn	17 13 56.7	-8.4
LVIG	**Laguna Verde**	**3.93**	**2**	*e*P	Pn	17 13 20.5	-2.4
LVIG				*i* S	Sn	17 14 09.1	+0.5
MZVM		**4.25**	**323**	*e*P	Pn	17 13 30.6	+3.3

ISCJB **27** *17:19:31.2*±*1.3,542S*±*007*×*14703E*±*008,h215km*±*13km, mb4.1/18, Error ellipse: s-maj=14.6km s-min=9.4km az=28.8*
NEIC **27** *17:19:32.6*±*1.2,548S*×*147.11E,h220km*±*12km,mb4.4/11, Error ellipse: s-maj=13.8km s-min=10.0km az=103.0*
IDC **27** *17:19:36.8*±*3.6,554S*×*14722E,h261km*±*36km,mb3.6/10, mb1 3.7/12,mb1mx3.6/16,mbtmp3.6/12,Error ellipse: s-maj=20.8km s-min=15.0km az=92.0*
ISC 27 17:19:33.4±1.2,**550S**±006×**14707E**±009,**h222**km±13km, **n36,**σ0§**90/35,mb4.1/18,Eastern New Guinea region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.88**	**179**	*e*Pn	**Pn**	**17 20 31.8**	**-2.8**
PMG				*e*S	**S**	**17 21 10.7**	**-12**
COEN	**Coen**	**9.24**	**204**	*e*Pn	**Pn**	**17 21 43.1**	**+0.5**
	7.4nm,0.6s						
COEN				*e*S	**S**	**17 23 26.7**	**0.0**
HNR	**Honiara**	**13.35**	**108**	P	**Pn**	**17 22 34.8**	**+0.2**
	4.8nm,0.3s,baz=342,slow=4.4,SNR=3.6						
CTA	**Charters Tower**	**14.53**	**183**	P	**Pn**	**17 22 49.8**	**+0.9**
	0.2nm,0.3s,baz=354,slow=9.2,SNR=2.5						
CTAO	**Charters Tower**	**14.53**	**183**	P	**Pn**	**17 22 51.0**	**+2.1**
KAKA	**Kakadu**	**16.12**	**243**	*e*P	**P**	**17 23 01.5**	**-5.8**
	60nm,0.8s						
KAKA				*e*S	**S**	**17 25 56.1**	**-9.0**
WRAB	**Tennant Creek**	**18.95**	**220**	*e*P	**P**	**17 23 38.1**	**0.0**
	13nm,0.5s						
WRAB				*e*S	**S**	**17 27 00.2**	**-1.2**
ASAR	**Alice Springs**	**22.07**	**214**	P	**P**	**17 24 11.2**	**+0.8**
	13nm,0.7s,mb4.5,baz=43,slow=7.1,SNR=106						
BATI	**Baumata**	**23.65**	**257**	P	**P**	**17 24 26.6**	**+1.7**
	74nm,0.6s,baz=109,slow=2.9,SNR=34						
ARMA	**Armidale**	**25.16**	**171**	*e*P	**P**	**17 24 39.0**	**+0.6**
STKA	**Stephens Creek**	**26.74**	**190**	P	**P**	**17 24 52.3**	**-0.2**
	1.2nm,0.4s,mb3.9,baz=135,slow=17,SNR=7.1						
STKA	**Stephens Creek**	**26.74**	**190**	*e*P	**P**	**17 24 52.0**	**-0.6**
MBWA	**Marble Bar**	**30.74**	**237**	*e*P	**P**	**17 25 27.8**	**-0.3**
	7.0nm,0.6s,mb4.5						
FORT	**Forrest**	**30.86**	**213**	*e*P	**P**	**17 25 29.4**	**+0.5**
	27nm,0.7s,mb5.0						
KLBR	**Kellerberrin**	**37.78**	**223**	*e*P	**P**	**17 26 28.1**	**-0.3**
	62nm,1.3s,mb5.0						
MJAR	**Matsushiro Arr**	**42.63**	**349**	P	**P**	**17 27 08.0**	**0.0**
	0.7nm,0.5s,mb3.3,baz=52,slow=6.4,SNR=5.0						
MAJO	**Matsushiro**	**42.63**	**349**	*e*P	**P**	**17 27 07.8**	**-0.1**
KSRS	**Korea Array**	**46.31**	**339**	P	**P**	**17 27 37.6**	**+0.6**
	2.5nm,0.7s,mb3.6,baz=155,slow=8.4,SNR=12						
CMAR	**Chiang Mai Arr**	**53.08**	**298**	P	**P**	**17 28 28.6**	**+0.3**
	0.7nm,0.6s,mb3.2,baz=126,slow=6.0,SNR=7.5						
CMAR				PcP	PcP	17 29 35.1	+1.4
	0.8nm,0.9s,baz=108,slow=2.9,SNR=4.8						
HIA	**Hailar**	**59.51**	**340**	P	**P**	**17 29 13.3**	**+0.1**
	8.5nm,0.8s,mb4.4						
ULN	**Ulaanbaatar**	**63.70**	**331**	*e*P	**P**	**17 29 42.0**	**+0.8**
	4.1nm,0.8s,mb4.1						
SONM	**Songino Array**	**64.00**	**331**	P	**P**	**17 29 44.1**	**+1.0**
	2.9nm,0.7s,mb4.0,baz=143,slow=6.5,SNR=19						
YAK	**Yakutsk**	**68.66**	**351**	*e*P	**P**	**17 30 09.9**	**-2.4**
SBA	**Scott Base**	**73.05**	**176**	*e*P	**P**	**17 30 39.2**	**+0.6**
	1.4nm,0.6s,mb3.8						
MK31	**Makanchi Array**	**77.16**	**320**	*e*P	**P**	**17 31 02.0**	**-0.5**
MKAR	**Makanchi Array**	**77.16**	**320**	P	**P**	**17 31 02.6**	**+0.1**
	1.0nm,0.5s,mb3.7,baz=97,slow=8.4,SNR=34						
ZALV	**Zalesovo Beam**	**78.63**	**328**	P	**P**	**17 31 09.3**	**-1.1**
	2.9nm,0.5s,mb4.2,baz=113,slow=6.0,SNR=17						
MAW	**Mawson**	**82.74**	**203**	*e*P	**P**	**17 31 26.5**	**-5.5**
	2.7nm,0.7s,mb4.1						
QSPA	**South Pole Qui**	**84.47**	**180**	*e*P	**P**	**17 31 39.7**	**-0.9**
	3.5nm,0.8s,mb4.1						
BVAR	**Borovoye Array**	**86.41**	**324**	P	**P**	**17 31 49.5**	**-1.1**
	1.4nm,0.5s,mb3.9,baz=100,slow=6.3,SNR=10						
NVAR	**Mina Array Bea**	**97.00**	**52**	P	**P**	**17 32 40.4**	**+0.4**
	0.2nm,0.5s,mb3.6,baz=245,slow=1.9,SNR=3.5						
GERES	**GERESS Array B**	**121.53**	**326**	PKP	PKPdf	17 37 59.4	-1.1
	0.5nm,0.5s,baz=81,slow=1.2,SNR=8.6						
TKL	**Tuckaleechee C**	**124.55**	**50**	PKP	PKPdf	17 38 04.1	-2.6
	3.0nm,0.4s,baz=162,slow=6.4,SNR=7.2						
TKL	**Tuckaleechee C**	**124.55**	**50**	PKP	PKPdf	17 38 04.1	-2.6
TOA0	**Torodi Ar. Sit**	**145.03**	**285**	*e*PKPdf	PKPdf	17 38 44.0	-1.2
TORD	**Torodi Ar. Bea**	**145.03**	**285**	PKPbc	PKPbc	17 38 44.0	-1.1
	120nm,0.3s,baz=50,slow=2.6,SNR=1.7						

CSEM **27** *17:30:07.8*±*0.1,3941N*×*2076E,h10km,MD4.0,Error ellipse: s-maj=2.7km s-min=1.5km az=178.0*
MOS **27** *17:30:09.6*±*1.8,3969N*×*2068E,h23km,mb3.8/6,Error ellipse: s-maj=11.2km s-min=5.7km az=92.2*
NEIC **27** *17:30:09.6,3976N*×*2070E,h24km,mb3.9/1,MD4.0(ATH), ML3.4(PDG),After ATH.*
ATH **27** *17:30:09.6,3976N*×*2070E,h24km,MD3.7/9*
ISCJB **27** *17:30:10.5*±*0.4,3968N*±*003*×*2062E*±*003,h19km*±*4km, mb3.8/7,Error ellipse: s-maj=4.4km s-min=3.2km az=18.0*
PDG **27** *17:30:10.8*±*0.6,3976N*×*2067E,h15km*±*1km,ML3.4/10, Error ellipse: s-maj=1.2km s-min=1.4km az=0.0*
THE **27** *17:30:10.9,3977N*×*2068E,h0km*±*2km, ML4.1/4,Error ellipse: s-maj=2.2km s-min=0.9km az=267.0*
BEO **27** *17:30:11.0,3966N*×*2048E,h24km,ML3.6/1*
TIR **27** *17:30:13.8*±*5.3,4027N*×*2021E,h6km*±*29km,ML3.4*
IDC **27** *17:30:13.9*±*9.7,3963N*×*2032E,h79km*±*65km,mb3.3/6, mb1 3.4/7,mb1mx3.3/22,mbtmp3.3/7,ML3.5/1,Error ellipse: s-maj=88.7km s-min=32.3km az=16.0*
ISC 27 17:30:10.8±0.4,**3968N**±003×**2066E**±002,**h14**km±3km, **n117,**σ1§**22/158,mb3.8/7,8C-16D,Greece-Albania border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAN	**Janina**	**0.15**	**97**	*e*Pb	**Pg**	**17 30 14.6**	**+0.1**
JAN				*e*Sb	**Sg**	**17 30 17.9**	**+0.7**
JAN	**Janina**	**0.15**	**97**	*e*PB	**Pg**	**17 30 14.6**	**+0.1**
JAN				*e*SB	**Sg**	**17 30 17.9**	**+0.7**
MEV	**Metsovon**	**0.45**	**76**	P	**Pg**	**17

BEY	**Berane**	**3.24**	**350**	⇓	*i*Pn		**Pn**	**17 31 02.1**	**+0.8**
BEY					*e*Sn		**Sn**	**17 31 40.3**	**+0.6**
IVA	**Berane**	**3.24**	**350**	⇓	*i*Pn		**Pn**	**17 31 02.1**	**+0.8**
IVA					*e*Sn		**Sn**	**17 31 40.3**	**+0.6**
SG1	**Sgolgore (BA)**	**3.26**	**292**		*e*Pn		**Pn**	**17 31 00.7**	**-0.8**
NKY	**Niksic**	**3.37**	**339**	⇑	*i*Pn		**Pn**	**17 31 03.8**	**+0.8**
NKY					*e*Sn		**Sn**	**17 31 43.6**	**+0.7**
NKY	**Niksic**	**3.37**	**339**		*i* PG		**Sn**	**17 31 03.8**	**+0.8**
NKY					*i* SG		**Sn**	**17 31 43.6**	**+0.7**
TREB	**Trebinje**	**3.50**	**331**		*e*Pn		**Pn**	**17 31 03.4**	**-1.4**
TREB					*e*Sn		**Sn**	**17 31 44.3**	**-1.7**
BRY	**Bratogost**	**3.59**	**334**	⇓	*i*Pn		**Pn**	**17 31 06.2**	**+0.1**
BRY					*e*Sn		**Sn**	**17 31 48.1**	**-0.2**
CUC	**Castrocucco**	**3.74**	**276**		*e*Pn		**Pn**	**17 31 07.8**	**-0.3**
CUC	**Castrocucco**	**3.74**	**276**		P		**Pn**	**17 31 11.9**	**+3.8**
CUC	**Castrocucco**	**3.74**	**276**		*e*Pn		**Pn**	**17 31 07.8**	**-0.3**
CUC					P			17 31 11.9	
UPM	**Unac-Piva**	**3.76**	**340**	⇑	*i*Pn		**Pn**	**17 31 09.3**	**+0.9**
UPM					*e*Sn		**Sn**	**17 31 52.4**	**0.0**
PLE	**Pljevlja**	**3.77**	**346**	⇓	*i*Pn		**Pn**	**17 31 08.5**	**0.0**
PLE					*e*Sn		**Sn**	**17 31 51.9**	**-0.8**
FGMS	**Monte Sant'Ang**	**4.11**	**301**		Pn		**Pn**	**17 31 12.6**	**-0.6**
GRUS	**Gruza**	**4.21**	**1**		*e*Pn		**Pn**	**17 31 12.2**	**-2.3**
BOLS	**Boljevac**	**4.26**	**13**		*e*Pn		**Pn**	**17 31 15.5**	**+0.3**
BOLS					*e*Sn		**Sn**	**17 32 03.6**	**-1.1**
BBLS	**Lazići**	**4.29**	**348**		*e*Pn		**Pn**	**17 31 15.4**	**-0.2**
RGNG	**Rignano Grg**	**4.34**	**299**		Pn		**Pn**	**17 31 16.2**	**-0.2**
FG5	**Orsara di Pugl**	**4.41**	**293**		Pn		**Pn**	**17 31 18.8**	**+1.5**
FGSL	**Fruska Gora**	**5.51**	**354**		*e*Pn		**Pn**	**17 31 31.8**	**-0.6**
FGSL					*e*Sn		**Sn**	**17 32 31.0**	**-4.6**
NRCA	**Norcia**	**6.50**	**301**		Pn		**Pn**	**17 31 46.2**	**+0.2**
	7.7nm,0.4s								
VOIR		**6.61**	**28**	⇓	*i*P		**Pn**	**17 31 49.9**	**+2.5**
VOIR		**6.61**	**28**	⇓	P		**Pn**	**17 31 49.9**	**+2.4**
PKSM	**Moragy**	**6.70**	**348**	⇓	*i*P		**Pn**	**17 31 47.6**	**-1.1**
PKSM	**Moragy**	**6.70**	**348**	⇓	P		**Pn**	**17 31 47.6**	**-1.1**
MLR	**Muntele Rosu**	**7.00**	**32**	⇓	*i*P		**Pn**	**17 31 56.7**	**+3.9**
MLR	**Muntele Rosu**	**7.00**	**32**	⇓	P		**Pn**	**17 31 56.7**	**+3.9**
FSSB	**Fossombrone**	**7.13**	**307**		Pn		**Pn**	**17 31 53.3**	**-1.4**
TIRR	**Tirgusor**	**7.49**	**48**	⇓	*i*P		**Pn**	**17 31 53.3**	**-6.2**
TIRR	**Tirgusor**	**7.49**	**48**	⇓	P		**Pn**	**17 31 53.3**	**-6.3**
PLOR	**Plostina**	**7.58**	**34**	⇓	*i*P		**Pn**	**17 32 03.9**	**+3.1**
VRI	**Vrincioaia**	**7.63**	**34**	⇑	*i*P		**Pn**	**17 32 04.3**	**+2.9**
VRI	**Vrincioaia**	**7.63**	**34**	⇑	P		**Pn**	**17 32 04.3**	**+2.9**
VOY	**Vojsko**	**8.06**	**324**		*e*Pn		**Pn**	**17 32 06.2**	**-1.2**
VOY					*e*Sn		**Sn**	**17 33 32.7**	**-5.6**
BURAR	**Bucovina Array**	**8.59**	**21**	⇓	*i*P		**Pn**	**17 32 25.8**	**+11**
BURAR	**Bucovina Array**	**8.59**	**21**	⇓	P		**Pn**	**17 32 25.8**	**+11**
BUR08	**Bucovina Ar. S**	**8.62**	**21**		Pn		**Pn**	**17 32 18.1**	**+3.1**
BUR08	**Bucovina Ar. S**	**8.62**	**21**		Pn		**Pn**	**17 32 18.1**	**+3.1**
GERES	**GERESS Array B**	**10.43**	**334**		P		**Pn**	**17 32 39.5**	**-0.4**
	0.1nm,0.3s,baz=160,slow=14,SNR=6.1								
HFS	**Hagfors**	**20.94**	**350**		P		**P**	**17 34 49.5**	**-3.4**
	2.4nm,0.8s,baz=165,slow=12,SNR=4.8								
HFS	**Hagfors**	**20.94**	**350**		P		**P**	**17 34 49.5**	**-3.4**
HFS					pmax	pmax			
	comp=Z,2.0nm,0.8s								
NOA	**NORSAR Array B**	**22.18**	**348**		P		**P**	**17 35 04.1**	**-2.1**
	comp=Z,0.7nm,0.6s,mb3.2,baz=153,slow=10,SNR=3.2								
NOA	**NORSAR Array B**	**22.18**	**348**		P		**P**	**17 35 04.1**	**-2.0**
NOA					pmax	pmax			
	comp=Z,1.0nm,0.6s								
NOA	**NORSAR Array B**	**22.18**	**348**		P		**P**	**17 35 04.1**	**-2.1**
KAF	**Kangasniemi**	**22.73**	**7**		*e*p		**P**	**17 35 08.2**	**-3.8**
	comp=Z,2.8nm,0.7s,mb3.8								
KAF	**Kangasniemi**	**22.73**	**7**		*e*P		**P**	**17 35 08.2**	**-3.8**
KAF					pmax	pmax			
	comp=Z,3.0nm,0.7s,mb3.8								
JOF	**Joensuu**	**24.14**	**12**		*e*p		**P**	**17 35 22.4**	**-3.6**
ARCES	**ARCESS Array B**	**30.03**	**3**		P		**P**	**17 36 15.5**	**-3.3**
	comp=Z,1.7nm,0.8s,mb3.8,baz=182,slow=8.3,SNR=4.0								
ARCES	**ARCESS Array B**	**30.03**	**3**		P		**P**	**17 36 15.5**	**-3.4**
ARCES					pmax	pmax			
	comp=Z,2.0nm,0.9s								
MKAR	**Makanchi Array**	**44.44**	**60**		P		**P**	**17 38 19.3**	**-1.8**
	comp=Z,0.8nm,0.5s,mb3.7,baz=275,slow=7.7,SNR=19								
MKAR	**Makanchi Array**	**44.44**	**60**		P		**P**	**17 38 19.3**	**-1.8**
MKAR					pmax	pmax			
	comp=Z,1.0nm,0.5s								
MKAR	**Makanchi Array**	**44.44**	**60**		P		**P**	**17 38 19.3**	**-1.8**
ZALV	**Zalesovo Beam**	**44.62**	**49**		P		**P**	**17 38 19.6**	**-2.9**
	comp=Z,0.4nm,0.4s,mb3.6,baz=290,slow=8.6,SNR=2.3								
SONM	**Songino Array**	**59.43**	**51**		P		**P**	**17 40 09.6**	**-3.2**
	comp=Z,0.5nm,0.9s,mb3.5,baz=270,slow=4.3,SNR=3.0								
SONM	**Songino Array**	**59.43**	**51**		P		**P**	**17 40 09.6**	**-3.2**
SONM					pmax	pmax			
	comp=Z,1.0nm,0.9s								
NVAR	**Mina Array Bea**	**93.65**	**329**		P		**P**	**17 43 21.4**	**-5.4**
	comp=Z,0.7nm,0.2s,mb4.7,baz=49,slow=3.8,SNR=15								

ISCJB ***27*** *17:30:11.6±1.0, 893N±008×1258E±0.1, h22km±11km, Error ellipse: s-maj=19.8km s-min=9.5km az=145.4*
MAN ***27*** *17:30:11, 889N×12574E, h11km, mb4.4, ML3.2, MS3.1*
ISC 27 17:30:11.6±1.3, 895N±008×12580E±010, h19km±9km, n9, σ1º03/12, 1C-2D, Mindanao

Code	Station Name	Δ°	AZ°		Phase ID Op	ISC	Time h m s	Res ISC
BUTP	**Butuan**	**0.17**	**278**		*e*P	**Pg**	**17 30 16.0**	**-0.3**
SCPH	**Surigao**	**0.89**	**340**	⇓	*e*P	**Pb**	**17 30 28.9**	**+0.5**
SCPH					*e*S	**Sb**	**17 30 44.5**	**+4.7**
BIPH	**Bislig**	**0.94**	**143**	⇓	*e*P	**Pb**	**17 30 28.3**	**-1.0**
CGP	**Cagayan de Oro**	**1.19**	**246**	⇑	*e*P	**Pn**	**17 30 37.0**	**+3.7**
CGP					*e*S	**Sb**	**17 30 57.0**	**+8.3**
BUKP	**Musuan**	**1.28**	**214**		*e*P	**Pn**	**17 30 33.7**	**-0.9**
MSLP	**Maasin**	**1.50**	**322**		*e*P	**Pn**	**17 30 37.5**	**-0.1**
MATI	**Mati**	**2.04**	**167**		*e*P	**Pn**	**17 30 45.6**	**+0.7**
TBP	**Tagbilaran**	**2.05**	**291**		*e*P	**Pn**	**17 30 45.1**	**+0.1**
TBP					*e*S	**Sn**	**17 31 07.9**	**-2.2**
PAGZ	**Pagadian**	**2.62**	**246**		*e*P	**Pn**	**17 30 54.3**	**+1.3**

CSEM ***27*** *17:47:58.9±0.1, 3975N×3890E, h8km, MD3.1, Error ellipse: s-maj=2.8km s-min=2.3km az=91.0*
ISCJB ***27*** *17:47:59.7±0.4, 3974N±002×3891E±004, h10km, Error ellipse: s-maj=4.0km s-min=3.3km az=17.7*
DDA ***27*** *17:47:59.1, 3973N×3878E, h7km±7km, Md3.0*
ISK ***27*** *17:47:59.0, 3976N×3888E, h7km, MD3.1*
ISC 27 17:47:59.2±0.5, 3977N±002×3892E±004, h1km±5km, n23, σ0º92/35, Turkey

Code	Station Name	Δ°	AZ°		Phase ID Op	ISC	Time h m s	Res ISC
KEMA	**Kemaliye**	**0.60**	**214**		*i* P	**Pg**	**17 48 09.5**	**-1.1**
KEMA					*i* S	**Sg**	**17 48 17.4**	**-0.9**
EZC	**Erzincan**	**0.69**	**91**		PG	**Pg**	**17 48 06.6**	**-5.8**
GUMT	**Gumushane**	**0.81**	**32**		PG	**Pg**	**17 48 15.8**	**+0.9**
PTK	**Pertek**	**0.95**	**157**		*e*PG	**Pg**	**17 48 17.7**	**+0.4**
PTK					*e*SG	**Sg**	**17 48 31.3**	**+1.7**
ESPY	**Espiye-Giresun**	**1.16**	**353**		*e*PN	**Pn**	**17 48 21.6**	**-0.8**
ESPY					*e*SN	**Sn**	**17 48 38.1**	**-0.8**
DARE	**Darende-Malaty**	**1.19**	**227**		*e*PN	**Pn**	**17 48 28.7**	**+5.8**
KOPT	**Kop Dagi**	**1.24**	**78**		*i* P	**Pg**	**17 48 24.1**	**+1.1**
KOPT					*i* S	**Sg**	**17 48 45.3**	**+6.3**
GRSN	**GIRESUNGRSN**	**1.26**	**337**		*i* P	**Pg**	**17 48 23.3**	**0.0**
GRSN					*i* S	**Sg**	**17 48 39.8**	**+0.2**
ELZG	**Elazig**	**1.27**	**178**		*i* P	**Pg**	**17 48 22.6**	**-0.9**
ELZG					*i* S	**Sg**	**17 48 39.2**	**-0.7**
KTUT	**Trabzon**	**1.38**	**28**		*e*PN	**Pn**	**17 48 25.1**	**-0.5**
KTUT					*e*SN	**Sn**	**17 48 45.6**	**+1.2**
SVRC	**Sivrice-ELAZID**	**1.42**	**168**		*e*PN	**Pn**	**17 48 25.2**	**-0.8**
SVSK	**Karacayir**	**1.49**	**276**		*e*PN	**Pn**	**17 48 26.5**	**-0.5**
SVSK					*e*SN	**Sn**	**17 48 46.3**	**-0.7**
AKCD	**Akcadag**	**1.66**	**208**		*i* P	**Pn**	**17 48 29.0**	**-0.4**
AKCD					*i* S	**Sn**	**17 48 52.6**	**+1.3**
EZM	**Erzurum**	**1.89**	**85**		*e*PN	**Pn**	**17 48 33.0**	**+0.5**
ERZM	**Erzurum**	**1.89**	**85**		*i* P	**Pn**	**17 48 30.4**	**-2.1**
ERZM					*i* S	**Sg**	**17 49 04.1**	**+4.2**
SARI	**SarD1z-Kayseri**	**2.04**	**238**		*e*PN	**Pg**	**17 48 39.7**	**+1.5**
DBAD	**Bademkaya**	**2.46**	**59**		*i* P	**Pg**	**17 48 45.7**	**-0.7**
DBAD					*i* S	**Sg**	**17 49 17.5**	**-0.8**
BNN	**Bunyan**	**2.55**	**250**		*e*PN	**Pn**	**17 48 42.1**	**+0.5**
DAGI	**Agillar**	**2.63**	**59**		*i* P	**Pg**	**17 48 49.0**	**-0.7**
DAGI					*i* S	**Sg**	**17 49 24.0**	**+0.2**
BCA	**Borcka**	**2.66**	**50**		*e*PN	**Pn**	**17 48 44.0**	**+1.0**
AVNT	**Avonos**	**3.30**	**254**		*e*P	**Pn**	**17 48 56.9**	**+4.9**
CORM	**Corum**	**3.32**	**278**		*e*PN	**Pn**	**17 48 53.1**	**+0.9**
CDAG	**Cicekdag**	**3.51**	**269**		*i* P	**Pb**	**17 49 03.1**	**+1.0**

TRN 27 17:49:42.1, 1245N×5949W, h67km, MD3.9, 2C-5D, Windward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TOSP	**Speyside**	**1.54**	**222**	*e*P	Pn	17 50 07.9	+0.4
TOSP				*e*S	Sn	17 50 24.5	-2.0
SVB	**Belmont**	**1.90**	**296**	*e*P	Pn	17 50 14.9	+2.5
SVB				*e*S	Sn	17 50 38.3	+2.9
GRCU	**Cariacou**	**1.92**	**271**	⇓*i*P	Pn	17 50 14.1	+1.5
GRCU				*e*S	Sn	17 50 36.6	+0.9
GRIC	**Isle de Caille**	**2.05**	**266**	*e*P	Pn	17 50 16.5	+2.1
GRIC				*e*S	Sn	17 50 40.0	+0.9
GRSS	**Sisters**	**2.08**	**266**	*e*P	Pn	17 50 16.9	+2.1
GRSS				*e*S	Sn	17 50 41.0	+1.3
GRHS	**Sauteurs**	**2.11**	**264**	*e*P	Pn	17 50 14.0	-1.2
GRHS	**Sauteurs**	**2.11**	**264**	*e*P	Pn	17 50 16.4	+1.2
GRHS				*e*S	Sn	17 50 41.7	+1.2
GRW	**Mount Saint Ca**	**2.14**	**262**	*e*P	Pn	17 50 17.2	+1.6
GRW				*e*S	Sn	17 50 42.2	+1.0
MVM	**Montagne Vaucl**	**2.50**	**327**	⇑*e*P	Pn	17 50 21.5	+1.0
MVM				⇑*e*S	Sn	17 50 50.5	+0.6
BIM	**Bigot**	**2.56**	**323**	⇓*e*P	Pn	17 50 22.5	+1.1
BIM				⇓*e*S	Sn	17 50 52.1	+0.6
TRN	**Trinidad (W)**	**2.59**	**226**	*e*S	Sn	17 50 50.9	-1.3
FDF	**Fort de France**	**2.78**	**325**	⇓*e*P	Pn	17 50 25.9	+1.5
FDF				⇓*e*S	Sn	17 50 57.5	+0.6
TCE	**Chacachacare**	**2.82**	**232**	*e*S	Sn	17 50 55.4	-2.4
TBG	**Guadaloupe-3**	**3.98**	**329**	*e*P	Pn	17 50 42.3	+1.7
SCG	**Saint Claude**	**4.14**	**329**	*e*P	Sn	17 51 31.1	+1.0

ISCJB ***27*** *18:12:51.6±0.6, 4445N±006×8691E±010, h10km, mb4.5/2, Error ellipse: s-maj=12.7km s-min=5.4km az=138.6*
BJI ***27*** *18:12:52.2, 4418N×8671E, h15km, ML3.4*
NNC ***27*** *18:12:52.7±1.3, 4425N×8673E, h0km, mb3.6, mpv3.3, Error ellipse: s-maj=13.7km s-min=7.2km az=67.0*
NEIC ***27*** *18:12:57.9±1.8, 4447N×8635E, h10km, mb4.6/2, Error ellipse: s-maj=29.6km s-min=15.5km az=186.0*
IDC ***27*** *18:12:59.0±3.9, 4474N×8639E, h0km, mb1 3.6/5, mb1mx3.4/25, mbtmp3.6/5, ML3.5/5, Error ellipse: s-maj=47.7km s-min=28.7km az=12.0*
MOS ***27*** *18:13:00.6±1.4, 4480N×8639E, h33km, mb4.6/1, Error ellipse: s-maj=35.0km s-min=16.3km az=122.7*
ISC 27 18:12:53.6±0.6, 4437N±006×8687E±009, h10km, n20, σ1º05/26, mb4.5/2, 8C-2D, Northern Xinjiang

Code	Station Name	Δ°	AZ°		Phase ID Op	ISC	Time h m s	Res ISC
WMQ	**Urumqi**	**0.81**	**133**	⇑	*i*PG	**Pg**	**18 13 07.0**	**-2.1**
WMQ					SG	**Sg**	**18 13 20.8**	**+1.2**
WMQ					Smax			
	comp=N,2μm,2.0s							
MK31	**Makanchi Array**	**4.03**	**309**	⇑	Pn	**Pn**	**18 13 55.8**	**+0.6**
	comp=N,0.5nm,0.3s,baz=152,slow=13,SNR=90							
MK31					Pg	**Pg**	**18 14 05.5**	**-5.2**
	comp=N,4.8nm,0.6s,baz=126,slow=17,SNR=28							
MK31				⇑	Sn	**Sn**	**18 14 44.7**	**+2.2**
	comp=N,5.1nm,0.3s,baz=126,slow=20,SNR=3.6							
MK31				⇓	Lg		18 15 01.2	
	comp=N,22nm,0.4s,baz=124,slow=28,SNR=7.3							
MK31	**Makanchi Array**	**4.03**	**309**		*e*PN	**Pn**	**18 13 55.9**	**+0.7**
MK31					*e*		18 14 06.5	
MK31	**Makanchi Array**	**4.03**	**309**		*e*Pn	**Pn**	**18 13 55.9**	**+0.7**
MK31					*e*Pg	**Pg**	**18 14 06.5**	**-4.2**
MK31					*e*Sn	**Sn**	**18 14 34.5**	**-8.0**
MKAR	**Makanchi Array**	**4.03**	**309**		Pn	**Pn**	**18 13 55.8**	**+0.6**
	comp=N,0.9nm,0.3s,baz=129,slow=14,SNR=40							
MKAR					Pg	**Pg**	**18 14 05.2**	**-5.5**
	comp=N,2.9nm,0.3s,baz=126,slow=18,SNR=35							
MKAR					Lg		18 14 57.6	
	comp=N,8.3nm,0.3s,baz=119,slow=29,SNR=7.0							
MKAR	**Makanchi Array**	**4.03**	**309**		PN	**Pn**	**18 13 55.8**	**+0.6**
MKAR							18 14 57.7	
MKAR					pmax	pmax		
	comp=Z,1.0nm,0.3s							
MKAR					pmax	pmax		
	comp=Z,3.0nm,0.3s							
TKM2	**Tokmak 2**	**8.31**	**264**	⇑	Pn	**Pn**	**18 14 53.5**	**-0.5**
	comp=Z,4.3nm,1.0s							
TKM2				⇑	Lg		18 17 12.1	
	comp=Z,9.9nm,1.1s							
KURK	**Kurchatov**	**8.45**	**322**	⇓	Lg		18 17 21.0	
	comp=Z,13nm,1.1s							
KURK	**Kurchatov**	**8.45**	**322**		Pn	**Pn**	**18 14 55.8**	**-0.1**
	comp=Z,0.3nm,0.3s,baz=131,slow=13,SNR=4.8							
KURK					Sn	**Sn**	**18 16 24.7**	**-6.6**
	comp=Z,0.7nm,0.3s,baz=146,slow=25,SNR=3.4							
KURK	**Kurchatov**	**8.45**	**322**		P	**Pn**	**18 14 55.8**	**-0.1**
KURK							18 16 24.7	
KURK					smax			
	comp=N,1.0nm,0.3s							
ZALV	**Zalesovo Beam**	**9.68**	**353**		Pn	**Pn**	**18 15 13.1**	**+0.4**
	comp=N,2.8nm,0.3s,baz=175,slow=13,SNR=24							
ZALV					Sn	**Sn**	**18 17 00.2**	**-1.2**
	comp=N,1.6nm,0.3s,baz=169,slow=26,SNR=18							
ZALV	**Zalesovo Beam**	**9.68**	**353**		P	**Pn**	**18 15 13.1**	**+0.3**
ZALV							18 17 00.2	
ZALV					pmax	pmax		
	comp=Z,3.0nm,0.3s							
ZALV					smax			
	comp=N,2.0nm,0.3s							
KK31	**Karatay Array**	**11.91**	**270**	⇑	Pn	**Pn**	**18 15 41.3**	**-2.0**
	comp=N,1.3nm,0.8s,baz=70,slow=13,SNR=7.3							
KK31				⇑	Lg		18 19 06.8	
	comp=N,0.9nm,0.6s,baz=68,slow=14,SNR=4.0							
VOSK	**Vostochnaya**	**13.42**	**314**	⇑	Lg		18 19 58.3	
	comp=N,5.3nm,1.4s							
BVAR	**Borovoye Array**	**13.88**	**314**		Pn	**Pn**	**18 16 11.1**	**+0.9**
	comp=N,0.3nm,0.3s,baz=107,slow=12,SNR=3.7							
SONM	**Songino Array**	**13.98**	**69**		Pn	**Pn**	**18 16 21.3**	**+10**
	comp=N,0.1nm,0.3s,baz=259,slow=11,SNR=7.0							
AB31	**Akbulak array**	**19.02**	**294**		P	**Pn**	**18 17 16.3**	**+0.2**
	comp=N,5.6nm,1.9s,baz=32,slow=3.6,SNR=3.6							
CSS	**Prodhromos**	**41.62**	**276**		*e*P	**P**	**18 20 42.4**	**+0.6**
	comp=N,21nm,1.2s,mb4.7							
PSZ	**Piszkesteto**	**45.23**	**299**		P	**P**	**18 21 10.4**	**-0.2**
PSZ					pmax	pmax		
	comp=Z,4.0nm,0.9s,mb4.2							
PSZ	**Piszkesteto**	**45.23**	**299**		P	**P**	**18 21 10.4**	**-0.2**
	comp=Z,4.3nm,0.9s,mb4.3							

ISK ***27*** *18:14:40.6, 3851N×3236E, h17km, MD3.0*
DDA ***27*** *18:14:41.3, 3853N×3231E, h11km±2km, Md2.9*
CSEM ***27*** *18:14:41.6±0.1, 3844N×3217E, h5km, MD2.9, Error ellipse: s-maj=3.5km s-min=2.2km az=49.0*
ISCJB ***27*** *18:14:42.6±0.5, 3845N±003×3221E±004, h7km±4km, Error ellipse: s-maj=6.4km s-min=3.8km az=138.4*
ISC 27 18:14:43.0±0.5, 3845N±003×3219E±004, h6km±4km, n22, σ0º95/34, Turkey

Code	Station Name	Δ°	AZ°		Phase ID Op	ISC	Time h m s	Res ISC
KDHN	**Kadinhani**	**0.09**	**320**		*i* P	**Pg**	**18 14 45.0**	**0.0**
KDHN					*i* S	**Sg**	**18 14 47.0**	**+0.5**
KDHN	**Kadinhani**	**0.09**	**320**		*i* P	**Pg**	**18 14 45.0**	**0.0**
LADK	**Ladik-KONYA**	**0.28**	**151**		PG	**Pg**	**18 14 48.2**	**-0.3**
LADK					SG	**Sg**	**18 14 52.1**	**-0.1**
KIZT	**Kizilcal**	**0.49**	**330**		PG	**Pg**	**18 14 51.9**	**-0.6**
KIZT					SG	**Sg**	**18 14 59.2**	**+0.2**
KONT	**Konya--Tatoy**	**0.52**	**165**		PG	**Pg**	**18 14 52.4**	**-0.6**
KONT					SG	**Sg**	**18 15 00.2**	**+0.5**
SHUT	**Suhut-Afyon**	**1.29**	**275**		*e*PN	**Pn**	**18 15 06.2**	**-1.3**
SHUT					*e*SN	**Sn**	**18 15 24.8**	**-0.3**
ANTO	**Ankara**	**1.49**	**18**		*e*PN	**Pn**	**18 15 06.5**	**-3.8**
ESKT	**Eskisehir**	**1.50**	**316**		*i* P	**Pn**	**18 15 10.8**	**+0.4**
ESKT					*i* S	**Sn**	**18 15 30.8**	**+0.6**
SEYT	**Eskypehyr**	**1.50**	**316**		*i* P	**Pn**	**18 15 10.8**	**+0.5**
SEYT					*i* S	**Sn**	**18 15 30.8**	**+0.6**
LOD	**Lodumlu**	**1.50**	**17**		*e*PN	**Pn**	**18 15 05.6**	**-4.9**
BCK	**Bucak**	**1.61**	**233**		*e*PN	**Pn**	**18 15 11.1**	**-0.7**
ALT	**Altintas**	**1.74**	**291**		*e*PN	**Pn**	**18 15 12.9**	**-0.8**
ERMK	**Ermenek**	**1.89**	**162**		*e*P	**Pn**	**18 15 17.8**	**+2.0**
ERMK					*i* S	**Sn**	**18 15 44.1**	**+4.2**
BORA	**Eskisehir**	**1.97**	**317**		*i* P	**Pn**	**18 15 17.3**	**+0.5**
BORA					*i* S	**Sn**	**18 15 42.6**	**+0.8**
CDAG	**Cicekdag**	**2.06**	**55**		*i* P	**Pn**	**18 15 19.5**	**+1.3**
CDAG					*i* S	**Sn**	**18 15 43.9**	**-0.3**
KHL	**Karahalli**	**2.10**	**267**		*e*PN	**Pn**	**18 15 17.8**	**-0.8**
AVNT	**Avonos**	**2.11**	**80**		*i* P	**Pn**	**18 15 18.8**	**0.0**
AVNT					*i* S	**Sn**	**18 15 44.7**	**-0.7**
KHAL	**Karahalli**	**2.12**	**269**		*e*P	**Pn**	**18 15 21.3**	**+2.4**
GULT	**Gulveren**	**2.37**	**327**		*e*PN	**Pn**	**18 15 20.1**	**-2.2**
CORM	**Corum**	**2.56**	**47**		*e*PN	**Pn**	**18 15 20.2**	**-4.8**
ULDT	**Uludag**	**2.91**	**306**		*i* P	**Pn**	**18 15 29.9**	**+0.1**
CTKT	**Corum**	**2.96**	**42**		*i* P	**Pn**	**18 15 36.0**	**+5.6**
CTKT					*i* S	**Sn**	**18 16 15.4**	**+9.2**

ISCJB ***27*** *18:21:40.0±0.2, 1241N±002×12529E±003, h38km, mb4.9/88, MS4.0/27, Error ellipse: s-maj=3.8km s-min=2.8km az=177.3*
MAN ***27*** *18:21:40, 1243N×12525E, h32km, mb5.2, ML4.1, MS4.3*
MAN INTENSITY II - BORONGAN, EASTERN SAMAR.
IDC ***27*** *18:21:41.1±0.5, 1218N×12515E, h39km±3km, mb4.5/28, mb1 4.6/29, mb1mx4.5/31, mbtmp4.5/29, ML4.7/1, MS4.0/22, Ms1 4.0/22, ms1mx3.8/39, Error ellipse: s-maj=18.6km s-min=8.4km az=71.0*
MOS ***27*** *18:21:41.3±0.9, 1222N×12515E, h57km, mb5.2/20, Error ellipse: s-maj=13.6km s-min=6.0km az=120.0*
BJI ***27*** *18:21:42.5, 1212N×12520E, h79km, mB5.1, mb4.8, Ms4.4, Msz4.2*
NEIC ***27*** *18:21:44.2±0.8, 1222N×12508E, h66km±7km, mb5.1/40, Error ellipse: s-maj=5.6km s-min=3.6km az=67.0*
NEIC Felt [II PIVS] at Borongan.
DJA ***27*** *18:22:02, 1169N×12462E, h144km, Mw5.3/8*
ISC 27 18:21:41.8±0.2, 1236N±002×12526E±003, h40km, h40km±1.0km: pP-P, n250, σ1º06/259, mb4.9/88, MS4.0/27, 17C-23D, Samar

Code	Station Name	Δ°	AZ°		Phase ID Op	ISC	Time h m s	Res ISC
CNP	**Catarman**	**0.60**	**285**		*e*P	**Pn**	**18 21 53.0**	**-0.9**
CNP					*e*S	**Sn**	**18 22 01.7**	**-0.8**
BESP	**Borongan**	**0.77**	**167**		*e*P	**Pn**	**18 21 56.7**	**+0.5**
PLP	**Palo**	**1.22**	**193**	⇑	*e*P	**Pn**	**18 22 02.6**	**+0.3**
PLP					*e*S	**Sn**	**18 22 17.3**	**-0.3**
OCLP	**Ormoc**	**1.45**	**206**		*e*P	**Pn**	**18 22 06.9**	**+1.4**
MMPH	**Masbate**	**1.60**	**270**	⇓	*e*P	**Pn**	**18 22 07.5**	**-0.1**
MMPH					*i* S	**Sn**	**18 22 27.1**	**+0.1**
PVCP	**Virac**	**1.64**	**319**		*e*P	**Pn**	**18 22 08.8**	**+0.7**
MSLP	**Maasin**	**2.25**	**190**		*e*P	**Pn**	**18 22 18.6**	**+2.1**
LLP	**Lapu-Lapu**	**2.39**	**212**		*e*P	**Pn**	**18 22 18.4**	**-0.1**
LLP					*e*S	**Sn**	**18 22 48.6**	**+2.0**
SCPH	**Surigao**	**2.57**	**175**	⇑	*e*P	**Pn**	**18 22 21.7**	**+0.8**
SCPH					*e*S	**Sn**	**18 22 55.2**	**+4.3**
RCP	**Roxas**	**2.59**	**252**	⇓	*e*P	**Pn**	**18 22 21.5**	**+0.4**
RCP					*e*S	**Sn**	**18 22 52.3**	**+0.9**
AUQP	**San Andres**	**2.70**	**291**		*e*P	**Pn**	**18 22 24.6**	**+2.0**
KALP	**Kalibo**	**2.94**	**257**	⇑	*e*P	**Pn**	**18 22 30.9**	**+4.9**
TBP	**Tagbilaran**	**2.98**	**208**		*e*P	**

comp=Z,9,8nm,0.8s,mb4.4,baz=181,slow=10,SNR=40
KSRS pP pP 18 27 14.6 +0.8
comp=Z,7.6nm,0.9s,baz=181,slow=10,SNR=7.5
KSRS LR LR 18 35 38.5
comp=Z,260nm,20.8s,MS3.7,baz=181,slow=33
KAKA Kakadu 25.90 164 *eP* **P 18 27 02.0 -8.2**
comp=Z,22nm,0.6s,mb4.9
CM31 Chiang Mai Arr 26.07 287 *eP* **P 18 27 10.7 -1.0**
comp=Z,17nm,0.8s,mb4.6
CMAR Chiang Mai Arr 26.07 287 P **P 18 27 10.8 -0.9**
comp=Z,14nm,0.9s,mb4.5,baz=95,slow=7.5,SNR=83
CMAR pP pP 18 27 22.1 -0.6
comp=Z,6.5nm,0.9s,baz=102,slow=7.0,SNR=7.7
CMAR PP 18 27 47.2
comp=Z,5.6nm,1.0s,baz=98,slow=8.6,SNR=4.0
CMAR PcP PcP 18 30 38.5 -0.4
comp=Z,3.2nm,0.8s,baz=83,slow=0.4,SNR=14
CMAR ScP ScP 18 34 13.7 -1.9
comp=Z,1.0nm,1.0s,baz=93,slow=1.8,SNR=4.2
CMAR LR LR 18 37 55.1
comp=Z,201nm,18.9s,MS3.7,baz=110,slow=37
CMAR Chiang Mai Arr 26.07 287 P **P 18 27 10.8 -0.9**
CMAR *PP pP 18 27 22.2 -0.5
CMAR 18 27 47.2
CMAR 18 30 38.6
CHTO Chiang Mai 26.13 288 *eP* **P 18 27 10.9 -1.4**
CHTO *e* 18 30 38.4
CHTO pmax pmax
comp=Z,7.0nm,0.8s,mb4.2
CHTO Chiang Mai 26.13 288 *eP* **P 18 27 10.9 -1.4**
comp=Z,7.1nm,0.8s,mb4.2
CHTO *e*PcP PcP 18 30 38.4 -0.7
XAN Xi'an 26.22 328 P **P 18 27 12.5 -0.4**
XAN AP pP 18 27 31.0 +7.1
XAN XP sP 18 27 42.5 +14
XAN PCP PcP 18 30 38.8 -0.2
XAN S **S 18 31 39.8 -2.6**
XAN PCS PcS 18 34 18.0 -2.0
XAN AMB AMB
comp=Z,83nm,0.9s,mb5.3
MJAR Matsushiro Arr 26.75 24 LR LR 18 36 28.6
comp=Z,440nm,19.0s,MS4.0,baz=220,slow=33
CD2 Chengdu 27.12 316 P **P 18 27 21.3 +0.3**
CD2 AP pP 18 27 40.8 +8.7
CD2 XP sP 18 27 50.8 +14
CD2 PP 18 28 10.3
CD2 S **S 18 31 52.5 -4.2**
CD2 XS sS 18 32 22.5 +7.4
CD2 SS 18 33 10.8
CD2 AMB AMB
comp=Z,50nm,1.1s,mb5.0
CD2 AMB AMB
comp=Z,210nm,10.2s
CD2 LR LR
comp=N,740nm,22.8s,MS4.3
CD2 LR LR
comp=E,620nm,19.2s,MS4.3
CD2 LR LR
comp=Z,870nm,21.6s,MS4.3
BJT Baijiatuau 28.70 345 P **P 18 27 34.5 -0.5**
BJT pmax pmax
comp=Z,18nm,0.9s
BJT Baijiatuau 28.70 345 P **P 18 27 34.5 -0.5**
comp=Z,18nm,0.9s,mb4.8
BJI Beijing 28.72 345 P **P 18 27 36.0 +0.8**
BJI S **S 18 32 20.8 -0.8**
BJI AMB AMB
comp=Z,18nm,0.8s,mb4.8
BJI AMB AMB
comp=Z,351nm,5.4s
BJI LR LR
comp=Z,128nm,37.8s,MS3.2
LZH Lanzhou 30.51 324 *eP* **P 18 27 52.5 +1.3**
LZH AP pP 18 28 11.3 +9.0
LZH XP sP 18 28 23.5 +16
LZH AMB AMB
comp=Z,51nm,1.5s,mb5.1
LZH AMB AMB
comp=Z,180nm,4.2s
LZH LR LR
comp=N,470nm,14.2s
LZH LR LR
comp=Z,756nm,15.6s,MS4.5
PMG Port Moresby 30.68 134 *eP* **P 18 27 50.8 -2.0**
HHC Hu-ho-hao-te 30.83 339 *eP* **P 18 27 55.0 +1.1**
HHC AP pP 18 28 16.5 +12
HHC XP sP 18 28 28.8 +19
HHC PP PP 18 29 01.3 -2.7
HHC PCP PcP 18 30 49.3 -1.0
HHC S **S 18 32 51.3 -3.5**
HHC XS sS 18 33 30.8 +18
HHC SCP ScP 18 34 21.3 -8.7
HHC PCS PcS 18 34 31.0 -3.2
HHC SS SS 18 34 42.8 -25
HHC SCS ScS 18 38 18.0 -8.6
HHC AMB AMB
comp=Z,19nm,1.2s,mb4.8
HHC AMB AMB
comp=Z,165nm,6.7s
HHC LR LR
comp=N,236nm,12.4s,MS4.5
HHC LR LR
comp=E,526nm,11.1s,MS4.5
HHC LR LR
comp=Z,245nm,11.7s,MS4.1
CN2 Changchun 31.33 0 *eP* **P 18 28 02.8 +4.5**
CN2 *e*XP sP 18 28 33.0 +19
CN2 *e*S **S 18 33 03.8 +1.2**
CN2 AMB AMB
comp=Z,10.0nm,0.6s,mb4.8
CN2 AMB AMB
comp=Z,200nm,3.0s
MDJ Mudanjiang 32.36 6 P **P 18 28 09.5 +2.2**
MDJ AMB AMB
comp=Z,11nm,0.9s,mb4.7
MDJ AMB AMB
comp=Z,220nm,5.1s
MDJ Mudanjiang 32.36 6 P **P 18 28 08.7 +1.4**
comp=Z,15nm,1.2s,mb4.7
WRAB Tennant Creek 33.31 164⇑ *iP* **P 18 28 13.8 -2.1**
WRAB Tennant Creek 33.31 164 *eP* **P 18 28 13.7 -2.2**
comp=Z,21nm,1.2s,mb5.0
GTA Gaotai 35.11 325⇑P **P 18 28 32.0 +0.7**
GTA AP pP 18 28 52.5 +10
GTA XP sP 18 29 02.5 +15
GTA PCP PcP 18 31 02.5 +0.2
GTA S **S 18 33 59.3 -2.1**
GTA AMB AMB
comp=Z,16nm,1.1s,mb4.9
GTA AMB AMB
comp=Z,195nm,3.9s
GTA LR LR
comp=N,157nm,16.2s,MS4.0
GTA LR LR
comp=E,153nm,17.1s,MS4.0
LSA Lhasa 36.03 304 *eP* **P 18 28 39.8 +0.5**
LSA *e* 18 31 05.7
LSA pmax pmax
comp=Z,20nm,1.0s,mb5.0
LSA Lhasa 36.03 304 *eP* **P 18 28 39.8 +0.5**
comp=Z,20nm,1.0s,mb5.0
LSA *e*PcP PcP 18 31 05.7 +0.5
ASAR Alice Springs 36.79 167 P **P 18 28 44.8 -1.0**
comp=Z,5.1nm,0.3s,mb4.8,baz=350,slow=7.7,SNR=124
ASAR pP pP 18 28 55.0 -2.1
comp=Z,8.6nm,0.6s,baz=350,slow=8.4,SNR=9.9
ASAR S **S 18 34 23.1 -4.1**
comp=Z,1.6nm,0.7s,baz=344,slow=14,SNR=8.2
HABR Khabarovsk 36.92 11 *eP* **P 18 28 46.3 -0.3**
HABR *e*S **S 18 34 29.0 +0.3**
HIA Hailar 37.08 354 *eP* **P 18 28 48.3 +0.3**
HIA pmax pmax
comp=Z,9.0nm,0.9s
HIA Hailar 37.08 354 *eP* **P 18 28 48.3 +0.3**
comp=Z,8.6nm,0.9s,mb4.6
KLR Kul'dur 37.15 7 *eP* **P 18 28 45.1 -3.5**
TAPN Taplejung 38.16 299 *eP* **P 18 28 57.4 -0.1**
comp=Z,47nm,1.0s,mb5.2
CTA Charters Tower 38.29 147 *eP* **P 18 28 58.8 +0.2**
comp=Z,4.3nm,1.1s,mb4.1
CTA Charters Tower 38.29 147 P **P 18 28 57.5 -1.0**
comp=Z,3.0nm,0.8s,mb4.0,baz=315,slow=12,SNR=4.2
CTA LR LR 18 45 12.4
comp=Z,199nm,20.0s,MS3.9,baz=156,slow=37
CTA Charters Tower 38.29 147 *eP* **P 18 28 58.8 +0.2**
CTA pmax pmax
comp=Z,4.0nm,1.1s
CTAO Charters Tower 38.29 147 *eP* **P 18 28 57.5 -1.1**
CTAO pmax pmax
comp=Z,7.0nm,1.0s,mb4.3
CTAO Charters Tower 38.29 147 *eP* **P 18 28 57.5 -1.1**
comp=Z,6.9nm,1.0s,mb4.3
ODAN Odare 38.31 298 *eP* **P 18 28 58.5 -0.3**
comp=Z,75nm,0.8s,mb5.5
ULN Ulaanbaatar 38.53 340 *eP* **P 18 29 01.5 +1.2**
ULN *e* pP 18 29 12.1 +0.5
ULN pmax pmax
comp=Z,12nm,0.9s,mb4.6
ULN Ulaanbaatar 38.53 340 *eP* **P 18 29 01.4 +1.1**
comp=Z,12nm,0.9s,mb4.6
ULN *e* pP 18 29 12.1 +0.5
SONM Songino Array 38.73 340 P **P 18 29 02.1 +0.2**
comp=Z,6.6nm,0.9s,mb4.4,baz=156,slow=9.9,SNR=31
SONM pP pP 18 29 13.0 -0.2
comp=Z,2.2nm,0.5s,baz=155,slow=9.2,SNR=5.7
SONM PcP PcP 18 31 13.0 -0.1
comp=Z,1.6nm,0.8s,baz=155,slow=4.8,SNR=4.1
SONM LR LR 18 44 56.7
comp=Z,84nm,18.6s,MS3.6,baz=348,slow=36
SONM Songino Array 38.73 340 P **P 18 29 02.1 +0.2**
SONM *PP pP 18 29 13.0 -0.2
SONM 18 31 13.0
RAMN Ramite 39.02 298 *eP* **P 18 29 04.7 0.0**
comp=Z,67nm,0.9s,mb5.4
JIRN Jiri 39.55 299 *eP* **P 18 29 09.1 0.0**
comp=Z,121nm,1.0s,mb5.6
GUN Gumba 39.88 299 *eP* **P 18 29 11.7 -0.2**
comp=Z,111nm,0.9s,mb5.6
PKI Pulchoki 40.20 298 *eP* **P 18 29 13.7 -0.8**
comp=Z,69nm,1.0s,mb5.3
PKI Pulchoki 40.20 298 *eP* **P 18 29 13.8 -0.7**
PKI pmax pmax
comp=Z,29nm,0.7s,mb5.1
PKI Pulchoki 40.20 298 *eP* **P 18 29 13.8 -0.7**
comp=Z,29nm,0.7s,mb5.1
PKIN Phulchoki 40.21 298 *eP* **P 18 29 13.8 -0.8**
comp=Z,29nm,0.7s,mb5.1
KKN Kakani 40.36 298 *eP* **P 18 29 15.2 -0.7**
comp=Z,69nm,1.0s,mb5.3
DMN Daman 40.47 298 *eP* **P 18 29 16.1 -0.7**
comp=Z,76nm,1.0s,mb5.4
HNR Honiara 40.70 121 LR LR 18 43 48.9
comp=Z,243nm,20.1s,MS4.0,baz=187,slow=33
GKN Gorkha 40.97 299 *eP* **P 18 29 19.9 -1.0**
comp=Z,77nm,1.0s,mb5.3
DANN Dangsing 41.80 299 *eP* **P 18 29 27.2 -0.5**
comp=Z,107nm,0.8s,mb5.5
KOLN Koldanda 41.80 298 *eP* **P 18 29 27.1 -0.6**
comp=Z,69nm,0.8s,mb5.3
TLY Talaya 42.95 340 *eP* **P 18 29 37.6 +1.0**
TLY pmax pmax
comp=Z,6.0nm,0.7s,mb4.4
TLY Talaya 42.95 340 *eP* **P 18 29 36.3 -0.3**
comp=Z,7.1nm,0.8s,mb4.5
FORT Forrest 42.97 176 *eP* **P 18 29 36.0 -1.1**
comp=Z,32nm,0.5s,mb5.3
CLNS Chul'man 44.38 360 *eP* **P 18 29 43.2 -4.9**
CLNS pmax pmax
comp=Z,19nm,0.8s,mb4.9
CLNS pmax pmax
comp=N,13nm,0.8s
CLNS pmax pmax
comp=E,7.0nm,1.2s
WMQ Urumqi 44.98 321⇑P **P 18 29 54.0 +0.9**
WMQ AP pP 18 30 13.5 +9.0
WMQ XP sP 18 30 23.0 +14
WMQ PCP PcP 18 31 34.5 +0.7
WMQ PP PP 18 31 41.0 +2.3
WMQ PPP 18 32 23.0
WMQ S **S 18 36 26.5 -2.3**
WMQ AMB AMB
comp=Z,16nm,1.2s,mb4.7
WMQ AMB AMB
comp=Z,116nm,5.6s
WMQ LR LR
comp=N,133nm,21.2s,MS4.0
WMQ LR LR
comp=E,124nm,20.0s,MS4.0
HYB Hyderabad 45.34 282 *iP* **P 18 29 55.5 -0.8**
HYB Hyderabad 45.34 282 *eP* **P 18 29 55.5 -0.8**
NWAO Narrogin (SRO) 45.68 189 P **P 18 29 55.8 -2.9**
STKA Stephens Creek 46.69 161 *eP* **P 18 30 06.4 -0.2**
comp=E,5.9nm,1.1s,mb4.4
STKA *e* 18 30 09.6
STKA Stephens Creek 46.69 161 P **P 18 30 05.9 -0.7**
comp=E,6.5nm,0.6s,mb4.8,baz=326,slow=9.4,SNR=7.4
STKA pP pP 18 30 16.2 -1.9
comp=E,20nm,0.9s,baz=338,slow=6.7,SNR=9.5
STKA Stephens Creek 46.69 161 *eP* **P 18 30 04.6 -2.0**
comp=E,24nm,0.8s,mb5.2
PETK Petropavlovsk- 48.18 26 P **P 18 30 19.8 +1.8**
comp=E,4.8nm,0.8s,mb4.6,baz=209,slow=4.8,SNR=3.4
PETK pP pP 18 30 30.4 +0.9
comp=E,4.7nm,0.8s,baz=202,slow=11,SNR=3.2
PETK LR LR 18 48 41.6
comp=E,113nm,21.1s,MS3.8,baz=207,slow=34
PETK Petropavlovsk- 48.18 26 P **P 18 30 19.8 +1.8**
PETK *PP pP 18 30 30.4 +0.9
PETK Petropavlovsk- 48.18 26 P **P 18 30 19.8 +1.8**
PETK pP pP 18 30 30.4 +0.9
PETK LR LR 18 48 41.6
PET Petropavlovsk 48.53 26 *eP* **P 18 30 24.5 +3.8**
PET *e* 18 37 25.0
ARMA Armidale 49.52 150 *eP* **P 18 30 28.8 +0.2**
comp=E,0.2nm,0.8s
YAK Yakutsk 49.70 3 *eP* **P 18 30 29.1 -0.4**
YAK pmax pmax
comp=Z,46nm,1.3s,mb5.3
YAK pmax pmax
comp=N,23nm,1.4s
YAK Yakutsk 49.70 3 *eP* **P 18 30 30.0 +0.5**
comp=N,40nm,1.0s,mb5.4
MK31 Makanchi Array 49.78 322 *eP* **P 18 30 30.6 +0.2**
MK31 *e* pP 18 30 42.3 +0.4
MK31 *e* 18 31 49.8
MKAR Makanchi Array 49.78 322 P **P 18 30 31.0 +0.6**
comp=N,22nm,0.9s,mb5.2,baz=119,slow=8.4,SNR=85
MKAR pP pP 18 30 41.5 -0.4
comp=N,10nm,0.8s,baz=113,slow=7.7,SNR=11
MKAR PcP PcP 18 31 50.1 -0.7
comp=N,5.7nm,0.7s,baz=115,slow=2.6,SNR=5.9
MKAR LR LR 18 52 20.0
comp=N,112nm,19.8s,MS3.9,baz=127,slow=37
MKAR Makanchi Array 49.78 322 P **P 18 30 31.0 +0.6**
MKAR *PP pP 18 30 41.6 -0.3
MKAR 18 31 50.1
ZALV Zalesovo Beam 52.33 331 P **P 18 30 49.4 -0.1**
comp=N,3.1nm,0.3s,mb4.7,baz=115,slow=7.4,SNR=25
ZALV pP pP 18 31 00.5 -0.6
comp=N,6.2nm,0.8s,baz=128,slow=6.4,SNR=7.0
ZALV PcP PcP 18 31 58.9 -1.2
comp=N,4.7nm,0.8s,baz=159,slow=4.5,SNR=4.4
CNB Canberra Magne 52.62 155 *eP* **P 18 30 52.5 +0.7**
KBK Karagaybulak 52.85 315 P **P 18 30 54.4 +0.9**
SNR=7.8
CHMS Chumysh 53.10 315 P **P 18 30 55.6 +0.3**
SNR=5.5
TOO Toolangi 53.17 160 *eP* **P 18 30 56.4 +0.6**
USP Ospenovka 53.37 315 P **P 18 30 57.6 +0.4**
SNR=7.6
AML Almayashu 53.56 314 P **P 18 31 00.2 +1.4**
SNR=7.3
NVS Novosibirsk 53.61 331 *eP* **P 18 30 58.1 -0.7**
NVS pmax pmax
comp=Z,17nm,1.1s,mb4.9
NVS pmax pmax
comp=N,13nm,1.4s
NVS pmax pmax
comp=E,12nm,1.1s
EKS2 Erkin-Say 53.67 314 P **P 18 31 00.1 +0.6**
SNR=11
KURK Kurchatov 53.80 325 P **P 18 31 00.3 0.0**
comp=E,42nm,0.8s,mb5.5,baz=123,slow=7.2,SNR=40
KURK pP pP 18 31 11.9 -0.1
comp=E,37nm,0.8s,baz=122,slow=7.2,SNR=13
KURK LR LR 18 56 31.2
comp=E,127nm,18.7s,MS4.0,baz=110,slow=39
KURK Kurchatov 53.80 325 *eP* **P 18 31 00.7 +0.4**
KURK *e* pP 18 31 12.2 +0.2
KBL Kabul 55.35 303 *eP* **P 18 31 11.3 -0.6**
KBL *e* pP 18 31 22.0 -1.6
KBL pmax pmax
comp=Z,19nm,0.9s,mb5.1
KBL Kabul 55.35 303 *eP* **P 18 31 11.3 -0.5**
comp=Z,19nm,0.9s,mb5.1
KBL *e* pP 18 31 22.0 -1.6
KK31 Karatay Array 56.09 314 *iP* **P 18 31 16.6 -0.4**
TIXI Tiksi 59.30 1 *eP* **P 18 31 38.9 -0.1**
TIXI pmax pmax
comp=Z,16nm,1.0s,mb5.0
TIXI Tiksi 59.30 1⇓ *iP* **P 18 31 38.5 -0.5**
TIXI *e* pP 18 31 50.3 -0.6
BVAR Borovoye Array 59.40 325 P **P 18 31 40.5 +0.5**
comp=Z,18nm,0.9s,mb5.1,baz=118,slow=9.1,SNR=68
BVAR pP pP 18 31 51.5 -0.3
comp=Z,12nm,0.8s,baz=114,slow=9.9,SNR=11
BRVK Borovoye 59.47 325 *eP* **P 18 31 39.9 -0.6**
BRVK *e* pP 18 31 52.0 -0.3
BRVK pmax pmax
comp=Z,67nm,0.9s,mb5.7
BRVK Borovoye 59.47 325 *eP* **P 18 31 39.9 -0.7**
comp=Z,67nm,0.9s,mb5.7
BRVK *e* pP 18 31 52.0 -0.3
BILL Bilibino 61.68 16 P **P 18 31 57.0 +1.7**
BILL *e* 18 32 20.6
AB31 Akbulak array 64.66 319 *iP* **P 18 32 15.1 -0.3**
SVE Sverdlovsk 65.93 327⇓ *eP* **P 18 32 23.7 +0.2**
SVE *e*S S 18 41 21.1 +13
SVE pmax pmax
comp=Z,57nm,0.9s,mb5.6
AKTK Aktyubinsk 66.10 320 P **P 18 32 24.5 -0.2**
AKTK LR LR 19 03 18.2
AKTO Aktyubinsk 66.10 320 P **P 18 32 24.5 -0.2**
comp=Z,12nm,0.9s,mb4.9,baz=92,slow=7.8,SNR=30
AKTO LR LR 19 03 18.2
comp=Z,120nm,19.9s,MS4.1,baz=282,slow=38
ARU Arti 66.95 326*c iP* **P 18 32 29.5 -0.5**
ARU *e*PP pP 18 32 45.3 +3.3
ARU *e* 18 32 55.9
ARU *e* 18 34 56.1
ARU *e*PPP 18 36 33.6
ARU *e*S S 18 41 19.4 -0.9
ARU SS SS 18 45 37.5 -1.5
ARU pmax pmax
comp=Z,44nm,1.0s,mb5.4
ARU Arti 66.95 326 *eP* **P 18 32 29.1 -0.9**
comp=Z,32nm,0.7s,mb5.5
AFI Afiamalu 67.63 111 LR LR 18 55 53.4
comp=Z,122nm,19.8s,MS4.1,baz=282,slow=30
UMR Umm Al-Rimmam 73.26 297 *eP* **P 18 33 07.8 -1.5**
baz=297
UMR AMb AMB 18 33 08.3
comp=Z,19nm,0.8s,mb5.1,baz=297
RDF Al-Radifah 73.46 297 *eP* **P 18 33 08.8 -1.7**
baz=297
RDF AMb AMB 18 33 11.9
comp=Z,21nm,0.7s,mb5.2,baz=297
MIB Mutribah 73.57 298 *eP* **P 18 33 09.4 -1.6**
baz=298
MIB AMb AMB 18 33 10.4
comp=Z,40nm,0.8s,mb5.4,baz=298
NAY Al-Naaiem 73.70 297 *eP* **P 18 33 09.9 -2.0**
baz=297
NAY AMb AMB 18 33 14.3
comp=Z,12nm,0.8s,mb4.9,baz=297
RST Umm Al-Ruwaisa 73.89 297 *eP* **P 18 33 10.6 -2.4**
baz=297
RST AMb AMB 18 33 15.2
comp=Z,14nm,0.9s,mb4.9,baz=297
GNI Garni 74.93 308 P **P 18 33 19.8 +1.0**
comp=Z,1.8nm,0.4s,mb4.3,baz=48,slow=16,SNR=4.2
GNI LR LR 19 08 44.2
comp=Z,96nm,21.2s,MS4.1,baz=67,slow=38
GNI Garni 74.93 308⇓ *eP* **P 18 33 19.2 +0.4**
GNI pmax pmax
comp=Z,20nm,1.8s
GNI Garni 74.93 308 *eP* **P 18 33 18.9 +0.1**
IMA2 Indian Mountai 75.16 25 *eP* **P 18 33 21.2 +1.6**
IMA2 *e* pP 18 33 32.1 +0.4
KIV Kislovodsk 76.22 312 *eP* **P 18 33 26.0 -0.1**
KIV *e* pP 18 33 37.0 -1.3
KIV pmax pmax
comp=Z,18nm,0.8s,mb5.0
KIV Kislovodsk 76.22 312 *eP* **P 18 33 26.0 -0.1**
comp=Z,18nm,0.8s,mb5.1
KIV *e* pP 18 33 37.0 -1.3
KLMR Klimovskoe 77.24 330 *iP* **P 18 33 30.7 -0.8**
KLMR pmax pmax
comp=Z,55nm,1.4s,mb5.3
COLA College 77.59 26⇑ *iP* **P 18 33 33.8 +0.4**
COLA College 77.59 26 *eP* **P 18 33 33.7 +0.3**
comp=Z,5.5nm,0.8s,mb4.5
MOS Moscow 78.57 325 *eP* **P 18 33 30.8 -8.2**
OBN Obninsk 79.23 324K *iP* **P 18 33 42.2 -0.4**
OBN *e* pP 18 33 53.3 -1.6
OBN *e* 18 33 58.7
OBN *e* 18 34 05.2
OBN pmax pmax
comp=Z,45nm,1.4s,mb5.2
ANN Anapa 79.88 314 *eP* **P 18 33 44.5 -1.9**
ANN pmax pmax
comp=Z,122nm,2.4s,mb5.4
EGAK Eagle 80.45 26 *eP* **P 18 33 49.8 +0.8**
comp=Z,6.6nm,0.9s,mb4.6
JOF Joensuu 80.89 332 *ep* **P 18 33 50.3 -1.2**
comp=Z,10nm,0.7s,mb4.9
DAWY Dawson 81.32 26 *eP* **P 18 33 55.3 +1.6**
KEV Kevo 81.34 340 *ep* **P 18 33 52.6 -1.1**
comp=Z,13nm,0.8s,mb4.9
KEV Kevo 81.34 340 *eP* **P 18 33 52.6 -1.1**
KEV pmax pmax
comp=Z,13nm,0.8s,mb4.9
SPITS Spitsbergen Ar 81.79 349 P **P 18 33 55.9 -0.1**
comp=Z,11nm,0.8s,mb4.9,baz=95,slow=6.4,SNR=6.7
ARCES ARCESS Array B 81.90 340 P **P 18 33 57.0 +0.3**
comp=Z,21nm,0.8s,mb5.1,baz=69,slow=6.6,SNR=22
ARCES pP pP 18 34 08.7 -0.3
comp=Z,8.0nm,0.8s,baz=77,slow=7.6,SNR=4.9
ARE0 ARCESS Array S 81.90 340 *eP* **P 18 33 56.9 +0.2**
ASF Jabal al Asfar 82.16 301 P **P 18 33 58.9 0.0**
comp=Z,5.3nm,0.7s,mb4.6,baz=108,slow=1.2,SNR=6.7
KBS Kingsbay 82.31 350 P **P 18 33 58.1 -0.6**
KBS pmax pmax
comp=Z,24nm,0.9s,mb5.1
KBS Kingsbay 82.31 350 P **P 18 33 58.1 -0.6**
comp=Z,24nm,0.9s,mb5.1
INK Inuvik 82.72 22 *eP* **P 18 34 01.6 +0.6**
comp=Z,435nm,1.0s
INK *e* pP 18 34 12.7 -0.6
HYT Haines Junctio 82.82 29 *eP* **P 18 34 03.7 +2.0**
MMAI Mount Meron Ar 83.26 302 P **P 18 34 04.3 -0.2**
comp=Z,2.9nm,0.7s,mb4.4,baz=77,slow=3.6,SNR=4.7
KAF Kangasniemi 83.33 332 *ep* **P 18 34 02.8 -1.5**
comp=Z,5.8nm,0.7s,mb4.7,baz=74,slow=4.9
KAF Kangasniemi 83.33 332 *eP* **P 18 34 02.8 -1.5**
KAF pmax pmax
comp=Z,6.0nm,0.7s,mb4.7
BR131 Keskin Array S 83.45 309 *eP* **P 18 34 04.0 -1.3**
comp=Z,0.7nm,0.5s,mb4.0
SKAG Skagway 84.19 30 *eP* **P 18 34 10.4 +1.7**
EIL Elat 84.25 299 P **P 18 34 09.3 -0.4**
comp=Z,5.4nm,1.0s,mb4.6,baz=260,slow=2.0,SNR=3.7
EIL Elat 84.25 299 P **P 18 34 09.3 -0.4**
AKASG Malin Array Be 84.33 321 P **P 18 34 08.2 -1.4**
comp=Z,5.7nm,0.7s,mb4.8,baz=65,slow=4.8,SNR=27
KIEV Kiev 84.34 321 *eP* **P 18 34 08.2 -1.5**
KIEV pmax pmax
comp=Z,9.0nm,0.8s,mb5.0
KIEV Kiev 84.34 321 *eP* **P 18 34 08.2 -1.5**
comp=Z,8.6nm,0.8s,mb4.9
CSS Prodhromos 84.59 304 *eP* **P 18 34 10.5 -0.8**
comp=Z,41nm,1.0s,mb5.5
SIT Sitka 84.79 33 P **P 18 34 12.7 +0.9**
TLCR 85.83 315⇓ *iP* **P 18 34 16.7 -0.5**
TLCR 85.83 315 ⇓P **P 18 34 16.7 -0.6**
TIRR Tirgusor 86.27 315⇓ *iP* **P 18 34 18.7 -0.8**
TIRR Tirgusor 86.27 315 ⇓P **P 18 34 18.7 -0.7**
HARR Harsova 86.55 315⇑ *iP* **P 18 34 20.4 -0.4**
HARR Harsova 86.55 315 ⇑P **P 18 34 20.4 -0.5**
SUW Suwalki 87.08 325 *eP* **P 18 34 22.0 -1.1**
SUW Suwalki 87.08 325 *eP* **P 18 34 21.1 -2.1**
comp=Z,42nm,1.0s,mb5.6
VRI Vrincioaia 87.09 316⇓ *iP* **P 18 34 24.2 +0.8**
BURAR Bucovina Array 87.63 318⇑ *iP* **P 18 34 25.7 -0.3**
BUR08 Bucovina Ar. S 87.64 318 *eP* **P 18 34 25.4 -0.6**
MLR Muntele Rosu 87.71 316⇓ *iP* **P 18 34 26.3 -0.1**

MLR	**Muntele Rosu**	**87.71**	**316**	⇓P		**P**	**18 34 26.3**	**-0.2**
KMBO	**Kilima Mbogo**	**88.29**	**268**	P		**P**	**18 34 29.0**	**-0.8**
	comp=Z,6.4nm,1.0s,mb4.8,baz=57,slow=7.1,SNR=12							
KMBO	**Kilima Mbogo**	**88.29**	**268**	*e*P		**P**	**18 34 29.1**	**-0.7**
KMBO				pmax	pmax			
	comp=Z,6.0nm,0.9s							
KMBO	**Kilima Mbogo**	**88.29**	**268**	*e*P		**P**	**18 34 29.1**	**-0.7**
	comp=Z,5.9nm,0.9s,mb4.8							
KWP	**Kalwaria**	**88.66**	**321**	*e*P		**P**	**18 34 30.8**	**0.0**
KWP	**Kalwaria**	**88.66**	**321**	⇓*i*P		**P**	**18 34 31.1**	**+0.3**
KWP	**Kalwaria**	**88.66**	**321**	*e*P		**P**	**18 34 30.8**	**0.0**
PPT	**Papeete**	**89.15**	**108**	LR	LR		19 10 27.1	
	comp=Z,136nm,18.1s,MS4.4,baz=353,slow=33							
DRGR		**89.51**	**318**	⇓*i*P		**P**	**18 34 34.9**	**0.0**
DRGR		**89.51**	**318**	⇓P		**P**	**18 34 34.9**	**0.0**
RES	**Resolute Bay**	**89.62**	**10**	*e*P		**P**	**18 34 35.4**	**+0.5**
	comp=Z,304nm,0.8s							
RES				*e*		pP	18 34 47.1	-0.1
HFS	**Hagfors**	**89.75**	**332**	P		**P**	**18 34 34.3**	**-1.4**
	comp=Z,7.7nm,0.9s,mb5.0,baz=116,slow=3.4,SNR=7.1							
HFS				LR	LR		19 16 00.6	
	comp=Z,260nm,20.1s,MS4.7,baz=64,slow=36							
OJC	**Ojcow**	**90.25**	**322**	*e*P		**P**	**18 34 37.6**	**-0.7**
NB2	**NORSAR Subarra**	**90.46**	**334**	P		**P**	**18 34 37.2**	**-1.8**
	comp=Z,3.7nm,0.8s,mb4.8,baz=65,slow=4.6							
NOA	**NORSAR Array B**	**90.46**	**334**	P		**P**	**18 34 37.7**	**-1.3**
	comp=Z,3.1nm,0.8s,mb4.7,baz=64,slow=4.7,SNR=9.1							
NOA				LR	LR		19 18 22.4	
	comp=Z,104nm,21.4s,MS4.2,baz=50,slow=38							
NOA	**NORSAR Array B**	**90.46**	**334**	P		**P**	**18 34 37.7**	**-1.3**
NOA				LR	LR		19 18 22.4	
BZS	**Buzias**	**90.59**	**317**	⇑*i*P		**P**	**18 34 38.8**	**-1.1**
BZS	**Buzias**	**90.59**	**317**	⇑P		**P**	**18 34 38.8**	**-1.2**
PSZ	**Piszkesteto**	**90.96**	**320**	P		**P**	**18 34 40.6**	**-1.0**
IDI	**Anoyia**	**91.24**	**306**	P		**P**	**18 34 42.8**	**-0.4**
	comp=Z,5.3nm,0.8s,mb4.9,baz=68,slow=6.1,SNR=3.2							
MAW	**Mawson**	**91.31**	**200**	P		**P**	**18 34 39.9**	**-2.7**
	comp=Z,1.2nm,0.6s,mb4.4,baz=47,slow=11,SNR=4.1							
YKA	**Yellowknife Ar**	**92.26**	**24**	P		**P**	**18 34 48.0**	**+0.7**
	comp=Z,1.9nm,0.8s,mb4.5,baz=303,slow=4.6,SNR=3.2							
YKA				pP	pP		18 34 59.7	0.0
	comp=Z,2.1nm,0.9s,baz=302,slow=5.8,SNR=3.1							
GERES	**GERESS Array B**	**94.45**	**322**	P		**P**	**18 34 57.8**	**+0.1**
	comp=Z,0.8nm,0.8s,mb4.2,baz=57,slow=4.9,SNR=9.0							
VISS	**Visnje**	**94.97**	**319**	*i* P		**P**	**18 34 59.7**	**-0.5**
LJU	**Ljubljana**	**95.07**	**319**	*i* P		**P**	**18 35 00.3**	**-0.3**
CEY	**Cerknica**	**95.26**	**319**	*i* P		**P**	**18 35 01.1**	**-0.4**
DAVOX	**Davos/Dischmat**	**97.66**	**321**	P		**P**	**18 35 12.2**	**-0.2**
	comp=Z,2.5nm,0.8s,mb4.8,baz=237,slow=7.7,SNR=3.6							
DAVOS	**Davos**	**97.69**	**321**	P		**P**	**18 35 12.2**	**-0.3**
LSZ	**Lusaka**	**99.89**	**256**	LR	LR		19 17 50.6	
	comp=Z,97nm,19.2s,MS4.3,baz=178,slow=34							
TXAR	**Lajitas Array**	**117.19**	**48**	PKP		PKPdf	18 40 23.3	0.0
	comp=Z,1.1nm,0.9s,baz=314,slow=1.3,SNR=6.7							
TORD	**Torodi Ar. Bea**	**118.57**	**292**	PKP		PKPdf	18 40 24.6	-1.7
	comp=Z,143nm,0.3s,baz=28,slow=2.2,SNR=1.8							
DBIC	**Dimbokro**	**126.93**	**288**	PKP		PKPdf	18 40 41.4	-1.0
	comp=Z,5.0nm,0.9s,baz=144,slow=1.7,SNR=4.1							
PLCA	**Paso Flores**	**148.50**	**157**	PKPbc		PKPbc	18 41 23.1	-1.4
	comp=Z,4.9nm,0.9s,baz=195,slow=6.5,SNR=5.8							
SDV	**Santo Domingo**	**153.64**	**38**	*e*PKPdf		PKPdf	18 41 30.0	+0.4
SDV				*e*PKPbc		PKPbc	18 41 37.1	-0.2
LPAZ	**La Paz**	**166.45**	**108**	PKP		PKPdf	18 41 44.8	+1.1
	comp=Z,3.0nm,0.9s,baz=319,slow=1.8,SNR=8.2							

MOS ***27*** *18:36:33.8±0.8,2089S×17894W,h581km,mb5.1/18, Error ellipse: s-maj=9.8km s-min=7.7km az=59.7*
ISCJB ***27*** *18:36:33.9±0.6,2099S±004×17895W±004,h583km±7km, mb5.0/71, Error ellipse: s-maj=6.9km s-min=4.5km az=153.6*
BJI ***27*** *18:36:34.0,2068S×17857W,h590km,mB5.1,mb5.2*
SZGRF ***27*** *18:36:36.7,2144S×17761W,h624km,Fiji Islands region*
IDC ***27*** *18:36:36.5±0.6,2102S×17891W,h603km±7km,mb4.4/25, mb1 4.4/27,mb1mx4.4/28,mbtmp4.4/27,Error ellipse: s-maj=8.8km s-min=7.9km az=135.0*
GCMT ***27*** *18:36:37.0±0.2,2093S×17873W,h623km±2km,MW5.4/72, Moment Tensor Solution. s72,c112; Duration: 1s2 Moment tensor: Scale 10¹⁷Nm; Mrr-0.88±.03; Mθθ0.85±.05; Mϕϕ0.03±.05; Mrθ-0.83±.05; Mϕϕ-0.63±.04; Mϕr-0.25±.05; Best double couple: Mo1.37900×10¹⁷ NP1:ϕs326.00000°,δ37.00000°,λ-42.00000°. NP2: ϕs91.00000°,δ67.00000°,λ-119.00000°. Principal axes: T 1.3780, Plg17.0000°, Azm202.0000°; N 0.0040, Plg26.0000°, Azm104.0000°; P -1.3810, Plg58.0000°, Azm321.0000°; nsta1 refers to body waves, cutoff=40s.*
NEIC ***27*** *18:36:37.0±0.5,2108S×17896W,h616km±6km,mb5.1/36 Error ellipse: s-maj=6.4km s-min=4.1km az=143.0*
DJA ***27*** *18:36:39,21.195×17926W,h608km,Mw5.3/15*
ISC 27 18:36:34.4±0.6,2098S±004×17890W±004,h574km±7km, h586km±5.4km:pP-P,n917,σ0s58/601,mb5.0/71, 224C-229D,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time h m s	Res ISC
RAO	**Raoul Island**	**8.28**	**174**	P	**P**	**18 38 36.9**	**+1.5**
	55nm,0.3s,baz=270,slow=20,SNR=2.9						
RAO				S	**S**	**18 40 13.1**	**-1.7**
	90nm,0.3s,baz=97,slow=22,SNR=7.1						
RAO	**Raoul Island**	**8.28**	**174**	P	**P**	**18 38 36.9**	**+1.5**
RAO				S	**S**	**18 40 13.1**	**-1.7**
AFI	**Afiamalu**	**9.78**	**45**	P	**P**	**18 38 49.8**	**-0.7**
	131nm,0.3s,baz=44,slow=1.0,SNR=188						
AFI				S	**S**	**18 40 36.3**	**-5.9**
	1.0nm,0.3s,baz=217,slow=20,SNR=3.3						
AFI	**Afiamalu**	**9.78**	**45**	⇑*i*P	**P**	**18 38 49.8**	**-0.7**
AFI				*e*S	**S**	**18 40 40.6**	**-1.7**
AFI				pmax	pmax		
	comp=Z,1μm,0.7s						
AFI	**Afiamalu**	**9.78**	**45**	⇑*i*P	**P**	**18 38 49.8**	**-0.8**
	comp=Z,1μm,0.7s						
AFI				*e*S	**S**	**18 40 40.5**	**-1.7**
FUNA	**Funafuti**	**12.52**	**351**	*e*P	**P**	**18 39 18.4**	**0.0**
	comp=Z,193nm,0.8s						
DZM	**Mont Dzumac**	**13.68**	**263**	*e*P	**P**	**18 39 31.8**	**+1.6**
URZ	**Urewera**	**17.56**	**190**	P	**P**	**18 40 04.2**	**-2.8**
	comp=Z,36nm,0.3s,baz=1.9,slow=3.6,SNR=131						
URZ				S	**S**	**18 42 51.5**	**-8.4**
	comp=Z,1.1nm,0.3s,baz=99,slow=19,SNR=4.5						
RAR	**Rarotonga**	**17.85**	**94**	P	**P**	**18 40 08.8**	**-1.0**
	comp=Z,1.0nm,0.3s,baz=210,slow=4.2,SNR=3.5						
SNZO	**South Karori**	**20.98**	**194**	*e*P	**P**	**18 40 35.9**	**-2.0**
	comp=Z,188nm,0.8s						
HNR	**Honiara**	**23.38**	**296**	P	**P**	**18 40 59.0**	**-0.7**
	comp=Z,73nm,0.8s,mb5.4,baz=176,slow=6.8,SNR=6.8						
TARA	**Tarawa**	**23.59**	**339**	*e*P	**P**	**18 41 02.0**	**+0.4**
	comp=Z,491nm,1.0s						
RPZ	**Rata Peaks**	**24.17**	**198**	P	**P**	**18 41 05.5**	**-0.8**
	comp=Z,36nm,0.5s,mb5.2,baz=347,slow=1.4,SNR=24						
EIDS	**Eidsvold**	**27.91**	**255**	*e*P	**P**	**18 41 40.3**	**+0.8**
	comp=Z,151nm,1.4s,mb5.4						
ARMA	**Armidale**	**28.10**	**244**	⇑*i*P	**P**	**18 41 43.0**	**+2.0**
XMAS	**Kiritimati**	**31.06**	**45**	*e*P	**P**	**18 42 06.1**	**-0.7**
	comp=Z,122nm,1.0s,mb5.5						
CNB	**Canberra Magne**	**31.26**	**236**	⇑*i*P	**P**	**18 42 09.6**	**+1.4**
CNB				*e*pP		18 43 50.9	
CNB				*e*SCP	ScP	18 47 33.1	-0.6
CTA	**Charters Tower**	**32.61**	**265**	⇓*i*P	**P**	**18 42 20.8**	**+1.0**
	comp=Z,17nm,0.4s,mb5.0						
CTA				*e*PCP	PcP	18 44 48.2	-0.5
CTA				*e*SCP	ScP	18 47 38.1	-0.6
CTA	**Charters Tower**	**32.61**	**265**	P	**P**	**18 42 20.9**	**+1.0**
	comp=Z,21nm,0.4s,mb5.2,baz=93,slow=12,SNR=88						
CTA				PcP	PcP	18 44 48.0	-0.7
	comp=Z,13nm,0.9s,baz=90,slow=3.0,SNR=4.7						
CTA				S	**S**	**18 46 53.9**	**-2.0**
	comp=Z,6.5nm,1.1s,baz=174,slow=19,SNR=6.9						
CTA	**Charters Tower**	**32.61**	**265**	⇓*i*P	**P**	**18 42 20.8**	**+1.0**
CTA				*e*		18 44 48.2	
CTA				pmax	pmax		
	comp=Z,17nm,0.4s						
CTAO	**Charters Tower**	**32.61**	**265**	*e*P	**P**	**18 42 20.8**	**+1.0**
CTAO				pmax	pmax		
	comp=Z,30nm,0.4s,mb5.3						
CTAO	**Charters Tower**	**32.61**	**265**	*e*P	**P**	**18 42 20.8**	**+1.0**
	comp=Z,30nm,0.4s,mb5.3						
PMG	**Port Moresby**	**34.63**	**284**	*e*P	**P**	**18 42 37.7**	**+0.8**
TOO	**Toolangi**	**34.93**	**234**	⇑*i*P	**P**	**18 42 40.0**	**+0.9**
TOO				*e*pP		18 44 23.2	
TOO				*e*SCP	ScP	18 47 45.6	-1.1
TOO	**Toolangi**	**34.93**	**234**	⇑*i*P	**P**	**18 42 40.0**	**+0.9**
TOO				*e**PP		18 44 23.2	

STKA	**Stephens Creek**	**36.82**	**245**	⇑*i*P		**P**	**18 42 55.8**	**+1.1**
	comp=Z,32nm,0.8s,mb4.9								
STKA				*e*PCP	PcP		18 45 00.8	-0.2
STKA				*e*SCP	ScP		18 47 53.2	-0.6
STKA	**Stephens Creek**	**36.82**	**245**	P		**P**	**18 42 55.8**	**+1.1**
	comp=Z,37nm,0.7s,mb5.0,baz=92,slow=9.1,SNR=38								
STKA				ScP	ScP		18 47 52.6	-1.2	
	comp=Z,6.7nm,0.9s,baz=59,slow=5.1,SNR=4.4								
MCQ	**Macquarie Isla**	**37.44**	**201**	*e*P		**P**	**18 43 00.5**	**+1.1**	
ASAR	**Alice Springs**	**43.59**	**257**	P		**P**	**18 43 49.1**	**+0.4**	
	comp=Z,17nm,0.9s,mb4.6,baz=92,slow=8.0,SNR=123								
ASAR				PcP	PcP		18 45 22.6	-0.7	
	comp=Z,11nm,0.7s,baz=106,slow=3.7,SNR=16								
ASAR				ScP	ScP		18 48 18.8	-1.9	
	comp=Z,0.9nm,0.5s,baz=110,slow=4.4,SNR=3.4								
ASAR				S	**S**		**18 49 33.9**	**-3.4**	
	comp=Z,27nm,0.9s,baz=95,slow=16,SNR=46								
ASAR	**Alice Springs**	**43.59**	**257**	P		**P**	**18 43 49.2**	**+0.4**	
ASAR							18 45 22.7		
ASAR				S	**S**		**18 49 33.9**	**-3.4**	
WRAB	**Tennant Creek**	**43.69**	**263**	P		**P**	**18 43 49.0**	**-0.6**	
	comp=Z,325nm,0.9s,mb5.9,SNR=48								
WRAB	**Tennant Creek**	**43.69**	**263**	⇑*i*P		**P**	**18 43 48.8**	**-0.8**	
KAKA	**Kakadu**	**47.14**	**272**	⇓*i*P		**P**	**18 44 09.4**	**-6.6**	
	comp=Z,92nm,1.0s,mb5.3								
KAKA				*e*SCP	ScP		18 48 27.4	-8.3	
KAKA				*e*S	**S**		**18 50 14.2**	**-13**	
FORT	**Forrest**	**48.33**	**247**	*e*P		**P**	**18 44 24.4**	**-0.2**	
	comp=Z,43nm,0.7s,mb5.1								
GUMO	**Guam**	**49.47**	**311**	P		**P**	**18 44 33.5**	**+0.3**	
	comp=Z,154nm,0.7s,mb5.5,baz=186,slow=8.3,SNR=9.3								
GUMO	**Guam**	**49.47**	**311**	*e*P		**P**	**18 44 33.5**	**+0.4**	
GUMO				pmax	pmax				
	comp=Z,220nm,0.9s,mb5.6								
GUMO	**Guam**	**49.47**	**311**	*e*P		**P**	**18 44 33.5**	**+0.4**	
	comp=Z,220nm,0.9s,mb5.6								
AAI	**Ambon**	**54.18**	**281**	⇓*e*P		**P**	**18 45 06.5**	**-0.6**	
BATI	**Baumata**	**56.10**	**272**	P		**P**	**18 45 21.7**	**+1.3**	
	comp=Z,87nm,0.8s,mb5.1,baz=152,slow=1.1,SNR=39								
MBWA	**Marble Bar**	**56.93**	**258**	*e*P		**P**	**18 45 25.7**	**-0.3**	
	comp=Z,30nm,0.6s,mb4.7								
KLBR	**Kellerberrin**	**57.09**	**245**	*e*P		**P**	**18 45 26.7**	**-0.3**	
	comp=Z,15nm,0.6s,mb4.4								
SBA	**Scott Base**	**57.34**	**184**	*e*P		**P**	**18 45 29.9**	**+2.0**	
SBA				pmax	pmax				
	comp=Z,78nm,1.0s,mb4.9								
SBA	**Scott Base**	**57.34**	**184**	*e*P		**P**	**18 45 29.9**	**+2.0**	
	comp=Z,78nm,1.0s,mb4.9								
MUN	**Mundaring**	**58.36**	**245**	*e*P		**P**	**18 45 35.9**	**+0.3**	
KAPI	**Kappang**	**61.49**	**276**	P		**P**	**18 45 54.0**	**-2.6**	
	comp=Z,104nm,1.6s,mb4.8,SNR=6.0								
KAPI	**Kapang**	**61.49**	**276**	P		**P**	**18 45 55.4**	**-1.2**	
	comp=Z,135nm,1.0s,mb5.1,SNR=6.0								
CASY	**Casey**	**63.17**	**205**	*e*P		**P**	**18 46 06.3**	**-0.2**	
QSPA	**South Pole Qui**	**69.09**	**180**	P		**P**	**18 46 43.6**	**+0.7**	
	comp=Z,55nm,0.9s,mb5.0,baz=22,slow=1.2,SNR=237								
QSPA				pP	pP		18 48 44.5	+5.1	
	comp=Z,11nm,1.0s,baz=23,slow=4.3,SNR=4.3								
QSPA				S	S		18 55 02.4	-0.4	
	comp=Z,2.7nm,1.0s,baz=155,slow=22,SNR=14								
QSPA	**South Pole Qui**	**69.09**	**180**	*e*P		**P**	**18 46 43.5**	**+0.6**	
JOW	**Kunigami**	**69.83**	**311**	P		**P**	**18 46 48.7**	**+0.5**	
	comp=Z,75nm,0.8s,mb5.2,baz=169,slow=3.8,SNR=7.9								
MJAR	**Matsushiro Arr**	**70.10**	**324**	P		**P**	**18 46 48.9**	**-0.7**	
	comp=Z,29nm,0.8s,mb4.8,baz=160,slow=5.9,SNR=59								
MJAR	**Matsushiro Arr**	**70.10**	**324**	P		**P**	**18 46 48.9**	**-0.7**	
MAJO	**Matsushiro**	**70.10**	**324**	*e*P		**P**	**18 46 49.1**	**-0.5**	
MAT	**Matsushiro**	**70.10**	**324**	P		**P**	**18 46 48.9**	**-0.7**	
MIR	**Mirnyy**	**70.20**	**205**	⇑*i*P		**P**	**18 46 50.0**	**+0.3**	
MIR				pmax	pmax				
	comp=Z,200nm,1.0s,mb5.5								
ADK	**Adak**	**72.57**	**1**	*e*P		**P**	**18 47 02.5**	**-1.1**	
ASAJ	**Asahikawa**	**73.75**	**332**	P		**P**	**18 47 11.7**	**+1.1**	
	comp=Z,53nm,0.8s,mb5.1,baz=215,slow=7.8,SNR=27								
TATO	**Taipei**	**73.76**	**305**	*e*P		**P**	**18 47 09.7**	**-1.4**	
YSS	**Yuzh-Sakhalins**	**75.95**	**334**	⇓*i*P		**P**	**18 47 22.0**	**-0.8**	
YSS				pmax	pmax				
	comp=Z,50nm,0.9s,mb4.9								
YSS	**Yuzh-Sakhalins**	**75.95**	**334**	*e*P		**P**	**18 47 23.3**	**+0.5**	
QZH	**Quanzhou**	**75.97**	**304**	⇓*i*P		**P**	**18 47 23.5**	**+0.1**	
QZH				AMB	AMB				
	comp=Z,200nm,1.0s,mb5.5								
PET	**Petropavlovsk**	**76.23**	**346**	⇓*i*P		**P**	**18 47 22.0**	**-2.1**	
PET				pmax	pmax				
	comp=Z,36nm,0.7s,mb4.9								
PEA0B	**Petropavlovsk-**	**76.52**	**346**	*e*P		**P**	**18 47 24.7**	**-1.1**	
PETK	**Petropavlovsk-**	**76.52**	**346**	P		**P**	**18 47 25.2**	**-0.5**	
	comp=Z,51nm,0.7s,mb5.1,baz=128,slow=7.3,SNR=57								
KSRS	**Korea Array**	**76.69**	**319**	P		**P**	**18 47 27.4**	**+0.3**	
	comp=Z,13nm,0.8s,mb4.4,baz=138,slow=6.4,SNR=46								
KSRS				PP	PP		18 50 27.4	-3.1	
	comp=Z,1.4nm,0.9s,baz=133,slow=7.0,SNR=4.3								
KS15	**Wonju Array Si**	**76.71**	**319**	*e*P		**P**	**18 47 27.7**	**+0.6**	
SSE	**Sheshan**	**77.35**	**310**	P		**P**	**18 47 30.8**	**0.0**	
SSE				AMB	AMB				
	comp=Z,48nm,0.7s,mb5.0								
SSE				AMB	AMB				
	comp=Z,285nm,5.7s								
INCN	**Inchon**	**77.50**	**318**	*e*P		**P**	**18 47 32.1**	**+0.6**	
SDPT	**Sand Point**	**77.63**	**11**	*e*P		**P**	**18 47 30.3**	**-1.4**	
FARB	**Farallon Islan**	**78.53**	**42**	⇑P		**P**	**18 47 37.1**	**+0.2**	
	baz=79,SNR=6.0								
V03C	**Hunter Liggett**	**78.65**	**44**	⇓P		**P**	**18 47 38.3**	**+0.6**	
	baz=79								
SAC	**San Andreas**	**78.83**	**42**	*e*P		**P**	**18 47 38.3**	**-0.3**	
JRSC	**Jasper Ridge**	**78.83**	**43**	⇓P		**P**	**18 47 38.6**	**0.0**	
	baz=79,SNR=5.0								
MCCM	**Marconi Confer**	**78.88**	**42**	⇑P		**P**	**18 47 38.9**	**+0.1**	
	baz=79								
MCCM	**Marconi Confer**	**78.88**	**42**	*e*P		**P**	**18 47 39.4**	**+0.6**	
CHGN	**Chignik**	**78.90**	**11**	*e*P		**P**	**18 47 37.4**	**-1.1**	
SAO	**San Andreas Ge**	**78.95**	**44**	*e*P		**P**	**18 47 40.1**	**+0.8**	
SMMC	**Simmler**	**79.05**	**46**	⇓P		**P**	**18 47 39.9**	**+0.1**	
	baz=79								
CIS	**Catalina Islan**	**79.05**	**48**	⇓P		**P**	**18 47 39.2**	**-0.6**	
	baz=79								
PKD	**Parkfield**	**79.06**	**45**	⇑P		**P**	**18 47 40.0**	**+0.2**	
	baz=79,SNR=8.1								
PTRM	**Twissleman Ran**	**79.11**	**45**	*e*P		**P**	**18 47 40.9**	**+0.8**	
U04C	**Hernandez Rese**	**79.15**	**44**	⇑P		**P**	**18 47 40.6**	**+0.3**	
	baz=80,SNR=9.7								
PACP	**Pacheco Peak**	**79.20**	**43**	⇑P		**P**	**18 47 41.3**	**+0.7**	
	baz=80,SNR=14								
CVS	**Carmenet Viney**	**79.26**	**42**	⇑P		**P**	**18 47 40.9**	**+0.1**	
	baz=80,SNR=12								
NSHM	**Saint Helena R**	**79.28**	**42**	*e*P		**P**	**18 47 41.3**	**+0.4**	
HOPS	**Hopland**	**79.28**	**41**	⇓P		**P**	**18 47 41.3**	**+0.4**	
	baz=80,SNR=9.1								
HOPS	**Hopland**	**79.28**	**41**	*e*P		**P**	**18 47 41.5**	**+0.6**	
KIPM	**Iron Peak**	**79.54**	**40**	*e*P		**P**	**18 47 42.9**	**+0.6**	
NJ2	**Nanjing**	**79.54**	**310**	*e*P		**P**	**18 47 42.8**	**+0.3**	
NJ2				AMB	AMB				
	comp=Z,60nm,1.0s,mb4.9								
O01C	**Eel River Cons**	**79.54**	**40**	⇑P		**P**	**18 47 43.0**	**+0.8**	
	baz=80								
MNRC	**McLaughlin Nat**	**79.60**	**41**	⇓P		**P**	**18 47 43.3**	**+0.7**	
	baz=80,SNR=15								
MWC	**Mount Wilson**	**79.75**	**47**	*e*P		**P**	**18 47 44.0**	**+0.5**	
GASB	**Alder Springs**	**79.91**	**41**	⇓P		**P**	**18 47 45.0**	**+0.8**	
	baz=80,SNR=24								
VES	**Vestal, Richgr**	**79.96**	**46**	⇑P		**P**	**18 47 44.5**	**-0.1**	
	baz=80,SNR=9.5								
MURC	**Murrieta**	**80.00**	**48**	⇑P		**P**	**18 47 44.3**	**-0.5**	
	baz=80,SNR=7.9								
S05C	**Merced**	**80.02**	**44**	⇓P		**P**	**18 47 44.7**	**-0.1**	
	baz=80,SNR=6.5								
BFSC	**Mount Baldy St**	**80.03**	**48**	⇑P		**P**	**18 47 44.7**	**-0.3**	
	baz=80,SNR=8.2								
KHMM	**Horse Mountain**	**80.05**	**39**	*e*P		**P**	**18 47 46.2**	**+1.2**	
MONP	**Monument Peak**	**80.16**	**49**	⇓P		**P**	**18 47 45.7**	**0.0**	
	baz=80,SNR=22								
EDW2	**Edwards Air Fo**	**80.16**	**47**	⇑P		**P**	**18 47 45.1**	**-0.6**	
	baz=80,SNR=24								
R04C	**Big Horse Ranc**	**80.17**	**43**	⇓P		**P**	**18 47 45.3**	**-0.2**	
	baz=80								
T06C	**Millerton Lake**	**80.22**	**44**	⇓P		**P**	**18 47 45.6**	**-0.4**	
	baz=80,SNR=31								
DVTC	**Desert V Tower**	**80.26**	**50**	⇑P		**P**	**18 47 46.6**	**+0.3**	
	baz=80,SNR=8.8								
ISA	**Isabella**	**80.27**	**46**	⇓P		**P**	**18 47 45.5**	**-0.6**	
	baz=81,SNR=36								
ISA	**Isabella**	**80.27**	**46**	*e*P		**P**	**18 47 46.5**	**+0.3**	
N02C	**Big Bar**	**80.27**	**39**	⇓P		**P**	**18 47 46.5**	**+0.4**	
	baz=81,SNR=11								
LPIG	**La Paz**	**80.38**	**60**	P		**P**	**18 47 47.2**	**+0.2**	
	comp=Z,14nm,0.4s,mb4.7,baz=193,slow=7.2,SNR=4.3								

CMB	**Columbia Colle**	**80.39**	**43**	⇑P		**P**	**18 47 46.6**	**-0.1**	
	baz=81,SNR=33								
CMB	**Columbia Colle**	**80.39**	**43**	*e*P		**P**	**18 47 46.7**	**0.0**	
MDJ	**Mudanjiang**	**80.43**	**325**	P		**P**	**18 47 47.3**	**+0.5**	
MDJ				XP	sP		18 50 45.0	-1.6	
MDJ				XS	sS		19 00 44.3	+1.3	
MDJ				SS	SS		19 02 35.3	-0.5	
MDJ				AMB	AMB				
	comp=Z,74nm,0.9s,mb5.0								
MDJ				AMB	AMB				
	comp=Z,246nm,5.4s								
MDJ	**Mudanjiang**	**80.43**	**325**	*e*P		**P**	**18 47 47.2**	**+0.4**	
	comp=Z,87nm,1.1s,mb5.0								
HABR	**Khabarovsk**	**80.45**	**331**	⇓*i*P		**P**	**18 47 47.4**	**+0.6**	
HABR				*e*S	S		18 57 06.3	0.0	
HABR				pmax	pmax				
	comp=Z,167nm,1.6s,mb5.1								
OHCM	**Honcut**	**80.47**	**42**	*e*P		**P**	**18 47 47.3**	**+0.2**	
PFO	**Pinyon Flat Ob**	**80.52**	**49**	P		**P**	**18 47 47.3**	**-0.2**	
	comp=Z,100nm,1.0s,mb5.2,SNR=7.5								
PFO	**Pinyon Flat Ob**	**80.52**	**49**	*e*P		**P**	**18 47 47.9**	**+0.4**	
PFO				pmax	pmax				
	comp=Z,35nm,1.4s,mb4.6								
PFO	**Pinyon Flat Ob**	**80.52**	**49**	⇓P		**P**	**18 47 47.2**	**-0.3**	
	baz=81,SNR=11								
PFO	**Pinyon Flat Ob**	**80.52**	**49**	*e*P		**P**	**18 47 47.9**	**+0.4**	
	comp=Z,35nm,1.4s,mb4.6								
WDC	**Whiskeytown Da**	**80.58**	**40**	⇑P		**P**	**18 47 47.8**	**+0.2**	
	baz=81,SNR=28								
WDC	**Whiskeytown Da**	**80.58**	**40**	*e*P		**P**	**18 47 48.2**	**+0.5**	
LAVA	**Lava Cap Winer**	**80.59**	**42**	⇑P		**P**	**18 47 47.4**	**-0.3**	
	baz=81,SNR=12								
ORV	**Oroville**	**80.59**	**41**	⇓P		**P**	**18 47 47.5**	**-0.3**	
	baz=81,SNR=13								
SWSC	**Sam W. Stewart**	**80.63**	**49**	⇓P		**P**	**18 47 47.5**	**-0.6**	
	baz=81,SNR=8.0								
KCC	**Kaiser Creek**	**80.66**	**44**	⇓P		**P**	**18 47 48.3**	**+0.1**	
	baz=81,SNR=33								
LRMC	**Laurel Mountai**	**80.70**	**46**	⇑P		**P**	**18 47 47.6**	**-0.8**	
	baz=81,SNR=11								
MAW	**Mawson**	**80.83**	**200**	*e*P		**P**	**18 47 48.0**	**-0.6**	
	comp=Z,5.4nm,0.8s,mb4.0								
MAW	**Mawson**	**80.83**	**200**	P		**P**	**18 47 48.0**	**-0.6**	
	comp=Z,8.2nm,0.9s,mb4.1,baz=113,slow=7.6,SNR=13								
MAW				pP	pP		18 49 55.0	+4.8	
	comp=Z,4.5nm,1.0s,baz=116,slow=8.9,SNR=3.5								
MAW	**Mawson**	**80.83**	**200**	*e*P		**P**	**18 47 48.0**	**-0.6**	
MAW				pmax	pmax				
	comp=Z,5.0nm,0.8s								
M02C	**Callahan**	**80.89**	**39**	⇑P		**P**	**18 47 50.0**	**+0.7**	
	baz=81,SNR=38								

KLR pmax pmax
comp=E,24nm,1.4s
KLR pmax pmax
comp=Z,80nm,1.4s,mb5.1
PDMCI Parker Dam,Lak 82.52 49 ⇑P P 18 47 57.7 -0.1
baz=83,SNR=11
W12A Cal Nev Ari 82.53 48 ⇓P P 18 47 58.4 +0.6
baz=83,SNR=7.2
O07A Toulon 82.58 42 ⇓P P 18 47 58.1 +0.2
baz=83,SNR=50
I04A Tendick Farm, 82.64 38 ⇓P P 18 47 58.2 +0.1
baz=83,SNR=15
R09A Tonopah 82.64 44 ⇓P P 18 47 58.3 +0.1
baz=83,SNR=32
H03A Soap Creek Ran 82.69 36 ⇑P P 18 47 58.8 +0.5
baz=83,SNR=11
MOD Modoc 82.72 40 ⇓P P 18 47 58.8 +0.3
baz=83,SNR=31
MOD Modoc 82.72 40 eP P 18 47 58.9 +0.4
U11A Corn Creek 82.78 47 ⇑P P 18 47 59.7 +0.7
baz=83,SNR=5.5
S10A Tonopah Range, 82.78 45 P P 18 47 59.3 +0.3
baz=83,SNR=91
P08A Dixie Valley 82.81 43 ⇓P P 18 47 59.7 +0.7
baz=83,SNR=7.4
K05A Summer Lake 82.86 39 ⇓P P 18 48 00.2 +0.9
baz=83,SNR=42
N07B Gerlach 82.88 41 ⇑P P 18 47 59.2 -0.2
baz=83,SNR=20
Z14A Wintersburg 82.89 50 ⇑P P 18 47 59.6 0.0
baz=83,SNR=15
X13A Yucca 82.89 49 ⇑P P 18 47 59.9 +0.3
baz=83,SNR=34
SHPR Sheep Range 82.97 47 eP P 18 48 00.4 +0.5
J05A Fort Rock 83.00 38 ⇑P P 18 48 00.5 +0.6
baz=83,SNR=104
115A Sonoran Desert 83.07 51 ⇓P P 18 48 00.6 0.0
baz=83,SNR=11
G03A Yamhill 83.10 36 ⇑P P 18 48 01.1 +0.7
baz=83
O08A Rochester Mine 83.11 42 ⇓P P 18 48 00.7 +0.2
baz=83,SNR=43
M07A Soldier Meadow 83.11 41 ⇑P P 18 48 01.0 +0.5
baz=83,SNR=17
W13A Hualapai Mount 83.11 48 ⇑P P 18 48 00.9 +0.2
baz=83,SNR=27
Y14A Wickenburg 83.14 50 ⇓P P 18 48 01.1 +0.3
baz=83,SNR=25
R10A Warm Springs 83.18 45 ⇑P P 18 48 01.2 +0.2
baz=84,SNR=47
S11A Rachel 83.19 46 ⇓P P 18 48 01.2 +0.1
baz=84
K06A Valley Falls 83.29 39 ⇑P P 18 48 01.4 0.0
baz=84,SNR=50
216A Three Points, 83.29 52 ⇓P P 18 48 01.7 +0.1
baz=84,SNR=8.1
H04A Detroit Lake 83.31 37 ⇓P P 18 48 01.4 0.0
baz=84,SNR=9.5
T11A Corn Creek, Al 83.33 46 ⇓P P 18 48 01.7 0.0
baz=84,SNR=32
P09A Austin 83.33 43 ⇑P P 18 48 01.8 +0.2
baz=84
F03A Seaside 83.34 35 ⇓P P 18 48 01.9 +0.4
baz=84
L07A Adell 83.37 40 ⇑P P 18 48 02.4 +0.7
baz=84,SNR=28
116A Eloy 83.39 52 ⇑P P 18 48 02.2 +0.1
baz=84,SNR=7.7
T12A Moapa 83.39 47 ⇓P P 18 48 01.9 -0.2
baz=84
N08A GE Springer Mi 83.40 42 ⇓P P 18 48 02.2 +0.2
baz=84,SNR=32
Q10A Clear Creek Ra 83.41 44 ⇑P P 18 48 02.2 +0.2
baz=84,SNR=17
Z15A Gila River Ind 83.42 51 ⇑P P 18 48 02.0 -0.2
baz=84
V13A Grand Canyon W 83.44 48 ⇓P P 18 48 02.3 0.0
baz=84,SNR=26
G04A Mulino 83.47 36 ⇓P P 18 48 02.7 +0.5
baz=84
X14A Yava 83.49 49 ⇑P P 18 48 02.8 +0.3
baz=84,SNR=28
I05A Bend 83.52 38 ⇑P P 18 48 03.1 +0.6
baz=84,SNR=12
J06A Christmas Vall 83.61 39 ⇓P P 18 48 02.9 -0.1
baz=84,SNR=34
Y15A Casa Rosa Ranc 83.63 50 ⇑P P 18 48 03.7 +0.4
baz=84,SNR=26
M08A Happy Creek Ra 83.63 41 ⇓P P 18 48 03.5 +0.4
baz=84,SNR=14
217A Green Valley 83.65 53 ⇓P P 18 48 04.4 +0.9
baz=84,SNR=36
R11A Troy Canyon, C 83.68 45 ⇑P P 18 48 03.0 -0.4
baz=84,SNR=6.9
W14A Seligman 83.73 49 ⇓P P 18 48 04.4 +0.6
baz=84,SNR=34
S12A Delamar Landin 83.77 46 ⇑P P 18 48 04.2 +0.3
baz=84,SNR=23
N09A Rock Creek Ran 83.82 42 ⇑P P 18 48 04.3 +0.3
baz=84,SNR=9.2
K07A Rock Creek Ran 83.82 40 ⇑P P 18 48 03.8 -0.2
baz=84
H05A Madras 83.83 37 P P 18 48 04.3 +0.3
baz=84,SNR=14
Q11A Duckwater 83.91 45 P P 18 48 04.6 +0.1
baz=84,SNR=18
SVW2 Sparrevohn 83.93 11 eP P 18 48 03.0 -1.1
V14A Boquillas Ranc 83.94 48 ⇑P P 18 48 04.7 0.0
baz=84,SNR=34
TUC Tucson 83.94 52 eP P 18 48 05.7 +0.9
F04A Amboy 83.96 36 ⇓P P 18 48 04.7 +0.1
baz=84,SNR=8.4
X15A Humboldt 83.96 50 ⇓P P 18 48 05.0 +0.1
baz=84,SNR=24
Z16A Peralta Trail, 83.97 51 ⇑P P 18 48 05.2 +0.2
baz=84,SNR=6.3
D03A Wishkah Elem. 83.98 34 ⇓P P 18 48 04.4 -0.2
baz=84
I06A Prineville 83.99 38 ⇑P P 18 48 05.1 +0.2
baz=84,SNR=51
HOOD Mount Hood Mea 84.00 37 eP P 18 48 05.4 +0.5
WVOR Wild Horse Val 84.04 40 eP P 18 48 05.1 0.0
WVOR pmax pmax
comp=Z,38nm,1.1s,mb4.8
WVOR Wild Horse Val 84.04 40 eP P 18 48 05.1 0.0
comp=Z,38nm,1.1s,mb4.8
L08A Fields 84.08 41 ⇑P P 18 48 05.7 +0.4
baz=84,SNR=33
117A Oracle 84.10 52 ⇓P P 18 48 05.8 +0.2
baz=84,SNR=25
C03A Quillayute Air 84.10 33 ⇓P P 18 48 05.4 +0.2
baz=84
T13A Saint George 84.10 47 ⇑P P 18 48 05.7 +0.2
baz=84,SNR=12
318A Bisbee 84.11 53 ⇑P P 18 48 06.7 +1.0
baz=84,SNR=30
G05A Wamic 84.14 37 ⇓P P 18 48 05.6 +0.1
baz=84
O10A Cortez Mining, 84.15 43 ⇓P P 18 48 05.5 -0.2
baz=84,SNR=7.2
OOW Octopus West 84.16 34 P P 18 48 06.4 +0.9
J07A Hines 84.18 39 P P 18 48 06.2 +0.4
baz=84,SNR=18
M09A Marrel Ranch, 84.19 42 ⇑P P 18 48 06.3 +0.4
baz=84,SNR=5.5
Y16A Circle Bar Ran 84.20 51 ⇓P P 18 48 06.1 0.0
baz=84,SNR=30
E04A Onalaska 84.21 35 ⇓P P 18 48 06.4 +0.6
baz=84
P11A Circle Ranch, 84.23 44 ⇑P P 18 48 06.4 +0.4
baz=84
U14A Mt Trumbull 84.29 48 ⇑P P 18 48 06.8 +0.3
baz=85,SNR=23
K08A Mann Creek Ran 84.30 40 ⇓P P 18 48 06.1 -0.2
baz=85,SNR=41
R12A Pony Springs, 84.32 45 ⇓P P 18 48 06.4 -0.2
baz=85,SNR=20
218A Dragoon 84.32 53 ⇑P P 18 48 06.6 -0.1
baz=85,SNR=18
L09A Wilkinson Ranc 84.39 41 ⇓P P 18 48 06.6 -0.2
baz=85,SNR=7.6
H06A Lindquist Farm 84.39 38 ⇑P P 18 48 06.8 +0.1
baz=85,SNR=41
F05A White Salmon 84.46 36 ⇑P P 18 48 07.1 0.0
baz=85,SNR=5.5
SLKM Skilak Lake 84.47 14 eP P 18 48 05.7 -1.0
I07A Izee 84.48 39 ⇓P P 18 48 07.1 -0.1
baz=85,SNR=38
X16A Lo Mia Camp, P 84.50 50 ⇑P P 18 48 07.3 -0.3
baz=85,SNR=23
G06A Carlson Farm, 84.52 37 ⇓P P 18 48 06.9 -0.4
baz=85,SNR=14
Q12A Willow Creek R 84.55 45 ⇓P P 18 48 07.4 -0.3
baz=85,SNR=12
Y17A Roosevelt 84.57 51 ⇑P P 18 48 07.7 -0.2
baz=85,SNR=9.7
O11A Cowboy Ranch, 84.60 43 ⇓P P 18 48 08.4 +0.5
baz=85
319A Douglas 84.61 54 ⇑P P 18 48 08.5 +0.3
baz=85,SNR=26
Z17A San Carlos Hig 84.65 51 ⇑P P 18 48 08.7 +0.5
baz=85,SNR=5.1
R13A O'Grain Ranch, 84.67 46 ⇑P P 18 48 08.6 +0.3
baz=85,SNR=13
J08A Circle Bar Ran 84.67 40 ⇓P P 18 48 08.3 +0.2
baz=85,SNR=26
V15A Kaibab Nationa 84.68 49 ⇓P P 18 48 09.0 +0.6
baz=85,SNR=22
T14A Hurricane 84.68 47 ⇓P P 18 48 08.1 -0.3
baz=85,SNR=12
118A Homack Ranch, 84.70 52 ⇓P P 18 48 08.3 -0.3
baz=85,SNR=26
E05A Randle 84.71 36 P P 18 48 08.3 0.0
baz=85,SNR=11
B04A Port Angeles 84.72 34 ⇑P P 18 48 08.6 +0.4
baz=85
K09A Rome 84.74 40 ⇑P P 18 48 08.7 +0.2
baz=85,SNR=37
CCUT Cedar City 84.75 47 eP P 18 48 09.0 +0.3
H07A Lands Inn, Kim 84.75 38 ⇓P P 18 48 08.3 -0.2
baz=85,SNR=34
GNW Green Mountain 84.76 34 eP P 18 48 09.1 +0.6
F06A Goldendale 84.76 37 ⇓P P 18 48 08.4 -0.1
baz=85,SNR=13
W16A Flagstaff 84.77 49 ⇑P P 18 48 08.4 -0.5
baz=85,SNR=8.5
C04A Brinnon 84.78 34 ⇑P P 18 48 08.8 +0.3
baz=85,SNR=14
M10A I.L. Ranch, Tu 84.81 42 ⇓P P 18 48 09.1 +0.3
baz=85,SNR=19
ARUT Antelope Range 84.82 46 eP P 18 48 09.0 0.0
Z18A Geronimo 84.86 52 ⇑P P 18 48 09.9 +0.5
baz=85
U15A North Rim 84.91 48 P P 18 48 10.3 +0.9
baz=85,SNR=71
X17A Forest Lakes 84.91 50 ⇓P P 18 48 09.8 +0.3
baz=85,SNR=9.5
219A White Tail Can 84.92 53 P P 18 48 10.4 +0.7
baz=85,SNR=20
I08A Drewsey 84.93 39 P P 18 48 09.8 +0.4
baz=85,SNR=15
D05A Enumclaw 84.97 35 ⇑P P 18 48 09.5 0.0
baz=85,SNR=13
Q13A Wheeler Ranch, 85.04 45 P P 18 48 10.0 -0.1
baz=85,SNR=22
G07A Ruggs Ranch, H 85.09 38 ⇑P P 18 48 10.2 0.0
baz=85,SNR=28
WUAZ Wupatki 85.09 49 ⇓P P 18 48 10.6 +0.2
baz=85,SNR=14
WUAZ Wupatki 85.09 49 eP P 18 48 11.1 +0.7
J09A Fry Pan Ranch, 85.09 40 ⇓P P 18 48 10.4 +0.2
baz=85,SNR=30
PGC Sidney 85.12 33 eP P 18 48 10.2 0.0
E06A Yakima 85.12 36 ⇓P P 18 48 10.0 -0.2
baz=86,SNR=15
T15A Red Dirt Ranch 85.14 47 ⇑P P 18 48 10.4 -0.2
baz=85,SNR=23
L10A Juniper Basin 85.16 41 ⇓P P 18 48 10.6 +0.1
baz=86,SNR=30
ELK Elko 85.20 43 eP P 18 48 10.4 -0.4
ELK pmax pmax
comp=Z,18nm,1.3s
ELK Elko 85.20 43 eP P 18 48 10.4 -0.4
comp=Z,18nm,1.3s,mb4.5
H08A Prairie City 85.23 39 ⇓P P 18 48 10.6 -0.2
baz=86,SNR=17
M11A Holland Ranch, 85.23 42 P P 18 48 11.5 +0.6
baz=86,SNR=9.1
119A Ashpeak Ranch, 85.25 52 ⇑P P 18 48 11.9 +0.6
baz=86,SNR=8.7
O12A Currie 85.26 44 ⇓P P 18 48 10.6 -0.5
baz=86
K10A MacKenzie Ranc 85.31 41 P P 18 48 11.5 +0.3
baz=86,SNR=19
P13A Bates Ranch, G 85.31 45 P P 18 48 11.2 -0.2
baz=86,SNR=18
F07A Phinny Hill Vi 85.32 37 ⇓P P 18 48 11.0 -0.2
baz=86
R14A James Farms, M 85.36 46 ⇓P P 18 48 11.2 -0.4
baz=86
N12A Clover Valley, 85.39 43 ⇓P P 18 48 11.6 -0.1
baz=86,SNR=17
C05A Tolt Reservoir 85.44 35 ⇑P P 18 48 11.5 -0.2
baz=86,SNR=17
I09A Lost Marbles R 85.46 39 ⇓P P 18 48 11.9 -0.1
baz=86,SNR=12
S15A Panguitch 85.49 47 ⇑P P 18 48 12.7 +0.5
baz=86,SNR=18
G08A Pilot Rock 85.51 38 P P 18 48 12.3 +0.2
baz=86,SNR=56
Z19A T-Link Ranch, 85.53 52 ⇑P P 18 48 12.4 -0.2
baz=86
A04A Legoe Bay, Lum 85.55 34 ⇑P P 18 48 12.6 +0.3
baz=86,SNR=25
Q14A Sevier Lake (B 85.55 45 P P 18 48 12.6 +0.1
baz=86,SNR=27
U16A Tuba City 85.58 49 ⇑P P 18 48 13.1 +0.4
baz=86,SNR=12
B05A Bryant 85.58 34 ⇓P P 18 48 12.6 +0.2
baz=86,SNR=8.7
D06A Cle Elum 85.59 35 P P 18 48 12.8 +0.3
baz=86,SNR=19
JCW Jim Creek 85.62 34 eP P 18 48 12.4 -0.2
X18A Snowflake 85.62 51 ⇑P P 18 48 13.0 0.0
baz=86,SNR=7.3
BJT Baijiatuau 85.64 316 eP P 18 48 12.8 -0.1
BJT pmax pmax
comp=Z,20nm,0.5s
BJT Baijiatuau 85.64 316 eP P 18 48 12.8 -0.1
comp=Z,20nm,0.5s,mb5.0
BJI Beijing 85.64 316 P P 18 48 13.0 +0.1
BJI S S 18 57 52.8 -5.0
BJI AMB AMB
comp=Z,58nm,0.9s,mb5.2
BJI AMB AMB
comp=Z,285nm,3.4s
L11A Cat Creek Ranc 85.65 42 ⇑P P 18 48 13.2 +0.3
baz=86,SNR=11
PMR Palmer 85.68 14 eP P 18 48 10.8 -1.8
O13A Hicks Ranch, I 85.69 44 ⇓P P 18 48 13.7 +0.5
baz=86
J10A Berg Farm, Mel 85.73 40 ⇓P P 18 48 13.7 +0.5
baz=86
T16A Glen Canyon Da 85.73 48 ⇑P P 18 48 13.7 +0.3
baz=86,SNR=8.6
E07A Sunnyside 85.75 36 P P 18 48 13.7 +0.4
baz=86,SNR=20
M12A Wells 85.77 43 ⇓P P 18 48 13.6 +0.1
baz=86,SNR=13
RSW Rattlesnake Hi 85.80 37 eP P 18 48 13.7 +0.2
K11A Parker Ranch, 85.81 41 ⇑P P 18 48 13.7 +0.1
baz=86,SNR=12
R15A Junction 85.82 46 ⇓P P 18 48 13.7 -0.1
baz=86,SNR=6.4
HAWA Hanford 85.83 37 eP P 18 48 14.0 +0.3
Y19A Nutrioso 85.86 51 ⇑P P 18 48 14.4 +0.3
baz=86,SNR=26
H09A Durkee 85.90 39 ⇓P P 18 48 13.9 -0.1
baz=86,SNR=21
F08A Pendleton 85.91 37 P P 18 48 14.0 0.0
baz=86,SNR=24
N13A Wendover, West 85.93 43 ⇓P P 18 48 14.3 0.0
baz=86,SNR=10
RPW Rockport 86.00 34 eP P 18 48 13.8 -0.6
P14A Drum Mountains 86.00 45 ⇑P P 18 48 14.5 -0.1
baz=86,SNR=7.6
S16A Weppner Ranch, 86.04 47 ⇑P P 18 48 14.4 -0.4
baz=86,SNR=12
A05A Maple Falls 86.04 34 ⇓P P 18 48 14.6 0.0
baz=86
MSU Marysvale 86.04 46 eP P 18 48 15.6 +0.7
B06A Marblemount 86.06 34 ⇑P P 18 48 14.7 0.0
baz=86
D07A Quincy 86.07 36 P P 18 48 14.9 +0.2
baz=86,SNR=12
SYO Syowa Base 86.07 193 ⇑eX P 18 48 11.2 -3.3
L12A House Creek Ra 86.10 42 ⇑P P 18 48 15.4 +0.4
baz=86,SNR=8.4
E08A Dider Farm, El 86.16 37 P P 18 48 15.5 +0.3
baz=86,SNR=13
GYA Guiyang 86.16 300 ⇓iP P 18 48 16.0 +0.3
GYA AP pP 18 50 21.3 +1.8
GYA XP sP 18 51 17.5 +0.3
GYA PP PP 18 51 49.3 +1.9
GYA SKS 18 57 46.0
GYA S S 18 58 02.5 -0.7
GYA XS sS 19 01 42.8 -1.0
GYA AMB AMB
comp=Z,20nm,1.0s,mb4.7
GYA AMB AMB
comp=Z,140nm,6.2s
G09A Cove 86.18 38 ⇓P P 18 48 15.4 +0.1
baz=86,SNR=18
V18A Ganado 86.21 50 ⇑P P 18 48 16.1 +0.4
baz=86
BMO Blue Mountains 86.21 39 eP P 18 48 15.3 -0.2
T17A Navajo Res., N 86.23 48 ⇓P P 18 48 15.9 +0.1
baz=86,SNR=22
LNOR Lincton Mounta 86.23 38 eP P 18 48 15.1 -0.5
MFID Camas Ranch 86.30 41 ⇑P P 18 48 15.8 -0.1
baz=87,SNR=21
W19A Sanders 86.31 50 ⇑P P 18 48 16.2 0.0
baz=87,SNR=7.4
C07A Waterville 86.31 35 ⇓P P 18 48 15.6 -0.3
baz=87,SNR=26
F09A S2 Ranch, Elgi 86.35 38 ⇓P P 18 48 16.5 +0.3
baz=87,SNR=12
H10A Noah's Angus R 86.39 39 ⇓P P 18 48 16.0 -0.4
baz=87,SNR=50
R16A Teasdale 86.40 47 ⇓P P 18 48 16.5 -0.1
baz=87,SNR=11
A06A Chilliwack 86.42 34 ⇓P P 18 48 16.2 -0.1
baz=87
K12A Draper Farm, C 86.44 42 ⇓P P 18 48 16.8 +0.1
baz=87,SNR=10
DUG Dugway 86.48 45 ⇑P P 18 48 16.4 -0.5
baz=87
DUG Dugway 86.48 45 eP P 18 48 16.9 0.0
I11A Placerville 86.49 40 ⇓P P 18 48 17.1 +0.3
baz=87,SNR=11
WRAK Wrangell Islan 86.49 24 eP P 18 48 17.1 +0.6
S17A Black Ridge (B 86.54 48 ⇓P P 18 48 16.7 -0.5
baz=87,SNR=13
D08A Wollman Farm, 86.56 36 ⇑P P 18 48 17.3 +0.2
baz=87,SNR=23
G10A Bishop Farm, J 86.57 39 ⇑P P 18 48 17.1 -0.1
baz=87,SNR=42
N14A Grayback Hills 86.58 44 ⇑P P 18 48 16.8 -0.5
baz=87
U18A Rough Rock, Ch 86.60 49 ⇑P P 18 48 17.4 -0.2
baz=87,SNR=11
J12A Stokes Ranch, 86.65 41 ⇓P P 18 48 17.8 +0.2
baz=87,SNR=45
SEY Seymchan 86.65 347 ⇑eP P 18 48 16.4 -0.7
E09A Wood Farm, Sta 86.68 37 ⇓P P 18 48 17.4 -0.3
baz=87,SNR=30
B07A Winthrop 86.75 35 ⇓P P 18 48 17.8 -0.1
baz=87,SNR=36
L13A Double Diamond 86.75 42 ⇓P P 18 48 18.7 +0.6
baz=87,SNR=6.3
M14A Sheep Mountain 86.82 43 ⇓P P 18 48 18.0 -0.5
baz=87,SNR=18
NLU North Lily Min 86.85 45 eP P 18 48 19.9 +1.3
OD2 Odessa Site #2 86.88 36 eP P 18 48 18.4 -0.2
H11A Donnelly 86.89 39 ⇓P P 18 48 18.6 -0.1
baz=87,SNR=57
F10A Beach Ranch, E 86.89 38 ⇓P P 18 48 18.2 -0.4
baz=87,SNR=77
D09A Jones Farm, Ri 86.91 37 ⇓P P 18 48 18.8 +0.1
baz=87,SNR=30
C08A Higginbotham F 86.92 36 ⇓P P 18 48 18.5 -0.2
baz=87,SNR=25
I12A Atlanta 86.92 41 ⇑P P 18 48 19.0 +0.1
baz=87,SNR=50
T18A Mexican Hat 86.94 48 ⇓P P 18 48 18.8 -0.3
baz=87,SNR=52
K13A Stover Farm, H 86.96 42 ⇓P P 18 48 18.9 -0.2
baz=87,SNR=9.9
A07A Ashnola River, 86.96 34 ⇓P P 18 48 19.0 +0.1
baz=87,SNR=22
R17A Hanksville Air 86.99 47 ⇓P P 18 48 19.0 -0.3
baz=87,SNR=13
N15A Stansbury Isla 87.03 44 ⇑P P 18 48 19.4 -0.1
baz=87
TMUT Trail Mountain 87.09 46 eP P 18 48 20.6 +0.8
B08A Colville Reser 87.11 35 P P 18 48 18.9 -0.7
baz=87,SNR=48
S18A Hurst Farm, Bl 87.13 48 P P 18 48 19.9 -0.1
baz=87,SNR=5.9
G11A Walters Elk Ra 87.13 39 ⇑P P 18 48 19.6 -0.2
baz=88,SNR=113
L14A Malta 87.16 43 ⇑P P 18 48 19.8 -0.2
baz=88,SNR=12
HLID Hailey 87.24 41 ⇓P P 18 48 20.7 +0.3
baz=88,SNR=52
HLID Hailey 87.24 41 eP P 18 48 20.8 +0.4
E10A Myers Farm, Un 87.25 38 ⇓P P 18 48 20.1 -0.2
baz=88,SNR=15
SPUT South Promonto 87.29 44 eP P 18 48 20.6 -0.1
J13A Cove Ranch, Pi 87.30 41 ⇑P P 18 48 21.2 +0.5
baz=88,SNR=40
HVU Hansel Valley 87.33 43 eP P 18 48 21.3 +0.5
O16A Springville 87.35 45 ⇑P P 18 48 21.1 +0.1
baz=88
C09A Chrisman Ranch 87.36 36 ⇑P P 18 48 20.7 -0.1
baz=88,SNR=18
M15A Larsen Ranch, 87.37 44 ⇓P P 18 48 20.4 -0.7
baz=88,SNR=11
T19A Beclabito 87.39 49 ⇑P P 18 48 20.8 -0.4
baz=88,SNR=7.0
SRU San Rafael 87.46 46 ⇑P P 18 48 21.0 -0.5
baz=88,SNR=18
SRU San Rafael 87.46 46 eP P 18 48 22.0 +0.5
F11A Grangeville 87.47 38 ⇓P P 18 48 20.3 -1.1
baz=88,SNR=12
K14A Jones Ranch, D 87.47 42 ⇓P P 18 48 21.0 -0.5
baz=88,SNR=5.4
D10A Wagner Farm, O 87.48 37 ⇑P P 18 48 21.0 -0.4
baz=88,SNR=42
A08A Turner Farm, O 87.49 35 ⇓P P 18 48 21.3 -0.1
baz=88,SNR=52
P17A Butcher Ranch, 87.50 46 ⇓P P 18 48 21.9 +0.2
baz=88,SNR=8.9
H12A Diamond D Ranc 87.50 40 ⇑P P 18 48 21.5 -0.1
baz=88,SNR=68
R18A Canyonlands Na 87.53 47 ⇑P P 18 48 21.3 -0.6
baz=88,SNR=22
G12A Big Creek, Yel 87.54 39 ⇓P P 18 48 20.6 -1.1
baz=88
SNAA Sanae 87.55 179 eP P 18 48 19.9 -1.5
SNAA e 18 48 23.8
SNAA e 18 50 30.5
SNAA e 18 50 34.1
SNAA Sanae 87.55 179 ⇑eP P 18 48 19.6 -1.8
SNAA Sanae 87.55 179 eP P 18 48 19.5 -2.0
comp=Z,2.4nm,0.6s,mb4.1
JLU Jordanelle 87.59 45 eP P 18 48 22.5 +0.5
I13A Wildhorse Cree 87.61 41 ⇓P P 18 48 22.4 +0.4
baz=88,SNR=18
LAZ Ladron 87.61 52 eP P 18 48 22.9 +0.5
DAU Daniels Canyon 87.62 45 eP P 18 48 23.0 +0.8
LENM Lemitar 87.63 52 eP P 18 48 22.8 +0.3
J14A Carey 87.67 42 ⇓P P 18 48 22.7 +0.4
baz=88,SNR=32
L15A Malad City 87.69 43 ⇑P P 18 48 22.0 -0.6
baz=88,SNR=23
E11A Bogner Ranch, 87.70 38 ⇑P P 18 48 21.5 -0.9
baz=88,SNR=22
VNA3 Neumayer Olymp 87.72 177 eP P 18 48 21.0 -1.2
VNA3 e 18 48 25.0
VNA3 e 18 50 31.2
VNA3 e 18 50 34.7
Q18A Rafter H Ranch 87.72 47 ⇑P P 18 48 22.5 -0.2
baz=88,SNR=21
SKAG Skagway 87.72 21 eP P 18 48 22.6 +0.4
comp=Z,124nm,1.9s,mb5.3
N16A Rees Ranch, Co 87.74 44 ⇑P P 18 48 23.2 +0.5
baz=88,SNR=9.5
S19A Harvey Farm, M 87.75 48 ⇓P P 18 48 22.8 -0.1
baz=88,SNR=7.0
XAN Xi'an 87.75 308 P P 18 48 23.3 +0.3
XAN AP pP 18 50 27.0 -0.4

XAN XP sP 18 51 24.5 -0.5
XAN PP PP 18 51 59.8 -0.1
XAN S S 18 58 18.8 +0.9
XAN SS SS 19 04 24.5 +1.7
XAN AMB AMB
comp=Z,71nm,1.1s,mb5.3
B09A Rice 87.78 36 ⇑P **P 18 48 22.5 -0.3**
baz=88,SNR=34
M16A Huntsville 87.83 44 ⇑P **P 18 48 23.1 -0.1**
baz=88,SNR=6.1
O17A Robinson Place 87.85 45 ⇑P **P 18 48 23.6 +0.3**
baz=88,SNR=62
A09A Danville 87.87 35 ⇓P **P 18 48 23.1 -0.1**
baz=88,SNR=30
H13A Challis 87.87 40 ⇓P **P 18 48 22.9 -0.3**
baz=88,SNR=42
BNM Barren Site 87.87 52 *e*P **P 18 48 23.8 +0.2**
P18A Preston Nutter 87.90 46 ⇓P **P 18 48 23.9 +0.3**
baz=88,SNR=8.6
F12A Elk City 87.92 39 P **P 18 48 23.4 -0.1**
baz=88,SNR=71
LPM Los Pinos Moun 87.94 52 *e*P **P 18 48 24.1 +0.3**
K15A Arbon 87.95 43 ⇓P **P 18 48 23.9 +0.2**
baz=88,SNR=9.6
D11A Klaveano Farm, 88.01 37 ⇑P **P 18 48 23.3 -0.6**
baz=88,SNR=17
HWUT Hardware Ranch 88.02 44 *e*P **P 18 48 23.8 -0.2**
TXAR Lajitas Array 88.02 58 P **P 18 48 24.9 +0.5**
comp=Z,21nm,0.8s,mb4.9,baz=218,slow=5.9,SNR=151
TXAR pP pP 18 50 35.0 +6.1
comp=Z,1.1nm,1.0s,baz=251,slow=5.6,SNR=2.7
I14A Mackay 88.02 41 ⇓P **P 18 48 23.9 -0.1**
baz=88,SNR=46
E12A Beaver Dam Sad 88.10 38 ⇑P **P 18 48 23.8 -0.5**
baz=88,SNR=16
HYT Haines Junctio 88.10 19 *e*P **P 18 48 23.5 -0.4**
VNA2 Neumayer--Watz 88.15 177 *e*P **P 18 48 23.3 -0.9**
baz=189,slow=3.6
VNA2 *e* 18 48 27.8
VNA2 *e* 18 50 33.7
VNA2 *e* 18 50 37.4
N17A Moffit Pass 88.16 45 ⇑P **P 18 48 24.6 -0.1**
baz=88,SNR=7.0
G13A Cobalt 88.17 40 ⇑P **P 18 48 24.5 -0.1**
baz=88,SNR=33
B10A Chitwood Farm, 88.22 36 ⇑P **P 18 48 24.8 0.0**
baz=88
NEW Newport 88.25 36 *e*P **P 18 48 24.4 -0.6**
L16A Fish Haven 88.31 44 ⇓P **P 18 48 25.3 -0.1**
baz=89,SNR=40
PV01 Paradox Valley 88.33 48 *e*P **P 18 48 25.1 -0.5**
ANMO Albuquerque 88.36 52⇑*e*P **P 18 48 25.7 -0.1**
ANMO Albuquerque 88.36 52 *e*P **P 18 48 25.6 -0.3**
comp=Z,26nm,1.2s,mb4.8
O18A Roosevelt 88.38 46 ⇓P **P 18 48 25.7 -0.1**
baz=89,SNR=9.3
J15A Blackfoot 88.38 42 ⇓P **P 18 48 26.1 +0.4**
baz=89,SNR=40
VNA1 Neumayer--Stat 88.38 177 *e*P **P 18 48 24.7 -0.6**
VNA1 *e* 18 50 36.2
VNA1 *e* 18 50 39.9
A10A Northport 88.42 35 ⇓P **P 18 48 25.7 -0.1**
baz=89
H14A Leadore 88.44 41 ⇑P **P 18 48 26.1 +0.1**
baz=89,SNR=16
F13A Darby 88.48 39 P **P 18 48 25.8 -0.4**
baz=89,SNR=32
D12A Red Ives Fores 88.57 38 ⇑P **P 18 48 25.6 -0.9**
baz=89
HIA Hailar 88.60 325 *e*P **P 18 48 25.6 -0.9**
HIA pmax pmax
comp=Z,27nm,1.1s
HIA Hailar 88.60 325 *e*P **P 18 48 25.6 -0.9**
comp=Z,28nm,1.1s,mb5.0
K16A Soda Springs 88.62 43 ⇑P **P 18 48 27.2 +0.4**
baz=89,SNR=21
G14A Jackson 88.71 40 ⇓P **P 18 48 27.1 -0.1**
baz=89,SNR=12
GDL2 Guadalupe Moun 88.71 55 *e*P **P 18 48 27.8 +0.2**
P19A Cripple Cowboy 88.76 47 ⇑P **P 18 48 27.4 -0.2**
baz=89,SNR=12
B11A Sandpoint 88.77 36 ⇓P **P 18 48 27.2 -0.2**
baz=89
KMI Kunming 88.82 297 P **P 18 48 28.8 +0.6**
KMI AP pP 18 50 33.3 +0.4
KMI XP sP 18 51 30.8 +0.4
KMI PP PP 18 52 09.8 +1.4
KMI S S 18 58 28.0 0.0
KMI AMB AMB
comp=Z,45nm,1.0s,mb5.2
KMI AMB AMB
comp=Z,235nm,3.2s
DLBC Dease Lake 88.82 23 *e*P **P 18 48 27.9 +0.5**
J16A Bone 88.83 42 ⇓P **P 18 48 28.2 +0.4**
baz=89,SNR=48
COLA College 88.86 13 *e*P **P 18 48 25.6 -1.8**
COLA pmax pmax
comp=Z,63nm,0.9s,mb5.5
COLA College 88.86 13 *e*P **P 18 48 25.6 -1.7**
comp=Z,63nm,0.9s,mb5.5
IMA2 Indian Mountai 88.86 10 *e*P **P 18 48 26.6 -0.8**
C12B Naegeli Ranch, 88.86 37 ⇓P **P 18 48 28.1 +0.2**
baz=89
H15A Lima 88.88 41 ⇑P **P 18 48 28.2 +0.2**
baz=89,SNR=19
AHID Auburn Hatcher 88.90 43 *e*P **P 18 48 29.4 +1.3**
E13A Victor 88.92 39 ⇑P **P 18 48 27.1 -1.0**
baz=89
N18A Larsen Ranch, 88.94 45 P **P 18 48 28.1 -0.2**
baz=89,SNR=39
O19A Miners Draw (B 88.98 46 ⇓P **P 18 48 28.4 -0.2**
baz=89,SNR=14
RRI2 Red Ridge 89.05 42 *e*P **P 18 48 29.2 +0.4**
A11A Hall Mountain, 89.06 36 ⇓P **P 18 48 29.0 +0.3**
baz=89,SNR=15
F14A Wisdom 89.06 40 ⇑P **P 18 48 28.5 -0.3**
baz=89
D13A Huson 89.11 38 ⇓P **P 18 48 28.0 -1.0**
baz=89,SNR=7.4
I16A Newdale 89.21 42 ⇑P **P 18 48 29.3 -0.3**
baz=90,SNR=19
B12A Libby 89.22 36 P **P 18 48 29.3 -0.1**
baz=90,SNR=9.7
N19A John Jarvie Ra 89.23 45 P **P 18 48 29.4 -0.4**
baz=90,SNR=12
G15A Dillon 89.26 40 ⇓P **P 18 48 29.6 -0.2**
baz=90,SNR=28
MSO Missoula 89.27 38 *e*P **P 18 48 29.2 -0.6**
DLMT Dillon 89.29 40 *e*P **P 18 48 30.1 +0.3**
E14A Clinton 89.31 39 ⇑P **P 18 48 29.4 -0.5**
baz=90,SNR=8.1
BSMT Bassoo Peak 89.33 37 *e*P **P 18 48 29.7 -0.3**
REDW Red Top Meadow 89.36 43 *e*P **P 18 48 30.4 +0.2**
TPAW Teton Pass 89.36 42 *e*P **P 18 48 30.6 +0.4**
C13A Hot Springs 89.36 38 ⇑P **P 18 48 29.4 -0.7**
baz=90
BILL Bilibino 89.43 354 *e*P **P 18 48 29.0 -1.0**
BILL pmax pmax
comp=Z,23nm,0.9s,mb5.0
BILL Bilibino 89.43 354 *e*P **P 18 48 29.0 -0.9**
comp=Z,24nm,0.9s,mb5.0
A12A Yaak River Ran 89.44 36 ⇓P **P 18 48 30.8 +0.4**
baz=90,SNR=5.8
J17A Brown Place, J 89.44 43 ⇑P **P 18 48 30.7 0.0**
baz=90,SNR=24
SNOW Snow King Moun 89.47 43 *e*P **P 18 48 31.2 +0.5**
CMAR Chiang Mai Arr 89.48 290 P **P 18 48 32.4 +1.0**
comp=Z,34nm,0.9s,mb5.2,baz=126,slow=3.0,SNR=154
CMAR PP PP 18 52 07.3 -6.3
comp=Z,0.8nm,0.8s,baz=120,slow=5.3,SNR=3.4
CMAR Chiang Mai Arr 89.48 290 *i* P **P 18 48 32.4 +1.0**
CMAR pmax pmax
comp=Z,35nm,0.9s
M19A Rock Springs 89.54 45 ⇑P **P 18 48 30.7 -0.5**
baz=90,SNR=12
PLCA Paso Flores 89.55 134 P **P 18 48 31.2 -0.2**
comp=Z,2.8nm,0.7s,mb4.2,baz=335,slow=2.9,SNR=5.9
IMW Indian Meadow 89.57 42 *e*P **P 18 48 31.7 +0.5**
F15A Butte 89.60 40 ⇓P **P 18 48 31.4 +0.1**
baz=90,SNR=9.9
MOOW Moose Ponds 89.61 42 *e*P **P 18 48 31.5 +0.1**
CHTO Chiang Mai 89.61 290 *e*P **P 18 48 32.1 +0.1**
LRM Limekiln Ridge 89.62 40 *e*P **P 18 48 31.6 +0.3**
LOHW Long Hollow 89.64 42 *e*P **P 18 48 31.6 0.0**
D14A Greenough 89.65 38 ⇑P **P 18 48 30.2 -1.3**
baz=90,SNR=8.6

L19A Farson 89.69 44 ⇑P **P 18 48 31.8 -0.1**
baz=90,SNR=49
G16A Moss Hill, Enn 89.70 41 ⇓P **P 18 48 31.8 0.0**
baz=90,SNR=12
CHMT Chamberlain Mo 89.71 39 *e*P **P 18 48 31.6 -0.2**
QLMT Earthquake Lak 89.73 41 *e*P **P 18 48 32.8 +0.8**
H16A Russell Place, 89.78 41 ⇓P **P 18 48 31.4 -0.7**
baz=90,SNR=20
B13A Whitefish 89.79 37 ⇓P **P 18 48 31.6 -0.6**
baz=90,SNR=5.6
I17A Pilgram Creek 89.81 42 ⇓P **P 18 48 32.4 +0.1**
baz=90,SNR=13
E15A Deer Lodge 89.82 39 ⇑P **P 18 48 31.5 -0.8**
baz=90
C14A Swan Lake 89.88 38 ⇑P **P 18 48 31.7 -0.8**
baz=90
BW06 Boulder Array 89.89 44 ⇑P **P 18 48 31.5 -1.2**
baz=90,SNR=36
PDAR Pinedale Array 89.89 44 P **P 18 48 32.1 -0.6**
comp=Z,18nm,0.7s,mb5.0,baz=209,slow=3.1,SNR=146
YFT Old Faithful 89.91 42 *e*P **P 18 48 34.1 +1.4**
SMCO Snowmass 89.92 48 *e*P **P 18 48 30.1 -2.9**
YMR Madison River 89.94 41 *e*P **P 18 48 33.3 +0.4**
comp=Z,64nm,1.6s,mb5.2
BOZ Bozeman (W) 90.02 40 *e*P **P 18 48 32.8 -0.5**
BOZ pmax pmax
comp=Z,11nm,0.9s,mb4.7
BOZ Bozeman (W) 90.02 40 ⇑P **P 18 48 32.4 -0.8**
baz=90,SNR=19
BOZ Bozeman (W) 90.02 40 *e*P **P 18 48 32.8 -0.5**
comp=Z,11nm,0.9s,mb4.7
H17A Grant Village 90.04 42 ⇓P **P 18 48 33.2 -0.2**
baz=90,SNR=12
F16A Kennard Place, 90.09 40 ⇑P **P 18 48 34.0 +0.4**
baz=90,SNR=7.4
DAWY Dawson 90.15 16 *e*P **P 18 48 33.0 -0.4**
D15A Lincoln 90.21 39 ⇓P **P 18 48 33.5 -0.6**
baz=90,SNR=7.4
EGAK Eagle 90.28 15 *e*P **P 18 48 33.0 -0.9**
comp=Z,38nm,0.9s,mb5.2
CD2 Chengdu 90.34 303 *e*P **P 18 48 36.0 +0.9**
CD2 PP PP 18 52 23.0 +2.8
CD2 SKS 18 58 15.3
CD2 S S 18 58 43.0 +1.5
CD2 XS sS 19 02 22.0 -2.9
CD2 SS SS 19 05 01.0 +1.1
CD2 AMB AMB
comp=Z,10.0nm,0.9s,mb4.7
CD2 AMB AMB
comp=Z,30nm,6.8s
HRY Holter Researc 90.44 39 *e*P **P 18 48 35.4 +0.3**
E16A East Helena 90.44 40 ⇑P **P 18 48 34.3 -0.8**
baz=91
B14A Marquette Ranc 90.46 37 ⇓P **P 18 48 34.5 -0.7**
baz=91,SNR=19
C15A Salmond Ranch, 90.53 38 ⇑P **P 18 48 34.8 -0.8**
baz=91,SNR=6.5
A14A Double T Ranch 90.70 37 ⇓P **P 18 48 35.9 -0.4**
baz=91,SNR=18
F17A Fitzpatrick Pl 90.74 40 ⇑P **P 18 48 36.5 -0.1**
baz=91,SNR=9.1
D16A Dana Ranch, Ca 90.77 39 ⇓P **P 18 48 36.2 -0.5**
baz=91,SNR=13
B15A Bradely Ranch, 90.84 38 ⇑P **P 18 48 36.0 -0.9**
baz=91,SNR=7.0
E17A Martinsdale 90.90 40 ⇓P **P 18 48 36.8 -0.5**
baz=91
RWWY Rawlins 90.91 45 *e*P **P 18 48 37.2 -0.2**
C16A Fuhringer Ranc 91.05 38 ⇑P **P 18 48 37.2 -0.8**
baz=91,SNR=8.0
A15A Johnson Ranch, 91.09 37 P **P 18 48 37.3 -0.8**
baz=91,SNR=10
RLMT Red Lodge 91.21 42 ⇓P **P 18 48 38.9 +0.1**
baz=92,SNR=6.0
RLMT Red Lodge 91.21 42 *e*P **P 18 48 38.5 -0.3**
comp=Z,5.2nm,0.8s,mb4.5
GCMT Greycliff 91.29 41 *e*P **P 18 48 39.0 -0.1**
F18A Big Timber 91.31 41 ⇓P **P 18 48 39.5 +0.2**
baz=92,SNR=5.1
D17A Six Diamond Ra 91.34 39 ⇑P **P 18 48 39.2 -0.2**
baz=92,SNR=17
B16A M & M Farms, S 91.38 38 ⇓P **P 18 48 38.7 -0.7**
baz=92
E18A Harlowton 91.52 40 ⇓P **P 18 48 39.5 -0.6**
baz=92,SNR=7.1
C17A Wharram Farm, 91.54 39 ⇑P **P 18 48 39.7 -0.5**
baz=92,SNR=17
JCT Junction City 91.55 58 *e*P **P 18 48 39.8 -0.9**
JCT pmax pmax
comp=Z,9.0nm,0.8s,mb4.8
JCT Junction City 91.55 58 *e*P **P 18 48 39.8 -0.9**
comp=Z,9.1nm,0.8s,mb4.9
A16A West Butte Ran 91.72 37 ⇓P **P 18 48 40.4 -0.6**
baz=92,SNR=13
D18A Linhart Farms, 91.89 40 ⇓P **P 18 48 41.7 -0.1**
baz=92
PHWY Pilot Hill 91.91 46 *e*P **P 18 48 41.8 -0.3**
YAK Yakutsk 92.24 338 *d* **i**P **P 18 48 41.5 -1.6**
YAK pmax pmax
comp=Z,52nm,0.9s,mb5.6
YAK pmax pmax
comp=E,9.0nm,1.1s
YAK Yakutsk 92.24 338 *e*P **P 18 48 41.2 -1.9**
comp=E,60nm,0.9s,mb5.6
EGMT Eagleton 92.32 39 ⇑P **P 18 48 43.1 -0.7**
baz=93
LZH Lanzhou 92.39 308 *e*P **P 18 48 45.0 +0.6**
LZH AP pP 18 50 52.5 +2.8
LZH XP sP 18 51 47.8 +0.9
LZH PP PP 18 52 39.0 +3.0
LZH SKS 18 58 19.5
LZH *e*S S 18 58 56.5 -2.8
LZH SS SS 19 05 32.0 +3.1
LZH AMB AMB
comp=Z,51nm,1.0s,mb5.5
LZH AMB AMB
comp=Z,186nm,5.2s
EDM Edmonton 92.97 33 *e*P **P 18 48 45.9 -0.7**
RSSD Black Hills 94.08 44 *e*P **P 18 48 50.9 -1.0**
RSSD pmax pmax
comp=Z,8.0nm,0.8s,mb4.9
RSSD Black Hills 94.08 44 *e*P **P 18 48 50.9 -1.0**
comp=Z,7.9nm,0.8s,mb4.9
ULN Ulaanbaatar 95.17 319⇑*e*P **P 18 48 56.2 -0.6**
ULN Ulaanbaatar 95.17 319 *e*P **P 18 48 56.0 -0.8**
comp=Z,5.9nm,0.9s,mb4.7
SONM Songino Array 95.56 319 P **P 18 48 57.7 -0.8**
comp=Z,2.1nm,1.0s,mb4.3,baz=110,slow=1.6,SNR=12
SONM PP PP 18 52 56.1 -3.9
comp=Z,1.7nm,1.0s,baz=127,slow=5.1,SNR=5.9
DGMT Dagmar 95.83 40 ⇓P **P 18 48 59.2 -0.5**
baz=96
GTA Gaotai 96.62 310 ⇑P **P 18 49 03.8 +0.3**
GTA S S 18 59 35.8 +0.3
GTA AMB AMB
comp=Z,10.0nm,1.6s,mb4.8
GTA AMB AMB
comp=Z,132nm,6.0s
YKA Yellowknife Ar 97.30 25 P **P 18 49 03.9 -2.1**
comp=Z,2.9nm,0.7s,mb4.6,baz=244,slow=4.7,SNR=6.5
YKA Yellowknife Ar 97.30 25 P **P 18 49 03.9 -2.1**
ZAK Zakamensk 98.46 321 *e*P Pdif 18 49 06.8 -4.9
ZAK *e* 18 53 17.5
ZAK pmax pmax
comp=Z,3.0nm,1.3s,mb4.5
ZAK pmax pmax
comp=Z,3.0nm,1.3s,mb4.5
ODAN Odare 102.36 294 *e*P PKiKP 18 53 46.1 -1.3
comp=Z,18nm,0.8s
RAMN Ramite 103.06 294 *e*P PKiKP 18 53 47.3 -1.4
comp=Z,14nm,0.8s
JIRN Jiri 103.61 295 *e*P PKiKP 18 53 48.2 -1.5
comp=Z,9.4nm,0.5s
GUN Gumba 103.94 295 *e*P PKiKP 18 53 48.5 -1.8
PKI Pulchoki 104.25 294 *e*P PKiKP 18 53 48.5 -2.4
PKIN Phulchoki 104.26 294 *e*P PKiKP 18 53 48.5 -2.4
KKN Kakani 104.42 294 *e*P PKiKP 18 53 49.3 -1.9
comp=Z,12nm,0.8s
DMN Daman 104.52 294 *e*P PKiKP 18 53 49.6 -1.8
comp=Z,6.7nm,0.7s
GKN Gorkha 105.03 295 *e*P PKiKP 18 53 49.6 -2.7
KOLN Koldanda 105.84 294 *e*P PKiKP 18 53 51.6 -2.2
DANN Dangsing 105.86 295 *e*P PKiKP 18 53 52.0 -1.8
ZALV Zalesovo Beam 110.34 321 PKiKP PKiKP 18 53 58.9 -2.5
comp=Z,5.2nm,0.7s,baz=162,slow=1.0,SNR=22
ZALV PP PP 18 54 50.3 +2.1

comp=Z,1.9nm,0.7s,baz=115,slow=6.7,SNR=4.8
MKAR Makanchi Array 110.91 313 Pdiff Pdif 18 50 07.6 +0.6
comp=Z,1.2nm,0.8s,baz=114,slow=5.4,SNR=5.5
MKAR PKiKP PKiKP 18 54 00.5 -2.3
comp=Z,1.7nm,0.4s,baz=154,slow=0.6,SNR=37
MKAR PP PP 18 54 48.4 -4.1
comp=Z,1.6nm,0.9s,baz=94,slow=11,SNR=4.1
MKAR Makanchi Array 110.91 313 P Pdif 18 50 07.6 +0.6
MKAR 18 54 00.5
MKAR Makanchi Array 110.91 313 Pdif Pdif 18 50 07.6 +0.6
MKAR PKPdf PKiKP 18 54 00.5 -2.3
MKAR PP PP 18 54 48.4 -4.1
NVS Novosibirsk 111.36 322 *e*PKiKP PKiKP 18 54 00.2 -3.1
KURK Kurchatov 113.77 317 PKiKP PKiKP 18 54 05.8 -2.3
comp=Z,6.3nm,0.7s,baz=93,slow=1.9,SNR=38
KURK PP PP 18 55 08.7 -3.7
comp=Z,4.5nm,1.1s,baz=98,slow=6.1,SNR=4.4
BVAR Borovoye Array 118.90 320 PKP PKPdf 18 54 15.9 -2.0
comp=Z,8.9nm,0.4s,baz=99,slow=2.0,SNR=62
BVAR PP PP 18 55 47.0 -0.5
comp=Z,3.7nm,1.0s,baz=84,slow=7.6,SNR=4.1
BVAR SKP 18 56 55.3
comp=Z,1.6nm,0.8s,baz=87,slow=3.1,SNR=3.8
BVAR Borovoye Array 118.90 320 PKiKP PKPdf 18 54 15.9 -2.0
BVAR 18 55 47.0
KBL Kabul 119.38 299 *e*PKiKP PKPdf 18 54 18.0 -1.4
BDFB Brasilia 119.60 123 PKP PKPdf 18 54 17.9 -2.4
comp=Z,2.0nm,0.7s,baz=170,slow=6.7,SNR=3.4
SFJD Kangerlussuaq 123.70 22 *i* P PKPdf 18 54 24.7 -2.0
SFJD *e* 18 54 36.4
SFJD *i* 18 55 09.6
SUMG Summit 123.81 13 *e*PKPdf PKPdf 18 54 25.8 -1.0
SVE Sverdlovsk 123.90 325 *e*PKiKP PKPdf 18 54 24.4 -3.0
SVE pmax pmax
comp=Z,32nm,0.9s
ARU Arti 125.11 325 *i* PKiKP PKPdf 18 54 27.2 -2.5
ARU 18 56 27.3
BOSA Boshof 125.46 206 PKP PKPdf 18 54 29.6 -1.8
comp=Z,6.1nm,0.9s,baz=111,slow=4.9,SNR=8.7
AKTK Aktyubinsk 126.86 318 PKP PKPdf 18 54 31.9 -1.3
AKTO Aktyubinsk 126.86 318 PKP PKPdf 18 54 31.9 -1.3
comp=Z,12nm,0.8s,baz=88,slow=3.7,SNR=42
KEV Kevo 128.78 349 *e*p PKPdf 18 54 33.9 -2.4
comp=Z,8.0nm,0.8s
KEV Kevo 128.78 349 *e*PKiKP PKPdf 18 54 33.9 -2.4
KEV pmax pmax
comp=Z,8.0nm,0.8s
ARCES ARCESS Array B 129.24 349 PKP PKPdf 18 54 35.4 -1.8
comp=Z,14nm,0.6s,baz=38,slow=1.1,SNR=38
ARCES SKPbc 18 57 03.0
comp=Z,7.5nm,0.9s,baz=46,slow=5.2,SNR=7.5
KLMR Klimovskoe 131.97 336 *i* PKiKP PKPdf 18 54 41.6 -1.0
KLMR *e* 18 57 12.2
JOF Joensuu 133.32 342 *e*p PKPdf 18 54 42.6 -2.5
comp=Z,31nm,0.7s
JOF Joensuu 133.32 342 *e*PKiKP PKPdf 18 54 42.6 -2.5
JOF pmax pmax
comp=Z,31nm,0.7s
LSZ Lusaka 135.22 219 *e*PKPdf PKPdf 18 54 48.6 -1.5
LSZ *e*SKP 18 57 24.2
KAF Kangasniemi 135.37 343 *e*p PKPdf 18 54 46.2 -2.7
comp=Z,14nm,0.6s
KAF Kangasniemi 135.37 343 *e*PKiKP PKPdf 18 54 46.2 -2.7
KAF pmax pmax
comp=Z,14nm,0.6s
MOS Moscow 135.91 331 *e*PKiKP PKPdf 18 54 46.9 -3.2
OBN Obninsk 136.77 331⇑*i*PKiKP PKPdf 18 54 50.4 -1.3
OBN pmax pmax
comp=Z,23nm,0.7s
GNI Garni 138.33 307 PKP PKPdf 18 54 54.5 -0.6
comp=Z,5.9nm,0.8s,baz=172,slow=20,SNR=3.6
KMBO Kilima Mbogo 138.37 243 PKhKP 18 54 48.7
comp=Z,1.8nm,0.8s,baz=211,slow=5.9,SNR=3.4
KMBO PKP PKPdf 18 54 55.8 -0.2
comp=Z,4.8nm,1.0s,baz=267,slow=3.0,SNR=5.1
KMBO SKPbc SKPbc 18 57 34.7 -2.4
comp=Z,4.5nm,0.8s,baz=38,slow=3.8,SNR=7.3
KMBO Kilima Mbogo 138.37 243 PKHKP 18 54 48.7
KMBO 18 54 55.8
KMBO Kilima Mbogo 138.37 243 PKP PKPdf 18 54 48.7 -7.3
KMBO PKP PKPdf 18 54 55.8 -0.2
KMBO SKPbc SKPbc 18 57 34.7 -2.4
KIV Kislovodsk 138.68 313 *e*PKHKP 18 54 44.2
KIV *i* 18 54 54.3
KIV pmax pmax
comp=Z,10.0nm,1.3s
KIV pmax pmax
comp=Z,11nm,1.1s
NB2 NORSAR Subarra 139.35 352 PKP 18 54 46.8
comp=Z,3.4nm,0.6s,baz=16,slow=3.2
NOA NORSAR Array B 139.35 352 PKhKP 18 54 46.3
comp=Z,7.2nm,0.7s,baz=16,slow=4.8,SNR=22
NOA PKP PKPdf 18 54 56.0 -0.3
comp=Z,3.5nm,0.8s,baz=22,slow=4.8,SNR=11
NOA SKPbc SKPbc 18 57 35.7 -2.4
comp=Z,8.0nm,0.9s,baz=17,slow=4.3,SNR=8.6
NOA NORSAR Array B 139.35 352 PKHKP 18 54 46.3
NOA 18 54 56.0
NOA NORSAR Array B 139.35 352 PKP 18 54 46.3
NOA PKP PKPdf 18 54 56.0 -0.3
NOA SKPbc SKPbc 18 57 35.7 -2.4
HFS Hagfors 139.87 350 PKhKP 18 54 48.4
comp=Z,8.0nm,0.3s,baz=63,slow=4.0,SNR=62
HFS SKPbc SKPbc 18 57 36.7 -2.9
comp=Z,8.3nm,0.9s,baz=320,slow=6.7,SNR=5.9
ANN Anapa 141.81 317 *i* PKHKP 18 54 55.8
ANN pmax pmax
comp=Z,68nm,1.1s
SUW Suwalki 142.98 338 *e*PKP PKPdf 18 54 59.7 -3.3
SUW Suwalki 142.98 338 *e*PKP PKPdf 18 54 59.7 -3.3
AKASG Malin Array Be 143.02 330 PKP PKPdf 18 54 59.2 -3.9
comp=Z,76nm,0.5s,baz=43,slow=4.3,SNR=489
AKASG SKPbc SKPbc 18 57 45.0 -2.8
comp=Z,2.8nm,0.6s,baz=41,slow=2.6,SNR=8.7
SIM Simferopol' 143.81 319 *e*PKiKP PKPdf 18 55 04.1 -0.6
MUD Monsted U'grnd 144.07 352 *i* PKiKP PKPdf 18 55 03.1 -1.7
MUD pmax pmax
comp=Z,120nm,1.0s
MUD Monsted U'grnd 144.07 352 *i* P PKPdf 18 55 03.1 -1.7
comp=Z,123nm,1.0s
COP Copenhagen 144.32 349 *i* PKiKP PKPdf 18 55 03.7 -1.6
COP pmax pmax
comp=Z,24nm,1.0s
COP MLR MLR
comp=Z,150nm,22.0s
COP Copenhagen 144.32 349 *i* P PKPdf 18 55 03.7 -1.6
comp=Z,24nm,1.0s
COP
comp=Z,150nm,22.0s
WAR Warsaw 145.18 338 *e*PKP PKPdf 18 55 07.6 +0.7
WAR Warsaw 145.18 338 *e*PKP PKPdf 18 55 07.6 +0.8
GKP Gorka Klasztor 145.46 343 *e*PKP PKPdf 18 55 07.7 +0.4
GKP *e* 18 55 09.2
GKP Gorka Klasztor 145.46 343 *e*PKP PKPdf 18 55 07.7 +0.4
GKP *e* 18 55 09.2
EKA Eskdalemuir Ar 145.55 4 PKPbc PKPbc 18 55 07.2 -1.6
comp=Z,44nm,0.8s,baz=338,slow=2.7,SNR=57
ESK Eskdalemuir 145.56 4 *e*PKiKP PKPdf 18 55 07.1 -0.3
KIS Kishinev 145.66 326*k* *i*PKiKP PKPdf 18 55 08.0 +0.2
KIS pmax pmax
comp=Z,400nm,1.0s
KIS pmax pmax
comp=Z,500nm,2.0s
KIS Kishinev 145.66 326 ⇓*i*PKP PKPdf 18 55 08.0 +0.2
KIS M 18 55 08.5
comp=Z,400nm,1.0s
KIS *e*pPKP pPKPdf 18 57 30.0 +8.4
KIS *e*SKKS SKKSac 19 04 46.0 +16
LVV L'vov 145.96 333 *i* PKiKP PKPdf 18 55 08.1 -0.1
FKH Fakeheh 146.22 301 *e*P PKPdf 18 55 11.0 +1.8
BSEG Bad Segeberg 146.35 350 *e*PKPbc PKPbc 18 55 10.3 -0.8
BSEG *e*pPKPbc 18 57 32.2
DMUB Kingscourt 146.57 9 *e*P PKPdf 18 55 09.3 +0.2
HWQ Hawqa 146.58 301 *e*P PKPdf 18 55 11.4 +1.6
KWP Kalwaria 146.65 334 *e*PKP PKPdf 18 55 11.3 +1.9
KWP *e* 18 55 14.3
KWP Kalwaria 146.65 334 ⇓*i*P PKPdf 18 55 11.1 +1.7
KWP Kalwaria 146.65 334 *e*PKP PKPdf 18 55 11.3 +1.9
KWP *e* 18 55 14.3
TLCR 146.79 323⇑*i*P PKPdf 18 55 11.5 +1.7
TLCR 146.79 323⇑P PKPdf 18 55 11.5 +1.7
RCY Rachaya 146.87 299 *e*P PKPbc 18 55 12.5 -0.7
BHL Bhannes 146.90 300 *e*P PKPbc 18 55 12.7 -0.7
BUR08 Bucovina Ar. S 147.04 329 *e*PKPdf PKPdf 18 55 09.3 -0.8

BUR08			*e*	PKPbc	PKPbc	18 55 12.6	-0.6
BURAR	**Bucovina Array**	**147.05 329**	⇓*i*P	PKPbc	PKPbc	18 55 12.7	-0.5
BURAR	**Bucovina Array**	**147.05 329**	⇓P	PKPbc	PKPbc	18 55 12.7	-0.6
RUE	**Ruedersdorf**	**147.06 346**	*e*PKPbc	PKPbc	PKPbc	18 55 12.0	-1.1
ANTO	**Ankara**	**147.06 312**	⇓*i*P	PKPdf	PKPdf	18 55 12.6	+2.2
ANTO	**Ankara**	**147.06 312**	⇓P	PKPbc	PKPbc	18 55 12.6	-0.9
DLF	**Lyons Farm**	**147.21 8**	*e*P	PKPdf	PKPdf	18 55 11.0	+0.8
OJC	**Ojcow**	**147.29 338**	*e*PKPbc	PKPbc	PKPbc	18 55 12.5	-1.3
OJC			*e*PKPab	PKPab	PKPab	18 55 16.8	-0.7
OJC	**Ojcow**	**147.29 338**	*e*PKP2	PKPab	PKPab	18 55 16.8	-0.7
KOLS	**Kolonicke sedl**	**147.38 334**	*e*PKP	PKPbc	PKPbc	18 55 13.5	-0.5
KOLS			*e*			18 55 21.5	
KOLS	**Kolonicke sedl**	**147.38 334**	*e*PKP	PKPbc	PKPbc	18 55 13.5	-0.5
KOLS			*e*			18 55 21.6	
ODB	**Odobesti**	**147.38 325**	⇓*i*P	PKPab	PKPab	18 55 16.5	-1.6
ODB	**Odobesti**	**147.38 325**	⇓P	PKPab	PKPab	18 55 16.5	-1.6
STHS	**Stebnicka Huta**	**147.41 335**	*i* PKP	PKPbc	PKPbc	18 55 13.5	-0.6
STHS			*e*			18 55 19.0	
TIRR	**Tirgusor**	**147.46 322**	⇓*i*P	PKPbc	PKPbc	18 55 13.2	-1.2
TIRR	**Tirgusor**	**147.46 322**	⇓P	PKPbc	PKPbc	18 55 13.2	-1.2
VRI	**Vrincioaia**	**147.50 326**	PKP2	PKPbc	PKPbc	18 55 13.3	-1.1
VRI	**Vrincioaia**	**147.50 326**	⇑*i*P	PKPbc	PKPbc	18 55 13.4	-1.0
VRI	**Vrincioaia**	**147.50 326**	⇑P	PKPbc	PKPbc	18 55 13.4	-1.1
PLOR	**Plostina**	**147.55 326**	⇓*i*P	PKPbc	PKPbc	18 55 13.1	-1.5
HARR	**Harsova**	**147.59 323**	⇓*i*P	PKPbc	PKPbc	18 55 13.9	-0.8
HARR	**Harsova**	**147.59 323**	⇓P	PKPbc	PKPbc	18 55 13.9	-0.9
CRVS	**Cervenica-Dubn**	**147.73 335**	*e*PKP	PKPbc	PKPbc	18 55 14.0	-0.9
CRVS			*e*			18 55 19.1	
CRVS	**Cervenica-Dubn**	**147.73 335**	*e*PKP	PKPbc	PKPbc	18 55 14.1	-0.8
CRVS			*e*			18 55 19.1	
NIE	**Niedzica**	**147.76 336**	*e*PKPbc	PKPbc	PKPbc	18 55 14.6	-0.4
NIE			*e*PKPab	PKPab	PKPab	18 55 19.6	+0.1
NIE	**Niedzica**	**147.76 336**	*e*PKP2	PKPab	PKPab	18 55 19.6	+0.1
CVD	**Cernavoda**	**147.77 322**	⇑*i*P	PKPbc	PKPbc	18 55 14.6	-0.6
BMR	**Baia Mare**	**147.81 331**	⇓*i*P	PKPbc	PKPbc	18 55 14.1	-1.1
BMR	**Baia Mare**	**147.81 331**	⇓P	PKPbc	PKPbc	18 55 14.1	-1.1
KSP	**Ksiaz**	**147.89 342**	*e*PKP	PKPbc	PKPbc	18 55 14.7	-0.6
KSP			*e*			18 55 20.1	
KSP	**Ksiaz**	**147.89 342**	*e*PKP2	PKPab	PKPab	18 55 19.9	-0.1
KSP	**Ksiaz**	**147.89 342**	*e*PKPdf	PKPdf	PKPdf	18 55 10.2	-1.2
KSP			*i* PKPdf	PKPbc	PKPbc	18 55 14.6	-0.7
KSP			*e*PKPab	PKPab	PKPab	18 55 19.9	-0.1
RAC	**Raciborz**	**147.96 339**	*e*PKP2	PKPab	PKPab	18 55 20.3	0.0
RAC	**Raciborz**	**147.96 339**	*e*PKPbc	PKPbc	PKPbc	18 55 15.0	-0.5
RAC			*e*PKPab	PKPab	PKPab	18 55 20.3	0.0
PSN	**Preselentsi**	**148.06 321**	P	PKPbc	PKPbc	18 55 15.4	-0.5
MLR	**Muntele Rosu**	**148.16 326**	⇓*i*P	PKPbc	PKPbc	18 55 14.9	-1.2
MLR	**Muntele Rosu**	**148.16 326**	⇓P	PKPbc	PKPbc	18 55 14.9	-1.2
OKC	**Ostrava-Krasne**	**148.19 339**	*e*PKPDF	PKPdf	PKPdf	18 55 10.9	-1.0
OKC			⇑*i*PKP	PKPbc	PKPbc	18 55 14.9	-1.1
OKC			*e*PKPAB	PKPab	PKPab	18 55 21.0	-0.2
UPC	**Upice**	**148.27 342**	*e*PKPDF	PKPdf	PKPdf	18 55 10.9	-1.1
UPC			⇑*i*PKP	PKPbc	PKPbc	18 55 15.4	-0.8
UPC			*e*PKPAB	PKPab	PKPab	18 55 21.2	-0.3
IBBN	**Ibbenburen**	**148.31 352**	*e*PKPbc	PKPbc	PKPbc	18 55 15.3	-1.0
DPC	**Dobruska-Polom**	**148.32 341**	*e*PKHKP			18 55 10.8	
DPC			*e*			18 55 21.8	
DPC	**Dobruska-Polom**	**148.32 341**	*e*PKPDF	PKPdf	PKPdf	18 55 10.8	-1.3
DPC			⇑*i*PKP	PKPbc	PKPbc	18 55 15.7	-0.7
DPC			*e*PKPAB	PKPab	PKPab	18 55 21.8	+0.1
DPC			*e*pPKP	pPKPab	PKPab	18 57 39.9	+10
CLL	**Collm**	**148.33 346**	⇑*i*PKHKP	PKPdf	PKPdf	18 55 11.1	-1.0
CLL			pmax	pmax			
	comp=Z,17nm,1.2s						
CLL	**Collm**	**148.33 346**	*e*PKPdf	PKPdf	PKPdf	18 55 11.0	-1.1
CLL			*e*PKPbc	PKPbc	PKPbc	18 55 15.4	-1.0
CLL	**Collm**	**148.33 346**	⇑*i*PKPdf	PKPdf	PKPdf	18 55 11.1	-1.0
	comp=Z,17nm,1.2s						
CLL			⇓*i*PKPbc	PKPbc	PKPbc	18 55 15.4	-1.0
	comp=Z,119nm,1.0s						
CLL			*i* PKPab	PKPab	PKPab	18 55 20.9	-0.8
	comp=Z,54nm,0.9s						
CLL			*e*pPKPbc	pPKPbc	PKPbc	18 57 33.0	+4.7
CLL	**Collm**	**148.33 346**	⇑*i*PKP	PKPdf	PKPdf	18 55 11.1	-1.0
CLL			⇓*i*PKP	PKPbc	PKPbc	18 55 15.4	-1.0
CLL			*e*pPKP	pPKPdf	PKPdf	18 57 33.0	+7.0
MORC	**Moravsky Berou**	**148.44 339**	⇑*i*P	PKPbc	PKPbc	18 55 15.9	-0.8
MORC	**Moravsky Berou**	**148.44 339**	⇑P	PKPbc	PKPbc	18 55 15.9	-0.8
CSS	**Prodhromos**	**148.46 303**	P	PKPbc	PKPbc	18 55 16.0	-1.2
CSS	**Prodhromos**	**148.46 303**	*e*PKPbc	PKPbc	PKPbc	18 55 15.8	-1.4
BRG	**Berggiesshubel**	**148.50 344**	*e*PKHKP	PKPdf	PKPdf	18 55 11.5	-0.9
BRG			*i*			18 55 21.2	
BRG			*e*			18 58 47.9	
BRG			pmax	pmax			
	comp=Z,22nm,1.6s						
BRG	**Berggiesshubel**	**148.50 344**	*e*PKPdf	PKPdf	PKPdf	18 55 11.4	-1.0
BRG			*e*PKPbc	PKPbc	PKPbc	18 55 16.0	-0.8
BRG			*e*pPKPbc	pPKPbc	PKPbc	18 57 36.1	+7.3
BRG	**Berggiesshubel**	**148.50 344**	*e*PKP	PKPdf	PKPdf	18 55 11.5	-0.9
	comp=Z,37nm,1.6s						
BRG			*i*			18 55 15.8	
	comp=Z,18nm,1.6s						
BRG			*i*			18 55 21.2	
	comp=Z,63nm,1.2s						
BRG			pPKP	pPKPdf	PKPdf	18 57 32.3	+6.0
	comp=Z,18nm,1.6s						
BRG			SKP			18 57 56.2	
	comp=Z,5.7nm,1.0s						
BRG			*e*			18 58 18.9	
	comp=Z,12nm,1.5s						
BRG			*e*			18 58 47.9	
	comp=Z,16nm,1.8s						
MDB	**Medias**	**148.50 328**	⇓*i*P	PKPbc	PKPbc	18 55 16.6	-0.4
MDB	**Medias**	**148.50 328**	⇓P	PKPbc	PKPbc	18 55 16.6	-0.3
PVCC	**Panska Ves**	**148.66 343**	*e*PKPDF	PKPdf	PKPdf	18 55 11.2	-1.4
PVCC			⇑*i*PKP	PKPbc	PKPbc	18 55 16.4	-0.8
VOIR		**148.66 327**	⇓*i*P	PKPbc	PKPbc	18 55 16.3	-1.1
VOIR		**148.66 327**	⇓P	PKPbc	PKPbc	18 55 16.3	-1.0
WTSB	**Winterswijk**	**148.75 353**	*i* PKiKP	PKPdf	PKPdf	18 55 11.2	-1.5
	comp=Z,31nm,1.1s						
WTSB	**Winterswijk**	**148.75 353**	*i* PKPpre	PKPbc	PKPbc	18 55 16.2	-1.2
	comp=Z,47nm,0.9s						
WTSB	**Winterswijk**	**148.75 353**	*i* PKPab	PKPab	PKPab	18 55 22.3	-1.2
PRD	**Provadia**	**148.81 321**	P	PKPbc	PKPbc	18 55 17.1	-0.7
DRGR		**148.82 331**	⇓*i*P	PKPbc	PKPbc	18 55 16.5	-1.2
DRGR		**148.82 331**	⇓P	PKPbc	PKPbc	18 55 16.5	-1.2
VYHS	**Vyhne**	**149.08 337**	*e*PKP	PKPbc	PKPbc	18 55 17.1	-1.2
VYHS			*e*			18 55 24.6	
PSZ	**Piszkesteto**	**149.15 335**	⇓*e*PKP	PKPbc	PKPbc	18 55 17.4	-1.1
PSZ	**Piszkesteto**	**149.15 335**	⇓*i*P	PKPbc	PKPbc	18 55 17.4	-1.1
PSZ	**Piszkesteto**	**149.15 335**	⇓P	PKPbc	PKPbc	18 55 17.4	-1.0
VRAC	**Vranov**	**149.15 340**	PKPbc	PKPbc	PKPbc	18 55 17.6	-0.8
	comp=Z,40nm,1.1s,baz=39,slow=0.9,SNR=41						
VRAC			PKPab	PKPab	PKPab	18 55 24.7	-0.5
	comp=Z,49nm,0.9s,baz=355,slow=1.8,SNR=5.1						
VRAC	**Vranov**	**149.15 340**	⇑*i*P	PKPbc	PKPbc	18 55 17.8	-0.6
VRAC	**Vranov**	**149.15 340**	⇑P	PKPbc	PKPbc	18 55 17.8	-0.6
PRU	**Pruhonice**	**149.15 343**	*e*PKPDF	PKPdf	PKPdf	18 55 11.9	-1.6
PRU			⇑*i*PKP	PKPbc	PKPbc	18 55 17.3	-1.1
PRU			*e*PKPAB	PKPab	PKPab	18 55 24.7	-0.5
KOLL	**Kolacno**	**149.16 337**	*e*PKP	PKPdf	PKPdf	18 55 12.6	-0.9
KOLL			*i*	PKPbc	PKPbc	18 55 17.9	-0.6
KOLL			*e*			18 55 25.3	
BUG	**Bochum--Univer**	**149.22 352**	*e*PKPbc	PKPbc	PKPbc	18 55 17.4	-1.1
MOX	**Moxa**	**149.26 347**	*e*PKP	PKPdf	PKPdf	18 55 12.3	-1.3
MOX			*e*			18 55 17.6	
	comp=Z,93nm,1.4s						
MOX			*e*			18 55 24.6	
MOX	**Moxa**	**149.26 347**	*e*PKIKP	PKPdf	PKPdf	18 55 12.3	-1.3
MOX			*e*			18 55 24.6	
MOX			pmax	pmax			
	comp=Z,93nm,1.4s						
MOX	**Moxa**	**149.26 347**	*e*PKPbc	PKPbc	PKPbc	18 55 17.7	-0.9
TANN	**Tannenbergstha**	**149.28 346**	*e*PKPdf	PKPdf	PKPdf	18 55 12.2	-1.5
TANN			*e*PKPbc	PKPbc	PKPbc	18 55 17.9	-0.8
UBBA	**Unterbreizbach**	**149.41 349**	*e*PKPbc	PKPbc	PKPbc	18 55 17.6	-1.4
NKC	**Novy Kostel**	**149.46 346**	*e*PKPDF	PKPdf	PKPdf	18 55 12.4	-1.5
NKC			⇑*i*PKP	PKPbc	PKPbc	18 55 18.0	-1.1
NKC			*e*PKPAB	PKPab	PKPab	18 55 25.7	-0.7
TREC	**Trest**	**149.51 341**	*i* PKHKP	PKPbc	PKPbc	18 55 18.1	-1.2
TREC			*e*			18 55 26.2	
TREC	**Trest**	**149.51 341**	⇑*i*PKP	PKPbc	PKPbc	18 55 18.1	-1.2
TREC			*e*PKPAB	PKPab	PKPab	18 55 26.2	-0.5
SMOL	**Smolenice**	**149.56 338**	*i* PKP	PKPbc	PKPbc	18 55 19.1	-0.3
SMOL			*e*			18 55 27.2	
SZH	**Strazhica**	**149.61 323**	P	PKPbc	PKPbc	18 55 18.5	-1.2
ZIMR		**149.68 324**	PKHKP	PKPbc	PKPbc	18 55 18.8	-1.1
JMB	**Yambol**	**149.73 321**	P	PKPbc	PKPbc	18 55 19.2	-0.8
JMB	**Yambol**	**149.73 321**	P	PKPbc	PKPbc	18 55 19.4	-0.6
MODS	**Modra-Piesok**	**149.73 338**	*e*PKP	PKPdf	PKPdf	18 55 13.6	-0.8
MODS			*e*			18 55 19.3	
MODS			*e*			18 55 28.1	
MANZ	**Manzenberg**	**149.77 346**	*e*PKPdf	PKPdf	PKPdf	18 55 13.3	-1.1
MANZ			*e*PKPbc	PKPbc	PKPbc	18 55 19.1	-0.8
GZR	**Gura Zlata**	**149.82 329**	⇑*i*P	PKPbc	PKPbc	18 55 19.0	-1.2
GZR	**Gura Zlata**	**149.82 329**	⇑P	PKPbc	PKPbc	18 55 19.0	-1.2
BUD	**Budapest**	**149.84 335**	⇓*e*PKP	PKPbc	PKPbc	18 55 18.9	-1.2
ZST	**Bratislava**	**149.95 338**	*i* PKP	PKPbc	PKPbc	18 55 19.8	-0.6
ZST			*e*			18 55 28.5	
ROTZ	**Rotzenmuhle**	**149.95 346**	*e*PKPbc	PKPbc	PKPbc	18 55 19.5	-0.8
ROTZ			*e*pPKPbc	pPKPbc	PKPbc	18 57 42.0	+9.3
BEBN	**Eben Emael**	**150.03 354**	PKPbc	PKPbc	PKPbc	18 55 19.6	-0.8
BEBN			PKPab	PKPab	PKPab	18 55 27.8	-1.0
HGN	**Heimansgroeve**	**150.03 354**	*i* PKiKP	PKiKP	PKiKP	18 55 13.6	-7.5
	comp=Z,13nm,0.9s						
HGN	**Heimansgroeve**	**150.03 354**	*i* PKPpre			18 55 19.3	
	comp=Z,62nm,1.1s						
HGN	**Heimansgroeve**	**150.03 354**	*i* PKPab	PKPab	PKPab	18 55 27.8	-1.0
	comp=Z,63nm,1.1s						
CRAR	**CRAIOVA**	**150.07 326**	PKHKP			18 55 20.5	
UCC	**Uccle**	**150.13 356**	PKPbc	PKPbc	PKPbc	18 55 19.6	-1.1
MEM	**Membach**	**150.18 354**	PKPdf	PKPdf	PKPdf	18 55 14.3	-0.7
MEM			PKPbc	PKPbc	PKPbc	18 55 19.7	-1.1
MEM			PKPab	PKPab	PKPab	18 55 28.1	-1.3
KHC	**Kasperske Hory**	**150.19 343**	*e*PKPDF	PKPdf	PKPdf	18 55 13.5	-1.6
KHC			⇑*i*PKP	PKPbc	PKPbc	18 55 20.1	-0.8
KHC			*e*PKPAB	PKPab	PKPab	18 55 29.2	-0.4
BZS	**Buzias**	**150.21 330**	⇓P	PKPbc	PKPbc	18 55 19.8	-1.3
GRA1	**Grafenberg Arr**	**150.24 347**	*e*PKPbc	PKPbc	PKPbc	18 55 19.6	-1.4
GRA1			*e*PKPab	PKPab	PKPab	18 55 29.3	-0.4
GRA1			*e*pPKPbc	pPKPbc	PKPbc	18 57 44.5	+11
GRF	**Grafenberg Arr**	**150.24 347**	*e*PKIKP	PKPbc	PKPbc	18 55 19.6	-1.4
GRF			*e*			18 55 29.3	
GRF	**Grafenberg Arr**	**150.24 347**	*e*PKPbc	PKPbc	PKPbc	18 55 19.6	-1.4
GRF			*e*PKPab	PKPab	PKPab	18 55 29.3	-0.4
GRF			*e*pPKPbc	pPKPbc	PKPbc	18 57 44.5	+11
TNS	**Taunus Mts**	**150.24 350**	*e*PKPbc	PKPbc	PKPbc	18 55 20.1	-0.9
TNS			*e*PKPab	PKPab	PKPab	18 55 28.8	-0.9
WET	**Wettzell**	**150.37 344**	*e*PKPdf	PKPdf	PKPdf	18 55 13.6	-1.8
WET			*e*PKPbc	PKPbc	PKPbc	18 55 20.3	-1.0
WET			*e*PKPab	PKPab	PKPab	18 55 30.0	-0.3
GEC2	**GERESS Array S**	**150.42 343**	*e*PKPDF	PKPdf	PKPdf	18 55 14.3	-1.2
GEC2			*e*PKPbc	PKPbc	PKPbc	18 55 20.4	-1.0
GEC2			*e*PKPab	PKPab	PKPab	18 55 29.8	-0.7
GERES	**GERESS Array B**	**150.42 343**	PKP	PKPdf	PKPdf	18 55 14.1	-1.4
	comp=Z,1.5nm,0.7s,baz=67,slow=1.7,SNR=18						
GERES			PKPbc	PKPbc	PKPbc	18 55 20.3	-1.1
	comp=Z,31nm,0.8s,baz=42,slow=2.2,SNR=142						
GERES			PKPab	PKPab	PKPab	18 55 29.7	-0.8
	comp=Z,2.8nm,0.8s,baz=349,slow=2.7,SNR=12						
SNF	**Seneffe**	**150.43 356**	PKPbc	PKPbc	PKPbc	18 55 20.4	-1.0
SNF			PKPab	PKPab	PKPab	18 55 29.1	-1.3
BCLA	**Clavier**	**150.43 355**	PKPdf	PKPdf	PKPdf	18 55 14.4	-1.1
BCLA			PKPbc	PKPbc	PKPbc	18 55 20.3	-1.1
BCLA			PKPab	PKPab	PKPab	18 55 28.6	-1.9
SOP	**Sopron**	**150.57 338**	⇓*e*PKP	PKPbc	PKPbc	18 55 20.8	-1.0
CONA	**Conrad Observa**	**150.59 340**	⇑*i*PKPdf	PKPdf	PKPdf	18 55 14.3	-1.4
	comp=Z,7.1nm,1.2s,SNR=46						
CONA			⇓*e*PKiKP	PKiKP	PKiKP	18 55 21.2	-1.1
	comp=Z,66nm,0.8s						
CONA			⇓*i*PKPab	PKPab	PKPab	18 55 32.0	+0.7
	comp=Z,32nm,0.9s						
CSNA	**Conrad Observa**	**150.60 340**	⇑*i*PKPdf	PKPdf	PKPdf	18 55 14.3	-1.5
	comp=Z,6.1nm,1.2s						
CSNA			⇓*i*PKiKP	PKiKP	PKiKP	18 55 21.2	-1.1
	comp=Z,62nm,0.8s						
CSNA			⇓*i*PKPab	PKPab	PKPab	18 55 32.0	+0.8
	comp=Z,29nm,0.9s						
DIM	**Dimitrovgrad**	**150.60 321**	P	PKPbc	PKPbc	18 55 21.1	-1.0
TOD	**Tromm**	**150.78 350**	PKIKP	PKPdf	PKPdf	18 55 14.8	-1.2
GIVF	**Givet**	**150.79 355**	*e*PKIKP	PKPdf	PKPdf	18 55 14.5	-1.5
DOU	**Dourbes**	**150.81 355**	PKPbc	PKPbc	PKPbc	18 55 21.2	-1.1
DOU			PKPab	PKPab	PKPab	18 55 31.0	-1.1
BAIF	**Baives**	**150.88 356**	*e*PKIKP	PKPdf	PKPdf	18 55 14.5	-1.6
KDZ	**Kurdzhali**	**150.91 321**	P	PKPbc	PKPbc	18 55 21.4	-1.4
RUP	**Ruppelstein**	**150.95 352**	PKIKP	PKPdf	PKPdf	18 55 14.8	-1.5
PKSM	**Moragy**	**151.03 334**	⇑*i*P	PKPbc	PKPbc	18 55 21.5	-1.4
PKSM	**Moragy**	**151.03 334**	⇑P	PKPbc	PKPbc	18 55 21.5	-1.4
PLD	**Plovdiv**	**151.05 322**	P	PKPbc	PKPbc	18 55 21.3	-1.8
PGB	**Panagyurishte**	**151.06 323**	P	PKPbc	PKPbc	18 55 21.7	-1.4
WLF	**Walferdange**	**151.10 353**	PKPbc	PKPbc	PKPbc	18 55 22.4	-0.6
WLF			PKPab	PKPab	PKPab	18 55 32.7	-0.6
WLF	**Walferdange**	**151.10 353**	*e*PKPbc	PKPbc	PKPbc	18 55 22.4	-0.5
WLF			*e*PKPab	PKPab	PKPab	18 55 32.5	-0.8
WLF	**Walferdange**	**151.10 353**	*e*PKPbc	PKPbc	PKPbc	18 55 21.9	-1.1
WLF			*e*PKPab	PKPab	PKPab	18 55 32.5	-0.8
RZN	**Rozhen**	**151.30 321**	P	PKPbc	PKPbc	18 55 22.3	-1.4
STU	**Stuttgart**	**151.52 349**	*e*PKPdf	PKPdf	PKPdf	18 55 15.9	-1.2
STU			*e*PKPbc	PKPbc	PKPbc	18 55 23.0	-0.9
STU			*e*PKPab	PKPab	PKPab	18 55 33.9	-1.2
LANF	**Langenberg**	**151.55 351**	PKP	PKPdf	PKPdf	18 55 16.3	-0.9
FUR	**Furstenfeldbru**	**151.66 346**	*e*PKPdf	PKPdf	PKPdf	18 55 15.5	-1.9
FUR			*e*PKPbc	PKPbc	PKPbc	18 55 23.2	-1.1
FUR			*e*PKPab	PKPab	PKPab	18 55 35.1	-0.7
KOGS	**Kog**	**151.74 338**	*i* PKPbc	PKPbc	PKPbc	18 55 22.8	-1.7
KOGS			*i* PKPab	PKPab	PKPab	18 55 35.2	-1.0
PRK	**Paraskevi**	**151.77 316**	P	PKPab	PKPab	18 55 35.4	-1.2
MMB	**Musomiste**	**151.94 322**	P	PKPbc	PKPbc	18 55 23.4	-1.7
SOKA	**Soboth**	**151.96 339**	⇑*i*PKPdf	PKPdf	PKPdf	18 55 14.8	-3.1
	comp=Z,7.9nm,1.2s						
SOKA			⇓*i*PKPbc	PKPbc	PKPbc	18 55 23.5	-1.5
	comp=Z,33nm,1.0s						
SOKA			⇑*i*PKPab	PKPab	PKPab	18 55 36.7	-0.3
	comp=Z,37nm,1.1s						
PERS	**Pernice**	**151.97 339**	*i* PKPbc	PKPbc	PKPbc	18 55 23.2	-1.8
PERS			*i* PKPab	PKPab	PKPab	18 55 36.2	-0.9
BFO	**Black Forest**	**152.10 350**	*e*PKPdf	PKPdf	PKPdf	18 55 16.5	-1.5
BFO			*e*PKPbc	PKPbc	PKPbc	18 55 24.0	-1.2
BFO			*e*PKPab	PKPab	PKPab	18 55 36.2	-1.4
KKB	**Krupnik**	**152.12 323**	P	PKPbc	PKPbc	18 55 23.9	-1.6
KBA	**Koelnbreinsper**	**152.13 342**	⇑*i*PKPdf	PKPdf	PKPdf	18 55 15.1	-3.0
	comp=Z,6.4nm,1.3s,SNR=13						
KBA			⇑*i*PKPbc	PKPbc	PKPbc	18 55 23.7	-1.6
	comp=Z,36nm,0.9s						
KBA			⇑*i*PKPab	PKPab	PKPab	18 55 38.5	+0.8
	comp=Z,15nm,0.8s						
CDF	**Champ du Feu**	**152.18 351**	*e*PKIKP	PKPdf	PKPdf	18 55 16.2	-1.9
FLN	**La Foliniere**	**152.25 2**	*e*PKIKP	PKPdf	PKPdf	18 55 16.1	-2.1
	comp=Z,62nm,1.2s						
GOLS	**Golise**	**152.34 338**	*i* PKPdf	PKPdf	PKPdf	18 55 16.5	-2.0
GOLS			*i* PKPbc	PKPbc	PKPbc	18 55 24.4	-1.4
GOLS			*i* PKPab	PKPab	PKPab	18 55 37.8	-0.9
MEZF	**Maizieres J'vi**	**152.36 354**	*e*PKIKP	PKPdf	PKPdf	18 55 16.8	-1.6
WATA	**Walderalm**	**152.37 345**	⇓*i*PKPdf	PKPdf	PKPdf	18 55 16.2	-2.2
	comp=Z,7.1nm,1.1s,SNR=6.8						
WATA			⇓*i*PKPbc	PKPbc	PKPbc	18 55 24.3	-1.5
	comp=Z,36nm,1.1s						
WATA			⇑*i*PKPab	PKPab	PKPab	18 55 38.3	-0.4
	comp=Z,22nm,0.8s						
ECH	**Echery**	**152.39 351**	PKP	PKPdf	PKPdf	18 55 16.9	-1.5
WTTA	**Wattenberg**	**152.42 344**	⇑*i*PKPdf	PKPdf	PKPdf	18 55 17.2	-1.3
	comp=Z,12nm,1.1s						
WTTA			⇓*i*PKiKP	PKiKP	PKiKP	18 55 24.9	-1.2
	comp=Z,54nm,0.9s						
WTTA			⇑*i*PKPab	PKPab	PKPab	18 55 38.9	-0.1
	comp=Z,50nm,0.8s						
LDF	**La Druitiere**	**152.43 2**	*e*PKIKP	PKPdf	PKPdf	18 55 16.1	-2.4
	comp=Z,56nm,1.3s						
MYKA	**Terra Mystica**	**152.44 341**	⇑*i*PKPdf	PKPdf	PKPdf	18 55 16.6	-1.9
	comp=Z,4.6nm,0.8s						
MYKA			⇓*e*PKPbc	PKPbc	PKPbc	18 55 24.1	-1.9
	comp=Z,32nm,0.8s						
MYKA			⇑*i*PKPab	PKPab	PKPab	18 55 37.9	-1.3
	comp=Z,29nm,0.9s						
MOTA	**Moosalm**	**152.47 345**	⇓*i*PKPdf	PKPdf	PKPdf	18 55 16.6	-2.0
	comp=Z,7.7nm,0.9s,SNR=5.4						
MOTA			⇑*i*PKiKP	PKiKP	PKiKP	18 55 24.9	-1.3
	comp=Z,45nm,1.0s						
MOTA			⇑*i*PKPab	PKPab	PKPab	18 55 38.7	-0.5
	comp=Z,41nm,0.9s						
ROSF	**Rostrenen**	**152.48 6**	*e*PKIKP	PKPdf	PKPdf	18 55 16.0	-2.6
THEF	**They Montfort**	**152.53 353**	PKP	PKPdf	PKPdf	18 55 16.5	-2.1
FELD	**Feldberg im Sc**	**152.59 350**	PKP	PKPdf	PKPdf	18 55 17.6	-1.1
LJU	**Ljubljana**	**152.69 339**	*e*PKPdf	PKPdf	PKPdf	18 55 17.0	-1.9
LJU			*i* PKPbc	PKPbc	PKPbc	18 55 25.2	-1.4
KNT	**Kendrikon**	**152.69 322**	P	PKPab	PKPab	18 55 39.6	-0.8
HAU	**Haudompre**	**152.71 352**	*e*PKIKP	PKPdf	PKPdf	18 55 17.1	-1.8
STIP	**Stip**	**152.73 324**	*e*PKP	PKPdf	PKPdf	18 55 16.9	-2.2
STIP			*i* PKP	PKPbc	PKPbc	18 55 23.6	-3.2
STIP			⇑*i*PKP	PKPab	PKPab	18 55 39.5	-1.0
PTCC	**Patocco-Chiusa**	**152.73 341**	PKP	PKPdf	PKPdf	18 55 17.0	-2.0
SEST	**Monte Rota**	**152.75 343**	PKP	PKPbc	PKPbc	18 55 24.9	-1.8
MOF	**Molkenrain**	**152.75 351**	PKP	PKPdf	PKPdf	18 55 17.6	-1.4
VAY	**Valandovo**	**152.77 323**	P	PKPab	PKPab	18 55 39.9	-0.8
VAY	**Valandovo**	**152.77 323**	*e*PKP	PKPdf	PKPdf	18 55 16.2	-3.0
VAY			*i* PKP	PKPbc	PKPbc	18 55 24.3	-2.7
VAY			⇑*i*PKP	PKPab	PKPab	18 55 39.9	-0.8
HINF	**Hinteralfeld**	**152.83 351**	*e*PKIKP	PKPdf	PKPdf	18 55 17.0	-2.1
	comp=Z,32nm,1.5s						
FETA	**Feichten**	**152.87 345**	⇑*i*PKPdf	PKPdf	PKPdf	18 55 18.0	-1.2
	comp=Z,15nm,0.9s						
FETA			⇑*i*PKiKP	PKiKP	PKiKP	18 55 26.2	-0.8
	comp=Z,35nm,1.1s						
FETA			⇓*i*PKPab	PKP

OHR	**Ohrid**	**1.32**	**3**	*e*Pn	Pn	18 38 20.4	+2.8
OHR				*i* Sn	Sn	18 38 41.9	+7.2
VLS	**Valsamata**	**1.61**	**183**	*e*Pn	Pn	18 38 24.0	+2.4
VLS	**Valsamata**	**1.61**	**183**	*e*PN	Pn	18 38 24.0	+2.4
KRUS	**Krusevo**	**1.63**	**15**	*i* Pn	Pn	18 38 26.0	+4.1
KRUS				*i* Sn	Sn	18 38 48.0	+5.7
VAY	**Valandovo**	**2.09**	**42**	*e*Pn	Pn	18 38 31.7	+3.5
VAY				*e*Sn	Sn	18 38 55.7	+2.2

NIED **27** *18:53:00, 4350N×14740E, h32km, Mw4.1 Best double couple: M0 1.57000×10^15 NP1:φs28.00000°, δ62.00000°, λ-145.00000°. NP2:φs280.00000°, δ60.00000°, λ-33.00000°.*
BJI **27** *18:53:06.1, 4348N×14774E, h17km, mb4.5*
JMA **27** *18:53:10.3±0.3, 4347N×14745E, h15km, M4.6*
ISCJB **27** *18:53:11.2±0.8, 4366N±005×14754E±006, h43km±5km, mb4.3/24, Error ellipse: s-maj=10.0km s-min=6.2km az=149.2*
MOS **27** *18:53:11.5±1.0, 4373N×14748E, h45km, mb4.3/11, Error ellipse: s-maj=10.6km s-min=9.0km az=127.0*
SKHL **27** *18:53:12.5±0.3, 4389N×14738E, h33km, mb4.3/1*
NEIC **27** *18:53:12.6±0.5, 4356N×14753E, mb4.8/11, Error ellipse: s-maj=13.0km s-min=6.8km az=138.0*
IDC **27** *18:53:12.9±0.8, 4362N×14744E, h42km±7km, mb3.6/13, mb1 3.8/17, mb1mx3.7/24, mbtmp3.6/17, ML3.6/4, MS3.2/2, Ms1 3.2/2, ms1mx2.9/37, Error ellipse: s-maj=19.6km s-min=15.3km az=158.0*
ISC 27 18:53:12.8±0.7, 4359N±005×14750E±006, h39km±5km, h43km±2.8km:pP-P, n107, σ1§02/100, mb4.3/24, 4C, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
YUK	**Yuzh-Kuril'sk**	**1.27**	**291**	⇑*i*P	N	**Pn**	**18 53 33.0**	**-0.9**
YUK				*i* S		**Sn**	**18 53 48.2**	**-1.5**
YUK				pmax	pmax			
	comp=Z,1μm,0.5s							
YUK				pmax	pmax			
	comp=N,190nm,0.3s							
YUK				pmax	pmax			
	comp=E,380nm,0.5s							
YUK				smax				
	comp=N,40μm,1.0s							
YUK				smax				
	comp=E,20nm,0.8s							
YUK				smax				
	comp=N,14μm,0.6s							
YUK				smax				
	comp=E,10μm,0.7s							
YUK	**Yuzh-Kuril'sk**	**1.27**	**291**	⇑*i*P		**Pn**	**18 53 33.0**	**-0.9**
YUK				AMB	AMB		18 53 33.4	
	comp=E,190nm,0.2s							
YUK				AMB	AMB		18 53 33.4	
	comp=E,380nm,0.5s							
YUK				AMB	AMB		18 53 37.5	
	comp=E,3μm,1.0s							
YUK				AMB	AMB		18 53 37.5	
	comp=E,2μm,0.8s							
YUK				*i* S		**Sn**	**18 53 48.2**	**-1.5**
YUK				A			18 53 52.5	
	comp=E,20μm,0.8s							
YUK				A			18 53 52.5	
	comp=E,40μm,1.0s							
YUK				A			18 53 54.0	
	comp=E,10μm,0.5s							
YUK				A			18 53 54.0	
	comp=E,14μm,0.6s							
NEM2	**Nemuro 2**	**1.29**	**261**	P		**Pn**	**18 53 33.1**	**-1.2**
NEM2				*e*S		**Sn**	**18 53 49.3**	**-1.1**
KUR	**Kuril'sk**	**1.67**	**9**	*e*PN		**Pn**	**18 53 36.0**	**-3.5**
JRA	**Rausu**	**1.75**	**282**	P		**Pn**	**18 53 40.5**	**-0.2**
JRA				*e*S		**Sn**	**18 54 02.2**	**+0.4**
JNK	**Nakash**	**2.02**	**271**	P		**Pn**	**18 53 43.6**	**-0.7**
JNK				*e*S		**Sn**	**18 54 08.1**	**-0.1**
JAK	**Akkeshi**	**2.13**	**255**	P		**Pn**	**18 53 44.9**	**-0.9**
JTKR	**Abashiri--Toko**	**2.63**	**280**	P		**Pn**	**18 53 53.5**	**+0.9**
JTKR				*e*S		**Sn**	**18 54 25.2**	**+2.0**
JAR	**Ashorobuto**	**2.73**	**265**	P		**Pn**	**18 53 54.1**	**+0.1**
JOB	**Onbets**	**2.76**	**257**	P		**Pn**	**18 53 54.3**	**-0.2**
JMP	**Maruseppu**	**3.02**	**279**	P		**Pn**	**18 53 59.2**	**+1.1**
JCH	**Churui**	**3.18**	**254**	P		**Pn**	**18 53 59.8**	**-0.4**
JKK2	**Kamakawa 2**	**3.45**	**276**	P		**Pn**	**18 54 05.7**	**+1.7**
JEM	**Erimo**	**3.56**	**245**	P		**Pn**	**18 54 05.9**	**+0.5**
ERM	**Erimo**	**3.56**	**245**	*e*PN		**Pn**	**18 54 06.5**	**+1.1**
ASAJ	**Asahikawa**	**3.58**	**280**	P		**Pn**	**18 54 05.2**	**-0.6**
	comp=E,5.4nm,0.3s,baz=103,slow=13,SNR=37							
ASAJ				LR		LR	18 55 38.4	
	comp=E,344nm,21.1s,baz=119,slow=41							
ASAJ	**Asahikawa**	**3.58**	**280**	P		**Pn**	**18 54 08.1**	**+2.3**
JFR	**Furan**	**3.60**	**265**	P		**Pn**	**18 54 07.0**	**+1.0**
JNBK	**Urakawa-nobuka**	**3.72**	**251**	P		**Pn**	**18 54 06.9**	**-0.7**
JSE	**Soyaes**	**3.79**	**293**	P		**Pn**	**18 54 09.6**	**+1.1**
JHR	**Hokuryu**	**4.19**	**274**	P		**Pn**	**18 54 16.2**	**+2.1**
YSS	**Yuzh-Sakhalins**	**4.75**	**317**	⇓*e*PN		**Pn**	**18 54 21.8**	**+0.1**
YSS				*i* S		**Sn**	**18 55 14.0**	**-1.5**
YSS				pmax	pmax			
	comp=Z,30nm,0.6s							
YSS				smax				
	comp=Z,60nm,0.6s							
YSS	**Yuzh-Sakhalins**	**4.75**	**317**	⇑*e*P		**Pn**	**18 54 21.8**	**+0.1**
YSS				AMB	AMB		18 54 22.2	
	comp=Z,30nm,0.6s							
YSS				*i* S		**Sn**	**18 55 14.0**	**-1.5**
YSS				A			18 55 15.2	
	comp=Z,60nm,0.6s							
YSS	**Yuzh-Sakhalins**	**4.75**	**317**	*e*Pn		**Pn**	**18 54 22.7**	**+0.9**
SKR	**Severo-Kuril's**	**9.21**	**37**	*e*P		**Pn**	**18 55 24.5**	**+1.6**
MAJO	**Matsushiro**	**10.00**	**228**	*e*PN		**Pn**	**18 55 32.1**	**-1.8**
MAJO				pmax	pmax			
	comp=Z,9.0nm,0.6s							
MAJO	**Matsushiro**	**10.00**	**228**	*e*Pn		**Pn**	**18 55 32.1**	**-1.7**
	comp=Z,9.2nm,0.6s							
MJAR	**Matsushiro Arr**	**10.00**	**228**	P		**Pn**	**18 55 32.1**	**-1.8**
	comp=Z,0.9nm,0.3s,baz=31,slow=13,SNR=14							
MJAR	**Matsushiro Arr**	**10.00**	**228**	PN		**Pn**	**18 55 32.1**	**-1.7**
MJAR				pmax	pmax			
	comp=Z,1.0nm,0.3s							
PEA0B	**Petropavlovsk-**	**11.69**	**32**	P		**Pn**	**18 55 57.0**	**+0.2**
PETK	**Petropavlovsk-**	**11.69**	**32**	P		**Pn**	**18 55 56.4**	**-0.4**
	comp=Z,0.2nm,0.3s,baz=187,slow=9.2,SNR=5.0							
KLR	**Kul'dur**	**12.24**	**303**	*e*PN		**Pn**	**18 56 05.0**	**+0.7**
KSRS	**Korea Array**	**16.08**	**254**	P		**Pn**	**18 56 54.2**	**-1.6**
	comp=Z,0.1nm,0.3s,baz=61,slow=13,SNR=4.8							
KSRS				LR		LR	19 03 40.3	
	comp=Z,88nm,18.5s,baz=167,slow=39							
KSRS	**Korea Array**	**16.08**	**254**	*e*P		**Pn**	**18 56 55.5**	**-0.4**
HIA	**Hailar**	**19.89**	**296**	P		**Pn**	**18 57 38.7**	**-3.8**
HIA				pmax	pmax			
	comp=Z,5.0nm,0.8s							
HIA	**Hailar**	**19.89**	**296**	P		**Pn**	**18 57 38.7**	**-3.8**
	comp=Z,4.7nm,0.8s							
BJT	**Baijiatuan**	**23.55**	**272**	P		**P**	**18 58 17.3**	**-2.2**
BJT				pmax	pmax			
	comp=Z,20nm,1.1s							
BJT	**Baijiatuan**	**23.55**	**272**	P		**P**	**18 58 17.3**	**-2.2**
	comp=Z,20nm,1.1s,mb4.5							
ULN	**Ulaanbaatar**	**28.32**	**293**	P		**P**	**18 59 04.1**	**+1.6**
ULN				pmax	pmax			
	comp=Z,1.0nm,0.6s,mb3.6							
ULN	**Ulaanbaatar**	**28.32**	**293**	P		**P**	**18 59 04.1**	**+1.6**
	comp=Z,1.2nm,0.6s,mb3.7							
SONM	**Songino Array**	**28.77**	**293**	P		**P**	**18 59 06.9**	**+0.4**
	comp=Z,1.3nm,0.6s,mb3.8,baz=90,slow=8.3,SNR=9.3							
SONM	**Songino Array**	**28.77**	**293**	P		**P**	**18 59 06.9**	**+0.4**
SONM				pmax	pmax			
	comp=Z,1.0nm,0.6s							
ZALV	**Zalesovo Beam**	**41.30**	**307**	P		**P**	**19 00 52.0**	**-2.1**
	comp=Z,0.6nm,0.3s,mb3.6,baz=34,slow=12,SNR=4.2							
ZALV				PcP		PcP	19 02 52.0	0.0
	comp=Z,0.9nm,0.5s,baz=90,slow=2.1,SNR=3.7							
ZALV	**Zalesovo Beam**	**41.30**	**307**	P		**P**	**19 00 52.0**	**-2.1**
ZALV							19 02 52.0	
ZALV				pmax	pmax			
	comp=Z,1.0nm,0.4s,mb3.8							
MKAR	**Makanchi Array**	**44.88**	**298**	P		**P**	**19 01 23.1**	**0.0**
	comp=Z,1.8nm,0.7s,mb4.0,baz=79,slow=11,SNR=14							
MKAR	**Makanchi Array**	**44.88**	**298**	*e*P		**P**	**19 01 23.1**	**0.0**
KURK	**Kurchatov**	**45.83**	**304**	P		**P**	**19 01 30.8**	**+0.2**
	comp=Z,0.9nm,0.4s,mb4.1,baz=72,slow=8.4,SNR=9.8							
KURK	**Kurchatov**	**45.83**	**304**	P		**P**	**19 01 30.8**	**+0.2**
KURK				pmax	pmax			
	comp=Z,1.0nm,0.4s,mb4.1							
LSA	**Lhasa**	**46.45**	**272**	*e*P		**P**	**19 01 35.8**	**+0.1**
LSA	**Lhasa**	**46.45**	**272**	*e*P		**P**	**19 01 37.0**	**+1.3**
LSA				pmax	pmax			
	comp=Z,2.0nm,0.8s,mb4.1							
LSA	**Lhasa**	**46.45**	**272**	*e*P		**P**	**19 01 37.0**	**+1.3**
	comp=Z,2.4nm,0.8s,mb4.2							
CMAR	**Chiang Mai Arr**	**47.72**	**254**	P		**P**	**19 01 46.4**	**+0.7**
	comp=Z,0.8nm,0.8s,mb3.8,baz=44,slow=8.6,SNR=6.8							
CMAR	**Chiang Mai Arr**	**47.72**	**254**	*e*P		**P**	**19 01 46.4**	**+0.7**
TAPN	**Taplejung**	**50.27**	**272**	*e*P		**P**	**19 02 05.9**	**+0.7**
	comp=Z,8.0nm,0.7s,mb4.9							
ODAN	**Odare**	**50.78**	**272**	*e*P		**P**	**19 02 08.8**	**-0.3**
JIRN	**Jiri**	**51.19**	**273**	*e*P		**P**	**19 02 12.8**	**+0.7**
	comp=Z,12nm,0.7s,mb4.9							
GUN	**Gumba**	**51.27**	**274**	*e*P		**P**	**19 02 13.2**	**+0.5**
	comp=Z,13nm,0.5s,mb5.1							
RAMN	**Ramite**	**51.30**	**272**	*e*P		**P**	**19 02 12.9**	**-0.1**
	comp=Z,19nm,0.7s,mb5.1							
KKN	**Kakani**	**51.78**	**274**	*e*P		**P**	**19 02 16.6**	**+0.1**
PKI	**Pulchoki**	**51.81**	**274**	*e*P		**P**	**19 02 17.5**	**+0.7**
PKIN	**Phulchoki**	**51.81**	**274**	*e*P		**P**	**19 02 17.5**	**+0.7**
DMN	**Daman**	**52.01**	**274**	*e*P		**P**	**19 02 18.7**	**+0.5**
GKN	**Gorkha**	**52.12**	**275**	*e*P		**P**	**19 02 19.0**	**-0.1**
DANN	**Dangsing**	**52.56**	**275**	*e*P		**P**	**19 02 22.8**	**+0.5**
	comp=Z,24nm,0.6s,mb5.3							
KOLN	**Koldanda**	**53.01**	**275**	*e*P		**P**	**19 02 25.8**	**+0.2**
	comp=Z,10nm,0.6s,mb4.9							
RES	**Resolute Bay**	**55.05**	**17**	*e*P		**P**	**19 02 38.7**	**-1.2**
AKTK	**Aktyubinsk**	**57.83**	**311**	P		**P**	**19 03 00.3**	**+0.3**
AKTO	**Aktyubinsk**	**57.83**	**311**	P		**P**	**19 03 00.3**	**+0.3**
	comp=Z,0.6nm,0.4s,mb3.9,baz=60,slow=6.4,SNR=4.1							
AKTO	**Aktyubinsk**	**57.83**	**311**	P		**P**	**19 03 00.3**	**+0.3**
AKTO				pmax	pmax			
	comp=Z,1.0nm,0.4s,mb4.2							
KBL	**Kabul**	**59.48**	**290**	P		**P**	**19 03 11.7**	**0.0**
TRO	**Tromso**	**60.99**	**342**	*i* P		**P**	**19 03 17.0**	**-4.5**
JOF	**Joensuu**	**62.35**	**332**	*e*P		**P**	**19 03 28.9**	**-1.8**
	comp=Z,1.6nm,0.6s,mb4.3							
JOF	**Joensuu**	**62.35**	**332**	*e*P		**P**	**19 03 28.9**	**-1.8**
JOF				pmax	pmax			
	comp=Z,2.0nm,0.6s,mb4.4							
KAF	**Kangasniemi**	**64.57**	**334**	*e*p		**P**	**19 03 39.9**	**-5.5**
	comp=Z,2.9nm,0.8s,mb4.4							
KAF	**Kangasniemi**	**64.57**	**334**	*e*P		**P**	**19 03 39.9**	**-5.5**
KAF				pmax	pmax			
	comp=Z,3.0nm,0.8s,mb4.4							
NVAR	**Mina Array Bea**	**67.45**	**58**	P		**P**	**19 04 05.3**	**+1.0**
	comp=Z,0.4nm,0.5s,mb3.7,baz=294,slow=6.7,SNR=2.4							
ASAR	**Alice Springs**	**68.07**	**193**	P		**P**	**19 04 07.8**	**-0.3**
	comp=Z,0.6nm,0.7s,mb3.8,baz=9.7,slow=6.3,SNR=7.6							
ASAR				pP		pP	19 04 20.9	+0.9
	comp=Z,0.7nm,0.8s,baz=11,slow=6.3,SNR=3.6							
ASAR	**Alice Springs**	**68.07**	**193**	*e*P		**P**	**19 04 09.0**	**+0.8**
PDAR	**Pinedale Array**	**69.83**	**50**	P		**P**	**19 04 19.1**	**+0.1**
	comp=Z,0.2nm,0.5s,mb3.3,baz=274,slow=5.2,SNR=2.3							
PDAR				pP		pP	19 04 32.1	+1.3
	comp=Z,0.5nm,0.5s,baz=260,slow=2.8,SNR=3.3							
NB2	**NORSAR Subarra**	**69.85**	**339**	P		**P**	**19 04 18.6**	**-0.3**
	comp=Z,12nm,1.7s,mb4.5,baz=37,slow=6.2							
NOA	**NORSAR Array B**	**69.85**	**339**	P		**P**	**19 04 18.4**	**-0.5**
	comp=Z,1.4nm,0.8s,mb3.9,baz=34,slow=6.1,SNR=6.4							
NOA	**NORSAR Array B**	**69.85**	**339**	P		**P**	**19 04 18.4**	**-0.5**
NOA				pmax	pmax			
	comp=Z,1.0nm,0.8s							
HFS	**Hagfors**	**69.94**	**337**	P		**P**	**19 04 18.2**	**-1.3**
	comp=Z,2.9nm,0.7s,mb4.3,baz=54,slow=7.5,SNR=7.8							
HFS	**Hagfors**	**69.94**	**337**	P		**P**	**19 04 18.2**	**-1.2**
HFS				pmax	pmax			
	comp=Z,3.0nm,0.7s							
KIV	**Kislovodsk**	**70.06**	**312**	P		**P**	**19 04 20.9**	**+0.4**
KIV				pmax	pmax			
	comp=Z,9.0nm,0.9s,mb4.7							
KIV	**Kislovodsk**	**70.06**	**312**	P		**P**	**19 04 20.9**	**+0.5**
	comp=Z,8.8nm,0.9s,mb4.7							
AKASG	**Malin Array Be**	**71.86**	**324**	P		**P**	**19 04 30.8**	**-0.5**
	comp=Z,0.4nm,0.3s,mb3.9,baz=38,slow=6.0,SNR=6.6							
AKASG	**Malin Array Be**	**71.86**	**324**	*e*P		**P**	**19 04 30.8**	**-0.5**
AKASG	**Malin Array Be**	**71.86**	**324**	P		**P**	**19 04 30.8**	**-0.5**
CLL	**Collm**	**77.58**	**333**	*e*P		**P**	**19 05 05.0**	**+0.7**
CLL				*e*pP		pP	19 05 15.0	-1.3
KHC	**Kasperske Hory**	**79.23**	**331**	*e*P		**P**	**19 05 10.5**	**-3.0**
KHC				*e*PCP		PcP	19 05 20.0	-1.7
GERES	**GERESS Array B**	**79.42**	**331**	P		**P**	**19 05 14.2**	**-0.3**
	comp=Z,0.1nm,0.4s,baz=46,slow=5.6,SNR=4.2							
GERES				pP		pP	19 05 26.7	+0.2
	comp=Z,0.5nm,0.7s,baz=45,slow=5.8,SNR=3.8							
CDF	**Champ du Feu**	**81.94**	**334**	*e*P		pP	19 05 38.2	-1.8
	comp=Z,14nm,1.1s							
TXAR	**Lajitas Array**	**82.53**	**56**	pP		pP	19 05 45.0	+1.5
	comp=Z,0.7nm,0.5s,baz=295,slow=3.4,SNR=7.6							
HAU	**Haudompre**	**82.59**	**335**	*e*P		pP	19 05 42.3	-1.1
SMF	**Signal de Mont**	**84.57**	**336**	*e*P		pP	19 05 52.9	-0.7
	comp=Z,12nm,0.9s							
AVF	**Avril sur Loir**	**84.58**	**336**	*e*P		pP	19 05 52.0	-1.7
	comp=Z,25nm,1.3s							
LPL	**La Plagne**	**84.68**	**333**	*e*P		pP	19 05 53.1	-1.1
	comp=Z,8.6nm,1.0s							
LPG	**La Plagne**	**84.69**	**333**	*e*P		pP	19 05 53.3	-1.0
	comp=Z,11nm,1.0s							
BGF	**Bois d'Agland**	**84.94**	**336**	*e*P		pP	19 05 54.7	-0.8
VIVF	**Saint-Julien-l**	**85.92**	**334**	*e*P		pP	19 06 00.1	-0.4
	comp=Z,9.5nm,1.1s							
SNAA	**Sanae**	**148.37**	**197**	*e*		PKPbc	19 12 53.5	0.0
BDFB	**Brasilia**	**149.17**	**30**	PKPbc		PKPbc	19 12 56.0	-1.1
	comp=Z,1.5nm,0.6s,baz=37,slow=1.8,SNR=3.9							
BDFB	**Brasilia**	**149.17**	**30**	PKP2		PKPbc	19 12 56.0	-1.1
BDFB				pmax	pmax			
	comp=Z,2.0nm,0.6s							
VNA2	**Neumayer--Watz**	**149.90**	**196**	*e*		PKPbc	19 12 58.0	+0.7
	baz=128,slow=0.9							
VNA3	**Neumayer Olymp**	**150.08**	**195**	*e*		PKPbc	19 12 57.9	+0.2
VNA1	**Neumayer--Stat**	**150.29**	**196**	*e*		PKPbc	19 12 59.1	+0.8

NEIC **27** *18:56:14.9±0.6, 9.948S×107.11E, h10km, mb4.1/4, Error ellipse: s-maj=15.6km s-min=11.1km az=63.0*
ISCJB **27** *18:56:17.9±0.9, 952S×007×10703E±008, h51km±9km, mb4.0/10, Error ellipse: s-maj=13.6km s-min=12.2km az=166.0*
IDC **27** *18:56:17.7±2.2, 885S×10748E, h0km, mb4.1/6, mb1 4.2/7, mb1mx3.9/17, mbtmp4.1/7, ML4.1/1, Error ellipse: s-maj=84.6km s-min=20.3km az=52.0*
DJA **27** *18:56:21.0±0.4, 9S±4×107E±, h10km, mB5.6/2, Mjma3.8/10, MLv4.3/11, Mw(mB)5.3/2, Mwp4.1/2*
ISC 27 18:56:19.1±2.9, 935S±008×10686E±009, h27km±22km, n26, σ1§13/26, mb4.0/10, 1D, South of Jawa

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
XMIS	**Christmas Isla**	**1.64**	**227**	P		**Pn**	**18 56 45.8**	**-0.3**
XMIS	**Christmas Isla**	**1.64**	**227**	*e*Pn		**Pn**	**18 56 45.2**	**-0.9**
LEM	**Lembang**	**2.62**	**17**	⇓*i*P		**Pn**	**18 57 00.4**	**+0.8**
LEM	**Lembang**	**2.62**	**17**	P		**Pn**	**18 56 59.7**	**+0.1**
DBJI	**Dramaga**	**2.78**	**358**	P		**Pn**	**18 57 02.5**	**+0.6**
CBJI	**Citeko**	**2.91**	**360**	P		**Pn**	**18 57 00.8**	**-2.9**
JCJI	**Jatiwangi**	**3.17**	**26**	P		**Pn**	**18 57 06.9**	**-0.3**
SBJI	**Serang**	**3.29**	**347**	P		**Pn**	**18 57 12.3**	**+3.4**
BJII	**Banjamegara**	**3.46**	**55**	P		**Pn**	**18 57 11.6**	**+0.4**
SJI	**Sawahan**	**5.11**	**72**	P		**Pn**	**18 57 32.6**	**-1.3**
KRKI	**Karangkates**	**5.65**	**78**	P		**Pn**	**18 57 50.7**	**+9.3**
KHKI	**Kahang-Kahang**	**6.70**	**84**	P		**Pn**	**18 58 30.5**	**+7.3**
BATI	**Bamata**	**16.58**	**94**	Pn		**Pn**	**19 00 03.2**	**-6.6**
	0.8nm,0.3s,baz=304,slow=3.6,SNR=3.0							
MBWA	**Marble Bar**	**17.07**	**135**	*e*P		**Pn**	**19 00 10.7**	**-5.2**
WRAB	**Tennant Creek**	**28.55**	**115**	P		**P**	**19 02 08.3**	**-4.6**
CM31	**Chiang Mai Arr**	**28.71**	**344**	P		**P**	**19 02 12.3**	**-1.9**
	2.6nm,0.8s,mb4.0							
CMAR	**Chiang Mai Arr**	**28.71**	**344**	P		**P**	**19 02 13.6**	**-0.6**
	2.2nm,0.6s,mb4.1,baz=180,slow=8.7,SNR=18							
CHTO	**Chiang Mai**	**29.05**	**344**	P		**P**	**19 02 17.5**	**+0.2**
	3.8nm,1.0s,mb4.1							
ASAR	**Alice Springs**	**29.50**	**122**	P		**P**	**19 02 22.7**	**+1.4**
	0.5nm,0.6s,mb3.4,baz=296,slow=9.0,SNR=5.9							
STKA	**Stephens Creek**	**39.21**	**130**	P		**P**	**19 03 45.8**	**+0.7**
	4.6nm,1.1s,mb4.1,baz=294,slow=12,SNR=3.0							
LSA	**Lhasa**	**41.67**	**339**	P		**P**	**19 04 06.8**	**+1.3**
	1.7nm,0.6s,mb3.9							
SONM	**Songino Array**	**56.93**	**360**	P		**P**	**19 06 02.8**	**+1.0**
	0.7nm,0.6s,mb3.9,baz=179,slow=8.6,SNR=5.8							
MK31	**Makanchi Array**	**60.04**	**341**	*e*P		**P**	**19 06 22.7**	**-0.8**
MKAR	**Makanchi Array**	**60.04**	**341**	P		**P**	**19 06 24.4**	**+0.9**
	1.9nm,0.5s,mb4.4,baz=156,slow=7.7,SNR=22							
KURK	**Kurchatov**	**64.65**	**341**	*e*P		**P**	**19 06 53.8**	**-0.5**
	1.8nm,0.6s,mb4.3							
PETK	**Petropavlovsk-**	**75.70**	**29**	P		**P**	**19 08 00.3**	**-1.6**
	2.5nm,0.7s,mb4.3,baz=162,slow=2.7,SNR=5.4							

NIED **27** *19:00:00, 4600N×15360E, h5km, Mw4.7 Best double couple: M0 1.36000×10^16 NP1:φs231.00000°, δ78.00000°, λ-96.00000°. NP2:φs77.00000°, δ14.00000°, λ-65.00000°.*
IDC **27** *19:00:51.1±0.5, 4563N×15398E, h0km, mb4.4/20, mb1 4.6/23, mb1mx4.5/28, mbtmp4.4/23, ML3.9/3, MS3.7/11, Ms1 3.7/11, ms1mx3.3/39, Error ellipse: s-maj=16.9km s-min=12.2km az=148.0*
NEIC **27** *19:00:52.7±0.2, 4562N×15402E, h10km, mb4.8/44, Error ellipse: s-maj=7.1km s-min=4.2km az=154.0*
ISCJB **27** *19:00:52.7±0.2, 4542N±005×15394E±003, h29km, mb4.7/77, MS3.8/15, Error ellipse: s-maj=7.0km s-min=2.3km az=163.4*
JMA **27** *19:00:55.1±0.7, 4598N×15364E, h30km, M4.9*
MOS **27** *19:00:55.1±1.2, 4564N×15377E, h35km, mb4.8/45, Error ellipse: s-maj=8.3km s-min=6.3km az=112.7*
SKHL **27** *19:00:55.6±1.5, 4598N×15347E, h31km±6km, mb5.0/4, Ms3.9/1, msh5.8/1*
BJI **27** *19:00:59.3, 4601N×15336E, h40km, mB4.7, mb4.6, Ms4.3, Msz4.0*
SZGRF **27** *19:01:01.8, 4613N×15342E, h33km, mb4.6, Kuril Islands, Russia*
ISC 27 19:00:55.4±0.2, 4551N±004×15394E±003, h31km, h31km±2.2km:pP-P, n313, σ1§11/313, mb4.7/77, MS3.8/15, 62C-52D, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**4.29**	**268**	*i* PN		**Pn**	**19 01 55.5**	**-2.9**
KUR				pmax	pmax			
	comp=N,110nm,0.5s							
KUR				pmax	pmax			
	comp=Z,300nm,0.5s							
KUR	**Kuril'sk**	**4.29**	**268**	*e*P		**Pn**	**19 01 55.5**	**-2.9**
KUR				AMB	AMB		19 01 56.5	
	comp=Z,110nm,0.5s							
KUR				AMB	AMB		19 01 56.5	
	comp=Z,300nm,0.5s							
KUR				*e*S		**Sn**	**19 02 41.5**	**-5.8**
KUR				A			19 02 44.0	
	comp=Z,380nm,0.5s							
KUR				A			19 02 44.0	
	comp=Z,760nm,0.5s							
SKR	**Severo-Kuril's**	**5.38**	**15**	*e*P		**Pn**	**19 02 09.9**	**-3.5**
SKR				AMB	AMB		19 02 13.1	
	comp=Z,80nm,0.5s							
SKR				AMB	AMB		19 02 13.1	
	comp=Z,60nm,0.3s							
SKR				*e*S		**Sn**	**19 03 04.5**	**-10**
SKR				A			19 03 16.1	
	comp=Z,220nm,1.0s							
SKR				A			19 03 16.1	
	comp=Z,170nm,0.7s							
SKR				A			19 03 16.1	
	comp=Z,90nm,0.7s							
YUK	**Yuzh-Kuril'sk**	**5.94**	**258**	*e*P		**Pn**	**19 02 20.7**	**-0.4**
YUK				AMB	AMB		19 02 22.5	
	comp=Z,280nm,0.3s							
YUK				*e*S		**Sn**	**19 03 27.0**	**-1.0**
YUK				A			19 03 27.5	
	comp=Z,460nm,0.6s							
YUK				A			19 03 27.5	
	comp=Z,510nm,0.6s							
YUK				A			19 03 55.0	
	comp=Z,2μm,2.0s							
YUK				A			19 03 55.0	
	comp=Z,3μm,2.0s							
NEM2	**Nemuro 2**	**6.25**	**253**	P		**Pn**	**19 02 23.6**	**-1.7**
NEM2				*e*S		**Sn**	**19 03 29.8**	**-5.8**
JRA	**Rausu**	**6.47**	**259**	P		**Pn**	**19 02 28.8**	**+0.3**
JRA				*e*S		**Sn**	**19 03 39.9**	**-1.3**
JNK	**Nakash**	**6.86**	**257**	P		**Pn**	**19 02 33.6**	**-0.2**
JNK				*e*S		**Sn**	**19 03 47.3**	**-3.5**
JAK	**Akkeshi**	**7.09**	**253**	P		**Pn**	**19 02 35.5**	**-1.5**
JAK				*e*S		**Sn**	**19 03 51.0**	**-5.5**
JTKR	**Abashiri--Toko**	**7.30**	**261**	P		**Pn**	**19 02 40.2**	**+0.3**
JTKR				*e*S		**Sn**	**19 04 02.5

MDJ AMB AMB
comp=Z,183nm,4.8s
MDJ Mudanjiang 17.21 276 *e*Pn **Pn** **19 04 52.4 -0.9**
comp=Z,35nm,1.0s
ZEA Zeya 19.06 305 *e*P **Pn** **19 05 11.8 -4.0**
ZEA AMB AMB 19 05 15.8
comp=Z,28nm,1.4s
KSRS Korea Array 21.02 257 P **P** **19 05 37.9 +1.6**
comp=Z,3.2nm,0.7s,mb3.7,baz=65,slow=9.7,SNR=16
KSRS LR LR 19 14 21.1
comp=Z,68nm,18.2s,MS3.1,baz=75,slow=38
KSRS Korea Array 21.02 257 P **P** **19 05 37.9 +1.6**
KSRS pmax pmax
comp=Z,3.0nm,0.7s,mb3.7
KSRS MLR MLR
comp=Z,68nm,18.2s,MS3.1
CLNS Chul'man 21.27 313 *e*P **P** **19 05 37.1 -1.8**
CLNS pmax pmax
comp=Z,17nm,0.9s,mb4.4
CLNS pmax pmax
comp=N,15nm,1.0s
CLNS pmax pmax
comp=E,11nm,1.1s
CLNS MLR MLR
comp=Z,218nm,15.0s,MS3.7
CLNS MLR MLR
comp=E,136nm,15.0s,MS3.6
CLNS MLR MLR
comp=N,119nm,15.0s,MS3.6
YAK Yakutsk 21.68 328 *e*P **P** **19 05 40.3 -2.9**
YAK *e* 19 06 01.1
YAK *e*S **S** **19 09 37.5 -3.6**
YAK *e* 19 09 42.4
YAK *e*SSS 19 10 13.3
YAK *e* 19 17 05.3
YAK pmax pmax
comp=E,7.0nm,0.9s
YAK pmax pmax
comp=Z,20nm,1.0s,mb4.5
YAK pmax pmax
comp=Z,130nm,3.0s
YAK pmax pmax
comp=E,195nm,3.2s
YAK pmax pmax
comp=N,218nm,3.0s
YAK smax
comp=N,98nm,2.2s
YAK smax
comp=E,115nm,2.0s
YAK MLR MLR
comp=Z,141nm,15.0s,MS3.5
YAK MLR MLR
comp=N,151nm,16.0s
YAK Yakutsk 21.68 328 *e*P **P** **19 05 41.1 -2.0**
comp=N,23nm,0.8s,mb4.7
INCN Inchon 21.89 258 *e*P **P** **19 05 47.1 +1.5**
comp=N,20nm,0.9s,mb4.6
HIA Hailar 23.33 292 P **P** **19 05 56.8 -4.1**
HIA pmax pmax
comp=Z,12nm,1.1s
HIA Hailar 23.33 292 P **P** **19 05 56.8 -4.0**
comp=Z,12nm,1.1s,mb4.2
BILL Bilibino 23.48 12⇑ *e*P **P** **19 06 02.5 +0.3**
BILL *e* 19 06 07.5
BILL 19 06 27.0
BILL pmax pmax
comp=Z,20nm,1.3s,mb4.4
BILL MLR MLR
comp=Z,100nm,20.0s,MS3.3
BILL Bilibino 23.48 12 *e*P **P** **19 06 01.6 -0.6**
comp=Z,13nm,1.0s,mb4.3
BJI Beijing 28.07 272 P **P** **19 06 49.3 +5.4**
BJI S **S** **19 11 27.0 +0.4**
BJI AMB AMB
comp=Z,22nm,0.7s,mb4.9
BJI AMB AMB
comp=Z,246nm,5.5s
BJT Baijiatuau 28.08 272 *e*P **P** **19 06 48.3 +4.3**
comp=Z,27nm,0.8s,mb4.9
ULN Ulaanbaatar 31.86 291⇑ *e*P **P** **19 07 18.2 +0.8**
ULN Ulaanbaatar 31.86 291 *e*P **P** **19 07 18.3 +0.8**
comp=Z,7.1nm,0.9s,mb4.5
SONM Songino Array 32.30 292 P **P** **19 07 23.1 +1.8**
comp=Z,2.7nm,0.8s,mb4.2,baz=74,slow=7.4,SNR=17
SONM PcP PcP 19 10 09.3 +0.6
comp=Z,1.5nm,0.8s,baz=128,slow=2.6,SNR=6.1
SONM LR LR 19 19 40.0
comp=Z,78nm,20.3s,MS3.4,baz=131,slow=35
SONM Songino Array 32.30 292 P **P** **19 07 23.1 +1.8**
SONM 19 10 09.3
SONM pmax pmax
comp=Z,3.0nm,0.8s
SONM MLR MLR
comp=Z,78nm,20.3s
TLY Talaya 33.27 299 *e*P **P** **19 07 30.9 +1.2**
TLY pmax pmax
comp=Z,7.0nm,1.1s,mb4.5
TLY MLR MLR
comp=Z,138nm,15.0s,MS3.8
ZAK Zakamensk 33.73 297 *e*P **P** **19 07 33.6 -0.1**
ZAK pmax pmax
comp=Z,8.0nm,1.2s,mb4.5
KDAK Kodiak Island 34.46 50 P **P** **19 07 38.9 -1.1**
comp=Z,16nm,0.8s,mb5.0,baz=315,slow=3.3,SNR=9.6
XAN Xi'an 36.01 268 P **P** **19 07 54.5 +1.0**
XAN AP pP 19 08 02.5 0.0
XAN AMB AMB
comp=Z,9.0nm,1.0s,mb4.7
XAN AMB AMB
comp=Z,155nm,6.3s
COLA College 36.77 37 *e*P **P** **19 07 59.9 +0.3**
COLA pmax pmax
comp=Z,8.0nm,0.9s,mb4.5
COLA College 36.77 37 *e*P **P** **19 07 59.9 +0.3**
comp=Z,7.6nm,0.9s,mb4.5
LZH Lanzhou 38.52 274 *e*P **P** **19 08 18.8 +4.0**
LZH AP pP 19 08 29.5 +5.6
LZH XP sP 19 08 34.5 +6.9
LZH AMB AMB
comp=Z,31nm,1.2s,mb4.9
LZH AMB AMB
comp=Z,115nm,4.7s
EGAK Eagle 39.63 37 *e*P **P** **19 08 22.8 -0.9**
comp=Z,12nm,1.0s,mb4.6
GTA Gaotai 39.75 281 P **P** **19 08 27.3 +2.3**
GTA AP pP 19 08 36.8 +2.7
GTA XP sP 19 08 40.8 +3.0
GTA AMB AMB
comp=Z,10.0nm,1.1s,mb4.5
GTA AMB AMB
comp=Z,82nm,3.9s
GTA LR LR
comp=N,98nm,15.3s,MS4.0
GTA LR LR
comp=E,132nm,14.7s,MS4.0
DAWY Dawson 40.45 38 *e*P **P** **19 08 29.6 -0.9**
ZALV Zalesovo Beam 43.81 307 P **P** **19 08 57.6 -0.4**
comp=E,0.7nm,0.4s,mb3.7,baz=64,slow=6.5,SNR=4.7
ZALV PcP PcP 19 10 44.5 +0.4
comp=E,2.4nm,0.7s,baz=87,slow=2.2,SNR=8.9
ZALV Zalesovo Beam 43.81 307 P **P** **19 08 57.7 -0.3**
ZALV 19 10 44.5
ZALV pmax pmax
comp=Z,1.0nm,0.4s,mb3.9
ZALV Zalesovo Beam 43.81 307 P **P** **19 08 57.6 -0.4**
ZALV PcP PcP 19 10 44.5 +0.4
KMI Kunming 45.60 261 P **P** **19 09 14.0 +1.3**
KMI AMB AMB
comp=Z,6.0nm,1.3s,mb4.4
DLBC Dease Lake 46.06 45 P **P** **19 09 16.1 +0.2**
comp=Z,5.3nm,0.9s,mb4.5,baz=298,slow=11,SNR=6.9
MK31 Makanchi Array 48.03 299 *e*P **P** **19 09 31.6 +0.2**
MKAR Makanchi Array 48.03 299 P **P** **19 09 31.1 -0.3**
comp=Z,5.9nm,0.8s,mb4.7,baz=70,slow=6.6,SNR=20
MKAR PcP PcP 19 10 58.8 -0.2
comp=Z,1.7nm,0.8s,baz=36,slow=3.9,SNR=3.1
MKAR LR LR 19 30 28.9
comp=Z,72nm,20.5s,MS3.6,baz=58,slow=37
MKAR Makanchi Array 48.03 299 P **P** **19 09 31.1 -0.3**
MKAR 19 10 58.8
MKAR pmax pmax
comp=Z,6.0nm,0.8s
MKAR MLR MLR
comp=Z,73nm,20.5s
KURK Kurchatov 48.53 305⇑ *e*P **P** **19 09 35.2 0.0**
KURK pmax pmax
comp=Z,12nm,1.3s,mb4.8
KURK Kurchatov 48.53 305 *e*P **P** **19 09 35.0 -0.3**
comp=Z,15nm,1.3s,mb4.9
LSA Lhasa 50.93 275 *e*P **P** **19 09 56.3 +2.5**
LSA pmax pmax
comp=Z,4.0nm,0.7s,mb4.5
LSA Lhasa 50.93 275 *e*P **P** **19 09 56.3 +2.5**
comp=Z,4.1nm,0.7s,mb4.5
YKA Yellowknife Ar 51.58 36 P **P** **19 09 58.3 +0.2**
comp=Z,4.1nm,0.9s,mb4.4,baz=300,slow=7.8,SNR=6.2
RES Resolute Bay 51.83 18 *e*P **P** **19 09 58.5 -1.4**
comp=Z,179nm,0.9s
BRVK Borovoye 52.13 311 *e*P **P** **19 10 02.2 -0.2**
BRVK pmax pmax
comp=Z,6.0nm,0.6s,mb4.7
BRVK Borovoye 52.13 311 *e*P **P** **19 10 02.2 -0.2**
comp=Z,6.0nm,0.6s,mb4.7
CMAR Chiang Mai Arr 52.65 258 P **P** **19 10 07.8 +1.0**
comp=Z,1.8nm,0.4s,mb4.4,baz=39,slow=7.0,SNR=6.0
CMAR PcP PcP 19 11 17.3 +0.9
comp=Z,1.1nm,0.6s,baz=38,slow=1.7,SNR=7.4
CMAR Chiang Mai Arr 52.65 258 P **P** **19 10 07.8 +1.1**
CMAR 19 11 17.3
CMAR pmax pmax
comp=Z,2.0nm,0.4s
TAPN Taplejung 54.76 275 *e*P **P** **19 10 23.6 +1.6**
comp=Z,12nm,0.7s,mb5.0
ODAN Odare 55.28 274 *e*P **P** **19 10 26.7 +0.9**
JIRN Jiri 55.63 276 *e*P **P** **19 10 29.9 +1.6**
comp=Z,18nm,0.8s,mb5.2
GUN Gumba 55.69 276 *e*P **P** **19 10 31.1 +2.3**
RAMN Ramite 55.78 275 *e*P **P** **19 10 30.8 +1.4**
comp=Z,26nm,0.7s,mb5.4
KKN Kakani 56.19 277 *e*P **P** **19 10 34.2 +1.9**
comp=Z,23nm,0.8s,mb5.3
KKN Kakani 56.19 277 *e*P **P** **19 10 34.2 +1.9**
KKN pmax pmax
comp=Z,23nm,0.8s,mb5.3
PKI Pulchoki 56.23 276 *e*P **P** **19 10 33.8 +1.2**
PKIN Phulchoki 56.23 276 *e*P **P** **19 10 33.5 +0.8**
A09A Danville 56.27 52⇑ P **P** **19 10 31.5 -1.1**
baz=56
ARU Arti 56.31 318 *e i*P **P** **19 10 33.4 +0.6**
ARU *e* 19 11 24.2
ARU *e* 19 12 35.2
ARU *e*S **S** **19 18 22.3 +1.7**
ARU *e*SS SS 19 22 03.1 -3.8
ARU pmax pmax
comp=Z,25nm,1.7s,mb5.0
ARU Arti 56.31 318 *e*P **P** **19 10 31.8 -1.0**
comp=Z,15nm,1.0s,mb5.0
DMN Daman 56.42 277 *e*P **P** **19 10 35.5 +1.5**
comp=Z,21nm,0.9s,mb5.2
GKN Gorkha 56.50 277 *e*P **P** **19 10 36.0 +1.4**
comp=Z,23nm,0.8s,mb5.3
B09A Rice 56.82 53 ⇓P **P** **19 10 35.3 -1.2**
baz=56
B09A ⇓P 19 10 36.7
baz=56
DANN Dangsing 56.90 278 *e*P **P** **19 10 39.3 +1.9**
comp=Z,31nm,0.7s,mb5.5
KOLN Koldanda 57.37 278 *e*P **P** **19 10 42.3 +1.6**
comp=Z,13nm,0.8s,mb5.0
H06A Lindquist Farm 57.59 57 ⇓P **P** **19 10 42.5 +0.6**
baz=57
K06A Valley Falls 58.73 59 ⇓P **P** **19 10 50.6 +0.6**
baz=58
B13A Whitefish 58.88 51 ⇓P **P** **19 10 51.4 +0.4**
baz=58,SNR=6.9
G10A Bishop Farm, J 59.15 55 ⇓P **P** **19 10 51.9 -1.0**
baz=59,SNR=6.0
ARCES ARCESS Array B 59.21 341 P **P** **19 10 53.0 0.0**
comp=Z,4.5nm,0.8s,mb4.5,baz=22,slow=6.9,SNR=5.1
ARCES LR LR 19 38 30.2
comp=Z,146nm,20.6s,MS4.1,baz=186,slow=38
ARCES ARCESS Array B 59.21 341 P **P** **19 10 53.0 0.0**
ARCES pmax pmax
comp=Z,5.0nm,0.8s
ARCES MLR MLR
comp=Z,146nm,20.6s
ARCES ARCESS Array B 59.21 341 P **P** **19 10 53.0 0.0**
ARCES LR LR 19 38 30.2
BMO Blue Mountains 59.30 56 *e*P **P** **19 10 54.3 +0.4**
comp=Z,8.8nm,1.6s,mb4.5
F11A Grangeville 59.36 54 ⇓P **P** **19 10 53.6 -0.7**
baz=59
E12A Beaver Dam Sad 59.39 53 ⇓P **P** **19 10 53.1 -1.5**
baz=59,SNR=6.4
B14A Marquette Ranc 59.54 51 ⇓P **P** **19 10 54.6 -0.9**
baz=59
B14A ⇓P 19 10 55.9
baz=59
G11A Walters Elk Ra 59.58 55 ⇑P **P** **19 10 54.9 -1.0**
baz=59
G11A ⇓P 19 10 56.9
baz=59
K08A Mann Creek Ran 59.83 58 ⇓P **P** **19 10 59.1 +1.5**
baz=60
J09A Fry Pan Ranch, 59.91 57 ⇓P **P** **19 10 58.9 +0.8**
baz=60
F12A Elk City 59.95 54 ⇑P **P** **19 10 56.7 -1.8**
baz=60,SNR=5.7
D14A Greenough 60.16 52 ⇑P **P** **19 10 58.8 -1.0**
baz=60,SNR=6.9
D14A ⇑P 19 11 00.2
baz=60
M07A Soldier Meadow 60.20 60 ⇓P **P** **19 10 59.2 -1.0**
baz=60
L08A Fields 60.23 59 ⇑P **P** **19 10 59.0 -1.3**
baz=60
L08A ⇑P 19 11 01.4
baz=60
C15A Salmond Ranch, 60.24 51 ⇑P **P** **19 11 01.5 +1.1**
baz=60
F13A Darby 60.46 54 ⇓P **P** **19 11 00.9 -1.0**
baz=60
F13A ⇑P 19 11 02.2
baz=60
E14A Clinton 60.56 53 ⇓P **P** **19 11 01.7 -0.9**
baz=60
D15A Lincoln 60.73 51 ⇑P **P** **19 11 02.6 -1.0**
baz=60
D15A ⇑P 19 11 04.3
baz=60
G13A Cobalt 60.92 54 ⇓P **P** **19 11 02.8 -2.2**
baz=61,SNR=10.0
E15A Deer Lodge 61.03 52 ⇓P **P** **19 11 05.0 -0.7**
baz=61
KAKA Kakadu 61.12 204 *e*P **P** **19 11 00.9 -5.8**
comp=Z,38nm,0.8s,mb5.6
I12A Atlanta 61.18 56 ⇓P **P** **19 11 06.2 -0.7**
baz=61
I12A ⇓P 19 11 07.6
baz=61
N08A GE Springer Mi 61.19 60 ⇓P **P** **19 11 06.0 -0.9**
baz=61
D16A Dana Ranch, Ca 61.27 51 ⇑P **P** **19 11 08.2 +0.8**
baz=61
FFC Flin Flon 61.32 40 *e*P **P** **19 11 06.9 -0.7**
FFC pmax pmax
comp=Z,8.0nm,0.8s,mb4.9
FFC Flin Flon 61.32 40 *e*P **P** **19 11 06.9 -0.7**
comp=Z,7.8nm,0.8s,mb4.9
C17A Wharram Farm, 61.33 50 ⇑P **P** **19 11 07.0 -0.8**
baz=61
CMB Columbia Colle 61.44 64 ⇑P **P** **19 11 07.9 -0.8**
baz=61
F15A Butte 61.46 53 ⇓P **P** **19 11 07.7 -1.0**
baz=61,SNR=6.3
KLMR Klimovskoe 61.47 330 *e*P **P** **19 11 08.4 -0.1**
KLMR pmax pmax
comp=Z,22nm,1.4s,mb5.1
D17A Six Diamond Ra 61.66 51 ⇑P **P** **19 11 10.7 +0.7**
baz=61
I13A Wildhorse Cree 61.70 55 ⇓P **P** **19 11 09.0 -1.3**
baz=61
I13A ⇓P 19 11 10.8
baz=61
BATI Baumata 61.79 214 P **P** **19 11 12.0 +0.8**
comp=Z,4.1nm,0.7s,mb4.7,baz=55,slow=6.6,SNR=3.8
G15A Dillon 61.87 53 ⇑P **P** **19 11 09.6 -1.8**
baz=62
F16A Kennard Place, 61.98 52 ⇑P **P** **19 11 11.0 -1.1**
baz=62
BOZ Bozeman (W) 62.06 52 ⇑P **P** **19 11 11.4 -1.3**
baz=62
I14A Mackay 62.07 55 ⇑P **P** **19 11 14.2 +1.3**
baz=62,SNR=7.9
G16A Moss Hill, Enn 62.22 53 ⇑P **P** **19 11 11.5 -2.3**
baz=62,SNR=7.0
G16A ⇑P 19 11 14.6
baz=62
J14A Carey 62.40 55 ⇑P **P** **19 11 13.5 -1.5**
baz=62,SNR=7.4
J14A ⇓P 19 11 16.4
baz=62
NVAR Mina Array Bea 62.50 62 P **P** **19 11 16.5 +0.7**
comp=Z,3.8nm,0.8s,mb4.6,baz=292,slow=6.5,SNR=29
NVAR Mina Array Bea 62.50 62 P **P** **19 11 16.5 +0.7**
JOF Joensuu 62.70 334 *e*p **P** **19 11 15.9 -0.8**
comp=Z,8.7nm,0.6s,mb5.1
JOF Joensuu 62.70 334 *e*P **P** **19 11 15.9 -0.8**
JOF pmax pmax
comp=Z,9.0nm,0.6s,mb5.1
H16A Russell Place, 62.85 53 ⇓P **P** **19 11 18.7 +0.7**
baz=62,SNR=6.3
F18A Big Timber 62.96 51 ⇓P **P** **19 11 19.5 +0.8**
baz=63
KBL Kabul 63.06 293 *e*P **P** **19 11 19.8 +0.2**
KBL pmax pmax
comp=Z,5.0nm,0.8s,mb4.7
KBL Kabul 63.06 293 *e*P **P** **19 11 19.8 +0.2**
comp=Z,5.4nm,0.8s,mb4.7
R09A Tonopah 63.38 62 ⇑P **P** **19 11 20.7 -1.0**
baz=63,SNR=11
H17A Grant Village 63.42 53 ⇓P **P** **19 11 23.2 +1.4**
baz=63
J16A Bone 63.53 54 ⇑P **P** **19 11 24.3 +1.8**
baz=63,SNR=5.7
RLMT Red Lodge 63.69 52 ⇑P **P** **19 11 24.8 +1.2**
baz=63
I17A Pilgram Creek 63.71 53 ⇓P **P** **19 11 24.9 +1.2**
baz=63
TPAW Teton Pass 63.77 54 *e*P **P** **19 11 25.7 +1.6**
comp=Z,14nm,1.2s,mb4.9
K16A Soda Springs 63.82 55 ⇑P **P** **19 11 26.4 +2.0**
baz=64
S10A Tonopah Range, 63.88 62 ⇑P **P** **19 11 24.3 -0.6**
baz=64,SNR=7.1
REDW Red Top Meadow 63.91 54 *e*P **P** **19 11 26.2 +1.2**
comp=Z,15nm,1.3s,mb4.8
J17A Brown Place, J 63.98 54 ⇓P **P** **19 11 24.7 -0.8**
baz=64
M15A Larsen Ranch, 64.17 56 ⇓P **P** **19 11 27.6 +0.8**
baz=64
R11A Troy Canyon, C 64.23 61 ⇑P **P** **19 11 26.7 -0.5**
baz=64,SNR=12
MPMC Manual Prospec 64.48 64 ⇓P **P** **19 11 28.3 -0.6**
baz=64,SNR=6.4
S11A Rachel 64.58 62 ⇑P **P** **19 11 30.8 +1.2**
baz=64
FURC Furnace Creek, 64.62 63 ⇑P **P** **19 11 28.8 -1.0**
baz=64,SNR=6.0
FURC ⇓P 19 11 30.9
baz=64
TPNV Topopah Spring 64.70 62 ⇑P **P** **19 11 31.1 +0.8**
baz=64,SNR=6.7
DUG Dugway 64.75 58 ⇓P **P** **19 11 31.4 +0.8**
baz=64,SNR=5.5
KAF Kangasniemi 64.81 336 *e*p **P** **19 11 29.2 -1.4**
comp=Z,4.6nm,0.7s,mb4.6
KAF Kangasniemi 64.81 336 *e*P **P** **19 11 29.2 -1.4**
KAF pmax pmax
comp=Z,5.0nm,0.7s,mb4.7
Q13A Wheeler Ranch, 64.81 59 ⇑P **P** **19 11 31.9 +0.9**
baz=64,SNR=5.9
EDW2 Edwards Air Fo 64.90 65 ⇑P **P** **19 11 32.2 +0.5**
baz=65,SNR=6.5
P14A Drum Mountains 64.98 58 ⇓P **P** **19 11 31.5 -0.7**
baz=65
BW06 Boulder Array 65.02 54 ⇑P **P** **19 11 33.0 +0.7**
baz=65,SNR=6.2
PDAR Pinedale Array 65.02 54 P **P** **19 11 32.7 +0.4**
comp=Z,3.0nm,0.9s,mb4.3,baz=289,slow=2.5,SNR=17
T11A Corn Creek, Al 65.16 62 ⇑P **P** **19 11 32.8 -0.5**
baz=65,SNR=7.9
R13A O'Grain Ranch, 65.33 60 ⇑P **P** **19 11 33.7 -0.7**
baz=65
CTA Charters Tower 65.66 188 P **P** **19 11 37.0 +0.5**
comp=Z,2.2nm,0.9s,mb4.2,baz=94,slow=16,SNR=3.1
CTA Charters Tower 65.66 188 P **P** **19 11 37.0 +0.5**
CTA pmax pmax
comp=Z,2.0nm,0.9s
CTA Charters Tower 65.66 188 P **P** **19 11 37.0 +0.5**
ARUT Antelope Range 65.90 60 P **P** **19 11 37.3 -0.8**
T14A Hurricane 66.58 61 ⇓P **P** **19 11 41.6 -0.9**
baz=66
T14A ⇑P 19 11 43.7
baz=66
OBN Obninsk 66.66 326⇑ *e*P **P** **19 11 42.9 +0.3**
OBN *e* pP 19 11 52.4 +0.2
OBN pmax pmax
comp=Z,32nm,1.4s,mb5.2
OBN MLR MLR
comp=Z,100nm,18.0s,MS4.1
R16A Teasdale 66.77 59 ⇓P **P** **19 11 45.0 +1.3**
baz=66
SRU San Rafael 66.80 57 ⇑P **P** **19 11 44.7 +0.9**
baz=66,SNR=5.6
V13A Grand Canyon W 66.81 62 P **P** **19 11 44.8 +0.9**
baz=66,SNR=8.5
R17A Hanksville Air 67.14 58 ⇓P **P** **19 11 45.1 -0.9**
baz=67
R17A ⇑P 19 11 46.6
baz=67
IRM Iron Mountain 67.16 64 ⇓P **P** **19 11 45.9 -0.3**
baz=67,SNR=5.1
RSSD Black Hills 67.19 50 *e*P **P** **19 11 46.0 -0.2**
RSSD pmax pmax
comp=Z,8.0nm,1.2s,mb4.6
RSSD Black Hills 67.19 50 *e*P **P** **19 11 46.0 -0.2**
comp=Z,8.4nm,1.2s,mb4.7
P19A Cripple Cowboy 67.37 56 ⇑P **P** **19 11 46.8 -0.6**
baz=67
P19A ⇑P 19 11 48.2
baz=67
U15A North Rim 67.48 61 ⇓P **P** **19 11 47.7 -0.5**
baz=67,SNR=6.4
V14A Boquillas Ranc 67.49 62 ⇑P **P** **19 11 47.3 -0.9**
baz=67
V14A ⇑P 19 11 49.6
baz=67,SNR=6.2
WRAB Tennant Creek 67.52 200 *e*P **P** **19 11 49.1 +0.7**
WRAB pmax pmax
comp=Z,15nm,0.9s,mb5.0
WRAB Tennant Creek 67.52 200 *e*P **P** **19 11 49.1 +0.6**
comp=Z,15nm,0.9s,mb5.0
S17A Black Ridge (B 67.60 59 ⇑P **P** **19 11 48.4 -0.5**
baz=67
X13A Yucca 67.72 63 ⇓P **P** **19 11 48.6 -1.1**
baz=67,SNR=5.3
W14A Seligman 67.78 62 ⇓P **P** **19 11 49.4 -0.7**
baz=68,SNR=6.2
S18A Hurst Farm, Bl 68.04 58 ⇓P **P** **19 11 51.1 -0.6**
baz=68
S18A ⇓P 19 11 52.2
baz=68
U16A Tuba City 68.37 60 ⇑P **P** **19 11 55.1 +1.3**
baz=68
T18A Mexican Hat 68.48 59 ⇑P **P** **19 11 53.9 -0.6**
baz=68
S19A Harvey Farm, M 68.52 58 ⇑P **P** **19 11 52.7 -2.0**
baz=68
X15A Humboldt 68.78 62 ⇑P **P** **19 11 57.6 +1.2**
baz=68,SNR=5.9
U18A Rough Rock, Ch 68.96 59 ⇑P **P** **19 11 56.9 -0.5**
baz=69
X16A Lo Mia Camp, P 69.32 62 ⇓P **P** **19 12 00.6 +0.9**
baz=69
V18A Ganado 69.39 60 ⇑P **P** **19 12 01.3 +1.2**
baz=69
NB2 NORSAR Subarra 69.59 342 P **P** **19 12 00.4 -0.5**
comp=Z,2.6nm,0.6s,mb4.3,baz=26,slow=6.5
NOA NORSAR Array B 69.59 342 P **P** **19 12 00.8 -0.2**
comp=Z,4.0nm,0.8s,mb4.4,baz=27,slow=6.3,SNR=9.9
NOA NORSAR Array B 69.59 342 P **P** **19 12 00.8 -0.1**
NOA pmax pmax
comp=Z,4.0nm,0.8s
HFS Hagfors 69.82 340 P **P** **19 12 02.3 0.0**
comp=Z,11nm,0.7s,mb4.9,baz=57,slow=5.5,SNR=21
HFS Hagfors 69.82 340 P **P** **19 12 02.3 -0.1**
HFS pmax pmax
comp=Z,11nm,0.7s
X19A St. Johns 70.64 60 ⇑P **P** **19 12 06.8 -1.0**

	baz=70								
GOF	**Gofitskoye**	**71.11**	**316**	*e*P		**P**	**19 12 00.6**	**-10**	
GOF				pmax		pmax			
	comp=Z,20nm,1.0s,mb5.0								
ASAR	**Alice Springs**	**71.22**	**199**	P		**P**	**19 12 13.2**	**+2.0**	
	comp=Z,5.2nm,0.8s,mb4.5,baz=13,slow=6.3,SNR=22								
ASAR	**Alice Springs**	**71.22**	**199**	P		**P**	**19 12 13.3**	**+2.1**	
ASAR				pmax		pmax			
	comp=Z,5.0nm,0.9s								
ECSD	**EROS,Sioux Fal**	**71.33**	**46**	*e*P		**P**	**19 12 10.8**	**-1.1**	
	comp=Z,3.7nm,0.6s,mb4.5								
KIV	**Kislovodsk**	**72.08**	**315**⇓	*e*P		**P**	**19 12 17.9**	**+1.5**	
KIV				pmax		pmax			
	comp=Z,20nm,1.3s,mb4.9								
KIV	**Kislovodsk**	**72.08**	**315**	*e*P		**P**	**19 12 18.5**	**+2.1**	
	comp=Z,8.2nm,0.8s,mb4.7								
219A	**White Tail Can**	**72.29**	**62**	⇑P		**P**	**19 12 18.7**	**+0.9**	
	baz=72								
319A	**Douglas**	**72.70**	**63**	⇑P		**P**	**19 12 19.9**	**-0.4**	
	baz=72								
AKASG	**Malin Array Be**	**72.90**	**327**	P		**P**	**19 12 20.8**	**-0.3**	
	comp=Z,8.0nm,0.6s,mb4.8,baz=34,slow=6.0,SNR=30								
AKASG	**Malin Array Be**	**72.90**	**327**	P		**P**	**19 12 20.8**	**-0.3**	
AKASG				pmax		pmax			
	comp=Z,8.0nm,0.6s								
AKBB	**Malin Array Si**	**72.90**	**327**	*e*P		**P**	**19 12 20.5**	**-0.6**	
KIEV	**Kiev**	**72.91**	**327**	*e*P		**P**	**19 12 20.3**	**-0.9**	
KIEV				pmax		pmax			
	comp=Z,31nm,1.3s,mb5.1								
KIEV	**Kiev**	**72.91**	**327**	*e*P		**P**	**19 12 20.3**	**-0.9**	
	comp=Z,31nm,1.3s,mb5.1								
GNI	**Garni**	**73.77**	**311**⇑	*e*P		**P**	**19 12 27.2**	**+0.7**	
GNI				pmax		pmax			
	comp=Z,26nm,1.5s								
OJC	**Ojcow**	**76.68**	**332**	*e*P		**P**	**19 12 43.7**	**+0.7**	
STHS	**Stebnicka Huta**	**76.88**	**330**	*e*P		**P**	**19 12 44.5**	**+0.4**	
STHS				*e*			19 12 56.6		
STHS				pmax		pmax			
	comp=Z,4.0nm,0.9s,mb4.3								
STHS	**Stebnicka Huta**	**76.88**	**330**	*e*P		**P**	**19 12 44.5**	**+0.4**	
	comp=Z,3.9nm,0.9s,mb4.3								
STHS				*e*			19 12 56.6		
BUR08	**Bucovina Ar. S**	**76.92**	**327**	*e*P		**P**	**19 12 44.7**	**+0.3**	
KOLS	**Kolonicke sedl**	**76.92**	**330**	*e*P		**P**	**19 12 44.6**	**+0.2**	
KOLS				*e*pP		pP	19 12 52.2	-1.9	
BURAR	**Bucovina Array**	**76.94**	**327**⇓	*i*P		**P**	**19 12 45.4**	**+0.9**	
CRVS	**Cervenica-Dubn**	**77.24**	**330**	*e*P		**P**	**19 12 46.2**	**0.0**	
CRVS				*e*pP		pP	19 12 53.6	-2.2	
OKC	**Ostrava-Krasne**	**77.56**	**332**	*e*pP		pP	19 12 52.6	-5.0	
TXAR	**Lajitas Array**	**77.60**	**61**	P		**P**	**19 12 48.9**	**+0.4**	
	comp=Z,5.0nm,0.7s,mb4.5,baz=302,slow=4.0,SNR=55								
TXAR	**Lajitas Array**	**77.60**	**61**	P		**P**	**19 12 48.9**	**+0.4**	
TXAR				pmax		pmax			
	comp=Z,5.0nm,0.7s								
TXAR	**Lajitas Array**	**77.60**	**61**	P		**P**	**19 12 48.9**	**+0.4**	
UPC	**Upice**	**77.65**	**334**	*e*P		**P**	**19 12 49.8**	**+1.4**	
DPC	**Dobruska-Polom**	**77.69**	**334**	*e*P		**P**	**19 12 50.3**	**+1.6**	
DPC				*e*PCP		PcP	19 12 59.9	+1.2	
MORC	**Moravsky Berou**	**77.80**	**333**	*e*P		**P**	**19 12 47.1**	**-2.2**	
MORC				pmax		pmax			
	comp=Z,5.0nm,0.9s,mb4.4								
MORC	**Moravsky Berou**	**77.80**	**333**⇓	*i*P		**P**	**19 12 49.8**	**+0.5**	
MORC	**Moravsky Berou**	**77.80**	**333**	*e*P		**P**	**19 12 47.1**	**-2.2**	
	comp=Z,4.7nm,0.9s,mb4.4								
CLL	**Collm**	**77.83**	**336**⇓	*e*P		**P**	**19 12 50.0**	**+0.6**	
CLL				*i*		pP	19 12 58.8	-0.3	
CLL				*i*		pP	19 13 01.1	+2.0	
CLL				pmax		pmax			
	comp=Z,10.0nm,1.1s,mb4.7								
CLL	**Collm**	**77.83**	**336**⇓	*i*P		**P**	**19 12 49.4**	**0.0**	
	comp=Z,10.0nm,1.1s,mb4.7								
CLL				*i*	x	x	19 12 58.8		
CLL				*i*	PcP	PcP	19 13 01.1	+1.8	
CLL	**Collm**	**77.83**	**336**⇓	*e*P		**P**	**19 12 50.0**	**+0.6**	
	comp=Z,10.0nm,1.1s,mb4.7								
CLL				*i*		pP	19 12 58.8	-0.3	
CLL				*i*		pP	19 13 01.1	+2.0	
PVCC	**Panska Ves**	**78.07**	**335**	*e*P		**P**	**19 12 51.3**	**+0.5**	
MLR	**Muntele Rosu**	**78.41**	**326**⇑	*i*P		**P**	**19 12 54.3**	**+1.5**	
VYHS	**Vyhne**	**78.49**	**331**	*e*P		**P**	**19 12 52.6**	**-0.5**	
VRAC	**Vranov**	**78.52**	**333**	P		**P**	**19 12 54.1**	**+0.9**	
	comp=Z,4.7nm,0.5s,mb4.7,baz=202,slow=4.7,SNR=5.4								
VRAC	**Vranov**	**78.52**	**333**	P		**P**	**19 12 54.1**	**+0.8**	
VRAC				pmax		pmax			
	comp=Z,5.0nm,0.5s								
PRU	**Pruhonice**	**78.55**	**335**	*e*P		**P**	**19 12 54.1**	**+0.6**	
PRU				*e*PCP		PcP	19 13 03.8	+1.3	
VOIR		**78.81**	**326**⇓	*i*P		**P**	**19 12 56.3**	**+1.4**	
KHC	**Kasperske Hory**	**79.60**	**335**	*e*P		**P**	**19 12 59.0**	**-0.2**	
KHC				*e*PCP		PcP	19 13 09.8	+2.8	
BR131	**Keskin Array S**	**79.69**	**317**	*e*P		**P**	**19 13 00.7**	**+0.8**	
	comp=Z,4.6nm,1.0s,mb4.4								
GRA1	**Grafenberg Arr**	**79.78**	**336**	*e*P		**P**	**19 13 01.4**	**+1.2**	
	comp=Z,7.0nm,1.2s,mb4.5								
GRF	**Grafenberg Arr**	**79.78**	**336**	*e*P		**P**	**19 13 01.4**	**+1.2**	
GRF				pmax		pmax			
	comp=Z,7.0nm,1.2s,mb4.5								
GRF	**Grafenberg Arr**	**79.78**	**336**	*e*P		**P**	**19 13 01.4**	**+1.2**	
GRF				pmax		pmax			
	comp=Z,7.0nm,1.2s,mb4.5								
GRF	**Grafenberg Arr**	**79.78**	**336**	*e*P		**P**	**19 13 01.4**	**+1.2**	
	comp=Z,7.0nm,1.2s,mb4.5								
MIB	**Mutribah**	**79.80**	**302**	*e*P		**P**	**19 13 00.7**	**+0.1**	
	baz=302								
MIB				AMb		AMB	19 13 24.8		
	comp=Z,19nm,0.7s,mb5.1,baz=302								
GERES	**GERESS Array B**	**79.82**	**335**	P		**P**	**19 13 00.3**	**-0.1**	
	comp=Z,0.8nm,0.7s,mb3.8,baz=34,slow=5.7,SNR=8.4								
GERES	**GERESS Array B**	**79.82**	**335**	P		**P**	**19 13 00.3**	**-0.1**	
GERES				pmax		pmax			
	comp=Z,1.0nm,0.7s								
RST	**Umm Al-Ruwaisa**	**80.23**	**302**	*e*P		**P**	**19 13 02.3**	**-0.6**	
	baz=302								
RST				AMb		AMB	19 13 26.8		
	comp=Z,20nm,0.7s,mb5.2,baz=302								
NAY	**Al-Naaiem**	**80.26**	**302**	*e*P		**P**	**19 13 02.7**	**-0.5**	
	baz=302								
NAY				AMb		AMB	19 13 15.1		
	comp=Z,8.0nm,0.9s,mb4.7,baz=302								
CDF	**Champ du Feu**	**82.02**	**338**	*e*P		**P**	**19 13 12.3**	**+0.2**	
HAU	**Haudompre**	**82.64**	**339**	*e*P		**P**	**19 13 15.9**	**+0.5**	
ASF	**Jabal al Asfar**	**83.93**	**311**	LR		LR	19 53 57.3		
	comp=Z,44nm,19.2s,MS3.9,baz=73,slow=38								
LOR	**Lormes**	**83.94**	**340**	*e*P		**P**	**19 13 22.0**	**-0.1**	
	comp=Z,8.3nm,0.9s,mb4.6								
LOR	**Lormes**	**83.94**	**340**	*e*P		**P**	**19 13 22.0**	**-0.1**	
LOR				pmax		pmax			
	comp=Z,4.0nm,0.9s,mb4.5								
LOR	**Lormes**	**83.94**	**340**	*e*P		**P**	**19 13 22.0**	**-0.1**	
	comp=Z,4.2nm,0.9s,mb4.6								
MMAI	**Mount Meron Ar**	**84.07**	**312**	LR		LR	19 54 11.5		
	comp=Z,44nm,18.1s,MS3.9,baz=160,slow=38								
SSF	**Saint Saulge**	**84.22**	**340**	*e*P		**P**	**19 13 23.6**	**+0.1**	
AVF	**Avril sur Loir**	**84.51**	**340**	*e*P		**P**	**19 13 25.2**	**+0.2**	
SMF	**Signal de Mont**	**84.53**	**340**	*e*P		**P**	**19 13 25.3**	**+0.2**	
	comp=Z,21nm,1.1s,mb4.9								
SMF	**Signal de Mont**	**84.53**	**340**	*e*P		**P**	**19 13 25.3**	**+0.2**	
SMF				pmax		pmax			
	comp=Z,11nm,1.1s,mb4.9								
SMF	**Signal de Mont**	**84.53**	**340**	*e*P		**P**	**19 13 25.3**	**+0.2**	
	comp=Z,11nm,1.1s,mb4.9								
LPL	**La Plagne**	**84.84**	**338**	*e*P		**P**	**19 13 27.8**	**+1.1**	
LPG	**La Plagne**	**84.85**	**337**	*e*P		**P**	**19 13 28.0**	**+1.3**	
	comp=Z,28nm,1.4s,mb4.9								
LPG	**La Plagne**	**84.85**	**337**	*e*P		**P**	**19 13 28.0**	**+1.3**	
LPG				pmax		pmax			
	comp=Z,14nm,1.4s,mb4.9								
LPG	**La Plagne**	**84.85**	**337**	*e*P		**P**	**19 13 28.0**	**+1.3**	
	comp=Z,14nm,1.4s,mb4.9								
NWAO	**Narrogin (SRO)**	**84.86**	**210**	P		**P**	**19 13 28.5**	**+1.8**	
TCF	**Toulx Ste Croi**	**85.25**	**341**	*e*P		**P**	**19 13 28.8**	**+0.1**	
	comp=Z,4.4nm,0.8s,mb4.3								
TCF	**Toulx Ste Croi**	**85.25**	**341**	*e*P		**P**	**19 13 28.8**	**+0.1**	
TCF				pmax		pmax			
	comp=Z,2.0nm,0.8s,mb4.3								
TCF	**Toulx Ste Croi**	**85.25**	**341**	*e*P		**P**	**19 13 28.8**	**+0.1**	
	comp=Z,2.2nm,0.8s,mb4.3								
ORIF	**Oris-en-Rattie**	**85.62**	**338**	*e*P		**P**	**19 13 31.4**	**+0.8**	
	comp=Z,8.1nm,0.7s,mb4.8								
ORIF	**Oris-en-Rattie**	**85.62**	**338**	*e*P		**P**	**19 13 31.4**	**+0.8**	
ORIF				pmax		pmax			
	comp=Z,4.0nm,0.7s,mb4.8								
ORIF	**Oris-en-Rattie**	**85.62**	**338**	*e*P		**P**	**19 13 31.4**	**+0.8**	
	comp=Z,4.1nm,0.7s,mb4.8								
VIVF	**Saint-Julien-l**	**85.99**	**339**	*e*P		**P**	**19 13 33.2**	**+0.8**	

EIL	**Elat**	**86.93**	**310**	LR		LR	19 54 19.1		
	comp=Z,38nm,19.1s,MS3.8,baz=303,slow=37								
VAE	**Valguarnera**	**89.70**	**329**	LR		LR	19 55 37.9		
	comp=Z,94nm,21.4s,MS4.2,baz=317,slow=37								
MDT	**Midelt**	**99.65**	**342**	LR		LR	20 03 41.6		
	comp=Z,48nm,18.1s,MS4.0,baz=0.7,slow=38								
TORD	**Torodi Ar. Bea**	**116.45**	**330**	PKP		PKPdf	19 19 35.7	-0.7	
	comp=Z,199nm,0.4s,baz=44,slow=1.6,SNR=2.3								
TORD	**Torodi Ar. Bea**	**116.45**	**330**	PKP		PKPdf	19 19 35.7	-0.7	
DBIC	**Dimbokro**	**124.69**	**334**	PKP		PKPdf	19 19 51.5	-0.7	
	comp=Z,2.2nm,0.7s,baz=134,slow=3.9,SNR=3.0								
DBIC	**Dimbokro**	**124.69**	**334**	PKIKP		PKPdf	19 19 51.6	-0.6	
DBIC				pmax		pmax			
	comp=Z,2.0nm,0.7s								
LSZ	**Lusaka**	**125.64**	**285**	PKP		PKPdf	19 19 55.0	+1.2	
	comp=Z,1.1nm,0.6s,baz=127,slow=2.1,SNR=5.1								
LSZ	**Lusaka**	**125.64**	**285**	PKIKP		PKPdf	19 19 55.0	+1.2	
LSZ				pmax		pmax			
	comp=Z,1.0nm,0.6s								
MATP	**Matopo**	**128.98**	**281**	PKP		PKPdf	19 20 00.5	+0.4	
	comp=Z,2.0nm,0.8s,baz=264,slow=13,SNR=4.9								
MATP	**Matopo**	**128.98**	**281**	PKP		PKPdf	19 20 00.5	+0.4	
QSPA	**South Pole Qui**	**135.25**	**180**	PKP		PKPdf	19 20 11.5	+1.3	
	comp=Z,1.8nm,0.9s,baz=219,slow=1.0,SNR=5.4								
BDFB	**Brasilia**	**144.97**	**39**	PKP		PKPdf	19 20 28.3	-1.3	
	comp=Z,1.8nm,0.5s,baz=17,slow=27,SNR=4.3								
BDFB	**Brasilia**	**144.97**	**39**	PKIKP		PKPdf	19 20 28.3	-1.3	
BDFB				pmax		pmax			
	comp=Z,2.0nm,0.5s								
PLCA	**Paso Flores**	**147.50**	**98**	PKPbc		PKPbc	19 20 36.8	+1.0	
	comp=Z,5.2nm,0.6s,baz=265,slow=2.1,SNR=13								
PLCA	**Paso Flores**	**147.50**	**98**	PKP2		PKPbc	19 20 36.8	+1.0	
PLCA				pmax		pmax			
	comp=Z,5.0nm,0.6s								
SNAA	**Sanae**	**151.51**	**195**	*e*PKPdf		PKPbc	19 20 44.9	+0.1	
SNAA				*e*			19 20 48.0		
SNAA				*e*			19 20 55.5		
SNAA	**Sanae**	**151.51**	**195**	*e*P		PKPbc	19 20 44.2	-0.6	
VNA2	**Neumayer--Watz**	**152.94**	**193**	*e*PKPdf		PKPbc	19 20 48.7	+0.7	
	baz=262,slow=4.3								
VNA2				*e*			19 20 51.4		
VNA2				*e*			19 21 01.0		
VNA3	**Neumayer Olymp**	**153.00**	**192**	*e*PKPdf		PKPbc	19 20 48.3	+0.1	
VNA3				*e*			19 20 51.2		
VNA3				*e*			19 20 59.6		

*CSEM **27** 19:13:50.5, 3940N×2041E, h2km, MD3.2/4, After ATH*
*NEIC **27** 19:13:50.5, 3940N×2041E, h2km, MD3.2(ATH), After ATH.*

ATH 27 19:13:50.5, 3940N×2041E, h2km, MD3.2/4, Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
JAN	**Janina**	**0.43**	**53**	*e*Pg		Pg	19 13 58.4	-0.3
JAN	**Janina**	**0.43**	**53**	*e*PG		Pg	19 13 58.4	-0.3
KEK	**Kerkira**	**0.57**	**304**	*e*Pg		Pg	19 14 01.5	+0.1
KEK	**Kerkira**	**0.57**	**304**	*e*PG		Pg	19 14 01.5	+0.1
EVR	**Evrytania**	**1.19**	**113**	*e*Pb		Pb	19 14 13.0	-0.8
EVR	**Evrytania**	**1.19**	**113**	*e*PB		Pb	19 14 13.0	-0.8
KZN	**Kozani**	**1.39**	**49**	*e*Pn		Pn	19 14 17.2	+0.4
KZN	**Kozani**	**1.39**	**49**	*e*PN		Pn	19 14 17.2	+0.4

*IDC **27** 19:23:29.8±2.9, 55.17N×162.08W, h0km, mb3.7/7, mb1 3.8/8, mb1mx3.7/23, mbtmp3.7/8, ML3.3/1, Error ellipse: s-maj=94.6km s-min=18.9km az=165.0*
*ISCJB **27** 19:23:30.5±2.1, 5.44N±0.02×161.3W±0.1, h62km±12km, mb3.7/7, Error ellipse: s-maj=35.1km s-min=8.3km az=164.2*
*NEIC **27** 19:23:31.2, 5.447N×161.48W, h5km, ML3.5(AEIC), After AEIC.*

ISC 27 19:23:31.3±2.0, 5.44N±0.02×161.3W±0.1, h52km±14km, n16, σ1$00/19, mb3.7/7, Alaska Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
SDPT	**Sand Point**	**1.11**	**25**	P		**Pn**	**19 23 50.8**	**+0.3**
SDPT				S		**Sn**	**19 24 06.0**	**+1.3**
FALS	**False Pass**	**1.34**	**293**	P		**Pn**	**19 23 53.5**	**-0.1**
FALS				S		**Sn**	**19 24 09.3**	**-1.0**
CHGN	**Chignik**	**2.55**	**39**	P		**Pn**	**19 24 12.5**	**+2.4**
OHAK	**Old Harbor**	**5.35**	**54**	*e*Pn		**Pn**	**19 24 48.5**	**0.0**
KDAK	**Kodiak Island**	**5.96**	**51**	Pn		**Pn**	**19 24 57.1**	**+0.2**
	0.9nm,0.3s,baz=212,slow=9.5,SNR=4.4							
KDAK				Sn		**Sn**	**19 26 01.8**	**-2.0**
	baz=337,slow=7.7,SNR=1.7							
SVW2	**Sparrevohn**	**7.42**	**22**	*e*Pn		**Pn**	**19 25 17.1**	**+0.3**
IMA2	**Indian Mountai**	**12.34**	**15**	*e*Pn		**Pn**	**19 26 24.2**	**+0.3**
EGAK	**Eagle**	**14.52**	**36**	*e*Pn		**Pn**	**19 26 52.1**	**-1.3**
DAWY	**Dawson**	**14.76**	**40**	*e*Pn		**Pn**	**19 26 55.1**	**-1.5**
PETK	**Petropavlovsk-**	**24.06**	**284**	P		**P**	**19 28 41.3**	**0.0**
	5.5nm,0.8s,mb4.0,baz=82,slow=13,SNR=17							
YKA	**Yellowknife Ar**	**25.24**	**52**	P		**P**	**19 28 57.0**	**+5.1**
	0.6nm,0.6s,mb3.3,baz=271,slow=8.8,SNR=3.0							
KSRS	**Korea Array**	**49.89**	**281**	P		**P**	**19 32 18.7**	**-0.6**
	1.2nm,0.8s,mb4.0,baz=52,slow=6.5,SNR=5.3							
SONM	**Songino Array**	**54.33**	**304**	P		**P**	**19 32 52.7**	**+0.6**
	0.7nm,1.0s,mb3.5,baz=41,slow=4.7,SNR=4.1							
SONM				PcP		PcP	19 33 59.1	+3.6
	0.4nm,0.6s,baz=48,slow=2.1,SNR=4.3							
MKAR	**Makanchi Array**	**65.79**	**318**	P		**P**	**19 34 10.2**	**-0.4**
	0.4nm,0.8s,mb3.5,baz=42,slow=7.4,SNR=3.8							
AKASG	**Malin Array Be**	**74.95**	**353**	P		**P**	**19 35 06.4**	**+0.1**
	0.8nm,0.5s,mb3.9,baz=10,slow=5.8,SNR=4.8							
CMAR	**Chiang Mai Arr**	**80.75**	**289**	P		**P**	**19 35 40.6**	**+1.6**
	0.8nm,0.8s,mb3.7,baz=15,slow=5.2,SNR=5.9							

*ISCJB **27** 19:38:54.5±2.9, 397N±0.1×205E±0.1, h8km±29km, Error ellipse: s-maj=21.1km s-min=14.5km az=5.3*
*ATH **27** 19:38:54.8, 3981N×2064E, h17km±1km, MD3.3/5*
*NEIC **27** 19:38:54.8, 3981N×2064E, h17km, MD3.3(ATH), After ATH.*
*CSEM **27** 19:38:54.8, 3981N×2064E, h17km, MD3.3/5, After ATH*

ISC 27 19:38:55.9±1.1, 3967N±008×2060E±010, h5km±13km, n11, σ0$50/12, Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
JAN	**Janina**	**0.20**	**94**	*e*Pb		**Pg**	**19 38 59.7**	**0.0**
JAN	**Janina**	**0.20**	**94**	*e*PB		**Pg**	**19 38 59.7**	**0.0**
KEK	**Kerkira**	**0.62**	**274**	*e*Pn		**Pg**	**19 39 07.5**	**-0.2**
KEK	**Kerkira**	**0.62**	**274**	*e*PN		**Pg**	**19 39 07.5**	**-0.2**
KZN	**Kozani**	**1.10**	**54**	*e*Pn		**Pn**	**19 39 14.0**	**-4.0**
KZN	**Kozani**	**1.10**	**54**	*e*PN		**Pn**	**19 39 14.0**	**-4.0**
EVR	**Evrytania**	**1.20**	**128**	*e*Pn		**Pn**	**19 39 19.0**	**-0.4**
EVR	**Evrytania**	**1.20**	**128**	*e*PN		**Pn**	**19 39 19.0**	**-0.4**
VLS	**Valsamata**	**1.49**	**180**	*e*Pn		**Pg**	**19 39 25.0**	**+0.6**
VLS	**Valsamata**	**1.49**	**180**	*e*PN		**Pg**	**19 39 25.0**	**+0.6**
KRUS	**Krusevo**	**1.77**	**16**	*i*Pn		**Pn**	**19 39 26.9**	**-0.2**
KRUS				*i* Sn		**Sn**	**19 39 50.6**	**+0.5**

*ISCJB **27** 19:39:56.3±2.0, 3662N±008×4213E±005, h1km±11km, Error ellipse: s-maj=13.9km s-min=6.3km az=172.8*
*DDA **27** 19:39:56.2, 3662N×4209E, h7km±1km, Md2.9*
*CSEM **27** 19:39:57.1±0.3, 3668N×4212E, h8km, MD2.9, Error ellipse: s-maj=8.4km s-min=5.7km az=15.0*
*ISK **27** 19:39:59.2, 3677N×4210E, h20km, ML2.8*

ISC 27 19:39:57.2±2.6, 367N±01×4212E±006, h3km±13km, n11, σ0$85/16, Iraq

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
MSL	**Mosul**	**0.84**	**107**	*e*x		x	19 40 13.0	
MSL				*e*x		x	19 40 26.0	
SIRT	**Sirnak**	**0.89**	**17**	*e*PG		**Pg**	**19 40 14.6**	**+0.3**
SIRT				*e*SG		**Sg**	**19 40 25.5**	**+0.7**
MARD	**Mardin**	**1.26**	**302**	*i*P		**Pg**	**19 40 20.1**	**-1.3**
MARD				*i* S		**Sg**	**19 40 38.0**	**+0.3**
BEST	**Besiri**	**1.41**	**332**	*i*P		**Pn**	**19 40 23.2**	**-0.6**
BEST				*i* S		**Sg**	**19 40 43.4**	**+0.8**
HAKT	**HAKKARI**	**1.56**	**54**	*i*P		**Pn**	**19 40 26.3**	**+0.4**
HAKT				*i* S		**Sn**	**19 40 47.0**	**+0.3**
HKR	**Hakkari**	**1.60**	**54**	*e*PN		**Pn**	**19 40 26.4**	**0.0**
HKR				*e*SN		**Sn**	**19 40 45.9**	**-1.6**
DIYA	**Diyarbakir**	**2.04**	**309**	*e*P		**Pn**	**19 40 33.9**	**+1.5**
DIYA				*i* S		**Sg**	**19 41 01.1**	**-1.6**
URFA	**Urfa**	**2.75**	**288**	*e*PN		**Pn**	**19 40 43.2**	**+1.0**
SVRC	**Sivrice-ELAZID**	**2.83**	**309**	*e*PN		**Pn**	**19 40 43.6**	**+0.3**
AGRB	**Hanur-Agry**	**3.00**	**13**	*e*PN		**Pn**	**19 40 45.4**	**-0.3**
PTK	**Pertek**	**3.11**	**317**	*e*PN		**Pn**	**19 40 47.0**	**-0.2**

*ATH **27** 20:03:07.1, 3883N×2530E, h10km, MD3.3/3*
*ISCJB **27** 20:03:10.6±0.7, 3880N±0.003×2563E±0.006, h10km, Error ellipse: s-maj=7.4km s-min=3.7km az=164.0*
*ISK **27** 20:03:10.8, 3882N×2574E, h9km, MD3.2*
*CSEM **27** 20:03:11.6±0.2, 3880N×2576E, h15km, MD3.0, Error ellipse: s-maj=5.5km s-min=1.9km az=72.0*
*DDA **27** 20:03:11.1, 3881N×2575E, h29km±3km, Md3.0*

ISC 27 20:03:10.3±1.1, 3879N±003×2563E±006, h4km±5km, n35, σ1$02/49, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
PRK	**Paraskevi**	**0.67**	**48**	*e*Pb		**Pb**	**20 03 23.5**	**-1.1**
PRK	**Paraskevi**	**0.67**	**48**	*e*PB		**Pb**	**20 03 23.5**	**-1.1**
URLA	**Izmir**	**0.87**	**120**	*i*P		**Pg**	**20 03 27.0**	**0.0**
URLA				*i* S		**Sg**	**20 03 38.6**	**+0.4**
AYVA	**Ayvalik**	**0.97**	**58**	*i*P		**Pg**	**20 03 28.9**	**0.0**
AYVA				*i* S		**Sg**	**20 03 40.9**	**-0.6**
BOZC	**Bozcaada**	**1.10**	**17**	*i*P		**Pg**	**20 03 31.1**	**-0.1**
BOZC				*i* S		**Sg**	**20 03 46.6**	**+1.1**
EZN	**Ezine**	**1.16**	**27**	*e*PN		**Pn**	**20 03 31.9**	**-1.5**
EZN				*e*SN		**Sn**	**20 03 48.1**	**-1.6**
BLCB	**Balcova**	**1.18**	**110**	*e*PN		**Pn**	**20 03 32.3**	**-1.2**
BLCB				*e*SN		**Sn**	**20 03 48.4**	**-1.6**
IZM	**Izmir**	**1.34**	**107**	*e*PN		**Pn**	**20 03 34.4**	**-1.3**
KDAG	**Bornova**	**1.34**	**106**	*i*P		**Pn**	**20 03 34.5**	**-1.3**
KDAG				*i* S		**Sg**	**20 03 53.1**	**-0.2**
GADA	**Gvkgeada**	**1.41**	**8**	*e*PN		**Pn**	**20 03 37.2**	**+0.5**
GADA				*e*SN		**Sn**	**20 03 55.5**	**-0.3**
SMG	**Samos**	**1.44**	**138**	*e*Pb		**Pb**	**20 03 38.0**	**+0.3**
SMG	**Samos**	**1.44**	**138**	*e*PB		**Pb**	**20 03 38.0**	**+0.3**
GCAM	**G?zelcaml?**	**1.67**	**130**	*i*P		**Pn**	**20 03 41.9**	**+1.7**
GCAM				*i* S		**Sn**	**20 04 03.6**	**+1.5**
AKHS	**Akhisar**	**1.71**	**86**	*i*P		**Pn**	**20 03 42.0**	**+1.3**
AKHS				*i* S		**Sn**	**20 04 03.9**	**+0.9**
AKHS	**Akhisar**	**1.71**	**86**	*i*P		**Pn**	**20 03 42.0**	**+1.2**
AKS	**Akhisar**	**1.71**	**86**	*e*PN		**Pn**	**20 03 40.4**	**-0.4**
APE	**Apeiranthos**	**1.72**	**183**	*e*Pn		**Pn**	**20 03 40.0**	**-1.0**
APE	**Apeiranthos**	**1.72**	**183**	*e*PN		**Pn**	**20 03 40.0**	**-1.0**
BALY	**Balya**	**1.81**	**58**	*e*P		**Pn**	**20 03 41.6**	**-0.6**
BALY				*i* S		**Sn**	**20 04 08.2**	**+2.6**
ENEZ	**Enez**	**1.98**	**12**	*e*PN		**Pn**	**20 03 45.0**	**+0.4**
AYDN	**Tasoluk**	**2.10**	**122**	*i*P		**Pn**	**20 03 47.8**	**+1.6**
AYDN				*i* S		**Sn**	**20 04 17.4**	**+4.6**
BODT	**Bodrum**	**2.18**	**142**	*e*PN		**Pn**	**20 03 47.7**	**+0.4**
RKY	**Sarkoy-Tekirda**	**2.23**	**32**	*e*PN		**Pn**	**20 03 48.2**	**+0.2**
SART	**Tekirdag**	**2.24**	**32**	*i*P		**Pn**	**20 03 48.

*ISCJB **27** 20:15:42.5±1.2,2518S×007×1789W±0.1,h294km±12km, mb4.3/15,Error ellipse: s-maj=17.5km s-min=10.8km az=1.6*

*NEIC **27** 20:15:50.3±1.8,2541S×17871W,h379km±16km,mb4.3/13, Error ellipse: s-maj=21.6km s-min=15.5km az=64.0*

*IDC **27** 20:15:51.8±2.0,2544S×17881W,h381km±20km,mb3.8/5, mb1 4.0/7,mb1mx3.7/17,mbtmp4.0/7,Error ellipse: s-maj=25.4km s-min=22.0km az=1.0*

ISC 27 20:15:44.3±1.2,2515S±007×1788W±01,h303km±12km, n54,σ1§09/48,mb4.3/15,South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**4.16**	**170**	P		**Pn**	**20 17 00.9**	**+8.6**
	191nm,0.3s,baz=104,slow=9.4,SNR=7.8							
RAO				S		**S**	**20 17 52.2**	**+5.4**
	73nm,0.3s,baz=233,slow=20,SNR=2.6							
RAO	**Raoul Island**	**4.16**	**170**	P		**Pn**	**20 17 00.9**	**+8.6**
RAO				*e*S		**S**	**20 17 49.4**	**+2.7**
RAO				S		**S**	**20 17 52.2**	**+5.4**
MXZ	**Matakaoa Point**	**12.62**	**191**	*e*P		**Pn**	**20 18 33.7**	**-0.4**
AFI	**Afiamalu**	**12.98**	**32**	P		**Pn**	**20 18 38.6**	**-0.1**
	22nm,0.3s,baz=20,slow=3.2,SNR=19							
AFI				S		**S**	**20 20 52.4**	**-10**
	4.1nm,0.3s,baz=218,slow=17,SNR=5.3							
AFI	**Afiamalu**	**12.98**	**32**	*e*P		**Pn**	**20 18 38.3**	**-0.5**
AFI				S		**S**	**20 20 52.4**	**-10**
AFI				*e*S		**S**	**20 20 52.9**	**-10**
PUZ	**Puketiti**	**13.12**	**190**	*e*P		**Pn**	**20 18 38.9**	**-1.3**
MWZ	**Matawai**	**13.51**	**193**	*e*P		**Pn**	**20 18 44.3**	**-0.5**
URZ	**Urewera**	**13.52**	**194**	P		**Pn**	**20 18 44.7**	**-0.2**
	11nm,0.3s,baz=342,slow=3.5,SNR=38							
URZ				S		**S**	**20 21 07.6**	**-6.6**
	6.4nm,0.3s,baz=103,slow=23,SNR=17							
URZ	**Urewera**	**13.52**	**194**	*e*P		**Pn**	**20 18 44.4**	**-0.6**
BKZ	**Black Stump Fm**	**14.53**	**195**	*e*P		**P**	**20 18 54.1**	**-1.8**
MRZ	**Mangatainoka R**	**16.17**	**196**	*e*P		**P**	**20 19 12.3**	**-1.5**
CAW	**Cannon Point**	**16.72**	**196**	*e*P		**P**	**20 19 20.9**	**+1.2**
QRZ	**Quartz Range**	**17.23**	**203**	*e*P		**P**	**20 19 26.7**	**+1.4**
NNZ	**Nelson**	**17.30**	**200**	*e*P		**P**	**20 19 25.7**	**-0.3**
THZ	**Tophouse**	**17.94**	**201**	*e*P		**P**	**20 19 33.5**	**+0.5**
LTZ	**Lake Taylor**	**19.07**	**201**	*e*P		**P**	**20 19 46.0**	**+1.1**
RPZ	**Rata Peaks**	**20.30**	**202**	P		**P**	**20 19 57.5**	**-0.4**
	3.8nm,0.3s,baz=73,slow=19,SNR=6.2							
HNR	**Honiara**	**25.57**	**304**	P		**P**	**20 20 41.2**	**-5.2**
EIDS	**Eidsvold**	**27.23**	**263**	*e*P		**P**	**20 21 02.8**	**+1.7**
	41nm,0.7s,mb5.0							
CTA	**Charters Tower**	**32.60**	**272**	P		**P**	**20 21 49.8**	**+1.5**
	11nm,0.5s,mb4.6,baz=94,slow=11,SNR=24							
CTAO	**Charters Tower**	**32.60**	**272**	*e*P		**P**	**20 21 49.1**	**+0.8**
	13nm,0.6s,mb4.6							
STKA	**Stephens Creek**	**35.31**	**250**	P		**P**	**20 22 12.0**	**+0.7**
	2.2nm,0.3s,mb4.1,baz=105,slow=9.4,SNR=5.6							
STKA	**Stephens Creek**	**35.31**	**250**	P		**P**	**20 22 09.0**	**-2.4**
	16nm,1.2s,mb4.4							
PMG	**Port Moresby**	**35.95**	**290**	*e*P		**P**	**20 22 18.0**	**+1.1**
	15nm,1.1s,mb4.4							
ASAR	**Alice Springs**	**42.94**	**262**	P		**P**	**20 23 14.2**	**+0.1**
	6.5nm,0.4s,mb4.2,baz=92,slow=7.0,SNR=86							
ASAR				S		**S**	**20 29 09.9**	**-6.1**
	0.7nm,1.0s,baz=102,slow=16,SNR=4.3							
WRAB	**Tennant Creek**	**43.43**	**267**	*e*P		**P**	**20 23 17.3**	**-0.9**
	7.5nm,0.5s,mb4.2							
KAKA	**Kakadu**	**47.53**	**276**	*e*P		**P**	**20 23 43.0**	**-7.1**
	3.2nm,0.3s,mb4.1							
SBA	**Scott Base**	**53.20**	**184**	*e*P		**P**	**20 24 34.3**	**+2.9**
	10nm,1.2s,mb4.0							
MBWA	**Marble Bar**	**56.25**	**261**	*e*P		**P**	**20 24 52.5**	**-1.5**
	11nm,0.8s,mb4.3							
CASY	**Casey**	**59.48**	**206**	*e*P		**P**	**20 25 14.9**	**-0.6**
	6.9nm,0.5s,mb4.3							
QSPA	**South Pole Qui**	**64.94**	**180**	*e*P		**P**	**20 25 52.6**	**+1.3**
	8.1nm,1.0s,mb4.3							
KSM	**Kuching**	**73.41**	**280**	P		**P**	**20 26 42.9**	**-1.3**
MAW	**Mawson**	**76.97**	**200**	*e*P		**P**	**20 27 03.5**	**+0.2**
	6.4nm,0.6s,mb4.5							
SNAA	**Sanae**	**83.40**	**179**	*e*		**P**	**20 27 37.1**	**-0.3**
SNAA				*e*			20 27 39.4	
SNAA				*e*			20 28 01.0	
SNAA				*e*			20 28 03.3	
SNAA				*e*			20 28 07.0	
SNAA	**Sanae**	**83.40**	**179**	*e*P		**P**	**20 27 36.8**	**-0.6**
	4.3nm,0.9s,mb4.3							
VNA3	**Neumayer Olymp**	**83.57**	**176**	*e*		**P**	**20 27 38.0**	**-0.3**
VNA3				*e*			20 27 40.4	
VNA3				*e*			20 28 03.7	
VNA3				*e*			20 28 06.0	
VNA3				*e*			20 28 09.7	
VNA2	**Neumayer--Watz**	**84.00**	**177**	*e*		**P**	**20 27 40.4**	**-0.1**
	baz=196,slow=5.0							
VNA2				*e*			20 27 42.7	
VNA2				*e*			20 28 05.6	
VNA2				*e*			20 28 07.8	
VNA2				*e*			20 28 11.5	
VNA1	**Neumayer--Stat**	**84.23**	**177**	*e*		**P**	**20 27 42.1**	**+0.5**
VNA1				*e*			20 27 44.4	
VNA1				*e*			20 28 06.9	
VNA1				*e*			20 28 09.1	
VNA1				*e*			20 28 13.1	
CMAR	**Chiang Mai Arr**	**91.00**	**290**	P		**P**	**20 28 16.3**	**+1.6**
	1.5nm,0.8s,mb3.9,baz=143,slow=4.4,SNR=7.6							
CHTO	**Chiang Mai**	**91.15**	**290**	*e*P		**P**	**20 28 14.3**	**-1.1**
	2.1nm,0.6s,mb4.1							
MDRS	**Chennai**	**105.25**	**277**	*ex*		x	20 32 55.2	
MDRS				*ex*		x	20 43 34.2	
MDRS				*ex*		x	20 47 01.2	
MDRS				*ex*		x	20 49 55.2	
ARCES	**ARCESS Array B**	**133.33**	**349**	PKP		PKPdf	20 34 21.8	-1.7
	2.0nm,0.7s,baz=54,slow=1.6,SNR=6.5							
NOA	**NORSAR Array B**	**143.48**	**352**	PKP		PKPdf	20 34 38.6	-3.7
	1.7nm,0.9s,baz=15,slow=2.2,SNR=3.4							
AKASG	**Malin Array Be**	**146.62**	**327**	PKPbc		PKPbc	20 34 48.1	-2.0
	0.9nm,0.4s,baz=42,slow=4.3,SNR=5.6							
BR131	**Keskin Array S**	**149.21**	**306**	*e*PKPbc		PKPbc	20 34 55.7	-1.5
BR131				*e*PKPab		PKPab	20 35 02.5	-0.3
GIVF	**Givet**	**154.94**	**355**	*e*PKP1		PKPdf	20 34 59.6	-1.1
BFO	**Black Forest**	**156.20**	**348**	*e*PKP		PKPdf	20 35 04.7	+2.3
MEZF	**Maizieres J'vi**	**156.50**	**354**	*e*PKP1		PKPdf	20 35 03.5	+0.7
HAU	**Haudompre**	**156.83**	**351**	*e*PKP1		PKPdf	20 35 02.8	-0.5
	28nm,1.3s							
HINF	**Hinteralfeld**	**156.94**	**350**	*e*PKP1		PKPdf	20 35 02.6	-0.8
LOR	**Lormes**	**157.83**	**355**	*e*PKP1		PKPdf	20 35 06.4	+1.9
SSF	**Saint Saulge**	**158.06**	**356**	*e*PKP1		PKPdf	20 35 08.1	+3.3
TCF	**Toulx Ste Croi**	**158.90**	**358**	*e*PKP1		PKPdf	20 35 10.4	+4.6
TORD	**Torodi Ar. Bea**	**168.05**	**182**	PKPab		PKPab	20 36 23.5	-1.0
	188nm,0.5s,baz=169,slow=4.0,SNR=1.6							

*NEIC **27** 20:25:42.3,1669N×10004W,h6km,MD3.5(MEX),After MEX.*

MEX 27 20:25:42.3±0.4,1669N×10004W,h6km±6km,MD3.5,Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
ACX	**Acapulco**	**0.21**	**33**	*i* P		Pg	20 25 46.1	-0.4
ACX				*i* S		Sg	20 25 49.4	0.0
CAIG	**El Cayaco**	**0.42**	**328**	*i* P		Pg	20 25 50.1	-0.3
CAIG				*i* S		Sg	20 25 56.3	+0.3
ZIIG	**Zihuatanejo**	**1.64**	**304**	*e*P		Pn	20 26 07.9	-3.8
ZIIG				*i* S		Sn	20 26 27.8	-5.4
PNIG	**Pinotepa**	**1.85**	**99**	*e*P		Pn	20 26 12.2	-2.3
PNIG				*i* S		Sn	20 26 33.7	-4.6

FUNV 27 20:28:22.9,693N×7304W,h176km,MW3.7,3D,Northern Colombia

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
CAPV	**Capacho**	**1.18**	**38**	⇓*i* P		Pn	20 28 50.5	-1.1
CAPV				*e*S		Sn	20 29 11.9	-1.9
VIGV	**El Vigia**	**2.52**	**41**	⇓*e*P		Pn	20 29 05.0	-0.7
VIGV				*e*S		Sn	20 29 36.5	-2.4
SOCV	**Socops**	**2.55**	**58**	⇓*i* P		Pn	20 29 05.3	-0.7
SOCV				*e*S		Sn	20 29 36.2	-3.2
VIRV	**Villa del Rosa**	**3.61**	**10**	*e*P		Pn	20 29 16.9	-2.1
VIRV				*e*S		Sn	20 29 59.1	-3.7
QARV	**Quebrada Arrib**	**4.10**	**37**	*e*P		Pn	20 29 23.5	-1.7
QARV				*e*S		Sn	20 30 08.5	-5.4
CURV	**Curarigua**	**4.32**	**45**	*e*P		Pn	20 29 27.3	-0.7
CURV				*e*S		Sn	20 30 13.4	-5.6
DABV	**Dabajuro**	**4.63**	**31**	*e*P		Pn	20 29 30.5	-1.5
DABV				*e*S		Sn	20 30 20.4	-5.7
TEPV	**Terepaima**	**4.86**	**51**	*e*P		Pn	20 29 33.7	-1.2
TEPV				*e*S		Sn	20 30 24.9	-6.5
SIQV	**Siquisique**	**4.89**	**41**	*e*P		Pn	20 29 34.4	-1.0
SIQV				*e*S		Sn	20 30 25.9	-6.2
TURV	**Turiamo**	**6.22**	**55**	*e*P		Pn	20 29 50.7	-2.0
TURV				*e*S		Sn	20 30 56.6	-6.9

*NEIC **27** 20:31:05.3,1766N×10348W,h5km,MD4.3(MEX),After MEX.*

MEX 27 20:31:05.1±0.3,1767N×10349W,h4km±12km,MD4.2, Near coast of Michoacan

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
MMIG	**Aquila**	**0.63**	**12**	*i* P		Pg	20 31 16.6	-0.7
MMIG				*i* S		Sg	20 31 25.8	+0.3
ZIIG	**Zihuatanejo**	**1.93**	**91**	*i* P		Pn	20 31 35.5	-3.3
ZIIG				*i* S		Sn	20 31 58.7	-4.9
SFJM	**Santa Fe**	**2.84**	**9**	*i* P		Pn	20 31 48.5	-2.7
SFJM				*i* S		Sn	20 32 22.4	-3.5
SFJM	**Santa Fe**	**2.84**	**9**	*i* P		Pn	20 31 49.5	-1.7
SFJM				*i* S		Sn	20 32 22.4	-3.5
MOIG	**Morelia**	**2.96**	**47**	*e*P		Pn	20 31 50.9	-2.0
MOIG				*i* S		Sn	20 32 29.6	-3.3
CAIG	**El Cayaco**	**3.14**	**101**	*i* S		Sn	20 32 29.9	-3.4
CAIG	**El Cayaco**	**3.14**	**101**	*e*P		Pn	20 31 52.6	-2.8
CAIG				*i* S		Sn	20 32 30.5	-2.9
ANIG	**Ahuacatlan**	**3.51**	**344**	*e*P		Pn	20 31 58.1	-2.4
ANIG				*i* S		Sn	20 32 38.9	-3.5
MZVM		**4.32**	**69**	*e*P		Pn	20 32 14.8	+3.2
PBVM	**Pinon**	**4.54**	**66**	*e*P		Pn	20 32 13.2	-1.4
PBVM				*i* S		Sn	20 33 01.6	-6.2

*IGQ **27** 20:38:20.6,056S×7796W,h11km±2km,Mb4.7,Ms4.6, Error ellipse: s-maj=1.4km s-min=0.8km az=9.9*

*IDC **27** 20:38:21.3±0.6,057S×7774W,h0km,mb4.2/11, mb1 4.4/15,mb1mx4.4/20,mbtmp4.3/15,ML4.3/4,MS3.9/13, Ms1 3.9/13,ms1mx3.7/24,Error ellipse: s-maj=23.1km s-min=13.3km az=66.0*

*ISCJB **27** 20:38:24.4±0.2,074S±003×7795W±004,h33km,mb4.8/58, MS4.2/13,Error ellipse: s-maj=5.9km s-min=3.7km az=179.4*

*MOS **27** 20:38:25.0±1.1,060S×7760W,h33km,mb5.1/20,Error ellipse: s-maj=27.5km s-min=7.6km az=121.0*

*NEIC **27** 20:38:27.9±1.1,065S×7760W,h45km±10km,mb4.9/51, MD4.9(IGQ),Error ellipse: s-maj=13.2km s-min=5.8km az=58.0*

NEIC Felt at Baeza, Chaco and Quito.

*BJI **27** 20:38:27.8,070S×7760W,h45km,mB5.1,Ms5.3,Msz5.0*

ISC 27 20:38:26.6±0.2,084S±003×7802W±004,h35km, (h33km±1.7km:pP-P),n330,σ1§07/316,mb4.8/58,MS4.2/13, 76C-90D,Ecuador

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
TAMB	**Tambo**	**0.37**	**293**	⇓P		**Pn**	**20 38 29.9**	**-5.6**
PISA	**Pisayambo**	**0.42**	**239**	⇑P		**Pn**	**20 38 33.8**	**-2.4**
VC1	**Cotopaxi 1**	**0.43**	**297**	⇓P		**Pn**	**20 38 30.2**	**-6.1**
CAMI	**Rancho Maria**	**0.51**	**289**	⇓P		**Pn**	**20 38 32.4**	**-4.9**
RUN5	**Runtun**	**0.70**	**215**	⇓P		**Pn**	**20 38 39.1**	**-0.9**
ULBA	**Ulba**	**0.72**	**212**	⇓P		**Pn**	**20 38 39.3**	**-1.0**
JUI6	**Juive**	**0.73**	**217**	⇓P		**Pn**	**20 38 39.5**	**-1.1**
RETU	**Refugio**	**0.74**	**215**	⇓P		**Pn**	**20 38 39.9**	**-0.6**
PATA	**Patacocha**	**0.78**	**212**	⇓P		**Pn**	**20 38 40.7**	**-0.3**
BIL2	**Estacion Bilba**	**0.78**	**218**	P		**Pn**	**20 38 40.4**	**-0.7**
ARRY	**Arrayan**	**0.79**	**213**	⇓P		**Pn**	**20 38 40.5**	**-0.8**
LAV3	**Lava3-Reventad**	**0.83**	**28**	⇓P		**Pn**	**20 38 32.2**	**-10**
JUA2	**San Juan 2**	**0.85**	**317**	⇓P		**Pn**	**20 38 35.4**	**-6.7**
CONE	**Cono NE Rev Vo**	**0.85**	**26**	⇓P		**Pn**	**20 38 32.6**	**-10**
GGP	**Refugio Guagua**	**0.87**	**319**	⇓P		**Pn**	**20 38 35.7**	**-6.7**
TERV	**Terraza Guagua**	**0.88**	**319**	⇓P		**Pn**	**20 38 36.0**	**-6.5**
IGUA	**Igualata**	**0.89**	**224**	⇓P		**Pn**	**20 38 42.8**	**+0.1**
QIL2	**Quilotoa**	**0.89**	**268**	⇓P		**Pn**	**20 38 40.7**	**-2.0**
PINO	**Pino**	**0.90**	**319**	⇓P		**Pn**	**20 38 36.1**	**-6.5**
YANA	**Yana**	**0.90**	**323**	⇓P		**Pn**	**20 38 35.8**	**-7.0**
PORT	**Chimborazo Vol**	**0.97**	**230**	P		**Pn**	**20 38 44.9**	**+1.1**
OTAV	**Otavalo**	**1.15**	**338**	⇑P		**Pn**	**20 38 38.5**	**-7.8**
OTAV	**Otavalo**	**1.15**	**338**	⇑S		**Sn**	**20 38 50.6**	**-10**
OTAV	**Otavalo**	**1.15**	**338**	*e*Pn		**Pn**	**20 38 50.4**	**+4.1**
COTA	**Cotacachi**	**1.21**	**345**	⇑P		**Pn**	**20 38 39.9**	**-7.2**
MAG1	**Magdalena**	**1.91**	**294**	⇓P		**Pn**	**20 38 55.6**	**-1.0**
JAMA	**Jama**	**2.26**	**285**	P		**Pn**	**20 38 59.9**	**-1.5**
CHIS	**Cerro-Chispas-**	**2.71**	**266**	P		**Pn**	**20 39 08.5**	**+0.8**
CHIS				S		**Sn**	**20 39 49.1**	**+10**
ATAH	**Atahualpa**	**6.13**	**183**	Pn		**Pn**	**20 40 00.4**	**+5.7**
	8.7nm,0.3s,baz=12,slow=7.0,SNR=73							
ATAH				Sn		**Sn**	**20 41 15.7**	**+12**
	baz=204,slow=20,SNR=2.0							
ATAH				LR		LR	20 42 52.3	
	comp=Z,1μm,19.9s,baz=270,slow=41							
ROSC	**El Rosal**	**6.75**	**33**	Pn		**Pn**	**20 40 02.1**	**-1.2**
	1.9nm,0.3s,baz=98,slow=16,SNR=15							
ROSC				Lg			20 41 48.1	
	17nm,0.3s,baz=238,slow=21,SNR=4.0							
ROSC	**El Rosal**	**6.75**	**33**	*e*Pn		**Pn**	**20 40 04.2**	**+0.9**
NNA	**Nana**	**11.14**	**174**	Pn		**Pn**	**20 41 04.6**	**+1.1**
	4.9nm,0.3s,baz=342,slow=11,SNR=13							
NNA				Sn		**Sn**	**20 43 07.1**	**+0.3**
	0.9nm,0.3s,baz=321,slow=9.4,SNR=2.4							
NNA	**Nana**	**11.14**	**174**	*e*Pn		**Pn**	**20 41 04.2**	**+0.8**
NNA				*e*Sn		**Sn**	**20 43 04.2**	**-2.5**
SDV	**Santo Domingo**	**12.15**	**37**	Pn		**Pn**	**20 41 12.6**	**-4.7**
	0.3nm,0.3s,baz=249,slow=12,SNR=12							
SDV				Lg			20 44 44.2	
	2.9nm,0.3s,baz=66,slow=15,SNR=3.7							
SDV				LR		LR	20 46 30.1	
	comp=Z,836nm,18.3s,baz=228,slow=42							
SDV	**Santo Domingo**	**12.15**	**37**	*e*Pn		**Pn**	**20 41 13.1**	**-4.2**
	25nm,0.9s							
JTS	**JuntasAbangare**	**13.03**	**328**	LR		LR	20 45 27.7	
	comp=Z,507nm,21.0s,baz=29,slow=33							
JTS	**JuntasAbangare**	**13.03**	**328**	P		**Pn**	**20 41 34.7**	**+5.3**
JTS				pmax		pmax		
	comp=Z,43nm,1.5s							
JTS	**JuntasAbangare**	**13.03**	**328**	P		**Pn**	**20 41 34.7**	**+5.3**
	comp=Z,43nm,1.5s							
PCRV	**Puerto La Cruz**	**17.24**	**50**	Lg			20 47 26.5	
	comp=Z,1.0nm,0.3s,baz=142,slow=11,SNR=3.5							
PCRV				LR		LR	20 48 23.8	
	comp=Z,276nm,19.6s,baz=65,slow=36							
LPAZ	**La Paz**	**18.19**	**148**	P		**Pn**	**20 42 37.1**	**+0.7**
	comp=Z,0.6nm,0.3s,baz=342,slow=13,SNR=29							
LPAZ				Lg			20 48 07.4	
	comp=Z,0.2nm,0.3s,baz=45,slow=8.6,SNR=2.3							
LPAZ	**La Paz**	**18.19**	**148**	*e*P		**Pn**	**20 42 37.0**	**+0.6**
LPAZ				pmax		pmax		
	comp=Z,36nm,0.4s							
LPAZ	**La Paz**	**18.19**	**148**	*e*P		**Pn**	**20 42 37.0**	**+0.5**
	comp=Z,36nm,0.4s							
SIV	**San Ignacio**	**22.50**	**133**	P		**P**	**20 43 22.8**	**-0.4**
	comp=Z,33nm,0.9s,mb4.7,baz=321,slow=12,SNR=108							
TEIG	**Tepich**	**23.22**	**335**	LR		LR	20 51 44.1	
	comp=Z,302nm,19.1s,MS3.8,baz=4.8,slow=35							
LVC	**Limon Verde**	**23.39**	**158**	*e*P		**P**	**20 43 34.8**	**+2.2**
	comp=Z,34nm,0.7s,mb4.9							
CMIG	**Matias Romero**	**24.37**	**318**	P		**P**	**20 43 41.6**	**0.0**
	comp=Z,4.0nm,0.8s,mb3.9,baz=116,slow=12,SNR=3.8							
CMIG				LR		LR	20 51 24.8	
	comp=Z,112nm,21.4s,MS3.3,baz=184,slow=32							
CFAA	**Coronel Fontan**	**31.97**	**164**	P		**P**	**20 44 51.5**	**+2.2**
	comp=Z,0.5nm,0.8s,baz=325,slow=11,SNR=6.0							
CFAA				LR		LR	20 58 51.0	
	comp=Z,14nm,19.2s,baz=341,slow=38							
BDFB	**Brasilia**	**33.06**	**118**	P		**P**	**20 44 56.6**	**-2.6**
	comp=Z,0.8nm,0.6s,mb3.8,baz=187,slow=21,SNR=2.4							
CPCT	**Cooper Cave**	**36.61**	**351**	*e*P		**P**	**20 45 29.4**	**-0.1**
SWET	**Sewanee**	**36.62**	**349**	*e*P		**P**	**20 45 28.7**	**-0.9**
OXF	**Oxford**	**36.75**	**344**	P		**P**	**20 45 30.4**	**-0.3**
OXF				pmax		pmax		
	comp=Z,20nm,1.1s,mb4.9							
OXF	**Oxford**	**36.75**	**344**	P		**P**	**20 45 30.4**	**-0.3**
	comp=Z,20nm,1.1s,mb4.9							
JCT	**Junction City**	**37.42**	**328**	*e*P		**P**	**20 45 38.5**	**+2.0**
JCT				pmax		pmax		
	comp=Z,74nm,1.9s,mb5.2							
JCT	**Junction City**	**37.42**	**328**	*e*P		**P**	**20 45 38.5**	**+2.0**
	comp=Z,74nm,1.9s,mb5.2							
WVT	**Waverly**	**37.90**	**347**	P		**P**	**20 45 35.8**	**-4.6**
WVT				pmax		pmax		
	comp=Z,6.0nm,1.0s,mb4.3							
WVT	**Waverly**	**37.90**	**347**	P		**P**	**20 45 35.8**	**-4.6**
	comp=Z,6.4nm,1.0s,mb4.3							
TXAR	**Lajitas Array**	**38.74**	**323**	P		**P**	**20 45 47.4**	**-0.2**
	comp=Z,1.1nm,0.8s,baz=137,slow=10,SNR=8.0							
TXAR				PcP		PcP	20 47 59.5	+0.5
	comp=Z,1.7nm,0.9s,baz=147,slow=5.4,SNR=7.8							
PLCA	**Paso Flores**	**40.28**	**171**	P		**P**	**20 46 02.0**	**+1.7**
	comp=Z,8.6nm,0.9s,mb4.5,baz=325,slow=7.0,SNR=9.5							
PLCA	**Paso Flores**	**40.28**	**171**	*e*P		**P**	**20 46 02.1**	**+1.8**
PLCA				pmax		pmax		
	comp=Z,10.0nm,1.1s							
PLCA	**Paso Flores**	**40.28**	**171**	*e*P		**P**	**20 46 02.1**	**+1.8**
	comp=Z,10nm,1.1s,mb4.5							
FVM	**French Village**	**40.29**	**345**	*e*P		**P**	**20 45 59.2**	**-1.3**
FVM				pmax		pmax		
	comp=Z,15nm,0.9s,mb4.7							
FVM	**French Village**	**40.29**	**345**	*e*P		**P**	**20 45 59.2**	**-1.2**
	comp=Z,15nm,0.9s,mb4.7							
CCM	**Cathedral Cave**	**40.58**	**344**	*e*P		**P**	**20 46 01.5**	**-1.3**
CCM				pmax		pmax		
	comp=Z,42nm,1.7s,mb4.8							
CCM	**Cathedral Cave**	**40.58**	**344**	*e*P		**P**	**20 46 01.5**	**-1.3**
	comp=Z,42nm,1.7s,mb4.8							
MVL	**Millersville**	**40.67**	**2**	*e*P		**P**	**20 46 04.8**	**+1.3**
	comp=Z,72nm,1.6s,mb5.0							
ACSO	**Alum Creek Sta**	**41.13**	**354**	P		**P**	**20 46 06.3**	**-1.0**
GDL2	**Guadalupe Moun**	**41.24**	**325**	*e*P		**P**	**20 46 11.6**	**+3.3**
AMTX	**Amarillo**	**41.87**	**330**	*e*P		**P**	**20 46 14.8**	**+1.3**
	comp=Z,20nm,0.8s,mb4.8							
BNM	**Barren Site**	**43.95**	**325**	*e*P		**P**	**20 46 32.7**	**+2.3**
219A	**White Tail Can**	**44.05**	**321**	⇑P		**P**	**20 46 31.2**	**0.0**
	baz=44,SNR=7.1							
LPM	**Los Pinos Moun**	**44.07**	**325**	*e*P		**P**	**20 46 34.1**	**+2.8**
318A	**Bisbee**	**44.15**	**319**	⇓P		**P**	**20 46 32.0**	**-0.1**
	baz=44,SNR=6.6							
LAZ	**Ladron**	**44.43**	**325**	*e*P		**P**	**20 46 34.9**	**+0.7**
ANMO	**Albuquerque**	**44.44**	**326**	*e*P		**P**	**20 46 33.7**	**-0.6**
ANMO				pmax		pmax		
	comp=Z,22nm,1.1s							
ANMO	**Albuquerque**	**44.44**	**326**	*e*P		**P**	**20 46 33.7**	**-0.6**
	comp=Z,22nm,1.1s,mb4.8							
218A	**Dragoon**	**44.53**	**320**	⇓P		**P**	**20 46 34.6**	**-0.5**
	baz=45							
217A	**Green Valley**	**44.91**	**319**	⇑P		**P**	**20 46 38.1**	**0.0**
	baz=45,SNR=7.8							
118A	**Homack Ranch,**	**44.92**	**321**	⇓P		**P**	**20 46 38.3**	**+0.1**
	baz=45,SNR=8.1							
TUC	**Tucson**	**45.23**	**320**	*e*P		**P**	**20 46 42.4**	**+1.8**
TUC				pmax		pmax		
	comp=Z,14nm,1.4s,mb4.6							
TUC	**Tucson**	**45.23**	**320**	*e*P		**P**	**20 46 42.4**	**+1.7**
	comp=Z,14nm,1.4s,mb4.6							
Y19A	**Nutrioso**	**45.37**	**323**	⇑P		**P**	**20 46 41.9**	**+0.2**
	baz=46							
117A	**Oracle**	**45.37**	**320**	⇑P		**P**	**20 46 42.1**	**+0.4**
	baz=46,SNR=8.6							
Y18A	**Canyon Day Jun**	**45.72**	**322**	⇑P		**P**	**20 46 44.6**	**+0.1**
	baz=46							
SDCO	**Great Sand Dun**	**46.02**	**329**	*e*P		**P**	**20 46 46.9**	**+0.1**
	comp=Z,33nm,1.2s,mb5.1							
214A	**Organ Pipe Nat**	**46.34**	**318**	⇑P		**P**	**20 46 50.2**	**+0.8**
	baz=47,SNR=8.6							
Y16A	**Circle Bar Ran**	**46.69**	**321**	⇓P		**P**	**20 46 52.1**	**0.0**
	baz=47,SNR=9.1							
V18A	**Ganado**	**46.98**	**324**	⇑P		**P**	**20 46 53.7**	**-0.6**
	baz=47							
X16A	**Lo Mia Camp, P**	**47.02**	**322**	⇑P		**P**	**20 46 54.4**	**-0.2**
	baz=47				

comp=Z,19nm,1.4s,mb4.8
R13A O'Grain Ranch, 51.02 323 ⇓P **P 20 47 25.4 +0.1**
baz=51,SNR=6.8
NLU North Lily Min 51.13 326 *e*P **P 20 47 26.2 +0.2**
Q14A Sevier Lake (B 51.15 325 ⇓P **P 20 47 26.7 +0.4**
baz=51,SNR=12
JLU Jordanelle 51.25 327 *e*P **P 20 47 29.2 +2.3**
P14A Drum Mountains 51.44 325 ⇑P **P 20 47 29.1 +0.7**
baz=52,SNR=14
EDW2 Edwards Air Fo 51.55 318 ⇑P **P 20 47 29.6 +0.3**
baz=52,SNR=5.6
TPNV Topopah Spring 51.64 321 *e*P **P 20 47 31.9 +1.9**
TPNV pmax pmax
comp=Z,14nm,1.4s,mb4.7
TPNV Topopah Spring 51.64 321 ⇑P **P 20 47 29.9 0.0**
baz=52,SNR=7.2
TPNV Topopah Spring 51.64 321 *e*P **P 20 47 31.9 +2.0**
comp=Z,14nm,1.4s,mb4.7
LRMC Laurel Mountai 51.70 318 ⇓P **P 20 47 30.9 +0.5**
baz=52,SNR=5.5
DUG Dugway 51.71 326 *e*P **P 20 47 31.0 +0.6**
DUG pmax pmax
comp=Z,43nm,1.4s,mb5.2
DUG Dugway 51.71 326 ⇑P **P 20 47 30.8 +0.4**
baz=52,SNR=16
DUG Dugway 51.71 326 *e*P **P 20 47 31.0 +0.6**
comp=Z,42nm,1.4s,mb5.2
BW06 Boulder Array 51.85 331 *e*P **P 20 47 32.6 +1.2**
comp=Z,14nm,1.5s,mb4.7
PDAR Pinedale Array 51.85 331 P **P 20 47 27.2 -4.2**
comp=Z,0.8nm,0.7s,mb3.8,baz=233,slow=39,SNR=4.6
PDAR LR LR 21 10 22.0
comp=Z,82nm,20.5s,MS3.8,baz=302,slow=37
P13A Bates Ranch, G 51.89 325 ⇓P **P 20 47 32.0 +0.2**
baz=52,SNR=10
MPMC Manual Prospec 51.91 319 ⇓P **P 20 47 31.7 -0.2**
baz=52
HWUT Hardware Ranch 52.02 328 *e*P **P 20 47 33.4 +0.7**
comp=Z,27nm,1.5s,mb5.0
Q12A Willow Creek R 52.10 324 ⇑P **P 20 47 33.5 +0.2**
baz=52,SNR=5.2
R11A Troy Canyon, C 52.10 323 ⇑P **P 20 47 33.2 -0.1**
baz=52,SNR=8.0
SPUT South Promonto 52.28 327 *e*P **P 20 47 34.2 -0.4**
ISA Isabella 52.33 318 *e*P **P 20 47 37.9 +2.8**
ISA pmax pmax
comp=Z,25nm,1.8s,mb4.8
ISA Isabella 52.33 318 ⇑P **P 20 47 35.8 +0.7**
baz=52,SNR=5.1
ISA Isabella 52.33 318 *e*P **P 20 47 37.9 +2.8**
comp=Z,25nm,1.8s,mb4.8
BGU Big Grassy Mou 52.33 327 *e*P **P 20 47 34.8 -0.2**
N14A Grayback Hills 52.37 327 ⇑P **P 20 47 35.2 -0.1**
baz=52,SNR=12
M15A Larsen Ranch, 52.39 328 P **P 20 47 34.9 -0.5**
baz=52,SNR=7.0
S10A Tonopah Range, 52.46 322 ⇓P **P 20 47 35.5 -0.5**
baz=53,SNR=11
Q11A Duckwater 52.46 323 ⇓P **P 20 47 35.9 -0.1**
baz=53,SNR=8.2
S09A Goldfield 52.73 321 ⇓P **P 20 47 38.0 0.0**
baz=53,SNR=5.7
L15A Malad City 52.74 328 ⇓P **P 20 47 37.5 -0.5**
baz=53,SNR=12
HVU Hansel Valley 52.78 328 *e*P **P 20 47 40.8 +2.5**
HVU pmax pmax
comp=Z,32nm,1.7s,mb5.0
HVU Hansel Valley 52.78 328 *e*P **P 20 47 40.8 +2.4**
comp=Z,32nm,1.7s,mb5.0
O12A Currie 52.85 325 ⇑P **P 20 47 39.5 +0.6**
baz=53,SNR=5.8
J17A Brown Place, J 52.86 330 ⇑P **P 20 47 38.7 -0.1**
baz=53,SNR=5.6
Q10A Clear Creek Ra 52.90 323 ⇑P **P 20 47 39.5 +0.2**
baz=53,SNR=6.0
M14A Sheep Mountain 52.90 327 ⇑P **P 20 47 39.0 -0.2**
baz=53,SNR=6.6
REDW Red Top Meadow 52.93 330 *e*P **P 20 47 38.8 -0.6**
comp=Z,44nm,1.5s,mb5.2
R09A Tonopah 52.95 322 ⇓P **P 20 47 39.5 -0.1**
baz=53,SNR=8.2
SNOW Snow King Moun 52.95 330 *e*P **P 20 47 42.1 +2.6**
comp=Z,55nm,2.1s,mb5.1
LOHW Long Hollow 52.99 331 *e*P **P 20 47 41.8 +2.0**
comp=Z,26nm,1.8s,mb4.9
TPAW Teton Pass 53.07 330 *e*P **P 20 47 42.9 +2.5**
comp=Z,13nm,1.4s,mb4.7
ULM Lac du Bonnet 53.14 346 LR LR 21 12 10.7
comp=Z,134nm,18.2s,MS4.0,baz=89,slow=38
RRI2 Red Ridge 53.15 330 *e*P **P 20 47 41.7 +0.7**
comp=Z,9.8nm,1.0s,mb4.7
MOOW Moose Ponds 53.16 331 *e*P **P 20 47 40.2 -0.9**
comp=Z,16nm,1.6s,mb4.7
I17A Pilgram Creek 53.20 331 ⇑P **P 20 47 40.1 -1.3**
baz=53,SNR=6.4
J16A Bone 53.24 330 ⇑P **P 20 47 40.6 -1.1**
baz=53,SNR=5.8
O11A Cowboy Ranch, 53.29 324 ⇓P **P 20 47 41.3 -0.8**
baz=54,SNR=6.8
K15A Arbon 53.29 329 ⇑P **P 20 47 41.7 -0.4**
baz=53
IMW Indian Meadow 53.36 331 *e*P **P 20 47 42.3 -0.2**
comp=Z,8.4nm,1.1s,mb4.6
MTUM Tungsten Hills 53.37 320 *e*P **P 20 47 45.6 +2.9**
EFI East Falkland 53.37 165 P **P 20 47 43.7 +1.2**
comp=Z,250nm,1.5s,mb5.9
RLMT Red Lodge 53.49 333 ⇑P **P 20 47 43.7 +0.2**
baz=54
RLMT Red Lodge 53.49 333 *e*P **P 20 47 43.4 0.0**
comp=Z,6.1nm,1.0s,mb4.5
L13A Double Diamond 53.63 327 ⇑P **P 20 47 44.5 -0.1**
baz=54
YFT Old Faithful 53.72 331 *e*P **P 20 47 45.5 +2.4**
J15A Blackfoot 53.75 329 ⇓P **P 20 47 45.4 0.0**
baz=54,SNR=6.6
NVAR Mina Array Bea 53.84 321 P **P 20 47 45.0 -1.1**
comp=Z,4.2nm,0.8s,mb4.4,baz=138,slow=7.1,SNR=16
Q08A Gabbs 53.86 322 ⇑P **P 20 47 45.2 -1.1**
baz=54
O10A Cortez Mining, 53.89 324 ⇓P **P 20 47 45.2 -1.3**
baz=54,SNR=8.3
H16A Russell Place, 54.11 331 ⇓P **P 20 47 47.3 -0.7**
baz=54,SNR=8.3
GCMT Greycliff 54.18 333 *e*P **P 20 47 47.4 -1.1**
L12A House Creek Ra 54.25 327 ⇑P **P 20 47 49.2 +0.1**
baz=54,SNR=6.3
J14A Carey 54.26 329 ⇑P **P 20 47 48.6 -0.5**
baz=54,SNR=14
QLMT Earthquake Lak 54.29 331 *e*P **P 20 47 50.1 +0.8**
F18A Big Timber 54.29 333 ⇓P **P 20 47 48.5 -0.8**
baz=54,SNR=23
G17A Pierce Place, 54.32 332 ⇓P **P 20 47 49.9 +0.3**
baz=54,SNR=6.9
WAKR Walker 54.60 320 *e*P **P 20 47 55.1 +3.4**
R06C Coleville 54.62 320 ⇓P **P 20 47 51.5 -0.3**
baz=55
L11A Cat Creek Ranc 54.68 326 ⇓P **P 20 47 51.9 -0.3**
baz=55,SNR=6.3
F17A Fitzpatrick Pl 54.72 333 ⇑P **P 20 47 51.8 -0.6**
baz=55,SNR=5.6
H15A Lima 54.73 330 ⇑P **P 20 47 52.3 -0.2**
baz=55
G16A Moss Hill, Enn 54.76 331 ⇑P **P 20 47 53.0 +0.3**
baz=55,SNR=5.7
E18A Harlowton 54.88 334 ⇓P **P 20 47 53.0 -0.6**
baz=55
HLID Hailey 54.89 328 ⇓P **P 20 47 53.6 -0.1**
baz=55,SNR=7.7
HLID Hailey 54.89 328 *e*P **P 20 47 53.2 -0.5**
comp=Z,16nm,1.4s,mb4.8
I13A Wildhorse Cree 54.98 329 ⇑P **P 20 47 53.2 -1.2**
baz=55,SNR=6.9
MCMT McKenzie Canyo 54.98 330 *e*P **P 20 47 55.8 +1.5**
BOZ Bozeman (W) 54.98 332 *e*P **P 20 47 52.2 -2.1**
BOZ pmax pmax
comp=Z,16nm,1.1s,mb5.0
BOZ Bozeman (W) 54.98 332 ⇑P **P 20 47 52.7 -1.6**
baz=55,SNR=13
BOZ Bozeman (W) 54.98 332 *e*P **P 20 47 52.2 -2.1**
comp=Z,16nm,1.1s,mb5.0
L10A Juniper Basin 55.02 326 ⇓P **P 20 47 54.7 0.0**
baz=55,SNR=5.6
J12A Stokes Ranch, 55.04 327 ⇑P **P 20 47 54.3 -0.5**
baz=55,SNR=11
H14A Leadore 55.09 330 ⇓P **P 20 47 53.5 -1.6**
baz=55,SNR=7.3
K11A Parker Ranch, 55.23 326 ⇓P **P 20 47 54.2 -2.0**
baz=55,SNR=8.0

E17A Martinsdale 55.23 333 P **P 20 47 54.4 -1.7**
baz=55,SNR=5.1
DLMT Dillon 55.24 331 *e*P **P 20 47 58.6 +2.4**
comp=Z,14nm,1.4s,mb4.8
PAHR Pah Rah Range 55.27 322 *e*P **P 20 47 59.9 +3.4**
comp=Z,36nm,1.7s,mb5.1
I12A Atlanta 55.43 328 ⇓P **P 20 47 55.7 -1.9**
baz=56
LRM Limekiln Ridge 55.50 331 *e*P **P 20 47 59.9 +1.8**
MFID Camas Ranch 55.55 327 ⇓P **P 20 47 57.7 -0.7**
baz=56,SNR=7.7
G14A Jackson 55.58 330 ⇑P **P 20 47 58.3 -0.3**
baz=56,SNR=6.3
D17A Six Diamond Ra 55.68 334 ⇓P **P 20 47 58.2 -1.1**
baz=56,SNR=5.7
K10A MacKenzie Ranc 55.70 326 ⇓P **P 20 47 59.0 -0.6**
baz=56,SNR=5.9
M08A Happy Creek Ra 55.72 324 ⇓P **P 20 47 59.2 -0.6**
baz=56,SNR=7.4
H12A Diamond D Ranc 55.80 329 ⇓P **P 20 47 59.9 -0.4**
baz=56,SNR=8.1
O06A Flanigan 55.82 322 ⇑P **P 20 48 00.6 +0.1**
baz=56,SNR=8.7
G13A Cobalt 55.86 330 ⇑P **P 20 47 59.5 -1.1**
baz=56
F14A Wisdom 55.94 331 ⇓P **P 20 48 00.3 -0.9**
baz=56,SNR=5.5
D16A Dana Ranch, Ca 55.97 333 ⇑P **P 20 48 00.7 -0.8**
baz=56
C17A Wharram Farm, 56.07 334 ⇓P **P 20 48 00.9 -1.2**
baz=56,SNR=6.5
K09A Rome 56.13 325 ⇓P **P 20 48 02.1 -0.6**
baz=56,SNR=33
L08A Fields 56.16 325 ⇑P **P 20 48 02.5 -0.4**
baz=56,SNR=23
N06A Buffalo Meadow 56.17 322 ⇓P **P 20 48 03.1 +0.1**
baz=56,SNR=10
O05C Quincy 56.38 321 ⇓P **P 20 48 04.9 +0.4**
baz=57
F13A Darby 56.40 330 ⇑P **P 20 48 03.9 -0.6**
baz=56,SNR=7.5
WVOR Wild Horse Val 56.49 325 *e*P **P 20 48 03.7 -1.5**
WVOR pmax pmax
comp=Z,46nm,1.3s,mb5.3
WVOR Wild Horse Val 56.49 325 *e*P **P 20 48 03.7 -1.5**
comp=Z,46nm,1.3s,mb5.3
ORV Oroville 56.52 320 ⇓P **P 20 48 05.2 -0.3**
baz=57,SNR=12
J09A Fry Pan Ranch, 56.56 326 ⇓P **P 20 48 04.9 -0.8**
baz=57,SNR=8.7
K08A Mann Creek Ran 56.59 325 ⇑P **P 20 48 04.7 -1.2**
baz=57,SNR=8.4
L07A Adell 56.64 324 ⇑P **P 20 48 06.2 -0.1**
baz=57,SNR=6.8
O04C Chester 56.69 321 ⇑P **P 20 48 06.5 -0.2**
baz=57,SNR=6.3
F12A Elk City 56.84 330 ⇓P **P 20 48 06.9 -0.8**
baz=57,SNR=9.1
MSO Missoula 56.95 331 *e*P **P 20 48 10.5 +2.1**
I09A Lost Marbles R 56.96 327 ⇓P **P 20 48 07.7 -0.8**
baz=57,SNR=8.7
J08A Circle Bar Ran 56.97 326 ⇑P **P 20 48 07.6 -1.0**
baz=57,SNR=7.2
BMO Blue Mountains 57.30 328 *e*P **P 20 48 10.7 -0.2**
F11A Grangeville 57.39 329 ⇓P **P 20 48 10.5 -1.0**
baz=58
LTIM Timbered Crate 57.43 322 P **P 20 48 12.1 +0.2**
E12A Beaver Dam Sad 57.45 330 ⇑P **P 20 48 10.6 -1.3**
baz=58,SNR=5.5
G10A Bishop Farm, J 57.49 328 ⇑P **P 20 48 10.5 -1.8**
baz=58
K06A Valley Falls 57.65 324 ⇑P **P 20 48 13.6 +0.1**
baz=58
H08A Prairie City 57.82 327 ⇑P **P 20 48 14.4 -0.2**
baz=58
J06A Christmas Vall 57.87 325 ⇑P **P 20 48 15.0 +0.1**
baz=58
I07A Izee 58.01 326 ⇑P **P 20 48 15.4 -0.5**
baz=58
BSMT Bassoo Peak 58.08 332 *e*P **P 20 48 18.3 +2.0**
F09A S2 Ranch, Elgi 58.18 328 ⇓P **P 20 48 16.5 -0.6**
baz=58,SNR=7.0
D11A Klaveano Farm, 58.27 330 ⇓P **P 20 48 16.8 -0.9**
baz=58
E10A Myers Farm, Un 58.28 329 ⇑P **P 20 48 17.3 -0.5**
baz=58
C12B Naegeli Ranch, 58.31 331 ⇑P **P 20 48 18.0 +0.1**
baz=58
I06A Prineville 58.33 325 ⇓P **P 20 48 18.1 0.0**
baz=58,SNR=10
G08A Pilot Rock 58.47 327 ⇓P **P 20 48 18.2 -1.0**
baz=59,SNR=12
LNOR Lincton Mounta 58.49 328 *e*P **P 20 48 18.8 -0.4**
YBH Yreka Blue Hor 58.50 322 *e*P **P 20 48 20.3 +0.9**
YBH pmax pmax
comp=Z,20nm,1.5s
YBH Yreka Blue Hor 58.50 322 *e*P **P 20 48 20.3 +0.9**
comp=Z,20nm,1.5s,mb4.9
J05A Fort Rock 58.52 324 ⇑P **P 20 48 18.3 -1.2**
baz=59,SNR=14
E09A Wood Farm, Sta 58.84 329 ⇓P **P 20 48 19.9 -1.7**
baz=59,SNR=6.5
H06A Lindquist Farm 58.88 326 ⇑P **P 20 48 21.2 -0.8**
baz=59,SNR=6.4
VTHM Trough 59.28 326 P **P 20 48 27.7 +2.9**
G06A Carlson Farm, 59.36 326 ⇓P **P 20 48 25.3 0.0**
baz=60,SNR=5.9
NEW Newport 59.49 331 *e*P **P 20 48 26.2 +0.1**
NEW pmax pmax
comp=Z,4.0nm,1.0s
NEW Newport 59.49 331 *e*P **P 20 48 26.2 +0.1**
comp=Z,4.0nm,1.0s,mb4.4
IRO Indian Ridge 59.54 324 P **P 20 48 28.3 +1.7**
F06A Goldendale 59.77 327 ⇓P **P 20 48 27.3 -0.8**
baz=60,SNR=5.6
HOOD Mount Hood Mea 59.98 326 *e*P **P 20 48 31.8 +2.2**
comp=Z,51nm,1.3s,mb5.4
B09A Rice 60.10 330 ⇓P **P 20 48 29.0 -1.3**
baz=60,SNR=7.2
E06A Yakima 60.36 327 ⇓P **P 20 48 32.1 0.0**
baz=60,SNR=5.7
H03A Soap Creek Ran 60.54 324 ⇓P **P 20 48 32.7 -0.6**
baz=61
B08A Colville Reser 60.65 330 ⇓P **P 20 48 33.7 -0.4**
baz=61
ETW Entiat 60.68 329 *e*P **P 20 48 34.5 +0.2**
A09A Danville 60.69 331 ⇑P **P 20 48 33.4 -1.0**
baz=61
E05A Randle 60.79 327 ⇓P **P 20 48 34.7 -0.4**
baz=61
A08A Turner Farm, O 61.01 330 ⇑P **P 20 48 36.4 -0.1**
baz=61,SNR=6.2
D05A Enumclaw 61.30 327 ⇓P **P 20 48 37.5 -1.1**
baz=61
A07A Ashnola River, 61.63 330 ⇓P **P 20 48 39.7 -1.0**
baz=62,SNR=5.4
GNW Green Mountain 61.98 327 *e*P **P 20 48 44.6 +1.5**
comp=Z,15nm,1.2s,mb5.0
YKA Yellowknife Ar 68.91 343 P **P 20 49 26.8 -0.8**
comp=Z,1.9nm,1.0s,mb4.0,baz=135,slow=7.0,SNR=3.2
YKA LR LR 21 21 08.5
comp=Z,32nm,18.4s,MS3.6,baz=140,slow=37
DLBC Dease Lake 71.86 334 *e*P **P 20 49 44.6 -1.1**
DBIC Dimbokro 73.39 83 P **P 20 49 53.9 -1.9**
comp=Z,5.0nm,0.9s,mb4.4,baz=262,slow=10,SNR=2.5
DBIC LR LR 21 19 59.4
comp=Z,59nm,19.9s,MS3.9,baz=60,slow=34
DBIC Dimbokro 73.39 83 *e*P **P 20 49 53.6 -2.1**
DBIC pmax pmax
comp=Z,16nm,1.3s
DBIC Dimbokro 73.39 83 *e*P **P 20 49 53.6 -2.2**
comp=Z,16nm,1.3s,mb4.8
RES Resolute Bay 76.10 355 P **P 20 50 09.0 -1.3**
comp=Z,751nm,1.7s
SUMG Summit 77.39 11 *e*P **P 20 50 17.0 -0.5**
comp=Z,15nm,1.3s,mb4.8
ESDC Sonseca Array 78.31 49 P **P 20 50 22.2 -1.1**
comp=Z,0.9nm,0.7s,mb3.8,baz=257,slow=6.0,SNR=5.5
DAWY Dawson 78.60 337 *e*P **P 20 50 23.2 -1.2**
EGAK Eagle 79.60 337 *e*P **P 20 50 28.9 -1.0**
comp=Z,23nm,1.3s,mb4.9
TOAO Torodi Ar. Sit 80.18 77 *e*P **P 20 50 30.5 -3.5**
TORD Torodi Ar. Bea 80.18 77 P **P 20 50 32.0 -2.1**
comp=Z,340nm,0.6s,baz=286,slow=5.9,SNR=2.9
TORD LR LR 21 22 39.5
comp=Z,64nm,18.8s,MS4.0,baz=205,slow=33
VNA3 Neumayer Olymp 82.35 162 *e*P **P 20 50 45.5 +1.1**

VNA3 *e* 20 50 49.0
VNA3 *e* pP 20 50 55.3 -0.2
VNA1 Neumayer--Stat 82.59 162 *e*P **P 20 50 47.3 +1.6**
VNA1 *e* 20 50 50.6
VNA1 *e* pP 20 50 58.4 +1.7
VNA2 Neumayer--Watz 82.95 162 *e*P **P 20 50 48.2 +0.7**
baz=298,slow=6.7
VNA2 *e* 20 50 52.5
VNA2 *e* pP 20 50 58.3 -0.3
TAM Tamanrasset 84.37 67 *e*P **P 20 50 54.8 -1.1**
SNAA Sanae 84.57 162 *e*P **P 20 50 56.7 +0.9**
SNAA *e* 20 51 00.1
SNAA *e* pP 20 51 05.6 -1.3
SNAA Sanae 84.57 162 *e*P **P 20 50 55.9 +0.1**
SNAA pmax pmax
comp=Z,3.0nm,1.0s
SNAA Sanae 84.57 162 *e*P **P 20 50 55.9 +0.1**
comp=Z,2.7nm,1.0s,mb4.3
QSPA South Pole Qui 89.22 180 P **P 20 51 20.7 +2.4**
comp=Z,7.3nm,1.1s,mb4.9,baz=169,slow=2.5,SNR=13
QSPA South Pole Qui 89.22 180 *e*P **P 20 51 20.1 +1.8**
comp=Z,15nm,1.3s,mb5.2
NOA NORSAR Array B 90.36 29 LR LR 21 26 49.4
comp=Z,116nm,18.6s,MS4.3,baz=305,slow=32
GERES GERESS Array B 91.77 41 LR LR 21 28 26.0
comp=Z,113nm,18.4s,MS4.3,baz=60,slow=33
CN2 Changchun 132.39 337 *e*PKP PKPdf 20 57 34.5 -3.0
WMQ Urumqi 135.35 15 PKP PKPdf 20 57 41.0 -2.0
WMQ XPKP 20 58 06.0
WMQ PP PP 21 00 21.0 +2.7
KSRS Korea Array 136.41 330 *e*P Pdif 20 54 53.6 +3.7
HHC Hu-ho-hao-te 139.24 349 *e*PKP PKPdf 20 57 50.0 -0.3
HHC PP PP 21 00 51.0 +8.5
HHC PKS 21 01 25.0
HHC SKS SKSdf 21 04 48.3 -10
HHC SKKS SKKSac 21 07 26.3 -8.9
HHC SS SS 21 18 59.8 +2.8
HHC PP PP
comp=Z,121nm,7.0s
HHC LR LR
comp=N,263nm,22.1s,MS5.0
HHC LR LR
comp=E,247nm,23.9s,MS5.0
HHC LR LR
comp=Z,179nm,21.7s,MS4.8
ASAR Alice Springs 140.56 230 PKP PKPdf 20 57 52.8 -0.4
comp=Z,2.1nm,1.0s,baz=114,slow=2.7,SNR=6.8
GTA Gaotai 141.56 3 PKP PKPdf 20 57 50.0 -4.6
LZH Lanzhou 144.89 357 *e*PKP PKPdf 20 58 02.5 +2.0
LZH PP PP 21 01 22.0 +5.3
LZH SKKS SKKSac 21 08 02.5 -5.5
LZH *e*SS SS 21 19 59.3 -3.1
LZH PP PP
comp=Z,50nm,6.4s
LZH LR LR
comp=N,136nm,19.4s
LZH LR LR
comp=Z,178nm,20.5s,MS4.8
XAN Xi'an 146.34 350 PKP PKPdf 20 58 03.5 +0.4
XAN APKP 20 58 12.5
CD2 Chengdu 150.05 357 *e*PKP PKPdf 20 58 08.3 -0.9
CD2 APKP 20 58 26.3
CD2 PP PP 21 01 49.3 +2.4
CD2 SKS SKSdf 21 05 08.0 -6.8
CD2 SKKS SKKSac 21 08 31.0 -6.1
CD2 SS SS 21 20 56.3 -4.3
CD2 PP PP
comp=Z,120nm,10.2s
CD2 LR LR
comp=N,180nm,18.8s
CD2 LR LR
comp=Z,210nm,19.2s,MS5.0
GYA Guiyang 154.13 350 *e*PKP PKPdf 20 58 15.0 -0.5
GYA PKS 21 01 47.5
GYA SKS SKSdf 21 05 12.8 -7.2
GYA SKKS SKKSac 21 08 53.3 -6.2
GYA SS SS 21 21 42.3 -3.4
GYA PP PP
comp=Z,120nm,8.6s
GYA LR LR
comp=N,180nm,21.8s,MS4.9
GYA LR LR
comp=E,130nm,22.2s,MS4.9
GYA LR LR
comp=Z,170nm,21.9s,MS4.8
KMI Kunming 155.85 358 PKP PKPdf 20 58 18.0 +0.2
CMAR Chiang Mai Arr 162.24 9 PKP PKPdf 20 58 25.7 +0.2
comp=Z,0.8nm,0.9s,baz=342,slow=2.0,SNR=4.5

IGQ 27 20:44:45.3, 055S×7796W, h11km±2km, Mb4.2, Ms4.0, 6C-8D, Error ellipse: s-maj=1.0km s-min=0.8km az=35.0, Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TAMB	**Tambo**	**0.43**	**250**	⇓P	Pg	20 44 54.5	+0.7
VC1	**Cotopaxi 1**	**0.45**	**258**	⇓P	Pg	20 44 54.7	+0.6
LAV3	**Lava3-Reventad**	**0.56**	**36**	⇓P	Pg	20 44 56.7	+0.5
CAMI	**Rancho Maria**	**0.56**	**257**	⇓P	Pg	20 44 57.0	+0.8
CONE	**Cono NE Rev Vo**	**0.57**	**34**	⇓P	Pg	20 44 57.0	+0.6
CAYA	**Cayambe**	**0.62**	**357**	⇑P	Pg	20 44 57.3	0.0
PISA	**Pisayambo**	**0.66**	**220**	P	Pg	20 44 58.4	+0.3
JUA2	**San Juan 2**	**0.72**	**297**	P	Pg	20 44 59.9	+0.5
JUA2	**San Juan 2**	**0.72**	**297**	S	Sg	20 45 09.6	+0.7
GGP	**Refugio Guagua**	**0.73**	**300**	⇑P	Pg	20 45 00.2	+0.7
TERV	**Terraza Guagua**	**0.74**	**300**	P	Pg	20 45 00.5	+0.8
TERV	**Terraza Guagua**	**0.74**	**300**	S	Sg	20 45 11.2	+1.8
YANA	**Yana**	**0.74**	**305**	P	Pg	20 45 00.3	+0.6
PINO	**Pino**	**0.75**	**301**	⇓P	Pg	20 45 00.6	+0.7
PINO	**Pino**	**0.75**	**301**	⇓S	Sg	20 45 11.8	+2.1
COTA	**Cotacachi**	**0.95**	**337**	⇓P	Pg	20 45 04.1	+0.4
RUN5	**Runtun**	**0.98**	**208**	⇑P	Pg	20 45 04.2	+0.1
RUN5	**Runtun**	**0.98**	**208**	⇑S	Sg	20 45 19.2	+2.4
ULBA	**Ulba**	**1.00**	**207**	P	Pg	20 45 04.2	-0.3
JUI6	**Juive**	**1.01**	**210**	P	Pg	20 45 04.1	-0.6
QIL2	**Quilotoa**	**1.01**	**252**	P	Pg	20 45 05.3	+0.6
PATA	**Patacocha**	**1.06**	**206**	P	Pb	20 45 05.9	+0.2
ARRY	**Arrayan**	**1.07**	**207**	⇑P	Pb	20 45 05.6	-0.3
ARRY	**Arrayan**	**1.07**	**207**	⇑S	Sg	20 45 20.2	+0.3

*ISCJB **27** 20:48:08.7±0.8, 666N±005×9538E±006, h243km±9km, mb3.9/28, Error ellipse: s-maj=10.5km s-min=6.5km az=144.3*
*IDC **27** 20:48:09.9±0.9, 672N×9549E, h243km±9km, mb3.6/14, mb1 3.7/15, mb1mx3.6/22, mbtmp3.6/15, Error ellipse: s-maj=16.2km s-min=11.1km az=73.0*
*BJI **27** 20:48:11.4, 670N×9550E, h260km, mb4.4*
*DJA **27** 20:48:11, 635N×9542E, h211km, Mw4.9/6*
*NEIC **27** 20:48:11.4±1.4, 672N×9548E, h261km±14km, mb4.0/16, Error ellipse: s-maj=10.5km s-min=6.9km az=58.0*
ISC 27 20:48:09.7±0.8, 667N±004×9538E±005, h237km±9km, h237km±3.1km: pP-P, n66, σ1§07/66, mb3.9/28, 6C-9D, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**5.42**	**104**	⇓P	**Pn**	**20 49 30.4**	**+0.1**
IPM	**Ipoh**	**6.03**	**111**	⇓P	**Pn**	**20 49 36.9**	**-1.1**
FRIM	**Kepong**	**7.10**	**118**	⇑P	**Pn**	**20 49 50.7**	**-0.8**
KGM	**Kluang**	**9.17**	**120**	⇓P	**Pn**	**20 50 16.9**	**-1.0**
MYKOM	**Kota Tinggi**	**9.74**	**120**	⇓P	**Pn**	**20 50 24.2**	**-1.1**
CM31	**Chiang Mai Arr**	**12.22**	**16**	*e*Pn	**Pn**	**20 50 55.4**	**-0.9**
CMAR	**Chiang Mai Arr**	**12.22**	**16**	P	**Pn**	**20 50 57.1**	**+0.8**
	1.2nm,0.3s,baz=202,slow=11,SNR=36						
CHTO	**Chiang Mai**	**12.56**	**16**	*e*P	**Pn**	**20 51 00.3**	**-0.2**
	6.7nm,0.8s						
TPI	**Tanjungpandan**	**15.42**	**127**	⇓*e*P	**Pn**	**20 51 35.0**	**-0.6**
KSM	**Kuching**	**15.76**	**108**	⇓P	**Pn**	**20 51 40.0**	**+0.4**
KSM	**Kuching**	**15.76**	**108**	*e*P	**Pn**	**20 51 38.8**	**-0.8**
VIS	**Vishakhapatnam**	**16.09**	**314**	*e*P	**P**	**20 51 43.3**	**+0.9**
VIS				AMb	AMB	20 51 50.7	
	comp=Z,101nm,1.3s						
SBUM	**Sibu**	**17.30**	**103**	⇑P	**P**	**20 51 57.2**	**+1.5**
BTM	**Bintulu**	**17.97**	**100**	⇑P	**P**	**20 52 04.5**	**+1.5**
IMP	**Imphal**	**18.06**	**356**	*e*P	**P**	**20 52 04.0**	**+0.2**
IMP				*e*S	**S**	**20 55 19.0**	**+0.6**
KOD	**Kodaikanal**	**18.07**	**283**	*e*P	**P**	**20 52 05.7**	**+1.7**
KOD				AMb	AMB	20 52 10.9	
	comp=Z,27nm,1.0s						
QIZ	**Qiongzhong**	**18.68**	**48**	P	**P**	**20 52 11.1**	**+0.5**

comp=Z,21nm,0.9s
SHL Shillong 19.08 350 *i* P **P** **20 52 15.0 +0.2**
SHL *i* S **S** **20 55 37.0 -1.5**
BOK Bokaro 19.31 333 *e*P **P** **20 52 16.0 -1.3**
BOK AMb AMB 20 52 18.0
comp=Z,27nm,0.9s
HYB Hyderabad 19.59 305 *i* P **P** **20 52 21.5 +1.1**
HYB *e* 20 52 26.5
HYB Hyderabad 19.59 305 *e*P **P** **20 52 21.5 +1.1**
HYB *e* 20 52 26.5
KMI Kunming 19.65 20 P **P** **20 52 23.3 +2.4**
KMI AMB AMB
comp=Z,5.0nm,0.6s
KKM Kota Kinabalu 20.72 91 ⇓P **P** **20 52 35.3 +2.9**
KDM Kudat 21.30 88 ⇓P **P** **20 52 40.6 +2.0**
SDKM Sandakan 21.71 91 ⇓P **P** **20 52 43.3 +1.0**
TSM Tawau 22.51 95 ⇑P **P** **20 52 50.3 +0.6**
AKL Akola 22.61 310 *e*P **P** **20 52 50.6 +0.2**
MYLDM Lahad Datu 23.04 92 ⇑P **P** **20 52 56.5 +1.9**
KAD Karad 23.24 299 *e*P **P** **20 52 56.8 +0.5**
KAD AMb AMB 20 53 11.4
comp=Z,42nm,1.5s,mb4.8
LSA Lhasa 23.25 351 *e*P **P** **20 52 57.5 +1.4**
comp=Z,26nm,0.5s,mb5.0
DDI Dehra Dun 28.61 327 *ex* x 20 54 22.0
GTA Gaotai 32.84 6 ⇑P **P** **20 54 22.0 +0.9**
GTA AMB AMB
comp=Z,9.0nm,0.7s,mb4.4
KBL Kabul 36.87 322 P **P** **20 54 54.2 -1.4**
comp=Z,1.6nm,0.6s,mb3.7
TKM2 Tokmak 2 40.10 337 P **P** **20 55 22.5 +0.1**
AML Almayashu 40.20 335 *e*P **P** **20 55 23.3 +0.1**
comp=Z,3.8nm,0.5s,mb4.1
AML *e*pP pP 20 56 10.6 -1.8
EKS2 Erkin-Say 40.61 335 *e*P **P** **20 55 27.0 +0.5**
comp=Z,3.8nm,0.8s,mb3.9
MK31 Makanchi Array 41.53 346 *e*P **P** **20 55 33.5 -0.4**
MKAR Makanchi Array 41.53 346 P **P** **20 55 33.0 -0.9**
comp=Z,3.2nm,0.8s,mb3.8,baz=159,slow=8.1,SNR=16
SONM Songino Array 42.08 11 P **P** **20 55 38.7 +0.4**
comp=Z,1.4nm,0.6s,mb3.5,baz=185,slow=9.0,SNR=13
SONM pP pP 20 56 29.2 +1.2
comp=Z,1.1nm,0.8s,baz=200,slow=10,SNR=2.9
ULN Ulaanbaatar 42.24 12 *e*P **P** **20 55 39.3 -0.3**
comp=Z,1.0nm,0.6s,mb3.4
KSRS Korea Array 42.59 39 pP pP 20 56 31.9 -0.4
comp=Z,1.4nm,0.9s,baz=224,slow=8.8,SNR=3.0
NWAO Narrogin (SRO) 44.53 153 P **P** **20 55 57.6 -0.5**
comp=Z,12nm,0.6s,mb4.5,baz=296,slow=3.6,SNR=6.2
KURK Kurchatov 46.07 345 P **P** **20 56 07.8 -2.1**
comp=Z,1.4nm,0.5s,mb3.5
WRAB Tennant Creek 46.57 125 *e*P **P** **20 56 12.5 -1.8**
comp=Z,7.7nm,0.6s,mb4.2
HIA Hailar 47.16 22 P **P** **20 56 18.0 -0.3**
comp=Z,4.5nm,0.9s,mb3.8
ZALV Zalesovo Beam 47.91 352 P **P** **20 56 23.6 -0.5**
comp=Z,2.8nm,0.7s,mb3.7,baz=179,slow=7.4,SNR=12
ZALV pP pP 20 57 14.6 -0.3
comp=Z,3.0nm,0.7s,baz=170,slow=9.8,SNR=2.7
ASAR Alice Springs 48.21 130 P **P** **20 56 25.1 -1.7**
comp=Z,2.5nm,0.5s,mb3.8,baz=303,slow=8.0,SNR=41
BVAR Borovoye Array 50.52 341 P **P** **20 56 42.5 -1.3**
comp=Z,0.8nm,0.6s,mb3.3,baz=142,slow=7.4,SNR=5.8
OPO Ambohidratompo 53.73 241 P **P** **20 57 09.6 +1.6**
comp=Z,2.4nm,0.8s,mb3.8,baz=60,slow=6.8,SNR=5.3
STKA Stephens Creek 58.39 134 P **P** **20 57 40.5 -0.2**
comp=Z,1.7nm,0.5s,mb4.0,baz=321,slow=6.5,SNR=6.9
STKA Stephens Creek 58.39 134 P **P** **20 57 39.2 -1.5**
comp=Z,8.4nm,1.0s,mb4.3
KMBO Kilima Mbogo 58.52 265 P **P** **20 57 43.1 +1.2**
comp=Z,1.4nm,1.0s,mb3.5,baz=48,slow=12,SNR=4.1
KMBO Kilima Mbogo 58.52 265 *e*P **P** **20 57 42.9 +1.0**
comp=Z,1.6nm,0.8s,mb3.7
BR131 Keskin Array S 64.14 311 *e*P **P** **20 58 17.6 -1.5**
comp=Z,0.9nm,0.5s,mb3.7
AKASG Malin Array Be 69.85 322 P **P** **20 58 52.9 -1.8**
comp=Z,0.5nm,0.3s,mb3.6,baz=90,slow=5.9,SNR=4.3
AKASG Malin Array Be 69.85 322 P **P** **20 58 52.9 -1.8**
LSZ Lusaka 70.04 251 P **P** **20 58 57.1 +0.6**
comp=Z,1.7nm,0.5s,mb3.9,baz=70,slow=6.5,SNR=5.8
LSZ Lusaka 70.04 251 *e*P **P** **20 58 56.8 +0.2**
comp=Z,3.5nm,0.8s,mb4.0
JOF Joensuu 72.45 334 *e*p **P** **20 59 08.8 -1.3**
KAF Kangasniemi 74.41 333 *e*p **P** **20 59 21.3 -0.2**
comp=Z,2.0nm,0.5s,mb4.0
LBTB Lobatse 74.76 242 *e*P **P** **20 59 24.9 +0.6**
comp=Z,5.0nm,0.8s,mb4.2
BOSA Boshof 76.00 238 P **P** **20 59 31.5 +0.3**
comp=Z,1.9nm,0.6s,mb3.9,baz=201,slow=16,SNR=7.6
ARCES ARCESS Array B 76.80 340 P **P** **20 59 34.1 -0.8**
comp=Z,1.5nm,0.5s,mb3.8,baz=92,slow=6.1,SNR=11
GERES GERESS Array B 79.53 318 P **P** **20 59 50.1 -0.2**
comp=Z,0.4nm,0.5s,mb3.3,baz=115,slow=5.1,SNR=6.9
GERES pP pP 21 00 47.3 +0.7
comp=Z,0.9nm,0.8s,baz=79,slow=6.9,SNR=3.7
TSUM Tsumeb 80.75 249 P **P** **20 59 57.6 +0.3**
comp=Z,2.7nm,0.8s,mb3.9
TORD Torodi Ar. Bea 92.07 283 P **P** **21 00 52.9 +0.2**
comp=Z,186nm,0.3s,baz=80,slow=4.7,SNR=2.0

*NIED **27** 20:50:00, 44.00N×148.20E, h44km, Mw4.0 Best double couple: M₀1.14000×10¹⁵ NP1:ϕ=134.00000°, δ=62.00000°, λ=-41.00000°. NP2:ϕ=246.00000°, δ=55.00000°, λ=-145.00000°.*
*ISCJB **27** 20:50:53.0±1.0, 44.56N±005.4×148.39E±009.0, h50km±10km, mb3.5/4, MS3.2/2, Error ellipse: s-maj=12.6km s-min=6.5km az=35.7*
*MOS **27** 20:50:52.3±1.7, 44.58N×148.38E, h50km, mb4.4/2, Error ellipse: s-maj=17.7km s-min=13.1km az=48.4*
*JMA **27** 20:50:54.6±0.3, 44.04N×148.16E, h0km, M4.4*
*IDC **27** 20:50:55.7±2.9, 44.56N×148.36E, h61km±27km, mb3.3/4, mb1 3.5/8, mb1mx3.3/22, mbtmp3.4/8, ML3.4/4, MS3.0/5, Ms1 3.1/5, ms1mx2.8/21, Error ellipse: s-maj=32.0km s-min=22.3km az=133.0*

ISC 27 20:50:56.0±1.0, 44.46N×007×14832E±010, h64km±11km, n29, σ1s15/38, mb3.5/4, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
KUR	**Kuril'sk**	**0.84**	**338**	*i* PN		**Pn**	**20 51 06.2**	**-5.9**
KUR				*i* S		**Sn**	**20 51 17.5**	**-6.5**
KUR				pmax		pmax		
	comp=N,150nm,0.5s							
KUR				pmax		pmax		
	comp=E,80nm,0.5s							
KUR				pmax		pmax		
	comp=Z,530nm,0.5s							
KUR				smax				
	comp=N,4μm,0.5s							
KUR				smax				
	comp=E,1μm,0.5s							
KUR				smax				
	comp=N,10μm,2.0s							
KUR				smax				
	comp=E,8μm,2.0s							
YUK	**Yuzh-Kuril'sk**	**1.82**	**257**	*e*PN		**Pn**	**20 51 21.0**	**-4.0**
YUK				*i* S		**Sn**	**20 51 47.3**	**+0.3**
YUK				pmax		pmax		
	comp=N,380nm,0.5s							
YUK				pmax		pmax		
	comp=E,380nm,0.5s							
YUK				pmax		pmax		
	comp=Z,380nm,0.5s							
YUK				smax				
	comp=N,2μm,0.5s							
YUK				smax				
	comp=E,1μm,0.5s							
YUK				smax				
	comp=N,2μm,1.0s							
YUK				smax				
	comp=E,2μm,1.0s							
NEM2	**Nemuro 2**	**2.16**	**240**	P		**Pn**	**20 51 28.3**	**-1.3**
NEM2				*e*S		**Sn**	**20 51 53.0**	**-2.3**
JRA	**Rausu**	**2.36**	**258**	P		**Pn**	**20 51 33.0**	**+0.7**
JRA				*e*S		**Sn**	**20 52 01.7**	**+1.6**
JNK	**Nakash**	**2.74**	**253**	P		**Pn**	**20 51 37.9**	**+0.4**
JNK				*e*S		**Sn**	**20 52 09.6**	**+0.1**
JAK	**Akkeshi**	**3.01**	**242**	P		**Pn**	**20 51 40.6**	**-0.5**
JAK				*e*S		**Sn**	**20 52 14.3**	**-1.7**
JTKR	**Abashiri--Toko**	**3.21**	**263**	P		**Pn**	**20 51 46.3**	**+2.4**
JAR	**Ashorobuto**	**3.49**	**252**	P		**Pn**	**20 51 48.7**	**+1.0**
JAR				*e*S		**Sn**	**20 52 28.4**	**+0.6**
JCH	**Churui**	**4.05**	**245**	P		**Pn**	**20 51 55.4**	**0.0**
JKK2	**Kamakawa 2**	**4.05**	**264**	P		**Pn**	**20 51 58.4**	**+3.0**
ASAJ	**Asahikawa**	**4.12**	**267**	P		**Pn**	**20 51 57.8**	**+1.3**
ASAJ				LR		LR	20 53 40.0	
	comp=E,2.5nm,0.3s,baz=73,slow=17							
ERM	**Erimo**	**4.49**	**239**	*e*PN		**Pn**	**20 52 03.2**	**+1.7**
JNBK	**Urakawa-nobuka**	**4.61**	**244**	P		**Pn**	**20 52 03.5**	**+0.5**
YSS	**Yuzh-Sakhalins**	**4.63**	**305**	*e*PN		**Pn**	**20 52 02.0**	**-1.3**
YSS				*e*S		**Sn**	**20 52 55.0**	**-0.7**
YSS				smax				
	comp=N,30nm,1.0s							
JKB	**Kayabe**	**5.92**	**247**	P		**Pn**	**20 52 21.6**	**+0.7**
JKB				*e*S		**Sn**	**20 53 26.4**	**-0.9**
JOT	**Ohata**	**6.16**	**243**	P		**Pn**	**20 52 24.2**	**-0.1**
JOT				*e*S		**Sn**	**20 53 31.3**	**-2.0**
JANG	**Nango**	**6.48**	**233**	*e*S		**Sn**	**20 53 35.9**	**-5.3**
PETK	**Petropavlovsk-**	**10.63**	**32**	P		**Pn**	**20 53 24.2**	**-1.1**
	comp=N,0.3nm,0.3s,baz=210,slow=10,SNR=7.3							
PETK				LR		LR	20 57 19.5	
	comp=N,49nm,18.3s,baz=271,slow=36							
MJAR	**Matsushiro Arr**	**11.03**	**228**	P		**Pn**	**20 53 30.0**	**-0.9**
	comp=N,0.3nm,0.3s,baz=25,slow=14,SNR=5.9							
KSRS	**Korea Array**	**16.90**	**253**	P		**Pn**	**20 54 48.2**	**+0.1**
	comp=N,0.1nm,0.3s,baz=71,slow=9.3,SNR=2.9							
KSRS				LR		LR	21 00 36.2	
	comp=N,43nm,18.8s,baz=164,slow=34							
KSRS	**Korea Array**	**16.90**	**253**	P		**Pn**	**20 54 48.2**	**+0.1**
KSRS				MLR		MLR		
	comp=Z,43nm,18.8s							
MKAR	**Makanchi Array**	**45.01**	**297**	P		**P**	**20 59 05.4**	**+0.6**
	comp=Z,0.8nm,0.9s,mb3.5,baz=69,slow=7.9,SNR=3.3							
MKAR				LR		LR	21 20 25.9	
	comp=Z,46nm,18.4s,baz=261,slow=39							
MKAR	**Makanchi Array**	**45.01**	**297**	P		**P**	**20 59 05.4**	**+0.6**
MKAR				pmax		pmax		
	comp=Z,1.0nm,0.9s							
MKAR				MLR		MLR		
	comp=Z,46nm,18.4s							
CMAR	**Chiang Mai Arr**	**48.53**	**254**	LR		LR	21 21 11.9	
	comp=Z,13nm,18.7s,baz=230,slow=37							
ASAR	**Alice Springs**	**69.06**	**194**	P		**P**	**21 01 56.0**	**+1.2**
	comp=Z,0.6nm,0.9s,mb3.5,baz=8.1,slow=5.3,SNR=4.9							
ASAR	**Alice Springs**	**69.06**	**194**	*e*P		**P**	**21 01 55.3**	**+0.5**
ASAR	**Alice Springs**	**69.06**	**194**	P		**P**	**21 01 56.1**	**+1.3**
ASAR				pmax		pmax		
	comp=Z,1.0nm,0.9s							
NOA	**NORSAR Array B**	**69.24**	**339**	P		**P**	**21 01 54.4**	**-1.2**
	comp=Z,0.3nm,0.4s,mb3.5,baz=42,slow=6.7,SNR=3.4							
TXAR	**Lajitas Array**	**81.56**	**57**	P		**P**	**21 03 06.7**	**-0.1**
	comp=Z,0.3nm,0.5s,mb3.5,baz=316,slow=3.8,SNR=3.0							

*CSEM **27** 20:53:05.4±0.1, 39.81N×206.7E, h5km, MD3.2, Error ellipse: s-maj=4.7km s-min=4.1km az=81.0*
*NEIC **27** 20:53:06.0, 39.70N×206.0E, h2km, MD3.2(ATH), After ATH.*

ATH 27 20:53:06.0, 39.70N×206.0E, h2km, MD3.2/4, Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
JAN	**Janina**	**0.20**	**103**	*e*Pg		Pg	20 53 09.5	-0.3
JAN	**Janina**	**0.20**	**103**	*e*PG		Pg	20 53 09.5	-0.3
KEK	**Kerkira**	**0.62**	**271**	*e*Pg		Pg	20 53 18.0	+0.2
KEK	**Kerkira**	**0.62**	**271**	*e*PG		Pg	20 53 18.0	+0.2
EVR	**Evrytania**	**1.22**	**129**	*e*Pn		Pn	20 53 30.5	+0.4
EVR	**Evrytania**	**1.22**	**129**	*e*PN		Pn	20 53 30.5	+0.4
VLS	**Valsamata**	**1.52**	**180**	*e*Pn		Pn	20 53 34.6	+0.4
VLS	**Valsamata**	**1.52**	**180**	*e*PN		Pn	20 53 34.6	+0.4
KRUS	**Krusevo**	**1.74**	**16**	*i* Pn		Pn	20 53 36.5	-0.7
KRUS				*i* Sn		Sn	20 53 59.9	0.0
KRUS	**Krusevo**	**1.74**	**16**	*i* Pn		Pn	20 53 36.4	-0.8
KRUS				*i* Sn		Sn	20 53 59.9	0.0

TAP 27 20:56:13.3, 22.68N×119.78E, h23km, ML3.6, 1C-2D, D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
KAU	**Kaohsiung**	**0.51**	**103**	*e*P		Pb	20 56 23.6	0.0
	baz=103							
KAU				*e*S		Sb	20 56 32.6	+2.1
	baz=103							
TWM1	**Shoushan**	**0.61**	**77**	*i* P		Pb	20 56 26.5	+1.1
TWM1	baz=72			*i* S		Sb	20 56 37.0	+3.4
	baz=72							
SCLT	**Jiali**	**0.62**	**38**	P		Pb	20 56 26.2	+0.6
	baz=38							
SCLT				*e*S		Sb	20 56 36.0	+2.1
	baz=38							
TWP	**Hsiaoliuchiu**	**0.64**	**122**	*e*P		Pb	20 56 26.3	+0.5
	baz=127							
TWP				*e*S		Sb	20 56 36.4	+2.1
	baz=127							
CHN8	**Yiju**	**0.77**	**31**	*e*P		Pb	20 56 28.9	+0.8
	baz=17							
CHN8				*e*S		Sb	20 56 40.7	+2.5
	baz=17							
SSD	**Sandimen**	**0.79**	**85**	P		Pb	20 56 28.5	0.0
	baz=86							
SSD				*e*S		Sb	20 56 39.9	+1.1
	baz=86							
SCZT	**Fangliau**	**0.84**	**112**	*e*P		Pb	20 56 29.6	+0.3
	baz=112							
SCZT				*e*S		Sb	20 56 42.1	+2.0
	baz=112							
SGST	**Jiashian**	**0.84**	**62**	P		Pb	20 56 30.2	+0.8
	baz=62							
SGST				S		Sb	20 56 42.9	+2.7
	baz=62							
CHN1	**Nanshi**	**0.85**	**54**	*e*P		Pb	20 56 29.6	+0.1
	baz=54							
CHN1				*e*S		Sb	20 56 41.5	+0.9
	baz=54							
TWK	**Hsinying**	**0.88**	**48**	P		Pb	20 56 30.7	+0.8
	baz=66							
TWK				S		Sb	20 56 43.6	+2.4
	baz=66							
WTP	**Ta-pu**	**0.95**	**54**	*e*P		Pb	20 56 30.9	-0.3
	baz=54							
WTP				*e*S		Sb	20 56 43.8	+0.4
	baz=54							
CHN4	**Tsaushan**	**1.00**	**48**	P		Pn	20 56 32.6	+0.6
	baz=49							
CHN4				*e*S		Sb	20 56 46.6	+1.8
	baz=49							
STYT	**Tauyuan**	**1.02**	**62**	⇑*i* P		Pn	20 56 32.9	+0.6
	baz=62							
STYT				*e*S		Sb	20 56 47.8	+2.4
	baz=62							
WSF	**Szhu**	**1.03**	**23**	*e*P		Pn	20 56 32.7	+0.2
	baz=23							
WSF				*e*S		Sb	20 56 47.6	+1.8
	baz=23							
EAST	**Anshuo**	**1.04**	**107**	⇓*i* P		Pn	20 56 32.1	-0.4
	baz=107							
EAST				*e*S		Sb	20 56 47.8	+2.0
	baz=107							
CHN2	**Minshiung**	**1.06**	**37**	*e*P		Pn	20 56 33.2	+0.4
	baz=37							
CHN2				*e*S		Sb	20 56 48.4	+1.9
	baz=37							
TAW	**Tawu**	**1.09**	**107**	*e*P		Pn	20 56 33.6	+0.5
	baz=108							
TAW				*e*S		Sb	20 56 48.7	+1.4
	baz=108							
ECL	**Taimali**	**1.09**	**94**	*e*P		Pn	20 56 32.0	-1.2
	baz=95							
ECL				*e*S		Sb	20 56 47.1	-0.3
	baz=95							
TWG	**Pinlang**	**1.21**	**83**	*e*P		Pn	20 56 34.9	+0.1
	baz=84							
TWG				S		Sn	20 56 50.7	+0.3
	baz=84							
TWK1	**Hengchun**	**1.21**	**127**	*e*P		Pn	20 56 33.0	-1.8
	baz=128							
TWK1				*e*S		Sn	20 56 48.8	-1.7
	baz=128							
CHN5	**Tsauling**	**1.23**	**42**	⇓P		Pn	20 56 35.1	0.0
	baz=57							
CHN5				*e*S		Sn	20 56 52.6	+1.5
	baz=57							
WGK	**Gukeng**	**1.23**	**36**	*e*P		Pn	20 56 35.9	+0.7
	baz=36							
WGK				*e*S		Sn	20 56 51.6	+0.4
	baz=36							
ELDTW	**Lidau**	**1.25**	**66**	*e*P		Pn	20 56 35.8	+0.3
	baz=66							
ELDTW				*e*S		Sn	20 56 52.4	+0.8
	baz=66							
ALS	**Alishan**	**1.25**	**49**	*e*P		Pn	20 56 35.6	+0.1
	baz=49							
ALS				*e*S		Sn	20 56 53.2	+1.6
	baz=49							
WTCT	**Ta-ch'eng**	**1.26**	**22**	*e*P		Pn	20 56 35.8	+0.1
	baz=22							
WTCT				*e*S		Sn	20 56 52.6	+0.7
	baz=22							
YUS	**Yu-Shan**	**1.35**	**53**	*e*P		Pn	20 56 37.4	+0.6
	baz=54							
YUS				*e*S		Sn	20 56 55.5	+1.5
	baz=54							
WNT	**Mingjian**	**1.45**	**35**	*e*P		Pn	20 56 38.7	+0.5
	baz=35							
TWF1	**Yuli**	**1.55**	**64**	*e*P		Pn	20 56 40.4	+0.8
	baz=65							
TWF1				*e*S		Sn	20 56 57.8	-1.2
	baz=65							
TYC	**Yuchr**	**1.57**	**39**	*e*P		Pn	20 56 40.5	+0.7
	baz=39							
TYC				*e*S		Sn	20 57 02.0	+2.5
	baz=39							
SMLT	**Sun Moon Lake**	**1.58**	**41**	*e*P		Pn	20 56 40.6	+0.6
	baz=41							
SMLT				*e*S		Sn	20 57 00.7	+1.0
	baz=41							
EHY	**Hungye**	**1.64**	**60**	*e*P		Pn	20 56 42.1	+1.3
	baz=60							
EHY				*e*S		Sn	20 57 01.1	-0.2
	baz=60							
TWQ1	**Liyutan**	**1.89**	**29**	*e*P		Pn	20 56 46.8	+2.5
	baz=29							
ESL	**Shilin**	**1.90**	**53**	*e*P		Pn	20 56 45.9	+1.5
	baz=66							
ESL				*e*S		Sn	20 57 10.8	+3.3
	baz=66							
WHF	**Hehuan Shan**	**2.00**	**43**	*e*P		Pn	20 56 47.3	+1.6
	baz=31							
NSTT	**Nanjuang**	**2.24**	**30**	*e*P		Pn	20 56 49.8	+0.7
	baz=30							
NNS	**Nan Shan**	**2.28**	**40**	*e*P		Pn	20 56 51.2	+1.6
	baz=26							
NSK	**Sanguang**	**2.46**	**36**	*e*P		Pn	20 56 53.9	+1.8
	baz=24							

*ISCJB **27** 21:09:44.7±0.3, 36.44N±002×70.40E±004, h207km±4km, mb4.2/32, Error ellipse: s-maj=5.0km s-min=3.1km az=162.5*
*BJI **27** 21:09:44.8, 36.44N×70.32E, h215km, mB4.8, mb4.5*
*MOS **27** 21:09:45.3±0.9, 36.49N×70.39E, h210km, mb4.3/21, Error ellipse: s-maj=9.8km s-min=5.7km az=90.8*
*NEIC **27** 21:09:46.6±0.3, 36.45N×70.37E, mb5.0/19, Error ellipse: s-maj=7.4km s-min=4.8km az=224.0*
*IDC **27** 21:09:46.9±0.7, 36.50N×70.39E, h215km±6km, mb3.7/17, mb1 3.8/21, mb1mx3.7/25, mbtmp3.7/21, Error ellipse: s-maj=10.6km s-min=8.4km az=166.0*
*NNC **27** 21:09:53.0±1.9, 37.09N×70.37E, h220km±15km, mb3.8, mpv5.1, Error ellipse: s-maj=16.7km s-min=12.6km az=34.0*

ISC 27 21:09:45.4±0.3, 36.46N±002×70.37E±004, h200km±4km, h216km±2.4km: pP-P, n154, σ1s08/187, mb4.2/32, 10C-8D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
KBL	**Kabul**	**2.20**	**210**	*e*PN		**Pn**	**21 10 27.2**	**+1.2**
CEP	**Cherat**	**2.92**	**154**	⇓P		**Pn**	**21 10 35.8**	**+1.7**
CEP				S		**Sn**	**21 11 13.0**	**+0.9**
CHCP	**Chirah Chowk**	**3.67**	**139**	⇓P		**Pn**	**21 10 45.1**	**+2.0**
SRNI	**Srinagar**	**4.36**	**121**	*ex*		x	21 11 35.0	
SRNI				*e*S		**Sn**	**21 11 46.0**	**+2.3**
JMU	**Jammu**	**5.28**	**134**	*ex*		x	21 11 23.5	
JMU				*e*S		**Sn**	**21 12 00.0**	**-5.0**
KSH	**Kashi**	**5.38**	**54**	*i* P		**Pn**	**21 11 06.0**	**+1.5**
KSH				S		**Sn**	**21 12 05.8**	**-1.2**
THN	**Thein Dam**	**5.97**	**131**	*e*P		**Pn**	**21 11 11.8**	**-0.5**
THN				*ex*		x	21 12 15.7	
AML	**Almayashu**	**6.22**	**23**	P		**Pn**	**21 11 15.6**	**+0.2**
	SNR=948							
AML	**Almayashu**	**6.22**	**23**	*e*Pn		**Pn**	**21 11 15.9**	**+0.5**
	812nm,0.5s							
AML				*e*S		**Sn**	**21 12 24.6**	**-2.1**
PONG	**Pong**	**6.45**	**133**	*ex*		**Pn**	**21 11 20.0**	**+1.5**
PONG				*e*S		**Sn**	**21 12 30.0**	**-2.2**
UCH	**Uchtor**	**6.59**	**28**	P		**Pn**	**21 11 20.9**	**+0.7**
	SNR=54							
KK31	**Karatay Array**	**6.63**	**1**	P		**Pn**	**21 11 20.4**	**-0.3**
	42nm,0.5s,baz=187,slow=12,SNR=1174							
KK31				⇓S		**Sn**	**21 12 30.7**	**-5.8**
	21nm,0.4s,baz=196,slow=31,SNR=4.5							
KK31	**Karatay Array**	**6.63**	**1**	*i* PN		**Pn**	**21 11 20.4**	**-0.4**
KK31				pmax		pmax		
	comp=Z,39nm,0.1s							
EKS2	**Erkin-Say**	**6.73**	**22**	P		**Pn**	**21 11 22.3**	**+0.3**
	SNR=103							
KZA	**Kyzart**	**6.77**	**33**	P		**Pn**	**21 11 22.8**	**+0.3**
	SNR=15							
AAK	**Ala-Archa**	**6.94**	**26**	Pn		**Pn**	**21 11 25.3**	**+0.6**
	comp=Z,994nm,0.5s,SNR=99							
AAK	**Ala-Archa**	**6.94**	**26**	P		**Pn**	**21 11 25.2**	**+0.5**
	SNR=118							
KBK	**Karagaybulak**	**7.13**	**28**	P		**Pn**	**21 11 27.9**	**+0.7**
	SNR=68							
FRU	**Bishkek**	**7.16**	**26**	⇓*i* PN		**Pn**	**21 11 27.0**	**-0.6**
FRU				pmax		pmax		
	comp=Z,67nm,1.2s							
CHMS	**Chumysh**	**7.35**	**26**	P		**Pn**	**21 11 30.1**	**0.0**
	SNR=23							
ULHL	**Ulahol**	**7.35**	**36**	P		**Pn**	**21 11 29.9**	**-0.2**
	SNR=33							
SDNR	**Sundarnagar**	**7.38**	**130**	*e*P		**Pn**	**21 11 30.5**	**-0.1**
SDNR				*e*S		**Sn**	**21 12 49.1**	**-5.1**
USP	**Ospenovka**	**7.50**	**24**	P		**Pn**	**21 11 32.0**	**0.0**
	SNR=97							
TKM2	**Tokmak 2**	**7.61**	**30**	⇑P		**Pn**	**21 11 33.5**	**+0.1**
	comp=Z,146nm,0.5s							
TKM2				⇓S		**Sn**	**21 12 56.6**	**-2.7**
	comp=Z,132nm,1.1s							
TKM2	**Tokmak 2**	**7.61**	**30**	*e*PN		**Pn**	**21 11 33.6**	**+0.2**
TKM2				pmax		pmax		
	comp=Z,205nm,0.5s							
TKM2	**Tokmak 2**	**7.61**	**30**	P		**Pn**	**21 11 33.6**	**+0.3**
	SNR=228							
TKM2	**Tokmak 2**	**7.61**	**30**	*e*Pg		**Pn**	**21 11 33.6**	**+0.2**
	comp=Z,205nm,0.5s							
SMLA	**Simla**	**7.76**	**131**	⇓*i* P		**Pn**	**21 11 35.4**	**-0.2**
SMLA				*i* S		**Sn**	**21 13 00.3**	**-2.9**
SMLA				*ex*		x	21 13 01.8	
	comp=N,2μm,0.4s							
SMLA				*ex*		x	21 13 01.8	
	comp=E,2μm,0.3s							
KLP	**Kalpa**	**8.18**	**125**	*e*P		**Pn**	**21 11 41.3**	**+0.2**
KLP				*e*S		**Sn**	**21 13 08.4**	**-4.7**
KLP				AML		AML	21 13 13.3	
	comp=N,992nm,0.7s							
KLP				AML		AML	21 13 13.3	
	comp=E,614nm,0.2s							
KNDC	**Almaty**	**8.44**	**35**	⇓P		**Pn**	**21 11 45.1**	**+0.9**
	comp=E,75nm,0.8s							
DDI	**Dehra Dun**	**8.87**	**131**	*ex*		x	21 11 41.0	
DDI				*ex*		x

comp=E,184nm,0.5s,SNR=15
SONA Sohna 9.96 143 *e*S S **21 13 46.9 -8.6**
AJM Ajmer 10.60 159 *e*P P **21 12 11.7 -0.7**
AJM *e*S S **21 14 02.6 -8.1**
PTH Pithoragarh 10.76 127 *e*P P **21 12 13.7 -0.7**
PTH *e*S S **21 14 06.4 -8.1**
LGTI Lohaghat 10.84 127 *e*P P **21 12 13.9 -1.6**
LGTI *e*S S **21 14 08.8 -7.8**
AGRA Agra 11.23 143 *e*S S **21 14 16.0 -10**
BHJ Bhuj 13.18 183 *e*P P **21 12 44.8 -0.4**
BHJ *ex* x **21 15 04.7**
MK31 Makanchi Array 13.62 37 P P **21 12 50.4 -0.1**
comp=E,23nm,0.9s,baz=224,slow=12,SNR=126
MKAR Makanchi Array 13.62 37 P P **21 12 50.0 -0.4**
comp=E,1.8nm,0.3s,baz=219,slow=15,SNR=36
MKAR S S **21 15 27.2 +4.7**
comp=E,0.1nm,0.3s,baz=221,slow=15,SNR=2.4
DANN Dangsing 13.89 122 *e*P P **21 12 53.4 -0.7**
comp=E,111nm,0.7s
KOLN Koldanda 14.16 124 *e*P P **21 12 56.5 -0.8**
comp=E,45nm,0.5s
BHPL Bhopal 14.52 153 *e*P P **21 12 59.1 -2.7**
BHPL *ex* x **21 15 35.9**
GKN Gorkha 14.71 121 *e*P P **21 13 04.1 -0.1**
comp=E,85nm,0.3s
AB31 Akbulak array 14.88 332 ⇑P P **21 13 07.2 +1.3**
comp=E,17nm,0.5s,baz=146,slow=12,SNR=546
AB31 ⇑S S **21 15 44.4 -7.9**
comp=E,4.1nm,0.7s,baz=144,slow=24,SNR=5.8
AB31 Akbulak array 14.88 332 *i* P P **21 13 07.3 +1.4**
AB31 *i* S S **21 15 44.4 -7.9**
AB31 pmax pmax
comp=Z,13nm,0.3s
AB31 smax
comp=N,3.0nm,0.6s
WMQ Urumqi 15.14 56 *e*P P **21 13 09.8 +0.7**
DMN Daman 15.29 121 *e*P P **21 13 11.3 +0.2**
comp=N,104nm,0.6s
KKN Kakani 15.29 120 *e*P P **21 13 11.0 -0.2**
KURK Kurchatov 15.44 20 ⇑P P **21 13 12.4 -0.3**
comp=N,6.2nm,0.8s
KURK Kurchatov 15.44 20 P P **21 13 10.6 -2.1**
comp=N,0.7nm,0.3s,baz=210,slow=9.9,SNR=9.2
KURK Kurchatov 15.44 20 *e*P P **21 13 13.5 +0.8**
PKI Pulchoki 15.52 121 *e*P P **21 13 14.5 +0.6**
comp=N,218nm,0.5s
PKI Pulchoki 15.52 121 *e*P P **21 13 14.5 +0.6**
PKI pmax pmax
comp=Z,218nm,0.5s
GUN Gumba 15.64 119 *e*P P **21 13 15.6 +0.2**
JIRN Jiri 16.01 119 *e*P P **21 13 20.4 +0.5**
comp=E,304nm,0.5s
VOSK Vostochnaya 16.27 1 ⇑P P **21 13 23.2 +0.6**
comp=E,15nm,1.2s
VOSK ⇑S S **21 16 14.9 -7.0**
comp=Z,7.5nm,1.0s
VOSK Vostochnaya 16.27 1 P P **21 13 23.2 +0.5**
VOSK S S **21 16 14.9 -7.1**
VOSK pmax pmax
comp=Z,15nm,1.3s
VOSK smax
comp=N,8.0nm,1.0s
BVAR Borovoye Array 16.56 0 P P **21 13 25.9 -0.3**
comp=N,2.3nm,0.3s,baz=169,slow=8.1,SNR=32
BVAR S S **21 16 24.7 -3.3**
comp=N,0.5nm,0.3s,baz=170,slow=25,SNR=2.6
BVAR Borovoye Array 16.56 0 P P **21 13 25.9 -0.3**
BVAR S S **21 16 24.7 -3.3**
BVAR pmax pmax
comp=Z,2.0nm,0.3s
BVAR smax
comp=N,1.0nm,0.3s
AKTK Aktyubinsk 16.57 331 P P **21 13 26.1 -0.2**
AKTK S S **21 16 25.9 -2.2**
AKTO Aktyubinsk 16.57 331 P P **21 13 26.1 -0.2**
comp=N,2.7nm,0.3s,baz=148,slow=9.3,SNR=85
AKTO S S **21 16 25.9 -2.2**
comp=N,0.4nm,0.3s,baz=168,slow=19,SNR=4.0
AKTO Aktyubinsk 16.57 331 P P **21 13 26.1 -0.2**
AKTO S S **21 16 25.9 -2.2**
AKTO pmax pmax
comp=Z,3.0nm,0.3s
BRVK Borovoye 16.60 360 ⇑P P **21 13 26.4 -0.2**
comp=Z,15nm,0.8s
BRVK ⇑S S **21 16 19.8 -8.9**
comp=Z,41nm,1.4s
BRVK Borovoye 16.60 360 *e*P P **21 13 26.4 -0.2**
BRVK *e*S S **21 16 28.0 -0.6**
BRVK pmax pmax
comp=Z,16nm,0.8s
BRVK Borovoye 16.60 360 *e*P P **21 13 26.4 -0.2**
comp=Z,16nm,0.8s
BRVK *e*S S **21 16 28.0 -0.6**
RAMN Ramite 16.73 120 *e*P P **21 13 28.6 +0.1**
comp=Z,156nm,0.6s
TAPN Taplejung 17.28 117 *e*P P **21 13 36.0 +1.0**
comp=Z,92nm,0.7s
ODAN Odare 17.34 119 *e*P P **21 13 36.3 +0.6**
comp=Z,112nm,0.6s
POO Poona 18.12 169 *e*P P **21 13 38.2 -4.4**
BOK Bokaro 18.39 129 *ex* P **21 13 46.5 +1.0**
BOK *e*S S **21 17 05.1 0.0**
LSA Lhasa 18.66 105 P P **21 13 52.3 +4.0**
LSA AMB AMB
comp=Z,10.0nm,1.0s
LSA Lhasa 18.66 105 *e*P P **21 13 51.5 +3.2**
LSA pmax pmax
comp=Z,11nm,0.8s
LSA Lhasa 18.66 105 *e*P P **21 13 51.5 +3.2**
comp=Z,10nm,0.8s
KAD Karad 19.38 169 *ex* P **21 13 55.0 -1.2**
ZALV Zalesovo Beam 20.16 25 P P **21 14 04.4 +0.2**
comp=Z,24nm,0.4s,baz=214,slow=10,SNR=75
ZALV S S **21 17 37.4 -1.9**
comp=Z,5.2nm,1.0s,baz=210,slow=18,SNR=5.6
ZALV Zalesovo Beam 20.16 25 P P **21 14 04.4 +0.1**
ZALV S S **21 17 37.4 -1.9**
ZALV pmax pmax
comp=Z,24nm,0.4s
ZALV smax
comp=N,5.0nm,1.0s
HYB Hyderabad 20.31 157 *i* P P **21 14 07.5 +1.4**
HYB *e*S S **21 17 53.0 +10**
HYB Hyderabad 20.31 157 *e*P P **21 14 07.5 +1.4**
HYB *e*S S **21 17 53.0 +10**
MIB Mutribah 20.37 258 *e*P P **21 14 07.7 +1.0**
baz=257
MIB AMb AMB **21 14 11.1**
comp=Z,16nm,0.8s,baz=257
NVS Novosibirsk 20.40 22 ⇑*i*P P **21 14 06.7 -0.1**
NVS *e*S S **21 17 41.9 -1.9**
NVS pmax pmax
comp=N,9.0nm,0.5s
NVS pmax pmax
comp=E,4.0nm,0.5s
NVS pmax pmax
comp=Z,13nm,0.5s
NVS smax
comp=N,12nm,1.4s
NVS smax
comp=E,17nm,1.4s
GNI Garni 20.42 288 P P **21 14 09.5 +2.4**
comp=E,11nm,0.6s,baz=3.3,slow=4.3,SNR=14
RDF Al-Radifah 20.59 255 *e*P P **21 14 09.4 +0.3**
baz=255
NAY Al-Naaiem 20.69 256 *e*P P **21 14 10.1 0.0**
baz=256
NAY AMb AMB **21 14 14.1**
comp=Z,7.0nm,1.0s,baz=256
RST Umm Al-Ruwaisa 20.77 257 *e*P P **21 14 10.8 -0.1**
baz=257
RST AMb AMB **21 14 13.8**
comp=Z,17nm,0.9s,baz=257
SHL Shillong 21.35 115 *e*P P **21 14 20.0 +2.9**
SHL *e*S S **21 18 03.0 +1.7**
SVE Sverdlovsk 21.40 345 *e*P P **21 14 18.2 +0.9**
SVE pmax pmax
comp=Z,19nm,1.0s,mb4.6
ARU Arti 21.51 342 *d* P P **21 14 19.0 +0.6**
ARU *e*S S **21 18 05.0 +1.8**
ARU pmax pmax
comp=Z,48nm,1.2s,mb4.9
ARU Arti 21.51 342 *e*P P **21 14 19.0 +0.6**
comp=Z,25nm,0.7s,mb4.9
KIV Kislovodsk 22.36 298 *e*P P **21 14 27.9 +1.2**
KIV pmax pmax
comp=Z,10.0nm,1.3s,mb4.2
GTA Gaotai 23.36 74 *e*P P **21 14 38.3 +2.4**
GTA AMB AMB
comp=E,6.0nm,1.0s,mb4.1
KRAR Krasnoyarsk 24.79 31 *e*P P **21 14 50.0 +1.3**
KRAR pmax pmax
comp=E,39nm,1.4s,mb4.8
ANN Anapa 26.21 299 *e*P P **21 15 00.5 -1.1**
ANN *e*PP pP **21 15 42.0 +0.3**
ANN *e*S S **21 19 16.6 -1.9**
ANN pmax pmax
comp=E,32nm,1.1s,mb4.9
ZAK Zakamensk 27.40 49 *e*P P **21 15 12.6 +0.5**
ZAK pmax pmax
comp=Z,4.0nm,1.1s,mb4.0
SONM Songino Array 28.78 55 P P **21 15 25.8 +1.4**
comp=Z,2.8nm,0.6s,mb4.1,baz=266,slow=9.0,SNR=23
SONM Songino Array 28.78 55 P P **21 15 25.8 +1.4**
SONM pmax pmax
comp=Z,3.0nm,0.6s
MMAI Mount Meron Ar 28.84 274 P P **21 15 27.0 +1.9**
comp=E,0.5nm,0.5s,mb3.5,baz=81,slow=8.9,SNR=2.4
MMAI PcP PcP **21 18 30.2 +0.8**
comp=Z,0.9nm,0.6s,baz=63,slow=7.6,SNR=5.2
BR131 Keskin Array S 28.96 288 *e*P P **21 15 26.9 +0.8**
comp=Z,1.0nm,0.5s,mb3.7
ULN Ulaanbaatar 29.22 55 *e*P P **21 15 29.6 +1.3**
ULN pmax pmax
comp=Z,3.0nm,0.8s,mb4.0
ULN Ulaanbaatar 29.22 55 *e*P P **21 15 29.6 +1.3**
comp=Z,3.1nm,0.8s,mb4.0
OBN Obninsk 29.64 320 ⇑*i*P P **21 15 32.8 +0.9**
OBN *PP pP **21 16 18.0 +5.4**
OBN *e* **21 16 37.9**
OBN pmax pmax
comp=Z,24nm,1.9s,mb4.5
CMAR Chiang Mai Arr 30.88 118 P P **21 15 44.0 +0.8**
comp=Z,1.2nm,0.6s,mb3.7,baz=299,slow=7.8,SNR=12
CMAR pP pP **21 16 27.8 +3.7**
comp=Z,0.7nm,0.8s,baz=305,slow=9.6,SNR=2.3
CMAR Chiang Mai Arr 30.88 118 P P **21 15 44.0 +0.8**
CMAR *PP pP **21 16 27.8 +3.7**
CMAR pmax pmax
comp=Z,1.0nm,0.6s
AKASG Malin Array Be 32.58 309 P P **21 15 58.1 +0.5**
comp=Z,2.9nm,0.4s,mb4.1,baz=81,slow=7.3,SNR=9.0
AKASG Malin Array Be 32.58 309 P P **21 15 58.1 +0.5**
AKASG pmax pmax
comp=Z,3.0nm,0.4s
JOF Joensuu 35.65 330 *ep* P **21 16 23.7 -0.2**
comp=Z,23nm,0.4s,mb5.1
JOF Joensuu 35.65 330 *e*P P **21 16 23.7 -0.2**
JOF pmax pmax
comp=Z,23nm,0.4s,mb5.1
BOD Bodaibo 35.70 39 *e*P P **21 16 25.0 +0.6**
BOD pmax pmax
comp=Z,7.0nm,0.9s,mb4.2
FINES FINESS Array B 37.23 326 *e*P P **21 16 37.0 -0.3**
LVZ Lovozero 37.31 339 *e*P P **21 16 38.1 +0.2**
LVZ pmax pmax
comp=Z,72nm,2.0s,mb4.9
KAF Kangasniemi 37.38 327 *ep* P **21 16 38.5 -0.1**
comp=Z,4.5nm,0.5s,mb4.2,baz=112,slow=8.4
KAF Kangasniemi 37.38 327 *e*P P **21 16 38.5 -0.1**
KAF pmax pmax
comp=Z,5.0nm,0.5s,mb4.3
KEV Kevo 40.65 338 *ep* P **21 17 05.6 +0.1**
comp=Z,6.9nm,0.5s,mb4.3
KEV Kevo 40.65 338 *e*P P **21 17 05.6 +0.1**
KEV pmax pmax
comp=Z,7.0nm,0.5s,mb4.3
ARCES ARCESS Array B 40.99 338 P P **21 17 09.2 +0.9**
comp=Z,13nm,0.6s,mb4.6,baz=110,slow=7.3,SNR=84
ARCES ARCESS Array B 40.99 338 P P **21 17 09.2 +0.9**
ARCES pmax pmax
comp=Z,13nm,0.6s
ARE0 ARCESS Array S 40.99 338 *e*P P **21 17 07.9 -0.4**
NB2 NORSAR Subarra 44.11 323 P P **21 17 33.5 0.0**
comp=Z,6.0nm,0.7s,mb4.0,baz=97,slow=7.9
NOA NORSAR Array B 44.11 323 P P **21 17 33.1 -0.4**
comp=Z,6.2nm,0.8s,mb4.0,baz=98,slow=7.8,SNR=16
NOA pP pP **21 18 19.1 +2.6**
comp=Z,1.6nm,0.7s,baz=97,slow=8.1,SNR=2.2
NOA NORSAR Array B 44.11 323 P P **21 17 33.1 -0.4**
NOA *PP pP **21 18 19.1 +2.6**
NOA pmax pmax
comp=Z,6.0nm,0.8s
YAK Yakutsk 44.29 35 *e*P P **21 17 34.8 -0.1**
YAK pmax pmax
comp=Z,15nm,0.8s,mb4.4
YAK Yakutsk 44.29 35 *e*P P **21 17 35.5 +0.6**
comp=Z,26nm,0.7s,mb4.7
KSRS Korea Array 45.37 71 P P **21 17 44.3 +0.5**
comp=Z,13nm,0.6s,mb3.4,baz=270,slow=6.5,SNR=6.8
KSRS Korea Array 45.37 71 P P **21 17 44.3 +0.5**
KSRS pmax pmax
comp=Z,1.0nm,0.6s,mb3.3
TIXI Tiksi 46.00 22 *e*P P **21 17 48.8 +0.6**
TIXI pmax pmax
comp=Z,16nm,0.9s,mb4.3
TIXI Tiksi 46.00 22 *e*P P **21 17 48.8 +0.6**
comp=Z,16nm,0.8s,mb4.4
KEST Kesra 46.57 288 P P **21 18 07.5 -1.0**
comp=Z,0.5nm,0.5s,baz=26,slow=4.3,SNR=3.2
MJAR Matsushiro Arr 53.44 68 P P **21 18 44.4 -0.5**
comp=Z,1.3nm,0.6s,mb3.5,baz=289,slow=11,SNR=4.7
MJAR Matsushiro Arr 53.44 68 P P **21 18 44.4 -0.4**
MJAR pmax pmax
comp=Z,1.0nm,0.6s
SEY Seymchan 54.73 34 *e*P P **21 18 53.5 -0.2**
ESDC Sonseca Array 57.03 298 P P **21 19 10.0 -0.3**
comp=Z,0.3nm,0.5s,mb3.2,baz=56,slow=7.9,SNR=5.4
ESDC pP pP **21 19 57.2 +1.6**
comp=Z,0.3nm,0.6s,baz=72,slow=8.2,SNR=2.6
PETK Petropavlovsk- 60.35 44 P P **21 19 32.2 -0.8**
comp=Z,7.9nm,1.0s,mb4.3,baz=274,slow=4.9,SNR=3.1
TOA0 Torodi Ar. Sit 65.21 268 *e*P P **21 20 04.3 -1.4**
TORD Torodi Ar. Bea 65.21 268 P P **21 20 04.0 -1.7**
comp=Z,147nm,0.3s,baz=50,slow=6.0,SNR=2.0
COLD Coldfoot 72.14 15 *e*P P **21 20 47.5 -0.1**
comp=Z,3.7nm,0.9s,mb4.0
DBIC Dimbokro 74.19 267 P P **21 20 59.4 -1.1**
comp=Z,1.8nm,0.5s,mb4.0,baz=63,slow=8.9,SNR=7.7
DBIC Dimbokro 74.19 267 P P **21 20 59.4 -1.1**
DBIC pmax pmax
comp=Z,2.0nm,0.5s
BOSA Boshof 77.39 220 P P **21 21 18.3 +0.1**
comp=Z,1.1nm,0.3s,mb3.9,baz=3.5,slow=1.2,SNR=11
BOSA Boshof 77.39 220 P P **21 21 18.3 +0.1**
BOSA pmax pmax
comp=Z,1.0nm,0.4s,mb3.8
BOSA Boshof 77.39 220 P P **21 21 18.3 +0.1**
YKA Yellowknife Ar 81.31 2 P P **21 21 39.0 0.0**
comp=Z,2.7nm,0.7s,mb4.0,baz=349,slow=5.3,SNR=8.5
YKA pP pP **21 22 29.7 +2.3**
comp=Z,2.0nm,0.8s,baz=351,slow=5.4,SNR=2.5
YKA Yellowknife Ar 81.31 2 *i* P P **21 21 39.2 +0.2**
YKA pmax pmax
comp=Z,3.0nm,0.7s
ASAR Alice Springs 84.65 124 P P **21 21 55.2 -1.4**
comp=Z,1.2nm,0.6s,mb3.8,baz=312,slow=5.1,SNR=27
ASAR pP pP **21 22 48.6 +3.1**
comp=Z,0.5nm,0.7s,baz=313,slow=5.0,SNR=2.7
ASAR Alice Springs 84.65 124 P P **21 21 55.2 -1.4**
ASAR *PP pP **21 22 48.6 +3.2**
ASAR pmax pmax
comp=Z,1.0nm,0.6s
LPAZ La Paz 138.14 288 PKP PKPdf **21 28 47.8 +0.9**
comp=Z,0.7nm,0.3s,baz=27,slow=2.3,SNR=6.7
LPAZ La Paz 138.14 288 PKIKP PKPdf **21 28 47.8 +0.9**
LPAZ pmax pmax
comp=Z,1.0nm,0.3s
PLCA Paso Flores 149.34 250 PKPbc PKPbc **21 29 10.2 -0.1**
comp=Z,2.0nm,0.7s,baz=2.1,slow=2.6,SNR=4.4
PLCA Paso Flores 149.34 250 PKP2 PKPbc **21 29 10.2 -0.1**
PLCA pmax pmax
comp=Z,2.0nm,0.7s

IDC 27 21:17:53.3±11.0, 314S×10079E, h75km±95km, mb3.4/6, mb1 3.5/6, mb1mx3.4/18, mbtmp3.4/6, Error ellipse: s-maj=92.2km s-min=22.3km az=57.0, Southern Sumatera

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

CMAR Chiang Mai Arr 21.54 355 P P **21 22 36.4 -0.1**
0.2nm,0.4s,baz=174,slow=8.7,SNR=5.0
ASAR Alice Springs 37.95 125 P P **21 25 03.9 +0.1**
0.3nm,0.4s,baz=301,slow=7.9,SNR=8.1
SONM Songino Array 51.00 5 P P **21 26 48.6 +1.2**
0.9nm,0.6s,baz=189,slow=10,SNR=10
MKAR Makanchi Array 52.33 344 P P **21 26 57.3 -0.1**
0.5nm,0.6s,baz=158,slow=9.6,SNR=10
ZALV Zalesovo Beam 58.43 349 P P **21 27 39.6 -1.4**
0.4nm,0.4s,baz=180,slow=5.5,SNR=4.0
GERES GERESS Array B 90.42 319 P P **21 30 47.4 +0.9**
0.1nm,0.3s,baz=157,slow=5.3,SNR=5.7
TXAR Lajitas Array 145.10 39 PKPbc PKPbc **21 37 20.8 -1.6**
0.8nm,0.8s,baz=298,slow=2.6,SNR=5.5

IDC 27 21:23:11.2±12.0, 1779S×17861W, h588km±170km, mb3.1/5, mb1 3.4/5, mb1mx3.1/15, mbtmp3.1/5, Error ellipse: s-maj=174.4km s-min=38.1km az=161.0, Fiji Islands region

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

STKA Stephens Creek 38.52 241 P P **21 29 44.6 +0.1**
2.8nm,0.8s,baz=99,slow=13,SNR=4.2
ASAR Alice Springs 44.64 254 P P **21 30 32.5 -0.2**
6.6nm,0.7s,baz=86,slow=8.7,SNR=93
NVAR Mina Array Bea 79.47 44 P P **21 34 18.2 +0.6**
0.3nm,0.5s,baz=214,slow=7.3,SNR=3.4
TXAR Lajitas Array 86.09 58 P P **21 34 50.8 -0.1**
0.6nm,0.8s,baz=229,slow=4.8,SNR=3.8
PDAR Pinedale Array 87.39 44 P P **21 34 56.6 -0.1**
0.4nm,0.6s,baz=204,slow=2.0,SNR=3.7
GERES GERESS Array B 147.44 345 PKPbc PKPbc **21 41 49.4 -0.3**
0.3nm,0.7s,baz=35,slow=4.9,SNR=4.1

*NIED **27** 21:31:00, 4720N×154.50E, h5km, Mw4.1 Best double couple: M0 1.80000×10^15 NP1:φ=73.00000°, δ=65.00000°, λ=87.00000°. NP2:φ=261.00000°, δ=25.00000°, λ=97.00000°.*
*IDC **27** 21:31:44.8±1.0, 4645N×155.00E, h0km, mb3.7/9, mb1 4.0/12, mb1mx3.8/22, mbtmp3.7/12, ML3.6/3, Error ellipse: s-maj=27.9km s-min=18.0km az=135.0*
*ISCJB **27** 21:31:47.4±0.8, 4650N×009×154.8E±0.1, h33km, mb3.8/10, Error ellipse: s-maj=17.9km s-min=7.0km az=37.7*
*MOS **27** 21:31:48.3±1.6, 4667N×154.47E, h38km, mb4.1/5, Error ellipse: s-maj=17.4km s-min=11.0km az=60.4*
*NEIC **27** 21:31:48.7±1.6, 4673N×154.24E, h10km, Error ellipse: s-maj=36.7km s-min=10.2km az=131.0*

ISC 27 21:31:49.7±0.8, 4641N±009×154.8E±0.1, h35km, n26, σ1=48/28, mb3.8/10, East of Kuril Islands

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

SKR Severo-Kuril's 4.37 11 *e*PN P **21 32 49.5 -4.0**
SKR pmax pmax
comp=Z,80nm,0.5s
KUR Kuril'sk 4.99 259 *i* PN P **21 32 59.7 -2.3**
KUR pmax pmax
comp=N,80nm,0.4s
KUR pmax pmax
comp=E,100nm,0.4s
KUR pmax pmax
comp=Z,150nm,0.4s
PETK Petropavlovsk- 6.97 15 Pn P **21 33 26.7 -2.5**
comp=Z,0.8nm,0.3s,baz=194,slow=11,SNR=9.0
PETK Sn S **21 34 48.4 +1.3**
comp=Z,0.4nm,0.3s,baz=235,slow=18,SNR=2.9
PETK Petropavlovsk- 6.97 15 Pn P **21 33 26.7 -2.5**
PETK Sn S **21 34 48.4 +1.3**
PET Petropavlovsk 7.08 19 *e*PN P **21 33 29.6 -1.1**
YSS Yuzh-Sakhalins 8.30 278 *e*PN P **21 33 42.4 -5.1**
ASAJ Asahikawa 8.91 260 Pn P **21 33 57.3 +1.5**
comp=Z,1.2nm,0.3s,baz=91,slow=14,SNR=12
ASAJ Asahikawa 8.91 260 PN P **21 33 57.3 +1.5**
ASAJ pmax pmax
comp=Z,1.0nm,0.3s
ERM Erimo 9.44 246 *e*PN P **21 34 01.0 -2.1**
MJAR Matsushiro Arr 15.84 237 Pn P **21 35 28.7 -1.2**
comp=Z,0.1nm,0.3s,baz=26,slow=12,SNR=5.8
MAT Matsushiro 15.84 237 P P **21 35 22.8 -7.1**
KSRS Korea Array 21.82 255 P P **21 36 40.3 +1.5**
comp=Z,1.8nm,0.7s,mb3.6,baz=51,slow=10,SNR=6.6
KSRS Korea Array 21.82 255 P P **21 36 40.3 +1.5**
KSRS pmax pmax
comp=Z,2.0nm,0.7s,mb3.7
JOW Kunigami 28.68 236 P P **21 37 45.5 +2.3**
comp=Z,9.8nm,0.4s,mb4.9,baz=57,slow=5.4,SNR=5.4
ZALV Zalesovo Beam 43.75 307 P P **21 39 50.4 -0.9**
comp=Z,0.5nm,0.3s,mb3.7,baz=52,slow=9.3,SNR=2.4
ZALV Zalesovo Beam 43.75 307 P P **21 39 50.4 -0.9**
ZALV pmax pmax
comp=Z,1.0nm,0.3s,mb4.0
MKAR Makanchi Array 48.13 298 P P **21 40 26.1 +0.2**
comp=Z,2.2nm,0.4s,mb3.5,baz=66,slow=7.8,SNR=5.6
ARCES ARCESS Array B 58.56 341 P P **21 41 43.1 +1.0**
comp=Z,2.8nm,0.9s,mb4.3,baz=29,slow=7.6,SNR=2.8
ARCES ARCESS Array B 58.56 341 P P **21 41 43.1 +1.0**
ARCES pmax pmax
comp=Z,3.0nm,0.9s
NVAR Mina Array Bea 61.56 63 P P **21 42 02.1 -1.0**
comp=Z,0.2nm,0.4s,mb3.6,baz=296,slow=6.9,SNR=3.0
NOA NORSAR Array B 68.92 342 P P **21 42 50.9 +0.4**
comp=Z,1.0nm,0.6s,mb3.9,baz=26,slow=6.4,SNR=3.7
NOA NORSAR Array B 68.92 342 P P **21 42 50.9 +0.4**
NOA pmax pmax
comp=Z,1.0nm,0.6s
ASAR Alice Springs 72.27 200 P P **21 43 12.3 +1.1**
comp=Z,0.5nm,0.7s,mb3.6,baz=23,slow=5.6,SNR=5.1
ASAR Alice Springs 72.27 200 P P **21 43 12.3 +1.1**
ASAR pmax pmax
comp=Z,1.0nm,0.7s
TXAR Lajitas Array 76.64 62 P P **21 43 36.8 -0.1**
comp=Z,0.3nm,0.6s,mb3.4,baz=298,slow=1.9,SNR=3.0
GERES GERESS Array B 79.27 335 P P **21 43 53.8 +2.7**
comp=Z,0.3nm,0.7s,mb3.4,baz=40,slow=6.6,SNR=4.3

*NEIC **27** 21:35:32.7, 3669S×7399W, h38km, mb4.7/2, After GUC.*
*GUC **27** 21:35:32.7±0.3, 3669S×7399W, h38km±31km, ML4.9*
*ISCJB **27** 21:35:35.2±1.3, 3689S±005×732W±0.2, h46km±9km, mb4.2/13, MS4.0/3, Error ellipse: s-maj=20.8km s-min=8.1km az=5.2*
*IDC **27** 21:35:36.6±4.2, 3692S×7285W, h33km±31km, mb3.9/9, mb1 4.0/12, mb1mx4.0/16, mbtmp3.9/12, ML3.9/3, MS3.5/5, Ms1 3.5/5, ms1mx3.2/22, Error ellipse: s-maj=29.9km s-min=14.8km az=89.0*

ISC 27 21:35:33.0±1.4, 3678S±005×7356W±009, h24km±10km, n44, σ=94/41, mb4.2/12, MS4.0/3, 5C, Near coast of central Chile

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

COCH Cobquecura 0.90 44 ⇑*i*P P **21 35 50.1 +0.3**
COCH *e*S S **21 36 01.8 +0.4**
COCH AML AML **21 36 03.5**
comp=E,40μm,0.5s
COCH Cobquecura 0.90 44 ⇑*i*P P **21 35 50.1 +0.3**
COCH *e*S S **21 36 01.8 +0.4**
CCHI Chillan 1.20 82 ⇑*i*P P **21 35 53.9 -0.4**
CCHI *i* S S **21 36 09.5 -0.3**
CCHI AML AML **21 36 16.4**
comp=N,42μm,0.7s
CCHI Chillan 1.20 82 ⇑*i*P P **21 35 53.9 -0.4**
CCHI *i* S S **21 36 09.5 -0.3**
CTCH Constitucion 1.72 33 AML AML **21 36 35.2**
comp=N,60μm,0.5s
LNCH Linares 1.84 60 *e*P P **21 36 06.4 +3.4**
LNCH *i* S S **21 36 27.6 +2.2**
TMU Temuco 2.09 159 *e*P P **21 36 05.8 -0.7**
TMU AML AML **21 36 36.6**
comp=E,2μm,0.4s
PLCA Paso Flores 4.59 150 Pn P **21 36 40.0 -0.8**
comp=E,3.2nm,0.3s,baz=326,slow=14,SNR=58
PLCA Pg P **21 36 50.5 +10**
comp=E,20nm,0.3s,baz=320,slow=17,SNR=26
PLCA Lg **21 37 50.0**
comp=E,21nm,0.3s,baz=260,slow=23,SNR=2.9
PLCA LR LR **21 38 38.1**
comp=E,411nm,18.6s,baz=142,slow=43
CFAA Coronel Fontan 6.79 42 Pn P **21 37 10.5 -0.6**
comp=E,0.6nm,0.3s,baz=210,slow=14,SNR=32
CFAA Sn S **21 38 26.1 -1.5**

comp=E,2.0nm,0.3s,baz=180,slow=20,SNR=2.6
CFAA LR LR 21 39 48.6
comp=E,53nm,19.9s,baz=227,slow=39
LCO Las Campanas 8.11 18 *e*Pn **Pn 21 37 28.4 -0.8**
comp=E,55nm,0.5s
TRQA Tornquist 9.30 101 *e*Pn **Pn 21 37 45.3 -0.2**
LVC Limon Verde 14.68 17 *e*Pn **Pn 21 38 57.1 -2.0**
comp=E,8.4nm,0.6s
USHA Ushuaia 18.39 171 P **Pn 21 39 46.9 +0.8**
comp=E,0.3nm,0.3s,baz=327,slow=17,SNR=2.0
LPAZ La Paz 20.97 15 P **P 21 40 17.8 +3.3**
comp=E,3.6nm,0.5s,baz=184,slow=10.0,SNR=17
SIV San Ignacio 23.49 31 P **P 21 40 41.6 +0.4**
comp=E,2.8nm,0.6s,mb3.9,baz=202,slow=10.0,SNR=12
BDFB Brasilia 30.95 54 P **P 21 41 54.5 +6.3**
comp=E,1.7nm,0.6s,mb4.1,baz=216,slow=16,SNR=4.6
SDV Santo Domingo 45.51 4 P **P 21 43 51.2 +0.6**
comp=E,1.0nm,0.2s,mb4.3,baz=165,slow=12,SNR=2.1
VNA3 Neumayer Olymp 47.28 157 *e* **P 21 44 04.1 +0.2**
VNA3 *e* pP 21 44 11.2 -0.1
VNA3 *e* 21 44 16.6
VNA1 Neumayer--Stat 47.63 156 *e* **P 21 44 14.2 +7.6**
VNA2 Neumayer--Watz 47.95 156 *e* **P 21 44 09.5 +0.4**
baz=287,slow=9.2
VNA2 *e* pP 21 44 16.5 0.0
VNA2 *e* 21 44 22.0
SNAA Sanae 49.50 157 *e* **P 21 44 21.2 +0.2**
SNAA *e* 21 44 30.3
QSPA South Pole Qui 53.46 180 P **P 21 44 52.1 +1.6**
comp=E,0.6nm,0.6s,mb3.7,baz=135,slow=1.4,SNR=3.5
QSPA South Pole Qui 53.46 180 *e*P **P 21 44 51.3 +0.8**
comp=E,6.5nm,0.7s,mb4.7
RKT Rikitea 54.10 266 *e*T 22 43 06.9
comp=E,4.7nm,0.2s
SYO Syowa Base 63.74 158∩ *e*P **P 21 46 00.4 -1.8**
TBI Tubuai 65.50 258 *e*T 22 57 19.8
comp=E,5.6nm,0.3s
MEH Mehetia 67.29 264 *e*T 22 59 35.8
comp=E,8μm,0.2s
TVO Taravao 68.28 264 *e*T 23 00 50.3
comp=E,45nm,0.3s
TIAR Tiarei 68.48 264 *e*T 23 01 05.3
comp=E,268nm,0.3s
PPT Papeete 68.66 264 *e*LR LR 22 07 42.3
comp=E,62nm,22.8s
MAW Mawson 70.87 164 P **P 21 46 47.3 0.0**
comp=E,3.0nm,0.9s,mb4.2,baz=229,slow=6.7,SNR=4.7
MAW LR LR 22 17 10.3
comp=E,94nm,21.0s,MS4.0,baz=247,slow=35
TXAR Lajitas Array 71.59 333 P **P 21 46 56.8 +4.7**
comp=E,0.4nm,0.7s,mb3.5,baz=154,slow=6.6,SNR=3.8
LIC Lamto 76.83 72 *e*P **P 21 47 22.9 -0.2**
comp=E,74nm,1.9s,mb5.3
TIC Toumodi 77.10 72 *e*P **P 21 47 24.8 +0.2**
comp=E,40nm,0.2s
KIC Kosan Boka 77.13 72 *e*P **P 21 47 24.8 0.0**
comp=E,60nm,1.1s,mb5.5
DBIC Dimbokro 77.24 72 P **P 21 47 25.4 0.0**
comp=E,4.0nm,0.7s,mb4.5,baz=212,slow=4.5,SNR=7.5
DBIC LR LR 22 19 35.3
comp=E,48nm,19.1s,MS3.8,baz=327,slow=34
DBIC Dimbokro 77.24 72 *e*P **P 21 47 24.9 -0.5**
comp=E,7.4nm,0.8s,mb4.7
BOSA Boshof 79.87 118 P **P 21 47 39.5 -0.3**
comp=E,3.1nm,0.8s,mb4.3,baz=260,slow=5.5,SNR=5.4
NVAR Mina Array Bea 85.48 326 P **P 21 48 14.3 +5.9**
comp=E,0.1nm,0.2s,mb3.5,baz=156,slow=4.9,SNR=3.0
PDAR Pinedale Array 85.70 334 P **P 21 48 14.2 +4.8**
comp=E,0.2nm,0.4s,mb3.7,baz=161,slow=8.6,SNR=2.9
TORD Torodi Ar. Bea 86.31 71 P **P 21 48 12.7 -0.4**
comp=E,212nm,0.4s,baz=237,slow=5.0,SNR=2.0
TORD LR LR 22 25 19.4
comp=E,54nm,18.2s,MS4.0,baz=80,slow=35
ZALV Zalesovo Beam 157.23 34 PKP PKPdf 21 55 26.3 +0.2
comp=E,0.4nm,0.3s,baz=290,slow=5.8,SNR=2.6
ZALV PKPab PKPab 21 55 57.3 +0.3
comp=E,0.6nm,0.5s,baz=298,slow=3.1,SNR=3.8
MKAR Makanchi Array 159.47 53 PKP PKPdf 21 55 29.6 +0.6
comp=E,0.7nm,0.8s,baz=253,slow=2.4,SNR=3.5
MKAR PKPab PKPab 21 56 07.8 +0.8
comp=E,0.8nm,0.8s,baz=291,slow=4.6,SNR=3.6
SONM Songino Array 168.96 0 PKPab PKPab 21 56 49.9 +1.4
comp=E,0.3nm,0.6s,baz=349,slow=3.1,SNR=2.8

*ISCJB **27** 21:54:20.3±0.8, 24.32S±0.06°×67.1W±0.1, h163km±13km, mb4.1/4, Error ellipse: s-maj=20.8km s-min=6.8km az=19.4*
*NEIC **27** 21:54:21.6±0.8, 24.26S×67.09W, h164km±11km, mb4.9/3, Error ellipse: s-maj=18.5km s-min=9.7km az=106.0*
*IDC **27** 21:54:22.5±3.2, 24.17S×67.06W, h174km±31km, mb3.6/3, mb1 3.7/7, mb1mx3.5/16, mbtmp3.6/7, MS3.5/1, Ms1 3.5/1, ms1mx2.7/21, Error ellipse: s-maj=30.8km s-min=22.4km az=137.0*

ISC 27 21:54:21.0±0.8, 24.31S±0.06° × 67.0W±0.1, h150km±12km, n20, σ1§05/19, mb4.1/4, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LVC	**Limon Verde**	**2.42**	**314**	*e*Pn	**Pn**	**21 55 03.1**	**+1.9**
LCO	**Las Campanas**	**5.71**	**214**	*e*Pn	**Pn**	**21 55 42.8**	**-1.1**
38nm,0.4s							
LCO				*e*Sn	**Sn**	**21 56 46.8**	**-1.9**
LPAZ	**La Paz**	**8.05**	**352**	P	**Pn**	**21 56 16.1**	**+0.9**
1.3nm,0.3s,baz=174,slow=10,SNR=19							
LPAZ				S	**Sn**	**21 57 44.5**	**-0.4**
0.1nm,0.3s,baz=283,slow=19,SNR=5.3							
SIV	**San Ignacio**	**9.99**	**35**	P	**Pn**	**21 56 39.9**	**-1.0**
2.3nm,0.3s,baz=220,slow=14,SNR=46							
SIV				S	**Sn**	**21 58 31.4**	**-0.3**
baz=278,slow=21,SNR=5.8							
TRQA	**Tornquist**	**14.36**	**164**	*e*Pn	**Pn**	**21 57 39.9**	**+2.6**
11nm,0.6s							
PLCA	**Paso Flores**	**16.64**	**189**	P	**Pn**	**21 58 06.0**	**+0.6**
0.3nm,0.3s,baz=352,slow=7.1,SNR=4.5							
BDFB	**Brasilia**	**19.83**	**68**	P	**P**	**21 58 40.6**	**+0.4**
1.5nm,0.3s,baz=235,slow=15,SNR=18							
ROSC	**El Rosal**	**29.85**	**345**	LR	LR	22 12 14.3	
comp=Z,93nm,21.8s,baz=360,slow=36							
HOPE	**Hope Point**	**37.59**	**151**	*e*P	**P**	**22 01 20.7**	**0.0**
84nm,1.5s,mb5.2							
VNA3	**Neumayer Olymp**	**56.87**	**161**	*e*	**P**	**22 03 50.0**	**+0.4**
VNA3				*e*		22 03 53.7	
VNA1	**Neumayer--Stat**	**57.06**	**160**	*e*	**P**	**22 03 51.9**	**+0.9**
VNA1				*e*		22 03 55.2	
VNA2	**Neumayer--Watz**	**57.43**	**160**	*e*	**P**	**22 03 54.2**	**+0.7**
baz=288,slow=7.0							
VNA2				*e*		22 03 57.5	
SNAA	**Sanae**	**59.07**	**161**	*e*	**P**	**22 04 04.9**	**0.0**
SNAA				*e*		22 04 07.8	
DBIC	**Dimbokro**	**67.93**	**71**	P	**P**	**22 05 02.0**	**-1.9**
0.8nm,0.4s,mb3.8,baz=254,slow=6.8,SNR=3.9							
TORD	**Torodi Ar. Bea**	**76.71**	**69**	P	**P**	**22 05 55.2**	**-0.8**
130nm,0.3s,baz=250,slow=5.5,SNR=1.8							
BOSA	**Boshof**	**80.62**	**117**	P	**P**	**22 06 17.0**	**-0.3**
1.0nm,0.7s,mb3.6,baz=220,slow=3.4,SNR=3.4							
MAW	**Mawson**	**81.15**	**163**	P	**P**	**22 06 19.3**	**-0.1**
1.6nm,0.6s,mb3.8,baz=227,slow=4.8,SNR=6.4							
ASAR	**Alice Springs**	**128.16**	**205**	PKP	PKPdf	22 13 08.5	-1.5
0.8nm,0.7s,baz=139,slow=1.8,SNR=3.6							
EKS2	**Erkin-Say**	**142.94**	**51**	*e*PKPdf	PKPdf	22 13 32.5	-4.3
KAPI	**Kappang**	**150.11**	**194**	PKPbc	PKPbc	22 13 53.6	-1.3
3.3nm,0.2s,baz=149,slow=1.7,SNR=4.1							

*DJA **27** 22:02:57.1±2.1, 2S±18×135E±17, h73km±51km, mB5.1/3, Mjma3.9/4, MLv5.0/4, Mw(mB)5.0/3, Mwp3.9/3*
*NEIC **27** 22:02:58.1±1.1, 171S×134.46E, h35km, Error ellipse: s-maj=24.2km s-min=12.5km az=64.0*
NEIC Felt [III] at Ransiki.
*IDC **27** 22:03:02.5±3.9, 173S×134.27E, h76km±33km, mb3.7/10, mb1 3.8/12, mb1mx3.8/18, mbtmp3.8/12, Error ellipse: s-maj=28.7km s-min=11.1km az=77.0*
*ISCJB **27** 22:03:03.3±1.9, 178S±0.07°×134.2E±0.1, h101km±17km, mb3.8/10, Error ellipse: s-maj=17.9km s-min=11.7km az=168.7*

ISC 27 22:03:04.4±1.9, 179S±0.07° × 134.2E±0.1, h93km±16km, n21, σ1§14/21, mb3.8/10, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SWI	**Sorong**	**3.06**	**287**	P	**Pn**	**22 03 53.3**	**+2.5**
SWI	**Sorong**	**3.06**	**287**	S	**Sn**	**22 04 35.6**	**+9.0**
AAI	**Ambon**	**6.27**	**252**	P	**Pn**	**22 04 34.4**	**0.0**
81nm,0.5s,1μm0.3nm							
AAI	**Ambon**	**6.27**	**252**	P	**Pn**	**22 04 32.8**	**-1.6**
81nm,0.5s,1μm0.3nm							
LBMI	**Labuha**	**6.78**	**280**	P	**Pn**	**22 04 40.3**	**-1.0**
48nm,1.1s,0.2nm							
BATI	**Baumata**	**13.39**	**231**	P	**Pn**	**22 06 11.8**	**+1.0**
3.9nm,0.3s,baz=37,slow=20,SNR=8.6							
BATI				S	**Sn**	**22 08 37.8**	**-0.2**
1.8nm,0.3s,baz=87,slow=19,SNR=2.0							
KAPI	**Kappang**	**14.76**	**257**	P	**Pn**	**22 06 28.4**	**-0.1**
0.2nm,0.3s,baz=84,slow=8.3,SNR=2.2							
WRAB	**Tennant Creek**	**18.04**	**179**	*e*P	**Pn**	**22 07 07.5**	**-1.6**
6μm,0.6s							
CTA	**Charters Tower**	**21.68**	**148**	P	**P**	**22 07 49.0**	**+1.3**
2.2nm,0.7s,mb3.6,baz=350,slow=12,SNR=3.8							
ASAR	**Alice Springs**	**21.75**	**181**	P	**P**	**22 07 48.0**	**-0.5**
4.9nm,0.7s,mb3.9,baz=8.0,slow=11,SNR=44							
ASAR				S	**S**	**22 11 46.3**	**+2.4**
2.9nm,1.0s,baz=5.2,slow=22,SNR=7.2							
STKA	**Stephens Creek**	**30.74**	**168**	P	**P**	**22 09 09.7**	**-1.1**
4.1nm,1.0s,mb4.1,baz=329,slow=5.9,SNR=3.8							
CMAR	**Chiang Mai Arr**	**40.08**	**302**	P	**P**	**22 10 31.7**	**+0.6**
0.8nm,0.7s,mb3.6,baz=126,slow=5.8,SNR=6.1							
SONM	**Songino Array**	**55.05**	**337**	P	**P**	**22 12 27.3**	**+0.8**
0.4nm,0.8s,mb3.5,baz=134,slow=6.2,SNR=3.0							
MKAR	**Makanchi Array**	**66.34**	**324**	P	**P**	**22 13 43.0**	**-0.2**
1.2nm,0.6s,mb3.9,baz=109,slow=9.1,SNR=17							
ZALV	**Zalesovo Beam**	**68.91**	**331**	P	**P**	**22 13 58.5**	**-0.7**
0.6nm,0.4s,mb3.7,baz=102,slow=6.1,SNR=2.6							
AML	**Almayashu**	**69.78**	**316**	*e*P	**P**	**22 14 02.5**	**-2.4**
KURK	**Kurchatov**	**70.40**	**326**	P	**P**	**22 14 08.4**	**0.0**
0.7nm,0.4s,mb3.8,baz=111,slow=5.1,SNR=2.4							
BVAR	**Borovoye Array**	**76.00**	**326**	P	**P**	**22 14 41.5**	**+0.2**
0.4nm,0.5s,mb3.4,baz=110,slow=8.5,SNR=4.9							
MAW	**Mawson**	**81.30**	**202**	P	**P**	**22 15 11.5**	**+1.4**
0.7nm,0.3s,mb4.0,baz=31,slow=5.9,SNR=4.2							
ROSC	**El Rosal**	**151.38**	**83**	PKPbc	PKPbc	22 22 46.6	-2.0
11nm,0.3s,baz=252,slow=2.5,SNR=9.3							
LPAZ	**La Paz**	**151.57**	**130**	PKPbc	PKPbc	22 22 51.9	+3.0
0.7nm,0.6s,baz=288,slow=3.2,SNR=5.0							

*NEIC **27** 22:09:33.3±0.6, 4.99N×78.04W, h35km, mb4.4/2, Error ellipse: s-maj=13.0km s-min=9.2km az=61.0*
*ISCJB **27** 22:09:35.1±2.4, 5.14N±0.08°×79.9W±0.1, h74km±27km, mb3.7/7, Error ellipse: s-maj=17.3km s-min=12.5km az=170.6*
*IDC **27** 22:09:36.6±3.6, 5.09N×77.87W, h74km±40km, mb3.4/6, mb1 3.8/9, mb1mx3.6/22, mbtmp3.6/9, ML4.1/2, MS3.2/1, Ms1 3.2/1, ms1mx2.6/18, Error ellipse: s-maj=30.4km s-min=16.9km az=56.0*

ISC 27 22:09:34.1±1.7, 5.04N±0.07° × 78.00W±0.09, h41km±20km, n16, σ1§16/16, mb3.9/7, South of Panama

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ROSC	**El Rosal**	**3.66**	**93**	P	**Pn**	**22 10 30.0**	**+1.8**
3.6nm,0.3s,baz=276,slow=17,SNR=4.5							
ROSC				S	**Sn**	**22 11 12.2**	**+2.0**
2.3nm,0.3s,baz=107,slow=19,SNR=3.6							
OTAV	**Otavalo**	**4.79**	**185**	*e*Pn	**Pn**	**22 10 41.5**	**-2.3**
SDV	**Santo Domingo**	**8.25**	**62**	P	**Pn**	**22 11 30.2**	**-1.0**
2.6nm,0.3s,baz=231,slow=8.7,SNR=8.3							
SDV				S	**Sn**	**22 13 01.3**	**-1.9**
0.6nm,0.3s,baz=313,slow=18,SNR=2.3							
JTS	**JuntasAbangare**	**8.64**	**308**	LR	LR	22 14 47.4	
comp=Z,162nm,20.8s,baz=219,slow=36							
NNA	**Nana**	**16.96**	**176**	P	**Pn**	**22 13 29.2**	**+0.9**
0.8nm,0.3s,baz=350,slow=11,SNR=4.2							
CMIG	**Matias Romero**	**20.42**	**307**	P	**P**	**22 14 08.3**	**+0.4**
1.9nm,0.7s,baz=122,slow=9.5,SNR=3.1							
CMIG	**Matias Romero**	**20.42**	**307**	P	**P**	**22 14 08.3**	**+0.4**
LPAZ	**La Paz**	**23.34**	**155**	P	**P**	**22 14 39.0**	**+0.1**
0.6nm,0.5s,mb3.3,baz=324,slow=8.7,SNR=4.0							
SIV	**San Ignacio**	**26.79**	**142**	P	**P**	**22 15 09.6**	**-0.8**
0.9nm,0.5s,mb3.5,baz=333,slow=11,SNR=4.3							
LVC	**Limon Verde**	**28.89**	**162**	*e*P	**P**	**22 15 28.1**	**-0.9**
4.5nm,0.4s,mb4.5							
TXAR	**Lajitas Array**	**34.25**	**318**	P	**P**	**22 16 16.2**	**0.0**
0.6nm,0.9s,mb3.5,baz=128,slow=8.1,SNR=4.2							
PDAR	**Pinedale Array**	**46.83**	**328**	P	**P**	**22 17 59.6**	**-0.2**
0.8nm,0.6s,mb3.8,baz=127,slow=11,SNR=5.5							
LOHW	**Long Hollow**	**47.97**	**328**	*e*P	**P**	**22 18 09.1**	**+0.4**
2.3nm,1.0s,mb4.2							
NVAR	**Mina Array Bea**	**49.40**	**318**	P	**P**	**22 18 20.8**	**+0.9**
1.3nm,0.8s,mb4.0,baz=125,slow=7.0,SNR=8.1							
NVAR	**Mina Array Bea**	**49.40**	**318**	P	**P**	**22 18 20.8**	**+0.9**
ASAR	**Alice Springs**	**144.12**	**236**	PKP	PKPdf	22 29 02.6	-3.6
0.3nm,0.4s,baz=118,slow=3.8,SNR=5.3							

*JMA **27** 22:14:36.4±0.4, 30.78N×143.15E, h68km, M3.9*
*NEIC **27** 22:14:36.4, 30.78N×143.15E, h68km, MG3.9(JMA), After JMA.*
*IDC **27** 22:14:37.3±8.0, 30.24N×141.58E, h0km, mb3.5/4, mb1 3.6/5, mb1mx3.4/20, mbtmp3.5/5, ML3.7/1, MS4.4/1, Ms1 4.4/1, ms1mx2.8/21, Error ellipse: s-maj=217.6km s-min=56.8km az=83.0*

ISC 27 22:14:36.4±3.1, 30.8N±0.1° × 143.3E±0.3, h32km±26km, n11, σ0§73/15, mb3.6/4, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JOD2	**Odawara 2**	**5.73**	**323**	P	**Pn**	**22 15 58.6**	**-0.6**
JOD2				*e*S	**Sn**	**22 17 02.8**	**-1.0**
JHU	**Hanno**	**6.10**	**327**	P	**Pn**	**22 16 04.3**	**0.0**
JHU				*e*S	**Sn**	**22 17 13.3**	**+0.3**
JHO	**Hitachi**	**6.27**	**339**	P	**Pn**	**22 16 07.1**	**+0.5**
JRY	**Ryogami san**	**6.41**	**326**	P	**Pn**	**22 16 09.1**	**+0.5**
JRY				*e*S	**Sn**	**22 17 20.9**	**+0.2**
JAG	**Ashikaga**	**6.51**	**331**	*e*S	**Sn**	**22 17 23.9**	**+0.9**
JFK	**Kawauchi**	**6.89**	**344**	*e*S	**Sn**	**22 17 31.6**	**-1.0**
MJAR	**Matsushiro Arr**	**7.17**	**325**	Pn	**Pn**	**22 16 18.6**	**-0.4**
1.5nm,0.3s,baz=158,slow=11,SNR=23							
MJAR				Sn	**Sn**	**22 17 39.7**	**+0.4**
0.5nm,0.3s,baz=176,slow=17,SNR=6.0							
SONM	**Songino Array**	**32.89**	**312**	P	**P**	**22 21 07.7**	**+0.3**
0.3nm,0.4s,mb3.5,baz=125,slow=8.9,SNR=5.4							
MKAR	**Makanchi Array**	**48.99**	**307**	P	**P**	**22 23 18.4**	**-1.4**
0.6nm,0.8s,mb3.6,baz=78,slow=6.8,SNR=3.8							
MKAR				LR	LR	22 44 23.8	
comp=Z,422nm,21.5s,baz=112,slow=37							
KURK	**Kurchatov**	**51.19**	**312**	P	**P**	**22 23 36.2**	**-0.3**
0.5nm,0.6s,mb3.6,baz=89,slow=7.3,SNR=2.6							
BVAR	**Borovoye Array**	**56.07**	**316**	P	**P**	**22 24 13.6**	**+1.4**
0.3nm,0.4s,mb3.6,baz=101,slow=7.5,SNR=3.2							

*MAN **27** 22:15:33, 11.41N×124.35E, h1km, mb5.4, ML4.4, MS4.4*
MAN INTENSITY IV - BILIRAN ISLAND; INTENSITY III - CALUPIAN, LEYTE.
*ISCJB **27** 22:15:33.7±0.3, 11.51N±0.002×124.38E±0.03, h10km, mb4.5/26, MS4.4/26, Error ellipse: s-maj=4.3km s-min=2.9km az=153.1*
*MOS **27** 22:15:37.4±1.2, 11.41N×124.38E, h41km, mb4.9/6, Error ellipse: s-maj=25.3km s-min=10.7km az=118.7*
*BJI **27** 22:15:42.0, 11.40N×124.40E, h99km, mB5.0, mb4.7*
*IDC **27** 22:15:44.9±3.3, 11.40N×124.31E, h100km±34km, mb4.0/12, mb1 4.0/14, mb1mx3.9/21, mbtmp4.0/14, MS4.3/24, Ms1 4.3/24, ms1mx4.2/29, Error ellipse: s-maj=27.5km s-min=13.3km az=72.0*
*NEIC **27** 22:15:45.0±2.2, 11.43N×124.41E, h99km±23km, mb4.7/10, Error ellipse: s-maj=20.4km s-min=14.1km az=65.0*
NEIC Felt [IV PIVS] on Biliran Island, [III PIVS] at Calubian and [II PIVS] at Leyte and Tacloban. Also felt [II PIVS] at Cebu City, Cebu.
*GCMT **27** 22:15:45.0±0.2, 11.60N×124.45E, h20km±1km, MW5.0/78, Moment Tensor Solution. s25,c31; s78,c121; Duration: 1§0 Moment tensor: Scale 10^16 Nm; Mrr 0.01±.17; Mθθ 3.73±.13; Mφφ -3.74±.14; Mrθ -0.64±.24; Mθφ -1.51±.10; Mφr -0.57±.28; Best double couple: Mo 4.11800×10^16 NP1: φs 326.00000°, δ 78.00000°, λ -1.00000°. NP2: φs 56.00000°, δ 89.00000°, λ -168.00000°. Principal axes: T 4.0910, Plg 7.0000°, Azm 190.0000°; N 0.0500, Plg 78.0000°, Azm 63.0000°; P -4.1450, Plg 9.0000°, Azm 282.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*DJA **27** 22:16:25, 8.46N×123.48E, h168km, mb4.2/8*

ISC 27 22:15:35.1±0.3, 11.45N±0.002×124.36E±0.03, h10km, n97, σ1§30/90, mb4.5/26, MS4.4/26, 3C-6D, Leyte

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OCLP	**Ormoc**	**0.47**	**149**	*e*P	**Pg**	**22 15 44.2**	**-0.1**
PLP	**Palo**	**0.67**	**115**∥	*e*P	**Pg**	**22 15 46.7**	**-1.4**
PLP				*i* S	**Sg**	**22 15 57.6**	**+0.8**
BESP	**Borongan**	**1.06**	**82**	*e*P	**Pg**	**22 15 52.8**	**-2.8**
CNP	**Catarman**	**1.09**	**16**	*e*P	**Pb**	**22 15 52.4**	**-3.7**
MMPH	**Masbate**	**1.15**	**321**∥	*e*P	**Pb**	**22 15 54.0**	**-3.3**
MMPH				*e*S	**Sb**	**22 16 09.8**	**-2.4**
LLP	**Lapu-Lapu**	**1.20**	**199**∥	*e*P	**Pb**	**22 15 56.1**	**-1.8**
LLP				*i* S	**Sb**	**22 16 14.5**	**+1.1**
MSLP	**Maasin**	**1.40**	**160**	*e*P	**Pn**	**22 16 00.7**	**-0.1**
RCP	**Roxas**	**1.59**	**274**∥	*e*P	**Pn**	**22 16 02.8**	**-0.6**
RCP				*e*S	**Sn**	**22 16 24.0**	**0.0**
TBP	**Tagbilaran**	**1.82**	**196**	*e*P	**Pn**	**22 16 05.6**	**-1.0**
TBP				*e*S	**Sn**	**22 16 27.1**	**-2.6**
GUIM	**Jordan**	**1.93**	**245**	*e*P	**Pn**	**22 16 07.7**	**-0.3**
GUIM				*e*S	**Sn**	**22 16 33.9**	**+1.6**
SCPH	**Surigao**	**2.00**	**146**∥	*e*P	**Pn**	**22 16 08.8**	**-0.2**
KALP	**Kalibo**	**2.00**	**277**∥	*e*P	**Pn**	**22 16 06.2**	**-2.7**
PVCP	**Virac**	**2.14**	**355**	*e*P	**Pn**	**22 16 08.4**	**-2.5**
SNPH	**Sibulan**	**2.37**	**208**	*i* P	**Pn**	**22 16 13.5**	**-0.6**
OTRP	**Odiongan**	**2.46**	**292**	*e*P	**Pn**	**22 16 13.7**	**-1.7**
AUQP	**San Andres**	**2.48**	**319**	*e*P	**Pn**	**22 16 16.4**	**+0.8**
CGP	**Cagayan de Oro**	**3.00**	**174**∥	*e*P	**Pb**	**22 16 23.3**	**-5.3**
CGP				*e*S	**Sb**	**22 17 04.8**	**-0.5**
GQP	**Guinayangan**	**3.07**	**323**	*e*P	**Pn**	**22 16 25.5**	**+1.7**
GQP				*e*S	**Sn**	**22 17 04.0**	**+3.4**
SJMP	**San Jose**	**3.33**	**288**	*e*P	**Pn**	**22 16 26.9**	**-0.4**
CUYO	**Cuyo Island**	**3.34**	**260**	*e*P	**Pn**	**22 16 27.1**	**-0.3**
BUKP	**Musuan**	**3.62**	**169**	*e*P	**Pn**	**22 16 32.3**	**+1.0**
PAGZ	**Pagadian**	**3.71**	**195**	*e*P	**Pn**	**22 16 32.8**	**+0.2**
BIPH	**Bislig**	**3.80**	**149**	*e*P	**Pn**	**22 16 35.9**	**+2.1**
POLP	**Polillo Island**	**4.02**	**324**	*e*P	**Pb**	**22 16 41.5**	**-4.6**
BUSP	**Coron**	**4.12**	**278**	*e*P	**Pn**	**22 16 37.3**	**-0.8**
DAV	**Davao City (W)**	**4.52**	**165**	P	**Pb**	**22 16 52.0**	**-2.6**
baz=349,slow=10,SNR=2.7							
DAV				S	**Sn**	**22 17 28.7**	**-7.6**
26nm,0.3s,baz=37,slow=18,SNR=3.1							
LUBP	**Lubang**	**4.62**	**300**	*e*P	**Pn**	**22 16 44.8**	**-0.2**
ENPP	**El Nido**	**4.85**	**268**	*e*P	**Pn**	**22 16 48.3**	**0.0**
MATI	**Mati**	**4.85**	**157**	*e*P	**Pn**	**22 16 51.6**	**+3.3**
PCPH	**Palayan**	**5.17**	**322**	*e*P	**Pb**	**22 17 04.0**	**-1.8**
PPR	**Puerto Princes**	**5.78**	**254**	*e*P	**Pn**	**22 17 03.7**	**+2.6**
CAUP	**Cauayan**	**5.99**	**336**	*e*P	**Pn**	**22 17 03.7**	**-0.2**
JOW	**Kunigami**	**15.73**	**13**	LR	LR	22 24 37.3	
comp=Z,787nm,20.3s,baz=147,slow=34							
QIZ	**Qiongzhong**	**15.90**	**300**	P	**Pn**	**22 19 20.3**	**+1.2**
QIZ				LR	LR		
comp=E,941nm,15.9s							
QIZ				LR	LR		
comp=Z,1μm,20.9s							
KAPI	**Kappang**	**16.99**	**196**	P	**Pn**	**22 19 34.2**	**+1.1**
comp=Z,0.4nm,0.3s,baz=34,slow=8.9,SNR=6.7							
KAPI				LR	LR	22 27 35.6	
comp=Z,824nm,18.1s,baz=40,slow=42							
KSM	**Kuching**	**17.11**	**236**	*e*P	**Pn**	**22 19 39.5**	**+4.8**
GUMO	**Guam**	**20.13**	**82**	LR	LR	22 26 25.9	
comp=Z,517nm,19.6s,MS3.9,baz=89,slow=32							
BATI	**Baumata**	**21.53**	**182**	P	**P**	**22 20 25.9**	**+1.2**
comp=Z,47nm,0.9s,mb4.9,baz=350,slow=6.1,SNR=11							
BATI				LR	LR	22 29 51.7	
comp=Z,602nm,20.5s,MS4.0,baz=5.7,slow=39							
CBIJ	**Chichi jima**	**22.87**	**45**	LR	LR	22 27 10.9	
comp=Z,525nm,20.8s,MS4.0,baz=98,slow=30							
KMI	**Kunming**	**24.57**	**307**	P	**P**	**22 20 50.8**	**-4.6**
KMI				S	**S**	**22 25 13.0**	**-3.5**
KMI				SS		22 26 12.5	
KMI				AMB	AMB		
comp=Z,113nm,3.6s							
KMI				LR	LR		
comp=N,575nm,17.3s,MS4.3							
KMI				LR	LR		
comp=E,644nm,17.3s,MS4.3							
KMI				LR	LR		
comp=Z,752nm,19.6s,MS4.2							
KAKA	**Kakadu**	**25.31**	**161**	*e*P	**P**	**22 20 54.4**	**-7.8**
comp=Z,22nm,0.6s,mb4.9							
CMAR	**Chiang Mai Arr**	**25.51**	**289**	P	**P**	**22 21 03.6**	**-0.4**
comp=Z,2.3nm,1.0s,mb3.7,baz=93,slow=8.2,SNR=11							
CMAR				LR	LR	22 31 50.0	
comp=Z,505nm,18.9s,MS4.1,baz=292,slow=38							
JHJ	**Hachijo jima 2**	**25.79**	**31**	LR	LR	22 28 43.5	
comp=Z,1μm,21.7s,MS4.3,baz=188,slow=30							
KSRS	**Korea Array**	**26.09**	**6**	P	**P**	**22 21 10.1**	**+1.1**
comp=Z,4.1nm,0.9s,mb4.0,baz=186,slow=10,SNR=6.8							
KSRS				LR	LR	22 30 54.4	
comp=Z,640nm,20.7s,MS4.1,baz=199,slow=35							
XAN	**Xi'an**	**26.54**	**330**	P	**P**	**22 21 11.8**	**-1.4**
XAN				AMB	AMB		
comp=Z,12nm,0.8s,mb4.5							
XAN				LR	LR		
comp=E,1μm,21.2s							
XAN				LR	LR		
comp=Z,1μm,18.3s,MS4.5							
MJAR	**Matsushiro Arr**	**27.93**	**24**	LR	LR	22 30 32.2	

KBL Kabul 55.12 304 *e*P **P** **22 25 07.7 -0.2**
comp=Z,5.0nm,0.8s,mb4.6
BVAR Borovoye Array 59.63 326 P **P** **22 25 38.3 -1.0**
comp=Z,3.4nm,1.0s,mb4.3,baz=112,slow=6.6,SNR=9.1
BRVK Borovoye 59.71 326 *e*P **P** **22 25 39.6 -0.2**
BRVK pmax pmax
comp=Z,15nm,1.0s,mb5.0
BRVK Borovoye 59.71 326 *e*P **P** **22 25 39.6 -0.3**
comp=Z,15nm,1.0s,mb5.0
BILL Bilibino 62.79 16 P **P** **22 26 02.0 +1.5**
ARU Arti 67.21 327 *d i*P **P** **22 26 29.1 -0.4**
ARU *e*S S 22 35 24.4 +0.3
ARU *e*SS SS 22 39 38.8 -4.5
ARU pmax pmax
comp=Z,8.0nm,1.2s,mb4.6
ARU Arti 67.21 327 *e*P **P** **22 26 28.1 -1.4**
comp=Z,5.8nm,0.8s,mb4.7
KIV Kislovodsk 76.18 313 *e*P **P** **22 27 25.0 +1.3**
KIV pmax pmax
comp=Z,14nm,1.4s,mb4.7
KIV MLR MLR
comp=Z,200nm,18.0s,MS4.5
OBN Obninsk 79.45 324 P **P** **22 27 43.0 +1.3**
ARCES ARCESS Array B 82.44 339 LR LR 23 04 10.8
comp=Z,250nm,21.3s,MS4.5,baz=273,slow=35
SPITS Spitsbergen Ar 82.50 349 LR LR 23 07 47.5
comp=Z,276nm,19.5s,MS4.6,baz=70,slow=38
AKASG Malin Array Be 84.47 320 P **P** **22 28 08.3 +0.2**
comp=Z,0.2nm,0.3s,mb3.8,baz=67,slow=4.5,SNR=5.4
AKASG LR LR 23 05 56.0
comp=Z,188nm,20.0s,MS4.5,baz=60,slow=36
KMBO Kilima Mbogo 87.39 268 LR LR 23 10 06.4
comp=Z,146nm,18.0s,MS4.4,baz=120,slow=37
PPT Papeete 89.71 108 *e*LR LR 22 57 08.1
comp=Z,244nm,30.8s
PPT Papeete 89.71 108 LR LR 23 07 23.6
comp=Z,130nm,18.1s,MS4.4,baz=345,slow=34
HFS Hagfors 90.14 332 LR LR 23 12 55.0
comp=Z,282nm,18.7s,MS4.7,baz=71,slow=38
MAW Mawson 90.17 200 LR LR 23 05 48.4
comp=Z,114nm,20.7s,MS4.3,baz=244,slow=33
NOA NORSAR Array B 90.87 333 LR LR 23 12 39.3
comp=Z,292nm,20.2s,MS4.7,baz=30,slow=38
TBI Tubuai 91.01 113 *e*LR LR 22 57 49.4
comp=Z,203nm,25.0s
JMIC Jan Mayen 91.85 346 LR LR 23 14 51.8
comp=Z,153nm,18.6s,MS4.5,baz=81,slow=39
YKA Yellowknife Ar 93.44 23 LR LR 23 19 01.3
comp=Z,39nm,18.1s,MS3.9,baz=100,slow=41
GERES GERESS Array B 94.61 322 P **P** **22 28 58.2 +1.9**
comp=Z,0.4nm,0.7s,mb4.0,baz=93,slow=4.9,SNR=3.5
GERES LR LR 23 11 55.5
comp=Z,240nm,20.1s,MS4.7,baz=69,slow=36
DAVOX Davos/Dischmat 97.81 321 LR LR 23 21 20.6
comp=Z,238nm,19.9s,MS4.7,baz=174,slow=40
BORG Borgarnes 99.74 346 LR LR 23 23 26.4
comp=Z,272nm,19.5s,MS4.8,baz=95,slow=41

NIED ***27*** *23:06:00, 2350N× 12380E, h11km, Mw4.6 Best double couple: M0 7.86000×10^15 NP1:φs 11.00000°, δ72.00000°, λ121.00000°. NP2:φs 128.00000°, δ35.00000°, λ32.00000°.*
JMA ***27*** *23:06:00.8± 0.3, 2346N× 12382E, h39km± 3km, M4.5*
ISCJB ***27*** *23:06:02.2± 0.9, 2356N± 006× 12380E± 004, h42km± 6km, mb4.7/57, MS3.8/16, Error ellipse: s-maj=9.4km s-min=5.5km az=167.2*
BJI ***27*** *23:06:02.0, 2382N× 12386E, h34km, mB4.7, mb4.5, ML4.5, Ms4.2, Msz3.9*
MOS ***27*** *23:06:03.6± 0.8, 2399N× 12362E, h33km, mb5.0/20, Error ellipse: s-maj=12.3km s-min=5.8km az=124.2*
IDC ***27*** *23:06:04.8± 0.9, 2368N× 12363E, h43km± 6km, mb4.3/18, mb1 4.3/20, mb1mx4.2/26, mbtmp4.2/20, ML3.6/2, MS3.7/17, Ms1 3.8/17, ms1mx3.5/41, Error ellipse: s-maj=19.1km s-min=16.9km az=68.0*
NEIC ***27*** *23:06:05.2± 0.3, 2372N× 12370E, mb4.7/21, MW4.5(NIED), Error ellipse: s-maj=8.2km s-min=5.7km az=164.0*
ISC 27 23:06:02.5± 0.9, **2355N**× 004× **12385E**± 004, **h32**km± 5km, **h42**km± 1.3km; **pP-P, n177**, σ 0.97/182, **mb4.7**/57, **MS3.8**/16, **15C-12D, Southwestern Ryukyu Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res	ISC
				Op			h m s		
HATJ	**Hateruma jima**	**0.51**	**356**	P		**Pb**	**23 06 12.7**	**-0.4**	
HATJ				*e*S		**Sb**	**23 06 21.1**	**+0.7**	
JKRS	**Kuro-shima**	**0.70**	**12**	P		**Pn**	**23 06 16.1**	**-0.1**	
JKRS				*e*S		**Sb**	**23 06 27.0**	**+1.3**	
IRIF	**Iriomote-Funau**	**0.79**	**352**	P		**Pn**	**23 06 16.9**	**-0.5**	
IRIF				*e*S		**Sn**	**23 06 28.9**	**+0.8**	
JIJ	**Ishigaki jima**	**0.85**	**19**	P		**Pn**	**23 06 17.8**	**-0.5**	
JIJ				*e*S		**Sn**	**23 06 29.5**	**-0.2**	
YOJ	**Yonaguni jima**	**1.19**	**320**	P		**Pn**	**23 06 22.2**	**-0.7**	
YOJ				*e*S		**Sn**	**23 06 37.5**	**-0.4**	
JTJ	**Tarama**	**1.34**	**36**	P		**Pn**	**23 06 24.7**	**-0.3**	
JTJ				*e*S		**Sn**	**23 06 42.9**	**+1.2**	
JMJ	**Miyako jima 2**	**1.83**	**46**	P		**Pn**	**23 06 31.2**	**-0.5**	
JMJ				*e*S		**Sn**	**23 06 54.7**	**+1.0**	
JOGS	**Gusukube**	**1.87**	**49**	P		**Pn**	**23 06 31.9**	**-0.3**	
JOGS				*e*S		**Sn**	**23 06 56.2**	**+1.5**	
TATO	**Taipei**	**2.58**	**304**	*e*Pn		**Pn**	**23 06 41.7**	**-0.3**	
JKE	**Kume jima 2**	**3.84**	**43**	P		**Pn**	**23 06 57.2**	**-2.2**	
JAGN	**Aguni-jima**	**4.32**	**45**	P		**Pn**	**23 07 04.3**	**-1.6**	
QZH	**Quanzhou**	**4.99**	**287**	P		**Pn**	**23 07 13.8**	**-1.4**	
QZH				Smax					
	comp=N,750nm,0.6s								
QZH				Smax					
	comp=E,500nm,0.4s								
QZH				LR		LR			
	comp=N,1μm,7.6s								
QZH				LR		LR			
	comp=E,2μm,13.9s								
QZH				LR		LR			
	comp=Z,2μm,14.7s								
JOW	**Kunigami**	**5.17**	**50**	P		**Pn**	**23 07 15.4**	**-2.3**	
	comp=Z,12nm,0.3s,baz=206,slow=11,SNR=21								
JOW				S		**Sn**	**23 08 13.1**	**-3.3**	
	comp=Z,5.2nm,0.3s,baz=156,slow=20,SNR=3.2								
JOW				LR		LR	23 09 50.7		
	comp=Z,952nm,18.2s,baz=272,slow=43								
JOW	**Kunigami**	**5.17**	**50**	P		**Pn**	**23 07 15.0**	**-2.7**	
CVP	**Callao Caves**	**6.12**	**198**	*e*P		**Pn**	**23 07 28.0**	**-2.7**	
CVP				*e*S		**Sn**	**23 08 30.2**	**-9.4**	
JTK	**Tokunoshima**	**6.25**	**46**	P		**Pn**	**23 07 28.8**	**-3.6**	
JTK				*e*S		**Sn**	**23 08 37.8**	**-4.9**	
JMZ	**Minamidaito 2**	**7.08**	**70**	P		**Pn**	**23 07 39.7**	**-4.2**	
JAM	**Amami Oshima**	**7.09**	**46**	P		**Pn**	**23 07 40.3**	**-3.8**	
JAM				*e*S		**Sn**	**23 08 51.2**	**-12**	
NJ2	**Nanjing**	**9.55**	**334**	*e*P		**Pn**	**23 08 13.5**	**-4.3**	
NJ2				S		**Sn**	**23 09 51.8**	**-12**	
NJ2				AMB		AMB			
	comp=Z,20nm,0.8s								
NJ2				AMB		AMB			
	comp=Z,270nm,6.1s								
NJ2				LR		LR			
	comp=N,290nm,19.3s								
NJ2				LR		LR			
	comp=E,450nm,18.5s								
NJ2				LR		LR			
	comp=Z,470nm,18.6s								
KSRS	**Korea Array**	**14.29**	**13**	P		**Pn**	**23 09 23.4**	**+0.7**	
	comp=Z,0.1nm,0.3s,baz=199,slow=12,SNR=8.5								
DAV	**Davao City (W)**	**16.47**	**174**	LR		LR	23 15 37.1		
	comp=Z,158nm,20.3s,baz=332,slow=34								
XAN	**Xi'an**	**16.72**	**312**	P		**Pn**	**23 09 56.5**	**+2.1**	
XAN				AP		pP	23 10 06.5	+1.7	
XAN				AMB		AMB			
	comp=Z,16nm,1.1s								
XAN				AMB		AMB			
	comp=Z,110nm,5.5s								
XAN				LR		LR			
	comp=N,233nm,19.0s								
XAN				LR		LR			
	comp=E,278nm,17.8s								
XAN				LR		LR			
	comp=Z,497nm,14.0s								
MAT	**Matsushiro**	**17.92**	**40**	P		**Pn**	**23 10 10.5**	**+1.2**	
MJAR	**Matsushiro Arr**	**17.92**	**40**	P		**Pn**	**23 10 10.8**	**+1.5**	
MJAR				LR		LR	23 17 09.6		
	comp=Z,2.0nm,0.3s,baz=223,slow=9.1,SNR=9.8								
	comp=Z,236nm,18.4s,baz=235,slow=37								
BTO	**Baotou**	**20.60**	**329**	*e*P		**P**	**23 10 38.3**	**-0.6**	
LZH	**Lanzhou**	**21.33**	**310**	*e*P		**P**	**23 10 48.0**	**+1.1**	
LZH				AP			23 10 52.0		
LZH				XP		sP	23 10 55.5	-4.0	
LZH				AMB		AMB			
	comp=Z,42nm,1.5s,mb4.5								
LZH				AMB		AMB			
	comp=Z,195nm,5.0s								
GUMO Guam		**22.23**	**113**	LR		LR	23 18 16.0		
	comp=Z,122nm,19.1s,MS3.3,baz=269,slow=33								
CHTO Chiang Mai		**23.68**	**263**	*e*P		**P**	**23 11 12.0**	**+0.4**	
CHTO				*e**PP			23 11 23.5		
CHTO				pmax		pmax			
	comp=Z,17nm,1.5s,mb4.2								
CHTO Chiang Mai		**23.68**	**263**	*e*P		**P**	**23 11 12.0**	**+0.4**	
	comp=Z,17nm,1.5s,mb4.2								
CHTO				*e*pP			23 11 23.5		
CMAR Chiang Mai Arr		**23.78**	**262**	P		**P**	**23 11 12.2**	**-0.3**	
	comp=Z,1.3nm,0.3s,mb3.8,baz=63,slow=7.0,SNR=5.0								
CMAR				LR		LR	23 20 11.7		
	comp=Z,129nm,20.4s,MS3.4,baz=112,slow=36								
ASAJ Asahikawa		**25.64**	**32**	P		**P**	**23 11 29.7**	**+0.5**	
	comp=Z,5.6nm,0.5s,mb4.3,baz=230,slow=27,SNR=4.9								
GTA Gaotai		**25.77**	**313**	*e*P		**P**	**23 11 29.5**	**-0.9**	
GTA				AMB		AMB			
	comp=Z,4.0nm,0.9s,mb4.0								
GTA				AMB		AMB			
	comp=Z,110nm,3.9s								
GTA				LR		LR			
	comp=N,292nm,15.6s,MS4.0								
GTA				LR		LR			
	comp=E,199nm,13.5s,MS4.0								
GTA				LR		LR			
	comp=Z,271nm,15.9s,MS3.9								
HIA Hailar		**25.87**	**354**	*e*P		**P**	**23 11 29.8**	**-1.4**	
HIA				pmax		pmax			
	comp=Z,26nm,0.8s								
HIA Hailar		**25.87**	**354**	*e*P		**P**	**23 11 29.8**	**-1.4**	
	comp=Z,26nm,0.8s,mb4.8								
HABR Khabarovsk		**26.41**	**17**	*e*P		**P**	**23 11 30.4**	**-5.7**	
HABR				*e*S		**S**	**23 15 59.2**	**-8.2**	
ULN Ulaanbaatar		**27.71**	**335**	*e*P		**P**	**23 11 46.8**	**-1.0**	
ULN				pmax		pmax			
	comp=Z,3.0nm,0.5s,mb4.2								
ULN Ulaanbaatar		**27.71**	**335**	*e*P		**P**	**23 11 46.8**	**-1.0**	
	comp=Z,3.5nm,0.5s,mb4.2								
SONM Songino Array		**27.94**	**334**	P		**P**	**23 11 48.9**	**-0.9**	
	comp=Z,5.5nm,0.7s,mb4.3,baz=146,slow=9.8,SNR=21								
SONM				pP		pP	23 12 01.6	+2.6	
	comp=Z,2.7nm,0.8s,baz=150,slow=10,SNR=4.8								
SONM				LR		LR	23 24 32.9		
	comp=Z,258nm,19.0s,MS3.8,baz=0.7,slow=40								
SONM Songino Array		**27.94**	**334**	P		**P**	**23 11 48.9**	**-0.9**	
SONM				**PP		pP	23 12 01.6	+2.5	
KAPI Kappang		**28.67**	**189**	LR		LR	23 25 02.5		
	comp=Z,49nm,19.8s,MS3.1,baz=258,slow=40								
LSA Lhasa		**29.80**	**289**	*e*P		**P**	**23 12 08.5**	**+1.9**	
LSA Lhasa		**29.80**	**289**	*e*P		**P**	**23 12 07.7**	**+1.1**	
LSA				pmax		pmax			
	comp=Z,8.0nm,0.7s,mb4.6								
LSA Lhasa		**29.80**	**289**	*e*P		**P**	**23 12 07.7**	**+1.2**	
	comp=Z,8.2nm,0.7s,mb4.6								
ZAK Zakamensk		**31.21**	**334**	P		**P**	**23 12 14.3**	**-4.5**	
TLY Talaya		**32.10**	**336**	*e*P		**P**	**23 12 26.3**	**-0.3**	
TLY				pmax		pmax			
	comp=Z,6.0nm,0.6s,mb4.6								
TLY				MLR		MLR			
	comp=Z,170nm,16.0s,MS3.8								
TAPN Taplejung		**32.78**	**284**	*e*P		**P**	**23 12 33.6**	**+0.8**	
	comp=Z,10nm,0.6s,mb4.9								
ODAN Odare		**33.08**	**283**	*e*P		**P**	**23 12 35.9**	**+0.4**	
	comp=Z,15nm,0.8s,mb5.0								
RAMN Ramite		**33.78**	**284**	*e*P		**P**	**23 12 42.5**	**+0.9**	
JIRN Jiri		**34.12**	**285**	*e*P		**P**	**23 12 44.9**	**+0.4**	
	comp=Z,8.6nm,0.6s,mb4.8								
GUN Gumba		**34.38**	**285**	*e*P		**P**	**23 12 46.9**	**+0.1**	
PKI Pulchoki		**34.81**	**285**	*e*P		**P**	**23 12 51.0**	**+0.5**	
KKN Kakani		**34.92**	**285**	*e*P		**P**	**23 12 51.5**	**+0.1**	
BOD Bodaibo		**34.97**	**351**	*e*P		**P**	**23 12 49.4**	**-2.0**	
BOD				pmax		pmax			
	comp=Z,5.0nm,1.4s,mb4.2								
DMN Daman		**35.08**	**285**	*e*P		**P**	**23 12 52.8**	**0.0**	
GKN Gorkha		**35.48**	**286**	*e*P		**P**	**23 12 55.9**	**-0.4**	
DANN Dangsing		**36.24**	**286**	*e*P		**P**	**23 13 02.7**	**-0.1**	
	comp=Z,45nm,1.3s,mb5.2								
KOLN Kolđanda		**36.41**	**285**	*e*P		**P**	**23 13 04.2**	**0.0**	
	comp=Z,7.0nm,0.7s,mb4.7								
YAK Yakutsk		**38.67**	**4**	*e*P		**P**	**23 13 21.1**	**-1.8**	
YAK				pmax		pmax			
	comp=Z,10.0nm,0.7s,mb4.7								
PETK Petropavlovsk-		**39.06**	**32**	P		**P**	**23 13 26.9**	**+0.6**	
	comp=Z,1.0nm,0.6s,mb3.7,baz=190,slow=7.3,SNR=7.6								
PETK				LR		LR	23 30 48.9		
	comp=Z,37nm,18.2s,MS3.2,baz=71,slow=38								
KRAR Krasnoyarsk		**39.59**	**333**	*e*P		**P**	**23 13 29.2**	**-1.5**	
MK31 Makanchi Array		**40.49**	**315**	*i* P		**P**	**23 13 37.6**	**-0.7**	
MK31				pmax		pmax			
	comp=Z,7.0nm,0.6s,mb4.6								
MKAR Makanchi Array		**40.49**	**315**	P		**P**	**23 13 37.7**	**-0.6**	
	comp=Z,5.0nm,0.4s,mb4.6,baz=98,slow=9.4,SNR=142								
MKAR				pP		pP	23 13 50.1	+2.4	
	comp=Z,2.8nm,0.5s,baz=99,slow=9.4,SNR=6.1								
MKAR Makanchi Array		**40.49**	**315**	P		**P**	**23 13 37.7**	**-0.6**	
MKAR				pP		pP	23 13 50.1	+2.4	
ZALV Zalesovo Beam		**42.11**	**326**	P		**P**	**23 13 49.9**	**-1.5**	
	comp=Z,9.3nm,0.5s,mb4.7,baz=108,slow=8.1,SNR=63								
ZALV Zalesovo Beam		**42.11**	**326**	P		**P**	**23 13 49.9**	**-1.5**	
TKM2 Tokmak 2		**44.07**	**308**	P		**P**	**23 14 08.7**	**+1.2**	
SNR=26									
KURK Kurchatov		**44.15**	**320**	P		**P**	**23 14 07.5**	**-0.4**	
	comp=Z,9.1nm,0.6s,mb4.7,baz=114,slow=7.2,SNR=38								
KBK Karagaybulak		**44.50**	**308**	P		**P**	**23 14 12.1**	**+1.2**	
SNR=15									
CHMS Chumysh		**44.70**	**308**	P		**P**	**23 14 13.6**	**+1.1**	
SNR=9.7									
UCH Uchtor		**44.75**	**307**	P		**P**	**23 14 15.5**	**+2.6**	
SNR=6.4									
AAK Ala-Archa		**44.83**	**307**	P		**P**	**23 14 14.9**	**+1.4**	
SNR=9.2									
AML Almayashu		**45.34**	**307**	P		**P**	**23 14 19.4**	**+1.8**	
SNR=12									
EKS2 Erkin-Say		**45.35**	**307**	P		**P**	**23 14 18.6**	**+0.9**	
SNR=7.7									
KK31 Karatay Array		**47.79**	**308**	*i* P		**P**	**23 14 36.9**	**+0.1**	
KK31				pmax		pmax			
	comp=Z,8.0nm,0.4s,mb5.1								
ASAR Alice Springs		**47.94**	**168**	P		**P**	**23 14 39.9**	**+1.8**	
	comp=Z,1.7nm,1.0s,mb4.0,baz=346,slow=13,SNR=9.5								
CTA Charters Tower		**48.56**	**151**	LR		LR	23 32 25.1		
	comp=Z,80nm,20.8s,MS3.7,baz=49,slow=32								
KBL Kabul		**48.63**	**296**	*e*P		**P**	**23 14 44.0**	**+0.5**	
KBL				pmax		pmax			
	comp=Z,7.0nm,0.7s,mb4.8								
KBL Kabul		**48.63**	**296**	*e*P		**P**	**23 14 44.0**	**+0.5**	
	comp=Z,6.6nm,0.7s,mb4.8								
VOSK Vostochnaya		**49.28**	**320**	P		**P**	**23 14 48.0**	**-0.2**	
VOSK				pmax		pmax			
	comp=Z,6.0nm,0.6s,mb4.8								
BVAR Borovoye Array		**49.71**	**320**	P		**P**	**23 14 51.0**	**-0.4**	
	comp=Z,7.0nm,0.5s,mb4.9,baz=107,slow=8.0,SNR=58								
BVAR				LR		LR	23 35 55.4		
	comp=Z,83nm,20.9s,MS3.7,baz=108,slow=36								
BRVK Borovoye		**49.78**	**321**	*e*P		**P**	**23 14 51.5**	**-0.4**	
BRVK				pmax		pmax			
	comp=Z,16nm,0.6s,mb5.2								
BRVK Borovoye		**49.78**	**321**	*e*P		**P**	**23 14 51.5**	**-0.4**	
	comp=Z,16nm,0.6s,mb5.2								
AB31 Akbulak array		**55.62**	**315**	*i* P		**P**	**23 15 35.0**	**-0.2**	
AB31				pmax		pmax			
	comp=Z,20nm,0.5s,mb5.4								
SVE Sverdlovsk		**55.99**	**324**	⇑*e*P		**P**	**23 15 38.1**	**+0.4**	
SVE				pmax		pmax			
	comp=Z,32nm,1.0s,mb5.3								
ARU Arti		**57.08**	**323**	*c i*P		**P**	**23 15 44.9**	**-0.5**	
ARU				*e*			23 17 47.7		
ARU				*e*S		**S**	**23 23 35.5**	**-2.5**	
ARU				*e*SS		SS	23 27 17.2	-9.5	
ARU				pmax		pmax			
	comp=Z,33nm,1.0s,mb5.3								
ARU Arti		**57.08**	**323**	*e*P		**P**	**23 15 44.8**	**-0.6**	
	comp=Z,32nm,0.8s,mb5.4								
STKA Stephens Creek		**57.67**	**162**	P		**P**	**23 15 52.8**	**+3.0**	
	comp=Z,6.2nm,1.1s,mb4.6,baz=323,slow=15,SNR=2.8								
KLMR Klimovskoe		**66.99**	**328**	*e*P		**P**	**23 16 50.5**	**-1.4**	
KLMR				pmax		pmax			
	comp=Z,27nm,1.6s,mb5.0								
KDAK Kodiak Island		**67.01**	**35**	P		**P**	**23 16 55.0**	**+2.9**	
	comp=Z,8.2nm,0.9s,mb4.8,baz=285,slow=13,SNR=4.6								
GNI Garni		**67.16**	**305**	LR		LR	23 48 25.9		
	comp=Z,46nm,18.1s,MS3.7,baz=310,slow=38								
GNI Garni		**67.16**	**305**	*e*P		**P**	**23 16 54.5**	**+1.1**	
GNI				pmax		pmax			
	comp=Z,13nm,1.0s								
GNI Garni		**67.16**	**305**	*e*P		**P**	**23 16 54.5**	**+1.1**	
	comp=Z,13nm,1.0s,mb4.9								
MIB Mutribah		**67.51**	**294**	*e*P		**P**	**23 16 55.0**	**-0.7**	
baz=294									
MIB				AMb		AMB	23 16 56.0		
	comp=Z,11nm,0.8s,mb4.9,baz=294								
RDF Al-Radifah		**67.56**	**293**	*e*P		**P**	**23 16 55.2**	**-0.9**	
baz=293									
RDF				AMb		AMB	23 16 56.0		
	comp=Z,23nm,0.8s,mb5.3,baz=293								
NAY Al-Naaiem		**67.73**	**293**	*e*P		**P**	**23 16 56.3**	**-1.0**	
baz=293									
NAY				AMb		AMB	23 16 57.3		
	comp=Z,8.0nm,0.8s,mb4.8,baz=293								
KIV Kislovodsk		**67.87**	**310**	*c i*P		**P**	**23 16 58.4**	**+0.6**	
KIV				*i*			23 17 11.2		
KIV				pmax		pmax			
	comp=Z,21nm,0.8s,mb5.2								
KIV Kislovodsk		**67.87**	**310**	⇑*i*P		**P**	**23 16 58.6**	**+0.8**	
KIV Kislovodsk		**67.87**	**310**	⇑P		**P**	**23 16 58.6**	**+0.8**	
COLA College		**68.23**	**27**	*e*P		**P**	**23 16 59.8**	**+0.1**	
MOS Moscow		**68.79**	**323**	*e*P		**P**	**23 17 02.6**	**-0.7**	
OBN Obninsk		**69.50**	**322**	P		**P**	**23 17 08.0**	**+0.3**	
OBN				*e*		pP	23 17 19.0	+1.3	
OBN				pmax		pmax			
	comp=Z,36nm,1.7s,mb5.0								
JOF Joensuu		**70.45**	**331**	*ep*		**P**	**23 17 12.9**	**-0.5**	
	comp=Z,5.4nm,0.5s,mb4.7								
KEV Kevo		**70.46**	**338**	*ep*		**P**	**23 17 12.9**	**-0.5**	
SPITS Spitsbergen Ar		**70.61**	**348**	P		**P**	**23 17 14.7**	**+0.4**	
	comp=Z,6.6nm,0.5s,mb4.8,baz=7.8,slow=9.3,SNR=17								
ARCES ARCESS Array B		**71.03**	**338**	P		**P**	**23 17 16.7**	**-0.2**	
	comp=Z,8.2nm,1.2s,mb4.5,baz=66,slow=5.9,SNR=8.2								
ARCES ARCESS Array B		**71.03**	**338**	P		**P**	**23 17 16.7**	**-0.2**	
EGAK Eagle		**71.05**	**27**	*e*P		**P**	**23 17 18.7**	**+0.7**	
	comp=Z,4.5nm,0.8s,mb4.5								
ANN Anapa		**71.34**	**311**	*e*P		**P**	**23 17 17.9**	**-1.3**	
ANN				pmax		pmax			
	comp=Z,62nm,1.2s,mb5.4								
DAWY Dawson		**71.98**	**27**	*e*P		**P**	**23 17 23.9**	**+1.2**	
DAWY				*e*pP		pP	23 17 37.0	+4.3	
KAF Kangasniemi		**72.90**	**331**	*ep*		**P**	**23 17 28.4**	**+0.2**	
	comp=Z,2.3nm,0.5s,mb4.4								
KAF Kangasniemi		**72.90**	**331**	*e*P		**P**	**23 17 28.4**	**+0.2**	
KAF				pmax		pmax			
	comp=Z,2.0nm,0.5s,mb4.3								
AKASG Malin Array Be		**74.95**	**319**	P		**P**	**23 17 39.5**	**-0.9**	
	comp=Z,6.6nm,0.7s,mb4.7,baz=59,slow=5.9,SNR=16								
AKASG				pP		pP	23 17 52.2	+1.8	
	comp=Z,3.0nm,0.7s,baz=58,slow=6.6,SNR=3.7								
ASF Jabal al Asfar		**75.41**	**299**	LR		LR	23 56 42.9		
	comp=Z,41nm,20.1s,MS3.7,baz=60,slow=40								
BR131 Keskin Array S		**75.50**	**307**	*e*P		**P**	**23 17 43.9**	**0.0**	
	comp=Z,3.4nm,0.7s,mb4.4								
BR131				*e*			23 17 57.1		
TLCR		**77.06**	**314**	⇓*i*P		**P**	**23 17 52.4**	**-0.1**	
TLCR		**77.06**	**314**	⇓P		**P**	**23 17 52.4**	**-0.1**	
EIL Elat		**77.81**	**297**	LR		LR	23 55 35.2		
	comp=Z,42nm,18.8s,MS3.8,baz=74,slow=38								
HARR Harsova		**77.82**	**313**	⇑*i*P		**P**	**23 17 57.0**	**+0.2**	
VRI Vrincioaia		**78.19**	**315**	⇓*i*P		**P**	**23 17 59.8**	**+1.0**	
VRI Vrincioaia		**78.19**	**315**	⇓P		**P**	**23 17 59.8**	**+1.0**	
PLOR Plostina		**78.24**	**315**	⇑*i*P		**P**	**23 18 00.0**	**+0.9**	
BUR08 Bucovina Ar. S		**78.50**	**317**	*e*P		**P**	**23 18 00.3**	**-0.1**	
BURAR Bucovina Array		**78.50**	**317**	⇑*i*P		**P**	**23 18 00.3**	**-0.2**	
BURAR Bucovina Array		**78.50**	**317**	⇑P		**P**	**23 18 00.3**	**-0.2**	
MLR Muntele Rosu		**78.83**	**315**	⇑*i*P		**P**	**23 18 02.4**	**0.0**	
MLR Muntele Rosu		**78.83**	**315**	⇑P		**P**	**23 18 02.4**	**0.0**	
KWP Kalwaria		**79.25**	**320**	⇓*i*P		**P**	**23 18 04.9**	**+0.3**	
KWP Kalwaria		**79.25**	**320**	⇓P		**P**	**23 18 05.0**	**+0.4**	
HFS Hagfors		**79.30**	**331**	P		**P**	**23 18 04.2**	**-0.4**	
	comp=Z,2.7nm,0.7s,mb4.3,baz=81,slow=9.3,SNR=9.0								
HFS				LR		LR	23 55 51.5		
	comp=Z,255nm,18.8s,MS4.6,baz=153,slow=38								
VOIR		**79.44**	**315**	⇑*i*P		**P**	**23 18 04.9**	**-0.8**	
VOIR		**79.44**	**315**	⇑P		**P**	**23 18 04.9**	**-0.8**	
KOLS Kolonicke sedl		**79.79**	**319**	*e*P		**P**	**23 18 09.8**	**+2.3**	
NB2 NORSAR Subarra		**79.91**	**333**	P		**P**	**23 18 08.5**	**+0.6**	
	comp=Z,1.4nm,0.5s,mb4.2,baz=53,slow=5.9								
NOA NORSAR Array B		**79.91**	**333**	P		**P**	**23 18 07.3**	**-0.6**	
	comp=Z,3.3nm,0.8s,mb4.3,baz=56,slow=5.4,SNR=7.5								
NOA				LR		LR	23 58 11.5		
	comp=Z,88nm,18.0s

NEIC 27 23:25:42.3, 3954S×17436E, h158km, MG4.0(WEL), **After WEL., North Island**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAEZ	**Rainy Point**	**0.25**	**6**	P	Pn	23 26 03.4	-0.3
DFE	**Dawson Falls**	**0.29**	**317**	P	Pn	23 26 03.7	0.0
NEZ	**North Egmont**	**0.34**	**323**	P	Pn	23 26 03.9	0.0
NEZ				S	Sn	23 26 20.4	+0.1
PKE	**Pukeiti**	**0.45**	**320**	P	Pn	23 26 04.1	-0.2
NWEZ	**Newall Road**	**0.47**	**305**	P	Pn	23 26 04.2	-0.2
VRZ	**Vera Road**	**0.52**	**37**	P	Pn	23 26 03.9	-0.7
WAZ	**Wanganui**	**0.53**	**114**	P	Pn	23 26 04.9	+0.3
WPVZ	**Whakapapa**	**0.98**	**70**	P	Pn	23 26 07.6	0.0
WNVZ	**Wahianoa**	**0.98**	**78**	P	Pn	23 26 07.8	+0.2
NGZ	**Ngauruhoe**	**1.03**	**70**	P	Pn	23 26 08.0	0.0
TUVZ	**Tukino**	**1.04**	**75**	P	Pn	23 26 08.5	+0.4
MOVZ	**Moawhango**	**1.09**	**83**	P	Pn	23 26 08.2	-0.3
HIZ	**Hauiti**	**1.09**	**21**	P	Pn	23 26 07.8	-0.8
KATZ	**Kakaramea**	**1.18**	**62**	P	Pn	23 26 09.4	+0.1
TSZ	**Takapari Road**	**1.34**	**113**	P	Pn	23 26 10.9	+0.1
KIW	**Kapiti Island**	**1.39**	**163**	P	Pn	23 26 11.3	0.0
MRZ	**Mangatainoka R**	**1.46**	**141**	P	Pn	23 26 12.1	+0.1
TCW	**Tory Channel**	**1.67**	**182**	P	Pn	23 26 14.3	+0.1
BKZ	**Black Stump Fm**	**1.69**	**78**	P	Pn	23 26 14.2	-0.3
MRW	**Makara Radio**	**1.71**	**171**	P	Pn	23 26 14.6	0.0
WEL	**Wellington**	**1.77**	**170**	P	Pn	23 26 15.2	-0.1
SNZO	**South Karori**	**1.79**	**172**	P	Pn	23 26 15.3	-0.2
NNZ	**Nelson**	**1.84**	**204**	P	Pn	23 26 15.5	-0.5
MTW	**Mount Morrison**	**1.84**	**152**	P	Pn	23 26 15.8	-0.2
QRZ	**Quartz Range**	**1.90**	**227**	P	Pn	23 26 15.7	-1.0
MSWZ	**Moikau Station**	**1.99**	**160**	P	Pn	23 26 17.5	-0.3
PAWZ	**Paruwai Farm**	**2.01**	**156**	P	Pn	23 26 17.8	-0.2
BSWZ	**Blackbirch Sta**	**2.20**	**189**	P	Pn	23 26 20.1	-0.1
THZ	**Tophouse**	**2.48**	**206**	P	Pn	23 26 22.5	-1.0
MWZ	**Matawai**	**2.75**	**65**	P	Pn	23 26 25.5	-1.3
DSZ	**Denniston Nort**	**2.94**	**221**	P	Pn	23 26 27.8	-1.3
KHZ	**Kahutara**	**2.94**	**192**	P	Pn	23 26 28.4	-0.8
LTZ	**Lake Taylor**	**3.60**	**205**	P	Pn	23 26 35.5	-2.0
MQZ	**McQueen's Vall**	**4.36**	**197**	P	Pn	23 26 44.1	-3.2
WVZ	**Waitaha Valley**	**4.46**	**217**	P	Pn	23 26 46.9	-1.8
ODZ	**Otahua Downs**	**6.15**	**205**	P	Pn	23 27 08.5	-2.4
JCZ	**Jackson Bay**	**6.17**	**221**	P	Pn	23 27 07.8	-3.4

NIED ***27*** *23:49:00, 41.90N×134.30E, h480km, Mw4.4 Best double couple: M₀4.57000×10¹⁵ NP1:φ₁145.00000°, δ64.00000°, λ108.00000°. NP2:φ₂289.00000°, δ31.00000°, λ58.00000°.*

JMA ***27*** *23:49:54.8±0.3, 41.94N×134.34E, h495km, M4.2*

MOS ***27*** *23:49:54.9±1.0, 42.14N×133.84E, h447km, mb4.1/17, Error ellipse: s-maj=11.5km s-min=8.3km az=90.2*

ISCJB ***27*** *23:49:54.8±0.2, 42.12N±004×133.83E±003, h443km±2km, mb4.1/58, Error ellipse: s-maj=6.4km s-min=3.3km az=161.2*

SKHL ***27*** *23:49:55.5±2.0, 42.23N×133.91E, h450km±8km, mb4.9/5, msha4.8/1*

IDC ***27*** *23:49:55.9±0.9, 42.06N×133.88E, h452km±9km, mb3.5/20, mb1 3.6/23, mb1mx3.6/27, mbtmp3.5/23, Error ellipse: s-maj=11.9km s-min=8.7km az=165.0*

NEIC ***27*** *23:49:56.9±0.3, 42.09N×133.75E, h456km±4km, mb4.3/30, Error ellipse: s-maj=6.5km s-min=2.9km az=162.0*

BJI ***27*** *23:49:56.6, 42.19N×133.70E, h469km, mB4.8, mb4.5*

ISC 27 23:49:55.5±0.3, 4214N±004×13385E±003, h437km±2km, n402, σ0.69/415, mb4.1/58, 116C-117D, Primorye

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TEY	**Ternei**	**3.52**	**34**	⇓*iP*	**P**	**23 51 08.4**	**+2.9**
TEY				AMB	AMB	23 51 09.0	
	260nm,0.8s						
TEY				*i* S	**S**	**23 52 06.0**	**+3.4**
TEY				A		23 52 07.5	
	160nm,0.9s						
MDJ	**Mudanjiang**	**3.97**	**310**	P	**P**	**23 51 12.8**	**+3.4**
MDJ				S	**S**	**23 52 15.5**	**+5.9**
MDJ				PCP	PcP	23 57 31.3	-3.0
MDJ	**Mudanjiang**	**3.97**	**310**	*eP*	**P**	**23 51 12.4**	**+3.0**
JOSM	**Okushiri--Mats**	**4.19**	**89**	P	**P**	**23 51 11.7**	**+0.2**
JOSM				S	**S**	**23 52 13.8**	**+0.5**
JSH	**Shimam**	**4.62**	**82**	P	**P**	**23 51 15.8**	**+0.3**
JSH				*e*S	**S**	**23 52 21.2**	**+0.6**
JKB	**Kayabe**	**5.36**	**90**	P	**P**	**23 51 21.5**	**-1.2**
JKB				S	**S**	**23 52 31.8**	**-2.1**
JOT	**Ohata**	**5.44**	**96**	P	**P**	**23 51 22.3**	**-1.3**
JOT				*e*S	**S**	**23 52 34.2**	**-1.2**
JHR	**Hokuryu**	**6.00**	**72**	P	**P**	**23 51 29.4**	**+0.2**
HABR	**Khabarovsk**	**6.39**	**7**	*eP*	**P**	**23 51 35.8**	**+2.6**
JMK	**Ichinoseki**	**6.46**	**117**	P	**P**	**23 51 32.0**	**-2.1**
JMK				S	**S**	**23 52 48.7**	**-6.0**
KSRS	**Korea Array**	**6.53**	**226**	P	**P**	**23 51 36.8**	**+1.8**
	2.1nm,0.3s,baz=42,slow=10,SNR=35						
KSRS				S	**S**	**23 52 56.6**	**+0.4**
	baz=16,slow=18,SNR=2.9						
KSRS	**Korea Array**	**6.53**	**226**	P	**P**	**23 51 36.8**	**+1.8**
KSRS				S	**S**	**23 52 56.6**	**+0.4**
KSRS				pmax	pmax		
	comp=Z,2.0nm,0.3s						
MJAR	**Matsushiro Arr**	**6.53**	**147**	P	**P**	**23 51 37.1**	**+2.2**
	comp=Z,0.3nm,0.3s,baz=328,slow=10,SNR=4.1						
KS15	**Wonju Array Si**	**6.56**	**226**	*e*Pn	**P**	**23 51 35.9**	**+0.6**
JWK2	**Keihoku**	**6.64**	**59**	P	**P**	**23 51 37.1**	**+1.2**
ASAJ	**Asahikawa**	**6.70**	**70**	P	**P**	**23 51 36.2**	**-0.3**
	comp=Z,33nm,0.3s,baz=261,slow=9.1,SNR=160						
ASAJ				S	**S**	**23 52 57.3**	**-2.1**
	baz=52,slow=19,SNR=3.5						
ASAJ	**Asahikawa**	**6.70**	**70**	P	**P**	**23 51 36.3**	**-0.3**
ASAJ				S	**S**	**23 52 57.3**	**-2.0**
ASAJ				pmax	pmax		
	comp=Z,33nm,0.3s						
ERM	**Erimo**	**6.93**	**88**	*e*P	**P**	**23 51 37.6**	**-1.5**
ERM				pmax	pmax		
	comp=Z,97nm,0.5s						
ERM	**Erimo**	**6.93**	**88**	*e*P	**P**	**23 51 37.6**	**-1.5**
	comp=Z,97nm,0.5s						
JCH	**Churui**	**7.06**	**83**	P	**P**	**23 51 38.9**	**-1.6**
JHS	**Saijyo**	**7.15**	**185**	P	**P**	**23 51 42.6**	**+1.0**
KLR	**Kul'dur**	**7.24**	**349**	*e*P	**P**	**23 51 41.7**	**-0.6**
KLR				*e*S	**S**	**23 53 08.7**	**-1.1**
JTKR	**Abashiri--Toko**	**7.59**	**73**	P	**P**	**23 51 45.4**	**-0.8**
YSS	**Yuzh-Sakhalins**	**7.98**	**50**	⇑*iP*	**P**	**23 51 51.0**	**+0.7**
YSS				*e*S	**S**	**23 53 24.0**	**-0.5**
YSS				pmax	pmax		
	comp=Z,120nm,0.7s						
YSS	**Yuzh-Sakhalins**	**7.98**	**50**	⇑*iP*	**P**	**23 51 51.0**	**+0.7**
YSS				AMB	AMB	23 51 51.8	
	comp=Z,120nm,0.7s						
YSS				*e*S	**S**	**23 53 24.0**	**-0.5**
YSS	**Yuzh-Sakhalins**	**7.98**	**50**	*e*Pn	**P**	**23 51 51.9**	**+1.6**
JTU	**Tsushima**	**8.37**	**206**	P	**P**	**23 51 55.7**	**+0.9**
GRNR	**Gornyy**	**8.81**	**11**	⇓*iP*	**P**	**23 51 55.2**	**-4.1**
GRNR				AMB	AMB	23 51 55.6	
	comp=Z,34nm,0.9s						
UGL	**Uglegorsk**	**9.02**	**37**	*e*P	**P**	**23 52 03.5**	**+1.9**
UGL				AMB	AMB	23 52 04.8	
	comp=Z,110nm,0.7s						
JSJ	**Shimokoshiki**	**10.95**	**199**	P	**P**	**23 52 23.3**	**+0.2**
EKMR	**Ekimchan**	**10.95**	**357**	*e*P	**P**	**23 52 20.5**	**-2.2**
EKMR				AMB	AMB	23 52 21.5	
	comp=Z,8.0nm,0.5s						
NKL	**Nikolayevsk**	**11.94**	**20**	⇓*iP*	**P**	**23 52 30.9**	**-2.5**
NKL				AMB	AMB	23 52 31.4	
	comp=Z,31nm,0.8s						
BMKR	**Bomnak**	**13.01**	**347**	*e*P	**P**	**23 52 41.7**	**-3.4**
BMKR				AMB	AMB	23 52 42.7	
	comp=Z,3.0nm,0.6s						
KROS	**Kirovskiy**	**13.12**	**342**	*e*P	**P**	**23 52 43.6**	**-2.7**
KROS				AMB	AMB	23 52 46.1	
	comp=Z,2.0nm,0.5s						
HHC	**Hu-ho-hao-te**	**16.74**	**273**	*e*P	**P**	**23 53 24.8**	**-0.5**
HHC				XP	sP	23 55 13.3	-5.5
HHC				S	**S**	**23 56 13.5**	**-5.2**
HHC				PCP	PcP	23 57 49.8	+2.5
HHC				AMB	AMB		
	comp=Z,12nm,1.4s						
HHC				AMB	AMB		
	comp=Z,200nm,6.2s						
PETK	**Petropavlovsk-**	**19.37**	**47**	P	**P**	**23 53 53.5**	**+2.0**
	comp=Z,0.4nm,0.3s,baz=224,slow=7.2,SNR=5.9						
ULN	**Ulaanbaatar**	**19.74**	**296**	*i* P	**P**	**23 53 55.3**	**+0.3**
ULN	**Ulaanbaatar**	**19.74**	**296**	*e*P	**P**	**23 53 55.0**	**0.0**
	comp=Z,2.9nm,0.6s						
YAK	**Yakutsk**	**20.08**	**354**	*e*P	**P**	**23 53 57.9**	**0.0**
YAK				pmax	pmax		
	comp=Z,14nm,0.8s						
SONM	**Songino Array**	**20.18**	**296**	P	**P**	**23 54 00.1**	**+1.1**
	comp=Z,1.1nm,0.4s,baz=107,slow=10,SNR=10						
SONM				ScP	ScP	00 00 44.2	-3.1
	comp=Z,0.4nm,0.7s,baz=109,slow=3.0,SNR=3.0						
SONM	**Songino Array**	**20.18**	**296**	*e*P	**P**	**23 54 00.0**	**+1.1**
SONM				pmax	pmax		
	comp=Z,1.0nm,0.4s						
XAN	**Xi'an**	**21.17**	**256**	P	**P**	**23 54 09.0**	**+0.8**
XAN				AMB	AMB		
	comp=Z,20nm,1.1s,mb4.5						
XAN				AMB	AMB		
	comp=Z,161nm,6.2s						
LZH	**Lanzhou**	**23.98**	**265**	*e*P	**P**	**23 54 34.0**	**+0.5**
LZH				*e*S	**S**	**23 58 16.0**	**-2.1**
LZH				AMB	AMB		
	comp=Z,28nm,1.5s,mb4.5						
LZH				AMB	AMB		
	comp=Z,100nm,4.0s						
GTA	**Gaotai**	**25.82**	**275**	⇑P	**P**	**23 54 50.5**	**+0.7**
GTA				XP	sP	23 57 01.3	+4.0
GTA				AMB	AMB		
	comp=Z,7.0nm,1.0s,mb4.0						
CD2	**Chengdu**	**26.52**	**255**	*e*P	**P**	**23 54 56.3**	**+0.2**
CD2				XP	sP	23 57 04.8	+1.1
CD2				S	**S**	**23 58 57.5**	**-0.7**
CD2				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.3						
CD2				AMB	AMB		
	comp=Z,30nm,5.2s						
GYA	**Guiyang**	**27.21**	**244**	P	**P**	**23 55 02.0**	**-0.3**
GYA				XP	sP	23 57 11.8	+1.8
GYA				PCP	PcP	23 58 10.3	+1.5
GYA				S	**S**	**23 59 07.5**	**-1.6**
GYA				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.4						
TIXI	**Tiksi**	**29.69**	**357**	⇓*iP*	**P**	**23 55 22.8**	**-0.6**
TIXI				pmax	pmax		
	comp=Z,3.0nm,0.7s,mb3.7						
BILL	**Bilibino**	**31.19**	**23**	⇑*eP*	**P**	**23 55 36.7**	**+0.3**
BILL				pmax	pmax		
	comp=Z,12nm,1.5s,mb4.0						
WMQ	**Urumqi**	**33.47**	**289**	⇑P	**P**	**23 55 57.0**	**+0.7**
ZALV	**Zalesovo Beam**	**34.16**	**307**	P	**P**	**23 56 02.2**	**+0.1**
	comp=Z,0.7nm,0.4s,mb3.3,baz=69,slow=8.1,SNR=3.9						
ZALV				PcP	PcP	23 58 26.1	-0.9
	comp=Z,1.8nm,0.6s,baz=85,slow=2.8,SNR=7.8						
ZALV				ScP	ScP	00 01 26.2	-3.4
	comp=Z,1.1nm,0.5s,baz=80,slow=3.3,SNR=7.6						
ZALV	**Zalesovo Beam**	**34.16**	**307**	P	**P**	**23 56 02.2**	**+0.2**
ZALV						23 58 26.1	
MKAR	**Makanchi Array**	**36.54**	**295**	P	**P**	**23 56 21.9**	**-0.1**
	comp=Z,1.3nm,0.6s,mb3.4,baz=84,slow=11,SNR=21						
MKAR				PcP	PcP	23 58 32.5	-1.7
	comp=Z,0.5nm,0.7s,baz=70,slow=4.9,SNR=2.9						
CHTO	**Chiang Mai**	**37.62**	**243**	*e*P	**P**	**23 56 30.8**	**-0.6**
CHTO				pmax	pmax		
	comp=Z,6.0nm,1.3s,mb3.8						
CHTO	**Chiang Mai**	**37.62**	**243**	*e*P	**P**	**23 56 30.8**	**-0.6**
	comp=Z,6.3nm,1.3s,mb3.8						
CMAR	**Chiang Mai Arr**	**37.88**	**242**	P	**P**	**23 56 32.9**	**-0.6**
	comp=Z,1.3nm,0.3s,mb3.7,baz=43,slow=6.4,SNR=6.9						
CMAR				ScP	ScP	00 01 41.9	-2.1
	comp=Z,1.4nm,0.3s,baz=62,slow=4.4,SNR=7.9						
KURK	**Kurchatov**	**38.22**	**302**	P	**P**	**23 56 35.9**	**+0.1**
	comp=Z,2.5nm,0.4s,mb3.9,baz=80,slow=8.5,SNR=7.9						
KURK	**Kurchatov**	**38.22**	**302**	P	**P**	**23 56 35.9**	**+0.1**
TAPN	**Taplejung**	**40.19**	**264**	*e*P	**P**	**23 56 52.3**	**+0.1**
	comp=Z,12nm,0.8s,mb4.3						
ODAN	**Odare**	**40.70**	**263**	*e*P	**P**	**23 56 55.6**	**-0.7**
JIRN	**Jiri**	**41.15**	**265**	*e*P	**P**	**23 57 00.2**	**+0.3**
RAMN	**Ramite**	**41.23**	**264**	*e*P	**P**	**23 57 00.0**	**-0.6**
	comp=Z,9.5nm,0.5s,mb4.3						
GUN	**Gumba**	**41.24**	**266**	*e*P	**P**	**23 57 00.5**	**-0.1**
KKN	**Kakani**	**41.75**	**266**	*e*P	**P**	**23 57 04.2**	**-0.5**
PKI	**Pulchoki**	**41.77**	**266**	*e*P	**P**	**23 57 04.4**	**-0.5**
DMN	**Daman**	**41.98**	**266**	*e*P	**P**	**23 57 06.0**	**-0.5**
GKN	**Gorkha**	**42.11**	**267**	*e*P	**P**	**23 57 06.8**	**-0.8**
	comp=Z,12nm,0.6s,mb4.4						
TKM2	**Tokmak 2**	**42.18**	**292**	*e*P	**P**	**23 57 08.3**	**+0.4**
TKM2				pmax	pmax		
	comp=Z,6.0nm,1.1s,mb3.8						
TKM2	**Tokmak 2**	**42.18**	**292**	*e*P	**P**	**23 57 08.3**	**+0.4**
	comp=Z,5.9nm,1.1s,mb3.8						
DANN	**Dangsing**	**42.58**	**268**	*e*P	**P**	**23 57 11.5**	**+0.2**
	comp=Z,54nm,0.6s,mb5.1						
BVAR	**Borovoye Array**	**42.82**	**307**	P	**P**	**23 57 12.6**	**-0.2**
	comp=Z,0.6nm,0.4s,mb3.2,baz=78,slow=9.1,SNR=4.3						
BVAR				PcP	PcP	23 58 53.9	-0.5
	comp=Z,1.0nm,0.5s,baz=114,slow=1.5,SNR=6.6						
BVAR				ScP	ScP	00 01 59.4	-3.5
	comp=Z,1.5nm,0.8s,baz=82,slow=3.1,SNR=8.2						
BVAR	**Borovoye Array**	**42.82**	**307**	P	**P**	**23 57 12.6**	**-0.2**
BVAR						23 58 53.9	
BVAR	**Borovoye Array**	**42.82**	**307**	P	**P**	**23 57 12.6**	**-0.2**
BVAR				PcP	PcP	23 58 53.9	-0.5
BVAR				ScP	ScP	00 01 59.4	-3.5
KOLN	**Koldanda**	**43.01**	**267**	*e*P	**P**	**23 57 14.4**	**-0.3**
	comp=Z,9.1nm,0.8s,mb4.2						
SVW2	**Sparrevohn**	**45.22**	**40**	*e*P	**P**	**23 57 32.1**	**+0.8**
IMA2	**Indian Mountai**	**45.44**	**33**	*e*P	**P**	**23 57 33.6**	**+0.6**
BPAW	**Bear Paw Mtn.**	**46.83**	**36**	*e*P	**P**	**23 57 44.6**	**+0.8**
	comp=Z,6.4nm,0.9s,mb4.0						
KTH	**Kantishna Hill**	**46.95**	**36**	*e*P	**P**	**23 57 45.7**	**+1.0**
	comp=Z,34nm,1.3s,mb4.5						
KDAK	**Kodiak Island**	**47.38**	**44**	P	**P**	**23 57 47.5**	**-0.5**
	comp=Z,6.8nm,0.6s,mb4.2,baz=58,slow=11,SNR=13						
MCK	**McKinley**	**47.79**	**36**	*e*P	**P**	**23 57 51.6**	**+0.6**
MCK				pmax	pmax		
	comp=Z,9.0nm,0.8s,mb4.2						
MCK	**McKinley**	**47.79**	**36**	*e*P	**P**	**23 57 51.6**	**+0.6**
	comp=Z,9.4nm,0.8s,mb4.2						
COLA	**College**	**48.02**	**34**	⇓*iP*	**P**	**23 57 53.1**	**+0.4**
EGAK	**Eagle**	**50.82**	**33**	*e*P	**P**	**23 58 13.6**	**+0.1**
	comp=Z,11nm,0.5s,mb4.3						
DAWY	**Dawson**	**51.77**	**34**	*e*P	**P**	**23 58 20.9**	**+0.5**
HYT	**Haines Junctio**	**53.75**	**37**	*e*P	**P**	**23 58 36.1**	**+1.4**
KEV	**Kevo**	**56.52**	**336**	*e*p	**P**	**23 58 53.2**	**-0.9**
ARCES	**ARCESS Array B**	**57.08**	**337**	P	**P**	**23 58 58.2**	**+0.3**
	comp=Z,3.4nm,0.7s,mb3.8,baz=56,slow=8.3,SNR=13						
JOF	**Joensuu**	**58.64**	**328**	*e*p	**P**	**23 59 07.5**	**-1.2**
	comp=Z,3.5nm,0.5s,mb4.0						
OBN	**Obninsk**	**60.46**	**319**	P	**P**	**23 59 18.0**	**-3.1**
OBN				pmax	pmax		
	comp=Z,32nm,2.2s,mb4.4						
KAF	**Kangasniemi**	**61.02**	**329**	*e*p	**P**	**23 59 23.8**	**-0.8**
	comp=Z,4.0nm,0.5s,mb4.1,baz=52,slow=6.2						
KAF	**Kangasniemi**	**61.02**	**329**	*e*P	**P**	**23 59 23.8**	**-0.8**
KAF				pmax	pmax		
	comp=Z,4.0nm,0.5s,mb4.1						
YKA	**Yellowknife Ar**	**62.28**	**29**	P	**P**	**23 59 31.7**	**-1.2**
	comp=Z,1.0nm,0.4s,mb3.7,baz=307,slow=6.3,SNR=18						
YKA	**Yellowknife Ar**	**62.28**	**29**	P	**P**	**23 59 31.7**	**-1.2**
ASAR	**Alice Springs**	**65.47**	**180**	P	**P**	**23 59 52.0**	**-1.8**
	comp=Z,0.3nm,0.4s,mb3.3,baz=353,slow=6.3,SNR=3.7						
AKASG	**Malin Array Be**	**66.64**	**318**	P	**P**	**00 00 00.3**	**-0.6**
	comp=Z,1.9nm,0.5s,mb4.0,baz=50,slow=6.1,SNR=13						
AKASG	**Malin Array Be**	**66.64**	**318**	*e*P	**P**	**00 00 00.5**	**-0.4**
AKASG				pmax	pmax		
	comp=Z,2.0nm,0.5s						
HFS	**Hagfors**	**66.94**	**332**	P	**P**	**00 00 02.2**	**-0.5**
	comp=Z,2.1nm,0.6s,mb4.0,baz=77,slow=6.7,SNR=11						
HFS	**Hagfors**	**66.94**	**332**	P	**P**	**00 00 02.2**	**-0.4**
HFS				pmax	pmax		
	comp=Z,2.0nm,0.6s						
NB2	**NORSAR Subarra**	**67.12**	**334**	P	**P**	**00 00 03.3**	**-0.4**
	comp=Z,2.4nm,0.7s,mb3.9,baz=40,slow=6.5						
NOA	**NORSAR Array B**	**67.12**	**334**	P	**P**	**00 00 03.4**	**-0.4**
	comp=Z,2.0nm,0.6s,mb3.9,baz=41,slow=6.0,SNR=7.0						
NOA	**NORSAR Array B**	**67.12**	**334**	P	**P**	**00 00 03.4**	**-0.3**
NOA				pmax	pmax		
	comp=Z,2.0nm,0.6s						
B05A	**Bryant**	**67.88**	**44**	⇓P	**P**	**00 00 08.1**	**-0.5**
	baz=68						
A07A	**Ashnola River,**	**68.26**	**43**	⇑P	**P**	**00 00 10.4**	**-0.5**
	baz=68						
F03A	**Seaside**	**68.56**	**47**	⇑P	**P**	**00 00 11.8**	**-1.0**
	baz=68						
D05A	**Enumclaw**	**68.61**	**45**	⇓P	**P**	**00 00 13.0**	**-0.1**
	baz=68						
B07A	**Winthrop**	**68.77**	**43**	⇑P	**P**	**00 00 13.4**	**-0.7**
	baz=69						
A08A	**Turner Farm, O**	**68.88**	**43**	⇑P	**P**	**00 00 13.7**	**-1.1**
	baz=69						
E05A	**Randle**	**69.13**	**46**	⇓P	**P**	**00 00 15.9**	**-0.4**
	baz=69						
F04A	**Amboy**	**69.18**	**46**	⇑P	**P**	**00 00 16.2**	**-0.4**
	baz=69						
A09A	**Danville**	**69.21**	**42**	⇑P	**P**	**00 00 17.0**	**+0.2**
	baz=69,SNR=5.5						
B08A	**Colville Reser**	**69.24**	**43**	⇓P	**P**	**00 00 16.6**	**-0.3**
	baz=69						
C07A	**Waterville**	**69.30**	**44**	⇓P	**P**	**00 00 16.4**	**-0.9**
	baz=69						
E06A	**Yakima**	**69.56**	**45**	⇓P	**P**	**00 00 19.2**	**+0.4**
	baz=69						
D07A	**Quincy**	**69.67**	**44**	⇓P	**P**	**00 00 19.2**	**-0.3**
	baz=70						
C08A	**Higginbotham F**	**69.76**	**43**	⇓P	**P**	**00 00 19.2**	**-0.8**
	baz=70						
B09A	**Rice**	**69.79**	**42**	⇑P	**P**	**00 00 20.3**	**+0.1**
	baz=70,SNR=5.1						
I03A	**Eugene**	**69.95**	**49**	⇑P	**P**	**00 00 21.6**	**+0.3**
	baz=70						
E07A	**Sunnyside**	**70.14**	**45**	⇓P	**P**	**00 00 22.0**	**-0.3**
	baz=70						
C09A	**Chrisman Ranch**	**70.14**	**43**	⇓P	**P**	**00 00 22.5**	**+0.1**
	baz=70,SNR=6.4						
D08A	**Wollman Farm,**	**70.30**	**44**	⇑P	**P**	**00 00 22.9**	**-0.4**
	baz=70						
A11A	**Hall Mountain,**	**70.33**	**41**	⇓P	**P**	**00 00 23.6**	**+0.1**
	baz=70						
NEW	**Newport**	**70.41**	**42**	*e*P	**P**	**00 00 24.2**	**+0.2**
HAWA	**Hanford**	**70.42**	**45**	*e*P	**P**	**00 00 24.1**	**+0.1**
I04A	**Tendick Farm,**	**70.55**	**48**	⇑P	**P**	**00 00 24.5**	**-0.4**
	baz=70						
G06A	**Carlson Farm,**	**70.59**	**46**	⇓P	**P**	**00 00 24.8**	**-0.2**
	baz=70						
K02A	**Glendale**	**70.60**	**50**	⇑P	**P**	**00 00 24.9**	**-0.2**
	baz=70						
D09A	**Jones Farm, Ri**	**70.61**	**44**	⇑P	**P**	**00 00 24.9**	**-0.3**
	baz=70						
H05A	**Madras**	**70.65**	**47**	⇑P	**P**	**00 00 25.2**	**-0.3**
	baz=70						
B11A	**Sandpoint**	**70.67**	**42**	⇓P	**P**	**00 00 25.7**	**+0.2**
	baz=70						
M01C	**Crescent City**	**70.83**	**51**	⇓P	**P**	**00 00 26.8**	**+0.2**
	baz=71						
L02A	**Cave Junction**	**70.93**	**50**	⇑P	**P**	**00 00 27.2**	**+0.1**
	baz=71						
HUMO	**Hull Mountain**	**71.00**	**49**	⇑P	**P**	**00 00 27.2**	**-0.4**
	baz=71						
E09A	**Wood Farm, Sta**	**71.06**	**44**	⇑P	**P**	**00 00 27.9**	**+0.1**
	baz=71,SNR=6.1						
J04A	**Umpqua Nationa**	**71.07**	**49**	⇑P	**P**	**00 00 27.8**	**-0.2**
	baz=71						
H06A	**Lilquist Farm**	**71.08**	**46**	⇓P	**P**	**00 00 27.8**	**-0.2**
	baz=71						
G07A	**Ruggs Ranch, H**	**71.08**	**46**	⇓P	**P**	**00 00 27.8**	**-0.2**
	baz=71						
D10A	**Wagner Farm, O**	**71.14**	**43**	⇓P	**P**	**00 00 27.7**	**-0.6**
	baz=71						
F08A	**Pendleton**	**71.20**	**45**	⇓P	**P**	**00 00 29.0**	**+0.3**
	baz=71,SNR=7.5						
KOLS	**Kolonicke sedl**	**71.21**	**320**	*e*P	**P**	**00 00 23.3**	**-5.4**
STHS	**Stebnicka Huta**	**71.37**	**320**	*e*P	**P**	**00 00 28.4**	**-1.2**
STHS				pmax	pmax		
	comp=Z,2.0nm,1.0s,mb3.6						
G08A	**Pilot Rock**	**71.44**	**45**	⇓P	**P**	**00 00 30.0**	**-0.1**
	baz=71						
OJC	**Ojcow**	**71.48**	**322**	*e*P	**P**	**00 00 30.8**	**+0.5**
J05A	**Fort Rock**	**71.53**	**48**	⇑P	**P**	**00 00 31.2**	**+0.6**
	baz=71,SNR=6.6						
E10A	**Myers Farm, Un**	**71.61**	**43**	⇑P	**P**	**00 00 30.8**	**-0.3**
	baz=71						
D11A	**Klaveano Farm,**	**71.62**	**43**	⇑P	**P**	**00 00 30.8**	**-0.4**
	baz=71,SNR=6.7						
B13A	**Whitefish**	**71.64**	**41**	⇑P	**P**	**00 00 31.8**	**+0.5**
	baz=71,SNR=5.5						
YBH	**Yreka Blue Hor**	**71.71**	**50**	⇓P	**P**	**00 00 31.9**	**+0.1**
	baz=72						
YBH	**Yreka Blue Hor**	**71.71**

ORV	Oroville	73.83	51	⇑P	P	00 00 43.2	-0.9
	baz=74,SNR=5.3						
K09A	Rome	73.84	47	⇓P	P	00 00 44.3	+0.2
	baz=74						
L08A	Fields	73.85	47	⇑P	P	00 00 43.9	-0.2
	baz=74,SNR=5.4						
E15A	Deer Lodge	73.89	41	⇑P	P	00 00 44.0	-0.3
	baz=74						
O05C	Quincy	73.90	51	⇑P	P	00 00 44.1	-0.4
	baz=74,SNR=8.5						
M07A	Soldier Meadow	73.93	48	⇑P	P	00 00 45.1	+0.5
	baz=74,SNR=6.1						
C17A	Wharram Farm,	73.94	39	⇑P	P	00 00 43.9	-0.7
	baz=74						
N06A	Buffalo Meadow	73.99	49	P	P	00 00 45.1	+0.1
	baz=74,SNR=9.7						
D16A	Dana Ranch, Ca	74.00	40	⇓P	P	00 00 44.8	-0.1
	baz=74						
STKA	Stephens Creek	74.00	173	P	P	00 00 44.0	-0.9
	comp=Z,6.4nm,1.0s,mb4.2,baz=6.2,slow=7.7,SNR=3.6						
G13A	Cobalt	74.03	43	⇓P	P	00 00 44.0	-1.1
	baz=74						
HRY	Holter Researc	74.08	41	eP	P	00 00 46.0	+0.7
H12A	Diamond D Ranc	74.09	44	⇑P	P	00 00 45.0	-0.4
	baz=74,SNR=24						
EGMT	Eagleton	74.13	39	⇓P	P	00 00 45.5	-0.2
	baz=74,SNR=5.6						
EGMT	Eagleton	74.13	39	eP	P	00 00 45.8	+0.2
K10A	MacKenzie Ranc	74.25	46	⇓P	P	00 00 46.7	+0.3
	baz=74,SNR=6.9						
MFID	Camas Ranch	74.37	45	⇑P	P	00 00 47.4	+0.3
	baz=74,SNR=13						
F15A	Butte	74.38	42	⇓P	P	00 00 47.3	+0.2
	baz=74,SNR=5.6						
O06A	Flanigan	74.38	50	P	P	00 00 47.5	+0.3
	baz=74,SNR=14						
LRM	Limekiln Ridge	74.41	42	eP	P	00 00 47.9	+0.7
N07B	Gerlach	74.45	49	⇑P	P	00 00 47.9	+0.3
	baz=74						
I12A	Atlanta	74.47	45	P	P	00 00 48.0	+0.3
	baz=74,SNR=5.3						
DLMT	Dillon	74.67	42	eP	P	00 00 49.1	+0.4
	comp=Z,19nm,0.7s,mb4.8						
E17A	Martinsdale	74.73	40	⇓P	P	00 00 49.8	+0.7
	baz=74,SNR=10						
LAVA	Lava Cap Winer	74.80	51	⇓P	P	00 00 49.0	-0.6
	baz=75,SNR=6.8						
F16A	Kennard Place,	74.84	41	⇑P	P	00 00 49.7	0.0
	baz=75,SNR=7.6						
G15A	Dillon	74.86	42	⇑P	P	00 00 50.0	+0.2
	baz=75,SNR=27						
I13A	Wildhorse Cree	74.91	44	P	P	00 00 50.9	+0.8
	baz=75,SNR=22						
N08A	GE Springer Mi	74.92	48	⇑P	P	00 00 50.8	+0.6
	baz=75						
O07A	Toulon	74.92	49	⇑P	P	00 00 50.8	+0.5
	baz=75						
BOZ	Bozeman (W)	74.94	41	eP	P	00 00 50.7	+0.4
BOZ				pmax	pmax		
	comp=Z,5.0nm,0.7s,mb4.2						
BOZ	Bozeman (W)	74.94	41	⇑P	P	00 00 50.1	-0.2
	baz=75,SNR=13						
BOZ	Bozeman (W)	74.94	41	eP	P	00 00 50.6	+0.4
	comp=Z,5.4nm,0.7s,mb4.3						
L10A	Juniper Basin	74.94	47	⇑P	P	00 00 51.0	+0.6
	baz=75,SNR=12						
HLID	Hailey	75.00	44	⇓P	P	00 00 50.5	-0.1
	baz=75						
HLID	Hailey	75.00	44	eP	P	00 00 51.2	+0.6
	comp=Z,1.3nm,0.4s,mb3.9						
HLID				ePcP	PcP	00 01 03.2	+1.2
E18A	Harlowton	75.11	40	⇓P	P	00 00 51.0	-0.2
	baz=75						
G16A	Moss Hill, Enn	75.15	42	⇑P	P	00 00 51.7	+0.2
	baz=75,SNR=12						
GERES	GERESS Array B	75.22	324	P	P	00 00 51.9	+0.1
	comp=Z,0.9nm,0.4s,mb3.7,baz=26,slow=5.3,SNR=10						
GERES	GERESS Array B	75.22	324	P	P	00 00 51.9	+0.1
GERES				pmax	pmax		
	comp=Z,1.0nm,0.4s						
F17A	Fitzpatrick Pl	75.23	41	⇑P	P	00 00 52.2	+0.3
	baz=75						
O08A	Rochester Mine	75.24	49	P	P	00 00 52.8	+0.7
	baz=75,SNR=10						
I14A	Mackay	75.24	44	⇑P	P	00 00 52.6	+0.6
	baz=75						
J13A	Cove Ranch, Pi	75.24	44	⇑P	P	00 00 52.8	+0.8
	baz=75,SNR=11						
L11A	Cat Creek Ranc	75.27	46	⇓P	P	00 00 52.6	+0.4
	baz=75,SNR=11						
M10A	I.L. Ranch, Tu	75.29	47	⇓P	P	00 00 52.8	+0.5
	baz=75,SNR=6.0						
K12A	Draper Farm, C	75.39	45	⇓P	P	00 00 52.9	+0.1
	baz=75,SNR=5.5						
CMB	Columbia Colle	75.49	52	eP	P	00 00 53.5	0.0
CMB				pmax	pmax		
	comp=Z,7.0nm,0.5s,mb4.5						
CMB	Columbia Colle	75.49	52	⇑P	P	00 00 53.4	-0.1
	baz=75,SNR=12						
CMB	Columbia Colle	75.49	52	eP	P	00 00 53.5	-0.1
	comp=Z,6.5nm,0.5s,mb4.5						
G17A	Pierce Place,	75.61	41	⇑P	P	00 00 54.5	+0.4
	baz=75						
QLMT	Earthquake Lak	75.62	42	eP	P	00 00 54.9	+0.8
J14A	Carey	75.64	44	⇑P	P	00 00 54.8	+0.6
	baz=75,SNR=6.1						
PACP	Pacheco Peak	75.65	53	⇓P	P	00 00 54.3	-0.1
	baz=76,SNR=7.5						
F18A	Big Timber	75.69	40	P	P	00 00 54.9	+0.4
	baz=76,SNR=7.9						
R06C	Coleville	75.70	51	⇑P	P	00 00 54.6	-0.1
	baz=76,SNR=5.8						
WAKR	Walker	75.73	51	eP	P	00 00 55.2	+0.4
H16A	Russell Place,	75.81	42	⇓P	P	00 00 55.4	+0.3
	baz=76,SNR=12						
J15A	Blackfoot	76.14	43	⇓P	P	00 00 57.6	+0.6
	baz=76						
M12A	Wells	76.24	46	⇓P	P	00 00 57.5	-0.1
	baz=76,SNR=6.2						
EKA	Eskdalemuir Ar	76.25	336	P	P	00 00 57.4	0.0
	comp=Z,1.1nm,0.4s,mb3.8,baz=26,slow=5.9,SNR=3.8						
EKA	Eskdalemuir Ar	76.25	336	P	P	00 00 57.4	0.0
EKA				pmax	pmax		
	comp=Z,1.0nm,0.4s						
I16A	Newdale	76.28	43	⇓P	P	00 00 58.7	+0.9
	baz=76,SNR=13						
DGMT	Dagmar	76.30	36	⇓P	P	00 00 57.4	-0.4
	baz=76						
V03C	Hunter Liggett	76.34	54	⇓P	P	00 00 58.2	-0.1
	baz=76						
Q08A	Gabbs	76.34	50	⇑P	P	00 00 58.4	+0.1
	baz=76						
H17A	Grant Village	76.36	42	⇓P	P	00 00 60.0	+1.8
	baz=76,SNR=7.4						
K14A	Jones Ranch, D	76.36	44	⇓P	P	00 00 58.7	+0.4
	baz=76						
U04C	Hernandez Rese	76.38	53	⇑P	P	00 00 57.9	-0.6
	baz=76						
NVAR	Mina Array Bea	76.43	50	P	P	00 00 59.1	+0.4
	comp=Z,7.2nm,0.7s,mb4.4,baz=292,slow=5.0,SNR=59						
RLMT	Red Lodge	76.47	41	⇓P	P	00 00 59.2	+0.4
	baz=76,SNR=8.1						
RLMT	Red Lodge	76.47	41	eP	P	00 00 59.4	+0.5
IMW	Indian Meadow	76.54	42	eP	P	00 01 00.5	+1.2
	comp=Z,8.1nm,0.8s,mb4.4						
N12A	Clover Valley,	76.57	47	⇑P	P	00 01 00.0	+0.6
	baz=76,SNR=7.5						
T06C	Millerton Lake	76.58	52	⇑P	P	00 00 59.1	-0.5
	baz=76,SNR=5.4						
KCC	Kaiser Creek	76.60	52	⇑P	P	00 00 59.6	-0.1
	baz=76,SNR=5.1						
K15A	Arbon	76.60	44	⇑P	P	00 00 59.9	+0.3
	baz=76						
P10A	Eureka	76.64	48	⇓P	P	00 01 00.7	+0.8
	baz=76						
J16A	Bone	76.65	43	⇓P	P	00 01 00.8	+1.0
	baz=76,SNR=5.6						
I17A	Pilgram Creek	76.70	42	⇓P	P	00 01 00.8	+0.7
	baz=76,SNR=12						
MOOW	Moose Ponds	76.74	42	eP	P	00 01 01.2	+0.9
	comp=Z,5.1nm,0.8s,mb4.2						
RRI2	Red Ridge	76.74	43	eP	P	00 01 01.4	+1.0
	comp=Z,8.0nm,0.7s,mb4.5						
PKD	Parkfield	76.81	53	⇑P	P	00 01 00.4	-0.4
	baz=77						
TPAW	Teton Pass	76.83	43	eP	P	00 01 01.9	+1.1
	comp=Z,4.0nm,0.5s,mb4.3						
REDW	Red Top Meadow	76.97	43	eP	P	00 01 02.5	+0.9
	comp=Z,3.4nm,0.7s,mb4.1						
K16A	Soda Springs	76.98	43	⇑P	P	00 01 02.4	+0.8
	baz=77,SNR=8.1						
M14A	Sheep Mountain	77.01	45	P	P	00 01 02.3	+0.4
	baz=77,SNR=7.0						
J17A	Brown Place, J	77.04	43	⇓P	P	00 01 03.0	+1.1
	baz=77						
O12A	Currie	77.14	47	⇑P	P	00 01 02.9	+0.4
	baz=77,SNR=5.1						
Q10A	Clear Creek Ra	77.23	49	P	P	00 01 03.5	+0.4
	baz=77,SNR=5.6						
R09A	Tonopah	77.26	50	⇑P	P	00 01 03.0	-0.3
	baz=77,SNR=5.5						
M15A	Larsen Ranch,	77.52	45	⇓P	P	00 01 04.1	-0.5
	baz=77						
S09A	Goldfield	77.53	50	⇑P	P	00 01 04.6	-0.2
	baz=77,SNR=8.6						
N14A	Grayback Hills	77.56	46	⇓P	P	00 01 04.9	0.0
	baz=77,SNR=8.2						
Q11A	Duckwater	77.64	48	⇑P	P	00 01 05.3	0.0
	baz=77						
L16A	Fish Haven	77.65	44	⇑P	P	00 01 05.3	-0.1
	baz=77						
R10A	Warm Springs	77.66	49	⇓P	P	00 01 05.7	+0.2
	baz=78						
S10A	Tonopah Range,	77.75	50	P	P	00 01 06.2	+0.2
	baz=78,SNR=9.1						
HWUT	Hardware Ranch	77.87	44	eP	P	00 01 07.1	+0.5
	comp=Z,5.1nm,0.6s,mb4.3						
CWC	Cottonwood Cre	77.92	52	⇑P	P	00 01 06.7	-0.2
	baz=78						
Q12A	Willow Creek R	77.96	48	⇑P	P	00 01 07.3	+0.2
	baz=78						
R11A	Troy Canyon, C	78.02	49	⇑P	P	00 01 07.5	0.0
	baz=78						
BW06	Boulder Array	78.05	42	⇓P	P	00 01 07.3	-0.2
	baz=78,SNR=12						
BW06	Boulder Array	78.05	42	eP	P	00 01 07.4	-0.1
PDAR	Pinedale Array	78.05	42	P	P	00 01 07.3	-0.2
	comp=Z,7.6nm,0.6s,mb4.5,baz=54,slow=0.4,SNR=62						
P13A	Bates Ranch, G	78.11	47	⇑P	P	00 01 08.2	+0.3
	baz=78,SNR=6.2						
ISA	Isabella	78.23	52	⇓P	P	00 01 07.2	-1.4
	baz=78						
DUG	Dugway	78.23	46	eP	P	00 01 08.8	+0.3
DUG				pmax	pmax		
	comp=Z,4.0nm,0.7s,mb4.2						
DUG	Dugway	78.23	46	⇓P	P	00 01 08.7	+0.2
	baz=78,SNR=7.3						
DUG	Dugway	78.23	46	eP	P	00 01 08.8	+0.3
	comp=Z,4.1nm,0.7s,mb4.2						
ULM	Lac du Bonnet	78.24	30	P	P	00 01 07.3	-1.1
	comp=Z,6.4nm,0.5s,mb4.5,baz=339,slow=6.2,SNR=6.9						
Q13A	Wheeler Ranch,	78.46	47	⇓P	P	00 01 09.3	-0.5
	baz=78,SNR=8.0						
P14A	Drum Mountains	78.53	46	⇑P	P	00 01 09.7	-0.5
	baz=78,SNR=9.2						
MPMC	Manual Prospec	78.53	52	⇓P	P	00 01 09.6	-0.6
	baz=78,SNR=8.8						
FURC	Furnace Creek,	78.61	51	⇑P	P	00 01 10.6	-0.1
	baz=78,SNR=6.1						
TPNV	Topopah Spring	78.63	50	eP	P	00 01 10.7	0.0
TPNV				pmax	pmax		
	comp=Z,4.0nm,0.6s,mb4.2						
TPNV	Topopah Spring	78.63	50	⇑P	P	00 01 10.2	-0.5
	baz=78,SNR=8.3						
TPNV	Topopah Spring	78.63	50	eP	P	00 01 10.7	0.0
	comp=Z,4.0nm,0.6s,mb4.2						
L19A	Farson	78.64	43	⇓P	P	00 01 10.0	-0.8
	baz=78,SNR=7.0						
N17A	Moffit Pass	78.73	44	⇓P	P	00 01 11.3	+0.1
	baz=78,SNR=5.5						
LRMC	Laurel Mountai	78.82	52	⇑P	P	00 01 11.2	-0.6
	baz=79						
Q14A	Sevier Lake (B	78.84	47	⇓P	P	00 01 12.0	+0.2
	baz=79,SNR=6.7						
O16A	Springville	78.92	45	⇑P	P	00 01 12.1	-0.1
	baz=79						
T11A	Corn Creek, Al	79.01	49	⇓P	P	00 01 12.7	-0.1
	baz=79,SNR=6.9						
R13A	O'Grain Ranch,	79.04	48	⇑P	P	00 01 12.2	-0.7
	baz=79						
EDW2	Edwards Air Fo	79.05	53	⇓P	P	00 01 12.5	-0.6
	baz=79						
IDI	Anoyia	79.24	308	P	P	00 01 12.5	-1.5
	comp=Z,5.8nm,1.1s,mb4.1,baz=45,slow=10.0,SNR=6.5						
O17A	Robinson Place	79.33	45	⇑P	P	00 01 14.4	0.0
	baz=79						
SHOC	Shoshone	79.34	51	⇑P	P	00 01 14.8	+0.2
	baz=79						
GSC	Goldstone	79.46	52	⇓P	P	00 01 15.0	-0.2
	baz=79						
GSC	Goldstone	79.46	52	eP	P	00 01 15.1	-0.1
SHPR	Sheep Range	79.56	50	eP	P	00 01 16.4	+0.7
N19A	John Jarvie Ra	79.62	43	⇑P	P	00 01 15.3	-0.7
	baz=79,SNR=5.1						
RSSD	Black Hills	79.69	38	eP	P	00 01 16.1	-0.2
MSU	Marysvale	79.78	47	eP	P	00 01 17.8	+0.9
TUQ	Turquoise Moun	79.88	51	⇓P	P	00 01 17.0	-0.4
	baz=80,SNR=7.3						
T13A	Saint George	79.90	49	⇑P	P	00 01 18.2	+0.6
	baz=80,SNR=6.4						
P18A	Preston Nutter	80.00	45	⇑P	P	00 01 18.2	+0.2
	baz=80,SNR=10						
HEC	Hector,Ludlow	80.06	52	⇓P	P	00 01 17.6	-0.8
	baz=80						
O19A	Miners Draw (B	80.09	44	⇓P	P	00 01 17.5	-0.9
	baz=80						
SRU	San Rafael	80.23	45	eP	P	00 01 19.6	+0.4
SRU				pmax	pmax		
	comp=Z,2.0nm,0.5s,mb4.0						
SRU	San Rafael	80.23	45	⇓P	P	00 01 18.8	-0.5
	baz=80,SNR=6.6						
SRU	San Rafael	80.23	45	eP	P	00 01 19.6	+0.4
	comp=Z,2.2nm,0.5s,mb4.0						
S15A	Panguitch	80.28	47	⇑P	P	00 01 19.7	+0.2
	baz=80,SNR=7.6						
R16A	Teasdale	80.32	47	⇓P	P	00 01 20.3	+0.6
	baz=80,SNR=5.7						
GMRC	Granite Mounta	80.49	51	⇓P	P	00 01 20.4	-0.3
	baz=80,SNR=5.1						
R17A	Haxville Air	80.64	46	⇓P	P	00 01 21.3	-0.1
	baz=80,SNR=7.3						
P19A	Cripple Cowboy	80.66	44	⇑P	P	00 01 21.6	+0.2
	baz=80						
V13A	Grand Canyon W	80.69	50	⇑P	P	00 01 21.2	-0.5
	baz=80						
U14A	Mt Trumbull	80.74	49	⇓P	P	00 01 22.0	+0.1
	baz=80,SNR=5.4						
BELC	Belle Mtn.	80.84	52	⇓P	P	00 01 21.6	-0.9
	baz=81						
PFO	Pinyon Flat Ob	80.85	53	P	P	00 01 22.2	-0.4
	baz=81,SNR=5.1						
109C	Camp Elliot, M	80.97	54	⇑P	P	00 01 22.3	-0.9
	baz=81						
Q19A	Hogan Spring (	81.01	45	⇓P	P	00 01 22.2	-1.1
	baz=81						
R18A	Canyonlands Na	81.10	46	⇓P	P	00 01 23.4	-0.4
	baz=81,SNR=6.0						
S17A	Black Ridge (B	81.16	47	⇓P	P	00 01 23.9	-0.2
	baz=81,SNR=10.0						
PHWY	Pilot Hill	81.17	41	eP	P	00 01 24.4	+0.3
IRM	Iron Mountain	81.23	52	⇑P	P	00 01 24.3	-0.2
	baz=81,SNR=6.8						
U15A	North Rim	81.23	48	⇓P	P	00 01 24.9	+0.5
	baz=81,SNR=19						
V14A	Boquillas Ranc	81.34	49	⇓P	P	00 01 25.2	+0.1
	baz=81,SNR=8.0						
MONP	Monument Peak	81.38	53	⇑P	P	00 01 24.3	-1.0
	baz=81						
BC3	Big Chuckw Mtn	81.41	52	⇑P	P	00 01 24.8	-0.7
	baz=81						
S18A	Hurst Farm, Bl	81.56	46	P	P	00 01 26.4	+0.3
	baz=81,SNR=6.8						
T17A	Navajo Res., N	81.63	47	⇓P	P	00 01 26.0	-0.6
	baz=81						
W14A	Seligman	81.66	50	⇓P	P	00 01 26.0	-0.7
	baz=82,SNR=6.0						
X13A	Yucca	81.68	50	⇑P	P	00 01 26.6	-0.2
	baz=82						
Y12C	Blythe	81.88	51	⇓P	P	00 01 27.6	-0.3
	baz=82,SNR=5.4						
SMCO	Snowmass	82.03	43	eP	P	00 01 26.0	-2.5
	comp=Z,4.5nm,0.7s,mb4.3						
T18A	Mexican Hat	82.03	46	⇑P	P	00 01 28.3	-0.3
	baz=82,SNR=9.1						
U16A	Tuba City	82.08	48	⇓P	P	00 01 28.5	-0.3
	baz=82						
GLA	Glamis	82.20	52	⇑P	P	00 01 29.2	-0.3
	baz=82						
GLA	Glamis	82.20	52	eP	P	00 01 29.8	+0.3
Y13A	Salome	82.24	51	⇓P	P	00 01 28.9	-0.9
	baz=82,SNR=5.6						
ISCO	Idaho Springs	82.24	42	eP	P	00 01 25.6	-4.0
ISCO				pmax	pmax		
	comp=Z,13nm,0.9s,mb4.7						
ISCO	Idaho Springs	82.24	42	eP	P	00 01 25.6	-4.0
	comp=Z,13nm,0.9s,mb4.7						
X14A	Yava	82.31	50	⇓P	P	00 01 30.1	+0.1
	baz=82,SNR=6.7						
WUAZ	Wupatki	82.40	48	⇓P	P	00 01 30.8	+0.3
	baz=82						
WUAZ	Wupatki	82.40	48	eP	P	00 01 31.4	+0.9
U18A	Rough Rock, Ch	82.56	47	⇑P	P	00 01 31.6	+0.3
	baz=82						
Y14A	Wickenburg	82.62	50	⇑P	P	00 01 32.0	+0.3
	baz=82,SNR=5.7						
X15A	Humboldt	82.67	50	⇓P	P	00 01 32.5	+0.7
	baz=82,SNR=14						
MVCO	Mesa Verde	82.71	45	⇓P	P	00 01 32.1	0.0
	baz=82						
T19A	Beclabito	82.71	46	⇓P	P	00 01 32.4	+0.3
	baz=82						
Y15A	Casa Rosa Ranc	83.00	50	⇑P	P	00 01 33.3	-0.2
	baz=83,SNR=8.4						
V18A	Ganado	83.05	47	⇓P	P	00 01 33.6	-0.2
	baz=83						
X16A	Lo Mia Camp, P	83.17	49	⇓P	P	00 01 35.0	+0.6
	baz=83,SNR=11						
ECSD	EROS,Sioux Fal	83.27	34	eP	P	00 01 33.9	-0.9
Y16A	Circle Bar Ran	83.54	50	⇑P	P	00 01 36.7	+0.4
	baz=83						
X17A	Forest Lakes	83.58	49	⇑P	P	00 01 36.8	+0.3
	baz=83,SNR=7.4						
SDCO	Great Sand Dun	83.87	43	eP	P	00 01 38.2	+0.3
	comp=Z,2.5nm,0.6s,mb4.1						
X18A	Snowflake	83.92	48	⇑P	P	00 01 38.4	+0.2
	baz=84,SNR=7.3						
Y17A	Roosevelt	84.03	49	⇓P	P	00 01 38.3	-0.4
	baz=84,SNR=7.5						
214A	Organ Pipe Nat	84.17	52	⇓P	P	00 01 38.9	-0.5
	baz=84						
X19A	St. Johns	84.36	48	⇓P	P	00 01 40.4	+0.1
	baz=84,SNR=11						
Y18A	Canyon Day Jun	84.42	49	⇑P	P	00 01 40.6	-0.1
	baz=84,SNR=5.6						
118A	Homack Ranch,	85.30	49	⇓P	P	00 01 45.3	+0.3
	baz=85						
217A	Green Valley	85.46	51	⇑P	P	00 01 46.1	+0.3
	baz=85						
ANMO	Albuquerque	85.50	46	eP	P	00 01 45.5	-0.4
ANMO	Albuquerque	85.50	46	eP	P	00 01 46.5	+0.5
119A	Ashpeak Ranch,	85.58	49	⇓P	P	00 01 46.7	+0.3
	baz=85						
219A	White Tail Can	86.18	49	⇓P	P	00 01 49.6	+0.3
	baz=86						
TXAR	Lajitas Array	91.32	47	P	P	00 02 13.4	+0.1
	comp=Z,4.3nm,0.6s,mb4.5,baz=279,slow=2.9,SNR=43						
TXAR	Lajitas Array	91.32	47	P	P	00 02 13.4	+0.1
TXAR				pmax	pmax		
	comp=Z,4.0nm,0.6s						
CNNC	Cliffs of the	97.69	26	eP	P	00 02 36.7	-5.5
TORD	Torodi Ar. Bea	109.58	310	PKiKP	PKiKP	00 07 33.5	-2.2
	comp=Z,0.1nm,0.5s,baz=360,slow=0.3,SNR=4.1						
SDV	Santo Domingo	124.49	30	PKP	PKPdf	00 08 03.0	-1.4
	comp=Z,8.4nm,0.6s,baz=129,slow=1.5,SNR=15						
LPAZ	La Paz	148.07	43	PKPbc	PKPbc	00 08 50.7	-0.3
	comp=Z,2.5nm,0.6s,baz=31,slow=6.6,SNR=11						
LPAZ	La Paz	148.07	43	PKP2	PKPbc	00 08 50.7	-0.3
LPAZ				pmax	pmax		
	comp=Z,3.0nm,0.6s						
SIV	San Ignacio	150.96	31	PKPbc	PKPbc	00 08 56.8	-1.2
	comp=Z,6.6nm,0.7s,baz=292,slow=2.5,SNR=33						
SIV				PKPab	PKPab	00 09 06.2	-1.0
	comp=Z,4.8nm,0.8s,baz=283,slow=4.7,SNR=12						

CSEM ***27*** *23:55:15.8±0.1, 3673N×2631E, h2km, MD3.6, Error ellipse: s-maj=4.1km s-min=2.4km az=31.0*
NEIC ***27*** *23:55:15.1, 3679N×2632E, h16km, MD3.6(ATH), After ATH.*
ATH ***27*** *23:55:15.1, 3679N×2632E, h16km±1km, MD3.6/7*
ISCJB ***27*** *23:55:18.5±0.9, 3677N±008×2625E±007, h33km, Error ellipse: s-maj=12.6km s-min=7.0km az=17.5*

ISC 27 23:55:19.9±0.8, 3671N±009×2626E±007, h35km, n19, σ0s59/21, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
THR3	Thira Island,	0.76	247	P	Pn	23 55 38.8	+4.8
THR6	Thira Island,	0.78	243	P	Pn	23 55 39.1	+4.8
KARP	Karpathos	1.37	148	ePn	Pn	23 55 41.8	-0.7
KARP	Karpathos	1.37	148	ePN	Pn	23 55 41.8	-0.7
NPS	Neapolis	1.54	200	ePn	Pn	23 55 44.8	0.0
NPS	Neapolis	1.54	200	ePN	Pn	23 55 44.8	0.0
ARG	Arkhangelos	1.58	108	ePn	Pn	23 55 44.3	-1.1
ARG				eSn	Sn	23 56 05.8	+1.2
ARG	Arkhangelos	1.58	108	ePN	Pn	23 55 44.3	-1.1
ARG				eSN	Sn	23 56 05.8	+1.2
ZKR	Zakros	1.59	181	P	Pn	23 55 45.7	+0.2
LAST	Lasithi	1.67	203	P	Pn	23 55 46.5	-0.1
SIVA	Sivas	2.06	215	P	Pn	23 55 51.6	-0.3
VAM	Vamos	2.12	233	ePn	Pn	23 55 53.3	+0.6
VAM	Vamos	2.12	233	ePN	Pn	23 55 53.3	+0.6
VLI	Veliai	2.67	271	ePn	Pn	23 56 00.6	+0.3
VLI	Veliai	2.67	271	ePN	Pn	23 56 00.6	+0.3
ITM	Ithomi	3.50	279	ePn	Pn	23 56 12.0	+0.2
ITM	Ithomi	3.50	279	ePN	Pn	23 56 12.0	+0.2
THL	Klokotos Trika	4.39	312	ePn	Pn	23 56 23.8	-0.2
THL	Klokotos Trika	4.39	312	ePN	Pn	23 56 23.8	-0.2

MOS ***27*** *23:58:24.6±2.6, 5737N×12044E, h12km, mb4.4/1, Error ellipse: s-maj

	comp=N,131nm,0.4s								
NLYR					*e*Sg	Sg	23 59 52.3	-5.0	
NLYR					Smax		23 59 56.8		
	comp=N,839nm,0.8s								
TUP	**Tupik**	**3.05**	**190**	*e*P	Pn	23 59 10.8	+0.1		
TUP				*e*S	Sn	23 59 46.2	-1.6		
TUP				pmax	pmax				
	comp=Z,129nm,0.7s								
TUP				smax					
	comp=E,714nm,0.9s								
TUP	**Tupik**	**3.05**	**190**	*e*Pn	Pn	23 59 10.9	+0.2		
TUP				*e*Pg	Pg	23 59 15.8	-3.9		
TUP				Pmax		23 59 20.0			
	comp=E,155nm,0.8s								
TUP				*e*Sg	Sg	23 59 55.4	-3.7		
TUP				Smax		23 59 59.8			
	comp=E,709nm,0.7s								
BOD	**Bodaibo**	**3.73**	**279**	*e*P	Pn	23 59 21.9	+1.9		
BOD				pmax	pmax				
	comp=Z,33nm,0.5s								
BOD	**Bodaibo**	**3.73**	**279**	*e*Pn	Pn	23 59 19.9	-0.1		
BOD				Pg	Pg	23 59 28.3	-4.3		
BOD				Pmax		23 59 32.4			
	comp=Z,32nm,0.5s								
BOD				*e*Sg	Sg	00 00 15.1	-5.8		
BOD				Smax		00 00 20.5			
	comp=Z,499nm,0.8s								
UKT	**Uakit**	**4.47**	**247**	*e*	Pn	23 59 33.6	+3.4		
UKT				*e*Pg	Pg	23 59 41.5	-5.4		
UKT				Pmax		23 59 54.8			
	comp=Z,28nm,0.7s								
UKT				*e*Sg	Sg	00 00 38.1	-6.7		
UKT				Smax		00 00 45.8			
	comp=Z,162nm,1.5s								
KROS	**Kirovskiy**	**4.54**	**129**	⇓*i*Pg	Pg	23 59 40.6	-7.7		
KROS				Pmax		23 59 46.7			
	comp=Z,33nm,0.7s								
KROS				*i* Sg	Sg	00 00 38.5	-8.7		
KROS				Smax		00 00 44.9			
	comp=Z,430nm,0.6s								
ZEA	**Zeya**	**5.16**	**133**	*e*Sn	Sn	00 00 35.2	-4.6		
ZEA				*e*Sg	Sg	00 01 00.5	-6.4		
ZEA				Smax		00 01 04.3			
	comp=Z,820nm,0.9s								
YOA	**Uoyan**	**5.20**	**260**	*e*Sg	Sg	00 01 02.1	-6.2		
YOA				Smax		00 01 12.4			
	comp=Z,790nm,0.9s								
KMO	**Kumora**	**5.56**	**258**	*e*P	Pn	23 59 45.2	0.0		
KMO				*e*S	Sn	00 00 45.3	-4.4		
KMO				pmax	pmax				
	comp=Z,23nm,1.0s								
KMO				smax					
	comp=E,273nm,1.0s								
KMO	**Kumora**	**5.56**	**258**	*e*Pg	Pg	00 00 01.1	-6.7		
KMO				Pmax		00 00 04.4			
	comp=E,23nm,1.0s								
KMO				*e*Sg	Sg	00 01 12.5	-7.3		
KMO				Smax		00 01 26.1			
	comp=E,274nm,1.1s								
YLYR	**Ulyunkhan**	**6.00**	**249**	*e*Pn	Pn	23 59 52.6	+1.3		
YLYR				*e*Pg	Pg	00 00 10.4	-5.9		
YLYR				Pmax		00 00 17.9			
	comp=E,6.0nm,0.5s								
YLYR				*e*Sg	Sg	00 01 27.2	-6.8		
YLYR				Smax		00 01 31.5			
	comp=E,160nm,1.7s								
YAK	**Yakutsk**	**6.41**	**40**	*e*P	Pn	23 59 55.4	-1.4		
YAK				pmax	pmax				
	comp=Z,15nm,0.6s								
NIZ	**Nizh Angarsk**	**6.48**	**260**	*e*Sg	Sg	00 01 41.1	-8.2		
NIZ				Smax		00 01 59.7			
	comp=Z,108nm,0.9s								
SYVR	**Suvo**	**7.24**	**243**	*e*Sg	Sg	00 02 06.3	-7.2		
SYVR				Smax		00 02 16.7			
	comp=Z,183nm,1.9s								
MXMB	**Maximikha**	**8.08**	**244**	*e*Sg	Sg	00 02 31.9	-8.5		
MXMB				Smax		00 02 42.0			
	comp=Z,534nm,1.4s								
OGRR	**Ongureny**	**8.44**	**249**	*e*Sg	Sg	00 02 42.6	-9.3		
OGRR				Smax		00 03 03.4			
	comp=Z,64nm,1.1s								
HRMR	**Khuramsha**	**9.95**	**240**	*e*Sg	Sn	00 03 29.4	+52		
HRMR				Smax		00 03 40.4			
	comp=Z,287nm,1.2s								
KLR	**Kul'dur**	**10.45**	**137**	*e*P	Pn	00 01 03.8	+12		

*ISCJB **28** 00:28:48.3±1.0,3754N±003×2196E±005,h7km±8km, Error ellipse: s-maj=6.2km s-min=4.7km az=21.7*
*ATH **28** 00:28:48.0,3757N×2194E,h18km±1km,MD3.5/11,ML3.2*
*CSEM **28** 00:28:48.1±0.1,3760N×2196E,h2km,ML3.4/1,Error ellipse: s-maj=2.8km s-min=2.1km az=79.0*
*NEIC **28** 00:28:48.0,3757N×2194E,h18km,ML3.6(ATH),After ATH.*
*THE **28** 00:28:49.0,3756N×2201E,h3km±2km,ML3.4/1,Error ellipse: s-maj=2.8km s-min=0.9km az=156.0*

ISC 28 00:28:48.7±0.5,3757N±003×2196E±004,h7km±6km,n31, σ0§79/41,Southern Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VLX	**Vlachokerasia**	**0.39**	**121**	P	**Pg**	**00 28 56.5**	**+0.3**
VLX				S	**Sg**	**00 29 01.2**	**-0.1**
ITM	**Ithomi**	**0.39**	**184**	*e*Pb	**Pg**	**00 28 56.1**	**-0.2**
ITM				*e*Sb	**Sg**	**00 29 02.0**	**+0.5**
ITM	**Ithomi**	**0.39**	**184**	*e*PB	**Pg**	**00 28 56.1**	**-0.2**
ITM				*e*SB	**Sg**	**00 29 02.0**	**+0.5**
RLS	**Riolos of Patr**	**0.62**	**321**	*e*Pb	**Pb**	**00 28 59.4**	**-2.5**
RLS				*e*Sn	**Sg**	**00 29 08.9**	**+0.1**
RLS	**Riolos of Patr**	**0.62**	**321**	*e*PB	**Pb**	**00 28 59.4**	**-2.5**
RLS				*e*SN	**Sg**	**00 29 08.9**	**+0.1**
PYL	**PYLOS**	**0.70**	**195**	P	**Pg**	**00 29 01.2**	**-0.9**
PYL				S	**Sg**	**00 29 12.3**	**+1.1**
LTK	**Loutraki**	**0.91**	**60**	P	**Pg**	**00 29 05.6**	**-0.6**
LTK				S	**Sg**	**00 29 18.1**	**0.0**
DID	**Didima**	**1.01**	**93**	P	**Pg**	**00 29 07.5**	**-0.7**
KFL	**Anninata**	**1.07**	**300**	P	**Pg**	**00 29 10.0**	**+0.7**
NAIG	**Nisos Aigina**	**1.23**	**81**	*e*Pn	**Pn**	**00 29 11.5**	**-0.7**
NAIG	**Nisos Aigina**	**1.23**	**81**	*e*PN	**Pn**	**00 29 11.5**	**-0.7**
VLS	**Valsamata**	**1.24**	**299**	*e*Pn	**Pn**	**00 29 11.5**	**-1.0**
VLS	**Valsamata**	**1.24**	**299**	P	**Pg**	**00 29 13.5**	**+1.0**
VLS	**Valsamata**	**1.24**	**299**	*e*PN	**Pn**	**00 29 11.5**	**-1.0**
EVR	**Evrytania**	**1.35**	**355**	*e*Pn	**Pn**	**00 29 13.3**	**-0.6**
EVR	**Evrytania**	**1.35**	**355**	*e*PN	**Pn**	**00 29 13.3**	**-0.6**
LKR	**Lokris**	**1.35**	**37**	P	**Pn**	**00 29 13.1**	**-0.9**
LKR				S	**Sb**	**00 29 33.1**	**+1.3**
LKR	**Lokris**	**1.35**	**37**	*e*Pn	**Pn**	**00 29 13.9**	**-0.1**
LKR				S	**Sb**	**00 29 33.1**	**+1.3**
LKR	**Lokris**	**1.35**	**37**	*e*PN	**Pn**	**00 29 13.9**	**-0.1**
ATH	**Athens Observa**	**1.45**	**73**	*e*Pn	**Pn**	**00 29 15.8**	**+0.5**
ATH	**Athens Observa**	**1.45**	**73**	*e*PN	**Pn**	**00 29 15.8**	**+0.5**
KVR	**Kavouri**	**1.46**	**79**	*e*Pn	**Pn**	**00 29 15.6**	**+0.2**
KVR	**Kavouri**	**1.46**	**79**	*e*PN	**Pn**	**00 29 15.6**	**+0.2**
AGG	**Agios Georgios**	**1.48**	**11**	P	**Pn**	**00 29 15.3**	**-0.4**
AGG				S	**Sn**	**00 29 36.7**	**+1.5**
PTL	**Penteli**	**1.58**	**72**	*e*Pn	**Pn**	**00 29 17.1**	**0.0**
PTL	**Penteli**	**1.58**	**72**	*e*PN	**Pn**	**00 29 17.1**	**0.0**
THL	**Klokotos Trika**	**1.99**	**1**	P	**Pn**	**00 29 22.6**	**-0.1**
THL	**Klokotos Trika**	**1.99**	**1**	*e*Pn	**Pn**	**00 29 23.2**	**+0.5**
THL	**Klokotos Trika**	**1.99**	**1**	*e*PN	**Pn**	**00 29 23.2**	**+0.5**
NEO	**Neokhori**	**1.99**	**29**	*e*Pn	**Pn**	**00 29 22.8**	**0.0**
NEO	**Neokhori**	**1.99**	**29**	*e*PN	**Pn**	**00 29 22.8**	**0.0**

*ISCJB **28** 00:50:57.0±0.7,3757N±003×2198E±003,h2km±7km, Error ellipse: s-maj=4.8km s-min=4.1km az=32.4*
*ATH **28** 00:50:57.0,3757N×2199E,h14km±1km,MD3.6/12,ML3.4*
*NEIC **28** 00:50:57.0,3757N×2199E,h14km,ML3.4(ATH),After ATH.*
*CSEM **28** 00:50:57.5±0.1,3758N×2196E,h2km,ML3.7/1,Error ellipse: s-maj=2.1km s-min=1.7km az=54.0*
*THE **28** 00:50:59.0,3751N×2206E,h17km±2km,ML3.7/1,Error ellipse: s-maj=2.8km s-min=1.0km az=140.0*

ISC 28 00:50:57.7±0.4,3759N±002×2201E±003,h1km±6km,n39, σ1§01/51,Southern Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VLX	**Vlachokerasia**	**0.36**	**126**	P	**Pg**	**00 51 05.7**	**+1.0**
VLX				S	**Sg**	**00 51 10.4**	**+1.0**
ITM	**Ithomi**	**0.41**	**190**	*e*Pb	**Pg**	**00 51 05.0**	**-0.6**
ITM				*e*PB	**Pg**	**00 51 05.0**	**-0.6**
ITM				*e*SB	**Sg**	**00 51 10.4**	**-0.5**
RLS	**Riolos of Patr**	**0.64**	**318**	*e*Pg	**Pg**	**00 51 08.9**	**-1.1**
RLS				*e*Sb	**Sg**	**00 51 18.7**	**+0.4**
RLS	**Riolos of Patr**	**0.64**	**318**	*e*PG	**Pg**	**00 51 08.9**	**-1.1**
RLS				*e*SB	**Sg**	**00 51 18.7**	**+0.4**
PYL	**PYLOS**	**0.72**	**197**	P	**Pg**	**00 51 11.0**	**-0.5**
PYL				S	**Sg**	**00 51 21.3**	**+0.4**
LTK	**Loutraki**	**0.87**	**60**	P	**Pg**	**00 51 14.7**	**+0.2**
LTK				S	**Sg**	**00 51 27.2**	**+1.4**
DID	**Didima**	**0.98**	**94**	P	**Pg**	**00 51 16.9**	**+0.5**
DID				S	**Sg**	**00 51 29.7**	**+0.6**
KFL	**Anninata**	**1.10**	**299**	P	**Pg**	**00 51 19.3**	**+0.5**
KFL				S	**Sg**	**00 51 35.8**	**+2.7**
VLI	**Veliai**	**1.14**	**139**	*e*Pb	**Pb**	**00 51 18.8**	**-1.4**
VLI	**Veliai**	**1.14**	**139**	*e*PB	**Pb**	**00 51 18.8**	**-1.4**
NAIG	**Nisos Aigina**	**1.19**	**81**	*e*Pb	**Pb**	**00 51 20.0**	**-1.0**
NAIG	**Nisos Aigina**	**1.19**	**81**	*e*PB	**Pb**	**00 51 20.0**	**-1.0**
VLS	**Valsamata**	**1.27**	**298**	*e*Pb	**Pb**	**00 51 21.3**	**-1.1**
VLS	**Valsamata**	**1.27**	**298**	P	**Pg**	**00 51 22.2**	**+0.1**
VLS	**Valsamata**	**1.27**	**298**	*e*PB	**Pb**	**00 51 21.3**	**-1.1**
LKR	**Lokris**	**1.32**	**36**	P	**Pg**	**00 51 21.7**	**-1.3**
LKR	**Lokris**	**1.32**	**36**	*e*Pb	**Pb**	**00 51 22.3**	**-1.0**
LKR	**Lokris**	**1.32**	**36**	*e*PB	**Pb**	**00 51 22.3**	**-1.0**
EVR	**Evrytania**	**1.34**	**353**	*e*Pg	**Pg**	**00 51 22.1**	**-1.3**
EVR	**Evrytania**	**1.34**	**353**	*e*PG	**Pg**	**00 51 22.1**	**-1.3**
ATH	**Athens Observa**	**1.41**	**74**	*e*Pb	**Pb**	**00 51 23.9**	**-0.8**
ATH				*e*Sb	**Sb**	**00 51 43.0**	**-0.1**
ATH	**Athens Observa**	**1.41**	**74**	*e*PB	**Pb**	**00 51 23.9**	**-0.8**
ATH				*e*SB	**Sb**	**00 51 43.0**	**-0.1**
KVR	**Kavouri**	**1.42**	**80**	*e*Pb	**Pb**	**00 51 24.3**	**-0.6**
KVR	**Kavouri**	**1.42**	**80**	*e*PB	**Pb**	**00 51 24.3**	**-0.6**
AGG	**Agios Georgios**	**1.46**	**10**	P	**Pn**	**00 51 24.3**	**-0.8**
AGG				S	**Sg**	**00 51 45.1**	**+0.6**
PTL	**Penteli**	**1.54**	**72**	*e*Pg	**Pg**	**00 51 26.0**	**-1.2**
PTL	**Penteli**	**1.54**	**72**	*e*PG	**Pg**	**00 51 26.0**	**-1.2**
NEO	**Neokhori**	**1.96**	**29**	*e*Pn	**Pn**	**00 51 32.1**	**0.0**
NEO	**Neokhori**	**1.96**	**29**	*e*PN	**Pn**	**00 51 32.1**	**0.0**
THL	**Klokotos Trika**	**1.98**	**0**	P	**Pn**	**00 51 33.1**	**+0.8**
LIT	**Litokhoron**	**2.54**	**8**	P	**Pn**	**00 51 39.4**	**-0.6**
VAM	**Vamos**	**2.80**	**140**	*e*Pb	**Pb**	**00 51 44.3**	**-4.2**
VAM	**Vamos**	**2.80**	**140**	*e*PB	**Pb**	**00 51 44.3**	**-4.2**
APE	**Apeiranthos**	**2.85**	**99**	P	**Pn**	**00 51 46.2**	**+1.9**
KNT	**Kendrikon**	**3.64**	**11**	P	**Pn**	**00 51 56.1**	**+1.0**
SMG	**Samos**	**3.83**	**87**	P	**Pn**	**00 52 01.0**	**+3.2**
TIP	**Timpagrande**	**4.42**	**293**	P	**Pn**	**00 52 07.2**	**+1.3**
CUC	**Castrocucco**	**5.41**	**298**	P	**Pn**	**00 52 25.0**	**+5.6**

*ISCJB **28** 00:54:43.0±1.2,3601N±005×2367E±005,h7km±9km, Error ellipse: s-maj=9.7km s-min=4.5km az=42.2*
*NEIC **28** 00:54:42.9,3615N×2391E,h13km,ML3.5(ATH),After ATH.*
*ATH **28** 00:54:42.9,3615N×2391E,h13km±1km,MD3.5/11,ML3.5*
*CSEM **28** 00:54:44.4±0.1,3607N×2375E,h20km,ML3.5,Error ellipse: s-maj=3.6km s-min=1.3km az=52.0*
*THE **28** 00:54:45.1,3598N×2363E,h14km±4km,Error ellipse: s-maj=4.7km s-min=1.3km az=357.0*

ISC 28 00:54:43.1±1.4,3600N±005×2367E±006,h5km±10km,n34, σ0§93/41,Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VAM	**Vamos**	**0.73**	**143**	*e*Pb	**Pb**	**00 54 58.0**	**-0.3**
VAM	**Vamos**	**0.73**	**143**	*e*PB	**Pb**	**00 54 58.0**	**-0.3**
VLI	**Veliai**	**0.93**	**321**	*e*Pg	**Pg**	**00 55 01.0**	**+0.1**
VLI	**Veliai**	**0.93**	**321**	*e*PG	**Pg**	**00 55 01.0**	**+0.1**
SIVA	**Sivas**	**1.35**	**136**	P	**Pn**	**00 55 08.6**	**0.0**
SIVA				S	**Sb**	**00 55 27.0**	**+0.5**
THR5	**Thira Island,**	**1.42**	**72**	P	**Pn**	**00 55 11.2**	**+1.6**
THR6	**Thira Island,**	**1.45**	**75**	P	**Pn**	**00 55 10.8**	**+0.9**
THR3	**Thira Island,**	**1.46**	**73**	P	**Pn**	**00 55 11.7**	**+1.6**
THR4	**Thira Island,**	**1.47**	**71**	P	**Pn**	**00 55 11.1**	**+0.8**
THR1	**Thera Island**	**1.50**	**75**	P	**Pn**	**00 55 11.2**	**+0.6**
DID	**Didima**	**1.54**	**347**	P	**Pn**	**00 55 10.5**	**-0.7**
LAST	**Lasithi**	**1.70**	**119**	P	**Pn**	**00 55 12.6**	**-0.7**
LAST				S	**Sn**	**00 55 34.9**	**-0.5**
VLX	**Vlachokerasia**	**1.72**	**323**	P	**Pn**	**00 55 13.1**	**-0.5**
NPS	**Neapolis**	**1.75**	**114**	*e*Pb	**Pn**	**00 55 13.1**	**-0.9**
NPS				*e*Sb	**Sn**	**00 55 35.1**	**-1.6**
NPS	**Neapolis**	**1.75**	**114**	*e*PB	**Pn**	**00 55 13.1**	**-0.9**
NPS				*e*SB	**Sn**	**00 55 35.1**	**-1.6**
NAIG	**Nisos Aigina**	**1.76**	**355**	*e*Pb	**Pn**	**00 55 13.6**	**-0.6**
NAIG	**Nisos Aigina**	**1.76**	**355**	*e*PB	**Pn**	**00 55 13.6**	**-0.6**
PYL	**PYLOS**	**1.79**	**301**	P	**Pn**	**00 55 15.1**	**+0.5**
PYL				S	**Sn**	**00 55 38.1**	**+0.4**
KVR	**Kavouri**	**1.83**	**3**	*e*Pg	**Pn**	**00 55 14.4**	**-0.7**
KVR	**Kavouri**	**1.83**	**3**	*e*PG	**Pn**	**00 55 14.4**	**-0.7**
ITM	**Ithomi**	**1.83**	**311**	*e*Pn	**Pn**	**00 55 17.3**	**+2.1**
ITM	**Ithomi**	**1.83**	**311**	*e*PN	**Pn**	**00 55 17.3**	**+2.1**
APE	**Apeiranthos**	**1.84**	**54**	P	**Pn**	**00 55 15.5**	**+0.2**
APE				S	**Sn**	**00 55 39.5**	**+0.5**
APE	**Apeiranthos**	**1.84**	**54**	*e*Pb	**Pn**	**00 55 13.0**	**-2.3**
APE	**Apeiranthos**	**1.84**	**54**	*e*PB	**Pn**	**00 55 13.0**	**-2.3**
ATH	**Athens Observa**	**1.97**	**1**	*e*Pn	**Pn**	**00 55 15.8**	**-1.3**
ATH	**Athens Observa**	**1.97**	**1**	*e*PN	**Pn**	**00 55 15.8**	**-1.3**
PTL	**Penteli**	**2.05**	**4**	*e*Pg	**Pn**	**00 55 18.0**	**-0.2**
PTL	**Penteli**	**2.05**	**4**	*e*PG	**Pn**	**00 55 18.0**	**-0.2**
ZKR	**Zakros**	**2.26**	**112**	P	**Pn**	**00 55 21.0**	**-0.1**
ZKR				S	**Sn**	**00 55 50.5**	**+1.2**
LKR	**Lokris**	**2.70**	**349**	*e*Pb	**Pn**	**00 55 26.7**	**-0.4**
LKR	**Lokris**	**2.70**	**349**	*e*PB	**Pn**	**00 55 26.7**	**-0.4**
KARP	**Karpathos**	**2.88**	**98**	*e*Pb	**Pn**	**00 55 28.8**	**-0.8**
KARP	**Karpathos**	**2.88**	**98**	*e*PB	**Pn**	**00 55 28.8**	**-0.8**

BJI 28 00:59:11.1,3586N×11566E,h19km,ML3.6, Southeastern China

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TIA	**Tai'an**	**1.24**	**73**	PG	Pg	00 59 35.0	0.0
TIA				SG	Sg	00 59 53.0	+1.8
TIA				Smax			
	comp=N,1μm,0.4s						
TIA				Smax			
	comp=E,1μm,0.4s						
XAN	**Xi'an**	**5.82**	**254**	PG	Pn	01 00 56.0	+20

*BJI **28** 00:59:18.2,5744N×12132E,h13km,mB4.7,mb4.7,Ms4.5,Msz4.2*
*ISCJB **28** 00:59:19.5±0.2,5715N±003×12092E±004,h10km, mb4.2/39,MS3.6/14,Error ellipse: s-maj=4.1km s-min=2.7km az=12.8*
*IDC **28** 00:59:19.6±0.7,5753N×12089E,h0km,mb4.1/16, mb1 4.2/17,mb1mx4.2/24,mbtmp4.1/17,ML3.3/1,MS3.5/12, Ms1 3.5/12,ms1mx3.3/30,Error ellipse: s-maj=21.4km s-min=15.4km az=31.0*
*BYKL **28** 00:59:20.0±0.4,5740N×12085E,h2km±28km*
*MOS **28** 00:59:20.6±1.1,5731N×12079E,h9km,mb4.5/26, MS4.0/7,Error ellipse: s-maj=9.0km s-min=6.8km az=107.1*
*NEIC **28** 00:59:22.0±0.4,5732N×12099E,h10km,mb4.5/15,Error ellipse: s-maj=9.9km s-min=9.0km az=186.0*
*SZGRF **28** 00:59:31.9,5781N×12001E,h33km,mb4.5,Southeastern Siberia, Russia*

ISC 28 00:59:21.8±0.2,5720N±003×12091E±003,h10km,n172, σ1§29/192,mb4.2/39,MS3.6/14,6C-19D,Southeastern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CRS	**Chara**	**1.48**	**259**	*e*P	**Pn**	**00 59 47.6**	**-0.8**
CRS				*e*		01 00 06.2	
CRS				pmax	pmax		
	comp=Z,721nm,0.8s						
CRS				smax			
	comp=E,3μm,0.9s						
CRS	**Chara**	**1.48**	**259**	⇓*i*Pg	**Pn**	**00 59 47.3**	**-1.1**
CRS				*e*		00 59 51.0	
CRS				max		00 59 53.4	
	comp=E,1μm,1.1s						
CRS				*i* Sg	**Sn**	**01 00 06.3**	**-1.4**
CRS				Smax		01 00 06.7	
	comp=E,4μm,1.2s						
CLNS	**Chul'man**	**2.21**	**98**	*e*P	**Pn**	**01 00 01.1**	**+2.7**
CLNS				*e*S	**Sn**	**01 00 29.7**	**+4.0**
CLNS				pmax	pmax		
	comp=Z,149nm,0.4s						
CLNS				pmax	pmax		
	comp=E,46nm,0.2s						
CLNS				pmax	pmax		
	comp=N,86nm,0.3s						
CLNS				smax			
	comp=Z,93nm,0.3s						
CLNS				smax			
	comp=N,105nm,0.3s						
CLNS				smax			
	comp=E,109nm,0.3s						
CLNS	**Chul'man**	**2.21**	**98**	⇓*i*Pn	**Pn**	**00 59 59.5**	**+1.1**
CLNS				*e*Pg	**Pg**	**01 00 01.6**	**-2.5**
CLNS				*i* Sg	**Sg**	**01 00 31.5**	**-1.1**
IENR	**Iengra**	**2.39**	**112**	⇓*i*Pn	**Pn**	**01 00 02.2**	**+1.3**
IENR				*e*Pg	**Pg**	**01 00 06.4**	**-1.1**
IENR				*e*Sg	**Sg**	**01 00 38.7**	**+0.3**
ALDR	**Aldan**	**2.78**	**58**	*e*Pn	**Pn**	**01 00 04.0**	**-2.4**
ALDR				*e*Pg	**Pg**	**01 00 07.3**	**-7.8**
ALDR				*e*Sg	**Sg**	**01 00 42.3**	**-8.8**
TUP	**Tupik**	**2.84**	**191**	*e*P	**Pg**	**01 00 15.0**	**-1.1**
TUP				*e*		01 00 53.3	
TUP				pmax	pmax		
	comp=Z,788nm,0.8s						
TUP				smax			
	comp=E,4μm,1.0s						
TUP	**Tupik**	**2.84**	**191**	⇓*i*Pn	**Pn**	**01 00 08.7**	**+1.6**
TUP				*e*		01 00 11.5	
TUP				⇓*i*Pg	**Pg**	**01 00 15.1**	**-1.0**
TUP				Pmax		01 00 17.8	
	comp=E,786nm,0.8s						
TUP				*e*		01 00 45.6	
TUP				*e*Sg	**Sg**	**01 00 53.3**	**+0.5**
TUP				Smax		01 01 07.0	
	comp=E,3μm,1.3s						
NLYR	**Nelyaty**	**2.95**	**258**	*e*Pn	**Pn**	**01 00 08.3**	**-0.3**
NLYR				⇓*i*		01 00 10.9	
NLYR				*e*Pg	**Pg**	**01 00 13.4**	**-4.9**
NLYR				Pmax		01 00 27.3	
	comp=E,621nm,1.0s						
NLYR				*e*Sg	**Sg**	**01 00 50.6**	**-5.9**
NLYR				Smax		01 00 55.8	
	comp=E,6μm,1.8s						
TNDR	**Tynda**	**2.96**	**132**	⇓*i*Pn	**Pn**	**01 00 10.8**	**+2.0**
TNDR				*e*Pg	**Pg**	**01 00 17.5**	**-1.0**
TNDR				*e*Sg	**Sg**	**01 00 57.2**	**+0.3**
BOD	**Bodaibo**	**3.78**	**282**	*e*P	**Pb**	**01 00 27.1**	**-1.4**
BOD				*e*		01 01 13.4	
BOD				pmax	pmax		
	comp=Z,156nm,0.8s						
BOD				smax			
	comp=N,2μm,0.9s						
BOD	**Bodaibo**	**3.78**	**282**	⇓*i*Pn	**Pn**	**01 00 18.1**	**-1.9**
BOD				*e*		01 00 20.5	
BOD				*e*Pg	**Pg**	**01 00 26.5**	**-7.6**
BOD				*e*PgPg		01 00 27.6	
BOD				max		01 00 29.1	
	comp=N,172nm,1.0s						
BOD				*e*		01 01 01.6	
BOD				*e*Sg	**Sg**	**01 01 13.2**	**-10**
BOD				Smax		01 01 17.5	
	comp=N,2μm,1.0s						
SVKR	**Severomuysk**	**4.20**	**258**	*e*P	**Pb**	**01 00 36.5**	**+0.8**
SVKR				pmax	pmax		
	comp=Z,347nm,1.6s						
SVKR	**Severomuysk**	**4.20**	**258**	*e*Pg	**Pg**	**01 00 35.1**	**-7.1**
SVKR				Pmax		01 00 37.8	
	comp=Z,309nm,1.2s						
SVKR				*e*		01 00 41.4	
SVKR				*e*Sn	**Sn**	**01 01 12.0**	**-2.9**
SVKR				*e*Sg	**Sg**	**01 01 28.9**	**-7.7**
SVKR				Smax		01 01 38.9	
	comp=Z,3μm,1.6s						
KROS	**Kirovskiy**	**4.40**	**127**	*e*Pn	**Pn**	**01 00 25.8**	**-2.8**
KROS				*e*Pg	**Pg**	**01 00 38.5**	**-7.6**
KROS				*e*Sn	**Sn**	**01 01 14.8**	**-5.0**
KROS				*e*Sg	**Sg**	**01 01 36.1**	**-6.9**
UKT	**Uakit**	**4.40**	**250**	*e*P	**Pn**	**01 00 30.7**	**+2.1**
UKT				*e*S	**Sn**	**01 01 16.4**	**-3.5**
UKT				pmax	pmax		
	comp=Z,127nm,0.6s						
UKT				smax			
	comp=N,1μm,1.0s						
UKT	**Uakit**	**4.40**	**250**	⇑*i*Pn	**Pn**	**01 00 30.4**	**+1.8**
UKT				*e*Pg	**Pg**	**01 00 40.1**	**-6.0**
UKT				⇓*i*		01 00 42.0	
UKT				*e*		01 00 44.0	
UKT				max		01 00 53.3	
	comp=N,126nm,1.1s						
UKT				*e*Sg	**Sg**	**01 01 35.8**	**-7.2**
UKT				*e*		01 01 40.5	
UKT				max		01 01 49.1	
	comp=N,1μm,1.2s						
ZEA	**Zeya**	**5.00**	**131**	*e*Pn	**Pn**	**01 00 35.6**	**-1.3**
ZEA				*e*Pg	**Pg**	**01 00 51.6**	**-6.0**
ZEA				*i* Sg	**Sg**	**01 01 58.8**	**-3.5**
YOA	**Uoyan**	**5.18**	**262**	*e*P	**Pb**	**01 00 54.9**	**+2.5**
YOA	**Uoyan**	**5.18**	**262**	*e*Pn	**Pn**	**01 00 39.3**	**0.0**
YOA				*e*Pg	**Pg**	**01 00 54.0**	**-7.0**
YOA				Pmax		01 01 04.2	
	comp=N,850nm,1.4s						
YOA				*e*Sg	**Sg**	**01 01 59.8**	**-8.2**
YOA				Smax		01 02 11.8	
	comp=N,8μm,1.3s						
KMO	**Kumora**	**5.53**	**260**	*e*Pn	**Pn**	**01 00 44.6**	**+0.5**
KMO				*e*Pg	**Pg**	**01 01 00.2**	**-7.5**
KMO				Pmax		01 01 12.2	
	comp=N,93nm,1.3s						
KMO				*e*Sg	**Sg**	**01 02 10.5**	**-8.8**
KMO				Smax		01 02 24.1	
	comp=N,2μm,2.0s						
YLYR	**Ulyunkhan**	**5.94**	**251**	*e*P	**Pn**	**01 00 52.6**	**

OGRR	**Ongureny**	**8.37 250**	*e*		Px		01 01 53.7		
OGRR			*e*				01 01 59.4		
OGRR			max				01 02 06.0		
	comp=Z,40nm,2.0s								
OGRR			*e*Sg		Sx		01 03 38.5		
OGRR			Smax				01 04 01.3		
	comp=Z,371nm,1.4s								
KPC	**Khapcheranga**	**9.07 218**	*e*P		**Pn**		**01 01 36.3**	**+3.7**	
KPC			pmax	pmax					
	comp=Z,20nm,0.7s								
KPC	**Khapcheranga**	**9.07 218**	*e*Pn		**Pn**		**01 01 36.0**	**+3.4**	
KPC			max				01 01 37.4		
	comp=Z,10.0nm,0.9s								
KPC			*e*				01 03 40.7		
KPC			*e*Sg		Sn		01 04 03.6	+49	
KPC			Smax				01 04 22.8		
	comp=Z,503nm,1.4s								
ZRHB	**Zarechye**	**9.19 245**	*e*		Px		01 02 28.7		
ZRHB			*e*Sg		Sx		01 04 06.2		
ZRHB			Smax				01 04 22.4		
	comp=Z,1μm,1.5s								
UUDB	**Ulan-Yde**	**9.37 241**	*e*		Px		01 02 11.3		
UUDB			max				01 02 35.3		
	comp=Z,20nm,1.4s								
UUDB			*e*				01 03 40.7		
UUDB			*e*Sg		Sx		01 04 12.0		
UUDB			Smax				01 04 23.3		
	comp=Z,1μm,1.9s								
TRG	**Tyrgan**	**9.48 248**	*e*		Px		01 02 17.6		
TRG			*e*Sg		Sx		01 04 14.0		
TRG			Smax				01 04 32.9		
	comp=Z,287nm,1.8s								
FFNB	**Fofonovo**	**9.69 244**	*e*		Px		01 02 18.6		
FFNB			max				01 02 22.0		
	comp=Z,25nm,0.5s								
FFNB			*e*				01 03 40.7		
FFNB			*e*Sg		Sx		01 04 22.4		
FFNB			Smax				01 04 37.2		
	comp=Z,989nm,1.6s								
KAB	**Kabansk**	**9.74 244**	*e*		Px		01 01 55.3		
KAB			*e*Sg		Sx		01 04 24.2		
KAB			Smax				01 04 52.8		
	comp=Z,3μm,1.4s								
HRMR	**Khuramsha**	**9.86 241**	*e*		**Pn**		**01 01 51.1**	**+7.7**	
HRMR			max				01 02 33.3		
	comp=Z,30nm,1.6s								
HRMR			*e*				01 03 50.8		
HRMR			*e*Sg		Sn		01 04 27.1	+53	
HRMR			Smax				01 04 39.6		
	comp=Z,2μm,1.5s								
KLR	**Kul'dur**	**10.28 136**	*e*P		**Pn**		**01 01 48.0**	**-1.2**	
KLR			MLR	MLR					
	comp=Z,2μm,12.0s								
LSTR	**Listvyanka**	**10.75 247**	*e*		Px		01 03 50.1		
LSTR			*e*Sg		Sx		01 04 54.4		
LSTR			Smax				01 05 39.4		
	comp=Z,336nm,2.2s								
IRK	**Irkutsk**	**10.82 250**	*e*Sg		Sx		01 04 55.4		
IRK			Smax				01 05 15.7		
	comp=Z,482nm,1.1s								
TLY	**Talaya**	**11.46 248**	*i* P		**Pn**		**01 02 05.3**	**0.0**	
TLY			pmax	pmax					
	comp=Z,4.0nm,1.0s								
TLY	**Talaya**	**11.46 248**	*e*Sg		Sx		01 05 14.1		
ARS	**Arshan**	**11.95 252**	*e*		Px		01 04 15.6		
ARS			*e*Sg		Sx		01 05 30.9		
ARS			Smax				01 05 58.0		
	comp=Z,371nm,1.0s								
ZAK	**Zakamensk**	**12.44 244**	*e*P		**Pn**		**01 02 20.3**	**+1.6**	
ZAK			pmax	pmax					
	comp=Z,3.0nm,1.2s								
ZAK	**Zakamensk**	**12.44 244**	*e*		Px		01 04 40.8		
ZAK			*e*				01 04 57.1		
ZAK			*e*				01 05 39.1		
ZAK			*e*Sg		Sx		01 05 45.8		
ZAK			Smax				01 06 30.4		
	comp=Z,235nm,1.6s								
ULN	**Ulaanbaatar**	**12.57 228**	*i* P		**Pn**		**01 02 20.8**	**+0.3**	
ULN	**Ulaanbaatar**	**12.57 228**	*e*Sg		Sx		01 05 53.4		
MOY	**Mondy**	**12.83 253**	*e*Sg		Sx		01 05 57.3		
MOY			Smax				01 06 19.9		
	comp=Z,293nm,2.0s								
SONM	**Songino Array**	**12.86 229**	Pn		**Pn**		**01 02 28.5**	**+4.0**	
	comp=Z,0.2nm,0.3s,baz=29,slow=12,SNR=6.7								
SONM			Lg				01 06 05.4		
	comp=Z,4.1nm,0.3s,baz=31,slow=29,SNR=21								
SONM			LR	LR			01 07 36.1		
	comp=Z,52nm,21.5s,baz=22,slow=38								
ORL	**Orlik**	**13.00 258**	*i* Pn		**Pn**		**01 02 28.8**	**+2.5**	
ORL			*e*				01 05 19.3		
ORL			*e*Sg				01 06 01.7		
ORL			Smax				01 06 15.3		
	comp=Z,462nm,1.6s								
TIXI	**Tiksi**	**14.88 10**	*e*Pn		**Pn**		**01 02 42.5**	**-9.3**	
	comp=Z,22nm,0.7s								
TDJR	**Todzha**	**15.05 262**	*e*Pn		**Pn**		**01 02 55.1**	**+0.8**	
TDJR			*e*Sg				01 07 03.2		
KRAR	**Krasnoyarsk**	**15.44 277**	*e*P		**Pn**		**01 02 57.1**	**-2.3**	
KRAR			pmax	pmax					
	comp=Z,54nm,1.2s								
SEY	**Seymchan**	**16.59 57**	*i* P		**Pn**		**01 03 15.2**	**+1.0**	
ASAJ	**Asahikawa**	**18.88 125**	LR	LR			01 11 21.7		
	comp=Z,170nm,20.4s,baz=326,slow=38								
KSRS	**Korea Array**	**20.30 164**	P		**P**		**01 04 00.3**	**+2.7**	
	comp=Z,8.8nm,0.9s,baz=347,slow=10,SNR=18								
KSRS			Lg				01 10 18.4		
	comp=Z,12nm,1.1s,baz=349,slow=28,SNR=9.2								
KSRS			LR	LR			01 10 59.4		
	comp=Z,42nm,18.6s,MS2.8,baz=169,slow=34								
ZALV	**Zalesovo Beam**	**20.51 276**	P		**P**		**01 03 58.2**	**-1.5**	
	comp=Z,23nm,1.2s,baz=67,slow=8.8,SNR=21								
ZALV			Lg				01 10 04.5		
	comp=Z,2.9nm,0.9s,baz=66,slow=26,SNR=3.5								
ZALV	**Zalesovo Beam**	**20.51 276**	P		**P**		**01 03 58.2**	**-1.5**	
ZALV			Lg				01 10 04.5		
NVS	**Novosibirsk**	**21.01 280**	*e*P		**P**		**01 04 04.6**	**-0.6**	
NVS			*e*S		**S**		**01 07 50.3**	**-8.6**	
NVS			pmax	pmax					
	comp=N,14nm,1.3s								
NVS			pmax	pmax					
	comp=E,24nm,1.3s								
NVS			pmax	pmax					
	comp=Z,18nm,1.3s,mb4.2								
NVS			smax						
	comp=N,8.0nm,1.7s								
NVS			smax						
	comp=E,8.0nm,1.1s								
PETK	**Petropavlovsk-**	**21.23 85**	P		**P**		**01 04 07.4**	**-0.1**	
	comp=E,6.9nm,0.8s,mb4.0,baz=301,slow=9.2,SNR=4.0								
PETK			LR	LR			01 12 43.0		
	comp=E,45nm,21.2s,MS2.8,baz=350,slow=38								
GTA	**Gaotai**	**22.51 227**	*e*P		**P**		**01 04 22.3**	**+1.0**	
GTA			AP				01 04 27.3		
GTA			XP		sP		01 04 30.0	+4.6	
GTA			AMB	AMB					
	comp=Z,3.0nm,0.5s,mb4.0								
GTA			LR	LR					
	comp=N,415nm,9.0s								
GTA			LR	LR					
	comp=E,524nm,11.4s								
GTA			LR	LR					
	comp=Z,280nm,7.2s								
BILL	**Bilibino**	**22.90 43**	*e*P		**P**		**01 04 25.8**	**+0.6**	
BILL			*e*				01 04 50.1		
BILL			*e*SS				01 09 06.8		
BILL			pmax	pmax					
	comp=Z,28nm,1.9s,mb4.4								
BILL			MLR	MLR					
	comp=Z,100nm,21.0s,MS3.2								
MJAR	**Matsushiro Ar**	**23.68 143**	P		**P**		**01 04 34.3**	**+0.9**	
	comp=Z,1.2nm,0.7s,mb3.4,baz=46,slow=53,SNR=3.8								
MJAR	**Matsushiro Ar**	**23.68 143**	P		**P**		**01 04 34.3**	**+0.8**	
MJAR			pmax	pmax					
	comp=Z,1.0nm,0.7s								
NJ2	**Nanjing**	**25.19 184**	*e*P		**P**		**01 04 43.8**	**-3.4**	
NJ2			AMB	AMB					
	comp=Z,10.0nm,0.5s,mb4.6								
KURK	**Kurchatov**	**25.38 273**	P		**P**		**01 04 48.0**	**-0.8**	
	comp=Z,3.7nm,0.9s,mb3.9,baz=59,slow=9.8,SNR=17								
KURK			PP				01 05 25.6		
	comp=Z,2.8nm,1.1s,baz=52,slow=12,SNR=3.6								
MK31	**Makanchi Array**	**25.62 263**	*e*P		**P**		**01 04 51.3**	**+0.3**	
MKAR	**Makanchi Array**	**25.62 263**	P		**P**		**01 04 50.9**	**-0.1**	
	comp=Z,3.6nm,0.8s,mb4.0,baz=56,slow=7.4,SNR=20								
MKAR			LR	LR			01 15 01.9		
	comp=Z,98nm,18.5s,MS3.4,baz=22,slow=37								
MKAR	**Makanchi Array**	**25.62 263**	*e*P		**P**		**01 04 52.6**	**+1.6**	
MKAR			pmax	pmax					
	comp=Z,4.0nm,0.8s								
JHJ	**Hachijo jima 2**	**27.33 144**	LR	LR			01 15 12.9		
	comp=Z,473nm,19.2s,MS4.1,baz=334,slow=34								
BVAR	**Borovoye Array**	**28.65 283**	P		**P**		**01 05 16.4**	**-1.8**	
	comp=Z,0.8nm,0.4s,mb3.8,baz=46,slow=13,SNR=4.9								
BVAR			LR	LR			01 16 11.2		
	comp=Z,64nm,19.0s,MS3.2,baz=52,slow=35								
BVAR	**Borovoye Array**	**28.65 283**	P		**P**		**01 05 16.4**	**-1.8**	
BVAR			pmax	pmax					
	comp=Z,1.0nm,0.4s								
BVAR			MLR	MLR					
	comp=Z,64nm,19.0s								
SVE	**Sverdlovsk**	**31.88 295**⇑	*e*P		**P**		**01 05 47.6**	**+0.9**	
SVE			pmax	pmax					
	comp=Z,16nm,0.8s,mb4.9								
SVE			MLR	MLR					
	comp=Z,461nm,16.0s,MS4.3								
ARU	**Arti**	**33.09 296***c*	*i*P		**P**		**01 05 57.0**	**-0.3**	
ARU							01 07 04.7		
ARU			*e*				01 08 42.5		
ARU			*e*S		**S**		**01 11 15.6**	**-0.2**	
ARU			*e*SS		SS		01 13 18.2	-20	
ARU			pmax	pmax					
	comp=Z,10.0nm,2.5s,mb4.3								
ARU	**Arti**	**33.09 296**	*e*P		**P**		**01 05 56.7**	**-0.5**	
	comp=Z,9.3nm,1.2s,mb4.6								
AKTK	**Aktyubinsk**	**36.53 287**	P		**P**		**01 06 27.4**	**+0.3**	
AKTK			LR	LR			01 22 33.5		
AKTO	**Aktyubinsk**	**36.53 287**	P		**P**		**01 06 27.4**	**+0.3**	
	comp=Z,1.4nm,0.6s,mb4.0,baz=86,slow=12,SNR=5.7								
AKTO			LR	LR			01 22 33.5		
	comp=Z,102nm,18.3s,MS3.6,baz=39,slow=38								
AKTO	**Aktyubinsk**	**36.53 287**	P		**P**		**01 06 27.4**	**+0.3**	
AKTO			pmax	pmax					
	comp=Z,1.0nm,0.6s,mb3.8								
AKTO			MLR	MLR					
	comp=Z,102nm,18.3s,MS3.6								
IMA2	**Indian Mountai**	**38.39 41**	*e*P		**P**		**01 06 41.6**	**-1.1**	
KEV	**Kevo**	**39.33 327**	*e*p		**P**		**01 06 50.5**	**+0.1**	
	comp=Z,0.8nm,0.4s,mb3.8								
KEV	**Kevo**	**39.33 327**	*e*P		**P**		**01 06 50.5**	**+0.1**	
KEV			pmax	pmax					
	comp=Z,1.0nm,0.4s,mb3.9								
KLMR	**Klimovskoe**	**39.52 310**	*e*P		**P**		**01 06 50.7**	**-1.5**	
ARCES	**ARCESS Array B**	**39.89 327**	P		**P**		**01 06 52.2**	**-2.9**	
	comp=Z,4.3nm,0.9s,mb4.2,baz=62,slow=11,SNR=4.5								
ARCES			LR	LR			01 28 41.4		
	comp=Z,208nm,19.1s,MS4.0,baz=104,slow=44								
KBL	**Kabul**	**41.33 259**	*e*P		**P**		**01 07 08.0**	**+0.6**	
KBL			pmax	pmax					
	comp=Z,5.0nm,0.7s,mb4.2								
KBL	**Kabul**	**41.33 259**	*e*P		**P**		**01 07 08.0**	**+0.5**	
	comp=Z,5.0nm,0.7s,mb4.2								
JOF	**Joensuu**	**41.62 316**	*e*p		**P**		**01 07 09.3**	**-0.1**	
	comp=Z,0.7nm,0.3s,mb3.8								
JOF	**Joensuu**	**41.62 316**	*e*P		**P**		**01 07 09.3**	**-0.1**	
JOF			pmax	pmax					
	comp=Z,1.0nm,0.3s,mb3.9								
CMAR	**Chiang Mai Arr**	**42.01 212**	LR	LR			01 26 22.7		
	comp=Z,41nm,18.3s,MS3.3,baz=25,slow=38								
KAF	**Kangasniemi**	**43.96 318**	*e*p		**P**		**01 07 30.0**	**+1.6**	
	comp=Z,0.5nm,0.3s,mb3.7								
KAF	**Kangasniemi**	**43.96 318**	*e*P		**P**		**01 07 30.0**	**+1.6**	
KAF			pmax	pmax					
	comp=Z,1.0nm,0.3s,mb4.0								
OBN	**Obninsk**	**44.16 305**	*e*P		**P**		**01 07 27.7**	**-2.4**	
OBN			*e*				01 09 15.3		
OBN			*e*S		**S**		**01 14 01.1**	**-1.6**	
OBN			*e*SS		SS		01 17 19.7	0.0	
OBN			pmax	pmax					
	comp=Z,29nm,2.1s,mb4.6								
OBN			MLR	MLR					
	comp=Z,200nm,13.0s,MS4.2								
DAWY	**Dawson**	**44.51 38**	*e*P		**P**		**01 07 28.1**	**-4.7**	
KIV	**Kislovodsk**	**48.66 290**	*e*P		**P**		**01 08 00.8**	**-4.9**	
KIV			pmax	pmax					
	comp=Z,8.0nm,1.2s,mb4.6								
KIV			MLR	MLR					
	comp=Z,163nm,16.0s,MS4.1								
HFS	**Hagfors**	**49.79 321**	P		**P**		**01 08 11.1**	**-2.9**	
	comp=Z,7.6nm,0.6s,mb4.9,baz=61,slow=7.0,SNR=26								
HFS	**Hagfors**	**49.79 321**	P		**P**		**01 08 11.1**	**-2.9**	
HFS			pmax	pmax					
	comp=Z,8.0nm,0.6s								
NB2	**NORSAR Subarra**	**49.94 323**	P		**P**		**01 08 11.6**	**-3.6**	
	comp=Z,4.2nm,0.7s,mb4.6,baz=59,slow=5.9								
NOA	**NORSAR Array B**	**49.94 323**	P		**P**		**01 08 12.6**	**-2.6**	
	comp=Z,3.6nm,0.8s,mb4.5,baz=41,slow=7.7,SNR=10								
NOA			LR	LR			01 31 31.6		
	comp=Z,102nm,19.8s,MS3.8,baz=95,slow=39								
NOA	**NORSAR Array B**	**49.94 323**	P		**P**		**01 08 12.6**	**-2.6**	
NOA			pmax	pmax					
	comp=Z,4.0nm,0.8s								
NOA			MLR	MLR					
	comp=Z,102nm,19.8s								
AKASG	**Malin Array Be**	**50.41 304**	P		**P**		**01 08 15.3**	**-3.6**	
	comp=Z,4.5nm,0.6s,mb4.7,baz=41,slow=8.5,SNR=17								
AKASG	**Malin Array Be**	**50.41 304**	*e*P		**P**		**01 08 18.7**	**-0.2**	
AKASG			pmax	pmax					
	comp=Z,5.0nm,0.6s								
SOC	**Sochi**	**50.44 291**	*i* P		**P**		**01 08 24.1**	**+4.9**	
YKA	**Yellowknife Ar**	**53.13 29**	LR	LR			01 35 17.5		
	comp=Z,25nm,19.2s,MS3.3,baz=255,slow=41								
LVV	**L'vov**	**53.35 307**	*e*P		**P**		**01 08 40.8**	**0.0**	
KWP	**Kalwaria**	**54.07 307**⇓	*i*P		**P**		**01 08 46.9**	**+0.9**	
BUR08	**Bucovina Ar. S**	**54.45 304**	*e*P		**P**		**01 08 47.0**	**-1.9**	
BURAR	**Bucovina Array**	**54.47 304**⇑	*i*P		**P**		**01 08 49.5**	**+0.5**	
BURAR	**Bucovina Array**	**54.47 304**	⇑P		**P**		**01 08 49.5**	**+0.5**	
KOLS	**Kolonicke sedl**	**54.78 307**	*e*P		**P**		**01 08 51.5**	**+0.3**	
STHS	**Stebnicka Huta**	**54.86 308**	*e*P		**P**		**01 08 52.8**	**+1.0**	
STHS			pmax	pmax					
	comp=Z,2.0nm,0.9s,mb4.2								
STHS	**Stebnicka Huta**	**54.86 308**	*e*P		**P**		**01 08 52.8**	**+1.0**	
	comp=Z,2.2nm,0.9s,mb4.2								
CRVS	**Cervenica-Dubn**	**55.15 308**	*e*P		**P**		**01 08 53.8**	**-0.1**	
TIRR	**Tirgusor**	**55.35 300**⇑	*i*P		**P**		**01 09 04.3**	**+8.9**	
VOIR		**56.18 303**⇓	*i*P		**P**		**01 09 03.2**	**+1.8**	
VOIR		**56.18 303**	⇓P		**P**		**01 09 03.2**	**+1.8**	
DPC	**Dobruska-Polom**	**56.20 312**	*e*P		**P**		**01 09 02.3**	**+0.9**	
UPC	**Upice**	**56.20 312**	*e*P		**P**		**01 09 02.1**	**+0.7**	
DRGR		**56.21 305**⇓	*i*P		**P**		**01 09 02.8**	**+1.3**	
DRGR		**56.21 305**	⇓P		**P**		**01 09 02.8**	**+1.2**	
PSZ	**Piszkesteto**	**56.58 308**⇓	*i*P		**P**		**01 09 05.1**	**+0.9**	
PSZ	**Piszkesteto**	**56.58 308**	⇓P		**P**		**01 09 05.1**	**+0.9**	
VYHS	**Vyhne**	**56.59 309**	*e*P		**P**		**01 09 05.0**	**+0.8**	
KOLL	**Kolacno**	**56.71 309**	*e*P		**P**		**01 09 06.4**	**+1.3**	
BRG	**Berggiesshubel**	**56.74 314**	*e*P		**P**		**01 09 05.6**	**+0.3**	
BRG			pmax	pmax					
	comp=Z,3.0nm,1.1s,mb4.2								
BRG	**Berggiesshubel**	**56.74 314**	*e*P		**P**		**01 09 05.6**	**+0.3**	
	comp=Z,4.8nm,1.1s,mb4.4								
PVCC	**Panska Ves**	**56.77 313**	*e*P		**P**		**01 09 06.1**	**+0.7**	
CLL	**Collm**	**56.77 314**	*i* P		**P**		**01 09 05.1**	**-0.4**	
CLL			pmax	pmax					
	comp=Z,7.0nm,1.0s,mb4.7								
CLL	**Collm**	**56.77 314**	*i* P		**P**		**01 09 05.1**	**-0.4**	
	comp=Z,7.0nm,1.0s,mb4.7								
SMOL	**Smolenice**	**57.17 310**	*e*P		**P**		**01 09 09.2**	**+0.9**	
PRU	**Pruhonice**	**57.20 313**	*e*P		**P**		**01 09 09.1**	**+0.6**	
	comp=Z,3.3nm,0.4s,mb4.7								
MODS	**Modra-Piesok**	**57.34 310**	*e*P		**P**		**01 09 09.2**	**-0.3**	
TREC	**Trest**	**57.36 311**	*e*P		**P**		**01 09 10.3**	**+0.6**	
ZST	**Bratislava**	**57.55 310**	*e*P		**P**		**01 09 10.2**	**-0.8**	
BZS	**Buzias**	**57.60 305**⇓	*i*P		**P**		**01 09 12.0**	**+0.6**	
MOX	**Moxa**	**57.83 315**	*e*P		**P**		**01 09 13.3**	**+0.3**	
	comp=Z,8.0nm,1.1s,mb4.7								
MOX	**Moxa**	**57.83 315**	*e*P		**P**		**01 09 13.3**	**+0.3**	
MOX			pmax	pmax					
	comp=Z,8.0nm,1.1s,mb4.7								
NKC	**Novy Kostel**	**57.84 314**	*e*P		**P**		**01 09 05.1**	**-7.9**	
KHC	**Kasperske Hory**	**58.26 312**	*e*P		**P**		**01 09 16.9**	**+0.9**	
GERES	**GERESS Array B**	**58.44 312**	P		**P**		**01 09 13.8**	**-3.5**	
	comp=Z,1.9nm,0.8s,mb4.2,baz=39,slow=6.8,SNR=18								
GERES	**GERESS Array B**	**58.44 312**	P		**P**		**01 09 13.8**	**-3.4**	
GERES			pmax	pmax					
	comp=Z,2.0nm,0.8s								
PKSM	**Moragy**	**58.44 307**⇓	*i*P		**P**		**01 09 17.9**	**+0.6**	
PKSM	**Moragy**	**58.44 307**	⇓P		**P**		**01 09 17.9**	**+0.6**	
GRA1	**Grafenberg Arr**	**58.75 314**	*e*P		**P**		**01 09 19.6**	**+0.2**	
	comp=Z,5.0nm,1.0s,mb4.5								
GRF	**Grafenberg Arr**	**58.75 314**	*e*P		**P**		**01 09 19.6**	**+0.2**	
GRF			pmax	pmax					
	comp=Z,5.0nm,1.0s,mb4.5								
GRF	**Grafenberg Arr**	**58.75 314**	*e*P		**P**		**01 09 19.6**	**+0.2**	
	comp=Z,5.0nm,1.0s,mb4.5								
DAVOS	**Davos**	**61.62 313**	P		**P**		**01 09 40.3**	**+1.2**	
DAVOX	**Davos/Dischmat**	**61.63 313**	P		**P**		**01 09 40.3**	**+1.1**	
	comp=Z,3.5nm,0.8s,mb4.5,baz=30,slow=3.2,SNR=4.8								
LPL	**La Plagne**	**63.91 314**	*e*P		**P**		**01 09 55.1**	**+0.7**	
	comp=Z,7.5nm,0.9s,mb4.4								
LPL	**La Plagne**	**63.91 314**	*e*P		**P**		**01 09 55.1**	**+0.7**	
LPL			pmax	pmax					
	comp=Z,4.0nm,0.9s,mb4.5								
LPL	**La Plagne**	**63.91 314**	*e*P		**P**		**01 09 55.1**	**+0.7**	
	comp=Z,3.8nm,0.9s,mb4.4								
LPG	**La Plagne**	**63.92 314**	*e*P		**P**		**01 09 55.2**	**+0.8**	
	comp=Z,6.0nm,0.8s,mb4.4								
LPG	**La Plagne**	**63.92 314**	*e*P		**P**		**01 09 55.2**	**+0.8**	
LPG			pmax	pmax					
	comp=Z,3.0nm,0.8s,mb4.4								
LPG	**La Plagne**	**63.92 314**	*e*P		**P**		**01 09 55.2**	**+0.8**	
	comp=Z,3.0nm,0.8s,mb4.4								
MBDF	**Montbardon**	**64.55 314**	*e*P		**P**		**01 10 00.1**	**+1.5**	
	comp=Z,16nm,1.1s,mb4.7								
MBDF	**Montbardon**	**64.55 314**	*e*P		**P**		**01 10 00.1**	**+1.5**	
MBDF			pmax	pmax					
	comp=Z,8.0nm,1.1s,mb4.7								
MBDF	**Montbardon**	**64.55 314**	*e*P		**P**		**01 10 00.1**	**+1.5**	
	comp=Z,8.1nm,1.1s,mb4.7								
ORIF	**Oris-en-Rattie**	**64.74 315**	*e*P		**P**		**01 10 00.6**	**+0.8**	
PGF	**Pioggiola**	**65.47 311**	*e*P		**P**		**01 10 04.7**	**+0.1**	
	comp=Z,15nm,0.9s,mb4.7								
PGF	**Pioggiola**	**65.47 311**	*e*P		**P**		**01 10 04.7**	**+0.1**	
PGF			pmax	pmax					
	comp=Z,8.0nm,0.9s,mb4.8								
PGF	**Pioggiola**	**65.47 311**	*e*P		**P**		**01 10 04.7**	**+0.1**	
	comp=Z,7.7nm,0.9s,mb4.7								
CHMT	**Chamberlain Mo**	**66.90 37**	*e*P		**P**		**01 10 12.7**	**-1.0**	
MCMT	**McKenzie Canyo**	**68.87 38**	*e*P		**P**		**01 10 25.9**	**-0.2**	
KEST	**Kesra**	**71.04 307**	P		**P**		**01 10 39.8**	**+0.1**	
	comp=Z,1.0nm,0.9s,mb3.7,baz=247,slow=20,SNR=4.0								
PDAR	**Pinedale Array**	**71.79 37**	P		**P**		**01 10 42.6**	**-1.4**	
	comp=Z,0.8nm,0.7s,mb3.7,baz=76,slow=3.4,SNR=5.3								
NVAR	**Mina Array Bea**	**72.51 45**	P		**P**		**01 10 50.0**	**+1.6**	
	comp=Z,0.5nm,0.7s,mb3.5,baz=306,slow=4.4,SNR=4.3								
ESDC	**Sonseca Array**	**72.95 319**	P		**P**		**01 10 48.9**	**-2.1**	
	comp=Z,0.9nm,0.6s,mb3.9,baz=20,slow=6.9,SNR=7.5								
TORD	**Torodi Ar. Bea**	**93.97 302**	P		**P**		**01 12 39.7**	**-0.2**	
	comp=Z,0.7nm,0.9s,mb4.1,baz=12,slow=5.2,SNR=5.3								
TORD			PP		PP		01 16 23.1	-2.1	
	comp=Z,1.1nm,1.0s,baz=45,slow=7.4,SNR=4.5								
QSPA	**South Pole Qui**	**146.96 180**	PKPbc		PKPbc		01 19 03.0	+0.4	
	comp=Z,2.1nm,0.7s,baz=237,slow=0.3,SNR=5.7								
QSPA	**South Pole Qui**	**146.96 180**	PKPbc		PKPbc		01 19 03.0	+0.4	

*ISCJB **28** 01:05:56.3±0.9, 1566S±005×7236W±006, h106km±9km, mb3.9/14, Error ellipse: s-maj=11.3km s-min=6.0km az=136.3*

*NEIC **28** 01:05:58.7±1.0, 1569S×7251W, h116km±10km, mb4.1/6, Error ellipse: s-maj=16.4km s-min=8.5km az=56.0*

NEIC Felt [III] at Chuquibamba and [II] at Caraveli.

*IDC **28** 01:05:59.9±0.9, 1561S×7224W, h121km±7km, mb3.7/9, mb1 3.8/12, mb1mx3.8/19, mbtmp3.7/12, Error ellipse: s-maj=19.4km s-min=11.4km az=54.0*

ISC 28 01:05:57.7±0.7, 1564S±005×7235W±006, h101km±7km, n30, σ1§03/36, mb3.9/14, Southern Peru

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LPAZ	**La Paz**	**4.11 100**		P	**Pn**	**01 07 03.8**	**+5.5**
	7.8nm,0.3s,baz=278,slow=9.1,SNR=92						
LPAZ				S	**Sn**	**01 07 46.7**	**+1.3**
	1.3nm,0.3s,baz=256,slow=4.6,SNR=2.7						
LPAZ	**La Paz**	**4.11 100**		P	**Pn**	**01 07 03.8**	**+5.5**
LPAZ				S	**Sn**	**01 07 46.7**	**+1.3**
NNA	**Nana**	**5.68 309**		P	**Pn**	**01 07 17.9**	**-1.8**
	24nm,0.3s,baz=136,slow=12,SNR=47						
NNA				S	**Sn**	**01 08 17.9**	**-5.6**
	34nm,0.3s,baz=208,slow=22,SNR

EVR	**Evrytania**	**1.19**	**130**	*e*PN		**Pn**	**01 21 35.0**	**-1.2**
BIA	**Bitola**	**1.42**	**21**	*i* Pn		**Pn**	**01 21 37.0**	**-2.5**
BIA				*i* Sn		**Sn**	**01 21 58.7**	**-0.2**
BIA	**Bitola**	**1.42**	**21**	*i* Pn		**Pn**	**01 21 36.9**	**-2.6**
OHR	**Ohrid**	**1.42**	**4**	*i* Pn		**Pn**	**01 21 40.5**	**+1.0**
OHR				*i* Sn		**Sn**	**01 21 59.4**	**+0.5**
VLS	**Valsamata**	**1.52**	**182**	*e*Pn		**Pn**	**01 21 41.8**	**+1.0**
VLS	**Valsamata**	**1.52**	**182**	*e*PN		**Pn**	**01 21 41.8**	**+1.0**
KRUS	**Krusevo**	**1.73**	**15**	*i* Pn		**Pn**	**01 21 43.8**	**0.0**
KRUS				*i* Sn		**Sn**	**01 22 06.5**	**-0.1**
KRUS	**Krusevo**	**1.73**	**15**	*i* Pn		**Pn**	**01 21 43.7**	**-0.1**
KRUS				*i* Sn		**Sn**	**01 22 06.4**	**-0.2**
VAY	**Valandovo**	**2.19**	**41**	*i* Pn		**Pn**	**01 21 50.4**	**+0.4**
VAY				*i* Sn		**Sn**	**01 22 17.6**	**-0.2**
STIP	**Stip**	**2.31**	**30**	*i* Pn		**Pn**	**01 21 53.1**	**+1.3**

*MOS **28** 01:30:35.6±2.2,5736N×12085E,h11km,mb4.2/1,Error ellipse: s-maj=46.1km s-min=32.1km az=46.5*

BYKL 28 01:30:35.6±0.5,5743N×12084E,1D,Southeastern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CRS	**Chara**	**1.50**	**250**	*e*P	Pn	01 31 03.1	-0.6
CRS				*e*		01 31 21.6	
CRS				pmax	pmax		
	comp=Z,111nm,0.4s						
CRS				smax			
	comp=E,289nm,0.5s						
CRS	**Chara**	**1.50**	**250**	ǁ *i*Pg	Pg	01 31 03.1	-1.2
CRS				*e*Sg	Sg	01 31 21.8	-1.9
CRS				Pmax			
	comp=E,113nm,0.4s						
CRS				Smax			
	comp=E,285nm,0.5s						
CLNS	**Chul'man**	**2.29**	**103**	*e*P	Pn	01 31 15.8	+1.3
CLNS				*e*S	Sn	01 31 45.0	+1.6
CLNS				pmax	pmax		
	comp=Z,12nm,0.3s						
CLNS				pmax	pmax		
	comp=N,5.0nm,0.2s						
CLNS				pmax	pmax		
	comp=E,5.0nm,0.2s						
CLNS				smax			
	comp=Z,16nm,0.3s						
CLNS				smax			
	comp=N,25nm,0.3s						
CLNS				smax			
	comp=E,20nm,0.2s						
CLNS	**Chul'man**	**2.29**	**103**	*e*Pg	Pg	01 31 16.1	-3.3
CLNS				*e*Sg	Sg	01 31 45.6	-3.4
IENR	**Iengra**	**2.52**	**117**	*e*Pg	Pg	01 31 21.9	-1.9
IENR				*e*Sg	Sg	01 31 54.3	-2.1
ALDR	**Aldan**	**2.70**	**62**	*e*Sg	Sg	01 31 58.6	-3.8
NLYR	**Nelyaty**	**2.97**	**254**	*e*P	Pn	01 31 28.5	+4.6
NLYR	**Nelyaty**	**2.97**	**254**	*e*Pn	Pn	01 31 24.0	+0.1
NLYR				*e*Pg	Pg	01 31 28.9	-3.5
NLYR				*e*Sg	Sg	01 32 05.9	-4.9
NLYR				Pmax			
	comp=E,44nm,0.3s						
NLYR				Smax			
	comp=E,266nm,1.0s						
TUP	**Tupik**	**3.05**	**190**	*e*P	Pn	01 31 23.7	-1.3
TUP				*e*S	Sn	01 32 00.5	-1.7
TUP				pmax	pmax		
	comp=Z,44nm,0.5s						
TUP				smax			
	comp=E,304nm,0.8s						
TUP	**Tupik**	**3.05**	**190**	*e*Pg	Pg	01 31 29.8	-4.3
TUP				*e*Sg	Sg	01 32 09.1	-4.5
TUP				Pmax			
	comp=E,44nm,0.4s						
TUP				Smax			
	comp=E,315nm,0.8s						
TNDR	**Tynda**	**3.15**	**135**	*e*	Pn	01 31 04.7	-22
TNDR				*e*Pn	Pn	01 31 26.6	+0.2
TNDR				*e*Pg	Pg	01 31 32.6	-3.3
TNDR				*e*Sg	Sg	01 32 14.0	-2.7
BOD	**Bodaibo**	**3.70**	**279**	*e*Pn	Pn	01 31 21.4	-12
BOD				*e*Sg	Sg	01 32 27.7	-6.6
BOD				Smax			
	comp=E,198nm,0.6s						
UKT	**Uakit**	**4.45**	**247**	*e*Pn	Pn	01 31 45.4	+1.2
UKT				*e*Sg	Sg	01 32 52.4	-6.0
UKT				Smax			
	comp=E,72nm,1.2s						
YOA	**Uoyan**	**5.18**	**259**	*e*Sg	Sg	01 33 16.1	-5.7
YOA				Smax			
	comp=E,357nm,1.4s						
KMO	**Kumora**	**5.54**	**258**	*e*P	Pn	01 31 59.4	+0.2
KMO				*e*S	Sn	01 33 00.1	-3.3
KMO				pmax	pmax		
	comp=Z,4.0nm,0.5s						
KMO				smax			
	comp=E,105nm,1.2s						
KMO	**Kumora**	**5.54**	**258**	*e*Pg	Pg	01 32 15.9	-5.7
KMO				*e*Sg	Sg	01 33 27.3	-6.0
KMO				Pmax			
	comp=E,18nm,0.9s						
KMO				Smax			
	comp=E,104nm,1.1s						
YLYR	**Ulyunkhan**	**5.98**	**249**	*e*Pn	Pn	01 32 05.4	+0.1
YLYR				*e*		01 32 35.2	
YLYR				*e*Sg	Sg	01 33 40.2	-7.4
YLYR				Smax			
	comp=E,45nm,1.3s						
NIZ	**Nizh Angarsk**	**6.46**	**260**	*e*Sg	Sg	01 33 54.8	-8.0
NIZ				Smax			
	comp=E,45nm,0.7s						
SYVR	**Suvo**	**7.22**	**243**	*e*Pn	Pn	01 33 12.9	+51
SYVR				*e*Sg	Sg	01 34 19.3	-7.9
SYVR				Smax			
	comp=E,54nm,1.3s						
OGRR	**Ongureny**	**8.41**	**249**	*e*Sg	Sg	01 34 55.6	-10
OGRR				Smax			
	comp=E,31nm,1.6s						
KPC	**Khapcheranga**	**9.23**	**217**	*e*		01 34 16.0	
KPC				*e*Sg	Sn	01 35 20.2	+46
KPC				Smax			
	comp=E,35nm,1.0s						
HRMR	**Khuramsha**	**9.94**	**240**	*e*Sg	Sn	01 35 43.7	+52
HRMR				Smax			
	comp=E,99nm,1.4s						

*MOS **28** 01:34:17.5±1.7,4959N×15748E,h4km,mb4.2/1,Error ellipse: s-maj=99.7km s-min=14.5km az=83.7*

KRSC 28 01:34:16.9±2.2,4920N×15724E,h5km±5km,ML4.1,East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**1.65**	**334**	*e*PN	Pn	01 34 48.8	+2.3
SKR				*e*S	Sn	01 35 03.5	-4.6
SKR				smax			
	comp=N,260nm,0.2s						
SKR				smax			
	comp=E,360nm,0.2s						
MIPR	**Malaya Ipel'ka**	**3.10**	**355**	P	Pn	01 35 08.6	+2.3
RUS	**Russkaya**	**3.34**	**14**	*e*P	Pn	01 35 11.4	+1.7
RUS				*i* S	Sn	01 35 51.0	+1.4
NLC	**Nalytchevo**	**4.19**	**18**	P	Pn	01 35 22.6	+1.2
NLC				*i* S	Sn	01 36 10.8	+0.1
SDLR	**Sedlovina**	**4.21**	**14**	P	Pn	01 35 23.8	+2.1
SDLR				*i* S	Sn	01 36 12.2	+1.0
SPN	**Mys Shipunski**	**4.28**	**23**	P	Pn	01 35 24.9	+2.3
SPN				*i* S	Sn	01 36 14.6	+1.8
GNL	**Ganaly**	**4.52**	**5**	P	Pn	01 35 27.5	+1.6
MKZ	**Mys Kozlova**	**6.04**	**26**	P	Pn	01 35 48.8	+2.0
MKZ				*i* S	Sn	01 36 55.9	-0.3
KBTR	**Krutoberegovo**	**7.79**	**24**	P	Pn	01 36 11.1	+0.3

*NEIC **28** 01:47:00.7±1.2,5135N×16.16E,h5km,ML2.4(BRA), ML2.6(SZGRF),Error ellipse: s-maj=12.6km s-min=4.9km az=195.0*
*IPEC **28** 01:47:00.9±0.3,5138N×1651E,h0km,ML1.7/3,Error ellipse: s-maj=2.9km s-min=1.9km az=98.0*
*CSEM **28** 01:47:00.8±0.2,5140N×1617E,h0km,ML3.1/5,Error ellipse: s-maj=4.1km s-min=1.5km az=11.0*
*PRU **28** 01:47:02.1,5132N×1614E,h0km*

WAR 28 01:47:00.5,5144N×1619E,Mw2.4,1D,Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.60**	**174**	*e*Pg	Pg	01 47 11.5	-0.6
KSP				*e*Sg	Sg	01 47 19.5	-0.3
KSP	**Ksiaz**	**0.60**	**174**	*e*Pg	Pg	01 47 11.4	-0.6
KSP				*e*Sg	Sg	01 47 18.6	-1.2
KSP	**Ksiaz**	**0.60**	**174**	ǁ *i*Pg	Pg	01 47 11.5	-0.5
KSP				*e*Sg	Sg	01 47 18.9	-0.9
UPC	**Upice**	**0.94**	**187**	*e*PG	Pg	01 47 17.8	-0.7
DPC	**Dobruska-Polom**	**1.10**	**176**	*e*Pg	Pg	01 47 20.3	-1.2
DPC				*e*Sg	Sg	01 47 34.0	-1.7
DPC	**Dobruska-Polom**	**1.10**	**176**	*e*PG	Pg	01 47 20.3	-1.2
DPC				*e*SG	Sg	01 47 34.8	-0.9
	20nm,0.3s						
PVCC	**Panska Ves**	**1.38**	**229**	*e*PG	Pg	01 47 26.1	-0.7
BRG	**Berggiesshubel**	**1.53**	**249**	Pg	Pg	01 47 28.6	-1.2
BRG				Sg	Sg	01 47 48.8	-0.7
BRG				SG	Sg	01 47 48.8	-0.7
	38nm,0.5s						
BRG	**Berggiesshubel**	**1.53**	**249**	PG	Pg	01 47 28.6	-1.2
PRU	**Pruhonice**	**1.79**	**216**	*e*PG	Pg	01 47 32.8	-2.1
PRU				*ex*	x	01 47 50.8	
PRU				*e*SG	Sg	01 47 56.5	-1.6
	20nm,0.2s						
MORC	**Moravsky Berou**	**1.88**	**152**	*e*Pn	Pn	01 47 32.1	-1.7
MORC				*e*Sg	Sg	01 47 58.7	-2.0
MORC	**Moravsky Berou**	**1.88**	**152**	*e*Pn	Pn	01 47 31.8	-2.0
MORC				*e*Sg	Sg	01 47 58.6	-2.1
CLL	**Collm**	**2.00**	**267**	*e*Pg	Pg	01 47 38.0	-0.9
CLL				*e*Sg	Sg	01 48 04.0	-0.9
	comp=Z,12nm,0.5s						
OKC	**Ostrava-Krasne**	**2.03**	**141**	*e*PG	Pg	01 47 38.3	-1.1
OKC				*e*SG	Sg	01 48 03.9	-1.8
	comp=Z,12nm,0.4s						
VRAC	**Vranov**	**2.15**	**173**	*e*Pn	Pn	01 47 37.3	-0.3
VRAC				*e*Sg	Sg	01 48 05.3	-4.3
KRUC	**Moravsky**	**2.39**	**177**	*e*Pn	Pn	01 47 40.6	-0.2
KRUC				*e*Sg	Sg	01 48 12.9	-4.2
	comp=Z,2.7nm,0.2s						
OJC	**Ojcow**	**2.59**	**117**	*e*Pg	Pg	01 47 49.7	-0.5
OJC				*e*Sg	Sg	01 48 23.6	-0.1
NKC	**Novy Kostel**	**2.67**	**244**	*e*PN	Pn	01 47 45.0	+0.4
NKC				*e*PG	Pg	01 47 49.5	-2.1
NKC				*e*SG	Sg	01 48 24.4	-1.7
	comp=Z,36nm,0.3s						
KHC	**Kasperske Hory**	**2.86**	**217**	*e*PN	Pn	01 47 46.8	-0.5
KHC				*e*PG	Pg	01 47 52.2	-3.0
KHC				*e*SN	Sn	01 48 21.0	-1.3
KHC				*e*SG	Sg	01 48 29.5	-2.8
	comp=Z,6.6nm,0.5s						
MOX	**Moxa**	**3.00**	**256**	*e*PG	Pg	01 47 57.2	-0.7
MOX				*e*SG	Sg	01 48 36.7	-0.1
SMOL	**Smolenice**	**3.04**	**164**	*e*PG	Pg	01 47 58.3	-0.4
SMOL				*e*SG	Sg	01 48 38.0	0.0
SMOL	**Smolenice**	**3.04**	**164**	*e*Pg	Pg	01 47 58.4	-0.3
SMOL				*e*Sg	Sg	01 48 38.0	0.0
GEC2	**GERESS Array S**	**3.05**	**213**	*e*Pg	Pg	01 47 55.7	-3.3
GEC2				*e*Sg	Sg	01 48 33.5	-5.1
GEC2	**GERESS Array S**	**3.05**	**213**	*e*Pg	Pg	01 47 55.6	-3.3
GEC2				*e*Sg	Sg	01 48 33.5	-5.1
WET	**Wettzell**	**3.13**	**224**	*e*Pn	Pn	01 47 50.2	-0.9
MODS	**Modra-Piesok**	**3.15**	**167**	*e*PG	Pg	01 47 57.2	-3.6
MODS				*e*SG	Sg	01 48 40.5	-1.1
KOLL	**Kolacno**	**3.20**	**153**	*e*PG	Pg	01 47 59.2	-2.6
KOLL				*e*SG	Sg	01 48 40.9	-2.4
ZST	**Bratislava**	**3.30**	**169**	*e*SG	Sg	01 48 44.2	-2.3
NIE	**Niedzica**	**3.32**	**126**	*e*P	Pg	01 48 03.1	-1.0
NIE				*e*S	Sg	01 48 46.2	-1.0
VYHS	**Vyhne**	**3.41**	**149**	*e*PG	Pg	01 48 06.1	+0.3
STHS	**Stebnicka Huta**	**3.81**	**120**	*e*PG	Pg	01 48 13.0	-0.5
STHS				*e*SG	Sg	01 49 04.4	+1.5

*MOS **28** 02:14:05.0±2.3,5746N×12071E,h11km,mb4.2/1,Error ellipse: s-maj=52.7km s-min=29.1km az=144.1*

BYKL 28 02:14:04.3±0.4,5737N×12080E,h5km±11km, Southeastern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CRS	**Chara**	**1.46**	**252**	*e*P	Pn	02 14 31.2	0.0
CRS				*e*		02 14 49.8	
CRS				pmax	pmax		
	comp=Z,39nm,0.7s						
CRS				smax			
	comp=E,236nm,0.7s						
CRS	**Chara**	**1.46**	**252**	*e*Pg	Pg	02 14 31.1	-1.1
CRS				*e*Sg	Sg	02 14 50.0	-1.1
CRS				Pmax			
	comp=E,51nm,0.5s						
CRS				Smax			
	comp=E,238nm,0.6s						
CLNS	**Chul'man**	**2.30**	**102**	*e*P	Pn	02 14 43.3	+0.6
CLNS				*e*S	Sn	02 15 13.9	+2.6
CLNS				pmax	pmax		
	comp=Z,9.0nm,0.2s						
CLNS				pmax	pmax		
	comp=E,4.0nm,0.2s						
CLNS				pmax	pmax		
	comp=N,3.0nm,0.2s						
CLNS				smax			
	comp=E,5.0nm,0.2s						
CLNS				smax			
	comp=Z,6.0nm,0.2s						
CLNS				smax			
	comp=N,7.0nm,0.2s						
CLNS	**Chul'man**	**2.30**	**102**	*e*Pn	Pn	02 14 43.6	+0.9
CLNS				*e*Pg	Pg	02 14 45.3	-3.0
CLNS				*e*Sg	Sg	02 15 14.9	-3.1
IENR	**Iengra**	**2.51**	**115**	*e*Pn	Pn	02 14 46.0	+0.3
IENR				*e*Pg	Pg	02 14 49.6	-2.8
IENR				*e*		02 14 53.0	
IENR				*e*Sg	Sg	02 15 22.2	-2.7
NLYR	**Nelyaty**	**2.93**	**255**	*e*P	Pn	02 14 51.4	0.0
NLYR	**Nelyaty**	**2.93**	**255**	*e*Pn	Pn	02 14 51.7	+0.3
NLYR				*e*Pg	Pg	02 14 56.8	-3.6
NLYR				*e*Sg	Sg	02 15 34.4	-3.9
NLYR				Smax			
	comp=N,276nm,1.3s						
TUP	**Tupik**	**2.99**	**190**	*e*Pn	Pn	02 14 53.0	+0.7
TUP				*e*Pg	Pg	02 14 59.1	-2.4
TUP				*e*Sn	Sn	02 15 28.3	-0.2
TUP				*e*Sg	Sg	02 15 36.9	-3.4
TUP				Pmax			
	comp=N,31nm,0.6s						
TUP				Smax			
	comp=N,210nm,0.6s						
TNDR	**Tynda**	**3.12**	**134**	*e*Pn	Pn	02 14 54.7	+0.6
TNDR				*e*Pg	Pg	02 15 00.4	-3.7
TNDR				*e*		02 15 33.2	
TNDR				*e*Sg	Sg	02 15 41.1	-3.4
BOD	**Bodaibo**	**3.69**	**280**	*e*P	Pn	02 15 01.0	-0.8
BOD				pmax	pmax		
	comp=Z,10.0nm,0.3s						
BOD	**Bodaibo**	**3.69**	**280**	*e*Pn	Pn	02 15 01.3	-0.5
BOD				Pg	Pg	02 15 10.1	-4.7
BOD				*e*Sg	Sg	02 15 57.4	-5.2
BOD				Pmax			
	comp=Z,6.0nm,0.2s						
BOD				Smax			
	comp=Z,141nm,0.6s						
SVKR	**Severomuysk**	**4.18**	**256**	*e*Sg	Sg	02 16 13.0	-5.4
SVKR				Smax			
	comp=Z,179nm,0.9s						
UKT	**Uakit**	**4.41**	**248**	*e*P	Pn	02 15 22.7	+11
UKT				pmax	pmax		
	comp=Z,11nm,0.6s						
UKT	**Uakit**	**4.41**	**248**	*e*Pg	Pg	02 15 23.1	-5.5
UKT				*e*Sg	Sg	02 16 19.2	-6.5
UKT				Smax			
	comp=Z,57nm,0.8s						
KMO	**Kumora**	**5.50**	**258**	*e*	Pn	02 15 45.1	+18
KMO				*e*Sg	Sg	02 16 54.7	-6.2
KMO				Smax			
	comp=Z,74nm,1.1s						
YLYR	**Ulyunkhan**	**5.94**	**249**	*e*Sg	Sg	02 17 08.6	-6.3
YLYR				Smax			
	comp=Z,34nm,1.3s						
YAK	**Yakutsk**	**6.48**	**40**	*e*P	Pn	02 15 38.0	-2.2
YAK				*e*		02 16 47.7	
YAK				pmax	pmax		
	comp=Z,10.0nm,0.4s						
YAK				smax			
	comp=N,11nm,0.6s						
YAK				smax			
	comp=E,16nm,0.6s						
SYVR	**Suvo**	**7.17**	**243**	*e*Sg	Sg	02 17 47.3	-7.0
SYVR				Smax			
	comp=E,47nm,1.0s						
KPC	**Khapcheranga**	**9.16**	**217**	*e*Sg	Sn	02 18 47.1	+47
KPC				Smax			
	comp=E,29nm,1.4s						

*ISK **28** 02:15:42.6,3467N×2690E,h25km,ML3.5*
*ISCJB **28** 02:15:46.5±0.7,3507N±002×27.17E±003,h1km±5km, mb3.5/5,Error ellipse: s-maj=4.2km s-min=3.9km az=2.3*
*CSEM **28** 02:15:48.6±0.1,3508N×27.11E,h20km,MD3.8,Error ellipse: s-maj=1.7km s-min=1.7km az=65.0*
*NEIC **28** 02:15:49.1,3525N×2707E,h24km,MD3.8(ATH),After ATH.*
*ATH **28** 02:15:49.1,3525N×2707E,h24km±1km,MD3.8/7*
*IDC **28** 02:15:53.0±3.1,3500N×2710E,h36km±31km,mb3.3/4, mb1 3.4/8,mb1mx3.4/22,mbtmp3.3/8,ML3.4/4,Error ellipse: s-maj=26.3km s-min=15.0km az=179.0*
*DDA **28** 02:15:54.7,3569N×2772E,h5km±3km,Md3.4*
*HLW **28** 02:16:00.0,3454N×2750E,h33km,Mb2.5*

ISC 28 02:15:48.1±0.7,3511N±003×2710E±003,h0km±5km,n76, σ1§16/95,mb3.5/5,Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KARP	**Karpathos**	**0.44**	**6**	*e*Pb	**Pg**	**02 15 55.9**	**-0.6**
KARP				*e*Sb	**Sg**	**02 16 01.4**	**-0.8**
KARP	**Karpathos**	**0.44**	**6**	*e*PB	**Pg**	**02 15 55.9**	**-0.6**
KARP				*e*SB	**Sg**	**02 16 01.4**	**-0.8**
ZKR	**Zakros**	**0.72**	**271**	P	**Pg**	**02 16 02.4**	**+0.4**
ZKR				S	**Sg**	**02 16 14.9**	**+3.5**
NPS	**Neapolis**	**1.23**	**278**	*e*Pn	**Pn**	**02 16 11.5**	**-1.0**
NPS	**Neapolis**	**1.23**	**278**	*e*PN	**Pn**	**02 16 11.5**	**-1.0**
LASI	**Lasithi**	**1.33**	**273**	P	**Pg**	**02 16 13.4**	**-0.2**
LAST	**Lasithi**	**1.33**	**273**	P	**Pg**	**02 16 13.9**	**+0.3**
ARG	**Arkhangelos**	**1.39**	**37**	*e*Pn	**Pn**	**02 16 13.7**	**-0.9**
ARG	**Arkhangelos**	**1.39**	**37**	*e*PN	**Pn**	**02 16 13.7**	**-0.9**
IDI	**Anoyia**	**1.82**	**276**	Pn	**Pn**	**02 16 22.1**	**+1.5**
	12nm,0.3s,baz=97,slow=17,SNR=110						
IDI				Sn	**Sg**	**02 16 46.3**	**-0.2**
	12nm,0.3s,baz=254,slow=23,SNR=5.8						
THR1	**Thera Island**	**1.83**	**314**	P	**Pn**	**02 16 20.1**	**-0.7**
THR6	**Thira Island,**	**1.86**	**312**	P	**Pn**	**02 16 20.6**	**-0.6**
SIVA	**Sivas**	**1.88**	**268**	P	**Pg**	**02 16 24.5**	**+0.4**
SIVA	**Sivas**	**1.88**	**268**	P	**Pg**	**02 16 25.1**	**+1.0**
THR3	**Thira Island,**	**1.90**	**314**	P	**Pn**	**02 16 20.7**	**-1.0**
BODT	**Bodrum**	**1.96**	**5**	*e*PN	**Pn**	**02 16 21.4**	**-1.1**
BDRM	**Kayabasi**	**1.97**	**8**	*i* P	**Pn**	**02 16 21.9**	**-0.8**
BDRM				*i* S	**Sn**	**02 16 46.2**	**-2.0**
DALT	**Dalyan (Mudla)**	**2.07**	**37**	*e*PN	**Pn**	**02 16 24.0**	**-0.1**
DALT				*e*SN	**Sn**	**02 16 52.9**	**+2.3**
TURN	**Turunc**	**2.14**	**34**	*i* P	**Pn**	**02 16 21.5**	**-3.5**
TURN				*i* S	**Sn**	**02 16 47.3**	**-5.0**
YER	**Yerkesik**	**2.24**	**25**	*e*PN	**Pn**	**02 16 25.6**	**-0.8**
MLSB	**Milas**	**2.25**	**14**	*e*PN	**Pn**	**02 16 26.4**	**-0.2**
MLSB				*e*SN	**Sn**	**02 16 56.8**	**+1.8**
APE	**Apeiranthos**	**2.33**	**327**	*e*Pn	**Pn**	**02 16 26.5**	**-1.2**
APE	**Apeiranthos**	**2.33**	**327**	*e*PN	**Pn**	**02 16 26.5**	**-1.2**
GCAM	**G?zelcaml?**	**2.59**	**2**	*e*P	**Pn**	**02 16 32.4**	**+1.2**
SMG	**Samos**	**2.60**	**355**	*e*Pn	**Pn**	**02 16 29.9**	**-1.5**
SMG	**Samos**	**2.60**	**355**	*e*PN	**Pn**	**02 16 29.9**	**-1.5**
AYDN	**Tasoluk**	**2.62**	**14**	*i* P	**Pn**	**02 16 34.0**	**+2.3**
AYDN				*i* S	**Sn**	**02 17 04.5**	**+0.3**
ELL	**Elmali**	**2.81**	**54**	*e*PN	**Pn**	**02 16 33.2**	**-0.9**
GOLH	**Golhisar**	**2.91**	**42**	*i* P	**Pn**	**02 16 37.1**	**+1.5**
GOLH				*i* S	**Sg**	**02 17 24.0**	**+2.4**
DENT	**Denizli**	**3.06**	**30**	*e*PN	**Pn**	**02 16 38.0**	**+0.2**
BLCB	**Balcova**	**3.27**	**359**	*e*PN	**Pn**	**02 16 39.9**	**-0.7**
IZM	**Izmir**	**3.29**	**2**	*e*PN	**Pn**	**02 16 41.1**	**+0.3**
ANTB	**Antalya**	**3.39**	**57**	*e*PN	**Pn**	**02 16 41.4**	**-0.9**
KULA	**Kula-Manisa**	**3.62**	**20**	*e*PN	**Pn**	**02 16 45.7**	**+0.3**
BCK	**Bucak**	**3.67**	**49**	*e*PN	**Pn**	**02 16 46.2**	**+0.2**
VLI	**Veliai**	**3.74**	**297**	*e*Pb	**Pb**	**02 16 50.4**	**-4.6**
VLI	**Veliai**	**3.74**	**297**	*e*PB	**Pb**	**02 16 50.4**	**-4.6**
KHL	**Karahalli**	**3.75**	**31**	*e*PN	**Pn**	**02 16 47.6**	**+0.5**
KHAL	**Karahalli**	**3.78**	**30**	*i* P	**Pn**	**02 16 47.8**	**+0.2**
DEMI	**Demirci**	**4.13**	**18**	*i* P	**Pn**	**02 16 52.8**	**+0.4**
DEMI				*i* S	**Sn**	**02 17 39.7**	**-1.7**
SHUT	**Suhut-Afyon**	**4.41**	**38**	*e*PN	**Pn**	**02 16 55.8**	**-0.4**
BALY	**Balya**	**4.64**	**5**	*i* P	**Pn**	**02 17 00.0**	**+0.6**
BALY				*i* S	**Sn**	**02 17 56.5**	**+2.5**
ITM	**Ithomi**	**4.67**	**298**	*e*Pn	**Pn**	**02 16 59.8**	**0.0**
ITM	**Ithomi**	**4.67**	**298**	*e*PN	**Pn**	**02 16 59.8**	**0.0**
HDMB	**Hadim**	**4.74**	**65**	*e*PN	**Pn**	**02 16 59.2**	**-1.5**
LEF	**Lefka**	**4.75**	**88**	*e*PN	**Pn**	**02 16 56.8**	**-4.0**
ERMK	**Ermenek**	**4.96**	**70**	*i* P	**Pn**	**02 17 06.3**	**+2.5**
ERMK				*i* S	**Sn**	**02 18 03.5**	**+1.7**
KONT	**Konya--Tatoy**	**5.09**	**55**	*e*PN	**Pn**	**02 17 04.5**	**-1.1**
CSS	**Prodhromos**	**5.11**	**90**	*e*Pn	**Pn**	**02 17 03.3**	**-2.6**
CSS	**Prodhromos**	**5.11**	**90**	*e*Pn	**Pn**	**02 17 03.3**	**-2.6**
CSS				*e*Sn	**Sn**	**02 18 06.2**	**+0.6**
CSS	**Prodhromos**	**5.11**	**90**	*e*Pn	**Pn**	**02 17 08.8**	**+2.9**
	5.5nm,0.4s						
CSS				*e*Sn	**Sn**	**02 18 06.2**	**+0.6**
LADK	**Ladik-KONYA**	**5.24**	**52**	*e*PN	**Pn**	**02 17 08.0**	**+0.4**
LFK	**Lefkose**	**5.27**	**86**	*e*PN	**Pn**	**02 17 05.0**	**-3.0**
KDHN	**Kadinhani**	**5.27**	**48**	*i* P	**Pn**	**02 17 08.6**	**+0.5**
KDHN				*i* S	**Sn**	**02 18 09.3**	**-0.2**
KIZT	**Kizilcal**	**5.37**	**44**	*e*PN	**Pn**	**02 17 09.6**	**+0.2**
IKL	**Isikli**	**5.48**	**76**	*e*PN	**Pn**	**02 17 09.2**	**-1.7**
MERS	**Mersin**	**6.27**	**72**	*e*PN	**Pn**	**02 17 20.7**	**-1.0**
GLL	**Jalalah**	**6.75**	**143**	P	**Pn**	**02 17 28.3**	**-0.2**
KAMT	**Kaman**	**6.77**	**49**	*e*PN	**Pn**	**02 17 28.6**	**-0.1**
KARA	**Karaisali**	**6.78**	**69**	*e*PN	**Pn**	**02 17 27.7**	**-1.1**
AMAG	**Maghara**	**6.80**	**129**	P	**Pn**	**02 17 29.8**	**+0.8**
RSH		**6.93**	**125**	P	**Pn**	**02 17 31.5**	**+0.6**
SUZ		**7.14**	**136**	P	**Pn**	**02 17 35.5**	**+1.7**
SUZ				S	**Sn**	**02 18 42.4**	**-13**
MMAI	**Mount Meron Ar**	**7.20**	**105**	Pn	**Pn**	**

STVI	**Saint Thomas**	**6.29**	**101**⇑	*e*P	Pn	02 22 51.8	+2.6
STVI				*e*S	Sn	02 24 02.9	+3.1
LZG	**Guadaloupe-1**	**9.86**	**109**	*e*P	Pn	02 23 35.3	-2.4

IDC **28** *02:32:17.1±0.6, 190N×9788E, h0km, mb4.4/14, mb1 4.5/15, mb1mx4.3/22, mbtmp4.4/15, ML4.3/1, MS3.5/6, Ms1 3.5/6, ms1mx3.3/32, Error ellipse: s-maj=21.1km s-min=15.8km az=58.0*
NEIC **28** *02:32:22.1±0.3, 188N×9797E, h35km, mb4.7/17, Error ellipse: s-maj=9.5km s-min=6.2km az=53.0*
NEIC Felt [II] at Gunungsitoli.
BJI **28** *02:32:23.2, 241N×9825E, h30km, mB5.2, mb4.7*
DJA **28** *02:32:23, 194N×9765E, h49km, MLv4.7/7*
MOS **28** *02:32:25.0±0.6, 196N×9808E, h79km, mb4.8/11, Error ellipse: s-maj=19.4km s-min=9.1km az=100.3*
ISCJB **28** *02:32:26.6±1.5, 199N±007×9798E±008, h90km±13km, mb4.4/35, Error ellipse: s-maj=15.9km s-min=8.1km az=141.0*

ISC 28 02:32:28.2±1.4, 198N±007×9802E±008, h89km±12km, n78, σ0§82/72, mb4.4/35, 7C-3D, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FRIM	**Kepong**	**3.81**	**71**	⇑P	**Pn**	**02 33 24.6**	**-0.2**
IPM	**Ipoh**	**3.90**	**50**	⇑P	**Pn**	**02 33 25.8**	**-0.1**
KULM	**Kulim**	**4.21**	**39**	⇑P	**Pn**	**02 33 30.1**	**-0.1**
KGM	**Kluang**	**5.30**	**90**	⇓P	**Pn**	**02 33 44.9**	**0.0**
SNG	**Songkhla**	**5.78**	**27**	P	**Pn**	**02 33 50.0**	**-1.5**
	660nm,1.0s						
MYKOM	**Kota Tinggi**	**5.83**	**92**	⇑P	**Pn**	**02 33 52.7**	**+0.4**
KTGM	**Kuala Trenggan**	**6.09**	**57**	⇓P	**Pn**	**02 33 56.3**	**+0.5**
KSM	**Kuching**	**12.29**	**92**	⇓P	**Pn**	**02 35 21.5**	**+1.2**
SBUM	**Sibu**	**14.20**	**88**	⇑P	**Pn**	**02 35 47.7**	**+2.4**
CMAR	**Chiang Mai Arr**	**16.40**	**3**	Pn	**Pn**	**02 36 12.1**	**-1.1**
	0.4nm,0.3s,baz=195,slow=13,SNR=16						
CMAR				LR	LR	02 42 36.3	
	comp=Z,107nm,19.4s,baz=185,slow=38						
CHG	**Chiang Mai**	**16.75**	**3**	P	**Pn**	**02 36 16.3**	**-1.2**
CHTO	**Chiang Mai**	**16.75**	**3**	*e*P	**Pn**	**02 36 16.0**	**-1.5**
CHTO				pmax	pmax		
	comp=Z,5.0nm,0.8s						
CHTO	**Chiang Mai**	**16.75**	**3**	*e*P	**Pn**	**02 36 16.0**	**-1.5**
	comp=Z,5.4nm,0.8s						
CHRT	**Chiangrai**	**17.86**	**5**	P	**Pn**	**02 36 31.0**	**0.0**
KKM	**Kota Kinabalu**	**18.59**	**77**	⇑P	**Pn**	**02 36 40.9**	**+1.0**
KKM	**Kota Kinabalu**	**18.59**	**77**	*e*P	**Pn**	**02 36 37.5**	**-2.3**
SDKM	**Sandakan**	**19.47**	**79**	⇑P	**Pn**	**02 36 50.7**	**+0.5**
KAPI	**Kappang**	**22.80**	**108**	P	**P**	**02 37 22.6**	**-1.1**
	comp=Z,5.0nm,0.4s,mb4.2,baz=299,slow=12,SNR=7.3						
KAPI				LR	LR	02 47 19.7	
	comp=Z,176nm,18.1s,baz=89,slow=39						
KAPI	**Kappang**	**22.80**	**108**	*e*P	**P**	**02 37 22.2**	**-1.5**
	comp=Z,10nm,0.9s,mb4.2						
KAPI				LR	LR	02 47 19.7	
TAPN	**Taplejung**	**27.09**	**340**	*e*P	**P**	**02 38 03.4**	**+0.7**
	comp=Z,29nm,0.9s,mb4.8						
RAMN	**Ramite**	**27.14**	**337**	*e*P	**P**	**02 38 04.0**	**+0.9**
JIRN	**Jiri**	**27.93**	**337**	*e*P	**P**	**02 38 10.9**	**+0.7**
GUN	**Gumba**	**28.28**	**337**	*e*P	**P**	**02 38 13.8**	**+0.5**
	comp=Z,19nm,0.6s,mb4.8						
GKN	**Gorkha**	**28.87**	**335**	*e*P	**P**	**02 38 19.4**	**+0.9**
KOLN	**Koldanda**	**29.12**	**333**	*e*P	**P**	**02 38 21.5**	**+0.7**
	comp=Z,22nm,0.6s,mb5.0						
DANN	**Dangsing**	**29.55**	**334**	*e*P	**P**	**02 38 24.4**	**-0.1**
	comp=Z,16nm,0.6s,mb4.8						
XAN	**Xi'an**	**33.48**	**17**	P	**P**	**02 38 57.5**	**-1.5**
XAN				AP	pP	02 39 03.8	-16
XAN				AMB	AMB		
	comp=Z,8.0nm,0.8s,mb4.6						
XAN				AMB	AMB		
	comp=Z,77nm,6.4s						
GTA	**Gaotai**	**37.29**	**2**	*e*P	**P**	**02 39 32.5**	**+0.9**
GTA				AP	pP	02 39 42.0	-10
GTA				XP	sP	02 39 46.0	-17
GTA				AMB	AMB		
	comp=Z,9.0nm,0.7s,mb4.8						
BJT	**Baijiatuau**	**41.30**	**21**	*e*P	**P**	**02 40 03.2**	**-1.7**
BJT				pmax	pmax		
	comp=Z,17nm,0.6s						
BJT	**Baijiatuau**	**41.30**	**21**	*e*P	**P**	**02 40 03.2**	**-1.7**
	comp=Z,17nm,0.6s,mb5.0						
WRAB	**Tennant Creek**	**41.77**	**123**	*e*P	**P**	**02 40 08.4**	**-0.7**
WRAB				pmax	pmax		
	comp=Z,14nm,0.7s,mb4.8						
WRAB	**Tennant Creek**	**41.77**	**123**	*e*P	**P**	**02 40 08.4**	**-0.7**
	comp=Z,14nm,0.7s,mb4.8						
ASAR	**Alice Springs**	**43.22**	**128**	P	**P**	**02 40 20.1**	**-0.7**
	comp=Z,1.6nm,0.5s,mb4.0,baz=299,slow=7.6,SNR=30						
ASAR				PcP	PcP	02 42 10.7	+2.0
	comp=Z,1.4nm,0.8s,baz=309,slow=4.6,SNR=5.4						
KSRS	**Korea Array**	**44.75**	**34**	P	**P**	**02 40 33.0**	**+0.1**
	comp=Z,4.9nm,0.8s,mb4.3,baz=220,slow=9.3,SNR=18						
KSRS				LR	LR	02 59 45.7	
	comp=Z,320nm,21.9s,baz=310,slow=37						
SONM	**Songino Array**	**46.25**	**8**	P	**P**	**02 40 45.5**	**+1.0**
	comp=Z,6.3nm,0.8s,mb4.4,baz=188,slow=8.6,SNR=41						
ULN	**Ulaanbaatar**	**46.37**	**8**	*e*P	**P**	**02 40 45.5**	**+0.1**
ULN				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.2						
ULN	**Ulaanbaatar**	**46.37**	**8**	*e*P	**P**	**02 40 45.5**	**+0.1**
	comp=Z,4.3nm,0.8s,mb4.2						
MK31	**Makanchi Array**	**46.70**	**345**	*e*P	**P**	**02 40 48.3**	**+0.3**
MKAR	**Makanchi Array**	**46.70**	**345**	P	**P**	**02 40 49.0**	**+1.0**
	comp=Z,9.9nm,0.7s,mb4.6,baz=157,slow=8.1,SNR=76						
ZAK	**Zakamensk**	**48.43**	**4**	*e*P	**P**	**02 41 01.6**	**+0.2**
ZAK				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.2						
MJAR	**Matsushiro Arr**	**50.57**	**42**	LR	LR	03 05 39.4	
	comp=Z,60nm,19.1s,baz=30,slow=40						
KURK	**Kurchatov**	**51.26**	**344**	P	**P**	**02 41 23.1**	**+0.3**
	comp=Z,16nm,0.8s,mb5.1,baz=165,slow=7.3,SNR=18						
KURK	**Kurchatov**	**51.26**	**344**	*e*P	**P**	**02 41 23.1**	**+0.3**
KURK				pmax	pmax		
	comp=Z,14nm,0.9s,mb5.0						
KURK	**Kurchatov**	**51.26**	**344**	*e*P	**P**	**02 41 23.1**	**+0.2**
	comp=Z,14nm,0.9s,mb5.0						
CTAO	**Charters Tower**	**52.12**	**117**	*e*P	**P**	**02 41 28.7**	**-1.1**
CTAO				pmax	pmax		
	comp=Z,6.0nm,0.8s,mb4.7						
CTAO	**Charters Tower**	**52.12**	**117**	*e*P	**P**	**02 41 28.7**	**-1.1**
	comp=Z,5.7nm,0.8s,mb4.7						
ZALV	**Zalesovo Beam**	**52.93**	**350**	P	**P**	**02 41 35.5**	**+0.3**
	comp=Z,13nm,0.4s,mb5.3,baz=180,slow=7.0,SNR=72						
STKA	**Stephens Creek**	**53.28**	**133**	P	**P**	**02 41 38.6**	**+0.5**
	comp=Z,3.1nm,0.8s,mb4.4,baz=28,slow=7.5,SNR=6.5						
NAY	**Al-Naaiem**	**55.32**	**305**	*e*P	**P**	**02 41 51.9**	**-1.1**
NAY				AMb	AMB	02 42 11.4	
	comp=Z,12nm,0.9s,mb4.9						
MIB	**Mutribah**	**55.43**	**305**	*e*P	**P**	**02 41 52.7**	**-1.1**
MIB				AMb	AMB	02 42 13.2	
	comp=Z,21nm,1.2s,mb5.0						
BRVK	**Borovoye**	**55.86**	**340**	*e*P	**P**	**02 41 56.3**	**-0.1**
BRVK				pmax	pmax		
	comp=Z,6.0nm,0.6s,mb4.8						
BRVK	**Borovoye**	**55.86**	**340**	*e*P	**P**	**02 41 56.3**	**-0.1**
	comp=Z,5.6nm,0.6s,mb4.8						
BOD	**Bodaibo**	**57.10**	**10**	*e*P	**P**	**02 42 05.4**	**+0.3**
ARU	**Arti**	**62.79**	**337**	*e*P	**P**	**02 42 44.4**	**+0.3**
ARU				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.4						
ARU	**Arti**	**62.79**	**337**	*e*P	**P**	**02 42 44.4**	**+0.3**
	comp=Z,3.6nm,0.8s,mb4.3						
BR131	**Keskin Array S**	**69.20**	**312**	*e*P	**P**	**02 43 24.9**	**-0.6**
	comp=Z,0.7nm,0.6s,mb3.7						
PETK	**Petropavlovsk-**	**70.64**	**33**	LR	LR	03 19 51.3	
	comp=Z,26nm,18.9s,baz=177,slow=40						
LSZ	**Lusaka**	**71.12**	**253**	*e*P	**P**	**02 43 37.4**	**-0.3**
LSZ				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb3.8						
LSZ	**Lusaka**	**71.12**	**253**	*e*P	**P**	**02 43 37.4**	**-0.3**
	comp=Z,1.4nm,0.6s,mb4.0						
MATP	**Matopo**	**71.58**	**248**	P	**P**	**02 43 40.7**	**+0.3**
	comp=Z,6.3nm,0.9s,mb4.5,baz=94,slow=4.6,SNR=11						
MATP	**Matopo**	**71.58**	**248**	P	**P**	**02 43 40.7**	**+0.3**
TIXI	**Tiksi**	**72.28**	**10**	*e*P	**P**	**02 43 43.2**	**-0.4**
TIXI				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.4						
TIXI	**Tiksi**	**72.28**	**10**	*e*P	**P**	**02 43 43.4**	**-0.2**
	comp=Z,6.0nm,0.8s,mb4.5						
MAW	**Mawson**	**73.65**	**193**	LR	LR	03 11 01.9	
	comp=Z,52nm,19.7s,baz=67,slow=32						
LBTB	**Lobatse**	**74.97**	**244**	P	**P**	**02 44 00.8**	**+0.5**
	comp=Z,3.0nm,0.7s,mb4.1,baz=213,slow=8.4,SNR=5.9						

AKASG	**Malin Array Be**	**75.15**	**322**	P	**P**	**02 43 59.3**	**-1.5**
	comp=Z,0.8nm,0.5s,mb3.7,baz=85,slow=5.6,SNR=4.6						
AKBB	**Malin Array Si**	**75.15**	**322**	*e*P	**P**	**02 44 00.9**	**+0.2**
BUR08	**Bucovina Ar. S**	**77.00**	**318**	*e*P	**P**	**02 44 12.1**	**+0.8**
JOF	**Joensuu**	**77.80**	**335**	*e*p	**P**	**02 44 16.1**	**+0.6**
	comp=Z,0.5nm,0.4s,mb3.6						
KAF	**Kangasniemi**	**79.76**	**333**	*e*p	**P**	**02 44 26.6**	**+0.4**
	comp=Z,0.8nm,0.4s,mb3.9						
KAF	**Kangasniemi**	**79.76**	**333**	*e*P	**P**	**02 44 26.6**	**+0.4**
KAF				pmax	pmax		
	comp=Z,1.0nm,0.4s,mb4.0						
ARCES	**ARCESS Array B**	**82.08**	**340**	P	**P**	**02 44 38.7**	**+0.3**
	comp=Z,5.6nm,1.1s,mb4.3,baz=69,slow=6.6,SNR=7.9						
GERES	**GERESS Array B**	**84.77**	**319**	P	**P**	**02 44 51.9**	**-0.7**
	comp=Z,0.7nm,0.8s,mb3.7,baz=104,slow=5.7,SNR=7.7						
NOA	**NORSAR Array B**	**86.73**	**331**	P	**P**	**02 45 01.9**	**-0.2**
	comp=Z,0.7nm,0.6s,mb3.8,baz=94,slow=6.1,SNR=2.9						
TORD	**Torodi Ar. Bea**	**95.71**	**283**	P	**P**	**02 45 45.0**	**0.0**
	comp=Z,0.3nm,0.9s,mb3.7,baz=95,slow=5.9,SNR=2.8						
TBI	**Tubuai**	**111.43**	**114**	*e*LR	LR	02 47 46.2	
	comp=Z,100nm,25.5s						
NVAR	**Mina Array Bea**	**127.68**	**36**	PKP	PKPdf	02 51 26.5	+2.9
	comp=Z,0.5nm,0.7s,baz=264,slow=0.9,SNR=4.9						
DUG	**Dugway**	**129.44**	**31**	*e*PKIKP	PKPdf	02 51 27.9	+1.0

MDD 28 02:33:52.7±2.6, 3942N×081W, h0km, mbLg1.3/3, Error ellipse: s-maj=21.9km s-min=8.0km az=9.0, PRIMO SIN SOLUCI, Spain

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
EBEN	**Beniarda**	**0.85**	**147**	Pg	Pg	02 34 08.0	-1.0
	3.2nm,0.1s,SNR=7.9						
EBEN				Lg		02 34 20.4	
	1.8nm,0.1s,SNR=7.9						
ETOB	**Tobarra**	**0.96**	**217**	Pg	Pg	02 34 10.1	-1.0
	0.7nm,0.1s,SNR=7.9						
ETOB				Lg		02 34 23.4	
	4.3nm,0.2s,SNR=7.9						
EVIA	**Vianos**	**1.53**	**240**	Pg	Pg	02 34 21.1	-0.9
	0.7nm,0.2s,SNR=7.9						
EVIA				Lg		02 34 41.5	
	0.6nm,0.1s,SNR=7.9						
EBER	**Berja**	**3.00**	**214**	Pg	Pn	02 34 44.5	+2.9
	0.5nm,0.1s,SNR=7.9						
EBER				Lg		02 34 50.4	
	1.4nm,0.1s,SNR=7.9						
EQUE	**Quentar**	**3.03**	**224**	Pg	Pg	02 34 51.5	+0.8
	0.3nm,0.2s,SNR=7.9						
EQUE				Lg		02 34 59.8	
	0.4nm,0.2s,SNR=7.9						
EGUA	**Guajares**	**3.37**	**221**	Pg	Pn	02 34 48.0	+1.4
	0.5nm,0.2s,SNR=7.9						
EGUA				Lg		02 34 56.3	
	1.7nm,0.1s,SNR=7.9						

ISCJB **28** *02:42:45.9±0.6, 3707N±003×2926E±003, h3km±6km, Error ellipse: s-maj=5.5km s-min=4.1km az=168.7*
CSEM **28** *02:42:45.0±0.1, 3706N×2928E, h6km±1km, ML3.2, Error ellipse: s-maj=2.4km s-min=1.7km az=3.0*
DDA **28** *02:42:45.9, 3708N×2928E, h23km±2km, Md2.9, Ml3.2*
ISK **28** *02:42:45.4, 3708N×2925E, h10km, MD3.1*

ISC 28 02:42:46.4±0.5, 3707N±003×2927E±003, h8km±5km, n21, σ1§01/32, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GOLH	**Golhisar**	**0.29**	**54**	*i* P	**Pg**	**02 42 51.8**	**-0.4**
GOLH				*i* S	**Sg**	**02 42 57.3**	**+1.2**
TURN	**Turunc**	**0.56**	**250**	*i* P	**Pg**	**02 43 02.4**	**+5.1**
TURN				*i* S	**Sg**	**02 43 13.8**	**+9.2**
DALT	**Dalyan (Mudla)**	**0.58**	**240**	*e*PG	**Pg**	**02 42 56.6**	**-1.0**
DALT				*e*SG	**Sg**	**02 43 06.2**	**+1.0**
ELL	**Elmali**	**0.60**	**121**	*e*PG	**Pg**	**02 42 57.3**	**-0.8**
ELL				*e*SG	**Sg**	**02 43 07.7**	**+1.8**
DENT	**Denizli**	**0.71**	**345**	*e*PG	**Pg**	**02 42 59.4**	**-0.8**
DENT				*e*SG	**Sg**	**02 43 09.4**	**-0.1**
YER	**Yerkesik**	**0.79**	**275**	*e*PG	**Pg**	**02 43 00.5**	**-1.1**
YER				*e*SG	**Sg**	**02 43 12.2**	**+0.4**
ANTB	**Antalya**	**1.12**	**98**	*e*PN	**Pn**	**02 43 07.4**	**-1.1**
BCK	**Bucak**	**1.13**	**69**	*e*PN	**Pn**	**02 43 07.8**	**-0.7**
MLSB	**Milas**	**1.21**	**281**	*e*PN	**Pn**	**02 43 08.1**	**-1.6**
ARG	**Arkhangelos**	**1.25**	**228**	*e*Pn	**Pn**	**02 43 12.0**	**+1.8**
ARG	**Arkhangelos**	**1.25**	**228**	*e*PN	**Pn**	**02 43 12.0**	**+1.8**
AYDN	**Tasoluk**	**1.25**	**299**	*i* P	**Pn**	**02 43 09.8**	**-0.5**
AYDN				*i* S	**Sb**	**02 43 28.0**	**+1.3**
KHL	**Karahalli**	**1.27**	**9**	*e*PN	**Pn**	**02 43 09.7**	**-0.8**
KHAL	**Karahalli**	**1.32**	**8**	*i* P	**Pn**	**02 43 11.1**	**0.0**
KHAL				*i* S	**Sb**	**02 43 31.0**	**+2.6**
BDRM	**Kayabasi**	**1.46**	**271**	*i* P	**Pn**	**02 43 13.8**	**+0.7**
BDRM				*i* S	**Sn**	**02 43 33.5**	**+1.2**
KULA	**Kula-Manisa**	**1.52**	**342**	*e*PN	**Pn**	**02 43 13.6**	**-0.4**
MANT	**Manisa**	**1.53**	**339**	*i* P	**Pn**	**02 43 13.8**	**-0.2**
MANT				*i* S	**Sn**	**02 43 34.2**	**0.0**
BODT	**Bodrum**	**1.56**	**270**	*e*PN	**Pn**	**02 43 13.3**	**-1.2**
SHUT	**Suhut-Afyon**	**1.80**	**34**	*e*PN	**Pn**	**02 43 17.7**	**-0.1**
DEMI	**Demirci**	**2.02**	**348**	*e*P	**Pn**	**02 43 21.5**	**+0.7**
DEMI				*i* S	**Sn**	**02 43 53.1**	**+6.8**
BLCB	**Balcova**	**2.20**	**307**	*e*PN	**Pn**	**02 43 22.5**	**-0.8**

NEIC 28 02:48:40.2, 5233N×17070W, h34km, ML3.5(AEIC)**, After AEIC., Fox Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
NIKO	**Nikolski**	**1.29**	**59**	P	Pn	02 49 01.6	-0.2
NIKO				S	Sn	02 49 18.0	+0.1
OKCE	**Okmok Cone E**	**1.89**	**53**	P	Pn	02 49 10.9	+0.9
OKCD	**Okmok Cone D**	**1.91**	**54**	P	Pn	02 49 11.5	+1.2
ATKA	**Atka Island**	**2.15**	**268**	P	Pn	02 49 14.5	+0.9
ATKA				S	Sn	02 49 40.5	+1.4
UNV	**Unalaska Valle**	**2.95**	**57**	P	Pn	02 49 25.4	+0.8
UNV				S	Sn	02 49 59.9	+1.2
AKGG	**Akutan Green G**	**3.39**	**55**	P	Pn	02 49 32.1	+1.5
ADK	**Adak**	**3.72**	**265**	P	Pn	02 49 36.7	+1.6

ISCJB **28** *02:52:56.7±1.0, 1134N±004×60.10W±007, h33km, Error ellipse: s-maj=10.2km s-min=4.9km az=26.4*
FUNV **28** *02:52:57.5, 1125N×6006W, h20km, MW3.5*
TRN **28** *02:53:01.0, 1148N×6048W, h27km, MD3.4*
NEIC **28** *02:53:01.9, 1148N×6055W, h24km, MD3.4(TRN), After TRN.*

ISC 28 02:52:58.2±1.2, 1135N±004×6014W±007, h32km±5km, n21, σ1§11/34, 1C, Windward Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TOSP	**Speyside**	**0.39**	**263**⇑	*e*P	**Pb**	**02 53 07.9**	**+0.8**
TOSP				*e*S	**Sb**	**02 53 13.7**	**+0.5**
BOT	**Bacolet**	**0.59**	**253**	*e*P	**Pb**	**02 53 11.5**	**+1.2**
BOT				*e*S	**Sb**	**02 53 17.4**	**-1.1**
BOT	**Bacolet**	**0.59**	**253**	*e*P	**Pb**	**02 53 11.5**	**+1.2**
BOT				*e*S	**Sb**	**02 53 17.4**	**-1.1**
TPR	**Prospect**	**0.64**	**256**	*e*P	**Pn**	**02 53 12.3**	**+1.3**
TPR				*e*S	**Sb**	**02 53 18.0**	**-1.8**
TPR	**Prospect**	**0.64**	**256**	*e*P	**Pn**	**02 53 12.3**	**+1.3**
TPR				*e*S	**Sb**	**02 53 18.0**	**-1.8**
TRN	**Trinidad (W)**	**1.42**	**241**	*e*P	**Pn**	**02 53 23.5**	**+1.7**
TRN				*e*S	**Sn**	**02 53 40.6**	**+1.2**
GUIV	**Guiria**	**2.16**	**251**	*e*P	**Pn**	**02 53 32.8**	**+0.9**
GUIV				*e*S	**Sn**	**02 53 58.1**	**+0.5**
SVB	**Belmont**	**2.20**	**331**	*e*P	**Pn**	**02 53 33.5**	**+0.9**
SVB				*e*S	**Sn**	**02 53 58.3**	**-0.3**
ITEV	**Isla Los Testi**	**2.93**	**270**	*e*P	**Pn**	**02 53 43.4**	**+0.8**
ITEV				*e*S	**Sn**	**02 54 17.8**	**+1.1**
GUNV	**Guanoco**	**2.99**	**247**	*e*P	**Pn**	**02 53 44.5**	**+1.1**
GUNV				*e*S	**Sn**	**02 54 17.6**	**-0.6**
CRUV	**Carupano**	**3.11**	**258**	*e*P	**Pn**	**02 53 44.5**	**-0.6**
CRUV				*e*S	**Sn**	**02 54 20.3**	**-0.8**
MVM	**Montagne Vaucl**	**3.27**	**347**	*e*P	**Pn**	**02 53 48.0**	**+0.7**
MVM				*e*S	**Sn**	**02 54 22.9**	**-2.3**
FDF	**Fort de France**	**3.51**	**344**	*e*P	**Pn**	**02 53 51.6**	**+1.1**
FDF				*e*S	**Sn**	**02 54 30.4**	**-0.5**
ORIV	**Oritupano**	**3.93**	**235**	*e*P	**Pn**	**02 53 56.6**	**+0.2**
PCRV	**Puerto La Cruz**	**4.57**	**256**	*e*P	**Pn**	**02 54 04.6**	**-0.5**
PRGV	**PARIAGUAN**	**5.12**	**240**	*e*P	**Pn**	**02 54 11.8**	**-1.0**
LUEV	**Luepa**	**5.62**	**194**	*e*P	**Pn**	**02 54 17.4**	**-2.2**
CUPV	**Cœpira**	**5.69**	**258**	*e*P	**Pn**	**02 54 19.5**	**-1.1**
BIRV	**Birongo**	**6.08**	**262**	*e*P	**Pn**	**02 54 25.7**	**-0.1**
CAOV	**Caicara del Or**	**7.29**	**237**	*e*P	**Pn**	**02 54 41.8**	**-0.7**
BAUV	**El Baul**	**8.13**	**254**	*e*P	**Pn**	**02 54 51.4**	**-2.7**

GII **28** *02:54:44.9±1.1, 3346N×3558E, h0km, EXPLOSION*
ISCJB **28** *02:54:46.6±0.5, 3348N±002×3553E±005, h0km, Error ellipse: s-maj=6.7km s-min=3.1km az=11.1*
CSEM **28** *02:54:47.3, 3343N×3557E, h3km, ML2.9, After GRAL*
GRAL **28** *02:54:47.3±0.3, 3343N×3557E, h4km±17km, MD2.9*

ISC 28 02:54:47.1±0.5, 3348N±002×3553E±005, h0km, n17, σ0§91/22, Jordan - Syria region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MATL	**Matirih**	**0.17**	**274**	*e*P	**Pg**	**02 54 51.1**	**+0.7**
RCY	**Rachaya**	**0.24**	**88**	*e*P	**Pg**	**02 54 51.5**	**-0.3**
HRI	**Mount Hermon**	**0.27**	**141**	Sg	**Sg**	**02 54 55.9**	**+0.1**
KSDI	**Kefar Szold**	**0.30**	**159**	Pg	**Pg**	**02 54 52.2**	**-0.8**
BHL	**Bhannes**	**0.44**	**13**	*e*P	**Pg**	**02 54 55.8**	**+0.2**
BHL				*e*S	**Sg**	**02 55 02.3**	**+1.0**
MMC7	**Mount Meron ar**	**0.47**	**194**	Pg	**Pg**	**02 54 55.5**	**-0.6**
MMB1	**Mount Meron ar**	**0.47**	**192**	Pg	**Pg**	**02 54 55.4**	**-0.8**
MMB1				Sg	**Sg**	**02 55 04.1**	**+1.8**
MMA0	**Mount Meron ar**	**0.47**	**193**	Pg	**Pg**	**02 54 55.5**	**-0.7**
MMA2	**Mount Meron ar**	**0.47**	**193**	Pg	**Pg**	**02 54 55.6**	**-0.7**
MMC5	**Mount Meron ar**	**0.48**	**192**	Pg	**Pg**	**02 54 55.6**	**-0.6**
MMC4	**Mount Meron ar**	**0.48**	**191**	Pg	**Pg**	**02 54 55.5**	**-0.8**
KSHT	**Keshet**	**0.55**	**155**	Sg	**Sg**	**02 55 05.8**	**+1.1**
HWQ	**Hawqa**	**0.87**	**23**	*e*P	**Pg**	**02 55 03.5**	**-0.3**
HWQ				*e*S	**Sg**	**02 55 15.5**	**+0.3**
OFRI	**'Ofer**	**0.97**	**208**	Pg	**Pg**	**02 55 05.5**	**-0.2**
MMLI	**Mount Malkishu**	**1.04**	**185**	Pg	**Pg**	**02 55 06.4**	**-0.7**
HMDT	**Nahal Hemdat**	**1.22**	**180**	Pg	**Pg**	**02 55 09.3**	**-1.3**
HMDT				Sg	**Sg**	**02 55 28.1**	**+1.8**
SLTI	**Sal'it**	**1.30**	**199**	Pg	**Pg**	**02 55 11.5**	**-0.6**
SLTI				Sg	**Sg**	**02 55 30.7**	**+1.8**

ISCJB **28** *03:05:49.7±1.0, 155S±03×1775W±01, h387km±12km, mb4.0/28, Error ellipse: s-maj=45.2km s-min=9.7km az=157.3*
IDC **28** *03:05:51.5±2.0, 1548S×17751W, h396km±24km, mb3.7/8, mb1 4.0/9, mb1mx3.8/17, mbtmp3.7/9, Error ellipse: s-maj=48.1km s-min=12.8km az=153.0*
NEIC **28** *03:05:51.9±0.9, 1557S×17744W, h402km±10km, mb4.1/23, Error ellipse: s-maj=28.3km s-min=6.9km az=157.0*

ISC 28 03:05:50.6±1.1, 155S±03×1775W±01, h384km±13km, n84, σ0§75/40, mb4.0/28, 2C-10D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**5.76**	**75**	P	**Pn**	**03 07 21.1**	**+1.0**
	6.6nm,0.3s,baz=253,slow=19,SNR=23						
AFI				S	**S**	**03 08 30.0**	**-2.8**
	baz=145,slow=21,SNR=4.1						
AFI	**Afiamalu**	**5.76**	**75**	P	**Pn**	**03 07 21.1**	**+1.0**
AFI				S	**S**	**03 08 30.0**	**-2.8**
CTA	**Charters Tower**	**34.76**	**257**	*e*P	**P**	**03 12 07.7**	**+1.0**
	9.6nm,0.6s,mb4.3						
CTA	**Charters Tower**	**34.76**	**257**	P	**P**	**03 12 06.9**	**+0.2**
	15nm,0.7s,mb4.4,baz=86,slow=9.8,SNR=25						
CTAO	**Charters Tower**	**34.76**	**257**	*e*P	**P**	**03 12 09.5**	**+2.8**
	13nm,0.7s,mb4.4						
PMG	**Port Moresby**	**34.98**	**276**	*e*P	**P**	**03 12 08.7**	**+0.1**
	14nm,1.0s,mb4.2						
COEN	**Coen**	**38.01**	**267**	*e*P	**P**	**03 12 35.1**	**+1.2**
	2.8nm,0.7s,mb3.7						
STKA	**Stephens Creek**	**40.59**	**239**	*e*P	**P**	**03 12 54.8**	**0.0**
	4.8nm,1.2s,mb3.7						
STKA	**Stephens Creek**	**40.59**	**239**	P	**P**	**03 12 54.5**	**-0.3**
	2.4nm,0.6s,mb3.7,baz=96,slow=9.2,SNR=6.8

SSF	Saint Saulge	148.47	359	*e*PKP1		PKPbc	03	24	52.0 -0.7
	comp=Z,7.4nm,0.9s								
AVF	Avril sur Loir	148.74	359	*e*PKP1		PKPbc	03	24	52.0 -1.3
CABF	La Chapelle	148.78	355	*e*PKP1		PKPbc	03	24	53.2 -0.3
BGF	Bois d'Agland	148.98	360	*e*PKP1		PKPbc	03	24	53.0 -0.9
	comp=Z,12nm,0.9s								
TCF	Toulx Ste Croi	149.25	0	*e*PKP1		PKPbc	03	24	53.6 -1.0
	comp=Z,3.4nm,0.6s								
LPL	La Plagne	149.81	354	*e*PKP1		PKPbc	03	24	56.1 +0.1
LPL	La Plagne	149.81	354	*e*PKP1		PKPbc	03	24	56.5 +0.5
	comp=Z,10nm,0.9s								
LPG	La Plagne	149.83	354	*e*PKP1		PKPbc	03	24	56.2 +0.2
	comp=Z,4.9nm,0.7s								
BNI	Bardonecchia	150.28	354	*e*PKPdf		PKPdf	03	24	50.9 -0.6
BNI				*e*PKPbc		PKPbc	03	24	57.2 +0.1
ORIF	Oris-en-Rattie	150.48	355	*e*PKP1		PKPbc	03	24	57.0 -0.6
	comp=Z,14nm,1.0s								
MBDF	Montbardon	150.59	354	*e*PKP1		PKPbc	03	24	57.3 -0.5
MBDF	Montbardon	150.59	354	*e*PKP1		PKPbc	03	24	57.7 -0.1
	comp=Z,12nm,0.7s								
CAF	Calviac	150.61	1	*e*PKP1		PKPbc	03	24	57.0 -0.9
VIVF	Saint-Julien-l	150.63	357	*e*PKP1		PKPbc	03	24	57.4 -0.5
	comp=Z,3.9nm,0.7s								
LASF	Ste Croix	151.44	358	*e*PKP1		PKPbc	03	24	59.3 -0.5
	comp=Z,9.2nm,0.9s								
SMRF	Simiane la Rot	151.44	355	*e*PKP1		PKPbc	03	24	59.7 -0.1
TORD	Torodi Ar. Bea	177.59	161	PKP		PKPdf	03	25	14.1 -2.4
	comp=Z,0.4nm,0.8s,baz=320,slow=2.6,SNR=2.0								

IGQ 28 03:32:53.8, 309S×7808W, h13km±3km, Mb4.0, Ms3.8, 2D, Error ellipse: s-maj=7.8km s-min=1.7km az=165.8, Peru-Ecuador border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PATA	Patacocha	1.61	347	P	Pn	03 33 24.4	+2.4
PATA	Patacocha	1.61	347	S	Sn	03 33 45.8	+3.1
ARRY	Arrayan	1.61	346	⇓S	Sn	03 33 45.9	+3.2
ARRY	Arrayan	1.61	346	⇓P	Pn	03 33 24.1	+2.1
ULBA	Ulba	1.66	349	P	Pn	03 33 25.4	+2.8
RETU	Refugio	1.67	347	P	Pn	03 33 25.6	+2.9
IGUA	Igualata	1.68	340	P	Pn	03 33 27.7	+4.8
RUN5	Runtun	1.69	348	P	Pn	03 33 25.4	+2.3
JUI6	Juive	1.70	347	P	Pn	03 33 25.0	+1.9
PISA	Pisayambo	2.04	351	P	Pn	03 33 30.9	+3.1
QIL2	Quilotoa	2.36	339	P	Pn	03 33 35.3	+3.1
CAMI	Rancho Maria	2.43	350	P	Pn	03 33 37.8	+4.5
VC1	Cotopaxi 1	2.45	352	P	Pn	03 33 39.2	+5.7
ANTI	Antisana	2.62	358	P	Pn	03 33 39.1	+3.3
GGP	Refugio Guagua	2.94	350	P	Pn	03 33 42.5	+2.3
PINO	Pino	2.96	350	P	Pn	03 33 42.9	+2.4

IDC 28 04:06:52.3±3.8, 203S×9932E, h0km, mb3.8/4, mb1 3.8/4, mb1mx3.6/18, mbtmp3.8/4, MS3.5/1, Ms1 3.5/1, ms1mx2.7/27, Error ellipse: s-maj=168.9km s-min=26.2km az=57.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	Alice Springs	39.78	126	P	P	04 14 27.1	-0.1
	0.3nm,0.5s,baz=294,slow=8.0,SNR=9.2						
KSRS	Korea Array	47.40	31	LR	LR	04 35 03.9	
	comp=Z,48nm,19.8s,baz=170,slow=36						
SONM	Songino Array	50.05	6	P	P	04 15 48.6	0.0
	0.5nm,0.6s,baz=197,slow=5.9,SNR=3.1						
MKAR	Makanchi Array	50.88	345	P	P	04 15 55.3	+0.3
	0.8nm,0.4s,baz=149,slow=8.3,SNR=10						
ZALV	Zalesovo Beam	57.08	350	P	P	04 16 39.7	-0.5
	1.4nm,0.5s,baz=174,slow=6.0,SNR=8.0						
TXAR	Lajitas Array	145.14	37	PKPbc	PKPbc	04 26 31.9	-0.2
	0.2nm,0.4s,baz=207,slow=3.6,SNR=6.2						

*CSEM **28** 04:10:07.3, 3495N×2247E, h32km, MD3.5/4, After ATH*
ATH 28 04:10:07.3, 3495N×2247E, h32km, MD3.5/4, Central Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GVD	Gavdhos	1.33	94	*e*Pn	Pn	04 10 31.5	+1.8
GVD	Gavdhos	1.33	94	*e*Pn	Pn	04 10 31.5	+1.8
KYTH	Kithira	1.41	19	*e*Pb	Pb	04 10 32.0	-0.9
KYTH	Kithira	1.41	19	*e*PB	Pb	04 10 32.0	-0.9
VAM	Vamos	1.49	72	*e*Pn	Pn	04 10 34.0	+2.2
VAM	Vamos	1.49	72	*e*PN	Pn	04 10 34.0	+2.2
VLI	Veliai	1.81	12	*e*Pb	Pb	04 10 38.7	-1.0
VLI	Veliai	1.81	12	*e*PB	Pb	04 10 38.7	-1.0

*DDA **28** 04:10:10.4, 3474N×2681E, h7km±5km, Md3.7*
*ISK **28** 04:10:15.9, 3516N×2724E, h3km, ML3.4*
*ISCJB **28** 04:10:17.4±0.4, 3517N±003×2722E±003, h10km, mb3.6/6, Error ellipse: s-maj=4.7km s-min=3.7km az=164.6*
*CSEM **28** 04:10:17.4±0.1, 3520N×2718E, h15km, ML4.4, Error ellipse: s-maj=3.5km s-min=1.8km az=179.0*
*IDC **28** 04:10:18.1±1.0, 3506N×2706E, h0km, mb3.7/4, mb1 3.6/8, mb1mx3.5/22, mbtmp3.5/8, ML3.3/4, Error ellipse: s-maj=29.5km s-min=11.8km az=0.0*
*ATH **28** 04:10:19.3, 3526N×2704E, h5km, MD3.9/8, ML4.2*
*NEIC **28** 04:10:19.3, 3526N×2704E, h5km, MD3.9(ATH), After ATH.*
ISC 28 04:10:17.5±1.1, 3515N±004×2714E±003, h2km±7km, n66, σ1§16/75, mb3.6/6, 1C, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KARP	Karpathos	0.40	2	*e*Pb	Pg	04 10 25.8	+0.6
KARP	Karpathos	0.40	2	*e*PB	Pg	04 10 25.8	+0.6
NPS	Neapolis	1.26	276	*e*Pn	Pn	04 10 40.9	-1.2
NPS				*e*Sb	Sb	04 10 57.5	-1.1
NPS	Neapolis	1.26	276	*e*PN	Pn	04 10 40.9	-1.2
NPS				*e*SB	Sb	04 10 57.5	-1.1
ARG	Arkhangelos	1.33	37	*e*Pg	Pg	04 10 43.6	+0.5
ARG				*e*Sb	Sg	04 11 02.4	+2.0
ARG	Arkhangelos	1.33	37	*e*PG	Pg	04 10 43.6	+0.5
ARG				*e*SB	Sg	04 11 02.4	+2.0
IDI	Anoyia	1.85	275	Pg	Pg	04 10 51.1	-1.9
	22nm,0.3s,baz=98,slow=17,SNR=105						
IDI				Lg		04 11 15.8	
	26nm,0.3s,baz=233,slow=12,SNR=4.0						
BODT	Bodrum	1.92	4	*e*PN	Pn	04 10 50.4	-0.7
BODT				*e*SN	Sn	04 11 15.0	-0.8
BDRM	Kayabasi	1.93	7	*e*P	Pn	04 10 51.8	+0.5
BDRM				*i* S	Sg	04 11 18.7	-0.9
DALT	Dalyan (Mudla)	2.02	36	*e*PN	Pn	04 10 51.6	-1.0
TURN	Turunc	2.09	34	*e*P	Pn	04 10 51.3	-2.2
TURN				*e*S	Sn	04 11 15.9	-4.1
YER	Yerkesik	2.19	25	*e*PN	Pn	04 10 53.6	-1.3
MLSB	Milas	2.20	13	*e*PN	Pn	04 10 54.2	-0.9
APE	Apeiranthos	2.32	326	*e*Pb	Pb	04 10 56.5	-0.2
APE	Apeiranthos	2.32	326	*e*PB	Pb	04 10 56.5	-0.2
GCAM	G?zelcaml?	2.55	2	*e*P	Pn	04 11 01.7	+1.9
GCAM				*e*S	Sg	04 11 40.0	+0.6
ELL	Elmali	2.75	54	*e*PN	Pn	04 11 01.4	-1.2
GOLH	Golhisar	2.86	42⇑	*i*P	Pn	04 11 06.9	+2.8
GOLH				*i* S	Sg	04 11 48.5	-0.9
DENT	Denizli	3.02	30	*e*PN	Pn	04 11 06.0	-0.2
BLCB	Balcova	3.23	359	*e*PN	Pn	04 11 08.7	-0.5
IZM	Izmir	3.25	2	*e*PN	Pn	04 11 09.1	-0.3
ANTB	Antalya	3.34	57	*e*PN	Pn	04 11 10.1	-0.6
KULA	Kula-Manisa	3.58	19	*e*PN	Pn	04 11 13.3	-0.6
BCK	Bucak	3.62	49	*e*PN	Pn	04 11 13.5	-1.0
KHL	Karahalli	3.70	30	*e*PN	Pn	04 11 15.2	-0.5
VLI	Veliai	3.76	296	*e*Pn	Pn	04 11 19.5	+3.1
VLI	Veliai	3.76	296	*e*PN	Pn	04 11 19.5	+3.1
AKS	Akhisar	3.76	8	*e*PN	Pn	04 11 16.1	-0.4
PTL	Penteli	3.92	319	*e*Pb	Pb	04 11 22.8	-4.5
PTL	Penteli	3.92	319	*e*PB	Pb	04 11 22.8	-4.5
NAIG	Nisos Aigina	3.93	313	*e*Pb	Pb	04 11 23.0	-4.5
NAIG	Nisos Aigina	3.93	313	*e*PB	Pb	04 11 23.0	-4.5
ATH	Athens Observa	3.94	317	*e*Pn	Pn	04 11 22.1	+3.1
ATH	Athens Observa	3.94	317	*e*PN	Pn	04 11 22.1	+3.1
ALT	Altintas	4.56	30	*e*PN	Pn	04 11 26.7	-0.8
DST	Dursunbey	4.61	14	*e*PN	Pn	04 11 28.4	+0.3
HDMB	Hadim	4.69	66	*e*PN	Pn	04 11 28.5	-0.8
LEF	Lefka	4.71	89	*e*PN	Pn	04 11 28.5	-1.0
KONT	Konya--Tatoy	5.04	55	*e*PN	Pn	04 11 34.0	-0.1
CSS	Prodhromos	5.08	90	*e*PN	Pn	04 11 34.7	+0.2
GADA	Gvkgeada	5.13	349	*e*PN	Pn	04 11 35.6	+0.3
LADK	Ladik-KONYA	5.18	52	*e*PN	Pn	04 11 35.9	-0.2
LFK	Lefkose	5.23	87	*e*PN	Pn	04 11 35.9	-0.8
KIZT	Kizilcal	5.31	44	*e*PN	Pn	04 11 37.9	+0.1
IKL	Isikli	5.43	77	*e*PN	Pn	04 11 39.1	-0.4
YLV	Yalova	5.69	17	*e*PN	Pn	04 11 43.5	+0.5
GULT	Gulveren	5.91	26	*e*PN	Pn	04 11 46.1	+0.1
EDRB	Edirne	6.70	357	*e*PN	Pn	04 11 57.8	+1.0
KAMT	Kaman	6.72	49	*e*PN	Pn	04 11 57.6	+0.5
BR131	Keskin Array S	6.90	47	*e*Pn	Pn	04 12 02.2	+2.7
	1.9nm,0.7s						
BR131	Keskin Array S	6.90	47	*e*Pn	Pn	04 12 02.2	+2.7
	1.9nm,0.7s						
MMAI	Mount Meron Ar	7.17	105	Pn	Pn	04 12 04.0	+0.7
	2.2nm,0.3s,baz=306,slow=12,SNR=3.4						
EIL	Elat	8.56	127	Pn	Pn	04 12 23.5	+1.1
	0.2nm,0.3s,baz=53,slow=16,SNR=3.6						
KEST	Kesra	14.53	277	Pn	Pn	04 13 46.1	+2.1
	0.0nm,0.3s,baz=257,slow=17,SNR=2.0						
PGF	Pioggiola	15.93	303	*e*P	Pn	04 14 05.9	+3.2
	24nm,1.0s						
GERES	GERESS Array B	16.91	328	Pn	Pn	04 14 15.9	+0.8
	0.1nm,0.3s,baz=142,slow=11,SNR=5.2						
KHC	Kasperske Hory	17.18	329	*e*P	Pn	04 14 19.5	+1.0
LPG	La Plagne	18.62	310	*e*P	Pn	04 14 38.6	+2.3
SMF	Signal de Mont	20.95	310	*e*P	P	04 15 00.9	-0.6
AVF	Avril sur Loir	21.31	310	*e*P	P	04 15 04.9	-0.5
SSF	Saint Saulge	21.33	311	*e*P	P	04 15 03.3	-2.3
	16nm,1.0s,mb4.0						
ESDC	Sonseca Array	25.05	290	P	P	04 15 42.5	-0.5
	0.1nm,0.4s,mb2.7,baz=83,slow=10.0,SNR=3.9						
TORD	Torodi Ar. Bea	31.75	233	P	P	04 16 43.0	0.0
	0.5nm,0.6s,mb3.6,baz=28,slow=8.9,SNR=8.8						
MKAR	Makanchi Array	42.42	57	P	P	04 18 14.1	+0.7
	0.7nm,0.5s,mb3.5,baz=277,slow=8.0,SNR=6.9						
ZALV	Zalesovo Beam	43.84	46	P	P	04 18 27.2	+2.4
	0.8nm,0.4s,mb3.8,baz=271,slow=8.2,SNR=4.0						
SONM	Songino Array	58.23	51	P	P	04 20 16.4	+3.3
	0.5nm,0.5s,mb3.8,baz=307,slow=6.3,SNR=2.6						

*ISCJB **28** 04:10:23.1±2.8, 136S±0.1×769W±0.3, h37km±24km, mb3.8/3, MS3.5/3, Error ellipse: s-maj=46.4km s-min=12.2km az=157.1*
*NEIC **28** 04:10:25.1±0.9, 1350S×7664W, h35km, mb3.8/1, Error ellipse: s-maj=49.2km s-min=12.6km az=66.0*
*IDC **28** 04:10:32.7±6.0, 1291S×7620W, h75km±55km, mb3.3/1, mb1 3.8/2, mb1mx3.4/16, mbtmp3.5/2, ML4.0/1, MS3.3/5, Ms1 3.3/5, ms1mx3.1/24, Error ellipse: s-maj=246.0km s-min=37.7km az=30.0*
ISC 28 04:10:25.0±2.5, 135S±01×769W±03, h37km±22km, n13, σ1§72/8, mb3.8/3, MS3.5/3, Near coast of Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NNA	Nana	1.54	3	*e*Pn	Pn	04 10 49.8	-0.2
NNA				*e*Sn	Sn	04 11 08.3	-0.5
LPAZ	La Paz	8.94	109	P	Pn	04 12 33.6	+1.9
	0.9nm,0.3s,baz=307,slow=9.4,SNR=12						
LPAZ				LR	LR	04 16 26.7	
	comp=Z,140nm,21.7s,baz=134,slow=42						
LVC	Limon Verde	11.81	141	*e*Pn	Pn	04 13 10.1	-1.0
ROSC	El Rosal	18.45	8	LR	LR	04 21 21.1	
	comp=Z,24nm,20.1s,baz=355,slow=37						
PCRV	Puerto La Cruz	26.53	28	LR	LR	04 27 34.4	
	comp=Z,115nm,18.5s,MS3.5,baz=211,slow=40						
CMIG	Matias Romero	35.22	329	LR	LR	04 29 58.6	
	comp=Z,38nm,18.2s,MS3.2,baz=324,slow=33						
PDAR	Pinedale Array	63.52	334	P	P	04 20 53.7	+2.2
	0.2nm,0.3s,mb3.6,baz=134,slow=7.7,SNR=2.5						
SNAA	Sanae	72.25	161	*e*P	P	04 21 45.4	-0.6
	0.9nm,0.8s,mb3.8						
TORD	Torodi Ar. Bea	82.29	75	P	P	04 22 42.2	-1.2
	2.4nm,0.9s,mb4.1,baz=258,slow=3.8,SNR=10						
TORD	Torodi Ar. Bea	82.29	75	P	P	04 22 42.2	-1.2
BOSA	Boshof	94.00	121	LR	LR	05 03 25.2	
	comp=Z,42nm,19.0s,MS3.9,baz=281,slow=34						
MKAR	Makanchi Array	142.54	24	PKP	PKPdf	04 29 53.0	-1.1
	0.2nm,0.7s,baz=326,slow=0.5,SNR=2.5						
SONM	Songino Array	145.69	356	PKPbc	PKPbc	04 30 01.1	+1.2
	0.3nm,0.4s,baz=40,slow=2.5,SNR=3.3						

NEIC 28 04:29:37.8, 3666S×17716E, h5km, ML3.9(WEL), After WEL., Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WIZ	White Island	0.87	178	P	Pg	04 29 53.8	-0.6
WIZ				S	Sg	04 30 04.7	-1.0
KUZ	Kuaotunu	1.16	265	P	Pg	04 29 59.1	-1.0
MXZ	Matakaoa Point	1.29	135	P	Pn	04 30 00.2	-2.2
MXZ				S	Sg	04 30 15.9	-3.2
URZ	Urewera	1.60	181	P	Pn	04 30 04.8	-1.9
MKAZ	Moumakai	1.66	254	P	Pn	04 30 06.6	-1.0
PUZ	Puketiti	1.66	149	P	Pn	04 30 08.1	+0.6
HIZ	Hauiti	2.60	224	P	Pn	04 30 20.0	-0.5

IDC 28 04:58:19.8±5.8, 285S×14141E, h0km, mb3.9/3, mb1 4.0/3, mb1mx3.7/13, mbtmp4.0/3, MS3.2/2, Ms1 3.2/2, ms1mx2.6/21, Error ellipse: s-maj=238.5km s-min=31.1km az=90.0, Near north coast of New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	Charters Tower	17.77	165	LR	LR	05 09 56.9	
	comp=Z,120nm,18.7s,baz=52,slow=39						
ASAR	Alice Springs	21.93	199	P	P	05 03 15.1	+0.1
	1.0nm,0.7s,baz=26,slow=10,SNR=13						
KSRS	Korea Array	42.01	344	LR	LR	05 21 42.9	
	comp=Z,15nm,20.0s,baz=185,slow=33						
MKAR	Makanchi Array	71.56	322	P	P	05 09 43.4	+0.5
	3.1nm,0.9s,baz=112,slow=6.9,SNR=16						
ZALV	Zalesovo Beam	73.43	329	P	P	05 09 53.5	-0.4
	2.0nm,0.7s,baz=113,slow=5.4,SNR=7.3						

BJI 28 05:33:46.2, 2441N×10190E, h16km, ML3.7, 1C-1D, Yunnan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMI	Kunming	1.04	47	PG	Pg	05 34 05.3	-1.1
KMI				SG	Sg	05 34 19.0	-1.1
KMI				Smax			
	comp=N,1μm,0.8s						
KMI				Smax			
	comp=E,663nm,0.8s						
NANT	Nan	5.69	192	⇑P	Pg	05 35 31.0	-4.3
	comp=E,181nm,1.0s						
CHG	Chiang Mai	6.21	207	⇓P	Sg	05 37 05.8	+0.2
	comp=E,28nm,1.4s						
CD2	Chengdu	6.68	14	*e*P	Pn	05 35 25.8	+2.1
CD2				S	Sn	05 36 40.5	+1.0
CD2				Smax			
	comp=N,30nm,1.6s						
CD2				Smax			
	comp=E,30nm,1.4s						

*NIED **28** 05:40:00, 3220N×132.10E, h23km, Mw4.0 Best double couple: M0 1.20000×10^15 NP1:φs17.00000°, δ71.00000°, λ91.00000°. NP2:φs194.00000°, δ19.00000°, λ86.00000°.*
*ISCJB **28** 05:40:03.5±0.8, 3219N±005×13218E±005, h17km, mb3.7/3, Error ellipse: s-maj=8.0km s-min=4.4km az=142.8*
*NEIC **28** 05:40:04.0, 3220N×132.14E, h16km, MG4.3(JMA), After JMA.*
NEIC Recorded [2 JMA] in Miyazaki and [1 JMA] in Oita Prefectures, Kyushu. Also recorded [1 JMA] in Kochi Prefecture, Shikoku.
*JMA **28** 05:40:03.9±0.1, 3220N×132.14E, h17km±2km, M3.9 Broadband fault plane solution: P waves. NP1: φs212.00000°, δ27.00000°, λ94.00000°. NP2:φs28.00000°, δ63.00000°, λ88.00000°. Principal axes: T Plg72.0000°, Azm293.0000°; N Plg2.0000°, Azm28.0000°; P Plg18.0000°, Azm119.0000°;*
JMA Felt II J1.
*IDC **28** 05:40:09.9±2.6, 3250N×132.13E, h75km±27km, mb3.4/3, mb1 3.4/6, mb1mx3.3/23, mbtmp3.4/6, MS3.1/1, Ms1 3.3/1, ms1mx2.6/20 Error ellipse: s-maj=42.2km s-min=30.3km az=120.0*

ISC 28 05:40:04.0±1.2, 3221N±005×13214E±005, h17km±8km, n16, σ1§11/22, mb3.7/3, 2C-4D, Shikoku

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTSN	Tsuno	0.54	274	⇓P	Pg	05 40 14.3	-0.4
JTSN				S	Sg	05 40 22.0	+0.1
JKIT	Kitakata	0.71	306	⇓P	Pb	05 40 17.6	-0.4
JKIT				S	Sb	05 40 27.9	+0.5
JTO	Tosashimizu	0.86	41	⇓P	Pb	05 40 19.8	-0.7
JUS	Usuki	0.92	339	P	Pb	05 40 21.2	-0.3
JUS				S	Sb	05 40 34.2	+0.8
JTZ	Takazaki	0.94	251	P	Pb	05 40 21.5	-0.3
JTZ				S	Sb	05 40 34.4	+0.4
JNAR	Kushima--Naru	1.00	228	⇑P	Pb	05 40 22.8	0.0
JNAR				S	Sb	05 40 37.7	+2.0
UWA2	Uwa jima 2	1.09	22	⇑P	Pb	05 40 23.5	-0.8
UWA2				S	Sb	05 40 39.2	+1.0
JIU2	Izumi 2	1.17	287	⇓P	Pn	05 40 25.3	-0.2
KSRS	Korea Array	6.28	328	P	Pn	05 41 36.8	+1.0
	1.1nm,0.3s,baz=144,slow=15,SNR=7.6						
JOW	Kunigami	6.32	213	P	Pn	05 41 43.6	+7.2
	2.2nm,0.3s,baz=13,slow=19,SNR=4.2						
JOW				S	Sn	05 42 40.7	-7.6
	2.1nm,0.3s,baz=154,slow=27,SNR=3.5						
MAJO	Matsushiro	6.63	48	*e*Pn	Pn	05 41 42.0	+1.5
MJAR	Matsushiro Arr	6.63	48	P	Pn	05 41 42.0	+1.5
	0.6nm,0.3s,baz=245,slow=15,SNR=3.7						
SONM	Songino Array	24.98	316	P	P	05 45 24.6	-2.0
	0.9nm,0.4s,mb3.7,baz=126,slow=10,SNR=8.6						
CMAR	Chiang Mai Arr	32.83	253	LR	LR	06 01 11.2	
	comp=Z,33nm,18.7s,baz=60,slow=38						
MKAR	Makanchi Array	40.45	306	P	P	05 47 39.5	-1.9
	0.2nm,0.4s,mb3.2,baz=80,slow=10,SNR=3.3						
AKASG	Malin Array Be	73.21	320	P	P	05 51 31.1	-2.7
	1.2nm,0.4s,mb4.2,baz=55,slow=6.5,SNR=6.0						

*CSEM **28** 06:15:11.0, 3569N×2286E, h26km, MD3.4/5, After ATH*
*NEIC **28** 06:15:11.0, 3569N×2286E, h26km, MD3.4(ATH), After ATH.*
ATH 28 06:15:11.0, 3569N×2286E, h26km±3km, MD3.4/5, Central Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KYTH	Kithira	0.61	14	*e*Pn	Pn	06 15 23.0	-0.9
KYTH	Kithira	0.61	14	*e*PN	Pn	06 15 23.0	-0.9
VLI	Veliai	1.03	3	*e*Pn	Pn	06 15 31.0	+1.3
VLI	Veliai	1.03	3	*e*PN	Pn	06 15 31.0	+1.3
VAM	Vamos	1.13	104	*e*Pn	Pn	06 15 33.0	+1.9
VAM	Vamos	1.13	104	*e*PN	Pn	06 15 33.0	+1.9
GVD	Gavdhos	1.31	130	*e*Pn	Pn	06 15 35.5	+1.8
GVD	Gavdhos	1.31	130	*e*PN	Pn	06 15 35.5	+1.8
ITM	Ithomi	1.67	333	*e*Pn	Pn	06 15 40.8	+2.3
ITM	Ithomi	1.67	333	*e*PN	Pn	06 15 40.8	+2.3
THL	Klokotos Trika	3.93	350	*e*Pb	Pb	06 16 29.0	+10
THL	Klokotos Trika	3.93	350	*e*PB	Pb	06 16 29.0	+10
JAN	Janina	4.27	339	*e*Pg	Pn	06 16 14.5	+0.2
JAN	Janina	4.27	339	*e*PG	Pn	06 16 14.5	+0.2
KEK	Kerkira	4.69	330	*e*Pb	Pn	06 16 23.1	+3.0
KEK	Kerkira	4.69	330	*e*PB	Pn	06 16 23.1	+3.0

*ISCJB **28** 07:00:19.9±0.7, 2.19S±0.10×874E±0.1, h10km, mb4.4/19, MS3.5/5, Error ellipse: s-maj=14.6km s-min=13.9km az=155.9*
*IDC **28** 07:00:20.1±0.8, 2.10S×8747E, h0km, mb4.2/10, mb1 4.3/10, mb1mx4.0/23, mbtmp4.2/10, MS3.5/5, Ms1 3.5/5, ms1mx3.2/27, Error ellipse: s-maj=29.0km s-min=20.4km az=109.0*
*NEIC **28** 07:00:21.8±0.5, 2.13S×8751E, h10km, mb4.5/2, Error ellipse: s-maj=15.2km s-min=11.0km az=106.0*
*MOS **28** 07:00:22.8±2.9, 181S×8738E, h10km, mb4.7/5, Error ellipse: s-maj=20.0km s-min=11.8km az=90.2*
ISC 28 07:00:21.8±0.7, 217S±010×8744E±010, h10km, n41, σ1§06/35, mb4.4/19, MS3.5/5, 5C-1D, South Indian Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TRD	Trivandrum	14.89	316	*e*P	Pn	07 03 50.4	-2.1
TRD				*ex*	x	07 06 20.9	
MDRS	Chennai	16.73	335	*e*P	Pn	07 04 15.9	-0.6
VIS	Vishakhapatnam	20.17	349	*e*P	P	07 04 58.8	+2.2
VIS				*ex*	x	07 08 25.9	
HYB	Hyderabad	21.34	336	*i* P	P	07 05 10.0	+0.7
HYB	Hyderabad	21.34	336	*e*P	P	07 05 10.0	+0.7
KAD	Karad	23.35	326	*e*P	P	07 05 31.9	+1.2
KAD				AMb	AMB	07 05 38.6	
	comp=Z,15nm,0.9s,mb4.4						
CMAR	Chiang Mai Arr	23.41	28	P	P	07 05 30.6	-0.7
	comp=Z,8.7nm,0.7s,mb4.3,baz=221,slow=10.0,SNR=32						
CMAR				LR	LR	07 14 05.4	
	comp=Z,74nm,18.9s,MS3.2,baz=215,slow=35						
CHG	Chiang Mai	23.72	28	⇓P	P	07 05 37.1	+2.8
	comp=Z,13nm,1.1s,mb4.3						
CHTO	Chiang Mai	23.72	28	*e*P	P	07 05 33.5	-0.8
CHTO				pmax	pmax		
	comp=Z,11nm,0.9s,mb4.3						
CHTO	Chiang Mai	23.72	28	*e*P	P	07 05 33.5	-0.8
	comp=Z,11nm,0.9s,mb4.3						
POO	Poona	24.53	328	*e*P	P	07 05 42.6	+0.9
POO				AMb	AMB	07 05 45.2	
	comp=Z,18nm,0.6s,mb4.8						
NANT	Nan	24.58	31	P	P	07 05 41.5	-0.7
BOK	Bokaro	25.85	357	*

TXAR	**Lajitas Array**	**150.99**	**20**	PKPbc	PKPbc	07 20 15.5	-0.2
TXAR				PKPab	PKPab	07 20 21.2	-1.7
JCT	**Junction City**	**151.02**	**13**	*e*PKIKP	PKPdf	07 20 11.1	+1.1
JCT				*e*		07 20 24.8	

IGQ 28 07:20:31.3, 055S×7798W, h12km±2km, Mb4.1, Ms3.9, 5C-11D, Error ellipse: s-maj=1.1km s-min=0.5km az=44.8, Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ANTI	**Antisana**	**0.21**	**299**	⇓P	Pg	07 20 36.0	+0.2
COV1	**Cotopaxi Volc**	**0.38**	**253**	⇓P	Pg	07 20 41.6	+2.7
COV1	**Cotopaxi Volc**	**0.38**	**253**	⇓S	Sg	07 20 47.4	+3.4
TAMB	**Tambo**	**0.41**	**250**	⇓P	Pg	07 20 40.4	+0.9
TAMB	**Tambo**	**0.41**	**250**	⇓S	Sg	07 20 45.7	+0.6
VC1	**Cotopaxi 1**	**0.43**	**258**	⇑P	Pg	07 20 40.6	+0.8
PITA	**Cotopaxi Volc**	**0.46**	**269**	⇓P	Pg	07 20 40.7	+0.5
PITA	**Cotopaxi Volc**	**0.46**	**269**	⇓S	Sg	07 20 46.9	+0.6
MOV1	**Cotopaxi Vol s**	**0.49**	**251**	P	Pg	07 20 41.6	+0.7
MOV1	**Cotopaxi Vol s**	**0.49**	**251**	S	Sg	07 20 47.9	+0.5
NAS2	**Nasa**	**0.50**	**259**	P	Pg	07 20 41.6	+0.5
CAMI	**Rancho Maria**	**0.54**	**257**	⇓P	Pg	07 20 42.9	+1.0
LAV3	**Lava3-Reventad**	**0.57**	**37**	⇓P	Pg	07 20 42.6	+0.2
LAV3	**Lava3-Reventad**	**0.57**	**37**	⇓S	Sg	07 20 50.9	+0.9
CONE	**Cono NE Rev Vo**	**0.58**	**35**	⇑P	Pg	07 20 42.9	+0.2
CONE	**Cono NE Rev Vo**	**0.58**	**35**	⇑S	Sg	07 20 51.1	+0.7
CAYA	**Cayambe**	**0.62**	**359**	⇑P	Pg	07 20 43.2	-0.1
CAYA	**Cayambe**	**0.62**	**359**	⇑S	Sg	07 20 51.1	-0.4
PISA	**Pisayambo**	**0.65**	**219**	P	Pg	07 20 44.4	+0.5
JUA2	**San Juan 2**	**0.71**	**298**	P	Pg	07 20 45.9	+0.8
GGP	**Refugio Guagua**	**0.72**	**301**	P	Pg	07 20 46.2	+0.9
TERV	**Terraza Guagua**	**0.73**	**301**	P	Pg	07 20 46.8	+1.4
YANA	**Yana**	**0.73**	**306**	P	Pg	07 20 46.2	+0.7
PINO	**Pino**	**0.74**	**302**	⇓P	Pg	07 20 46.5	+0.8
COTA	**Cotacachi**	**0.95**	**338**	P	Pg	07 20 50.5	+0.8
RUN5	**Runtun**	**0.97**	**207**	P	Pg	07 20 50.2	+0.3
RUN5	**Runtun**	**0.97**	**207**	S	Sg	07 21 03.8	+1.2
ULBA	**Ulba**	**0.99**	**206**	P	Pb	07 20 50.0	-0.3
JUI6	**Juive**	**1.00**	**210**	P	Pb	07 20 50.2	-0.3
PATA	**Patacocha**	**1.05**	**206**	P	Pb	07 20 51.4	0.0
PATA	**Patacocha**	**1.05**	**206**	S	Sb	07 21 05.4	+0.3
ARRY	**Arrayan**	**1.06**	**207**	P	Pb	07 20 51.5	-0.1

MEX 28 07:34:06.7±1.0, 1508N×9327W, h84km±14km, MD3.5, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		**0.62**	**4**	*i* P	Pn	07 34 20.7	-1.2
PCIG				*i* S	Sn	07 34 31.4	-1.7
THIG		**0.98**	**100**	*i* P	Pn	07 34 24.2	-1.6
THIG				*i* S	Sn	07 34 38.9	-1.3
SCX	**San Cristobal**	**1.75**	**20**	*e*P	Pn	07 34 36.0	+0.5
SCX				*i* S	Sn	07 34 55.8	-1.6

*IDC **28** 08:27:29.7±6.5, 2468S×17987W, h466km±72km, mb3.4/9, mb1 3.6/9, mb1mx3.5/14, mbtmp3.4/9, Error ellipse: s-maj=32.7km s-min=23.6km az=62.0*
*NEIC **28** 08:27:31.8±4.4, 2471S×17992W, h493km±48km, mb4.7/4, Error ellipse: s-maj=28.3km s-min=18.1km az=61.0*
*ISCJB **28** 08:27:32.1±0.8, 247S±0.1×1800E±02, h500km, mb3.9/11, Error ellipse: s-maj=19.0km s-min=16.7km az=163.9*

ISC 28 08:27:32.9±0.8, 248S±01×1800E±02, h500km, n20, σ0§55/17, mb3.9/11, 1D, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RPZ	**Rata Peaks**	**20.28**	**199**	P	**P**	**08 31 33.3**	**-0.5**
	4.0nm,0.6s,baz=18,slow=7.8,SNR=4.5						
CTA	**Charters Tower**	**31.49**	**272**	⇓*i*P	**P**	**08 33 13.7**	**+0.5**
	17nm,0.3s,mb5.0						
CTAO	**Charters Tower**	**31.49**	**272**	*e*P	**P**	**08 33 13.5**	**+0.3**
	21nm,0.8s,mb4.6						
STKA	**Stephens Creek**	**34.41**	**249**	*e*P	**P**	**08 33 38.2**	**+0.3**
	4.1nm,0.3s,mb4.3						
STKA	**Stephens Creek**	**34.41**	**249**	P	**P**	**08 33 38.4**	**+0.5**
	5.4nm,0.4s,mb4.4,baz=82,slow=8.4,SNR=13						
PMG	**Port Moresby**	**34.78**	**290**	*e*P	**P**	**08 33 41.1**	**-0.1**
	6.9nm,0.8s,mb4.1						
ASAR	**Alice Springs**	**41.90**	**262**	P	**P**	**08 34 38.9**	**-0.3**
	2.8nm,0.4s,mb4.0,baz=102,slow=8.0,SNR=66						
WRAB	**Tennant Creek**	**42.35**	**267**	*e*P	**P**	**08 34 41.6**	**-1.1**
	22nm,0.8s,mb4.7						
MJAR	**Matsushiro Arr**	**72.60**	**326**	P	**P**	**08 38 08.5**	**-0.5**
	0.4nm,0.4s,mb3.3,baz=156,slow=9.6,SNR=4.1						
MAW	**Mawson**	**76.95**	**200**	P	**P**	**08 38 33.7**	**+0.7**
	1.3nm,0.7s,mb3.6,baz=144,slow=7.3,SNR=6.2						
KSRS	**Korea Array**	**78.90**	**320**	P	**P**	**08 38 44.5**	**+0.5**
	1.1nm,0.5s,mb3.7,baz=121,slow=4.7,SNR=4.1						
PETK	**Petropavlovsk-**	**79.93**	**347**	P	**P**	**08 38 48.7**	**-0.3**
	1.5nm,0.6s,mb3.7,baz=114,slow=6.0,SNR=9.1						
PETK	**Petropavlovsk-**	**79.93**	**347**	P	**P**	**08 38 48.7**	**-0.3**
VNA3	**Neumayer Olymp**	**84.02**	**177**	*e*	**P**	**08 39 09.7**	**-0.1**
VNA2	**Neumayer--Watz**	**84.44**	**178**	*e*	**P**	**08 39 11.9**	**0.0**
	baz=182,slow=3.6						
CMAR	**Chiang Mai Arr**	**89.82**	**290**	P	**P**	**08 39 39.4**	**+1.1**
	1.7nm,0.9s,mb3.9,baz=156,slow=2.8,SNR=7.9						
TXAR	**Lajitas Array**	**90.88**	**58**	P	**P**	**08 39 42.7**	**-0.2**
	0.2nm,0.7s,mb3.2,baz=225,slow=5.0,SNR=3.2						
ARCES	**ARCESS Array B**	**132.72**	**348**	PKP	PKPdf	08 45 48.6	-1.1
	3.4nm,0.9s,baz=264,slow=1.2,SNR=3.8						
AKASG	**Malin Array Be**	**145.69**	**327**	PKPbc	PKPbc	08 46 13.7	-1.5
	1.4nm,0.4s,baz=45,slow=3.9,SNR=6.0						
CLL	**Collm**	**151.67**	**343**	*i* PKPbc	PKPbc	08 46 29.4	-0.7

*NEIC **28** 08:49:10.9, 1521N×6074W, h17km, MD3.5(TRN), After TRN.*

TRN 28 08:49:08.2, 1495N×6068W, h35km, MD3.3, M2.7(FDF), 4C-1D, Windward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MVM	**Montagne Vaucl**	**0.44**	**208**	⇓*i*P	Pb	08 49 19.5	+1.4
FDF	**Fort de France**	**0.50**	**245**	⇓*i*P	Pn	08 49 20.1	+1.2
FDF				⇑*e*S	Sn	08 49 28.1	+1.9
FDF	**Fort de France**	**0.50**	**245**	*e*Pg	Pn	08 49 19.9	+1.0
FDF				*e*Sg	Sn	08 49 27.6	+1.4
BIM	**Bigot**	**0.57**	**221**	⇑*i*P	Pn	08 49 21.3	+1.5
BIM				⇑*e*S	Sn	08 49 30.4	+2.4
DBCT	**Belle View Cho**	**0.72**	**297**	*e*P	Pn	08 49 24.3	+2.5
DBCT				*e*S	Sn	08 49 34.9	+3.2
DPMT	**Pointe Michel**	**0.74**	**295**	*e*P	Pn	08 49 26.1	+3.8
DPMT				*e*S	Sn	08 49 35.9	+3.7
DWS	**Wesley**	**0.87**	**316**	*e*P	Pn	08 49 25.7	+1.7
DWS				*e*S	Sn	08 49 36.9	+1.5
SLW	**Petit Michel**	**0.95**	**195**	*e*P	Pn	08 49 26.9	+1.7
SLW				*e*S	Sn	08 49 40.1	+2.6
DEG	**La Desirade**	**1.41**	**345**	*e*P	Pn	08 49 31.4	0.0
DEG				*e*S	Sn	08 49 50.4	+1.7
HMG	**Houelmont**	**1.42**	**317**	*e*P	Pn	08 49 36.9	+5.3
SVB	**Belmont**	**1.75**	**198**	*e*P	Pn	08 49 45.4	+9.3
SVB				*e*S	Sn	08 50 05.9	+8.7
SKI	**Saint Kitts**	**3.09**	**321**	*e*P	Pn	08 49 58.4	+3.8
SKI				*e*S	Sn	08 50 31.9	+1.7

*KRSC **28** 09:10:08.2±2.2, 5109N×154.11E, h493km±52km, ML4.6*
*ISCJB **28** 09:10:11.9±0.3, 5191N±008×15289E±009, h423km±5km, mb3.6/17, Error ellipse: s-maj=14.1km s-min=6.9km az=151.0*
*MOS **28** 09:10:11.6±1.3, 5241N×15238E, h382km, mb4.2/11, Error ellipse: s-maj=14.2km s-min=12.2km az=50.2*
*NEIC **28** 09:10:13.1±0.6, 5179N×15302E, h429km±10km, Error ellipse: s-maj=19.9km s-min=9.4km az=144.0*
*IDC **28** 09:10:13.2±1.5, 5195N×15280E, h419km±17km, mb3.3/15, mb1 3.5/17, mb1mx3.4/24, mbtmp3.3/17, Error ellipse: s-maj=17.4km s-min=10.7km az=175.0*

ISC 28 09:10:13.0±0.3, 5191N±008×15289E±009, h417km±5km, n59, σ1§01/69, mb3.6/17, 5C-3D, Northwest of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**2.37**	**120**	*e*PN	**P**	**09 11 12.0**	**-0.8**
SKR				*e*S	**S**	**09 12 02.0**	**+0.8**
SKR				pmax	pmax		
	comp=N,70nm,0.7s						
SKR				pmax	pmax		
	comp=E,70nm,0.7s						
SKR				pmax	pmax		
	comp=Z,90nm,0.7s						
SKR				smax			
	comp=E,240nm,0.2s						
SKR				smax			
	comp=N,110nm,0.3s						
MIPR	**Malaya Ipel'ka**	**2.41**	**80**	*e*P	**P**	**09 11 13.1**	**+0.1**
PETK	**Petropavlovsk-**	**3.17**	**66**	P	**P**	**09 11 18.9**	**+0.2**
	comp=N,2.1nm,0.3s,baz=224,slow=5.1,SNR=39						
RUS	**Russkaya**	**3.50**	**79**	*e*P	**P**	**09 11 21.2**	**-0.3**
RUS				*i* S	**S**	**09 12 13.9**	**-3.3**
GNL	**Ganaly**	**3.55**	**58**	P	**P**	**09 11 22.6**	**+0.8**
PET	**Petropavlovsk**	**3.70**	**70**	P	**P**	**09 11 24.0**	**+0.9**
PET				*i* S	**S**	**09 12 19.8**	**-0.5**
PET	**Petropavlovsk**	**3.70**	**70**	*e*P	**P**	**09 11 23.5**	**+0.4**
AVH	**Avacha**	**3.81**	**67**	P	**P**	**09 11 24.8**	**+0.6**
AVH				*i* S	**S**	**09 12 21.4**	**-0.8**
NLC	**Nalytchevo**	**4.14**	**70**	P	**P**	**09 11 26.7**	**-0.5**
NLC				*i* S	**S**	**09 12 24.4**	**-3.2**
SPN	**Mys Shipunski**	**4.52**	**72**	*e*P	**P**	**09 11 29.5**	**-1.3**
SPN				*i* S	**S**	**09 12 28.0**	**-6.2**
TUMR	**Tumrok**	**5.48**	**49**	P	**P**	**09 11 43.1**	**+2.6**
KMNR	**Kamenistaya**	**5.81**	**46**	P	**P**	**09 11 46.5**	**+2.6**
MKZ	**Mys Kozlova**	**5.93**	**60**	*e*P	**P**	**09 11 44.3**	**-0.9**
MKZ				*i* S	**S**	**09 12 54.0**	**-6.6**
KRSR	**Krestovskiy**	**6.24**	**43**	P	**P**	**09 11 50.5**	**+2.0**
KBTR	**Krutoberegovo**	**7.25**	**50**	P	**P**	**09 11 59.7**	**+0.2**
KBTR				*i* S	**S**	**09 13 20.8**	**-6.1**
YSS	**Yuzh-Sakhalins**	**8.26**	**237**	⇑*i*PN	**P**	**09 12 11.0**	**+0.2**
YSS				pmax	pmax		
	comp=Z,30nm,0.7s						
YSS	**Yuzh-Sakhalins**	**8.26**	**237**	*e*P	**P**	**09 12 12.2**	**+1.3**
ASAJ	**Asahikawa**	**10.40**	**225**	P	**P**	**09 12 35.3**	**+0.8**
	comp=Z,0.7nm,0.3s,baz=45,slow=71,SNR=3.6						
ASAJ	**Asahikawa**	**10.40**	**225**	PN	**P**	**09 12 35.3**	**+0.8**
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
SEY	**Seymchan**	**11.05**	**359**	⇓*i*PN	**P**	**09 12 43.6**	**+2.2**
SEY	**Seymchan**	**11.05**	**359**	⇓*e*P	**P**	**09 12 43.7**	**+2.3**
ERM	**Erimo**	**11.91**	**218**	⇑*i*PN	**P**	**09 12 49.8**	**-1.4**
ERM	**Erimo**	**11.91**	**218**	*e*P	**P**	**09 12 50.3**	**-0.9**
HABR	**Khabarovsk**	**11.94**	**260**	*e*PN	**P**	**09 12 51.3**	**0.0**
HABR				*e*S	**S**	**09 15 02.4**	**+0.2**
HIA	**Hailar**	**21.11**	**276**	⇑*i*P	**P**	**09 14 26.1**	**0.0**
HIA	**Hailar**	**21.11**	**276**	⇑*e*P	**P**	**09 14 26.2**	**+0.1**
SONM	**Songino Array**	**29.84**	**281**	P	**P**	**09 15 44.4**	**+0.6**
	comp=Z,0.6nm,0.4s,mb3.3,baz=171,slow=7.8,SNR=6.2						
SONM	**Songino Array**	**29.84**	**281**	P	**P**	**09 15 44.4**	**+0.6**
SONM				pmax	pmax		
	comp=Z,1.0nm,0.4s						
KDAK	**Kodiak Island**	**31.19**	**57**	P	**P**	**09 15 54.9**	**-0.4**
	comp=Z,3.7nm,0.9s,mb3.7,baz=139,slow=22,SNR=4.1						
ZALV	**Zalesovo Beam**	**39.65**	**301**	P	**P**	**09 17 06.0**	**-0.3**
	comp=Z,0.4nm,0.3s,mb3.2,baz=52,slow=7.7,SNR=2.9						
KURK	**Kurchatov**	**44.54**	**299**	P	**P**	**09 17 46.5**	**+1.2**
	comp=Z,1.8nm,0.2s,mb4.0,baz=66,slow=8.5,SNR=3.7						
KURK	**Kurchatov**	**44.54**	**299**	⇓*e*P	**P**	**09 17 45.3**	**0.0**
KURK				pmax	pmax		
	comp=Z,2.0nm,0.5s,mb3.7						
KURK	**Kurchatov**	**44.54**	**299**	P	**P**	**09 17 46.5**	**+1.2**
MKAR	**Makanchi Array**	**44.62**	**293**	P	**P**	**09 17 46.0**	**0.0**
	comp=Z,1.8nm,0.3s,mb3.9,baz=64,slow=7.3,SNR=22						
MKAR	**Makanchi Array**	**44.62**	**293**	*e*P	**P**	**09 17 45.9**	**0.0**
MKAR				pmax	pmax		
	comp=Z,2.0nm,0.3s						
MKAR	**Makanchi Array**	**44.62**	**293**	P	**P**	**09 17 46.0**	**0.0**
YKA	**Yellowknife Ar**	**46.94**	**39**	P	**P**	**09 18 03.9**	**+0.3**
	comp=Z,1.3nm,0.4s,mb3.6,baz=304,slow=6.7,SNR=5.2						
YKA	**Yellowknife Ar**	**46.94**	**39**	P	**P**	**09 18 03.9**	**+0.3**
YKA				pmax	pmax		
	comp=Z,1.0nm,0.4s						
YKA	**Yellowknife Ar**	**46.94**	**39**	P	**P**	**09 18 03.9**	**+0.3**
BVAR	**Borovoye Array**	**47.59**	**306**	P	**P**	**09 18 07.9**	**-0.7**
	comp=Z,1.0nm,0.6s,mb3.3,baz=64,slow=10,SNR=4.8						
BVAR	**Borovoye Array**	**47.59**	**306**	P	**P**	**09 18 07.9**	**-0.7**
BVAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
ARU	**Arti**	**51.19**	**315**	P	**P**	**09 18 34.9**	**-0.4**
ARCES	**ARCESS Array B**	**52.94**	**340**	P	**P**	**09 18 47.1**	**-0.7**
	comp=Z,6.0nm,0.9s,mb3.8,baz=51,slow=7.1,SNR=3.6						
ARCES	**ARCESS Array B**	**52.94**	**340**	P	**P**	**09 18 47.1**	**-0.8**
ARCES				pmax	pmax		
	comp=Z,6.0nm,0.9s						
JOF	**Joensuu**	**56.66**	**332**	*ep*	**P**	**09 19 13.5**	**-0.7**
	comp=Z,0.9nm,0.3s,mb3.6						
JOF	**Joensuu**	**56.66**	**332**	*e*P	**P**	**09 19 13.5**	**-0.7**
JOF				pmax	pmax		
	comp=Z,1.0nm,0.3s,mb3.6						
NVAR	**Mina Array Bea**	**60.26**	**65**	P	**P**	**09 19 40.4**	**+1.3**
	comp=Z,0.9nm,0.6s,mb3.4,baz=300,slow=6.6,SNR=10						
OBN	**Obninsk**	**61.01**	**324**	*e*P	**P**	**09 19 42.1**	**-1.7**
OBN				*e*S	**S**	**09 27 27.2**	**-1.2**
OBN				pmax	pmax		
	comp=Z,5.0nm,1.0s,mb3.9						
PDAR	**Pinedale Array**	**61.89**	**56**	P	**P**	**09 19 50.6**	**+0.8**
	comp=Z,2.0nm,0.7s,mb3.8,baz=342,slow=1.6,SNR=15						
NOA	**NORSAR Array B**	**63.30**	**340**	P	**P**	**09 19 58.1**	**-0.6**
	comp=Z,1.7nm,0.8s,mb3.7,baz=25,slow=6.3,SNR=2.9						
NOA	**NORSAR Array B**	**63.30**	**340**	P	**P**	**09 19 58.1**	**-0.6**
NOA				pmax	pmax		
	comp=Z,2.0nm,0.8s						
AKASG	**Malin Array Be**	**67.20**	**325**	P	**P**	**09 20 22.4**	**-1.1**
	comp=Z,0.6nm,0.4s,mb3.6,baz=34,slow=6.3,SNR=3.6						
AKASG	**Malin Array Be**	**67.20**	**325**	P	**P**	**09 20 22.4**	**-1.1**
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.4s						
ANMO	**Albuquerque**	**69.29**	**60**	⇑*e*P	**P**	**09 20 37.6**	**+1.0**
GERES	**GERESS Array B**	**73.76**	**333**	P	**P**	**09 21 02.1**	**-0.6**
	comp=Z,0.2nm,0.4s,mb3.1,baz=35,slow=4.9,SNR=3.9						
TXAR	**Lajitas Array**	**75.11**	**61**	P	**P**	**09 21 11.5**	**+0.8**
	comp=Z,1.5nm,0.4s,mb3.9,baz=297,slow=5.3,SNR=40						
TXAR	**Lajitas Array**	**75.11**	**61**	P	**P**	**09 21 11.5**	**+0.8**
TXAR				pmax	pmax		
	comp=Z,2.0nm,0.4s						
ASAR	**Alice Springs**	**77.07**	**198**	P	**P**	**09 21 21.2**	**-0.2**
	comp=Z,1.6nm,0.5s,mb3.9,baz=11,slow=5.5,SNR=34						
ASAR	**Alice Springs**	**77.07**	**198**	*e*P	**P**	**09 21 21.2**	**-0.2**
ASAR				pmax	pmax		
	comp=Z,2.0nm,0.5s						

*ISCJB **28** 09:30:07.8±0.5, 1529N±005×8891W±004, h10km, Error ellipse: s-maj=8.2km s-min=4.4km az=35.0*
*NEIC **28** 09:30:10.3±0.8, 1528N×8899W, h10km, mb4.1/2, Error ellipse: s-maj=17.3km s-min=9.4km az=213.0*

ISC 28 09:30:09.3±0.5, 1521N±005×8891W±004, h10km, n29, σ0§86/22, 5C-9D, Honduras

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MTO2	**Montecristo 2**	**0.91**	**208**	⇓*i*P	x	09 30 23.3	
MTO2				*e*S	x	09 30 37.0	
RBDL	**Robledal**	**1.32**	**215**	⇓*i*P	x	09 30 30.6	
LFU	**La Fuente**	**1.46**	**188**	*e*P	x	09 30 33.3	
LFU				*e*S	x	09 30 54.1	
LBRS	**Las Brisas**	**1.47**	**185**	⇓*i*P	x	09 30 33.2	
LBRS				*e*S	x	09 30 54.6	
RTR	**El Retiro**	**1.48**	**209**	⇓*e*P	x	09 30 33.5	
RTR				*e*S	x	09 30 53.2	
SNJE	**San Jose**	**1.49**	**207**	⇓*e*P	x	09 30 33.3	
SNJE				⇓*e*P	x	09 30 33.3	
SNJE				*e*S	x	09 30 53.2	
BOQS	**Boqueron**	**1.50**	**194**	⇑*e*P	x	09 30 33.7	
BOQS				*e*S	x	09 30 54.3	
SBLS	**San Blas**	**1.52**	**207**	⇓*e*P	x	09 30 34.1	
SBLS				*e*S	x	09 30 54.3	
SNET	**Serv Nac Est T**	**1.54**	**192**	*e*P	x	09 30 34.2	
SNET				*e*S	x	09 30 54.9	
LCBS	**La Ceiba**	**1.54**	**182**	⇓*i*P	x	09 30 38.7	
LFRS	**El Faro**	**1.58**	**185**	⇑*e*P	x	09 30 35.0	
CAHU	**Cacacuatique**	**1.58**	**154**	⇑*e*P	x	09 30 36.1	
CAHU				*e*S	x	09 30 57.5	
BLLM	**Bellamira**	**1.87**	**159**	*e*P	x	09 30 40.1	
VSM	**San Miguel**	**1.87**	**161**	⇑*e*P	x	09 30 40.8	
VSM				*e*S	x	09 31 04.1	
TGUH	**Tegucigalpa,Un**	**1.96**	**126**	⇑*e*P	**Pn**	**09 30 43.0**	**+0.4**
TGUH				*e*S	**Sn**	**09 31 08.4**	**+1.2**
TGUH	**Tegucigalpa,Un**	**1.96**	**126**	*e*Pn	**Pn**	**09 30 42.9**	**+0.4**
TGUH				*e*Sn	**Sn**	**09 31 09.6**	**+2.4**
CNCH	**Conchagua**	**2.19**	**151**	⇓*e*P	x	09 30 46.1	
CNCH				*e*S	x	09 31 15.4	
CCIG	**Comitan**	**3.28**	**289**	*i* P	**Pn**	**09 30 60.0**	**-0.8**
CCIG				*i* S	**Sn**	**09 31 39.5**	**-0.4**
COPN	**Copaltepe**	**3.76**	**143**	*e*P	**Pn**	**09 31 06.3**	**-1.1**
SCX	**San Cristobal**	**3.89**	**294**	*i* P	**Pn**	**09 31 08.0**	**-1.1**
SCX				*i* S	**Sn**	**09 31 55.1**	**+0.2**
HUEN		**3.90**	**137**	*e*P	**Pn**	**09 31 08.2**	**-1.1**
MGAN	**Managua**	**4.00**	**139**	*e*P	**Pn**	**09 31 10.5**	**-0.1**
TEIG	**Tepich**	**5.03**	**7**	*e*Pn	**Pn**	**09 31 24.9**	**+0.1**
TEIG				*e*Sg	**Sg**	**09 32 50.5**	**-0.4**
CMIG	**Matias Romero**	**6.04**	**289**	*i* P	**Pn**	**09 31 37.9**	**-0.8**
CMIG				*i* S	**Sn**	**09 32 49.2**	**+1.4**
JTS	**JuntasAbangare**	**6.23**	**141**	Pn	**Pn**	**09 31 45.9**	**+4.5**
VHO	**Vista Hermosa**	**7.74**	**285**	*e*P	**Pn**	**09 32 02.3**	**+0.2**
VHO				*i* S	**Sn**	**09 33 24.2**	**-5.7**
PNIG	**Pinotepa**	**8.95**	**279**	*e*P	**Pn**	**09 32 19.4**	**+0.8**
PNIG				*i* S	**Sn**	**09 34 10.0**	**+10**
JCT	**Junction City**	**18.20**	**329**	*e*Pn	**Pn**	**09 34 23.3**	**+1.3**
	11nm,1.1s						
AMTX	**Amarillo**	**22.71**	**332**	*e*P	**P**	**09 35 11.3**	**+0.1**
	9.0nm,0.8s						

KRSC 28 09:35:38.0±0.8, 5584N×16436E, h5km±5km, ML3.6, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBTR	**Krutoberegovo**	**0.94**	**294**	*e*P	Pg	09 35 55.0	-1.0
KBTR				*i* S	Sg	09 36 07.6	-0.6
BDR	**Baidarnaya**	**1.91**	**294**	P	Pn	09 36 11.6	+0.5
MKZ	**Mys Kozlova**	**1.98**	**231**	P	Pn	09 36 12.2	+0.1
MKZ				*i* S	Sn	09 36 36.8	-0.5
BZGR	**Bezymyannyi-Gr**	**2.07**	**274**	P	Pn	09 36 15.0	+1.7
BZGR				*i* S	Sn	09 36 41.7	+2.3
KRSR	**Krestovskiy**	**2.16**	**282**	P	Pn	09 36 15.2	+0.6
KRSR				*i* S	Sn	09 36 43.0	+1.2
BZWR	**Bezymyannyi-We**	**2.18**	**275**	P	Pn	09 36 17.2	+2.4
BZWR				*i* S	Sn	09 36 45.5	+3.3
BZMR	**Bezymyannaya**	**2.18**	**274**	P	Pn	09 36 17.6	+2.7
BZMR				*i* S	Sn	09 36 46.3	+4.1
KIRR	**Kirishev**	**2.27**	**275**	P	Pn	09 36 17.4	+1.4
KMNR	**Kamenistaya**	**2.33**	**270**	*e*P	Pn	09 36 19.6	+2.7
KPT	**Kopyto**	**2.33**	**275**	P	Pn	09 36 18.2	+1.2
TUMR	**Tumrok**	**2.46**	**259**	P	Pn	09 36 20.1	+1.4
TUMR				*i* S	Sn	09 36 51.1	+2.1
KOZ	**Kozyrevsk**	**2.53**	**277**	*e*P	Pn	09 36 22.1	+2.4
KOZ				*i* S	Sn	09 36 54.1	+3.2
AVH	**Avacha**	**4.17**	**234**	P	Pn	09 36 43.2	+1.0
AVH				*i* S	Sn	09 37 31.2	0.0
GNL	**Ganaly**	**4.29**	**243**	P	Pn	09 36 45.1	+1.2

*ATH **28** 09:50:47.0, 3960N×2056E, h23km±1km, MD3.3/9*
*NEIC **28** 09:50:47.0, 3960N×2056E, h23km, MD3.3(ATH), After ATH.*
*ISCJB **28** 09:50:48.1±0.5, 3955N±003×2058E±004, h10km, Error ellipse: s-maj=4.3km s-min=4.1km az=152.3*
*CSEM **28** 09:50:48.2±0.1, 3961N×2057E, h15km, MD3.3, Error ellipse: s-maj=3.4km s-min=2.6km az=161.0*

ISC 28 09:50:47.7±0.8, 3951N±003×2058E±004, h1km±5km, n28, σ0§90/48, 2D, Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAN	**Janina**	**0.26**	**56**	⇓*i*Pb	**Pg**	**09 50 52.8**	**+0.2**
JAN				*e*Sb	**Sg**	**09 50 56.5**	**+0.5**
JAN	**Janina**	**0.26**	**56**	⇓*i*PB	**Pg**	**09 50 52.8**	**+0.2**
JAN				*e*SB	**Sg**	**09 50 56.5**	**+0.5**
KEK	**Kerkira**	**0.63**	**289**	*e*Pn	**Pg**	**09 50 59.4**	**-0.4**
KEK				*e*Sn	**Sg**	**09 51 07.4**	**-0.6**
KEK	**Kerkira**	**0.63**	**289**	*e*PN	**Pg**	**09 50 59.4**	**-0.4**
KEK				*e*SN	**Sg**	**09 51 07.4**	**-0.6**
THL	**Klokotos Trika**	**1.11**	**87**	*e*Pn	**Pg**	**09 51 08.4**	**-0.7**
THL				Sn	**Sg**	**09 51 24.2**	**+0.7**
THL	**Klokotos Trika**	**1.11**	**87**	*e*PN	**Pg**	**09 51 08.4**	**-0.7**
THL				SN	**Sg**	**09 51 24.2**	**+0.7**
EVR	**Ev

KZN	**Kozani**	1.05	53	*e*Pn	**Pn**	10 15 15.7	-2.3
KZN				Sn	**Sn**	10 15 30.3	-2.5
KZN	**Kozani**	1.05	53	*e*PN	**Pn**	10 15 15.7	-2.3
KZN				SN	**Sn**	10 15 30.3	-2.5
EVR	**Evrytania**	1.17	130	*e*Pn	**Pn**	10 15 19.1	-0.4
EVR				Sn	**Sn**	10 15 35.4	-0.2
EVR	**Evrytania**	1.17	130	*e*PN	**Pn**	10 15 19.1	-0.4
EVR				SN	**Sn**	10 15 35.4	-0.2
FNA	**Florina**	1.23	26	P	**Pn**	10 15 18.1	-2.3
FNA				S	**Sb**	10 15 34.9	-1.5
BIA	**Bitola**	1.43	20	*e*Pg	**Pg**	10 15 21.2	-3.3
BIA				*e*Sg	**Sg**	10 15 42.5	-0.6
BIA	**Bitola**	1.43	20	*i* Pn	**Pn**	10 15 21.5	-1.7
BIA				*i* Sn	**Sn**	10 15 42.2	+0.2
BIA	**Bitola**	1.43	20	*i* Pn	**Pn**	10 15 21.4	-1.8
BIA				*i* Sn	**Sn**	10 15 42.2	+0.1
OHR	**Ohrid**	1.44	4	*e*Pg	**Pg**	10 15 21.6	-3.0
OHR				*e*Sg	**Sg**	10 15 43.9	+0.7
OHR	**Ohrid**	1.44	4	P	**Pn**	10 15 21.7	-1.5
OHR	**Ohrid**	1.44	4	*i* Pn	**Pn**	10 15 23.7	+0.5
OHR				*i* Sn	**Sn**	10 15 43.5	+1.3
OHR	**Ohrid**	1.44	4	*i* Pn	**Pn**	10 15 23.7	+0.5
OHR				*i* Sn	**Sn**	10 15 43.5	+1.3
OHR				*e*Sg	**Sg**	10 15 43.9	+0.7
AGG	**Agios Georgios**	1.45	116	P	**Pn**	10 15 24.2	+0.8
LIT	**Litokhoron**	1.47	73	P	**Pn**	10 15 22.9	-0.7
LIT				S	**Sn**	10 15 44.0	+1.1
VLS	**Valsamata**	1.50	182	P	**Pn**	10 15 25.3	+1.2
VLS	**Valsamata**	1.50	182	*e*Pn	**Pn**	10 15 25.6	+1.5
VLS				Sn	**Sn**	10 15 44.4	+0.6
VLS	**Valsamata**	1.50	182	*e*PN	**Pn**	10 15 25.6	+1.5
VLS				SN	**Sn**	10 15 44.4	+0.6
KFL	**Anninata**	1.57	176	P	**Pn**	10 15 27.0	+2.0
RLS	**Riolos of Patr**	1.73	159	*e*Pn	**Pn**	10 15 27.2	-0.1
RLS				Sn	**Sn**	10 15 50.1	+0.6
RLS	**Riolos of Patr**	1.73	159	*e*PN	**Pn**	10 15 27.2	-0.1
RLS				SN	**Sn**	10 15 50.1	+0.6
KRUS	**Krusevo**	1.75	15	*i* Pn	**Pn**	10 15 27.8	+0.3
KRUS				*i* Sn	**Sn**	10 15 51.2	+1.3
KRUS	**Krusevo**	1.75	15	*i* Pn	**Pn**	10 15 27.7	+0.2
KRUS				*i* Sn	**Sn**	10 15 51.1	+1.3
TIR	**Tirane**	1.78	340	P	**Pn**	10 15 28.6	+0.7
TIR	**Tirane**	1.78	340	*e*PN	**Pn**	10 15 28.2	+0.3
TIR				*i* SN	**Sg**	10 15 57.4	+3.3
GRG	**Griva**	1.84	46	P	**Pn**	10 15 28.7	-0.1
GRG				S	**Sn**	10 15 53.2	+1.0
QSH	**Qafa e Shtames**	1.93	343	*e*PN	**Pn**	10 15 31.5	+1.5
XOR	**Xorichti**	1.98	98	P	**Pn**	10 15 31.3	+0.6
THE	**Thessaloniki**	2.00	61	P	**Pn**	10 15 31.2	+0.2
NEO	**Neokhori**	2.01	100	*e*Pn	**Pn**	10 15 32.3	+1.1
NEO	**Neokhori**	2.01	100	*e*PN	**Pn**	10 15 32.3	+1.1
HORT	**Hortiatis**	2.08	63	P	**Pn**	10 15 32.1	0.0
LKR	**Lokris**	2.08	119	*e*Pn	**Pn**	10 15 33.9	+1.8
LKR	**Lokris**	2.08	119	*e*PN	**Pn**	10 15 33.9	+1.8
VAY	**Valandovo**	2.19	41	*i* Pn	**Pn**	10 15 33.9	+0.3
VAY	**Valandovo**	2.19	41	*e*Pn	**Pn**	10 15 31.6	-2.0
VAY	**Valandovo**	2.19	41	P	**Pn**	10 15 32.9	-0.7
PLG	**Polygyros**	2.24	71	P	**Pn**	10 15 34.9	+0.6
PLG	**Polygyros**	2.24	71	*e*Pb	**Pb**	10 15 34.6	-3.1
PLG				Sn	**Sn**	10 16 00.5	-1.6
PLG	**Polygyros**	2.24	71	*e*PB	**Pb**	10 15 34.6	-3.1
PLG				SN	**Sn**	10 16 00.5	-1.6
KNT	**Kendrikon**	2.26	48	P	**Pn**	10 15 34.3	-0.2
STIP	**Stip**	2.32	29	P	**Pn**	10 15 35.6	+0.2
STIP	**Stip**	2.32	29	*i* Pn	**Pn**	10 15 35.4	0.0
PAIG	**Paliouri**	2.33	83	P	**Pn**	10 15 36.0	+0.4
SOH	**Sokhos**	2.35	61	P	**Pn**	10 15 35.2	-0.6
SKO	**Skopje**	2.37	14	*i* Pn	**Pn**	10 15 36.9	+0.9
SKO	**Skopje**	2.37	14	P	**Pn**	10 15 34.4	-1.6
SKO	**Skopje**	2.37	14	*e*Pn	**Pn**	10 15 35.9	-0.1
LTK	**Loutraki**	2.44	132	P	**Pn**	10 15 39.2	+2.2
ULC	**Ulcinj**	2.52	335	⇓*i*Pn	**Pn**	10 15 40.1	+1.9
ULC				*e*Sn	**Sn**	10 16 11.3	+2.3
ULC	**Ulcinj**	2.52	335	*i* PG	**Pn**	10 15 40.2	+2.0
VLX	**Vlachokerasia**	2.67	149	P	**Pn**	10 15 42.6	+2.4
ITM	**Ithomi**	2.68	158	*e*Pb	**Pb**	10 15 42.8	-2.4
ITM	**Ithomi**	2.68	158	*e*PB	**Pb**	10 15 42.8	-2.4
PE1	**Pezze di Greco**	2.73	295	*e*Pn	**Pn**	10 15 39.8	-1.1
NAIG	**Nisos Aigina**	2.92	130	*e*Pn	**Pn**	10 15 44.5	+0.8
NAIG	**Nisos Aigina**	2.92	130	*e*PN	**Pn**	10 15 44.5	+0.8
ATH	**Athens Observa**	2.93	125	*e*Pb	**Pb**	10 15 45.1	-4.3
ATH	**Athens Observa**	2.93	125	*e*PB	**Pb**	10 15 45.1	-4.3
BUM	**Brajici-Budva**	2.94	334	⇓*i*Pn	**Pn**	10 15 45.6	+1.7
BUM				*e*Sn	**Sn**	10 16 22.3	+3.0
PDG	**Podgorica**	2.95	339	*i* PG	**Pn**	10 16 21.4	+0.4
PDG				*i* SG	**Sn**	10 16 21.4	-1.9
TTG	**Podgorica**	2.95	339	⇓*i*Pn	**Pn**	10 15 44.4	+0.4
TTG				*e*Sn	**Sn**	10 16 21.4	+1.9
NVR	**Nevrokopi**	2.95	55	*e*Pn	**Pn**	10 15 43.6	-0.5
NVR	**Nevrokopi**	2.95	55	*e*PN	**Pn**	10 15 43.6	-0.5
DID	**Didima**	2.96	136	P	**Pn**	10 15 45.7	+1.5
PVY	**Plav**	2.96	350	⇑*i*Pn	**Pn**	10 15 45.5	+1.3
PVY				*e*Sn	**Sn**	10 16 21.1	+1.3
PVY	**Plav**	2.96	350	*i* PG	**Pn**	10 15 45.6	+1.4
PVY				*i* SG	**Sn**	10 16 21.1	+1.3
PTL	**Penteli**	2.98	122	*e*Pb	**Pb**	10 15 46.0	-4.3
PTL	**Penteli**	2.98	122	*e*PB	**Pb**	10 15 46.0	-4.3
KVR	**Kavouri**	3.05	126	*e*Pb	**Pb**	10 15 47.5	-4.0
KVR	**Kavouri**	3.05	126	*e*PB	**Pb**	10 15 47.5	-4.0
TIP	**Timpagrande**	3.07	262	P	**Pn**	10 15 45.6	0.0
HCY	**Herceg Novi**	3.21	330	⇓*i*Pn	**Pn**	10 15 49.0	+1.3
HCY				*e*Sn	**Sn**	10 16 28.8	+2.7
HCY	**Herceg Novi**	3.21	330	*i* PG	**Pn**	10 15 49.0	+1.3
HCY				*i* SG	**Sn**	10 16 28.8	+2.7
BEY	**Berane**	3.24	350	*i* PG	**Pn**	10 15 49.0	+0.9
BEY				*i* SG	**Sn**	10 16 27.6	+0.8
IVA	**Berane**	3.24	350	⇓*i*Pn	**Pn**	10 15 49.0	+0.9
IVA				*e*Sn	**Sn**	10 16 27.6	+0.8
BARS	**Barje**	3.25	15	*e*Pn	**Pn**	10 15 48.2	0.0
SG1	**Sgolgore (BA)**	3.26	292	*e*Pn	**Pn**	10 15 47.0	-1.4
NKY	**Niksic**	3.38	339	⇑*i*Pn	**Pn**	10 15 51.2	+1.3
NKY				*e*Sn	**Sn**	10 16 32.4	+2.4
NKY	**Niksic**	3.38	339	*i* PG	**Pn**	10 15 51.2	+1.3
NKY				*i* SG	**Sn**	10 16 32.4	+2.4
VLI	**Veliai**	3.46	148	*e*Pn	**Pn**	10 15 52.0	+1.0
VLI	**Veliai**	3.46	148	*e*PN	**Pn**	10 15 52.0	+1.0
TREB	**Trebinje**	3.50	331	*e*Pn	**Pn**	10 15 50.0	-1.6
TREB				*e*Sn	**Sn**	10 16 30.3	-2.9
BRY	**Bratogost**	3.59	334	⇑*i*Pn	**Pn**	10 15 53.8	+0.9
BRY				*e*Sn	**Sn**	10 16 37.9	+2.5
CUC	**Castrocucco**	3.75	276	P	**Pn**	10 15 58.7	-1.7
UPM	**Unac-Piva**	3.76	340	⇑*i*Pn	**Pn**	10 15 55.8	+0.6
UPM				*e*Sn	**Sn**	10 16 40.3	+0.8
PLE	**Pljevlja**	3.77	346	⇓*i*Pn	**Pn**	10 15 57.5	+2.2
PLE				*e*Sn	**Sn**	10 16 40.8	+1.0
STON	**Ston**	3.90	326	*e*Pn	**Pn**	10 15 55.1	-1.9
STON				Sn	**Sn**	10 16 38.6	-4.2
STON	**Ston**	3.90	326	*e*PN	**Pn**	10 15 55.0	-2.0
STON				Sn	**Sn**	10 16 38.6	-4.2
SOI	**Samo**	3.94	247	Pn	**Pn**	10 15 56.6	-1.0
MGR	**Morigerati**	3.96	278	Pn	**Pn**	10 15 59.3	+1.4
RDO	**Rodhopi**	4.00	67	*e*Pn	**Pn**	10 15 58.8	+0.4
RDO	**Rodhopi**	4.00	67	*e*PN	**Pn**	10 15 58.8	+0.4
SCLL	**Scilla**	4.11	251	Pn	**Pn**	10 16 00.3	+0.3
FGMS	**Monte Sant'Ang**	4.12	301	Pn	**Pn**	10 15 59.0	-1.1
MS1	**Monte Sant'Ang**	4.12	301	*e*Pn	**Pn**	10 15 58.9	-1.2
SGO	**Sicignano**	4.20	284	Pn	**Pn**	10 16 01.2	0.0
GRUS	**Gruza**	4.21	0	*e*Pn	**Pn**	10 16 00.4	-1.2
BOLS	**Boljevac**	4.26	13	*e*Pn	**Pn**	10 16 01.5	-0.5
BBLS	**Lazići**	4.29	348	*e*Pn	**Pn**	10 16 02.1	-0.3
RGNG	**Rignano Grg**	4.35	299	Pn	**Pn**	10 16 01.7	-1.5
PRK	**Paraskevi**	4.36	94	*e*Pn	**Pn**	10 16 04.1	+0.7
PRK	**Paraskevi**	4.36	94	*e*PN	**Pn**	10 16 04.1	+0.7
FG5	**Orsara di Pugl**	4.42	293	Pn	**Pn**	10 16 05.0	+0.8
CSSN	**Cassano Irpino**	4.47	287	Pn	**Pn**	10 16 06.3	+1.3
SVIS	**Svilajnac**	4.60	5	*e*Pn	**Pn**	10 16 05.5	-1.2
APE	**Apeiranthos**	4.63	123	⇑*i*P	**Pb**	10 16 18.6	+0.3
APE	**Apeiranthos**	4.63	123	*e*Pn	**Pn**	10 16 08.1	+1.0
APE	**Apeiranthos**	4.63	123	*e*PN	**Pn**	10 16 08.1	+1.0
SGG	**Gregorio Mates** 42nm,0.6s	5.09	292	Pn	**Pn**	10 16 15.1	+1.7
VAM	**Vamos**	5.11	146	*e*Pn	**Pn**	10 16 14.0	+0.3
VAM	**Vamos**	5.11	146	*e*PN	**Pn**	10 16 14.0	+0.3
SMG	**Samos**	5.21	110	P	**Pn**	10 16 20.0	+4.9
MIDA	**Miranda** 40nm,0.8s	5.26	294	Pn	**Pn**	10 16 16.5	+0.8
RNI2	**Rionero Sannit**	5.35	294	Pn	**Pn**	10 16 18.1	+1.1
FGSL	**Fruska Gora**	5.51	354	*e*Pn	**Pn**	10 16 17.9	-1.3
IDI	**Anoyia**	5.52	141	Pn	**Pn**	10 16 17.9	-1.5
IDI	1.5nm,0.3s,baz=329,slow=17,SNR=9.8			Sn	**Sn**	10 17 20.1	-2.8
IDI	**Anoyia**	5.52	141	Sn	**Sn**	10 17 20.1	-2.9
GVD	**Gavdhos**	5.55	149	*e*Pn	**Pn**	10 16 20.5	+0.8
GVD	**Gavdhos**	5.55	149	*e*PN	**Pn**	10 16 20.5	+0.8
SDI	**San Donato** 11nm,0.3s	5.59	293	Pn	**Pn**	10 16 21.3	+1.0
INTR	**Introdacqua** 62nm,0.6s	5.63	297	Pn	**Pn**	10 16 21.0	+0.1
BLY	**Banja Luka**	5.69	334	*e*Pn	**Pn**	10 16 20.1	-1.5
VVLD	**Villa Vallelon** 70nm,1.0s	5.78	295	Pn	**Pn**	10 16 23.5	+0.6
GZR	**Gura Zlata**	5.92	15	⇑*i*P	**Pn**	10 16 30.8	+6.0
GZR	**Gura Zlata**	5.92	15	⇑P	**Pn**	10 16 30.8	+6.0
BZS	**Buzias**	5.98	6	⇓*i*P	**Pn**	10 16 25.9	+0.3
BZS	**Buzias**	5.98	6	*e*Pn	**Pn**	10 16 24.7	-0.9
BZS	**Buzias**	5.98	6	⇓P	**Pn**	10 16 25.9	+0.3
BZS	**Buzias**	5.98	6	⇓P	**Pn**	10 16 25.9	+0.3
PTQR	**Pietraquaria** 43nm,0.8s	5.99	295	Pn	**Pn**	10 16 26.4	+0.7
TERO	**Teramo** 22nm,0.4s	6.09	301	Pn	**Pn**	10 16 27.2	+0.1
FIAM	**Fiamignano** 29nm,1.0s	6.27	297	Pn	**Pn**	10 16 30.9	+1.2
NRCA	**Norcia** 19nm,0.5s	6.50	301	Pn	**Pn**	10 16 32.6	-0.3
NVLJ	**Novalja**	6.51	320	*e*Pn	**Pn**	10 16 31.5	-1.4
NVLJ				Sn	**Sn**	10 17 42.9	-4.4
NVLJ	**Novalja**	6.51	320	*e*PN	**Pn**	10 16 31.4	-1.5
NVLJ				Sn	**Sn**	10 17 42.8	-4.5
VOIR		6.60	28	⇓*i*P	**Pn**	10 16 36.5	+2.3
PKSM	**Moragy**	6.70	348	⇑*i*P	**Pn**	10 16 40.7	+5.2
PKSM	**Moragy**	6.70	348	⇑P	**Pn**	10 16 40.7	+5.2
ASS	**Assisi** 10nm,0.5s	6.91	302	Pn	**Pn**	10 16 38.8	+0.4
MLR	**Muntele Rosu**	6.99	32	⇑*i*P	**Pn**	10 16 44.6	+5.1
MLR	**Muntele Rosu**	6.99	32	⇑P	**Pn**	10 16 44.6	+5.1
BOJS	**Bojanci**	7.06	327	*i* Pn	**Pn**	10 16 38.7	-1.7
BOJS				*i* Sn	**Sn**	10 17 56.5	-4.3
FSSB	**Fossombrone**	7.14	307	Pn	**Pn**	10 16 40.0	-1.5
CRES	**Cresnjev**	7.24	330	*e*Pn	**Pn**	10 16 41.1	-1.8
CRES				*e*Sn	**Sn**	10 17 58.8	-6.4
DRGR		7.26	11	⇑*i*P	**Pn**	10 16 45.7	+2.4
DRGR		7.26	11	⇑P	**Pn**	10 16 45.7	+2.5
PLOR	**Plostina**	7.58	34	⇓*i*P	**Pn**	10 16 49.1	+1.5
CEY	**Cerknica**	7.60	325	*e*Pn	**Pn**	10 16 46.2	-1.7
CEY				*e*Sn	**Sn**	10 18 08.0	-6.1
VRI	**Vrincioaia**	7.62	34	⇑*i*P	**Pn**	10 16 50.3	+2.1
VRI	**Vrincioaia**	7.62	34	⇑P	**Pn**	10 16 52.7	-1.5
VRI	**Vrincioaia**	7.62	34	⇑P	**Pn**	10 16 50.2	+2.0
SKDS	**Skadanscina**	7.64	322	*i* Pn	**Pn**	10 16 46.1	-2.4
SKDS				*i* Sn	**Sn**	10 18 06.5	-8.6
JAVS	**Javornik**	7.88	324	*i* Pn	**Pn**	10 16 49.9	-1.8
JAVS				*i* Sn	**Sn**	10 18 13.7	-7.3
VOY	**Vojsko**	8.06	324	*e*Pn	**Pn**	10 16 52.7	-1.5
VOY				*e*Sn	**Sn**	10 18 19.9	-5.6
SOKA	**Soboth**	8.12	331	⇓*i*Pn	**Pn**	10 16 52.7	-2.3
PSZ	**Piszkesteto**	8.26	356	⇓*e*P	**Pn**	10 17 05.4	+8.5
PSZ	**Piszkesteto**	8.26	356	⇓*i*P	**Pn**	10 17 05.8	+8.9
PSZ	**Piszkesteto**	8.26	356	⇓P	**Pn**	10 17 05.8	+8.9
ARSA	**Arzberg**	8.44	335	⇑*i*Pn	**Pn**	10 16 58.0	-1.4
BURAR	**Bucovina Array**	8.59	21	⇓*i*P	**Pn**	10 17 10.1	+8.6
BURAR	**Bucovina Array**	8.59	21	⇓P	**Pn**	10 17 10.1	+8.7
VYHS	**Vyhne**	8.91	352	*e*PN	**Pn**	10 17 13.0	+7.2
MODS	**Modra-Piesok**	9.03	345	*e*PN	**Pn**	10 17 14.1	+7.7
CRVS	**Cervenica-Dubn**	9.24	3	*e*PN	**Pn**	10 17 20.9	+11
KOLS	**Kolonicke sedl**	9.32	7	*e*P	**Pn**	10 17 16.8	+5.3
KOLS	**Kolonicke sedl**	9.32	7	*e*	**Pn**	10 17 16.8	+5.3
WTTA	**Wattenberg**	10.02	322	⇓*i*Pn	**Pn**	10 17 19.4	-1.7
WTTA				⇓*i*Sn	**Sn**	10 19 09.4	-4.2
GERES	**GERESS Array B** 0.2nm,0.3s,baz=161,slow=14,SNR=6.8	10.43	334	Pn	**Pn**	10 17 26.1	-0.5
DAVOX	**Davos/Dischmat** 0.4nm,0.3s,baz=336,slow=20,SNR=3.4	10.59	316	Pn	**Pn**	10 17 28.7	-0.2
DAVOX				Sn	**Sn**	10 19 23.2	-4.3
DAVOX	0.2nm,0.3s,baz=333,slow=16,SNR=2.3			LR	LR	10 21 49.4	
KHC	comp=Z,72nm,21.9s,baz=352,slow=39 **Kasperske Hory**	10.72	334	*e*P	**Pn**	10 17 38.3	+7.7
DPC	**Dobruska-Polom**	11.10	345	*e*P	**Pn**	10 17 44.2	+8.4
LPG	**La Plagne** 5.1nm,0.7s	11.78	304	*e*P	**Pn**	10 17 45.4	+0.2
LPL	**La Plagne**	11.80	304	*e*P	**Pn**	10 17 44.9	-0.6
CDF	**Champ du Feu** 2.1nm,0.4s	12.98	317	*e*Pn	**Pn**	10 17 59.4	-2.2
MMAI	**Mount Meron Ar** comp=Z,56nm,18.6s,baz=280,slow=44	13.60	115	LR	LR	10 24 43.3	
ASF	**Jabal al Asfar** comp=Z,38nm,20.8s,baz=26,slow=42	15.12	115	LR	LR	10 25 23.2	
NOA	**NORSAR Array B** 4.2nm,0.9s,mb3.9,baz=164,slow=10,SNR=3.4	22.17	348	P	**P**	10 19 50.4	-2.7
ARCES	**ARCESS Array B** 5.6nm,1.0s,mb4.3,baz=186,slow=10,SNR=6.5	30.03	3	P	**P**	10 21 01.6	-4.2
TORD	**Torodi Ar. Bea** 159nm,0.3s,baz=32,slow=9.0,SNR=1.8	31.28	218	P	**P**	10 21 15.7	-1.6
TORD				LR	LR	10 35 55.8	
MKAR	comp=Z,32nm,18.1s,MS3.0,baz=10,0,slow=40 **Makanchi Array**	44.43	60	P	**P**	10 23 05.5	-2.6
ZALV	3.2nm,0.6s,mb4.2,baz=278,slow=7.0,SNR=36 **Zalesovo Beam**	44.62	49	P	**P**	10 23 07.6	-1.8
SONM	0.5nm,0.3s,mb3.8,baz=271,slow=9.0,SNR=3.0 **Songino Array**	59.43	51	P	**P**	10 24 57.5	-2.2
BOSA	2.0nm,1.1s,mb4.1,baz=287,slow=7.6,SNR=7.7 **Boshof**	68.08	176	P	**P**	10 25 56.5	-0.4
KSRS	1.9nm,0.8s,mb4.2,baz=356,slow=13,SNR=2.1 **Korea Array**	78.29	51	P	**P**	10 26 53.8	-3.6
PETK	1.0nm,0.7s,mb3.9,baz=309,slow=5.8,SNR=4.2 **Petropavlovsk-** comp=Z,47nm,18.4s,MS3.9,baz=76,slow=39	80.39	25	LR	LR	11 07 02.3	
MJAR	**Matsushiro Arr** 1.5nm,0.9s,mb4.1,baz=309,slow=5.2,SNR=4.1	84.86	46	P	**P**	10 27 29.7	-2.4

NIED ***28*** *11:03:00,4230N×144.50E,h23km,Mw3.7 Best double couple: M₀4.22000×10¹⁴ NP1:φs3.00000°,δ65.00000°, λ72.00000°. NP2:φs221.00000°,δ30.00000°,λ124.00000°.*

JMA 28 11:03:59.2,4225N×14445E,h29km±2km,M3.6,3D, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAK	**Akkeshi**	0.77	14	P	Pb	11 04 13.9	-0.1
JAK				*e*S	Sb	11 04 25.1	+1.0
JOB	**Onbets**	0.80	325	⇓P	Pn	11 04 14.4	0.0
JOB				*e*S	Sb	11 04 26.4	+1.5
JCH	**Churui**	0.88	295	⇓P	Pn	11 04 15.4	-0.2
JCH				*e*S	Sb	11 04 27.8	+0.4
JEM	**Erimo**	0.99	257	P	Pn	11 04 17.1	0.0
JAR	**Ashorobuto**	1.16	335	⇓P	Pn	11 04 19.2	-0.3
JNBK	**Urakawa-nobuka**	1.26	272	P	Pn	11 04 20.6	-0.2
JNK	**Nakash**	1.35	8	P	Pn	11 04 21.7	-0.4
JNK				*e*S	Sn	11 04 38.3	-0.7
NEM2	**Nemuro 2**	1.47	40	P	Pn	11 04 23.6	0.0
MAT	**Matsushiro**	7.47	222	P	Pn	11 05 45.9	-0.3
MAT				*e*S	Sn	11 07 11.7	+1.8

IDC 28 11:28:15.2±15.0,525N×9412E,h85km±122km,mb3.2/4, mb1 3.2/5,mb1mx3.1/20,mbtmpg3.1/5,ML3.6/1,Error ellipse: s-maj=136.4km s-min=26.3km az=62.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr** 0.1nm,0.3s,baz=211,slow=11,SNR=6.1	13.95	19	P	Pn	11 31 30.1	+1.0
MKAR	**Makanchi Array** 0.3nm,0.5s,baz=169,slow=8.3,SNR=3.8	42.63	348	P	P	11 36 01.7	-1.4
SONM	**Songino Array** 0.3nm,0.5s,baz=193,slow=5.9,SNR=3.0	43.71	12	P	P	11 36 11.2	-0.6
ASAR	**Alice Springs** 0.5nm,0.8s,baz=305,slow=8.2,SNR=5.3	48.29	128	P	P	11 36 48.1	0.0
ZALV	**Zalesovo Beam** 0.4nm,0.3s,baz=187,slow=7.3,SNR=3.0	49.14	353	P	P	11 36 55.5	+1.4

ISK 28 11:41:17.1,3658N×4096E,h5km,ML3.6,Jordan - Syria region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DIY	**Diyarbakir**	1.44	336	*e*PN	Pn	11 41 44.8	+1.0
DIY				*e*SN	Sn	11 42 06.5	+3.4
SIRT	**Sirnak**	1.50	52	*e*PN	Pn	11 41 46.4	+1.7
MSL	**Mosul**	1.75	95	*ex*	x	11 41 48.0	
MSL				*ex*	x	11 42 12.5	
URFA	**Urfa**	1.91	297	*e*PN	Pn	11 41 51.6	+1.2
URFA				*e*SN	Sn	11 42 17.9	+3.1
SVRC	**Sivrice-ELAZID**	2.23	324	*e*PN	Pn	11 41 56.5	+1.8
PTK	**Pertek**	2.62	332	*e*PN	Pn	11 42 02.3	+2.2
GAZ	**Gaziantep**	3.06	282	*e*PN	Pn	11 42 08.5	+2.4
KMRS	**Kahramanmaras**	3.38	287	*e*PN	Pn	11 42 13.3	+2.9
DARE	**Darende-Malaty**	3.44	314	*e*PN	Pn	11 42 13.7	+2.3
SARI	**SarD1z-Kayseri**	3.98	303	*e*PN	Pn	11 42 22.8	+4.0
BHD	**Baghdad**	4.33	139	*ex*	x	11 43 40.0	
BHD				*ex*	x	11 45 36.0	

IDC ***28*** *11:53:32.5±1.1,3973N×2081E,h0km,mb3.7/6,mb1 3.8/9, mb1mx3.7/25,mbtmpg3.7/9,ML3.7/3,Error ellipse: s-maj=25.5km s-min=16.4km az=61.0*

BEO ***28*** *11:53:33.9,3961N×2078E,h1km,ML3.3/5*

ISCJB ***28*** *11:53:35.0±0.5,3971N±002×2063E±002,h9km±3km, mb3.7/5,Error ellipse: s-maj=3.2km s-min=2.4km az=44.7*

ATH ***28*** *11:53:35.3,3972N×2069E,h19km±1km,MD3.8/18*

NEIC ***28*** *11:53:35.3,3972N×2069E,h19km,ML3.8(ATH),After ATH.*

TIR ***28*** *11:53:35.6±2.4,3971N×2069E,h25km±19km,ML3.4*

CSEM ***28*** *11:53:35.0±0.1,3976N×2067E,h2km,MD3.8,Error ellipse: s-maj=1.8km s-min=1.4km az=7.0*

PDG ***28*** *11:53:36.6±0.7,3977N×2075E,h11km±1km,ML3.4/9, Error ellipse: s-maj=1.2km s-min=1.5km az=0.0*

THE ***28*** *11:53:36.1,3976N×2068E,h0km±2km,ML4.2/3,Error ellipse: s-maj=2.5km s-min=0.8km az=273.0*

ISC 28 11:53:36.1±0.4,3971N±002×2066E±002,h10km±2km, n135,σ1§34/187,mb3.7/5,12C-6D,Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAN	**Janina**	0.15	110	*e*Pb	**Pg**	11 53 40.0	+0.5
JAN				Sb	**Sg**	11 53 43.0	+1.2
JAN	**Janina**	0.15	110	*e*PB	**Pg**	11 53 40.0	+0.5
JAN				SB	**Sg**	11 53 43.0	+1.2
MEV	**Metsovon**	0.44	80	P	**Pg**	11 53 44.4	-0.3
SRN	**Sarande**	0.54	289	*e*PG	**Pg**	11 53 47.2	+0.7
SRN				*i* SG	**Sg**	11 53 54.3	+0.7
KEK	**Kerkira**	0.67	271	*e*Pb	**Pb**	11 53 48.3	-1.5
KEK				Sn	**Sg**	11 53 58.9	+1.3
KEK	**Kerkira**	0.67	271	*e*PB	**Pb**	11 53 48.3	-1.5
KEK				SN	**Sg**	11 53 58.9	+1.3
TPE	**Tepelena**	0.77	320	*e*PG	**Pg**	11 53 53.0	+2.1
KBN	**Korca**	0.92	6	*e*PG	**Pg**	11 53 52.2

IVA	Berane	3.21	350	∥	*i*	Pn	Pn	11 54 27.9	+1.3
IVA					*e*	Sn	Sn	11 55 05.9	+1.0
BARS	Barje	3.22	15		*e*	Pn	Pn	11 54 26.7	-0.1
SG1	Sgolgore (BA)	3.25	292		*e*	Pn	Pn	11 54 26.0	-1.1
TREB	Trebinje	3.47	331		*e*	Pn	Pn	11 54 29.3	-0.9
TREB					*e*	Sn	Sn	11 55 09.9	-1.5
VLI	Veliai	3.48	148		*e*	Pn	Pn	11 54 30.5	+0.2
VLI	Veliai	3.48	148		*e*	PN	Pn	11 54 30.5	+0.2
BRY	Bratogost	3.56	334	∥	*i*	Pn	Pn	11 54 30.9	-0.6
BRY					*e*	Sn	Sn	11 55 15.7	+2.0
PTRP	Pietrapertosa	3.62	284			Pn	Pn	11 54 32.1	-0.1
UPM	Unac-Piva	3.73	340	∥	*i*	Pn	Pn	11 54 34.2	+0.5
UPM					*e*	Sn	Sn	11 55 19.2	+1.5
CUC	Castrocucco	3.74	276		P		Pn	11 54 37.6	+3.7
PLE	Pljevlja	3.74	346	⇑	*i*	Pn	Pn	11 54 34.1	+0.2
PLE					*e*	Sn	Sn	11 55 19.1	+1.1
STON	Ston	3.87	326		*e*	Pn	Pn	11 54 34.0	-1.6
STON						Sn	Sn	11 55 17.0	-4.1
MGR	Morigerati	3.95	278			Pn	Pn	11 54 37.8	+1.0
RDO	Rodhopi	3.99	67		*e*	Pn	Pn	11 54 37.3	0.0
RDO	Rodhopi	3.99	67		*e*	PN	Pn	11 54 37.3	0.0
FGMS	Monte Sant'Ang	4.10	301			Pn	Pn	11 54 38.0	-0.8
MS1	Monte Sant'Ang	4.10	301		*e*	Pn	Pn	11 54 38.2	-0.7
GRUS	Gruza	4.18	1		*e*	Pn	Pn	11 54 39.2	-0.7
SGO	Sicignano	4.19	283			Pn	Pn	11 54 40.1	0.0
BOLS	Boljevac	4.23	13		*e*	Pn	Pn	11 54 40.3	-0.3
BBLS	Lazići	4.26	348		*e*	Pn	Pn	11 54 40.4	-0.6
RGNG	Rignano Grg	4.33	299			Pn	Pn	11 54 40.9	-1.1
PRK	Paraskevi	4.37	94		*e*	Pn	Pn	11 54 44.9	+2.4
PRK	Paraskevi	4.37	94		*e*	PN	Pn	11 54 44.9	+2.4
SVIS	Svilajnac	4.57	5		*e*	Pn	Pn	11 54 46.3	+1.0
APE	Apeiranthos	4.64	123		P		Pn	11 54 46.3	+1.8
FGSL	Fruska Gora	5.48	354		*e*	Pn	Pn	11 54 56.8	-1.0
IDI	Anoyia	5.55	141			Pn	Pn	11 54 56.7	-2.0
	0.7nm,0.3s,baz=56,slow=8.2,SNR=6.1								
IDI						Sn	Sn	11 55 58.3	-4.2
	2.3nm,0.3s,baz=84,slow=22,SNR=7.7								
IDI	Anoyia	5.55	141			Sn	Sn	11 55 58.3	-4.2
BLY	Banja Luka	5.66	334		*e*	Pn	Pn	11 54 59.5	-0.7
BZS	Buzias	5.95	6	⇑	*i*	P	Pn	11 55 10.9	+6.7
TERO	Teramo	6.07	301			Pn	Pn	11 55 05.8	-0.1
NVLJ	Novalja	6.48	320		*e*	Pn	Pn	11 55 10.3	-1.3
NVLJ						Sn	Sn	11 56 20.1	-5.4
MLR	Muntele Rosu	6.97	32	⇑	*i*	P	Pn	11 55 23.1	+4.9
MLR	Muntele Rosu	6.97	32	⇑	P		Pn	11 55 23.1	+4.9
BOJS	Bojanci	7.03	327		*i*	Pn	Pn	11 55 17.5	-1.6
BOJS					*i*	Sn	Sn	11 56 32.7	-6.4
FSSB	Fossombrone	7.12	307			Pn	Pn	11 55 18.9	-1.3
PLOR	Plostina	7.55	34	⇑	*i*	P	Pn	11 55 28.5	+2.3
VRI	Vrincioaia	7.60	34	⇑	*i*	P	Pn	11 55 28.5	+1.7
VRI	Vrincioaia	7.60	34	⇑	P		Pn	11 55 28.5	+1.7
VNDS	Vrh nad Dolski	7.74	328		*i*	Pn	Pn	11 55 27.3	-1.5
JAVS	Javornik	7.85	324		*i*	Pn	Pn	11 55 28.6	-1.8
JAVS					*i*	Sn	Sn	11 56 52.5	-6.8
PERS	Pernice	8.02	331		*i*	Pn	Pn	11 55 30.6	-2.0
VOY	Vojsko	8.04	324		*e*	Pn	Pn	11 55 31.6	-1.3
VOY					*e*	Sn	Sn	11 56 58.3	-5.5
BURAR	Bucovina Array	8.56	21	⇑	*i*	P	Pn	11 55 51.4	+11
GERES	GERESS Array B	10.40	334			Pn	Pn	11 56 04.8	-0.4
	0.5nm,0.3s,baz=159,slow=14,SNR=3.3								
DAVOX	Davos/Dischmat	10.57	315			Pn	Pn	11 56 07.6	+0.1
	0.3nm,0.3s,baz=153,slow=18,SNR=3.6								
DAVOX						Sn	Sn	11 57 59.3	-6.6
	0.1nm,0.3s,baz=339,slow=17,SNR=1.9								
HFS	Hagfors	20.91	350		P		P	11 58 15.8	-2.7
	4.7nm,1.0s,baz=165,slow=7.7,SNR=4.2								
NOA	NORSAR Array B	22.14	348		P		P	11 58 29.6	-2.1
	2.1nm,1.0s,mb3.5,baz=163,slow=11,SNR=3.2								
EKA	Eskdalemuir Ar	22.26	322		P		P	11 58 30.7	-2.3
	1.9nm,0.9s,mb3.5,baz=137,slow=11,SNR=3.1								
ARCES	ARCESS Array B	30.00	3		P		P	11 59 40.8	-3.7
	1.6nm,0.8s,mb3.8,baz=184,slow=9.7,SNR=6.4								
TORD	Torodi Ar. Bea	31.30	218		P		P	11 59 55.0	-1.5
	275nm,0.5s,baz=33,slow=9.1,SNR=1.5								
MKAR	Makanchi Array	44.42	60		P		P	12 01 44.8	-2.1
	1.6nm,0.4s,mb4.1,baz=276,slow=8.0,SNR=15								
SONM	Songino Array	59.41	51		P		P	12 03 35.7	-2.9
	0.8nm,1.0s,mb3.7,baz=308,slow=11,SNR=4.4								

ISK ***28*** *12:03:09.2,3483N×2673E,h6km,ML4.8*
DDA ***28*** *12:03:14.5,3504N×2924E,h5km±1.4km,Md3.8*
IDC ***28*** *12:03:14.2±0.5,3533N×2693E,h0km,mb4.3/20, mb1 4.4/26,mb1mx4.4/33,mbtmp4.3/26,ML4.0/6,MS4.0/18, Ms1 4.0/18,ms1mx3.8/32,Error ellipse: s-maj=13.7km s-min=11.8km az=170.0*
BJI ***28*** *12:03:14.1,3510N×2710E,h4km,mB5.1, mb4.7,Ms4.8, Msz4.2*
ISCJB ***28*** *12:03:15.0±0.4,3505N±001×2710E±001,h20km±3km, mb4.5/113,MS4.0/31,Error ellipse: s-maj=2.6km s-min=1.6km az=26.1*
MOS ***28*** *12:03:15.6±2.9,3535N×2695E,h22km,mb4.6/59, MS4.0/28,Error ellipse: s-maj=4.0km s-min=2.1km az=113.3*
CSEM ***28*** *12:03:15.6±0.0,3508N×2707E,h25km,mb4.7/42,Ms3.8, Mw4.2,Error ellipse: s-maj=1.3km s-min=0.9km az=14.0*
NEIC ***28*** *12:03:16.1±0.2,3511N×2708E,h10km,mb4.5/83, MS3.9/4,Error ellipse: s-maj=4.1km s-min=2.6km az=187.0*
ATH ***28*** *12:03:18.7,3552N×2696E,h14km±3km,MD4.5/17,ML4.6*
HLW ***28*** *12:03:18.8,3507N×2738E,h33km,Mb4.3*
THE ***28*** *12:03:19.8,3529N×2682E,h4km±3km,ML4.8/1,Error ellipse: s-maj=6.7km s-min=1.3km az=133.0*
GII ***28*** *12:03:20.5±0.0,3503N×2756E,h0km,mb4.2/4,ML4.0/4*
NIC ***28*** *12:03:22.4±0.2,3524N×2747E,h25km,mb4.5,ML4.1, MW4.2,mb 4.5 reported by EMSC; Earthquake Dodecanese islands Greece, 32 km. SE Ayia*
SZGRF ***28*** *12:03:22.9,3541N×2631E,h10km,mb4.1,Crete, Greece*

ISC 28 12:03:18.1±0.5,3509N±001×2708E±001,h27km±4km, h16km±2.0km:pP-P,n716,σ1§28/771,mb4.5/113,MS4.0/31, 29C-26D,Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
KARP	Karpathos	0.47	8	∥	*i*	Pg	Pb	12 03 22.8	-5.0
KARP	Karpathos	0.47	8	∥	*i*	PG	Pb	12 03 22.8	-5.0
ZKR	Zakros	0.71	273		P		Pb	12 03 29.4	-2.5
ZKR					S		Sb	12 03 37.1	-4.2
NPS	Neapolis	1.22	279		*e*	Pb	Pb	12 03 39.3	-1.2
NPS					*e*	Sb	Sb	12 03 55.4	-0.4
NPS	Neapolis	1.22	279		*e*	PB	Pb	12 03 39.3	-1.2
NPS					*e*	SB	Sb	12 03 55.4	-0.4
LAST	Lasithi	1.32	274		P		Pn	12 03 40.2	-0.5
LAST					S		Sn	12 03 56.4	-0.9
ARG	Arkhangelos	1.41	37		*e*	Pn	Pn	12 03 40.4	-1.6
ARG					*e*	Sb	Sb	12 03 57.8	-3.6
ARG	Arkhangelos	1.41	37		*e*	PN	Pn	12 03 40.4	-1.6
ARG					*e*	SB	Sb	12 03 57.8	-3.6
IDI	Anoyia	1.81	277			Pn	Pn	12 03 48.4	+1.0
	246nm,0.3s,baz=103,slow=16,SNR=600								
IDI						Sn	Sn	12 04 16.6	+7.2
	702nm,0.3s,baz=345,slow=23,SNR=9.0								
THR1	Thera Island	1.84	315		P		Pn	12 03 46.8	-1.1
SIVA	Sivas	1.87	269		P		Pn	12 03 49.9	+1.7
SIVA					S		Sn	12 04 09.4	-1.5
THR6	Thira Island,	1.87	313		P		Pn	12 03 47.2	-1.0
THR3	Thira Island,	1.90	314		P		Pn	12 03 47.8	-0.9
BODT	Bodrum	1.98	5		*e*	PN	Pn	12 03 47.9	-1.9
BODT	Bodrum	1.98	5		Pn		Pn	12 03 47.8	-2.0
BDRM	Kayabasi	2.00	8		*i*	P	Pn	12 03 48.5	-1.5
BDRM					*i*	S	Sn	12 04 20.5	+6.4
DALT	Dalyan (Mudla)	2.10	36		*e*	PN	Pn	12 03 51.9	+0.5
DALT					*e*	SN	Sn	12 04 21.7	+5.1
DALT	Dalyan (Mudla)	2.10	36		*e*	Pn	Pn	12 03 51.9	+0.5
DALT						Sg	Sn	12 04 21.9	+5.2
YER	Yerkesik	2.26	25		*e*	PN	Pn	12 03 52.9	-0.8
YER	Yerkesik	2.26	25		Pn		Pn	12 03 53.0	-0.7
MLSB	Milas	2.28	14		*e*	PN	Pn	12 03 52.6	-1.2
APE	Apeiranthos	2.34	328		P		Pn	12 03 53.3	-1.5
APE					S		Sn	12 04 20.2	-2.5
APE	Apeiranthos	2.34	328	*d*	*i*	P	Pn	12 03 53.0	-1.8
APE	Apeiranthos	2.34	328	∥	*i*	Pn	Pn	12 03 53.1	-1.7
APE					*e*	Sn	Sn	12 04 20.0	-2.7
APE	Apeiranthos	2.34	328	∥	*i*	PN	Pn	12 03 53.1	-1.7
APE					*e*	SN	Sn	12 04 20.0	-2.7
VAM	Vamos	2.38	279		*e*	Pn	Pn	12 03 58.8	+3.5
VAM					*e*	Sn	Sn	12 04 26.9	+3.3
VAM	Vamos	2.38	279		*e*	PN	Pn	12 03 58.8	+3.5
VAM					*e*	SN	Sn	12 04 26.9	+3.3
SMG	Samos	2.62	356		*e*	Pn	Pn	12 03 56.5	-2.2
SMG	Samos	2.62	356		*e*	PN	Pn	12 03 56.5	-2.2
AYDN	Tasoluk	2.65	14		*i*	P	Pn	12 03 57.4	-1.6
AYDN					*i*	S	Sn	12 04 33.7	+3.5
ELL	Elmali	2.83	53		*e*	PN	Pn	12 04 02.4	+0.9
ELL					*e*	SN	Sn	12 04 39.8	+5.1
ELL	Elmali	2.83	53			Pn	Pn	12 04 01.1	-0.4
GOLH	Golhisar	2.94	42		*i*	P	Pn	12 04 04.1	+1.1
GOLH					*i*	S	Sn	12 04 44.7	+7.4
DENT	Denizli	3.09	30		*e*	PN	Pn	12 04 05.3	+0.2
DENT	Denizli	3.09	30			Pn	Pn	12 04 05.2	+0.1
BLCB	Balcova	3.29	359		*e*	PN	Pn	12 04 06.0	-1.8
BLCB	Balcova	3.29	359			Pn	Pn	12 04 05.7	-2.1
IZM	Izmir	3.31	2		*e*	PN	Pn	12 04 07.0	-1.1
IZM	Izmir	3.31	2			Pn	Pn	12 04 06.9	-1.1
CHOS	Chios island	3.40	346		P		Pn	12 04 07.8	-1.5
CHOS					S		Sn	12 04 46.5	-2.1
ANTB	Antalya	3.42	57		*e*	PN	Pn	12 04 10.3	+0.8
KULA	Kula-Manisa	3.65	20		*e*	PN	Pn	12 04 12.1	-0.7
BCK	Bucak	3.69	49		*e*	PN	Pn	12 04 14.1	+0.7
BCK	Bucak	3.69	49		Pn		Pn	12 04 14.0	+0.7
KHL	Karahalli	3.78	31		*e*	PN	Pn	12 04 14.5	0.0
KHL	Karahalli	3.78	31		Pn		Pn	12 04 14.4	-0.1
AKS	Akhisar	3.83	9		*e*	PN	Pn	12 04 14.9	-0.3
AKS	Akhisar	3.83	9		Pn		Pn	12 04 14.8	-0.4
SLUM		3.91	204		P		Pn	12 04 17.9	+1.5
DID	Didima	3.94	309		P		Pn	12 04 16.3	-0.4
ATH	Athens Observa	3.96	318		*e*	Pn	Pn	12 04 16.9	0.0
ATH	Athens Observa	3.96	318		*e*	PN	Pn	12 04 16.9	0.0
LTBQ	Tobruq	4.01	222		*i*	P	Pn	12 04 20.3	+2.6
	SNR=43								
PRK	Paraskevi	4.20	351		P		Pn	12 04 17.8	-2.5
PRK	Paraskevi	4.20	351	∥	*i*	Pn	Pn	12 04 18.6	-1.7
PRK	Paraskevi	4.20	351	∥	*i*	PN	Pn	12 04 18.6	-1.7
AKMC	Akamas	4.30	89		P		Pn	12 04 21.2	-0.5
	14nm,0.3s								
AKMC						S	Sn	12 05 07.3	-3.7
PPCY	Paphos	4.33	91		P		Pn	12 04 21.2	-0.8
	12nm,1.0s								
PPCY						S	Sn	12 05 07.3	-4.2
LTK	Loutraki	4.42	313		P		Pn	12 04 23.5	+0.1
VLX	Vlachokerasia	4.43	302		P		Pn	12 04 24.1	+0.6
SHUT	Suhut-Afyon	4.44	38		*e*	PN	Pn	12 04 24.6	+1.0
ALFC	Alevga	4.52	88		P		Pn	12 04 24.0	-0.7
	39nm,0.8s								
ALFC						S	Sn	12 05 12.2	-4.2
ALT	Altintas	4.64	31		*e*	PN	Pn	12 04 27.1	+0.7
ALT	Altintas	4.64	31		Pn		Pn	12 04 27.0	+0.6
ITM	Ithomi	4.67	298		*e*	PN	Pn	12 04 29.0	+2.3
ITM	Ithomi	4.67	298		*e*	PN	Pn	12 04 29.0	+2.3
DST	Dursunbey	4.68	15		Pn		Pn	12 04 27.3	+0.5
PYL	PYLOS	4.69	294		P		Pn	12 04 26.6	-0.5
LEF	Lefka	4.76	88		*e*	PN	Pn	12 04 26.9	-1.1
LEF	Lefka	4.76	88		Pn		Pn	12 04 26.8	-1.2
HDMB	Hadim	4.76	65		*e*	PN	Pn	12 04 28.7	+0.7
EZN	Ezine	4.77	353		*e*	PN	Pn	12 04 26.9	-1.2
EZN	Ezine	4.77	353		Pn		Pn	12 04 26.8	-1.3
AOS	Alonnisos	4.81	329		P		Pn	12 04 28.2	-0.5
LKR	Lokris	4.83	319		P		Pn	12 04 29.2	+0.1
LKR	Lokris	4.83	319		*e*	Pn	Pn	12 04 29.2	+0.2
LKR	Lokris	4.83	319		*e*	PN	Pn	12 04 29.2	+0.2
ERMK	Ermenek	4.98	70		*i*	P	Pn	12 04 32.8	+1.7
ERMK					*i*	S	Sn	12 05 28.5	+0.7
MAMC	Mammari	5.03	87	⇑	P		Pn	12 04 30.7	-1.0
	34nm,0.6s								
MAMC						S	Sn	12 05 24.8	-4.1
LIA	Limnos Island	5.04	343		P		Pn	12 04 30.6	-1.2
KONT	Konya--Tatoy	5.12	55		*e*	PN	Pn	12 04 34.8	+1.9
KONT	Konya--Tatoy	5.12	55		Pn		Pn	12 04 34.7	+1.8
CSS	Prodhromos	5.13	90		P		Pn	12 04 32.6	-0.5
	17nm,1.1s								
CSS						S	Sn	12 05 27.4	-3.9
CSS	Prodhromos	5.13	90		*e*	Pn	Pn	12 04 31.1	-2.0
CSS						S	Sn	12 05 27.4	-3.9
CSS	Prodhromos	5.13	90		*e*	PN	Pn	12 04 31.1	-1.9
CSS						P		12 04 32.6	
CSS						S	Sn	12 05 27.4	-3.9
GADA	Gvkgeada	5.18	350		*e*	PN	Pn	12 04 33.0	-0.8
GADA	Gvkgeada	5.18	350		Pn		Pn	12 04 32.9	-0.9
NEO	Neokhori	5.22	325		*e*	Pn	Pn	12 04 34.4	+0.1
NEO	Neokhori	5.22	325		*e*	PN	Pn	12 04 34.4	+0.1
LADK	Ladik-KONYA	5.26	52		*e*	PN	Pn	12 04 36.3	+1.4
LADK	Ladik-KONYA	5.26	52		Pn		Pn	12 04 36.2	+1.3
XOR	Xorichti	5.28	325		P		Pn	12 04 35.0	-0.1
LFK	Lefkose	5.29	86		*e*	PN	Pn	12 04 35.2	-0.1
LFK	Lefkose	5.29	86		Pn		Pn	12 04 35.1	-0.1
BNT	Bandirma	5.30	7		*e*	PN	Pn	12 04 35.1	-0.3
KIZT	Kizilcal	5.39	44		*e*	PN	Pn	12 04 36.5	-0.1
KIZT	Kizilcal	5.39	44		Pn		Pn	12 04 38.3	+1.6
RLS	Riolos of Patr	5.41	305		*e*	Pn	Pn	12 04 39.2	+2.3
RLS	Riolos of Patr	5.41	305		*e*	PN	Pn	12 04 39.2	+2.3
AGG	Agios Georgios	5.47	317		P		Pn	12 04 38.5	+0.8
AGG					S		Sn	12 05 36.0	-3.6
AGG	Agios Georgios	5.47	317		P		Pn	12 04 38.5	+0.8
AGG					S		Sn	12 05 39.9	+0.3
AGG	Agios Georgios	5.47	317		P		Pn	12 04 38.9	+1.2
AGG					S		Sn	12 05 39.9	+0.3
IKL	Isikli	5.50	76		*e*	PN	Pn	12 04 38.8	+0.7
MRMT	Marmara Adasi	5.52	4		*e*	PN	Pn	12 04 38.7	+0.3
PAIG	Paliouri	5.54	332		P		Pn	12 04 37.9	-0.8
CAVI	Cavuskoy	5.56	22		*e*	PN	Pn	12 04 39.8	+0.8
RKY	Sarkoy-Tekirda	5.59	1		*e*	PN	Pn	12 04 39.8	+0.3
RKY	Sarkoy-Tekirda	5.59	1		Pn		Pn	12 04 39.7	+0.3
GEMT	Gemlik	5.59	17		*e*	PN	Pn	12 04 40.7	+1.2
GEMT	Gemlik	5.59	17		Pn		Pn	12 04 40.6	+1.2
ENEZ	Enez	5.69	353		*e*	PN	Pn	12 04 40.4	-0.3
EVR	Evrytania	5.69	314		*e*	Pn	Pn	12 04 42.6	+1.8
EVR	Evrytania	5.69	314		*e*	PN	Pn	12 04 42.6	+1.8
PHNC	Paralimni	5.70	89	⇑	P		Pn	12 04 40.6	-0.3
	20nm,0.9s								
PHNC						S	Sn	12 05 41.5	-4.0
ADVT	Abdulvahap	5.74	21		*e*	PN	Pn	12 04 42.4	+1.0
ADVT	Abdulvahap	5.74	21		Pn		Pn	12 04 41.6	+0.2
YLV	Yalova	5.76	18		*e*	PN	Pn	12 04 43.3	+1.5
EREN	Erenkoy	5.81	84		*e*	PN	Pn	12 04 43.4	+1.0
ALN	Alexandroupoli	5.86	352		P		Pn	12 04 41.7	-1.4
GULT	Gulveren	5.99	26		*e*	PN	Pn	12 04 45.7	+0.9
AANS		6.01	142		P		Pn	12 04 42.9	-2.3
PLG	Polygyros	6.01	332		*e*	Pn	Pn	12 04 44.9	-0.3
PLG	Polygyros	6.01	332		*e*	PN	Pn	12 04 44.9	-0.3
THL	Klokotos Trika	6.02	319		P		Pn	12 04 46.5	+1.2
THL	Klokotos Trika	6.02	319		*e*	PN	Pn	12 04 46.5	+1.2
VLS	Valsamata	6.06	302		P		Pn	12 04 46.5	+0.6
VLS					S		Sn	12 05 53.0	-1.4
VLS	Valsamata	6.06	302		*e*	Pn	Pn	12 04 47.3	+1.4
VLS	Valsamata	6.06	302		*e*	PN	Pn	12 04 47.3	+1.4
ISK	Istanbul-Kandi	6.17	14		*e*	PN	Pn	12 04 49.0	+1.6
ISK	Istanbul-Kandi	6.17	14		Pn		Pn	12 04 48.9	+1.6
RDO	Rodhopi	6.17	349		*e*	Pn	Pn	12 04 46.0	-1.4
RDO	Rodhopi	6.17	349		*e*	PN	Pn	12 04 46.0	-1.4
LIT	Litokhoron	6.19	325		P		Pn	12 04 48.0	+0.3
SLVT	Silivri	6.20	8		*e*	PN	Pn	12 04 48.5	+0.8
SLVT	Silivri	6.20	8		Pn		Pn	12 04 48.4	+0.7
BGKT	Bogazkoy	6.23	12		*e*	PN	Pn	12 04 48.8	+0.7
SQR		6.25	145	∥	*i*	P	Pn	12 04 46.8	-1.7
MERS	Mersin	6.29	71		*e*	PN	Pn	12 04 49.9	+0.9
HORT	Hortiatis	6.34	331		P		Pn	12 04 50.1	+0.4
THE	Thessaloniki	6.42	331		P		Pn	12 04 51.1	+0.3
SOH	Sokhos	6.44	334		P		Pn	12 04 51.5	+0.5
KOT	Kottamia	6.52	141		P		Pn	12 04 50.8	-1.4
KOT					S		Sn	12 05 57.6	-8.0
ANTO	Ankara	6.59	42		*e*	P	Pn	12 04 52.4	-0.7
ANTO						pmax	pmax		
	comp=Z,47nm,0.8s								
ANTO	Ankara	6.59	42	⇑	*i*	P	Pn	12 04 54.0	+0.9
ANTO	Ankara	6.59	42		*e*	P	Pn	12 04 52.4	-0.7
	comp=Z,47nm,0.8s								
ANTO	Ankara	6.59	42		*e*	Pn	Pn	12 04 55.1	+2.0
ANTO	Ankara	6.59	42		*e*	Pn	Pn	12 04 52.4	-0.7
	comp=Z,47nm,0.8s								
HSAF	As Saff	6.63	144		P		Pn	12 04 52.2	-1.5
HHAG	Hagoal	6.64	139		P		Pn	12 04 52.1	-1.8
HHAG					S		Sn	12 06 00.5	-8.2
KDZ	Kurdzhali	6.68	349		*i*	P	Pn	12 04 53.3	-1.1
KZN	Kozani	6.70	323		*e*	P	Pn	12 04 56.7	+2.1
KZN	Kozani	6.70	323		*e*	PN	Pn	12 04 56.7	+2.1
JAN	Janina	6.74	314		*e*	P	Pn	12 04 57.0	+1.8
JAN	Janina	6.74	314		*e*	PN	Pn	12 04 57.0	+1.8
GLL	Jalalah	6.74	143	⇑	*e*	P	Pn	12 04 53.7	-1.6
NVR	Nevrokopi	6.75	339		*e*	Pn	Pn	12 04 56.0	+0.7
NVR	Nevrokopi	6.75	339		*e*	PN	Pn	12 04 56.0	+0.7
EDRB	Edirne	6.76	358		*e*	PN	Pn	12 04 55.4	0.0
EDRB	Edirne	6.76	358		Pn		Pn	12 04 55.3	-0.1
AMAG	Maghara	6.79	129		P		Pn	12 04 54.0	-1.9
KARA	Karaisali	6.80	69		*e*	PN	Pn	12 04 57.7	+1.6
RZN	Rozhen	6.85	345		*i*	P	Pn	12 04 56.3	-0.4
KNT	Kendrikon	6.90	333		P		Pn	12 04 58.1	+0.7
AWBH		6.92	167		P		Pn	12 04 57.4	-0.3
AWBH		6.92	167		P		Pn	12 04 57.3	-0.4
GRG	Griva	6.93	329		P		Pn	12 04 58.3	+0.6
BR131	Keskin Array S	6.98	46		*e*	Pn	Pn	12 04 58.1	-0.3
	comp=Z,9.9nm,0.5s								
BR131	Keskin Array S	6.98	46		*e*	Pn	Pn	12 04 58.1	-0.3
	comp=Z,9.9nm,0.5s								
MMB	Musomiste	7.01	339		*i*	P	Pn	12 04 57.9	-0.9
OFRI	'Ofer	7.02	108		Pn		Pn	12 05 00.3	+1.3
DIM	Dimitrovgrad	7.06	351		*i*	P	Pn	12 04 59.3	-0.2
LJBD	Adjabya	7.12	236		*i*	P	Pn	12 05 01.7	+1.2
	SNR=41								
LJBD					*e*	S	Sn	12 06 21.3	+0.8
	SNR=41								
SUZ		7.14	136		P		Pn	12 04 58.8	-1.9
VAY	Valandovo	7.17	332		*i*	Pn	Pn	12 05 02.7	+1.7
VAY					*i*	Sn	Sn	12 06 25.9	+4.5
VAY	Valandovo	7.17	332		P		Pn	12 05 01.3	+0.3
VAY	Valandovo	7.17	332		*i*	Pn	Pn	12 05 02.6	+1.6
VAY	Valandovo	7.17	332		P		Pn	12 05 04.7	+3.7
MMC6	Mount Meron ar	7.20	104		Pn		Pn	12 05 01.8	+0.3
MMC6						Sn	Sn	12 06 21.3	-1.1
MMA0B	Mount Meron ar	7.21	104		Pn		Pn	12 05 02.4	+0.8
MMAI	Mount Meron Ar	7.21	104		Pn		Pn	12 05 01.9	+0.3
	comp=Z,6.3nm,0.3s,baz=308,slow=12,SNR=18								
MMAI						Sn	Sn	12 06 22.3	-0.3
	comp=Z,20nm,0.3s,baz=306,slow=25,SNR=5.4								
PLD	Plovdiv	7.25	346		*i*	P	Pn	12 05 01.9	-0.3
PLD	Plovdiv	7.25	346		P		Pn	12 05 02.3	+0.1
FNA	Florina	7.26	323		P		Pn	12 05 03.4	+1.1
HWQ	Hawqa	7.35	94		*e*	Pn

ANN pmax pmax
comp=Z,43nm,1.3s
ANN MLR MLR
comp=Z,292nm,13.0s
ANN Anapa 12.53 36 *e*P **Pn 12 06 15.6 +1.2**
comp=Z,43nm,1.3s
VVLD Villa Vallelon 12.53 307 P **Pn 12 06 19.5 +5.0**
BURAR Bucovina Array 12.60 354⇑*i*P **Pn 12 06 17.2 +1.9**
BURAR Bucovina Array 12.60 354⇑P **Pn 12 06 17.2 +1.8**
BUR08 Bucovina Ar. S 12.63 354 *e*Pn **Pn 12 06 15.4 -0.4**
BUR08 Bucovina Ar. S 12.63 354 *e*Pn **Pn 12 06 15.4 -0.3**
PTQR Pietraquaria 12.74 307 P **Pn 12 06 19.1 +1.7**
PKSM Moragy 12.82 333⇑*i*P **Pn 12 06 19.7 +1.3**
PKSM Moragy 12.82 333⇑P **Pn 12 06 19.7 +1.3**
AQU L'Aquila 12.90 308 P **Pn 12 06 23.8 +4.2**
HKFR Khafra 12.99 162 P **Pn 12 06 21.5 +0.6**
NRCA Norcia 13.33 310 P **Pn 12 06 28.2 +2.8**
SNTG Esanatoglia 13.66 311 P **Pn 12 06 32.0 +2.1**
CRES Cresnjev 13.89 324 P **Pn 12 06 32.6 -0.4**
PSZ Piszkesteto 13.90 339⇓*e*P **Pn 12 06 33.8 +0.7**
PSZ Piszkesteto 13.90 339⇓*i*P **Pn 12 06 33.3 +0.2**
PSZ Piszkesteto 13.90 339 ⇓P **Pn 12 06 33.3 +0.2**
UZH Uzhgorod 13.99 347 *e*P **Pn 12 06 35.0 +0.6**
UZH MLR MLR
comp=N,1μm,12.0s
UZH MLR MLR
comp=E,700nm,12.0s
UZH MLR MLR
comp=Z,800nm,12.0s
FSSB Fossombrone 13.99 312 P **Pn 12 06 37.8 +3.4**
PIEI Pieia 14.06 311 P **Pn 12 06 38.4 +3.1**
KOLS Kolonicke sedl 14.29 347 *e*PN **Pn 12 06 39.0 +0.6**
CEY Cerknica 14.34 322 P **Pn 12 06 39.9 +0.8**
CRVS Cervenica-Dubn 14.42 345 *e*PN **Pn 12 06 38.6 -1.6**
KEST Kesra 14.48 278 Pn **Pn 12 06 41.0 -0.1**
comp=Z,0.1nm,0.3s,baz=82,slow=1.2,SNR=8.7
VYHS Vyhne 14.73 338 *e*PN **Pn 12 06 44.0 -0.4**
VSL Villasalto 14.76 293 *e*Pn **Pn 12 06 52.7 +7.8**
comp=Z,35nm,0.9s
SOP Sopron 14.84 331⇑*e*P **Pn 12 06 46.6 +0.6**
GNI Garni 14.88 65 Pn **Pn 12 06 50.1 +3.7**
comp=Z,0.6nm,0.3s,baz=24,slow=20,SNR=2.0
GNI LR LR 12 13 44.6
comp=Z,653nm,19.3s,baz=282,slow=42
GNI Garni 14.88 65 P **Pn 12 06 50.1 +3.6**
GNI pmax pmax
comp=Z,1.0nm,0.3s
GNI MLR MLR
comp=Z,653nm,19.3s
GNI Garni 14.88 65 P **Pn 12 06 52.1 +5.7**
comp=Z,45nm,1.3s
LVV L'vov 14.89 352 *e*P **Pn 12 06 47.6 +0.9**
ARSA Arzberg 14.93 328 P **Pn 12 06 48.8 +1.7**
KIV Kislovodsk 14.93 49 *e*P **Pn 12 06 48.6 +1.4**
KIV *e*S **Sn 12 09 37.1 +5.5**
KIV pmax pmax
comp=Z,35nm,1.2s
KIV MLR MLR
comp=Z,142nm,13.0s
KIV Kislovodsk 14.93 49 *e*P **Pn 12 06 48.6 +1.4**
comp=Z,35nm,1.2s
KIV Kislovodsk 14.93 49 *e*Pn **Pn 12 06 53.5 +6.3**
comp=Z,29nm,0.8s
KOLL Kolacno 14.94 337 *e*PN **Pn 12 06 48.3 +1.0**
STHS Stebnicka Huta 14.95 345 *e*P **Pn 12 06 51.4 +4.0**
MODS Modra-Piesok 15.14 334 *e*P **Pn 12 06 50.3 +0.4**
NIE Niedzica 15.16 343 *e*P **Pn 12 06 51.8 +1.6**
SMOL Smolenice 15.21 335 *e*P **Pn 12 06 53.8 +3.0**
PTCC Patocco-Chiusa 15.34 322 P **Pn 12 06 51.8 -0.7**
KIEV Kiev 15.68 5 *e*P **Pn 12 06 58.7 +1.8**
KIEV pmax pmax
comp=Z,21nm,0.8s
KIEV Kiev 15.68 5 *e*P **Pn 12 06 58.7 +1.8**
comp=Z,21nm,0.8s
AKASG Malin Array Be 15.69 5 Pn **Pn 12 06 56.2 -0.8**
comp=Z,4.8nm,0.3s,baz=196,slow=12,SNR=11
AKASG Malin Array Be 15.69 5 P **Pn 12 06 56.2 -0.8**
AKASG pmax pmax
comp=Z,5.0nm,0.3s
AKASG Malin Array Be 15.69 5 Pn **Pn 12 06 56.2 -0.8**
AKBB Malin Array Si 15.69 5 *e*P **Pn 12 06 59.8 +2.8**
CORF Corte 15.73 303 *e*P **Pn 12 07 00.8 +3.2**
GOF Gofitskoye 15.73 46 *e*P **Pn 12 07 03.0 +5.4**
GOF pmax pmax
comp=Z,60nm,1.0s
KBA Koelnbreinsper 15.81 323⇑*i*Pn **Pn 12 06 58.3 -0.3**
SNR=13
PGF Pioggiola 15.93 303 *e*P **Pn 12 07 02.8 +2.6**
comp=Z,82nm,0.9s
PGF Pioggiola 15.93 303 *e*P **Pn 12 07 02.8 +2.6**
PGF pmax pmax
comp=Z,41nm,0.9s
PGF Pioggiola 15.93 303 *e*P **Pn 12 07 02.8 +2.6**
comp=Z,41nm,0.9s
OJC Ojcow 16.03 343 *e*P **Pn 12 07 03.0 +1.5**
OJC *es*P sP 12 07 06.8 -8.8
OJC *e*S **Sn 12 10 10.5 +12**
OJC L 12 15 47.7
comp=Z,0.6nm,17.1s
OJC Ojcow 16.03 343 *e*P **Pn 12 07 03.0 +1.5**
comp=Z,600nm,17.1s
OJC Ojcow 16.03 343 *e*P **Pn 12 07 03.0 +1.5**
OJC *es*P sP 12 07 06.8 -8.8
OJC *e*S **Sn 12 10 10.5 +12**
OKC Ostrava-Krasne 16.13 339 *e*P **Pn 12 07 04.2 +1.5**
comp=Z,1μm,8.3s
OKC Ostrava-Krasne 16.13 339 *e*P **Pn 12 07 04.2 +1.5**
OKC AMS AMS 12 14 30.0
comp=Z,1μm,8.3s
VRAC Vranov 16.17 335 Pn **Pn 12 07 01.3 -2.1**
comp=Z,0.9nm,0.3s,baz=155,slow=9.9,SNR=9.8
VRAC Vranov 16.17 335 P **Pn 12 07 01.3 -2.0**
VRAC pmax pmax
comp=Z,1.0nm,0.3s
VRAC Vranov 16.17 335⇑*i*P **Pn 12 07 04.1 +0.8**
VRAC Vranov 16.17 335⇑P **Pn 12 07 04.1 +0.8**
MORC Moravsky Berou 16.26 337⇑*i*P **Pn 12 07 06.0 +1.6**
MORC Moravsky Berou 16.26 337⇑P **Pn 12 07 06.0 +1.6**
RJOB Jochberg 16.54 324 *e*Pn **Pn 12 07 06.9 -1.0**
TREC Trest 16.57 333 *e*P **Pn 12 07 09.4 +1.1**
comp=Z,800nm,8.2s
TREC Trest 16.57 333 *e*P **Pn 12 07 09.4 +1.1**
TREC AMS AMS 12 15 10.0
comp=Z,800nm,8.2s
GEC2 GERESS Array S 16.93 328 *e*Pn **Pn 12 07 11.4 -1.5**
GERES GERESS Array B 16.93 328 Pn **Pn 12 07 11.7 -1.3**
comp=Z,0.8nm,0.3s,baz=144,slow=12,SNR=45
GERES GERESS Array B 16.93 328 P **Pn 12 07 11.7 -1.2**
GERES pmax pmax
comp=Z,1.0nm,0.3s
FETA Feichten 17.11 319⇑*i*Pn **Pn 12 07 16.6 +1.4**
comp=Z,28nm,1.0s,SNR=12
MOTA Moosalm 17.12 321 *i* Pn **Pn 12 07 15.2 -0.1**
SNR=10
DPC Dobruska-Polom 17.15 336 *e*P **Pn 12 07 15.5 -0.1**
comp=Z,500nm,7.8s
DPC Dobruska-Polom 17.15 336 *e*P **Pn 12 07 15.5 -0.1**
DPC AMS AMS 12 13 50.0
comp=Z,500nm,7.8s
KHC Kasperske Hory 17.20 329 *i* P **Pn 12 07 15.7 -0.6**
KHC Kasperske Hory 17.20 329 *e*P **Pn 12 07 15.9 -0.4**
KHC *ep*P pP 12 07 22.5 -2.5
KHC AMS AMS 12 15 10.0
comp=Z,700nm,13.5s
KHC Kasperske Hory 17.20 329 *e*P **Pn 12 07 15.9 -0.4**
KHC *e* 12 07 22.5
UPC Upice 17.39 336 P **Pn 12 07 18.1 -0.5**
DAVOX Davos/Dischmat 17.43 317 P **Pn 12 07 19.2 0.0**
comp=Z,0.8nm,0.3s,baz=142,slow=11,SNR=15
DAVOX LR LR 12 14 14.6
comp=Z,497nm,19.8s,baz=282,slow=38
DAVOX Davos/Dischmat 17.43 317 P **Pn 12 07 19.2 0.0**
DAVOX LR LR 12 14 14.6
SAOF Saorge 17.46 306 *e*P **Pn 12 07 19.6 +0.1**
SBF Sospel 17.49 306 *e*P **Pn 12 07 20.3 +0.4**
comp=Z,92nm,0.8s
SBF Sospel 17.49 306 *e*P **Pn 12 07 20.3 +0.4**
SBF pmax pmax
comp=Z,46nm,0.8s
SBF Sospel 17.49 306 *e*P **Pn 12 07 20.3 +0.4**
comp=Z,46nm,0.8s
PRU Pruhonice 17.49 332 *e*P **Pn 12 07 18.8 -1.0**
comp=Z,800nm,10.6s
PRU Pruhonice 17.49 332 *e*P **Pn 12 07 18.8 -1.0**
PRU AMS AMS 12 14 50.0
comp=Z,800nm,10.6s
DAVOS Davos 17.52 317 P **Pn 12 07 19.2 -1.0**
WET Wettzell 17.52 328 *e*Pn **Pn 12 07 19.2 -1.0**
AUTN L'Aution 17.55 306 *e*P **Pn 12 07 21.9 +1.3**
TUE Stuetta 17.56 316 *e*Pn **Pn 12 07 22.4 +1.7**
comp=Z,13nm,0.8s
LUCF Luceram 17.56 306 *e*P **Pn 12 07 22.7 +2.0**
TOUF Mont Tournerai 17.67 306 *e*P **Pn 12 07 21.9 -0.2**
MAK Makhachkala 17.68 57 P **Pn 12 07 22.1 -0.2**
MAK *e*S **Sn 12 10 44.8 +6.4**
MAK pmax pmax
comp=Z,31nm,0.5s
MAK MLR MLR
comp=Z,322nm,14.0s
MAK Makhachkala 17.68 57 P **Pn 12 07 22.1 -0.2**
comp=Z,322nm,14.0s
MVIF Mont Vial 17.69 306 *e*P **Pn 12 07 23.2 +0.9**
DAVA Damuels 17.73 319⇑*i*Pn **Pn 12 07 22.5 -0.4**
comp=Z,17nm,0.7s
DAVA Damuels 17.73 319 P **Pn 12 07 23.0 +0.1**
CALN Calern 17.81 305 *e*P **Pn 12 07 24.5 +0.7**
FRF La Foret Royal 17.90 304 *e*P **Pn 12 07 24.7 -0.3**
comp=Z,26nm,0.8s
FRF La Foret Royal 17.90 304 *e*P **Pn 12 07 24.7 -0.3**
FRF pmax pmax
comp=Z,13nm,0.8s
FRF La Foret Royal 17.90 304 *e*P **Pn 12 07 24.7 -0.3**
comp=Z,13nm,0.8s
PVCC Panska Ves 17.92 333 *e*P **Pn 12 07 32.1 +7.0**
PVCC AMS AMS 12 16 00.0
comp=Z,700nm,9.0s
LLS Linth-Limmern 17.96 316⇑P **Pn 12 07 26.4 +0.7**
MMK Mattmark 18.14 313 P **Pn 12 07 26.9 -1.0**
MUO Muotathal 18.24 316⇓P **Pn 12 07 28.2 -0.9**
ROTZ Rotzenmuhle 18.27 328 *e*Pn **Pn 12 07 27.7 -1.8**
MBDF Montbardon 18.28 308 *e*P **Pn 12 07 27.8 -1.7**
comp=Z,38nm,0.8s
MBDF Montbardon 18.28 308 *e*P **Pn 12 07 27.8 -1.7**
MBDF pmax pmax
comp=Z,19nm,0.8s
MBDF Montbardon 18.28 308 *e*P **Pn 12 07 27.8 -1.7**
comp=Z,19nm,0.8s
WILA Wila 18.34 318⇓P **Pn 12 07 29.0 -1.3**
BRG Berggiesshubel 18.43 333 *e*Pn **Pn 12 07 30.8 -0.6**
BRG Berggiesshubel 18.43 333 *e*P **Pn 12 07 30.7 -0.7**
comp=Z,10.0nm,0.9s
BRG
comp=Z,396nm,19.7s
BRG
comp=N,558nm,17.7s
BRG
comp=E,618nm,17.7s
BNI Bardonecchia 18.47 309 *e*P **Pn 12 07 32.8 +0.8**
BNI pmax pmax
comp=Z,8.0nm,0.7s
BNI Bardonecchia 18.47 309 *e*P **Pn 12 07 32.8 +0.8**
comp=Z,7.7nm,0.7s
BNI Bardonecchia 18.47 309 *e*P **Pn 12 07 32.8 +0.8**
comp=Z,7.7nm,0.7s
DIX Grande Dixence 18.49 312⇑P **Pn 12 07 34.5 +2.3**
LKBD Leukerbad 18.52 313⇓P **Pn 12 07 32.0 -0.5**
LKBD Leukerbad 18.52 313⇑P **Pn 12 07 31.5 -1.0**
LKBD ⇓P 12 07 32.0
NKC Novy Kostel 18.52 329 *e*P **Pn 12 07 31.2 -1.3**
comp=Z,800nm,8.0s
NKC Novy Kostel 18.52 329 *e*P **Pn 12 07 31.2 -1.3**
NKC AMS AMS 12 15 40.0
comp=Z,800nm,8.0s
LPG La Plagne 18.62 310 *e*P **Pn 12 07 33.3 -0.5**
comp=Z,37nm,0.7s
LPG La Plagne 18.62 310 *e*P **Pn 12 07 33.3 -0.5**
LPG pmax pmax
comp=Z,18nm,0.7s
LPG La Plagne 18.62 310 *e*P **Pn 12 07 33.3 -0.5**
comp=Z,18nm,0.7s
LPL La Plagne 18.64 310 *e*P **Pn 12 07 33.5 -0.5**
comp=Z,60nm,1.0s
LPL La Plagne 18.64 310 *e*P **Pn 12 07 33.5 -0.5**
LPL pmax pmax
comp=Z,30nm,1.0s
LPL La Plagne 18.64 310 *e*P **Pn 12 07 33.5 -0.5**
comp=Z,30nm,1.0s
TANN Tannenbergstha 18.65 330 *e*Pn **Pn 12 07 32.7 -1.4**
GRA1 Grafenberg Arr 18.66 326 *e*P **Pn 12 07 31.8 -2.4**
comp=Z,600nm,11.4s
GRF Grafenberg Arr 18.66 326 *e*Pn **Pn 12 07 31.8 -2.4**
GRF *e*L 12 15 23.7
comp=Z,578nm,11.4s
GRFO Grafenberg 18.66 326 P **Pn 12 07 32.4 -1.8**
SMRF Simiane la Rot 18.77 305 *e*P **Pn 12 07 35.7 +0.1**
VOR Voronezh 18.78 24 P **Pn 12 07 40.0 +4.4**
VOR pmax pmax
comp=Z,180nm,1.0s
SPAK Spaichingen-Ko 18.82 319 *e*P **Pn 12 07 35.2 -0.9**
SULZ Cheisacher 18.85 317⇓P **Pn 12 07 34.3 -2.2**
ORIF Oris-en-Rattie 18.93 308 *e*P **Pn 12 07 34.7 -2.8**
comp=Z,43nm,1.2s
ORIF *e*MLR MLR
comp=Z,495nm,19.0s
ORIF Oris-en-Rattie 18.93 308 *e*P **Pn 12 07 34.7 -2.8**
ORIF pmax pmax
comp=Z,22nm,1.2s
ORIF Oris-en-Rattie 18.93 308 *e*P **Pn 12 07 34.7 -2.8**
comp=Z,22nm,1.2s
STU Stuttgart 19.02 321 *e*P **Pn 12 07 38.7 +0.2**
STU pmax pmax
comp=Z,20nm,0.8s
STU Stuttgart 19.02 321 *e*P **Pn 12 07 38.7 +0.2**
comp=Z,20nm,0.8s
STU Stuttgart 19.02 321 *e*P **Pn 12 07 38.7 +0.2**
comp=Z,20nm,0.8s
SUW Suwalki 19.12 353 *e*P **Pn 12 07 38.1 -1.6**
CLL Collm 19.13 332⇑*i*P **Pn 12 07 39.7 -0.2**
CLL *e*S **Sn 12 11 12.0 -1.3**
CLL pmax pmax
comp=Z,13nm,1.0s
CLL Collm 19.13 332 *e*Pn **Pn 12 07 38.2 -1.7**
CLL Collm 19.13 332⇑*i*P **Pn 12 07 39.7 -0.2**
comp=Z,13nm,1.0s
CLL *i* PP 12 07 51.0
CLL *e*S **Sn 12 11 12.0 -1.3**
BBS Basel-Blauen 19.16 316 *e*P **Pn 12 07 37.4 -2.8**
MOX Moxa 19.18 329 *e*P **Pn 12 07 40.7 +0.2**
comp=Z,67nm,1.8s
MOX
comp=Z,500nm,14.0s
MOX Moxa 19.18 329 *e*P **Pn 12 07 40.7 +0.2**
MOX pmax pmax
comp=Z,67nm,1.8s
MOX MLR MLR
comp=Z,500nm,14.0s
MOX Moxa 19.18 329 *e*Pn **Pn 12 07 38.3 -2.2**
BFO Black Forest 19.20 319 *e*Pn **Pn 12 07 37.8 -2.9**
MNK Minsk 19.42 1 *e*P **Pn 12 07 38.0 -5.3**
GKP Gorka Klasztor 19.47 342 *e*P **Pn 12 07 41.4 -2.4**
LOMF Lomont 19.48 315 *e*P **Pn 12 07 44.7 +0.6**
CABF La Chapelle 19.55 312 *e*P **Pn 12 07 42.5 -2.4**
comp=Z,57nm,0.7s
CABF La Chapelle 19.55 312 *e*P **Pn 12 07 42.5 -2.4**
CABF pmax pmax
comp=Z,28nm,0.7s
CABF La Chapelle 19.55 312 *e*P **Pn 12 07 42.5 -2.4**
comp=Z,28nm,0.7s
MOF Molkenrain 19.58 317 *e*P **Pn 12 07 44.7 -0.5**
VIVF Saint-Julien-l 19.70 306 *e*P **Pn 12 07 43.1 -3.6**
comp=Z,43nm,0.8s
VIVF Saint-Julien-l 19.70 306 *e*P **Pn 12 07 43.1 -3.6**
VIVF pmax pmax
comp=Z,21nm,0.8s
VIVF Saint-Julien-l 19.70 306 *e*P **Pn 12 07 43.1 -3.6**
comp=Z,21nm,0.8s
HINF Hinteralfeld 19.72 316 *e*P **Pn 12 07 43.7 -3.2**
comp=Z,24nm,0.8s
HINF Hinteralfeld 19.72 316 *e*P **Pn 12 07 43.7 -3.2**
HINF pmax pmax
comp=Z,12nm,0.8s
HINF Hinteralfeld 19.72 316 *e*P **Pn 12 07 43.7 -3.2**
comp=Z,12nm,0.8s
TOD Tromm 19.75 323 *e*P **Pn 12 07 44.9 -2.3**
ECH Echery 19.77 318 *e*P **Pn 12 07 44.9 -2.6**
ECH Echery 19.77 318 *e*P **Pn 12 07 44.9 -2.6**
CDF Champ du Feu 19.82 318 *e*P **Pn 12 07 44.9 -3.1**
comp=Z,24nm,0.9s
CDF Champ du Feu 19.82 318 *e*P **Pn 12 07 44.9 -3.1**
CDF pmax pmax
comp=Z,12nm,0.9s
CDF Champ du Feu 19.82 318 *e*P **Pn 12 07 44.9 -3.1**
comp=Z,12nm,0.9s
LANF Langenberg 19.87 320 *e*P **Pn 12 07 48.0 -0.6**
SSB Saint Sauveur 19.95 307 *e*P **Pn 12 07 47.4 -2.2**
LASF Ste Croix 19.98 304 *e*P **Pn 12 07 46.0 -4.0**
comp=Z,17nm,0.8s
LASF Ste Croix 19.98 304 *e*P **Pn 12 07 46.0 -4.0**
comp=Z,8.6nm,0.8s
HAU Haudompre 20.11 316 *e*P **P 12 07 47.7 -1.8**
comp=Z,63nm,1.1s
HAU *e*MLR MLR
comp=Z,553nm,21.0s,MS3.6
HAU Haudompre 20.11 316 *e*P **P 12 07 47.7 -1.8**
HAU pmax pmax
comp=Z,31nm,1.1s
HAU MLR MLR
comp=Z,550nm,21.0s,MS3.9
HAU Haudompre 20.11 316 *e*P **P 12 07 47.7 -1.8**
comp=Z,31nm,1.1s
HAU LR LR
comp=Z,550nm,21.0s,MS3.9
EJON La Jonquera 20.20 299 P **P 12 07 50.1 -0.6**
comp=Z,9.7nm,0.8s
EJON La Jonquera 20.20 299 P **P 12 07 50.1 -0.6**
comp=Z,9.7nm,0.8s
TNS Taunus Mts 20.33 324 *e*P **P 12 07 50.5 -1.4**
THEF They Montfort 20.43 316 *e*P **P 12 07 52.1 -1.0**
RUP Ruppelstein 20.69 321 *e*P **P 12 07 54.7 -1.2**
LBL Lubilhac 20.78 306 *e*P **P 12 07 56.3 -0.5**
PLDF La Plantade 20.81 309 *e*P **P 12 07 55.8 -1.4**
VALF Valcebollere 20.82 298 *e*P **P 12 07 57.0 -0.4**
MTLF Montolieu 20.90 301 *e*P **P 12 07 56.7 -1.5**
comp=Z,12nm,0.8s
MTLF Montolieu 20.90 301 *e*P **P 12 07 56.7 -1.5**
MTLF pmax pmax
comp=Z,6.0nm,0.8s
MTLF Montolieu 20.90 301 *e*P **P 12 07 56.7 -1.5**
comp=Z,6.2nm,0.8s
SMF Signal de Mont 20.95 310 *e*P **P 12 07 56.6 -2.1**
comp=Z,32nm,0.6s
SMF Signal de Mont 20.95 310 *e*P **P 12 07 56.6 -2.1**
SMF pmax pmax
comp=Z,16nm,0.6s
SMF Signal de Mont 20.95 310 *e*P **P 12 07 56.6 -2.1**
comp=Z,16nm,0.6s
OBN Obninsk 21.08 15⇓*e*P **P 12 07 59.7 -0.3**
OBN *e* 12 08 08.7
OBN *e* 12 08 19.5
OBN *e* 12 12 04.0
OBN pmax pmax
comp=Z,40nm,1.3s,mb4.6
OBN MLR MLR
comp=Z,300nm,17.0s,MS3.7
OBN Obninsk 21.08 15 *e*P **P 12 07 59.7 -0.3**
comp=Z,40nm,1.3s,mb4.6
EMIR Miracle 21.09 296 P **P 12 08 00.4 +0.2**
comp=Z,12nm,1.1s,mb4.2
EMIR Miracle 21.09 296 P **P 12 08 00.4 +0.2**
comp=Z,12nm,1.1s,mb4.2
MEZF Maizieres J'vi 21.11 316 *e*P **P 12 07 59.2 -1.1**
comp=Z,32nm,0.6s,mb4.5
MEZF Maizieres J'vi 21.11 316 *e*P **P 12 07 59.2 -1.1**
comp=Z,16nm,0.6s,mb4.5
PYM Petit Puy Mans 21.12 308 *e*P **P 12 08 00.2 -0.4**
WLF Walferdange 21.14 320 P **P 12 08 00.0 -0.7**
comp=Z,29nm,2.3s,mb4.2
WLF Walferdange 21.14 320 *e*P **P 12 08 00.0 -0.7**
AGO Saint Agoulin 21.16 308 *e*P **P 12 08 00.0 -0.9**
LOR Lormes 21.21 312 *e*P **P 12 07 59.5 -2.0**
comp=Z,77nm,1.0s,mb4.7,baz=126
LOR *e*MLR MLR
comp=Z,428nm,22.5s,MS3.5
LOR Lormes 21.21 312 *e*P **P 12 07 59.5 -2.0**
LOR pmax pmax
comp=Z,38nm,1.0s,mb4.7
LOR MLR MLR
comp=Z,430nm,22.5s,MS3.8
LOR Lormes 21.21 312 *e*P **P 12 07 59.5 -2.0**
comp=Z,38nm,1.0s,mb4.7
LOR LR LR
comp=Z,430nm,22.5s,MS3.8
FRNF Fournols 21.28 306 *e*P **P 12 08 02.0 -0.3**
AVF Avril sur Loir 21.31 310 *e*P **P 12 08 01.2 -1.4**
comp=Z,103nm,1.1s,mb4.8
AVF Avril sur Loir 21.31 310 *e*P **P 12 08 01.2 -1.4**
AVF pmax pmax
comp=Z,51nm,1.1s,mb4.8
AVF Avril sur Loir 21.31 310 *e*P **P 12 08 01.2 -1.4**
comp=Z,51nm,1.1s,mb4.8
EPOB Poblet 21.32 295 P **P 12 08 02.0 -0.8**
comp=Z,40nm,0.8s,mb4.8
EPOB Poblet 21.32 295 P **P 12 08 02.0 -0.7**
comp=Z,40nm,0.8s,mb4.8
SSF Saint Saulge 21.34 311 *e*P **P 12 08 00.7 -2.1**
comp=Z,171nm,1.0s,mb5.0
SSF Saint Saulge 21.34 311 *e*P **P 12 08 00.7 -2.1**
SSF pmax pmax
comp=Z,85nm,1.0s,mb5.0
SSF Saint Saulge 21.34 311 *e*P **P 12 08 00.7 -2.1**
comp=Z,85nm,1.0s,mb5.0
CAF Calviac 21.46 305 *e*P **P 12 08 04.0 -0.2**
comp=Z,15nm,0.7s,mb4.2
CAF Calviac 21.46 305 *e*P **P 12 08 04.0 -0.2**
CAF pmax pmax
comp=Z,8.0nm,0.7s,mb4.2
CAF Calviac 21.46 305 *e*P **P 12 08 04.0 -0.2**
comp=Z,7.6nm,0.7s,mb4.2
BGF Bois d'Agland 21.54 309 *e*P **P 12 08 03.7 -1.3**
comp=Z,50nm,1.0s,mb4.6
BGF Bois d'Agland 21.54 309 *e*P **P 12 08 03.7 -1.3**
BGF pmax pmax
comp=Z,25nm,1.0s,mb4.6
BGF Bois d'Agland 21.54 309 *e*P **P 12 08 03.7 -1.3**
comp=Z,25nm,1.0s,mb4.6
BUG Bochum--Univer 21.69 325 *e*P **P 12 08 09.3 +2.7**
MEM Membach 21.78 322 P **P 12 08 06.7 -0.9**
comp=Z,21nm,1.0s,mb4.5
ERTA Horta de San J 21.83 294 P **P 12 08 08.7 +0.5**
comp=Z,14nm,0.6s,mb4.6
TCF Toulx Ste Croi 21.84 308 *e*P **P 12 08 06.4 -1.8**
comp=Z,29nm,0.9s,mb4.4
TCF Toulx Ste Croi 21.84 308 *e*P **P 12 08 06.4 -1.8**
TCF pmax pmax
comp=Z,15nm,0.9s,mb4.4
TCF Toulx Ste Croi 21.84 308 *e*P **P 12 08 06.4 -1.8**
comp=Z,15nm,0.9s,mb4.4
MOS Moscow 21.89 16 *e*P **P 12 08 09.8 +1.1**
MOS *e* 12 08 15.0
MOS *e* 12 08 32.6
MOS pmax pmax
comp=Z,45nm,0.7s,mb5.0
RJF Les Rejaudoux 21.95 305 *e*P **P 12 08 08.9 -0.6**
comp=Z,42nm,0.8s,mb4.6
RJF *e*MLR MLR
comp=Z,418nm,18.0s,MS3.6
RJF Les Rejaudoux 21.95 305 *e*P **P 12 08 08.9 -0.6**
RJF pmax pmax
comp=Z,21nm,0.8s,mb4.6
RJF MLR MLR
comp=Z,420nm,18.0s,MS3.9
RJF Les Rejaudoux 21.95 305 *e*P **P 12 08 08.9 -0.6**
comp=Z,21nm,0.8s,mb4.6
RJF LR LR
comp=Z,420nm,18.0s,MS3.9
BCLA Clavier 22.03 321 P **P 12 08 09.1 -1.2**
comp=Z,22nm,1.7s,mb4.3
BCLA Clavier 22.03 321 P **P 12 08 09.0 -1.2**
comp=Z,22nm,1.7s,mb4.3
GIVF Givet 22.10 320 *e*P **P 12 08 08.2 -2.8**
comp=Z,54nm,1.0s,mb4.6
GIVF Givet 22.10 320 *e*P **P 12 08 08.2 -2.8**
GIVF pmax pmax
comp=Z,27nm,1.0s,mb4.6
GIVF Givet 22.10 320 *e*P **P 12 08 08.2 -2.8**
comp=Z,27nm,1.0s,mb4.6
EPF Esparros 22.16 299 *e*P **P 12 08 10.9 -0.9**
DOU Dourbes 22.22 319 P **P 12 08 10.5 -1.7**
comp=Z,12nm,1.5s,mb4.1
EBIE Bielsa 22.24 298 P **P 12 08 13.2 +0.7**
comp=Z,7.0nm,0.7s,mb4.2
LFF La Frestale 22.36 304 *e*P **P 12 08 13.3 -0.5**
comp=Z,45nm,1.0s,mb4.6
LFF La Frestale 22.36 304 *e*P **P 12 08 13.3 -0.5**
LFF pmax pmax
comp=Z,22nm,1.0s,mb4.5

LFF La Frestale 22.36 304 *e*P P **12 08 13.3 -0.5**
comp=Z,22nm,1.0s,mb4.5
BAIF Baives 22.41 319 *e*P P **12 08 12.3 -1.9**
comp=Z,99nm,0.9s,mb4.9
BAIF Baives 22.41 319 *e*P P **12 08 12.3 -1.9**
BAIF pmax pmax
comp=Z,49nm,0.9s,mb4.9
BAIF Baives 22.41 319 *e*P P **12 08 12.3 -1.9**
comp=Z,49nm,0.9s,mb4.9
TAM Tamanrasset 22.44 243 *e*P P **12 08 18.6 +3.8**
ESAC San Caprasio 22.53 295 P P **12 08 17.5 +1.9**
comp=Z,14nm,0.7s,mb4.5
SNF Seneffe 22.61 320 P P **12 08 15.6 -0.9**
comp=Z,17nm,1.4s,mb4.3
SNF Seneffe 22.61 320 P P **12 08 15.5 -1.0**
comp=Z,17nm,1.4s,mb4.3
ECHE Chera 22.71 290 P P **12 08 20.1 +2.5**
ECHE pmax pmax
comp=Z,7.0nm,1.7s,mb3.8
ECHE Chera 22.71 290 P P **12 08 20.1 +2.5**
comp=Z,7.1nm,1.7s,mb3.8
ETSF Etsaut 22.79 298 *e*P P **12 08 17.5 -0.9**
comp=Z,10nm,0.6s,mb4.1
ETSF Etsaut 22.79 298 *e*P P **12 08 17.5 -0.9**
ETSF pmax pmax
comp=Z,5.0nm,0.6s,mb4.1
ETSF Etsaut 22.79 298 *e*P P **12 08 17.5 -0.9**
comp=Z,5.2nm,0.6s,mb4.1
SJPF Ste Jean 23.31 299 *e*P P **12 08 24.7 +0.9**
comp=Z,60nm,1.0s,mb4.7
SJPF Ste Jean 23.31 299 *e*P P **12 08 24.7 +0.9**
SJPF pmax pmax
comp=Z,30nm,1.0s,mb4.7
SJPF Ste Jean 23.31 299 *e*P P **12 08 24.7 +0.9**
comp=Z,30nm,1.0s,mb4.7
MFF Saint Martin d 23.47 308 *e*P P **12 08 23.6 -1.9**
comp=Z,36nm,0.9s,mb4.5
MFF Saint Martin d 23.47 308 *e*P P **12 08 23.6 -1.9**
MFF pmax pmax
comp=Z,18nm,0.9s,mb4.5
MFF Saint Martin d 23.47 308 *e*P P **12 08 23.6 -1.9**
comp=Z,18nm,0.9s,mb4.5
EALK Alkurruntz 23.53 299 P P **12 08 27.6 +1.6**
comp=Z,5.4nm,0.8s,mb4.0
ELIZ Elizondo 23.53 299 P P **12 08 26.8 +0.7**
ELIZ pmax pmax
comp=Z,14nm,1.0s,mb4.3
ELIZ Elizondo 23.53 299 P P **12 08 26.8 +0.7**
comp=Z,14nm,1.0s,mb4.4
ETOR Torete 23.62 293 P P **12 08 26.2 -0.7**
ETOR pmax pmax
comp=Z,7.0nm,0.5s,mb4.3
ETOR Torete 23.62 293 P P **12 08 26.2 -0.7**
comp=Z,7.1nm,0.5s,mb4.3
EVIA Vianos 23.89 287 P P **12 08 29.4 0.0**
EVIA pmax pmax
comp=Z,8.0nm,0.7s,mb4.3
EVIA Vianos 23.89 287 P P **12 08 29.4 0.0**
comp=Z,7.7nm,0.7s,mb4.2
ECRI Cripan 24.16 297 P P **12 08 33.1 +1.3**
ECRI pmax pmax
comp=Z,4.0nm,0.6s,mb4.0
ECRI Cripan 24.16 297 P P **12 08 33.1 +1.3**
comp=Z,4.2nm,0.6s,mb4.0
LDF La Druitiere 24.20 312 *e*P P **12 08 29.8 -2.3**
comp=Z,22nm,0.7s,mb4.4
LDF La Druitiere 24.20 312 *e*P P **12 08 29.8 -2.3**
LDF pmax pmax
comp=Z,11nm,0.7s,mb4.4
LDF La Druitiere 24.20 312 *e*P P **12 08 29.8 -2.3**
comp=Z,11nm,0.7s,mb4.4
EQES Quesada 24.36 285 P P **12 08 37.6 +3.9**
comp=Z,8.9nm,0.7s,mb4.3
FLN La Foliniere 24.48 312 *e*P P **12 08 32.4 -2.3**
comp=Z,65nm,0.8s,mb4.8
FLN *e*MLR MLR
comp=Z,258nm,20.8s,MS3.4
FLN La Foliniere 24.48 312 *e*P P **12 08 32.4 -2.3**
FLN pmax pmax
comp=Z,32nm,0.8s,mb4.8
FLN MLR MLR
comp=Z,260nm,20.8s,MS3.7
FLN La Foliniere 24.48 312 *e*P P **12 08 32.4 -2.3**
comp=Z,32nm,0.8s,mb4.8
FLN LR LR
comp=Z,260nm,20.8s,MS3.7
GRR Gorron 24.57 311 *e*P P **12 08 33.5 -2.0**
comp=Z,26nm,0.6s,mb4.7
GRR Gorron 24.57 311 *e*P P **12 08 33.5 -2.0**
GRR pmax pmax
comp=Z,13nm,0.6s,mb4.6
GRR Gorron 24.57 311 *e*P P **12 08 33.5 -2.0**
comp=Z,13nm,0.6s,mb4.6
EBAN Banos Encina 24.91 286 P P **12 08 40.1 +1.4**
EBAN pmax pmax
comp=Z,7.0nm,0.8s,mb4.2
EBAN Banos Encina 24.91 286 P P **12 08 40.1 +1.4**
comp=Z,7.1nm,0.8s,mb4.2
EBAN Banos Encina 24.91 286 P P **12 08 40.1 +1.4**
comp=Z,7.1nm,0.8s,mb4.2
ELAN Lanestosa 24.92 298 P P **12 08 39.8 +1.1**
comp=Z,20nm,1.2s,mb4.5
ESDC Sonseca Array 25.02 290 P P **12 08 39.3 -0.5**
comp=Z,5.8nm,0.6s,mb4.3,baz=79,slow=9.5,SNR=37
ESDC Sonseca Array 25.02 290 P P **12 08 40.1 +0.4**
comp=Z,3.2nm,0.6s,mb4.0
ESDC Sonseca Array 25.02 290 P P **12 08 40.1 +0.3**
comp=Z,3.2nm,0.6s,mb4.0
ESLA Sonseca Array 25.02 290 *e*P P **12 08 39.3 -0.4**
comp=Z,6.7nm,1.1s,mb4.1
VAN Vannovskaya 25.04 74 *i*P P **12 08 40.5 +0.6**
GUD Guadarrama 25.20 292 P P **12 08 42.7 +1.4**
GUD pmax pmax
comp=Z,7.0nm,0.6s,mb4.4
GUD Guadarrama 25.20 292 P P **12 08 42.7 +1.4**
comp=Z,6.5nm,0.6s,mb4.3
GUD Guadarrama 25.20 292 P P **12 08 42.7 +1.4**
comp=Z,6.5nm,0.6s,mb4.3
PAB San Pablo 25.32 289 *e*P P **12 08 42.3 -0.1**
PAB pmax pmax
comp=Z,6.0nm,0.8s,mb4.2
PAB San Pablo 25.32 289 *e*P P **12 08 42.3 -0.1**
comp=Z,6.4nm,0.8s,mb4.2
PAB San Pablo 25.32 289 *e*P P **12 08 42.3 -0.1**
comp=Z,6.4nm,0.8s,mb4.2
ELUQ Luque 25.32 285 P P **12 08 44.5 +2.0**
ELUQ pmax pmax
comp=Z,5.0nm,0.7s,mb4.2
ELUQ Luque 25.32 285 P P **12 08 44.5 +2.0**
comp=Z,4.8nm,0.7s,mb4.1
ELUQ Luque 25.32 285 P P **12 08 44.5 +2.1**
comp=Z,4.8nm,0.7s,mb4.1
EADA Adamuz 25.53 286 P P **12 08 45.0 +0.7**
comp=Z,3.6nm,0.6s,mb4.1
EADA Adamuz 25.53 286 P P **12 08 45.0 +0.6**
comp=Z,3.6nm,0.6s,mb4.1
SGMF Saint Gilles 25.57 310 *e*P P **12 08 44.2 -0.4**
comp=Z,9.4nm,0.5s,mb4.3
SGMF Saint Gilles 25.57 310 *e*P P **12 08 44.2 -0.4**
SGMF pmax pmax
comp=Z,5.0nm,0.5s,mb4.3
SGMF Saint Gilles 25.57 310 *e*P P **12 08 44.2 -0.4**
comp=Z,4.7nm,0.5s,mb4.3
EMIJ Mijas 25.81 283 P P **12 08 50.6 +3.7**
comp=Z,16nm,0.7s,mb4.7
EMIJ Mijas 25.81 283 P P **12 08 50.6 +3.7**
comp=Z,16nm,0.7s,mb4.7
QUIF Quistinic 25.85 309 *e*P P **12 08 45.2 -1.9**
comp=Z,44nm,0.9s,mb4.7
QUIF Quistinic 25.85 309 *e*P P **12 08 45.2 -1.9**
QUIF pmax pmax
comp=Z,22nm,0.9s,mb4.7
QUIF Quistinic 25.85 309 *e*P P **12 08 45.2 -1.9**
comp=Z,22nm,0.9s,mb4.7
ROSF Rostrenen 26.05 310 *e*P P **12 08 46.5 -2.5**
comp=Z,77nm,1.2s,mb4.8
ROSF Rostrenen 26.05 310 *e*P P **12 08 46.5 -2.5**
ROSF pmax pmax
comp=Z,39nm,1.2s,mb4.8
ROSF Rostrenen 26.05 310 *e*P P **12 08 46.5 -2.5**
comp=Z,39nm,1.2s,mb4.8
ECAB El Cabril 26.20 286 P P **12 08 52.1 +1.7**
comp=Z,11nm,0.7s,mb4.5
ECAB El Cabril 26.20 286 P P **12 08 52.1 +1.7**
comp=Z,11nm,0.7s,mb4.5
ZFT Errachidia 26.32 272 *i*P P **12 08 51.0 -0.5**
MDT Midelt 26.34 274 P P **12 08 51.9 +0.2**
comp=Z,6.3nm,0.8s,mb4.2,baz=80,slow=11,SNR=10
HFS Hagfors 26.53 345 P P **12 08 50.1 -3.0**
comp=Z,7.4nm,0.8s,mb4.2,baz=128,slow=9.6,SNR=12
HFS LR LR 12 20 31.9
comp=Z,518nm,18.6s,MS4.1,baz=162,slow=40
HFS Hagfors 26.53 345 P P **12 08 50.1 -3.0**
HFS pmax pmax
comp=Z,7.0nm,0.8s
HFS MLR MLR
comp=Z,518nm,18.6s
HFA0 Hagfors New Ar 26.54 345 P P **12 08 55.0 +1.8**
CZD Col de Zad 26.64 275 *i*P P **12 08 56.0 +1.6**
ESPR Espera 26.65 284 P P **12 08 57.7 +3.2**
comp=Z,0.2nm,0.9s
ESPR Espera 26.65 284 P P **12 08 57.7 +3.3**
comp=Z,0.2nm,0.9s
EPLA Plasencia 26.66 291 P P **12 08 54.9 +0.4**
EPLA pmax pmax
comp=Z,7.0nm,0.5s,mb4.5
EPLA Plasencia 26.66 291 P P **12 08 54.9 +0.4**
comp=Z,6.8nm,0.5s,mb4.4
EPLA Plasencia 26.66 291 P P **12 08 54.9 +0.4**
comp=Z,6.8nm,0.5s,mb4.4
KLMR Klimovskoe 27.00 13 *e*P P **12 08 58.9 +1.5**
KLMR pmax pmax
comp=Z,52nm,1.9s,mb4.7
KAF Kangasniemi 27.05 359 *e*p P **12 08 56.8 -1.0**
comp=Z,1.5nm,0.3s,mb4.0
KAF Kangasniemi 27.05 359 *e*P P **12 08 56.8 -1.0**
KAF pmax pmax
comp=Z,2.0nm,0.3s,mb4.1
AKTK Aktyubinsk 27.16 46 P P **12 08 58.5 -0.4**
AKTO Aktyubinsk 27.16 46 P P **12 08 58.5 -0.4**
comp=Z,3.0nm,0.5s,mb4.0,baz=256,slow=11,SNR=6.2
AKTO Aktyubinsk 27.16 46 P P **12 08 58.5 -0.4**
AKTO pmax pmax
comp=Z,3.0nm,0.5s,mb4.1
PBRG Braganca 27.20 294 *e*P P **12 08 59.4 0.0**
comp=Z,28nm,1.5s,mb4.6
ECAL Calabor 27.21 295 P P **12 09 01.9 +2.4**
comp=Z,12nm,0.8s,mb4.5
ECAL Calabor 27.21 295 P P **12 09 01.9 +2.4**
comp=Z,12nm,0.8s,mb4.5
EMIN Mina Concepcio 27.21 286 P P **12 09 00.8 +1.3**
comp=Z,11nm,1.0s,mb4.3
EMIN Mina Concepcio 27.21 286 P P **12 09 00.8 +1.3**
comp=Z,11nm,1.0s,mb4.3
MVO Moncorvo 27.39 293 *e*P P **12 09 00.3 -0.8**
comp=Z,26nm,1.1s,mb4.7
MVO Moncorvo 27.39 293 *e*P P **12 09 03.4 +2.3**
EBAD Badajoz 27.41 288 P P **12 09 01.4 +0.1**
comp=Z,6.3nm,0.6s,mb4.3
EBAD Badajoz 27.41 288 P P **12 09 01.4 +0.1**
comp=Z,6.3nm,0.6s,mb4.3
PBAR Barrancos 27.47 287 *e*P P **12 09 03.2 +1.4**
comp=Z,33nm,1.7s,mb4.6
PMRV Marv??o 27.68 289 *e*P P **12 09 03.5 -0.2**
comp=Z,27nm,2.0s,mb4.5
PMRV Marv??o 27.68 289 *e*P P **12 09 05.1 +1.4**
PESTR Estremoz 27.86 288 *e*P P **12 09 06.3 +1.0**
comp=Z,26nm,1.4s,mb4.7
NB2 NORSAR Subarra 27.90 343 P P **12 09 01.5 -3.9**
comp=Z,1.6nm,0.6s,mb3.8,baz=153,slow=10
NOA NORSAR Array B 27.90 343 P P **12 09 02.2 -3.2**
comp=Z,1.6nm,0.7s,mb3.8,baz=157,slow=6.8,SNR=3.8
NOA LR LR 12 21 04.5
comp=Z,207nm,19.4s,MS3.7,baz=210,slow=39
NOA NORSAR Array B 27.90 343 P P **12 09 02.2 -3.2**
NOA pmax pmax
comp=Z,2.0nm,0.7s
NOA MLR MLR
comp=Z,207nm,19.4s
NOA NORSAR Array B 27.90 343 P P **12 09 02.2 -3.2**
NOA LR LR 12 21 04.5
JOF Joensuu 27.98 4 *e*p P **12 09 03.6 -2.5**
comp=Z,1.5nm,0.4s,mb4.0
JOF Joensuu 27.98 4 *e*P P **12 09 03.6 -2.5**
JOF pmax pmax
comp=Z,2.0nm,0.4s,mb4.1
PVAQ Vaqueiros 28.07 285 *e*P P **12 09 08.7 +1.5**
EKA Eskdalemuir Ar 29.02 324 P P **12 09 13.1 -2.4**
comp=Z,2.6nm,0.7s,mb4.1,baz=124,slow=8.4,SNR=6.7
EKA Eskdalemuir Ar 29.02 324 P P **12 09 13.1 -2.4**
EKA pmax pmax
comp=Z,3.0nm,0.7s
ARU Arti 30.19 35 *e*P P **12 09 25.2 -0.6**
ARU *e* 12 10 22.1
ARU *e*S S **12 14 26.5 +3.3**
ARU *e*SS SS 12 16 01.0 -31
TOA0 Torodi Ar. Sit 31.67 233 *e*P P **12 09 40.2 +0.9**
TOA0 Torodi Ar. Sit 31.67 233 *e*P P **12 09 40.2 +0.9**
TORD Torodi Ar. Bea 31.67 233 P P **12 09 40.3 +1.0**
comp=Z,168nm,0.4s,baz=35,slow=9.1,SNR=1.6
TORD LR LR 12 25 31.4
comp=Z,264nm,18.2s,MS4.0,baz=40,slow=42
KBL Kabul 34.27 79 *e*P P **12 10 08.3 +6.4**
KBL pmax pmax
comp=Z,8.0nm,0.7s,mb4.8
KBL Kabul 34.27 79 *e*P P **12 10 08.3 +6.4**
comp=Z,8.1nm,0.7s,mb4.8
KBL Kabul 34.27 79 *e*P P **12 10 08.3 +6.5**
comp=Z,8.1nm,0.7s,mb4.8
KK31 Karatay Array 34.33 63 *i*P P **12 10 02.9 +0.7**
KK31 pmax pmax
comp=Z,2.0nm,0.4s,mb4.4
ARCES ARCESS Array B 34.52 359 P P **12 10 00.5 -3.0**
comp=Z,1.9nm,0.8s,mb4.1,baz=170,slow=7.4,SNR=12
ARCES PcP PcP 12 12 38.1 +0.3
comp=Z,2.9nm,0.9s,baz=185,slow=4.5,SNR=4.8
ARCES ARCESS Array B 34.52 359 P P **12 10 00.5 -3.0**
ARCES 12 12 38.1
ARCES pmax pmax
comp=Z,2.0nm,0.8s
ARCES ARCESS Array B 34.52 359 PcP PcP 12 12 38.1 +0.2
ARCES ARCESS Array B 34.52 359 P P **12 10 00.5 -3.0**
ARCES PcP PcP 12 12 38.1 +0.3
KEV Kevo 34.73 360 *e*p P **12 10 06.2 +0.9**
comp=Z,0.8nm,0.3s,mb4.1
KEV Kevo 34.73 360 *e*P P **12 10 06.2 +0.9**
KEV pmax pmax
comp=Z,1.0nm,0.3s,mb4.2
BVAR Borovoye Array 35.26 46 P P **12 10 10.3 +0.1**
comp=Z,0.4nm,0.3s,mb3.8,baz=270,slow=5.8,SNR=4.4
EKS2 Erkin-Say 36.75 64 *e*P P **12 10 24.6 +1.6**
comp=Z,6.6nm,0.7s,mb4.6
EKS2 *e*pP pP 12 10 31.4 +0.2
EKS2 Erkin-Say 36.75 64 *e*P P **12 10 24.6 +1.6**
comp=Z,6.6nm,0.7s,mb4.6
EKS2 *e*pP pP 12 10 31.4 +0.3
KMBO Kilima Mbogo 37.26 163 LR LR 12 25 34.4
comp=Z,211nm,21.4s,MS3.9,baz=98,slow=36
FRU Bishkek 37.35 63 *e*P P **12 10 34.0 +5.8**
FRU *e* 12 12 00.0
TKM2 Tokmak 2 38.06 63 *e*P P **12 10 35.5 +1.3**
TKM2 pmax pmax
comp=Z,8.0nm,0.6s,mb4.6
TKM2 Tokmak 2 38.06 63 *e*P P **12 10 35.5 +1.3**
comp=Z,7.6nm,0.6s,mb4.6
KURK Kurchatov 40.01 51 P P **12 10 49.9 -0.4**
comp=Z,3.4nm,0.6s,mb4.2,baz=276,slow=8.8,SNR=19
KURK Kurchatov 40.01 51 P P **12 10 49.9 -0.4**
KURK pmax pmax
comp=Z,3.0nm,0.6s,mb4.2
DBIC Dimbokro 40.77 234 P P **12 10 56.4 -0.6**
comp=Z,1.9nm,0.5s,mb4.0,baz=39,slow=11,SNR=4.2
DBIC LR LR 12 30 43.6
comp=Z,225nm,19.1s,MS4.0,baz=205,slow=40
DBIC Dimbokro 40.77 234 P P **12 10 56.4 -0.6**
DBIC pmax pmax
comp=Z,2.0nm,0.5s
DBIC MLR MLR
comp=Z,225nm,19.1s
DBIC Dimbokro 40.77 234 P P **12 10 56.4 -0.6**
DBIC LR LR 12 30 43.6
TIC Toumodi 40.90 234 *e*P P **12 11 02.4 +4.3**
comp=Z,9.4nm,0.2s,mb5.0
KIC Kosan Boka 40.92 233 *e*P P **12 11 02.5 +4.2**
comp=Z,117nm,1.2s,mb5.4
LIC Lamto 41.22 233 *e*P P **12 11 03.7 +3.0**
comp=Z,32nm,1.0s,mb4.6
LIC *e*MLR MLR
comp=Z,315nm,19.5s,MS3.9
LIC Lamto 41.22 233 *e*P P **12 11 04.9 +4.2**
comp=Z,43nm,1.0s,mb5.0
LIC Lamto 41.22 233 *e*P P **12 11 03.7 +3.0**
comp=Z,16nm,1.0s,mb4.6
LIC LR LR
comp=Z,160nm,19.5s,MS3.9
MK31 Makanchi Array 42.50 57 *i*P P **12 11 11.0 +0.1**
MK31 pmax pmax
comp=Z,11nm,0.5s,mb4.8
MK31 Makanchi Array 42.50 57 *e*P P **12 11 11.0 +0.1**
MKAR Makanchi Array 42.50 57 P P **12 11 11.2 +0.3**
comp=Z,4.7nm,0.5s,mb4.5,baz=276,slow=7.1,SNR=61
MKAR LR LR 12 30 34.1
comp=Z,144nm,20.7s,MS3.8,baz=268,slow=39
MKAR Makanchi Array 42.50 57 P P **12 11 11.2 +0.3**
MKAR pmax pmax
comp=Z,5.0nm,0.5s
MKAR MLR MLR
comp=Z,144nm,20.7s
NVS Novosibirsk 43.03 45 *e*P P **12 11 15.2 +0.2**
NVS *e* 12 13 05.4
NVS *e*S S **12 17 38.6 -0.2**
NVS pmax pmax
comp=Z,24nm,1.5s,mb4.7
NVS pmax pmax
comp=E,6.0nm,1.4s
NVS smax
comp=N,40nm,3.1s
ZALV Zalesovo Beam 43.92 46 P P **12 11 21.7 -0.5**
comp=N,3.4nm,0.7s,mb4.2,baz=265,slow=8.9,SNR=11
ZALV Zalesovo Beam 43.92 46 P P **12 11 21.7 -0.5**
ZALV pmax pmax
comp=Z,3.0nm,0.7s,mb4.1
ZALV Zalesovo Beam 43.92 46 P P **12 11 21.7 -0.5**
WMQ Urumqi 46.68 60 ↑P P **12 11 44.8 +0.6**
WMQ AP pP 12 11 49.3 -3.2
WMQ XP sP 12 11 51.8 -4.1
WMQ PCP PcP 12 13 19.3 +1.7
WMQ PP PP 12 13 34.3 +0.3
WMQ PPP 12 14 19.8
WMQ S S **12 18 32.8 +0.9**
WMQ AMB AMB
comp=Z,21nm,1.2s,mb4.9
WMQ AMB AMB
comp=Z,182nm,5.4s
WMQ LR LR
comp=N,231nm,24.4s,MS4.1
WMQ LR LR
comp=E,129nm,22.9s,MS4.1
WMQ LR LR
comp=Z,130nm,20.0s,MS3.9
DANN Dangsing 48.13 81 *e*P P **12 11 57.2 +1.4**
comp=Z,109nm,0.7s
KOLN Koldanda 48.23 82 *e*P P **12 11 57.3 +0.8**
comp=Z,25nm,0.8s,mb5.3
HYB Hyderabad 48.86 97 *i*P P **12 12 03.0 +1.6**
HYB Hyderabad 48.86 97 *e*P P **12 12 03.0 +1.6**
GKN Gorkha 48.98 81 *e*P P **12 12 03.2 +0.9**
comp=Z,44nm,1.0s,mb5.5
DMN Daman 49.52 82 *e*P P **12 12 07.4 +1.0**
comp=Z,55nm,0.9s,mb5.6
KKN Kakani 49.59 81 *e*P P **12 12 07.3 +0.3**
PKI Pulchoki 49.78 82 *e*P P **12 12 09.3 +0.9**
comp=Z,49nm,1.0s,mb5.5
GUN Gumba 50.03 81 *e*P P **12 12 10.4 +0.1**
comp=Z,22nm,0.7s,mb5.3
LSZ Lusaka 50.09 179 P P **12 12 13.6 +2.9**
comp=Z,3.3nm,0.6s,mb4.5,baz=0.3,slow=8.9,SNR=9.4
LSZ Lusaka 50.09 179 P P **12 12 13.6 +2.9**
LSZ pmax pmax
comp=Z,3.0nm,0.6s,mb4.5
JIRN Jiri 50.38 81 *e*P P **12 12 13.0 0.0**
comp=Z,31nm,0.9s,mb5.3
RAMN Ramite 51.00 82 *e*P P **12 12 17.1 -0.6**
comp=Z,27nm,0.9s,mb5.2
LSA Lhasa 53.55 77 P P **12 12 41.5 +4.9**
LSA pmax pmax
comp=Z,4.0nm,0.6s,mb4.5
LSA Lhasa 53.55 77 P P **12 12 41.5 +4.9**
comp=Z,3.9nm,0.6s,mb4.5
LSA Lhasa 53.55 77 P P **12 12 41.5 +4.9**
comp=Z,3.9nm,0.6s,mb4.5
TLY Talaya 55.50 47 *i*P P **12 12 49.2 -1.2**
TLY pmax pmax
comp=Z,3.0nm,1.2s,mb4.2
ZAK Zakamensk 55.61 49 *e*P P **12 12 51.3 +0.1**
ZAK pmax pmax
comp=Z,7.0nm,1.0s,mb4.7
GTA Gaotai 56.60 62 *e*P P **12 13 00.5 +2.0**
GTA AP pP 12 13 04.0 -2.9
GTA XP sP 12 13 07.3 -2.9
GTA PP PP 12 15 09.0 +4.7
GTA S S **12 20 52.0 +3.3**
GTA AMB AMB
comp=Z,3.0nm,0.7s,mb4.4
GTA AMB AMB
comp=Z,127nm,4.5s
GTA LR LR
comp=N,120nm,15.0s,MS4.3
GTA LR LR
comp=E,121nm,15.0s,MS4.3
GTA LR LR
comp=Z,117nm,18.9s,MS4.0
SONM Songino Array 58.31 51 P P **12 13 11.2 +0.9**
comp=Z,2.1nm,0.4s,mb4.5,baz=282,slow=7.5,SNR=24
SONM LR LR 12 41 15.6
comp=Z,201nm,19.2s,MS4.2,baz=193,slow=39
SONM Songino Array 58.31 51 P P **12 13 11.2 +0.8**
SONM pmax pmax
comp=Z,2.0nm,0.4s
SONM MLR MLR
comp=Z,201nm,19.3s
ULN Ulaanbaatar 58.72 51 *e*P P **12 13 12.6 -0.6**
ULN pmax pmax
comp=Z,7.0nm,0.7s,mb4.8
ULN Ulaanbaatar 58.72 51 *e*P P **12 13 12.6 -0.6**
comp=Z,6.7nm,0.7s,mb4.8
ULN Ulaanbaatar 58.72 51 *e*P P **12 13 12.6 -0.6**
comp=Z,6.7nm,0.7s,mb4.8
BOD Bodaibo 59.54 38 *e*P P **12 13 16.6 -2.1**
BOD pmax pmax
comp=Z,6.0nm,1.0s,mb4.6
TIXI Tiksi 60.68 21 *e*P P **12 13 25.1 -1.2**
TIXI pmax pmax
comp=Z,6.0nm,1.0s,mb4.7
TIXI Tiksi 60.68 21 *e*P P **12 13 24.9 -1.4**
comp=Z,5.5nm,0.8s,mb4.7
TIXI Tiksi 60.68 21 *e*P P **12 13 24.9 -1.4**
comp=Z,5.5nm,0.8s,mb4.7
LZH Lanzhou 60.81 65 *e*P P **12 13 31.0 +3.2**
LZH AP pP 12 13 35.8 -0.5
LZH XP sP 12 13 38.3 -1.3
LZH *e*PP PP 12 15 47.3 +5.6
LZH AMB AMB
comp=Z,16nm,1.4s,mb5.0
LZH AMB AMB
comp=Z,95nm,6.3s
LZH LR LR
comp=Z,90nm,12.2s,MS4.1
CD2 Chengdu 62.94 70 P P **12 13 42.8 +0.6**
CD2 AP pP 12 13 47.3 -3.5
CD2 XP sP 12 13 51.0 -3.0
CD2 PP PP 12 16 02.8 +2.2
CD2 S S **12 22 09.8 -0.8**
CD2 XS sS 12 22 17.5 -7.2
CD2 SS SS 12 26 16.5 +0.7
CD2 AMB AMB
comp=Z,20nm,1.0s,mb5.2
CD2 AMB AMB
comp=Z,40nm,5.2s
CD2 LR LR
comp=N,160nm,13.8s
CD2 LR LR
comp=Z,180nm,16.2s,MS4.3
BOSA Boshof 63.38 182 P P **12 13 46.8 +1.9**
comp=Z,2.9nm,0.7s,mb4.5,baz=28,slow=7.6,SNR=4.3
BOSA LR LR 12 44 06.1
comp=Z,150nm,19.4s,MS4.2,baz=2.2,slow=38
BOSA Boshof 63.38 182 P P **12 13 46.8 +1.9**
BOSA pmax pmax
comp=Z,3.0nm,0.7s,mb4.5
BOSA MLR MLR
comp=Z,150nm,19.4s,MS4.2
HHC Hu-ho-hao-te 64.36 57 *e*P P **12 13 51.5 +0.1**
HHC AP pP 12 13 56.0 -4.0
HHC XP sP 12 13 58.8 -4.5
HHC PCP PcP 12 14 26.5 +0.7
HHC PP PP 12 16 14.0 +1.2
HHC SCP 12 18 28.3
HHC S S **12 22 28.0 0.0**

HHC				SCS	ScS	12 23 42.3	-1.5		
HHC				SS	SS	12 26 38.3	+0.7		
HHC				AMB	AMB				
	comp=Z,19nm,1.0s,mb5.1								
HHC				AMB	AMB				
	comp=Z,146nm,6.0s								
HHC				LR	LR				
	comp=N,225nm,16.5s,MS4.7								
HHC				LR	LR				
	comp=E,276nm,15.0s,MS4.7								
HHC				LR	LR				
	comp=Z,160nm,18.8s,MS4.2								
KMI	**Kunming**	**64.80**	**76**	P	**P**	**12 13 54.5**	**0.0**		
KMI				AMB	AMB				
	comp=Z,9.0nm,0.9s,mb4.8								
CMAR	**Chiang Mai Arr**	**65.01**	**84**	P	**P**	**12 13 57.4**	**+1.4**		
	comp=Z,2.5nm,0.9s,mb4.3,baz=298,slow=8.1,SNR=9.4								
CMAR				LR	LR	12 46 07.5			
	comp=Z,73nm,19.8s,MS3.9,baz=287,slow=40								
CMAR	**Chiang Mai Arr**	**65.01**	**84**	P	**P**	**12 13 57.4**	**+1.4**		
CMAR				pmax	pmax				
	comp=Z,3.0nm,0.9s								
CMAR				MLR	MLR				
	comp=Z,73nm,19.8s								
YAK	**Yakutsk**	**65.15**	**30**	*i* P	**P**	**12 13 56.9**	**+0.7**		
YAK				MLR	MLR				
	comp=Z,100nm,16.0s,MS4.1								
GYA	**Guiyang**	**67.26**	**73**	P	**P**	**12 14 11.8**	**+1.5**		
GYA				AMB	AMB				
	comp=Z,10.0nm,1.0s,mb4.8								
BJI	**Beijing**	**67.88**	**56**	P	**P**	**12 14 12.5**	**-1.5**		
BJI				S	S	12 23 12.3	+1.6		
BJI				AMB	AMB				
	comp=Z,13nm,0.5s,mb5.2								
BJI				LR	LR				
	comp=Z,80nm,24.1s,MS3.9								
KKTK	**Khon Kaen**	**69.27**	**84**	P	**P**	**12 14 27.0**	**+3.9**		
WHN	**Wuhan**	**71.15**	**66**	*eP*	**P**	**12 14 35.0**	**+0.6**		
CN2	**Changchun**	**72.05**	**49**	*eP*	**P**	**12 14 39.0**	**-0.5**		
BILL	**Bilibino**	**72.74**	**15**	*i* P	**P**	**12 14 43.5**	**+0.3**		
BILL				*e*		12 15 01.0			
BILL				*e*		12 17 24.6			
BILL				eS	S	12 24 08.9	+2.3		
BILL				pmax	pmax				
	comp=Z,4.0nm,1.1s,mb4.3								
BILL				MLR	MLR				
	comp=Z,100nm,17.0s,MS4.2								
NJ2	**Nanjing**	**73.70**	**62**	*eP*	**P**	**12 14 50.8**	**+1.2**		
NJ2				AMB	AMB				
	comp=Z,10.0nm,0.7s,mb4.8								
MDJ	**Mudanjiang**	**74.12**	**46**	P	**P**	**12 14 50.5**	**-1.3**		
MDJ				AMB	AMB				
	comp=Z,159nm,4.7s								
MDJ				LR	LR				
	comp=N,66nm,32.3s,MS3.8								
MDJ				LR	LR				
	comp=E,45nm,31.3s,MS3.8								
MDJ				LR	LR				
	comp=Z,31nm,32.3s,MS3.4								
SADO	**Sadowa**	**76.21**	**315**	LR	LR	12 45 24.9			
	comp=Z,110nm,21.0s,MS4.1,baz=108,slow=33								
KSRS	**Korea Array**	**77.07**	**53**	P	**P**	**12 15 09.2**	**+0.3**		
	comp=Z,6.5nm,1.1s,mb4.5,baz=307,slow=4.7,SNR=4.6								
KSRS				LR	LR	12 56 18.4			
	comp=Z,93nm,19.8s,MS4.1,baz=137,slow=41								
YKA	**Yellowknife Ar**	**78.00**	**343**	P	**P**	**12 15 12.0**	**-1.5**		
	comp=Z,2.1nm,0.7s,mb4.2,baz=29,slow=5.2,SNR=3.8								
YKA				LR	LR	12 51 40.5			
	comp=Z,33nm,19.1s,MS3.7,baz=85,slow=37								
YKA	**Yellowknife Ar**	**78.00**	**343**	P	**P**	**12 15 12.0**	**-1.5**		
YKA				pmax	pmax				
	comp=Z,2.0nm,0.7s								
YKA				MLR	MLR				
	comp=Z,33nm,19.1s								
YKA	**Yellowknife Ar**	**78.00**	**343**	P	**P**	**12 15 12.0**	**-1.5**		
YKA				LR	LR	12 51 40.5			
YSS	**Yuzh-Sakhalins**	**80.01**	**39**	*eP*	**P**	**12 15 28.0**	**+3.1**		
COLA	**College**	**80.29**	**358**	*i* P	**P**	**12 15 26.5**	**+0.5**		
ULM	**Lac du Bonnet**	**81.24**	**327**	LR	LR	12 50 49.4			
	comp=Z,164nm,21.1s,MS4.4,baz=43,slow=35								
PETK	**Petropavlovsk-**	**82.26**	**28**	LR	LR	12 53 13.6			
	comp=Z,58nm,18.9s,MS4.0,baz=121,slow=36								
MJAR	**Matsushiro Arr**	**84.19**	**49**	LR	LR	12 56 37.1			
	comp=Z,108nm,18.3s,MS4.3,baz=55,slow=38								
TKL	**Tuckaleechee C**	**84.59**	**310**	P	**P**	**12 15 46.5**	**-2.5**		
	comp=Z,3.3nm,0.8s,mb4.5,baz=72,slow=6.4,SNR=2.9								
TKL	**Tuckaleechee C**	**84.59**	**310**	P	**P**	**12 15 46.5**	**-2.5**		
TKL				pmax	pmax				
	comp=Z,3.0nm,0.8s,mb4.5								
PDAR	**Pinedale Array**	**92.98**	**330**	P	**P**	**12 16 29.0**	**+0.1**		
	comp=Z,0.4nm,0.7s,mb3.9,baz=35,slow=3.6,SNR=3.6								
PDAR				LR	LR	12 58 27.7			
	comp=Z,90nm,18.4s,MS4.3,baz=232,slow=36								

*ISCJB **28** 12:09:55.0±1.8, 353N±0.2×269E±0.1, h7km±23km, Error ellipse: s-maj=32.1km s-min=10.5km az=154.3*
*ATH **28** 12:09:56.5, 3535N×2705E, h5km, MD3.5/6*
*CSEM **28** 12:09:56.5, 3535N×2705E, h5km, MD3.5/6, After ATH*
*NEIC **28** 12:09:56.5, 3535N×2705E, h5km, MD3.5(ATH), After ATH.*

ISC 28 12:09:55.3±2.1, 353N±02×270E±01, h11km±22km, n12, σ0§56/12, Crete

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KARP	**Karpathos**	**0.29**	**30**	*e*Pg	**Pg**	**12 10 01.2**	**-0.1**
KARP	**Karpathos**	**0.29**	**30**	*e*PG	**Pg**	**12 10 01.2**	**-0.1**
NPS	**Neapolis**	**1.12**	**269**	*e*Pn	**Pg**	**12 10 18.0**	**+1.1**
NPS	**Neapolis**	**1.12**	**269**	*e*PN	**Pg**	**12 10 18.0**	**+1.1**
ARG	**Arkhangelos**	**1.31**	**45**	*e*Pb	**Pb**	**12 10 20.0**	**+0.1**
ARG	**Arkhangelos**	**1.31**	**45**	*e*PB	**Pb**	**12 10 20.0**	**+0.1**
APE	**Apeiranthos**	**2.12**	**327**	*e*Pg	**Pg**	**12 10 36.0**	**-0.1**
APE	**Apeiranthos**	**2.12**	**327**	*e*PG	**Pg**	**12 10 36.0**	**-0.1**
VAM	**Vamos**	**2.27**	**274**	*e*Pn	**Pg**	**12 10 38.5**	**-0.4**
VAM	**Vamos**	**2.27**	**274**	*e*PN	**Pg**	**12 10 38.5**	**-0.4**
GVD	**Gavdhos**	**2.42**	**260**	*e*Pn	**Pg**	**12 10 41.0**	**-0.6**
GVD	**Gavdhos**	**2.42**	**260**	*e*PN	**Pg**	**12 10 41.0**	**-0.6**

*THE **28** 12:24:57.0, 3768N×2163E, h0km±14km, Error ellipse: s-maj=19.3km s-min=1.2km az=315.0*
*ISCJB **28** 12:24:58.6±0.9, 3758N±004×2167E±010, h10km, Error ellipse: s-maj=11.0km s-min=6.1km az=174.3*
*ATH **28** 12:24:58.9, 3754N×2173E, h24km±4km, MD3.1/4*
*NEIC **28** 12:24:58.9, 3754N×2173E, h24km, MD3.1(ATH), After ATH.*
*CSEM **28** 12:24:59.2±0.4, 3753N×2175E, h12km, MD3.1, Error ellipse: s-maj=14.4km s-min=7.7km az=77.0*

ISC 28 12:24:59.7±0.9, 3759N±005×2176E±009, h7km±14km, n11, σ0§92/15, Southern Greece

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ITM	**Ithomi**	**0.43**	**162**	*e*Pb	**Pg**	**12 25 07.6**	**-0.4**
ITM				eSb	**Sg**	**12 25 13.4**	**-0.2**
ITM	**Ithomi**	**0.43**	**162**	*e*PB	**Pg**	**12 25 07.6**	**-0.4**
ITM				eSB	**Sg**	**12 25 13.4**	**-0.2**
RLS	**Riolos of Patr**	**0.52**	**333**	*e*Pn	**Pg**	**12 25 10.3**	**+0.5**
RLS	**Riolos of Patr**	**0.52**	**333**	*e*PN	**Pg**	**12 25 10.3**	**+0.5**
VLX	**Vlachokerasia**	**0.54**	**114**	P	**Pg**	**12 25 09.6**	**-0.4**
PYL	**PYLOS**	**0.69**	**181**	P	**Pg**	**12 25 12.4**	**-0.6**
PYL				S	**Sg**	**12 25 23.2**	**+1.2**
DID	**Didima**	**1.17**	**94**	P	**Pg**	**12 25 20.9**	**-1.3**
DID				S	**Sg**	**12 25 40.4**	**+3.0**
EVR	**Evrytania**	**1.32**	**2**	*e*Pn	**Pn**	**12 25 24.5**	**-0.1**
EVR	**Evrytania**	**1.32**	**2**	*e*PN	**Pn**	**12 25 24.5**	**-0.1**
LKR	**Lokris**	**1.44**	**42**	*e*Pn	**Pn**	**12 25 26.4**	**+0.2**
LKR	**Lokris**	**1.44**	**42**	*e*PN	**Pn**	**12 25 26.4**	**+0.2**

*SKO **28** 12:38:42.9, 3946N×2064E, h125km*
*ISCJB **28** 12:38:48.7±0.6, 3972N±003×2071E±005, h10km, Error ellipse: s-maj=5.6km s-min=4.5km az=8.8*
*ATH **28** 12:38:49.0, 3978N×2072E, h20km±1km, MD3.2/6*
*NEIC **28** 12:38:49.0, 3978N×2072E, h20km, MD3.2(ATH), After ATH.*
*CSEM **28** 12:38:49.9±0.2, 3973N×2076E, h18km±1km, MD3.2, Error ellipse: s-maj=5.3km s-min=2.7km az=79.0*

ISC 28 12:38:49.7±0.6, 3970N±003×2070E±005, h10km, n18, σ1§05/28, Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JAN	**Janina**	**0.12**	**112**	*e*Pb	**Pg**	**12 38 53.3**	**+0.7**
JAN				*e*Sb	**Sg**	**12 38 56.8**	**+2.1**
JAN	**Janina**	**0.12**	**112**	*e*PB	**Pg**	**12 38 53.3**	**+0.7**
JAN				*e*SB	**Sg**	**12 38 56.8**	**+2.1**
KEK	**Kerkira**	**0.70**	**271**	*e*Pb	**Pg**	**12 39 02.2**	**-0.9**
KEK				*e*Sn	**Sg**	**12 39 13.4**	**+1.2**
KEK	**Kerkira**	**0.70**	**271**	*e*PB	**Pg**	**12 39 02.2**	**-0.9**
KEK				*e*SN	**Sg**	**12 39 13.4**	**+1.2**
KZN	**Kozani**	**1.02**	**53**	*e*Pn	**Pg**	**12 39 07.7**	**-1.6**
KZN	**Kozani**	**1.02**	**53**	*e*PN	**Pg**	**12 39 07.7**	**-1.6**
THL	**Klokotos Trika**	**1.02**	**97**	*e*Pn	**Pg**	**12 39 09.0**	**-0.3**
THL	**Klokotos Trika**	**1.02**	**97**	*e*PN	**Pg**	**12 39 09.0**	**-0.3**
EVR	**Evrytania**	**1.16**	**132**	*e*Pn	**Pg**	**12 39 11.4**	**-0.6**
EVR	**Evrytania**	**1.16**	**132**	*e*PN	**Pg**	**12 39 11.4**	**-0.6**
BIA	**Bitola**	**1.40**	**20**	*e*Pg	**Pg**	**12 39 15.8**	**-0.7**
BIA				*i* Sg	**Sg**	**12 39 36.4**	**+1.7**
BIA	**Bitola**	**1.40**	**20**	*e*Pg	**Pg**	**12 39 15.8**	**-0.7**
BIA				*i* Sg	**Sg**	**12 39 36.3**	**+1.6**
OHR	**Ohrid**	**1.41**	**3**	*e*Pg	**Pg**	**12 39 16.0**	**-0.7**
OHR				*i* Sg	**Sg**	**12 39 36.1**	**+1.1**
OHR	**Ohrid**	**1.41**	**3**	*e*Pg	**Pg**	**12 39 16.0**	**-0.7**
OHR				*i* Sg	**Sg**	**12 39 36.0**	**+1.0**
VLS	**Valsamata**	**1.53**	**183**	*e*Pn	**Pg**	**12 39 18.8**	**-0.1**
VLS	**Valsamata**	**1.53**	**183**	*e*PN	**Pg**	**12 39 18.8**	**-0.1**
KRUS	**Krusevo**	**1.71**	**14**	*i* Pg	**Pg**	**12 39 21.6**	**-0.9**
KRUS				*i* Sg	**Sg**	**12 39 44.5**	**-0.3**
KRUS	**Krusevo**	**1.71**	**14**	*i* Pg	**Pg**	**12 39 21.6**	**-1.0**
KRUS				*i* Sg	**Sg**	**12 39 44.4**	**-0.4**

IDC 28 12:44:56.9±4.8, 752N×12613E, h0km, mb3.7/3, mb1 3.8/3, mb1mx3.5/17, mbtmp3.7/3, Error ellipse: s-maj=492.5km s-min=27.0km az=65.0, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ASAR	**Alice Springs**	**31.91**	**166**	P	P	12 51 24.5	+0.2
	0.3nm,0.3s,baz=344,slow=10,SNR=7.3						
STKA	**Stephens Creek**	**41.80**	**150**	P	P	12 52 48.8	-0.2
	3.1nm,0.9s,baz=5.6,slow=9.7,SNR=2.8						
MKAR	**Makanchi Array**	**54.14**	**324**	P	P	12 54 23.9	0.0
	0.2nm,0.4s,baz=128,slow=7.8,SNR=3.6						

*ISCJB **28** 13:03:39.0±0.9, 2985N±004×3624E±006, h0km, Error ellipse: s-maj=7.7km s-min=5.9km az=13.4*
*GII **28** 13:03:39.3±0.7, 2985N×3616E, h0km, ML2.2/3, EXPLOSION*
*SGS **28** 13:03:40.3, 2999N×3615E, h6km*
*CSEM **28** 13:03:40.3, 2999N×3615E, h6km, ML2.6, After SNSN*

ISC 28 13:03:39.0±0.9, 2985N±004×3628E±006, h0km, n18, σ0§71/22, Western Arabian Peninsula

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AQBJ	**Aqaba**	**1.08**	**264**	Pg	**Pg**	**13 03 59.3**	**-0.4**
HRFI	**Mount Harif**	**1.10**	**280**	Pg	**Pg**	**13 03 59.7**	**-0.4**
EIL	**Elat**	**1.17**	**262**	Pg	**Pg**	**13 04 01.3**	**-0.2**
EIL				Sg	**Sg**	**13 04 18.2**	**+1.5**
ZFRI	**Zfri**	**1.19**	**307**	Pg	**Pg**	**13 04 01.7**	**-0.1**
MBRI	**Mt Berech**	**1.19**	**268**	Pg	**Pg**	**13 04 01.3**	**-0.6**
MBRI				Sg	**Sg**	**13 04 18.3**	**+1.1**
HQLS		**1.19**	**243**	P	**Pg**	**13 04 01.1**	**-0.8**
HQLS		**1.19**	**243**	P	**Pg**	**13 04 01.1**	**-0.8**
HQLS				S	**Sg**	**13 04 16.9**	**-0.5**
PRNI	**Paran**	**1.22**	**295**	Pg	**Pg**	**13 04 01.6**	**-0.7**
JLOS		**1.31**	**212**	P	**Pg**	**13 04 04.0**	**0.0**
JLOS		**1.31**	**212**	P	**Pg**	**13 04 04.0**	**-0.1**
JLOS				S	**Sg**	**13 04 21.7**	**+0.7**
KRMI	**Paran Flat**	**1.38**	**282**	Pg	**Pg**	**13 04 04.6**	**-0.8**
RMNI	**Mount Ramon**	**1.51**	**300**	Pn	**Pn**	**13 04 06.9**	**-0.4**
TBKS	**Tabuk**	**1.64**	**172**	P	**Pn**	**13 04 09.8**	**+0.7**
MZDA	**Masada**	**1.66**	**332**	Pn	**Pn**	**13 04 09.8**	**+0.4**
YTIR	**Yattir**	**1.81**	**327**	Pn	**Pn**	**13 04 12.2**	**+0.7**
DSI	**Dead Sea**	**1.89**	**336**	Pn	**Pn**	**13 04 13.7**	**+1.2**
KZIT	**Kziot**	**1.94**	**303**	Pn	**Pn**	**13 04 13.0**	**-0.3**
RSHS		**2.02**	**220**	P	**Pn**	**13 04 13.4**	**-0.9**

*CSEM **28** 13:12:40.7±0.2, 3983N×2070E, h5km, MD4.0, Error ellipse: s-maj=4.7km s-min=4.3km az=133.0*
*NEIC **28** 13:12:40.0, 3981N×2066E, h20km, MD4.0(ATH), After ATH.*
*ATH **28** 13:12:40.0, 3981N×2066E, h20km±2km, MD3.2/6*
*ISCJB **28** 13:12:41.8±0.6, 3971N±003×2066E±005, h10km, Error ellipse: s-maj=5.1km s-min=4.1km az=176.6*
*THE **28** 13:12:42.0, 3977N×2069E, h2km±2km, ML3.2/4, Error ellipse: s-maj=2.4km s-min=0.9km az=253.0*

ISC 28 13:12:41.6±0.6, 3975N±003×2064E±004, h3km±5km, n25, σ1§06/43, Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JAN	**Janina**	**0.19**	**118**	*e*Pb	**Pg**	**13 12 45.4**	**+0.2**
JAN				*e*Sb	**Sg**	**13 12 48.8**	**+1.2**
JAN	**Janina**	**0.19**	**118**	*e*PB	**Pg**	**13 12 45.4**	**+0.2**
JAN				*e*SB	**Sg**	**13 12 48.8**	**+1.2**
MEV	**Metsovon**	**0.46**	**85**	P	**Pg**	**13 12 49.8**	**-0.2**
MEV				S	**Sg**	**13 12 56.8**	**+0.5**
KEK	**Kerkira**	**0.65**	**267**	*e*Pn	**Pg**	**13 12 53.8**	**-0.2**
KEK				*e*Sn	**Sg**	**13 13 02.2**	**-0.2**
KEK	**Kerkira**	**0.65**	**267**	*e*PN	**Pg**	**13 12 53.8**	**-0.2**
KEK				*e*SN	**Sg**	**13 13 02.2**	**-0.2**
KZN	**Kozani**	**1.03**	**57**	*e*Pn	**Pn**	**13 12 59.6**	**-3.4**
KZN				*e*Sn	**Sn**	**13 13 12.1**	**-5.8**
KZN	**Kozani**	**1.03**	**57**	*e*PN	**Pn**	**13 12 59.6**	**-3.4**
KZN				*e*SN	**Sn**	**13 13 12.1**	**-5.8**
LKD	**Levkas**	**1.04**	**179**	P	**Pg**	**13 13 01.4**	**0.0**
LKD				S	**Sg**	**13 13 17.6**	**+2.7**
THL	**Klokotos Trika**	**1.08**	**99**	P	**Pg**	**13 13 01.6**	**-0.7**
THL				S	**Sg**	**13 13 16.0**	**-0.2**
FNA	**Florina**	**1.18**	**28**	P	**Pg**	**13 13 02.9**	**-1.4**
FNA				S	**Sg**	**13 13 20.6**	**+1.0**
EVR	**Evrytania**	**1.23**	**132**	*e*Pn	**Pn**	**13 13 03.8**	**-1.8**
EVR	**Evrytania**	**1.23**	**132**	*e*PN	**Pn**	**13 13 03.8**	**-1.8**
OHR	**Ohrid**	**1.37**	**5**	*i* Pn	**Pn**	**13 13 08.7**	**+1.1**
OHR				*i* Sn	**Sn**	**13 13 26.8**	**+0.6**
OHR	**Ohrid**	**1.37**	**5**	*i* Pn	**Pn**	**13 13 08.6**	**+1.0**
OHR				*i* Sn	**Sn**	**13 13 26.8**	**+0.6**
BIA	**Bitola**	**1.38**	**22**	*i* Pn	**Pn**	**13 13 06.2**	**-1.5**
BIA				*i* Sn	**Sn**	**13 13 27.0**	**+0.6**
BIA	**Bitola**	**1.38**	**22**	*i* Pn	**Pn**	**13 13 06.1**	**-1.6**
BIA				*i* Sn	**Sn**	**13 13 27.0**	**+0.6**
LIT	**Litokhoron**	**1.47**	**75**	P	**Pn**	**13 13 08.2**	**-0.7**
LIT				S	**Sb**	**13 13 28.2**	**-0.3**
VLS	**Valsamata**	**1.57**	**181**	*e*Pn	**Pn**	**13 13 10.7**	**+0.5**
VLS				*e*Sn	**Sn**	**13 13 31.4**	**+0.4**
VLS	**Valsamata**	**1.57**	**181**	*e*PN	**Pn**	**13 13 10.7**	**+0.5**
VLS				*e*SN	**Sn**	**13 13 31.4**	**+0.4**
KRUS	**Krusevo**	**1.69**	**16**	*i* Pn	**Pn**	**13 13 12.8**	**+0.9**
KRUS				*i* Sn	**Sn**	**13 13 35.5**	**+1.5**
VAY	**Valandovo**	**2.16**	**42**	*i* Pn	**Pn**	**13 13 19.4**	**+1.1**
VAY	**Valandovo**	**2.16**	**42**	*i* Pn	**Pn**	**13 13 19.4**	**+1.0**
PLG	**Polygyros**	**2.25**	**73**	*e*Pn	**Pn**	**13 13 17.3**	**-2.3**
PLG	**Polygyros**	**2.25**	**73**	*e*PN	**Pn**	**13 13 17.3**	**-2.3**
SG1	**Sgolgore (BA)**	**3.22**	**291**	*e*Pn	**Pn**	**13 13 32.2**	**-0.8**

MAN 28 13:27:12, 1374N×12061E, h113km, mb3.9, ML2.7, MS2.3, Mindoro

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LUBP	**Lubang**	**0.35**	**268**	*e*P	Pn	13 27 30.2	+1.9
LUBP				*e*S	Sn	13 27 43.2	+2.7
NBP	**Mount Natib**	**1.01**	**350**	*e*P	Pn	13 27 34.7	+1.1
NBP				*e*S	Sn	13 27 50.5	+0.6
SJMP	**San Jose**	**1.37**	**159**	*e*P	Pn	13 27 38.5	+1.0
SJMP				*e*S	Sn	13 27 58.5	+1.7
OTRP	**Odiongan**	**1.95**	**135**	*e*P	Pn	13 27 45.2	+0.7
ENPP	**El Nido**	**2.77**	**205**	*e*P	Pn	13 27 56.4	+1.2
CUYO	**Cuyo Island**	**2.90**	**172**	*e*P	Pn	13 27 57.4	+0.5

MAN 28 13:31:06, 1607N×12508E, h34km, mb4.6, ML3.5, MS3.5, 3C, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PVCP	**Virac**	**2.62**	**200**	*e*P	Pn	13 31 46.6	+0.8
PVCP				*i* S	Sn	13 32 15.9	-0.5
PALP	**Palanan**	**2.73**	**292**	*e*P	Pn	13 31 48.3	+0.8
PALP				*i* S	Sn	13 32 20.5	+1.2
CAUP	**Cauayan**	**3.25**	**286**	*e*P	Pn	13 31 56.5	+2.0
CAUP				*e*S	Sn	13 32 35.7	+3.7
POLP	**Polillo Island**	**3.31**	**247**	*e*P	Pn	13 31 56.6	+1.1
POLP				*e*S	Sn	13 32 35.2	+1.6
GQP	**Guinayangan**	**3.33**	**230**	*e*P	Pn	13 31 58.1	+2.4
GQP				*e*S	Sn	13 32 35.2	+1.0
BALP	**Baler**	**3.39**	**265**	*e*P	Pn	13 31 56.3	-0.2
BALP				*e*S	Sn	13 32 35.0	-0.5
CNP	**Catarman**	**3.56**	**187**	*e*P	Pn	13 32 00.2	+1.3
PCPH	**Palayan**	**3.87**	**263**	*e*P	Pn	13 32 04.0	+0.9
ABRA	**Dolores**	**4.47**	**291**	*e*P	Pn	13 32 13.6	+2.2
NBP	**Mount Natib**	**4.69**	**254**	*e*P	Pn	13 32 16.4	+2.0
BOLP	**Bolinao**	**4.97**	**274**	*e*P	Pn	13 32 22.5	+4.2
BUKP	**Musuan**	**8.14**	**180**	*e*P	Pn	13 33 04.2	+2.4

MAN 28 13:34:22, 1700N×11980E, h13km, mb4.2, ML3.1, MS2.8, Luzon

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BOLP	**Bolinao**	**0.62**	**170**	*e*P	Pg	13 34 34.6	+0.5
BOLP				*e*S	Sg	13 34 47.3	+4.9
ABRA	**Dolores**	**1.09**	**53**	*e*P	Pb	13 34 42.4	-0.4
ABRA				*e*S	Sb	13 34 51.3	-5.6
SCZP	**Santa Cruz**	**1.22**	**175**	*e*P	Pn	13 34 44.1	-0.7
CAUP	**Cauayan**	**1.94**	**91**	*e*P	Pn	13 34 54.9	+0.2
BALP	**Baler**	**2.12**	**126**	*e*P	Pn	13 34 59.4	+2.3

*ISCJB **28** 13:34:25.1±0.8, 3985N±006×4062E±004, h2km±10km, Error ellipse: s-maj=9.6km s-min=5.2km az=0.1*
*ISK **28** 13:34:25.2, 3995N×4068E, h7km, MD2.9*
*CSEM **28** 13:34:25.1±0.3, 3995N×4063E, h2km, MD2.7, Error ellipse: s-maj=11.2km s-min=6.2km az=172.0*
*DDA **28** 13:34:26.5, 3999N×4067E, h6km±7km, Md2.7*

ISC 28 13:34:25.7±0.8, 3987N±006×4062E±004, h8km±7km, n8, σ0§99/12, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KOPT	**Kop Dagi**	**0.18**	**327**	*i* P	**Pg**	**13 34 29.2**	**-0.2**
KOPT				*i* S	**Sg**	**13 34 32.7**	**+0.8**
EZM	**Erzurum**	**0.57**	**86**	*e*PG	**Pg**	**13 34 35.5**	**-1.3**
EZM				*e*SG	**Sg**	**13 34 44.2**	**0.0**
ERZM	**Erzurum**	**0.57**	**86**	*i* P	**Pg**	**13 34 35.7**	**-1.1**
ERZM				*i* S	**Sg**	**13 34 46.6**	**+2.3**
EZC	**Erzincan**	**0.63**	**259**	*e*PG	**Sg**	**13 34 46.3**	**+0.1**
GUMT	**Gumushane**	**1.06**	**304**	*e*PG	**Pg**	**13 34 45.2**	**-0.8**
DDEM	**Demirkent**	**1.34**	**40**	*e*P	**Pn**	**13 34 49.8**	**-1.0**
DDEM				*e*S	**Sb**	**13 35 09.3**	**+0.9**
PTK	**Pertek**	**1.36**	**225**	*e*PN	**Pn**	**13 34 52.3**	**+1.2**
BCA	**Borcka**	**1.75**	**25**	*e*PN	**Pn**	**13 34 55.8**	**-0.5**

*ISCJB **28** 13:48:48.6±0.3, 4682N±001×182W±002, h3km±2km, Error ellipse: s-maj=2.6km s-min=2.0km az=167.4*
*LDG **28** 13:48:52.4±0.1, 4688N×196W, h4km, Md3.6/2, Ml3.5/37, Error ellipse: s-maj=1.2km s-min=1.0km az=90.0*
*CSEM **28** 13:48:52.8±0.1, 4688N×194W, h8km, ML3.5/32, Error ellipse: s-maj=0.9km s-min=0.8km az=53.0*
*NEIC **28** 13:48:52.4, 4688N×196W, h4km, ML3.4(STR), ML3.5(LDG), After LDG.*
*STR **28** 13:48:56.0±0.4, 4701N×148W, h4km, Ml3.4, Error ellipse: s-maj=0.0km s-min=0.0km az=0.0*

ISC 28 13:48:51.2±0.3, 4687N±001×185W±002, h12km±2km, n136, σ1§20/326, France

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MFF	**Saint Martin d**	**1.20**	**102**	*e*Pg	**Pg**	**13 49 16.8**	**+2.4**
	SNR=1.0						
MFF				*e*Sg	**Sg**	**13 49 32.6**	**+2.6**
	350nm,0.2s,SNR=1.0						
MFF	**Saint Martin d**	**1.20**	**102**	*e*Pg	**Pg**	**13 49 16.8**	**+2.4**
	SNR=1.0						
MFF				*e*Sg	**Sg**	**13 49 32.6**	**+2.6**
	175nm,0.2s,SNR=1.0						
MFF	**Saint Martin d**	**1.20**	**102**	*e*Pn	**Pn**	**13 49 15.9**	**+2.1**
MFF				*e*Pg	**Pg**	**13 49 16.8**	**+2.4**
MFF				*e*Sg	**Sg**	**13 49 32.6**	**+2.6**
CHIF	**Chize**	**1.24**	**126**	Pg	**Pg**	**13 49 16.8**	**+1.8**
CHIF				Sg	**Sg**	**13 49 33.4**	**+2.3**
RENF	**Rennes**	**1.26**	**7**	Pg	**Pg**	**13 49 16.5**	**+1.0**
RENF				Sg	**Sg**	**13 49 32.7**	**+0.8**
QUIF	**Quistinic**	**1.38**	**320**	*e*P	**Pn**	**13 49 18.0**	**+1.8**
QUIF				*e*Sg	**Sg**	**13 49 34.7**	**-0.9**
	201nm,0.2s,SNR=1.0						
QUIF	**Quistinic**	**1.38**	**320**	*e*P	**Pn**	**13 49 18.0**	**+1.8**
QUIF				*e*Sg	**Sg**	**13 49 34.7**	**-0.9**
	100nm,0.2s,SNR=1.0						
QUIF	**Quistinic**	**1.38**	**320**	*e*Pg	**Pg**	**13 49 17

FLN				*e*Sn	**Sn**	13 49 51.8	-0.7
FLN				*e*Sg	**Sg**	13 49 58.7	-0.3
	50nm,0.2s,SNR=1.0						
FLN	**La Foliniere**	**2.11**	**25**	*e*Pn	**Pn**	13 49 27.1	+0.8
FLN				*e*Pg	**Pg**	13 49 31.8	+0.1
FLN				*e*Sn	**Sn**	13 49 51.8	-0.7
FLN				*e*Sg	**Sg**	13 49 58.7	-0.3
LFF	**La Frestale**	**2.64**	**136**	*e*Pg	**Pg**	13 49 42.2	+0.3
	SNR=1.0						
LFF				*e*Sg	**Sg**	13 50 17.4	+1.3
	111nm,0.3s						
LFF	**La Frestale**	**2.64**	**136**	*e*Pg	**Pg**	13 49 42.2	+0.3
	SNR=1.0						
LFF				*e*Sg	**Sg**	13 50 17.4	+1.3
	56nm,0.3s						
LFF	**La Frestale**	**2.64**	**136**	*e*Pn	**Pn**	13 49 35.6	+2.0
LFF				*e*Pg	**Pg**	13 49 42.2	+0.3
LFF				*e*Sg	**Sg**	13 50 17.4	+1.3
RJF	**Les Rejaudoux**	**2.82**	**122**	*e*Pg	**Pg**	13 49 45.3	+0.1
	SNR=1.0						
RJF				*e*Sn	**Sn**	13 50 10.2	+0.3
RJF				*e*Sg	**Sg**	13 50 22.5	+0.8
	76nm,0.2s,SNR=1.0						
RJF	**Les Rejaudoux**	**2.82**	**122**	*e*Pg	**Pg**	13 49 45.3	+0.1
	SNR=1.0						
RJF				*e*Sn	**Sn**	13 50 10.2	+0.3
RJF				*e*Sg	**Sg**	13 50 22.5	+0.8
	38nm,0.2s,SNR=1.0						
RJF	**Les Rejaudoux**	**2.82**	**122**	*e*Pn	**Pn**	13 49 37.7	+1.7
RJF				*e*Pg	**Pg**	13 49 45.3	+0.1
RJF				*e*Sn	**Sn**	13 50 10.2	+0.3
RJF				*e*Sg	**Sg**	13 50 22.5	+0.8
TCF	**Toulx Ste Croi**	**2.86**	**100**	*e*P	**Pn**	13 49 40.8	+4.2
TCF	**Toulx Ste Croi**	**2.86**	**100**	*e*Pg	**Pg**	13 49 46.4	+0.4
	SNR=1.0						
TCF				*e*Sn	**Sn**	13 50 11.3	+0.3
TCF				*e*Sg	**Sg**	13 50 24.6	+1.5
	30nm,0.3s,SNR=1.0						
TCF	**Toulx Ste Croi**	**2.86**	**100**	*e*Pn	**Pn**	13 49 38.7	+2.1
TCF				*e*P		13 49 40.8	
TCF				*e*Pg	**Pg**	13 49 46.4	+0.4
TCF				*e*Sn	**Sn**	13 50 11.3	+0.3
TCF				*e*Sg	**Sg**	13 50 24.6	+1.5
BGF	**Bois d'Agland**	**3.25**	**94**	*e*Pg	**Pg**	13 49 54.0	+0.6
	SNR=1.0						
BGF				*e*Sn	**Sn**	13 50 19.7	-0.8
BGF				*e*Sg	**Sg**	13 50 35.7	+0.2
	158nm,0.5s,SNR=1.0						
BGF	**Bois d'Agland**	**3.25**	**94**	*e*Pg	**Pg**	13 49 54.0	+0.6
	SNR=1.0						
BGF				*e*Sn	**Sn**	13 50 19.7	-0.8
BGF				*e*Sg	**Sg**	13 50 35.7	+0.2
	79nm,0.5s,SNR=1.0						
BGF	**Bois d'Agland**	**3.25**	**94**	*e*Pn	**Pn**	13 49 43.6	+1.7
BGF				*e*Pg	**Pg**	13 49 54.0	+0.6
BGF				*e*Sn	**Sn**	13 50 19.7	-0.8
BGF				*e*Sg	**Sg**	13 50 35.7	+0.2
CAF	**Calviac**	**3.35**	**124**	*e*Pg	**Pg**	13 49 56.1	+0.7
	SNR=1.0						
CAF				*e*Sn	**Sn**	13 50 22.6	-0.5
	SNR=1.0						
CAF				*e*Sg	**Sg**	13 50 39.7	+0.8
	41nm,0.2s,SNR=1.0						
CAF	**Calviac**	**3.35**	**124**	*e*Pg	**Pg**	13 49 56.1	+0.7
	SNR=1.0						
CAF				*e*Sn	**Sn**	13 50 22.6	-0.5
	SNR=1.0						
CAF				*e*Sg	**Sg**	13 50 39.7	+0.8
	20nm,0.2s,SNR=1.0						
CAF	**Calviac**	**3.35**	**124**	*e*Pn	**Pn**	13 49 45.2	+1.8
CAF				*e*Pg	**Pg**	13 49 56.1	+0.7
CAF				*e*Sn	**Sn**	13 50 22.6	-0.5
CAF				*e*Sg	**Sg**	13 50 39.7	+0.8
AGO	**Saint Agoulin**	**3.54**	**101**	Pn	**Pn**	13 49 46.9	+0.9
PYM	**Petit Puy Mans**	**3.55**	**107**	Pn	**Pn**	13 49 48.0	+1.9
PYM				Pg	**Pg**	13 49 59.6	+0.4
AVF	**Avril sur Loir**	**3.58**	**89**	*e*Pg	**Pg**	13 49 59.5	-0.2
	SNR=1.0						
AVF				*e*Sn	**Sn**	13 50 26.6	-2.0
	SNR=1.0						
AVF				*e*Sg	**Sg**	13 50 46.5	+0.5
	16nm,0.2s,SNR=1.0						
AVF	**Avril sur Loir**	**3.58**	**89**	*e*Pg	**Pg**	13 49 59.5	-0.2
	SNR=1.0						
AVF				*e*Sn	**Sn**	13 50 26.6	-2.0
	SNR=1.0						
AVF				*e*Sg	**Sg**	13 50 46.5	+0.5
	7.9nm,0.2s,SNR=1.0						
AVF	**Avril sur Loir**	**3.58**	**89**	*e*Pn	**Pn**	13 49 47.5	+1.1
AVF				*e*Pg	**Pg**	13 49 59.5	-0.2
AVF				*e*Sn	**Sn**	13 50 26.6	-2.0
AVF				*e*Sg	**Sg**	13 50 46.5	+0.5
EALK	**Alkurruntz**	**3.65**	**176**	Pn	**Pn**	13 49 48.3	+0.8
EALK	**Alkurruntz**	**3.65**	**176**	Pg	**Pg**	13 49 58.8	-2.4
EALK	**Alkurruntz**	**3.65**	**176**	Pn	**Pn**	13 49 48.3	+0.8
EALK				Pg	**Pg**	13 49 58.8	-2.4
EALK				Sn	**Sn**	13 50 27.9	-2.7
SSF	**Saint Saulge**	**3.68**	**85**	*e*Pg	**Pg**	13 50 01.6	0.0
	SNR=1.0						
SSF				*e*Sn	**Sn**	13 50 30.4	-0.6
SSF				*e*Sg	**Sg**	13 50 49.6	+0.4
	23nm,0.4s,SNR=1.0						
SSF	**Saint Saulge**	**3.68**	**85**	*e*Pg	**Pg**	13 50 01.6	0.0
	SNR=1.0						
SSF				*e*Sn	**Sn**	13 50 30.4	-0.6
SSF				*e*Sg	**Sg**	13 50 49.6	+0.4
	12nm,0.4s,SNR=1.0						
SSF	**Saint Saulge**	**3.68**	**85**	*e*Pn	**Pn**	13 49 49.2	+1.4
SSF				*e*Pg	**Pg**	13 50 01.6	0.0
SSF				*e*Sn	**Sn**	13 50 30.4	-0.6
SSF				*e*Sg	**Sg**	13 50 49.6	+0.4
ELIZ	**Elizondo**	**3.71**	**176**	Pn	**Pn**	13 49 49.1	+0.8
ELIZ				Pg	**Pg**	13 49 59.7	-2.5
ELIZ				Sn	**Sn**	13 50 29.1	-2.8
SJPF	**Ste Jean**	**3.78**	**173**	*e*Pg	**Pg**	13 50 02.3	-1.3
	SNR=1.0						
SJPF				*e*Sn	**Sn**	13 50 32.0	-1.6
SJPF				*e*Sg	**Sg**	13 50 51.7	-0.8
	6.7nm,0.2s						
SJPF	**Ste Jean**	**3.78**	**173**	*e*Pg	**Pg**	13 50 02.3	-1.3
	SNR=1.0						
SJPF				*e*Sn	**Sn**	13 50 32.0	-1.6
SJPF				*e*Sg	**Sg**	13 50 51.7	-0.8
	3.3nm,0.2s						
SJPF	**Ste Jean**	**3.78**	**173**	*e*Pn	**Pn**	13 49 49.8	+0.6
SJPF				*e*Pg	**Pg**	13 50 02.3	-1.3
SJPF				*e*Sn	**Sn**	13 50 32.0	-1.6
SJPF				*e*Sg	**Sg**	13 50 51.7	-0.8
ELAN	**Lanestosa**	**3.80**	**198**	Pn	**Pn**	13 49 50.2	+0.6
ELAN	**Lanestosa**	**3.80**	**198**	Pn	**Pn**	13 49 50.2	+0.6
ELAN				Sn	**Sn**	13 50 30.7	-3.5
PLDF	**La Plantade**	**3.89**	**101**	Pn	**Pn**	13 49 52.7	+1.9
PLDF				Sn	**Sn**	13 50 37.6	+1.2
PLDF				Sg	**Sg**	13 50 56.2	+0.1
LBL	**Lubilhac**	**3.91**	**113**	Pn	**Pn**	13 49 53.0	+2.0
SMF	**Signal de Mont**	**3.92**	**91**	*e*Pg	**Pg**	13 50 06.5	+0.2
	SNR=1.0						
SMF				*e*Sg	**Sg**	13 50 57.0	-0.1
	11nm,0.2s						
SMF	**Signal de Mont**	**3.92**	**91**	*e*Pg	**Pg**	13 50 06.5	+0.2
	SNR=1.0						
SMF				*e*Sg	**Sg**	13 50 57.0	-0.1
	5.4nm,0.2s						
SMF	**Signal de Mont**	**3.92**	**91**	*e*Pn	**Pn**	13 49 52.9	+1.7
SMF				*e*Pg	**Pg**	13 50 06.5	+0.2
SMF				*e*Sg	**Sg**	13 50 57.0	-0.1
LOR	**Lormes**	**3.92**	**82**	*e*Pn	**Pn**	13 49 52.6	+1.4
	baz=267,SNR=1.0						
LOR	**Lormes**	**3.92**	**82**	*e*Pg	**Pg**	13 50 05.5	-0.9
	baz=263,SNR=1.0						
LOR				*e*Sn	**Sn**	13 50 34.8	-2.4
	SNR=1.0						
LOR				*e*Sg	**Sg**	13 50 57.6	+0.4
	35nm,0.4s						
LOR	**Lormes**	**3.92**	**82**	*e*Pg	**Pg**	13 50 05.5	-0.9
	SNR=1.0						
LOR				*e*Sn	**Sn**	13 50 34.8	-2.4
	SNR=1.0						
LOR				*e*Sg	**Sg**	13 50 57.6	+0.4
	18nm,0.4s						
LOR	**Lormes**	**3.92**	**82**	*e*Pn	**Pn**	13 49 52.6	+1.4
LOR				*e*Pg	**Pg**	13 50 05.5	-0.9
LOR				*e*Sn	**Sn**	13 50 34.8	-2.4
LOR				*e*Sg	**Sg**	13 50 57.6	+0.4
REYF	**Montagne du Re**	**3.94**	**164**	Pg	**Pg**	13 50 05.8	-0.8
ETSF	**Etsaut**	**4.07**	**166**	*e*Pg	**Pg**	13 50 07.8	-1.4
	SNR=1.0						
ETSF				*e*Sn	**Sn**	13 50 39.3	-1.5
ETSF				*e*Sg	**Sg**	13 51 00.6	-1.3
	6.8nm,0.3s						
ETSF	**Etsaut**	**4.07**	**166**	*e*Pg	**Pg**	13 50 07.8	-1.4
	SNR=1.0						
ETSF				*e*Sn	**Sn**	13 50 39.3	-1.5
ETSF				*e*Sg	**Sg**	13 51 00.6	-1.3
	3.4nm,0.3s						
ETSF	**Etsaut**	**4.07**	**166**	*e*Pn	**Pn**	13 49 53.1	-0.2
ETSF				*e*Pg	**Pg**	13 50 07.8	-1.4
ETSF				*e*Sn	**Sn**	13 50 39.3	-1.5
ETSF				*e*Sg	**Sg**	13 51 00.6	-1.3
EPF	**Esparros**	**4.14**	**157**	*e*Pg	**Pg**	13 50 09.4	-1.1
EPF				*e*Sn	**Sn**	13 50 41.2	-1.3
	SNR=1.0						
EPF				*e*Sg	**Sg**	13 51 03.2	-0.8
	12nm,0.3s,SNR=1.0						
EPF	**Esparros**	**4.14**	**157**	*e*Pg	**Pg**	13 50 09.4	-1.1
EPF				*e*Sn	**Sn**	13 50 41.2	-1.3
	SNR=1.0						
EPF				*e*Sg	**Sg**	13 51 03.2	-0.8
	6.0nm,0.3s,SNR=1.0						
EPF	**Esparros**	**4.14**	**157**	*e*Pn	**Pn**	13 49 55.0	+0.8
EPF				*e*Pg	**Pg**	13 50 09.4	-1.1
EPF				*e*Sn	**Sn**	13 50 41.2	-1.3
EPF				*e*Sg	**Sg**	13 51 03.2	-0.8
ECRI	**Cripan**	**4.28**	**186**	Pn	**Pn**	13 49 57.5	+1.3
ECRI				Sn	**Sn**	13 50 45.3	-0.7
ECRI	**Cripan**	**4.28**	**186**	Pn	**Pn**	13 49 57.5	+1.3
ECRI				Sn	**Sn**	13 50 45.3	-0.7
EARI	**Arriondas**	**4.28**	**215**	Pn	**Pn**	13 49 56.4	+0.2
EARI	**Arriondas**	**4.28**	**215**	Pn	**Pn**	13 49 56.4	+0.2
EARI				Sn	**Sn**	13 50 40.7	-5.3
EBIE	**Bielsa**	**4.41**	**160**	Pn	**Pn**	13 49 59.2	+1.2
EBIE				Sn	**Sn**	13 50 48.5	-0.8
EBIE	**Bielsa**	**4.41**	**160**	Pn	**Pn**	13 49 59.2	+1.2
EBIE				Sn	**Sn**	13 50 48.5	-0.8
MTLF	**Montolieu**	**4.55**	**139**	*e*Pg	**Pg**	13 50 17.5	-0.9
	SNR=1.0						
MTLF				*e*Sn	**Sn**	13 50 50.7	-2.0
	SNR=1.0						
MTLF				*e*Sg	**Sg**	13 51 17.1	-0.2
	7.9nm,0.3s,SNR=1.0						
MTLF	**Montolieu**	**4.55**	**139**	*e*Pg	**Pg**	13 50 17.5	-0.9
	SNR=1.0						
MTLF				*e*Sn	**Sn**	13 50 50.7	-2.0
	SNR=1.0						
MTLF				*e*Sg	**Sg**	13 51 17.1	-0.2
	4.0nm,0.3s,SNR=1.0						
MTLF	**Montolieu**	**4.55**	**139**	*e*Pn	**Pn**	13 50 01.3	+1.4
MTLF				*e*Pg	**Pg**	13 50 17.5	-0.9
MTLF				*e*Sn	**Sn**	13 50 50.7	-2.0
MTLF				*e*Sg	**Sg**	13 51 17.1	-0.2
SFTF	**Sexfontaines**	**4.86**	**71**	*e*Pn	**Pn**	13 50 05.2	+1.2
	baz=259						
SFTF				*e*Sn	**Sn**	13 50 58.0	-2.2
SFTF				*e*Sg	**Sg**	13 51 26.6	-0.5
	9.1nm,0.4s						
SFTF	**Sexfontaines**	**4.86**	**71**	*e*Pn	**Pn**	13 50 05.2	+1.2
SFTF				*e*Sn	**Sn**	13 50 58.0	-2.2
SFTF				*e*Sg	**Sg**	13 51 26.6	-0.5
	4.6nm,0.4s						
LASF	**Ste Croix**	**4.89**	**123**	*e*Pn	**Pn**	13 50 05.2	+0.7
	SNR=1.0						
LASF				*e*Sg	**Sg**	13 51 28.0	-0.1
	21nm,0.4s						
LASF	**Ste Croix**	**4.89**	**123**	*e*Pn	**Pn**	13 50 05.2	+0.7
	SNR=1.0						
LASF				*e*Sg	**Sg**	13 51 28.0	-0.1
	10nm,0.4s						
MEZF	**Maizieres J'vi**	**4.94**	**68**	*e*Pn	**Pn**	13 50 06.4	+1.2
	baz=251,SNR=1.0						
MEZF	**Maizieres J'vi**	**4.94**	**68**	*e*Pg	**Pg**	13 50 25.1	-0.7
	baz=252,SNR=1.0						
MEZF				*e*Sn	**Sn**	13 51 01.2	-1.1
	SNR=1.0						
MEZF				*e*Sg	**Sg**	13 51 28.9	-0.9
	13nm,0.4s						
MEZF	**Maizieres J'vi**	**4.94**	**68**	*e*Pg	**Pg**	13 50 25.1	-0.7
	SNR=1.0						
MEZF				*e*Sn	**Sn**	13 51 01.2	-1.1
	SNR=1.0						
MEZF				*e*Sg	**Sg**	13 51 28.9	-0.9
	6.5nm,0.4s						
MEZF	**Maizieres J'vi**	**4.94**	**68**	*e*Pn	**Pn**	13 50 06.4	+1.2
MEZF				*e*Pg	**Pg**	13 50 25.1	-0.7
MEZF				*e*Sn	**Sn**	13 51 01.2	-1.1
MEZF				*e*Sg	**Sg**	13 51 28.9	-0.9
VIVF	**Saint-Julien-l**	**4.98**	**111**	*e*Pg	**Pg**	13 50 26.5	-0.1
VIVF				*e*Sg	**Sg**	13 51 30.4	-0.7
	16nm,0.4s						
VIVF	**Saint-Julien-l**	**4.98**	**111**	*e*Pg	**Pg**	13 50 26.5	-0.1
VIVF				*e*Sg	**Sg**	13 51 30.4	-0.7
	8.1nm,0.4s						
VIVF	**Saint-Julien-l**	**4.98**	**111**	*e*Pn	**Pn**	13 50 06.8	+1.0
VIVF				*e*Pg	**Pg**	13 50 26.5	-0.1
VIVF				*e*Sg	**Sg**	13 51 30.4	-0.7
BAIF	**Baives**	**5.14**	**49**	*e*Pn	**Pn**	13 50 09.3	+1.3
	SNR=1.0						
BAIF				*e*Sn	**Sn**	13 51 04.9	-2.3
BAIF				*e*Sg	**Sg**	13 51 34.7	-1.6
	4.6nm,0.3s						
BAIF	**Baives**	**5.14**	**49**	*e*Pn	**Pn**	13 50 09.3	+1.3
	SNR=1.0						
BAIF				*e*Sn	**Sn**	13 51 04.9	-2.3
BAIF				*e*Sg	**Sg**	13 51 34.7	-1.6
	2.3nm,0.3s						
EPON	**Pontenova**	**5.15**	**229**	Pn	**Pn**	13 50 07.9	-0.2
EPON	**Pontenova**	**5.15**	**229**	Pn	**Pn**	13 50 07.9	-0.3
EPON				Sn	**Sn**	13 51 01.9	-5.6
RFYF	**Reffroy**	**5.25**	**68**	*e*Pn	**Pn**	13 50 10.3	+0.9
RFYF				*e*Sg	**Sg**	13 51 38.6	-1.0
	3.3nm,0.2s						
RFYF	**Reffroy**	**5.25**	**68**	*e*Pn	**Pn**	13 50 10.3	+0.9
RFYF				*e*Sg	**Sg**	13 51 38.6	-1.0
	1.6nm,0.2s						
CABF	**La Chapelle**	**5.47**	**90**	*e*Pn	**Pn**	13 50 14.0	+1.6
CABF				*e*Sn	**Sn**	13 51 13.2	-2.0
CABF				*e*Sg	**Sg**	13 51 45.7	-0.9
	15nm,0.6s						
CABF	**La Chapelle**	**5.47**	**90**	*e*Pn	**Pn**	13 50 14.0	+1.6
CABF				*e*Sn	**Sn**	13 51 13.2	-2.0
CABF				*e*Sg	**Sg**	13 51 45.7	-0.9
	7.6nm,0.6s						
GIVF	**Givet**	**5.50**	**51**	*e*Pn	**Pn**	13 50 14.1	+1.3
	SNR=1.0						
GIVF				*e*Sn	**Sn**	13 51 13.3	-2.6
GIVF				*e*Sg	**Sg**	13 51 46.1	-1.4
	5.6nm,0.4s						
GIVF	**Givet**	**5.50**	**51**	*e*Pn	**Pn**	13 50 14.1	+1.3
	SNR=1.0						
GIVF				*e*Sn	**Sn**	13 51 13.3	-2.6
GIVF				*e*Sg	**Sg**	13 51 46.1	-1.4
	2.8nm,0.4s						
EJON	**La Jonquera**	**5.56**	**141**	Pn	**Pn**	13 50 15.6	+1.9
EJON	**La Jonquera**	**5.56**	**141**	Pg	**Pg**	13 50 36.7	-1.0
EJON	**La Jonquera**	**5.56**	**141**	Pn	**Pn**	13 50 15.6	+1.9
EJON				Pg	**Pg**	13 50 36.7	-1.0
EJON				Sn	**Sn**	13 51 18.6	+1.0
HAU	**Haudompre**	**5.68**	**75**	*e*Pg	**Pg**	13 50 37.7	-2.2
	SNR=1.0						
HAU				*e*Sg	**Sg**	13 51 52.1	-1.4
	6.9nm,0.4s						
HAU	**Haudompre**	**5.68**	**75**	*e*Pg	**Pg**	13 50 37.7	-2.2
	SNR=1.0						
HAU				*e*Sg	**Sg**	13 51 52.1	-1.4
	3.5nm,0.4s						
HAU	**Haudompre**	**5.68**	**75**	*e*Pn	**Pn**	13 50 16.0	+0.6
HAU				*e*Pg	**Pg**	13 50 37.7	-2.2
HAU				*e*Sg	**Sg**	13 51 52.1	-1.4
ORIF	**Oris-en-Rattie**	**5.74**	**107**	*e*Sg	**Sg**	13 51 54.7	-0.6
	8.8nm,0.6s						
ORIF	**Oris-en-Rattie**	**5.74**	**107**	*e*Sg	**Sg**	13 51 54.7	-0.6
	4.4nm,0.6s						
EPOB	**Poblet**	**5.90**	**158**	Pn	**Pn**	13 50 20.8	+2.4
EPOB				Sn	**Sn**	13 51 26.0	+0.1
SMRF	**Simiane la Rot**	**5.97**	**116**	*e*Sg	**Sg**	13 52 02.2	-0.7
	5.6nm,0.5s						
SMRF	**Simiane la Rot**	**5.97**	**116**	*e*Sg	**Sg**	13 52 02.2	-0.7
	2.8nm,0.5s						
HINF	**Hinteralfeld**	**5.99**	**78**	*e*Pg	**Pg**	13 50 45.5	-0.4
	SNR=1.0						
HINF				*e*Sg	**Sg**	13 52 02.8	-0.7
	6.5nm,0.3s						
HINF	**Hinteralfeld**	**5.99**	**78**	*e*Pg	**Pg**	13 50 45.5	-0.4
	SNR=1.0						
HINF				*e*Sg	**Sg**	13 52 02.8	-0.7
	3.2nm,0.3s						
HINF	**Hinteralfeld**	**5.99**	**78**	*e*Pn	**Pn**	13 50 20.1	+0.4
HINF				*e*Pg	**Pg**	13 50 45.5	-0.4
HINF				*e*Sg	**Sg**	13 52 02.8	-0.7
ECAL	**Calabor**	**6.04**	**217**	Pn	**Pn**	13 50 20.0	-0.3
ECAL	**Calabor**	**6.04**	**217**	Pn	**Pn**	13 50 20.0	-0.3
ECAL				Sn	**Sn**	13 51 23.4	-5.9
ETOR	**Torete**	**6.05**	**181**	Pn	**Pn**	13 50 21.8	+1.4
ETOR	**Torete**	**6.05**	**181**	Pn	**Pn**	13 50 21.8	+1.4
ETOR				Sn	**Sn**	13 51 26.2	-3.3
LPL	**La Plagne**	**6.11**	**100**	*e*Sg	**Sg**	13 52 05.7	-1.6
	6.3nm,0.6s						
LPL	**La Plagne**	**6.11**	**100**	*e*Sg	**Sg**	13 52 05.7	-1.6
	3.2nm,0.6s						
LPG	**La Plagne**	**6.13**	**100**	*e*Sg	**Sg**	13 52 07.4	-0.5
	5.8nm,0.5s						
LPG	**La Plagne**	**6.13**	**100**	*e*Sg	**Sg**	13 52 07.4	-0.5
	2.9nm,0.5s						
CDF	**Champ du Feu**	**6.36**	**73**	*e*Pn	**Pn**	13 50 24.1	-0.6
	SNR=1.0						
CDF				*e*Sg	**Sg**	13 52 13.9	-1.4
	3.3nm,0.3s						
CDF	**Champ du Feu**	**6.36**	**73**	*e*Pn	**Pn**	13 50 24.1	-0.6
	SNR=1.0						
CDF				*e*Sg	**Sg**	13 52 13.9	-1.4
	1.6nm,0.3s						
EMAZ	**Mazaricos**	**6.39**	**235**	Pn	**Pn**	13 50 23.9	-1.3
EMAZ	**Mazaricos**	**6.39**	**235**	Pn	**Pn**	13 50 23.9	-1.3
EMAZ				Sn	**Sn**	13 51 30.0	-6.1
MBDF	**Montbardon**	**6.40**	**106**	*e*Sg	**Sg**	13 52 15.1	-1.4
	3.8nm,0.6s						
MBDF	**Montbardon**	**6.40**	**106**	*e*Sg	**Sg**	13 52 15.1	-1.4
	1.9nm,0.6s						
EMOS	**Mosqueruela**	**6.58**	**171**	Pn	**Pn**	13 50 29.5	+1.8
EMOS	**Mosqueruela**	**6.58**	**171**	Pn	**Pn**	13 50 29.4	+1.8
EMOS				Sn	**Sn**	13 51 39.1	-3.4
ELOB	**Lobios**	**6.69**	**224**	Pn	**Pn**	13 50 28.6	-0.6
ELOB	**Lobios**	**6.69**	**224**	Pn	**Pn**	13 50 28.6	-0.6
ELOB				Sn	**Sn**	13 51 39.0	-6.3

ISK ***28*** *13:54:49.7, 39.34N×2.777E, h9km, MD2.8*
CSEM ***28*** *13:54:49.9±0.1, 39.33N×2.777E, h10km, MD2.9, Error ellipse: s-maj=3.7km s-min=2.6km az=89.0*
ISCJB ***28*** *13:54:50.5±0.5, 39.33N±0.002×2.778E±0.004, h9km±5km, Error ellipse: s-maj=5.6km s-min=3.8km az=4.4*
DDA ***28*** *13:54:50.5, 39.33N×2.775E, h7km±3km, Md2.9*

ISC 28 13:54:50.9±0.4, 3933N±002×2776E±004, h12km±4km, n16, σ0°68/28, 1C-2D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BALY	**Balya**	**0.42**	**345**	*i*P	**Pg**	**13 54 59.1**	**-0.2**
BALY				*i* S	**Sg**	**13 55 05.1**	**+0.1**
AKHS	**Akhisar**	**0.46**	**175**	*i* P	**Pg**	**13 54 59.7**	**-0.2**
AKHS				*i* S	**Sg**	**13 55 06.9**	**+0.9**
AKS	**Akhisar**	**0.46**	**175**	*e*PG	**Pg**	**13 54 59.7**	**-0.2**
AKS				*e*SG	**Sg**	**13 55 06.8**	**+0.8**
DURS	**Dursunbey**	**0.61**	**64**	*i*P	**Pg**	**13 55 02.8**	**-0.1**
DURS				*i* S	**Sg**	**13 55 12.1**	**+1.1**
DST	**Dursunbey**	**0.72**	**68**	*e*PG	**Pg**	**13 55 03.1**	**-1.9**
AYVA	**Ayvalik**	**0.83**	**269**	*e*P	**Pg**	**13 55 07.3**	**+0.3**
AYVA				*e*S	**Sg**	**13 55 18.1**	**+0.2**
KDAG	**Bornova**	**1.01**	**203**	*i* P	**Pb**	**13 55 09.7**	**-0.6**
KDAG				*i* S	**Sg**	**13 55 22.9**	**-0.5**
IZM	**Izmir**	**1.01**	**203**	*e*PG	**Pg**	**13 55 10.0**	**-0.5**
IZM				*e*SG	**Sg**	**13 55 23.5**	**-0.2**
KULA	**Kula-Manisa**	**1.08**	**139**	*e*PG	**Pg**	**13 55 11.3**	**-0.4**
KULA				*e*SG	**Sg**	**13 55 25.3**	**-0.4**
BLCB	**Balcova**	**1.10**	**211**	*e*PN	**Pn**	**13 55 11.4**	**-0.8**
BLCB				*e*SN	**Sn**	**13 55 26.3**	**-0.9**
EZN	**Ezine**	**1.22**	**294**	*e*PN	**Pn**	**13 55 13.9**	**+0.2**
URLA	**Izmir**	**1.33**	**224**	*e*P	**Pn**	**13 55 16.0**	**+0.7**
URLA				*e*S	**Sb**	**13 55 34.0**	**+1.2**
BOZC	**Bozcaada**	**1.42**	**292**	*e*P	**Pn**	**13 55 17.1**	**+0.7**
BOZC				*e*S	**Sn**	**13 55 34.5**	**-0.5**
RKY	**Sarkoy-Tekirda**	**1.43**	**342**	*e*PN	**Pn**	**13 55 16.2**	**-0.4**
GEMT	**Gemlik**	**1.55**	**44**	*e*PN	**Pn**	**13 55 18.7**	**+0.3**
KHAL	**Karahalli**	**1.66**	**125**	*i*P	**Pn**	**13 55 20.7**	**+1.0**
KHAL				*i* S	**Sn**	**13 55 48.1**	**+7.1**

ENPP	**El Nido**	**1.95**	**228**	*e*P	**Pn**	**14 11 59.1 +0.2**
NBP	**Mount Natib**	**2.26**	**348**⇑	*e*P	**Pn**	**14 12 03.1 0.0**
NBP				*i* S	Sn	14 12 06.1 -24

*ISCJB **28** 14:15:31.8±1.7,353N±0.1×272E±0.1, h10km, Error ellipse: s-maj=17.7km s-min=9.9km az=142.4*
*ATH **28** 14:15:31.8, 353.2N×27.15E, h21km±2km, MD3.5/4*
*NEIC **28** 14:15:31.8, 353.2N×27.15E, h21km, MD3.5(ATH), After ATH.*
*CSEM **28** 14:15:31.6±3.8,* **353N**±02×**272E**±02, **h11**km±15km, **n8,** σ0**37**/12, **2D, Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KARP	**Karpathos**	**0.29**	**354**	⇓*i*Pb	**Pg**	**14 15 37.5**	**-0.1**
KARP				*e*Sb	**Sg**	**14 15 41.5**	**-0.1**
KARP	**Karpathos**	**0.29**	**354**	⇓*i*PB	**Pg**	**14 15 37.5**	**-0.1**
KARP				*e*SB	**Sg**	**14 15 41.5**	**-0.1**
ARG	**Arkhangelos**	**1.22**	**38**	*e*Pn	**Pn**	**14 15 55.0**	**+0.4**
ARG				*e*Sn	**Sn**	**14 16 10.7**	**-0.4**
ARG	**Arkhangelos**	**1.22**	**38**	*e*PN	**Pn**	**14 15 55.0**	**+0.4**
ARG				*e*SN	**Sn**	**14 16 10.7**	**-0.4**
NPS	**Neapolis**	**1.30**	**271**	*e*Pn	**Pn**	**14 15 55.2**	**-0.5**
NPS	**Neapolis**	**1.30**	**271**	*e*PN	**Pn**	**14 15 55.2**	**-0.5**
APE	**Apeiranthos**	**2.26**	**324**	*e*Pn	**Pn**	**14 16 09.4**	**+0.5**
APE	**Apeiranthos**	**2.26**	**324**	*e*PN	**Pn**	**14 16 09.4**	**+0.5**

*ISCJB **28** 14:26:18.0±0.5, 532N±0.1×1710W±0.1, h193km±7km, mb3.4/4, Error ellipse: s-maj=25.9km s-min=7.4km az=159.1*
*IDC **28** 14:26:18.7±4.1, 5339N×17107W, h186km±37km, mb3.3/4, mb1 3.6/6, mb1mx3.1/24, mbtmp3.4/6, Error ellipse: s-maj=34.6km s-min=20.1km az=169.0*
*NEIC **28** 14:26:18.9±0.5, 5318N×17099W, h191km±6km, mb3.9/2, Error ellipse: s-maj=21.9km s-min=6.8km az=156.0*
ISC 28 14:26:19.0±0.5,**532N**±01×**1710W**±01, **h188**km±7km, **n26,** σ0**89**/26, **mb3.5**/4, **Fox Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIKO	**Nikolski**	**1.31**	**99**	*e*Pn	**Pn**	**14 26 50.0**	**+0.1**
NIKO				S	**Sn**	**14 27 13.5**	**-0.2**
ATKA	**Atka Island**	**2.18**	**244**	P	**Pn**	**14 26 58.8**	**+0.3**
UNV	**Unalaska Vale**	**2.77**	**75**	P	**Pn**	**14 27 05.6**	**+0.5**
UNV				S	**Sn**	**14 27 40.6**	**-0.4**
AKGG	**Akutan Green G**	**3.14**	**69**	P	**Pn**	**14 27 10.2**	**+0.6**
AKLV	**Akutan Long Va**	**3.15**	**70**	P	**Pn**	**14 27 09.9**	**+0.1**
AKUT	**Akutan**	**3.25**	**71**	P	**Pn**	**14 27 11.5**	**+0.6**
ADK	**Adak**	**3.71**	**252**	P	**Pn**	**14 27 16.7**	**+0.1**
AMKA	**Amchitka**	**6.22**	**257**	*e*P	**Pn**	**14 27 48.3**	**-0.6**
SDPT	**Sand Point**	**6.53**	**67**	*e*P	**Pn**	**14 27 51.7**	**-1.1**
KDAK	**Kodiak Island** 3.8nm,0.3s,baz=266,slow=6.9,SNR=65	**11.40**	**59**	P	**Pn**	**14 28 53.3**	**-3.0**
KDAK	**Kodiak Island**	**11.40**	**59**	*e*Pn	**Pn**	**14 28 53.3**	**-3.0**
SVW2	**Sparrevohn**	**11.50**	**40**	*e*Pn	**Pn**	**14 28 58.0**	**+0.5**
RC01	**Rabbit Creek A**	**13.94**	**47**	*e*P	**Pn**	**14 29 28.1**	**-0.1**
BPAW	**Bear Paw Mtn.** 2.2nm,0.5s	**15.01**	**35**	*e*Pn	**Pn**	**14 29 44.0**	**+2.5**
PNL	**Peninsula**	**18.50**	**57**	*e*Pn	**Pn**	**14 30 20.9**	**-2.3**
PETK	**Petropavlovsk-** 0.1nm,0.3s,baz=83,slow=17,SNR=4.1	**18.70**	**282**	P	**P**	**14 30 22.6**	**-0.3**
EGAK	**Eagle** 3.0nm,0.6s	**19.03**	**41**	*e*P	**P**	**14 30 26.6**	**+0.2**
DAWY	**Dawson**	**19.49**	**44**	*e*P	**P**	**14 30 31.2**	**-0.2**
HYT	**Haines Junctio**	**19.59**	**54**	*e*P	**P**	**14 30 33.2**	**+0.8**
DLBC	**Dease Lake** 0.6nm,0.4s,mb3.4,baz=274,slow=18,SNR=5.0	**23.33**	**61**	P	**P**	**14 31 10.8**	**+0.9**
DLBC	**Dease Lake**	**23.33**	**61**	P	**P**	**14 31 10.8**	**+0.9**
TXAR	**Lajitas Array** 0.1nm,0.3s,mb3.0,baz=315,slow=7.0,SNR=4.2	**53.72**	**88**	P	**P**	**14 35 21.7**	**+0.2**
NOA	**NORSAR Array B** 0.9nm,0.8s,mb3.7,baz=5.6,slow=6.4,SNR=2.7	**66.10**	**359**	P	**P**	**14 36 44.2**	**-1.1**
ASAR	**Alice Springs** 0.7nm,0.5s,mb3.8,baz=21,slow=5.0,SNR=13	**90.18**	**229**	P	**P**	**14 38 58.2**	**+0.5**
MAW	**Mawson** 2.4nm,0.9s,baz=90,slow=3.0,SNR=3.2	**150.89**	**220**	PKPbc	PKPbc	14 45 47.6	0.0
BOSA	**Boshof** 4.4nm,1.1s,baz=150,slow=5.8,SNR=5.0	**152.67**	**328**	PKPbc	PKPbc	14 45 50.6	-2.3

*NIED **28** 14:37:00, 36.10N×140.10E, h65km, Mw4.0 Best double couple: M0 1.25000×10^15 NP1:φ6.00000°, δ65.00000°, λ88.00000°. NP2:φ192.00000°, δ25.00000°, λ95.00000°.*
*ISCJB **28** 14:37:05.7±0.4, 3600N±003×14014E±006, h78km±3km, mb4.0/12, Error ellipse: s-maj=7.6km s-min=4.9km az=6.0*
*IDC **28** 14:37:06.2±1.9, 3601N×14021E, h72km±17km, mb3.7/8, mb1 3.8/11, mb1mx3.7/22, mbtmp3.8/11, MS2.9/4, Ms1 2.9/4, ms1mx2.5/29, Error ellipse: s-maj=27.7km s-min=11.2km az=74.0*
*JMA **28** 14:37:07.2±0.1, 3604N×140.11E, h63km±1km, M4.0 Broadband fault plane solution: P waves. NP1: φ±189.00000°, δ32.00000°, λ97.00000°. NP2:φ±1.00000°, δ58.00000°, λ85.00000°. Principal axes: T Plg76.0000°, Azm257.0000°; N Plg4.0000°, Azm3.0000°; P Plg13.0000°, Azm94.0000°;*
JMA Felt I J1.
*NEIC **28** 14:37:07.5±1.2, 3599N×140.06E, h79km±8km, mb4.7/3, MW4.0(NIED) Error ellipse: s-maj=13.9km s-min=12.9km az=143.0*
ISC 28 14:37:06.8±0.4,**3600N**±003×**14013E**±005, **h71**km±3km, **n38,** σ0**87**/47, **mb4.0**/12, **2C-6D, Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYT	**Yasato**	**0.24**	**12**	⇑P	**Pn**	**14 37 17.2**	**-0.5**
JYT				S	**Sn**	**14 37 24.4**	**-1.2**
TOK	**Tokyo**	**0.43**	**225**	⇑P	**Pn**	**14 37 20.2**	**+1.2**
TOK				*e*S	**Sn**	**14 37 30.2**	**+2.2**
JAG	**Ashikaga**	**0.70**	**308**	⇓P	**Pn**	**14 37 21.4**	**-0.3**
JAG				S	**Sn**	**14 37 31.6**	**-1.1**
JRY	**Ryogami san**	**1.00**	**272**	⇓P	**Pn**	**14 37 25.2**	**0.0**
JRY				*e*S	**Sn**	**14 37 38.7**	**-0.3**
JKT	**Katashina**	**1.05**	**317**	⇓P	**Pn**	**14 37 25.6**	**-0.3**
JKT				*e*S	**Sn**	**14 37 39.6**	**-0.6**
JOD2	**Odawara 2**	**1.12**	**230**	⇓P	**Pn**	**14 37 26.7**	**-0.1**
JOD2				*e*S	**Sn**	**14 37 40.4**	**-1.4**
BSO3	**Boso 3**	**1.23**	**165**	P	**Pn**	**14 37 28.0**	**-0.2**
JYN	**Shimob**	**1.39**	**249**	⇓P	**Pn**	**14 37 30.6**	**+0.4**
JYN				*e*S	**Sn**	**14 37 48.1**	**+0.3**
JIM2	**Oshima 3**	**1.40**	**204**	P	**Pn**	**14 37 29.9**	**-0.5**
JIM2				*e*S	**Sn**	**14 37 46.8**	**-1.4**
JFY	**Yanaizu**	**1.45**	**346**	P	**Pn**	**14 37 31.3**	**+0.2**
JFY				*e*S	**Sn**	**14 37 49.8**	**+0.4**
JFK	**Kawauchi**	**1.49**	**23**	P	**Pn**	**14 37 31.9**	**+0.3**
JFT	**Otama**	**1.53**	**6**	P	**Pn**	**14 37 32.3**	**+0.2**
JHK	**Hiroka**	**1.54**	**325**	⇓P	**Pn**	**14 37 32.4**	**+0.2**
MJAR	**Matsushiro Arr** 158nm,0.3s,baz=213,slow=1.5,SNR=1924	**1.65**	**290**	P	**Pn**	**14 37 33.0**	**-0.7**
MAJO	**Matsushiro**	**1.65**	**290**	*e*P	**Pn**	**14 37 34.1**	**+0.4**
MAT	**Matsushiro**	**1.65**	**290**	P	**Pn**	**14 37 34.1**	**+0.4**
MAT				S	**Sn**	**14 37 54.7**	**+0.6**
JHJ	**Hachijo jima 2** 75nm,0.3s,baz=261,slow=22,SNR=11	**2.88**	**186**	P	**Pn**	**14 37 52.0**	**+1.6**
JHJ				S	**Sn**	**14 38 23.8**	**-0.2**
ERM	**Erimo** 54nm,0.3s,baz=90,slow=20,SNR=7.0	**6.46**	**20**	*e*P	**Pn**	**14 38 41.1**	**+2.0**
ASAJ	**Asahikawa** 0.9nm,0.3s,baz=302,slow=9.0,SNR=11	**8.33**	**12**	P	**Pn**	**14 39 04.0**	**-0.6**
KSRS	**Korea Array** 0.5nm,0.3s,baz=94,slow=14,SNR=11	**9.91**	**282**	P	**Pn**	**14 39 28.6**	**+2.4**
KSRS				LR	LR	14 43 07.5	
JOW	**Kunigami** comp=Z,63nm,18.6s,baz=355,slow=34	**13.63**	**231**	LR	LR	14 44 51.0	
PETK	**Petropavlovsk-** comp=Z,28nm,19.5s,baz=142,slow=39	**21.10**	**30**	LR	LR	14 50 46.7	
ULN	**Ulaanbaatar** 1.4nm,0.6s,mb3.7	**27.11**	**306**	P	**P**	**14 42 42.2**	**-0.6**
SONM	**Songino Array** 1.8nm,0.6s,mb3.8,baz=103,slow=8.5,SNR=15	**27.53**	**306**	P	**P**	**14 42 46.0**	**-0.5**
SONM				LR	LR	14 52 48.2	
ZALV	**Zalesovo Beam** 5.8nm,0.9s,mb4.3,baz=92,slow=6.9,SNR=18	**41.86**	**313**	P	**P**	**14 44 49.7**	**+0.1**
ZALV	**Zalesovo Beam**	**41.86**	**313**	P	**P**	**14 44 49.7**	**+0.1**
MK31	**Makanchi Array**	**43.80**	**303**	*e*P	**P**	**14 45 05.4**	**0.0**
MKAR	**Makanchi Array** 3.5nm,0.7s,mb4.2,baz=91,slow=10.0,SNR=35	**43.80**	**303**	P	**P**	**14 45 05.8**	**+0.4**
KURK	**Kurchatov** 8.7nm,0.7s,mb4.6	**45.77**	**309**	*e*P	**P**	**14 45 20.6**	**-0.4**
TKM2	**Tokmak 2** 3.3nm,0.5s,mb4.5	**49.22**	**299**	*e*P	**P**	**14 45 48.8**	**+1.0**
AML	**Almayashu** 7.7nm,0.8s,mb4.8	**50.79**	**298**	*e*P	**P**	**14 46 00.8**	**+1.1**
WRAB	**Tennant Creek**	**55.89**	**187**	*e*P	**P**	**14 46 37.0**	**-0.2**
ASAR	**Alice Springs** 0.6nm,0.6s,mb3.8,baz=17,slow=12,SNR=14	**59.63**	**187**	P	**P**	**14 47 03.6**	**+0.3**
ARCES	**ARCESS Array B** 1.6nm,0.7s,mb4.0,baz=57,slow=12,SNR=3.9	**64.60**	**339**	P	**P**	**14 47 34.6**	**-1.5**
AKASG	**Malin Array Be** 0.5nm,0.4s,mb3.6,baz=46,slow=6.0,SNR=7.3	**74.48**	**322**	P	**P**	**14 48 35.6**	**-1.6**
NB2	**NORSAR Subarra** comp=Z,1.1nm,0.7s,mb3.7,baz=43,slow=5.9	**74.74**	**337**	P	**P**	**14 48 39.2**	**+0.6**
NOA	**NORSAR Array B** comp=Z,1.6nm,0.8s,mb3.8,baz=40,slow=6.0,SNR=4.5	**74.74**	**337**	P	**P**	**14 48 38.0**	**-0.6**
TXAR	**Lajitas Array** comp=Z,0.3nm,0.6s,mb3.7,baz=302,slow=4.1,SNR=3.0	**91.57**	**52**	P	**P**	**14 50 05.5**	**-0.4**

*DDA **28** 14:41:22.7, 3883N×27.15E, h7km±3km, Md2.8*
*CSEM **28** 14:41:22.7±0.1, 3886N×27.19E, h12km, MD2.8, Error ellipse: s-maj=2.9km s-min=1.9km az=117.0*
*ISCJB **28** 14:41:23.4±0.6, 3884N±003×27.16E±004, h10km±5km, Error ellipse: s-maj=6.0km s-min=4.5km az=27.6*
*ISK **28** 14:41:23.5, 3881N×2721E, h16km, MD2.8*
ISC 28 14:41:23.7±0.6,**3884N**±003×**2716E**±004, **h13**km±5km, **n13,** σ0**68**/23, **1C-2D, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IZM	**Izmir**	**0.45**	**170**	*e*PG	**Pg**	**14 41 32.5**	**-0.1**
BLCB	**Balcova**	**0.47**	**192**	*e*PG	**Pg**	**14 41 33.0**	**+0.1**
BLCB				*e*SG	**Sg**	**14 41 39.7**	**+0.6**
AKS	**Akhisar**	**0.51**	**86**	*e*PG	**Pg**	**14 41 34.0**	**+0.3**
AKS				*e*SG	**Sg**	**14 41 40.3**	**-0.2**
AKHS	**Akhisar**	**0.51**	**86**	⇑*i*P	**Pg**	**14 41 33.4**	**-0.3**
AKHS				*i* S	**Sg**	**14 41 40.6**	**+0.1**
AYVA	**Ayvalik**	**0.59**	**322**	⇓*i*P	**Pg**	**14 41 35.0**	**-0.3**
AYVA				*i* S	**Sg**	**14 41 43.1**	**0.0**
BALY	**Balya**	**0.96**	**21**	*e*P	**Pb**	**14 41 41.0**	**-1.2**
BALY				*e*S	**Sb**	**14 41 56.1**	**+1.3**
MANT	**Manisa**	**1.15**	**107**	*i* P	**Pb**	**14 41 44.9**	**-0.4**
MANT				*i* S	**Sb**	**14 42 00.3**	**+0.2**
KULA	**Kula-Manisa**	**1.22**	**105**	*e*PN	**Pn**	**14 41 45.6**	**-0.7**
DURS	**Dursunbey**	**1.27**	**53**	⇓*i*P	**Pn**	**14 41 46.5**	**-0.5**
DURS				*i* S	**Sb**	**14 42 04.1**	**+0.5**
BOZC	**Bozcaada**	**1.32**	**320**	*e*P	**Pn**	**14 41 47.5**	**-0.1**
BOZC				*e*S	**Sb**	**14 42 04.7**	**-0.3**
DST	**Dursunbey**	**1.37**	**56**	*e*PN	**Pn**	**14 41 47.9**	**-0.6**
DST				*e*SN	**Sn**	**14 42 06.4**	**0.0**
RKY	**Sarkoy-Tekirda**	**1.84**	**0**	*e*PN	**Pn**	**14 41 56.0**	**+1.1**
ULDT	**Uludag**	**2.00**	**49**	*i* P	**Pn**	**14 42 00.2**	**+3.1**
ULDT				*i* S	**Sn**	**14 42 21.4**	**-0.6**

*LDG **28** 14:42:33.0±0.4, 1383S×16751E, h10km, Error ellipse: s-maj=79.2km s-min=10.5km az=92.0*
*ISCJB **28** 14:42:47.2±1.9, 1480S±007×1673E±0.1, h154km±15km, mb4.2/17, Error ellipse: s-maj=18.9km s-min=9.8km az=157.2*
*IDC **28** 14:42:47.0±3.0, 1479S×16737E, h138km±24km, mb4.1/11, mb1 4.1/12, mb1mx4.0/18, mbtmp4.1/12, MS3.5/4, Ms1 3.5/4, ms1mx3.2/21, Error ellipse: s-maj=23.6km s-min=16.2km az=93.0*
*NEIC **28** 14:42:48.5±1.5, 1480S×16735E, h151km±12km, mb4.7/8, Error ellipse: s-maj=13.3km s-min=9.4km az=72.0*
*MOS **28** 14:42:49.7±1.2, 1479S×16722E, h173km, mb4.5/7, Error ellipse: s-maj=17.2km s-min=13.2km az=19.3*
ISC 28 14:42:47.9±1.7,**1476S**±007×**1674E**±01, **h147**km±14km, **n85,** σ0**84**/45, **mb4.2**/17, **13C-2D, Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**7.32**	**187**	*e*Pn	**Pn**	**14 44 31.8**	**-0.4**
DZM				*e*Sn	**Sn**	**14 45 47.5**	**-6.5**
HNR	**Honiara** 9.4nm,0.3s,baz=179,slow=7.1,SNR=6.0	**8.98**	**305**	P	**Pn**	**14 44 55.2**	**+0.7**
HNR				S	**Sn**	**14 46 33.2**	**-0.9**
HNR	28nm,0.3s,baz=14,slow=22,SNR=9.6			LR	LR	14 47 39.6	
HNR	comp=Z,110nm,21.4s,baz=116,slow=32 **Honiara**	**8.98**	**305**	*e*P	**Pn**	**14 44 55.7**	**+1.3**
HNR				S	**Sn**	**14 46 33.2**	**-0.9**
HNR	**Honiara**	**8.98**	**305**	*e*Pn	**Pn**	**14 44 55.7**	**+1.3**
HNR				S	**Sn**	**14 46 33.2**	**-0.9**
HNR				LR	LR	14 47 39.6	
EIDS	**Eidsvold** 158nm,0.7s	**18.56**	**233**	*e*P	**P**	**14 46 55.1**	**+1.6**
PMG	**Port Moresby**	**20.45**	**283**	⇓*e*P	**P**	**14 47 14.3**	**+0.2**
PMG	**Port Moresby** 42nm,1.0s	**20.45**	**283**	*e*P	**P**	**14 47 14.0**	**-0.1**
CTA	**Charters Tower** 26nm,0.9s	**20.82**	**252**	*e*P	**P**	**14 47 18.2**	**+0.3**
CTA	**Charters Tower** 32nm,0.8s,baz=81,slow=11,SNR=33	**20.82**	**252**	*e*P	**P**	**14 47 18.2**	**+0.4**
CTA	**Charters Tower**	**20.82**	**252**	*e*P	**P**	**14 47 18.2**	**+0.3**
CTA	comp=Z,26nm,0.9s			pmax	pmax		
CTAO	**Charters Tower**	**20.82**	**252**	*e*P	**P**	**14 47 18.4**	**+0.5**
CTAO	comp=Z,40nm,0.9s			pmax	pmax		
CTAO	**Charters Tower** comp=Z,40nm,0.9s	**20.82**	**252**	*e*P	**P**	**14 47 18.4**	**+0.5**
COEN	**Coen** comp=Z,2.9nm,0.8s,mb3.8	**23.45**	**269**	*e*P	**P**	**14 47 44.1**	**0.0**
URZ	**Urewera** comp=Z,89nm,18.2s,baz=180,slow=30	**24.94**	**162**	LR	LR	14 55 04.8	
RPZ	**Rata Peaks** comp=Z,11nm,0.7s,mb4.7,baz=73,slow=10,SNR=8.7	**29.03**	**174**	P	**P**	**14 48 33.6**	**-0.3**
STKA	**Stephens Creek** comp=Z,6.2nm,0.4s,mb4.7	**29.04**	**230**	*e*P	**P**	**14 48 35.1**	**+0.9**
STKA	**Stephens Creek** comp=Z,7.5nm,0.5s,mb4.7,baz=48,slow=11,SNR=36	**29.04**	**230**	P	**P**	**14 48 35.0**	**+0.8**
STKA				PcP	PcP	14 51 39.0	0.0
CTA	comp=Z,3.6nm,0.8s,baz=330,slow=6.4,SNR=3.4 **Charters Tower**	**20.82**	**252**	LR	LR	15 00 00.6	
CTA	comp=Z,130nm,18.4s,baz=207,slow=36			pmax	pmax		
STKA	**Stephens Creek**	**29.04**	**230**	*e*P	**P**	**14 48 35.0**	**+0.8**
WRAB	**Tennant Creek**	**31.89**	**256**	*e*P	**P**	**14 48 57.7**	**-1.8**
WRAB	comp=Z,3.0nm,0.5s,mb4.3			pmax	pmax		
WRAB	**Tennant Creek** comp=Z,2.8nm,0.5s,mb4.2	**31.89**	**256**	*e*P	**P**	**14 48 57.7**	**-1.8**
ASAR	**Alice Springs** comp=Z,13nm,0.8s,mb4.7,baz=77,slow=9.1,SNR=136	**32.75**	**249**	P	**P**	**14 49 05.5**	**-1.4**
ASAR				ScP	ScP	14 55 20.4	+1.0
KAKA	**Kakadu** comp=Z,7.2nm,0.6s,mb4.6	**33.97**	**269**	*e*P	**P**	**14 49 09.9**	**-7.7**
PPT	**Papeete** comp=Z,103nm,18.1s,baz=73,slow=31	**41.39**	**100**	LR	LR	15 03 51.1	
SBA	**Scott Base**	**63.10**	**180**	*e*P	**P**	**14 53 00.1**	**+0.9**
SBA	comp=Z,11nm,0.9s,mb4.7			pmax	pmax		
SBA	**Scott Base** comp=Z,11nm,0.9s,mb4.7	**63.10**	**180**	*e*P	**P**	**14 53 00.1**	**+0.9**
PETK	**Petropavlovsk-** comp=Z,1.4nm,0.8s,mb3.7,baz=146,slow=13,SNR=5.8	**69.10**	**354**	P	**P**	**14 53 31.1**	**-0.4**
CMAR	**Chiang Mai Arr** comp=Z,1.3nm,0.7s,mb3.7,baz=126,slow=4.7,SNR=9.2	**75.05**	**294**	P	**P**	**14 54 14.7**	**+0.9**
CMAR	**Chiang Mai Arr**	**75.05**	**294**	⇑*e*P	**P**	**14 54 15.1**	**+1.3**
MAW	**Mawson** comp=Z,3.0nm,1.0s,mb3.9,baz=104,slow=11,SNR=3.7	**81.89**	**202**	P	**P**	**14 54 50.3**	**-0.2**
YAK	**Yakutsk**	**82.09**	**343**	*e*P	**P**	**14 54 50.9**	**-0.5**
YAK	comp=Z,12nm,1.0s,mb4.5			pmax	pmax		
ULN	**Ulaanbaatar**	**82.22**	**324**	P	**P**	**14 54 53.2**	**+0.8**
BILL	**Bilibino**	**82.58**	**360**	⇓*e*P	**P**	**14 54 52.8**	**-1.0**
BILL	comp=Z,15nm,1.9s,mb4.4			pmax	pmax		
SONM	**Songino Array** comp=Z,0.8nm,0.8s,mb3.5,baz=150,slow=6.9,SNR=6.0	**82.58**	**324**	P	**P**	**14 54 55.1**	**+0.8**
NVAR	**Mina Array Bea** comp=Z,0.3nm,0.6s,mb3.3,baz=235,slow=6.9,SNR=4.6	**87.22**	**49**	P	**P**	**14 55 18.6**	**+0.8**
TIXI	**Tiksi**	**90.02**	**349**	⇓*e*P	**P**	**14 55 29.9**	**-0.3**
TIXI	comp=Z,1.0nm,0.5s,mb4.0			pmax	pmax		
SNAA	**Sanae**	**93.52**	**183**	*i* P	**P**	**14 55 46.3**	**-0.3**
VNA3	**Neumayer Olymp**	**94.18**	**181**	*e*P	**P**	**14 55 48.9**	**-0.7**
VNA3				*e*		14 55 59.5	
VNA2	**Neumayer--Watz**	**94.45**	**182**	*e*P	**P**	**14 55 50.0**	**-0.8**
VNA2				*e*		14 56 00.5	
MK31	**Makanchi Array**	**97.29**	**316**	*e*P	**P**	**14 56 04.7**	**+0.6**
MKAR	**Makanchi Array** comp=Z,1.1nm,0.7s,mb4.3,baz=103,slow=6.0,SNR=12	**97.29**	**316**	P	**P**	**14 56 04.7**	**+0.6**
MKAR	**Makanchi Array**	**97.29**	**316**	⇑*e*P	**P**	**14 56 05.1**	**+1.0**
MKAR	**Makanchi Array**	**97.29**	**316**	P	**P**	**14 56 04.7**	**+0.6**
ZALV	**Zalesovo Beam** comp=Z,0.7nm,0.6s,mb4.2,baz=98,slow=6.1,SNR=4.4	**97.47**	**324**	P	**P**	**14 56 03.8**	**-0.9**
ARCES	**ARCESS Array B** comp=Z,5.4nm,0.9s,baz=85,slow=2.4,SNR=11	**120.31**	**345**	PKP	PKPdf	15 01 20.8	-0.1
OBN	**Obninsk**	**124.78**	**328**	*e*PKIKP	PKPdf	15 01 28.0	-1.9
OBN				*e*		15 03 18.9	
OBN	comp=Z,4.0nm,0.8s			pmax	pmax		
CDF	**Champ du Feu**	**142.64**	**338**	*e*PKP1	PKPdf	15 01 59.4	-4.1
HINF	**Hinteralfeld**	**143.29**	**338**	*e*PKP1	PKPdf	15 02 01.1	-3.5
HAU	**Haudompre**	**143.32**	**339**	*e*PKP1	PKPdf	15 02 02.5	-2.2
CABF	**La Chapelle** comp=Z,20nm,0.9s	**144.59**	**338**	*e*PKP1	PKPdf	15 02 06.9	0.0
FLN	**La Foliriere**	**144.65**	**346**	*e*PKP1	PKPdf	15 02 06.7	-0.3
LDF	**La Druitiere**	**144.72**	**346**	*e*PKP1	PKPdf	15 02 06.9	-0.2
LOR	**Lormes** comp=Z,22nm,1.0s	**144.80**	**340**	⇑*i*PKP1	PKPdf	15 02 07.1	-0.2
GRR	**Gorron** comp=Z,30nm,0.8s	**145.09**	**346**	*e*PKP1	PKPbc	15 02 07.7	+0.2
SSF	**Saint Saulge** comp=Z,33nm,0.8s	**145.09**	**341**	⇑*i*PKP1	PKPbc	15 02 08.3	+0.7
LPL	**La Plagne** comp=Z,16nm,0.9s	**145.26**	**336**	⇑*i*PKP1	PKPbc	15 02 09.2	+1.1
LPG	**La Plagne** comp=Z,28nm,1.0s	**145.27**	**336**	*e*PKP1	PKPbc	15 02 09.4	+1.2
SMF	**Signal de Mont** comp=Z,21nm,0.9s	**145.35**	**340**	⇑*i*PKP1	PKPbc	15 02 08.8	+0.4
AVF	**Avril sur Loir** comp=Z,18nm,1.1s	**145.38**	**341**	⇑*i*PKP1	PKPbc	15 02 08.8	+0.3
SGMF	**Saint Gilles**	**145.58**	**348**	*e*PKP1	PKPbc	15 02 09.3	+0.3
ROSF	**Rostrenen**	**145.64**	**349**	*e*PKP1	PKPbc	15 02 09.5	+0.3
BNI	**Bardonecchia**	**145.66**	**335**	*e*PKP2	PKPab	15 02 10.2	+0.3
BGF	**Bois d'Agland** comp=Z,16nm,0.8s	**145.75**	**341**	*e*PKP1	PKPbc	15 02 10.1	+0.5
MBDF	**Montbardon** comp=Z,11nm,0.9s	**145.89**	**335**	*e*PKP1	PKPbc	15 02 10.5	+0.4
QUIF	**Quistinic**	**146.02**	**349**	*e*PKP1	PKPbc	15 02 10.2	-0.2
ORIF	**Oris-en-Rattie** comp=Z,28nm,0.8s	**146.09**	**336**	*e*PKP1	PKPbc	15 02 11.5	+0.8
TCF	**Toulx Ste Croi** comp=Z,33nm,1.3s	**146.19**	**341**	⇑*i*PKP1	PKPbc	15 02 11.4	+0.4
SBF	**Sospel**	**146.31**	**333**	*e*PKP1	PKPbc	15 02 11.5	+0.1
MFF	**Saint Martin d** comp=Z,20nm,0.7s	**146.58**	**344**	*e*PKP1	PKPbc	15 02 12.5	+0.4
VIVF	**Saint-Julien-l** comp=Z,19nm,1.1s	**146.61**	**337**	*e*PKP1	PKPbc	15 02 12.9	+0.7
PGF	**Pioggiola**	**146.63**	**330**	*e*PKP1	PKPbc	15 02 12.4	+0.1
FRF	**La Foret Royal** comp=Z,20nm,1.0s	**146.90**	**334**	⇑*i*PKP1	PKPbc	15 02 13.3	+0.2
SMRF	**Simiane la Rot** comp=Z,14nm,0.9s	**147.00**	**336**	⇑*i*PKP1	PKPbc	15 02 14.1	+0.8
LMR	**La Mourre** comp=Z,34nm,1.1s	**147.14**	**334**	⇑*i*PKP1	PKPbc	15 02 14.8	+1.0
RJF	**Les Rejaudoux** comp=Z,6.1nm,0.7s	**147.29**	**341**	*e*PKP1	PKPbc	15 02 14.6	+0.5
CAF	**Calviac** comp=Z,18nm,1.0s	**147.45**	**340**	*e*PKP1	PKPbc	15 02 15.2	+0.6
LASF	**Ste Croix** comp=Z,26nm,1.1s	**147.57**	**338**	⇑*i*PKP1	PKPbc	15 02 15.5	+0.6
LFF	**La Frestale** comp=Z,28nm,0.9s	**147.85**	**342**	*e*PKP1	PKPbc	15 02 16.1	+0.5
MTLF	**Montolieu** comp=Z,8.7nm,0.7s	**148.80**	**339**	*e*PKP1	PKPbc	15 02 18.7	+0.6
EPF	**Esparros** comp=Z,14nm,1.1s	**149.70**	**341**	*e*PKP1	PKPbc	15 02 21.4	+1.0
SJPF	**Ste Jean** comp=Z,11nm,1.0s	**150.10**	**343**	*e*PKP1	PKPbc	15 02 22.1	+0.8
ETSF	**Etsaut** comp=Z,12nm,1.0s	**150.10**	**342**	*e*PKP1	PKPbc	15 02 22.4	+1.0
KEST	**Kesra** comp=Z,1.4nm,0.8s,baz=333,slow=2.0,SNR=4.2	**151.29**	**321**	PKPbc	PKPbc	15 02 25.1	+0.8
DFRA	**Djebel Bou Aff**	**152.73**	**326**	P	PKPab	15 02 40.0	+1.1
SET	**Setif**	**153.24**	**326**	P	PKPbc	15 02 32.0	+3.3
ESDC	**Sonseca Array** comp=Z,0.5nm,0.6s,baz=20,slow=4.7,SNR=4.3	**154.04**	**345**	PKPab	PKPab	15 02 44.8	+0.5

*BJI **28** 15:24:04.8, 25.10S×179.70E, h452km, mB5.0, mb4.5*
*ISCJB **28** 15:24:06.5±1.6, 25.15S±0.06×179.64E±0.05, h476km±18km, mb4.5/37, Error ellipse: s-maj=9.3

comp=Z,3.0nm,0.7s,baz=98,slow=13,SNR=6.6
WRAB Tennant Creek 42.04 268 d i P P 15 31 15.4 -0.8
FORT Forrest 45.61 251 eP P 15 31 43.8 -0.1
comp=Z,23nm,0.6s,mb4.8
KAKA Kakadu 46.15 277 eP P 15 31 40.4 -7.9
comp=Z,11nm,0.9s,mb4.3
BATI Baumata 55.04 275 P P 15 32 54.1 +0.6
comp=Z,8.3nm,0.6s,mb4.2,baz=202,slow=5.4,SNR=4.3
QSPA South Pole Qui 64.92 180 P P 15 33 59.4 +1.0
comp=Z,4.7nm,0.6s,mb4.3,baz=49,slow=0.9,SNR=19
MJAR Matsushiro Arr 72.78 326 P P 15 34 44.8 -1.7
comp=Z,6.3nm,0.8s,mb4.2,baz=162,slow=5.4,SNR=23
MAW Mawson 76.47 201 P P 15 35 07.2 +0.2
comp=Z,7.2nm,0.6s,mb4.4,baz=126,slow=7.0,SNR=29
MAW Mawson 76.47 201 eP P 15 35 07.0 0.0
MAW pmax pmax
comp=Z,5.0nm,0.6s
MAW Mawson 76.47 201 eP P 15 35 07.0 0.0
comp=Z,4.6nm,0.6s,mb4.2
KSRS Korea Array 79.03 320 P P 15 35 20.6 -0.7
comp=Z,3.9nm,0.7s,mb4.0,baz=129,slow=6.1,SNR=12
YSS Yuzh-Sakhalins 79.15 335 i P P 15 35 21.6 -0.1
YSS pmax pmax
comp=Z,28nm,1.2s,mb4.7
PETK Petropavlovsk- 80.26 347 P P 15 35 26.6 -0.8
comp=Z,13nm,0.9s,mb4.5,baz=126,slow=6.5,SNR=16
NJ2 Nanjing 81.27 311 eP P 15 35 34.0 +0.8
NJ2 AMB AMB
comp=Z,10.0nm,0.5s,mb4.6
SYO Syowa Base 81.72 194 ⇓ eP P 15 35 32.6 -2.3
FARB Farallon Islan 82.49 42 ⇓P P 15 35 39.8 +0.5
baz=83
V03C Hunter Liggett 82.54 45 ⇓P P 15 35 40.5 +0.9
baz=83
MCCM Marconi Confer 82.85 42 ⇑P P 15 35 41.7 +0.6
baz=83
U04C Hernandez Rese 83.04 44 ⇓P P 15 35 42.6 +0.5
baz=83
PACP Pacheco Peak 83.12 44 ⇓P P 15 35 43.1 +0.6
baz=83,SNR=6.3
MDJ Mudanjiang 83.15 327 P P 15 35 41.8 -0.7
MDJ AP pP 15 37 21.8 -3.9
MDJ PP PP 15 38 59.8 -2.5
MDJ S S 15 45 24.0 +1.0
MDJ AMB AMB
comp=Z,8.0nm,1.2s,mb4.1
MDJ AMB AMB
comp=Z,174nm,5.9s
WENL Wente Vineyard 83.21 43 ⇑P P 15 35 43.3 +0.4
baz=83
CVS Carmenet Viney 83.23 42 ⇑P P 15 35 43.0 -0.1
baz=83
NSHM Saint Helena R 83.25 42 eP P 15 35 43.5 +0.4
HOPS Hopland 83.28 41 ⇑P P 15 35 43.7 +0.5
baz=84
SNAA Sanae 83.41 179 ⇓ eP P 15 35 42.2 -1.3
WHN Wuhan 83.54 308 eP P 15 35 44.5 -0.3
MNRC McLaughlin Nat 83.58 42 ⇑P P 15 35 44.8 0.0
baz=84,SNR=7.1
VNA3 Neumayer Olymp 83.63 177 eP P 15 35 43.9 -0.7
VNA3 e 15 35 47.4
BFSC Mount Baldy St 83.80 48 ⇓P P 15 35 46.0 0.0
baz=84
MONP Monument Peak 83.86 49 ⇓P P 15 35 46.8 +0.5
baz=84,SNR=10
GASB Alder Springs 83.91 41 ⇑P P 15 35 47.6 +1.2
baz=84,SNR=10
S05C Merced 83.93 44 ⇑P P 15 35 46.6 +0.1
baz=84
DVTC Desert V Tower 83.95 50 ⇑P P 15 35 46.9 +0.1
baz=84,SNR=6.6
EDW2 Edwards Air Fo 83.96 47 ⇓P P 15 35 46.7 0.0
baz=84,SNR=9.1
VNA2 Neumayer--Watz 84.05 178 eP P 15 35 46.2 -0.4
VNA2 e 15 35 49.7
ISA Isabella 84.10 46 eP P 15 35 47.4 0.0
ISA pmax pmax
comp=Z,15nm,1.0s,mb4.5
ISA Isabella 84.10 46 P P 15 35 47.8 +0.4
baz=84,SNR=18
ISA Isabella 84.10 46 eP P 15 35 47.4 0.0
comp=Z,15nm,1.0s,mb4.5
T06C Millerton Lake 84.11 45 P P 15 35 47.5 0.0
baz=84,SNR=13
PFO Pinyon Flat Ob 84.25 49 P P 15 35 48.7 +0.5
baz=84,SNR=5.4
VNA1 Neumayer--Stat 84.29 177 eP P 15 35 47.3 -0.5
VNA1 e 15 35 50.7
CMB Columbia Colle 84.31 43 eP P 15 35 47.9 -0.5
CMB pmax pmax
comp=Z,13nm,1.1s,mb4.4
CMB Columbia Colle 84.31 43 ⇑P P 15 35 48.0 -0.4
baz=84,SNR=8.0
CMB Columbia Colle 84.31 43 eP P 15 35 47.9 -0.5
comp=Z,13nm,1.1s,mb4.4
N02C Big Bar 84.31 40 ⇓P P 15 35 48.7 +0.3
baz=84
SWSC Sam W. Stewart 84.32 50 ⇑P P 15 35 48.5 -0.2
baz=84,SNR=5.1
OHCM Honcut 84.45 42 eP P 15 35 49.0 -0.1
LRMC Laurel Mountai 84.51 47 ⇑P P 15 35 48.9 -0.6
baz=85,SNR=9.8
LAVA Lava Cap Winer 84.54 43 ⇓P P 15 35 49.0 -0.6
baz=85,SNR=6.3
KCC Kaiser Creek 84.55 44 ⇓P P 15 35 49.4 -0.3
baz=85
ORV Oroville 84.58 42 ⇓P P 15 35 49.1 -0.6
baz=85,SNR=11
WDC Whiskeytown Da 84.61 40 ⇓P P 15 35 49.8 0.0
baz=85,SNR=6.1
CN2 Changchun 84.73 324 eP P 15 35 49.8 -0.5
CN2 eAP pP 15 37 33.0 -1.0
CN2 eS S 15 45 40.0 +1.5
CN2 AMB AMB
comp=Z,10.0nm,1.0s,mb4.4
CN2 AMB AMB
comp=Z,300nm,4.0s
BELC Belle Mtn. 84.79 49 ⇓P P 15 35 50.7 -0.2
baz=85,SNR=14
CWC Cottonwood Cre 84.82 46 ⇑P P 15 35 50.3 -0.7
baz=85
M02C Callahan 84.94 40 ⇓P P 15 35 52.1 +0.7
baz=85,SNR=5.0
BC3 Big Chuckw Mtn 84.96 49 ⇑P P 15 35 52.4 +0.7
baz=85,SNR=7.0
MPMC Manual Prospec 84.98 46 ⇑P P 15 35 51.8 0.0
baz=85,SNR=6.9
GSC Goldstone 84.99 47 ⇓P P 15 35 51.0 -0.8
baz=85,SNR=7.9
HEC Hector,Ludlow 85.04 48 ⇓P P 15 35 51.6 -0.5
baz=85,SNR=14
R06C Coleville 85.19 43 ⇓P P 15 35 52.7 0.0
baz=85
M03C McCloud 85.29 40 ⇑P P 15 35 53.2 0.0
baz=86,SNR=5.6
IRM Iron Mountain 85.46 49 ⇑P P 15 35 54.3 +0.1
baz=86,SNR=9.6
GMRC Granite Mounta 85.46 48 ⇑P P 15 35 54.5 +0.3
baz=86,SNR=6.5
WCN Washoe City 85.48 43 ⇓P P 15 35 54.0 -0.1
baz=86
GRAC Grapevine Rang 85.61 46 ⇑P P 15 35 54.2 -0.6
baz=86
TUQ Turquoise Moun 85.66 48 P P 15 35 55.6 +0.6
baz=86,SNR=5.9
NVAR Mina Array Bea 85.86 44 P P 15 35 56.0 0.0
comp=Z,4.4nm,0.8s,mb4.2,baz=221,slow=8.6,SNR=39
214A Organ Pipe Nat 85.87 52 ⇓P P 15 35 56.2 0.0
baz=86
R08A Mina 85.94 44 ⇑P P 15 35 56.6 +0.3
baz=86,SNR=8.7
U10A Ash Meadows, A 85.95 47 ⇓P P 15 35 56.2 -0.3
baz=86
PAHR Pah Rah Range 85.95 43 eP P 15 35 56.4 0.0
comp=Z,4.4nm,0.8s,mb4.1
O06A Flanigan 85.96 42 ⇓P P 15 35 56.7 +0.3
baz=86
S09A Goldfield 86.13 45 ⇓P P 15 35 56.8 -0.5
baz=86
Y13A Salome 86.17 50 ⇑P P 15 35 58.3 +0.7
baz=86,SNR=5.4
TPNV Topopah Spring 86.31 46 eP P 15 35 58.1 -0.1
TPNV pmax pmax
comp=Z,8.0nm,0.9s,mb4.3
TPNV Topopah Spring 86.31 46 P P 15 35 58.5 +0.4
baz=86,SNR=17
TPNV Topopah Spring 86.31 46 eP P 15 35 58.1 -0.1
comp=Z,8.2nm,0.9s,mb4.4
N06A Buffalo Meadow 86.32 41 ⇓P P 15 35 58.4 +0.3
baz=86,SNR=5.1
Q08A Gabbs 86.35 44 ⇓P P 15 35 58.3 0.0
baz=86
R09A Tonopah 86.53 45 ⇓P P 15 35 58.9 -0.2
baz=87,SNR=5.9
O07A Toulon 86.54 42 ⇓P P 15 35 59.0 -0.2
baz=87,SNR=12
X13A Yucca 86.60 49 ⇑P P 15 36 00.1 +0.5
baz=87
S10A Tonopah Range, 86.65 45 ⇑P P 15 35 59.8 +0.1
baz=87,SNR=22
MOD Modoc 86.75 40 eP P 15 36 00.3 +0.2
comp=Z,14nm,1.3s,mb4.5
Y14A Wickenburg 86.81 50 ⇑P P 15 36 00.9 +0.2
baz=87
K05A Summer Lake 86.92 39 P P 15 36 01.6 +0.8
baz=87,SNR=6.7
116A Eloy 86.99 52 ⇑P P 15 36 02.2 +0.8
baz=87,SNR=5.4
O08A Rochester Mine 87.06 43 ⇓P P 15 36 01.5 -0.1
baz=87,SNR=9.1
J05A Fort Rock 87.07 39 ⇑P P 15 36 01.4 -0.2
baz=87,SNR=12
M07A Soldier Meadow 87.11 41 ⇑P P 15 36 02.2 +0.4
baz=87
GYA Guiyang 87.14 301 P P 15 36 02.0 -0.3
GYA AP pP 15 37 46.3 -0.4
GYA XP sP 15 38 32.5 -1.9
GYA PP PP 15 39 36.0 +1.4
GYA SKS 15 45 44.3
GYA S S 15 46 02.8 +0.5
GYA AMB AMB
comp=Z,10.0nm,1.0s,mb4.5
GYA AMB AMB
comp=Z,60nm,4.9s
T11A Corn Creek, Al 87.15 46 ⇑P P 15 36 02.0 -0.1
baz=87,SNR=14
FRIS Frissel Point 87.17 38 P P 15 36 02.6 +0.6
X14A Yava 87.18 50 ⇓P P 15 36 02.4 0.0
baz=87,SNR=5.3
V13A Grand Canyon W 87.20 48 ⇓P P 15 36 02.6 +0.2
baz=87,SNR=8.0
217A Green Valley 87.21 53 ⇑P P 15 36 03.2 +0.6
baz=87,SNR=7.4
Y15A Casa Rosa Ranc 87.29 50 ⇓P P 15 36 03.1 +0.2
baz=88
Q10A Clear Creek Ra 87.30 45 ⇑P P 15 36 02.5 -0.2
baz=88
K06A Valley Falls 87.33 40 ⇑P P 15 36 03.0 +0.1
baz=88,SNR=10
N08A GE Springer Mi 87.37 42 ⇓P P 15 36 02.7 -0.4
baz=88
L07A Adell 87.39 41 ⇑P P 15 36 03.2 +0.1
baz=88,SNR=12
TUC Tucson 87.51 53 eP P 15 36 05.0 +1.0
TUC pmax pmax
comp=Z,18nm,1.4s,mb4.6
TUC Tucson 87.51 53 eP P 15 36 05.0 +1.0
comp=Z,18nm,1.4s,mb4.6
S12A Delamar Landin 87.60 46 ⇑P P 15 36 04.6 +0.3
baz=88
I05A Bend 87.60 38 ⇑P P 15 36 04.2 +0.1
baz=88
M08A Happy Creek Ra 87.62 42 ⇓P P 15 36 04.6 +0.4
baz=88,SNR=5.7
318A Bisbee 87.64 54 ⇓P P 15 36 05.1 +0.6
baz=88,SNR=14
X15A Humboldt 87.65 50 ⇑P P 15 36 04.3 -0.2
baz=88,SNR=6.8
J06A Christmas Vall 87.67 39 ⇓P P 15 36 03.8 -0.6
baz=88,SNR=12
V14A Boquillas Ranc 87.67 49 ⇓P P 15 36 05.0 +0.4
baz=88,SNR=5.0
Q11A Duckwater 87.78 45 ⇓P P 15 36 04.5 -0.6
baz=88
K07A Rock Creek Ran 87.85 40 ⇓P P 15 36 05.6 +0.4
baz=88,SNR=14
Y16A Circle Bar Ran 87.85 51 P P 15 36 06.6 +1.1
baz=88,SNR=9.6
218A Dragoon 87.87 53 ⇑P P 15 36 06.5 +0.8
baz=88,SNR=14
T13A Saint George 87.89 47 ⇑P P 15 36 05.5 -0.1
baz=88
H05A Madras 87.93 38 ⇓P P 15 36 05.4 -0.2
baz=88
U14A Mt Trumbull 88.05 48 ⇓P P 15 36 06.5 +0.1
baz=88,SNR=8.3
WVOR Wild Horse Val 88.05 41 eP P 15 36 06.6 +0.4
WVOR pmax pmax
comp=Z,12nm,1.1s,mb4.5
WVOR Wild Horse Val 88.05 41 eP P 15 36 06.6 +0.4
comp=Z,12nm,1.1s,mb4.5
I06A Priville 88.06 39 ⇓P P 15 36 06.8 +0.6
baz=88,SNR=12
L08A Fields 88.08 41 ⇓P P 15 36 06.7 +0.3
baz=88,SNR=14
F04A Amboy 88.09 36 ⇑P P 15 36 06.2 -0.2
baz=88
319A Douglas 88.12 54 ⇓P P 15 36 07.3 +0.5
baz=88,SNR=6.0
X16A Lo Mia Camp, P 88.16 50 ⇑P P 15 36 07.5 +0.5
baz=88,SNR=12
R12A Pony Springs, 88.17 46 ⇑P P 15 36 07.2 +0.3
baz=88,SNR=5.5
Y17A Roosevelt 88.20 51 ⇓P P 15 36 06.8 -0.3
baz=88
J07A Hines 88.23 40 P P 15 36 07.4 +0.4
baz=88,SNR=10
S13A Holt Ranch, En 88.24 47 ⇑P P 15 36 07.0 -0.2
baz=88,SNR=7.1
118A Homack Ranch, 88.27 53 ⇓P P 15 36 08.4 +0.9
baz=88,SNR=7.7
CROR Criterion Ridg 88.27 38 P P 15 36 07.6 +0.4
FL2 Flat Top 2 88.30 36 P P 15 36 08.0 +0.8
K08A Mann Creek Ran 88.32 41 P P 15 36 07.9 +0.4
baz=88,SNR=18
OOW Octopus West 88.34 34 P P 15 36 08.6 +1.1
V15A Kaibab Nationa 88.41 49 ⇑P P 15 36 08.6 +0.6
baz=89,SNR=7.3
Q12A Willow Creek R 88.42 45 ⇓P P 15 36 08.2 +0.2
baz=89
219A White Tail Can 88.46 54 ⇑P P 15 36 08.8 +0.5
baz=89,SNR=6.7
T14A Hurricane 88.47 48 ⇓P P 15 36 08.1 -0.2
baz=89
TDL Tradedollar La 88.47 36 P P 15 36 08.9 +0.8
H06A Lindquist Farm 88.48 38 ⇑P P 15 36 08.2 +0.1
baz=89,SNR=14
R13A O'Grain Ranch, 88.50 46 ⇓P P 15 36 08.4 0.0
baz=89
O11A Cowboy Ranch, 88.52 44 ⇓P P 15 36 08.7 +0.3
baz=89
I07A Izee 88.55 39 ⇑P P 15 36 08.8 +0.3
baz=89,SNR=16
G06A Carlson Farm, 88.63 38 ⇑P P 15 36 08.7 -0.1
baz=89,SNR=5.3
ARUT Antelope Range 88.63 47 eP P 15 36 09.8 +0.8
U15A North Rim 88.66 48 ⇓P P 15 36 09.9 +0.7
baz=89,SNR=14
J08A Circle Bar Ran 88.70 40 ⇑P P 15 36 09.2 -0.1
baz=89,SNR=12
K09A Rome 88.75 41 ⇑P P 15 36 09.6 +0.2
baz=89,SNR=25
M10A I.L. Ranch, Tu 88.77 42 ⇓P P 15 36 09.6 0.0
baz=89,SNR=15
WUAZ Wupatki 88.80 50 ⇑P P 15 36 09.5 -0.4
baz=89
Y18A Canyon Day Jun 88.82 52 ⇑P P 15 36 10.5 +0.5
baz=89,SNR=15
119A Ashpeak Ranch, 88.82 53 ⇑P P 15 36 09.7 -0.4
baz=89
H07A Lands Inn, Kim 88.83 39 ⇑P P 15 36 09.7 -0.1
baz=89,SNR=16
E05A Randle 88.85 36 ⇑P P 15 36 09.4 -0.5
baz=89,SNR=5.8
F06A Goldendale 88.88 37 ⇓P P 15 36 10.4 +0.4
baz=89
B04A Port Angeles 88.90 34 ⇓P P 15 36 10.1 0.0
baz=89
T15A Red Dirt Ranch 88.91 48 ⇓P P 15 36 10.8 +0.4
baz=89,SNR=7.3
C04A Brinnon 88.95 35 ⇑P P 15 36 10.7 +0.4
baz=89,SNR=6.6
I08A Drewsey 88.98 40 ⇑P P 15 36 10.0 -0.5
baz=89,SNR=7.1
WPW White Pass 89.05 36 P P 15 36 11.0 +0.2
J09A Fry Pan Ranch, 89.12 40 ⇑P P 15 36 11.2 0.0
baz=89,SNR=8.2
D05A Enumclaw 89.13 35 ⇑P P 15 36 10.6 -0.5
baz=89,SNR=6.3
L10A Juniper Basin 89.14 42 ⇓P P 15 36 11.4 +0.1
baz=89,SNR=19
O12A Currie 89.17 44 ⇑P P 15 36 10.5 -1.0
baz=89
P13A Bates Ranch, G 89.18 45 ⇓P P 15 36 12.0 +0.4
baz=89,SNR=11
G07A Ruggs Ranch, H 89.18 38 P P 15 36 11.4 0.0
baz=89,SNR=6.9
E06A Yakima 89.26 36 ⇓P P 15 36 11.7 -0.1
baz=89,SNR=5.5
X18A Snowflake 89.27 51 ⇑P P 15 36 12.5 +0.4
baz=89,SNR=5.9
S15A Panguitch 89.28 47 ⇑P P 15 36 12.7 +0.6
baz=90,SNR=6.6
H08A Prairie City 89.29 39 ⇓P P 15 36 11.8 -0.1
baz=90
U16A Tuba City 89.30 49 ⇑P P 15 36 12.7 +0.5
baz=90,SNR=5.1
K10A MacKenzie Ranc 89.31 41 ⇑P P 15 36 12.0 0.0
baz=90,SNR=7.8
N12A Clover Valley, 89.32 44 ⇑P P 15 36 12.4 +0.2
baz=90
Q14A Sevier Lake (B 89.40 46 ⇑P P 15 36 12.9 +0.3
baz=90,SNR=11
Y19A Nutrioso 89.47 52 ⇑P P 15 36 13.6 +0.5
baz=90,SNR=9.7
I09A Lost Marbles R 89.50 40 ⇓P P 15 36 12.9 0.0
baz=90
G08A Pilot Rock 89.59 38 ⇑P P 15 36 13.3 0.0
baz=90,SNR=12
KMI Kunming 89.60 298 P P 15 36 14.0 +0.2
KMI AMB AMB
comp=Z,7.0nm,1.0s,mb4.5
C05A Tolt Reservoir 89.61 35 ⇑P P 15 36 12.7 -0.6
baz=90
L11A Cat Creek Ranc 89.63 42 ⇑P P 15 36 13.8 +0.3
baz=90,SNR=15
CMAR Chiang Mai Arr 89.69 290 P P 15 36 14.9 +0.5
comp=Z,2.3nm,0.9s,mb4.0,baz=142,slow=3.6,SNR=16
EBG Ellensburg 89.70 36 P P 15 36 14.1 +0.3
M12A Wells 89.71 43 ⇑P P 15 36 13.8 -0.2
baz=90,SNR=5.5
D06A Cle Elum 89.73 36 ⇓P P 15 36 14.1 +0.1
baz=90
B05A Bryant 89.76 35 ⇑P P 15 36 14.1 +0.1
baz=90
K11A Parker Ranch, 89.81 42 P P 15 36 14.8 +0.5
baz=90,SNR=12
S16A Weppner Ranch, 89.82 48 ⇓P P 15 36 14.4 -0.2
baz=90
N13A Wendover, West 89.84 44 ⇑P P 15 36 14.9 +0.3
baz=90
V18A Ganado 89.89 50 ⇓P P 15 36 14.8 -0.1
baz=90
T17A Navajo Res., N 89.97 49 ⇓P P 15 36 14.3 -1.0
baz=90,SNR=5.9
F08A Pendleton 90.00 38 ⇓P P 15 36 14.0 -1.2
baz=90
R16A Teasdale 90.20 47 ⇑P P 15 36 16.0 -0.3
baz=90,SNR=6.8
G09A Cove 90.25 39 ⇓P P 15 36 15.9 -0.5
baz=90
ETW Entiat 90.26 36 eP P 15 36 16.4 0.0
E08A Dider Farm, El 90.27 37 ⇑P P 15 36 16.2 -0.2
baz=90
MFID Camas Ranch 90.30 41 ⇑P P 15 36 16.4 -0.3
baz=90
U18A Rough Rock, Ch 90.31 49 ⇓P P 15 36 16.1 -0.7
baz=90
S17A Black Ridge (B 90.31 48 ⇓P P 15 36 16.4 -0.4
baz=90,SNR=5.5
DUG Dugway 90.36 45 ⇓P P 15 36 16.3 -0.7
baz=90
K12A Draper Farm, C 90.41 42 ⇑P P 15 36 17.0 -0.2
baz=91,SNR=6.3
H10A Noah's Angus R 90.44 40 ⇓P P 15 36 16.4 -0.8
baz=91,SNR=5.1
SEY Seymchan 90.44 348 ⇑ eP P 15 36 15.5 -1.3
I11A Placerville 90.51 41 ⇓P P 15 36 17.4 -0.2
baz=91,SNR=5.7
G10A Bishop Farm, J 90.64 39 ⇓P P 15 36 17.4 -0.7
baz=91
J12A Stokes Ranch, 90.64 42 ⇓P P 15 36 18.4 +0.2
baz=91,SNR=12
T18A Mexican Hat 90.68 49 ⇓P P 15 36 18.5 0.0
baz=91,SNR=9.0
D08A Wollman Farm, 90.69 37 ⇑P P 15 36 18.1 -0.3
baz=91
M14A Sheep Mountain 90.74 44 ⇓P P 15 36 18.7 0.0
baz=91,SNR=13
Q16A Castle Valley 90.74 47 ⇑P P 15 36 19.2 +0.4
baz=91,SNR=6.2
E09A Wood Farm, Sta 90.78 38 ⇓P P 15 36 18.3 -0.5
baz=91
B07A Winthrop 90.91 35 ⇑P P 15 36 19.2 -0.2
baz=91
TMUT Trail Mountain 90.92 46 eP P 15 36 20.7 +1.1
N15A Stansbury Isla 90.92 45 ⇑P P 15 36 20.0 +0.4
baz=91,SNR=6.0
I12A Atlanta 90.93 41 ⇑P P 15 36 19.3 -0.2
baz=91
H11A Donnelly 90.93 40 ⇓P P 15 36 18.8 -0.7
baz=91,SNR=6.1
F10A Beach Ranch, E 90.98 38 ⇓P P 15 36 18.8 -0.9
baz=91,SNR=5.8
D09A Jones Farm, Ri 91.02 37 ⇑P P 15 36 19.0 -0.9
baz=91,SNR=5.2
HHC Hu-ho-hao-te 91.11 315 eP P 15 36 21.0 +0.6
HHC AP pP 15 38 10.0 +4.4
HHC PP PP 15 40 09.0 +3.5
HHC SKS 15 46 07.3
HHC S S 15 46 35.0 -2.9
HHC SS SS 15 52 58.8 +2.5
HHC AMB AMB
comp=Z,9.0nm,1.1s,mb4.6
HHC AMB AMB
comp=Z,145nm,5.4s
G11A Walters Elk Ra 91.19 39 ⇓P P 15 36 19.7 -1.0
baz=91,SNR=10
O16A Springville 91.21 46 ⇑P P 15 36 20.9 0.0
baz=91,SNR=7.6
HLID Hailey 91.23 42 ⇓P P 15 36 20.6 -0.4
baz=91,SNR=6.0
B08A Colville Reser 91.26 36 ⇓P P 15 36 20.0 -1.0
baz=91
SRU San Rafael 91.27 47 eP P 15 36 21.1 -0.1
SRU pmax pmax
comp=Z,11nm,1.1s,mb4.7
SRU San Rafael 91.27 47 ⇑P P 15 36 21.0 -0.3
baz=91,SNR=7.5
SRU San Rafael 91.27 47 eP P 15 36 21.1 -0.1
comp=Z,11nm,1.1s,mb4.7
M15A Larsen Ranch, 91.28 44 ⇑P P 15 36 21.0 -0.3
baz=92,SNR=12
TXAR Lajitas Array 91.34 58 P P 15 36 22.3 +0.5
comp=Z,3.9nm,0.8s,mb4.4,baz=213,slow=6.6,SNR=42
TXAR PKKPbc PKKPbc 15 53 40.2 -0.8
comp=Z,0.4nm,0.7s,baz=88,slow=4.3,SNR=4.0
K14A Jones Ranch, D 91.42 43 ⇑P P 15 36 22.3 +0.4
baz=92
H12A Diamond D Ranc 91.52 41 P P 15 36 22.1 -0.2
baz=92,SNR=5.5
Q18A Rafter H Ranch 91.53 47 ⇓P P 15 36 21.8 -0.6
baz=92
CD2 Chengdu 91.53 303 P P 15 36 22.8 +0.1
CD2 AP pP 15 38 05.8 -2.0
CD2 XP sP 15 38 51.8 -3.4
CD2 PP PP 15 40 10.8 +1.8
CD2 SKS 15 46 09.8
CD2 S S 15 46 40.5 -1.6
CD2 XS sS 15 49 44.8 -5.5
CD2 SS SS 15 53 04.8 +2.1
CD2 AMB AMB
comp=Z,10.0nm,0.9s,mb4.8
CD2 AMB AMB
comp=Z,30nm,8.2s
G12A Big Creek, Yel 91.58 40 ⇓P P 15 36 22.0 -0.5
baz=92
D10A Wagner Farm, O 91.59 38 ⇑P P 15 36 21.6 -0.9
baz=92
L15A Malad City 91.61 44 ⇓P P 15 36 22.1 -0.6
baz=92,SNR=5.6
J14A Carey 91.64 42 ⇓P P 15 36 22.9 +0.1

	baz=92									
O17A	**Robinson Place**	**91.70**	**46**	⇓P		**P**		**15 36 23.3**	**+0.1**	
	baz=92,SNR=19									
PV10	**Paradox Valley**	**91.88**	**48**	*e*P		**P**		**15 36 23.9**	**-0.2**	
B09A	**Rice**	**91.92**	**36**	⇑P		**P**		**15 36 23.1**	**-0.9**	
	baz=92									
ANMO	**Albuquerque**	**91.96**	**52**	*i* P		**P**		**15 36 25.0**	**+0.5**	
L16A	**Fish Haven**	**92.22**	**44**	⇑P		**P**		**15 36 25.6**	**+0.1**	
	baz=92									
J15A	**Blackfoot**	**92.34**	**43**	⇓P		**P**		**15 36 26.5**	**+0.4**	
	baz=92									
N18A	**Larsen Ranch,**	**92.80**	**46**	⇓P		**P**		**15 36 27.6**	**-0.7**	
	baz=93									
C12B	**Naegeli Ranch,**	**92.96**	**38**	⇑P		**P**		**15 36 28.3**	**-0.5**	
	baz=93									
COLA	**College**	**93.21**	**13**	⇓*e*P		**P**		**15 36 27.0**	**-2.5**	
BILL	**Bilibino**	**93.45**	**355**	*i* P		**P**		**15 36 29.3**	**-1.3**	
BILL				pmax		pmax				
	comp=Z,6.0nm,1.1s,mb4.5									
PDAR	**Pinedale Array**	**93.80**	**44**	P		**P**		**15 36 31.5**	**-1.3**	
	comp=Z,0.6nm,0.6s,mb3.8,baz=205,slow=3.1,SNR=6.0									
LZH	**Lanzhou**	**93.92**	**308**	P		**P**		**15 36 35.0**	**+1.5**	
LZH				AP		pP		15 38 23.3	+4.5	
LZH				PP		PP		15 40 32.0	+4.5	
LZH				AMB		AMB				
	comp=Z,15nm,1.4s,mb4.8									
LZH				AMB		AMB				
	comp=Z,93nm,6.3s									
A16A	**West Butte Ran**	**95.81**	**38**	⇑P		**P**		**15 36 41.2**	**-0.5**	
	baz=96									
SONM	**Songino Array**	**97.87**	**319**	P		**P**		**15 36 51.3**	**+0.3**	
	comp=Z,0.4nm,0.7s,mb3.9,baz=134,slow=6.2,SNR=3.0									
GTA	**Gaotai**	**98.27**	**310**	*e*P		Pdif		15 36 54.0	+1.0	
GTA				AMB		AMB				
	comp=Z,3.0nm,0.9s,mb4.6									
ZALV	**Zalesovo Beam**	**112.74**	**320**	PKiKP		PKiKP		15 41 46.4	-2.6	
	comp=Z,0.6nm,0.3s,baz=90,slow=1.4,SNR=3.0									
MKAR	**Makanchi Array**	**112.79**	**312**	PKiKP		PKiKP		15 41 46.8	-2.5	
	comp=Z,1.2nm,0.8s,baz=108,slow=0.7,SNR=7.4									
MKAR				PKKPbc		PKKPbc		15 52 38.3	-1.0	
	comp=Z,0.5nm,0.6s,baz=318,slow=1.6,SNR=5.2									
KURK	**Kurchatov**	**115.91**	**316**	⇓*i* PKIKP		PKPdf		15 41 52.1	-3.1	
SUR	**Sutherland**	**119.33**	**200**	PKP		PKPdf		15 42 01.6	-0.9	
	comp=Z,5.5nm,0.8s,baz=141,slow=9.9,SNR=4.5									
BOSA	**Boshof**	**121.14**	**206**	PKP		PKPdf		15 42 04.3	-1.8	
	comp=Z,2.1nm,0.7s,baz=296,slow=2.2,SNR=4.8									
ARU	**Arti**	**127.72**	**323**	*i* PKIKP		PKPdf		15 42 16.3	-1.4	
ARU								15 44 23.3		
ARCES	**ARCESS Array B**	**133.06**	**348**	PKP		PKPdf		15 42 25.1	-2.4	
	comp=Z,3.4nm,0.6s,baz=76,slow=1.0,SNR=18									
ARCES				SKPbc		SKPbc		15 45 07.2	-3.9	
	comp=Z,5.4nm,0.9s,baz=46,slow=3.5,SNR=7.7									
JOF	**Joensuu**	**136.81**	**339**	*e*p		PKPdf		15 42 34.2	-0.4	
	comp=Z,5.9nm,0.6s									
OBN	**Obninsk**	**139.69**	**328**	*e*PKIKP		PKPdf		15 42 40.6	+0.5	
OBN				pmax		pmax				
	comp=Z,4.0nm,0.9s									
GOF	**Gofitskoye**	**139.94**	**311**	*e*PKIKP		PKPdf		15 42 42.5	+1.6	
NB2	**NORSAR Subarra**	**143.28**	**351**	PKP		PKPdf		15 42 42.2	-4.1	
	comp=Z,20nm,0.8s,baz=16,slow=3.2									
NOA	**NORSAR Array B**	**143.28**	**351**	PKP		PKPdf		15 42 42.3	-4.0	
	comp=Z,18nm,0.8s,baz=15,slow=5.0,SNR=38									
AKASG	**Malin Array Be**	**145.86**	**326**	PKPbc		PKPbc		15 42 50.4	-2.3	
	comp=Z,9.6nm,0.6s,baz=44,slow=4.0,SNR=44									
KIEV	**Kiev**	**145.88**	**326**	*e*PKIKP		PKPdf		15 42 50.0	-1.1	
SUW	**Suwalki**	**146.29**	**335**	*e*PKP		PKPdf		15 42 52.3	+0.6	
SUW	**Suwalki**	**146.29**	**335**	*e*PKP		PKPdf		15 42 52.3	+0.6	
KAC	**Achnashellach**	**147.50**	**5**	*e*P		PKPdf		15 42 55.1	+1.6	
MCD	**Coleburn Disti**	**147.54**	**3**	*e*P		PKPdf		15 42 54.8	+1.1	
MDO	**Dochfour**	**147.62**	**4**	*e*P		PKPdf		15 42 55.2	+1.5	
KPL	**Plockton**	**147.62**	**5**	*e*P		PKPdf		15 42 54.0	+0.2	
BR131	**Keskin Array S**	**148.09**	**305**	*e*PKPbc		PKPbc		15 42 57.4	-1.6	
ANTO	**Ankara**	**148.67**	**306**	⇓*i* P		PKPbc		15 42 59.7	-0.8	
ANTO	**Ankara**	**148.67**	**306**	*e*PKPbc		PKPbc		15 42 59.2	-1.3	
ANTO				*e*PKPab		PKPab		15 43 05.1	-0.8	
EBH	**Black Hill**	**148.86**	**3**	*e*P		PKPbc		15 42 58.6	-1.8	
EAB	**Aberfoyle**	**148.87**	**4**	*e*P		PKPbc		15 42 58.4	-2.0	
LVV	**L'vov**	**148.97**	**329**	*e*PKHKP		PKPbc		15 42 59.2	-1.7	
GKP	**Gorka Klasztor**	**148.99**	**339**	*e*PKP		PKPbc		15 42 59.7	-1.1	
GKP	**Gorka Klasztor**	**148.99**	**339**	*e*PKP		PKPbc		15 42 59.7	-1.1	
TLCR		**149.18**	**318**	⇑*i*P		PKPbc		15 43 00.6	-0.9	
TLCR		**149.18**	**318**	⇑P		PKPbc		15 43 00.6	-0.9	
EAU	**Auchinoon**	**149.27**	**3**	*e*P		PKPbc		15 42 59.8	-1.6	
EBL	**Broad Law**	**149.36**	**3**	*e*P		PKPbc		15 42 59.8	-1.8	
XSO	**Sourhope Farm**	**149.67**	**2**	*e*P		PKPbc		15 43 00.5	-1.9	
KWP	**Kalwaria**	**149.72**	**330**	*e*PKP		PKPbc		15 43 01.7	-1.0	
KWP	**Kalwaria**	**149.72**	**330**	⇑*i*P		PKPbc		15 43 01.7	-1.0	
KWP	**Kalwaria**	**149.72**	**330**	*e*PKP		PKPbc		15 43 01.7	-1.0	
BUR08	**Bucovina Ar. S**	**149.83**	**325**	*e*PKPbc		PKPbc		15 43 02.4	-0.6	
BURAR	**Bucovina Array**	**149.84**	**325**	⇑*i*P		PKPbc		15 43 02.8	-0.2	
BURAR	**Bucovina Array**	**149.84**	**325**	⇑P		PKPbc		15 43 02.8	-0.2	
ECK	**Cauldkaine Hil**	**149.94**	**3**	*e*P		PKPdf		15 43 00.8	+3.2	
HARR	**Harsova**	**149.97**	**318**	⇑*i*P		PKPbc		15 43 02.9	-0.5	
VRI	**Vrincioaia**	**150.05**	**320**	⇑*i*P		PKPbc		15 43 02.4	-1.2	
VRI	**Vrincioaia**	**150.05**	**320**	⇑P		PKPbc		15 43 02.4	-1.2	
XAL	**Allendale**	**150.30**	**2**	*e*P		PKPdf		15 43 01.9	+3.7	
KOLS	**Kolonicke sedl**	**150.42**	**329**	*e*PKP		PKPbc		15 43 03.0	-1.3	
STHS	**Stebnicka Huta**	**150.53**	**331**	*e*PKP		PKPbc		15 43 03.9	-0.7	
OJC	**Ojcow**	**150.54**	**333**	*e*PKP		PKPbc		15 43 03.3	-1.3	
MLR	**Muntele Rosu**	**150.72**	**320**	⇓*i*P		PKPbc		15 43 03.9	-1.2	
MLR	**Muntele Rosu**	**150.72**	**320**	⇓P		PKPbc		15 43 03.9	-1.3	
CRVS	**Cervenica-Dubn**	**150.81**	**330**	*e*PKP		PKPbc		15 43 04.1	-1.1	
NIE	**Niedzica**	**150.94**	**332**	*e*PKP		PKPbc		15 43 04.8	-0.7	
VOIR		**151.26**	**321**	⇓*i*P		PKPbc		15 43 04.9	-1.5	
VOIR		**151.26**	**321**	⇓P		PKPbc		15 43 04.9	-1.5	
KSP	**Ksiaz**	**151.35**	**338**	*e*PKP		PKPbc		15 43 05.5	-0.9	
KSP	**Ksiaz**	**151.35**	**338**	*e*PKPdf		PKPbc		15 43 05.4	-1.0	
OKC	**Ostrava-Krasne**	**151.50**	**335**	⇑*e*PKP		PKPbc		15 43 06.3	-0.5	
LHO	**Holmfirth**	**151.63**	**2**	*e*P		PKPdf		15 43 04.8	+4.6	
DRGR		**151.68**	**325**	⇓*i*P		PKPbc		15 43 06.1	-1.2	
DRGR		**151.68**	**325**	⇓P		PKPbc		15 43 06.0	-1.2	
UPC	**Upice**	**151.73**	**338**	⇑*e*PKP		PKPbc		15 43 06.3	-1.0	
UPC				*e*PKPAB		PKPab		15 43 17.9	-0.4	
DPC	**Dobruska-Polom**	**151.75**	**337**	⇑*e*PKP		PKPbc		15 43 06.4	-0.9	
DPC				*e*PKPAB		PKPab		15 43 18.1	-0.3	
MORC	**Moravsky Berou**	**151.78**	**335**	⇑*i*P		PKPbc		15 43 06.6	-0.8	
MORC	**Moravsky Berou**	**151.78**	**335**	⇑P		PKPbc		15 43 06.6	-0.8	
CLL	**Collm**	**151.97**	**342**	⇑*i*PKPbc		PKPbc		15 43 06.4	-1.4	
	comp=Z,27nm,0.8s									
CLL				⇓*i*PKPab		PKPab		15 43 17.9	-1.3	
	comp=Z,9.0nm,0.7s									
CLL				*ex*		x		15 43 26.0		
CLL	**Collm**	**151.97**	**342**	⇑*i*PKP		PKPbc		15 43 06.4	-1.4	
CLL				⇓*i*PKP		PKPab		15 43 17.9	-1.3	
BRG	**Berggiesshubel**	**152.08**	**341**	*i* PKP		PKPbc		15 43 06.7	-1.4	
	comp=Z,19nm,1.1s									
BRG				*i*				15 43 18.5		
	comp=Z,8.7nm,0.7s									
PVCC	**Panska Ves**	**152.19**	**339**	⇑*e*PKP		PKPbc		15 43 07.5	-0.8	
PVCC				*e*PKPAB		PKPab		15 43 19.8	-0.4	
SBD1	**Bryn Du**	**152.21**	**4**	*e*P		PKPbc		15 43 06.3	-1.9	
VYHS	**Vyhne**	**152.27**	**332**	*e*PKP		PKPbc		15 43 07.0	-1.5	
KOLL	**Kolacno**	**152.39**	**333**	*e*PKP		PKPbc		15 43 07.7	-1.1	
GZR	**Gura Zlata**	**152.55**	**323**	⇑*i*P		PKPbc		15 43 07.3	-2.0	
MODS	**Modra-Piesok**	**153.01**	**334**	*e*PKP		PKPbc		15 43 09.7	-0.5	
BZS	**Buzias**	**153.03**	**325**	⇓*i*P		PKPbc		15 43 08.9	-1.4	
BZS	**Buzias**	**153.03**	**325**	⇓P		PKPbc		15 43 08.9	-1.4	
NKC	**Novy Kostel**	**153.09**	**342**	*e*PKPAB		PKPab		15 43 23.1	-0.9	
KHC	**Kasperske Hory**	**153.72**	**339**	⇓*i*PKP2		PKPab		15 43 25.9	-0.9	
KHC	**Kasperske Hory**	**153.72**	**339**	⇑*e*PKP		PKPbc		15 43 10.4	-1.2	
KHC				*e*PKPAB		PKPab		15 43 26.0	-0.8	
GRA1	**Grafenberg Arr**	**153.92**	**343**	*e*PKPbc		PKPab		15 43 27.1	-0.5	
GRF	**Grafenberg Arr**	**153.92**	**343**	*e*PKP2		PKPab		15 43 27.1	-0.5	
GERES	**GERESS Array B**	**153.93**	**339**	PKP		PKPdf		15 43 01.8	-1.9	
	comp=Z,0.5nm,0.7s,baz=270,slow=0.1,SNR=5.4									
GERES				PKPbc		PKPbc		15 43 10.3	-1.8	
	comp=Z,1.1nm,0.6s,baz=40,slow=2.3,SNR=12									
GERES				PKPab		PKPab		15 43 26.3	-1.4	
	comp=Z,0.8nm,0.6s,baz=47,slow=2.4,SNR=5.6									
PKSM	**Moragy**	**154.08**	**329**	⇓*i*P		PKPbc		15 43 10.9	-1.6	
GIVF	**Givet**	**154.79**	**352**	*e*PKP2		PKPab		15 43 29.1	-2.2	
BAIF	**Baives**	**154.90**	**353**	*e*PKP2		PKPab		15 43 29.9	-1.8	
	comp=Z,6.5nm,0.7s									
CDF	**Champ du Feu**	**156.04**	**347**	*e*PKP2		PKPab		15 43 34.8	-1.9	
	comp=Z,3.4nm,0.6s									
MEZF	**Maizieres J'vi**	**156.33**	**351**	*e*PKP2		PKPab		15 43 36.1	-1.8	
	comp=Z,25nm,0.9s									
FLN	**La Foliniere**	**156.45**	**0**	*e*PKP2		PKPab		15 43 35.8	-2.6	
HAU	**Haudompre**	**156.60**	**349**	*e*PKP2		PKPab		15 43 37.1	-2.0	
	comp=Z,1.1nm,0.8s									
LDF	**La Druitiere**	**156.61**	**360**	*e*PKP2		PKPab		15 43 36.4	-2.8	
	comp=Z,7.9nm,0.7s									
HINF	**Hinteralfeld**	**156.69**	**348**	*e*PKP2		PKPab		15 43 38.0	-1.5	
GRR	**Gorron**	**156.82**	**1**	*e*PKP2		PKPab		15 43 37.6	-2.4	
LOR	**Lormes**	**157.69**	**352**	*e*PKP2		PKPab		15 43 42.0	-1.9	
	comp=Z,9.7nm,0.9s									
SSF	**Saint Saulge**	**157.94**	**353**	*e*PKP2		PKPab		15 43 43.1	-1.8	
	comp=Z,37nm,1.0s									
CABF	**La Chapelle**	**157.99**	**348**	*e*PKP2		PKPab		15 43 43.5	-1.7	
	comp=Z,7.0nm,0.8s									
AVF	**Avril sur Loir**	**158.22**	**353**	*e*PKP2		PKPab		15 43 44.1	-2.1	
	comp=Z,15nm,0.8s									
SMF	**Signal de Mont**	**158.31**	**352**	*e*PKP2		PKPab		15 43 44.7	-1.9	
	comp=Z,24nm,0.7s									
BGF	**Bois d'Agland**	**158.50**	**354**	*e*PKP2		PKPab		15 43 45.4	-2.0	
MFF	**Saint Martin d**	**158.61**	**360**	*e*PKP2		PKPab		15 43 45.5	-2.4	
LPL	**La Plagne**	**158.91**	**346**	*e*PKP2		PKPab		15 43 48.3	-0.9	
	comp=Z,12nm,1.0s									
LPG	**La Plagne**	**158.93**	**346**	*e*PKP2		PKPab		15 43 48.5	-0.8	
MBDF	**Montbardon**	**159.65**	**345**	*e*PKP2		PKPab		15 43 51.0	-1.5	
ORIF	**Oris-en-Rattie**	**159.66**	**347**	*e*PKP2		PKPab		15 43 51.3	-1.2	
VIVF	**Saint-Julien-l**	**159.94**	**350**	*e*PKP2		PKPab		15 43 52.2	-1.5	
CAF	**Calviac**	**160.19**	**355**	*e*PKP2		PKPab		15 43 52.3	-2.5	
SBF	**Sospel**	**160.30**	**343**	*e*PKP2		PKPab		15 43 53.4	-2.0	
	comp=Z,27nm,0.9s									
LIC	**Lamto**	**160.63**	**166**	*e*PKP2		PKPab		15 43 57.0	-0.5	
	comp=Z,11nm,0.8s									
LIC	**Lamto**	**160.63**	**166**	*e*P		PKPab		15 43 56.9	-0.6	
	comp=Z,65nm,2.1s									
KIC	**Kosan Boka**	**160.83**	**167**	*e*P		PKPab		15 43 57.8	-0.6	
	comp=Z,116nm,1.8s									
TIC	**Toumodi**	**161.04**	**165**	*e*P		PKPab		15 43 58.8	-0.5	
	comp=Z,38nm,1.1s									
SJPF	**Ste Jean**	**162.08**	**2**	*e*PKP2		PKPab		15 44 00.7	-2.5	
ESDC	**Sonseca Array**	**165.21**	**11**	PKPab		PKPab		15 44 15.6	-1.5	
	comp=Z,1.4nm,0.6s,baz=344,slow=3.8,SNR=14									

*ISCJB **28** 15:45:46.0±0.4,22.39N±002×12184E±002,h18km, Error ellipse: s-maj=3.4km s-min=2.3km az=148.7*
*TAP **28** 15:45:48.2,2241N×12169E,h18km,ML3.1,C*
*JMA **28** 15:45:49.3±0.3,22.36N×12200E,h72km,M2.8*

ISC 28 15:45:45.7±0.5,2242N±002×12181E±002,h7km±3km,n44,
σ1°01/80,Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LAY	**Lan-yu**	**0.45**	**212**	*i* P	**Pg**	**15 45 55.4**	**+1.0**
	baz=191						
LAY				S	**Sg**	**15 46 00.8**	**+0.6**
	baz=191						
TTN	**Taitung**	**0.70**	**299**	*e*P	**Pg**	**15 45 59.9**	**+0.8**
	baz=318						
TTN				*e*S	**Sg**	**15 46 09.2**	**+1.1**
	baz=318						
TWG	**Pinlang**	**0.79**	**300**	P	**Pg**	**15 46 01.2**	**+0.3**
	baz=316						
TWG				S	**Sg**	**15 46 12.2**	**+1.0**
	baz=316						
CHKT	**Chengkung**	**0.79**	**329**	*e*P	**Pg**	**15 45 59.8**	**-1.1**
	baz=350						
CHKT				S	**Sg**	**15 46 11.3**	**+0.1**
	baz=350						
ECL	**Taimali**	**0.81**	**283**	*i* P	**Pg**	**15 46 01.7**	**+0.4**
	baz=285						
ECL				S	**Sg**	**15 46 12.1**	**+0.3**
	baz=285						
TAW	**Tawu**	**0.85**	**266**	P	**Pg**	**15 46 01.9**	**0.0**
	baz=265						
TAW				*e*S	**Sg**	**15 46 12.0**	**-1.0**
	baz=265						
EAST	**Anshuo**	**0.89**	**268**	P	**Pg**	**15 46 02.7**	**-0.1**
	baz=267						
EAST				*e*S	**Sg**	**15 46 13.4**	**-1.0**
	baz=267						
TSEB	**Hengchuen, Pin**	**0.99**	**239**	*e*P	**Pg**	**15 46 04.5**	**-0.2**
	baz=244						
TSEB				*e*S	**Sg**	**15 46 17.4**	**-0.2**
	baz=244						
TWF1	**Yuli**	**1.04**	**333**	*e*P	**Pg**	**15 46 05.5**	**-0.2**
	baz=349						
TWF1				*e*S	**Sg**	**15 46 19.1**	**-0.1**
	baz=349						
TWK1	**Hengchun**	**1.04**	**243**	*e*P	**Pg**	**15 46 05.5**	**-0.2**
	baz=239						
TWK1				*e*S	**Sg**	**15 46 17.3**	**-2.0**
	baz=239						
ELDTW	**Lidau**	**1.06**	**316**	*e*P	**Pb**	**15 46 05.4**	**-0.9**
	baz=321						
ELDTW				*e*S	**Sg**	**15 46 18.2**	**-1.6**
	baz=321						
HEN	**Hengchun**	**1.07**	**248**	*e*P	**Pb**	**15 46 06.0**	**-0.6**
	baz=244						
HEN				*e*S	**Sg**	**15 46 18.4**	**-1.9**
	baz=244						
SCZT	**Fangliau**	**1.10**	**268**	*e*P	**Pb**	**15 46 06.3**	**-0.7**
	baz=267						
SCZT				*e*S	**Sb**	**15 46 20.5**	**-1.1**
	baz=267						
SSD	**Sandimen**	**1.14**	**287**	*e*P	**Pb**	**15 46 07.1**	**-0.5**
	baz=295						
SSD				*e*S	**Sb**	**15 46 21.6**	**-1.0**
	baz=295						
EHY	**Hungye**	**1.17**	**338**	*e*P	**Pb**	**15 46 08.0**	**-0.3**
	baz=352						
EHY				*e*S	**Sb**	**15 46 22.7**	**-0.9**
	baz=352						
STYT	**Tauyuan**	**1.22**	**307**	P	**Pn**	**15 46 08.5**	**-0.7**
	baz=310						
STYT				*e*S	**Sb**	**15 46 23.5**	**-1.5**
	baz=310						
SGST	**Jiashian**	**1.31**	**300**	*e*P	**Pn**	**15 46 10.4**	**0.0**
	baz=312						
SGST				*e*S	**Sb**	**15 46 27.9**	**+0.3**
	baz=312						
YUS	**Yu-Shan**	**1.33**	**324**	*e*P	**Pn**	**15 46 10.7**	**+0.1**
	baz=326						
TWM1	**Shoushan**	**1.34**	**288**	*e*P	**Pn**	**15 46 10.6**	**-0.3**
	baz=288						
WTP	**Ta-pu**	**1.38**	**307**	P	**Pn**	**15 46 11.8**	**+0.6**
	baz=319						
WTP				*e*S	**Sb**	**15 46 30.0**	**+0.5**
	baz=319						
CHN1	**Nanshi**	**1.41**	**303**	P	**Pn**	**15 46 12.6**	**+0.9**
	baz=288						
CHN1				*e*S	**Sn**	**15 46 31.3**	**+0.8**
	baz=288						
ALS	**Alishan**	**1.43**	**320**	*e*P	**Pn**	**15 46 12.6**	**+0.7**
	baz=331						
ALS				*e*S	**Sn**	**15 46 30.6**	**-0.3**
	baz=331						
ESL	**Shilin**	**1.43**	**346**	*e*P	**Pn**	**15 46 11.1**	**-0.9**
	baz=2.0						
ESL				*e*S	**Sn**	**15 46 28.4**	**-2.7**
	baz=2.0						
CHN4	**Tsaushan**	**1.46**	**310**	*e*P	**Pn**	**15 46 13.0**	**+0.6**
	baz=322						
CHN4				*e*S	**Sn**	**15 46 32.2**	**+0.5**
	baz=322						
TWK	**Hsinying**	**1.48**	**305**	*e*P	**Pn**	**15 46 13.2**	**+0.5**
	baz=291						
TWK				*e*S	**Sn**	**15 46 32.3**	**0.0**
	baz=291						
CHN5	**Tsauling**	**1.57**	**319**	*e*P	**Pn**	**15 46 15.1**	**+1.2**
	baz=321						
CHN5				*e*S	**Sn**	**15 46 34.9**	**+0.4**
	baz=321						
TWD	**Chiawan**	**1.66**	**353**	*e*P	**Pn**	**15 46 14.1**	**-1.2**
	baz=7.0						
SMLT	**Sun Moon Lake**	**1.68**	**330**	*e*P	**Pn**	**15 46 16.9**	**+1.5**
	baz=342						
SMLT				*e*S	**Sn**	**15 46 37.8**	**+0.5**
	baz=342						
WGK	**Gukeng**	**1.71**	**318**	*e*P	**Pn**	**15 46 17.6**	**+1.8**
	baz=319						
TYC	**Yuchr**	**1.72**	**329**	P	**Pn**	**15 46 18.0**	**+2.0**
	baz=344						
TYC				S	**Sn**	**15 46 39.0**	**+0.9**
	baz=344						
CHN8	**Yiju**	**1.74**	**302**	*e*P	**Pn**	**15 46 16.8**	**+0.5**
	baz=302						
WHF	**Hehuan Shan**	**1.79**	**344**	*e*P	**Pn**	**15 46 17.2**	**+0.2**
	baz=346						
WHF				*e*S	**Sn**	**15 46 38.4**	**-1.5**
	baz=346						
ENA	**Nanau**	**2.00**	**358**	*e*P	**Pn**	**15 46 19.6**	**-0.2**
	baz=11						
ENA				*e*S	**Sn**	**15 46 43.6**	**-1.5**
	baz=11						
NNS	**Nan Shan**	**2.05**	**349**	*e*P	**Pn**	**15 46 21.1**	**+0.5**
	baz=2.0						
TWQ1	**Liyutan**	**2.14**	**334**	*e*P	**Pn**	**15 46 24.1**	**+2.3**
	baz=335						
TWQ1				*e*S	**Sn**	**15 46 50.8**	**+2.2**
	baz=335						
NSK	**Sanguang**	**2.28**	**350**	*e*P	**Pn**	**15 46 24.5**	**+0.7**
	baz=351						
NSK				*e*S	**Sn**	**15 46 51.1**	**-1.0**
	baz=351						
TWE	**Neicheng**	**2.29**	**357**	*e*P	**Pn**	**15 46 24.2**	**+0.3**
	baz=347						
YOJ	**Yonaguni jima**	**2.31**	**28**	P	**Pn**	**15 46 25.6**	**+1.4**
NSTT	**Nanjuang**	**2.32**	**342**	*e*P	**Pn**	**15 46 26.2**	**+1.9**
	baz=356						
NSTT				*e*S	**Sn**	**15 46 54.5**	**+1.4**
	baz=356						
HATJ	**Hateruma jima**	**2.45**	**48**	P	**Pn**	**15 46 26.6**	**+0.5**
HATJ				S	**Sn**	**15 46 55.1**	**-1.2**
IRIF	**Iriomote-Funau**	**2.60**	**42**	P	**Pn**	**15 46 29.0**	**+0.9**
IRIF				S	**Sn**	**15 46 58.8**	**-1.1**
JKRS	**Kuro-shima**	**2.71**	**48**	P	**Pn**	**15 46 30.6**	**+0.9**
JKRS				*e*S	**Sn**	**15 47 01.1**	**-1.6**
JIJ	**Ishigaki jima**	**2.89**	**47**	P	**Pn**	**15 46 32.4**	**+0.3**
JIJ				S	**Sn**	**15 47 05.5**	**-1.5**
JTJ	**Tarama**	**3.46**	**50**	P	**Pn**	**15 46 40.6**	**+0.7**
JTJ				S	**Sn**	**15 47 19.2**	**-1.8**

*NEIC **28** 15:54:49.0±2.4,6.19S×13002E,h70km±28km,mb4.9/14, Error ellipse: s-maj=18.6km s-min=14.8km az=219.0*
*ISCJB **28** 15:54:54.0±0.6,630S±005×13055E±005,h161km±5km, mb4.6/20,Error ellipse: s-maj=9.5km s-min=6.0km az=40.2*
*IDC **28** 15:54:53.0±5.3,609S×13049E,h116km±53km,mb3.8/6, mb1 4.1/8,mb1mx3.9/13,mbtmp4.0/8,MS3.2/1,Ms1 3.2/1, ms1mx2.2/21,Error ellipse: s-maj=43.5km s-min=19.5km az=60.0*
*DJA **28** 15:54:56.4±0.3,6S±4×130E±, h127km±6km,mb4.7/17, mB5.4/5,MLv4.7/7,Mw(mB)5.2/5*

ISC 28 15:54:53.6±0.7,639S±006×13061E±005,h144km±6km,
n51,σ0994/60,mb4.6/20,3C-1D,Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TLE	**Tual**	**2.25**	**71**	⇑*e*P	**Pn**	**15 55 40.0**	**+8.7**
TLE				*e*S	**Sn**	**15 56 05.0**	**+4.7**
TLE	**Tual**	**2.25**	**71**	⇑*e*P	**Pn**	**15 55 32.5**	**+1.2**
TLE				*e*S	**Sn**	**15 55 57.0**	**-3.3**
MSAI	**Masohi**	**3.46**	**331**	P	**Pn**	**15 55 46.6**	**0.0**
AAI	**Ambon**	**3.60**	**318**	⇓*e*P	**Pn**	**15 55 49.4**	**+0.8**
AAI				*e*S	**Sn**	**15 56 30.1**	**-1.1**
AAI	**Ambon**	**3.60**	**318**	P	**Pn**	**15 55 49.4**	**+0.8**
AAI	**Ambon**	**3.60**	**318**	P	**Pn**	**15 55 49.5**	**+0.9**
LBMI	**Labuha**	**6.50**	**331**	P	**Pn**	**15 56 26.4**	**-0.6**
	189nm,0.9s,3μm1.2nm						
LBMI	**Labuha**	**6.50**	**331**	S	**Sn**	**15 57 32.5**	**-7.6**
	189nm,0.9s,3μm1.2nm						
**

PEL				*i* S	Sn	16 10 50.4	+1.5
PEL				AML	AML	16 10 56.4	
	comp=N,223nm,0.5s						
CLCH	**Cerro Calan**	**3.17**	**232**	*i* P	Pn	16 10 12.8	+1.5
CLCH				*i* S	Sn	16 10 52.6	+2.7
CLCH				AML	AML	16 10 56.1	
	comp=N,304nm,0.5s						
LMEL	**Las Melosas**	**3.26**	**222**	*i* P	Pn	16 10 14.1	+1.5
LMEL				*i* S	Sn	16 10 54.9	+2.8
LMEL				AML	AML	16 11 01.4	
	comp=N,84nm,0.2s						
LMEL	**Las Melosas**	**3.26**	**222**	*i* P	Pn	16 10 14.1	+1.5
LMEL				*i* S	Sn	16 10 54.9	+2.8
PCH	**Pirque**	**3.29**	**228**	*i* P	Pn	16 10 14.4	+1.4
PCH				*i* S	Sn	16 10 55.7	+2.8
CHNG	**Los Chungos**	**3.38**	**262**	*i* S	Sn	16 10 57.0	+2.0
CHNG				AML	AML	16 10 59.1	
	comp=N,157nm,0.6s						
TACH	**Talagante**	**3.59**	**231**	⇓*i* P	Pn	16 10 17.8	+0.6
TACH				*i* S	Sn	16 11 02.7	+2.5
LCO	**Las Campanas**	**3.64**	**311**	*eP*	Pn	16 10 19.8	+1.9
LCO				*i* S	Sn	16 11 04.7	+3.1

*IDC **28** 16:25:40.1±1.7, 173N×9695E, h0km, mb4.0/7, mb1 4.0/8, mb1mx3.8/21, mbtmp3.9/8, ML3.6/1, MS3.2/1, Ms1 3.4/1, ms1mx2.3/31, Error ellipse: s-maj=68.4km s-min=24.8km az=59.0*

*DJA **28** 16:25:43, 185N×9669E, h15km, MLv4.0/4*

*ISCJB **28** 16:25:44.1±1.1, 19N±02×970E±03, h33km, mb4.0/9, Error ellipse: s-maj=42.0km s-min=15.8km az=151.0*

*NEIC **28** 16:25:46.2±1.0, 189N×9696E, h35km, mb4.1/3, Error ellipse: s-maj=38.0km s-min=13.8km az=61.0*

ISC 28 16:25:46.3±1.1, 19N±02×970E±03, h35km, n13, σ0§83/13, mb4.0/9, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**16.57**	**7**	Pn			**Pn**	**16 29 35.7**	**-0.4**
	0.1nm,0.3s,baz=199,slow=11,SNR=11								
CMAR				LR			LR	16 36 59.7	
	comp=Z,75nm,18.5s,baz=195,slow=41								
WRAB	**Tennant Creek**	**42.60**	**122**	*eP*			**P**	**16 33 41.2**	**+1.7**
	4.5nm,1.0s,mb4.2								
ASAR	**Alice Springs**	**43.99**	**128**	P			**P**	**16 33 48.9**	**-1.7**
	0.7nm,0.7s,mb3.5,baz=299,slow=8.3,SNR=8.1								
SONM	**Songino Array**	**46.48**	**9**	P			**P**	**16 34 10.1**	**+0.2**
	1.0nm,0.7s,mb3.8,baz=188,slow=7.5,SNR=9.2								
MK31	**Makanchi Array**	**46.51**	**346**	*eP*			**P**	**16 34 10.7**	**+0.5**
MKAR	**Makanchi Array**	**46.51**	**346**	P			**P**	**16 34 10.6**	**+0.4**
	1.9nm,0.7s,mb4.2,baz=160,slow=8.3,SNR=20								
KURK	**Kurchatov**	**51.06**	**345**	P			**P**	**16 34 44.8**	**-0.3**
	1.3nm,0.6s,mb4.0,baz=165,slow=6.9,SNR=12								
KURK	**Kurchatov**	**51.06**	**345**	*eP*			**P**	**16 34 44.1**	**-1.0**
	2.5nm,1.0s,mb4.1								
ZALV	**Zalesovo Beam**	**52.84**	**351**	P			**P**	**16 34 59.0**	**+0.7**
	8.3nm,0.7s,mb4.8,baz=180,slow=6.7,SNR=36								
ZALV	**Zalesovo Beam**	**52.84**	**351**	P			**P**	**16 34 59.0**	**+0.7**
BVAR	**Borovoye Array**	**55.52**	**341**	P			**P**	**16 35 17.4**	**-0.4**
	1.3nm,0.7s,mb4.1,baz=141,slow=7.6,SNR=11								
TIXI	**Tiksi**	**72.54**	**10**	*eP*			**P**	**16 37 09.0**	**-0.4**
	0.9nm,0.5s,mb4.0								
GERES	**GERESS Array B**	**84.14**	**319**	P			**P**	**16 38 13.9**	**0.0**
	0.4nm,0.6s,mb3.7,baz=95,slow=7.2,SNR=4.2								

JMA 28 16:35:32.5, 3668N×13822E, h9km±1km, M2.7, 1C, Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
MAT	**Matsushiro**	**0.14**	**184**	⇑P			Pg	16 35 35.3	-0.2
MAT				S			Sg	16 35 37.4	-0.2
MAT	**Matsushiro**	**0.14**	**184**	P			Pg	16 35 34.9	-0.6
MAT	**Matsushiro**	**0.14**	**184**	P			Pg	16 35 35.3	-0.2
JNG	**Nsakai**	**0.29**	**200**	P			Pg	16 35 37.6	-0.6
JNG				*eS*			Sg	16 35 41.7	-0.4
JNG	**Nsakai**	**0.29**	**200**	P			Pg	16 35 38.0	-0.2
JNG				S			Sg	16 35 42.1	0.0
JGK	**Kuni**	**0.36**	**109**	P			Pg	16 35 39.8	+0.3
JHK	**Hiroka**	**0.85**	**48**	P			Pg	16 35 48.8	-0.1
JHK				S			Sg	16 35 59.4	-0.7
JRY	**Ryogami san**	**0.86**	**140**	P			Pg	16 35 48.6	-0.5
JRY				*eS*			Sg	16 35 59.6	-0.7
JSZ	**Suzu**	**1.03**	**318**	*eS*			Sg	16 36 06.0	+0.4

JMA 28 16:38:19.9, 3668N×13823E, h9km±1km, M1.2, 1C, Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
MAT	**Matsushiro**	**0.14**	**188**	⇑P			Pg	16 38 22.8	-0.2
MAT				S			Sg	16 38 24.8	-0.2
MAT	**Matsushiro**	**0.14**	**188**	P			Pg	16 38 22.8	-0.2
MAT				S			Sg	16 38 24.9	-0.1
JNG	**Nsakai**	**0.29**	**201**	S			Sg	16 38 29.6	0.0

JMA 28 16:39:48.8, 3667N×13824E, h10km±1km, M0.6, 1C, Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
MAT	**Matsushiro**	**0.13**	**192**	⇑P			Pg	16 39 51.8	0.0
MAT				S			Sg	16 39 53.9	0.0
MAT	**Matsushiro**	**0.13**	**192**	P			Pg	16 39 51.8	0.0
MAT				S			Sg	16 39 53.8	-0.1
JNG	**Nsakai**	**0.29**	**203**	P			Pg	16 39 54.6	+0.1
JNG				S			Sg	16 39 58.5	+0.1

JMA 28 16:40:29.0, 3667N×13824E, h8km±1km, M0.4, 1C, Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
MAT	**Matsushiro**	**0.13**	**192**	⇑P			Pg	16 40 32.0	+0.2
MAT				S			Sg	16 40 34.0	+0.2
MAT	**Matsushiro**	**0.13**	**192**	P			Pg	16 40 31.9	+0.1
MAT				S			Sg	16 40 34.0	+0.2
JNG	**Nsakai**	**0.29**	**203**	S			Sg	16 40 38.7	+0.3

*NIED **28** 16:59:00, 24.90N×122.10E, h5km, Mw3.9 Best double couple: M07.46000×10^14 NP1:φs75.00000°, δ63.00000°, λ-100.00000°. NP2:φs276.00000°, δ28.00000°, λ-71.00000°.*

*IDC **28** 16:59:06.4±3.0, 2535N×12370E, h0km, mb3.4/4, mb1 3.5/4, mb1mx3.3/20, mbtmp3.4/4, MS3.2/1, Ms1 3.2/1, ms1mx2.6/20, Error ellipse: s-maj=236.8km s-min=25.9km az=66.0*

*TAP **28** 16:59:08.6, 2481N×12202E, h9km, ML3.8, C*

*ISCJB **28** 16:59:08.6±0.3, 2480N±002×12209E±002, h10km, mb3.4/4, Error ellipse: s-maj=2.6km s-min=2.1km az=2.4*

*JMA **28** 16:59:08.8±0.4, 2489N×12205E, h30km, M3.6*

*NEIC **28** 16:59:10.2±0.9, 2471N×12196E, h10km, MG3.6(JMA), Error ellipse: s-maj=14.9km s-min=11.1km az=68.0*

ISC 28 16:59:09.0±0.3, 2480N±002×12209E±002, h10km, n63, σ1§06/100, mb3.4/4, 1C-5D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
TWB1	**Santiao Chiao**	**0.23**	**336**	⇓P			**Pg**	**16 59 13.3**	**-0.3**
	baz=351								
TWB1				*eS*			**Sg**	**16 59 16.2**	**-0.6**
	baz=351								
TWC	**Suao**	**0.29**	**229**	⇓*i* P			**Pg**	**16 59 14.2**	**-0.7**
	baz=218								
TWC				S			**Sg**	**16 59 17.3**	**-1.4**
	baz=218								
ILA	**Ilan**	**0.31**	**264**	*eP*			**Pg**	**16 59 14.2**	**-1.0**
	baz=260								
ILA				*eS*			**Sg**	**16 59 19.0**	**-0.5**
	baz=260								
NWF	**Wu-fen Shan**	**0.39**	**314**	P			**Pg**	**16 59 16.4**	**-0.2**
	baz=311								
NWF				*eS*			**Sg**	**16 59 21.7**	**-0.1**
	baz=311								
TWE	**Neicheng**	**0.39**	**258**	⇓*i* P			**Pg**	**16 59 15.8**	**-0.9**
	baz=255								
TWE				*eS*			**Sg**	**16 59 20.9**	**-1.1**
	baz=255								
ENA	**Nanau**	**0.49**	**221**	⇑*i* P			**Pg**	**16 59 17.7**	**-0.8**
	baz=221								
ENA				*eS*			**Sg**	**16 59 24.1**	**-0.9**
	baz=221								
TWA	**Mucha**	**0.49**	**291**	⇓*i* P			**Pg**	**16 59 18.1**	**-0.5**
	baz=283								
TWA				*i* S			**Sg**	**16 59 24.1**	**-1.0**
	baz=283								
TAP1	**Taipei**	**0.57**	**295**	P			**Pg**	**16 59 19.1**	**-0.9**
	baz=286								
TAP1				*eS*			**Sg**	**16 59 26.0**	**-1.5**
	baz=286								
TATO	**Taipei**	**0.57**	**288**	*ePg*			**Pg**	**16 59 19.2**	**-0.9**
TWY	**Chenhua**	**0.65**	**317**	*i* P			**Pg**	**16 59 21.6**	**0.0**
	baz=319								
YHNB	**Yeheng**	**0.66**	**259**	*ePg*			**Pg**	**16 59 20.6**	**-1.2**
NSK	**Sanguang**	**0.68**	**260**	*eP*			**Pg**	**16 59 20.8**	**-1.3**
	baz=258								
NSK				*eS*			**Sg**	**16 59 30.2**	**-0.8**
	baz=258								
TWS1	**Kuangyinshan**	**0.68**	**296**	P			**Pg**	**16 59 22.4**	**+0.2**
	baz=288								
TWS1				*eS*			**Sg**	**16 59 32.8**	**+1.7**
	baz=288								
NNS	**Nan Shan**	**0.74**	**241**	*eP*			**Pg**	**16 59 22.1**	**-1.3**
	baz=243								
NNS				*eS*			**Sg**	**16 59 33.4**	**+0.2**
	baz=243								
NACB	**Ninganchiao**	**0.77**	**216**	*ePg*			**Pg**	**16 59 22.6**	**-1.3**
PCYT	**Pengchaiyu**	**0.82**	**359**	P			**Pg**	**16 59 24.9**	**0.0**
	baz=357								
NCU	**National Centr**	**0.84**	**282**	P			**Pg**	**16 59 25.1**	**0.0**
	baz=274								
NCU				S			**Sg**	**16 59 37.6**	**+1.5**
	baz=274								
TWD	**Chiawan**	**0.85**	**212**	P			**Pg**	**16 59 24.2**	**-1.1**
	baz=201								
TWD				*eS*			**Sg**	**16 59 35.3**	**-1.1**
	baz=201								
YOJ	**Yonaguni jima**	**0.90**	**112**	P			**Pg**	**16 59 26.3**	**-0.1**
YOJ				S			**Sg**	**16 59 39.1**	**+0.9**
HWA	**Hwalien**	**0.93**	**208**	*eP*			**Pg**	**16 59 26.9**	**-0.1**
	baz=206								
WHF	**Hehuan Shan**	**1.00**	**229**	*eP*			**Pg**	**16 59 27.0**	**-1.2**
	baz=227								
WHF				*eS*			**Sg**	**16 59 40.5**	**-0.6**
	baz=227								
NSTT	**Nanjuang**	**1.00**	**260**	P			**Pg**	**16 59 28.0**	**-0.3**
	baz=259								
NSTT				*eS*			**Sg**	**16 59 42.4**	**+1.0**
	baz=259								
HSN	**Hsinchu**	**1.02**	**270**	*eP*			**Pg**	**16 59 27.7**	**-0.9**
	baz=265								
HSN				*eS*			**Sg**	**16 59 41.7**	**-0.1**
	baz=265								
ESL	**Shilin**	**1.15**	**211**	⇓P			**Pb**	**16 59 29.6**	**-1.4**
	baz=210								
ESL				*eS*			**Sb**	**16 59 44.7**	**-1.3**
	baz=210								
NSY	**Sanyi**	**1.27**	**253**	*eP*			**Pn**	**16 59 32.7**	**-0.1**
	baz=252								
NSY				*eS*			**Sb**	**16 59 50.1**	**+0.7**
	baz=252								
TWQ1	**Liyutan**	**1.28**	**250**	*eP*			**Pn**	**16 59 33.0**	**+0.1**
	baz=256								
SMLT	**Sun Moon Lake**	**1.42**	**230**	*eP*			**Pn**	**16 59 34.9**	**0.0**
	baz=234								
TYC	**Yuchr**	**1.44**	**232**	P			**Pn**	**16 59 35.3**	**+0.2**
	baz=231								
TYC				*eS*			**Sn**	**16 59 54.2**	**+0.2**
	baz=231								
TCU	**Taichung**	**1.44**	**243**	*eP*			**Pn**	**16 59 35.0**	**-0.2**
	baz=243								
TCU				*eS*			**Sg**	**16 59 56.6**	**+1.1**
	baz=243								
EHY	**Hungye**	**1.47**	**209**	P			**Pn**	**16 59 34.9**	**-0.6**
	baz=210								
IRIF	**Iriomote-Funau**	**1.56**	**107**	P			**Pn**	**16 59 35.7**	**-1.2**
IRIF				*eS*			**Sn**	**16 59 55.4**	**-1.8**
WNT	**Mingjian**	**1.58**	**235**	*eP*			**Pn**	**16 59 38.2**	**+1.2**
	baz=234								
WNT				*eS*			**Sg**	**17 00 00.5**	**+0.8**
	baz=234								
TWF1	**Yuli**	**1.61**	**207**	*eP*			**Pn**	**16 59 37.1**	**-0.4**
	baz=218								
YUS	**Yu-Shan**	**1.67**	**219**	*eP*			**Pn**	**16 59 39.3**	**+1.0**
	baz=229								
HATJ	**Hateruma jima**	**1.73**	**115**	P			**Pn**	**16 59 39.2**	**+0.1**
HATJ				S			**Sn**	**17 00 00.6**	**-0.7**
ALS	**Alishan**	**1.74**	**223**	*eP*			**Pn**	**16 59 41.1**	**+1.9**
	baz=215								
CHN5	**Tsauling**	**1.76**	**227**	P			**Pn**	**16 59 41.5**	**+1.9**
	baz=228								
CHN5				*eS*			**Sg**	**17 00 06.0**	**+0.4**
	baz=228								
WGK	**Gukeng**	**1.78**	**232**	*eP*			**Pn**	**16 59 41.7**	**+1.8**
	baz=232								
WGK				*eS*			**Sg**	**17 00 06.3**	**-0.1**
	baz=232								
CHKT	**Chengkung**	**1.82**	**202**	*eP*			**Pn**	**16 59 40.8**	**+0.4**
	baz=182								
CHKT				*eS*			**Sn**	**17 00 04.1**	**+0.6**
	baz=182								
JKRS	**Kuro-shima**	**1.84**	**107**	P			**Pn**	**16 59 40.0**	**-0.6**
JKRS				*eS*			**Sn**	**17 00 03.0**	**-0.9**
ELDTW	**Lidau**	**1.88**	**212**	*eP*			**Pn**	**16 59 41.2**	**0.0**
	baz=201								
JIJ	**Ishigaki jima**	**1.92**	**103**	P			**Pn**	**16 59 41.0**	**-0.7**
JIJ				*eS*			**Sn**	**17 00 04.4**	**-1.6**
CHN2	**Minshiung**	**1.94**	**230**	*eP*			**Pn**	**16 59 42.7**	**+0.7**
	baz=231								
CHN4	**Tsaushan**	**1.99**	**224**	*eP*			**Pn**	**16 59 45.6**	**+2.9**
	baz=225								
CHN4				*eS*			**Sn**	**17 00 12.1**	**+4.5**
	baz=225								
STYT	**Tauyuan**	**2.04**	**217**	*eP*			**Pn**	**16 59 44.2**	**+0.9**
	baz=211								
STYT				*eS*			**Sn**	**17 00 13.0**	**+4.2**
	baz=211								
WTP	**Ta-pu**	**2.05**	**221**	*eP*			**Pn**	**16 59 45.8**	**+2.2**
	baz=233								
WTP				*eS*			**Sg**	**17 00 14.3**	**-0.8**
	baz=233								
TWK	**Hsinying**	**2.12**	**224**	*eP*			**Pn**	**16 59 46.0**	**+1.5**
	baz=227								
TWK				*eS*			**Sn**	**17 00 15.1**	**+4.2**
	baz=227								
CHN1	**Nanshi**	**2.15**	**222**	*eP*			**Pn**	**16 59 46.7**	**+1.8**
	baz=225								
CHN1				*eS*			**Sg**	**17 00 16.7**	**-1.5**
	baz=225								
TWG	**Pinlang**	**2.18**	**206**	*eP*			**Pn**	**16 59 46.1**	**+0.8**
	baz=195								
SGST	**Jiashian**	**2.20**	**219**	*eP*			**Pn**	**16 59 47.4**	**+1.8**
	baz=211								
SGST				*eS*			**Sg**	**17 00 18.6**	**-1.0**
	baz=211								
JTJ	**Tarama**	**2.38**	**93**	P			**Pn**	**16 59 48.3**	**+0.2**
ECL	**Taimali**	**2.43**	**206**	*eP*			**Pn**	**16 59 48.9**	**+0.2**
	baz=197								
SSD	**Sandimen**	**2.44**	**213**	*eP*			**Pn**	**16 59 51.1**	**+2.2**
	baz=217								
SSD				*eS*			**Sn**	**17 00 21.9**	**+3.0**
	baz=217								
TWM1	**Shoushan**	**2.49**	**218**	*eP*			**Pn**	**16 59 50.5**	**+0.8**
	baz=221								
EAST	**Anshuo**	**2.66**	**206**	*eP*			**Pn**	**16 59 53.0**	**+1.0**
	baz=198								
SCZT	**Fangliau**	**2.77**	**209**	*eP*			**Pn**	**16 59 55.4**	**+2.0**
	baz=214								
SCZT				*eS*			**Sn**	**17 00 31.1**	**+4.2**
	baz=214								
SONM	**Songino Array**	**26.14**	**336**	P			**P**	**17 04 43.4**	**+0.2**
	1.6nm,1.0s,mb3.5,baz=142,slow=7.5,SNR=8.3								
SONM				LR			LR	17 16 19.5	
	comp=Z,47nm,19.1s,baz=28,slow=39								
ZALV	**Zalesovo Beam**	**40.18**	**326**	P			**P**	**17 06 47.7**	**+2.4**
	0.3nm,0.2s,mb3.6,baz=94,slow=5.9,SNR=4.5								
ZALV	**Zalesovo Beam**	**40.18**	**326**	P			**P**	**17 06 47.7**	**+2.4**
KURK	**Kurchatov**	**42.16**	**319**	P			**P**	**17 07 04.9**	**+3.3**
	0.6nm,1.0s,mb3.2,baz=97,slow=6.9,SNR=3.0								
WRAB	**Tennant Creek**	**46.04**	**164**	P			**P**	**17 07 33.3**	**+0.3**
KBL	**Kabul**	**46.65**	**295**	*eP*			**P**	**17 07 38.4**	**+0.6**
ASAR	**Alice Springs**	**49.52**	**166**	P			**P**	**17 08 00.5**	**+0.5**
	0.3nm,0.8s,mb3.4,baz=354,slow=8.4,SNR=5.6								

*ISCJB **28** 17:30:36.8±0.3, 2402N±002×12173E±002, h27km±2km, Error ellipse: s-maj=3.3km s-min=2.1km az=44.1*

*TAP **28** 17:30:36.7, 2404N×12164E, h34km, ML3.7, B*

*JMA **28** 17:30:37.4±0.2, 2415N×12171E, h67km, M2.6*

ISC 28 17:30:37.1±0.3, 2403N±002×12171E±002, h25km±2km, n61, σ0§85/108, 9C-3D, Taiwan

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
HWA	**Hwalien**	**0.11**	**244**	⇓*i* P			**Pb**	**17 30 42.7**	**+0.9**
	baz=222								
HWA				S			**Sb**	**17 30 47.5**	**+2.5**
	baz=222								
TWD	**Chiawan**	**0.12**	**297**	⇓*i* P			**Pb**	**17 30 42.6**	**+0.6**
	baz=306								
TWD				*i* S			**Sb**	**17 30 46.6**	**+1.5**
	baz=306								
ESF	**Shoufeng Towns**	**0.24**	**231**	P			**Pb**	**17 30 43.4**	**+0.1**
	baz=228								
ESF				S			**Sb**	**17 30 48.3**	**+0.8**
	baz=228								
ESL	**Shilin**	**0.33**	**231**	⇑*i* P			**Pb**	**17 30 44.2**	**-0.4**
	baz=229								
ESL				*eS*			**Sb**	**17 30 49.5**	**-0.2**
	baz=229								
TEGC	**Jichi Village**	**0.35**	**207**	*eP*			**Pb**	**17 30 46.1**	**+1.2**
	baz=186								
ENA	**Nanau**	**0.40**	**4**	⇓*i* P			**Pb**	**17 30 45.7**	**0.0**
	baz=2.0								
ENA				S			**Sb**	**17 30 52.0**	**+0.4**
	baz=2.0								
WHF	**Hehuan Shan**	**0.43**	**286**	⇑*i* P			**Pb**	**17 30 45.7**	**-0.4**
	baz=282								
WHF				*eS*			**Sb**	**17 30 51.8**	**-0.5**
	baz=282								
NNS	**Nan Shan**	**0.52**	**323**	⇑*i* P			**Pb**	**17 30 47.0**	**-0.6**
	baz=323								
NNS				S			**Sb**	**17 30 54.0**	**-0.7**
	baz=323								
TWC	**Suao**	**0.59**	**12**	⇑*i* P			**Pb**	**17 30 49.0**	**+0.1**
	baz=7.0								
TWC				*eS*			**Sb**	**17 30 57.6**	**+0.6**
	baz=7.0								
EHY	**Hungye**	**0.63**	**215**	*eP*			**Pb**	**17 30 47.8**	**-1.7**
	baz=209								
TWE	**Neicheng**	**0.69**	**357**	⇑*i* P			**Pb**	**17 30 49.9**	**-0.7**
	baz=353								
TWE				*eS*			**Sb**	**17 31 00.4**	**+0.7**
	baz=353								
NSK	**Sanguang**	**0.72**	**333**	⇑*i* P			**Pb**	**17 30 50.3**	**-0.8**
	baz=336								
NSK				S			**Sb**	**17 30 58.9**	**-1.7**
	baz=336								
ILA	**Ilan**	**0.74**	**2**	*eP*			**Pb**	**17 30 51.7**	**+0.4**
	baz=353								
ILA				*eS*			**Sb**	**17 31 02.0**	**+1.0**
	baz=353								
SMLT	**Sun Moon Lake**	**0.76**	**259**	⇑*i* P			**Pb**	**17 30 50.8**	**-0.8**
	baz=257								
SMLT				S			**Sb**	**17 31 00.5**	**-1.0**
	baz=257								
TWF1	**Yuli**	**0.77**	**210**	*eP*			**Pb**	**17 30 49.8**	**-2.1**
	baz=214								
TYC	**Yuchr**	**0.79**	**261**	⇑*i* P			**Pb**	**17 30 51.2**	**-1.0**
	baz=257								
TYC				*eS*			**Sb**	**17 31 01.0**	**-1.5**
	baz=257								
YUS	**Yu-Shan**	**0.88**	**233**	*eP*			**Pb**	**17 30 53.3**	**-0.4**
	baz=225								
YUS				*eS*			**Sb**	**17 31 03.9**	**-1.1**
	baz=225								
NSTT	**Nanjuang**	**0.89**	**313**	⇑*i* P			**Pb**	**17 30 53.5**	**-0.3**
	baz=314								
NSTT				*eS*			**Sb**	**17 31 04.2**	**-1.1**
	baz=314								
TWQ1	**Liyutan**	**0.92**	**291**	*i* P			**Pb**	**17 30 54.2**	**-0.2**
	baz=291								
TWQ1				*eS*			**Sb**	**17 31 05.8**	**-0.3**
	baz=291								
NSY	**Sanyi**	**0.95**	**294**	*eP*			**Pn**	**17 30 54.5**	**-0.4**
	baz=295								
NSY				*eS*			**Sb**	**17 31 07.0**	**-0.1**
	baz=295								
WNT	**Mingjian**	**0.95**	**261**	*eP*			**Pn**	**17 30 55.1**	**+0.2**
	baz=262								
WNT				*eS*			**Sb**	**17 31 07.3**	**+0.1**
	baz=262								
TCU	**Taichung**	**0.95**	**277**	P			**Pn**	**17 30 55.1**	**+0.2**
	baz=278								
TCU				*eS*			**Sb**	**17 31 08.3**	**+1.1**
	baz=278								
TWA	**Mucha**	**0.96**	**353**	*eP*			**Pn**	**17 30 54.5**	**-0.5**
	baz=343								
TWA				S			**Sb**	**17 31 06.5**	**-0.9**
	baz=343								
CHKT	**Chengkung**	**0.98**	**199**	*eP*			**Pn**	**17 30 54.0**	**-1.3**
	baz=209								
ALS	**Alishan**	**0.98**	**239**	*eP*			**Pn**	**17 30 54.9**	**-0.4**
	baz=231								
ALS				*eS*			**Sb**	**17 31 06.9**	**-1.0**
	baz=231								
TWB1	**Santiao Chiao**	**1.01**	**14**	*i* P			**Pn**	**17 30 56.0**	**+0.3**
	baz=1.0								
TWB1				S			**Sb**	**17 31 10.1**	**+1.3**
	baz=1.0								
TAP1	**Taipei**	**1.02**	**350**	*eP*			**Pn**	**17 30 55.1**	**-0.8**
	baz=349								
TAP1				*eS*			**Sb**	**17 31 08.9**	**-0.3**
	baz=349								
HSN	**Hsinchu**	**1.03**	**319**	*eP*			**Pn**	**17 30 56.3**	**+0.3**
	baz=321								
HSN				*eS*			**Sb**	**17 31 10.2**	**+0.8**
	baz=321								
CHN5	**Tsauling**	**1.04**	**246**	*eP*			**Pn**	**17 30 55.9**	**-0.2**
	baz=247								
CHN5				*eS*			**Sb**	**17 31 10.0**	**+0.3**
	baz=247								
NWF	**Wu-fen Shan**	**1.04**	**3**	*eP*			**Pn**	**17 30 55.6**	**-0.6**
	baz=351								
NWF				*eS*			**Sb**	**17 31 11.1**	**+1.3**
	baz=351								
ELDTW	**Lidau**	**1.05**	**218**	*eP*			**Pn**	**17 30 54.4**	**-1.8**
	baz=210								
NCU	**National Centr**	**1.05**	**333**	*eP*			**Pn**	**17 30 56.3**	**0.0**
	baz=332								
NCU				*eS*			**Sb**	**17 31 10.1**	**0.0**
	baz=332								
TWS1	**Kuangyinshan**	**1.10**	**346**	*eP*			**Pn**	**17 30 56.7**	**-0.3**
	baz=355								
TWS1				*eS*			**Sn**	**17 31 11.4**	**-0.1**
	baz=355								
WGK	**Gukeng**	**1.11**	**252**	*eP*			**Pn**	**17 30 56.8**	**-0.3**
	baz=253					

	baz=235						
SGST	**Jiashian**	**1.40**	**228**	P	**Pn**	**17 31 01.9**	**+0.8**
	baz=220						
SGST				*e*S	**Sn**	**17 31 19.2**	**+0.5**
	baz=220						
WSF	**Szhu**	**1.42**	**255**	*e*P	**Pn**	**17 31 01.3**	**0.0**
	baz=256						
WSF				*e*S	**Sn**	**17 31 20.9**	**+1.6**
	baz=256						
CHN8	**Yiju**	**1.53**	**244**	*e*P	**Pn**	**17 31 02.5**	**-0.5**
	baz=235						
CHN8				*e*S	**Sn**	**17 31 22.3**	**+0.3**
	baz=235						
ECL	**Taimali**	**1.58**	**206**	*e*P	**Pn**	**17 31 01.4**	**-2.2**
	baz=198						
SSD	**Sandimen**	**1.62**	**218**	*e*P	**Pn**	**17 31 04.8**	**+0.8**
	baz=210						
SSD				*e*S	**Sn**	**17 31 25.5**	**+1.4**
	baz=210						
SCLT	**Jiali**	**1.63**	**239**	*e*P	**Pn**	**17 31 04.3**	**0.0**
	baz=242						
SCLT				*e*S	**Sn**	**17 31 24.3**	**-0.1**
	baz=242						
TWM1	**Shoushan**	**1.69**	**225**	*e*P	**Pn**	**17 31 05.6**	**+0.6**
	baz=227						
EAST	**Anshuo**	**1.82**	**206**	*e*P	**Pn**	**17 31 07.2**	**+0.4**
	baz=201						
IRIF	**Iriomote-Funau**	**1.87**	**80**	P	**Pn**	**17 31 07.6**	**+0.1**
IRIF				S	**Sn**	**17 31 30.4**	**+0.1**
HATJ	**Hateruma jima**	**1.91**	**89**	P	**Pn**	**17 31 08.4**	**+0.3**
HATJ				S	**Sn**	**17 31 31.7**	**+0.3**
SCZT	**Fangliau**	**1.93**	**212**	*e*P	**Pn**	**17 31 08.2**	**-0.1**
	baz=204						
SCZT				*e*S	**Sn**	**17 31 33.0**	**+1.2**
	baz=204						
PNG	**Penghu**	**2.03**	**257**	*e*P	**Pn**	**17 31 08.8**	**-1.0**
	baz=259						
JKRS	**Kuro-shima**	**2.11**	**84**	P	**Pn**	**17 31 11.3**	**+0.5**
JKRS				S	**Sn**	**17 31 37.2**	**+1.0**
JIJ	**Ishigaki jima**	**2.24**	**81**	P	**Pn**	**17 31 12.5**	**-0.2**
JIJ				S	**Sn**	**17 31 38.3**	**-1.3**
JTJ	**Tarama**	**2.79**	**77**	P	**Pn**	**17 31 20.5**	**+0.2**
JTJ				*e*S	**Sn**	**17 31 52.5**	**-0.7**
KNM	**Kinmen**	**3.02**	**278**	*e*P	**Pn**	**17 31 22.8**	**-0.6**
	baz=279						

*ISK **28** 17:40:35.9, 3489N×2688E, h6km, ML3.9*
*HLW **28** 17:40:35.5, 3565N×2687E, h28km, Mb3.7*
*CSEM **28** 17:40:39.2±0.1, 3501N×2702E, h20km, mb3.8/5, Error ellipse: s-maj=2.1km s-min=1.5km az=16.0*
*IDC **28** 17:40:40.0±1.0, 3508N×27.14E, h0km, mb3.9/6, mb1 3.9/10, mb1mx3.8/22, mbtmp3.8/10, ML3.6/4, MS3.1/2, Ms1 3.2/2, ms1mx2.5/36, Error ellipse: s-maj=24.8km s-min=11.3km az=179.0*
*ISCJB **28** 17:40:40.9±0.7, 3499N±002×2709E±002, h31km±6km, mb3.8/9, Error ellipse: s-maj=4.4km s-min=2.9km az=22.7*
*NEIC **28** 17:40:42.7, 3535N×2704E, h22km, mb3.9/7, ML4.3(ATH), After ATH.*
*ATH **28** 17:40:42.7, 3535N×2704E, h22km±1km, MD4.0/16, ML4.3*
*MOS **28** 17:40:43.2±0.9, 3533N×2699E, h26km, mb4.1/6, Error ellipse: s-maj=10.9km s-min=6.2km az=131.8*
*THE **28** 17:40:45.9, 3525N×2691E, h18km±3km, Error ellipse: s-maj=6.9km s-min=1.3km az=137.0*

ISC 28 17:40:41.7±0.9, 3504N±002×2705E±002, h19km±6km, n154, σ1§05/171, mb3.8/9, 2C-4D, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
KARP	**Karpathos**	**0.51**	**11**	⇓*i*Pb		**Pg**	**17 40 48.3**	**-3.8**
KARP				Sb		**Sg**	**17 40 52.6**	**-6.4**
KARP	**Karpathos**	**0.51**	**11**	⇓*i*PB		**Pg**	**17 40 48.3**	**-3.8**
KARP				SB		**Sg**	**17 40 52.6**	**-6.4**
ZKR	**Zakros**	**0.68**	**276**	P		**Pg**	**17 40 57.5**	**+2.4**
ZKR				S		**Sb**	**17 41 05.8**	**+1.6**
ZKR	**Zakros**	**0.68**	**276**	P		**Pb**	**17 40 54.8**	**-0.3**
ZKR				S		**Sb**	**17 41 05.8**	**+1.6**
NPS	**Neapolis**	**1.20**	**281**	*e*Pn		**Pn**	**17 41 04.3**	**+0.8**
NPS	**Neapolis**	**1.20**	**281**	*e*PN		**Pn**	**17 41 04.3**	**+0.8**
LAST	**Lasithi**	**1.29**	**276**	P		**Pn**	**17 41 06.2**	**+1.4**
LAST				S		**Sn**	**17 41 21.5**	**0.0**
ARG	**Arkhangelos**	**1.46**	**37**	*e*Pn		**Pn**	**17 41 06.3**	**-0.9**
ARG				Sn		**Sn**	**17 41 23.9**	**-1.9**
ARG	**Arkhangelos**	**1.46**	**37**	*e*PN		**Pn**	**17 41 06.3**	**-0.9**
ARG				SN		**Sn**	**17 41 23.9**	**-1.9**
NISR	**Nisiros**	**1.57**	**2**	*e*Pn		**Pn**	**17 41 06.5**	**-2.1**
NISR	**Nisiros**	**1.57**	**2**	*e*PN		**Pn**	**17 41 06.5**	**-2.1**
IDI	**Anoyia**	**1.78**	**278**	Pg		**Pg**	**17 41 14.2**	**-1.9**
	51nm,0.3s,baz=96,slow=15,SNR=322							
IDI				Lg			17 41 41.8	
	40nm,0.3s,baz=330,slow=16,SNR=4.6							
SIVA	**Sivas**	**1.84**	**270**	P		**Pg**	**17 41 17.7**	**+0.7**
THR1	**Thera Island**	**1.85**	**316**	P		**Pn**	**17 41 12.4**	**-0.1**
THR6	**Thira Island,**	**1.88**	**315**	P		**Pn**	**17 41 12.7**	**-0.1**
THR3	**Thira Island,**	**1.91**	**316**	P		**Pn**	**17 41 13.0**	**-0.3**
THR4	**Thira Island,**	**1.95**	**317**	P		**Pn**	**17 41 14.0**	**+0.2**
BODT	**Bodrum**	**2.02**	**6**	*e*PN		**Pn**	**17 41 13.9**	**-1.0**
DALT	**Dalyan (Mudla)**	**2.15**	**36**	*e*PN		**Pn**	**17 41 16.9**	**+0.3**
DALT				*e*SN		**Sn**	**17 41 45.5**	**+2.7**
YER	**Yerkesik**	**2.31**	**25**	*e*PN		**Pn**	**17 41 18.2**	**-0.7**
MLSB	**Milas**	**2.32**	**15**	*e*PN		**Pn**	**17 41 18.4**	**-0.6**
KSL	**Kastellorizon**	**2.34**	**61**	*e*Pn		**Pn**	**17 41 20.0**	**+0.8**
KSL	**Kastellorizon**	**2.34**	**61**	*e*PN		**Pn**	**17 41 20.0**	**+0.8**
VAM	**Vamos**	**2.36**	**280**	*e*P		**Pb**	**17 41 23.0**	**-0.6**
VAM	**Vamos**	**2.36**	**280**	*e*PB		**Pb**	**17 41 23.0**	**-0.6**
APE	**Apeiranthos**	**2.37**	**329**	P		**Pn**	**17 41 18.9**	**-0.6**
APE				S		**Sn**	**17 41 45.2**	**-2.8**
APE	**Apeiranthos**	**2.37**	**329**	*e*Pb		**Pn**	**17 41 18.5**	**-1.0**
APE				Sn		**Sn**	**17 41 45.1**	**-2.9**
APE	**Apeiranthos**	**2.37**	**329**	*e*PB		**Pn**	**17 41 18.5**	**-1.0**
APE				SN		**Sn**	**17 41 45.1**	**-2.9**
GVD	**Gavdhos**	**2.44**	**266**	*e*Pn		**Pn**	**17 41 24.0**	**+3.4**
GVD	**Gavdhos**	**2.44**	**266**	*e*PN		**Pn**	**17 41 24.0**	**+3.4**
SMG	**Samos**	**2.67**	**356**	*e*Pn		**Pn**	**17 41 22.3**	**-1.4**
SMG				*e*Pb		**Pb**	**17 41 23.0**	**-5.9**
SMG	**Samos**	**2.67**	**356**	*e*PN		**Pn**	**17 41 22.3**	**-1.4**
ELL	**Elmali**	**2.88**	**53**	*e*PN		**Pn**	**17 41 26.5**	**-0.1**
DENT	**Denizli**	**3.14**	**30**	*e*PN		**Pn**	**17 41 30.3**	**+0.1**
BLCB	**Balcova**	**3.33**	**360**	*e*PN		**Pn**	**17 41 32.6**	**-0.3**
IZM	**Izmir**	**3.35**	**3**	*e*PN		**Pn**	**17 41 32.7**	**-0.4**
CHOS	**Chios island**	**3.43**	**347**	P		**Pn**	**17 41 33.3**	**-0.9**
CHOS				S		**Sn**	**17 42 12.0**	**-2.3**
ANTB	**Antalya**	**3.46**	**57**	*e*PN		**Pn**	**17 41 35.4**	**+0.8**
KYTH	**Kithira**	**3.49**	**292**	*e*Pn		**Pn**	**17 41 37.0**	**+2.0**
KYTH	**Kithira**	**3.49**	**292**	*e*PN		**Pn**	**17 41 37.0**	**+2.0**
KULA	**Kula-Manisa**	**3.70**	**20**	*e*PN		**Pn**	**17 41 37.9**	**0.0**
VLI	**Veliai**	**3.73**	**298**	*e*Pn		**Pn**	**17 41 39.5**	**+1.2**
VLI	**Veliai**	**3.73**	**298**	*e*PN		**Pn**	**17 41 39.5**	**+1.2**
BCK	**Bucak**	**3.74**	**49**	*e*PN		**Pn**	**17 41 39.1**	**+0.6**
KHL	**Karahalli**	**3.83**	**31**	*e*PN		**Pn**	**17 41 40.1**	**+0.4**
AKS	**Akhisar**	**3.88**	**9**	*e*PN		**Pn**	**17 41 40.2**	**-0.2**
DID	**Didima**	**3.94**	**310**	P		**Pn**	**17 41 42.2**	**+1.0**
NAIG	**Nisos Aigina**	**3.95**	**314**	*e*Pb		**Pb**	**17 41 44.5**	**-6.2**
NAIG	**Nisos Aigina**	**3.95**	**314**	*e*PB		**Pb**	**17 41 44.5**	**-6.2**
ATH	**Athens Observa**	**3.97**	**318**	*e*Pn		**Pn**	**17 41 42.0**	**+0.4**
ATH	**Athens Observa**	**3.97**	**318**	*e*PN		**Pn**	**17 41 42.0**	**+0.4**
SHUT	**Suhut-Afyon**	**4.49**	**38**	*e*PN		**Pn**	**17 41 49.1**	**+0.3**
ITM	**Ithomi**	**4.66**	**299**	*e*Pn		**Pn**	**17 41 54.8**	**+3.7**
ITM	**Ithomi**	**4.66**	**299**	*e*PN		**Pn**	**17 41 54.8**	**+3.7**
ALT	**Altintas**	**4.69**	**31**	*e*PN		**Pn**	**17 41 51.6**	**0.0**
DST	**Dursunbey**	**4.72**	**15**	*e*PN		**Pn**	**17 41 51.9**	**0.0**
LEF	**Lefka**	**4.79**	**87**	*e*PN		**Pn**	**17 41 52.2**	**-0.7**
HDMB	**Hadim**	**4.81**	**65**	*e*PN		**Pn**	**17 41 53.8**	**+0.7**
CSS	**Prodhromos**	**5.16**	**89**	*e*Pn		**Pn**	**17 41 58.7**	**+0.8**
CSS	**Prodhromos**	**5.16**	**89**	*e*Pn		**Pn**	**17 41 56.3**	**-1.7**
	28nm,0.8s							
CSS				*e*Sn		**Sn**	**17 42 56.4**	**-0.6**
CSS	**Prodhromos**	**5.16**	**89**	*e*Pn		**Pn**	**17 41 56.3**	**-1.7**
	28nm,0.8s							
CSS				*e*Sn		**Sn**	**17 42 56.4**	**-0.6**
KONT	**Konya--Tatoy**	**5.17**	**54**	*e*PN		**Pn**	**17 41 58.8**	**+0.8**
GADA	**Gvkgeada**	**5.22**	**350**	*e*PN		**Pn**	**17 41 58.4**	**-0.4**
LADK	**Ladik-KONYA**	**5.31**	**52**	*e*PN		**Pn**	**17 42 00.5**	**+0.4**
LFK	**Lefkose**	**5.32**	**86**	*e*PN		**Pn**	**17 42 00.7**	**+0.5**
EDK	**Edincik**	**5.33**	**7**	*e*PN		**Pn**	**17 42 00.2**	**-0.1**
KIZT	**Kizilcal**	**5.44**	**44**	*e*PN		**Pn**	**17 42 02.3**	**+0.4**
IKL	**Isikli**	**5.54**	**76**	*e*PN		**Pn**	**17 42 03.7**	**+0.6**
EVR	**Evrytania**	**5.70**	**314**	*e*Pn		**Pn**	**17 42 07.8**	**+2.4**
EVR	**Evrytania**	**5.70**	**314**	*e*PN		**Pn**	**17 42 07.8**	**+2.4**
YLV	**Yalova**	**5.81**	**18**	*e*PN		**Pn**	**17 42 08.8**	**+1.9**
EREN	**Erenkoy**	**5.85**	**83**	*e*PN		**Pn**	**17 42 07.6**	**+0.2**
GULT	**Gulveren**	**6.04**	**26**	*e*PN		**Pn**	**17 42 11.3**	**+1.2**
MERS	**Mersin**	**6.33**	**71**	*e*PN		**Pn**	**17 42 15.2**	**+1.2**
HSAF	**As Saff**	**6.62**	**144**	P		**Pn**	**17 42 17.7**	**-0.3**
GLL	**Jalalah**	**6.73**	**143**	⇑*e*P		**Pn**	**17 42 19.2**	**-0.3**
AMAG	**Maghara**	**6.79**	**129**	P		**Pn**	**17 42 19.6**	**-0.8**
AMAG				S		**Sn**	**17 43 36.2**	**-1.0**
EDRB	**Edirne**	**6.80**	**358**	*e*PN		**Pn**	**17 42 21.0**	**+0.6**
KARA	**Karaisali**	**6.85**	**69**	*e*PN		**Pn**	**17 42 21.3**	**+0.2**
KAMT	**Kaman**	**6.85**	**49**	*e*PN		**Pn**	**17 42 22.0**	**+0.8**
RSH		**6.93**	**124**	P		**Pn**	**17 42 20.2**	**-2.1**
BR131	**Keskin Array S**	**7.03**	**46**	*e*Pn		**Pn**	**17 42 24.6**	**+1.0**
	2.5nm,0.6s							
MMAI	**Mount Meron Ar**	**7.23**	**104**	Pn		**Pn**	**17 42 26.1**	**-0.2**
	2.9nm,0.3s,baz=311,slow=12,SNR=9.7							
MMAI				Sn		**Sn**	**17 43 48.7**	**+0.8**
	2.9nm,0.3s,baz=305,slow=28,SNR=4.7							
HRSH	**Kfar Ka'horesh**	**7.24**	**107**	⇓P		**Pn**	**17 42 20.2**	**-6.3**
HFRF	**Wahat Farafira**	**7.95**	**172**	P		**Pn**	**17 42 36.6**	**+0.4**
EIL	**Elat**	**8.57**	**127**	Pn		**Pn**	**17 42 46.0**	**+1.2**
	0.2nm,0.3s,baz=8.8,slow=16,SNR=4.9							
EIL				Sn		**Sn**	**17 44 19.1**	**-1.8**
	1.0nm,0.3s,baz=6.2,slow=17,SNR=4.6							
ASF	**Jabal al Asfar**	**8.70**	**106**	Pn		**Pn**	**17 42 52.0**	**+5.4**
	0.3nm,0.3s,baz=272,slow=13,SNR=2.9							
ASF				Sn		**Sn**	**17 44 24.4**	**+0.2**
	0.5nm,0.3s,baz=71,slow=23,SNR=4.0							
ASF	**Jabal al Asfar**	**8.70**	**106**	P		**Pn**	**17 42 52.0**	**+5.4**
ASF							17 44 24.4	
ASF				smax				
	comp=N,1.0nm,0.3s							
ASF	**Jabal al Asfar**	**8.70**	**106**	S		**Sn**	**17 44 24.4**	**+0.2**
TR2		**8.74**	**138**	⇓P		**Pn**	**17 42 45.8**	**-1.4**
HKAT	**Jabal Katrina**	**8.79**	**136**	P		**Pn**	**17 42 47.0**	**-0.8**
TIP	**Timpagrande**	**9.19**	**300**	*e*Pn		**Pn**	**17 42 47.5**	**-5.8**
	comp=N,8.4nm,0.8s							
HDK1	**Dakhla**	**9.69**	**167**	P		**Pn**	**17 42 59.7**	**-0.4**
CUC	**Castrocucco**	**10.19**	**302**	*e*Pn		**Pn**	**17 43 06.9**	**-0.1**
	comp=N,15nm,0.8s							
CUC	**Castrocucco**	**10.19**	**302**	*e*Pn		**Pn**	**17 43 07.0**	**-0.1**
	comp=N,15nm,0.8s							
HSFG		**10.31**	**143**	⇑*e*P		**Pn**	**17 43 07.9**	**-0.8**
KEST	**Kesra**	**14.46**	**278**	Pn		**Pn**	**17 44 09.8**	**+4.5**
	comp=N,0.0nm,0.3s,baz=42,slow=12,SNR=2.7							
GNI	**Garni**	**14.92**	**65**	LR		LR	17 50 04.9	
	comp=N,28nm,18.3s,baz=0.3,slow=38							
KWP	**Kalwaria**	**14.92**	**349**	*e*P		**Pn**	**17 44 10.1**	**-1.5**
KWP				pmax		pmax		
	comp=Z,52nn,0.4s							
KWP	**Kalwaria**	**14.92**	**349**	*e*P		**Pn**	**17 44 10.1**	**-1.5**
	comp=Z,52nn,0.4s							
KWP	**Kalwaria**	**14.92**	**349**	*e*Pn		**Pn**	**17 44 10.1**	**-1.4**
	comp=Z,52nn,0.4s							
AKASG	**Malin Array Be**	**15.73**	**5**	Pn		**Pn**	**17 44 21.7**	**-0.5**
	comp=Z,0.5nm,0.3s,baz=194,slow=12,SNR=3.8							
AKASG	**Malin Array Be**	**15.73**	**5**	P		**Pn**	**17 44 21.7**	**-0.4**
AKASG				pmax		pmax		
	comp=Z,1.0nm,0.3s							
PGF	**Pioggiola**	**15.92**	**303**	*e*P		**Pn**	**17 44 24.1**	**-0.6**
	comp=Z,17nm,0.8s							
PGF	**Pioggiola**	**15.92**	**303**	*e*P		**Pn**	**17 44 24.1**	**-0.6**
PGF				pmax		pmax		
	comp=Z,8.0nm,0.8s							
PGF	**Pioggiola**	**15.92**	**303**	*e*P		**Pn**	**17 44 24.1**	**-0.6**
	comp=Z,8.4nm,0.8s							
OJC	**Ojcow**	**16.06**	**343**	*e*P		**Pn**	**17 44 28.4**	**+2.0**
GERES	**GERESS Array B**	**16.95**	**328**	Pn		**Pn**	**17 44 38.1**	**+0.3**
	comp=Z,0.1nm,0.3s,baz=165,slow=19,SNR=6.4							
KHC	**Kasperske Hory**	**17.23**	**329**	*e*P		**Pn**	**17 44 44.0**	**+2.8**
SBF	**Sospel**	**17.49**	**306**	*e*P		**Pn**	**17 44 43.8**	**-0.7**
	comp=Z,20nm,0.8s							
SBF	**Sospel**	**17.49**	**306**	*e*P		**Pn**	**17 44 43.8**	**-0.7**
SBF				pmax		pmax		
	comp=Z,10.0nm,0.8s							
SBF	**Sospel**	**17.49**	**306**	*e*P		**Pn**	**17 44 43.8**	**-0.7**
	comp=Z,9.9nm,0.8s							
FRF	**La Foret Royal**	**17.90**	**304**	*e*P		**Pn**	**17 44 48.6**	**-1.0**
	comp=Z,12nm,0.9s							
FRF	**La Foret Royal**	**17.90**	**304**	*e*P		**Pn**	**17 44 48.6**	**-1.0**
FRF				pmax		pmax		
	comp=Z,6.0nm,0.9s							
FRF	**La Foret Royal**	**17.90**	**304**	*e*P		**Pn**	**17 44 48.6**	**-1.0**
	comp=Z,5.9nm,0.9s							
MBDF	**Montbardon**	**18.28**	**308**	*e*P		**Pn**	**17 44 53.5**	**-0.7**
	comp=Z,10nm,0.9s							
MBDF	**Montbardon**	**18.28**	**308**	*e*P		**Pn**	**17 44 53.5**	**-0.7**
MBDF				pmax		pmax		
	comp=Z,5.0nm,0.9s							
MBDF	**Montbardon**	**18.28**	**308**	*e*P		**Pn**	**17 44 53.5**	**-0.7**
	comp=Z,5.2nm,0.9s							
LPG	**La Plagne**	**18.63**	**310**	*e*P		**Pn**	**17 44 58.5**	**0.0**
	comp=Z,6.8nm,0.8s							
LPG	**La Plagne**	**18.63**	**310**	*e*P		**Pn**	**17 44 58.5**	**0.0**
LPG				pmax		pmax		
	comp=Z,3.0nm,0.8s							
LPG	**La Plagne**	**18.63**	**310**	*e*P		**Pn**	**17 44 58.5**	**0.0**
	comp=Z,3.4nm,0.8s							
LPL	**La Plagne**	**18.65**	**310**	*e*P		**Pn**	**17 44 58.5**	**-0.2**
CABF	**La Chapelle**	**19.56**	**313**	*e*P		**Pn**	**17 45 07.6**	**-2.0**
	comp=Z,14nm,0.8s							
CABF	**La Chapelle**	**19.56**	**313**	*e*P		**Pn**	**17 45 07.6**	**-2.0**
CABF				pmax		pmax		
	comp=Z,7.0nm,0.8s							
CABF	**La Chapelle**	**19.56**	**313**	*e*P		**Pn**	**17 45 07.6**	**-2.0**
	comp=Z,7.2nm,0.8s							
HINF	**Hinteralfeld**	**19.73**	**316**	*e*P		**Pn**	**17 45 10.3**	**-1.4**
CDF	**Champ du Feu**	**19.83**	**318**	*e*P		**Pn**	**17 45 11.5**	**-1.3**
SMF	**Signal de Mont**	**20.95**	**311**	*e*P		**P**	**17 45 22.4**	**-1.0**
AVF	**Avril sur Loir**	**21.32**	**311**	*e*P		**P**	**17 45 27.6**	**+0.2**
SSF	**Saint Saulge**	**21.34**	**311**	*e*P		**P**	**17 45 27.0**	**-0.6**
	comp=Z,15nm,0.9s,mb4.0							
SSF	**Saint Saulge**	**21.34**	**311**	*e*P		**P**	**17 45 27.0**	**-0.6**
SSF				pmax		pmax		
	comp=Z,8.0nm,0.9s,mb4.0							
SSF	**Saint Saulge**	**21.34**	**311**	*e*P		**P**	**17 45 27.0**	**-0.6**
	comp=Z,7.7nm,0.9s,mb4.0							
CAF	**Calviac**	**21.46**	**305**	*e*P		**P**	**17 45 28.7**	**-0.2**
BGF	**Bois d'Agland**	**21.54**	**310**	*e*P		**P**	**17 45 29.0**	**-0.8**
BAIF	**Baives**	**22.42**	**319**	*e*P		**P**	**17 45 39.0**	**-0.1**
ESDC	**Sonseca Array**	**25.01**	**290**	P		**P**	**17 46 04.3**	**-0.1**
	comp=Z,0.8nm,0.6s,mb3.5,baz=80,slow=9.4,SNR=5.9							
AKTK	**Aktyubinsk**	**27.21**	**46**	P		**P**	**17 46 26.1**	**+2.0**
	comp=Z,1.0nm,0.6s,mb3.5							
AKTK	**Aktyubinsk**	**27.21**	**46**	P		**P**	**17 46 26.1**	**+1.9**
AKTO	**Aktyubinsk**	**27.21**	**46**	P		**P**	**17 46 26.1**	**+1.9**
	comp=Z,1.4nm,0.6s,mb3.7,baz=239,slow=7.3,SNR=6.3							
AKTO	**Aktyubinsk**	**27.21**	**46**	P		**P**	**17 46 26.1**	**+2.0**
AKTO				pmax		pmax		
	comp=Z,1.0nm,0.6s,mb3.5							
TORD	**Torodi Ar. Bea**	**31.62**	**233**	P		**P**	**17 47 05.2**	**+1.5**
	comp=Z,205nm,0.4s,baz=37,slow=9.0,SNR=2.0							
ARCES	**ARCESS Array B**	**34.56**	**359**	LR		LR	18 03 44.0	
	comp=Z,79nn,18.4s,baz=15,slow=40							
MK31	**Makanchi Array**	**42.55**	**57**	*e*P		**P**	**17 48 36.3**	**+0.2**
MK31	**Makanchi Array**	**42.55**	**57**	*e*P		**P**	**17 48 36.3**	**+0.3**
MKAR	**Makanchi Array**	**42.55**	**57**	P		**P**	**17 48 36.6**	**+0.5**
	comp=Z,1.4nm,0.6s,mb3.9,baz=277,slow=7.5,SNR=21							
MKAR	**Makanchi Array**	**42.55**	**57**	P		**P**	**17 48 36.6**	**+0.5**
MKAR				pmax		pmax		
	comp=Z,1.0nm,0.6s							
ZALV	**Zalesovo Beam**	**43.97**	**46**	P		**P**	**17 48 47.5**	**0.0**
	comp=Z,0.9nm,0.6s,mb3.7,baz=275,slow=7.1,SNR=4.2							
ZALV	**Zalesovo Beam**	**43.97**	**46**	P		**P**	**17 48 47.5**	**0.0**
ZALV				pmax		pmax		
	comp=Z,1.0nm,0.6s,mb3.7							
SONM	**Songino Array**	**58.36**	**51**	P		**P**	**17 50 36.8**	**+1.2**
	comp=Z,0.7nm,0.7s,mb3.8,baz=281,slow=7.3,SNR=4.5							
SONM	**Songino Array**	**58.36**	**51**	P		**P**	**17 50 36.8**	**+1.2**
SONM				pmax		pmax		
	comp=Z,1.0nm,0.7s							
CMAR	**Chiang Mai Arr**	**65.05**	**84**	P		**P**	**17 51 24.6**	**+3.5**
	comp=Z,1.3nm,0.8s,mb4.0,baz=297,slow=8.7,SNR=14							
CMAR	**Chiang Mai Arr**	**65.05**	**84**	P		**P**	**17 51 24.7**	**+3.6**
CMAR				pmax		pmax		
	comp=Z,1.0nm,0.8s							
ULM	**Lac du Bonnet**	**81.26**	**327**	P		**P**	**17 52 56.9**	**+0.4**
	comp=Z,5.9nm,0.9s,mb4.5,baz=11,slow=7.1,SNR=3.1							
ULM	**Lac du Bonnet**	**81.26**	**327**	P		**P**	**17 52 56.8**	**+0.4**

*IDC **28** 17:51:24.5±1.3, 107N×97.11E, h0km, mb4.1/9, mb1 4.2/10, mb1mx4.0/21, mbtmp4.1/10, ML4.2/1, MS3.5/3, Ms1 3.5/3, ms1mx3.1/28, Error ellipse: s-maj=40.5km s-min=19.6km az=46.0*

*BJI **28** 17:51:26.4, 090N×9745E, h33km, mB5.2, mb4.8*
*DJA **28** 17:51:28, 1.14N×97.01E, h19km, MLv4.2/5*
*ISCJB **28** 17:51:30.5±1.3, 1.14N±009×973E±01, h55km±9km, mb4.4/23, MS3.5/3, Error ellipse: s-maj=22.4km s-min=9.6km az=144.5*
*NEIC **28** 17:51:30.4±0.7, 120N×9743E, h35km, mb4.7/12, Error ellipse: s-maj=21.6km s-min=8.6km az=51.0*

ISC 28 17:51:31.9±1.4, 114N±009×973E±01, h50km±10km, n39, σ1§09/38, mb4.4/23, MS3.5/3, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
GSI	**Gunungsitoli**	**0.36**	**62**	P		**Pn**	**17 51 39.9**	**-1.7**
GSI	**Gunungsitoli**	**0.36**	**62**	S		**Sn**	**17 51 49.1**	**+0.6**
TRSI	**Tarutung**	**1.92**	**63**	P		**Pn**	**17 52 03.5**	**+1.4**
TSI	**Tuntungan**	**2.69**	**29**	P		**Pn**	**17 52 12.3**	**-0.4**
PPI	**Padang Panjang**	**3.52**	**117**	P		**Pn**	**17 52 24.8**	**+0.8**
PDSI	**Padang**	**3.79**	**122**	P		**Pn**	**17 52 28.8**	**+0.9**
BSI	**Banda Aceh**	**4.75**	**336**	P		**Pn**	**17 52 37.6**	**-3.5**
IPM	**Ipoh**	**5.02**	**48**	P		**Pn**	**17 52 44.9**	**+0.2**
CMAR	**Chiang Mai Arr**	**17.29**	**5**	P		**Pn**	**17 55 27.4**	**-2.5**
	0.3nm,0.3s,baz=197,slow=11,SNR=18							
CHTO	**Chiang Mai**	**17.65**	**5**	*e*P		**Pn**	**17 55 31.7**	**-2.5**
	2.2nm,0.7s							
KAPI	**Kappang**	**23.29**	**105**	P		**P**	**17 56 34.3**	**-1.4**
	3.8nm,0.9s,mb3.8,baz=273,slow=19,SNR=2.9							
KMI	**Kunming**	**24.43**	**12**	P		**P**	**17 56 47.0**	**+1.1**
KMI				AP			17 56 53.5	
KMI				AMB		AMB		
	comp=Z,17nm,1.5s,mb4.2							
ODAN	**Odare**	**27.28**	**340**	*e*P		**P**	**17 57 12.8**	**+1.1**
	comp=Z,18nm,0.7s,mb4.7							
TAPN	**Taplejung**	**27.63**	**341**	*e*P		**P**	**17 57 16.2**	**+1.4**
	comp=Z,41nm,0.8s,mb5.1							
RAMN	**Ramite**	**27.63**	**339**	*e*P		**P**	**17 57 15.9**	**+1.0**
	comp=Z,7.4nm,0.6s,mb4.5							
JIRN	**Jiri**	**28.43**	**339**	*e*P		**P**	**17 57 22.8**	**+0.8**
	comp=Z,17nm,0.8s,mb4.7							
BATI	**Baumata**	**28.59**	**114**	LR		LR	18 11 49.0	
	comp=Z,124nm,18.1s,MS3.5,baz=142,slow=43							
GUN	**Gumba**	**28.77**	**339**	*e*P		**P**	**17 57 26.0**	**+1.0**
	comp=Z,24nm,0.7s,mb5.0							
DMN	**Daman**	**28.79**	**337**	*e*P		**P**	**17 57 26.3**	**+1.1**
KKN	**Kakani**	**28.88**	**338**	*e*P		**P**	**17 57 26.6**	**+0.6**
LSA	**Lhasa**	**29.00**	**349**	*e*P		**P**	**17 57 26.7**	**-0.3**
	comp=Z,19nm,0.7s,mb4.9							
**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
OBIP	Obispado Ponce	2.20	242⇑	eP	Pn	18 23 21.9	+0.8
AOPR	Arecibo Observ	2.21	251⇑	eP	Pn	18 23 20.9	-0.2
AOPR				eS	Sn	18 23 48.6	+0.7
AOPR	Arecibo Observ	2.21	251⇑	eP	Pn	18 23 20.9	-0.2
AOPR				eS	Sn	18 23 48.1	+0.2
ICM	Isla Caja Muer	2.21	238⇑	eP	Pn	18 23 20.9	-0.2
AGPR	Aguadilla, PR	2.50	256⇑	eP	Pn	18 23 24.1	-0.8
AGPR				eS	Sn	18 23 54.6	-0.1
CRPR	Cabo Rojo, PR	2.65	246⇑	eP	Pn	18 23 27.1	+0.1
CRPR	Cabo Rojo, PR	2.65	246⇑	eP	Pn	18 23 27.8	+0.8
CRPR				eS	Sn	18 23 58.2	-0.1
CRPR	Cabo Rojo, PR	2.65	246⇑	eP	Pn	18 23 27.1	+0.1
CRPR				eS	Sn	18 23 58.2	-0.1

*ISK **28** 18:23:32.9, 3886N×27.15E, h4^{km}, MD2.8*
*CSEM **28** 18:23:32.9±0.1, 3887N×27.16E, h10^{km}, MD2.8, Error ellipse: s-maj=1.3km s-min=1.0km az=95.0*
*ISCJB **28** 18:23:33.6±0.8, 3887N±003×27.16E±005, h7^{km}±8^{km}, Error ellipse: s-maj=7.2km s-min=4.6km az=41.2*
*DDA **28** 18:23:34.1, 3885N×2720E, h6^{km}±2^{km}, Md2.7*
ISC 28 18:23:34.2±0.7**, 3886N**±004×**2717E**±005**, h13**^{km}±7^{km}**, n11,** σ**0^{s}63**/19**, Turkey**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
IZM	Izmir	0.47	171	ePG	Pg	18 23 42.8	-0.7
IZM				eSG	Sg	18 23 49.8	+0.1
BLCB	Balcova	0.49	192	ePG	Pg	18 23 42.8	-1.0
BLCB				eSG	Sg	18 23 50.2	0.0
AKS	Akhisar	0.50	88	ePG	Pg	18 23 43.5	-0.5
AKS				eSG	Sg	18 23 51.3	+0.6
AKHS	Akhisar	0.50	88	eP	Pg	18 23 43.7	-0.3
AKHS				eS	Sg	18 23 51.2	+0.5
URLA	Izmir	0.68	222	eP	Pg	18 23 47.1	-0.3
URLA				eS	Sg	18 23 58.0	+1.8
BALY	Balya	0.94	22	eP	Pb	18 23 52.2	-0.2
BALY				eS	Sb	18 24 05.6	+0.8
GCAM	G?zelcaml?	1.16	178	eP	Pn	18 23 55.4	-0.7
GCAM				eS	Sb	18 24 11.8	+0.7
EZN	Ezine	1.16	326	ePN	Pn	18 23 55.6	-0.5
EZN				eSN	Sn	18 24 12.2	+0.3
KULA	Kula-Manisa	1.22	106	ePN	Pn	18 23 56.8	-0.1
DST	Dursunbey	1.35	56	ePN	Pn	18 23 58.8	+0.1
GADA	Gvkgeada	1.65	324	ePN	Pn	18 24 02.5	-0.4

*ISCJB **28** 18:25:11.5±0.7, 6191S±007×1554E±02, h10^{km}, mb4.5/7, MS4.1/12, Error ellipse: s-maj=16.1km s-min=10.3km az=14.5*
*GCMT **28** 18:25:12.6±0.2, 6194S×15452E, h12^{km}, MW5.1/72, Moment Tensor Solution. s39,c47; s72,c119; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-0.46±.14; $M_{\theta\theta}$4.24±.10; $M_{\phi\phi}$-3.78±.14; $M_{r\theta}$-2.20±.33; $M_{\theta\phi}$-3.04±.11; $M_{\phi r}$0.71±.37; Best double couple: $M_0$5.44100×10^{16} NP1:ϕ_s335.00000°, δ76.00000°, λ14.00000°. NP2: ϕ_s242.00000°, δ77.00000°, λ166.00000°. Principal axes: T 6.0790, Plg19.0000°, Azm199.0000°; N -1.2740, Plg71.0000°, Azm20.0000°; P -4.8020, Plg0.0000°, Azm289.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **28** 18:25:12.6±0.8, 6196S×15584E, h10^{km}, mb4.8/6 Error ellipse: s-maj=28.6km s-min=11.0km az=85.0*
*IDC **28** 18:25:15.1±1.4, 6183S×15400E, h0^{km}, mb4.3/3, mb1 4.4/3, mb1mx4.2/10, mbtmp4.3/3, MS4.1/12, Ms1 4.1/12, ms1mx4.1/14, Error ellipse: s-maj=61.2km s-min=25.2km az=97.0*
ISC 28 18:25:14.0±0.7**, 6192S**±008×**1549E**±02**, h10**^{km}**, (h10**^{km}±.4^{km}**:pP-P), n39,** σ**0^{s}74**/19**, mb4.5**/7**, MS4.1**/12**, Balleny Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SBA	Scott Base	16.45	171	ePn	Pn	18 28 60.0	-4.5
	90nm,1.3s						
CASY	Casey	19.50	238	eP	Pn	18 29 43.7	+1.6
CASY				eS	Sn	18 33 19.9	-0.7
CASY	Casey	19.50	238	eP	Pn	18 29 42.3	+0.2
CASY				eP		18 29 43.7	
CASY				eS	Sn	18 33 19.9	-0.7
RPZ	Rata Peaks	20.59	35	LR	LR	18 36 13.8	
	comp=Z,1μm,20.1s,MS4.3,baz=179,slow=32						
URZ	Urewera	27.38	40	LR	LR	18 41 34.7	
	comp=Z,591nm,18.3s,MS4.2,baz=333,slow=36						
QSPA	South Pole Qui	28.17	180	LR	LR	18 41 47.7	
	comp=Z,855nm,21.4s,MS4.3,baz=15,slow=35						
QSPA	South Pole Qui	28.17	180	eP	P	18 31 05.5	-0.3
	23nm,1.0s,mb4.8						
STKA	Stephens Creek	31.26	338	LR	LR	18 42 20.6	
	comp=Z,274nm,18.3s,MS4.0,baz=346,slow=33						
MAW	Mawson	36.15	220	eP	P	18 32 16.1	+0.3
	8.4nm,1.1s,mb4.6						
MAW	Mawson	36.15	220	P	P	18 32 17.4	+1.6
	9.9nm,1.0s,mb4.7,baz=124,slow=11,SNR=13						
MAW				LR	LR	18 47 10.8	
	comp=Z,1μm,18.6s,MS4.6,baz=114,slow=37						
MAW	Mawson	36.15	220	eP	P	18 32 15.9	+0.1
	23nm,1.2s,mb5.0						
NWAO	Narrogin (SRO)	37.64	303	LR	LR	18 42 33.9	
	comp=Z,105nm,21.4s,MS3.6,baz=126,slow=28						
ASAR	Alice Springs	40.81	330	P	P	18 32 55.9	+0.5
	3.5nm,0.9s,mb4.0,baz=165,slow=8.3,SNR=14						
CTA	Charters Tower	42.22	348	P	P	18 33 07.5	+0.5
	2.5nm,0.7s,mb4.0,baz=164,slow=8.9,SNR=2.9						
WRAB	Tennant Creek	44.31	332	eP	P	18 33 23.8	0.0
	9.7nm,1.3s,mb4.4						
SNAA	Sanae	45.80	190	e	P	18 33 35.6	+0.5
SNAA				e	pP	18 33 38.3	+0.1
SNAA	Sanae	45.80	190	eP	P	18 33 34.9	-0.2
	21nm,1.3s,mb4.9						
VNA3	Neumayer Olymp	46.68	187	e	P	18 33 42.2	+0.1
VNA3				e	pP	18 33 44.7	-0.5
VNA2	Neumayer--Watz	46.86	188	e	P	18 33 44.0	+0.6
	baz=160,slow=7.6						
VNA2				e	pP	18 33 46.6	0.0
VNA1	Neumayer--Stat	47.18	188	e	P	18 33 45.1	-0.9
VNA1				e	pP	18 33 48.2	-0.9
KAKA	Kakadu	51.72	332	eP	P	18 34 14.3	-7.0
PMG	Port Moresby	52.72	350	eP	P	18 34 27.1	-1.5
	5.3nm,0.8s,mb4.5						
TBI	Tubuai	53.68	70	eLQ		18 47 08.1	
	433nm,28.5s						
TBI				eLR	LR	18 49 37.9	
	219nm,29.0s						
TBI	Tubuai	53.68	70	eT		19 31 59.0	
	38nm,0.3s						
PPT	Papeete	58.70	67	eLQ		18 49 51.0	
	366nm,25.0s						
PPT				eLR	LR	18 52 24.6	
	292nm,26.8s,baz=222						
PPT	Papeete	58.70	67	LR	LR	18 56 13.7	
	comp=Z,102nm,18.5s,MS4.0,baz=194,slow=32						
RKT	Rikitea	60.55	84	eLR	LR	18 53 07.2	
	252nm,28.8s						
RKT	Rikitea	60.55	84	eT		19 40 49.4	
	7.8nm,0.3s						
VAH	Vaihoa	61.62	68	eT		19 41 50.3	
	54nm,0.3s						
GUMO	Guam	75.67	350	LR	LR	19 09 23.8	
	comp=Z,72nm,19.8s,MS4.0,baz=196,slow=35						
BOSA	Boshof	81.11	223	LR	LR	19 09 12.9	
	comp=Z,145nm,18.5s,MS4.4,baz=157,slow=33						
CMAR	Chiang Mai Arr	91.46	308	LR	LR	19 20 53.3	
	comp=Z,72nm,18.7s,MS4.1,baz=157,slow=37						
LPAZ	La Paz	94.99	139	LR	LR	19 14 29.6	
	comp=Z,44nm,19.3s,MS3.9,baz=138,slow=31						
MJAR	Matsushiro Arr	99.04	346	LR	LR	19 22 09.1	
	comp=Z,65nm,21.7s,MS4.1,baz=110,slow=34						
PDAR	Pinedale Array	129.05	71	PKP	PKPdf	18 44 25.7	+4.7
	0.6nm,1.1s,baz=243,slow=1.6,SNR=3.1						
AKASG	Malin Array Be	148.78	274	PKPbc	PKPbc	18 45 03.5	+3.2
	0.2nm,0.3s,baz=119,slow=3.1,SNR=2.8						
AKASG	Malin Array Be	148.78	274	PKPbc	PKPbc	18 45 03.5	+3.2
KWP	Kalwaria	151.13	267	ePKPbc	PKPbc	18 45 06.4	+0.3
ESDC	Sonseca Array	154.25	220	PKPbc	PKPbc	18 45 13.7	+0.4
	0.4nm,0.7s,baz=162,slow=2.8,SNR=4.0						
ESDC				PKPab	PKPab	18 45 27.3	0.0
	1.2nm,0.8s,baz=173,slow=2.0,SNR=6.3						

*DDA **28** 18:28:54.0, 3702N×2828E, h7^{km}±2^{km}, Md2.9*
*ISCJB **28** 18:28:54.7±0.5, 3702N±003×2822E±003, h4^{km}±4^{km}, Error ellipse: s-maj=5.9km s-min=3.8km az=12.8*
*CSEM **28** 18:28:55.5±0.1, 37.16N×2820E, h7^{km}±1^{km}, MD3.1, Error ellipse: s-maj=2.9km s-min=1.4km az=1.0*
*ISK **28** 18:28:55.5, 37.16N×28.19E, h7^{km}, MD3.1*
*NEIC **28** 18:28:56.6, 3694N×2802E, h15^{km}, MD2.8(ATH), After ATH.*
*ATH **28** 18:28:56.6, 3694N×2802E, h15^{km}±1^{km}*
ISC 28 18:28:55.3±0.5**, 3703N**±004×**2823E**±003**, h8**^{km}±4^{km}**, n34,** σ**1^{s}11**/44**, 2C-3D, Turkey**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
YER	Yerkesik	0.11	23	PG	Pg	18 28 57.3	-0.6
YER				SG	Sg	18 28 59.6	0.0
TURN	Turunc	0.34	117⇓	iP	Pg	18 29 00.3	-1.6
TURN				iS	Sg	18 29 04.6	-1.8
MLSB	Milas	0.45	307	ePG	Pg	18 29 03.3	-0.7
BDRM	Kayabasi	0.63	274⇑	iP	Pg	18 29 07.2	-0.1
BDRM				iS	Sg	18 29 16.7	+1.2
BDRM	Kayabasi	0.63	274	iP	Pg	18 29 07.2	-0.2
BDRM				iS	Sg	18 29 16.7	+1.1
AYDN	Tasoluk	0.69	336⇑	iP	Pg	18 29 08.3	-0.2
AYDN				iS	Sg	18 29 17.9	+0.3
BODT	Bodrum	0.73	273	ePG	Pg	18 29 09.5	+0.1
BODT				eSG	Sg	18 29 20.2	+1.2
ARG	Arkhangelos	0.82	186	ePn	Pn	18 29 10.5	-2.6
ARG	Arkhangelos	0.82	186	ePN	Pn	18 29 10.5	-2.6
DENT	Denizli	0.97	41	ePG	Pg	18 29 13.4	-0.4
GCAM	G?zelcaml?	1.04	311	eP	Pg	18 29 14.9	-0.3
GCAM				eS	Sg	18 29 30.1	+1.4
GOLH	Golhisar	1.09	79	eP	Pg	18 29 18.0	+1.8
GOLH				eS	Sg	18 29 36.6	+6.3
SMG	Samos	1.30	302	ePn	Pn	18 29 19.7	-0.1
SMG				eSn	Sn	18 29 36.3	-1.0
SMG	Samos	1.30	302	ePN	Pn	18 29 19.7	-0.1
SMG				eSN	Sn	18 29 36.3	-1.0
ELL	Elmali	1.38	101	ePN	Pn	18 29 22.7	+1.8
KULA	Kula-Manisa	1.52	13	ePN	Pn	18 29 22.2	-0.6
IZM	Izmir	1.56	331	ePN	Pn	18 29 22.4	-1.0
BLCB	Balcova	1.65	326	ePN	Pn	18 29 23.8	-0.8
KHL	Karahalli	1.65	38	ePN	Pn	18 29 24.5	-0.1
KARP	Karpathos	1.71	211⇓	iPn	Pn	18 29 25.8	+0.4
KARP	Karpathos	1.71	211⇓	iPN	Pn	18 29 25.8	+0.4
AKS	Akhisar	1.88	350	ePN	Pn	18 29 26.9	-0.8
BCK	Bucak	1.93	76	ePN	Pn	18 29 29.9	+1.4
ANTB	Antalya	1.95	93	ePN	Pn	18 29 30.9	+2.2
APE	Apeiranthos	2.16	272	ePn	Pn	18 29 32.1	+0.5
APE	Apeiranthos	2.16	272	ePN	Pn	18 29 32.1	+0.5
ALT	Altintas	2.51	36	ePN	Pn	18 29 36.4	0.0
HDMB	Hadim	3.41	90	ePN	Pn	18 29 51.2	+2.4
EVR	Evrytania	5.41	292	ePb	Pg	18 30 48.5	+10
EVR	Evrytania	5.41	292	ePB	Pg	18 30 48.5	+10
JAN	Janina	6.36	297	ePg	Pn	18 30 28.0	-1.4
JAN	Janina	6.36	297	ePG	Pn	18 30 28.0	-1.4
KEK	Kerkira	7.14	295	ePb	Pn	18 30 39.5	-0.6
KEK	Kerkira	7.14	295	ePB	Pn	18 30 39.5	-0.6

GUC 28 18:35:46.8±0.8**, 3456S**×**7200W, h15**^{km}±568^{km}**, MD3.5, ML3.4, 8C-6D, Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
LNV	Longovilo	0.78	39⇑	iP	Pg	18 36 01.1	-0.8
LNV				iS	Sg	18 36 11.2	-0.9
SFDO	San Fernando	0.81	94⇑	iP	Pg	18 36 01.6	-1.0
SFDO				iS	Sg	18 36 12.8	-0.5
CACH	El Canelo	1.24	69	eP	Pn	18 36 09.0	-0.5
CACH				iS	Sb	18 36 25.3	-0.4
TACH	Talagante	1.26	44⇓	iP	Pn	18 36 08.4	-1.5
TACH				iS	Sb	18 36 25.7	-0.7
CHCH	Chadas Angostu	1.28	61⇓	iP	Pn	18 36 09.3	-0.8
CHCH				iS	Sb	18 36 25.6	-1.1
LNCH	Linares	1.32	166	iP	Pn	18 36 09.3	-1.4
LNCH				iS	Sn	18 36 26.8	-1.3
LNCH				AML	AML	18 36 34.8	
	comp=E,942nm,0.5s						
CICH	Cipreses	1.32	80⇓	iP	Pn	18 36 10.0	-0.8
CICH				iS	Sn	18 36 27.6	-0.5
RCDM	Rinconada Maip	1.46	43⇓	iP	Pn	18 36 11.7	-0.9
RCDM				iS	Sn	18 36 30.1	-1.3
RCDM				AML	AML	18 36 34.0	
	comp=E,1μm,0.1s						
ANTU	Antumapu	1.50	49⇑	iP	Pn	18 36 12.7	-0.5
ANTU				iS	Sn	18 36 32.1	-0.5
ANTU				AML	AML	18 36 33.9	
	comp=E,1μm,0.4s						
PCH	Pirque	1.55	53⇑	iP	Pn	18 36 13.4	-0.4
PCH				iS	Sn	18 36 33.2	-0.4
SJCH	San Jose de Ma	1.64	56⇑	iP	Pn	18 36 14.1	-1.0
SJCH				iS	Sn	18 36 35.5	-0.5
SJCH				AML	AML	18 36 40.4	
	comp=N,749nm,0.3s						
LMEL	Las Melosas	1.65	65	eP	Pn	18 36 15.4	+0.2
LMEL				iS	Sn	18 36 37.1	+1.0
LMEL				AML	AML	18 36 38.4	
	comp=N,2μm,0.3s						
CLCH	Cerro Calan	1.68	47⇑	iP	Pn	18 36 15.6	-0.1
CLCH				iS	Sn	18 36 36.9	0.0
CLCH				AML	AML	18 36 42.4	
	comp=N,921nm,0.5s						
COCH	Cobquecura	1.69	202	iP	Pn	18 36 14.2	-1.6
COCH				iS	Sn	18 36 36.0	-1.3
COCH				AML	AML	18 36 43.5	
	comp=E,143nm,0.5s						
PEL	Peldehue	1.79	38⇓	iP	Pn	18 36 17.1	0.0
PEL				iS	Sn	18 36 40.2	+0.7
PEL				AML	AML	18 36 41.5	
	comp=E,1μm,0.4s						
YECH	El Yeso	1.82	61⇑	iP	Pn	18 36 18.3	+0.7
YECH				iS	Sn	18 36 42.3	+1.9
YECH				AML	AML	18 36 43.9	
	comp=N,641nm,0.5s						
FCH	Farellones	1.88	50⇓	iP	Pn	18 36 18.5	+0.1
FCH				iS	Sn	18 36 42.9	+1.1
FCH				AML	AML	18 36 47.2	
	comp=N,588nm,0.2s						
CCHI	Chillan	2.04	182⇑	iP	Pn	18 36 20.5	0.0
CCHI				iS	Sn	18 36 46.9	+1.2
CCHI				AML	AML	18 36 53.6	
	comp=N,304nm,0.2s						

*ISCJB **28** 18:36:02.8±0.5, 3786N±002×2961E±003, h10^{km}±4^{km}, Error ellipse: s-maj=4.0km s-min=3.2km az=136.5*
*CSEM **28** 18:36:02.1±0.1, 3787N×2961E, h10^{km}, MD3.6, Error ellipse: s-maj=1.4km s-min=1.1km az=38.0*
*ISK **28** 18:36:02.7, 3787N×2960E, h16^{km}, MD3.6, ML3.5*
*DDA **28** 18:36:03.3, 3789N×2957E, h7^{km}±6^{km}, Md3.7*
ISC 28 18:36:03.6±0.4**, 3786N**±002×**2958E**±003**, h12**^{km}±3^{km}**, n56,** σ**0^{s}72**/68**, 8C-1D, Turkey**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
DENT	Denizli	0.45	257	PG	Pg	18 36 12.6	+0.1
KHL	Karahalli	0.47	354	PG	Pg	18 36 12.1	-0.8
KHAL	Karahalli	0.52	352⇑	iP	Pg	18 36 13.0	-0.8
KHAL				iS	Sg	18 36 20.6	-0.1
TKTP	Tekketepe	0.61	72⇑	iP	Pg	18 36 15.0	-0.5
TKTP				iS	Sg	18 36 26.2	+2.6
GOLH	Golhisar	0.62	182⇑	iP	Pg	18 36 15.4	-0.3
GOLH				iS	Sg	18 36 26.1	+2.3
BCK	Bucak	0.89	116	ePG	Pg	18 36 20.5	-0.3
BCK				eSG	Sg	18 36 32.6	+0.2
KULA	Kula-Manisa	0.98	312	ePG	Pg	18 36 21.9	-0.7
KULA				eSG	Sg	18 36 36.3	+1.0
MANT	Manisa	1.03	308⇑	iP	Pb	18 36 22.9	-0.5
MANT				iS	Sb	18 36 37.6	+0.8
SHUT	Suhut-Afyon	1.03	47	ePG	Pg	18 36 22.4	-1.1
SHUT				eSG	Sg	18 36 37.8	+0.8
ELL	Elmali	1.14	167	ePN	Pn	18 36 24.3	-1.0
GDZ	Gediz	1.23	356⇑	iP	Pn	18 36 25.8	-0.9
GDZ				iS	Sb	18 36 44.1	+1.4
YER	Yerkesik	1.26	236	ePN	Pn	18 36 27.1	+0.1
ALT	Altintas	1.27	19	ePN	Pn	18 36 26.3	-0.9
ANTB	Antalya	1.28	138	ePN	Pn	18 36 26.2	-1.1
DALT	Dalyan (Mudla)	1.32	215	ePN	Pn	18 36 27.6	-0.3
AYDN	Tasoluk	1.36	262⇑	iP	Pn	18 36 28.5	0.0
AYDN				iS	Sn	18 36 48.3	+1.9
DEMI	Demirci	1.37	330⇑	iP	Pn	18 36 27.8	-0.8
DEMI				iS	Sn	18 36 46.3	-0.3
BOLV	Bolvadin	1.38	51⇑	iP	Pn	18 36 28.4	-0.2
BOLV				iS	Sn	18 36 48.6	+1.8
MLSB	Milas	1.54	249	ePN	Pn	18 36 29.9	-1.0
BDRM	Kayabasi	1.88	246⇓	iP	Pn	18 36 35.6	+0.1
BDRM				iS	Sn	18 37 05.1	+6.0
DST	Dursunbey	1.90	337	ePN	Pn	18 36 35.1	-0.7
IZM	Izmir	1.91	287	ePN	Pn	18 36 36.0	0.0
BODT	Bodrum	1.97	247	ePN	Pn	18 36 36.9	+0.1
BLCB	Balcova	2.07	286	ePN	Pn	18 36 38.1	-0.1
KIZT	Kizilcal	2.08	60	ePN	Pn	18 36 37.9	-0.4
KONT	Konya--Tatoy	2.20	87	ePN	Pn	18 36 39.0	-0.9
LADK	Ladik-KONYA	2.22	80	ePN	Pn	18 36 40.0	-0.3
CAVI	Cavuskoy	2.35	5	ePN	Pn	18 36 41.8	-0.3
HDMB	Hadim	2.48	110	ePN	Pn	18 36 43.6	-0.1
GPA	Golpazari	2.50	13	ePN	Pn	18 36 43.6	-0.4
ADVT	Abdulvahap	2.58	3	ePN	Pn	18 36 45.0	-0.1
GEMT	Gemlik	2.59	353	ePN	Pn	18 36 45.5	+0.1
GULT	Gulveren	2.67	15	ePN	Pn	18 36 45.9	-0.5
YLV	Yalova	2.71	357	ePN	Pn	18 36 47.7	+0.7
BNT	Bandirma	2.81	333	ePN	Pn	18 36 48.0	-0.4
EDC	Edincik	2.83	332	ePN	Pn	18 36 48.2	-0.3
HRT	Hereke	2.96	1	ePN	Pn	18 36 50.3	-0.2
ANTO	Ankara	3.21	50	ePN	Pn	18 36 54.9	+1.0
EZN	Ezine	3.22	309	ePN	Pn	18 36 54.2	+0.3
ISK	Istanbul-Kandi	3.23	353	ePN	Pn	18 36 54.3	+0.2
SILT	Sile	3.29	1	ePN	Pn	18 36 55.6	+0.6
BGKT	Bogazkoy	3.38	350	ePN	Pn	18 36 56.5	+0.3
RKY	Sarkoy-Tekirda	3.39	327	ePN	Pn	18 36 55.9	-0.4
CTT	Catalca	3.41	345	ePN	Pn	18 36 56.9	+0.4
KLYT	Kilyos	3.42	353	ePN	Pn	18 36 57.2	+0.5
CTKS	Kestanelik-??a	3.48	346	ePN	Pn	18 36 57.9	+0.3
SLVT	Silivri	3.53	343	ePN	Pn	18 36 58.3	0.0
IKL	Isikli	3.66	115	ePN	Pn	18 37 00.1	+0.1
IKL	Isikli	3.66	115	ePn	Pn	18 37 00.1	+0.1
GADA	Gvkgeada	3.70	310	ePN	Pn	18 37 01.1	+0.5
CTYL	Yal??k??y-??at	3.75	345	ePN	Pn	18 37 01.5	+0.2
LEF	Lefka	3.81	135	ePN	Pn	18 37 02.0	-0.2
ENEZ	Enez	3.92	318	ePN	Pn	18 37 03.4	-0.2
LFK	Lefkose	4.09	128	ePN	Pn	18 37 06.1	+0.2
EREN	Erenkoy	4.36	121	ePN	Pn	18 37 10.3	+0.7
EDRB	Edirne	4.55	332	ePN	Pn	18 37 12.2	0.0

*ISCJB **28** 18:45:56.4±1.1, 2374N±005×12291E±003, h33^{km}±9^{km}, Error ellipse: s-maj=8.9km s-min=3.3km az=164.5*
*TAP **28** 18:45:56.9, 2375N×12282E, h86^{km}±2^{km}, ML3.0, D*
*JMA **28** 18:45:56.1±0.3, 2376N×12289E, h48^{km}, M1.8*
ISC 28 18:45:56.7±1.0**, 2376N**±005×**12292E**±003**, h30**^{km}±8^{km}**, n24,** σ**0^{s}80**/40**, Taiwan region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
YOJ	Yonaguni jima	0.71	7	P	Pb	18 46 10.0	-0.6
YOJ				eS	Sb	18 46 19.4	-0.6
HATJ	Hateruma jima	0.86	69	P	Pn	18 46 12.3	-0.4
HATJ				eS	Sn	18 46 24.5	+0.2
IRIF	Iriomote-Funau	0.94	52	P	Pn	18 46 13.5	-0.3
IRIF				eS	Sn	18 46 26.5	+0.3
JKRS	Kuro-shima	1.11	64	P	Pn	18 46 15.9	-0.2
JKRS				S	Sn	18 46 30.7	+0.4
TWD	Chiawan	1.25	285	eP	Pn	18 46 17.7	-0.4
	baz=286						
TWD				eS	Sn	18 46 33.0	-0.9
	baz=286						
ENA	Nanau	1.27	302	P	Pn	18 46 18.9	+0.6
	baz=309						
ENA				S	Sn	18 46 35.2	+0.8
	baz=309						
JIJ	Ishigaki jima	1.27	61	P	Pn	18 46 17.8	-0.6
JIJ				eS	Sn	18 46 33.7	-0.7
ESL	Shilin	1.36	273	eP	Pn	18 46 18.8	-0.8
	baz=269						
ESL				eS	Sn	18 46 35.0	-1.6
	baz=269						
EHY	Hungye	1.49	261	eP	Pn	18 46 20.7	-0.6
	baz=257						
EHY				eS	Sn	18 46 38.6	-1.0
	baz=257						
TWE	Neicheng	1.50	310	eP	Pn	18 46 22.5	+1.0
	baz=317						
TWF1	Yuli	1.54	255	eP	Pn	18 46 21.8	-0.3
	baz=252						
TWF1				eS	Sn	18 46 40.4	-0.7
	baz=252						
WHF	Hehuan Shan	1.56	285	eP	Pn	18 46 22.8	+0.5
	baz=286						
WHF				eS	Sn	18 46 41.6	0.0
	baz=286						
NNS	Nan Shan	1.57	296	eP	Pn	18 46 22.6	+0.1
	baz=297						
NNS				eS	Sn	18 46 42.6	+0.8
	baz=297						
ELDTW	Lidau	1.84	253	eP	Pn	18 46 25.9	-0.2
	baz=247						
ELDTW				eS	Sn	18 46 46.5	-1.8
	baz=247						
JTJ	Tarama	1.85	61	P	Pn	18 46 26.4	+0.1
SMLT	Sun Moon Lake	1.85	274	eP	Pn	18 46 26.8	+0.4
	baz=279						
SMLT				eS	Sn	18 46 48.3	-0.4
	baz=279						
TYC	Yuchr	1.90	275	eP	Pn	18 46 27.4	+0.5
	baz=279						
TYC				eS	Sn	18 46 50.0	+0.2
	baz=279						
ALS	Alishan	1.96	263	eP	Pn	18 46 29.0	+1.3
	baz=260						
CHN5	Tsauling	2.06	266	eP	Pn	18 46 30.2	+0.9
	baz=260						
CHN5				eS	Sn	18 46 54.4	+0.5
	baz=260						
STYT	Tauyuan	2.07	254	eP	Pn	18 46 29.3	-0.1
	baz=250						
ECL	Taimali	2.15	238	eP	Pn	18 46 29.8	-0.5
	baz=244						
WTP	Ta-pu	2.18	257	eP	Pn	18 46 31.3	+0.5
	baz=256						
CHN1	Nanshi	2.27	256	eP	Pn	18 46 34.2	+2.1
	baz=262						
SSD	Sandimen	2.33	245	eP	Pn	18 46 34.9	+1.9
	baz=245						

MAN 28 18:49:18, 851N×**12469E, h8**^{km}**, mb4.2, ML3.0, MS2.8, 1C, Mindanao**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CGP	Cagayan de Oro	0.06	171⇑	iP	Pg	18 49 20.7	+0.9
CGP				iS	Sg	18 49 23.4	+2.3
BUKP	Musuan	0.73	149	eP	Pg	18 49 33.0	+0.8
BUKP				eS	Sg	18 49 46.7	+5.0
BUTP	Butuan	1.03	64	eP	Pg	18 49 37.5	-0.3
PAGZ	Pagadian	1.45	243	eP	Pn	18 49 43.8	-0.7
PAGZ				eS	Sn	18 50 04.5	+0.8
MSLP	Maasin	1.62	6	eP	Pn	18 49 46.5	-0.4
MSLP				eS	Sn	18 50 08.0	0.0

*IDC **28** 19:53:42.7±1.7, 28.10S×17643W, h0^{km}, mb4.0/6, mb1 4.2/6, mb1mx4.0/14, mbtmp4.0/6, MS3.8/5, Ms1 3.8/5, ms1mx3.4/23, Error ellipse: s-maj=59.8km s-min=20.8km az=139.0*
*NEIC **28** 19:53:47.7±0.7, 2823S×17641W, h35^{km}, mb4.6/3, Error ellipse: s-maj=20.8km s-min=15.4km az=132.0*
*ISCJB **28** 19:53:49.6±3.0, 283S±02×1766W±02, h57^{km}±22^{km}, mb4.2/9, MS3.9/5, Error ellipse: s-maj=32.8km s-min=23.4km az=143.7*
ISC 28 19:53:49.3±3.5**, 283S**±02×**1765W**±02**, h42**^{km}±27^{km}**, h42**^{km}±.5^{km}**:pP-P, n24,** σ**0^{s}57**/14**, mb4.2**/9**, MS3.9**/5**, Kermadec Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
RAO	Raoul Island	1.56	232	Pn	Pn	19 54 14.6	+0.1
	126nm,0.3s,baz=66,slow=19,SNR=3.8						
RAO				Sn	Sn	19 54 38.8	+5.3
	524nm,0.3s,baz=275,slow=22,SNR=14						
TBI	Tubuai	24.82	85	eLR	LR	20 05 33.6	
	148nm,23.0s						
PPT	Papeete	26.95	72	eLR	LR	20 06 28.8	
	92nm,21.0s						

PPT	**Papeete**	**26.95**	**72**	LR	LR	20 07 46.4		
	comp=Z,151nm,19.6s,MS3.6,baz=237,slow=32							
CTA	**Charters Tower**	**34.82**	**275**	P	**P**	**20 00 35.6**	**-0.8**	
	1.9nm,0.6s,mb4.2,baz=90,slow=10,SNR=4.1							
STKA	**Stephens Creek**	**36.26**	**254**	P	**P**	**20 00 49.1**	**+0.5**	
	3.0nm,0.9s,mb4.2,baz=105,slow=16,SNR=3.1							
STKA				LR	LR	20 12 34.4		
	comp=Z,116nm,20.6s,MS3.6,baz=69,slow=31							
ASAR	**Alice Springs**	**44.57**	**264**	P	**P**	**20 01 57.1**	**-0.2**	
	1.0nm,0.6s,mb3.8,baz=91,slow=7.2,SNR=22							
CASY	**Casey**	**57.60**	**207**	*e*P	**P**	**20 03 34.7**	**+0.1**	
	15nm,1.3s,mb4.8							
QSPA	**South Pole Qui**	**61.81**	**180**	*e*P	**P**	**20 04 03.8**	**+0.4**	
	6.8nm,1.0s,mb4.7							
MJAR	**Matsushiro Arr**	**77.28**	**324**	P	**P**	**20 05 39.0**	**-0.2**	
	1.4nm,0.7s,mb4.0,baz=160,slow=6.6,SNR=2.5							
SNAA	**Sanae**	**80.21**	**178**	*e*	**P**	**20 05 54.6**	**-0.3**	
SNAA				*e*	pP	20 06 06.4	-1.1	
SNAA	**Sanae**	**80.21**	**178**	*e*P	**P**	**20 05 54.0**	**-0.9**	
	1.7nm,0.9s,mb4.0							
VNA3	**Neumayer Olymp**	**80.31**	**176**	*e*	**P**	**20 05 56.0**	**+0.6**	
VNA3				*e*	pP	20 06 08.3	+0.3	
VNA2	**Neumayer--Watz**	**80.76**	**176**	*e*	**P**	**20 05 57.0**	**-0.9**	
	baz=180,slow=3.3							
VNA2				*e*	pP	20 06 09.1	-1.3	
PLCA	**Paso Flores**	**82.98**	**133**	LR	LR	20 34 51.4		
	comp=Z,72nm,18.6s,MS4.1,baz=188,slow=30							
PETK	**Petropavlovsk-**	**84.12**	**345**	LR	LR	20 41 41.9		
	comp=Z,47nm,18.0s,MS3.9,baz=305,slow=34							
NVAR	**Mina Array Bea**	**85.81**	**42**	P	**P**	**20 06 24.4**	**+0.1**	
	0.7nm,1.0s,mb3.9,baz=232,slow=8.5,SNR=4.4							
ANMO	**Albuquerque**	**91.25**	**51**	LR	LR	20 40 21.7		
	comp=Z,87nm,20.6s,MS4.2,baz=337,slow=31							
CMAR	**Chiang Mai Arr**	**93.94**	**289**	P	**P**	**20 07 04.2**	**+1.1**	
	0.6nm,0.9s,mb4.0,baz=136,slow=1.7,SNR=4.4							
NOA	**NORSAR Array B**	**146.85**	**353**	PKPbc	PKPbc	20 13 24.5	-1.9	
	3.7nm,1.1s,baz=6.2,slow=4.3,SNR=2.6							
AKASG	**Malin Array Be**	**150.35**	**326**	PKPbc	PKPbc	20 13 33.2	-2.5	
	2.3nm,0.7s,baz=43,slow=2.9,SNR=9.2							
DPC	**Dobruska-Polom**	**155.91**	**340**	*e*PKP	PKPab	20 14 10.7	+5.1	
DPC				*ep*PKP	pPKPab	20 14 16.8	-1.6	
PRU	**Pruhonice**	**156.75**	**342**	*e*PKP	PKPab	20 14 12.7	+3.5	
PRU				*ep*PKP	pPKPab	20 14 21.6	-0.4	
KHC	**Kasperske Hory**	**157.79**	**342**	*e*PKP	PKPab	20 14 14.3	+0.6	
KHC				*ep*PKP	pPKPab	20 14 23.6	-2.9	

*ISCJB **28** 20:02:48.2±0.5, 3766N±003×2134E±003, h10km, Error ellipse: s-maj=4.5km s-min=2.9km az=140.7*
*ATH **28** 20:02:48.0, 3772N×2138E, h3km, MD3.6/16, ML3.5*
*NEIC **28** 20:02:48.0, 3772N×2138E, h3km, ML3.5(ATH), After ATH.*
*CSEM **28** 20:02:48.9±0.2, 3768N×2131E, h15km, ML3.5, Error ellipse: s-maj=4.8km s-min=3.1km az=44.0*
*THE **28** 20:02:49.2, 3756N×2123E, h52km±9km, ML3.8/3, Error ellipse: s-maj=9.7km s-min=1.4km az=228.0*

ISC 28 20:02:48.3±0.4, 3768N±002×2135E±004, h10km, n48, σ1§21/68, 2D, Southern Greece

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RLS	**Riolos of Patr**	**0.39**	**13**	⇓*i*P*g*	**Pg**	**20 02 55.4**	**-0.6**
RLS	**Riolos of Patr**	**0.39**	**13**	⇓*i*P*G*	**Pg**	**20 02 55.4**	**-0.6**
ITM	**Ithomi**	**0.68**	**137**	*e*P*b*	**Pb**	**20 03 01.7**	**-0.5**
ITM				Sg	**Sg**	**20 03 10.0**	**-0.2**
ITM	**Ithomi**	**0.68**	**137**	*e*P*B*	**Pb**	**20 03 01.7**	**-0.5**
ITM				SG	**Sg**	**20 03 10.0**	**-0.2**
VLS	**Valsamata**	**0.78**	**310**	P	**Pg**	**20 03 03.4**	**0.0**
VLS				Sg	**Sg**	**20 03 13.7**	**+0.1**
VLS				S	**Sg**	**20 03 15.9**	**+2.3**
VLS	**Valsamata**	**0.78**	**310**	*e*P*b*	**Pb**	**20 03 02.9**	**-1.1**
VLS				Sg	**Sg**	**20 03 13.7**	**+0.1**
VLS	**Valsamata**	**0.78**	**310**	*e*P*B*	**Pb**	**20 03 02.9**	**-1.1**
VLS				SG	**Sg**	**20 03 13.7**	**+0.1**
PYL	**PYLOS**	**0.84**	**158**	P	**Pg**	**20 03 04.5**	**0.0**
PYL				S	**Sg**	**20 03 16.1**	**+0.6**
VLX	**Vlachokerasia**	**0.87**	**110**	P	**Pg**	**20 03 04.9**	**-0.2**
LKD	**Levkas**	**1.17**	**332**	P	**Pb**	**20 03 09.1**	**-1.5**
LKD				S	**Sb**	**20 03 25.3**	**-0.4**
EVR	**Evrytania**	**1.29**	**16**	*e*P*g*	**Pg**	**20 03 11.2**	**-1.8**
EVR				Sb	**Sb**	**20 03 28.9**	**-0.3**
EVR	**Evrytania**	**1.29**	**16**	*e*P*G*	**Pg**	**20 03 11.2**	**-1.8**
EVR				SB	**Sb**	**20 03 28.9**	**-0.3**
LTK	**Loutraki**	**1.32**	**75**	P	**Pn**	**20 03 12.0**	**-0.8**
LTK				S	**Sb**	**20 03 30.9**	**+0.7**
DID	**Didima**	**1.51**	**96**	P	**Pn**	**20 03 15.0**	**-0.4**
DID				S	**Sn**	**20 03 34.7**	**-0.3**
AGG	**Agios Georgios**	**1.54**	**30**	P	**Pn**	**20 03 16.8**	**+0.9**
AGG				S	**Sn**	**20 03 38.3**	**+2.3**
VLI	**Veliai**	**1.59**	**127**	*e*P*n*	**Pn**	**20 03 17.5**	**+1.0**
VLI	**Veliai**	**1.59**	**127**	*e*P*N*	**Pn**	**20 03 17.5**	**+1.0**
LKR	**Lokris**	**1.62**	**53**	P	**Pn**	**20 03 17.4**	**+0.5**
LKR				S	**Sn**	**20 03 39.2**	**+1.4**
LKR	**Lokris**	**1.62**	**53**	*e*P*b*	**Pb**	**20 03 17.7**	**-0.6**
LKR				Sb	**Sb**	**20 03 38.3**	**-0.5**
LKR				S	**Sn**	**20 03 39.2**	**+1.4**
LKR	**Lokris**	**1.62**	**53**	*e*P*b*	**Pb**	**20 03 17.7**	**-0.6**
LKR				Sb	**Sb**	**20 03 38.3**	**-0.5**
LKR	**Lokris**	**1.62**	**53**	*e*P*B*	**Pb**	**20 03 17.7**	**-0.6**
LKR				SB	**Sb**	**20 03 38.3**	**-0.5**
NAIG	**Nisos Aigina**	**1.69**	**87**	*e*P*b*	**Pb**	**20 03 20.0**	**+0.4**
NAIG	**Nisos Aigina**	**1.69**	**87**	*e*P*B*	**Pb**	**20 03 20.0**	**+0.4**
ATH	**Athens Observa**	**1.89**	**80**	*e*P*g*	**Pg**	**20 03 22.7**	**-1.9**
ATH	**Athens Observa**	**1.89**	**80**	*e*P*G*	**Pg**	**20 03 22.7**	**-1.9**
KVR	**Kavouri**	**1.92**	**85**	*e*P*b*	**Pb**	**20 03 24.0**	**+0.6**
KVR	**Kavouri**	**1.92**	**85**	*e*P*B*	**Pb**	**20 03 24.0**	**+0.6**
KYTH	**Kithira**	**1.94**	**136**	*e*P*g*	**Pg**	**20 03 25.5**	**0.0**
KYTH	**Kithira**	**1.94**	**136**	*e*P*G*	**Pg**	**20 03 25.5**	**0.0**
THL	**Klokotos Trika**	**1.95**	**15**	P	**Pn**	**20 03 23.2**	**+1.7**
THL				S	**Sn**	**20 03 48.4**	**+2.4**
THL	**Klokotos Trika**	**1.95**	**15**	*e*P*g*	**Pg**	**20 03 23.1**	**-2.7**
THL				S	**Sn**	**20 03 48.4**	**+2.4**
THL	**Klokotos Trika**	**1.95**	**15**	*e*P*G*	**Pg**	**20 03 23.1**	**-2.7**
JAN	**Janina**	**2.01**	**349**	*e*P*g*	**Pg**	**20 03 25.1**	**-1.8**
JAN				P		20 03 28.2	
JAN	**Janina**	**2.01**	**349**	*e*P*G*	**Pg**	**20 03 25.1**	**-1.8**
PTL	**Penteli**	**2.02**	**79**	*e*P*b*	**Pb**	**20 03 23.5**	**-1.6**
PTL	**Penteli**	**2.02**	**79**	*e*P*B*	**Pb**	**20 03 23.5**	**-1.6**
NEO	**Neokhori**	**2.19**	**42**	*e*P*b*	**Pb**	**20 03 26.1**	**-1.9**
NEO	**Neokhori**	**2.19**	**42**	*e*P*B*	**Pb**	**20 03 26.1**	**-1.9**
XOR	**Xorichti**	**2.22**	**40**	P	**Pn**	**20 03 26.1**	**+1.0**
KEK	**Kerkira**	**2.37**	**330**	*e*P*n*	**Pn**	**20 03 29.2**	**+2.0**
KEK	**Kerkira**	**2.37**	**330**	*e*P*N*	**Pn**	**20 03 29.2**	**+2.0**
AOS	**Alonnisos**	**2.48**	**52**	P	**Pn**	**20 03 29.8**	**+1.0**
VAM	**Vamos**	**3.23**	**134**	*e*P*b*	**Pb**	**20 03 44.5**	**-1.2**
VAM	**Vamos**	**3.23**	**134**	*e*P*B*	**Pb**	**20 03 44.5**	**-1.2**
TIP	**Timpagrande**	**3.91**	**294**	P	**Pn**	**20 03 54.0**	**+5.7**
SMG	**Samos**	**4.35**	**88**	P	**Pn**	**20 03 57.3**	**+2.9**
ZKR	**Zakros**	**4.69**	**122**	P	**Pn**	**20 04 02.8**	**+3.7**
CUC	**Castrocucco**	**4.90**	**300**	*e*P*n*	**Pn**	**20 04 03.3**	**+1.3**

*ISCJB **28** 20:13:07.8±0.7, 4376N±003×10497W±008, h0km, Error ellipse: s-maj=8.0km s-min=3.8km az=173.5*
*IDC **28** 20:13:11.6±1.9, 4388N×10555W, h0km, mb1 3.6/3, mb1mx3.3/22, mbtmp3.3/3, ML2.9/3, Error ellipse: s-maj=64.7km s-min=9.0km az=148.0*
*NEIC **28** 20:13:11.6±0.5, 4376N×10521W, h0km, ML3.1, Error ellipse: s-maj=7.2km s-min=5.6km az=141.0, Suspected Mining explosion.*
NEIC 65 km [40 miles] SSE of Gillette.

ISC 28 20:13:11.2±0.5, 4374N±003×10516W±006, h0km, n69, σ0§71/81, 26C-27D, Wyoming

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RSSD	**Black Hills**	**0.90**	**65**	*e*P*g*	**Pg**	**20 13 29.7**	**+1.2**
PHWY	**Pilot Hill**	**2.45**	**185**	*e*P*n*	**Pn**	**20 13 53.1**	**+0.7**
RWWY	**Rawlins**	**2.55**	**217**	*e*P*n*	**Pn**	**20 13 55.1**	**+1.4**
RWWY				*e*Sn	**Sn**	**20 14 28.4**	**+3.0**
RLMT	**Red Lodge**	**3.25**	**297**	*e*P*n*	**Pn**	**20 13 56.7**	**-6.7**
RLMT	**Red Lodge**	**3.25**	**297**	⇓P	**Pn**	**20 14 03.1**	**-0.3**
	baz=3.2						
RLMT				⇑S	**Sn**	**20 14 44.3**	**+1.5**
	baz=3.2						
BW06	**Boulder Array**	**3.35**	**255**	*e*P*n*	**Pn**	**20 14 05.1**	**+0.3**
BW06				*e*Sn	**Sn**	**20 14 49.1**	**+3.8**
BW06	**Boulder Array**	**3.35**	**255**	⇑P	**Pn**	**20 14 05.3**	**+0.5**
	baz=3.3,SNR=37						
PDAR	**Pinedale Array**	**3.35**	**255**	Pn	**Pn**	**20 14 05.5**	**+0.6**
	1.2nm,0.3s,baz=67,slow=15,SNR=29						
PDAR				Lg		20 14 49.8	
	4.4nm,0.3s,baz=70,slow=30,SNR=8.9						
I18A	**Diamond G Ranc**	**3.38**	**271**	⇓P	**Pn**	**20 14 06.0**	**+0.9**
	baz=3.4						
L19A	**Farson**	**3.49**	**243**	⇑P	**Pn**	**20 14 07.1**	**+0.4**
	baz=3.5						
M19A	**Rock Springs**	**3.70**	**234**	⇑P	**Pn**	**20 14 09.3**	**-0.3**
	baz=3.7,SNR=5.8						
GCMT	**Greycliff**	**3.81**	**304**	*e*P*n*	**Pn**	**20 14 11.4**	**+0.3**
F18A	**Big Timber**	**3.90**	**305**	⇓P*n*	**Pn**	**20 14 12.3**	**+0.1**
	baz=3.9,SNR=9.1						
F18A				⇑P*b*	**Pb**	**20 14 21.2**	**+0.5**
	baz=3.9						
F18A				⇓S*n*	**Sn**	**20 14 59.6**	**+0.9**
	baz=3.9						
I17A	**Pilgram Creek**	**3.92**	**274**	⇑P*n*	**Pn**	**20 14 12.7**	**+0.1**
	baz=3.9,SNR=14						
LOHW	**Long Hollow**	**3.95**	**270**	Pn	**Pn**	**20 14 13.7**	**+0.6**
ISCO	**Idaho Springs**	**3.95**	**185**	*e*P*n*	**Pn**	**20 14 14.1**	**+1.0**
ISCO				*e*S	**Sn**	**20 15 13.2**	**+13**
H17A	**Grant Village**	**3.96**	**281**	⇓P*n*	**Pn**	**20 14 13.6**	**+0.5**
	baz=3.9						
MOOW	**Moose Ponds**	**4.04**	**272**	*e*P*n*	**Pn**	**20 14 15.2**	**+0.9**
J17A	**Brown Place, J**	**4.05**	**267**	⇑P*n*	**Pn**	**20 14 14.5**	**+0.1**
	baz=4.0,SNR=19						
J17A				⇓P*b*	**Pb**	**20 14 23.3**	**-0.1**
	baz=4.0						
N19A	**John Jarvie Ra**	**4.12**	**228**	⇑P*n*	**Pn**	**20 14 14.9**	**-0.4**
	baz=4.1						
N19A				⇓P*b*	**Pb**	**20 14 24.1**	**-0.4**
	baz=4.1						
REDW	**Red Top Meadow**	**4.15**	**267**	*e*P*n*	**Pn**	**20 14 17.8**	**+2.0**
IMW	**Indian Meadow**	**4.18**	**274**	*e*P*n*	**Pn**	**20 14 16.6**	**+0.4**
TPAW	**Teton Pass**	**4.21**	**269**	*e*P*n*	**Pn**	**20 14 16.7**	**+0.1**
G17A	**Pierce Place,**	**4.29**	**294**	⇓P*n*	**Pn**	**20 14 17.9**	**+0.3**
	baz=4.3,SNR=7.8						
G17A				⇑P*b*	**Pb**	**20 14 28.1**	**+0.6**
	baz=4.3						
E18A	**Harlowton**	**4.39**	**312**	⇓P*n*	**Pn**	**20 14 19.0**	**-0.1**
	baz=4.4						
F17A	**Fitzpatrick Pl**	**4.47**	**301**	⇓P*n*	**Pn**	**20 14 20.2**	**+0.1**
	baz=4.5,SNR=7.2						
F17A				⇓P*b*	**Pb**	**20 14 30.8**	**+0.3**
	baz=4.5						
RRI2	**Red Ridge**	**4.49**	**267**	*e*P*n*	**Pn**	**20 14 20.1**	**-0.4**
O19A	**Miners Draw (B**	**4.53**	**222**	⇑P*n*	**Pn**	**20 14 20.7**	**-0.3**
	baz=4.5						
I16A	**Newdale**	**4.58**	**274**	⇓P*n*	**Pn**	**20 14 21.6**	**0.0**
	baz=4.6						
J16A	**Bone**	**4.71**	**267**	⇓P*n*	**Pn**	**20 14 23.6**	**0.0**
	baz=4.7						
J16A				⇓P*b*	**Pb**	**20 14 33.4**	**-1.2**
	baz=4.7,SNR=14						
E17A	**Martinsdale**	**4.86**	**306**	⇓P*n*	**Pn**	**20 14 25.3**	**-0.3**
	baz=4.8,SNR=5.6						
L16A	**Fish Haven**	**4.92**	**252**	⇓P*n*	**Pn**	**20 14 26.5**	**+0.2**
	baz=4.9						
G16A	**Moss Hill, Enn**	**4.98**	**290**	⇑P*n*	**Pn**	**20 14 26.9**	**-0.3**
	baz=5.0						
P19A	**Cripple Cowboy**	**5.00**	**216**	⇑P*n*	**Pn**	**20 14 26.9**	**-0.5**
	baz=5.0,SNR=5.2						
D17A	**Six Diamond Ra**	**5.17**	**313**	⇑P*n*	**Pn**	**20 14 29.3**	**-0.5**
	baz=5.2,SNR=7.1						
HWUT	**Hardware Ranch**	**5.18**	**248**	*e*P*n*	**Pn**	**20 14 29.2**	**-0.7**
	6.1nm,0.6s						
EGMT	**Eagleton**	**5.35**	**325**	*e*P*n*	**Pn**	**20 14 31.1**	**-1.1**
	16nm,0.6s						
EGMT				*e*S*n*	**Sn**	**20 15 34.7**	**+0.2**
G15A	**Dillon**	**5.43**	**288**	⇓P*n*	**Pn**	**20 14 33.4**	**0.0**
	baz=5.4,SNR=5.1						
O17A	**Robinson Place**	**5.46**	**231**	⇓P*n*	**Pn**	**20 14 33.4**	**-0.4**
	baz=5.4,SNR=7.6						
D16A	**Dana Ranch, Ca**	**5.57**	**308**	⇑P*n*	**Pn**	**20 14 35.1**	**-0.2**
	baz=5.6						
L15A	**Malad City**	**5.58**	**254**	⇑P*n*	**Pn**	**20 14 35.4**	**-0.1**
	baz=5.6						
P18A	**Preston Nutter**	**5.60**	**225**	⇓P*n*	**Pn**	**20 14 35.3**	**-0.4**
	baz=5.6,SNR=6.0						
DAU	**Daniels Canyon**	**5.62**	**236**	*e*P*n*	**Pn**	**20 14 35.5**	**-0.5**
M15A	**Larsen Ranch,**	**5.84**	**250**	⇑P*n*	**Pn**	**20 14 38.6**	**-0.4**
	baz=5.8						
E15A	**Deer Lodge**	**5.94**	**299**	⇓P*n*	**Pn**	**20 14 39.9**	**-0.4**
	baz=5.9						
Q18A	**Rafter H Ranch**	**5.95**	**221**	⇑P*n*	**Pn**	**20 14 39.8**	**-0.8**
	baz=5.9						
PV10	**Paradox Valley**	**6.11**	**210**	*e*P*n*	**Pn**	**20 14 44.6**	**+1.9**
SRU	**San Rafael**	**6.13**	**223**	*e*P*n*	**Pn**	**20 14 42.2**	**-0.8**
	1.0nm,0.4s						
C16A	**Fuhringer Ranc**	**6.14**	**314**	⇓P*n*	**Pn**	**20 14 42.1**	**-0.9**
	baz=6.1						
D15A	**Lincoln**	**6.14**	**305**	⇓P*n*	**Pn**	**20 14 42.7**	**-0.5**
	baz=6.1						
F14A	**Wisdom**	**6.20**	**292**	⇑P*n*	**Pn**	**20 14 44.5**	**+0.6**
	baz=6.2,SNR=11						
TMUT	**Trail Mountain**	**6.35**	**228**	*e*P*n*	**Pn**	**20 14 46.0**	**+0.1**
R18A	**Canyonlands Na**	**6.43**	**215**	⇑P*n*	**Pn**	**20 14 46.1**	**-1.0**
	baz=6.4,SNR=7.2						
M14A	**Sheep Mountain**	**6.44**	**252**	⇓P*n*	**Pn**	**20 14 47.1**	**-0.1**
	baz=6.4						
B16A	**M & M Farms, S**	**6.52**	**318**	⇓P*n*	**Pn**	**20 14 47.6**	**-0.7**
	baz=6.5						
Q16A	**Castle Valley**	**6.61**	**225**	⇑P*n*	**Pn**	**20 14 48.7**	**-0.8**
	baz=6.6,SNR=5.2						
N14A	**Grayback Hills**	**6.61**	**247**	⇓P*n*	**Pn**	**20 14 48.9**	**-0.7**
	baz=6.6						
DUG	**Dugway**	**6.71**	**241**	*e*P*n*	**Pn**	**20 14 50.6**	**-0.4**
	3.6nm,0.8s						
DUG	**Dugway**	**6.71**	**241**	⇓P*n*	**Pn**	**20 14 50.5**	**-0.5**
	baz=6.7						
D14A	**Greenough**	**6.76**	**303**	⇑P*n*	**Pn**	**20 14 50.9**	**-0.7**
	baz=6.7						
B15A	**Bradely Ranch,**	**6.89**	**314**	⇑P*n*	**Pn**	**20 14 52.5**	**-0.8**
	baz=6.9						
S18A	**Hurst Farm, Bl**	**7.07**	**213**	⇑P*n*	**Pn**	**20 14 55.2**	**-0.7**
	baz=7.1,SNR=6.6						
P14A	**Drum Mountains**	**7.22**	**238**	⇑P*n*	**Pn**	**20 14 57.4**	**-0.6**
	baz=7.2						
C14A	**Swan Lake**	**7.23**	**307**	⇓P*n*	**Pn**	**20 14 57.6**	**-0.4**
	baz=7.2						
R16A	**Teasdale**	**7.25**	**223**	⇑P*n*	**Pn**	**20 14 57.8**	**-0.5**
	baz=7.2,SNR=5.7						
D13A	**Huson**	**7.35**	**300**	⇑P*n*	**Pn**	**20 14 59.2**	**-0.5**
	baz=7.3						
MSU	**Marysvale**	**7.43**	**228**	*e*P*n*	**Pn**	**20 15 01.0**	**+0.1**
ULM	**Lac du Bonnet**	**9.09**	**41**	Pn	**Pn**	**20 15 23.6**	**0.0**
	0.4nm,0.3s,baz=227,slow=14,SNR=3.1						
ULM				Lg		20 17 50.6	
	0.3nm,0.3s,baz=162,slow=20,SNR=2.0						
NVAR	**Mina Array Bea**	**11.24**	**246**	Pn	**Pn**	**20 15 53.1**	**+0.1**
	0.1nm,0.3s,baz=66,slow=9.0,SNR=4.1						

*ISCJB **28** 21:01:00.3±0.7, 4325N±004×2097E±005, h4km±9km, Error ellipse: s-maj=7.2km s-min=5.1km az=40.9*
*CSEM **28** 21:01:00.4±0.2, 4326N×2106E, h10km, ML2.7, Error ellipse: s-maj=5.0km s-min=3.2km az=51.0*
*BEO **28** 21:01:02.2±0.3, 4327N×2099E, h10km±5km, ML2.7/5*

ISC 28 21:01:00.7±0.8, 4322N±004×2100E±005, h1km±10km, n13, σ1§07/20, 1C, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GRUS	**Gruza**	**0.70**	**343**	⇑*i*P*g*	**Pg**	**21 01 13.1**	**-1.0**
GRUS				*e*Sg	**Sg**	**21 01 23.5**	**+0.3**
BARS	**Barje**	**0.72**	**124**	*e*P*g*	**Pg**	**21 01 13.9**	**-0.6**
BARS				*e*Sg	**Sg**	**21 01 27.9**	**+4.1**
SJES	**Sjenica**	**0.75**	**273**	*e*P*g*	**Pg**	**21 01 16.6**	**+1.4**
BOLS	**Boljevac**	**0.92**	**48**	*e*P*g*	**Pg**	**21 01 17.0**	**-1.3**
BOLS				*e*Sg	**Sg**	**21 01 31.8**	**+1.5**
SVIS	**Svilajnac**	**1.05**	**8**	*e*P*g*	**Pg**	**21 01 20.7**	**-0.2**
SVIS				*e*Sg	**Sg**	**21 01 35.1**	**+0.5**
BBLS	**Lazići**	**1.33**	**300**	*e*P*g*	**Pg**	**21 01 25.2**	**-1.0**
BBLS				*e*Sg	**Sg**	**21 01 43.4**	**0.0**
BEO	**Beograd**	**1.63**	**347**	*e*Sg	**Sg**	**21 01 54.1**	**+0.9**
KRUS	**Krusevo**	**1.86**	**174**	*i* P*n*	**Pn**	**21 01 33.3**	**-0.3**
KRUS				*i* Sn	**Sn**	**21 02 01.0**	**+3.2**
KKB	**Krupnik**	**2.05**	**131**	*i* P	**Pn**	**21 01 35.9**	**-0.4**
FGSL	**Fruska Gora**	**2.12**	**336**	*e*P*n*	**Pn**	**21 01 36.7**	**-0.5**
VAY	**Valandovo**	**2.23**	**148**	*i* P*n*	**Pn**	**21 01 37.4**	**-1.3**
VAY				*i* Sn	**Sn**	**21 02 08.7**	**+1.8**
MMB	**Musomiste**	**2.59**	**128**	*i* P	**Pn**	**21 01 43.6**	**-0.2**
SZH	**Strazhica**	**3.60**	**88**	*i* P	**Sn**	**21 02 37.0**	**-3.8**

*TIR **28** 21:01:04.0±0.3, 4032N×1951E, h2km*

*ATH **28** 21:01:05.7, 3978N×2067E, h15km, MD3.5/9*
*NEIC **28** 21:01:05.7, 3978N×2067E, h15km, MD3.5(ATH), After ATH.*
*CSEM **28** 21:01:06.1±0.2, 3972N×2071E, h2km, MD3.5, Error ellipse: s-maj=4.6km s-min=3.3km az=177.0*
*ISCJB **28** 21:01:06.7±0.4, 3969N±003×2068E±003, h10km, Error ellipse: s-maj=4.0km s-min=3.2km az=24.6*
*THE **28** 21:01:07.1, 3973N×2075E, h0km±1km, Error ellipse: s-maj=1.7km s-min=0.7km az=244.0*

ISC 28 21:01:07.0±0.5, 3972N±003×2069E±003, h5km±4km, n42, σ1§13/65, Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JAN	**Janina**	**0.14**	**116**	*e*P*b*	**Pg**	**21 01 10.1**	**+0.4**
JAN				*e*Sb	**Sg**	**21 01 13.5**	**+1.9**
JAN	**Janina**	**0.14**	**116**	*e*P*B*	**Pg**	**21 01 10.1**	**+0.4**
JAN				*e*SB	**Sg**	**21 01 13.5**	**+1.9**
MEV	**Metsovon**	**0.42**	**81**	P	**Pg**	**21 01 14.5**	**-0.6**
MEV				S	**Sg**	**21 01 19.7**	**-0.8**
SRN	**Sarande**	**0.56**	**287**	*e*P*G*	**Pg**	**21 01 16.7**	**-1.0**
SRN				*i* SG	**Sg**	**21 01 26.0**	**+1.1**
KEK	**Kerkira**	**0.69**	**270**	*e*P*n*	**Pg**	**21 01 18.7**	**-1.5**
KEK	**Kerkira**	**0.69**	**270**	*e*P*N*	**Pg**	**21 01 18.7**	**-1.5**
KBN	**Korca**	**0.91**	**5**	*e*P*G*	**Pg**	**21 01 26.2**	**+1.8**
LKD	**Levkas**	**1.01**	**182**	P	**Pg**	**21 01 26.2**	**-0.1**
LKD				S	**Sg**	**21 01 42.0**	**+2.6**
KZN	**Kozani**	**1.02**	**54**	*e*P*n*	**Pn**	**21 01 24.6**	**-3.2**
KZN				*e*Sn	**Sn**	**21 01 38.8**	**-3.7**
KZN	**Kozani**	**1.02**	**54**	*e*P*N*	**Pn**	**21 01 24.6**	**-3.2**
KZN				*e*SN	**Sn**	**21 01 38.8**	**-3.7**
THL	**Klokotos Trika**	**1.03**	**98**	P	**Pg**	**21 01 25.1**	**-1.7**
THL				S	**Sg**	**21 01 40.0**	**-0.2**
THL	**Klokotos Trika**	**1.03**	**98**	*e*P*b*	**Pb**	**21 01 25.2**	**-2.1**
THL				Sn	**Sg**	**21 01 40.0**	**-0.2**
THL	**Klokotos Trika**	**1.03**	**98**	*e*P*B*	**Pb**	**21 01 25.2**	**-2.1**
THL				SN	**Sg**	**21 01 40.0**	**-0.2**
EVR	**Evrytania**	**1.18**	**132**	*e*P*n*	**Pn**	**21 01 28.6**	**-1.5**
EVR	**Evrytania**	**1.18**	**132**	*e*P*N*	**Pn**	**21 01 28.6**	**-1.5**
FNA	**Florina**	**1.19**	**26**	P	**Pg**	**21 01 27.9**	**-1.8**
FNA				S	**Sg**	**21 01 46.3**	**+1.2**
BIA	**Bitola**	**1.39**	**20**	P	**Pn**	**21 01 32.5**	**-0.4**
BIA				S	**Sb**	**21 01 52.1**	**+0.8**
BIA	**Bitola**	**1.39**	**20**	*i* P*n*	**Pn**	**21 01 30.6**	**-2.3**
BIA				*i* Sn	**Sn**	**21 01 51.7**	**+0.1**
BIA	**Bitola**	**1.39**	**20**	*i* P*n*	**Pn**	**21 01 30.5**	**-2.4**
BIA	**Bitola**	**1.39**	**20**	P	**Pn**	**21 01 32.5**	**-0.4**
BIA				*i* Sn	**Sn**	**21 01 51.7**	**+0.1**
OHR	**Ohrid**	**1.39**	**3**	P	**Pn**	**21 01 32.3**	**-0.7**
OHR				S	**Sb**	**21 01 53.0**	**+1.5**
OHR	**Ohrid**	**1.39**	**3**	*i* P*n*	**Pn**	**21 01 32.9**	**-0.2**
OHR				*i* Sn	**Sn**	**21 01 51.5**	**-0.3**
OHR	**Ohrid**	**1.39**	**3**	*i* P*n*	**Pn**	**21 01 32.8**	**-0.2**
OHR				*i* Sn	**Sn**	**21 01 51.4**	**-0.4**
OHR

MS4.3/11, Error ellipse: s-maj=22.7km s-min=16.6km az=167.2

IDC ***28*** *21:49:12.6±1.0, 5728S×14359W, h0km, mb4.1/2, mb1 4.3/2, mb1mx3.9/11, mbtmp4.1/2, MS4.3/11, Ms1 4.3/11, ms1mx4.1/17, Error ellipse: s-maj=275.5km s-min=31.9km az=177.0*

GCMT ***28*** *21:49:13.4±0.2, 5642S×14309W, h23km±1km, MW5.2/80, Moment Tensor Solution. s56,c77; s80,c125; Duration: 1s0 Moment tensor: Scale 10^17Nm; Mrr-0.07±.02; Mθθ0.67±.03; Mϕϕ-0.59±.02; Mrθ0.03±.03; Mθϕ0.47±.02; Mϕr-0.01±.03; Best double couple: M0.79200×10^17 NP1:ϕ±27.00000°, δ87.00000°, λ180.00000°. NP2: ϕs117.00000°, δ90.00000°, λ3.00000°. Principal axes: T 0.8300, Plg2.0000°, Azm342.0000°; N -0.0750, Plg87.0000°, Azm119.0000°; P -0.7550, Plg2.0000°, Azm252.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

NEIC ***28*** *21:49:13.4±0.9, 5728S×14349W, h10km, mb4.7/3 Error ellipse: s-maj=31.5km s-min=20.1km az=173.0*

ISC 28 21:49:11.9±0.8, 565S±01×1436W±03, h10km, (h10km±.5km:pP-P), n30, σ1§24/15, mb4.5/5, MS4.3/11, Pacific-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
SBA	**Scott Base**	**27.17**	**201**	P		**P**	**21 54 49.7**	**-5.2**
URZ	**Urewera**	**31.67**	**288**	LR		LR	22 05 24.9	
	comp=Z,723nm,20.9s,MS4.3,baz=142,slow=30							
TBI	**Tubuai**	**33.42**	**350**	*e*S		**S**	**22 01 10.3**	**-1.4**
	183nm,25.8s							
TBI				*e*LR		LR	22 04 22.5	
	2μm,29.0s,baz=175							
QSPA	**South Pole Qui**	**33.62**	**180**	LR		LR	22 06 40.3	
	comp=Z,757nm,21.5s,MS4.4,baz=68,slow=32							
PMSA	**Palmer Station**	**37.34**	**136**	*e*P		**P**	**21 56 18.8**	**-5.1**
	15nm,0.9s,mb4.8							
PPT	**Papeete**	**39.16**	**351**	*e*S		**S**	**22 02 31.5**	**-7.9**
	251nm,27.2s							
PPT				*e*LR		LR	22 06 58.3	
	2μm,28.2s,baz=178							
PPT	**Papeete**	**39.16**	**351**	LR		LR	22 08 02.2	
	comp=Z,378nm,19.4s,MS4.2,baz=150,slow=28							
TAOE	**Nuku Hiva Isla**	**47.64**	**5**	*e*S		**S**	**22 04 37.0**	**-6.6**
	884nm,25.3s							
TAOE				*e*LR		LR	22 11 02.4	
	3μm,28.9s							
PLCA	**Paso Flores**	**48.42**	**104**	LR		LR	22 12 34.7	
	comp=Z,239nm,19.4s,MS4.2,baz=56,slow=29							
PLCA	**Paso Flores**	**48.42**	**104**	P		**P**	**21 57 53.2**	**-0.7**
VNA3	**Neumayer Olymp**	**48.45**	**162**	*e*		**P**	**21 57 54.1**	**+0.4**
VNA3				*e*		pP	21 57 56.7	-0.2
VNA3				*e*			21 58 01.7	
VNA3				*e*			21 58 04.8	
VNA2	**Neumayer--Watz**	**49.11**	**162**	*e*		**P**	**21 57 58.8**	**0.0**
	baz=211,slow=5.4							
VNA2				*e*		pP	21 58 01.3	-0.7
VNA2				*e*			21 58 06.7	
VNA2				*e*			21 58 10.2	
SNAA	**Sanae**	**49.16**	**165**	*e*		**P**	**21 57 59.1**	**-0.1**
SNAA				*e*		pP	21 58 02.3	-0.1
SNAA				*e*			21 58 06.6	
SNAA				*e*			21 58 09.5	
SNAA	**Sanae**	**49.16**	**165**	*e*P		**P**	**21 57 56.2**	**-3.0**
	6.1nm,0.9s,mb4.6							
VNA1	**Neumayer--Stat**	**49.20**	**162**	*e*		**P**	**21 58 00.2**	**+0.7**
VNA1				*e*		pP	21 58 03.0	+0.3
VNA1				*e*			21 58 08.4	
VNA1				*e*			21 58 10.9	
MAW	**Mawson**	**54.62**	**192**	LR		LR	22 20 17.8	
	comp=Z,305nm,18.4s,MS4.4,baz=348,slow=35							
MAW	**Mawson**	**54.62**	**192**	P		**P**	**21 58 38.3**	**-1.6**
TRQA	**Tornquist**	**54.93**	**107**	*e*P		**P**	**21 58 42.6**	**0.0**
	13nm,1.4s,mb4.8							
STKA	**Stephens Creek**	**55.85**	**263**	LR		LR	22 17 58.3	
	comp=Z,370nm,18.6s,MS4.5,baz=295,slow=31							
ASAR	**Alice Springs**	**66.49**	**262**	P		**P**	**22 00 03.2**	**+1.7**
	1.5nm,0.9s,mb4.0,baz=135,slow=6.1,SNR=5.3							
LPAZ	**La Paz**	**68.58**	**87**	P		**P**	**22 00 17.4**	**+2.6**
	1.6nm,0.7s,mb4.1,baz=197,slow=2.9,SNR=6.8							
LPAZ				LR		LR	22 23 39.7	
	comp=Z,101nm,19.0s,MS4.1,baz=132,slow=30							
ROSC	**El Rosal**	**82.81**	**70**	LR		LR	22 31 55.3	
	comp=Z,116nm,18.9s,MS4.3,baz=169,slow=31							
TXAR	**Lajitas Array**	**92.00**	**34**	LR		LR	22 35 40.8	
	comp=Z,69nm,20.9s,MS4.1,baz=185,slow=30							
BOSA	**Boshof**	**94.67**	**170**	LR		LR	22 38 50.0	
	comp=Z,268nm,21.7s,MS4.7,baz=161,slow=32							
ANMO	**Albuquerque**	**96.44**	**30**	LR		LR	22 36 16.9	
	comp=Z,106nm,20.3s,MS4.3,baz=338,slow=29							
ESDC	**Sonseca Array**	**148.80**	**105**	PKPbc		PKPbc	22 09 01.3	+2.6
	0.6nm,0.7s,baz=230,slow=3.2,SNR=4.3							
MKAR	**Makanchi Array**	**150.42**	**271**	PKPbc		PKPbc	22 09 03.0	+0.5
	0.7nm,0.8s,baz=106,slow=7.7,SNR=3.6							
MKAR	**Makanchi Array**	**150.42**	**271**	PKPbc		PKPbc	22 09 03.0	+0.5
ZALV	**Zalesovo Beam**	**152.71**	**285**	PKPbc		PKPbc	22 09 12.8	+5.2
	0.3nm,0.3s,baz=318,slow=1.9,SNR=2.6							
KURK	**Kurchatov**	**154.60**	**275**	PKPbc		PKPbc	22 09 12.8	+1.1
	0.5nm,1.1s,baz=108,slow=3.0,SNR=2.4							

NEIC ***28*** *22:00:45.7, 3901N×4108E, h5km, mb4.2/3, ML4.2(ISK), After ISK.*

ISK ***28*** *22:00:45.6, 3908N×4109E, h4km, ML4.2*

ISCJB ***28*** *22:00:46.1±0.6, 3905N±002×4108E±002, h3km±4km, mb3.8/12, MS3.5/12, Error ellipse: s-maj=3.5km s-min=2.2km az=140.3*

IDC ***28*** *22:00:46.6±0.8, 3914N×4108E, h0km, mb3.7/9, mb1 3.8/14, mb1mx3.7/28, mbtmp3.7/14, ML3.1/5, MS3.5/15, Ms1 3.5/15, ms1mx3.3/43, Error ellipse: s-maj=17.4km s-min=10.8km az=157.0*

DDA ***28*** *22:00:46.2, 3901N×4110E, h18km±2km, Md4.1, Ml4.2*

CSEM ***28*** *22:00:46.8±0.1, 3907N×4109E, h15km, mb4.3/9, Error ellipse: s-maj=1.5km s-min=1.2km az=171.0*

MOS ***28*** *22:00:47.8±2.2, 3911N×4125E, h10km, mb4.0/5, Error ellipse: s-maj=8.8km s-min=6.5km az=108.2*

ISC 28 22:00:47.1±0.4, 3903N±002×4112E±002, h3km±3km, n155, σ1§27/180, mb3.8/13, MS3.5/12, 11C-8D, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
ERZM	**Erzurum**	**0.89**	**13**	*i*P		**Pg**	**22 01 03.9**	**-0.3**
ERZM				*i* S		**Sg**	**22 01 13.5**	**-2.2**
EZM	**Erzurum**	**0.89**	**12**	PG		**Pg**	**22 01 01.9**	**-2.3**
EZM	**Erzurum**	**0.89**	**12**	Pg		**Pg**	**22 01 03.9**	**-0.2**
KOPT	**Kop Dagi**	**1.09**	**334**	*i*P		**Pg**	**22 01 07.2**	**-0.8**
KOPT				*i* S		**Sg**	**22 01 23.3**	**+1.1**
BEST	**Besiri**	**1.15**	**174**	*e*P		**Pg**	**22 01 08.6**	**-0.5**
BEST				*e*S		**Sg**	**22 01 25.0**	**+1.1**
HOMI	**Horasan**	**1.18**	**31**	*i*P		**Pg**	**22 01 08.6**	**-1.1**
HOMI				*i* S		**Sg**	**22 01 26.1**	**+1.1**
EZC	**Erzincan**	**1.23**	**306**	PN		**Pn**	**22 01 14.5**	**+3.2**
EZC	**Erzincan**	**1.23**	**306**	Pn		**Pn**	**22 01 14.5**	**+3.3**
PTK	**Pertek**	**1.35**	**264**	PN		**Pn**	**22 01 11.3**	**-1.5**
PTK				*e*SN		**Sn**	**22 01 30.2**	**-1.1**
PTK	**Pertek**	**1.35**	**264**	*i* Pn		**Pn**	**22 01 11.3**	**-1.6**
PTK				*e*Sn		**Sn**	**22 01 30.2**	**-1.1**
PTK				Sg		**Sg**	**22 01 31.9**	**+1.4**
PTK	**Pertek**	**1.35**	**264**	Pn		**Pn**	**22 01 10.9**	**-1.9**
PTK				Sg		**Sg**	**22 01 31.9**	**+1.5**
DIYA	**Diyarbakir**	**1.36**	**215**	*i*P		**Pn**	**22 01 11.9**	**-1.1**
DIYA				*i* S		**Sg**	**22 01 30.1**	**-0.5**
TUTA	**Tutak**	**1.37**	**74**	*i*P		**Pn**	**22 01 11.2**	**-1.9**
TUTA				*i* S		**Sg**	**22 01 31.9**	**+0.8**
AGRB	**Hanur-Agry**	**1.55**	**69**	PN		**Pn**	**22 01 14.1**	**-1.5**
SVRC	**Sivrice-ELAZID**	**1.56**	**246**	PN		**Pn**	**22 01 14.1**	**-1.6**
SVRC				*e*SN		**Sn**	**22 01 36.0**	**-0.4**
MARD	**Mardin**	**1.74**	**189**	*i*P		**Pn**	**22 01 17.0**	**-1.2**
MARD				*i* S		**Sn**	**22 01 39.0**	**-1.9**
ELZG	**Elazig**	**1.75**	**253**	*i*P		**Pn**	**22 01 17.3**	**-1.0**
ELZG				*i* S		**Sg**	**22 01 45.4**	**+2.2**
VANB	**Van**	**1.83**	**103**	*e*PN		**Pn**	**22 01 19.1**	**-0.4**
VANB	**Van**	**1.83**	**103**	Pn		**Pn**	**22 01 19.9**	**+0.5**
SIRT	**Sirnak**	**1.85**	**145**	*e*Pn		**Pn**	**22 01 19.6**	**-0.1**
TVAN	**Van**	**1.86**	**105**	*i*P		**Pn**	**22 01 19.9**	**0.0**
TVAN				*i* S		**Sn**	**22 01 46.1**	**+2.3**
VANT	**Van**	**1.87**	**108**	*e*PN		**Pn**	**22 01 18.7**	**-1.3**
VANT	**Van**	**1.87**	**108**	Pn		**Pn**	**22 01 20.0**	**0.0**
GUMT	**Gumushane**	**1.90**	**319**	*e*PN		**Pn**	**22 01 19.3**	**-1.2**
GUMT	**Gumushane**	**1.90**	**319**	Pn		**Pn**	**22 01 20.9**	**+0.5**
DDEM	**Demirkent**	**1.92**	**15**	*i*P		**Pn**	**22 01 21.0**	**+0.3**
DDEM				*i* S		**Sg**	**22 01 50.2**	**+1.5**
DBAD	**Bademkaya**	**2.03**	**12**	*i*P		**Pn**	**22 01 22.7**	**+0.5**
DBAD				*i* S		**Sg**	**22 01 53.1**	**+0.8**
KEMA	**Kemaliye**	**2.05**	**277**	*i*P		**Pn**	**22 01 21.9**	**-0.6**
KEMA				*i* S		**Sn**	**22 01 51.1**	**+2.5**
DYDN	**Diyadin**	**2.06**	**75**	*i*P		**Pn**	**22 01 22.7**	**+0.1**
DYDN				*i* S		**Sn**	**22 01 50.9**	**+2.1**
DAGI	**Agillar**	**2.13**	**16**	*i*P		**Pn**	**22 01 24.0**	**+0.4**
DAGI				*i* S		**Sg**	**22 01 55.3**	**-0.3**
PZAR	**Pazar-Rize**	**2.15**	**356**	*e*PN		**Pn**	**22 01 22.5**	**-1.4**
CLDR	**Caldiran**	**2.18**	**86**	*e*PN		**Pn**	**22 01 24.6**	**+0.3**
KARS	**Kars**	**2.19**	**43**	*e*PN		**Pn**	**22 01 23.6**	**-0.8**
KARS	**Kars**	**2.19**	**43**	P		**Pn**	**22 01 26.0**	**+1.6**
KARS	**Kars**	**2.19**	**43**	Pn		**Pn**	**22 01 26.0**	**+1.5**
KTUT	**Trabzon**	**2.21**	**332**	*e*PN		**Pn**	**22 01 23.6**	**-1.1**
DBOC	**Borcka**	**2.35**	**10**	*i*P		**Pn**	**22 01 26.9**	**+0.4**
DBOC				*i* S		**Sn**	**22 02 00.2**	**+4.3**
URFA	**Urfa**	**2.41**	**229**	*e*PN		**Pn**	**22 01 26.6**	**-0.8**
BCA	**Borcka**	**2.44**	**9**	*e*PN		**Pn**	**22 01 26.7**	**-1.1**
BCA	**Borcka**	**2.44**	**9**	Pn		**Pn**	**22 01 28.3**	**+0.4**
HKR	**Hakkari**	**2.53**	**124**	*e*PN		**Pn**	**22 01 29.7**	**+0.6**
DARE	**Darende-Malaty**	**2.58**	**269**	*e*PN		**Pn**	**22 01 33.1**	**+3.4**
AKCD	**Akcadag**	**2.61**	**255**	*i*P		**Pn**	**22 01 29.1**	**-1.0**
AKCD				*i* S		**Sg**	**22 02 09.8**	**-1.0**
ESPY	**Espiye-Giresun**	**2.63**	**316**	*e*PN		**Pn**	**22 01 29.3**	**-1.1**
ATAB	**Bozova**	**2.71**	**236**	*i*P		**Pn**	**22 01 30.6**	**-1.0**
ATAB				*i* S		**Sg**	**22 02 13.0**	**-1.3**
GRSN	**GIRESUNGRSN**	**2.89**	**312**	*i* P		**Pn**	**22 01 38.5**	**+4.5**
GRSN				*i* S		**Sn**	**22 02 14.8**	**+5.5**
GNI	**Garni**	**3.02**	**67**	*e*PN		**Pn**	**22 01 36.1**	**+0.3**
GNI	**Garni**	**3.02**	**67**	Pn		**Pn**	**22 01 36.5**	**+0.8**
	12nm,0.3s,baz=288,slow=3.6,SNR=136							
GNI				Lg			22 02 36.0	
	5.6nm,0.3s,baz=358,slow=23,SNR=3.6							
GNI	**Garni**	**3.02**	**67**	Pn		**Pn**	**22 01 37.2**	**+1.5**
GNI	**Garni**	**3.02**	**67**	Pn		**Pn**	**22 01 37.2**	**+1.5**
GNI				Lg			22 02 36.0	
MSL	**Mosul**	**3.07**	**148**	*ex*		x	22 01 37.0	
MSL				*i* x		x	22 01 47.5	
MSL				*i* x		x	22 02 16.0	
MSL				*i* x		x	22 02 23.0	
MSL				*i* x		x	22 02 29.0	
MSL				*ex*		x	22 04 19.0	
SVSK	**Karacayir**	**3.31**	**287**	*e*PN		**Pn**	**22 01 39.7**	**0.0**
SARI	**SarD1z-Kayseri**	**3.47**	**266**	*e*PN		**Pn**	**22 01 46.2**	**+4.3**
GAZ	**Gaziantep**	**3.60**	**240**	*e*PN		**Pn**	**22 01 43.1**	**-0.7**
GAZ	**Gaziantep**	**3.60**	**240**	Pn		**Pn**	**22 01 45.1**	**+1.3**
KMRS	**Kahramanmaras**	**3.65**	**247**	*e*PN		**Pn**	**22 01 44.5**	**0.0**
GOR	**Gori**	**3.73**	**37**	P		**Pn**	**22 01 50.5**	**+4.9**
TOKT	**Tokat**	**3.75**	**291**	*e*PN		**Pn**	**22 01 46.0**	**+0.1**
TOKT	**Tokat**	**3.75**	**291**	Pn		**Pn**	**22 01 47.4**	**+1.5**
TBLG	**Delisi**	**3.86**	**45**	P		**Pn**	**22 01 48.4**	**+1.0**
TBLG				S		**Sg**	**22 02 56.0**	**+4.9**
MTA	**Mtatsminda**	**3.87**	**45**	P		**Pn**	**22 01 48.5**	**+1.0**
MTA				S		**Sg**	**22 02 58.9**	**+7.7**
ONI	**Oni**	**3.96**	**26**	P		**Pn**	**22 01 50.5**	**+1.8**
ONI				S		**Sg**	**22 03 01.5**	**+7.2**
DGRG	**David-gareji**	**4.05**	**52**	P		**Pn**	**22 01 51.9**	**+1.9**
DGRG				S		**Sg**	**22 03 09.4**	**+12**
BNN	**Bunyan**	**4.11**	**269**	*e*PN		**Pn**	**22 01 51.2**	**+0.4**
BNN	**Bunyan**	**4.11**	**269**	Pn		**Pn**	**22 01 52.2**	**+1.3**
KVT	**Kavak**	**4.39**	**299**	*e*PN		**Pn**	**22 01 54.9**	**+0.2**
KVT	**Kavak**	**4.39**	**299**	P		**Pn**	**22 01 56.3**	**+1.6**
KVT	**Kavak**	**4.39**	**299**	Pn		**Pn**	**22 01 56.3**	**+1.6**
YOZ	**Yozgat**	**4.53**	**279**	*e*PN		**Pn**	**22 01 57.2**	**+0.6**
YOZ	**Yozgat**	**4.53**	**279**	Pn		**Pn**	**22 01 58.4**	**+1.8**
SOC	**Sochi**	**4.67**	**347**	*e*P		**Pn**	**22 01 58.1**	**-0.3**
SOC				*e*			22 02 52.6	
SOC					pmax	pmax		
	comp=Z,37nm,0.6s							
SOC					MLR	MLR		
	comp=Z,111nm,8.0s							
SOC	**Sochi**	**4.67**	**347**	*e*P		**Pn**	**22 01 58.1**	**-0.3**
	comp=Z,37nm,0.6s							
SOC				*e*S		**Sn**	**22 02 52.6**	**-0.5**
	comp=Z,111nm,8.0s							
HTY	**Hatay**	**4.91**	**235**	*e*PN		**Pn**	**22 02 03.4**	**+1.6**
KIV	**Kislovodsk**	**5.06**	**13**	*e*P		**Pn**	**22 02 02.6**	**-1.2**
KIV				*e*			22 02 59.5	
KIV					pmax	pmax		
	comp=Z,28nm,0.9s							
KIV	**Kislovodsk**	**5.06**	**13**	*e*Pn		**Pn**	**22 02 02.5**	**-1.3**
	comp=Z,28nm,0.9s							
KIV	**Kislovodsk**	**5.06**	**13**	*e*Pg		**Pg**	**22 02 22.1**	**-1.8**
KIV				*e*S		**Sn**	**22 02 59.5**	**-3.2**
KIV	**Kislovodsk**	**5.06**	**13**	*e*Pn		**Pn**	**22 02 02.5**	**-1.2**
	comp=Z,28nm,0.9s							
KIV				*e*Pg		**Pg**	**22 02 22.1**	**-1.8**
KIV				*e*Sn		**Sn**	**22 02 59.5**	**-3.2**
KUBR	**Kubataba**	**5.06**	**19**	*e*P		**Pn**	**22 02 13.0**	**+9.1**
KARA	**Karaisali**	**5.09**	**252**	*e*PN		**Pn**	**22 02 05.2**	**+0.8**
CORM	**Corum**	**5.14**	**285**	*e*PN		**Pn**	**22 02 05.3**	**+0.4**
NIG	**Nigde**	**5.18**	**262**	Pn		**Pn**	**22 02 07.5**	**+2.0**
NIG	**Nigde**	**5.18**	**262**	Pn		**Pn**	**22 02 07.5**	**+2.0**
BYBT	**Boyabat**	**5.43**	**299**	*e*PN		**Pn**	**22 02 09.5**	**+0.5**
BYBT	**Boyabat**	**5.43**	**299**	Pn		**Pn**	**22 02 11.7**	**+2.7**
MERS	**Mersin**	**5.64**	**250**	*e*PN		**Pn**	**22 02 13.4**	**+1.6**
KAMT	**Kaman**	**5.76**	**276**	*e*PN		**Pn**	**22 02 14.5**	**+1.0**
KAMT	**Kaman**	**5.76**	**276**	Pn		**Pn**	**22 02 15.2**	**+1.8**
BR131	**Keskin Array S**	**5.83**	**279**	*e*Pn		**Pn**	**22 02 14.0**	**-0.5**
	comp=Z,9.1nm,0.6s							
BR131				*e*Sn		**Sn**	**22 03 18.6**	**-3.3**
BR131	**Keskin Array S**	**5.83**	**279**	*e*Pn		**Pn**	**22 02 14.0**	**-0.5**
	comp=Z,9.1nm,0.6s							
BR131				*e*Sn		**Sn**	**22 03 18.6**	**-3.3**
HWQ	**Hawqa**	**6.31**	**223**	*e*Pn		**Pn**	**22 02 21.3**	**+0.3**
ANTO	**Ankara**	**6.49**	**280**	*e*PN		**Pn**	**22 02 24.8**	**+1.2**
ANTO	**Ankara**	**6.49**	**280**	Pn		**Pn**	**22 02 27.6**	**+4.0**
BHL	**Bhannes**	**6.75**	**222**	*e*Pn		**Pn**	**22 02 27.6**	**+0.6**
HDMB	**Hadim**	**7.12**	**256**	*e*PN		**Pn**	**22 02 33.5**	**+1.4**
HDMB	**Hadim**	**7.12**	**256**	Pn		**Pn**	**22 02 34.2**	**+2.0**
HDMB	**Hadim**	**7.12**	**256**	Pn		**Pn**	**22 02 34.2**	**+2.0**
MMAI	**Mount Meron Ar**	**7.58**	**219**	Pn		**Pn**	**22 02 39.8**	**+1.3**
	comp=Z,1.8nm,0.3s,baz=59,slow=15,SNR=9.8							
MMAI				Lg			22 04 49.5	
	comp=Z,2.1nm,0.3s,baz=67,slow=28,SNR=7.9							
MMAI				LR		LR	22 05 30.1	
	comp=Z,147nm,19.1s,baz=65,slow=37							
ASF	**Jabal al Asfar**	**7.66**	**208**	Pn		**Pn**	**22 02 40.2**	**+0.6**
	comp=Z,0.3nm,0.3s,baz=263,slow=4.4,SNR=10							
ASF				Sn		**Sn**	**22 04 10.4**	**+3.5**
	comp=Z,0.2nm,0.3s,baz=304,slow=3.3,SNR=2.3							
ASF				Lg			22 04 50.3	
	comp=Z,0.5nm,0.3s,baz=77,slow=23,SNR=4.3							
ASF				LR		LR	22 05 39.2	
	comp=Z,172nm,18.6s,baz=264,slow=38							
ASF	**Jabal al Asfar**	**7.66**	**208**	P		**Pn**	**22 02 40.2**	**+0.6**
ASF							22 04 10.4	
ASF					MLR	MLR		
	comp=Z,172nm,18.6s							
MIB	**Mutribah**	**10.54**	**149**	*e*P		**Pn**	**22 03 15.8**	**-3.3**
	baz=149							
MIB					AMb	AMB	22 03 27.5	
	comp=Z,22nm,0.6s,baz=149							
EIL	**Elat**	**10.64**	**210**	Lg			22 06 23.4	
	comp=Z,0.2nm,0.3s,baz=64,slow=17,SNR=2.4							
EIL				LR		LR	22 08 05.2	
	comp=Z,73nm,20.9s,baz=33,slow=41							
NAY	**Al-Naaiem**	**11.00**	**151**	*e*P		**Pn**	**22 03 22.0**	**-3.3**
	baz=151							
NAY					AMb	AMB	22 03 44.7	
	comp=Z,7.0nm,1.0s,baz=151							
RDF	**Al-Radifah**	**11.40**	**150**	*e*P		**Pn**	**22 03 27.2**	**-3.7**
	baz=150							
RDF					AMb	AMB	22 03 33.2	
	comp=Z,17nm,1.0s,baz=150							
AKASG	**Malin Array Be**	**14.37**	**328**	Pn		**Pn**	**22 04 07.6**	**-3.7**
	comp=Z,0.5nm,0.3s,baz=134,slow=14,SNR=6.2							
AKASG	**Malin Array Be**	**14.37**	**328**	*i* P		**Pn**	**22 04 10.1**	**-1.2**
OBN	**Obninsk**	**16.38**	**351**	*e*P		**Pn**	**22 04 36.3**	**-1.5**
OBN				*e*S		**Sn**	**22 07 36.0**	**-3.8**
OBN					pmax	pmax		
	comp=Z,9.0nm,1.7s							
OBN					MLR	MLR		
	comp=Z,100nm,16.0s							
OBN	**Obninsk**	**16.38**	**351**	*e*P		**Pn**	**22 04 36.3**	**-1.5**
	comp=Z,9.0nm,1.7s							
OBN				*e*S		**Sn**	**22 07 36.0**	**-3.8**
	comp=Z,100nm,16.0s							
AKTK	**Aktyubinsk**	**16.51**	**41**	P		**Pn**	**22 04 37.4**	**-2.2**
AKTK	**Aktyubinsk**	**16.51**	**41**	Pn		**Pn**	**22 04 37.4**	**-2.2**
AKTO	**Aktyubinsk**	**16.51**	**41**	Pn		**Pn**	**22 04 37.4**	**-2.1**
	comp=Z,0.1nm,0.3s,baz=212,slow=12,SNR=4.3							
PSZ	**Piszkesteto**	**17.73**	**307**	*e*P		**Pn**	**22 04 53.5**	**-1.4**
PSZ					pmax	pmax		
	comp=Z,20nm,1.4s							
PSZ	**Piszkesteto**	**17.73**	**307**	*e*P		**Pn**	**22 04 53.5**	**-1.4**
	comp=Z,20nm,1.4s							
PSZ	**Piszkesteto**	**17.73**	**307**	*e*P		**Pn**	**22 04 53.5**	**-1.4**
	comp=Z,20nm,1.4s							
OKC	**Ostrava-Krasne**	**19.56**	**311**	AMS		AMS	22 15 50.0	
	comp=Z,500nm,5.7s							
DPC	**Dobruska-Polom**	**20.84**	**311**	*e*P		**P**	**22 05 31.6**	**+1.8**
	comp=Z,300nm,6.1s							
DPC	**Dobruska-Polom**	**20.84**	**311**	*e*P		**P**	**22 05 31.6**	**+1.8**
DPC					AMS	AMS	22 17 10.0	
	comp=Z,300nm,6.1s							
ARU	**Arti**	**20.89**	**28**	*c* iP		**P**	**22 05 31.2**	**+1.0**
ARU				*e*			22 05 49.6	
ARU				*e*S		**S**	**22 09 26.0**	**+2.5**
ARU				*e*SS			22 09 45.9	
ARU					pmax	pmax		
	comp=Z,4.0nm,0.8s							
ARU	**Arti**	**20.89**	**28**	*i* P		**P**	**22 05 31.2**	**+1.0**
	comp=Z,4.0nm,0.8s							
TREC	**Trest**	**20.96**	**308**	AMS		AMS	22 16 50.0	
	comp=Z,500nm,6.2s							
VAE	**Valguarnera**	**21.00**	**274**	P		**P**	**22 05 33.4**	**+1.7**
	comp=Z,5.7nm,0.8s,mb4.0,baz=283,slow=5.3,SNR=2.3							
VSU	**Vasula**	**21.54**	**339**	*i* P		**P**	**22 05 36.9**	**-0.4**
PRU	**Pruhonice**	**21.77**	**309**	*e*P		**P**	**22 05 44.5**	**+4.7**
PRU					AMS	AMS	22 21 10.0	
	comp=Z,500nm,6.4s							
KLMR	**Klimovskoe**	**21.87**	**358**	*e*P		**P**	**22 05 41.4**	**+0.7**
KLMR					pmax	pmax		
	comp=Z,53nm,2.1s,mb4.6							
KLMR	**Klimovskoe**	**21.87**	**358**	*e*P		**P**	**22 05 41.4**	**+0.7**
	comp=Z,53nm,2.1s,mb4.6							
GERES	**GERESS Array B**	**21.93**	**305**	P		**P**	**22 05 41.5**	**-0.1**
	comp=Z,1.1nm,0.9s,mb3.3,baz=108,slow=8.6,SNR=4.6							
GERES				LR		LR	22 15 37.1	
	comp=Z,96nm,20.1s,MS3.2,baz=103,slow=41							
GERES	**GERESS Array B**	**21.93**	**305**	P		**P**	**22 05 41.5**	**-0.1**
GERES					pmax	pmax		
	comp=Z,1.0nm,0.9s							
GERES					MLR	MLR		
	comp=Z,96nm,20.1s							
PVCC	**Panska Ves**	**21.95**	**310**	*e*P		**P**	**22 05 46.2**	**+4.5**
PVCC					AMS	AMS	22 17 00.0	
	comp=Z,500nm,6.0s							
KHC	**Kasperske Hory**	**22.09**	**306**	*e*P		**P**	**22 05 48.2**	**+4.9**
KHC					AMS	AMS	22 18 00.0	
	comp=Z,400nm,6.6s							
NKC	**Novy Kostel**	**23.12**	**308**	AMS		AMS	22 16 40.0	
	comp=Z,200nm,12.6s							
CLL	**Collm**	**23.15**	**311**	*i* (sP)		sP	22 05 58.6	+3.0
	comp=Z,10.0nm,1.3s							
GRA1	**Grafenberg Arr**	**23.73**	**306**	*e*P		**P**	**22 06 05.4**	**+5.0**
GRF	**Grafenberg Arr**	**23.73**	**306**	*e*P		**P**	**22 06 05.4**	**+5.0**
DAVOX	**Davos/Dischmat**	**24.04**	**299**	LR		LR	22 17 14.4	
	comp=Z,124nm,19.3s,MS3.4,baz=269,slow=41							
BVAR	**Borovoye Array**	**24.46**	**46**	P		**P**	**22 06 06.0**	**-1.0**
	comp=Z,0.4nm,0.6s,mb3.0,baz=274,slow=4.2,SNR=2.6							

SMLA				*ex*	x	22 24 53.5	
	comp=E,2μm,0.3s						
SMLA				*ex*	x	22 24 54.0	
	comp=N,2μm,0.3s						
KLP	**Kalpa**	**2.12**	**134**	*e*P	**Pn**	**22 24 26.9**	**-0.3**
KLP				*e*S	**Sn**	**22 24 53.5**	**+1.0**
KLP				AML	AML	22 25 01.7	
	comp=N,299nm,0.5s						
KLP				AML	AML	22 25 02.2	
	comp=E,204nm,0.4s						
KK31	**Karatay Array**	**11.10**	**337**	Pn	**Pn**	**22 26 37.6**	**+7.2**
	comp=E,0.4nm,0.3s,baz=154,slow=14,SNR=19						
KK31				⇓Sn	**Sn**	**22 28 34.1**	**+0.9**
	comp=E,0.6nm,0.5s,baz=157,slow=24,SNR=3.5						

IDC ***28*** *22:50:45.8±0.7, 1155S×16621E, h0km, mb4.5/17, mb1 4.6/18, mb1mx4.6/19, mbtmp4.5/18, ML4.7/1, MS4.2/16, Ms1 4.2/16, ms1mx3.9/26, Error ellipse: s-maj=23.8km s-min=17.0km az=132.0*

BJI ***28*** *22:50:47.5, 1150S×16630E, h25km, mB5.1, mb4.8, Ms4.6, Msz4.4*

NEIC ***28*** *22:50:49.5±2.2, 1152S×16627E, h25km±15km, mb4.9/25, Error ellipse: s-maj=8.1km s-min=7.0km az=143.0*

GCMT ***28*** *22:50:49.5±0.3, 1167S×16601E, h35km, MW5.0/47, Moment Tensor Solution. s47,c68; s35,c48; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr3.87±.18; Mθθ0.20±.16; Mϕϕ-4.08±.14; Mrθ1.24±.23; Mrϕ1.71±.14; Mθϕ0.12±.15; Best double couple: M=4.49400×10¹⁶ NP1:ϕs359.00000°, δ46.00000°, λ117.00000°. NP2: ϕs143.00000°, δ50.00000°, λ65.00000°. Principal axes: T 4.2990, Plg71.0000°, Azm346.0000°; N 0.3840, Plg19.0000°, Azm160.0000°; P -4.6900, Plg2.0000°, Azm250.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

ISCJB ***28*** *22:50:49.2±0.3, 1158S±006×16623E±006, h33km, mb4.8/40, MS4.2/19 Error ellipse: s-maj=8.7km s-min=7.8km az=36.1*

MOS ***28*** *22:50:49.1±1.4, 1158S×16621E, h33km, mb5.0/9, Error ellipse: s-maj=13.4km s-min=9.4km az=8.5*

DJA ***28*** *22:51:03, 1161S×16627E, h138km, mb4.9/9*

ISC 28 22:50:46.5±3.5, 1153S±006×16625E±006, h4km±21km, n113, σ0§95/75, mb4.8/41, MS4.2/19, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**6.54**	**288**	Pn	**Pn**	**22 52 24.1**	**+0.6**
	18nm,0.3s,baz=358,slow=8.6,SNR=14						
HNR				Sn	**Sn**	**22 53 33.1**	**-5.5**
	35nm,0.3s,baz=165,slow=20,SNR=7.0						
DZM	**Mont Dzumac**	**10.48**	**179**	*e*Pn	**Pn**	**22 53 19.3**	**+1.6**
TARA	**Tarawa**	**14.42**	**28**	*e*Pn	**Pn**	**22 54 11.7**	**+0.2**
	194nm,1.0s						
PMG	**Port Moresby**	**18.89**	**275**	*e*P	**Pn**	**22 55 07.0**	**-1.7**
PMG				pmax	pmax		
	comp=Z,23nm,1.1s						
PMG	**Port Moresby**	**18.89**	**275**	*e*P	**Pn**	**22 55 07.0**	**-1.7**
	comp=Z,23nm,1.1s						
EIDS	**Eidsvold**	**19.88**	**224**	*e*P	**Pn**	**22 55 20.7**	**+0.2**
	comp=Z,24nm,0.6s						
CTA	**Charters Tower**	**21.02**	**244**	*e*P	**P**	**22 55 32.3**	**+0.9**
	comp=Z,8.3nm,0.8s,mb4.1						
CTA	**Charters Tower**	**21.02**	**244**	P	**P**	**22 55 31.9**	**+0.5**
	comp=Z,8.0nm,0.6s,mb4.2,baz=75,slow=11,SNR=14						
CTA				LR	LR	23 02 24.7	
	comp=Z,902nm,19.1s,MS4.2,baz=53,slow=33						
CTA	**Charters Tower**	**21.02**	**244**	*e*P	**P**	**22 55 32.3**	**+0.9**
CTA				pmax	pmax		
	comp=Z,8.0nm,0.8s						
CTAO	**Charters Tower**	**21.02**	**244**	*e*P	**P**	**22 55 32.2**	**+0.8**
CTAO				pmax	pmax		
	comp=Z,13nm,0.8s,mb4.3						
CTAO	**Charters Tower**	**21.02**	**244**	*e*P	**P**	**22 55 32.2**	**+0.8**
	comp=Z,13nm,0.8s,mb4.3						
AFI	**Afiamalu**	**21.57**	**99**	LR	LR	23 03 07.3	
	comp=Z,508nm,18.1s,MS4.0,baz=252,slow=34						
AFI	**Afiamalu**	**21.57**	**99**	P	**P**	**22 55 36.9**	**-0.4**
COEN	**Coen**	**22.63**	**261**	*e*P	**P**	**22 55 48.2**	**-0.5**
	comp=Z,6.1nm,0.8s,mb4.1						
ARMA	**Armidale**	**23.18**	**214**	*e*P	**P**	**22 55 55.4**	**+1.0**
URZ	**Urewera**	**28.34**	**162**	LR	LR	23 06 13.4	
	comp=Z,720nm,20.8s,MS4.2,baz=332,slow=33						
STKA	**Stephens Creek**	**30.44**	**224**	*e*P	**P**	**22 57 01.0**	**+0.7**
	comp=Z,8.7nm,2.0s,mb4.1						
STKA	**Stephens Creek**	**30.44**	**224**	P	**P**	**22 56 59.4**	**-0.8**
	comp=Z,5.4nm,0.9s,mb4.3,baz=76,slow=11,SNR=7.2						
STKA				PcP	PcP	22 59 59.9	0.0
	comp=Z,4.8nm,0.6s,baz=38,slow=2.2,SNR=6.5						
STKA				LR	LR	23 08 44.8	
	comp=Z,798nm,20.2s,MS4.4,baz=30,slow=36						
WRAB	**Tennant Creek**	**31.77**	**251**	*e*P	**P**	**22 57 11.0**	**-1.2**
WRAB				pmax	pmax		
	comp=Z,18nm,1.3s,mb4.7						
WRAB	**Tennant Creek**	**31.77**	**251**	*e*P	**P**	**22 57 11.0**	**-1.2**
	comp=Z,18nm,1.3s,mb4.7						
RPZ	**Rata Peaks**	**32.34**	**173**	LR	LR	23 08 19.9	
	comp=Z,420nm,21.9s,MS4.1,baz=315,slow=33						
GUMO	**Guam**	**32.75**	**319**	LR	LR	23 09 09.6	
	comp=Z,330nm,19.4s,MS4.0,baz=105,slow=34						
ASAR	**Alice Springs**	**33.02**	**244**	P	**P**	**22 57 21.6**	**-1.6**
	comp=Z,6.2nm,0.6s,mb4.7,baz=67,slow=9.7,SNR=64						
ASAR				PcP	PcP	23 00 06.5	-0.6
	comp=Z,1.8nm,0.6s,baz=56,slow=3.0,SNR=6.2						
RAR	**Rarotonga**	**33.93**	**111**	LR	LR	23 08 11.0	
	comp=Z,451nm,21.6s,MS4.2,baz=281,slow=31						
RAR	**Rarotonga**	**33.93**	**111**	*e*P	**P**	**22 57 30.3**	**-0.7**
BATI	**Baumata**	**41.81**	**268**	P	**P**	**22 58 36.6**	**-1.1**
	comp=Z,9.0nm,0.4s,mb4.7,baz=130,slow=0.3,SNR=5.4						
PPT	**Papeete**	**43.10**	**103**	LR	LR	23 14 25.0	
	comp=Z,308nm,19.7s,MS4.2,baz=285,slow=33						
MBWA	**Marble Bar**	**45.51**	**252**	*e*P	**P**	**22 59 07.1**	**-0.4**
	comp=Z,12nm,0.8s,mb4.5						
KAPI	**Kappang**	**46.42**	**274**	P	**P**	**22 59 13.8**	**-0.9**
	comp=Z,6.3nm,0.4s,mb4.9,baz=196,slow=4.8,SNR=7.3						
NWAO	**Narrogin (SRO)**	**49.60**	**236**	*e*P	**P**	**22 59 39.0**	**-0.2**
NWAO				pmax	pmax		
	comp=Z,63nm,1.4s						
NWAO	**Narrogin (SRO)**	**49.60**	**236**	*e*P	**P**	**22 59 39.0**	**-0.2**
	comp=Z,63nm,1.4s,mb5.5						
JHJ	**Hachijo jima 2**	**51.07**	**331**	LR	LR	23 16 31.6	
	comp=Z,271nm,21.8s,MS4.2,baz=74,slow=30						
KKM	**Kota Kinabalu**	**52.75**	**287**	P	**P**	**23 00 02.3**	**-0.8**
JOW	**Kunigami**	**53.04**	**317**	LR	LR	23 22 09.8	
	comp=Z,178nm,18.0s,MS4.2,baz=290,slow=36						
MJAR	**Matsushiro Arr**	**54.62**	**332**	P	**P**	**23 00 15.4**	**-0.9**
	comp=Z,3.2nm,0.7s,mb4.5,baz=167,slow=8.6,SNR=11						
KSRS	**Korea Array**	**60.55**	**325**	P	**P**	**23 00 57.3**	**-0.9**
	comp=Z,0.7nm,0.3s,mb4.2,baz=286,slow=15,SNR=3.7						
PETK	**Petropavlovsk-**	**64.79**	**354**	P	**P**	**23 01 25.2**	**-1.0**
	comp=Z,3.3nm,0.8s,mb4.4,baz=169,slow=7.7,SNR=4.1			PKKP			
PETK						23 22 01.9	
	comp=Z,4.4nm,0.9s,baz=316,slow=10,SNR=3.7						
PETK				LR	LR	23 23 50.2	
	comp=Z,141nm,20.8s,MS4.1,baz=178,slow=31						
CASY	**Casey**	**66.11**	**201**	*e*P	**P**	**23 01 34.1**	**-0.4**
	comp=Z,14nm,0.8s,mb5.0						
SBA	**Scott Base**	**66.32**	**180**	*e*P	**P**	**23 01 36.3**	**+0.5**
SBA				pmax	pmax		
	comp=Z,13nm,0.7s,mb5.1						
SBA	**Scott Base**	**66.32**	**180**	*e*P	**P**	**23 01 36.3**	**+0.6**
	comp=Z,13nm,0.7s,mb5.1						
XAN	**Xi'an**	**70.81**	**312**	P	**P**	**23 02 04.0**	**-0.5**
XAN				AP	pP	23 02 11.8	+6.0
XAN				AMB	AMB		
	comp=Z,14nm,1.1s,mb4.8						
XAN				AMB	AMB		
	comp=Z,62nm,4.8s						
XAN				LR	LR		
	comp=E,114nm,12.1s						
XAN				LR	LR		
	comp=Z,214nm,20.1s						
KMI	**Kunming**	**71.79**	**301**	P	**P**	**23 02 12.5**	**+1.8**
KMI				AMB	AMB		
	comp=Z,13nm,1.1s,mb4.8						
KMI				LR	LR		
	comp=Z,81nm,18.4s,MS4.0						
CMAR	**Chiang Mai Arr**	**72.75**	**294**	P	**P**	**23 02 17.8**	**+1.2**
	comp=Z,1.7nm,0.6s,mb4.2,baz=121,slow=4.5,SNR=12						
CHTO	**Chiang Mai**	**72.87**	**294**	*e*P	**P**	**23 02 18.0**	**+0.8**
CHTO				pmax	pmax		
	comp=Z,5.0nm,1.1s,mb4.4						
CHTO	**Chiang Mai**	**72.87**	**294**	*e*P	**P**	**23 02 18.0**	**+0.8**
	comp=Z,4.8nm,1.1s,mb4.3						
QSPA	**South Pole Qui**	**78.48**	**180**	*e*P	**P**	**23 02 48.0**	**-0.3**
	comp=Z,35nm,1.3s,mb5.1						
ULN	**Ulaanbaatar**	**78.98**	**324**	*e*P	**P**	**23 02 52.4**	**+0.9**
ULN				pmax	pmax		
	comp=Z,6.0nm,0.8s,mb4.6						
ULN	**Ulaanbaatar**	**78.98**	**324**	*e*P	**P**	**23 02 52.4**	**+0.9**
	comp=Z,6.1nm,0.8s,mb4.6						
SONM	**Songino Array**	**79.34**	**324**	P	**P**	**23 02 54.3**	**+0.8**
	comp=Z,2.5nm,0.7s,mb4.3,baz=134,slow=4.6,SNR=21						
SONM				LR	LR	23 34 07.9	
	comp=Z,102nm,21.9s,MS4.1,baz=35,slow=33						
GTA	**Gaotai**	**79.75**	**314**	*e*P	**P**	**23 02 57.8**	**+1.9**
GTA				AMB	AMB		
	comp=Z,14nm,1.1s,mb4.8						
GTA				AMB	AMB		
	comp=Z,82nm,4.8s						
GTA				LR	LR		
	comp=N,106nm,16.5s,MS4.5						
GTA				LR	LR		
	comp=E,154nm,16.5s,MS4.5						
GTA				LR	LR		
	comp=Z,203nm,20.4s,MS4.5						
SHL	**Shillong**	**81.18**	**298**	*e*P	**P**	**23 03 00.6**	**-3.3**
ZAK	**Zakamensk**	**82.38**	**325**	*e*P	**P**	**23 03 09.5**	**-0.1**
ZAK				pmax	pmax		
	comp=Z,5.0nm,0.9s,mb4.4						
MCK	**McKinley**	**82.44**	**18**	*e*P	**P**	**23 03 09.5**	**-0.2**
LSA	**Lhasa**	**83.03**	**302**	*e*P	**P**	**23 03 17.0**	**+3.5**
LSA	**Lhasa**	**83.03**	**302**	*e*P	**P**	**23 03 15.1**	**+1.6**
LSA				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.5						
LSA	**Lhasa**	**83.03**	**302**	*e*P	**P**	**23 03 15.1**	**+1.6**
	comp=Z,3.3nm,0.6s,mb4.5						
COLA	**College**	**83.59**	**18**	*e*P	**P**	**23 03 13.7**	**-1.9**
COLA				pmax	pmax		
	comp=Z,5.0nm,0.6s,mb4.8						
COLA	**College**	**83.59**	**18**	*e*P	**P**	**23 03 13.7**	**-1.9**
	comp=Z,4.6nm,0.6s,mb4.8						
MAW	**Mawson**	**84.46**	**202**	P	**P**	**23 03 19.5**	**-0.7**
	comp=Z,1.8nm,0.5s,mb4.4,baz=94,slow=4.4,SNR=7.1						
MAW				LR	LR	23 33 44.4	
	comp=Z,120nm,21.9s,MS4.2,baz=240,slow=30						
MAW	**Mawson**	**84.46**	**202**	*e*P	**P**	**23 03 19.4**	**-0.8**
MAW				LR	LR	23 33 44.4	
TAPN	**Taplejung**	**85.27**	**299**	*e*P	**P**	**23 03 26.6**	**+1.6**
	comp=Z,12nm,0.8s,mb5.1						
ODAN	**Odare**	**85.41**	**298**	*e*P	**P**	**23 03 26.4**	**+0.7**
	comp=Z,43nm,0.7s,mb5.7						
EGAK	**Eagle**	**85.66**	**20**	*e*P	**P**	**23 03 26.4**	**+0.3**
	comp=Z,5.2nm,0.7s,mb4.9						
NVAR	**Mina Array Bea**	**85.96**	**50**	P	**P**	**23 03 28.2**	**+0.1**
	comp=Z,0.5nm,0.7s,mb3.9,baz=235,slow=7.1,SNR=4.8						
RAMN	**Ramite**	**86.12**	**298**	*e*P	**P**	**23 03 29.6**	**+0.4**
JIRN	**Jiri**	**86.65**	**299**	*e*P	**P**	**23 03 33.1**	**+1.2**
GUN	**Gumba**	**86.98**	**299**	*e*P	**P**	**23 03 34.0**	**+0.5**
PKI	**Pulchoki**	**87.30**	**299**	*e*P	**P**	**23 03 35.2**	**+0.2**
KKN	**Kakani**	**87.46**	**299**	*e*P	**P**	**23 03 36.3**	**+0.5**
	comp=Z,45nm,1.2s,mb5.6						
DMN	**Daman**	**87.57**	**299**	*e*P	**P**	**23 03 36.7**	**+0.4**
	comp=Z,30nm,0.8s,mb5.6						
GKN	**Gorkha**	**88.07**	**299**	*e*P	**P**	**23 03 38.6**	**-0.1**
	comp=Z,28nm,0.8s,mb5.6						
DANN	**Dangsing**	**88.90**	**299**	*e*P	**P**	**23 03 42.5**	**-0.1**
	comp=Z,27nm,0.7s,mb5.7						
KOLN	**Koldanda**	**88.90**	**298**	*e*P	**P**	**23 03 42.2**	**-0.5**
	comp=Z,16nm,0.8s,mb5.4						
PDAR	**Pinedale Array**	**93.52**	**47**	PKKPbc	PKKPbc	23 21 09.9	-1.2
	comp=Z,0.7nm,0.7s,baz=88,slow=4.7,SNR=6.3						
PDAR				LR	LR	23 42 19.8	
	comp=Z,91nm,19.2s,MS4.2,baz=142,slow=33						
MK31	**Makanchi Array**	**94.21**	**317**	*e*P	**P**	**23 04 07.5**	**+0.7**
MKAR	**Makanchi Array**	**94.21**	**317**	P	**P**	**23 04 07.2**	**+0.3**
	comp=Z,10nm,0.7s,mb5.4,baz=95,slow=6.2,SNR=82						
ZALV	**Zalesovo Beam**	**94.23**	**324**	P	**P**	**23 04 06.6**	**-0.2**
	comp=Z,4.4nm,0.7s,mb5.0,baz=118,slow=4.2,SNR=23						
ZALV	**Zalesovo Beam**	**94.23**	**324**	P	**P**	**23 04 06.6**	**-0.2**
YKA	**Yellowknife Ar**	**95.17**	**27**	P	**P**	**23 04 09.8**	**-1.1**
	comp=Z,0.7nm,0.7s,mb4.2,baz=255,slow=5.1,SNR=3.5						
YKA				LR	LR	23 39 20.7	
	comp=Z,40nm,19.9s,MS3.9,baz=165,slow=31						
TXAR	**Lajitas Array**	**95.63**	**61**	P	**P**	**23 04 15.2**	**+1.5**
	comp=Z,0.3nm,0.7s,mb3.8,baz=261,slow=4.7,SNR=2.5						
TXAR				LR	LR	23 39 43.2	
	comp=Z,165nm,19.1s,MS4.5,baz=165,slow=31						
SNAA	**Sanae**	**96.67**	**183**	*e*P	**P**	**23 04 16.0**	**-1.6**
SNAA				pmax	pmax		
	comp=Z,2.0nm,0.8s						
SNAA	**Sanae**	**96.67**	**183**	*e*P	**P**	**23 04 16.0**	**-1.7**
	comp=Z,1.8nm,0.8s,mb4.5						
KURK	**Kurchatov**	**97.32**	**320**	P	**P**	**23 04 20.2**	**-0.7**
	comp=Z,0.6nm,0.3s,mb4.5,baz=100,slow=3.9,SNR=6.6						
ARCES	**ARCESS Array B**	**116.92**	**346**	PKP	PKPdf	23 09 30.0	-2.0
	comp=Z,2.8nm,0.8s,baz=352,slow=6.1,SNR=3.8						
OBN	**Obninsk**	**121.47**	**329**	*e*PKIKP	PKPdf	23 09 32.1	-9.0
OBN				pmax	pmax		
	comp=Z,5.0nm,0.9s						
BOSA	**Boshof**	**125.10**	**223**	PKP	PKPdf	23 09 49.1	+0.1
	comp=Z,7.5nm,0.6s,baz=108,slow=2.1,SNR=26						
NOA	**NORSAR Array B**	**127.29**	**345**	PKP	PKPdf	23 09 51.8	-0.3
	comp=Z,1.4nm,0.8s,baz=219,slow=23,SNR=3.5						
MMAI	**Mount Meron Ar**	**130.26**	**304**	PKP	PKPdf	23 09 59.4	+0.8
	comp=Z,1.6nm,0.7s,baz=186,slow=1.4,SNR=3.0						
TBG	**Guadaloupe-3**	**133.35**	**79**	*e*PKP	PKPdf	23 10 04.1	-0.8
GERES	**GERESS Array B**	**136.35**	**334**	PKP	PKPdf	23 10 10.4	+0.8
	comp=Z,0.6nm,0.7s,baz=112,slow=1.4,SNR=5.8						
ORIF	**Oris-en-Rattie**	**142.71**	**337**	*e*PKP1	PKPdf	23 10 17.4	-3.9
	comp=Z,21nm,1.1s						
ORIF				*e*MLR	MLR		
	comp=Z,160nm,19.8s,MS4.5						
PGF	**Pioggiola**	**143.29**	**331**	*e*PKP1	PKPdf	23 10 18.1	-4.3
	comp=Z,28nm,0.9s						
FRF	**La Foret Royal**	**143.53**	**335**	*e*PKP1	PKPdf	23 10 18.9	-3.9
	comp=Z,16nm,0.9s						
SMRF	**Simiane la Rot**	**143.62**	**336**	*e*PKP1	PKPdf	23 10 20.5	-2.4
LMR	**La Mourre**	**143.77**	**335**	*e*PKP1	PKPdf	23 10 19.9	-3.3
	comp=Z,16nm,0.9s						
CAF	**Calviac**	**144.06**	**341**	*e*PKP1	PKPdf	23 10 21.4	-2.3
	comp=Z,18nm,1.1s						
LASF	**Ste Croix**	**144.19**	**338**	*e*PKP1	PKPdf	23 10 21.9	-2.0
	comp=Z,22nm,1.0s						
LFF	**La Frestale**	**144.46**	**342**	*e*PKP1	PKPdf	23 10 23.1	-1.3
	comp=Z,24nm,0.9s						
MTLF	**Montolieu**	**145.41**	**339**	*e*PKP1	PKPbc	23 10 25.8	-0.1
	comp=Z,14nm,0.7s						
EPF	**Esparros**	**146.31**	**341**	*e*PKP1	PKPbc	23 10 28.6	-0.1
	comp=Z,7.1nm,0.9s						
EPOB	**Poblet**	**147.56**	**339**	P	PKPdf	23 10 30.7	+0.9
KEST	**Kesra**	**148.10**	**323**	PKPbc	PKPbc	23 10 34.3	+0.3
	comp=Z,3.2nm,0.7s,baz=94,slow=0.6,SNR=16						
ETOR	**Torete**	**149.06**	**343**	PKP2	PKPbc	23 10 36.2	-0.1
GUD	**Guadarrama**	**149.79**	**345**	PKP2	PKPbc	23 10 38.0	-0.1
ESDC	**Sonseca Array**	**150.65**	**344**	PKPbc	PKPbc	23 10 39.6	-0.7
	comp=Z,1.6nm,0.7s,baz=21,slow=2.4,SNR=12						
ESDC				PKPab	PKPab	23 10 47.4	+0.5
	comp=Z,0.8nm,0.6s,baz=357,slow=4.3,SNR=5.5						
ETOB	**Tobarra**	**150.88**	**340**	P	PKPbc	23 10 38.8	-2.0
EVIA	**Vianos**	**151.20**	**342**	PKIKP	PKPbc	23 10 41.5	-0.1
EQES	**Quesada**	**152.14**	**342**	P	PKPbc	23 10 42.4	-1.3
TORD	**Torodi Ar. Bea**	**164.82**	**278**	PKP	PKPdf	23 10 52.1	-0.8
	comp=Z,1.5nm,0.8s,baz=350,slow=1.6,SNR=9.2						
KIC	**Kosan Boka**	**169.72**	**241**	*e*PKP1	PKPab	23 12 10.5	0.0
	comp=Z,17nm,0.7s						
LIC	**Lamto**	**169.90**	**239**	*e*PKP1	PKPab	23 12 11.1	-0.1
	comp=Z,34nm,1.4s						
DBIC	**Dimbokro**	**169.98**	**242**	PKPab	PKPab	23 12 11.1	-0.5
	comp=Z,3.2nm,0.7s,baz=110,slow=4.5,SNR=8.9						
TIC	**Toumodi**	**170.11**	**241**	*e*PKP1	PKPab	23 12 11.2	-0.9
	comp=Z,19nm,0.7s						

ISCJB ***28*** *23:05:20.5±0.6, 3808N±004×2334E±006, h14km±8km, Error ellipse: s-maj=8.3km s-min=5.5km az=154.5*

ATH ***28*** *23:05:20.3, 3806N×2326E, h11km, MD2.8/5*

NEIC ***28*** *23:05:20.3, 3806N×2326E, h11km, MD2.8(ATH), After ATH.*

CSEM ***28*** *23:05:20.0±0.1, 3801N×2323E, h20km, MD2.8, Error ellipse: s-maj=3.6km s-min=2.7km az=70.0*

THE ***28*** *23:05:20.8, 3808N×2335E, h7km±39km, Error ellipse: s-maj=39.7km s-min=1.1km az=261.0*

ISC 28 23:05:20.7±0.7, 3808N±004×2334E±006, h17km±10km, n14, σ0§71/21, Greece

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LTK	**Loutraki**	**0.30**	**259**	P	**Pg**	**23 05 26.6**	**-0.5**
LTK				S	**Sg**	**23 05 31.3**	**-0.1**
ATH	**Athens Observa**	**0.32**	**109**	*e*Pg	**Pg**	**23 05 27.0**	**-0.4**
ATH	**Athens Observa**	**0.32**	**109**	*e*PG	**Pg**	**23 05 27.0**	**-0.4**
NAIG	**Nisos Aigina**	**0.34**	**159**	*e*Pb	**Pg**	**23 05 27.5**	**-0.3**
NAIG	**Nisos Aigina**	**0.34**	**159**	*e*PB	**Pg**	**23 05 27.5**	**-0.3**
PTL	**Penteli**	**0.42**	**94**	*e*Pg	**Pg**	**23 05 29.5**	**+0.3**
PTL	**Penteli**	**0.42**	**94**	*e*PG	**Pg**	**23 05 29.5**	**+0.3**
DID	**Didima**	**0.58**	**188**	P	**Pg**	**23 05 31.5**	**-0.6**
DID				S	**Sg**	**23 05 41.0**	**+1.2**
LKR	**Lokris**	**0.63**	**335**	P	**Pg**	**23 05 32.1**	**-1.0**
LKR				S	**Sg**	**23 05 42.8**	**+1.3**
LKR	**Lokris**	**0.63**	**335**	*e*Pb	**Pg**	**23 05 32.0**	**-1.1**
LKR				Sb	**Sb**	**23 05 41.4**	**-0.4**
LKR				S	**Sg**	**23 05 42.8**	**+1.3**
LKR	**Lokris**	**0.63**	**335**	*e*Pb	**Pg**	**23 05 32.0**	**-1.1**
LKR				Sb	**Sb**	**23 05 41.4**	**-0.4**
LKR	**Lokris**	**0.63**	**335**	*e*PB	**Pg**	**23 05 32.0**	**-1.1**
LKR				SB	**Sb**	**23 05 41.4**	**-0.4**
NEO	**Neokhori**	**1.23**	**356**	*e*Pb	**Pb**	**23 05 44.0**	**+0.5**
NEO	**Neokhori**	**1.23**	**356**	*e*PB	**Pb**	**23 05 44.0**	**+0.5**

NEIC ***28*** *23:06:04.8, 2322S×6966W, h82km±9km, MD3.9(GUC), After GUC.*

GUC 28 23:06:04.8±0.7, 2322S×6966W, h82km±9km, MD3.9, ML3.7, 2C-1D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CEN1	**Los Morros**	**0.52**	**251**	⇓*i*P	Pn	23 06 21.0	+2.0
CEN1				*i* S	Sn	23 06 33.2	+3.7
CEN1				AML	AML	23 06 34.9	
	comp=N,2μm,0.9s						
ANCH	**Antofagasta**	**0.83**	**236**	⇑*e*P	Pn	23 06 22.4	+0.4
ANCH				*e*S	Sn	23 06 35.6	+0.7
ANCH				AML	AML	23 06 37.3	
	comp=N,4μm,0.1s						
ANCH	**Antofagasta**	**0.83**	**236**	⇑*e*P	Pn	23 06 22.4	+0.4
ANCH				*e*S	Sn	23 06 35.6	+0.7
LVC	**Limon Verde**	**0.92**	**49**	*e*P	Pn	23 06 21.7	-1.3
LVC				*e*S	Sn	23 06 33.9	-2.7
SPCH	**San Pedro de A**	**1.38**	**78**	*e*P	Pn	23 06 29.9	+1.2
SPCH				*i* S	Sn	23 06 48.7	+2.0
CPN1	**Cerro Paranal**	**1.56**	**206**	*e*P	Pn	23 06 31.9	+0.9
CPN1				*i* S	Sn	23 06 53.2	+2.4
CPN1				AML	AML	23 06 57.8	
	comp=E,2μm,0.5s						
LPAZ	**La Paz**	**7.04**	**12**	*e*Pn	Pn	23 07 46.6	+1.3
	comp=E,2.5nm,0.5s						
LPAZ				Sn	Sn	23 09 03.2	-0.6

MAN 28 23:38:07, 652N×12414E, h16km, mb4.3, ML3.1, MS3.0, 1C-2D, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CTBH	**Cotabato--PC H**	**0.71**	**9**	⇓*i*P	Pg	23 38 21.7	+0.9
CTBH				*i* S	Sg	23 38 33.6	+3.3
PAGZ	**Pagadian**	**1.52**	**330**	*e*P	Pn	23 38 32.7	-0.8
PAGZ				*e*S	Sn	23 38 54.9	+1.9
BUKP	**Musuan**	**1.63**	**34**	*e*P	Pn	23 38 35.1	0.0
BUKP				*e*S	Sn	23 38 57.4	+1.6
CGP	**Cagayan de Oro**	**2.00**	**16**	⇓*e*P	Pn	23 38 44.0	+3.8
ZMPH	**Zamboanga City**	**2.10**	**282**	⇑*e*P	Pn	23 38 42.5	+0.9
ZMPH				*i* S	Sn	23 39 06.1	-1.3

ISCJB ***28*** *23:38:09.9±0.6, 3855N±003×3283E±004, h5km±6km, Error ellipse: s-maj=6.0km s-min=4.3km az=153.9*

ISK ***28*** *23:38:09.8, 3854N×3280E, h8km, MD2.9*

CSEM ***28*** *23:38:09.3±0.1, 3854N×3284E, h5km, MD2.9, Error ellipse: s-maj=2.8km s-min=1.7km az=128.0*

DDA ***28*** *23:38:11.6, 3857N×3276E, h7km±4km, Md2.7*

ISC 28 23:38:10.8±0.6, 3853N±003×3283E±004, h11km±5km, n15, σ0§75/25, 1D, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LADK	**Ladik-KONYA**	**0.49**	**228**	*e*PG	**Pg**	**23 38 19.8**	**-0.5**
LADK				*e*SG	**Sg**	**23 38 26.9**	**+0.2**
KDHN	**Kadinhani**	**0.56**	**270**	⇓*i*P	**Pg**	**23

mb4.0/17, Error ellipse: s-maj=25.4km s-min=11.8km az=137.1
IDC ***29*** *00:01:02.8±1.9, 1605S×17508W, h261km±18km, mb3.8/14, mb1 4.0/15, mb1mx3.9/21, mbtmp3.8/15, Error ellipse: s-maj=20.7km s-min=11.2km az=130.0*
NEIC ***29*** *00:01:03.1±1.1, 1605S×17508W, h264km±10km, mb4.4/4, Error ellipse: s-maj=18.8km s-min=9.0km az=137.0*

ISC 29 00:01:01.7±1.1, 160S±01×1751W±01, h250km±11km, n93, σ0§89/23, mb4.0/17, 13C-5D, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**3.82**	**57**	P	**Pn**		**00 02 05.8**	**+2.3**
	38nm,0.3s,baz=109,slow=1.0,SNR=49							
AFI				S	**S**		**00 02 50.7**	**-1.8**
	97nm,0.3s,baz=250,slow=23,SNR=18							
AFI	**Afiamalu**	**3.82**	**57**	*e*Pn	**Pn**		**00 02 06.2**	**+2.7**
AFI				*e*Sn	**S**		**00 02 51.9**	**-0.6**
URZ	**Urewera**	**23.18**	**196**	P	**P**		**00 05 45.8**	**-0.6**
	28nm,0.7s,mb4.9,baz=17,slow=2.4,SNR=24							
RPZ	**Rata Peaks**	**30.01**	**200**	P	**P**		**00 06 47.2**	**0.0**
	8.1nm,0.6s,mb4.5,baz=76,slow=19,SNR=5.4							
CTAO	**Charters Tower**	**36.94**	**258**	P	**P**		**00 07 47.0**	**-0.2**
	12nm,1.4s,mb4.2							
STKA	**Stephens Creek**	**42.33**	**240**	P	**P**		**00 08 29.6**	**-1.8**
	5.0nm,0.9s,mb3.9,baz=66,slow=5.8,SNR=3.4							
STKA	**Stephens Creek**	**42.33**	**240**	*e*P	**P**		**00 08 29.9**	**-1.6**
	158nm,2.6s,mb5.0							
WRAB	**Tennant Creek**	**48.12**	**257**	*e*P	**P**		**00 09 17.7**	**+0.7**
	4.4nm,1.5s,mb3.6							
ASAR	**Alice Springs**	**48.38**	**252**	P	**P**		**00 09 19.6**	**+0.7**
	7.0nm,0.8s,mb4.0,baz=85,slow=8.4,SNR=47							
MBWA	**Marble Bar**	**61.64**	**254**	*e*P	**P**		**00 10 54.0**	**+0.4**
	31nm,1.7s,mb4.7							
MJAR	**Matsushiro Arr**	**68.40**	**321**	P	**P**		**00 11 35.0**	**-1.6**
	2.3nm,0.8s,mb3.8,baz=157,slow=6.6,SNR=3.9							
PETK	**Petropavlovsk-**	**72.76**	**343**	P	**P**		**00 12 02.3**	**-0.2**
	5.9nm,0.7s,mb4.3,baz=104,slow=8.2,SNR=9.6							
YBH	**Yreka Blue Hor**	**75.08**	**38**	P	**P**		**00 12 17.0**	**+0.8**
	4.0nm,0.7s,mb4.2,baz=170,slow=1.0,SNR=16							
NVAR	**Mina Array Bea**	**75.68**	**43**	P	**P**		**00 12 21.1**	**+0.3**
	2.1nm,0.8s,mb3.8,baz=224,slow=7.6							
ELK	**Elko**	**79.12**	**42**	P	**P**		**00 12 38.4**	**-0.3**
	1.4nm,1.0s,mb3.6,baz=248,slow=6.9,SNR=7.5							
TXAR	**Lajitas Array**	**82.30**	**57**	P	**P**		**00 12 55.7**	**0.0**
	0.6nm,0.6s,mb3.4,baz=200,slow=10,SNR=5.7							
ANMO	**Albuquerque**	**82.44**	**50**	P	**P**		**00 12 56.2**	**-0.1**
	0.8nm,0.7s,mb3.4,baz=229,slow=7.2,SNR=5.8							
ANMO	**Albuquerque**	**82.44**	**50**	P	**P**		**00 12 56.2**	**-0.1**
PDAR	**Pinedale Array**	**83.81**	**42**	P	**P**		**00 13 02.8**	**-0.3**
	2.4nm,0.6s,mb4.1,baz=212,slow=3.6,SNR=19							
MAW	**Mawson**	**86.67**	**199**	P	**P**		**00 13 17.3**	**+0.4**
	0.9nm,0.7s,mb3.6,baz=0.0,slow=2.0,SNR=3.6							
CMAR	**Chiang Mai Arr**	**91.29**	**289**	P	**P**		**00 13 40.6**	**+1.1**
	1.0nm,0.4s,mb4.1,baz=98,slow=2.6,SNR=6.5							
MKAR	**Makanchi Array**	**110.12**	**314**	PKiKP	PKiKP		00 19 02.3	-1.3
	0.5nm,0.7s,baz=128,slow=0.4,SNR=4.7							
BVAR	**Borovoye Array**	**117.39**	**322**	PKP	PKPdf		00 19 16.5	-0.8
	1.2nm,0.5s,baz=156,slow=1.5,SNR=8.0							
ARCES	**ARCESS Array B**	**125.00**	**351**	PKP	PKPdf		00 19 31.0	-0.4
	3.4nm,0.7s,baz=4.4,slow=1.6,SNR=11							
ARCES	**ARCESS Array B**	**125.00**	**351**	PKP	PKPdf		00 19 31.0	-0.4
OJC	**Ojcow**	**143.85**	**344**	*e*PX	PKPdf		00 20 04.8	-2.2
STHS	**Stebnicka Huta**	**144.16**	**342**	*i* PKP	PKPdf		00 20 06.3	-1.3
CLL	**Collm**	**144.23**	**351**	*e*PKPbc	PKPdf		00 20 05.3	-2.3
CLL	**Collm**	**144.23**	**351**	*i* PKPdf	PKPdf		00 20 05.6	-2.0
	comp=Z,3.0nm,0.7s							
BURAR	**Bucovina Array**	**144.33**	**336**	⇓*i*P	PKPdf		00 20 07.2	-0.8
NIE	**Niedzica**	**144.43**	**343**	*e*PX	PKPdf		00 20 07.4	-0.7
UPC	**Upice**	**144.47**	**348**	*e*PKP	PKPdf		00 20 07.4	-0.7
CRVS	**Cervenica-Dubn**	**144.54**	**341**	*i* PKP	PKPdf		00 20 06.7	-1.6
DPC	**Dobruska-Polom**	**144.56**	**347**	*e*PKP	PKPdf		00 20 07.7	-0.6
OKC	**Ostrava-Krasne**	**144.62**	**345**	*e*PKP	PKPdf		00 20 07.8	-0.6
BUG	**Bochum--Univer**	**144.63**	**357**	*e*PKPbc	PKPdf		00 20 07.3	-1.0
TLCR		**144.68**	**330**	⇑*i*P	PKPdf		00 20 08.3	-0.3
MORC	**Moravsky Berou**	**144.82**	**346**	⇑*i*P	PKPdf		00 20 08.5	-0.2
MOX	**Moxa**	**145.06**	**353**	*e*PKP	PKPdf		00 20 05.2	-3.9
	comp=Z,5.0nm,0.8s							
MOX	**Moxa**	**145.06**	**353**	*e*PKPbc	PKPbc		00 20 08.1	-1.0
UBBA	**Unterbreizbach**	**145.07**	**354**	*e*PKPbc	PKPbc		00 20 08.1	-1.0
VRI	**Vrincioaia**	**145.11**	**333**	⇑*i*P	PKPdf		00 20 08.4	-1.0
PLOR	**Plostina**	**145.16**	**333**	⇑*i*P	PKPdf		00 20 09.8	+0.4
TANN	**Tannenbergstha**	**145.17**	**352**	*e*PKPbc	PKPbc		00 20 08.8	-0.7
PRU	**Pruhonice**	**145.25**	**349**	*e*PKP	PKPdf		00 20 09.8	+0.3
NKC	**Novy Kostel**	**145.35**	**352**	*e*PKP	PKPdf		00 20 09.9	+0.3
HARR	**Harsova**	**145.46**	**331**	⇑*i*P	PKPdf		00 20 11.1	+1.1
VRAC	**Vranov**	**145.48**	**346**	⇓*i*P	PKPdf		00 20 10.3	+0.4
MANZ	**Manzenberg**	**145.64**	**352**	*e*PKPbc	PKPbc		00 20 10.3	-0.6
VYHS	**Vyhne**	**145.68**	**344**	*i* PKP	PKPdf		00 20 11.2	+1.0
TREC	**Trest**	**145.73**	**348**	*e*PKP	PKPdf		00 20 10.9	+0.6
MLR	**Muntele Rosu**	**145.75**	**333**	⇑*i*P	PKPdf		00 20 11.8	+1.3
ROTZ	**Rotzenmuhle**	**145.84**	**352**	*e*PKPbc	PKPbc		00 20 11.3	-0.2
DRGR		**145.96**	**338**	⇑*i*P	PKPdf		00 20 11.4	+0.6
DRGR		**145.96**	**338**	⇑P	PKPdf		00 20 11.4	+0.6
GIVF	**Givet**	**146.02**	**0**	*e*PKP1	PKPbc		00 20 11.9	-0.1
	comp=Z,12nm,0.8s							
SMOL	**Smolenice**	**146.03**	**345**	*e*PKP	PKPdf		00 20 12.6	+1.8
GRA1	**Grafenberg Arr**	**146.05**	**353**	*e*PKPbc	PKPbc		00 20 12.0	-0.1
GRF	**Grafenberg Arr**	**146.05**	**353**	*e*PKPbc	PKPbc		00 20 12.0	-0.1
BAIF	**Baives**	**146.06**	**1**	*e*PKP1	PKPbc		00 20 11.6	-0.5
	comp=Z,9.0nm,0.6s							
VOIR		**146.17**	**334**	⇓*i*P	PKPbc		00 20 13.5	+0.9
MODS	**Modra-Piesok**	**146.19**	**345**	*i* PKP	PKPdf		00 20 11.8	+0.7
KHC	**Kasperske Hory**	**146.25**	**350**	*e*PKP	PKPdf		00 20 12.9	+1.7
GEC2	**GERESS Array S**	**146.50**	**349**	*e*PKPbc	PKPbc		00 20 12.8	-0.7
GERES	**GERESS Array B**	**146.50**	**349**	PKPbc	PKPbc		00 20 13.0	-0.4
	comp=Z,2.0nm,0.8s,baz=25,slow=3.5,SNR=14							
ASF	**Jabal al Asfar**	**146.85**	**305**	PKPbc	PKPbc		00 20 15.3	+0.3
	comp=Z,1.4nm,0.8s,baz=194,slow=5.0,SNR=3.6							
CONA	**Conrad Observa**	**146.94**	**346**	⇑*i*PKPab	PKPbc		00 20 15.2	+0.5
	comp=Z,4.5nm,0.7s							
CSNA	**Conrad Observa**	**146.95**	**346**	⇑*i*PKPab	PKPbc		00 20 15.2	+0.5
	comp=Z,5.2nm,0.8s							
FLN	**La Foliniere**	**147.06**	**7**	*e*PKP1	PKPbc		00 20 13.8	-1.2
LDF	**La Druitiere**	**147.27**	**6**	*e*PKP1	PKPbc		00 20 14.2	-1.4
SGMF	**Saint Gilles**	**147.29**	**9**	*e*PKP1	PKPbc		00 20 14.5	-1.2
	comp=Z,25nm,0.8s							
BZS	**Buzias**	**147.36**	**338**	⇓*i*P	PKPdf		00 20 14.7	+1.5
BZS	**Buzias**	**147.36**	**338**	⇓P	PKPdf		00 20 14.7	+1.6
GRR	**Gorron**	**147.39**	**7**	*e*PKP1	PKPbc		00 20 15.0	-0.9
	comp=Z,16nm,0.7s							
CDF	**Champ du Feu**	**147.66**	**357**	*e*PKP1	PKPbc		00 20 16.0	-0.6
	comp=Z,13nm,1.0s							
PKSM	**Moragy**	**147.81**	**342**	⇑*i*P	PKPbc		00 20 16.8	-0.3
PKSM	**Moragy**	**147.81**	**342**	⇑P	PKPbc		00 20 16.8	-0.3
HAU	**Haudompre**	**148.10**	**358**	*e*PKP1	PKPbc		00 20 17.1	-0.7
	comp=Z,11nm,0.9s							
WTTA	**Wattenberg**	**148.37**	**351**	⇑*i*PKPbc	PKPbc		00 20 18.2	-0.3
	comp=Z,5.6nm,0.7s							
LOR	**Lormes**	**148.85**	**1**	*e*PKP1	PKPbc		00 20 19.2	-0.5
	comp=Z,11nm,0.9s							
SSF	**Saint Saulge**	**149.04**	**2**	*e*PKP1	PKPbc		00 20 19.7	-0.5
CABF	**La Chapelle**	**149.50**	**358**	*e*PKP1	PKPbc		00 20 21.4	0.0
	comp=Z,20nm,1.0s							
TCF	**Toulx Ste Croi**	**149.75**	**4**	*e*PKP1	PKPbc		00 20 22.0	0.0
	comp=Z,20nm,1.2s							
LPL	**La Plagne**	**150.57**	**357**	*e*PKP1	PKPbc		00 20 24.3	+0.3
	comp=Z,8.5nm,0.9s							
LPG	**La Plagne**	**150.59**	**357**	*e*PKP1	PKPbc		00 20 24.5	+0.5
	comp=Z,10nm,0.9s							
LFF	**La Frestale**	**150.97**	**6**	*e*PKP1	PKPbc		00 20 24.2	-0.7
	comp=Z,20nm,1.0s							
CAF	**Calviac**	**151.10**	**4**	*e*PKP1	PKPbc		00 20 24.1	-1.1
	comp=Z,5.5nm,0.8s							
ORIF	**Oris-en-Rattie**	**151.20**	**359**	*e*PKP1	PKPbc		00 20 25.4	0.0
	comp=Z,7.8nm,0.9s							
VIVF	**Saint-Julien-l**	**151.27**	**0**	*e*PKP1	PKPbc		00 20 25.3	-0.3
	comp=Z,22nm,1.1s							
MBDF	**Montbardon**	**151.36**	**357**	*e*PKP1	PKPbc		00 20 26.2	+0.4
	comp=Z,13nm,0.9s							
ETSF	**Etsaut**	**152.82**	**9**	*e*PKP1	PKPbc		00 20 28.9	-0.2
	comp=Z,7.2nm,0.7s							
ESDC	**Sonseca Array**	**155.20**	**17**	PKPab	PKPab		00 20 50.5	-0.8
	comp=Z,0.3nm,0.5s,baz=338,slow=4.3,SNR=5.8							
TORD	**Torodi Ar. Bea**	**175.75**	**132**	PKPab	PKPab		00 22 22.3	-0.1
	comp=Z,0.4nm,0.8s,baz=226,slow=3.8,SNR=2.7							

TIR ***29*** *00:11:46.7±2.6, 3972N×2074E, h6km±18km*
THE ***29*** *00:11:47.6, 3978N×2071E, h0km±1km, ML3.6/5, Error ellipse: s-maj=1.8km s-min=0.8km az=258.0*
ISCJB ***29*** *00:11:47.0±0.6, 3972N±002×2071E±003, h2km±4km, Error ellipse: s-maj=3.7km s-min=3.4km az=155.0*
NEIC ***29*** *00:11:47.2, 3974N×2072E, h20km, MD3.5(ATH), After ATH.*
ATH ***29*** *00:11:47.2, 3974N×2072E, h20km±1km, MD3.5/11*
CSEM ***29*** *00:11:47.9±0.1, 3978N×2070E, h12km, MD3.5, Error ellipse: s-maj=3.5km s-min=3.0km az=107.0*

ISC 29 00:11:48.2±0.4, 3972N±002×2071E±003, h8km±3km, n64, σ1§20/103, Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
JAN	**Janina**	**0.13**	**121**	*e*Pb	**Pg**		**00 11 51.4**	**+0.4**
JAN				*e*Sb	**Sg**		**00 11 54.5**	**+1.5**
JAN	**Janina**	**0.13**	**121**	*e*PB	**Pg**		**00 11 51.4**	**+0.4**
JAN				*e*SB	**Sg**		**00 11 54.5**	**+1.5**
MEV	**Metsovon**	**0.41**	**81**	P	**Pg**		**00 11 55.7**	**-0.4**
MEV				S	**Sg**		**00 12 01.8**	**+0.3**
SRN	**Sarande**	**0.56**	**286**	*e*PG	**Pg**		**00 11 58.2**	**-0.9**
SRN				*i* SG	**Sg**		**00 12 07.3**	**+0.8**
KEK	**Kerkira**	**0.70**	**269**	*e*Pb	**Pb**		**00 12 00.6**	**-2.0**
KEK				*e*Sn	**Sg**		**00 12 11.6**	**+0.8**
KEK	**Kerkira**	**0.70**	**269**	*e*PB	**Pb**		**00 12 00.6**	**-2.0**
KEK				*e*SN	**Sg**		**00 12 11.6**	**+0.8**
TPE	**Tepelena**	**0.78**	**317**	*e*PG	**Pg**		**00 12 02.6**	**-0.6**
KBN	**Korca**	**0.90**	**4**	*e*PG	**Pg**		**00 12 04.2**	**-1.3**
KZN	**Kozani**	**1.00**	**54**	*e*Pn	**Pn**		**00 12 05.8**	**-2.8**
KZN				*e*Sn	**Sn**		**00 12 20.1**	**-2.9**
KZN	**Kozani**	**1.00**	**54**	*e*PN	**Pn**		**00 12 05.8**	**-2.8**
KZN				*e*SN	**Sn**		**00 12 20.1**	**-2.9**
LKD	**Levkas**	**1.02**	**182**	P	**Pg**		**00 12 07.9**	**+0.2**
LKD				S	**Sg**		**00 12 23.8**	**+2.9**
THL	**Klokotos Trika**	**1.02**	**99**	P	**Pg**		**00 12 06.3**	**-1.6**
THL				S	**Sg**		**00 12 21.4**	**+0.3**
THL	**Klokotos Trika**	**1.02**	**99**	*e*Pn	**Pg**		**00 12 06.3**	**-1.6**
THL				*e*Sn	**Sn**		**00 12 21.2**	**-2.2**
THL	**Klokotos Trika**	**1.02**	**99**	*e*PN	**Pg**		**00 12 06.3**	**-1.6**
THL				*e*SN	**Sn**		**00 12 21.2**	**-2.2**
EVR	**Evrytania**	**1.18**	**133**	*e*Pn	**Pn**		**00 12 09.2**	**-1.8**
EVR	**Evrytania**	**1.18**	**133**	*e*PN	**Pn**		**00 12 09.2**	**-1.8**
FNA	**Florina**	**1.18**	**26**	P	**Pb**		**00 12 08.7**	**-2.1**
FNA				S	**Sg**		**00 12 26.3**	**+0.2**
BIA	**Bitola**	**1.38**	**20**	P	**Pn**		**00 12 12.3**	**-1.4**
BIA				S	**Sb**		**00 12 32.0**	**0.0**
BIA	**Bitola**	**1.38**	**20**	*i* Pn	**Pn**		**00 12 13.0**	**-0.8**
BIA				*i* Sn	**Sn**		**00 12 32.5**	**+0.3**
BIA				*i* Sn	**Sn**		**00 12 33.8**	**+1.6**
BIA	**Bitola**	**1.38**	**20**	*i* Pn	**Pn**		**00 12 12.9**	**-0.8**
BIA				*i* Sn	**Sn**		**00 12 32.4**	**+0.2**
OHR	**Ohrid**	**1.39**	**3**	P	**Pn**		**00 12 12.3**	**-1.6**
OHR				S	**Sb**		**00 12 32.3**	**0.0**
OHR	**Ohrid**	**1.39**	**3**	*i* Pn	**Pn**		**00 12 14.4**	**+0.5**
OHR				*i* Sn	**Sn**		**00 12 33.5**	**+1.1**
OHR	**Ohrid**	**1.39**	**3**	*i* Pn	**Pn**		**00 12 14.4**	**+0.5**
OHR				S	**Sb**		**00 12 32.3**	**0.0**
OHR				*i* Sn	**Sn**		**00 12 33.5**	**+1.1**
LIT	**Litokhoron**	**1.42**	**74**	P	**Pn**		**00 12 13.2**	**-1.2**
LIT				S	**Sn**		**00 12 33.9**	**+0.6**
AGG	**Agios Georgios**	**1.44**	**119**	P	**Pn**		**00 12 13.8**	**-0.8**
AGG				S	**Sn**		**00 12 36.0**	**+2.3**
VLS	**Valsamata**	**1.55**	**183**	*e*Pn	**Pn**		**00 12 16.4**	**+0.3**
VLS				S	**Sn**		**00 12 38.0**	**+1.7**
VLS	**Valsamata**	**1.55**	**183**	*e*PN	**Pn**		**00 12 16.4**	**+0.3**
KRUS	**Krusevo**	**1.69**	**14**	*i* Pn	**Pn**		**00 12 18.9**	**+0.8**
KRUS				*i* Sn	**Sn**		**00 12 41.8**	**+1.8**
KRUS	**Krusevo**	**1.69**	**14**	*i* Pn	**Pn**		**00 12 18.9**	**+0.8**
KRUS				*i* Sn	**Sn**		**00 12 41.7**	**+1.7**
TIR	**Tirane**	**1.74**	**339**	*e*PN	**Pg**		**00 12 22.3**	**+0.7**
TIR	**Tirane**	**1.74**	**339**	*e*Pn	**Pg**		**00 12 23.0**	**+1.4**
TIR	**Tirane**	**1.74**	**339**	*e*Pn	**Pg**		**00 12 23.1**	**+1.4**
RLS	**Riolos of Patr**	**1.77**	**160**	*e*Pn	**Pn**		**00 12 19.9**	**+0.8**
RLS	**Riolos of Patr**	**1.77**	**160**	*e*PN	**Pn**		**00 12 19.9**	**+0.8**
GRG	**Griva**	**1.79**	**46**	P	**Pn**		**00 12 19.3**	**-0.1**
GRG				S	**Sn**		**00 12 42.7**	**+0.4**
THE	**Thessaloniki**	**1.96**	**62**	P	**Pn**		**00 12 21.1**	**-0.6**
THE				S	**Sn**		**00 12 46.9**	**+0.5**
XOR	**Xorichti**	**1.96**	**100**	P	**Pn**		**00 12 22.6**	**+0.9**
NEO	**Neokhori**	**1.99**	**101**	*e*Pn	**Pn**		**00 12 21.8**	**-0.4**
NEO	**Neokhori**	**1.99**	**101**	*e*PN	**Pn**		**00 12 21.8**	**-0.4**
HORT	**Hortiatis**	**2.03**	**64**	P	**Pn**		**00 12 21.8**	**-0.9**
HORT				S	**Sn**		**00 12 48.2**	**-0.1**
LKR	**Lokris**	**2.08**	**120**	*e*Pn	**Pn**		**00 12 23.4**	**0.0**
LKR	**Lokris**	**2.08**	**120**	P	**Pn**		**00 12 24.3**	**+0.9**
LKR	**Lokris**	**2.08**	**120**	*e*PN	**Pn**		**00 12 23.4**	**0.0**
VAY	**Valandovo**	**2.14**	**41**	P	**Pn**		**00 12 23.0**	**-1.2**
VAY				S	**Sn**		**00 12 50.6**	**-0.3**
VAY	**Valandovo**	**2.14**	**41**	*i* Pn	**Pn**		**00 12 22.9**	**-1.3**
VAY				*i* Sn	**Sn**		**00 12 54.5**	**+3.6**
VAY	**Valandovo**	**2.14**	**41**	*i* Pn	**Pn**		**00 12 22.8**	**-1.4**
VAY				S	**Sn**		**00 12 50.6**	**-0.3**
VAY				*i* Sn	**Sn**		**00 12 54.4**	**+3.5**
PLG	**Polygyros**	**2.20**	**72**	P	**Pn**		**00 12 24.5**	**-0.6**
PLG	**Polygyros**	**2.20**	**72**	*e*Pb	**Pn**		**00 12 24.6**	**-0.5**
PLG	**Polygyros**	**2.20**	**72**	*e*PB	**Pn**		**00 12 24.6**	**-0.5**
KNT	**Kendrikon**	**2.21**	**49**	P	**Pn**		**00 12 23.7**	**-1.4**
STIP	**Stip**	**2.27**	**29**	*i* Pn	**Pn**		**00 12 26.8**	**+0.8**
STIP				*i* Sn	**Sg**		**00 13 02.1**	**+1.1**
SOH	**Sokhos**	**2.30**	**61**	P	**Pn**		**00 12 26.0**	**-0.5**
SOH				S	**Sn**		**00 12 56.5**	**+1.5**
SKO	**Skopje**	**2.31**	**14**	*e*Pn	**Pn**		**00 12 29.5**	**+2.9**
SKO				*i* Sn	**Sn**		**00 12 57.4**	**+2.2**
SKO	**Skopje**	**2.31**	**14**	*e*Pn	**Pn**		**00 12 29.5**	**+2.9**
SKO				*i* Sn	**Sn**		**00 12 57.4**	**+2.1**
PUK	**Puka**	**2.40**	**345**	*e*PN	**Pn**		**00 12 31.0**	**+3.2**
BCI	**Bajram Curri**	**2.68**	**350**	*e*PN	**Pn**		**00 12 32.9**	**+1.2**
NVR	**Nevrokopi**	**2.90**	**55**	*e*Pn	**Pn**		**00 12 35.1**	**+0.4**
NVR	**Nevrokopi**	**2.90**	**55**	*e*PN	**Pn**		**00 12 35.1**	**+0.4**
TIP	**Timpagrande**	**3.10**	**261**	*e*Pn	**Pn**		**00 12 36.1**	**-1.4**
TIP				Sn	**Sn**		**00 13 09.6**	**-5.1**
TIP	**Timpagrande**	**3.10**	**261**	*e*Pn	**Pn**		**00 12 36.1**	**-1.4**
TIP				Sn	**Sn**		**00 13 09.6**	**-5.2**
BARS	**Barje**	**3.20**	**15**	*e*Pn	**Pn**		**00 12 38.5**	**-0.3**
SG1	**Sgolgore (BA)**	**3.27**	**291**	*e*Pn	**Pn**		**00 12 39.0**	**-0.8**
BOLS	**Boljevac**	**4.21**	**12**	*e*Pn	**Pn**		**00 12 51.3**	**-1.3**
IDI	**Anoyia**	**5.54**	**142**	*e*Pn	**Pn**		**00 13 06.0**	**-4.9**

IDC 29 00:14:52.9±2.6, 1554S×16803E, h0km, mb4.3/5, mb1 4.4/5, mb1mx4.0/15, mbtmp4.2/5, Error ellipse: s-maj=94.4km s-min=42.9km az=141.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**33.08**	**250**	P	P		00 21 30.5	-0.1
	2.2nm,0.6s,baz=77,slow=9.0,SNR=21							
CMAR	**Chiang Mai Arr**	**75.94**	**294**	P	P		00 26 42.7	+0.6
	1.0nm,0.4s,baz=138,slow=5.0,SNR=5.9							
SONM	**Songino Array**	**83.58**	**323**	P	P		00 27 23.2	+0.3
	1.1nm,0.5s,baz=152,slow=9.7,SNR=10							
MKAR	**Makanchi Array**	**98.29**	**316**	P	P		00 28 31.6	-0.8
	0.2nm,0.5s,baz=87,slow=6.2,SNR=4.2							
ZALV	**Zalesovo Beam**	**98.47**	**324**	P	P		00 28 32.2	-0.8
	0.7nm,0.7s,baz=100,slow=5.1,SNR=4.2							
ARCES	**ARCESS Array B**	**121.21**	**346**	PKP	PKPdf		00 33 47.2	-0.1
	3.9nm,0.8s,baz=58,slow=2.0,SNR=6.6							
DAVOX	**Davos/Dischmat**	**143.92**	**334**	PKP	PKPdf		00 34 29.5	-0.9
	1.8nm,0.5s,baz=216,slow=4.3,SNR=9.7							
CABF	**La Chapelle**	**145.55**	**338**	*e*PKP1	PKPbc		00 34 34.6	+1.3
FLN	**La Foliniere**	**145.55**	**347**	*e*PKP1	PKPbc		00 34 33.8	+0.6
	60nm,1.2s							
LDF	**La Druitiere**	**145.63**	**346**	*e*PKP1	PKPbc		00 34 34.1	+0.6
	12nm,0.7s							
LOR	**Lormes**	**145.74**	**341**	*e*PKP1	PKPbc		00 34 34.8	+0.9
GRR	**Gorron**	**145.99**	**347**	*e*PKP1	PKPbc		00 34 35.5	+0.9
	7.4nm,0.6s							
SSF	**Saint Saulge**	**146.03**	**341**	*e*PKP1	PKPbc		00 34 35.8	+1.0
	8.2nm,0.7s							
HYF	**Humbligny**	**146.11**	**342**	*e*PKP1	PKPbc		00 34 37.0	+2.0
LPL	**La Plagne**	**146.22**	**336**	*e*PKP1	PKPbc		00 34 36.6	+1.2
	6.0nm,0.8s							
LPG	**La Plagne**	**146.23**	**336**	*e*PKP1	PKPbc		00 34 36.2	+0.8
	9.4nm,0.8s							
SMF	**Signal de Mont**	**146.29**	**340**	*e*PKP1	PKPbc		00 34 37.1	+1.5
AVF	**Avril sur Loir**	**146.32**	**341**	*e*PKP1	PKPbc		00 34 37.2	+1.6
	5.5nm,0.7s							
ROSF	**Rostrenen**	**146.52**	**349**	*e*PKP1	PKPbc		00 34 37.1	+0.9
BGF	**Bois d'Agland**	**146.69**	**341**	*e*PKP1	PKPbc		00 34 37.5	+0.8
	10nm,0.7s							
TCF	**Toulx Ste Croi**	**147.12**	**342**	*e*PKP1	PKPbc		00 34 38.2	+0.2
MFF	**Saint Martin d**	**147.49**	**345**	*e*PKP1	PKPbc		00 34 39.8	+0.8
	9.1nm,0.6s							
RJF	**Les Rejaudoux**	**148.22**	**342**	*e*PKP1	PKPbc		00 34 41.9	+0.9
ETSF	**Etsaut**	**151.03**	**343**	*e*PKP1	PKPbc		00 34 49.4	+1.4
KEST	**Kesra**	**152.29**	**320**	PKPbc	PKPbc		00 34 51.6	+0.5
	0.4nm,0.4s,baz=278,slow=20,SNR=6.0							

IDC ***29*** *00:15:55.8±0.5, 3146S×17582W, h0km, mb4.6/11, mb1 4.7/13, mb1mx4.6/17, mbtmp4.6/13, MS4.0/13, Ms1 4.0/13, ms1mx3.7/26, Error ellipse: s-maj=20.4km s-min=18.4km az=88.0*
GCMT ***29*** *00:15:57.4±0.4, 3156S×17576W, h22km±1km, MW5.0/53, Moment Tensor Solution. s29,c34; s53,c79; Duration: 0 Moment tensor: Scale 10^16 Nm; Mrr=3.37±.30; Mθθ=1.53±.22; Mφφ=4.90±.20; Mrθ=-1.17±.45; Mrφ=0.58±.13; Mθφ=0.58±.27; Best double couple: M=4.47800×10^16 NP1:φs=161.00000°, δ46.00000°, λ=-126.00000°. NP2: φs=28.00000°, δ55.00000°, λ=-59.00000°. Principal axes: T 5.0100, Plg5.0000°, Azm96.0000°; N -1.0630, Plg25.0000°, Azm188.0000°; P -3.9470, Plg64.0000°, Azm356.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
NEIC ***29*** *00:15:57.4±0.4, 3145S×17599W, h10km, mb5.0/7 Error ellipse: s-maj=16.4km s-min=11.6km az=111.0*
ISCJB ***29*** *00:15:59.2±0.4, 3143S±006×175°94W±009, h33km, mb4.7/17, MS4.2/11, Error ellipse: s-maj=10.9km s-min=9.0km az=157.8*
MOS ***29*** *00:16:00.3±1.7, 3140S×17595W, h33km, mb5.2/6, Error ellipse: s-maj=21.9km s-min=14.3km az=94.3*

**ISC 29 00:16:01.1±0.4, 3139S±006×17591W±009, h35km, (h41km±1.0km:pP-P), n74, σ1§09/44, m

PDAR	**Pinedale Array**	**95.63**	**43**	P	**P**		00 29 22.9	+0.2
	comp=Z,0.3nm,0.6s,mb3.9,baz=269,slow=8.7,SNR=3.0							
PDAR				LR	LR		01 05 29.8	
	comp=Z,95nm,18.8s,MS4.3,baz=359,slow=31							
LPAZ	**La Paz**	**96.10**	**113**	P	**P**		00 29 25.0	-0.5
	comp=Z,0.6nm,0.6s,mb4.2,baz=252,slow=3.2,SNR=3.6							
LPAZ				LR	LR		01 02 59.3	
	comp=Z,46nm,19.3s,MS4.0,baz=73,slow=29							
MKAR	**Makanchi Array**	**119.79**	**309**	PKP	PKPdf		00 34 46.3	-0.8
	comp=Z,1.0nm,0.9s,baz=75,slow=1.6,SNR=4.9							
ZALV	**Zalesovo Beam**	**119.97**	**318**	PKP	PKPdf		00 34 46.6	-0.7
	comp=Z,0.3nm,0.4s,baz=119,slow=1.9,SNR=4.5							
KURK	**Kurchatov**	**123.03**	**313**	PKP	PKPdf		00 34 52.8	-0.5
	comp=Z,1.0nm,0.3s,baz=110,slow=2.0,SNR=5.1							
ARU	**Arti**	**135.00**	**320**	*i* PKIKP	PKPdf		00 35 18.2	+2.4
ARU							00 37 53.6	
JOF	**Joensuu**	**143.99**	**339**	*ep*	PKPdf		00 35 31.2	-0.8
	comp=Z,0.7nm,0.4s							
TBLG	**Delisi**	**146.04**	**299**	P	PKPdf		00 35 39.0	+2.8
BHD	**Baghdad**	**146.05**	**284**	*ex*	x		00 35 38.0	
KAF	**Kangasniemi**	**146.07**	**341**	*ep*	PKPdf		00 35 36.7	+1.1
	comp=Z,1.1nm,0.4s							
KAF	**Kangasniemi**	**146.07**	**341**	*e*PKP2	PKPab		00 35 36.7	-0.4
KAF				pmax	pmax			
	comp=Z,1.0nm,0.4s							
GNI	**Garni**	**146.12**	**296**	PKPbc	PKPbc		00 35 37.5	+0.1
	comp=Z,3.0nm,0.8s,baz=23,slow=17,SNR=4.6							
MOS	**Moscow**	**146.16**	**326**	*e*PKIKP	PKPdf		00 35 36.0	+0.1
MOS				pmax	pmax			
	comp=Z,79nm,1.4s							
OBN	**Obninsk**	**147.01**	**325**	⇑*i*PKP2	PKPab		00 35 39.0	-2.0
OBN				*e*			00 39 06.3	
OBN				pmax	pmax			
	comp=Z,30nm,1.5s							
OBN				MLR	MLR			
	comp=Z,100nm,19.0s,MS4.6							
KIV	**Kislovodsk**	**147.27**	**304**	*e*PKIKP	PKPdf		00 35 37.6	-0.6
KIV				pmax	pmax			
	comp=Z,9.0nm,1.1s							
MSL	**Mosul**	**147.38**	**290**	*ex*	x		00 35 44.0	
NB2	**NORSAR Subarra**	**149.97**	**353**	PKP	PKPbc		00 35 47.7	+0.7
	comp=Z,3.5nm,0.9s,baz=11,slow=2.4							
NOA	**NORSAR Array B**	**149.97**	**353**	PKPbc	PKPbc		00 35 47.8	+0.8
	comp=Z,7.4nm,0.9s,baz=14,slow=4.2,SNR=9.3							
HFS	**Hagfors**	**150.55**	**350**	PKPbc	PKPbc		00 35 48.6	+0.3
	comp=Z,11nm,0.9s,baz=352,slow=3.3,SNR=8.2							
ASF	**Jabal al Asfar**	**152.16**	**280**	PKPbc	PKPbc		00 35 54.6	+1.6
	comp=Z,3.2nm,0.9s,baz=18,slow=0.4,SNR=6.0							
AKASG	**Malin Array Be**	**153.17**	**323**	PKPbc	PKPbc		00 35 55.5	+0.9
	comp=Z,2.2nm,0.8s,baz=47,slow=2.9,SNR=6.7							
MMAI	**Mount Meron Ar**	**153.50**	**282**	PKPbc	PKPbc		00 35 56.8	+0.9
	comp=Z,4.0nm,0.9s,baz=52,slow=6.9,SNR=6.8							
DBIC	**Dimbokro**	**154.02**	**159**	PKPbc	PKPbc		00 36 00.3	+2.6
	comp=Z,2.9nm,0.9s,baz=152,slow=7.8,SNR=3.0							
DBIC				PKPab	PKPab		00 36 09.8	-1.1
	comp=Z,3.6nm,0.8s,baz=128,slow=6.3,SNR=3.2							
KOLS	**Kolonicke sedl**	**157.74**	**327**	*e*PKP	PKPab		00 36 25.4	-0.6
CRVS	**Cervenica-Dubn**	**158.13**	**328**	*e*PKP	PKPab		00 36 29.2	+1.5
VYHS	**Vyhne**	**159.58**	**331**	*e*PKP	PKPab		00 36 31.4	-2.6
VRAC	**Vranov**	**159.77**	**335**	PKP	PKPab		00 36 35.8	+1.0
	comp=Z,1.5nm,0.6s,baz=86,slow=6.3,SNR=3.0							
GERES	**GERESS Array B**	**161.11**	**340**	PKP	PKPdf		00 35 59.5	+2.2
	comp=Z,0.1nm,0.4s,baz=180,slow=2.7,SNR=3.6							
GERES				PKPab	PKPab		00 36 41.3	+0.7
	comp=Z,0.4nm,0.8s,baz=129,slow=4.3,SNR=3.4							
TORD	**Torodi Ar. Bea**	**161.71**	**173**	PKP	PKPdf		00 35 58.9	-0.1
	comp=Z,2.2nm,1.1s,baz=340,slow=1.1,SNR=8.5							
TORD				PKPab	PKPab		00 36 43.2	-0.8
	comp=Z,8.1nm,0.9s,baz=193,slow=4.1,SNR=25							

*IDC **29** 00:17:29.6±11.0, 3621N×7078E, h137km±106km, mb3.2/4, mb1 3.3/7, mb1mx3.1/23, mbtmp3.2/7, ML3.6/3, Error ellipse: s-maj=57.0km s-min=27.7km az=15.0*
*ISCJB **29** 00:17:34.8±0.4, 3654N±004×7089E±008, h190km±8km, mb3.4/3, Error ellipse: s-maj=11.0km s-min=6.5km az=19.4*
*BJI **29** 00:17:35.1, 3629N×7117E, h208km*
*NEIC **29** 00:17:35.6±0.7, 3646N×7109E, h184km±8km, mb4.0/2, Error ellipse: s-maj=16.6km s-min=8.7km az=118.0*
*NNC **29** 00:17:42.0±6.0, 3707N×7094E, h192km±71km, mb2.9, mpv4.1, Error ellipse: s-maj=56.9km s-min=28.5km az=10.0*

ISC 29 00:17:35.8±0.4,**3653N**±004×**7090E**±008,**h185**km±8km, **n27**,σ0**85**/33,**mb3.4**/3,**7C-2D**,**Hindu Kush region**

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
KBL	**Kabul**	**2.50**	**218**		*e*Pn	**Pn**	**00 18 19.2**	**+0.4**
KBL					Sn	**Sn**	**00 18 51.5**	**-0.7**
CEP	**Cherat**	**2.83**	**163**	⇓P		**Pn**	**00 18 23.4**	**+0.8**
CEP				S		**Sn**	**00 18 59.0**	**-0.1**
CHCP	**Chirah Chowk**	**3.46**	**145**	⇓P		**Pn**	**00 18 31.2**	**+0.9**
THW	**Thamme Wali**	**3.79**	**169**	P		**Pn**	**00 18 34.6**	**+0.1**
SARP	**Sargodha**	**4.83**	**162**	P		**Pn**	**00 18 46.8**	**-0.9**
KSH	**Kashi**	**4.99**	**52**	P		**Pn**	**00 18 51.0**	**+1.4**
KSH				S		**Sn**	**00 19 46.0**	**-1.7**
AML	**Almayashu**	**5.99**	**20**	P		**Pn**	**00 19 02.7**	**+0.1**
	SNR=49							
AML	**Almayashu**	**5.99**	**20**		*e*Pn	**Pn**	**00 19 02.9**	**+0.3**
	25nm,0.3s							
AML					*e*Sn	**Sn**	**00 20 07.3**	**-3.9**
EKS2	**Erkin-Say**	**6.51**	**19**	P		**Pn**	**00 19 10.1**	**+0.7**
	SNR=8.8							
EKS2	**Erkin-Say**	**6.51**	**19**		*e*Pn	**Pn**	**00 19 10.1**	**+0.7**
	3.1nm,0.7s							
KK31	**Karatay Array**	**6.57**	**358**	⇑P		**Pn**	**00 19 09.8**	**-0.3**
	3.7nm,0.2s,baz=185,slow=13,SNR=98							
KK31				⇑S		**Sn**	**00 20 19.6**	**-5.2**
	7.7nm,0.3s,baz=195,slow=29,SNR=19							
AAK	**Ala-Archa**	**6.69**	**23**	P		**Pn**	**00 19 12.3**	**+0.5**
	SNR=6.2							
USP	**Ospenovka**	**7.27**	**21**	P		**Pn**	**00 19 18.7**	**-0.6**
	SNR=7.6							
TKM2	**Tokmak 2**	**7.33**	**28**	⇑P		**Pn**	**00 19 20.2**	**0.0**
	8.6nm,0.7s							
TKM2				⇑S		**Sn**	**00 20 38.2**	**-4.7**
	3.4nm,0.8s							
TKM2	**Tokmak 2**	**7.33**	**28**	P		**Pn**	**00 19 20.5**	**+0.3**
	SNR=15							
TKM2	**Tokmak 2**	**7.33**	**28**		*e*Pn	**Pn**	**00 19 20.2**	**0.0**
	9.9nm,0.6s							
MK31	**Makanchi Array**	**13.31**	**36**	⇑P		**Pn**	**00 20 38.7**	**+1.2**
	2.2nm,0.8s,baz=221,slow=14,SNR=7.6							
MKAR	**Makanchi Array**	**13.31**	**36**	P		**Pn**	**00 20 36.9**	**-0.5**
	0.1nm,0.3s,baz=217,slow=12,SNR=5.7							
AB09	**Akbulak array**	**15.03**	**331**	⇑P		**Pn**	**00 20 57.8**	**-1.0**
	0.6nm,0.5s							
BVAR	**Borovoye Array**	**16.49**	**359**	P		**Pn**	**00 21 17.2**	**+0.7**
	0.2nm,0.3s,baz=171,slow=9.9,SNR=3.9							
AKTK	**Aktyubinsk**	**16.71**	**330**	P		**Pn**	**00 21 19.7**	**+0.6**
AKTO	**Aktyubinsk**	**16.71**	**330**	⇑P		**Pn**	**00 21 19.6**	**+0.5**
	0.6nm,0.6s							
AKTO	**Aktyubinsk**	**16.71**	**330**	P		**Pn**	**00 21 19.7**	**+0.6**
	0.7nm,0.3s,baz=130,slow=12,SNR=14							
ZALV	**Zalesovo Beam**	**19.92**	**25**	P		**P**	**00 21 53.0**	**0.0**
	1.4nm,0.5s,baz=223,slow=12,SNR=7.9							
ARCES	**ARCESS Array B**	**41.08**	**338**	P		**P**	**00 25 01.6**	**+0.8**
	1.7nm,0.7s,mb3.8,baz=123,slow=7.6,SNR=3.4							
TORD	**Torodi Ar. Bea**	**65.64**	**269**	P		**P**	**00 27 58.2**	**-2.1**
	0.4nm,0.9s,mb3.3,baz=49,slow=4.0,SNR=2.7							
ASAR	**Alice Springs**	**84.34**	**125**	P		**P**	**00 29 46.4**	**-0.6**
	0.1nm,0.3s,mb3.0,baz=327,slow=6.6,SNR=3.5							

*NEIC **29** 00:18:34.7, 2874S×7128W, h36km, MD3.9(GUC), After GUC.*

GUC 29 00:18:34.7±0.5,**2874S×7128W,h36**km±3km,**MD3.9, ML3.6,2C-2D,Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
VACH	**Vallenar**	**0.48**	**70**	⇑*i*P		Pn	00 18 45.0	-0.1
VACH				*i* S		Sn	00 18 52.8	+0.5
VACH				AML		AML	00 18 54.0	
	comp=E,12μm,0.1s							
VACH	**Vallenar**	**0.48**	**70**	⇑*i*P		Pn	00 18 45.0	-0.1
VACH				*i* S		Sn	00 18 52.8	+0.5
LCO	**Las Campanas**	**0.57**	**118**	*e*P		Pn	00 18 46.5	+0.2
LCO				*i* S		Sn	00 18 56.0	+1.5
LCO	**Las Campanas**	**0.57**	**118**	*e*Pn		Pn	00 18 46.7	+0.4
LCO				*e*Sn		Sn	00 18 56.3	+1.8
LSCH	**La Serena**	**1.16**	**179**	*e*P		Pn	00 18 55.3	+0.8
LSCH				*i* S		Sn	00 19 10.5	+1.4
TLL	**Tololo Astrono**	**1.48**	**164**	*e*P		Pn	00 19 00.8	+2.0
TLL				*i* S		Sn	00 19 20.7	+3.8
TLL				AML		AML	00 19 24.7	
	comp=N,346nm,0.5s							
TLL	**Tololo Astrono**	**1.48**	**164**	*e*P		Pn	00 19 00.8	+2.0
TLL				*i* S		Sn	00 19 20.7	+3.8
CPCH	**Copiapo**	**1.60**	**31**	⇓*i*P		Pn	00 19 01.8	+1.2
CPCH				*i* S		Sn	00 19 22.7	+2.7
CPCH				AML		AML	00 19 25.2	
	comp=N,3μm,0.2s							
CPCH	**Copiapo**	**1.60**	**31**	⇓*i*P		Pn	00 19 01.8	+1.2
CPCH				*i* S		Sn	00 19 22.7	+2.7

*NEIC **29** 00:23:50.5, 3155S×6975W, h139km, MD3.5(GUC), After GUC.*

GUC 29 00:23:50.5±0.5,**3155S×6975W,h139**km±6km,**MD3.5, ML3.3,4C-1D,San Juan Province**

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
PTCH	**Petorca**	**1.23**	**234**	⇑*i*P		Pn	00 24 16.8	+0.4
PTCH				*i* S		Sn	00 24 36.6	+0.5
PTCH				AML		AML	00 24 38.8	
	comp=E,918nm,0.2s							
PTCH	**Petorca**	**1.23**	**234**	⇑*i*P		Pn	00 24 16.8	+0.4
PTCH				*i* S		Sn	00 24 36.6	+0.5
JACH	**Jahuel**	**1.34**	**212**	*e*P		Pn	00 24 17.9	+0.5
JACH				*i* S		Sn	00 24 39.1	+1.0
CHNG	**Los Chungos**	**1.53**	**257**	⇑*i*P		Pn	00 24 20.1	+0.6
CHNG				*i* S		Sn	00 24 41.8	+0.2
CHNG				AML		AML	00 24 50.4	
	comp=E,166nm,0.6s							
TLL	**Tololo Astrono**	**1.65**	**326**	*e*P		Pn	00 24 21.9	+1.1
TLL				*i* S		Sn	00 24 45.2	+1.2
TLL				AML		AML	00 24 48.1	
	comp=E,114nm,0.3s							
TLL	**Tololo Astrono**	**1.65**	**326**	*e*P		Pn	00 24 21.9	+1.1
TLL				*i* S		Sn	00 24 45.2	+1.2
PEL	**Peldehue**	**1.78**	**206**	⇑*i*P		Pn	00 24 22.5	+0.2
PEL				*i* S		Sn	00 24 47.2	+0.5
PEL				AML		AML	00 24 48.1	
	comp=N,321nm,0.8s							
FCH	**Farellones**	**1.83**	**194**	⇓*i*P		Pn	00 24 24.1	+1.1
FCH				*i* S		Sn	00 24 49.7	+1.8
FCH				AML		AML	00 24 53.3	
	comp=N,225nm,0.3s							
CLCH	**Cerro Calan**	**1.96**	**200**	*e*P		Pn	00 24 25.1	+0.7
CLCH				*i* S		Sn	00 24 51.3	+0.7
CLCH				AML		AML	00 24 53.3	
	comp=E,248nm,0.5s							
RCDM	**Rinconada Maip**	**2.13**	**204**	*e*P		Pn	00 24 27.1	+0.6
RCDM				*i* S		Sn	00 24 54.9	+0.6
RCDM				AML		AML	00 24 55.5	
	comp=E,347nm,0.5s							
RCDM	**Rinconada Maip**	**2.13**	**204**	*e*P		Pn	00 24 27.1	+0.6
RCDM				*i* S		Sn	00 24 54.9	+0.6
ANTU	**Antumapu**	**2.15**	**200**	*e*P		Pn	00 24 27.3	+0.5
ANTU				*i* S		Sn	00 24 55.1	+0.5
ANTU				AML		AML	00 24 57.7	
	comp=N,276nm,0.3s							
ANTU	**Antumapu**	**2.15**	**200**	*e*P		Pn	00 24 27.3	+0.5
ANTU				*i* S		Sn	00 24 55.1	+0.5
PCH	**Pirque**	**2.17**	**197**	*e*P		Pn	00 24 27.9	+0.9
PCH				*e*S		Sn	00 24 56.0	+1.0
LMEL	**Las Melosas**	**2.33**	**189**	*e*P		Pn	00 24 29.7	+0.8
LMEL				*i* S		Sn	00 24 59.7	+1.2
LMEL				AML		AML	00 25 05.3	
	comp=N,103nm,0.3s							
LMEL	**Las Melosas**	**2.33**	**189**	*e*P		Pn	00 24 29.7	+0.8
LMEL				*i* S		Sn	00 24 59.7	+1.2
TACH	**Talagante**	**2.33**	**205**	*e*P		Pn	00 24 29.1	+0.2
TACH				*i* S		Sn	00 24 58.5	0.0
CHCH	**Chadas Angostu**	**2.50**	**197**	*e*P		Pn	00 24 31.7	+0.6
CHCH				*i* S		Sn	00 25 02.8	+0.5
LCO	**Las Campanas**	**2.66**	**342**	*e*Pn		Pn	00 24 34.0	+0.9
CACH	**El Canelo**	**2.66**	**195**	*e*P		Pn	00 24 34.3	+1.3
CACH				*i* S		Sn	00 25 07.6	+1.7
CICH	**Cipreses**	**2.82**	**191**	*e*P		Pn	00 24 36.1	+1.0

*TIF **29** 00:36:24.8, 4287N×4623E, h10km±3km*

MOS 29 00:36:18.8±0.4,**4264N×4677E,h13**km,**mb4.0**/1,**1C-2D, Error ellipse: s-maj=58.5km s-min=10.5km az=22.2, Eastern Caucasus**

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
SNJR	**Sundja**	**1.50**	**287**	*e*PG		Pg	00 36 45.6	-2.0
VLKR	**Vladikavkaz**	**1.59**	**286**	*e*PG		Pg	00 36 47.2	-2.1
BTKR	**Batakoyurt**	**1.79**	**295**	*e*PN		Pn	00 36 50.2	+0.8
LACR	**Lac**	**1.83**	**277**	⇑*i*PN		Pn	00 36 50.6	+0.7
KMSR	**Komsomolskaya**	**1.96**	**293**	⇓*i*PN		Pn	00 36 53.1	+1.4
KORR	**Kora**	**2.03**	**284**	*e*PN		Pn	00 36 54.9	+2.2
ZEI	**Tsey**	**2.12**	**275**	*e*PN		Pn	00 36 55.1	+1.2
PRTR	**Priterechnaya**	**2.13**	**302**	⇓*i*PN		Pn	00 36 55.1	+1.0
LSNR	**Lesken**	**2.26**	**287**	*e*PN		Pn	00 36 57.1	+1.3
DIGR	**Digorskoe uzhe**	**2.36**	**277**	*e*PN		Pn	00 36 58.4	+1.2

*ISCJB **29** 00:41:10.5±0.6, 3593N±007×13741E±007, h244km±4km, mb3.0/4, Error ellipse: s-maj=12.2km s-min=8.2km az=147.2*
*IDC **29** 00:41:10.3±4.7, 3566N×13675E, h206km±91km, mb3.0/4, mb1 3.0/4, mb1mx2.8/21, mbtmp3.0/4, Error ellipse: s-maj=180.8km s-min=22.6km az=61.0*
*NEIC **29** 00:41:11.2, 3588N×13745E, h240km, MG3.3(JMA), After JMA.*
*JMA **29** 00:41:11.2±0.1, 3587N×13745E, h240km±1km, M3.3*

ISC 29 00:41:11.4±0.6,**3593N**±007×**13740E**±007,**h239**km±4km, **n20**,σ0**59**/32,**mb3.0**/4,**Eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
JGN	**Niukaw**	**0.31**	**346**	P		**Pn**	**00 41 42.8**	**+0.3**
JGN				*e*S		**S**	**00 42 06.7**	**-0.4**
JGF	**Kuroka**	**0.33**	**187**	P		**Pn**	**00 41 42.2**	**-0.5**
JGF				*e*S		**S**	**00 42 06.4**	**-0.7**
JGM	**Miyama**	**0.60**	**248**	P		**Pn**	**00 41 43.4**	**0.0**
JGM				*e*S		**S**	**00 42 08.1**	**-0.3**
MAJO	**Matsushiro**	**0.90**	**46**	*e*Pn		**Pn**	**00 41 45.1**	**+0.4**
MAJO				Sn		**S**	**00 42 11.8**	**+0.9**
MAT	**Matsushiro**	**0.90**	**46**	P		**Pn**	**00 41 45.3**	**+0.6**
MAT				S		**S**	**00 42 10.8**	**0.0**
MJAR	**Matsushiro Arr**	**0.90**	**46**	P		**Pn**	**00 41 44.8**	**+0.2**
	5.7nm,0.3s,baz=228,slow=5.7,SNR=30							
MJAR				S		**S**	**00 42 11.2**	**+0.4**
	1.0nm,0.3s,baz=237,slow=13,SNR=12							
JKG	**Kaga**	**0.94**	**292**	P		**Pn**	**00 41 45.5**	**+0.6**
JYN	**Shimob**	**1.02**	**114**	P		**Pn**	**00 41 45.1**	**-0.3**
JYN				*e*S		**S**	**00 42 11.7**	**-0.4**
JRY	**Ryogami san**	**1.22**	**85**	P		**Pn**	**00 41 46.9**	**+0.3**
JRY				*e*S		**S**	**00 42 15.2**	**+0.9**
JOD2	**Odawara 2**	**1.52**	**115**	P		**Pn**	**00 41 49.0**	**+0.1**
JOD2				*e*S		**S**	**00 42 19.0**	**+0.7**
JIE	**Ise**	**1.63**	**201**	P		**Pn**	**00 41 50.0**	**+0.2**
JIE				*e*S		**S**	**00 42 19.8**	**-0.2**
JAG	**Ashikaga**	**1.73**	**73**	P		**Pn**	**00 41 50.1**	**-0.5**
JAG				*e*S		**S**	**00 42 20.1**	**-1.2**
JWT	**Wachi**	**1.75**	**249**	P		**Pn**	**00 41 51.2**	**+0.4**
JWT				*e*S		**S**	**00 42 21.3**	**-0.4**
JSD	**Sado**	**2.22**	**18**	P		**Pn**	**00 41 55.4**	**+0.4**
JWZ	**Kozaga**	**2.76**	**211**	P		**Pn**	**00 42 00.5**	**-0.2**
ERM	**Erimo**	**7.55**	**35**	*e*Pn		**Pn**	**00 42 56.7**	**-2.2**
ZALV	**Zalesovo Beam**	**40.30**	**313**	P		**P**	**00 48 25.7**	**+0.5**
	0.3nm,0.3s,mb3.3,baz=79,slow=7.6,SNR=2.6							
MKAR	**Makanchi Array**	**41.98**	**303**	P		**P**	**00 48 38.8**	**-0.2**
	0.2nm,0.5s,mb2.8,baz=86,slow=11,SNR=3.4							
KURK	**Kurchatov**	**44.08**	**309**	P		**P**	**00 48 55.8**	**0.0**
	0.4nm,0.6s,mb2.9,baz=84,slow=7.8,SNR=5.5							
ASAR	**Alice Springs**	**59.36**	**184**	P		**P**	**00 50 48.8**	**+0.3**
	0.5nm,0.9s,mb3.1,baz=8.3,slow=14,SNR=4.1							

TAP 29 00:58:54.3, 2339N×12028E, h6km,**ML3.6,7C-3D,B, Taiwan**

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
CHN8	**Yiju**	**0.08**	**233**	⇑*i*P		Pg	00 58 56.7	+0.6
	baz=233							
CHN8				*e*S		Sg	00 58 58.5	+1.1
CHN2	**Minshiung**	**0.23**	**52**	P		Pg	00 59 00.6	+1.8
	baz=52							
CHN2				S		Sg	00 59 05.3	+3.5
	baz=52							
SCLT	**Jiali**	**0.23**	**200**	*e*P		Pg	00 59 00.4	+1.5
	baz=200							
SCLT				*e*S		Sg	00 59 04.9	+3.1
	baz=200							
TWK	**Hsinying**	**0.23**	**123**	⇑*i*P		Pg	00 59 00.5	+1.7
	baz=123							
TWK				*e*S		Sg	00 59 04.7	+2.8
	baz=123							
WSF	**Szhu**	**0.25**	**348**	*e*P		Pg	00 58 59.0	-0.2
	baz=347							
WSF				*e*S		Sg	00 59 06.4	+3.8
	baz=347							
CHN4	**Tsaushan**	**0.29**	**98**	⇑*i*P		Pg	00 59 01.6	+1.6
	baz=98							
CHN4				*i* S		Sg	00 59 07.5	+3.6
	baz=98							
CHN1	**Nanshi**	**0.31**	**132**	⇑*i*P		Pg	00 59 01.8	+1.5
	baz=132							
CHN1				*e*S		Sg	00 59 08.1	+3.7
	baz=132							
WTP	**Ta-pu**	**0.34**	**115**	⇑*i*P		Pg	00 59 02.6	+1.6
	baz=115							
WTP				S		Sg	00 59 08.8	+3.4
	baz=115							
WGK	**Gukeng**	**0.39**	**42**	P		Pg	00 59 03.7	+1.8
	baz=41							
WGK				*e*S		Sg	00 59 11.5	+4.4
	baz=41							
SGST	**Jiashian**	**0.42**	**138**	⇓*i*P		Pg	00 59 04.3	+1.9
	baz=121							
CHN5	**Tsauling**	**0.42**	**61**	⇑*i*P		Pg	00 59 04.1	+1.6
	baz=61							
CHN5				S		Sg	00 59 11.1	+3.2
	baz=61							
WTCT	**Ta-ch'eng**	**0.47**	**0**	*e*P		Pg	00 59 04.0	+0.6
	baz=360							
ALS	**Alishan**	**0.50**	**76**	⇑*i*P		Pg	00 59 05.9	+2.0
	baz=77							
ALS				*e*S		Sg	00 59 14.0	+3.5
	baz=77							
TWM1	**Shoushan**	**0.58**	**167**	*e*P		Pg	00 59 08.6	+3.1
	baz=185							
WNT	**Mingjian**	**0.61**	**38**	*e*P		Pg	00 59 07.4	+1.3
	baz=37							
YUS	**Yu-Shan**	**0.63**	**81**	*e*P		Pg	00 59 08.1	+1.7
	baz=82							
YUS				S		Sg	00 59 18.2	+3.7
	baz=82							
PNG	**Penghu**	**0.69**	**285**	P		Pg	00 59 07.6	+0.1
	baz=285							
ELDTW	**Lidau**	**0.71**	**106**	*e*P		Pg	00 59 08.5	+0.6
	baz=106							
SSD	**Sandimen**	**0.72**	**153**	*e*P		Pg	00 59 09.8	+1.7
	baz=136							
SSD				*e*S		Sg	00 59 21.5	+4.0
	baz=136							
TYC	**Yuchr**	**0.74**	**46**	⇓*i*P		Pg	00 59 09.8	+1.4
	baz=46							
TYC				S		Sg	00 59 21.2	+3.2
	baz=46							
SMLT	**Sun Moon Lake**	**0.75**	**49**	⇓*i*P		Pg	00 59 10.1	+1.3
	baz=49							
SMLT				S		Sg	00 59 21.8	+3.3
	baz=49							
TCU	**Taichung**	**0.84**	**26**	*e*P		Pg	00 59 11.5	+1.1
	baz=25							
TWG	**Pinlang**	**0.93**	**128**	P		Pg	00 59 13.4	+1.3
	baz=114							
TWG				S		Sg	00 59 26.9	+2.8
	baz=114							
TWF1	**Yuli**	**0.94**	**92**	*i* P		Pg	00 59 13.4	+1.1
	baz=93							
TWF1				S		Sg	00 59 26.3	+1.8
	baz=93							
EHY	**Hungye**	**0.96**	**83**	P		Pg	00 59 13.8	+1.0
	baz=84							
EHY				*e*S		Sg	00 59 27.1	+1.7
	baz=84							
ECL	**Taimali**	**1.01**	**142**	P		Pg	00 59 14.6	+1.0
	baz=141							
ECL				S		Sg	00 59 29.3	+2.6
	baz=141							
TTN	**Taitung**	**1.02**	**128**	*e*P		Pg	00 59 17.7	+3.8
	baz=128							
CHKT	**Chengkung**	**1.04**	**106**	*e*P		Pg	00 59 15.7	+1.4
	baz=106							
CHKT				*e*S		Sg	00 59 30.9	+3.0
	baz=106							
TWP	**Hsiaoliuchiu**	**1.04**	**176**	*e*P		Pg	00 59 17.1	+2.7
	baz=189							
TWQ1	**Liyutan**	**1.05**	**25**	*e*P		Pg	00 59 15.3	+0.8
	baz=24							
TWQ1				*e*S		Sg	00 59 31.0	+2.8
	baz=24							
SCZT	**Fangliau**	**1.06**	**163**	*e*P		Pg	00 59 15.2	+0.5
	baz=162							
NSY	**Sanyi**	**1.11**	**23**	*e*P		Pg	00

CHMS	**Chumysh**	**2.51**	**265**	P	**Pn**	**01 24 10.2**	**0.0**
	SNR=17							
USP	**Ospenovka**	**2.68**	**271**	P	**Pn**	**01 24 14.3**	**+1.9**
	SNR=29							
AAK	**Ala-Archa**	**2.77**	**258**	P	**Pn**	**01 24 13.0**	**-0.7**
	SNR=48							
UCH	**Uchtor**	**2.88**	**250**	P	**Pn**	**01 24 14.4**	**-0.8**
	SNR=11							
EKS2	**Erkin-Say**	**3.28**	**261**	P	**Pn**	**01 24 22.7**	**+2.0**
	SNR=27							
AML	**Almayashu**	**3.48**	**252**	P	**Pn**	**01 24 25.2**	**+1.6**
	SNR=19							
MK31	**Makanchi Array**	**4.58**	**38**	⇑Pn	**Pn**	**01 24 39.0**	**+0.5**
	7.9nm,0.2s,baz=212,slow=12,SNR=157							
MK31				⇑Lg		01 25 53.3		
	20nm,0.6s,baz=216,slow=31,SNR=4.2							
KK31	**Karatay Array**	**5.60**	**271**	Pg	**Pn**	**01 25 06.3**	**+14**
	3.3nm,0.8s,baz=84,slow=17,SNR=27							
KK31				⇑Lg		01 26 18.6		
	3.5nm,0.3s,baz=89,slow=26,SNR=11							
KURBB	**Kurchatov Arra**	**7.36**	**2**	⇑Pn	**Pn**	**01 25 18.1**	**+1.4**
KURBB				⇓Lg		01 27 23.4		
	3.4nm,0.7s							
KURK	**Kurchatov**	**7.46**	**2**	⇓Pn	**Pn**	**01 25 15.6**	**-2.4**
	4.1nm,1.5s							
KURK				⇑Lg		01 27 27.3		
	21nm,0.7s							
VOSK	**Vostochnaya**	**10.61**	**336**	⇓Pn	**Pn**	**01 26 00.8**	**-0.4**
	0.9nm,0.6s							
VOSK				⇑Sn	**Sn**	**01 27 58.3**	**-0.3**
	1.2nm,0.6s							
VOSK				⇓Lg		01 29 04.3		
	3.1nm,0.8s							
BVA0	**Borovoye Array**	**11.05**	**335**	Pn	**Pn**	**01 26 06.6**	**-0.7**
	0.2nm,0.7s,baz=133,slow=13,SNR=5.4							
BVA0				⇑Sn	**Sn**	**01 28 10.1**	**+0.7**
	0.5nm,1.0s,baz=149,slow=23,SNR=4.1							
BVA0				⇓Lg		01 29 23.7		
	0.6nm,0.8s,baz=143,slow=26,SNR=3.5							

*ISCJB **29** 01:36:24.6±0.5,3975N±002×2065E±004,h10km, Error ellipse: s-maj=4.5km s-min=3.5km az=15.8*
*ATH **29** 01:36:24.3,3979N×2069E,h14km±1km,MD3.2/8*
*NEIC **29** 01:36:24.3,3979N×2069E,h14km,MD3.2(ATH), After ATH.*
*CSEM **29** 01:36:24.9±0.1,3978N×2067E,h8km,MD3.2, Error ellipse: s-maj=1.8km s-min=1.5km az=137.0*
*THE **29** 01:36:25.8,3976N×2076E,h0km±1km, ML2.9/7, Error ellipse: s-maj=2.3km s-min=0.8km az=290.0*

ISC 29 01:36:24.5±0.6,3975N±002×2068E±004,h0km±4km,n40, σ1§16/60,2C,Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JAN	**Janina**	**0.16**	**126**	⇑*i*Pg	**Pg**	**01 36 28.7**	**+1.0**
JAN				*e*Sg	**Sg**	**01 36 31.5**	**+1.7**
JAN	**Janina**	**0.16**	**126**	⇑*i*PG	**Pg**	**01 36 28.7**	**+1.0**
JAN				*e*SG	**Sg**	**01 36 31.5**	**+1.7**
MEV	**Metsovon**	**0.42**	**85**	P	**Pg**	**01 36 33.0**	**+0.3**
MEV				S	**Sg**	**01 36 39.0**	**+0.8**
KEK	**Kerkira**	**0.68**	**267**	*e*Pb	**Pg**	**01 36 37.6**	**0.0**
KEK	**Kerkira**	**0.68**	**267**	*e*PB	**Pg**	**01 36 37.6**	**0.0**
KZN	**Kozani**	**1.00**	**56**	*e*Pb	**Pg**	**01 36 43.0**	**-0.8**
KZN	**Kozani**	**1.00**	**56**	*e*PB	**Pg**	**01 36 43.0**	**-0.8**
LKD	**Levkas**	**1.04**	**181**	P	**Pn**	**01 36 45.3**	**-1.1**
LKD				S	**Sn**	**01 37 01.5**	**-0.2**
THL	**Klokotos Trika**	**1.05**	**100**	P	**Pg**	**01 36 42.9**	**-1.7**
THL	**Klokotos Trika**	**1.05**	**100**	*e*Pg	**Pg**	**01 36 43.3**	**-1.3**
THL	**Klokotos Trika**	**1.05**	**100**	*e*PG	**Pg**	**01 36 43.3**	**-1.3**
FNA	**Florina**	**1.16**	**27**	P	**Pn**	**01 36 46.4**	**-1.6**
FNA				S	**Sn**	**01 37 03.6**	**-1.0**
EVR	**Evrytania**	**1.21**	**133**	*e*Pn	**Pn**	**01 36 46.5**	**-2.2**
EVR	**Evrytania**	**1.21**	**133**	*e*PN	**Pn**	**01 36 46.5**	**-2.2**
BIA	**Bitola**	**1.36**	**21**	*e*Pn	**Pn**	**01 36 51.0**	**+0.2**
BIA				*i* Sn	**Sn**	**01 37 11.5**	**+2.1**
BIA	**Bitola**	**1.36**	**21**	P	**Pg**	**01 36 50.3**	**-0.3**
BIA	**Bitola**	**1.36**	**21**	*e*Pn	**Pn**	**01 36 50.9**	**+0.2**
BIA				*i* Sn	**Sn**	**01 37 11.5**	**+2.1**
OHR	**Ohrid**	**1.36**	**4**	*e*Pn	**Pn**	**01 36 52.5**	**+1.8**
OHR				*i* Sn	**Sn**	**01 37 11.9**	**+2.4**
OHR	**Ohrid**	**1.36**	**4**	*e*Pn	**Pn**	**01 36 52.5**	**+1.7**
OHR				*i* Sn	**Sn**	**01 37 11.9**	**+2.4**
LIT	**Litokhoron**	**1.44**	**75**	P	**Pn**	**01 36 51.7**	**-0.1**
LIT				S	**Sg**	**01 37 11.3**	**+0.7**
AGG	**Agios Georgios**	**1.47**	**119**	P	**Pn**	**01 36 51.3**	**-1.0**
AGG				S	**Sg**	**01 37 11.9**	**+0.1**
VLS	**Valsamata**	**1.57**	**183**	P	**Pg**	**01 36 54.4**	**-0.3**
VLS				S	**Sg**	**01 37 17.0**	**+1.9**
VLS	**Valsamata**	**1.57**	**183**	*e*Pb	**Pg**	**01 36 54.7**	**0.0**
VLS				S	**Sg**	**01 37 17.0**	**+1.9**
VLS	**Valsamata**	**1.57**	**183**	*e*PB	**Pg**	**01 36 54.7**	**0.0**
KRUS	**Krusevo**	**1.67**	**15**	*i* Pn	**Pg**	**01 36 56.5**	**-0.1**
KRUS				*i* Sn	**Sg**	**01 37 19.8**	**+1.6**
KRUS	**Krusevo**	**1.67**	**15**	*i* Pn	**Pg**	**01 36 56.4**	**-0.2**
KRUS				*i* Sn	**Sg**	**01 37 19.8**	**+1.5**
GRG	**Griva**	**1.78**	**47**	P	**Pg**	**01 36 56.4**	**-2.3**
GRG				S	**Sg**	**01 37 20.0**	**-1.8**
NEO	**Neokhori**	**2.02**	**102**	*e*Pn	**Pn**	**01 36 59.8**	**0.0**
NEO	**Neokhori**	**2.02**	**102**	*e*PN	**Pn**	**01 36 59.8**	**0.0**
VAY	**Valandovo**	**2.13**	**42**	*e*Pn	**Pg**	**01 37 02.0**	**-3.3**
VAY				*i* Sn	**Sg**	**01 37 28.2**	**-4.7**
VAY	**Valandovo**	**2.13**	**42**	*e*Pn	**Pg**	**01 37 02.0**	**-3.3**
VAY				*i* Sn	**Sg**	**01 37 28.1**	**-4.8**
KNT	**Kendrikon**	**2.20**	**50**	P	**Pn**	**01 37 02.6**	**+0.3**
PLG	**Polygyros**	**2.21**	**73**	P	**Pn**	**01 37 02.5**	**0.0**
PLG	**Polygyros**	**2.21**	**73**	*e*Pn	**Pn**	**01 37 02.9**	**+0.4**
PLG	**Polygyros**	**2.21**	**73**	*e*PN	**Pn**	**01 37 02.9**	**+0.4**
STIP	**Stip**	**2.25**	**30**	*i* Pn	**Pn**	**01 37 04.4**	**+1.4**
SOH	**Sokhos**	**2.31**	**62**	P	**Pn**	**01 37 03.5**	**-0.3**
SOH				S	**Sn**	**01 37 33.5**	**+0.6**
PAIG	**Paliouri**	**2.32**	**85**	P	**Pn**	**01 37 04.0**	**+0.1**
PAIG				S	**Sn**	**01 37 32.5**	**-0.6**
TIP	**Timpagrande**	**3.09**	**261**	*e*Pn	**Pn**	**01 37 13.6**	**-0.9**
TIP	**Timpagrande**	**3.09**	**261**	*e*Pn	**Pn**	**01 37 13.6**	**-0.9**

*ISCJB **29** 02:02:47.0±1.0,47S±02×1063W±0.1,h10km,mb4.3/4, Error ellipse: s-maj=24.0km s-min=15.9km az=151.0*
*GCMT **29** 02:02:48.0±0.3,451S×106.13W,h12km,MW4.9/73, Moment Tensor Solution. s28,c33; s73,c111; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}=0.26±.10; $M_{\theta\theta}$=1.13±.08; $M_{\phi\phi}$=-0.86±.10; $M_{r\theta}$=1.48±.25; $M_{\theta\phi}$=2.61±.07; $M_{r\phi}$=-0.24±.27; Best double couple: M_o3.17500×10^{16} NP1:γ_s11.00000°,δ62.00000°,λ-177.00000°. NP2: ϕ_s279.00000°,δ88.00000°,λ-28.00000°. Principal axes: T 3.2760, Plg18.0000°, Azm329.0000°; N -0.2010, Plg61.0000°, Azm95.0000°; P -3.0740, Plg22.0000°, Azm231.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **29** 02:02:49.9±2.7,452S×106.02W,h10km,mb4.5/4 Error ellipse: s-maj=68.8km s-min=22.7km az=46.0*

ISC 29 02:02:48.5±1.0,47S±02×1063W±01,h10km,n9,σ1§00/7, mb4.3/4,Central East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JTS	**JuntasAbangare**	**25.94**	**55**	*e*P	**P**	**02 08 20.1**	**-1.2**
	29nm,1.3s,mb4.7						
RKT	**Rikitea**	**33.21**	**234**	*e*LR	LR	02 18 34.0	
	976nm,27.0s,baz=52						
TAOE	**Nuku Hiva Isla**	**33.87**	**261**	*e*LR	LR	02 18 22.3	
	2µm,25.7s						
LPAZ	**La Paz**	**39.15**	**110**	*e*P	**P**	**02 10 17.4**	**+0.6**
	1.6nm,1.0s,mb3.7						
ANMO	**Albuquerque**	**39.44**	**360**	P	**P**	**02 10 18.2**	**-0.6**
PPT	**Papeete**	**44.24**	**250**	*e*S	**S**	**02 17 31.5**	**-0.9**
	122nm,24.2s						
PPT				*e*LR	LR	02 23 20.9	
	748nm,26.2s,baz=80						
TBI	**Tubuai**	**45.57**	**242**	*e*S	**S**	**02 17 51.7**	**+0.2**
	112nm,26.2s						
TBI				*e*LR	LR	02 24 10.0	
	484nm,27.8s						
HWUT	**Hardware Ranch**	**46.34**	**355**	*e*P	**P**	**02 11 14.5**	**-0.2**
	22nm,1.8s,mb4.8						
MCMT	**McKenzie Canyo**	**49.66**	**354**	P	**P**	**02 11 42.2**	**+1.9**
	3.3nm,1.2s,mb4.2						

*DDA **29** 02:20:18.4,3902N×4112E,h7km±4km,Md3.1*
*ISK **29** 02:20:18.5,3907N×4104E,h14km,MD2.9*
*ISCJB **29** 02:20:19.4±0.4,3904N±002×4108E±004,h10km, Error ellipse: s-maj=5.2km s-min=3.2km az=20.8*
*CSEM **29** 02:20:19.3±0.0,3910N×4110E,h20km,MD2.9, Error ellipse: s-maj=1.4km s-min=0.9km az=99.0*

ISC 29 02:20:19.2±0.7,3903N±003×4108E±005,h8km±7km,n16, σ0§98/27,1D,Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EZM	**Erzurum**	**0.90**	**14**	*e*PG	**Pg**	**02 20 35.6**	**-0.9**
EZM				*e*SG	**Sg**	**02 20 48.0**	**-0.3**
ERZM	**Erzurum**	**0.90**	**14**	*i* P	**Pg**	**02 20 36.0**	**-0.5**
ERZM				*i* S	**Sg**	**02 20 48.7**	**+0.4**
KOPT	**Kop Dagi**	**1.09**	**336**	*e*P	**Pg**	**02 20 39.2**	**-0.8**
KOPT				*e*S	**Sg**	**02 20 55.7**	**+1.5**
KOPT	**Kop Dagi**	**1.09**	**336**	*e*P	**Pg**	**02 20 39.2**	**-0.9**
KOPT				*e*S	**Sg**	**02 20 55.7**	**+1.5**
BEST	**Besiri**	**1.14**	**173**	*e*P	**Pb**	**02 20 40.4**	**-0.8**
BEST				*e*S	**Sg**	**02 20 56.5**	**+0.6**
HOMI	**Horasan**	**1.20**	**32**	*e*P	**Pb**	**02 20 42.9**	**+0.7**
HOMI				*e*S	**Sb**	**02 20 58.9**	**+1.1**
EZC	**Erzincan**	**1.22**	**307**	*e*PN	**Pn**	**02 20 46.0**	**+3.5**
PTK	**Pertek**	**1.33**	**265**	*e*PN	**Pn**	**02 20 42.6**	**-1.4**
PTK				*e*SN	**Sn**	**02 21 00.2**	**-1.6**
DIYA	**Diyarbakir**	**1.34**	**215**	*e*P	**Pn**	**02 20 44.3**	**+0.1**
DIYA				*e*S	**Sb**	**02 21 02.4**	**+0.6**
TUTA	**Tutak**	**1.40**	**74**	*e*P	**Pn**	**02 20 43.5**	**-1.5**
TUTA				*e*S	**Sb**	**02 21 03.5**	**0.0**
SVRC	**Sivrice-ELAZID**	**1.53**	**246**	*e*PN	**Pn**	**02 20 46.2**	**-0.7**
AGRB	**Hanur-Agry**	**1.58**	**69**	*e*PN	**Pn**	**02 20 46.8**	**-0.6**
MARD	**Mardin**	**1.73**	**188**	⇓*i*P	**Pn**	**02 20 49.4**	**-0.1**
MARD				*i* S	**Sn**	**02 21 12.8**	**+1.0**
SIRT	**Sirnak**	**1.86**	**145**	*e*PN	**Pn**	**02 20 51.9**	**+0.6**
KEMA	**Kemaliye**	**2.03**	**278**	*e*P	**Pn**	**02 20 55.5**	**+1.9**
KEMA				*e*S	**Sn**	**02 21 23.7**	**+4.5**
KEMA	**Kemaliye**	**2.03**	**278**	*e*P	**Pn**	**02 20 55.5**	**+1.8**

*ISCJB **29** 02:23:32.3±0.7,3811N±003×2337E±005,h4km±7km, Error ellipse: s-maj=6.6km s-min=5.4km az=163.2*
*ATH **29** 02:23:32.8,3814N×2339E,h4km,MD2.6/3*
*CSEM **29** 02:23:32.0±0.1,3805N×2328E,h5km,ML2.0/1, Error ellipse: s-maj=3.3km s-min=2.4km az=68.0*
*THE **29** 02:23:32.6,3809N×2337E,h4km±20km,ML2.0/1, Error ellipse: s-maj=20.3km s-min=0.9km az=252.0*

ISC 29 02:23:32.6±0.7,3811N±004×2337E±005,h6km±9km,n12, σ0§70/21,Greece

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ATH	**Athens Observa**	**0.30**	**117**	*e*Pg	**Pg**	**02 23 39.0**	**+0.5**
ATH				Sg	**Sg**	**02 23 42.8**	**+0.3**
ATH	**Athens Observa**	**0.30**	**117**	*e*PG	**Pg**	**02 23 39.0**	**+0.5**
ATH				SG	**Sg**	**02 23 42.8**	**+0.3**
LTK	**Loutraki**	**0.33**	**255**	P	**Pg**	**02 23 38.5**	**-0.6**
LTK				S	**Sg**	**02 23 44.1**	**+0.7**
LKR	**Lokris**	**0.61**	**331**	P	**Pg**	**02 23 44.0**	**-0.4**
LKR				S	**Sg**	**02 23 54.4**	**+2.0**
LKR	**Lokris**	**0.61**	**331**	*e*Pg	**Pg**	**02 23 43.8**	**-0.6**
LKR	**Lokris**	**0.61**	**331**	P	**Pg**	**02 23 44.0**	**-0.4**
LKR				Sg	**Sg**	**02 23 52.5**	**+0.1**
LKR	**Lokris**	**0.61**	**331**	*e*PG	**Pg**	**02 23 43.8**	**-0.6**
LKR				SG	**Sg**	**02 23 52.5**	**+0.1**
DID	**Didima**	**0.61**	**190**	P	**Pg**	**02 23 43.3**	**-1.1**
DID				S	**Sg**	**02 23 53.3**	**+0.9**
VLX	**Vlachokerasia**	**1.08**	**227**	P	**Pg**	**02 23 52.5**	**-0.8**
VLX				S	**Sg**	**02 24 07.4**	**+0.1**
NEO	**Neokhori**	**1.20**	**354**	*e*Pb	**Pb**	**02 23 55.2**	**-0.5**
NEO	**Neokhori**	**1.20**	**354**	*e*PB	**Pb**	**02 23 55.2**	**-0.5**
AGG	**Agios Georgios**	**1.22**	**318**	P	**Pn**	**02 23 55.7**	**-0.5**
AGG				S	**Sn**	**02 24 13.8**	**+0.8**

*CSEM **29** 02:28:44.6±0.1,3886N×27.18E,h8km,MD2.9, Error ellipse: s-maj=2.3km s-min=1.5km az=106.0*
*ISK **29** 02:28:44.1,3887N×27.17E,h3km,MD2.9*
*ISCJB **29** 02:28:45.4±0.5,3887N±002×27.18E±004,h6km±5km, Error ellipse: s-maj=4.7km s-min=4.1km az=4.2*
*DDA **29** 02:28:45.4,3885N×2720E,h6km±2km,Md2.9*

ISC 29 02:28:45.9±0.4,3886N±002×2718E±004,h12km±5km,n18, σ0§83/27,1C,Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IZM	**Izmir**	**0.46**	**172**	*e*PG	**Pg**	**02 28 53.6**	**-1.4**
IZM				*e*SG	**Sg**	**02 29 01.2**	**0.0**
BLCB	**Balcova**	**0.48**	**193**	*e*PG	**Pg**	**02 28 54.7**	**-0.5**
BLCB				*e*SG	**Sg**	**02 29 02.3**	**+0.4**
AKS	**Akhisar**	**0.49**	**87**	*e*PG	**Pg**	**02 28 55.0**	**-0.6**
AKS				*e*SG	**Sg**	**02 29 02.3**	**+0.2**
AKHS	**Akhisar**	**0.49**	**87**	*e*P	**Pg**	**02 28 55.3**	**-0.2**
AKHS				*e*S	**Sg**	**02 29 02.5**	**+0.4**
AYVA	**Ayvalik**	**0.59**	**320**	*e*P	**Pg**	**02 28 57.0**	**-0.5**
AYVA				*e*S	**Sg**	**02 29 05.6**	**+0.4**
URLA	**Izmir**	**0.68**	**223**	*e*P	**Pg**	**02 28 58.7**	**-0.3**
URLA				*e*S	**Sg**	**02 29 09.5**	**+1.6**
BALY	**Balya**	**0.94**	**21**	*e*P	**Pg**	**02 29 03.6**	**-0.5**
BALY				*e*S	**Sg**	**02 29 17.9**	**+1.5**
MANT	**Manisa**	**1.14**	**108**	⇑*i*P	**Pb**	**02 29 06.8**	**-0.7**
MANT				*e*S	**Sb**	**02 29 22.0**	**-0.2**
GCAM	**G?zelcaml?**	**1.16**	**178**	*e*P	**Pb**	**02 29 07.0**	**-0.8**
GCAM				*e*S	**Sb**	**02 29 24.3**	**+1.6**
EZN	**Ezine**	**1.17**	**326**	*e*PN	**Pn**	**02 29 06.5**	**-1.6**
KULA	**Kula-Manisa**	**1.21**	**106**	*e*PN	**Pn**	**02 29 07.8**	**-0.8**
DST	**Dursunbey**	**1.35**	**56**	*e*PN	**Pn**	**02 29 10.4**	**-0.1**
EDC	**Edincik**	**1.58**	**19**	*e*PN	**Pn**	**02 29 14.2**	**+0.5**
BNT	**Bandirma**	**1.60**	**21**	*e*PN	**Pn**	**02 29 14.3**	**+0.3**
RKY	**Sarkoy-Tekirda**	**1.83**	**360**	*e*PN	**Pn**	**02 29 16.3**	**-0.9**
KHL	**Karahalli**	**1.91**	**106**	*e*PN	**Pn**	**02 29 19.6**	**+1.4**
MFT	**Murefte**	**1.93**	**2**	*e*PN	**Pn**	**02 29 18.7**	**+0.2**
YLV	**Yalova**	**2.40**	**44**	*e*PN	**Pn**	**02 29 26.0**	**+1.0**

*NEIC **29** 02:53:10.3,2973S×7292W,h33km,ML3.6(GUC), After GUC.*

GUC 29 02:53:10.3±0.6,2973S×7292W,h33km±4km,ML3.6, 3C-1D,Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LSCH	**La Serena**	**1.47**	**97**	*e*P	Pn	02 53 35.8	+1.4
LSCH				*i* S	Sn	02 53 54.4	+2.0
OVCH	**Ovalle**	**1.73**	**121**	*e*P	Pn	02 53 39.3	+1.3
OVCH				*e*S	Sn	02 54 01.5	+2.7
OVCH				AML	AML	02 54 03.5	
	comp=N,606nm,0.2s						
OVCH	**Ovalle**	**1.73**	**121**	*e*P	Pn	02 53 39.3	+1.3
OVCH				*e*S	Sn	02 54 01.5	+2.7
TLL	**Tololo Astrono**	**1.89**	**104**	⇑*i*P	Pn	02 53 42.8	+2.6
TLL				*i* S	Sn	02 54 06.6	+3.8
TLL				AML	AML	02 54 08.6	
	comp=N,351nm,0.4s						
TLL	**Tololo Astrono**	**1.89**	**104**	⇑*i*P	Pn	02 53 42.8	+2.6
TLL				*i* S	Sn	02 54 06.6	+3.8
LCO	**Las Campanas**	**2.07**	**70**	*e*P	Pn	02 53 44.7	+2.0
LCO				*i* S	Sn	02 54 10.5	+3.2
LCO	**Las Campanas**	**2.07**	**70**	*e*Pn	Pn	02 53 44.3	+1.6
LCO				*e*Sn	Sn	02 54 10.3	+3.0
VACH	**Vallenar**	**2.21**	**59**	⇑*i*P	Pn	02 53 46.0	+1.3
VACH				*i* S	Sn	02 54 13.5	+2.6
PTCH	**Petorca**	**3.05**	**146**	*e*P	Pn	02 53 57.3	+1.2
PTCH				AML	AML	02 54 32.8	
	comp=E,648nm,0.4s						
PEL	**Peldehue**	**3.90**	**151**	⇓*i*P	Pn	02 54 09.2	+1.4
RCDM	**Rinconada Maip**	**4.16**	**155**	*e*P	Pn	02 54 12.8	+1.4
CLCH	**Cerro Calan**	**4.18**	**151**	*e*P	Pn	02 54 12.9	+1.2
FCH	**Farellones**	**4.23**	**149**	*e*P	Pn	02 54 14.6	+2.2
ANTU	**Antumapu**	**4.29**	**154**	*i* S	Sn	02 55 01.4	-0.8
LMEL	**Las Melosas**	**4.71**	**151**	*e*P	Pn	02 54 20.7	+1.7
TRQA	**Tornquist**	**12.30**	**135**	*e*Pn	Pn	02 56 04.1	+1.0

*MOS **29** 03:21:48.2±1.9,5181N×10539E,h24km,mb4.4/1, Error ellipse: s-maj=15.5km s-min=14.3km az=18.6*
MOS Felt (II-III) at Listvyanka, Nikola.

BYKL 29 03:21:47.6±0.2,5182N×10527E,h27km±4km,5C-2D, FELT I=II MSK at Listvyanka, Nikola., Lake Baykal region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LSTR	**Listvyanka**	**0.28**	**280**	⇑*i*Pg	Pb	03 21 54.3	-0.1
LSTR				*e*Sg	Sb	03 21 58.5	-0.6
LSTR				Pmax			
	386nm,0.1s						
LSTR				Smax			
	4µm,0.2s						
IRK	**Irkutsk**	**0.75**	**305**	⇑*i*PG	Pb	03 22 02.3	+0.3
IRK				*e*		03 22 12.1	
IRK				pmax	pmax		
	comp=Z,1µm,0.2s						
IRK				smax			
	comp=E,4µm,0.5s						
IRK	**Irkutsk**	**0.75**	**305**	⇑*i*Pg	Pb	03 22 02.3	+0.3
IRK				*e*Sg	Sb	03 22 12.0	+0.2
IRK				*e*Sb	Sb	03 22 16.7	+4.9
IRK				Pmax			
	comp=E,1µm,0.2s						
IRK				Smax			
	comp=E,4µm,0.4s						
KAB	**Kabansk**	**0.89**	**74**	*e*PG	Pn	03 22 04.5	+0.2
KAB				*e*		03 22 17.0	
KAB				pmax	pmax		
	comp=Z,444nm,0.6s						
KAB				smax			
	comp=E,3µm,0.5s						
KAB	**Kabansk**	**0.89**	**74**	*e*Sg	Sb	03 22 16.5	+0.7
KAB				Smax			
	comp=E,3µm,0.5s						
FFNB	**Fofonovo**	**0.95**	**76**	*e*Pg	Pn	03 22 05.4	+0.2
FFNB				*e*Sg	Sb	03 22 17.9	+0.3
FFNB				Pmax			
	comp=E,338nm,0.2s						
FFNB				Smax			
	comp=E,4µm,0.3s						
TLY	**Talaya**	**1.02**	**263**	*e*PG	Pn	03 22 06.8	+0.7
TLY				*e*		03 22 20.6	
TLY				pmax	pmax		
	comp=Z,131nm,0.1s						
TLY				smax			
	comp=E,1µm,0.2s						
TLY	**Talaya**	**1.02**	**263**	*e*Pg	Pn	03 22 07.2	+1.1
TLY				*e*Sg	Sn	03 22 21.0	+1.5
TLY				*e*Sb	Sb	03 22 23.5	+3.9
TLY				Pmax			
	comp=E,116nm,0.1s						
TLY				max			
	comp=E,1µm,0.2s						
HRMR	**Khuramsha**	**1.07**	**100**	⇑*i*Pg	Pn	03 22 07.5	+0.8
HRMR				*e*Sg	Sn	03 22 21.9	+1.3
TRG	**Tyrgan**	**1.15**	**35**	*e*PG	Pn	03 22 08.8	+0.9
TRG				*e*		03 22 24.0	
TRG				pmax	pmax		
	comp=Z,69nm,0.2s						
TRG				smax			
	comp=N,714nm,0.2s						
TRG	**Tyrgan**	**1.15**	**35**	*e*Pg	Pn	03 22 08.8	+0.9
TRG				*e*Sg	Sn	03 22 24.0	+1.3
TRG				*e*Sb	Sb	03 22 25.1	+1.8
TRG				Pmax			
	comp=N,67nm,0.2s						
TRG				max			
	comp=N,718nm,0.2s						
UUDB	**Ulan-Yde**	**1.48**	**87**	⇑*i*Pg	Pn	03 22 14.6	+2.1
UUDB				*e*Sg	Sn	03 22 33.3	+2.3
UUDB				Pmax			
	comp=N,135nm,0.6s						
UUDB				Smax			
	comp=N,589nm,0.6s						
ARS	**Arshan**	**1.77**	**274**	*e*PN	Pn	03 22 20.2	+3.8
ARS				*e*		03 22 42.4	
ARS				pmax	pmax		
	comp=Z,99nm,0.2s						
ARS				smax			
	comp=E,1µm,0.4s						
ARS	**Arshan**	**1.77**	**274**	⇓*i*Pg	Pn	03 22 20.1	+3.7
ARS				*e*Sg	Sn	03 22 42.4	+4.5
ARS				Pmax			
	comp=E,97nm,0.2s						
ARS				Smax			
	comp=E,1µm,0.3s						
ZAK	**Zakamensk**	**1.91**	**222**	*e*Pg	Pn	03 22 22.9	+4.6
ZAK				*e*Sg	Sn	03 22 48.1	+6.7
ZAK				Pmax			
	comp=E,38nm,0.4s						
ZAK				Smax			
	comp=E,156nm,0.2s						
OGRR	**Ongureny**	**2.31**	**37**	*e*Pn	Pn	03 22 25.9	+2.1
OGRR				*e*Sg	Sn	03 22 57.7	+6.4
OGRR				Smax			
	comp=E,130nm,0.6s						
MXMB	**Maximikha**	**2.57**	**54**	*e*Pg	Pn	03 22 34.6	+7.3
MXMB				*e*Sg	Sn	03 23 08.1	+10
MXMB				Pmax			
	comp=E,21nm,0.1s						
MXMB				Smax			
	comp=E,244nm,0.3s						
MOY	**Mondy**	**2.66**	**268**	*e*PN	Pn	03 22 35.1	+6.4
MOY				*e*		03 23 10.0	
MOY				pmax	pmax		
	comp=Z,56nm,0.3s						
MOY				smax			
	comp=E,184nm,0.3s						
MOY	**Mondy**	**2.66**	**268**	⇓*i*Pg	Pn	03 22 35.1	+6.4
MOY				*e*Sg	Sn	03 23 10.0	+10
MOY				Pmax			
	comp=E,57nm,0.3s						
MOY				Smax			
	comp=E,188nm,0.4s						
ORL	**Orlik**	**3.44**	**284**	*e*PN	Pn	03 22 44.0	+4.7
ORL	**Orlik**	**3.44**	**284**	*e*	Pn	03 22 43.4	+4.1
ORL				*e*Pg	Sn	03 22 48.6	+9.3
ORL				*e*Sg	Sn	03 23 33.3	+14
ORL				Pmax			
	comp=E,22nm,0.4s						
ORL				Smax			
	comp

MS4.3/6,Error ellipse: s-maj=11.5km s-min=5.5km az=119.9

IDC ***29*** *03:22:26.5±3.2, 1788N×12232E, h33km±24km, mb4.4/17, mb1 4.5/18, mb1mx4.4/21, mbtmp4.4/18, ML4.5/1, MS4.0/15, Ms1 4.0/15, ms1mx3.7/29, Error ellipse: s-maj=19.9km s-min=13.1km az=79.0*

GCMT ***29*** *03:22:26.0±0.5, 1797N×12229E, h25km±1km, MW4.9/56, Moment Tensor Solution. s17,c19; s56,c86; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr1.01±.14; Mθθ0.78±.08; Mϕϕ-1.79±.11; Mrθ1.74±.21; Mϕθ-0.74±.07; Mϕr1.40±.22; Best double couple: Mo2.81500×10¹⁶ NP1:ϕs159.00000°,δ31.00000°,λ25.00000°. NP2: ϕs47.00000°,δ77.00000°,λ118.00000°. Principal axes: T 2.7060, Plg50.0000°, Azm348.0000°; N 0.2150, Plg28.0000°, Azm220.0000°; P -2.9230, Plg27.0000°, Azm115.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

NEIC ***29*** *03:22:26.0±0.2, 1788N×12229E, mb5.0/43 Error ellipse: s-maj=4.9km s-min=4.5km az=141.0*

NEIC Felt [IV PIVS] at Santa Ana and [III PIVS] at Aparri, Baggao, Callao and Gonzaga.

DJA ***29*** *03:22:37, 1824N×12184E, h95km, mb4.8/8*

ISC 29 03:22:26.7±0.7,1800N±002×12229E±003,h29km±5km, h29km±2.2km:pP-P,n244,σ1§01/248,mb4.9/83,MS4.1/27, 37C-16D,Luzon

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SGCP	**Mt. Cagua**	**0.34**	**316**	*e*P	**Pb**	**03 22 33.2**	**-1.3**
CVP	**Callao Caves**	**0.54**	**237**	⇓*i*P	**Pb**	**03 22 34.8**	**-2.9**
CVP				*i* S	**Sb**	**03 22 41.6**	**-3.5**
PALP	**Palanan**	**0.94**	**172**	⇓*e*P	**Pn**	**03 22 43.1**	**-0.9**
CAUP	**Cauayan**	**1.14**	**203**	*e*P	**Pn**	**03 22 46.7**	**0.0**
CAUP				*e*S	**Sn**	**03 23 01.0**	**-0.4**
ABRA	**Dolores**	**1.54**	**257**	*e*P	**Pn**	**03 22 50.9**	**-1.3**
ABRA				*e*S	**Sn**	**03 23 11.7**	**+0.3**
PIP	**Pasuquin**	**1.62**	**282**	⇓*i*P	**Pn**	**03 22 52.5**	**-0.8**
PIP				*e*S	**Sn**	**03 23 13.0**	**-0.3**
BALP	**Baler**	**2.35**	**197**	*e*P	**Pn**	**03 23 03.0**	**-0.3**
BALP				*e*S	**Sn**	**03 23 29.0**	**-2.2**
PCPH	**Palayan**	**2.68**	**205**	⇑*e*P	**Pn**	**03 23 08.0**	**+0.1**
BOLP	**Bolinao**	**2.79**	**235**	*e*P	**Pn**	**03 23 09.9**	**+0.5**
BOLP				*e*S	**Sn**	**03 23 48.2**	**+6.2**
SCZP	**Santa Cruz**	**3.18**	**226**	*e*P	**Pn**	**03 23 15.5**	**+0.8**
SCZP				*e*S	**Sn**	**03 23 56.8**	**+5.1**
POLP	**Polilio Island**	**3.27**	**186**	*e*P	**Pn**	**03 23 15.8**	**-0.2**
POLP				*e*S	**Sn**	**03 23 53.8**	**-0.2**
QVPH	**Quezon City--P**	**3.53**	**200**	⇑*e*P	**Pn**	**03 23 21.9**	**+2.2**
QVPH				*e*S	**Sn**	**03 24 00.8**	**+0.3**
NBP	**Mount Natib**	**3.71**	**209**	⇓*e*P	**Pn**	**03 23 22.7**	**+0.7**
GQP	**Guinayangan**	**4.07**	**178**	⇓*e*P	**Pn**	**03 23 27.7**	**+0.6**
GQP				*e*S	**Sn**	**03 24 12.9**	**-0.9**
TGY	**Tagaytay City**	**4.09**	**199**	⇑*e*P	**Pn**	**03 23 29.3**	**+2.0**
LUBP	**Lubang**	**4.68**	**205**	*e*P	**Pn**	**03 23 37.0**	**+1.7**
PVCP	**Virac**	**4.73**	**157**	⇑*e*P	**Pn**	**03 23 35.1**	**-1.0**
OTRP	**Odiongan**	**5.61**	**183**	*e*P	**Pn**	**03 23 48.1**	**-0.1**
SJMP	**San Jose**	**5.62**	**192**	*e*P	**Pn**	**03 23 50.5**	**+2.1**
CNP	**Catarman**	**5.92**	**157**	*e*P	**Pn**	**03 23 52.0**	**-0.4**
NACB	**Ninganchiao**	**6.18**	**354**	*e*Pn	**Pn**	**03 23 56.0**	**+0.1**
	337nm,0.6s						
NACB				*ep*Pn		03 24 03.7	
NACB				*e*Sn	**Sn**	**03 25 03.2**	**-2.4**
YHNB	**Yeheng**	**6.69**	**353**	*e*Pn	**Pn**	**03 24 04.3**	**+1.3**
	135nm,0.6s						
YHNB				*e*Sn	**Sn**	**03 25 17.3**	**-1.0**
TATO	**Taipei**	**6.98**	**354**	*e*Pn	**Pn**	**03 24 08.3**	**+1.3**
TATO				*ep*Pn		03 24 13.5	
PLP	**Palo**	**7.28**	**159**	⇓*e*P	**Pn**	**03 24 11.2**	**+0.2**
GUIM	**Jordan**	**7.34**	**178**	*e*P	**Pn**	**03 24 12.6**	**+0.7**
JOW	**Kunigami**	**10.38**	**31**	Pn	**Pn**	**03 24 53.8**	**+0.1**
	7.9nm,0.3s,baz=206,slow=14,SNR=17						
JOW				Sn	**Sn**	**03 26 45.7**	**-3.4**
	4.0nm,0.3s,baz=106,slow=30,SNR=6.6						
JOW				LR	LR	03 28 37.3	
	comp=Z,305nm,18.6s,baz=84,slow=35						
BUKP	**Musuan**	**10.41**	**165**	*e*P	**Pn**	**03 24 56.5**	**+2.4**
DAV	**Davao City (W)**	**11.33**	**163**	LR	LR	03 29 59.2	
	comp=Z,2μm,21.2s,baz=345,slow=40						
QIZ	**Qiongzhong**	**11.86**	**277**	P	**Pn**	**03 25 14.0**	**+0.2**
QIZ				AMB	AMB		
	comp=Z,16nm,1.1s						
QIZ				LR	LR		
	comp=E,731nm,15.0s						
QIZ				LR	LR		
	comp=Z,938nm,14.7s						
QIZ	**Qiongzhong**	**11.86**	**277**	*e*Pn	**Pn**	**03 25 13.7**	**-0.2**
	comp=Z,46nm,0.6s						
QIZ				*ep*Pn		03 25 20.1	
SSE	**Sheshan**	**13.08**	**356**	P	**Pn**	**03 25 36.0**	**+5.5**
SSE				AMB	AMB		
	comp=Z,22nm,0.8s						
SSE				AMB	AMB		
	comp=Z,294nm,3.9s						
SSE				LR	LR		
	comp=N,211nm,13.4s						
SSE				LR	LR		
	comp=E,516nm,13.4s						
SSE				LR	LR		
	comp=Z,593nm,12.3s						
WHN	**Wuhan**	**14.43**	**331**	⇓P	pP	03 25 59.0	-4.2
WHN				S	**Sn**	**03 28 37.3**	**+9.3**
WHN				LR	LR		
	comp=N,3μm,15.8s						
WHN				LR	LR		
	comp=E,935nm,13.9s						
WHN				LR	LR		
	comp=Z,3μm,14.6s						
GYA	**Guiyang**	**16.73**	**303**	P	**Pn**	**03 26 22.0**	**+3.0**
GYA				AP	pP	03 26 28.5	-0.3
GYA				XS	sS	03 29 44.3	-2.3
GYA				AMB	AMB		
	comp=Z,20nm,0.6s						
GYA				AMB	AMB		
	comp=Z,110nm,4.2s						
KMI	**Kunming**	**19.50**	**295**	P	**Pn**	**03 26 56.8**	**+3.8**
KMI				PP		03 27 17.5	
KMI				PPP		03 27 27.5	
KMI				XS	sS	03 30 48.5	+5.4
KMI				AMB	AMB		
	comp=Z,16nm,0.7s						
KMI				AMB	AMB		
	comp=Z,428nm,7.5s						
KMI				LR	LR		
	comp=N,818nm,14.1s						
KMI				LR	LR		
	comp=E,1μm,15.7s						
KMI				LR	LR		
	comp=Z,1μm,15.7s						
XAN	**Xi'an**	**19.95**	**326**	P	**Pn**	**03 26 58.3**	**0.0**
XAN				AP	pP	03 27 05.5	+1.2
XAN				S	**Sn**	**03 30 39.5**	**-2.4**
XAN				LG1		03 33 00.0	
XAN				LG2		03 33 33.3	
XAN				AMB	AMB		
	comp=Z,36nm,0.7s						
XAN				AMB	AMB		
	comp=Z,344nm,11.3s						
XAN				LR	LR		
	comp=N,288nm,18.1s						
XAN				LR	LR		
	comp=E,326nm,15.1s						
XAN				LR	LR		
	comp=Z,860nm,17.4s						
KS15	**Wonju Array Si**	**19.98**	**13**	*e*P	**Pn**	**03 26 58.1**	**-0.4**
KSRS	**Korea Array**	**20.00**	**13**	P	**P**	**03 26 57.8**	**+0.9**
	comp=Z,21nm,0.6s,baz=197,slow=11,SNR=40						
KSRS				LR	LR	03 35 19.4	
	comp=Z,394nm,18.6s,MS3.8,baz=80,slow=38						
NANT	**Nan**	**20.50**	**276**	⇑P	**P**	**03 27 01.0**	**-1.6**
	comp=Z,138nm,0.9s						
DL2	**Dalian**	**20.84**	**359**	*e*P	**P**	**03 27 03.8**	**-2.2**
DL2				AMB	AMB		
	comp=Z,30nm,1.0s						
DL2				LR	LR		
	comp=E,400nm,17.6s						
DL2				LR	LR		
	comp=Z,300nm,20.4s,MS3.7						
CD2	**Chengdu**	**21.17**	**311**	⇑*i*P	**P**	**03 27 11.0**	**+1.3**
CD2				PP		03 27 38.5	
CD2				XS	sS	03 31 25.3	+9.1
CD2				AMB	AMB		
	comp=Z,70nm,0.8s,mb5.0						
CD2				AMB	AMB		
	comp=Z,130nm,5.2s						
CD2				LR	LR		
	comp=N,1μm,17.4s						
CD2				LR	LR		
	comp=Z,980nm,16.8s,MS4.3						
CHRT	**Chiangrai**	**21.37**	**279**	⇑P	**P**	**03 27 14.0**	**+2.1**
GUMO	**Guam**	**22.16**	**98**	LR	LR	03 34 26.0	
	comp=Z,241nm,19.1s,MS3.6,baz=194,slow=32						
CHG	**Chiang Mai**	**22.17**	**276**	PG	**P**	**03 27 21.8**	**+1.3**
CHG				SG		03 27 28.3	
CHTO	**Chiang Mai**	**22.17**	**276**	*e*P	**P**	**03 27 20.7**	**+0.2**
CHTO				*e**PP		03 27 28.3	
CHTO				pmax	pmax		
	comp=Z,8.0nm,0.9s,mb4.2						
CHTO	**Chiang Mai**	**22.17**	**276**	*e*P	**P**	**03 27 20.7**	**+0.2**
	comp=Z,7.7nm,0.9s,mb4.1						
CHTO				*ep*P		03 27 28.3	
CMAR	**Chiang Mai Arr**	**22.18**	**275**	P	**P**	**03 27 21.6**	**+1.0**
	comp=Z,1.6nm,0.3s,mb3.9,baz=77,slow=9.0,SNR=7.5						
CMAR				LR	LR	03 36 02.3	
	comp=Z,210nm,19.8s,MS3.6,baz=107,slow=37						
CMAR	**Chiang Mai Arr**	**22.18**	**275**	⇑*e*P	**P**	**03 27 21.7**	**+1.1**
BJT	**Baijiatuan**	**22.57**	**348**	*e*P	**P**	**03 27 24.6**	**0.0**
BJT				pmax	pmax		
	comp=Z,48nm,0.6s						
BJT	**Baijiatuan**	**22.57**	**348**	*e*P	**P**	**03 27 24.6**	**+0.1**
	comp=Z,48nm,0.6s,mb5.1						
BJI	**Beijing**	**22.59**	**348**	P	**P**	**03 27 24.5**	**-0.3**
BJI				S	**S**	**03 31 25.3**	**-5.7**
BJI				AMB	AMB		
	comp=Z,31nm,0.8s,mb4.8						
BJI				LR	LR		
	comp=N,378nm,15.1s,MS4.2						
BJI				LR	LR		
	comp=E,514nm,16.2s,MS4.2						
BJI				LR	LR		
	comp=Z,328nm,23.9s						
KAPI	**Kappang**	**23.00**	**186**	P	**P**	**03 27 28.2**	**-1.1**
	comp=Z,6.4nm,0.2s,mb4.6,baz=255,slow=13,SNR=7.2						
KAPI				LR	LR	03 36 31.7	
	comp=Z,180nm,19.1s,MS3.5,baz=243,slow=37						
KAPI	**Kappang**	**23.00**	**186**	P	**P**	**03 27 28.2**	**-1.1**
KAPI				LR	LR	03 36 31.7	
MAJO	**Matsushiro**	**23.20**	**34**	*e*P	**P**	**03 27 33.3**	**+2.0**
MAJO				pmax	pmax		
	comp=Z,6.0nm,0.7s,mb4.1						
MAJO	**Matsushiro**	**23.20**	**34**	*e*P	**P**	**03 27 33.3**	**+2.0**
	comp=Z,5.9nm,0.7s,mb4.1						
MJAR	**Matsushiro Arr**	**23.20**	**34**	P	**P**	**03 27 31.4**	**+0.1**
	comp=Z,4.1nm,0.7s,mb4.0,baz=195,slow=8.3,SNR=10						
SNY	**Shenyang**	**23.77**	**2**	⇑P	**P**	**03 27 35.8**	**-0.9**
SNY				S	**S**	**03 31 51.3**	**+1.0**
SNY				AMB	AMB		
	comp=Z,30nm,1.5s,mb4.5						
SNY				AMB	AMB		
	comp=Z,206nm,4.0s						
SNY				LR	LR		
	comp=E,1μm,15.5s						
SNY				LR	LR		
	comp=Z,680nm,13.9s,MS4.3						
LZH	**Lanzhou**	**24.31**	**321**	⇑P	**P**	**03 27 43.0**	**+1.3**
LZH				PP		03 28 22.8	
LZH				AMB	AMB		
	comp=Z,73nm,1.2s,mb5.0						
LZH				AMB	AMB		
	comp=Z,269nm,4.5s						
LZH				LR	LR		
	comp=E,957nm,12.7s						
LZH				LR	LR		
	comp=Z,1μm,15.6s,MS4.5						
HHC	**Hu-ho-hao-te**	**24.57**	**340**	*e*P	**P**	**03 27 44.5**	**+0.5**
HHC				PP		03 28 24.5	
HHC				AMB	AMB		
	comp=Z,75nm,1.1s,mb5.1						
HHC				AMB	AMB		
	comp=Z,137nm,6.8s						
HHC				LR	LR		
	comp=N,987nm,14.8s,MS4.5						
HHC				LR	LR		
	comp=E,678nm,13.7s,MS4.5						
HHC				LR	LR		
	comp=Z,918nm,14.3s,MS4.4						
CN2	**Changchun**	**25.86**	**5**	*e*P	**P**	**03 27 57.5**	**+1.8**
CN2				AMB	AMB		
	comp=Z,10.0nm,0.7s,mb4.5						
CN2				AMB	AMB		
	comp=Z,200nm,4.0s						
MDJ	**Mudanjiang**	**27.23**	**11**	P	**P**	**03 28 08.5**	**+0.4**
MDJ				S	**S**	**03 32 40.5**	**-4.8**
MDJ				AMB	AMB		
	comp=Z,43nm,1.1s,mb4.9						
MDJ				AMB	AMB		
	comp=Z,160nm,4.4s						
MDJ				LR	LR		
	comp=N,354nm,12.3s,MS4.3						
MDJ				LR	LR		
	comp=E,412nm,15.2s,MS4.3						
MDJ				LR	LR		
	comp=Z,498nm,18.4s,MS4.1						
MDJ	**Mudanjiang**	**27.23**	**11**	*e*P	**P**	**03 28 09.0**	**+1.0**
	comp=Z,25nm,0.7s,mb4.8						
BATI	**Baumata**	**28.06**	**177**	LR	LR	03 41 03.0	
	comp=Z,259nm,18.4s,MS3.9,baz=114,slow=40						
GTA	**Gaotai**	**28.90**	**322**	*e*P	**P**	**03 28 24.3**	**+1.3**
GTA				AMB	AMB		
	comp=Z,6.0nm,0.9s,mb4.3						
GTA				AMB	AMB		
	comp=Z,91nm,4.5s						
GTA				LR	LR		
	comp=N,291nm,19.5s,MS4.2						
GTA				LR	LR		
	comp=E,375nm,16.2s,MS4.2						
GTA				LR	LR		
	comp=Z,385nm,16.8s,MS4.1						
ERM	**Erimo**	**29.83**	**32**	*i* P	**P**	**03 28 30.5**	**-0.8**
LSA	**Lhasa**	**30.67**	**298**	*e*P	**P**	**03 28 40.8**	**+1.9**
LSA				pmax	pmax		
	comp=Z,15nm,0.7s,mb4.9						
LSA	**Lhasa**	**30.67**	**298**	*e*P	**P**	**03 28 40.8**	**+1.9**
	comp=Z,15nm,0.7s,mb4.9						
HIA	**Hailar**	**31.26**	**357**	⇓*e*P	**P**	**03 28 43.4**	**-0.3**
KLR	**Kul'dur**	**32.08**	**12**	*e*P	**P**	**03 28 47.2**	**-3.8**
KLR				pmax	pmax		
	comp=Z,100nm,1.6s,mb5.4						
HABR	**Khabarovsk**	**32.12**	**16**	*e*P	**P**	**03 28 50.8**	**-0.6**
ULN	**Ulaanbaatar**	**32.29**	**341**	*c i*P	**P**	**03 28 53.7**	**+0.9**
ULN	**Ulaanbaatar**	**32.29**	**341**	*e*P	**P**	**03 28 53.3**	**+0.4**
	comp=Z,17nm,0.9s,mb4.9						
SONM	**Songino Array**	**32.48**	**340**	P	**P**	**03 28 55.0**	**+0.6**
	comp=Z,14nm,0.8s,mb4.9,baz=158,slow=9.6,SNR=51						
SONM				ScP	ScP	03 35 22.6	-0.3
	comp=Z,1.5nm,0.8s,baz=175,slow=3.3,SNR=8.0						
SONM				LR	LR	03 43 27.2	
	comp=Z,909nm,18.4s,MS4.5,baz=167,slow=39						
TAPN	**Taplejung**	**33.15**	**293**	*e*P	**P**	**03 29 00.8**	**+0.2**
	comp=Z,17nm,0.8s,mb5.0						
ODAN	**Odare**	**33.36**	**292**	*e*P	**P**	**03 29 02.6**	**+0.1**
	comp=Z,45nm,0.5s,mb5.6						
RAMN	**Ramite**	**34.07**	**292**	*e*P	**P**	**03 29 09.0**	**+0.3**
	comp=Z,76nm,0.6s,mb5.8						
JIRN	**Jiri**	**34.53**	**293**	*e*P	**P**	**03 29 12.9**	**+0.3**
	comp=Z,23nm,0.7s,mb5.2						
GUN	**Gumba**	**34.84**	**293**	*e*P	**P**	**03 29 15.5**	**+0.2**
	comp=Z,49nm,0.7s,mb5.5						
PKI	**Pulchoki**	**35.20**	**292**	*e*P	**P**	**03 29 17.9**	**-0.6**
	comp=Z,14nm,0.6s,mb5.1						
PKI	**Pulchoki**	**35.20**	**292**	*e*P	**P**	**03 29 17.9**	**-0.6**
PKI				pmax	pmax		
	comp=Z,14nm,0.6s,mb5.1						
KKN	**Kakani**	**35.34**	**293**	*e*P	**P**	**03 29 19.3**	**-0.4**
	comp=Z,25nm,0.8s,mb5.2						
KKN	**Kakani**	**35.34**	**293**	*e*P	**P**	**03 29 19.3**	**-0.4**
KKN				pmax	pmax		
	comp=Z,25nm,0.8s,mb5.2						
DMN	**Daman**	**35.47**	**292**	*e*P	**P**	**03 29 20.5**	**-0.3**
	comp=Z,15nm,0.5s,mb5.2						
ZAK	**Zakamensk**	**35.71**	**339**	*e*	**P**	**03 29 22.0**	**-0.5**
GKN	**Gorkha**	**35.94**	**293**	*e*P	**P**	**03 29 24.1**	**-0.7**
	comp=Z,32nm,0.8s,mb5.3						
TLY	**Talaya**	**36.70**	**341**	*e*P	**P**	**03 29 31.5**	**+0.5**
TLY				*e*		03 31 02.6	
TLY				*e*S	**S**	**03 35 21.5**	**+9.0**
TLY				*e*SS	SS	03 38 13.3	+20
TLY				pmax	pmax		
	comp=Z,26nm,0.7s,mb5.2						
TLY				MLR	MLR		
	comp=Z,609nm,18.0s,MS4.4						
TLY	**Talaya**	**36.70**	**341**	*i* P	**P**	**03 29 31.2**	**+0.2**
DANN	**Dangsing**	**36.75**	**293**	*e*P	**P**	**03 29 31.4**	**-0.3**
	comp=Z,24nm,0.8s,mb5.1						
KOLN	**Koldanda**	**36.82**	**292**	*e*P	**P**	**03 29 32.0**	**-0.3**
	comp=Z,26nm,0.8s,mb5.1						
WRAB	**Tennant Creek**	**39.51**	**162**	*e*P	**P**	**03 29 52.3**	**-2.6**
WRAB				*e**PP	pP	03 30 01.6	-2.0
WRAB				pmax	pmax		
	comp=Z,23nm,1.1s,mb4.8						
WRAB	**Tennant Creek**	**39.51**	**162**	*e*P	**P**	**03 29 52.2**	**-2.7**
	comp=Z,23nm,1.1s,mb4.8						
WRAB				*ep*P	pP	03 30 01.6	-2.0
BOD	**Bodaibo**	**40.23**	**353**	*e*P	**P**	**03 30 00.3**	**-0.2**
BOD				pmax	pmax		
	comp=Z,14nm,0.2s,mb5.3						
ASAR	**Alice Springs**	**42.94**	**164**	P	**P**	**03 30 20.9**	**-2.2**
	comp=Z,1.6nm,0.6s,mb4.0,baz=353,slow=7.7,SNR=27						
MK31	**Makanchi Array**	**43.61**	**320**	*e*P	**P**	**03 30 29.1**	**+0.8**
MKAR	**Makanchi Array**	**43.61**	**320**	P	**P**	**03 30 29.1**	**+0.8**
	comp=Z,19nm,0.6s,mb5.0,baz=111,slow=9.8,SNR=121						
MKAR				PcP	PcP	03 32 12.2	-3.3
	comp=Z,3.6nm,0.9s,baz=120,slow=4.8,SNR=3.7						
MKAR				LR	LR	03 50 33.2	
	comp=Z,127nm,20.5s,MS3.8,baz=127,slow=39						
MKAR	**Makanchi Array**	**43.61**	**320**	P	**P**	**03 30 29.1**	**+0.8**
MKAR						03 32 12.2	
YAK	**Yakutsk**	**44.29**	**5**	*e*P	**P**	**03 30 31.5**	**-2.0**
YAK				pmax	pmax		
	comp=Z,12nm,0.9s,mb4.6						
YAK	**Yakutsk**	**44.29**	**5**	P	**P**	**03 30 33.3**	**-0.2**
	comp=Z,22nm,0.5s,mb5.1						
PETK	**Petropavlovsk-**	**44.55**	**30**	P	**P**	**03 30 36.2**	**+0.5**
	comp=Z,5.8nm,0.7s,mb4.5,baz=216,slow=4.4,SNR=10						
PETK	**Petropavlovsk-**	**44.55**	**30**	P	**P**	**03 30 36.2**	**+0.5**
CTA	**Charters Tower**	**44.56**	**147**	P	**P**	**03 30 34.7**	**-1.5**
	comp=Z,2.2nm,0.5s,mb4.3,baz=327,slow=9.9,SNR=4.5						
CTA				LR	LR	03 47 43.3	
	comp=Z,230nm,21.8s,MS4.1,baz=50,slow=34						
CTAO	**Charters Tower**	**44.56**	**147**	*e*P	**P**	**03 30 34.5**	**-1.7**
CTAO				*e**PP	pP	03 30 43.1	-1.9
CTAO				pmax	pmax		
	comp=Z,10.0nm,1.1s,mb4.6						
CTAO	**Charters Tower**	**44.56**	**147**	*e*P	**P**	**03 30 34.5**	**-1.7**
	comp=Z,9.7nm,1.1s,mb4.5						
CTAO				*ep*P	pP	03 30 43.1	-1.8
ZALV	**Zalesovo Beam**	**46.04**	**330**	P	**P**	**03 30 47.1**	**-0.5**
	comp=Z,11nm,0.7s,mb4.9,baz=115,slow=7.4,SNR=41						
ZALV				LR	LR	03 51 57.4	
	comp=Z,288nm,18.1s,MS4.3,baz=170,slow=38						
TKM2	**Tokmak 2**	**46.54**	**313**	*e*P	**P**	**03 30 52.3**	**+0.6**
TKM2				*e**PP	pP	03 31 01.4	+0.9
TKM2				pmax	pmax		
	comp=Z,6.0nm,0.7s,mb4.6						
TKM2	**Tokmak 2**	**46.54**	**313**	P	**P**	**03 30 52.9**	**+1.3**
	SNR=8.0						
TKM2	**Tokmak 2**	**46.54**	**313**	*e*P	**P**	**03 30 52.3**	**+0.7**
	comp=Z,6.5nm,0.7s,mb4.7						
TKM2				*ep*P	pP	03 31 01.4	+1.0
KBK	**Karagaybulak**	**46.92**	**312**	P	**P**	**03 30 56.2**	**+1.6**
	SNR=9.6						
UCH	**Uchtor**	**47.11**	**311**	*e*P	**P**	**03 30 56.9**	**+0.8**
	comp=Z,8.2nm,0.9s,mb4.7						
CHMS	**Chumysh**	**47.15**	**312**	P	**P**	**03 30 57.3**	**+0.8**
	SNR=5.8						
AAK	**Ala-Archa**	**47.23**	**312**	P	**P**	**03 30 58.1**	**+1.0**
	SNR=6.3						
USP	**Ospenovka**	**47.41**	**313**	P	**P**	**03 30 59.0**	**+0.6**
	SNR=5.9						
KURK	**Kurchatov**	**47.57**	**324**	*c i*P	**P**	**03 30 59.7**	**+0.1**
KURK				pmax	pmax		
	comp=Z,42nm,1.1s,mb5.4						
AML	**Almayashu**	**47.67**	**311**	P	**P**	**03 31 02.0**	**+1.5**
	SNR=11						
EKS2	**Erkin-Say**	**47.75**	**312**	P	**P**	**03 31 02.3**	**+1.2**
	SNR=6.1						
SEY	**Seymchan**	**49.47**	**18**	⇓*e*P	**P**	**03 31 14.5**	**+0.5**
SEY	**Seymchan**	**49.47**	**18**	⇓*e*P	**P**	**03 31 14.6**	**+0.6**
KK31	**Karatay Array**	**50.18**	**311**	*i* P	**P**	**03 31 20.3**	**+0.5**
KK31				pmax	pmax		
	comp=Z,9.0nm,0.6s,mb5.0						
STKA	**Stephens Creek**	**52.93**	**159**	P	**P**	**03 31 37.9**	**-2.5**
	comp=Z,2.6nm,0.7s,mb4.3,baz=340,slow=12,SNR=4.1						
BVA0	**Borovoye Array**	**53.17**	**324**	*i* P	**P**	**03 31 41.8**	**-0.1**
BVA0				pmax	pmax		
	comp=Z,2.0nm,0.7s,mb4.2						
BRVK	**Borovoye**	**53.24**	**324**	⇑*e*P	**P**	**03 31 42.6**	**+0.2**
TIXI	**Tiksi**	**53.79**	**3**	*e*P	**P**	**03 31 44.5**	**-1.6**
TIXI				pmax	pmax		
	comp=Z,11nm,0.8s,mb4.8						
TIXI	**Tiksi**	**53.79**	**3**	*e*P	**P**	**03 31 44.8**	**-1.4**
	comp=Z,11nm,0.8s,mb4.8						
BILL	**Bilibino**	**57.17**	**18**	⇑*e*P	**P**	**03 32 10.7**	**+0.2**
BILL				*e*		03 34 16.7	
BILL				*e*SS	SS	03 43 56.1	+3.4
BILL				pmax	pmax		
	comp=Z,20nm,0.7s,mb5.3						
BILL				MLR	MLR		
	comp=Z,100nm,19.0s,MS3.9						
BILL	**Bilibino**	**57.17**	**18**	*e*P	**P**	**03 32 10.6**	**+0.1**
	comp=Z,21nm,0.7s,mb5.3						
SVE	**Sverdlovsk**	**59.67**	**326**	*e*P	**P**	**03 32 28.5**	**+0.4**
SVE				pmax	pmax		
	comp=Z,36nm,0.9s,mb5.4						
ARU	**Arti**	**60.70**	**325**	*c i*P	**P**	**03 32 34.6**	**-0.6**
ARU				*e*S	**S**	**03 40 47.3**	**-2.6**
ARU				*e*SS	SS	03 44 45.0	-3.5
ARU				pmax	pmax		
	comp=Z,26nm,1.0s,mb5.3						
ARU				MLR	MLR		
	comp=Z,259nm,18.0s,MS4.4						
ARU	**Arti**	**60.70**	**325**	⇑*i*P	**P**	**03 32 34.4**	**-0.8**
RDF	**Al-Radifah**	**68.45**	**295**	*e*P	**P**	**03 33 25.1**	**-1.3**
	baz=294						
RDF				AMb	AMB	03 33 25.9	
	comp=Z,43nm,0.7s,mb5.6,baz=294						
MIB	**Mutribah**	**68.49**	**296**	*e*P	**P**	**03 33 25.1**	**-1.5**
	baz=295						
MIB				AMb	AMB	03 33 26.0	
	comp=Z,23nm,0.7s,mb5.3,baz=295						
NAY	**Al-Naaiem**	**68.66**	**295**	*e*P	**P**	**03 33 26.1**	**-1.5**
	baz=295						
NAY				AMb	AMB	03 33 27.1	
	comp=Z,21nm,0.6s,mb5.2,baz=295						
GNI	**Garni**	**69.24**	**307**	*e*P	**P**	**03 33 32.

comp=Z,200nm,22.0s,MS4.3
OBN Obninsk 73.01 323 ⇑*i*P **P** 03 33 52.8 -0.8
OBN LR LR
comp=Z,200nm,22.0s,MS4.3
MCK McKinley 73.49 28 *e*P **P** 03 33 55.5 -0.8
MCK pmax pmax
comp=Z,10.0nm,0.9s,mb4.8
MCK McKinley 73.49 28 *e*P **P** 03 33 55.5 -0.8
comp=Z,10nm,0.9s,mb4.8
PMR Palmer 73.68 30 *e*P **P** 03 33 58.0 +0.6
PMR pmax pmax
comp=Z,3.0nm,0.6s,mb4.4
PMR Palmer 73.68 30 *e*P **P** 03 33 58.0 +0.6
comp=Z,3.0nm,0.6s,mb4.4
COLA College 73.81 26 *i* P **P** 03 33 59.1 +1.0
ANN Anapa 73.95 312 *e*P **P** 03 33 58.7 -0.7
ANN pmax pmax
comp=E,85nm,1.3s,mb5.5
JOF Joensuu 74.60 332 *e*p **P** 03 34 01.7 -1.0
JOF pmax pmax
comp=Z,23nm,0.6s,mb5.3
JOF Joensuu 74.60 332 *e*P **P** 03 34 01.7 -1.0
JOF pmax pmax
comp=Z,23nm,0.6s,mb5.3
KEV Kevo 75.08 339 *e*p **P** 03 34 05.1 -0.3
comp=Z,8.5nm,0.6s,mb4.8
KEV Kevo 75.08 339 *e*P **P** 03 34 05.1 -0.3
KEV pmax pmax
comp=Z,9.0nm,0.6s,mb4.9
ARCES ARCESS Array B 75.64 339 P **P** 03 34 08.8 +0.1
comp=Z,9.3nm,0.7s,mb4.8,baz=73,slow=7.6,SNR=18
ARCES LR LR 04 11 49.5
comp=Z,134nm,18.4s,MS4.3,baz=58,slow=39
SIM Simferopol' 76.25 313 *ce*P **P** 03 34 13.2 +0.6
SIM pmax pmax
comp=Z,31nm,0.7s,mb5.3
EGAK Eagle 76.64 26 *e*P **P** 03 34 15.0 +0.5
KAF Kangasniemi 77.03 331 *e*p **P** 03 34 15.4 -1.3
comp=Z,15nm,0.6s,mb5.1,baz=74,slow=5.2
KAF Kangasniemi 77.03 331 *e*P **P** 03 34 15.4 -1.3
KAF pmax pmax
comp=Z,15nm,0.6s,mb5.1
DAWY Dawson 77.57 26 *e*P **P** 03 34 20.7 +1.1
BR131 Keskin Array S 77.72 308 *e*P **P** 03 34 20.8 -0.1
AKASG Malin Array Be 78.19 320 P **P** 03 34 22.3 -1.1
comp=Z,11nm,0.8s,mb4.9,baz=62,slow=5.8,SNR=25
AKASG LR LR 04 10 45.2
comp=Z,105nm,20.4s,MS4.2,baz=15,slow=37
AKBB Malin Array Si 78.19 320 *e*P **P** 03 34 22.4 -1.0
KIEV Kiev 78.20 320 *e*P **P** 03 34 22.5 -0.9
KIEV pmax pmax
comp=Z,11nm,0.9s,mb4.8
KIEV Kiev 78.20 320 *e*P **P** 03 34 22.5 -0.9
comp=Z,11nm,0.9s,mb4.8
ANTO Ankara 78.32 308 *e*P **P** 03 34 24.0 -0.3
ANTO pmax pmax
comp=Z,4.0nm,0.6s,mb4.5
ANTO Ankara 78.32 308 ⇓*i*P **P** 03 34 24.4 +0.1
ANTO Ankara 78.32 308 *e*P **P** 03 34 24.0 -0.3
comp=Z,4.4nm,0.6s,mb4.6
CSS Prodhromos 79.08 303 *e*P **P** 03 34 28.6 0.0
comp=Z,18nm,0.8s,mb5.5
TLCR 79.84 314 ⇑*i*P **P** 03 34 32.7 +0.2
TLCR 79.84 314 ⇑P **P** 03 34 32.7 +0.2
HARR Harsova 80.58 314 ⇓*i*P **P** 03 34 36.7 +0.2
SUW Suwalki 80.85 324 *e*P **P** 03 34 37.2 -0.6
SUW Suwalki 80.85 324 *e*P **P** 03 34 37.2 -0.6
VRI Vrincioaia 81.07 315 ⇓*i*P **P** 03 34 40.0 +0.9
VRI Vrincioaia 81.07 315 ⇓P **P** 03 34 40.0 +0.8
PLOR Plostina 81.13 315 ⇑*i*P **P** 03 34 40.5 +1.1
BURAR Bucovina Array 81.56 317 ⇑*i*P **P** 03 34 41.6 -0.1
BURAR Bucovina Array 81.56 317 ⇑P **P** 03 34 41.6 -0.1
BUR08 Bucovina Ar. S 81.56 317 *e*P **P** 03 34 41.6 -0.1
MLR Muntele Rosu 81.70 315 ⇑*i*P **P** 03 34 43.3 +0.8
MLR Muntele Rosu 81.70 315 ⇑P **P** 03 34 43.3 +0.8
VOIR 82.32 315 ⇓*i*P **P** 03 34 45.3 -0.4
KWP Kalwaria 82.51 320 *e*P **P** 03 34 46.6 -0.1
KWP Kalwaria 82.51 320 ⇑*i*P **P** 03 34 46.3 -0.3
KWP Kalwaria 82.51 320 *e*P **P** 03 34 46.6 0.0
DAG Danmarks Havn 82.61 352 ⇓*i*P **P** 03 34 45.8 -0.8
DAG pmax pmax
comp=Z,10.0nm,0.7s,mb5.0
DAG Danmarks Havn 82.61 352 ⇓*i*P **P** 03 34 45.8 -0.8
comp=Z,9.6nm,0.7s,mb4.9
KOLS Kolonicke sedl 83.01 319 *e*P **P** 03 34 49.7 +0.5
DRGR 83.44 317 ⇑*i*P **P** 03 34 51.6 +0.1
DRGR 83.44 317 ⇑P **P** 03 34 51.6 +0.1
STHS Stebnicka Huta 83.48 320 *e*P **P** 03 34 51.7 0.0
STHS pmax pmax
comp=Z,3.0nm,1.0s,mb4.3
STHS Stebnicka Huta 83.48 320 *e*P **P** 03 34 51.7 0.0
comp=Z,2.9nm,1.0s,mb4.3
CRVS Cervenica-Dubn 83.53 319 *e*P **P** 03 34 51.9 0.0
NIE Niedzica 84.05 320 *e*P **P** 03 34 55.1 +0.5
OJC Ojcow 84.08 321 *e*P **P** 03 34 54.4 -0.3
NB2 NORSAR Subarra 84.16 333 P **P** 03 34 54.0 -0.9
comp=Z,20nm,0.8s,mb5.3,baz=64,slow=5.3
NOA NORSAR Array B 84.16 333 P **P** 03 34 54.0 -0.9
comp=Z,14nm,0.7s,mb5.2,baz=64,slow=5.2,SNR=45
NOA NORSAR Array B 84.16 333 P **P** 03 34 54.0 -0.9
OKC Ostrava-Krasne 85.21 321 *e*P **P** 03 35 00.4 0.0
VYHS Vyhne 85.30 320 *e*P **P** 03 35 00.9 0.0
KOL Kolacno 85.53 320 *e*P **P** 03 35 02.0 0.0
KMBO Kilima Mbogo 85.63 267 P **P** 03 35 03.8 +0.6
comp=Z,4.2nm,0.7s,mb4.8,baz=57,slow=5.7,SNR=9.4
KMBO Kilima Mbogo 85.63 267 ⇑*e*P **P** 03 35 03.7 +0.5
KMBO Kilima Mbogo 85.63 267 *e*P **P** 03 35 04.1 +0.9
comp=Z,6.5nm,1.0s,mb4.8
DPC Dobruska-Polom 86.10 322 *e*P **P** 03 35 06.1 +1.3
PKSM Moragy 86.27 317 ⇑*i*P **P** 03 35 05.5 -0.3
PKSM Moragy 86.27 317 ⇑P **P** 03 35 05.5 -0.3
MODS Modra-Piesok 86.30 320 *e*P **P** 03 35 04.7 -1.2
MODS pmax pmax
comp=Z,4.0nm,1.4s,mb4.5
MODS Modra-Piesok 86.30 320 *e*P **P** 03 35 04.7 -1.2
comp=Z,4.0nm,1.4s,mb4.5
BRG Berggiesshubel 87.26 323 *e*P **P** 03 35 11.4 +0.9
BRG *e* pP 03 35 18.6 -1.3
BRG pmax pmax
comp=Z,6.0nm,1.8s,mb4.5
BRG Berggiesshubel 87.26 323 *e*P **P** 03 35 11.4 +0.9
comp=Z,20nm,1.8s,mb5.1
BRG *e* pP 03 35 18.6 -1.3
comp=Z,43nm,2.3s
CLL Collm 87.61 324 *e*P **P** 03 35 12.0 -0.2
CLL MLR MLR
comp=Z,300nm,17.2s,MS4.8
KHC Kasperske Hory 88.22 322 *i* P **P** 03 35 13.7 -1.4
YKA Yellowknife Ar 88.24 23 P **P** 03 35 15.8 +0.9
comp=Z,1.6nm,0.5s,mb4.5,baz=305,slow=4.7,SNR=18
YKA LR LR 04 21 47.5
comp=Z,35nm,18.4s,MS3.8,baz=340,slow=40
GERES GERESS Array B 88.27 321 P **P** 03 35 15.4 0.0
comp=Z,1.1nm,0.7s,mb4.2,baz=57,slow=4.9,SNR=9.8
GERES LR LR 04 21 45.2
comp=Z,126nm,18.6s,MS4.4,baz=252,slow=40
PDKS Podkum 88.66 318 *i* P **P** 03 35 16.9 -0.3
SUMG Summit 88.73 354 *e*P **P** 03 35 17.2 +0.1
comp=Z,9.1nm,0.9s,mb5.1
CEY Cerknica 89.15 318 *i* P **P** 03 35 19.2 -0.4
JAVS Javornik 89.32 318 *e*P **P** 03 35 19.5 -0.8
WTTA Wattenberg 90.22 320 ⇑*i*PcP PcP 03 35 24.2 -1.5
comp=Z,4.2nm,0.7s
FETA Feichten 90.88 320 ⇑*i*PcP PcP 03 35 27.3 -1.4
comp=Z,7.8nm,1.2s
PPT Papeete 93.59 107 *e*LR LR 04 06 02.2
comp=Z,141nm,27.0s
LPG La Plagne 94.03 320 *e*P **P** 03 35 42.1 -0.1
LPL La Plagne 94.03 321 *e*P **P** 03 35 42.0 -0.2
comp=Z,4.8nm,0.8s,mb4.7
LPL La Plagne 94.03 321 *e*P **P** 03 35 42.0 -0.2
LPL pmax pmax
comp=Z,2.0nm,0.8s,mb4.6
LPL La Plagne 94.03 321 *e*P **P** 03 35 42.0 -0.2
comp=Z,4.4nm,0.8s,mb4.7
PGF Pioggiola 94.08 317 *e*P **P** 03 35 41.8 -0.7
comp=Z,20nm,0.8s,mb5.3
PGF Pioggiola 94.08 317 *e*P **P** 03 35 41.8 -0.7
PGF pmax pmax
comp=Z,10.0nm,0.8s,mb5.3
PGF Pioggiola 94.08 317 *e*P **P** 03 35 41.8 -0.7
comp=Z,9.9nm,0.8s,mb5.3
MBDF Montbardon 94.41 320 *e*P **P** 03 35 42.4 -1.6
SSF Saint Saulge 95.12 323 *e*P **P** 03 35 48.0 +0.8
TBI Tubuai 95.41 113 *e*LR LR 04 06 47.7
comp=Z,87nm,30.5s

BMO Blue Mountains 97.28 38 *e*P **P** 03 35 59.3 +2.3
BMO pmax pmax
comp=Z,13nm,2.1s,mb5.0
BMO Blue Mountains 97.28 38 *e*P **P** 03 35 59.3 +2.2
comp=Z,13nm,2.1s,mb5.0
TXAR Lajitas Array 115.34 44 PKP PKPdf 03 41 05.3 -0.8
comp=Z,0.3nm,0.6s,baz=271,slow=2.0,SNR=4.4
VNA2 Neumayer--Watz 119.33 197 *e*PKPdf PKPdf 03 41 12.2 -0.3
baz=64,slow=1.7
VNA2 *e* 03 41 19.6
VNA3 Neumayer Olymp 119.77 196 *e*PKPdf PKPdf 03 41 12.0 -1.3
VNA3 *e* 03 41 19.1
DBIC Dimbokro 122.37 290 PKP PKPdf 03 41 18.6 -1.4
comp=Z,2.8nm,1.0s,baz=92,slow=7.3,SNR=3.3
SDV Santo Domingo 150.39 27 *e*PKPdf PKPdf 03 42 11.8 +0.8
SDV *e*PKPbc PKPbc 03 42 16.7 +0.4
SDV *e*PKPab PKPab 03 42 24.0 +1.4
ROSC El Rosal 151.99 37 PKPbc PKPbc 03 42 20.3 +0.3
comp=Z,5.8nm,0.7s,baz=127,slow=5.1,SNR=9.6
ROSC El Rosal 151.99 37 *e*PKPbc PKPbc 03 42 21.1 +1.1
LPAZ La Paz 169.89 82 PKP PKPdf 03 42 33.0 +0.7
comp=Z,1.5nm,1.1s,baz=32,slow=8.7,SNR=4.2

*ISCJB **29** 03:28:04.0±1.0,3403N±008×254E±0.1,h115km±30km, Error ellipse: s-maj=16.8km s-min=12.5km az=1.4*
*HLW **29** 03:28:04.7,34.14N×2564E,h33km,Mb3.7*
*CSEM **29** 03:28:04.3±0.1,3405N×2550E,h100km,ML3.7, Error ellipse: s-maj=6.7km s-min=1.4km az=60.0*
*ATH **29** 03:28:07.5,34.18N×2540E,h44km,MD3.6/4*
ISC 29 03:28:05.5±1.3,3403N±007×255E±01,h93km±45km,n16, σ0s77/16,Crete

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
NPS	**Neapolis**	**1.23**	**6**	*e*P		**Pn**	**03 28 27.3**	**-0.9**
NPS	**Neapolis**	**1.23**	**6**	*e*P		**Pn**	**03 28 27.3**	**-0.9**
GVD	**Gavdhos**	**1.38**	**306**	*e*P		**Pn**	**03 28 30.0**	**0.0**
GVD	**Gavdhos**	**1.38**	**306**	*e*P		**Pn**	**03 28 30.0**	**0.0**
VAM	**Vamos**	**1.71**	**324**	*e*P		**Pn**	**03 28 34.0**	**-0.1**
VAM	**Vamos**	**1.71**	**324**	*e*P		**Pn**	**03 28 34.0**	**-0.1**
KARP	**Karpathos**	**2.07**	**43**	*e*P		**Pn**	**03 28 40.0**	**+1.3**
KARP	**Karpathos**	**2.07**	**43**	*e*P		**Pn**	**03 28 40.0**	**+1.3**
SLUM		**2.54**	**185**	P		**Pn**	**03 28 45.2**	**+0.2**
APE	**Apeiranthos**	**3.03**	**1**	*e*P		**Pn**	**03 28 50.5**	**-1.0**
ARG	**Arkhangelos**	**3.09**	**44**	*e*P		**Pn**	**03 28 53.4**	**+1.1**
VLI	**Veliai**	**3.37**	**323**	*e*P		**Pn**	**03 28 56.5**	**+0.4**
AWBH		**6.42**	**152**	P		**Pn**	**03 29 37.6**	**+0.1**
GLL	**Jalalah**	**6.94**	**128**	P		**Pn**	**03 29 44.1**	**-0.4**
HFRF	**Wahat Farafira**	**7.29**	**159**	P		**Pn**	**03 29 50.0**	**+0.7**
AMAG	**Maghara**	**7.39**	**115**	P		**Pn**	**03 29 49.3**	**-1.3**

*NEIC **29** 03:32:46.4,28.12S×70.80W,h54km,MG4.0(GUC), After GUC.*
GUC 29 03:32:46.4±0.7,2812S×7080W,h54km±6km,ML4.0,3C, Central Chile

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
VACH	**Vallenar**	**0.45**	**175**	⇑*i*P		Pn	03 32 57.6	+0.2
VACH				*i* S		Sn	03 33 06.3	+1.0
CPCH	**Copiapo**	**0.86**	**28**	⇑*i*P		Pn	03 33 03.0	+0.6
CPCH				*i* S		Sn	03 33 15.1	+1.0
CPCH				AML		AML	03 33 17.5	
comp=E,10μm,0.1s								
CPCH	**Copiapo**	**0.86**	**28**	⇑*i*P		Pn	03 33 03.0	+0.6
CPCH				*i* S		Sn	03 33 15.1	+1.0
LCO	**Las Campanas**	**0.89**	**174**	*e*P		Pn	03 33 03.3	+0.5
LCO				*i* S		Sn	03 33 17.0	+2.2
TLL	**Tololo Astrono**	**2.04**	**180**	*e*P		Pn	03 33 19.6	+1.3
TLL				*i* S		Sn	03 33 44.9	+2.3

*MOS **29** 03:35:29.3±1.4,5184N×10538E,h12km,mb4.4/1, Error ellipse: s-maj=19.7km s-min=15.0km az=165.0*
BYKL 29 03:35:29.9±0.2,5183N×10528E,h21km±4km,8C-2D, Lake Baykal region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
LSTR	**Listvyanka**	**0.28**	**278**	⇑*i*Pg		Pb	03 35 36.2	-0.1
LSTR				*e*Sg		Sb	03 35 40.4	-0.3
LSTR				Pmax				
1μm,0.1s								
LSTR				Smax				
4μm,0.1s								
IRK	**Irkutsk**	**0.75**	**304**	⇑*i*PG		Pb	03 35 44.2	0.0
IRK				*e*			03 35 54.1	
IRK				pmax		pmax		
comp=Z,2μm,0.2s								
IRK				smax				
comp=E,4μm,0.4s								
IRK	**Irkutsk**	**0.75**	**304**	*e*Pg		Pb	03 35 44.2	0.0
IRK				*e*Sg		Sb	03 35 53.8	-0.2
IRK				*e*Sb		Sb	03 35 59.7	+5.7
IRK				Pmax				
comp=E,2μm,0.2s								
IRK				max				
comp=E,4μm,0.4s								
KAB	**Kabansk**	**0.88**	**75**	*e*PG		Pb	03 35 44.8	-1.6
KAB				*e*			03 35 58.6	
KAB				pmax		pmax		
comp=Z,680nm,0.5s								
KAB				smax				
comp=N,2μm,0.2s								
KAB	**Kabansk**	**0.88**	**75**	*e*Pg		Pb	03 35 46.9	+0.5
KAB				*e*Sg		Sb	03 35 58.5	+0.8
KAB				Pmax				
comp=N,544nm,0.3s								
KAB				Smax				
comp=N,3μm,0.5s								
FFNB	**Fofonovo**	**0.94**	**76**	⇑*i*Pg		Pb	03 35 47.4	-0.1
FFNB				*e*Sg		Sb	03 35 59.9	+0.3
FFNB				Pmax				
comp=N,650nm,0.1s								
FFNB				Smax				
comp=N,5μm,0.2s								
TLY	**Talaya**	**1.03**	**262**	⇑*i*PG		Pb	03 35 48.7	-0.3
TLY				*e*			03 36 02.5	
TLY				pmax		pmax		
comp=Z,197nm,0.2s								
TLY				smax				
comp=N,1μm,0.4s								
TLY	**Talaya**	**1.03**	**262**	⇑*i*Pg		Pb	03 35 48.8	-0.2
TLY				*e*Pb		Pb	03 35 49.2	+0.2
TLY				*e*Sg		Sb	03 36 02.9	+0.9
TLY				max				
comp=N,141nm,0.1s								
TLY				Smax				
comp=N,1μm,0.3s								
HRMR	**Khuramsha**	**1.06**	**100**	⇓*i*Pg		Pn	03 35 49.4	-0.1
comp=N,561nm,0.3s								
HRMR				⇑*i*Pg		Pn	03 35 49.4	-0.1
comp=N,702nm,0.3s								
HRMR				⇑*i*Pg		Pn	03 35 49.4	-0.1
comp=N,2μm,0.3s								
HRMR				*e*Sg		Sb	03 36 03.9	+1.0
TRG	**Tyrgan**	**1.14**	**35**	*e*PG		Pn	03 35 50.7	+0.1
TRG				*e*			03 36 05.9	
TRG				pmax		pmax		
comp=Z,101nm,0.2s								
TRG				smax				
comp=N,1μm,0.2s								
TRG	**Tyrgan**	**1.14**	**35**	*e*Pg		Pn	03 35 50.8	+0.2
TRG				*e*Sg		Sb	03 36 06.1	+0.9
TRG				*e*Sb		Sb	03 36 07.3	+2.1
TRG				Pmax				
comp=N,100nm,0.2s								
TRG				max				
comp=N,1μm,0.2s								
UUDB	**Ulan-Yde**	**1.48**	**88**	⇑*i*Pg		Pn	03 35 56.5	+1.3
UUDB				*e*Sg		Sn	03 36 15.8	+1.9
UUDB				Pmax				
comp=N,112nm,0.3s								
UUDB				Smax				
comp=N,612nm,0.5s								
ARS	**Arshan**	**1.77**	**274**	*e*PN		Pn	03 36 01.8	+2.5
ARS				*e*			03 36 24.6	
ARS				pmax		pmax		
comp=Z,94nm,0.2s								
ARS				smax				
comp=E,955nm,0.4s								
ARS	**Arshan**	**1.77**	**274**	⇓*i*Pg		Pn	03 36 01.7	+2.4
ARS				*e*Sg		Sn	03 36 24.7	+3.5
ARS				Pmax				
comp=E,97nm,0.2s								
ARS				Smax				
comp=E,954nm,0.5s								
ZAK	**Zakamensk**	**1.92**	**222**	*e*Pg		Pn	03 36 04.7	+3.4
ZAK				*e*Sg		Sn	03 36 30.3	+5.5
ZAK				Pmax				
comp=E,23nm,0.1s								
ZAK				Smax				
comp=E,120nm,0.3s								
OGRR	**Ongureny**	**2.30**	**37**	*e*PN		Pn	03 36 07.7	+1.2
OGRR				*e*			03 36 10.4	
OGRR				*e*			03 36 39.5	
OGRR				pmax		pmax		
comp=Z,23nm,0.1s								
OGRR				smax				
comp=E,165nm,0.3s								
OGRR	**Ongureny**	**2.30**	**37**	*e*Pn		Pn	03 36 07.9	+1.4
OGRR				*e*Sg		Sn	03 36 39.7	+5.6
OGRR				Smax				
comp=E,168nm,0.2s								
MOY	**Mondy**	**2.67**	**268**	*e*PN		Pn	03 36 17.0	+5.4
MOY				*e*			03 36 52.2	
MOY				pmax		pmax		
comp=Z,60nm,0.3s								
MOY				smax				
comp=E,200nm,0.3s								
MOY	**Mondy**	**2.67**	**268**	*e*Pg		Pn	03 36 17.0	+5.4
MOY				*e*Sg		Sn	03 36 52.0	+8.7
MOY				Pmax				
comp=E,50nm,0.2s								
MOY				Smax				
comp=E,199nm,0.3s								
SYVR	**Suvo**	**3.40**	**56**	*e*Pn		Pn	03 36 22.3	+0.6
SYVR				*e*Pg		Pn	03 36 30.7	+9.0
SYVR				*e*Sg		Sn	03 37 15.1	+14
SYVR				Pmax				
comp=E,7.0nm,0.3s								
SYVR				Smax				
comp=E,42nm,0.6s								
ORL	**Orlik**	**3.44**	**284**	*e*PN		Pn	03 36 25.7	+3.5
ORL				*e*S		Sn	03 37 15.3	+13
ORL				smax				
comp=N,147nm,1.2s								
ORL	**Orlik**	**3.44**	**284**	*e*Pn		Pn	03 36 25.1	+2.9
ORL				*e*Pg		Pn	03 36 30.5	+8.3
ORL				*e*Sg		Sn	03 37 15.4	+13
ORL				Pmax				
comp=N,25nm,0.4s								
ORL				Smax				
comp=N,146nm,0.4s								
ULN	**Ulaanbaatar**	**4.13**	**163**	*e*Pg		Pn	03 36 43.2	+12
ULN				*e*Sg		Sn	03 37 37.1	+18
YLYR	**Ulyunkhan**	**4.66**	**47**	*e*Pn		Pn	03 36 39.7	+0.8
YLYR				*e*Sg		Sn	03 37 53.6	+21
YLYR				Smax				
comp=N,10.0nm,0.3s								
KPC	**Khapcheranga**	**4.98**	**113**	*e*Pn		Pn	03 36 44.9	+1.5
KPC				*e*Pg		Pn	03 36 58.1	+15
KPC				*e*Sg		Sn	03 38 03.6	+23
KPC				Pmax				
comp=N,9.0nm,0.3s								
KPC				Smax				
comp=N,62nm,1.0s								
KMO	**Kumora**	**5.37**	**38**	*e*Sg		Sn	03 38 15.6	+26
KMO				Smax				
comp=N,54nm,1.4s								
TDJR	**Todzha**	**5.69**	**279**	*e*Pg		Pn	03 37 09.8	+17
TDJR				*e*Sg		Sn	03 38 25.5	+28

NEIC 29 03:43:26.2,4485S×16630E,h12km,ML4.3(WEL),After WEL.,Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
DCZ	**Deep Cove**	**0.87**	**136**	P		Pg	03 43 42.5	-0.5
DCZ				S		Sg	03 43 52.6	-1.8
MSZ	**Milford Sound**	**1.17**	**82**	P		Pb	03 43 47.0	-1.4
MLZ	**Mavora Lakes**	**1.42**	**111**	P		Pn	03 43 51.3	-0.4
MLZ				S		Sn	03 44 08.6	-1.7
SNZO	**South Karori**	**7.10**	**63**	*e*Pn		Pn	03 45 10.5	+0.7

DJA 29 04:16:48,104S×10142E,h16km,MLv3.7/4,Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
PDSI	**Padang**	**0.97**	**278**	P		Pb	04 17 04.8	-1.6
PDSI	**Padang**	**0.97**	**278**	S		Sb	04 17 17.5	-1.4
KRJI	**Kerinci**	**1.04**	**178**	P		Pb	04 17 06.5	-1.2
KRJI	**Kerinci**	**1.04**	**178**	S		Sb	04 17 21.5	+0.3
RGRI	**Rengat**	**1.14**	**53**	P		Pn	04 17 07.2	-2.1
PPI	**Padang Panjang**	**1.18**	**300**	P		Pn	04 17 11.8	+2.0

*ISCJB **29** 04:17:11.9±2.5, 33.18S±008×178.3W±0.1, h38km±20km, mb4.6/14, Error ellipse: s-maj=14.8km s-min=13.0km az=9.4*
*NEIC **29** 04:17:14.0±0.3, 3305S×178.17W, mb4.9/7, Error ellipse: s-maj=12.1km s-min=10.0km az=19.0*
*IDC **29** 04:17:14.5±0.7, 3302S×178.25W, h48km±6km, mb4.2/9, mb1 4.4/9, mb1mx4.3/15, mbtmp4.2/9, MS3.8/1, Ms1 3.8/1, ms1mx2.4/26, Error ellipse: s-maj=19.7km s-min=15.5km az=14.0*
ISC 29 04:17:14.5±2.3,3313S±008×1782W±01,h47km±19km, h48km±1.5km:pP-P,n49,σ0s80/29,mb4.6/14,South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
RAO	**Raoul Island**	**3.88**	**4**	P		**Pn**	**04 18 04.3**	**-7.4**
46nm,0.3s,baz=274,slow=23,SNR=2.8								
RAO				S		**Sn**	**04 18 48.5**	**-7.4**
147nm,0.3s,baz=115,slow=23,SNR=4.1								
URZ	**Urewera**	**6.36**	**215**	P		**Pn**	**04 18 41.1**	**-4.5**
2.8nm,0.3s,baz=45,slow=9.4,SNR=26								
URZ				S		**Sn**	**04 19 56.4**	**-0.6**
17nm,0.3s,baz=172,slow=20,SNR=15								
RPZ	**Rata Peaks**	**13.48**	**215**	P		**Pn**	**04 20 17.4**	**-5.6**
3.2nm,0.3s,baz=65,slow=3.8,SNR=12								
DZM	**Mont Dzumac**	**17.46**	**305**	*e*Pn		**Pn**	**04 21 14.8**	**+0.1**
TBI	**Tubuai**	**27.09**	**76**	*e*LR		LR	04 29 09.9	
115nm,29.2s								
PPT	**Papeete**	**30.06**	**66**	*e*LR		LR	04 30 28.3	
125nm,25.5s								
STKA	**Stephens Creek**	**33.76**	**261**	P		**P**	**04 23 52.5**	**+0.7**
1.7nm,0.6s,mb4.1,baz=95,slow=12,SNR=2.5								
CTA	**Charters Tower**	**34.13**	**283**	*e*P		**P**	**04 23 56.1**	**+1.0**
13nm,0.6s,mb5.0								
CTA	**Charters Tower**	**34.13**	**283**	P		**P**	**04 23 56.0**	**+0.9**
14nm,0.5s,mb5.1,baz=115,slow=10,SNR=26								
CTA				LR		LR	04 35 41.5	
comp=Z,160nm,21.6s,baz=230,slow=32								
CTAO	**Charters Tower**	**34.13**	**283**	*e*P		**P**	**04 23 56.0**	**+1.0**
14nm,0.6s,mb5.1								
ASAR	**Alice Springs**	**42.83**	**270**	P		**P**	**04 25 07.8**	**-0.3**
7.0nm,0.8s,mb4.5,baz=108,slow=7.7,SNR=57								
ASAR				pP		pP	04 25 20.1	-0.6
9.7nm,0.9s,baz=112,slow=7.7,SNR=12								
ASAR				S		**S**	**04 31 28.7**	**-0.6**
0.9nm,0.8s,baz=115,slow=17,SNR=4.7								
WRAB	**Tennant Creek**	**44.06**	**275**	*e*P		**P**	**04 25 17.4**	**-0.6**
18nm,0.8s,mb4.8								
WRAB				*e*pP		pP	04 25 30.4	-0.3
KAKA	**Kakadu**	**49.26**	**282**	*e*P		**P**	**04 25 50.7**	**-8.1**
5.4nm,0.6s,mb4.8								
CASY	**Casey**	**52.64**	**209**	*e*P		**P**	**04 26 23.9**	**+0.4**
QSPA	**South Pole Qui**	**56.98**	**180**	P		**P**	**04 26 56.6**	**+1.9**
4.8nm,0.7s,mb4.6,baz=41,slow=3.1,SNR=15								
QSPA				pP		pP	04 27 08.3	+0.5
7.7nm,0.7s,baz=59,slow=3.0,SNR=7.3								
QSPA	**South Pole Qui**	**56.98**	**180**	P		**P**	**04 26 56.6**	**+1.9**
QSPA				pP		pP	04 27 08.3	+0.6
MAW	**Mawson**	**69.69**	**201**	P		**P**	**04 28 19.7**	**+0.9**
3.8nm,0.8s,mb4.4,baz=157,slow=7.8,SNR=6.0								
SNAA	**Sanae**	**75.44**	**178**	*e*		**P**	**04 28 52.4**	**-0.6**
SNAA				*e*			04 28 56.2	
SNAA				*e*		pP	04 29 05.5	-1.0
SNAA				*e*			04 29 17.4	
SNAA	**Sanae**	**75.44**	**178**	*e*P		**P**	**04 28 52.9**	**0.0**
11nm,1.0s,mb4.7								

SNAA				*e*PcP	PcP	04 29 06.0	+0.1	
VNA3	**Neumayer Olymp**	**75.60**	**176**	*e*	**P**	**04 28 53.3**	**-0.6**	
VNA3				*e*		04 28 57.2		
VNA3				*e*	pP	04 29 06.6	-0.9	
VNA3				*e*		04 29 18.9		
VNA2	**Neumayer--Watz**	**76.03**	**177**	*e*	**P**	**04 28 55.0**	**-1.4**	
	baz=175,slow=5.7							
VNA2				*e*		04 28 59.1		
VNA2				*e*	pP	04 29 09.6	-0.3	
VNA2				*e*		04 29 21.5		
VNA1	**Neumayer--Stat**	**76.26**	**177**	*e*	**P**	**04 28 57.9**	**+0.2**	
VNA1				*e*		04 29 01.4		
VNA1				*e*	pP	04 29 11.5	+0.2	
VNA1				*e*		04 29 23.1		
PLCA	**Paso Flores**	**80.80**	**133**	P	**P**	**04 29 23.3**	**+0.1**	
	6.0nm,0.9s,mb4.5,baz=232,slow=6.7,SNR=12							
PETK	**Petropavlovsk-**	**88.40**	**346**	P	**P**	**04 30 00.1**	**-0.8**	
	5.2nm,1.0s,mb4.7,baz=99,slow=9.1,SNR=3.8							
LDFC	**Landfair**	**90.01**	**47**	*e*P	**P**	**04 30 10.0**	**+1.0**	
	23nm,1.4s,mb5.3							
NVAR	**Mina Array Bea**	**90.38**	**43**	P	**P**	**04 30 10.7**	**+0.1**	
	2.1nm,0.8s,mb4.5,baz=213,slow=6.5							
TXAR	**Lajitas Array**	**94.03**	**58**	P	**P**	**04 30 27.4**	**-0.3**	
	0.4nm,0.9s,mb3.9,baz=202,slow=9.5,SNR=4.0							
MVCO	**Mesa Verde**	**95.49**	**49**	*e*P	**P**	**04 30 33.0**	**-1.2**	
	1.3nm,0.4s,mb4.7							
MK31	**Makanchi Array**	**119.35**	**309**	*e*P	PKPdf	04 35 57.2	-1.1	
MKAR	**Makanchi Array**	**119.35**	**309**	PKP	PKPdf	04 35 56.6	-1.6	
	1.5nm,0.6s,baz=122,slow=1.6,SNR=8.6							
ZALV	**Zalesovo Beam**	**119.92**	**317**	PKP	PKPdf	04 35 58.0	-1.1	
	0.5nm,0.3s,baz=146,slow=2.8,SNR=4.4							
ZALV	**Zalesovo Beam**	**119.92**	**317**	PKP	PKPdf	04 35 58.0	-1.1	
KURK	**Kurchatov**	**122.77**	**313**	PKP	PKPdf	04 36 04.2	-0.5	
	4.0nm,0.6s,baz=110,slow=1.9,SNR=16							
ARCES	**ARCESS Array B**	**141.21**	**347**	PKP	PKPdf	04 36 39.5	+0.7	
	1.8nm,0.7s,baz=48,slow=1.3,SNR=2.9							
JOF	**Joensuu**	**144.86**	**337**	*e*p	PKPdf	04 36 43.6	-1.8	
	7.4nm,0.6s							
KAF	**Kangasniemi**	**147.04**	**339**	*e*p	PKPdf	04 36 50.3	+1.1	
NB2	**NORSAR Subarra**	**151.41**	**350**	PKP	PKPbc	04 37 01.7	-0.6	
	comp=Z,1.8nm,0.7s,baz=17,slow=2.6							
NOA	**NORSAR Array B**	**151.41**	**350**	PKPbc	PKPbc	04 37 02.0	-0.3	
	comp=Z,4.2nm,0.9s,baz=14,slow=4.1,SNR=6.9							
NOA				pPKPbc	pPKPbc	04 37 17.0	+0.4	
	comp=Z,2.9nm,0.7s,baz=14,slow=4.1,SNR=7.1							
NOA	**NORSAR Array B**	**151.41**	**350**	PKPbc	PKPbc	04 37 02.0	-0.3	
NOA				pPKPbc	pPKPbc	04 37 17.0	+0.4	
DBIC	**Dimbokro**	**152.96**	**165**	PKPbc	PKPbc	04 37 07.1	-0.2	
	comp=Z,1.2nm,0.5s,baz=171,slow=2.1,SNR=3.9							
DBIC	**Dimbokro**	**152.96**	**165**	PKPbc	PKPbc	04 37 07.1	-0.2	
AKASG	**Malin Array Be**	**153.29**	**319**	PKPbc	PKPbc	04 37 06.6	-0.2	
	comp=Z,2.6nm,0.7s,baz=68,slow=2.5,SNR=6.6							
AKASG				PKPab	PKPab	04 37 18.0	-1.0	
	comp=Z,1.7nm,0.7s,baz=56,slow=3.4,SNR=5.0							
BR131	**Keskin Array S**	**153.61**	**294**	*e*PKPbc	PKPbc	04 37 07.9	-0.1	
CLL	**Collm**	**160.06**	**339**	*i* PKPab	PKPab	04 37 47.7	-0.3	
	comp=Z,8.0nm,1.0s							
TOA0	**Torodi Ar. Sit**	**160.10**	**180**	*e*PKPab	PKPab	04 37 48.8	-0.2	
TORD	**Torodi Ar. Bea**	**160.10**	**180**	PKP	PKPdf	04 37 09.7	+0.5	
	comp=Z,761nm,0.3s,baz=205,slow=0.9,SNR=3.5							
TORD				PKPab	PKPab	04 37 48.4	-0.6	
	comp=Z,1.6nm,0.8s,baz=173,slow=3.6,SNR=11							
TORD	**Torodi Ar. Bea**	**160.10**	**180**	PKP	PKPdf	04 37 09.7	+0.5	
TORD				PKPab	PKPab	04 37 48.4	-0.6	
BRG	**Berggiesshubel**	**160.14**	**337**	*e*P	PKPab	04 37 48.5	+0.1	
	comp=Z,23nm,1.8s							
GERES	**GERESS Array B**	**161.94**	**334**	PKPab	PKPab	04 37 54.7	-1.6	
	comp=Z,0.7nm,0.9s,baz=35,slow=4.9,SNR=5.5							

MAN 29 04:26:37,1790N×12214E,h3km,mb3.6,ML2.4,MS1.9, 1D,Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGCP	**Mt. Cagua**	**0.35**	**345**	*e*P	Pg	04 26 45.0	+1.3
CVP	**Callao Caves**	**0.36**	**237**	*i* P	Pg	04 26 47.0	+3.0
CVP				*i* S	Sg	04 26 53.9	+5.2
PALP	**Palanan**	**0.88**	**162**	*e*P	Pg	04 26 55.2	+1.4
PALP				*e*S	Sg	04 27 10.1	+4.9
CAUP	**Cauayan**	**1.00**	**198**	*e*P	Pg	04 26 58.5	+2.3
ABRA	**Dolores**	**1.39**	**260**	*e*P	Pn	04 27 03.1	-0.2
ABRA				*e*S	Sg	04 27 23.1	+1.5
BALP	**Baler**	**2.21**	**194**	*e*P	Pn	04 27 16.6	+1.9

*ISCJB **29** 04:28:12.1±0.5,3179N±005×139.16E±008,h303km±5km, mb3.7/8, Error ellipse: s-maj=10.9km s-min=7.0km az=166.2*
*JMA **29** 04:28:12.7±0.5,3188N×13900E,h318km±5km,M3.8*
*IDC **29** 04:28:12.4±0.9,3168N×13894E,h286km±13km,mb3.5/8, mb1 3.6/11,mb1mx3.4/22,mbtmp3.5/11, Error ellipse: s-maj=38.2km s-min=10.0km az=68.0*
*MOS **29** 04:28:12.5±1.1,3182N×13896E,h304km,mb4.0/7, Error ellipse: s-maj=37.2km s-min=13.0km az=114.3*
*NEIC **29** 04:28:12.9±1.4,3170N×13874E,h283km±15km,mb3.8/1, Error ellipse: s-maj=44.0km s-min=18.0km az=72.0*

ISC 29 04:28:13.7±0.6,3186N±006×13911E±008,h299km±5km, n47,σ1ᵖ15/61,mb3.7/8,Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ	**Hachijo jima 2**	**1.38**	**24**	P	**Pn**	**04 28 56.6**	**+0.8**
	98nm,0.3s,baz=46,slow=15,SNR=8.4						
JHJ				S	**S**	**04 29 25.9**	**-3.5**
	71nm,0.3s,baz=74,slow=21,SNR=6.2						
JHJ2	**Mitsune**	**1.38**	**25**	P	**Pn**	**04 28 58.2**	**+2.3**
JKO	**Kozu shima**	**2.32**	**0**	P	**Pn**	**04 29 04.1**	**+1.2**
TK02	**Tokai 2**	**2.37**	**332**	P	**Pn**	**04 29 04.1**	**+0.7**
BSO3	**Boso 3**	**3.16**	**21**	P	**Pn**	**04 29 11.1**	**+0.3**
BSO3				*e*S	**S**	**04 29 56.8**	**+0.3**
BSO1	**Boso 1**	**3.19**	**29**	P	**Pn**	**04 29 11.4**	**+0.2**
BSO1				*e*S	**S**	**04 29 57.2**	**+0.1**
HMMJ	**Hamamatsu 2**	**3.21**	**339**	P	**Pn**	**04 29 12.1**	**+0.8**
JIE	**Ise**	**3.23**	**322**	P	**Pn**	**04 29 11.7**	**+0.1**
JIE				*e*S	**S**	**04 29 56.5**	**-1.4**
BSO4	**Boso 4**	**3.28**	**18**	P	**Pn**	**04 29 13.0**	**+0.9**
BSO4				*e*S	**S**	**04 30 00.2**	**+1.4**
JWZ	**Kozaga**	**3.31**	**301**	P	**Pn**	**04 29 11.0**	**-1.5**
JKN2	**Miekihoku**	**3.36**	**316**	P	**Pn**	**04 29 12.5**	**-0.4**
JOD2	**Odawara 2**	**3.39**	**360**	P	**Pn**	**04 29 13.9**	**+0.7**
JNY	**Yasuok**	**3.64**	**344**	P	**Pn**	**04 29 17.1**	**+1.3**
JYN	**Shimob**	**3.66**	**353**	P	**Pn**	**04 29 18.2**	**+2.2**
JAO	**Obara**	**3.73**	**336**	P	**Pn**	**04 29 17.8**	**+1.0**
JHU	**Hanno**	**3.98**	**2**	P	**Pn**	**04 29 19.4**	**-0.1**
JHU				*e*S	**S**	**04 30 10.3**	**-2.0**
JRY	**Ryogami san**	**4.15**	**358**	P	**Pn**	**04 29 22.4**	**+1.0**
JYT	**Yasato**	**4.45**	**11**	P	**Pn**	**04 29 24.1**	**-0.6**
JYT				*e*S	**S**	**04 30 19.9**	**-2.8**
JAG	**Ashikaga**	**4.56**	**3**	P	**Pn**	**04 29 25.5**	**-0.5**
JAG				*e*S	**S**	**04 30 20.9**	**-3.1**
MJAR	**Matsushiro Arr**	**4.73**	**351**	P	**Pn**	**04 29 28.0**	**+0.1**
	3.3nm,0.3s,baz=168,slow=11,SNR=18						
MJAR				S	**S**	**04 30 27.9**	**+0.4**
	1.6nm,0.3s,baz=208,slow=17,SNR=4.6						
MJAR	**Matsushiro Arr**	**4.73**	**351**	P	**Pn**	**04 29 28.0**	**+0.1**
MJAR				S	**S**	**04 30 27.9**	**+0.4**
MJAR				pmax	pmax		
	comp=Z,3.0nm,0.3s						
MJAR				smax			
	comp=N,2.0nm,0.3s						
MAJO	**Matsushiro**	**4.73**	**351**	*e*P	**Pn**	**04 29 27.9**	**0.0**
MAT	**Matsushiro**	**4.73**	**351**	P	**Pn**	**04 29 28.4**	**+0.5**
MAT				*e*S	**S**	**04 30 28.0**	**+0.5**
JHO	**Hitachi**	**4.89**	**14**	P	**Pn**	**04 29 29.2**	**-0.5**
JHO				*e*S	**S**	**04 30 28.0**	**-2.8**
CBIJ	**Chichi jima**	**5.45**	**150**	P	**Pn**	**04 29 33.6**	**-2.9**
	comp=N,37nm,0.3s,baz=259,slow=23,SNR=10.0						
CBIJ				S	**S**	**04 30 37.0**	**-6.2**
	comp=N,45nm,0.3s,baz=276,slow=22,SNR=9.6						
JFK	**Kawauchi**	**5.68**	**14**	P	**Pn**	**04 29 38.8**	**-0.2**
JFK				*e*S	**S**	**04 30 45.2**	**-2.5**
KSRS	**Korea Array**	**10.77**	**304**	P	**Pn**	**04 30 40.6**	**-0.5**
	comp=N,0.4nm,0.3s,baz=116,slow=13,SNR=6.8						
KLR	**Kul'dur**	**18.21**	**344**	*e*P	**P**	**04 32 03.8**	**-1.6**
SONM	**Songino Array**	**29.48**	**312**	P	**P**	**04 33 50.6**	**+0.2**
	comp=N,0.9nm,0.5s,mb3.5,baz=112,slow=8.2,SNR=8.6						
SONM	**Songino Array**	**29.48**	**312**	P	**P**	**04 33 50.6**	**+0.2**
SONM				pmax	pmax		
	comp=Z,1.0nm,0.5s						
ZALV	**Zalesovo Beam**	**44.17**	**316**	P	**P**	**04 35 52.6**	**-0.6**
	comp=Z,1.8nm,0.4s,mb3.7,baz=88,slow=9.0,SNR=8.2						
ZALV	**Zalesovo Beam**	**44.17**	**316**	P	**P**	**04 35 52.6**	**-0.6**
ZALV				pmax	pmax		
	comp=Z,2.0nm,0.4s,mb3.7						
ZALV	**Zalesovo Beam**	**44.17**	**316**	P	**P**	**04 35 52.6**	**-0.6**
MKAR	**Makanchi Array**	**45.44**	**306**	P	**P**	**04 36 02.7**	**-0.5**
	comp=Z,2.8nm,0.6s,mb3.6,baz=86,slow=9.1,SNR=13						
MKAR				ScP	ScP	04 41 00.1	-0.3
	comp=Z,0.4nm,0.5s,baz=64,slow=6.6,SNR=4.2						
MKAR	**Makanchi Array**	**45.44**	**306**	P	**P**	**04 36 02.7**	**-0.6**
MKAR						04 41 00.1	
MKAR				pmax	pmax		
	comp=Z,3.0nm,0.6s						
MKAR	**Makanchi Array**	**45.44**	**306**	P	**P**	**04 36 02.7**	**-0.6**
MKAR				ScP	ScP	04 41 00.1	-0.3
KURK	**Kurchatov**	**47.78**	**312**	P	**P**	**04 36 20.7**	**-0.5**
	comp=Z,2.2nm,0.8s,mb3.5,baz=75,slow=2.1,SNR=4.2						
KURK	**Kurchatov**	**47.78**	**312**	P	**P**	**04 36 20.7**	**-0.5**
KURK				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb3.5						
KURK	**Kurchatov**	**47.78**	**312**	*e*P	**P**	**04 36 17.1**	**-4.2**
	comp=Z,4.2nm,0.8s,mb3.8						
ASAR	**Alice Springs**	**55.44**	**186**	P	**P**	**04 37 17.2**	**-0.5**
	comp=Z,0.7nm,0.3s,mb3.5,baz=358,slow=6.2,SNR=14						
ASAR	**Alice Springs**	**55.44**	**186**	P	**P**	**04 37 17.3**	**-0.5**
ASAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ARCES	**ARCESS Array B**	**68.17**	**340**	P	**P**	**04 38 43.1**	**+1.6**
	comp=Z,4.7nm,0.9s,mb4.2,baz=70,slow=7.8,SNR=3.8						
ARCES	**ARCESS Array B**	**68.17**	**340**	P	**P**	**04 38 43.1**	**+1.6**
ARCES				pmax	pmax		
	comp=Z,5.0nm,0.9s						
AKASG	**Malin Array Be**	**77.21**	**322**	P	**P**	**04 39 35.0**	**+0.2**
	comp=Z,0.5nm,0.3s,mb3.7,baz=49,slow=6.5,SNR=3.5						
AKASG	**Malin Array Be**	**77.21**	**322**	P	**P**	**04 39 35.0**	**+0.2**
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.3s						
NOA	**NORSAR Array B**	**78.20**	**337**	P	**P**	**04 39 41.1**	**+1.1**
	comp=Z,1.6nm,0.8s,mb3.8,baz=32,slow=5.8,SNR=3.3						
NOA	**NORSAR Array B**	**78.20**	**337**	P	**P**	**04 39 41.1**	**+1.1**
NOA				pmax	pmax		
	comp=Z,2.0nm,0.9s						

*ISCJB **29** 04:31:06.9±0.2,1480N±004×90.84W±003,h200km±2km, mb4.4/31, Error ellipse: s-maj=7.2km s-min=3.1km az=33.0*
*BJI **29** 04:31:07.4,1470N×9090W,h206km,mB5.2*
*CASC **29** 04:31:07.7±2.7,1441N×9082W,h213km±7km,MD4.4, ML3.9,mb4.7(NEIC)*
*NEIC **29** 04:31:07.4±0.4,1470N×9089W,mb4.7/24,MD4.7(MEX), Error ellipse: s-maj=7.9km s-min=5.3km az=27.0*
*IDC **29** 04:31:08.6±0.9,1483N×9058W,h217km±7km,mb3.8/14, mb1 4.0/17,mb1mx3.9/24,mbtmp3.9/17, Error ellipse: s-maj=17.6km s-min=8.9km az=52.0*
*MEX **29** 04:31:09.2±0.6,1477N×9102W,h202km±10km,MD4.7*

ISC 29 04:31:07.9±0.2,1484N±004×9080W±003,h190km±2km, n293,σ0ᵖ79/288,mb4.5/31,88C-101D,Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FG6		**0.29**	**196**	*e*P	**Pn**	**04 31 34.8**	**+1.6**
FUG	**Fuego 3**	**0.39**	**186**	*e*P	**Pn**	**04 31 34.4**	**+1.0**
NBG	**Las Nubes**	**0.50**	**120**	*e*P	**Pn**	**04 31 36.2**	**+2.4**
NBG				*e*S	**Sn**	**04 31 58.4**	**+4.6**
JAT	**Jato**	**0.96**	**238**	*e*P	**Pn**	**04 31 36.4**	**+0.1**
MRL	**Marmol**	**1.09**	**78**	*e*P	**Pn**	**04 31 40.2**	**+2.9**
RBDL	**Robledal**	**1.30**	**124**	*e*P	x	04 31 40.0	
THIG		**1.42**	**273**	*i* P	**Pn**	**04 31 39.3**	**-0.6**
THIG				*i* S	**Sn**	**04 32 02.8**	**-1.9**
MTO2	**Montecristo 2**	**1.46**	**107**	*i* P	x	04 31 41.5	
MTO2				*e*S	x	04 32 09.2	
RTR	**El Retiro**	**1.46**	**130**	*e*P	x	04 31 41.2	
RTR				*e*S	x	04 32 09.5	
SNJE	**San Jose**	**1.51**	**130**	*e*P	x	04 31 41.5	
SNJE				*e*S	x	04 32 08.5	
SBLS	**San Blas**	**1.51**	**131**	*e*P	x	04 31 41.7	
BOQS	**Boqueron**	**1.84**	**126**	*e*P	x	04 31 45.1	
SNET	**Serv Nac Est T**	**1.90**	**127**	*i* P	x	04 31 45.1	
SNET				*e*S	x	04 32 14.4	
LBRS	**Las Brisas**	**2.02**	**122**	*i* P	x	04 31 46.7	
LBRS				*e*P	x	04 31 47.0	
LBRS				*e*S	x	04 32 18.6	
LFRS	**El Faro**	**2.07**	**125**	*i* P	x	04 31 47.0	
LFRS				*e*P	x	04 31 47.1	
PCIG		**2.49**	**291**	*i* P	**Pn**	**04 31 50.0**	**-1.0**
PCIG				*i* S	**Sn**	**04 32 21.4**	**-3.1**
SCX	**San Cristobal**	**2.58**	**317**	*i* P	**Pn**	**04 31 53.0**	**+0.9**
SCX				*i* S	**Sn**	**04 32 22.0**	**-4.6**
CAHU	**Cacacuatique**	**2.72**	**113**	*e*P	x	04 31 54.8	
BLLM	**Bellamira**	**2.85**	**119**	*e*P	x	04 31 58.5	
TGIG		**2.95**	**311**	*i* P	**Pn**	**04 31 56.1**	**-0.3**
TGIG				*i* S	**Sn**	**04 32 33.6**	**-0.8**
CNCH	**Conchagua**	**3.27**	**118**	*e*P	x	04 32 02.1	
TGUH	**Tegucigalpa,Un**	**3.50**	**102**	*e*P	**Pn**	**04 32 04.1**	**+1.0**
TGUH	**Tegucigalpa,Un**	**3.50**	**102**	*e*Pn	**Pn**	**04 32 04.3**	**+1.1**
SCIG	**Sabancuy**	**4.12**	**355**	*i* P	**Pn**	**04 32 11.9**	**+1.1**
SCIG				*i* S	**Sn**	**04 33 00.9**	**+0.6**
TEL3	**Telica 3**	**4.45**	**120**	*e*P	**Pn**	**04 32 15.8**	**+0.8**
TEL3				*e*S	**Sn**	**04 33 06.8**	**-1.0**
CMIG	**Matias Romero**	**4.52**	**300**	P	**Pn**	**04 32 14.7**	**-1.2**
	58nm,0.3s,baz=121,slow=9.8,SNR=568						
CMIG				S	**Sn**	**04 33 03.6**	**-5.7**
	58nm,0.3s,baz=1.8,slow=15,SNR=14						
MIRN	**Miramar**	**4.63**	**120**	*e*P	**Pn**	**04 32 17.5**	**+0.1**
MIRN				*e*S	**Sn**	**04 33 09.4**	**-2.5**
MOMN	**Momotombo**	**4.79**	**120**	*e*P	**Pn**	**04 32 21.0**	**+1.6**
COPN	**Copaltepe**	**4.87**	**122**	*e*P	**Pn**	**04 32 20.4**	**0.0**
COPN				AML	AML	04 33 15.8	
	comp=Z,246nm,0.5s						
CSAN		**5.01**	**121**	*e*P	**Pn**	**04 32 22.8**	**+0.6**
APYN	**Apoyeque**	**5.04**	**120**	*e*P	**Pn**	**04 32 22.9**	**+0.3**
XAVN	**Gruta Xavier**	**5.11**	**121**	*e*P	**Pn**	**04 32 23.6**	**+0.2**
CRUN	**El Crucero**	**5.22**	**122**	*e*P	**Pn**	**04 32 25.6**	**+0.7**
TICN	**Ticuantepe**	**5.25**	**122**	*e*P	**Pn**	**04 32 26.1**	**+0.9**
TEIG	**Tepich**	**5.87**	**24**	P	**Pn**	**04 32 33.9**	**+0.6**
	comp=Z,21nm,0.3s,baz=179,slow=5.0,SNR=129						
TEIG	**Tepich**	**5.87**	**24**	*e*Pn	**Pn**	**04 32 34.0**	**+0.7**
VHO	**Vista Hermosa**	**6.12**	**292**	*e*P	**Pn**	**04 32 35.8**	**-0.8**
VHO				*i* S	**Sn**	**04 33 40.0**	**-6.6**
CUI	**Cuipilapa**	**6.88**	**126**	*e*P	**Pn**	**04 32 46.7**	**+0.3**
CUI				*e*S	**Sn**	**04 34 02.1**	**-2.3**
VCR	**Vista de Mar**	**6.88**	**132**	*e*P	**Pn**	**04 32 46.8**	**+0.3**
2RIO	**Dos Rios de Up**	**6.92**	**128**	*e*P	**Pn**	**04 32 43.5**	**-3.5**
2RIO				*e*S	**Sn**	**04 33 54.2**	**-11**
PNIG	**Pinotepa**	**7.23**	**283**	*e*P	**Pn**	**04 32 48.0**	**-3.1**
PNIG				*i* S	**Sn**	**04 34 05.8**	**-6.9**
TPIG	**Tehuac#an**	**7.23**	**300**	*e*P	**Pn**	**04 32 49.4**	**-1.6**
TPIG				*i* S	**Sn**	**04 34 07.5**	**-5.3**
JTS	**JuntasAbangare**	**7.28**	**128**	P	**Pn**	**04 32 51.5**	**-0.2**
	comp=Z,19nm,0.3s,baz=322,slow=17,SNR=91						
JTS				S	**Sn**	**04 34 07.5**	**-6.5**
	comp=Z,1.8nm,0.3s,baz=24,slow=12,SNR=2.9						
JTS	**JuntasAbangare**	**7.28**	**128**	P	**Pn**	**04 32 51.5**	**-0.2**
JTS				S	**Sn**	**04 34 07.5**	**-6.5**
JCR	**Jicaral**	**7.45**	**131**	*e*P	**Pn**	**04 32 53.9**	**-0.1**
CGA2	**Cerro Gallo 2**	**7.82**	**127**	*e*P	**Pn**	**04 32 59.8**	**+0.9**
PRS1	**Puriscal**	**7.96**	**127**	*e*P	**Pn**	**04 33 01.8**	**+1.1**
URSC	**Urasca**	**8.47**	**125**	*e*P	**Pn**	**04 33 07.5**	**+0.1**
PPM	**Popocatepetl**	**8.59**	**300**	*i* P	**Pn**	**04 33 10.2**	**+1.3**
PPM				*i* S	**Sn**	**04 34 41.1**	**-4.0**
PLIG	**Platanillo**	**9.06**	**294**	*e*P	**Pn**	**04 33 12.0**	**-3.0**
CAIG	**El Cayaco**	**9.37**	**285**	*i* P	**Pn**	**04 33 18.4**	**-0.7**
CAIG				*i* S	**Sn**	**04 34 54.6**	**-9.2**
ZIIG	**Zihuatanejo**	**10.61**	**286**	*e*P	**Pn**	**04 33 31.9**	**-3.3**
ZIIG				*i* S	**Sn**	**04 35 23.5**	**-10**
MOIG	**Morelia**	**11.03**	**297**	*i* P	**Pn**	**04 33 40.3**	**-0.3**
VBMS	**Vicksburg**	**17.30**	**1**	*e*P	**Pn**	**04 34 58.3**	**+0.1**
JCT	**Junction City**	**17.63**	**334**	*e*Pn	**Pn**	**04 35 01.1**	**-1.0**
	comp=Z,5.4nm,0.8s						
TXAR	**Lajitas Array**	**18.69**	**323**	P	**P**	**04 35 13.5**	**+1.6**
	comp=Z,0.4nm,0.3s,baz=149,slow=11,SNR=55						
TXAR				sP	sP	04 36 13.4	+5.8
	baz=141,slow=13,SNR=3.1						
TXAR				PcP	PcP	04 39 29.6	-2.1
	comp=Z,0.0nm,0.3s,baz=158,slow=5.6,SNR=3.5						
TXAR				ScP	ScP	04 42 45.2	-4.2
	comp=Z,0.1nm,0.3s,baz=142,slow=5.9,SNR=10						
TXAR	**Lajitas Array**	**18.69**	**323**	P	**P**	**04 35 13.5**	**+1.6**
TXAR				sP	sP	04 36 13.4	+5.8
TXAR				PcP	PcP	04 39 29.6	-2.1
TXAR				ScP	ScP	04 42 45.2	-4.2
OTAV	**Otavalo**	**18.96**	**139**	*e*P	**P**	**04 35 15.6**	**+0.7**
ROSC	**El Rosal**	**19.00**	**120**	P	**P**	**04 35 15.3**	**-0.1**
	comp=Z,1.0nm,0.3s,baz=254,slow=15,SNR=9.2						
ROSC	**El Rosal**	**19.00**	**120**	*e*P	**P**	**04 35 15.5**	**+0.1**
GOGA	**Godfrey**	**19.65**	**19**	*e*P	**P**	**04 35 22.7**	**+0.5**
	comp=Z,45nm,0.7s						
MIAR	**Mount Ida**	**19.78**	**353**	*e*P	**P**	**04 35 23.3**	**-0.3**
	comp=Z,16nm,0.9s						
UALR	**University of**	**19.90**	**356**	*e*P	**P**	**04 35 24.4**	**-0.5**
	comp=Z,17nm,0.8s						
LAPE	**La Pedrera**	**20.19**	**109**	*e*P	Px	04 32 43.0	
LAPE				*e*P	Px	04 32 44.3	
LAPE				*e*S	Sx	04 33 53.8	
SDV	**Santo Domingo**	**20.59**	**104**	P	**P**	**04 35 30.1**	**-2.3**
	comp=Z,19nm,0.5s,baz=328,slow=8.4,SNR=24						
SDV	**Santo Domingo**	**20.59**	**104**	*e*P	**P**	**04 35 30.3**	**-2.2**
	comp=Z,26nm,0.7s						
SWET	**Sewanee**	**20.76**	**11**	*e*P	**P**	**04 35 34.0**	**+0.1**
JSC	**Jenkinsville**	**21.19**	**22**	*e*P	**P**	**04 35 38.6**	**+0.1**
CPCT	**Cooper Cave**	**21.29**	**14**	*e*P	**P**	**04 35 39.5**	**-0.1**
WVT	**Waverly**	**21.37**	**7**	*e*P	**P**	**04 35 39.8**	**-0.7**
	comp=Z,16nm,0.8s,mb4.4						
TKL	**Tuckaleechee C**	**21.67**	**16**	P	**P**	**04 35 43.7**	**+0.1**
	comp=Z,42nm,0.6s,mb5.0,baz=184,slow=11,SNR=84						
TKL	**Tuckaleechee C**	**21.67**	**16**	*e*P	**P**	**04 35 43.8**	**+0.3**
PARMO	**Parma**	**21.76**	**2**	*e*P	**P**	**04 35 44.0**	**-0.5**
AMTX	**Amarillo**	**22.24**	**336**	*e*P	**P**	**04 35 49.4**	**+0.3**
	comp=Z,48nm,1.8s,mb4.6						
TZTN	**Tazewell**	**22.57**	**15**	*e*P	**P**	**04 35 52.1**	**+0.1**
	comp=Z,42nm,0.6s,mb5.0						
SIUC	**Southern Illin**	**22.83**	**3**	*e*P	**P**	**04 35 53.6**	**-0.9**
CCM	**Cathedral Cave**	**23.13**	**359**	*e*P	**P**	**04 35 56.1**	**-1.1**
	comp=Z,10nm,0.7s,mb4.4						
USIN	**University of**	**23.20**	**6**	*e*P	**P**	**04 35 56.9**	**-1.0**
	comp=Z,31nm,1.0s,mb4.7						
319A	**Douglas**	**23.60**	**317**	↑P	**P**	**04 36 03.0**	**+1.4**
	baz=24						
WCI	**Wyandotte Cave**	**23.64**	**9**	*e*P	**P**	**04 36 01.3**	**-0.5**
	comp=Z,74nm,0.7s,mb5.3						
219A	**White Tail Can**	**23.99**	**319**	↓P	**P**	**04 36 05.7**	**+0.6**
	baz=24						
318A	**Bisbee**	**24.11**	**317**	↓P	**P**	**04 36 06.7**	**+0.5**
	baz=24						
BLA	**Blacksburg**	**24.12**	**21**	*e*P	**P**	**04 36 05.7**	**-0.5**
	comp=Z,22nm,1.0s,mb4.6						
218A	**Dragoon**	**24.48**	**317**	↓P	**P**	**04 36 10.3**	**+0.7**
	baz=25						
119A	**Ashpeak Ranch,**	**24.53**	**320**	↑P	**P**	**04 36 10.7**	**+0.8**
	baz=25						
118A	**Homack Ranch,**	**24.87**	**319**	↓P	**P**	**04 36 13.8**	**+0.7**
	baz=25						
217A	**Green Valley**	**24.87**	**316**	↓P	**P**	**04 36 13.6**	**+0.5**
	baz=25						
ACSO	**Alum Creek Sta**	**26.21**	**14**	*e*P	**P**	**04 36 24.7**	**-0.3**
	comp=Z,60nm,1.6s,mb5.0						
X16A	**Lo Mia Camp, P**	**26.96**	**320**	↓P	**P**	**04 36 32.4**	**+0.5**
	baz=27						
SDMD	**Soldier's Deli**	**27.38**	**24**	*e*P	**P**	**04 36 34.7**	**-0.8**

baz=32
Q11A Duckwater 32.41 322 ⇑P P 04 37 20.2 +0.3
baz=32
L16A Fish Haven 32.42 331 ⇑P P 04 37 20.0 +0.1
baz=32
N14A Grayback Hills 32.42 327 ⇑P P 04 37 20.5 +0.6
baz=32
R10A Warm Springs 32.45 321 ⇓P P 04 37 21.5 +1.4
baz=32
M15A Larsen Ranch, 32.49 329 ⇑P P 04 37 20.8 +0.2
baz=33
MDV Middlebury 32.72 24 *e*P P 04 37 21.3 -1.1
LONY Lake Ozonia 32.72 22 *e*P P 04 37 22.0 -0.4
comp=Z,38nm,1.0s,mb5.1
VES Vestal, Richgr 32.83 315 ⇑P P 04 37 24.2 +0.7
baz=33
Q10A Clear Creek Ra 32.84 322 ⇓P P 04 37 24.4 +0.8
baz=33
O12A Currie 32.85 325 ⇓P P 04 37 23.9 +0.3
baz=33
PKM Peak Mountain 32.85 313 ⇓P P 04 37 24.5 +0.7
baz=33
L15A Malad City 32.87 330 ⇓P P 04 37 23.7 -0.1
baz=33
R09A Tonopah 32.89 320 ⇓P P 04 37 24.3 +0.3
baz=33
N13A Wendover, West 32.96 326 ⇑P P 04 37 25.0 +0.4
baz=33
M14A Sheep Mountain 32.98 328 ⇑P P 04 37 25.1 +0.4
baz=33
K16A Soda Springs 33.13 331 ⇑P P 04 37 26.3 +0.3
baz=33
J17A Brown Place, J 33.15 333 ⇓P P 04 37 26.6 +0.4
baz=33,SNR=5.5
REDW Red Top Meadow 33.21 333 *e*P P 04 37 26.7 0.0
comp=Z,6.1nm,0.6s,mb4.5
SNOW Snow King Moun 33.25 333 *e*P P 04 37 27.1 +0.1
comp=Z,10.0nm,0.6s,mb4.7
LOHW Long Hollow 33.30 333 *e*P P 04 37 27.2 -0.3
comp=Z,2.7nm,0.8s,mb4.0
L14A Malta 33.31 329 ⇓P P 04 37 27.8 +0.1
baz=33
TPAW Teton Pass 33.35 333 *e*P P 04 37 27.9 -0.1
comp=Z,74nm,2.9s,mb4.9
N12A Clover Valley, 33.41 326 ⇑P P 04 37 28.6 +0.2
baz=34
K15A Arbon 33.46 330 ⇑P P 04 37 29.3 +0.4
baz=34
J16A Bone 33.48 332 ⇓P P 04 37 29.3 +0.3
baz=34
I17A Pilgram Creek 33.54 334 ⇑P P 04 37 30.2 +0.7
baz=34
AGMN Agassiz Refuge 33.62 354 *e*P P 04 37 28.8 -1.4
comp=Z,19nm,1.2s,mb4.7
K14A Jones Ranch, D 33.66 330 ⇓P P 04 37 30.2 -0.4
baz=34,SNR=8.1
M12A Wells 33.74 326 ⇓P P 04 37 31.4 +0.2
baz=34
NVAR Mina Array Bea 33.78 319 P P 04 37 32.7 +1.0
comp=Z,3.1nm,0.9s,mb4.0,baz=131,slow=8.0,SNR=13
NVAR pP pP 04 38 15.2 +4.1
comp=Z,1.4nm,1.0s,baz=136,slow=9.9,SNR=2.7
NVAR PcP PcP 04 40 04.7 -1.8
comp=Z,0.4nm,0.6s,baz=132,slow=4.3,SNR=4.0
NVAR ScP ScP 04 43 29.2 -4.1
comp=Z,0.7nm,0.6s,baz=127,slow=4.4,SNR=5.9
NVAR Mina Array Bea 33.78 319 P P 04 37 32.7 +1.0
NVAR pP pP 04 38 15.2 +4.1
NVAR PcP PcP 04 40 04.7 -1.8
NVAR ScP ScP 04 43 29.2 -4.1
KCC Kaiser Creek 33.80 317 ⇓P P 04 37 32.4 +0.5
baz=34
Q08A Gabbs 33.80 320 ⇓P P 04 37 32.4 +0.5
baz=34
J15A Blackfoot 33.96 331 ⇓P P 04 37 33.4 +0.3
baz=34
U04C Hernandez Rese 34.27 314 ⇑P P 04 37 37.0 +1.0
baz=34
J14A Carey 34.41 330 ⇑P P 04 37 37.1 0.0
baz=34
H16A Russell Place, 34.45 334 ⇓P P 04 37 38.4 +1.0
baz=34
R06C Coleville 34.56 318 ⇑P P 04 37 39.1 +0.7
baz=35
K12A Draper Farm, C 34.60 328 ⇑P P 04 37 38.7 0.0
baz=35
M10A I.L. Ranch, Tu 34.70 325 ⇓P P 04 37 40.5 +1.0
baz=35
L11A Cat Creek Ranc 34.71 327 ⇓P P 04 37 39.8 +0.1
baz=35
G17A Pierce Place, 34.74 335 ⇓P P 04 37 40.7 +0.8
baz=35
J13A Cove Ranch, Pi 34.79 330 ⇓P P 04 37 40.3 0.0
baz=35
N09A Rock Creek Ran 34.81 323 ⇓P P 04 37 41.0 +0.4
baz=35
F18A Big Timber 34.82 337 ⇑P P 04 37 40.5 0.0
baz=35
O08A Rochester Mine 34.82 322 ⇓P P 04 37 41.2 +0.6
baz=35
I14A Mackay 34.84 331 ⇑P P 04 37 41.7 +1.0
baz=35
PACP Pacheco Peak 34.95 315 ⇑P P 04 37 41.7 -0.1
baz=35
H15A Lima 34.99 332 ⇓P P 04 37 42.8 +0.8
baz=35
HLID Hailey 35.03 330 ⇓P P 04 37 42.5 +0.2
baz=35
L10A Juniper Basin 35.03 326 ⇑P P 04 37 42.5 +0.1
baz=35
N08A GE Springer Mi 35.12 323 ⇓P P 04 37 43.2 0.0
baz=35
I13A Wildhorse Cree 35.14 330 ⇓P P 04 37 43.5 +0.2
baz=35
O07A Toulon 35.18 321 ⇓P P 04 37 43.9 +0.2
baz=35
MCMT McKenzie Canyo 35.25 332 *e*P P 04 37 44.5 +0.3
K11A Parker Ranch, 35.28 327 ⇓P P 04 37 44.5 0.0
baz=35
DGMT Dagmar 35.31 345 ⇓P P 04 37 45.1 +0.4
baz=35
H14A Leadore 35.32 332 ⇓P P 04 37 45.4 +0.6
baz=35
G15A Dillon 35.36 333 ⇑P P 04 37 45.7 +0.6
baz=35
F16A Kennard Place, 35.48 335 ⇑P P 04 37 47.4 +1.2
baz=36
LAVA Lava Cap Winer 35.52 318 ⇑P P 04 37 46.8 +0.1
baz=36
I12A Atlanta 35.55 329 ⇓P P 04 37 47.2 +0.4
baz=36
ULM Lac du Bonnet 35.56 354 P P 04 37 44.5 -2.2
comp=Z,16nm,0.9s,mb4.7,baz=184,slow=7.7,SNR=11
ULM Lac du Bonnet 35.56 354 *e*P P 04 37 44.8 -1.9
comp=Z,19nm,1.1s,mb4.6
M08A Happy Creek Ra 35.69 323 ⇓P P 04 37 48.0 0.0
baz=36
O06A Flanigan 35.76 320 ⇑P P 04 37 48.8 +0.2
baz=36
H12A Diamond D Ranc 35.97 330 ⇓P P 04 37 50.7 +0.4
baz=36
I11A Placerville 36.05 329 ⇑P P 04 37 51.5 +0.5
baz=36
G13A Cobalt 36.08 331 ⇑P P 04 37 51.3 0.0
baz=36
N06A Buffalo Meadow 36.11 321 ⇓P P 04 37 51.4 -0.2
baz=36
K09A Rome 36.14 326 ⇓P P 04 37 52.1 +0.3
baz=36,SNR=13
L08A Fields 36.15 324 ⇑P P 04 37 51.9 +0.1
baz=36
O05C Quincy 36.32 319 ⇓P P 04 37 53.9 +0.5
baz=36
K08A Mann Creek Ran 36.58 325 ⇓P P 04 37 55.5 0.0
baz=37,SNR=10
J09A Fry Pan Ranch, 36.59 326 ⇓P P 04 37 55.4 -0.3
baz=37
L07A Adell 36.60 323 ⇑P P 04 37 55.5 -0.3
baz=37,SNR=5.4
O04C Chester 36.63 320 ⇓P P 04 37 55.9 -0.1
baz=37
H11A Donnelly 36.65 329 ⇓P P 04 37 55.4 -0.7
baz=37,SNR=5.7
F13A Darby 36.66 332 ⇑P P 04 37 55.8 -0.4
baz=37
E14A Clinton 36.77 334 ⇓P P 04 37 57.3 +0.2
baz=37
H10A Noah's Angus R 36.93 329 ⇑P P 04 37 58.2 -0.2
baz=37
K07A Rock Creek Ran 36.98 324 ⇓P P 04 37 58.6 -0.4
baz=37,SNR=6.7
J08A Circle Bar Ran 36.99 326 ⇓P P 04 37 58.4 -0.5
baz=37,SNR=5.6
I09A Lost Marbles R 37.01 327 ⇓P P 04 37 58.5 -0.6
baz=37
F12A Elk City 37.06 331 ⇓P P 04 37 58.7 -0.9
baz=37,SNR=5.7
MOD Modoc 37.09 322 ⇓P P 04 37 59.5 -0.4
baz=37
E13A Victor 37.10 333 ⇓P P 04 37 59.5 -0.3
baz=37
G11A Walters Elk Ra 37.27 330 ⇓P P 04 38 00.8 -0.6
baz=37
GASB Alder Springs 37.30 318 ⇓P P 04 38 01.7 +0.1
baz=37
G10A Bishop Farm, J 37.62 329 ⇓P P 04 38 04.2 -0.1
baz=38
K06A Valley Falls 37.62 324 ⇑P P 04 38 04.1 -0.2
baz=38
WDC Whiskeytown Da 37.69 319 ⇑P P 04 38 03.7 -1.2
baz=38
E12A Beaver Dam Sad 37.70 332 ⇓P P 04 38 04.5 -0.4
baz=38
D13A Huson 37.72 333 ⇑P P 04 38 04.7 -0.4
baz=38
J06A Christmas Vall 37.85 324 ⇓P P 04 38 05.3 -0.9
baz=38
H08A Prairie City 37.87 327 ⇑P P 04 38 06.5 +0.1
baz=38
G09A Cove 37.94 329 ⇑P P 04 38 05.7 -1.2
baz=38
K05A Summer Lake 37.95 323 ⇑P P 04 38 07.2 +0.2
baz=38
E11A Bogner Ranch, 37.95 331 ⇑P P 04 38 05.9 -1.1
baz=38
I07A Izee 38.03 326 ⇓P P 04 38 07.2 -0.5
baz=38
D12A Red Ives Fores 38.08 333 ⇓P P 04 38 07.5 -0.6
baz=38
F10A Beach Ranch, E 38.16 330 ⇑P P 04 38 07.9 -0.8
baz=38,SNR=7.8
LPAZ La Paz 38.18 143 P P 04 38 07.7 -1.5
comp=Z,2.4nm,0.8s,mb3.9,baz=332,slow=8.6,SNR=10
LPAZ La Paz 38.18 143 P P 04 38 07.7 -1.5
F09A S2 Ranch, Elgi 38.30 329 ⇑P P 04 38 09.5 -0.5
baz=38
I06A Prineville 38.32 325 ⇓P P 04 38 09.6 -0.5
baz=38
H07A Lands Inn, Kim 38.40 326 ⇑P P 04 38 10.2 -0.5
baz=38
E10A Myers Farm, Un 38.47 331 ⇑P P 04 38 11.1 -0.2
baz=38
A15A Johnson Ranch, 38.51 337 ⇓P P 04 38 11.1 -0.5
baz=39
A14A Double T Ranch 38.77 336 ⇓P P 04 38 13.3 -0.5
baz=39
J04A Umpqua Nationa 38.97 323 ⇑P P 04 38 14.6 -1.0
baz=39
I04A Tendick Farm, 39.48 323 ⇑P P 04 38 18.9 -0.8
baz=40
K02A Glendale 39.51 321 ⇓P P 04 38 18.8 -1.2
baz=40
B11A Sandpoint 39.57 333 ⇓P P 04 38 19.7 -0.8
baz=40
D08A Wollman Farm, 39.75 330 ⇓P P 04 38 20.9 -1.0
baz=40
J02A Umpqua 39.90 322 ⇓P P 04 38 23.0 -0.3
baz=40
C09A Chrisman Ranch 39.97 331 ⇓P P 04 38 23.5 -0.3
baz=40
A11A Hall Mountain, 39.97 334 ⇑P P 04 38 23.9 +0.1
baz=40
HOOD Mount Hood Mea 40.00 326 *e*P P 04 38 24.9 +0.9
comp=Z,14nm,0.9s,mb4.6
I03A Eugene 40.08 323 ⇑P P 04 38 24.5 -0.3
baz=40
C08A Higginbotham F 40.32 330 ⇑P P 04 38 25.8 -0.8
baz=40
B09A Rice 40.36 332 ⇓P P 04 38 25.9 -1.0
baz=40
D07A Quincy 40.36 329 ⇓P P 04 38 26.3 -0.7
baz=40
I02A Mapleton 40.42 323 ⇓P P 04 38 26.7 -0.8
baz=40
B08A Colville Reser 40.86 331 ⇑P P 04 38 30.4 -0.7
baz=41
A09A Danville 40.96 332 ⇓P P 04 38 31.6 -0.3
baz=41
A07A Asotin River, 41.84 331 ⇑P P 04 38 38.7 -0.3
baz=42
EDM Edmonton 42.24 340 *e*P P 04 38 40.9 -1.3
SIV San Ignacio 42.43 135 P P 04 38 41.3 -2.9
comp=Z,10nm,0.6s,mb4.6,baz=313,slow=8.6,SNR=75
SIV PcP PcP 04 40 31.4 -2.4
comp=Z,2.3nm,0.6s,baz=278,slow=4.2,SNR=7.0
A05A Maple Falls 42.63 330 ⇓P P 04 38 45.0 -0.4
baz=43
YKA Yellowknife Ar 50.49 346 P P 04 39 44.5 -1.7
comp=Z,1.4nm,0.5s,mb3.9,baz=147,slow=7.2,SNR=6.4
YKA pP pP 04 40 30.8 +2.4
comp=Z,1.6nm,0.7s,baz=146,slow=7.4,SNR=4.3
YKA Yellowknife Ar 50.49 346 P P 04 39 44.5 -1.7
YKA pP pP 04 40 30.8 +2.4
KDAK Kodiak Island 62.62 328 P P 04 41 09.9 -1.9
comp=Z,2.9nm,0.8s,mb4.2,baz=117,slow=14,SNR=2.8
ESDC Sonseca Array 78.29 52 P P 04 42 42.9 -4.1
comp=Z,0.9nm,0.5s,mb3.7,baz=288,slow=5.6,SNR=8.4
NOA NORSAR Array B 82.86 29 P P 04 43 06.2 -4.6
comp=Z,1.3nm,0.9s,mb3.6,baz=290,slow=5.3,SNR=3.3
DBIC Dimbokro 84.42 85 P P 04 43 15.2 -4.5
comp=Z,0.5nm,0.3s,mb3.7,baz=273,slow=4.9,SNR=3.4
ARCES ARCESS Array B 84.98 18 P P 04 43 18.6 -2.8
comp=Z,2.9nm,0.9s,mb4.0,baz=275,slow=6.0,SNR=8.4
TORD Torodi Ar. Bea 89.05 77 P P 04 43 36.9 -5.2
comp=Z,0.2nm,0.3s,mb3.5,baz=284,slow=3.4,SNR=12
CN2 Changchun 112.91 332 *e*PKP PKiKP 04 49 18.8 -3.6
HHC Hu-ho-hao-te 120.84 340 *e*PKP PKPdf 04 49 33.3 -4.5
HHC XPKP 04 50 54.3
HHC PP PP 04 51 07.5 -0.1
HHC PKS 04 53 08.5
HHC SKS SKSdf 04 56 21.3 -11
HHC PP PP
comp=Z,80nm,5.1s
HHC LR LR
comp=N,122nm,22.2s
HHC LR LR
comp=E,297nm,23.7s
HHC LR LR
comp=Z,125nm,20.3s
WMQ Urumqi 121.61 1 PKP PKPdf 04 49 33.0 -6.2
WMQ PP PP 04 51 12.5 -0.1
MATP Matopo 122.15 105 PKP PKPdf 04 49 36.6 -4.1
comp=Z,0.8nm,0.5s,baz=315,slow=5.7,SNR=3.5
MAW Mawson 124.56 168 PKP PKPdf 04 49 41.2 -2.7
comp=Z,2.6nm,0.6s,baz=180,slow=3.0,SNR=1.8
CTA Charters Tower 125.54 256 PKP PKPdf 04 49 44.9 -2.3
comp=Z,1.8nm,0.5s,baz=198,slow=3.2,SNR=2.4
LZH Lanzhou 127.49 345 *e*PKP PKPdf 04 49 48.5 -2.2
LZH XPKP 04 51 04.0
CD2 Chengdu 132.41 343 *e*PKP PKPdf 04 49 57.5 -2.6
CD2 XPKP 04 51 07.3
CD2 PP PP 04 52 26.3 +2.4
CD2 PKS 04 53 32.5
CD2 SKS SKSdf 04 56 46.5 -7.3
CD2 PP PP
comp=Z,90nm,10.2s
ASAR Alice Springs 137.04 251 PKhKP 04 49 57.9
comp=Z,0.3nm,0.6s,baz=111,slow=3.5,SNR=5.0
ASAR PKP PKPdf 04 50 07.0 -1.9
comp=Z,1.0nm,0.5s,baz=88,slow=2.1,SNR=10
CMAR Chiang Mai Arr 145.55 344 PKPbc PKPbc 04 50 21.3 -3.5
comp=Z,2.0nm,0.4s,baz=340,slow=2.9,SNR=6.9
KAPI Kapang 148.41 285 PKPbc PKPbc 04 50 29.8 -3.1
comp=Z,6.4nm,0.5s,baz=154,slow=18,SNR=4.9

IDC ***29*** *04:35:01.2±9.7,* **1914N×14475E,h477**km±100km**,mb3.2/8, mb1 3.4/8,mb1mx3.2/19,mbtmp3.2/8, Error ellipse: s-maj=56.6km s-min=37.3km az=153.0, Mariana Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KSRS	**Korea Array**	**23.44**	**325**	P	P	04 39 32.4	+0.3
	2.8nm,0.8s,baz=152,slow=9.5,SNR=5.7						
SONM	**Songino Array**	**42.24**	**322**	P	P	04 42 11.0	-0.3
	0.3nm,0.3s,baz=132,slow=10,SNR=4.3						
CMAR	**Chiang Mai Arr**	**43.27**	**277**	P	P	04 42 19.9	-0.1
	1.0nm,0.3s,baz=63,slow=8.4,SNR=4.1						
ZALV	**Zalesovo Beam**	**57.12**	**322**	P	P	04 44 01.1	-0.1
	0.6nm,0.5s,baz=108,slow=7.7,SNR=3.0						
MKAR	**Makanchi Array**	**57.51**	**314**	P	P	04 44 03.9	-0.1
	0.7nm,0.5s,baz=91,slow=8.9,SNR=7.3						
KURK	**Kurchatov**	**60.34**	**318**	P	P	04 44 23.4	+0.4
	1.0nm,0.3s,baz=97,slow=6.9,SNR=4.2						
ARCES	**ARCESS Array B**	**81.80**	**342**	P	P	04 46 29.4	+0.4
	5.4nm,0.9s,baz=62,slow=5.9,SNR=4.1						
NVAR	**Mina Array Bea**	**83.57**	**52**	P	P	04 46 38.9	+0.2
	0.2nm,0.5s,baz=262,slow=5.4,SNR=2.6						

IDC ***29*** *04:40:00.5±3.3,3.15S×10039E,h0km,mb4.0/5,mb1 4.1/5, mb1mx3.9/18,mbtmp4.1/5, Error ellipse: s-maj=137.9km s-min=25.9km az=59.0*
ISCJB ***29*** *04:40:03.5±0.9,3.1S±0.1×1005E±0.2,h33km,mb4.0/5, Error ellipse: s-maj=33.9km s-min=14.8km az=1.8*
NEIC ***29*** *04:40:06.1±0.8,3.02S×10057E,h35km, Error ellipse: s-maj=30.8km s-min=13.8km az=92.0*

ISC 29 04:40:06.1±0.9,30S±0.1×1006E±0.2,h35km,n8,σ1§41/6, mb4.0/5, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
COCO	**West Island**	**9.83**	**202**	*e*Pn	**Pn**	**04 42 25.0**	**0.0**
CMAR	**Chiang Mai Arr**	**21.41**	**356**	P	**P**	**04 44 49.7**	**-1.3**
	0.8nm,0.4s,mb3.4,baz=198,slow=9.0,SNR=6.2						
ASAR	**Alice Springs**	**38.19**	**125**	P	**P**	**04 47 22.4**	**-0.3**
	0.4nm,0.5s,mb3.4,baz=300,slow=8.5,SNR=5.3						
SONM	**Songino Array**	**50.91**	**5**	P	**P**	**04 49 05.5**	**+1.9**
	3.0nm,0.8s,mb4.3,baz=182,slow=7.2,SNR=17						
MKAR	**Makanchi Array**	**52.16**	**344**	P	**P**	**04 49 13.8**	**+0.6**
	7.9nm,1.1s,mb4.5,baz=149,slow=9.1,SNR=13						
ZALV	**Zalesovo Beam**	**58.27**	**349**	P	**P**	**04 49 56.3**	**-0.7**
	1.1nm,0.3s,mb4.4,baz=163,slow=6.2,SNR=5.2						
TXAR	**Lajitas Array**	**145.15**	**39**	PKPbc	PKPbc	04 59 40.7	+0.5
	1.0nm,0.5s,baz=215,slow=0.9,SNR=19						
TXAR	**Lajitas Array**	**145.15**	**39**	PKPbc	PKPbc	04 59 40.7	+0.5

ISCJB ***29*** *04:45:42.7±0.9,6808N±002×1827W±005,h11km±6km, mb4.5/88,MS4.0/39, Error ellipse: s-maj=3.7km s-min=2.1km az=139.1*
IDC ***29*** *04:45:42.7±0.5,6827N×18.10W,h0km,mb4.3/23, mb1 4.4/25,mb1mx4.4/30,mbtmp4.3/25,ML3.5/2,MS3.9/24, Ms1 3.9/24,ms1mx3.8/37, Error ellipse: s-maj=15.7km s-min=11.4km az=31.0*
BJI ***29*** *04:45:42.5,6861N×1828W,h8km,mB5.2,mb4.8,Ms4.8, Msz4.3*
MOS ***29*** *04:45:42.9±0.9,6826N×1799W,h10km,mb4.8/42, Error ellipse: s-maj=15.3km s-min=5.6km az=107.0*
CSEM ***29*** *04:45:42.4±0.1,6803N×1837W,h10km,mb4.7/45,Ms3.7, Mw4.8, Error ellipse: s-maj=2.5km s-min=1.3km az=55.0*
REY ***29*** *04:45:43.5,6810N×1784W,h10km,ML4.0,ML3.5*
NEIC ***29*** *04:45:44.6±0.2,6820N×1802W,h10km,mb4.7/40, Error ellipse: s-maj=5.5km s-min=3.1km az=39.0*
GCMT ***29*** *04:45:44.6±0.3,6840N×18.18W,h12km,MW4.8/75, Moment Tensor Solution. s16,c16; s75,c118; Duration: 0 Moment tensor: Scale 10^16 Nm; Mrr-1.90±.07; Mθθ-0.01±.08; Mφφ 1.91±.06; Mrθ 0.32±.39; Mθφ 0.01±.06; Mφr-0.34±.28; Best double couple: Mo1.96000×10^16 NP1:φs189.00000°,δ41.00000°,λ-76.00000°. NP2: φs351.00000°,δ51.00000°,λ-102.00000°. Principal axes: T 1.9400, Plg5.0000°, Azm90.0000°; N 0.0410, Plg9.0000°, Azm359.0000°; P -1.9810, Plg80.0000°, Azm209.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
SZGRF ***29*** *04:45:51.6,6784N×17.15W,h33km,mb4.6,MS3.8, Iceland region*

ISC 29 04:45:43.6±1.1,6805N±002×1818W±005,h5km±7km, h15km±.8km:pP-P,n446,σ0§86/464,mb4.5/87,MS4.0/39, 122C-90D,Iceland region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IGRI	**Grimsey**	**1.52**	**177**	P	**Pn**	**04 46 09.4**	**-1.9**
IGRI				S	**Sn**	**04 46 28.5**	**-2.9**
ILEI	**Leirhofn**	**1.78**	**157**	P	**Pn**	**04 46 12.6**	**-2.3**
ILEI				S	**Sn**	**04 46 36.0**	**-1.8**
IFLA	**Flatey**	**1.91**	**176**	P	**Pn**	**04 46 15.4**	**-1.2**
IFLA				S	**Sn**	**04 46 38.8**	**-2.1**
IBRE	**Brettingsstaoi**	**1.94**	**177**	P	**Pn**	**04 46 16.1**	**-1.0**
IBRE				S	**Sn**	**04 46 39.5**	**-2.3**
ISIG	**Siglufjorour**	**1.95**	**189**	P	**Pn**	**04 46 16.1**	**-1.1**
ISIG				S	**Sn**	**04 46 40.0**	**-2.0**
IHED	**Heoinshofoi**	**2.01**	**170**	P	**Pn**	**04 46 16.2**	**-1.8**
IHED				S	**Sn**	**04 46 42.8**	**-0.7**
IHRN	**Hraun**	**2.09**	**202**	P	**Pn**	**04 46 18.5**	**-0.7**
IHRN				S	**Sn**	**04 46 46.4**	**+0.8**
IGIL	**Gilhagi**	**2.11**	**159**	P	**Pn**	**04 46 17.5**	**-1.9**
IGIL				S	**Sn**	**04 46 44.6**	**-1.4**
IHLA	**Hella**	**2.12**	**182**	P	**Pn**	**04 46 18.8**	**-0.8**
IHLA				S	**Sn**	**04 46 44.3**	**-1.9**
IGRA	**Granastaoir**	**2.16**	**173**	P	**Pn**	**04 46 18.7**	**-1.4**
IGRA				S	**Sn**	**04 46 47.0**	**-0.1**
IREN	**Reynihlio**	**2.47**	**168**	P	**Pn**	**04 46 23.0**	**-1.3**
IREN				S	**Sn**	**04 46 54.8**	**0.0**
IGRS	**Grimsstaoir**	**2.56**	**160**	P	**Pn**	**04 46 24.2**	**-1.4**
IGRS				S	**Sn**	**04 46 57.2**	**+0.2**
ISVA	**Svartarkot**	**2.75**	**172**	P	**Pn**	**04 46 27.5**	**-0.8**
IADA	**Aoalbol**	**3.22**	**160**	P	**Pn**	**04 46 34.2**	**-0.5**
IHVA	**Hvannstoosfjol**	**3.25**	**162**	P	**Pn**	**04 46 34.5**	**-0.5**
IGLU	**Glumsstadir**	**3.33**	**157**	P	**Pn**	**04 46 35.0**	**-1.1**
IBRU	**Bruarjokull**	**3.35**	**164**	P	**Pn**	**04 46 36.2**	**-0.2**
IVSH	**V-Sauoahnukur**	**3.41**	**162**	P	**Pn**	**04 46 36.7**	**-0.5**
BORG	**Borgarnes**	**3.55**	**202**	Pn	**Pn**	**04 46 39.0**	**-0.3**
	4.5nm,0.3s,baz=18,slow=7.3,SNR=2						
BORG				Sn	**Sn**	**04 47 25.5**	**+4.0**
	baz=56,slow=19,SNR=3.0						
JMIC	**Jan Mayen**	**4.49**	**45**	LR	LR	04 47 35.4	
	comp=Z,294nm,18.2s,baz=267,slow=26						
DAG	**Danmarks Havn**	**8.77**	**359**	*e*P	**Pn**	**04 47 46.6**	**-4.1**
DAG				pmax	pmax		
	comp=Z,5.0nm,0.8s						
DAG	**Danmarks Havn**	**8.77**	**359**	*i*P	**Pn**	**04 47 46.6**	**-4.1**
	comp=Z,4.5nm,0.8s						
DAG	**Danmarks Havn**	**8.77**	**359**	*e*P	**Pn**	**04 47 46.6**	**-4.1**
	comp=Z,4.5nm,0.8s						
SPB4	**Spitsbergen Ar**	**13.93**	**29**	*e*Pn	**Pn**	**04 49 00.5**	**-0.7**
SPB4	**Spitsbergen Ar**	**13.93**	**29**	*e*Pn	**Pn**	**04 49 00.5**	**-0.7**
SPITS	**Spitsbergen Ar**	**13.93**	**29**	Pn	**Pn**	**04 48 59.4**	**-1.8**
	baz=228,slow=12,SNR=14						
SPITS				LR	LR	04 52 58.8	
	comp=Z,615nm,18.3s,baz=200,slow=32						
NOA	**NORSAR Array B**	**14.33**	**105**	Pn	**Pn**	**04 49 08.3**	**+1.6**
EKA	**Eskdalemuir Ar**	**14.55**	**144**	Pn	**Pn**	**04 49 14.2**	**+4.5**
	comp=Z,0.1nm,0.3s,baz=351,slow=13,SNR=3.6						
ARCES	**ARCESS Array B**	**15.62**	**64**	Pn	**Pn**	**04 49 22.9**	**-1.1**
	comp=Z,0.1nm,0.3s,baz=295,slow=15,SNR=5.9						
ARCES				LR	LR	04 54 01.5	
	comp=Z,579nm,19.8s,baz=256,slow=32						
HFS	**Hagfors**	**15.84**	**105**	Pn	**Pn**	**04 49 28.4**	**+1.4**
	comp=Z,0.1nm,0.3s,baz=341,slow=7.6,SNR=3.2						
HFS				LR	LR	04 54 45.8	
	comp=Z,437nm,20.5s,baz=292,slow=34						
LVZ	**Lovozero**	**19.32**	**66**	*e*P	**Pn**	**04 50 07.7**	**-2.4**
LVZ				pmax	pmax		
	comp=Z,102nm,2.1s						
LVZ				MLR	MLR		
	comp=Z,700nm,22.0s						
BSEG	**Bad Segeberg**	**19.50**	**122**	*e*P	**Pn**	**04 50 11.9**	**-0.4**
BSEG				pmax	pmax		
	comp=Z,49nm,1.6s						
BSEG	**Bad Segeberg**	**19.50**	**122**	*e*P	**Pn**	**04 50 11.9**	**-0.4**
	comp=Z,49nm,1.6s						
WTSB	**Winterswijk**	**20.14**	**131**	*e*P	**P**	**04 50 22.6**	**+4.4**
	comp=Z,40nm,2.2s						
BUG	**Bochum--Univer**	**20.75**	**131**	*e*P	**P**	**04 50 25.6**	**+0.9**
	comp=Z,59nm,1.3s						
HGN	**Heimansgroeve**	**20.98**	**134**	*e*P	**P**	**04 50 27.1**	**-0.1**
	comp=Z,59nm,1.4s						
HGN	**Heimansgroeve**	**20.98**	**134**	*e*S	**S**	**04 54 32.5**	**+11**
GIVF	**Givet**	**21.29**	**136**	*i*P	**P**	**04 50 31.1**	**+0.6**
CLZ	**Clausthal**	**21.31**	**125**	*e*P	**P**	**04 50 31.9**	**+1.1**
CLZ				pmax	pmax		
	comp=Z,58nm,1.4s,mb4.7						
CLZ	**Clausthal**	**21.31**	**125**	*e*P	**P**	**04 50 31.9**	**+1.1**

comp=Z,58nm,1.4s,mb4.7
RUE Ruedersdorf 21.85 120 *e*P **P 04 50 37.6 +1.1**
comp=Z,42nm,0.5s,mb5.1
WLF Walferdange 22.04 134 P **P 04 50 29.9 -8.7**
UBBA Unterbreizbach 22.10 127 *e*P **P 04 50 39.4 +0.2**
comp=Z,33nm,1.7s,mb4.5
TNS Taunus Mts 22.17 130 *e*P **P 04 50 40.9 +0.9**
TNS pmax pmax
comp=Z,68nm,1.7s,mb4.8
TNS Taunus Mts 22.17 130 *e*P **P 04 50 40.9 +0.9**
comp=Z,68nm,1.7s,mb4.8
CLL Collm 22.60 122⇑*i*P **P 04 50 44.9 +0.4**
CLL *e*S **S 04 54 57.0 +4.4**
CLL pmax pmax
comp=Z,45nm,1.3s,mb4.7
CLL MLR MLR
comp=Z,300nm,21.6s,MS3.7
CLL Collm 22.60 122 *e*P **P 04 50 44.8 +0.3**
comp=Z,45nm,1.3s,mb4.7
CLL Collm 22.60 122⇑*i*P **P 04 50 44.9 +0.4**
comp=Z,45nm,1.3s,mb4.7
CLL *ex* x 04 51 00.0
CLL *e*S **S 04 54 57.0 +4.4**
CLL Lm 04 58 00.0
comp=Z,300nm,21.6s
CLL Collm 22.60 122⇑*i*P **P 04 50 44.9 +0.4**
comp=Z,45nm,1.3s,mb4.7
CLL *e*S **S 04 54 57.0 +4.4**
MOX Moxa 22.74 125 *e*P **P 04 50 46.6 +0.6**
comp=Z,60nm,1.6s,mb4.8
MOX *e* 04 50 53.2
MOX
comp=Z,200nm,19.0s
MOX Moxa 22.74 125 *e*P **P 04 50 46.6 +0.6**
MOX *e* 04 50 53.2
MOX pmax pmax
comp=Z,5.0nm,1.6s,mb3.7
MOX MLR MLR
comp=Z,60µm,19.0s
MOX Moxa 22.74 125 *e*P **P 04 50 46.3 +0.3**
comp=Z,15nm,1.3s,mb4.3
MEZF Maizieres J'vi 22.82 137 *e*P **P 04 50 49.2 +2.3**
FBE Freiberg 23.04 122 *e*P **P 04 50 49.6 +0.4**
comp=Z,63nm,1.9s,mb4.7
WERD Werda 23.13 124 *e*P **P 04 50 50.3 +0.2**
comp=Z,31nm,1.7s,mb4.5
TANN Tannenbergstha 23.20 124 *e*P **P 04 50 51.5 +0.6**
comp=Z,19nm,1.6s,mb4.3
BRG Berggiesshubel 23.27 121 *i*P **P 04 50 53.0 +1.3**
BRG pmax pmax
comp=Z,14nm,2.0s,mb4.0
BRG Berggiesshubel 23.27 121 *e*P **P 04 50 52.1 +0.4**
comp=Z,62nm,2.0s,mb4.7
BRG Berggiesshubel 23.27 121 *i*P **P 04 50 53.0 +1.3**
comp=Z,62nm,2.0s,mb4.7
NKC Novy Kostel 23.36 124 *e*P **P 04 50 54.0 +1.4**
NKC AMS AMS 05 03 10.0
comp=Z,700nm,8.6s
MFF Saint Martin d 23.42 148 *e*P **P 04 50 54.9 +1.7**
comp=Z,39nm,1.2s,mb4.4
MFF Saint Martin d 23.42 148 *e*P **P 04 50 54.9 +1.7**
MFF pmax pmax
comp=Z,20nm,1.2s,mb4.4
MFF Saint Martin d 23.42 148 *e*P **P 04 50 54.9 +1.7**
comp=Z,20nm,1.2s,mb4.4
GRA1 Grafenberg Arr 23.46 127 *e*P **P 04 50 54.4 +0.8**
comp=Z,15nm,0.9s,mb4.4
GRA1 LR LR
comp=Z,300nm,19.0s,MS3.8
GRF Grafenberg Arr 23.46 127 *e*P **P 04 50 54.4 +0.8**
GRF pmax pmax
comp=Z,15nm,0.9s,mb4.4
GRF MLR MLR
comp=Z,300nm,19.0s,MS3.8
GRF Grafenberg Arr 23.46 127 *e*P **P 04 50 54.4 +0.8**
GRF pmax pmax
comp=Z,15nm,0.9s,mb4.4
GRF MLR MLR
comp=Z,300nm,19.0s,MS3.8
GRF Grafenberg Arr 23.46 127 *e*P **P 04 50 54.4 +0.8**
comp=Z,15nm,0.9s,mb4.4
GRF *e*L 05 00 33.1
comp=Z,348nm,19.0s
CDF Champ du Feu 23.49 134⇑*i*P **P 04 50 55.2 +1.3**
comp=Z,59nm,1.5s,mb4.5
CDF Champ du Feu 23.49 134⇑*i*P **P 04 50 55.2 +1.3**
CDF pmax pmax
comp=Z,30nm,1.5s,mb4.5
CDF Champ du Feu 23.49 134⇑*i*P **P 04 50 55.2 +1.3**
comp=Z,30nm,1.5s,mb4.5
HAU Haudompre 23.61 136⇑*i*P **P 04 50 56.2 +1.0**
HAU *e*MLR MLR
comp=Z,434nm,18.2s,MS3.6
HAU Haudompre 23.61 136⇑*i*P **P 04 50 56.2 +1.0**
HAU LR LR
comp=Z,430nm,18.3s,MS4.0
LOR Lormes 23.67 140 *e*P **P 04 50 55.1 -0.6**
comp=Z,81nm,1.7s,mb4.6
LOR *e*MLR MLR
comp=Z,577nm,18.5s,MS3.8
LOR Lormes 23.67 140 *e*P **P 04 50 55.1 -0.6**
LOR pmax pmax
comp=Z,41nm,1.7s,mb4.6
LOR MLR MLR
comp=Z,580nm,18.5s,MS4.1
LOR Lormes 23.67 140 *e*P **P 04 50 55.1 -0.6**
comp=Z,40nm,1.7s,mb4.6
LOR LR LR
comp=Z,580nm,18.5s,MS4.1
ROTZ Rotzenmuhle 23.69 125 *e*P **P 04 50 56.2 +0.3**
comp=Z,42nm,1.9s,mb4.5
PVCC Panska Ves 23.77 121 *e*P **P 04 50 56.0 -0.6**
PVCC AMS AMS 05 04 30.0
comp=Z,600nm,6.4s
SSF Saint Saulge 23.78 141 *e*P **P 04 50 56.0 -0.7**
comp=Z,54nm,1.7s,mb4.4
SSF Saint Saulge 23.78 141 *e*P **P 04 50 56.0 -0.7**
SSF pmax pmax
comp=Z,27nm,1.7s,mb4.4
SSF Saint Saulge 23.78 141 *e*P **P 04 50 56.0 -0.7**
comp=Z,27nm,1.7s,mb4.4
BFO Black Forest 23.85 133 *e*P **P 04 50 58.1 +0.8**
BFO pmax pmax
comp=Z,21nm,1.3s,mb4.4
BFO Black Forest 23.85 133 *e*P **P 04 50 58.1 +0.8**
comp=Z,21nm,1.3s,mb4.4
SUW Suwalki 23.86 105 *e*P **P 04 50 56.4 -1.0**
HINF Hinteralfeld 23.92 135⇑*i*P **P 04 50 59.0 +1.0**
comp=Z,85nm,1.6s,mb4.6
HINF Hinteralfeld 23.92 135⇑*i*P **P 04 50 59.0 +1.0**
HINF pmax pmax
comp=Z,42nm,1.6s,mb4.6
HINF Hinteralfeld 23.92 135⇑*i*P **P 04 50 59.0 +1.0**
comp=Z,42nm,1.6s,mb4.6
AVF Avril sur Loir 24.00 142⇑*i*P **P 04 50 59.0 +0.3**
comp=Z,102nm,1.7s,mb4.7
AVF Avril sur Loir 24.00 142⇑*i*P **P 04 50 59.0 +0.3**
AVF pmax pmax
comp=Z,51nm,1.7s,mb4.7
AVF Avril sur Loir 24.00 142⇑*i*P **P 04 50 59.0 +0.3**
comp=Z,51nm,1.7s,mb4.7
KSP Ksiaz 24.07 118 *e*P **P 04 50 59.6 +0.3**
KSP Ksiaz 24.07 118‖*e*P **P 04 50 59.1 -0.2**
BGF Bois d'Agland 24.11 143⇑*i*P **P 04 51 00.1 +0.4**
comp=Z,127nm,1.9s,mb4.7
BGF Bois d'Agland 24.11 143⇑*i*P **P 04 51 00.1 +0.4**
BGF pmax pmax
comp=Z,64nm,1.9s,mb4.7
BGF Bois d'Agland 24.11 143⇑*i*P **P 04 51 00.1 +0.4**
comp=Z,64nm,1.9s,mb4.7
TCF Toulx Ste Croi 24.22 144 *e*P **P 04 51 00.9 +0.2**
comp=Z,62nm,1.4s,mb4.5
TCF Toulx Ste Croi 24.22 144 *e*P **P 04 51 00.9 +0.2**
TCF pmax pmax
comp=Z,31nm,1.4s,mb4.5
TCF Toulx Ste Croi 24.22 144 *e*P **P 04 51 00.9 +0.2**
comp=Z,31nm,1.4s,mb4.5
PRU Pruhonice 24.23 122 *e*P **P 04 51 01.8 +1.0**
PRU *e*S **S 04 55 39.5 +20**
PRU Pruhonice 24.23 122 *e*P **P 04 51 01.8 +1.0**
PRU *e*S **S 04 55 39.5 +20**
PRU AMS AMS 05 01 50.0
comp=Z,400nm,17.5s
SMF Signal de Mont 24.25 141 *e*P **P 04 51 00.4 -0.6**
comp=Z,164nm,1.6s,mb4.9
SMF Signal de Mont 24.25 141 *e*P **P 04 51 00.4 -0.6**
SMF pmax pmax
comp=Z,82nm,1.6s,mb4.9
SMF Signal de Mont 24.25 141 *e*P **P 04 51 00.4 -0.6**
comp=Z,82nm,1.6s,mb4.9
UPC Upice 24.26 119 *e*P **P 04 51 02.3 +1.2**
WET Wettzell 24.45 125 *e*P **P 04 51 03.9 +1.1**
WET pmax pmax
comp=Z,84nm,2.6s,mb4.7
WET Wettzell 24.45 125 *e*P **P 04 51 03.9 +1.1**
comp=Z,84nm,2.6s,mb4.7
DPC Dobruska-Polom 24.50 119 *e*P **P 04 51 04.1 +0.9**
DPC *e*S S 04 55 44.6 +21
DPC Dobruska-Polom 24.50 119 *e*P **P 04 51 04.1 +0.9**
DPC *e*S S 04 55 44.6 +21
DPC AMS AMS 05 01 50.0
comp=Z,400nm,16.9s
KHC Kasperske Hory 24.68 124 *e*P **P 04 51 06.3 +1.4**
KHC *ex* x 04 51 25.5
KHC *e*S **S 04 55 36.8 +10**
KHC AMS AMS 05 03 50.0
comp=Z,600nm,13.2s
GEC2 GERESS Array S 24.97 124 *e*P **P 04 51 08.9 +1.4**
GEC2 pmax pmax
comp=Z,38nm,1.5s,mb4.7
GEC2 GERESS Array S 24.97 124 *e*P **P 04 51 08.9 +1.4**
comp=Z,38nm,1.5s,mb4.7
GERES GERESS Array B 24.97 124 P **P 04 51 09.1 +1.6**
comp=Z,5.7nm,1.0s,mb4.0,baz=324,slow=8.3,SNR=24
GERES LR LR 05 00 27.6
comp=Z,197nm,19.2s,MS3.6,baz=315,slow=35
GERES GERESS Array B 24.97 124 P **P 04 51 09.1 +1.6**
GERES pmax pmax
comp=Z,6.0nm,1.0s
GERES MLR MLR
comp=Z,197nm,19.2s
KLMR Klimovskoe 24.99 78 *e*P **P 04 51 06.1 -1.6**
KLMR pmax pmax
comp=Z,38nm,1.7s,mb4.7
RJF Les Rejaudoux 25.00 146 *e*P **P 04 51 07.5 -0.4**
comp=Z,75nm,1.4s,mb4.7
RJF *e*MLR MLR
comp=Z,495nm,18.2s,MS3.8
RJF Les Rejaudoux 25.00 146 *e*P **P 04 51 07.5 -0.4**
RJF pmax pmax
comp=Z,38nm,1.4s,mb4.7
RJF MLR MLR
comp=Z,500nm,18.3s,MS4.1
RJF Les Rejaudoux 25.00 146 *e*P **P 04 51 07.5 -0.4**
comp=Z,38nm,1.4s,mb4.7
RJF LR LR
comp=Z,500nm,18.3s,MS4.1
TREC Trest 25.14 121 *e*P **P 04 51 10.2 +1.1**
TREC AMS AMS 05 02 20.0
comp=Z,500nm,18.6s
DAVA Damuels 25.23 131⇑*i*P **P 04 51 11.2 +1.3**
comp=Z,24nm,1.4s,mb4.5
DAVA Damuels 25.23 131 P **P 04 51 11.2 +1.3**
comp=Z,24nm,1.4s,mb4.5
CAF Calviac 25.48 145⇑*i*P **P 04 51 14.1 +1.9**
comp=Z,53nm,1.4s,mb4.6
CAF Calviac 25.48 145⇑*i*P **P 04 51 14.1 +1.9**
CAF pmax pmax
comp=Z,26nm,1.4s,mb4.6
CAF Calviac 25.48 145⇑*i*P **P 04 51 14.1 +1.9**
comp=Z,26nm,1.4s,mb4.6
VRAC Vranov 25.48 120 P **P 04 51 12.9 +0.7**
comp=Z,3.2nm,0.8s,mb3.9,baz=340,slow=8.1,SNR=9.9
VRAC LR LR 05 00 31.1
comp=Z,234nm,20.4s,MS3.7,baz=328,slow=35
VRAC Vranov 25.48 120 P **P 04 51 12.9 +0.7**
VRAC pmax pmax
comp=Z,3.0nm,0.8s
VRAC MLR MLR
comp=Z,234nm,20.4s
OKC Ostrava-Krasne 25.54 117 *e*P **P 04 51 13.1 +0.4**
OKC *e*S **S 04 55 50.2 +10**
OKC Ostrava-Krasne 25.54 117 *e*P **P 04 51 13.1 +0.4**
OKC *e*S **S 04 55 50.2 +10**
OKC AMS AMS 04 59 40.0
comp=Z,300nm,19.5s
DAVOS Davos 25.62 132 P **P 04 51 15.4 +2.0**
DAVOX Davos/Dischmat 25.69 132 P **P 04 51 15.4 +1.3**
comp=Z,9.2nm,1.2s,mb4.2,baz=326,slow=11,SNR=8.6
DAVOX LR LR 05 01 58.0
comp=Z,431nm,20.2s,MS4.0,baz=310,slow=38
WTTA Wattenberg 25.76 129⇑*i*P **P 04 51 15.3 +0.6**
comp=Z,23nm,1.3s,mb4.5
OJC Ojcow 25.77 115 *e*P **P 04 51 12.6 -2.2**
OJC *es*P sP 04 51 14.6 -2.4
LPL La Plagne 26.02 138 *e*P **P 04 51 18.3 +1.2**
LPG La Plagne 26.04 138 *e*P **P 04 51 18.4 +1.1**
comp=Z,45nm,1.4s,mb4.5
LPG La Plagne 26.04 138 *e*P **P 04 51 18.4 +1.1**
LPG pmax pmax
comp=Z,23nm,1.4s,mb4.5
LPG La Plagne 26.04 138 *e*P **P 04 51 18.4 +1.1**
comp=Z,23nm,1.4s,mb4.5
VIVF Saint-Julien-l 26.14 141 *e*P **P 04 51 16.9 -1.2**
comp=Z,44nm,1.4s,mb4.5
VIVF Saint-Julien-l 26.14 141 *e*P **P 04 51 16.9 -1.2**
VIVF pmax pmax
comp=Z,22nm,1.4s,mb4.5
VIVF Saint-Julien-l 26.14 141 *e*P **P 04 51 16.9 -1.2**
comp=Z,22nm,1.4s,mb4.5
ORIF Oris-en-Rattie 26.37 139⇑*i*P **P 04 51 21.5 +1.3**
comp=Z,38nm,1.3s,mb4.5
ORIF *e*MLR MLR
comp=Z,489nm,19.8s,MS3.8
ORIF Oris-en-Rattie 26.37 139⇑*i*P **P 04 51 21.5 +1.3**
ORIF pmax pmax
comp=Z,19nm,1.3s,mb4.5
ORIF Oris-en-Rattie 26.37 139⇑*i*P **P 04 51 21.5 +1.3**
comp=Z,19nm,1.3s,mb4.5
KBA Koelnbreinsper 26.43 127⇑*i*pP pP 04 51 22.6 +0.2
comp=Z,9.8nm,1.3s
CSNA Conrad Observa 26.46 122⇑*i*P **P 04 51 21.9 +0.9**
comp=Z,15nm,1.4s,mb4.3
CONA Conrad Observa 26.46 122⇑*i*P **P 04 51 22.0 +1.0**
comp=Z,14nm,1.2s,mb4.4
ABTA Abfaltersbach 26.48 128⇑*i*pP pP 04 51 23.1 +0.3
comp=Z,9.8nm,1.3s
NIE Niedzica 26.63 115 *e*P **P 04 51 23.4 +0.8**
MBDF Montbardon 26.77 138 *e*P **P 04 51 24.8 +1.0**
comp=Z,43nm,1.4s,mb4.5
MBDF Montbardon 26.77 138 *e*P **P 04 51 24.8 +1.0**
MBDF pmax pmax
comp=Z,21nm,1.4s,mb4.5
MBDF Montbardon 26.77 138 *e*P **P 04 51 24.8 +1.0**
comp=Z,22nm,1.4s,mb4.5
ETSF Etsaut 26.90 151 *e*P **P 04 51 26.8 +1.7**
comp=Z,46nm,1.5s,mb4.5
ETSF Etsaut 26.90 151 *e*P **P 04 51 26.8 +1.7**
ETSF pmax pmax
comp=Z,23nm,1.5s,mb4.5
ETSF Etsaut 26.90 151 *e*P **P 04 51 26.8 +1.7**
comp=Z,23nm,1.5s,mb4.5
LVV L'vov 27.59 110 *e*P **P 04 51 29.2 -1.9**
OBN Obninsk 27.98 90‖*e*P **P 04 51 34.1 -0.6**
OBN *e* 04 52 20.4
OBN *e*S **S 04 56 16.8 -2.0**
OBN pmax pmax
comp=Z,22nm,1.0s,mb4.7
OBN MLR MLR
comp=Z,900nm,19.0s,MS4.4
UZH Uzhgorod 27.98 113‖*i*P **P 04 51 35.0 +0.3**
UZH *e*S **S 04 56 17.0 -1.9**
UZH MLR MLR
comp=N,550nm,14.0s,MS4.4
UZH MLR MLR
comp=E,470nm,14.0s,MS4.4
UZH MLR MLR
comp=Z,400nm,14.0s,MS4.2
AKASG Malin Array Be 28.73 103 P **P 04 51 40.7 -0.6**
comp=Z,4.1nm,0.7s,mb4.3,baz=324,slow=9.4,SNR=19
AKASG LR LR 05 02 39.8
comp=Z,291nm,21.8s,MS3.9,baz=325,slow=35
AKASG Malin Array Be 28.73 103 P **P 04 51 40.7 -0.6**
AKASG pmax pmax
comp=Z,4.0nm,0.7s
AKASG MLR MLR
comp=Z,291nm,21.8s
KIEV Kiev 28.73 103 *e*P **P 04 51 40.9 -0.4**
KIEV pmax pmax
comp=Z,47nm,1.9s,mb4.9
KIEV Kiev 28.73 103 *e*P **P 04 51 40.9 -0.4**
comp=Z,47nm,1.9s,mb4.9
KIEV Kiev 28.73 103 *e*P **P 04 51 40.9 -0.4**
comp=Z,47nm,1.9s,mb4.9
ESDC Sonseca Array 29.49 157 P **P 04 51 49.7 +1.6**
comp=Z,3.8nm,1.0s,mb4.1,baz=353,slow=8.8,SNR=9.9
ESDC LR LR 05 03 12.7
comp=Z,197nm,18.6s,MS3.8,baz=310,slow=35
KIS Kishinev 31.68 108 *e*P **P 04 52 13.0 +5.6**
KIS MLR MLR
comp=Z,400nm,15.0s,MS4.2
KIS MLR MLR
comp=Z,500nm,16.0s
ARU Arti 35.08 70*d i*P **P 04 52 35.6 -1.3**
ARU *e* 04 53 50.5
ARU 04 55 05.8
ARU *e*S **S 04 58 07.8 -1.6**
ARU *e*SS SS 05 00 21.6 -19
ARU pmax pmax
comp=Z,24nm,1.7s,mb4.8
ARU MLR MLR
comp=Z,566nm,18.0s,MS4.4
KEST Kesra 35.91 140 P **P 04 52 44.8 +0.6**
comp=Z,5.1nm,1.4s,mb4.3,baz=343,slow=2.7,SNR=4.9
KEST LR LR 05 06 52.3
comp=Z,89nm,20.2s,MS3.5,baz=214,slow=35
MDT Midelt 36.14 160 P **P 04 52 48.2 +1.9**
comp=Z,9.8nm,1.1s,mb4.6,baz=8.6,slow=9.7,SNR=6.5
ANN Anapa 36.69 100 *e*P **P 04 52 48.2 -2.7**
ANN *e*S **S 04 58 27.9 -6.4**
ANN pmax pmax
comp=Z,42nm,1.0s,mb5.2
ANN MLR MLR
comp=Z,313nm,17.0s,MS4.2
YKA Yellowknife Ar 36.76 310 P **P 04 52 49.7 -1.5**
comp=Z,8.5nm,1.0s,mb4.5,baz=39,slow=8.7,SNR=15
YKA LR LR 05 07 05.2
comp=Z,110nm,20.9s,MS3.6,baz=90,slow=35
YKA Yellowknife Ar 36.76 310 P **P 04 52 49.7 -1.6**
YKA pmax pmax
comp=Z,9.0nm,1.0s
YKA MLR MLR
comp=Z,110nm,20.9s
YKA Yellowknife Ar 36.76 310 P **P 04 52 49.7 -1.5**
YKA LR LR 05 07 05.2
TIXI Tiksi 38.83 16⇑*e*P **P 04 53 08.0 -0.7**
TIXI pmax pmax
comp=Z,8.0nm,1.3s,mb4.3
TIXI MLR MLR
comp=Z,100nm,25.0s,MS3.5
TIXI Tiksi 38.83 16 *e*P **P 04 53 07.8 -0.9**
comp=Z,15nm,1.6s,mb4.5
TIXI Tiksi 38.83 16 *e*P **P 04 53 07.8 -0.9**
comp=Z,15nm,1.6s,mb4.5
KIV Kislovodsk 39.37 96 *e*P **P 04 53 14.5 +1.0**
KIV *e* 04 55 23.4
KIV *e*S **S 04 59 13.8 -1.1**
KIV pmax pmax
comp=Z,14nm,1.1s,mb4.6
KIV MLR MLR
comp=Z,262nm,16.0s,MS4.2
BR131 Keskin Array S 39.73 108 *e*P **P 04 53 17.7 +1.2**
comp=Z,12nm,1.6s,mb4.4
BR131 Keskin Array S 39.73 108 *e*P **P 04 53 17.7 +1.2**
comp=Z,12nm,1.6s,mb4.4
ULM Lac du Bonnet 40.37 284 P **P 04 53 21.5 -0.2**
comp=Z,3.9nm,0.8s,mb4.2,baz=48,slow=7.1,SNR=3.1
ULM LR LR 05 09 39.2
comp=Z,469nm,19.9s,MS4.3,baz=43,slow=36
ULM Lac du Bonnet 40.37 284 P **P 04 53 21.5 -0.2**
ULM LR LR 05 09 39.2
EGAK Eagle 41.45 327 *e*P **P 04 53 30.1 -0.3**
comp=Z,16nm,1.4s,mb4.5
EGAK Eagle 41.45 327 *e*P **P 04 53 30.1 -0.3**
comp=Z,16nm,1.4s,mb4.5
DAWY Dawson 41.70 326 *e*P **P 04 53 32.0 -0.5**
DAWY Dawson 41.70 326 *e*P **P 04 53 32.0 -0.6**
BVAR Borovoye Array 41.91 65 LR LR 05 12 28.0
comp=Z,75nm,18.2s,MS3.6,baz=154,slow=38
SDMD Soldier's Deli 42.49 258 *e*P **P 04 53 40.5 +1.3**
comp=Z,49nm,1.9s,mb4.8
IMA2 Indian Mountai 42.55 335 *e*P **P 04 53 39.7 +0.3**
IMA2 Indian Mountai 42.55 335 *e*P **P 04 53 39.7 +0.2**
COLA College 42.65 331‖*e*P **P 04 53 40.6 +0.3**
GNI Garni 43.42 97 LR LR 05 12 34.0
comp=Z,425nm,18.2s,MS4.4,baz=309,slow=37
GNI Garni 43.42 97 *i*P **P 04 53 48.2 +1.4**
GNI pmax pmax
comp=Z,16nm,1.3s
GNI MLR MLR
comp=Z,600nm,23.0s
BILL Bilibino 44.14 358⇑*e*P **P 04 53 52.1 -0.1**
BILL *e* 04 55 32.7
BILL *e*S **S 05 00 19.2 -5.8**
BILL *e*SS SS 05 03 36.6 -5.0
BILL pmax pmax
comp=Z,22nm,2.0s,mb4.5
BILL MLR MLR
comp=Z,100nm,23.0s,MS3.7
HYT Haines Junctio 44.15 322 *e*P **P 04 53 53.1 +0.8**
HYT Haines Junctio 44.15 322 *e*P **P 04 53 53.1 +0.8**
NVS Novosibirsk 44.53 54 *e*P **P 04 53 55.4 -0.1**
NVS pmax pmax
comp=Z,38nm,1.5s,mb5.0
ZALV Zalesovo Beam 45.78 53 P **P 04 54 04.3 -1.1**
comp=Z,1.6nm,0.3s,mb4.4,baz=335,slow=6.4,SNR=1.5
ZALV LR LR 05 16 12.3
comp=Z,66nm,18.6s,MS3.6,baz=351,slow=40
ZALV Zalesovo Beam 45.78 53 P **P 04 54 04.3 -1.1**
ZALV pmax pmax
comp=Z,2.0nm,0.3s,mb4.5
ZALV MLR MLR
comp=Z,66nm,18.6s,MS3.6
MMAI Mount Meron Ar 46.37 111 LR LR 05 15 22.6
comp=Z,79nm,21.7s,MS3.6,baz=350,slow=38
KURK Kurchatov 46.61 60 P **P 04 54 11.0 -1.0**
comp=Z,1.7nm,0.2s,mb4.5,baz=322,slow=7.6,SNR=4.0
KURK LR LR 05 14 22.0
comp=Z,156nm,18.2s,MS4.0,baz=335,slow=37
KURK Kurchatov 46.61 60 P **P 04 54 11.0 -1.0**
KURK pmax pmax
comp=Z,2.0nm,0.2s,mb4.7
KURK MLR MLR
comp=Z,156nm,18.2s,MS4.0
KURK Kurchatov 46.61 60 P **P 04 54 11.0 -1.0**
KURK LR LR 05 14 22.0
EGMT Eagleton 47.16 294⇓P **P 04 54 16.2 -0.2**
baz=47
EGMT Eagleton 47.16 294 *e*P **P 04 54 16.7 +0.3**
comp=Z,8.6nm,0.9s,mb4.7
EGMT Eagleton 47.16 294 *e*P **P 04 54 16.7 +0.4**
comp=Z,8.6nm,0.9s,mb4.7
A15A Johnson Ranch, 47.36 297⇓P **P 04 54 17.7 -0.2**
baz=47
B16A M & M Farms, S 47.50 296⇓P **P 04 54 18.9 0.0**
baz=47
A14A Double T Ranch 47.59 297⇑P **P 04 54 19.4 -0.3**
baz=47
ASF Jabal al Asfar 47.66 110 P **P 04 54 21.0 +0.6**
comp=Z,2.4nm,0.8s,mb4.3,baz=290,slow=6.0,SNR=5.6
ASF Jabal al Asfar 47.66 110 P **P 04 54 21.0 +0.6**
ASF pmax pmax
comp=Z,2.0nm,0.8s
C17A Wharram Farm, 47.85 294⇓P **P 04 54 21.7 0.0**
baz=48,SNR=7.3
B15A Bradely Ranch, 47.87 296⇓P **P 04 54 21.7 -0.2**
baz=48
D18A Linhart Farms, 47.89 293⇑P **P 04 54 22.4 +0.4**
baz=48
B14A Marquette Ranc 48.07 297⇓P **P 04 54 23.2 -0.2**
baz=48
YAK Yakutsk 48.16 20 *e*P **P 04 54 23.0 -0.9**
YAK pmax pmax
comp=Z,26nm,0.7s,mb5.4
D17A Six Diamond Ra 48.24 294⇓P **P 04 54 24.9 +0.2**
baz=48
C15A Salmond Ranch, 48.35 296⇑P **P 04 54 25.5 0.0**
baz=48
E18A Harlowton 48.48 293⇓P **P 04 54 26.7 +0.2**
baz=48
A11A Hall Mountain, 48.58 300⇓P **P 04 54 27.0 -0.3**
baz=48,SNR=5.3
D16A Dana Ranch, Ca 48.64 295⇑P **P 04 54 27.5 -0.3**
baz=48
C14A Swan Lake 48.74 297⇑P **P 04 54 27.8 -0.7**
baz=48,SNR=5.6
B12A Libby 48.75 299⇓P **P 04 54 28.6 0.0**
baz=48

E17A **Martinsdale** 48.89 294 ⇓P P 04 54 29.6 -0.2
baz=49
D15A **Lincoln** 48.96 295 ⇓P P 04 54 29.8 -0.5
baz=49
F18A **Big Timber** 48.98 292 ⇓P P 04 54 30.6 +0.2
baz=49
C13A **Hot Springs** 49.10 297 ⇑P P 04 54 31.2 -0.1
baz=49,SNR=6.9
E16A **East Helena** 49.11 294 ⇑P P 04 54 31.3 -0.1
baz=49
D14A **Greenough** 49.26 296 ⇑P P 04 54 32.3 -0.3
baz=49
A09A **Danville** 49.28 301 ⇓P P 04 54 32.5 -0.2
baz=49
F17A **Fitzpatrick Pl** 49.31 293 ⇑P P 04 54 33.2 +0.3
baz=49
C12B **Naegeli Ranch,** 49.37 298 ⇓P P 04 54 33.4 0.0
baz=49
RLMT **Red Lodge** 49.51 291 ⇑P P 04 54 34.6 +0.1
baz=49
A08A **Turner Farm, O** 49.52 302 ⇓P P 04 54 34.7 +0.1
baz=49
D13A **Huson** 49.57 297 ⇓P P 04 54 34.5 -0.4
baz=49
B09A **Rice** 49.62 301 ⇑P P 04 54 35.0 -0.3
baz=49,SNR=5.9
MSO **Missoula** 49.62 296 *e*P P 04 54 35.6 +0.3
comp=Z,5.3nm,1.0s,mb4.5
MSO **Missoula** 49.62 296 *e*P P 04 54 35.6 +0.3
comp=Z,5.3nm,1.0s,mb4.5
A07A **Ashnola River,** 49.79 303 ⇑P P 04 54 36.5 -0.1
baz=50
E14A **Clinton** 49.83 296 ⇓P P 04 54 37.0 +0.1
baz=50
G17A **Pierce Place,** 49.84 293 ⇑P P 04 54 37.3 +0.3
baz=50
BOZ **Bozeman (W)** 49.87 294 ⇑P P 04 54 37.0 -0.2
baz=50
D12A **Red Ives Fores** 49.90 298 ⇑P P 04 54 37.4 -0.1
baz=50
E13A **Victor** 50.05 296 ⇑P P 04 54 38.4 -0.2
baz=50
B08A **Colville Reser** 50.06 301 ⇑P P 04 54 38.3 -0.3
baz=50
C09A **Chrisman Ranch** 50.21 300 ⇓P P 04 54 39.2 -0.6
baz=50
B07A **Winthrop** 50.23 302 ⇑P P 04 54 39.3 -0.6
baz=50,SNR=6.8
D11A **Klaveano Farm,** 50.23 298 ⇑P P 04 54 39.0 -1.0
baz=50,SNR=8.9
DLMT **Dillon** 50.45 294 *e*P P 04 54 43.5 +1.9
comp=Z,12nm,1.6s,mb4.7
DLMT **Dillon** 50.45 294 *e*P P 04 54 43.5 +1.8
comp=Z,12nm,1.6s,mb4.7
C08A **Higginbotham F** 50.47 301 ⇑P P 04 54 41.3 -0.5
baz=50
E12A **Beaver Dam Sad** 50.53 297 ⇓P P 04 54 41.2 -1.1
baz=50,SNR=5.7
D10A **Wagner Farm, O** 50.54 299 ⇓P P 04 54 41.6 -0.7
baz=50
G15A **Dillon** 50.58 294 ⇓P P 04 54 42.3 -0.3
baz=50
F13A **Darby** 50.67 296 ⇓P P 04 54 42.8 -0.5
baz=50
E11A **Bogner Ranch,** 50.80 298 ⇑P P 04 54 43.0 -1.2
baz=51,SNR=6.7
E10A **Myers Farm, Un** 50.98 299 ⇓P P 04 54 45.0 -0.7
baz=51
D08A **Wollman Farm,** 51.07 300 ⇓P P 04 54 46.0 -0.3
baz=51
H15A **Lima** 51.12 294 ⇓P P 04 54 46.0 -0.6
baz=51
F11A **Grangeville** 51.19 297 ⇑P P 04 54 46.6 -0.6
baz=51
MK31 **Makanchi Array** 51.22 60 *e*P P 04 54 47.0 -0.4
MK31 **Makanchi Array** 51.22 60 *e*P P 04 54 47.0 -0.4
MKAR **Makanchi Array** 51.22 60 P P 04 54 46.5 -0.9
comp=Z,5.9nm,1.1s,mb4.4,baz=337,slow=5.8,SNR=15
MKAR LR LR 05 19 47.4
comp=Z,148nm,18.2s,MS4.0,baz=341,slow=40
MKAR **Makanchi Array** 51.22 60 P P 04 54 46.6 -0.8
MKAR pmax pmax
comp=Z,6.0nm,1.1s
MKAR MLR MLR
comp=Z,148nm,18.2s
MKAR **Makanchi Array** 51.22 60 P P 04 54 46.5 -0.9
MKAR LR LR 05 19 47.4
G13A **Cobalt** 51.24 295 ⇓P P 04 54 47.1 -0.5
baz=51
H14A **Leadore** 51.37 294 ⇑P P 04 54 48.8 +0.2
baz=51,SNR=5.3
F10A **Beach Ranch, E** 51.47 298 ⇑P P 04 54 48.9 -0.4
baz=51
B04A **Port Angeles** 51.65 304 ⇓P P 04 54 50.2 -0.4
baz=51
G11A **Walters Elk Ra** 51.66 297 ⇓P P 04 54 50.3 -0.4
baz=51
BW06 **Boulder Array** 51.66 290 ⇑P P 04 54 50.7 -0.1
baz=52
BW06 **Boulder Array** 51.66 290 *e*P P 04 54 51.7 +0.9
comp=Z,16nm,1.9s,mb4.6
BW06 **Boulder Array** 51.66 290 *e*P P 04 54 51.7 +0.9
comp=Z,16nm,1.9s,mb4.6
PDAR **Pinedale Array** 51.66 290 P P 04 54 50.2 -0.5
comp=Z,1.7nm,1.1s,mb3.9,baz=45,slow=5.0,SNR=7.6
PDAR LR LR 05 16 51.4
comp=Z,615nm,18.1s,MS4.7,baz=33,slow=36
PDAR **Pinedale Array** 51.66 290 P P 04 54 50.2 -0.6
E07A **Sunnyside** 51.82 301 ⇓P P 04 54 51.8 -0.1
baz=52
H12A **Diamond D Ranc** 51.93 296 ⇑P P 04 54 52.2 -0.6
baz=52
I14A **Mackay** 52.00 294 ⇑P P 04 54 53.3 0.0
baz=52
G10A **Bishop Farm, J** 52.04 298 ⇓P P 04 54 53.0 -0.5
baz=52
J15A **Blackfoot** 52.11 293 ⇓P P 04 54 54.4 +0.3
baz=52
F08A **Pendleton** 52.14 299 ⇑P P 04 54 54.0 -0.2
baz=52
H11A **Donnelly** 52.19 297 ⇓P P 04 54 54.1 -0.6
baz=52,SNR=5.7
E06A **Yakima** 52.19 302 ⇓P P 04 54 54.7 0.0
baz=52
I13A **Wildhorse Cree** 52.24 295 ⇓P P 04 54 55.1 0.0
baz=52
G09A **Cove** 52.27 298 ⇓P P 04 54 55.0 -0.2
baz=52
E05A **Randle** 52.43 302 ⇑P P 04 54 55.9 -0.5
baz=52
F07A **Phinny Hill Vi** 52.43 300 ⇓P P 04 54 56.4 0.0
baz=52
BMO **Blue Mountains** 52.49 298 *e*P P 04 54 56.7 -0.2
comp=Z,6.9nm,1.3s,mb4.4
BMO **Blue Mountains** 52.49 298 *e*P P 04 54 56.7 -0.2
comp=Z,6.9nm,1.3s,mb4.4
H10A **Noah's Angus R** 52.53 297 ⇑P P 04 54 56.6 -0.6
baz=52
G08A **Pilot Rock** 52.65 299 ⇓P P 04 54 57.7 -0.3
baz=52
I12A **Atlanta** 52.69 295 ⇓P P 04 54 58.7 +0.3
baz=52
E04A **Onalaska** 52.70 303 ⇑P P 04 54 58.1 -0.3
baz=52
J13A **Cove Ranch, Pi** 52.71 294 ⇑P P 04 54 58.3 -0.3
baz=52
H09A **Durkee** 52.77 298 ⇑P P 04 54 58.6 -0.4
baz=52
F06A **Goldendale** 52.82 301 ⇓P P 04 54 59.2 -0.1
baz=53,SNR=6.1
G07A **Ruggs Ranch, H** 52.90 300 ⇓P P 04 54 59.5 -0.5
baz=53,SNR=6.2
F05A **White Salmon** 52.93 302 ⇓P P 04 54 59.5 -0.6
baz=53
F04A **Amboy** 53.19 302 ⇑P P 04 55 01.8 -0.3
baz=53
G06A **Carlson Farm,** 53.24 301 ⇓P P 04 55 02.4 0.0
baz=53
L15A **Malad City** 53.33 292 ⇑P P 04 55 03.0 -0.1
baz=53
I09A **Lost Marbles R** 53.41 298 ⇓P P 04 55 03.1 -0.6
baz=53
H07A **Lands Inn, Kim** 53.47 299 ⇑P P 04 55 03.9 -0.2
baz=53
L14A **Malta** 53.60 293 ⇑P P 04 55 04.8 -0.3
baz=53
M16A **Huntsville** 53.67 291 ⇑P P 04 55 05.7 0.0
baz=54

N17A **Moffit Pass** 53.72 290 ⇑P P 04 55 05.9 -0.1
baz=54
I07A **Izee** 53.90 299 ⇑P P 04 55 07.2 -0.1
baz=54
K11A **Parker Ranch,** 53.90 295 ⇓P P 04 55 06.9 -0.4
baz=54
J09A **Fry Pan Ranch,** 53.97 297 ⇓P P 04 55 07.3 -0.5
baz=54,SNR=18
G03A **Yamhill** 54.02 303 ⇑P P 04 55 07.8 -0.3
baz=54
K10A **MacKenzie Ranc** 54.18 296 ⇓P P 04 55 09.2 -0.1
baz=54
P19A **Cripple Cowboy** 54.22 288 ⇓P P 04 55 09.7 0.0
baz=54
I06A **Prineville** 54.25 299 ⇑P P 04 55 09.3 -0.6
baz=54
L11A **Cat Creek Ranc** 54.34 295 ⇑P P 04 55 10.7 +0.1
baz=54
O17A **Robinson Place** 54.35 290 ⇑P P 04 55 10.7 +0.1
baz=54
I05A **Bend** 54.40 300 ⇑P P 04 55 10.8 -0.1
baz=54
BGU **Big Grassy Mou** 54.51 292 *e*P P 04 55 13.2 +1.4
BGU **Big Grassy Mou** 54.51 292 *e*P P 04 55 13.2 +1.5
K09A **Rome** 54.54 297 ⇓P P 04 55 11.5 -0.5
baz=54,SNR=13
N14A **Grayback Hills** 54.63 292 ⇑P P 04 55 12.8 +0.1
baz=54
L10A **Juniper Basin** 54.67 295 ⇑P P 04 55 13.0 +0.1
baz=54,SNR=5.1
J06A **Christmas Vall** 54.85 299 ⇓P P 04 55 14.1 -0.1
baz=55,SNR=10
DUG **Dugway** 55.08 291 ⇑P P 04 55 16.2 +0.3
baz=55
DUG **Dugway** 55.08 291 *e*P P 04 55 17.8 +1.9
DUG **Dugway** 55.08 291 *e*P P 04 55 17.8 +1.9
Q18A **Rafter H Ranch** 55.10 289 ⇑P P 04 55 16.5 +0.4
baz=55
J05A **Fort Rock** 55.18 300 ⇑P P 04 55 16.8 +0.2
baz=55,SNR=14
L08A **Fields** 55.20 297 ⇑P P 04 55 16.8 +0.1
baz=55,SNR=6.3
SRU **San Rafael** 55.23 289 ⇓P P 04 55 17.2 +0.1
baz=55
K06A **Valley Falls** 55.29 299 ⇑P P 04 55 17.2 -0.2
baz=55
PV01 **Paradox Valley** 55.40 287 *e*P P 04 55 19.1 +0.8
PV01 **Paradox Valley** 55.40 287 *e*P P 04 55 19.1 +0.9
J04A **Umpqua Nationa** 55.50 301 ⇓P P 04 55 18.9 0.0
baz=55
K05A **Summer Lake** 55.56 299 ⇑P P 04 55 19.6 +0.2
baz=55
WMQ **Urumqi** 55.60 58 ⇑P P 04 55 21.5 +1.9
WMQ AP pP 04 55 26.0 +4.8
WMQ XP sP 04 55 28.5 +6.6
WMQ PPP 04 58 40.5
WMQ S S 05 03 05.5 0.0
WMQ AMB AMB
comp=Z,9.0nm,0.6s,mb5.0
WMQ AMB AMB
comp=Z,156nm,4.4s
WMQ LR LR
comp=N,90nm,19.2s,MS4.0
WMQ LR LR
comp=E,75nm,19.2s,MS4.0
WMQ LR LR
comp=Z,111nm,16.5s,MS4.0
R18A **Canyonlands Na** 55.65 288 ⇑P P 04 55 20.4 +0.3
baz=56
O12A **Currie** 55.69 293 ⇑P P 04 55 20.5 +0.2
baz=56
P14A **Drum Mountains** 55.71 291 ⇓P P 04 55 20.5 +0.1
baz=56
R17A **Hanksville Air** 55.92 289 ⇑P P 04 55 22.1 +0.2
baz=56
MOD **Modoc** 56.11 298 ⇑P P 04 55 23.4 +0.2
baz=56
MOD **Modoc** 56.11 298 *e*P P 04 55 23.9 +0.6
comp=Z,42nm,2.5s,mb5.0
MOD **Modoc** 56.11 298 *e*P P 04 55 23.9 +0.6
comp=Z,42nm,2.5s,mb5.0
O11A **Cowboy Ranch,** 56.12 294 ⇓P P 04 55 23.6 +0.2
baz=56
MVCO **Mesa Verde** 56.20 286 ⇓P P 04 55 24.3 +0.4
baz=56
S18A **Hurst Farm, Bl** 56.31 288 ⇓P P 04 55 25.0 +0.2
baz=56
HUMO **Hull Mountain** 56.34 301 ⇓P P 04 55 24.5 -0.5
baz=56
MSU **Marysvale** 56.35 290 *e*P P 04 55 26.1 +1.0
MSU **Marysvale** 56.35 290 *e*P P 04 55 26.1 +1.0
K02A **Glendale** 56.37 301 ⇑P P 04 55 24.9 -0.3
baz=56
TORD **Torodi Ar. Bea** 56.37 157 P P 04 55 25.8 +0.3
comp=Z,1.9nm,1.1s,mb4.0,baz=318,slow=8.2,SNR=6.6
TORD LR LR 05 20 40.8
comp=Z,66nm,18.7s,MS3.8,baz=15,slow=37
Q13A **Wheeler Ranch,** 56.60 292 ⇓P P 04 55 27.0 +0.2
baz=56
S17A **Black Ridge (B** 56.65 288 ⇓P P 04 55 27.2 +0.1
baz=56
T19A **Beclabito** 56.73 286 ⇓P P 04 55 28.0 +0.2
baz=56
T18A **Mexican Hat** 56.76 287 ⇑P P 04 55 28.4 +0.4
baz=57
O08A **Rochester Mine** 56.83 296 ⇓P P 04 55 28.5 0.0
baz=57
L02A **Cave Junction** 56.95 301 ⇓P P 04 55 28.7 -0.6
baz=57
N06A **Buffalo Meadow** 56.99 297 ⇑P P 04 55 29.3 -0.2
baz=57
YBH **Yreka Blue Hor** 57.05 300 P P 04 55 29.3 -0.7
comp=Z,0.8nm,1.0s,mb3.7,baz=46,slow=6.4,SNR=3.5
YBH **Yreka Blue Hor** 57.05 300 P P 04 55 29.3 -0.7
YBH pmax pmax
comp=Z,1.0nm,1.0s
SONM **Songino Array** 57.25 41 P P 04 55 30.4 -0.9
comp=Z,1.0nm,0.9s,mb3.9,baz=332,slow=8.4,SNR=4.0
SONM LR LR 05 21 21.2
comp=Z,62nm,20.3s,MS3.7,baz=42,slow=38
SONM **Songino Array** 57.25 41 P P 04 55 30.4 -0.9
SONM pmax pmax
comp=Z,1.0nm,0.9s
SONM MLR MLR
comp=Z,62nm,20.3s
Q11A **Duckwater** 57.27 293 ⇑P P 04 55 31.8 +0.3
baz=57,SNR=6.0
R12A **Pony Springs,** 57.37 292 ⇑P P 04 55 32.4 +0.1
baz=57
S14A **Cedar City** 57.37 290 ⇓P P 04 55 32.7 +0.3
baz=57
ULN **Ulaanbaatar** 57.38 41⇑*e*P P 04 55 31.6 -0.6
U18A **Rough Rock, Ch** 57.40 287 ⇓P P 04 55 32.5 0.0
baz=57
M01C **Crescent City** 57.40 301 ⇑P P 04 55 32.4 0.0
baz=57
M02C **Callahan** 57.40 300 ⇑P P 04 55 32.3 -0.2
baz=57
O06A **Flanigan** 57.51 297 ⇓P P 04 55 32.9 -0.3
baz=57
U17A **Shonto** 57.52 288 ⇑P P 04 55 33.5 +0.1
baz=57
Q10A **Clear Creek Ra** 57.55 294 ⇑P P 04 55 33.2 -0.3
baz=57
CCUT **Cedar City** 57.63 290 *e*P P 04 55 35.9 +1.8
CCUT **Cedar City** 57.63 290 *e*P P 04 55 35.9 +1.8
R11A **Troy Canyon, C** 57.69 293 ⇑P P 04 55 34.6 0.0
baz=58,SNR=7.6
S13A **Holt Ranch, En** 57.78 291 ⇑P P 04 55 35.2 0.0
baz=58
O04C **Chester** 57.79 298 ⇑P P 04 55 35.2 0.0
baz=58,SNR=8.3
T14A **Hurricane** 57.97 290 ⇑P P 04 55 36.6 0.0
baz=58
R10A **Warm Springs** 57.99 293 ⇓P P 04 55 36.6 -0.1
baz=58
WDC **Whiskeytown Da** 58.03 300 ⇓P P 04 55 36.7 -0.2
baz=58
Q08A **Gabbs** 58.04 295 ⇓P P 04 55 36.8 -0.2
baz=58
N02C **Big Bar** 58.06 300 ⇑P P 04 55 36.9 -0.2
baz=58,SNR=5.9
U16A **Tuba City** 58.10 288 ⇑P P 04 55 37.7 +0.2
baz=58
WCN **Washoe City** 58.26 297 ⇑P P 04 55 38.7 +0.1
baz=58
T13A **Saint George** 58.30 291 ⇓P P 04 55 39.1 +0.2
baz=58
R09A **Tonopah** 58.30 294 ⇑P P 04 55 39.1 +0.2
baz=58
S10A **Tonopah Range,** 58.42 293 ⇑P P 04 55 39.7 0.0
baz=58
NVAR **Mina Array Bea** 58.55 295 P P 04 55 41.2 +0.6
comp=Z,1.4nm,1.0s,mb3.9,baz=44,slow=3.9,SNR=7.7
NVAR **Mina Array Bea** 58.55 295 P P 04 55 41.2 +0.6
T11A **Corn Creek, Al** 58.56 292 ⇑P P 04 55 41.1 +0.4
baz=58
WUAZ **Wupatki** 58.74 288 ⇑P P 04 55 42.4 +0.5
baz=59
WUAZ **Wupatki** 58.74 288 *e*P P 04 55 43.4 +1.4
WUAZ **Wupatki** 58.74 288 *e*P P 04 55 43.4 +1.4
V15A **Kaibab Nationa** 58.76 289 ⇓P P 04 55 42.4 +0.3
baz=59
OHCM **Honcut** 58.81 298 *e*P P 04 55 42.3 0.0
OHCM **Honcut** 58.81 298 *e*P P 04 55 42.3 0.0
S09A **Goldfield** 58.82 294 ⇓P P 04 55 42.7 +0.3
baz=59
R06C **Coleville** 58.86 296 ⇑P P 04 55 42.9 +0.2
baz=59
WAKR **Walker** 58.87 296 *e*P P 04 55 43.9 +1.1
WAKR **Walker** 58.87 296 *e*P P 04 55 43.9 +1.1
X19A **St. Johns** 58.97 285 ⇓P P 04 55 43.8 +0.2
baz=59
LAVA **Lava Cap Winer** 59.08 297 ⇑P P 04 55 44.2 -0.1
baz=59
PETK **Petropavlovsk-** 59.12 3 P P 04 55 43.5 -0.8
comp=Z,3.2nm,0.8s,mb4.4,baz=26,slow=6.9,SNR=3.4
SHPR **Sheep Range** 59.20 291 *e*P P 04 55 46.5 +1.4
SHPR **Sheep Range** 59.20 291 *e*P P 04 55 46.5 +1.4
V13A **Grand Canyon W** 59.37 290 ⇑P P 04 55 46.9 +0.6
baz=59
MNRC **McLaughlin Nat** 59.54 299 ⇑P P 04 55 47.9 +0.4
baz=59
CMB **Columbia Colle** 59.62 297 *e*P P 04 55 48.7 +0.7
CMB *e* 04 56 37.0
CMB pmax pmax
comp=Z,5.0nm,1.3s,mb4.4
CMB **Columbia Colle** 59.62 297 *e*P P 04 55 48.7 +0.7
comp=Z,4.7nm,1.3s,mb4.4
CMB **Columbia Colle** 59.62 297 *e*PcP PcP 04 56 37.0 +1.9
CMB **Columbia Colle** 59.62 297 *e*P P 04 55 48.7 +0.7
comp=Z,4.7nm,1.3s,mb4.4
CMB *e*PcP PcP 04 56 37.0 +1.9
X16A **Lo Mia Camp, P** 59.76 287 ⇑P P 04 55 49.5 +0.5
baz=60
Y18A **Canyon Day Jun** 59.82 286 ⇑P P 04 55 50.1 +0.7
baz=60
X14A **Yava** 60.23 288 ⇓P P 04 55 53.0 +0.8
baz=60
118A **Homack Ranch,** 60.82 285 ⇓P P 04 55 56.9 +0.6
baz=61
ISA **Isabella** 61.11 294 *e*P P 04 55 59.3 +1.1
ISA pmax pmax
comp=Z,12nm,1.7s,mb4.8
ISA **Isabella** 61.11 294 ⇓P P 04 55 58.5 +0.3
baz=61
ISA **Isabella** 61.11 294 *e*P P 04 55 59.3 +1.1
comp=Z,12nm,1.7s,mb4.7
ISA **Isabella** 61.11 294 *e*P P 04 55 59.3 +1.1
comp=Z,12nm,1.7s,mb4.7
219A **White Tail Can** 61.14 284 ⇓P P 04 55 59.0 +0.5
baz=61
117A **Oracle** 61.16 286 ⇓P P 04 55 59.4 +0.8
baz=61
218A **Dragoon** 61.45 285 ⇑P P 04 56 01.5 +1.0
baz=61
Y12C **Blythe** 61.46 289 ⇓P P 04 56 01.3 +0.7
baz=61
TXAR **Lajitas Array** 61.48 278 P P 04 55 58.9 -1.9
comp=Z,1.8nm,1.0s,mb4.1,baz=46,slow=3.6,SNR=4.7
TXAR LR LR 05 22 22.8
comp=Z,279nm,18.7s,MS4.4,baz=180,slow=36
TXAR **Lajitas Array** 61.48 278 P P 04 55 58.9 -1.9
TXAR pmax pmax
comp=Z,2.0nm,1.0s
TXAR MLR MLR
comp=Z,279nm,18.7s
TXAR **Lajitas Array** 61.48 278 P P 04 55 58.9 -1.9
TXAR LR LR 05 22 22.8
115A **Sonoran Desert** 61.58 287 ⇓P P 04 56 02.1 +0.7
baz=61
BELC **Belle Mtn.** 61.75 291 ⇑P P 04 56 03.3 +0.8
baz=62
BC3 **Big Chuckw Mtn** 61.87 290 ⇑P P 04 56 03.5 +0.1
baz=62
217A **Green Valley** 61.91 285 ⇓P P 04 56 04.4 +0.7
baz=62
318A **Bisbee** 61.91 284 ⇑P P 04 56 04.8 +1.1
baz=62
216A **Three Points,** 61.94 286 ⇓P P 04 56 04.8 +0.9
baz=62
113A **Mohawk Valley,** 62.07 288 ⇓P P 04 56 06.1 +1.3
baz=62
GTA **Gaotai** 63.31 50 *e*P P 04 56 12.5 -0.4
GTA AP pP 04 56 16.0 +1.5
GTA XP sP 04 56 19.0 +3.9
GTA S S 05 04 43.5 -1.6
GTA XS sS 05 04 51.5 +3.7
GTA SS SS 05 08 52.5 +2.0
GTA AMB AMB
comp=Z,7.0nm,1.6s,mb4.5
GTA AMB AMB
comp=Z,101nm,3.8s
GTA LR LR
comp=N,103nm,13.2s,MS4.4
GTA LR LR
comp=E,137nm,14.1s,MS4.4
GTA LR LR
comp=Z,169nm,14.4s,MS4.4
HHC **Hu-ho-hao-te** 65.08 40 *e*P P 04 56 23.8 -0.7
HHC AP pP 04 56 28.8 +2.7
HHC XP sP 04 56 31.8 +5.1
HHC PCP PcP 04 56 57.5 +0.3
HHC PP PP 04 58 48.0 +1.0
HHC SCP 05 00 58.0
HHC S S 05 05 03.0 -4.0
HHC XS sS 05 05 10.3 +0.7
HHC SCS ScS 05 06 14.0 -5.7
HHC SS SS 05 09 15.5 -2.5
HHC AMB AMB
comp=Z,12nm,1.2s,mb4.8
HHC AMB AMB
comp=Z,108nm,5.8s
HHC LR LR
comp=N,190nm,18.7s,MS4.6
HHC LR LR
comp=E,276nm,17.6s,MS4.6
HHC LR LR
comp=Z,139nm,17.6s,MS4.2
CN2 **Changchun** 65.17 28 *e*P P 04 56 24.8 -0.2
BJI **Beijing** 66.92 37 P P 04 56 35.8 -0.5
BJI S S 05 05 26.0 -3.4
BJI SS SS 05 09 41.0 -5.7
BJI AMB AMB
comp=Z,16nm,1.4s,mb4.9
LZH **Lanzhou** 67.55 48 *e*P P 04 56 39.8 -0.6
LZH AP pP 04 56 44.5 +2.5
LZH XP sP 04 56 46.8 +4.2
LZH *e*PP PP 04 59 09.3 +0.6
LZH AMB AMB
comp=Z,17nm,1.4s,mb4.9
LZH AMB AMB
comp=Z,105nm,6.6s
LZH LR LR
comp=E,298nm,15.3s
LZH LR LR
comp=Z,409nm,18.7s,MS4.7
XAN **Xi'an** 70.85 45 P P 04 56 59.0 -1.9
XAN PP PP 04 59 35.3 -2.0
XAN S S 05 06 13.0 -3.2
XAN AMB AMB
comp=Z,7.0nm,1.0s,mb4.5
XAN LR LR
comp=N,37nm,23.0s
XAN LR LR
comp=E,27nm,14.8s
KSRS **Korea Array** 71.77 28 LR LR 05 29 26.4
comp=E,51nm,18.9s,MS3.8,baz=355,slow=37
CD2 **Chengdu** 72.38 50 *e*P P 04 57 10.5 +0.4
CD2 AP pP 04 57 15.3 +3.5
CD2 XP sP 04 57 18.3 +5.9
CD2 PP PP 04 59 52.3 +1.9
CD2 S S 05 06 30.5 -3.4

CD2 XS sS 05 06 38.3 +1.7
CD2 SS SS 05 11 09.0 -2.1
CD2 AMB AMB
comp=Z,10.0nm,0.9s,mb4.8
CD2 LR LR
comp=N,130nm,13.8s
CD2 LR LR
comp=Z,150nm,16.2s,MS4.3
ROSC El Rosal 73.35 240 LR LR 05 24 28.2
comp=Z,75nm,19.1s,MS4.0,baz=28,slow=32
MJAR Matsushiro Arr 74.22 20 P **P** **04 57 19.1 -1.9**
comp=Z,4.2nm,0.9s,mb4.3,baz=339,slow=5.1,SNR=6.1
MJAR Matsushiro Arr 74.22 20 P **P** **04 57 19.1 -1.8**
MJAR pmax pmax
comp=Z,4.0nm,0.9s
OTAV Otavalo 79.03 242 *e*P **P** **04 57 50.3 +1.9**
comp=Z,8.6nm,1.3s,mb4.5
OTAV Otavalo 79.03 242 *e*P **P** **04 57 50.3 +1.9**
comp=Z,8.6nm,1.3s,mb4.5
CMAR Chiang Mai Arr 82.59 58 P **P** **04 58 05.8 -1.6**
comp=Z,1.3nm,0.3s,mb4.4,baz=320,slow=6.5,SNR=8.7
CMAR Chiang Mai Arr 82.59 58 P **P** **04 58 05.8 -1.6**
CMAR pmax pmax
comp=Z,1.0nm,0.3s
ATAH Atahualpa 85.80 240 P **P** **04 58 27.4 +3.7**
comp=Z,4.0nm,0.7s,mb4.8,baz=0.0,slow=7.1,SNR=5.4
BDFB Brasilia 86.22 209 P **P** **04 58 28.0 +2.4**
comp=Z,1.9nm,0.6s,mb4.5,baz=349,slow=4.0,SNR=6.8
BDFB Brasilia 86.22 209 P **P** **04 58 28.0 +2.4**
BDFB pmax pmax
comp=Z,2.0nm,0.6s
ASAR Alice Springs 132.41 36 PKP PKPdf 05 04 56.8 -1.4
comp=Z,0.6nm,0.8s,baz=344,slow=4.0,SNR=4.3
ASAR Alice Springs 132.41 36 PKIKP PKPdf 05 04 56.8 -1.4
ASAR pmax pmax
comp=Z,1.0nm,0.8s

MEX 29 04:51:37.8±0.3, 2477N×11052W, h16km±41km, MD4.4, Baja California

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
LPIG	**La Paz**	**0.69**	**164**	*e*P			Pg	04 51 48.8	-2.5
LPIG				*i* S			Sg	04 51 57.4	-3.0
HPIG		**4.88**	**63**	*i* P			Pn	04 52 48.4	-2.1
HPIG				*i* S			Sn	04 53 42.9	-3.7
ANIG	**Ahuacatlan**	**6.65**	**123**	*i* P			Pn	04 53 15.3	+0.4
ANIG				*i* S			Sn	04 54 28.8	-1.6

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*ISCJB **29** 04:54:34.5±0.5, 2935N±005×9220E±005, h10km, mb4.0/14, Error ellipse: s-maj=8.2km s-min=6.3km az=31.7*
*IDC **29** 04:54:35.0±0.9, 2931N×92.15E, h0km, mb4.0/10, mb1 4.1/12, mb1mx3.9/23, mbtmp3.9/12, ML4.1/2, Error ellipse: s-maj=36.4km s-min=18.0km az=59.0*
*BJI **29** 04:54:37.4, 2950N×9200E, h39km, mb4.3, ML3.8, Ms4.1, Msz3.8*
*MOS **29** 04:54:37.5±1.6, 2939N×9229E, h33km, mb4.2/12, Error ellipse: s-maj=30.0km s-min=11.8km az=126.5*
*NEIC **29** 04:54:40.5±1.7, 2939N×9234E, h40km±20km, mb4.5/2, Error ellipse: s-maj=15.4km s-min=11.1km az=71.0*

ISC 29 04:54:36.7±0.5, 2940N±004×9211E±005, h10km, n35, σ1§18/40, mb4.0/14, Xizang

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
LSA	**Lhasa**	**0.89**	**290**	P			**Pg**	**04 54 53.0**	**-0.8**
LSA				S			**Sg**	**04 55 06.0**	**+0.6**
LSA				Smax					
comp=N,3μm,0.5s									
LSA				Smax					
comp=E,4μm,0.5s									
LSA	**Lhasa**	**0.89**	**290**	*e*Pn			**Pn**	**04 54 53.6**	**-1.7**
LSA				*e*Sn			**Sn**	**04 55 06.7**	**-1.5**
GTK	**Gangtok**	**3.71**	**237**	*e*P			**Pn**	**04 55 34.0**	**0.0**
SHL	**Shillong**	**3.83**	**183**	*e*PN			**Pn**	**04 55 39.0**	**+3.4**
SHL				*i* PG			**Pg**	**04 55 49.0**	**-1.0**
SHL				*i* SN			**Sn**	**04 56 23.0**	**+2.3**
SHL				*i* SG			**Sg**	**04 56 35.5**	**-4.1**
CMAR	**Chiang Mai Arr**	**12.55**	**149**	Pn			**Pn**	**04 57 35.0**	**-0.4**
comp=E,0.6nm,0.3s,baz=324,slow=12,SNR=5.8									
CMAR	**Chiang Mai Arr**	**12.55**	**149**	P			**Pn**	**04 57 35.0**	**-0.4**
CMAR				pmax	pmax				
comp=Z,1.0nm,0.3s									
GYA	**Guiyang**	**13.20**	**99**	P			**Pn**	**04 57 39.3**	**-4.8**
GYA				AMB	AMB				
comp=Z,10.0nm,1.0s									
MKAR	**Makanchi Array**	**18.98**	**339**	P			**Pn**	**04 58 58.8**	**0.0**
comp=Z,0.4nm,0.3s,baz=142,slow=13,SNR=5.3									
KBL	**Kabul**	**20.22**	**291**	*e*P			**P**	**04 59 15.0**	**+3.2**
KBL				pmax	pmax				
comp=Z,76nm,1.0s									
KBL	**Kabul**	**20.22**	**291**	*e*P			**P**	**04 59 15.0**	**+3.3**
comp=Z,76nm,1.0s									
SONM	**Songino Array**	**21.46**	**27**	P			**P**	**04 59 24.9**	**-0.2**
comp=Z,4.8nm,0.9s,mb3.9,baz=214,slow=11,SNR=28									
SONM	**Songino Array**	**21.46**	**27**	P			**P**	**04 59 24.9**	**-0.2**
SONM				pmax	pmax				
comp=Z,5.0nm,0.9s									
ULN	**Ulaanbaatar**	**21.75**	**28**	*e*P			**P**	**04 59 27.0**	**-1.2**
ULN				pmax	pmax				
comp=Z,5.0nm,0.8s,mb4.0									
ULN	**Ulaanbaatar**	**21.75**	**28**	*e*P			**P**	**04 59 27.0**	**-1.2**
comp=Z,5.2nm,0.8s,mb4.0									
ZAK	**Zakamensk**	**22.59**	**19**	*e*P			**P**	**04 59 36.8**	**-0.3**
ZAK				pmax	pmax				
comp=Z,6.0nm,1.2s,mb3.9									
KURK	**Kurchatov**	**23.59**	**338**	P			**P**	**04 59 48.1**	**+0.6**
comp=Z,3.2nm,0.6s,mb3.9,baz=147,slow=10.0,SNR=7.6									
KURK	**Kurchatov**	**23.59**	**338**	P			**P**	**04 59 48.2**	**+0.6**
KURK				pmax	pmax				
comp=Z,3.0nm,0.6s,mb3.9									
ZALV	**Zalesovo Beam**	**25.10**	**350**	P			**P**	**05 00 02.7**	**+1.4**
comp=Z,1.3nm,0.5s,mb3.7,baz=180,slow=6.9,SNR=6.4									
ZALV	**Zalesovo Beam**	**25.10**	**350**	P			**P**	**05 00 02.7**	**+1.4**
ZALV				pmax	pmax				
comp=Z,1.0nm,0.5s,mb3.6									
BVAR	**Borovoye Array**	**28.49**	**332**	P			**P**	**05 00 34.4**	**+2.5**
comp=Z,0.6nm,0.6s,mb3.4,baz=129,slow=11,SNR=2.8									
BVAR	**Borovoye Array**	**28.49**	**332**	P			**P**	**05 00 34.4**	**+2.5**
BVAR				pmax	pmax				
comp=Z,1.0nm,0.6s									
MAK	**Makhachkala**	**38.03**	**303**	*e*P			**P**	**05 01 58.5**	**+3.5**
TIXI	**Tiksi**	**46.78**	**15**	*e*P			**P**	**05 03 04.1**	**-1.8**
TIXI				pmax	pmax				
comp=Z,5.0nm,0.9s,mb4.4									
AKASG	**Malin Array Be**	**50.96**	**313**	P			**P**	**05 03 38.1**	**-0.2**
comp=Z,0.4nm,0.4s,mb3.7,baz=83,slow=6.7,SNR=3.5									
ARCES	**ARCESS Array B**	**54.62**	**337**	P			**P**	**05 04 05.8**	**+0.8**
comp=Z,1.5nm,0.5s,mb4.2,baz=101,slow=6.5,SNR=4.8									
ARCES	**ARCESS Array B**	**54.62**	**337**	P			**P**	**05 04 05.8**	**+0.8**
ARCES				pmax	pmax				
comp=Z,2.0nm,0.5s									
HFS	**Hagfors**	**59.30**	**325**	P			**P**	**05 04 38.1**	**-0.2**
comp=Z,2.4nm,0.8s,mb4.3,baz=101,slow=7.5,SNR=4.8									
HFS	**Hagfors**	**59.30**	**325**	P			**P**	**05 04 38.1**	**-0.2**
HFS				pmax	pmax				
comp=Z,2.0nm,0.8s									
NOA	**NORSAR Array B**	**60.41**	**326**	P			**P**	**05 04 46.3**	**+0.4**
comp=Z,1.1nm,0.7s,mb4.0,baz=83,slow=6.5,SNR=3.0									
NOA	**NORSAR Array B**	**60.41**	**326**	P			**P**	**05 04 46.3**	**+0.4**
NOA				pmax	pmax				
comp=Z,1.0nm,0.7s									
GERES	**GERESS Array B**	**61.15**	**312**	P			**P**	**05 04 51.8**	**+0.6**
comp=Z,0.9nm,0.9s,mb3.9,baz=80,slow=7.3,SNR=5.2									
GERES	**GERESS Array B**	**61.15**	**312**	P			**P**	**05 04 51.8**	**+0.6**
GERES				pmax	pmax				
comp=Z,1.0nm,0.9s									
ASAR	**Alice Springs**	**66.32**	**138**	P			**P**	**05 05 25.0**	**-0.6**
comp=Z,1.4nm,0.6s,mb4.2,baz=324,slow=6.9,SNR=18									
ASAR	**Alice Springs**	**66.32**	**138**	P			**P**	**05 05 25.0**	**-0.6**
ASAR				pmax	pmax				
comp=Z,1.0nm,0.6s									
TORD	**Torodi Ar. Bea**	**84.02**	**282**	P			**P**	**05 07 08.2**	**+0.3**
comp=Z,1.3nm,1.0s,mb4.0,baz=30,slow=3.8,SNR=5.5									

TAP 29 05:01:48.2, 2291N×12108E, h11km, ML3.9, 12C-6D, B, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
TWG	**Pinlang**	**0.09**	**185**	⇓*i*P			Pg	05 01 51.2	+0.5
baz=186									
TWG				S			Sg	05 01 53.2	+0.6
baz=186									
TTN	**Taitung**	**0.17**	**159**	⇑*i*P			Pg	05 01 53.2	+1.2
baz=159									
TTN				*e*S			Sg	05 01 57.2	+2.7
baz=159									
ELDTW	**Lidau**	**0.28**	**348**	⇑*i*P			Pg	05 01 54.4	+0.5
baz=352									
ELDTW				S			Sg	05 01 57.9	+0.2
baz=352									
CHKT	**Chengkung**	**0.32**	**55**	⇓*i*P			Pg	05 01 55.5	+0.9
baz=54									
CHKT				*i* S			Sg	05 02 01.0	+2.1
baz=54									
ECL	**Taimali**	**0.34**	**200**	⇓*i*P			Pg	05 01 54.9	0.0
baz=191									
STYT	**Tauyuan**	**0.39**	**310**	⇑*i*P			Pg	05 01 56.5	+0.7
baz=310									
STYT				*i* S			Sg	05 02 02.1	+1.0
baz=310									
SSD	**Sandimen**	**0.45**	**248**	⇓*i*P			Pg	05 01 57.0	+0.1
baz=254									
TWF1	**Yuli**	**0.48**	**24**	⇓*i*P			Pg	05 01 57.1	-0.5
baz=15									
TWF1				S			Sg	05 02 04.1	+0.1
baz=15									
SGST	**Jiashian**	**0.49**	**290**	*i* P			Pg	05 01 58.9	+1.2
baz=293									
SGST				S			Sg	05 02 06.4	+2.2
baz=293									
WTP	**Ta-pu**	**0.54**	**308**	⇑*i*P			Pg	05 01 60.0	+1.2
baz=308									
WTP				*e*S			Sg	05 02 07.7	+1.7
baz=308									
EAST	**Anshuo**	**0.57**	**202**	⇑*i*P			Pg	05 01 59.1	-0.2
baz=194									
EAST				S			Sg	05 02 06.7	-0.1
baz=194									
CHN1	**Nanshi**	**0.58**	**298**	⇑*i*P			Pg	05 02 01.0	+1.6
baz=306									
CHN1				S			Sg	05 02 10.0	+3.0
baz=306									
TAW	**Tawu**	**0.58**	**197**	*e*P			Pg	05 01 59.0	-0.5
baz=186									
YUS	**Yu-Shan**	**0.58**	**348**	⇑*i*P			Pg	05 02 00.1	+0.6
baz=357									
YUS				S			Sg	05 02 07.5	+0.3
baz=357									
TWM1	**Shoushan**	**0.61**	**262**	*e*P			Pg	05 02 01.6	+1.5
baz=259									
CHN4	**Tsaushan**	**0.62**	**314**	⇑*i*P			Pg	05 02 01.6	+1.3
baz=324									
CHN4				*i* S			Sg	05 02 10.9	+2.4
baz=324									
EHY	**Hungye**	**0.63**	**21**	⇑*i*P			Pg	05 02 00.5	+0.1
baz=10.0									
EHY				*i* S			Sg	05 02 08.5	-0.2
baz=10.0									
ALS	**Alishan**	**0.65**	**337**	⇑*i*P			Pg	05 02 01.4	+0.7
baz=337									
TWK	**Hsinying**	**0.65**	**303**	⇑*i*P			Pg	05 02 02.0	+1.2
baz=303									
TWK				S			Sg	05 02 12.3	+3.0
baz=303									
SCZT	**Fangliau**	**0.69**	**218**	⇓*i*P			Pg	05 02 01.6	+0.1
baz=224									
SCZT				S			Sg	05 02 11.0	+0.5
baz=224									
CHN5	**Tsauling**	**0.77**	**331**	⇑*i*P			Pg	05 02 04.0	+0.8
baz=331									
CHN5				*e*S			Sg	05 02 14.6	+1.3
baz=331									
CHN2	**Minshiung**	**0.83**	**318**	P			Pg	05 02 05.9	+1.7
baz=318									
CHN2				S			Sg	05 02 18.7	+3.6
baz=318									
SCLT	**Jiali**	**0.86**	**288**	*e*P			Pg	05 02 05.9	+1.2
baz=289									
TWP	**Hsiaoliuchiu**	**0.87**	**230**	*e*P			Pg	05 02 07.6	+2.6
baz=223									
TWP				*e*S			Sg	05 02 22.7	+6.3
baz=223									
WGK	**Gukeng**	**0.91**	**328**	*i* P			Pg	05 02 06.9	+1.2
baz=328									
WGK				S			Sg	05 02 21.4	+3.9
baz=328									
CHN8	**Yiju**	**0.91**	**298**	*e*P			Pg	05 02 06.7	+1.0
baz=312									
CHN8				*e*S			Sg	05 02 21.2	+3.7
baz=312									
ESL	**Shilin**	**0.95**	**20**	*e*P			Pg	05 02 06.1	-0.5
baz=27									
ESL				*e*S			Sg	05 02 18.0	-0.9
baz=27									
HEN	**Hengchun**	**0.96**	**199**	*e*P			Pg	05 02 07.3	+0.6
baz=188									
LAY	**Lan-yu**	**0.97**	**153**	*e*P			Pg	05 02 05.1	-1.8
baz=152									
SMLT	**Sun Moon Lake**	**0.98**	**350**	P			Pg	05 02 07.2	+0.1
baz=356									
SMLT				*e*S			Sg	05 02 22.2	+2.4
baz=356									
TWK1	**Hengchun**	**1.00**	**195**	*e*P			Pg	05 02 06.7	-0.8
baz=182									
TYC	**Yuchr**	**1.01**	**348**	*e*P			Pg	05 02 08.0	+0.4
baz=354									
TYC				*e*S			Sg	05 02 23.3	+2.6
baz=354									
TSEB	**Hengchuen, Pin**	**1.02**	**189**	*e*P			Pg	05 02 08.5	+0.6
baz=174									
WNT	**Mingjian**	**1.03**	**339**	*i* P			Pg	05 02 09.1	+1.1
baz=339									
WNT				S			Sg	05 02 24.6	+3.3
baz=339									
WSF	**Szhu**	**1.07**	**313**	*e*P			Pb	05 02 08.8	+0.1
baz=313									
WSF				*e*S			Sg	05 02 25.1	+2.4
baz=313									
WTCT	**Ta-ch'eng**	**1.20**	**322**	*e*P			Pn	05 02 11.0	+0.1
baz=324									
WHF	**Hehuan Shan**	**1.24**	**8**	*e*P			Pn	05 02 10.5	-0.9
baz=7.0									
WHF				*e*S			Sb	05 02 29.1	+1.5
baz=7.0									
TWD	**Chiawan**	**1.25**	**22**	*e*P			Pn	05 02 10.9	-0.7
baz=21									
TWD				*e*S			Sb	05 02 28.4	+0.3
baz=21									
TCU	**Taichung**	**1.28**	**343**	*e*P			Pn	05 02 13.4	+1.3
baz=343									
TCU				*e*S			Sb	05 02 32.0	+3.1
baz=343									
TWQ1	**Liyutan**	**1.46**	**349**	P			Pn	05 02 16.2	+1.7
baz=331									
TWQ1				S			Sn	05 02 36.9	+3.4
baz=331									
NSY	**Sanyi**	**1.52**	**349**	*e*P			Pn	05 02 16.6	+1.2
baz=332									
NSY				*e*S			Sn	05 02 39.9	+4.7
baz=332									
NNS	**Nan Shan**	**1.54**	**10**	*e*P			Pn	05 02 16.9	+1.2
baz=9.0									
NNS				*e*S			Sn	05 02 39.3	+3.6
baz=9.0									
PNG	**Penghu**	**1.55**	**295**	*e*P			Pn	05 02 15.9	+0.2
baz=296									
PNG				*e*S			Sn	05 02 34.5	-1.3
baz=296									
ENA	**Nanau**	**1.62**	**22**	*e*P			Pn	05 02 18.3	+1.5
baz=22									
NSK	**Sanguang**	**1.77**	**8**	*e*P			Pn	05 02 18.6	-0.3
baz=9.0									
NSK				*e*S			Sn	05 02 45.6	+4.2
baz=9.0									
TWC	**Suao**	**1.83**	**22**	*e*P			Pn	05 02 21.0	+1.5
baz=35									
TWC				*e*S			Sn	05 02 45.7	+2.9
baz=35									
TWE	**Neicheng**	**1.88**	**16**	*e*P			Pn	05 02 22.2	+2.0
baz=31									
TWE				*e*S			Sn	05 02 45.8	+1.8
baz=31									
TWA	**Mucha**	**2.11**	**13**	*e*P			Pn	05 02 25.7	+2.3
baz=26									
TWS1	**Kuangyinshan**	**2.20**	**8**	*e*P			Pn	05 02 27.0	+2.3
baz=352									
NWF	**Wu-fen Shan**	**2.24**	**16**	*e*P			Pn	05 02 26.7	+1.5
baz=29									
TWB1	**Santiao Chiao**	**2.24**	**22**	*e*P			Pn	05 02 25.4	+0.1
baz=22									

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*ISCJB **29** 05:06:18.4±4.9, 205N±0.1×1225E±0.1, h18km±33km, mb4.0/13, Error ellipse: s-maj=23.2km s-min=18.3km az=28.9*
*NEIC **29** 05:06:18.9±0.8, 2049N×122.35E, h10km, mb4.5/2, Error ellipse: s-maj=17.2km s-min=13.4km az=98.0*
*BJI **29** 05:06:18.9, 2050N×122.40E, h10km, mB4.4, mb4.5*
*MOS **29** 05:06:20.5±1.1, 2045N×12231E, h33km, mb4.6/2, Error ellipse: s-maj=24.7km s-min=14.4km az=126.9*
*IDC **29** 05:06:28.0±7.3, 2038N×122.17E, h90km±70km, mb3.7/10, mb1 3.8/11, mb1mx3.6/21, mbtmp3.7/11, ML3.6/1, MS3.1/2, Ms1 3.2/2, ms1mx2.8/27, Error ellipse: s-maj=27.7km s-min=22.0km az=71.0*

ISC 29 05:06:21.1±5.2, 205N±01×1224E±01, h24km±36km, n23, σ1§07/22, mb4.0/13, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
NACB	**Ninganchiao**	**3.76**	**349**	*e*Pn			**Pn**	**05 07 15.2**	**-2.4**
YHNB	**Yeheng**	**4.28**	**348**	*e*Pn			**Pn**	**05 07 24.2**	**-0.6**
KSRS	**Korea Array**	**17.61**	**15**	P			**Pn**	**05 10 28.2**	**+3.4**
0.2nm,0.3s,baz=201,slow=12,SNR=7.7									
XAN	**Xi'an**	**18.02**	**321**	P			**Pn**	**05 10 30.5**	**+0.6**
XAN				AP		pP		05 10 38.0	+1.1
XAN				AMB	AMB				
comp=Z,13nm,1.3s									
XAN				AMB	AMB				
comp=Z,92nm,5.3s									
NANT	**Nan**	**20.47**	**269**	P			**P**	**05 11 01.0**	**+3.7**
CHTO	**Chiang Mai**	**22.12**	**270**	*e*P			**P**	**05 11 15.5**	**+0.5**
CHTO				pmax	pmax				
comp=Z,19nm,1.4s,mb4.3									
CHTO	**Chiang Mai**	**22.12**	**270**	*e*P			**P**	**05 11 15.4**	**+0.5**
comp=Z,19nm,1.4s,mb4.3									
CMAR	**Chiang Mai Arr**	**22.17**	**269**	P			**P**	**05 11 15.8**	**+0.3**
comp=Z,1.3nm,0.3s,mb3.8,baz=81,slow=8.8,SNR=4.4									
CMAR				LR		LR		05 19 42.9	
comp=Z,38nm,20.4s,baz=85,slow=36									
LZH	**Lanzhou**	**22.48**	**318**	*e*P			**P**	**05 11 20.0**	**+1.3**
LZH				AP				05 11 30.0	
LZH				XP		sP		05 11 34.5	+6.0
LZH				AMB	AMB				
comp=Z,23nm,1.3s,mb4.5									
LZH				AMB	AMB				
comp=Z,119nm,6.0s									
GUMO	**Guam**	**22.56**	**104**	LR		LR		05 17 51.3	
comp=Z,69nm,20.3s,baz=245,slow=30									
SONM	**Songino Array**	**30.21**	**338**	P			**P**	**05 12 29.1**	**-0.5**
comp=Z,1.8nm,1.0s,mb3.7,baz=154,slow=9.8,SNR=7.7									
MK31	**Makanchi Array**	**41.80**	**318**	*e*P			**P**	**05 14 09.2**	**+0.5**
MKAR	**Makanchi Array**	**41.80**	**318**	P			**P**	**05 14 08.8**	**+0.1**
comp=Z,2.4nm,0.9s,mb3.9,baz=112,slow=9.8,SNR=15									
MKAR	**Makanchi Array**	**41.80**	**318**	P			**P**	**05 14 08.8**	**+0.1**
PETK	**Petropavlovsk-**	**42.40**	**31**	P			**P**	**05 14 15.6**	**+2.1**
comp=Z,4.1nm,0.9s,mb4.0,baz=221,slow=13,SNR=2.9									
ZALV	**Zalesovo Beam**	**43.96**	**329**	P			**P**	**05 14 25.4**	**-0.7**
comp=Z,1.1nm,0.5s,mb3.9,baz=124,slow=7.4,SNR=7.4									
ASAR	**Alice Springs**	**45.28**	**165**	P			**P**	**05 14 36.1**	**-0.8**
comp=Z,0.8nm,0.8s,mb3.6,baz=346,slow=7.4,SNR=4.9									
KURK	**Kurchatov**	**45.66**	**322**	P			**P**	**05 14 39.4**	**-0.3**
comp=Z,3.4nm,0.9s,mb4.3,baz=117,slow=7.9,SNR=11									
BVAR	**Borovoye Array**	**51.25**	**322**	P			**P**	**05 15 21.9**	**-0.8**
comp=Z,1.3nm,0.6s,mb4.0,baz=112,slow=10,SNR=4.4									
BRVK	**Borovoye**	**51.33**	**322**	*e*P			**P**	**05 15 23.4**	**+0.1**
BRVK				pmax	pmax				
comp=Z,3.0nm,0.5s,mb4.5									
BRVK	**Borovoye**	**51.33**	**322**	*e*P			**P**	**05 15 23.4**	**+0.1**
comp=Z,3.4nm,0.5s,mb4.5									
AKASG	**Malin Array Be**	**76.38**	**319**	P			**P**	**05 18 06.8**	**-1.6**
comp=Z,0.8nm,0.7s,mb3.8,baz=62,slow=6.3,SNR=4.8									
YKA	**Yellowknife Ar**	**85.95**	**23**	P			**P**	**05 18 59.2**	**+0.2**
comp=Z,1.9nm,0.9s,mb4.3,baz=313,slow=5.7,SNR=4.5									

IDC 29 05:43:22.0±4.1, 177S×9920E, h0km, mb3.6/4, mb1 3.6/4, mb1mx3.5/18, mbtmp3.6/4, Error ellipse: s-maj=178.5km s-min=29.3km az=58.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**40.03**	**126**	P		P	P	05 50 58.7	-0.4
0.3nm,0.7s,baz=305,slow=7.4,SNR=4.5									
SONM	**Songino Array**	**49.80**	**6**	P		P	P	05 52 16.0	-0.6
0.2nm,0.4s,baz=189,slow=8.2,SNR=3.1									
MKAR	**Makanchi Array**	**50.60**	**345**	P		P	P	05 52 22.4	-0.2
0.2nm,0.5s,baz=150,slow=8.0,SNR=4.4									
ZALV	**Zalesovo Beam**	**56.80**	**350**	P		P	P	05 53 08.2	+0.3
0.7nm,0.4s,baz=165,slow=6.0,SNR=3.9									
TXAR	**Lajitas Array**	**145.00**	**36**	PKPbc		PKPbc	PKPbc	06 03 01.6	+0.3
0.3nm,0.6s,baz=206,slow=0.9,SNR=7.8									

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*IDC **29** 05:46:00.9±1.2, 473S×10652W, h0km, mb3.9/7, mb1 4.3/7, mb1mx4.1/13, mbtmp3.9/7, MS4.4/15, Ms1 4.4/15, ms1mx4.4/17, Error ellipse: s-maj=39.3km s-min=22.2km az=54.0*
*ISCJB **29** 05:46:02.2±0.6, 468S±009×1063W±0.1, h10km, mb4.5/36, MS4.4/15, Error ellipse: s-maj=16.5km s-min=9.5km az=144.4*
*GCMT **29** 05:46:03.8±0.2, 452S×106.18W, h14km±1km, MW5.1/91, Moment Tensor Solution. s53,c81; s91,c161; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-0.78±.13; $M_{\theta\theta}$2.87±.12; $M_{\phi\phi}$-2.10±.13; $M_{r\theta}$2.20±.34; $M_{\theta\phi}$5.00±.11; $M_{\phi r}$-0.41±.25; Best double couple: $M_0$6.02400×10^{16} NP1:ϕ_s13.00000°, δ68.00000°, λ-177.00000°. NP2: ϕ_s282.00000°, δ87.00000°, λ-22.00000°. Principal axes: T 6.3610, Plg13.0000°, Azm330.0000°; N -0.6810, Plg67.0000°, Azm95.0000°; P -5.6870, Plg18.0000°, Azm236.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **29** 05:46:03.8±0.5, 468S×10622W, h10km, mb4.7/30 Error ellipse: s-maj=14.0km s-min=8.4km az=56.0*

ISC 29 05:46:04.2±0.6, 467S±009×1062W±01, h10km, n75, σ0§91/61, mb4.5/36, MS4.4/15, Central East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CMIG	**Matias Romero**	**24.35**	**27**	LR		LR	LR	05 58 39.4	
comp=Z,718nm,18.7s,MS4.2,baz=210,slow=31									
JTS	**JuntasAbangare**	**25.88**	**55**	P			**P**	**05 51 38.3**	**+1.9**
7.8nm,0.9s,mb4.2,baz=260,slow=11,SNR=2.9

comp=Z,224nm,18.1s,MS4.0,baz=103,slow=31

LPAZ	**La Paz**	**39.11**	**110**	P	**P**		**05 53 32.7**	**+0.6**
LPAZ				LR	LR	06 06 09.9		
ANMO	**Albuquerque**	**39.41**	**360**	*e*P	**P**		**05 53 34.4**	**+0.1**
	2.8nm,0.9s,mb4.0							
LVC	**Limon Verde**	**40.23**	**120**	*e*P	**P**		**05 53 41.5**	**+0.2**
	6.6nm,0.9s,mb4.4							
MIAR	**Mount Ida**	**40.79**	**16**	*e*P	**P**		**05 53 46.2**	**+0.4**
	9.4nm,1.0s,mb4.4							
MVCO	**Mesa Verde**	**41.72**	**357**	*e*P	**P**		**05 53 52.2**	**-1.1**
	28nm,1.5s,mb4.7							
ISA	**Isabella**	**41.74**	**345**	*e*P	**P**		**05 53 55.0**	**+1.5**
	26nm,2.0s,mb4.5							
SDCO	**Great Sand Dun**	**42.20**	**1**	*e*P	**P**		**05 53 58.8**	**+1.5**
	12nm,1.5s,mb4.3							
TPNV	**Topopah Spring**	**42.45**	**348**	*e*P	**P**		**05 54 00.8**	**+1.5**
	87nm,2.3s,mb5.0							
PV01	**Paradox Valley**	**42.64**	**357**	*e*P	**P**		**05 54 00.2**	**-0.7**
ARUT	**Antelope Range**	**42.77**	**352**	*e*P	**P**		**05 54 02.3**	**+0.4**
PV10	**Paradox Valley**	**42.91**	**357**	*e*P	**P**		**05 54 02.7**	**-0.3**
MSU	**Marysvale**	**43.32**	**353**	*e*P	**P**		**05 54 07.1**	**+0.8**
MTUM	**Tungsten Hills**	**43.36**	**346**	*e*P	**P**		**05 54 06.9**	**+0.2**
SRU	**San Rafael**	**43.74**	**355**	*e*P	**P**		**05 54 11.0**	**+1.2**
	7.2nm,1.0s,mb4.4							
PPT	**Papeete**	**44.31**	**250**	*e*S	**S**		**06 00 31.9**	**-17**
	169nm,25.5s							
PPT				*e*LR	LR	06 06 37.8		
	1µm,25.5s,baz=75							
PPT	**Papeete**	**44.31**	**250**	LR	LR	06 07 27.2		
	comp=Z,737nm,20.9s,MS4.6,baz=129,slow=29							
NVAR	**Mina Array Bea**	**44.32**	**346**	P	**P**		**05 54 14.2**	**-0.2**
	1.8nm,0.9s,mb3.8,baz=168,slow=9.2,SNR=9.4							
CMB	**Columbia Colle**	**44.48**	**344**	*e*P	**P**		**05 54 15.5**	**-0.2**
	25nm,1.8s,mb4.6							
CFAA	**Coronel Fontan**	**44.56**	**132**	P	**P**		**05 54 16.3**	**-0.2**
	0.1nm,0.5s,baz=289,slow=6.8,SNR=3.1							
CCM	**Cathedral Cave**	**44.73**	**17**	*e*P	**P**		**05 54 17.7**	**0.0**
	11nm,1.2s,mb4.6							
MPU	**Maple Canyon**	**44.74**	**354**	*e*P	**P**		**05 54 17.9**	**+0.1**
	8.6nm,0.9s,mb4.6							
DUG	**Dugway**	**45.05**	**353**	*e*P	**P**		**05 54 20.4**	**+0.2**
	8.5nm,1.2s,mb4.5							
DAU	**Daniels Canyon**	**45.10**	**355**	*e*P	**P**		**05 54 20.6**	**0.0**
JLU	**Jordanelle**	**45.31**	**354**	*e*P	**P**		**05 54 23.9**	**+1.6**
TBI	**Tubuai**	**45.64**	**242**	*e*S	**S**		**06 00 55.2**	**-13**
	158nm,27.0s							
TBI				*e*LR	LR	06 07 22.3		
	1µm,28.0s,baz=78							
BGU	**Big Grassy Mou**	**45.80**	**353**	*e*P	**P**		**05 54 27.3**	**+1.1**
SPUT	**South Promonto**	**46.11**	**353**	*e*P	**P**		**05 54 28.1**	**-0.5**
HWUT	**Hardware Ranch**	**46.31**	**354**	*e*P	**P**		**05 54 31.1**	**+0.9**
	7.4nm,0.9s,mb4.6							
PDAR	**Pinedale Array**	**47.31**	**357**	P	**P**		**05 54 35.8**	**-2.2**
	1.1nm,0.7s,mb3.9,baz=154,slow=5.0,SNR=11							
PDAR				LR	LR	06 11 53.1		
	comp=Z,504nm,18.6s,MS4.5,baz=190,slow=33							
AHID	**Auburn Hatcher**	**47.42**	**355**	*e*P	**P**		**05 54 39.1**	**+0.3**
	12nm,1.4s,mb4.6							
RRI2	**Red Ridge**	**48.02**	**355**	*e*P	**P**		**05 54 42.3**	**-1.1**
	4.5nm,0.8s,mb4.5							
MOD	**Modoc**	**48.10**	**346**	*e*P	**P**		**05 54 45.2**	**+1.1**
	12nm,1.3s,mb4.8							
TPAW	**Teton Pass**	**48.13**	**355**	*e*P	**P**		**05 54 44.4**	**0.0**
	5.3nm,0.9s,mb4.6							
LOHW	**Long Hollow**	**48.22**	**356**	*e*P	**P**		**05 54 45.2**	**+0.2**
	14nm,1.5s,mb4.8							
MOOW	**Moose Ponds**	**48.37**	**356**	*e*P	**P**		**05 54 45.3**	**-0.9**
	5.1nm,1.2s,mb4.4							
IMW	**Indian Meadow**	**48.53**	**355**	*e*P	**P**		**05 54 46.4**	**-1.1**
	18nm,1.4s,mb4.9							
YBH	**Yreka Blue Hor**	**48.57**	**344**	P	**P**		**05 54 46.6**	**-1.2**
	2.1nm,0.8s,mb4.2,baz=127,slow=6.0,SNR=6.2							
HLID	**Hailey**	**48.58**	**352**	*e*P	**P**		**05 54 47.4**	**-0.3**
	11nm,1.3s,mb4.7							
RSSD	**Black Hills**	**48.61**	**2**	*e*P	**P**		**05 54 48.4**	**+0.4**
	11nm,1.3s,mb4.7							
QLMT	**Earthquake Lak**	**49.50**	**355**	*e*P	**P**		**05 54 56.2**	**+1.4**
MCMT	**McKenzie Canyo**	**49.63**	**354**	*e*P	**P**		**05 54 55.9**	**0.0**
HRY	**Holter Researc**	**51.40**	**355**	*e*P	**P**		**05 55 08.1**	**-1.1**
HAWA	**Hanford**	**52.20**	**348**	*e*P	**P**		**05 55 15.9**	**+0.8**
	19nm,1.5s,mb4.8							
DGMT	**Dagmar**	**52.95**	**2**	*e*P	**P**		**05 55 21.0**	**+0.4**
	13nm,0.9s,mb4.9							
OD2	**Odessa Site #2**	**53.00**	**349**	*e*P	**P**		**05 55 20.5**	**-0.6**
NEW	**Newport**	**53.57**	**351**	*e*P	**P**		**05 55 25.6**	**+0.4**
	11nm,1.3s,mb4.6							
ULM	**Lac du Bonnet**	**55.43**	**8**	LR	LR	06 17 35.2		
	comp=Z,673nm,19.8s,MS4.7,baz=216,slow=34							
EDM	**Edmonton**	**57.99**	**355**	*e*P	**P**		**05 55 56.5**	**-0.4**
BDFB	**Brasilia**	**58.16**	**105**	LR	LR	06 18 34.4		
	comp=Z,250nm,18.8s,MS4.3,baz=351,slow=33							
DLBC	**Dease Lake**	**65.74**	**347**	*e*P	**P**		**05 56 47.5**	**-1.4**
YKA	**Yellowknife Ar**	**67.28**	**356**	P	**P**		**05 56 55.9**	**-2.8**
	1.4nm,0.8s,mb4.1,baz=155,slow=5.0,SNR=3.4							
YKA				LR	LR	06 24 00.6		
	comp=Z,204nm,18.9s,MS4.4,baz=180,slow=34							
YKA	**Yellowknife Ar**	**67.28**	**356**	P	**P**		**05 56 55.9**	**-2.8**
YKA				LR	LR	06 24 00.6		
KTH	**Kantishna Hill**	**75.83**	**341**	*e*P	**P**		**05 57 48.8**	**-1.4**
	11nm,0.8s,mb4.8							
COLD	**Coldfoot**	**78.19**	**344**	*e*P	**P**		**05 58 03.5**	**0.0**
	8.8nm,1.1s,mb4.6							
PETK	**Petropavlovsk-**	**97.37**	**323**	LR	LR	06 35 17.2		
	comp=Z,220nm,21.8s,MS4.6,baz=84,slow=30							
MKAR	**Makanchi Array**	**137.40**	**351**	PKhKP		06 05 19.8		
	0.2nm,0.5s,baz=102,slow=16,SNR=3.5							
MKAR				PKP	PKPdf	06 05 28.1		-0.2
	0.2nm,0.5s,baz=298,slow=3.1,SNR=3.9							
MKAR	**Makanchi Array**	**137.40**	**351**	PKP		06 05 19.8		
MKAR				PKP	PKPdf	06 05 28.1		-0.2
CMAR	**Chiang Mai Arr**	**151.86**	**301**	PKPbc	PKPbc	06 05 58.7		-1.6
	2.4nm,0.4s,baz=80,slow=2.2,SNR=9.2							
CMAR				PKPab	PKPab	06 06 05.4		-4.0
	1.4nm,0.3s,baz=68,slow=1.5,SNR=8.7							

CSEM ***29*** *05:55:37.9±0.3, 3903N×4105E, h15km, MD2.8, Error ellipse: s-maj=7.8km s-min=5.0km az=153.0*
ISK ***29*** *05:55:38.0, 3902N×4107E, h15km, MD2.8*
DDA ***29*** *05:55:38.1, 3901N×4108E, h14km±4km, Md3.0*
ISCJB ***29*** *05:55:39.4±0.5, 3903N±003×4109E±004, h10km, Error ellipse: s-maj=5.1km s-min=3.6km az=21.5*

ISC 29 05:55:39.0±0.7,**3902N**±003×**4109E**±005,**h6**km±7km,**n12,**
σ1¶**12**/21,**1D, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ERZM	**Erzurum**	**0.91**	**13**	*i* P	**Pg**	**05 55 55.8**	**-0.7**
ERZM				*i* S	**Sg**	**05 56 07.9**	**-0.5**
EZM	**Erzurum**	**0.91**	**13**	*e*PG	**Pg**	**05 55 55.5**	**-1.0**
EZM				*e*SG	**Sg**	**05 56 09.3**	**+1.0**
KOPT	**Kop Dagi**	**1.10**	**335**	*e*P	**Pg**	**05 55 59.5**	**-0.7**
KOPT				*e*S	**Sg**	**05 56 15.6**	**+1.2**
BEST	**Besiri**	**1.13**	**173**	*e*P	**Pg**	**05 56 00.6**	**-0.2**
BEST				*e*S	**Sg**	**05 56 16.6**	**+1.2**
HOMI	**Horasan**	**1.20**	**31**	*e*P	**Pg**	**05 56 01.7**	**-0.4**
HOMI				*e*S	**Sg**	**05 56 18.2**	**+0.5**
EZC	**Erzincan**	**1.23**	**307**	*e*PN	**Pn**	**05 56 04.6**	**+1.8**
PTK	**Pertek**	**1.33**	**265**	*e*PN	**Pn**	**05 56 02.3**	**-1.9**
PTK				*e*SN	**Sn**	**05 56 20.7**	**-1.5**
TUTA	**Tutak**	**1.39**	**73**	*e*P	**Pn**	**05 56 03.8**	**-1.2**
TUTA				*e*S	**Sb**	**05 56 24.5**	**+1.1**
SVRC	**Sivrice-ELAZID**	**1.54**	**246**	*e*PN	**Pn**	**05 56 05.6**	**-1.4**
AGRB	**Hanur-Agry**	**1.57**	**69**	*e*PN	**Pn**	**05 56 06.6**	**-0.9**
MARD	**Mardin**	**1.72**	**188**	⇓*i* P	**Pn**	**05 56 09.5**	**0.0**
MARD				*i* S	**Sn**	**05 56 32.5**	**+0.8**
KEMA	**Kemaliye**	**2.04**	**278**	*e*P	**Pn**	**05 56 14.8**	**+1.0**
KEMA				*e*S	**Sn**	**05 56 42.0**	**+2.4**

MOS ***29*** *06:18:57.1±2.1, 4947N×15795E, h8km, mb4.2/1, Error ellipse: s-maj=53.9km s-min=13.7km az=85.7*

KRSC 29 06:18:57.9±1.4,**4942N**×**15802E**,**h5**km±5km,**ML4.1,1C,**
East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**1.76**	**317**	*e*PN	Pn	06 19 20.4	-8.6
SKR				pmax	pmax		
	comp=N,40nm,0.4s						
SKR				pmax	pmax		
	comp=Z,80nm,0.4s						
RUS	**Russkaya**	**3.03**	**6**	*e*P	Pn	06 19 47.9	+1.4
RUS				*i* S	Sn	06 20 23.8	+0.7
GRL	**Gorelyy**	**3.14**	**1**	P	Pn	06 19 49.4	+1.5
PET	**Petropavlovsk**	**3.63**	**6**	⇑*i* PN	Pn	06 19 56.4	+1.7
PET				*e*S	Sn	06 20 39.5	+1.6
PET				pmax	pmax		
	comp=Z,46nm,0.5s						
PET				smax			
	comp=E,66nm,0.5s						
PET				smax			
	comp=N,52nm,0.4s						
PET	**Petropavlovsk**	**3.63**	**6**	P	Pn	06 19 56.7	+2.0
PET				*i* S	Sn	06 20 39.1	+1.2
NLC	**Nalytchevo**	**3.85**	**12**	*e*P	Pn	06 19 59.2	+1.5
NLC				*i* S	Sn	06 20 43.7	+0.5
SDLR	**Sedlovina**	**3.90**	**8**	*e*P	Pn	06 20 00.4	+2.0
SDLR				*i* S	Sn	06 20 47.0	+2.5
GNL	**Ganaly**	**4.28**	**359**	P	Pn	06 20 04.9	+1.3
KII	**Karymskiy**	**4.71**	**10**	P	Pn	06 20 12.9	+3.4
MKZ	**Mys Kozlova**	**5.63**	**23**	*e*P	Pn	06 20 25.2	+3.0
MKZ				*i* S	Sn	06 21 29.3	+2.2
TUMR	**Tumrok**	**6.01**	**12**	P	Pn	06 20 29.6	+2.2
KMNR	**Kamenistaya**	**6.49**	**11**	P	Pn	06 20 37.5	+3.6
KBTR	**Krutoberegovo**	**7.39**	**21**	P	Pn	06 20 49.1	+2.8
KBTR				*i* S	Sn	06 22 09.1	-1.4

IDC 29 06:31:55.0±2.2,**4603N**×**15327E**,**h0**km,**mb3.8/5,**
mb1 4.1/6,mb1mx3.8/20,mbtmp3.8/6,ML3.2/1,MS3.9/2,
Ms1 4.0/2,ms1mx3.0/24,Error ellipse: s-maj=64.0km
s-min=28.6km az=5.0,Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PETK	**Petropavlovsk-**	**7.65**	**20**	Pn	Pn	06 33 46.2	-1.3
	0.3nm,0.3s,baz=186,slow=12,SNR=3.2						
MKAR	**Makanchi Array**	**47.37**	**298**	P	P	06 40 29.5	-1.0
	1.2nm,0.8s,baz=64,slow=8.2,SNR=6.8						
MKAR				LR	LR	07 02 57.6		
	comp=Z,144nm,20.0s,baz=2.4,slow=39						
CMAR	**Chiang Mai Arr**	**52.31**	**257**	LR	LR	07 03 22.0		
	comp=Z,105nm,20.6s,baz=62,slow=36						
NVAR	**Mina Array Bea**	**62.68**	**62**	P	P	06 42 21.4	+0.1
	0.5nm,0.8s,baz=285,slow=6.5,SNR=4.3						
PDAR	**Pinedale Array**	**65.09**	**54**	P	P	06 42 37.4	+0.3
	0.7nm,0.8s,baz=37,slow=0.7,SNR=5.2						
NOA	**NORSAR Array B**	**68.95**	**341**	P	P	06 43 02.6	+1.3
	0.5nm,0.6s,baz=36,slow=4.4,SNR=2.5						
TXAR	**Lajitas Array**	**77.75**	**61**	P	P	06 43 54.1	+0.3
	1.4nm,0.6s,baz=297,slow=4.1,SNR=21						

ATH ***29*** *06:33:53.5, 3881N×2066E, h20km±3km, MD3.2/4*
NEIC ***29*** *06:33:53.5, 3881N×2066E, h20km, MD3.2(ATH), After ATH.*
CSEM ***29*** *06:33:53.8±0.3, 3882N×2061E, h15km, ML3.1/3, Error ellipse: s-maj=11.4km s-min=5.8km az=89.0*
THE ***29*** *06:33:53.2, 3886N×2043E, h0km±4km, ML3.1/3, Error ellipse: s-maj=5.6km s-min=1.2km az=275.0*
ISCJB ***29*** *06:33:54.5±0.6, 3881N±004×2065E±007, h22km±5km, Error ellipse: s-maj=9.1km s-min=6.2km az=0.0*

ISC 29 06:33:54.3±0.7,**3883N**±004×**2067E**±007,**h17**km±4km,**n18,**
σ1¶**06**/31,**Greece**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LKD	**Levkas**	**0.12**	**185**	P	**Pg**	**06 33 57.7**	**-0.3**
LKD				S	**Sg**	**06 34 00.9**	**+0.4**
VLS	**Valsamata**	**0.65**	**185**	P	**Pb**	**06 34 06.3**	**-0.9**
VLS				S	**Sb**	**06 34 17.2**	**+1.2**
VLS	**Valsamata**	**0.65**	**185**	*e*Pn	**Pn**	**06 34 06.5**	**-2.3**
VLS				*e*Sn	**Sb**	**06 34 15.5**	**-0.5**
VLS				S	**Sb**	**06 34 17.2**	**+1.2**
VLS	**Valsamata**	**0.65**	**185**	*e*Pn	**Pn**	**06 34 06.5**	**-2.3**
VLS				*e*Sn	**Sb**	**06 34 15.5**	**-0.5**
VLS	**Valsamata**	**0.65**	**185**	*e*PN	**Pn**	**06 34 06.5**	**-2.3**
VLS				*e*SN	**Sb**	**06 34 15.5**	**-0.5**
KFL	**Anninata**	**0.72**	**172**	P	**Pb**	**06 34 07.9**	**-0.6**
KFL				S	**Sb**	**06 34 19.8**	**+1.7**
EVR	**Evrytania**	**0.90**	**84**	*e*Pn	**Pn**	**06 34 11.2**	**-1.0**
EVR				*e*Sn	**Sn**	**06 34 23.8**	**-1.0**
EVR	**Evrytania**	**0.90**	**84**	*e*PN	**Pn**	**06 34 11.2**	**-1.0**
EVR				*e*SN	**Sn**	**06 34 23.8**	**-1.0**
MEV	**Metsovon**	**1.05**	**24**	P	**Pb**	**06 34 13.9**	**-0.2**
KEK	**Kerkira**	**1.11**	**323**	*e*Pn	**Pn**	**06 34 14.8**	**-0.3**
KEK				*e*Sn	**Sn**	**06 34 30.7**	**+0.7**
KEK	**Kerkira**	**1.11**	**323**	*e*PN	**Pn**	**06 34 14.8**	**-0.3**
KEK				*e*SN	**Sn**	**06 34 30.7**	**+0.7**
THL	**Klokotos Trika**	**1.28**	**54**	P	**Pn**	**06 34 20.1**	**+2.6**
THL				S	**Sn**	**06 34 40.5**	**+6.3**
THL	**Klokotos Trika**	**1.28**	**54**	*e*Pn	**Pn**	**06 34 17.7**	**+0.2**
THL	**Klokotos Trika**	**1.28**	**54**	P	**Pn**	**06 34 20.1**	**+2.6**
THL	**Klokotos Trika**	**1.28**	**54**	*e*PN	**Pn**	**06 34 17.7**	**+0.2**
AGG	**Agios Georgios**	**1.31**	**81**	P	**Pn**	**06 34 19.2**	**+1.3**
AGG				S	**Sn**	**06 34 41.7**	**+6.7**
ITM	**Ithomi**	**1.92**	**148**	*e*Pn	**Pn**	**06 34 27.3**	**+1.0**
ITM	**Ithomi**	**1.92**	**148**	*e*PN	**Pn**	**06 34 27.3**	**+1.0**

ISCJB ***29*** *06:36:13.8±1.5, 278N±0.1×1414E±02, h43km±16km, mb3.8/11, Error ellipse: s-maj=33.5km s-min=13.3km az=148.5*
IDC ***29*** *06:36:15.1±1.8, 2782N×14153E, h40km±20km, mb3.6/11, mb1 3.8/12, mb1mx3.7/19, mbtmp3.6/12, ML4.0/1, Error ellipse: s-maj=32.8km s-min=15.2km az=55.0*

ISC 29 06:36:15.6±1.3,**278N**±01×**1415E**±02,**h46**km±14km,**n14,**
σ0**59**/14,**mb3.8**/11,**Bonin Islands region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CBIJ	**Chichi jima**	**0.94**	**140**	P	**Pn**	**06 36 33.0**	**+0.5**
	820nm,0.3s,baz=244,slow=16,SNR=334						
CBIJ				S	**Sn**	**06 36 44.2**	**-0.7**
	583nm,0.3s,baz=289,slow=21,SNR=20						
MJAR	**Matsushiro Arr**	**9.13**	**343**	P	**Pn**	**06 38 25.1**	**+0.4**
	1.5nm,0.3s,baz=233,slow=19,SNR=4.4						
SONM	**Songino Array**	**33.77**	**316**	P	**P**	**06 42 52.1**	**-0.8**
	0.3nm,0.4s,mb3.6,baz=127,slow=6.7,SNR=2.8						
SONM				PcP	PcP	06 45 31.2	-0.1
	0.3nm,0.5s,baz=151,slow=3.3,SNR=2.5						
ZALV	**Zalesovo Beam**	**48.54**	**319**	P	**P**	**06 44 54.1**	**+0.1**
	0.4nm,0.3s,mb3.9,baz=91,slow=7.2,SNR=2.4						
ZALV				PcP	PcP	06 46 19.8	+0.6
	0.4nm,0.4s,baz=90,slow=3.1,SNR=4.2						
MKAR	**Makanchi Array**	**49.55**	**309**	P	**P**	**06 45 01.6**	**-0.2**
	0.3nm,0.6s,mb3.5,baz=91,slow=12,SNR=2.7						
ASAR	**Alice Springs**	**51.71**	**189**	P	**P**	**06 45 19.0**	**+0.8**
	0.3nm,0.6s,mb3.4,baz=360,slow=5.3,SNR=5.3						
BVAR	**Borovoye Array**	**57.10**	**317**	P	**P**	**06 45 56.3**	**-0.9**
	0.9nm,0.5s,mb4.1,baz=79,slow=7.7,SNR=4.2						
YKA	**Yellowknife Ar**	**71.80**	**28**	P	**P**	**06 47 32.3**	**-0.7**
	0.5nm,0.5s,mb3.7,baz=298,slow=6.4,SNR=3.1						
ARCES	**ARCESS Array B**	**72.66**	**341**	P	**P**	**06 47 39.1**	**+1.1**
	5.0nm,0.9s,mb4.4,baz=38,slow=4.6,SNR=6.9						
NVAR	**Mina Array Bea**	**80.55**	**52**	P	**P**	**06 48 23.8**	**+0.6**
	0.4nm,0.6s,mb2.5,baz=288,slow=8,SNR=5.8						
AKASG	**Malin Array Be**	**81.67**	**324**	P	**P**	**06 48 29.1**	**+0.1**
	0.6nm,0.4s,mb3.9,baz=54,slow=5.3,SNR=5.0						
NOA	**NORSAR Array B**	**82.72**	**338**	P	**P**	**06 48 34.2**	**0.0**
	1.1nm,0.8s,mb4.0,baz=43,slow=4.6,SNR=3.2						
GERES	**GERESS Array B**	**90.58**	**329**	P	**P**	**06 49 12.6**	**-0.3**
	0.3nm,0.4s,mb4.0,baz=38,slow=6.8,SNR=3.6						
LPAZ	**La Paz**	**150.32**	**73**	PKPbc	PKPbc	06 56 03.7	+1.2
	0.5nm,0.3s,baz=311,slow=1.5,SNR=3.7						

ISCJB ***29*** *07:10:09.4±2.0, 352N±0.1×2701E±009, h8km±15km, Error ellipse: s-maj=25.9km s-min=6.6km az=154.9*
CSEM ***29*** *07:10:11.2±0.3, 3527N×2698E, h15km, MD3.5, Error ellipse: s-maj=8.4km s-min=2.5km az=152.0*
NEIC ***29*** *07:10:12.5, 3554N×2688E, h15km, MD3.5(ATH), After ATH.*
ATH ***29*** *07:10:12.5, 3554N×2688E, h15km±5km, MD3.5/6*

ISC 29 07:10:09.4±1.8,**351N**±01×**2702E**±009,**h9**km±9km,**n20,**
σ1¶**34**/26,**Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KARP	**Karpathos**	**0.43**	**15**	*e*Pb	**Pg**	**07 10 17.6**	**-0.1**
KARP	**Karpathos**	**0.43**	**15**	*e*PB	**Pg**	**07 10 17.6**	**-0.1**
NPS	**Neapolis**	**1.16**	**277**	*e*Pn	**Pn**	**07 10 32.5**	**+0.7**
NPS				*e*Sn	**Sn**	**07 10 47.2**	**-0.5**
NPS	**Neapolis**	**1.16**	**277**	*e*PN	**Pn**	**07 10 32.5**	**+0.7**
NPS				*e*SN	**Sn**	**07 10 47.2**	**-0.5**
ARG	**Arkhangelos**	**1.40**	**39**	*e*Pn	**Pn**	**07 10 36.1**	**+1.0**
ARG				*e*Sn	**Sn**	**07 10 51.9**	**-1.8**
ARG	**Arkhangelos**	**1.40**	**39**	*e*PN	**Pn**	**07 10 36.1**	**+1.0**
ARG				*e*SN	**Sn**	**07 10 51.9**	**-1.8**
BDRM	**Kayabasi**	**1.96**	**10**	*i* P	**Pn**	**07 10 39.8**	**-2.9**
BDRM	**Kayabasi**	**1.96**	**10**	*i* S	**Sn**	**07 11 09.3**	**+1.9**
TURN	**Turunc**	**2.16**	**36**	*i* P	**Pn**	**07 10 42.4**	**-3.1**
TURN	**Turunc**	**2.16**	**36**	*i* P	**Pn**	**07 10 42.4**	**-3.0**
TURN				*i* S	**Sn**	**07 11 11.9**	**-0.4**
APE	**Apeiranthos**	**2.28**	**328**	*e*Pn	**Pn**	**07 10 46.4**	**-0.7**
APE	**Apeiranthos**	**2.28**	**328**	*e*PN	**Pn**	**07 10 46.4**	**-0.7**
VAM	**Vamos**	**2.33**	**278**	*e*Pb	**Pb**	**07 10 50.0**	**-1.4**
VAM	**Vamos**	**2.33**	**278**	*e*PB	**Pb**	**07 10 50.0**	**-1.4**
AYDN	**Tasoluk**	**2.62**	**15**	*i* P	**Pn**	**07 10 53.5**	**+1.8**
AYDN	**Tasoluk**	**2.62**	**15**	*i* P	**Pn**	**07 10 53.5**	**+1.8**
AYDN				*i* S	**Sn**	**07 11 23.3**	**-0.3**
GOLH	**Golhisar**	**2.94**	**44**	*i* P	**Pn**	**07 10 57.5**	**+1.4**
VLI	**Veliai**	**3.67**	**297**	*e*Pn	**Pn**	**07 11 08.0**	**+1.7**
VLI	**Veliai**	**3.67**	**297**	*e*PN	**Pn**	**07 11 08.0**	**+1.7**
BALY	**Balya**	**4.62**	**6**	*i* P	**Pn**	**07 11 19.0**	**-0.3**

NIED ***29*** *07:18:00, 2660N×12880E, h20km, Mw4.2 Best double couple: M0 2.55000×10^15 NP1:φ0=48.00000°, δ0.00000°, λ110.00000°. NP2:φ0=164.00000°, δ22.00000°, λ28.00000°.*
IDC ***29*** *07:18:17.9±3.1, 2638N×12836E, h0km, mb4.3/6, mb1 4.2/7, mb1mx4.0/20, mbtmp4.2/7, MS3.5/5, Ms1 3.5/5, ms1mx2.8/32, Error ellipse: s-maj=79.7km s-min=20.2km az=99.0*
ISCJB ***29*** *07:18:20.7±1.0, 2651N±004×12883E±004, h30km±7km, mb4.3/6, MS3.5/3, Error ellipse: s-maj=7.5km s-min=5.0km az=154.6*
JMA ***29*** *07:18:21.7±0.2, 2655N×12879E, h23km±2km, M4.0*
JMA Felt I J1.
NEIC ***29*** *07:18:21.2±2.3, 2631N×12854E, mb4.5/3, MW4.2(NIED), Error ellipse: s-maj=88.9km s-min=25.2km az=73.0*
NEIC Recorded [1 JMA] on Okinawa.

ISC 29 07:18:20.9±1.1,**2649N**±004×**12882E**±004,**h23**km±8km,
n28,σ0**89**/33,**mb4.3**/6,**MS3.5**/3,**Ryukyu Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JOW	**Kunigami**	**0.59**	**305**	Pn	**Pn**	**07 18 32.1**	**-1.8**
	2µm,0.3s,baz=129,slow=19,SNR=6594						
JOW				Sn	**Sb**	**07 18 40.4**	**-0.4**
	2µm,0.3s,baz=117,slow=25,SNR=34						
JOW	**Kunigami**	**0.59**	**305**	P	**Pb**	**07 18 32.3**	**-0.4**
JOW				*e*S	**Sb**	**07 18 39.5**	**-1.2**
JIH	**Iheya**	**0.94**	**306**	P	**Pb**	**07 18 38.2**	**-0.3**
JIH				*e*S	**Sb**	**07 18 50.2**	**-0.3**
JJT2	**Tamagusuku 2**	**1.02**	**250**	P	**Pn**	**07 18 40.2**	**+0.4**
JJT2				*e*S	**Sb**	**07 18 53.3**	**+0.3**
NAH1	**Naha**	**1.05**	**254**	P	**Pn**	**07 18 40.5**	**+0.3**
NAH1				*e*S	**Sb**	**07 18 54.3**	**+0.4**
JTK	**Tokunoshima**	**1.29**	**5**	P	**Pn**	**07 18 43.8**	**+0.2**
JTK				*e*S	**Sn**	**07 18 59.2**	**-1.0**
JAGN	**Aguni-jima**	**1.42**	**274**	P	**Pn**	**07 18 45.8**	**+0.6**
JAGN				*e*S	**Sn**	**07 19 04.4**	**+1.2**
JKE	**Kume jima 2**	**1.83**	**265**	P	**Pn**	**07 18 50.5**	**-0.5**
JAM	**Amami Oshima**	**2.04**	**20**	P	**Pn**	**07 18 53.9**	**+0.1**
JAM				*e*S	**Sn**	**07 19 18.4**	**-0.1**
JZK	**Kikaishima**	**2.08**	**29**	*e*S	**Sn**	**07 19 20.8**	**+1.1**
JMZ	**Minamidaito 2**	**2.26**	**107**	P	**Pn**	**07 18 57.3**	**+0.5**
JMZ				*e*S	**Sn**	**07 19 22.9**	**-1.0**
JNN	**Nakanoshima**	**3.46**	**15**	P	**Pn**	**07 19 14.9**	**+1.5**
KSRS	**Korea Array**	**10.96**	**356**	Pn	**Pn**	**07 20

MK31					⇓Lg			07 55 36.6	
	10nm,1.1s,baz=12,slow=32,SNR=4.0								
VOSK	**Vostochnaya**	**9.87**	**269**		⇑Pn	Pn		07 53 42.3	-3.6
	2.4nm,1.1s								
VOSK					⇑Sn	Sn		07 55 32.9	-4.3
	9.3nm,1.2s								

*ISCJB **29** 08:02:22.7±1.1,3964N∟004×2058E±005,h1km±8km, Error ellipse: s-maj=6.3km s-min=6.0km az=167.9*
*ATH **29** 08:02:23.1,3968N×2068E,h31km±1km,MD3.4/5*
*NEIC **29** 08:02:23.1,3968N×2068E,h31km,MD3.4(ATH),After ATH.*
*CSEM **29** 08:02:24.5±0.2,3972N×2068E,h12km,MD3.4, Error ellipse: s-maj=5.7km s-min=4.5km az=94.0*
*THE **29** 08:02:25.1,3975N×2068E,h0km±2km,ML3.5/6,Error ellipse: s-maj=2.4km s-min=0.9km az=278.0*

ISC 29 08:02:24.4±0.9,3963N±003×2062E±005,h13km±4km,n30, σ1⁹37/52,Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JAN	**Janina**	**0.18**	**81**	*e*Pb		**Pg**	**08 02 28.8**	**+0.3**
JAN				*e*Sb		**Sg**	**08 02 32.5**	**+1.1**
JAN	**Janina**	**0.18**	**81**	*e*PB		**Pg**	**08 02 28.8**	**+0.3**
JAN				*e*SB		**Sg**	**08 02 32.5**	**+1.1**
MEV	**Metsovon**	**0.50**	**71**	P		**Pg**	**08 02 33.2**	**-0.9**
MEV				S		**Sg**	**08 02 40.0**	**-0.8**
KEK	**Kerkira**	**0.64**	**278**	*e*Pn		**Pn**	**08 02 37.2**	**-1.9**
KEK	**Kerkira**	**0.64**	**278**	*e*PN		**Pn**	**08 02 37.2**	**-1.9**
LKD	**Levkas**	**0.92**	**178**	P		**Pb**	**08 02 44.4**	**+2.2**
LKD				S		**Sg**	**08 03 00.7**	**+6.5**
THL	**Klokotos Trika**	**1.08**	**93**	P		**Pb**	**08 02 44.3**	**-0.6**
THL				S		**Sb**	**08 02 59.7**	**+0.8**
THL	**Klokotos Trika**	**1.08**	**93**	*e*Pn		**Pn**	**08 02 43.4**	**-1.8**
THL	**Klokotos Trika**	**1.08**	**93**	P		**Pb**	**08 02 44.3**	**-0.6**
THL				*e*Sn		**Sn**	**08 02 58.0**	**-2.0**
THL				S		**Sb**	**08 02 59.7**	**+0.8**
THL	**Klokotos Trika**	**1.08**	**93**	*e*PN		**Pn**	**08 02 43.4**	**-1.8**
THL				*e*SN		**Sn**	**08 02 58.0**	**-2.0**
KZN	**Kozani**	**1.11**	**52**	*e*Pn		**Pn**	**08 02 43.1**	**-2.5**
KZN				*e*Sn		**Sn**	**08 02 57.5**	**-3.3**
KZN	**Kozani**	**1.11**	**52**	*e*PN		**Pn**	**08 02 43.1**	**-2.5**
KZN				*e*SN		**Sn**	**08 02 57.5**	**-3.3**
EVR	**Evrytania**	**1.17**	**127**	*e*Pn		**Pn**	**08 02 45.5**	**-0.8**
EVR	**Evrytania**	**1.17**	**127**	*e*PN		**Pn**	**08 02 45.5**	**-0.8**
FNA	**Florina**	**1.29**	**26**	P		**Pn**	**08 02 46.6**	**-1.5**
FNA				S		**Sb**	**08 03 04.5**	**-0.5**
VLS	**Valsamata**	**1.45**	**181**	*e*Pn		**Pn**	**08 02 49.8**	**-0.4**
VLS	**Valsamata**	**1.45**	**181**	*e*PN		**Pn**	**08 02 49.8**	**-0.4**
AGG	**Agios Georgios**	**1.46**	**114**	P		**Pn**	**08 02 51.7**	**+1.3**
AGG				S		**Sn**	**08 03 13.2**	**+3.9**
OHR	**Ohrid**	**1.49**	**5**	*i* Pn		**Pn**	**08 02 51.0**	**+0.3**
OHR				*i* Sn		**Sn**	**08 03 12.7**	**+2.7**
OHR	**Ohrid**	**1.49**	**5**	*i* Pn		**Pn**	**08 02 51.0**	**+0.2**
OHR				*i* Sn		**Sn**	**08 03 12.6**	**+2.6**
BIA	**Bitola**	**1.49**	**21**	*i* Pn		**Pn**	**08 02 49.7**	**-1.1**
BIA				*i* Sn		**Sn**	**08 03 10.9**	**+0.8**
BIA	**Bitola**	**1.49**	**21**	*i* Pn		**Pn**	**08 02 49.6**	**-1.2**
BIA				*i* Sn		**Sn**	**08 03 10.9**	**+0.8**
LIT	**Litokhoron**	**1.52**	**71**	P		**Pn**	**08 02 51.2**	**+0.1**
LIT				S		**Sn**	**08 03 12.3**	**+1.6**
RLS	**Riolos of Patr**	**1.70**	**157**	*e*Pn		**Pn**	**08 02 54.4**	**+0.7**
RLS	**Riolos of Patr**	**1.70**	**157**	*e*PN		**Pn**	**08 02 54.4**	**+0.7**
KRUS	**Krusevo**	**1.80**	**15**	*i* Pn		**Pn**	**08 02 56.5**	**+1.3**
KRUS				*i* Sn		**Sn**	**08 03 20.2**	**+2.4**
KRUS	**Krusevo**	**1.80**	**15**	*i* Pn		**Pn**	**08 02 56.4**	**+1.3**
KRUS				*i* Sn		**Sn**	**08 03 20.2**	**+2.4**
GRG	**Griva**	**1.90**	**45**	P		**Pn**	**08 02 56.3**	**-0.2**
GRG				S		**Sn**	**08 03 21.8**	**+1.5**
VAY	**Valandovo**	**2.25**	**41**	*i* Pn		**Pn**	**08 03 02.8**	**+1.5**
VAY				*i* Sn		**Sn**	**08 03 27.4**	**-1.5**
VAY	**Valandovo**	**2.25**	**41**	*i* Pn		**Pn**	**08 03 02.7**	**+1.4**
VAY				*i* Sn		**Sn**	**08 03 27.3**	**-1.6**

*ISCJB **29** 08:12:20.2±0.3,1166S∟006×7322W±006,h28km, mb4.5/28,MS4.0/13,Error ellipse: s-maj=10.5km s-min=6.2km az=140.0*
*NEIC **29** 08:12:21.2±0.3,1175S×73.19W,mb4.7/21,Error ellipse: s-maj=12.9km s-min=7.0km az=51.0*
*IDC **29** 08:12:22.1±3.7, 1169S×7320W,h33km±29km, mb4.1/12, mb1 4.3/16,mb1mx4.2/22,mbtmp4.2/16,ML4.8/3,MS4.0/16, Ms1 4.0/16,ms1mx3.8/25,Error ellipse: s-maj=20.7km s-min=14.1km az=59.0*

ISC 29 08:12:21.5±2.3,1167S±005×7309W±005,h24km±16km, h24km±1.6km:pP-P,n77,σ1⁹08/67,mb4.5/28,MS4.0/13, Central Peru

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NNA	**Nana**	**3.69**	**265**	Pn		**Pn**	**08 13 17.2**	**+0.1**
	44nm,0.3s,baz=91,slow=9.7,SNR=131							
NNA				Sn		**Sn**	**08 14 02.1**	**+2.4**
	71nm,0.3s,baz=202,slow=21,SNR=4.2							
NNA				LR		LR	08 14 55.7	
	comp=Z,4μm,18.9s,baz=70,slow=43							
NNA	**Nana**	**3.69**	**265**	*e*Pn		**Pn**	**08 13 16.9**	**-0.1**
NNA				*e*Sn		**Sn**	**08 14 00.5**	**+0.7**
LPAZ	**La Paz**	**6.65**	**134**	Pn		**Pn**	**08 14 01.9**	**+4.2**
	1.4nm,0.3s,baz=312,slow=11,SNR=61							
LPAZ				Lg			08 15 50.3	
	77nm,0.3s,baz=185,slow=20,SNR=12							
LPAZ	**La Paz**	**6.65**	**134**	*e*Pn		**Pn**	**08 14 01.6**	**+3.8**
LPAZ				*e*Sn		Sn	08 15 50.2	+37
ATAH	**Atahualpa**	**7.00**	**311**	Pn		**Pn**	**08 14 01.7**	**-0.8**
	14nm,0.3s,baz=148,slow=11,SNR=45							
ATAH				Sn		**Sn**	**08 15 27.0**	**+5.6**
	0.9nm,0.3s,baz=204,slow=18,SNR=2.6							
ATAH				LR		LR	08 16 18.6	
	comp=Z,205nm,18.3s,baz=317,slow=35							
LVC	**Limon Verde**	**11.59**	**160**	*e*Pn		**Pn**	**08 15 02.6**	**-2.9**
	5.4nm,0.5s							
SIV	**San Ignacio**	**12.43**	**112**	Pn		**Pn**	**08 15 16.5**	**-0.6**
	5.9nm,0.3s,baz=295,slow=11,SNR=152							
SIV				Sn		**Sn**	**08 17 33.4**	**-1.5**
	5.3nm,0.3s,baz=315,slow=16,SNR=2.9							
SIV				Lg			08 18 48.0	
	17nm,0.3s,baz=35,slow=23,SNR=5.7							
OTAV	**Otavalo**	**12.98**	**335**	*e*Pn		**Pn**	**08 15 24.8**	**+0.3**
ROSC	**El Rosal**	**16.47**	**356**	Pn		**Pn**	**08 16 11.7**	**+0.6**
	0.8nm,0.3s,baz=104,slow=15,SNR=5.2							
ROSC				Lg			08 21 00.2	
	0.7nm,0.3s,baz=244,slow=24,SNR=4.9							
ROSC				LR		LR	08 23 00.3	
	comp=Z,989nm,18.0s,baz=193,slow=39							
ROSC	**El Rosal**	**16.47**	**356**	Pn		**Pn**	**08 16 11.7**	**+0.6**
ROSC				Lg			08 21 00.2	
CFAA	**Coronel Fontan**	**20.34**	**168**	P		**P**	**08 16 56.4**	**+0.3**
	1.7nm,0.7s,baz=343,slow=9.7,SNR=24							
CFAA				LR		LR	08 24 32.4	
	comp=Z,50nm,21.5s,MS2.8,baz=136,slow=36							
SDV	**Santo Domingo**	**20.57**	**7**	P		**P**	**08 17 00.6**	**+2.0**
	7.1nm,0.5s,baz=247,slow=10,SNR=15							
SDV				Lg			08 23 17.5	
	15nm,0.8s,baz=114,slow=12,SNR=3.9							
SDV	**Santo Domingo**	**20.57**	**7**	*e*P		**P**	**08 17 03.1**	**+4.4**
	7.7nm,0.7s							
PCRV	**Puerto La Cruz**	**23.27**	**21**	P		**P**	**08 17 28.6**	**+1.0**
	12nm,1.0s,mb4.3,baz=197,slow=5.4,SNR=2.7							
PCRV				Lg			08 24 32.4	
	19nm,1.1s,baz=207,slow=9.0,SNR=3.8							
PCRV				LR		LR	08 26 14.7	
	comp=Z,416nm,21.9s,MS3.9,baz=8.8,slow=36							
BDFB	**Brasilia**	**24.68**	**102**	P		**P**	**08 17 42.0**	**+1.3**
	4.3nm,0.7s,mb4.1,baz=254,slow=18,SNR=7.4							
BDFB				Lg			08 25 28.0	
	15nm,1.0s,baz=9.1,slow=24,SNR=2.6							
BDFB	**Brasilia**	**24.68**	**102**	*e*P		**P**	**08 17 42.0**	**+1.3**
	24nm,0.7s,mb4.8							
JTS	**JuntasAbangare**	**24.80**	**331**	LR		LR	08 26 28.6	
	comp=Z,200nm,22.0s,MS3.6,baz=9.2,slow=34							
PLCA	**Paso Flores**	**29.03**	**176**	P		**P**	**08 18 19.7**	**0.0**
	11nm,0.9s,mb4.6,baz=347,slow=13,SNR=23							
PLCA				LR		LR	08 28 14.0	
	comp=Z,248nm,21.4s,MS3.8,baz=357,slow=33							
PLCA	**Paso Flores**	**29.03**	**176**	*e*P		**P**	**08 18 19.2**	**-0.5**
	10nm,0.8s,mb4.6							
TXAR	**Lajitas Array**	**50.33**	**325**	P		**P**	**08 21 15.4**	**-1.0**
	2.4nm,0.7s,mb4.3,baz=151,slow=8.9,SNR=24							
LAZ	**Ladron**	**56.08**	**326**	*e*P		**P**	**08 21 58.4**	**-0.4**
ANMO	**Albuquerque**	**56.12**	**327**	*e*P		**P**	**08 22 01.0**	**+1.9**
	2.3nm,0.8s,mb4.3							
SDCO	**Great Sand Dun**	**57.79**	**330**	*e*P		**P**	**08 22 10.2**	**-0.6**
	4.7nm,0.9s,mb4.5							
PV01	**Paradox Valley**	**59.64**	**328**	*e*P		**P**	**08 22 23.5**	**-0.2**
PV10	**Paradox Valley**	**60.07**	**328**	*e*P		**P**	**08 22 26.8**	**+0.2**
PFO	**Pinyon Flat Ob**	**61.08**	**319**	*e*P		**P**	**08 22 33.6**	**-0.1**
	5.7nm,1.0s,mb4.7							
RSSD	**Black Hills**	**62.25**	**335**	*e*P		**P**	**08 22 41.0**	**-0.3**
	2.3nm,0.7s,mb4.4							
GSC	**Goldstone**	**62.39**	**320**	*e*P		**P**	**08 22 44.2**	**+1.8**
	7.9nm,1.4s,mb4.7							
DAU	**Daniels Canyon**	**62.73**	**328**	*e*P		**P**	**08 22 43.6**	**-1.0**
DAU				*ep*P		pP	08 22 51.5	-0.8
TPNV	**Topopah Spring**	**63.12**	**322**	*e*P		**P**	**08 22 46.7**	**-0.6**
	6.0nm,0.9s,mb4.7							
TPNV				*ep*P		pP	08 22 55.1	+0.1
TPNV				*es*P		sP	08 23 02.0	+4.1
DUG	**Dugway**	**63.39**	**327**	*e*P		**P**	**08 22 47.6**	**-1.4**
	7.3nm,0.9s,mb4.8							
PDAR	**Pinedale Array**	**63.63**	**331**	P		**P**	**08 22 49.4**	**-1.1**
	0.5nm,0.7s,mb3.6,baz=202,slow=37,SNR=1.7							
PDAR				LR		LR	08 51 33.7	
	comp=Z,127nm,19.9s,MS4.1,baz=292,slow=37							
ISA	**Isabella**	**63.67**	**320**	*e*P		**P**	**08 22 50.5**	**-0.5**
	5.3nm,1.0s,mb4.5							
ISA				*ep*P		pP	08 22 58.2	-0.5
HWUT	**Hardware Ranch**	**63.76**	**329**	*e*P		**P**	**08 22 49.6**	**-1.8**
	5.6nm,0.8s,mb4.7							
HWUT				*ep*P		pP	08 22 57.3	-1.8
ULM	**Lac du Bonnet**	**64.81**	**344**	P		**P**	**08 22 58.1**	**0.0**
	5.7nm,0.9s,mb4.6,baz=149,slow=5.9,SNR=3.1							
ULM				LR		LR	08 53 35.6	
	comp=Z,120nm,18.3s,MS4.1,baz=212,slow=38							
RRI2	**Red Ridge**	**64.92**	**330**	*e*P		**P**	**08 23 00.4**	**+1.4**
	8.9nm,0.8s,mb4.8							
NVAR	**Mina Array Bea**	**65.32**	**322**	P		**P**	**08 23 00.4**	**-1.3**
	1.4nm,0.8s,mb4.1,baz=151,slow=7.4,SNR=10.0							
YMR	**Madison River**	**65.74**	**331**	*e*P		**P**	**08 23 04.7**	**+0.4**
	7.0nm,0.8s,mb4.7							
HLID	**Hailey**	**66.63**	**328**	*e*P		**P**	**08 23 10.0**	**0.0**
	2.6nm,0.8s,mb4.3							
MCMT	**McKenzie Canyo**	**66.76**	**330**	*e*P		**P**	**08 23 10.5**	**-0.3**
PAHR	**Pah Rah Range**	**66.78**	**323**	*e*P		**P**	**08 23 08.9**	**-2.1**
	17nm,1.3s,mb4.9							
HRY	**Holter Researc**	**67.67**	**332**	*e*P		**P**	**08 23 17.6**	**+1.0**
MSO	**Missoula**	**68.74**	**331**	*e*P		**P**	**08 23 23.8**	**+0.6**
	5.9nm,1.2s,mb4.4							
BMO	**Blue Mountains**	**69.02**	**328**	*e*P		**P**	**08 23 28.8**	**+3.8**
	1.5nm,0.8s,mb4.0							
LIC	**Lamto**	**69.99**	**79**	*e*P		**P**	**08 23 34.3**	**+2.6**
	39nm,1.0s,mb5.3							
YBH	**Yreka Blue Hor**	**70.02**	**323**	LR		LR	08 54 13.0	
	comp=Z,41nm,19.9s,MS3.7,baz=134,slow=36							
TIC	**Toumodi**	**70.10**	**79**	*e*P		**P**	**08 23 35.2**	**+2.8**
	264nm,1.7s							
DBIC	**Dimbokro**	**70.27**	**79**	P		**P**	**08 23 33.0**	**-0.4**
	7.2nm,0.9s,mb4.6,baz=64,slow=10.0,SNR=5.7							
DBIC				LR		LR	08 52 41.4	
	comp=Z,315nm,18.8s,MS4.6,baz=241,slow=34							
KIC	**Kosan Boka**	**70.30**	**79**	*e*P		**P**	**08 23 36.4**	**+2.8**
	123nm,1.0s							
VNA3	**Neumayer Olymp**	**70.61**	**162**	*e*		**P**	**08 23 34.8**	**+0.4**
VNA3				*e*		pP	08 23 41.2	-1.1
VNA3				*e*			08 23 45.1	
VNA1	**Neumayer--Stat**	**70.83**	**161**	*e*		**P**	**08 23 37.2**	**+1.4**
VNA1				*e*		pP	08 23 43.2	-0.4
VNA1				*e*			08 23 46.6	
VNA2	**Neumayer--Watz**	**71.19**	**162**	*e*		**P**	**08 23 38.1**	**+0.1**
	baz=295,slow=7.8							
VNA2				*e*		pP	08 23 44.2	-1.6
VNA2				*e*			08 23 48.4	
RSW	**Rattlesnake Hi**	**71.24**	**328**	*e*P		**P**	**08 23 38.8**	**+0.2**
OD2	**Odessa Site #2**	**71.46**	**329**	*e*P		**P**	**08 23 40.6**	**+0.7**
ETW	**Entiat**	**72.42**	**329**	*e*P		**P**	**08 23 44.5**	**-1.2**
SNAA	**Sanae**	**72.82**	**162**	*e*		**P**	**08 23 47.9**	**+0.2**
SNAA				*e*		pP	08 23 53.2	-2.4
SNAA				*e*		pP	08 23 56.9	+1.3
SNAA	**Sanae**	**72.82**	**162**	*e*P		**P**	**08 23 47.7**	**0.0**
	7.1nm,0.9s,mb4.6							
EDM	**Edmonton**	**73.21**	**336**	*e*P		**P**	**08 23 50.3**	**+0.1**
PPT	**Papeete**	**73.82**	**255**	LR		LR	08 47 39.8	
	comp=Z,116nm,18.8s,MS4.2,baz=234,slow=29							
TOA0	**Torodi Ar. Sit**	**78.17**	**74**	*e*P		**P**	**08 24 18.8**	**-0.6**
TORD	**Torodi Ar. Bea**	**78.17**	**74**	P		**P**	**08 24 18.9**	**-0.5**
	178nm,0.3s,baz=272,slow=5.8,SNR=1.6							
TORD				LR		LR	08 59 10.9	
	comp=Z,195nm,18.2s,MS4.5,baz=260,slow=36							
YKA	**Yellowknife Ar**	**80.65**	**342**	P		**P**	**08 24 30.9**	**-1.0**
	1.7nm,0.7s,mb4.1,baz=172,slow=34,SNR=3.9							
YKA				LR		LR	09 04 47.7	
	comp=Z,39nm,18.2s,MS3.8,baz=35,slow=39							
YKA	**Yellowknife Ar**	**80.65**	**342**	P		**P**	**08 24 30.9**	**-1.0**
YKA				LR		LR	09 04 47.7	
ESDC	**Sonseca Array**	**81.86**	**47**	LR		LR	08 57 41.8	
	comp=Z,169nm,18.4s,MS4.4,baz=270,slow=33							
DLBC	**Dease Lake**	**83.68**	**334**	*e*P		**P**	**08 24 47.2**	**-0.7**
SUMG	**Summit**	**87.07**	**10**	*e*P		**P**	**08 25 04.4**	**-0.2**
	5.6nm,0.7s,mb4.9							
BOSA	**Boshof**	**91.67**	**120**	LR		LR	09 03 35.3	
	comp=Z,148nm,19.3s,MS4.4,baz=68,slow=34							
MAW	**Mawson**	**94.83**	**164**	P		**P**	**08 25 40.7**	**-0.3**
	3.3nm,1.0s,mb4.7,baz=272,slow=11,SNR=5.0							
ZAA0	**Zalesovo Array**	**134.32**	**18**	*e*PKPdf		PKPdf	08 31 36.4	-0.8
ZALV	**Zalesovo Beam**	**134.32**	**18**	PKP		PKPdf	08 31 36.6	-0.6
	3.1nm,0.7s,baz=274,slow=2.4,SNR=14							
ASAR	**Alice Springs**	**136.06**	**217**	PKP		PKPdf	08 31 38.5	-3.0
	0.5nm,0.7s,baz=129,slow=2.5,SNR=4.3							
MKAR	**Makanchi Array**	**139.28**	**26**	PKP		PKPdf	08 31 45.1	-1.6
	0.5nm,0.7s,baz=276,slow=1.3,SNR=3.2							
MJAR	**Matsushiro Arr**	**142.49**	**317**	PKhKP			08 31 48.5	
	1.8nm,0.7s,baz=83,slow=1.5,SNR=5.1							
SONM	**Songino Array**	**143.95**	**1**	PKP		PKPdf	08 31 53.1	-1.8
	1.5nm,0.7s,baz=319,slow=1.8,SNR=11							
KAKA	**Kakadu**	**144.95**	**227**	*e*PKPpre			08 31 48.9	
KAKA				*e*PKPdf		PKPdf	08 31 56.1	-1.6
KSRS	**Korea Array**	**148.15**	**327**	PKPbc		PKPbc	08 32 02.6	-3.0
	5.8nm,1.0s,baz=31,slow=3.0,SNR=9.4							
CMAR	**Chiang Mai Arr**	**169.77**	**48**	PKP		PKPdf	08 32 27.9	0.0
	1.8nm,0.3s,baz=270,slow=1.8,SNR=2.4							

CASC 29 08:13:21.2±2.4,1325N×8989W,h57km±28km,MD4.0, 5C-11D,El Salvador

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SBLS	**San Blas**	**0.65**	**24**	⇓*i*P	x	08 13 34.1	
SNJE	**San Jose**	**0.68**	**24**	⇓*i*P	x	08 13 34.6	
RTR	**El Retiro**	**0.69**	**20**	⇓*i*P	x	08 13 35.0	
BOQS	**Boqueron**	**0.77**	**51**	⇑*i*P	x	08 13 36.0	
SNET	**Serv Nac Est T**	**0.78**	**56**	⇓*e*P	x	08 13 35.7	
SNET				*e*S	x	08 13 50.9	
RBDL	**Robledal**	**0.89**	**13**	⇓*i*P	x	08 13 37.8	
LFRS	**El Faro**	**0.89**	**65**	⇓*i*P	x	08 13 37.4	
LFU	**La Fuente**	**0.91**	**56**	⇑*e*P	x	08 13 37.9	
LBRS	**Las Brisas**	**0.96**	**59**	⇓*i*P	x	08 13 38.6	
MTO2	**Montecristo 2**	**1.26**	**24**	⇓*i*P	x	08 13 42.8	
MTO2				*e*S	x	08 13 59.2	
PCG	**Pacaya**	**1.34**	**329**	⇑*e*P	Pn	08 13 44.7	+1.1
PCG				*e*S	Sn	08 14 01.4	+1.0
NBG	**Las Nubes**	**1.41**	**342**	⇓*e*P	Pn	08 13 46.4	+1.9
FUG	**Fuego 3**	**1.51**	**323**	*e*P	Pn	08 13 46.8	+0.8
VSM	**San Miguel**	**1.59**	**83**	*e*P	x	08 13 47.2	
VSM				*e*S	x	08 14 07.0	
FG6		**1.62**	**324**	⇑*e*P	Pn	08 13 48.5	+1.1
FG6				*e*S	Sn	08 14 07.4	+0.1
BLLM	**Bellamira**	**1.62**	**83**	⇑*e*P	x	08 13 47.9	
BLLM				*e*S	x	08 14 09.0	
CAHU	**Cacacuatique**	**1.72**	**72**	*e*P	x	08 13 49.3	
MRL	**Marmol**	**1.82**	**6**	*e*P	Pn	08 13 51.5	+1.3
JAT	**Jato**	**2.00**	**302**	*e*P	Pn	08 13 54.2	+1.6
CNCH	**Conchagua**	**2.01**	**89**	⇓*e*P	x	08 13 53.1	
CNCH				*e*S	x	08 14 16.5	
TGUH	**Tegucigalpa,Un**	**2.67**	**72**	⇓*i*P	Pn	08 14 02.1	+0.2
COPN	**Copaltepe**	**3.39**	**108**	*e*P	Pn	08 14 13.2	+1.5
COPN				*e*S	Sn	08 14 50.3	-0.4

*KNET **29** 08:43:01.6±0.6,4218N×7540E,h13km±3km,ml2.2, Error ellipse: s-maj=4.0km s-min=2.4km az=104.0*
*ISCJB **29** 08:43:02.2±1.0,4215N∟007×7543E±006,h12km±8km, Error ellipse: s-maj=12.4km s-min=7.1km az=167.2*
*NNC **29** 08:43:03.5±3.8,4229N×7541E,h18km±31km, mb3.2, mpv2.9,Error ellipse: s-maj=53.0km s-min=19.0km az=121.0*

ISC 29 08:43:02.8±1.0,4217N∟004×7538E±006,h8km±6km,n11, σ0⁹89/20,12C-7D,Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KZA	**Kyzart**	**0.13**	**227**	P		**Pg**	**08 43 05.6**	**-0.1**
	89nm,0.1s,SNR=586							
KZA				⇑S		**Sg**	**08 43 08.5**	**+0.9**
	2μm,0.1s							
KBK	**Karagaybulak**	**0.58**	**327**	⇓P		**Pg**	**08 43 14.2**	**+0.1**
	68nm,0.1s,SNR=56							
KBK				⇓S		**Sg**	**08 43 22.9**	**+1.1**
	540nm,0.2s							
UCH	**Uchtor**	**0.65**	**275**	⇑P		**Pg**	**08 43 14.9**	**-0.4**
	8.3nm,0.2s,SNR=8.1							
UCH				⇓S		**Sg**	**08 43 24.7**	**+0.9**
	25nm,0.1s							
TKM2	**Tokmak 2**	**0.77**	**12**	⇑P		**Pg**	**08 43 16.7**	**-0.9**
	38nm,0.2s							
TKM2				⇓S		**Sg**	**08 43 27.1**	**-0.5**
	70nm,0.3s							
TKM2	**Tokmak 2**	**0.77**	**12**	P		**Pg**	**08 43 16.7**	**-0.9**
	125nm,0.1s,SNR=406							
TKM2				⇑S		**Sg**	**08 43 27.2**	**-0.4**
	244nm,0.1s							
AAK	**Ala-Archa**	**0.81**	**306**	⇓P		**Pg**	**08 43 18.0**	**-0.3**
	44nm,0.2s,SNR=51							
AAK				⇑S		**Sg**	**08 43 29.4**	**+0.6**
	240nm,0.4s							
CHMS	**Chumysh**	**0.95**	**331**	P		**Pg**	**08 43 20.4**	**-0.7**
	23nm,0.1s,SNR=39							
CHMS				⇑S		**Sg**	**08 43 33.5**	**0.0**
	92nm,0.1s							
AML	**Almayashu**	**1.25**	**269**	⇑P		**Pn**	**08 43 26.0**	**-0.6**
	18nm,0.1s,SNR=12							
USP	**Ospenovka**	**1.27**	**330**	⇓P		**Pn**	**08 43 26.1**	**-0.9**
	27nm,0.2s,SNR=14							
USP				⇑S		**Sb**	**08 43 43.8**	**+0.2**
	45nm,0.1s							
KK31	**Karatay Array**	**3.71**	**286**	⇑Pg		**Pg**	**08 44 12.4**	**-1.6**
	0.7nm,0.3s,baz=103,slow=16,SNR=25							
KK31				⇑Lg			08 44 58.4	
	2.0nm,0.3s,baz=100,slow=30,SNR=7.0							
MK31	**Makanchi Array**	**6.77**	**45**	⇓Pn		**Pn**	**08 44 45.4**	**+3.1**
	0.1nm,0.2s							
MK31				⇑Sn		**Sn**	**08 46 00.8**	**+1.3**
	0.6nm,0.6s							
MK31				⇑Lg			08 46 30.0	
	0.7nm,0.6s							

IDC 29 08:49:19.1±1.4,343N×12559E,h0km,mb3.9/5,mb1 4.0/5, mb1mx3.8/16,mbtmp3.9/5,MS3.0/1,Ms1 3.0/1, ms1mx2.1/29,Error ellipse: s-maj=205.5km s-min=19.6km az=66.0,Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DAV	**Davao City (W)**	**3.62**	**360**	LR	LR	08 51 52.0	
	comp=Z,189nm,19.6s,baz=175,slow=42						
ASAR	**Alice Springs**	**28.12**	**164**	P		08 55 13.4	+0.4
	0.4nm,0.4s,baz=341,slow=8.3,SNR=13						
STKA	**Stephens Creek**	**38.27**	**158**	P		08 56 40.8	-0.4
	3.4nm,0.4s,baz=331,slow=10,SNR=9.7						
SONM	**Songino Array**	**47.23**	**342**	P		08 57 54.0	+0.3
	0.3nm,0.5s,baz=142,slow=7.3,SNR=2.6						
MKAR	**Makanchi Array**	**57.16**	**326**	P		08 59 07.8	+0.1
	0.8nm,0.5s,baz=122,slow=8.2,SNR=11						
KURK	**Kurchatov**	**61.38**	**328**	P		08 59 36.7	-0.2
	1.8nm,0.6s,baz=128,slow=6.2,SNR=4.0						

*CSEM **29** 08:52:16.7±0.3,3909N×

CONE	Cono NE Rev Vo	1.58	1	⇓P		Pn	09 23 35.1	+0.1
GGP	Refugio Guagua	1.74	328	⇓P		Pn	09 23 36.6	+0.3
TERV	Terraza Guagua	1.74	328	P		Pn	09 23 36.7	+0.3
TERV	Terraza Guagua	1.74	328	S		S	09 24 09.1	+2.0
CAYA	Cayambe	1.75	350	⇓P		Pn	09 23 37.3	+0.9
COTA	Cotacachi	2.09	342	⇑P		Pn	09 23 40.4	+0.9
JAMA	Jama	2.88	299	P		Pn	09 23 48.0	+0.2
JAMA	Jama	2.88	299	S		S	09 24 20.7	-6.8
CHIS	Cerro-Chispas-	3.11	281	P		Pn	09 23 49.7	-0.5
ATAH	Atahualpa	5.36	188	P		Pn	09 24 15.1	-2.1
	24nm,0.3s,baz=13,slow=7.9,SNR=132							
ATAH				S		S	09 25 15.1	-5.6
	7.8nm,0.3s,baz=168,slow=8.5,SNR=3.8							
ROSC	El Rosal	7.28	27	P		Pn	09 24 36.0	-5.5
	2.2nm,0.3s,baz=291,slow=22,SNR=2.9							
NNA	Nana	10.29	175	P		Pn	09 25 16.9	-3.0
	1.9nm,0.3s,baz=322,slow=14,SNR=6.0							
NNA				S		S	09 27 05.0	-10
	3.8nm,0.3s,baz=329,slow=23,SNR=4.3							
SDV	Santo Domingo	12.61	34	P		Pn	09 25 43.7	-5.2
	3.2nm,0.3s,baz=266,slow=7.5,SNR=28							
LPAZ	La Paz	17.31	148	P		P	09 26 44.7	+1.3
	0.8nm,0.3s,baz=325,slow=10,SNR=23							
LPAZ	La Paz	17.31	148	P		P	09 26 44.7	+1.3
PCRV	Puerto La Cruz	17.51	48	P		P	09 26 44.5	-1.2
	2.9nm,0.3s,baz=290,slow=6.3,SNR=9.7							
SIV	San Ignacio	21.69	132	P		P	09 27 30.4	+0.6
	3.2nm,0.7s,mb4.0,baz=305,slow=7.5,SNR=18							
TEIG	Tepich	24.11	335	P		P	09 27 50.0	-1.7
	9.8nm,0.8s,mb4.5,baz=174,slow=0.9,SNR=9.1							
CMIG	Matias Romero	25.20	318	P		P	09 28 00.3	-1.3
	6.5nm,0.7s,mb4.4,baz=117,slow=5.5,SNR=9.4							
ELN	Prospectdale	38.80	356	*e*P		P	09 29 58.8	-0.6
TXAR	Lajitas Array	39.60	323	P		P	09 30 06.0	0.0
	1.3nm,0.6s,mb3.5,baz=148,slow=8.0,SNR=29							
TXAR				PcP		PcP	09 32 09.6	+1.3
	0.9nm,0.6s,baz=153,slow=6.5,SNR=7.9							
AMTX	Amarillo	42.75	330	*e*P		P	09 30 31.3	-0.3
	18nm,1.3s,mb4.3							
ANMO	Albuquerque	45.31	326	*e*P		P	09 30 52.3	+0.4
	12nm,0.8s,mb4.3							
SDCO	Great Sand Dun	46.90	330	*e*P		P	09 31 04.9	+0.7
	7.1nm,1.0s,mb4.0							
SDCO				*e*pP		pP	09 31 46.0	-8.8
ISCO	Idaho Springs	48.55	331	*e*P		P	09 31 17.5	+0.7
WUAZ	Wupatki	48.56	323	*e*P		P	09 31 17.1	+0.1
	11nm,0.9s,mb4.2							
SRU	San Rafael	50.56	327	*e*P		P	09 31 31.2	-0.7
	4.2nm,1.3s,mb3.7							
JLU	Jordanelle	52.12	328	*e*P		P	09 31 43.9	+0.4
PDAR	Pinedale Array	52.73	331	P		P	09 31 47.5	-0.5
	1.0nm,0.7s,mb3.4,baz=123,slow=9.9,SNR=9.5							
PDAR				PcP		PcP	09 32 53.6	-0.6
	0.9nm,0.7s,baz=130,slow=6.8,SNR=7.2							
HWUT	Hardware Ranch	52.90	328	*e*P		P	09 31 49.1	-0.1
	5.6nm,0.9s,mb4.0							
HWUT				*e*PcP		PcP	09 32 55.8	+0.9
SPUT	South Promonto	53.15	328	*e*P		P	09 31 51.5	+0.5
TPAW	Teton Pass	53.95	330	*e*P		P	09 31 56.9	+0.1
TPAW				*e*pP		pP	09 32 35.6	-13
ULM	Lac du Bonnet	54.01	346	P		P	09 31 54.6	-2.5
	3.7nm,0.6s,mb4.1,baz=199,slow=9.7,SNR=4.6							
NVAR	Mina Array Bea	54.69	321	P		P	09 32 03.0	+0.8
	1.3nm,0.5s,mb3.7,baz=130,slow=7.3,SNR=17							
NVAR				PcP		PcP	09 33 02.4	+0.5
	1.0nm,0.8s,baz=122,slow=5.0,SNR=5.6							
YKA	Yellowknife Ar	69.78	343	P		P	09 33 40.5	-1.2
	1.0nm,0.7s,mb3.5,baz=141,slow=6.2,SNR=3.4							
LIC	Lamto	72.95	83	*e*P		P	09 34 01.2	-0.4
	28nm,0.9s,mb4.9							
TIC	Toumodi	72.98	83	*e*P		P	09 34 01.4	-0.4
	25nm,0.2s							
DBIC	Dimbokro	73.14	83	P		P	09 34 02.0	-0.8
	5.5nm,0.5s,mb4.4,baz=260,slow=6.4,SNR=9.3							
KIC	Kosan Boka	73.24	83	*e*P		P	09 34 03.2	-0.2
	80nm,0.8s,mb5.4							
TORD	Torodi Ar. Bea	80.03	76	P		P	09 34 40.6	-0.7
	212nm,0.4s,baz=289,slow=6.0,SNR=1.7							
EGAK	Eagle	80.49	337	*e*P		P	09 34 43.1	+0.4
	7.8nm,0.9s,mb4.3							
VNA3	Neumayer Olymp	81.47	162	*e*		P	09 34 49.7	+1.9
VNA1	Neumayer--Stat	81.71	162	*e*		P	09 34 51.3	+2.3
VNA2	Neumayer--Watz	82.07	162	*e*		P	09 34 53.1	+2.2
	baz=315,slow=6.9							
SNAA	Sanae	83.69	162	*e*		P	09 35 00.8	+1.6
SNAA	Sanae	83.69	162	*e*P		P	09 35 00.5	+1.4
	5.5nm,1.1s,mb4.2							
BPAW	Bear Paw Mtn.	84.25	335	*e*P		P	09 35 01.7	-0.4
	10.0nm,0.9s,mb4.5							
QSPA	South Pole Qui	88.41	180	P		P	09 35 25.1	+3.0
	5.7nm,0.7s,mb4.5,baz=152,slow=1.2,SNR=19							
ZALV	Zalesovo Beam	125.92	13	PKP		PKPdf	09 41 31.8	+0.7
	0.7nm,0.4s,baz=260,slow=4.0,SNR=3.3							
MKAR	Makanchi Array	131.77	18	PKP		PKPdf	09 41 42.8	+0.4
	0.3nm,0.4s,baz=294,slow=1.8,SNR=7.6							
SONM	Songino Array	133.87	356	PKP		PKPdf	09 41 47.3	+1.0
	0.3nm,0.6s,baz=336,slow=3.2,SNR=2.7							
KSRS	Korea Array	137.29	330	PKP		PKPdf	09 41 54.1	+1.1
	3.5nm,1.1s,baz=38,slow=2.6,SNR=3.5							
ASAR	Alice Springs	140.29	229	PKhKP			09 41 51.4	
	0.7nm,0.4s,baz=119,slow=3.7,SNR=19							
ASAR				PKP		PKPdf	09 41 59.7	+0.8
	0.8nm,0.6s,baz=130,slow=1.8,SNR=11							
KAKA	Kakadu	146.87	244	*e*P		PKPdf	09 42 06.5	-4.1
	14nm,0.6s							

BJI **29** *09:23:11.4,3708N×2910E,h8km,mB5.2,mb4.9,Ms5.0, Msz4.8*

IDC **29** *09:23:13.1±0.6,3691N×2941E,h0km,mb4.6/22, mb1 4.7/32,mb1mx4.7/34,mbtmp4.6/32,ML4.5/9,MS4.7/31, Ms1 4.7/31,ms1mx4.6/37,Error ellipse: s-maj=11.6km s-min=10.9km az=169.0*

HLW **29** *09:23:13.4,3727N×2917E,h27km,Mb4.9*

DDA **29** *09:23:13.9,3691N×2930E,h23km±2km,Md4.9,Ml5.0*

CSEM **29** *09:23:14.2±0.0,3687N×2941E,h18km,mb4.9/75,Ms4.4, Mw4.7,Error ellipse: s-maj=1.1km s-min=0.8km az=45.0*

NEIC **29** *09:23:14.0,3703N×2923E,h5km,mb4.9/119,MS4.5/4, ML5.1(ISK),After ISK.*

NEIC Felt [III] at Fethiye.

GCMT **29** *09:23:14.0±0.1,3689N×2921E,h12km,MW5.3/99, Moment Tensor Solution. s71,c106; s99,c207; Duration: 1s1 Moment tensor: Scale 1017Nm; Mrr-1.08±.01; Mθθ0.97±.01; Mϕϕ0.10±.01; Mrθ-0.25±.04; Mθϕ-0.25±.01; Mϕr0.30±.05; Best double couple: Mo1.12800×1017 NP1:ϕs275.00000°,δ37.00000°, λ-107.00000°. NP2:ϕs116.00000°,δ54.00000°, λ-78.00000°. Principal axes: T 1.0860, Plg9.0000°, Azm197.0000°; N 0.0810, Plg10.0000°, Azm288.0000°; P -1.1690, Plg77.0000°, Azm67.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

PDG **29** *09:23:14.2±0.7,3691N×2935E,h3km±11km,ML4.8/10 Error ellipse: s-maj=1.5km s-min=1.7km az=0.0*

ISK **29** *09:23:14.4,3701N×2925E,h2km,ML5.1*

MOS **29** *09:23:15.2±1.0,3694N×2941E,h22km,mb5.0/68, MS4.5/51,Error ellipse: s-maj=4.2km s-min=2.1km az=123.9*

ISCJB **29** *09:23:15.6±0.3,3688N±001×2932E±001,h22km±2km, mb4.9/149,MS4.6/43,Error ellipse: s-maj=1.9km s-min=1.3km az=25.3*

GII **29** *09:23:18.4±0.0,3656N×2934E,h0km,mb4.5/5,ML4.4/5*

THE **29** *09:23:20.8,3705N×2930E,h33km±3km,ML5.5/9,Error ellipse: s-maj=3.9km s-min=1.1km az=155.0*

NIC **29** *09:23:35.8±0.2,3636N×3043E,h25km,mb4.6,ML4.4, MW4.1,mb 5.0 reported by EMSC; Earthquake Western Turkey, 20km. SW Altinyayla*

SZGRF **29** *09:23:43.3,3877N×2777E,h33km,mb4.5,MS4.5,Turkey*

ISC 29 09:23:19.3±0.1,3692N±001×2933E±001,h37km±1km, h8km±3.8km:pP-P,n1137,σ1§08/1272,mb4.9/149,MS4.6/43, 164C-99D,Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
GOLH	Golhisar	0.37	30	⇑*i*P		Pn	09 23 22.2	-6.0
GOLH				*i* S		Sn	09 23 29.1	-5.2
ELL	Elmali	0.49	110	PG		Pn	09 23 26.2	-3.7
ELL				*e*SG		Sn	09 23 36.0	-1.2
DALT	Dalyan (Mudla)	0.57	255	PG		Pn	09 23 25.8	-5.2
DALT				*e*SG		Sn	09 23 34.3	-4.9
TURN	Turunc	0.58	266	⇑*i*P		Pn	09 23 30.5	-0.6
TURN				*i* S		Sn	09 23 42.7	+3.3
YER	Yerkesik	0.86	285	PG		Pn	09 23 31.3	-3.6
DENT	Denizli	0.87	344	PG		Pn	09 23 29.6	-5.4
ANTB	Antalya	1.06	90	PN		Pn	09 23 38.0	+0.3
BCK	Bucak	1.15	61	PN		Pn	09 23 37.1	-1.7
ARG	Arkhangelos	1.19	235	P		Pn	09 23 37.5	-2.0
MLSB	Milas	1.30	287	PN		Pn	09 23 38.5	-2.3
TKTP	Tekketepe	1.37	35	⇑*i*P		Pn	09 23 40.3	-1.7
AYDN	Tasoluk	1.37	303	⇑*i*P		Pn	09 23 39.7	-2.3
AYDN				*i* S		Sn	09 23 59.5	+0.6
KHL	Karahalli	1.41	6	PN		Pn	09 23 40.8	-1.7
KHL				*e*Sn		Sn	09 24 00.8	+0.9
KHAL	Karahalli	1.46	5	⇑*i*P		Pn	09 23 40.1	-3.0
BDRM	Kayabasi	1.52	276	⇑*i*P		Pn	09 23 41.8	-2.1
BODT	Bodrum	1.62	276	*e*PN		Pn	09 23 44.9	-0.4
KULA	Kula-Manisa	1.68	342	*e*PN		Pn	09 23 44.6	-1.5
KULA				*e*SN		Sn	09 24 06.0	-0.5
MANT	Manisa	1.69	339	⇑*i*P		Pn	09 23 44.5	-1.8
GCAM	G?zelcaml?	1.84	296	⇑*i*P		Pn	09 23 47.0	-1.4
SHUT	Suhut-Afyon	1.90	30	*e*PN		Pn	09 23 48.8	-0.4
SMG	Samos	2.14	292	P		Pn	09 23 51.5	-0.9
GDZ	Gediz	2.17	3	⇑*i*P		Pn	09 23 51.7	-1.2
DEMI	Demirci	2.18	347	⇑*i*P		Pn	09 23 51.5	-1.5
IZM	Izmir	2.21	313	*e*PN		Pn	09 23 52.1	-1.3
KDAG	Bornova	2.21	313	⇑*i*P		Pn	09 23 52.2	-1.3
BOLV	Bolvadin	2.21	35	⇑*i*P		Pn	09 23 53.7	+0.2
KARP	Karpathos	2.22	233	P		Pn	09 23 54.4	+0.8
ALT	Altintas	2.22	16	*e*PN		Pn	09 23 52.3	-1.3
AKHS	Akhisar	2.30	329	⇑*i*P		Pn	09 23 52.6	-2.0
AKS	Akhisar	2.30	329	*e*PN		Pn	09 23 52.7	-2.0
BLCB	Balcova	2.33	310	*e*PN		Pn	09 23 53.9	-1.3
HDMB	Hadim	2.53	88	*e*PN		Pn	09 23 58.6	+0.8
URLA	Izmir	2.60	304	⇑*i*P		Pn	09 23 57.4	-1.5
KONT	Konya--Tatoy	2.62	66	*e*PN		Pn	09 23 59.9	+0.7
KDHN	Kadinhani	2.73	53	*i* P		Pn	09 23 58.8	-1.8
LADK	Ladik-KONYA	2.73	61	*e*PN		Pn	09 24 01.5	+0.9
DST	Dursunbey	2.74	349	*e*PN		Pn	09 23 59.4	-1.4
KIZT	Kizilcal	2.81	45	*e*PN		Pn	09 24 02.3	+0.6
ESKT	Eskisehir	2.86	24	⇑*i*P		Pn	09 24 01.7	-0.7
SEYT	Eskypehyr	2.86	24	*i* P		Pn	09 24 01.7	-0.7
ERMK	Ermenek	2.89	94	*i* P		Pn	09 24 08.6	+5.7
ERMK				*i* S		Sn	09 24 44.6	+8.2
CHOS	Chios island	2.98	300	P		Pn	09 24 03.4	-0.7
APE	Apeiranthos	3.04	274	P		Pn	09 24 04.7	-0.2
APE				S		Sn	09 24 40.5	+0.4
APE	Apeiranthos	3.04	274	*d*P		Pn	09 24 04.4	-0.5
APE	Apeiranthos	3.04	274	⇓*i*P		Pn	09 24 04.7	-0.2
APE	Apeiranthos	3.04	274	*i* P		Pn	09 24 04.4	-0.5
APE				S		Sn	09 24 40.5	+0.4
AKMC	Akamas	3.08	127	P		Pn	09 24 07.3	+1.9
	19nm,0.4s							
AKMC				S		Sn	09 24 31.4	-10
BALY	Balya	3.12	335	⇑*i*P		Pn	09 24 04.6	-1.4
BALY				*i* S		Sn	09 24 40.2	-1.9
THR1	Thera Island	3.16	261	P		Pn	09 24 07.3	+0.8
THR1				S		Sn	09 24 44.5	+1.6
AYVA	Ayvalik	3.17	320	⇑*i*P		Pn	09 24 05.2	-1.4
PPCY	Paphos	3.18	129	P		Pn	09 24 08.7	+1.9
	44nm,0.9s							
PPCY				S		Sn	09 24 34.1	-9.3
ALFC	Alevga	3.18	123	⇓P		Pn	09 24 08.4	+1.6
	28nm,0.3s							
ALFC				S		Sn	09 24 33.8	-10
THR3	Thira Island,	3.20	262	P		Pn	09 24 07.8	+0.8
THR6	Thira Island,	3.21	261	P		Pn	09 24 08.0	+0.8
ULDT	Uludag	3.23	357	⇑*i*P		Pn	09 24 06.1	-1.3
THR5	Thira Island,	3.24	262	P		Pn	09 24 08.6	+1.0
CAVI	Cavuskoy	3.31	7	*e*PN		Pn	09 24 07.6	-0.9
PRK	Paraskevi	3.35	315	P		Pn	09 24 08.4	-0.7
PRK				S		Sn	09 24 45.4	-2.2
LEF	Lefka	3.40	121	*e*PN		Pn	09 24 10.6	+0.8
NPS	Neapolis	3.43	242	P		Pn	09 24 11.1	+0.9
GPA	Golpazari	3.46	13	*e*PN		Pn	09 24 09.9	-0.7
GEMT	Gemlik	3.52	358	*e*PN		Pn	09 24 10.3	-1.1
ADVT	Abdulvahap	3.53	5	*e*PN		Pn	09 24 10.7	-0.8
IKL	Isikli	3.57	100	*e*PN		Pn	09 24 14.2	+2.1
MAMC	Mammari	3.60	118	⇑P		Pn	09 24 14.3	+1.7
	40nm,0.7s							
MAMC				S		Sn	09 24 44.2	-10
BNT	Bandirma	3.61	343	*e*PN		Pn	09 24 11.5	-1.1
EDC	Edincik	3.61	342	*e*PN		Pn	09 24 11.5	-1.2
GULT	Gulveren	3.63	14	*e*PN		Pn	09 24 12.8	-0.2
YLV	Yalova	3.65	1	*e*PN		Pn	09 24 12.7	-0.4
EZN	Ezine	3.74	322	*e*PN		Pn	09 24 13.2	-1.3
LFK	Lefkose	3.78	114	*e*PN		Pn	09 24 16.9	+1.9
CSS	Prodhromos	3.79	120	⇓P		Pn	09 24 16.6	+1.5
	34nm,1.4s							
CSS				S		Sn	09 24 49.5	-9.0
CSS	Prodhromos	3.79	120	P		Pn	09 24 16.4	+1.3
HRT	Hereke	3.91	4	*e*PN		Pn	09 24 16.9	+0.1
IDI	Anoyia	3.94	247	Pn		Pn	09 24 17.1	-0.2
	74nm,0.3s,baz=62,slow=13,SNR=26							
IDI						Sn	Sn	09 25 02.7	+0.4
	154nm,0.3s,baz=325,slow=14,SNR=11							
IDI						LR	LR	09 26 06.0	
	comp=Z,13µm,19.4s,baz=66,slow=43							
IDI	Anoyia	3.94	247	Pn		Pn	09 24 17.1	-0.2
IDI				S		Sn	09 25 02.7	+0.4
ANTO	Ankara	4.01	42	*e*PN		Pn	09 24 19.6	+1.4
ANTO	Ankara	4.01	42	⇑P		Pn	09 24 19.7	+1.5
	SNR=88							
ANTO	Ankara	4.01	42	⇓*i*P		Pn	09 24 18.7	+0.5
ANTO	Ankara	4.01	42	*e*Pn		Pn	09 24 18.9	+0.7
ANTO	Ankara	4.01	42	*e*Pn		Pn	09 24 18.9	+0.6
HENT	Hendek	4.09	17	*i* P		Pn	09 24 19.5	+0.2
RKY	Sarkoy-Tekirda	4.12	337	*e*PN		Pn	09 24 18.6	-1.1
SART	Tekirdag	4.12	337	⇑*i*P		Pn	09 24 18.5	-1.3
ISK	Istanbul-Kandi	4.15	357	*e*PN		Pn	09 24 19.6	-0.5
EREN	Erenkoy	4.15	108	*e*PN		Pn	09 24 22.1	+2.0
MERS	Mersin	4.16	89	*e*PN		Pn	09 24 22.6	+2.3
GADA	Gvkgeada	4.23	322	*e*PN		Pn	09 24 20.4	-0.8
KAMT	Kaman	4.24	53	*e*PN		Pn	09 24 22.1	+0.8
SILT	Sile	4.24	3	*e*PN		Pn	09 24 20.6	-0.7
PHNC	Paralimni	4.27	115	P		Pn	09 24 23.8	+2.1
	48nm,1.1s							
PHNC				S		Sn	09 25 01.6	-8.6
BGKT	Bogazkoy	4.28	354	*e*PN		Pn	09 24 20.6	-1.3
ELBA	Catalca	4.28	351	*i* P		Pn	09 24 19.1	-2.3
CTT	Catalca	4.28	351	*e*PN		Pn	09 24 21.0	-0.9
TKR	Tekirdag	4.30	342	*e*PN		Pn	09 24 21.3	-0.9
KLYT	Kilyos	4.34	357	*e*PN		Pn	09 24 21.6	-1.0
CTKS	Kestanelik-??a	4.36	352	*e*PN		Pn	09 24 22.3	-0.7
NIG	Nigde	4.37	73	*e*PN		Pn	09 24 24.7	+1.6
GULE	Gulek	4.37	84	⇓*i*P		Pn	09 24 13.4	-10
CRLT	Corlu	4.39	344	*e*PN		Pn	09 24 22.8	-0.5
SLVT	Silivri	4.39	349	*e*PN		Pn	09 24 22.5	-1.0
BR131	Keskin Array S	4.40	49	*e*Pn		Pn	09 24 23.8	+0.3
BR131				*e*Sn		Sn	09 25 14.2	+0.7
BR131	Keskin Array S	4.40	49	*e*Pn		Pn	09 24 23.8	+0.3
BR131				*e*Sn		Sn	09 25 14.2	+0.7
LIA	Limnos Island	4.41	314	P		Pn	09 24 23.4	-0.3
LIA				S		Sn	09 25 12.0	-1.8
ENEZ	Enez	4.55	328	*e*PN		Pn	09 24 24.9	-0.6
KARA	Karaisali	4.59	84	*e*PN		Pn	09 24 28.6	+2.5
CTYL	Yal??k??y-??at	4.62	350	*e*PN		Pn	09 24 25.7	-0.9
KDZE	Karadeniz Ereo	4.69	20	*e*PN		Pn	09 24 27.5	0.0
ALN	Alexandroupoli	4.73	328	P		Pn	09 24 26.9	-1.1
ALN				S		Sn	09 25 18.8	-2.8
AVNT	Avonos	4.75	65	⇓*i*P		Pn	09 24 26.8	-1.6
ELDT	Eldivan	4.80	41	*i* P		Pn	09 24 29.7	+0.7
ELDT				*i* P			09 24 29.7	
CDAG	Cicekdag	4.80	54	*i* P		Pn	09 24 30.7	+1.6
AOS	Alonnisos	4.85	299	P		Pn	09 24 29.9	+0.1
DID	Didima	4.90	279	P		Pn	09 24 30.7	+0.3
CANT	Cankiri	4.98	41	*e*PN		Pn	09 24 32.5	+1.0
CEYT	Ceyhan	5.14	87	*e*PN		Pn	09 24 36.7	+2.9
RDO	Rodhopi	5.15	326	P		Pn	09 24 34.1	+0.2
LTK	Loutraki	5.18	284	P		Pn	09 24 34.9	+0.7
CORM	Corum	5.28	50	*e*PN		Pn	09 24 37.6	+1.9
LKR	Lokris	5.30	291	P		Pn	09 24 36.4	+0.5
EDRB	Edirne	5.32	339	*e*PN		Pn	09 24 35.5	-0.6
PAIG	Paliouri	5.36	306	P		Pn	09 24 36.5	-0.2
ILGA	Ilgaz	5.36	38	*i* P		Pn	09 24 37.0	+0.3
OUR	Ouranopolis	5.40	311	P		Pn	09 24 37.0	-0.3
XOR	Xorichti	5.42	299	P		Pn	09 24 37.5	0.0
YOZ	Yozgat	5.44	58	*e*PN		Pn	09 24 39.5	+1.6
TOS	Tosya	5.50	40	*e*PN		Pn	09 24 39.4	+0.7
BNN	Bunyan	5.51	67	*e*PN		Pn	09 24 40.9	+2.1
HTY	Hatay	5.54	96	*e*PN		Pn	09 24 41.9	+2.7
VLX	Vlachokerasia	5.57	277	P		Pn	09 24 41.0	+1.4
COBT	Iskenderun	5.58	92	⇓*i*P		Pn	09 24 41.4	+1.7
BALT	Daday	5.58	33	⇑*i*P		Pn	09 24 40.3	+0.5
KDZ	Kurdzhali	5.62	329	Pn		Pn	09 24 39.6	-0.6
ANDN	Andirin	5.64	81	⇓*i*P		Pn	09 24 42.6	+2.0
CTKT	Corum	5.65	47	*i* P		Pn	09 24 42.7	+2.0
DIM	Dimitrovgrad	5.91	331	Pn		Pn	09 24 43.5	-0.7
AGG	Agios Georgios	5.91	293	P		Pn	09 24 45.3	+1.0
AGG				S		Sn	09 25 49.8	-1.0
ITM	Ithomi	5.93	275	P		Pn	09 24 47.5	+3.0
JMB	Yambol	5.93	340	P		Pn	09 24 44.5	-0.1
RZN	Rozhen	5.96	325	P		Pn	09 24 44.3	-0.6
HWQ	Hawqa	6.00	114	*e*P		Pn	09 24 46.3	+0.8
KMRS	Kahramanmaras	6.07	82	*e*PN		Pn	09 24 49.3	+2.7
SOH	Sokhos	6.08	312	P		Pn	09 24 46.8	+0.2
SOH				S		Sn	09 25 53.1	-1.7
SARI	SarD1z-Kayseri	6.09	71	*e*PN		Pn	09 24 45.5	-1.4
HORT	Hortiatis	6.10	309	P		Pn	09 24 47.2	+0.3
HORT				S		Sn	09 25 53.4	-2.0
HNTI	Hanita	6.13	127	Pn		Pn	09 24 47.7	+0.3
HNTI	Hanita	6.13	127	Pn		Pn	09 24 47.5	+0.1
NVR	Nevrokopi	6.14	318	P		Pn	09 24 47.5	+0.1
BZK	Bozkurt	6.20	34	*e*PN		Pn	09 24 50.0	+1.7
THE	Thessaloniki	6.20	309	P		Pn	09 24 48.9	+0.6
THE				S		Sn	09 25 55.5	-2.4
BYBT	Boyabat	6.21	41	*e*PN		Pn	09 24 50.0	+1.6
LIT	Litokhoron	6.23	303	P		Pn	09 24 49.4	+0.7
LIT				S		Sn	09 25 57.2	-1.5
EVR	Evrytania	6.27	291	P		Pn	09 24 52.2	+3.0
PLD	Plovdiv	6.29	327	P		Pn	09 24 49.2	-0.3
GAZ	Gaziantep	6.31	85	*e*PN		Pn	09 24 52.8	+3.0
MMC7	Mount Meron ar	6.31	126	Pn		Pn	09 24 49.6	-0.3
RCY	Rachaya	6.32	121	*e*P		Pn	09 24 49.9	0.0
MMAI	Mount Meron Ar	6.33	126	Pn		Pn	09 24 49.4	-0.6
	59nm,0.3s,baz=316,slow=12,SNR=50							
MMAI						Sn	Sn	09 26 01.4	+0.4
	65nm,0.3s,baz=304,slow=22,SNR=6.2							
MMAI						LR	LR	09 27 54.0	
	comp=Z,7µm,19.9s,baz=295,slow=45							
OFRI	'Ofer	6.33	131	Pn		Pn	09 24 49.6	-0.4
OFRI	'Ofer	6.33	131	Pn		Pn	09 24 49.8	-0.2
THL	Klokotos Trika	6.33	297	P		Pn	09 24 50.8	+0.7
THL				S		Sn	09 25 59.5	-1.7
KSDI	Kefar Szold	6.38	124	Pn		Pn	09 24 50.9	+0.1
KSDI	Kefar Szold	6.38	124	Pn		Pn	09 24 50.6	-0.2
HRI	Mount Hermon	6.39	123	P		Pn	09 24 51.7	+0.8
HRI	Mount Hermon	6.39	123	Pn		Pn	09 24 51.3	+0.4
SLUM		6.39	213	P		Pn	09 24 48.6	-2.3
HRSH	Kfar Ka'horesh	6.45	129	P		Pn	09 24 57.9	+6.2
KENR	Kendrikon	6.56	312	P		Pn	09 24 53.6	+0.4
LTBQ	Tobruq	6.59	224	*i* P		Pn	09 24 52.8	-0.8
	SNR=41							
GZT	Gaziantep	6.59	84	*i* P		Pn	09 24 57.4	+3.7
KSHT	Keshet	6.61	124	Pn		Pn	09 24 54.1

TIR pmax pmax
comp=Z,199nm,0.6s
TIR Tirane 8.58 304 *e*Pn **Pn 09 25 25.9 +5.0**
TIR Tirane 8.58 304 *e*Pn **Pn 09 25 25.0 +4.1**
comp=Z,199nm,0.6s
AQBJ Aqaba 8.62 145 Pn **Pn 09 25 20.4 -1.1**
AQBJ Aqaba 8.62 145 Pn **Pn 09 25 20.4 -1.0**
EIL Elat 8.62 145 Pn **Pn 09 25 20.2 -1.4**
comp=Z,20nm,0.3s,baz=335,slow=7.7,SNR=60
EIL Sn **Sn 09 26 53.0 -4.5**
comp=Z,16nm,0.3s,baz=161,slow=22,SNR=4.3
EIL LR LR 09 30 05.3
comp=Z,3µm,20.3s,baz=90,slow=48
EIL Elat 8.62 145 Pn **Pn 09 25 20.2 -1.4**
EIL Sn **Sn 09 26 53.0 -4.5**
EIL LR LR 09 30 05.3
EIL Elat 8.62 145 Pn **Pn 09 25 20.3 -1.3**
ALU Alushta 8.66 25 *e*P **Pn 09 25 20.9 -1.0**
ALU *e*S **Sn 09 26 58.5 +0.2**
SIM Simferopol' 8.80 23 *de*P **Pn 09 25 24.6 +0.7**
SIM *e*S **Sn 09 26 59.5 -2.3**
SIM pmax pmax
comp=Z,123nm,0.7s
SIM MLR MLR
comp=Z,5µm,18.0s
SIM Simferopol' 8.80 23 *e*P **Pn 09 25 24.6 +0.7**
comp=Z,123nm,0.7s
PUK Puka 8.91 308 *e*PN **Pn 09 25 27.6 +2.2**
HBST Basata 8.91 148 P **Pn 09 25 23.9 -1.6**
MLR Muntele Rosu 8.94 345 Pn **Pn 09 25 25.5 -0.3**
comp=Z,6.2nm,0.3s,baz=169,slow=2.5,SNR=86
MLR Sn **Sn 09 27 05.1 0.0**
comp=Z,1.3nm,0.3s,baz=256,slow=18,SNR=3.5
MLR Lg 09 28 00.1
baz=132,slow=20,SNR=1.5
MLR LR LR 09 29 07.3
comp=Z,6µm,21.0s,baz=170,slow=40
MLR Muntele Rosu 8.94 345 P **Pn 09 25 25.5 -0.3**
MLR 09 27 05.1
MLR pmax pmax
comp=Z,6.0nm,0.3s
MLR smax
comp=N,1.0nm,0.3s
MLR MLR
comp=Z,6µm,21.0s
MLR Muntele Rosu 8.94 345 ⇑*i*P **Pn 09 25 25.8 0.0**
MLR Muntele Rosu 8.94 345 ⇑P **Pn 09 25 25.8 0.0**
BCI Bajram Curri 8.98 310 *e*PN **Pn 09 25 28.4 +2.1**
SUDU Sudak 9.05 27 *e*P **Pn 09 25 27.7 +0.4**
SUDU *e*S **Sn 09 27 04.5 -3.3**
KTUT Trabzon 9.09 60 *e*PN **Pn 09 25 29.8 +1.9**
GRB Gharib 9.10 160 P **Pn 09 25 26.9 -1.2**
PLOR Plostina 9.15 348 ⇑*i*P **Pn 09 25 28.4 -0.3**
VRI Vrincioaia 9.15 349 ⇓*i*P **Pn 09 25 28.4 -0.3**
VRI Vrincioaia 9.15 349 ⇓P **Pn 09 25 28.4 -0.3**
PVY Plav 9.16 311 ⇑*i*Pn **Pn 09 25 30.3 +1.4**
PVY *e*Sn **Sn 09 27 11.3 +0.6**
HKAT Jabal Katrina 9.24 154 P **Pn 09 25 28.8 -1.3**
TR2 9.28 155 P **Pn 09 25 28.9 -1.6**
ULC Ulcinj 9.28 306 ⇓*i*Pn **Pn 09 25 31.6 +1.1**
ULC *e*Sn **Sn 09 27 13.8 +0.2**
DJES Djerdap 9.30 328 P **Pn 09 25 29.0 -1.8**
BEY Berane 9.37 312 *e*Sn **Sn 09 27 16.3 +0.5**
IVA Berane 9.37 312 ⇑*i*Pn **Pn 09 25 33.0 +1.3**
IVA *e*Sn **Sn 09 27 16.3 +0.5**
PDG Podgorica 9.51 308 *e*Sn **Sn 09 27 19.7 +0.4**
TTG Podgorica 9.51 308 ⇓*i*Pn **Pn 09 25 35.3 +1.6**
TTG *e*Sn **Sn 09 27 19.7 +0.4**
GRUS Gruza 9.57 319 *e*Pn **Pn 09 25 33.4 -1.0**
BUM Brajici-Budva 9.68 307 ⇑*i*Pn **Pn 09 25 37.4 +1.5**
BUM *e*Sn **Sn 09 27 23.5 +0.2**
ASUT 9.68 168 P **Pn 09 25 34.4 -1.6**
TR1 9.70 155 P **Pn 09 25 35.0 -1.4**
HFRF Wahat Farafira 9.78 185 ⇑P **Pn 09 25 35.4 -2.0**
SHRM 9.87 154 P **Pn 09 25 37.0 -1.6**
NKY Niksic 9.88 310 ⇑*i*Pn **Pn 09 25 40.7 +2.0**
NKY *e*Sn **Sn 09 27 28.2 -0.1**
PLE Pljevlja 9.94 313 ⇓*i*Pn **Pn 09 25 40.3 +0.8**
PLE *e*Sn **Sn 09 27 29.9 +0.2**
ANN Anapa 9.98 35 *e*P **Pn 09 25 39.0 -1.1**
ANN *e*S **Sn 09 27 29.5 -1.2**
ANN pmax pmax
comp=Z,131nm,1.7s
ANN MLR MLR
comp=Z,4µm,21.0s
ANN Anapa 9.98 35 *e*P **Pn 09 25 39.0 -1.1**
comp=Z,131nm,1.7s
HCY Herceg Novi 10.01 307 ⇓*i*Pn **Pn 09 25 41.8 +1.4**
HCY *e*Sn **Sn 09 27 31.5 +0.2**
KIS Kishinev 10.08 358 *c i*P **Pn 09 25 41.0 -0.4**
KIS *e*S **Sn 09 27 33.0 -0.2**
KIS pmax pmax
comp=Z,1.0nm,4.0s
KIS MLR MLR
comp=N,2µm,8.0s
KIS MLR MLR
comp=Z,3µm,8.0s
KIS MLR MLR
comp=E,2µm,7.0s
KIS MLR MLR
comp=Z,4µm,12.0s
KIS Kishinev 10.08 358 ⇑*i*P **Pn 09 25 41.0 -0.4**
comp=Z,1µm,4.0s
KIS *e*S **Sn 09 27 33.0 -0.2**
KIS *e*Li 09 28 20.0
KIS *i* LQ 09 29 26.0
KIS LRM 09 30 52.0
comp=Z,4µm,12.0s
UPM Unac-Piva 10.15 311 *e*Pn **Pn 09 25 44.1 +1.7**
UPM *e*Sn **Sn 09 27 34.9 -0.1**
TIP Timpagrande 10.17 287 *e*Pn **Pn 09 25 42.9 +0.2**
comp=Z,300nm,1.2s
TIP *e*Sn **Sn 09 27 35.3 -0.1**
BRY Bratogost 10.21 309 ⇑*i*Pn **Pn 09 25 44.9 +1.7**
BRY *e*Sn **Sn 09 27 36.7 +0.3**
TREB Trebinje 10.24 308 ⇑*i*Pn **Pn 09 25 45.6 +2.0**
BBLS Lazići 10.26 316 *e*Pn **Pn 09 25 44.1 +0.2**
BBLS Lazići 10.26 316 P **Pn 09 25 47.4 +3.5**
HHRG Al Ghardaqah 10.31 158 P **Pn 09 25 43.0 -1.8**
SOC Sochi 10.36 47 *e*P **Pn 09 25 44.2 -1.0**
SOC *e* 09 27 38.7
SOC pmax pmax
comp=Z,13nm,0.6s
SOC MLR MLR
comp=Z,3µm,13.0s
SOC Sochi 10.36 47 *e*P **Pn 09 25 44.2 -1.0**
comp=Z,13nm,0.6s
GRI Girifalco 10.38 284 P **Pn 09 25 47.2 +1.6**
LTRZ Laterza 10.44 294 P **Pn 09 25 48.0 +1.7**
BZS Buzias 10.45 329 ⇑*i*Pn **Pn 09 25 44.8 -1.6**
BZS Buzias 10.45 329 ⇓*i*P **Pn 09 25 44.8 -1.6**
BZS Buzias 10.45 329 ⇓P **Pn 09 25 44.9 -1.6**
ORI Oriolo Calabro 10.57 291 P **Pn 09 25 48.8 +0.6**
SOI Samo 10.61 280 P **Pn 09 25 49.5 +0.8**
STON Ston 10.73 307 *e*Pn **Pn 09 25 50.8 +0.5**
CEL Celeste 10.75 281 P **Pn 09 25 51.6 +1.0**
FGSL Fruska Gora 10.92 322 *e*Pn **Pn 09 25 54.6 +1.7**
PTRP Pietrapertosa 10.97 293 P **Pn 09 25 54.5 +0.9**
DRGR 11.03 336 ⇑*i*P **Pn 09 25 54.7 +0.3**
DRGR 11.03 336 ⇑P **Pn 09 25 54.7 +0.4**
CUC Castrocucco 11.03 290 *e*Pn **Pn 09 25 55.2 +0.7**
comp=Z,207nm,0.8s
CUC *e*Sn **Sn 09 27 52.6 -3.9**
HSFG 11.03 158 P **Pn 09 25 53.1 -1.4**
AGRB Hanur-Agry 11.07 72 *e*PN **Pn 09 25 57.0 +2.0**
BURAR Bucovina Array 11.11 345 ⇓*i*P **Pn 09 25 55.1 -0.5**
BURAR Bucovina Array 11.11 345 ⇓P **Pn 09 25 55.1 -0.4**
ACER Acerenza 11.13 294 P **Pn 09 25 59.9 +4.1**
BUR08 Bucovina Ar. S 11.15 345 *e*Pn **Pn 09 25 55.0 -1.0**
BUR08 Bucovina Ar. S 11.15 345 *e*Pn **Pn 09 25 55.0 -1.0**
BUR08 *e*Sn **Sn 09 27 59.0 -0.2**
MGR Morigerati 11.26 291 P **Pn 09 25 58.0 +0.4**
HDK1 Dakhla 11.34 180 P **Pn 09 25 57.0 -1.7**
HAVL Avola 11.37 274 P **Pn 09 25 58.2 -0.9**
SSY Sortino 11.40 275 P **Pn 09 25 59.0 -0.5**
comp=Z,108nm,0.4s
MSAG Monte S. Angel 11.44 299 P **Pn 09 26 02.3 +2.2**
HMDC Modica 11.64 275 P **Pn 09 26 03.9 +1.0**
MNO Monte Soro 11.68 279 P **Pn 09 26 04.7 +1.3**
HVZN Vizzini 11.68 276 P **Pn 09 26 03.2 -0.2**
comp=Z,292nm,0.8s
CLDR Caldiran 11.72 75 *e*PN **Pn 09 26 05.2 +1.3**
VAE Valguarnera 11.91 277 Pn **Pn 09 26 06.8 +0.3**
comp=Z,2.0nm,0.3s,baz=303,slow=14,SNR=2.8
VAE Sn **Sn 09 28 18.8 +0.7**
comp=Z,4.4nm,0.3s,baz=242,slow=11,SNR=3.6
RAFF Raffo Rosso 11.96 276 P **Pn 09 26 08.7 +1.5**
PSB1 Pescosannita 12.07 295 P **Pn 09 26 10.7 +2.0**
GIB Gibilmanna 12.21 280 P **Pn 09 26 10.9 +0.3**
ONI Oni 12.25 58 P **Pn 09 26 13.9 +2.8**
PKSM Moragy 12.25 323 ⇑*i*Pn **Pn 09 26 10.4 -0.7**
PKSM Moragy 12.25 323 ⇑*i*P **Pn 09 26 10.3 -0.8**
PKSM Moragy 12.25 323 ⇑*e*P **Pn 09 26 12.3 +1.2**
KIV Kislovodsk 12.36 51 *e*P **Pn 09 26 12.1 -0.5**
KIV *e*S **Sn 09 28 29.0 0.0**
KIV pmax pmax
comp=Z,22nm,1.1s
KIV MLR MLR
comp=Z,2µm,11.0s
KIV Kislovodsk 12.36 51 *e*P **Pn 09 26 12.1 -0.5**
comp=Z,22nm,1.1s
KIV *e*S **Sn 09 28 29.0 0.0**
comp=Z,2µm,11.0s
KIV Kislovodsk 12.36 51 *e*Pn **Pn 09 26 14.5 +1.9**
comp=Z,34nm,0.9s
SGG Gregorio Mates 12.43 296 P **Pn 09 26 14.8 +1.2**
GNI Garni 12.49 70 *e*PN **Pn 09 26 15.8 +1.3**
GNI Garni 12.49 70 ⇑P **Pn 09 26 18.3 +3.8**
SNR=7.4
GNI Garni 12.49 70 Pn **Pn 09 26 13.0 -1.5**
comp=Z,1.0nm,0.3s,baz=5.7,slow=10,SNR=2.2
GNI Sn **Sn 09 28 35.0 +2.7**
comp=Z,0.5nm,0.3s,baz=245,slow=22,SNR=1.9
GNI LR LR 09 32 13.2
comp=Z,4µm,19.6s,baz=268,slow=43
GNI Garni 12.49 70 P **Pn 09 26 13.0 -1.5**
GNI 09 28 35.0
GNI pmax pmax
comp=Z,1.0nm,0.3s
GNI smax
comp=N,1.0nm,0.3s
GNI MLR MLR
comp=Z,4µm,19.7s
GNI Garni 12.49 70 P **Pn 09 26 13.0 -1.5**
comp=Z,1.0nm,0.3s
GNI S **Sn 09 28 35.0 +2.7**
comp=Z,4µm,19.7s
GNI Garni 12.49 70 Pn **Pn 09 26 13.0 -1.5**
GNI *e*Sn **Sn 09 28 34.8 +2.4**
GNI Sn **Sn 09 28 35.0 +2.7**
GNI LR LR 09 32 13.2
MIDA Miranda 12.59 297 P **Pn 09 26 17.0 +1.2**
MPG Monte Pellegri 12.74 280 P **Pn 09 26 19.2 +1.4**
UZH Uzhgorod 12.79 338 ⇑*i*P **Pn 09 26 17.0 -1.4**
UZH *e*S **Sn 09 28 38.0 -1.4**
UZH MLR MLR
comp=N,6µm,10.0s
UZH MLR MLR
comp=E,5µm,10.0s
UZH MLR MLR
comp=Z,5µm,10.0s
PSZ Piszkesteto 13.01 331 *e*P **Pn 09 26 21.4 0.0**
PSZ Piszkesteto 13.01 331 ⇑*i*P **Pn 09 26 21.1 -0.3**
BUD Budapest 13.02 327 ⇑*e*P **Pn 09 26 20.3 -1.3**
KOLS Kolonicke sedl 13.07 339 *e*SN Sx 09 29 08.3
KOLS *e* 09 33 08.6
DGRG David-gareji 13.24 65 P **Pn 09 26 28.2 +3.5**
CRVS Cervenica-Dubn 13.28 337 *e*SN Sx 09 29 11.7
CRVS *e* 09 32 57.4
NVLJ Novalja 13.35 309 *e*Pn **Pn 09 26 21.0 -5.1**
LVV L'vov 13.46 345 *e*P **Pn 09 26 27.0 -0.5**
LVV *e*S **Sn 09 28 54.0 -1.6**
LVV MLR MLR
comp=Z,1µm,12.0s
LVV L'vov 13.46 345 *e*P **Pn 09 26 27.0 -0.5**
comp=Z,1µm,12.0s
KWP Kalwaria 13.59 341 *e*P **Pn 09 26 29.4 +0.1**
KWP LMZ 09 33 05.3
comp=Z,7µm,20.2s
KWP Kalwaria 13.59 341 ⇓*i*P **Pn 09 26 29.7 +0.4**
KWP Kalwaria 13.59 341 *e*P **Pn 09 26 29.4 +0.1**
comp=Z,7µm,20.2s
BOJS Bojanci 13.62 313 *e*P **Pn 09 26 30.8 +1.0**
CRES Cresnjev 13.69 315 *e*P **Pn 09 26 31.1 +0.5**
AOI Ancona 13.71 304 P **Pn 09 26 31.4 +0.4**
RDP Rocca di Papa 13.73 296 P **Pn 09 26 35.5 +4.1**
LJFR Jufra 13.75 239 *i* P **Pn 09 26 30.0 -1.7**
SNR=45
LKFR Kufra 13.76 204 *i* P **Pn 09 26 29.9 -1.9**
comp=Z,60nm,1.5s,SNR=45
KIEV Kiev 13.78 360 *e*P **Pn 09 26 29.9 -2.0**
KIEV *e* 09 29 08.1
KIEV pmax pmax
comp=Z,28nm,0.8s
KIEV Kiev 13.78 360 *e*P **Pn 09 26 29.9 -2.0**
comp=Z,28nm,0.8s
KIEV *e*S **Sn 09 29 08.1 +4.7**
KIEV Kiev 13.78 360 *e*Pn **Pn 09 26 29.9 -1.9**
comp=Z,28nm,0.8s
KIEV *e*Sn **Sn 09 29 08.1 +4.7**
AKASG Malin Array Be 13.78 360 Pn **Pn 09 26 29.5 -2.4**
comp=Z,1.7nm,0.3s,baz=183,slow=12,SNR=25
AKASG Sn **Sn 09 29 10.8 +7.2**
comp=Z,1.8nm,0.3s,baz=176,slow=27,SNR=4.9
AKASG Lg 09 30 25.4
baz=87,slow=18,SNR=2.1
AKASG LR LR 09 32 28.3
comp=Z,4µm,18.9s,baz=175,slow=40
AKASG Malin Array Be 13.78 360 P **Pn 09 26 29.6 -2.4**
AKASG 09 29 10.8
AKBB Malin Array Si 13.78 360 *e*P **Pn 09 26 29.9 -2.1**
AKBB *e*S **Sn 09 29 04.8 +1.2**
AKBB Malin Array Si 13.78 360 *e*Pn **Pn 09 26 29.9 -2.0**
AKBB *e*Sn **Sn 09 29 04.8 +1.2**
STHS Stebnicka Huta 13.80 337 *i* PN **Pn 09 26 32.3 0.0**
VYHS Vyhne 13.89 330 *i* PN **Pn 09 26 32.4 -1.0**
VYHS *e*SN Sn 09 29 34.6 +28
CING Cingoli 13.91 303 P **Pn 09 26 35.3 +1.5**
MNS Montasola 13.93 298 P **Pn 09 26 37.1 +3.0**
NIE Niedzica 14.11 335 *e*P **Pn 09 26 37.3 +0.9**
CEY Cerknica 14.23 313 P **Pn 09 26 40.5 +2.4**
SOP Sopron 14.30 323 ⇑*e*P **Pn 09 26 39.6 +0.6**
FSSB Fossombrone 14.32 303 P **Pn 09 26 40.0 +0.7**
TOLF Tolfa 14.33 296 P **Pn 09 26 41.2 +1.7**
MURB Monte Urbino 14.33 301 P **Pn 09 26 42.0 +2.5**
LJU Ljubljana 14.34 314 *e*P **Pn 09 26 40.1 +0.5**
PIEI Pieia 14.42 302 P **Pn 09 26 41.6 +0.9**
SOKA Soboth 14.43 317 ⇑*i*P **Pn 09 26 39.8 -1.0**
MODS Modra-Piesok 14.46 326 *i* PN **Pn 09 26 37.3 -3.9**
MODS *e*SN **Sn 09 29 29.5 +9.3**
MODS Modra-Piesok 14.46 326 *i* Pn **Pn 09 26 37.3 -3.9**
MODS *e*Sn **Sn 09 29 29.5 +9.3**
MODS *e*Sn Sn 09 29 40.5 +20
JAVS Javornik 14.53 313 *e*P **Pn 09 26 41.7 -0.5**
BADI Badiali 14.61 302 P **Pn 09 26 48.9 +5.6**
comp=Z,106nm,1.1s
LATE Laterza 14.62 298 P **Pn 09 26 45.9 +2.4**
VOY Vojsko 14.70 313 *e*P **Pn 09 26 44.3 -0.2**
VOY *e* 09 26 47.9
VOY *e* 09 27 10.5
VOY *e* 09 27 16.0
VOY *e* 09 27 56.6
OJC Ojcow 14.97 336 *e*P **Pn 09 26 47.2 -0.8**
OJC *ep*P pP 09 26 54.2 -8.2
OJC *e*S **Sn 09 29 31.7 -0.7**
OJC L 09 34 38.5
comp=Z,5.3nm,16.3s
OJC Ojcow 14.97 336 *e*P **Pn 09 26 47.2 -0.8**
OJC *ep*P pP 09 26 54.2 -8.2
OJC *e*S **Sn 09 29 31.7 -0.7**
MAON Monte Argentar 15.05 297 P **Pn 09 26 51.1 +2.0**
MYKA Terra Mystica 15.18 315 ⇑*i*pP **Pn 09 26 53.7 +2.9**
comp=Z,28nm,0.9s
MAK Makhachkala 15.18 61 *c i*P **Pn 09 26 49.4 -1.5**
MAK *e*S **S 09 29 39.1 -15**
MAK pmax pmax
comp=Z,399nm,1.8s
MAK MLR MLR
comp=Z,5µm,20.0s
MAK Makhachkala 15.18 61 *i* P **Pn 09 26 49.4 -1.5**
comp=Z,399nm,1.8s
MAK *e*S **S 09 29 39.1 -15**
comp=Z,5µm,20.0s
OKC Ostrava-Krasne 15.24 331 *e*P **Pn 09 26 56.8 +5.3**
OKC *ex* x 09 26 57.7
OKC *e*S **S 09 30 00.3 +5.6**
OKC AMS AMS 09 34 10.0
comp=Z,4µm,10.2s
OKC Ostrava-Krasne 15.24 331 *e*P **Pn 09 26 56.8 +5.3**
OKC *e* 09 26 57.7
OKC *e*S **S 09 30 00.3 +5.6**
CSNT Castellina Chi 15.25 301 P **Pn 09 26 54.2 +2.5**
RAC Raciborz 15.42 332 *e*P **Pn 09 26 55.0 +1.1**
RAC MLR MLR
comp=Z,4µm,10.0s
RAC Raciborz 15.42 332 *e*P **Pn 09 26 55.0 +1.1**
comp=Z,4µm,10.0s
RAC Raciborz 15.42 332 *e*P **Pn 09 26 55.0 +1.1**
RAC *e*S **S 09 29 54.0 -4.4**
MORC Moravsky Berou 15.43 330 *e*P **Pn 09 26 53.6 -0.4**
MORC pmax pmax
comp=Z,28nm,1.3s
MORC Moravsky Berou 15.43 330 ⇑*i*P **Pn 09 26 57.5 +3.5**
MORC Moravsky Berou 15.43 330 *e*P **Pn 09 26 53.6 -0.4**
comp=Z,28nm,1.3s
MORC Moravsky Berou 15.43 330 *e*Pn **Pn 09 26 53.6 -0.4**
comp=Z,28nm,1.3s
VRAC Vranov 15.46 327 Pn **Pn 09 26 53.8 -0.6**
comp=Z,0.8nm,0.3s,baz=305,slow=21,SNR=4.6
VRAC Sn **Sn 09 29 54.8 +10**
comp=Z,0.4nm,0.3s,baz=201,slow=19,SNR=1.5
VRAC LR LR 09 33 01.4
comp=Z,2µm,20.1s,baz=142,slow=38
VRAC Vranov 15.46 327 P **Pn 09 26 53.8 -0.6**
VRAC 09 29 54.8
VRAC pmax pmax
comp=Z,1.0nm,0.3s
VRAC MLR MLR
comp=Z,2µm,20.1s
KBA Koelnbreinsper 15.60 316 *i* P **Pn 09 27 01.0 +4.8**
comp=Z,51nm,0.9s,SNR=16
FNVD Fontana Vidola 15.60 303 P **Pn 09 26 59.3 +3.0**
ZCCA Zocca 15.77 304 P **Pn 09 27 01.9 +3.4**
VSL Villasalto 15.89 285 *e*Pn **Pn 09 26 57.5 -2.6**
comp=Z,91nm,0.9s
VSL Villasalto 15.89 285 *e*Pn **Pn 09 26 57.5 -2.6**
comp=Z,91nm,0.9s
BDI Bagni Di Lucca 15.92 302 P **Pn 09 27 01.3 +0.9**
TREC Trest 15.94 325 *e*P **Pn 09 27 05.1 +4.4**
TREC *e*S **S 09 30 12.3 +3.2**
TREC AMS AMS 09 34 00.0
comp=Z,4µm,11.4s
CTI Castel Tesino 16.06 310 P **Pn 09 27 02.9 +0.7**
KEST Kesra 16.15 272 Pn **Pn 09 27 02.3 -1.1**
comp=Z,0.2nm,0.3s,baz=45,slow=4.1,SNR=10
ERBM Eremo 16.17 303 P **Pn 09 27 04.6 +1.0**
DPC Dobruska-Polom 16.36 329 *e*P **Pn 09 27 07.4 +1.4**
comp=Z,3µm,14.5s
DPC Dobruska-Polom 16.36 329 *e*P **Pn 09 27 07.4 +1.4**
DPC *ep*P pP 09 27 10.2 -7.7
DPC *e*S **S 09 30 16.3 -1.5**
DPC AMS AMS 09 33 50.0
comp=Z,3µm,14.5s
DPC Dobruska-Polom 16.36 329 *e*P **Pn 09 27 07.4 +1.4**
DPC *e* 09 27 10.2
DPC *e*S **S 09 30 16.3 -1.5**
LUMB Murzuk 16.41 233 *i* P **Pn 09 27 06.0 -0.7**
comp=Z,54nm,1.7s,SNR=42
WAR Warsaw 16.41 342 *e*P **Pn 09 27 08.0 +1.5**
WAR LMZ 09 34 01.1
comp=Z,6µm,18.8s
WAR Warsaw 16.41 342 *e*P **Pn 09 27 08.0 +1.4**
comp=Z,6µm,18.8s
CORF Corte 16.44 295 *e*P **Pn 09 27 07.2 +0.1**
GEC2 GERESS Array S 16.49 321 *e*P **Pn 09 27 08.2 +0.5**
GEC2 pmax pmax
comp=Z,47nm,1.4s
GEC2 GERESS Array S 16.49 321 *e*P **Pn 09 27 08.2 +0.5**
comp=Z,47nm,1.4s
GERES GERESS Array B 16.49 321 Pn **Pn 09 27 08.5 +0.8**
comp=Z,0.4nm,0.3s,baz=132,slow=13,SNR=39
GERES Sn **Sn 09 30 19.5 +10**
baz=287,slow=36,SNR=2.0
GERES LR LR 09 33 05.9
comp=Z,2µm,20.0s,baz=129,slow=36
MAGA Magasa 16.57 308 P **Pn 09 27 11.7 +3.1**
PGF Pioggiola 16.61 296 *e*P **Pn 09 27 08.5 -0.6**
comp=Z,219nm,1.5s
PGF Pioggiola 16.61 296 *e*P **Pn 09 27 08.5 -0.6**
PGF pmax pmax
comp=Z,110nm,1.5s
PGF Pioggiola 16.61 296 *e*P **Pn 09 27 08.5 -0.6**
comp=Z,110nm,1.5s
UPC Upice 16.61 329 *e*P **Pn 09 27 11.6 +2.4**
UPC *ex* x 09 27 13.2
MIB Mutribah 16.62 110 *e*P **Pn 09 27 10.5 +1.0**
baz=110
MIB AMb AMB 09 27 24.6
comp=Z,176nm,0.8s,baz=110
WTTA Wattenberg 16.68 314 ⇑*i*pP **Pn 09 27 12.2 +2.2**
comp=Z,77nm,1.0s,SNR=13
KHC Kasperske Hory 16.74 322 *e*P **Pn 09 27 11.4 +0.6**
comp=Z,5µm,10.2s
KHC Kasperske Hory 16.74 322 *e*P **Pn 09 27 11.4 +0.6**
KHC *ex* x 09 27 14.3
KHC *ep*P pP 09 27 20.0 -2.1
KHC *ex* x 09 27 27.0
KHC *e*S **S 09 30 27.8 +2.4**
KHC AMS AMS 09 34 20.0
comp=Z,5µm,10.2s
KHC Kasperske Hory 16.74 322 *e*P **Pn 09 27 11.4 +0.6**
KHC *e* 09 27 14.3
KHC *e* 09 27 20.0
KHC *e* 09 27 27.0
KHC *e*S **S 09 30 27.8 +2.4**
KSP Ksiaz 16.76 330 *e*P **Pn 09 27 13.3 +2.3**
KSP LMZ 09 33 12.7
comp=Z,6µm,22.6s
KSP Ksiaz 16.76 330 ⇑*e*P **Pn 09 27 11.9 +0.9**
KSP *e*S **S 09 30 27.0 +1.2**
MABI Malga Bissina 16.76 309 P **Pn 09 27 14.2 +3.1**
NAY Al-Naaiem 16.83 112 *e*P **Pn 09 27 13.1 +0.9**
baz=112
NAY AMb AMB 09 27 21.5
comp=Z,43nm,1.0s,baz=112
PRU Pruhonice 16.87 325 *e*P **Pn 09 27 14.2 +1.8**
comp=Z,3µm,10.9s
PRU *e*S **S 09 30 20.1 -7.9**
PRU Pruhonice 16.87 325 *e*P **Pn 09 27 14.2 +1.8**
PRU *e*S **S 09 30 20.1 -7.9**
PRU AMS AMS 09 34 30.0
comp=Z,3µm,10.9s
BOB Bobbio (Coli) 16.94 304 P **Pn 09 27 15.7 +2.4**
MOTA Moosalm 17.03 313 ⇓*i*pP **Pn 09 27 16.5 +2.1**
comp=Z,48nm,1.0s,SNR=10.0
UMR Umm Al-Rimmam 17.03 110 *e*P **Pn 09 27 16.0 +1.4**
baz=110
UMR AMb AMB 09 27 32.0
comp=Z,209nm,0.7s,baz=110
FETA Feichten 17.08 312 ⇓*i*pP **Pn 09 27 16.5 +1.4**
comp=Z,42nm,0.9s,SNR=18
WET Wettzell 17.10 321 *e*P **Pn 09 27 16.0 +0.7**
WET *e*S **S 09 30 29.7 -3.1**
WET pmax pmax
comp=Z,53nm,1.2s
WET Wettzell 17.10 321 *e*P **Pn 09 27 16.0 +0.7**
comp=Z,53nm,1.2s
WET *e*S **S 09 30 29.7 -3.1**
RDF Al-Radifah 17.23 112 *e*P **Pn 09 27 17.6 +0.5**
baz=112
RDF AMb AMB 09 27 31.2
comp=Z,114nm,0.9s,baz=112
PVCC Panska Ves 17.24 327 *e*P **Pn 09 27 20.6 +3.5**
PVCC *e*S **S 09 30 45.2 +10**
PVCC AMS AMS 09 35 30.0
comp=Z,4µm,12.7s
PVCC Panska Ves 17.24 327 *e*P **Pn 09 27 20.6 +3.5**
PVCC *e*S **S 09 30 45.2 +10**
DAVOX Davos/Dischmat 17.48 310 P **Pn 09 27 20.8 +0.7**
comp=Z,0.5nm,0.3s,baz=139,slow=13,SNR=10.0
DAVOX S **S 09 30 45.2 +4.7**
comp=Z,0.5nm,0.3s,baz=335,slow=20,SNR=3.1
DAVOX LR LR 09 34 27.0
comp=Z,3µm,18.5s,baz=111,slow=38
QLNO Quiliano 17.54 301 P **Pn 09 27 21.8 +1.1**
CMAH Djebel Manchou 17.55 276 P **Pn 09 27 24.0 +3.0**
DAVOS Davos 17.56 310 P **Pn 09 27 20.8 -0.2**
VDL Val di Lei 17.61 309 ⇑P **Pn 09 27 24.0 +2.3**
MNK Minsk 17.62 357 ⇑*e*P **Pn 09 27 18.0 -3.6**
MNK *e*S **S 09 30 26.0 -17**
MNK pmax pmax

comp=Z,280nm,1.0s
MNK MLR MLR
comp=E,10µm,14.0s
MNK MLR MLR
comp=N,5µm,14.0s
MNK MLR MLR
comp=Z,8µm,14.0s
SUW Suwalki 17.62 348 *e*P **Pn 09 27 22.8 +1.1**
SUW *e*pP pP 09 27 27.2 -4.6
SUW LMZ 09 35 03.0
comp=Z,3µm,16.9s
SUW Suwalki 17.62 348 *e*P **Pn 09 27 22.8 +1.1**
comp=Z,3µm,16.9s
SUW *e*pP pP 09 27 27.2 -4.6
TUE Stuetta 17.67 309 *e*P **Pn 09 27 23.5 +1.1**
comp=Z,19nm,0.9s
TUE Stuetta 17.67 309 *e*P **Pn 09 27 23.6 +1.1**
comp=Z,19nm,0.9s
DAVA Damuels 17.72 312⇑*i*P **Pn 09 27 23.8 +0.8**
comp=Z,32nm,1.0s,SNR=10
BRG Berggiesshubel 17.77 327 *e*P **Pn 09 27 24.1 +0.6**
comp=Z,31nm,1.2s
BRG Berggiesshubel 17.77 327⇑*i*P **Pn 09 27 24.2 +0.7**
comp=Z,31nm,1.2s
BRG *e* 09 27 29.7
comp=Z,58nm,1.5s
BRG S **S 09 30 53.0 +6.7**
BRG
comp=Z,4µm,13.1s
BRG
comp=N,6µm,14.9s
BRG
comp=E,7µm,14.9s
BRG Berggiesshubel 17.77 327⇑*i*P **Pn 09 27 24.2 +0.7**
comp=E,19nm,1.2s
BRG *e* 09 27 29.7
BRG S **S 09 30 53.0 +6.7**
UBR Ueberruh 17.78 313 P **Pn 09 27 25.5 +1.8**
ROTZ Rotzenmuhle 17.84 321 *e*P **Pn 09 27 24.6 +0.2**
comp=Z,49nm,1.4s
ROTZ *e*S **S 09 30 42.3 -5.4**
LGHD Ghdames 17.95 253 *i* P **Pn 09 27 24.8 -1.1**
comp=Z,120nm,1.1s,SNR=40
LGHD *e*S **S 09 30 43.6 -6.6**
SNR=47
SAOF Saorge 17.98 300 *e*P **Pn 09 27 25.8 -0.5**
CAEH 'Ain El Ouahch 17.99 276 P **Pn 09 27 29.0 +2.6**
NKC Novy Kostel 18.02 323 *e*P **Pn 09 27 28.5 +1.9**
comp=Z,3µm,21.8s
NKC Novy Kostel 18.02 323 *e*P **Pn 09 27 28.5 +1.9**
NKC *e*S **S 09 30 56.2 +4.8**
NKC AMS AMS 09 33 40.0
comp=Z,3µm,21.8s
NKC Novy Kostel 18.02 323 *e*P **Pn 09 27 28.5 +1.9**
NKC *e*S **S 09 30 56.2 +4.8**
MANZ Manzenberg 18.02 322 *e*P **Pn 09 27 27.3 +0.6**
comp=Z,101nm,2.0s
MANZ *e*S **S 09 30 46.7 -4.8**
SBF Sospel 18.04 299 *e*P **Pn 09 27 27.3 +0.4**
comp=Z,167nm,1.0s
SBF Sospel 18.04 299 *e*P **Pn 09 27 27.3 +0.4**
SBF pmax pmax
comp=Z,84nm,1.0s
SBF Sospel 18.04 299 *e*P **Pn 09 27 27.3 +0.4**
comp=Z,84nm,1.0s
LLS Linth-Limmern 18.05 310⇑P **Pn 09 27 30.5 +3.5**
REVF Revere 18.05 299 *e*P **Pn 09 27 27.1 0.0**
FBE Freiberg 18.07 326 *e*P **Pn 09 27 27.8 +0.6**
comp=Z,34nm,1.1s
AUTN L'Aution 18.07 300 *e*P **Pn 09 27 27.4 0.0**
WERN Wernitzgrueh 18.09 323 *e*P **Pn 09 27 28.9 +1.4**
comp=Z,97nm,1.4s
TANN Tannenbergstha 18.13 323 *e*P **Pn 09 27 28.1 +0.1**
comp=Z,64nm,1.6s
CKFL Kef-Lekhel 18.14 275 P **Pn 09 27 30.0 +1.7**
TOUF Mont Tournerai 18.20 300 *e*P **Pn 09 27 29.5 +0.5**
STV Sant Anna di V 18.21 301 P **Pn 09 27 30.4 +1.3**
WERD Werda 18.23 323 *e*P **Pn 09 27 29.9 +0.7**
comp=Z,21nm,1.2s
MVIF Mont Vial 18.24 299 *e*P **Pn 09 27 30.0 +0.6**
GRA1 Grafenberg Arr 18.29 320 *e*P **Pn 09 27 30.2 +0.3**
comp=Z,66nm,1.6s
GRA1 *e*S **S 09 31 00.7 +3.8**
GRF Grafenberg Arr 18.29 320 *e*P **Pn 09 27 30.2 +0.3**
GRF pmax pmax
comp=Z,66nm,1.6s
GRF MLR MLR
comp=Z,2µm,20.1s
GRF Grafenberg Arr 18.29 320 *e*P **Pn 09 27 30.2 +0.3**
comp=Z,66nm,1.6s
GRF *e*S **S 09 31 00.7 +3.8**
GRF *e*L 09 35 00.7
comp=Z,2µm,20.1s
GRF Grafenberg Arr 18.29 320 *e*P **Pn 09 27 30.2 +0.3**
comp=Z,66nm,1.6s
GRF *e*S **S 09 31 00.7 +3.8**
GRFO Grafenberg 18.29 320 *e*P **Pn 09 27 30.2 +0.3**
GRFO pmax pmax
comp=Z,57nm,1.6s
GRFO Grafenberg 18.29 320 *e*P **Pn 09 27 30.2 +0.3**
comp=Z,57nm,1.6s
MUO Muotathal 18.33 310⇑P **Pn 09 27 31.9 +1.5**
DOI San Damiano 18.34 301 P **Pn 09 27 30.8 +0.2**
CASM Ain Smara 18.35 275 P **Pn 09 27 31.0 +0.2**
WILA Wila 18.36 311⇑P **Pn 09 27 32.1 +1.2**
MMK Mattmark 18.38 306 P **Pn 09 27 31.6 +0.5**
CALN Calern 18.39 299 *e*P **Pn 09 27 30.8 -0.4**
GKP Gorka Klasztor 18.40 337 *e*P **Pn 09 27 32.4 +1.1**
GKP LMZ 09 35 41.7
comp=Z,7µm,19.7s
GKP Gorka Klasztor 18.40 337 *e*P **Pn 09 27 32.4 +1.1**
comp=Z,7µm,19.7s
CLL Collm 18.50 326⇓*i*P **Pn 09 27 31.6 -0.8**
CLL *e*S **S 09 31 01.0 0.0**
CLL pmax pmax
comp=Z,89nm,2.0s
CLL MLR MLR
comp=Z,4µm,14.8s
CLL Collm 18.50 326 *e*P **Pn 09 27 32.3 -0.1**
comp=Z,20nm,1.0s
CLL *e*S **S 09 30 55.4 -5.6**
CLL Collm 18.50 326⇓*i*(P) **Pn 09 27 31.6 -0.8**
comp=Z,89nm,2.0s
CLL *i* x x 09 27 35.2
CLL *i* x x 09 27 37.6
CLL *e*PP 09 27 45.0
CLL *i* PPP 09 27 52.3
CLL *e*S **S 09 31 01.0 0.0**
CLL Collm 18.50 326⇓*i*P **Pn 09 27 31.6 -0.8**
comp=Z,89nm,2.0s
CLL *i* 09 27 35.2
CLL *e*S **S 09 31 01.0 0.0**
FRF La Foret Royal 18.52 298 *e*P **Pn 09 27 33.1 +0.4**
comp=Z,132nm,1.1s
FRF La Foret Royal 18.52 298 *e*P **Pn 09 27 33.1 +0.4**
FRF pmax pmax
comp=Z,66nm,1.1s
FRF La Foret Royal 18.52 298 *e*P **Pn 09 27 33.1 +0.4**
comp=Z,66nm,1.1s
GUT Gutenstein 18.55 313 P **Pn 09 27 35.1 +1.9**
LMR La Mourre 18.56 297 *e*P **Pn 09 27 33.1 -0.2**
MOX Moxa 18.69 323 *e*P **Pn 09 27 35.8 +1.0**
comp=Z,105nm,1.6s
MOX
comp=Z,2µm,15.0s
MOX Moxa 18.69 323 *e*P **Pn 09 27 35.2 +0.4**
comp=Z,38nm,1.1s
LKBD Leukerbad 18.73 307⇓P **Pn 09 27 35.5 +0.3**
MBDF Montbardon 18.73 302 *e*P **Pn 09 27 34.2 -1.1**
comp=Z,164nm,0.9s
MBDF Montbardon 18.73 302 *e*P **Pn 09 27 34.2 -1.1**
MBDF pmax pmax
comp=Z,82nm,0.9s
MBDF Montbardon 18.73 302 *e*P **Pn 09 27 34.2 -1.1**
comp=Z,82nm,0.9s
DIX Grande Dixence 18.75 306 P **Pn 09 27 35.8 +0.2**
SPAK Spaichingen-Ko 18.76 313 *e*P **Pn 09 27 35.4 -0.3**
SLE Schleitheim 18.77 312 P **Pn 09 27 37.3 +1.5**
DFRA Djebel Bou Aff 18.80 276 P **Pn 09 27 39.0 +2.8**
STU Stuttgart 18.86 315 *e*P **Pn 09 27 37.4 +0.5**
STU pmax pmax
comp=Z,63nm,0.8s
STU Stuttgart 18.86 315 *e*P **Pn 09 27 37.2 +0.3**
comp=Z,76nm,0.9s
STU Stuttgart 18.86 315 *e*P **Pn 09 27 37.3 +0.4**
comp=Z,63nm,0.8s
STU Stuttgart 18.86 315 *e*P **Pn 09 27 37.4 +0.5**
comp=Z,63nm,0.8s
OBN Obninsk 18.86 13⇑*e*P **Pn 09 27 35.0 -1.8**
OBN *e*S **S 09 31 03.9 -4.1**
OBN pmax pmax
comp=Z,94nm,1.2s
OBN MLR MLR
comp=Z,2µm,18.0s
OBN Obninsk 18.86 13 *e*P **Pn 09 27 35.5 -1.3**
comp=Z,86nm,1.0s
OBN *e*S **S 09 31 03.9 -4.1**
comp=Z,2µm,18.0s
OBN Obninsk 18.86 13 *e*P **Pn 09 27 35.5 -1.4**
comp=Z,86nm,1.0s
BNI Bardonecchia 18.89 303 *e*P **Pn 09 27 36.9 -0.3**
BNI pmax pmax
comp=Z,88nm,1.3s
BNI Bardonecchia 18.89 303 *e*P **Pn 09 27 36.9 -0.3**
comp=Z,88nm,1.3s
BNI Bardonecchia 18.89 303 *e*P **Pn 09 27 36.9 -0.4**
comp=Z,88nm,1.3s
TAVF Tavernes 18.94 298 *e*P **Pn 09 27 38.4 +0.5**
LPG La Plagne 18.98 304 *e*P **Pn 09 27 38.7 +0.4**
comp=Z,186nm,0.9s
LPG La Plagne 18.98 304 *e*P **Pn 09 27 38.7 +0.4**
LPG pmax pmax
comp=Z,93nm,0.9s
LPG La Plagne 18.98 304 *e*P **Pn 09 27 38.7 +0.4**
comp=Z,93nm,0.9s
NEUB Neuenburg 18.99 324 *e*P **Pn 09 27 38.8 +0.4**
comp=Z,44nm,1.3s
LPL La Plagne 19.00 304 *e*P **Pn 09 27 38.8 +0.2**
comp=Z,76nm,0.8s
LPL La Plagne 19.00 304 *e*P **Pn 09 27 38.8 +0.2**
LPL pmax pmax
comp=Z,38nm,0.8s
LPL La Plagne 19.00 304 *e*P **Pn 09 27 38.8 +0.2**
comp=Z,38nm,0.8s
LBG Lerchenberg 19.04 315 P **Pn 09 27 39.3 +0.3**
EMV Vieux Emosson 19.07 306⇑P **Pn 09 27 39.2 -0.3**
FELD Feldberg im Sc 19.12 312 *e*P **Pn 09 27 39.3 -0.7**
RSL Roselend 19.13 304 *e*P **Pn 09 27 39.1 -1.0**
BFO Black Forest 19.14 313 P **Pn 09 27 40.7 +0.5**
comp=Z,201nm,1.6s,SNR=11
BFO Black Forest 19.14 313 *e*P **Pn 09 27 40.0 -0.2**
BFO *e*S **S 09 31 04.6 -9.4**
BFO pmax pmax
comp=Z,79nm,1.4s
BFO Black Forest 19.14 313 *e*P **Pn 09 27 40.0 -0.2**
comp=Z,79nm,1.4s
BFO *e*S **S 09 31 04.6 -9.4**
PUYF Puyloubier 19.18 297 *e*P **Pn 09 27 40.7 0.0**
KIZ Kirchzarten 19.21 312 P **Pn 09 27 41.7 +0.7**
SET Setif 19.23 275 P **Pn 09 27 43.0 +1.6**
VILF Villemus 19.24 298 *e*P **Pn 09 27 41.0 -0.5**
OG01 Vacheresse 19.31 306 *e*P **Pn 09 27 40.8 -1.5**
OG01 Vacheresse 19.31 306 *e*P **Pn 09 27 41.2 -1.1**
OG01 Vacheresse 19.31 306 *e*P **Pn 09 27 41.2 -1.1**
SMRF Simiane la Rot 19.37 299 *e*P **Pn 09 27 42.2 -0.8**
comp=Z,46nm,1.0s
SMRF Simiane la Rot 19.37 299 *e*P **Pn 09 27 42.2 -0.8**
comp=Z,25nm,1.0s
ORIF Oris-en-Rattie 19.39 302 *e*P **Pn 09 27 41.2 -2.1**
comp=Z,106nm,1.0s
ORIF *e*MLR MLR
comp=Z,2µm,20.2s
ORIF Oris-en-Rattie 19.39 302 *e*P **Pn 09 27 41.2 -2.1**
ORIF pmax pmax
comp=Z,53nm,1.0s
ORIF Oris-en-Rattie 19.39 302 *e*P **Pn 09 27 41.2 -2.1**
comp=Z,53nm,1.0s
SWS Schriesheim-Wi 19.52 317 P **Pn 09 27 43.9 -0.8**
TOD Tromm 19.52 317 *e*P **Pn 09 27 43.2 -1.6**
UBBA Unterbreizbach 19.60 321 *e*P **Pn 09 27 44.1 -1.6**
comp=Z,28nm,1.3s
UBBA *e*S **S 09 31 15.0 -8.2**
PRAF Pradon 19.61 298 *e*P **Pn 09 27 44.9 -1.0**
MOF Molkenrain 19.63 311 *e*P **Pn 09 27 43.9 -2.2**
MOS Moscow 19.65 14 *e*P **Pn 09 27 43.0 -3.3**
MOS *e*S **S 09 31 23.3 -0.9**
MOS pmax pmax
comp=Z,1µm,3.1s
MOS pmax pmax
comp=Z,204nm,1.4s
MOS MLR MLR
comp=Z,1µm,16.0s
MOS Moscow 19.65 14 *e*P **Pn 09 27 43.0 -3.3**
comp=Z,204nm,1.4s
MOS *e*S **S 09 31 23.3 -0.9**
comp=Z,1µm,16.0s
LANF Langenberg 19.76 314 *e*P **Pn 09 27 46.0 -1.6**
KTD Kalmit 19.77 316 *e*P **Pn 09 27 45.8 -2.0**
ECH Echery 19.78 312 *e*P **Pn 09 27 45.4 -2.4**
ECH Echery 19.78 312 *e*P **Pn 09 27 46.1 -1.7**
ECH Echery 19.78 312 *e*P **Pn 09 27 46.1 -1.7**
HINF Hinteralfeld 19.79 310 *e*P **Pn 09 27 46.5 -1.4**
CABF La Chapelle 19.80 307 *e*P **Pn 09 27 46.3 -1.7**
comp=Z,118nm,0.8s
CABF La Chapelle 19.80 307 *e*P **Pn 09 27 46.3 -1.7**
CABF pmax pmax
comp=Z,59nm,0.8s
CABF La Chapelle 19.80 307 *e*P **Pn 09 27 46.3 -1.7**
comp=Z,59nm,0.8s
CDF Champ du Feu 19.80 312 *e*P **Pn 09 27 46.8 -1.2**
comp=Z,111nm,1.1s
CDF Champ du Feu 19.80 312 *e*P **Pn 09 27 46.8 -1.2**
CDF pmax pmax
comp=Z,55nm,1.1s
CDF Champ du Feu 19.80 312 *e*P **Pn 09 27 46.8 -1.2**
comp=Z,55nm,1.1s
AKF Akfadou 19.83 277 P **Pn 09 27 57.3 +8.8**
OG05 Jujurieux 20.01 305 *e*P **P 09 27 47.0 -1.7**
TNS Taunus Mts 20.05 318 *e*P **P 09 27 48.8 -0.3**
TNS *e*S **S 09 31 22.8 -10**
TNS pmax pmax
comp=Z,42nm,1.2s
TNS Taunus Mts 20.05 318 *e*P **P 09 27 48.8 -0.3**
comp=Z,42nm,1.2s
TNS *e*S **S 09 31 22.8 -10**
CLZ Clausthal 20.06 324 *e*P **P 09 27 49.1 -0.1**
CLZ pmax pmax
comp=Z,35nm,1.2s
CLZ Clausthal 20.06 324 *e*P **P 09 27 49.1 -0.1**
comp=Z,35nm,1.2s
HAU Haudompre 20.18 311 *e*P **P 09 27 50.4 0.0**
comp=Z,152nm,1.4s
HAU *e*MLR MLR
comp=Z,4µm,23.0s,MS4.4
HAU Haudompre 20.18 311 *e*P **P 09 27 50.4 0.0**
HAU pmax pmax
comp=Z,76nm,1.4s
HAU MLR MLR
comp=Z,4µm,23.0s,MS4.7
HAU Haudompre 20.18 311 *e*P **P 09 27 50.4 0.0**
comp=Z,76nm,1.4s
HAU LR LR
comp=Z,4µm,23.0s,MS4.7
VIVF Saint-Julien-l 20.20 301 *e*P **P 09 27 49.9 -0.9**
comp=Z,215nm,1.0s
VIVF Saint-Julien-l 20.20 301 *e*P **P 09 27 49.9 -0.9**
VIVF pmax pmax
comp=Z,108nm,1.0s
VIVF Saint-Julien-l 20.20 301 *e*P **P 09 27 49.9 -0.9**
comp=Z,108nm,1.0s
ABH Alteburg 20.36 316 *e*P **P 09 27 51.9 -0.5**
SSB Saint Sauveur 20.40 302 *e*P **P 09 27 51.4 -1.5**
THEF They Montfort 20.49 311 *e*P **P 09 27 53.1 -0.7**
RUP Ruppelstein 20.54 315 *e*P **P 09 27 54.2 -0.2**
LASF Ste Croix 20.60 298 *e*P **P 09 27 54.3 -0.7**
comp=Z,82nm,1.1s
LASF Ste Croix 20.60 298 *e*P **P 09 27 54.3 -0.7**
comp=Z,41nm,1.1s
ETOS Mallorca 20.96 286 P **P 09 27 58.3 -0.8**
comp=Z,573nm,2.9s
ETOS Mallorca 20.96 286 P **P 09 27 58.3 -0.8**
comp=Z,573nm,2.9s
WLF Walferdange 21.04 315 P **P 09 28 00.2 +0.4**
comp=Z,49nm,1.5s,mb4.6
WLF Walferdange 21.04 315 *e*P **P 09 28 00.1 +0.4**
WLF pmax pmax
comp=Z,80nm,1.1s,mb5.0
WLF Walferdange 21.04 315 *e*P **P 09 28 01.0 +1.3**
comp=Z,74nm,1.0s,mb5.0
WLF Walferdange 21.04 315 *e*P **P 09 28 00.1 +0.4**
comp=Z,80nm,1.1s,mb5.0
WLF Walferdange 21.04 315 *e*P **P 09 28 00.1 +0.3**
comp=Z,80nm,1.1s,mb5.0
MEZF Maizieres J'vi 21.17 311 *e*P **P 09 28 01.1 -0.1**
EMHD Djebel Mahouad 21.18 276 P **P 09 28 02.1 +0.7**
SLAT Slait 21.19 171 *i* P **P 09 28 00.7 -0.9**
SLAT AMb AMB 09 28 10.6
comp=Z,80nm,1.6s,mb4.8
SLAT *i* S **S 09 31 59.8 +4.6**
PLDF La Plantade 21.21 303 *e*P **P 09 28 00.7 -1.0**
SMF Signal de Mont 21.27 305 *e*P **P 09 28 01.4 -0.8**
comp=Z,140nm,0.9s,mb5.0
SMF Signal de Mont 21.27 305 *e*P **P 09 28 01.4 -0.8**
SMF pmax pmax
comp=Z,70nm,0.9s,mb5.0
SMF Signal de Mont 21.27 305 *e*P **P 09 28 01.4 -0.8**
comp=Z,70nm,0.9s,mb5.0
LBL Lubilhac 21.28 301 *e*P **P 09 28 02.9 +0.5**
BUG Bochum--Univer 21.36 320 *e*P **P 09 28 02.4 -0.7**
comp=Z,33nm,1.1s,mb4.6
LOR Lormes 21.46 307 *e*P **P 09 28 02.7 -1.6**
comp=Z,59nm,1.0s,mb4.6
LOR *e*MLR MLR
comp=Z,2µm,20.0s,MS4.1
LOR Lormes 21.46 307 *e*P **P 09 28 02.7 -1.6**
LOR pmax pmax
comp=Z,30nm,1.0s,mb4.6
LOR MLR MLR
comp=Z,2µm,20.0s,MS4.4
LOR Lormes 21.46 307 *e*P **P 09 28 02.7 -1.6**
comp=Z,30nm,1.0s,mb4.6
LOR LR LR
comp=Z,2µm,20.0s,MS4.4
BSEG Bad Segeberg 21.51 328 *e*P **P 09 28 03.9 -0.9**
BSEG pmax pmax
comp=Z,51nm,1.5s,mb4.7
BSEG Bad Segeberg 21.51 328 *e*P **P 09 28 03.9 -0.9**
comp=Z,51nm,1.5s,mb4.7
BSEG *e*S **S 09 31 47.0 -14**
AGO Saint Agoulin 21.57 303 *e*P **P 09 28 05.1 -0.3**
MEM Membach 21.59 317 P **P 09 28 06.1 +0.5**
comp=Z,28nm,1.3s,mb4.5
IBBN Ibbenburen 21.61 322 *e*P **P 09 28 05.8 -0.1**
comp=Z,21nm,0.9s,mb4.6
SSF Saint Saulge 21.61 306 *e*P **P 09 28 05.7 -0.3**
comp=Z,46nm,0.8s,mb4.7
SSF Saint Saulge 21.61 306 *e*P **P 09 28 05.7 -0.3**
SSF pmax pmax
comp=Z,23nm,0.8s,mb4.7
SSF Saint Saulge 21.61 306 *e*P **P 09 28 05.7 -0.3**
comp=Z,23nm,0.8s,mb4.7
AVF Avril sur Loir 21.63 305 *e*P **P 09 28 04.9 -1.2**
comp=Z,70nm,0.9s,mb4.8
AVF Avril sur Loir 21.63 305 *e*P **P 09 28 04.9 -1.2**
AVF pmax pmax
comp=Z,35nm,0.9s,mb4.8
AVF Avril sur Loir 21.63 305 *e*P **P 09 28 04.9 -1.2**
comp=Z,35nm,0.9s,mb4.8
MTLF Montolieu 21.64 296 *e*P **P 09 28 04.5 -1.8**
comp=Z,63nm,1.3s,mb4.6
MTLF Montolieu 21.64 296 *e*P **P 09 28 04.5 -1.8**
MTLF pmax pmax
comp=Z,31nm,1.3s,mb4.6
MTLF Montolieu 21.64 296 *e*P **P 09 28 04.5 -1.8**
comp=Z,31nm,1.3s,mb4.6
HGN Heimansgroeve 21.70 317 *e*P **P 09 28 06.8 -0.1**
comp=Z,61nm,1.3s,mb4.9
HGN Heimansgroeve 21.70 317 *e*S **S 09 32 10.5 +5.6**
BEBN Eben Emael 21.86 317 P **P 09 28 09.9 +1.3**
BCLA Clavier 21.88 316 P **P 09 28 09.1 +0.3**
comp=Z,62nm,1.4s,mb4.8
BGF Bois d'Agland 21.89 304 *e*P **P 09 28 08.1 -0.9**
WTSB Winterswijk 21.89 321 *e*P **P 09 28 08.7 -0.2**
comp=Z,43nm,1.2s,mb4.8
COP Copenhagen 22.00 334 *i* P **P 09 28 08.4 -1.6**
COP *i* S **S 09 32 08.0 -2.4**
COP *i* S **S 09 32 10.9 +0.5**
COP pmax pmax
comp=Z,40nm,0.8s,mb4.9
COP MLR MLR
comp=Z,1µm,19.0s,MS4.4
COP Copenhagen 22.00 334 *i* P **P 09 28 08.4 -1.6**
comp=Z,40nm,0.8s,mb4.9
COP *i* S **S 09 32 08.0 -2.4**
COP *i* S **S 09 32 10.9 +0.5**
COP *i* S **S 09 32 23.2 +13**
COP
comp=Z,1µm,19.0s
COP Copenhagen 22.00 334 *i* P **P 09 28 08.4 -1.6**
comp=Z,40nm,0.8s,mb4.9
COP *i* S **S 09 32 08.0 -2.4**
GIVF Givet 22.00 315 *e*P **P 09 28 09.6 -0.5**
comp=Z,135nm,0.9s,mb5.1
GIVF Givet 22.00 315 *e*P **P 09 28 09.6 -0.5**
GIVF pmax pmax
comp=Z,68nm,0.9s,mb5.1
GIVF Givet 22.00 315 *e*P **P 09 28 09.6 -0.5**
comp=Z,68nm,0.9s,mb5.1
CAF Calviac 22.03 300 *e*P **P 09 28 10.3 -0.1**
comp=Z,49nm,1.1s,mb4.6
CAF Calviac 22.03 300 *e*P **P 09 28 10.3 -0.1**
CAF pmax pmax
comp=Z,24nm,1.1s,mb4.5
CAF Calviac 22.03 300 *e*P **P 09 28 10.3 -0.1**
comp=Z,24nm,1.1s,mb4.6
DOU Dourbes 22.13 314 P **P 09 28 10.8 -0.6**
comp=Z,34nm,1.3s,mb4.6
TCF Toulx Ste Croi 22.24 303 *e*P **P 09 28 12.3 -0.4**
comp=Z,37nm,0.9s,mb4.5
TCF Toulx Ste Croi 22.24 303 *e*P **P 09 28 12.3 -0.4**
TCF pmax pmax
comp=Z,19nm,0.9s,mb4.5
TCF Toulx Ste Croi 22.24 303 *e*P **P 09 28 12.3 -0.4**
comp=Z,19nm,0.9s,mb4.5
EBNR Beni Rached 22.30 277 P **P 09 28 23.2 +10**
EPOB Poblet 22.31 290 P **P 09 28 15.4 +2.0**
comp=Z,36nm,1.0s,mb4.8
EPOB Poblet 22.31 290 P **P 09 28 15.4 +1.9**
comp=Z,36nm,1.0s,mb4.8
BAIF Baives 22.34 314 *e*P **P 09 28 13.0 -0.6**
comp=Z,153nm,1.2s,mb5.0
BAIF Baives 22.34 314 *e*P **P 09 28 13.0 -0.6**
BAIF pmax pmax
comp=Z,76nm,1.2s,mb5.0
BAIF Baives 22.34 314 *e*P **P 09 28 13.0 -0.6**
comp=Z,76nm,1.2s,mb5.0
ECHA Ech Chlef 22.45 276 P **P 09 28 22.6 +7.6**
RJF Les Rejaudoux 22.48 301 *e*P **P 09 28 13.1 -2.1**
RJF *e*MLR MLR
comp=Z,3µm,20.2s,MS4.4
RJF Les Rejaudoux 22.48 301 *e*P **P 09 28 13.1 -2.1**
RJF LR LR
comp=Z,3µm,20.3s,MS4.7
SNF Seneffe 22.50 315 P **P 09 28 15.1 -0.2**
comp=Z,41nm,1.5s,mb4.6
UCC Uccle 22.59 316 P **P 09 28 16.9 +0.6**
ETRT Tiaret 22.65 275 P **P 09 28 18.5 +1.3**
EANR 'Ain N'Sour 22.70 276 P **P 09 28 18.8 +1.1**
VAN Vannovskaya 22.84 79 P **P 09 28 18.5 -0.6**
VAN S **S 09 32 30.0 +3.9**
ERTA Horta de San J 22.86 289 P **P 09 28 20.0 +0.7**
comp=Z,130nm,2.2s,mb5.0
ERTA Horta de San J 22.86 289 P **P 09 28 20.0 +0.7**
comp=Z,130nm,2.2s,mb5.0
LFF La Frestale 22.95 299 *e*P **P 09 28 19.5 -0.7**
EPF Esparros 22.97 294 *e*P **P 09 28 19.5 -0.9**
comp=Z,23nm,1.1s,mb4.2
EPF Esparros 22.97 294 *e*P **P 09 28 19.5 -0.9**
EPF pmax pmax
comp=Z,12nm,1.0s,mb4.3
EPF Esparros 22.97 294 *e*P **P 09 28 19.5 -0.9**
comp=Z,12nm,1.1s,mb4.2
EBIE Bielsa 23.09 294 P **P 09 28 24.5 +2.8**
comp=Z,28nm,1.1s,mb4.6
EMOS Mosqueruela 23.48 288 P **P 09 28 26.0 +0.4**
comp=Z,7.2nm,0.7s,mb4.2
EMOS Mosqueruela 23.48 288 P **P 09 28 26.0 +0.3**
comp=Z,7.2nm,0.7s,mb4.2
ESAC San Caprasio 23.48 291 P **P 09 28 27.0 +1.3**
comp=Z,46nm,0.6s,mb5.1
ESAC San Caprasio 23.48 291 P **P 09 28 27.1 +1.4**
comp=Z,46nm,0.6s,mb5.1
ETSF Etsaut 23.62 294 *e*P **P 09 28 26.9 0.0**
comp=Z,28nm,0.9s,mb4.4
ETSF Etsaut 23.62 294 *e*P **P 09 28 26.9 0.0**
ETSF pmax pmax
comp=Z,14nm,0.9s,mb4.4

ETSF	**Etsaut**		23.62	294	*e*P		P	09 28 26.9	0.0	
	comp=Z,14nm,0.9s,mb4.4									
MUD	**Monsted U'grnd**		23.78	332	*i* P		P	09 28 28.6	+0.4	
MUD					*i* S		S	09 32 51.2	+10	
MUD					pmax	pmax				
	comp=Z,19nm,1.1s,mb4.4									
MUD					MLR	MLR				
	comp=Z,2µm,20.0s,MS4.7									
MUD	**Monsted U'grnd**		23.78	332	*i* P		P	09 28 28.6	+0.4	
	comp=Z,19nm,1.1s,mb4.4									
MUD					*i* S		S	09 32 51.2	+10	
MUD										
	comp=Z,2µm,20.0s									
MUD	**Monsted U'grnd**		23.78	332	*i* P		P	09 28 28.6	+0.4	
	comp=Z,19nm,1.1s,mb4.4									
MUD					*i* S		S	09 32 51.2	+10	
ECHE	**Chera**		23.89	286	P		P	09 28 29.6	+0.2	
ECHE					pmax	pmax				
	comp=Z,11nm,0.7s,mb4.4									
ECHE	**Chera**		23.89	286	P		P	09 28 29.6	+0.2	
	comp=Z,11nm,0.7s,mb4.4									
MFF	**Saint Martin d**		23.90	303	*e*P		P	09 28 27.4	-2.0	
SJPF	**Ste Jean**		24.12	294	*e*P		P	09 28 30.3	-1.2	
	comp=Z,52nm,1.0s,mb4.6									
SJPF	**Ste Jean**		24.12	294	*e*P		P	09 28 30.3	-1.2	
SJPF					pmax	pmax				
	comp=Z,26nm,1.0s,mb4.6									
SJPF	**Ste Jean**		24.12	294	*e*P		P	09 28 30.3	-1.2	
	comp=Z,26nm,1.0s,mb4.6									
LDF	**La Druitiere**		24.42	308	*e*P		P	09 28 32.2	-1.9	
	comp=Z,51nm,1.0s,mb4.6									
LDF	**La Druitiere**		24.42	308	*e*P		P	09 28 32.2	-1.9	
LDF					pmax	pmax				
	comp=Z,26nm,1.0s,mb4.6									
LDF	**La Druitiere**		24.42	308	*e*P		P	09 28 32.2	-1.9	
	comp=Z,26nm,1.0s,mb4.6									
AKTK	**Aktyubinsk**		24.58	48	P		P	09 28 34.9	-0.7	
	comp=Z,2µm,20.6s									
AKTK	**Aktyubinsk**		24.58	48	P		P	09 28 34.9	-0.7	
AKTK					S		S	09 33 02.9	+8.9	
AKTK					LR		LR	09 41 36.9		
AKTO	**Aktyubinsk**		24.58	48	P		P	09 28 34.9	-0.7	
	comp=Z,28nm,0.8s,mb4.8,baz=249,slow=9.7,SNR=28									
AKTO					S		S	09 33 02.9	+8.9	
	comp=Z,0.7nm,0.4s,baz=5.6,slow=20,SNR=1.7									
AKTO					LR		LR	09 41 36.9		
	comp=Z,2µm,20.6s,MS4.5,baz=93,slow=45									
FINES	**FINESS Array B**		24.64	356	*e*P		P	09 28 35.0	-1.0	
ETOR	**Torete**		24.67	289	P		P	09 28 38.3	+1.8	
ETOR					pmax	pmax				
	comp=Z,6.0nm,1.6s,mb3.9									
ETOR	**Torete**		24.67	289	P		P	09 28 38.3	+1.8	
	comp=Z,6.4nm,1.6s,mb3.9									
ETOR	**Torete**		24.67	289	P		P	09 28 38.3	+1.7	
	comp=Z,6.4nm,1.6s,mb3.9									
FLN	**La Foliniere**		24.69	308	*e*P		P	09 28 35.4	-1.2	
FLN					*e*MLR	MLR				
	comp=Z,2µm,20.5s,MS4.3									
FLN	**La Foliniere**		24.69	308	*e*P		P	09 28 35.4	-1.2	
FLN					LR	LR				
	comp=Z,2µm,20.5s,MS4.6									
KLMR	**Klimovskoe**		24.82	12	*e*P		P	09 28 37.0	-0.6	
KLMR					pmax	pmax				
	comp=Z,53nm,1.3s,mb4.9									
KLMR	**Klimovskoe**		24.82	12	*e*P		P	09 28 37.0	-0.6	
	comp=Z,53nm,1.3s,mb4.9									
GRR	**Gorron**		24.82	307	*e*P		P	09 28 37.2	-0.6	
	comp=Z,99nm,1.2s,mb4.9									
GRR	**Gorron**		24.82	307	*e*P		P	09 28 37.2	-0.6	
GRR					pmax	pmax				
	comp=Z,49nm,1.2s,mb4.9									
GRR	**Gorron**		24.82	307	*e*P		P	09 28 37.2	-0.6	
	comp=Z,50nm,1.2s,mb4.9									
TAM	**Tamanrasset**		24.90	242	*e*P		P	09 28 39.9	+1.2	
EVIA	**Vianos**		25.16	284	P		P	09 28 40.0	-1.0	
EVIA					pmax	pmax				
	comp=Z,43nm,0.7s,mb5.1									
EVIA	**Vianos**		25.16	284	P		P	09 28 40.0	-1.0	
	comp=Z,43nm,0.7s,mb5.1									
EVIA	**Vianos**		25.16	284	P		P	09 28 40.0	-0.9	
	comp=Z,43nm,0.7s,mb5.1									
KAF	**Kangasniemi**		25.29	357	*e*p		P	09 28 41.5	-0.4	
	comp=Z,35nm,0.8s,mb4.9									
KAF	**Kangasniemi**		25.29	357	*e*P		P	09 28 41.5	-0.4	
KAF					pmax	pmax				
	comp=Z,35nm,0.8s,mb4.9									
HFS	**Hagfors**		25.30	342	P		P	09 28 41.4	-0.7	
	comp=Z,57nm,1.0s,mb5.1,baz=148,slow=8.7,SNR=25									
HFS					S		S	09 33 11.1	+5.7	
	comp=Z,4.4nm,1.0s,baz=165,slow=6.0,SNR=2.5									
HFS					LR		LR	09 39 40.5		
	comp=Z,4µm,19.2s,MS4.9,baz=152,slow=39									
HFS	**Hagfors**		25.30	342	P		P	09 28 41.4	-0.7	
HFS					S		S	09 33 11.1	+5.8	
HFS					pmax	pmax				
	comp=Z,57nm,1.0s									
HFS					smax					
	comp=N,4.0nm,1.0s									
HFS					MLR	MLR				
	comp=Z,4µm,19.2s									
HFA0	**Hagfors New Ar**		25.31	342	P		P	09 28 44.0	+1.9	
EHUE	**Huescar**		25.32	282	P		P	09 28 41.9	-0.6	
BANOM	**Banah**		25.41	108	⇓P		P	09 28 44.5	+1.1	
	SNR=11									
EQES	**Quesada**		25.70	282	P		P	09 28 44.8	-1.1	
	comp=Z,21nm,0.9s,mb4.7									
EQES	**Quesada**		25.70	282	P		P	09 28 44.8	-1.1	
	comp=Z,21nm,0.9s,mb4.7									
ELAN	**Lanestosa**		25.74	294	P		P	09 28 50.4	+4.2	
	comp=Z,42nm,0.9s,mb5.0									
HATD	**Hatta, Dubai**		25.88	110	⇑P		P	09 28 48.8	+1.2	
	SNR=10									
JOF	**Joensuu**		26.06	2	*e*p		P	09 28 49.1	+0.2	
	comp=Z,27nm,0.7s,mb4.9									
JOF	**Joensuu**		26.06	2	*e*P		P	09 28 49.1	+0.2	
JOF					pmax	pmax				
	comp=Z,27nm,0.7s,mb4.9									
ECOG	**Cogollos-Vega**		26.17	281	P		P	09 28 51.3	+1.1	
ECOG					pmax	pmax				
	comp=Z,9.0nm,0.7s,mb4.4									
ECOG	**Cogollos-Vega**		26.17	281	P		P	09 28 51.3	+1.1	
	comp=Z,8.7nm,0.7s,mb4.4									
ECOG	**Cogollos-Vega**		26.17	281	P		P	09 28 51.3	+1.2	
	comp=Z,8.7nm,0.7s,mb4.4									
ESDC	**Sonseca Array**		26.19	286	P		P	09 28 49.3	-1.0	
	comp=Z,18nm,0.8s,mb4.6,baz=79,slow=10,SNR=32									
ESDC					LR		LR	09 39 42.1		
	comp=Z,439nm,20.0s,MS4.0,baz=110,slow=38									
ESDC	**Sonseca Array**		26.19	286	P		P	09 28 49.8	-0.5	
	comp=Z,15nm,0.8s,mb4.6									
ESDC	**Sonseca Array**		26.19	286	P		P	09 28 49.8	-0.5	
	comp=Z,15nm,0.8s,mb4.6									
ESLA	**Sonseca Array**		26.19	286	*e*P		P	09 28 49.7	-0.6	
EBAN	**Banos Encina**		26.21	283	P		P	09 28 49.5	-1.0	
EBAN					pmax	pmax				
	comp=Z,35nm,1.2s,mb4.8									
EBAN	**Banos Encina**		26.21	283	P		P	09 28 49.5	-1.0	
	comp=Z,35nm,1.2s,mb4.8									
EBAN	**Banos Encina**		26.21	283	P		P	09 28 49.5	-1.1	
	comp=Z,35nm,1.2s,mb4.8									
EGUA	**Guajares**		26.25	280	P		P	09 28 49.8	-1.0	
EGUA					pmax	pmax				
	comp=Z,116nm,1.1s,mb5.3									
EGUA	**Guajares**		26.25	280	P		P	09 28 49.8	-1.0	
	comp=Z,116nm,1.1s,mb5.3									
EGUA	**Guajares**		26.25	280	P		P	09 28 49.8	-1.1	
	comp=Z,116nm,1.1s,mb5.3									
GUD	**Guadarrama**		26.27	288	P		P	09 28 50.6	-0.5	
GUD					pmax	pmax				
	comp=Z,11nm,0.8s,mb4.4									
GUD	**Guadarrama**		26.27	288	P		P	09 28 50.6	-0.5	
	comp=Z,11nm,0.8s,mb4.5									
GUD	**Guadarrama**		26.27	288	P		P	09 28 50.6	-0.5	
	comp=Z,11nm,0.8s,mb4.5									
ERON	**Agron**		26.40	280	P		P	09 28 51.5	-0.8	
ERON	**Agron**		26.40	280	P		P	09 28 51.5	-0.7	
PAB	**San Pablo**		26.50	286	*e*P		P	09 28 51.9	-1.2	
PAB					pmax	pmax				
	comp=Z,28nm,0.9s,mb4.8									
PAB	**San Pablo**		26.50	286	*e*P		P	09 28 51.9	-1.2	
	comp=Z,28nm,0.9s,mb4.8									
PAB	**San Pablo**		26.50	286	*e*P		P	09 28 51.9	-1.2	
	comp=Z,28nm,0.9s,mb4.8									
NAO01	**NORSAR Array S**		26.65	340	*e*P		P	09 28 54.3	+0.1	
	comp=Z,17nm,0.8s,mb4.6									
NAO01	**NORSAR Array S**		26.65	340	*e*P		P	09 28 54.3	+0.1	
	comp=Z,17nm,0.8s,mb4.6									
ELUQ	**Luque**		26.68	282	P		P	09 28 53.2	-1.5	
ELUQ	**Luque**		26.68	282	P		P	09 28 53.2	-1.5	
NB2	**NORSAR Subarra**		26.72	340	P		P	09 28 54.0	-0.9	
	comp=Z,13nm,0.9s,mb4.5,baz=144,slow=9.3									
NOA	**NORSAR Array B**		26.72	340	P		P	09 28 54.4	-0.5	
	comp=Z,9.6nm,0.8s,mb4.3,baz=146,slow=8.9,SNR=16									
NOA	**NORSAR Array B**		26.72	340	P		P	09 28 54.4	-0.5	
NOA					pmax	pmax				
	comp=Z,10.0nm,0.9s									
EADA	**Adamuz**		26.83	283	P		P	09 28 57.4	+1.3	
	comp=Z,23nm,1.0s,mb4.7									
EADA	**Adamuz**		26.83	283	P		P	09 28 57.4	+1.2	
	comp=Z,23nm,1.0s,mb4.7									
ECAB	**El Cabril**		27.50	283	P		P	09 29 01.4	-0.7	
	comp=Z,30nm,1.0s,mb4.9									
ECAB	**El Cabril**		27.50	283	P		P	09 29 01.4	-0.7	
	comp=Z,30nm,1.0s,mb4.9									
ARU	**Arti**		27.65	36	*d* /P		P	09 29 02.1	-1.1	
ARU					*e*			09 29 46.3		
ARU					*e*S		S	09 33 42.8	+0.4	
ARU					pmax	pmax				
	comp=Z,19nm,1.2s,mb4.6									
ARU					MLR	MLR				
	comp=Z,1µm,18.0s,MS4.5									
ARU	**Arti**		27.65	36	*e*P		P	09 29 02.5	-0.7	
	comp=Z,13nm,0.6s,mb4.8									
ARU	**Arti**		27.65	36	*e*P		P	09 29 02.5	-0.8	
	comp=Z,13nm,0.6s,mb4.8									
ESPR	**Espera**		28.05	281	P		P	09 29 05.6	-1.4	
	comp=Z,25nm,1.0s,mb4.8									
ESPR	**Espera**		28.05	281	P		P	09 29 05.6	-1.4	
	comp=Z,25nm,1.0s,mb4.8									
MDT	**Midelt**		28.06	272	P		P	09 29 06.7	-0.5	
	comp=Z,5.5nm,0.9s,mb4.2,baz=93,slow=11,SNR=6.5									
PBRG	**Braganca**		28.18	291	*e*P		P	09 29 07.4	-0.7	
MVO	**Moncorvo**		28.42	290	*e*P		P	09 29 09.4	-0.9	
	comp=Z,33nm,1.4s,mb4.8									
MVO					*e*S		S	09 34 21.2	+26	
EMIN	**Mina Concepcio**		28.53	283	P		P	09 29 10.1	-1.2	
	comp=Z,39nm,1.2s,mb5.0									
EMIN	**Mina Concepcio**		28.53	283	P		P	09 29 10.1	-1.2	
	comp=Z,39nm,1.2s,mb5.0									
EKA	**Eskdalemuir Ar**		28.71	320	P		P	09 29 11.2	-1.5	
	comp=Z,11nm,1.0s,mb4.5,baz=110,slow=10.0,SNR=8.2									
EKA	**Eskdalemuir Ar**		28.71	320	P		P	09 29 11.2	-1.5	
EKA					pmax	pmax				
	comp=Z,11nm,1.0s									
PBAR	**Barrancos**		28.75	284	*e*P		P	09 29 12.4	-0.9	
	comp=Z,24nm,1.8s,mb4.6									
PBAR					*e*S		S	09 34 11.6	+11	
PBAR					*e*LR	LR		09 36 58.8		
	comp=Z,530nm,18.0s									
SVE	**Sverdlovsk**		28.84	36	*e*P		P	09 29 12.7	-1.1	
SVE					pmax	pmax				
	comp=Z,18nm,0.9s,mb4.8									
SVE	**Sverdlovsk**		28.84	36	*e*P		P	09 29 12.7	-1.1	
	comp=Z,18nm,0.9s,mb4.8									
PMRV	**Marv??o**		28.85	286	*e*P		P	09 29 13.0	-1.2	
PMRV					*e*S		S	09 34 24.2	+22	
MTE	**Manteigas**		28.87	288	*e*P		P	09 29 13.8	-0.5	
	comp=Z,19nm,1.3s,mb4.7									
MTE					*e*S		S	09 34 28.7	+27	
MTE					*e*LR	LR		09 37 50.3		
	comp=Z,752nm,18.0s									
MTE	**Manteigas**		28.87	288	*e*P		P	09 29 13.7	-0.6	
PCBR	**Castelo Branco**		28.87	287	*e*P		P	09 29 13.5	-0.8	
	comp=Z,24nm,1.1s,mb4.8									
PCBR	**Castelo Branco**		28.87	287	*e*P		P	09 29 13.4	-0.9	
PESTR	**Estremoz**		29.08	285	*e*S		Sx	09 34 32.3		
PVAQ	**Vaqueiros**		29.41	282	*e*P		P	09 29 17.6	-1.5	
	comp=Z,32nm,2.0s,mb4.7									
PVAQ					*e*S		S	09 34 22.9	+12	
PVAQ					*e*LR	LR		09 37 57.0		
	comp=Z,352nm,16.0s									
PBEJ	**Beja**		29.42	284	*e*P		P	09 29 18.6	-0.6	
	comp=Z,35nm,1.4s,mb4.9									
EVO	**Evora**		29.45	285	*e*P		P	09 29 18.7	-0.8	
	comp=Z,22nm,1.1s,mb4.5									
EVO					*e*MLR	MLR				
	comp=Z,814nm,21.0s,MS4.0									
EVOP	**Sao Brissos**		29.54	285	*e*P		P	09 29 18.7	-1.6	
	comp=Z,11nm,1.1s,mb4.5									
PBDV	**Barranco-do-Ve**		29.61	282	*e*LR		LR	09 37 34.9		
	comp=Z,373nm,16.0s									
MORF	**Marmelete**		30.16	282	*e*S		S	09 34 11.6	-11	
PMAFR	**Mafra**		30.37	286	*e*S		S	09 34 42.1	+17	
ARCES	**ARCESS Array B**		32.74	358	P		P	09 29 47.7	-0.4	
	comp=Z,18nm,0.8s,mb5.0,baz=175,slow=7.3,SNR=21									
ARCES					LR	LR		09 43 39.7		
	comp=Z,1µm,18.5s,MS4.6,baz=163,slow=37									
ARCES	**ARCESS Array B**		32.74	358	P		P	09 29 47.7	-0.4	
ARCES					pmax	pmax				
	comp=Z,18nm,0.8s									
ARCES					MLR	MLR				
	comp=Z,1µm,18.5s									
ARCES	**ARCESS Array B**		32.74	358	P		P	09 29 47.7	-0.4	
ARCES					LR	LR		09 43 39.7		
KEV	**Kevo**		32.92	359	*e*p		P	09 29 54.9	+5.2	
	comp=Z,12nm,0.7s,mb4.9									
KEV	**Kevo**		32.92	359	*e*P		P	09 29 54.9	+5.2	
KEV					pmax	pmax				
	comp=Z,12nm,0.7s,mb4.9									
TOA0	**Torodi Ar. Sit**		34.23	233	*e*P		P	09 30 01.1	-0.5	
TOA0	**Torodi Ar. Sit**		34.23	233	*e*P		P	09 30 01.1	-0.5	
TORD	**Torodi Ar. Bea**		34.23	233	P		P	09 30 00.9	-0.6	
	comp=Z,232nm,0.3s,baz=37,slow=9.3,SNR=2.0									
TORD					S		S	09 35 22.2	-3.8	
	comp=Z,181nm,0.3s,baz=34,slow=31,SNR=1.6									
TORD					LR	LR		09 47 13.5		
	comp=Z,1µm,19.1s,MS4.7,baz=35,slow=42									
TORD	**Torodi Ar. Bea**		34.23	233	P		P	09 30 00.9	-0.6	
TORD					S		S	09 35 22.2	-3.8	
TORD					LR	LR		09 47 13.5		
EKS2	**Erkin-Say**		34.33	66	P		P	09 30 02.8	+0.6	
	SNR=9.2									
EKS2	**Erkin-Say**		34.33	66	*e*P		P	09 30 02.5	+0.3	
	comp=Z,19nm,1.3s,mb4.9									
EKS2	**Erkin-Say**		34.33	66	*e*P		P	09 30 02.5	+0.3	
	comp=Z,19nm,1.3s,mb4.9									
AAK	**Ala-Archa**		34.86	66	P		P	09 30 07.5	+0.7	
	comp=Z,91nm,0.6s,mb5.9,SNR=9.4									
AAK	**Ala-Archa**		34.86	66	P		P	09 30 07.2	+0.4	
	SNR=11									
FRU	**Bishkek**		34.93	66	*i* P		P	09 30 08.0	+0.6	
FRU					pmax	pmax				
	comp=Z,70nm,1.9s,mb5.3									
FRU	**Bishkek**		34.93	66	*i* P		P	09 30 08.0	+0.6	
	comp=Z,70nm,1.9s,mb5.3									
CHMS	**Chumysh**		35.01	66	P		P	09 30 08.1	0.0	
	SNR=7.3									
KZA	**Kyzart**		35.48	67	P		P	09 30 13.0	+0.9	
	SNR=12									
TKM2	**Tokmak 2**		35.63	66	*e*P		P	09 30 13.3	-0.2	
TKM2					pmax	pmax				
	comp=Z,9.0nm,0.8s,mb4.8									
TKM2	**Tokmak 2**		35.63	66	P		P	09 30 13.1	-0.4	
	SNR=11									
TKM2	**Tokmak 2**		35.63	66	*e*P		P	09 30 13.3	-0.2	
	comp=Z,8.8nm,0.8s,mb4.7									
TKM2	**Tokmak 2**		35.63	66	*e*P		P	09 30 13.3	-0.1	
	comp=Z,8.8nm,0.8s,mb4.7									
ULHL	**Ulahol**		36.19	67	P		P	09 30 18.9	+0.6	
	SNR=13									
KURK	**Kurchatov**		37.45	52	⇑P		P	09 30 28.6	-0.2	
	SNR=9.7									
KURK	**Kurchatov**		37.45	52	/*e*P		P	09 30 28.2	-0.6	
KURK					pmax	pmax				
	comp=Z,25nm,1.3s,mb4.9									
KURK					MLR	MLR				
	comp=Z,1µm,22.0s,MS4.7									
KURK	**Kurchatov**		37.45	52	*e*P		P	09 30 28.2	-0.6	
	comp=Z,1µm,22.0s									
KURK	**Kurchatov**		37.45	52	*e*P		P	09 30 28.1	-0.7	
	comp=Z,20nm,1.0s,mb4.9									
KMBO	**Kilima Mbogo**		38.56	167	LR	LR		09 48 19.3		
	comp=Z,676nm,19.1s,MS4.5,baz=315,slow=39									
SMLA	**Simla**		39.74	84	*i* P		P	09 30 48.0	-0.4	
SMLA					*ex*		x	09 30 53.3		
	comp=Z,160nm,0.6s									
SMLA					*i* S		S	09 36 48.3	-1.4	
MK31	**Makanchi Array**		39.98	59	*e*P		P	09 30 49.7	-0.5	
MKAR	**Makanchi Array**		39.98	59	P		P	09 30 49.1	-1.0	
	comp=Z,18nm,0.8s,mb4.8,baz=282,slow=6.1,SNR=67									
MKAR					PP		PP	09 32 22.5	+0.2	
	comp=Z,3.0nm,0.9s,baz=281,slow=7.3,SNR=2.0									
MKAR					LR	LR		09 51 26.7		
	comp=Z,703nm,20.7s,MS4.5,baz=275,slow=42									
MKAR	**Makanchi Array**		39.98	59	P		P	09 30 49.1	-1.1	
MKAR								09 32 22.5		
MKAR					pmax	pmax				
	comp=Z,18nm,0.8s									
MKAR					pmax	pmax				
	comp=Z,3.0nm,0.9s									
MKAR					MLR	MLR				
	comp=Z,703nm,20.7s									
NVS	**Novosibirsk**		40.45	46	*e*P		P	09 30 53.5	-0.4	
NVS					*e*			09 32 26.0		
NVS					pmax	pmax				
	comp=Z,16nm,1.1s,mb4.7									
NVS					pmax	pmax				
	comp=E,8.0nm,1.2s									
NVS	**Novosibirsk**		40.45	46	*e*P		P	09 30 53.5	-0.4	
	comp=E,16nm,1.1s,mb4.7									
NDI	**New Delhi**		40.73	87	*ex*		P	09 30 56.5	-0.1	
ZAA0	**Zalesovo Array**		41.34	48	*e*P		P	09 31 00.3	-1.0	
ZAA0	**Zalesovo Array**		41.34	48	*e*P		P	09 31 00.3	-0.9	
ZALV	**Zalesovo Beam**		41.34	48	P		P	09 30 59.5	-1.7	
	comp=E,1.9nm,0.6s,mb3.9,baz=262,slow=8.8,SNR=7.9									
ZALV					LR	LR		09 51 45.9		
	comp=E,838nm,21.8s,MS4.6,baz=149,slow=42									
ZALV	**Zalesovo Beam**		41.34	48	P		P	09 30 59.6	-1.7	
ZALV					pmax	pmax				
	comp=Z,2.0nm,0.6s,mb3.9									
ZALV					MLR	MLR				
	comp=Z,838nm,21.8s,MS4.6									
CMLA	**Cha da Macela**		43.08	288	*e*LQ			09 41 09.5		
CMLA					*e*LR	LR		09 43 30.9		
DBIC	**Dimbokro**		43.32	234	P		P	09 31 16.9	-0.9	
	comp=Z,3.8nm,0.5s,mb4.4,baz=19,slow=11,SNR=15									
DBIC	**Dimbokro**		43.32	234	P		P	09 31 16.9	-0.9	
DBIC					pmax	pmax				
	comp=Z,4.0nm,0.5s									
DBIC	**Dimbokro**		43.32	234	*e*P		P	09 31 17.9	+0.1	
	comp=Z,11nm,0.7s,mb4.7									
TIC	**Toumodi**		43.44	235	*e*P		P	09 31 18.4	-0.4	
	comp=Z,36nm,0.2s,mb5.8									
KIC	**Kosan Boka**		43.47	234	*e*P		P	09 31 19.9	+0.9	
	comp=Z,72nm,0.8s,mb5.5									
LIC	**Lamto**		43.76	234	*e*P		P	09 31 22.4	+1.0	
	comp=Z,22nm,0.7s,mb4.7									
LIC					*e*MLR	MLR				
	comp=Z,1µm,22.8s,MS4.5									
LIC	**Lamto**		43.76	234	*e*P		P	09 31 22.4	+1.0	
	comp=Z,11nm,0.6s,mb4.8									
LIC					LR	LR				
	comp=Z,730nm,22.8s,MS4.5									
WMQ	**Urumqi**		44.20	62	⇓P		P	09 31 24.5	-0.1	
WMQ					AP	pP		09 31 29.0	-6.3	
WMQ					XP	sP		09 31 31.5	-8.2	
WMQ					PP	PP		09 33 09.0	+1.2	
WMQ					PPP			09 33 47.5		
WMQ					S		S	09 37 57.0	+1.7	
WMQ					XS	sS		09 38 04.5	-8.5	
WMQ					AMB	AMB				
	comp=Z,32nm,1.1s,mb5.0									
WMQ					AMB	AMB				
	comp=Z,202nm,4.5s									
WMQ					LR	LR				
	comp=N,1µm,22.5s,MS4.9									
WMQ					LR	LR				
	comp=E,949nm,26.0s,MS4.9									
WMQ					LR	LR				
	comp=Z,805nm,19.0s									
DANN	**Dangsing**		46.10	84	*e*P		P	09 31 40.1	+0.2	
	comp=Z,238nm,0.8s,mb6.2									
KOLN	**Koldanda**		46.22	85	*e*P		P	09 31 40.8	0.0	
	comp=Z,51nm,0.6s,mb5.6									
GKN	**Gorkha**		46.95	84	*e*P		P	09 31 45.9	-0.6	
	comp=Z,114nm,0.9s,mb5.8									
HYB	**Hyderabad**		47.34	101	*i* P		P	09 31 49.5	-0.2	
HYB	**Hyderabad**		47.34	101	*e*P		P	09 31 49.5	-0.2	
DMN	**Daman**		47.49	84	*e*P		P	09 31 50.5	-0

CD2 XS sS 09 41 48.0 -11
CD2 SS SS 09 45 39.8 +1.1
CD2 AMB AMB
comp=Z,10.0nm,1.1s,mb4.9
CD2 AMB AMB
comp=Z,30nm,5.8s
CD2 LR LR
comp=N,370nm,10.8s
CD2 LR LR
comp=Z,370nm,13.2s,MS4.7
LBTB Lobatse 61.70 184 *e*P **P 09 33 36.4 +2.8**
LBTB pmax pmax
comp=Z,15nm,1.0s,mb5.1
LBTB Lobatse 61.70 184 *e*P **P 09 33 36.4 +2.8**
comp=Z,15nm,1.0s,mb5.1
KMI Kunming 62.62 78 P **P 09 33 40.8 +0.8**
KMI S **S 09 42 08.8 +3.1**
KMI SS SS 09 46 14.3 +4.1
KMI SSS 09 48 56.3
KMI LR LR
comp=Z,312nm,24.3s,MS4.4
RES Resolute Bay 62.82 346 *e*P **P 09 33 41.7 +1.1**
comp=Z,4μm,2.2s
CHTO Chiang Mai 62.86 86 *e*P **P 09 33 40.9 -0.8**
CHTO pmax pmax
comp=Z,6.0nm,0.9s,mb4.7
CHTO Chiang Mai 62.86 86 *e*P **P 09 33 40.9 -0.8**
comp=Z,6.0nm,0.9s,mb4.7
CHRT Chiangrai 62.97 85 ⇑P **P 09 33 42.0 -0.4**
XAN Xi'an 63.04 66 P **P 09 33 41.3 -1.4**
XAN AP pP 09 33 45.5 -6.3
XAN PCP PcP 09 34 20.5 +0.2
XAN PP PP 09 36 00.8 -0.5
XAN S **S 09 42 13.0 +2.3**
XAN SS SS 09 46 19.5 +3.2
XAN AMB AMB
comp=Z,6.0nm,0.9s,mb4.7
XAN LR LR
comp=N,127nm,28.7s,MS4.4
XAN LR LR
comp=E,299nm,23.9s,MS4.4
XAN LR LR
comp=Z,603nm,24.5s,MS4.7
CM31 Chiang Mai Arr 63.05 86 *e*P **P 09 33 50.6 +7.6**
CMAR Chiang Mai Arr 63.05 86 P **P 09 33 41.4 -1.6**
comp=Z,8.2nm,0.8s,mb4.9,baz=298,slow=7.7,SNR=20
CMAR LR LR 10 05 09.5
comp=Z,188nm,21.8s,MS4.2,baz=125,slow=40
CMAR Chiang Mai Arr 63.05 86 P **P 09 33 41.4 -1.6**
CMAR pmax pmax
comp=Z,8.0nm,0.8s
CMAR MLR MLR
comp=Z,188nm,21.8s
CMAR Chiang Mai Arr 63.05 86 *i*P **P 09 33 42.4 -0.6**
CMAR pmax pmax
comp=Z,8.0nm,0.8s
HIA Hailar 63.38 47 *e*P **P 09 33 44.1 -0.6**
NANT Nan 64.27 85 P **P 09 33 48.0 -3.0**
GYA Guiyang 65.01 75 ⇑*i*P **P 09 33 57.8 +2.1**
GYA PCP PcP 09 34 31.3 +2.8
GYA PP PP 09 36 23.0 +4.2
GYA SCP 09 38 32.8
GYA S S 09 42 38.0 +2.7
GYA SKS 09 43 49.3
GYA SS SS 09 46 51.8 +4.5
GYA AMB AMB
comp=Z,20nm,1.0s,mb5.1
GYA AMB AMB
comp=Z,130nm,5.9s
GYA LR LR
comp=N,480nm,22.6s,MS4.8
GYA LR LR
comp=E,430nm,22.8s,MS4.8
GYA LR LR
comp=Z,470nm,21.4s,MS4.7
BOSA Boshof 65.29 184 P **P 09 33 58.0 +0.7**
comp=Z,3.7nm,0.9s,mb4.4,baz=313,slow=11,SNR=4.1
BOSA LR LR 10 03 34.9
comp=Z,514nm,19.6s,MS4.7,baz=6.8,slow=37
BOSA Boshof 65.29 184 P **P 09 33 58.0 +0.7**
BOSA pmax pmax
comp=Z,4.0nm,0.9s,mb4.5
BOSA MLR MLR
comp=Z,514nm,19.6s,MS4.7
BJI Beijing 65.35 58 P **P 09 33 57.5 -0.3**
BJI PP PP 09 36 20.5 -1.0
BJI S S 09 42 41.5 +2.4
BJI SS SS 09 46 54.8 +2.7
BJI AMB AMB
comp=Z,20nm,0.4s,mb5.5
BJI LR LR
comp=N,216nm,12.1s,MS4.6
BJI LR LR
comp=E,152nm,12.8s,MS4.6
BJI LR LR
comp=Z,323nm,40.8s
CN2 Changchun 69.47 50 *e*P **P 09 34 25.8 +2.0**
BILL Bilibino 70.50 16⇑ *e*P **P 09 34 28.6 -1.0**
BILL *e* 09 37 04.5
BILL *e*S S 09 43 31.5 -8.2
BILL *e*SS SS 09 48 12.5 +2.3
BILL pmax pmax
comp=Z,17nm,1.2s,mb4.8
BILL MLR MLR
comp=Z,700nm,23.0s,MS4.8
MDJ Mudanjiang 71.54 48 P **P 09 34 36.0 -0.4**
MDJ AP pP 09 34 39.0 -8.6
MDJ PCP PcP 09 34 55.5 -0.1
MDJ PP PP 09 37 13.0 -1.9
MDJ S S 09 43 49.3 -3.3
MDJ AMB AMB
comp=Z,8.0nm,1.5s,mb4.4
MDJ AMB AMB
comp=Z,115nm,4.5s
MDJ LR LR
comp=N,462nm,24.8s,MS4.8
MDJ LR LR
comp=E,298nm,21.7s,MS4.8
MDJ LR LR
comp=Z,260nm,31.1s
SSE Sheshan 73.44 63 P **P 09 34 47.0 -0.9**
SSE XP sP 09 34 51.5 -12
SSE PP PP 09 37 29.5 -2.0
SSE S S 09 44 14.0 -0.7
SSE AMB AMB
comp=Z,44nm,0.8s,mb5.4
SSE AMB AMB
comp=Z,94nm,5.1s
SSE LR LR
comp=N,158nm,14.2s,MS4.8
SSE LR LR
comp=E,284nm,14.2s,MS4.8
SSE LR LR
comp=Z,339nm,12.8s,MS4.8
KSRS Korea Array 74.53 55 P **P 09 34 53.5 -0.7**
comp=Z,4.8nm,1.0s,mb4.4,baz=280,slow=6.0,SNR=8.2
KSRS LR LR 10 11 40.9
comp=Z,547nm,19.8s,MS4.8,baz=315,slow=39
KSRS Korea Array 74.53 55 P **P 09 34 53.5 -0.6**
KSRS pmax pmax
comp=Z,5.0nm,1.0s,mb4.4
KSRS MLR MLR
comp=Z,547nm,19.8s,MS4.8
COLD Coldfoot 76.18 360 *e*P **P 09 35 03.8 +0.7**
comp=Z,20nm,1.2s,mb4.9
COLD *e*PP PP 09 37 53.0 -0.7
YKA Yellowknife Ar 76.77 344 P **P 09 35 05.6 -0.9**
comp=Z,4.9nm,0.7s,mb4.5,baz=28,slow=5.8,SNR=7.8
YKA LR LR 10 07 46.8
comp=Z,181nm,22.0s,MS4.3,baz=90,slow=35
YKA Yellowknife Ar 76.77 344 P **P 09 35 05.6 -0.9**
YKA pmax pmax
comp=Z,5.0nm,0.7s
YKA Yellowknife Ar 76.77 344 P **P 09 35 05.6 -0.9**
YKA LR LR 10 07 46.8
IMA2 Indian Mountai 77.32 1 *e*P **P 09 35 10.3 +0.7**
YSS Yuzh-Sakhalins 77.44 40 *e*P **P 09 35 13.7 +3.1**
EGAK Eagle 78.36 356 *e*P **P 09 35 16.2 +0.9**
comp=Z,6.6nm,0.7s,mb4.7
DAWY Dawson 78.96 355 *e*P **P 09 35 19.4 +0.8**
BPAW Bear Paw Mtn. 79.32 0 *e*P **P 09 35 20.4 -0.2**
comp=Z,7.7nm,0.8s,mb4.7
CHUM Lake Minchumin 79.53 1 *e*P **P 09 35 22.6 +0.8**
comp=Z,29nm,1.3s,mb5.0
CHUM *e*PP PP 09 38 24.2 +2.5

FFC Flin Flon 79.61 334 *e*P **P 09 35 21.9 -0.5**
FFC pmax pmax
comp=Z,18nm,1.1s,mb4.9
FFC Flin Flon 79.61 334 *e*P **P 09 35 21.9 -0.5**
comp=Z,18nm,1.1s,mb4.9
MCK McKinley 79.68 359 *e*P **P 09 35 22.7 +0.1**
MCK pmax pmax
comp=Z,8.0nm,1.0s,mb4.6
MCK McKinley 79.68 359 *e*P **P 09 35 22.6 +0.1**
comp=Z,7.6nm,1.0s,mb4.6
PETK Petropavlovsk- 79.79 29 P **P 09 35 23.5 +0.1**
comp=Z,3.9nm,1.0s,mb4.3,baz=224,slow=16,SNR=2.9
PETK LR LR 10 15 19.0
comp=Z,585nm,21.2s,MS4.9,baz=327,slow=39
KTH Kantishna Hill 79.87 0 *e*P **P 09 35 24.3 +0.7**
comp=Z,20nm,1.3s,mb4.9
KTH *e*PcP PcP 09 35 30.4 -0.7
TRF Thorofare Moun 79.97 360 *e*P **P 09 35 24.5 +0.3**
comp=Z,13nm,1.0s,mb4.8
COWI Conover 80.58 322 *e*P **P 09 35 27.7 0.0**
comp=Z,24nm,1.0s,mb5.1
ULM Lac du Bonnet 80.68 328 P **P 09 35 26.9 -1.3**
comp=Z,24nm,1.1s,mb5.0,baz=33,slow=5.8,SNR=9.3
ULM LR LR 10 11 35.5
comp=Z,696nm,19.6s,MS5.0,baz=245,slow=36
ULM Lac du Bonnet 80.68 328 *e*P **P 09 35 27.5 -0.7**
comp=Z,33nm,1.2s,mb5.1
ACSO Alum Creek Sta 81.27 314 *e*P **P 09 35 31.9 +0.3**
MJAR Matsushiro Arr 81.62 50 P **P 09 35 33.8 +0.2**
comp=Z,1.5nm,0.8s,mb4.0,baz=212,slow=23,SNR=3.4
MJAR LR LR 10 15 43.5
comp=Z,269nm,18.6s,MS4.6,baz=320,slow=39
MJAR Matsushiro Arr 81.62 50 P **P 09 35 33.8 +0.3**
MJAR pmax pmax
comp=Z,2.0nm,0.8s
MJAR MLR MLR
comp=Z,269nm,18.6s
PMR Palmer 81.83 359 *e*P **P 09 35 33.9 -0.2**
PMR pmax pmax
comp=Z,18nm,1.1s,mb4.9
PMR Palmer 81.83 359 *e*P **P 09 35 33.9 -0.2**
comp=Z,18nm,1.1s,mb4.9
HYT Haines Junctio 82.01 354 *e*P **P 09 35 36.3 +1.3**
AGMN Agassiz Refuge 82.14 327 *e*P **P 09 35 35.7 -0.3**
EYAK Cordova Ski Ar 82.80 358 *e*P **P 09 35 40.8 +1.6**
JFWS Jewell Farm 83.39 320 *e*P **P 09 35 41.3 -1.3**
JFWS pmax pmax
comp=Z,18nm,0.8s,mb5.2
JFWS Jewell Farm 83.39 320 *e*P **P 09 35 41.3 -1.3**
comp=Z,18nm,0.8s,mb5.2
BLO Bloomington 84.00 315 *e*P **P 09 35 45.9 +0.1**
WCI Wyandotte Cave 84.52 314 *e*P **P 09 35 48.5 +0.1**
WCI pmax pmax
comp=Z,11nm,0.8s,mb5.0
WCI Wyandotte Cave 84.52 314 *e*P **P 09 35 48.5 +0.1**
comp=Z,11nm,0.8s,mb5.0
HDIL Hopedale 84.56 318 *e*P **P 09 35 48.8 +0.2**
comp=Z,31nm,0.8s,mb5.5
EDM Edmonton 84.57 339 *e*P **P 09 35 48.5 +0.1**
OLIL Olney 85.19 316 *e*P **P 09 35 51.7 -0.1**
comp=Z,58nm,1.4s,mb5.5
CPCT Cooper Cave 85.37 311 *e*P **P 09 35 54.2 +1.4**
DGMT Dagmar 85.47 331 ⇑P **P 09 35 52.7 -0.3**
baz=85
DGMT Dagmar 85.47 331 *e*P **P 09 35 53.8 +0.8**
SCIA State Center 85.63 321 *e*P **P 09 35 53.0 -1.0**
ECSD EROS,Sioux Fal 85.93 324 *e*P **P 09 35 55.2 -0.2**
comp=Z,8.2nm,0.9s,mb5.0
SLM Saint Louis 86.44 317 *e*P **P 09 35 57.7 -0.3**
SLM pmax pmax
comp=Z,59nm,1.1s,mb5.7
SLM Saint Louis 86.44 317 *e*P **P 09 35 57.6 -0.3**
comp=Z,59nm,1.1s,mb5.7
SIUC Southern Illin 86.53 316 *e*P **P 09 35 58.6 +0.2**
comp=Z,41nm,1.1s,mb5.6
WVT Waverly 86.85 314 *e*P **P 09 35 59.3 -0.8**
FVM French Village 87.01 317 *e*P **P 09 36 01.0 +0.2**
FVM pmax pmax
comp=Z,15nm,0.9s,mb5.2
FVM French Village 87.01 317 *e*P **P 09 36 01.0 +0.2**
comp=Z,15nm,0.9s,mb5.2
CCM Cathedral Cave 87.40 317 *e*P **P 09 36 02.2 -0.5**
CCM pmax pmax
comp=Z,24nm,1.1s,mb5.3
CCM Cathedral Cave 87.40 317 *e*P **P 09 36 02.2 -0.5**
comp=Z,24nm,1.1s,mb5.3
LAO LASA Array 87.71 331 *e*P **P 09 36 04.9 +0.8**
comp=Z,34nm,0.9s,mb5.6
A16A West Butte Ran 87.74 335 ⇓P **P 09 36 03.7 -0.4**
baz=87
EGMT Eagleton 87.90 334 ⇑P **P 09 36 04.9 +0.1**
baz=88,SNR=8.5
EGMT Eagleton 87.90 334 *e*P **P 09 36 05.3 +0.5**
comp=Z,42nm,1.2s,mb5.5
A15A Johnson Ranch, 88.08 336 ⇑P **P 09 36 05.3 -0.4**
baz=88
B16A M & M Farms, S 88.23 335 ⇓P **P 09 36 06.2 -0.3**
baz=88
A14A Double T Ranch 88.31 336 ⇑P **P 09 36 06.7 -0.1**
baz=88
C17A Wharram Farm, 88.58 334 ⇑P **P 09 36 07.8 -0.3**
baz=88
B15A Bradely Ranch, 88.61 336 ⇓P **P 09 36 07.5 -0.7**
baz=88
D18A Linhart Farms, 88.62 333 ⇓P **P 09 36 08.6 +0.3**
baz=88,SNR=7.4
C16A Fuhringer Ranc 88.78 335 ⇓P **P 09 36 09.1 +0.1**
baz=88
RSSD Black Hills 88.94 328 *e*P **P 09 36 09.7 -0.2**
RSSD pmax pmax
comp=Z,5.0nm,1.1s,mb4.8
RSSD Black Hills 88.94 328 *e*P **P 09 36 09.7 -0.2**
comp=Z,5.5nm,1.1s,mb4.8
D17A Six Diamond Ra 88.97 334 ⇑P **P 09 36 09.8 -0.2**
baz=89
C15A Salmond Ranch, 89.09 335 ⇑P **P 09 36 10.6 +0.1**
baz=89
B13A Whitefish 89.17 337 ⇓P **P 09 36 10.7 -0.2**
baz=89
E18A Harlowton 89.19 333 ⇓P **P 09 36 11.5 +0.4**
baz=89,SNR=6.4
D16A Dana Ranch, Ca 89.38 334 ⇓P **P 09 36 11.9 0.0**
baz=89,SNR=5.4
C14A Swan Lake 89.47 336 ⇓P **P 09 36 12.1 -0.2**
baz=89
BDFB Brasilia 89.49 250 P **P 09 36 13.8 +1.1**
comp=Z,4.1nm,0.9s,mb4.8,baz=54,slow=7.8,SNR=5.1
BDFB LR LR 10 18 46.9
comp=Z,329nm,19.7s,MS4.8,baz=10,slow=37
BDFB Brasilia 89.49 250 P **P 09 36 13.9 +1.1**
BDFB pmax pmax
comp=Z,4.0nm,0.9s
BDFB MLR MLR
comp=Z,329nm,19.7s
E17A Martinsdale 89.62 334 ⇑P **P 09 36 12.8 -0.2**
baz=89,SNR=6.8
F18A Big Timber 89.69 333 ⇑P **P 09 36 13.4 +0.1**
baz=89
D15A Lincoln 89.70 335 ⇓P **P 09 36 13.1 -0.2**
baz=89
HRY Holter Researc 89.75 334 *e*P **P 09 36 13.8 +0.2**
C13A Hot Springs 89.81 337 ⇓P **P 09 36 14.0 +0.1**
baz=90
A09A Danville 89.86 340 ⇓P **P 09 36 14.1 0.0**
baz=90
D14A Greenough 89.99 336 ⇑P **P 09 36 14.7 -0.1**
baz=90
F17A Fitzpatrick Pl 90.03 333 ⇓P **P 09 36 15.5 +0.6**
baz=90,SNR=9.8
B10A Chitwood Farm, 90.08 338 ⇓P **P 09 36 14.8 -0.3**
baz=90
NEW Newport 90.08 338 *e*P **P 09 36 15.3 +0.2**
RLMT Red Lodge 90.19 332 ⇑P **P 09 36 15.6 -0.1**
baz=90
RLMT Red Lodge 90.19 332 *e*P **P 09 36 16.5 +0.8**
comp=Z,18nm,1.4s,mb5.2
B09A Rice 90.23 339 ⇑P **P 09 36 16.0 +0.1**
baz=90
A07A Ashnola River, 90.28 341 ⇑P **P 09 36 16.1 +0.1**
baz=90
D13A Huson 90.29 336 ⇓P **P 09 36 15.8 -0.4**
baz=90
CBIJ Chichi jima 90.38 55 LR LR 10 19 41.0
comp=Z,447nm,18.0s,MS4.9,baz=276,slow=38
F16A Kennard Place, 90.48 334 ⇑P **P 09 36 16.8 -0.3**
baz=90
G17A Pierce Place, 90.56 333 ⇑P **P 09 36 17.5 0.0**
baz=90
BOZ Bozeman (W) 90.60 334 *e*P **P 09 36 18.2 +0.6**
BOZ pmax pmax
comp=Z,28nm,1.9s,mb5.3
BOZ Bozeman (W) 90.60 334 ⇑P **P 09 36 18.0 +0.4**
baz=90,SNR=5.8
BOZ Bozeman (W) 90.60 334 *e*P **P 09 36 18.2 +0.6**
comp=Z,28nm,1.9s,mb5.3
F15A Butte 90.73 334 ⇑P **P 09 36 18.2 0.0**
baz=90
B07A Winthrop 90.75 340 ⇓P **P 09 36 18.2 0.0**
baz=90
E13A Victor 90.78 336 ⇑P **P 09 36 18.2 -0.2**
baz=90
C09A Chrisman Ranch 90.83 339 ⇓P **P 09 36 18.6 0.0**
baz=90
G16A Moss Hill, Enn 91.02 334 ⇑P **P 09 36 19.9 +0.3**
baz=91,SNR=9.2
C08A Higginbotham F 91.07 339 ⇓P **P 09 36 19.6 -0.1**
baz=91
LKWY Lake 91.08 332 *e*P **P 09 36 21.2 +1.3**
DLMT Dillon 91.18 334 *e*P **P 09 36 21.6 +1.2**
CBKS Cedar Bluff 91.22 323 *e*P **P 09 36 20.4 -0.2**
MIAR Mount Ida 91.25 316 *e*P **P 09 36 21.3 +0.5**
MIAR pmax pmax
comp=Z,17nm,1.1s,mb5.3
MIAR Mount Ida 91.25 316 *e*P **P 09 36 21.3 +0.5**
comp=Z,17nm,1.1s,mb5.3
E12A Beaver Dam Sad 91.25 337 ⇓P **P 09 36 20.3 -0.3**
baz=91
H16A Russell Place, 91.27 333 ⇓P **P 09 36 20.7 0.0**
baz=91
H17A Grant Village 91.29 332 ⇑P **P 09 36 22.4 +1.6**
baz=91,SNR=8.5
G15A Dillon 91.32 334 ⇓P **P 09 36 20.7 -0.3**
baz=91
OD2 Odessa Site #2 91.33 339 *e*P **P 09 36 21.0 +0.1**
YFT Old Faithful 91.34 333 *e*P **P 09 36 21.5 +0.4**
F13A Darby 91.40 335 ⇓P **P 09 36 21.1 -0.2**
baz=91
E11A Bogner Ranch, 91.51 337 ⇑P **P 09 36 21.0 -0.8**
baz=91
D08A Wollman Farm, 91.69 339 ⇓P **P 09 36 22.2 -0.4**
baz=91
I17A Pilgram Creek 91.70 332 ⇓P **P 09 36 22.8 0.0**
baz=91
F12A Elk City 91.73 336 ⇑P **P 09 36 22.6 -0.3**
baz=91
PHWY Pilot Hill 91.84 328 *e*P **P 09 36 23.7 +0.2**
IMW Indian Meadow 91.85 332 *e*P **P 09 36 25.0 +1.6**
D07A Quincy 91.87 340 ⇑P **P 09 36 23.5 +0.1**
baz=92
F11A Grangeville 91.91 337 ⇑P **P 09 36 22.8 -0.9**
baz=92
MOOW Moose Ponds 91.91 332 *e*P **P 09 36 24.8 +1.0**
E09A Wood Farm, Sta 91.96 338 ⇓P **P 09 36 23.5 -0.4**
baz=92
LOHW Long Hollow 91.97 332 *e*P **P 09 36 25.0 +0.9**
F10A Beach Ranch, E 92.17 337 ⇑P **P 09 36 24.4 -0.4**
baz=92
DCID1 Drake Creek 92.20 332 *e*P **P 09 36 26.0 +0.9**
comp=Z,18nm,1.2s,mb5.3
TPAW Teton Pass 92.21 332 *e*P **P 09 36 26.1 +1.0**
J17A Brown Place, J 92.23 332 ⇓P **P 09 36 25.1 -0.1**
baz=92
E08A Dider Farm, El 92.25 339 ⇑P **P 09 36 25.2 0.0**
baz=92
BW06 Boulder Array 92.30 331 ⇑P **P 09 36 25.1 -0.4**
baz=92
PDAR Pinedale Array 92.30 331 P **P 09 36 24.6 -1.0**
comp=Z,1.5nm,0.8s,mb4.4,baz=58,slow=3.6,SNR=12
PDAR LR LR 10 19 34.8
comp=Z,401nm,18.4s,MS4.9,baz=33,slow=37
I15A Monteview 92.33 333 ⇑P **P 09 36 26.4 +0.8**
baz=92
RRI2 Red Ridge 92.47 332 *e*P **P 09 36 26.3 0.0**
comp=Z,13nm,1.3s,mb5.1
HAWA Hanford 92.47 339 *e*P **P 09 36 27.0 +0.8**
SDV Santo Domingo 92.59 283 P **P 09 36 27.3 -0.1**
comp=Z,4.4nm,0.7s,mb5.0,baz=76,slow=6.3,SNR=5.4
SDV Santo Domingo 92.59 283 *e*P **P 09 36 27.8 +0.4**
F09A S2 Ranch, Elgi 92.61 338 ⇓P **P 09 36 26.6 -0.3**
baz=92
J16A Bone 92.64 333 ⇑P **P 09 36 27.7 +0.6**
baz=92,SNR=7.6
I14A Mackay 92.73 334 ⇓P **P 09 36 27.3 -0.2**
baz=92
E06A Yakima 92.74 340 ⇑P **P 09 36 27.4 -0.1**
baz=92
G10A Bishop Farm, J 92.74 337 ⇓P **P 09 36 26.8 -0.7**
baz=92
L19A Farson 92.78 331 ⇓P **P 09 36 27.3 -0.4**
baz=92
F08A Pendleton 92.79 338 ⇑P **P 09 36 27.4 -0.4**
baz=92
J15A Blackfoot 92.83 333 ⇑P **P 09 36 28.9 +0.9**
baz=92,SNR=7.0
G09A Cove 92.96 337 ⇑P **P 09 36 28.4 -0.2**
baz=93
I13A Wildhorse Cree 92.98 334 ⇑P **P 09 36 28.6 -0.1**
baz=93
F07A Phinny Hill Vi 93.04 339 ⇑P **P 09 36 28.7 -0.2**
baz=93
BMO Blue Mountains 93.20 337 *e*P **P 09 36 28.6 -1.1**
comp=Z,7.4nm,1.3s,mb5.0
M19A Rock Springs 93.21 330 ⇑P **P 09 36 29.3 -0.5**
baz=93
H10A Noah's Angus R 93.25 336 ⇑P **P 09 36 29.3 -0.6**
baz=93
J14A Carey 93.28 334 ⇑P **P 09 36 29.8 -0.3**
baz=93
G08A Pilot Rock 93.31 338 ⇓P **P 09 36 30.0 -0.1**
baz=93
J13A Cove Ranch, Pi 93.45 334 ⇑P **P 09 36 30.3 -0.5**
baz=93
K15A Arbon 93.49 333 ⇑P **P 09 36 31.7 +0.6**
baz=93,SNR=10
G07A Ruggs Ranch, H 93.54 339 ⇓P **P 09 36 31.2 0.0**
baz=93
L16A Fish Haven 93.66 332 ⇑P **P 09 36 31.6 -0.2**
baz=93
I10A Payette 93.72 336 ⇓P **P 09 36 31.4 -0.7**
baz=93
N19A John Jarvie Ra 93.73 330 ⇑P **P 09 36 31.7 -0.4**
baz=93
K14A Jones Ranch, D 93.84 333 ⇑P **P 09 36 32.7 0.0**
baz=94
G06A Carlson Farm, 93.84 339 ⇑P **P 09 36 32.8 +0.2**
baz=94
N18A Larsen Ranch, 93.86 330 ⇑P **P 09 36 32.8 0.0**
baz=94
J12A Stokes Ranch, 93.90 335 ⇑P **P 09 36 32.9 0.0**
baz=94
H08A Prairie City 93.92 338 ⇑P **P 09 36 33.6 +0.7**
baz=94
MFID Camas Ranch 94.00 335 ⇓P **P 09 36 33.4 0.0**
baz=94
L15A Malad City 94.02 332 ⇑P **P 09 36 33.3 -0.2**
baz=94
HWUT Hardware Ranch 94.06 332 *e*P **P 09 36 32.8 -0.9**
comp=Z,9.3nm,1.1s,mb5.1
HWUT *e*PP PP 09 40 20.2 +1.0
K13A Stover Farm, H 94.08 334 ⇑P **P 09 36 33.9 +0.2**
baz=94
H07A Lands Inn, Kim 94.12 338 ⇑P **P 09 36 33.5 -0.4**
baz=94
O19A Miners Draw (B 94.21 329 ⇓P **P 09 36 34.2 -0.2**
baz=94
H06A Lindquist Farm 94.22 339 ⇓P **P 09 36 34.3 0.0**
baz=94
L14A Malta 94.31 333 ⇑P **P 09 36 34.4 -0.4**
baz=94,SNR=5.1
M16A Huntsville 94.33 332 ⇓P **P 09 36 34.5 -0.5**
baz=94
N17A Moffit Pass 94.35 331 ⇓P **P 09 36 34.8 -0.2**
baz=94
M15A Larsen Ranch, 94.52 332 ⇑P **P 09 36 36.0 +0.2**
baz=94
L13A Double Diamond 94.52 333 ⇓P **P 09 36 36.4 +0.6**
baz=94
H05A Madras 94.55 339 ⇑P **P 09 36 36.1 +0.2**
baz=94
I07A Izee 94.57 338 ⇑P **P 09 36 36.1 +0.2**
baz=94
K11A Parker Ranch, 94.64 335 ⇓P **P 09 36 36.7 +0.4**
baz=94
J09A Fry Pan Ranch, 94.69 337 ⇑P **P 09 36 35.8 -0.7**
baz=94

M14A	**Sheep Mountain** baz=94,SNR=6.3	**94.81**	**333**	⇓P	**P**	**09 36 37.2 0.0**
L12A	**House Creek Ra** baz=94	**94.85**	**334**	⇓P	**P**	**09 36 37.7 +0.4**
JLU	**Jordanelle**	**94.88**	**331**	*e*P	**P**	**09 36 37.8 +0.3**
I06A	**Prineville** baz=95	**94.90**	**338**	⇓P	**P**	**09 36 37.6 +0.2**
J08A	**Circle Bar Ran** baz=95	**94.91**	**337**	⇓P	**P**	**09 36 37.9 +0.4**
O17A	**Robinson Place** baz=95	**94.95**	**330**	⇓P	**P**	**09 36 37.8 0.0**
I05A	**Bend** baz=95	**95.01**	**339**	⇓P	**P**	**09 36 38.6 +0.6**
N15A	**Stansbury Isla** baz=95	**95.04**	**332**	⇑P	**P**	**09 36 38.4 +0.2**
L11A	**Cat Creek Ranc** baz=95	**95.08**	**335**	⇑P	**P**	**09 36 39.4 +1.1**
J07A	**Hines** baz=95	**95.15**	**338**	⇑P	**P**	**09 36 39.3 +0.6**
O16A	**Springville** baz=95	**95.24**	**331**	⇑P	**P**	**09 36 39.1 0.0**
N14A	**Grayback Hills** baz=95,SNR=5.2	**95.32**	**332**	⇓P	**P**	**09 36 39.6 +0.1**
Q19A	**Hogan Spring (** baz=95	**95.41**	**329**	⇑P	**P**	**09 36 39.4 -0.5**
M12A	**Wells** baz=95	**95.45**	**334**	⇑P	**P**	**09 36 40.0 -0.1**
K08A	**Mann Creek Ran** baz=95	**95.48**	**337**	⇑P	**P**	**09 36 40.8 +0.6**
J06A	**Christmas Vall** baz=95	**95.52**	**338**	⇓P	**P**	**09 36 40.4 +0.1**
O15A	**The Old Anders** baz=95	**95.55**	**332**	⇑P	**P**	**09 36 40.5 -0.1**
Q18A	**Rafter H Ranch** baz=95	**95.64**	**329**	⇓P	**P**	**09 36 40.2 -0.7**
I04A	**Tendick Farm,** baz=95	**95.67**	**340**	⇑P	**P**	**09 36 41.1 +0.2**
K07A	**Rock Creek Ran** baz=95	**95.75**	**337**	⇑P	**P**	**09 36 41.4 0.0**
DUG	**Dugway** baz=95	**95.75**	**332**	⇓P	**P**	**09 36 41.8 +0.4**
DUG	**Dugway**	**95.75**	**332**	*e*P	**P**	**09 36 42.3 +0.8**
SRU	**San Rafael** baz=96	**95.79**	**330**	⇑P	**P**	**09 36 41.1 -0.5**
PV10	**Paradox Valley**	**95.80**	**328**	*e*P	**P**	**09 36 41.9 +0.2**
J05A	**Fort Rock** baz=96	**95.81**	**339**	⇑P	**P**	**09 36 42.4 +0.8**
L09A	**Wilkinson Ranc** baz=96	**95.86**	**336**	⇑P	**P**	**09 36 42.5 +0.6**
L08A	**Fields** baz=96	**95.92**	**336**	⇓P	**P**	**09 36 42.5 +0.4**
K06A	**Valley Falls** baz=96	**95.96**	**338**	⇓P	**P**	**09 36 43.6 +1.3**
N12A	**Clover Valley,** baz=96	**96.00**	**334**	⇓P	**P**	**09 36 43.6 +1.0**
K05A	**Summer Lake** baz=96	**96.22**	**338**	⇑P	**P**	**09 36 44.1 +0.6**
S19A	**Harvey Farm, M** baz=96	**96.37**	**328**	⇑P	**P**	**09 36 43.6 -0.7**
L07A	**Adell** baz=96	**96.39**	**337**	⇓P	**P**	**09 36 44.5 +0.2**
M08A	**Happy Creek Ra** baz=96	**96.60**	**336**	⇑P	**P**	**09 36 46.3 +1.0**
Q15A	**Fillmore** baz=96	**96.62**	**331**	⇓P	**P**	**09 36 45.8 +0.4**
MOD	**Modoc** baz=96	**96.79**	**338**	⇑P	**P**	**09 36 46.3 +0.2**
MOD	**Modoc**	**96.79**	**338**	*e*P	**P**	**09 36 47.1 +1.0**
P13A	**Bates Ranch, G** baz=96,SNR=5.9	**96.85**	**332**	⇓P	**P**	**09 36 47.0 +0.5**
K02A	**Glendale** baz=97	**96.92**	**340**	⇑P	**P**	**09 36 47.0 +0.3**
T18A	**Mexican Hat** baz=97	**97.20**	**328**	⇑P	**P**	**09 36 47.5 -0.5**
Q13A	**Wheeler Ranch,** baz=97	**97.29**	**332**	⇓P	**P**	**09 36 49.2 +0.8**
N07B	**Gerlach** baz=97	**97.39**	**336**	⇓P	**P**	**09 36 48.8 -0.1**
S16A	**Weppner Ranch,** baz=97	**97.41**	**330**	⇑P	**P**	**09 36 48.9 -0.1**
Q12A	**Willow Creek R** baz=97	**97.52**	**333**	⇓P	**P**	**09 36 49.8 +0.3**
YBH	**Yreka Blue Hor** comp=Z,495nm,18.8s,MS5.0,baz=15,slow=38	**97.66**	**339**	LR	LR	10 25 10.4
N06A	**Buffalo Meadow** baz=97	**97.70**	**337**	⇑P	**P**	**09 36 50.3 +0.1**
M03C	**McCloud** baz=98	**97.91**	**339**	⇑P	**P**	**09 36 51.0 -0.1**
O07A	**Toulon** baz=98	**97.92**	**336**	⇓P	**P**	**09 36 51.6 +0.3**
R13A	**O'Grain Ranch,** baz=98	**97.95**	**332**	⇓P	**P**	**09 36 52.0 +0.5**
ROSC	**El Rosal** comp=Z,118nm,18.6s,MS4.4,baz=1,8,slow=35	**97.95**	**282**	LR	LR	10 20 16.2
Q11A	**Duckwater** baz=98	**97.99**	**333**	⇑P	**P**	**09 36 51.7 +0.1**
M02C	**Callahan** baz=98	**98.01**	**339**	⇑P	**P**	**09 36 51.9 +0.3**
Q10A	**Clear Creek Ra** baz=98	**98.28**	**334**	⇑P	**P**	**09 36 53.4 +0.5**
S12A	**Delamar Landin** baz=98	**98.78**	**332**	⇓P	**P**	**09 36 55.4 +0.3**
WCN	**Washoe City** baz=99	**98.99**	**336**	⇓P	**P**	**09 36 56.5 +0.5**
U14A	**Mt Trumbull** baz=99	**99.17**	**330**	⇑P	**P**	**09 36 57.4 +0.5**
WUAZ	**Wupatki** baz=99	**99.21**	**328**	⇑P	**P**	**09 36 57.8 +0.7**
T11A	**Corn Creek, Al** baz=99	**99.25**	**332**	⇑P	**P**	**09 36 57.9 +0.7**
V15A	**Kaibab Nationa** baz=99	**99.28**	**329**	⇓P	**P**	**09 36 57.0 -0.4**
NVAR	**Mina Array Bea** comp=Z,0.4nm,0.7s,mb4.1,baz=74,slow=4.1,SNR=3.8	**99.29**	**335**	P	**P**	**09 36 58.1 +0.7**
NVAR	comp=Z,0.4nm,0.8s,baz=35,slow=5.4,SNR=5.2			PP	PP	09 40 59.2 -0.3
ORV	**Oroville** baz=99	**99.31**	**338**	⇑P	**P**	**09 36 57.5 0.0**
Y19A	**Nutrioso** baz=99	**99.62**	**326**	⇑P	Pdif	09 36 59.9 +1.1
V14A	**Boquillas Ranc** baz=100	**99.82**	**330**	⇑P	Pdif	09 37 00.1 +0.4
X16A	**Lo Mia Camp, P** baz=100	**100.18**	**328**	⇑P	Pdif	09 37 01.0 -0.3
TXAR	**Lajitas Array** comp=Z,1.9nm,1.0s,baz=79,slow=4.6,SNR=12	**100.70**	**319**	P	Pdif	09 37 03.5 -0.1
TXAR	**Lajitas Array**	**100.70**	**319**	P	Pdif	09 37 03.5 -0.2
TXAR	comp=Z,2.0nm,1.0s			pmax	pmax	
219A	**White Tail Can** baz=101	**101.26**	**325**	⇓P	Pdif	09 37 06.6 +0.4
SYO	**Syowa Base**	**105.89**	**176**	⇑*e*X	PP	09 41 56.0 +6.3
TAOE	**Nuku Hiva Isla** comp=Z,888nm,22.4s	**150.48**	**339**	*e*LR	LR	10 32 58.5
PPT	**Papeete** comp=Z,617nm,29.2s	**160.70**	**357**	*e*LR	LR	10 37 43.2
RKT	**Rikitea** comp=Z,429nm,29.8s	**160.70**	**311**	*e*LR	LR	10 37 32.0
TBI	**Tubuai** comp=Z,537nm,24.8s	**166.44**	**355**	*e*LR	LR	10 40 21.3

CSEM ***29*** *09:27:50.3±0.3, 3808N×4275E, h40km, MD2.7, Error ellipse: s-maj=9.5km s-min=4.8km az=115.0*
ISCJB ***29*** *09:27:51.7±0.6, 3806N±004×4281E±005, h10km, Error ellipse: s-maj=6.3km s-min=3.7km az=135.6*
ISK ***29*** *09:27:51.4, 3802N×4285E, h24km, MD2.7*
DDA ***29*** *09:27:51.8, 3806N×4280E, h7km±2km, Md2.6*

ISC 29 09:27:52.5±0.6, 3805N±004×4283E±005, h7km±16km, n7, σ0°91/14, Turkey

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
VANT	**Van**	**0.59**	**48**	*e*PG		**Pg**	**09 28 02.4**	**-1.5**
VANT				*e*SG		**Sg**	**09 28 11.0**	**-0.6**
SIRT	**Sirnak**	**0.63**	**209**	*e*PG		**Pg**	**09 28 04.1**	**-0.5**
SIRT				*e*SG		**Sg**	**09 28 13.5**	**+0.7**
TVAN	**Van**	**0.66**	**44**	*i* P		**Pg**	**09 28 05.3**	**+0.1**
TVAN				*i* S		**Sg**	**09 28 14.5**	**+0.8**
VANB	**Van**	**0.70**	**39**	*e*PG		**Pg**	**09 28 05.1**	**-0.8**
VANB				*e*SG		**Sg**	**09 28 17.0**	**+1.9**
HAKT	**HAKKARI**	**0.85**	**125**	*i* P		**Pg**	**09 28 08.4**	**-0.5**
HAKT				*i* S		**Sg**	**09 28 21.4**	**+1.5**
HKR	**Hakkari**	**0.87**	**123**	*e*PG		**Pg**	**09 28 08.0**	**-1.1**
HKR				*e*SG		**Sg**	**09 28 20.1**	**-0.2**
MARD	**Mardin**	**1.79**	**246**	*i* P		**Pn**	**09 28 23.9**	**+0.3**
MARD				*i* S		**Sg**	**09 28 50.0**	**+0.2**

TAP 29 09:31:53.6, 2481N×12205E, h12km, ML3.7, 5D, B, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
TWB1	**Santiao Chiao** baz=345	**0.21**	**346**	⇓*i*P		Pg	09 31 58.7	+0.6
TWB1				*i* S		Sg	09 32 01.7	+0.5
TWC	**Suao** baz=222	**0.27**	**222**	⇓*i*P		Pg	09 31 59.5	+0.3
TWC				S		Sg	09 32 02.6	-0.4
ILA	**Ilan** baz=261	**0.27**	**261**	*e*P		Pg	09 32 00.3	+1.0
ILA				S		Sg	09 32 04.8	+1.6
TWE	**Neicheng** baz=256	**0.35**	**256**	⇓*i*P		Pg	09 32 01.2	+0.5
TWE				S		Sg	09 32 06.5	+0.9
NWF	**Wu-fen Shan** baz=309	**0.35**	**318**	⇓*i*P		Pg	09 32 01.9	+1.1
NWF				*i* S		Sg	09 32 07.3	+1.7
TWA	**Mucha** baz=283	**0.45**	**292**	⇓*i*P		Pg	09 32 03.6	+1.0
TWA				S		Sg	09 32 09.9	+1.2
ENA	**Nanau** baz=216	**0.47**	**216**	*e*P		Pg	09 32 03.1	+0.2
ENA				*e*S		Sg	09 32 09.4	+0.2
TAP1	**Taipei** baz=292	**0.53**	**296**	*e*P		Pg	09 32 04.7	+0.7
TWY	**Chenhua** baz=315	**0.62**	**319**	P		Pg	09 32 07.1	+1.4
NSK	**Sanguang** baz=268	**0.64**	**258**	P		Pg	09 32 06.3	+0.2
NSK				*e*S		Sg	09 32 13.8	-0.7
TWS1	**Kuangyinshan** baz=294	**0.64**	**297**	*e*P		Pg	09 32 07.7	+1.6
NNS	**Nan Shan** baz=242	**0.71**	**239**	*e*P		Pg	09 32 07.9	+0.4
NCU	**National Centr** baz=282	**0.80**	**282**	*e*P		Pg	09 32 10.6	+1.5
NCU				*e*S		Sg	09 32 22.5	+3.0
PCYT	**Pengchaiyu** baz=8.0	**0.82**	**2**	*e*P		Pg	09 32 11.0	+1.5
TWD	**Chiawan** baz=204	**0.83**	**210**	*e*P		Pg	09 32 09.7	0.0
TWD				*e*S		Sg	09 32 20.4	-0.2
HWA	**Hwalien** baz=209	**0.92**	**206**	*e*P		Pg	09 32 11.9	+0.5
YOJ	**Yonaguni jima** baz=113	**0.94**	**111**	P		Pg	09 32 11.8	0.0
NSTT	**Nanjuang** baz=260	**0.97**	**260**	*e*P		Pb	09 32 13.2	+0.9
NSTT				*e*S		Sg	09 32 27.1	+2.2
WHF	**Hehuan Shan** baz=228	**0.97**	**227**	*e*P		Pb	09 32 12.5	+0.2
WHF				*e*S		Sg	09 32 25.2	+0.2
HSN	**Hsinchu** baz=282	**0.98**	**270**	*e*P		Pb	09 32 13.8	+1.3
ESL	**Shilin** baz=207	**1.14**	**210**	P		Pb	09 32 15.1	-0.1
NSY	**Sanyi** baz=253	**1.23**	**252**	*e*P		Pn	09 32 18.4	+1.8
NSY				*e*S		Sb	09 32 34.9	+2.3
TWQ1	**Liyutan** baz=250	**1.25**	**249**	*e*P		Pn	09 32 18.8	+2.0
TWQ1				*e*S		Sb	09 32 35.8	+2.7
SMLT	**Sun Moon Lake** baz=229	**1.39**	**229**	*e*P		Pn	09 32 19.9	+1.0
TYC	**Yuchr** baz=230	**1.41**	**231**	*e*P		Pn	09 32 20.0	+1.0
TCU	**Taichung** baz=240	**1.41**	**242**	*e*P		Pn	09 32 20.8	+1.7
EHY	**Hungye** baz=217	**1.46**	**207**	P		Pn	09 32 20.5	+0.8
EHY				*e*S		Sn	09 32 39.7	+1.0
WNT	**Mingjian** baz=219	**1.55**	**234**	*e*P		Pn	09 32 24.4	+3.4
TWF1	**Yuli** baz=216	**1.60**	**205**	*e*P		Pn	09 32 22.6	+0.9
YUS	**Yu-Shan** baz=200	**1.65**	**217**	*e*P		Pn	09 32 24.5	+2.1
ALS	**Alishan** baz=202	**1.72**	**221**	*e*P		Pn	09 32 26.3	+3.0
CHN5	**Tsauling** baz=229	**1.73**	**226**	*e*P		Pn	09 32 26.5	+3.0
CHN5				*e*S		Sn	09 32 51.1	+5.5
ELDTW	**Lidau** baz=192	**1.87**	**210**	*e*P		Pn	09 32 27.2	+1.8
CHN4	**Tsaushan** baz=226	**1.97**	**223**	*e*P		Pn	09 32 30.7	+3.9
CHN4				*e*S		Sn	09 32 58.0	+6.7
STYT	**Tauyuan** baz=204	**2.02**	**216**	*e*P		Pn	09 32 29.8	+2.4
STYT				*e*S		Sn	09 32 55.9	+3.4
WTP	**Ta-pu** baz=219	**2.03**	**220**	*e*P		Pn	09 32 30.6	+2.9
TWK	**Hsinying** baz=227	**2.09**	**223**	*e*P		Pn	09 32 31.4	+2.9
TWK				*e*S		Sn	09 32 59.5	+5.1
CHN1	**Nanshi** baz=225	**2.13**	**221**	*e*P		Pn	09 32 31.8	+2.8
CHN1				*e*S		Sn	09 33 01.4	+6.1
TWG	**Pinlang** baz=184	**2.17**	**204**	*e*P		Pn	09 32 29.9	+0.4
SGST	**Jiashian** baz=222	**2.18**	**218**	*e*P		Pn	09 32 32.4	+2.8
SGST				*e*S		Sn	09 33 03.1	+6.6
ECL	**Taimali** baz=186	**2.42**	**205**	*e*P		Pn	09 32 36.3	+3.3
SSD	**Sandimen** baz=216	**2.43**	**213**	*e*P		Pn	09 32 36.7	+3.6
SSD				*e*S		Sn	09 33 06.9	+4.3
EAST	**Anshuo** baz=189	**2.65**	**205**	*e*P		Pn	09 32 36.2	0.0
SCZT	**Fangliau** baz=186	**2.75**	**209**	*e*P		Pn	09 32 40.1	+2.5

BJI ***29*** *09:49:12.6, 2734N×8500E, h10km, mB5.2, mb4.6, Ms4.7, Msz4.4*
LDG ***29*** *09:49:17.9±0.2, 2788N×8531E, h10km, Mb4.7/9, Error ellipse: s-maj=13.0km s-min=4.6km az=179.0*
IDC ***29*** *09:49:18.3±0.8, 2783N×8532E, h0km, mb4.3/15, mb1 4.4/17, mb1mx4.3/23, mbtmp4.3/17, ML4.6/2, Error ellipse: s-maj=20.6km s-min=17.5km az=48.0*
ISCJB ***29*** *09:49:20.3±0.4, 2791N×8527E±003, h24km±3km, mb4.5/39, Error ellipse: s-maj=5.1km s-min=4.1km az=32.2*
DMN ***29*** *09:49:20.9±0.1, 2796N×8548E, h2km, Ml5.3/5, Error ellipse: s-maj=2.2km s-min=0.9km az=9.0*
NDI ***29*** *09:49:20.5±5.1, 2807N×8543E, h16km, ML4.5, mb4.7(NEIC)*
NEIC ***29*** *09:49:21.1±0.5, 2795N×8538E, h16km±3km, mb4.7/18, Error ellipse: s-maj=5.8km s-min=4.1km az=199.0*
NEIC Felt [IV] at Kathmandu and Lalitpur. Also felt at Bhaktapur.
MOS ***29*** *09:49:21.0±0.8, 2782N×8530E, h33km, mb4.8/21, Error ellipse: s-maj=9.8km s-min=5.9km az=107.0*

ISC 29 09:49:20.8±0.3, 2791N±002×8544E±002, h16km±2km, n153, σ1°10/185, mb4.5/39, 2C-1D, Nepal

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
KKN	**Kakani**	**0.19**	**229**	*e*Pg		**Pg**	**09 49 25.8**	**+0.5**
KKN				*e*Sg		**Sg**	**09 49 29.4**	**+1.0**
	47μm,0.2s							
PKI	**Pulchoki**	**0.34**	**185**	*e*Pg		**Pg**	**09 49 28.8**	**+0.9**
PKI				*e*Sg		**Sg**	**09 49 33.6**	**+0.9**
	30μm,0.2s							
GUN	**Gumba**	**0.39**	**90**	*e*Pg		**Pg**	**09 49 28.7**	**0.0**
GUN				*e*Sg		**Sg**	**09 49 33.3**	**-0.8**
	58μm,0.4s							
DMN	**Daman**	**0.42**	**224**	*e*Sg		**Sg**	**09 49 37.3**	**+2.1**
	30μm,0.3s							
JIRN	**Jiri**	**0.71**	**111**	*e*Pg		**Pg**	**09 49 34.6**	**-0.1**
JIRN				*e*Sg		**Sg**	**09 49 44.1**	**0.0**
	9μm,0.3s							
GKN	**Gorkha**	**0.72**	**277**	*e*Pg		**Pg**	**09 49 35.1**	**+0.3**
GKN				*e*Sg		**Sg**	**09 49 45.1**	**+0.8**
	21μm,0.5s							
RAMN	**Ramite**	**1.41**	**133**	*e*Pg		**Pg**	**09 49 47.4**	**-0.5**
RAMN				*e*Sg		**Sg**	**09 50 05.3**	**-1.0**
	7μm,0.4s							
RAMN	**Ramite**	**1.41**	**133**	*e*Pn		**Pn**	**09 49 46.7**	**+0.9**
RAMN				*e*Pg		**Pg**	**09 49 47.4**	**-0.5**
RAMN				*e*Sg		**Sg**	**09 50 05.3**	**-1.0**
DANN	**Dangsing**	**1.55**	**287**	*e*Pg		**Pg**	**09 49 50.1**	**-0.5**
DANN				*e*Sg		**Sg**	**09 50 10.5**	**-0.2**
	4μm,0.3s							
KOLN	**Koldanda**	**1.64**	**265**	*e*Pg		**Pg**	**09 49 52.1**	**-0.2**
KOLN				*e*Sg		**Sg**	**09 50 14.2**	**+0.6**
	14μm,0.3s							
KOLN	**Koldanda**	**1.64**	**265**	*e*Pg		**Pg**	**09 49 52.1**	**-0.2**
KOLN				*e*Sg		**Sg**	**09 50 14.2**	**+0.6**
KOLN	**Koldanda**	**1.64**	**265**	*e*Sg		**Pn**	**09 49 45.1**	**-3.8**
ODAN	**Odare**	**2.03**	**121**	*e*Pg		**Pg**	**09 49 58.6**	**-1.1**
ODAN				*e*Sg		**Sg**	**09 50 24.6**	**-1.4**
	3μm,0.3s							
ODAN	**Odare**	**2.03**	**121**	*e*Pn		**Pn**	**09 49 57.5**	**+3.2**
ODAN				*e*Pg		**Pg**	**09 49 58.6**	**-1.1**
ODAN				*e*Sg		**Sg**	**09 50 24.6**	**-1.4**
TAPN	**Taplejung**	**2.09**	**105**	*e*Pg		**Pg**	**09 49 59.8**	**-1.1**
TAPN				*e*Sg		**Sg**	**09 50 26.1**	**-2.0**
	3μm,0.5s							
TAPN	**Taplejung**	**2.09**	**105**	*e*Pn		**Pn**	**09 49 58.5**	**+3.4**
TAPN				*e*Pg		**Pg**	**09 49 59.8**	**-1.1**
TAPN				*e*Sg		**Sg**	**09 50 26.1**	**-2.0**
GTK	**Gangtok**	**2.88**	**101**	*e*P		**Pn**	**09 49 57.0**	**-9.0**
GTK				*e*S		**Sn**	**09 50 36.0**	**-4.2**
SLGI	**Shiliguri**	**2.91**	**114**	*ex*		**Pg**	**09 50 17.5**	**+0.9**
SHBG	**Sahibganj**	**3.34**	**143**	*e*P		**Pn**	**09 50 16.0**	**+3.6**
BOK	**Bokaro**	**4.12**	**174**	*e*P		**Pn**	**09 50 24.6**	**+1.4**
BOK				*e*S		**Sn**	**09 51 10.7**	**-0.3**
ALBI	**Allahabad**	**4.16**	**232**	*e*P		**Pn**	**09 50 22.5**	**-1.1**
ALBI				*ex*		x	09 51 13.5	
LGTI	**Lohaghat**	**4.81**	**290**	*ex*		**Pn**	**09 50 37.1**	**+4.5**
LGTI				*ex*		**Sg**	**09 51 49.6**	**-5.8**
PTH	**Pithoragarh**	**4.87**	**291**	*ex*		**Pn**	**09 50 36.2**	**+2.8**
PTH				*ex*		**Sg**	**09 51 52.0**	**-5.1**
LSA	**Lhasa**	**5.32**	**69**	*e*P		**Pn**	**09 50 42.8**	**+3.3**
LSA				pmax		pmax		
	comp=Z,31nm,0.8s							
LSA	**Lhasa** comp=Z,31nm,0.8s	**5.32**	**69**	*e*Pn		**Pn**	**09 50 42.8**	**+3.3**
CAL	**Calcutta**	**5.96**	**153**	*ex*		**Sg**	**09 52 28.7**	**-3.4**
SHL	**Shillong**	**6.22**	**111**	*e*P		**Pn**	**09 50 50.7**	**-1.2**
SHL				*e*S		**Sn**	**09 51 57.9**	**-4.8**
NDI	**New Delhi**	**7.29**	**278**	*e*P		**Pn**	**09 51 06.5**	**-0.1**
NDI				*e*S		**Sn**	**09 52 22.0**	**-7.1**
BWNR	**Bhubaneshwar**	**7.59**	**177**	*e*P		**Pn**	**09 51 13.4**	**+2.6**
BWNR				*e*S		**Sn**	**09 52 34.5**	**-2.0**
SMLA	**Simla**	**7.89**	**296**	*i* P		**Pn**	**09 51 13.8**	**-1.1**
SMLA				*i* x		x	09 52 42.2	
SMLA				*ex*		x	09 52 45.1	
	comp=E,525nm,0.3s							
SMLA				*ex*		x	09 52 45.2	
	comp=N,922nm,0.4s							
SDNR	**Sundarnagar**	**8.19**	**298**	*ex*		**Pn**	**09 51 20.0**	**+1.1**
SDNR				*ex*		x	09 52 51.0	
BHPL	**Bhopal**	**8.60**	**239**	*e*P		**Pn**	**09 51 23.5**	**-1.2**
BHPL				*e*S		**Sn**	**09 52 55.2**	**-6.2**
BHPL				AML	AML	AML	09 52 59.0	
	comp=N,206nm,0.4s							
BHPL				AML	AML	AML	09 53 00.2	
	comp=E,170nm,0.3s							
NGP	**Nagpur**	**8.90**	**222**	*e*P		**Pn**	**09 51 28.9**	**+0.1**
NGP				*e*S		**Sn**	**09 53 03.5**	**-5.2**
THN	**Thein Dam**	**9.54**	**301**	*e*P		**Pn**	**09 51 35.9**	**-1.6**
THN				*ex*		x	09 53 22.6	
AJM	**Ajmer**	**9.72**	**264**	*e*P		**Pn**	**09 51 39.2**	**-0.8**
AJM				*e*S		**Sn**	**09 53 21.2**	**-7.7**
VIS	**Vishakhapatnam**	**10.33**	**191**	*e*P		**Pn**	**09 51 48.5**	**+0.2**
VIS				*e*S		**Sn**	**09 53 38.0**	**-5.9**
SARP	**Sargodha**	**11.77**	**293**	P		**Pn**	**09 52 06.2**	**-1.9**
SARP				S		**Sn**	**09 54 14.0**	**-5.2**
CHCP	**Chirah Chowk**	**11.93**	**302**	P		**Pn**	**09 52 09.0**	**-1.2**
HYB	**Hyderabad** comp=E,90nm,1.0s	**12.22**	**213**	*i* P		**Pn**	**09 52 12.5**	**-1.8**
HYB				*e*S		**Sn**	**09 54 37.0**	**+6.7**
HYB	**Hyderabad**	**12.22**	**213**	*e*P		**Pn**	**09 52 12.5**	**-1.8**
HYB				*e*S		**Sn**	**09 54 34.0**	**+3.7**
LATR	**Latur**	**12.49**	**223**	*e*P		**Pn**	**09 52 18.0**	**+0.1**
THW	**Thamme Wali**	**12.79**	**296**	P		**Pn**	**09 52 19.5**	**-2.4**
CEP	**Cherat**	**13.03**	**300**	P		**Pn**	**09 52 22.6**	**-2.6**
CEP				S		**Sn**	**09 54 44.0**	**-5.8**
BHV	**Bhavnagar**	**13.54**	**246**	*ex*		x	09 52 28.0	
POO	**Poona**	**14.16**	**231**	*e*P		**Pn**	**09 52 43.2**	**+2.5**
POO				*i* PCP		PcP	09 57 58.0	-1.6
BOM	**Bombay**	**14.65**	**235**	*ex*		x	09 53 31.5	
BOM				*ex*		x	09 55 10.0	
KAD	**Karad**	**14.80**	**227**	*ex*		x	09 52 47.0	
KBL	**Kabul**	**15.50**	**299**	*e*P		**Pn**	**09 52 54.8**	**-3.8**
KBL				pmax		pmax		
	comp=Z,50nm,0.9s							
KBL	**Kabul** comp=Z,50nm,0.9s	**15.50**	**299**	*e*P		**Pn**	**09 52 54.8**	**-3.9**
KBL				*i*			09 53 04.1	
CMAR	**Chiang Mai Arr** comp=Z,0.7nm,0.3s,baz=301,slow=12,SNR=4.5	**15.57**	**124**	P		Pn	**09 52 59.2**	**-0.5**
CMAR	**Chiang Mai Arr**	**15.57**	**124**	P		**Pn**	**09 52 59.2**	**-0.4**
CMAR				pmax		pmax		
	comp=Z,1.0nm,0.3s							
WMQ	**Urumqi**	**15.98**	**6**	P		**Pn**	**09 53 10.5**	**+5.7**
CD2	**Chengdu**	**16.24**	**75**	*e*P		**Pn**	**09 53 11.5**	**+3.2**
CD2				AP		pP	09 53 15.0	-0.8
CD2				XP		sP	09 53 18.5	+0.6
CD2				PP			09 53 25.5	
CD2				S		**Sn**	**09 56 15.3**	**+7.2**
CD2				XS		sS	09 56 20.8	-7.3
CD2				SS			09 56 35.3	
CD2				AMB		AMB		
	comp=Z,20nm,0.7s							
CD2				LR		LR		
	comp=N,340nm,9.6s							
CD2				LR		LR		
	comp=Z,300nm,8.4s							
GTA	**Gaotai**	**16.55**	**42**	P		**Pn**	**09 53 16.0**	**+3.9**
GTA				AP		pP	09 53 21.3	+2.1
GTA				XP		sP	09 53 25.5	+4.2
GTA				AMB		AMB		
	comp=Z,31nm,0.6s							
UCH	**Uchtor** comp=Z,7.9nm,0.9s	**16.83**	**331**	*e*P		**Pn**	**09 53 14.9**	**-0.8**
UCH				*e*			09 53 20.2	
TKM2	**Tokmak 2**	**16.97**	**335**	*e*P		**Pn**	**09 53 15.6**	**-1.8**
TKM2				pmax		pmax		
	comp=Z,3.0nm,0.6s							
TKM2	**Tokmak 2** comp=Z,3.0nm,0.6s	**16.97**	**335**	*e*P		**Pn**	**09 53 15.6**	**-1.8**
AML	**Almayashu** comp=Z,5.9nm,0.5s	**17.11**	**329**	*e*P		**Pn**	**09 53 17.3**	**-1.9**
EKS2	**Erkin-Say** comp=Z,1.0nm,0.8s	**17.50**	**330**	*e*P		**Pn**	**09 53 23.2**	**-0.8**
MK31	**Makanchi Array**	**19.01**	**353**	*e*P		**Pn**	**09 53 42.6**	**+0.1**
MKAR	**Makanchi Array** comp=Z,1.6nm,0.3s,baz=173,slow=12,SNR=96	**19.01**	**353**	P		**Pn**	**09 53 42.5**	**+0.1**
MKAR	**Makanchi Array**	**19.01**	**353**	*e*P		**Pn**	**09 53 42.8**	**+0.3**
MKAR				pmax		pmax		
	comp=Z,2.0nm,0.3s							
KK31	**Karatay Array**	**19.38**	**325**	*i* P		**Pn**	**09 53 44.7**	**-2.3**
KK31				pmax		pmax		
	comp=Z,2.0nm,0.3s							
XAN	**Xi'an**	**21.02**	**67**	P		**P**	**09 54 05.3**	**+1.6**
XAN				AMB		AMB		

comp=Z,3.0nm,0.6s,mb3.8
KURK Kurchatov 23.35 349 P **P 09 54 27.8 -0.7**
comp=Z,8.4nm,0.7s,mb4.3,baz=173,slow=9.7,SNR=22
KURK Kurchatov 23.35 349 *e*P **P 09 54 28.8 +0.4**
KURK pmax pmax
comp=Z,16nm,0.8s,mb4.5
KURK Kurchatov 23.35 349 *e*P **P 09 54 28.8 +0.3**
comp=Z,16nm,0.8s,mb4.5
HHC Hu-ho-hao-te 25.02 52 *e*P **P 09 54 46.8 +2.8**
HHC AP pP 09 54 51.0 +2.2
HHC XP sP 09 54 53.8 +2.9
HHC PP 09 55 25.5
HHC PCP PcP 09 58 20.3 +1.6
HHC S **S 09 59 12.8 +5.4**
HHC XS sS 09 59 17.5 +2.1
HHC SS 10 00 12.8
HHC SCP ScP 10 01 57.0 -0.1
HHC AMB AMB
comp=Z,13nm,1.0s,mb4.4
HHC AMB AMB
comp=Z,139nm,6.7s
HHC LR LR
comp=N,533nm,12.6s
HHC LR LR
comp=E,331nm,14.1s
HHC LR LR
comp=Z,748nm,16.7s
SONM Songino Array 25.72 34 P **P 09 54 52.3 +2.1**
comp=Z,13nm,0.7s,mb4.6,baz=219,slow=9.8,SNR=92
SONM Songino Array 25.72 34 P **P 09 54 52.3 +2.0**
SONM pmax pmax
comp=Z,13nm,0.7s
ZAA0 Zalesovo Array 26.01 359 *e*P **P 09 54 53.4 +0.5**
ZALV Zalesovo Beam 26.01 359 P **P 09 54 53.7 +0.9**
comp=Z,10nm,0.7s,mb4.5,baz=184,slow=9.7,SNR=49
ZALV Zalesovo Beam 26.01 359 P **P 09 54 53.7 +0.9**
ZALV pmax pmax
comp=Z,11nm,0.7s,mb4.5
ZALV Zalesovo Beam 26.01 359 P **P 09 54 53.7 +0.9**
ULN Ulaanbaatar 26.07 34 *e*P **P 09 54 54.3 +0.9**
ULN Ulaanbaatar 26.07 34 *e*P **P 09 54 54.7 +1.3**
comp=Z,14nm,0.8s,mb4.5
ZAK Zakamensk 26.23 26 *e*P **P 09 54 56.8 +2.0**
ZAK pmax pmax
comp=Z,4.0nm,1.0s,mb3.9
BVAR Borovoye Array 27.46 340 P **P 09 55 06.8 +0.9**
comp=Z,2.0nm,0.9s,mb3.6,baz=128,slow=11,SNR=4.1
BVAR Borovoye Array 27.46 340 P **P 09 55 06.8 +0.9**
BVAR pmax pmax
comp=Z,2.0nm,0.9s
AB31 Akbulak array 28.94 324 P **P 09 55 19.7 +0.6**
AB31 pmax pmax
comp=Z,3.0nm,0.4s,mb4.4
MIB Mutribah 33.33 283 *e*P **P 09 55 58.4 +0.3**
baz=283
MIB AMb AMb 09 55 59.7
comp=Z,19nm,1.1s,mb4.9,baz=283
NAY Al-Naaiem 33.48 282 *e*P **P 09 55 58.8 -0.6**
baz=282
NAY AMb AMb 09 56 02.7
comp=Z,5.0nm,0.8s,mb4.5,baz=282
RST Umm Al-Ruwaisa 33.66 282 *e*P **P 09 56 00.7 -0.2**
baz=282
RST AMb AMb 09 56 01.8
comp=Z,18nm,0.6s,mb5.2,baz=282
HIA Hailar 33.83 42 *e*P **P 09 56 03.6 +1.5**
ARU Arti 34.34 334 *d i*P **P 09 56 06.3 -0.2**
ARU *e*S **S 10 01 32.0 -1.2**
ARU *e*SS SS 10 03 36.5 -25
ARU pmax pmax
comp=Z,8.0nm,1.0s,mb4.6
BOD Bodaibo 35.97 26 *e*P **P 09 56 22.0 +1.5**
BOD pmax pmax
comp=Z,6.0nm,0.8s,mb4.6
KSRS Korea Array 36.74 64 P **P 09 56 27.1 -0.3**
comp=Z,1.4nm,0.6s,mb4.0,baz=274,slow=8.2,SNR=5.7
KSRS Korea Array 36.74 64 P **P 09 56 27.1 -0.3**
KSRS pmax pmax
comp=Z,1.0nm,0.6s,mb3.8
OBN Obninsk 44.31 322↑ *e*P **P 09 57 28.8 -0.9**
OBN *e* 09 59 11.3
OBN *e*S **S 10 03 55.2 -7.7**
OBN *e*SS SS 10 07 12.5 -8.8
OBN pmax pmax
comp=Z,7.0nm,1.2s,mb4.3
AKASG Malin Array Be 47.75 314 P **P 09 57 56.4 -0.5**
comp=Z,0.5nm,0.3s,mb4.0,baz=80,slow=7.4,SNR=6.3
AKASG Malin Array Be 47.75 314 P **P 09 57 56.4 -0.5**
AKASG pmax pmax
comp=Z,1.0nm,0.4s
JOF Joensuu 49.35 331 *e*p **P 09 58 09.3 +0.3**
comp=Z,13nm,0.5s,mb5.2
JOF Joensuu 49.35 331 *e*P **P 09 58 09.3 +0.3**
JOF pmax pmax
comp=Z,13nm,0.5s,mb5.2
TIXI Tiksi 49.81 17 *e*P **P 09 58 11.8 -0.6**
TIXI pmax pmax
comp=Z,7.0nm,0.8s,mb4.7
TIXI Tiksi 49.81 17 *e*P **P 09 58 11.8 -0.7**
comp=Z,7.7nm,0.5s,mb5.0
KAF Kangasniemi 51.36 329 *e*p **P 09 58 24.2 0.0**
comp=Z,8.7nm,1.0s,mb4.6,baz=104,slow=7.6
KAF Kangasniemi 51.36 329 *e*P **P 09 58 24.2 0.0**
KAF pmax pmax
comp=Z,9.0nm,1.0s,mb4.7
KEV Kevo 53.29 338 *e*p **P 09 58 38.7 +0.3**
comp=Z,12nm,0.5s,mb5.1
KEV Kevo 53.29 338 *e*P **P 09 58 38.7 +0.3**
KEV pmax pmax
comp=Z,12nm,0.5s,mb5.1
ARCES ARCESS Array B 53.71 338 P **P 09 58 42.4 +0.8**
comp=Z,16nm,0.7s,mb5.1,baz=85,slow=7.1,SNR=53
ARCES ARCESS Array B 53.71 338 P **P 09 58 42.4 +0.8**
ARCES pmax pmax
comp=Z,16nm,0.7s
ARE0 ARCESS Array S 53.71 338 *e*P **P 09 58 42.0 +0.5**
GERES GERESS Array B 57.81 312 P **P 09 59 11.7 +0.5**
comp=Z,0.4nm,0.4s,mb3.8,baz=72,slow=6.3,SNR=2.5
NB2 NORSAR Subarra 58.41 327 P **P 09 59 14.7 -0.6**
comp=Z,2.1nm,0.5s,mb4.4,baz=86,slow=7.4
NOA NORSAR Array B 58.41 327 P **P 09 59 14.6 -0.6**
comp=Z,2.5nm,0.5s,mb4.5,baz=88,slow=7.2,SNR=7.8
NOA NORSAR Array B 58.41 327 *e*P **P 09 59 15.0 -0.3**
NOA pmax pmax
comp=Z,3.0nm,0.5s
BILL Bilibino 61.02 25↑ *e*P **P 09 59 33.8 +0.7**
BILL *e* 10 01 49.8
BILL *e*SS SS 10 11 55.9 +6.1
BILL pmax pmax
comp=Z,7.0nm,0.8s,mb4.8
BILL Bilibino 61.02 25 *e*P **P 09 59 34.4 +1.3**
comp=Z,8.7nm,0.9s,mb4.9
HAU Haudompre 62.77 312 *e*P **P 09 59 45.1 -0.2**
comp=Z,8.1nm,0.6s,mb4.7
HAU Haudompre 62.77 312 *e*P **P 09 59 45.1 -0.2**
HAU pmax pmax
comp=Z,4.0nm,0.6s,mb4.7
HAU Haudompre 62.77 312 *e*P **P 09 59 45.1 -0.2**
comp=Z,4.1nm,0.6s,mb4.7
LPG La Plagne 63.06 309 *e*P **P 09 59 47.7 +0.5**
comp=Z,17nm,0.8s,mb4.9
LPG La Plagne 63.06 309 *e*P **P 09 59 47.7 +0.5**
LPG pmax pmax
comp=Z,8.0nm,0.8s,mb4.9
LPG La Plagne 63.06 309 *e*P **P 09 59 47.7 +0.5**
comp=Z,8.4nm,0.8s,mb4.9
LPL La Plagne 63.06 309 *e*P **P 09 59 47.7 +0.4**
comp=Z,15nm,0.8s,mb4.9
LPL La Plagne 63.06 309 *e*P **P 09 59 47.7 +0.4**
LPL pmax pmax
comp=Z,8.0nm,0.8s,mb4.9
LPL La Plagne 63.06 309 *e*P **P 09 59 47.7 +0.4**
comp=Z,7.5nm,0.8s,mb4.9
MBDF Montbardon 63.22 308 *e*P **P 09 59 49.2 +0.9**
comp=Z,9.3nm,0.8s,mb4.7
MBDF Montbardon 63.22 308 *e*P **P 09 59 49.2 +0.9**
MBDF pmax pmax
comp=Z,5.0nm,0.8s,mb4.7
MBDF Montbardon 63.22 308 *e*P **P 09 59 49.2 +0.9**
comp=Z,4.7nm,0.8s,mb4.7
KEST Kesra 63.66 298 P **P 09 59 51.9 +0.6**
comp=Z,3.5nm,0.9s,mb4.4,baz=207,slow=6.4,SNR=7.0
BAIF Baives 63.70 315 *e*P **P 09 59 51.6 +0.2**
LOR Lormes 64.58 312 *e*P **P 09 59 57.6 +0.4**
VIVF Saint-Julien-l 64.64 309 *e*P **P 09 59 57.4 -0.2**
comp=Z,12nm,0.9s,mb4.6
VIVF Saint-Julien-l 64.64 309 *e*P **P 09 59 57.4 -0.2**
VIVF pmax pmax
comp=Z,6.0nm,0.9s,mb4.6
VIVF Saint-Julien-l 64.64 309 *e*P **P 09 59 57.4 -0.2**
comp=Z,6.2nm,0.9s,mb4.6
SMF Signal de Mont 64.75 311 *e*P **P 09 59 57.9 -0.4**
SSF Saint Saulge 64.87 312 *e*P **P 09 59 58.7 -0.4**
AVF Avril sur Loir 65.04 311 *e*P **P 09 59 59.7 -0.5**
comp=Z,6.8nm,0.7s,mb4.5
AVF Avril sur Loir 65.04 311 *e*P **P 09 59 59.7 -0.5**
AVF pmax pmax
comp=Z,3.0nm,0.6s,mb4.5
AVF Avril sur Loir 65.04 311 *e*P **P 09 59 59.7 -0.5**
comp=Z,3.4nm,0.6s,mb4.5
BGF Bois d'Agland 65.43 311 *e*P **P 10 00 03.2 +0.4**
TCF Toulx Ste Croi 65.93 311 *e*P **P 10 00 06.0 0.0**
comp=Z,13nm,0.8s,mb4.7
TCF Toulx Ste Croi 65.93 311 *e*P **P 10 00 06.0 0.0**
TCF pmax pmax
comp=Z,6.0nm,0.8s,mb4.7
TCF Toulx Ste Croi 65.93 311 *e*P **P 10 00 06.0 0.0**
comp=Z,6.4nm,0.8s,mb4.7
CAF Calviac 66.41 310 *e*P **P 10 00 09.3 +0.2**
MTLF Montolieu 66.75 308 *e*P **P 10 00 11.3 0.0**
LDF La Druitiere 66.81 314 *e*P **P 10 00 11.1 -0.5**
WRAB Tennant Creek 67.08 130 *e*P **P 10 00 14.3 +0.7**
WRAB pmax pmax
comp=Z,3.0nm,0.6s,mb4.5
WRAB Tennant Creek 67.08 130 *e*P **P 10 00 14.3 +0.7**
comp=Z,3.2nm,0.6s,mb4.5
GRR Gorron 67.34 314 *e*P **P 10 00 14.5 -0.5**
SGMF Saint Gilles 68.47 314 *e*P **P 10 00 22.0 0.0**
ROSF Rostrenen 68.89 314 *e*P **P 10 00 24.4 -0.3**
ASAR Alice Springs 69.38 133 P **P 10 00 28.9 +0.9**
comp=Z,3.7nm,0.7s,mb4.4,baz=317,slow=6.6,SNR=25
ASAR Alice Springs 69.38 133 P **P 10 00 28.9 +0.9**
ASAR pmax pmax
comp=Z,4.0nm,0.7s
ESDC Sonseca Array 72.35 306 P **P 10 00 45.5 -0.5**
comp=Z,0.4nm,0.4s,mb3.7,baz=75,slow=6.2,SNR=4.5
TORD Torodi Ar. Bea 78.51 279 P **P 10 01 21.4 -0.4**
comp=Z,1.4nm,0.6s,mb4.1,baz=58,slow=4.5,SNR=7.7
BOSA Boshof 80.50 231 P **P 10 01 32.0 -0.2**
comp=Z,1.2nm,0.5s,mb4.1,baz=143,slow=5.5,SNR=3.5
BOSA Boshof 80.50 231 P **P 10 01 32.0 -0.2**
BOSA pmax pmax
comp=Z,1.0nm,0.5s,mb4.0
DAWY Dawson 81.82 18 *e*P **P 10 01 39.2 +0.4**
DBIC Dimbokro 87.18 276 P **P 10 02 06.3 -0.5**
comp=Z,3.3nm,0.8s,mb4.6,baz=80,slow=7.0,SNR=5.0
DBIC Dimbokro 87.18 276 P **P 10 02 06.3 -0.5**
DBIC pmax pmax
comp=Z,3.0nm,0.8s
TXAR Lajitas Array 122.41 9 PKP PKPdf 10 08 15.6 -0.1
comp=Z,0.1nm,0.3s,baz=198,slow=0.6,SNR=4.9

*ISCJB **29** 10:06:15.5±0.9, 136S±0.1×167.7E±0.2, h33km, mb4.3/12, Error ellipse: s-maj=29.5km s-min=16.6km az=8.5*
*IDC **29** 10:06:35.8±4.0, 1372S×16728E, h190km±31km, mb3.9/11, mb1 4.0/11, mb1mx3.9/16, mbtmp3.9/11, MS2.9/1, Ms1 2.9/1, ms1mx2.6/20, Error ellipse: s-maj=37.6km s-min=16.9km az=106.0*
ISC 29 10:06:17.0±0.9,**137S**±01×**1678E**±02,**h35**km,**n41,**
σ0§**17**/17,**mb4.3**/12,**Vanuatu Islands**

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
HNR Honiara 8.80 298 LR LR 10 11 20.7
comp=Z,86nm,19.3s,baz=131,slow=34
CTA Charters Tower 21.61 250 *e*P **P 10 11 05.7 +1.5**
4.0nm,0.4s,mb4.2
CTA Charters Tower 21.61 250 P **P 10 11 05.8 +1.6**
6.2nm,0.6s,mb4.2,baz=86,slow=12,SNR=11
ARMA Armidale 22.40 219 *e*P **P 10 11 16.7 +4.2**
STKA Stephens Creek 30.11 229 *e*P **P 10 12 24.5 +1.1**
5.5nm,0.4s,mb4.6
STKA Stephens Creek 30.11 229 P **P 10 12 24.4 +1.0**
6.6nm,0.4s,mb4.7,baz=50,slow=8.6,SNR=26
ASAR Alice Springs 33.58 248 P **P 10 12 52.4 -1.7**
4.3nm,0.5s,mb4.7,baz=74,slow=9.4,SNR=139
ASAR PcP PcP 10 15 32.0 -2.1
0.9nm,0.8s,baz=80,slow=4.0,SNR=5.4
ASAR ScP ScP 10 18 58.6 -18
2.6nm,0.9s,baz=70,slow=3.9,SNR=13
KAKA Kakadu 34.46 267 *e*P **P 10 12 54.0 -7.8**
9.1nm,0.6s,mb4.9
MJAR Matsushiro Arr 57.22 332 P **P 10 16 01.2 +0.4**
1.2nm,0.5s,mb4.2,baz=171,slow=8.2,SNR=5.6
KSRS Korea Array 63.18 325 P **P 10 16 41.9 +0.3**
1.5nm,0.9s,mb4.1,baz=164,slow=7.4,SNR=4.2
PETK Petropavlovsk- 67.07 353 P **P 10 17 08.8 +2.3**
3.1nm,0.8s,mb4.4,baz=143,slow=10,SNR=3.2
CMAR Chiang Mai Arr 75.03 294 P **P 10 17 54.7 -0.9**
0.9nm,0.4s,mb4.0,baz=123,slow=3.5,SNR=8.4
SONM Songino Array 81.97 323 P **P 10 18 33.4 +0.2**
0.6nm,0.5s,mb3.8,baz=138,slow=5.2,SNR=5.5
MAW Mawson 83.08 202 P **P 10 18 38.2 -0.6**
2.2nm,0.6s,mb4.4,baz=111,slow=5.1,SNR=16
SNAA Sanae 94.64 183 *e* **P 10 19 34.6 +0.6**
VNA2 Neumayer--Watz 95.56 182 *e* **P 10 19 38.0 -0.2**
baz=190,slow=4.2
MKAR Makanchi Array 96.82 316 P **P 10 19 43.5 -0.8**
1.1nm,0.6s,mb4.5,baz=89,slow=6.3,SNR=13
ZALV Zalesovo Beam 96.86 324 P **P 10 19 42.1 -2.2**
1.4nm,0.8s,mb4.4,baz=92,slow=5.0,SNR=4.1
ARCES ARCESS Array B 119.36 346 PKP PKPdf 10 25 00.9 -1.2
2.6nm,0.6s,baz=33,slow=1.9,SNR=8.9
GERES GERESS Array B 138.94 334 PKP PKPdf 10 25 39.1 -0.7
0.3nm,0.2s,baz=49,slow=4.4,SNR=3.6
MEZF Maizieres J'vi 142.45 341 *e*PKP1 PKPdf 10 25 45.2 -1.0
688nm,0.6s
CABF La Chapelle 143.75 339 *e*PKP1 PKPdf 10 25 47.8 -0.7
LPL La Plagne 144.44 337 *e*PKP1 PKPdf 10 25 48.3 -1.5
LPG La Plagne 144.45 337 *e*PKP1 PKPdf 10 25 48.4 -1.4
6.9nm,0.7s
SMF Signal de Mont 144.47 341 *e*PKP1 PKPdf 10 25 47.8 -2.0
9.4nm,0.8s
AVF Avril sur Loir 144.50 342 *e*PKP1 PKPdf 10 25 47.8 -2.0
12nm,0.8s
SGMF Saint Gilles 144.60 349 *e*PKP1 PKPdf 10 25 48.3 -1.6
16nm,0.6s
BGF Bois d'Agland 144.86 342 *e*PKP1 PKPdf 10 25 49.3 -1.1
26nm,0.7s
QUIF Quistinic 145.04 349 *e*PKP1 PKPbc 10 25 49.7 -0.4
MBDF Montbardon 145.09 336 *e*PKP1 PKPbc 10 25 49.8 -0.6
11nm,0.8s
ORIF Oris-en-Rattie 145.27 337 *e*PKP1 PKPbc 10 25 50.9 0.0
23nm,0.8s
TCF Toulx Ste Croi 145.29 342 *e*PKP1 PKPbc 10 25 50.8 -0.2
15nm,0.8s
MFF Saint Martin d 145.64 345 *e*PKP1 PKPbc 10 25 51.7 -0.4
10nm,0.6s
PGF Pioggiola 145.90 332 *e*PKP1 PKPbc 10 25 52.2 -0.8
26nm,0.8s
FRF La Foret Royal 146.11 335 *e*PKP1 PKPbc 10 25 52.7 -0.9
27nm,0.7s
SMRF Simiane la Rot 146.18 337 *e*PKP1 PKPbc 10 25 53.0 -0.8
LMR La Mourre 146.35 335 *e*PKP1 PKPbc 10 25 53.4 -0.9
16nm,0.7s
LASF Ste Croix 146.73 339 *e*PKP1 PKPbc 10 25 55.2 -0.2
10nm,0.8s
MTLF Montolieu 147.94 340 *e*PKP1 PKPbc 10 25 58.5 -0.3
8.6nm,0.6s
KEST Kesra 150.72 322 PKPbc PKPbc 10 26 05.5 -0.5
2.2nm,0.6s,baz=254,slow=3.9,SNR=6.2
TORD Torodi Ar. Bea 166.51 269 PKP PKPdf 10 26 18.6 -1.1
129nm,0.3s,baz=73,slow=0.5,SNR=1.3
TORD PKPab PKPab 10 27 19.3 -2.6
144nm,0.3s,baz=92,slow=4.1,SNR=1.7

*ISCJB **29** 10:12:51.8±1.3, 3801N±005×2053E±008, h8km±4km, Error ellipse: s-maj=11.4km s-min=7.0km az=148.1*
*ATH **29** 10:12:52.5, 3820N×2071E, h16km±1km, MD3.5/4*
*NEIC **29** 10:12:52.5, 3820N×2071E, h16km, MD3.5(ATH), After ATH.*
*THE **29** 10:12:53.5, 3803N×2060E, h6km, ML3.0/2, Error ellipse: s-maj=2.0km s-min=0.9km az=41.0*
*CSEM **29** 10:12:53.6±0.3, 3806N×2067E, h8km, MD3.5, Error ellipse: s-maj=7.2km s-min=3.9km az=37.0*
ISC 29 10:12:51.9±1.5,**3798N**±006×**2057E**±007,**h3**km±**6**km,**n19,**
σ0§**90**/30,**Ionian Sea**

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
VLS Valsamata 0.20 5 P **Pg 10 12 56.2 +0.5**
VLS S **Sg 10 12 59.0 +0.7**
VLS Valsamata 0.20 5 *e*Pb **Pg 10 12 56.3 +0.6**
VLS *e*Sb **Sg 10 12 58.9 +0.6**
VLS Valsamata 0.20 5 *e*PB **Pg 10 12 56.3 +0.6**
VLS *e*SB **Sg 10 12 58.9 +0.6**
KFL Anninata 0.22 53 P **Pg 10 12 56.4 +0.3**
KFL S **Sg 10 13 00.0 +1.1**
RLS Riolos of Patr 0.71 83 *e*Pn **Pg 10 13 05.0 -0.6**
RLS *e*Sn **Sg 10 13 12.9 -1.9**
RLS Riolos of Patr 0.71 83 *e*PN **Pg 10 13 05.0 -0.6**
RLS *e*SN **Sg 10 13 12.9 -1.9**
LKD Levkas 0.73 5 P **Pg 10 13 04.0 -1.9**
LKD S **Sg 10 13 15.9 +0.6**
ITM Ithomi 1.34 126 *e*Pn **Pn 10 13 18.9 +1.4**
ITM Ithomi 1.34 126 *e*PN **Pn 10 13 18.9 +1.4**
EVR Evrytania 1.35 46 *e*Pn **Pn 10 13 13.5 -4.1**
EVR Evrytania 1.35 46 *e*PN **Pn 10 13 13.5 -4.1**
AGG Agios Georgios 1.73 52 P **Pn 10 13 23.1 +0.3**
AGG S **Sn 10 13 45.2 -0.2**
KEK Kerkira 1.83 341 *e*Pn **Pn 10 13 23.2 -1.0**
KEK Kerkira 1.83 341 *e*PN **Pn 10 13 23.2 -1.0**
LTK Loutraki 1.90 88 P **Pn 10 13 25.5 +0.4**
LTK S **Sn 10 13 49.7 +0.3**
THL Klokotos Trika 1.94 35 P **Pn 10 13 25.7 0.0**
THL S **Sn 10 13 50.4 -0.2**
THL Klokotos Trika 1.94 35 *e*Pn **Pn 10 13 25.0 -0.7**
THL S **Sn 10 13 50.4 -0.2**
THL Klokotos Trika 1.94 35 *e*PN **Pn 10 13 25.0 -0.7**
LKR Lokris 2.03 70 P **Pn 10 13 27.2 +0.3**

*ISCJB **29** 11:33:21.6±0.9, 1247N±005×1237.1E±0.5, h9km±7km, Error ellipse: s-maj=10.2km s-min=6.2km az=41.8*
*MAN **29** 11:33:21, 1246N×1237.1E, h10km, mb3.7, ML2.4, MS2.0*
ISC 29 11:33:21.4±0.8,**1248N**±005×**12369E**±005,**h12**km±**5**km,**n6,**
σ0§**54**/12,**2C-1D, Luzon**

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
MMPH Masbate 0.14 206 ↓*i* P **Pg 11 33 24.7 -0.1**
MMPH *i* S **Sg 11 33 27.1 0.0**
CNP Catarman 0.95 88 *e*P **Pg 11 33 39.2 -0.6**
CNP *e*S **Sg 11 33 52.9 +0.7**
PVCP Virac 1.20 22 *e*P **Pn 11 33 45.1 +1.1**
PVCP *e*S **Sb 11 33 59.0 -0.5**
RCP Roxas 1.30 225↑ *e*P **Pn 11 33 45.1 -0.4**
RCP *e*S **Sb 11 34 03.1 +0.5**
PLP Palo 1.82 136↑ *e*P **Pn 11 33 52.0 -0.7**
PLP *i* S **Sn 11 34 15.8 +0.1**
GUIM Jordan 2.14 210 *e*P **Pn 11 33 56.8 -0.2**
GUIM *e*S **Sn 11 34 28.1 +4.6**

*ISCJB **29** 11:35:04.0±4.9, 25S±0.1×1425E±0.2, h11km±29km, mb3.8/4, Error ellipse: s-maj=42.3km s-min=17.0km az=13.5*
*IDC **29** 11:35:04.1±5.4, 238S×14239E, h0km, mb3.9/4, mb1 4.0/4, mb1mx3.8/13, mbtmp3.9/4, MS3.5/2, Ms1 3.5/2, ms1mx3.0/19, Error ellipse: s-maj=224.6km s-min=30.2km az=90.0*
*NEIC **29** 11:35:08.8±0.8, 2.48S×142.46E, h35km, mb4.4/1, Error ellipse: s-maj=26.7km s-min=14.3km az=108.0*
NEIC Felt [IV] at Jayapura and [III] at Sentani, Indonesia.
ISC 29 11:35:11.7±3.5,**26S**±01×**1424E**±02,**h59**km±30km,**n11,**
σ0§**93**/8,**mb3.8**/4,**Near north coast of New Guinea**

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
GUMO Guam 16.25 9 LR LR 11 43 59.8
comp=Z,144nm,19.0s,baz=265,slow=33
WRAB Tennant Creek 18.94 204 *e*P **Pn 11 39 28.3 -1.0**
21nm,0.9s
ASAR Alice Springs 22.50 201 P **P 11 40 07.7 +1.2**
4.9nm,0.8s,mb4.0,baz=29,slow=11,SNR=71
ASAR S **S 11 44 09.5 -0.3**
1.2nm,0.9s,baz=19,slow=23,SNR=4.9
KAPI Kappang 22.68 263 P **P 11 40 08.7 +0.2**
KSRS Korea Array 42.02 343 LR LR 11 58 03.5
comp=Z,60nm,18.7s,baz=165,slow=38
NIKO Nikolski 68.75 29 *e*P **P 11 46 09.2 -0.1**
MKAR Makanchi Array 71.94 321 P **P 11 46 28.4 -0.5**
1.0nm,0.8s,mb3.8,baz=111,slow=6.3,SNR=7.7
KURK Kurchatov 75.72 324 P **P 11 46 50.7 -0.3**
0.7nm,0.9s,mb3.6,baz=108,slow=5.5,SNR=4.3
BVAR Borovoye Array 81.30 324 P **P 11 47 22.3 +0.7**
0.3nm,0.4s,mb3.6,baz=105,slow=3.3,SNR=3.2
MIV Mineville/With 127.90 32 PKPdf PKPdf 11 54 09.2 -1.9
DBIC Dimbokro 147.07 278 PKPbc PKPbc 11 54 49.4 +0.1
1.8nm,0.7s,baz=124,slow=7.3,SNR=2.6

*ISCJB **29** 11:35:31.4±0.5, 1460N±008×54.16E±008, h10km, mb4.3/26, MS3.6/13, Error ellipse: s-maj=11.9km s-min=10.1km az=135.2*
*IDC **29** 11:35:31.7±0.6, 1459N×54.19E, h0km, mb4.1/16, mb1 4.2/16, mb1mx4.1/24, mbtmp4.1/16, MS3.6/13, Ms1 3.6/13, ms1mx3.5/23, Error ellipse: s-maj=18.6km s-min=14.2km az=123.0*
*NEIC **29** 11:35:33.2±0.4, 1460N×54.17E, h10km, mb4.7/10, Error ellipse: s-maj=10.4km s-min=8.8km az=124.0*
*MOS **29** 11:35:34.7±1.1, 1457N×54.14E, h33km, mb4.9/9, Error ellipse: s-maj=14.8km s-min=9.7km az=108.7*
*CSEM **29** 11:35:35.2±0.1, 1465N×54.13E, h33km, mb4.7/10, Error ellipse: s-maj=5.0km s-min=4.3km az=119.0*
ISC 29 11:35:33.3±0.5,**1460N**±008×**5419E**±008,**h10**km,**n65,**
σ0§**81**/56,**mb4.3**/26,**MS3.6**/13,**Owen Fracture Zone region**

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
EIL Elat 23.23 313 LR LR 11 49 45.0
comp=Z,218nm,21.5s,MS3.6,baz=262,slow=37
ASF Jabal al Asfar 23.55 321 P **P 11 40 44.8 +0.7**
1.5nm,0.3s,mb3.8,baz=19,slow=8.5,SNR=4.6
ASF LR LR 11 50 20.5
comp=Z,227nm,20.3s,MS3.6,baz=185,slow=38
MMAI Mount Meron Ar 25.05 320 LR LR 11 51 38.5
comp=Z,161nm,18.3s,MS3.6,baz=140,slow=39
GNI Garni 26.76 344 P **P 11 41 15.3 +2.1**
7.8nm,0.6s,mb4.4,baz=1.3,slow=18,SNR=9.7
GNI LR LR 11 53 46.2
comp=Z,231nm,18.2s,MS3.8,baz=155,slow=41
OPO Ambohidratompo 33.68 192 P **P 11 42 15.6 +1.0**
0.7nm,0.3s,mb4.0,baz=26,slow=23,SNR=4.2
MKAR Makanchi Array 39.76 30 P **P 11 43 07.0 +0.8**
1.5nm,0.6s,mb3.9,baz=210,slow=9.1,SNR=17
MKAR LR LR 12 00 53.6
comp=Z,36nm,18.3s,MS3.2,baz=8.1,slow=38
MK31 Makanchi Array 39.76 30 *e*P **P 11 43 06.9 +0.7**
MK31 Makanchi Array 39.76 30 *e*P **P 11 43 07.0 +0.8**
BVAR Borovoye Array 40.43 15 P **P 11 43 12.3 +0.6**
2.0nm,0.6s,mb4.0,baz=200,slow=7.5,SNR=12
BVAR PcP PcP 11 45 14.2 -0.3
0.5nm,0.4s,baz=198,slow=4.2,SNR=2.7
BVAR Borovoye Array 40.43 15 PcP PcP 11 45 14.2 -0.3
BRVK Borovoye 40.43 15 *e*P **P 11 43 11.5 -0.2**
BRVK pmax pmax
comp=Z,7.0nm,0.6s,mb4.6
BRVK Borovoye 40.43 15 *e*P **P 11 43 11.5 -0.2**
comp=Z,7.0nm,0.6s,mb4.6
BRVK Borovoye 40.43 15 *e*P **P 11 43 11.5 -0.2**
comp=Z,6.7nm,0.6s,mb4.5
KURK Kurchatov 41.09 24 P **P 11 43 16.5 -0.6**
comp=Z,1.0nm,0.7s,mb3.5,baz=225,slow=8.1,SNR=4.5
KURK Kurchatov 41.09 24 P **P 11 43 16.5 -0.6**
AKASG Malin Array Be 41.28 336 P **P 11 43 18.3 -0.4**
comp=Z,0.7nm,0.4s,mb3.6,baz=138,slow=7.7,SNR=5.8
AKASG Malin Array Be 41.28 336 P **P 11 43 18.3 -0.4**
CMAR Chiang Mai Arr 43.00 79 P **P 11 43 33.8 +0.6**
comp=Z,0.9nm,0.3s,mb4.0,baz=280,slow=9.5,SNR=9.5
MATP Matopo 43.00 217 P **P 11 43 32.5 -0.6**
comp=Z,2.7nm,0.7s,mb4.1,baz=50,slow=8.1,SNR=7.8
MATP Matopo 43.00 217 P **P 11 43 32.5 -0.6**
KEST Kesra 45.24 306 LR LR 12 03 04.2
comp=Z,41nm,19.4s,MS3.4,baz=271,slow=36
NVS Novosibirsk 46.06 23 *e*P **P 11 43 57.1 0.0**
GERES GERESS Array B 47.58 324 LR LR 12 03 46.7
comp=Z,56nm,19.0s,MS3.5,baz=90,slow=36

LBTB	**Lobatse**	**48.25**	**216**	P	**P**	**11 44 15.0**	**+0.4**
	comp=Z,3.0nm,0.5s,mb4.6,baz=39,slow=6.3,SNR=7.4						
MBDF	**Montbardon**	**50.01**	**317**	*e*P	**P**	**11 44 27.3**	**-0.6**
LPG	**La Plagne**	**50.31**	**318**	*e*P	**P**	**11 44 29.8**	**-0.3**
	comp=Z,13nm,0.8s,mb4.7						
LPG	**La Plagne**	**50.31**	**318**	*e*P	**P**	**11 44 29.8**	**-0.3**
LPG				pmax	pmax		
	comp=Z,6.0nm,0.8s,mb4.7						
LPG	**La Plagne**	**50.31**	**318**	*e*P	**P**	**11 44 29.8**	**-0.3**
	comp=Z,6.0nm,0.8s,mb4.7						
LPL	**La Plagne**	**50.33**	**318**	*e*P	**P**	**11 44 29.6**	**-0.7**
	comp=Z,13nm,0.8s,mb4.7						
LPL	**La Plagne**	**50.33**	**318**	*e*P	**P**	**11 44 29.6**	**-0.7**
LPL				pmax	pmax		
	comp=Z,7.0nm,0.8s,mb4.7						
LPL	**La Plagne**	**50.33**	**318**	*e*P	**P**	**11 44 29.6**	**-0.7**
	comp=Z,7.0nm,0.8s,mb4.7						
TORD	**Torodi Ar. Bea**	**50.89**	**275**	P	**P**	**11 44 34.8**	**-0.2**
	comp=Z,231nm,0.4s,baz=86,slow=5.7,SNR=1.6						
TORD				LR	LR	12 06 06.6	
	comp=Z,57nm,20.5s,MS3.6,baz=355,slow=36						
CABF	**La Chapelle**	**51.16**	**319**	*e*P	**P**	**11 44 36.6**	**+0.1**
	comp=Z,13nm,0.8s,mb4.7						
CABF	**La Chapelle**	**51.16**	**319**	*e*P	**P**	**11 44 36.6**	**+0.1**
CABF				pmax	pmax		
	comp=Z,7.0nm,0.8s,mb4.6						
CABF	**La Chapelle**	**51.16**	**319**	*e*P	**P**	**11 44 36.6**	**+0.1**
	comp=Z,7.0nm,0.8s,mb4.6						
BOSA	**Boshof**	**51.27**	**213**	LR	LR	12 06 42.8	
	comp=Z,47nm,19.9s,MS3.5,baz=327,slow=36						
SMF	**Signal de Mont**	**52.61**	**318**	*e*P	**P**	**11 44 46.3**	**-1.1**
LOR	**Lormes**	**52.82**	**319**	*e*P	**P**	**11 44 49.3**	**+0.4**
	comp=Z,15nm,0.8s,mb4.6						
LOR	**Lormes**	**52.82**	**319**	*e*P	**P**	**11 44 49.3**	**+0.4**
LOR				pmax	pmax		
	comp=Z,7.0nm,0.8s,mb4.6						
LOR	**Lormes**	**52.82**	**319**	*e*P	**P**	**11 44 49.3**	**+0.4**
	comp=Z,7.0nm,0.8s,mb4.6						
SSF	**Saint Saulge**	**52.97**	**319**	*e*P	**P**	**11 44 51.0**	**+1.0**
	comp=Z,23nm,1.0s,mb4.8						
SSF	**Saint Saulge**	**52.97**	**319**	*e*P	**P**	**11 44 51.0**	**+1.0**
SSF				pmax	pmax		
	comp=Z,11nm,1.0s,mb4.7						
SSF	**Saint Saulge**	**52.97**	**319**	*e*P	**P**	**11 44 51.0**	**+1.0**
	comp=Z,11nm,1.0s,mb4.7						
AVF	**Avril sur Loir**	**52.98**	**318**	*e*P	**P**	**11 44 49.1**	**-1.0**
	comp=Z,25nm,1.1s,mb4.7						
AVF	**Avril sur Loir**	**52.98**	**318**	*e*P	**P**	**11 44 49.1**	**-1.0**
AVF				pmax	pmax		
	comp=Z,12nm,1.1s,mb4.7						
AVF	**Avril sur Loir**	**52.98**	**318**	*e*P	**P**	**11 44 49.1**	**-1.0**
	comp=Z,12nm,1.1s,mb4.7						
BGF	**Bois d'Agland**	**53.23**	**318**	*e*P	**P**	**11 44 53.3**	**+1.4**
	comp=Z,22nm,0.8s,mb4.8						
BGF	**Bois d'Agland**	**53.23**	**318**	*e*P	**P**	**11 44 53.3**	**+1.4**
BGF				pmax	pmax		
	comp=Z,11nm,0.8s,mb4.8						
BGF	**Bois d'Agland**	**53.23**	**318**	*e*P	**P**	**11 44 53.3**	**+1.4**
	comp=Z,11nm,0.8s,mb4.8						
BAIF	**Baives**	**53.64**	**322**	*e*P	**P**	**11 44 55.5**	**+0.6**
	comp=Z,18nm,0.9s,mb4.7						
BAIF	**Baives**	**53.64**	**322**	*e*P	**P**	**11 44 55.5**	**+0.6**
BAIF				pmax	pmax		
	comp=Z,9.0nm,0.9s,mb4.7						
BAIF	**Baives**	**53.64**	**322**	*e*P	**P**	**11 44 55.5**	**+0.6**
	comp=Z,9.0nm,0.9s,mb4.7						
SONM	**Songino Array**	**54.21**	**41**	P	**P**	**11 44 58.7**	**-0.4**
	comp=Z,1.2nm,0.7s,mb3.9,baz=243,slow=8.3,SNR=8.2						
SONM				LR	LR	12 08 40.1	
	comp=Z,59nm,19.9s,MS3.6,baz=263,slow=37						
NOA	**NORSAR Array B**	**55.69**	**336**	LR	LR	12 12 17.0	
	comp=Z,68nm,18.6s,MS3.8,baz=90,slow=40						
ESDC	**Sonseca Array**	**56.38**	**308**	P	**P**	**11 45 13.9**	**-1.0**
	comp=Z,0.3nm,0.2s,mb3.9,baz=293,slow=32,SNR=4.1						
ARCES	**ARCESS Array B**	**57.77**	**348**	P	**P**	**11 45 22.5**	**-1.7**
	comp=Z,3.2nm,0.8s,mb4.4,baz=151,slow=5.9,SNR=9.2						
ARCES				LR	LR	12 14 52.6	
	comp=Z,62nm,19.2s,MS3.7,baz=245,slow=41						
ARCES	**ARCESS Array B**	**57.77**	**348**	P	**P**	**11 45 22.5**	**-1.8**
DBIC	**Dimbokro**	**58.43**	**269**	P	**P**	**11 45 29.8**	**0.0**
	comp=Z,3.3nm,0.9s,mb4.4,baz=71,slow=8.9,SNR=3.7						
DBIC	**Dimbokro**	**58.43**	**269**	P	**P**	**11 45 29.8**	**0.0**
LIC	**Lamto**	**58.69**	**268**	*e*P	**P**	**11 45 32.0**	**+0.4**
	comp=Z,12nm,0.8s,mb4.7						
LIC	**Lamto**	**58.69**	**268**	*e*P	**P**	**11 45 32.0**	**+0.4**
	comp=Z,6.2nm,0.8s,mb4.7						
KSRS	**Korea Array**	**60.44**	**55**	P	**P**	**11 46 34.7**	**-1.0**
	comp=Z,1.8nm,0.6s,mb4.8,baz=271,slow=6.7,SNR=8.0						
MAW	**Mawson**	**82.22**	**177**	LR	LR	12 15 11.7	
	comp=Z,64nm,19.6s,MS4.0,baz=246,slow=29						
ASAR	**Alice Springs**	**86.65**	**115**	P	**P**	**11 48 16.9**	**-0.8**
	comp=Z,0.7nm,0.6s,mb4.0,baz=296,slow=4.7,SNR=8.0						
NVAR	**Mina Array Bea**	**126.78**	**353**	PKP	PKPdf	11 54 39.0	+1.3
	comp=Z,0.7nm,0.8s,baz=168,slow=0.8,SNR=7.7						

*ISCJB **29** 11:38:01.0±1.1,2931N±008×5266E±007,h10km, Error ellipse: s-maj=12.1km s-min=9.3km az=174.7*
*KISR **29** 11:38:00.8,2866N×5265E,h33km,ML3.2*
*CSEM **29** 11:38:30.0,3133N×5183E,h15km,ML3.2, Error ellipse: s-maj=0.4km s-min=0.1km az=79.0, After THR*
*THR **29** 11:38:30.0±0.6,3133N×5183E,h15km,ML3.2*
ISC 29 11:38:02.2±1.1,**2922N**±009×**5271E**±008,**h10**km,**n8,**
σ0§**73**/11,**Southern Iran**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GHIR	**Ghir-Karzin**	**0.96**	**165**	*e*Pn	**Pn**	**11 38 21.8**	**+0.1**
GHIR				AML	AML	11 40 06.5	
	comp=N,56nm,0.6s						
GHIR				AML	AML	11 40 10.0	
	comp=E,72nm,0.6s						
NASN	**Na'in**	**3.57**	**1**	*e*Pn	**Pn**	**11 39 01.4**	**+3.9**
QRN	**Al-Qurain**	**4.22**	**265**	*e*P	**Pn**	**11 39 06.4**	**-0.2**
	baz=272						
QRN				AML	AML	11 40 08.1	
	comp=Z,30nm,0.3s,baz=272						
RDF	**Al-Radifah**	**4.53**	**268**	*e*P	**Pn**	**11 39 10.1**	**-0.7**
	baz=275						
RDF				*e*S	**Sn**	**11 40 02.2**	**-1.2**
	baz=275						
RDF				AML	AML	11 40 10.0	
	comp=Z,15nm,0.4s,baz=275						
NAY	**Al-Naaiem**	**4.78**	**272**	*e*P	**Pn**	**11 39 14.3**	**0.0**
	baz=278						
NAY				*e*S	**Sn**	**11 40 10.1**	**+0.5**
	baz=278						
NAY				AML	AML	11 40 16.1	
	comp=Z,14nm,0.4s,baz=278						
RST	**Umm Al-Ruwaisa**	**5.00**	**275**	*e*P	**Pn**	**11 39 18.0**	**+0.8**
	baz=281						
RST				*e*S	**Sn**	**11 40 15.9**	**+1.0**
	baz=281						
RST				AML	AML	11 40 18.3	
	comp=Z,23nm,0.7s,baz=281						
ASAO	**Ashtian**	**5.78**	**337**	*e*Pn	**Pn**	**11 39 27.1**	**-0.8**
ASAO				AML	AML	11 40 37.2	
	comp=N,32nm,0.5s						
DAMV	**Damavand**	**6.42**	**355**	*e*Pn	**Pn**	**11 39 36.8**	**0.0**

*CSEM **29** 11:39:04.5±0.2,3725N×2789E,h30km,MD2.7, Error ellipse: s-maj=5.9km s-min=3.0km az=7.0*
*ISK **29** 11:39:05.0,3725N×2790E,h27km,MD2.7*
*DDA **29** 11:39:05.2,3711N×2798E,h7km±7km, Md2.6*
*ISCJB **29** 11:39:06.1±1.1,3715N×005×2792E±004,h22km±14km, Error ellipse: s-maj=9.0km s-min=5.6km az=7.0*
ISC 29 11:39:05.9±1.0,**3715N**±005×**2793E**±004,**h23**km±12km,**n7,**
σ1§**09**/13,**Turkey**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MLSB	**Milas**	**0.19**	**321**	*e*PG	**Pb**	**11 39 10.1**	**-1.2**
MLSB				*e*SG	**Sb**	**11 39 14.3**	**-0.6**
YER	**Yerkesik**	**0.29**	**93**	*e*PG	**Pb**	**11 39 13.4**	**+0.9**
YER				*e*SG	**Sb**	**11 39 18.9**	**+1.8**
BDRM	**Kayabasi**	**0.39**	**258**	*i* P	**Pb**	**11 39 14.3**	**0.0**
BDRM				*i* S	**Sb**	**11 39 19.7**	**-0.3**
BODT	**Bodrum**	**0.50**	**260**	*e*PG	**Pb**	**11 39 16.2**	**+0.1**
BODT				*e*SG	**Sb**	**11 39 23.9**	**+0.9**
AYDN	**Tasoluk**	**0.51**	**356**	*i* P	**Pb**	**11 39 17.3**	**+0.9**
AYDN				*i* S	**Sb**	**11 39 23.0**	**-0.4**
TURN	**Turunc**	**0.61**	**117**	*i* P	**Pb**	**11 39 16.4**	**-1.5**
TURN				*i* S	**Sb**	**11 39 23.6**	**-2.4**
DALT	**Dalyan (Mudla)**	**0.68**	**123**	*e*PG	**Pb**	**11 39 20.3**	**+1.1**

*DDA **29** 11:43:37.0,3886N×27.17E,h7km±3km,Md2.5*
*CSEM **29** 11:43:36.7±0.2,3885N×27.19E,h12km,MD2.7, Error ellipse: s-maj=3.9km s-min=2.0km az=120.0*
*ISCJB **29** 11:43:37.3±1.0,3885N±004×27.17E±006,h8km±7km, Error ellipse: s-maj=9.3km s-min=6.0km az=38.0*
*ISK **29** 11:43:38.0,3879N×2725E,h14km,MD2.7*
ISC 29 11:43:37.5±1.0,**3885N**±005×**2716E**±006,**h13**km±7km,**n9,**
σ0§**52**/16,**Turkey**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IZM	**Izmir**	**0.46**	**170**	*e*PG	**Pg**	**11 43 46.0**	**-0.6**
IZM				*e*SG	**Sg**	**11 43 52.4**	**-0.3**
BLCB	**Balcova**	**0.47**	**192**	*e*PG	**Pg**	**11 43 46.6**	**-0.3**
BLCB				*e*SG	**Sg**	**11 43 54.2**	**+1.1**
AKS	**Akhisar**	**0.51**	**87**	*e*PG	**Pg**	**11 43 47.5**	**0.0**
AKS				*e*SG	**Sg**	**11 43 54.1**	**-0.2**
AKHS	**Akhisar**	**0.51**	**87**	*i* P	**Pg**	**11 43 47.7**	**+0.2**
AKHS				*i* S	**Sg**	**11 43 54.7**	**+0.4**
BALY	**Balya**	**0.96**	**22**	*i* P	**Pb**	**11 43 55.6**	**-0.3**
BALY				*i* S	**Sb**	**11 44 08.7**	**+0.3**
MANT	**Manisa**	**1.15**	**108**	*i* P	**Pb**	**11 43 58.3**	**-0.9**
MANT				*i* S	**Sb**	**11 44 14.6**	**+0.6**
KULA	**Kula-Manisa**	**1.22**	**106**	*e*PN	**Pn**	**11 44 00.2**	**0.0**
DEMI	**Demirci**	**1.23**	**81**	*i* P	**Pn**	**11 43 59.7**	**-0.6**
DEMI				*i* S	**Sb**	**11 44 16.0**	**-0.2**
DST	**Dursunbey**	**1.36**	**56**	*e*PN	**Pn**	**11 44 03.1**	**+0.9**

IGQ 29 11:56:39.7,236S×7955W,h12km±8km,Mb4.1,Ms3.9,2C, Error ellipse: s-maj=12.4km s-min=4.5km az=63.7,Near coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IGUA	**Igualata**	**1.26**	**47**	P	Pn	11 57 03.1	0.0
IGUA	**Igualata**	**1.26**	**47**	S	Sb	11 57 21.2	+1.6
ARRY	**Arrayan**	**1.39**	**52**	P	Pn	11 57 04.2	-0.7
ARRY	**Arrayan**	**1.39**	**52**	S	Sn	11 57 24.2	+1.0
PATA	**Patacocha**	**1.41**	**53**	P	Pn	11 57 05.3	+0.1
PATA	**Patacocha**	**1.41**	**53**	S	Sn	11 57 25.5	+1.9
JUI6	**Juive**	**1.43**	**49**	P	Pn	11 57 07.8	+2.3
RUN5	**Runtun**	**1.47**	**50**	P	Pn	11 57 08.6	+2.6
RUN5	**Runtun**	**1.47**	**50**	S	Sn	11 57 28.2	+3.0
QIL2	**Quilotoa**	**1.61**	**23**	P	Pn	11 57 09.2	+1.2
PISA	**Pisayambo**	**1.75**	**42**	⇑P	Pn	11 57 11.9	+2.2
PISA	**Pisayambo**	**1.75**	**42**	⇑S	Sn	11 57 38.4	+6.4
CAMI	**Rancho Maria**	**1.98**	**32**	P	Pn	11 57 16.7	+3.8
TAMB	**Tambo**	**2.04**	**36**	P	Pn	11 57 16.9	+3.1
VC1	**Cotopaxi 1**	**2.06**	**34**	P	Pn	11 57 17.7	+3.5
ANTI	**Antisana**	**2.36**	**36**	P	Pn	11 57 22.3	+4.1
GGP	**Refugio Guagua**	**2.38**	**24**	P	Pn	11 57 21.9	+3.4
CAYA	**Cayambe**	**2.88**	**33**	P	Pn	11 57 31.8	+6.4

*ISCJB **29** 11:58:04.8±0.5,3739N±002×3633E±002,h4km±4km, Error ellipse: s-maj=4.2km s-min=3.2km az=157.5*
*DDA **29** 11:58:04.6,3742N×3630E,h22km±1km,Md3.6*
*CSEM **29** 11:58:04.2±0.1,3740N×3632E,h5km,MD3.6, Error ellipse: s-maj=1.5km s-min=1.2km az=176.0*
*ISK **29** 11:58:04.7,3740N×3634E,h9km,MD3.6,ML3.5*
ISC 29 11:58:05.7±0.4,**3738N**±002×**3633E**±003,**h7**km±3km,**n39,**
σ0§**86**/53,**Turkey**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ANDN	**Andirin**	**0.20**	**3**	*i* P	**Pg**	**11 58 08.8**	**-0.9**
ANDN				*i* S	**Sg**	**11 58 13.2**	**+0.7**
KMRS	**Kahramanmaras**	**0.47**	**75**	PG	**Pg**	**11 58 13.8**	**-1.0**
KMRS				*e*SG	**Sg**	**11 58 20.8**	**-0.1**
CEYT	**Ceyhan**	**0.60**	**232**	*e*PG	**Pg**	**11 58 17.1**	**-0.1**
CEYT				*e*SG	**Sg**	**11 58 26.1**	**+1.2**
GAZ	**Gaziantep**	**0.73**	**106**	*e*PG	**Pg**	**11 58 19.3**	**-0.5**
GAZ				*e*SG	**Sg**	**11 58 29.7**	**+0.4**
COBT	**Iskenderun**	**0.86**	**184**	*i* P	**Pg**	**11 58 22.4**	**+0.1**
COBT				*i* S	**Sg**	**11 58 34.2**	**+0.7**
GZT	**Gaziantep**	**0.98**	**91**	*i* P	**Pg**	**11 58 24.4**	**-0.2**
GZT				*i* S	**Sg**	**11 58 39.0**	**+1.7**
KARA	**Karaisali**	**1.03**	**264**	*e*PG	**Pg**	**11 58 25.0**	**-0.4**
HTY	**Hatay**	**1.27**	**187**	*e*PN	**Pn**	**11 58 29.7**	**-0.1**
PINB	**Pinarbasi**	**1.29**	**2**	*i* P	**Pn**	**11 58 28.9**	**-1.3**
PINB				*i* S	**Sb**	**11 58 48.7**	**+1.5**
SARI	**SarD1z-Kayseri**	**1.33**	**12**	*e*PG	**Pg**	**11 58 24.5**	**-6.7**
SARI				*e*SG	**Sg**	**11 58 39.1**	**-9.3**
BNN	**Bunyan**	**1.52**	**346**	*e*PN	**Pn**	**11 58 32.7**	**-0.6**
MERS	**Mersin**	**1.54**	**251**	*e*PN	**Pn**	**11 58 32.9**	**-0.5**
NIG	**Nigde**	**1.55**	**299**	*e*PN	**Pn**	**11 58 32.3**	**-1.3**
AKCD	**Akcadag**	**1.56**	**54**	*i* P	**Pn**	**11 58 33.8**	**0.0**
AKCD				*i* S	**Sn**	**11 58 55.0**	**+0.9**
ATAB	**Bozova**	**1.56**	**86**	*i* P	**Pn**	**11 58 33.3**	**-0.5**
ATAB				*i* S	**Sn**	**11 58 54.1**	**-0.2**
AVNT	**Avonos**	**1.82**	**321**	*i* P	**Pn**	**11 58 34.8**	**-2.6**
AVNT				*i* S	**Sn**	**11 59 02.1**	**+1.4**
DARE	**Darende-Malaty**	**1.95**	**36**	*e*PN	**Pn**	**11 58 32.8**	**-6.4**
URFA	**Urfa**	**1.98**	**88**	*e*PN	**Pn**	**11 58 39.1**	**-0.6**
ELZG	**Elazig**	**2.37**	**61**	*i* P	**Pn**	**11 58 45.9**	**+0.8**
ELZG				*i* S	**Sn**	**11 59 15.6**	**+1.2**
ELZG	**Elazig**	**2.37**	**61**	*i* P	**Pn**	**11 58 45.8**	**+0.8**
ELZG				*i* S	**Sn**	**11 59 15.6**	**+1.2**
YOZ	**Yozgat**	**2.39**	**341**	*e*PN	**Pn**	**11 58 45.0**	**-0.3**
IKL	**Isikli**	**2.41**	**243**	*e*PN	**Pn**	**11 58 44.8**	**-0.7**
KEMA	**Kemaliye**	**2.54**	**41**	*i* P	**Pn**	**11 58 47.2**	**-0.1**
KEMA				*i* S	**Sg**	**11 59 27.0**	**-0.3**
EREN	**Erenkoy**	**2.54**	**224**	*e*PN	**Pn**	**11 58 48.0**	**+0.6**
SVRC	**Sivrice-ELAZID**	**2.56**	**66**	*e*PN	**Pn**	**11 58 46.9**	**-0.6**
SVSK	**Karacayir**	**2.58**	**11**	*e*PN	**Pn**	**11 58 47.4**	**-0.5**
CDAG	**Cicekdag**	**2.72**	**326**	*i* P	**Pn**	**11 58 51.6**	**+1.9**
PTK	**Pertek**	**2.84**	**57**	*e*PN	**Pn**	**11 58 51.3**	**-0.2**
KAMT	**Kaman**	**2.86**	**315**	*e*PN	**Pn**	**11 58 51.6**	**-0.1**
TOKT	**Tokat**	**2.94**	**3**	*e*PN	**Pn**	**11 58 52.6**	**-0.1**
LFK	**Lefkose**	**3.08**	**228**	*e*PN	**Pn**	**11 58 55.2**	**+0.5**
CORM	**Corum**	**3.09**	**335**	*e*PN	**Pn**	**11 58 55.2**	**+0.3**
HDMB	**Hadim**	**3.10**	**263**	*e*PN	**Pn**	**11 58 55.2**	**+0.2**
KONT	**Konya--Tatoy**	**3.20**	**281**	*e*PN	**Pn**	**11 58 56.3**	**-0.1**
LADK	**Ladik-KONYA**	**3.25**	**286**	*e*PN	**Pn**	**11 58 57.3**	**+0.3**
MARD	**Mardin**	**3.54**	**90**	*i* P	**Pn**	**11 58 60.0**	**-1.1**
EZC	**Erzincan**	**3.61**	**48**	*e*PN	**Pn**	**11 58 58.9**	**-3.1**
KVT	**Kavak**	**3.70**	**357**	*e*PN	**Pn**	**11 59 03.7**	**+0.5**
GUMT	**Gumushane**	**3.93**	**38**	*e*PN	**Pn**	**11 59 07.2**	**+0.8**

*SGS **29** 12:24:36.0,3020N×3629E,h5km*
*CSEM **29** 12:24:36.0,3020N×3629E,h5km,ML2.8,After SNSN*
*ISCJB **29** 12:24:37.7±0.9,2988N±004×3624E±006,h0km, Error ellipse: s-maj=7.9km s-min=5.8km az=154.4*
*GII **29** 12:24:37.9±0.0,2988N×3626E,h0km,ML2.1/2, EXPLOSION*
ISC 29 12:24:38.1±0.9,**2988N**±004×**3626E**±006,**h0**km,**n12,**
σ1§**06**/15,**Western Arabian Peninsula**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AQBJ	**Aqaba**	**1.06**	**262**	Pg	**Pg**	**11 22 57.5**	**-0.9**
HRFI	**Mount Harif**	**1.07**	**279**	Pg	**Pg**	**11 22 57.8**	**-0.8**
EIL	**Elat**	**1.16**	**260**	Pg	**Pg**	**11 25 00.1**	**-0.1**
EIL				Sg	**Sg**	**11 25 17.4**	**+2.2**
MBRI	**Mt Berech**	**1.17**	**266**	Pg	**Pg**	**11 24 59.8**	**-0.7**
MBRI				Sg	**Sg**	**11 25 17.4**	**+1.7**
PRNI	**Paran**	**1.19**	**294**	Pg	**Pg**	**11 25 00.1**	**-0.7**
HQLS		**1.19**	**241**	P	**Pg**	**11 25 00.1**	**-0.8**
JLOS		**1.32**	**211**	P	**Pg**	**11 25 02.2**	**-1.1**
MZDA	**Masada**	**1.62**	**332**	Pn	**Pn**	**11 25 08.3**	**+0.4**
MZDA				Sn	**Sn**	**11 25 29.5**	**-0.1**
TBKS	**Tabuk**	**1.67**	**171**	S	**Sn**	**11 25 32.5**	**+1.9**
TBKS	**Tabuk**	**1.67**	**171**	P	**Pn**	**11 25 08.3**	**-0.3**
BDAS	**Al Bad'**	**1.76**	**215**	P	**Pn**	**11 25 09.2**	**-0.6**
DSI	**Dead Sea**	**1.85**	**336**	Pn	**Pn**	**11 25 12.4**	**+1.4**

*ISCJB **29** 12:33:06.0±1.1,2988N±006×3627E±007,h0km, Error ellipse: s-maj=10.1km s-min=7.3km az=137.9*
*SGS **29** 12:33:06.5,3007N×3626E,h7km*
*CSEM **29** 12:33:06.6,3007N×3626E,h7km,ML2.8,After SNSN*
*GII **29** 12:33:07.4±0.9,2992N×3619E,h0km,ML2.4/3, EXPLOSION*
ISC 29 12:33:06.0±1.1,**2987N**±006×**3632E**±007,**h0**km,**n12,**
σ0§**53**/14,**Western Arabian Peninsula**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AQBJ	**Aqaba**	**1.11**	**263**	Pg	**Pg**	**12 33 27.6**	**+0.2**
HRFI	**Mount Harif**	**1.12**	**279**	Pg	**Pg**	**12 33 27.3**	**-0.3**
EIL	**Elat**	**1.21**	**261**	Pg	**Pg**	**12 33 29.7**	**+0.5**
MBRI	**Mt Berech**	**1.22**	**267**	Pg	**Pg**	**12 33 29.3**	**-0.2**
MBRI				Sg	**Sg**	**12 33 46.1**	**+0.7**
HQLS		**1.23**	**243**	P	**Pg**	**12 33 29.1**	**-0.6**
PRNI	**Paran**	**1.24**	**293**	Pg	**Pg**	**12 33 28.9**	**-0.8**
PRNI				Sg	**Sg**	**12 33 46.3**	**+0.5**
JLOS		**1.34**	**213**	P	**Pg**	**12 33 31.7**	**0.0**
KRMI	**Paran Flat**	**1.41**	**281**	Pg	**Pg**	**12 33 31.9**	**-1.1**
TBKS	**Tabuk**	**1.65**	**173**	P	**Pn**	**12 33 36.9**	**+0.6**
MZDA	**Masada**	**1.66**	**330**	Pn	**Pn**	**12 33 36.6**	**+0.2**
BDAS	**Al Bad'**	**1.79**	**217**	P	**Pn**	**12 33 37.9**	**-0.3**
DSI	**Dead Sea**	**1.88**	**335**	Pn	**Pn**	**12 33 39.8**	**+0.4**

*DDA **29** 12:34:37.0,3741N×29.16E,h7km±5km,Md2.6*
*ISCJB **29** 12:34:43.4±1.2,3742N±005×2833E±007,h16km±11km, Error ellipse: s-maj=10.4km s-min=7.4km az=144.8*
*ISK **29** 12:34:43.4,3740N×2834E,h14km,MD2.8*
*CSEM **29** 12:34:43.2±0.3,3733N×2834E,h25km,MD2.6, Error ellipse: s-maj=7.2km s-min=6.1km az=149.0*
ISC 29 12:34:43.4±1.1,**3742N**±005×**2833E**±007,**h17**km±5km,**n8,**
σ0§**75**/13,**Turkey**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
YER	**Yerkesik**	**0.28**	**188**	PG	**Pg**	**12 34 50.0**	**+0.4**
YER				*e*SG	**Sg**	**12 34 53.1**	**-0.6**
AYDN	**Tasoluk**	**0.44**	**304**	*i* P	**Pg**	**12 34 57.4**	**-0.8**
AYDN	**Tasoluk**	**0.44**	**304**	*i* P	**Sg**	**12 34 57.3**	**-0.9**
MLSB	**Milas**	**0.46**	**255**	*e*PG	**Pg**	**12 34 52.9**	**+0.3**
MLSB				*e*SG	**Sg**	**12 34 60.0**	**+1.1**
TURN	**Turunc**	**0.58**	**158**	*i* P	**Pg**	**12 34 50.6**	**-4.3**
TURN				*i* S	**Sg**	**12 35 02.8**	**+0.1**
BDRM	**Kayabasi**	**0.79**	**244**	*i* P	**Pn**	**12 34 58.5**	**-1.2**
BDRM				*i* S	**Sn**	**12 35 11.2**	**0.0**
BODT	**Bodrum**	**0.89**	**247**	*e*PG	**Pn**	**12 35 00.3**	**-0.8**
BODT				*e*SG	**Sn**	**12 35 14.3**	**+0.7**
KULA	**Kula-Manisa**	**1.13**	**13**	*e*PN	**Pn**	**12 35 05.3**	**+0.9**

*ISK **29** 12:48:32.6,4013N×4257E,h5km,ML2.7*
*CSEM **29** 12:48:32.8±0.1,4013N×4254E,h5km,MD2.9, Error ellipse: s-maj=2.1km s-min=1.6km az=57.0*
*DDA **29** 12:48:33.9,4015N×4258E,h7km±1km,Md2.9*
*ISCJB **29** 12:48:34.0±0.6,4013N±003×4255E±004,h5km±6km, Error ellipse: s-maj=5.5km s-min=4.7km az=150.4*
ISC 29 12:48:34.6±0.5,**4014N**±003×**4255E**±004,**h8**km±10km,**n11,**
σ0§**96**/19,**Turkey**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HOMI	**Horasan**	**0.50**	**260**	*i* P	**Pg**	**12 48 44.2**	**0.0**
HOMI				*i* S	**Sg**	**12 48 52.2**	**+1.4**
KARS	**Kars**	**0.63**	**41**	*e*PG	**Pg**	**12 48 45.6**	**-1.2**
KARS				*e*SG	**Sg**	**12 48 56.0**	**+1.0**
AGRB	**Hanur-Agry**	**0.66**	**148**	*e*PG	**Pg**	**12 48 46.2**	**-1.0**
AGRB				*e*SG	**Sg**	**12 48 56.0**	**+0.3**
TUTA	**Tutak**	**0.76**	**164**	*i* P	**Pg**	**12 48 48.8**	**-0.4**
TUTA				*i* S	**Sg**	**12 49 00.3**	**+1.2**
ERZM	**Erzurum**	**0.94**	**256**	*i* P	**Pg**	**12 48 52.5**	**0.0**
ERZM				*i* S	**Sg**	**12 49 03.4**	**-1.3**
EZM	**Erzurum**	**0.94**	**256**	*e*PG	**Pg**	**12 48 52.2**	**-0.4**
DDEM	**Demirkent**	**0.97**	**322**	*i* P	**Pg**	**12 48 52.6**	**-0.5**
DDEM				*i* S	**Sg**	**12 49 07.7**	**+2.0**
DAGI	**Agillar**	**1.06**	**333**	*i* P	**Pg**	**12 48 54.1**	**-0.7**
DAGI				*i* S	**Sg**	**12 49 07.2**	**-1.4**
DBAD	**Bademkaya**	**1.09**	**324**	*i* P	**Pg**	**12 48 55.2**	**-0.5**
DBAD				*i* S	**Sg**	**12 49 11.1**	**+1.3**
BCA	**Borcka**	**1.48**	**332**	*e*PN	**Pn**	**12 49 01.5**	**0.0**
GNI	**Garni**	**1.68**	**89**	*e*PN	**Pn**	**12 49 04.8**	**+0.6**

IDC 29 13:20:25.5±5.4,**240S**×**14277E,h0**km,**mb3.7**/2,**mb1 3.8**/2,

DID	**Didima**	**0.88**	**66**	P	**Pb**	**13 46 12.6**	**+0.8**
DID				S	**Sb**	**13 46 26.3**	**+2.9**
LTK	**Loutraki**	**1.05**	**34**	P	**Pb**	**13 46 13.6**	**-1.1**
LTK				S	**Sb**	**13 46 28.5**	**+0.1**
KFL	**Anninata**	**1.49**	**310**	P	**Pn**	**13 46 19.8**	**-1.3**
LKR	**Lokris**	**1.62**	**22**	P	**Pn**	**13 46 23.1**	**+0.2**
LKR	**Lokris**	**1.62**	**22**	*e*Pb	**Pb**	**13 46 23.7**	**-0.6**
LKR	**Lokris**	**1.62**	**22**	*e*PB	**Pb**	**13 46 23.7**	**-0.6**
VLS	**Valsamata**	**1.65**	**309**	*e*Pn	**Pn**	**13 46 23.2**	**-0.1**
VLS	**Valsamata**	**1.65**	**309**	*e*PN	**Pn**	**13 46 23.2**	**-0.1**
EVR	**Evrytania**	**1.79**	**350**	*e*Pn	**Pn**	**13 46 26.8**	**+1.5**
EVR	**Evrytania**	**1.79**	**350**	*e*PN	**Pn**	**13 46 26.8**	**+1.5**

MAN 29 13:56:24, 725N×12682E, h79km, mb4.3, ML3.1, MS2.9, 1C, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
MATI	**Mati**	**0.63**	**241**	*e*P		Pn	13 56 42.0	+3.1
MATI				*e*S		Sn	13 56 53.0	+3.1
BUKP	**Musuan**	**1.85**	**290**	*e*P		Pn	13 56 54.9	+1.0
BUKP				*e*S		Sn	13 57 18.1	+1.5
GSPH	**General Santos**	**2.19**	**238**⇑	*e*P		Pn	13 56 55.7	-2.7
GSPH				*e*S		Sn	13 57 20.4	-4.2

NDI ***29*** *13:57:57.3±2.2, 3323N×7450E, h10km, ML3.3*
ISCJB ***29*** *13:58:00.8±0.9, 328N±0.1×7459E±009, h10km, Error ellipse: s-maj=18.6km s-min=6.3km az=30.9*
ISC 29 13:58:01.6±0.9, 329N±01×7464E±010, h10km, n7, σ1§26/11, Southwestern Kashmir

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
THN	**Thein Dam**	**1.04**	**119**	*e*P		**Pg**	**13 58 17.0**	**-4.6**
THN				*e*S		**Sg**	**13 58 33.8**	**-1.4**
CHCP	**Chirah Chowk**	**1.35**	**302**	P		**Pn**	**13 58 26.5**	**-0.1**
SDNR	**Sundarnagar**	**2.44**	**125**	*e*P		**Pn**	**13 58 40.0**	**-1.5**
SDNR				*e*S		**Sn**	**13 59 14.0**	**+2.5**
CEP	**Cherat**	**2.45**	**292**	P		**Pn**	**13 58 41.5**	**-0.1**
SMLA	**Simla**	**2.81**	**129**	*i* P		**Pn**	**13 58 49.0**	**+2.5**
SMLA				*i* S		**Sn**	**13 59 25.4**	**+5.0**
SMLA	comp=N,644nm,0.3s			*ex*	x		13 59 26.7	
SMLA	comp=E,488nm,0.2s			*ex*	x		13 59 27.5	
KLP	**Kalpa**	**3.37**	**114**	*e*P		**Pn**	**13 58 54.0**	**-0.3**
KLP				*e*S		**Sn**	**13 59 34.5**	**+0.3**
KLP	comp=N,86nm,0.6s			AML		AML	13 59 48.0	
KLP	comp=E,113nm,0.4s			AML		AML	13 59 48.6	
SONA	**Sohna**	**5.13**	**155**	*e*S		**Sn**	**14 00 17.2**	**-0.5**
SONA	comp=E,17nm,0.3s			AML		AML	14 01 00.8	
SONA	comp=N,11nm,0.2s			AML		AML	14 01 02.2	

JMA 29 14:12:20.4±0.1, 3651N×14107E, h42km±1km, M1.0, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
JHO	**Hitachi**	**0.42**	**284**	P		Pn	14 12 30.0	-0.1
JHO				*e*S		Sn	14 12 36.8	-0.2
JYT	**Yasato**	**0.76**	**249**	P		Pn	14 12 34.8	+0.1
JYT				*e*S		Sn	14 12 44.6	-0.4

NIED ***29*** *14:13:00, 3680N×14170E, h26km, Mw3.7 Best double couple: M₀4.71000×10¹⁴ NP1:φ₀19.00000°, δ66.00000°, λ87.00000°. NP2:φ₀207.00000°, δ24.00000°, λ97.00000°.*
JMA 29 14:13:56.8±0.3, 3676N×14174E, h50km±4km, M3.6, 1C-6D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
ONAJ	**Iwakimizuishiy**	**0.83**	**295**	⇓P		Pn	14 14 12.2	0.0
JFK	**Kawauchi**	**0.92**	**311**	⇓P		Pn	14 14 13.4	0.0
JHO	**Hitachi**	**0.95**	**261**	⇓P		Pn	14 14 13.8	-0.1
JHO				*e*S		Sn	14 14 26.6	+0.2
JMM	**Marumori**	**1.34**	**326**	⇓P		Pn	14 14 19.6	+0.5
JMM				*e*S		Sn	14 14 36.4	+0.7
JFT	**Otama**	**1.35**	**304**	⇓P		Pn	14 14 20.9	+1.6
JFT				*e*S		Sn	14 14 38.4	+2.3
JIO	**Ouri**	**1.72**	**350**	⇓P		Pn	14 14 24.9	+0.6
JIO				*e*S		Sn	14 14 46.2	+1.1
JOU	**Okura**	**1.82**	**332**	P		Pn	14 14 27.4	+1.8
JOU				*e*S		Sn	14 14 49.9	+2.5
JAG	**Ashikaga**	**1.87**	**260**	P		Pn	14 14 27.5	+1.2
JYS	**Shirataka**	**1.98**	**318**	P		Pn	14 14 29.8	+2.0
JYS				*e*S		Sn	14 14 54.8	+3.5
JKT	**Katashina**	**2.00**	**271**	⇑P		Pn	14 14 30.1	+2.0
MAT	**Matsushiro**	**2.85**	**267**	P		Pn	14 14 42.6	+2.9
MAT				S		Sn	14 15 16.5	+3.7

ATH ***29*** *15:03:39.7, 3807N×2673E, h44km, MD3.1/3*
ISCJB ***29*** *15:03:40.2±1.1, 3817N±004×2673E±008, h2km±8km, Error ellipse: s-maj=11.1km s-min=5.4km az=20.6*
CSEM ***29*** *15:03:40.0±0.2, 3817N×2678E, h8km, MD2.7, Error ellipse: s-maj=7.5km s-min=1.7km az=118.0*
ISK ***29*** *15:03:40.3, 3818N×2678E, h5km, MD2.7*
ISC 29 15:03:40.4±1.0, 3817N±004×2671E±008, h2km±7km, n13, σ0§82/20, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
BLCB	**Balcova**	**0.34**	**51**	*e*PG		**Pg**	**15 03 46.5**	**-0.3**
BLCB				*e*SG		**Sg**	**15 03 51.2**	**0.0**
SMG	**Samos**	**0.47**	**168**	*e*P		**Pg**	**15 03 50.0**	**+0.5**
SMG	**Samos**	**0.47**	**168**	*e*P		**Pg**	**15 03 50.0**	**+0.5**
SMG				*e*S		**Sg**	**15 03 56.5**	**+0.9**
IZM	**Izmir**	**0.49**	**63**	*e*PG		**Pg**	**15 03 49.4**	**-0.4**
IZM				*e*SG		**Sg**	**15 03 56.8**	**+0.7**
AKS	**Akhisar**	**1.11**	**50**	*e*PG		**Pg**	**15 04 01.3**	**-0.5**
AKS				*e*SG		**Sg**	**15 04 15.8**	**-0.4**
PRK	**Paraskevi**	**1.12**	**342**	*e*P		**Pg**	**15 04 01.5**	**-0.5**
PRK	**Paraskevi**	**1.12**	**342**	*e*P		**Pg**	**15 04 01.5**	**-0.5**
BODT	**Bodrum**	**1.21**	**157**	*e*PN		**Pn**	**15 04 03.5**	**-0.8**
APE	**Apeiranthos**	**1.45**	**221**	*e*P		**Pn**	**15 04 03.8**	**-3.8**
APE	**Apeiranthos**	**1.45**	**221**	*e*P		**Pn**	**15 04 03.8**	**-3.8**
KULA	**Kula-Manisa**	**1.57**	**77**	*e*PN		**Pn**	**15 04 09.1**	**-0.1**
KULA				*e*SN		**Sn**	**15 04 29.1**	**-1.0**
BALY	**Balya**	**1.72**	**24**	*i* P		**Pn**	**15 04 12.2**	**+0.9**
BALY				*i* S		**Sn**	**15 04 35.8**	**+2.0**
BALY	**Balya**	**1.72**	**24**	*i* P		**Pn**	**15 04 12.1**	**+0.8**
BALY				*i* S		**Sn**	**15 04 35.8**	**+2.0**

IDC 29 15:09:26.1±2.4, 2441N×10976W, h0km, mb1 4.0/3, mb1mx3.8/18, mbtmp3.5/3, ML3.8/3, Error ellipse: s-maj=51.8km s-min=9.5km az=138.0, Gulf of California

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
LPIG	**La Paz**	**0.59**	**239**	Pg		Pg	15 09 37.8	+0.3
LPIG	461nm,0.3s,baz=38,slow=19,SNR=178			Lg			15 09 45.7	
TXAR	**Lajitas Array**	**7.32**	**47**	Pn		Pn	15 11 13.4	-0.9
TXAR	893nm,0.3s,baz=270,slow=20,SNR=41 0.1nm,0.3s,baz=215,slow=14,SNR=2.9			Lg			15 13 20.2	
NVAR	**Mina Array Bea**	**15.75**	**335**	Pn		Pn	15 13 12.6	+3.3
PDAR	**Pinedale Array**	**18.31**	**0**	P		Pn	15 13 41.5	0.0
	0.2nm,0.3s,baz=203,slow=27,SNR=4.1 0.1nm,0.3s,baz=161,slow=11,SNR=14 0.1nm,0.3s,baz=170,slow=13,SNR=12							

NEIC ***29*** *15:20:28.0±0.3, 681S×12929E, h35km, mb4.8/17, Error ellipse: s-maj=12.7km s-min=5.5km az=53.0*
MOS ***29*** *15:20:33.8±1.1, 688S×12945E, h120km, mb4.4/8, Error ellipse: s-maj=21.3km s-min=9.9km az=121.1*
IDC ***29*** *15:20:38.2±3.3, 689S×12958E, h144km±31km, mb4.0/9, mb1 4.1/11, mb1mx4.0/15, mbtmp4.1/11, Error ellipse: s-maj=24.6km s-min=12.9km az=57.0*
DJA ***29*** *15:20:38, 705S×12983E, h122km, Mw5.3/4*
ISCJB ***29*** *15:20:39.1±0.7, 690S±005×12968E±006, h175km±7km, mb4.6/28, Error ellipse: s-maj=10.1km s-min=6.5km az=149.2*
ISC 29 15:20:40.0±0.7, 689S±005×12967E±005, h166km±7km, n70, σ0§96/76, mb4.6/28, 2C, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
TLE	**Tual**	**3.30**	**68**⇑	*e*P		**Pn**	**15 21 31.0**	**-0.8**
TLE				*e*S		**Sn**	**15 22 04.0**	**-7.9**
AAI	**Ambon**	**3.50**	**335**	P		**Pn**	**15 21 33.5**	**-0.8**
KAKA	**Kakadu**	**6.40**	**155**	*e*P		**Pn**	**15 22 02.0**	**-10**
KAKA	62nm,0.1s			*e*S		Sn	15 22 55.0	-30
KAKA	**Kakadu**	**6.40**	**155**	P		**Pn**	**15 22 02.3**	**-10**
KAKA	**Kakadu**	**6.40**	**155**	*e*Pn		**Pn**	**15 22 02.0**	**-10**
KAKA				*e*Sn		**Sn**	**15 23 10.5**	**-14**
LBMI	**Labuha**	**6.57**	**341**	P		**Pn**	**15 22 15.6**	**+1.1**
BATI	66nm,0.7s,1μm0.3nm **Baumata**	**6.79**	**241**	P		**Pn**	**15 22 15.5**	**-1.9**
BATI	37nm,0.3s,baz=86,slow=3.4,SNR=49 71nm,0.3s,baz=178,slow=21,SNR=16			S		**Sn**	**15 23 29.2**	**-4.7**
BATI	**Baumata**	**6.79**	**241**	P		**Pn**	**15 22 15.7**	**-1.7**
KDI	102nm,0.7s,3μm1.1nm **Kendari**	**7.59**	**292**	P		**Pn**	**15 22 32.8**	**+4.8**
PCI	**Palu**	**11.46**	**301**	P		**Pn**	**15 23 25.5**	**+6.5**
WRAB	**Tennant Creek**	**13.74**	**161**	*e*P		**Pn**	**15 23 43.3**	**-4.8**
WRAB	comp=Z,21nm,0.4s			pmax		pmax		
WRAB	**Tennant Creek**	**13.74**	**161**	P		**Pn**	**15 23 44.1**	**-4.0**
WRAB	comp=Z,45nm,1.0s **Tennant Creek**	**13.74**	**161**	*e*P		**Pn**	**15 23 43.2**	**-4.9**
WRAB	comp=Z,21nm,0.4s			*e*S		**Sn**	**15 26 06.3**	**-14**
COEN	**Coen**	**15.02**	**119**	P		**Pn**	**15 24 05.7**	**+1.6**
COEN	**Coen**	**15.02**	**119**	*e*Pn		**Pn**	**15 24 03.5**	**-0.7**
COEN	comp=Z,39nm,0.8s			*e*Sn		**Sn**	**15 26 34.2**	**-17**
BBKI	**Banjar Baru**	**15.15**	**282**	P		**Pn**	**15 24 09.7**	**+4.0**
KMMI	**Kalianget**	**15.59**	**268**	P		**Pn**	**15 24 13.2**	**+2.1**
PLKI	comp=Z,34nm,0.8s **Pangkalaraya**	**16.34**	**286**	P		**Pn**	**15 24 21.5**	**+1.3**
ASAR	comp=Z,261nm,1.0s **Alice Springs**	**17.18**	**167**	P		**Pn**	**15 24 28.4**	**-1.8**
ASAR	comp=Z,5.3nm,0.3s,baz=344,slow=9.8,SNR=606			S		**S**	**15 27 32.4**	**-7.2**
PMG	comp=Z,1.5nm,0.3s,baz=355,slow=26,SNR=7.7 **Port Moresby**	**17.50**	**99**	*e*P		**Pn**	**15 24 35.6**	**+1.5**
PMG	comp=Z,30nm,0.9s			pmax		pmax		
PMG	**Port Moresby**	**17.50**	**99**	*e*P		**Pn**	**15 24 35.6**	**+1.5**
SJI	comp=Z,30nm,0.9s **Sawahan**	**17.77**	**266**	P		**Pn**	**15 24 38.6**	**+1.2**
PBKI	**Pangkalan Bun**	**18.40**	**282**	P		**P**	**15 24 44.6**	**+1.9**
SBUM	comp=Z,260nm,0.9s,comp=Z,2μm **Sibu**	**19.73**	**297**	P		**P**	**15 24 58.2**	**+1.1**
CTA	**Charters Tower**	**20.77**	**131**	*e*P		**P**	**15 25 09.1**	**+1.0**
CTA	comp=Z,6.9nm,0.8s			*e*S		**S**	**15 28 56.9**	**+6.2**
CTA	**Charters Tower**	**20.77**	**131**	P		**P**	**15 25 09.2**	**+1.0**
CTAO	comp=Z,5.2nm,0.6s,baz=321,slow=9.1,SNR=9.7 **Charters Tower**	**20.77**	**131**	*e*P		**P**	**15 25 09.2**	**+1.1**
CTAO	comp=Z,11nm,0.8s			pmax		pmax		
CTAO	**Charters Tower**	**20.77**	**131**	*e*P		**P**	**15 25 09.2**	**+1.0**
KSM	comp=Z,11nm,0.8s **Kuching**	**21.03**	**293**	*e*P		**P**	**15 25 09.6**	**-1.3**
FORT	**Forrest**	**23.82**	**183**	*e*P		**P**	**15 25 39.1**	**+1.3**
FORT	comp=Z,22nm,0.5s,mb4.9 **Forrest**	**23.82**	**183**	*e*P		**P**	**15 25 38.9**	**+1.1**
KLBR	**Kellerberrin**	**26.98**	**203**	*e*P		**P**	**15 26 06.4**	**0.0**
STKA	comp=Z,10nm,0.9s,mb4.5 **Stephens Creek**	**27.24**	**157**	*e*P		**P**	**15 26 08.8**	**+0.1**
STKA	comp=Z,3.6nm,0.5s,mb4.3			*e*S		S	15 31 03.7	+28
STKA	**Stephens Creek**	**27.24**	**157**	P		**P**	**15 26 08.9**	**+0.3**
STKA	comp=Z,4.4nm,0.5s,mb4.4,baz=309,slow=7.3,SNR=11 **Stephens Creek**	**27.24**	**157**	*e*P		**P**	**15 26 08.7**	**0.0**
STKA				*e*S		S	15 31 03.7	+28
NWAO	**Narrogin (SRO)**	**28.37**	**202**	P		**P**	**15 26 18.9**	**+0.2**
CMAR	comp=Z,11nm,1.1s,mb4.5,baz=55,slow=12,SNR=3.4 **Chiang Mai Arr**	**39.40**	**310**	P		**P**	**15 27 53.9**	**0.0**
CHTO	comp=Z,4.6nm,0.6s,mb4.3,baz=136,slow=7.1,SNR=54 **Chiang Mai**	**39.62**	**311**	*e*P		**P**	**15 27 55.4**	**-0.3**
CHTO	comp=Z,7.0nm,0.7s,mb4.4			pmax		pmax		
CHTO	**Chiang Mai**	**39.62**	**311**	*e*P		**P**	**15 27 55.4**	**-0.2**
KSRS	comp=Z,7.0nm,0.7s,mb4.4 **Korea Array**	**44.14**	**358**	P		**P**	**15 28 32.3**	**+0.2**
RPZ	comp=Z,0.7nm,0.6s,mb3.5,baz=180,slow=9.5,SNR=3.8 **Rata Peaks**	**51.53**	**142**	P		**P**	**15 29 29.3**	**+0.4**
ODAN	comp=Z,8.6nm,0.6s,mb4.6,baz=349,slow=13,SNR=4.0 **Odarre**	**52.93**	**311**	*e*P		**P**	**15 29 39.4**	**0.0**
TAPN	comp=Z,10nm,0.5s,mb4.8 **Taplejung**	**52.96**	**312**	*e*P		**P**	**15 29 39.3**	**-0.4**
RAMN	comp=Z,8.6nm,0.4s,mb4.8 **Ramite**	**53.57**	**311**	*e*P		**P**	**15 29 44.1**	**0.0**
JIRN	comp=Z,24nm,0.5s,mb5.2 **Jiri**	**54.26**	**311**	*e*P		**P**	**15 29 48.7**	**-0.4**
GUN	comp=Z,10nm,0.6s,mb4.8 **Gumba**	**54.63**	**311**	*e*P		**P**	**15 29 51.6**	**-0.2**
DMN	comp=Z,25nm,0.7s,mb5.1 **Daman**	**55.05**	**311**	*e*P		**P**	**15 29 54.5**	**-0.3**
GKN	**Gorkha**	**55.61**	**311**	*e*P		**P**	**15 29 58.3**	**-0.5**
KOLN	comp=Z,13nm,0.4s,mb5.1 **Koldanda**	**56.27**	**310**	*e*P		**P**	**15 30 02.5**	**-1.0**
DANN	comp=Z,13nm,0.6s,mb5.0 **Dangsing**	**56.45**	**311**	*e*P		**P**	**15 30 04.3**	**-0.4**
ULN	**Ulaanbaatar**	**58.05**	**342**	*e*P		**P**	**15 30 16.4**	**+0.8**
SONM	**Songino Array**	**58.23**	**342**	P		**P**	**15 30 16.9**	**+0.1**
MK31	comp=Z,1.4nm,0.7s,mb3.9,baz=169,slow=8.9,SNR=4.4 **Makchi Array**	**67.95**	**327**	*e*P		**P**	**15 31 20.8**	**-0.1**
MKAR	**Makanchi Array**	**67.95**	**327**	P		**P**	**15 31 21.2**	**+0.3**
YAK	comp=Z,6.6nm,0.5s,mb4.6,baz=118,slow=7.8,SNR=125 **Yakutsk**	**68.71**	**0**	*e*P		**P**	**15 31 25.4**	**+0.1**
YAK	comp=Z,12nm,0.7s,mb4.7			pmax		pmax		
TKM2	**Tokmak 2**	**69.69**	**321**	*e*P		**P**	**15 31 32.6**	**+0.9**
TKM2	comp=Z,5.0nm,0.6s,mb4.4			pmax		pmax		
TKM2	**Tokmak 2**	**69.69**	**321**	*e*P		**P**	**15 31 32.6**	**+0.9**
EKS2	comp=Z,4.5nm,0.6s,mb4.4 **Erkin-Say**	**70.71**	**320**	*e*P		**P**	**15 31 39.4**	**+1.4**
KURK	comp=Z,4.1nm,0.6s,mb4.3 **Kurchatov**	**72.25**	**329**	*e*P		**P**	**15 31 47.0**	**0.0**
KURK	comp=Z,8.0nm,1.0s,mb4.4			pmax		pmax		
KURK	**Kurchatov**	**72.25**	**329**	*e*P		**P**	**15 31 47.0**	**0.0**
MAW	comp=Z,7.6nm,1.0s,mb4.4 **Mawson**	**74.94**	**201**	P		**P**	**15 32 03.3**	**+0.9**
BRVK	comp=Z,2.2nm,0.6s,mb4.0,baz=74,slow=4.2,SNR=7.6 **Borovoye**	**77.86**	**328**	*e*P		**P**	**15 32 19.4**	**+0.3**
BRVK	comp=Z,5.0nm,0.7s,mb4.2			pmax		pmax		
BRVK	**Borovoye**	**77.86**	**328**	*e*P		**P**	**15 32 19.4**	**+0.3**
TIXI	comp=Z,5.0nm,0.7s,mb4.2 **Tiksi**	**78.37**	**360**	*e*P		**P**	**15 32 20.5**	**-1.1**
ARU	**Arti**	**85.43**	**328**	*e*P		**P**	**15 32 57.7**	**-1.0**
ARU	comp=Z,7.0nm,1.3s,mb4.2			pmax		pmax		
NAY	**Al-Naaiem**	**86.76**	**300**	*e*P		**P**	**15 33 04.7**	**-1.2**
NAY	baz=300			AMb		AMB	15 33 06.4	
MIB	comp=Z,11nm,0.9s,mb4.7,baz=300 **Mutribah**	**86.77**	**300**	*e*P		**P**	**15 33 04.3**	**-1.6**
MIB	baz=300			AMb		AMB	15 33 07.2	
RST	comp=Z,11nm,1.2s,mb4.6,baz=300 **Umm Al-Ruwaisa**	**87.01**	**300**	*e*P		**P**	**15 33 06.1**	**-1.0**
RST	baz=300			AMb		AMB	15 33 08.9	
OBN	comp=Z,11nm,1.0s,mb4.6,baz=300 **Obninsk**	**97.37**	**325**⇑	*e*P		**P**	**15 33 53.3**	**-1.0**
OBN				*e**PP		pP	15 34 40.9	+4.7
OBN				*e*S		SKSac	15 44 24.3	+8.6
OBN				*e*PS		PS	15 46 45.9	-2.2
OBN	comp=Z,7.0nm,0.6s,mb5.2			pmax		pmax		
PDAR	**Pinedale Array**	**117.05**	**45**	PKP		PKPdf	15 39 06.1	+0.6
	comp=Z,0.2nm,0.5s,baz=346,slow=1.9,SNR=2.7							

ISK ***29*** *15:25:56.6, 3880N×2810E, h6km, MD2.8*
DDA ***29*** *15:25:56.4, 3875N×2807E, h5km, Md2.8*
CSEM ***29*** *15:25:56.2±0.2, 3882N×2812E, h5km, MD2.8, Error ellipse: s-maj=4.5km s-min=2.7km az=19.0*
ISCJB ***29*** *15:25:57.3±0.5, 3878N±003×2809E±003, h6km±7km, Error ellipse: s-maj=5.8km s-min=4.2km az=15.9*
ISC 29 15:25:57.8±0.6, 3877N±003×2808E±003, h9km±8km, n9, σ0§76/17, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
AKHS	**Akhisar**	**0.23**	**297**	*i* P		**Pg**	**15 26 01.6**	**-0.9**
AKHS				*i* S		**Sg**	**15 26 06.4**	**+0.7**
AKS	**Akhisar**	**0.24**	**297**	*e*PG		**Pg**	**15 26 02.1**	**-0.5**
AKS				*e*SG		**Sg**	**15 26 05.6**	**-0.2**
MANT	**Manisa**	**0.47**	**127**	*i* P		**Pg**	**15 26 06.3**	**-0.6**
MANT				*i* S		**Sg**	**15 26 13.5**	**+0.6**
KULA	**Kula-Manisa**	**0.52**	**120**	*e*PG		**Pg**	**15 26 07.5**	**-0.4**
KULA				*e*SG		**Sg**	**15 26 14.6**	**-0.1**
IZM	**Izmir**	**0.74**	**240**	*e*PG		**Pg**	**15 26 12.1**	**0.0**
BLCB	**Balcova**	**0.90**	**245**	*e*PG		**Pg**	**15 26 15.0**	**-0.2**
BLCB				*e*SG		**Sg**	**15 26 28.1**	**+1.2**
BALY	**Balya**	**1.03**	**340**	*i* P		**Pg**	**15 26 17.0**	**-0.6**
BALY				*i* S		**Sg**	**15 26 30.4**	**-0.5**
URLA	**Izmir**	**1.24**	**251**	*i* P		**Pn**	**15 26 20.3**	**-1.0**
URLA				*i* S		**Sb**	**15 26 38.2**	**+0.8**
ULDT	**Uludag**	**1.59**	**30**	*i* P		**Pg**	**15 26 28.3**	**0.0**
ULDT				*i* S		**Sg**	**15 26 51.1**	**+2.2**

ISCJB ***29*** *15:26:31.2±1.5, 1670S±009×737W±0.1, h33km±16km, mb4.0/5, Error ellipse: s-maj=23.5km s-min=9.9km az=146.1*
IDC ***29*** *15:26:36.9±2.7, 1681S×7385W, h72km±24km, mb3.8/5, mb1 3.9/8, mb1mx3.7/17, mbtmp3.7/8, MS3.0/3, Ms1 3.0/3, ms1mx2.6/32, Error ellipse: s-maj=32.0km s-min=20.8km az=55.0*
NEIC ***29*** *15:26:36.9±1.4, 1679S×7373W, h74km±13km, mb4.3/1, Error ellipse: s-maj=20.4km s-min=13.3km az=48.0*
ISC 29 15:26:33.9±1.2, 1674S±009×738W±01, h40km±13km, n19, σ0§81/17, mb4.0/5, Near coast of Peru

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
LPAZ	**La Paz**	**5.42**	**86**	P		**Pn**	**15 27 56.7**	**+4.4**
LPAZ	1.0nm,0.3s,baz=275,slow=10,SNR=13 comp=Z,94nm,18.5s,baz=250,slow=43			LR		LR	15 30 34.6	
LPAZ	**La Paz**	**5.42**	**86**	*e*Pn		**Pn**	**15 27 56.5**	**+4.2**
LPAZ				LR		LR	15 30 34.6	
NNA	**Nana**	**5.59**	**327**	P		**Pn**	**15 27 58.2**	**+3.6**
NNA	3.1nm,0.3s,baz=178,slow=9.5,SNR=5.2 15nm,0.3s,baz=255,slow=23,SNR=9.3			S		**Sn**	**15 28 57.3**	**-0.3**
NNA	**Nana**	**5.59**	**327**	*e*Pn		**Pn**	**15 27 58.8**	**+4.2**
NNA				*e*Sn		**Sn**	**15 28 57.6**	**0.0**
LVC	**Limon Verde**	**7.42**	**143**	*e*Pn		**Pn**	**15 28 18.6**	**-1.0**
LVC	12nm,0.4s			*e*Sn		**Sn**	**15 29 35.4**	**-7.1**
SIV	**San Ignacio**	**12.20**	**88**	P		**Pn**	**15 29 25.2**	**-0.1**
CFAA	0.6nm,0.3s,baz=272,slow=13,SNR=8.7 **Coronel Fontan**	**15.63**	**162**	P		**Pn**	**15 30 12.4**	**+1.1**
CFAA	0.1nm,0.3s,baz=341,slow=11,SNR=3.8			LR		LR	15 36 13.6	
PLCA	comp=Z,11nm,19.2s,baz=324,slow=37 **Paso Flores**	**24.07**	**174**	P		**P**	**15 31 45.0**	**-0.4**
PCRV	2.7nm,0.7s,mb3.8,baz=344,slow=9.7,SNR=8.5 **Puerto La Cruz**	**28.23**	**19**	LR		LR	15 44 39.6	
TXAR	comp=Z,151nm,18.6s,baz=4.5,slow=38 **Lajitas Array**	**54.15**	**328**	P		**P**	**15 35 53.9**	**-1.3**
DBIC	0.4nm,0.3s,mb3.8,baz=145,slow=8.9,SNR=4.7 **Dimbokro**	**71.97**	**77**	P		**P**	**15 37 53.3**	**-0.7**
DBIC	1.0nm,0.5s,mb4.0,baz=248,slow=5.4,SNR=4.0 **Dimbokro**	**71.97**	**77**	*e*P		**P**	**15 37 53.8**	**-0.1**
TOA0	2.1nm,0.5s,mb4.3 **Torodi Ar. Sit**	**80.23**	**73**	*e*P		**P**	**15 38 41.0**	**+0.1**
TORD	**Torodi Ar. Bea**	**80.23**	**73**	P		**P**	**15 38 41.4**	**+0.5**
YKA	1.7nm,0.8s,mb4.0,baz=259,slow=5.5,SNR=11 **Yellowknife Ar**	**85.24**	**342**	P		**P**	**15 39 06.7**	**+0.9**
ZALV	1.7nm,0.7s,mb4.3,baz=144,slow=5.6,SNR=3.7 **Zalesovo Beam**	**139.30**	**19**	PKP		PKPdf	15 45 53.1	-3.3
MKAR	0.4nm,0.3s,baz=343,slow=4.5,SNR=2.6 **Makanchi Array**	**144.06**	**28**	PKP		PKPdf	15 46 03.7	-1.5
SONM	0.2nm,0.6s,baz=322,slow=2.7,SNR=2.8 **Songino Array**	**148.99**	**360**	PKPbc		PKPbc	15 46 16.3	-1.2
SONM	1.8nm,0.6s,baz=5.7,slow=1.4,SNR=4.4 **Songino Array**	**148.99**	**360**	PKPbc		PKPbc	15 46 16.3	-1.3

ISCJB ***29*** *15:57:44.4±0.4, 2366N±002×12223E±002, h20km±3km, Error ellipse: s-maj=3.4km s-min=2.2km az=138.0*
JMA ***29*** *15:57:45.1±0.2, 2365N×12220E, h48km, M3.0*
TAP ***29*** *15:57:45.7, 2371N×12221E, h37km, ML3.7, C*
ISC 29 15:57:44.9±0.5, 2368N±002×12222E±002, h20km±3km, n56, σ0§85/105, 2C-3D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
HWA	**Hwalien**	**0.64**	**298**	*e*P		**Pb**	**15 57 57.6**	**+0.3**
HWA	baz=289			*e*S		**Sb**	**15 58 05.9**	**+0.2**
TWD	baz=289 **Chiawan**	**0.70**	**305**	*i* P		**Pb**	**15 57 58.2**	**-0.2**
TWD	baz=303			*i* S		**Sb**	**15 58 07.4**	**-0.1**
ESL	baz=303 **Shilin**	**0.73**	**281**	P		**Pb**	**15 57 58.4**	**-0.5**
ESL	baz=278			*e*S		**Sb**	**15 58 07.9**	**-0.6**
EHY	baz=278 **Hungye**	**0.84**	**259**⇑	*i*P		**Pb**	**15 58 01.0**	**+0.

ALS	**Alishan**	**1.30 263**	*eP*	**Pn**	**15 58 08.4**	**+0.5**
	baz=261								
ALS			*eS*	**Sn**	**15 58 23.8**	**-1.0**
	baz=261								
TWB1	**Santiao Chiao**	**1.34 351**	P	**Pn**	**15 58 08.5**	**0.0**
	baz=350								
TWB1			*eS*	**Sn**	**15 58 24.6**	**-1.1**
	baz=350								
TTN	**Taitung**	**1.34 227**	*eP*	**Pn**	**15 58 07.8**	**-0.6**
	baz=218								
TTN			*eS*	**Sn**	**15 58 25.2**	**-0.5**
	baz=218								
TWG	**Pinlang**	**1.35 231**	P	**Pn**	**15 58 08.1**	**-0.5**
	baz=239								
TWG			S	**Sn**	**15 58 24.2**	**-1.7**
	baz=239								
CHN5	**Tsauling**	**1.41 267**	*eP*	**Pn**	**15 58 11.0**	**+1.6**
	baz=266								
CHN5			*eS*	**Sn**	**15 58 28.2**	**+0.8**
	baz=266								
WNT	**Mingjian**	**1.42 278**	*eP*	**Pn**	**15 58 10.8**	**+1.4**
	baz=277								
TWA	**Mucha**	**1.42 336**	P	**Pn**	**15 58 10.3**	**+0.8**
	baz=335								
TWA			*eS*	**Sn**	**15 58 27.0**	**-0.7**
	baz=335								
STYT	**Tauyuan**	**1.43 249**	P	**Pn**	**15 58 10.1**	**+0.4**
	baz=241								
STYT			S	**Sn**	**15 58 27.4**	**-0.5**
	baz=241								
NWF	**Wu-fen Shan**	**1.45 344**	*eP*	**Pn**	**15 58 09.5**	**-0.4**
	baz=358								
NWF			*eS*	**Sn**	**15 58 28.0**	**-0.2**
	baz=358								
NSTT	**Nanjuang**	**1.46 311**	*eP*	**Pn**	**15 58 11.1**	**+1.0**
	baz=309								
NSTT			*eS*	**Sn**	**15 58 28.5**	**-0.1**
	baz=309								
TWQ1	**Liyutan**	**1.48 297**	*eP*	**Pn**	**15 58 11.5**	**+1.2**
	baz=296								
TWQ1			*eS*	**Sn**	**15 58 28.2**	**-0.8**
	baz=296								
TCU	**Taichung**	**1.48 289**	*eP*	**Pn**	**15 58 12.8**	**+2.4**
	baz=288								
HATJ	**Hateruma jima**	**1.50 75**	P	**Pn**	**15 58 10.6**	**-0.1**
HATJ			S	**Sn**	**15 58 28.7**	**-1.0**
WGK	**Gukeng**	**1.52 271**	*eP*	**Pn**	**15 58 10.6**	**-0.2**
	baz=269								
WGK			*eS*	**Sn**	**15 58 30.2**	**+0.2**
	baz=269								
NSY	**Sanyi**	**1.52 299**	*eP*	**Pn**	**15 58 11.3**	**+0.5**
	baz=299								
CHN4	**Tsaushan**	**1.52 258**	*eP*	**Pn**	**15 58 12.1**	**+1.2**
	baz=251								
CHN4			*eS*	**Sn**	**15 58 31.5**	**+1.4**
	baz=251								
WTP	**Ta-pu**	**1.53 254**	*eP*	**Pn**	**15 58 12.6**	**+1.5**
	baz=253								
WTP			*eS*	**Sn**	**15 58 31.3**	**+1.0**
	baz=253								
IRIF	**Iriomote-Funau**	**1.53 64**	P	**Pn**	**15 58 11.0**	**-0.1**
IRIF			S	**Sn**	**15 58 30.5**	**+0.1**
ECL	**Taimali**	**1.58 227**	*eP*	**Pn**	**15 58 10.7**	**-1.0**
	baz=226								
ECL			*eS*	**Sn**	**15 58 28.9**	**-2.7**
	baz=226								
NCU	**National Centr**	**1.59 324**	*eP*	**Pn**	**15 58 12.9**	**+1.0**
	baz=323								
TWS1	**Kuangyinshan**	**1.59 333**	*eP*	**Pn**	**15 58 12.0**	**+0.1**
	baz=332								
TWS1			*eS*	**Sn**	**15 58 31.8**	**-0.1**
	baz=332								
CHN2	**Minshiung**	**1.60 265**	*eP*	**Pn**	**15 58 11.8**	**-0.2**
	baz=264								
CHN2			*eS*	**Sn**	**15 58 31.3**	**-0.8**
	baz=264								
SGST	**Jiashian**	**1.61 249**	*eP*	**Pn**	**15 58 13.5**	**+1.4**
	baz=242								
SGST			*eS*	**Sn**	**15 58 33.5**	**+1.2**
	baz=242								
CHN1	**Nanshi**	**1.62 253**	*eP*	**Pn**	**15 58 13.7**	**+1.4**
	baz=251								
CHN1			*eS*	**Sn**	**15 58 34.0**	**+1.3**
	baz=251								
TWK	**Hsinying**	**1.64 256**	*eP*	**Pn**	**15 58 12.5**	**0.0**
	baz=255								
TWK			*eS*	**Sn**	**15 58 33.4**	**+0.4**
	baz=255								
TWY	**Chenhua**	**1.69 341**	*eP*	**Pn**	**15 58 13.5**	**+0.2**
	baz=339								
TWY			*eS*	**Sn**	**15 58 34.0**	**-0.3**
	baz=339								
SSD	**Sandimen**	**1.73 238**	*eP*	**Pn**	**15 58 14.4**	**+0.7**
	baz=233								
SSD			*eS*	**Sn**	**15 58 34.7**	**-0.5**
	baz=233								
JKRS	**Kuro-shima**	**1.73 71**	P	**Pn**	**15 58 14.0**	**+0.2**
JKRS			S	**Sn**	**15 58 35.4**	**+0.1**
LAY	**Lan-yu**	**1.74 201**	*eP*	**Pn**	**15 58 12.5**	**-1.4**
	baz=200								
LAY			*eS*	**Sn**	**15 58 33.0**	**-2.5**
	baz=200								
TAW	**Tawu**	**1.79 223**	*eP*	**Pn**	**15 58 15.9**	**+1.3**
	baz=232								
EAST	**Anshuo**	**1.80 225**	*eP*	**Pn**	**15 58 14.1**	**-0.7**
	baz=224								
EAST			*eS*	**Sn**	**15 58 35.9**	**-1.1**
	baz=224								
TWM1	**Shoushan**	**1.85 243**	*eP*	**Pn**	**15 58 16.2**	**+0.7**
	baz=242								
TWM1			*eS*	**Sn**	**15 58 42.5**	**+4.1**
	baz=242								
CHN8	**Yiju**	**1.87 260**	*eP*	**Pn**	**15 58 16.9**	**+1.2**
	baz=260								
JIJ	**Ishigaki jima**	**1.89 68**	P	**Pn**	**15 58 15.8**	**-0.2**
JIJ			S	**Sn**	**15 58 38.1**	**-1.1**
SCZT	**Fangliau**	**1.96 229**	*eP*	**Pn**	**15 58 18.1**	**+1.2**
	baz=223								
SCZT			*eS*	**Sn**	**15 58 42.3**	**+1.3**
	baz=223								
HEN	**Hengchun**	**2.15 220**	*eP*	**Pn**	**15 58 21.9**	**+2.4**
	baz=219								
TWK1	**Hengchun**	**2.16 217**	*eP*	**Pn**	**15 58 19.6**	**-0.1**
	baz=217								
TWK1			*eS*	**Sn**	**15 58 45.4**	**-0.5**
	baz=217								
JTJ	**Tarama**	**2.47 67**	P	**Pn**	**15 58 24.1**	**+0.2**
JTJ			S	**Sn**	**15 58 54.1**	**+0.7**

*IDC **29** 16:06:33.5±1.1, 6.21S×150.39E, h0km, mb4.1/6, mb1 4.3/6, mb1mx4.0/13, mbtmp4.1/6, MS3.4/6, Ms1 3.4/6, ms1mx3.0/27, Error ellipse: s-maj=45.7km s-min=23.4km az=104.0*
*ISCJB **29** 16:06:41.7±3.8, 6.2S±0.1×150.1E±0.2, h68km±32km, mb3.9/6, Error ellipse: s-maj=38.6km s-min=21.3km az=9.7*
*NEIC **29** 16:06:41.2±3.0, 6.31S×150.46E, h56km±25km, mb4.2/3, Error ellipse: s-maj=28.9km s-min=19.0km az=99.0*

ISC 29 16:06:42.8±3.6, 63S±01×1502E±02, h65km±31km, n21, σ1@02/13, mb3.9/6, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**4.33**	**224**	*eP*n	**Pn**	**16 07 46.5**	**+0.4**
PMG				S	**Sn**	**16 08 34.3**	**-1.0**
HNR	**Honiara**	**10.12**	**109**	LR	LR	16 12 02.2	
	comp=Z,172nm,18.8s,baz=286,slow=33						
CTA	**Charters Tower**	**14.23**	**195**	LR	LR	16 14 54.6	
	comp=Z,94nm,20.5s,baz=47,slow=35						
KAKA	**Kakadu**	**18.65**	**249**	*eP*	**Pn**	**16 10 51.6**	**-5.0**
	4.4nm,0.5s						
GUMO	**Guam**	**20.46**	**345**	LR	LR	16 17 48.7	
	comp=Z,75nm,20.5s,baz=93,slow=33						
WRAB	**Tennant Creek**	**20.53**	**227**	*eP*	**P**	**16 11 17.3**	**+1.3**
	22nm,0.8s						
ASAR	**Alice Springs**	**23.33**	**221**	P	**P**	**16 11 46.1**	**+0.6**
	3.7nm,0.7s,mb3.8,baz=57,slow=9.0,SNR=36						
ASAR				ScP	ScP	16 19 09.2	+5.7
	0.3nm,0.7s,baz=55,slow=3.5,SNR=3.1						
STKA	**Stephens Creek**	**26.69**	**197**	*eP*	**P**	**16 12 15.5**	**-0.4**
	9.6nm,1.5s,mb4.1						
STKA	**Stephens Creek**	**26.69**	**197**	P	**P**	**16 12 15.5**	**-0.4**
	3.9nm,0.7s,mb4.0,baz=359,slow=13,SNR=6.4						
STKA				LR	LR	16 23 19.9	
	comp=Z,231nm,19.3s,baz=25,slow=38						

NACB	**Ninganchiao**	**41.20**	**318**	*eP*	**P**	**16 14 17.3**	**-4.1**
YHNB	**Yeheng**	**41.68**	**319**	*eP*	**P**	**16 14 27.1**	**+1.8**
MJAR	**Matsushiro Arr**	**44.08**	**346**	LR	LR	16 31 44.0	
	comp=Z,58nm,18.6s,baz=140,slow=34						
KSRS	**Korea Array**	**48.25**	**336**	P	**P**	**16 15 16.9**	**-0.4**
	1.8nm,0.8s,mb3.9,baz=150,slow=7.1,SNR=5.3						
KSRS				LR	LR	16 33 38.8	
	comp=Z,39nm,19.2s,baz=130,slow=34						
MKAR	**Makanchi Array**	**79.78**	**320**	P	**P**	**16 18 42.2**	**-1.9**
	0.5nm,0.9s,mb3.4,baz=92,slow=4.3,SNR=2.9						
ZALV	**Zalesovo Beam**	**80.99**	**327**	P	**P**	**16 18 50.5**	**+0.2**
	0.4nm,0.5s,mb3.5,baz=108,slow=4.7,SNR=2.6						
NVAR	**Mina Array Bea**	**95.02**	**52**	P	**P**	**16 19 58.6**	**-0.1**
	2.2nm,0.7s,mb4.7,baz=254,slow=5.7,SNR=14						
PDAR	**Pinedale Array**	**101.75**	**48**	P	Pdif	16 20 27.0	-1.5
	0.3nm,0.4s,baz=272,slow=4.3,SNR=3.7						
GERES	**GERESS Array B**	**123.94**	**327**	PKP	PKPdf	16 25 33.5	-0.2
	0.8nm,0.5s,baz=27,slow=0.6,SNR=5.6						
TOA0	**Torodi Ar. Sit**	**148.27**	**285**	*e*PKPbc	PKPbc	16 26 23.2	+0.6
TORD	**Torodi Ar. Bea**	**148.27**	**285**	PKPbc	PKPbc	16 26 23.4	+0.7
	139nm,0.3s,baz=58,slow=3.2,SNR=1.8						
TORD	**Torodi Ar. Bea**	**148.27**	**285**	PKPbc	PKPbc	16 26 23.4	+0.7

*IDC **29** 16:36:22.9±0.9, 33.13S×178.21W, h0km, mb4.3/6, mb1 4.4/8, mb1mx4.2/17, mbtmp4.3/8, ML3.9/1, MS3.7/1, Ms1 3.6/1, ms1mx2.9/14, Error ellipse: s-maj=25.8km s-min=24.3km az=123.0*
*NEIC **29** 16:36:24.6±0.8, 32.96S×178.05W, h10km, mb4.5/5, Error ellipse: s-maj=27.5km s-min=17.5km az=215.0*
*ISCJB **29** 16:36:27.6±0.7, 33.23S±0.09×178.3W±0.1, h33km, mb4.3/9, Error ellipse: s-maj=15.3km s-min=11.3km az=33.3*

ISC 29 16:36:29.4±0.7, 33.18S±0.09×178.3W±0.1, h35km, n23, σ1@24/21, mb4.3/9, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**3.93**	**5**	Sn	**Sn**	**16 38 05.3**	**-6.8**
	69nm,0.3s,baz=103,slow=22,SNR=3.9						
URZ	**Urewera**	**6.31**	**215**	Pn	**Pn**	**16 37 57.5**	**-2.3**
	2.9nm,0.3s,baz=20,slow=8.1,SNR=24						
URZ				Sn	**Sn**	**16 39 11.1**	**+0.5**
	9.0nm,0.3s,baz=166,slow=17,SNR=19						
RPZ	**Rata Peaks**	**13.43**	**215**	Pn	**Pn**	**16 39 33.5**	**-3.7**
	1.9nm,0.3s,baz=66,slow=6.2,SNR=5.3						
RPZ				Sn	**Sn**	**16 41 53.6**	**-12**
	1.1nm,0.3s,baz=222,slow=18,SNR=4.7						
EIDS	**Eidsvold**	**27.77**	**278**	*eP*	**P**	**16 42 16.5**	**+1.5**
STKA	**Stephens Creek**	**33.72**	**261**	LR	LR	16 55 55.5	
	comp=Z,117nm,19.5s,baz=204,slow=35						
CTA	**Charters Tower**	**34.12**	**283**	P	**P**	**16 43 10.9**	**0.0**
	4.8nm,0.5s,mb4.7,baz=117,slow=11,SNR=16						
CTAO	**Charters Tower**	**34.12**	**283**	*eP*	**P**	**16 43 12.2**	**+1.3**
	4.7nm,0.6s,mb4.6						
ASAR	**Alice Springs**	**42.80**	**270**	P	**P**	**16 44 22.9**	**-1.0**
	2.5nm,0.8s,mb4.0,baz=110,slow=8.0,SNR=28						
WRAB	**Tennant Creek**	**44.04**	**275**	*eP*	**P**	**16 44 33.3**	**-0.6**
	38nm,1.6s,mb4.9						
SBA	**Scott Base**	**45.26**	**184**	*eP*	**P**	**16 44 45.6**	**+2.8**
	4.5nm,1.2s,mb4.2						
QSPA	**South Pole Qui**	**56.94**	**180**	P	**P**	**16 46 12.1**	**+1.6**
	1.1nm,0.4s,mb4.3,baz=18,slow=5.9,SNR=8.7						
QSPA	**South Pole Qui**	**56.94**	**180**	*eP*	**P**	**16 46 12.3**	**+1.9**
	8.4nm,1.1s,mb4.7						
MAW	**Mawson**	**69.63**	**201**	P	**P**	**16 47 33.6**	**-1.0**
	1.3nm,0.6s,mb4.0,baz=128,slow=10,SNR=4.2						
SNAA	**Sanae**	**75.39**	**179**	*e*	**P**	**16 48 08.8**	**-0.1**
SNAA				*e*		16 48 12.1	
SNAA				*e*	pP	16 48 22.0	+2.2
SNAA				*e*		16 48 33.9	
SNAA				*e*		16 48 38.1	
SNAA	**Sanae**	**75.39**	**179**	*eP*	**P**	**16 48 08.9**	**0.0**
	2.6nm,1.0s,mb4.1						
VNA3	**Neumayer Olymp**	**75.56**	**176**	*e*	**P**	**16 48 09.6**	**-0.2**
VNA3				*e*		16 48 12.9	
VNA3				*e*		16 48 23.1	
VNA3				*e*		16 48 35.5	
VNA2	**Neumayer--Watz**	**75.98**	**177**	*e*	**P**	**16 48 12.6**	**+0.3**
VNA2				*e*		16 48 16.0	
VNA2				*e*		16 48 26.3	
VNA2				*e*		16 48 38.2	
VNA2				*e*		16 48 42.3	
VNA1	**Neumayer--Stat**	**76.22**	**177**	*e*	**P**	**16 48 14.4**	**+0.8**
VNA1				*e*		16 48 17.5	
VNA1				*e*		16 48 39.8	
VNA1				*e*		16 48 44.2	
PLCA	**Paso Flores**	**80.79**	**133**	P	**P**	**16 48 37.6**	**-1.8**
	2.3nm,0.9s,mb4.1,baz=249,slow=7.3,SNR=4.8						
NVAR	**Mina Array Bea**	**90.43**	**43**	P	**P**	**16 49 26.9**	**-0.1**
	1.1nm,0.9s,mb4.2,baz=212,slow=5.3,SNR=5.0						
MKAR	**Makanchi Array**	**119.36**	**309**	PKP	PKPdf	16 55 12.6	-2.0
	0.5nm,0.6s,baz=134,slow=1.2,SNR=6.3						
KURK	**Kurchatov**	**122.78**	**313**	PKP	PKPdf	16 55 19.6	-1.4
	1.8nm,0.7s,baz=111,slow=1.9,SNR=6.9						
BVAR	**Borovoye Array**	**128.20**	**314**	PKP	PKPdf	16 55 30.2	-1.1
	baz=108,slow=1.9						

MAN 29 16:54:24, 18.05N×122.27E, h27km, mb3.8, ML2.6, MS2.2, 2C, Luzon

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SGCP	**Mt. Cagua**	**0.28**	**312**	*eP*	Pb	16 54 32.6	+1.6
SGCP				*eS*	Sb	16 54 37.7	+2.0
CVP	**Callao Caves**	**0.55**	**231**	*i*P	Pb	16 54 34.2	-0.9
CVP				*i* S	Sb	16 54 49.4	+6.8
PALP	**Palanan**	**0.99**	**171**	*e*P	Pn	16 54 42.4	+0.2
CAUP	**Cauayan**	**1.18**	**201**	*eP*	Pn	16 54 45.7	+1.0
CAUP				*eS*	Sn	16 55 01.6	+1.7
ABRA	**Dolores**	**1.54**	**255**	*eP*	Pn	16 54 50.4	+0.7
ABRA				*eS*	Sn	16 55 09.8	+1.1

*CSEM **29** 16:54:29.6±0.1, 38.41N×39.34E, h8km, MD2.9, Error ellipse: s-maj=4.7km s-min=2.9km az=99.0*
*ISCJB **29** 16:54:30.2±0.6, 38.41N±0.03×39.41E±0.04, h6km±4km, Error ellipse: s-maj=5.5km s-min=4.3km az=137.0*
*DDA **29** 16:54:30.1, 38.36N×39.36E, h7km±3km, Md2.9*
*ISK **29** 16:54:30.1, 38.40N×39.38E, h6km, MD2.9*

ISC 29 16:54:30.5±0.6, 38.41N±0.03×39.40E±0.04, h4km±5km, n12, σ1@07/21, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SVRC	**Sivrice-ELAZID**	**0.08**	**245**	PG	**Pg**	**16 54 31.9**	**-0.3**
SVRC				*e*SG	**Sg**	**16 54 33.4**	**0.0**
ELZG	**Elazig**	**0.34**	**284**	*i* P	**Pg**	**16 54 36.7**	**-0.4**
ELZG				*i* S	**Sg**	**16 54 42.0**	**+0.5**
PTK	**Pertek**	**0.48**	**359**	*e*PG	**Pg**	**16 54 39.8**	**+0.1**
PTK				*e*SG	**Sg**	**16 54 47.9**	**+2.0**
DIYA	**Diyarbakir**	**0.75**	**131**	*i* P	**Pg**	**16 54 45.5**	**+0.7**
DIYA				*i* S	**Sg**	**16 54 55.1**	**+0.5**
URFA	**Urfa**	**1.07**	**206**	*e*PG	**Pg**	**16 54 50.6**	**-0.5**
URFA				*e*SG	**Sg**	**16 55 06.3**	**+1.3**
KEMA	**Kemaliye**	**1.11**	**320**	*i* P	**Pg**	**16 54 49.6**	**-2.2**
KEMA				*i* S	**Sg**	**16 55 05.8**	**-0.4**
AKCD	**Akcadag**	**1.17**	**265**	*i* P	**Pg**	**16 54 51.3**	**-1.6**
AKCD				*i* S	**Sg**	**16 55 08.2**	**+0.1**
DARE	**Darende-Malaty**	**1.36**	**294**	*e*PN	**Pn**	**16 54 58.4**	**+2.2**
EZC	**Erzincan**	**1.37**	**13**	*e*PN	**Pn**	**16 54 55.6**	**-0.7**
MARD	**Mardin**	**1.55**	**135**	*i* P	**Pn**	**16 54 58.4**	**-0.4**
MARD				*i* S	**Sn**	**16 55 18.3**	**-1.0**
GZT	**Gaziantep**	**1.80**	**235**	*i* P	**Pn**	**16 55 00.6**	**-1.6**
GZT				*i* S	**Sn**	**16 55 26.9**	**+1.4**
SVSK	**Karacayir**	**2.40**	**310**	*e*PN	**Pn**	**16 55 11.1**	**+0.6**

MAN 29 17:15:13, 12.35N×123.75E, h3km, mb3.9, ML2.7, MS2.3, 3C-1D, Luzon

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MMPH	**Masbate**	**0.12**	**274**	*i*P	Pg	17 15 16.7	+1.3
MMPH				*i* S	Sg	17 15 19.3	+2.4
CNP	**Catarman**	**0.91**	**80**	*e*P	Pg	17 15 31.2	+0.7
CNP				*e*S	Sg	17 15 44.9	+2.6
RCP	**Roxas**	**1.25**	**231**	*i*P	Pg	17 15 37.1	0.0
RCP				*e*S	Sg	17 15 55.1	+1.7
PVCP	**Virac**	**1.30**	**18**	*e*P	Pg	17 15 37.0	-1.0
AUQP	**San Andres**	**1.42**	**313**	*e*P	Pn	17 15 40.7	+0.9
AUQP				*e*S	Sb	17 16 06.4	+7.7
OCLP	**Ormoc**	**1.54**	**147**	*e*P	Pn	17 15 42.4	+0.9

OTRP	**Odiongan**	**1.69**	**271**	*e*P	Pn	17 15 43.4	0.0
PLP	**Palo**	**1.69**	**134**	*i*P	Pn	17 15 45.0	+1.6
PLP				*e*S	Sn	17 16 06.6	+1.1
GUIM	**Jordan**	**2.05**	**214**	*e*P	Pn	17 15 49.0	+0.6
GUIM				*e*S	Sn	17 16 16.8	+2.3
BATP	**Bataraza**	**6.83**	**239**	*e*P	Pn	17 16 48.1	-6.0

*NEIC **29** 17:18:32.7, 28.74S×69.68W, h120km, MG3.9(GUC), After GUC.*

GUC 29 17:18:32.7±0.8, 28.74S×69.68W, h120km±14km, ML3.9, 5C, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LCO	**Las Campanas**	**0.93**	**253**	*eP*	Pn	17 18 54.9	+0.8
LCO				*i* S	Sn	17 19 11.8	+1.4
VACH	**Vallenar**	**0.96**	**279**	*eP*	Pn	17 18 54.7	+0.3
VACH				*i* S	Sn	17 19 11.4	+0.7
VACH				AML	AML	17 19 13.6	
	comp=N,2μm,0.3s						
VACH	**Vallenar**	**0.96**	**279**	*eP*	Pn	17 18 54.7	+0.3
VACH				*i* S	Sn	17 19 11.4	+0.7
CPCH	**Copiapo**	**1.49**	**337**	*i*P	Pn	17 19 00.5	+0.3
CPCH				*i* S	Sn	17 19 20.9	0.0
CPCH				AML	AML	17 19 25.8	
	comp=E,5μm,0.1s						
CPCH	**Copiapo**	**1.49**	**337**	*i*P	Pn	17 19 00.5	+0.3
CPCH				*i* S	Sn	17 19 20.9	0.0
TLL	**Tololo Astrono**	**1.73**	**214**	*i*P	Pn	17 19 04.3	+1.4
TLL				*i* S	Sn	17 19 27.7	+1.8
TLL				AML	AML	17 19 29.5	
	comp=N,344nm,0.3s						
TLL	**Tololo Astrono**	**1.73**	**214**	*i*P	Pn	17 19 04.3	+1.4
TLL				*i* S	Sn	17 19 27.7	+1.8
LSCH	**La Serena**	**1.80**	**229**	*i*P	Pn	17 19 04.2	+0.5
LSCH				*i* S	Sn	17 19 27.4	+0.1
OVCH	**Ovalle**	**2.29**	**215**	*eP*	Pn	17 19 09.9	+0.1
OVCH				*i* S	Sn	17 19 38.0	-0.2
OVCH				AML	AML	17 19 40.7	
	comp=N,564nm,0.5s						
OVCH	**Ovalle**	**2.29**	**215**	*eP*	Pn	17 19 09.9	+0.1
OVCH				*i* S	Sn	17 19 38.0	-0.2
CHNG	**Los Chungos**	**3.51**	**206**	*i* S	Sn	17 20 06.8	+0.2
FCH	**Farellones**	**4.61**	**186**	*eP*	Pn	17 19 41.6	+1.3
FCH				*i* S	Sn	17 20 34.4	+1.4
FCH				AML	AML	17 20 49.3	
	comp=E,39nm,0.3s						
LVC	**Limon Verde**	**6.14**	**7**	*eP*	Pn	17 20 00.8	-0.2

*IDC **29** 18:15:06.3±2.6, 6.61S×130.05E, h0km, mb3.9/2, mb1 4.1/3, mb1mx3.7/13, mbtmp4.0/3, ML4.1/1, Error ellipse: s-maj=310.2km s-min=27.7km az=66.0*
*ISCJB **29** 18:15:09.9±1.6, 7.0S±0.3×129.2E±0.5, h33km, mb4.0/3, Error ellipse: s-maj=73.7km s-min=19.3km az=154.1*

ISC 29 18:15:12.4±1.5, 72S±03×129.0E±05, h35km, n5, σ1@32/6, mb4.0/3, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KAKA	**Kakadu**	**6.49**	**148**	*eP*	**Pn**	**18 16 45.1**	**-0.4**
	138nm,0.5s						
KAKA				*eS*	**Sn**	**18 17 51.5**	**-6.9**
ASAR	**Alice Springs**	**17.08**	**164**	P	**Pn**	**18 19 10.3**	**+1.8**
	0.6nm,0.3s,baz=344,slow=11,SNR=96						
FORT	**Forrest**	**23.50**	**182**	*eP*	**P**	**18 20 18.4**	**-1.0**
	10nm,0.5s,mb4.5						
STKA	**Stephens Creek**	**27.27**	**156**	P	**P**	**18 20 53.1**	**-0.4**
	1.3nm,0.4s,mb3.8,baz=330,slow=6.8,SNR=3.7						
MKAR	**Makanchi Array**	**67.80**	**327**	P	**P**	**18 26 07.0**	**+0.3**
	0.4nm,0.5s,mb3.7,baz=116,slow=7.3,SNR=9.5						

*MOS **29** 18:35:50.3±0.1, 48.37N×150.23E, h369km, mb3.5/4, Error ellipse: s-maj=45.0km s-min=32.5km az=145.4*
*ISCJB **29** 18:36:00.4±3.7, 48.2N±02×148.6E±07, h394km±20km, mb3.4/4, Error ellipse: s-maj=70.4km s-min=31.5km az=0.3*
*IDC **29** 18:36:00.6±4.7, 48.38N×148.55E, h369km±59km, mb3.1/4, mb1 3.1/6, mb1mx2.9/21, mbtmp3.1/6, Error ellipse: s-maj=73.9km s-min=58.1km az=145.0*

ISC 29 18:36:01.2±3.8, 48.3N±02×148.6E±07, h381km±21km, n12, σ0@73/12, mb3.3/4, 1C, Northwest of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
YSS	**Yuzh-Sakhalins**	**4.17**	**254**	*i*PN	**Pn**	**18 37 14.1**	**+0.4**
ASAJ	**Asahikawa**	**5.89**	**227**	P	**Pn**	**18 37 31.2**	**-0.6**
	2.9nm,0.3s,baz=136,slow=31,SNR=27						
ASAJ	**Asahikawa**	**5.89**	**227**	PN	**Pn**	**18 37 31.3**	**-0.6**
ASAJ				pmax	pmax		
	comp=Z,3.0nm,0.3s						
MJAR	**Matsushiro Arr**	**14.00**	**217**	P	**P**	**18 39 03.8**	**+0.3**
	comp=Z,0.3nm,0.3s,baz=25,slow=11,SNR=4.7						
SONM	**Songino Array**	**27.96**	**285**	P	**P**	**18 41 18.8**	**+0.6**
	comp=Z,0.5nm,0.4s,mb3.1,baz=82,slow=11,SNR=2.5						
SONM	**Songino Array**	**27.96**	**285**	P	**P**	**18 41 18.8**	**+0.6**
SONM				pmax	pmax		
	comp=Z,1.0nm,0.4s						
MKAR	**Makanchi Array**	**43.52**	**294**	P	**P**	**18 43 29.0**	**+0.4**
	comp=Z,0.6nm,0.4s,mb3.0,baz=50,slow=6.9,SNR=17						
MKAR	**Makanchi Array**	**43.52**	**294**	P	**P**	**18 43 29.0**	**+0.4**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.4s						
KURK	**Kurchatov**	**43.96**	**301**	P	**P**	**18 43 30.4**	**-1.6**
	comp=Z,0.6nm,0.2s,mb3.3,baz=58,slow=9.9,SNR=3.9						
KURK	**Kurchatov**	**43.96**	**301**	P	**P**	**18 43 30.4**	**-1.6**
KURK				pmax	pmax		
	comp=Z,1.0nm,0.3s,mb3.4						
NOA	**NORSAR Array B**	**65.74**	**339**	P	**P**	**18 46 06.3**	**+0.3**
	comp=Z,2.0nm,0.9s,mb3.

MKAR	**Makanchi Array**	**146.62**	**40**	PKPbc	PKPbc	19 35 16.0	+0.7		
	0.8nm,0.5s,baz=317,slow=2.9,SNR=12								
MKAR	**Makanchi Array**	**146.62**	**40**	PKPbc	PKPbc	19 35 16.0	+0.7		

GUC 29 19:25:23.6±0.6, 3258S×7093W, h4km±2km, MD3.6, ML2.1, 1C, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PEL	**Peldehue**	**0.60**	**160**	*eP*		Pg	19 25 36.1	+0.9
PEL				*i* S		Sg	19 25 45.0	+2.0
PEL				AML	AML	19 25 47.1	
	comp=N,336nm,0.8s						
CHNG	**Los Chungos**	**0.85**	**325**	⇑*i* P		Pg	19 25 40.2	+0.4
CHNG				*i* S		Sg	19 25 52.0	+1.2
FCH	**Farellones**	**0.92**	**145**	*eP*		Pg	19 25 41.9	+0.7
FCH				*i* S		Sg	19 25 55.6	+2.4
FCH				AML	AML	19 26 03.8	
	comp=E,50nm,0.7s						
PCH	**Pirque**	**1.10**	**162**	*eP*		Pg	19 25 44.3	-0.3
PCH				*i* S		Sg	19 25 59.9	+1.0
LMEL	**Las Melosas**	**1.40**	**155**	*eP*		Pn	19 25 49.5	-0.4
LMEL				*i* S		Sb	19 26 09.1	+0.4
LMEL				AML	AML	19 26 14.4	
	comp=N,128nm,0.9s						
SFDO	**San Fernando**	**2.03**	**182**	*eP*		Pn	19 25 59.4	+0.8
SFDO				*eS*		Sn	19 26 25.9	+1.4

*IDC **29** 19:25:25.5±0.8, 1926S×17297W, h0km, mb4.2/12, mb1 4.4/13, mb1mx4.4/21, mbtmp4.3/13, ML2.5/1, Error ellipse: s-maj=28.0km s-min=17.4km az=133.0*
*NEIC **29** 19:25:26.3±5.0, 1914S×17306W, h7km±31km, mb4.4/3, Error ellipse: s-maj=16.1km s-min=7.9km az=133.0*
*ISCJB **29** 19:25:28.7±0.5, 1919S±0.10×173.1W±0.1, h33km, mb4.2/12, Error ellipse: s-maj=17.2km s-min=11.4km az=36.8*

ISC 29 19:25:30.7±0.5, 1920S±009×1731W±01, h35km, n27, σ1§10/26, mb4.2/12, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**5.40**	**13**	Pn		**Pn**	**19 26 46.3**	**-2.5**
	8.7nm,0.3s,baz=265,slow=22,SNR=4.9							
AFI				Sn		**Sn**	**19 27 42.7**	**-7.1**
	38nm,0.3s,baz=3.7,slow=23,SNR=6.7							
RAR	**Rarotonga**	**12.62**	**101**	*eP*		**Pn**	**19 28 17.9**	**-10**
	68nm,0.6s							
DZM	**Mont Dzumac**	**19.40**	**258**	*eP*		**Pn**	**19 29 53.8**	**-1.4**
URZ	**Urewera**	**20.83**	**202**	P		**P**	**19 30 09.5**	**+0.3**
	4.2nm,0.4s,baz=343,slow=11,SNR=7.7							
CNB	**Canberra Magne**	**36.81**	**236**	*eP*		**P**	**19 32 35.8**	**+0.4**
CTA	**Charters Tower**	**38.27**	**262**	*eP*		**P**	**19 32 47.4**	**-0.5**
	6.9nm,0.6s,mb4.6							
CTA	**Charters Tower**	**38.27**	**262**	P		**P**	**19 32 47.0**	**-0.9**
	8.6nm,0.6s,mb4.7,baz=85,slow=10,SNR=14							
CTAO	**Charters Tower**	**38.27**	**262**	*eP*		**P**	**19 32 47.7**	**-0.2**
	11nm,0.8s,mb4.7							
STKA	**Stephens Creek**	**42.54**	**244**	*eP*		**P**	**19 33 22.0**	**-1.1**
	4.1nm,2.0s,mb3.8							
STKA	**Stephens Creek**	**42.54**	**244**	P		**P**	**19 33 23.8**	**+0.7**
	2.0nm,0.7s,mb3.9,baz=116,slow=22,SNR=5.1							
ASAR	**Alice Springs**	**49.35**	**255**	P		**P**	**19 34 16.8**	**-0.2**
	6.9nm,0.7s,mb4.8,baz=95,slow=8.3,SNR=48							
WRAB	**Tennant Creek**	**49.40**	**260**	*eP*		**P**	**19 34 17.1**	**-0.2**
KAKA	**Kakadu**	**52.64**	**268**	*eP*		**P**	**19 34 35.8**	**-5.9**
	4.3nm,0.5s,mb4.6							
QSPA	**South Pole Qui**	**70.86**	**180**	P		**P**	**19 36 43.7**	**+0.2**
	1.5nm,0.7s,mb4.0,baz=47,slow=1.5,SNR=5.3							
MJAR	**Matsushiro Arr**	**72.06**	**320**	P		**P**	**19 36 51.1**	**-0.1**
	2.1nm,0.9s,mb4.1,baz=156,slow=7.4,SNR=4.6							
PETK	**Petropavlovsk-**	**76.33**	**342**	P		**P**	**19 37 17.8**	**+2.0**
	3.3nm,0.8s,mb4.3,baz=142,slow=12,SNR=4.7							
NVAR	**Mina Array Bea**	**76.94**	**41**	P		**P**	**19 37 20.4**	**+0.9**
	2.0nm,0.8s,mb4.1,baz=230,slow=8.4,SNR=8.8							
NVAR	**Mina Array Bea**	**76.94**	**41**	P		**P**	**19 37 20.4**	**+0.9**
KSRS	**Korea Array**	**79.10**	**316**	P		**P**	**19 37 34.1**	**+2.5**
	1.0nm,0.9s,mb3.8,baz=124,slow=6.1,SNR=5.3							
TXAR	**Lajitas Array**	**82.46**	**56**	P		**P**	**19 37 49.4**	**-0.4**
	0.3nm,0.3s,mb3.8,baz=216,slow=6.2,SNR=7.7							
PDAR	**Pinedale Array**	**84.87**	**41**	P		**P**	**19 38 02.0**	**+0.2**
	1.1nm,0.7s,mb4.1,baz=219,slow=3.8,SNR=7.8							
VNA3	**Neumayer Olymp**	**89.06**	**175**	*e*		**P**	**19 38 20.9**	**-0.9**
VNA3				*e*			19 38 23.8	
SNAA	**Sanae**	**89.11**	**177**	*e*		**P**	**19 38 21.1**	**-0.9**
SNAA				*e*			19 38 23.8	
VNA2	**Neumayer--Watz**	**89.56**	**175**	*e*		**P**	**19 38 24.0**	**-0.1**
	baz=201,slow=3.3							
VNA2				*e*			19 38 27.2	
CMAR	**Chiang Mai Arr**	**94.11**	**288**	P		**P**	**19 38 48.5**	**+2.3**
	0.5nm,0.9s,mb4.0,baz=118,slow=2.1,SNR=4.2							
KHC	**Kasperske Hory**	**149.67**	**351**	*e*PKP		PKPbc	19 45 18.0	+1.5
GERES	**GERESS Array B**	**149.93**	**351**	PKPbc		PKPbc	19 45 18.4	+1.3
	0.9nm,0.7s,baz=343,slow=2.8,SNR=6.8							

*ISCJB **29** 19:30:19.9±0.8, 4560N±003×2666E±005, h120km±7km, Error ellipse: s-maj=5.6km s-min=4.9km az=5.8*
*BUC **29** 19:30:19.7±0.7, 4563N×2664E, h123km±6km, MD3.6/3, Error ellipse: s-maj=4.4km s-min=3.9km az=71.0*
*CSEM **29** 19:30:20.5±0.2, 4562N×2665E, h108km±2km, MD3.6/3, Error ellipse: s-maj=2.3km s-min=2.0km az=125.0*
*NEIC **29** 19:30:20.5, 4563N×2666E, h117km, MG2.7(BUC), After BUC.*

ISC 29 19:30:20.5±0.8, 4561N±003×2666E±005, h118km±7km, n34, σ0§68/61, 15C-16D, Romania

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PLOR	**Plostina**	**0.25**	**359**	*i* S		**Sn**	**19 30 49.8**	**+0.3**
PLOR	**Plostina**	**0.25**	**359**	⇑*i* P		**Pn**	**19 30 37.1**	**+0.1**
PLOR				*i* S		**Sn**	**19 30 50.2**	**+0.7**
VRI	**Vrincioaia**	**0.27**	**10**	⇑*i* P		**Pn**	**19 30 37.4**	**+0.3**
VRI	**Vrincioaia**	**0.27**	**10**	⇑*i* P		**Pn**	**19 30 37.5**	**+0.4**
VRI				*i* S		**Sn**	**19 30 50.0**	**+0.4**
VRI	**Vrincioaia**	**0.27**	**10**	⇑⇑P		**Pn**	**19 30 37.5**	**+0.4**
VRI				S		**Sn**	**19 30 50.0**	**+0.4**
ODB	**Odobesti**	**0.33**	**59**	⇓*i* P		**Pn**	**19 30 41.0**	**+3.7**
ODB				*i* S		**Sn**	**19 30 54.7**	**+4.7**
MLR	**Muntele Rosu**	**0.51**	**257**	⇑*i* P		**Pn**	**19 30 38.7**	**+0.4**
MLR				*i* S		**Sn**	**19 30 52.3**	**+0.6**
MLR	**Muntele Rosu**	**0.51**	**257**	⇑⇑P		**Pn**	**19 30 38.7**	**+0.4**
MLR				S		**Sn**	**19 30 52.4**	**+0.6**
VARR		**0.88**	**71**	⇑*i* P		**Pn**	**19 30 41.5**	**+0.3**
VARR				*i* S		**Sn**	**19 30 57.3**	**+0.4**
TESR		**0.91**	**360**	⇑*i* P		**Pn**	**19 30 41.1**	**-0.3**
TESR				S		**Sn**	**19 30 55.9**	**-1.4**
ONCR	**Oncesti**	**0.96**	**26**	⇑*i* P		**Pn**	**19 30 41.9**	**0.0**
ONCR				*i* S		**Sn**	**19 30 57.4**	**-0.8**
SULR		**0.97**	**197**	⇓*i* P		**Pn**	**19 30 41.1**	**-1.0**
SULR				*i* S		**Sn**	**19 30 58.1**	**-0.2**
CFR	**Carcaliu**	**1.13**	**112**	⇑*i* P		**Pn**	**19 30 43.8**	**+0.2**
CFR				*i* S		**Sn**	**19 31 01.2**	**+0.1**
VOIR		**1.14**	**262**	⇓*i* P		**Pn**	**19 30 43.7**	**-0.1**
VOIR				*i* S		**Sn**	**19 31 00.8**	**-0.6**
VOIR		**1.14**	**262**	⇓*i* P		**Pn**	**19 30 43.7**	**-0.1**
VOIR				S		**Sn**	**19 31 00.9**	**-0.5**
VOIR		**1.14**	**262**	⇓⇓P		**Pn**	**19 30 43.7**	**-0.1**
VOIR				S		**Sn**	**19 31 00.9**	**-0.6**
HARR	**Harsova**	**1.28**	**135**	⇓*i* P		**Pn**	**19 30 45.7**	**+0.4**
HARR	**Harsova**	**1.28**	**135**	⇓⇓P		**Pn**	**19 30 45.7**	**+0.3**
BUC1	**Bucharest**	**1.33**	**200**	⇑*i* P		**Pn**	**19 30 46.3**	**+0.4**
BUC1				*i* S		**Sn**	**19 31 05.6**	**+0.4**
TLCR		**1.58**	**105**	⇓*i* P		**Pn**	**19 30 49.1**	**+0.5**
TLCR				*i* S		**Sn**	**19 31 10.0**	**-0.1**
TLCR		**1.58**	**105**	⇓⇓P		**Pn**	**19 30 49.1**	**+0.5**
TLCR				S		**Sn**	**19 31 10.0**	**-0.1**
CVD	**Cernavoda**	**1.62**	**142**	⇑*i* P		**Pn**	**19 30 49.5**	**+0.3**
CVD				*i* S		**Sn**	**19 31 11.3**	**+0.3**
CVD	**Cernavoda**	**1.62**	**142**	⇑*i* P		**Pn**	**19 30 49.5**	**+0.3**
CVD				S		**Sn**	**19 31 11.2**	**+0.2**
CVD	**Cernavoda**	**1.62**	**142**	⇑⇑P		**Pn**	**19 30 49.5**	**+0.3**
CVD				S		**Sn**	**19 31 11.2**	**+0.3**
TIRR	**Tirgusor**	**1.69**	**132**	⇓*i* P		**Pn**	**19 30 50.3**	**+0.3**
TIRR				*i* S		**Sn**	**19 31 11.8**	**-0.8**
TIRR	**Tirgusor**	**1.69**	**132**	⇓⇓P		**Pn**	**19 30 50.3**	**+0.3**
TIRR				S		**Sn**	**19 31 11.8**	**-0.8**
IAS	**Iasi**	**1.71**	**21**	*i* S		**Sn**	**19 31 12.1**	**-0.8**
KIS	**Kishinev**	**2.04**	**46**	⇓*i* P		**Pn**	**19 30 54.5**	**+0.2**
KIS				*i* S		**Sn**	**19 31 19.1**	**-1.2**
KIS	**Kishinev**	**2.04**	**46**	⇓*i* P		**Pn**	**19 30 54.5**	**+0.2**
KIS				S		**Sn**	**19 31 19.5**	**-0.8**
KIS	**Kishinev**	**2.04**	**46**	⇓P		**Pn**	**19 30 54.5**	**+0.2**
KIS				S		**Sn**	**19 31 19.6**	**-0.7**
ZIMR		**2.16**	**206**	*i* S		**Sn**	**19 31 21.5**	**-1.3**
BURAR	**Bucovina Array**	**2.24**	**334**	⇓*i* P		**Pn**	**19 30 58.2**	**+1.4**
BURAR				*i* S		**Sn**	**19 31 25.9**	**+1.2**
BURAR	**Bucovina Array**	**2.24**	**334**	⇓P		**Pn**	**19 30 58.2**	**+1.4**
BURAR				S		**Sn**	**19 31 25.9**	**+1.1**
DRGR		**2.99**	**295**	⇑*i* P		**Pn**	**19 31 05.5**	**-1.0**

*ISCJB **29** 19:39:54.2±0.5, 2930N±004×9219E±005, h10km, mb3.9/11, Error ellipse: s-maj=7.5km s-min=5.3km az=139.8*
*IDC **29** 19:39:55.4±1.0, 2935N×9225E, h0km, mb3.8/9, mb1 3.9/11, mb1mx3.8/24, mbtmp3.7/11, ML3.4/2, MS2.8/1, Ms1 2.8/1, ms1mx2.0/27, Error ellipse: s-maj=43.9km s-min=18.1km az=59.0*
*NEIC **29** 19:39:56.6±0.6, 2935N×9219E, h10km, mb4.1/4, Error ellipse: s-maj=14.0km s-min=9.4km az=216.0*
*BJI **29** 19:39:56.4, 2949N×9223E, h6km, ML3.8*
*MOS **29** 19:39:57.4±1.2, 2932N×9223E, h33km, mb4.5/3, Error ellipse: s-maj=18.9km s-min=10.0km az=113.4*

ISC 29 19:39:56.6±0.5, 2936N±004×9216E±006, h10km, n28, σ1§07/30, mb3.8/11, Xizang

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LSA	**Lhasa**	**0.94**	**291**	PG		**Pg**	**19 40 13.3**	**-1.4**
LSA				SG		**Sg**	**19 40 26.0**	**-1.0**
LSA				Smax				
	comp=N,2μm,0.6s							
LSA				Smax				
	comp=E,4μm,0.6s							
LSA	**Lhasa**	**0.94**	**291**	*eP*		**Pg**	**19 40 13.2**	**-1.5**
LSA				*eS*		**Sg**	**19 40 26.6**	**-0.4**
SHL	**Shillong**	**3.79**	**184**	*e*PN		**Pn**	**19 40 59.0**	**+4.0**
SHL				*i* x		x	19 41 09.0	
SHL				*i* SN		**Sg**	**19 41 58.0**	**-0.2**
CMAR	**Chiang Mai Arr**	**12.50**	**149**	Pn		**Pn**	**19 42 53.5**	**-1.0**
	comp=E,0.1nm,0.3s,baz=326,slow=13,SNR=8.8							
MKAR	**Makanchi Array**	**19.03**	**339**	P		**Pn**	**19 44 18.9**	**-0.4**
	comp=E,0.1nm,0.3s,baz=150,slow=10,SNR=6.8							
AML	**Almayashu**	**19.62**	**315**	*eP*		**Pn**	**19 44 27.5**	**+1.1**
	comp=E,2.4nm,0.8s							
EKS2	**Erkin-Say**	**19.88**	**317**	*eP*		**Pn**	**19 44 26.9**	**-2.6**
	comp=E,4.1nm,1.1s							
KBL	**Kabul**	**20.27**	**291**	*eP*		**P**	**19 44 33.9**	**+1.7**
KBL				pmax	pmax			
	comp=Z,52nm,1.0s							
KBL	**Kabul**	**20.27**	**291**	*eP*		**P**	**19 44 33.9**	**+1.7**
	comp=Z,52nm,1.0s							
SONM	**Songino Array**	**21.48**	**27**	P		**P**	**19 44 45.0**	**-0.1**
	comp=Z,4.2nm,0.9s,mb3.8,baz=217,slow=7.2,SNR=7.3							
ULN	**Ulaanbaatar**	**21.77**	**28**	*eP*		**P**	**19 44 47.3**	**-0.9**
ZAK	**Zakamensk**	**22.61**	**19**	*eP*		**P**	**19 44 56.5**	**-0.8**
ZAK				pmax	pmax			
	comp=Z,5.0nm,1.2s,mb3.8							
KURK	**Kurchatov**	**23.64**	**338**	P		**P**	**19 45 08.6**	**+0.6**
	comp=Z,3.3nm,0.8s,mb3.8,baz=147,slow=9.9,SNR=13							
ZALV	**Zalesovo Beam**	**25.14**	**350**	P		**P**	**19 45 22.5**	**+0.9**
	comp=Z,0.8nm,0.5s,mb3.5,baz=168,slow=9.0,SNR=5.2							
ZALV	**Zalesovo Beam**	**25.14**	**350**	P		**P**	**19 45 22.5**	**+0.9**
NVS	**Novosibirsk**	**26.27**	**348**	*eP*		**P**	**19 45 28.1**	**-3.7**
BVAR	**Borovoye Array**	**28.54**	**332**	P		**P**	**19 45 53.4**	**+1.1**
	comp=Z,0.2nm,0.5s,mb3.1,baz=134,slow=6.2,SNR=2.8							
BVAR	**Borovoye Array**	**28.54**	**332**	P		**P**	**19 45 53.4**	**+1.1**
KSRS	**Korea Array**	**30.78**	**65**	LR		LR	19 59 20.9	
	comp=Z,16nm,20.1s,baz=295,slow=38							
TIXI	**Tiksi**	**46.81**	**15**	*eP*		**P**	**19 48 24.1**	**-1.9**
TIXI				pmax	pmax			
	comp=Z,3.0nm,1.0s,mb4.2							
TIXI	**Tiksi**	**46.81**	**15**	*eP*		**P**	**19 48 25.3**	**-0.7**
	comp=Z,5.0nm,1.1s,mb4.4							
AKASG	**Malin Array Be**	**51.02**	**313**	P		**P**	**19 48 59.1**	**+0.5**
	comp=Z,0.9nm,0.6s,mb3.9,baz=79,slow=7.2,SNR=3.9							
HFS	**Hagfors**	**59.36**	**325**	P		**P**	**19 49 59.2**	**+0.6**
	comp=Z,2.5nm,0.7s,mb4.3,baz=76,slow=12,SNR=3.4							
NOA	**NORSAR Array B**	**60.46**	**326**	P		**P**	**19 50 07.0**	**+0.8**
	comp=Z,0.9nm,0.7s,mb3.9,baz=93,slow=9.1,SNR=3.6							
NOA	**NORSAR Array B**	**60.46**	**326**	P		**P**	**19 50 07.0**	**+0.8**
GERES	**GERESS Array B**	**61.21**	**312**	P		**P**	**19 50 12.6**	**+1.1**
	comp=Z,0.6nm,0.8s,mb3.8,baz=106,slow=8.5,SNR=3.9							
ASAR	**Alice Springs**	**66.27**	**138**	P		**P**	**19 50 45.4**	**+0.3**
	comp=Z,1.4nm,0.8s,mb4.0,baz=325,slow=6.9,SNR=20							

*PRU **29** 19:41:38.4, 3677N×2924E, h0km, M4.3*
*ISK **29** 19:41:39.8, 3696N×2924E, h5km, ML4.4*
*ISCJB **29** 19:41:40.2±0.1, 3682N±001×2934E±001, h10km, mb4.5/39, MS3.9/19, Error ellipse: s-maj=1.8km s-min=1.3km az=135.3*
*DDA **29** 19:41:41.7, 3704N×2924E, h7km±2km, Md3.9*
*MOS **29** 19:41:41.7±1.1, 3684N×2938E, h23km, mb4.5/26, Error ellipse: s-maj=5.7km s-min=3.3km az=120.1*
*CSEM **29** 19:41:42.0±0.0, 3684N×2940E, h30km, mb4.6/35, Ms3.6, Mw3.9, Error ellipse: s-maj=1.2km s-min=0.8km az=44.0*
*NEIC **29** 19:41:44.5, 3696N×2941E, h14km, mb4.3/36, ML4.2(ATH), ML4.3(NIC), ML4.4(ISK), ML4.6(THE), After THE.*
*IDC **29** 19:41:44.2±5.3, 3690N×2943E, h25km±38km, mb4.1/14, mb1 4.3/24, mb1mx4.2/34, mbtmp4.2/24, ML4.0/10, MS3.9/24, Ms1 3.9/24, ms1mx3.7/42, Error ellipse: s-maj=12.7km s-min=12.1km az=13.0*
*THE **29** 19:41:44.5, 3696N×2941E, h14km±3km, ML4.6/2, Error ellipse: s-maj=3.6km s-min=1.1km az=116.0*
*GII **29** 19:41:46.5±0.0, 3655N×2920E, h20km, mb4.5/2, ML4.4/2*
*HLW **29** 19:41:50.5, 3645N×2935E, h33km, Mb4.1*
*SZGRF **29** 19:41:56.4, 3725N×2858E, h33km, mb4.0, MS3.6, Turkey*
*NIC **29** 19:41:58.1±0.3, 3652N×3017E, h25km, mb4.5, ML4.3, MW3.9*

ISC 29 19:41:42.3±0.1, 3686N±001×2935E±001, h10km, n445, σ1§29/505, mb4.5/39, MS3.9/19, 12C-14D, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GOLH	**Golhisar**	**0.41**	**24**	*i* P		**Pg**	**19 41 48.5**	**-1.9**
GOLH				*i* S		**Sg**	**19 41 52.9**	**-2.9**
ELL	**Elmali**	**0.46**	**104**	PG		**Pg**	**19 41 51.8**	**+0.5**
ELL				*e*SG		**Sg**	**19 42 01.1**	**+3.7**
DALT	**Dalyan (Mudla)**	**0.58**	**261**	PG		**Pg**	**19 41 51.4**	**-2.1**
DALT				*e*SG		**Sg**	**19 41 59.8**	**-1.3**
TURN	**Turunc**	**0.60**	**271**	*i* P		**Pg**	**19 41 56.5**	**+2.7**
TURN				*i* S		**Sg**	**19 42 11.1**	**+9.4**
YER	**Yerkesik**	**0.90**	**288**	PG		**Pg**	**19 41 56.2**	**-3.4**
DENT	**Denizli**	**0.93**	**344**	PG		**Pg**	**19 41 56.2**	**-3.9**
ANTB	**Antalya**	**1.05**	**87**	PN		**Pn**	**19 42 03.0**	**0.0**
BCK	**Bucak**	**1.16**	**58**	PN		**Pn**	**19 42 03.5**	**-1.0**
ARG	**Arkhangelos**	**1.18**	**237**	P		**Pb**	**19 42 03.5**	**-1.2**
MLSB	**Milas**	**1.33**	**289**	*e*PN		**Pn**	**19 42 04.3**	**-2.5**
TKTP	**Tekketepe**	**1.41**	**33**	*i* P		**Pg**	**19 42 07.0**	**-2.2**
TKTP				*i* S		**Sg**	**19 42 30.2**	**+2.7**
AYDN	**Tasoluk**	**1.42**	**305**	*i* P		**Pn**	**19 42 05.8**	**-2.3**
AYDN				*i* S		**Sn**	**19 42 26.3**	**-0.6**
KHL	**Karahalli**	**1.47**	**5**	*e*PN		**Pg**	**19 42 07.6**	**-2.8**
KHL				*e*SN		**Sg**	**19 42 28.0**	**-1.4**
KHAL	**Karahalli**	**1.51**	**4**	*i* P		**Pn**	**19 42 07.0**	**-2.4**
KHAL				*i* S		**Sg**	**19 42 31.4**	**+0.6**
KHAL	**Karahalli**	**1.51**	**4**	*i* P		**Pn**	**19 42 06.9**	**-2.5**
BDRM	**Kayabasi**	**1.54**	**278**	*i* P		**Pn**	**19 42 08.5**	**-1.3**
BDRM				*i* S		**Sg**	**19 42 32.0**	**+0.3**
KULA	**Kula-Manisa**	**1.74**	**342**	*e*PN		**Pn**	**19 42 10.9**	**-1.6**
MANT	**Manisa**	**1.74**	**339**	*i* P		**Pn**	**19 42 11.0**	**-1.6**
MANT				*i* S		**Sn**	**19 42 34.5**	**-0.3**
GCAM	**G?zelcaml?**	**1.88**	**297**	*i* P		**Pn**	**19 42 13.5**	**-1.0**
GCAM				*i* S		**Sg**	**19 42 42.6**	**-0.3**
SHUT	**Suhut-Afyon**	**1.94**	**29**	*e*PN		**Pn**	**19 42 14.7**	**-0.5**
SMG	**Samos**	**2.17**	**294**	P		**Pn**	**19 42 17.6**	**-0.9**
KARP	**Karpathos**	**2.20**	**234**	P		**Pn**	**19 42 20.8**	**+1.9**
GDZ	**Gediz**	**2.23**	**3**	*i* P		**Pn**	**19 42 18.1**	**-1.1**
GDZ				*i* S		**Sg**	**19 42 57.7**	**+3.9**
DEMI	**Demirci**	**2.23**	**347**	*i* P		**Pn**	**19 42 17.7**	**-1.6**
DEMI				*i* S		**Sg**	**19 43 08.0**	**+14**
BOLV	**Bolvadin**	**2.25**	**34**	*i* P		**Pn**	**19 42 20.4**	**+1.0**
BOLV				*i* S		**Sn**	**19 42 48.4**	**+1.1**
IZM	**Izmir**	**2.26**	**313**	*e*PN		**Pn**	**19 42 17.9**	**-1.7**
KDAG	**Bornova**	**2.26**	**314**	*i* P		**Pn**	**19 42 18.0**	**-1.6**
KDAG				*i* S		**Sg**	**19 42 48.0**	**-6.9**
ALT	**Altintas**	**2.27**	**15**	*e*PN		**Pn**	**19 42 18.8**	**-1.0**
AKHS	**Akhisar**	**2.35**	**329**	*i* P		**Pn**	**19 42 19.0**	**-1.9**
AKHS				*i* S		**Sg**	**19 43 00.3**	**+2.4**
AKS	**Akhisar**	**2.35**	**329**	*e*PN		**Pn**	**19 42 19.1**	**-1.8**
BLCB	**Balcova**	**2.38**	**310**	*e*PN		**Pn**	**19 42 19.6**	**-1.7**
HDMB	**Hadim**	**2.52**	**87**	*e*PN		**Pn**	**19 42 24.5**	**+1.3**
KONT	**Konya--Tatoy**	**2.63**	**65**	*e*PN		**Pn**	**19 42 26.0**	**+1.2**
URLA	**Izmir**	**2.65**	**305**	*i* P		**Pn**	**19 42 23.8**	**-1.2**
URLA				*i* S		**Sg**	**19 43 08.6**	**+1.2**
LADK	**Ladik-KONYA**	**2.74**	**60**	*e*PN		**Pn**	**19 42 27.4**	**+1.0**
KDHN	**Kadinhani**	**2.75**	**52**	*i* P		**Pn**	**19 42 27.1**	**+0.7**
KDHN				*i* S		**Sg**	**19 43 16.2**	**+5.7**
DST	**Dursunbey**	**2.80**	**349**	*e*PN		**Pn**	**19 42 25.8**	**-1.3**
KIZT	**Kizilcal**	**2.84**	**44**	*e*PN		**Pn**	**19 42 28.2**	**+0.5**
ERMK	**Ermenek**	**2.87**	**93**	*i* P		**Pn**	**19 42 33.8**	**+5.8**
ERMK				*i* S		**Sg**	**19 43 15.8**	**+1.4**
ESKT	**Eskisehir**	**2.91**	**24**	*i* P		**Pn**	**19 42 28.1**	**-0.5**
ESKT				*i* S		**Sg**	**19 43 20.4**	**+4.8**
SEYT	**Eskypehyr**	**2.91**	**24**	*i* P		**Pn**	**19 42 28.1**	**-0.4**
CHOS	**Chios island**	**3.03**	**301**	P		**Pn**	**19 42 29.7**	**-0.5**
CHOS				S		**Sn**	**19 43 06.2**	**-0.3**
AKMC	**Akamas**	**3.03**	**126**	P		**Pn**	**19 42 33.1**	**+2.8**
	9.5nm,0.6s							
AKMC				S		**Sn**	**19 43 00.8**	**-5.8**
APE	**Apeiranthos**	**3.07**	**275**	P		**Pn**	**19 42 31.3**	**+0.6**
APE				S		**Sn**	**19 43 07.6**	**+0.2**
APE	**Apeiranthos**	**3.07**	**275**	⇓*i* P		**Pn**	**19 42 30.8**	**+0.1**
ZKR	**Zakros**	**3.08**	**236**	P		**Pn**	**19 42 32.7**	**+1.8**
PPCY	**Paphos**	**3.13**	**128**	⇑P		**Pn**	**19 42 34.4**	**+2.8**
	8.7nm,0.6s							
PPCY				S		**Sn**	**19 43 02.9**	**-6.2**
ALFC	**Alevga**	**3.13**	**122**	⇓⇓P		**Pn**	**19 42 34.3**	**+2.6**
	11nm,0.5s							
ALFC				S		**Sn**	**19 43 02.4**	**-6.8**
THR1	**Thera Island**	**3.17**	**262**	P		**Pn**	**19 42 33.4**	**+1.3**
BALY	**Balya**	**3.18**	**335**	*i* P		**Pn**	**19 42 31.0**	**-1.3**
BALY				*i* S		**Sg**	**19 43 26.5**	**+2.1**
THR4	**Thira Island,**	**3.20**	**264**	P		**Pn**	**19 42 33.9**	**+1.3**
THR3	**Thira Island,**	**3.21**	**263**	P		**Pn**	**19 42 33.9**	**+1.2**
THR6	**Thira Island,**	**3.22**	**262**	P		**Pn**	**19 42 34.2**	**+1.4**
AYVA	**Ayvalik**	**3.22**	**320**	*i* P		**Pn**	**19 42 31.9**	**-1.0**
AYVA				*i* S		**Sn**	**19 43 12.1**	**+0.9**
THR5	**Thira Island,**	**3.25**	**263**	P		**Pn**	**19 42 34.5**	**+1.3**
LEF	**Lefka**	**3.36**	**120**	*e*PN		**Pn**	**19 42 36.4**	**+1.7**
CAVI	**Cavuskoy**	**3.36**	**6**	*e*PN		**Pn**	**19 42 34.1**	**-0.7**
PRK	**Paraskevi**	**3.40**	**315**	P		**Pn**	**19 42 34.5**	**-0.8**
NPS	**Neapolis**	**3.42**	**243**	P		**Pn**	**19 42 37.2**	**+1.6**
KCT	**Karacabey**	**3.49**	**347**	*e*PN		**Pn**	**19 42 35.3**	**-1.2**
GPA	**Golpazari**	**3.50**	**12**	*e*PN		**Pn**	**19 42 36.7**	**-0.1**
IKL	**Isikli**	**3.55**	**99**	*e*PN		**Pn**	**19 42 40.0**	**+2.7**
LAST	**Lasithi**	**3.57**	**243**	P		**Pn**	**19 42 38.7**	**+1.1**
GEMT	**Gemlik**	**3.57**	**358**	*e*PN		**Pn**	**19 42 37.1**	**-0.5**
ADVT	**Abdulvahap**	**3.58**	**5**	*e*PN		**Pn**	**19 42

KNT	Kendrikon	6.61	313		P		Pn	19 43 19.9	+0.5
AANS		6.77	165		P		Pn	19 43 21.1	-0.6
GRG	Griva	6.79	309		P		Pn	19 43 22.8	+0.9
HMDT	Nahal Hemdat	6.86	130		Pn		Pn	19 43 23.9	+1.0
VAY	Valandovo	6.90	312		ePn		Pn	19 43 23.8	+0.4
VAY	Valandovo	6.90	312		ePn		Pn	19 43 23.7	+0.3
RSH		6.92	147		P		Pn	19 43 23.7	0.0
AKCD	Akcadag	6.96	76	*i*	P		Pn	19 43 28.5	+4.3
AKCD				*i*	S		Sb	19 45 11.6	+5.3
AMAG	Maghara	6.98	152		P		Pn	19 43 24.6	0.0
VLS	Valsamata	7.08	283		P		Pn	19 43 27.3	+1.3
SQR		7.13	167		P		Pn	19 43 25.9	-0.6
HMYD	Mayadein	7.15	170		P		Pn	19 43 26.0	-0.9
KOT	Kottamia	7.22	163		P		Pn	19 43 27.4	-0.4
KOT					S		Sn	19 44 39.2	-11
HHAG	Hagoal	7.26	161		P		Pn	19 43 28.1	-0.4
HHAG					S		Sn	19 44 40.4	-11
HHAG	Hagoal	7.26	161		P		Pn	19 43 28.0	-0.4
KZIT	Kziot	7.27	143		Pn		Pn	19 43 28.7	+0.2
KZIT					Sn		Sn	19 44 48.5	-2.6
YTIR	Yattir	7.27	137		Pn		Pn	19 43 29.8	+1.2
AYT	Al 'Ayyat	7.29	168		P		Pn	19 43 27.9	-1.0
FNA	Florina	7.35	305		P		Pn	19 43 30.7	+1.1
STIP	Stip	7.36	313		ePn		Pn	19 43 34.1	+4.4
STIP					*i* Sn		Sn	19 44 58.0	+4.8
MZDA	Masada	7.45	136		Pn		Pn	19 43 31.3	+0.3
MZDA					Sn		Sn	19 44 55.2	-0.4
HSAF	As Saff	7.45	165		P		Pn	19 43 30.9	-0.1
GLL	Jalalah	7.53	164		P		Pn	19 43 31.9	-0.2
KEMA	Kemaliye	7.60	69	*i*	P		Pn	19 43 36.3	+3.2
TIRR	Tirgusor	7.62	355	⇑	*i* P		Pn	19 43 33.0	-0.3
TIRR	Tirgusor	7.62	355		P		Pn	19 43 33.3	0.0
TIRR	Tirgusor	7.62	355		P		Pn	19 43 33.3	0.0
KRUS	Krusevo	7.74	308		ePn		Pn	19 43 36.4	+1.5
ASF	Jabal al Asfar	7.79	125		Pn		Pn	19 43 34.7	-0.9
	0.9nm,0.3s,baz=162,slow=12,SNR=9.4								
ASF					Sn		Sn	19 45 02.6	-1.3
	baz=40,slow=23,SNR=1.6								
ASF					LR		LR	19 47 15.5	
	comp=Z,883nm,19.5s,baz=318,slow=43								
ASF	Jabal al Asfar	7.79	125		P		Pn	19 43 34.7	-0.9
ASF								19 45 02.6	
ASF					pmax		pmax		
	comp=Z,1.0nm,0.3s								
ASF					MLR		MLR		
	comp=Z,883nm,19.5s								
HARR	Harsova	7.89	353	⇓	*i* P		Pn	19 43 37.9	+0.9
OHR	Ohrid	7.89	305		ePn		Pn	19 43 43.0	+6.0
PRNI	Paran	8.02	142		Pn		Pn	19 43 38.8	-0.1
KRMI	Paran Flat	8.08	145		Pn		Pn	19 43 39.5	-0.1
KRMI					Sn		Sn	19 45 08.0	-3.2
HRFI	Mount Harif	8.30	143		Pn		Pn	19 43 42.5	-0.1
TLCR		8.33	357	⇑	*i* P		Pn	19 43 43.2	+0.2
SEV	Sevastopol'	8.35	22		eP		Pn	19 43 42.4	-0.8
SEV					eS		Sn	19 45 12.8	-4.7
AWBH		8.52	183		P		Pn	19 43 44.4	-1.3
AQBJ	Aqaba	8.56	145		Pn		Pn	19 43 46.6	+0.3
EIL	Elat	8.57	145		Pn		Pn	19 43 45.4	-0.9
	comp=Z,7.4nm,0.3s,baz=331,slow=12,SNR=44								
EIL					Sn		Sn	19 45 20.9	-2.2
	comp=Z,11nm,0.3s,baz=66,slow=17,SNR=8.5								
EIL					LR		LR	19 48 29.3	
	comp=Z,405nm,20.9s,baz=330,slow=47								
EIL	Elat	8.57	145		Pn		Pn	19 43 45.6	-0.8
TIR	Tirane	8.63	304		eP		Pn	19 43 49.0	+1.9
TIR					pmax		pmax		
	comp=Z,40nm,0.8s								
TIR	Tirane	8.63	304		eP		Pn	19 43 49.0	+1.9
	comp=Z,40nm,0.8s								
TIR	Tirane	8.63	304		eP		Pn	19 43 49.0	+1.9
	comp=Z,40nm,0.8s								
ALU	Alushta	8.70	25		eP		Pn	19 43 53.2	+5.1
ALU					eS		Sn	19 45 30.3	+4.1
GLFJ		8.73	146		eP		Pn	19 43 49.6	+1.0
	SNR=108								
SIM	Simferopol'	8.85	23	*ce*	P		Pn	19 43 51.5	+1.4
SIM					S		Sn	19 45 26.2	-3.6
SIM					pmax		pmax		
	comp=Z,18nm,0.7s								
SIM					MLR		MLR		
	comp=Z,890nm,17.0s								
SIM	Simferopol'	8.85	23		eP		Pn	19 43 51.5	+1.4
	comp=Z,18nm,0.7s								
HBST	Basata	8.86	148		P		Pn	19 43 49.8	-0.5
MLR	Muntele Rosu	8.99	345		Pn		Pn	19 43 52.5	+0.4
	comp=Z,1.0nm,0.3s,baz=188,slow=5.3,SNR=39								
MLR	Muntele Rosu	8.99	345	⇓	*i* P		Pn	19 43 52.4	+0.3
MLR	Muntele Rosu	8.99	345		P		Pn	19 43 54.2	+2.1
MLR	Muntele Rosu	8.99	345		P		Pn	19 43 54.2	+2.1
SUDU	Sudak	9.09	26		eP		Pn	19 43 54.3	+0.9
SUDU					eS		Sn	19 45 34.7	-1.0
VOIR		9.16	341	⇑	*i* P		Pn	19 43 54.5	+0.1
VOIR		9.16	341		P		Pn	19 43 54.3	-0.1
VOIR		9.16	341		P		Pn	19 43 54.3	0.0
HKAT	Jabal Katrina	9.19	154		P		Pn	19 43 54.5	-0.3
PLOR	Plostina	9.21	348	⇑	*i* P		Pn	19 43 56.0	+1.0
PLOR	Plostina	9.21	348		P		Pn	19 43 57.2	+2.2
VRI	Vrincioaia	9.21	348	⇓	*i* P		Pn	19 43 56.5	+1.4
VRI	Vrincioaia	9.21	348		P		Pn	19 44 04.8	+10
TR2		9.22	155		P		Pn	19 43 54.7	-0.6
LJBD	Adjabya	9.64	235	*i*	P		Pn	19 44 00.5	-0.6
	comp=Z,117nm,0.8s,SNR=90								
TR1		9.64	155		P		Pn	19 44 00.3	-0.8
HFRF	Wahat Farafira	9.72	185		P		Pn	19 44 01.0	-1.2
SHRM		9.81	154		P		Pn	19 44 02.5	-0.9
GZR	Gura Zlata	9.86	332	⇓	*i* P		Pn	19 44 03.7	-0.2
ANN	Anapa	10.02	35		eP		Pn	19 44 12.6	+6.5
ANN					eS		Sn	19 46 04.6	+6.1
ANN					pmax		pmax		
	comp=Z,98nm,1.8s								
ANN					MLR		MLR		
	comp=Z,615nm,20.0s								
KIS	Kishinev	10.14	358		eP		Pn	19 44 14.0	+6.2
KIS					MLR		MLR		
	comp=Z,600nm,13.0s								
KIS					MLR		MLR		
	comp=Z,700nm,16.0s								
TIP	Timpagrande	10.20	287		eP		Pn	19 44 09.6	+0.9
	comp=Z,28nm,0.8s								
TIP	Timpagrande	10.20	287		eP		Pn	19 44 09.6	+0.9
	comp=Z,28nm,0.8s								
HHRG	Al Ghardaqah	10.26	158		P		Pn	19 44 08.3	-1.2
BZS	Buzias	10.50	329	⇑	*i* P		Pn	19 44 11.1	-1.7
BZS	Buzias	10.50	329		P		Pn	19 44 13.1	+0.3
BZS	Buzias	10.50	329		P		Pn	19 44 13.1	+0.3
HSFG		10.97	158		P		Pn	19 44 18.1	-1.2
CUC	Castrocucco	11.07	291		eP		Pn	19 44 22.1	+1.6
	comp=Z,71nm,0.9s								
CUC	Castrocucco	11.07	291		eP		Pn	19 44 22.1	+1.5
	comp=Z,71nm,0.9s								
DRGR		11.08	336	⇓	*i* P		Pn	19 44 19.7	-1.0
BURAR	Bucovina Array	11.17	345	⇓	*i* P		Pn	19 44 23.0	+1.1
BUR08	Bucovina Ar. S	11.20	345		eP		Pn	19 44 22.5	+0.2
BUR08	Bucovina Ar. S	11.20	345		eP		Pn	19 44 22.5	+0.2
HDK1	Dakhla	11.28	180		P		Pn	19 44 22.1	-1.5
HQSR		11.88	157		P		Pn	19 44 30.4	-1.2
HEDF	Idfu	12.18	163		P		Pn	19 44 34.8	-1.0
HADB		12.33	157		P		Pn	19 44 36.4	-1.5
KIV	Kislovodsk	12.38	51		eP		Pn	19 44 41.2	+2.7
KIV					eS		Sn	19 47 00.8	+4.3
KIV					pmax		pmax		
	comp=Z,7.0nm,1.2s								
KIV					MLR		MLR		
	comp=Z,241nm,13.0s								
KIV	Kislovodsk	12.38	51	⇓	*i* P		Pn	19 44 44.1	+5.6
KIV	Kislovodsk	12.38	51		eP		Pn	19 44 41.2	+2.7
	comp=Z,7.0nm,1.2s								
GNI	Garni	12.50	70		Pn		Pn	19 44 38.6	-1.5
	comp=Z,0.2nm,0.3s,baz=171,slow=17,SNR=2.4								
GNI					LR		LR	19 50 27.3	
	comp=Z,979nm,18.1s,baz=268,slow=42								
GNI	Garni	12.50	70		eP		Pn	19 44 41.8	+1.7
GNI					pmax		pmax		
	comp=Z,7.0nm,1.3s								
GNI	Garni	12.50	70		eP		Pn	19 44 41.8	+1.7
	comp=Z,7.0nm,1.3s								
EMRS	Mersa Alam	12.71	157		P		Pn	19 44 42.2	-0.9
UZH	Uzhgorod	12.85	338		eP		Pn	19 44 42.5	-2.3
CRVS	Cervenica-Dubn	13.34	337		ePN		Pn	19 44 52.6	+1.0
CRVS					eSN		Sn	19 46 57.4	-22
CRVS					eSG			19 48 55.3	
KWP	Kalwaria	13.64	341		eP		Pn	19 44 57.8	+2.2
KWP	Kalwaria	13.64	341	⇓	*i* P		Pn	19 44 58.2	+2.5
KIEV	Kiev	13.83	360		eP		Pn	19 44 56.5	-1.7
KIEV					pmax		pmax		
	comp=Z,7.0nm,1.0s								
KIEV	Kiev	13.83	360		eP		Pn	19 44 56.5	-1.7
	comp=Z,7.0nm,1.0s								
AKASG	Malin Array Be	13.84	360		Pn		Pn	19 44 57.3	-1.0
	comp=Z,0.8nm,0.3s,baz=189,slow=13,SNR=9.7								
AKASG					Sn		Sn	19 47 34.6	+2.7
	comp=Z,0.4nm,0.3s,baz=177,slow=26,SNR=4.2								
AKASG	Malin Array Be	13.84	360		P		Pn	19 44 57.3	-1.0
AKASG								19 47 34.7	
AKASG					pmax		pmax		
	comp=Z,1.0nm,0.3s								
STHS	Stebnicka Huta	13.86	337	*i*	PG		Px	19 46 05.1	
VYHS	Vyhne	13.95	330		ePN		Pn	19 44 55.0	-4.8
VYHS					eSG			19 49 03.1	
MODS	Modra-Piesok	14.52	326		ePN		Pn	19 45 13.7	+6.1
MODS					eSG			19 49 21.7	
HSHL	Bi'r Shalatayn	14.67	157		P		Pn	19 45 08.2	-1.6
AADN	Adndan	14.81	172		P		Pn	19 45 10.0	-1.7
CONA	Conrad Observa	14.86	322	⇓	*i* P		Pn	19 45 19.8	+7.5
	comp=Z,3.7nm,1.0s								
OJC	Ojcow	15.02	336		eP		Pn	19 45 11.5	-3.0
MAK	Makhachkala	15.20	61		eP		Pn	19 45 17.4	+0.6
MAK					eS		Sn	19 48 11.1	+6.0
MAK					pmax		pmax		
	comp=Z,157nm,0.9s								
MAK					MLR		MLR		
	comp=Z,289nm,14.0s								
MAK	Makhachkala	15.20	61		eP		Pn	19 45 17.4	+0.6
	comp=Z,157nm,0.9s								
OKC	Ostrava-Krasne	15.29	332		eP		Pn	19 45 24.2	+6.2
OKC					AMS		AMS	19 52 30.0	
	comp=Z,800nm,9.3s								
VRAC	Vranov	15.52	327		Pn		Pn	19 45 23.6	+2.7
	comp=Z,0.2nm,0.3s,baz=134,slow=7.8,SNR=7.2								
VRAC					LR		LR	19 51 27.2	
	comp=Z,359nm,20.5s,baz=142,slow=38								
TREC	Trest	16.00	325		AMS		AMS	19 52 20.0	
	comp=Z,900nm,11.8s								
KEST	Kesra	16.17	272		Pn		Pn	19 45 31.2	+1.7
	comp=Z,0.1nm,0.3s,baz=56,slow=2.5,SNR=4.8								
DPC	Dobruska-Polom	16.42	329		eP		Pn	19 45 36.4	+3.8
DPC					AMS		AMS	19 53 10.0	
	comp=Z,800nm,9.1s								
RST	Umm Al-Ruwaisa	16.48	111		eP		Pn	19 45 34.6	+1.0
	baz=111								
RST					AMb		AMB	19 45 39.6	
	comp=Z,46nm,0.9s,baz=111								
GEC2	GERESS Array S	16.55	321		eP		Pn	19 45 38.2	+4.0
GEC2					pmax		pmax		
	comp=Z,13nm,1.2s								
GEC2	GERESS Array S	16.55	321		eP		Pn	19 45 38.2	+4.0
	comp=Z,13nm,1.2s								
GERES	GERESS Array B	16.55	321		Pn		Pn	19 45 36.0	+1.7
	comp=Z,0.2nm,0.3s,baz=129,slow=10,SNR=23								
GERES					LR		LR	19 52 31.2	
	comp=Z,426nm,19.5s,baz=130,slow=39								
MIB	Mutribah	16.59	110		eP		Pn	19 45 36.4	+1.4
	baz=110								
MIB					AMb		AMB	19 45 40.8	
	comp=Z,72nm,0.9s,baz=110								
PGF	Pioggiola	16.64	296		eP		Pn	19 45 35.2	-0.3
	comp=Z,89nm,1.4s								
PGF	Pioggiola	16.64	296		eP		Pn	19 45 35.2	-0.3
PGF					pmax		pmax		
	comp=Z,44nm,1.4s								
PGF	Pioggiola	16.64	296		eP		Pn	19 45 35.2	-0.3
	comp=Z,44nm,1.4s								
UPC	Upice	16.67	329		eP		Pn	19 45 39.8	+4.0
KHC	Kasperske Hory	16.80	322		eP		Pn	19 45 41.0	+3.6
KHC					AMS		AMS	19 52 40.0	
	comp=Z,1μm,11.0s								
NAY	Al-Naaiem	16.80	112		eP		Pn	19 45 38.8	+1.3
	baz=112								
NAY					AMb		AMB	19 45 43.3	
	comp=Z,28nm,0.9s,baz=112								
PRU	Pruhonice	16.92	325		eP		Pn	19 45 42.8	+3.8
PRU					AMS		AMS	19 52 40.0	
	comp=Z,900nm,11.3s								
UMR	Umm Al-Rimmam	17.00	110		eP		Pn	19 45 41.2	+1.1
	baz=110								
UMR					AMb		AMB	19 45 44.7	
	comp=Z,74nm,0.8s,baz=110								
MOTA	Moosalm	17.08	314	⇓	*i* P		Pn	19 45 44.9	+4.0
	comp=Z,14nm,1.1s								
FETA	Feichten	17.13	312	⇓	*i* P		Pn	19 45 44.9	+3.2
	comp=Z,15nm,1.0s								
WET	Wettzell	17.15	321		eP		Pn	19 45 44.3	+2.4
WET					pmax		pmax		
	comp=Z,31nm,1.5s								
WET	Wettzell	17.15	321		eP		Pn	19 45 44.3	+2.4
	comp=Z,31nm,1.5s								
RDF	Al-Radifah	17.20	112		eP		Pn	19 45 43.1	+0.6
	baz=112								
RDF					AMb		AMB	19 45 47.9	
	comp=Z,70nm,0.8s,baz=112								
PVCC	Panska Ves	17.30	327		eP		Pn	19 45 46.8	+3.1
PVCC					AMS		AMS	19 53 50.0	
	comp=Z,800nm,13.0s								
DAVOX	Davos/Dischmat	17.53	310		P		Pn	19 45 48.9	+2.3
	comp=Z,0.1nm,0.3s,baz=122,slow=14,SNR=3.3								
DAVOX					LR		LR	19 52 53.3	
	comp=Z,547nm,18.5s,baz=113,slow=38								
DAVOS	Davos	17.61	311		P		Pn	19 45 48.9	+1.3
SUW	Suwalki	17.68	348		eP		Pn	19 45 49.0	+0.6
DAVA	Damuels	17.77	312	⇓	*i* Pn		Pn	19 45 50.8	+1.2
	comp=Z,9.0nm,0.8s								
BRG	Berggiesshubel	17.82	327		eP		Pn	19 45 51.2	+1.0
BRG					pmax		pmax		
	comp=Z,1.0nm,1.2s								
BRG					MLR		MLR		
	comp=Z,6μm,12.2s								
BRG					MLR		MLR		
	comp=N,656nm,10.2s								
BRG					MLR		MLR		
	comp=E,398nm,10.2s								
BRG	Berggiesshubel	17.82	327		eP		Pn	19 45 51.2	+1.0
	comp=E,10nm,1.2s								
BRG									
	comp=Z,1μm,12.2s								
BRG									
	comp=N,665nm,10.2s								
BRG									
	comp=E,439nm,10.2s								
ROTZ	Rotzenmuhle	17.89	322		eP		Pn	19 45 53.4	+2.4
	comp=Z,17nm,1.3s								
NKC	Novy Kostel	18.07	323		eP		Pn	19 45 48.9	-4.4
NKC					AMS		AMS	19 53 30.0	
	comp=Z,600nm,10.3s								
SBF	Sospel	18.08	300		eP		Pn	19 45 53.4	0.0
	comp=Z,60nm,1.0s								
SBF	Sospel	18.08	300		eP		Pn	19 45 53.4	0.0
SBF					pmax		pmax		
	comp=Z,30nm,1.0s								
SBF	Sospel	18.08	300		eP		Pn	19 45 53.4	0.0
	comp=Z,30nm,1.0s								
MANZ	Manzenberg	18.08	322		eP		Pn	19 45 55.7	+2.3
	comp=Z,12nm,1.1s								
WERD	Werda	18.28	323		eP		Pn	19 45 58.0	+2.1
	comp=Z,7.0nm,1.0s								
GRA1	Grafenberg Arr	18.34	320		eP		Pn	19 45 57.8	+1.2
	comp=Z,18nm,1.4s								
GRA1					eS		Sn	19 49 14.3	-7.0
GRF	Grafenberg Arr	18.34	320		eP		Pn	19 45 57.8	+1.2
GRF					eS		Sn	19 49 14.3	-7.0
GRF					pmax		pmax		
	comp=Z,18nm,1.4s								
GRF					MLR		MLR		
	comp=Z,400nm,19.7s								
GRF	Grafenberg Arr	18.34	320		eP		Pn	19 45 57.8	+1.2
	comp=Z,18nm,1.4s								
GRF					eS		Sn	19 49 14.3	-7.0
GRF					eL			19 53 26.6	
	comp=Z,406nm,19.7s								
GRF	Grafenberg Arr	18.34	320		eP		Pn	19 45 57.8	+1.2
	comp=Z,18nm,1.4s								
GRF					eS		Sn	19 49 14.3	-7.0
CLL	Collm	18.55	326		eP		Pn	19 45 59.0	-0.1
CLL					eS		Sn	19 49 21.0	-5.3
CLL					pmax		pmax		
	comp=Z,10.0nm,1.5s								
CLL	Collm	18.55	326		eP		Pn	19 45 59.0	-0.1
	comp=Z,10.0nm,1.5s								
CLL					eS		Sn	19 49 26.0	-0.3
CLL	Collm	18.55	326		eP		Pn	19 45 59.0	-0.1
	comp=Z,10.0nm,1.5s								
CLL					eS		Sn	19 49 21.0	-5.3
FRF	La Foret Royal	18.56	298		eP		Pn	19 45 59.3	0.0
	comp=Z,49nm,1.2s								
FRF	La Foret Royal	18.56	298		eP		Pn	19 45 59.3	0.0
FRF					pmax		pmax		
	comp=Z,24nm,1.2s								
FRF	La Foret Royal	18.56	298		eP		Pn	19 45 59.3	0.0
	comp=Z,24nm,1.2s								
MOX	Moxa	18.75	323		eP		Pn	19 46 03.4	+1.9
	comp=Z,25nm,1.4s								
MOX									
	comp=Z,500nm,20.0s								
MOX	Moxa	18.75	323		eP		Pn	19 46 03.4	+1.9
MOX					pmax		pmax		
	comp=Z,2.0nm,1.4s								
MOX					MLR		MLR		
	comp=Z,25μm,20.0s								
MOX	Moxa	18.75	323		eP		Pn	19 46 03.0	+1.5
	comp=Z,21nm,1.3s								
MBDF	Montbardon	18.77	302		eP		Pn	19 46 00.5	-1.4
	comp=Z,43nm,0.9s								
MBDF	Montbardon	18.77	302		eP		Pn	19 46 00.5	-1.4
MBDF					pmax		pmax		
	comp=Z,22nm,0.9s								
MBDF	Montbardon	18.77	302		eP		Pn	19 46 00.5	-1.4
	comp=Z,22nm,0.9s								
OBN	Obninsk	18.91	13	⇑	eP		Pn	19 46 04.8	+1.3
OBN					eS		Sn	19 49 32.6	-2.4
OBN					pmax		pmax		
	comp=Z,56nm,1.8s								
OBN					MLR		MLR		
	comp=Z,400nm,19.0s								
OBN	Obninsk	18.91	13		eP		Pn	19 46 04.8	+1.3
	comp=Z,56nm,1.8s								
STU	Stuttgart	18.91	315		eP		Pn	19 46 04.2	+0.6
	comp=Z,18nm,0.8s								
LPG	La Plagne	19.03	304		eP		Pn	19 46 05.0	+0.1
	comp=Z,57nm,0.9s								
LPG	La Plagne	19.03	304		eP		Pn	19 46 05.0	+0.1
LPG					pmax		pmax		
	comp=Z,29nm,0.9s								
LPG	La Plagne	19.03	304		eP		Pn	19 46 05.0	+0.1
	comp=Z,28nm,0.9s								
LPL	La Plagne	19.05	304		eP		Pn	19 46 05.1	-0.1
	comp=Z,18nm,0.8s								
LPL	La Plagne	19.05	304		eP		Pn	19 46 05.1	-0.1
LPL					pmax		pmax		
	comp=Z,9.0nm,0.8s								
LPL	La Plagne	19.05	304		eP		Pn	19 46 05.1	-0.1
	comp=Z,8.9nm,0.8s								
BFO	Black Forest	19.19	313		eP		Pn	19 46 07.2	+0.3
BFO					pmax		pmax		
	comp=Z,18nm,1.2s								
BFO	Black Forest	19.19	313		eP		Pn	19 46 07.2	+0.3
	comp=Z,18nm,1.2s								
SMRF	Simiane la Rot	19.41	299		eP		Pn	19 46 08.1	-1.4
	comp=Z,34nm,1.3s								
SMRF	Simiane la Rot	19.41	299		eP		Pn	19 46 08.1	-1.4
	comp=Z,17nm,1.3s								
ORIF	Oris-en-Rattie	19.44	302		eP		Pn	19 46 08.2	-1.7
	comp=Z,43nm,1.1s								
ORIF					eMLR		MLR		
	comp=Z,394nm,20.2s								
ORIF	Oris-en-Rattie	19.44	302		eP		Pn	19 46 08.2	-1.7
ORIF					pmax		pmax		
	comp=Z,21nm,1.1s								
ORIF	Oris-en-Rattie	19.44	302		eP		Pn	19 46 08.2	-1.7
	comp=Z,22nm,1.1s								
MOS	Moscow	19.70	14		eP		Pn	19 46 10.7	-2.2
MOS					pmax		pmax		
	comp=Z,65nm,1.4s								
MOS	Moscow	19.70	14		eP		Pn	19 46 10.7	-2.2
	comp=Z,65nm,1.4s								
HINF	Hinteralfeld	19.84	311		eP		Pn	19 46 13.5	-1.1
CABF	La Chapelle	19.84	307		eP		Pn	19 46 12.9	-1.8
	comp=Z,57nm,1.0s								
CABF	La Chapelle	19.84	307		eP		Pn	19 46 12.9	-1.8
CABF					pmax		pmax		
	comp=Z,29nm,1.0s								
CABF	La Chapelle	19.84	307		eP		Pn	19 46 12.9	-1.8
	comp=Z,29nm,1.0s								
CDF	Champ du Feu	19.85	312		eP		Pn	19 46 13.7	-1.0
	comp=Z,30nm,1.0s								
CDF	Champ du Feu	19.85	312		eP		Pn	19 46 13.7	-1.0
CDF					pmax		pmax		
	comp=Z,15nm,1.0s								
CDF	Champ du Feu	19.85	312		eP		Pn	19 46 13.7	-1.0
	comp=Z,15nm,1.0s								
TNS	Taunus Mts	20.11	318		eP		P	19 46 18.4	+2.4
TNS					pmax		pmax		
	comp=Z,54nm,1.7s								
TNS	Taunus Mts	20.11	318		eP		P	19 46 18.4	+2.4
	comp=Z,54nm,1.7s								
CLZ	Clausthal	20.12	324		eP		P	19 46 16.8	+0.7
CLZ					pmax		pmax		
	comp=Z,15nm,1.3s								
CLZ	Clausthal	20.12	324		eP		P	19 46 16.8	+0.7
	comp=Z,15nm,1.3s								
HAU	Haudompre	20.23	311		eP		P	19 46 16.6	-0.7
	comp=Z,26nm,1.0s								
HAU					eMLR		MLR		
	comp=Z,734nm,17.2s,MS3.8								
HAU	Haudompre

GIVF	**Givet**	**22.05**	**315**	*e*P		**P**	**19 46 37.2**	**+0.2**
	comp=Z,40nm,0.9s,mb4.5							
GIVF	**Givet**	**22.05**	**315**	*e*P		**P**	**19 46 37.2**	**+0.2**
GIVF				pmax		pmax		
	comp=Z,20nm,0.9s,mb4.5							
GIVF	**Givet**	**22.05**	**315**	*e*P		**P**	**19 46 37.2**	**+0.2**
	comp=Z,20nm,0.9s,mb4.5							
DOU	**Dourbes**	**22.18**	**314**	P		**P**	**19 46 39.3**	**+0.9**
TCF	**Toulx Ste Croi**	**22.29**	**303**	*e*P		**P**	**19 46 39.1**	**-0.4**
	comp=Z,18nm,1.1s,mb4.1							
TCF	**Toulx Ste Croi**	**22.29**	**303**	*e*P		**P**	**19 46 39.1**	**-0.4**
TCF				pmax		pmax		
	comp=Z,9.0nm,1.1s,mb4.1							
TCF	**Toulx Ste Croi**	**22.29**	**303**	*e*P		**P**	**19 46 39.1**	**-0.4**
	comp=Z,9.2nm,1.1s,mb4.1							
BAIF	**Baives**	**22.39**	**314**	*e*P		**P**	**19 46 39.8**	**-0.7**
	comp=Z,33nm,1.0s,mb4.4							
BAIF	**Baives**	**22.39**	**314**	*e*P		**P**	**19 46 39.8**	**-0.7**
BAIF				pmax		pmax		
	comp=Z,17nm,1.0s,mb4.4							
BAIF	**Baives**	**22.39**	**314**	*e*P		**P**	**19 46 39.8**	**-0.7**
	comp=Z,17nm,1.0s,mb4.4							
MFF	**Saint Martin d**	**23.95**	**303**	*e*P		**P**	**19 46 55.0**	**-1.4**
AKTK	**Aktyubinsk**	**24.60**	**47**	P		**P**	**19 47 01.4**	**-1.0**
	comp=Z,270nm,19.1s							
AKTK	**Aktyubinsk**	**24.60**	**47**	P		**P**	**19 47 01.4**	**-1.0**
AKTK				LR		LR	20 00 01.5	
AKTO	**Aktyubinsk**	**24.60**	**47**	P		**P**	**19 47 01.4**	**-1.0**
	comp=Z,6.5nm,0.7s,mb4.3,baz=248,slow=8.5,SNR=20							
AKTO				LR		LR	20 00 01.5	
	comp=Z,270nm,19.1s,MS3.8,baz=93,slow=45							
AKTO	**Aktyubinsk**	**24.60**	**47**	P		**P**	**19 47 01.4**	**-1.0**
AKTO				pmax		pmax		
	comp=Z,7.0nm,0.7s,mb4.3							
AKTO				MLR		MLR		
	comp=Z,270nm,19.1s,MS3.8							
KLMR	**Klimovskoe**	**24.87**	**12**	*e*P		**P**	**19 47 05.1**	**+0.4**
KLMR				pmax		pmax		
	comp=Z,12nm,0.9s,mb4.4							
KLMR	**Klimovskoe**	**24.87**	**12**	*e*P		**P**	**19 47 05.1**	**+0.4**
	comp=Z,12nm,0.9s,mb4.4							
GRR	**Gorron**	**24.87**	**307**	*e*P		**P**	**19 47 03.3**	**-1.6**
HFS	**Hagfors**	**25.36**	**342**	P		**P**	**19 47 09.0**	**-0.1**
	comp=Z,19nm,0.9s,mb4.6,baz=158,slow=9.6,SNR=9.9							
HFS				LR		LR	19 58 06.8	
	comp=Z,597nm,19.7s,MS4.1,baz=152,slow=39							
HFS	**Hagfors**	**25.36**	**342**	P		**P**	**19 47 09.0**	**-0.2**
HFS				pmax		pmax		
	comp=Z,19nm,1.0s							
HFS				MLR		MLR		
	comp=Z,597nm,19.7s							
HFS	**Hagfors**	**25.36**	**342**	P		**P**	**19 47 09.0**	**-0.2**
	comp=Z,597nm,19.7s							
ESDC	**Sonseca Array**	**26.22**	**286**	P		**P**	**19 47 16.3**	**-1.0**
	comp=Z,5.9nm,0.8s,mb4.1,baz=78,slow=10,SNR=12							
ESDC				LR		LR	19 57 36.6	
	comp=Z,99nm,18.5s,MS3.4,baz=45,slow=36							
ESLA	**Sonseca Array**	**26.22**	**286**	*e*P		**P**	**19 47 15.9**	**-1.3**
	comp=Z,3.1nm,1.0s,mb4.8							
NB2	**NORSAR Subarra**	**26.78**	**340**	P		**P**	**19 47 20.9**	**-1.1**
	comp=Z,4.1nm,0.8s,mb4.0,baz=144,slow=9.3							
NOA	**NORSAR Array B**	**26.78**	**340**	P		**P**	**19 47 21.2**	**-0.8**
	comp=Z,3.1nm,0.8s,mb3.9,baz=142,slow=9.3,SNR=8.9							
NOA	**NORSAR Array B**	**26.78**	**340**	P		**P**	**19 47 21.3**	**-0.7**
NOA				pmax		pmax		
	comp=Z,3.0nm,0.9s							
ARU	**Arti**	**27.68**	**36***c*	*i*P		**P**	**19 47 31.3**	**+1.1**
ARU				*e*			19 48 15.3	
ARU				*e*S		**S**	**19 52 12.8**	**+0.8**
ARU				*e*SS			19 53 24.6	
ARU				pmax		pmax		
	comp=Z,10.0nm,2.5s,mb4.0							
ARU				MLR		MLR		
	comp=Z,251nm,20.0s,MS3.8							
ARU	**Arti**	**27.68**	**36**	*i* P		**P**	**19 47 31.3**	**+1.1**
	comp=Z,10.0nm,2.5s,mb4.0							
KK31	**Karatay Array**	**31.91**	**66**	*i* P		**P**	**19 48 06.7**	**-1.1**
KK31				pmax		pmax		
	comp=Z,3.0nm,0.7s,mb4.2							
KK31	**Karatay Array**	**31.91**	**66**	*i* P		**P**	**19 48 06.7**	**-1.1**
	comp=Z,3.0nm,0.7s,mb4.2							
BVAR	**Borovoye Array**	**32.71**	**47**	P		**P**	**19 48 14.6**	**-0.1**
	comp=Z,0.7nm,0.7s,mb3.7,baz=246,slow=8.6,SNR=6.7							
BVAR				LR		LR	20 04 44.9	
	comp=Z,394nm,20.3s,MS4.1,baz=263,slow=42							
BVAR	**Borovoye Array**	**32.71**	**47**	P		**P**	**19 48 14.6**	**-0.1**
BVAR				pmax		pmax		
	comp=Z,1.0nm,0.7s							
BVAR				MLR		MLR		
	comp=Z,394nm,20.3s							
ARCES	**ARCESS Array B**	**32.80**	**358**	P		**P**	**19 48 15.5**	**+0.2**
	comp=Z,7.5nm,0.9s,mb4.6,baz=167,slow=11,SNR=9.5							
ARCES	**ARCESS Array B**	**32.80**	**358**	P		**P**	**19 48 15.5**	**+0.2**
ARCES				pmax		pmax		
	comp=Z,8.0nm,0.9s							
TOA0	**Torodi Ar. Sit**	**34.21**	**234**	*e*P		**P**	**19 48 27.4**	**-0.7**
TOA0	**Torodi Ar. Sit**	**34.21**	**234**	*e*P		**P**	**19 48 27.4**	**-0.7**
TORD	**Torodi Ar. Bea**	**34.21**	**234**	P		**P**	**19 48 30.1**	**+2.0**
	comp=Z,227nm,0.4s,baz=31,slow=8.9,SNR=2.3							
KURK	**Kurchatov**	**37.46**	**52**	P		**P**	**19 48 54.7**	**-1.0**
	comp=Z,2.3nm,0.4s,mb4.3,baz=276,slow=9.0,SNR=14							
KURK				PP		PP	19 50 21.6	+0.6
	comp=Z,1.6nm,0.4s,baz=268,slow=14,SNR=8.3							
KURK				LR		LR	20 06 08.8	
	comp=Z,76nm,20.2s,MS3.5,baz=255,slow=39							
KURK	**Kurchatov**	**37.46**	**52**	P		**P**	**19 48 54.7**	**-1.0**
KURK							19 50 21.6	
KURK				pmax		pmax		
	comp=Z,2.0nm,0.4s,mb4.3							
KURK				pmax		pmax		
	comp=Z,2.0nm,0.4s,mb4.3							
KURK				MLR		MLR		
	comp=Z,76nm,20.2s,MS3.5							
KURK	**Kurchatov**	**37.46**	**52**	P		**P**	**19 48 54.7**	**-1.0**
KURK				PP		PP	19 50 21.6	+0.6
KURK				LR		LR	20 06 08.8	
KMBO	**Kilima Mbogo**	**38.50**	**167**	LR		LR	20 07 40.6	
	comp=Z,75nm,19.0s,MS3.5,baz=64,slow=40							
KMBO	**Kilima Mbogo**	**38.50**	**167**	*i* P		**P**	**19 49 02.0**	**-2.7**
KMBO				pmax		pmax		
	comp=Z,1.0nm,0.3s							
KMBO	**Kilima Mbogo**	**38.50**	**167**	*i* P		**P**	**19 49 02.0**	**-2.7**
	comp=Z,1.0nm,0.3s,mb4.0							
MK31	**Makanchi Array**	**40.00**	**59**	*i* P		**P**	**19 49 15.5**	**-1.5**
MK31				pmax		pmax		
	comp=Z,5.0nm,0.7s,mb4.3							
MK31	**Makanchi Array**	**40.00**	**59**	*i* P		**P**	**19 49 15.5**	**-1.5**
	comp=Z,5.0nm,0.7s,mb4.3							
MKAR	**Makanchi Array**	**40.00**	**59**	P		**P**	**19 49 16.3**	**-0.7**
	comp=Z,5.2nm,0.7s,mb4.4,baz=281,slow=6.1,SNR=56							
MKAR				LR		LR	20 09 06.9	
	comp=Z,96nm,20.7s,MS3.6,baz=91,slow=41							
MKAR	**Makanchi Array**	**40.00**	**59**	P		**P**	**19 49 16.3**	**-0.7**
MKAR				pmax		pmax		
	comp=Z,5.0nm,0.7s							
MKAR				MLR		MLR		
	comp=Z,96nm,20.7s							
MKAR	**Makanchi Array**	**40.00**	**59**	P		**P**	**19 49 16.3**	**-0.7**
MKAR				LR		LR	20 09 06.9	
ZALV	**Zalesovo Beam**	**41.37**	**47**	P		**P**	**19 49 26.7**	**-1.5**
	comp=Z,1.2nm,0.5s,mb3.8,baz=266,slow=8.9,SNR=6.7							
ZALV				LR		LR	20 09 48.8	
	comp=Z,126nm,21.9s,MS3.7,baz=266,slow=41							
ZALV	**Zalesovo Beam**	**41.37**	**47**	P		**P**	**19 49 26.7**	**-1.5**
ZALV				pmax		pmax		
	comp=Z,1.0nm,0.5s,mb3.7							
ZALV				MLR		MLR		
	comp=Z,126nm,21.9s,MS3.7							
DBIC	**Dimbokro**	**43.30**	**235**	P		**P**	**19 49 44.2**	**-0.1**
	comp=Z,2.5nm,0.7s,mb4.1,baz=19,slow=7.2,SNR=6.9							
DBIC	**Dimbokro**	**43.30**	**235**	P		**P**	**19 49 44.2**	**-0.2**
DBIC				pmax		pmax		
	comp=Z,3.0nm,0.7s							
DBIC	**Dimbokro**	**43.30**	**235**	P		**P**	**19 49 44.2**	**-0.1**
DANN	**Dangsing**	**46.09**	**84**	*e*P		**P**	**19 50 06.3**	**-0.2**
	comp=Z,84nm,0.7s							
KOLN	**Koldanda**	**46.21**	**85**	*e*P		**P**	**19 50 06.9**	**-0.6**
	comp=Z,23nm,0.6s,mb5.3							
GKN	**Gorkha**	**46.94**	**84**	*e*P		**P**	**19 50 12.1**	**-1.1**
	comp=Z,25nm,0.6s,mb5.3							
DMN	**Daman**	**47.48**	**84**	*e*P		**P**	**19 50 16.7**	**-0.7**
	comp=Z,42nm,0.7s,mb5.5							
KKN	**Kakani**	**47.54**	**84**	*e*P		**P**	**19 50 17.0**	**-0.9**
	comp=Z,16nm,0.6s,mb5.2							
KKN	**Kakani**	**47.54**	**84**	*e*P		**P**	**19 50 17.0**	**-0.9**
KKN				pmax		pmax		
	comp=Z,16nm,0.6s,mb5.2							
PKI	**Pulchoki**	**47.74**	**84**	*e*P		**P**	**19 50 18.3**	**-1.2**
	comp=Z,27nm,0.7s,mb5.4							
PKI	**Pulchoki**	**47.74**	**84**	*e*P		**P**	**19 50 18.3**	**-1.2**
PKI				pmax		pmax		
	comp=Z,27nm,0.7s,mb5.4							
GUN	**Gumba**	**47.97**	**84**	*e*P		**P**	**19 50 20.3**	**-0.9**
	comp=Z,18nm,0.6s,mb5.2							
JIRN	**Jiri**	**48.32**	**84**	*e*P		**P**	**19 50 23.2**	**-0.8**
	comp=Z,17nm,0.7s,mb5.2							
RAMN	**Ramite**	**48.96**	**84**	*e*P		**P**	**19 50 27.3**	**-1.6**
	comp=Z,33nm,0.8s,mb5.4							
ODAN	**Odare**	**49.63**	**84**	*e*P		**P**	**19 50 33.7**	**-0.3**
	comp=Z,7.2nm,0.5s,mb5.0							
TAPN	**Taplejung**	**49.67**	**83**	*e*P		**P**	**19 50 32.3**	**-2.0**
	comp=Z,14nm,0.8s,mb5.0							
LSZ	**Lusaka**	**51.87**	**181**	P		**P**	**19 50 51.7**	**+0.9**
	comp=Z,1.2nm,0.7s,mb3.9,baz=28,slow=4.9,SNR=4.8							
LSZ	**Lusaka**	**51.87**	**181**	P		**P**	**19 50 51.7**	**+0.9**
LSZ				pmax		pmax		
	comp=Z,1.0nm,0.7s,mb3.9							
SONM	**Songino Array**	**55.77**	**53**	LR		LR	20 18 24.7	
	comp=Z,224nm,21.3s,MS4.2,baz=242,slow=40							
CMAR	**Chiang Mai Arr**	**63.04**	**86**	P		**P**	**19 52 08.3**	**-1.4**
	comp=Z,1.8nm,0.8s,mb4.3,baz=298,slow=7.9,SNR=16							
CMAR	**Chiang Mai Arr**	**63.04**	**86**	P		**P**	**19 52 08.4**	**-1.4**
CMAR				pmax		pmax		
	comp=Z,2.0nm,0.8s							
BOSA	**Boshof**	**65.24**	**184**	LR		LR	20 22 22.3	
	comp=Z,71nm,18.5s,MS3.9,baz=238,slow=37							
KSRS	**Korea Array**	**74.54**	**55**	P		**P**	**19 53 19.8**	**-1.4**
	comp=Z,0.8nm,0.7s,mb3.8,baz=222,slow=34,SNR=4.1							
KSRS				LR		LR	20 30 14.5	
	comp=Z,66nm,18.6s,MS4.0,baz=220,slow=39							
KSRS	**Korea Array**	**74.54**	**55**	P		**P**	**19 53 19.8**	**-1.4**
KSRS				pmax		pmax		
	comp=Z,1.0nm,0.7s,mb3.9							
KSRS				MLR		MLR		
	comp=Z,66nm,18.6s,MS4.0							
YKA	**Yellowknife Ar**	**76.83**	**344**	P		**P**	**19 53 33.1**	**-0.8**
	comp=Z,3.4nm,0.8s,mb4.3,baz=28,slow=7.9,SNR=3.4							
YKA				LR		LR	20 28 17.2	
	comp=Z,36nm,20.6s,MS3.7,baz=60,slow=36							
YKA	**Yellowknife Ar**	**76.83**	**344**	P		**P**	**19 53 33.1**	**-0.7**
YKA				pmax		pmax		
	comp=Z,3.0nm,0.9s							
YKA				MLR		MLR		
	comp=Z,36nm,20.6s							
ASAJ	**Asahikawa**	**79.26**	**42**	LR		LR	20 34 17.1	
	comp=Z,139nm,18.9s,MS4.3,baz=318,slow=40							
PETK	**Petropavlovsk-**	**79.83**	**29**	LR		LR	20 33 44.2	
	comp=Z,121nm,19.3s,MS4.2,baz=220,slow=39							
ULM	**Lac du Bonnet**	**80.74**	**328**	LR		LR	20 27 07.6	
	comp=Z,103nm,18.7s,MS4.2,baz=48,slow=34							
PDAR	**Pinedale Array**	**92.35**	**331**	LR		LR	20 39 26.1	
	comp=Z,74nm,18.9s,MS4.2,baz=214,slow=38							

IDC 29 19:51:16.0±1.9, 2134S×11470W, h0km, mb3.8/1, mb1 4.0/1, mb1mx3.6/13, mbtmp3.8/1, MS3.7/4, Ms1 3.7/4, ms1mx3.2/27, Error ellipse: s-maj=135.3km s-min=42.8km az=12.0, Southern East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PLCA	**Paso Flores**	**41.97**	**128**	LR	LR	20 12 23.5	
	comp=Z,58nm,21.9s,baz=184,slow=30						
CMIG	**Matias Romero**	**42.85**	**28**	LR	LR	20 11 30.2	
	comp=Z,44nm,19.4s,baz=234,slow=28						
LPAZ	**La Paz**	**44.24**	**92**	P	P	19 59 28.2	+0.7
	1.2nm,0.8s,baz=265,slow=7.8,SNR=4.0						
USHA	**Ushuaia**	**48.09**	**146**	LR	LR	20 15 08.4	
	comp=Z,176nm,18.1s,baz=202,slow=30						
MAW	**Mawson**	**91.30**	**179**	LR	LR	20 41 19.5	
	comp=Z,55nm,19.0s,baz=148,slow=33						
ZALV	**Zalesovo Beam**	**144.22**	**340**	PKP	PKPdf	20 10 52.3	-1.3
	0.7nm,0.6s,baz=120,slow=2.1,SNR=4.2						
CMAR	**Chiang Mai Arr**	**148.27**	**271**	PKPbc	PKPbc	20 11 04.4	-0.5
	0.2nm,0.3s,baz=310,slow=0.4,SNR=4.9						
MKAR	**Makanchi Array**	**151.10**	**335**	PKPbc	PKPbc	20 11 10.6	-0.4
	0.5nm,0.6s,baz=35,slow=1.9,SNR=5.2						
MKAR				PKPab	PKPab	20 11 18.7	+0.1
	0.5nm,0.6s,baz=23,slow=2.6,SNR=3.9						

NEIC 29 19:58:29.0, 3488N×2029E, h10km, ML3.5(ATH), After ATH., Central Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RLS	**Riolos of Patr**	**3.31**	**16**	P	Pn	19 59 21.0	+0.2
IDI	**Anoyia**	**3.79**	**83**	P	Pn	19 59 29.6	+2.1
LAST	**Lasithi**	**4.27**	**85**	P	Pn	19 59 32.5	-1.5
NPS	**Neapolis**	**4.38**	**83**	P	Pn	19 59 35.5	-0.1
CEL	**Celeste**	**4.89**	**315**	P	Pn	19 59 42.8	+0.3

NEIC 29 20:03:33.5±6.0, 2382N×10949W, h10km, mb3.9/2, Error ellipse: s-maj=82.3km s-min=13.8km az=172.0
IDC 29 20:03:36.2±2.8, 2433N×10966W, h0km, mb1 4.1/3, mb1mx3.8/18, mbtmp3.6/3, ML3.8/2, Error ellipse: s-maj=55.2km s-min=9.4km az=146.0

ISC 29 20:03:34.2±4.5, 239N±04×1095W±01, h10km, n8, σ0§73/10, Baja California

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LPIG	**La Paz**	**0.76**	**286**	Pg	**Pg**	**20 03 48.8**	**-0.1**
	621nm,0.3s,baz=30,slow=1.3,SNR=401						
LPIG				Lg		20 03 57.0	
	2µm,0.3s,baz=230,slow=23,SNR=92						
TXAR	**Lajitas Array**	**7.53**	**43**	Pn	**Pn**	**20 05 24.0**	**-0.1**
	0.4nm,0.3s,baz=226,slow=14,SNR=14						
TXAR				Pg	**Pg**	**20 05 48.7**	**-10**
	0.2nm,0.3s,baz=230,slow=14,SNR=4.5						
TXAR				Sn	**Sn**	**20 06 49.7**	**+0.2**
	0.3nm,0.3s,baz=243,slow=30,SNR=4.1						
TXAR				Lg		20 07 27.5	
	0.2nm,0.3s,baz=222,slow=28,SNR=3.0						
NVAR	**Mina Array Bea**	**16.32**	**335**	Pn	**Pn**	**20 07 24.0**	**+0.7**
	0.3nm,0.3s,baz=168,slow=14,SNR=3.2						
DAU	**Daniels Canyon**	**16.54**	**355**	P	**Pn**	**20 07 25.2**	**-1.0**
HWUT	**Hardware Ranch**	**17.75**	**355**	*e*P	**Pn**	**20 07 41.3**	**0.0**
	10nm,1.1s						
PDAR	**Pinedale Array**	**18.83**	**360**	P	**Pn**	**20 07 53.1**	**-1.4**
	baz=170,slow=11,SNR=10						
RRI2	**Red Ridge**	**19.46**	**356**	P	**Pn**	**20 08 03.2**	**+1.0**
	7.4nm,1.2s						
MCMT	**McKenzie Canyo**	**21.06**	**353**	P	**P**	**20 08 18.9**	**+0.6**

ISCJB 29 20:04:53.6±0.5, 2542S×7003W±009, h33km, mb3.9/3, Error ellipse: s-maj=11.2km s-min=4.4km az=179.5
NEIC 29 20:04:54.5, 2539S×7047W, h55km, MG3.7(GUC), After GUC.
NEIC Felt [II] at Taltal.
GUC 29 20:04:54.5±1.1, 2539S×7047W, h55km±23km, ML3.7
IDC 29 20:04:56.9±3.3, 2533S×7064W, h51km±28km, mb3.6/3, mb1 3.9/5, mb1mx3.7/16, mbtmp3.7/5, ML3.6/2, Error ellipse: s-maj=35.8km s-min=27.6km az=81.0

ISC 29 20:04:55.0±0.5, 2540S±003×7030W±010, h35km, n18, σ1§35/22, mb3.9/3, 2C-1D, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CPN1	**Cerro Paranal**	**0.78**	**353**	⇑*i*P	**Pn**	**20 05 10.5**	**+0.9**
CPN1				*i* S	**Sn**	**20 05 21.9**	**+1.9**
CPN1				AML	AML	20 05 22.8	
	comp=N,8µm,0.2s						
ANCH	**Antofagasta**	**1.72**	**356**	*e*P	**Pn**	**20 05 22.0**	**-0.5**
ANCH				*i* S	**Sn**	**20 05 42.4**	**-0.8**
ANCH				AML	AML	20 05 43.3	
	comp=E,2µm,0.2s						
ANCH	**Antofagasta**	**1.72**	**356**	*e*P	**Pn**	**20 05 22.0**	**-0.5**
ANCH				S	**Sn**	**20 05 42.4**	**-0.8**
CPCH	**Copiapo**	**1.95**	**182**	⇑*i*P	**Pn**	**20 05 26.1**	**+0.4**
CPCH				*i* S	**Sn**	**20 05 49.2**	**+0.4**
CEN1	**Los Morros**	**2.01**	**3**	⇓*i*P	**Pn**	**20 05 24.5**	**-1.9**
CEN1				*i* S	**Sn**	**20 05 46.5**	**-3.8**
CEN1				AML	AML	20 06 01.8	
	comp=E,479nm,0.7s						
LVC	**Limon Verde**	**3.05**	**25**	*e*P	**Pn**	**20 05 45.2**	**+4.4**
LCO	**Las Campanas**	**3.61**	**186**	*e*P	**Pn**	**20 05 47.3**	**-1.2**
TLL	**Tololo Astrono**	**4.77**	**185**	*e*P	**Pn**	**20 06 04.0**	**-0.4**
CFAA	**Coronel Fontan**	**6.44**	**164**	P	**Pn**	**20 06 31.9**	**+4.6**
	comp=E,0.2nm,0.3s,baz=331,slow=9.5,SNR=13						
CFAA				S	**Sn**	**20 07 39.4**	**-0.2**
	comp=E,0.9nm,0.3s,baz=208,slow=22,SNR=6.6						
LPAZ	**La Paz**	**9.29**	**13**	P	**Pn**	**20 07 09.2**	**+2.6**
	comp=E,0.8nm,0.3s,baz=193,slow=5.9,SNR=23						
LPAZ	**La Paz**	**9.29**	**13**	*e*P	**Pn**	**20 07 08.8**	**+2.2**
	comp=E,4.5nm,0.6s						
SIV	**San Ignacio**	**12.73**	**44**	P	**Pn**	**20 07 52.9**	**-0.7**
	comp=E,0.2nm,0.3s,baz=251,slow=14,SNR=6.0						
SIV				S	**Sn**	**20 10 12.7**	**-1.4**
	comp=E,0.2nm,0.3s,baz=305,slow=22,SNR=3.6						
BDFB	**Brasilia**	**22.98**	**69**	P	**P**	**20 09 59.2**	**+2.4**
	comp=E,2.7nm,0.6s,mb3.9,baz=218,slow=17,SNR=5.4						
TXAR	**Lajitas Array**	**63.16**	**327**	P	**P**	**20 15 17.9**	**-1.6**
	comp=E,0.4nm,0.6s,mb3.8,baz=157,slow=8.1,SNR=5.6						
TORD	**Torodi Ar. Bea**	**79.86**	**70**	P	**P**	**20 17 02.3**	**+1.8**
	comp=E,1.0nm,0.5s,mb4.0,baz=260,slow=4.7,SNR=24						
ASAR	**Alice Springs**	**125.88**	**208**	PKP	PKPdf	20 23 52.7	-1.2
	comp=E,0.5nm,0.5s,baz=123,slow=1.7,SNR=12						
ZALV	**Zalesovo Beam**	**146.01**	**26**	PKPbc	PKPbc	20 24 30.6	-0.1
	comp=E,5.2nm,0.7s,baz=316,slow=4.1,SNR=28						
MKAR	**Makanchi Array**	**149.50**	**39**	PKPbc	PKPbc	20 24 40.7	+0.3
	comp=E,2.2nm,0.7s,baz=4.8,slow=1.5,SNR=18						

BJI 29 20:08:38.0, 260N×9601E, h16km, mB5.0, mb4.9, Ms4.2, Msz4.0
IDC 29 20:08:38.6±0.8, 273N×9592E, h0km, mb4.6/10, mb1 4.7/11, mb1mx4.4/19, mbtmp4.6/11, ML4.6/1, MS3.9/7, Ms1 3.9/7, ms1mx3.4/34, Error ellipse: s-maj=26.2km s-min=18.4km az=49.0
DJA 29 20:08:39, 255N×9541E, h20km, Mw5.2/6
ISCJB 29 20:08:40.4±1.5, 275N±004×9587E±005, h21km±11km, mb4.8/58, MS4.0/17, Error ellipse: s-maj=9.1km s-min=5.1km az=140.5
NEIC 29 20:08:40.7±5.7, 274N×9593E, h13km±34km, mb4.8/20, Error ellipse: s-maj=14.9km s-min=6.0km az=50.0
MOS 29 20:08:41.8±1.0, 278N×9601E, h33km, mb5.0/19, MS4.1/5, Error ellipse: s-maj=14.5km s-min=6.9km az=101.4

ISC 29 20:08:43.5±1.6, 277N±004×9587E±005, h29km±11km, h29km±2.6km: pP-P, n149, σ0§96/144, mb4.8/58, MS4.0/17, 22C-6D, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GSI	**Gunungsitoli**	**2.24**	**131**	P	**Pn**	**20 09 17.5**	**-1.1**
BSI	**Banda Aceh**	**2.77**	**348**	P	**Pn**	**20 09 24.9**	**-1.0**
BSI	**Banda Aceh**	**2.77**	**348**	S	**Sn**	**20 10 00.8**	**+2.4**
TSI	**Tuntungan**	**2.79**	**75**	*e*P	**Pn**	**20 09 30.0**	**+3.9**
TSI	**Tuntungan**	**2.79**	**75**	P	**Pn**	**20 09 27.6**	**+1.5**
TSI	**Tuntungan**	**2.79**	**75**	S	**Sn**	**20 10 11.5**	**+13**
IPM	**Ipoh**	**5.42**	**72**	⇑P	**Pn**	**20 10 02.7**	**+0.3**
PPI	**Padang Panjang**	**5.54**	**125**	P	**Pn**	**20 10 04.6**	**+0.5**
	115nm,1.4s,1µm0.3nm						
PPI	**Padang Panjang**	**5.54**	**125**	S	**Sn**	**20 11 07.8**	**+0.9**
	115nm,1.4s,1µm0.3nm						
FRIM	**Kepong**	**5.76**	**85**	⇑P	**Pn**	**20 10 07.7**	**+0.5**
PDSI	**Padang**	**5.87**	**128**	P	**Pn**	**20 10 07.6**	**-0.9**
	79nm,0.8s,2µm0.5nm						
SNG	**Songkhla**	**6.44**	**47**	P	**Pn**	**20 10 17.0**	**+0.6**
	400nm,1.0s						
KGM	**Kluang**	**7.48**	**96**	⇑P	**Pn**	**20 10 31.7**	**+1.0**
KTGM	**Kuala Trenggan**	**7.68**	**70**	⇑P	**Pn**	**20 10 33.6**	**+0.2**
MYKOM	**Kota Tinggi**	**8.03**	**97**	⇑P	**Pn**	**20 10 39.4**	**+1.1**
MYKOM	**Kota Tinggi**	**8.03**	**97**	P	**Pn**	**20 10 38.4**	**+0.1**
KSI	**Kapahiang**	**9.26**	**133**	P	**Pn**	**20 10 55.4**	**+0.2**
	170nm,0.7s,1µm						
TNG	**Tangerang**	**13.95**	**130**	P	**Pn**	**20 11 57.6**	**-1.8**
	696nm,0.5s,7µm						
KKTK	**Khon Kaen**	**15.12**	**26**	⇓P	**Pn**	**20 12 20.0**	**+4.9**
	556nm,0.6s						
STKI	**Sintang**	**15.83**	**100**	P	**Pn**	**20 12 24.5**	**+0.1**
	50nm,0.8s						
CMAR	**Chiang Mai Arr**	**15.88**	**11**	Pn	**Pn**	**20 12 24.5**	**-0.5**
	0.7nm,0.3s,baz=200,slow=11,SNR=29						
CMAR				Lg		20 17 05.1	
	baz=191,slow=31,SNR=4.4						
CHG	**Chiang Mai**	**16.23**	**10**	⇑P	**Pn**	**20 12 28.4**	**-1.1**
	20nm,0.9s						
CHTO	**Chiang Mai**	**16.23**	**10**	*e*P	**Pn**	**20 12 28.6**	**-0.9**
CHTO				p

SSE					AMB	AMB		
	comp=Z,53nm,8.3s							
SSE					LR	LR		
	comp=N,58nm,11.6s,MS4.1							
SSE					LR	LR		
	comp=E,173nm,11.6s,MS4.1							
SSE					LR	LR		
	comp=Z,166nm,13.4s,MS4.0							
KAKA	**Kakadu**	**39.44**	**114**	*eP*	**P**		**20 16 02.4**	**-9.0**
	comp=Z,7.9nm,0.7s,mb4.5							
KBL	**Kabul**	**40.28**	**325**	P	**P**		**20 16 19.7**	**+1.6**
KBL				pmax	pmax			
	comp=Z,3.0nm,0.7s,mb4.1							
KBL	**Kabul**	**40.28**	**325**	P	**P**		**20 16 19.7**	**+1.6**
	comp=Z,2.7nm,0.7s,mb4.1							
BJT	**Baijiatuau**	**41.39**	**24**	*e*P	**P**		**20 16 27.3**	**+0.1**
	comp=Z,103nm,0.8s,mb5.5							
BJI	**Beijing**	**41.41**	**24**	P	**P**		**20 16 28.0**	**+0.7**
BJI				AMB	AMB			
	comp=Z,127nm,0.8s,mb5.6							
BJI				LR	LR			
	comp=Z,87nm,21.1s,MS3.6							
WMQ	**Urumqi**	**41.52**	**351**	P	**P**		**20 16 28.5**	**+0.4**
KZA	**Kyzart**	**43.28**	**338**	P	**P**		**20 16 43.8**	**+1.3**
	SNR=6.6							
TKM2	**Tokmak 2**	**43.88**	**338**	*e*P	**P**		**20 16 48.2**	**+0.9**
TKM2				pmax	pmax			
	comp=Z,15nm,1.3s,mb4.6							
TKM2	**Tokmak 2**	**43.88**	**338**	P	**P**		**20 16 48.4**	**+1.1**
	SNR=7.4							
TKM2	**Tokmak 2**	**43.88**	**338**	*e*P	**P**		**20 16 48.2**	**+0.9**
	comp=Z,15nm,1.3s,mb4.5							
KBK	**Karagaybulak**	**43.89**	**338**	P	**P**		**20 16 48.7**	**+1.3**
	SNR=12							
AML	**Almayashu**	**43.94**	**336**	P	**P**		**20 16 49.3**	**+1.5**
	SNR=11							
AML	**Almayashu**	**43.94**	**336**	*e*P	**P**		**20 16 49.2**	**+1.4**
	comp=Z,17nm,1.1s,mb4.7							
WRAB	**Tennant Creek**	**44.00**	**123**	*e*P	**P**		**20 16 46.3**	**-2.3**
WRAB	**Tennant Creek**	**44.00**	**123**	P	**P**		**20 16 48.5**	**-0.1**
	comp=Z,15nm,1.1s,mb4.6							
WRAB	**Tennant Creek**	**44.00**	**123**	*e*P	**P**		**20 16 47.3**	**-1.3**
	comp=Z,13nm,1.1s,mb4.6							
EKS2	**Erkin-Say**	**44.35**	**337**	P	**P**		**20 16 52.5**	**+1.4**
	SNR=8.9							
EKS2	**Erkin-Say**	**44.35**	**337**	*e*P	**P**		**20 16 52.2**	**+1.1**
	comp=Z,8.9nm,1.0s,mb4.5							
USP	**Ospenovka**	**44.58**	**338**	P	**P**		**20 16 53.8**	**+0.8**
	SNR=16							
KSRS	**Korea Array**	**45.35**	**36**	P	**P**		**20 16 57.7**	**-1.5**
	comp=Z,4.4nm,0.8s,mb4.4,baz=230,slow=9.0,SNR=14							
ASAR	**Alice Springs**	**45.40**	**127**	P	**P**		**20 16 58.8**	**-1.0**
	comp=Z,2.4nm,1.0s,mb4.0,baz=303,slow=8.0,SNR=19							
MK31	**Makanchi Array**	**45.41**	**347**	*i* P	**P**		**20 16 59.2**	**-0.3**
MK31				pmax	pmax			
	comp=Z,22nm,0.8s,mb5.0							
MKAR	**Makanchi Array**	**45.41**	**347**	P	**P**		**20 16 59.5**	**0.0**
	comp=Z,18nm,0.8s,mb5.0,baz=160,slow=7.5,SNR=134							
MKAR				LR	LR		20 41 20.9	
	comp=Z,45nm,18.7s,MS3.4,baz=163,slow=43							
SONM	**Songino Array**	**45.80**	**10**	P	**P**		**20 17 03.0**	**+0.4**
	comp=Z,18nm,0.7s,mb5.1,baz=189,slow=8.5,SNR=34							
SONM				PcP	PcP		20 18 40.0	+0.2
	comp=Z,2.6nm,0.8s,baz=187,slow=5.8,SNR=3.3							
SONM				LR	LR		20 37 58.2	
	comp=Z,182nm,20.0s,MS4.0,baz=232,slow=38							
SONM	**Songino Array**	**45.80**	**10**	P	**P**		**20 17 03.0**	**+0.4**
SONM							20 18 40.0	
ULN	**Ulaanbaatar**	**45.95**	**10**	*e*P	**P**		**20 17 03.2**	**-0.5**
ULN				pmax	pmax			
	comp=Z,12nm,0.8s,mb4.9							
ULN	**Ulaanbaatar**	**45.95**	**10**	*e*P	**P**		**20 17 03.2**	**-0.5**
	comp=Z,12nm,0.8s,mb4.9							
KK31	**Karatay Array**	**46.07**	**334**	*i* P	**P**		**20 17 05.3**	**+0.5**
KK31				pmax	pmax			
	comp=Z,1.0nm,0.4s,mb4.1							
SNY	**Shenyang**	**46.15**	**29**	⇑P	**P**		**20 17 04.5**	**-0.9**
SNY				AMB	AMB			
	comp=Z,22nm,0.8s,mb5.1							
ZAK	**Zakamensk**	**47.85**	**6**	*e*P	**P**		**20 17 14.5**	**-4.1**
CN2	**Changchun**	**48.54**	**28**	*e*P	**P**		**20 17 23.3**	**-0.7**
CN2				AMB	AMB			
	comp=Z,10.0nm,0.6s,mb5.0							
TLY	**Talaya**	**49.17**	**6**	*e*P	**P**		**20 17 29.9**	**+1.2**
TLY				*e*			20 24 37.5	
TLY				MLR	MLR			
	comp=Z,96nm,18.0s,MS3.8							
GUMO	**Guam**	**49.58**	**75**	LR	LR		20 39 51.6	
	comp=Z,76nm,18.4s,MS3.7,baz=102,slow=38							
KURK	**Kurchatov**	**49.95**	**346**	*e*P	**P**		**20 17 34.9**	**+0.3**
KURK				pmax	pmax			
	comp=Z,17nm,1.0s,mb5.0							
KURK	**Kurchatov**	**49.95**	**346**	*e*P	**P**		**20 17 34.9**	**+0.2**
	comp=Z,17nm,1.0s,mb5.0							
HIA	**Hailar**	**50.61**	**20**	*c i*P	**P**		**20 17 39.1**	**-0.6**
HIA	**Hailar**	**50.61**	**20**	*e*P	**P**		**20 17 40.2**	**+0.5**
	comp=Z,11nm,1.0s,mb4.7							
MJAR	**Matsushiro Arr**	**51.46**	**44**	PcP	PcP		20 19 00.7	+0.2
	comp=Z,2.4nm,0.8s,baz=223,slow=2.0,SNR=7.1							
ZALV	**Zalesovo Beam**	**51.81**	**352**	P	**P**		**20 17 48.5**	**-0.1**
	comp=Z,17nm,0.6s,mb5.2,baz=181,slow=7.7,SNR=110							
ZALV	**Zalesovo Beam**	**51.81**	**352**	P	**P**		**20 17 48.5**	**-0.1**
NVS	**Novosibirsk**	**52.92**	**351**	*i* P	**P**		**20 17 55.4**	**-1.4**
NVS				pmax	pmax			
	comp=N,7.0nm,0.7s							
NVS				pmax	pmax			
	comp=E,3.0nm,0.7s							
NVS				pmax	pmax			
	comp=Z,7.0nm,0.7s,mb4.7							
NAY	**Al-Naaiem**	**53.11**	**305**	*e*P	**P**		**20 17 59.0**	**+0.3**
	baz=305							
NAY				AMb	AMB		20 18 10.0	
	comp=Z,9.0nm,0.8s,mb4.8,baz=305							
MIB	**Mutribah**	**53.23**	**306**	*e*P	**P**		**20 17 60.0**	**+0.4**
	baz=306							
MIB				AMb	AMB		20 18 08.6	
	comp=Z,32nm,0.8s,mb5.3,baz=306							
RST	**Umm Al-Ruwaisa**	**53.40**	**305**	*e*P	**P**		**20 18 00.5**	**-0.3**
	baz=305							
RST				AMb	AMB		20 18 11.2	
	comp=Z,9.0nm,1.4s,mb4.5,baz=305							
VOSK	**Vostochnaya**	**53.90**	**342**	P	**P**		**20 18 03.9**	**-0.1**
VOSK				pmax	pmax			
	comp=Z,18nm,1.3s,mb4.8							
BVA0	**Borovoye Array**	**54.34**	**341**	*i* P	**P**		**20 18 07.1**	**-0.2**
BVA0				pmax	pmax			
	comp=Z,1.0nm,0.8s,mb3.8							
CTA	**Charters Tower**	**54.39**	**117**	*e*P	**P**		**20 18 07.9**	**-0.3**
	comp=Z,6.1nm,0.9s,mb4.5							
CTA	**Charters Tower**	**54.39**	**117**	*e*P	**P**		**20 18 07.9**	**-0.3**
CTA				pmax	pmax			
	comp=Z,6.0nm,0.9s							
CTAO	**Charters Tower**	**54.39**	**117**	*e*P	**P**		**20 18 07.9**	**-0.3**
BRVK	**Borovoye**	**54.41**	**341**	*e*P	**P**		**20 18 07.2**	**-0.5**
BRVK				pmax	pmax			
	comp=Z,13nm,0.7s,mb5.0							
BRVK	**Borovoye**	**54.41**	**341**	*e*P	**P**		**20 18 07.2**	**-0.5**
	comp=Z,13nm,0.7s,mb5.0							
STKA	**Stephens Creek**	**55.39**	**132**	*e*P	**P**		**20 18 14.9**	**-0.3**
	comp=Z,4.7nm,0.9s,mb4.5							
STKA	**Stephens Creek**	**55.39**	**132**	LR	LR		20 41 44.3	
	comp=Z,177nm,18.7s,MS4.2,baz=24,slow=36							
KLR	**Kul'dur**	**55.47**	**28**	*e*P	**P**		**20 18 11.2**	**-4.3**
BOD	**Bodaibo**	**56.73**	**11**	*e*P	**P**		**20 18 23.9**	**-0.4**
BOD				pmax	pmax			
	comp=Z,9.0nm,1.0s,mb4.8							
AKTO	**Aktyubinsk**	**57.23**	**332**	P	**P**		**20 18 25.9**	**-2.1**
AKTO				pmax	pmax			
	comp=Z,2.0nm,1.1s,mb4.1							
KMBO	**Kilima Mbogo**	**58.73**	**267**	P	**P**		**20 18 39.5**	**+0.3**
	comp=Z,2.7nm,0.7s,mb4.4,baz=85,slow=10,SNR=4.5							
SVE	**Sverdlovsk**	**60.75**	**339**	*e*P	**P**		**20 18 45.3**	**-7.0**
SVE				pmax	pmax			
	comp=Z,20nm,0.8s,mb5.3							
ARU	**Arti**	**61.23**	**337**	*c i*P	**P**		**20 18 54.3**	**-1.3**
ARU				*e*			20 19 34.2	
ARU				*e*			20 21 06.6	
ARU				*e*S	**S**		**20 27 13.9**	**+0.4**
ARU				*e*SS	SS		20 31 13.7	-0.3
ARU				pmax	pmax			
	comp=Z,13nm,1.0s,mb5.0							
ARU	**Arti**	**61.23**	**337**	*e*P	**P**		**20 18 54.7**	**-0.9**
	comp=Z,13nm,1.0s,mb5.0							
YAK	**Yakutsk**	**64.30**	**17**	*e*P	**P**		**20 19 14.7**	**-1.3**
YAK				pmax	pmax			
	comp=Z,35nm,0.8s,mb5.4							
YAK				pmax	pmax			
	comp=E,15nm,1.6s							
YAK				pmax	pmax			
	comp=N,15nm,1.5s							
ANN	**Anapa**	**66.05**	**318**	*e*P	**P**		**20 19 29.1**	**+1.4**
ANN				pmax	pmax			
	comp=Z,50nm,1.3s,mb5.4							
OBN	**Obninsk**	**70.59**	**328**	⇑*e*P	**P**		**20 19 53.9**	**-2.0**
OBN				pmax	pmax			
	comp=Z,6.0nm,1.0s,mb4.5							
OBN				MLR	MLR			
	comp=Z,100nm,16.0s,MS4.2							
PET	**Petropavlovsk**	**71.69**	**34**	*e*P	**P**		**20 20 01.1**	**-1.4**
PET				*e*			20 29 19.6	
PET				MLR	MLR			
	comp=Z,100nm,21.0s,MS4.1							
KLMR	**Klimovskoe**	**71.77**	**335**	*e*P	**P**		**20 20 02.4**	**-0.5**
KLMR				pmax	pmax			
	comp=Z,18nm,1.5s,mb4.8							
TIXI	**Tiksi**	**71.89**	**10**	*e*P	**P**		**20 20 01.0**	**-2.4**
TIXI				pmax	pmax			
	comp=Z,14nm,0.9s,mb4.9							
TIXI				MLR	MLR			
	comp=Z,174nm,16.0s,MS4.4							
TIXI	**Tiksi**	**71.89**	**10**	*e*P	**P**		**20 20 01.9**	**-1.5**
	comp=Z,33nm,1.4s,mb5.1							
SEY	**Seymchan**	**72.85**	**24**	⇑*e*P	**P**		**20 20 09.1**	**-0.2**
AKASG	**Malin Array Be**	**73.21**	**322**	P	**P**		**20 20 10.9**	**-0.8**
	comp=Z,3.1nm,0.7s,mb4.3,baz=100,slow=4.5,SNR=8.2							
AKASG	**Malin Array Be**	**73.21**	**322**	*i* P	**P**		**20 20 10.8**	**-0.9**
AKASG				pmax	pmax			
	comp=Z,3.0nm,0.7s							
VRI	**Vrincioaia**	**73.57**	**317**	⇑*i*P	**P**		**20 20 14.9**	**+1.0**
PLOR	**Plostina**	**73.62**	**317**	⇓*i*P	**P**		**20 20 15.3**	**+1.1**
MLR	**Muntele Rosu**	**74.02**	**317**	⇓*i*P	**P**		**20 20 17.1**	**+0.5**
BOSA	**Boshof**	**74.42**	**239**	LR	LR		20 50 43.9	
	comp=Z,142nm,18.1s,MS4.3,baz=243,slow=34							
BURAR	**Bucovina Array**	**74.98**	**319**	⇑*i*P	**P**		**20 20 23.3**	**+1.2**
DRGR		**76.48**	**317**	⇑*i*P	**P**		**20 20 31.5**	**+0.8**
BILL	**Bilibino**	**80.18**	**21**	⇑*e*P	**P**		**20 20 47.7**	**-3.0**
BILL				*e*S	S		20 30 53.2	-0.3
BILL				*e*SS	SS		20 35 58.2	-6.2
BILL				pmax	pmax			
	comp=Z,9.0nm,1.6s,mb4.5							
BILL				MLR	MLR			
	comp=Z,100nm,17.0s,MS4.2							
ARCES	**ARCESS Array B**	**80.62**	**340**	P	**P**		**20 20 53.2**	**+0.2**
	comp=Z,5.2nm,0.8s,mb4.5,baz=98,slow=6.3,SNR=8.4							
ARCES				LR	LR		20 57 17.4	
	comp=Z,58nm,18.9s,MS4.0,baz=136,slow=36							
ARCES	**ARCESS Array B**	**80.62**	**340**	P	**P**		**20 20 53.2**	**+0.2**
ARCES				LR	LR		20 57 17.4	
SOKA	**Soboth**	**81.70**	**317**	⇑*i*P	**P**		**20 20 59.6**	**+0.3**
	comp=Z,4.2nm,1.0s,mb4.3							
GEC2	**GERESS Array S**	**82.77**	**319**	*e*P	**P**		**20 21 05.2**	**+0.4**
GERES	**GERESS Array B**	**82.77**	**319**	P	**P**		**20 21 05.3**	**+0.5**
	comp=Z,2.1nm,0.8s,mb4.2,baz=90,slow=5.3,SNR=16							
NOA	**NORSAR Array B**	**85.00**	**331**	LR	LR		21 03 22.3	
	comp=Z,40nm,20.2s,MS3.8,baz=5.0,slow=39							
LPG	**La Plagne**	**87.42**	**315**	*e*P	**P**		**20 21 28.4**	**+0.1**
	comp=Z,9.9nm,0.9s,mb4.7							
LPG	**La Plagne**	**87.42**	**315**	*e*P	**P**		**20 21 28.4**	**+0.1**
LPG				pmax	pmax			
	comp=Z,5.0nm,0.9s,mb4.7							
LPG	**La Plagne**	**87.42**	**315**	*e*P	**P**		**20 21 28.4**	**+0.1**
	comp=Z,4.9nm,0.9s,mb4.7							
LPL	**La Plagne**	**87.44**	**315**	*e*P	**P**		**20 21 28.4**	**+0.1**
	comp=Z,8.3nm,1.0s,mb4.6							
LPL	**La Plagne**	**87.44**	**315**	*e*P	**P**		**20 21 28.4**	**+0.1**
LPL				pmax	pmax			
	comp=Z,4.0nm,1.0s,mb4.6							
LPL	**La Plagne**	**87.44**	**315**	*e*P	**P**		**20 21 28.4**	**+0.1**
	comp=Z,4.2nm,1.0s,mb4.6							
BAIF	**Baives**	**88.97**	**320**	*e*P	**P**		**20 21 35.8**	**+0.3**
	comp=Z,15nm,1.0s,mb5.0							
BAIF	**Baives**	**88.97**	**320**	*e*P	**P**		**20 21 35.8**	**+0.3**
BAIF				pmax	pmax			
	comp=Z,8.0nm,1.0s,mb5.0							
BAIF	**Baives**	**88.97**	**320**	*e*P	**P**		**20 21 35.8**	**+0.3**
	comp=Z,7.7nm,1.0s,mb5.0							
LOR	**Lormes**	**89.35**	**317**	*e*P	**P**		**20 21 37.1**	**-0.2**
BGF	**Bois d'Agland**	**90.09**	**316**	*e*P	**P**		**20 21 41.3**	**+0.5**
	comp=Z,16nm,1.0s,mb5.0							
BGF	**Bois d'Agland**	**90.09**	**316**	*e*P	**P**		**20 21 41.3**	**+0.5**
BGF				pmax	pmax			
	comp=Z,8.0nm,1.0s,mb5.0							
BGF	**Bois d'Agland**	**90.09**	**316**	*e*P	**P**		**20 21 41.3**	**+0.5**
	comp=Z,7.8nm,1.0s,mb5.0							
SNAA	**Sanae**	**95.36**	**198**	⇑*e*P	**P**		**20 21 55.7**	**-8.9**
RES	**Resolute Bay**	**102.39**	**3**	*e*P	Pdif		20 22 36.7	+0.3
RES				pmax	pmax			
	comp=Z,325nm,1.3s							
RES	**Resolute Bay**	**102.39**	**3**	*e*P	Pdif		20 22 36.7	+0.3
	comp=Z,325nm,1.3s							
NVAR	**Mina Array Bea**	**128.27**	**34**	PKP	PKPdf		20 27 49.3	+1.7
	comp=Z,0.7nm,0.7s,baz=234,slow=4.1,SNR=4.8							
TXAR	**Lajitas Array**	**142.99**	**29**	PKP	PKPdf		20 28 12.7	-2.5
	comp=Z,0.2nm,0.4s,baz=168,slow=1.8,SNR=2.7							

IDC ***29*** *20:20:51.8±2.5,3282S×178.12W,h0km,mb4.5/3, mb1 4.5/4,mb1mx4.1/14,mbtmp4.5/4,ML4.0/1,Error ellipse: s-maj=56.8km s-min=34.0km az=125.0*
NEIC ***29*** *20:20:52.3±4.1,3286S×177.64W,h28km±30km,mb4.7/3, Error ellipse: s-maj=38.6km s-min=14.2km az=110.0*
ISCJB ***29*** *20:21:05.8±1.0,3257S±009×1798W±02,h33km,mb4.5/5, Error ellipse: s-maj=20.9km s-min=13.2km az=1.0*

ISC 29 20:21:07.4±1.0,3251S±009×1797W±02,h35km, (h38km±3km:pP-P),n14,∘0∘88/14,mb4.5/5,South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
RAO	**Raoul Island**	**3.58**	**25**	*e*P	**Pn**		**20 21 46.2**	**-14**
URZ	**Urewera**	**6.32**	**204**	Pn	**Pn**		**20 22 31.2**	**-6.8**
	2.7nm,0.3s,baz=135,slow=15,SNR=13							
URZ				Sn	**Sn**		**20 23 48.8**	**0.0**
	9.7nm,0.3s,baz=194,slow=22,SNR=12							
STKA	**Stephens Creek**	**32.68**	**260**	P	**P**		**20 27 37.5**	**+1.2**
	3.1nm,1.0s,mb4.2,baz=120,slow=8.1,SNR=3.5							
CTA	**Charters Tower**	**32.83**	**284**	*e*P	**P**		**20 27 39.0**	**+1.2**
	5.6nm,0.5s,mb4.8							
CTA	**Charters Tower**	**32.83**	**284**	P	**P**		**20 27 39.2**	**+1.5**
	6.5nm,0.5s,mb4.8,baz=116,slow=9.7,SNR=16							
CTAO	**Charters Tower**	**32.83**	**284**	*e*P	**P**		**20 27 39.1**	**+1.3**
	7.1nm,0.6s,mb4.8							
ASAR	**Alice Springs**	**41.64**	**270**	P	**P**		**20 28 51.4**	**-1.0**
	5.1nm,0.6s,mb4.3,baz=109,slow=8.0,SNR=83							
WRAB	**Tennant Creek**	**42.82**	**275**	*e*P	**P**		**20 29 00.5**	**-1.6**
	3.8nm,0.5s,mb4.4							
KAKA	**Kakadu**	**47.97**	**283**	*e*P	**P**		**20 29 33.5**	**-9.4**
	4.9nm,0.8s,mb4.6							
SNAA	**Sanae**	**76.08**	**179**	*e*	**P**		**20 32 50.5**	**-0.3**
SNAA				*e*			20 32 53.0	
SNAA				*e*	pP		20 33 01.3	-0.5
VNA3	**Neumayer Olymp**	**76.29**	**177**	*e*	**P**		**20 32 51.9**	**-0.1**
VNA3				*e*			20 32 54.3	
VNA3				*e*	pP		20 33 02.9	-0.1
VNA2	**Neumayer--Watz**	**76.71**	**177**	*e*	**P**		**20 32 54.5**	**+0.1**
	baz=180,slow=5.2							
VNA2				*e*			20 32 56.8	
VNA2				*e*	pP		20 33 05.3	0.0
VNA1	**Neumayer--Stat**	**76.95**	**177**	*e*	**P**		**20 32 56.2**	**+0.5**
VNA1				*e*			20 32 58.4	
VNA1				*e*	pP		20 33 07.3	+0.6
NOA	**NORSAR Array B**	**150.59**	**349**	PKPbc	PKPbc		20 40 46.0	-8.7
	0.4nm,0.4s,baz=16,slow=4.1,SNR=2.9							

JMA 29 20:29:17.6,3328N×13148E,h2km±1km,M2.8,Kyushu

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
OIT2	**Oita 2**	**0.02**	**266**	P	Pg		20 29 18.2	0.0
JUS	**Usuki**	**0.31**	**133**	P	Pg		20 29 24.0	+0.4
JUS				S	Sg		20 29 28.4	+0.8
JKI	**Kunimi**	**0.36**	**12**	P	Pg		20 29 25.0	+0.5
JKI				S	Sg		20 29 30.3	+1.1
JIU2	**Izumi 2**	**0.92**	**218**	P	Pg		20 29 35.2	-0.1
MAT	**Matsushiro**	**6.41**	**58**	P	Pn		20 30 55.7	+2.7

MAN 29 20:34:21,945N×12673E,h11km,mb4.5,ML3.4,MS3.3, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
BUTP	**Butuan**	**1.20**	**246**	*e*P	Pn		20 34 42.5	-1.2
BUTP				*e*S	Sb		20 34 50.4	-8.7
SCPH	**Surigao**	**1.27**	**285**	*e*P	Pn		20 34 43.7	-0.9
SCPH				*e*S	Sb		20 34 56.4	-4.8
MSLP	**Maasin**	**1.96**	**290**	*e*P	Pn		20 34 55.1	+0.8
MSLP				*e*S	Sn		20 35 19.8	+1.0
BUKP	**Musuan**	**2.27**	**227**	*e*P	Pn		20 34 59.5	+1.0
BUKP				*e*S	Sn		20 35 28.1	+1.6

ISCJB ***29*** *20:35:02.0±1.1,2005S±02×1777W±02,h550km±20km, mb4.2/8,Error ellipse: s-maj=32.9km s-min=14.6km az=141.8*
NEIC ***29*** *20:35:03.5±1.1,2009S×17767W,h560km±15km,mb4.4/4, Error ellipse: s-maj=28.2km s-min=12.1km az=144.0*
IDC ***29*** *20:35:06.3±3.0,2023S×17769W,h592km±39km,mb3.5/6, mb1 3.7/7,mb1mx3.4/16,mbtmp3.5/7,Error ellipse: s-maj=40.0km s-min=16.2km az=162.0*

ISC 29 20:35:03.7±1.3,2015S±02×1777W±02,h558km±20km,n15, ∘0∘76/17,mb4.2/8,3D,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
AFI	**Afiamalu**	**8.37**	**43**	P	**P**		**20 37 05.0**	**-0.4**
	3.2nm,0.3s,baz=263,slow=8.1,SNR=2.5							
AFI				S	**S**		**20 38 39.6**	**-5.5**
	8.1nm,0.3s,baz=34,slow=20,SNR=4.2							
AFI	**Afiamalu**	**8.37**	**43**	P	**P**		**20 37 05.0**	**-0.4**
AFI				S	**S**		**20 38 39.6**	**-5.5**
URZ	**Urewera**	**18.64**	**193**	P	**P**		**20 38 46.2**	**-0.6**
	1.7nm,0.3s,baz=11,slow=1.7,SNR=5.9							
ARMA	**Armidale**	**29.50**	**244**	*e*P	**P**		**20 40 24.4**	**+1.1**
CTA	**Charters Tower**	**33.82**	**264**	⇓*i*P	**P**		**20 41 00.3**	**0.0**
	18nm,0.4s,mb5.0							
CTA	**Charters Tower**	**33.82**	**264**	P	**P**		**20 41 00.4**	**+0.1**
	23nm,0.4s,mb5.0,baz=92,slow=10,SNR=38							
STKA	**Stephens Creek**	**38.22**	**244**	⇓*i*P	**P**		**20 41 37.0**	**+0.6**
	4.9nm,0.6s,mb4.2							
STKA	**Stephens Creek**	**38.22**	**244**	P	**P**		**20 41 37.2**	**+0.8**
	5.3nm,0.5s,mb4.3,baz=88,slow=8.9,SNR=29							
ASAR	**Alice Springs**	**44.89**	**256**	P	**P**		**20 42 28.9**	**-0.2**
	12nm,0.5s,mb4.7,baz=88,slow=8.0,SNR=215							
ASAR				S	**S**		**20 48 25.1**	**-1.7**
	0.7nm,0.7s,baz=96,slow=16,SNR=5.4							
WRAB	**Tennant Creek**	**44.93**	**262**	*e*P	**P**		**20 42 28.4**	**-1.1**
	7.2nm,0.4s,mb4.6							
KAKA	**Kakadu**	**48.26**	**271**	⇓*i*P	**P**		**20 42 46.6**	**-8.1**
	7.2nm,0.6s,mb4.4							
BATI	**Baumata**	**57.21**	**271**	P	**P**		**20 43 59.5**	**+0.9**
	9.4nm,0.5s,mb4.3,baz=127,slow=2.7,SNR=5.9							
TXAR	**Lajitas Array**	**86.60**	**57**	P	**P**		**20 46 49.1**	**+0.7**
	0.2nm,0.6s,mb2.9,baz=226,slow=7.0,SNR=3.3							
PDAR	**Pinedale Array**	**88.48**	**43**	P	**P**		**20 46 56.5**	**-0.4**
	0.4nm,0.8s,mb3.2,baz=252,slow=1.8,SNR=2.7							
GERES	**GERESS Array B**	**149.90**	**345**	PKPbc	PKPbc		20 53 50.5	-0.6
	0.2nm,0.5s,baz=38,slow=2.4,SNR=3.8							

MAN 29 20:38:43,1080N×12225E,h22km,mb3.9,ML2.7,MS2.3, 2D,Panay

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
GUIM	**Jordan**	**0.38**	**117**	*e*P	Pb		20 38 52.4	+1.3
GUIM				*e*S	Sb		20 38 58.3	+1.8
KALP	**Kalibo**	**0.88**	**6**	⇓*e*P	Pb		20 39 00.7	+1.1
KALP				*e*S	Sb		20 39 11.3	+0.4
RCP	**Roxas**	**0.90**	**33**	⇓*e*P	Pb		20 39 00.9	+1.0
RCP				*i* S	Sb		20 39 13.9	+2.4
CUYO	**Cuyo Island**	**1.21**	**272**	*e*P	Pn		20 39 05.2	+0.6
CUYO				*e*S	Sn		20 39 21.3	+0.9
OTRP	**Odiongan**	**1.57**	**352**	*e*P	Pn		20 39 10.3	+0.8
OTRP				*e*S	Sn		20 39 30.1	+1.0
SJMP	**San Jose**	**1.99**	**326**	*e*P	Pn		20 39 15.3	0.0
BUSP	**Coron**	**2.34**	**301**	*e*P	Pn		20 39 20.7	+0.6
BUSP				*e*S	Sn		20 39 31.9	-16
PAGZ	**Pagadian**	**3.14**	**159**	*e*P	Pn		20 39 38.1	+6.9
LUBP	**Lubang**	**3.51**	**326**	*e*P	Pn		20 39 38.1	+1.8

NIED ***29*** *20:52:00,2390N×12270E,h32km,Mw3.7 Best double couple: M0 4.67000×10^14 NP1:∅s45.00000°,δ77.00000°, λ163.00000°. NP2:∅s139.00000°,δ74.00000°,λ14.00000°.*
JMA ***29*** *20:52

TAP1	**Taipei**	**1.69**	**317**	*e*P	**Pn**	**20 52 48.9 +1.1**
	baz=328					
TAP1				*e*S	**Sn**	**20 53 09.4 +0.5**
	baz=328					
YUS	**Yu-Shan**	**1.73**	**260**	⇑P	**Pn**	**20 52 48.7 +0.4**
	baz=248					
YUS				S	**Sn**	**20 53 08.9 -0.7**
	baz=248					
SMLT	**Sun Moon Lake**	**1.74**	**273**	⇑*i*P	**Pn**	**20 52 48.6 0.0**
	baz=270					
SMLT				*e*S	**Sn**	**20 53 08.6 -1.5**
	baz=270					
ELDTW	**Lidau**	**1.75**	**250**	⇑*i*P	**Pn**	**20 52 48.0 -0.6**
	baz=238					
ELDTW				*e*S	**Sn**	**20 53 07.1 -3.1**
	baz=238					
TYC	**Yuchr**	**1.78**	**274**	P	**Pn**	**20 52 49.1 0.0**
	baz=271					
TYC				*e*S	**Sn**	**20 53 10.7 -0.4**
	baz=271					
TWS1	**Kuangyinshan**	**1.81**	**316**	*e*P	**Pn**	**20 52 50.1 +0.7**
	baz=327					
TWS1				*e*S	**Sn**	**20 53 11.1 -0.6**
	baz=327					
TWY	**Chenhua**	**1.83**	**323**	*e*P	**Pn**	**20 52 49.9 +0.2**
	baz=322					
TWY				*e*S	**Sn**	**20 53 11.7 -0.5**
	baz=322					
NSTT	**Nanjuang**	**1.84**	**297**	P	**Pn**	**20 52 50.4 +0.6**
	baz=294					
NSTT				*e*S	**Sn**	**20 53 12.5 0.0**
	baz=294					
TTN	**Taitung**	**1.85**	**236**	*e*P	**Pn**	**20 52 50.4 +0.5**
	baz=234					
ALS	**Alishan**	**1.85**	**261**	⇑*i*P	**Pn**	**20 52 50.8 +0.8**
	baz=259					
ALS				*e*S	**Sn**	**20 53 12.6 -0.2**
	baz=259					
TWG	**Pinlang**	**1.87**	**239**	*e*P	**Pn**	**20 52 49.5 -0.7**
	baz=230					
TWG				*e*S	**Sn**	**20 53 11.1 -2.0**
	baz=230					
NCU	**National Centr**	**1.88**	**309**	*e*P	**Pn**	**20 52 49.5 -0.8**
	baz=295					
JTJ	**Tarama**	**1.92**	**64**	P	**Pn**	**20 52 50.8 -0.2**
JTJ				*e*S	**Sn**	**20 53 15.7 +1.1**
TWQ1	**Liyutan**	**1.93**	**287**	P	**Pn**	**20 52 52.3 +1.2**
	baz=284					
TWQ1				*e*S	**Sn**	**20 53 15.6 +0.8**
	baz=284					
PCYT	**Pengchaiyu**	**1.94**	**340**	*e*P	**Pn**	**20 52 51.2 0.0**
	baz=339					
WNT	**Mingjian**	**1.94**	**273**	*e*P	**Pn**	**20 52 51.3 +0.1**
	baz=270					
WNT				*e*S	**Sn**	**20 53 15.7 +0.8**
	baz=270					
CHN5	**Tsauling**	**1.96**	**264**	*e*P	**Pn**	**20 52 51.5 +0.1**
	baz=262					
CHN5				*e*S	**Sn**	**20 53 15.2 -0.2**
	baz=262					
NSY	**Sanyi**	**1.96**	**289**	*e*P	**Pn**	**20 52 51.7 +0.2**
	baz=286					
NSY				*e*S	**Sn**	**20 53 16.3 +0.8**
	baz=286					
TCU	**Taichung**	**1.98**	**280**	*e*P	**Pn**	**20 52 53.2 +1.5**
	baz=278					
TCU				*e*S	**Sn**	**20 53 17.2 +1.4**
	baz=278					
STYT	**Tauyuan**	**1.98**	**252**	*e*P	**Pn**	**20 52 52.0 +0.1**
	baz=243					
STYT				*e*S	**Sn**	**20 53 15.2 -0.8**
	baz=243					
WGK	**Gukeng**	**2.06**	**267**	*e*P	**Pn**	**20 52 53.4 +0.6**
	baz=264					
WGK				*e*S	**Sn**	**20 53 19.1 +1.3**
	baz=264					
CHN4	**Tsaushan**	**2.08**	**258**	*e*P	**Pn**	**20 52 54.4 +1.3**
	baz=250					
CHN4				*e*S	**Sn**	**20 53 19.8 +1.5**
	baz=250					
ECL	**Taimali**	**2.08**	**235**	*e*P	**Pn**	**20 52 52.3 -0.9**
	baz=234					
ECL				*e*S	**Sn**	**20 53 15.8 -2.6**
	baz=234					
WTP	**Ta-pu**	**2.08**	**255**	P	**Pn**	**20 52 54.3 +1.1**
	baz=253					
WTP				*e*S	**Sn**	**20 53 19.1 +0.6**
	baz=253					
LAY	**Lan-yu**	**2.10**	**214**	*e*P	**Pn**	**20 52 51.4 -2.0**
	baz=219					
LAY				*e*S	**Sn**	**20 53 15.9 -3.0**
	baz=219					
CHN2	**Minshiung**	**2.15**	**263**	*e*P	**Pn**	**20 52 55.0 +0.8**
	baz=269					
CHN2				*e*S	**Sn**	**20 53 21.4 +1.2**
	baz=269					
SGST	**Jiashian**	**2.16**	**251**	*e*P	**Pn**	**20 52 55.5 +1.2**
	baz=243					
SGST				*e*S	**Sn**	**20 53 21.1 +0.7**
	baz=243					
CHN1	**Nanshi**	**2.18**	**254**	*i*P	**Pn**	**20 52 56.0 +1.5**
	baz=252					
CHN1				*e*S	**Sn**	**20 53 22.4 +1.6**
	baz=252					
TWK	**Hsinying**	**2.19**	**256**	*e*P	**Pn**	**20 52 55.8 +1.1**
	baz=254					
TWK				*e*S	**Sn**	**20 53 22.1 +0.9**
	baz=254					
SSD	**Sandimen**	**2.26**	**243**	*e*P	**Pn**	**20 52 56.1 +0.5**
	baz=237					
EAST	**Anshuo**	**2.29**	**232**	*e*P	**Pn**	**20 52 55.7 -0.3**
	baz=238					
EAST				*e*S	**Sn**	**20 53 21.1 -2.5**
	baz=238					
WTCT	**Ta-ch'eng**	**2.31**	**272**	*e*P	**Pn**	**20 52 57.2 +0.9**
	baz=269					
WTCT				*e*S	**Sn**	**20 53 26.2 +2.1**
	baz=269					
WSF	**Szhu**	**2.37**	**267**	*e*P	**Pn**	**20 52 59.8 +2.7**
	baz=254					
TWM1	**Shoushan**	**2.40**	**246**	*e*P	**Pn**	**20 52 57.4 -0.1**
	baz=245					
CHN8	**Yiju**	**2.42**	**260**	P	**Pn**	**20 52 59.1 +1.3**
	baz=257					
CHN8				*e*S	**Sn**	**20 53 28.6 +1.8**
	baz=257					
SCZT	**Fangliau**	**2.46**	**235**	*e*P	**Pn**	**20 52 58.6 +0.1**
	baz=234					
SCZT				*e*S	**Sn**	**20 53 27.2 -0.7**
	baz=234					
HEN	**Hengchun**	**2.61**	**227**	*e*P	**Pn**	**20 53 02.1 +1.6**
	baz=226					
HEN				*e*S	**Sn**	**20 53 31.4 -0.2**
	baz=226					
TWP	**Hsiaoliuchiu**	**2.67**	**238**	*e*P	**Pn**	**20 53 03.7 +2.4**
	baz=235					
PNG	**Penghu**	**2.99**	**266**	*e*P	**Pn**	**20 53 06.2 +0.6**
	baz=276					
PNG				*e*S	**Sn**	**20 53 40.9 +0.1**
	baz=276					
KNM	**Kinmen**	**4.04**	**280**	*e*P	**Pn**	**20 53 21.1 +1.1**
	baz=277					

IDC 29 20:53:16.0±3.7, 1129N×12272E, h0km, mb3.9/3, mb1 4.0/3, mb1mx3.5/17, mbtmp3.9/3, Error ellipse: s-maj=425.7km s-min=27.0km az=63.0, Panay

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ASAR	**Alice Springs**	**36.42**	**163**	P	P	21 00 21.4	-1.1
	0.7nm,0.5s,baz=353,slow=8.3,SNR=22						
STKA	**Stephens Creek**	**46.57**	**158**	P	P	21 01 47.0	+1.3
	1.8nm,0.4s,baz=338,slow=8.6,SNR=6.8						
MKAR	**Makanchi Array**	**49.13**	**324**	P	P	21 02 05.3	-0.1
	0.5nm,0.5s,baz=120,slow=8.8,SNR=5.6						

*NEIC **29** 21:06:41.5, 3427S×7192W, h35km, ML3.1(GUC), After GUC.*

GUC 29 21:06:41.5±0.9, 3427S×7192W, h35km±4km, MD3.7, ML3.1, 5C-8D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LNV	**Longovilo**	**0.53**	**53**	⇓*i*P	Pn	21 06 52.4	-0.1
LNV				*i* S	Sn	21 07 00.5	+0.3
SFDO	**San Fernando**	**0.82**	**115**	⇑*i*P	Pn	21 06 56.6	+0.1
LCCH	**Las Cruces**	**0.85**	**20**	*i* P	Pn	21 06 57.0	+0.1
TACH	**Talagante**	**1.02**	**53**	⇑*i*P	Pn	21 06 59.6	+0.3
TACH				*i* S	Sn	21 07 13.6	+1.2
CACH	**El Canelo**	**1.10**	**82**	⇓*i*P	Pn	21 07 02.1	+1.6
CACH				*i* S	Sn	21 07 17.7	+3.3
CHCH	**Chadas Angostu**	**1.10**	**72**	⇑*i*P	Pn	21 07 01.4	+0.9
CHCH				*e*S	Sn	21 07 16.5	+2.0
RCDM	**Rinconada Maip**	**1.21**	**50**	*e*P	Pn	21 07 02.6	+0.7
RCDM				AML	AML	21 07 22.5	
	comp=E,801nm,0.1s						
CICH	**Cipreses**	**1.24**	**93**	⇓*i*P	Pn	21 07 03.7	+1.4
CICH				*e*S	Sn	21 07 19.6	+1.7
ANTU	**Antumapu**	**1.28**	**57**	*e*P	Pn	21 07 04.4	+1.6
ANTU				*e*S	Sn	21 07 20.7	+1.9
ANTU				AML	AML	21 07 23.5	
	comp=E,587nm,0.2s						
ANTU	**Antumapu**	**1.28**	**57**	*e*P	Pn	21 07 04.4	+1.6
ANTU				*e*S	Sn	21 07 20.7	+1.9
PCH	**Pirque**	**1.34**	**61**	⇑*i*P	Pn	21 07 05.1	+1.4
PCH				*i* S	Sn	21 07 22.4	+2.2
CLCH	**Cerro Calan**	**1.45**	**53**	⇑*i*P	Pn	21 07 06.8	+1.7
CLCH				*e*S	Sn	21 07 25.1	+2.2
CLCH				AML	AML	21 07 34.7	
	comp=N,372nm,0.6s						
SJCH	**San Jose de Ma**	**1.45**	**65**	⇓*i*P	Pn	21 07 06.1	+1.0
SJCH				*i* S	Sn	21 07 25.9	+3.0
SJCH				AML	AML	21 07 29.4	
	comp=E,352nm,0.4s						
SJCH	**San Jose de Ma**	**1.45**	**65**	⇓*i*P	Pn	21 07 06.1	+1.0
SJCH				*i* S	Sn	21 07 25.9	+3.0
LMEL	**Las Melosas**	**1.49**	**74**	⇓*i*P	Pn	21 07 07.5	+1.8
LMEL				*i* S	Sn	21 07 27.3	+3.4
LMEL				AML	AML	21 07 32.1	
	comp=N,1μm,0.2s						
LMEL	**Las Melosas**	**1.49**	**74**	⇓*i*P	Pn	21 07 07.5	+1.8
LMEL				*i* S	Sn	21 07 27.3	+3.4
PEL	**Peldehue**	**1.52**	**43**	*e*P	Pn	21 07 07.3	+1.1
PEL				*i* S	Sn	21 07 28.5	+3.7
PEL				AML	AML	21 07 33.4	
	comp=N,755nm,0.2s						
YECH	**El Yeso**	**1.64**	**69**	*e*P	Pn	21 07 10.3	+2.5
YECH				AML	AML	21 07 35.0	
	comp=N,352nm,0.2s						
FCH	**Farellones**	**1.65**	**56**	⇓*i*P	Pn	21 07 09.7	+1.8
FCH				*i* S	Sn	21 07 31.8	+3.8
FCH				AML	AML	21 07 35.3	
	comp=N,386nm,0.1s						

MAN 29 21:12:12, 1791N×12211E, h5km, mb3.8, ML2.5, MS2.1, 1C, Luzon

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SGCP	**Mt. Cagua**	**0.33**	**350**	*e*P	Pg	21 12 19.1	+0.7
CVP	**Callao Caves**	**0.34**	**232**	⇑*i*P	Pg	21 12 20.7	+2.1
CVP				*i* S	Sg	21 12 26.8	+3.8
PALP	**Palanan**	**0.90**	**160**	*e*P	Pg	21 12 29.4	+0.1
PALP				*e*S	Sg	21 12 45.2	+4.3
CAUP	**Cauayan**	**1.00**	**196**	*e*P	Pg	21 12 32.3	+1.1
CAUP				*e*S	Sg	21 12 45.5	+1.4
ABRA	**Dolores**	**1.35**	**259**	*e*P	Pn	21 12 36.9	-0.7
ABRA				*e*S	Sb	21 12 56.3	+0.8
BALP	**Baler**	**2.22**	**193**	*e*P	Pn	21 12 49.6	+0.2
AUQP	**San Andres**	**4.60**	**173**	*e*P	Pn	21 13 13.7	-8.5

*NEIC **29** 21:39:50.9, 3603S×7162W, h98km, MD3.4(GUC), After GUC.*

GUC 29 21:39:50.9±0.9, 3603S×7162W, h98km±5km, MD3.4, ML3.6, 7C-10D, Central Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LNCH	**Linares**	**0.18**	**4**	⇑*i*P	Pn	21 40 04.8	+0.1
LNCH				*i* S	Sn	21 40 15.6	+0.6
LNCH				AML	AML	21 40 20.3	
	comp=N,1μm,0.6s						
LNCH	**Linares**	**0.18**	**4**	⇑*i*P	Pn	21 40 04.8	+0.1
LNCH				*i* S	Sn	21 40 15.6	+0.6
CCHI	**Chillan**	**0.69**	**213**	⇓*i*P	Pn	21 40 07.9	0.0
CCHI				*i* S	Sn	21 40 20.7	0.0
CCHI				AML	AML	21 40 21.3	
	comp=N,3μm,0.3s						
CCHI	**Chillan**	**0.69**	**213**	⇓*i*P	Pn	21 40 07.9	0.0
CCHI				*i* S	Sn	21 40 20.7	0.0
COCH	**Cobquecura**	**0.96**	**263**	⇓*i*P	Pn	21 40 11.3	+0.7
COCH				*i* S	Sn	21 40 25.7	+0.2
COCH				AML	AML	21 40 27.5	
	comp=E,1μm,0.3s						
COCH	**Cobquecura**	**0.96**	**263**	⇓*i*P	Pn	21 40 11.3	+0.7
COCH				*i* S	Sn	21 40 25.7	+0.2
SFDO	**San Fernando**	**1.49**	**19**	⇑*i*P	Pn	21 40 17.5	+0.5
SFDO				*i* S	Sn	21 40 37.5	+0.9
CICH	**Cipreses**	**1.96**	**30**	⇑*i*P	Pn	21 40 24.3	+1.4
CICH				*e*S	Sn	21 40 49.3	+2.0
LNV	**Longovilo**	**2.07**	**5**	⇓*i*P	Pn	21 40 25.3	+1.0
LNV				*i* S	Sn	21 40 50.2	+0.4
CACH	**El Canelo**	**2.08**	**24**	⇓*i*P	Pn	21 40 25.1	+0.7
CACH				*e*S	Sn	21 40 51.3	+1.3
CHCH	**Chadas Angostu**	**2.23**	**21**	⇓*i*P	Pn	21 40 27.0	+0.6
CHCH				*i* S	Sn	21 40 54.2	+0.6
TACH	**Talagante**	**2.43**	**13**	⇑*i*P	Pn	21 40 29.3	+0.2
LMEL	**Las Melosas**	**2.46**	**28**	⇓*i*P	Pn	21 40 30.9	+1.4
LMEL				AML	AML	21 41 03.8	
	comp=N,244nm,0.2s						
PCH	**Pirque**	**2.57**	**21**	*e*P	Pn	21 40 31.4	+0.6
PCH				*i* S	Sn	21 41 02.3	+0.9
ANTU	**Antumapu**	**2.58**	**19**	*e*S	Sn	21 41 02.0	+0.2
ANTU				AML	AML	21 41 06.4	
	comp=E,317nm,0.3s						
RCDM	**Rinconada Maip**	**2.62**	**15**	⇑*i*P	Pn	21 40 31.9	+0.4
RCDM				AML	AML	21 41 05.1	
	comp=E,540nm,0.2s						
CLCH	**Cerro Calan**	**2.77**	**19**	⇓*i*P	Pn	21 40 34.1	+0.5
CLCH				*i* S	Sn	21 41 06.4	+0.1
CLCH				AML	AML	21 41 13.2	
	comp=E,283nm,0.6s						
FCH	**Farellones**	**2.91**	**22**	⇓*i*P	Pn	21 40 36.1	+0.8
FCH				*i* S	Sn	21 41 10.3	+0.8
FCH				AML	AML	21 41 13.0	
	comp=N,205nm,0.2s						
PEL	**Peldehue**	**2.98**	**15**	⇑*i*P	Pn	21 40 36.8	+0.6
PEL				*i* S	Sn	21 41 11.2	0.0
PEL				AML	AML	21 41 13.7	
	comp=E,416nm,0.5s						

*IDC **29** 21:39:58.4±1.3, 3281S×17858W, h0km, mb4.4/1, mb1 4.6/1, mb1mx3.9/12, mbtmp4.4/1, MS3.7/4, Ms1 3.7/4, ms1mx3.3/15, Error ellipse: s-maj=56.9km s-min=48.1km az=178.0*

*ISCJB **29** 21:40:02.1±0.5, 3283S±006×1787W±0.1, h33km, mb4.6/7, MS3.7/4, Error ellipse: s-maj=14.7km s-min=7.5km az=12.1*

*MOS **29** 21:40:02.5±1.1, 3288S×17865W, h33km, mb5.0/3, Error ellipse: s-maj=24.9km s-min=20.8km az=62.3*

*NEIC **29** 21:40:04.5±1.2, 3281S×17857W, h41km±11km, mb4.7/6, Error ellipse: s-maj=14.1km s-min=10.0km az=109.0*

ISC 29 21:40:04.7±1.4, 3281S±007×1786W±0.1, h41km±14km, n36, σ0°83/25, mb4.6/7, MS3.7/4, 1C, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**3.59**	**9**	Pn	**Pn**	**21 40 57.6**	**-0.2**
RAO				Sn	**Sn**	**21 41 39.1**	**+0.1**
SNZO	**South Karori**	**10.03**	**210**	*e*Pn	**Pn**	**21 42 26.2**	**+0.1**
SNZO				Sn	**Sn**	**21 44 12.2**	**-5.1**
EIDS	**Eidsvold**	**27.45**	**278**	*e*P	**P**	**21 45 45.9**	**-0.9**
	12nm,0.6s,mb4.6						
TAU	**Tasmania Unive**	**28.57**	**239**	P	**P**	**21 45 56.2**	**-0.4**
PPT	**Papeete**	**30.20**	**67**	LR	LR	21 56 18.4	
	comp=Z,266nm,18.5s,MS3.9,baz=229,slow=32						
STKA	**Stephens Creek**	**33.52**	**261**	LR	LR	21 59 55.2	
	comp=Z,310nm,19.5s,MS4.0,baz=160,slow=36						
CTAO	**Charters Tower**	**33.77**	**283**	*e*P	**P**	**21 46 44.6**	**+2.0**
CTAO				pmax	pmax		
	comp=Z,22nm,1.0s,mb5.0						
CTAO	**Charters Tower**	**33.77**	**283**	*e*P	**P**	**21 46 44.6**	**+2.1**
	comp=Z,22nm,1.0s,mb5.0						
ASAR	**Alice Springs**	**42.54**	**270**	P	**P**	**21 47 56.0**	**-0.4**
	comp=Z,6.0nm,0.7s,mb4.4,baz=112,slow=7.8,SNR=26						
WRAB	**Tennant Creek**	**43.74**	**275**	*e*P	**P**	**21 48 06.0**	**-0.1**
WRAB				pmax	pmax		
	comp=Z,14nm,0.9s,mb4.7						
WRAB	**Tennant Creek**	**43.74**	**275**	*e*P	**P**	**21 48 06.0**	**-0.1**
	comp=Z,14nm,0.9s,mb4.7						
FITZ	**Fitzroy Crossi**	**51.90**	**272**	P	**P**	**21 49 08.4**	**-0.9**
CASY	**Casey**	**52.79**	**209**	*e*P	**P**	**21 49 14.7**	**-0.5**
	comp=Z,2.3nm,0.4s,mb4.5						
NWAO	**Narrogin (SRO)**	**53.11**	**251**	*e*P	**P**	**21 49 18.2**	**+0.1**
MBWA	**Marble Bar**	**55.50**	**266**	P	**P**	**21 49 37.0**	**+1.3**
QSPA	**South Pole Qui**	**57.31**	**180**	*e*P	**P**	**21 49 49.0**	**+1.3**
	comp=Z,12nm,1.0s,mb4.9						
SYO	**Syowa Base**	**74.66**	**193**	⇑*e*P	**P**	**21 51 37.8**	**-1.5**
SNAA	**Sanae**	**75.77**	**179**	*e*	**P**	**21 51 46.5**	**+0.9**
SNAA				*e*		21 52 05.6	
SNAA	**Sanae**	**75.77**	**179**	*e*P	**P**	**21 51 45.1**	**-0.5**
SNAA				pmax	pmax		
	comp=Z,5.0nm,1.0s						
SNAA	**Sanae**	**75.77**	**179**	*e*P	**P**	**21 51 45.1**	**-0.5**
	comp=Z,4.5nm,1.0s,mb4.3						
VNA3	**Neumayer Olymp**	**75.94**	**176**	*e*	**P**	**21 51 46.1**	**-0.5**
VNA3				*e*		21 51 50.7	
VNA3				*e*	pP	21 51 55.2	-3.8
VNA3				*e*		21 52 07.3	
VNA2	**Neumayer--Watz**	**76.37**	**177**	*e*	**P**	**21 51 49.2**	**+0.2**
	baz=180,slow=4.4						
VNA2				*e*		21 51 53.6	
VNA2				*e*		21 51 58.0	
VNA2				*e*		21 52 10.8	
VNA1	**Neumayer--Stat**	**76.60**	**177**	*e*	**P**	**21 51 51.6**	**+1.2**
VNA1				*e*		21 51 59.4	
MAJO	**Matsushiro**	**79.94**	**326**	*e*P	**P**	**21 52 09.0**	**-0.1**
ASAJ	**Asahikawa**	**84.34**	**333**	LR	LR	22 28 18.6	
	comp=Z,61nm,18.2s,MS4.0,baz=172,slow=34						
TRQA	**Tornquist**	**88.10**	**135**	P	**P**	**21 52 50.6**	**-0.4**
NVAR	**Mina Array Bea**	**90.34**	**43**	LR	LR	22 25 15.2	
	comp=Z,5.4nm,21.7s,MS2.9,baz=315,slow=30						
MKAR	**Makanchi Array**	**118.91**	**309**	PKP	PKPdf	21 58 48.0	-0.2
	comp=Z,0.6nm,0.9s,baz=158,slow=0.7,SNR=4.6						
JOF	**Joensuu**	**144.45**	**337**	*e*p	PKPdf	21 59 34.8	-0.7
	comp=Z,0.5nm,0.4s						
KAF	**Kangasniemi**	**146.62**	**339**	*e*p	PKPdf	21 59 40.9	+1.6
	comp=Z,1.5nm,0.4s						
NB2	**NORSAR Subarra**	**151.04**	**350**	PKP	PKPbc	21 59 52.5	+0.2
	comp=Z,1.6nm,0.7s,baz=18,slow=2.6						
NOA	**NORSAR Array B**	**151.04**	**350**	PKPbc	PKPbc	21 59 52.6	+0.3
	comp=Z,2.0nm,0.7s,baz=14,slow=4.1,SNR=7.6						
AKASG	**Malin Array Be**	**152.85**	**319**	PKPbc	PKPbc	21 59 56.4	-0.3
	comp=Z,0.4nm,0.4s,baz=41,slow=1.8,SNR=5.5						
CLL	**Collm**	**159.65**	**339**	*e*PKPab	PKPab	22 00 37.0	0.0
TORD	**Torodi Ar. Bea**	**160.43**	**181**	PKPab	PKPab	22 00 41.0	-0.2
	comp=Z,156nm,0.4s,baz=177,slow=3.4,SNR=1.8						
GERES	**GERESS Array B**	**161.51**	**334**	PKPab	PKPab	22 00 45.4	+0.3
	comp=Z,0.1nm,0.3s,baz=45,slow=4.3,SNR=3.9						

*ISCJB **29** 21:45:20.9±0.9, 3886N±003×2355E±007, h7km±8km, Error ellipse: s-maj=9.0km s-min=5.0km az=6.7*

*CSEM **29** 21:45:20.9±0.1, 3889N×2357E, h12km, ML2.4/1, Error ellipse: s-maj=5.3km s-min=2.5km az=96.0*

*THE **29** 21:45:21.2, 3884N×2355E, h6km, ML2.4/1, Error ellipse: s-maj=1.1km s-min=0.6km az=290.0*

*ATH **29** 21:45:23.3, 3877N×2331E, h30km±1km, MD2.9/3, ML2.9*

*NEIC **29** 21:45:23.3, 3877N×2331E, h30km, ML2.9(ATH), After ATH.*

ISC 29 21:45:21.1±0.8, 3886N±003×2357E±007, h8km±6km, n18, σ0°54/23, Greece

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AOS	**Alonnisos**	**0.40**	**38**	P	**Pg**	**21 45 29.5**	**+0.7**
LKR	**Lokris**	**0.49**	**245**	P	**Pg**	**21 45 30.1**	**-0.4**
LKR				S	**Sg**	**21 45 37.2**	**+0.3**
LKR	**Lokris**	**0.49**	**245**	*e*Pb	**Pg**	**21 45 30.5**	**0.0**
LKR	**Lokris**	**0.49**	**245**	*e*Pb	**Pg**	**21 45 30.5**	**0.0**
LKR	**Lokris**	**0.49**	**245**	*e*PB	**Pg**	**21 45 30.5**	**0.0**
XOR	**Xorichti**	**0.59**	**330**	P	**Pg**	**21 45 32.6**	**+0.2**
PTL	**Penteli**	**0.84**	**164**	*e*Pb	**Pb**	**21 45 38.8**	**+0.9**
PTL	**Penteli**	**0.84**	**164**	*e*PB	**Pb**	**21 45 38.8**	**+0.9**
ATH	**Athens Observa**	**0.89**	**172**	*e*Pn	**Pn**	**21 45 40.0**	**+0.1**
ATH				*e*Sn	**Sn**	**21 45 52.5**	**-0.4**
ATH	**Athens Observa**	**0.89**	**172**	*e*PN	**Pn**	**21 45 40.0**	**+0.1**
ATH				*e*SN	**Sn**	**21 45 52.5**	**-0.4**
LTK	**Loutraki**	**0.96**	**210**	P	**Pg**	**21 45 38.5**	**-0.9**
PAIG	**Paliouri**	**1.07**	**5**	P	**Pg**	**21 45 41.4**	**-0.3**
NAIG	**Nisos Aigina**	**1.10**	**183**	*e*Pn	**Pn**	**21 45 43.0**	**+0.3**
NAIG	**Nisos Aigina**	**1.10**	**183**	*e*PN	**Pn**	**21 45 43.0**	**+0.3**
DID	**Didima**	**1.37**	**191**	P	**Pn**	**21 45 46.1**	**-0.4**
DID				S	**Sb**	**21 46 05.1**	**+0.5**
LIT	**Litokhoron**	**1.50**	**326**	P	**Pn**	**21 45 48.0**	**-0.2**
LIT				S	**Sn**	**21 46 08.8**	**+0.8**
OUR	**Ouranopolis**	**1.51**	**12**	P	**Pn**	**21 45 47.9**	**-0.5**
PLG	**Polygyros**	**1.52**	**356**	P	**Pn**	**21 45 47.8**	**-0.7**

*CSEM **29** 22:06:49.1±0.1, 3924N×4195E, h2km, MD3.0, Error ellipse: s-maj=3.4km s-min=1.9km az=12.0*

*ISK **29** 22:06:50.2, 3918N×4198E, h7km, MD3.0*

*DDA **29** 22:06:50.2, 3915N×4192E, h7km±4km, Md3.0*

*ISCJB **29** 22:06:51.2±0.4, 3919N±003×4196E±003, h10km, Error ellipse: s-maj=3.9km s-min=3.8km az=169.9*

ISC 29 22:06:50.8±0.7, 3916N±003×4196E±004, h2km±7km, n15, σ0°84/25, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TUTA	**Tutak**	**0.71**	**69**	*i* P	**Pg**	**22 07 03.8**	**-0.6**
TUTA				*i* S	**Sg**	**22 07 14.9**	**+1.4**
ERZM	**Erzurum**	**0.88**	**329**	*i* P	**Pg**	**22 07 07.2**	**-0.5**
ERZM				*i* S	**Sg**	**22 07 20.0**	**+0.9**
EZM	**Erzurum**	**0.88**	**329**	*e*PG	**Pg**	**22 07 07.3**	**-0.5**
EZM				*e*SG	**Sg**	**22 07 19.7**	**+0.5**
HOMI	**Horasan**	**0.89**	**357**	*i* P	**Pg**	**22 07 07.7**	**-0.2**
HOMI				*i* S	**Sg**	**22 07 19.5**	**0.0**
AGRB	**Hanur-Agry**	**0.90**	**62**	*e*PG	**Pg**	**22 07 06.9**	**-1.3**
AGRB				*e*SG	**Sg**	**22 07 20.7**	**+0.8**
VANB	**Van**	**1.25**	**116**	*e*PN	**Pn**	**22 07 14.8**	**-0.4**
TVAN	**Van**	**1.29**	**119**	*i* P	**Pg**	**22 07 15.6**	**0.0**
TVAN				*i* S	**Sg**	**22 07 34.7**	**+2.4**
BEST	**Besiri**	**1.37**	**203**	*i* P	**Pn**	**22 07 16.2**	**-0.7**
BEST				*i* S	**Sg**	**22 07 34.5**	**-0.4**
DYDN	**Diyadin**	**1.40**	**73**	*i* P	**Pn

PPT	**Papeete**	**23.75**	**98**	*e*LR	LR	22 29 11.4		
	191nm,26.5s							
PPT	**Papeete**	**23.75**	**98**	LR	LR	22 30 08.5		
	comp=Z,174nm,18.8s,MS3.5,baz=239,slow=30							
URZ	**Urewera**	**23.93**	**197**	LR	LR	22 31 56.6		
	comp=Z,201nm,20.4s,MS3.6,baz=146,slow=34							
TVO	**Taravao**	**24.07**	**99**	*e*T		22 48 20.1		
	63nm,0.3s							
TBI	**Tubuai**	**24.64**	**112**	*e*T		22 49 19.1		
	19nm,0.3s							
PMOR	**Pomariorio Ree**	**25.44**	**92**	*e*T		22 49 59.5		
	3.5nm,0.2s							
HNR	**Honiara**	**25.88**	**280**	LR	LR	22 33 09.7		
	comp=Z,70nm,18.6s,MS3.2,baz=133,slow=34							
HNR	**Honiara**	**25.88**	**280**	P	**P**	**22 23 53.2**	**+0.7**	
RKT	**Rikitea**	**37.76**	**108**	*e*T		23 05 37.2		
	7.4nm,0.3s							
TAU	**Tasmania Unive**	**42.70**	**222**	*e*P	**P**	**22 26 17.9**	**+0.7**	
	30nm,1.1s,mb4.9							
STKA	**Stephens Creek**	**43.28**	**240**	LR	LR	22 43 08.5		
	comp=Z,122nm,19.6s,MS3.8,baz=25,slow=34							
STKA	**Stephens Creek**	**43.28**	**240**	*e*P	**P**	**22 26 21.3**	**-0.8**	
	1.6nm,0.6s,mb3.9							
WRAB	**Tennant Creek**	**49.01**	**257**	*e*P	**P**	**22 27 07.8**	**+0.4**	
	2.7nm,0.9s,mb4.3							
ASAR	**Alice Springs**	**49.30**	**252**	P	**P**	**22 27 10.1**	**+0.6**	
	4.9nm,0.7s,mb4.6,baz=84,slow=8.3,SNR=36							
SBA	**Scott Base**	**63.10**	**184**	P	**P**	**22 28 47.3**	**+0.1**	
NWAO	**Narrogin (SRO)**	**63.86**	**241**	P	**P**	**22 28 52.1**	**-0.9**	
MJAR	**Matsushiro Arr**	**68.47**	**320**	LR	LR	22 51 26.3		
	comp=Z,65nm,21.9s,MS3.8,baz=285,slow=29							
NVAR	**Mina Array Bea**	**74.94**	**42**	P	**P**	**22 30 00.5**	**-0.8**	
	0.3nm,0.3s,mb3.8,baz=226,slow=4.8,SNR=3.6							
KSRS	**Korea Array**	**75.64**	**316**	LR	LR	22 56 59.4		
	comp=Z,24nm,20.9s,MS3.5,baz=178,slow=31							
KSM	**Kuching**	**76.37**	**275**	*e*P	**P**	**22 30 08.9**	**-1.1**	
TXAR	**Lajitas Array**	**81.35**	**56**	P	**P**	**22 30 37.6**	**+0.6**	
	0.4nm,0.8s,mb3.4,baz=211,slow=5.1,SNR=4.0							
TXAR				LR	LR	23 03 07.1		
	comp=Z,58nm,18.5s,MS4.0,baz=350,slow=33							
PDAR	**Pinedale Array**	**82.88**	**42**	P	**P**	**22 30 45.2**	**+0.5**	
	0.8nm,1.0s,mb3.7,baz=197,slow=5.5,SNR=5.2							
PDAR				LR	LR	23 00 08.2		
	comp=Z,42nm,18.9s,MS3.8,baz=92,slow=30							
CMAR	**Chiang Mai Arr**	**91.85**	**289**	LR	LR	23 05 38.4		
	comp=Z,21nm,21.8s,MS3.5,baz=205,slow=31							
ULM	**Lac du Bonnet**	**94.52**	**39**	LR	LR	23 09 37.9		
	comp=Z,54nm,18.7s,MS4.0,baz=304,slow=33							
GERES	**GERESS Array B**	**146.09**	**351**	PKPbc	PKPbc	22 38 00.9	+0.9	
	0.9nm,0.8s,baz=25,slow=2.6,SNR=5.8							

*ISCJB **29** 22:21:09.9±0.5, 3152N±004×11434W±003, h10km, Error ellipse: s-maj=5.7km s-min=3.4km az=0.3*
*ECX **29** 22:21:11.9±0.6, 3147N×11431W, h9km, ML3.8*
ISC 29 22:21:10.5±0.5, 3150N±003×11437W±003, h10km, n38, σ0§80/51, 19C-26D, Gulf of California

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ECBX	**El Chinero**	**0.58**	**268**	*e*P	**Pg**	**22 21 22.6**	**+0.8**
ECBX				*e*S	**Sg**	**22 21 31.0**	**+1.5**
EMX	**El Mayor**	**0.89**	**304**	*e*P	**Pg**	**22 21 26.9**	**-0.8**
EMX				*e*S	**Sg**	**22 21 40.0**	**+0.7**
EMX				⇑*e*		22 21 41.0	
	comp=E,2μm,0.3s						
EMX				*e*		22 21 41.9	
	comp=N,2μm,0.3s						
SPX	**San Pedro Mart**	**1.04**	**245**	*e*P	**Pg**	**22 21 30.6**	**+0.1**
SPX				*e*S	**Sg**	**22 21 45.6**	**+1.6**
112A	**Yuma**	**1.05**	**350**	⇓P	**Pg**	**22 21 30.4**	**-0.4**
	baz=1.0,SNR=68						
112A				⇓S	**Sg**	**22 21 44.9**	**+0.5**
	baz=1.0						
YMD	**Yuma Desert**	**1.07**	**352**	*e*P	**Pg**	**22 21 30.9**	**-0.2**
113A	**Mohawk Valley,**	**1.37**	**22**	⇓P	**Pn**	**22 21 35.1**	**-0.6**
	baz=1.4						
214A	**Organ Pipe Nat**	**1.40**	**71**	⇑P	**Pn**	**22 21 35.7**	**-0.4**
	baz=1.5						
214A				⇓S	**Sn**	**22 21 54.3**	**-0.5**
	baz=1.5						
GLA	**Glamis**	**1.60**	**346**	⇓P	**Pn**	**22 21 38.1**	**-0.7**
	baz=1.6,SNR=223						
GLA				⇑S	**Sn**	**22 21 58.0**	**-1.6**
	baz=1.6						
DVTC	**Desert V Tower**	**1.87**	**309**	⇑P	**Pn**	**22 21 41.2**	**-1.4**
	baz=1.8						
115A	**Sonoran Desert**	**2.18**	**56**	⇑P	**Pn**	**22 21 46.5**	**-0.3**
	baz=2.3						
Z14A	**Wintersburg**	**2.22**	**33**	⇓P	**Pn**	**22 21 47.2**	**-0.2**
	baz=2.3						
Z14A				⇓Sb	**Sb**	**22 22 21.4**	**+3.2**
	baz=2.3						
MONP	**Monument Peak**	**2.23**	**309**	⇓P	**Pn**	**22 21 46.3**	**-1.2**
	baz=2.2						
Y12C	**Blythe**	**2.25**	**357**	⇑P	**Pn**	**22 21 47.5**	**-0.3**
	baz=2.3						
BC3	**Big Chuckw Mtn**	**2.34**	**337**	⇓P	**Pn**	**22 21 48.6**	**-0.4**
	baz=2.3,SNR=66						
BC3				⇓S	**Sn**	**22 22 17.3**	**-0.6**
	baz=2.3						
Y13A	**Salome**	**2.36**	**11**	⇑P	**Pn**	**22 21 49.3**	**0.0**
	baz=2.4,SNR=20						
Y13A				⇑Sb	**Sb**	**22 22 25.5**	**+3.3**
	baz=2.4						
216A	**Three Points,**	**2.53**	**78**	⇓P	**Pn**	**22 21 51.5**	**-0.2**
	baz=2.6						
Y14A	**Wickenburg**	**2.69**	**25**	⇑P	**Pn**	**22 21 54.1**	**+0.2**
	baz=2.7						
109C	**Camp Elliot, M**	**2.70**	**302**	⇓P	**Pn**	**22 21 53.4**	**-0.6**
	baz=2.6						
IRM	**Iron Mountain**	**2.74**	**346**	⇓P	**Pn**	**22 21 54.2**	**-0.3**
	baz=2.7,SNR=21						
PDMCI	**Parker Dam,Lak**	**2.80**	**4**	⇓P	**Pn**	**22 21 55.6**	**+0.2**
	baz=2.8						
BELC	**Belle Mtn.**	**2.85**	**332**	⇑P	**Pn**	**22 21 56.0**	**-0.1**
	baz=2.8,SNR=5.2						
Y15A	**Casa Rosa Ranc**	**2.99**	**34**	⇓P	**Pn**	**22 21 58.0**	**0.0**
	baz=3.1						
Y15A				⇓Sb	**Sb**	**22 22 44.0**	**+3.5**
	baz=3.1						
217A	**Green Valley**	**3.04**	**84**	⇑P	**Pn**	**22 21 58.5**	**-0.2**
	baz=3.1						
X13A	**Yucca**	**3.12**	**8**	⇓P	**Pn**	**22 22 00.2**	**+0.4**
	baz=3.1,SNR=19						
X14A	**Yava**	**3.21**	**22**	⇑P	**Pn**	**22 22 01.0**	**-0.1**
	baz=3.3,SNR=18						
X14A				⇑Sb	**Sb**	**22 22 50.6**	**+3.7**
	baz=3.3						
117A	**Oracle**	**3.26**	**70**	⇓P	**Pn**	**22 22 01.6**	**-0.1**
	baz=3.4						
117A				⇓Sb	**Sb**	**22 22 51.8**	**+3.5**
	baz=3.4						
NEE2	**Needles Airpor**	**3.27**	**356**	⇑P	**Pn**	**22 22 01.3**	**-0.5**
	baz=3.3						
Y16A	**Circle Bar Ran**	**3.41**	**45**	⇓Sb	**Sb**	**22 22 56.6**	**+4.2**
	baz=3.5						
GMRC	**Granite Mounta**	**3.45**	**342**	⇓P	**Pn**	**22 22 04.1**	**-0.2**
	baz=3.4,SNR=15						
X15A	**Humboldt**	**3.48**	**30**	⇓P	**Pn**	**22 22 04.5**	**-0.2**
	baz=3.5,SNR=6.1						
X15A				⇓Sb	**Sb**	**22 22 58.6**	**+4.1**
	baz=3.5						
W13A	**Hualapai Mount**	**3.62**	**6**	⇑P	**Pn**	**22 22 06.6**	**0.0**
	baz=3.6						
Y17A	**Roosevelt**	**3.70**	**53**	⇑P	**Pn**	**22 22 08.0**	**+0.3**
	baz=3.8						
HEC	**Hector,Ludlow**	**3.71**	**334**	⇑P	**Pn**	**22 22 07.4**	**-0.4**
	baz=3.7,SNR=10.0						
218A	**Dragoon**	**3.71**	**81**	⇑P	**Pn**	**22 22 07.6**	**-0.3**
	baz=3.8						
318A	**Bisbee**	**3.74**	**90**	⇑P	**Pn**	**22 22 08.3**	**0.0**
	baz=3.8						
118A	**Homack Ranch,**	**3.91**	**72**	⇓P	**Pn**	**22 22 10.4**	**-0.1**
	baz=4.0						
GSC	**Goldstone**	**4.31**	**332**	⇓P	**Pn**	**22 22 16.7**	**+0.6**
	baz=4.3						
119A	**Ashpeak Ranch,**	**4.48**	**72**	⇓P	**Pn**	**22 22 18.9**	**+0.5**
	baz=4.6						

*CSEM **29** 22:39:25.1±0.2, 4184N×2032E, h2km, ML2.0, Error ellipse: s-maj=4.4km s-min=2.5km az=30.0*
*TIR **29** 22:39:25.7±1.7, 4192N×2021E, h6km±570km, ML2.5*
*ISCJB **29** 22:39:26.2±0.3, 4191N±002×2033E±003, h10km, Error ellipse: s-maj=3.6km s-min=2.2km az=34.3*

*PDG **29** 22:39:26.9±0.2, 4189N×2024E, h8km, ML2.5/10, Error ellipse: s-maj=1.0km s-min=1.2km az=0.0*
*SKO **29** 22:39:26.6, 4194N×2023E, h29km, M1.8, ML2.1*
*NEIC **29** 22:39:26.9, 4189N×2024E, h8km, ML2.5(PDG), After PDG.*
*BEO **29** 22:39:29.4±0.4, 4195N×2031E, ML2.0/3*
ISC 29 22:39:27.3±0.3, 4190N±002×2032E±003, h10km, n38, σ1§39/70, 5C-7D, Albania

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PHP	**Peshkopia**	**0.23**	**157**	*e*PG	**Pg**	**22 39 32.5**	**+0.4**
PUK	**Puka**	**0.35**	**294**	*e*PG	**Pg**	**22 39 32.5**	**-1.6**
BCI	**Bajram Curri**	**0.50**	**338**	*e*PG	**Pg**	**22 39 35.6**	**-1.4**
TIR	**Tirane**	**0.65**	**212**	*e*Pg	**Pg**	**22 39 43.8**	**+4.0**
TIR				*e*Sg	**Sg**	**22 39 50.2**	**+1.9**
TIR	**Tirane**	**0.65**	**212**	*e*PG	**Pg**	**22 39 39.4**	**-0.4**
TIR	**Tirane**	**0.65**	**212**	*e*Sg	**Sg**	**22 39 50.2**	**+1.9**
PVY	**Plav**	**0.74**	**340**	⇓*i*Pg	**Pg**	**22 39 40.3**	**-1.2**
PVY				*e*Sg	**Sg**	**22 39 52.2**	**+1.0**
PVY	**Plav**	**0.74**	**340**	*i* PG	**Pg**	**22 39 40.3**	**-1.2**
PVY				*i* SG	**Sg**	**22 39 52.2**	**+1.0**
ULC	**Ulcinj**	**0.80**	**275**	⇓*i*Pg	**Pg**	**22 39 41.0**	**-1.7**
ULC				*e*Sg	**Sg**	**22 39 52.5**	**-0.6**
ULC	**Ulcinj**	**0.80**	**275**	*i* PG	**Pg**	**22 39 41.0**	**-1.7**
ULC				*i* SG	**Sg**	**22 39 52.4**	**-0.7**
SKO	**Skopje**	**0.84**	**85**	*e*Pg	**Pg**	**22 39 43.0**	**-0.5**
SKO				*i* Sg	**Sg**	**22 39 56.8**	**+2.4**
SKO				*e*Lg		22 39 57.2	
	comp=E,48nm,0.6s						
SKO				*e*Lg		22 39 57.7	
	comp=N,79nm,0.4s						
SKO	**Skopje**	**0.84**	**85**	*e*Pg	**Pg**	**22 39 42.9**	**-0.5**
SKO				*i* Sg	**Sg**	**22 39 56.7**	**+2.4**
OHR	**Ohrid**	**0.87**	**155**	*i* Pg	**Pg**	**22 39 43.2**	**-0.7**
OHR				*i* Sg	**Sg**	**22 39 56.9**	**+1.7**
OHR				*e*Lg		22 39 58.0	
	comp=N,59nm,0.3s						
OHR				*e*Lg		22 39 58.2	
	comp=E,53nm,0.6s						
OHR	**Ohrid**	**0.87**	**155**	*i* Pg	**Pg**	**22 39 43.2**	**-0.8**
OHR				*i* Sg	**Sg**	**22 39 56.9**	**+1.7**
PDG	**Podgorica**	**0.95**	**304**	*i* PG	**Pg**	**22 39 43.4**	**-2.1**
PDG				*i* SG	**Sg**	**22 39 57.9**	**+0.1**
PDG	**Podgorica**	**0.95**	**304**	⇓*i*Pg	**Pg**	**22 39 43.4**	**-2.1**
PDG				*e*Sg	**Sg**	**22 39 57.9**	**+0.1**
TTG	**Podgorica**	**0.95**	**304**	⇓*i*Pg	**Pg**	**22 39 43.4**	**-2.1**
TTG				*e*Sg	**Sg**	**22 39 57.9**	**+0.1**
BEY	**Berane**	**1.02**	**342**	*i* PG	**Pg**	**22 39 45.3**	**-1.5**
BEY				*i* SG	**Sg**	**22 40 02.0**	**+1.9**
BEY	**Berane**	**1.02**	**342**	⇑*i*Pg	**Pg**	**22 39 45.3**	**-1.5**
BEY				*e*Sg	**Sg**	**22 40 02.0**	**+1.9**
IVA	**Berane**	**1.02**	**342**	⇑*i*Pg	**Pg**	**22 39 45.3**	**-1.5**
IVA				*e*Sg	**Sg**	**22 40 02.0**	**+1.9**
BUM	**Brajici-Budva**	**1.13**	**291**	⇓*i*Pg	**Pg**	**22 39 46.8**	**-2.2**
BUM				*e*Sg	**Sg**	**22 40 03.9**	**+0.3**
BUM	**Brajici-Budva**	**1.13**	**291**	*i* PG	**Pg**	**22 39 46.8**	**-2.2**
BUM				*i* SG	**Sg**	**22 40 03.9**	**+0.3**
BIA	**Bitola**	**1.16**	**139**	*i* Pg	**Pg**	**22 39 48.4**	**-1.1**
BIA				*i* Sg	**Sg**	**22 40 06.7**	**+2.1**
BIA				*e*Lg		22 40 08.7	
	comp=N,12nm,0.2s						
BIA				*e*Lg		22 40 09.3	
	comp=E,28nm,0.4s						
BIA	**Bitola**	**1.16**	**139**	*i* Pg	**Pg**	**22 39 48.4**	**-1.1**
BIA				*i* Sg	**Sg**	**22 40 06.6**	**+2.0**
NKY	**Niksic**	**1.34**	**313**	⇑*i*Pg	**Pg**	**22 39 51.2**	**-1.7**
NKY				*e*Sg	**Sg**	**22 40 11.0**	**+0.7**
NKY	**Niksic**	**1.34**	**313**	*i* PG	**Pg**	**22 39 51.2**	**-1.7**
NKY				*i* SG	**Sg**	**22 40 11.0**	**+0.7**
STIP	**Stip**	**1.41**	**98**	*i* Pg	**Pg**	**22 39 54.4**	**+0.1**
STIP				*i* Sg	**Sg**	**22 40 12.6**	**-0.1**
STIP				*e*Lg		22 40 15.6	
	comp=N,6.9nm,0.3s						
STIP				*e*Lg		22 40 15.6	
	comp=E,2.3nm,0.2s						
STIP	**Stip**	**1.41**	**98**	*i* Pg	**Pg**	**22 39 54.4**	**+0.1**
STIP				*i* Sg	**Sg**	**22 40 12.5**	**-0.1**
BARS	**Barje**	**1.44**	**50**	*e*Pg	**Pg**	**22 39 54.4**	**-0.4**
BARS				*e*Sg	**Sg**	**22 40 13.4**	**-0.1**
HCY	**Herceg Novi**	**1.46**	**293**	⇑*i*Pg	**Pn**	**22 39 52.3**	**-1.3**
HCY				*e*Sg	**Sg**	**22 40 15.1**	**+0.9**
PLE	**Pljevlja**	**1.58**	**335**	⇓*i*Pg	**Pg**	**22 39 56.2**	**-1.4**
PLE				*e*Sg	**Sg**	**22 40 19.4**	**+1.3**
BRY	**Bratogost**	**1.65**	**308**	⇑*i*Pn	**Pn**	**22 39 56.7**	**+0.4**
BRY				*e*Sn	**Sn**	**22 40 20.3**	**+2.8**
UPM	**Unac-Piva**	**1.67**	**322**	⇓*i*Pn	**Pn**	**22 39 58.0**	**+1.5**
UPM				*e*Sn	**Sn**	**22 40 21.3**	**+3.4**
TREB	**Trebinje**	**1.67**	**300**	*e*Pn	**Pn**	**22 39 56.9**	**+0.3**
TREB				*e*Sn	**Sn**	**22 40 21.3**	**+3.2**
VAY	**Valandovo**	**1.79**	**108**	*i* Pg	**Pg**	**22 40 00.2**	**-1.3**
VAY				*i* Sg	**Sg**	**22 40 23.4**	**-1.2**
VAY				*e*Lg		22 40 24.9	
	comp=N,14nm,0.6s						
VAY				*e*Lg		22 40 25.1	
	comp=E,11nm,0.7s						
VAY	**Valandovo**	**1.79**	**108**	*i* Pg	**Pg**	**22 40 00.1**	**-1.4**
VAY				*i* Sg	**Sg**	**22 40 23.4**	**-1.2**
BBLS	**Lazići**	**2.08**	**341**	*e*Pn	**Pn**	**22 40 04.8**	**+2.7**
BBLS				*e*Sn	**Sn**	**22 40 31.9**	**+3.9**
BOLS	**Boljevac**	**2.27**	**31**	*e*Pn	**Pn**	**22 40 09.1**	**+4.3**

IDC 29 22:56:31.0±2.9, 1360S×16716E, h0km, mb4.3/2, mb1 4.4/2, mb1mx3.8/15, mbtmp4.3/2, MS3.3/2, Ms1 3.3/2, ms1mx2.5/33, Error ellipse: s-maj=153.5km s-min=44.3km az=136.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CTA	**Charters Tower**	**21.01**	**249**	LR	LR	23 07 53.8	
	comp=Z,81nm,18.6s,baz=229,slow=32						
STKA	**Stephens Creek**	**29.66**	**228**	P	P	23 02 38.5	0.0
	3.1nm,0.4s,baz=50,slow=7.6,SNR=9.4						
ASAR	**Alice Springs**	**32.99**	**247**	P	P	23 03 08.0	0.0
	0.9nm,0.3s,baz=74,slow=9.3,SNR=30						
GUMO	**Guam**	**34.89**	**320**	LR	LR	23 14 51.5	
	comp=Z,48nm,21.8s,baz=269,slow=32						
ARCES	**ARCESS Array B**	**119.14**	**346**	PKP	PKPdf	23 15 21.3	-0.1
	3.2nm,0.9s,baz=24,slow=2.5,SNR=12						

*MAN **29** 23:03:46, 5.17N×12653E, h33km, mb4.9, ML3.8, MS3.9*
*MOS **29** 23:03:47.0±0.9, 526N×12568E, h33km, mb4.7/6, Error ellipse: s-maj=32.4km s-min=9.7km az=118.3*
*IDC **29** 23:03:50.6±3.0, 5.16N×12577E, h51km±28km, mb4.0/13, mb1 4.1/13, mb1mx3.9/20, mbtmp4.0/13, MS3.3/3, Ms1 3.3/3, ms1mx2.5/24, Error ellipse: s-maj=42.8km s-min=13.3km az=73.0*
*ISCJB **29** 23:03:50.3±0.8, 525N±005×126.17E±007, h71km±6km, mb4.3/26, Error ellipse: s-maj=12.4km s-min=8.5km az=170.7*
*NEIC **29** 23:03:52.0±1.4, 531N×126.18E, h69km±13km, mb4.6/13, Error ellipse: s-maj=22.6km s-min=8.0km az=70.0*
*DJA **29** 23:03:56, 531N×126.13E, h58km, MLv4.5/4*
ISC 29 23:03:51.4±0.8, 524N±005×12617E±007, h64km±6km, n63, σ1§29/68, mb4.4/26, 2C-2D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GSPH	**General Santos**	**1.47**	**305**	⇓*e*P	**Pn**	**23 04 13.9**	**-2.0**
GSPH				*e*S	**Sn**	**23 04 33.4**	**-0.9**
MATI	**Mati**	**1.69**	**3**	*e*P	**Pn**	**23 04 15.8**	**-3.1**
MATI				*e*S	**Sn**	**23 04 41.6**	**+2.0**
DAV	**Davao City (W)**	**1.91**	**342**	P	**Pn**	**23 04 20.5**	**-1.2**
	61nm,0.3s,baz=104,slow=22,SNR=5.2						
DAV				S	**Sn**	**23 04 50.5**	**+5.8**
	172nm,0.3s,baz=264,slow=21,SNR=9.9						
DAV				LR		23 05 17.8	
	comp=Z,491nm,18.1s,baz=120,slow=46						
KCP	**Kidapawan**	**2.06**	**329**	⇑*e*P	**Pn**	**23 04 22.9**	**-0.8**
KCP				*e*S	**Sn**	**23 04 50.9**	**+2.5**
BUKP	**Musuan**	**2.84**	**337**	*e*P	**Pn**	**23 04 33.8**	**-0.6**
BIPH	**Bislig**	**2.93**	**4**	⇓*e*P	**Pn**	**23 04 33.5**	**-2.1**
BIPH				*i* S	**Sn**	**23 05 10.3**	**+0.7**
CGP	**Cagayan de Oro**	**3.51**	**335**	⇑*e*P	**Pn**	**23 04 43.4**	**-0.1**
CGP				*e*S	**Sn**	**23 05 34.2**	**+10**
BUTP	**Butuan**	**3.74**	**352**	*e*P	**Pn**	**23 04 48.8**	**+2.1**
PAGZ	**Pagadian**	**3.79**	**313**	*e*P	**Pn**	**23 04 49.5**	**+2.1**
MSLP	**Maasin**	**5.03**	**345**	*e*P	**Pn**	**23 05 04.5**	**+0.1**
KAKA	**Kakadu**	**18.89**	**161**	*e*P	**Pn**	**23 08 07.8**	**-0.3**
NACB	**Ninganchiao**	**19.33**	**347**	P	**Pn**	**23 08 12.0**	**-1.2**
YHNB	**Yeheng**	**19.86**	**347**	*e*P	**Pn**	**23 08 17.1**	**-2.3**
WRAB	**Tennant Creek**	**26.28**	**162**	*e*P	**P**	**23 09 22.7**	**+1.7**
WRAB				pmax	pmax		
	comp=Z,9.0nm,1.0s,mb4.2						
WRAB	**Tennant Creek**	**26.28**	**162**	*e*P	**P**	**23 09 22.7**	**+1.8**
	comp=Z,9.1nm,1.0s,mb4.3						
CMAR	**Chiang Mai Arr**	**29.64**	**299**	P	**P**	**23 09 47.2**	**-3.8**
	comp=Z,0.6nm,0.3s,mb3.8,baz=113,slow=8.2,SNR=4.2						
ASAR	**Alice Springs**	**29.71**	**166**	P	**P**	**23 09 51.4**	**-0.2**
	comp=Z,0.6nm,0.7s,mb3.5,baz=346,slow=7.3,SNR=8.0						
ASAR				PcP	PcP	23 12 55.0	+0.6
	comp=Z,0.8nm,0.6s,baz=352,slow=2.6,SNR=6.4						
KSRS	**Korea Array**	**32.10**	**3**	P	**P**	**23 10 14.1**	**+1.7**
	comp=Z,0.9nm,0.5s,mb3.9,baz=182,slow=11,SNR=3.7						
KSRS				LR	LR	23 24 23.9	
	comp=Z,24nm,19.7s,baz=160,slow=38						
BJT	**Baijiatuan**	**35.77**	**347**	P	**P**	**23 10 43.8**	**-0.5**
NWAO	**Narrogin (SRO)**	**38.89**	**192**	P	**P**	**23 11 11.3**	**+0.6**
	comp=Z,6.3nm,0.6s,mb4.5,baz=5.6,slow=5.7,SNR=4.0						
MDJ	**Mudanjiang**	**39.33**	**4**	*e*P	**P**	**23 11 15.8**	**+1.5**
	comp=Z,14nm,1.1s,mb4.6						
STKA	**Stephens Creek**	**39.73**	**159**	P	**P**	**23 11 18.5**	**+0.7**
	comp=Z,2.1nm,0.6s,mb4.0,baz=354,slow=8.6,SNR=5.4						
STKA	**Stephens Creek**	**39.73**	**159**	*e*P	**P**	**23 11 18.8**	**+1.0**
	comp=Z,5.8nm,1.0s,mb4.3						
LSA	**Lhasa**	**41.03**	**310**	P	**P**	**23 11 27.0**	**-1.6**
TAPN	**Taplejung**	**42.68**	**305**	*e*P	**P**	**23 11 44.2**	**+2.1**
	comp=Z,6.1nm,0.6s,mb4.5						
ODAN	**Odare**	**42.75**	**304**	*e*P	**P**	**23 11 44.1**	**+1.4**
	comp=Z,8.7nm,0.7s,mb4.6						
RAMN	**Ramite**	**43.43**	**304**	*e*P	**P**	**23 11 50.3**	**+2.1**
JIRN	**Jiri**	**44.04**	**305**	*e*P	**P**	**23 11 55.0**	**+1.9**
	comp=Z,5.2nm,0.4s,mb4.6						
GUN	**Gumba**	**44.39**	**305**	*e*P	**P**	**23 11 57.5**	**+1.6**
	comp=Z,9.4nm,0.5s,mb4.8						
ULN	**Ulaanbaatar**	**45.52**	**342**	*e*P	**P**	**23 12 04.4**	**0.0**
ULN				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.4						
ULN	**Ulaanbaatar**	**45.52**	**342**	*e*P	**P**	**23 12 04.4**	**0.0**
	comp=Z,3.8nm,0.8s,mb4.4						
SONM	**Songino Array**	**45.69**	**341**	P	**P**	**23 12 07.8**	**+1.9**
	comp=Z,1.8nm,0.7s,mb4.1,baz=160,slow=10,SNR=2.4						
KOLN	**Koldanda**	**46.21**	**304**	*e*P	**P**	**23 12 11.9**	**+1.6**
	comp=Z,11nm,0.5s,mb5.1						
DANN	**Dangsing**	**46.29**	**305**	*e*P	**P**	**23 12 12.2**	**+1.3**
	comp=Z,13nm,0.6s,mb5.0						
TLY	**Talaya**	**49.93**	**342**	P	**P**	**23 12 38.4**	**-0.1**
BOD	**Bodaibo**	**53.30**	**352**	*e*P	**P**	**23 13 03.7**	**+0.1**
BOD				pmax	pmax		
	comp=Z,10.0nm,1.1s,mb4.7						
MK31	**Makanchi Array**	**56.00**	**325**	*e*P	**P**	**23 13 23.3**	**-0.1**
MKAR	**Makanchi Array**	**56.00**	**325**	P	**P**	**23 13 23.4**	**0.0**
	comp=Z,1.2nm,0.4s,mb4.3,baz=116,slow=7.4,SNR=38						
MKAR				PcP	PcP	23 14 21.4	+0.3
	comp=Z,0.9nm,0.7s,baz=111,slow=3.3,SNR=4.3						
MKAR				LR	LR	23 37 56.9	
	comp=Z,37nm,20.1s,baz=354,slow=37						
MKAR	**Makanchi Array**	**56.00**	**325**	P	**P**	**23 13 23.4**	**0.0**
MKAR						23 14 21.4	
TKM2	**Tokmak 2**	**58.25**	**318**	*e*P	**P**	**23 13 37.0**	**-2.3**
UCH	**Uchtor**	**58.69**	**317**	*e*P	**P**	**23 13 41.8**	**-0.6**
ZALV	**Zalesovo Beam**	**58.99**	**333**	P	**P**	**23 13 43.3**	**-1.0**
	comp=Z,1.9nm,0.7s,mb4.2,baz=126,slow=6.0,SNR=9.3						
ZALV				LR	LR	23 39 27.0	
	comp=Z,29nm,18.9s,baz=59,slow=36						
AML	**Almayashu**	**59.21**	**317**	*e*P	**P**	**23 13 45.0**	**-1.0**
KBL	**Kabul**	**60.17**	**307**	P	**P**	**23 13 51.4**	**-1.3**
KURK	**Kurchatov**	**60.17**	**327**	P	**P**	**23 13 52.7**	**+0.3**
	comp=Z,2.3nm,0.6s,mb4.4,baz=124,slow=6.5,SNR=6.1						
KURK	**Kurchatov**	**60.17**	**327**	*e*P	**P**	**23 13 51.8**	**-0.6**
KURK				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.5						
KURK	**Kurchatov**	**60.17**	**327**	*e*P	**P**	**23 13 51.8**	**-0.6**
	comp=Z,4.1nm,0.8s,mb4.5						
BVAR	**Borovoye Array**	**65.75**	**327

2.5nm,0.7s,mb4.1,baz=208,slow=10,SNR=4.5
BOSA Boshof 46.83 72 *e*P **P 00 13 11.5 -1.4**
17nm,1.2s,mb4.7
LBTB Lobatse 50.02 70 P **P 00 13 37.4 0.0**
3.7nm,0.7s,mb4.4,baz=219,slow=6.7,SNR=6.5
LBTB Lobatse 50.02 70 *e*P **P 00 13 37.8 +0.4**
3.6nm,0.7s,mb4.4
CASY Casey 50.30 159 P **P 00 13 38.8 -0.2**
LPAZ La Paz 52.77 307 P **P 00 13 58.9 +0.9**
1.3nm,0.4s,mb4.4,baz=98,slow=7.1,SNR=12
LPAZ pP pP 00 14 17.5 +1.0
1.8nm,0.5s,baz=126,slow=8.7,SNR=4.6
LPAZ La Paz 52.77 307 P **P 00 13 58.9 +0.9**
LPAZ pP pP 00 14 17.5 +1.0
LSZ Lusaka 59.63 66 P **P 00 14 46.5 -0.3**
ABPO Ambohimpanom 65.74 86 P **P 00 15 27.9 +0.4**
DBIC Dimbokro 68.53 24 P **P 00 15 44.5 -0.6**
1.4nm,0.4s,mb4.1,baz=172,slow=11,SNR=8.5
OTAV Otavalo 71.94 304 P **P 00 16 06.1 +0.1**
11nm,1.2s,mb4.6
TOA0 Torodi Ar. Sit 76.26 29 *e*P **P 00 16 31.4 +0.4**
TORD Torodi Ar. Bea 76.26 29 P **P 00 16 31.1 +0.1**
8.8nm,0.4s,mb4.9,baz=199,slow=6.3,SNR=276
STKA Stephens Creek 88.14 170 P **P 00 17 31.7 -1.3**
MBWA Marble Bar 94.81 149 *e*P **P 00 18 04.2 +0.2**
ASAR Alice Springs 95.33 162 P **P 00 18 06.3 -0.1**
1.4nm,0.7s,mb4.5,baz=182,slow=3.8,SNR=16
YBH Yreka Blue Hor 127.67 290 PKP PKPdf 00 23 44.3 -2.1
0.5nm,0.3s,baz=180,slow=5.1,SNR=2.2
ZALV Zalesovo Beam 143.72 68 PKP PKPdf 00 24 12.6 -3.1
3.8nm,0.4s,baz=228,slow=4.2,SNR=20
ZALV pPKP pPKPdf 00 24 34.1 -2.5
2.0nm,0.5s,baz=240,slow=3.6,SNR=6.7
SONM Songino Array 150.55 93 PKPbc PKPbc 00 24 32.6 -0.2
0.9nm,0.6s,baz=242,slow=3.1,SNR=4.3
SONM pPKPbc pPKPbc 00 24 54.4 +0.9
1.7nm,0.7s,baz=222,slow=1.7,SNR=2.7

*ISCJB **30** 00:22:03.9±1.2, 179S±0.1×178.41W±0.09, h580km±16km, mb3.7/13, Error ellipse: s-maj=16.2km s-min=13.0km az=150.9*
*IDC **30** 00:22:05.2±5.5, 1792S×178.39W, h584km±70km, mb3.2/9, mb1 3.4/9, mb1mx3.3/16, mbtmp3.2/9, Error ellipse: s-maj=34.7km s-min=26.2km az=14.0*
*NEIC **30** 00:22:05.2±1.0, 1788S×178.34W, h585km±13km, mb3.9/6, Error ellipse: s-maj=14.1km s-min=10.3km az=153.0*
ISC 30 00:22:04.9±1.2, 179S±01×17837W±009, h577km±15km, n30, σ0§85/26, mb3.7/13, 1D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**7.48**	**59**	P	**P**	**00 23 58.6**	**+0.1**
RAR	**Rarotonga**	**17.83**	**104**	P	**P**	**00 25 39.5**	**-0.4**
URZ	**Urewera**	**20.67**	**190**	P	**P**	**00 26 04.2**	**-1.3**
3.1nm,0.4s,baz=45,slow=10.0,SNR=5.7							
CTA	**Charters Tower**	**33.48**	**261**	P	**P**	**00 27 57.8**	**+0.2**
3.3nm,0.6s,mb4.2,baz=96,slow=9.2,SNR=4.7							
CTAO	**Charters Tower**	**33.48**	**261**	*e*P	**P**	**00 27 58.1**	**+0.6**
2.7nm,0.5s,mb4.1							
PMG	**Port Moresby**	**34.49**	**280**	*e*P	**P**	**00 28 05.7**	**-0.4**
TAU	**Tasmania Unive**	**38.27**	**222**	P	**P**	**00 28 38.8**	**+2.1**
STKA	**Stephens Creek**	**38.67**	**241**	*e*P	**P**	**00 28 41.6**	**+1.5**
4.8nm,1.4s,mb3.8							
STKA	**Stephens Creek**	**38.67**	**241**	P	**P**	**00 28 40.8**	**+0.7**
1.1nm,0.3s,mb3.8,baz=83,slow=8.1,SNR=4.3							
WRAB	**Tennant Creek**	**44.66**	**260**	*e*P	**P**	**00 29 27.3**	**-0.1**
2.0nm,0.4s,mb4.0							
MIDW	**Midway**	**45.85**	**1**	P	**P**	**00 29 35.9**	**-0.4**
KAKA	**Kakadu**	**47.62**	**269**	*e*P	**P**	**00 29 43.0**	**-6.8**
4.5nm,0.5s,mb4.2							
MBWA	**Marble Bar**	**58.11**	**256**	*e*P	**P**	**00 31 03.8**	**-0.5**
2.1nm,0.5s,mb3.5							
MJAR	**Matsushiro Arr**	**67.92**	**323**	P	**P**	**00 32 05.1**	**-1.7**
1.4nm,0.6s,mb3.6,baz=163,slow=6.0,SNR=4.1							
QSPA	**South Pole Qui**	**72.15**	**180**	*e*P	**P**	**00 32 31.4**	**+0.3**
2.5nm,0.7s,mb3.9							
PETK	**Petropavlovsk-**	**73.68**	**345**	P	**P**	**00 32 39.9**	**-0.3**
2.0nm,0.6s,mb3.8,baz=110,slow=8.0,SNR=5.3							
PETK	**Petropavlovsk-**	**73.68**	**345**	P	**P**	**00 32 39.9**	**-0.3**
NVAR	**Mina Array Bea**	**79.39**	**44**	P	**P**	**00 33 13.0**	**+1.2**
0.2nm,0.3s,mb2.9,baz=220,slow=5.3,SNR=1.6							
NVAR	**Mina Array Bea**	**79.39**	**44**	P	**P**	**00 33 13.0**	**+1.2**
TXAR	**Lajitas Array**	**85.96**	**58**	P	**P**	**00 33 45.6**	**+0.7**
0.6nm,0.9s,mb3.2,baz=212,slow=4.4,SNR=3.7							
PDAR	**Pinedale Array**	**87.32**	**43**	P	**P**	**00 33 51.6**	**+0.6**
0.3nm,0.6s,mb3.2,baz=183,slow=1.7,SNR=3.2							
CMAR	**Chiang Mai Arr**	**88.92**	**290**	P	**P**	**00 33 59.2**	**+0.2**
0.9nm,0.3s,mb4.0,baz=104,slow=2.4,SNR=4.3							
SNAA	**Sanae**	**90.61**	**179**	*e*P	**P**	**00 34 04.6**	**-1.3**
0.4nm,0.5s,mb3.6							
VNA3	**Neumayer Olymp**	**90.75**	**176**	*e*	**P**	**00 34 05.9**	**-0.6**
VNA2	**Neumayer--Watz**	**91.19**	**177**	*e*	**P**	**00 34 08.8**	**+0.3**
baz=203,slow=3.8							
PLCA	**Paso Flores**	**91.31**	**134**	*e*P	**P**	**00 34 09.7**	**0.0**
MKAR	**Makanchi Array**	**109.16**	**314**	PKiKP	PKiKP	00 39 27.4	-2.3
0.2nm,0.5s,baz=103,slow=1.4,SNR=3.1							
CLL	**Collm**	**145.46**	**347**	*i* PKPbc	PKPbc	00 40 37.9	-1.1
comp=Z,4.0nm,0.7s							
GERES	**GERESS Array B**	**147.61**	**345**	PKPbc	PKPbc	00 40 44.2	-0.7
comp=Z,1.2nm,0.6s,baz=20,slow=4.3,SNR=13							
TOA0	**Torodi Ar. Sit**	**175.28**	**181**	PKPdf	PKPdf	00 41 09.8	-0.1

*CRAAG **30** 00:22:17.2, 35.81N×2.30E, Ml3.6*
*ISCJB **30** 00:22:20.4±0.6, 36.08N±005×2.16E±004, h10km, Error ellipse: s-maj=7.0km s-min=4.4km az=8.5*
*CSEM **30** 00:22:20.2±0.2, 35.98N×2.21E, h25km, ML3.6, Error ellipse: s-maj=5.1km s-min=4.3km az=1.0*
*NEIC **30** 00:22:20.6, 36.05N×2.20E, h20km, ML3.4(CSEM), After CSEM.*
*MDD **30** 00:22:20.7±0.8, 35.90N×2.28E, h8km±12km, mb3.5/9, Error ellipse: s-maj=13.8km s-min=5.4km az=163.0, PRIMO SOLUCI POBRE*
ISC 30 00:22:21.0±0.9, 3599N±006×223E±005, h16km±8km, n33, σ1§07/51, Northern Algeria

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EMHD	**Djebel Mahouad**	**0.62**	**70**	P	**Pg**	**00 22 31.7**	**-1.5**
EMHD	**Djebel Mahouad**	**0.62**	**70**	P	**Pg**	**00 22 32.1**	**-1.1**
EBNR	**Beni Rached**	**0.64**	**299**	P	**Pg**	**00 22 34.8**	**+1.3**
EBNR	**Beni Rached**	**0.64**	**299**	P	**Pg**	**00 22 33.1**	**-0.4**
ECHA	**Ech Chlef**	**0.72**	**283**	P	**Pb**	**00 22 36.2**	**+1.1**
ECHF	**Ech Chlef**	**0.74**	**284**	P	**Pb**	**00 22 36.2**	**+0.8**
EANR	**'Ain N'Sour**	**0.92**	**268**	P	**Pb**	**00 22 38.0**	**-0.5**
EANR	**'Ain N'Sour**	**0.92**	**268**	P	**Pb**	**00 22 37.7**	**-0.8**
ETRT	**Tiaret**	**0.96**	**232**	P	**Pb**	**00 22 37.5**	**-1.7**
ADJB	**Djebel Djouab**	**0.99**	**80**	P	**Pb**	**00 22 38.8**	**-1.0**
ABMS	**Boumerdes**	**1.27**	**53**	P	**Pn**	**00 22 44.7**	**+0.7**
AKET	**Djebel Ketaf**	**1.34**	**87**	P	**Pn**	**00 22 47.2**	**+2.2**
EIBI	**Ibiza**	**3.12**	**347**	P	**Pn**	**00 23 09.6**	**+0.2**
5.5nm,0.2s,SNR=7.9							
EIBI				S	**Sn**	**00 23 46.7**	**+0.4**
4.9nm,0.2s,SNR=7.9							
EIBI	**Ibiza**	**3.12**	**347**	P	**Pn**	**00 23 09.6**	**+0.2**
5.5nm,0.2s,SNR=7.9							
EIBI				S	**Sn**	**00 23 45.1**	**-1.2**
4.9nm,0.2s,SNR=7.9							
EIBI	**Ibiza**	**3.12**	**347**	P	**Pn**	**00 23 09.6**	**+0.2**
EIBI				S	**Sn**	**00 23 45.1**	**-1.3**
EBEN	**Beniarda**	**3.34**	**325**	P	**Pn**	**00 23 12.6**	**+0.1**
0.5nm,0.1s,SNR=7.9							
EBEN				S	**Sn**	**00 23 52.0**	**+0.1**
1.0nm,0.2s,SNR=4.0							
EBEN	**Beniarda**	**3.34**	**325**	P	**Pn**	**00 23 12.5**	**-0.1**
0.5nm,0.1s,SNR=7.9							
EBEN				S	**Sn**	**00 23 51.6**	**-0.3**
1.0nm,0.2s,SNR=4.0							
EBEN	**Beniarda**	**3.34**	**325**	P	**Pn**	**00 23 12.5**	**-0.1**
EBEN				S	**Sn**	**00 23 51.6**	**-0.3**
ETOB	**Tobarra**	**4.01**	**313**	P	**Pn**	**00 23 22.7**	**+1.0**
0.5nm,0.1s,SNR=6.9							
ETOB				S	**Sn**	**00 24 08.3**	**-0.2**
1.9nm,0.3s							
ETOB	**Tobarra**	**4.01**	**313**	P	**Pn**	**00 23 22.7**	**+0.9**
0.5nm,0.1s,SNR=6.9							
ETOB				S	**Sn**	**00 24 08.3**	**-0.1**
1.9nm,0.3s							
EBER	**Berja**	**4.22**	**284**	P	**Pn**	**00 23 23.8**	**-0.9**
1.1nm,0.2s,SNR=9.9							
EBER				S	**Sn**	**00 24 13.2**	**-0.5**
1.9nm,0.4s,SNR=7.9							
EHUE	**Huescar**	**4.27**	**297**	P	**Pn**	**00 23 27.1**	**+1.8**
0.2nm,0.2s,SNR=7.9							
EHUE				S	**Sn**	**00 24 13.3**	**-1.6**
0.5nm,0.2s,SNR=7.9							
EHUE	**Huescar**	**4.27**	**297**	P	**Pn**	**00 23 27.1**	**+1.8**
0.2nm,0.2s,SNR=7.9							
EHUE				S	**Sn**	**00 24 16.1**	**+1.2**
0.5nm,0.2s,SNR=7.9							
EHUE	**Huescar**	**4.27**	**297**	P	**Pn**	**00 23 27.1**	**+1.8**
EHUE				S	**Sn**	**00 24 16.1**	**+1.2**
EVIA	**Vianos**	**4.61**	**306**	S	**Sn**	**00 24 22.5**	**-0.6**
1.6nm,0.3s,SNR=7.9							
EQES	**Quesada**	**4.62**	**295**	P	**Pn**	**00 23 31.4**	**+1.4**
0.4nm,0.1s,SNR=9.5							
EQES				S	**Sn**	**00 24 23.2**	**-0.1**
1.3nm,0.3s,SNR=7.9							
EQES	**Quesada**	**4.62**	**295**	P	**Pn**	**00 23 31.4**	**+1.3**
0.4nm,0.1s,SNR=9.5							
EQES				S	**Sn**	**00 24 23.2**	**-0.2**
1.3nm,0.3s,SNR=7.9							
EQUE	**Quentar**	**4.72**	**287**	P	**Pn**	**00 23 32.0**	**+0.5**
0.6nm,0.2s,SNR=6.3							
EQUE	**Quentar**	**4.72**	**287**	P	**Pn**	**00 23 32.0**	**+0.5**
0.6nm,0.2s,SNR=6.3							
EQUE				S	**Sn**	**00 24 26.1**	**+0.2**
1.5nm,0.6s,SNR=7.9							
EMOS	**Mosqueruela**	**4.86**	**335**	P	**Pn**	**00 23 34.4**	**+0.9**
0.9nm,0.1s,SNR=11							
EMOS				S	**Sn**	**00 24 28.0**	**-1.3**
0.3nm,0.2s							
EMOS	**Mosqueruela**	**4.86**	**335**	P	**Pn**	**00 23 34.4**	**+1.0**
0.9nm,0.1s,SNR=11							
EMOS				S	**Sn**	**00 24 28.0**	**-1.3**
0.3nm,0.2s							
EMIJ	**Mijas**	**5.69**	**278**	P	**Pn**	**00 23 42.1**	**-2.6**
0.3nm,0.1s,SNR=7.9							

*JMA **30** 00:25:49.9±0.3, 2384N×122.71E, h32km, M2.5*
*ISCJB **30** 00:25:51.1±0.8, 2382N±005×122.80E±003, h29km±8km, Error ellipse: s-maj=8.5km s-min=3.7km az=164.3*
*TAP **30** 00:25:52.0, 2382N×122.49E, h2km±1km, ML2.7, D*
ISC 30 00:25:51.3±0.9, 2383N±005×12280E±003, h26km±8km, n24, σ1§06/37, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
YOJ	**Yonaguni jima**	**0.66**	**17**	*e*S	**Sb**	**00 26 12.4**	**-0.7**
HATJ	**Hateruma jima**	**0.94**	**76**	*e*S	**Sb**	**00 26 21.6**	**+0.5**
IRIF	**Iriomote-Funau**	**0.99**	**59**	P	**Pn**	**00 26 08.6**	**-0.9**
IRIF				*e*S	**Sb**	**00 26 22.5**	**+0.1**
TWD	**Chiawan**	**1.13**	**283**	*e*P	**Pn**	**00 26 11.6**	**+0.1**
baz=287							
ENA	**Nanau**	**1.14**	**302**	*e*P	**Pn**	**00 26 12.1**	**+0.5**
baz=311							
TWC	**Suao**	**1.17**	**312**	*i* P	**Pn**	**00 26 12.0**	**0.0**
baz=323							
TWC				*i* S	**Sn**	**00 26 26.6**	**-0.6**
baz=323							
JKRS	**Kuro-shima**	**1.18**	**69**	P	**Pn**	**00 26 11.9**	**-0.2**
JKRS				*e*S	**Sn**	**00 26 28.0**	**+0.8**
ESL	**Shilin**	**1.26**	**270**	*e*P	**Pn**	**00 26 11.5**	**-1.7**
baz=269							
ESL				*e*S	**Sn**	**00 26 26.3**	**-3.0**
baz=269							
JIJ	**Ishigaki jima**	**1.33**	**66**	P	**Pn**	**00 26 14.0**	**-0.3**
JIJ				*e*S	**Sn**	**00 26 30.5**	**-0.7**
TWE	**Neicheng**	**1.37**	**311**	*e*P	**Pn**	**00 26 15.1**	**+0.3**
baz=319							
EHY	**Hungye**	**1.40**	**257**	*e*P	**Pn**	**00 26 14.2**	**-0.9**
baz=253							
EHY				*e*S	**Sn**	**00 26 30.8**	**-1.9**
baz=253							
WHF	**Hehuan Shan**	**1.44**	**283**	P	**Pn**	**00 26 15.3**	**-0.4**
baz=285							
WHF				*e*S	**Sn**	**00 26 32.3**	**-1.5**
baz=285							
NNS	**Nan Shan**	**1.44**	**295**	*e*P	**Pn**	**00 26 15.7**	**-0.1**
baz=300							
TWF1	**Yuli**	**1.46**	**251**	P	**Pn**	**00 26 15.5**	**-0.5**
baz=246							
TWF1				S	**Sn**	**00 26 33.1**	**-1.2**
baz=246							
NWF	**Wu-fen Shan**	**1.55**	**323**	*e*P	**Pn**	**00 26 17.9**	**+0.7**
baz=332							
NWF				*e*S	**Sn**	**00 26 38.5**	**+2.0**
baz=332							
SMLT	**Sun Moon Lake**	**1.75**	**272**	*e*P	**Pn**	**00 26 20.2**	**+0.3**
baz=272							
ELDTW	**Lidau**	**1.76**	**249**	*e*P	**Pn**	**00 26 19.5**	**-0.6**
baz=244							
TYC	**Yuchr**	**1.79**	**273**	*e*P	**Pn**	**00 26 20.5**	**+0.1**
baz=273							
ALS	**Alishan**	**1.86**	**261**	P	**Pn**	**00 26 22.4**	**+0.9**
baz=258							
ALS				*e*S	**Sn**	**00 26 43.1**	**-1.0**
baz=258							
JTJ	**Tarama**	**1.91**	**65**	*e*S	**Sn**	**00 26 45.4**	**-0.1**
CHN5	**Tsauling**	**1.96**	**264**	*e*P	**Pn**	**00 26 23.9**	**+1.1**
baz=262							
CHN5				*e*S	**Sn**	**00 26 48.8**	**+2.1**
baz=262							
CHN4	**Tsaushan**	**2.08**	**257**	*e*P	**Pn**	**00 26 26.0**	**+1.4**
baz=254							
WTP	**Ta-pu**	**2.09**	**254**	*e*P	**Pn**	**00 26 24.9**	**+0.2**
baz=251							
WTP				*e*S	**Sn**	**00 26 52.2**	**+2.3**
baz=251							
CHN1	**Nanshi**	**2.19**	**253**	*e*P	**Pn**	**00 26 26.4**	**+0.4**
baz=250							
CHN1				*e*S	**Sn**	**00 26 54.8**	**+2.6**
baz=250							

*ISCJB **30** 00:46:58.7±0.8, 3327N±005×131.49E±008, h10km, mb3.4/3, Error ellipse: s-maj=10.8km s-min=6.2km az=155.7*
*JMA **30** 00:46:58.1, 3329N×131.47E, h3km±1km, M3.0*
JMA Felt III J1.
*IDC **30** 00:47:03.3±17.0, 3250N×131.96E, h85km±102km, mb3.1/3, mb1 3.2/5, mb1mx3.1/23, mbtmp3.1/5, ML3.3/2, MS2.4/1, Ms1 2.4/1, ms1mx2.2/10, Error ellipse: s-maj=243.6km s-min=43.2km az=7.0*
ISC 30 00:47:00.3±0.8, 3329N±005×1316E±01, h10km, n10, σ1§42/10, mb3.4/3, Kyushu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OIT2	**Oita 2**	**0.09**	**263**	P	**Pg**	**00 46 58.7**	**-4.0**
JUS	**Usuki**	**0.28**	**144**	P	**Pg**	**00 47 04.4**	**-1.4**
JUS				*e*S	**Sg**	**00 47 08.9**	**-0.6**
JKI	**Kunimi**	**0.34**	**2**	P	**Pg**	**00 47 05.5**	**-1.6**
JKI				*e*S	**Sg**	**00 47 10.3**	**-1.4**
KSRS	**Korea Array**	**5.11**	**325**	P	Px	00 48 29.2	
0.2nm,0.3s,baz=150,slow=16,SNR=3.2							
MAT	**Matsushiro**	**6.35**	**57**	P	**Pn**	**00 48 36.2**	**+2.3**
MJAR	**Matsushiro Arr**	**6.35**	**57**	P	**Pn**	**00 48 36.8**	**+2.9**
2.5nm,0.3s,baz=243,slow=14,SNR=20							
ASAJ	**Asahikawa**	**13.81**	**35**	LR	LR	00 56 02.5	
comp=Z,18nm,21.7s,baz=108,slow=38							
MKAR	**Makanchi Array**	**39.43**	**305**	P	**P**	**00 54 30.6**	**+0.4**
0.5nm,0.8s,mb3.3,baz=81,slow=9.5,SNR=4.1							
KURK	**Kurchatov**	**42.05**	**311**	P	**P**	**00 54 52.8**	**+0.9**
0.4nm,0.7s,mb3.1,baz=97,slow=9.2,SNR=3.1							
BVAR	**Borovoye Array**	**47.21**	**314**	P	**P**	**00 55 33.5**	**+0.5**
0.7nm,0.7s,mb3.7,baz=35,slow=5.3,SNR=4.3							

*BJI **30** 00:58:44.8, 2868N×130.98E, h15km, mB4.3, mb4.4*
*MOS **30** 00:58:52.1±1.1, 2924N×130.42E, h33km, mb4.4/8, Error ellipse: s-maj=16.9km s-min=12.4km az=104.7*
*ISCJB **30** 00:58:53.6±1.1, 2924N±007×130.59E±009, h50km±11km, mb4.4/21, MS3.4/5, Error ellipse: s-maj=15.1km s-min=8.4km az=40.2*
*NEIC **30** 00:58:55.8±0.7, 2932N×130.39E, h45km±9km, mb4.7/13, Error ellipse: s-maj=12.8km s-min=6.4km az=127.0*
*IDC **30** 00:58:56.5±2.4, 2926N×130.42E, h57km±22km, mb3.8/6, mb1 3.8/9, mb1mx3.7/22, mbtmp3.8/9, ML3.2/3, MS3.3/9, Ms1 3.4/9, ms1mx3.2/27, Error ellipse: s-maj=44.0km s-min=15.1km az=118.0*
ISC 30 00:58:56.4±0.9, 2930N±007×13040E±009, h51km±10km, n47, σ0§67/44, mb4.4/21, MS3.4/5, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JOW	**Kunigami**	**3.09**	**218**	P	**Pn**	**00 59 41.9**	**-0.8**
4.3nm,0.3s,baz=18,slow=12,SNR=8.1							
JOW				S	**Sn**	**01 00 18.6**	**+0.1**
12nm,0.3s,baz=135,slow=19,SNR=4.3							
JOW				LR	LR	01 01 21.7	
comp=Z,429nm,19.0s,baz=318,slow=47							
KSRS	**Korea Array**	**8.39**	**346**	P	**Pn**	**01 00 57.4**	**+2.0**
0.3nm,0.3s,baz=168,slow=14,SNR=11							
KSRS				LR	LR	01 04 27.0	
comp=Z,160nm,20.4s,baz=160,slow=39							
JHJ	**Hachijo jima 2**	**8.89**	**62**	LR	LR	01 04 29.6	
comp=Z,113nm,19.1s,baz=98,slow=37							
MAJO	**Matsushiro**	**9.75**	**40**	P	**Pn**	**01 01 12.8**	**-1.1**
MJAR	**Matsushiro Arr**	**9.76**	**40**	P	**Pn**	**01 01 14.1**	**+0.2**
0.5nm,0.3s,baz=282,slow=9.0,SNR=2.8							
MJAR	**Matsushiro Arr**	**9.76**	**40**	P	**Pn**	**01 01 14.1**	**+0.1**
MJAR				pmax	pmax		
comp=Z,1.0nm,0.3s							
CN2	**Changchun**	**15.01**	**346**	*e*P	**Pn**	**01 02 31.5**	**+6.4**
CN2				AMB	AMB		
comp=Z,10.0nm,0.7s							
ASAJ	**Asahikawa**	**17.70**	**30**	LR	LR	01 10 20.4	
comp=Z,64nm,19.6s,baz=340,slow=39							
XAN	**Xi'an**	**18.88**	**290**	P	**Pn**	**01 03 12.5**	**-1.0**
XAN				AP	pP	01 03 19.8	-4.2
XAN				S	**S**	**01 06 43.5**	**-0.9**
XAN				AMB	AMB		
comp=Z,7.0nm,0.6s							
XAN				AMB	AMB		
comp=Z,93nm,7.9s							
GUMO	**Guam**	**20.60**	**136**	LR	LR	01 09 37.6	
comp=Z,83nm,19.1s,MS3.1,baz=272,slow=31							
SONM	**Songino Array**	**26.19**	**322**	P	**P**	**01 04 25.6**	**-0.4**
comp=Z,1.0nm,0.6s,mb3.5,baz=128,slow=9.3,SNR=2.2							
SONM				LR	LR	01 15 51.6	
comp=Z,86nm,19.2s,MS3.3,baz=91,slow=39							
SONM	**Songino Array**	**26.19**	**322**	P	**P**	**01 04 25.6**	**-0.4**
SONM				pmax	pmax		
comp=Z,1.0nm,0.6s							
SONM				MLR	MLR		
comp=Z,87nm,19.2s							
GTA	**Gaotai**	**27.08**	**300**	*e*P	**P**	**01 04 38.5**	**+4.3**
GTA				AP	pP	01 04 44.3	-2.8
GTA				XP	sP	01 04 47.3	-5.8
GTA				AMB	AMB		
comp=Z,2.0nm,0.5s,mb3.9							
CHTO	**Chiang Mai**	**30.48**	**257**	*e*P	**P**	**01 05 04.1**	**-0.5**
CHTO				pmax	pmax		
comp=Z,8.0nm,1.7s,mb4.2							
CHTO	**Chiang Mai**	**30.48**	**257**	*e*P	**P**	**01 05 04.1**	**-0.4**
comp=Z,7.7nm,1.7s,mb4.2							
CMAR	**Chiang Mai Arr**	**30.63**	**256**	LR	LR	01 18 33.8	
comp=Z,45nm,18.3s,MS3.2,baz=80,slow=38							
ODAN	**Odare**	**37.87**	**277**	*e*P	**P**	**01 06 08.6**	**+0.1**
comp=Z,15nm,0.7s,mb4.8							
JIRN	**Jiri**	**38.73**	**279**	*e*P	**P**	**01 06 16.4**	**+0.7**
comp=Z,6.3nm,0.6s,mb4.5							
GUN	**Gumba**	**38.94**	**279**	*e*P	**P**	**01 06 18.3**	**+0.8**
comp=Z,21nm,0.7s,mb5.0							
KKN	**Kakani**	**39.48**	**279**	*e*P	**P**	**01 06 22.6**	**+0.6**
comp=Z,15nm,0.7s,mb4.9							
DMN	**Daman**	**39.67**	**279**	*e*P	**P**	**01 06 23.6**	**0.0**
comp=Z,22nm,1.1s,mb4.8							
GKN	**Gorkha**	**39.99**	**280**	*e*P	**P**	**01 06 26.6**	**+0.4**
comp=Z,8.0nm,0.5s,mb4.7							
DANN	**Dangsing**	**40.66**	**280**	*e*P	**P**	**01 06 32.5**	**+0.7**
comp=Z,26nm,0.7s,mb5.0							
KOLN	**Koldanda**	**40.93**	**280**	*e*P	**P**	**01 06 34.5**	**+0.5**
comp=Z,8.0nm,0.7s,mb4.5							
MKAR	**Makanchi Array**	**41.02**	**309**	P	**P**	**01 06 34.8**	**+0.3**
comp=Z,1.1nm,0.7s,mb3.6,baz=93,slow=10,SNR=13							
MKAR				PcP	PcP	01 08 34.0	+0.4
comp=Z,0.4nm,0.7s,baz=84,slow=5.3,SNR=3.5							
MKAR	**Makanchi Array**	**41.02**	**309**	P	**P**	**01 06 34.8**	**+0.3**
MKAR						01 08 34.0	
MKAR				pmax	pmax		
comp=Z,1.0nm,0.7s							
ZALV	**Zalesovo Beam**	**41.06**	**320**	P	**P**	**01 06 33.5**	**-1.2**
comp=Z,1.0nm,0.5s,mb3.7,baz=113,slow=8.3,SNR=6.4							
ZALV				LR	LR	01 25 23.5	
comp=Z,61nm,18.8s,MS3.5,baz=27,slow=39							
ZALV	**Zalesovo Beam**	**41.06**	**320**	P	**P**	**01 06 33.5**	**-1.2**
ZALV				pmax	pmax		
comp=Z,1.0nm,0.5s,mb3.7							
ZALV				MLR	MLR		
comp=Z,61nm,18.8s,MS3.5							
KURK	**Kurchatov**	**44.00**	**314**	P	**P**	**01 06 58.9**	**+0.3**
comp=Z,6.6nm,0.6s,mb4.6,baz=100,slow=8.8,SNR=25							
KURK	**Kurchatov**	**44.00**	**314**	P	**P**	**01 06 58.9**	**+0.3**
KURK				pmax	pmax		
comp=Z,7.0nm,0.6s,mb4.6							
KURK	**Kurchatov**	**44.00**	**314**	*e*P	**P**	**01 06 58.7**	**+0.1**
comp=Z,7.7nm,0.7s,mb4.5							
WRAB	**Tennant Creek**	**49.09**	**175**	*e*P	**P**	**01 07 39.1**	**+0.4**
WRAB				pmax	pmax		
comp=Z,2.0nm,0.9s,mb4.2							
WRAB	**Tennant Creek**	**49.09**	**175**	*e*P	**P**	**01 07 39.1**	**+0.3**
comp=Z,2.3nm,0.9s,mb4.2							
BRVK	**Borovoye**	**49.40**	**316**	*e*P	**P**	**01 07 40.8**	**0.0**
KBL	**Kabul**	**51.66**	**293**	*e*P	**P**	**01 07 58.1**	**0.0**
ARU	**Arti**	**56.22**	**321**	*e*P	**P**	**01 08 30.4**	**-0.6**
ARU				pmax	pmax		
comp=Z,4.0nm,0.8s,mb4.5							
ARU	**Arti**	**56.22**	**321**	*e*P	**P**	**01 08 30.4**	**-0.6**
comp=Z,4.2nm,0.8s,mb4.5							
**AR

ISAD				*e*		01 11 47.2	
IMON	**Monand**	**3.32**	**41**	*e*Pn	**Pn**	**01 10 52.4**	**-0.1**
IMON				*e*		01 11 06.0	
BNDS	**Bandar-Abbas**	**3.40**	**194**	*e*Pn	**Pn**	**01 10 56.3**	**+2.7**
BNDS				AML	AML	01 11 47.4	
	comp=N,39nm,0.4s						
BNDS				AML	AML	01 11 51.1	
	comp=E,44nm,0.5s						
ZHSF	**Zahedan**	**3.40**	**108**	*e*Pn	**Pb**	**01 10 59.8**	**-1.1**
ZHSF				AML	AML	01 11 57.3	
	comp=N,32nm,0.5s						
NASN	**Na'in**	**4.18**	**301**	*e*Pn	**Pn**	**01 11 05.5**	**+1.1**
GHIR	**Ghir-Karzin**	**4.30**	**237**	*e*Pn	**Pn**	**01 11 07.1**	**+1.1**
IZEF	**Zefreh**	**4.58**	**300**	*e*Pn	**Pn**	**01 11 10.3**	**+0.4**

NEIC 30 01:19:22.9, 3918S×17492E, h198km, MG3.8(WEL)**, After WEL., North Island**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FWVZ	**Far West T-bar**	**0.50**	**99**	P	Pn	01 19 49.6	-0.1
NGZ	**Ngauruhoe**	**0.53**	**90**	P	Pn	01 19 49.7	-0.1
WNVZ	**Wahianoa**	**0.55**	**106**	P	Pn	01 19 49.8	-0.1
TUVZ	**Tukino**	**0.58**	**99**	P	Pn	01 19 50.1	+0.1
WAZ	**Wanganui**	**0.58**	**175**	P	Pn	01 19 50.1	+0.1
MOVZ	**Moawhango**	**0.69**	**110**	P	Pn	01 19 50.1	-0.4
TSZ	**Takapari Road**	**1.19**	**138**	P	Pn	01 19 53.9	+0.1
MRZ	**Mangatainoka R**	**1.56**	**161**	P	Pn	01 19 56.4	-0.5

*NEIC **30** 01:39:52.2, 16.14N×98.40W, h25km, MD3.7(MEX), After MEX.*

MEX 30 01:39:52.0±0.4, 1611N×9839W, h24km±8km, MD3.7, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PNIG	**Pinotepa**	**0.38**	**42**	*i* P	Pb	01 39 59.1	-1.1
PNIG				*i* S	Sb	01 40 04.1	-1.6
ACX	**Acapulco**	**1.65**	**297**	*i* P	Pn	01 40 17.0	-2.4
ACX				*e*S	Sn	01 40 36.5	-3.4
ACX	**Acapulco**	**1.65**	**297**	*i* P	Pn	01 40 17.0	-2.4
ACX				*i* S	Sn	01 40 34.5	-5.3
VHO	**Vista Hermosa**	**1.85**	**59**	*i* P	Pn	01 40 19.9	-2.4
VHO				*i* S	Sn	01 40 41.9	-3.0
OXX	**Oaxaca**	**1.87**	**59**	*e*P	Pn	01 40 19.9	-2.5
OXX				*i* S	Sn	01 40 41.9	-3.4
CAIG	**El Cayaco**	**2.03**	**298**	*i* P	Pn	01 40 21.8	-2.9
CAIG				*i* S	Sn	01 40 46.0	-3.2
MEIG	**Mezcala**	**2.16**	**327**	*e*P	Pn	01 40 24.6	-1.8
MEIG				*i* S	Sn	01 40 48.9	-3.5
PPM	**Popocatepetl**	**2.95**	**356**	*e*P	Pn	01 40 35.1	-2.2
PPM				*i* S	Sn	01 41 09.3	-2.7
PPM	**Popocatepetl**	**2.95**	**356**	*e*P	Pn	01 40 34.1	-3.2
PPM				*i* S	Sn	01 41 09.3	-2.7
MZVM		**3.17**	**345**	*i* P	Pn	01 40 38.6	-1.7
MZVM				*i* S	Sn	01 41 15.2	-2.2
IIO	**Organos**	**3.48**	**355**	*e*P	Pn	01 40 43.1	-1.5
IIO				*i* S	Sn	01 41 23.4	-1.6

JMA 30 02:11:31.0±0.1, 2931N×14256E, h31km, M4.0, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CBIJ	**Chichi jima**	**2.23**	**189**	P	Pn	02 12 07.1	+1.3
CBIJ				*e*S	Sn	02 12 33.6	+1.3

*ISCJB **30** 02:11:51.6±1.0, 3888N±004×27.10E±005, h6km±8km, Error ellipse: s-maj=7.6km s-min=5.2km az=41.4*
*CSEM **30** 02:11:51.2±0.1, 3891N×2712E, h12km, MD2.8, Error ellipse: s-maj=4.4km s-min=2.1km az=119.0*
*DDA **30** 02:11:51.2, 3887N×27.10E, h7km±3km, Md2.8*
*ATH **30** 02:11:55.9, 3866N×2633E, h9km, MD3.1/3*

ISC 30 02:11:52.2±0.8, 3889N±004×2711E±005, h14km±7km, n11, σ0≤97/18, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AKHS	**Akhisar**	**0.55**	**90**	*i* P	**Pg**	**02 12 02.8**	**-0.2**
AKHS				*i* S	**Sg**	**02 12 10.8**	**+0.5**
URLA	**Izmir**	**0.66**	**218**	*i* P	**Pg**	**02 12 03.5**	**-1.6**
URLA				*i* S	**Sg**	**02 12 16.4**	**+2.6**
PRK	**Paraskevi**	**0.74**	**299**	*e*Pb	**Pb**	**02 12 07.3**	**+0.4**
PRK	**Paraskevi**	**0.74**	**299**	*e*PB	**Pb**	**02 12 07.3**	**+0.4**
BALY	**Balya**	**0.94**	**25**	*i* P	**Pb**	**02 12 09.5**	**-0.8**
BALY				*i* S	**Sb**	**02 12 23.7**	**+1.1**
SMG	**Samos**	**1.19**	**190**	*e*Pb	**Pb**	**02 12 14.3**	**-0.3**
SMG				*e*Sb	**Sb**	**02 12 30.0**	**+0.2**
SMG	**Samos**	**1.19**	**190**	*e*PB	**Pb**	**02 12 14.3**	**-0.3**
SMG				*e*SB	**Sb**	**02 12 30.0**	**+0.2**
DEMI	**Demirci**	**1.26**	**82**	*i* P	**Pn**	**02 12 15.1**	**-0.3**
DEMI				*i* S	**Sb**	**02 12 31.9**	**+0.1**
AYDN	**Tasoluk**	**1.36**	**153**	*i* P	**Pn**	**02 12 15.1**	**-1.7**
AYDN				*i* S	**Sn**	**02 12 35.6**	**+1.0**
APE	**Apeiranthos**	**2.20**	**215**	*e*Pn	**Pn**	**02 12 28.1**	**-0.2**
APE	**Apeiranthos**	**2.20**	**215**	*e*PN	**Pn**	**02 12 28.1**	**-0.2**

*ISCJB **30** 02:23:19.6±0.3, 3671N±002×762W±002, h10km, Error ellipse: s-maj=3.5km s-min=2.3km az=42.2*
*CNRM **30** 02:23:19.3, 3693N×796W, h30km, MD3.6*
*CSEM **30** 02:23:21.6±0.1, 3669N×763W, h35km, ML2.7, Error ellipse: s-maj=2.3km s-min=1.7km az=31.0*
*INMG **30** 02:23:22.7±1.0, 3673N×771W, h14km±2km, MD2.8, ML2.7, Error ellipse: s-maj=2.4km s-min=1.5km az=18.0*
*IGIL **30** 02:23:22.5, 3672N×771W, h13km, ML2.6*
*SFS **30** 02:23:22.0, 3676N×776W, h24km, ML2.6*
*MDD **30** 02:23:22.9±0.6, 3675N×770W, h19km±3km, mbLg2.7/34, Error ellipse: s-maj=4.9km s-min=3.5km az=29.0, PRIMO*
*NEIC **30** 02:23:23.0, 3677N×775W, h23km, MN2.6(MDD), After MDD.*

ISC 30 02:23:22.9±0.6, 3677N±002×768W±003, h31km±4km, n83, σ0≤92/156, 1C-4D, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PBDV	**Barranco-do-Ve**	**0.52**	**337**	*i* Pg	**Pb**	**02 23 32.8**	**-0.8**
PBDV				*e*Sg	**Sb**	**02 23 40.0**	**-0.9**
PBDV				A		02 23 43.4	
	162nm,0.2s						
PBDV	**Barranco-do-Ve**	**0.52**	**337**	⇓P	**Pb**	**02 23 32.8**	**-0.8**
PBDV				S	**Sb**	**02 23 40.0**	**-0.9**
	162nm,0.2s						
PBDV	**Barranco-do-Ve**	**0.52**	**337**	*e*Sg	**Sb**	**02 23 40.0**	**-0.9**
	162nm,0.2s						
PVAQ	**Vaqueiros**	**0.64**	**357**	*e*Pg	**Pb**	**02 23 35.0**	**-0.6**
PVAQ				*e*Sg	**Sb**	**02 23 44.5**	**+0.3**
PVAQ				A		02 23 45.9	
	454nm,0.1s						
PVAQ	**Vaqueiros**	**0.64**	**357**	⇓P	**Pb**	**02 23 35.0**	**-0.6**
PVAQ				S	**Sb**	**02 23 44.5**	**+0.3**
	454nm,0.1s						
PVAQ	**Vaqueiros**	**0.64**	**357**	*e*Sg	**Sb**	**02 23 44.5**	**+0.3**
ERIP	**Rio Piedras**	**0.69**	**29**	⇓P	**Pb**	**02 23 36.3**	**-0.2**
	27nm,0.1s,SNR=18						
ERIP				S	**Sb**	**02 23 46.0**	**+0.2**
	220nm,0.1s,SNR=7.9						
EGRO	**El Granado**	**0.78**	**12**	P	**Pn**	**02 23 37.8**	**0.0**
	45nm,0.1s,SNR=342						
EGRO				S	**Sb**	**02 23 48.6**	**+0.3**
	259nm,0.1s						
EGRO	**El Granado**	**0.78**	**12**	P	**Pn**	**02 23 37.8**	**0.0**
	45nm,0.1s,SNR=342						
EGRO				S	**Sb**	**02 23 48.6**	**+0.3**
	259nm,0.1s						
MORF	**Marmelete**	**0.94**	**305**	*e*P	**Pn**	**02 23 39.7**	**-0.3**
MORF				*e*S	**Sn**	**02 23 52.9**	**+0.4**
MORF				A		02 23 53.4	
	205nm,0.1s						
MORF	**Marmelete**	**0.94**	**305**	*e*P	**Pn**	**02 23 39.7**	**-0.3**
MORF				*e*S	**Sn**	**02 23 52.9**	**+0.4**
	205nm,0.1s						
PFVI	**Vila Bisbo**	**0.99**	**292**	*e*P	**Pn**	**02 23 40.2**	**-0.4**
PFVI				*e*S	**Sn**	**02 23 53.4**	**-0.2**
PFVI				A		02 23 55.8	
	94nm,0.1s						
PFVI	**Vila Bisbo**	**0.99**	**292**	*e*P	**Pn**	**02 23 40.2**	**-0.4**
PFVI				*e*S	**Sn**	**02 23 53.4**	**-0.2**
	94nm,0.1s						
PTEO	**Sao Teotonio**	**1.14**	**313**	*e*P	**Pn**	**02 23 42.8**	**+0.1**
PTEO				*e*S	**Sn**	**02 23 58.0**	**+0.7**
PTEO				A		02 24 01.8	
	72nm,0.2s						
PTEO	**Sao Teotonio**	**1.14**	**313**	*e*P	**Pn**	**02 23 42.8**	**+0.1**
PTEO				*e*S	**Sn**	**02 23 58.0**	**+0.7**
	72nm,0.2s						
PBEJ	**Beja**	**1.27**	**353**	*e*P	**Pn**	**02 23 44.8**	**+0.3**
PBEJ				*e*S	**Sn**	**02 24 01.2**	**+0.8**
PBEJ				A		02 24 04.7	
	113nm,0.2s						
PBEJ	**Beja**	**1.27**	**353**	*e*P	**Pn**	**02 23 44.8**	**+0.3**
PBEJ				*e*S	**Sn**	**02 24 01.2**	**+0.8**
	113nm,0.2s						
EMIN	**Mina Concepcio**	**1.28**	**39**	P	**Pn**	**02 23 44.7**	**0.0**
	0.8nm,0.1s,SNR=72						
EMIN				S	**Sn**	**02 24 01.3**	**+0.5**
	35nm,0.1s,SNR=14						
EMIN	**Mina Concepcio**	**1.28**	**39**	P	**Pn**	**02 23 44.7**	**0.0**
	0.8nm,0.1s,SNR=72						
EMIN				S	**Sn**	**02 24 01.3**	**+0.5**
	35nm,0.1s,SNR=14						
ESPR	**Espera**	**1.47**	**85**	⇓P	**Pn**	**02 23 47.8**	**+0.6**
	5.6nm,0.1s,SNR=18						
ESPR				S	**Sn**	**02 24 06.2**	**+0.8**
	27nm,0.2s,SNR=4.9						
ESPR	**Espera**	**1.47**	**85**	P	**Pn**	**02 23 47.8**	**+0.6**
	5.6nm,0.1s,SNR=18						
ESPR				S	**Sn**	**02 24 06.2**	**+0.8**
	27nm,0.2s,SNR=4.9						
PBAR	**Barrancos**	**1.50**	**20**	*e*P	**Pn**	**02 23 47.8**	**+0.2**
PBAR				*e*S	**Sn**	**02 24 07.4**	**+1.3**
PBAR				A		02 24 11.8	
	51nm,0.2s						
PBAR	**Barrancos**	**1.50**	**20**	*e*P	**Pn**	**02 23 47.8**	**+0.2**
PBAR				*e*S	**Sn**	**02 24 07.4**	**+1.3**
	51nm,0.2s						
EVO	**Evora**	**1.78**	**352**	*e*P	**Pn**	**02 23 51.9**	**+0.3**
EVO				A		02 24 19.7	
	77nm,0.1s						
EVO	**Evora**	**1.78**	**352**	*e*P	**Pn**	**02 23 51.9**	**+0.3**
	77nm,0.1s						
EJIF	**Jimena Fronter**	**1.81**	**99**	P	**Pn**	**02 23 52.3**	**+0.4**
	0.1nm,0.1s,SNR=7.9						
LIJA	**Lijar**	**1.83**	**85**	P	**Pn**	**02 24 01.8**	**+10**
LIJA				S	**Sn**	**02 24 21.5**	**+7.1**
LIJA	**Lijar**	**1.83**	**85**	*e*P	**Pn**	**02 24 01.8**	**+10**
LIJA				*e*S	**Sn**	**02 24 21.5**	**+7.1**
MOE	**Montemor**	**1.83**	**343**	*e*P	**Pn**	**02 23 53.2**	**+1.0**
EBAD	**Badajoz**	**2.06**	**15**	P	**Pn**	**02 23 55.8**	**+0.5**
	1.7nm,0.1s,SNR=16						
EBAD				S	**Sn**	**02 24 25.2**	**+5.3**
	25nm,0.1s,SNR=10						
EBAD	**Badajoz**	**2.06**	**15**	P	**Pn**	**02 23 55.8**	**+0.5**
	1.7nm,0.1s,SNR=16						
EBAD				S	**Sn**	**02 24 25.2**	**+5.3**
	25nm,0.1s,SNR=10						
PESTR	**Estremoz**	**2.10**	**2**	*e*Pn	**Pn**	**02 23 56.3**	**+0.4**
PESTR				*e*Sn	**Sn**	**02 24 21.8**	**+0.8**
PESTR				A		02 24 33.9	
	37nm,0.3s						
PESTR	**Estremoz**	**2.10**	**2**	P	**Pn**	**02 23 56.3**	**+0.4**
PESTR				S	**Sn**	**02 24 21.8**	**+0.8**
	19nm,0.3s						
ECAB	**El Cabril**	**2.23**	**53**	P	**Pn**	**02 23 58.3**	**+0.6**
	1.1nm,0.1s,SNR=7.7						
ECAB				S	**Sn**	**02 24 23.0**	**-1.1**
	2.9nm,0.1s,SNR=10						
ECAB				Lg		02 24 30.3	
	10nm,0.1s,SNR=7.9						
ECAB	**El Cabril**	**2.23**	**53**	P	**Pn**	**02 23 58.3**	**+0.7**
	1.1nm,0.1s,SNR=7.7						
ECAB				S	**Sn**	**02 24 23.0**	**-1.1**
	2.9nm,0.1s,SNR=10						
EMIJ	**Mijas**	**2.35**	**94**	P	**Pn**	**02 23 59.4**	**0.0**
	0.2nm,0.1s,SNR=4.0						
EMIJ				S	**Sn**	**02 24 27.8**	**+0.7**
	1.7nm,0.2s,SNR=7.9						
ALMR	**Almeirim**	**2.49**	**344**	*e*P	**Pn**	**02 24 01.7**	**+0.4**
ALMR				*e*S	**Sn**	**02 24 29.6**	**-0.9**
ALMR				*e*S	**Sn**	**02 24 29.7**	**-0.9**
ALMR				AML	AML	02 24 31.5	
	comp=E,17nm,0.5s						
ALMR	**Almeirim**	**2.49**	**344**	*e*P	**Pn**	**02 24 01.7**	**+0.4**
ALMR				*e*S	**Sn**	**02 24 29.6**	**-1.0**
PMAFR	**Mafra**	**2.53**	**330**	*e*Pn	**Pn**	**02 24 02.8**	**+1.0**
PMAFR				*e*Sn	**Sn**	**02 24 32.5**	**+1.0**
PMAFR				A		02 24 49.2	
	comp=E,30nm,0.3s						
PMAFR	**Mafra**	**2.53**	**330**	P	**Pn**	**02 24 02.8**	**+1.0**
PMAFR				S	**Sn**	**02 24 32.5**	**+1.0**
	comp=E,15nm,0.3s						
PMRV	**Marv??o**	**2.67**	**5**	*e*Pn	**Pn**	**02 24 03.9**	**+0.2**
PMRV				*e*Sn	**Sn**	**02 24 35.4**	**+0.4**
PMRV				A		02 24 49.8	
	comp=E,35nm,0.3s						
EADA	**Adamuz**	**2.84**	**60**	P	**Pn**	**02 24 06.5**	**+0.4**
	comp=E,1.1nm,0.1s,SNR=17						
EADA				S	**Sn**	**02 24 39.6**	**+0.4**
	comp=E,3.7nm,0.1s,SNR=7.9						
EADA				Lg		02 24 49.7	
	comp=E,7.0nm,0.2s,SNR=7.9						
EADA	**Adamuz**	**2.84**	**60**	P	**Pn**	**02 24 06.5**	**+0.4**
	comp=E,1.1nm,0.1s,SNR=17						
EADA				S	**Sn**	**02 24 39.6**	**+0.4**
	comp=E,3.7nm,0.1s,SNR=7.9						
PTOM	**Tomar**	**2.90**	**349**	*e*Pn	**Pn**	**02 24 07.5**	**+0.5**
PTOM				*e*Sn	**Sn**	**02 24 41.7**	**+0.9**
PTOM				A		02 24 57.7	
	comp=E,33nm,0.2s						
PTOM	**Tomar**	**2.90**	**349**	P	**Pn**	**02 24 07.5**	**+0.5**
PTOM				S	**Sn**	**02 24 41.7**	**+0.9**
	comp=E,17nm,0.2s						
PCBR	**Castelo Branco**	**3.07**	**3**	*e*Pn	**Pn**	**02 24 09.5**	**+0.2**
PCBR				*e*Sn	**Sn**	**02 24 44.6**	**-0.4**
PCBR				A		02 25 02.8	
	comp=E,12nm,0.3s						
PCBR	**Castelo Branco**	**3.07**	**3**	P	**Pn**	**02 24 09.5**	**+0.2**
PCBR				S	**Sn**	**02 24 44.6**	**-0.4**
	comp=E,5.8nm,0.3s						
EGUA	**Guajares**	**3.30**	**88**	P	**Pn**	**02 24 14.1**	**+1.6**
	comp=E,0.2nm,0.2s,SNR=7.9						
EGUA				S	**Sn**	**02 24 53.1**	**+2.4**
	comp=E,1.5nm,0.1s,SNR=7.9						
EGUA	**Guajares**	**3.30**	**88**	P	**Pn**	**02 24 14.1**	**+1.6**
EGUA				S	**Sn**	**02 24 53.1**	**+2.4**
EBAN	**Banos Encina**	**3.40**	**65**	⇑P	**Pn**	**02 24 13.9**	**+0.1**
	comp=E,5.9nm,0.1s,SNR=18						
EBAN				S	**Sn**	**02 24 52.7**	**-0.4**
	comp=E,3.4nm,0.2s,SNR=7.9						
EQUE	**Quentar**	**3.42**	**81**	P	**Pn**	**02 24 15.2**	**+1.1**
	comp=E,0.1nm,0.1s,SNR=6.1						
EQUE				S	**Sn**	**02 24 54.9**	**+1.3**
	comp=E,1.6nm,0.2s,SNR=7.9						
EQUE	**Quentar**	**3.42**	**81**	P	**Pn**	**02 24 15.2**	**+1.1**
	comp=E,0.1nm,0.1s,SNR=6.1						
EQUE				S	**Sn**	**02 24 54.9**	**+1.2**
	comp=E,1.6nm,0.2s,SNR=7.9						
EPLA	**Plasencia**	**3.52**	**20**	P	**Pn**	**02 24 15.6**	**+0.1**
	comp=E,0.7nm,0.1s,SNR=5.2						
EPLA				S	**Sn**	**02 24 54.6**	**-1.5**
	comp=E,2.1nm,0.1s,SNR=7.8						
MTE	**Manteigas**	**3.63**	**2**	*e*Pn	**Pn**	**02 24 17.1**	**+0.2**
MTE				*e*Sn	**Sn**	**02 24 58.0**	**-0.7**
MTE				A		02 25 28.4	
	comp=E,20nm,0.5s						
MTE	**Manteigas**	**3.63**	**2**	P	**Pn**	**02 24 17.1**	**+0.2**
MTE				S	**Sn**	**02 24 58.0**	**-0.7**
	comp=E,9.8nm,0.5s						
EQES	**Quesada**	**3.82**	**73**	P	**Pn**	**02 24 19.4**	**-0.1**
	comp=E,0.4nm,0.1s,SNR=13						
EQES				S	**Sn**	**02 25 02.9**	**-0.5**
	comp=E,1.2nm,0.1s,SNR=7.9						
EQES	**Quesada**	**3.82**	**73**	P	**Pn**	**02 24 19.4**	**-0.2**
	comp=E,0.4nm,0.1s,SNR=13						
EQES				S	**Sn**	**02 25 02.9**	**-0.5**
	comp=E,1.2nm,0.1s,SNR=7.9						
EBER	**Berja**	**3.85**	**87**	P	**Pn**	**02 24 22.1**	**+2.2**
	comp=E,0.4nm,0.1s,SNR=4.0						
EBER				S	**Sn**	**02 25 04.2**	**+0.1**
	comp=E,1.0nm,0.2s,SNR=7.9						
EBER	**Berja**	**3.85**	**87**	P	**Pn**	**02 24 22.1**	**+2.2**
	comp=E,0.4nm,0.1s,SNR=4.0						
EBER				S	**Sn**	**02 25 04.2**	**+0.1**
	comp=E,1.0nm,0.2s,SNR=7.9						
MIF	**Mishlifen**	**3.91**	**148**	*i* P	**Pn**	**02 24 19.0**	**-1.8**
MIF				*i* S	**Sn**	**02 25 05.0**	**-0.6**
ESDC	**Sonseca Array**	**4.12**	**44**	P	**Pn**	**02 24 24.1**	**+0.4**
	comp=E,3.9nm,0.1s,baz=228,slow=13,SNR=9.3						
ESDC				S	**Sn**	**02 25 06.3**	**-4.6**
	baz=227,slow=24,SNR=4.0						
ESDC	**Sonseca Array**	**4.12**	**44**	P	**Pn**	**02 24 24.1**	**+0.4**
	comp=E,3.9nm,0.1s,SNR=9.3						
EHUE	**Huescar**	**4.19**	**74**	P	**Pn**	**02 24 24.5**	**-0.2**
	comp=E,0.4nm,0.1s,SNR=7.9						
EHUE				S	**Sn**	**02 25 12.0**	**-0.6**
	comp=E,0.3nm,0.2s,SNR=7.9						
CZD	**Col de Zad**	**4.31**	**149**	*e*P	**Pn**	**02 24 25.5**	**-0.8**
CZD				*i* S	**Sn**	**02 25 14.0**	**-1.5**
MVO	**Moncorvo**	**4.42**	**6**	*e*Pn	**Pn**	**02 24 28.3**	**+0.5**
MVO				*e*Sn	**Sn**	**02 25 15.5**	**-2.7**
MVO				A		02 25 52.1	
	comp=E,12nm,0.5s						
MVO	**Moncorvo**	**4.42**	**6**	P	**Pn**	**02 24 28.3**	**+0.5**
MVO				S	**Sn**	**02 25 15.5**	**-2.7**
	comp=E,6.1nm,0.5s						
PVRL	**Vila Real**	**4.50**	**360**	*e*Sn	**Sn**	**02 25 19.2**	**-1.0**
PVRL				A		02 25 20.6	
	comp=E,7.3nm,0.1s						
PVRL	**Vila Real**	**4.50**	**360**	S	**Sn**	**02 25 19.2**	**-1.0**
	comp=E,3.7nm,0.1s						
EVIA	**Vianos**	**4.51**	**64**	P	**Pn**	**02 24 28.7**	**-0.4**
	comp=E,1.5nm,0.1s,SNR=6.7						
EVIA				S	**Sn**	**02 25 19.1**	**-1.3**
	comp=E,1.0nm,0.2s,SNR=7.9						
EVIA	**Vianos**	**4.51**	**64**	P	**Pn**	**02 24 28.7**	**-0.4**
	comp=E,1.5nm,0.1s,SNR=6.7						
EVIA				S	**Sn**	**02 25 19.1**	**-1.4**
	comp=E,1.0nm,0.2s,SNR=7.9						
GUD	**Guadarrama**	**4.75**	**34**	P	**Pn**	**02 24 31.9**	**-0.5**
	comp=E,0.1nm,0.1s,SNR=7.9						
GUD				S	**Sn**	**02 25 24.0**	**-2.4**
	comp=E,0.7nm,0.2s,SNR=7.9						
PBRG	**Braganca**	**5.08**	**8**	*e*Pn	**Pn**	**02 24 37.0**	**+0.1**
PBRG				*e*Sn	**Sn**	**02 25 31.8**	**-2.8**
ELOB	**Lobios**	**5.10**	**357**	P	**Pn**	**02 24 37.1**	**-0.1**
	comp=E,0.1nm,0.1s,SNR=7.9						
ELOB				S	**Sn**	**02 25 31.2**	**-3.8**
	comp=E,8.2nm,0.2s,SNR=7.9						
ELOB	**Lobios**	**5.10**	**357**	P	**Pn**	**02 24 37.1**	**-0.1**
	comp=E,0.1nm,0.1s,SNR=7.9						
ETOB	**Tobarra**	**5.21**	**67**	P	**Pn**	**02 24 38.2**	**-0.5**
	comp=E,1.1nm,0.2s,SNR=16						
ETOB				S	**Sn**	**02 25 34.3**	**-3.5**
	comp=E,4.1nm,0.2s,SNR=7.9						
ETOB	**Tobarra**	**5.21**	**67**	P	**Pn**	**02 24 38.2**	**-0.5**
	comp=E,1.1nm,0.2s,SNR=16						
ETOB				S	**Sn**	**02 25 34.3**	**-3.4**
	comp=E,4.1nm,0.2s,SNR=7.9						
ETOB	**Tobarra**	**5.21**	**67**	P	**Pn**	**02 24 38.1**	**-0.5**
ETOB				S	**Sn**	**02 25 34.3**	**-3.5**
ETOB				S	**Sn**	**02 25 35.9**	**-1.8**
ECAL	**Calabor**	**5.22**	**8**	P	**Pn**	**02 24 39.0**	**+0.2**
	comp=E,0.3nm,0.1s,SNR=6.1						
ECAL				S	**Sn**	**02 25 34.4**	**-3.5**
	comp=E,2.6nm,0.2s,SNR=7.9						
ECAL	**Calabor**	**5.22**	**8**	P	**Pn**	**02 24 39.0**	**+0.2**
	comp=E,0.3nm,0.1s,SNR=6.1						
ZFT	**Errachidia**	**5.46**	**149**	*e*P	**Pn**	**02 24 43.0**	**+0.8**
ZFT				*i* S	**Sn**	**02 25 44.0**	**0.0**
OUK	**Oukaimeden**	**5.55**	**182**	P	**Pn**	**02 24 42.0**	**-1.3**
OUK				S	**Sn**	**02 25 42.0**	**-4.0**
OUK	**Oukaimeden**	**5.55**	**182**	*e*P	**Pn**	**02 24 42.0**	**-1.3**
ETOR	**Torete**	**5.97**	**46**	P	**Pn**	**02 24 49.5**	**+0.4**
	comp=E,1.9nm,0.1s,SNR=7.9						
ETOR				S	**Sn**	**02 25 53.4**	**-3.1**
	comp=E,2.9nm,0.1s,SNR=7.9						

*ISCJB **30** 02:29:51.3±0.6, 212S±01×1693E±010, h10km, mb4.3/7, MS4.0/1, Error ellipse: s-maj=22.1km s-min=10.8km az=156.4*
*NEIC **30** 02:29:52.2±0.5, 2128S×16941E, h10km, mb4.3/3, Error ellipse: s-maj=24.1km s-min=10.3km az=161.0*
*SZGRF **30** 02:29:55.1, 2189S×16988E, h33km, Southeast of Loyalty Islands*
*IDC **30** 02:30:00.7±11.0, 2134S×16929E, h75km±103km, mb4.1/6, mb1 4.3/6, mb1mx4.1/12, mbtmp4.1/6, MS3.8/2, Ms1 3.8/2, ms1mx3.0/23, Error ellipse: s-maj=40.7km s-min=33.0km az=64.0*

ISC 30 02:30:00.4±5.7, 212S±01×1693E±02, h70km±51km, n39, σ0≤56/21, mb4.2/7, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**2.76**	**251**	*e*Pn	**Pn**	**02 30 36.5**	**-5.9**
EIDS	**Eidsvold**	**17.21**	**253**	*e*Pn	**Pn**	**02 33 55.3**	**-0.9**
	16nm,1.1s						
ARMA	**Armidale**	**18.32**	**236**	*e*P	**Pn**	**02 34 09.7**	**0.0**
AFI	**Afiamalu**	**19.47**	**71**	LR	LR	02 40 26.0	
	comp=Z,176nm,20.5s,baz=211,slow=32						
CTA	**Charters Tower**	**21.56**	**269**	*e*P	**P**	**02 34 44.2**	**-0.1**
	14nm,1.0s,mb4.2						
CTA	**Charters Tower**	**21.56**	**269**	P	**P**	**02 34 44.3**	**0.0**
	14nm,0.9s,mb4.3,baz=88,slow=11,SNR=11						
CTAO	**Charters Tower**	**21.56**	**269**	*e*P	**P**	**02 34 44.3**	**+0.1**
	12nm,0.9s,mb4.2						
CNB	**Canberra Magne**	**22.41**	**227**	*e*P	**P**	**02 34 54.5**	**+1.4**
TOO	**Toolangi**	**26.25**	**226**	*e*P	**P**	**02 35 29.8**	**+0.8**
STKA	**Stephens Creek**	**26.86**	**241**	*e*P	**P**	**02 35 34.3**	**-0.3**
	7.1nm,0.9s,mb4.2	

NEIC ***30*** *02:43:04.9±0.6, 6.16S×13084E, h15km, Error ellipse: s-maj=27.2km s-min=13.1km az=65.0*

ISCJB ***30*** *02:43:05.2±0.6, 6.25S±008×13085E±007, h33km, mb4.1/8, Error ellipse: s-maj=11.2km s-min=9.7km az=158.1*

ISC 30 02:43:07.4±0.6, 624S±008×13089E±007, h35km, n14, σ1§06/14, mb4.1/8, 1C, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res
TLE	**Tual**	**1.93**	**72**	⇑*eP*		**Pn**		**02 43 39.0**	**+1.3**
TLE				*eS*		**Sn**		**02 44 00.0**	**-0.8**
WRAB	**Tennant Creek**	**14.02**	**166**	*e*Pn		**Pn**		**02 46 21.1**	**-2.5**
	4.8nm,0.6s								
CTA	**Charters Tower**	**20.30**	**134**	P		**P**		**02 47 42.2**	**+1.9**
	1.3nm,0.4s,baz=307,slow=10,SNR=2.5								
FORT	**Forrest**	**24.55**	**186**	*e*P		**P**		**02 48 24.0**	**+0.1**
	17nm,0.7s,mb4.7								
STKA	**Stephens Creek**	**27.39**	**160**	*e*P		**P**		**02 48 48.5**	**-1.1**
	3.0nm,0.9s,mb3.8								
STKA	**Stephens Creek**	**27.39**	**160**	P		**P**		**02 48 49.1**	**-0.5**
	2.2nm,0.7s,mb3.8,baz=328,slow=9.5,SNR=3.9								
NWAO	**Narrogin (SRO)**	**29.44**	**204**	P		**P**		**02 49 08.8**	**+1.0**
	3.6nm,0.5s,mb4.4,baz=45,slow=7.1,SNR=4.1								
CMAR	**Chiang Mai Arr**	**39.94**	**309**	P		**P**		**02 50 38.1**	**-0.5**
	0.9nm,0.3s,mb4.0,baz=141,slow=8.0,SNR=3.5								
MJAR	**Matsushiro Arr**	**43.11**	**9**	P		**P**		**02 51 03.0**	**-1.2**
	1.6nm,0.7s,mb3.8,baz=183,slow=9.5,SNR=4.8								
KSRS	**Korea Array**	**43.56**	**357**	P		**P**		**02 51 08.3**	**+0.4**
	0.4nm,0.3s,mb3.6,baz=172,slow=7.9,SNR=3.3								
MK31	**Makanchi Array**	**68.09**	**326**	*e*P		**P**		**02 54 03.9**	**+0.4**
MKAR	**Makanchi Array**	**68.09**	**326**	P		**P**		**02 54 04.0**	**+0.5**
	6.5nm,0.8s,mb4.7,baz=121,slow=8.2,SNR=46								
ZALV	**Zalesovo Beam**	**71.30**	**333**	P		**P**		**02 54 22.6**	**-0.5**
	0.6nm,0.5s,mb3.8,baz=132,slow=4.1,SNR=4.4								
RRI2	**Red Ridge**	**114.33**	**45**	*e*PKP		PKiKP		03 01 46.1	+2.5

ISCJB ***30*** *02:49:52.9±0.2, 480S±003×154.11E±005, h376km, mb4.9/84, Error ellipse: s-maj=6.4km s-min=4.6km az=175.8*

NEIC ***30*** *02:49:53.6±0.1, 478S×154.16E, mb5.0/44, Error ellipse: s-maj=5.4km s-min=3.8km az=102.0*

GCMT ***30*** *02:49:53.7±0.3, 481S×154.15E, h377km±2km, MW5.2/69, Moment Tensor Solution. s69,c85; Duration: 1§0*
Moment tensor; Scale 10^17 Nm; Mrr=0.79±.03;
Mθθ=-0.13±.05; Mφφ=0.92±.05; Mrθ=0.11±.05; Mrφ=-0.33±.04;
Mθφ=0.09±.05; Best double couple: M=0.92000×10^17
NP1:φs=332.00000°, δ45.00000°, λ=108.00000°. NP2:
φs=176.00000°, δ48.00000°, λ=73.00000°. Principal axes:
T 1.0200, Plg2.0000°, Azm254.0000°; N -0.2010,
Plg12.0000°, Azm344.0000°; P -0.8190, Plg78.0000°,
Azm156.0000°; nsta1 refers to body waves, cutoff=40s.

MOS ***30*** *02:49:54.7±0.9, 473S×154.04E, h385km, mb5.0/26 Error ellipse: s-maj=10.0km s-min=6.6km az=101.4*

DJA ***30*** *02:49:54, 492S×154.46E, h396km, mb5.1/9*

IDC ***30*** *02:49:54.3±0.5, 485S×154.16E, h377km±4km, mb4.4/19, mb1 4.5/20, mb1mx4.5/21, mbtmp4.4/20, Error ellipse: s-maj=13.1km s-min=7.6km az=79.0*

BJI ***30*** *02:49:57.4, 429S×154.18E, h402km, mB4.7, mb4.8*

ISC 30 02:49:54.5±0.2, 480S±003×15416E±005, h377km, h377km±2.3km:pP-P,n329,σ0§87/183, mb4.9/84, 25C-21D, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res
HNR	**Honiara**	**7.36**	**129**	*e*P		**Pn**		**02 51 41.8**	**+0.1**
PMG	**Port Moresby**	**8.32**	**236**	*c i*P		**Pn**		**02 51 54.5**	**+1.7**
PMG	**Port Moresby**	**8.32**	**236**	*e*P		**Pn**		**02 51 54.7**	**+1.9**
COEN	**Coen**	**14.14**	**229**	*e*P		**P**		**02 52 59.0**	**+0.4**
	124nm,0.9s								
CTA	**Charters Tower**	**17.04**	**206**	⇓*i*P		**P**		**02 53 31.1**	**+1.2**
	68nm,0.8s								
CTA				*e*S		**S**		**02 56 29.8**	**+1.5**
CTA	**Charters Tower**	**17.04**	**206**	P		**P**		**02 53 30.9**	**+1.0**
	6.3nm,0.3s,baz=34,slow=11,SNR=73								
CTA				S		**S**		**02 56 29.2**	**+0.9**
	baz=230,slow=22,SNR=8.1								
CTA	**Charters Tower**	**17.04**	**206**	⇓*i*P		**P**		**02 53 31.1**	**+1.2**
CTA				*e*S		**S**		**02 56 29.8**	**+1.5**
CTA				pmax	pmax				
	comp=Z,68nm,0.8s								
CTAO	**Charters Tower**	**17.04**	**206**	*e*P		**P**		**02 53 31.1**	**+1.2**
CTAO				pmax	pmax				
	comp=Z,94nm,0.8s								
CTAO	**Charters Tower**	**17.04**	**206**	*e*P		**P**		**02 53 31.1**	**+1.3**
	comp=Z,94nm,0.8s								
EIDS	**Eidsvold**	**20.67**	**188**	*e*P		**P**		**02 54 06.5**	**-0.1**
	comp=Z,341nm,0.9s								
DZM	**Mont Dzumac**	**20.89**	**146**	*e*P		**P**		**02 54 08.2**	**-0.4**
KAKA	**Kakadu**	**22.84**	**248**	*e*P		**P**		**02 54 18.6**	**-8.0**
	comp=Z,68nm,0.5s,mb5.1								
KAKA				*e*PCP		sP		02 56 35.5	+20
WRAB	**Tennant Creek**	**24.46**	**230**	P		**P**		**02 54 40.0**	**-1.1**
	comp=Z,469nm,0.6s,SNR=50								
WRAB	**Tennant Creek**	**24.46**	**230**	*e*P		**P**		**02 54 40.6**	**-0.5**
WRAB				pmax	pmax				
	comp=Z,41nm,0.6s,mb4.8								
WRAB	**Tennant Creek**	**24.46**	**230**	*e*P		**P**		**02 54 40.6**	**-0.4**
	comp=Z,41nm,0.6s,mb4.8								
ARMA	**Armidale**	**25.59**	**185**	⇓*i*P		**P**		**02 54 51.6**	**+0.6**
STKA	**Stephens Creek**	**29.40**	**202**	⇓*i*P		**P**		**02 55 23.8**	**-0.9**
	comp=Z,16nm,0.6s,mb4.4								
STKA				*e*PCP		PcP		02 58 20.7	+0.8
STKA	**Stephens Creek**	**29.40**	**202**	P		**P**		**02 55 24.0**	**-0.7**
	comp=Z,20nm,0.6s,mb4.5,baz=14,slow=7.9,SNR=53								
STKA				pP				02 56 33.0	
	comp=Z,6.9nm,0.8s,baz=25,slow=13,SNR=2.1								
STKA				S		**S**		**02 59 48.6**	**-1.8**
	comp=Z,6.5nm,1.0s,baz=354,slow=20,SNR=3.8								
CNB	**Canberra Magne**	**30.69**	**188**	⇓*i*P		**P**		**02 55 36.5**	**+0.7**
CNB				*e*PCP		PcP		02 58 22.8	-0.4
BATI	**Baumata**	**30.69**	**258**	P		**P**		**02 55 36.5**	**+0.3**
	comp=Z,8.2nm,0.3s,mb4.4,baz=216,slow=5.8,SNR=3.2								
CAN	**Canberra**	**30.75**	**188**	*e*P		**P**		**02 55 36.8**	**+0.5**
CAN				*e**PP		pP		02 56 44.5	-1.7
TOO	**Toolangi**	**33.57**	**193**	*e*P		**P**		**02 56 00.7**	**+0.1**
TOO				*e*PCP		PcP		02 58 31.0	-0.2
FORT	**Forrest**	**35.66**	**221**	*e*P		**P**		**02 56 17.3**	**-1.2**
	comp=Z,86nm,0.6s,mb5.2								
FORT				*e*pP		pP		02 57 27.0	-2.8
URZ	**Urewera**	**39.32**	**151**	P		**P**		**02 56 48.8**	**+0.1**
	comp=Z,18nm,0.6s,mb4.5,baz=20,slow=2.2,SNR=17								
URZ				PcP		PcP		02 58 46.6	-2.1
	comp=Z,13nm,0.7s,baz=250,slow=4.7,SNR=5.2								
URZ				S		**S**		**03 02 20.6**	**-0.5**
	comp=Z,1.7nm,0.5s,baz=351,slow=21,SNR=3.5								
RPZ	**Rata Peaks**	**41.53**	**161**	P		**P**		**02 57 05.2**	**-1.3**
	comp=Z,130nm,0.9s,mb5.0,baz=4.6,slow=1.2,SNR=33								
RPZ				PcP		PcP		02 58 54.8	-1.0
	comp=Z,8.9nm,0.5s,baz=177,slow=3.5,SNR=4.6								
KLBR	**Kellerberrin**	**43.30**	**228**	*e*P		**P**		**02 57 18.7**	**-2.1**
	comp=Z,33nm,1.1s,mb4.4								
KLBR				*e*pP		pP		02 58 40.7	+5.6
KLBR				*e*PCP		PcP		02 59 02.1	+0.1
MJAR	**Matsushiro Arr**	**43.75**	**341**	P		**P**		**02 57 23.3**	**-0.9**
	comp=Z,9.7nm,0.8s,mb4.0,baz=168,slow=8.3,SNR=22								
MJAR				PcP		PcP		02 59 03.4	+0.1
	comp=Z,9.0nm,0.9s,baz=164,slow=3.7,SNR=8.9								
MAJO	**Matsushiro**	**43.75**	**341**	*e*P		**P**		**02 57 23.5**	**-0.7**
MAJO				pmax	pmax				
	comp=Z,14nm,0.7s,mb4.2								
MAJO	**Matsushiro**	**43.75**	**341**	*e*P		**P**		**02 57 23.5**	**-0.8**
	comp=Z,14nm,0.7s,mb4.2								
MAT	**Matsushiro**	**43.75**	**341**	P		**P**		**02 57 23.2**	**-1.0**
NWAO	**Narrogin (SRO)**	**44.36**	**226**	P		**P**		**02 57 28.6**	**-0.5**
	comp=Z,27nm,0.3s,mb3.8,baz=55,slow=2.3,SNR=4.3								
MUN	**Mundaring**	**44.63**	**228**	*e*P		**P**		**02 57 30.0**	**-1.3**
KSRS	**Korea Array**	**48.62**	**332**	P		**P**		**02 58 01.8**	**+0.1**
	comp=Z,19nm,0.8s,mb4.4,baz=148,slow=8.3,SNR=64								
KSRS				PcP		PcP		02 59 21.4	+0.8
	comp=Z,4.4nm,0.7s,baz=165,slow=2.6,SNR=9.0								
KS15	**Wonju Array Si**	**48.63**	**332**	*e*P		**P**		**02 58 02.1**	**+0.4**
INCN	**Inchon**	**49.26**	**331**	*e*P		**P**		**02 58 07.4**	**+0.9**
NJ2	**Nanjing**	**49.70**	**320**	*e*P		**P**		**02 58 11.0**	**+1.1**
NJ2				AMB		AMB			
	comp=Z,40nm,0.6s,mb4.8								
WHN	**Wuhan**	**51.80**	**315**	⇑P		**P**		**02 58 26.5**	**+1.1**
YSS	**Yuzh-Sakhalins**	**52.51**	**350**	*e*P		**P**		**02 58 30.0**	**-0.2**
YSS				pmax	pmax				
	comp=Z,40nm,0.8s,mb4.8								
YSS	**Yuzh-Sakhalins**	**52.51**	**350**	*e*P		**P**		**02 58 30.6**	**+0.4**
	comp=Z,19nm,0.6s,mb4.6								
MDJ	**Mudanjiang**	**53.90**	**338**	P		**P**		**02 58 40.8**	**+0.5**
MDJ				AMB		AMB			
	comp=Z,29nm,1.0s,mb4.6								
MDJ				AMB		AMB			
	comp=Z,101nm,4.6s								
MDJ	**Mudanjiang**	**53.90**	**338**	*e*P		**P**		**02 58 40.3**	**0.0**
	comp=Z,18nm,0.8s,mb4.5								
CN2	**Changchun**	**54.86**	**335**	*e*P		**P**		**02 58 47.0**	**-0.2**
CN2				*e*AP		pP		03 00 12.3	+6.6
CN2				*e*XP		sP		03 00 56.8	+10
CN2				*e*S		**S**		**03 05 56.0**	**-2.5**
CN2				AMB		AMB			
	comp=Z,30nm,1.0s,mb4.6								
CN2				AMB		AMB			
	comp=Z,310nm,4.0s								
GYA	**Guiyang**	**55.47**	**307**	⇑*i*P		**P**		**02 58 54.0**	**+2.1**
GYA				PCP		PcP		02 59 48.5	+1.7
GYA				AP		pP		03 00 18.3	+7.7
GYA				XP		sP		03 01 01.8	+10
GYA				PP		PP		03 01 05.5	+4.8
GYA				SCP		ScP		03 03 07.5	-1.4
GYA				PCS		PcS		03 03 47.3	-0.3
GYA				S		**S**		**03 06 08.0**	**+0.8**
GYA				XS		sS		03 08 34.0	+6.2
GYA				AMB		AMB			
	comp=Z,20nm,1.0s,mb4.4								
GYA				AMB		AMB			
	comp=Z,120nm,6.0s								
HABR	**Khabarovsk**	**55.62**	**345**	*e*P		**P**		**02 58 51.5**	**-1.0**
HABR				*e*S		**S**		**03 06 06.1**	**-2.3**
BJI	**Beijing**	**56.65**	**326**	P		**P**		**02 58 59.5**	**-0.3**
BJI				S		**S**		**03 06 21.5**	**-0.6**
BJI				AMB		AMB			
	comp=Z,17nm,1.4s,mb4.2								
BJI				AMB		AMB			
	comp=Z,107nm,4.0s								
NST	**Nakhon Sawan**	**57.21**	**292**	P		**P**		**02 59 03.4**	**-0.7**
	comp=Z,34nm,0.7s,mb4.8								
KLR	**Kul'dur**	**57.23**	**343**	*e*P		**P**		**02 59 00.0**	**-3.7**
NANT	**Nan**	**57.62**	**296**	P		**P**		**02 58 59.2**	**-7.8**
	comp=Z,175nm,1.0s,mb5.3								
PET	**Petropavlovsk**	**57.73**	**3**	*i* P		**P**		**02 59 07.4**	**+0.4**
PET				pmax	pmax				
	comp=Z,55nm,0.5s,mb5.1								
PETK	**Petropavlovsk-**	**57.77**	**3**	P		**P**		**02 59 07.9**	**+0.7**
	comp=Z,21nm,0.5s,mb4.7,baz=159,slow=6.2,SNR=61								
PETK				PcP		PcP		02 59 55.5	+0.3
	comp=Z,4.6nm,0.7s,baz=130,slow=5.8,SNR=2.6								
PETK				pP		pP		03 00 25.7	-1.1
	comp=Z,2.8nm,0.8s,baz=40,slow=37,SNR=5.1								
KMI	**Kunming**	**58.11**	**303**	P		**P**		**02 59 11.8**	**+1.6**
KMI				AMB		AMB			
	comp=Z,26nm,0.9s,mb4.6								
CMAR	**Chiang Mai Arr**	**59.10**	**295**	P		**P**		**02 59 18.1**	**+1.0**
	comp=Z,13nm,0.7s,mb4.5,baz=115,slow=5.1,SNR=14								
CMAR				pP		pP		03 00 36.5	-0.5
	comp=Z,1.1nm,0.3s,baz=151,slow=30,SNR=1.8								
CMAR				ScP		ScP		03 03 25.2	+0.1
	comp=Z,0.9nm,0.3s,baz=116,slow=4.1,SNR=5.9								
CMAR	**Chiang Mai Arr**	**59.10**	**295**	⇑*e*P		**P**		**02 59 18.1**	**+1.0**
CD2	**Chengdu**	**59.77**	**310**	⇑*i*P		**P**		**02 59 22.0**	**+0.6**
CD2				AP		pP		03 00 45.8	+4.3
CD2				XP		sP		03 01 27.5	+4.9
CD2				PP		PP		03 01 41.5	+2.8
CD2				PCS		PcS		03 04 05.0	-1.5
CD2				S		**S**		**03 07 01.8**	**-0.6**
CD2				SCS		ScS		03 08 30.0	-3.3
CD2				SS		SS		03 11 07.3	+1.1
CD2				AMB		AMB			
	comp=Z,90nm,0.6s,mb5.4								
CD2				AMB		AMB			
	comp=Z,180nm,5.2s								
HHC	**Hu-ho-hao-te**	**59.84**	**324**	*e*P		**P**		**02 59 22.8**	**+1.1**
HHC				PCP		PcP		03 00 04.3	+0.5
HHC				AP		pP		03 00 50.0	+8.2
HHC				XP		sP		03 01 34.0	+11
HHC				PP		PP		03 01 43.3	+4.2
HHC				SCP		ScP		03 03 25.3	-2.6
HHC				S		**S**		**03 07 03.5**	**+0.5**
HHC				SCS		ScS		03 08 27.8	-5.6
HHC				SS		SS		03 11 08.5	+1.6
HHC				AMB		AMB			
	comp=Z,11nm,1.1s,mb4.2								
HHC				AMB		AMB			
	comp=Z,76nm,5.2s								
HIA	**Hailar**	**61.59**	**335**	*e*P		**P**		**02 59 33.5**	**+0.4**
HIA				pmax	pmax				
	comp=Z,45nm,0.8s								
HIA	**Hailar**	**61.59**	**335**	*e*P		**P**		**02 59 33.5**	**+0.4**
	comp=Z,45nm,0.8s,mb5.0								
ADK	**Adak**	**61.69**	**20**	*e*P		**P**		**02 59 34.1**	**+0.4**
ADK				pmax	pmax				
	comp=Z,26nm,0.6s,mb4.9								
ADK	**Adak**	**61.69**	**20**	*e*P		**P**		**02 59 34.1**	**+0.4**
	comp=Z,26nm,0.6s,mb4.9								
LZH	**Lanzhou**	**62.18**	**315**	⇑P		**P**		**02 59 38.0**	**+0.7**
LZH				AP		pP		03 01 06.0	+7.8
LZH				XP		sP		03 01 50.0	+11
LZH				PP		PP		03 02 01.5	+1.8
LZH				S		**S**		**03 07 30.5**	**-1.9**
LZH				SS		SS		03 11 44.5	+0.9
LZH				AMB		AMB			
	comp=Z,65nm,1.2s,mb5.0								
LZH				AMB		AMB			
	comp=Z,196nm,4.6s								
CLNS	**Chul'man**	**65.90**	**343**	*e*P		**P**		**03 00 01.5**	**+0.7**
CLNS				pmax	pmax				
	comp=Z,31nm,0.9s,mb5.0								
CLNS				pmax	pmax				
	comp=N,12nm,0.7s								
CLNS				pmax	pmax				
	comp=E,6.0nm,0.8s								
GTA	**Gaotai**	**66.58**	**317**	⇓*i*P		**P**		**03 00 06.8**	**+1.3**
GTA				AP		pP		03 01 30.8	+3.2
GTA				XP		sP		03 02 18.0	+10
GTA				PP		PP		03 02 42.5	+4.5
GTA				S		S		03 08 26.5	+0.8
GTA				XS		sS		03 10 58.0	+6.2
GTA				SS		SS		03 12 50.5	-1.2
GTA				AMB		AMB			
	comp=Z,46nm,0.7s,mb5.3								
GTA				AMB		AMB			
	comp=Z,148nm,5.1s								
ULN	**Ulaanbaatar**	**66.72**	**328**	⇑*e*P		**P**		**03 00 06.9**	**+0.8**
ULN	**Ulaanbaatar**	**66.72**	**328**	*e*P		**P**		**03 00 06.7**	**+0.6**
	comp=Z,26nm,1.0s,mb4.9								
SONM	**Songino Array**	**67.05**	**327**	P		**P**		**03 00 09.5**	**+1.3**
	comp=Z,15nm,0.6s,mb4.9,baz=132,slow=6.0,SNR=31								
SONM				PKPPKP				03 28 36.9	
	comp=Z,1.2nm,0.6s,baz=316,slow=4.1,SNR=4.3								
SHL	**Shillong**	**67.47**	**300**	*i* P		**P**		**03 00 11.0**	**-0.3**
SEY	**Seymchan**	**67.56**	**359**	⇑*e*P		**P**		**03 00 11.4**	**+0.4**
CASY	**Casey**	**68.42**	**197**	⇓*i*P		**P**		**03 00 15.9**	**-0.4**
YAK	**Yakutsk**	**69.25**	**348**	*d i*P		**P**		**03 00 21.7**	**+0.3**
YAK				*e*				03 00 43.0	
YAK				*e**PP		pP		03 01 47.7	+3.4
YAK				*e*S		S		03 08 53.6	-2.6
YAK				*e*				03 09 33.9	
YAK				pmax	pmax				
	comp=Z,57nm,0.9s,mb5.3								
YAK				pmax	pmax				
	comp=N,13nm,1.0s								
YAK				pmax	pmax				
	comp=E,8.0nm,1.3s								
YAK				smax					
	comp=N,213nm,4.8s								
YAK				smax					
	comp=E,100nm,5.3s								
YAK	**Yakutsk**	**69.25**	**348**	*e*P		**P**		**03 00 21.9**	**+0.5**
	comp=E,50nm,0.6s,mb5.4								
LSA	**Lhasa**	**69.36**	**304**	*e*P		**P**		**03 00 24.0**	**+1.2**
LSA				pmax	pmax				
	comp=Z,13nm,0.6s,mb4.8								
LSA	**Lhasa**	**69.36**	**304**	*e*P		**P**		**03 00 24.0**	**+1.2**
	comp=Z,13nm,0.6s,mb4.8								
ZAK	**Zakamensk**	**70.20**	**328**	*e*P		**P**		**03 00 27.7**	**+0.3**
ZAK				*e*				03 00 46.9	
ZAK				*e*		pP		03 01 51.9	+1.3
ZAK				pmax	pmax				
	comp=Z,31nm,0.9s,mb5.0								
BOD	**Bodaibo**	**70.28**	**338**	*e*P		**P**		**03 00 27.1**	**-0.6**
BOD				pmax	pmax				
	comp=Z,13nm,1.2s,mb4.5								
TLY	**Talaya**	**70.76**	**329**	*d i*P		**P**		**03 00 30.3**	**-0.4**
TLY				pmax	pmax				
	comp=Z,9.0nm,0.8s,mb4.5								
TAPN	**Taplejung**	**71.57**	**301**	*e*P		**P**		**03 00 36.2**	**+0.1**
	comp=Z,41nm,0.8s,mb5.2								
ODAN	**Odare**	**71.71**	**300**	*e*P		**P**		**03 00 37.3**	**+0.4**
	comp=Z,82nm,0.9s,mb5.5								
MOY	**Mondy**	**72.12**	**328**	*e*P		**P**		**03 00 39.3**	**+0.5**
MOY				pmax	pmax				
	comp=Z,31nm,1.5s,mb4.8								
RAMN	**Ramite**	**72.42**	**300**	*e*P		**P**		**03 00 41.2**	**+0.1**
	comp=Z,21nm,0.6s,mb5.0								
JIRN	**Jiri**	**72.95**	**301**	*e*P		**P**		**03 00 44.8**	**+0.6**
	comp=Z,27nm,0.7s,mb5.1								
BILL	**Bilibino**	**73.17**	**5**	*d i*P		**P**		**03 00 44.9**	**+0.3**
BILL				*e*				03 00 57.0	
BILL				*i* *PP		pP		03 02 10.5	+2.0
BILL				pmax	pmax				
	comp=Z,58nm,0.7s,mb5.4								
BILL	**Bilibino**	**73.17**	**5**	*e*P		**P**		**03 00 44.9**	**+0.3**
	comp=Z,57nm,0.8s,mb5.3								
GUN	**Gumba**	**73.28**	**301**	*e*P		**P**		**03 00 46.7**	**+0.6**
	comp=Z,56nm,0.8s,mb5.3								
SBA	**Scott Base**	**73.31**	**177**	*e*P		**P**		**03 00 46.8**	**+1.5**
PKI	**Pulchoki**	**73.60**	**300**	*e*P		**P**		**03 00 47.8**	**-0.1**
KKN	**Kakani**	**73.76**	**301**	*e*P		**P**		**03 00 48.9**	**0.0**
	comp=Z,26nm,0.5s,mb5.2								
KKN	**Kakani**	**73.76**	**301**	*e*P		**P**		**03 00 48.9**	**0.0**
KKN				pmax	pmax				
	comp=Z,26nm,0.5s,mb5.2								
DMN	**Daman**	**73.87**	**300**	*e*P		**P**		**03 00 50.0**	**+0.5**
	comp=Z,113nm,1.1s,mb5.5								
GKN	**Gorkha**	**74.37**	**301**	*e*P		**P**		**03 00 52.1**	**-0.2**
	comp=Z,109nm,1.1s,mb5.5								
MIR	**Mirnyy**	**74.42**	**201**	⇓*i*P		**P**		**03 00 52.0**	**+0.2**
OHAK	**Old Harbor**	**74.94**	**27**	*e*P		**P**		**03 00 55.1**	**+0.2**
DANN	**Dangsing**	**75.20**	**301**	*e*P		**P**		**03 00 56.7**	**-0.4**
	comp=Z,56nm,0.6s,mb5.5								
KOLN	**Koldanda**	**75.20**	**300**	*e*P		**P**		**03 00 57.1**	**0.0**
	comp=Z,47nm,0.7s,mb5.3								
WMQ	**Urumqi**	**76.66**	**317**	⇓*i*P		**P**		**03 01 05.3**	**+0.4**
WMQ				PCP		PcP		03 01 15.3	+0.8
WMQ				AP		pP		03 02 35.3	+5.6
WMQ				XP		sP		03 03 14.8	+5.2
WMQ				PP		PP		03 04 04.3	+0.8
WMQ				S		S		03 10 18.8	-0.9
WMQ				SKS				03 10 35.3	
WMQ				SCS		ScS		03 10 42.8	-2.5
WMQ				AMB		AMB			
	comp=Z,25nm,1.1s,mb4.9								
WMQ				AMB		AMB			
	comp=Z,123nm,3.6s								
HYB	**Hyderabad**	**77.77**	**289**	*i* P		**P**		**03 01 11.0**	**-0.5**
HYB	**Hyderabad**	**77.77**	**289**	*e*P		**P**		**03 01 11.0**	**-0.5**
TIXI	**Tiksi**	**78.08**	**352**	*e*P		**P**		**03 01 11.3**	**-0.8**
TIXI				pmax	pmax				
	comp=Z,15nm,1.2s,mb4.6								
TIXI	**Tiksi**	**78.08**	**352**	*e*P		**P**		**03 01 11.3**	**-0.8**
SLKM	**Skilak Lake**	**78.10**	**25**	*e*P		**P**		**03 01 12.7**	**+0.3**
SEW	**Seward**	**78.20**	**25**	*e*P		**P**		**03 01 13.4**	**+0.4**
PMR	**Palmer**	**79.13**	**24**	*e*P		**P**		**03 01 17.5**	**-0.4**
PMR				*e*				03 01 24.8	
PMR	**Palmer**	**79.13**	**24**	*e*P		**P**		**03 01 17.5**	**-0.4**
PMR				*e*PcP		PcP		03 01 24.8	-0.1
PMR				*e*pP		pP		03 02 40.5	-2.9
CHUM	**Lake Minchumin**	**79.18**	**21**	*e*P		**P**		**03 01 18.4**	**+0.3**
	comp=Z,32nm,0.4s,mb5.4								
KTH	**Kantishna Hill**	**79.50**	**22**	*e*P		**P**		**03 01 19.0**	**-0.9**
	comp=Z,23nm,0.8s,mb5.0								
KTH				*e*pP		pP		03 02 44.0	-1.4
TRF	**Thorofare Moun**	**79.68**	**22**	*e*P		**P**		**03 01 20.0**	**-0.9**
	comp=Z,26nm,0.7s,mb5.1								
TRF				*e*pP		pP		03 02 44.6	-1.8
BPAW	**Bear Paw Mtn.**	**79.79**	**21**	*e*P		**P**		**03 01 20.5**	**-0.9**
	comp=Z,8.2nm,0.6s,mb4.6								
BPAW				*e*pP		pP		03 02 45.7	-1.3
IMA2	**Indian Mountai**	**80.01**	**19**	*e*P		**P**		**03 01 23.1**	**+0.6**
MCK	**McKinley**	**80.35**	**22**	*e*P		**P**		**03 01 23.7**	**-0.6**
MCK				*e**PP		pP		03 02 48.6	-1.5
MCK				pmax	pmax				
	comp=Z,79nm,0.9s,mb5.4			

AML					pP	pP	03 03 25.5	+4.3	
EKS2	**Erkin-Say**	**86.17**	**313**		P	**P**	**03 01 54.6**	**+0.3**	
	SNR=10								
EKS2	**Erkin-Say**	**86.17**	**313**		*e*P	**P**	**03 01 54.1**	**-0.2**	
	comp=Z,11nm,0.6s,mb4.8								
DLBC	**Dease Lake**	**86.69**	**31**		*e*P	**P**	**03 01 57.6**	**+1.2**	
INK	**Inuvik**	**87.97**	**21**		*e*P	**P**	**03 02 01.9**	**-0.3**	
KK31	**Karatay Array**	**88.61**	**313**		*i* P	**P**	**03 02 04.9**	**-0.9**	
KK31					pmax	pmax			
	comp=Z,6.0nm,0.6s,mb4.6								
CMB	**Columbia Colle**	**89.35**	**52**		*e*P	**P**	**03 02 09.8**	**+0.5**	
CMB					pmax	pmax			
	comp=Z,4.0nm,1.3s,mb4.1								
CMB	**Columbia Colle**	**89.35**	**52**		*e*P	**P**	**03 02 09.8**	**+0.5**	
	comp=Z,4.2nm,1.3s,mb4.1								
VOSK	**Vostochnaya**	**89.65**	**323**		P	**P**	**03 02 09.4**	**-1.0**	
VOSK					pmax	pmax			
	comp=Z,14nm,0.8s,mb4.9								
BVA0	**Borovoye Array**	**90.05**	**323**		*i* P	**P**	**03 02 10.7**	**-1.5**	
BVA0					pmax	pmax			
	comp=Z,6.0nm,1.2s,mb4.4								
BVAR	**Borovoye Array**	**90.05**	**323**		P	**P**	**03 02 11.0**	**-1.3**	
	comp=Z,26nm,0.9s,mb5.2,baz=101,slow=6.2,SNR=43								
BVAR					pP	pP	03 03 40.6	+0.6	
	comp=Z,3.4nm,0.8s,baz=98,slow=6.1,SNR=4.7								
BRVK	**Borovoye**	**90.12**	**323**		P	**P**	**03 02 11.1**	**-1.4**	
	comp=Z,135nm,1.2s,mb5.8,SNR=6.6								
BRVK	**Borovoye**	**90.12**	**323**		*e*P	**P**	**03 02 10.9**	**-1.6**	
BRVK					*e**PP	pP	03 03 39.1	-1.2	
BRVK					pmax	pmax			
	comp=Z,33nm,1.0s,mb5.2								
BRVK	**Borovoye**	**90.12**	**323**		*e*P	**P**	**03 02 10.8**	**-1.7**	
	comp=Z,33nm,1.0s,mb5.2								
BRVK					*e*pP	pP	03 03 39.1	-1.2	
MTUM	**Tungsten Hills**	**90.72**	**53**		*e*P	**P**	**03 02 16.8**	**+1.1**	
NVAR	**Mina Array Bea**	**91.02**	**52**		P	**P**	**03 02 18.0**	**+0.9**	
	comp=Z,4.3nm,0.8s,mb4.4,baz=256,slow=5.7,SNR=25								
NVAR					pP	pP	03 03 45.5	+0.5	
	comp=Z,2.3nm,0.9s,baz=245,slow=5.6,SNR=7.2								
WVOR	**Wild Horse Val**	**91.14**	**48**		*e*P	**P**	**03 02 17.9**	**+0.4**	
WVOR					pmax	pmax			
	comp=Z,11nm,1.6s,mb4.5								
WVOR	**Wild Horse Val**	**91.14**	**48**		*e*P	**P**	**03 02 17.9**	**+0.4**	
	comp=Z,11nm,1.6s,mb4.5								
OD2	**Odessa Site #2**	**91.55**	**43**		*e*P	**P**	**03 02 19.2**	**-0.1**	
BMO	**Blue Mountains**	**92.31**	**45**		*e*P	**P**	**03 02 22.9**	**0.0**	
BMO					pmax	pmax			
	comp=Z,2.0nm,1.0s,mb4.0								
BMO	**Blue Mountains**	**92.31**	**45**		*e*P	**P**	**03 02 22.9**	**0.0**	
	comp=Z,2.3nm,1.0s,mb4.1								
LDFC	**Landfair**	**93.32**	**55**		*e*P	**P**	**03 02 29.0**	**+1.2**	
	comp=Z,20nm,1.5s,mb4.9								
GLA	**Glamis**	**93.44**	**57**		*e*P	**P**	**03 02 28.8**	**+0.5**	
GLA					pmax	pmax			
	comp=Z,11nm,1.8s,mb4.6								
GLA	**Glamis**	**93.44**	**57**		*e*P	**P**	**03 02 28.8**	**+0.4**	
	comp=Z,12nm,1.8s,mb4.6								
SYO	**Syowa Base**	**94.12**	**199**	⇑	*i* P	**P**	**03 02 28.0**	**-2.7**	
SYO	**Syowa Base**	**94.12**	**199**	⇓	*i* PcP	PcP	03 02 30.0	-0.9	
YKA	**Yellowknife Ar**	**94.79**	**28**		P	**P**	**03 02 33.8**	**0.0**	
	comp=Z,4.5nm,0.6s,mb4.7,baz=269,slow=4.3,SNR=11								
EDM	**Edmonton**	**95.30**	**37**		*e*P	**P**	**03 02 36.6**	**+0.3**	
ARU	**Arti**	**97.07**	**326**	*d*	*i* P	**P**	**03 02 42.0**	**-2.2**	
ARU							03 06 44.4		
ARU					S	SKSac	03 12 39.5	-4.5	
ARU					SS	SS	03 20 15.4	-4.8	
ARU					pmax	pmax			
	comp=Z,14nm,1.7s,mb4.8								
AKTK	**Aktyubinsk**	**97.59**	**320**		P	**P**	**03 02 44.8**	**-1.9**	
AKTK					PKKPbc	PKKPbc	03 19 21.0	-2.8	
AKTO	**Aktyubinsk**	**97.59**	**320**		P	**P**	**03 02 44.8**	**-1.9**	
	comp=Z,3.0nm,0.7s,mb4.7,baz=106,slow=6.2,SNR=8.5								
AKTO					PKKPbc	PKKPbc	03 19 21.0	-2.8	
	comp=Z,0.5nm,0.5s,baz=110,slow=8.5,SNR=3.0								
PDAR	**Pinedale Array**	**97.85**	**48**		P	**P**	**03 02 47.2**	**-0.8**	
	comp=Z,1.2nm,0.9s,mb4.1,baz=264,slow=1.3,SNR=6.4								
PDAR					pP	pP	03 04 15.3	-0.9	
	comp=Z,1.4nm,1.1s,baz=276,slow=2.8,SNR=3.7								
PDAR					PKiKP	PKiKP	03 07 19.5	-0.1	
	comp=Z,0.2nm,0.5s,baz=197,slow=2.8,SNR=2.7								
PDAR					PKKPbc	PKKPbc	03 19 20.9	-1.8	
	comp=Z,0.3nm,0.4s,baz=109,slow=5.4,SNR=4.0								
PDAR	**Pinedale Array**	**97.85**	**48**		P	**P**	**03 02 47.2**	**-0.8**	
PDAR					pP	pP	03 04 15.3	-0.9	
SNAA	**Sanae**	**102.20**	**187**		*e*Pdiff	Pdiff	03 03 06.2	-1.0	
SNAA					*e*		03 03 09.2		
SNAA					*e*		03 03 12.3		
SNAA					*e*		03 07 23.1		
SNAA					*e*		03 07 26.8		
TXAR	**Lajitas Array**	**102.94**	**61**		Pdiff	Pdiff	03 03 12.2	+1.6	
	comp=Z,0.2nm,0.8s,baz=216,slow=6.2,SNR=3.5								
TXAR					PKiKP	PKiKP	03 07 28.9	-0.3	
	comp=Z,0.4nm,0.8s,baz=180,slow=1.3,SNR=4.3								
TXAR					PKKPbc	PKKPbc	03 19 06.3	-1.4	
	comp=Z,0.5nm,0.7s,baz=123,slow=4.5,SNR=6.3								
VNA3	**Neumayer Olymp**	**103.36**	**185**		*e*Pdiff	Pdiff	03 03 09.5	-2.9	
VNA3					*e*		03 03 12.3		
VNA3					*e*		03 03 15.7		
VNA3					*e*		03 07 28.3		
VNA3					*e*		03 07 32.1		
VNA3					*e*		03 19 02.8		
VNA3					*e*		03 19 02.8		
VNA3					*e*		03 19 09.6		
VNA3					*e*		03 19 09.6		
VNA2	**Neumayer--Watz**	**103.43**	**186**		*e*Pdiff	Pdiff	03 03 11.8	-0.9	
VNA2					*e*		03 03 14.8		
VNA2					*e*		03 03 17.8		
VNA2					*e*		03 07 29.8		
VNA2					*e*		03 07 33.6		
VNA2					*e*		03 19 03.6		
VNA2					*e*		03 19 03.6		
VNA2					*e*		03 19 10.5		
VNA2					*e*		03 19 10.5		
SPITS	**Spitsbergen Ar**	**103.50**	**352**		PKKPbc	PKKPbc	03 19 03.4	-4.4	
	comp=Z,5.5nm,0.9s,baz=302,slow=4.8,SNR=6.3								
ULM	**Lac du Bonnet**	**106.39**	**39**		PKiKP	PKiKP	03 07 33.4	-1.5	
	comp=Z,2.9nm,0.7s,baz=315,slow=1.4,SNR=2.8								
ARCES	**ARCESS Array B**	**107.26**	**343**		PKiKP	PKiKP	03 07 35.1	-0.8	
	comp=Z,2.7nm,0.8s,baz=105,slow=1.7,SNR=7.8								
ARCES					PKKPbc	PKKPbc	03 18 51.8	-4.4	
	comp=Z,2.4nm,0.6s,baz=243,slow=1.4,SNR=18								
ARCES					PKKPab	PKKPab	03 19 05.0	-4.9	
	comp=Z,4.8nm,1.1s,baz=270,slow=2.2,SNR=2.5								
VBMS	**Vicksburg**	**113.92**	**57**		*e*PKP	PKiKP	03 07 48.0	-1.6	
AKASG	**Malin Array Be**	**115.28**	**325**		PKP	PKPdf	03 07 51.0	-0.7	
	comp=Z,3.6nm,0.5s,baz=49,slow=2.6,SNR=18								
AKASG					PKKPbc	PKKPbc	03 18 26.8	-2.7	
	comp=Z,1.5nm,0.5s,baz=265,slow=3.6,SNR=8.5								
BR131	**Keskin Array S**	**116.31**	**312**		*e*PKPdf	PKPdf	03 07 53.3	-0.8	
ANTO	**Ankara**	**116.89**	**313**	⇑	*i* P	PKPdf	03 07 54.9	-0.2	
HFS	**Hagfors**	**117.17**	**339**		PKP	PKPdf	03 07 53.9	-1.1	
	comp=Z,2.6nm,0.8s,baz=90,slow=10,SNR=5.4								
NB2	**NORSAR Subarra**	**117.36**	**341**		PKPdf	PKPdf	03 07 54.8	-0.6	
	comp=Z,1.4nm,0.6s,baz=41,slow=1.9								
NOA	**NORSAR Array B**	**117.36**	**341**		PKP	PKPdf	03 07 54.8	-0.7	
	comp=Z,1.8nm,0.6s,baz=46,slow=1.9,SNR=6.2								
TZTN	**Tazewell**	**118.56**	**51**		*e*PKPdf	PKPdf	03 07 58.4	-0.1	
TKL	**Tuckaleechee C**	**118.63**	**52**		*e*PKiKP	PKPdf	03 07 58.5	-0.1	
PLCA	**Paso Flores**	**118.96**	**142**		PKP	PKPdf	03 07 59.5	+0.4	
	comp=Z,5.2nm,0.6s,baz=236,slow=2.1,SNR=26								
PLCA					PKKPbc	PKKPbc	03 18 15.2	-1.1	
	comp=Z,0.9nm,0.5s,baz=25,slow=3.9,SNR=5.3								
BUR08	**Bucovina Ar. S**	**119.01**	**323**		*e*PKPdf	PKPdf	03 07 59.1	+0.2	
BURAR	**Bucovina Array**	**119.01**	**323**		*i* P	PKPdf	03 07 59.3	+0.3	
KWP	**Kalwaria**	**119.48**	**326**		*e*PKP	PKPdf	03 07 59.9	0.0	
KWP	**Kalwaria**	**119.48**	**326**	⇑	*i* P	PKPdf	03 07 59.9	+0.1	
KWP	**Kalwaria**	**119.48**	**326**		*e*PKP	PKPdf	03 07 59.8	0.0	
KOLS	**Kolonicke sedl**	**120.08**	**325**		*i* PKP	PKPdf	03 08 01.4	+0.4	
GKP	**Gorka Klasztor**	**120.24**	**332**		*e*PKP	PKPdf	03 08 01.3	+0.1	
GKP	**Gorka Klasztor**	**120.24**	**332**		*e*PKP	PKPdf	03 08 01.3	+0.1	
STHS	**Stebnicka Huta**	**120.40**	**326**		*i* PKP	PKPdf	03 08 01.5	-0.1	
CRVS	**Cervenica-Dubn**	**120.55**	**326**		*i* PKP	PKPdf	03 08 01.6	-0.3	
BOSA	**Boshof**	**120.71**	**233**		PKP	PKPdf	03 08 02.5	-0.3	
	comp=Z,6.7nm,0.6s,baz=66,slow=1.1,SNR=15								
OJC	**Ojcow**	**120.75**	**328**		*e*PKP	PKPdf	03 08 01.8	-0.4	
NIE	**Niedzica**	**120.91**	**327**		*e*PKP	PKPdf	03 08 02.7	+0.1	
JSC	**Jenkinsville**	**120.99**	**53**		*e*PKiKP	PKPdf	03 08 02.8	-0.4	
SSPA	**Standing Stone**	**121.36**	**45**		*e*PKPdf	PKPdf	03 08 03.0	-0.7	
BZS	**Buzias**	**122.15**	**322**	⇑	*i* P	PKPdf	03 08 04.6	-0.5	
KSP	**Ksiaz**	**122.19**	**330**		*e*PKP	PKPdf	03 08 05.6	+0.6	
MORC	**Moravsky Berou**	**122.19**	**328**	⇑	*i* P	PKPdf	03 08 04.2	-0.8	
VYHS	**Vyhne**	**122.24**	**326**		*i* PKP	PKPdf	03 08 04.9	-0.3	
VYHS					*e*		03 24 07.7		
KOLL	**Kolacno**	**122.43**	**327**		*i* PKP	PKPdf	03 08 05.5	0.0	
DPC	**Dobruska-Polom**	**122.48**	**329**		*e*PKPdf	PKPdf	03 08 06.0	+0.4	
BSEG	**Bad Segeberg**	**122.87**	**335**		*e*PKPdf	PKPdf	03 08 06.2	0.0	
LSZ	**Lusaka**	**122.90**	**248**		*e*PKIKP	PKPdf	03 08 07.5	+0.1	
MDV	**Middlebury**	**123.02**	**39**		*e*PKPdf	PKPdf	03 08 06.6	-0.2	
MODS	**Modra-Piesok**	**123.16**	**327**		*e*PKP	PKPdf	03 08 06.6	-0.3	
PVCC	**Panska Ves**	**123.25**	**330**		*e*PKPdf	PKPdf	03 08 06.9	-0.1	
CNNC	**Cliffs of the**	**123.33**	**51**		*e*PKPdf	PKPdf	03 08 05.8	-1.8	
BRG	**Berggiesshubel**	**123.33**	**331**		*i* PKIKP	PKPdf	03 08 07.4	+0.2	
BRG					pmax	pmax			
	comp=Z,5.0nm,0.7s								
BRG	**Berggiesshubel**	**123.33**	**331**		*e*PKPdf	PKPdf	03 08 07.3	+0.1	
BRG					*ep*PKPdf	pPKPdf	03 09 40.5	+0.5	
BRG	**Berggiesshubel**	**123.33**	**331**		*i* PKP	PKPdf	03 08 07.4	+0.2	
	comp=Z,8.9nm,0.7s								
CLL	**Collm**	**123.50**	**332**	⇑	*i* PKIKP	PKPdf	03 08 07.5	0.0	
CLL					pmax	pmax			
	comp=Z,14nm,0.7s								
CLL	**Collm**	**123.50**	**332**		*e*PKPdf	PKPdf	03 08 07.3	-0.2	
CLL	**Collm**	**123.50**	**332**	⇑	*i* PKPdf	PKPdf	03 08 07.5	0.0	
	comp=Z,14nm,0.7s								
TREC	**Trest**	**123.56**	**329**		*e*PKPdf	PKPdf	03 08 07.6	-0.1	
FBE	**Freiberg**	**123.58**	**331**		*e*PKPdf	PKPdf	03 08 07.4	-0.3	
PRU	**Pruhonice**	**123.60**	**330**		*e*PKPdf	PKPdf	03 08 07.6	-0.1	
PKSM	**Moragy**	**123.61**	**324**	⇑	*i* P	PKPdf	03 08 07.7	-0.2	
CONA	**Conrad Observa**	**124.19**	**327**	⇑	*i* PKiKP	PKiKP	03 08 09.0	-0.2	
	comp=Z,5.9nm,0.6s								
CSNA	**Conrad Observa**	**124.19**	**327**	⇑	*i* PKiKP	PKiKP	03 08 09.1	-0.2	
	comp=Z,6.3nm,0.7s								
CLZ	**Clausthal**	**124.33**	**334**		*e*PKPdf	PKPdf	03 08 09.3	+0.2	
CLZ					*ep*PKPdf	pPKPdf	03 09 44.0	+2.1	
TANN	**Tannenbergstha**	**124.35**	**331**		*e*PKPdf	PKPdf	03 08 09.1	0.0	
WERD	**Werda**	**124.40**	**331**		*e*PKPdf	PKPdf	03 08 09.0	-0.2	
WERN	**Wernitzgruen**	**124.47**	**331**		*e*PKPdf	PKPdf	03 08 09.4	0.0	
NKC	**Novy Kostel**	**124.47**	**331**		*e*PKPdf	PKPdf	03 08 09.7	+0.3	
MOX	**Moxa**	**124.59**	**332**		*e*PKP	PKPdf	03 08 09.5	-0.1	
	comp=Z,16nm,1.5s								
MOX	**Moxa**	**124.59**	**332**		*e*PKIKP	PKPdf	03 08 09.5	-0.1	
MOX					pmax	pmax			
	comp=Z,1.0nm,1.5s								
MOX	**Moxa**	**124.59**	**332**		*e*PKPdf	PKPdf	03 08 09.2	-0.4	
KHC	**Kasperske Hory**	**124.63**	**330**		*e*PKPdf	PKPdf	03 08 10.0	+0.3	
GEC2	**GERESS Array S**	**124.75**	**329**		*e*PKPdf	PKPdf	03 08 09.7	-0.3	
GEC2					*ep*PKPdf	pPKPdf	03 09 48.0	+5.2	
GERES	**GERESS Array B**	**124.75**	**329**		PKP	PKPdf	03 08 10.1	+0.1	
	comp=Z,7.3nm,0.6s,baz=69,slow=1.8,SNR=76								
GERES					pPKP	pPKPdf	03 09 42.6	-0.2	
	comp=Z,0.6nm,0.8s,baz=90,slow=2.7,SNR=2.8								
GERES					PKKPbc	PKKPbc	03 17 52.6	-2.1	
	comp=Z,0.6nm,0.6s,baz=226,slow=3.5,SNR=5.7								
GERES	**GERESS Array B**	**124.75**	**329**		PKIKP	PKPdf	03 08 10.1	+0.1	
GERES							03 09 42.6		
MANZ	**Manzenberg**	**124.80**	**331**		*e*PKPdf	PKPdf	03 08 10.0	0.0	
ROTZ	**Rotzenmuhle**	**124.90**	**331**		*e*PKPdf	PKPdf	03 08 10.0	-0.2	
WET	**Wettzell**	**124.98**	**330**		*e*PKPdf	PKPdf	03 08 10.5	+0.1	
LCO	**Las Campanas**	**125.36**	**131**		*e*PKPdf	PKPdf	03 08 12.6	+0.8	
SOKA	**Soboth**	**125.39**	**326**	⇓	*i* PKPdf	PKPdf	03 08 10.4	-0.8	
GRA1	**Grafenberg Arr**	**125.42**	**331**		*e*PKPdf	PKPdf	03 08 11.1	-0.1	
GRF	**Grafenberg Arr**	**125.42**	**331**		*e*PKPdf	PKPdf	03 08 11.1	-0.1	
RJOB	**Jochberg**	**125.93**	**329**		*e*PKPdf	PKPdf	03 08 11.6	-0.7	
ATAH	**Atahualpa**	**126.26**	**102**		PKP	PKPdf	03 08 15.6	+1.7	
	comp=Z,17nm,0.8s,baz=88,slow=1.6,SNR=7.2								
TNS	**Taunus Mts**	**126.34**	**333**		*e*PKPdf	PKPdf	03 08 12.9	-0.1	
EKA	**Eskdalemuir Ar**	**126.41**	**344**		PKKPbc		03 17 46.0		
	comp=Z,1.4nm,0.7s,baz=216,slow=4.3,SNR=5.3								
FUR	**Furstenfeldbru**	**126.42**	**330**		*e*PKPdf	PKPdf	03 08 13.1	-0.1	
NNA	**Nana**	**126.62**	**109**		PKP	PKPdf	03 08 14.6	0.0	
	comp=Z,11nm,0.8s,baz=339,slow=0.9,SNR=5.8								
WATA	**Walderalm**	**126.82**	**329**	⇑	*i* PKiKP	PKiKP	03 08 13.8	-0.7	
	comp=Z,6.3nm,0.5s								
WTTA	**Wattenberg**	**126.83**	**329**	⇑	*i* PKiKP	PKiKP	03 08 14.1	-0.5	
	comp=Z,23nm,1.1s								
STU	**Stuttgart**	**127.02**	**332**		*e*PKPdf	PKPdf	03 08 14.5	+0.2	
MOTA	**Moosalm**	**127.05**	**329**	⇓	*i* PKiKP	PKiKP	03 08 14.1	-0.8	
	comp=Z,12nm,0.6s								
MEM	**Membach**	**127.11**	**335**		PKP	PKPdf	03 08 14.7	+0.3	
RETA	**Reutte**	**127.13**	**330**	⇑	*i* PKiKP	PKiKP	03 08 14.3	-0.9	
	comp=Z,9.1nm,1.1s								
FETA	**Feichten**	**127.46**	**329**	⇑	*i* PKiKP	PKiKP	03 08 15.5	-0.3	
	comp=Z,14nm,0.9s								
BCLA	**Clavier**	**127.55**	**335**		PKP	PKPdf	03 08 15.8	+0.6	
UCC	**Uccle**	**127.65**	**336**		PKP	PKPdf	03 08 15.5	+0.1	
DAVA	**Damuels**	**127.71**	**330**	⇑	*i* PKiKP	PKiKP	03 08 16.1	-0.2	
	comp=Z,10nm,0.7s								
BFO	**Black Forest**	**127.74**	**332**		*e*PKPdf	PKPdf	03 08 15.1	-0.6	
WLF	**Walferdange**	**127.76**	**334**		PKP	PKPdf	03 08 16.9	+1.2	
SNF	**Seneffe**	**127.90**	**336**		PKP	PKPdf	03 08 16.3	+0.4	
GIVF	**Givet**	**127.99**	**335**		*e*PKIKP	PKPdf	03 08 15.4	-0.7	
DOU	**Dourbes**	**128.09**	**336**		PKP	PKPdf	03 08 17.2	+0.8	
CDF	**Champ du Feu**	**128.18**	**332**		*e*PKIKP	PKPdf	03 08 15.3	-1.2	
TUE	**Stuetta**	**128.53**	**329**		*e*PKPdf	PKPdf	03 08 17.6	+0.3	
HINF	**Hinteralfeld**	**128.80**	**332**		*e*PKPdf	PKPdf	03 08 16.7	-1.0	
HAU	**Haudompre**	**128.90**	**333**		*e*PKPdf	PKPdf	03 08 17.1	-0.8	
	comp=Z,18nm,0.7s								
MEZF	**Maizieres J'vi**	**129.11**	**334**		*e*PKIKP	PKPdf	03 08 17.9	-0.4	
	comp=Z,26nm,0.9s								
LVC	**Limon Verde**	**129.86**	**125**		*e*PKPdf	PKPdf	03 08 20.6	+0.1	
CABF	**La Chapelle**	**130.03**	**332**		*e*PKIKP	PKPdf	03 08 19.9	-0.2	
	comp=Z,15nm,0.7s								
LPL	**La Plagne**	**130.51**	**330**		*e*PKIKP	PKPdf	03 08 20.9	-0.2	
	comp=Z,11nm,0.7s								
LPG	**La Plagne**	**130.51**	**330**		*e*PKIKP	PKPdf	03 08 21.0	-0.1	
	comp=Z,11nm,0.7s								
LOR	**Lormes**	**130.57**	**334**		*e*PKIKP	PKPdf	03 08 20.5	-0.6	
SSF	**Saint Saulge**	**130.88**	**334**		*e*PKIKP	PKPdf	03 08 21.3	-0.4	
MBDF	**Montbardon**	**131.04**	**329**		*e*PKIKP	PKPdf	03 08 21.9	-0.2	
	comp=Z,7.6nm,0.7s								
SMF	**Signal de Mont**	**131.05**	**333**		*e*PKIKP	PKPdf	03 08 21.6	-0.4	
	comp=Z,14nm,0.9s								
AVF	**Avril sur Loir**	**131.16**	**334**		*e*PKIKP	PKPdf	03 08 21.4	-0.8	
FLN	**La Foliniere**	**131.16**	**338**		*e*PKIKP	PKPdf	03 08 21.6	-0.6	
LDF	**La Druitiere**	**131.16**	**337**		*e*PKIKP	PKPdf	03 08 21.6	-0.6	
SBF	**Sospel**	**131.30**	**328**		*e*PKIKP	PKPdf	03 08 21.7	-0.9	
PGF	**Pioggiola**	**131.33**	**326**		*e*PKIKP	PKPdf	03 08 22.1	-0.6	
	comp=Z,27nm,0.7s								
ORIF	**Oris-en-Rattie**	**131.36**	**330**		*e*PKIKP	PKPdf	03 08 22.2	-0.5	
	comp=Z,12nm,0.6s								
BGF	**Bois d'Agland**	**131.56**	**334**		*e*PKIKP	PKPdf	03 08 22.6	-0.4	
	comp=Z,12nm,0.7s								
GRR	**Gorron**	**131.61**	**338**		*e*PKIKP	PKPdf	03 08 22.6	-0.4	
ROSC	**El Rosal**	**131.69**	**88**		PKP	PKPdf	03 08 25.3	+1.1	
	comp=Z,11nm,0.5s,baz=82,slow=6.0,SNR=11								
ROSC					SKP		03 11 17.9		
	comp=Z,5.9nm,0.5s,baz=107,slow=14,SNR=5.6								
FRF	**La Foret Royal**	**131.92**	**328**		*e*PKIKP	PKPdf	03 08 23.0	-0.8	
	comp=Z,16nm,0.8s								
VIVF	**Saint-Julien-l**	**131.99**	**331**		*e*PKIKP	PKPdf	03 08 23.6	-0.3	
	comp=Z,20nm,1.1s								
TCF	**Toulx Ste Croi**	**132.05**	**334**		*e*PKIKP	PKPdf	03 08 23.6	-0.3	
	comp=Z,20nm,0.9s								
LMR	**La Mourre**	**132.15**	**328**		*e*PKIKP	PKPdf	03 08 23.6	-0.6	
	comp=Z,21nm,0.9s								
SMRF	**Simiane la Rot**	**132.18**	**329**		*e*PKIKP	PKPdf	03 08 24.4	+0.1	
	comp=Z,18nm,0.9s								
LASF	**Ste Croix**	**132.96**	**331**		*e*PKIKP	PKPdf	03 08 25.6	-0.1	
	comp=Z,21nm,0.8s								
LPAZ	**La Paz**	**133.22**	**118**		PKhKP		03 08 12.7		
	comp=Z,0.5nm,0.4s,baz=300,slow=4.2,SNR=3.3								
LPAZ					PKP	PKPdf	03 08 28.6	+1.6	
	comp=Z,8.9nm,0.6s,baz=285,slow=1.1,SNR=29								
LPAZ					SKP		03 11 23.2		
	comp=Z,3.5nm,0.7s,baz=265,slow=2.5,SNR=10								
LPAZ	**La Paz**	**133.22**	**118**		PKP		03 08 12.7		
LPAZ					*e*PKPdf	PKPdf	03 08 28.1	+1.2	
KEST	**Kesra**	**135.31**	**318**		PKP	PKPdf	03 08 31.3	+0.9	
	comp=Z,1.7nm,0.8s,baz=240,slow=3.9,SNR=6.0								
KEST					SKP		03 11 26.4		
	comp=Z,2.5nm,0.9s,baz=295,slow=12,SNR=6.0								
ETSF	**Etsaut**	**135.93**	**333**		*e*PKIKP	PKPdf	03 08 31.2	-0.1	
PBRG	**Braganca**	**139.40**	**338**		*e*PKP	PKPdf	03 08 34.1	-3.6	
SIV	**San Ignacio**	**139.48**	**121**		PKhKP		03 08 28.1		
	comp=Z,2.1nm,0.5s,baz=254,slow=7.2,SNR=14								
SIV					PKP	PKPdf	03 08 39.0	+0.4	
	comp=Z,4.9nm,0.5s,baz=230,slow=3.1,SNR=17								
SIV					SKPab		03 11 40.8		
	comp=Z,8.0nm,0.8s,baz=272,slow=2.3,SNR=14								
ESDC	**Sonseca Array**	**140.05**	**333**		PKhKP		03 08 31.4		
	comp=Z,0.7nm,0.6s,baz=22,slow=3.0,SNR=5.4								
ESDC					PKP	PKPdf	03 08 39.7	+0.7	
	comp=Z,0.4nm,0.5s,baz=30,slow=2.2,SNR=6.0								
ESDC					SKP		03 11 38.6		
	comp=Z,1.7nm,0.9s,baz=5.7,slow=2.6,SNR=4.1								
MVO	**Moncorvo**	**140.06**	**338**		*e*PKP	PKPdf	03 08 31.6	-7.4	
PVIS	**Viseu**	**140.77**	**338**		*e*PKP	PKPdf	03 08 34.5	-5.8	
EBAN	**Banos Encina**	**141.19**	**332**		PKIKP	PKPdf	03 08 43.4	+2.3	
PMRV	**Marv??o**	**141.69**	**337**		*e*PKP	PKPdf	03 08 37.7	-4.3	
PTOM	**Tomar**	**141.92**	**338**		*e*PKP	PKPdf	03 08 37.8	-4.6	
EVO	**Evora**	**142.71**	**337**		*e*PKIKP	PKPdf	03 08 42.0	-1.8	
	comp=Z,43nm,1.3s								
EVO	**Evora**	**142.71**	**337**		*e*PKP	PKPdf	03 08 40.7	-3.1	
EMIN	**Mina Concepcio**	**142.81**	**334**		PKP	PKPdf	03 08 39.6	-4.4	
EMIJ	**Mijas**	**142.94**	**331**		PKP	PKPdf	03 08 39.4	-4.9	
PBEJ	**Beja**	**143.09**	**336**		*e

HQLS		**0.53**	**26**	P		Pg	03 17 21.4	+2.3
RSHS		**0.53**	**180**	P		Pg	03 17 24.1	+4.9
JLOS		**0.62**	**98**	S		Sg	03 17 30.4	+1.4
JLOS		**0.62**	**98**	P		Pg	03 17 21.5	+0.6
JLOS		**0.62**	**98**	S		Sg	03 17 30.5	+1.6
JLOS		**0.62**	**98**	P		Pg	03 17 21.5	+0.6

*ISCJB **30** 03:22:26.3±0.5, 4574N±002×2666E±004, h118km±5km, Error ellipse: s-maj=4.1km s-min=3.9km az=7.8*
*BUC **30** 03:22:26.5±0.7, 4575N×2664E, h118km±7km, MD4.0/2, Error ellipse: s-maj=4.7km s-min=4.5km az=21.0*
*CSEM **30** 03:22:27.3±0.1, 4569N×2663E, h104km±1km, MD4.1/2, Error ellipse: s-maj=1.5km s-min=1.2km az=41.0*
*NEIC **30** 03:22:27.1, 4573N×2665E, h111km, MG3.5(BUC), After BUC.*

ISC 30 03:22:27.1±0.5, 4574N±002×2668E±004, h115km±5km, n59, σ0≤81/96, 25C-11D, Romania

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PLOR	**Plostina**	**0.11**	**350**	⇑*i*P	**Pn**	**03 22 42.9**	**0.0**
PLOR				*i* S	**Sn**	**03 22 54.6**	**-0.2**
VRI	**Vrincioaia**	**0.13**	**16**	⇑*i*P	**Pn**	**03 22 43.1**	**+0.1**
VRI				*i* S	**Sn**	**03 22 54.9**	**0.0**
VRI	**Vrincioaia**	**0.13**	**16**	P	**Pn**	**03 22 43.3**	**+0.3**
PETR		**0.39**	**92**	⇑*i*P	**Pn**	**03 22 44.5**	**+0.7**
PETR				*i* S	**Sn**	**03 22 57.2**	**+0.8**
MLR	**Muntele Rosu**	**0.57**	**244**	⇓*i*P	**Pn**	**03 22 45.3**	**+0.3**
MLR				*i* S	**Sn**	**03 22 58.7**	**+0.3**
MLR	**Muntele Rosu**	**0.57**	**244**	P	**Pn**	**03 22 45.3**	**+0.3**
MLR				S	**Sn**	**03 22 59.4**	**+1.0**
ISR	**Istrita**	**0.63**	**189**	⇓*i*P	**Pn**	**03 22 46.4**	**+1.0**
AAR	**Sfinta Ana**	**0.67**	**306**	⇓*i*P	**Pn**	**03 22 54.1**	**+8.4**
AAR	**Sfinta Ana**	**0.67**	**306**	S	**Sn**	**03 23 14.6**	**+15**
TUDR		**0.71**	**101**	⇑*i*P	**Pn**	**03 22 46.2**	**+0.2**
TUDR				*i* S	**Sn**	**03 23 00.3**	**0.0**
TESR		**0.77**	**359**	⇓*i*P	**Pn**	**03 22 46.1**	**-0.5**
TESR				*i* S	**Sn**	**03 22 59.8**	**-1.5**
ONCR	**Oncesti**	**0.83**	**29**	⇑*i*P	**Pn**	**03 22 47.1**	**0.0**
ONCR				*i* S	**Sn**	**03 23 01.4**	**-0.8**
FULR		**0.87**	**191**	⇑*i*P	**Pn**	**03 22 48.2**	**+0.8**
FULR				*i* S	**Sn**	**03 23 04.2**	**+1.5**
SULR		**1.10**	**196**	⇑*i*P	**Pn**	**03 22 48.8**	**-1.0**
SULR				*i* S	**Sn**	**03 23 06.7**	**-0.2**
GIUM	**Giurgiulesti**	**1.10**	**103**	⇑*i*P	**Pn**	**03 22 50.5**	**+0.7**
GIUM				*i* S	**Sn**	**03 23 07.3**	**+0.4**
VOIR		**1.18**	**256**	⇓*i*P	**Pn**	**03 22 50.3**	**-0.3**
VOIR				*i* S	**Sn**	**03 23 07.2**	**-1.2**
VOIR		**1.18**	**256**	P	**Pn**	**03 22 50.6**	**0.0**
BERR	**Berezeni**	**1.20**	**58**	⇑*i*P	**Pn**	**03 22 51.3**	**+0.5**
BERR				*i* S	**Sn**	**03 23 08.8**	**+0.1**
HARR	**Harsova**	**1.37**	**139**	⇑*i*P	**Pn**	**03 22 53.1**	**+0.3**
HARR				*i* S	**Sn**	**03 23 11.6**	**-0.6**
HARR	**Harsova**	**1.37**	**139**	P	**Pn**	**03 22 53.2**	**+0.4**
HARR				S	**Sn**	**03 23 11.5**	**-0.7**
BUC1	**Bucharest**	**1.47**	**199**	⇑*i*P	**Pn**	**03 22 54.2**	**+0.4**
BUC1				*i* S	**Sn**	**03 23 13.8**	**-0.3**
BUC1	**Bucharest**	**1.47**	**199**	⇑P	**Pn**	**03 22 54.2**	**+0.4**
BUC1				S	**Sn**	**03 23 14.2**	**+0.1**
IAS	**Iasi**	**1.58**	**22**	⇑*i*P	**Pn**	**03 22 55.0**	**-0.1**
IAS				*i* S	**Sn**	**03 23 15.4**	**-1.0**
IAS	**Iasi**	**1.58**	**22**	⇑P	**Pn**	**03 22 55.0**	**-0.1**
IAS				S	**Sn**	**03 23 15.4**	**-1.0**
TLCR		**1.60**	**109**	⇑*i*P	**Pn**	**03 22 56.0**	**+0.6**
TLCR				*i* S	**Sn**	**03 23 16.9**	**-0.1**
TLCR		**1.60**	**109**	P	**Pn**	**03 22 56.0**	**+0.6**
MDB	**Medias**	**1.65**	**285**	⇑P	**Pn**	**03 22 56.4**	**+0.4**
MDB	**Medias**	**1.65**	**285**	⇑P	**Pn**	**03 22 56.4**	**+0.4**
CVD	**Cernavoda**	**1.72**	**146**	⇓*i*P	**Pn**	**03 22 57.0**	**+0.2**
CVD				*i* S	**Sn**	**03 23 19.1**	**-0.4**
CVD	**Cernavoda**	**1.72**	**146**	⇓P	**Pn**	**03 22 57.0**	**+0.1**
CVD				S	**Sn**	**03 23 19.1**	**-0.4**
TIRR	**Tirgusor**	**1.77**	**136**	⇑*i*P	**Pn**	**03 22 58.0**	**+0.5**
TIRR				*i* S	**Sn**	**03 23 20.1**	**-0.6**
TIRR	**Tirgusor**	**1.77**	**136**	P	**Pn**	**03 22 57.8**	**+0.3**
TIRR				S	**Sn**	**03 23 20.2**	**-0.5**
TIRR	**Tirgusor**	**1.77**	**136**	P	**Pn**	**03 22 57.8**	**+0.3**
TIRR				S	**Sn**	**03 23 20.2**	**-0.5**
MSAB	**Monastry St. A**	**1.84**	**153**	⇑*i*P	**Pn**	**03 22 58.9**	**+0.6**
MSAB				*i* S	**Sn**	**03 23 21.6**	**-0.5**
KIS	**Kishinev**	**1.94**	**49**	⇑*i*P	**Pn**	**03 22 59.8**	**+0.2**
KIS				*i* S	**Sn**	**03 23 23.4**	**-1.0**
KIS	**Kishinev**	**1.94**	**49**	S	**Sn**	**03 23 23.4**	**-1.0**
KIS	**Kishinev**	**1.94**	**49**	*i* S	**Sn**	**03 23 23.0**	**-1.4**
	500nm,0.8s						
KIS	**Kishinev**	**1.94**	**49**	⇑*i*P	**Pn**	**03 22 59.8**	**+0.2**
KIS				S	**Sn**	**03 23 23.8**	**-0.6**
KIS	**Kishinev**	**1.94**	**49**	⇑P	**Pn**	**03 22 59.8**	**+0.2**
KIS				S	**Sn**	**03 23 23.8**	**-0.7**
BURAR	**Bucovina Array**	**2.13**	**332**	⇓*i*P	**Pn**	**03 23 03.0**	**+1.1**
BURAR				*i* S	**Sn**	**03 23 30.2**	**+1.6**
BURAR	**Bucovina Array**	**2.13**	**332**	P	**Pn**	**03 23 03.1**	**+1.2**
BUR08	**Bucovina Ar. S**	**2.16**	**332**	*e*Pn	**Pn**	**03 23 03.0**	**+0.7**
BUR08				*e*Sn	**Sn**	**03 23 26.5**	**-2.8**
BUR08	**Bucovina Ar. S**	**2.16**	**332**	*e*Pn	**Pn**	**03 23 03.0**	**+0.7**
BUR08				*e*Sn	**Sn**	**03 23 26.5**	**-2.8**
ZIMR		**2.28**	**205**	⇑*i*P	**Pn**	**03 23 03.8**	**-0.1**
ZIMR				*i* S	**Sn**	**03 23 30.5**	**-1.6**
ZIMR		**2.28**	**205**	P	**Pn**	**03 23 03.8**	**-0.1**
ZIMR				S	**Sn**	**03 23 31.1**	**-1.0**
CRAR	**CRAIOVA**	**2.48**	**236**	⇑*i*P	**Pn**	**03 23 05.8**	**-0.7**
CRAR				*i* S	**Sn**	**03 23 35.4**	**-1.3**
GZR	**Gura Zlata**	**2.76**	**264**	⇑*i*P	**Pn**	**03 23 10.5**	**+0.4**
GZR				*i* S	**Sn**	**03 23 45.2**	**+2.1**
GZR	**Gura Zlata**	**2.76**	**264**	P	**Pn**	**03 23 10.4**	**+0.3**
DRGR		**2.94**	**292**	⇓*i*P	**Pn**	**03 23 11.4**	**-1.1**
DRGR		**2.94**	**292**	P	**Pn**	**03 23 11.5**	**-1.0**
DRGR		**2.94**	**292**	P	**Pn**	**03 23 11.5**	**-1.0**
BZS	**Buzias**	**3.55**	**270**	⇓*i*P	**Pn**	**03 23 19.9**	**-0.6**
BZS				*i* S	**Sn**	**03 24 02.7**	**+0.9**
BZS	**Buzias**	**3.55**	**270**	*e*Pn	**Pn**	**03 23 20.1**	**-0.4**
BZS	**Buzias**	**3.55**	**270**	⇓P	**Pn**	**03 23 19.9**	**-0.6**
BOLS	**Boljevac**	**3.87**	**242**	*e*Pn	**Pn**	**03 23 22.5**	**-2.3**
KOLS	**Kolonicke sedl**	**4.38**	**318**	*e*P	**Pn**	**03 23 32.1**	**+0.5**
BARS	**Barje**	**4.55**	**232**	*e*Pn	**Pn**	**03 23 33.8**	**-0.1**
CRVS	**Cervenica-Dubn**	**4.75**	**314**	*e*P	**Pn**	**03 23 36.2**	**-0.4**
STHS	**Stebnicka Huta**	**5.20**	**317**	*e*P	**Pn**	**03 23 42.9**	**+0.3**

*DDA **30** 03:27:09.8, 3886N×27.16E, h6km±2km, Md2.9*
*CSEM **30** 03:27:09.6±0.1, 3885N×27.16E, h15km, MD2.8, Error ellipse: s-maj=2.4km s-min=1.8km az=98.0*
*ISK **30** 03:27:09.6, 3887N×2713E, h5km, MD2.8*
*ISCJB **30** 03:27:10.1±0.8, 3887N±005×27.14E±004, h7km±10km, Error ellipse: s-maj=9.0km s-min=4.8km az=153.7*

ISC 30 03:27:10.6±0.6, 3886N±004×2716E±004, h14km±7km, n10, σ0≤62/18, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IZM	**Izmir**	**0.47**	**170**	*e*PG	**Pg**	**03 27 19.3**	**-0.7**
IZM				*e*SG	**Sg**	**03 27 26.9**	**+0.6**
BLCB	**Balcova**	**0.48**	**191**	*e*PG	**Pg**	**03 27 19.3**	**-0.9**
BLCB				*e*SG	**Sg**	**03 27 26.8**	**+0.1**
AKHS	**Akhisar**	**0.51**	**88**	*i* P	**Pg**	**03 27 20.0**	**-0.7**
AKHS				*i* S	**Sg**	**03 27 27.6**	**0.0**
AKS	**Akhisar**	**0.51**	**88**	*e*PG	**Pg**	**03 27 21.1**	**+0.3**
AKS				*e*SG	**Sg**	**03 27 27.7**	**+0.1**
URLA	**Izmir**	**0.67**	**222**	*i* P	**Pg**	**03 27 23.3**	**-0.4**
URLA				*i* S	**Sg**	**03 27 33.3**	**+0.8**
BALY	**Balya**	**0.95**	**22**	*i* P	**Pb**	**03 27 27.8**	**-1.0**
BALY				*i* S	**Sg**	**03 27 42.0**	**+0.6**
EZN	**Ezine**	**1.16**	**326**	*e*PN	**Pn**	**03 27 32.3**	**-0.1**
EZN				*e*SN	**Sn**	**03 27 47.7**	**-0.2**
KULA	**Kula-Manisa**	**1.23**	**106**	*e*PN	**Pn**	**03 27 33.9**	**+0.7**
DEMI	**Demirci**	**1.23**	**81**	*i* P	**Pn**	**03 27 32.8**	**-0.5**
DEMI				*i* S	**Sb**	**03 27 49.2**	**-0.1**
EDC	**Edincik**	**1.58**	**20**	*e*PN	**Pn**	**03 27 39.4**	**+1.3**

*NIED **30** 04:04:00, 4300N×14560E, h68km, Mw4.2 Best double couple: M₀1.89000×10¹⁵ NP1:φs254.00000°, δ79.00000°, λ-117.00000°. NP2:φs143.00000°, δ29.00000°, λ-23.00000°.*
*MOS **30** 04:04:48.4±1.2, 4293N×14565E, h60km, mb4.8/35, Error ellipse: s-maj=9.6km s-min=5.7km az=96.4*
MOS Felt (II) at Yuzhno-Kuril'sk.

*ISCJB **30** 04:04:50.5±0.4, 4300N±003×14563E±004, h77km±2km, mb4.4/62, Error ellipse: s-maj=6.1km s-min=4.0km az=143.6*
*JMA **30** 04:04:52.3±0.1, 4303N×14558E, h70km±1km, M4.2*
JMA Felt II J1.
*NEIC **30** 04:04:52.3±0.2, 4299N×14562E, mb4.4/29, Error ellipse: s-maj=6.2km s-min=4.3km az=140.0*
NEIC Recorded [2 JMA] in eastern Hokkaido.
*SKHL **30** 04:04:52.4±0.4, 4320N×14570E, h59km±11km, mb4.7/2*
*IDC **30** 04:04:52.1±2.3, 4309N×14561E, h73km±20km, mb4.1/22, mb1 4.2/25, mb1mx4.2/30, mbtmp4.1/25, MS2.4/1, Ms1 2.4/1, ms1mx1.7/39, Error ellipse: s-maj=18.7km s-min=14.7km az=176.0*
*BJI **30** 04:04:55.5, 4304N×14486E, h87km, mB4.8, mb4.6, Ms4.1, Msz3.8*

ISC 30 04:04:51.9±0.4, 4302N±003×14560E±004, h72km±2km, h86km±3.1km: pP-P, n170, σ0≤93/183, mb4.4/62, 7C-9D, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NEM2	**Nemuro 2**	**0.36**	**17**	P	**Pn**	**04 05 03.9**	**+0.2**
NEM2				S	**Sn**	**04 05 12.4**	**+0.1**
JAK	**Akkeshi**	**0.67**	**268**	⇓P	**Pn**	**04 05 06.7**	**+0.1**
JAK				*e*S	**Sn**	**04 05 17.5**	**+0.1**
JNK	**Nakash**	**0.86**	**311**	⇓P	**Pn**	**04 05 08.6**	**-0.1**
JNK				*e*S	**Sn**	**04 05 20.6**	**-0.6**
JRA	**Rausu**	**0.98**	**339**	⇓P	**Pn**	**04 05 10.5**	**+0.3**
JRA				*e*S	**Sn**	**04 05 23.9**	**0.0**
YUK	**Yuzh-Kuril'sk**	**1.03**	**10**	*i* PN	**Pn**	**04 05 10.4**	**-0.4**
YUK				*i* S	**Sn**	**04 05 24.0**	**-0.9**
YUK				pmax	pmax		
	comp=Z,1μm,0.4s						
YUK				pmax	pmax		
	comp=N,710nm,0.4s						
YUK				pmax	pmax		
	comp=E,840nm,0.6s						
YUK				smax			
	comp=N,31μm,1.2s						
YUK				smax			
	comp=E,36μm,1.0s						
YUK				smax			
	comp=N,21μm,0.5s						
YUK				smax			
	comp=E,23μm,0.7s						
YUK	**Yuzh-Kuril'sk**	**1.03**	**10**	*i* P	**Pn**	**04 05 10.4**	**-0.4**
YUK				AMB	AMB	04 05 11.9	
	comp=E,1μm,0.3s						
YUK				AMB	AMB	04 05 11.9	
	comp=E,840nm,0.6s						
YUK				AMB	AMB	04 05 11.9	
	comp=E,710nm,0.4s						
YUK				*i* S	**Sn**	**04 05 24.0**	**-0.9**
YUK				A		04 05 25.0	
	comp=E,31μm,1.2s						
YUK				A		04 05 25.0	
	comp=E,36μm,1.0s						
YUK				A		04 05 25.5	
	comp=E,21μm,0.5s						
YUK				A		04 05 25.5	
	comp=E,23μm,0.7s						
JOB	**Onbets**	**1.30**	**265**	⇓P	**Pn**	**04 05 14.6**	**+0.3**
JOB				*e*S	**Sn**	**04 05 30.8**	**-0.4**
JAR	**Ashorobuto**	**1.37**	**282**	⇓P	**Pn**	**04 05 15.6**	**+0.4**
JAR				*e*S	**Sn**	**04 05 33.0**	**+0.3**
JTKR	**Abashiri--Toko**	**1.56**	**308**	⇓P	**Pn**	**04 05 18.2**	**+0.6**
JTKR				*e*S	**Sn**	**04 05 37.3**	**+0.2**
JCH	**Churui**	**1.70**	**257**	⇓P	**Pn**	**04 05 19.6**	**+0.1**
JCH				*e*S	**Sn**	**04 05 39.5**	**-1.0**
ERM	**Erimo**	**2.07**	**242**	*e*PN	**Pn**	**04 05 26.3**	**+1.8**
ASAJ	**Asahikawa**	**2.44**	**298**	P	**Pn**	**04 05 31.1**	**+1.6**
	comp=E,71nm,0.3s,baz=116,slow=11,SNR=208						
ASAJ				S	**Sn**	**04 06 03.6**	**+5.3**
	comp=E,54nm,0.3s,baz=275,slow=29,SNR=4.6						
KUR	**Kuril'sk**	**2.75**	**36**	⇑*i*PN	**Pn**	**04 05 31.5**	**-2.1**
KUR	**Kuril'sk**	**2.75**	**36**	*e*P	**Pn**	**04 05 31.5**	**-2.1**
YSS	**Yuzh-Sakhalins**	**4.42**	**334**	⇑*e*PN	**Pn**	**04 05 57.2**	**+0.8**
YSS				*i* S	**Sn**	**04 06 46.5**	**0.0**
YSS				pmax	pmax		
	comp=Z,40nm,0.9s						
YSS				smax			
	comp=N,100nm,1.1s						
YSS				smax			
	comp=E,160nm,1.1s						
YSS	**Yuzh-Sakhalins**	**4.42**	**334**	⇑*e*P	**Pn**	**04 05 57.2**	**+0.8**
YSS				AMB	AMB	04 05 58.1	
	comp=E,40nm,0.9s						
YSS				*e*pP		04 06 14.0	
YSS				*e*sP		04 06 19.5	
YSS				*i* S	**Sn**	**04 06 46.5**	**0.0**
YSS				A		04 06 49.1	
	comp=E,100nm,1.1s						
YSS				A		04 06 49.1	
	comp=E,160nm,1.1s						
YSS	**Yuzh-Sakhalins**	**4.42**	**334**	*e*Pn	**Pn**	**04 05 57.3**	**+0.9**
MAJO	**Matsushiro**	**8.62**	**224**	*e*PN	**Pn**	**04 06 53.4**	**-0.4**
MAT	**Matsushiro**	**8.62**	**224**	P	**Pn**	**04 06 53.0**	**-0.8**
MAT				S	**Sn**	**04 08 30.6**	**+1.2**
MJAR	**Matsushiro Arr**	**8.62**	**224**	P	**Pn**	**04 06 52.9**	**-0.9**
	comp=E,1.9nm,0.3s,baz=28,slow=13,SNR=18						
PETK	**Petropavlovsk-**	**12.91**	**34**	P	**Pn**	**04 07 50.1**	**-2.1**
	comp=E,0.7nm,0.3s,baz=168,slow=9.7,SNR=11						
PETK				LR	LR	04 13 37.7	
	comp=E,17nm,18.8s,baz=222,slow=41						
PET	**Petropavlovsk**	**13.26**	**36**	*e*PN	**Pn**	**04 07 58.1**	**+1.3**
CN2	**Changchun**	**14.67**	**280**	*e*P	**Pn**	**04 08 16.8**	**+1.3**
INCN	**Inchon**	**15.50**	**255**	Pn	**Pn**	**04 08 26.3**	**+0.3**
HIA	**Hailar**	**18.92**	**298**	*e*P	**Pn**	**04 09 06.0**	**-2.1**
YAK	**Yakutsk**	**21.25**	**339**	P	**P**	**04 09 30.8**	**-0.9**
BJI	**Beijing**	**22.18**	**272**	P	**P**	**04 09 41.5**	**-0.4**
BJI				S	**S**	**04 13 34.8**	**-7.1**
BJI				AMB	AMB		
	comp=Z,6.0nm,0.4s,mb4.3						
BJI				LR	LR		
	comp=N,100nm,16.5s						
BJI				LR	LR		
	comp=E,130nm,14.9s						
NJ2	**Nanjing**	**23.77**	**251**	*e*P	**P**	**04 09 56.8**	**-0.9**
NJ2				AMB	AMB		
	comp=Z,60nm,0.8s,mb5.0						
HHC	**Hu-ho-hao-te**	**25.32**	**277**	*e*P	**P**	**04 10 11.5**	**-0.2**
HHC				AP	pP	04 10 32.8	+4.2
HHC				PP		04 10 54.8	
HHC				PCP	PcP	04 13 42.3	-0.4
HHC				S	**S**	**04 14 30.5**	**-2.0**
HHC				SCP	ScP	04 17 10.8	-4.6
HHC				AMB	AMB		
	comp=Z,19nm,1.0s,mb4.5						
HHC				AMB	AMB		
	comp=Z,106nm,5.7s						
HHC				LR	LR		
	comp=N,180nm,10.5s						
HHC				LR	LR		
	comp=E,178nm,10.3s						
ULN	**Ulaanbaatar**	**27.28**	**294**	*e*P	**P**	**04 10 29.7**	**+0.4**
ULN				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb3.7						
ULN	**Ulaanbaatar**	**27.28**	**294**	*e*P	**P**	**04 10 29.7**	**+0.5**
	comp=Z,2.5nm,0.8s,mb3.8						
BILL	**Bilibino**	**27.38**	**17**	*e*P	**P**	**04 10 29.9**	**0.0**
BILL				pmax	pmax		
	comp=Z,6.0nm,0.4s,mb4.5						
BILL	**Bilibino**	**27.38**	**17**	*e*P	**P**	**04 10 29.9**	**0.0**
	comp=Z,5.9nm,0.4s,mb4.5						
SONM	**Songino Array**	**27.72**	**294**	P	**P**	**04 10 33.6**	**+0.3**
	comp=Z,10.0nm,0.6s,mb4.5,baz=85,slow=8.2,SNR=17						
SONM	**Songino Array**	**27.72**	**294**	P	**P**	**04 10 33.6**	**+0.4**
SONM				pmax	pmax		
	comp=Z,10.0nm,0.6s						
GUMO	**Guam**	**29.34**	**181**	*e*P	**P**	**04 10 46.0**	**-1.8**
GUMO				pmax	pmax		
	comp=Z,110nm,1.3s,mb5.3						
GUMO	**Guam**	**29.34**	**181**	*e*P	**P**	**04 10 46.0**	**-1.8**
	comp=Z,110nm,1.3s,mb5.3						
TLY	**Talaya**	**29.36**	**302**	*e*P	**P**	**04 10 48.1**	**+0.3**
TLY				pmax	pmax		
	comp=Z,5.0nm,0.7s,mb4.2						
TLY	**Talaya**	**29.36**	**302**	*e*P	**P**	**04 10 48.0**	**+0.3**
	comp=Z,4.7nm,0.7s,mb4.2						
ZAK	**Zakamensk**	**29.61**	**299**	*e*P	**P**	**04 10 49.5**	**-0.5**
ZAK				pmax	pmax		
	comp=Z,5.0nm,1.4s,mb4.0						
XAN	**Xi'an**	**29.87**	**265**	P	**P**	**04 10 51.0**	**-1.5**
XAN				AP	pP	04 11 10.5	+1.0
XAN				XP	sP	04 11 20.0	+2.0
XAN				S	**S**	**04 15 43.0**	**-1.3**
XAN				AMB	AMB		
	comp=Z,2.0nm,0.6s,mb3.9						
NIKO	**Nikolski**	**31.56**	**56**	P	**P**	**04 11 07.7**	**+0.6**
LZH	**Lanzhou**	**32.67**	**272**	*e*P	**P**	**04 11 17.8**	**+0.7**
LZH				AP	pP	04 11 40.0	+5.7
LZH				PP	PP	04 12 29.8	-2.2
LZH				AMB	AMB		
	comp=Z,21nm,1.2s,mb4.8						
LZH				AMB	AMB		
	comp=Z,122nm,6.7s						
LZH				LR	LR		
	comp=E,457nm,13.5s						
UNV	**Unalaska Valle**	**32.97**	**54**	*e*P	**P**	**04 11 18.6**	**-0.8**
	comp=E,52nm,1.2s,mb5.2						
CD2	**Chengdu**	**35.21**	**264**	*e*P	**P**	**04 11 39.8**	**+0.7**
CD2				AP	pP	04 11 59.3	+2.9
CD2				XP	sP	04 12 09.3	+4.5
CD2				PP	PP	04 13 00.3	+0.2
CD2				S	**S**	**04 17 05.8**	**-1.5**
CD2				XS	sS	04 17 39.5	+2.6
CD2				AMB	AMB		
	comp=Z,10.0nm,0.9s,mb4.7						
CD2				AMB	AMB		
	comp=Z,30nm,5.2s						
CD2				LR	LR		
	comp=N,180nm,16.2s						
GYA	**Guiyang**	**35.65**	**255**	P	**P**	**04 11 44.5**	**+1.6**
GYA				AP	pP	04 12 03.8	+3.5
GYA				XP	sP	04 12 14.0	+5.4
GYA				PP	PP	04 13 06.5	+1.5
GYA				PCP	PcP	04 14 11.3	+1.3
GYA				S	**S**	**04 17 13.0**	**-1.1**
GYA				XS	sS	04 17 46.3	+2.6
GYA				SCP	ScP	04 17 49.8	+0.3
GYA				SCS	ScS	04 21 52.5	-2.1
GYA				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.8						
GYA				AMB	AMB		
	comp=Z,80nm,4.9s						
CHUM	**Lake Minchumin**	**40.39**	**37**	*e*P	**P**	**04 12 22.4**	**+0.1**
	comp=Z,16nm,0.6s,mb5.0						
ZALV	**Zalesovo Beam**	**40.54**	**307**	P	**P**	**04 12 23.4**	**-0.3**
	comp=Z,5.0nm,0.5s,mb4.6,baz=90,slow=8.9,SNR=26						
ZALV	**Zalesovo Beam**	**40.54**	**307**	P	**P**	**04 12 23.4**	**-0.3**
ZALV				pmax	pmax		
	comp=Z,5.0nm,0.5s,mb4.6						
KDAK	**Kodiak Island**	**40.57**	**47**	P	**P**	**04 12 23.6**	**-0.3**
	comp=Z,10nm,0.9s,mb4.7,baz=0.2,slow=16,SNR=5.7						
NVS	**Novosibirsk**	**41.30**	**309**	*i* P	**P**	**04 12 28.6**	**-1.3**
WMQ	**Urumqi**	**41.32**	**292**	⇓P	**P**	**04 12 31.0**	**+0.8**
WMQ				AP	pP	04 12 50.5	+2.6
WMQ				XP	sP	04 13 00.0	+3.8
WMQ				PP	PP	04 14 10.5	+3.8
WMQ				PCP	PcP	04 14 30.0	+2.6
WMQ				S	**S**	**04 18 39.0**	**-0.1**
WMQ				AMB	AMB		
	comp=Z,5.0nm,1.0s,mb4.3						
WMQ				AMB	AMB		
	comp=Z,123nm,4.5s						
MCK	**McKinley**	**41.90**	**37**	*e*P	**P**	**04 12 34.7**	**0.0**
MCK				pmax	pmax		
	comp=Z,4.0nm,0.6s,mb4.3						
MCK	**McKinley**	**41.90**	**37**	*e*P	**P**	**04 12 34.7**	**0.0**
	comp=Z,4.2nm,0.6s,mb4.3						
PMR	**Palmer**	**41.94**	**41**	P	**P**	**04 12 34.8**	**-0.3**
COLA	**College**	**42.32**	**36**	*e*P	**P**	**04 12 38.5**	**+0.4**
COLA				pmax	pmax		
	comp=Z,9.0nm,0.6s,mb4.7						
COLA	**College**	**42.32**	**36**	*e*P	**P**	**04 12 38.5**	**+0.3**
	comp=Z,9.5nm,0.6s,mb4.7						
MK31	**Makanchi Array**	**43.92**	**298**	*e*P	**P**	**04 12 51.4**	**+0.1**
MKAR	**Makanchi Array**	**43.92**	**298**	P	**P**	**04 12 51.3**	**0.0**
	comp=Z,2.0nm,0.4s,mb4.2,baz=82,slow=9.6,SNR=30						
MKAR				pP	pP	04 13 10.3	+1.2
	comp=Z,2.6nm,0.6s,baz=82,slow=9.7,SNR=8.9						
MKAR	**Makanchi Array**	**43.92**	**298**	P	**P**	**04 12 51.3**	**0.0**
MKAR				*PP	pP	04 13 10.3	+1.2
MKAR				pmax	pmax		
	comp=Z,2.0nm,0.4s						
MKAR	**Makanchi Array**	**43.92**	**298**	P	**P**	**04 12 51.3**	**0.0**
MKAR				pP	pP	04 13 10.3	+1.2
KURK	**Kurchatov**	**45.00**	**304**	P	**P**	**04 13 00.3**	**+0.5**
	comp=Z,9.5nm,0.6s,mb4.7,baz=70,slow=8.7,SNR=21						
KURK	**Kurchatov**	**45.00**	**304**	P	**P**	**04 13 00.4**	**+0.6**
KURK				pmax	pmax		
	comp=Z,10.0nm,0.6s,mb4.7						
KURK	**Kurchatov**	**45.00**	**304**	*e*P	**P**	**04 12 59.9**	**+0.1**
	comp=Z,12nm,0.7s,mb4.7						
KKM	**Kota Kinabalu**	**45.04**	**224**	P	**P**	**04 13 00.9**	**+0.4**
INK	**Inuvik**	**47.60**	**30**	*e*P	**P**	**04 13 19.9**	**0.0**
	comp=Z,168nm,0.8s						
HYT	**Haines Junctio**	**47.61**	**40**	*e*P	**P**	**04 13 22.1**	**+1.9**
BVAR	**Borovoye Array**	**49.09**	**309**	P	**P**	**04 13 31.3**	**-0.3**
	comp=Z,3.7nm,0.4s,mb4.7,baz=83,slow=8.9,SNR=22						
BVAR	**Borovoye Array**	**49.09**	**309**	P	**P**	**04 13 31.3**	**-0.3**
BVAR				pmax	pmax		
	comp=Z,4.0nm,0.4s						
BRVK	**Borovoye**	**49.14**	**309**	*e*P	**P**	**04 13 32.2**	**+0.

comp=Z,3.7nm,0.9s,mb4.3
NEW Newport 63.66 48 *e*P **P** **04 15 13.4 -1.8**
NEW pmax pmax
comp=Z,2.0nm,0.7s
NEW Newport 63.66 48 *e*P **P** **04 15 13.3 -1.9**
comp=Z,1.8nm,0.7s,mb4.0
KAF Kangasniemi 64.45 333 *e*p **P** **04 15 19.1 -1.1**
comp=Z,3.8nm,0.4s,mb4.6,baz=44,slow=6.2
KAF Kangasniemi 64.45 333 *e*P **P** **04 15 19.1 -1.1**
KAF pmax pmax
comp=Z,4.0nm,0.4s,mb4.6
SUMG Summit 64.67 1 *e*P **P** **04 15 22.3 +0.9**
OBN Obninsk 65.23 323⇑ *e*P **P** **04 15 23.4 -1.9**
OBN *e* 04 15 35.9
OBN pmax pmax
comp=Z,4.0nm,0.8s,mb4.3
ASAR Alice Springs 67.23 192 P **P** **04 15 39.0 +0.7**
comp=Z,1.2nm,0.6s,mb3.9,baz=12,slow=5.5,SNR=12
ASAR pP pP 04 15 59.4 +2.0
comp=Z,0.8nm,0.6s,baz=8.4,slow=6.3,SNR=3.7
ASAR Alice Springs 67.23 192 P **P** **04 15 39.1 +0.7**
ASAR *PP pP 04 15 59.4 +2.0
ASAR pmax pmax
comp=Z,1.0nm,0.6s
CMB Columbia Colle 67.88 58 *e*P **P** **04 15 42.6 +0.1**
CMB pmax pmax
comp=Z,1.0nm,0.6s,mb3.8
CMB Columbia Colle 67.88 58 *e*P **P** **04 15 42.6 +0.1**
comp=Z,0.9nm,0.6s,mb3.8
MBWA Marble Bar 68.16 206 P **P** **04 15 43.7 -0.7**
NVAR Mina Array Bea 68.92 57 P **P** **04 15 50.1 +1.1**
comp=Z,0.8nm,0.7s,mb3.7,baz=296,slow=6.4,SNR=7.2
NVAR Mina Array Bea 68.92 57 P **P** **04 15 50.1 +1.1**
KIV Kislovodsk 69.40 311 *e*P **P** **04 15 52.2 +0.3**
KIV pmax pmax
comp=Z,13nm,1.0s,mb4.7
KIV MLR MLR
comp=Z,21nm,19.0s
KIV Kislovodsk 69.40 311 *e*P **P** **04 15 52.3 +0.4**
comp=Z,7.4nm,0.6s,mb4.7
NB2 NORSAR Subarra 69.87 338 P **P** **04 15 53.9 -0.6**
comp=Z,6.6nm,0.5s,mb4.7,baz=32,slow=6.5
NOA NORSAR Array B 69.87 338 P **P** **04 15 54.1 -0.4**
comp=Z,11nm,0.7s,mb4.8,baz=34,slow=6.2,SNR=30
NOA NORSAR Array B 69.87 338 P **P** **04 15 54.1 -0.4**
NOA pmax pmax
comp=Z,11nm,0.7s
HFS Hagfors 69.92 337 P **P** **04 15 54.2 -0.6**
comp=Z,6.6nm,0.4s,mb4.8,baz=49,slow=6.7,SNR=44
HFS Hagfors 69.92 337 P **P** **04 15 54.2 -0.6**
HFS pmax pmax
comp=Z,7.0nm,0.4s
DUG Dugway 71.08 52 P **P** **04 16 02.1 -0.1**
TPNV Topopah Spring 71.12 57 *e*P **P** **04 16 03.2 +0.7**
TPNV pmax pmax
comp=Z,2.0nm,0.9s,mb4.0
TPNV Topopah Spring 71.12 57 *e*P **P** **04 16 03.2 +0.7**
comp=Z,1.5nm,0.9s,mb3.8
BW06 Boulder Array 71.24 49 *e*P **P** **04 16 03.3 +0.2**
comp=Z,1.1nm,0.7s,mb3.8
PDAR Pinedale Array 71.24 49 P **P** **04 16 02.5 -0.7**
comp=Z,0.8nm,0.7s,mb3.6,baz=290,slow=2.4,SNR=5.2
PDAR Pinedale Array 71.24 49 P **P** **04 16 02.5 -0.7**
AKASG Malin Array Be 71.49 323 P **P** **04 16 03.8 -0.7**
comp=Z,2.3nm,0.4s,mb4.3,baz=38,slow=6.2,SNR=9.8
AKASG Malin Array Be 71.49 323 *i* P **P** **04 16 04.0 -0.5**
AKASG pmax pmax
comp=Z,2.0nm,0.4s
ANN Anapa 71.66 315 *e*P **P** **04 16 07.4 +1.7**
PV10 Paradox Valley 74.47 52 *e*P **P** **04 16 23.2 +0.8**
KWP Kalwaria 75.08 326 *e*P **P** **04 16 26.7 +1.1**
ISCO Idaho Springs 75.43 49 *e*P **P** **04 16 28.8 +0.9**
ISCO pmax pmax
comp=Z,3.0nm,0.8s,mb4.1
ISCO Idaho Springs 75.43 49 *e*P **P** **04 16 28.8 +0.9**
comp=Z,3.3nm,0.8s,mb4.1
BUR08 Bucovina Ar. S 75.53 323 *e*P **P** **04 16 28.6 +0.3**
KOLS Kolonicke sedl 75.80 325 *e*P **P** **04 16 28.3 -1.5**
STHS Stebnicka Huta 75.85 326 *e*P **P** **04 16 31.3 +1.3**
STHS pmax pmax
comp=Z,2.0nm,0.7s,mb4.0
STHS Stebnicka Huta 75.85 326 *e*P **P** **04 16 31.3 +1.3**
comp=Z,1.9nm,0.7s,mb3.8
CRVS Cervenica-Dubn 76.16 326 *e*P **P** **04 16 31.8 0.0**
SDCO Great Sand Dun 76.93 50 *e*P **P** **04 16 36.9 +0.5**
comp=Z,1.1nm,0.6s,mb3.8
DPC Dobruska-Polom 77.02 329 *e*P **P** **04 16 38.7 +2.0**
MORC Moravsky Berou 77.03 328 *e*P **P** **04 16 36.6 -0.1**
MORC pmax pmax
comp=Z,3.0nm,0.6s,mb4.2
MORC Moravsky Berou 77.03 328 *e*P **P** **04 16 36.6 -0.1**
comp=Z,2.8nm,0.6s,mb4.2
CLL Collm 77.43 332 *i* P **P** **04 16 40.3 +1.4**
CLL pmax pmax
comp=Z,7.0nm,0.5s,mb4.7
CLL Collm 77.43 332 *i* P **P** **04 16 40.3 +1.4**
comp=Z,7.0nm,0.5s,mb4.7
PVCC Panska Ves 77.52 330 *e*P **P** **04 16 40.5 +1.0**
VYHS Vyhne 77.55 327 *e*P **P** **04 16 40.3 +0.6**
PSZ Piszkesteto 77.58 326 *e*P **P** **04 16 40.0 +0.2**
PSZ pmax pmax
comp=Z,2.0nm,0.5s,mb4.1
PSZ Piszkesteto 77.58 326 *e*P **P** **04 16 40.0 +0.2**
comp=Z,1.7nm,0.5s,mb4.0
VRAC Vranov 77.77 329 P **P** **04 16 41.1 +0.2**
comp=Z,1.7nm,0.5s,mb4.0,baz=45,slow=7.0,SNR=3.6
VRAC Vranov 77.77 329 P **P** **04 16 41.1 +0.2**
VRAC pmax pmax
comp=Z,2.0nm,0.5s
PRU Pruhonice 77.98 330 *e*P **P** **04 16 44.2 +2.2**
TREC Trest 78.20 329 *e*P **P** **04 16 46.4 +3.2**
EKA Eskdalemuir Ar 78.48 342 P **P** **04 16 44.8 0.0**
comp=Z,2.3nm,0.5s,mb4.1,baz=20,slow=5.1,SNR=11
EKA Eskdalemuir Ar 78.48 342 P **P** **04 16 44.8 +0.1**
EKA pmax pmax
comp=Z,2.0nm,0.5s
KHC Kasperske Hory 79.04 330 *e*P **P** **04 16 49.2 +1.3**
CONA Conrad Observa 79.18 328⇑ *i*PcP PcP 04 16 51.3 -5.5
comp=Z,4.1nm,1.1s
CSNA Conrad Observa 79.18 328⇑ *i*PcP PcP 04 16 51.3 -5.5
comp=Z,5.2nm,1.3s
GERES GERESS Array B 79.23 330 P **P** **04 16 48.6 -0.3**
comp=Z,0.9nm,0.5s,mb3.9,baz=38,slow=6.8,SNR=10
GERES GERESS Array B 79.23 330 P **P** **04 16 48.6 -0.3**
GERES pmax pmax
comp=Z,1.0nm,0.5s
MEM Membach 80.32 335 E PcP 04 17 04.8 +3.1
WLF Walferdange 81.10 335 E PcP 04 17 05.8 +0.7
MOTA Moosalm 81.44 331⇑ *i*P **P** **04 16 59.9 -0.9**
comp=Z,3.4nm,0.9s,mb4.2
DAVOS Davos 82.34 331 P **P** **04 17 07.4 +1.9**
DAVOX Davos/Dischmat 82.36 331 P **P** **04 17 07.3 +1.7**
comp=Z,1.3nm,0.5s,mb4.0,baz=0.0,slow=10
TXAR Lajitas Array 83.99 55 P **P** **04 17 15.2 +0.9**
comp=Z,0.6nm,0.9s,mb3.4,baz=262,slow=2.5,SNR=5.7
TXAR Lajitas Array 83.99 55 P **P** **04 17 15.2 +0.8**
TXAR pmax pmax
comp=Z,1.0nm,0.9s
ESDC Sonseca Array 93.19 337 P **P** **04 17 57.3 -0.8**
comp=Z,0.3nm,0.5s,mb3.9,baz=2.9,slow=5.1,SNR=3.4
SNAA Sanae 147.42 198 *e*PKPdf PKPbc 04 24 26.3 +0.2
SNAA *e* 04 24 31.5
SNAA *e* 04 24 46.4
VNA2 Neumayer--Watz 148.97 197 *e*PKPdf PKPbc 04 24 31.0 +0.8
baz=124,slow=1.9
VNA2 *e* 04 24 36.2
VNA2 *e* 04 24 51.1
VNA3 Neumayer Olymp 149.18 195 *e*PKPdf PKPbc 04 24 31.3 +0.6
VNA3 *e* 04 24 36.7
VNA3 *e* 04 24 51.4
VNA1 Neumayer--Stat 149.36 197 *e*PKPdf PKPbc 04 24 31.9 +0.7
VNA1 *e* 04 24 37.1

*ISCJB **30** 04:27:33.6±1.6, 4.95S±004×8108W×009, h50km±14km, mb4.1/16, MS3.8/6, Error ellipse: s-maj=15.3km s-min=6.5km az=173.3*
*NEIC **30** 04:27:35.6±1.2, 4.96S×8100W, h52km±11km, mb4.2/10, Error ellipse: s-maj=13.8km s-min=6.3km az=70.0*
NEIC Felt [III] at Paita, Peru.
*IDC **30** 04:27:37.2±3.2, 5.00S×8100W, h66km±33km, mb3.6/6, mb1 3.8/9, mb1mx3.7/18, mbtmp3.7/9, ML3.8/3, MS3.7/8, Ms1 3.7/8, ms1mx3.4/30, Error ellipse: s-maj=38.4km s-min=20.7km az=44.0*

ISC 30 04:27:36.9±1.4, 4.96S±004×810W±01, h63km±13km, n35, σ0.883/36, mb4.1/16, Near coast of northern Peru

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
ATAH	**Atahualpa**	**3.31**	**128**	P		**Pn**	**04 28 27.2**	**+1.0**
	12nm,0.3s,baz=326,slow=6.5,SNR=42							
ATAH				S		**Sn**	**04 29 11.7**	**+7.4**
	33nm,0.3s,baz=324,slow=22,SNR=6.7							
OTAV	**Otavalo**	**5.77**	**27**	*e*Pn		**Pn**	**04 28 57.1**	**-2.8**
	137nm,0.3s							
OTAV				*e*Sn		**Sn**	**04 30 04.2**	**-0.6**
NNA	**Nana**	**8.11**	**150**	P		**Pn**	**04 29 31.7**	**-0.4**
	0.9nm,0.3s,baz=287,slow=17,SNR=3.4							
NNA				S		**Sn**	**04 31 04.1**	**+1.8**
	0.6nm,0.3s,baz=131,slow=20,SNR=2.6							
NNA	**Nana**	**8.11**	**150**	*e*Pn		**Pn**	**04 29 31.6**	**-0.5**
NNA				Sn		**Sn**	**04 31 02.9**	**+0.5**
ROSC	**El Rosal**	**11.82**	**35**	LR		LR	04 35 21.0	
	comp=Z,518nm,19.3s,baz=209,slow=39							
ROSC	**El Rosal**	**11.82**	**35**	*e*Pn		**Pn**	**04 30 22.6**	**-0.2**
ROSC				*e*Sn		**Sn**	**04 32 34.6**	**+1.4**
LPAZ	**La Paz**	**16.93**	**133**	P		**Pn**	**04 31 29.9**	**+0.2**
	0.1nm,0.3s,baz=331,slow=9.1,SNR=6.6							
LPAZ				LR		LR	04 38 10.5	
	comp=Z,157nm,20.4s,baz=307,slow=38							
LPAZ	**La Paz**	**16.93**	**133**	*e*Pn		**Pn**	**04 31 29.9**	**+0.1**
LPAZ				LR		LR	04 38 10.5	
LVC	**Limon Verde**	**21.10**	**147**	*e*P		**P**	**04 32 15.0**	**-1.3**
	6.2nm,0.9s,mb3.9							
PCRV	**Puerto La Cruz**	**22.19**	**47**	P		**P**	**04 32 29.2**	**+1.1**
	6.9nm,0.7s,mb4.2,baz=180,slow=11,SNR=3.6							
PCRV				LR		LR	04 41 59.7	
	comp=Z,296nm,21.6s,baz=217,slow=39							
SIV	**San Ignacio**	**22.44**	**121**	P		**P**	**04 32 29.6**	**-1.1**
	2.6nm,0.9s,mb3.7,baz=304,slow=13,SNR=11							
CMIG	**Matias Romero**	**25.84**	**328**	LR		LR	04 41 14.9	
	comp=Z,86nm,19.5s,baz=29,slow=32							
AOPR	**Arecibo Observ**	**27.10**	**31**	*e*P		**P**	**04 33 13.2**	**-0.8**
	8.0nm,0.7s,mb4.4							
TRQA	**Tornquist**	**37.23**	**155**	*e*P		**P**	**04 34 41.9**	**-0.5**
	2.5nm,0.8s,mb4.1							
TXAR	**Lajitas Array**	**40.45**	**329**	LR		LR	04 51 04.9	
	comp=Z,62nm,19.8s,baz=190,slow=35							
ACSO	**Alum Creek Sta**	**45.01**	**358**	*e*P		**P**	**04 35 44.7**	**-1.5**
ANMO	**Albuquerque**	**46.36**	**331**	*e*P		**P**	**04 35 56.3**	**-0.7**
SDCO	**Great Sand Dun**	**48.21**	**334**	*e*P		**P**	**04 36 11.9**	**+0.7**
	1.0nm,0.6s,mb4.0							
ISCO	**Idaho Springs**	**49.97**	**335**	P		**P**	**04 36 25.6**	**+0.9**
	2.3nm,0.8s,mb4.3							
RSSD	**Black Hills**	**53.07**	**339**	*e*P		**P**	**04 36 47.4**	**-0.4**
	0.9nm,0.4s,mb4.0							
HWUT	**Hardware Ranch**	**54.08**	**332**	*e*P		**P**	**04 36 55.7**	**+0.5**
	8.1nm,1.3s,mb4.5							
HWUT				*e*PcP		PcP	04 38 00.1	+0.7
PDAR	**Pinedale Array**	**54.10**	**334**	P		**P**	**04 36 55.5**	**+0.2**
	1.0nm,0.8s,mb3.8,baz=126,slow=7.5,SNR=8.2							
NVAR	**Mina Array Bea**	**55.29**	**325**	P		**P**	**04 37 04.9**	**+0.9**
	0.2nm,0.5s,mb3.4,baz=142,slow=7.4,SNR=2.3							
CMB	**Columbia Colle**	**56.25**	**323**	P		**P**	**04 37 10.8**	**-0.1**
HLID	**Hailey**	**56.93**	**331**	*e*P		**P**	**04 37 15.8**	**+0.2**
	1.0nm,0.6s,mb4.0							
WALA	**Waterton Lakes**	**60.95**	**336**	*e*P		**P**	**04 37 44.1**	**+0.8**
	3.4nm,0.7s,mb4.6							
DBIC	**Dimbokro**	**76.89**	**82**	P		**P**	**04 39 23.2**	**+0.1**
	1.8nm,0.7s,mb4.1,baz=218,slow=7.9,SNR=5.0							
DBIC				LR		LR	05 12 51.8	
	comp=Z,83nm,18.0s,baz=313,slow=35							
DBIC	**Dimbokro**	**76.89**	**82**	*e*P		**P**	**04 39 22.7**	**-0.4**
	2.3nm,0.7s,mb4.2							
DBIC				LR		LR	05 12 51.8	
VNA3	**Neumayer Olymp**	**79.38**	**162**	*e*		**P**	**04 39 35.8**	**+0.1**
VNA2	**Neumayer--Watz**	**80.01**	**161**	*e*		**P**	**04 39 39.4**	**+0.2**
	baz=309,slow=5.9							
SNAA	**Sanae**	**81.60**	**162**	*e*		**P**	**04 39 47.1**	**-0.5**
SNAA	**Sanae**	**81.60**	**162**	*e*P		**P**	**04 39 47.4**	**-0.3**
ESDC	**Sonseca Array**	**83.25**	**49**	P		**P**	**04 39 57.1**	**+0.3**
	1.1nm,0.8s,mb3.9,baz=259,slow=3.3,SNR=4.3							
TORD	**Torodi Ar. Bea**	**84.05**	**76**	P		**P**	**04 40 01.4**	**0.0**
	1.2nm,0.5s,mb4.2,baz=281,slow=6.1,SNR=26							
TORD				LR		LR	05 16 40.4	
	comp=Z,76nm,20.1s,baz=250,slow=35							
GERES	**GERESS Array B**	**96.82**	**42**	LR		LR	05 20 56.0	
	comp=Z,38nm,18.2s,baz=228,slow=33							

*CSEM **30** 04:37:13.3±0.1, 3980N×2070E, h5km, ML3.2/3, Error ellipse: s-maj=2.0km s-min=1.4km az=103.0*
*ISCJB **30** 04:37:14.3±1.0, 3974N±003×2070E±005, h2km±7km, Error ellipse: s-maj=7.1km s-min=4.4km az=11.2*
*THE **30** 04:37:14.8, 3977N×2072E, h4km±2km, ML3.2/3, Error ellipse: s-maj=2.3km s-min=1.0km az=108.0*

ISC 30 04:37:14.4±0.9, 3973N±003×2068E±006, h3km±6km, n19, σ1.928/33, Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
MEV	**Metsovon**	**0.43**	**82**	P		**Pg**	**04 37 22.4**	**-0.2**
MEV				S		**Sg**	**04 37 28.4**	**+0.3**
LKD	**Levkas**	**1.02**	**181**	P		**Pg**	**04 37 34.1**	**+0.2**
LKD				S		**Sg**	**04 37 51.2**	**+4.1**
THL	**Klokotos Trika**	**1.04**	**98**	P		**Pg**	**04 37 33.5**	**-0.9**
THL				S		**Sg**	**04 37 48.4**	**+0.5**
FNA	**Florina**	**1.18**	**26**	P		**Pg**	**04 37 35.5**	**-1.6**
FNA				S		**Sg**	**04 37 53.4**	**+0.9**
BIA	**Bitola**	**1.38**	**21**	*i* Pn		**Pn**	**04 37 37.5**	**-3.1**
BIA				*i* Sn		**Sn**	**04 38 00.8**	**+1.4**
BIA	**Bitola**	**1.38**	**21**	*i* Pn		**Pn**	**04 37 37.5**	**-3.1**
BIA				*i* Sn		**Sn**	**04 38 00.7**	**+1.3**
OHR	**Ohrid**	**1.39**	**4**	*i* Pn		**Pn**	**04 37 39.7**	**-0.9**
OHR				*i* Sn		**Sg**	**04 38 01.4**	**+2.4**
OHR	**Ohrid**	**1.39**	**4**	*i* Pn		**Pn**	**04 37 39.7**	**-1.0**
OHR				*i* Sn		**Sg**	**04 38 01.3**	**+2.3**
LIT	**Litokhoron**	**1.44**	**74**	P		**Pn**	**04 37 39.6**	**-1.8**
LIT				S		**Sb**	**04 38 00.9**	**+0.3**
VLS	**Valsamata**	**1.55**	**183**	P		**Pn**	**04 37 42.9**	**+0.1**
VLS				S		**Sn**	**04 38 04.8**	**+1.4**
KFL	**Anninata**	**1.61**	**177**	P		**Pn**	**04 37 44.8**	**+1.0**
KRUS	**Krusevo**	**1.70**	**15**	*i* Pn		**Pn**	**04 37 45.6**	**+0.7**
KRUS				*i* Sn		**Sn**	**04 38 08.6**	**+1.4**
KRUS	**Krusevo**	**1.70**	**15**	*i* Pn		**Pn**	**04 37 45.5**	**+0.6**
KRUS				*i* Sn		**Sn**	**04 38 08.5**	**+1.4**
GRG	**Griva**	**1.80**	**46**	P		**Pn**	**04 37 44.9**	**-1.4**
VAY	**Valandovo**	**2.15**	**41**	*i* Pn		**Pn**	**04 37 52.2**	**+1.1**
VAY				*i* Sn		**Sn**	**04 38 17.1**	**-1.2**
VAY	**Valandovo**	**2.15**	**41**	*i* Pn		**Pn**	**04 37 52.1**	**+1.0**
VAY				*i* Sn		**Sn**	**04 38 17.0**	**-1.2**
KNT	**Kendrikon**	**2.22**	**49**	P		**Pn**	**04 37 50.7**	**-1.4**
STIP	**Stip**	**2.28**	**30**	*i* Pn		**Pn**	**04 37 56.1**	**+3.3**
SG1	**Sgolgore (BA)**	**3.26**	**291**	*e*Pn		**Pn**	**04 38 04.3**	**-2.1**

*NEIC **30** 04:39:58.2, 3556N×2267E, h19km, mb3.8/1, ML4.0(ATH), After ATH.*
*ATH **30** 04:39:58.2, 3556N×2267E, h19km±2km, MD4.1/15, ML4.0*
*ISCJB **30** 04:39:59.5±0.6, 3540N±004×2252E±005, h62km±5km, mb4.1/15, Error ellipse: s-maj=8.9km s-min=3.9km az=138.6*
*CSEM **30** 04:39:59.4±0.1, 3545N×2253E, h20km, ML4.0, Error ellipse: s-maj=4.3km s-min=1.6km az=34.0*
*THE **30** 04:40:00.6, 3547N×2255E, h15km±4km, Error ellipse: s-maj=6.2km s-min=1.4km az=216.0*
*IDC **30** 04:40:01.1±2.6, 3569N×2268E, h35km±23km, mb3.9/11, mb1 3.9/14, mb1mx3.7/28, mbtmp3.8/14, ML3.8/3, MS2.8/4, Ms1 2.8/4, ms1mx2.4/36, Error ellipse: s-maj=16.1km s-min=14.2km az=168.0*
*HLW **30** 04:40:04.8, 3527N×2325E, h33km, Mb4.0*

ISC 30 04:40:00.8±0.5, 3541N±004×2257E±005, h52km±5km, n106, σ1.929/120, mb4.1/15, Central Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
KYTH	**Kithira**	**0.95**	**23**	*e*Pn		**Pn**	**04 40 13.3**	**-4.6**
KYTH	**Kithira**	**0.95**	**23**	*e*PN		**Pn**	**04 40 13.3**	**-4.6**
VAM	**Vamos**	**1.33**	**90**	Pn		**Pn**	**04 40 22.8**	**-0.2**
VAM	**Vamos**	**1.33**	**90**	PN		**Pn**	**04 40 22.8**	**-0.2**
VLI	**Veliai**	**1.34**	**13**	Pn		**Pn**	**04 40 20.1**	**-3.1**
VLI	**Veliai**	**1.34**	**13**	PN		**Pn**	**04 40 20.1**	**-3.1**
GVD	**Gavdhos**	**1.36**	**114**	*e*Pn		**Pn**	**04 40 23.8**	**+0.3**
GVD	**Gavdhos**	**1.36**	**114**	*e*PN		**Pn**	**04 40 23.8**	**+0.3**
PYL	**PYLOS**	**1.63**	**336**	P		**Pn**	**04 40 26.4**	**-0.7**
PYL				S		**Sn**	**04 40 47.1**	**+0.1**
ITM	**Ithomi**	**1.84**	**344**	Pn		**Pn**	**04 40 29.7**	**-0.3**
ITM	**Ithomi**	**1.84**	**344**	PN		**Pn**	**04 40 29.7**	**-0.3**
SIVA	**Sivas**	**1.87**	**101**	P		**Pn**	**04 40 31.8**	**+1.4**
SIVA				S		**Sn**	**04 40 55.2**	**+2.3**
IDI	**Anoyia**	**1.90**	**93**	Pn		**Pn**	**04 40 32.6**	**+1.8**
	27nm,0.3s,baz=270,slow=13,SNR=153							
IDI				Lg			04 41 00.8	
	37nm,0.3s,baz=356,slow=21,SNR=6.4							
VLX	**Vlachokerasia**	**1.96**	**355**	P		**Pn**	**04 40 31.7**	**0.0**
VLX				S		**Sn**	**04 40 56.9**	**+1.8**
DID	**Didima**	**2.16**	**14**	P		**Pn**	**04 40 34.7**	**+0.3**
DID				S		**Sn**	**04 41 00.9**	**+0.9**
LAST	**Lasithi**	**2.39**	**95**	P		**Pn**	**04 40 39.8**	**+2.3**
NAIG	**Nisos Aigina**	**2.46**	**17**	*e*Pn		**Pn**	**04 40 38.0**	**-0.4**
NAIG	**Nisos Aigina**	**2.46**	**17**	*e*PN		**Pn**	**04 40 38.0**	**-0.4**
THR5	**Thira Island,**	**2.47**	**65**	P		**Pn**	**04 40 39.3**	**+0.7**
THR6	**Thira Island,**	**2.48**	**67**	P		**Pn**	**04 40 40.2**	**+1.5**
NPS	**Neapolis**	**2.49**	**92**	Pn		**Pn**	**04 40 38.9**	**0.0**
NPS	**Neapolis**	**2.49**	**92**	PN		**Pn**	**04 40 38.9**	**0.0**
THR3	**Thira Island,**	**2.50**	**66**	P		**Pn**	**04 40 40.1**	**+1.1**
THR1	**Thera Island**	**2.53**	**67**	P		**Pn**	**04 40 39.9**	**+0.4**
KVR	**Kavouri**	**2.60**	**21**	*e*Pb		**Pn**	**04 40 40.0**	**-0.4**
KVR	**Kavouri**	**2.60**	**21**	*e*PB		**Pn**	**04 40 40.0**	**-0.4**
LTK	**Loutraki**	**2.63**	**7**	P		**Pn**	**04 40 41.2**	**+0.4**
LTK				S		**Sn**	**04 41 13.0**	**+1.6**
ATH	**Athens Observa**	**2.72**	**19**	*e*Pb		**Pn**	**04 40 41.5**	**-0.5**
ATH	**Athens Observa**	**2.72**	**19**	*e*PB		**Pn**	**04 40 41.5**	**-0.5**
RLS	**Riolos of Patr**	**2.79**	**342**	Pn		**Pn**	**04 40 43.0**	**0.0**
RLS	**Riolos of Patr**	**2.79**	**342**	PN		**Pn**	**04 40 43.0**	**0.0**
PTL	**Penteli**	**2.83**	**21**	*e*Pn		**Pn**	**04 40 41.5**	**-2.1**
PTL	**Penteli**	**2.83**	**21**	*e*PN		**Pn**	**04 40 41.5**	**-2.1**
APE	**Apeiranthos**	**2.91**	**54**	Pn		**Pn**	**04 40 43.4**	**-1.2**
APE	**Apeiranthos**	**2.91**	**54**	PN		**Pn**	**04 40 43.4**	**-1.2**
VLS	**Valsamata**	**3.19**	**331**	P		**Pn**	**04 40 48.6**	**+0.1**
VLS				S		**Sn**	**04 41 27.0**	**+1.8**
VLS	**Valsamata**	**3.19**	**331**	Pn		**Pn**	**04 40 48.7**	**+0.2**
VLS				S		**Sn**	**04 41 27.0**	**+1.8**
VLS	**Valsamata**	**3.19**	**331**	PN		**Pn**	**04 40 48.7**	**+0.2**
EVR	**Evrytania**	**3.56**	**350**	Pb		**Pn**	**04 40 55.8**	**+2.3**
EVR	**Evrytania**	**3.56**	**350**	PB		**Pn**	**04 40 55.8**	**+2.3**
LKD	**Levkas**	**3.63**	**336**	P		**Pn**	**04 40 55.9**	**+1.3**
KARP	**Karpathos**	**3.75**	**87**	Pn		**Pn**	**04 40 57.0**	**+0.9**
KARP	**Karpathos**	**3.75**	**87**	PN		**Pn**	**04 40 57.0**	**+0.9**
THL	**Klokotos Trika**	**4.17**	**354**	P		**Pn**	**04 41 02.2**	**+0.3**
THL	**Klokotos Trika**	**4.17**	**354**	Pn		**Pn**	**04 41 02.7**	**+0.8**
THL	**Klokotos Trika**	**4.17**	**354**	PN		**Pn**	**04 41 02.7**	**+0.8**
SLUM		**4.49**	**150**	P		**Pn**	**04 41 05.2**	**-1.1**
SLUM				S		**Sn**	**04 41 49.5**	**-7.6**
MEV	**Metsovon**	**4.50**	**347**	P		**Pn**	**04 41 08.2**	**+1.8**
KEK	**Kerkira**	**4.83**	**334**	Pn		**Pn**	**04 41 11.4**	**+0.5**
KEK	**Kerkira**	**4.83**	**334**	PN		**Pn**	**04 41 11.4**	**+0.5**
FNA	**Florina**	**5.45**	**350**	P		**Pn**	**04 41 19.4**	**0.0**
GRG	**Griva**	**5.54**	**359**	P		**Pn**	**04 41 20.9**	**+0.2**
BIA	**Bitola**	**5.69**	**350**	*i* Pn		**Pn**	**04 41 22.3**	**-0.4**
BIA				*i* Sn		**Sn**	**04 42 24.9**	**-1.7**
KNT	**Kendrikon**	**5.75**	**2**	P		**Pn**	**04 41 23.7**	**+0.2**
VAY	**Valandovo**	**5.90**	**360**	*i* Pn		**Pn**	**04 41 23.4**	**-2.2**
VAY				*i* Sn		**Sn**	**04 42 30.2**	**-1.8**
TIP	**Timpagrande**	**5.97**	**311**	*e*Pn		**Pn**	**04 41 25.9**	**-0.7**
TIP				Sn		**Sn**	**04 42 30.5**	**-3.1**
TIP	**Timpagrande**	**5.97**	**311**	*e*Pn		**Pn**	**04 41 25.9**	**-0.7**
	9.7nm,0.6s							
TIP				Sn		**Sn**	**04 42 30.5**	**-3.0**
KRUS	**Krusevo**	**6.04**	**350**	*i* Pn		**Pn**	**04 41 27.5**	**-0.1**
KRUS				*i* Sn		**Sn**	**04 42 35.2**	**-0.1**
KRUS	**Krusevo**	**6.04**	**350**	*i* Pn		**Pn**	**04 41 27.4**	**-0.1**
KRUS				*i* Sn		**Sn**	**04 42 35.2**	**-0.1**
STIP	**Stip**	**6.28**	**357**	*i* Pn		**Pn**	**04 41 30.7**	**-0.2**
STIP	**Stip**	**6.28**	**357**	*i* Pn		**Pn**	**04 41 30.6**	**-0.3**
CUC	**Castrocucco**	**7.04**	**313**	*e*Pn		**Pn**	**04 41 42.3**	**+1.0**
CUC				*e*Sn		**Sn**	**04 42 56.3**	**-3.7**
CUC	**Castrocucco**	**7.04**	**313**	*e*Pn		**Pn**	**04 41 42.3**	**+1.0**
	25nm,0.6s							
CUC				*e*Sn		**Sn**	**04 42 56.3**	**-3.7**
AWBH		**8.88**	**141**	P		**Pn**	**04 42 05.7**	**-0.8**
ANTO	**Ankara**	**9.25**	**58**	Pn		**Pn**	**04 42 08.1**	**-3.4**
	6.6nm,0.8s							
HFRF	**Wahat Farafira**	**9.58**	**148**	P		**Pn**	**04 42 15.6**	**-0.5**
GLL	**Jalalah**	**9.66**	**124**	P		**Pn**	**04 42 15.4**	**-1.7**
BR131	**Keskin Array S**	**9.78**	**61**	*e*Pn		**Pn**	**04 42 16.0**	**-2.8**
	3.7nm,0.9s							
AMAG	**Maghara**	**10.11**	**115**	P		**Pn**	**04 42 20.7**	**-2.6**
SUZ		**10.28**	**120**	P		**Pn**	**04 42 23.4**	**-2.2**
MLR	**Muntele Rosu**	**10.39**	**13**	Pn		**Pn**	**04 42 24.7**	**-2.4**
	0.1nm,0.3s,baz=142,slow=17,SNR=2.1							
MLR				LR		LR	04 46 54.8	
	comp=Z,42nm,20.1s,baz=19,slow=41							
GERES	**GERESS Array B**	**14.94**	**337**	Pn		**Pn**	**04 43 26.0**	**-2.6**
	0.2nm,0.3s,baz=162,slow=14,SNR=5.7							
KHC	**Kasperske Hory**	**15.23**	**337**	*e*P		**Pn**	**04 43 33.5**	**+1.2**
KHC				*ex*		x	04 43 38.0	
KIEV	**Kiev**	**16.02**	**15**	*e*Pn		**Pn**	**04 43 38.9**

comp=Z,1.0nm,0.7s,mb4.0,baz=300,slow=15,SNR=3.9
KSRS Korea Array 79.79 51 P **P 04 52 04.6 +1.1**
comp=Z,1.9nm,0.9s,mb4.0,baz=289,slow=4.1,SNR=3.6

IDC ***30*** *04:57:51.3±0.8, 1527S×174.19W, h0km, mb4.2/11, mb1 4.4/11, mb1mx4.3/16, mbtmp4.2/11, MS4.4/21, Ms1 4.4/21, ms1mx4.1/29, Error ellipse: s-maj=29.8km s-min=20.5km az=133.0*
ISCJB ***30*** *04:57:55.1±0.4, 1536S±009×174.35W±009, h33km, mb4.4/18, MS4.4/19, Error ellipse: s-maj=14.5km s-min=10.5km az=44.1*
GCMT ***30*** *04:57:57.0±0.2, 1504S×174.08W, h22km±1km, MW5.1/86, Moment Tensor Solution. s42,c67; s86,c142; Duration: 0 Moment tensor: Scale 10^16 Nm; Mrr=0.39±.18; Mθθ=-0.23±.17; Mφφ=0.61±.15; Mrθ=0.17±.27; Mrφ=6.11±.15; Mθφ=0.85±.24; Best double couple: M=6.18400×10^16 NP1:φs=88.00000°, δ82.00000°, λ1.00000°. NP2: φs=358.00000°, δ89.00000°, λ172.00000°. Principal axes: T 6.4010, Plg6.0000°, Azm313.0000°; N -0.4350, Plg82.0000°, Azm170.0000°; P -5.9670, Plg5.0000°, Azm43.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
NEIC ***30*** *04:57:57.0±0.4, 1539S×174.30W, h35km, mb4.7/8 Error ellipse: s-maj=15.9km s-min=11.1km az=136.0*

ISC 30 04:57:57.1±0.4, 1540S±009×17430W±009, h35km, n85, σ1s04/31, mb4.4/18, MS4.4/19, 2C, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
AFI	**Afiamalu**	**2.85**	**59**	Pn		**Pn**	**04 58 31.5**	**-8.6**
	49nm,0.3s,baz=80,slow=2.0,SNR=64							
AFI				LR		LR	04 59 31.7	
	comp=Z,6μm,18.3s,baz=271,slow=37							
AFI				T			05 01 22.6	
	48nm,0.3s,baz=102,slow=20,SNR=4.3							
AFI	**Afiamalu**	**2.85**	**59**	Pn		**Pn**	**04 58 31.5**	**-8.6**
AFI				LR		LR	04 59 31.8	
FUNA	**Funafuti**	**9.33**	**316**	Pn		**Pn**	**05 00 08.2**	**-1.0**
RAO	**Raoul Island**	**14.19**	**193**	LR		LR	05 06 01.8	
	comp=Z,1μm,19.7s,baz=36,slow=34							
PAE	**Paea**	**23.80**	**99**	*e*T			05 27 29.8	
	369nm,0.3s							
PPT	**Papeete**	**23.80**	**99**	*e*LQ			05 07 45.9	
	5μm,26.0s							
PPT				*e*LR		LR	05 08 45.5	
	409nm,26.2s							
PPT	**Papeete**	**23.80**	**99**	*e*T			05 27 26.9	
	22nm,0.3s							
PPT	**Papeete**	**23.80**	**99**	LR		LR	05 10 00.4	
	comp=Z,314nm,18.1s,MS3.8,baz=284,slow=31							
PPT				T			05 27 49.8	
	35nm,0.4s,baz=183,slow=2.5,SNR=4.9							
URZ	**Urewera**	**24.00**	**197**	P		**P**	**05 03 07.7**	**-0.8**
	14nm,0.9s,mb4.4,baz=21,slow=11,SNR=4.7							
URZ				LR		LR	05 11 21.5	
	comp=Z,1μm,20.1s,MS4.4,baz=17,slow=34							
TIAR	**Tiarei**	**24.02**	**99**	*e*T			05 27 46.2	
	334nm,0.3s							
TVO	**Taravao**	**24.12**	**99**	*e*T			05 27 54.0	
	270nm,0.3s							
TBI	**Tubuai**	**24.70**	**113**	*e*LQ			05 08 11.8	
	3μm,27.5s							
TBI				*e*LR		LR	05 09 15.9	
	1μm,27.5s,baz=290							
TBI	**Tubuai**	**24.70**	**113**	*e*T			05 28 45.9	
	55nm,0.3s							
PMOR	**Pomariorio Ree**	**25.48**	**93**	*e*T			05 29 32.5	
	12nm,0.3s							
VAH	**Vaihoa**	**25.72**	**93**	*e*T			05 29 50.4	
	31nm,0.3s							
HNR	**Honiara**	**25.83**	**280**	LR		LR	05 11 51.7	
	comp=Z,1μm,21.9s,MS4.4,baz=120,slow=32							
TAOE	**Nuku Hiva Isla**	**33.98**	**83**	*e*T			05 40 04.8	
	330nm,0.3s							
CTA	**Charters Tower**	**37.80**	**257**	LR		LR	05 17 18.8	
	comp=Z,478nm,21.5s,MS4.3,baz=78,slow=31							
CTAO	**Charters Tower**	**37.80**	**257**	P		**P**	**05 05 11.3**	**+1.0**
RKT	**Rikitea**	**37.82**	**108**	*e*S		**S**	**05 10 48.4**	**-11**
	225nm,31.8s							
RKT				*e*LQ			05 13 41.0	
	528nm,25.2s							
RKT				*e*LR		LR	05 15 16.7	
	470nm,28.0s,baz=278							
RKT	**Rikitea**	**37.82**	**108**	*e*T			05 45 05.7	
	30nm,0.3s							
STKA	**Stephens Creek**	**43.29**	**240**	P		**P**	**05 05 56.5**	**+1.0**
	7.6nm,1.0s,mb4.4,baz=66,slow=8.0,SNR=4.3							
STKA				LR		LR	05 23 03.5	
	comp=Z,524nm,19.0s,MS4.5,baz=284,slow=35							
STKA	**Stephens Creek**	**43.29**	**240**	*e*P		**P**	**05 05 55.2**	**-0.3**
	12nm,1.0s,mb4.6							
STKA				LR		LR	05 23 03.5	
WRAB	**Tennant Creek**	**48.99**	**257**	*e*P		**P**	**05 06 40.7**	**+0.1**
	21nm,1.0s,mb5.1							
ASAR	**Alice Springs**	**49.29**	**252**	P		**P**	**05 06 43.6**	**+0.8**
	16nm,0.9s,mb5.1,baz=86,slow=7.7,SNR=45							
GUMO	**Guam**	**49.60**	**303**	LR		LR	05 26 04.2	
	comp=Z,232nm,18.5s,MS4.2,baz=98,slow=34							
KAKA	**Kakadu**	**51.63**	**266**	*e*P		**P**	**05 06 52.8**	**-7.9**
	8.4nm,0.8s,mb4.7							
FITZ	**Fitzroy Crossi**	**57.36**	**258**	P		**P**	**05 07 42.6**	**+0.4**
CBIJ	**Chichi jima**	**59.73**	**315**	LR		LR	05 27 14.1	
	comp=Z,496nm,21.1s,MS4.6,baz=109,slow=30							
MBWA	**Marble Bar**	**62.53**	**254**	*e*P		**P**	**05 08 18.7**	**+1.0**
	8.8nm,0.8s,mb4.9							
SBA	**Scott Base**	**63.19**	**184**	*e*P		**P**	**05 08 21.2**	**+0.1**
	2.3nm,0.8s,mb4.4							
NWAO	**Narrogin (SRO)**	**63.87**	**241**	LR		LR	05 33 23.8	
	comp=Z,334nm,18.9s,MS4.5,baz=261,slow=33							
MJAR	**Matsushiro Arr**	**68.38**	**320**	P		**P**	**05 08 53.9**	**-1.3**
	0.6nm,0.3s,mb4.1,baz=187,slow=8.4,SNR=4.0							
JOW	**Kunigami**	**69.78**	**307**	LR		LR	05 33 36.7	
	comp=Z,404nm,21.6s,MS4.6,baz=335,slow=31							
CASY	**Casey**	**70.05**	**205**	*e*P		**P**	**05 09 03.4**	**-1.7**
	17nm,1.9s,mb4.6							
PETK	**Petropavlovsk-**	**72.36**	**343**	P		**P**	**05 09 18.2**	**-1.0**
	1.9nm,0.8s,mb4.1,baz=112,slow=10,SNR=3.0							
PETK				LR		LR	05 33 45.0	
	comp=Z,94nm,21.3s,MS4.0,baz=148,slow=30							
NVAR	**Mina Array Bea**	**74.91**	**42**	P		**P**	**05 09 33.3**	**-1.1**
	1.6nm,0.9s,mb3.9,baz=228,slow=10,SNR=9.7							
KSRS	**Korea Array**	**75.55**	**316**	P		**P**	**05 09 38.0**	**-0.2**
	1.1nm,0.7s,mb3.9,baz=124,slow=11,SNR=5.0							
KSRS				LR		LR	05 39 46.8	
	comp=Z,194nm,19.1s,MS4.4,baz=129,slow=33							
MSU	**Marysvale**	**79.03**	**45**	*e*P		**P**	**05 09 58.8**	**+1.2**
HLID	**Hailey**	**80.18**	**40**	*e*P		**P**	**05 10 04.1**	**+0.4**
	3.0nm,1.0s,mb4.2							
TXAR	**Lajitas Array**	**81.33**	**56**	P		**P**	**05 10 09.1**	**-1.2**
	0.6nm,0.9s,mb3.5,baz=210,slow=8.8,SNR=3.2							
TXAR				LR		LR	05 38 23.9	
	comp=Z,224nm,18.9s,MS4.5,baz=10.0,slow=30							
SNOW	**Snow King Moun**	**82.41**	**41**	P		**P**	**05 10 17.6**	**+2.0**
QLMT	**Earthquake Lak**	**82.67**	**40**	P		**P**	**05 10 18.5**	**+1.6**
PDAR	**Pinedale Array**	**82.84**	**42**	P		**P**	**05 10 16.9**	**-0.9**
	0.5nm,0.8s,mb3.6,baz=257,slow=1.6,SNR=3.0							
PDAR				LR		LR	05 40 13.6	
	comp=Z,228nm,20.3s,MS4.5,baz=246,slow=31							
SMCO	**Snowmass**	**82.93**	**46**	*e*P		**P**	**05 10 17.6**	**-0.8**
	4.6nm,1.0s,mb4.5							
DAWY	**Dawson**	**83.64**	**15**	*e*P		**P**	**05 10 22.0**	**+0.5**
EGAK	**Eagle**	**83.82**	**14**	*e*P		**P**	**05 10 25.2**	**+2.8**
MAW	**Mawson**	**87.52**	**199**	P		**P**	**05 10 41.1**	**+0.2**
	2.8nm,1.0s,mb4.4,baz=126,slow=8.9,SNR=3.1							
MAW				LR		LR	05 46 29.3	
	comp=Z,397nm,20.4s,MS4.8,baz=314,slow=33							
MAW	**Mawson**	**87.52**	**199**	*e*P		**P**	**05 10 40.1**	**-0.8**
	6.9nm,1.1s,mb4.8							
MAW				LR		LR	05 46 29.2	
PLCA	**Paso Flores**	**90.16**	**132**	LR		LR	05 42 11.3	
	comp=Z,278nm,20.4s,MS4.7,baz=261,slow=30							
YKA	**Yellowknife Ar**	**90.44**	**24**	LR		LR	05 42 17.4	
	comp=Z,82nm,21.5s,MS4.1,baz=235,slow=30							
CMAR	**Chiang Mai Arr**	**91.79**	**289**	P		**P**	**05 11 01.9**	**+0.1**
	0.7nm,0.3s,mb4.5,baz=88,slow=2.2,SNR=5.4							
CMAR				LR		LR	05 46 48.9	
	comp=Z,160nm,21.9s,MS4.4,baz=272,slow=32							
SONM	**Songino Array**	**94.27**	**318**	LR		LR	05 47 47.8	
	comp=Z,155nm,21.8s,MS4.4,baz=84,slow=32							
ULM	**Lac du Bonnet**	**94.48**	**39**	LR		LR	05 48 22.0	
	comp=Z,284nm,18.3s,MS4.8,baz=267,slow=32							
STHS	**Stebnicka Huta**	**143.78**	**343**	*e*PKP		PKPdf	05 17 26.8	-1.6
DPC	**Dobruska-Polom**	**144.09**	**348**	*e*PKP		PKPdf	05 17 29.2	+0.2
CRVS	**Cervenica-Dubn**	**144.18**	**342**	*e*PKP		PKPdf	05 17 26.8	-2.4
KMBO	**Kilima Mbogo**	**144.75**	**245**	PKP		PKPdf	05 17 33.3	+2.0
	4.5nm,0.9s,baz=63,slow=7.6,SNR=5.1							
VYHS	**Vyhne**	**145.27**	**345**	*e*PKP		PKPdf	05 17 30.8	-0.3
KOLL	**Kolacno**	**145.30**	**345**	*e*PKP		PKPdf	05 17 34.0	+2.9
BAIF	**Baives**	**145.41**	**2**	*e*PKP1		PKPbc	05 17 31.9	+0.7
	37nm,1.1s							
PSZ	**Piszkesteto**	**145.51**	**343**	*e*PKPdf		PKPdf	05 17 31.6	+0.1
BR131	**Keskin Array S**	**145.60**	**320**	*e*PKPdf		PKPdf	05 17 30.5	-1.4
KHC	**Kasperske Hory**	**145.75**	**351**	*e*PKP		PKPdf	05 17 31.1	-0.8
KHC				*ex*		x	05 17 37.5	
MODS	**Modra-Piesok**	**145.76**	**346**	*e*PKP		PKPdf	05 17 32.6	+0.7
ZST	**Bratislava**	**145.97**	**346**	*e*PKP		PKiKP	05 17 39.1	+2.7
GEC2	**GERESS Array S**	**146.00**	**351**	*e*PKPdf		PKPdf	05 17 31.9	-0.4
GERES	**GERESS Array B**	**146.00**	**351**	PKPbc		PKPbc	05 17 32.4	-0.7
	2.5nm,0.9s,baz=29,slow=3.0,SNR=10							
FLN	**La Foliniere**	**146.34**	**7**	*e*PKP1		PKiKP	05 17 39.6	+2.4
SGMF	**Saint Gilles**	**146.54**	**10**	*e*PKP1		PKiKP	05 17 39.8	+2.2
LDF	**La Druitiere**	**146.55**	**7**	*e*PKP1		PKiKP	05 17 40.0	+2.4
GRR	**Gorron**	**146.66**	**8**	*e*PKP1		PKiKP	05 17 40.4	+2.6
CDF	**Champ du Feu**	**147.05**	**358**	*e*PKP1		PKPbc	05 17 36.3	+0.1
	26nm,1.1s							
HAU	**Haudompre**	**147.48**	**359**	*e*PKP1		PKPbc	05 17 37.6	+0.2
HINF	**Hinteralfeld**	**147.66**	**359**	*e*PKP1		PKPbc	05 17 37.4	-0.5
LOR	**Lormes**	**148.19**	**2**	*e*PKP1		PKPbc	05 17 41.7	+2.4
	13nm,1.0s							
FETA	**Feichten**	**148.19**	**353**	⇑*i*PKiKP		PKiKP	05 17 40.4	-0.6
	7.0nm,1.1s							
ABTA	**Abfaltersbach**	**148.23**	**351**	⇑*i*PKPab		PKPab	05 17 42.1	-0.3
	9.6nm,1.2s							
SSF	**Saint Saulge**	**148.38**	**3**	*e*PKP1		PKPbc	05 17 42.2	+2.4
	27nm,1.1s							
AVF	**Avril sur Loir**	**148.64**	**3**	*e*PKP1		PKPbc	05 17 45.1	+4.6
SMF	**Signal de Mont**	**148.81**	**2**	*e*PKP1		PKPbc	05 17 44.8	+3.9
BGF	**Bois d'Agland**	**148.84**	**4**	*e*PKP1		PKPbc	05 17 45.8	+4.8
	19nm,1.0s							
CABF	**La Chapelle**	**148.88**	**359**	*e*PKP1		PKPbc	05 17 44.1	+3.0
ESDC	**Sonseca Array**	**154.38**	**17**	PKPab		PKPab	05 18 11.1	+3.0
	1.6nm,0.8s,baz=295,slow=3.2,SNR=5.3							
TORD	**Torodi Ar. Bea**	**175.52**	**119**	PKPab		PKPab	05 19 42.4	+0.7
	0.3nm,0.7s,baz=270,slow=2.6,SNR=2.5							

NIED ***30*** *05:14:00, 3590N×13870E, h8km, Mw3.6 Best double couple: M=3.07000×10^14 NP1:φs=241.00000°, δ52.00000°, λ75.00000°. NP2:φs=85.00000°, δ41.00000°, λ108.00000°.*
IDC ***30*** *05:14:49.9±1.4, 3591N×13874E, h0km, mb3.7/2, mb1 4.1/3, mb1mx3.6/21, mbtmp3.8/3, ML3.8/1, Error ellipse: s-maj=24.7km s-min=10.5km az=53.0*
ISCJB ***30*** *05:14:50.0±0.4, 3590N±002×13872E±003, h10km, mb3.7/2, Error ellipse: s-maj=4.1km s-min=3.3km az=29.5*
JMA ***30*** *05:14:50.4, 3587N×13873E, h9km±1km, M3.6 Broadband fault plane solution: P waves. NP1: φs=235.00000°, δ48.00000°, λ64.00000°. NP2:φs=91.00000°, δ48.00000°, λ116.00000°. Principal axes: T Plg71.0000°, Azm73.0000°; N Plg19.0000°, Azm253.0000°; P Plg0.0000°, Azm163.0000°;*
JMA Felt III J1.

ISC 30 05:14:50.4±0.4, 3590N±002×13872E±003, h10km, n14, σ0s79/25, mb3.7/2, 6D, Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
JRY	**Ryogami san**	**0.19**	**52**	⇓P		**Pg**	**05 14 54.7**	**+0.3**
JRY				S		**Sg**	**05 14 57.3**	**+0.2**
JYN	**Shimob**	**0.43**	**200**	⇓P		**Pg**	**05 14 58.3**	**-0.5**
JYN				S		**Sg**	**05 15 04.1**	**-0.3**
JHU	**Hanno**	**0.46**	**96**	⇓P		**Pg**	**05 14 59.1**	**-0.3**
JHU				S		**Sg**	**05 15 05.0**	**-0.4**
JNT	**Takato**	**0.47**	**267**	⇓P		**Pg**	**05 14 59.8**	**+0.2**
JNT				S		**Sg**	**05 15 06.1**	**+0.2**
JOD2	**Odawara 2**	**0.70**	**155**	⇓P		**Pg**	**05 15 03.4**	**-0.6**
JOD2				S		**Sg**	**05 15 12.8**	**-0.4**
MJAR	**Matsushiro Arr**	**0.76**	**327**	Pg		**Pg**	**05 15 04.4**	**-0.7**
	315nm,0.3s,baz=149,slow=16,SNR=997							
MJAR				Lg			05 15 14.1	
	361nm,0.3s,baz=161,slow=29,SNR=24							
MAT	**Matsushiro**	**0.76**	**327**	P		**Pg**	**05 15 05.2**	**+0.1**
MAT				S		**Sg**	**05 15 15.5**	**+0.4**
MAT	**Matsushiro**	**0.76**	**327**	P		**Pg**	**05 15 05.3**	**+0.2**
MAT				S		**Sg**	**05 15 15.3**	**+0.2**
JAG	**Ashikaga**	**0.79**	**48**	P		**Pg**	**05 15 05.1**	**-0.5**
JAG				S		**Sg**	**05 15 16.1**	**+0.1**
SHZ3	**Shizuoka 3**	**0.93**	**207**	⇓P		**Pg**	**05 15 07.4**	**-0.9**
SHZ3				S		**Sg**	**05 15 19.8**	**-0.7**
JKT	**Katashina**	**0.96**	**26**	P		**Pg**	**05 15 08.2**	**-0.7**
JKT				S		**Sg**	**05 15 20.9**	**-0.6**
JHJ	**Hachijo jima 2**	**2.91**	**162**	Pn		**Pn**	**05 15 38.8**	**+2.0**
	33nm,0.3s,baz=84,slow=18,SNR=3.4							
JHJ				Sn		**Sn**	**05 16 14.6**	**+2.8**
	16nm,0.3s,baz=243,slow=23,SNR=4.0							
NVAR	**Mina Array Bea**	**77.40**	**52**	P		**P**	**05 26 47.0**	**+1.3**
	0.4nm,0.7s,mb3.5,baz=305,slow=6.5,SNR=3.5							
TXAR	**Lajitas Array**	**92.53**	**51**	P		**P**	**05 28 02.6**	**+0.6**
	0.3nm,0.5s,mb3.9,baz=314,slow=3.4,SNR=6.5							

IDC 30 05:27:54.7±14.0, 120N×9763E, h0km, mb3.8/3, mb1 3.8/3, mb1mx3.5/18, mbtmp3.8/3, MS4.0/3, Ms1 4.0/3, ms1mx3.0/31, Error ellipse: s-maj=785.8km s-min=28.9km az=57.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
ASAR	**Alice Springs**	**43.05**	**127**	P		P	05 35 56.5	0.0
	0.2nm,0.3s,baz=305,slow=8.2,SNR=5.3							
MKAR	**Makanchi Array**	**47.35**	**346**	P		P	05 36 30.2	-0.1
	0.9nm,0.6s,baz=159,slow=8.0,SNR=10							
MKAR				LR		LR	05 58 03.7	
	comp=Z,97nm,20.8s,baz=91,slow=38							
ZALV	**Zalesovo Beam**	**53.63**	**351**	P		P	05 37 17.7	0.0
	1.8nm,0.5s,baz=181,slow=7.0,SNR=12							
AKASG	**Malin Array Be**	**75.52**	**322**	LR		LR	06 15 03.0	
	comp=Z,112nm,21.7s,baz=45,slow=37							
GERES	**GERESS Array B**	**85.10**	**319**	LR		LR	06 25 52.2	
	comp=Z,148nm,18.2s,baz=13,slow=41							

CSEM ***30*** *05:36:23.8±0.4, 3685N×2158E, h8km, MD3.1, Error ellipse: s-maj=8.4km s-min=6.0km az=58.0*
THE ***30*** *05:36:26.9, 3689N×2181E, h0km±9km, Error ellipse: s-maj=11.9km s-min=1.0km az=195.0*
ATH ***30*** *05:36:27.2, 3708N×2186E, h31km, MD3.1/3*

ISC 30 05:36:24.9±2.0, 3689N±008×216E±02, h8km±8km, n10, σ0s61/14, Southern Greece

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
PYL	**PYLOS**	**0.09**	**86**	P		**Pg**	**05 36 27.4**	**+0.4**
PYL				S		**Sg**	**05 36 28.5**	**0.0**
ITM	**Ithomi**	**0.37**	**39**	*e*Pb		**Pg**	**05 36 32.2**	**0.0**
ITM				*e*Sb		**Sg**	**05 36 37.6**	**+0.5**
ITM	**Ithomi**	**0.37**	**39**	*e*PB		**Pg**	**05 36 32.2**	**0.0**
ITM				*e*SB		**Sg**	**05 36 37.6**	**+0.5**
VLX	**Vlachokerasia**	**0.76**	**51**	P		**Pg**	**05 36 39.2**	**-0.4**
VLX				S		**Sg**	**05 36 48.9**	**-0.7**
VLI	**Veliai**	**1.06**	**99**	*e*Pn		**Pn**	**05 36 45.5**	**-0.5**
VLI	**Veliai**	**1.06**	**99**	*e*PN		**Pn**	**05 36 45.5**	**-0.5**
RLS	**Riolos of Patr**	**1.17**	**353**	*e*Pn		**Pn**	**05 36 46.9**	**-0.7**
RLS	**Riolos of Patr**	**1.17**	**353**	*e*PN		**Pn**	**05 36 46.9**	**-0.7**
DID	**Didima**	**1.42**	**64**	P		**Pn**	**05 36 51.2**	**+0.2**
LTK	**Loutraki**	**1.55**	**43**	P		**Pn**	**05 36 54.2**	**+1.4**

THR ***30*** *05:42:35.3±0.5, 3120N×5032E, h16km±5km, ML2.9*
CSEM ***30*** *05:42:36.7±0.1, 3129N×5032E, h16km, ML2.9, Error ellipse: s-maj=4.3km s-min=2.3km az=134.0*
ISCJB ***30*** *05:42:37.6±2.3, 3131N±008×5023E±008, h14km±15km, Error ellipse: s-maj=15.2km s-min=8.5km az=147.2*
KISR ***30*** *05:42:38.2, 3125N×5017E, h33km, ML2.6*

ISC 30 05:42:36.2±2.0, 3127N±008×5032E±006, h2km±15km, n12, σ0s77/21, Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
SHGR	**Shooshtar-Gavs**	**1.54**	**303**	*e*Pg		**Pn**	**05 43 04.2**	**-0.5**
SHGR				*e*Sg		**Sg**	**05 43 25.6**	**-0.2**
SHGR				AML		AML	05 43 27.9	
	comp=N,257nm,0.4s							
SHGR	**Shooshtar-Gavs**	**1.54**	**303**	*e*Pg		**Pn**	**05 43 04.2**	**-0.5**
	SNR=91							
SHGR				*e*Sg		**Sg**	**05 43 25.6**	**-0.1**
	SNR=91							
NASN	**Na'in**	**2.61**	**54**	*e*Pn		**Pn**	**05 43 19.9**	**+0.5**
NASN				*e*Sg		**Sg**	**05 43 58.6**	**-1.3**
MIB	**Mutribah**	**2.96**	**241**	*e*P		**Pn**	**05 43 25.1**	**+0.9**
MIB				*e*S		**Sn**	**05 43 59.5**	**-0.8**
MIB	**Mutribah**	**2.96**	**241**	*e*P		**Pn**	**05 43 25.1**	**+0.9**
	baz=240							
MIB				*e*S		**Sn**	**05 43 59.5**	**-0.8**
	baz=240							
MIB				AML		AML	05 44 05.2	
	comp=Z,22nm,0.6s,baz=240							
ASAO	**Ashtian**	**3.28**	**356**	*e*Pn		**Pn**	**05 43 29.1**	**+0.5**
ASAO				AML		AML	05 44 25.0	
	comp=E,16nm,0.5s							
ASAO				AML		AML	05 44 26.9	
	comp=N,20nm,0.6s							
NAY	**Al-Naaiem**	**3.34**	**234**	*e*P		**Pn**	**05 43 29.8**	**+0.4**
NAY				*e*S		**Sn**	**05 44 09.3**	**-0.4**
NAY	**Al-Naaiem**	**3.34**	**234**	*e*P		**Pn**	**05 43 29.8**	**+0.4**
	baz=232							
NAY				*e*S		**Sn**	**05 44 09.3**	**-0.4**
	baz=232							
NAY				AML		AML	05 44 17.4	
	comp=Z,11nm,0.5s,baz=232							
RDF	**Al-Radifah**	**3.35**	**226**	*e*P		**Pn**	**05 43 30.6**	**+1.0**
	baz=225							
RDF				AML		AML	05 44 14.3	
	comp=Z,24nm,0.4s,baz=225							
RST	**Umm Al-Ruwaisa**	**3.37**	**239**	*e*P		**Pn**	**05 43 30.3**	**+0.4**
RST				*e*S		**Sn**	**05 44 09.1**	**-1.3**
RST	**Umm Al-Ruwaisa**	**3.37**	**239**	*e*P		**Pn**	**05 43 30.3**	**+0.5**
	baz=238							
RST				*e*S		**Sn**	**05 44 09.1**	**-1.4**
	baz=238							
RST				AML		AML	05 44 10.4	
	comp=Z,9.0nm,0.5s,baz=238							
SNGE	**Sanandaj**	**4.55**	**328**	*e*Pn		**Pn**	**05 43 46.9**	**+0.8**
SNGE				AML		AML	05 45 01.5	
	comp=E,11nm,0.6s							
SNGE				AML		AML	05 45 06.8	
	comp=N,12nm,0.5s							

MOS ***30*** *05:58:38.1±1.2, 142N×9875E, h33km, mb4.8/10, Error ellipse: s-maj=29.6km s-min=9.1km az=107.1*
ISCJB ***30*** *05:58:44.4±0.4, 136N±006×9876E±009, h92km, mb4.6/40, Error ellipse: s-maj=13.9km s-min=6.9km az=156.3*
NEIC ***30*** *05:58:46.4±0.3, 139N×9880E, mb4.8/19, Error ellipse: s-maj=17.3km s-min=5.8km az=65.0*
IDC ***30*** *05:58:46.1±0.8, 135N×9874E, h92km±5km, mb4.1/13, mb1 4.2/14, mb1mx4.0/22, mbtmp4.2/14, Error ellipse: s-maj=31.3km s-min=13.5km az=62.0*
DJA ***30*** *05:58:49, 158N×9890E, h50km, MLv4.3/6*
BJI ***30*** *05:58:51.5, 224N×9951E, h91km, mB4.9, mb4.9*

ISC 30 05:58:46.6±0.4, 137N±006×9881E±009, h93km, h93km±1.0km:pP-P, n67, σ0s86/65, mb4.6/40, 1C, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
NST	**Nakhon Sawan**	**14.27**	**5**	P		**Pn**	**06 02 07.8**	**+3.5**
	82nm,0.6s							
BDT	**Bhumibol Dam**	**15.77**	**1**	P		**Pn**	**06 02 25.0**	**+1.6**
CM31	**Chiang Mai Arr**	**16.98**	**0**	*e*P		**Pn**	**06 02 38.3**	**0.0**
	21nm,0.9s							
CMAR	**Chiang Mai Arr**	**16.98**	**0**	P		**Pn**	**06 02 38.9**	**+0.5**
	2.6nm,0.3s,baz=191,slow=10,SNR=66							
CHTO	**Chiang Mai**	**17.33**	**0**	*e*P		**Pn**	**06 02 42.1**	**-0.6**
CHTO				pmax		pmax		
	comp=Z,11nm,0.9s							
CHTO	**Chiang Mai**	**17.33**	**0**	*e*P		**Pn**	**06 02 42.1**	**-0.6**
	comp=Z,11nm,0.9s							
NANT	**Nan**	**17.42**	**6**	⇑P		**Pn**	**06 02 44.2**	**+0.5**
	comp=Z,150nm,0.9s							
SHL	**Shillong**	**24.96**	**345**	*e*P		**P**	**06 04 01.0**	**-0.5**
TAPN	**Taplejung**	**27.94**	**339**	*e*P		**P**	**06 04 29.1**	**+0.9**
	comp=Z,9.3nm,0.4s,mb4.7							
RAMN	**Ramite**	**28.00**	**336**	*e*P		**P**	**06 04 30.2**	**+1.4**
JIRN	**Jiri**	**28.80**	**336**	*e*P		**P**	**06 04 35.5**	**-0.3**
	comp=Z,15nm,0.7s,mb4.7							
LSA	**Lhasa**	**29.10**	**346**	*e*P		**P**	**06 04 39.5**	**+1.0**
LSA				pmax		pmax		
	comp=Z,11nm,0.4s,mb4.8							
LSA	**Lhasa**	**29.10**	**346**	*e*P		**P**	**06 04 39.5**	**+1.1**
	comp=Z,11nm,0.4s,mb4.8							
GUN	**Gumba**	**29.15**	**336**

KURK	**Kurchatov**	**52.06**	**344**	*e*P		**P**	**06 07 46.4**	**-0.2**
KURK					pmax	pmax		
	comp=Z,9.0nm,0.8s,mb4.8							
KURK	**Kurchatov**	**52.06**	**344**	*e*P		**P**	**06 07 46.4**	**-0.3**
	comp=Z,9.0nm,0.8s,mb4.8							
KURK					*e*pP	pP	06 08 09.0	-0.4
KURK					*e*sP	sP	06 08 19.4	-0.5
STKA	**Stephens Creek**	**52.29**	**133**	P		**P**	**06 07 49.1**	**+0.4**
	comp=Z,2.1nm,0.5s,mb4.4,baz=273,slow=11,SNR=2.8							
ZALV	**Zalesovo Beam**	**53.66**	**350**	P		**P**	**06 07 58.1**	**-0.2**
	comp=Z,11nm,0.4s,mb5.3,baz=179,slow=6.8,SNR=58							
ZALV					pP	pP	06 08 20.6	-0.6
	comp=Z,3.1nm,0.4s,baz=183,slow=5.9,SNR=2.9							
ZALV					sP	sP	06 08 31.1	-0.5
	comp=Z,4.5nm,0.6s,baz=178,slow=6.8,SNR=2.7							
RDF	**Al-Radifah**	**55.95**	**304**	*e*P		**P**	**06 08 15.3**	**-0.1**
	baz=304							
RDF					AMb	AMB	06 08 16.3	
	comp=Z,23nm,0.9s,mb5.2,baz=304							
NAY	**Al-Naaiem**	**56.31**	**305**	*e*P		**P**	**06 08 18.1**	**+0.1**
	baz=305							
NAY					AMb	AMB	06 08 18.7	
	comp=Z,9.0nm,0.8s,mb4.8,baz=305							
MIB	**Mutribah**	**56.42**	**305**	*e*P		**P**	**06 08 19.2**	**+0.4**
	baz=305							
MIB					AMb	AMB	06 08 19.8	
	comp=Z,21nm,0.8s,mb5.2,baz=305							
RST	**Umm Al-Ruwaisa**	**56.60**	**305**	*e*P		**P**	**06 08 20.0**	**0.0**
	baz=305							
RST					AMb	AMB	06 08 20.5	
	comp=Z,14nm,0.9s,mb5.0,baz=305							
BVA0	**Borovoye Array**	**56.63**	**340**	*i* P		**P**	**06 08 18.8**	**-0.9**
BVA0					pmax	pmax		
	comp=Z,1.0nm,0.5s,mb4.1							
BVAR	**Borovoye Array**	**56.63**	**340**	P		**P**	**06 08 19.1**	**-0.7**
	comp=Z,4.6nm,0.5s,mb4.8,baz=144,slow=8.6,SNR=21							
BRVK	**Borovoye**	**56.69**	**340**	*e*P		**P**	**06 08 19.2**	**-1.0**
BRVK					pmax	pmax		
	comp=Z,7.0nm,0.5s,mb5.0							
BRVK	**Borovoye**	**56.69**	**340**	*e*P		**P**	**06 08 19.2**	**-1.0**
	comp=Z,6.8nm,0.5s,mb4.9							
BOD	**Bodaibo**	**57.56**	**10**	*e*P		**P**	**06 08 26.2**	**0.0**
BOD					pmax	pmax		
	comp=Z,6.0nm,1.1s,mb4.5							
AKTK	**Aktyubinsk**	**59.85**	**331**	P		**P**	**06 08 41.1**	**-1.1**
AKTO	**Aktyubinsk**	**59.85**	**331**	P		**P**	**06 08 41.1**	**-1.1**
	comp=Z,1.8nm,0.6s,mb4.3,baz=139,slow=9.0,SNR=5.1							
BR131	**Keskin Array S**	**70.19**	**312**	*e*P		**P**	**06 09 48.8**	**-0.7**
	comp=Z,0.9nm,0.5s,mb3.9							
TIXI	**Tiksi**	**72.75**	**10**	*e*P		**P**	**06 10 02.7**	**-1.5**
TIXI					pmax	pmax		
	comp=Z,2.0nm,0.4s,mb4.3							
TIXI	**Tiksi**	**72.75**	**10**	*e*P		**P**	**06 10 02.7**	**-1.5**
	comp=Z,2.0nm,0.4s,mb4.3							
AKASG	**Malin Array Be**	**76.11**	**322**	P		**P**	**06 10 22.8**	**-1.3**
	comp=Z,0.5nm,0.4s,mb3.6,baz=85,slow=5.1,SNR=5.6							
ARCES	**ARCESS Array B**	**82.92**	**340**	P		**P**	**06 11 00.1**	**-0.5**
	comp=Z,1.8nm,0.5s,mb4.2,baz=99,slow=4.4,SNR=17							
NOA	**NORSAR Array B**	**87.64**	**331**	P		**P**	**06 11 23.3**	**-1.1**
	comp=Z,0.8nm,0.9s,mb3.8,baz=80,slow=3.3,SNR=3.3							
TORD	**Torodi Ar. Bea**	**96.61**	**283**	P		**P**	**06 12 06.5**	**-0.3**
	comp=Z,0.1nm,0.4s,mb3.6,baz=98,slow=6.0,SNR=5.3							
TXAR	**Lajitas Array**	**142.66**	**33**	PKhKP			06 18 05.7	
	comp=Z,0.1nm,0.4s,baz=11,slow=0.9,SNR=3.5							
TXAR					pPKP	pPKPdf	06 18 34.2	-1.3
	comp=Z,0.3nm,0.8s,baz=296,slow=2.7,SNR=2.1							
TXAR					SKPbc	SKPbc	06 21 38.2	-1.2
	comp=Z,0.3nm,0.7s,baz=316,slow=2.5,SNR=4.0							
TXAR	**Lajitas Array**	**142.66**	**33**	PKP		PKPdf	06 18 05.7	-3.9
TXAR					pPKP	pPKPdf	06 18 34.2	-1.3
TXAR					SKPbc	SKPbc	06 21 38.2	-1.2

IDC 30 06:26:00.2±2.0, 2193S×7005W, h0km, mb3.7/2, mb1 3.6/4, mb1mx3.5/16, mbtmp3.4/4, ML3.1/2, MS3.4/1, Ms1 3.4/1, ms1mx2.6/18, Error ellipse: s-maj=58.0km s-min=32.9km az=160.0, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LPAZ	**La Paz**	**5.90**	**18**	Pn	Pn	06 27 27.5	-1.4
	0.2nm,0.3s,baz=247,slow=13,SNR=4.1						
SIV	**San Ignacio**	**10.34**	**57**	Pn	Pn	06 28 30.7	+0.8
	0.1nm,0.3s,baz=279,slow=19,SNR=3.5						
SIV				Lg		06 31 31.6	
	0.0nm,0.3s,baz=336,slow=20,SNR=1.8						
ATAH	**Atahualpa**	**16.89**	**330**	LR	LR	06 35 44.7	
	comp=Z,125nm,20.5s,baz=278,slow=35						
NVAR	**Mina Array Bea**	**75.18**	**323**	P	P	06 37 45.8	+1.3
	0.3nm,0.7s,baz=144,slow=7.8,SNR=3.8						
TORD	**Torodi Ar. Bea**	**78.50**	**71**	P	P	06 38 03.8	+0.1
	0.7nm,0.6s,baz=250,slow=5.5,SNR=4.7						
MKAR	**Makanchi Array**	**146.60**	**35**	PKPbc	PKPbc	06 45 42.0	-1.6
	0.2nm,0.5s,baz=325,slow=2.7,SNR=4.4						

MOS ***30*** *06:32:23.6±1.2, 5.14S×102.27E, h33km, mb4.7/8, Error ellipse: s-maj=18.6km s-min=10.5km az=94.4*
ISCJB ***30*** *06:32:24.6±0.5, 5.20S±008×102.36E±009, h39km, mb4.6/21, Error ellipse: s-maj=15.0km s-min=9.2km az=146.1*
NEIC ***30*** *06:32:26.1±0.5, 5.26S×102.38E, h35km, mb4.7/7, Error ellipse: s-maj=18.3km s-min=9.1km az=66.0*
NEIC Felt [III] at Bengkulu.
IDC ***30*** *06:32:27.2±1.6, 5.15S×102.37E, h40km±5km, mb4.2/8, mb1 4.3/8, mb1mx4.0/19, mbtmp4.2/8, MS3.4/2, Ms1 3.4/2, ms1mx2.7/24, Error ellipse: s-maj=70.9km s-min=13.3km az=54.0*
DJA ***30*** *06:32:30, 4.96S×102.47E, h10km, MLv4.5/9*

ISC 30 06:32:27.0±0.5, 519S±008×10239E±009, h41km, h41km±1.5km:pP-P, n40, σ1§25/36, mb4.6/21, 7C, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
XMIS	**Christmas Isla**	**6.17**	**149**	*e*Pn	**Pn**	**06 33 51.1**	**-4.5**
COCO	**West Island**	**8.86**	**218**	*e*P	**Pn**	**06 34 31.4**	**-1.2**
KAPI	**Kappang**	**17.29**	**90**	LR	LR	06 43 03.6	
	comp=Z,94nm,20.8s,baz=62,slow=37						
BATI	**Baumata**	**21.66**	**105**	P	**P**	**06 37 13.4**	**-0.8**
	29nm,0.5s,mb5.0,baz=315,slow=8.6,SNR=3.0						
CMAR	**Chiang Mai Arr**	**23.74**	**352**	P	**P**	**06 37 33.7**	**-1.9**
	3.5nm,0.5s,mb4.0,baz=184,slow=9.2,SNR=12						
WRAB	**Tennant Creek**	**34.37**	**118**	⇑*i*P	**P**	**06 39 11.3**	**+1.0**
WRAB	**Tennant Creek**	**34.37**	**118**	*e*P	**P**	**06 39 11.0**	**+0.7**
	1.7nm,0.5s,mb4.2						
ODAN	**Odare**	**35.01**	**336**	*e*P	**P**	**06 39 16.9**	**+1.2**
	17nm,0.7s,mb5.1						
TAPN	**Taplejung**	**35.32**	**337**	*e*P	**P**	**06 39 19.4**	**+1.0**
	32nm,0.9s,mb5.3						
ASAR	**Alice Springs**	**35.48**	**124**	P	**P**	**06 39 20.6**	**+0.8**
	1.4nm,0.8s,mb4.0,baz=297,slow=7.9,SNR=14						
ASAR				pP	pP	06 39 30.2	-1.0
	1.7nm,0.4s,baz=303,slow=7.9,SNR=11						
JIRN	**Jiri**	**36.21**	**335**	*e*P	**P**	**06 39 27.6**	**+1.6**
GUN	**Gumba**	**36.56**	**335**	*e*P	**P**	**06 39 30.4**	**+1.4**
	16nm,0.4s,mb5.2						
KOLN	**Koldanda**	**37.45**	**332**	*e*P	**P**	**06 39 37.7**	**+1.1**
	11nm,0.8s,mb4.8						
DANN	**Dangsing**	**37.87**	**333**	*e*P	**P**	**06 39 41.2**	**+1.1**
	12nm,0.4s,mb5.0						
PMG	**Port Moresby**	**44.58**	**98**	⇑*i*P	**P**	**06 40 37.0**	**+1.5**
STKA	**Stephens Creek**	**45.27**	**131**	*e*P	**P**	**06 40 42.3**	**+1.6**
	6.9nm,0.6s,mb4.7						
STKA	**Stephens Creek**	**45.27**	**131**	P	**P**	**06 40 41.8**	**+1.0**
	8.4nm,0.6s,mb4.7,baz=300,slow=8.1,SNR=37						
STKA	**Stephens Creek**	**45.27**	**131**	*e*P	**P**	**06 40 41.6**	**+0.9**
	7.6nm,0.6s,mb4.7						
SONM	**Songino Array**	**52.91**	**3**	P	**P**	**06 41 40.1**	**+1.2**
	7.0nm,0.7s,mb4.7,baz=183,slow=9.3,SNR=42						
SONM					pP	pP	06 41 51.6	+0.9
	6.1nm,0.8s,baz=182,slow=8.7,SNR=12							
SONM					PcP	PcP	06 42 48.0	+0.5
	0.6nm,0.6s,baz=198,slow=2.9,SNR=3.1							
ULN	**Ulaanbaatar**	**52.98**	**4**	*e*P	**P**	**06 41 40.3**	**+0.9**
ULN					pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.3							
ULN	**Ulaanbaatar**	**52.98**	**4**	*e*P	**P**	**06 41 40.3**	**+0.9**
	comp=Z,2.7nm,0.8s,mb4.2							
TKM2	**Tokmak 2**	**53.69**	**336**	*e*P	**P**	**06 41 45.5**	**+0.8**
TKM2					pmax	pmax		
	comp=Z,5.0nm,0.7s,mb4.5							
TKM2	**Tokmak 2**	**53.69**	**336**	*e*P	**P**	**06 41 45.5**	**+0.8**
	comp=Z,4.6nm,0.7s,mb4.5							
MK31	**Makanchi Array**	**54.73**	**343**	*e*P	**P**	**06 41 52.2**	**0.0**
MKAR	**Makanchi Array**	**54.73**	**343**	P	**P**	**06 41 52.3**	**+0.1**
	comp=Z,1.8nm,0.4s,mb4.4,baz=149,slow=9.0,SNR=46							
MKAR					pP	pP	06 42 03.9	-0.2
	comp=Z,1.8nm,0.6s,baz=147,slow=7.2,SNR=8.2							
ZAK	**Zakamensk**	**55.35**	**1**	*e*P	**P**	**06 41 53.8**	**-2.8**
ZAK					pmax	pmax		
	comp=Z,3.0nm,1.0s,mb4.3							
HIA	**Hailar**	**56.30**	**14**	⇑*i*P	**P**	**06 42 01.8**	**-1.6**
KURK	**Kurchatov**	**59.33**	**343**	P	**P**	**06 42 24.2**	**-0.4**
	comp=Z,1.8nm,0.7s,mb4.2,baz=159,slow=6.9,SNR=5.0							
KURK	**Kurchatov**	**59.33**	**343**	⇑*i*P	**P**	**06 42 24.6**	**0.0**
KURK				*i* *PP	pP	06 42 36.3	-0.4
KURK					pmax	pmax		
	comp=Z,4.0nm,0.9s,mb4.5							
ZALV	**Zalesovo Beam**	**60.74**	**348**	P	**P**	**06 42 33.6**	**-0.6**
	comp=Z,2.4nm,0.4s,mb4.7,baz=164,slow=5.7,SNR=15							
ZALV					pP	pP	06 42 45.9	-0.4
	comp=Z,10nm,1.0s,baz=164,slow=5.9,SNR=6.3							
YSS	**Yuzh-Sakhalins**	**62.97**	**30**	⇑*i*P	**P**	**06 42 47.8**	**-1.6**
YSS					pmax	pmax		
	comp=Z,14nm,1.0s,mb5.0							
BOD	**Bodaibo**	**63.50**	**7**	*e*P	**P**	**06 42 52.4**	**-0.3**
BVAR	**Borovoye Array**	**63.98**	**339**	P	**P**	**06 42 55.6**	**-0.4**
	baz=152,slow=9.8							
MAW	**Mawson**	**67.83**	**195**	LR	LR	07 07 05.4		
	comp=Z,45nm,20.6s,baz=8.5,slow=31							
YAK	**Yakutsk**	**70.24**	**13**	*e*P	**P**	**06 43 33.5**	**-2.0**
YAK					pmax	pmax		
	comp=Z,13nm,0.9s,mb4.9							
YAK					pmax	pmax		
	comp=N,2.0nm,0.9s							
ARU	**Arti**	**71.07**	**336**	*e*P	**P**	**06 43 40.9**	**+0.3**
ARU				*e*		06 46 16.9		
ARU				*e*S	S	06 52 52.4	-1.5
ARU					pmax	pmax		
	comp=Z,10.0nm,1.7s,mb4.5							
TIXI	**Tiksi**	**78.63**	**8**	⇑*i*P	**P**	**06 44 22.4**	**-1.7**
TIXI					pmax	pmax		
	comp=Z,8.0nm,2.5s,mb4.2							
AKASG	**Malin Array Be**	**83.45**	**322**	*i* P	**P**	**06 44 47.5**	**-2.7**
AKASG					pmax	pmax		
	comp=Z,1.0nm,0.3s							
TXAR	**Lajitas Array**	**145.59**	**43**	PKPbc	PKPbc	06 52 02.8	+1.1
	comp=Z,5.2nm,0.7s,baz=258,slow=0.9,SNR=66							
TXAR				pPKPbc	pPKPbc	06 52 14.3	-0.3
	comp=Z,3.0nm,0.7s,baz=351,slow=1.6,SNR=14							
JCT	**Junction City**	**147.29**	**37**	*e*PKP2	PKPab	06 52 06.8	-1.7

KRSC 30 07:07:57.6±0.4, 5575N×16250E, h5km±5km, ML3.9, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KBTR	**Krutoberegovo**	**0.49**	**21**	*e*P	Pg	07 08 08.2	+1.1
KBTR				*e*S	Sg	07 08 16.0	+2.5
BZGR	**Bezymyannyi-Gr**	**1.03**	**281**	*e*P	Pg	07 08 18.6	+1.2
BZGR				*e*S	Sg	07 08 34.2	+3.4
BDR	**Baidarnaya**	**1.09**	**319**	*e*P	Pg	07 08 18.8	+0.3
BDR				*e*S	Sg	07 08 34.3	+1.6
BZMR	**Bezymyannaya**	**1.15**	**280**	*e*P	Pg	07 08 20.1	+0.5
BZMR				*e*S	Sg	07 08 36.6	+2.1
BZWR	**Bezymyannyi-We**	**1.15**	**282**	*e*P	Pg	07 08 20.1	+0.5
BZWR				*e*S	Sg	07 08 36.6	+2.1
KLY	**Klyuchi**	**1.18**	**299**	*e*P	Pg	07 08 18.4	-1.8
KLY				*e*S	Sg	07 08 33.7	-1.8
KRSR	**Krestovskiy**	**1.18**	**294**	*e*P	Pg	07 08 20.0	-0.3
KRSR				*e*S	Sg	07 08 35.9	+0.3
KIRR	**Kirishev**	**1.23**	**280**	*e*P	Pg	07 08 21.5	+0.3
KIRR				*e*S	Sg	07 08 39.3	+2.1
MKZ	**Mys Kozlova**	**1.28**	**201**	*e*P	Pg	07 08 22.4	+0.4
MKZ				*e*S	Sg	07 08 40.3	+1.8
KMNR	**Kamenistaya**	**1.28**	**271**	*e*P	Pn	07 08 22.7	+0.6
KMNR				*e*S	Sg	07 08 40.2	+1.5
KPT	**Kopyto**	**1.30**	**281**	*e*P	Pn	07 08 22.8	+0.4
KPT				*e*S	Sg	07 08 41.7	+2.3
TUMR	**Tumrok**	**1.42**	**252**	*e*P	Pn	07 08 25.6	+1.6
KOZ	**Kozyrevsk**	**1.51**	**283**	*e*P	Pn	07 08 26.4	+1.1
KOZ				*e*S	Sn	07 08 47.8	+2.5
KII	**Karymskiy**	**2.46**	**227**	*e*P	Pn	07 08 40.3	+2.0
KII				*e*S	Sn	07 09 12.5	+3.8
SPN	**Mys Shipunski**	**3.03**	**210**	P	Pn	07 08 46.9	+0.8
SPN				S	Sn	07 09 22.3	-0.3
NLC	**Nalytchevo**	**3.17**	**217**	P	Pn	07 08 49.6	+1.5
NLC				S	Sn	07 09 27.4	+1.1
AVH	**Avacha**	**3.32**	**223**	*e*P	Pn	07 08 52.8	+2.7
AVH				*e*S	Sn	07 09 32.8	+3.0
GNL	**Ganaly**	**3.35**	**234**	*e*P	Pn	07 08 52.8	+2.3
RUS	**Russkaya**	**4.07**	**217**	P	Pn	07 09 01.5	+1.1
RUS				S	Sn	07 09 49.1	+0.8

IDC 30 07:10:27.3±4.9, 338S×10060E, h0km, mb3.4/3, mb1 3.5/3, mb1mx3.4/18, mbtmp3.4/3, Error ellipse: s-maj=212.7km s-min=33.1km az=57.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MDRS	**Chennai**	**25.99**	**309**	*ex*	x	07 16 52.2	
MDRS				*ex*	x	07 30 52.2	
MDRS				*ex*	x	07 33 48.2	
ASAR	**Alice Springs**	**37.97**	**125**	P	P	07 17 47.3	+0.1
	0.2nm,0.5s,baz=302,slow=8.4,SNR=3.2						
SONM	**Songino Array**	**51.26**	**5**	P	P	07 19 33.1	+0.3
	0.4nm,0.5s,baz=180,slow=8.5,SNR=3.6						
MKAR	**Makanchi Array**	**52.51**	**344**	P	P	07 19 42.3	+0.1
	0.4nm,0.6s,baz=144,slow=8.5,SNR=3.8						
TXAR	**Lajitas Array**	**145.41**	**39**	PKPbc	PKPbc	07 30 07.0	-1.0
	0.3nm,0.4s,baz=245,slow=1.0,SNR=7.5						

NEIC ***30*** *07:14:54.1, 17.18N×100.39W, h35km, MD3.6(MEX), After MEX.*

MEX 30 07:14:54.4±0.6, 1721N×10040W, h29km±7km, MD3.6, Guerrero

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CAIG	**El Cayaco**	**0.20**	**142**	*i* P	Pb	07 14 59.1	-1.5
CAIG				*i* S	Sb	07 15 03.5	-1.2
ACX	**Acapulco**	**0.57**	**126**	*i* P	Pb	07 15 04.0	-2.0
ACX				*i* S	Sb	07 15 11.5	-2.3
MEIG	**Mezcala**	**1.03**	**46**	*i* P	Pn	07 15 10.5	-2.4
MEIG				*i* S	Sn	07 15 23.4	-2.9
ZIIG	**Zihuatanejo**	**1.09**	**291**	*i* P	Pn	07 15 12.3	-1.4
ZIIG				*i* S	Sn	07 15 24.4	-3.4
PNIG	**Pinotepa**	**2.32**	**110**	*e*P	Pn	07 15 29.8	-0.8
PNIG				*i* S	Sn	07 15 56.9	-1.3
PNIG	**Pinotepa**	**2.32**	**110**	*e*P	Pn	07 15 29.8	-0.8
PNIG				*i* S	Sn	07 15 51.4	-6.8
PPM	**Popocatepetl**	**2.50**	**42**	*e*P	Pn	07 15 31.2	-1.9
PPM				*i* S	Sn	07 16 00.7	-1.9
UTMO	**Huajuapan**	**2.55**	**76**	*e*P	Pn	07 15 32.4	-1.4
UTMO				*i* S	Sn	07 16 02.8	-1.1

NNC 30 07:18:27.0±3.3, 5390N×8680E, h0km, mb3.7, mpv3.3, 9C-1D, Error ellipse: s-maj=25.7km s-min=20.1km az=63.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KURK	**Kurchatov**	**5.94**	**241**	⇑Pn	Pn	07 19 56.1	0.0
	5.2nm,0.7s						
KURK				⇑Sn	Sn	07 21 05.1	+0.2
	3.0nm,1.3s						
KURK				⇑Lg		07 21 39.3	
	8.1nm,1.5s						
KURBB	**Kurchatov Arra**	**6.04**	**240**	⇑Pn	Pn	07 19 57.9	+0.4
	1.5nm,0.7s,baz=52,slow=14						
KURBB				⇑Sn	Sn	07 21 08.3	+1.0
	0.7nm,0.5s						
KURBB				⇑Lg		07 21 42.2	
	0.7nm,0.7s,baz=61,slow=34						
MK31	**Makanchi Array**	**7.67**	**204**	⇓Pn	Pn	07 20 23.0	+3.1
	0.4nm,0.5s,baz=32,slow=11,SNR=8.6						
MK31				⇑Sn	Sn	07 21 54.1	+6.7
	0.4nm,0.5s,baz=23,slow=25,SNR=6.3						
MK31				⇑Lg		07 22 27.0	
	17nm,2.0s,baz=28,slow=29,SNR=4.1						
VOSK	**Vostochnaya**	**9.54**	**269**	⇑Pn	Pn	07 20 43.0	-2.5
	1.2nm,0.3s						

NEIC 30 07:18:46.5, 5205N×17717E, h10km, ML3.5(AEIC), After AEIC., Rat Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AMKA	**Amchitka**	**1.49**	**116**	P	Pn	07 19 11.7	-1.6
AMKA				S	Sn	07 19 31.2	-1.6
SMY	**Shemya**	**2.00**	**291**	P	Pn	07 19 19.2	-1.1
SMY				S	Sn	07 19 43.9	-1.5
FX1	**Attu Island--F**	**2.59**	**290**	P	Pn	07 19 26.1	-2.3
FX1				S	Sn	07 19 57.0	-2.8
ADK	**Adak**	**3.81**	**90**	P	Pn	07 19 44.5	-0.6
UNV	**Unalaska Valle**	**10.02**	**73**	P	Pn	07 21 03.9	-6.4

NIED ***30*** *08:20:00, 26.40N×124.80E, h200km, Mw4.7 Best double couple: M0 1.06000×10^16 NP1:φs185.00000°, δ47.00000°, λ-77.00000°. NP2:φs347.00000°, δ44.00000°, λ-104.00000°.*
BJI ***30*** *08:20:21.5, 25.97N×125.44E, h203km, mB4.9, mb4.5*
ISCJB ***30*** *08:20:26.8±0.2, 26.32N±004×125.00E±003, h202km±3km, mb3.9/24, Error ellipse: s-maj=7.3km s-min=3.6km az=149.0*
IDC ***30*** *08:20:27.7±1.5, 26.38N×124.84E, h197km±14km, mb3.6/16, mb1 3.8/19, mb1mx3.7/24, mbtmp3.6/19, MS3.3/1, Ms1 3.3/1, ms1mx2.2/27, Error ellipse: s-maj=17.5km s-min=11.6km az=64.0*
JMA ***30*** *08:20:28.2±0.3, 26.45N×124.84E, h183km, M4.7*
NEIC ***30*** *08:20:28.4±0.5, 26.39N×124.88E, h203km±5km, mb4.1/8, Error ellipse: s-maj=7.5km s-min=7.2km az=140.0*

ISC 30 08:20:27.7±0.3, 2634N±004×12498E±003, h195km±3km, n62, σ1§10/79, mb3.9/24, Northeast of Taiwan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JMJ	**Miyako jima 2**	**1.55**	**169**	P	**Pn**	**08 21 02.8**	**+1.4**
JMJ				*e*S	**Sn**	**08 21 28.0**	**+0.4**
JKE	**Kume jima 2**	**1.62**	**90**	P	**Pn**	**08 21 03.5**	**+1.5**
JKE				*e*S	**Sn**	**08 21 29.2**	**+0.6**
JOGS	**Gusukube**	**1.62**	**166**	P	**Pn**	**08 21 03.1**	**+1.0**
JOGS				*e*S	**Sn**	**08 21 29.9**	**+1.1**
JTJ	**Tarama**	**1.71**	**188**	P	**Pn**	**08 21 03.9**	**+0.9**
JTJ				S	**Sn**	**08 21 29.6**	**-0.8**
JAGN	**Aguni-jima**	**2.04**	**83**	P	**Pn**	**08 21 07.3**	**+1.0**
JAGN				S	**Sn**	**08 21 36.3**	**+0.1**
JIJ	**Ishigaki jima**	**2.11**	**201**	P	**Pn**	**08 21 06.9**	**-0.2**
JIJ				S	**Sn**	**08 21 35.2**	**-2.4**
JKRS	**Kuro-shima**	**2.27**	**203**	P	**Pn**	**08 21 08.7**	**-0.1**
JKRS				S	**Sn**	**08 21 38.9**	**-1.9**
IRIF	**Iriomote-Funau**	**2.30**	**210**	P	**Pn**	**08 21 08.9**	**-0.2**
IRIF				*e*S	**Sn**	**08 21 40.5**	**-0.7**
NAH1	**Naha**	**2.44**	**93**	*e*S	**Sn**	**08 21 44.0**	**+0.1**
JJT2	**Tamagusuku 2**	**2.50**	**94**	P	**Pn**	**08 21 13.0**	**+1.8**
JJT2				*e*S	**Sn**	**08 21 46.5**	**+1.5**
HATJ	**Hateruma jima**	**2.51**	**205**	P	**Pn**	**08 21 11.6**	**+0.1**
HATJ				*e*S	**Sn**	**08 21 43.5**	**-2.0**
YOJ	**Yonaguni jima**	**2.58**	**224**	P	**Pn**	**08 21 12.6**	**+0.3**
YOJ				*e*S	**Sn**	**08 21 46.3**	**-0.7**
JIH	**Iheya**	**2.76**	**75**	P	**Pn**	**08 21 15.1**	**+0.9**
JIH				*e*S	**Sn**	**08 21 49.3**	**-1.2**
JOW	**Kunigami**	**2.99**	**80**	P	**Pn**	**08 21 17.6**	**+0.6**
	177nm,0.3s,baz=241,slow=9.9,SNR=272						
JOW				S	**Sn**	**08 21 53.8**	**-1.6**
	440nm,0.3s,baz=137,slow=27,SNR=25						
JOW				LR	LR	08 22 13.1	
	comp=Z,505nm,19.2s,baz=360,slow=34						
JOW	**Kunigami**	**2.99**	**80**	P	**Pn**	**08 21 17.5**	**+0.6**
JOW				*e*S	**Sn**	**08 21 53.6**	**-1.8**
TATO	**Taipei**	**3.43**	**247**	*e*Pn	**Pn**	**08 21 23.6**	**+1.3**
YHNB	**Yeheng**	**3.66**	**244**	*e*Pn	**Pn**	**08 21 26.6**	**+1.5**
YHNB				*e*Sn	**Sn**	**08 22 10.9**	**+1.0**
NACB	**Ninganchiao**	**3.75**	**236**	*e*Pn	**Pn**	**08 21 25.5**	**-0.7**
NACB				*e*Sn	**Sn**	**08 22 06.2**	**-5.8**
JTK	**Tokunoshima**	**3.82**	**67**	P	**Pn**	**08 21 26.8**	**-0.2**
JTK				*e*S	**Sn**	**08 22 11.4**	**-2.1**
JAM	**Amami Oshima**	**4.60**	**62**	P	**Pn**	**08 21 36.0**	**-0.8**
JAM				*e*S	**Sn**	**08 22 27.9**	**-3.3**
JZK	**Kikaishima**	**4.86**	**65**	*e*S	**Sn**	**08 22 35.2**	**-1.9**
JMZ	**Minamidaito 2**	**5.64**	**94**	P	**Pn**	**08 21 50.2**	**0.0**
JMZ				*e*S	**Sn**	**08 22 52.0**	**-3.2**
KSRS	**Korea Array**	**11.36**	**12**	P	**Pn**	**08 23 05.8**	**+1.5**
	0.7nm,0.3s,baz=189,slow=12,SNR=14						
MJAR	**Matsushiro Arr**	**15.18**	**45**	P	**Pn**	**08 23 54.4**	**+2.2**
	0.2nm,0.3s,baz=225,slow=9.0,SNR=2.9						
**X

comp=Z,3.8nm,1.0s,mb4.0,baz=70,slow=7.7,SNR=5.4
AKASG **Malin Array Be 73.54 319** P **P** **08 31 38.0 -1.1**
comp=Z,2.1nm,0.5s,mb4.0,baz=60,slow=6.0,SNR=8.6
AKASG **Malin Array Be 73.54 319** P **P** **08 31 38.0 -1.1**
NB2 NORSAR Subarra 77.90 333 P **P** **08 32 02.6 -1.0**
comp=Z,1.1nm,0.6s,mb3.7,baz=52,slow=5.6
NOA NORSAR Array B 77.90 333 P **P** **08 32 02.6 -1.0**
comp=Z,2.5nm,0.8s,mb3.9,baz=55,slow=5.5,SNR=4.7
YKA Yellowknife Ar 79.63 24 P **P** **08 32 13.2 +0.2**
comp=Z,1.8nm,0.7s,mb3.8,baz=309,slow=5.8,SNR=3.9
GERES **GERESS Array B 83.33 322** P **P** **08 32 33.3 +0.7**
comp=Z,0.3nm,0.3s,mb3.5,baz=329,slow=1.6,SNR=3.6
KMBO Kilima Mbogo 88.46 268 P **P** **08 32 57.8 -0.6**
comp=Z,0.9nm,0.3s,mb4.0,baz=65,slow=9.2,SNR=4.2
DLMT Dillon 91.50 37 *eP* **P** **08 33 12.5 +0.5**
comp=Z,6.9nm,0.9s,mb4.6
HLID Hailey 91.66 39 *eP* **P** **08 33 14.2 +1.4**
comp=Z,4.5nm,0.9s,mb4.4
NVAR Mina Array Bea 92.50 45 P **P** **08 33 17.1 +0.3**
comp=Z,0.8nm,0.9s,mb3.7,baz=287,slow=4.1,SNR=4.3
DBIC Dimbokro 121.34 297 PKP PKPdf 08 38 57.4 -1.0
comp=Z,1.8nm,0.6s,baz=97,slow=8.8,SNR=4.7
DBIC Dimbokro 121.34 297 *e*PKPdf PKPdf 08 38 57.9 -0.5

IDC ***30*** *08:32:40.7±0.6, 2226S×17063E, h0km, mb4.5/13, mb1 4.7/15, mb1mx4.7/17, mbtmp4.6/15, ML4.0/1, MS4.5/20, Ms1 4.4/20, ms1mx4.2/28, Error ellipse: s-maj=20.1km s-min=18.1km az=107.0*

LDG ***30*** *08:32:44.2±0.2, 2133S×17047E, h10km, Mb5.2/2, Ms4.5/10, Error ellipse: s-maj=16.6km s-min=4.4km az=158.0*

BJI ***30*** *08:32:44.5, 2230S×17060E, h30km, mB5.3, mb4.9, Ms5.0, Msz4.6*

ISCJB ***30*** *08:32:44.1±0.3, 2229S±006×17065E±006, h34km, mb4.8/32, MS4.5/23, Error ellipse: s-maj=8.6km s-min=8.1km az=3.0*

MOS ***30*** *08:32:46.5±1.9, 2236S×17031E, h33km, mb5.2/14, Error ellipse: s-maj=13.7km s-min=11.6km az=130.0*

SZGRF ***30*** *08:32:46.2, 2206S×17126E, h33km, Southeast of Loyalty Islands*

GCMT ***30*** *08:32:46.5±0.2, 2247S×17044E, h29km, MW5.3/91, Moment Tensor Solution. s82,c119; s91,c148; Duration: 1§1 Moment tensor: Scale 10^17 Nm; Mrr 0.85±.02; Mθθ 0.79±.01; Mϕϕ -0.06±.02; Mrθ 0.49±.02; Mθϕ 0.33±.01; Mϕr -0.11±.02; Best double couple: M0 1.01200×10^17 NP1:ϕs 296.00000°, δ31.00000°, λ98.00000°. NP2:ϕs 107.00000°, δ60.00000°, λ85.00000°. Principal axes: T 0.9820, Plg75.0000°, Azm4.0000°; N 0.0610, Plg4.0000°, Azm109.0000°; P -1.0430, Plg15.0000°, Azm200.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

NEIC ***30*** *08:32:46.5±0.3, 2231S×17057E, mb4.9/16 Error ellipse: s-maj=10.4km s-min=9.3km az=148.0*

DJA ***30*** *08:32:51, 2033S×170.19E, h10km, mb5.2/11*

ISC 30 08:32:45.9±0.3, 2229S±005×17069E±006, h36km, h36km±.8km: pP-P, n180, σ1§05/71, mb4.8/32, MS4.5/23, 9C-8D, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
							h m s	ISC
DZM	**Mont Dzumac**	**3.94**	**272**	*e*Pn		**Pn**	**08 33 41.3**	**-2.6**
DZM				*e*Sn		**Sn**	**08 34 23.6**	**-5.2**
RAO	**Raoul Island**	**12.38**	**126**	LR	LR		08 39 33.0	
	comp=Z,3μm,19.2s,baz=179,slow=33							
HNR	**Honiara**	**16.43**	**319**	LR	LR		08 41 36.5	
	comp=Z,542nm,19.9s,baz=137,slow=33							
HNR	**Honiara**	**16.43**	**319**	*e*P		**Pn**	**08 36 35.3**	**+1.5**
HNR				pmax	pmax			
	comp=Z,394nm,1.6s							
HNR	**Honiara**	**16.43**	**319**	*e*P		**Pn**	**08 36 35.2**	**+1.5**
	comp=Z,394nm,1.6s							
URZ	**Urewera**	**16.84**	**162**	Pn		**Pn**	**08 36 40.0**	**+1.0**
	comp=Z,0.5nm,0.3s,baz=22,slow=9.4,SNR=4.4							
URZ				LR	LR		08 42 02.8	
	comp=Z,3μm,18.1s,baz=346,slow=33							
EIDS	**Eidsvold**	**18.19**	**256**	*e*P		**Pn**	**08 36 57.0**	**+1.3**
	comp=Z,136nm,1.1s							
EIDS				*e*			08 37 08.9	
AFI	**Afiamalu**	**18.62**	**66**	P		**Pn**	**08 36 59.5**	**-1.6**
	baz=206,slow=18,SNR=2.5							
AFI				LR	LR		08 42 39.7	
	comp=Z,1μm,19.8s,baz=243,slow=32							
ARMA	**Armidale**	**18.88**	**241**	*e*P		**Pn**	**08 37 05.4**	**+1.4**
RPZ	**Rata Peaks**	**21.37**	**179**	P		**P**	**08 37 30.4**	**+0.3**
	comp=Z,35nm,0.9s,mb4.7,baz=119,slow=3.1,SNR=10							
RPZ				LR	LR		08 44 51.2	
	comp=Z,2μm,19.3s,MS4.4,baz=347,slow=34							
CNB	**Canberra Magne**	**22.69**	**230**	*e*P		**P**	**08 37 45.6**	**+1.3**
CTA	**Charters Tower**	**22.88**	**271**	*e*P		**P**	**08 37 45.4**	**-1.1**
	comp=Z,8.6nm,0.8s,mb4.2							
CTA	**Charters Tower**	**22.88**	**271**	P		**P**	**08 37 45.5**	**-0.9**
	comp=Z,7.6nm,0.7s,mb4.2,baz=100,slow=13,SNR=9.7							
CTA				LR	LR		08 45 28.8	
	comp=Z,748nm,21.9s,MS4.1,baz=94,slow=34							
CTA	**Charters Tower**	**22.88**	**271**	*e*P		**P**	**08 37 45.4**	**-1.1**
CTA				pmax	pmax			
	comp=Z,9.0nm,0.8s							
CTAO	**Charters Tower**	**22.88**	**271**	*e*P		**P**	**08 37 45.1**	**-1.4**
CTAO				pmax	pmax			
	comp=Z,28nm,1.1s,mb4.6							
CTAO	**Charters Tower**	**22.88**	**271**	*e*P		**P**	**08 37 45.1**	**-1.4**
	comp=Z,28nm,1.1s,mb4.6							
CAN	**Canberra**	**22.95**	**231**	*e*P		**P**	**08 37 47.7**	**+0.6**
PMG	**Port Moresby**	**25.96**	**296**	⇓*i*P		**P**	**08 38 23.9**	**+8.7**
TOO	**Toolangi**	**26.51**	**229**	*e*P		**P**	**08 38 15.5**	**-4.5**
COEN	**Coen**	**27.39**	**283**	*e*P		**P**	**08 38 28.8**	**+0.6**
	comp=Z,15nm,1.2s,mb4.4							
RAR	**Rarotonga**	**27.44**	**93**	LR	LR		08 46 42.9	
	comp=Z,472nm,18.8s,MS4.1,baz=273,slow=31							
STKA	**Stephens Creek**	**27.53**	**243**	*e*P		**P**	**08 38 29.7**	**+0.4**
	comp=Z,12nm,0.9s,mb4.5							
STKA	**Stephens Creek**	**27.53**	**243**	P		**P**	**08 38 29.0**	**-0.3**
	comp=Z,16nm,0.9s,mb4.6,baz=99,slow=10.0,SNR=7.2							
STKA				LR	LR		08 48 43.1	
	comp=Z,1μm,18.9s,MS4.6,baz=70,slow=35							
ASAR	**Alice Springs**	**33.83**	**260**	P		**P**	**08 39 23.2**	**-1.9**
	comp=Z,4.6nm,0.7s,mb4.5,baz=80,slow=9.6,SNR=54							
WRAB	**Tennant Creek**	**33.93**	**267**	*e*P		**P**	**08 39 25.4**	**-0.5**
WRAB				pmax	pmax			
	comp=Z,21nm,1.3s,mb4.9							
WRAB	**Tennant Creek**	**33.93**	**267**	*e*P		**P**	**08 39 25.4**	**-0.5**
	comp=Z,21nm,1.3s,mb4.9							
TBI	**Tubuai**	**36.67**	**100**	*e*LQ			08 47 55.4	
	comp=Z,396nm,30.2s							
TBI				*e*LR	LR		08 49 51.5	
	comp=Z,671nm,29.0s,baz=268							
PPT	**Papeete**	**37.58**	**90**	*e*S		**S**	**08 45 54.3**	**+10**
	comp=Z,160nm,24.2s							
PPT				*e*LQ			08 48 48.2	
	comp=Z,626nm,26.2s							
PPT				*e*LR	LR		08 50 19.3	
	comp=Z,423nm,23.0s,baz=245							
PPT	**Papeete**	**37.58**	**90**	LR	LR		08 53 39.3	
	comp=Z,403nm,18.6s,MS4.2,baz=269,slow=33							
FORT	**Forrest**	**38.87**	**248**	*e*P		**P**	**08 40 07.3**	**-0.7**
	comp=Z,25nm,1.0s,mb4.9							
GUMO	**Guam**	**43.73**	**322**	LR	LR		08 57 43.7	
	comp=Z,336nm,19.2s,MS4.3,baz=264,slow=34							
BATI	**Baumata**	**46.54**	**277**	LR	LR		09 00 28.5	
	comp=Z,944nm,20.4s,MS4.7,baz=16,slow=36							
MBWA	**Marble Bar**	**47.16**	**261**	*e*P		**P**	**08 41 14.3**	**-0.9**
	comp=Z,32nm,0.9s,mb5.2							
MBWA				*e*pP		pP	08 41 24.6	-1.1
KLBR	**Kellerberrin**	**47.70**	**247**	*e*P		**P**	**08 41 17.8**	**-1.4**
	comp=Z,48nm,1.3s,mb5.4							
NWAO	**Narrogin (SRO)**	**48.10**	**245**	*e*P		**P**	**08 41 20.9**	**-1.4**
NWAO				pmax	pmax			
	comp=Z,29nm,1.1s							
NWAO	**Narrogin (SRO)**	**48.10**	**245**	*e*P		**P**	**08 41 20.9**	**-1.3**
	comp=Z,29nm,1.1s,mb5.2							
RKT	**Rikitea**	**49.89**	**102**	*e*LR	LR		08 55 56.4	
	comp=Z,402nm,27.2s,baz=261							
KAPI	**Kappang**	**52.10**	**281**	LR	LR		09 03 21.9	
	comp=Z,315nm,20.5s,MS4.3,baz=30,slow=35							
SBA	**Scott Base**	**55.65**	**181**	*e*P		**P**	**08 42 18.8**	**+1.0**
SBA				pmax	pmax			
	comp=Z,16nm,1.2s,mb4.9							
SBA	**Scott Base**	**55.65**	**181**	*e*P		**P**	**08 42 18.8**	**+1.0**
	comp=Z,16nm,1.2s,mb4.9							
CASY	**Casey**	**57.90**	**204**	*e*P		**P**	**08 42 34.8**	**+0.8**
KSM	**Kuching**	**63.38**	**284**	*e*P		**P**	**08 43 12.3**	**+0.1**
KSM				*e*pP		pP	08 43 21.9	-1.2
JOW	**Kunigami**	**63.79**	**318**	LR	LR		09 05 56.4	
	comp=Z,193nm,21.3s,MS4.2,baz=172,slow=31							
MIR	**Mirnyy**	**64.86**	**206**	*e*P		**P**	**08 43 26.0**	**+5.0**
MJAR	**Matsushiro Arr**	**66.07**	**332**	P		**P**	**08 43 28.9**	**-0.3**
	comp=Z,4.0nm,0.9s,mb4.5,baz=167,slow=6.5,SNR=8.1							
KSRS	**Korea Array**	**71.78**	**325**	P		**P**	**08 44 04.8**	**+0.2**
	comp=Z,4.5nm,0.9s,mb4.4,baz=152,slow=6.0,SNR=10							
NJ2	**Nanjing**	**73.33**	**316**	*e*P		**P**	**08 44 14.0**	**0.0**
PET	**Petropavlovsk**	**75.72**	**353**	*e*P		**P**	**08 44 28.7**	**+1.3**
PET				*e*S		S	08 54 09.0	+2.7
PET				*e*PS			08 54 47.0	
PET				pmax	pmax			
	comp=Z,100nm,8.5s							
PETK	**Petropavlovsk-**	**75.92**	**352**	P		**P**	**08 44 28.9**	**+0.4**
	comp=Z,3.9nm,0.9s,mb4.3,baz=122,slow=5.8,SNR=4.2							
PETK				LR	LR		09 13 49.4	
	comp=Z,261nm,19.2s,MS4.5,baz=155,slow=32							
MAW	**Mawson**	**76.13**	**202**	*e*P		**P**	**08 44 30.1**	**+0.4**
	comp=Z,6.5nm,0.8s,mb4.6							
MAW	**Mawson**	**76.13**	**202**	P		**P**	**08 44 30.1**	**+0.4**
	comp=Z,8.4nm,0.8s,mb4.7,baz=115,slow=7.7,SNR=14							
MAW				LR	LR		09 16 04.5	
	comp=Z,194nm,18.8s,MS4.4,baz=66,slow=34							
MAW	**Mawson**	**76.13**	**202**	*e*P		**P**	**08 44 30.1**	**+0.4**
MAW				pmax	pmax			
	comp=Z,7.0nm,0.8s							
CN2	**Changchun**	**77.76**	**328**	*e*P		**P**	**08 44 39.8**	**+0.7**
KLR	**Kul'dur**	**79.20**	**335**	*e*P		**P**	**08 44 43.1**	**-3.8**
KLR				pmax	pmax			
	comp=Z,58nm,2.0s,mb5.2							
BJI	**Beijing**	**80.15**	**321**	P		**P**	**08 44 52.0**	**-0.3**
BJI				S	S		08 54 53.5	-1.1
BJI				AMB	AMB			
	comp=Z,17nm,0.5s,mb5.2							
BJI				AMB	AMB			
	comp=Z,223nm,5.3s							
BJI				LR	LR			
	comp=N,242nm,15.8s,MS4.7							
BJI				LR	LR			
	comp=E,187nm,16.0s,MS4.7							
BJI				LR	LR			
	comp=Z,209nm,23.0s							
CMAR	**Chiang Mai Arr**	**80.98**	**294**	P		**P**	**08 44 58.5**	**+1.3**
	comp=Z,5.9nm,0.8s,mb4.6,baz=134,slow=4.1,SNR=18							
CMAR				PKKPbc	PKKPbc		09 03 36.0	+1.4
	comp=Z,0.7nm,0.3s,baz=283,slow=4.4,SNR=4.2							
CHTO	**Chiang Mai**	**81.14**	**294**	*e*P		**P**	**08 44 59.9**	**+1.8**
CHTO				pmax	pmax			
	comp=Z,11nm,0.8s,mb4.8							
CHTO	**Chiang Mai**	**81.14**	**294**	*e*P		**P**	**08 44 59.9**	**+1.7**
	comp=Z,11nm,0.8s,mb4.8							
XAN	**Xi'an**	**81.16**	**312**	P		**P**	**08 44 57.5**	**-0.4**
XAN				AP	pP		08 45 07.3	-1.7
XAN				AMB	AMB			
	comp=Z,13nm,1.5s,mb4.6							
XAN				AMB	AMB			
	comp=Z,107nm,6.0s							
XAN				LR	LR			
	comp=N,141nm,19.9s							
XAN				LR	LR			
	comp=Z,189nm,15.3s,MS4.6							
LZH	**Lanzhou**	**85.76**	**312**	*e*P		**P**	**08 45 22.0**	**+0.5**
LZH				AMB	AMB			
	comp=Z,26nm,1.5s,mb5.2							
LZH				AMB	AMB			
	comp=Z,143nm,5.9s							
LZH				LR	LR			
	comp=N,315nm,15.2s							
LZH				LR	LR			
	comp=Z,462nm,18.0s,MS4.9							
NVL	**N'lazarevskaya**	**86.01**	**187**	P		**P**	**08 45 21.1**	**-1.1**
NVL				pmax	pmax			
	comp=Z,20nm,1.2s,mb5.2							
SEY	**Seymchan**	**86.17**	**352**	⇑*i*P		**P**	**08 45 20.4**	**-2.4**
SNAA	**Sanae**	**86.18**	**182**	*e*P		**P**	**08 45 22.1**	**-1.0**
SNAA				*e*			08 45 27.5	
SNAA				*e*		pP	08 45 32.6	-1.7
SNAA	**Sanae**	**86.18**	**182**	*e*P		**P**	**08 45 21.8**	**-1.3**
SNAA				*e**PP		pP	08 45 32.5	-1.8
SNAA				pmax	pmax			
	comp=Z,29nm,1.0s							
SNAA	**Sanae**	**86.18**	**182**	*e*P		**P**	**08 45 21.8**	**-1.3**
	comp=Z,28nm,1.0s,mb5.5							
SNAA				*e*pP		pP	08 45 32.5	-1.8
VNA3	**Neumayer Olymp**	**86.72**	**180**	*e*P		**P**	**08 45 24.1**	**-1.6**
VNA3				*e*			08 45 30.1	
VNA3				*e*		pP	08 45 35.4	-1.5
VNA2	**Neumayer--Watz**	**87.03**	**181**	*e*P		**P**	**08 45 26.1**	**-1.1**
	baz=179,slow=3.8							
VNA2				*e*			08 45 32.1	
VNA2				*e*		pP	08 45 37.3	-1.1
VNA1	**Neumayer--Stat**	**87.31**	**180**	*e*P		**P**	**08 45 28.4**	**-0.2**
VNA1				*e*			08 45 33.6	
VNA1				*e*		pP	08 45 38.7	-1.1
USHA	**Ushuaia**	**88.13**	**150**	LR	LR		09 15 32.2	
	comp=Z,295nm,20.0s,MS4.7,baz=224,slow=29							
NVAR	**Mina Array Bea**	**89.81**	**48**	P		**P**	**08 45 41.6**	**+0.7**
	comp=Z,1.3nm,0.7s,mb4.3,baz=221,slow=8.3,SNR=12							
SHL	**Shillong**	**89.97**	**298**	*e*P		**P**	**08 45 43.0**	**+1.1**
ULN	**Ulaanbaatar**	**90.11**	**323**	*e*P		**P**	**08 45 42.9**	**+0.9**
ULN				*e**PP		pP	08 45 54.0	+0.7
ULN				pmax	pmax			
	comp=Z,9.0nm,1.1s,mb5.0							
ULN	**Ulaanbaatar**	**90.11**	**323**	*e*P		**P**	**08 45 42.9**	**+0.9**
	comp=Z,9.1nm,1.1s,mb5.0							
ULN				*e*pP		pP	08 45 54.0	+0.7
BILL	**Bilibino**	**90.12**	**358**	⇑*i*P		**P**	**08 45 42.3**	**+0.7**
BILL				*i*			08 46 00.7	
BILL				pmax	pmax			
	comp=Z,14nm,1.6s,mb5.0							
YAK	**Yakutsk**	**90.18**	**342**	*e*P		**P**	**08 45 41.4**	**-0.6**
YAK				pmax	pmax			
	comp=Z,10.0nm,1.0s,mb5.1							
YAK				pmax	pmax			
	comp=N,2.0nm,0.9s							
YAK				MLR	MLR			
	comp=Z,257nm,22.0s,MS4.6							
YAK				MLR	MLR			
	comp=E,83nm,18.0s,MS4.5							
YAK				MLR	MLR			
	comp=N,150nm,17.0s,MS4.5							
SONM	**Songino Array**	**90.46**	**323**	P		**P**	**08 45 43.5**	**-0.2**
	comp=N,7.1nm,0.9s,mb5.0,baz=139,slow=5.1,SNR=30							
SONM				PKKPbc	PKKPbc		09 03 11.9	-1.4
	comp=N,0.4nm,0.5s,baz=347,slow=4.6,SNR=3.8							
SONM				LR	LR		09 28 01.8	
	comp=N,220nm,18.4s,MS4.6,baz=155,slow=37							
ZAK	**Zakamensk**	**93.55**	**324**	*e*P		**P**	**08 45 57.1**	**-0.8**
ZAK				pmax	pmax			
	comp=Z,8.0nm,1.4s,mb5.0							
TLY	**Talaya**	**94.03**	**325**	*e*P		**P**	**08 46 10.2**	**+10**
TLY				*e*S		S	08 57 03.5	-4.2
TLY				pmax	pmax			
	comp=Z,5.0nm,1.1s,mb4.9							
PLCA	**Paso Flores**	**95.37**	**138**	P		**P**	**08 46 07.8**	**+1.1**
	comp=Z,2.2nm,0.9s,mb4.6,baz=211,slow=4.7,SNR=4.0							
PLCA				LR	LR		09 18 58.8	
	comp=Z,140nm,18.7s,MS4.5,baz=126,slow=29							
TXAR	**Lajitas Array**	**97.03**	**61**	P		**P**	**08 46 14.2**	**-0.1**
	comp=Z,0.3nm,0.8s,mb3.8,baz=227,slow=5.1,SNR=3.4							
TXAR				PKKPbc	PKKPbc		09 03 01.0	+5.9
	comp=Z,0.2nm,0.7s,baz=80,slow=2.9,SNR=3.6							
TXAR				LR	LR		09 22 01.8	
	comp=Z,279nm,18.4s,MS4.8,baz=140,slow=30							
TXAR	**Lajitas Array**	**97.03**	**61**	P		**P**	**08 46 14.2**	**-0.1**
TXAR				PKKPbc	PKKPbc		09 03 01.0	+5.9
TXAR				LR	LR		09 22 01.9	
PDAR	**Pinedale Array**	**97.69**	**47**	LR	LR		09 22 53.2	
	comp=Z,274nm,18.4s,MS4.8,baz=252,slow=31							
MKAR	**Makanchi Array**	**104.85**	**315**	PKKPbc	PKKPbc		09 02 31.9	-1.2
	comp=Z,0.5nm,0.7s,baz=291,slow=5.1,SNR=4.8							
ARU	**Arti**	**120.49**	**323**	*i* PKIKP	PKPdf		08 51 33.3	+0.1
ARU							08 53 01.6	
ARU							08 58 28.4	
ARU				SS	SS		09 09 27.3	+0.2
ARCES	**ARCESS Array B**	**128.35**	**345**	PKP	PKPdf		08 51 48.0	0.0
	comp=Z,1.3nm,0.5s,baz=90,slow=2.7,SNR=12							
KMBO	**Kilima Mbogo**	**129.00**	**249**	*i* PKIKP	PKPdf		08 51 46.5	-4.4
KMBO				pmax	pmax			
	comp=Z,1.0nm,0.5s							
AKASG	**Malin Array Be**	**138.74**	**323**	PKP	PKPdf		08 52 10.3	+2.4
	comp=Z,1.3nm,0.5s,baz=71,slow=3.0,SNR=4.0							
LVV	**L'vov**	**142.04**	**325**	*e*PKHKP			08 52 08.8	
UZH	**Uzhgorod**	**143.66**	**324**	*e*PKHKP			08 52 14.3	
UZH				*i*			08 52 16.0	
UZH				*e*			08 52 25.0	
CRVS	**Cervenica-Dubn**	**143.95**	**325**	*e*PKP	PKPdf		08 52 17.0	-0.4
OKC	**Ostrava-Krasne**	**145.04**	**329**	*e*PKP	PKPdf		08 52 18.4	-0.8
OKC				*ep*PKP	pPKPdf		08 52 30.1	-0.7
BSEG	**Bad Segeberg**	**145.08**	**340**	*e*PKPbc	PKPbc		08 52 18.6	0.0
KSP	**Ksiaz**	**145.20**	**331**	*e*PKP	PKPdf		08 52 19.9	+0.5
KSP	**Ksiaz**	**145.20**	**331**	⇑*e*PKP	PKPdf		08 52 18.9	-0.6
MORC	**Moravsky Berou**	**145.37**	**329**	*e*PKP2	PKPab		08 52 20.0	+0.1
PSZ	**Piszkesteto**	**145.37**	**325**	⇓*e*PKP	PKPdf		08 52 20.8	+0.9
DPC	**Dobruska-Polom**	**145.54**	**331**	*e*PKP	PKPdf		08 52 20.2	+0.1
DPC				*ep*PKP	pPKPdf		08 52 30.8	-0.9
UPC	**Upice**	**145.57**	**331**	*e*PKP	PKPdf		08 52 20.4	+0.3
VYHS	**Vyhne**	**145.57**	**326**	*e*PKP	PKPdf		08 52 20.6	+0.4
VYHS				*e*			08 52 29.4	
KOLL	**Kolacno**	**145.74**	**327**	*e*PKP	PKPdf		08 52 22.1	+1.6
KOLL				*e*			08 52 29.7	
BUD	**Budapest**	**146.10**	**325**	⇓*e*PKP	PKPdf		08 52 22.9	+1.8
PVCC	**Panska Ves**	**146.19**	**332**	*e*PKP	PKPdf		08 52 22.5	+1.3
PVCC				*ep*PKP	pPKPdf		08 52 33.8	+1.0
BRG	**Berggiesshubel**	**146.19**	**333**	*e*PKPbc	PKPbc		08 52 22.1	-0.1
BRG	**Berggiesshubel**	**146.19**	**333**	*i* PKP	PKPdf		08 52 22.8	+1.6
	comp=Z,27nm,1.0s							
BRG								
	comp=N,292nm,27.0s							
BRG								
	comp=E,197nm,18.2s							
BRG								
	comp=Z,177nm,16.5s							
CLL	**Collm**	**146.24**	**335**	*e*PKPbc	PKPbc		08 52 22.4	0.0
CLL	**Collm**	**146.24**	**335**	⇓*i*PKP	PKPbc		08 52 22.9	+0.5
	comp=Z,124nm,2.0s							
CLL				*ep*PKPbc	pPKPbc		08 52 31.0	-2.8
CLL				*e*SKPdf	SKPdf		08 55 53.0	+0.3
CLL	**Collm**	**146.24**	**335**	⇓*i*PKP	PKPdf		08 52 22.9	+1.7
CLL				*e*			08 52 31.0	
CLL				LR	LR			
	comp=Z,200nm,24.3s,MS4.8							
FBE	**Freiberg**	**146.40**	**334**	*e*PKPbc	PKPbc		08 52 22.9	+0.1
MODS	**Modra-Piesok**	**146.44**	**327**	*e*PKP	PKPbc		08 52 24.3	+1.3
PRU	**Pruhonice**	**146.60**	**332**	*e*PKP	PKPdf		08 52 24.0	+2.1
PRU				*ex*	x		09 56 22.6	
	comp=Z,273nm,20.2s							
PRU	**Pruhonice**	**146.60**	**332**	*e*PKP	PKPdf		08 52 24.0	+2.1
PRU				*e*			08 56 22.6	
ZST	**Bratislava**	**146.64**	**327**	*e*PKP	PKPdf		08 52 24.0	+2.0
ZST	**Bratislava**	**146.64**	**327**	*e*P	PKPdf		08 52 24.1	+2.1
TREC	**Trest**	**146.67**	**330**	*e*PKP	PKPdf		08 52 24.2	+2.2
THR1	**Thera Island**	**146.79**	**303**	P	PKPbc		08 52 27.1	+2.6
NEUB	**Neuenburg**	**146.80**	**336**	*e*PKPbc	PKPbc		08 52 24.7	+0.7
CLZ	**Clausthal**	**146.80**	**338**	*e*PKPbc	PKPbc		08 52 24.7	+0.7
THR3	**Thira Island,**	**146.83**	**303**	P	PKPab		08 52 28.5	+2.6
THR6	**Thira Island,**	**146.84**	**303**	P	PKPab		08 52 28.6	+2.6
THR5	**Thira Island,**	**146.87**	**303**	P	PKPdf		08 52 15.9	-6.9
PKSM	**Moragy**	**147.09**	**323**	⇑*e*PKIKP	PKPdf		08 52 24.5	+1.7
TANN	**Tannenbergstha**	**147.15**	**334**	*e*PKPbc	PKPbc		08 52 25.8	+0.8
VAY	**Valandovo**	**147.19**	**313**	*i* PKP	PKPdf		08 52 16.0	-7.2
WERD	**Werda**	**147.19**	**334**	*e*PKPbc	PKPbc		08 52 25.7	+0.6
SOP	**Sopron**	**147.26**	**327**	⇓*e*PKP	PKPbc		08 52 26.2	+0.8
WERN	**Wernitzgruen**	**147.29**	**334**	*e*PKPbc	PKPbc		08 52 26.2	+0.8
NKC	**Novy Kostel**	**147.30**	**334**	*e*PKP	PKPdf		08 52 25.0	+2.0
MOX	**Moxa**	**147.31**	**335**	*e*PKP	PKPbc		08 52 26.3	+0.9
	comp=Z,23nm,1.3s							
MOX	**Moxa**	**147.31**	**335**	*e*PKPbc	PKPbc		08 52 25.9	+0.5
CONA	**Conrad Observa**	**147.44**	**328**	⇑*i*PKPab	PKPab		08 52 27.3	-0.6
	comp=Z,14nm,1.1s,SNR=7.0							
CSNA	**Conrad Observa**	**147.44**	**328**	⇑*i*PKPab	PKPab		08 52 27.3	-0.6
	comp=Z,15nm,1.3s							
RHK3	**Tenkes**	**147.50**	**323**	⇓*e*P	PKPbc		08 52 26.5	+0.4
MANZ	**Manzenberg**	**147.63**	**334**	*e*PKPbc	PKPbc		08 52 27.1	+0.8
SKO	**Skopje**	**147.65**	**315**	*i* PKP	PKPbc		08 52 27.7	+1.0
KHC	**Kasperske Hory**	**147.65**	**331**	*e*PKP	PKPbc		08 52 27.2	+0.8
KHC				*ep*PKP	pPKPdf		08 52 35.0	-0.3
ROTZ	**Rotzenmuhle**	**147.76**	**334**	*e*PKPbc	PKPbc		08 52 26.8	+0.1
UBBA	**Unterbreizbach**	**147.78**	**337**	*e*PKPbc	PKPbc		08 52 26.9	+0.2
GEC2	**GERESS Array S**	**147.81**	**331**	*

	0.6nm,0.6s						
KURBB			⇑Lg			08 37 19.9	
	1.8nm,0.6s						
KURK	**Kurchatov**	**7.92**	**337**	⇑Pn	Pn	08 35 07.6	+0.1
	4.9nm,1.5s						
KURK				⇑Sn	Sn	08 36 38.8	+1.1
	3.1nm,0.9s						
KURK				⇓Lg		08 37 22.7	
	7.9nm,0.6s						

JMA 30 08:36:44.0±0.3, 4412N×14810E, h0km, M3.9, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEM2	**Nemuro 2**	**1.87**	**247**	P	Pn	08 37 17.7	+0.5
NEM2				*e*S	Sn	08 37 42.0	+0.6
JRA	**Rausu**	**2.16**	**266**	P	Pn	08 37 22.1	+1.0
JNK	**Nakash**	**2.50**	**259**	P	Pn	08 37 27.1	+1.2
JNK				*e*S	Sn	08 37 58.7	+1.6
JAK	**Akkeshi**	**2.72**	**247**	P	Pn	08 37 29.8	+0.9
JAK				*e*S	Sn	08 38 04.2	+1.8
JAR	**Ashorobuto**	**3.25**	**257**	P	Pn	08 37 37.9	+1.8
JAR				*e*S	Sn	08 38 18.2	+2.7
JCH	**Churui**	**3.77**	**248**	P	Pn	08 37 45.0	+1.7
JNBK	**Urakawa-nobuka**	**4.32**	**247**	P	Pn	08 37 52.8	+1.9
JOT	**Ohata**	**5.87**	**245**	P	Pn	08 38 13.3	+1.1

*IDC **30** 08:39:38.6±1.4, 3796N×2264E, h0km, mb3.7/5, mb1 3.8/5, mb1mx3.6/21, mbtmp3.8/5, Error ellipse: s-maj=42.9km s-min=25.2km az=127.0*
*HLW **30** 08:39:43.5, 3799N×2293E, h33km, Mb3.9*
*ISCJB **30** 08:39:47.7±0.2, 3791N±002×2261E±003, h100km±3km, mb3.6/5, Error ellipse: s-maj=3.5km s-min=2.6km az=151.3*
*CSEM **30** 08:39:48.3±0.1, 3787N×2274E, h96km±1km, ML3.9/6, Error ellipse: s-maj=1.7km s-min=1.2km az=53.0*
*ATH **30** 08:39:48.2, 3793N×2271E, h94km±2km, ML3.5*
*NEIC **30** 08:39:48.2, 3793N×2271E, h94km, MG3.5(ATH), After ATH.*
*THE **30** 08:39:49.7, 3791N×2264E, h81km±1km, ML3.9/6, Error ellipse: s-maj=1.7km s-min=0.7km az=175.0*
*PDG **30** 08:39:49.2±0.4, 3792N×2259E, h80km±3km, ML4.0/9, Error ellipse: s-maj=1.0km s-min=1.3km az=0.0*
*BEO **30** 08:40:12.5, 3978N×2150E*

ISC 30 08:39:49.0±0.3, 3791N±002×2263E±002, h91km±3km, n131, σ0⁰95/196, mb3.6/5, 4C-14D, Southern Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LTK	**Loutraki**	**0.29**	**66**	P	Pn	08 40 02.0	-0.4
LTK				S	Sn	08 40 11.3	-1.1
VLX	**Vlachokerasia**	**0.57**	**200**	P	Pn	08 40 04.8	+0.4
VLX				S	Sn	08 40 15.2	-0.6
DID	**Didima**	**0.63**	**129**	P	Pn	08 40 04.4	-0.5
DID				S	Sn	08 40 15.8	-0.9
NAIG	**Nisos Aigina**	**0.70**	**102**	*e*P	Pn	08 40 05.2	-0.3
NAIG	**Nisos Aigina**	**0.70**	**102**	*e*P	Pn	08 40 05.2	-0.3
LKR	**Lokris**	**0.80**	**21**	P	Pn	08 40 06.5	0.0
LKR				S	Sn	08 40 19.3	-0.3
LKR	**Lokris**	**0.80**	**21**	P	Pn	08 40 06.5	0.0
LKR				*e*S	Sn	08 40 18.8	-0.8
LKR	**Lokris**	**0.80**	**21**	⇓*i*P	Pn	08 40 06.5	0.0
LKR				*e*S	Sn	08 40 18.8	-0.8
LKR	**Lokris**	**0.80**	**21**	⇓*i*P	Pn	08 40 06.5	0.0
LKR				*e*S	Sn	08 40 18.8	-0.8
ATH	**Athens Observa**	**0.86**	**85**	⇓*i*P	Pn	08 40 07.1	-0.1
ATH				*e*S	Sn	08 40 19.4	-1.4
ATH	**Athens Observa**	**0.86**	**85**	⇓*i*P	Pn	08 40 07.1	-0.1
ATH				*e*S	Sn	08 40 19.4	-1.4
KVR	**Kavouri**	**0.91**	**95**	*e*P	Pn	08 40 07.0	-0.7
KVR				*e*S	Sn	08 40 20.0	-1.7
KVR	**Kavouri**	**0.91**	**95**	*e*P	Pn	08 40 07.0	-0.7
KVR				*e*S	Sn	08 40 20.0	-1.7
ITM	**Ithomi**	**0.92**	**218**	*i* P	Pn	08 40 08.9	+1.1
ITM				*e*S	Sn	08 40 23.8	+2.0
ITM	**Ithomi**	**0.92**	**218**	⇑*i*P	Pn	08 40 08.9	+1.1
ITM				*e*S	Sn	08 40 23.8	+2.0
RLS	**Riolos of Patr**	**0.93**	**280**	*e*P	Pn	08 40 08.9	+1.0
RLS				*e*S	Sn	08 40 24.1	+1.9
RLS	**Riolos of Patr**	**0.93**	**280**	*e*P	Pn	08 40 08.9	+1.0
RLS				*e*S	Sn	08 40 24.1	+1.9
PTL	**Penteli**	**0.99**	**81**	*e*P	Pn	08 40 08.0	-0.6
PTL				*e*S	Sn	08 40 22.0	-1.2
PTL	**Penteli**	**0.99**	**81**	*e*P	Pn	08 40 08.0	-0.6
PTL				*e*S	Sn	08 40 22.0	-1.2
AGG	**Agios Georgios**	**1.14**	**348**	P	Pn	08 40 10.9	+0.6
AGG				S	Sn	08 40 26.4	-0.0
EVR	**Evrytania**	**1.20**	**328**	*e*P	Pn	08 40 11.9	+0.9
EVR				*e*S	Sn	08 40 28.3	+0.7
EVR	**Evrytania**	**1.20**	**328**	*e*P	Pn	08 40 11.9	+0.9
EVR				*e*S	Sn	08 40 28.3	+0.7
VLI	**Veliai**	**1.21**	**168**	*e*P	Pn	08 40 11.0	-0.2
VLI	**Veliai**	**1.21**	**168**	*e*P	Pn	08 40 11.0	-0.2
PYL	**PYLOS**	**1.23**	**215**	P	Pn	08 40 11.7	+0.2
PYL				S	Sn	08 40 28.4	0.0
KFL	**Anninata**	**1.47**	**279**	P	Pn	08 40 14.7	+0.3
NEO	**Neokhori**	**1.47**	**18**	*e*P	Pn	08 40 14.7	+0.3
NEO				*e*S	Sn	08 40 32.6	-1.1
NEO	**Neokhori**	**1.47**	**18**	*e*P	Pn	08 40 14.7	+0.3
NEO				*e*S	Sn	08 40 32.6	-1.1
XOR	**Xorichti**	**1.52**	**17**	P	Pn	08 40 15.3	+0.3
XOR				S	Sn	08 40 35.5	+0.7
AOS	**Alonnisos**	**1.60**	**37**	P	Pn	08 40 16.1	+0.1
VLS	**Valsamata**	**1.63**	**280**	P	Pn	08 40 16.3	-0.1
VLS				S	Sn	08 40 37.9	+0.6
VLS	**Valsamata**	**1.63**	**280**	*e*P	Pn	08 40 16.3	-0.1
VLS	**Valsamata**	**1.63**	**280**	*e*P	Pn	08 40 16.3	-0.1
KYTH	**Kithira**	**1.66**	**169**	*e*P	Pn	08 40 18.0	+1.3
KYTH	**Kithira**	**1.66**	**169**	*e*P	Pn	08 40 18.0	+1.3
THL	**Klokotos Trika**	**1.72**	**344**	P	Pn	08 40 18.3	+0.7
THL				S	Sn	08 40 40.1	+0.8
THL	**Klokotos Trika**	**1.72**	**344**	*e*P	Pn	08 40 18.2	+0.6
THL				S	Sn	08 40 40.1	+0.8
THL	**Klokotos Trika**	**1.72**	**344**	*e*P	Pn	08 40 18.2	+0.6
MEV	**Metsovon**	**2.17**	**330**	P	Pn	08 40 25.9	+2.5
PAIG	**Paliouri**	**2.18**	**22**	P	Pn	08 40 23.7	+0.2
PAIG				S	Sn	08 40 51.2	+1.3
LIT	**Litokhoron**	**2.19**	**357**	P	Pn	08 40 24.9	+1.2
LIT				S	Sn	08 40 51.0	+0.7
JAN	**Janina**	**2.23**	**322**	*e*P	Pn	08 40 24.3	0.0
JAN	**Janina**	**2.23**	**322**	*e*P	Pn	08 40 24.3	0.0
APE	**Apeiranthos**	**2.45**	**109**	P	Pn	08 40 27.5	+0.3
APE	**Apeiranthos**	**2.45**	**109**	*e*P	Pn	08 40 27.3	+0.1
APE				*e*S	Sn	08 40 55.3	-1.2
APE	**Apeiranthos**	**2.45**	**109**	*e*P	Pn	08 40 27.3	+0.1
APE				*e*S	Sn	08 40 55.3	-1.2
KZN	**Kozani**	**2.49**	**345**	*e*P	Pn	08 40 28.9	+1.3
KZN	**Kozani**	**2.49**	**345**	*e*P	Pn	08 40 28.9	+1.3
PLG	**Polygyros**	**2.54**	**14**	P	Pn	08 40 29.2	+0.8
PLG	**Polygyros**	**2.54**	**14**	*e*P	Pn	08 40 28.6	+0.2
PLG	**Polygyros**	**2.54**	**14**	*e*P	Pn	08 40 28.6	+0.2
THR5	**Thira Island,**	**2.63**	**124**	P	Pn	08 40 30.5	+0.9
OUR	**Ouranopolis**	**2.64**	**23**	P	Pn	08 40 30.1	+0.4
THR3	**Thira Island,**	**2.67**	**123**	P	Pn	08 40 31.3	+1.2
HORT	**Hortiatis**	**2.71**	**8**	P	Pn	08 40 31.1	+0.5
HORT				S	Sn	08 41 04.7	+2.1
CHOS	**Chios island**	**2.74**	**79**	P	Pn	08 40 32.0	+1.0
VAM	**Vamos**	**2.80**	**153**	*e*P	Pn	08 40 32.0	+0.2
VAM				*e*S	Sn	08 41 04.4	-0.3
VAM	**Vamos**	**2.80**	**153**	*e*P	Pn	08 40 32.0	+0.2
VAM				*e*S	Sn	08 41 04.4	-0.3
LIA	**Limnos Island**	**2.81**	**44**	P	Pn	08 40 32.4	+0.4
LIA	**Limnos Island**	**2.81**	**44**	*e*P	Pn	08 40 32.4	+0.4
LIA	**Limnos Island**	**2.81**	**44**	*e*P	Pn	08 40 32.4	+0.4
KEK	**Kerkira**	**2.85**	**310**	⇓*i*P	Pn	08 40 32.5	0.0
KEK	**Kerkira**	**2.85**	**310**	⇓*i*P	Pn	08 40 32.5	0.0
SOH	**Sokhos**	**2.96**	**11**	P	Pn	08 40 35.0	+1.0
SOH				S	Sn	08 41 09.5	+0.8
FNA	**Florina**	**3.03**	**342**	P	Pn	08 40 35.6	+0.7
FNA				S	Sn	08 41 11.7	+1.4
KNT	**Kendrikon**	**3.26**	**4**	P	Pn	08 40 39.0	+1.0
BIA	**Bitola**	**3.27**	**342**	*i* Pn	Pn	08 40 44.1	+6.0
BIA				*i* Sn	Sn	08 41 15.7	-0.3
BIA	**Bitola**	**3.27**	**342**	*e*Pn	Pn	08 40 37.3	-0.8
BIA				*i* Sn	Sn	08 41 15.7	-0.3
GVD	**Gavdhos**	**3.28**	**159**	*e*P	Pn	08 40 37.8	-0.5
GVD	**Gavdhos**	**3.28**	**159**	*e*P	Pn	08 40 37.8	-0.5
SMG	**Samos**	**3.34**	**92**	*e*P	Pn	08 40 39.4	+0.4
SMG	**Samos**	**3.34**	**92**	*e*P	Pn	08 40 39.4	+0.4
VAY	**Valandovo**	**3.41**	**359**	*i* Pn	Pn	08 40 39.4	-0.6
VAY				*i* Sn	Sn	08 41 19.0	-0.4
VAY	**Valandovo**	**3.41**	**359**	*i* Pn	Pn	08 40 39.4	-0.6
VAY				*i* Sn	Sn	08 41 18.9	-0.5
OHR	**Ohrid**	**3.50**	**337**	*i* Pn	Pn	08 40 41.1	-0.1
OHR				*i* Sn	Sn	08 41 19.7	-1.9
OHR	**Ohrid**	**3.50**	**337**	*e*Pn	Pn	08 40 40.6	-0.6
OHR				*i* Sn	Sn	08 41 19.6	-2.0
NPS	**Neapolis**	**3.57**	**137**	*e*P	Pn	08 40 42.3	+0.1
NPS				*e*S	Sn	08 41 22.4	-0.9
NPS	**Neapolis**	**3.57**	**137**	*e*P	Pn	08 40 42.3	+0.1
NPS				*e*S	Sn	08 41 22.4	-0.9
NVR	**Nevrokopi**	**3.57**	**15**	*e*P	Pn	08 40 43.3	+1.2
NVR	**Nevrokopi**	**3.57**	**15**	*e*P	Pn	08 40 43.3	+1.2
KRUS	**Krusevo**	**3.62**	**343**	*i* Pn	Pn	08 40 43.8	+0.9
KRUS				*i* Sn	Sn	08 41 22.0	-2.5
KRUS	**Krusevo**	**3.62**	**343**	*i* Pn	Pn	08 40 43.7	+0.9
KRUS				*i* Sn	Sn	08 41 21.9	-2.6
RDO	**Rodhopi**	**3.94**	**34**	*e*P	Pn	08 40 47.6	+0.4
RDO	**Rodhopi**	**3.94**	**34**	*e*P	Pn	08 40 47.6	+0.4
KARP	**Karpathos**	**4.33**	**122**	*e*P	Pn	08 40 53.1	+0.5
KARP	**Karpathos**	**4.33**	**122**	*e*P	Pn	08 40 53.1	+0.5
TIP	**Timpagrande**	**4.78**	**287**	*e*Pn	Pn	08 40 58.3	-0.2
TIP	**Timpagrande**	**4.78**	**287**	*e*Pn	Pn	08 40 58.3	-0.2
TIP				*e*Sn	Sn	08 41 44.2	-8.3
ULC	**Ulcinj**	**4.81**	**326**	⇓*i*Pn	Pn	08 40 59.3	+0.3
ULC				*e*Sn	Sn	08 41 52.4	-1.1
BARS	**Barje**	**4.94**	**353**	*e*Pn	Pn	08 41 01.1	+0.3
PVY	**Plav**	**5.11**	**337**	⇓*i*Pn	Pn	08 41 04.0	+1.0
PVY				*e*Sn	Sn	08 41 59.9	-0.7
SOI	**Samo**	**5.20**	**274**	Pn	Pn	08 41 03.8	-0.4
PDG	**Podgorica**	**5.20**	**331**	⇓*i*Pn	Pn	08 41 04.8	+0.5
PDG				*e*Sn	Sn	08 42 01.9	-1.0
TTG	**Podgorica**	**5.20**	**331**	⇓*i*Pn	Pn	08 41 04.8	+0.5
TTG				*e*Sn	Sn	08 42 01.9	-1.0
BUM	**Brajici-Budva**	**5.24**	**328**	⇓*i*Pn	Pn	08 41 05.1	+0.3
BUM				*e*Sn	Sn	08 42 02.6	-1.2
LTRZ	**Laterza**	**5.25**	**303**	Pn	Pn	08 41 04.3	-0.7
BEY	**Berane**	**5.38**	**338**	⇑*i*Pn	Pn	08 41 07.3	+0.6
BEY				*e*Sn	Sn	08 42 07.0	-0.3
IVA	**Berane**	**5.38**	**338**	⇑*i*Pn	Pn	08 41 07.3	+0.6
IVA				*e*Sn	Sn	08 42 07.0	-0.3
SG1	**Sgolgore (BA)**	**5.46**	**304**	*e*Pn	Pn	08 41 07.2	-0.6
SG1				*e*Sn	Sn	08 42 02.9	-6.4
HCY	**Herceg Novi**	**5.53**	**326**	⇓*i*Pn	Pn	08 41 09.2	+0.5
HCY				*e*Sn	Sn	08 42 09.6	-1.3
NKY	**Niksic**	**5.63**	**332**	⇑*i*Pn	Pn	08 41 10.4	+0.3
NKY				*e*Sn	Sn	08 42 12.6	-0.8
CUC	**Castrocucco** 49nm,0.6s	**5.71**	**294**	*e*Pn	Pn	08 41 11.9	+0.8
CUC	**Castrocucco** 49nm,0.6s	**5.71**	**294**	*e*Pn	Pn	08 41 11.9	+0.8
CUC				*e*S	Sn	08 42 13.7	-1.5
PTRP	**Pietrapertosa**	**5.73**	**299**	Pn	Pn	08 41 12.3	+0.8
TREB	**Trebinje**	**5.81**	**327**	*e*Pn	Pn	08 41 11.0	-1.6
TREB				*e*Sg	Sn	08 42 12.0	-5.8
BRY	**Bratogost**	**5.88**	**329**	⇓*i*Pn	Pn	08 41 14.1	+0.6
BRY				*e*Sn	Sn	08 42 18.5	-1.0
AGST	**Augusta-Monte** 267nm,1.0s	**5.92**	**266**	Pn	Pn	08 41 09.0	-5.0
MGR	**Morigerati**	**5.94**	**294**	Pn	Pn	08 41 14.8	+0.4
PLE	**Pljevlja**	**5.95**	**337**	⇑*i*Pn	Pn	08 41 15.2	+0.7
PLE				*e*Sn	Sn	08 42 20.4	-0.8
UPM	**Unac-Piva**	**6.00**	**333**	⇓*i*Pn	Pn	08 41 15.6	+0.5
UPM				*e*Sn	Sn	08 42 20.7	-1.7
HAVL	**Avola** 420nm,0.2s	**6.05**	**263**	Pn	Pn	08 41 13.3	-2.5
SSY	**Sortino** 342nm,0.1s	**6.05**	**265**	Pn	Pn	08 41 13.7	-2.2
STON	**Ston**	**6.22**	**324**	*e*Pn	Pn	08 41 16.1	-2.1
STON				Sn	Sn	08 42 20.3	-7.6
SGO	**Sicignano**	**6.27**	**297**	Pn	Pn	08 41 20.6	+1.8
HMDC	**Modica** 349nm,0.2s	**6.32**	**264**	Pn	Pn	08 41 17.9	-1.6
HVZN	**Vizzini**	**6.33**	**266**	Pn	Pn	08 41 19.6	-0.1
BBLS	**Lazići**	**6.43**	**339**	*e*Pn	Pn	08 41 19.6	-1.5
SLUM		**6.74**	**161**	P	Pn	08 41 20.9	-4.5
NVLJ	**Novalja**	**8.85**	**321**	Sn	Sn	08 43 23.9	-8.0
AWBH		**10.91**	**149**	P	Pn	08 42 17.9	-4.2
AWBH				S	Sn	08 44 10.7	-11
GLL	**Jalalah**	**11.22**	**135**	P	Pn	08 42 21.5	-4.8
AMAG	**Maghara**	**11.35**	**127**	P	Pn	08 42 22.8	-5.3
AMAG				S	Sn	08 44 19.7	-13
RSH		**11.48**	**124**	P	Pn	08 42 24.2	-5.6
HRSH	**Kfar Ka'horesh**	**11.56**	**113**	P	Pn	08 42 24.2	-6.8
SUZ		**11.68**	**131**	P	Pn	08 42 27.6	-5.0
HFRF	**Wahat Farafira**	**11.74**	**154**	P	Pn	08 42 29.9	-3.6
NOA	**NORSAR Array B** 0.5nm,0.6s,mb3.0,baz=158,slow=11,SNR=2.9	**24.28**	**346**	P	P	08 44 56.7	-0.3
TORD	**Torodi Ar. Bea** 0.5nm,0.5s,mb3.5,baz=34,slow=8.9,SNR=8.1	**30.91**	**223**	P	P	08 45 57.5	+0.3
ARCES	**ARCESS Array B** 2.7nm,0.9s,mb4.0,baz=198,slow=8.3,SNR=5.4	**31.73**	**2**	P	P	08 46 03.1	-0.7
MKAR	**Makanchi Array** 0.5nm,0.4s,mb3.6,baz=272,slow=7.9,SNR=4.4	**44.02**	**59**	P	P	08 47 47.2	-0.2
ZALV	**Zalesovo Beam** 0.8nm,0.4s,mb3.8,baz=270,slow=9.5,SNR=3.5	**44.63**	**48**	P	P	08 47 52.3	+0.1

*ISCJB **30** 08:48:48.4±2.0, 1332N±004×12565E±005, h9km±13km, mb4.2/11, Error ellipse: s-maj=9.0km s-min=7.0km az=150.0*
*IDC **30** 08:48:48.4±0.8, 1324N×12563E, h0km, mb4.2/10, mb1 4.3/10, mb1mx4.1/18, mbtmp4.2/10, Error ellipse: s-maj=33.1km s-min=15.7km az=69.0*
*MAN **30** 08:48:50, 1335N×12570E, h35km, mb4.4, ML3.2, MS3.0*

ISC 30 08:48:49.2±1.7, 1329N±005×12559E±005, h2km±10km, n26, σ1⁰03/30, mb4.2/11, 2C-1D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CNP	**Catarman**	**1.19**	**229**	*e*P	Pn	08 49 13.1	+0.3
PVCP	**Virac**	**1.43**	**282**	*e*P	Pn	08 49 15.6	-0.4
PVCP				*e*S	Sn	08 49 34.5	-0.8
BESP	**Borongan**	**1.69**	**185**	*e*P	Pn	08 49 19.2	-0.4
PLP	**Palo**	**2.19**	**196**	⇓*e*P	Pn	08 49 26.6	0.0
PLP				*e*S	Sn	08 49 54.3	-0.1
GQP	**Guinayangan**	**3.12**	**282**	⇓*e*P	Pn	08 49 40.0	+0.7
GQP				*e*S	Sn	08 50 01.4	-1.5
RCP	**Roxas**	**3.27**	**239**	⇑*e*P	Pn	08 49 42.6	+1.2
SCPH	**Surigao**	**3.49**	**182**	*e*P	Pg	08 49 54.9	-1.2
SCPH				*e*S	Sn	08 50 21.4	-4.9
OTRP	**Odiongan**	**3.60**	**256**	*e*P	Pn	08 49 46.4	+0.5
OTRP				*e*S	Pg	08 49 56.5	-1.7
POLP	**Polilio Island**	**3.82**	**292**	*e*P	Pn	08 49 50.5	+1.5
GUIM	**Jordan**	**3.95**	**228**	*e*P	Pn	08 49 52.0	+1.2
BALP	**Baler**	**4.58**	**303**	*e*P	Pn	08 49 57.3	-2.2
CAUP	**Cauayan**	**5.14**	**315**	*e*P	Pn	08 50 07.1	0.0
LUBP	**Lubang**	**5.21**	**275**	*e*P	Pn	08 50 09.6	+1.4
KSRS	**Korea Array** 4.9nm,0.9s,mb3.9,baz=185,slow=11,SNR=12	**24.15**	**5**	P	P	08 54 06.8	+0.3
CMAR	**Chiang Mai Arr** 2.3nm,0.7s,mb3.8,baz=96,slow=7.4,SNR=11	**26.12**	**285**	P	P	08 54 24.9	+0.2
WB2	**Warramunga Arr**	**34.13**	**165**	*e*P	P	08 55 39.3	+3.7
ASAR	**Alice Springs** 1.6nm,0.3s,mb4.2,baz=350,slow=7.4,SNR=33	**37.62**	**167**	P	P	08 56 04.6	-0.9
SONM	**Songino Array** 1.7nm,0.5s,mb4.1,baz=157,slow=9.7,SNR=12	**37.98**	**339**	P	P	08 56 08.7	+0.4
CTA	**Charters Tower** 1.6nm,0.7s,mb3.9,baz=297,slow=14,SNR=3.0	**38.91**	**148**	P	P	08 56 15.0	-1.4
FORT	**Forrest** 9.1nm,0.5s,mb4.8	**43.88**	**177**	*e*P	P	08 56 59.4	+2.3
PETK	**Petropavlovsk-** 4.9nm,0.8s,mb4.5,baz=215,slow=1.8,SNR=4.3	**47.20**	**26**	P	P	08 57 23.2	0.0
STKA	**Stephens Creek** 3.6nm,0.8s,mb4.4,baz=336,slow=8.6,SNR=6.7	**47.46**	**161**	P	P	08 57 24.8	-0.7
MKAR	**Makanchi Array** 4.4nm,0.7s,mb4.6,baz=113,slow=8.8,SNR=38	**49.25**	**322**	P	P	08 57 39.9	+0.8
ZALV	**Zalesovo Beam** 1.3nm,0.5s,mb4.1,baz=111,slow=8.1,SNR=4.4	**51.68**	**331**	P	P	08 57 56.8	-0.5
ARCES	**ARCESS Array B** 1.9nm,0.7s,mb4.1,baz=79,slow=6.3,SNR=7.0	**81.15**	**339**	P	P	09 01 05.2	-0.7
TXAR	**Lajitas Array** 0.2nm,0.5s,baz=230,slow=0.7,SNR=3.5	**116.33**	**48**	PKP	PKPdf	09 07 34.4	-0.6

*TAP **30** 09:01:50.0, 2301N×12055E, h19km, ML3.8, B*

*ISCJB **30** 09:01:51.1±0.3, 2300N±001×12054E±002, h22km±3km, Error ellipse: s-maj=3.7km s-min=2.3km az=166.5*

ISC 30 09:01:51.2±0.3, 2300N±001×12055E±002, h18km±1km, n49, σ0⁰83/81, 4C-8D, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGST	**Jiashian** baz=23	**0.09**	**21**	⇓*i*P	Pg	09 01 54.4	-0.4
SGST				*i* S	Sg	09 01 57.6	+0.3
CHN1	**Nanshi** baz=353	**0.18**	**354**	⇓*i*P	Pg	09 01 55.4	-0.5
CHN1				S	Sg	09 01 59.4	+0.2
TWM1	**Shoushan** baz=207	**0.21**	**214**	P	Pg	09 01 57.0	+0.7
STYT	**Tauyuan** baz=52	**0.25**	**50**	⇑*i*P	Pg	09 01 56.5	-0.5
STYT				*i* S	Sg	09 02 01.1	+0.2
WTP	**Ta-pu** baz=14	**0.25**	**14**	⇓*i*P	Pg	09 01 56.4	-0.6
WTP				*e*S	Sg	09 02 01.2	+0.3
SSD	**Sandimen** baz=159	**0.26**	**163**	⇓*i*P	Pg	09 01 56.8	-0.3
SSD				S	Sg	09 02 01.6	+0.4
TWK	**Hsinying** baz=357	**0.27**	**348**	⇓*i*P	Pg	09 01 56.8	-0.5
TWK				S	Sg	09 02 01.8	+0.4
CHN4	**Tsaushan** baz=7.0	**0.35**	**7**	⇓*i*P	Pg	09 01 57.9	-0.8
CHN4				*i* S	Sg	09 02 04.0	+0.3
SCLT	**Jiali** baz=296	**0.37**	**298**	P	Pg	09 01 58.9	-0.1
SCLT				*e*S	Sg	09 02 05.5	+1.3
CHN8	**Yiju** baz=317	**0.46**	**318**	*e*P	Pg	09 02 00.4	-0.2
CHN8				*e*S	Sg	09 02 08.1	+1.1
ELDTW	**Lidau** baz=68	**0.47**	**66**	⇑P	Pg	09 02 00.1	-0.6
ELDTW				*e*S	Sg	09 02 07.2	0.0
TWG	**Pinlang** baz=103	**0.51**	**110**	⇑P	Pg	09 02 01.4	-0.1
TWG				S	Sg	09 02 09.3	+0.9
CHN2	**Minshiung** baz=353	**0.53**	**353**	*e*P	Pg	09 02 01.5	-0.4
CHN2				*e*S	Sg	09 02 10.2	+1.0
ECL	**Taimali** baz=138	**0.55**	**137**	P	Pg	09 02 01.7	-0.4
ECL				S	Sg	09 02 09.2	-0.3
ALS	**Alishan** baz=25	**0.56**	**25**	*e*P	Pg	09 02 01.4	-1.0
ALS				*e*S	Sg	09 02 10.3	+0.3
TTN	**Taitung** baz=115	**0.60**	**114**	*e*P	Pb	09 02 02.9	-0.3
TTN				*e*S	Sg	09 02 13.3	+2.1
CHN5	**Tsauling** baz=11	**0.61**	**11**	*e*P	Pb	09 02 02.4	-0.8
CHN5				S	Sg	09 02 11.7	+0.3
YUS	**Yu-Shan** baz=38	**0.61**	**37**	P	Pb	09 02 02.9	-0.4
SCZT	**Fangliau** baz=168	**0.63**	**174**	*e*P	Pb	09 02 03.0	-0.6
SCZT				*e*S	Sb	09 02 13.2	+1.2
EAST	**Anshuo** baz=152	**0.67**	**156**	⇓P	Pb	09 02 03.9	-0.4
EAST				S	Sb	09 02 15.1	+1.8
TWP	**Hsiaoliuchiu** baz=214	**0.67**	**195**	*e*P	Pb	09 02 05.4	+1.0
TWP				*e*S	Sb	09 02 16.6	+3.3
WGK	**Gukeng** baz=1.0	**0.68**	**1**	*e*P	Pb	09 02 04.0	-0.5
WGK				*e*S	Sb	09 02 14.7	+1.1
WSF	**Szhu** baz=334	**0.70**	**335**	P	Pb	09 02 04.0	-0.8
WSF				S	Sb	09 02 15.1	+0.9
TAW	**Tawu** baz=150	**0.71**	**153**	*e*P	Pb	09 02 04.6	-0.4
TAW				*e*S	Sb	09 02 15.3	+0.8
CHKT	**Chengkung** baz=83	**0.76**	**82**	*e*P	Pb	09 02 05.3	-0.5
CHKT				S	Sb	09 02 17.1	+1.3
TWF1	**Yuli** baz=64	**0.77**	**63**	⇑*i*P	Pb	09 02 05.3	-0.7
TWF1				*e*S	Sb	09 02 15.3	-0.9
EHY	**Hungye** baz=64	**0.87**	**55**	P	Pb	09 02 06.8	-0.9
EHY				S	Sb	09 02 18.4	-0.6
WNT	**Mingjian** baz=356	**0.88**	**8**	*e*P	Pb	09 02 06.5	-1.4
WTCT	**Ta-ch'eng** baz=344	**0.90**	**344**	*e*P	Pb	09 02 07.2	-0.9
WTCT				*e*S	Sb	09 02 20.1	+0.4
SMLT	**Sun Moon Lake** baz=9.0	**0.94**	**20**	*e*P	Pb	09 02 08.0	-0.9
SMLT				*e*S	Sb	09 02 22.0	+1.1
TYC	**Yuchr** baz=5.0	**0.

*NEIC **30** 09:09:11.5, 1837N×10288W, h20km, MD4.1(MEX), After MEX.*

MEX 30 09:09:10.8±0.7, 1842N×10289W, h10km±7km, MD4.1, Michoacan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MMIG	**Aquila**	**0.45**	**253**	*i* P	Pg	09 09 19.4	-0.1
MMIG				*i* S	Sg	09 09 25.6	+0.1
ZIIG	**Zihuatanejo**	**1.58**	**121**	*e*P	Pn	09 09 34.9	-4.1
ZIIG				*i* S	Sn	09 09 54.8	-4.7
ZIIG	**Zihuatanejo**	**1.58**	**121**	*i* P	Pn	09 09 33.7	-5.3
ZIIG				*i* S	Sn	09 09 54.8	-4.7
MOIG	**Morelia**	**2.04**	**52**	*i* P	Pn	09 09 42.8	-2.5
MOIG				*i* S	Sn	09 10 07.1	-3.8
MOIG	**Morelia**	**2.04**	**52**	*i* P	Pn	09 09 43.8	-1.5
MOIG				*i* S	Sn	09 10 09.1	-1.8
SFJM	**Santa Fe**	**2.06**	**356**	*i* P	Pn	09 09 41.8	-3.8
SFJM				*i* S	Sn	09 10 07.5	-3.8
SFJM	**Santa Fe**	**2.06**	**356**	*i* P	Pn	09 09 41.8	-3.8
SFJM				*i* S	Sn	09 10 10.6	-0.8
CAIG	**El Cayaco**	**2.85**	**118**	*i* P	Pn	09 09 53.1	-3.3
CAIG				*i* S	Sn	09 10 27.0	-3.9
CAIG	**El Cayaco**	**2.85**	**118**	*i* P	Pn	09 09 53.1	-3.3
CAIG				*i* S	Sn	09 10 24.5	-6.3
ANIG	**Ahuacatlan**	**3.04**	**330**	*e*P	Pn	09 09 54.8	-4.2
ANIG				*i* S	Sn	09 10 31.1	-4.3
MEIG	**Mezcala**	**3.15**	**98**	*i* P	Pn	09 09 58.1	-2.4
MEIG				*i* S	Sn	09 10 34.2	-4.0
PLIG	**Platanillo**	**3.22**	**90**	*e*P	Pn	09 09 59.8	-1.8
PLIG				*i* S	Sn	09 10 35.8	-4.1
PLIG	**Platanillo**	**3.22**	**90**	*e*P	Pn	09 10 00.3	-1.2
PLIG				*i* S	Sn	09 10 37.0	-2.9
ACX	**Acapulco**	**3.23**	**118**	*e*P	Pn	09 09 58.2	-3.4
ACX				*i* S	Sn	09 10 37.1	-3.1
ACX	**Acapulco**	**3.23**	**118**	*e*P	Pn	09 09 58.2	-3.4
ACX				*i* S	Sn	09 10 35.0	-5.3
MZVM		**3.56**	**77**	*i* P	Pn	09 10 11.3	+5.2
MZVM				*i* S	Sn	09 10 52.2	+4.0
PTVM	**Pico Tres Padr**	**3.76**	**71**	*e*P	Pn	09 10 08.5	-0.5
PTVM				*i* S	Sn	09 10 59.2	+5.8
PPM	**Popocatepetl**	**4.09**	**80**	*e*P	Pn	09 10 11.8	-1.8
PPM				*i* S	Sn	09 10 57.8	-3.8
PPM	**Popocatepetl**	**4.09**	**80**	*e*P	Pn	09 10 12.8	-0.8
PPM				*i* S	Sn	09 10 59.8	-1.8
IIO	**Organos**	**4.12**	**73**	*e*P	Pn	09 10 13.7	-0.1
IIO				*i* S	Sn	09 11 08.1	+6.0
ZAIG	**Zacatecas**	**4.34**	**4**	*e*P	Pn	09 10 15.4	-1.5
ZAIG				*i* S	Sn	09 11 04.9	-2.7
UTMO	**Huajuapan**	**4.88**	**96**	*e*P	Pn	09 10 21.8	-2.5
UTMO				*i* S	Sn	09 11 17.5	-3.4
PNIG	**Pinotepa**	**4.98**	**113**	*i* P	Pn	09 10 25.6	-0.1
PNIG				*i* S	Sn	09 11 19.4	-3.9
PNIG	**Pinotepa**	**4.98**	**113**	*e*P	Pn	09 10 22.3	-3.4
PNIG				*i* S	Sn	09 11 19.4	-3.9
TPIG	**Tehuac#an**	**5.25**	**89**	*i* P	Pn	09 10 29.4	0.0
VHO	**Vista Hermosa**	**6.02**	**102**	*e*P	Pn	09 10 42.4	+2.4
VHO				*i* S	Sn	09 11 50.0	+0.9

*ISCJB **30** 09:20:00.8±0.3, 4733N±002×702E±003, h13km±3km, Error ellipse: s-maj=3.6km s-min=2.7km az=145.5*
*ZUR **30** 09:20:02.6, 4738N×7.12E, h9km±1km, ML1.8/6*
*STR **30** 09:20:02.8±0.2, 4739N×7.12E, h5km, Ml2.1, Error ellipse: s-maj=0.0km s-min=0.0km az=0.0*
*NEIC **30** 09:20:02.6, 4738N×7.12E, h9km, ML1.8(ZUR), ML2.1(STR), ML2.5(LDG), After ZUR.*
*CSEM **30** 09:20:02.6±0.1, 4737N×7.11E, h12km, ML2.4/12, Error ellipse: s-maj=1.0km s-min=0.7km az=150.0*
*LDG **30** 09:20:02.8±0.0, 4737N×7.10E, h11km, Md2.2/1, Ml2.5/12, Error ellipse: s-maj=0.9km s-min=0.8km az=143.0*

ISC 30 09:20:01.9±0.3, 4736N±002×708E±003, h19km±3km, n41, σ0§59/83, 2C-1D, Switzerland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BOURR	**Bourrignon**	**0.11**	**70**	*i*Pg	**Pg**	**09 20 05.3**	**-0.4**
	477nm,0.3s						
LOMF	**Lomont**	**0.17**	**268**	Pg	**Pg**	**09 20 06.9**	**+0.4**
BBS	**Basel-Blauen**	**0.31**	**70**	Pg	**Pg**	**09 20 08.6**	**0.0**
BBS				Sg	**Sg**	**09 20 12.6**	**-0.6**
BALST	**Balsthal**	**0.42**	**93**	*i*Pg	**Pg**	**09 20 10.7**	**+0.2**
	156nm,0.3s						
BALST				*e*Sg	**Sg**	**09 20 16.2**	**-0.1**
	156nm,0.3s						
HINF	**Hinteralfeld**	**0.48**	**341**	*e*Pn	**Pg**	**09 20 13.8**	**+2.1**
HINF				*e*Sg	**Sg**	**09 20 18.0**	**-0.3**
	14nm,0.2s						
HINF				*e*Sn	**Sg**	**09 20 21.6**	**+3.3**
HINF	**Hinteralfeld**	**0.48**	**341**	*e*Pn	**Pg**	**09 20 13.8**	**+2.1**
HINF				*e*Sg	**Sg**	**09 20 18.0**	**-0.3**
	6.8nm,0.2s						
HINF				*e*Sn	**Sg**	**09 20 21.6**	**+3.3**
HINF	**Hinteralfeld**	**0.48**	**341**	*e*Pg	**Pg**	**09 20 11.6**	**-0.1**
HINF				*e*Pn	**Pg**	**09 20 13.8**	**+2.1**
HINF				*e*Sg	**Sg**	**09 20 18.0**	**-0.3**
HINF				*e*Sn	**Sg**	**09 20 21.6**	**+3.3**
MOF	**Molkenrain**	**0.50**	**4**	Pg	**Pg**	**09 20 12.2**	**+0.3**
BRANT	**Les Verrieres**	**0.59**	**225**	*e*P	**Pg**	**09 20 14.7**	**+1.1**
	42nm,0.2s						
SULZ	**Cheisacher**	**0.72**	**76**	*e*Pg	**Pg**	**09 20 16.2**	**+0.2**
	47nm,0.7s						
FELD	**Feldberg im Sc**	**0.81**	**50**	Pg	**Pg**	**09 20 17.5**	**-0.3**
FELD				Sg	**Sg**	**09 20 28.1**	**-0.4**
HAU	**Haudompre**	**0.82**	**323**	*e*Pg	**Pg**	**09 20 18.3**	**+0.4**
HAU				*e*Sg	**Sg**	**09 20 29.0**	**+0.3**
HAU				*e*Sn	**Sn**	**09 20 30.2**	**+0.2**
	11nm,0.3s						
HAU	**Haudompre**	**0.82**	**323**	*e*Pg	**Pg**	**09 20 18.3**	**+0.4**
HAU				*e*Sg	**Sg**	**09 20 29.0**	**+0.3**
HAU				*e*Sn	**Sn**	**09 20 30.2**	**+0.2**
	5.4nm,0.3s						
ECH	**Echery**	**0.86**	**3**	Pg	**Pg**	**09 20 19.1**	**+0.4**
ECH				Sg	**Sg**	**09 20 29.8**	**-0.3**
GIMEL	**St. Georges /**	**0.99**	**215**	*e*P	**Pb**	**09 20 22.3**	**+1.8**
	45nm,0.2s						
CABF	**La Chapelle**	**1.01**	**223**	*e*Pg	**Pg**	**09 20 22.4**	**+0.9**
CABF				*e*Sg	**Sg**	**09 20 35.5**	**+0.7**
	5.3nm,0.2s						
CABF	**La Chapelle**	**1.01**	**223**	*e*Pg	**Pg**	**09 20 22.4**	**+0.9**
CABF				*e*Sg	**Sg**	**09 20 35.5**	**+0.7**
	2.7nm,0.2s						
SLE	**Schleitheim**	**1.04**	**66**	*i*P	**Pb**	**09 20 21.3**	**0.0**
	54nm,0.3s						
CDF	**Champ du Feu**	**1.06**	**7**	*e*Pg	**Pg**	**09 20 22.5**	**0.0**
CDF				*e*Sn	**Sn**	**09 20 35.6**	**-0.5**
	24nm,0.3s						
CDF	**Champ du Feu**	**1.06**	**7**	*e*Pg	**Pg**	**09 20 22.5**	**0.0**
CDF				*e*Sn	**Sn**	**09 20 35.6**	**-0.5**
	12nm,0.3s						
CDF	**Champ du Feu**	**1.06**	**7**	*e*Pn	**Pn**	**09 20 21.7**	**-0.1**
CDF				*e*Pg	**Pg**	**09 20 22.5**	**0.0**
CDF				*e*Sn	**Sn**	**09 20 35.6**	**-0.5**
SFTF	**Sexfontaines**	**1.62**	**302**	*e*Pg	**Pg**	**09 20 33.0**	**0.0**
SFTF				*e*Sg	**Sg**	**09 20 53.9**	**-0.2**
	5.5nm,0.2s						
SFTF	**Sexfontaines**	**1.62**	**302**	*e*Pg	**Pg**	**09 20 33.0**	**0.0**
SFTF				*e*Sg	**Sg**	**09 20 53.9**	**-0.2**
	2.8nm,0.2s						
RFYF	**Reffroy**	**1.67**	**320**	*e*Sg	**Sg**	**09 20 55.6**	**-0.1**
	12nm,0.3s,baz=136						
RFYF	**Reffroy**	**1.67**	**320**	*e*Sg	**Sg**	**09 20 55.6**	**-0.1**
	5.8nm,0.3s,baz=136						
MEZF	**Maizieres J'vi**	**1.78**	**311**	*e*Pg	**Pg**	**09 20 36.1**	**-0.1**
MEZF				*e*Sg	**Sg**	**09 20 59.1**	**-0.2**
	12nm,0.3s,baz=136						
MEZF	**Maizieres J'vi**	**1.78**	**311**	*e*Pg	**Pg**	**09 20 36.1**	**-0.1**
MEZF				*e*Sg	**Sg**	**09 20 59.1**	**-0.2**
	5.8nm,0.3s,baz=136						
MEZF	**Maizieres J'vi**	**1.78**	**311**	*e*Pn	**Pn**	**09 20 31.8**	**+0.1**
MEZF				*e*Pg	**Pg**	**09 20 36.1**	**-0.1**
MEZF				*e*Sg	**Sg**	**09 20 59.1**	**-0.2**
LOR	**Lormes**	**2.19**	**269**	*e*Pg	**Pg**	**09 20 43.7**	**-0.3**
	baz=91						
LOR				*e*Sn	**Sn**	**09 21 03.4**	**-0.6**
LOR				*e*Sg	**Sg**	**09 21 11.7**	**-0.8**
	8.3nm,0.2s						
LOR	**Lormes**	**2.19**	**269**	*e*Pg	**Pg**	**09 20 43.7**	**-0.3**
	baz=91						
LOR				*e*Sn	**Sn**	**09 21 03.4**	**-0.6**
LOR				*e*Sg	**Sg**	**09 21 11.7**	**-0.8**
	4.2nm,0.2s						
LOR	**Lormes**	**2.19**	**269**	*e*Pn	**Pn**	**09 20 37.8**	**+0.5**
LOR				*e*Pg	**Pg**	**09 20 43.7**	**-0.3**
LOR				*e*Sn	**Sn**	**09 21 03.4**	**-0.6**
LOR				*e*Sg	**Sg**	**09 21 11.7**	**-0.8**
SMF	**Signal de Mont**	**2.33**	**253**	*e*Pg	**Pg**	**09 20 46.6**	**0.0**
SMF				*e*Sg	**Sg**	**09 21 16.9**	**+0.1**
	4.0nm,0.2s						
SMF	**Signal de Mont**	**2.33**	**253**	*e*Pg	**Pg**	**09 20 46.6**	**0.0**
SMF				*e*Sg	**Sg**	**09 21 16.9**	**+0.1**
	2.0nm,0.2s						
SSF	**Saint Saulge**	**2.46**	**264**	*e*Pg	**Pg**	**09 20 48.5**	**-0.5**
SSF				*e*Sg	**Sg**	**09 21 20.3**	**-0.5**
	2.2nm,0.3s						
SSF	**Saint Saulge**	**2.46**	**264**	*e*Pg	**Pg**	**09 20 48.5**	**-0.5**
SSF				*e*Sg	**Sg**	**09 21 20.3**	**-0.5**
	1.1nm,0.3s						
ORIF	**Oris-en-Rattie**	**2.58**	**199**	*e*Pg	**Pg**	**09 20 50.8**	**-0.5**
ORIF				*e*Sg	**Sg**	**09 21 24.3**	**-0.5**
	1.8nm,0.3s						
ORIF	**Oris-en-Rattie**	**2.58**	**199**	*e*Pg	**Pg**	**09 20 50.8**	**-0.5**
ORIF				*e*Sg	**Sg**	**09 21 24.3**	**-0.5**
	0.9nm,0.3s						
AVF	**Avril sur Loir**	**2.61**	**259**	*e*Sg	**Sg**	**09 21 25.4**	**-0.4**
	1.2nm,0.2s						
AVF	**Avril sur Loir**	**2.61**	**259**	*e*Sg	**Sg**	**09 21 25.4**	**-0.4**
	0.6nm,0.2s						
VIVF	**Saint-Julien-l**	**3.01**	**215**	*e*Pg	**Pg**	**09 20 58.7**	**-0.9**
VIVF				*e*Sg	**Sg**	**09 21 37.9**	**-0.7**
	2.3nm,0.2s						
VIVF	**Saint-Julien-l**	**3.01**	**215**	*e*Pg	**Pg**	**09 20 58.7**	**-0.9**
VIVF				*e*Sg	**Sg**	**09 21 37.9**	**-0.7**
	1.1nm,0.2s						

*IDC **30** 09:20:01.5±1.1, 3304N×9052E, h0km, mb3.7/5, mb1 3.9/9, mb1mx3.7/23, mbtmp3.7/9, ML3.7/2, MS4.0/4, Ms1 4.1/4, ms1mx3.2/32, Error ellipse: s-maj=43.3km s-min=19.9km az=57.0*
*BJI **30** 09:20:03.6, 3321N×9036E, h25km, mB4.5, mb4.7, Ms4.3, Msz3.8*
*ISCJB **30** 09:20:05.7±1.2, 3313N±007×9046E±008, h44km±18km, mb3.8/5, MS4.1/4, Error ellipse: s-maj=11.7km s-min=9.8km az=143.8*
*NEIC **30** 09:20:07.4±0.7, 3313N×9054E, h35km, mb3.7/1, Error ellipse: s-maj=15.4km s-min=6.8km az=101.0*

ISC 30 09:20:08.3±0.8, 3313N±006×9045E±008, h47km±14km, n31, σ1§28/28, mb3.8/5, MS4.1/4, Qinghai

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LSA	**Lhasa**	**3.47**	**170**	P	**Pn**	**09 21 01.3**	**+1.6**
LSA	**Lhasa**	**3.47**	**170**	*e*P	**Pn**	**09 21 00.7**	**+0.9**
TAPN	**Taplejung**	**6.23**	**203**	*e*P	**Pn**	**09 21 38.4**	**+0.8**
	98nm,1.0s						
GUN	**Gumba**	**6.53**	**218**	*e*P	**Pn**	**09 21 43.5**	**+1.8**
	30nm,0.4s						
JIRN	**Jiri**	**6.58**	**215**	*e*P	**Pn**	**09 21 43.0**	**+0.6**
	27nm,0.5s						
ODAN	**Odare**	**6.79**	**204**	*e*P	**Pn**	**09 21 44.1**	**-1.2**
	40nm,0.7s						
KKN	**Kakani**	**6.94**	**221**	*e*P	**Pn**	**09 21 49.0**	**+1.6**
	18nm,0.4s						
RAMN	**Ramite**	**7.00**	**209**	*e*P	**Pn**	**09 21 46.8**	**-1.5**
	37nm,0.5s						
PKI	**Pulchoki**	**7.04**	**220**	*e*P	**Pn**	**09 21 49.3**	**+0.5**
	28nm,0.5s						
GKN	**Gorkha**	**7.16**	**226**	*e*P	**Pn**	**09 21 49.5**	**-0.8**
	18nm,0.4s						
DMN	**Daman**	**7.18**	**221**	*e*P	**Pn**	**09 21 50.3**	**-0.4**
	23nm,0.7s						
DANN	**Dangsing**	**7.47**	**232**	*e*P	**Pn**	**09 21 53.5**	**-1.2**
	16nm,0.4s						
SHL	**Shillong**	**7.64**	**170**	*e*P	**Pn**	**09 21 54.0**	**-3.0**
SHL				*ex*	x	09 22 27.0	
SHL				*e*S	Sn	09 24 04.0	+42
KOLN	**Koldanda**	**7.97**	**230**	*e*P	**Pn**	**09 21 58.0**	**-3.5**
	19nm,0.8s						
LZH	**Lanzhou**	**11.42**	**71**	*e*P	**Pn**	**09 22 49.0**	**+0.3**
LZH				AP		09 22 53.5	
LZH				XP		09 22 56.0	
LZH				PP		09 22 58.5	
LZH				AMB	AMB		
	comp=Z,19nm,1.0s						
LZH				AMB	AMB		
	comp=Z,75nm,4.1s						
LZH				LR	LR		
	comp=N,263nm,7.0s						
LZH				LR	LR		
	comp=Z,419nm,10.6s						
CD2	**Chengdu**	**11.51**	**97**	*e*P	**Pn**	**09 22 50.8**	**+0.9**
CD2				AP		09 22 54.0	
CD2				XP		09 22 57.0	
CD2				PP		09 23 00.5	
CD2				S	**Sn**	**09 25 03.5**	**+6.5**
CD2				XS		09 25 08.5	
CD2				SS		09 25 17.5	
CD2				AMB	AMB		
	comp=Z,10.0nm,0.6s						
CD2				AMB	AMB		
	comp=Z,30nm,3.8s						
CD2				LR	LR		
	comp=N,710nm,8.4s						
CD2				LR	LR		
	comp=E,300nm,7.2s						
CD2				LR	LR		
	comp=Z,310nm,8.4s						
MK31	**Makanchi Array**	**15.00**	**338**	*e*P	**Pn**	**09 23 37.8**	**+0.7**
MKAR	**Makanchi Array**	**15.00**	**338**	Pn	**Pn**	**09 23 33.9**	**-3.2**
	comp=Z,0.1nm,0.3s,baz=148,slow=14,SNR=13						
TKM2	**Tokmak 2**	**15.23**	**314**	*e*P	**Pn**	**09 23 42.9**	**+2.8**
	comp=Z,3.5nm,0.8s						
CMAR	**Chiang Mai Arr**	**16.48**	**150**	Pn	**Pn**	**09 23 52.3**	**-3.9**
	comp=Z,0.5nm,0.3s,baz=184,slow=23,SNR=2.3						
SONM	**Songino Array**	**18.99**	**35**	P	**Pn**	**09 24 25.8**	**-1.0**
	baz=216,slow=12,SNR=3.7						
KURK	**Kurchatov**	**19.61**	**337**	P	**Pn**	**09 24 30.7**	**-3.5**
	comp=Z,0.2nm,0.3s,baz=146,slow=12,SNR=3.2						
ZALV	**Zalesovo Beam**	**21.20**	**351**	P	**P**	**09 24 49.8**	**+0.2**
	comp=Z,1.9nm,0.7s,mb3.5,baz=158,slow=9.3,SNR=4.5						
BVAR	**Borovoye Array**	**24.55**	**330**	P	**P**	**09 25 22.8**	**-0.5**
	comp=Z,0.7nm,0.6s,mb3.4,baz=130,slow=6.0,SNR=2.1						
AKTO	**Aktyubinsk**	**29.42**	**316**	LR	LR	09 39 16.3	
	comp=Z,167nm,21.1s,MS3.6,baz=111,slow=39						
MJAR	**Matsushiro Arr**	**39.03**	**71**	LR	LR	09 44 45.5	
	comp=Z,70nm,18.1s,MS3.5,baz=190,slow=38						
AKASG	**Malin Array Be**	**47.42**	**311**	P	**P**	**09 28 39.0**	**+1.2**
	comp=Z,2.2nm,0.6s,mb4.3,baz=80,slow=7.3,SNR=9.2						
GERES	**GERESS Array B**	**57.63**	**310**	P	**P**	**09 29 54.2**	**+0.7**
	comp=Z,0.4nm,0.2s,mb4.0,baz=100,slow=1.2,SNR=2.4						
ASAR	**Alice Springs**	**70.04**	**138**	P	**P**	**09 31 14.7**	**-0.6**
	comp=Z,0.9nm,0.7s,mb3.8,baz=323,slow=6.3,SNR=9.0						
TORD	**Torodi Ar. Bea**	**81.91**	**280**	LR	LR	10 10 20.7	
	comp=Z,205nm,21.1s,MS4.5,baz=70,slow=37						
DBIC	**Dimbokro**	**90.82**	**278**	LR	LR	10 19 22.3	
	comp=Z,214nm,18.3s,MS4.6,baz=25,slow=39						

*ISCJB **30** 09:24:14.6±0.8, 3219N±007×495E±0.1, h74km±29km, Error ellipse: s-maj=20.1km s-min=7.5km az=31.5*
*KISR **30** 09:24:15.7, 3202N×4935E, h33km, ML2.4*
*THR **30** 09:24:15.4±0.5, 3230N×4951E, h41km±3km, ML2.5*

ISC 30 09:24:16.0±0.8, 3220N±007×495E±01, h57km±37km, n8, σ0§41/11, Western Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHGR	**Shooshtar-Gavs**	**0.56**	**261**	*e*Pg	**Pn**	**09 24 28.5**	**+0.1**
ASAO	**Ashtian**	**2.39**	**11**	*e*Pn	**Pn**	**09 24 52.6**	**-0.1**
ASAO				*e*Sg	**Sn**	**09 25 25.9**	**+5.1**
ASAO				AML	AML	09 25 31.2	
	comp=N,32nm,0.6s						
GHVR	**GHOM**	**2.74**	**34**	*e*Pn	**Pn**	**09 24 56.8**	**-0.8**
GHVR				AML	AML	09 25 38.2	
	comp=N,16nm,0.5s						
NASN	**Na'in**	**2.89**	**77**	*e*Pn	**Pn**	**09 24 60.0**	**+0.4**
SNGE	**Sanandaj**	**3.38**	**329**	*e*Pn	**Pn**	**09 25 06.5**	**+0.2**
RST	**Umm Al-Ruwaisa**	**3.42**	**219**	*e*P	**Pn**	**09 25 07.2**	**+0.3**
	baz=220						
RST				*e*S	**Sn**	**09 25 45.9**	**-0.4**
	baz=220						
RST				AML	AML	09 25 50.2	
	comp=Z,5.0nm,0.4s,baz=220						
NAY	**Al-Naaiem**	**3.51**	**214**	*e*P	**Pn**	**09 25 08.6**	**+0.6**
	baz=214						
RDF	**Al-Radifah**	**3.66**	**207**	*e*P	**Pn**	**09 25 10.2**	**+0.1**
	baz=207						
RDF				*e*S	**Sn**	**09 25 51.5**	**-0.5**
	baz=207						
RDF				AML	AML	09 25 58.5	
	comp=Z,10.0nm,0.4s,baz=207						

*ISCJB **30** 09:31:20.5±0.8, 2645S±02×719E±02, h10km, mb3.9/9, MS3.9/6, Error ellipse: s-maj=27.3km s-min=20.5km az=148.2*
*IDC **30** 09:31:20.8±0.9, 2643S×7174E, h0km, mb3.9/8, mb1 4.0/8, mb1mx3.8/20, mbtmp3.9/8, MS3.8/6, Ms1 3.8/6, ms1mx3.4/32, Error ellipse: s-maj=32.0km s-min=25.3km az=61.0*
*NEIC **30** 09:31:22.2±0.7, 2644S×7180E, h10km, mb4.3/1, Error ellipse: s-maj=23.0km s-min=17.1km az=58.0*

ISC 30 09:31:22.5±0.8, 2645E±02×718E±02, h10km, n15, σ0§67/9, mb3.9/9, MS3.9/6, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BOSA	**Boshof**	**41.17**	**256**	LR	LR	09 51 55.6	
	comp=Z,190nm,18.9s,MS4.0,baz=154,slow=30						
MAW	**Mawson**	**41.57**	**185**	LR	LR	09 52 02.6	
	comp=Z,118nm,20.7s,MS3.7,baz=71,slow=30						
CMAR	**Chiang Mai Arr**	**51.80**	**33**	P	**P**	**09 40 31.9**	**+1.3**
	2.2nm,0.8s,mb4.1,baz=215,slow=8.4,SNR=4.3						
CMAR				LR	LR	10 00 29.2	
	comp=Z,50nm,18.5s,MS3.6,baz=229,slow=34						
ASAR	**Alice Springs**	**55.82**	**102**	P	**P**	**09 41 00.8**	**+0.5**
	0.9nm,0.7s,mb3.9,baz=251,slow=6.4,SNR=12						
WRAB	**Tennant Creek**	**57.36**	**98**	*e*P	**P**	**09 41 10.0**	**-1.2**
	2.9nm,0.9s,mb4.3						
STKA	**Stephens Creek**	**60.23**	**113**	P	**P**	**09 41 31.1**	**0.0**
	1.2nm,0.7s,mb4.0,baz=318,slow=14,SNR=2.8						
QSPA	**South Pole Qui**	**63.72**	**180**	P	**P**	**09 41 54.2**	**+0.5**
	1.2nm,0.7s,mb4.0,baz=262,slow=3.8,SNR=4.1						
CTA	**Charters Tower**	**67.83**	**102**	LR	LR	10 10 49.7	
	comp=Z,92nm,18.8s,MS4.0,baz=44,slow=35						
MKAR	**Makanchi Array**	**73.47**	**7**	P	**P**	**09 42 54.4**	**-0.5**
	1.0nm,0.8s,mb3.8,baz=190,slow=6.2,SNR=7.1						
KURK	**Kurchatov**	**77.02**	**4**	P	**P**	**09 43 15.3**	**+0.1**
	0.6nm,0.6s,mb3.7,baz=204,slow=5.3,SNR=3.0						
TORD	**Torodi Ar. Bea**	**78.65**	**291**	P	**P**	**09 43 25.0**	**-0.1**
	0.9nm,0.9s,mb3.7,baz=120,slow=6.9,SNR=4.5						
ZALV	**Zalesovo Beam**	**80.81**	**8**	P	**P**	**09 43 35.5**	**-0.5**
	0.3nm,0.4s,mb3.6,baz=178,slow=5.8,SNR=3.7						
GUMO	**Guam**	**81.31**	**70**	LR	LR	10 13 12.2	
	comp=Z,66nm,21.3s,MS4.0,baz=235,slow=31						
KSRS	**Korea Array**	**82.52**	**42**	LR	LR	10 18 19.4	
	comp=Z,46nm,18.5s,MS3.9,baz=238,slow=34						
NVAR	**Mina Array Bea**	**165.29**	**33**	PKPab	PKPab	09 52 25.8	+1.0
	0.2nm,0.6s,baz=263,slow=6.9,SNR=3.1						

*ISCJB **30** 09:45:00.9±0.7, 1721N±003×9337W±002, h29km±6km, mb3.9/11, Error ellipse: s-maj=5.4km s-min=3.5km az=17.0*
*NEIC **30** 09:45:01.8, 1722N×9332W, h1km, mb4.3/9, MD4.5(MEX), After MEX.*
*IDC **30** 09:45:02.0±1.5, 1745N×9337W, h43km±18km, mb3.1/3, mb1 3.5/3, mb1mx3.4/18, mbtmp3.1/3, ML5.0/1, MS3.0/3, Ms1 3.0/3, ms1mx2.7/14, Error ellipse: s-maj=26.2km s-min=9.0km az=159.0*
*MEX **30** 09:45:03.3±0.8, 1721N×9337W, h17km±35km, MD4.5*

ISC 30 09:45:02.1±0.7, 1718N±003×9334W±002, h26km±6km, n58, σ1§18/88, mb3.9/11, Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TGIG		**0.45**	**152**	*e*P	**Pb**	**09 45 10.7**	**-0.9**
TGIG				*i* S	**Sb**	**09 45 18.1**	**+0.1**
SCX	**San Cristobal**	**0.81**	**123**	*e*P	**Pb**	**09 45 17.5**	**-0.1**
SCX				*i* S	**Sb**	**09 45 27.6**	**-0.5**
SCX	**San Cristobal**	**0.81**	**123**	*i* P	**Pb**	**09 45 17.8**	**+0.2**
SCX				*i* S	**Sb**	**09 45 27.6**	**-0.5**
CCIG	**Comitan**	**1.46**	**127**	*i* P	**Pn**	**09 45 28.8**	**+2.0**
CCIG				*i* S	**Sn**	**09 45 46.4**	**+1.3**
CCIG	**Comitan**	**1.46**	**127**	*i* P	**Pn**	**09 45 29.2**	**+2.4**
CCIG				*i* S	**Sn**	**09 45 46.4**	**+1.3**
PCIG		**1.47**	**175**	*e*P	**Pn**	**09 45 26.9**	**-0.1**
PCIG				*i* S	**Sn**	**09 45 44.0**	**-1.3**
CMIG	**Matias Romero**	**1.48**	**267**	P	**Pn**	**09 45 25.9**	**-1.1**
	125nm,0.3s,baz=72,slow=15,SNR=826						
CMIG				S	**Sn**	**09 45 44.8**	**-0.7**
	449nm,0.3s,baz=167,slow=21,SNR=37						
CMIG	**Matias Romero**	**1.48**	**267**	*e*P	**Pn**	**09 45 26.0**	**-1.0**
CMIG				*i* S	**Sn**	**09 45 42.4**	**-3.0**
CMIG	**Matias Romero**	**1.48**	**267**	*i* P	**Pn**	**09 45 26.5**	**-0.5**
CMIG				*e*S	**Sn**	**09 45 45.1**	**-0.3**
THIG		**2.48**	**155**	*i* P	**Pn**	**09 45 41.1**	**+0.2**
THIG				*i* S	**Sn**	**09 46 10.2**	**-0.2**
SCIG	**Sabancuy**	**2.72**	**49**	*i* P	**Pn**	**09 45 43.1**	**-1.0**
SCIG				*i* S	**Sn**	**09 46 14.9**	**-1.2**
OXX	**Oaxaca**	**3.23**	**269**	*i* P	**Pn**	**09 45 50.8**	**-0.4**
OXX				*i* S	**Sn**	**09 46 27.6**	**-1.2**
OXX	**Oaxaca**	**3.23**	**269**	*i

LAZ	Ladron	21.14	327	*e*P	P	09 49 47.7	+2.6
ANMO	Albuquerque	21.22	329	P	P	09 49 44.7	-1.3
	0.6nm,0.7s,mb3.0,baz=143,slow=13,SNR=3.1						
TUC	Tucson	21.81	317	*e*P	P	09 49 52.6	+0.2
	3.5nm,0.9s,mb3.8						
OLIL	Olney	21.96	11	P	P	09 49 57.4	+3.5
	54nm,1.4s,mb4.8						
ROSC	El Rosal	22.29	121	LR	LR	09 59 48.1	
	comp=Z,44nm,20.4s,baz=201,slow=39						
MVCO	Mesa Verde	24.02	329	*e*P	P	09 50 16.0	+1.1
	9.7nm,0.8s,mb4.3						
WUAZ	Wupatki	24.31	322	*e*P	P	09 50 19.0	+1.5
	5.8nm,0.8s,mb4.1						
JFWS	Jewell Farm	25.79	5	*e*P	P	09 50 30.1	-0.8
	13nm,0.7s,mb4.6						
ARUT	Antelope Range	27.08	323	*e*P	P	09 50 48.6	+6.0
PDAR	Pinedale Array	29.01	335	P	P	09 50 55.2	-4.5
	0.2nm,0.5s,mb3.1,baz=131,slow=11,SNR=2.3						
REDW	Red Top Meadow	30.03	334	*e*P	P	09 51 09.5	+0.6
	5.5nm,1.1s,mb4.2						
SNOW	Snow King Moun	30.08	334	*e*P	P	09 51 09.5	+0.3
	5.0nm,0.7s,mb4.3						
NVAR	Mina Array Bea	30.41	319	P	P	09 51 08.7	-3.7
	0.2nm,0.4s,mb3.2,baz=143,slow=14,SNR=2.6						
LPAZ	La Paz	41.52	142	P	P	09 52 47.0	-0.5
	0.8nm,0.7s,mb3.5,baz=326,slow=8.0,SNR=3.2						
WRA	Warramunga Arr	134.83	259	PKP	PKPdf	10 04 18.4	-1.1
	0.3nm,0.5s,baz=81,slow=2.9						
ASAR	Alice Springs	135.41	254	PKP	PKPdf	10 04 18.1	-2.3
	0.2nm,0.6s,baz=83,slow=2.5,SNR=3.9						

IDC 30 09:55:42.6±1.0, 2876N×4331W, h0km, mb3.7/7, mb1 4.0/7, mb1mx3.8/24, mbtmp3.7/7, MS3.6/2, Ms1 3.5/2, ms1mx3.0/24, Error ellipse: s-maj=37.4km s-min=23.9km az=8.0, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TORD	Torodi Ar. Bea	44.53	101	P	P	10 03 56.9	+0.6
	1.2nm,0.8s,baz=305,slow=6.3,SNR=6.1						
LPAZ	La Paz	50.81	211	P	P	10 04 45.0	+0.1
	0.7nm,0.6s,baz=10,slow=11,SNR=4.1						
TXAR	Lajitas Array	52.23	286	P	P	10 04 55.6	+0.1
	0.7nm,0.8s,baz=92,slow=7.7,SNR=7.9						
PDAR	Pinedale Array	54.25	304	P	P	10 05 10.4	+0.1
	1.7nm,1.0s,baz=74,slow=7.7,SNR=6.4						
PDAR				LR	LR	10 26 08.3	
	comp=Z,59nm,18.1s,baz=74,slow=34						
YKA	Yellowknife Ar	56.31	328	LR	LR	10 29 56.3	
	comp=Z,34nm,18.1s,baz=90,slow=36						
NVAR	Mina Array Bea	61.65	300	P	P	10 06 03.5	+1.2
	0.5nm,0.9s,baz=84,slow=8.9,SNR=4.2						
KURK	Kurchatov	85.74	33	P	P	10 08 23.1	-0.4
	0.6nm,0.7s,baz=312,slow=5.6,SNR=3.8						
MKAR	Makanchi Array	90.20	34	P	P	10 08 44.3	-0.6
	0.3nm,0.7s,baz=343,slow=3.8,SNR=3.8						

IDC 30 10:03:11.3±1.6, 831S×11464E, h0km, mb3.8/4, mb1 4.1/5, mb1mx3.7/17, mbtmp3.9/5, ML3.9/1, Error ellipse: s-maj=50.8km s-min=23.1km az=53.0
ISCJB 30 10:03:17.6±1.6, 8.1S±0.1×11489E±007, h59km±22km, mb3.9/4, Error ellipse: s-maj=25.1km s-min=9.9km az=168.9
DJA 30 10:03:17, 839S×11475E, h10km, MLv3.9/6
ISC 30 10:03:18.5±1.4, 82S±01×11487E±006, h50km±22km, n6, σ0§69/8, mb3.9/4, 1C, Bali region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TRT	Tretes	2.27	283⇑	*e*P	Pn	10 03 52.6	-0.9
TRT				*e*S	Sn	10 04 21.0	+0.7
KAPI	Kappang	5.81	57	Pn	Pn	10 04 42.2	+0.1
	3.1nm,0.3s,baz=83,slow=21,SNR=2.7						
KAPI				Sn	Sn	10 05 47.5	+0.1
	0.8nm,0.3s,baz=80,slow=23,SNR=4.3						
WRA	Warramunga Arr	22.16	124	P	P	10 08 10.2	-0.2
	2.3nm,0.4s,mb3.9,baz=298,slow=12,SNR=24						
ASAR	Alice Springs	23.85	132	P	P	10 08 27.9	+0.6
	1.7nm,0.5s,mb3.7,baz=310,slow=8.5,SNR=40						
STKA	Stephens Creek	34.23	137	P	P	10 09 59.5	-0.1
	2.2nm,0.5s,mb4.3,baz=333,slow=11,SNR=6.7						
MKAR	Makanchi Array	61.97	335	P	P	10 13 33.1	-0.2
	0.2nm,0.4s,mb3.6,baz=152,slow=6.5,SNR=3.6						

MAN 30 10:04:29, 1771N×12055E, h30km, mb3.6, ML2.3, MS1.8, 1D, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ABRA	Dolores	0.17	112	*e*P	Pb	10 04 36.0	+1.1
ABRA				*e*S	Sb	10 04 41.7	+2.8
PIP	Pasuquin	0.61	6⇓	*i*P	Pb	10 04 38.0	-3.3
CVP	Callao Caves	1.21	90	*i* S	Sn	10 05 10.0	+4.7
CAUP	Cauayan	1.44	122	*e*P	Pn	10 04 55.0	+2.0
CAUP				*e*S	Sn	10 05 01.6	-9.3
BALP	Baler	2.19	153	*e*P	Pn	10 05 03.7	+0.3
BALP				*e*S	Sn	10 05 14.3	-15

NEIC 30 10:05:54.9, 3662S×17717E, h5km, ML3.8(WEL), After WEL., Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUZ	Kuaotunu	1.17	263	P	Pg	10 06 16.5	-0.9
KUZ				S	Sg	10 06 32.4	-0.2
MXZ	Matakaoa Point	1.31	136	P	Pn	10 06 17.6	-2.2
TGRZ	Tauranga	1.33	213	P	Pn	10 06 17.7	-2.4
URZ	Urewera	1.64	182	P	Pn	10 06 22.0	-2.4
MKAZ	Moumakai	1.68	252	P	Pn	10 06 24.0	-0.9

NNC 30 10:17:59.1±1.1, 4654N×8213E, h0km, mb3.7, mpv2.7, 19C-6D, Error ellipse: s-maj=14.3km s-min=5.2km az=121.0, Kazakhstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MK08	Makanchi Array	0.24	27	⇑P	Pg	10 18 04.4	+0.7
MK08				⇑S	Sg	10 18 08.1	+1.2
MK07	Makanchi Array	0.25	31	⇑P	Pg	10 18 04.8	+0.9
MK07				⇓S	Sg	10 18 08.5	+1.4
MK03	Makanchi Array	0.26	28	⇑P	Pg	10 18 04.6	+0.6
MK03				⇑S	Sg	10 18 08.4	+1.0
MK09	Makanchi Array	0.26	24	⇑P	Pg	10 18 04.3	+0.3
MK09				⇑S	Sg	10 18 07.9	+0.6
MK01	Makanchi Array	0.26	28	⇑P	Pg	10 18 04.6	+0.5
MK01				⇑S	Sg	10 18 08.4	+0.9
MK04	Makanchi Array	0.26	27	⇑P	Pg	10 18 04.5	+0.4
MK04				⇑S	Sg	10 18 08.2	+0.8
MK02	Makanchi Array	0.26	29	⇑P	Pg	10 18 04.6	+0.5
MK02				⇑S	Sg	10 18 08.6	+1.2
MK06	Makanchi Array	0.27	29	⇑P	Pg	10 18 04.7	+0.4
MK06				⇑S	Sg	10 18 08.8	+1.1
MK05	Makanchi Array	0.28	24	⇑P	Pg	10 18 04.4	-0.1
MK05				⇓S	Sg	10 18 08.1	+0.1
MK31	Makanchi Array	0.28	24	⇑P	Pg	10 18 04.4	0.0
	2.7nm,0.2s,baz=149,slow=14,SNR=1266						
MK31				⇓S	Sg	10 18 08.1	+0.1
	27nm,0.4s						
MK31				⇓Rg		10 18 11.2	
	71nm,0.7s,baz=290,slow=38,SNR=7.0						
KURBB	Kurchatov Arra	4.73	331	⇑Pn	Pn	10 19 13.1	+1.5
KURBB				⇓Sn	Sn	10 20 08.4	+1.3
	0.7nm,0.8s						
KURK	Kurchatov	4.78	332	⇓Pn	Pn	10 19 13.9	+1.6
	12nm,2.5s						
KURK				⇑Sn	Sn	10 20 10.0	+1.7
	2.9nm,0.9s						

ISCJB 30 10:28:46.5±1.3, 43.11N±009×773E±02, h10km, Error ellipse: s-maj=20.8km s-min=6.7km az=34.7
NNC 30 10:28:47.1±2.4, 4296N×7802E, h0km, mb3.4, mpv4.2, Error ellipse: s-maj=29.7km s-min=13.3km az=150.0
ISC 30 10:28:48.7±1.4, 4308N±009×770E±02, h10km, n13, σ1§63/16, 2C-5D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ULHL	Ulahol	1.02	215	P	Pg	10 29 07.8	-0.6
	SNR=8.1						

TKM2	Tokmak 2	1.07	262	P	Pg	10 29 06.8	-2.5
	SNR=18						
KBK	Karagaybulak	1.60	255	P	Pn	10 29 16.9	-0.1
	SNR=19						
KZA	Kyzart	1.66	233	P	Pn	10 29 19.2	+1.3
	SNR=9.5						
USP	Ospenovka	1.87	277	P	Pn	10 29 19.6	-1.2
	SNR=21						
AAK	Ala-Archa	1.93	257	P	Pn	10 29 22.0	+0.5
	SNR=10						
UCH	Uchtor	2.05	246	P	Pn	10 29 26.3	+3.1
	SNR=6.1						
EKS2	Erkin-Say	2.44	261	P	Pn	10 29 30.4	+1.8
	SNR=9.2						
AML	Almayashu	2.65	250	P	Pn	10 29 35.5	+4.0
	SNR=6.0						
KK31	Karatay Array	4.78	272	Pn	Pg	10 30 14.6	-5.7
	0.6nm,0.5s,baz=86,slow=16,SNR=4.4						
KK31				Sn	Sg	10 31 18.0	-4.2
	2.0nm,0.6s,baz=88,slow=26,SNR=8.4						
MK31	Makanchi Array	5.26	43	Pn	Pn	10 30 04.0	-3.4
	0.7nm,0.4s,baz=220,slow=15,SNR=12						
MK31				⇑Lg		10 31 23.5	
	0.8nm,0.5s,baz=221,slow=30,SNR=5.9						
KURBB	Kurchatov Arra	7.61	7	⇓Pn	Pn	10 30 37.5	-2.1
	2μm,0.1s						
KURBB				⇓Sn	Sn	10 32 08.2	+2.3
	0.2nm,0.7s						
KURBB				⇓Lg		10 32 51.2	
	0.7nm,0.6s						
KURK	Kurchatov	7.71	8	⇑Pn	Pn	10 30 40.6	-0.4
	3.9nm,1.9s						
KURK				⇓Sn	Sn	10 32 15.8	+7.4
	1.5nm,1.0s						
KURK				⇓Lg		10 32 51.5	
	6.6nm,1.0s						

MOS 30 10:50:58.2±0.6, 4579N×15569E, h12km, mb4.6/1, Error ellipse: s-maj=99.9km s-min=12.2km az=79.0
KRSC 30 10:51:45.9±2.1, 4911N×157.15E, h5km±5km, ML4.5
ISC 30 10:51:48.9±2.0, 493N±02×1566E±03, h10km, n11, σ0§94/14, 1C, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	Severo-Kuril's	1.47	347⇑	*i*P	Pn	10 52 13.5	-1.8
SKR				pmax	pmax		
	comp=N,200nm,0.5s						
SKR				pmax	pmax		
	comp=Z,340nm,0.5s						
SKR				pmax	pmax		
	comp=E,100nm,0.4s						
MIPR	Malaya Ipel'ka	3.02	1	P	Pn	10 52 37.0	+0.3
RUS	Russkaya	3.40	20	*e*P	Pn	10 52 41.4	-0.4
RUS				*e*S	Sn	10 53 21.9	-0.2
PET	Petropavlovsk	3.98	18	*e*P	Pn	10 52 50.3	+0.4
PET				*e*S	Sn	10 53 37.0	+0.5
AVH	Avacha	4.22	17	P	Pn	10 52 54.8	+1.6
NLC	Nalytchevo	4.27	22	P	Pn	10 52 53.1	-0.8
SPN	Mys Shipunski	4.40	28	*e*P	Pn	10 52 55.8	+0.2
SPN				*e*S	Sn	10 53 46.2	-0.6
GNL	Ganaly	4.52	10	P	Pn	10 52 58.9	+1.6
MKZ	Mys Kozlova	6.17	29	*e*P	Pn	10 53 18.8	-1.1
TUMR	Tumrok	6.41	18	P	Pn	10 53 24.1	+0.9
KBTR	Krutoberegovo	7.91	26	P	Pn	10 53 43.1	-0.6

IDC 30 10:53:09.1±1.0, 5184N×17684E, h0km, mb3.5/7, mb1 3.9/7, mb1mx3.7/22, mbtmp3.5/7, MS3.2/6, Ms1 3.2/6, ms1mx3.0/27, Error ellipse: s-maj=49.5km s-min=22.4km az=158.0
NEIC 30 10:53:10.6, 5200N×17705E, h2km, ML3.9(AEIC), After AEIC.
ISCJB 30 10:53:11.7±0.6, 518N±02×1770E±0.1, h33km, mb3.5/7, MS3.2/5, Error ellipse: s-maj=23.1km s-min=5.3km az=18.7
ISC 30 10:53:13.5±0.7, 519N±02×1770E±01, h35km, n17, σ1§50/14, mb3.5/7, MS3.2/5, Rat Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AMKA	Amchitka	1.53	107	P	Pn	10 53 35.8	-2.5
AMKA				S	Sn	10 53 53.5	-3.4
SMY	Shemya	1.97	298	P	Pn	10 53 42.8	-1.6
SMY				S	Sn	10 54 07.0	-0.8
FX1	Attu Island--F	2.55	295	P	Pn	10 53 51.0	-1.4
FX1				S	Sn	10 54 23.1	+1.0
ADK	Adak	3.93	87	P	Pn	10 54 09.6	-1.8
PETK	Petropavlovsk-	11.82	284	LR	LR	10 59 31.0	
	comp=Z,51nm,19.8s,baz=272,slow=32						
ASAJ	Asahikawa	24.09	265	LR	LR	11 06 53.5	
	comp=Z,56nm,19.0s,MS3.1,baz=157,slow=34						
YKA	Yellowknife Ar	36.81	46	P	P	11 00 19.7	+2.1
	0.6nm,0.6s,mb3.6,baz=282,slow=9.5,SNR=3.3						
KSRS	Korea Array	37.01	267	LR	LR	11 14 38.8	
	comp=Z,21nm,18.6s,MS3.0,baz=45,slow=35						
SONM	Songino Array	44.06	294	P	P	11 01 17.1	-0.5
	0.3nm,0.5s,mb3.2,baz=40,slow=9.4,SNR=2.7						
GUMO	Guam	46.05	226	LR	LR	11 18 47.0	
	comp=Z,56nm,18.9s,MS3.5,baz=168,slow=33						
NVAR	Mina Array Bea	46.09	80	P	P	11 01 34.5	+0.6
	0.1nm,0.4s,mb3.1,baz=303,slow=3.9,SNR=2.6						
PDAR	Pinedale Array	48.65	70	P	P	11 01 56.1	+2.4
	0.2nm,0.4s,mb3.5,baz=96,slow=2.7,SNR=4.0						
ARCES	ARCESS Array B	57.14	348	LR	LR	11 31 31.2	
	comp=Z,34nm,19.1s,MS3.5,baz=348,slow=40						
TXAR	Lajitas Array	61.17	78	P	P	11 03 25.3	+0.9
	0.4nm,0.7s,mb3.7,baz=297,slow=5.3,SNR=9.9						
CMAR	Chiang Mai Arr	68.35	273	LR	LR	11 38 02.5	
	comp=Z,12nm,20.1s,MS3.1,baz=190,slow=40						
WRA	Warramunga Arr	80.59	220	P	P	11 05 23.3	+1.1
	0.8nm,0.9s,mb3.7,baz=33,slow=5.5,SNR=5.0						
ASAR	Alice Springs	84.12	219	P	P	11 05 41.8	+1.3
	0.4nm,0.7s,mb3.7,baz=22,slow=5.3,SNR=4.1						

KRSC 30 11:02:01.9±1.9, 5532N×16669E, h21km±20km, ML3.6, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKZ	Mys Kozlova	2.96	257	*e*P	Pn	11 02 48.3	+0.7
MKZ				*e*P		11 02 48.3	
MKZ				*i* S	Sn	11 03 22.1	-0.4
MKZ				*i* S	Sn	11 03 22.1	-0.4
TUMR	Tumrok	3.74	272	*e*P	Pn	11 03 00.7	+2.4
TUMR				*e*P		11 03 00.7	
SDLR	Sedlovina	5.01	249	*e*P	Pn	11 03 18.4	+2.7
SDLR				*e*P		11 03 18.4	
AVH	Avacha	5.09	249	*e*P	Pn	11 03 20.1	+3.2
AVH				*e*P		11 03 20.1	
GNL	Ganaly	5.35	256	*e*P	Pn	11 03 23.4	+3.0
GNL				*e*P		11 03 23.4	
RUS	Russkaya	5.63	242	*e*P	Pn	11 03 27.0	+2.7
RUS				*e*P		11 03 27.0	

ATH 30 11:31:45.5, 3690N×2949E, h29km±18km, MD3.5/5
ISK 30 11:31:45.9, 3696N×2928E, h5km, MD3.2, ML3.1
NEIC 30 11:31:46.0, 3695N×2928E, h5km, MD3.5(ATH), ML3.1(ISK), After ISK.
ISCJB 30 11:31:47.0±0.7, 3697N±003×2928E±003, h4km±6km, Error ellipse: s-maj=5.3km s-min=3.9km az=164.9
CSEM 30 11:31:47.3±0.1, 3699N×2929E, h8km, MD3.2, Error ellipse: s-maj=3.2km s-min=1.9km az=161.0
DDA 30 11:31:47.2, 3699N×2927E, h7km±3km, Md3.2
ISC 30 11:31:47.6±0.6, 3697N±003×2928E±003, h6km±5km, n41, σ0§79/53, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GOLH	Golhisar	0.35	40	*i* P	Pg	11 31 54.4	0.0
ELL	Elmali	0.55	113	*e*PG	Pg	11 31 57.2	-0.9
ELL				*e*SG	Sg	11 32 05.9	+0.6
TURN	Turunc	0.55	260	*i* P	Pg	11 32 02.6	+4.4
DALT	Dalyan (Mudla)	0.55	249	*e*PG	Pg	11 31 57.5	-0.7
DALT				*e*SG	Sg	11 32 06.6	+1.2
DENT	Denizli	0.81	346	*e*PG	Pg	11 32 02.1	-1.1
KSL	Kastellorizon	0.85	163	*e*Pn	Pn	11 32 00.5	-5.6
KSL	Kastellorizon	0.85	163	*e*PN	Pn	11 32 00.5	-5.6
ANTB	Antalya	1.10	93	*e*PN	Pn	11 32 08.5	-1.0
BCK	Bucak	1.15	64	*e*PN	Pn	11 32 09.7	-0.6

ARG	Arkhangelos	1.19	231	*e*Pb	Pb	11 32 08.9	-1.7
ARG				*e*Sn	Sn	11 32 26.4	-0.9
ARG	Arkhangelos	1.19	231	*e*PB	Pb	11 32 08.9	-1.7
ARG				*e*SN	Sn	11 32 26.4	-0.9
MLSB	Milas	1.25	286	*e*PN	Pn	11 32 10.8	-0.8
AYDN	Tasoluk	1.31	302	*i* P	Pn	11 32 11.9	-0.6
AYDN				*i* S	Sg	11 32 31.2	+1.3
TKTP	Tekketepe	1.35	37	*i* P	Pn	11 32 12.7	-0.3
KHL	Karahalli	1.37	8	*e*PN	Pn	11 32 13.2	0.0
KHAL	Karahalli	1.41	7	*i* P	Pn	11 32 13.7	-0.1
BDRM	Kayabasi	1.47	274	*i* P	Pn	11 32 14.9	+0.2
BDRM				*i* S	Sb	11 32 35.2	+0.9
BODT	Bodrum	1.58	274	*e*PN	Pn	11 32 16.8	+0.7
KULA	Kula-Manisa	1.62	343	*e*PN	Pn	11 32 16.8	+0.2
MANT	Manisa	1.62	340	*i* P	Pn	11 32 15.9	-0.8
MANT				*i* S	Sn	11 32 37.8	-0.2
SHUT	Suhut-Afyon	1.88	32	*e*PN	Pn	11 32 20.4	+0.2
SMG	Samos	2.08	292	*e*PN	Pn	11 32 23.6	+0.6
SMG				*e*Sn	Sn	11 32 50.7	+1.4
SMG	Samos	2.08	292	*e*PN	Pn	11 32 23.6	+0.6
SMG				*e*SN	Sn	11 32 50.7	+1.4
GDZ	Gediz	2.12	4	*i* P	Pn	11 32 23.5	-0.1
IZM	Izmir	2.15	312	*e*PN	Pn	11 32 24.1	+0.2
KDAG	Bornova	2.15	312	*i* P	Pn	11 32 23.5	-0.4
KDAG				*i* S	Sn	11 32 50.0	-0.8
ALT	Altintas	2.19	17	*e*PN	Pn	11 32 24.6	+0.1
KARP	Karpathos	2.22	231	*e*Pb	Pn	11 32 24.6	-0.4
KARP				*e*Sn	Sn	11 32 53.2	+0.5
KARP	Karpathos	2.22	231	*e*PB	Pn	11 32 24.6	-0.4
KARP				*e*SN	Sn	11 32 53.2	+0.5
AKHS	Akhisar	2.23	329	*i* P	Pn	11 32 23.8	-1.3
AKS	Akhisar	2.23	329	*e*PN	Pn	11 32 25.0	-0.1
BLCB	Balcova	2.27	309	*e*PN	Pn	11 32 25.9	+0.3
URLA	Izmir	2.54	304	*i* P	Pn	11 32 28.6	-0.7
KONT	Konya--Tatoy	2.64	67	*e*PN	Pn	11 32 31.6	+0.9
LADK	Ladik-KONYA	2.74	62	*e*PN	Pn	11 32 33.3	+1.2
KIZT	Kizilcal	2.81	46	*e*PN	Pn	11 32 34.1	+1.2
APE	Apeiranthos	3.00	273	*e*Pn	Pn	11 32 35.5	-0.2
APE	Apeiranthos	3.00	273	*e*PN	Pn	11 32 35.5	-0.2
PRK	Paraskevi	3.29	315	*e*Pn	Pn	11 32 39.8	+0.2
PRK	Paraskevi	3.29	315	*e*PN	Pn	11 32 39.8	+0.2
IKL	Isikli	3.62	100	*e*PN	Pn	11 32 45.9	+1.7

CSEM 30 11:35:09.9, 4302N×4648E, h16km, mb4.2, After OBN
MOS 30 11:35:09.9±1.1, 4302N×4648E, h16km, mb4.2/1, Error ellipse: s-maj=21.4km s-min=10.2km az=9.2
ISCJB 30 11:35:10.5±0.5, 4297N±006×4628E±003, h10km, Error ellipse: s-maj=9.4km s-min=3.1km az=6.4
ISC 30 11:35:10.5±0.8, 4287N±007×4630E±003, h2km±9km, n14, σ1§12/25, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DLMR	Dylym	0.31	50	*e*PG	Pg	11 35 14.0	-2.5
DLMR				*i* S	Sg	11 35 21.0	+0.4
DLMR				pmax	pmax		
	comp=Z,98nm,0.3s						
DLMR	Dylym	0.31	50	*e*Pg	Pg	11 35 14.0	-2.5
	comp=Z,98nm,0.3s						
DLMR				*i* Sg	Sg	11 35 21.0	+0.4
DBC	Dubki	0.42	69	*i* PG	Pg	11 35 17.5	-1.0
DBC				*i* S	Sg	11 35 25.0	+1.1
DBC				pmax	pmax		
	comp=Z,52nm,0.2s						
DBC	Dubki	0.42	69	*i* Pg	Pg	11 35 17.5	-1.0
	comp=Z,52nm,0.2s						
DBC				*i* Sg	Sg	11 35 25.0	+1.1
GNBR	Gunib	0.69	134	*e*PG	Pg	11 35 25.4	+1.8
GNBR				*i* S	Sg	11 35 39.2	+6.7
GNBR				pmax	pmax		
	comp=Z,44nm,0.2s						
GNBR	Gunib	0.69	134	*e*Pg	Pg	11 35 25.4	+1.8
	comp=Z,44nm,0.2s						
GNBR				*i* Sg	Sg	11 35 39.2	+6.7
SNJR	Sundja	1.11	281	*e*Pg	Pg	11 35 31.7	-0.1
SNJR				*e*Sg	Sg	11 35 47.6	+1.4
BTKR	Batakoyurt	1.38	292	*e*Pg	Pg	11 35 36.5	-0.5
BTKR				*i* Sg	Sg	11 35 56.5	+1.6
LACR	Lac	1.48	269	*i* Pg	Pg	11 35 36.8	-2.0
ARNR	Ardon	1.52	283	*e*Pg	Pg	11 35 38.0	-1.6
ARNR				*e*Sg	Sg	11 35 59.1	-0.1
KMSR	Komsomolskaya	1.55	289	*e*Pn	Pn	11 35 39.2	0.0
KMSR				*e*Sg	Sg	11 36 00.8	+0.4
KORR	Kora	1.65	278	*e*Pn	Pn	11 35 41.0	+0.4
PRTR	Priterechnaya	1.72	302	*i* Pn	Pn	11 35 42.1	+0.7
PRTR				*i* Sg	Sg	11 36 05.8	+0.1
ZEI	Tsey	1.77	268	*i* Pn	Pn	11 35 41.1	-1.1

ISCJB 30 12:26:04.5±0.8, 3323S±009×13863E±007, h10km, Error ellipse: s-maj=13.2km s-min=7.3km az=23.9
AUST 30 12:26:07.4, 3337S×13851E, h13km, ML3.1
IDC 30 12:26:11.6±6.1, 3268S×13845E, h0km, mb1 3.2/3, mb1mx3.1/14, mbtmp3.0/3, ML3.1/2, Error ellipse: s-maj=77.2km s-min=20.8km az=14.0
ISC 30 12:26:05.9±0.7, 3331S±007×13859E±007, h10km, n7, σ1§41/13, Near coast of South Australia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BBOO	Buckleboo	2.18	283	*e*P	Pn	12 26 43.0	+0.8
BBOO				*e*S	Sn	12 27 08.9	-0.3
	48nm,0.7s						
STKA	Stephens Creek	2.92	61	*e*P	Pn	12 26 56.2	+3.9
STKA				*e*S	Sn	12 27 34.4	+7.0
	14nm,0.3s						
STKA	Stephens Creek	2.92	61	Pn	Pn	12 26 57.0	+4.6
	1.7nm,0.3s,baz=245,slow=11,SNR=30						
STKA				Pg	Pg	12 27 02.1	+0.3
	2.6nm,0.3s,baz=254,slow=12,SNR=20						
STKA				Lg		12 27 40.7	
	9.1nm,0.3s,baz=316,slow=15,SNR=7.4						
ARPS	Mount Arapiles	4.36	143	*e*P	Pn	12 27 13.2	+1.0
ARPS				*e*S	Sn	12 28 01.6	-1.5
	18nm,0.4s						
TOO	Toolangi	7.06	129	*e*P	Pn	12 27 51.9	+2.6
TOO				*e*S	Sn	12 29 07.7	-1.8
ASAR	Alice Springs	10.45	336	Pn	Pn	12 28 35.7	-0.1
	0.1nm,0.3s,baz=173,slow=8.4,SNR=5.5						
ASAR				Sn	Sn	12 30 25.6	-7.5
	0.2nm,0.3

KFL	**Anninata**	**0.24**	**88**	P		**Pg**	**12 37 01.1**	**-0.4**
KFL				S		**Sg**	**12 37 04.2**	**-0.6**
LKD	**Levkas**	**0.62**	**12**	P		**Pg**	**12 37 06.9**	**-1.6**
LKD				S		**Sg**	**12 37 15.7**	**-0.9**
RLS	**Riolos of Patr**	**0.78**	**93**	*e*Pn		**Pg**	**12 37 10.5**	**-1.1**
RLS				*e*Sn		**Sg**	**12 37 20.7**	**-1.0**
RLS	**Riolos of Patr**	**0.78**	**93**	*e*PN		**Pg**	**12 37 10.5**	**-1.1**
RLS				*e*SN		**Sg**	**12 37 20.7**	**-1.0**
EVR	**Evrytania**	**1.32**	**52**	*e*Pn		**Pn**	**12 37 20.2**	**-0.8**
EVR	**Evrytania**	**1.32**	**52**	*e*PN		**Pn**	**12 37 20.2**	**-0.8**
ITM	**Ithomi**	**1.47**	**128**	*e*Pn		**Pn**	**12 37 23.2**	**+0.1**
ITM	**Ithomi**	**1.47**	**128**	*e*PN		**Pn**	**12 37 23.2**	**+0.1**
KEK	**Kerkira**	**1.69**	**342**	*e*Pn		**Pn**	**12 37 26.4**	**+0.2**
KEK	**Kerkira**	**1.69**	**342**	*e*PN		**Pn**	**12 37 26.4**	**+0.2**
AGG	**Agios Georgios**	**1.72**	**57**	P		**Pn**	**12 37 26.7**	**+0.2**
AGG				S		**Sn**	**12 37 50.7**	**+2.3**
THL	**Klokotos Trika**	**1.89**	**39**	P		**Pn**	**12 37 29.6**	**+0.8**
THL				S		**Sn**	**12 37 54.6**	**+1.9**
THL	**Klokotos Trika**	**1.89**	**39**	*e*Pn		**Pn**	**12 37 29.3**	**+0.5**
THL				S		**Sn**	**12 37 54.6**	**+1.9**
THL	**Klokotos Trika**	**1.89**	**39**	*e*PN		**Pn**	**12 37 29.3**	**+0.5**
LTK	**Loutraki**	**1.96**	**92**	P		**Pn**	**12 37 30.5**	**+0.6**
LKR	**Lokris**	**2.05**	**74**	P		**Pn**	**12 37 30.9**	**-0.2**
LKR	**Lokris**	**2.05**	**74**	*e*Pb		**Pn**	**12 37 30.6**	**-0.5**
LKR	**Lokris**	**2.05**	**74**	*e*PB		**Pn**	**12 37 30.6**	**-0.5**
DID	**Didima**	**2.26**	**104**	P		**Pn**	**12 37 36.0**	**+2.0**
PAIG	**Paliouri**	**3.09**	**53**	P		**Pn**	**12 37 44.0**	**-1.3**

*CSEM **30** 12:52:57.4±0.1, 3693N×2924E, h5km, MD3.2, Error ellipse: s-maj=1.6km s-min=1.3km az=166.0*
*ATH **30** 12:52:58.8, 3695N×2938E, h42km, MD3.4/4*
*ISCJB **30** 12:52:58.4±0.6, 3693N±003×2925E±003, h6km±5km, Error ellipse: s-maj=5.1km s-min=3.8km az=156.8*
*DDA **30** 12:52:58.0, 3694N×2927E, h6km±4km, Md3.2*
*ISK **30** 12:52:58.0, 3694N×2924E, h9km, MD3.2, ML3.0*
*NEIC **30** 12:52:58.0, 3694N×2924E, h8km, MD3.4(ATH), ML3.0(ISK), After ISK.*

ISC 30 12:52:58.9±0.5, 3693N±003×2924E±003, h6km±4km, n33, σ0§78/44, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GOLH	**Golhisar**	**0.40**	**39**	*i* P	**Pg**	**12 53 05.7**	**-0.9**
GOLH				*i* S	**Sg**	**12 53 12.7**	**+0.8**
DALT	**Dalyan (Mudla)**	**0.51**	**252**	*e*PG	**Pg**	**12 53 08.3**	**-0.4**
DALT				*e*SG	**Sg**	**12 53 16.5**	**+1.1**
TURN	**Turunc**	**0.52**	**264**	*i* P	**Pg**	**12 53 13.3**	**+4.5**
TURN				*i* S	**Sg**	**12 53 26.0**	**+10**
ELL	**Elmali**	**0.56**	**108**	*e*PG	**Pg**	**12 53 09.1**	**-0.6**
ELL				*e*SG	**Sg**	**12 53 17.9**	**+0.9**
KSL	**Kastellorizon**	**0.82**	**160**	*e*P	**Pg**	**12 53 15.0**	**+0.4**
KSL	**Kastellorizon**	**0.82**	**160**	*e*P	**Pg**	**12 53 15.0**	**+0.4**
DENT	**Denizli**	**0.84**	**349**	*e*PG	**Pg**	**12 53 13.9**	**-1.2**
DENT				*e*SG	**Sg**	**12 53 26.7**	**+0.7**
ANTB	**Antalya**	**1.13**	**91**	*e*PN	**Pn**	**12 53 20.4**	**-0.8**
ARG	**Arkhangelos**	**1.15**	**232**	*e*P	**Pg**	**12 53 20.1**	**-0.7**
ARG	**Arkhangelos**	**1.15**	**232**	*e*P	**Pg**	**12 53 20.1**	**-0.7**
BCK	**Bucak**	**1.20**	**63**	*e*PN	**Pn**	**12 53 21.4**	**-0.7**
MLSB	**Milas**	**1.23**	**288**	*e*PN	**Pn**	**12 53 21.8**	**-0.7**
AYDN	**Tasoluk**	**1.31**	**304**	*i* P	**Pn**	**12 53 23.2**	**-0.5**
AYDN				*i* S	**Sb**	**12 53 44.5**	**+3.5**
AYDN	**Tasoluk**	**1.31**	**304**	*i* P	**Pn**	**12 53 23.2**	**-0.5**
KHL	**Karahalli**	**1.41**	**9**	*e*PN	**Pn**	**12 53 24.2**	**-0.9**
BDRM	**Kayabasi**	**1.45**	**276**	*i* P	**Pn**	**12 53 25.9**	**+0.3**
BDRM				*i* S	**Sb**	**12 53 46.3**	**+1.5**
BODT	**Bodrum**	**1.55**	**276**	*e*PN	**Pn**	**12 53 26.7**	**-0.4**
KULA	**Kula-Manisa**	**1.65**	**344**	*e*PN	**Pn**	**12 53 27.6**	**-0.8**
SHUT	**Suhut-Afyon**	**1.93**	**32**	*e*PN	**Pn**	**12 53 32.0**	**-0.1**
SMG	**Samos**	**2.07**	**293**	*e*P	**Pn**	**12 53 34.2**	**0.0**
SMG	**Samos**	**2.07**	**293**	*e*P	**Pn**	**12 53 34.2**	**0.0**
IZM	**Izmir**	**2.15**	**314**	*e*PN	**Pn**	**12 53 34.5**	**-0.8**
KDAG	**Bornova**	**2.15**	**314**	*i* P	**Pn**	**12 53 35.4**	**+0.1**
GDZ	**Gediz**	**2.17**	**5**	*i* P	**Pn**	**12 53 35.8**	**+0.3**
GDZ				*i* S	**Sn**	**12 54 03.2**	**+0.5**
KARP	**Karpathos**	**2.17**	**231**	*e*P	**Pn**	**12 53 35.8**	**+0.2**
KARP				*e*S	**Sn**	**12 54 02.6**	**-0.2**
KARP	**Karpathos**	**2.17**	**231**	*e*P	**Pn**	**12 53 35.8**	**+0.2**
KARP				*e*S	**Sn**	**12 54 02.6**	**-0.2**
ALT	**Altintas**	**2.23**	**18**	*e*PN	**Pn**	**12 53 35.6**	**-0.8**
BOLV	**Bolvadin**	**2.24**	**37**	*i* P	**Pn**	**12 53 38.4**	**+1.9**
BOLV				*i* S	**Sn**	**12 54 04.9**	**+0.4**
BLCB	**Balcova**	**2.28**	**310**	*e*PN	**Pn**	**12 53 36.3**	**-0.7**
HDMB	**Hadim**	**2.60**	**88**	*e*PN	**Pn**	**12 53 42.3**	**+0.9**
KONT	**Konya--Tatoy**	**2.68**	**67**	*e*PN	**Pn**	**12 53 42.6**	**+0.1**
LADK	**Ladik-KONYA**	**2.79**	**62**	*e*PN	**Pn**	**12 53 44.0**	**+0.1**
KIZT	**Kizilcal**	**2.86**	**46**	*e*PN	**Pn**	**12 53 45.5**	**+0.5**

*IDC **30** 12:53:58.7±6.6, 3723N×7208E, h156km±55km, mb3.5/3, mb1 3.6/8, mb1mx3.3/24, mbtmp3.5/8, Error ellipse: s-maj=48.7km s-min=24.9km az=170.0*
*BJI **30** 12:54:00.2, 3725N×7215E, h199km, mB4.6, mb4.3*
*NNC **30** 12:54:01.1±10.0, 3783N×7227E, h0km, mb3.9, mpv3.9, Error ellipse: s-maj=92.1km s-min=67.3km az=24.0*
*ISCJB **30** 12:54:02.1±0.5, 3743N±003×7218E±007, h197km±7km, mb3.6/3, Error ellipse: s-maj=9.3km s-min=4.6km az=163.3*
*MOS **30** 12:54:02.5±0.9, 3742N×7213E, h201km, mb4.5/3, Error ellipse: s-maj=20.2km s-min=10.4km az=83.2*
*NEIC **30** 12:54:02.9±0.6, 3739N×7215E, h190km±8km, mb4.5/14, Error ellipse: s-maj=9.7km s-min=5.1km az=68.0*

ISC 30 12:54:03.0±0.5, 3742N±003×7218E±007, h187km±7km, n60, σ1§03/66, mb3.7/3, 6C-1D, Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KSH	**Kashi**	**3.64**	**54**	P	**Pn**	**12 55 01.5**	**+1.8**
KSH				S	**Sn**	**12 55 43.8**	**-0.3**
KSH	comp=N,99nm,0.6s			Smax			
KSH	comp=E,82nm,0.4s			Smax			
KBL	**Kabul**	**3.84**	**222**	*e*PN	**Pn**	**12 55 02.7**	**+0.4**
AML	**Almayashu** SNR=122	**4.85**	**13**	P	**Pn**	**12 55 16.0**	**+1.0**
AML	**Almayashu**	**4.85**	**13**	*e*P	**Pn**	**12 55 15.7**	**+0.8**
UCH	**Uchtor** SNR=21	**5.13**	**20**	P	**Sn**	**12 56 17.1**	**-1.1**
UCH	**Uchtor** comp=E,5.9nm,0.7s	**5.13**	**20**	*e*P	**Pn**	**12 55 19.8**	**+1.2**
KZA	**Kyzart** SNR=10.0	**5.22**	**26**	P	**Pn**	**12 55 20.2**	**+0.5**
EKS2	**Erkin-Say** SNR=11	**5.38**	**13**	P	**Pn**	**12 55 22.8**	**+1.0**
EKS2	**Erkin-Say** comp=E,16nm,0.6s	**5.38**	**13**	*e*P	**Pn**	**12 55 22.6**	**+0.8**
AAK	**Ala-Archa** SNR=31	**5.50**	**18**	P	**Pn**	**12 55 24.5**	**+1.1**
ULHL	**Ulahol** SNR=8.2	**5.74**	**32**	P	**Pn**	**12 55 27.2**	**+0.6**
THN	**Thein Dam**	**5.76**	**149**	*e*P	**Pn**	**12 55 25.5**	**-1.4**
THN				*ex*	x	12 56 30.2	
KK31	**Karatay Array** comp=E,9.3nm,0.5s,baz=163,slow=14,SNR=84	**5.82**	**348**	Pn	**Pn**	**12 55 27.9**	**+0.4**
KK31	comp=E,23nm,0.4s,baz=157,slow=23			⇓Sn	**Sn**	**12 56 31.5**	**-2.8**
CHMS	**Chumysh** SNR=7.6	**5.91**	**19**	P	**Sn**	**12 56 34.9**	**-1.6**
TKM2	**Tokmak 2** comp=E,6.3nm,0.7s	**6.08**	**24**	⇑Pn	**Pn**	**12 55 31.6**	**+0.6**
TKM2	comp=E,12nm,0.8s			⇑Sn	**Sn**	**12 56 39.0**	**-1.6**
TKM2	**Tokmak 2**	**6.08**	**24**	*e*PN	**Pn**	**12 55 31.7**	**+0.7**
TKM2	comp=Z,7.0nm,0.7s			pmax	pmax		
TKM2	**Tokmak 2** SNR=14	**6.08**	**24**	P	**Pn**	**12 55 32.1**	**+1.1**
TKM2	**Tokmak 2** comp=Z,7.1nm,0.7s	**6.08**	**24**	*e*P	**Pn**	**12 55 31.7**	**+0.7**
USP	**Ospenovka** SNR=7.6	**6.10**	**16**	P	**Pn**	**12 55 32.4**	**+1.1**
SMLA	**Simla**	**7.51**	**145**	*i* P	**Pn**	**12 55 49.1**	**-0.7**
SMLA				*i* S	**Sn**	**12 57 08.8**	**-5.7**
SMLA	comp=N,240nm,0.5s			*ex*	x	12 57 10.9	
SMLA	comp=E,399nm,0.4s			*ex*	x	12 57 13.1	
KLP	**Kalpa**	**7.72**	**138**	*e*P	**Pn**	**12 55 51.8**	**-0.7**
KLP				*e*S	**Sn**	**12 57 10.6**	**-8.7**
JOSI	**Joshimath**	**9.18**	**136**	*e*P	**Pn**	**12 56 11.7**	**0.0**
JOSI				*e*S	**Sn**	**12 57 45.9**	**-8.4**
KUDL	**Kundal**	**9.93**	**157**	*e*S	**Sn**	**12 58 01.6**	**-11**
SONA	**Sohna**	**10.03**	**154**	*e*S	**Sn**	**12 58 03.6**	**-11**
MK31	**Makanchi Array** comp=E,1.2nm,0.5s,baz=225,slow=9.0,SNR=20	**11.99**	**35**	⇑Pn	**Pn**	**12 56 45.7**	**-2.2**
MKAR	**Makanchi Array** comp=E,0.1nm,0.3s,baz=208,slow=12,SNR=8.7	**11.99**	**35**	P	**Pn**	**12 56 46.5**	**-1.4**
MKAR	**Makanchi Array**	**11.99**	**35**	P	**Pn**	**12 56 46.5**	**-1.4**
DANN	**Dangsing** comp=E,13nm,0.3s	**13.27**	**130**	*e*P	**Pn**	**12 57 03.4**	**-0.9**
KOLN	**Koldanda** comp=E,6.7nm,0.3s	**13.60**	**132**	*e*P	**Pn**	**12 57 07.1**	**-1.3**
KURBB	**Kurchatov Arra** comp=E,1.5nm,0.7s	**13.96**	**17**	⇑Pn	**Pn**	**12 57 15.0**	**+2.4**
GKN	**Gorkha** comp=E,23nm,0.5s	**14.06**	**128**	*e*P	**Pn**	**12 57 13.6**	**-0.5**
KURK	**Kurchatov** comp=E,0.3nm,0.3s,baz=200,slow=11,SNR=31	**14.07**	**17**	P	**Pn**	**12 57 11.8**	**-2.1**
KURK	**Kurchatov**	**14.07**	**17**	*e*P	**Pn**	**12 57 16.4**	**+2.5**
KURK	comp=Z,16nm,0.9s			pmax	pmax		
KURK	**Kurchatov** comp=Z,16nm,0.9s	**14.07**	**17**	*e*P	**Pn**	**12 57 16.4**	**+2.4**
KKN	**Kakani**	**14.62**	**127**	*e*P	**Pn**	**12 57 21.3**	**+0.3**
DMN	**Daman** comp=Z,8.4nm,0.3s	**14.63**	**128**	*e*P	**Pn**	**12 57 20.8**	**-0.4**
AB09	**Akbulak array** comp=Z,0.6nm,0.3s	**14.80**	**327**	⇑Pn	**Pn**	**12 57 23.0**	**0.0**
PKI	**Pulchoki** comp=Z,13nm,0.5s	**14.85**	**128**	*e*P	**Pn**	**12 57 24.5**	**+0.6**
PKI	**Pulchoki**	**14.85**	**128**	*e*P	**Pn**	**12 57 24.5**	**+0.6**
PKI	comp=Z,13nm,0.5s			pmax	pmax		
GUN	**Gumba** comp=Z,9.6nm,0.4s	**14.92**	**126**	*e*P	**Pn**	**12 57 25.1**	**+0.4**
JIRN	**Jiri** comp=Z,27nm,0.4s	**15.29**	**125**	*e*P	**Pn**	**12 57 29.8**	**+0.6**
BVAR	**Borovoye Array** comp=Z,0.8nm,0.3s,baz=182,slow=9.9,SNR=6.2	**15.65**	**356**	P	**Pn**	**12 57 33.6**	**+0.2**
BVAR	**Borovoye Array**	**15.65**	**356**	P	**Pn**	**12 57 33.6**	**+0.2**
BVAR	comp=Z,1.0nm,0.3s			pmax	pmax		
RAMN	**Ramite** comp=Z,10.0nm,0.4s	**16.04**	**126**	*e*P	**Pn**	**12 57 39.1**	**+0.7**
AKTK	**Aktyubinsk**	**16.50**	**327**	P	**Pn**	**12 57 42.8**	**-0.8**
AKTO	**Aktyubinsk** comp=Z,0.2nm,0.6s	**16.50**	**327**	⇑Pn	**Pn**	**12 57 45.1**	**+1.5**
AKTO	**Aktyubinsk** comp=Z,0.4nm,0.3s,baz=114,slow=12,SNR=4.9	**16.50**	**327**	P	**Pn**	**12 57 42.8**	**-0.8**
TAPN	**Taplejung** comp=Z,6.9nm,0.4s	**16.50**	**123**	*e*P	**Pn**	**12 57 44.6**	**+0.7**
ODAN	**Odare** comp=Z,7.9nm,0.4s	**16.61**	**125**	*e*P	**Pn**	**12 57 45.7**	**+0.4**
ZAA0	**Zalesovo Array**	**18.69**	**24**	*e*P	**P**	**12 58 06.8**	**-0.1**
ZALV	**Zalesovo Beam** comp=Z,3.2nm,0.3s,baz=220,slow=10,SNR=81	**18.69**	**24**	P	**P**	**12 58 06.5**	**-0.3**
ZALV	**Zalesovo Beam**	**18.69**	**24**	P	**P**	**12 58 06.5**	**-0.3**
ZALV	comp=Z,3.0nm,0.3s			pmax	pmax		
NVS	**Novosibirsk**	**18.99**	**20**	*e*P	**P**	**12 58 09.9**	**-0.2**
NVS	comp=N,10.0nm,0.8s			pmax	pmax		
NVS	comp=E,4.0nm,0.8s			pmax	pmax		
NVS	comp=Z,12nm,0.8s			pmax	pmax		
SONM	**Songino Array** comp=Z,1.0nm,0.5s,mb3.7,baz=270,slow=9.2,SNR=7.7	**27.04**	**56**	P	**P**	**12 59 28.6**	**+1.1**
SONM	**Songino Array**	**27.04**	**56**	P	**P**	**12 59 28.6**	**+1.0**
SONM	comp=Z,1.0nm,0.5s			pmax	pmax		
ARCES	**ARCESS Array B** comp=Z,2.0nm,0.9s,mb3.8,baz=106,slow=9.1,SNR=7.0	**40.66**	**337**	P	**P**	**13 01 24.6**	**+0.2**
ARCES	**ARCESS Array B**	**40.66**	**337**	P	**P**	**13 01 24.6**	**+0.2**
ARCES	comp=Z,2.0nm,0.9s			pmax	pmax		
TORD	**Torodi Ar. Bea** comp=Z,113nm,0.3s,baz=49,slow=5.7,SNR=1.6	**66.68**	**269**	P	**P**	**13 04 32.4**	**-1.5**
YKA	**Yellowknife Ar** comp=Z,0.8nm,0.6s,mb3.5,baz=348,slow=5.2,SNR=4.9	**80.28**	**3**	P	**P**	**13 05 52.1**	**-0.3**
YKA	**Yellowknife Ar**	**80.28**	**3**	P	**P**	**13 05 52.1**	**-0.3**
YKA	comp=Z,1.0nm,0.6s			pmax	pmax		

CASC 30 12:58:23.0±1.5, 1334N×8972W, h34km±3km, MD4.0, 2C-1D, El Salvador

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SBLS	**San Blas**	**0.51**	**11**	*e*P	x	12 58 34.3	
SBLS				*e*S	x	12 58 42.3	
SNJE	**San Jose**	**0.54**	**12**	*i*P	x	12 58 34.6	
SNJE				*e*S	x	12 58 43.4	
RTR	**El Retiro**	**0.56**	**7**	*e*P	x	12 58 35.1	
RTR				*e*S	x	12 58 43.8	
BOQS	**Boqueron**	**0.58**	**47**	*e*P	x	12 58 35.2	
BOQS				*e*S	x	12 58 45.7	
SNET	**Serv Nac Est T**	**0.59**	**54**	*e*P	x	12 58 34.4	
SNET				*e*S	x	12 58 44.6	
LFRS	**El Faro**	**0.70**	**66**	*e*P	x	12 58 36.4	
LFU	**La Fuente**	**0.72**	**55**	*e*P	x	12 58 37.1	
LBRS	**Las Brisas**	**0.77**	**59**	*e*P	x	12 58 37.6	
RBDL	**Robledal**	**0.77**	**2**	*e*P	x	12 58 37.9	
MTO2	**Montecristo 2**	**1.11**	**18**	*e*P	x	12 58 42.4	
MTO2				*e*S	x	12 58 57.5	
PCG	**Pacaya**	**1.36**	**321**	*e*P	Pn	12 58 47.8	+2.2
PCG				*e*S	Sn	12 59 03.2	+0.9
NBG	**Las Nubes**	**1.38**	**334**	*e*P	Pn	12 58 47.9	+2.0
VSM	**San Miguel**	**1.41**	**86**	*e*P	x	12 58 46.2	
VSM				*e*S	x	12 59 05.5	
BLLM	**Bellamira**	**1.45**	**86**	*e*P	x	12 58 46.5	
BLLM				*e*S	x	12 59 06.0	
CAHU	**Cacacuatique**	**1.53**	**73**	*e*P	x	12 58 47.8	
CAHU				*e*S	x	12 59 08.6	
FUG	**Fuego 3**	**1.55**	**316**	*e*P	Pn	12 58 48.0	-0.2
FG6		**1.66**	**317**	*e*P	Pn	12 58 50.3	+0.6
FG6				*e*S	Sn	12 59 10.8	+1.1
CNCH	**Conchagua**	**1.84**	**92**	*e*P	x	12 58 51.9	
CNCH				*e*S	x	12 59 15.3	
JAT	**Jato**	**2.10**	**298**	⇑*e*P	Pn	12 58 56.5	+0.8

*IDC **30** 13:17:26.5±2.3, 1901S×7033W, h0km, mb4.3/2, mb1 4.2/3, mb1mx3.7/16, mbtmp4.3/3, ML3.7/1, MS2.8/1, Ms1 2.8/1, ms1mx2.5/18, Error ellipse: s-maj=81.0km s-min=56.6km az=143.0*

NEIC 30 13:17:41.6±2.8, 1787S×7019W, h93km±16km, mb4.1/1, 1C, Error ellipse: s-maj=56.5km s-min=15.2km az=108.0, Near coast of Peru

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LPAZ	**La Paz** 5.5nm,0.3s,baz=246,slow=12,SNR=217	**2.52**	**52**	Pn	Pn	13 18 21.7	+1.0
LPAZ	baz=140,slow=18,SNR=1.6			Sn	Sn	13 18 59.6	+8.9
LPAZ	**La Paz**	**2.52**	**52**	⇑Pn	Pn	13 18 21.3	+0.6
LPAZ				Sn	Sn	13 18 59.6	+8.9
LVC	**Limon Verde**	**4.87**	**166**	*e*Pn	Pn	13 18 52.8	+0.3
ROSC	**El Rosal** comp=Z,22nm,21.2s,baz=32,slow=41	**22.95**	**349**	LR	LR	13 33 46.0	
DBIC	**Dimbokro** 1.6nm,0.5s,baz=245,slow=6.8,SNR=6.1	**68.92**	**75**	P	P	13 28 36.1	-1.0
DBIC	**Dimbokro** 1.3nm,0.4s	**68.92**	**75**	*e*P	P	13 28 37.6	+0.5
TOA0	**Torodi Ar. Sit**	**77.31**	**72**	*e*P	P	13 29 26.5	-0.1
TORD	**Torodi Ar. Bea** 2.3nm,0.6s,baz=252,slow=5.5,SNR=27	**77.31**	**72**	P	P	13 29 26.8	+0.2
TORD	**Torodi Ar. Bea**	**77.31**	**72**	P	P	13 29 26.8	+0.2
SONM	**Songino Array** 0.3nm,0.4s,baz=339,slow=3.6,SNR=3.0	**149.98**	**5**	PKPbc	PKPbc	13 37 21.5	+0.3

*ISCJB **30** 13:35:46.8±1.1, 3754N±005×3530E±006, h2km±14km, Error ellipse: s-maj=8.7km s-min=7.4km az=42.2*
*DDA **30** 13:35:46.7, 3751N×3532E, h7km±2km, Md3.0*
*CSEM **30** 13:35:46.6±0.2, 3754N×3529E, h8km, MD3.0, Error ellipse: s-maj=3.9km s-min=3.2km az=86.0*
*ISK **30** 13:35:46.8, 3752N×3530E, h8km, ML2.3*

ISC 30 13:35:47.2±0.7, 3755N±003×3530E±006, h4km±11km, n9, σ0§33/14, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KARA	**Karaisali**	**0.35**	**214**	P	**Pg**	**13 35 54.2**	**+0.3**
KARA				*e*SG	**Sg**	**13 35 58.5**	**0.0**
CEYT	**Ceyhan**	**0.65**	**146**	*e*PG	**Pg**	**13 35 59.9**	**+0.2**
CEYT				*e*SG	**Sg**	**13 36 07.9**	**-0.1**
NIG	**Nigde**	**0.78**	**316**	*e*PG	**Pg**	**13 36 02.2**	**0.0**
MERS	**Mersin**	**0.92**	**223**	*e*PG	**Pg**	**13 36 04.7**	**-0.2**
MERS				*e*SG	**Sg**	**13 36 16.8**	**0.0**
KMRS	**Kahramanmaras**	**1.27**	**92**	*e*PN	**Pn**	**13 36 11.2**	**-0.6**
AVNT	**Avonos**	**1.28**	**344**	*i* P	**Pg**	**13 36 11.4**	**-0.3**
AVNT				*i* S	**Sg**	**13 36 28.2**	**0.0**
PINB	**Pinarbasi**	**1.42**	**37**	*i* P	**Pn**	**13 36 14.5**	**+0.7**
PINB				*i* S	**Sb**	**13 36 37.2**	**+4.4**
SARI	**SarD1z-Kayseri**	**1.57**	**44**	*e*PN	**Pn**	**13 36 11.1**	**-4.9**
IKL	**Isikli**	**1.84**	**225**	*e*PN	**Pn**	**13 36 19.6**	**-0.1**

*ISCJB **30** 13:58:02.7±0.6, 5668N±008×342W±0.1, h10km, mb4.3/14, MS3.5/15, Error ellipse: s-maj=13.4km s-min=8.0km az=31.2*
*IDC **30** 13:58:03.6±0.9, 5678N×3421W, h0km, mb3.7/8, mb1 4.0/10, mb1mx3.8/26, mbtmp3.9/10, ML3.7/3, MS3.6/16, Ms1 3.6/16, ms1mx3.4/29, Error ellipse: s-maj=25.3km s-min=19.1km az=0.0*
*NEIC **30** 13:58:04.8±0.6, 5666N×3426W, h10km, mb3.6/1, Error ellipse: s-maj=12.5km s-min=10.4km az=214.0*
*CSEM **30** 13:58:05.2±0.1, 5676N×3415W, h30km, mb4.9/7, Error ellipse: s-maj=6.6km s-min=3.2km az=43.0*

ISC 30 13:58:05.1±0.5, 5677N±006×341W±01, h10km, n55, σ0§90/48, mb4.3/14, MS3.5/15, Reykjanes Ridge

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BORG	**Borgarnes** 0.5nm,0.3s,baz=245,slow=17,SNR=2.3	**10.12**	**33**	Pn	**Pn**	**14 00 29.1**	**-1.1**
BORG	0.4nm,0.3s,baz=259,slow=7.1,SNR=2.5			Sn	**Sn**	**14 02 22.6**	**-1.0**
BORG	comp=E,688nm,18.5s,baz=99,slow=32			LR	LR	14 03 27.9	
BORG	**Borgarnes**	**10.12**	**33**	*e*Pn	**Pn**	**14 00 34.1**	**+3.9**
BORG				Sn	**Sn**	**14 02 22.6**	**-1.0**
BORG	**Borgarnes**	**10.12**	**33**	*e*Pn	**Pn**	**14 00 34.1**	**+3.9**
BORG				Sn	**Sn**	**14 02 22.6**	**-1.0**
BORG				LR	LR	14 03 27.9	
SFJD	**Kangerlussuaq** 0.8nm,0.3s,baz=118,slow=7.4,SNR=4.5	**12.83**	**330**	Pn	**Pn**	**14 01 06.9**	**-0.2**
SFJD	**Kangerlussuaq**	**12.83**	**330**	P	**Pn**	**14 01 08.1**	**+1.0**
SFJD	**Kangerlussuaq**	**12.83**	**330**	P	**Pn**	**14 01 08.1**	**+0.9**
SUMG	**Summit** 6.4nm,1.2s	**15.97**	**355**	*e*P	**Pn**	**14 01 49.8**	**+0.4**
SUMG	**Summit** 6.4nm,1.2s	**15.97**	**355**	*e*P	**Pn**	**14 01 49.8**	**+0.4**
EKA	**Eskdalemuir Ar** 0.1nm,0.3s,baz=298,slow=12,SNR=4.0	**17.26**	**82**	P	**Pn**	**14 02 07.0**	**+1.2**
ROSF	**Rostrenen** 83nm,1.3s	**20.40**	**101**	*e*P	**P**	**14 02 43.0**	**+1.2**
ROSF	**Rostrenen** 83nm,1.3s	**20.40**	**101**	*e*P	**P**	**14 02 43.0**	**+1.2**
QUIF	**Quistinic** 57nm,1.2s	**20.70**	**102**	*e*P	**P**	**14 02 44.9**	**-0.2**
QUIF	**Quistinic** 56nm,1.2s	**20.70**	**102**	*e*P	**P**	**14 02 44.9**	**-0.2**
FLN	**La Foliniere** 99nm,1.4s,mb4.7	**21.67**	**97**	*e*P	**P**	**14 02 56.7**	**+1.2**
FLN	**La Foliniere** 99nm,1.4s,mb5.0	**21.67**	**97**	*e*P	**P**	**14 02 56.7**	**+1.2**
GRR	**Gorron** 189nm,1.7s,mb5.0	**21.68**	**99**	*e*P	**P**	**14 02 55.6**	**0.0**
GRR	**Gorron** 189nm,1.7s,mb5.2	**21.68**	**99**	*e*P	**P**	**14 02 55.6**	**0.0**
LDF	**La Druitiere** 74nm,1.5s,mb4.6	**21.96**	**97**	*e*P	**P**	**14 02 59.0**	**+0.4**
LDF	**La Druitiere** 74nm,1.5s,mb4.9	**21.96**	**97**	*e*P	**P**	**14 02 59.0**	**+0.4**
NOA	**NORSAR Array B** comp=Z,47nm,20.7s,MS2.9,baz=235,slow=31	**23.40**	**61**	LR	LR	14 10 20.5	
BAIF	**Baives**	**23.54**	**90**	*e*P	**P**	**14 03 16.1**	**+0.8**
TCF	**Toulx Ste Croi** 35nm,1.1s,mb4.5	**24.61**	**100**	*e*P	**P**	**14 03 23.3**	**-1.8**
TCF	**Toulx Ste Croi** 35nm,1.1s,mb4.8	**24.61**	**100**	*e*P	**P**	**14 03 23.3**	**-1.8**
HFS	**Hagfors** comp=Z,47nm,18.0s,MS3.0,baz=250,slow=34	**24.78**	**62**	LR	LR	14 12 06.8	
LOR	**Lormes**	**24.91**	**96**	*e*P	**P**	**14 03 26.7**	**-1.1**
AVF	**Avril sur Loir** 52nm,1.5s,mb4.5	**24.92**	**98**	*e*P	**P**	**14 03 26.2**	**-1.7**
AVF	**Avril sur Loir** 52nm,1.5s,mb4.8	**24.92**	**98**	*e*P	**P**	**14 03 26.2**	**-1.7**
SMF	**Signal de Mont** 41nm,1.3s,mb4.5	**25.27**	**97**	*e*P	**P**	**14 03 30.3**	**-0.9**
SMF	**Signal de Mont** 40nm,1.3s,mb4.8	**25.27**	**97**	*e*P	**P**	**14 03 30.3**	**-0.9**
ESDC	**Sonseca Array** comp=Z,156nm,18.5s,MS3.6,baz=310,slow=33	**26.05**	**118**	LR	LR	14 12 26.9	
CDF	**Champ du Feu** 14nm,1.1s,mb4.1	**26.12**	**91**	*e*P	**P**	**14 03 39.0**	**+0.2**
CDF	**Champ du Feu** 14nm,1.1s,mb4.4	**26.12**	**91**	*e*P	**P**	**14 03 39.0**	**+0.2**
LPG	**La Plagne**	**27.57**	**97**	*e*P	**P**	**14 03 52.0**	**+0.1**
ARCES	**ARCESS Array B** 2.2nm,0.7s,mb3.9,baz=289,slow=7.6,SNR=5.5	**28.42**	**40**	P	**P**	**

ISC 30 14:07:55.6±0.7, 2699S±003×712W±01, h35km, n25, σ1°18/23, mb4.0/5, MS3.5/4, 2C-3D, Off coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CPCH	**Copiapo**	**0.80**	**118**	⇓*i* P	**Pn**	**14 08 09.8**	**-0.6**
CPCH				AML	AML	14 08 25.2	
	comp=E,21μm,0.1s						
VACH	**Vallenar**	**1.62**	**168**	⇑*i* P	**Pn**	**14 08 20.3**	**-1.4**
VACH				*i* S	**Sn**	**14 08 39.8**	**-1.6**
LCO	**Las Campanas**	**2.06**	**169**	⇑*i* P	**Pn**	**14 08 26.3**	**-1.4**
LCO				*i* S	**Sn**	**14 08 51.7**	**-0.4**
CPN1	**Cerro Paranal**	**2.45**	**16**	⇓*i* P	**Pn**	**14 08 32.5**	**-0.6**
CPN1				*i* S	**Sn**	**14 09 02.2**	**+0.5**
CPN1				AML	AML	14 09 14.5	
	comp=E,381nm,0.7s						
TLL	**Tololo Astrono**	**3.18**	**175**	⇓*i* P	**Pn**	**14 08 42.1**	**-1.1**
TLL				AML	AML	14 09 41.0	
	comp=E,470nm,0.8s						
ANCH	**Antofagasta**	**3.36**	**12**	*i* P	**Pn**	**14 08 44.0**	**-1.6**
ANCH				*i* S	**Sn**	**14 09 22.1**	**-2.1**
LVC	**Limon Verde**	**4.81**	**26**	*e*Pn	**Pn**	**14 09 06.7**	**+1.1**
LVC				Sn	**Sn**	**14 09 59.5**	**-0.5**
CFAA	**Coronel Fontan**	**5.26**	**152**	Pn	**Pn**	**14 09 12.9**	**+1.2**
	comp=E,0.4nm,0.3s,baz=342,slow=9.4,SNR=12						
CFAA				Sn	**Sn**	**14 10 12.8**	**+1.7**
	comp=E,0.6nm,0.3s,baz=5.4,slow=4.2,SNR=4.1						
LPAZ	**La Paz**	**11.01**	**15**	Pn	**Pn**	**14 10 30.8**	**+0.1**
	comp=E,0.3nm,0.3s,baz=217,slow=7.9,SNR=8.0						
LPAZ				LR	LR	14 14 57.8	
	comp=E,79nm,19.5s,baz=237,slow=38						
LPAZ	**La Paz**	**11.01**	**15**	*e*P	**Pn**	**14 10 30.4**	**-0.2**
	comp=E,2.0nm,0.6s						
PLCA	**Paso Flores**	**13.72**	**178**	LR	LR	14 16 20.8	
	comp=E,207nm,20.1s,baz=2.0,slow=37						
BDFB	**Brasilia**	**24.29**	**67**	P	**P**	**14 13 09.4**	**-0.4**
	comp=E,2.9nm,0.8s,mb3.8,baz=250,slow=15,SNR=5.3						
BDFB				LR	LR	14 23 27.5	
	comp=E,51nm,19.7s,MS3.0,baz=204,slow=38						
USHA	**Ushuaia**	**27.89**	**177**	LR	LR	14 24 39.0	
	comp=E,101nm,18.5s,MS3.4,baz=70,slow=36						
QSPA	**South Pole Qui**	**63.23**	**180**	P	**P**	**14 18 20.6**	**+0.8**
	comp=E,1.0nm,0.3s,mb4.4,baz=96,slow=2.2,SNR=3.0						
TXAR	**Lajitas Array**	**64.08**	**329**	P	**P**	**14 18 28.5**	**+2.4**
	comp=E,0.3nm,0.7s,mb3.4,baz=151,slow=8.2,SNR=2.9						
DBIC	**Dimbokro**	**72.29**	**73**	P	**P**	**14 19 18.9**	**+1.0**
	comp=E,3.0nm,0.8s,mb4.3,baz=172,slow=3.5,SNR=4.5						
DBIC				LR	LR	14 51 36.2	
	comp=E,56nm,18.7s,MS3.9,baz=18,slow=36						
TOA0	**Torodi Ar. Sit**	**81.12**	**70**	*e*P	**P**	**14 20 08.6**	**+0.8**
TOA0				*e*	pP	14 20 19.5	+0.6
TORD	**Torodi Ar. Bea**	**81.12**	**70**	P	**P**	**14 20 08.9**	**+1.1**
	comp=E,170nm,0.4s,baz=263,slow=5.1,SNR=2.3						
TORD				pP	pP	14 20 19.7	+0.8
	comp=E,4.6nm,0.8s,baz=254,slow=5.0,SNR=10						
TORD				LR	LR	14 53 32.1	
	comp=E,48nm,18.5s,MS3.9,baz=265,slow=34						
BOSA	**Boshof**	**82.68**	**118**	P	**P**	**14 20 17.4**	**+1.4**
	comp=E,2.8nm,0.9s,mb4.3,baz=209,slow=8.6,SNR=3.0						
ASAR	**Alice Springs**	**124.12**	**208**	pPKP	pPKPdf	14 27 00.7	-1.8
	comp=E,0.7nm,0.8s,baz=146,slow=2.9,SNR=3.4						
WRA	**Warramunga Arr**	**127.21**	**211**	PKP	PKPdf	14 26 55.7	-1.3
	comp=E,0.3nm,0.8s,baz=155,slow=1.4,SNR=2.8						
WRA				pPKP	pPKPdf	14 27 06.2	-2.3
	comp=E,0.9nm,0.9s,baz=233,slow=6.9,SNR=5.1						
ZAA0	**Zalesovo Array**	**147.76**	**27**	*e*PKPdf	PKPdf	14 27 33.5	+0.2
ZAA0				*e*PKPbc	PKPbc	14 27 37.5	+1.2
ZALV	**Zalesovo Beam**	**147.76**	**27**	PKP	PKPdf	14 27 34.4	+1.0
	comp=E,5.1nm,0.8s,baz=270,slow=0.7,SNR=14						
ZALV				PKPbc	PKPbc	14 27 37.8	+1.6
	comp=E,5.3nm,0.8s,baz=306,slow=3.5,SNR=21						
ZALV				pPKPbc	pPKPbc	14 27 48.2	+0.5
	comp=E,5.0nm,0.7s,baz=304,slow=3.3,SNR=10.0						
ZALV	**Zalesovo Beam**	**147.76**	**27**	PKP	PKPdf	14 27 34.4	+1.0
ZALV				PKPbc	PKPbc	14 27 37.8	+1.6
ZALV				pPKPbc	pPKPbc	14 27 48.2	+0.5
MKAR	**Makanchi Array**	**151.21**	**40**	PKPbc	PKPbc	14 27 46.2	+1.2
	comp=E,3.3nm,0.8s,baz=322,slow=2.3,SNR=23						
MKAR				pPKPbc	pPKPbc	14 27 56.8	+0.3
	comp=E,3.8nm,0.7s,baz=331,slow=2.0,SNR=16						

*GII **30** 14:43:02.2±0.0, 3009N×3079E, h50km, mb4.1/1, ML3.8/3*

ISC 30 14:43:00.1±1.3, 3004N±007×3083E±009, h10km, n22, σ0°49/30, Egypt

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KZIT	**Kziot**	**3.20**	**74**	Pn	**Pn**	**14 43 50.7**	**+0.4**
KRMI	**Paran Flat**	**3.38**	**88**	Pn	**Pn**	**14 43 53.0**	**+0.2**
KRMI				Sn	**Sn**	**14 44 33.3**	**+0.4**
RMNI	**Mount Ramon**	**3.44**	**80**	Pn	**Pn**	**14 43 54.2**	**+0.5**
EIL	**Elat**	**3.60**	**95**	Pn	**Pn**	**14 43 55.9**	**0.0**
EIL				Sn	**Sn**	**14 44 38.8**	**+0.3**
PRNI	**Paran**	**3.63**	**84**	Pn	**Pn**	**14 43 56.7**	**+0.4**
PRNI				Sn	**Sn**	**14 44 39.5**	**+0.4**
HRFI	**Mount Harif**	**3.65**	**89**	Pn	**Pn**	**14 43 56.9**	**+0.3**
HRFI				Sn	**Sn**	**14 44 40.1**	**+0.5**
AQBJ	**Aqaba**	**3.68**	**94**	Pn	**Pn**	**14 43 57.5**	**+0.5**
HQLS		**3.76**	**100**	P	**Pn**	**14 43 57.6**	**-0.4**
HQLS		**3.76**	**100**	P	**Pn**	**14 43 57.7**	**-0.4**
HQLS				S	**Sn**	**14 44 42.1**	**-0.2**
RSHS		**3.88**	**116**	P	**Pn**	**14 43 59.5**	**-0.2**
RSHS		**3.88**	**116**	P	**Pn**	**14 43 59.5**	**-0.2**
RSHS				S	**Sn**	**14 44 45.2**	**-0.2**
YTIR	**Yattir**	**3.92**	**69**	Pn	**Pn**	**14 44 00.3**	**0.0**
BDAS	**Al Bad'**	**4.06**	**112**	P	**Pn**	**14 44 01.2**	**-1.1**
MZDA	**Masada**	**4.10**	**71**	Pn	**Pn**	**14 44 02.9**	**0.0**
MZDA				Sn	**Sn**	**14 44 50.6**	**-0.3**
DSI	**Dead Sea**	**4.20**	**68**	Pn	**Pn**	**14 44 04.6**	**+0.5**
SLTI	**Sal'it**	**4.22**	**58**	Pn	**Pn**	**14 44 04.4**	**0.0**
SLTI				Sn	**Sn**	**14 44 52.2**	**-1.6**
JLOS		**4.27**	**107**	P	**Pn**	**14 44 04.4**	**-0.8**
HMDT	**Nahal Hemdat**	**4.59**	**60**	Pn	**Pn**	**14 44 09.8**	**+0.3**
TBKS	**Tabuk**	**5.32**	**109**	S	**Sn**	**14 45 27.9**	**+7.2**
TBKS	**Tabuk**	**5.32**	**109**	P	**Pn**	**14 44 19.2**	**-0.3**
WJHS		**5.91**	**123**	P	**Pn**	**14 44 27.6**	**0.0**
BIDS	**Bi'r al Bayda'**	**6.25**	**119**	P	**Pn**	**14 44 32.6**	**+0.3**

*IDC **30** 14:43:46.6±2.2, 2390N×12187E, h0km, mb3.4/4, mb1 3.5/4, mb1mx3.3/20, mbtmp3.4/4, Error ellipse: s-maj=178.0km s-min=25.3km az=66.0*

*ISCJB **30** 14:43:48.8±0.7, 2393N±002×12244E±002, h3km±5km, mb3.3/4, Error ellipse: s-maj=3.9km s-min=2.7km az=164.8*

*JMA **30** 14:43:50.9±0.5, 2399N×12245E, h19km, M3.0*

*TAP **30** 14:43:50.2, 2399N×12230E, h4km±1km, ML3.4, D*

ISC 30 14:43:49.1±0.5, 2393N±003×12244E±002, h4km±3km, n46, σ0°99/73, mb3.3/4, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
YOJ	**Yonaguni jima**	**0.74**	**44**	P	**Pg**	**14 44 04.2**	**+0.8**
YOJ				*e*S	**Sg**	**14 44 13.2**	**+0.2**
HWA	**Hwalien**	**0.77**	**274**	*e*P	**Pg**	**14 44 05.7**	**+1.8**
	baz=268						
TWD	**Chiawan**	**0.79**	**281**	*e*P	**Pg**	**14 44 05.6**	**+1.4**
	baz=278						
ENA	**Nanau**	**0.81**	**308**	*i* P	**Pg**	**14 44 04.8**	**+0.2**
	baz=310						
ENA				*e*S	**Sg**	**14 44 14.5**	**-0.7**
	baz=310						
TWC	**Suao**	**0.87**	**321**	*i* P	**Pg**	**14 44 05.3**	**-0.4**
	baz=326						
TWC				S	**Sg**	**14 44 15.6**	**-1.4**
	baz=326						
ESL	**Shilin**	**0.93**	**263**	*e*P	**Pg**	**14 44 06.8**	**-0.2**
	baz=257						
ESL				S	**Sg**	**14 44 18.6**	**-0.5**
	baz=257						
ILA	**Ilan**	**1.04**	**323**	*e*P	**Pg**	**14 44 09.9**	**+0.7**
	baz=326						
ILA				*e*S	**Sg**	**14 44 24.3**	**+1.6**
	baz=326						
TWE	**Neicheng**	**1.06**	**318**	P	**Pg**	**14 44 09.1**	**-0.3**
	baz=321						
TWE				*e*S	**Sg**	**14 44 23.2**	**0.0**
	baz=321						
WHF	**Hehuan Shan**	**1.10**	**282**	*i* P	**Pg**	**14 44 09.9**	**-0.2**
	baz=279						
WHF				*e*S	**Sg**	**14 44 23.9**	**-0.5**
	baz=279						
NNS	**Nan Shan**	**1.10**	**298**	*i* P	**Pg**	**14 44 09.9**	**-0.3**
	baz=297						
EHY	**Hungye**	**1.11**	**248**	*e*P	**Pg**	**14 44 09.9**	**-0.5**
	baz=241						
EHY				*e*S	**Sg**	**14 44 23.2**	**-1.6**
	baz=241						
TWB1	**Santiao Chiao**	**1.15**	**339**	P	**Pg**	**14 44 10.9**	**-0.3**
	baz=344						
TWB1				S	**Sg**	**14 44 26.9**	**+0.8**
	baz=344						
TWF1	**Yuli**	**1.20**	**242**	P	**Pg**	**14 44 11.7**	**-0.3**
	baz=235						
TWF1				*e*S	**Sg**	**14 44 27.1**	**-0.5**
	baz=235						
NSK	**Sanguang**	**1.24**	**307**	P	**Pg**	**14 44 12.0**	**-0.8**
	baz=308						
NSK				*e*S	**Sg**	**14 44 28.4**	**-0.5**
	baz=308						
IRIF	**Iriomote-Funau**	**1.25**	**71**	P	**Pg**	**14 44 13.3**	**+0.3**
IRIF				*e*S	**Sg**	**14 44 28.9**	**-0.2**
HATJ	**Hateruma jima**	**1.25**	**84**	P	**Pg**	**14 44 12.6**	**-0.6**
HATJ				*e*S	**Sg**	**14 44 30.2**	**+0.8**
NWF	**Wu-fen Shan**	**1.29**	**332**	P	**Pg**	**14 44 12.7**	**-1.1**
	baz=336						
NWF				*e*S	**Sg**	**14 44 30.4**	**-0.1**
	baz=336						
TWA	**Mucha**	**1.31**	**323**	*e*P	**Pn**	**14 44 14.5**	**+0.4**
	baz=326						
TWA				S	**Sg**	**14 44 32.4**	**+1.3**
	baz=326						
SMLT	**Sun Moon Lake**	**1.41**	**268**	P	**Pn**	**14 44 15.1**	**-0.4**
	baz=265						
SMLT				*e*S	**Sb**	**14 44 32.8**	**-1.5**
	baz=265						
YUS	**Yu-Shan**	**1.43**	**252**	P	**Pn**	**14 44 15.7**	**-0.2**
	baz=247						
TYC	**Yuchr**	**1.45**	**269**	*e*P	**Pn**	**14 44 15.7**	**-0.3**
	baz=266						
JKRS	**Kuro-shima**	**1.47**	**78**	P	**Pn**	**14 44 16.5**	**+0.2**
JKRS				*e*S	**Sb**	**14 44 35.8**	**-0.1**
NSTT	**Nanjuang**	**1.49**	**298**	P	**Pn**	**14 44 16.8**	**+0.2**
	baz=298						
TWS1	**Kuangyinshan**	**1.49**	**322**	*e*P	**Pn**	**14 44 16.2**	**-0.5**
	baz=323						
ELDTW	**Lidau**	**1.50**	**241**	*e*P	**Pn**	**14 44 15.6**	**-1.1**
	baz=235						
ALS	**Alishan**	**1.56**	**255**	*e*P	**Pn**	**14 44 17.6**	**0.0**
	baz=250						
ALS				*e*S	**Sn**	**14 44 37.0**	**-1.2**
	baz=250						
TWQ1	**Liyutan**	**1.58**	**286**	*e*P	**Pn**	**14 44 18.2**	**+0.4**
	baz=284						
JIJ	**Ishigaki jima**	**1.61**	**74**	P	**Pn**	**14 44 17.7**	**-0.6**
JIJ				*e*S	**Sn**	**14 44 37.9**	**-1.6**
CHN5	**Tsauling**	**1.65**	**259**	*e*P	**Pn**	**14 44 18.8**	**+0.1**
	baz=255						
TWG	**Pinlang**	**1.67**	**229**	*e*P	**Pn**	**14 44 17.8**	**-1.3**
	baz=224						
TWG				*e*S	**Sn**	**14 44 38.2**	**-2.8**
	baz=224						
STYT	**Tauyuan**	**1.72**	**244**	*e*P	**Pn**	**14 44 19.9**	**+0.1**
	baz=239						
STYT				*e*S	**Sn**	**14 44 40.8**	**-1.4**
	baz=239						
CHN4	**Tsaushan**	**1.79**	**252**	*e*P	**Pn**	**14 44 22.9**	**+2.1**
	baz=247						
CHN4				*e*S	**Sn**	**14 44 44.0**	**+0.1**
	baz=247						
WTP	**Ta-pu**	**1.81**	**248**	P	**Pn**	**14 44 21.9**	**+0.9**
	baz=244						
WTP				*e*S	**Sn**	**14 44 44.5**	**+0.2**
	baz=244						
SGST	**Jiashian**	**1.90**	**244**	*e*P	**Pn**	**14 44 23.2**	**+0.9**
	baz=240						
SGST				*e*S	**Sn**	**14 44 47.8**	**+1.1**
	baz=240						
ECL	**Taimali**	**1.91**	**226**	*e*P	**Pn**	**14 44 20.8**	**-1.6**
	baz=221						
CHN1	**Nanshi**	**1.91**	**247**	*e*P	**Pn**	**14 44 23.8**	**+1.4**
	baz=243						
CHN1				*e*S	**Sn**	**14 44 48.0**	**+1.2**
	baz=243						
TWK	**Hsinying**	**1.91**	**250**	*e*P	**Pn**	**14 44 24.1**	**+1.7**
	baz=246						
TWK				*e*S	**Sn**	**14 44 47.5**	**+0.7**
	baz=246						
SSD	**Sandimen**	**2.04**	**235**	*e*P	**Pn**	**14 44 24.9**	**+0.7**
	baz=231						
EAST	**Anshuo**	**2.13**	**224**	*e*P	**Pn**	**14 44 26.0**	**+0.6**
	baz=219						
TWM1	**Shoushan**	**2.16**	**240**	*e*P	**Pn**	**14 44 28.7**	**+2.9**
	baz=236						
JTJ	**Tarama**	**2.18**	**71**	P	**Pn**	**14 44 25.5**	**-0.6**
SCZT	**Fangliau**	**2.28**	**228**	*e*P	**Pn**	**14 44 30.0**	**+2.5**
	baz=223						
SCZT				*e*S	**Sn**	**14 44 57.2**	**+1.1**
	baz=223						
SONM	**Songino Array**	**27.06**	**336**	P	**P**	**14 49 29.0**	**-3.4**
	0.3nm,0.3s,mb3.2,baz=144,slow=10.0,SNR=4.8						
MKAR	**Makanchi Array**	**39.32**	**316**	P	**P**	**14 51 14.3**	**-4.8**
	0.3nm,0.5s,mb3.2,baz=111,slow=7.9,SNR=4.4						
ZALV	**Zalesovo Beam**	**41.08**	**327**	P	**P**	**14 51 29.9**	**-3.7**
	0.6nm,0.5s,mb3.5,baz=120,slow=8.5,SNR=3.6						
ASAR	**Alice Springs**	**48.60**	**166**	P	**P**	**14 52 32.9**	**-1.0**
	0.2nm,0.8s,mb3.2,baz=345,slow=6.8,SNR=4.0						

*ISCJB **30** 14:51:56.4±1.1, 2396N±003×12243E±002, h14km±8km, Error ellipse: s-maj=4.8km s-min=3.3km az=157.3*

*TAP **30** 14:51:57.4, 2402N×12238E, h24km, ML3.1, C*

*JMA **30** 14:51:58.3±0.4, 2420N×12240E, h40km, M2.3*

ISC 30 14:51:55.8±0.6, 2396N±003×12243E±002, h8km±4km, n35, σ0°88/55, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
YOJ	**Yonaguni jima**	**0.73**	**47**	P	**Pg**	**14 52 10.6**	**+0.7**
YOJ				S	**Sg**	**14 52 19.3**	**-0.1**
HWA	**Hwalien**	**0.75**	**271**	*e*P	**Pg**	**14 52 11.2**	**+0.8**
	baz=252						
TWD	**Chiawan**	**0.77**	**279**	*e*P	**Pg**	**14 52 11.2**	**+0.6**
	baz=275						
ENA	**Nanau**	**0.78**	**307**	*i* P	**Pg**	**14 52 11.2**	**+0.4**
	baz=313						
ENA				*e*S	**Sg**	**14 52 20.9**	**-0.1**
	baz=313						
TWC	**Suao**	**0.83**	**321**	P	**Pg**	**14 52 11.8**	**0.0**
	baz=320						
TWC				*e*S	**Sg**	**14 52 22.5**	**-0.2**
	baz=320						
ESL	**Shilin**	**0.92**	**261**	*e*P	**Pg**	**14 52 12.9**	**-0.7**
	baz=244						
ESL				S	**Sg**	**14 52 25.3**	**-0.2**
	baz=244						
TWE	**Neicheng**	**1.02**	**318**	P	**Pg**	**14 52 15.9**	**+0.3**
	baz=316						
NNS	**Nan Shan**	**1.07**	**296**	P	**Pg**	**14 52 16.4**	**-0.1**
	baz=282						
NNS				*e*S	**Sg**	**14 52 30.3**	**-0.1**
	baz=282						
WHF	**Hehuan Shan**	**1.08**	**280**	*i* P	**Pg**	**14 52 16.3**	**-0.2**
	baz=263						
WHF				*e*S	**Sg**	**14 52 30.9**	**+0.3**
	baz=263						
EHY	**Hungye**	**1.11**	**246**	*e*P	**Pg**	**14 52 16.6**	**-0.6**
	baz=242						
EHY				*e*S	**Sg**	**14 52 30.4**	**-1.2**
	baz=242						
TWB1	**Santiao Chiao**	**1.11**	**339**	*e*P	**Pg**	**14 52 16.8**	**-0.4**
	baz=338						
TWF1	**Yuli**	**1.20**	**240**	P	**Pb**	**14 52 17.9**	**-1.0**
	baz=236						
NSK	**Sanguang**	**1.21**	**306**	P	**Pb**	**14 52 18.5**	**-0.5**
	baz=288						
NSK				*e*S	**Sb**	**14 52 34.4**	**-0.3**
	baz=288						
IRIF	**Iriomote-Funau**	**1.25**	**72**	P	**Pn**	**14 52 19.7**	**+0.2**
NWF	**Wu-fen Shan**	**1.25**	**332**	P	**Pn**	**14 52 19.0**	**-0.6**
	baz=331						
NWF				*e*S	**Sb**	**14 52 36.6**	**+0.7**
	baz=331						
HATJ	**Hateruma jima**	**1.26**	**85**	*e*S	**Sb**	**14 52 36.6**	**+0.3**
TWA	**Mucha**	**1.27**	**323**	*e*P	**Pn**	**14 52 17.8**	**-2.1**
	baz=321						
CHKT	**Chengkung**	**1.30**	**229**	*e*P	**Pn**	**14 52 21.0**	**+0.7**
	baz=212						
CHKT				*e*S	**Sb**	**14 52 33.6**	**-3.8**
	baz=212						
SMLT	**Sun Moon Lake**	**1.40**	**267**	*e*P	**Pn**	**14 52 21.4**	**-0.2**
	baz=254						
YUS	**Yu-Shan**	**1.43**	**251**	P	**Pn**	**14 52 22.3**	**+0.2**
	baz=247						
YUS				S	**Sn**	**14 52 39.7**	**-1.4**
	baz=247						
TYC	**Yuchr**	**1.44**	**268**	P	**Pn**	**14 52 21.6**	**-0.6**
	baz=264						
TWS1	**Kuangyinshan**	**1.46**	**321**	*e*P	**Pn**	**14 52 22.9**	**+0.4**
	baz=301						
NSTT	**Nanjuang**	**1.46**	**297**	*e*P	**Pn**	**14 52 22.8**	**+0.3**
	baz=295						
JKRS	**Kuro-shima**	**1.47**	**79**	P	**Pn**	**14 52 22.8**	**+0.2**
ELDTW	**Lidau**	**1.51**	**240**	*e*P	**Pn**	**14 52 21.8**	**-1.3**
	baz=236						
ALS	**Alishan**	**1.55**	**253**	P	**Pn**	**14 52 24.0**	**+0.2**
	baz=250						
ALS				S	**Sn**	**14 52 43.3**	**-0.8**
	baz=250						
JIJ	**Ishigaki jima**	**1.62**	**75**	P	**Pn**	**14 52 24.2**	**-0.4**
JIJ				*e*S	**Sn**	**14 52 44.3**	**-1.4**
CHN5	**Tsauling**	**1.64**	**258**	*e*P	**Pn**	**14 52 25.3**	**+0.3**
	baz=243						
CHN5				*e*S	**Sn**	**14 52 46.7**	**+0.4**
	baz=243						
TWG	**Pinlang**	**1.69**	**228**	*e*P	**Pn**	**14 52 24.6**	**-1.0**
	baz=237						
TWG				*e*S	**Sn**	**14 52 44.4**	**-3.0**
	baz=237						
STYT	**Tauyuan**	**1.73**	**243**	*e*P	**Pn**	**14 52 26.9**	**+0.7**
	baz=229						
STYT				*e*S	**Sn**	**14 52 47.0**	**-1.4**
	baz=229						
CHN4	**Tsaushan**	**1.79**	**250**	*e*P	**Pn**	**14 52 29.3**	**+2.3**
	baz=247						
CHN4				*e*S	**Sn**	**14 52 50.7**	**+0.8**
	baz=247						
WTP	**Ta-pu**	**1.81**	**247**	*e*P	**Pn**	**14 52 28.2**	**+0.9**
	baz=244						
WTP				S	**Sn**	**14 52 50.9**	**+0.5**
	baz=244						
CHN1	**Nanshi**	**1.91**	**246**	*e*P	**Pn**	**14 52 30.7**	**+2.1**
	baz=243						
CHN1				*e*S	**Sn**	**14 52 53.8**	**+0.9**
	baz=243						
SGST	**Jiashian**	**1.91**	**243**	*e*P	**Pn**	**14 52 30.1**	**+1.5**
	baz=230						
SGST				*e*S	**Sn**	**14 52 54.2**	**+1.3**
	baz=230						
SSD	**Sandimen**	**2.05**	**234**	P	**Pn**	**14 52 31.7**	**+1.1**
	baz=224						

MAN 30 14:57:54, 1097N×12476E, h6km, mb4.1, ML2.9, MS2.7, 1C, Leyte

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
OCLP	**Ormoc**	**0.17**	**298**	*e*P	Pg	14 57 58.5	+1.1
PLP	**Palo**	**0.29**	**48**	⇑*e*P	Pg	14 58 00.6	+0.9
PLP				*e*S	Sg	14 58 04.4	+0.9
MSLP	**Maasin**	**0.84**	**173**	*e*P	Pg	14 58 10.9	+0.8
MSLP				*e*S	Sg	14 58 26.3	+5.3
LLP	**Lapu-Lapu**	**1.02**	**230**	*e*P	Pg	14 58 14.3	+0.7
LLP				*e*S	Sg	14 58 27.3	+0.6
TBP	**Tagbilaran**	**1.55**	**215**	*e*P	Pn	14 58 22.5	+0.3
TBP				*e*S	Sn	14 58 42.7	+0.1
GUIM	**Jordan**	**2.16**	**261**	*e*P	Pn	14 58 30.4	-0.2
GUIM				*e*S	Sn	14 58 59.1	+1.4

*ISCJB **30** 15:01:05.5±0.6, 3073S×002×7200W×006, h10km, mb4.2/3, Error ellipse: s-maj=7.3km s-min=3.0km az=8.2*

*GUC **30** 15:01:08.8±0.5, 3076S×7179W, h25km±2km, MD4.2, ML4.4*

*NEIC **30** 15:01:08.9±2.1, 3069S×7188W, h29km±13km, ML4.4(GUC), Error ellipse: s-maj=19.3km s-min=7.0km az=94.0*

*IDC **30** 15:01:13.5±4.4, 3072S×7190W, h68km±35km, mb3.8/4, mb1 3.8/6, mb1mx3.7/14, mbtmp3.7/6, ML3.6/2, Error ellipse: s-maj=38.2km s-min=24.8km az=55.0*

ISC 30 15:01:07.7±1.4, 3073S±002×7188W±007, h14km±7km, n34, σ0°87/42, mb4.2/3, 4C-5D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
OVCH	**Ovalle**	**0.59**	**79**	⇓*i* P	**Pg**	**15 01 19.3**	**0.0**
OVCH				*i* S	**Sg**	**15 01 27.1**	**-0.1**
OVCH				AML	AML	15 01 27.4	
	comp=N,14μm,0.2s						
OVCH	**Ovalle**	**0.59**	**79**	⇓*i* P	**Pg**	**15 01 19.3**	**0.0**
OVCH				*i* S	**Sg**	**15 01 27.1**	**-0.1**
LSCH	**La Serena**	**0.98**	**34**	⇓*i* P	**Pb**	**15 01 25.9**	**-0.5**
LSCH				*i* S	**Sb**	**15 01 38.8**	**-0.5**
TLL	**Tololo Astrono**	**1.08**	**59**	⇓*i* P	**Pb**	**15 01 27.7**	**-0.5**
TLL				*i* S	**Sb**	**15 01 41.9**	**-0.2**
TLL				AML	AML	15 01 45.9	
	comp=E,8μm,0.4s						
TLL	**Tololo Astrono**	**1.08**	**59**	⇓*i* P	**Pb**	**15 01 27.7**	**-0.5**
TLL				*i* S	**Sb**	**15 01 41.9**	**-0.2**
CHNG	**Los Chungos**	**1.20**	**164**	⇑*i* P	**Pn**	**15 01 29.2**	**-0.8**
CHNG				*i* S	**Sb**	**15 01 43.9**	**-1.6**
PTCH	**Petorca**	**1.73**	**152**	*i* P	**Pn**	**15 01 37.3**	**-0.1**
PTCH				*i* S	**Sn**	**15 01 58.5**	**-0.7**
PTCH				AML	AML	15 02 05.8	
	comp=E,8μm,0.2s						
PTCH	**Petorca**	**1.73**	**152**	*i* P	**Pn**	**15 01 37.3**	**-0.1**
PTCH				*i* S	**Sn**	**15 01 58.5**	**-0.7**
LCO	**Las Campanas**	**1.99**	**31**	*e*P	**Pn**	**15 01 40.3**	**-0.7**
LCO				*e*S	**Sn**	**15 02 07.6**	**+1.9**
VACH	**Vallenar**	**2.35**	**25**	*i* P	**Pn**	**15 01 45.8**	**-0.2**
VACH				*i* S	**Sn**	**15 02 15.0**	**+0.4**
PEL	**Peldehue**	**2.61**	**158**	⇑*i* P	**Pn**	**15 01 50.0**	**+0.5**
PEL				*i* S	**Sn**	**15 02 21.3**	**+0.3**
PEL				AML	AML	15 02 30.7	
	comp=E,3μm,0.6s						
CLCH	**Cerro

ZALV Zalesovo Beam 151.35 29 PKPbc PKPbc 15 20 58.9 -1.5
comp=N,1.6nm,0.5s,baz=336,slow=3.3,SNR=9.4

*CSEM **30** 15:13:04.0±0.3,3699N×2824E,h1km±2km, MD2.9, Error ellipse: s-maj=5.4km s-min=3.0km az=20.0*
*ISK **30** 15:13:04.8,3700N×2824E,h14km, MD2.7*
*ISCJB **30** 15:13:05.1±0.6,3699N±006×2824E±005,h10km, Error ellipse: s-maj=9.4km s-min=4.3km az=21.8*
*DDA **30** 15:13:06.1, 3708N×2821E, h8km±2km, Md2.9*
ISC 30 15:13:05.5±0.6,**3700N**±006×**2824E**±004,**h10**km,**n10,** σ0**91**/14,**Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TURN	**Turunc**	**0.32**	**114**	*i* P	**Pg**	**15 13 09.5**	**-2.3**
DALT	**Dalyan (Mudla)**	**0.39**	**126**	*e*PG	**Pg**	**15 13 12.5**	**-0.7**
DALT				*e*SG	**Sg**	**15 13 19.5**	**+1.0**
MLSB	**Milas**	**0.47**	**308**	*e*PG	**Pg**	**15 13 14.5**	**-0.2**
BDRM	**Kayabasi**	**0.64**	**276**	*i* P	**Pg**	**15 13 17.8**	**-0.1**
AYDN	**Tasoluk**	**0.72**	**336**	*i* P	**Pg**	**15 13 18.9**	**-0.4**
BODT	**Bodrum**	**0.75**	**275**	*e*PG	**Pg**	**15 13 20.1**	**+0.2**
BODT				*e*SG	**Sg**	**15 13 30.5**	**+0.8**
DENT	**Denizli**	**0.98**	**40**	*e*PG	**Pg**	**15 13 24.1**	**-0.2**
GCAM	**G?zelcaml?**	**1.06**	**311**	*i* P	**Pg**	**15 13 25.4**	**-0.5**
GCAM				*i* S	**Sg**	**15 13 39.5**	**-0.3**
GOLH	**Golhisar**	**1.08**	**77**	*i* P	**Pb**	**15 13 26.7**	**+0.5**
GOLH				*i* S	**Sg**	**15 13 44.9**	**+4.6**
BORA	**Eskisehir**	**3.36**	**30**	*i* P	**Pn**	**15 13 59.9**	**+1.9**

*CSEM **30** 15:24:03.5±0.1,3839N×3905E,h5km, MD3.0, Error ellipse: s-maj=1.4km s-min=1.3km az=165.0*
*ISK **30** 15:24:03.8, 3840N×3904E, h6km, MD3.1*
*ISCJB **30** 15:24:04.9±0.4,3842N±003×3905E±003,h10km, Error ellipse: s-maj=4.5km s-min=3.5km az=173.2*
*DDA **30** 15:24:04.3, 3839N×3903E, h2km, Md3.0*
ISC 30 15:24:04.8±0.5,**3840N**±003×**3903E**±003,**h0**km±5km,**n19,** σ0**97**/28,**Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ELZG	**Elazig**	**0.10**	**338**	*i* P	**Pg**	**15 24 07.3**	**+0.5**
ELZG				*i* S	**Sg**	**15 24 09.8**	**+1.5**
SVRC	**Sivrice-ELAZID**	**0.21**	**96**	PG	**Pg**	**15 24 08.5**	**-0.4**
SVRC				*e*SG	**Sg**	**15 24 12.0**	**+0.3**
PTK	**Pertek**	**0.57**	**30**	*e*PG	**Pg**	**15 24 15.0**	**-0.7**
PTK				*e*SG	**Sg**	**15 24 23.6**	**+0.6**
AKCD	**Akcadag**	**0.88**	**264**	*i* P	**Pg**	**15 24 20.4**	**-1.3**
AKCD				*i* S	**Sg**	**15 24 32.9**	**-0.2**
URFA	**Urfa**	**0.97**	**190**	*e*PG	**Pg**	**15 24 22.8**	**-0.6**
DIYA	**Diyarbakir**	**0.98**	**119**	*i* P	**Pg**	**15 24 23.3**	**-0.3**
DIYA				*i* S	**Sg**	**15 24 37.8**	**+1.5**
DIY	**Diyarbakir**	**1.07**	**118**	*e*PG	**Pg**	**15 24 24.6**	**-0.6**
ATAB	**Bozova**	**1.10**	**212**	*i* P	**Pg**	**15 24 25.8**	**0.0**
ATAB				*i* S	**Sg**	**15 24 41.0**	**+1.0**
ATAB	**Bozova**	**1.10**	**212**	*i* P	**Pg**	**15 24 25.8**	**0.0**
ATAB				*i* S	**Sg**	**15 24 41.0**	**+0.9**
DARE	**Darende-Malaty**	**1.11**	**300**	*e*PN	**Pn**	**15 24 28.1**	**+0.5**
EZC	**Erzincan**	**1.48**	**24**	*e*PN	**Pn**	**15 24 30.3**	**-2.4**
GZT	**Gaziantep**	**1.56**	**229**	*i* P	**Pn**	**15 24 33.9**	**+0.1**
GZT				*i* S	**Sn**	**15 24 56.2**	**+1.5**
BEST	**Besiri**	**1.83**	**105**	*i* P	**Pn**	**15 24 36.6**	**-0.9**
BEST				*i* S	**Sn**	**15 25 02.7**	**+1.2**
SARI	**SarD1z-Kayseri**	**1.85**	**279**	*e*PN	**Pn**	**15 24 39.9**	**+2.1**
GAZ	**Gaziantep**	**1.89**	**230**	*e*PN	**Pn**	**15 24 37.5**	**-0.9**
KMRS	**Kahramanmaras**	**1.91**	**243**	*e*PN	**Pn**	**15 24 37.6**	**-0.9**
SVSK	**Karacayir**	**2.19**	**314**	*e*PN	**Pn**	**15 24 41.9**	**-0.6**
BNN	**Bunyan**	**2.54**	**281**	*e*PN	**Pn**	**15 24 46.8**	**-0.5**
SIRT	**Sirnak**	**2.84**	**107**	*e*PN	**Pn**	**15 24 50.8**	**-0.5**

*CSEM **30** 15:37:13.6±0.1,3839N×3903E,h12km, MD2.9, Error ellipse: s-maj=3.2km s-min=2.7km az=36.0*
*ISCJB **30** 15:37:14.7±0.6,3838N±004×3905E±006,h11km±6km, Error ellipse: s-maj=7.6km s-min=6.0km az=159.7*
*DDA **30** 15:37:14.6, 3836N×3901E, h7km±1km, Md2.9*
*ISK **30** 15:37:14.3, 3839N×3912E, h19km, MD2.6*
ISC 30 15:37:14.7±0.6,**3840N**±004×**3905E**±006,**h15**km±5km,**n7,** σ0**35**/12,**Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ELZG	**Elazig**	**0.11**	**331**	*i* P	**Pg**	**15 37 18.0**	**0.0**
ELZG				*i* S	**Sg**	**15 37 20.4**	**+0.2**
SVRC	**Sivrice-ELAZID**	**0.20**	**97**	*e*PG	**Pg**	**15 37 18.9**	**-0.4**
SVRC				*e*SG	**Sg**	**15 37 22.4**	**-0.1**
PTK	**Pertek**	**0.56**	**28**	*e*PG	**Pg**	**15 37 25.6**	**-0.1**
AKCD	**Akcadag**	**0.90**	**264**	*i* P	**Pb**	**15 37 31.1**	**-0.8**
AKCD				*i* S	**Sb**	**15 37 43.4**	**-0.2**
DIYA	**Diyarbakir**	**0.97**	**119**	*i* P	**Pb**	**15 37 33.3**	**+0.2**
KEMA	**Kemaliye**	**0.97**	**333**	*i* P	**Pb**	**15 37 33.3**	**+0.1**
KEMA				*i* S	**Sb**	**15 37 46.3**	**+0.5**
URFA	**Urfa**	**0.98**	**191**	*e*PG	**Pg**	**15 37 33.7**	**+0.1**
URFA				*e*SG	**Sg**	**15 37 46.9**	**+0.5**

TRN 30 15:38:33.5, 1742N×6210W, h27km, MD3.5, M2.9(FDF), **4C-2D, Leeward Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKI	**Saint Kitts**	**0.62**	**262**⇑	*e*P	Pb	15 38 47.5	+1.7
SKI				*e*S	Sb	15 38 58.1	+4.0
MBWH		**0.68**	**188**⇓	*i*P	Pb	15 38 48.6	+1.7
MBWH				*i* S	Sb	15 38 59.9	+3.9
MBLG		**0.70**	**185**⇑	*i*P	Pb	15 38 48.8	+1.7
MBLG				*i* S	Sb	15 39 00.4	+4.1
MBGB		**0.70**	**190**⇑	*i*P	Pb	15 38 49.0	+1.9
MBGB				*i* S	Sb	15 39 00.7	+4.3
MLYT	**Lee's Yard**	**0.70**	**187**	*i* S	Sb	15 39 00.5	+4.0
BSK	**Brimstone Hill**	**0.71**	**264**	*e*P	Pb	15 38 50.1	+2.7
BSK				*e*S	Sb	15 39 00.9	+4.1
MBRY		**0.72**	**184**⇓	*i*P	Pb	15 38 49.4	+2.0
LZG	**Guadaloupe-1**	**1.31**	**166**	*e*P	Pn	15 38 57.4	+1.3
LZG				*e*S	Sn	15 39 15.8	+3.1
SCG	**Saint Claude**	**1.44**	**164**	*e*P	Pn	15 38 59.1	+1.3
DEG	**La Desirade**	**1.48**	**138**⇑	*e*P	Pn	15 38 57.5	-0.9

*DJA **30** 15:38:53, 393N×12893E, h98km, mb4.8/5*
*IDC **30** 15:39:03.9±3.5, 290N×12759E, h60km±31km, mb3.5/8, mb1 3.7/9, mb1mx3.6/19, mbtmp3.6/9, ML4.4/1, Error ellipse: s-maj=40.1km s-min=13.0km az=74.0*
*ISCJB **30** 15:39:05.8±1.2, 291N±005×12754E±010, h10km±11km, mb4.0/12, Error ellipse: s-maj=16.6km s-min=7.4km az=169.9*
*NEIC **30** 15:39:07.2±1.1, 284N×12753E, h94km±10km, mb4.5/5, Error ellipse: s-maj=14.8km s-min=5.6km az=74.0*
ISC 30 15:39:06.6±1.2,**290N**±005×**1276E**±01,**h90**km±11km,**n25,** σ0**68**/29,**mb4.0**/12,**1C-2D, Northern Molucca Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNE	**Ternate**	**2.11**	**186**⇓	*e*P	**Pn**	**15 39 41.0**	**+0.8**
MNI	**Manado**	**3.10**	**242**⇓	*e*P	**Pn**	**15 39 58.0**	**+4.5**
MNI				*e*S	**Sn**	**15 40 30.5**	**+0.8**
DAV	**Davao City (W)**	**4.61**	**334**	P	**Pn**	**15 40 14.9**	**+1.0**
DAV	73nm,0.3s,baz=227,slow=22,SNR=5.1			S	**Sn**	**15 41 04.7**	**-1.5**
	80nm,0.3s,baz=75,slow=20,SNR=3.7						
KDI	**Kendari**	**8.43**	**216**	*e*S	**Sn**	**15 42 34.2**	**-5.3**
KDI	**Kendari**	**8.43**	**216**⇑	*e*P	**Pn**	**15 41 04.9**	**-1.0**
KAPI	**Kappang**	**11.09**	**225**	P	**Pn**	**15 41 41.6**	**-0.7**
	2.4nm,0.3s,baz=55,slow=5.1,SNR=8.7						
KKM	**Kota Kinabalu**	**11.76**	**286**	*e*P	**Pn**	**15 41 51.6**	**+0.2**
KAKA	**Kakadu**	**16.23**	**163**	*e*P	**Pn**	**15 42 41.1**	**-8.3**
	5.5nm,0.5s						
WRAB	**Tennant Creek**	**23.64**	**164**	*e*P	**P**	**15 44 09.4**	**-0.3**
	4.2nm,0.6s,mb4.0						
WRA	**Warramunga Arr**	**23.64**	**164**	P	**P**	**15 44 09.5**	**-0.3**
	1.5nm,0.6s,mb3.5,baz=344,slow=10,SNR=32						
WRA				S	**S**	**15 48 21.9**	**+4.0**
	1.6nm,0.9s,baz=335,slow=20,SNR=4.8						
WB2	**Warramunga Arr**	**23.65**	**164**	*e*P	**P**	**15 44 09.5**	**-0.3**
WB2				*e*S	**S**	**15 48 22.5**	**+4.5**
ASAR	**Alice Springs**	**27.11**	**167**	P	**P**	**15 44 41.0**	**-0.1**
	0.3nm,0.4s,mb3.2,baz=346,slow=7.9,SNR=21						
ASAR				PcP	PcP	15 48 00.9	+0.9
	0.4nm,0.5s,baz=353,slow=1.8,SNR=6.4						

CMAR Chiang Mai Arr 32.03 301 P **P** **15 45 24.6 -0.2**
0.2nm,0.5s,mb3.1,baz=114,slow=8.3,SNR=3.5
FORT Forrest 33.49 179 *e*P **P** **15 45 36.6 -0.7**
16nm,1.0s,mb4.8
KSRS Korea Array 34.39 0 P **P** **15 45 45.4 +0.3**
1.5nm,0.8s,mb3.9,baz=179,slow=10,SNR=5.1
KLBR Kellerberrin 35.55 195 *e*P **P** **15 45 55.0 -0.1**
62nm,1.6s,mb5.3
MUN Mundaring 36.33 196 *e*P **P** **15 46 02.0 +0.2**
NWAO Narrogin (SRO) 36.95 195 P **P** **15 46 07.0 -0.1**
4.2nm,0.8s,mb4.4,baz=8.6,slow=10,SNR=6.2
NWAO Narrogin (SRO) 36.95 195 P **P** **15 46 07.0 -0.1**
STKA Stephens Creek 37.05 160 *e*P **P** **15 46 08.3 +0.4**
6.9nm,1.4s,mb4.4
STKA Stephens Creek 37.05 160 P **P** **15 46 08.3 +0.4**
1.2nm,0.4s,mb4.2,baz=321,slow=7.2,SNR=6.3
SONM Songino Array 48.36 341 P **P** **15 47 40.6 +1.5**
0.3nm,0.5s,mb3.4,baz=136,slow=9.4,SNR=3.6
MK31 Makanchi Array 58.73 325 *e*P **P** **15 48 55.0 +0.1**
MKAR Makanchi Array 58.73 325 P **P** **15 48 55.1 +0.2**
1.0nm,0.5s,mb4.1,baz=110,slow=8.9,SNR=6.4
KURK Kurchatov 62.90 327 *e*P **P** **15 49 22.7 -0.5**
2.8nm,0.8s,mb4.2

*BJI **30** 15:45:45.4, 5264N×17201W, h21km, mB5.0, mb4.8, Ms4.4, Msz4.3*
*ISCJB **30** 15:45:46.5±0.6, 5233N±005×17134W±003, h48km±5km, mb4.7/65, MS3.9/27, Error ellipse: s-maj=8.5km s-min=2.8km az=3.6*
*MOS **30** 15:45:47.6±0.8, 5238N×17132W, h61km, mb4.8/27, Error ellipse: s-maj=10.2km s-min=8.8km az=42.0*
*IDC **30** 15:45:48.3±2.1, 5220N×17136W, h49km±18km, mb4.2/17, mb1 4.4/18, mb1mx4.3/25, mbtmp4.2/18, ML4.8/1, MS3.8/22, Ms1 3.8/22, ms1mx3.7/37, Error ellipse: s-maj=22.7km s-min=11.1km az=174.0*
*NEIC **30** 15:45:48.4±0.5, 5231N×17131W, h51km±4km, mb4.7/40, ML4.6(AEIC), Error ellipse: s-maj=7.8km s-min=3.0km az=175.0*
ISC 30 15:45:48.2±0.6,**5232N**±005×**17134W**±003,**h48**km±5km, **n381,** σ0**65**/371,**mb4.7**/65,**MS3.9**/27,**102C-116D, Fox Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIKO	**Nikolski**	**1.65**	**66**	P	**Pn**	**15 46 11.9**	**-2.8**
NIKO				S	**Sn**	**15 46 32.1**	**-2.5**
OKCE	**Okmok Cone E**	**2.22**	**59**	P	**Pn**	**15 46 22.0**	**-0.5**
OKCE				S	**Sn**	**15 46 49.9**	**+1.2**
OKCD	**Okmok Cone D**	**2.25**	**59**	P	**Pn**	**15 46 22.9**	**0.0**
UNV	**Unalaska Valle**	**3.29**	**60**	P	**Pn**	**15 46 36.6**	**-0.6**
UNV				S	**Sn**	**15 47 14.7**	**-0.4**
ADK	**Adak**	**3.33**	**265**	P	**Pn**	**15 46 39.0**	**+1.3**
AKGG	**Akutan Green G**	**3.72**	**57**	P	**Pn**	**15 46 42.5**	**-0.6**
AKLV	**Akutan Long Va**	**3.72**	**58**	P	**Pn**	**15 46 43.1**	**0.0**
AKUT	**Akutan**	**3.81**	**59**	P	**Pn**	**15 46 44.1**	**-0.1**
SPIA	**Saint Paul Isl**	**4.91**	**7**	P	**Pn**	**15 47 00.6**	**+1.2**
FALS	**False Pass**	**5.36**	**59**	P	**Pn**	**15 47 04.9**	**-0.7**
AMKA	**Amchitka**	**5.88**	**264**	*e*P	**Pn**	**15 47 13.1**	**+0.4**
SDPT	**Sand Point**	**7.11**	**60**	*e*P	**Pn**	**15 47 29.0**	**-0.5**
SMY	**Shemya**	**8.89**	**278**	*e*P	**Pn**	**15 47 56.6**	**+2.7**
SMY	comp=Z,154nm,1.0s			pmax	pmax		
SMY	**Shemya**	**8.89**	**278**	*e*P	**Pn**	**15 47 56.6**	**+2.7**
	comp=Z,154nm,1.0s						
FX1	**Attu Island--F**	**9.45**	**280**	P	**Pn**	**15 48 01.5**	**-0.1**
KDAK	**Kodiak Island**	**12.05**	**56**	P	**Pn**	**15 48 33.6**	**-3.3**
	comp=Z,1.6nm,0.3s,baz=235,slow=6.9,SNR=15						
SVW2	**Sparrevohn**	**12.31**	**38**	*e*P	**Pn**	**15 48 42.7**	**+2.2**
SLKM	**Skilak Lake**	**14.22**	**47**	*e*P	**Pn**	**15 49 06.2**	**-0.4**
CHUM	**Lake Minchumin**	**15.26**	**33**	*e*P	**Pn**	**15 49 20.9**	**+0.7**
	comp=Z,22nm,0.8s						
TRF	**Thorofare Moun**	**15.71**	**37**	*e*P	**Pn**	**15 49 29.8**	**+3.9**
	comp=Z,96nm,1.6s						
COLA	**College**	**17.40**	**35**	*e*P	**Pn**	**15 49 47.4**	**+0.2**
COLA				pmax	pmax		
	comp=Z,14nm,1.0s						
COLA	**College**	**17.40**	**35**	*e*P	**Pn**	**15 49 47.4**	**+0.2**
	comp=Z,14nm,1.0s						
PET	**Petropavlovsk**	**18.16**	**284**	*e*P	**Pn**	**15 49 58.0**	**+1.5**
PET				*e*S	**S**	**15 53 17.2**	**-4.3**
PET				pmax	pmax		
	comp=Z,20nm,0.6s						
PET				MLR	MLR		
	comp=Z,300nm,17.0s						
COLD	**Coldfoot**	**18.19**	**27**	*e*P	**Pn**	**15 49 55.4**	**-1.4**
	comp=Z,9.7nm,1.2s						
PETK	**Petropavlovsk-**	**18.71**	**285**	P	**Pn**	**15 50 03.7**	**+0.5**
	comp=Z,2.8nm,0.3s,baz=89,slow=15,SNR=79						
PETK				LR	LR	15 57 15.2	
	comp=Z,145nm,19.4s,baz=88,slow=37						
PETK	**Petropavlovsk-**	**18.71**	**285**	P	**Pn**	**15 50 03.7**	**+0.5**
PETK				LR	LR	15 57 15.2	
BILL	**Bilibino**	**19.10**	**334**⇑	*i*P	**Pn**	**15 50 06.7**	**-1.1**
BILL				pmax	pmax		
	comp=Z,25nm,1.2s						
BILL				MLR	MLR		
	comp=Z,200nm,16.0s						
BILL	**Bilibino**	**19.10**	**334**	*e*P	**Pn**	**15 50 08.0**	**+0.2**
	comp=Z,29nm,1.1s						
EGAK	**Eagle**	**19.84**	**39**	*e*P	**Pn**	**15 50 14.7**	**-1.8**
	comp=Z,24nm,1.0s						
DAWY	**Dawson**	**20.27**	**42**	*e*P	**P**	**15 50 18.7**	**-0.6**
HYT	**Haines Junctio**	**20.28**	**52**	*e*P	**P**	**15 50 21.2**	**+1.7**
SEY	**Seymchan**	**21.82**	**313**⇑	*e*P	**P**	**15 50 36.3**	**+0.3**
SEY				*i* *PP		15 50 56.4	
DLBC	**Dease Lake**	**23.95**	**59**	P	**P**	**15 50 59.8**	**+2.3**
	comp=Z,12nm,0.7s,mb4.5,baz=269,slow=8.1,SNR=15						
DLBC				LR	LR	16 00 00.5	
	comp=Z,205nm,18.1s,MS3.6,baz=326,slow=36						
DLBC	**Dease Lake**	**23.95**	**59**	*e*P	**P**	**15 50 59.3**	**+1.8**
INK	**Inuvik**	**24.06**	**34**	*e*P	**P**	**15 50 57.5**	**-1.0**
	comp=Z,330nm,0.8s						
BBB	**Bella Bella**	**26.18**	**73**	LR	LR	15 58 34.2	
	comp=Z,223nm,20.8s,MS3.7,baz=261,slow=29						
YSS	**Yuzh-Sakhalins**	**29.81**	**278**⇓	*i*P	**P**	**15 51 50.0**	**-0.3**
YSS				pmax	pmax		
	comp=Z,18nm,1.7s,mb4.5						
YKA	**Yellowknife Ar**	**31.18**	**49**	P	**P**	**15 52 02.1**	**-0.1**
	comp=Z,1.0nm,0.3s,mb4.1,baz=275,slow=9.2,SNR=11						
YKA				LR	LR	16 05 08.3	
	comp=Z,134nm,20.6s,MS3.6,baz=160,slow=37						
YKA	**Yellowknife Ar**	**31.18**	**49**	P	**P**	**15 52 02.1**	**-0.2**
YKA				pmax	pmax		
	comp=Z,1.0nm,0.3s						
YKA				MLR	MLR		
	comp=Z,134nm,20.6s						
YKA	**Yellowknife Ar**	**31.18**	**49**	P	**P**	**15 52 02.1**	**-0.1**
YKA				LR	LR	16 05 08.3	
A07A	**Ashnola River,**	**31.91**	**75**	⇑P	**P**	**15 52 08.9**	**+0.1**
	baz=32						
ERM	**Erimo**	**32.11**	**270**	*c*P	**P**	**15 52 11.2**	**+0.5**
TIXI	**Tiksi**	**32.16**	**329**⇑	*i*P	**P**	**15 52 09.1**	**-1.6**
TIXI				pmax	pmax		
	comp=Z,3.0nm,1.2s,mb4.0						
YAK	**Yakutsk**	**32.30**	**311**	*e*P	**P**	**15 52 11.6**	**-0.4**
YAK				pmax	pmax		
	comp=Z,10.0nm,1.0s,mb4.6						
YAK				pmax	pmax		
	comp=E,4.0nm,1.1s						
YAK				MLR	MLR		
	comp=Z,245nm,24.0s,MS3.8						
YAK				MLR	MLR		
	comp=E,209nm,27.0s						
YAK				MLR	MLR		
	comp=N,157nm,18.0s						
B07A	**Winthrop**	**32.32**	**76**	⇓P	**P**	**15 52 12.6**	**+0.2**
	baz=32						
ETW	**Entiat**	**32.59**	**78**	*e*P	**P**	**15 52 16.0**	**+1.3**
A08A	**Turner Farm, O**	**32.61**	**75**	⇓P	**P**	**15 52 15.2**	**+0.3**
	baz=33						
C07A	**Waterville**	**32.71**	**77**	⇓P	**P**	**15 52 16.0**	**+0.2**
	baz=33						
B08A	**Colville Reser**	**32.84**	**76**	⇑P	**P**	**15 52 17.3**	**+0.4**
	baz=33,SNR=6.1						
A09A	**Danville**	**33.00**	**74**	⇓P	**P**	**15 52 18.5**	**+0.1**
	baz=33						
C08A	**Higginbotham F**	**33.27**	**77**	⇓P	**P**	**15 52 20.6**	**-0.1**
	baz=33						
B09A	**Rice**	**33.51**	**75**	⇑P	**P**	**15 52 23.8**	**+1.0**
	baz=34						
G06A	**Carlson Farm,**	**33.56**	**82**	⇓P	**P**	**15 52 23.1**	**-0.2**
	baz=34						
A10A	**Northport**	**33.61**	**74**	⇓P	**P**	**15 52 24.0**	**+0.4**
	baz=34						
RSW	**Rattlesnake Hi**	**33.61**	**79**	*e*P	**P**	**15 52 24.5**	**+0.8**
D08A	**Wollman Farm,**	**33.69**	**78**	⇑P	**P**	**15 52 24.5**	**+0.1**
	baz=34						
HABR	**Khabarovsk**	**33.74**	**285**	*e*P	**P**	**15 52 23.6**	**-1.2**
E08A	**Dider Farm, El**	**33.88**	**79**	⇑P	**P**	**15 52 26.7**	**+0.7**
	baz=34						
H06A	**Lindquist Farm**	**34.00**	**82**	⇓P	**P**	**15 52 27.2**	**+0.1**
	baz=34						
D09A	**Jones Farm, Ri**	**34.05**	**77**	⇓P	**P**	**15 52 27.8**	**+0.3**
	baz=34						
YBH	**Yreka Blue Hor**	**34.19**	**88**	LR	LR	16 03 06.1	
	comp=N,252nm,19.9s,MS4.0,baz=247,slow=30						
YBH	**Yreka Blue Hor**	**34.19**	**88**	⇑P	**P**	**15 52 28.8**	**0.0**
	baz=34						
NEW	**Newport**	**34.19**	**75**	*e*P	**P**	**15 52 28.9**	**+0.2**
NEW				pmax	pmax		
	comp=Z,9.0nm,0.6s						
NEW	**Newport**	**34.19**	**75**	*e*P	**P**	**15 52 28.9**	**+0.2**
	comp=Z,8.9nm,0.6s,mb4.9						
J05A	**Fort Rock**	**34.22**	**85**	⇓P	**P**	**15 52 30.2**	**+1.2**
	baz=34						
EDM	**Edmonton**	**34.27**	**65**	*e*P	**P**	**15 52 29.1**	**-0.2**
A11A	**Hall Mountain,**	**34.32**	**73**	⇓P	**P**	**15 52 30.1**	**+0.3**
	baz=34,SNR=8.4						
F08A	**Pendleton**	**34.40**	**80**	⇑P	**P**	**15 52 30.5**	**0.0**
	baz=34						
H07A	**Lands Inn, Kim**	**34.54**	**82**	⇑P	**P**	**15 52 31.4**	**-0.3**
	baz=34						
G08A	**Pilot Rock**	**34.55**	**80**	⇑P	**P**	**15 52 31.5**	**-0.3**
	baz=34						
B11A	**Sandpoint**	**34.56**	**74**	⇓P	**P**	**15 52 32.0**	**+0.1**
	baz=34						
D10A	**Wagner Farm, O**	**34.67**	**77**	⇑P	**P**	**15 52 33.0**	**+0.1**
	baz=35						
K05A	**Summer Lake**	**34.74**	**86**	⇓P	**P**	**15 52 35.0**	**+1.5**
	baz=35						
I07A	**Izee**	**34.85**	**83**	⇑P	**P**	**15 52 34.5**	**+0.1**
	baz=35,SNR=5.8						
J06A	**Christmas Vall**	**34.90**	**84**	⇑P	**P**	**15 52 35.2**	**+0.3**
	baz=35,SNR=6.2						
F09A	**S2 Ranch, Elgi**	**34.97**	**79**	⇓P	**P**	**15 52 35.7**	**+0.3**
	baz=35						
E10A	**Myers Farm, Un**	**35.05**	**77**	⇓P	**P**	**15 52 36.4**	**+0.2**
	baz=35						
K06A	**Valley Falls**	**35.09**	**85**	⇓P	**P**	**15 52 37.3**	**+0.7**
	baz=35						
D11A	**Klaveano Farm,**	**35.24**	**76**	⇑P	**P**	**15 52 37.6**	**-0.1**
	baz=35						
F10A	**Beach Ranch, E**	**35.24**	**78**	⇑P	**P**	**15 52 38.1**	**+0.4**
	baz=35						
G09A	**Cove**	**35.27**	**80**	⇑P	**P**	**15 52 38.4**	**+0.5**
	baz=35						
KLR	**Kul'dur**	**35.33**	**288**	*e*P	**P**	**15 52 33.1**	**-5.4**
GASB	**Alder Springs**	**35.41**	**91**	⇓P	**P**	**15 52 39.4**	**+0.1**
	baz=35						
I08A	**Drewsey**	**35.51**	**82**	⇑P	**P**	**15 52 40.5**	**+0.4**
	baz=36						
G10A	**Bishop Farm, J**	**35.66**	**79**	⇓P	**P**	**15 52 41.2**	**-0.1**
	baz=36,SNR=6.6						
E11A	**Bogner Ranch,**	**35.66**	**77**	⇓P	**P**	**15 52 40.7**	**-0.6**
	baz=36						
B13A	**Whitefish**	**35.70**	**73**	⇑P	**P**	**15 52 42.0**	**+0.3**
	baz=36						
WALA	**Waterton Lakes**	**35.71**	**72**	*e*P	**P**	**15 52 41.4**	**-0.3**
	comp=Z,16nm,1.3s,mb4.8						
K07A	**Rock Creek Ran**	**35.77**	**84**	⇑P	**P**	**15 52 42.3**	**0.0**
	baz=36						
D12A	**Red Ives Fores**	**35.82**	**76**	⇑P	**P**	**15 52 42.8**	**0.0**
	baz=36						
J08A	**Circle Bar Ran**	**35.87**	**83**	⇑P	**P**	**15 52 43.2**	**0.0**
	baz=36,SNR=5.5						
F11A	**Grangeville**	**35.93**	**78**	⇓P	**P**	**15 52 43.5**	**-0.2**
	baz=36						
C13A	**Hot Springs**	**35.98**	**74**	⇓P	**P**	**15 52 44.0**	**-0.1**
	baz=36						
I09A	**Lost Marbles R**	**35.98**	**82**	⇑P	**P**	**15 52 44.4**	**+0.2**
	baz=36						
E12A	**Beaver Dam Sad**	**36.01**	**77**	⇑P	**P**	**15 52 43.4**	**-0.9**
	baz=36,SNR=7.7						
O04C	**Chester**	**36.01**	**89**	⇓P	**P**	**15 52 44.9**	**+0.4**
	baz=36,SNR=5.3						
A14A	**Double T Ranch**	**36.03**	**72**	⇑P	**P**	**15 52 43.8**	**-0.7**
	baz=36,SNR=12						
L07A	**Adell**	**36.09**	**85**	⇑P	**P**	**15 52 45.8**	**+0.7**
	baz=36						
G11A	**Walters Elk Ra**	**36.11**	**79**	⇓P	**P**	**15 52 45.3**	**0.0**
	baz=36						
K08A	**Mann Creek Ran**	**36.21**	**84**	⇓P	**P**	**15 52 46.9**	**+0.7**
	baz=36						
ORV	**Oroville**	**36.22**	**90**	⇓P	**P**	**15 52 46.2**	**0.0**
	baz=36						
H10A	**Noah's Angus R**	**36.25**	**80**	⇓P	**P**	**15 52 46.0**	**-0.5**
	baz=36,SNR=6.6						
WVOR	**Wild Horse Val**	**36.28**	**84**	*e*P	**P**	**15 52 46.3**	**-0.5**
WVOR				pmax	pmax		
	comp=Z,6.0nm,0.8s,mb4.6						
WVOR	**Wild Horse Val**	**36.28**	**84**	*e*P	**P**	**15 52 46.3**	**-0.4**
	comp=Z,6.3nm,0.8s,mb4.6						
J09A	**Fry Pan Ranch,**	**36.31**	**82**	⇑P	**P**	**15 52 47.5**	**+0.5**
	baz=36						
B14A	**Marquette Ranc**	**36.41

D16A	Dana Ranch, Ca	38.08	73	⇑P		P		15 53 01.8	-0.1
	baz=38								
M10A	I.L. Ranch, Tu	38.09	84	⇓P		P		15 53 02.0	0.0
	baz=38								
R06C	Coleville	38.11	90	⇑P		P		15 53 02.8	+0.6
	baz=38								
L11A	Cat Creek Ranc	38.20	83	⇑P		P		15 53 03.0	0.0
	baz=38,SNR=9.3								
I13A	Wildhorse Cree	38.20	79	⇓P		P		15 53 03.1	+0.1
	baz=38								
HLID	Hailey	38.22	80	⇓P		P		15 53 03.4	+0.3
	baz=38								
HLID	Hailey	38.22	80	eP		P		15 53 03.3	+0.2
	comp=Z,3.7nm,1.0s,mb4.1								
C17A	Wharram Farm,	38.24	72	⇑P		P		15 53 03.2	-0.1
	baz=38								
E16A	East Helena	38.26	74	⇑P		P		15 53 03.6	+0.2
	baz=38								
H14A	Leadore	38.27	78	⇓P		P		15 53 03.4	-0.1
	baz=38								
K12A	Draper Farm, C	38.45	81	⇑P		P		15 53 05.8	+0.8
	baz=38								
J13A	Cove Ranch, Pi	38.46	80	⇑P		P		15 53 05.4	+0.3
	baz=38								
MCMT	McKenzie Canyo	38.47	77	eP		P		15 53 05.7	+0.5
MAJO	Matsushiro	38.49	266	eP		P		15 53 05.3	-0.2
MAJO					pmax		pmax		
	comp=Z,64nm,0.9s,mb5.3								
MAJO	Matsushiro	38.49	266	eP		P		15 53 05.3	-0.2
	comp=Z,64nm,0.9s,mb5.3								
MAT	Matsushiro	38.49	266	P		P		15 53 05.5	0.0
MJAR	Matsushiro Arr	38.49	266	P		P		15 53 06.1	+0.6
	comp=Z,14nm,0.8s,mb4.8,baz=47,slow=7.5,SNR=43								
MJAR					LR		LR	16 06 58.8	
	comp=Z,211nm,20.9s,MS3.9,baz=70,slow=33								
G15A	Dillon	38.50	77	⇓P		P		15 53 05.7	+0.2
	baz=38								
D17A	Six Diamond Ra	38.53	73	⇓P		P		15 53 05.6	-0.1
	baz=38								
I14A	Mackay	38.60	79	⇑P		P		15 53 06.2	-0.2
	baz=38,SNR=5.2								
L12A	House Creek Ra	38.66	82	⇑P		P		15 53 07.3	+0.5
	baz=39								
H15A	Lima	38.70	77	⇓P		P		15 53 06.8	-0.4
	baz=39								
BOZ	Bozeman (W)	38.76	75	eP		P		15 53 08.1	+0.5
BOZ					pmax		pmax		
	comp=Z,3.0nm,0.6s,mb4.2								
BOZ	Bozeman (W)	38.76	75	⇓P		P		15 53 07.7	+0.1
	baz=39,SNR=6.3								
BOZ	Bozeman (W)	38.76	75	eP		P		15 53 08.1	+0.5
	comp=Z,3.1nm,0.6s,mb4.2								
E17A	Martinsdale	38.78	74	⇓P		P		15 53 07.8	0.0
	baz=39								
NVAR	Mina Array Bea	38.87	89	P		P		15 53 09.6	+0.9
	comp=Z,5.4nm,0.9s,mb4.3,baz=294,slow=8.4,SNR=31								
NVAR					ScP		ScP	15 59 03.0	+0.2
	comp=Z,1.7nm,0.9s,baz=278,slow=4.7,SNR=7.9								
G16A	Moss Hill, Enn	38.88	76	⇑P		P		15 53 08.3	-0.4
	baz=39,SNR=6.3								
J14A	Carey	38.90	80	⇑P		P		15 53 09.2	+0.4
	baz=39								
T06C	Millerton Lake	38.91	92	⇓P		P		15 53 08.4	-0.5
	baz=39								
KCC	Kaiser Creek	38.94	92	⇓P		P		15 53 09.8	+0.5
	baz=39,SNR=6.6								
D18A	Linhart Farms,	39.02	72	⇑P		P		15 53 10.5	+0.7
	baz=39								
F17A	Fitzpatrick Pl	39.19	74	⇓P		P		15 53 11.7	+0.4
	baz=39								
E18A	Harlowton	39.28	73	⇑P		P		15 53 12.9	+0.9
	baz=39								
L13A	Double Diamond	39.34	82	⇓P		P		15 53 12.7	+0.2
	baz=39								
MTUM	Tungsten Hills	39.39	91	eP		P		15 53 14.1	+1.1
O11A	Cowboy Ranch,	39.45	85	⇑P		P		15 53 13.9	+0.4
	baz=39								
PTRM	Twissleman Ran	39.48	94	eP		P		15 53 14.4	+0.7
H16A	Russell Place,	39.49	76	⇓P		P		15 53 13.7	-0.1
	baz=39								
J15A	Blackfoot	39.51	79	⇓P		P		15 53 14.3	+0.4
	baz=39								
R09A	Tonopah	39.74	89	⇓P		P		15 53 15.9	0.0
	baz=40,SNR=8.3								
F18A	Big Timber	39.75	74	⇓P		P		15 53 16.1	+0.1
	baz=40								
SMMC	Simmler	39.84	94	⇓P		P		15 53 16.3	-0.4
	baz=40								
GCMT	Greycliff	39.84	74	eP		P		15 53 17.8	+1.1
K15A	Arbon	39.85	80	⇓P		P		15 53 17.0	+0.2
	baz=40								
O12A	Currie	39.93	84	⇑P		P		15 53 17.7	+0.3
	baz=40,SNR=6.3								
S09A	Goldfield	39.98	89	⇓P		P		15 53 17.8	0.0
	baz=40,SNR=7.3								
M14A	Sheep Mountain	40.04	82	⇓P		P		15 53 18.3	-0.1
	baz=40								
VES	Vestal, Richgr	40.05	93	⇓P		P		15 53 18.1	-0.4
	baz=40								
H17A	Grant Village	40.06	76	⇑P		P		15 53 19.9	+1.4
	baz=40								
J16A	Bone	40.07	78	⇓P		P		15 53 19.3	+0.7
	baz=40								
IMW	Indian Meadow	40.12	77	eP		P		15 53 20.0	+0.9
	comp=Z,4.3nm,0.8s,mb4.2								
R10A	Warm Springs	40.19	88	⇑P		P		15 53 19.9	+0.3
	baz=40								
RRI2	Red Ridge	40.21	78	eP		P		15 53 20.6	+0.9
	comp=Z,7.1nm,0.8s,mb4.5								
S10A	Tonopah Range,	40.24	89	⇑P		P		15 53 20.2	+0.2
	baz=40,SNR=7.3								
Q11A	Duckwater	40.24	87	⇑P		P		15 53 20.1	+0.1
	baz=40								
CWC	Cottonwood Cre	40.27	92	⇓P		P		15 53 20.6	+0.2
	baz=40								
L15A	Malad City	40.33	81	⇓P		P		15 53 21.2	+0.4
	baz=40								
GRAC	Grapevine Rang	40.35	90	⇓P		P		15 53 20.9	0.0
	baz=40								
RLMT	Red Lodge	40.44	75	⇓P		P		15 53 21.9	+0.3
	baz=40,SNR=7.1								
RLMT	Red Lodge	40.44	75	eP		P		15 53 22.1	+0.5
	comp=Z,10nm,0.9s,mb4.6								
ISA	Isabella	40.54	93	⇑P		P		15 53 21.8	-0.7
	baz=40								
R11A	Troy Canyon, C	40.59	87	⇓P		P		15 53 23.1	+0.2
	baz=40,SNR=8.4								
M15A	Larsen Ranch,	40.61	81	⇑P		P		15 53 22.9	-0.2
	baz=40								
MPMC	Manual Prospec	40.88	92	⇑P		P		15 53 25.3	0.0
	baz=41,SNR=5.0								
L16A	Fish Haven	40.91	80	⇑P		P		15 53 25.4	-0.1
	baz=41								
FURC	Furnace Creek,	41.00	91	⇓P		P		15 53 26.3	0.0
	baz=41								
TPNV	Topopah Spring	41.07	90	eP		P		15 53 26.8	-0.1
TPNV					pmax		pmax		
	comp=Z,12nm,0.8s,mb4.6								
TPNV	Topopah Spring	41.07	90	⇑P		P		15 53 27.3	+0.4
	baz=41,SNR=12								
TPNV	Topopah Spring	41.07	90	eP		P		15 53 26.8	-0.1
	comp=Z,12nn,0.8s,mb4.6								
BOD	Bodaibo	41.08	308	eP		P		15 53 26.4	-0.3
BOD					pmax		pmax		
	comp=Z,10.0nm,0.7s,mb4.5								
LRMC	Laurel Mountai	41.14	92	⇑P		P		15 53 27.4	-0.1
	baz=41								
DUG	Dugway	41.15	83	eP		P		15 53 27.4	-0.1
DUG					pmax		pmax		
	comp=Z,4.0nm,0.6s,mb4.2								
DUG	Dugway	41.15	83	⇓P		P		15 53 28.0	+0.4
	baz=41								
DUG	Dugway	41.15	83	eP		P		15 53 27.4	-0.1
	comp=Z,3.9nm,0.6s,mb4.2								
M16A	Huntsville	41.20	81	⇓P		P		15 53 27.8	-0.1
	baz=41,SNR=7.0								
EDW2	Edwards Air Fo	41.35	93	⇓P		P		15 53 29.3	0.0
	baz=41								
U10A	Ash Meadows, A	41.36	90	⇓P		P		15 53 29.4	+0.1
	baz=41								
P14A	Drum Mountains	41.36	84	⇓P		P		15 53 28.9	-0.3
	baz=41								
S12A	Delamar Landin	41.51	88	⇓P		P		15 53 30.1	-0.4
	baz=41								
T11A	Corn Creek, Al	41.51	88	⇑P		P		15 53 30.7	+0.2
	baz=41,SNR=10								
BW06	Boulder Array	41.60	78	⇑P		P		15 53 30.9	-0.3
	baz=42,SNR=10.0								
PDAR	Pinedale Array	41.60	78	P		P		15 53 31.4	+0.2
	comp=Z,7.0nm,0.8s,mb4.3,baz=303,slow=4.2,SNR=44								
PDAR					LR		LR	16 08 51.8	
	comp=Z,108nm,19.5s,MS3.7,baz=328,slow=33								
Q14A	Sevier Lake (B	41.60	85	⇑P		P		15 53 31.1	-0.2
	baz=42,SNR=7.3								
R13A	O'Grain Ranch,	41.69	86	⇓P		P		15 53 32.3	+0.4
	baz=42								
GSC	Goldstone	41.80	92	eP		P		15 53 33.3	+0.4
GSC					pmax		pmax		
	comp=Z,17nm,1.0s,mb4.6								
GSC	Goldstone	41.80	92	⇑P		P		15 53 33.0	+0.1
	baz=42,SNR=11								
GSC	Goldstone	41.80	92	eP		P		15 53 33.3	+0.4
	comp=Z,17nn,1.0s,mb4.6								
CN2	Changchun	41.86	284	eP		P		15 53 32.5	-0.8
BFSC	Mount Baldy St	41.98	94	⇓P		P		15 53 34.3	-0.1
	baz=42								
L19A	Farson	42.11	78	⇑P		P		15 53 35.4	+0.1
	baz=42								
HIA	Hailar	42.18	294	eP		P		15 53 35.2	-0.6
HIA					pmax		pmax		
	comp=Z,9.0nm,0.6s								
HIA	Hailar	42.18	294	eP		P		15 53 35.1	-0.7
	comp=Z,9.4nm,0.6s,mb4.6								
TUQ	Turquoise Moun	42.25	91	⇑P		P		15 53 35.9	-0.6
	baz=42								
HEC	Hector,Ludlow	42.40	92	⇓P		P		15 53 37.3	-0.5
	baz=42								
U12A	Valley of Fire	42.45	89	⇓P		P		15 53 38.2	0.0
	baz=42								
CCUT	Cedar City	42.45	87	eP		P		15 53 38.9	+0.7
T13A	Saint George	42.46	88	⇑P		P		15 53 38.3	0.0
	baz=42								
CBIJ	Chichi jima	42.74	252	LR		LR		16 07 25.7	
	comp=Z,164nm,20.1s,MS3.9,baz=125,slow=30								
GMRC	Granite Mounta	42.85	92	⇑P		P		15 53 40.9	-0.5
	baz=43,SNR=6.3								
Q16A	Castle Valley	42.93	83	⇓P		P		15 53 42.4	+0.3
	baz=43								
P18A	Preston Nutter	43.06	82	⇑P		P		15 53 43.4	+0.3
	baz=43								
R16A	Teasdale	43.14	84	⇓P		P		15 53 44.8	+1.0
	baz=43								
PFO	Pinyon Flat Ob	43.15	93	⇑P		P		15 53 43.9	0.0
	baz=43								
BELC	Belle Mtn.	43.16	93	⇑P		P		15 53 43.2	-0.8
	baz=43								
U14A	Mt Trumbull	43.29	88	⇓P		P		15 53 45.0	0.0
	baz=43								
O19A	Miners Draw (B	43.33	80	⇓P		P		15 53 44.9	-0.4
	baz=43								
S16A	Weppner Ranch,	43.43	85	⇓P		P		15 53 46.2	+0.1
	baz=43								
Q18A	Rafter H Ranch	43.45	83	⇓P		P		15 53 46.3	0.0
	baz=43,SNR=5.2								
IRM	Iron Mountain	43.57	92	⇑P		P		15 53 47.3	0.0
	baz=44								
W13A	Hualapai Mount	43.72	90	⇑P		P		15 53 48.2	-0.3
	baz=44,SNR=7.8								
BC3	Big Chuckw Mtn	43.73	93	⇓P		P		15 53 47.6	-0.9
	baz=44								
P19A	Cripple Cowboy	43.82	81	⇑P		P		15 53 49.0	-0.2
	baz=44								
U15A	North Rim	43.83	87	⇓P		P		15 53 49.6	+0.2
	baz=44,SNR=8.0								
V14A	Boquillas Ranc	43.85	89	⇑P		P		15 53 49.4	-0.1
	baz=44								
S17A	Black Ridge (B	43.97	85	⇓P		P		15 53 50.5	+0.1
	baz=44,SNR=8.7								
R18A	Canyonlands Na	44.05	83	⇓P		P		15 53 50.9	-0.1
	baz=44								
RSSD	Black Hills	44.09	73	eP		P		15 53 51.4	+0.1
RSSD					pmax		pmax		
	comp=Z,3.0nm,0.6s,mb4.2								
RSSD	Black Hills	44.09	73	eP		P		15 53 51.4	+0.1
	comp=Z,3.3nm,0.6s,mb4.2								
X13A	Yucca	44.09	90	⇑P		P		15 53 50.6	-0.9
	baz=44								
PDMCI	Parker Dam,Lak	44.10	91	⇑P		P		15 53 50.9	-0.6
	baz=44								
W14A	Seligman	44.14	89	⇓P		P		15 53 51.7	-0.1
	baz=44								
KSRS	Korea Array	44.21	275	P		P		15 53 52.9	+0.5
	comp=Z,4.7nm,0.8s,mb4.3,baz=56,slow=8.3,SNR=16								
KSRS					LR		LR	16 10 52.4	
	comp=Z,72nm,19.7s,MS3.6,baz=42,slow=34								
Y12C	Blythe	44.23	92	⇓P		P		15 53 52.4	-0.2
	baz=44								
V15A	Kaibab Nationa	44.30	88	⇑P		P		15 53 53.3	+0.2
	baz=44,SNR=6.3								
S18A	Hurst Farm, Bl	44.43	84	⇑P		P		15 53 53.5	-0.6
	baz=44,SNR=12								
R19A	Curley Farm, L	44.49	83	⇓P		P		15 53 54.3	-0.3
	baz=44								
W15A	Williams	44.66	88	⇑P		P		15 53 55.6	-0.4
	baz=45								
U16A	Tuba City	44.73	86	⇑P		P		15 53 56.5	-0.1
	baz=45								
X14A	Yava	44.75	90	⇓P		P		15 53 56.6	-0.1
	baz=45								
T18A	Mexican Hat	44.85	84	⇑P		P		15 53 57.2	-0.3
	baz=45,SNR=9.5								
S19A	Harvey Farm, M	44.91	83	⇑P		P		15 53 57.2	-0.7
	baz=45,SNR=5.3								
WUAZ	Wupatki	44.99	87	⇑P		P		15 53 58.5	-0.1
	baz=45,SNR=5.0								
WUAZ	Wupatki	44.99	87	eP		P		15 53 58.3	-0.3
	comp=Z,11nm,0.9s,mb4.7								
Y14A	Wickenburg	45.04	90	⇓P		P		15 53 58.4	-0.6
	baz=45								
X15A	Humboldt	45.14	89	⇓P		P		15 53 59.6	-0.3
	baz=45								
W16A	Flagstaff	45.17	88	⇑P		P		15 54 00.8	+0.8
	baz=45								
ULM	Lac du Bonnet	45.24	61	P		P		15 54 02.3	+1.9
	comp=Z,2.0nm,0.4s,mb4.3,baz=323,slow=8.7,SNR=3.3								
ULM					LR		LR	16 10 38.8	
	comp=Z,133nm,20.9s,MS3.9,baz=291,slow=33								
Y15A	Casa Rosa Ranc	45.44	90	⇑P		P		15 54 02.2	0.0
	baz=45								
T19A	Beclabito	45.57	84	⇓P		P		15 54 02.9	-0.3
	baz=46,SNR=20								
X16A	Lo Mia Camp, P	45.68	89	⇓P		P		15 54 04.0	-0.1
	baz=46								
V18A	Ganado	45.74	86	⇑P		P		15 54 04.7	+0.1
	baz=46								
Y16A	Circle Bar Ran	46.02	89	⇑P		P		15 54 06.5	-0.2
	baz=46								
W18A	Petrified Fore	46.26	87	⇑P		P		15 54 08.7	+0.1
	baz=46								
AGMN	Agassiz Refuge	46.34	63	eP		P		15 54 08.3	-0.8
	comp=Z,9.6nm,0.9s,mb4.7								
214A	Organ Pipe Nat	46.51	92	⇓P		P		15 54 09.9	-0.7
	baz=46								
Y17A	Roosevelt	46.53	89	⇑P		P		15 54 10.1	-0.7
	baz=46								
X19A	St. Johns	46.99	87	⇓P		P		15 54 13.9	-0.5
	baz=47								
SDCO	Great Sand Dun	47.12	81	eP		P		15 54 15.7	+0.4
	comp=Z,3.7nm,0.8s,mb4.4								
Y19A	Nutrioso	47.33	87	⇓P		P		15 54 16.9	0.0
	baz=47								
117A	Oracle	47.36	90	⇓P		P		15 54 16.1	-1.1
	baz=47								
TUC	Tucson	47.51	90	eP		P		15 54 18.5	+0.1
TUC					pmax		pmax		
	comp=Z,5.0nm,1.1s,mb4.5								
TUC	Tucson	47.51	90	eP		P		15 54 18.5	0.0
	comp=Z,5.3nm,1.1s,mb4.5								
118A	Homack Ranch,	47.78	89	⇑P		P		15 54 19.9	-0.7
	baz=48								
217A	Green Valley	47.86	91	⇑P		P		15 54 20.4	-0.7
	baz=48								
119A	Ashpeak Ranch,	48.11	89	⇑P		P		15 54 22.4	-0.6
	baz=48,SNR=5.8								
218A	Dragoon	48.19	90	⇓P		P		15 54 22.8	-1.0
	baz=48								
LAZ	Ladron	48.33	85	eP		P		15 54 25.2	+0.5
ANMO	Albuquerque	48.37	84	LR		LR		16 12 12.9	
	comp=Z,177nm,18.1s,MS4.1,baz=163,slow=33								
ANMO	Albuquerque	48.37	84	⇓*P		P		15 54 22.6	-2.5
318A	Bisbee	48.60	90	⇓P		P		15 54 25.9	-1.0
	baz=48								
ECSD	EROS,Sioux Fal	48.62	69	eP		P		15 54 24.8	-2.1
	comp=Z,5.8nm,0.8s,mb4.7								
219A	White Tail Can	48.66	89	⇓P		P		15 54 26.8	-0.5
	baz=49								
BNM	Barren Site	48.81	85	eP		P		15 54 29.0	+0.6
EYMN	Ely	48.92	61	eP		P		15 54 28.1	-0.9
	comp=Z,14nm,1.1s,mb4.9								
TLY	Talaya	49.39	305	*d iP		P		15 54 32.8	+0.2
TLY					pmax		pmax		
	comp=Z,7.0nm,0.8s,mb4.7								
BJI	Beijing	49.64	286	P		P		15 54 33.0	-1.7
BJI				S		S		16 01 39.5	0.0
BJI				AMB		AMB			
	comp=Z,11nm,0.5s,mb5.1								
BJI				AMB		AMB			
	comp=Z,52nn,4.6s								
BJI				LR		LR			
	comp=N,141nm,10.7s								
BJI				LR		LR			
	comp=E,147nm,18.5s								
BJI				LR		LR			
	comp=Z,124nm,28.2s								
ULN	Ulaanbaatar	49.91	299	⇑eP		P		15 54 36.7	0.0
ULN				*PP		pP		15 54 54.9	+5.1
SONM	Songino Array	50.28	300	P		P		15 54 40.0	+0.5
	comp=Z,2.4nm,0.6s,mb4.4,baz=54,slow=6.5,SNR=16								
SONM				PcP		PcP		15 55 57.2	-0.5
	comp=Z,2.1nm,0.8s,baz=59,slow=2.2,SNR=5.6								
SONM				ScP		ScP		15 59 50.0	+0.7
	comp=Z,1.3nm,0.6s,baz=48,slow=4.0,SNR=6.2								
SONM				LR		LR		16 17 47.1	
	comp=Z,195nm,18.4s,MS4.2,baz=160,slow=38								
LPIG	La Paz	53.68	97	LR		LR		16 12 42.6	
	comp=Z,103nm,19.1s,MS3.9,baz=319,slow=30								
TXAR	Lajitas Array	53.96	87	P		P		15 55 06.5	-0.5
	comp=Z,3.3nm,0.7s,mb4.4,baz=300,slow=5.3,SNR=31								
TXAR				ScP		ScP		16 00 05.6	+0.1
	comp=Z,0.5nm,0.8s,baz=284,slow=3.6,SNR=4.3								
TXAR				LR		LR		16 16 03.7	
	comp=Z,117nm,21.4s,MS3.9,baz=0.0,slow=34								
TXAR	Lajitas Array	53.96	87	P		P		15 55 06.5	-0.5
TXAR				ScP		ScP		16 00 05.6	0.0
TXAR				LR		LR		16 16 03.7	
ZALV	Zalesovo Beam	56.64	317	P		P		15 55 27.6	+1.6
	comp=Z,1.1nm,0.7s,mb4.0,baz=20,slow=5.2,SNR=5.6								
ZALV				PcP		PcP		15 56 21.0	-0.7
	comp=Z,2.2nm,0.7s,baz=31,slow=3.8,SNR=6.3								
ZALV				LR		LR		16 20 58.0	
	comp=Z,71nm,19.7s,MS3.8,baz=245,slow=37								
ZALV	Zalesovo Beam	56.64	317	P		P		15 55 27.6	+1.7
ZALV								15 56 21.0	
ZALV				pmax		pmax			
	comp=Z,1.0nm,0.7s,mb4.0								
ZALV				MLR		MLR			
	comp=Z,71nm,19.7s,MS3.8								
ARCES	ARCESS Array B	57.84	353	P		P		15 55 33.5	-0.6
	comp=Z,3.0nm,0.9s,mb4.3,baz=18,slow=6.8,SNR=4.3								
ARCES				LR		LR		16 20 42.6	
	comp=Z,84nm,18.4s,MS3.9,baz=80,slow=36								
ARCES	ARCESS Array B	57.84	353	P		P		15 55 33.6	-0.6
ARCES					pmax		pmax		
	comp=Z,3.0nm,1.0s								
ARCES				MLR		MLR			
	comp=Z,84nm,18.5s								
XAN	Xi'an	57.95	285	P		P		15 55 34.0	-1.5
XAN				PP		PP		15 57 42.0	-2.0
XAN				S		S		16 03 30.8	-1.3
XAN				SS		SS		16 07 22.8	-0.3
XAN				AMB		AMB			
	comp=Z,12nm,1.1s,mb4.8								
XAN				LR		LR			
	comp=N,42nm,22.1s,MS3.9								
XAN				LR		LR			
	comp=E,101nm,24.1s,MS3.9								
XAN				LR		LR			
	comp=Z,170nm,28.8s,MS4.0								
GTA	Gaotai	59.42	296	eP		P		15 55 45.5	-0.1
GTA				S		S		16 03 53.8	+2.8
GTA				AMB		AMB			
	comp=Z,7.0nm,0.8s,mb4.7								
GTA				LR		LR			
	comp=N,137nm,15.9s,MS4.3								
GTA				LR		LR			
	comp=E,154nm,18.0s,MS4.3								
GTA				LR		LR			
	comp=Z,237nm,19.5s,MS4.3								
LZH	Lanzhou	59.48	291	eP		P		15 55 46.0	-0.1
LZH				PP		PP		15 57 59.0	+1.6
LZH				AMB		AMB			
	comp=Z,20nm,1.5s,mb4.9								
LZH				AMB		AMB			
	comp=Z,137nm,7.4s								
LZH				LR		LR			
	comp=N,306nm,16.2s								
LZH				LR		LR			
	comp=Z,453nm,18.6s,MS4.6								
KURK	Kurchatov	61.60	317	eP		P		15 55 59.7	-0.6
KURK				pmax		pmax			
	comp=Z,5.0nm,0.6s,mb4.8								
KURK	Kurchatov	61.60	317	eP		P		15 55 59.7	-0.6
	comp=Z,4.7nm,0.6s,mb4.8								
WMQ	Urumqi	62.60	307	P		P		15 56 07.5	+0.4
WMQ				PCP		PcP		15 56 46.0	+0.3
WMQ				PP		PP		15 58 27.0	+2.2
WMQ				S		S		16 04 33.5	+2.2
WMQ				AMB		AMB			
	comp=Z,12nm,1.0s,mb5.0								
WMQ				AMB		AMB			
	comp=Z,109nm,5.4s								
WMQ				LR		LR			
	comp=N,54nm,20.0s,MS4.0								
WMQ				LR		LR			
	comp=E,90nm,20.0s,MS4.0								
WMQ				LR		LR			
	comp=Z,113nm,21.0s,MS4.0								
MK31	Makanchi Array	62.96	312	eP		P		15 56 08.6	-0.8
MKAR	Makanchi Array	62.96	312	P		P		15 56 08.5	-0.9
	comp=Z,1.5nm,0.7s,mb4.2,baz=56,slow=7.4,SNR=15

EKS2	**Erkin-Say**	**69.97**	**315**	*eP*	**P**	**15 56 54.7**	**+0.4**
	comp=Z,2.9nm,0.6s,mb4.4						
LSA	**Lhasa**	**71.38**	**294**	P	**P**	**15 57 04.5**	**+1.4**
LSA				AMB	AMB		
	comp=Z,30nm,1.0s,mb5.2						
LSA	**Lhasa**	**71.38**	**294**	*eP*	**P**	**15 57 04.1**	**+1.0**
LSA				pmax	pmax		
	comp=Z,17nm,0.8s,mb5.0						
LSA	**Lhasa**	**71.38**	**294**	*eP*	**P**	**15 57 04.1**	**+1.0**
	comp=Z,17nm,0.8s,mb5.0						
NANT	**Nan**	**74.13**	**280**	⇓P	**P**	**15 57 19.4**	**-0.1**
	comp=Z,100nm,0.8s						
SHL	**Shillong**	**74.14**	**291**	*eP*	**P**	**15 57 19.0**	**-0.5**
KKTK	**Khon Kaen**	**74.73**	**277**	⇑P	**P**	**15 57 22.0**	**-1.0**
	comp=Z,401nm,0.5s						
TAPN	**Taplejung**	**75.11**	**295**	*eP*	**P**	**15 57 24.9**	**-0.2**
	comp=Z,25nm,0.8s,mb5.2						
CHTO	**Chiang Mai**	**75.17**	**282**	*eP*	**P**	**15 57 25.4**	**-0.2**
CHTO				pmax	pmax		
	comp=Z,23nm,1.4s,mb4.9						
CHTO	**Chiang Mai**	**75.17**	**282**	*eP*	**P**	**15 57 25.4**	**-0.1**
	comp=Z,23nm,1.4s,mb4.9						
CMAR	**Chiang Mai Arr**	**75.45**	**281**	P	**P**	**15 57 27.7**	**+0.6**
	comp=Z,17nm,0.7s,mb5.1,baz=26,slow=6.7,SNR=140						
CMAR				LR	LR	16 35 52.8	
	comp=Z,48nm,18.5s,MS3.8,baz=251,slow=40						
CMAR	**Chiang Mai Arr**	**75.45**	**281**	P	**P**	**15 57 27.7**	**+0.6**
CMAR				pmax	pmax		
	comp=Z,17nm,0.7s						
CMAR				MLR	MLR		
	comp=Z,48nm,18.5s						
ODAN	**Odare**	**75.67**	**295**	*eP*	**P**	**15 57 28.2**	**-0.1**
	comp=Z,12nm,0.8s,mb4.9						
GUN	**Gumba**	**75.68**	**297**	*eP*	**P**	**15 57 28.5**	**+0.2**
	comp=Z,24nm,0.5s,mb5.4						
JIRN	**Jiri**	**75.70**	**297**	*eP*	**P**	**15 57 28.9**	**+0.4**
	comp=Z,30nm,0.5s,mb5.5						
AKASG	**Malin Array Be**	**75.89**	**347**	LR	LR	16 32 40.4	
	comp=Z,66nm,19.4s,MS4.0,baz=25,slow=37						
RAMN	**Ramite**	**76.03**	**296**	*eP*	**P**	**15 57 30.1**	**-0.3**
	comp=Z,45nm,0.8s,mb5.4						
KKN	**Kakani**	**76.10**	**297**	*eP*	**P**	**15 57 30.6**	**-0.2**
PKI	**Pulchoki**	**76.20**	**297**	*eP*	**P**	**15 57 31.1**	**-0.2**
GKN	**Gorkha**	**76.28**	**298**	*eP*	**P**	**15 57 31.5**	**-0.3**
	comp=Z,26nm,0.7s,mb5.2						
DMN	**Daman**	**76.34**	**297**	*eP*	**P**	**15 57 31.9**	**-0.2**
DANN	**Dangsing**	**76.48**	**299**	*eP*	**P**	**15 57 33.0**	**+0.1**
	comp=Z,42nm,0.7s,mb5.5						
KOLN	**Koldanda**	**77.03**	**299**	*eP*	**P**	**15 57 35.7**	**-0.3**
	comp=Z,14nm,0.8s,mb4.9						
KSM	**Kuching**	**81.72**	**262**	*eP*	**P**	**15 58 01.2**	**-0.5**
GNI	**Garni**	**82.72**	**333**	LR	LR	16 39 33.0	
	comp=Z,55nm,18.4s,MS4.0,baz=164,slow=39						
BATI	**Baumata**	**83.31**	**244**	P	**P**	**15 58 09.3**	**-0.5**
	comp=Z,14nm,0.7s,mb5.1,baz=318,slow=2.1,SNR=5.2						
WRAB	**Tennant Creek**	**86.02**	**230**	⇑*iP*	**P**	**15 58 21.7**	**-1.7**
WRA	**Warramunga Arr**	**86.03**	**230**	P	**P**	**15 58 22.2**	**-1.3**
	comp=Z,2.9nm,0.8s,mb4.6,baz=36,slow=6.2,SNR=20						
WRA	**Warramunga Arr**	**86.03**	**230**	P	**P**	**15 58 22.2**	**-1.2**
WRA				pmax	pmax		
	comp=Z,3.0nm,0.8s						
PSI	**Prapat**	**87.64**	**272**	⇑*eP*	**P**	**15 58 31.4**	**-0.2**
HYB	**Hyderabad**	**88.09**	**296**	*i P*	**P**	**15 58 33.0**	**-0.6**
HYB	**Hyderabad**	**88.09**	**296**	*eP*	**P**	**15 58 33.0**	**-0.6**
ASAR	**Alice Springs**	**89.44**	**228**	P	**P**	**15 58 39.2**	**-0.5**
	comp=Z,6.3nm,0.9s,mb4.9,baz=30,slow=4.6,SNR=55						
ASAR	**Alice Springs**	**89.44**	**228**	P	**P**	**15 58 39.2**	**-0.5**
ASAR				pmax	pmax		
	comp=Z,6.0nm,0.9s						
ASF	**Jabal al Asfar**	**92.31**	**336**	LR	LR	16 41 59.0	
	comp=Z,26nm,18.7s,MS3.7,baz=250,slow=36						
TSUM	**Tsumeb**	**146.22**	**345**	PKPbc	PKPbc	16 05 23.6	+0.4
	comp=Z,3.2nm,0.6s,baz=356,slow=6.2,SNR=11						
TSUM	**Tsumeb**	**146.22**	**345**	*e*PKPbc	PKPbc	16 05 23.3	+0.2
LBTB	**Lobatse**	**149.86**	**328**	PKPbc	PKPbc	16 05 33.3	+0.6
	comp=Z,11nm,0.6s,baz=346,slow=0.7,SNR=19						
LBTB	**Lobatse**	**149.86**	**328**	PKP2	PKPbc	16 05 33.3	+0.6
LBTB				pmax	pmax		
	comp=Z,11nm,0.6s						
LBTB	**Lobatse**	**149.86**	**328**	*e*PKPbc	PKPbc	16 05 33.3	+0.6
MAW	**Mawson**	**150.08**	**219**	PKPbc	PKPbc	16 05 30.1	-1.9
	comp=Z,4.1nm,0.9s,baz=76,slow=2.0,SNR=5.6						
MAW	**Mawson**	**150.08**	**219**	PKIKP	PKPbc	16 05 30.1	-1.8
MAW				pmax	pmax		
	comp=Z,4.0nm,0.9s						
BOSA	**Boshof**	**153.30**	**326**	PKPbc	PKPbc	16 05 40.9	+0.4
	comp=Z,2.1nm,0.6s,baz=22,slow=6.4,SNR=5.9						
BOSA	**Boshof**	**153.30**	**326**	PKIKP	PKPbc	16 05 40.9	+0.4
BOSA				pmax	pmax		
	comp=Z,2.0nm,0.6s						
VNA3	**Neumayer Olymp**	**159.30**	**163**	*e*PKPdf	PKPab	16 06 08.4	-8.9
VNA3				*e*		16 06 15.5	
VNA3				*e*		16 06 22.4	
SNAA	**Sanae**	**159.91**	**169**	*e*PKPdf	PKPab	16 06 18.2	-1.7
SNAA				*e*		16 06 21.7	
VNA2	**Neumayer--Watz**	**159.96**	**165**	*e*PKPdf	PKPab	16 06 11.4	-8.8
	baz=171,slow=4.1						
VNA2				*e*		16 06 25.2	

IDC 30 15:47:10.0±1.9, 3941S×7783E, h0km, mb3.9/4, mb1 4.1/4, mb1mx3.8/17, mbtmp3.9/4, MS3.5/1, Ms1 3.4/1, ms1mx2.9/20, Error ellipse: s-maj=49.7km s-min=37.6km az=120.0, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BOSA	**Boshof**	**44.34**	**267**	LR	LR	16 10 43.6	
	comp=Z,59nm,18.6s,baz=280,slow=32						
ASAR	**Alice Springs**	**49.54**	**89**	P	P	15 56 02.8	+0.1
	0.9nm,0.8s,baz=240,slow=6.1,SNR=12						
QSPA	**South Pole Qui**	**50.76**	**180**	P	P	15 56 11.3	+0.2
	1.0nm,0.5s,baz=275,slow=7.0,SNR=4.9						
WRA	**Warramunga Arr**	**51.93**	**85**	P	P	15 56 20.7	-0.1
	2.7nm,0.7s,baz=235,slow=7.6,SNR=25						
MKAR	**Makanchi Array**	**85.91**	**3**	P	P	15 59 51.5	+0.2
	0.5nm,0.7s,baz=166,slow=6.7,SNR=3.9						

MAN 30 16:23:22, 1812N×12229E, h31km, mb3.5, ML2.2, MS1.7, Luzon

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SGCP	**Mt. Cagua**	**0.27**	**298**	*eP*	Pb	16 23 30.8	+1.7
SGCP				*eS*	Sb	16 23 36.4	+2.4
PALP	**Palanan**	**1.06**	**173**	*eP*	Pn	16 23 40.9	+0.2
PALP				*eS*	Sn	16 23 57.7	+3.3
CAUP	**Cauayan**	**1.25**	**201**	*eP*	Pn	16 23 44.0	+0.6
CAUP				*eS*	Sn	16 23 55.6	-3.5
ABRA	**Dolores**	**1.58**	**253**	*eP*	Pn	16 23 48.4	+0.6
ABRA				*eS*	Sn	16 24 07.4	+0.2
BALP	**Baler**	**2.46**	**196**	*eP*	Pn	16 24 00.6	+0.6

JMA 30 16:38:02.7±0.3, 4392N×14794E, h6km, M3.6, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
NEM2	**Nemuro 2**	**1.69**	**252**	P	Pn	16 38 33.1	+0.4
NEM2				*eS*	Sn	16 38 55.3	+0.7
JRA	**Rausu**	**2.04**	**271**	P	Pn	16 38 38.0	+0.5
JNK	**Nakash**	**2.36**	**263**	P	Pn	16 38 42.7	+0.8
JNK				*eS*	Sn	16 39 11.7	+0.6
JAK	**Akkeshi**	**2.54**	**250**	P	Pn	16 38 45.3	+0.9
JAR	**Ashorobuto**	**3.09**	**260**	P	Pn	16 38 53.8	+1.8
JOB	**Onbets**	**3.16**	**253**	P	Pn	16 38 54.6	+1.7
JNBK	**Urakawa-nobuka**	**4.14**	**248**	P	Pn	16 39 08.6	+2.2
JKB	**Kayabe**	**5.46**	**251**	P	Pn	16 39 26.6	+2.0
JKB				*eS*	Sn	16 40 28.4	+0.7

*ISCJB **30** 16:50:11.7±3.2, 4.18S±007×1350E±0.1, h12km±21km, mb3.3/3, Error ellipse: s-maj=18.2km s-min=12.1km az=174.6*
*IDC **30** 16:50:13.5±1.4, 397S×13481E, h0km, mb3.4/3, mb1 3.9/6, mb1mx3.7/15, mbtmp3.8/6, ML4.1/3, Error ellipse: s-maj=42.3km s-min=24.0km az=75.0*
*NEIC **30** 16:50:14.8±0.9, 4.34S×13427E, h10km, mb3.9/2, Error ellipse: s-maj=33.3km s-min=12.5km az=77.0*
ISC 30 16:50:20.5±2.2, 441S±008×1347E±02, h66km±20km, n12, σ1§20/15, mb3.2/3, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KAKA	**Kakadu**	**8.55**	**195**	*eP*	**Pn**	**16 52 16.9**	**-4.8**
	8.5nm,0.4s						
BATI	**Baumata**	**12.39**	**242**	Pn	**Pn**	**16 53 14.7**	**+0.6**
	0.5nm,0.3s,baz=108,slow=9.6,SNR=2.4						
BATI				Sn	**Sn**	**16 55 38.6**	**+8.1**
	0.4nm,0.3s,baz=18,slow=20,SNR=2.0						
WRAB	**Tennant Creek**	**15.44**	**181**	*e*Pn	**Pn**	**16 53 56.5**	**+2.1**
	4.5nm,0.6s						
WB2	**Warramunga Arr**	**15.45**	**181**	*eP*	**Pn**	**16 53 53.7**	**-0.8**
WRA	**Warramunga Arr**	**15.45**	**181**	Pn	**Pn**	**16 53 52.6**	**-1.8**
	0.3nm,0.3s,baz=7.6,slow=13,SNR=7.9						
WRA				Sn	**Sn**	**16 56 44.1**	**-0.6**
	0.3nm,0.3s,baz=6.2,slow=23,SNR=5.2						
WRA				Lg		16 58 34.8	
	baz=1.9,slow=28,SNR=3.2						
ASAR	**Alice Springs**	**19.16**	**182**	P	**Pn**	**16 54 43.8**	**+3.6**
	0.8nm,0.3s,baz=7.1,slow=11,SNR=94						
ASAR				S	**S**	**16 58 12.8**	**+0.3**
	0.1nm,0.3s,baz=8.4,slow=26,SNR=2.9						
CTA	**Charters Tower**	**19.21**	**145**	*eP*	**Pn**	**16 54 42.5**	**+1.8**
	4.4nm,0.7s						
CTA	**Charters Tower**	**19.21**	**145**	P	**Pn**	**16 54 42.5**	**+1.8**
	0.4nm,0.3s,baz=326,slow=14,SNR=8.2						
CTAO	**Charters Tower**	**19.21**	**145**	*eP*	**Pn**	**16 54 42.2**	**+1.5**
SONM	**Songino Array**	**57.66**	**338**	P	**P**	**17 00 02.8**	**-1.1**
	0.1nm,0.4s,mb3.2,baz=142,slow=7.3,SNR=2.3						
MKAR	**Makanchi Array**	**68.77**	**324**	P	**P**	**17 01 17.4**	**-0.1**
	0.3nm,0.6s,mb3.3,baz=107,slow=6.5,SNR=4.2						
KURK	**Kurchatov**	**72.87**	**326**	P	**P**	**17 01 43.0**	**+0.7**
	0.2nm,0.6s,mb3.1,baz=131,slow=4.2,SNR=3.3						

*DDA **30** 16:53:21.6, 3684N×2786E, h7km±6km, Md2.7*
*ISK **30** 16:53:23.6, 3696N×2778E, h5km, ML2.3*
*ISCJB **30** 16:53:24.7±0.9, 3695N±006×2779E±005, h9km±8km, Error ellipse: s-maj=10.8km s-min=5.5km az=19.8*
*CSEM **30** 16:53:24.3±0.2, 3699N×2778E, h15km, MD2.7, Error ellipse: s-maj=4.6km s-min=2.6km az=24.0*
ISC 30 16:53:24.7±1.1, 3694N±006×2777E±005, h18km±14km, n7, σ0§55/14, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BDRM	**Kayabasi**	**0.29**	**295**	*i P*	**Pg**	**16 53 30.5**	**-0.6**
BDRM				*i* S	**Sg**	**16 53 35.4**	**-0.1**
MLSB	**Milas**	**0.35**	**0**	*e*PG	**Pg**	**16 53 30.8**	**-1.3**
MLSB				*e*SG	**Sg**	**16 53 37.1**	**-0.1**
BODT	**Bodrum**	**0.39**	**288**	*e*PG	**Pg**	**16 53 32.4**	**-0.4**
BODT				*e*SG	**Sg**	**16 53 38.7**	**+0.4**
TURN	**Turunc**	**0.67**	**96**	*i* P	**Pg**	**16 53 32.3**	**-5.5**
TURN				*i* S	**Sg**	**16 53 38.5**	**-8.3**
DALT	**Dalyan (Mudla)**	**0.71**	**104**	*e*PG	**Pg**	**16 53 39.1**	**+0.4**
DALT				*e*SG	**Sg**	**16 53 48.9**	**+0.7**
AYDN	**Tasoluk**	**0.72**	**7**	*i* P	**Pg**	**16 53 38.5**	**-0.4**
AYDN				*i* S	**Sg**	**16 53 48.6**	**+0.1**
GCAM	**G?zelcaml?**	**0.87**	**330**	*i* P	**Pb**	**16 53 41.2**	**0.0**
GCAM				*i* S	**Sg**	**16 53 53.9**	**+0.7**

IDC 30 17:10:50.5±3.7, 204S×10022E, h0km, mb3.2/6, mb1 3.4/6, mb1mx3.3/19, mbtmp3.3/6, Error ellipse: s-maj=150.8km s-min=22.2km az=58.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**20.40**	**357**	P	P	17 15 29.9	+0.7
	0.3nm,0.8s,baz=190,slow=11,SNR=5.0						
WRA	**Warramunga Arr**	**37.78**	**121**	P	P	17 18 08.3	-0.5
	0.3nm,0.3s,baz=304,slow=9.0,SNR=2.7						
ASAR	**Alice Springs**	**39.05**	**126**	P	P	17 18 19.9	+0.4
	0.4nm,0.9s,baz=304,slow=8.2,SNR=5.3						
SONM	**Songino Array**	**49.96**	**5**	P	P	17 19 46.0	-0.2
	0.1nm,0.3s,baz=206,slow=10,SNR=3.1						
MKAR	**Makanchi Array**	**51.12**	**344**	P	P	17 19 55.2	+0.2
	0.5nm,0.5s,baz=160,slow=7.8,SNR=6.4						
ZALV	**Zalesovo Beam**	**57.24**	**349**	P	P	17 20 39.1	-0.4
	0.3nm,0.5s,baz=143,slow=5.0,SNR=3.9						

IDC 30 17:19:08.4±2.8, 1564S×17387W, h0km, mb4.1/3, mb1 4.2/4, mb1mx3.8/16, mbtmp4.1/4, Error ellipse: s-maj=186.4km s-min=27.4km az=147.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**2.66**	**50**	Pn	Pn	17 19 52.6	+0.1
	16nm,0.3s,baz=223,slow=1.5,SNR=31						
AFI				Sn	Sn	17 20 13.0	-12
	15nm,0.3s,baz=207,slow=21,SNR=6.3						
STKA	**Stephens Creek**	**43.52**	**240**	P	P	17 27 13.6	-0.4
	1.2nm,0.9s,baz=66,slow=10.0,SNR=4.3						
WRA	**Warramunga Arr**	**49.35**	**257**	P	P	17 27 59.8	-0.1
	0.9nm,0.6s,baz=92,slow=7.1,SNR=17						
ASAR	**Alice Springs**	**49.61**	**252**	P	P	17 28 02.1	+0.3
	4.5nm,0.5s,baz=89,slow=7.7,SNR=188						

*ISCJB **30** 17:24:47.3±3.0, 236S±01×1799W±0.1, h501km±34km, mb4.1/19, Error ellipse: s-maj=20.7km s-min=16.5km az=34.5*
*NEIC **30** 17:24:47.1±2.5, 2353S×17977W, h490km±29km, mb4.2/12, Error ellipse: s-maj=17.6km s-min=13.9km az=201.0*
*IDC **30** 17:24:47.0±2.9, 2352S×17977W, h489km±30km, mb3.5/7, mb1 3.7/8, mb1mx3.4/16, mbtmp3.5/8, Error ellipse: s-maj=27.1km s-min=21.5km az=174.0*
ISC 30 17:24:47.2±2.8, 236S±01×1798W±01, h489km±31km, n31, σ0§90/30, mb4.1/19, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera**	**14.90**	**190**	P	**P**	**17 27 55.5**	**-0.9**
	2.3nm,0.3s,baz=66,slow=1.7,SNR=12						
SNZO	**South Karori**	**18.30**	**193**	P	**P**	**17 28 30.0**	**-0.7**
RPZ	**Rata Peaks**	**21.48**	**198**	P	**P**	**17 28 59.7**	**0.0**
	9.9nm,0.5s,mb4.6,baz=66,slow=1.3,SNR=12						
EIDS	**Eidsvold**	**26.57**	**260**	*eP*	**P**	**17 29 45.9**	**+0.6**
	12nm,0.5s,mb4.6						
CNB	**Canberra Magne**	**29.21**	**239**	*eP*	**P**	**17 30 10.0**	**+1.7**
CTA	**Charters Tower**	**31.69**	**270**	*eP*	**P**	**17 30 30.8**	**+0.9**
	7.5nm,0.3s,mb4.6						
CTAO	**Charters Tower**	**31.69**	**270**	*eP*	**P**	**17 30 30.6**	**+0.7**
	10nm,0.4s,mb4.6						
TOO	**Toolangi**	**32.81**	**237**	*eP*	**P**	**17 30 40.3**	**+1.0**
TAU	**Tasmania Unive**	**33.32**	**227**	*eP*	**P**	**17 30 43.9**	**+0.3**
	6.4nm,0.6s,mb4.2						
STKA	**Stephens Creek**	**35.05**	**248**	*eP*	**P**	**17 30 58.9**	**+0.7**
	3.3nm,1.0s,mb3.7						
STKA	**Stephens Creek**	**35.05**	**248**	P	**P**	**17 30 58.5**	**+0.3**
	3.2nm,0.7s,mb3.9,baz=73,slow=8.9,SNR=7.5						
ASAR	**Alice Springs**	**42.30**	**260**	P	**P**	**17 31 57.3**	**0.0**
	5.3nm,0.6s,mb4.1,baz=90,slow=7.3,SNR=85						
ASAR				ScP	ScP	17 36 43.1	-0.7
	1.6nm,0.9s,baz=109,slow=4.2,SNR=11						
WB2	**Warramunga Arr**	**42.63**	**266**	*eP*	**P**	**17 31 53.8**	**-6.2**
WRAB	**Tennant Creek**	**42.63**	**266**	*eP*	**P**	**17 31 58.5**	**-1.5**
	5.8nm,0.6s,mb4.2						
WRA	**Warramunga Arr**	**42.64**	**266**	P	**P**	**17 31 59.5**	**-0.6**
	3.9nm,0.5s,mb4.1,baz=102,slow=8.2,SNR=22						
KAKA	**Kakadu**	**46.49**	**275**	*eP*	**P**	**17 32 21.7**	**-8.2**
	7.7nm,1.2s,mb4.0						
FORT	**Forrest**	**46.63**	**249**	*eP*	**P**	**17 32 30.1**	**-0.7**
	21nm,0.6s,mb4.7						
SBA	**Scott Base**	**54.73**	**183**	*eP*	**P**	**17 33 31.4**	**+2.1**
	4.6nm,0.9s,mb3.8						
MBWA	**Marble Bar**	**55.64**	**260**	*eP*	**P**	**17 33 35.3**	**-1.2**
	22nm,1.2s,mb4.3						
CASY	**Casey**	**60.51**	**206**	P	**P**	**17 34 08.0**	**-0.8**
	4.3nm,0.7s,mb4.0						
QSPA	**South Pole Qui**	**66.53**	**180**	*eP*	**P**	**17 34 48.3**	**+1.0**
	4.6nm,1.1s,mb4.0						
MAW	**Mawson**	**78.15**	**200**	P	**P**	**17 35 54.8**	**0.0**
	2.1nm,0.7s,mb3.7,baz=117,slow=3.1,SNR=4.7						
ISA	**Isabella**	**82.63**	**46**	P	**P**	**17 36 19.2**	**+0.4**
	3.3nm,0.9s,mb3.9						
CMB	**Columbia Colle**	**82.81**	**43**	P	**P**	**17 36 19.9**	**+0.3**
	5.9nm,1.2s,mb4.0						
SNAA	**Sanae**	**85.01**	**179**	*e*	**P**	**17 36 29.1**	**-0.9**
SNAA	**Sanae**	**85.01**	**179**	*eP*	**P**	**17 36 29.0**	**-1.0**
VNA3	**Neumayer Olymp**	**85.21**	**177**	*e*	**P**	**17 36 30.4**	**-0.6**
VNA2	**Neumayer--Watz**	**85.63**	**177**	*e*	**P**	**17 36 32.8**	**-0.2**
	baz=179,slow=3.9						
TXAR	**Lajitas Array**	**90.07**	**58**	P	**P**	**17 36 55.5**	**+1.0**
	0.7nm,0.8s,mb3.6,baz=205,slow=7.4,SNR=7.5						
PDAR	**Pinedale Array**	**92.30**	**44**	P	**P**	**17 37 03.2**	**-1.3**
	0.2nm,0.6s,mb3.2,baz=201,slow=4.8,SNR=4.1						
MKAR	**Makanchi Array**	**112.07**	**313**	PKiKP	PKiKP	17 42 25.2	-1.1
	0.1nm,0.4s,baz=92,slow=3.1,SNR=2.9						

CASC 30 17:26:42.5±2.3, 1563N×8952W, h0km±8km, MD4.0, 1D, Guatemala

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MRL	**Marmol**	**0.58**	**196**	*eP*	Pg	17 26 54.0	+0.3
NBG	**Las Nubes**	**1.31**	**218**	*eP*	Pg	17 27 07.3	-0.3
NBG				*eS*	Sg	17 27 26.8	+2.3
RBDL	**Robledal**	**1.52**	**186**	*eP*	x	17 27 09.3	
RBDL				*eS*	x	17 27 31.6	
FG6		**1.69**	**231**	*eP*	Pn	17 27 13.3	0.0
FG6				*eS*	Sn	17 27 38.4	+2.7
RTR	**El Retiro**	**1.73**	**184**	*eP*	x	17 27 14.0	
RTR				*eS*	x	17 27 38.5	
FUG	**Fuego 3**	**1.73**	**228**	⇓*eP*	Pn	17 27 14.0	+0.1
FUG				*eS*	Sn	17 27 39.5	+2.8
SNJE	**San Jose**	**1.75**	**183**	*eP*	x	17 27 13.8	
SNJE				*eS*	x	17 27 39.0	
SBLS	**San Blas**	**1.78**	**183**	*eP*	x	17 27 14.6	
SBLS				*eS*	x	17 27 39.8	
BOQS	**Boqueron**	**1.90**	**173**	*eP*	x	17 27 16.5	
BOQS				*eS*	x	17 27 43.0	
LBRS	**Las Brisas**	**1.94**	**166**	*eP*	x	17 27 17.4	
LBRS				*eS*	x	17 27 44.7	
LFRS	**El Faro**	**2.04**	**167**	*eP*	x	17 27 17.9	
LFRS				*eS*	x	17 27 44.8	
CAHU	**Cacacuatique**	**2.24**	**145**	*eP*	x	17 27 22.2	
CAHU				*eS*	x	17 27 50.9	
BLLM	**Bellamira**	**2.50**	**150**	*eP*	x	17 27 23.2	

*CSEM **30** 17:55:59.8±0.1, 4546N×2755E, h10km, MD4.3/2, Error ellipse: s-maj=1.9km s-min=1.3km az=86.0*
*IDC **30** 17:56:00.7±1.8, 4557N×2762E, h14km±13km, mb3.6/8, mb1 3.7/11, mb1mx3.6/24, mbtmp3.6/11, ML4.0/3, Error ellipse: s-maj=13.1km s-min=11.9km az=142.0*
*BUC **30** 17:56:00.7±0.3, 4554N×2768E, h16km±2km, MD4.4/2, Error ellipse: s-maj=3.0km s-min=2.7km az=49.0*
*ISCJB **30** 17:56:00.8±0.3, 4553N±001×2769E±002, h30km±2km, mb4.0/13, Error ellipse: s-maj=2.6km s-min=2.1km az=142.9*
*MOS **30** 17:56:01.3±1.1, 4551N×2762E, h41km, mb4.0/8, Error ellipse: s-maj=6.9km s-min=4.7km az=84.3*
*SOF **30** 17:56:01.4, 4559N×2759E, h35km, MD3.6*
*NEIC **30** 17:56:03.3, 4550N×2763E, h50km, mb4.1/2, After BUC.*
ISC 30 17:56:01.4±0.3, 4555N±001×2768E±002, h17km±2km, n203, σ1§14/258, mb4.0/13, 31C-17D, Romania

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TUDR		**0.05**	**348**	⇑*iP*	**Pg**	**17 56 03.5**	**-1.0**
TUDR				*i* S	**Sg**	**17 56 06.5**	**0.0**
VARR		**0.36**	**20**	⇑*iP*	**Pg**	**17 56 08.4**	**-0.4**
VARR				*i* S	**Sg**	**17 56 14.6**	**+0.8**
VARR		**0.36**	**20**	S	**Sg**	**17 56 14.6**	**+0.8**
VARR		**0.36**	**20**	⇑*iP*	**Pg**	**17 56 08.4**	**-0.4**
PETR		**0.36**	**299**	⇑*iP*	**Pg**	**17 56 08.8**	**-0.1**
PETR				*i* S	**Sg**	**17 56 15.2**	**+1.2**
PETR		**0.36**	**299**	S	**Sg**	**17 56 15.2**	**+1.2**
PETR		**0.36**	**299**	⇑*iP*	**Pg**	**17 56 08.8**	**-0.1**
GIUM	**Giurgiulesti**	**0.37**	**99**	⇑*iP*	**Pg**	**17 56 09.2**	**+0.1**
GIUM				*i* S	**Sg**	**17 56 15.2**	**+0.9**
CFR	**Carcaliu**	**0.49**	**139**	⇓*iP*	**Pg**	**17 56 10.4**	**-0.7**
CFR				*i* S	**Sg**	**17 56 17.7**	**0.0**
GRER		**0.53**	**252**	⇑*iP*	**Pg**	**17 56 12.3**	**+0.5**
GRER				*i* S	**Sg**	**17 56 19.7**	**+0.8**
VRI	**Vrincioaia**	**0.74**	**296**	⇑*iP*	**Pb**	**17 56 14.8**	**-1.0**
VRI				*i* S	**Sb**	**17 56 25.6**	**-0.1**
VRI	**Vrincioaia**	**0.74**	**296**	⇑*iP*	**Pb**	**17 56 14.8**	**-1.0**
VRI				*i* S	**Sb**	**17 56 25.5**	**-0.2**
PLOR	**Plostina**	**0.79**	**293**	P	**Pb**	**17 56 15.7**	**-0.9**
TLCR		**0.88**	**114**	⇓*iP*	**Pb**	**17 56 17.9**	**-0.2**
TLCR				*i* S	**Sb**	**17 56 31.2**	**+1.7**
TLCR		**0.88**	**114**	⇓*iP*	**Pb**	**17 56 17.9**	**-0.2**
TLCR				S	**Sb**	**17 56 33.1**	**+3.6**
TLCR		**0.88**	**114**	⇓P	**Pb**	**17 56 17.9**	**-0.2**
TLCR				S	**Sb**	**17 56 33.1**	**+3.6**
BERR	**Berezeni**	**0.88**	**22**	⇑*iP*	**Pb**	**17 56 17.8**	**-0.3**
BERR				*i* S	**Sb**	**17 56 30.4**	**+0.9**
ONCR	**Oncesti**	**0.96**	**343**	⇑*iP*	**Pb**	**17 56 18.9**	**-0.7**
ONCR				*i* S	**Sb**	**

BZS	**Buzias**	**4.26**	**273**	⇓*i*P		**Pn**	**17 57 04.6**	**-0.8**
BZS	**Buzias**	**4.26**	**273**	⇑P		**Pn**	**17 57 04.1**	**-1.3**
SLVT	**Silivri**	**4.33**	**175**	*e*P		**Pn**	**17 57 06.3**	**-0.1**
CTKS	**Kestanelik-??a**	**4.35**	**172**	*e*P		**Pn**	**17 57 05.7**	**-0.9**
SEV	**Sevastopol'**	**4.36**	**101**	*e*P		**Pn**	**17 57 07.3**	**+0.6**
SEV				*e*S		**Sn**	**17 57 56.0**	**-1.1**
VTS	**Vitosha**	**4.37**	**229**	*i* P		**Pn**	**17 57 06.0**	**-0.9**
KLYT	**Kilyos**	**4.40**	**167**	*e*P		**Pn**	**17 57 08.9**	**+1.6**
ELBA	**Catalca**	**4.43**	**173**	*i* P		**Pn**	**17 57 07.0**	**-0.7**
BGKT	**Bogazkoy**	**4.43**	**169**	*e*P		**Pn**	**17 57 08.8**	**+1.0**
SIM	**Simferopol'**	**4.58**	**95**	*e*P		**Pn**	**17 57 12.0**	**+2.2**
SIM				*e*S		**Sn**	**17 58 04.0**	**+1.4**
SIM				pmax	pmax			
	comp=Z,21nm,0.3s							
SIM				smax				
	comp=E,47nm,1.0s							
SIM				smax				
	comp=N,76nm,0.9s							
SIM	**Simferopol'**	**4.58**	**95**	*e*P		**Pn**	**17 57 12.0**	**+2.2**
	comp=N,21nm,0.3s							
SIM				*e*S		**Sn**	**17 58 04.0**	**+1.4**
	comp=N,76nm,0.9s							
ISK	**Istanbul-Kandi**	**4.59**	**167**	*e*P		**Pn**	**17 57 10.4**	**+0.5**
SILT	**Sile**	**4.62**	**161**	*e*P		**Pn**	**17 57 12.1**	**+1.8**
ALN	**Alexandroupoli**	**4.80**	**195**	P		**Pn**	**17 57 12.0**	**-0.8**
UZH	**Uzhgorod**	**4.80**	**312**	*e*P		**Pn**	**17 57 14.0**	**+1.2**
UZH				*e*S		**Sn**	**17 58 10.0**	**+1.9**
UZH				smax				
	comp=N,24nm,0.8s							
UZH				smax				
	comp=E,37nm,0.8s							
UZH	**Uzhgorod**	**4.80**	**312**	*e*P		**Pn**	**17 57 14.0**	**+1.2**
UZH				*e*S		**Sn**	**17 58 10.0**	**+1.9**
ALU	**Alushta**	**4.83**	**98**	*e*P		**Pn**	**17 57 14.7**	**+1.4**
ALU				*e*S		**Sn**	**17 58 09.7**	**+0.9**
RKY	**Sarkoy-Tekirda**	**4.87**	**185**	*e*P		**Pn**	**17 57 12.6**	**-1.2**
MMB	**Musomiste**	**4.89**	**217**	*e*P		**Pn**	**17 57 16.5**	**+2.5**
LVV	**L'vov**	**4.94**	**331**	*e*P		**Pn**	**17 57 13.3**	**-1.4**
LVV				*i* S		**Sn**	**17 58 10.1**	**-1.2**
HRT	**Hereke**	**4.94**	**162**	*e*P		**Pn**	**17 57 16.9**	**+2.2**
KKB	**Krupnik**	**4.96**	**224**	*i* P		**Pn**	**17 57 15.0**	**-0.1**
KDZE	**Karadeniz Ereo**	**5.04**	**146**	*e*P		**Pn**	**17 57 16.7**	**+0.6**
YLV	**Yalova**	**5.13**	**165**	*e*P		**Pn**	**17 57 18.9**	**+1.6**
BNT	**Bandirma**	**5.19**	**178**	*e*P		**Pn**	**17 57 17.9**	**-0.3**
SUDU	**Sudak**	**5.21**	**95**	*e*P		**Pn**	**17 57 19.5**	**+1.0**
SUDU				*e*S		**Sn**	**17 58 17.8**	**-0.3**
GEMT	**Gemlik**	**5.23**	**167**	*e*P		**Pn**	**17 57 19.3**	**+0.6**
KIEV	**Kiev**	**5.25**	**11**	*e*P		**Pn**	**17 57 18.0**	**-1.0**
KIEV				*e*			17 58 15.6	
KIEV				pmax	pmax			
	comp=Z,20nm,0.3s							
KIEV	**Kiev**	**5.25**	**11**	*e*Pn		**Pn**	**17 57 18.0**	**-1.0**
	comp=Z,20nm,0.3s							
KIEV				*e*Sn		**Sn**	**17 58 15.6**	**-3.5**
KIEV	**Kiev**	**5.25**	**11**	*e*Pn		**Pn**	**17 57 18.0**	**-1.0**
	comp=Z,20nm,0.3s							
KIEV				*e*Sn		**Sn**	**17 58 15.6**	**-3.5**
KIEV				*e*			17 58 40.0	
AKASG	**Malin Array Be**	**5.26**	**11**	Pn		**Pn**	**17 57 18.5**	**-0.6**
	comp=Z,6.1nm,0.3s,baz=199,slow=11,SNR=20							
AKASG				Sn		**Sn**	**17 58 15.4**	**-3.9**
	comp=Z,18nm,0.3s,baz=277,slow=4.7,SNR=5.4							
AKASG				Lg			17 58 41.6	
	comp=Z,55nm,0.3s,baz=189,slow=30,SNR=9.4							
AKASG	**Malin Array Be**	**5.26**	**11**	P		**Pn**	**17 57 18.5**	**-0.6**
AKASG							17 58 15.4	
AKASG				pmax	pmax			
	comp=Z,6.0nm,0.3s							
AKASG				smax				
	comp=N,18nm,0.3s							
AKBB	**Malin Array Si**	**5.26**	**11**	*e*Pn		**Pn**	**17 57 17.8**	**-1.3**
AKBB				*e*Sn		**Sn**	**17 58 15.6**	**-3.7**
AKBB	**Malin Array Si**	**5.26**	**11**	*e*Pn		**Pn**	**17 57 17.8**	**-1.3**
AKBB				*e*Sn		**Sn**	**17 58 15.6**	**-3.7**
AKBB				*e*			17 58 40.1	
HENT	**Hendek**	**5.27**	**152**	*i* P		**Pn**	**17 57 21.5**	**+2.2**
KWP	**Kalwaria**	**5.29**	**322**	*e*P		**Pn**	**17 57 19.7**	**+0.1**
KWP				pmax	pmax			
	comp=Z,17nm,0.6s							
KWP	**Kalwaria**	**5.29**	**322**	*e*Pn		**Pn**	**17 57 19.7**	**+0.1**
	comp=Z,17nm,0.6s							
KWP	**Kalwaria**	**5.29**	**322**	⇑*i*P		**Pn**	**17 57 20.5**	**+0.9**
KWP	**Kalwaria**	**5.29**	**322**	*e*Pn		**Pn**	**17 57 19.7**	**+0.1**
	comp=Z,17nm,0.6s							
ADVT	**Abdulvahap**	**5.33**	**163**	*e*P		**Pn**	**17 57 20.8**	**+0.7**
ULDT	**Uludag**	**5.50**	**168**	*i* P		**Pn**	**17 57 22.9**	**+0.4**
GULT	**Gulveren**	**5.52**	**157**	*e*P		**Pn**	**17 57 23.9**	**+1.3**
CAVI	**Cavuskoy**	**5.57**	**163**	*e*P		**Pn**	**17 57 25.0**	**+1.6**
GPA	**Golpazari**	**5.60**	**159**	*e*P		**Pn**	**17 57 25.4**	**+1.6**
KNT	**Kendrikon**	**5.60**	**220**	P		**Pn**	**17 57 23.5**	**-0.3**
VAY	**Valandovo**	**5.63**	**223**	*i* Pn		**Pn**	**17 57 23.1**	**-1.1**
VAY				*i* Sn		**Sg**	**17 58 53.9**	**-8.0**
VAY	**Valandovo**	**5.63**	**223**	*i* Pn		**Pn**	**17 57 23.0**	**-1.2**
SAFT	**Safranbolu**	**5.64**	**138**	*e*P		**Pn**	**17 57 23.9**	**-0.5**
BALT	**Daday**	**5.77**	**132**	*i* P		**Pn**	**17 57 25.3**	**-0.7**
BALY	**Balya**	**5.80**	**180**	*i* P		**Pn**	**17 57 26.2**	**-0.4**
BZK	**Bozkurt**	**5.81**	**126**	*e*P		**Pn**	**17 57 26.2**	**-0.5**
PSZ	**Piszkesteto**	**5.86**	**297**	*e*P		**Pn**	**17 57 24.8**	**-2.5**
PSZ				pmax	pmax			
	comp=Z,8.0nm,0.6s							
PSZ	**Piszkesteto**	**5.86**	**297**	⇑*i*P		**Pn**	**17 57 25.5**	**-1.8**
PSZ	**Piszkesteto**	**5.86**	**297**	*e*Pn		**Pn**	**17 57 24.8**	**-2.5**
	comp=Z,7.5nm,0.6s							
PSZ	**Piszkesteto**	**5.86**	**297**	*e*Pn		**Pn**	**17 57 24.8**	**-2.5**
	comp=Z,7.5nm,0.6s							
OUR	**Ouranopolis**	**5.87**	**209**	P		**Pn**	**17 57 26.7**	**-0.9**
LIA	**Limnos Island**	**5.94**	**199**	P		**Pn**	**17 57 27.3**	**-1.1**
HORT	**Hortiatis**	**5.98**	**216**	P		**Pn**	**17 57 28.5**	**-0.5**
GRG	**Griva**	**5.99**	**222**	P		**Pn**	**17 57 28.9**	**-0.3**
BORA	**Eskisehir**	**6.02**	**159**	*i* P		**Pn**	**17 57 29.7**	**+0.1**
PLG	**Polygyros**	**6.03**	**213**	P		**Pn**	**17 57 28.1**	**-1.6**
KRUS	**Krusevo**	**6.27**	**231**	*i* Pn		**Pn**	**17 57 33.0**	**-0.1**
KRUS	**Krusevo**	**6.27**	**231**	*i* Pn		**Pn**	**17 57 32.9**	**-0.1**
AYVA	**Ayvalik**	**6.28**	**187**	*i* P		**Pn**	**17 57 34.2**	**+1.1**
PAIG	**Paliouri**	**6.34**	**209**	P		**Pn**	**17 57 32.6**	**-1.4**
PRK	**Paraskevi**	**6.38**	**190**	P		**Pn**	**17 57 34.9**	**+0.4**
ESKT	**Eskisehir**	**6.46**	**158**	*i* P		**Pn**	**17 57 36.4**	**+0.8**
BYBT	**Boyabat**	**6.57**	**126**	*e*P		**Pn**	**17 57 36.8**	**-0.2**
ELDT	**Eldivan**	**6.58**	**138**	*i* P		**Pn**	**17 57 38.3**	**+1.1**
ELDT				*i* P			17 57 38.3	
CANT	**Cankiri**	**6.58**	**137**	*e*P		**Pn**	**17 57 38.2**	**+1.0**
GDZ	**Gediz**	**6.59**	**168**	*i* P		**Pn**	**17 57 38.3**	**+0.9**
FNA	**Florina**	**6.63**	**226**	P		**Pn**	**17 57 38.4**	**+0.5**
DIKM	**Dikmen**	**6.74**	**123**	*e*P		**Pn**	**17 57 38.8**	**-0.6**
ANTO	**Ankara**	**6.81**	**145**	Pn		**Pn**	**17 57 40.3**	**-0.1**
ANTO	**Ankara**	**6.81**	**145**	Pn		**Pn**	**17 57 40.3**	**-0.1**
ANN	**Anapa**	**6.93**	**93**	*e*P		**Pn**	**17 57 32.7**	**-9.4**
ANN				pmax	pmax			
	comp=Z,44nm,1.0s							
ANN				MLR	MLR			
	comp=Z,173nm,12.0s							
MANT	**Manisa**	**7.08**	**174**	*i* P		**Pn**	**17 57 44.0**	**-0.2**
CTKT	**Corum**	**7.16**	**131**	*i* P		**Pn**	**17 57 45.4**	**+0.2**
BOLV	**Bolvadin**	**7.24**	**159**	*i* P		**Pn**	**17 57 46.9**	**+0.6**
CHOS	**Chios island**	**7.26**	**190**	P		**Pn**	**17 57 46.5**	**0.0**
BR131	**Keskin Array S**	**7.29**	**141**	*e*Pn		**Pn**	**17 57 47.8**	**+0.8**
	comp=Z,5.3nm,0.3s							
BR131	**Keskin Array S**	**7.29**	**141**	*e*Pn		**Pn**	**17 57 47.8**	**+0.8**
	comp=Z,5.3nm,0.3s							
KHAL	**Karahalli**	**7.29**	**169**	*i* P		**Pn**	**17 57 47.2**	**+0.1**
CORM	**Corum**	**7.40**	**134**	*e*P		**Pn**	**17 57 47.2**	**-1.3**
KVT	**Kavak**	**7.55**	**123**	*e*P		**Pn**	**17 57 49.8**	**-0.9**
CDAG	**Cicekdag**	**7.70**	**138**	*i* P		**Pn**	**17 57 55.1**	**+2.4**
TKTP	**Tekketepe**	**7.75**	**164**	*i* P		**Pn**	**17 57 53.6**	**+0.2**
KDHN	**Kadinhani**	**7.75**	**153**	*i* P		**Pn**	**17 57 53.3**	**0.0**
AVNT	**Avnos**	**8.60**	**139**	*i* P		**Pn**	**17 58 04.0**	**-1.0**
SOC	**Sochi**	**8.81**	**99**	*e*		**Sn**	**17 59 49.5**	**+2.8**
SOC				pmax	pmax			
	comp=Z,38nm,1.7s							
SOC	**Sochi**	**8.81**	**99**	*e*S		**Sn**	**17 59 49.5**	**+2.8**
SVSK	**Karacayir**	**8.86**	**126**	*e*P		**Pn**	**17 58 07.7**	**-0.9**
SUW	**Suwalki**	**8.96**	**343**	Pn		**Pn**	**17 58 08.0**	**-1.8**
SUW	**Suwalki**	**8.96**	**343**	Pn		**Pn**	**17 58 08.0**	**-1.8**
ESPY	**Espiye-Giresun**	**9.29**	**116**	*e*P		**Pn**	**17 58 11.6**	**-2.9**
VOR	**Voronezh**	**9.81**	**47**	P		**Pn**	**17 58 24.0**	**+2.5**
VOR				pmax	pmax			
	comp=Z,100nm,1.0s							
GUMT	**Gumushane**	**10.02**	**116**	*e*P		**Pn**	**17 58 21.3**	**-3.1**
KHC	**Kasperske Hory**	**10.22**	**296**	*e*P		**Pn**	**17 58 36.7**	**+10**
KIV	**Kislovodsk**	**10.79**	**93**	*e*P		**Pn**	**17 58 33.1**	**-1.9**
KIV				*e*S		**Sn**	**18 00 28.5**	**-6.8**
KIV				pmax	pmax			
	comp=Z,5.0nm,1.2s							
KIV				MLR	MLR			
	comp=Z,19nm,12.0s							
BCA	**Borcka**	**10.92**	**107**	*e*P		**Pn**	**17 58 31.4**	**-5.4**
OBN	**Obninsk**	**11.12**	**27**	*e*P		**Pn**	**17 58 39.4**	**-0.1**
OBN				*i* S		**Sn**	**18 00 41.2**	**-2.1**
OBN				pmax	pmax			
	comp=Z,2.0nm,0.8s							
OBN	**Obninsk**	**11.12**	**27**	*e*P		**Pn**	**17 58 39.4**	**-0.1**
	comp=Z,2.0nm,0.8s							
ARTV	**Artvin**	**11.25**	**108**	*i* P		**Pn**	**17 58 39.7**	**-1.5**
DDEM	**Demirkent**	**11.27**	**109**	*i* P		**Pn**	**17 58 39.8**	**-1.7**
DAGI	**Agillar**	**11.29**	**108**	*i* P		**Pn**	**17 58 40.5**	**-1.2**
VSU	**Vasula**	**12.95**	**358**	*i* P		**Pn**	**17 59 05.8**	**+1.4**
GNI	**Garni**	**13.62**	**107**	*e*P		**Pn**	**17 59 12.7**	**-0.9**
GNI				pmax	pmax			
	comp=Z,12nm,2.5s							
GNI	**Garni**	**13.62**	**107**	*e*P		**Pn**	**17 59 12.7**	**-0.9**
	comp=Z,12nm,2.5s							
HFS	**Hagfors**	**16.82**	**335**	Pn		**Pn**	**17 59 50.4**	**-5.3**
	comp=Z,0.7nm,0.3s,baz=133,slow=12,SNR=11							
HFS				Sn		**Sn**	**18 02 49.0**	**-13**
	comp=Z,0.3nm,0.3s,baz=138,slow=26,SNR=3.1							
NAO01	**NORSAR Array S**	**18.24**	**333**	*e*P		**Pn**	**18 00 10.7**	**-2.7**
NAO01	**NORSAR Array S**	**18.24**	**333**	*e*P		**Pn**	**18 00 10.7**	**-2.6**
NB2	**NORSAR Subarra**	**18.29**	**334**	P		**Pn**	**18 00 11.6**	**-2.4**
	comp=Z,3.6nm,0.7s,baz=141,slow=12							
NOA	**NORSAR Array B**	**18.29**	**334**	Pn		**Pn**	**18 00 09.1**	**-4.8**
	comp=Z,0.4nm,0.3s,baz=141,slow=9.9,SNR=3.6							
NOA				Sn		**Sn**	**18 03 24.1**	**-13**
	comp=Z,0.2nm,0.3s,baz=145,slow=16,SNR=2.9							
NOA	**NORSAR Array B**	**18.29**	**334**	*e*P		**Pn**	**18 00 17.5**	**+3.5**
AKTK	**Aktyubinsk**	**20.80**	**65**	P		**P**	**18 00 41.1**	**-0.4**
	comp=Z,2.0nm,0.6s							
AKTO	**Aktyubinsk**	**20.80**	**65**	P		**P**	**18 00 41.1**	**-0.4**
	comp=Z,1.9nm,0.6s,baz=244,slow=11,SNR=6.0							
AKTO	**Aktyubinsk**	**20.80**	**65**	P		**P**	**18 00 41.1**	**-0.4**
AKTO				pmax	pmax			
	comp=Z,2.0nm,0.6s							
EKA	**Eskdalemuir Ar**	**21.78**	**308**	P		**P**	**18 00 52.5**	**+0.5**
	comp=Z,0.4nm,0.4s,mb3.2,baz=94,slow=10.0,SNR=5.2							
MIB	**Mutribah**	**22.02**	**129**	*e*P		**P**	**18 00 54.6**	**-0.2**
	baz=109							
MIB				AMb		AMB	18 00 58.5	
	comp=Z,23nm,0.7s,mb4.7,baz=109							
RST	**Umm Al-Ruwaisa**	**22.07**	**130**	*e*P		**P**	**18 00 55.5**	**+0.1**
	baz=110							
RST				AMb		AMB	18 00 58.8	
	comp=Z,28nm,0.8s,mb4.7,baz=110							
ARU	**Arti**	**22.09**	**49**	*e*P		**P**	**18 00 53.1**	**-2.2**
ARU				*e*			18 01 11.7	
ARU				*e*S		**S**	**18 04 56.9**	**-1.1**
ARU				pmax	pmax			
	comp=Z,16nm,1.7s,mb4.2							
ARU	**Arti**	**22.09**	**49**	*e*P		**P**	**18 00 53.3**	**-2.0**
	comp=Z,5.4nm,0.5s,mb4.2							
ARU	**Arti**	**22.09**	**49**	*e*P		**P**	**18 00 53.3**	**-2.0**
	comp=Z,5.5nm,0.5s,mb4.2							
NAY	**Al-Naaiem**	**22.40**	**130**	*e*P		**P**	**18 00 58.0**	**-0.9**
	comp=Z,8.7nm,1.6s,mb4.0							
NAY	**Al-Naaiem**	**22.40**	**130**	*e*P		**P**	**18 00 58.0**	**-0.9**
	baz=110							
NAY				AMb		AMB	18 01 08.3	
	comp=Z,9.0nm,1.6s,mb4.0,baz=110							
LVZ	**Lovozero**	**22.70**	**7**	*e*P		**P**	**18 01 04.3**	**+2.5**
LVZ				pmax	pmax			
	comp=Z,26nm,1.1s,mb4.6							
ARCES	**ARCESS Array B**	**24.08**	**358**	P		**P**	**18 01 14.2**	**-1.2**
	comp=Z,1.2nm,0.4s,mb3.7,baz=175,slow=9.9,SNR=5.4							
ARCES	**ARCESS Array B**	**24.08**	**358**	P		**P**	**18 01 14.2**	**-1.2**
ARCES				pmax	pmax			
	comp=Z,1.0nm,0.4s							
KURK	**Kurchatov**	**33.83**	**62**	*e*P		**P**	**18 02 42.2**	**-0.2**
KURK				pmax	pmax			
	comp=Z,1.0nm,1.0s,mb3.7							
ZALV	**Zalesovo Beam**	**36.94**	**56**	P		**P**	**18 03 09.6**	**+0.5**
	comp=Z,1.2nm,0.4s,mb4.0,baz=281,slow=8.9,SNR=4.5							
ZALV	**Zalesovo Beam**	**36.94**	**56**	P		**P**	**18 03 09.6**	**+0.5**
ZALV				pmax	pmax			
	comp=Z,1.0nm,0.4s,mb4.0							
MK31	**Makanchi Array**	**37.20**	**68**	*e*P		**P**	**18 03 11.9**	**+0.5**
MKAR	**Makanchi Array**	**37.20**	**68**	P		**P**	**18 03 12.0**	**+0.6**
	comp=Z,0.6nm,0.5s,mb3.7,baz=273,slow=8.0,SNR=20							
MKAR	**Makanchi Array**	**37.20**	**68**	P		**P**	**18 03 12.0**	**+0.6**
MKAR				pmax	pmax			
	comp=Z,1.0nm,0.5s							
TOA0	**Torodi Ar. Sit**	**39.09**	**223**	*e*P		**P**	**18 03 26.1**	**-1.6**
TORD	**Torodi Ar. Bea**	**39.09**	**223**	P		**P**	**18 03 26.6**	**-1.1**
	comp=Z,145nm,0.4s,baz=27,slow=8.7,SNR=1.5							
DBIC	**Dimbokro**	**47.89**	**226**	P		**P**	**18 04 36.2**	**-2.4**
	comp=Z,1.5nm,0.7s,mb4.1,baz=349,slow=6.6,SNR=4.5							
DBIC	**Dimbokro**	**47.89**	**226**	*e*P		**P**	**18 04 36.3**	**-2.3**
DBIC				pmax	pmax			
	comp=Z,1.0nm,0.4s							
DBIC	**Dimbokro**	**47.89**	**226**	*e*P		**P**	**18 04 36.3**	**-2.2**
	comp=Z,0.8nm,0.4s,mb4.1							
SONM	**Songino Array**	**51.80**	**57**	P		**P**	**18 05 08.8**	**+0.9**
	comp=Z,0.6nm,0.5s,mb3.8,baz=292,slow=8.8,SNR=7.4							
SONM	**Songino Array**	**51.80**	**57**	P		**P**	**18 05 08.8**	**+0.8**
SONM				pmax	pmax			
	comp=Z,1.0nm,0.5s							
CMAR	**Chiang Mai Arr**	**64.01**	**90**	P		**P**	**18 06 34.3**	**+0.3**
	comp=Z,0.3nm,0.6s,mb3.5,baz=303,slow=8.0,SNR=5.0							

*ISCJB **30** 17:57:57.7±1.1, 2012S±004×6884W±006, h67km±9km, mb4.8/39, Error ellipse: s-maj=9.6km s-min=5.7km az=147.5*

*DJA **30** 17:58:00, 2126S×6772W, h10km, mb5.2/5*

*NEIC **30** 17:58:03.2±0.2, 2013S×6888W, mb4.9/33, Error ellipse: s-maj=8.8km s-min=5.8km az=71.0*

NEIC Felt [III] at Alto Hospico, Iquique and Pozo Almonte; [II] at Camina, Colchane and Huara.

*IDC **30** 17:58:03.2±0.7, 2010S×6902W, h105km±4km, mb4.5/16, mb1 4.5/18, mb1mx4.4/22, mbtmp4.4/18, MS3.7/9, Ms1 3.7/9, ms1mx3.4/25, Error ellipse: s-maj=15.8km s-min=12.4km az=48.0*

*BJI **30** 17:58:04.1, 2010S×6890W, h107km, mB5.1*

ISC 30 17:57:59.4±0.9, 2012S±004×6881W±006, h66km±8km, h109km±2.5km:pP-P, n297, ₀0961/277, mb4.8/39, 72C-108D, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**2.49**	**182**	*e*Pn		**Pn**	**17 58 41.5**		**+3.9**
LVC				*e*Sn		**Sn**	**17 59 08.2**		**+1.4**
ANCH	**Antofagasta**	**3.85**	**202**	*e*P		**Pn**	**17 58 55.8**		**-0.4**
ANCH				*i* S		**Sn**	**17 59 30.4**		**-10**
ANCH				AML	AML		17 59 51.9		
	comp=N,4μm,0.5s								
LPAZ	**La Paz**	**3.86**	**10**	P		**Pn**	**17 59 00.4**		**+4.1**
	comp=N,3.1nm,0.3s,baz=190,slow=10,SNR=14								
LPAZ				S		**Sn**	**17 59 51.1**		**+11**
	baz=286,slow=2.7,SNR=1.8								
LPAZ				LR	LR		18 00 36.4		
	comp=N,626nm,18.0s,baz=217,slow=39								
LPAZ	**La Paz**	**3.86**	**10**	P		**Pn**	**17 59 00.4**		**+4.1**
LPAZ				*e*Pn		**Pn**	**17 59 04.4**		**+8.0**
LPAZ				S		**Sn**	**17 59 51.1**		**+11**
LPAZ				LR	LR		18 00 36.4		
CPN1	**Cerro Paranal**	**4.72**	**198**	*e*P		**Pn**	**17 59 07.4**		**-0.8**
CPN1				*i* S		**Sn**	**17 59 52.9**		**-8.7**
SIV	**San Ignacio**	**8.42**	**62**	P		**Pn**	**18 00 04.1**		**+5.3**
LCO	**Las Campanas**	**9.02**	**191**	*e*P		**Pn**	**18 00 11.1**		**+4.1**
LCO	**Las Campanas**	**9.02**	**191**	*e*Pn		**Pn**	**17 59 59.5**		**-7.4**
LCO				*e*Sn		**Sn**	**18 01 39.3**		**-7.6**
TLL	**Tololo Astrono**	**10.17**	**190**	*e*P		**Pn**	**18 00 18.7**		**-3.9**
TLL				*e*S		**Sn**	**18 02 05.8**		**-9.3**
NNA	**Nana**	**11.17**	**315**	P		**Pn**	**18 00 36.1**		**-0.3**
	comp=N,1.6nm,0.3s,baz=135,slow=7.2,SNR=5.4								
NNA				S		**Sn**	**18 02 33.9**		**-5.8**
	comp=N,4.9nm,0.3s,baz=223,slow=19,SNR=3.1								
NNA	**Nana**	**11.17**	**315**	*e*Pn		**Pn**	**18 00 34.8**		**-1.6**
	comp=N,39nm,0.6s								
NNA				*e*			18 00 49.1		
CFAA	**Coronel Fontan**	**11.45**	**178**	P		**Pn**	**18 00 35.8**		**-4.3**
	comp=N,0.2nm,0.3s,baz=358,slow=12,SNR=14								
CFAA				S		**Sn**	**18 02 36.7**		**-10**
	comp=N,0.3nm,0.3s,baz=205,slow=19,SNR=3.9								
CFAA	**Coronel Fontan**	**11.45**	**178**	P		**Pn**	**18 00 35.8**		**-4.3**
CFAA				S		**Sn**	**18 02 36.7**		**-10**
TRQA	**Tornquist**	**18.84**	**163**	*e*P		**Pn**	**18 02 14.1**		**-1.0**
	comp=N,84nm,0.9s								
BDFB	**Brasilia**	**20.28**	**81**	P		**P**	**18 02 32.7**		**+2.8**
	comp=N,13nm,0.3s,baz=251,slow=18,SNR=38								
BDFB				LR	LR		18 11 48.4		
	comp=N,170nm,19.4s,baz=77,slow=40								
BDFB	**Brasilia**	**20.28**	**81**	*e*P		**P**	**18 02 31.5**		**+1.7**
PLCA	**Paso Flores**	**20.60**	**184**	P		**P**	**18 02 33.0**		**-0.1**
	comp=N,82nm,0.8s,baz=6.2,slow=12,SNR=103								
PLCA				PcP	PcP		18 06 39.9		-1.7
	comp=N,2.7nm,0.7s,baz=333,slow=5.0,SNR=3.7								
PLCA	**Paso Flores**	**20.60**	**184**	*e*P		**P**	**18 02 32.5**		**-0.6**
	comp=N,112nm,0.9s								
OTAV	**Otavalo**	**22.32**	**334**	*e*P		**P**	**18 02 54.1**		**+2.4**
	comp=N,24nm,0.9s,mb4.5								
ROSC	**El Rosal**	**25.40**	**347**	LR	LR		18 13 34.4		
	comp=N,85nm,20.6s,baz=24,slow=37								
ROSC	**El Rosal**	**25.40**	**347**	*e*P		**P**	**18 03 21.4**		**+0.6**
EFI	**East Falkland**	**32.60**	**168**	*e*P		**P**	**18 04 24.5**		**-0.1**
	comp=N,96nm,0.9s,mb5.6								
USHA	**Ushuaia**	**34.66**	**180**	P		**P**	**18 04 42.5**		**+0.2**
	comp=N,13nm,0.7s,mb4.8,baz=360,slow=6.1,SNR=3.9								
USHA				LR	LR		18 18 19.9		
	comp=N,77nm,19.7s,baz=79,slow=35								
RCBR	**Riachuelo**	**34.97**	**71**	*e*P		**P**	**18 04 47.0**		**+1.5**
	comp=N,55nm,1.0s,mb5.3								
BIM	**Bigot**	**35.25**	**13**	*e*P		**P**	**18 04 46.7**		**-1.1**
MVM	**Montagne Vaucl**	**35.32**	**13**	⇑*e*P		**P**	**18 04 47.7**		**-0.8**
FDF	**Fort de France**	**35.44**	**13**	*e*P		**P**	**18 04 48.6**		**-0.9**
SJG	**San Juan**	**38.08**	**4**	*e*P		**P**	**18 05 09.7**		**-2.2**
	comp=N,108nm,0.8s,mb5.7								
TEIG	**Tepich**	**44.39**	**333**	P		**P**	**18 06 02.2**		**-1.5**
	comp=N,7.5nm,0.7s,mb4.5,baz=179,slow=23,SNR=3.0								
TEIG	**Tepich**	**44.39**	**333**	*e*P		**P**	**18 06 02.1**		**-1.5**
	comp=N,58nm,1.4s,mb5.1								
DWPF	**Disney**	**49.47**	**345**	P		**P**	**18 06 42.1**		**-1.1**
SWET	**Sewanee**	**57.38**	**343**	*e*P		**P**	**18 07 39.2**		**-1.7**
WVT	**Waverly**	**58.77**	**342**	P		**P**	**18 07 48.3**		**-2.3**
	comp=N,7.9nm,0.8s,mb4.8								
MIAR	**Mount Ida**	**59.24**	**336**	P		**P**	**18 07 51.6**		**-2.4**
	comp=N,3.6nm,0.7s,mb4.5								
TXAR	**Lajitas Array**	**59.56**	**325**	P		**P**	**18 07 55.2**		**-1.1**
	comp=N,0.4nm,0.5s,mb3.7,baz=150,slow=7.4,SNR=5.6								
TXAR				PKPPKP			18 37 31.2		
	comp=N,0.1nm,0.3s,baz=264,slow=2.4,SNR=4.2								
TXAR	**Lajitas Array**	**59.56**	**325**	P		**P**	**18 07 55.2**		**-1.1**
TXAR				P'P'			18 37 31.2		
FVM	**French Village**	**61.26**	**341**	*e*

U14A	**Mt Trumbull**	70.14	323	⇓P		P	18 09 05.0	+0.1
	baz=70,SNR=8.1							
V13A	**Grand Canyon W**	70.19	322	⇓P		P	18 09 05.3	0.0
	baz=70							
R17A	**Hanksville Air**	70.25	326	⇑P		P	18 09 05.4	-0.2
	baz=70							
P19A	**Cripple Cowboy**	70.29	328	⇑P		P	18 09 05.7	-0.1
	baz=70							
GMRC	**Granite Mounta**	70.43	320	⇓P		P	18 09 06.9	+0.1
	baz=71,SNR=6.9							
SRU	**San Rafael**	70.67	327	⇓P		P	18 09 08.3	+0.2
	baz=71							
O19A	**Miners Draw (B**	70.86	328	⇑P		P	18 09 09.5	+0.2
	baz=71							
P18A	**Preston Nutter**	70.92	327	⇓P		P	18 09 09.9	+0.3
	baz=71							
U12A	**Valley of Fire**	70.92	322	⇓P		P	18 09 10.1	+0.4
	baz=71							
TUQ	**Turquoise Moun**	71.04	321	⇓P		P	18 09 10.8	+0.3
	baz=71							
CCUT	**Cedar City**	71.05	324	*e*P		P	18 09 11.1	+0.7
P17A	**Butcher Ranch,**	71.06	327	⇑P		P	18 09 10.5	+0.1
	baz=71							
MSU	**Marysvale**	71.10	325	P		P	18 09 11.0	+0.3
MVU	**Marysvale**	71.11	325	*e*P		P	18 09 01.8	-9.0
	comp=N,7.9nm,1.4s,mb4.3							
ARUT	**Antelope Range**	71.26	324	*e*P		P	18 09 12.4	+0.7
N19A	**John Jarvie Ra**	71.35	329	⇓P		P	18 09 12.1	-0.1
	baz=72							
S13A	**Holt Ranch, En**	71.35	324	⇑P		P	18 09 12.8	+0.5
	baz=72,SNR=5.3							
GSC	**Goldstone**	71.48	320	⇑P		P	18 09 13.3	+0.2
	baz=72							
O17A	**Robinson Place**	71.59	327	⇓P		P	18 09 14.0	+0.4
	baz=72							
R13A	**O'Grain Ranch,**	71.83	324	⇓P		P	18 09 15.4	+0.3
	baz=72							
T11A	**Corn Creek, Al**	71.88	323	⇑P		P	18 09 15.9	+0.4
	baz=72,SNR=5.4							
EDW2	**Edwards Air Fo**	71.92	319	⇓P		P	18 09 15.7	0.0
	baz=72							
S12A	**Delamar Landin**	71.92	323	⇑P		P	18 09 15.9	+0.2
	baz=72							
Q14A	**Sevier Lake (B**	72.03	325	⇓P		P	18 09 16.9	+0.5
	baz=72,SNR=6.7							
BLG	**Laguna Peak**	72.08	318	⇓P		P	18 09 17.0	+0.2
	baz=72							
LRMC	**Laurel Mountai**	72.13	320	⇓P		P	18 09 16.9	-0.1
	baz=72							
N17A	**Moffit Pass**	72.20	328	⇑P		P	18 09 17.9	+0.6
	baz=72							
TPNV	**Topopah Spring**	72.27	322	⇑P		P	18 09 18.3	+0.5
	baz=72							
TPNV	**Topopah Spring**	72.27	322	*e*P		P	18 09 18.0	+0.2
	comp=N,5.2nm,0.9s,mb4.4							
R12A	**Pony Springs,**	72.29	324	⇓P		P	18 09 18.4	+0.5
	baz=72,SNR=9.2							
P14A	**Drum Mountains**	72.36	326	⇓P		P	18 09 18.6	+0.4
	baz=73,SNR=7.0							
MPMC	**Manual Prospec**	72.40	320	⇓P		P	18 09 18.5	-0.1
	baz=73							
Q13A	**Wheeler Ranch,**	72.42	325	⇓P		P	18 09 18.7	+0.1
	baz=73							
DUG	**Dugway**	72.66	326	⇓P		P	18 09 20.4	+0.3
	baz=73							
ISA	**Isabella**	72.73	319	⇓P		P	18 09 20.9	+0.3
	baz=73							
ISA	**Isabella**	72.73	319	*e*P		P	18 09 20.2	-0.3
	comp=N,3.6nm,0.7s,mb4.3							
P13A	**Bates Ranch, G**	72.77	325	⇓P		P	18 09 20.9	+0.2
	baz=73,SNR=5.0							
R11A	**Troy Canyon, C**	72.86	323	⇓P		P	18 09 21.5	+0.2
	baz=73,SNR=5.1							
Q12A	**Willow Creek R**	72.92	324	⇑P		P	18 09 22.0	+0.4
	baz=73							
PDAR	**Pinedale Array**	72.96	330	P		P	18 09 21.0	-0.8
	comp=N,0.7nm,0.8s,baz=135,slow=6.1,SNR=4.4							
PKM	**Peak Mountain**	73.06	318	⇓P		P	18 09 22.6	+0.1
	baz=73							
HWUT	**Hardware Ranch**	73.06	328	*e*P		P	18 09 20.0	-2.4
	comp=N,4.0nm,0.8s,mb4.3							
S10A	**Tonopah Range,**	73.14	322	⇑P		P	18 09 23.2	+0.3
	baz=73							
VES	**Vestal, Richgr**	73.22	319	⇓P		P	18 09 23.2	-0.3
	baz=73							
R10A	**Warm Springs**	73.22	323	⇑P		P	18 09 24.4	+1.0
	baz=73							
Q11A	**Duckwater**	73.24	323	⇑P		P	18 09 23.6	0.0
	baz=73							
L16A	**Fish Haven**	73.30	328	⇓P		P	18 09 24.2	+0.4
	baz=74							
N14A	**Grayback Hills**	73.34	326	⇓P		P	18 09 24.3	+0.3
	baz=74							
SMMC	**Simmler**	73.44	318	⇓P		P	18 09 25.3	+0.5
	baz=74							
Q10A	**Clear Creek Ra**	73.64	323	⇑P		P	18 09 26.2	+0.3
	baz=74							
L15A	**Malad City**	73.77	328	⇓P		P	18 09 26.2	-0.4
	baz=74							
M14A	**Sheep Mountain**	73.89	327	⇓P		P	18 09 27.3	+0.1
	baz=74							
K16A	**Soda Springs**	73.99	329	⇓P		P	18 09 28.2	+0.4
	baz=74							
ULM	**Lac du Bonnet**	74.03	342	LR		LR	18 44 14.4	
	comp=N,57nm,19.7s,baz=188,slow=38							
PKD	**Parkfield**	74.19	319	⇓P		P	18 09 29.4	+0.3
	baz=74							
L14A	**Malta**	74.22	327	⇓P		P	18 09 29.6	+0.4
	baz=74							
I17A	**Pilgram Creek**	74.32	330	⇑P		P	18 09 30.4	+0.6
	baz=74							
J16A	**Bone**	74.33	329	⇓P		P	18 09 29.7	-0.1
	baz=74							
KCC	**Kaiser Creek**	74.33	320	⇓P		P	18 09 29.9	0.0
	baz=74							
K15A	**Arbon**	74.34	328	⇓P		P	18 09 30.0	+0.1
	baz=75							
NVAR	**Mina Array Bea**	74.47	322	P		P	18 09 30.9	+0.2
	comp=N,1.8nm,0.7s,mb3.9,baz=157,slow=6.9,SNR=11							
Q08A	**Gabbs**	74.54	322	⇓P		P	18 09 31.3	+0.2
	baz=75							
U04C	**Hernandez Rese**	74.61	319	⇓P		P	18 09 31.7	+0.1
	baz=75							
L13A	**Double Diamond**	74.62	327	⇑P		P	18 09 31.6	0.0
	baz=75,SNR=5.4							
RLMT	**Red Lodge**	74.65	332	⇑P		P	18 09 31.9	+0.4
	baz=75							
M12A	**Wells**	74.65	326	⇓P		P	18 09 31.6	-0.1
	baz=75							
J15A	**Blackfoot**	74.83	329	⇓P		P	18 09 32.9	+0.3
	baz=75							
Q07A	**Schurz**	75.10	322	⇓P		P	18 09 33.9	-0.4
	baz=75							
R06C	**Coleville**	75.20	321	⇑P		P	18 09 35.2	+0.2
	baz=75							
L12A	**House Creek Ra**	75.22	326	⇓P		P	18 09 35.5	+0.5
	baz=75							
H16A	**Russell Place,**	75.23	330	⇓P		P	18 09 35.4	+0.4
	baz=75							
J14A	**Carey**	75.31	328	⇑P		P	18 09 35.9	+0.5
	baz=76,SNR=6.0							
F18A	**Big Timber**	75.45	332	⇑P		P	18 09 36.3	+0.1
	baz=76,SNR=6.1							
K12A	**Draper Farm, C**	75.51	327	⇓P		P	18 09 37.1	+0.5
	baz=76,SNR=6.4							
L11A	**Cat Creek Ranc**	75.62	326	⇑P		P	18 09 37.6	+0.3
	baz=76							
J13A	**Cove Ranch, Pi**	75.69	328	⇑P		P	18 09 38.2	+0.6
	baz=76							
I14A	**Mackay**	75.72	328	⇓P		P	18 09 37.9	+0.1
	baz=76							
PPT	**Papeete**	75.74	256	LR		LR	18 36 04.4	
	comp=N,149nm,18.4s,baz=324,slow=30							
F17A	**Fitzpatrick Pl**	75.87	331	⇑P		P	18 09 39.2	+0.6
	baz=76							
HLID	**Hailey**	75.93	328	⇑P		P	18 09 39.6	+0.6
	baz=76,SNR=6.2							
HLID	**Hailey**	75.93	328	*e*P		P	18 09 39.2	+0.2
	comp=N,3.8nm,0.9s,mb4.1							
HLID				*e*			18 10 05.0	
L10A	**Juniper Basin**	75.94	325	⇑P		P	18 09 39.5	+0.5
	baz=76,SNR=6.1							
PAHR	**Pah Rah Range**	75.94	322	*e*P		P	18 09 39.5	+0.3
	comp=N,5.4nm,0.7s,mb4.4							
PAHR				*e*			18 10 05.2	
PAHR				*e*			18 10 16.5	
O07A	**Toulon**	75.96	323	⇓P		P	18 09 39.3	+0.1
	baz=76							
I13A	**Wildhorse Cree**	76.03	328	⇓P		P	18 09 39.9	+0.4
	baz=76							
E18A	**Harlowton**	76.05	332	⇑P		P	18 09 39.3	-0.2
	baz=76							
J12A	**Stokes Ranch,**	76.05	327	⇓P		P	18 09 39.9	+0.3
	baz=76							
MCMT	**McKenzie Canyo**	76.08	329	*e*P		P	18 09 40.1	+0.3
G15A	**Dillon**	76.16	330	⇑P		P	18 09 40.5	+0.2
	baz=76							
H14A	**Leadore**	76.18	329	⇑P		P	18 09 40.7	+0.3
	baz=76							
E17A	**Martinsdale**	76.39	332	⇑P		P	18 09 41.5	0.0
	baz=77							
N07B	**Gerlach**	76.42	323	⇓P		P	18 09 41.6	-0.3
	baz=77							
I12A	**Atlanta**	76.46	327	⇓P		P	18 09 42.0	+0.1
	baz=77							
D18A	**Linhart Farms,**	76.49	333	⇑P		P	18 09 41.8	-0.2
	baz=77							
MFID	**Camas Ranch**	76.54	327	⇓P		P	18 09 42.8	+0.3
	baz=77							
BEKR	**Beckwourth**	76.62	322	⇑P		P	18 09 42.9	0.0
	baz=77							
K10A	**MacKenzie Ranc**	76.64	326	⇓P		P	18 09 43.1	+0.1
	baz=77							
TOA0	**Torodi Ar. Sit**	76.81	71	*e*P		P	18 09 43.5	-1.1
TOA0				*e*			18 10 11.1	
TORD	**Torodi Ar. Bea**	76.81	71	P		P	18 09 44.0	-0.5
	comp=N,206nm,0.3s,baz=252,slow=5.3,SNR=2.1							
TORD				pP		pP	18 10 11.9	+9.4
	comp=N,246nm,0.5s,baz=251,slow=9.2,SNR=1.8							
D17A	**Six Diamond Ra**	76.84	332	⇓P		P	18 09 44.2	+0.1
	baz=77							
H12A	**Diamond D Ranc**	76.86	328	⇓P		P	18 09 44.1	-0.1
	baz=77							
N06A	**Buffalo Meadow**	76.89	323	⇑P		P	18 09 44.3	-0.2
	baz=77							
G13A	**Cobalt**	76.95	329	⇓P		P	18 09 45.5	+0.8
	baz=77,SNR=13							
K09A	**Rome**	77.04	325	⇓P		P	18 09 45.0	-0.2
	baz=77							
ORV	**Oroville**	77.08	321	⇓P		P	18 09 46.1	+0.5
	baz=77							
D16A	**Dana Ranch, Ca**	77.13	332	⇑P		P	18 09 46.0	+0.3
	baz=77							
SBA	**Scott Base**	77.20	190	*e*P		P	18 09 45.8	0.0
	comp=N,12nm,1.1s,mb4.5							
F13A	**Darby**	77.50	329	⇓P		P	18 09 47.9	+0.2
	baz=78,SNR=9.8							
D15A	**Lincoln**	77.58	331	⇓P		P	18 09 48.4	+0.2
	baz=78							
SYO	**Syowa Base**	77.76	160	*e*P		P	18 09 47.4	-1.6
SYO	**Syowa Base**	77.76	160	*es*P		sP	18 10 19.6	+5.4
C16A	**Fuhringer Ranc**	77.80	332	⇑P		P	18 09 49.5	+0.1
	baz=78							
GASB	**Alder Springs**	77.87	320	⇑P		P	18 09 50.2	+0.2
	baz=78							
F12A	**Elk City**	77.92	329	⇑P		P	18 09 50.3	+0.2
	baz=78							
C15A	**Salmond Ranch,**	78.16	332	⇓P		P	18 09 51.7	+0.2
	baz=78,SNR=8.6							
G11A	**Walters Elk Ra**	78.17	328	⇓P		P	18 09 51.8	+0.3
	baz=78							
BMO	**Blue Mountains**	78.31	327	*e*P		P	18 09 52.0	-0.3
	comp=N,3.6nm,0.8s,mb4.2							
BMO				*e*			18 10 17.7	
I08A	**Drewsey**	78.32	326	⇑P		P	18 09 52.1	-0.2
	baz=78							
J07A	**Hines**	78.35	325	⇑P		P	18 09 52.7	+0.2
	baz=78							
F11A	**Grangeville**	78.46	328	⇓P		P	18 09 52.9	-0.2
	baz=79							
K06A	**Valley Falls**	78.48	324	⇓P		P	18 09 53.5	+0.2
	baz=79							
D13A	**Huson**	78.51	330	⇓P		P	18 09 53.7	+0.3
	baz=79							
G10A	**Bishop Farm, J**	78.52	327	⇓P		P	18 09 53.6	+0.2
	baz=79,SNR=8.9							
B15A	**Bradely Ranch,**	78.55	332	⇑P		P	18 09 52.9	-0.6
	baz=79							
E12A	**Beaver Dam Sad**	78.55	329	⇓P		P	18 09 53.5	-0.1
	baz=79							
A16A	**West Butte Ran**	78.60	333	⇑P		P	18 09 53.6	-0.2
	baz=79,SNR=5.3							
J06A	**Christmas Vall**	78.73	324	⇑P		P	18 09 54.5	-0.1
	baz=79							
H08A	**Prairie City**	78.79	326	⇓P		P	18 09 55.5	+0.6
	baz=79							
K05A	**Summer Lake**	78.79	324	⇑P		P	18 09 55.1	+0.1
	baz=79							
E11A	**Bogner Ranch,**	78.82	329	⇑P		P	18 09 54.6	-0.4
	baz=79							
G09A	**Cove**	78.85	327	⇑P		P	18 09 55.4	+0.2
	baz=79							
I07A	**Izee**	78.93	325	⇓P		P	18 09 55.8	+0.1
	baz=79							
N02C	**Big Bar**	78.96	321	⇓P		P	18 09 56.0	+0.1
	baz=79							
C13A	**Hot Springs**	78.99	330	⇓P		P	18 09 56.1	+0.2
	baz=79							
M02C	**Callahan**	79.05	322	⇓P		P	18 09 56.0	-0.4
	baz=79							
A15A	**Johnson Ranch,**	79.12	332	⇑P		P	18 09 55.5	-1.1
	baz=79							
SUR	**Sutherland**	79.19	121	P		P	18 09 58.9	+1.3
	comp=N,9.9nm,0.9s,mb4.7,baz=131,slow=9.4,SNR=4.1							
SUR	**Sutherland**	79.19	121	*e*P		P	18 09 54.2	-3.4
	comp=N,18nm,1.0s,mb4.8							
SUR				P			18 09 58.9	
F09A	**S2 Ranch, Elgi**	79.21	327	⇓P		P	18 09 57.1	-0.1
	baz=79							
H07A	**Lands Inn, Kim**	79.31	326	⇓P		P	18 09 57.1	-0.7
	baz=80							
A14A	**Double T Ranch**	79.42	332	⇑P		P	18 09 57.5	-0.7
	baz=80							
G08A	**Pilot Rock**	79.46	327	⇓P		P	18 09 58.2	-0.4
	baz=80							
WALA	**Waterton Lakes**	79.70	332	*e*P		P	18 09 58.8	-1.0
WALA				*e*			18 10 24.0	
F08A	**Pendleton**	79.71	327	⇓P		P	18 09 59.4	-0.6
	baz=80							
H06A	**Linguist Farm**	79.81	325	⇓P		P	18 10 00.5	0.0
	baz=80							
G07A	**Ruggs Ranch, H**	79.81	326	⇓P		P	18 10 00.4	-0.1
	baz=80							
C11A	**Tepee Creek (N**	79.89	330	⇑P		P	18 10 00.8	-0.1
	baz=80							
D09A	**Jones Farm, Ri**	80.34	328	⇑P		P	18 10 03.2	-0.1
	baz=80							
TSUM	**Tsumeb**	80.35	107	P		P	18 10 05.0	+1.0
	comp=N,5.0nm,0.7s,mb4.4,baz=247,slow=5.6,SNR=8.5							
TSUM	**Tsumeb**	80.35	107	*e*P		P	18 10 04.8	+0.8
	comp=N,8.2nm,1.0s,mb4.5							
A12A	**Yaak River Ran**	80.39	331	⇑P		P	18 10 03.7	+0.2
	baz=81							
A11A	**Hall Mountain,**	80.74	330	⇑P		P	18 10 05.3	-0.1
	baz=81							
OD2	**Odessa Site #2**	80.77	328	*e*P		P	18 10 05.0	-0.6
OD2				*e*			18 10 31.4	
MDT	**Midelt**	80.79	50	P		P	18 10 06.8	+0.7
	comp=N,2.2nm,0.8s,mb4.0,baz=254,slow=9.5,SNR=3.3							
MDT				pP		pP	18 10 35.3	+11
	comp=N,3.4nm,0.9s,baz=226,slow=4.5,SNR=3.8							
F05A	**White Salmon**	81.16	326	⇓P		P	18 10 07.4	-0.3
	baz=81							
E06A	**Yakima**	81.35	327	⇑P		P	18 10 09.2	+0.5
	baz=82							
H03A	**Soap Creek Ran**	81.38	324	⇓P		P	18 10 09.0	+0.1
	baz=82							
C07A	**Waterville**	81.64	328	⇑P		P	18 10 10.2	0.0
	baz=82							
ETW	**Entiat**	81.72	328	*e*P		P	18 10 10.0	-0.6
ETW				*e*			18 10 36.8	
A09A	**Danville**	81.80	329	⇓P		P	18 10 10.7	-0.3
	baz=82							
A08A	**Turner Farm, O**	82.11	329	⇓P		P	18 10 12.5	-0.1
	baz=82							
B07A	**Winthrop**	82.19	328	⇓P		P	18 10 13.0	-0.1
	baz=82							
A07A	**Ashnola River,**	82.72	329	⇑P		P	18 10 15.6	-0.2
	baz=83							
B06A	**Marblemount**	82.91	328	⇓P		P	18 10 15.7	-1.1
	baz=83							
BOSA	**Boshof**	84.01	118	P		P	18 10 23.1	0.0
	comp=N,10nm,0.9s,mb4.7,baz=263,slow=5.2,SNR=11							
BOSA				LR		LR	18 45 21.4	
	comp=N,53nm,18.3s,baz=127,slow=34							
TAM	**Tamanrasset**	84.11	63	*e*P		P	18 10 24.1	+0.4
TAM				*e*			18 10 51.7	
ESDC	**Sonseca Array**	84.78	45	P		P	18 10 25.8	-0.8
	comp=N,0.1nm,0.3s,baz=263,slow=6.1,SNR=3.3							
ESDC				pP		pP	18 10 54.7	+10
	comp=N,1.4nm,0.7s,baz=249,slow=5.0,SNR=3.1							
LBTB	**Lobatse**	85.51	115	P		P	18 10 31.4	+0.6
	comp=N,8.5nm,0.7s,mb4.8,baz=246,slow=7.1,SNR=12							
LBTB	**Lobatse**	85.51	115	*e*P		P	18 10 30.3	-0.4
	comp=N,16nm,1.0s,mb4.9							
MAW	**Mawson**	85.62	163	P		P	18 10 29.9	-0.5
	comp=N,9.4nm,0.8s,mb4.8,baz=216,slow=5.5,SNR=18							
MAW				LR		LR	18 48 30.8	
	comp=N,43nm,18.4s,baz=242,slow=35							
MAW	**Mawson**	85.62	163	*e*P		P	18 10 29.8	-0.6
	comp=N,11nm,1.1s,mb4.7							
MATP	**Matopo**	89.63	112	P		P	18 10 51.2	+0.7
	comp=N,2.7nm,0.6s,mb4.6,baz=251,slow=4.0,SNR=10							
YKA	**Yellowknife Ar**	89.92	341	P		P	18 10 49.8	-1.0
	comp=N,7.1nm,0.8s,mb4.8,baz=130,slow=4.6,SNR=17							
YKA				pP		pP	18 11 16.3	+7.2
	comp=N,2.7nm,0.7s,baz=135,slow=4.8,SNR=2.8							
YKA	**Yellowknife Ar**	89.92	341	P		P	18 10 49.8	-1.0
YKA				pP		pP	18 11 16.3	+7.2
CASY	**Casey**	93.87	180	*e*P		P	18 11 09.0	-0.3
	comp=N,17nm,1.1s,mb5.3							
CASY				*e*			18 11 54.6	
STKA	**Stephens Creek**	120.66	210	PKP		PKPdf	18 16 42.5	-1.8
	comp=N,0.9nm,0.7s,baz=121,slow=5.9,SNR=4.6							
TIXI	**Tiksi**	127.44	353	*e*PKPdf		PKPdf	18 16 54.0	-2.0
ASAR	**Alice Springs**	131.18	208	PKP		PKPdf	18 17 02.7	-1.9
	comp=N,3.9nm,0.8s,baz=128,slow=1.7,SNR=39							
ASAR				SKPbc		SKPbc	18 20 18.3	-5.5
	comp=N,1.5nm,1.0s,baz=144,slow=4.6,SNR=5.6							
WB2	**Warramunga Arr**	134.18	211	*e*P		PKPdf	18 17 08.7	-1.7
WB2				*e*S		SKPdf	18 20 37.6	-2.3
WRA	**Warramunga Arr**	134.19	211	PKhKP			18 16 54.5	
	comp=N,0.5nm,0.7s,baz=127,slow=2.7,SNR=10							
WRA				PKP		PKPdf	18 17 08.7	-1.7
	comp=N,3.3nm,0.7s,baz=160,slow=1.8,SNR=40							
WRA				SKPbc		SKPbc	18 20 28.4	-5.9
	comp=N,1.3nm,0.8s,baz=142,slow=3.0,SNR=7.3							
BVAR	**Borovoye Array**	134.60	34	PKP		PKPdf	18 17 10.0	0.0
	comp=N,0.8nm,0.7s,baz=270,slow=1.5,SNR=4.9							
ZALV	**Zalesovo Beam**	140.66	24	PKhKP			18 17 16.2	
	comp=N,3.0nm,0.7s,baz=310,slow=3.4,SNR=3.9							
ZALV				PKP		PKPdf	18 17 21.0	-0.2
	comp=N,4.3nm,0.9s,baz=303,slow=3.0,SNR=14							
ZALV				SKPbc		SKPbc	18 20 47.2	-4.9
	comp=N,3.8nm,0.9s,baz=316,slow=4.1,SNR=7.1							
ZALV	**Zalesovo Beam**	140.66	24	PKP		PKPdf	18 17 16.2	-5.0
ZALV				PKP		PKPdf	18 17 21.0	-0.2
ZALV				SKPbc		SKPbc	18 20 47.2	-4.9
MK31	**Makanchi Array**	144.46	35	*e*PKPdf		PKPdf	18 17 26.5	-1.7
MK31				*e*			18 17 54.4	
MKAR	**Makanchi Array**	144.46	35	PKP		PKPdf	18 17 26.5	-1.7
	comp=N,2.1nm,0.6s,baz=323,slow=2.5,SNR=23							
MKAR				pPKP		pPKPdf	18 17 54.4	+7.2
	comp=N,4.4nm,0.9s,baz=318,slow=3.3,SNR=5.5							
WMQ	**Urumqi**	149.28	34	PKP		PKPdf	18 17 35.3	-1.1
WMQ				APKP			18 18 02.3	
WMQ				XPKP			18 18 12.8	
WMQ				PP		PP	18 21 15.3	+2.7
MJAR	**Matsushiro Arr**	151.27	310	PKPbc		PKPbc	18 17 44.2	-1.5
	comp=N,5.2nm,0.7s,baz=85,slow=1.5,SNR=16							
MJAR	**Matsushiro Arr**	151.27	310	PKPbc		PKPbc	18 17 44.2	-1.5
MAJO	**Matsushiro**	151.27	310	*e*PKPdf		PKPbc	18 17 44.2	-1.5
MAT	**Matsushiro**	151.27	310	PKP		PKPbc	18 17 44.2	-1.5
SONM	**Songino Array**	152.08	7	PKP		PKPdf	18 17 39.5	-1.1
	comp=N,1.6nm,0.8s,baz=210,slow=0.6,SNR=13							
SONM				PKPbc		PKPbc	18 17 46.3	-0.9
	comp=N,6.5nm,0.8s,baz=303,slow=1.2,SNR=36							
SONM				pPKP		pPKPdf	18 18 05.3	+5.7
	comp=N,4.3nm,0.9s,baz=330,slow=2.4,SNR=5.9							
ULN	**Ulaanbaatar**	152.12	6	*e*PKPdf		PKPdf	18 17 39.8	-0.8
ULN				*e*PKPbc		PKPbc	18 17 46.8	-0.5
CN2	**Changchun**	153.55	336	*e*PKP		PKPdf	18 17 41.0	-1.8
KAPI	**Kappang**	153.65	200	*e*PKPdf		PKPdf	18 17 43.5	-0.5
KAPI				*e*PKPbc		PKPbc	18 17 49.6	-2.1
KAPI				*e*PKPab		PKPab	18 18 02.3	-2.0
KSRS	**Korea Array**	157.40	323	PKP		PKPdf	18 17 47.5	-0.8
	comp=N,0.9nm,0.7s,baz=11,slow=0.9,SNR=5.3							
KSRS				PKPab		PKPab	18 18 16.6	-3.3
	comp=N,1.2nm,0.6s,baz=56,slow=4.9,SNR=4.9							
GTA	**Gaotai**	158.42	25	PKP		PKPdf	18 17 49.5	+0.1
GTA				APKP			18 18 17.5	
GTA				XPKP			18 18 27.0	
HHC	**Hu-ho-hao-te**	159.33	359	*e*PKP		PKPdf	18 17 48.5	-1.9
HHC				APKP			18 18 15.3	
HHC				XPKP			18 18 26.5	
HHC				PKS			18 21 21.8	
HHC				PP		PP	18 22 10.8	+2.5
HHC				SKS		SKSdf	18 24 42.5	-7.8
HHC				SKKS		SKKSac

TUTA	**Tutak**	**1.25**	**103**	*i* P	**Pg**	**18 15 48.9**	**-0.9**
TUTA				*i* S	**Sg**	**18 16 06.6**	**+0.5**
DDEM	**Demirkent**	**1.26**	**18**	*i* P	**Pg**	**18 15 48.8**	**-1.3**
DDEM				*i* S	**Sg**	**18 16 06.6**	**+0.2**
AGRB	**Hanur-Agry**	**1.36**	**94**	*e*PN	**Pn**	**18 15 51.3**	**-0.4**
AGRB				*e*SN	**Sn**	**18 16 09.3**	**-0.9**
DBAD	**Bademkaya**	**1.37**	**15**	*i* P	**Pn**	**18 15 50.7**	**-1.2**
DBAD				*i* S	**Sg**	**18 16 09.4**	**-0.5**
DAGI	**Agillar**	**1.48**	**20**	*i* P	**Pn**	**18 15 52.6**	**-0.8**
DAGI				*i* S	**Sn**	**18 16 13.4**	**+0.3**
PZAR	**Pazar-Rize**	**1.51**	**350**	*e*PN	**Pn**	**18 15 53.5**	**-0.3**
GUMT	**Gumushane**	**1.55**	**300**	*e*PN	**Pn**	**18 15 53.9**	**-0.5**
GUMT				*e*SN	**Sn**	**18 16 14.9**	**-0.2**
ARTV	**Artvin**	**1.58**	**19**	*i* P	**Pn**	**18 15 54.3**	**-0.5**
ARTV				*i* S	**Sn**	**18 16 16.5**	**+0.8**
PTK	**Pertek**	**1.64**	**241**	*e*PN	**Pn**	**18 15 55.0**	**-0.7**
BCA	**Borcka**	**1.77**	**9**	*e*PN	**Pn**	**18 15 57.5**	**0.0**
BEST	**Besiri**	**1.80**	**179**	*i* P	**Pn**	**18 16 00.3**	**+2.5**
BEST				*i* S	**Sn**	**18 16 26.7**	**+5.5**
DYDN	**Diyadin**	**1.90**	**94**	*i* P	**Pn**	**18 16 00.6**	**+1.4**
DYDN				*i* S	**Sn**	**18 16 25.9**	**+2.4**
SVRC	**Sivrice-ELAZID**	**2.00**	**230**	*e*PN	**Pn**	**18 15 59.8**	**-0.8**
ESPY	**Espiye-Giresun**	**2.28**	**303**	*e*PN	**Pn**	**18 16 04.5**	**+0.1**

*ISCJB **30** 18:44:44.0±0.6, 4689N±009×2734W±009, h10km, mb4.0/19, MS3.5/16, Error ellipse: s-maj=13.5km s-min=7.6km az=19.6*
*IDC **30** 18:44:44.4±0.8, 4703N×27.17W, h0km, mb3.7/7, mb1 3.9/7, mb1mx3.7/23, mbtmp3.7/7, MS3.5/17, Ms1 3.5/17, ms1mx3.3/36, Error ellipse: s-maj=27.4km s-min=20.5km az=16.0*
*CSEM **30** 18:44:45.6, 4687N×2737W, h10km, mb4.3/11, After NEIC*
*NEIC **30** 18:44:45.6±0.5, 4687N×2737W, h10km, mb4.1/24, Error ellipse: s-maj=12.1km s-min=6.8km az=196.0*

ISC 30 18:44:45.9±0.6, 4686N±009×2734W±008, h10km, n86, σ0°97/73, mb4.0/19, MS3.5/16, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EMAZ	**Mazaricos** 3.5nm,0.3s	**13.59**	**100**	P	**Pn**	**18 47 56.6**	**-1.9**
EMAZ	**Mazaricos** 3.5nm,0.3s	**13.59**	**100**	P	**Pn**	**18 47 56.6**	**-1.9**
EZAM	**Zamans** 1.1nm,0.2s	**14.11**	**103**	P	**Pn**	**18 48 04.4**	**-1.2**
EZAM	**Zamans** 1.1nm,0.2s	**14.11**	**103**	P	**Pn**	**18 48 04.4**	**-1.1**
ELOB	**Lobios** 0.6nm,0.2s	**14.65**	**103**	P	**Pn**	**18 48 11.1**	**-1.9**
ELOB	**Lobios** 0.6nm,0.2s	**14.65**	**103**	P	**Pn**	**18 48 11.1**	**-2.0**
ECAL	**Calabor** 0.9nm,0.2s	**15.51**	**101**	P	**Pn**	**18 48 24.1**	**-0.4**
ECAL	**Calabor** 0.9nm,0.2s	**15.51**	**101**	P	**Pn**	**18 48 24.1**	**-0.4**
EARI	**Arriondas** 1.0nm,0.2s	**16.02**	**95**	P	**Pn**	**18 48 30.6**	**-0.5**
EARI	**Arriondas** 1.0nm,0.2s	**16.02**	**95**	P	**Pn**	**18 48 30.6**	**-0.5**
ROSF	**Rostrenen** 71nm,1.4s	**16.29**	**76**	*e*P	**Pn**	**18 48 30.4**	**-4.1**
ROSF	**Rostrenen** 36nm,1.4s	**16.29**	**76**	*e*P	**Pn**	**18 48 30.4**	**-4.1**
EVO	**Evora** 12nm,0.7s	**16.43**	**113**	*e*P	**Pn**	**18 48 34.9**	**-1.5**
EPLA	**Plasencia** 1.6nm,0.4s	**16.83**	**106**	P	**Pn**	**18 48 40.8**	**-0.7**
EPLA	**Plasencia** 1.6nm,0.4s	**16.83**	**106**	P	**Pn**	**18 48 40.8**	**-0.7**
EBAD	**Badajoz** 0.3nm,0.2s	**16.94**	**111**	P	**Pn**	**18 48 43.0**	**+0.2**
EBAD	**Badajoz** 0.3nm,0.2s	**16.94**	**111**	P	**Pn**	**18 48 43.0**	**+0.2**
ELAN	**Lanestosa** 1.5nm,0.3s	**17.26**	**93**	P	**Pn**	**18 48 47.2**	**+0.4**
ELAN	**Lanestosa** 1.5nm,0.3s	**17.26**	**93**	P	**Pn**	**18 48 47.2**	**+0.4**
EKA	**Eskdalemuir Ar** 0.1nm,0.3s,baz=284,slow=28,SNR=2.6	**17.32**	**52**	P	**Pn**	**18 48 49.4**	**+1.9**
EKA	**Eskdalemuir Ar**	**17.32**	**52**	P	**Pn**	**18 48 49.3**	**+1.8**
EMIN	**Mina Concepcio** 0.5nm,0.3s	**17.74**	**113**	P	**Pn**	**18 48 54.3**	**+1.5**
EMIN	**Mina Concepcio** 0.5nm,0.3s	**17.74**	**113**	P	**Pn**	**18 48 54.3**	**+1.5**
ESDC	**Sonseca Array** 0.6nm,0.3s,baz=290,slow=13,SNR=5.5	**18.43**	**104**	P	**Pn**	**18 49 03.3**	**+2.0**
ESDC	comp=Z,137nm,19.4s,baz=300,slow=32			LR	LR	18 54 27.0	
ETSF	**Etsaut** 13nm,0.8s	**19.35**	**92**	*e*P	**Pn**	**18 49 11.9**	**-0.4**
ETSF	**Etsaut** 6.7nm,0.8s	**19.35**	**92**	*e*P	**Pn**	**18 49 11.9**	**-0.4**
EBIE	**Bielsa** 1.2nm,0.6s	**19.91**	**92**	P	**Pn**	**18 49 23.9**	**+4.9**
EBIE	**Bielsa** 1.2nm,0.6s	**19.91**	**92**	P	**Pn**	**18 49 23.9**	**+4.9**
TCF	**Toulx Ste Croi** 61nm,1.5s	**20.27**	**81**	*e*P	**P**	**18 49 21.9**	**+0.6**
TCF	**Toulx Ste Croi** 30nm,1.5s	**20.27**	**81**	*e*P	**P**	**18 49 21.9**	**+0.6**
BGF	**Bois d'Agland** 9.8nm,0.8s	**20.64**	**80**	*e*P	**P**	**18 49 25.9**	**+0.5**
BGF	**Bois d'Agland** 4.9nm,0.8s	**20.64**	**80**	*e*P	**P**	**18 49 25.9**	**+0.5**
AVF	**Avril sur Loir** 16nm,0.9s	**20.94**	**79**	*e*P	**P**	**18 49 29.1**	**+0.5**
AVF	**Avril sur Loir** 8.2nm,0.9s	**20.94**	**79**	*e*P	**P**	**18 49 29.1**	**+0.5**
SSF	**Saint Saulge** 16nm,1.1s	**20.99**	**78**	*e*P	**P**	**18 49 29.7**	**+0.6**
SSF	**Saint Saulge** 8.0nm,1.1s	**20.99**	**78**	*e*P	**P**	**18 49 29.7**	**+0.6**
BAIF	**Baives** 37nm,1.3s,mb4.3	**21.08**	**70**	*e*P	**P**	**18 49 30.2**	**+0.2**
BAIF	**Baives** 18nm,1.3s,mb4.2	**21.08**	**70**	*e*P	**P**	**18 49 30.2**	**+0.2**
LOR	**Lormes** 15nm,0.9s,mb4.0	**21.19**	**77**	*e*P	**P**	**18 49 31.5**	**+0.3**
LOR	**Lormes** 7.6nm,0.9s,mb4.0	**21.19**	**77**	*e*P	**P**	**18 49 31.5**	**+0.3**
SMF	**Signal de Mont** 44nm,1.4s,mb4.3	**21.30**	**79**	*e*P	**P**	**18 49 33.5**	**+1.1**
SMF	**Signal de Mont** 22nm,1.4s,mb4.3	**21.30**	**79**	*e*P	**P**	**18 49 33.5**	**+1.1**
GIVF	**Givet** 22nm,0.8s,mb4.2	**21.47**	**69**	*e*P	**P**	**18 49 34.4**	**+0.1**
GIVF	**Givet** 11nm,0.8s,mb4.2	**21.47**	**69**	*e*P	**P**	**18 49 34.4**	**+0.1**
MEZF	**Maizieres J'vi**	**21.79**	**74**	*e*P	**P**	**18 49 37.3**	**-0.3**
MDT	**Midelt** 1.2nm,0.5s,mb3.6,baz=350,slow=3.8,SNR=3.7	**22.28**	**121**	P	**P**	**18 49 47.9**	**+4.8**
MDT	comp=Z,66nm,21.8s,MS3.0,baz=14,slow=31			LR	LR	18 56 21.0	
MDT	**Midelt**	**22.28**	**121**	P	**P**	**18 49 47.9**	**+4.8**
MDT				LR	LR	18 56 21.0	
HAU	**Haudompre** 16nm,1.0s,mb4.1	**22.72**	**75**	*e*P	**P**	**18 49 47.8**	**+0.2**
HAU	**Haudompre** 8.0nm,1.0s,mb4.1	**22.72**	**75**	*e*P	**P**	**18 49 47.8**	**+0.2**
CABF	**La Chapelle**	**22.82**	**78**	*e*P	**P**	**18 49 49.6**	**+1.0**
HINF	**Hinteralfeld** 7.5nm,0.6s,mb4.0	**23.08**	**75**	*e*P	**P**	**18 49 52.1**	**+0.6**
HINF	**Hinteralfeld** 3.8nm,0.6s,mb4.0	**23.08**	**75**	*e*P	**P**	**18 49 52.1**	**+0.6**
CDF	**Champ du Feu**	**23.26**	**73**	*e*P	**P**	**18 49 53.8**	**+0.5**
DAVOX	**Davos/Dischmat** comp=Z,95nm,19.2s,MS3.3,baz=267,slow=34	**25.32**	**76**	LR	LR	18 58 52.7	
NOA	**NORSAR Array B** comp=Z,6.3nm,21.0s,baz=345,slow=31	**26.28**	**43**	LR	LR	18 58 15.4	
HFS	**Hagfors** comp=Z,42nm,19.6s,MS3.0,baz=71,slow=37	**27.28**	**46**	LR	LR	19 01 28.5	
GERES	**GERESS Array B** 0.5nm,0.7s,mb3.1,baz=298,slow=3.8,SNR=5.2	**27.38**	**71**	P	**P**	**18 50 30.2**	**-0.8**
GERES	comp=Z,88nm,20.5s,MS3.3,baz=248,slow=35			LR	LR	19 00 48.1	
VRAC	**Vranov** comp=Z,113nm,19.6s,MS3.5,baz=324,slow=35	**29.14**	**69**	LR	LR	19 01 33.1	
KEST	**Kesra** comp=Z,70nm,18.8s,MS3.3,baz=264,slow=34	**29.47**	**99**	LR	LR	19 01 28.4	
VAE	**Valguarnera** comp=Z,90nm,21.5s,MS3.4,baz=310,slow=35	**32.00**	**92**	LR	LR	19 03 06.4	
AKASG	**Malin Array Be** 0.6nm,0.4s,mb3.7,baz=277,slow=9.2,SNR=3.2	**36.70**	**63**	P	**P**	**18 51 51.0**	**-1.6**

TOA0	**Torodi Ar. Sit**	**41.51**	**134**	*e*P	**P**	**18 52 33.8**	**+0.6**
TOA0				*e*		18 52 39.3	
TOA0	**Torodi Ar. Sit**	**41.51**	**134**	*e*P	**P**	**18 52 33.8**	**+0.6**
TOA0				*e*		18 52 39.3	
TORD	**Torodi Ar. Bea** 197nm,0.4s,baz=331,slow=8.5,SNR=1.9	**41.51**	**134**	P	**P**	**18 52 33.7**	**+0.5**
TORD	comp=Z,150nm,20.0s,MS3.9,baz=320,slow=34			LR	LR	19 08 37.8	
TORD	**Torodi Ar. Bea**	**41.51**	**134**	P	**P**	**18 52 33.7**	**+0.5**
TORD				LR	LR	19 08 37.8	
ULM	**Lac du Bonnet** comp=Z,81nm,19.3s,MS3.6,baz=354,slow=33	**44.04**	**301**	LR	LR	19 09 03.9	
ULM	**Lac du Bonnet** 7.5nm,0.9s,mb4.4	**44.04**	**301**	P	**P**	**18 52 52.1**	**-1.3**
DBIC	**Dimbokro** 2.5nm,0.8s,mb4.0,baz=301,slow=9.3,SNR=3.3	**44.46**	**147**	P	**P**	**18 52 57.7**	**+0.6**
DBIC	comp=Z,46nm,18.9s,MS3.4,baz=302,slow=34			LR	LR	19 10 06.1	
YKA	**Yellowknife Ar** comp=Z,18nm,21.6s,MS3.0,baz=250,slow=33	**48.74**	**322**	LR	LR	19 11 31.9	
ARU	**Arti** 4.1nm,0.9s,mb4.4	**50.80**	**46**	P	**P**	**18 53 44.8**	**-1.1**
ARU	**Arti** 4.1nm,0.9s,mb4.4	**50.80**	**46**	P	**P**	**18 53 44.8**	**-1.1**
GNI	**Garni** 6.4nm,0.9s,mb4.5	**51.02**	**70**	P	**P**	**18 53 41.5**	**-6.3**
GNI	**Garni** 6.4nm,0.9s,mb4.5	**51.02**	**70**	P	**P**	**18 53 41.5**	**-6.3**
AKTO	**Aktyubinsk** comp=Z,22nm,18.2s,MS3.3,baz=321,slow=36	**53.51**	**52**	LR	LR	19 17 03.0	
WALA	**Waterton Lakes** 5.5nm,0.9s,mb4.6	**54.91**	**307**	*e*P	**P**	**18 54 15.7**	**-0.7**
WALA	**Waterton Lakes** 5.5nm,0.9s,mb4.6	**54.91**	**307**	*e*P	**P**	**18 54 15.7**	**-0.7**
PDAR	**Pinedale Array** 0.3nm,0.6s,mb3.5,baz=49,slow=7.3,SNR=3.5	**55.91**	**298**	P	**P**	**18 54 23.8**	**+0.1**
PDAR	comp=Z,45nm,19.7s,MS3.6,baz=185,slow=37			LR	LR	19 19 09.9	
ROSC	**El Rosal** comp=Z,50nm,19.5s,MS3.6,baz=175,slow=31	**58.16**	**239**	LR	LR	19 14 28.6	
TXAR	**Lajitas Array** 0.2nm,0.5s,mb3.4,baz=66,slow=9.2,SNR=3.1	**60.26**	**282**	P	**P**	**18 54 56.0**	**+1.7**
TXAR	comp=Z,74nm,19.0s,MS3.9,baz=0.0,slow=34			LR	LR	19 19 26.6	
EKS2	**Erkin-Say**	**66.83**	**52**	*e*P	**P**	**18 55 37.0**	**-0.5**
EKS2	**Erkin-Say** 5.6nm,1.1s,mb4.5	**66.83**	**52**	*e*P	**P**	**18 55 37.0**	**-0.5**
EKS2				*e*		18 55 57.6	
MKAR	**Makanchi Array** 0.7nm,0.7s,mb3.6,baz=329,slow=5.6,SNR=8.2	**68.28**	**44**	P	**P**	**18 55 45.9**	**-0.7**
SONM	**Songino Array** 1.2nm,0.8s,mb3.9,baz=322,slow=7.7,SNR=8.5	**77.42**	**30**	P	**P**	**18 56 40.7**	**-0.2**
BOSA	**Boshof** comp=Z,63nm,18.1s,MS4.1,baz=167,slow=34	**88.86**	**136**	LR	LR	19 35 19.7	
WRA	**Warramunga Arr** 0.6nm,0.7s,baz=324,slow=2.6,SNR=8.4	**149.26**	**35**	PKPbc	PKPbc	19 04 33.4	**-1.4**
ASAR	**Alice Springs** 0.6nm,0.7s,baz=339,slow=2.1,SNR=14	**152.39**	**40**	PKPbc	PKPbc	19 04 40.7	**-1.3**

*TIF **30** 18:54:12.6, 4255N×4353E, h11km±3km*
*ISCJB **30** 18:54:13.5±0.8, 4252N±004×4353E±006, h3km±12km, Error ellipse: s-maj=8.3km s-min=6.3km az=25.2*
*MOS **30** 18:54:15.5±1.2, 4266N×4382E, h25km, mb3.7/1, Error ellipse: s-maj=38.0km s-min=16.5km az=77.3*

ISC 30 18:54:13.2±1.1, 4252N±004×4347E±009, h11km±7km, n9, σ0°67/17, 2C-1D, Western Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ONI	**Oni**	**0.06**	**345**	P	**Pg**	**18 54 15.4**	**0.0**
ONI				S	**Sg**	**18 54 17.2**	**+0.2**
ZEI	**Tsey**	**0.40**	**52**	⇓*i*PG	**Pg**	**18 54 20.3**	**-0.8**
ZEI				*i* S	**Sg**	**18 54 26.2**	**-0.1**
LACR	**Lac**	**0.68**	**63**	⇑*i*PG	**Pg**	**18 54 25.4**	**-0.9**
LACR				*i* S	**Sg**	**18 54 34.4**	**-0.8**
KORR	**Kora**	**0.71**	**38**	*i*PG	**Pg**	**18 54 26.6**	**-0.4**
KORR				*i* S	**Sg**	**18 54 37.3**	**+0.9**
GOR	**Gori**	**0.71**	**138**	S	**Sg**	**18 54 36.9**	**+0.5**
LSNR	**Lesken**	**0.79**	**18**	*e*PG	**Pg**	**18 54 28.3**	**-0.2**
LSNR				*e*S	**Sg**	**18 54 40.2**	**+1.3**
ARNR	**Ardon**	**0.89**	**41**	*e*PG	**Pg**	**18 54 29.9**	**-0.5**
ARNR				*e*S	**Sg**	**18 54 42.5**	**+0.4**
TBLG	**Delisi**	**1.23**	**130**	P	**Pn**	**18 54 36.0**	**-0.3**
TBLG				S	**Pn**	**18 54 36.0**	**-0.3**
MTA	**Mtatsminda**	**1.28**	**130**	P	**Pn**	**18 54 36.8**	**-0.3**
MTA				S	**Sb**	**18 54 55.0**	**+1.1**

*ISCJB **30** 18:59:13.5±0.7, 3799N±002×2245E±002, h10km±5km, Error ellipse: s-maj=3.7km s-min=3.2km az=15.9*
*NEIC **30** 18:59:13.7, 3797N×2241E, h19km, MD3.5(ATH), After ATH.*
*ATH **30** 18:59:13.7, 3797N×2241E, h19km±2km, MD3.5/19, ML3.2*
*CSEM **30** 18:59:13.4±0.1, 3799N×2245E, h12km, ML3.3/1, Error ellipse: s-maj=2.2km s-min=1.7km az=14.0*
*THE **30** 18:59:13.5, 3800N×2243E, h0km±2km, ML3.3/1, Error ellipse: s-maj=2.8km s-min=0.8km az=89.0*

ISC 30 18:59:13.8±0.5, 3798N±002×2243E±003, h14km±4km, n58, σ1°13/84, Southern Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LTK	**Loutraki**	**0.43**	**84**	P	**Pg**	**18 59 22.6**	**+0.3**
LTK				S	**Sg**	**18 59 28.9**	**+0.8**
VLX	**Vlachokerasia**	**0.61**	**184**	P	**Pg**	**18 59 25.4**	**-0.4**
VLX				S	**Sg**	**18 59 34.2**	**+0.3**
RLS	**Riolos of Patr**	**0.76**	**276**	*e*Pn	**Pn**	**18 59 28.3**	**-1.8**
RLS				*e*Sn	**Sn**	**18 59 39.4**	**-2.0**
RLS	**Riolos of Patr**	**0.76**	**276**	*e*PN	**Pn**	**18 59 28.3**	**-1.8**
RLS				*e*SN	**Sn**	**18 59 39.4**	**-2.0**
DID	**Didima**	**0.80**	**126**	P	**Pg**	**18 59 28.9**	**-0.4**
DID				S	**Sg**	**18 59 40.3**	**+0.5**
LKR	**Lokris**	**0.81**	**34**	P	**Pg**	**18 59 28.7**	**-0.7**
LKR				S	**Sg**	**18 59 40.8**	**+0.8**
LKR	**Lokris**	**0.81**	**34**	*e*Pn	**Pg**	**18 59 28.7**	**-0.7**
LKR				*e*Sn	**Sn**	**18 59 41.1**	**-1.3**
LKR	**Lokris**	**0.81**	**34**	*e*PN	**Pg**	**18 59 28.7**	**-0.7**
LKR				*e*SN	**Sn**	**18 59 41.1**	**-1.3**
NAIG	**Nisos Aigina**	**0.87**	**105**	*e*Pn	**Pn**	**18 59 30.5**	**-1.0**
NAIG				*e*Sn	**Sn**	**18 59 44.0**	**0.0**
NAIG	**Nisos Aigina**	**0.87**	**105**	*e*PN	**Pn**	**18 59 30.5**	**-1.0**
NAIG				*e*SN	**Sn**	**18 59 44.0**	**0.0**
ITM	**Ithomi**	**0.89**	**207**	*e*Pb	**Pb**	**18 59 29.8**	**-1.3**
ITM				*e*Sn	**Sn**	**18 59 42.5**	**-2.1**
ITM	**Ithomi**	**0.89**	**207**	*e*PB	**Pb**	**18 59 29.8**	**-1.3**
ITM				*e*SN	**Sn**	**18 59 42.5**	**-2.1**
ATH	**Athens Observa**	**1.02**	**90**	*e*Pn	**Pn**	**18 59 33.6**	**0.0**
ATH				*e*Sn	**Sn**	**18 59 47.4**	**-0.3**
ATH	**Athens Observa**	**1.02**	**90**	*e*PN	**Pn**	**18 59 33.6**	**0.0**
ATH				*e*SN	**Sn**	**18 59 47.4**	**-0.3**
AGG	**Agios Georgios**	**1.04**	**356**	P	**Pb**	**18 59 32.9**	**-0.7**
AGG				S	**Sb**	**18 59 47.3**	**+0.2**
EVR	**Evrytania**	**1.05**	**333**	*e*Pn	**Pn**	**18 59 33.6**	**-0.5**
EVR				*e*Sn	**Sn**	**18 59 48.7**	**+0.2**
EVR	**Evrytania**	**1.05**	**333**	*e*PN	**Pn**	**18 59 33.6**	**-0.5**
EVR				*e*SN	**Sn**	**18 59 48.7**	**+0.2**
KVR	**Kavouri**	**1.07**	**98**	*e*Pn	**Pn**	**18 59 34.5**	**+0.2**
KVR				*e*Sn	**Sn**	**18 59 50.0**	**+1.0**
KVR	**Kavouri**	**1.07**	**98**	*e*PN	**Pn**	**18 59 34.5**	**+0.2**
KVR				*e*SN	**Sn**	**18 59 50.0**	**+1.0**
PTL	**Penteli**	**1.14**	**86**	*e*Pn	**Pn**	**18 59 35.0**	**-0.2**
PTL				*e*Sn	**Sn**	**18 59 51.5**	**+0.9**
PTL	**Penteli**	**1.14**	**86**	*e*PN	**Pn**	**18 59 35.0**	**-0.2**
PTL				*e*SN	**Sn**	**18 59 51.5**	**+0.9**
PYL	**PYLOS**	**1.21**	**207**	P	**Pn**	**18 59 36.1**	**-0.2**
PYL				S	**Sb**	**18 59 55.3**	**+3.3**
KFL	**Anninata**	**1.30**	**276**	P	**Pn**	**18 59 38.5**	**+1.0**
KFL				S	**Sb**	**18 59 56.2**	**+1.7**
VLI	**Veliai**	**1.32**	**162**	*e*Pn	**Pn**	**18 59 38.5**	**+0.7**
VLI	**Veliai**	**1.32**	**162**	*e*PN	**Pn**	**18 59 38.5**	**+0.7**
NEO	**Neokhori**	**1.46**	**25**	*e*Pb	**Pb**	**18 59 39.7**	**-1.0**
NEO	**Neokhori**	**1.46**	**25**	*e*PB	**Pb**	**18 59 39.7**	**-1.0**
VLS	**Valsamata**	**1.46**	**278**	P	**Pn**	**18 59 40.6**	**+0.9**
VLS				S	**Sn**	**19 00 01.6**	**+2.9**
VLS	**Valsamata**	**1.46**	**278**	*e*Pn	**Pn**	**18 59 40.9**	**+1.2**
VLS				*e*Sn	**Sn**	**19 00 01.4**	**+2.7**
VLS	**Valsamata**	**1.46**	**278**	*e*PN	**Pn**	**18 59 40.9**	**+1.2**
VLS				*e*SN	**Sn**	**19 00 01.4**	**+2.7**
LKD	**Levkas**	**1.57**	**298**	P	**Pn**	**18 59 42.1**	**+0.8**
THL	**Klokotos Trika**	**1.61**	**349**	P	**Pn**	**18 59 42.5**	**+0.7**
THL	**Klokotos Trika**	**1.61**	**349**	*e*Pb	**Pb**	**18 59 42.4**	**-0.9**
THL	**Klokotos Trika**	**1.61**	**349**	*e*PB	**Pb**	**18 59 42.4**	**-0.9**
KYTH	**Kithira**	**1.77**	**164**	*e*Pn	**Pn**	**18 59 46.0**	**+2.1**
KYTH	**Kithira**	**1.77**	**164**	*e*PN	**Pn**	**18 59 46.0**	**+2.1**
JAN	**Janina**	**2.08**	**324**	*e*Pn	**Pn**	**18 59 51.1**	**+2.9**
JAN	**Janina**	**2.08**	**324**	*e*PN	**Pn**	**18 59 51.1**	**+2.9**
LIT	**Litokhoron**	**2.12**	**1**	P	**Pn**	**18 59 49.1**	**+0.4**
PAIG	**Paliouri**	**2.17**	**26**	P	**Pn**	**18 59 49.1**	**-0.4**
KZN	**Kozani**	**2.38**	**348**	*e*Pb	**Pb**	**18 59 55.1**	**-1.2**
KZN	**Kozani**	**2.38**	**348**	*e*PB	**Pb**	**18 59 55.1**	**-1.2**
PLG	**Polygyros**	**2.52**	**18**	P	**Pn**	**18 59 54.0**	**-0.2**
PLG	**Polygyros**	**2.52**	**18**	*e*Pn	**Pn**	**18 59 54.2**	**0.0**
PLG	**Polygyros**	**2.52**	**18**	*e*PN	**Pn**	**18 59 54.2**	**0.0**
APE	**Apeiranthos**	**2.63**	**109**	*e*Pn	**Pn**	**18 59 53.4**	**-2.4**
APE	**Apeiranthos**	**2.63**	**109**	*e*PN	**Pn**	**18 59 53.4**	**-2.4**
OUR	**Ouranopolis**	**2.64**	**27**	P	**Pn**	**18 59 55.8**	**-0.1**
KEK	**Kerkira**	**2.68**	**311**	*e*Pb	**Pb**	**18 59 58.9**	**-2.7**
KEK	**Kerkira**	**2.68**	**311**	*e*PB	**Pb**	**18 59 58.9**	**-2.7**
LIA	**Limnos Island**	**2.88**	**47**	P	**Pn**	**18 59 59.5**	**+0.3**
LIA	**Limnos Island**	**2.88**	**47**	*e*Pn	**Pn**	**18 59 59.8**	**+0.6**
LIA	**Limnos Island**	**2.88**	**47**	*e*PN	**Pn**	**18 59 59.8**	**+0.6**
FNA	**Florina**	**2.91**	**344**	P	**Pn**	**19 00 00.6**	**+0.9**
SOH	**Sokhos**	**2.92**	**14**	P	**Pn**	**19 00 00.4**	**+0.6**
VAM	**Vamos**	**2.94**	**150**	*e*Pb	**Pb**	**19 00 02.8**	**-3.1**
VAM	**Vamos**	**2.94**	**150**	*e*PB	**Pb**	**19 00 02.8**	**-3.1**
KNT	**Kendrikon**	**3.20**	**6**	P	**Pn**	**19 00 04.6**	**+1.0**

*IDC **30** 19:01:32.5±1.8, 082N×9746E, h0km, mb3.6/8, mb1 3.6/9, mb1mx3.6/22, mbtmp3.6/9, Error ellipse: s-maj=64.4km s-min=19.6km az=57.0*
*ISCJB **30** 19:01:37.5±3.4, 09N±01×976E±02, h51km±28km, mb3.8/11, Error ellipse: s-maj=35.1km s-min=15.3km az=147.0*
*NEIC **30** 19:01:37.8±0.6, 089N×9761E, h35km, mb4.1/4, Error ellipse: s-maj=19.4km s-min=9.1km az=65.0*

ISC 30 19:01:37.1±8.3, 09N±01×975E±02, h30km±57km, n16, σ0°71/16, mb3.8/11, 1D, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**2.38**	**35**	‖*e*P	**Pn**	**19 02 15.3**	**+1.1**
CMAR	**Chiang Mai Arr** baz=193,slow=13,SNR=3.4	**17.55**	**4**	P	**Pn**	**19 05 38.8**	**-0.9**
CHTO	**Chiang Mai** 2.1nm,0.9s	**17.91**	**4**	P	**Pn**	**19 05 43.0**	**-1.1**
LSA	**Lhasa** 3.4nm,0.9s,mb4.1	**29.33**	**349**	P	**P**	**19 07 38.4**	**+1.1**
WRA	**Warramunga Arr** 0.3nm,0.9s,mb2.9,baz=281,slow=7.8,SNR=3.0	**41.56**	**122**	P	**P**	**19 09 23.1**	**+0.7**
ASAR	**Alice Springs** 0.2nm,0.5s,mb3.1,baz=302,slow=8.2,SNR=5.7	**42.91**	**127**	P	**P**	**19 09 33.0**	**-0.4**
KSRS	**Korea Array** 1.0nm,0.8s,mb3.8,baz=223,slow=12,SNR=4.0	**45.94**	**34**	P	**P**	**19 09 57.2**	**-0.2**
SONM	**Songino Array** 0.3nm,0.6s,mb3.4,baz=188,slow=8.4,SNR=3.6	**47.43**	**8**	P	**P**	**19 10 09.6**	**+0.7**
MK31	**Makanchi Array**	**47.66**	**346**	*e*P	**P**	**19 10 10.5**	**-0.2**
MKAR	**Makanchi Array** 0.7nm,0.4s,mb4.0,baz=164,slow=8.8,SNR=18	**47.66**	**346**	P	**P**	**19 10 11.0**	**+0.3**
MKAR	**Makanchi Array**	**47.66**	**346**	P	**P**	**19 10 11.0**	**+0.3**
KURK	**Kurchatov** 0.4nm,0.5s,mb3.6,baz=164,slow=6.8,SNR=5.0	**52.22**	**345**	P	**P**	**19 10 44.8**	**-0.4**
STKA	**Stephens Creek** 7.4nm,1.3s,mb4.5	**52.87**	**132**	P	**P**	**19 10 49.6**	**-0.9**
ZALV	**Zalesovo Beam** 1.1nm,0.3s,mb4.2,baz=178,slow=7.8,SNR=6.9	**53.96**	**351**	P	**P**	**19 10 58.0**	**+0.1**
BVAR	**Borovoye Array** 0.4nm,0.7s,mb3.6,baz=168,slow=7.4,SNR=3.6	**56.69**	**341**	P	**P**	**19 11 17.0**	**-0.7**
KMBO	**Kilima Mbogo** 1.4nm,0.6s,mb4.2	**60.32**	**268**	P	**P**	**19 11 44.4**	**+0.6**

*DDA **30** 19:23:28.3, 3679N×2755E, h3km, Md2.9*
*CSEM **30** 19:23:31.7±0.8, 3704N×2747E, h2km, MD2.9, Error ellipse: s-maj=19.7km s-min=7.3km az=170.0*

ISC 30 19:23:27.5±2.6, 368N±01×275E±01, h12km±8km, n6, σ0°36/12, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BDRM	**Kayabasi**	**0.31**	**352**	*i* P	**Pg**	**19 23 33.7**	**0.0**
BDRM				*i* S	**Sg**	**19 23 37.9**	**0.0**
BODT	**Bodrum**	**0.34**	**333**	*e*PG	**Pg**	**19 23 34.0**	**-0.2**
BODT				*e*SG	**Sg**	**19 23 39.0**	**+0.2**
MLSB	**Milas**	**0.58**	**23**	*e*PG	**Pg**	**19 23 39.6**	**+0.9**
MLSB				*e*SG	**Sg**	**19 23 46.2**	**-0.2**
AYDN	**Tasoluk**	**0.95**	**19**	*i* P	**Pg**	**19 23 45.6**	**-0.2**

0.2nm,0.3s,mb3.2,baz=98,slow=6.4,SNR=4.4
CMAR pP pP 19 34 40.4 -2.5
0.5nm,0.7s,baz=88,slow=5.6,SNR=2.7
STKA Stephens Creek 44.27 181 P **P** **19 34 23.8 -0.4**
1.2nm,0.5s,mb3.8,baz=5.7,slow=10,SNR=4.3
ULN Ulaanbaatar 45.88 327 *eP* **P** **19 34 36.8 0.0**
2.1nm,0.6s,mb3.9
GTA Gaotai 46.11 313 *eP* **P** **19 34 39.8 +1.1**
GTA AMB AMB
comp=Z,4.0nm,0.7s,mb4.2
SONM Songino Array 46.22 327 P **P** **19 34 40.5 +1.1**
comp=Z,1.6nm,0.5s,mb3.9,baz=138,slow=6.4,SNR=22
YAK Yakutsk 50.17 352 P **P** **19 35 08.8 -0.7**
comp=Z,12nm,0.6s,mb4.7
MKAR Makanchi Array 60.59 317 P **P** **19 36 24.9 +0.7**
comp=Z,1.3nm,0.5s,mb4.0,baz=102,slow=9.4,SNR=20
ZALV Zalesovo Beam 61.07 325 P **P** **19 36 27.1 -0.2**
comp=Z,1.4nm,0.4s,mb4.1,baz=111,slow=7.7,SNR=8.5
KURK Kurchatov 63.84 321 *eP* **P** **19 36 45.4 -0.4**
comp=Z,5.9nm,0.9s,mb4.4
BRVK Borovoye 69.32 322 *eP* **P** **19 37 20.8 +0.3**
comp=Z,7.5nm,0.7s,mb4.5
YKA Yellowknife Ar 84.75 27 P **P** **19 38 46.2 -0.3**
comp=Z,0.4nm,0.4s,mb3.5,baz=289,slow=5.1,SNR=2.7
ARCES ARCESS Array B 87.27 342 P **P** **19 38 58.1 -0.6**
comp=Z,1.1nm,0.5s,mb4.0,baz=57,slow=8.8,SNR=9.6
NVAR Mina Array Bea 89.30 51 P **P** **19 39 10.7 +1.7**
comp=Z,0.7nm,0.6s,mb3.7,baz=269,slow=6.0,SNR=4.5
LPAZ La Paz 150.13 101 PKPbc PKPbc 19 46 06.0 +2.6
comp=Z,2.1nm,0.7s,baz=337,slow=2.3,SNR=8.2

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*ISCJB **30** 19:29:59.7±2.7,225S±04×1704E±02,h39km±24km, mb3.5/4,MS3.6/4, Error ellipse: s-maj=66.6km s-min=13.1km az=17.4*
*IDC **30** 19:29:59.9±5.8,2130S×16982E,h0km,mb3.6/4, mb1 3.8/4,mb1mx3.6/14,mbtmp3.6/4,MS3.6/4,Ms1 3.6/4, ms1mx3.1/22,Error ellipse: s-maj=194.5km s-min=49.4km az=145.0*
*NEIC **30** 19:30:00.9±2.0,2228S×17040E,h36km±19km,Error ellipse: s-maj=48.0km s-min=12.2km az=195.0*

ISC 30 19:30:01.3±2.5,223S±04×1704E±01,h36km±23km,n11, σ0§43/8,mb3.5/4,MS3.6/4,Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**3.67**	**273**	*e*Pn	**Pn**	**19 30 55.4**	**-0.1**
DZM				eSn	**Sn**	**19 31 37.6**	**+0.1**
RAO	**Raoul Island**	**12.58**	**126**	P	**Pn**	**19 32 57.8**	**0.0**
	901nm,1.1s						
STKA	**Stephens Creek**	**27.27**	**243**	LR	LR	19 46 33.2	
	comp=Z,144nm,18.6s,MS3.6,baz=202,slow=36						
ASAR	**Alice Springs**	**33.55**	**261**	P	**P**	**19 36 38.1**	**+0.2**
	0.3nm,0.8s,mb3.2,baz=73,slow=9.8,SNR=3.8						
WRA	**Warramunga Arr**	**33.66**	**267**	P	**P**	**19 36 38.3**	**-0.5**
	0.2nm,0.8s,mb3.1,baz=97,slow=8.0,SNR=3.1						
WRA				LR	LR	19 50 18.8	
	comp=Z,90nm,21.8s,MS3.5,baz=130,slow=37						
WRA	**Warramunga Arr**	**33.66**	**267**	P	**P**	**19 36 38.3**	**-0.6**
WRA				LR	LR	19 50 18.8	
PETK	**Petropavlovsk-**	**75.93**	**352**	LR	LR	20 13 21.6	
	comp=Z,31nm,19.9s,MS3.6,baz=265,slow=35						
CMAR	**Chiang Mai Arr**	**80.75**	**294**	P	**P**	**19 42 11.8**	**+0.5**
	0.3nm,0.3s,mb3.6,baz=138,slow=3.3,SNR=3.7						
SONM	**Songino Array**	**90.33**	**323**	P	**P**	**19 42 58.1**	**-0.2**
	0.9nm,0.9s,mb4.1,baz=120,slow=5.0,SNR=6.0						
TXAR	**Lajitas Array**	**97.30**	**61**	LR	LR	20 22 25.4	
	comp=Z,40nm,18.6s,MS3.9,baz=0.0,slow=32						
GERES	**GERESS Array B**	**147.71**	**331**	PKPbc	PKPbc	19 49 41.1	-0.8
	1.0nm,0.8s,baz=23,slow=7.2,SNR=4.3						

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*ISCJB **30** 19:49:49.2±0.3,3687N±007×13479E±006,h383km±4km, mb3.6/20,Error ellipse: s-maj=11.2km s-min=6.6km az=159.4*
*JMA **30** 19:49:49.5±0.1,3686N×13471E,h380km±2km,M3.5*
*NEIC **30** 19:49:50.3±0.7,3690N×13485E,h380km±9km,mb3.7/5, Error ellipse: s-maj=15.6km s-min=13.4km az=203.0*
*IDC **30** 19:49:50.0±1.2,3687N×13478E,h378km±13km,mb2.9/8, mb1 3.2/11,mb1mx3.0/25,mbtmp3.0/11, Error ellipse: s-maj=21.7km s-min=16.6km az=32.0*

ISC 30 19:49:50.1±0.3,3686N±007×13476E±006,h375km±4km, n47,σ0§65/58,mb3.5/20,Sea of Japan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JKY	**Yasaka**	**1.26**	**167**	P	**Pn**	**19 50 39.8**	**+0.1**
JKY				*e*S	**S**	**19 51 19.2**	**-0.3**
JKG	**Kaga**	**1.39**	**114**	P	**Pn**	**19 50 40.7**	**+0.4**
JKG				*e*S	**S**	**19 51 20.5**	**-0.1**
JWT	**Wachi**	**1.66**	**162**	P	**Pn**	**19 50 42.1**	**+0.4**
JWT				*e*S	**S**	**19 51 23.0**	**-0.2**
JGM	**Miyama**	**1.96**	**126**	P	**Pn**	**19 50 44.0**	**+0.5**
JGM				*e*S	**S**	**19 51 26.3**	**-0.2**
JHG	**Hegura jima**	**1.98**	**59**	P	**Pn**	**19 50 44.1**	**+0.5**
JSZ	**Suzu**	**2.16**	**73**	P	**Pn**	**19 50 45.2**	**+0.4**
JHS	**Saijyo**	**2.29**	**216**	P	**Pn**	**19 50 45.6**	**-0.2**
JHS				*e*S	**S**	**19 51 29.8**	**-0.8**
JGT	**Gotsu**	**2.69**	**228**	P	**Pn**	**19 50 49.0**	**+0.1**
JGT				*e*S	**S**	**19 51 35.6**	**-0.6**
JWY	**Kouya**	**2.72**	**165**	P	**Pn**	**19 50 49.4**	**+0.2**
JWY				*e*S	**S**	**19 51 35.6**	**-1.1**
MAJO	**Matsushiro**	**2.79**	**95**	*e*Pn	**Pn**	**19 50 49.9**	**+0.3**
MAT	**Matsushiro**	**2.79**	**95**	P	**Pn**	**19 50 49.8**	**+0.2**
MAT				S	**S**	**19 51 38.5**	**+1.0**
MJAR	**Matsushiro Arr**	**2.79**	**96**	P	**Pn**	**19 50 50.2**	**+0.6**
	6.1nm,0.3s,baz=283,slow=10,SNR=81						
JIE	**Ise**	**2.93**	**147**	P	**Pn**	**19 50 51.4**	**+0.6**
JIE				*e*S	**S**	**19 51 39.4**	**-0.4**
JWZ	**Kozaga**	**3.41**	**167**	P	**Pn**	**19 50 55.0**	**-0.1**
JRY	**Ryogami san**	**3.44**	**103**	P	**Pn**	**19 50 56.0**	**+0.7**
JOD2	**Odawara 2**	**3.85**	**113**	*e*S	**S**	**19 51 56.2**	**+1.2**
JTO	**Tosashimizu**	**4.30**	**203**	P	**Pn**	**19 51 03.9**	**+0.1**
KSRS	**Korea Array**	**5.50**	**278**	P	**Pn**	**19 51 16.7**	**+0.5**
	0.6nm,0.3s,baz=99,slow=12,SNR=26						
BSO1	**Boso 1**	**5.51**	**112**	P	**Pn**	**19 51 15.2**	**-1.2**
BSO1				*e*S	**S**	**19 52 22.4**	**-4.1**
JMK	**Ichinoseki**	**5.52**	**66**	P	**Pn**	**19 51 15.9**	**-0.5**
ERM	**Erimo**	**8.29**	**49**	*e*Pn	**Pn**	**19 51 46.1**	**-1.7**
	23nm,0.4s						
ERM				*e*S	**S**	**19 53 14.0**	**-10**
ASAJ	**Asahikawa**	**9.38**	**37**	P	**Pn**	**19 51 59.4**	**-1.3**
	6.2nm,0.3s,baz=238,slow=11,SNR=69						
ASAJ				S	**S**	**19 53 40.4**	**-7.4**
	1.4nm,0.3s,baz=321,slow=32,SNR=11						
HIA	**Hailar**	**16.52**	**323**	*e*P	**P**	**19 53 20.4**	**+0.6**
	6.1nm,0.6s						
SONM	**Songino Array**	**23.53**	**307**	P	**P**	**19 54 28.1**	**0.0**
	0.4nm,0.4s,mb3.0,baz=113,slow=9.0,SNR=5.1						
TIXI	**Tiksi**	**34.99**	**357**	*e*P	**P**	**19 56 06.9**	**-1.2**
	1.0nm,0.3s,mb3.5						
ZALV	**Zalesovo Beam**	**38.11**	**313**	PcP	PcP	19 58 39.1	-1.1
	0.7nm,0.4s,baz=113,slow=3.8,SNR=4.2						
MKAR	**Makanchi Array**	**39.68**	**301**	P	**P**	**19 56 47.8**	**+0.6**
	0.2nm,0.4s,mb2.7,baz=83,slow=12,SNR=4.6						
TAPN	**Taplejung**	**40.63**	**270**	*e*P	**P**	**19 56 55.4**	**+0.2**
	4.6nm,0.3s,mb4.1						
ODAN	**Odare**	**41.09**	**270**	*e*P	**P**	**19 56 59.1**	**+0.1**
	2.7nm,0.4s,mb3.8						
RAMN	**Ramite**	**41.69**	**271**	*e*P	**P**	**19 57 03.6**	**-0.2**
	4.8nm,0.7s,mb3.8						
JIRN	**Jiri**	**41.71**	**272**	*e*P	**P**	**19 57 04.3**	**+0.3**
	3.3nm,0.3s,mb4.0						
KURK	**Kurchatov**	**41.83**	**308**	P	**P**	**19 57 04.9**	**+0.3**
	0.2nm,0.5s,mb2.5,baz=83,slow=9.1,SNR=3.4						
GUN	**Gumba**	**41.85**	**272**	*e*P	**P**	**19 57 05.6**	**+0.5**
	5.6nm,0.3s,mb4.1						
KKN	**Kakani**	**42.39**	**272**	*e*P	**P**	**19 57 10.0**	**+0.7**
	1.2nm,0.2s,mb3.7						
DMN	**Daman**	**42.60**	**272**	*e*P	**P**	**19 57 11.1**	**0.0**
GKN	**Gorkha**	**42.81**	**273**	*e*P	**P**	**19 57 12.4**	**-0.3**
	3.9nm,0.5s,mb3.8						
DANN	**Dangsing**	**43.37**	**274**	*e*P	**P**	**19 57 17.4**	**+0.3**
	4.4nm,0.2s,mb4.2						
KOLN	**Koldanda**	**43.74**	**273**	*e*P	**P**	**19 57 19.9**	**-0.1**
	1.5nm,0.3s,mb3.6						
TKM2	**Tokmak 2**	**44.99**	**297**	P	**P**	**19 57 31.0**	**+1.4**
	0.8nm,0.6s,mb3.0						
AML	**Almayashu**	**46.55**	**296**	P	**P**	**19 57 41.5**	**-0.1**
	1.9nm,0.8s,mb3.4						
BVAR	**Borovoye Array**	**46.73**	**312**	P	**P**	**19 57 41.7**	**-1.2**
	0.4nm,0.5s,mb2.9,baz=72,slow=9.3,SNR=3.0						
BVAR				PcP	PcP	19 59 08.4	-0.8
	0.5nm,0.5s,baz=75,slow=1.6,SNR=3.9						

WRA Warramunga Arr 56.49 180 P **P** **19 58 54.0 -0.6**
0.2nm,0.3s,mb2.9,baz=356,slow=7.6,SNR=6.1
INK Inuvik 56.94 26 P **P** **19 58 57.1 0.0**
44nm,0.5s
ARCES ARCESS Array B 62.22 338 P **P** **19 59 31.8 -0.9**
4.3nm,1.0s,mb3.9,baz=57,slow=9.1,SNR=7.8
ARCES ARCESS Array B 62.22 338 P **P** **19 59 31.8 -0.9**
NOA NORSAR Array B 72.18 335 P **P** **20 00 34.2 -0.5**
1.2nm,0.9s,mb3.6,baz=32,slow=4.7,SNR=3.7
PDAR Pinedale Array 81.48 42 P **P** **20 01 27.2 +0.8**
0.3nm,0.6s,mb3.2,baz=316,slow=2.5,SNR=3.3

IDC 30 19:52:01.3±9.3,139N×12481E,h0km,mb3.4/3,mb1 3.6/3, mb1mx3.3/16,mbtmp3.4/3,Error ellipse: s-maj=197.1km s-min=144.7km az=65.0,Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**23.17**	**157**	P	P	19 57 09.7	0.0
	0.8nm,1.0s,baz=334,slow=11,SNR=9.9						
ASAR	**Alice Springs**	**26.43**	**161**	P	P	19 57 41.6	+1.7
	0.1nm,0.3s,baz=336,slow=6.1,SNR=3.3						
STKA	**Stephens Creek**	**36.71**	**156**	P	P	19 59 08.5	-1.8
	1.5nm,0.9s,baz=324,slow=13,SNR=4.2						

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*CSEM **30** 20:14:06.4±0.1,3842N×3945E,h2km,MD3.1,Error ellipse: s-maj=3.1km s-min=1.4km az=99.0*
*ISK **30** 20:14:06.7,3840N×3939E,h3km,MD3.1*
*ISCJB **30** 20:14:07.6±0.6,3840N±003×3933E±003,h3km±5km, Error ellipse: s-maj=4.8km s-min=4.4km az=40.7*
*DDA **30** 20:14:07.0,3840N×3931E,h5km,Md3.1*

ISC 30 20:14:08.1±0.6,3842N±003×3934E±004,h4km±6km,n14, σ1§08/23,Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SVRC	**Sivrice-ELAZID**	**0.05**	**217**	PG	**Pg**	**20 14 08.4**	**-0.9**
ELZG	**Elazig**	**0.29**	**286**	*i* P	**Pg**	**20 14 12.7**	**-1.1**
ELZG				*i* S	**Sg**	**20 14 17.7**	**+0.1**
PTK	**Pertek**	**0.48**	**5**	*e*PG	**Pg**	**20 14 16.6**	**-0.7**
PTK				*e*SG	**Sg**	**20 14 24.7**	**+1.2**
DIYA	**Diyarbakir**	**0.79**	**128**	*i* P	**Pn**	**20 14 23.1**	**-2.9**
DIYA				*i* S	**Sg**	**20 14 35.5**	**+2.1**
URFA	**Urfa**	**1.06**	**203**	*e*PG	**Pg**	**20 14 28.2**	**-0.1**
URFA				*e*SG	**Sg**	**20 14 42.0**	**-0.1**
AKCD	**Akcadag**	**1.12**	**264**	*i* P	**Pg**	**20 14 27.4**	**-2.3**
AKCD				*i* S	**Sg**	**20 14 45.0**	**+0.8**
DARE	**Darende-Malaty**	**1.32**	**294**	*e*PN	**Pg**	**20 14 35.5**	**+2.2**
EZC	**Erzincan**	**1.38**	**15**	*e*PN	**Pn**	**20 14 33.0**	**-1.1**
EZC				*e*SN	**Sn**	**20 14 52.5**	**-0.3**
MARD	**Mardin**	**1.58**	**134**	*i* P	**Pn**	**20 14 36.0**	**-0.9**
MARD				*i* S	**Sn**	**20 14 58.1**	**+0.2**
BEST	**Besiri**	**1.61**	**108**	*i* P	**Pn**	**20 14 37.1**	**-0.2**
BEST				*i* S	**Sn**	**20 14 58.9**	**+0.4**
GZT	**Gaziantep**	**1.76**	**234**	*i* P	**Pg**	**20 14 41.2**	**-0.6**
GZT				*i* S	**Sg**	**20 15 05.1**	**+0.4**
GAZ	**Gaziantep**	**2.10**	**234**	*e*PN	**Pn**	**20 14 44.9**	**+0.9**
KMRS	**Kahramanmaras**	**2.13**	**246**	*e*PN	**Pn**	**20 14 45.4**	**+0.9**
SVSK	**Karacayir**	**2.36**	**310**	*e*PN	**Pn**	**20 14 48.4**	**+0.8**

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*DDA **30** 20:16:16.8,3841N×3933E,h7km±5km,Md3.2*
*CSEM **30** 20:16:16.5±0.2,3842N×3936E,h2km,MD3.2,Error ellipse: s-maj=4.9km s-min=2.7km az=107.0*
*ISCJB **30** 20:16:17.1±0.7,3844N±003×3936E±004,h2km±6km, Error ellipse: s-maj=6.4km s-min=4.4km az=39.4*
*ISK **30** 20:16:17.0,3842N×3935E,h4km,MD3.2*

ISC 30 20:16:17.5±0.7,3845N±003×3937E±004,h1km±7km,n15, σ0§87/23,Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SVRC	**Sivrice-ELAZID**	**0.08**	**215**	*e*PG	**Pg**	**20 16 18.5**	**-0.6**
SVRC				*e*SG	**Sg**	**20 16 19.7**	**-0.4**
ELZG	**Elazig**	**0.30**	**280**	*i* P	**Pg**	**20 16 22.8**	**-0.6**
ELZG				*i* S	**Sg**	**20 16 28.1**	**+0.8**
PTK	**Pertek**	**0.45**	**3**	*e*PG	**Pg**	**20 16 26.7**	**+0.6**
DIYA	**Diyarbakir**	**0.79**	**131**	*i* P	**Pg**	**20 16 32.8**	**+0.1**
DIYA				*i* S	**Sg**	**20 16 44.0**	**+1.1**
DIYA	**Diyarbakir**	**0.79**	**131**	*i* P	**Pg**	**20 16 32.8**	**+0.1**
DIYA				*i* S	**Sg**	**20 16 44.0**	**+1.1**
KEMA	**Kemaliye**	**1.07**	**321**	*i* P	**Pg**	**20 16 36.5**	**-1.5**
KEMA				*i* S	**Sg**	**20 16 51.7**	**-0.1**
URFA	**Urfa**	**1.09**	**203**	*e*PG	**Pg**	**20 16 38.6**	**+0.2**
URFA				*e*SG	**Sg**	**20 16 52.8**	**+0.2**
AKCD	**Akcadag**	**1.15**	**263**	*i* P	**Pg**	**20 16 37.5**	**-1.9**
AKCD				*i* S	**Sg**	**20 16 55.2**	**+0.9**
DARE	**Darende-Malaty**	**1.32**	**293**	*e*PN	**Pg**	**20 16 45.0**	**+2.2**
EZC	**Erzincan**	**1.35**	**15**	*e*PN	**Pn**	**20 16 43.2**	**-0.3**
MARD	**Mardin**	**1.59**	**135**	*i* P	**Pn**	**20 16 46.0**	**-0.7**
MARD				*i* S	**Sn**	**20 17 07.3**	**-0.5**
SARI	**SarD1z-Kayseri**	**2.11**	**277**	*e*PN	**Pg**	**20 16 57.1**	**-0.8**
GAZ	**Gaziantep**	**2.13**	**234**	*e*PN	**Pn**	**20 16 54.5**	**+0.3**
KMRS	**Kahramanmaras**	**2.16**	**245**	*e*PN	**Pn**	**20 16 55.4**	**+0.7**
SVSK	**Karacayir**	**2.35**	**309**	*e*PN	**Pn**	**20 16 57.8**	**+0.6**

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*DDA **30** 20:31:48.5,3841N×3932E,h7km±4km,Md3.0*
*CSEM **30** 20:31:48.0±0.3,3838N×3930E,h12km,MD3.0,Error ellipse: s-maj=7.3km s-min=4.6km az=127.0*

ISC 30 20:31:47.8±2.1,3833N±009×394E±01,h14km±5km,n5, σ0§69/10,Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SVRC	**Sivrice-ELAZID**	**0.08**	**311**	PG	**Pg**	**20 31 50.8**	**+0.1**
SVRC				SG	**Sg**	**20 31 51.9**	**-0.9**
ELZG	**Elazig**	**0.36**	**299**	*i* P	**Pg**	**20 31 55.1**	**0.0**
ELZG				*i* S	**Sg**	**20 32 00.2**	**+0.3**
PTK	**Pertek**	**0.57**	**1**	*e*PG	**Pg**	**20 31 59.1**	**+0.2**
PTK				*e*SG	**Sg**	**20 32 07.6**	**+1.1**
AKCD	**Akcadag**	**1.15**	**269**	*i* P	**Pb**	**20 32 09.5**	**+0.1**
AKCD				*i* S	**Sb**	**20 32 25.1**	**+0.9**
KEMA	**Kemaliye**	**1.17**	**324**	*i* P	**Pn**	**20 32 08.9**	**-0.8**
KEMA				*i* S	**Sb**	**20 32 23.8**	**-1.0**

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*ISCJB **30** 20:35:19.4±0.5,4370N±005×10527W±005,h0km,mb4.0/4, Error ellipse: s-maj=7.6km s-min=5.2km az=155.7*
*NEIC **30** 20:35:19.7±0.5,4352N×10525W,h0km,ML3.5,Error ellipse: s-maj=7.5km s-min=5.9km az=160.0,Suspected Mining explosion.*
NEIC 85 km [50 miles] E of Midwest.
*IDC **30** 20:35:19.2±2.0,4347N×10539W,h0km,mb3.9/4, mb1 3.9/8,mb1mx3.7/24,mbtmp3.8/8,ML3.4/4,Error ellipse: s-maj=53.1km s-min=7.3km az=152.0*

ISC 30 20:35:20.2±0.4,4360N±004×10522W±005,h0km,n46, σ1§22/47,mb4.0/4,Wyoming

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RSSD	**Black Hills**	**1.00**	**58**	*e*Pg	**Pg**	**20 35 40.2**	**+0.7**
PHWY	**Pilot Hill**	**2.30**	**184**	*e*Pn	**Pn**	**20 36 00.7**	**+1.4**
RWWY	**Rawlins**	**2.41**	**218**	*e*Pn	**Pn**	**20 36 03.7**	**+2.9**
LAO	**LASA Array**	**3.17**	**347**	*e*Pn	**Pn**	**20 36 12.2**	**+0.9**
PDAR	**Pinedale Array**	**3.28**	**257**	Pn	**Pn**	**20 36 13.9**	**+1.2**
	3.6nm,0.3s,baz=75,slow=16,SNR=54						
PDAR				Pg	**Pg**	**20 36 18.6**	**-4.4**
	12nm,0.3s,baz=74,slow=18,SNR=55						
PDAR				Lg		20 36 56.8	
	4.5nm,0.3s,baz=70,slow=18,SNR=8.0						
RLMT	**Red Lodge**	**3.28**	**299**	*e*Pn	**Pn**	**20 36 12.7**	**-0.1**
BW06	**Boulder Array**	**3.28**	**257**	*e*Pn	**Pn**	**20 36 13.7**	**+0.9**
OGNE	**Ogallala**	**3.55**	**137**	*e*Pn	**Pn**	**20 36 20.2**	**+3.7**
GCMT	**Greycliff**	**3.85**	**306**	*e*Pn	**Pn**	**20 36 20.8**	**0.0**
LOHW	**Long Hollow**	**3.91**	**272**	*e*Pn	**Pn**	**20 36 19.5**	**-2.0**
MOOW	**Moose Ponds**	**4.01**	**274**	*e*Pn	**Pn**	**20 36 23.5**	**+0.7**
SNOW	**Snow King Moun**	**4.03**	**270**	*e*Pn	**Pn**	**20 36 23.9**	**+0.8**
YNR	**Norris Junctio**	**4.08**	**288**	*e*Pn	**Pn**	**20 36 24.3**	**+0.5**
REDW	**Red Top Meadow**	**4.11**	**269**	*e*Pn	**Pn**	**20 36 25.1**	**+1.0**
YFT	**Old Faithful**	**4.14**	**284**	*e*Pg	**Pg**	**20 36 35.4**	**-4.1**
IMW	**Indian Meadow**	**4.15**	**276**	*e*Pn	**Pn**	**20 36 25.3**	**+0.5**
TPAW	**Teton Pass**	**4.17**	**271**	*e*Pn	**Pn**	**20 36 25.8**	**+0.8**
YMR	**Madison River**	**4.27**	**287**	Pn	**Pn**	**20 36 25.7**	**-0.7**
DCID1	**Drake Creek**	**4.33**	**272**	*e*Pn	**Pn**	**20 36 25.7**	**-1.6**
AHID	**Auburn Hatcher**	**4.38**	**261**	*e*Pn	**Pn**	**20 36 28.8**	**+0.9**
RRI2	**Red Ridge**	**4.45**	**269**	*e*Pn	**Pn**	**20 36 29.0**	**+0.2**

SMCO Snowmass 4.61 197 *e*Pg **Pg** **20 36 45.8 -2.7**
QLMT Earthquake Lak 4.63 288 *e*Pn **Pn** **20 36 30.7 -0.7**
DGMT Dagmar 4.93 8 *e*Pn **Pn** **20 36 36.2 +0.8**
48nm,0.3s
BOZ Bozeman (W) 5.01 296 *e*Pn **Pn** **20 36 33.3 -3.3**
15nm,1.0s
HWUT Hardware Ranch 5.09 249 *e*Pn **Pn** **20 36 36.1 -1.5**
13nm,0.7s
EGMT Eagleton 5.44 326 *e*Pn **Pn** **20 36 40.6 -2.0**
39nm,0.9s
DAU Daniels Canyon 5.51 237 Pn **Pn** **20 36 45.6 +2.2**
DLMT Dillon 5.56 291 *e*Pn **Pn** **20 36 39.2 -5.0**
12nm,0.9s
HRY Holter Researc 5.62 306 *e*Pn **Pn** **20 36 44.7 -0.2**
MCMT McKenzie Canyo 5.62 285 *e*Pn **Pn** **20 36 47.4 +2.4**
HVU Hansel Valley 5.86 255 Pn **Pn** **20 36 48.3 +0.1**
11nm,0.8s
SRU San Rafael 6.00 223 *e*Pn **Pn** **20 36 46.4 -3.8**
7.4nm,0.3s
PV01 Paradox Valley 6.02 206 Pn **Pn** **20 36 46.7 -3.7**
TMUT Trail Mountain 6.22 228 *e*Pn **Pn** **20 36 55.2 +2.0**
ECSD EROS,Sioux Fal 6.25 86 *e*Pn **Pn** **20 36 54.1 +0.5**
9.5nm,0.4s
CBKS Cedar Bluff 6.32 137 *e*Pg **Pg** **20 37 20.3 -1.0**
81nm,1.1s
CHMT Chamberlain Mo 6.57 303 *e*Pn **Pn** **20 36 57.4 -0.6**
MSU Marysvale 7.31 228 Pn **Pn** **20 37 01.5 -6.6**
ELK Elko 7.97 252 Pn **Pn** **20 37 15.8 -1.4**
0.1nm,0.3s,baz=41,slow=15,SNR=2.8
ELK Lg 20 39 24.8
0.1nm,0.3s,baz=168,slow=12,SNR=4.1
ULM Lac du Bonnet 9.22 41 Pn **Pn** **20 37 34.0 -0.4**
3.3nm,0.3s,baz=232,slow=13,SNR=14
ULM Lg 20 40 06.0
0.5nm,0.3s,baz=191,slow=9.9,SNR=2.9
YKA Yellowknife Ar 19.71 347 P **Pn** **20 39 51.4 -0.9**
0.1nm,0.3s,baz=154,slow=11,SNR=3.1
ARCES ARCESS Array B 61.54 18 P **P** **20 45 37.5 -0.9**
2.4nm,0.8s,mb4.5,baz=331,slow=6.3,SNR=9.3
ZALV Zalesovo Beam 82.45 354 P **P** **20 47 43.3 -0.7**
0.6nm,0.3s,mb4.2,baz=4.1,slow=6.2,SNR=3.8
SONM Songino Array 84.78 339 P **P** **20 47 56.9 +0.7**
0.6nm,1.0s,mb3.8,baz=4.5,slow=9.1,SNR=3.3
KURK Kurchatov 86.01 358 P **P** **20 48 02.6 +0.4**
0.2nm,0.4s,mb3.6,baz=1.5,slow=5.3,SNR=4.9

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*NIED **30** 20:39:00,47.10N×141.80E,h8km,Mw3.5 Best double couple: M0 1.71000×10^14 NP1:φ=213.00000°,δ=49.00000°, λ=118.00000°. NP2:φ=354.00000°,δ=48.00000°,λ=62.00000°.*
*JMA **30** 20:39:44.9±0.4,47.10N×141.78E,h26km,M3.6*
*ISCJB **30** 20:39:46.9±0.6,4689N±002×14181E±005,h12km±5km, Error ellipse: s-maj=5.5km s-min=4.1km az=5.3*
*SKHL **30** 20:39:46.5±0.2,4690N×141.80E,h10km,mb4.0/5*

ISC 30 20:39:48.9±0.6,4689N±003×14186E±005,h19km±5km, n14,σ1§15/26,1D,Sakhalin Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
YSS	**Yuzh-Sakhalins**	**0.61**	**84**	↓*i* Pg	**Pg**	**20 40 00.2**	**-0.9**
YSS				AMB	AMB	20 40 02.7	
	100nm,0.3s						
YSS				AMB	AMB	20 40 02.7	
	80nm,0.3s						
YSS				*e*Sg	**Sg**	**20 40 09.4**	**+0.1**
YSS				A		20 40 11.2	
	1μm,0.3s						
YSS				A		20 40 11.2	
	1μm,0.3s						
YSS				AMS	AMS	20 40 27.0	
	700nm,8.0s						
YSS				AMS	AMS	20 40 27.0	
	600nm,8.0s						
YSS				AMS	AMS	20 40 27.0	
	500nm,8.0s						
JWK2	**Keihoku**	**1.58**	**179**	P	**Pn**	**20 40 14.9**	**-0.9**
JWK2				*e*S	**Sn**	**20 40 37.2**	**+1.5**
JRR	**Rishiri**	**1.80**	**193**	P	**Pn**	**20 40 17.7**	**-1.1**
JRR				*e*S	**Sn**	**20 40 42.4**	**+1.3**
JSE	**Soyaes**	**2.00**	**165**	P	**Pn**	**20 40 20.6**	**-1.0**
JSE				*e*S	**Sn**	**20 40 47.7**	**+1.6**
UGL	**Uglegorsk**	**2.19**	**3**	*e*Pg	**Pg**	**20 40 31.0**	**+0.1**
UGL				AMB	AMB	20 40 41.0	
	90nm,0.8s						
UGL				*e*S	**Sn**	**20 40 50.0**	**-0.8**
UGL				A		20 40 55.5	
	96nm,0.8s						
UGL				A		20 40 55.5	
	150nm,0.4s						
UGL				*e*Sg	**Sg**	**20 41 01.5**	**+2.2**
UGL				A		20 41 07.0	
	93nm,0.7s						
UGL				A		20 41 07.0	
	205nm,0.7s						
JSS	**Shosan**	**2.50**	**180**	P	**Pn**	**20 40 28.6**	**+0.2**
ASAJ	**Asahikawa**	**2.83**	**169**	P	**Pn**	**20 40 32.5**	**-0.5**
JMP	**Maruseppu**	**3.07**	**159**	P	**Pn**	**20 40 35.0**	**-1.4**
JKK2	**Kamakawa 2**	**3.08**	**168**	P	**Pn**	**20 40 36.0**	**-0.5**
JTKR	**Abashiri--Toko**	**3.26**	**153**	P	**Pn**	**20 40 37.7**	**-1.2**
JTKR				*e*S	**Sn**	**20 41 17.7**	**+0.6**
TYV	**Tymovskoe**	**4.01**	**7**	*e*Pg	**Pg**

VC1	Cotopaxi 1	0.45 262	⇓P	Pg	21 03 20.6	+0.8
CAMI	Rancho Maria	0.55 260	⇓P	Pg	21 03 22.8	+1.0
LAV3	Lava3-Reventad	0.58 35	⇓P	Pg	21 03 22.8	+0.5
CONE	Cono NE Rev Vo	0.60 32	⇓P	Pg	21 03 23.2	+0.6
PISA	Pisayambo	0.64 222	⇑P	Pg	21 03 24.1	+0.7
PISA	Pisayambo	0.64 222	⇑S	Sg	21 03 32.4	+0.6
CAYA	Cayambe	0.65 357	⇑P	Pg	21 03 23.4	-0.2
JUA2	San Juan 2	0.74 299	P	Pg	21 03 25.6	+0.3
GGP	Refugio Guagua	0.75 302	P	Pg	21 03 26.1	+0.6
GGP	Refugio Guagua	0.75 302	S	Sg	21 03 37.3	+2.0
TERV	Terraza Guagua	0.76 302	P	Pg	21 03 26.3	+0.6
YANA	Yana	0.76 307	⇑P	Pg	21 03 27.4	+1.6
PINO	Pino	0.77 303	⇓P	Pg	21 03 26.6	+0.7
RUN5	Runtun	0.95 209	P	Pg	21 03 29.5	+0.1
RUN5	Runtun	0.95 209	S	Sg	21 03 42.5	+0.7
ULBA	Ulba	0.97 207	⇑P	Pg	21 03 30.1	+0.2
ULBA	Ulba	0.97 207	⇑S	Sg	21 03 44.1	+1.6
COTA	Cotacachi	0.98 337	⇓P	Pg	21 03 30.4	+0.4
JUI6	Juive	0.98 211	P	Pg	21 03 30.1	+0.1
JUI6	Juive	0.98 211	S	Sg	21 03 43.1	+0.3
QIL2	Quilotoa	1.00 253	P	Pg	21 03 30.6	+0.3
BIL2	Estacion Bilba	1.03 212	P	Pg	21 03 32.0	+1.2
BIL2	Estacion Bilba	1.03 212	S	Sg	21 03 46.7	+2.5
PATA	Patacocha	1.03 207	P	Pg	21 03 31.1	+0.2
PATA	Patacocha	1.03 207	S	Sg	21 03 46.8	+2.4
ARRY	Arrayan	1.05 208	⇑P	Pg	21 03 31.3	+0.1
IGUA	Igualata	1.13 217	P	Pb	21 03 33.3	+0.5

*ISCJB **30** 21:03:39.0±1.2, 178S±02×178.76W±0.10, h569km±17km, mb4.2/19, Error ellipse: s-maj=27.1km s-min=10.0km az=155.7*
*NEIC **30** 21:03:39.9±0.8, 1776S×178.70W, h568km±10km, mb4.4/11, Error ellipse: s-maj=17.0km s-min=6.5km az=156.0*
*IDC **30** 21:03:41.3±3.0, 1771S×178.75W, h583km±36km, mb3.6/10, mb1 3.8/10, mb1mx3.6/17, mbtmp3.6/10, Error ellipse: s-maj=42.7km s-min=12.9km az=154.0*

ISC 30 21:03:40.0±1.1, 178S±02×178.71W±010, h567km±15km, n34, σ0♀67/33, mb4.2/19, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	Afiamalu	7.70	61	P	P	21 05 34.6	-0.8
RAR	Rarotonga	18.18	104	*e*P	P	21 07 19.6	+0.9
EIDS	Eidsvold	29.04	250	*e*P	P	21 08 55.3	0.0
	16nm,0.6s,mb4.8						
ARMA	Armidale	29.76	239	*e*P	P	21 09 02.3	+0.9
CTA	Charters Tower	33.18	260	*e*P	P	21 09 30.9	+0.2
	5.7nm,0.6s,mb4.3						
CTA	Charters Tower	33.18	260	P	P	21 09 31.0	+0.3
	6.7nm,0.6s,mb4.3,baz=86,slow=11,SNR=9.0						
CTAO	Charters Tower	33.18	260	*e*P	P	21 09 30.9	+0.1
	6.9nm,0.6s,mb4.4						
CNB	Canberra Magne	33.28	232	*e*P	P	21 09 31.7	+0.4
PMG	Port Moresby	34.15	280	*e*P	P	21 09 40.6	+1.7
	20nm,0.8s,mb4.7						
TOO	Toolangi	37.03	231	*e*P	P	21 10 02.8	+0.4
STKA	Stephens Creek	38.44	241	*e*P	P	21 10 14.5	+0.5
	9.1nm,0.6s,mb4.5						
STKA	Stephens Creek	38.44	241	P	P	21 10 14.6	+0.6
	11nm,0.5s,mb4.7,baz=91,slow=9.5,SNR=47						
WB2	Warramunga Arr	44.36	259	*e*P	P	21 11 00.2	-0.7
WRAB	Tennant Creek	44.36	259	*e*P	P	21 11 00.4	-0.5
	5.4nm,0.6s,mb4.2						
WRA	Warramunga Arr	44.37	259	P	P	21 11 00.2	-0.8
	6.9nm,0.7s,mb4.3,baz=96,slow=6.9,SNR=140						
ASAR	Alice Springs	44.55	254	P	P	21 11 02.4	+0.1
	51nm,0.6s,mb5.2,baz=88,slow=8.4,SNR=760						
ASAR				S	S	21 16 56.4	-1.0
	0.4nm,0.9s,baz=81,slow=17,SNR=4.5						
KAKA	Kakadu	47.30	269	*e*P	P	21 11 15.8	-7.5
	9.1nm,0.4s,mb4.7						
FORT	Forrest	49.80	244	*e*P	P	21 11 40.8	-0.8
	12nm,0.8s,mb4.4						
FITZ	Fitzroy Crossi	52.77	260	P	P	21 12 03.8	+0.7
MBWA	Marble Bar	57.83	256	*e*P	P	21 12 37.5	-0.8
	6.5nm,0.6s,mb4.0						
KLBR	Kellerberrin	58.63	243	*e*P	P	21 12 42.4	-1.2
	25nm,1.3s,mb4.3						
NWAO	Narrogin (SRO)	59.02	242	*e*P	P	21 12 45.7	-0.5
	3.9nm,0.8s,mb3.7						
KSM	Kuching	72.38	277	*e*P	P	21 14 10.1	+0.4
YBH	Yreka Blue Hor	78.60	39	P	P	21 14 43.4	-0.2
	2.4nm,0.6s,mb3.7,baz=124,slow=2.8,SNR=3.8						
NVAR	Mina Array Bea	79.53	44	P	P	21 14 48.4	-0.2
	1.8nm,0.7s,mb3.5,baz=226,slow=9.4,SNR=13						
WVOR	Wild Horse Val	81.49	40	*e*P	P	21 14 58.6	0.0
	4.1nm,1.1s,mb3.8						
MAW	Mawson	83.89	200	P	P	21 15 10.2	-0.1
	0.9nm,0.4s,mb3.7,baz=60,slow=14,SNR=5.2						
MAW	Mawson	83.89	200	*e*P	P	21 15 09.9	-0.4
TXAR	Lajitas Array	86.17	58	P	P	21 15 22.6	+0.6
	2.1nm,0.7s,mb3.9,baz=219,slow=6.0,SNR=22						
PDAR	Pinedale Array	87.45	44	P	P	21 15 27.1	-0.5
	1.3nm,0.6s,mb3.7,baz=215,slow=3.4,SNR=10						
CMAR	Chiang Mai Arr	88.57	290	P	P	21 15 34.5	+1.1
	0.8nm,0.9s,mb3.5,baz=127,slow=2.2,SNR=6.0						
CHTO	Chiang Mai	88.68	290	P	P	21 15 34.1	+0.1
LSA	Lhasa	98.72	298	Pdif	Pdif	21 16 19.2	+0.1
GERES	GERESS Array B	147.41	345	PKPbc	PKPbc	21 22 19.9	-0.6
	0.3nm,0.5s,baz=15,slow=4.1,SNR=5.2						

PRE 30 21:35:58.6±1.1, 2171S×3276E, h5km, ML4.2, Mozambique

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MOPA	Mopani	2.19	215	*e*P	Pn	21 36 36.2	+0.5
MOPA				*e*S	Sn	21 37 03.7	+0.5
MOPA				AML	AML	21 37 34.0	
	comp=Z,1μm,0.6s						
MSNA	Messina	2.62	256	*e*P	Pn	21 36 42.4	+0.9
MSNA				*e*S	Sn	21 37 13.6	-0.1
MSNA				AML	AML	21 37 40.1	
	comp=Z,248nm,0.5s						
POGA	Pongola	5.73	190	*e*P	Pn	21 37 24.8	+0.4
POGA				*e*S	Sn	21 38 26.5	-4.0
POGA				AML	AML	21 39 21.6	
	comp=Z,27nm,0.6s						
PRYS	Parys	7.15	222	*e*P	Pn	21 37 45.7	+1.7
PRYS				*e*S	Sn	21 39 03.2	-2.4
PRYS				AML	AML	21 40 13.2	
	comp=Z,24nm,0.6s						
SWZ	Schweizer	8.69	230	*e*P	Pn	21 38 05.7	+0.7
SWZ				*e*S	Sn	21 39 39.6	-3.7
SWZ				AML	AML	21 41 00.2	
	comp=Z,37nm,0.8s						
PKA	Prieska	12.00	227	*e*P	Pn	21 38 52.1	+1.8
PKA				*e*S	Sn	21 40 58.8	-5.9
PKA				AML	AML	21 42 54.7	
	comp=Z,12nm,0.6s						

*IDC **30** 21:38:38.8±1.0, 3221S×178.06W, h0km, mb4.1/6, mb1 4.3/8, mb1mx4.1/17, mbtmp4.1/8, ML4.0/2, MS3.6/2, Ms1 3.6/2, ms1mx2.7/27, Error ellipse: s-maj=26.6km s-min=22.1km az=120.0*
*ISCJB **30** 21:38:42.7±0.6, 3218S±005×178.3W±0.1, h33km, mb4.2/9, MS3.6/2, Error ellipse: s-maj=15.2km s-min=7.1km az=14.8*
*NEIC **30** 21:38:44.1±2.0, 3213S×178.07W, h36km±18km, mb4.5/5, Error ellipse: s-maj=16.1km s-min=13.2km az=153.0*

ISC 30 21:38:40.6±4.7, 3218S±005×1782W±01, h8km±28km, n26, σ0♀76/26, mb4.2/9, MS3.6/2, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	Raoul Island	2.93	5	Pn	Pn	21 39 27.0	-0.4
	66nm,0.3s,baz=270,slow=19,SNR=2.9						
RAO				Sn	Sn	21 40 01.9	-1.0
	78nm,0.3s,baz=90,slow=20,SNR=3.4						
RAO	Raoul Island	2.93	5	Pn	Pn	21 39 27.0	-0.4
RAO				Sn	Sn	21 40 01.9	-1.0
URZ	Urewera	7.18	211	Pn	Pn	21 40 24.3	-1.6
	0.7nm,0.3s,baz=327,slow=18,SNR=5.4						
URZ				Sn	Sn	21 41 46.4	-1.2
	12nm,0.3s,baz=106,slow=19,SNR=21						
TAU	Tasmania Unive	29.18	239	P	P	21 44 42.6	+0.3
STKA	Stephens Creek	33.95	260	P	P	21 45 24.7	+0.3
	1.5nm,0.6s,mb4.1,baz=82,slow=12,SNR=3.4						
STKA				LR	LR	21 57 06.4	
	comp=Z,153nm,18.5s,MS3.8,baz=196,slow=32						

CTA	Charters Tower	33.96	282	P	P	21 45 26.9	+2.3
	4.6nm,0.7s,mb4.5,baz=117,slow=11,SNR=6.3						
CTA				LR	LR	21 58 32.2	
	comp=Z,67nm,18.6s,MS3.4,baz=229,slow=35						
CTAO	Charters Tower	33.96	282	*e*P	P	21 45 26.1	+1.5
	4.0nm,0.5s,mb4.6						
ASAR	Alice Springs	42.87	269	P	P	21 46 40.0	+0.4
	1.4nm,0.6s,mb3.9,baz=105,slow=7.6,SNR=19						
WB2	Warramunga Arr	44.01	274	*e*P	P	21 46 49.2	+0.4
WRAB	Tennant Creek	44.02	274	*e*P	P	21 46 49.3	+0.5
	2.7nm,0.5s,mb4.2						
WRA	Warramunga Arr	44.02	274	P	P	21 46 49.1	+0.2
	1.6nm,0.4s,mb4.2,baz=113,slow=7.9,SNR=69						
CASY	Casey	53.49	208	*e*P	P	21 48 01.9	+0.9
	3.8nm,0.8s,mb4.4						
NWAO	Narrogin (SRO)	53.63	251	P	P	21 48 02.6	0.0
MBWA	Marble Bar	55.88	265	*e*P	P	21 48 18.5	-0.5
QSPA	South Pole Qui	57.94	180	P	P	21 48 33.2	+0.4
	2.5nm,0.8s,mb4.3,baz=58,slow=4.1,SNR=5.2						
QSPA	South Pole Qui	57.94	180	*e*P	P	21 48 32.9	+0.1
	3.4nm,0.8s,mb4.4						
SNAA	Sanae	76.39	178	*e*	P	21 50 30.1	+0.1
SNAA				*e*		21 50 40.9	
SNAA				*e*		21 50 45.9	
SNAA				*e*		21 50 50.9	
SNAA	Sanae	76.39	178	*e*P	P	21 50 29.8	-0.2
	4.5nm,1.0s,mb4.3						
VNA3	Neumayer Olymp	76.55	176	*e*	P	21 50 30.8	-0.1
VNA3				*e*		21 50 42.4	
VNA3				*e*		21 50 48.1	
VNA2	Neumayer--Watz	76.98	177	*e*	P	21 50 33.7	+0.4
	baz=176,slow=5.3						
VNA2				*e*		21 50 45.0	
VNA2				*e*		21 50 50.8	
VNA1	Neumayer--Stat	77.21	177	*e*	P	21 50 35.2	+0.6
VNA1				*e*		21 50 46.7	
NVAR	Mina Array Bea	89.66	43	P	P	21 51 39.1	+0.2
	0.3nm,0.4s,mb4.0,baz=236,slow=7.2,SNR=3.2						
CHTO	Chiang Mai	94.02	290	P	P	21 51 58.2	-1.3
KURK	Kurchatov	122.14	313	PKP	PKPdf	21 57 33.7	-1.7
	0.2nm,0.5s,baz=71,slow=3.1,SNR=2.9						
BVAR	Borovoye Array	127.55	315	PKP	PKPdf	21 57 44.5	-1.2
	0.7nm,0.8s,baz=107,slow=5.0,SNR=4.7						
TORD	Torodi Ar. Bea	161.06	180	PKPab	PKPab	21 59 24.1	-0.9
	0.9nm,1.0s,baz=176,slow=2.8,SNR=5.4						

*ISCJB **30** 21:52:12.6±0.5, 3121S±003×68.62W±005, h116km±5km, mb3.7/3, Error ellipse: s-maj=7.4km s-min=4.6km az=1.4*
*NEIC **30** 21:52:13.0, 3124S×68.62W, h106km, mb3.8/1, MD3.7(SJA), MD3.8(GUC), After SJA.*
NEIC Felt [III] at San Juan.
*IDC **30** 21:52:13.3±1.1, 3135S×68.59W, h107km±9km, mb3.4/2, mb1 3.5/4, mb1mx3.3/15, mbtmp3.3/4, Error ellipse: s-maj=39.6km s-min=30.3km az=109.0*
*GUC **30** 21:52:13.5±0.6, 3123S×68.92W, h157km±10km, MD3.8, ML3.7*

ISC 30 21:52:13.7±0.5, 3120S±003×6862W±005, h108km±6km, n40, σ0♀88/64, mb3.7/3, 6C-9D, San Juan Province

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CFAA	Coronel Fontan	0.52	141	P	Pn	21 52 30.1	-0.4
	31nm,0.3s,baz=319,slow=5.9,SNR=1537						
CFAA				S	Sn	21 52 43.0	-0.2
	38nm,0.3s,baz=106,slow=19,SNR=52						
CFAA	Coronel Fontan	0.52	141	P	Pn	21 52 30.1	-0.4
CFAA				S	Sn	21 52 43.0	-0.2
TLL	Tololo Astrono	2.14	298	⇑*i*P	Pn	21 52 49.5	+1.1
TLL				*i* S	Sn	21 53 16.6	+1.6
TLL				AML	AML	21 53 21.4	
	comp=E,250nm,0.2s						
TLL	Tololo Astrono	2.14	298	⇑*i*P	Pn	21 52 49.5	+1.1
TLL				*i* S	Sn	21 53 16.6	+1.6
JACH	Jahuel	2.24	228	*i* P	Pn	21 52 50.1	+0.5
JACH				*i* S	Sn	21 53 18.0	+0.8
PTCH	Petorca	2.24	241	*i* P	Pn	21 52 49.4	-0.2
PTCH				*i* S	Sn	21 53 16.9	-0.3
PTCH				AML	AML	21 53 19.3	
	comp=E,603nm,0.3s						
PTCH	Petorca	2.24	241	*i* P	Pn	21 52 49.4	-0.2
PTCH				*i* S	Sn	21 53 16.9	-0.3
OVCH	Ovalle	2.30	284	*i* P	Pn	21 52 50.2	-0.2
OVCH				*i* S	Sn	21 53 18.0	-0.5
CHNG	Los Chungos	2.55	254	⇓*i*P	Pn	21 52 52.8	-0.9
CHNG				*i* S	Sn	21 53 22.8	-1.7
CHNG				AML	AML	21 53 33.3	
	comp=E,154nm,0.4s						
FCH	Farellones	2.55	213	⇑*i*P	Pn	21 52 54.6	+0.9
FCH				*i* S	Sn	21 53 26.5	+2.0
FCH				AML	AML	21 53 31.6	
	comp=E,224nm,0.4s						
LSCH	La Serena	2.60	299	*i* P	Pn	21 52 54.4	0.0
LSCH				*i* S	Sn	21 53 24.9	-0.8
LSCH				AML	AML	21 53 26.9	
	comp=N,115nm,0.1s						
LSCH	La Serena	2.60	299	*i* P	Pn	21 52 54.4	0.0
LSCH				*i* S	Sn	21 53 24.9	-0.8
PEL	Peldehue	2.62	222	*i* P	Pn	21 52 54.3	-0.2
PEL				*i* S	Sn	21 53 25.6	-0.4
PEL				AML	AML	21 53 28.3	
	comp=E,807nm,0.3s						
ROCH	El Roble	2.69	228	*i* P	Pn	21 52 55.7	+0.1
ROCH				*i* S	Sn	21 53 27.7	-0.1
CLCH	Cerro Calan	2.73	216	⇓*i*P	Pn	21 52 56.6	+0.5
CLCH				*i* S	Sn	21 53 28.6	0.0
CLCH				AML	AML	21 53 31.8	
	comp=E,452nm,0.3s						
LCO	Las Campanas	2.83	320	⇑*i*P	Pn	21 52 58.3	+1.0
LCO				*i* S	Sn	21 53 32.8	+1.8
LCO	Las Campanas	2.83	320	*e*Pn	Pn	21 52 58.1	+0.7
LCO				*e*Sn	Sn	21 53 27.5	-3.5
PCH	Pirque	2.90	213	⇓*i*P	Pn	21 52 58.9	+0.6
PCH				*i* S	Sn	21 53 33.0	+0.3
ANTU	Antumapu	2.92	215	*i* P	Pn	21 52 58.8	+0.3
ANTU				*i* S	Sn	21 53 33.0	-0.1
ANTU				AML	AML	21 53 37.0	
	comp=E,275nm,0.2s						
ANTU	Antumapu	2.92	215	*i* P	Pn	21 52 58.8	+0.3
ANTU				*i* S	Sn	21 53 33.0	-0.1
RCDM	Rinconada Maip	2.94	218	⇑*i*P	Pn	21 52 58.9	+0.1
RCDM				*i* S	Sn	21 53 33.4	-0.3
RCDM				AML	AML	21 53 38.1	
	comp=E,254nm,0.2s						
RCDM	Rinconada Maip	2.94	218	⇑*i*P	Pn	21 52 58.9	+0.1
RCDM				*i* S	Sn	21 53 33.4	-0.3
LMEL	Las Melosas	2.96	206	⇓*i*P	Pn	21 52 59.9	+0.7
LMEL				*i* S	Sn	21 53 35.1	+0.9
LMEL				AML	AML	21 53 46.5	
	comp=N,138nm,0.1s						
LMEL	Las Melosas	2.96	206	⇓*i*P	Pn	21 52 59.9	+0.7
LMEL				*i* S	Sn	21 53 35.1	+0.9
TACH	Talagante	3.14	218	⇓*i*P	Pn	21 53 00.6	-0.8
TACH				*i* S	Sn	21 53 37.1	-1.2
CACH	El Canelo	3.36	209	⇓*i*P	Pn	21 53 04.9	+0.6
CACH				*i* S	Sn	21 53 44.4	+0.9
CICH	Cipreses	3.46	206	⇓*i*P	Pn	21 53 06.3	+0.5
CICH				*i* S	Sn	21 53 46.6	+0.5
SFDO	San Fernando	3.96	210	⇓*i*P	Pn	21 53 11.0	-1.4
SFDO				*i* S	Sn	21 53 55.9	-2.0
LVC	Limon Verde	8.55	358	*e*Pn	Pn	21 54 13.2	-1.5
PLCA	Paso Flores	9.64	189	P	Pn	21 54 27.3	-2.1
	comp=N,0.2nm,0.3s,baz=327,slow=8.9,SNR=5.3						
PLCA	Paso Flores	9.64	189	*e*Pn	Pn	21 54 27.3	-2.1
SIV	San Ignacio	16.63	26	P	Pn	21 56 00.3	-0.1
	comp=N,0.2nm,0.3s,baz=204,slow=11,SNR=5.9						
OTAV	Otavalo	32.62	342	*e*P	P	21 58 34.8	-0.5
	comp=N,0.7nm,0.4s,mb3.8						
PAYG	Puerto Ayora	36.64	322	P	P	21 59 09.8	-0.1
TXAR	Lajitas Array	68.81	327	P	P	22 03 07.4	+1.1
	comp=N,0.4nm,0.6s,mb3.4,baz=155,slow=6.9,SNR=5.5						
TORD	Torodi Ar. Bea	80.52	68	P	P	22 04 14.5	+0.3
	comp=N,1.2nm,0.8s,mb3.8,baz=279,slow=5.1,SNR=6.1						
WRA	Warramunga Arr	124.58	206	PKP	PKPdf	22 10 59.5	-1.4
	comp=N,0.4nm,1.0s,baz=157,slow=1.7,SNR=5.3						
ZALV	Zalesovo Beam	150.32	32	PKPbc	PKPbc	22 11 51.6	-0.1
	comp=N,1.2nm,0.4s,baz=310,slow=4.3,SNR=6.7						
MKAR	Makanchi Array	152.75	47	PKPbc	PKPbc	22 11 57.3	-0.2
	comp=N,0.3nm,0.6s,baz=304,slow=2.1,SNR=4.4						
MKAR				PKPab	PKPab	22 12 09.1	+0.3
	comp=N,0.4nm,0.6s,baz=306,slow=2.7,SNR=3.7						
MKAR	Makanchi Array	152.75	47	PKPbc	PKPbc	22 11 57.3	-0.2
MKAR				PKPab	PKPab	22 12 09.1	+0.3

*IDC **30** 22:10:43.3±2.5, 3306S×179.95W, h0km, mb4.1/3, mb1 4.2/4, mb1mx3.9/16, mbtmp4.1/4, ML3.8/1, Error ellipse: s-maj=54.7km s-min=29.6km az=57.0*
*ISCJB **30** 22:10:46.9±1.6, 3335S±007×179.9E±0.1, h33km±15km, mb4.3/8, Error ellipse: s-maj=18.0km s-min=10.5km az=16.8*
*NEIC **30** 22:10:49.4±1.1, 3331S×179.89E, h38km±12km, mb4.5/5, Error ellipse: s-maj=13.3km s-min=8.7km az=102.0*

ISC 30 22:10:49.3±4.0, 3331S±007×1798E±01, h34km±30km, n23, σ1♀06/23, mb4.3/8, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	Raoul Island	4.49	26	Pn	Pn	22 11 54.1	-0.8
URZ	Urewera	5.40	203	Pn	Pn	22 12 08.1	+0.6
	2.6nm,0.3s,baz=335,slow=19,SNR=12						
URZ				Sn	Sn	22 13 18.6	+10
	6.0nm,0.3s,baz=73,slow=20,SNR=12						
RPZ	Rata Peaks	12.44	211	Sn	Sn	22 16 00.4	-0.7
	0.5nm,0.3s,baz=37,slow=20,SNR=2.5						
AFI	Afiamalu	20.78	24	P	P	22 15 27.9	+0.4
HNR	Honiara	29.99	318	*e*P	P	22 16 54.4	-0.4
	28nm,0.4s,mb5.3						
CTAO	Charters Tower	32.59	285	*e*P	P	22 17 17.9	+0.2
	2.2nm,0.5s,mb4.3						
ASAR	Alice Springs	41.20	271	P	P	22 18 31.3	+0.5
	1.2nm,0.6s,mb3.7,baz=109,slow=7.6,SNR=24						
WB2	Warramunga Arr	42.44	277	*e*P	P	22 18 41.5	+0.5
WRA	Warramunga Arr	42.45	277	P	P	22 18 41.6	+0.4
	1.8nm,0.5s,mb4.0,baz=116,slow=7.7,SNR=71						
FITZ	Fitzroy Crossi	50.58	273	P	P	22 19 46.4	+1.6
NWAO	Narrogin (SRO)	51.68	252	*e*P	P	22 19 50.9	-2.1
CASY	Casey	51.70	209	*e*P	P	22 19 51.4	-1.3
	2.5nm,0.7s,mb4.2						
QSPA	South Pole Qui	56.81	180	P	P	22 20 30.7	+1.1
	1.7nm,0.7s,mb4.2,baz=23,slow=1.0,SNR=5.6						
QSPA	South Pole Qui	56.81	180	P	P	22 20 29.0	-0.6
MAW	Mawson	68.93	201	P	P	22 21 50.1	-0.3
PMSA	Palmer Station	70.39	156	P	P	22 21 59.2	-0.1
	14nm,0.8s,mb4.9						
SNAA	Sanae	75.30	179	*e*	P	22 22 29.6	+1.2
SNAA	Sanae	75.30	179	*e*P	P	22 22 29.2	+0.8
	0.3nm,0.4s,mb3.6						
VNA3	Neumayer Olymp	75.53	177	*e*	P	22 22 25.9	-3.8
VNA3				*e*		22 22 30.8	
VNA3				*e*		22 22 42.3	
VNA2	Neumayer--Watz	75.93	178	*e*	P	22 22 28.8	-3.3
	baz=178,slow=2.4						
VNA2				*e*		22 22 33.8	
VNA2				*e*		22 22 46.6	
VNA1	Neumayer--Stat	76.18	177	*e*	P	22 22 35.5	+2.1
MAJO	Matsushiro	79.61	327	P	P	22 22 52.0	-0.9
TORD	Torodi Ar. Bea	159.86	185	PKPab	PKPab	22 31 25.1	+0.9
	0.4nm,0.8s,baz=200,slow=4.2,SNR=3.4						

*IDC **30** 22:35:28.6±4.8, 2296N×93.27E, h0km, mb3.7/4, mb1 3.9/4, mb1mx3.5/22, mbtmp3.7/4, Error ellipse: s-maj=368.0km s-min=22.8km az=60.0*
*ISCJB **30** 22:35:37.9±2.2, 235N±02×940E±02, h80km±20km, mb3.5/4, Error ellipse: s-maj=36.7km s-min=19.0km az=34.1*

ISC 30 22:35:39.2±2.2, 235N±02×940E±02, h72km±20km, n6, σ1♀35/8, mb3.5/4, Myanmar-India border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IMP	Imphal	1.25	355	*e*P	Pn	22 36 01.0	0.0
IMP				*e*S	Sn	22 36 17.0	-0.2
SHL	Shillong	2.82	316	*i* PN	Pn	22 36 24.0	+2.0
SHL				*e*SN	Sn	22 36 53.5	-1.4
MKAR	Makanchi Array	25.06	341	P	P	22 40 57.7	+1.0
	0.9nm,0.6s,mb3.4,baz=154,slow=9.3,SNR=6.8						
KURK	Kurchatov	29.66	340	P	P	22 41 37.8	-0.1
	0.2nm,0.3s,mb3.2,baz=138,slow=8.6,SNR=2.5						
WRA	Warramunga Arr	58.40	134	P	P	22 45 26.7	-0.8
	0.3nm,0.3s,mb3.8,baz=320,slow=7.5,SNR=21						
ASAR	Alice Springs	60.83	139	P	P	22 45 44.0	-0.2
	0.3nm,0.4s,mb3.7,baz=313,slow=7.0,SNR=3.9						

*ISCJB **30** 22:36:14.9±0.5, 4016N±005×1396E±0.1, h213km±8km, mb3.4/4, Error ellipse: s-maj=17.5km s-min=7.6km az=12.7*
*IDC **30** 22:36:15.6±1.5, 4021N×139.53E, h203km±20km, mb3.2/4, mb1 3.2/6, mb1mx3.0/22, mbtmp3.1/6, MS3.1/1, Ms1 3.1/1, ms1mx2.1/18, Error ellipse: s-maj=29.3km s-min=15.0km az=89.0*
*JMA **30** 22:36:16.0±0.1, 4015N×139.42E, h202km±1km, M3.1*

ISC 30 22:36:15.9±0.5, 4017N±005×1395E±01, h206km±8km, n20, σ0♀50/25, mb3.4/4, Near west coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JIW	Iwasaki	0.57	42	P	Pn	22 36 44.0	+0.2
JYW	Yuwa	0.83	139	P	Pn	22 36 45.6	+0.4
JAH	Hinai	0.87	88	P	Pn	22 36 45.6	+0.3
JAH				S	Sn	22 37 08.4	+0.2
JYK	Kaneyama	1.42	152	P	Pn	22 36 49.2	-0.

JTKR	**Abashiri--Toko**	**2.99 320**	P	**Pn**	**22 48 34.9**	**+0.6**
JTKR			*e*S	**Sn**	**22 49 09.8**	**+0.7**
JKK2	**Kamakawa 2**	**3.55 309**	*e*S	**Sn**	**22 49 23.1**	**+0.3**
ASAJ	**Asahikawa**	**3.78 311**	Pn	**Pn**	**22 48 46.3**	**+1.2**
	1.3nm,0.3s,baz=134,slow=14,SNR=6.3					
ASAJ			Sn	**Sn**	**22 49 30.4**	**+1.8**
	1.9nm,0.3s,baz=128,slow=19,SNR=6.8					
JEW	**Eniwo**	**3.96 288**	*e*S	**Sn**	**22 49 33.8**	**+0.8**
JANG	**Nango**	**4.04 253**	P	**Pn**	**22 48 46.6**	**-2.1**
JANG			*e*S	**Sn**	**22 49 29.7**	**-5.2**
SONM	**Songino Array**	**28.92 296**	P	**P**	**22 53 47.6**	**+2.5**
	0.6nm,0.9s,mb3.3,baz=90,slow=7.8,SNR=3.4					
MKAR	**Makanchi Array**	**45.18 299**	P	**P**	**22 56 02.0**	**-0.7**
	0.2nm,0.5s,mb3.2,baz=76,slow=8.0,SNR=3.5					
WRA	**Warramunga Arr**	**62.37 193**	P	**P**	**22 58 07.4**	**-1.1**
	0.4nm,0.8s,mb3.6,baz=17,slow=7.1,SNR=5.7					
ASAR	**Alice Springs**	**66.08 193**	P	**P**	**22 58 32.6**	**-0.3**
	0.2nm,0.5s,mb3.4,baz=6.5,slow=5.3,SNR=4.2					
TXAR	**Lajitas Array**	**84.16 56**	P	**P**	**23 00 18.8**	**+1.6**
	0.2nm,0.6s,mb3.4,baz=272,slow=2.3,SNR=3.6					

MAN 30 22:59:55,1151N×12448E,h22km,mb4.1,ML2.9,MS2.7, 1C-2D,Leyte

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OCLP	**Ormoc**	**0.48**	**165**	*e*P	Pb	23 00 05.7	+1.0
OCLP				*e*S	Sb	23 00 14.7	+3.3
PLP	**Palo**	**0.60**	**125**↑	*e*P	Pb	23 00 08.1	+1.3
PLP				*i* S	Sb	23 00 18.3	+3.5
CNP	**Catarman**	**1.01**	**10**	*e*P	Pb	23 00 13.4	-0.4
LLP	**Lapu-Lapu**	**1.29**	**203**↓	*e*P	Pn	23 00 17.8	+0.1
LLP				*e*S	Sn	23 00 35.7	+1.3
MSLP	**Maasin**	**1.42**	**165**	*e*P	Pn	23 00 22.4	+2.9
RCP	**Roxas**	**1.70**	**272**↓	*e*P	Pn	23 00 23.8	+0.4
RCP				*e*S	Sn	23 00 45.3	+0.8
TBP	**Tagbilaran**	**1.91**	**199**	*e*P	Pn	23 00 27.0	+0.7
GUIM	**Jordan**	**2.06**	**245**	*e*P	Pn	23 00 30.5	+2.3
GUIM				*e*S	Sn	23 00 56.0	+2.8
PVCP	**Virac**	**2.10**	**351**	*e*P	Pn	23 00 30.3	+1.5
OTRP	**Odiongan**	**2.55**	**290**	*e*P	Pn	23 00 35.5	+0.5
BATP	**Bataraza**	**7.11**	**248**	*e*P	Pn	23 01 30.9	-6.9

*ISCJB **30** 23:00:39.0±0.4, 4598N±005×14367E±009, h340km±4km, mb3.4/7, Error ellipse: s-maj=10.5km s-min=8.6km az=11.9*
*IDC **30** 23:00:40.0±1.5, 4615N×14359E, h330km±16km, mb2.9/7, mb1 3.3/9, mb1mx3.1/21, mbtmp3.0/9, Error ellipse: s-maj=23.5km s-min=17.4km az=120.0*
*JMA **30** 23:00:39.9±0.4, 4591N×14358E, h343km±3km, M3.4*
*NEIC **30** 23:00:39.9±0.5, 4612N×14357E, h334km±6km, mb4.6/1, Error ellipse: s-maj=10.9km s-min=7.4km az=110.0*
*MOS **30** 23:00:39.0±0.8, 4613N×14355E, h339km, mb4.2/2, Error ellipse: s-maj=29.9km s-min=11.6km az=78.3*

ISC 30 23:00:39.8±0.4, 4598N±006×14370E±010, h333km±4km, n43, σ1§07/50, mb3.4/7, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YSS	**Yuzh-Sakhalins**	**1.17**	**327**	*e*PN	**Pn**	**23 01 24.7**	**+0.3**
YSS				*e*S	**S**	**23 01 54.4**	**-5.7**
JSE	**Soyaes**	**1.28**	**218**	P	**Pn**	**23 01 25.7**	**+0.6**
JWK2	**Keihoku**	**1.42**	**243**	P	**Pn**	**23 01 26.6**	**+0.8**
JWK2				*e*S	**S**	**23 02 03.1**	**+0.5**
JRR	**Rishiri**	**1.87**	**244**	P	**Pn**	**23 01 29.3**	**+0.7**
JTKR	**Abashiri--Toko**	**2.01**	**176**	P	**Pn**	**23 01 30.9**	**+1.2**
ASAJ	**Asahikawa**	**2.02**	**203**	P	**Pn**	**23 01 30.9**	**+1.2**
	14nm,0.3s,baz=24,slow=5.5,SNR=75						
ASAJ	**Asahikawa**	**2.02**	**203**	PN	**Pn**	**23 01 30.9**	**+1.2**
ASAJ				pmax	pmax		
	comp=Z,14nm,0.3s						
JKK2	**Kamakawa 2**	**2.21**	**198**	P	**Pn**	**23 01 32.3**	**+1.1**
JRA	**Rausu**	**2.28**	**153**	P	**Pn**	**23 01 33.1**	**+1.4**
JAR	**Ashorobuto**	**2.68**	**179**	P	**Pn**	**23 01 36.2**	**+1.1**
NEM2	**Nemuro 2**	**2.99**	**150**	P	**Pn**	**23 01 36.8**	**-1.1**
NEM2				*e*S	**S**	**23 02 22.6**	**-1.8**
JAK	**Akkeshi**	**3.06**	**166**	*e*S	**S**	**23 02 25.0**	**-0.7**
JCH	**Churui**	**3.37**	**184**	P	**Pn**	**23 01 41.0**	**-0.5**
JCH				*e*S	**S**	**23 02 28.4**	**-2.6**
JSK	**Shakotan**	**3.49**	**222**	P	**Pn**	**23 01 43.4**	**+0.8**
JEW	**Eniwo**	**3.52**	**208**	P	**Pn**	**23 01 43.4**	**+0.4**
JNBK	**Urakawa-nobuka**	**3.76**	**191**	P	**Pn**	**23 01 45.0**	**-0.4**
ERM	**Erimo**	**3.98**	**186**	*e*PN	**Pn**	**23 01 48.6**	**+0.9**
JKB	**Kayabe**	**4.52**	**206**	P	**Pn**	**23 01 52.8**	**-0.6**
JKB				*e*S	**S**	**23 02 50.4**	**-2.3**
JOSM	**Okushiri--Mats**	**4.94**	**220**	P	**Pn**	**23 01 57.7**	**-0.3**
JOT	**Ohata**	**4.98**	**204**	P	**Pn**	**23 01 57.5**	**-1.0**
JOT				*e*S	**S**	**23 02 57.9**	**-4.0**
JANG	**Nango**	**5.82**	**197**	P	**Pn**	**23 02 06.4**	**-1.7**
JANG				*e*S	**S**	**23 03 14.2**	**-5.2**
MDJ	**Mudanjiang**	**10.03**	**267**	Pn	**Pn**	**23 02 57.0**	**-1.1**
MAJO	**Matsushiro**	**10.29**	**206**	*e*PN	**Pn**	**23 03 01.7**	**+0.4**
MAT	**Matsushiro**	**10.29**	**206**	P	**Pn**	**23 03 01.7**	**+0.4**
MJAR	**Matsushiro Arr**	**10.29**	**206**	P	**Pn**	**23 03 02.4**	**+1.1**
	comp=Z,1.1nm,0.3s,baz=24,slow=11,SNR=9.3						
MJAR	**Matsushiro Arr**	**10.29**	**206**	PN	**Pn**	**23 03 02.4**	**+1.1**
MJAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
SONM	**Songino Array**	**25.39**	**288**	P	**P**	**23 05 37.2**	**-0.4**
	comp=Z,0.3nm,0.6s,mb2.7,baz=80,slow=9.0,SNR=3.3						
GUMO	**Guam**	**32.30**	**178**	P	**P**	**23 06 40.1**	**+1.5**
MCK	**McKinley**	**40.42**	**39**	P	**P**	**23 07 46.5**	**+0.3**
MKAR	**Makanchi Array**	**41.40**	**294**	P	**P**	**23 07 53.4**	**-0.9**
	comp=Z,0.2nm,0.5s,baz=72,slow=10,SNR=4.2						
CHTO	**Chiang Mai**	**45.66**	**249**	P	**P**	**23 08 28.7**	**+0.4**
INK	**Inuvik**	**45.74**	**31**	*e*P	**P**	**23 08 27.6**	**-0.7**
	comp=Z,46nm,0.4s						
RES	**Resolute Bay**	**53.53**	**16**	*e*P	**P**	**23 09 24.8**	**-1.6**
	comp=Z,152nm,0.8s						
YKA	**Yellowknife Ar**	**55.31**	**34**	P	**P**	**23 09 38.6**	**-0.6**
	comp=Z,1.1nm,0.6s,mb3.4,baz=307,slow=7.1,SNR=8.4						
SUMG	**Summit**	**61.74**	**1**	*e*P	**P**	**23 10 21.1**	**-1.9**
WRA	**Warramunga Arr**	**66.15**	**190**	P	**P**	**23 10 52.9**	**+0.7**
	comp=Z,0.6nm,0.9s,mb3.3,baz=5.4,slow=6.7,SNR=5.1						
SUW	**Suwalki**	**68.31**	**327**	*e*P	**P**	**23 11 04.4**	**-0.9**
SUW				pmax	pmax		
	comp=Z,9.0nm,0.8s,mb4.5						
SUW	**Suwalki**	**68.31**	**327**	*e*P	**P**	**23 11 04.4**	**-0.9**
	comp=Z,9.4nm,0.8s,mb4.6						
NVAR	**Mina Array Bea**	**68.44**	**57**	P	**P**	**23 11 06.5**	**+0.1**
	comp=Z,0.3nm,0.6s,mb3.2,baz=305,slow=6.5,SNR=2.8						
ASAR	**Alice Springs**	**69.88**	**190**	P	**P**	**23 11 17.3**	**+2.2**
	comp=Z,1.0nm,0.6s,mb3.7,baz=3.4,slow=6.5,SNR=7.4						
ASAR	**Alice Springs**	**69.88**	**190**	P	**P**	**23 11 17.3**	**+2.2**
ASAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
PDAR	**Pinedale Array**	**70.31**	**49**	P	**P**	**23 11 18.7**	**+1.0**
	comp=Z,0.4nm,0.7s,mb3.3,baz=337,slow=2.1,SNR=2.9						
STKA	**Stephens Creek**	**77.51**	**182**	P	**P**	**23 11 59.5**	**+0.5**

*NEIC **30** 23:03:38.3±1.3, 1059N×12588E, h46km±12km, mb4.4/3, Error ellipse: s-maj=16.0km s-min=7.0km az=75.0*
*ISCJB **30** 23:03:40.9±0.7, 1059N±003×12582E±007, h89km±5km, mb4.0/11, Error ellipse: s-maj=11.5km s-min=5.5km az=172.3*
*IDC **30** 23:03:40.4±10.0, 1062N×12595E, h64km±96km, mb3.7/9, mb1 3.9/9, mb1mx3.7/19, mbtmp3.7/9, Error ellipse: s-maj=64.2km s-min=15.2km az=63.0*
*MAN **30** 23:03:42, 1061N×12572E, h70km, mb4.7, ML3.5, MS3.5*

ISC 30 23:03:41.8±0.7, 1058N±003×12583E±007, h79km±6km, n34, σ1§12/41, mb4.0/11, 3D, Leyte

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SCPH	**Surigao**	**0.86**	**203**	*e*P	**Pn**	**23 03 58.0**	**-1.3**
SCPH				*i* S	**Sn**	**23 04 10.0**	**-2.2**
PLP	**Palo**	**1.02**	**305**↓	*e*P	**Pn**	**23 04 00.9**	**-0.1**
PLP				*i* S	**Sn**	**23 04 15.2**	**-0.2**
MSLP	**Maasin**	**1.06**	**245**	*e*P	**Pn**	**23 04 01.5**	**0.0**
MSLP				*e*S	**Sn**	**23 04 16.3**	**+0.1**
BESP	**Borongan**	**1.08**	**339**	*e*P	**Pn**	**23 04 02.4**	**+0.6**
OCLP	**Ormoc**	**1.29**	**291**	*e*P	**Pn**	**23 04 05.1**	**+0.7**
BUTP	**Butuan**	**1.62**	**187**	*e*P	**Pn**	**23 04 09.6**	**+0.9**
LLP	**Lapu-Lapu**	**1.86**	**262**	*e*P	**Pn**	**23 04 11.3**	**-0.5**
LLP				*e*S	**Sn**	**23 04 33.3**	**-1.3**
TBP	**Tagbilaran**	**2.13**	**246**	*e*P	**Pn**	**23 04 16.0**	**+0.5**
TBP				*e*S	**Sn**	**23 04 39.4**	**-1.8**
CNP	**Catarman**	**2.23**	**329**	*e*P	**Pn**	**23 04 16.4**	**-0.4**
CNP				*e*S	**Sn**	**23 04 45.8**	**+2.2**
CGP	**Cagayan de Oro**	**2.40**	**208**↓	*e*P	**Pn**	**23 04 19.7**	**+0.7**
CGP				*i* S	**Sn**	**23 04 48.6**	**+1.2**
BUKP	**Musuan**	**2.79**	**196**	*e*P	**Pn**	**23 04 26.0**	**+1.6**
BUKP				*e*S	**Sn**	**23 05 00.0**	**+2.9**
RCP	**Roxas**	**3.18**	**288**↓	*e*P	**Pn**	**23 04 30.8**	**+1.1**
GUIM	**Jordan**	**3.19**	**271**	*e*P	**Pn**	**23 04 30.4**	**+0.7**
KKM	**Kota Kinabalu**	**10.53**	**245**	*e*Pn	**Pn**	**23 06 06.6**	**-3.4**
NACB	**Ninganchiao**	**14.11**	**344**	P	**Pn**	**23 06 55.9**	**-2.1**
YHNB	**Yeheng**	**14.64**	**344**	*e*Pn	**Pn**	**23 07 03.2**	**-1.7**
CMAR	**Chiang Mai Arr**	**27.16**	**290**	P	**P**	**23 09 19.1**	**+1.1**
	1.0nm,0.6s,mb3.6,baz=95,slow=7.3,SNR=8.2						
WRAB	**Tennant Creek**	**31.46**	**165**	*e*P	**P**	**23 09 55.6**	**-0.4**
	3.6nm,1.0s,mb4.1						
WRA	**Warramunga Arr**	**31.47**	**165**	P	**P**	**23 09 55.1**	**-0.9**
	0.7nm,0.5s,mb3.7,baz=347,slow=9.0,SNR=6.5						
WB2	**Warramunga Arr**	**31.47**	**165**	*e*P	**P**	**23 09 55.9**	**-0.2**
ASAR	**Alice Springs**	**34.94**	**167**	P	**P**	**23 10 26.5**	**+0.2**
	0.9nm,0.5s,mb3.9,baz=349,slow=7.0,SNR=19						
SONM	**Songino Array**	**40.58**	**340**	P	**P**	**23 11 14.7**	**+1.2**
	0.2nm,0.6s,mb3.1,baz=148,slow=8.5,SNR=2.5						
SONM				PcP	PcP	23 13 14.7	+0.4
	0.4nm,0.7s,baz=171,slow=2.0,SNR=3.3						
NWAO	**Narrogin (SRO)**	**44.04**	**190**	P	**P**	**23 11 38.9**	**-2.9**
STKA	**Stephens Creek**	**44.83**	**161**	P	**P**	**23 11 49.0**	**+0.9**
	4.0nm,0.9s,mb4.1,baz=329,slow=10.0,SNR=5.9						
MKAR	**Makanchi Array**	**51.52**	**323**	P	**P**	**23 12 39.9**	**+0.4**
	2.2nm,0.7s,mb4.3,baz=114,slow=8.3,SNR=16						
MKAR				PcP	PcP	23 13 53.4	+0.7
	0.8nm,0.8s,baz=108,slow=3.4,SNR=3.4						
ZALV	**Zalesovo Beam**	**54.15**	**331**	P	**P**	**23 12 58.2**	**-0.5**
	0.4nm,0.4s,mb3.8,baz=119,slow=8.6,SNR=5.9						
UCH	**Uchtor**	**54.65**	**315**	*e*P	**P**	**23 13 03.7**	**+1.1**
EKS2	**Erkin-Say**	**55.31**	**315**	*e*P	**P**	**23 13 07.9**	**+0.5**
KURK	**Kurchatov**	**55.57**	**326**	P	**P**	**23 13 09.1**	**+0.1**
	2.4nm,0.8s,mb4.3,baz=126,slow=7.0,SNR=6.5						
KURK	**Kurchatov**	**55.57**	**326**	*e*P	**P**	**23 13 09.2**	**+0.1**
	2.6nm,0.6s,mb4.4						
ARU	**Arti**	**68.73**	**327**	*e*P	**P**	**23 14 36.5**	**-0.5**
	2.7nm,0.6s,mb4.2						
ARCES	**ARCESS Array B**	**83.75**	**340**	P	**P**	**23 16 01.6**	**-0.2**
	6.9nm,1.1s,mb4.4,baz=54,slow=6.2,SNR=4.9						
SIT	**Sitka**	**85.97**	**35**	P	**P**	**23 16 12.1**	**-1.2**
WALA	**Waterton Lakes**	**100.86**	**35**	*e*Pdif	Pdif	23 17 21.9	0.0

*GUC **30** 23:35:55.5±0.6, 2874S×6740W, h130km, ML4.4*
*ISCJB **30** 23:35:56.5±0.8, 2879S±003×6747W±007, h140km±8km, mb3.7/6, Error ellipse: s-maj=10.7km s-min=5.3km az=173.7*
*NEIC **30** 23:35:56.2±0.6, 2876S×6727W, h123km±6km, mb4.0/3, Error ellipse: s-maj=10.8km s-min=5.9km az=90.0*
*IDC **30** 23:35:58.1±0.9, 2885S×6727W, h137km±7km, mb3.4/3, mb1 3.5/4, mb1mx3.4/14, mbtmp3.3/4, Error ellipse: s-maj=33.4km s-min=12.1km az=113.0*

ISC 30 23:35:57.3±0.7, 2877S±003×6742W±007, h129km±8km, n43, σ0§91/54, mb3.7/6, 7C-2D, La Rioja Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LCO	**Las Campanas**	**2.89**	**264**	*e*Pn	**Pn**	**23 36 43.1**	**+0.8**
LCO				*e*Sn	**Sn**	**23 37 17.4**	**+0.3**
CFAA	**Coronel Fontan**	**2.91**	**194**	P	**Pn**	**23 36 43.6**	**+1.0**
	1.8nm,0.3s,baz=360,slow=13,SNR=438						
CFAA				S	**Sn**	**23 37 18.7**	**+1.0**
	13nm,0.3s,baz=139,slow=18,SNR=35						
CFAA	**Coronel Fontan**	**2.91**	**194**	P	**Pn**	**23 36 43.6**	**+1.0**
CFAA				S	**Sn**	**23 37 18.7**	**+1.0**
VACH	**Vallenar**	**2.94**	**273**	*e*P	**Pn**	**23 36 42.2**	**-0.8**
VACH				*i* S	**Sn**	**23 37 17.5**	**-0.9**
VACH				AML	AML	23 37 21.6	
	comp=N,1μm,0.2s						
VACH	**Vallenar**	**2.94**	**273**	*e*P	**Pn**	**23 36 42.2**	**-0.8**
VACH				*i* S	**Sn**	**23 37 17.5**	**-0.9**
CPCH	**Copiapo**	**2.95**	**298**↑	*i*P	**Pn**	**23 36 43.6**	**+0.4**
CPCH				*i* S	**Sn**	**23 37 18.9**	**+0.3**
CPCH				AML	AML	23 37 22.0	
	comp=E,1μm,0.1s						
CPCH	**Copiapo**	**2.95**	**298**↑	*i*P	**Pn**	**23 36 43.6**	**+0.4**
CPCH				*i* S	**Sn**	**23 37 18.9**	**+0.3**
TLL	**Tololo Astrono**	**3.27**	**244**↑	*i*P	**Pn**	**23 36 48.4**	**+1.1**
TLL				*i* S	**Sn**	**23 37 27.6**	**+1.7**
TLL				AML	AML	23 37 30.6	
	comp=E,209nm,0.9s						
TLL	**Tololo Astrono**	**3.27**	**244**↑	*i*P	**Pn**	**23 36 48.4**	**+1.1**
TLL				*i* S	**Sn**	**23 37 27.6**	**+1.7**
LSCH	**La Serena**	**3.53**	**250**	*i* S	**Sn**	**23 37 31.1**	**-1.0**
OVCH	**Ovalle**	**3.77**	**240**↑	*i*P	**Pn**	**23 36 53.2**	**-0.7**
OVCH				*i* S	**Sn**	**23 37 37.0**	**-0.8**
CHNG	**Los Chungos**	**4.70**	**228**	*i* S	**Sn**	**23 37 58.9**	**-1.0**
FCH	**Farellones**	**5.17**	**208**↓	*i*P	**Pn**	**23 37 13.0**	**+0.4**
FCH				*i* S	**Sn**	**23 38 11.6**	**+0.4**
PCH	**Pirque**	**5.51**	**208**	*i*P	**Pn**	**23 37 17.3**	**+0.1**
PCH				*i* S	**Sn**	**23 38 19.4**	**-0.1**
RCDM	**Rinconada Maip**	**5.53**	**211**↑	*i*P	**Pn**	**23 37 17.0**	**-0.4**
RCDM				*i* S	**Sn**	**23 38 19.7**	**-0.1**
TACH	**Talagante**	**5.72**	**211**↑	*i*P	**Pn**	**23 37 19.2**	**-0.8**
TACH				*i* S	**Sn**	**23 38 23.3**	**-1.2**
CHCH	**Chadas Angostu**	**5.84**	**207**	*i* P	**Pn**	**23 37 21.4**	**-0.2**
CHCH				*i* S	**Sn**	**23 38 27.0**	**-0.4**
CACH	**El Canelo**	**5.98**	**206**	*i* P	**Pn**	**23 37 24.0**	**+0.5**
CICH	**Cipreses**	**6.10**	**204**↓	*i*P	**Pn**	**23 37 25.2**	**+0.2**
LVC	**Limon Verde**	**6.28**	**347**	Pn	**Pn**	**23 37 28.4**	**+0.8**
SIV	**San Ignacio**	**14.00**	**26**	P	**Pn**	**23 39 07.4**	**-2.7**
	comp=E,0.2nm,0.3s,baz=222,slow=12,SNR=5.6						
BDFB	**Brasilia**	**22.17**	**58**	P	**P**	**23 40 40.7**	**-2.3**
	comp=E,1.0nm,0.4s,mb3.6,baz=232,slow=17,SNR=5.6						
BDFB	**Brasilia**	**22.17**	**58**	*e*P	**P**	**23 40 40.5**	**-2.5**
	comp=E,1.8nm,0.3s,mb4.0						
OTAV	**Otavalo**	**30.72**	**338**	P	**P**	**23 42 00.8**	**+0.6**
PAYG	**Puerto Ayora**	**35.47**	**318**	*e*P	**P**	**23 42 43.3**	**+1.8**
MTP	**Monte Pirata**	**46.63**	**2**	P	**P**	**23 44 12.7**	**0.0**
TGUH	**Tegucigalpa,Un**	**46.70**	**333**	*e*P	**P**	**23 44 14.0**	**+0.7**
TEIG	**Tepich**	**52.71**	**335**	P	**P**	**23 44 59.4**	**+0.7**
VNA3	**Neumayer Olymp**	**52.80**	**160**	*e*	**P**	**23 44 59.4**	**+0.7**
VNA3				*e*		23 45 03.0	
VNA2	**Neumayer--Watz**	**53.39**	**159**	*e*	**P**	**23 45 04.2**	**+1.1**
VNA2				*e*		23 45 08.1	
SNAA	**Sanae**	**55.01**	**160**	*e*	**P**	**23 45 15.4**	**+0.6**
SNAA				*e*		23 45 19.1	
SNAA	**Sanae**	**55.01**	**160**	*e*P	**P**	**23 45 15.1**	**+0.3**
	comp=E,0.8nm,0.4s,mb3.8						
DWPF	**Disney**	**58.13**	**345**	P	**P**	**23 45 35.4**	**-2.0**
QSPA	**South Pole Qui**	**61.45**	**180**	*e*P	**P**	**23 46 00.0**	**+0.6**
	comp=E,1.6nm,0.6s,mb4.0						
VBMS	**Vicksburg**	**64.50**	**338**	P	**P**	**23 46 19.7**	**-0.5**
SBA	**Scott Base**	**68.95**	**191**	*e*P	**P**	**23 46 46.7**	**-1.2**
TORD	**Torodi Ar. Bea**	**78.66**	**68**	P	**P**	**23 47 44.6**	**-0.7**
	comp=E,1.5nm,0.5s,mb3.9,baz=240,slow=2.7,SNR=29						
BOSA	**Boshof**	**78.92**	**116**	P	**P**	**23 47 46.8**	**0.0**
	comp=E,1.0nm,0.3s,mb3.9,baz=243,slow=4.6,SNR=6.0						
PDAR	**Pinedale Array**	**81.06**	**330**	P	**P**	**23 47 57.9**	**+0.2**
	comp=E,0.2nm,0.5s,mb3.0,baz=124,slow=8.1,SNR=2.6						
ASAR	**Alice Springs**	**123.97**	**204**	PKP	PKPdf	23 54 40.0	-0.8
	comp=E,0.5nm,0.4s,baz=148,slow=2.0,SNR=9.3						
ASAR				pPKP	pPKPdf	23 55 16.5	+1.2
	comp=E,0.2nm,0.4s,baz=101,slow=0.9,SNR=1.7						
WRA	**Warramunga Arr**	**127.21**	**206**	PKP	PKPdf	23 54 46.5	-0.6
	comp=E,1.4nm,0.6s,baz=162,slow=1.8,SNR=34						
WRA				pPKP	pPKPdf	23 55 22.6	+1.0
	comp=E,0.4nm,0.5s,baz=162,slow=1.7,SNR=2.6						
ZALV	**Zalesovo Beam**	**147.72**	**31**	PKPbc	PKPbc	23 55 26.6	+0.3
	comp=E,1.4nm,0.4s,baz=306,slow=3.5,SNR=8.3						
MKAR	**Makanchi Array**	**150.31**	**44**	PKP	PKPdf	23 55 26.4	-1.3
	comp=E,0.1nm,0.4s,baz=319,slow=1.2,SNR=2.5						
MKAR				PKPbc	PKPbc	23 55 32.7	-0.3
	comp=E,0.9nm,0.8s,baz=287,slow=2.3,SNR=5.5						
MKAR				PKPab	PKPab	23 55 39.9	+0.1
	comp=E,0.7nm,0.7s,baz=303,slow=3.4,SNR=4.4						
MKAR				pPKPbc	pPKPbc	23 56 09.9	+2.5
	comp=E,0.3nm,0.6s,baz=317,slow=1.7,SNR=2.7						

*TRN **30** 23:37:50.2, 19.12N×6462W, h30km*
*NEIC **30** 23:37:51.3, 1920N×6454W, h54km, MD3.4(RSPR), After RSPR.*
*RSPR **30** 23:37:51.3, 1920N×6454W, h55km±3km, MD3.4/13, MD3.4/13*

ISC 30 23:37:51.0±1.4, 1922N±009×6456W±007, h44km±35km, n50, σ0§59/83, 29C-13D, Virgin Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ABV	**Anegada**	**0.53**	**156**↑	*e*P	**Pn**	**23 38 02.4**	**+0.1**
ABV	**Anegada**	**0.53**	**156**↓	*e*P	**Pn**	**23 38 02.5**	**+0.2**
ABV	**Anegada**	**0.53**	**156**	*e*S	**Sn**	**23 38 10.5**	**+0.2**
ABV	**Anegada**	**0.53**	**156**↓	*e*P	**Pn**	**23 38 02.5**	**+0.2**
ABV				*e*S	**Sn**	**23 38 10.5**	**+0.2**
ABV				*e*S	**Sn**	**23 38 10.5**	**+0.2**
TBVI	**Tortola**	**0.80**	**184**↑	*e*P	**Pn**	**23 38 05.3**	**-0.6**
TBVI	**Tortola**	**0.80**	**184**↑	*e*P	**Pn**	**23 38 05.5**	**-0.4**
TBVI				*e*S	**Sn**	**23 38 16.3**	**-0.4**
TBVI				*e*S	**Sn**	**23 38 16.7**	**+0.1**
TBVI	**Tortola**	**0.80**	**184**↓	*e*P	**Pn**	**23 38 05.3**	**-0.6**
TBVI				*e*S	**Sn**	**23 38 16.3**	**-0.4**
STVI	**Saint Thomas**	**0.94**	**203**↓	*e*P	**Pn**	**23 38 07.0**	**-0.8**
STVI	**Saint Thomas**	**0.94**	**203**↑	*e*P	**Pn**	**23 38 07.1**	**-0.7**
STVI				*e*S	**Sn**	**23 38 20.4**	**+0.4**
STVI				*e*S	**Sn**	**23 38 20.4**	**+0.4**
STVI	**Saint Thomas**	**0.94**	**203**↓	*e*P	**Pn**	**23 38 07.0**	**-0.8**
STVI				*e*S	**Sn**	**23 38 20.4**	**+0.4**
CDVI	**St. Croix**	**1.47**	**188**↑	*e*P	**Pn**	**23 38 16.2**	**+1.1**
CDVI	**St. Croix**	**1.47**	**188**↑	*e*P	**Pn**	**23 38 16.6**	**+1.5**
CDVI	**St. Croix**	**1.47**	**188**↑	*e*P	**Pn**	**23 38 16.6**	**+1.5**
CDVI				*e*S	**Sn**	**23 38 32.9**	**-0.2**
CDVI				*e*S	**Sn**	**23 38 35.0**	**+1.8**
CDVI	**St. Croix**	**1.47**	**188**↑	*e*P	**Pn**	**23 38 16.2**	**+1.1**
CDVI				*e*S	**Sn**	**23 38 32.9**	**-0.2**
HUMP	**Col San Antoni**	**1.62**	**229**↑	*e*P	**Pn**	**23 38 17.0**	**-0.2**
HUMP	**Col San Antoni**	**1.62**	**229**↑	*e*P	**Pn**	**23 38 17.0**	**-0.2**
HUMP	**Col San Antoni**	**1.62**	**229**↑	*e*P	**Pn**	**23 38 17.1**	**-0.1**
HUMP				*e*S	**Sn**	**23 38 36.3**	**-0.6**
HUMP				*e*S	**Sn**	**23 38 36.6**	**-0.3**
HUMP	**Col San Antoni**	**1.62**	**229**↑	*e*P	**Pn**	**23 38 17.0**	**-0.2**
HUMP				*e*S	**Sn**	**23 38 36.3**	**-0.6**
CPD	**Cerro la Pandu**	**1.74**	**228**↑	*e*P	**Pn**	**23 38 17.7**	**-1.0**
CPD	**Cerro la Pandu**	**1.74**	**228**↑	*e*P	**Pn**	**23 38 17.9**	**-0.9**
CPD				*e*S	**Sn**	**23 38 38.4**	**-1.3**
CPD				*e*S	**Sn**	**23 38 39.2**	**-0.6**
CPD	**Cerro la Pandu**	**1.74**	**228**↑	*e*P	**Pn**	**23 38 17.7**	**-1.0**
CPD				*e*S	**Sn**	**23 38 38.4**	**-1.3**
SJG	**San Juan**	**1.87**	**234**↑	*e*P	**Pn**	**23 38 19.7**	**-0.8**
SJG	**San Juan**	**1.87**	**234**↑	*e*P	**Pn**	**23 38 20.3**	**-0.2**
SJG				*e*S	**Sn**	**23 38 42.9**	**0.0**
SJG	**San Juan**	**1.87**	**234**↑	*e*P	**Pn**	**23 38 20.3**	**-0.2**
SJG	**San Juan**	**1.87**	**234**↑	*e*P	**Pn**	**23 38 20.3**	**-0.2**
SJG				*e*S	**Sn**	**23 38 41.6**	**-1.2**
SJG	**San Juan**	**1.87**	**234**↑	*e*P	**Pn**	**23 38 19.7**	**-0.8**
SJG	**San Juan**	**1.87**	**234**↑	*e*P	**Pn**	**23 38 20.3**	**-0.2**
SJG	**San Juan**	**1.87**	**234**↑	*e

*DDA **30** 23:43:33.6, 3647N×2793E, h7km±6km, Md2.9*
ISC 30 23:43:31.9±0.8,3622N±004×2763E±007,h14km±7km,n16,σ0§94/26,Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ARG	**Arkhangelos**	**0.40**	**90**	*e*Pb	**Pg**	**23 43 40.2**	**+0.3**
ARG				*e*Sb	**Sg**	**23 43 45.8**	**+0.4**
ARG	**Arkhangelos**	**0.40**	**90**	*e*PB	**Pg**	**23 43 40.2**	**+0.3**
ARG				*e*SB	**Sg**	**23 43 45.8**	**+0.4**
NISR	**Nisiros**	**0.56**	**314**	*e*Pn	**Pg**	**23 43 44.0**	**+1.1**
NISR	**Nisiros**	**0.56**	**314**	*e*PN	**Pg**	**23 43 44.0**	**+1.1**
KARP	**Karpathos**	**0.77**	**210**	*e*Pn	**Pn**	**23 43 47.3**	**-1.0**
KARP				*e*Sn	**Sn**	**23 44 00.2**	**+0.4**
KARP	**Karpathos**	**0.77**	**210**	*e*PN	**Pn**	**23 43 47.3**	**-1.0**
KARP				*e*SN	**Sn**	**23 44 00.2**	**+0.4**
BDRM	**Kayabasi**	**0.86**	**350**	*i* P	**Pg**	**23 43 47.5**	**-1.0**
BDRM				*i* S	**Sg**	**23 43 60.0**	**+0.3**
TURN	**Turunc**	**1.02**	**50**	*i* P	**Pb**	**23 43 46.2**	**-5.1**
AYDN	**Tasoluk**	**1.45**	**8**	*i* P	**Pn**	**23 43 56.8**	**-0.9**
GCAM	**G?zelcaml?**	**1.51**	**348**	*i* P	**Pn**	**23 43 57.9**	**-0.6**
GCAM				*i* S	**Sn**	**23 44 20.5**	**+2.5**
SMG	**Samos**	**1.61**	**337**	*e*Pb	**Pb**	**23 43 59.7**	**-1.8**
SMG				*e*Sn	**Sn**	**23 44 20.6**	**0.0**
SMG	**Samos**	**1.61**	**337**	*e*PB	**Pb**	**23 43 59.7**	**-1.8**
SMG				*e*SN	**Sn**	**23 44 20.6**	**0.0**
APE	**Apeiranthos**	**1.89**	**297**	*e*Pn	**Pn**	**23 44 03.7**	**0.0**
APE	**Apeiranthos**	**1.89**	**297**	*e*PN	**Pn**	**23 44 03.7**	**0.0**
NPS	**Neapolis**	**1.90**	**240**	*e*Pn	**Pn**	**23 44 04.7**	**+0.9**
NPS				*e*Sn	**Sn**	**23 44 27.5**	**-0.1**
NPS	**Neapolis**	**1.90**	**240**	*e*PN	**Pn**	**23 44 04.7**	**+0.9**
NPS				*e*SN	**Sn**	**23 44 27.5**	**-0.1**

*SSS **30** 23:45:56.4, 1452N×9345W, h113km*
*ISCJB **30** 23:45:57.1±1.1, 1453N±003×9343W±002, h15km±7km, mb4.3/23, MS4.0/13, Error ellipse: s-maj=5.9km s-min=3.3km az=13.9*
*CASC **30** 23:45:58.6±2.4, 1472N×9311W, h0km±31km, MD4.5*
*BJI **30** 23:45:58.0, 1460N×9350W, h15km, Ms4.9, Msz4.6*
*MEX **30** 23:45:58.7±0.6, 1456N×9348W, h11km±9km, MD4.6*
*NEIC **30** 23:46:00.2, 1457N×9348W, h15km, mb4.5/15, MD4.6(MEX), After MEX.*
*IDC **30** 23:46:00.6±2.3, 1452N×9316W, h51km±21km, mb4.0/12, mb1 4.2/14, mb1mx4.0/21, mbtmp4.0/14, ML4.3/3, MS3.8/14, Ms1 3.8/14, ms1mx3.5/31, Error ellipse: s-maj=22.8km s-min=11.0km az=63.0*
*GCG **30** 23:46:18.7, 1451N×9188W, h35km, MD4.8*
ISC 30 23:45:59.0±1.3,1457N±004×9337W±002,h20km±9km,n143,σ1§47/158,mb4.3/23,MS4.0/13,1D,Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
THIG		**1.12**	**73**	*i* P	**Pn**	**23 46 17.9**	**-1.7**
THIG				*i* S	**Sb**	**23 46 33.2**	**-0.6**
PCIG		**1.13**	**7**	*e*P	**Pn**	**23 46 17.0**	**-2.8**
PCIG				*i* S	**Sb**	**23 46 31.3**	**-3.0**
JAT	**Jato**	**1.70**	**98**	*e*P	**Pn**	**23 46 26.7**	**-0.8**
CCIG	**Comitan**	**2.07**	**35**	*e*P	**Pn**	**23 46 33.6**	**+0.9**
CCIG				*i* S	**Sn**	**23 46 58.2**	**+0.2**
CCIG	**Comitan**	**2.07**	**35**	*e*P	**Pn**	**23 46 33.7**	**+1.0**
CCIG				*i* S	**Sn**	**23 46 58.1**	**+0.1**
SCX	**San Cristobal**	**2.26**	**18**	*e*P	**Pn**	**23 46 34.4**	**-0.9**
SCX				*i* S	**Sn**	**23 47 01.9**	**-0.8**
SCX	**San Cristobal**	**2.26**	**18**	*i* P	**Pn**	**23 46 36.8**	**+1.5**
SCX				*e*P		23 46 37.4	
SCX				*i* S	**Sn**	**23 47 03.9**	**+1.2**
FG6		**2.41**	**90**	*e*P	**Pn**	**23 46 35.9**	**-1.5**
FUG	**Fuego 3**	**2.45**	**93**	*e*P	**Pn**	**23 46 36.5**	**-1.5**
PCG	**Pacaya**	**2.68**	**93**	*e*P	**Pn**	**23 46 40.8**	**-0.3**
CMIG	**Matias Romero**	**2.90**	**330**	P	**Pn**	**23 46 42.7**	**-1.4**
	42nm,0.3s,baz=143,slow=10,SNR=204						
CMIG				S	**Sn**	**23 47 16.8**	**-1.5**
	195nm,0.3s,baz=116,slow=15,SNR=15						
CMIG				LR	LR	23 48 20.4	
	comp=Z,812nm,18.8s,baz=147,slow=46						
CMIG	**Matias Romero**	**2.90**	**330**	*i* P	**Pn**	**23 46 41.9**	**-2.1**
CMIG				*i* S	**Sn**	**23 47 14.3**	**-4.0**
NBG	**Las Nubes**	**2.93**	**89**	*e*P	**Pn**	**23 46 44.7**	**+0.3**
MRL	**Marmol**	**3.59**	**82**	*e*P	**Pn**	**23 46 53.7**	**+0.1**
RBDL	**Robledal**	**3.60**	**97**	*e*P	x	23 46 52.2	
RBDL				*e*S	x	23 47 35.5	
RTR	**El Retiro**	**3.67**	**100**	ǁ*e*P	x	23 46 53.3	
SBLS	**San Blas**	**3.71**	**101**	*e*P	x	23 46 53.4	
SNJE	**San Jose**	**3.72**	**100**	*e*P	x	23 46 53.8	
SNJE				*e*S	x	23 47 37.9	
BQQS	**Boqueron**	**4.05**	**101**	*e*P	x	23 46 59.5	
OXX	**Oaxaca**	**4.08**	**308**	*e*P	**Pn**	**23 46 57.8**	**-2.5**
OXX				*i* S	**Sn**	**23 47 43.4**	**-4.1**
OXX	**Oaxaca**	**4.08**	**308**	*i* P	**Pn**	**23 47 03.4**	**+3.1**
OXX				*i* S	**Sn**	**23 47 52.3**	**+4.8**
VHO	**Vista Hermosa**	**4.08**	**308**	*e*P	**Pn**	**23 46 57.7**	**-2.7**
VHO				*i* S	**Sn**	**23 47 44.6**	**-3.0**
VHO	**Vista Hermosa**	**4.08**	**308**	*e*P	**Pn**	**23 46 59.9**	**-0.5**
VHO				*i* S	**Sn**	**23 47 44.6**	**-3.0**
LFRS	**El Faro**	**4.29**	**102**	*e*P	x	23 47 01.7	
SCIG	**Sabancuy**	**4.84**	**25**	*i* P	**Pn**	**23 47 11.1**	**+0.3**
SCIG				*i* S	**Sn**	**23 48 06.7**	**+0.3**
PNIG	**Pinotepa**	**4.93**	**292**	*i* P	**Pn**	**23 47 09.3**	**-2.7**
PNIG				*i* S	**Sn**	**23 48 04.1**	**-4.4**
PNIG	**Pinotepa**	**4.93**	**292**	*i* P	**Pn**	**23 47 09.3**	**-2.7**
PNIG				*i* S	**Sn**	**23 48 05.0**	**-3.5**
UTMO	**Huajuapan**	**5.35**	**308**	*e*P	**Pn**	**23 47 17.2**	**-0.6**
UTMO				*i* S	**Sn**	**23 48 16.5**	**-2.4**
TPIG	**Tehuac#an**	**5.41**	**316**	*e*P	**Pn**	**23 47 17.4**	**-1.3**
TPIG				*i* S	**Sn**	**23 48 18.0**	**-2.4**
CNCH	**Conchagua**	**5.53**	**103**	*e*P	x	23 47 20.2	
LVIG	**Laguna Verde**	**5.89**	**331**	*e*P	**Pn**	**23 47 24.1**	**-1.1**
LVIG				*i* S	**Sn**	**23 48 29.7**	**-2.5**
LVIG	**Laguna Verde**	**5.89**	**331**	*e*P	**Pn**	**23 47 22.7**	**-2.5**
LVIG				*i* S	**Sn**	**23 48 25.8**	**-6.4**
TGUH	**Tegucigalpa,Un**	**5.93**	**94**	*e*Pn	**Pn**	**23 47 27.4**	**+1.6**
TGUH				*e*Sn	**Sn**	**23 48 32.6**	**-0.6**
PPM	**Popocatepetl**	**6.73**	**312**	*i* P	**Pn**	**23 47 35.8**	**-1.0**
PPM				*i* S	**Sn**	**23 48 46.8**	**-6.1**
PPM	**Popocatepetl**	**6.73**	**312**	*i* P	**Pn**	**23 47 40.6**	**+3.8**
PPM				*i* S	**Sn**	**23 48 46.5**	**-6.4**
CNGN	**Cerro Negro**	**6.81**	**107**	*e*P	**Pn**	**23 47 37.5**	**-0.3**
MEIG	**Mezcala**	**6.87**	**300**	*i* P	**Pn**	**23 47 37.9**	**-0.7**
MEIG				*i* S	**Sn**	**23 48 53.1**	**-3.1**
PLIG	**Platanillo**	**7.00**	**304**	*i* P	**Pn**	**23 47 40.7**	**+0.2**
PLIG				*i* S	**Sn**	**23 48 59.1**	**-0.4**
PLIG	**Platanillo**	**7.00**	**304**	*i* P	**Pn**	**23 47 41.3**	**+0.8**
PLIG				*i* S	**Sn**	**23 49 05.1**	**+5.5**
CAIG	**El Cayaco**	**7.08**	**291**	*i* P	**Pn**	**23 47 40.0**	**-1.5**
CAIG				*i* S	**Sn**	**23 49 00.9**	**-0.6**
TEIG	**Tepich**	**7.43**	**40**	P	**Pn**	**23 47 45.0**	**-1.4**
	17nm,0.3s,baz=179,slow=2.2,SNR=48						
TEIG				S	**Sn**	**23 49 01.3**	**-8.8**
	29nm,0.3s,baz=270,slow=20,SNR=2.8						
TEIG				LR	LR	23 51 04.4	
	comp=Z,1μm,21.4s,baz=195,slow=41						
TEIG	**Tepich**	**7.43**	**40**	*e*Pn	**Pn**	**23 47 45.1**	**-1.3**
ZIIG	**Zihuatanejo**	**8.34**	**292**	*i* P	**Pn**	**23 47 58.3**	**-0.6**
VCR	**Vista de Mar**	**8.76**	**119**	*e*P	**Pn**	**23 48 08.1**	**+3.5**
MOIG	**Morelia**	**9.03**	**305**	*i* P	**Pn**	**23 48 10.0**	**+1.6**
JTS	**JuntasAbangare**	**9.26**	**116**	P	**Pn**	**23 48 10.4**	**-1.1**
	0.9nm,0.3s,baz=318,slow=20,SNR=3.7						
JTS				S	**Sn**	**23 50 02.3**	**+7.1**
	baz=282,slow=20,SNR=1.9						
JTS	**JuntasAbangare**	**9.26**	**116**	P	**Pn**	**23 48 10.3**	**-1.1**
JTS				S	**Sn**	**23 50 02.3**	**+7.1**
PRS1	**Puriscal**	**9.96**	**116**	*e*P	**Pn**	**23 48 24.5**	**+3.4**
MMIG	**Aquila**	**10.26**	**292**	*i* P	**Pn**	**23 48 24.5**	**-0.7**
ICR	**Volcan Irazu**	**10.38**	**115**	*e*P	**Pn**	**23 48 28.2**	**+1.3**
URSC	**Urasca**	**10.49**	**116**	*e*P	**Pn**	**23 48 28.3**	**-0.1**
BUS	**Buena Vista**	**10.64**	**117**	*e*P	**Pn**	**23 48 30.8**	**+0.4**
EZ5V		**10.93**	**298**	*e*P	**Pn**	**23 48 37.0**	**+2.5**
R15V		**11.14**	**296**	*e*P	**Pn**	**23 48 38.4**	**+1.2**
LNIG	**Linares**	**11.76**	**332**	*i* P	**Pn**	**23 48 50.2**	**+4.5**
SOR	**Soroa**	**12.77**	**49**	*e*P	**Pn**	**23 48 59.9**	**+0.4**
	baz=244						
SOR				*e*S	**Sn**	**23 51 24.1**	**+2.9**
	comp=N,1.3nm,0.5s						
SOR				*e*			
	comp=E,1.3nm,0.5s						
HKT	**Hockley**	**15.47**	**352**	*e*Pn	**Pn**	**23 49 37.0**	**+0.8**
	comp=E,54nm,1.6s						
HKT				*e*Sn	**Sn**	**23 52 28.1**	**+1.1**
JCT	**Junction City**	**16.90**	**341**	*e*Pn	**Pn**	**23 49 56.4**	**+1.9**
	comp=E,21nm,0.8s						
JCT				*e*Sn	**Sn**	**23 52 52.6**	**-9.1**
TXAR	**Lajitas Array**	**17.50**	**329**	P	**Pn**	**23 50 03.5**	**+1.5**
	comp=E,0.3nm,0.3s,baz=150,slow=11,SNR=36						
TXAR				S	**Sn**	**23 53 19.1**	**+2.7**
	comp=E,0.1nm,0.3s,baz=187,slow=23,SNR=3.7						
TXAR				LR	LR	23 57 12.5	
	comp=E,122nm,18.6s,baz=0.0,slow=38						
TXAR	**Lajitas Array**	**17.50**	**329**	P	**Pn**	**23 50 03.5**	**+1.5**
TXAR				S	**Sn**	**23 53 19.1**	**+2.7**
TXAR				LR	LR	23 57 12.5	
MIAR	**Mount Ida**	**19.89**	**360**	*e*P	**Pn**	**23 50 28.4**	**-2.5**
	comp=E,22nm,0.9s						
UALR	**University of**	**20.14**	**2**	*e*Pn	**P**	**23 50 36.4**	**+4.5**
	comp=E,40nm,1.2s						
OXF	**Oxford**	**20.17**	**10**	*e*P	**P**	**23 50 33.6**	**+1.4**
	comp=E,29nm,0.8s						
GDL2	**Guadalupe Moun**	**20.21**	**332**	*e*Pn	**P**	**23 50 34.8**	**+2.1**
CGIG		**20.68**	**322**	*i* P	**P**	**23 50 38.5**	**+0.7**
GOGA	**Godfrey**	**20.80**	**24**	*e*Pn	**P**	**23 50 42.4**	**+3.3**
	comp=E,24nm,0.9s						
ROSC	**El Rosal**	**21.09**	**115**	P	**P**	**23 50 42.8**	**+0.5**
	comp=E,9.6nm,0.7s,mb4.3,baz=280,slow=23,SNR=7.6						
AMTX	**Amarillo**	**21.57**	**341**	*e*P	**P**	**23 50 47.7**	**+0.3**
	comp=E,48nm,0.7s,mb5.0						
NHSC	**New Hope**	**22.00**	**31**	*e*P	**P**	**23 51 00.1**	**+8.0**
	comp=E,486nm,1.6s						
WVT	**Waverly**	**22.03**	**12**	*e*P	**P**	**23 50 51.4**	**-0.9**
TKL	**Tuckaleechee C**	**22.69**	**21**	P	**P**	**23 50 56.5**	**-2.9**
	comp=E,7.5nm,1.1s,mb4.0,baz=194,slow=8.3,SNR=2.6						
TKL				S	**S**	**23 55 04.0**	**-3.2**
	comp=E,2.3nm,0.7s,baz=196,slow=20,SNR=1.7						
TKL				LR	LR	00 01 53.6	
	comp=E,292nm,19.3s,MS3.7,baz=238,slow=42						
TKL	**Tuckaleechee C**	**22.69**	**21**	*e*P	**P**	**23 50 57.6**	**-1.8**
TKL				*e*S	**S**	**23 55 08.8**	**+1.6**
TKL				LR	LR	00 01 53.6	
BNM	**Barren Site**	**22.88**	**331**	*e*P	**P**	**23 51 02.5**	**+1.1**
BNM				PcP	PcP	23 54 43.7	-8.3
LPM	**Los Pinos Moun**	**23.02**	**331**	*e*P	**P**	**23 51 04.8**	**+2.0**
LENM	**Lemitar**	**23.06**	**330**	*e*P	**P**	**23 51 07.1**	**+3.8**
LAZ	**Ladron**	**23.33**	**330**	*e*P	**P**	**23 51 08.3**	**+2.2**
SIUC	**Southern Illin**	**23.34**	**8**	*e*P	**P**	**23 51 05.5**	**-0.7**
	comp=E,30nm,1.1s,mb4.6						
SIUC				PcP	PcP	23 54 51.1	-1.7
SIUC				*e*S	**S**	**23 55 15.8**	**-1.8**
CCM	**Cathedral Cave**	**23.46**	**4**	*e*P	**P**	**23 51 04.6**	**-2.9**
ANMO	**Albuquerque**	**23.47**	**332**	P	**P**	**23 51 07.0**	**-0.5**
	comp=E,1.3nm,0.5s,mb3.6,baz=128,slow=13,SNR=5.8						
ANMO	**Albuquerque**	**23.47**	**332**	*e*P	**P**	**23 51 07.5**	**-0.1**
	comp=E,7.0nm,1.0s,mb4.0						
TUC	**Tucson**	**23.75**	**321**	*e*P	**P**	**23 51 11.3**	**+1.1**
	comp=E,8.5nm,0.8s,mb4.2						
SDCO	**Great Sand Dun**	**25.47**	**337**	*e*P	**P**	**23 51 27.1**	**+1.4**
ATAH	**Atahualpa**	**26.08**	**144**	P	**P**	**23 51 31.3**	**-0.3**
	comp=E,3.9nm,0.6s,mb4.1,baz=20,slow=6.3,SNR=4.9						
ATAH				LR	LR	23 59 36.3	
	comp=E,189nm,19.6s,MS3.6,baz=318,slow=31						
MVCO	**Mesa Verde**	**26.26**	**332**	*e*P	**P**	**23 51 41.8**	**+8.9**
WUAZ	**Wupatki**	**26.39**	**325**	*e*P	**P**	**23 51 43.6**	**+9.4**
PV01	**Paradox Valley**	**27.05**	**333**	*e*P	**P**	**23 51 42.2**	**+2.0**
PV01				*e*PcP	PcP	23 54 54.6	-6.5
SMCO	**Snowmass**	**27.28**	**336**	*e*P	**P**	**23 51 43.8**	**+1.6**
	comp=E,16nm,1.4s,mb4.3						
ISCO	**Idaho Springs**	**27.33**	**339**	*e*P	**P**	**23 51 44.6**	**+2.1**
PCRV	**Puerto La Cruz**	**28.39**	**96**	LR	LR	00 03 33.2	
	comp=E,102nm,18.2s,MS3.5,baz=288,slow=37						
SDMD	**Soldier's Deli**	**28.69**	**27**	*e*P	**P**	**23 51 54.6**	**-0.2**
ARUT	**Antelope Range**	**29.18**	**326**	*e*P	**P**	**23 52 00.6**	**+1.5**
ARUT				*e*PcP	PcP	23 55 04.9	-1.5
SHPR	**Sheep Range**	**29.25**	**322**	*e*P	**P**	**23 52 08.2**	**+8.4**
GSC	**Goldstone**	**29.48**	**319**	*e*P	**P**	**23 51 59.7**	**-2.1**
RWWY	**Rawlins**	**29.56**	**339**	*e*P	**P**	**23 51 59.1**	**-3.3**
RWWY				*e*		23 52 09.0	
TPNV	**Topopah Spring**	**30.20**	**322**	*e*P	**P**	**23 52 11.7**	**+3.6**
RSSD	**Black Hills**	**30.82**	**345**	*e*P	**P**	**23 52 14.1**	**+0.5**
PDAR	**Pinedale Array**	**31.36**	**337**	P	**P**	**23 52 17.7**	**-0.6**
	comp=E,8nm,0.5s,mb3.8,baz=153,slow=8.5,SNR=7.1						
HVU	**Hansel Valley**	**31.89**	**332**	*e*P	**P**	**23 52 31.2**	**+8.2**
REDW	**Red Top Meadow**	**32.37**	**336**	*e*P	**P**	**23 52 27.9**	**+0.8**
NVAR	**Mina Array Bea**	**32.40**	**322**	P	**P**	**23 52 28.4**	**+0.9**
	comp=E,1.8nm,0.6s,mb4.1,baz=133,slow=8.5,SNR=5.6						
NVAR				PcP	PcP	23 55 14.2	-0.7
	comp=E,1.0nm,0.8s,baz=145,slow=3.3,SNR=3.8						
SNOW	**Snow King Moun**	**32.41**	**336**	*e*P	**P**	**23 52 28.8**	**+1.3**
LOHW	**Long Hollow**	**32.48**	**336**	*e*P	**P**	**23 52 29.8**	**+1.6**
TPAW	**Teton Pass**	**32.52**	**336**	*e*P	**P**	**23 52 31.7**	**+3.3**
RRI2	**Red Ridge**	**32.54**	**335**	*e*P	**P**	**23 52 31.3**	**+2.6**
MOOW	**Moose Ponds**	**32.65**	**336**	*e*P	**P**	**23 52 29.6**	**-0.1**
RLMT	**Red Ledge**	**33.29**	**339**	*e*P	**P**	**23 52 35.8**	**+0.5**
	comp=E,2nm,1.0s,mb4.3						
GCMT	**Greycliff**	**34.02**	**339**	*e*P	**P**	**23 52 42.9**	**+1.4**
HLID	**Hailey**	**34.04**	**332**	*e*P	**P**	**23 52 42.0**	**+0.1**
	comp=E,5.5nm,1.1s,mb4.4						
MCMT	**McKenzie Canyo**	**34.39**	**335**	*e*P	**P**	**23 52 46.4**	**+1.6**
BOZ	**Bozeman (W)**	**34.59**	**337**	*e*P	**P**	**23 52 47.9**	**+1.3**
	comp=E,4.9nm,1.1s,mb4.3						
LRM	**Limekiln Ridge**	**35.05**	**337**	*e*P	**P**	**23 52 51.7**	**+1.2**
NSHM	**Saint Helena R**	**35.13**	**318**	P	**P**	**23 52 50.8**	**-0.5**
HRY	**Holter Researc**	**35.57**	**338**	*e*P	**P**	**23 52 55.0**	**+0.1**
ULM	**Lac du Bonnet**	**35.64**	**357**	P	**P**	**23 52 51.3**	**-4.2**
	comp=E,1.5nm,0.4s,mb4.2,baz=190,slow=6.1,SNR=2.9						
ULM				LR	LR	00 10 29.3	
	comp=E,128nm,18.7s,MS3.7,baz=172,slow=41						
EGMT	**Eagleton**	**36.01**	**341**	*e*P	**P**	**23 52 59.0**	**+0.4**
	comp=E,17nm,1.2s,mb4.8						
CHMT	**Chamberlain Mo**	**36.27**	**337**	*e*P	**P**	**23 53 01.0**	**0.0**
BMO	**Blue Mountains**	**36.37**	**331**	*e*P	**P**	**23 53 01.5**	**-0.3**
LPAZ	**La Paz**	**39.52**	**140**	P	**P**	**23 53 25.7**	**-3.0**
	comp=E,1.0nm,0.8s,mb3.6,baz=302,slow=11,SNR=2.9						
LPAZ	**La Paz**	**39.52**	**140**	P	**P**	**23 53 25.7**	**-3.1**
EDM	**Edmonton**	**41.67**	**342**	*e*P	**P**	**23 53 45.1**	**-0.9**
SIV	**San Ignacio**	**44.05**	**132**	P	**P**	**23 54 01.8**	**-4.1**
	comp=E,4.1nm,1.0s,mb4.1,baz=310,slow=8.2,SNR=11						
YKA	**Yellowknife Ar**	**50.17**	**347**	P	**P**	**23 54 50.8**	**-2.1**
	comp=E,2.8nm,0.5s,mb4.5,baz=152,slow=7.3,SNR=33						
YKA				LR	LR	00 18 36.5	
	comp=E,44nm,19.8s,MS3.5,baz=120,slow=39						
PLCA	**Paso Flores**	**58.96**	**160**	P	**P**	**23 55 53.0**	**-4.0**
	comp=E,3.4nm,0.9s,mb4.4,baz=301,slow=7.4,SNR=4.3						
RES	**Resolute Bay**	**60.11**	**360**	*e*P	**P**	**23 56 02.4**	**-2.2**
	comp=E,298nm,0.9s						
RES				*e*PcP	PcP	23 56 47.0	-3.2
USHA	**Ushuaia**	**72.30**	**165**	LR	LR	00 22 35.3	
	comp=E,139nm,19.1s,MS4.2,baz=262,slow=30						
SPITS	**Spitsbergen Ar**	**79.79**	**11**	P	**P**	**23 58 03.6**	**-1.8**
	comp=E,3.3nm,0.6s,mb4.5,baz=326,slow=0.7,SNR=5.4						
SPITS				LR	LR	00 37 36.7	
	comp=E,182nm,19.2s,MS4.4,baz=145,slow=39						
ESDC	**Sonseca Array**	**80.40**	**52**	LR	LR	00 28 04.6	
	comp=E,75nm,18.3s,MS4.1,baz=330,slow=31						
NOA	**NORSAR Array B**	**84.27**	**29**	LR	LR	00 36 56.0	
	comp=E,70nm,19.6s,MS4.1,baz=355,slow=36						
ARCES	**ARCESS Array B**	**86.01**	**18**	P	**P**	**23 58 35.1**	**-2.7**
	comp=E,2.5nm,0.8s,mb4.5,baz=305,slow=4.3,SNR=14						
DBIC	**Dimbokro**	**86.92**	**84**	P	**P**	**23 58 39.6**	**-3.7**
	comp=E,4.0nm,1.0s,mb4.6,baz=288,slow=9.6,SNR=3.4						
GERES	**GERESS Array B**	**90.00**	**39**	LR	LR	00 37 43.6	
	comp=E,58nm,18.5s,MS4.0,baz=85,slow=34						
TORD	**Torodi Ar. Bea**	**91.53**	**76**	P	**P**	**23 59 00.6**	**-4.5**
	comp=E,0.3nm,0.6s,mb3.8,baz=283,slow=5.6,SNR=6.7						
TORD	**Torodi Ar. Bea**	**91.53**	**76**	P	**P**	**23 59 00.6**	**-4.5**
KEST	**Kesra**	**91.61**	**53**	LR	LR	00 38 09.3	
	comp=E,29nm,18.4s,MS3.8,baz=245,slow=34						
HHC	**Hu-ho-hao-te**	**120.21**	**338**	*e*PKP	PKPdf	00 04 46.3	-2.7
HHC				PP	PP	00 06 15.0	+1.8
HHC				PKS		00 08 22.3	
HHC				LR	LR		
	comp=N,127nm,21.9s,MS4.6						
HHC				LR	LR		
	comp=E,71nm,20.4s,MS4.6						
HHC				LR	LR		
	comp=Z,99nm,22.0s,MS4.4						
CAN	**Canberra**	**120.74**	**237**	PKPdf	PKPdf	00 04 44.8	-5.3
WMQ	**Urumqi**	**121.88**	**359**	*e*PKP	PKPdf	00 04 54.0	+1.9
NJ2	**Nanjing**	**124.30**	**327**	*e*PKP	PKPdf	00 05 00.5	+3.4
LZH	**Lanzhou**	**127.05**	**343**	*e*PKP	PKPdf	00 05 01.8	-0.5
LZH				LR	LR		
	comp=E,121nm,18.3s						
LZH				LR	LR		
	comp=Z,159nm,20.4s,MS4.7						
CD2	**Chengdu**	**131.87**	**340**	*e*PKP	PKPdf	00 05 11.3	-0.3
WRA	**Warramunga Arr**	**134.24**	**256**	PKP	PKPdf	00 05 12.7	-3.5
	comp=Z,0.7nm,0.8s,baz=87,slow=2.6,SNR=10						
ASAR	**Alice Springs**	**134.60**	**251**	PKP	PKPdf	00 05 12.4	-4.4
	comp=Z,0.6nm,0.9s,baz=89,slow=4.0,SNR=3.3						
CMAR	**Chiang Mai Arr**	**145.01**	**339**	PKPbc	PKPbc	00 05 32.5	-2.6
	comp=Z,3.7nm,0.9s,baz=342,slow=3.8,SNR=20						

*IDC **30** 23:49:10.5±1.4, 1456N×9305W, h0km, mb4.0/3, mb1 4.3/4, mb1mx3.8/20, mbtmp4.0/4, ML3.6/1, Error ellipse: s-maj=109.0km s-min=23.6km az=52.0*
*ISCJB **30** 23:49:11.7±1.6, 1443N±006×9349W±004, h20km±11km, mb3.8/6, Error ellipse: s-maj=9.8km s-min=4.8km az=22.8*
*NEIC **30** 23:49:11.6±0.7, 1456N×9308W, h10km, mb4.0/5, Error ellipse: s-maj=24.2km s-min=12.1km az=60.0*
*MEX **30** 23:49:14.7±0.8, 1436N×9347W, h22km±36km, MD4.0*
*CASC **30** 23:49:16.3±0.7, 1360N×9308W, h20km±999km, MD4.3, mb4.0(NEIC)*
*GCG **30** 23:49:17.2, 1352N×9306W, h59km, MD4.4, mb4.0(NEIC,*
ISC 30 23:49:11.1±1.3,1448N±005×9345W±003,h4km±7km,n23,σ1§18/31,mb3.8/6,Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
THIG		**1.22**	**69**	*i* P	**Pg**	**23 49 33.9**	**-0.6**
THIG				*i* S	**Sg**	**23 49 49.9**	**-0.5**
PCIG		**1.24**	**10**	*i* P	**Pg**	**23 49 34.4**	**-0.5**
PCIG				*i* S	**Sg**	**23 49 50.8**	**-0.2**
JAT	**Jato**	**1.76**	**95**	*e*P	**Pn**	**23 49 43.3**	**+1.0**
JAT				*e*S	**Sn**	**23 50 03.5**	**-1.7**
CCIG	**Comitan**	**2.19**	**35**	*i* P	**Pn**	**23 49 50.9**	**+2.6**
CCIG				*i* S	**Sn**	**23 50 15.9**	**0.0**
TGIG		**2.31**	**8**	*e*P	**Pn**	**23 49 51.3**	**+1.4**
TGIG				*i* S	**Sn**	**23 50 19.7**	**+1.0**
FG6		**2.48**	**88**	*e*P	**Pn**	**23 49 53.8**	**+1.5**
FG6				*e*S	**Sn**	**23 50 23.9**	**+0.9**
FUG	**Fuego 3**	**2.52**	**90**	*e*P	**Pn**	**23 49 53.7**	**+0.9**
FUG				*e*S	**Sn**	**23 50 23.1**	**-0.9**
CMIG	**Matias Romero**	**2.94**	**332**	Pn	**Pn**	**23 49 59.3**	**+0.6**
	6.9nm,0.3s,baz=153,slow=15,SNR=2.6						
CMIG				Sn	**Sn**	**23 50 33.9**	**-0.6**
	55nm,0.3s,baz=72,slow=19,SNR=9.1						
CMIG	**Matias Romero**	**2.94**	**332**	*i* P	**Pn**	**23 49 59.0**	**+0.4**
CMIG				*i* S	**Sn**	**23 50 33.9**	**-0.6**
VHO	**Vista Hermosa**	**4.08**	**310**	*i* S	**Sn**	**23 51 01.9**	**-0.6**
PNIG	**Pinotepa**	**4.90**	**293**	*e*P	**Pn**	**23 50 25.8**	**+0.3**
PNIG				*i* S	**Sn**	**23 51 21.5**	**-1.2**
MIAR	**Mount Ida**	**19.98**	**360**	*e*P	**Pn**	**23 53 43.9**	**-2.3**
	9

baz=291,slow=8.6
SNAA Sanae 54.45 159 *e* **P 00 16 26.3 -0.8**
SNAA Sanae 54.45 159 *eP* **P 00 16 26.4 -0.7**
comp=N,1.4nm,0.5s,mb4.2
QSPA South Pole Qui 59.34 180 *eP* **P 00 17 02.2 +0.6**
comp=N,7.7nm,1.5s,mb4.5
DBIC Dimbokro 74.16 72 P **P 00 18 35.5 -1.7**
comp=N,1.3nm,0.5s,mb4.1,baz=210,slow=8.1,SNR=5.1
DBIC Dimbokro 74.16 72 *eP* **P 00 18 36.3 -0.8**
comp=N,1.2nm,0.5s,mb4.1
TORD Torodi Ar. Bea 83.11 70 P **P 00 19 25.6 -0.9**
comp=N,0.3nm,0.5s,mb3.6,baz=252,slow=5.9,SNR=14
WRA Warramunga Arr 123.48 210 PKP PKPdf 00 25 57.4 -0.8
comp=N,0.3nm,0.3s,baz=161,slow=1.8,SNR=8.1
BVAR Borovoye Array 144.92 40 PKP PKPdf 00 26 35.9 -1.0
comp=N,0.1nm,0.3s,baz=310,slow=3.2,SNR=3.7
KURK Kurchatov 150.51 39 PKPbc PKPbc 00 26 51.5 -0.1
comp=N,0.2nm,0.2s,baz=296,slow=2.9,SNR=2.5
ZALV Zalesovo Beam 151.53 29 PKPbc PKPbc 00 26 53.5 -0.4
comp=N,0.8nm,0.5s,baz=300,slow=4.3,SNR=4.6

*CSEM **31** 00:06:59.7±0.3,37.10N×3629E,h1km±1km,MD3.2, Error ellipse: s-maj=3.5km s-min=1.7km az=173.0*
*ISCJB **31** 00:07:01.0±0.5,37.12N±004×3630E±003,h10km, Error ellipse: s-maj=5.6km s-min=3.6km az=169.2*
*ISK **31** 00:07:00.5,37.14N×3629E,h4km,MD3.1*
*DDA **31** 00:07:00.8,37.15N×3633E,h7km±5km,Md3.2*
ISC 31 00:07:01.2±0.6,3713N±004×3630E±003,h1km±6km,n19, σ0§80/26,Turkey

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res
ANDN	**Andirin**	**0.45**	**4**	*i* P		**Pg**	**00 07 08.5**	**-1.3**
ANDN				*i* S		**Sg**	**00 07 16.1**	**+0.4**
CEYT	**Ceyhan**	**0.46**	**255**	*e*PG		**Pg**	**00 07 10.2**	**+0.2**
KMRS	**Kahramanmaras**	**0.60**	**52**	*e*PG		**Pg**	**00 07 12.2**	**-0.6**
COBT	**Iskenderun**	**0.61**	**184**	*i* P		**Pg**	**00 07 12.4**	**-0.5**
COBT				*i* S		**Sg**	**00 07 25.1**	**+4.3**
GAZ	**Gaziantep**	**0.73**	**87**	*e*PG		**Pg**	**00 07 15.0**	**-0.1**
GAZ				*e*SG		**Sg**	**00 07 25.9**	**+1.4**
KARA	**Karaisali**	**1.00**	**278**	*e*PG		**Pg**	**00 07 19.8**	**-0.7**
KARA				*e*SG		**Sg**	**00 07 34.2**	**+0.8**
HTY	**Hatay**	**1.02**	**188**	*e*PG		**Pg**	**00 07 21.0**	**+0.4**
GZT	**Gaziantep**	**1.03**	**77**	*i* P		**Pn**	**00 07 20.5**	**-2.3**
GZT				*i* S		**Sn**	**00 07 37.0**	**-0.7**
MERS	**Mersin**	**1.45**	**260**	*e*PN		**Pn**	**00 07 28.1**	**-0.4**
SARI	**SarD1z-Kayseri**	**1.58**	**11**	*e*PN		**Pn**	**00 07 25.3**	**-4.9**
ATAB	**Bozova**	**1.62**	**77**	*i* P		**Pg**	**00 07 32.0**	**-0.3**
ATAB				*i* S		**Sg**	**00 07 53.3**	**0.0**
NIG	**Nigde**	**1.66**	**307**	*e*PN		**Pn**	**00 07 31.4**	**0.0**
AKCD	**Akcadag**	**1.73**	**47**	*i* P		**Pn**	**00 07 31.7**	**-0.7**
AKCD				*i* S		**Sn**	**00 07 55.4**	**+0.3**
BNN	**Bunyan**	**1.75**	**348**	*e*PN		**Pn**	**00 07 32.9**	**+0.2**
URFA	**Urfa**	**2.03**	**80**	*e*PN		**Pn**	**00 07 37.0**	**+0.6**
DARE	**Darende-Malaty**	**2.17**	**33**	*e*PN		**Pn**	**00 07 32.8**	**-5.6**
SVRC	**Sivrice-ELAZID**	**2.69**	**61**	*e*PN		**Pn**	**00 07 46.7**	**+1.2**
SVSK	**Karacayir**	**2.83**	**11**	*e*PN		**Pn**	**00 07 48.4**	**+0.9**
PTK	**Pertek**	**3.01**	**53**	*e*PN		**Pn**	**00 07 50.6**	**+0.7**

*PLV **31** 00:50:58.0±1.1,2379N×10447E,h10km±6km,MD4.0*
*IDC **31** 00:51:48.7±1.4,2460N×10493E,h0km,mb3.3/3, mb1 3.4/3,mb1mx3.3/20,mbtmp3.3/3,Error ellipse: s-maj=33.9km s-min=23.2km az=89.0*
*BJI **31** 00:51:50.7,2471N×10440E,h20km,ML3.4*
*ISCJB **31** 00:51:52.4±0.6,2465N±004×10409E±009,h33km, mb3.2/3,Error ellipse: s-maj=12.0km s-min=4.5km az=158.9*
ISC 31 00:51:54.5±0.6,2471N±004×10419E±008,h35km,n15, σ1§70/29,mb3.2/3,Yunnan

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res
GYA	**Guiyang**	**2.83**	**51**	P		**Pn**	**00 52 31.8**	**-5.4**
GYA				PG		**Pn**	**00 52 38.3**	**+1.1**
GYA				S		**Sn**	**00 53 07.3**	**-2.8**
GYA				SG		**Sn**	**00 53 10.8**	**+0.7**
GYA				Smax				
	comp=N,880nm,0.8s							
GYA				Smax				
	comp=E,570nm,0.8s							
MTZV	**Met**	**3.71**	**147**	*e*Pn		**Pn**	**00 52 43.7**	**-5.7**
MTZV				*e*Pg		**Pn**	**00 52 52.6**	**+3.3**
MTZV				*e*Sg		**Sn**	**00 53 29.7**	**-2.2**
HNV	**Hanoi**	**3.93**	**158**	*e*Pn		**Pn**	**00 52 46.5**	**-5.9**
HNV				*e*Pg		**Pn**	**00 52 56.8**	**+4.5**
HNV				*e*Sg		**Sn**	**00 53 37.0**	**-0.3**
YTV	**Yen Tu**	**4.23**	**146**	*e*Pn		**Pn**	**00 52 50.5**	**-5.9**
YTV				*e*Pg		**Pn**	**00 53 02.6**	**+6.1**
YTV				*e*Sg		**Sn**	**00 53 45.8**	**+1.1**
DSV	**Doi Son**	**4.42**	**158**	*e*Pn		**Pn**	**00 52 51.5**	**-7.5**
DSV				*e*Pg		**Pn**	**00 53 05.0**	**+6.0**
DSV				*e*Sg		**Sn**	**00 53 49.9**	**+0.6**
PLV	**Phu-Lien**	**4.49**	**149**	*e*Pn		**Pn**	**00 52 53.5**	**-6.5**
PLV				*e*Pg		**Pn**	**00 53 05.8**	**+5.8**
PLV				*e*Sg		**Sn**	**00 53 53.5**	**+2.5**
CD2	**Chengdu**	**6.19**	**357**	*e*P		**Pn**	**00 53 25.3**	**+1.9**
CD2				S		**Sn**	**00 54 35.8**	**+2.9**
CD2				Smax				
	comp=N,30nm,1.0s							
CD2				Smax				
	comp=E,40nm,0.8s							
XAN	**Xi'an**	**10.17**	**23**	P		**Pn**	**00 54 14.8**	**-3.2**
SONM	**Songino Array**	**23.15**	**4**	P		**P**	**00 56 57.1**	**-0.5**
	comp=E,0.6nm,0.7s,mb3.1,baz=185,slow=8.3,SNR=4.1							
MKAR	**Makanchi Array**	**28.14**	**327**	P		**P**	**00 57 46.2**	**+3.0**
	comp=E,0.2nm,0.4s,mb3.1,baz=123,slow=9.9,SNR=3.0							
WRA	**Warramunga Arr**	**53.20**	**144**	P		**P**	**01 01 05.9**	**-3.5**
	comp=E,0.3nm,0.7s,mb3.4,baz=333,slow=8.7,SNR=3.9							
ARTV	**Artvin**	**53.69**	**304**	*i* P		**P**	**01 01 10.1**	**-2.8**
DDEM	**Demirkent**	**53.84**	**304**	*i* P		**P**	**01 01 14.4**	**+0.5**
DBAD	**Bademkaya**	**53.88**	**304**	*i* P		**P**	**01 01 13.1**	**-1.1**
DBOC	**Borcka**	**53.88**	**304**	*i* P		**P**	**01 01 13.9**	**-0.4**

IDC 31 01:15:15.3±7.8,1772S×17668W,h0km,mb3.4/2, mb1 3.7/2,mb1mx3.5/15,mbtmp3.4/2,Error ellipse: s-maj=407.6km s-min=49.6km az=146.0,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res
WRA	**Warramunga Arr**	**46.29**	**259**	P		P	01 23 42.6	-0.4
	0.1nm,0.5s,baz=95,slow=6.8,SNR=5.3							
ASAR	**Alice Springs**	**46.43**	**254**	P		P	01 23 44.3	+0.2
	0.8nm,0.6s,baz=88,slow=8.3,SNR=9.5							
GERES	**GERESS Array B**	**147.83**	**347**	PKPbc		PKPbc	01 35 01.7	-0.5
	0.6nm,0.5s,baz=37,slow=1.7,SNR=8.3							

*ISCJB **31** 01:19:22.8±2.1,172N±0.1×1478E±0.4,h33km,mb3.7/7, Error ellipse: s-maj=59.8km s-min=17.7km az=171.0*
*IDC **31** 01:19:22.2±1.4,1706N×14729E,h0km,mb3.7/6, mb1 3.8/6,mb1mx3.7/19,mbtmp3.7/6,Error ellipse: s-maj=45.6km s-min=22.2km az=77.0*
*NEIC **31** 01:19:27.1±1.0,1707N×14738E,h35km,mb4.1/1,Error ellipse: s-maj=28.7km s-min=15.2km az=80.0*
ISC 31 01:19:25.4±2.1,171N±01×1477E±04,h35km,n9,σ0§40/8, mb3.7/7,Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res
WRAB	**Tennant Creek**	**39.09**	**200**	*e*P		**P**	**01 26 49.5**	**+0.1**
	2.5nm,0.7s,mb4.0							
WRA	**Warramunga Arr**	**39.10**	**200**	P		**P**	**01 26 49.1**	**-0.4**
	1.0nm,0.7s,mb3.6,baz=23,slow=9.2,SNR=14							
KSM	**Kuching**	**39.94**	**251**	*e*P		**P**	**01 26 56.5**	**-0.2**
ASAR	**Alice Springs**	**42.72**	**199**	P		**P**	**01 27 19.7**	**+0.4**
	0.3nm,0.6s,mb3.2,baz=19,slow=9.9,SNR=3.7							
SONM	**Songino Array**	**45.58**	**321**	P		**P**	**01 27 42.5**	**+0.6**
	0.7nm,0.6s,mb3.7,baz=134,slow=7.6,SNR=5.1							
CMAR	**Chiang Mai Arr**	**46.36**	**279**	P		**P**	**01 27 48.6**	**+0.1**
	1.8nm,0.9s,mb4.0,baz=67,slow=6.1,SNR=7.9							
ZALV	**Zalesovo Beam**	**60.44**	**323**	P		**P**	**01 29 30.6**	**-0.8**
	0.3nm,0.3s,mb3.8,baz=84,slow=6.6,SNR=4.0							
MKAR	**Makanchi Array**	**60.95**	**314**	P		**P**	**01 29 35.2**	**+0.2**
	0.6nm,0.9s,mb3.7,baz=79,slow=10,SNR=3.1							
LPAZ	**La Paz**	**145.68**	**94**	PKPbc		PKPbc	01 39 06.0	+4.6
	1.0nm,0.8s,baz=334,slow=12,SNR=3.3							

KRSC 31 01:25:40.0±1.0,5120N×15834E,h5km±5km,ML3.7,Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res
RUS	**Russkaya**	**1.24**	**5**	*e*P		Pg	01 26 04.4	+0.6
RUS				*i* S		Sg	01 26 22.2	+2.4
GRL	**Gorelyy**	**1.36**	**353**	P		Pn	01 26 04.9	-0.8
MIPR	**Malaya Ipel'ka**	**1.46**	**318**	P		Pn	01 26 07.4	+0.4
PET	**Petropavlovsk**	**1.84**	**6**	P		Pn	01 26 14.0	+1.8
PET				*i* S		Sn	01 26 39.2	+3.4
NLC	**Nalytchevo**	**2.07**	**17**	P		Pn	01 26 15.4	+0.1
NLC				*i* S		Sn	01 26 41.5	0.0
AVH	**Avacha**	**2.08**	**7**	P		Pn	01 26 17.5	+2.0
SPN	**Mys Shipunski**	**2.17**	**28**	*e*P		Pn	01 26 18.6	+1.9
SPN				*i* S		Sn	01 26 46.3	+2.5
GNL	**Ganaly**	**2.51**	**355**	P		Pn	01 26 23.1	+1.7
MKZ	**Mys Kozlova**	**3.94**	**30**	P		Pn	01 26 42.2	+1.2
KBTR	**Krutoberegovo**	**5.68**	**26**	P		Pn	01 27 06.6	+1.7

*ISCJB **31** 01:29:29.1±1.6,2589S±008×1769W±0.1,h73km±14km, mb4.3/11,Error ellipse: s-maj=20.8km s-min=12.3km az=12.4*
*IDC **31** 01:29:33.9±4.0,2605S×17704W,h93km±33km,mb4.1/7, mb1 4.3/8,mb1mx4.0/15,mbtmp4.2/8,Error ellipse: s-maj=33.0km s-min=24.8km az=51.0*
*NEIC **31** 01:29:34.9±2.8,2612S×17695W,h109km±22km,mb4.3/4, Error ellipse: s-maj=29.4km s-min=21.3km az=220.0*
ISC 31 01:29:30.5±1.3,2590S±007×1768W±01,h74km±12km,n24, σ1§16/22,mb4.3/11,South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res
RAO	**Raoul Island**	**3.48**	**196**	P		**Pn**	**01 30 24.0**	**+1.7**
	62nm,0.3s,baz=237,slow=23,SNR=2.5							
RAO				S		**Sn**	**01 31 01.8**	**-0.5**
	180nm,0.3s,baz=264,slow=23,SNR=5.7							
AFI	**Afiamalu**	**12.83**	**23**	P		**Pn**	**01 32 29.1**	**-1.0**
	5.0nm,0.3s,baz=65,slow=20,SNR=3.6							
AFI				S		**Sn**	**01 34 40.4**	**-11**
	1.9nm,0.3s,baz=260,slow=20,SNR=2.7							
URZ	**Urewera**	**13.35**	**201**	P		**Pn**	**01 32 41.1**	**+4.3**
	0.5nm,0.3s,baz=342,slow=15,SNR=3.5							
URZ				S		**Sn**	**01 34 45.6**	**-18**
	1.1nm,0.3s,baz=149,slow=21,SNR=5.9							
CTA	**Charters Tower**	**34.41**	**272**	P		**P**	**01 36 12.0**	**+1.1**
	8.4nm,0.6s,mb4.7,baz=102,slow=9.6,SNR=10							
STKA	**Stephens Creek**	**36.73**	**251**	P		**P**	**01 36 32.0**	**+1.2**
	1.9nm,0.7s,mb4.1,baz=111,slow=20,SNR=2.8							
COEN	**Coen**	**39.30**	**280**	*e*P		**P**	**01 36 52.7**	**+0.2**
	4.8nm,0.7s,mb4.4							
ASAR	**Alice Springs**	**44.59**	**262**	P		**P**	**01 37 34.2**	**-1.3**
	0.8nm,0.4s,mb3.8,baz=96,slow=6.5,SNR=10							
WRAB	**Tennant Creek**	**45.17**	**267**	*e*P		**P**	**01 37 39.3**	**-0.9**
	3.3nm,0.6s,mb4.2							
WRA	**Warramunga Arr**	**45.18**	**267**	P		**P**	**01 37 38.4**	**-1.9**
	2.1nm,0.5s,mb4.2,baz=106,slow=6.3,SNR=43							
CASY	**Casey**	**59.60**	**207**	*e*P		**P**	**01 39 24.1**	**-2.2**
	3.8nm,0.7s,mb4.5							
KKM	**Kota Kinabalu**	**72.24**	**286**	*e*P		**P**	**01 40 42.7**	**-5.6**
MAW	**Mawson**	**76.88**	**200**	P		**P**	**01 41 14.3**	**+0.1**
	2.6nm,0.6s,mb4.2,baz=144,slow=5.3,SNR=8.5							
PETK	**Petropavlovsk-**	**81.75**	**345**	P		**P**	**01 41 42.3**	**+1.6**
	4.2nm,0.5s,mb4.5,baz=115,slow=7.2,SNR=10							
SNAA	**Sanae**	**82.61**	**178**	*e*		**P**	**01 41 44.9**	**-0.2**
SNAA				*e*			01 41 47.8	
SNAA	**Sanae**	**82.61**	**178**	*eP*		**P**	**01 41 44.5**	**-0.6**
	5.0nm,1.1s,mb4.3							
VNA3	**Neumayer Olymp**	**82.70**	**176**	*e*		**P**	**01 41 45.5**	**-0.2**
VNA3				*e*			01 41 47.8	
VNA3				*e*			01 42 12.2	
VNA2	**Neumayer--Watz**	**83.16**	**177**	*e*		**P**	**01 41 48.1**	**+0.1**
	baz=175,slow=3.0							
VNA2				*e*			01 41 50.5	
VNA2				*e*			01 42 15.5	
VNA1	**Neumayer--Stat**	**83.38**	**176**	*e*		**P**	**01 41 49.7**	**+0.6**
VNA1				*e*			01 41 52.0	
CMAR	**Chiang Mai Arr**	**92.92**	**289**	P		**P**	**01 42 37.5**	**+1.7**
	1.0nm,0.3s,mb4.6,baz=132,slow=3.7,SNR=6.3							
NB2	**NORSAR Subarra1**	**44.45**	**353**	PKP	PKPdf		01 48 57.2	-0.5
	comp=Z,1.2nm,0.5s,baz=9.1,slow=3.5							
NOA	**NORSAR Array B**	**144.45**	**353**	PKP	PKPdf		01 48 57.4	-0.2
	comp=Z,2.2nm,0.7s,baz=0.3,slow=2.3,SNR=7.8							
NOA	**NORSAR Array B**	**144.45**	**353**	PKP	PKPdf		01 48 57.4	-0.3
AKASG	**Malin Array Be**	**148.20**	**328**	PKPbc	PKPbc		01 49 07.8	+0.1
	comp=Z,1.9nm,0.6s,baz=46,slow=4.0,SNR=5.2							
TORD	**Torodi Ar. Bea**	**167.24**	**173**	PKPab	PKPab		01 50 33.8	+0.5
	comp=Z,0.6nm,0.8s,baz=129,slow=2.0,SNR=3.7							

NEIC 31 01:39:17.9,5211N×17718E,h3km,ML3.2(AEIC), **ML3.8**(PMR)**,After AEIC.,Rat Islands**

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res
AMKA	**Amchitka**	**1.51**	**118**	P		Pn	01 39 44.1	-1.7
AMKA				S		Sn	01 40 03.3	-2.6
SMY	**Shemya**	**1.99**	**289**	P		Pn	01 39 50.5	-1.9
SMY				S		Sn	01 40 17.1	-0.6
FX1	**Attu Island--F**	**2.58**	**289**	P		Pn	01 39 58.2	-2.2
ADK	**Adak**	**3.80**	**91**	P		Pn	01 40 17.6	+0.3
ADK				S		Sn	01 41 02.1	-0.3

NEIC 31 02:29:28.8,5210N×17717E,h11km,ML3.8(AEIC), **ML4.0**(PMR)**,After AEIC.,Rat Islands**

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res
AMKA	**Amchitka**	**1.51**	**118**	P		Pn	02 29 54.1	-1.6
AMKA				S		Sn	02 30 12.9	-2.4
SMY	**Shemya**	**1.98**	**290**	P		Pn	02 30 00.5	-1.7
SMY				S		Sn	02 30 25.8	-1.1
FX1	**Attu Island--F**	**2.57**	**289**	P		Pn	02 30 08.1	-2.2
FX1				S		Sn	02 30 39.5	-1.9
ADK	**Adak**	**3.81**	**91**	P		Pn	02 30 26.6	-0.6

*NIED **31** 02:45:00,4700N×153.10E,h35km,Mw3.9 Best double couple: M0 7.67000×10^14 NP1:φs302.00000°,δ86.00000°, λ17.00000°. NP2:φ211.00000°,δ73.00000°,λ176.00000°.*
*NEIC **31** 02:45:45.8±0.7,4673N×15289E,h10km,mb3.8/1,Error ellipse: s-maj=23.8km s-min=13.5km az=139.0*
*ISCJB **31** 02:45:50.1±2.1,469N±0.1×1529E±02,h54km±17km, mb3.7/8,Error ellipse: s-maj=28.6km s-min=10.7km az=138.9*
*IDC **31** 02:45:53.6±3.2,4694N×15290E,h71km±28km,mb3.4/7, mb1 3.7/9,mb1mx3.5/22,mbtmp3.5/9,Error ellipse: s-maj=29.4km s-min=19.4km az=144.0*
*MOS **31** 02:45:54.4±2.1,4696N×15271E,h94km,mb4.2/3,Error ellipse: s-maj=28.7km s-min=15.5km az=67.6*
ISC 31 02:45:52.9±1.7,470N±01×1529E±02,h63km±14km,n19, σ0§94/20,mb3.7/8,Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res
SKR	**Severo-Kuril's**	**4.30**	**28**	*e*PN		**Pn**	**02 47 02.9**	**+7.2**
SKR				*e*S		**Sn**	**02 47 42.5**	**-2.0**
SKR				pmax	pmax			
	comp=Z,80nm,0.5s							
SKR				smax				
	comp=N,120nm,0.3s							
SKR				smax				
	comp=E,200nm,0.3s							
PETK	**Petropavlovsk-**	**6.90**	**25**	P		**Pn**	**02 47 31.7**	**+0.5**
	comp=E,0.1nm,0.3s,baz=170,slow=9.8,SNR=2.4							
ASAJ	**Asahikawa**	**7.77**	**252**	P		**Pn**	**02 47 43.8**	**+0.5**
	comp=E,1.0nm,0.3s,baz=60,slow=14,SNR=5.4							
ASAJ	**Asahikawa**	**7.77**	**252**	PN		**Pn**	**02 47 43.8**	**+0.5**
ASAJ				pmax	pmax			
	comp=Z,1.0nm,0.3s							
INK	**Inuvik**	**41.56**	**33**	*e*P		**P**	**02 53 34.2**	**+0.4**
MK31	**Makanchi Array**	**46.72**	**297**	*e*P		**P**	**02 54 16.2**	**+0.8**
MKAR	**Makanchi Array**	**46.72**	**297**	P		**P**	**02 54 15.4**	**+0.1**
	comp=Z,0.3nm,0.6s,mb3.4,baz=56,slow=4.4,SNR=3.2							
KKM	**Kota Kinabalu**	**51.49**	**229**	*e*P		**P**	**02 54 50.1**	**-2.1**
CMAR	**Chiang Mai Arr**	**52.28**	**256**	P		**P**	**02 54 58.6**	**+0.6**
	comp=Z,0.6nm,0.3s,mb4.0,baz=43,slow=11,SNR=4.2							
CMAR	**Chiang Mai Arr**	**52.28**	**256**	P		**P**	**02 54 58.6**	**+0.6**
CMAR				pmax	pmax			
	comp=Z,1.0nm,0.3s							
TPAW	**Teton Pass**	**63.50**	**54**	*e*P		**P**	**02 56 17.2**	**+1.0**
	comp=Z,0.3nm,0.4s,mb3.7							
PDAR	**Pinedale Array**	**64.75**	**54**	P		**P**	**02 56 25.4**	**+1.0**
	comp=Z,0.3nm,0.7s,mb3.4,baz=300,slow=6.7,SNR=3.8							
NB2	**NORSAR Subarra**	**68.00**	**341**	P		**P**	**02 56 44.4**	**-0.5**
	comp=Z,1.1nm,0.7s,mb4.0,baz=27,slow=6.5							
NOA	**NORSAR Array B**	**68.00**	**341**	P		**P**	**02 56 44.4**	**-0.5**
	comp=Z,1.3nm,0.7s,mb4.1,baz=26,slow=6.4,SNR=5.3							
NOA	**NORSAR Array B**	**68.00**	**341**	P		**P**	**02 56 44.4**	**-0.5**
NOA				pmax	pmax			
	comp=Z,1.0nm,0.7s							
AKASG	**Malin Array Be**	**71.30**	**326**	P		**P**	**02 57 04.6**	**-0.8**
	comp=Z,1.6nm,0.4s,mb4.3,baz=33,slow=6.4,SNR=5.1							
AKASG	**Malin Array Be**	**71.30**	**326**	P		**P**	**02 57 04.6**	**-0.8**
AKASG				pmax	pmax			
	comp=Z,2.0nm,0.4s							
ASAR	**Alice Springs**	**72.35**	**198**	P		**P**	**02 57 11.2**	**-0.7**
	comp=Z,0.3nm,0.7s,mb3.3,baz=19,slow=5.9,SNR=3.7							
TXAR	**Lajitas Array**	**77.52**	**60**	P		**P**	**02 57 41.8**	**-0.1**
	comp=Z,0.3nm,0.5s,mb3.5,baz=301,slow=4.7,SNR=9.2							

IDC 31 02:54:26.6±5.6,2031S×16832E,h0km,mb4.0/2, mb1 4.3/2,mb1mx3.8/13,mbtmp4.0/2,Error ellipse: s-maj=213.7km s-min=53.6km az=148.0,Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res
WRA	**Warramunga Arr**	**31.87**	**265**	P		P	03 00 54.1	+0.3
	0.8nm,0.5s,baz=96,slow=8.0,SNR=22							
ASAR	**Alice Springs**	**32.04**	**258**	P		P	03 00 54.9	-0.3
	4.1nm,1.0s,baz=84,slow=9.2,SNR=19							
GERES	**GERESS Array B**	**145.00**	**330**	PKPbc		PKPbc	03 14 04.5	-0.6
	0.4nm,0.4s,baz=27,slow=1.1,SNR=6.0							

IDC 31 02:55:29.3±5.6,2147S×16911E,h0km,mb4.0/2, mb1 4.3/2,mb1mx3.8/13,mbtmp4.0/2,Error ellipse: s-maj=224.0km s-min=57.8km az=151.0,Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res
WRA	**Warramunga Arr**	**32.52**	**266**	P		P	03 02 01.7	-0.5
	0.5nm,0.5s,baz=97,slow=8.3,SNR=11							
ASAR	**Alice Springs**	**32.53**	**259**	P		P	03 02 02.6	+0.4
	3.0nm,0.8s,baz=89,slow=8.8,SNR=9.5							
GERES	**GERESS Array B**	**146.37**	**330**	PKPbc		PKPbc	03 15 11.5	-0.5
	0.9nm,0.8s,baz=141,slow=0.6,SNR=3.6							

IDC 31 02:59:14.0±1.3,041S×12221E,h0km,mb3.3/4,mb1 3.5/4, mb1mx3.4/16,mbtmp3.4/4,Error ellipse: s-maj=154.7km s-min=22.1km az=64.0,Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res
WRA	**Warramunga Arr**	**22.76**	**149**	P		P	03 04 18.0	0.0
	0.5nm,0.8s,baz=327,slow=10,SNR=5.0							
ASAR	**Alice Springs**	**25.75**	**155**	P		P	03 04 46.6	0.0
	0.4nm,0.9s,baz=340,slow=8.0,SNR=4.0							
SONM	**Songino Array**	**49.98**	**346**	P		P	03 08 10.9	+1.0
	0.4nm,0.7s,baz=168,slow=7.6,SNR=3.6							
MKAR	**Makanchi Array**	**58.55**	**329**	P		P	03 09 11.9	-0.4
	0.6nm,0.6s,baz=137,slow=7.6,SNR=6.2							

*BJI **31** 03:04:52.8,3740N×12180W,h10km,mB5.4,mb5.0,Ms5.5, Msz5.1*
*MOS **31** 03:04:52.8±1.3,3729N×12191W,h10km,mb5.4/57,Error ellipse: s-maj=5.5km s-min=5.0km az=147.9*
*ISCJB **31** 03:04:53.6±0.1,3737N±001×12180W±002,h10km, mb5.1/133,MS5.1/16,Error ellipse: s-maj=2.1km s-min=1.2km az=145.0*
*IDC **31** 03:04:54.6±0.6,3756N×12177W,h0km,mb4.5/18, mb1 4.7/25,mb1mx4.6/27,mbtmp4.5/25,ML4.3/7,MS5.2/11, Ms1 5.2/11,ms1mx4.9/43,Error ellipse: s-maj=12.8km s-min=9.7km az=175.0*
*NEIC **31** 03:04:54.8,3743N×12177W,h10km,mb5.3/103,MS5.1/5, MW5.5(BRK),After NCEDC.*
NEIC Minor damage in the San Jose area. Felt [VI] at Mount Hamilton and San Jose; [V] at Alviso, Milpitas, Santa Clara and Sunnyvale; [IV] at Alameda, Aptos, Aromas, Atherton, Atwater, Ballico, Belmont, Ben Lomond, Bolinas, Boulder Creek, Brisbane, Burlingame, Campbell, Capitola, Carmel, Ceres, Chualar, Crows Landing, Cupertino, Daly City, Danville, Davenport, Delhi, Diablo, Dos Palos, Dublin, Felton, Freedom, Fremont, Gilroy, Granite Bay, Greenfield, Gustine, Half Moon Bay, Hayward, Hilmar, Hollister, Hughson, Isleton, La Honda, Lathrop, Livermore, Livingston, Loma Mar, Los Altos, Los Banos, Los Gatos, Manteca, Marina, Mendota, Menlo Park, Merced, Millbrae, Modesto, Morgan Hill, Moss Beach, Moss Landing, Mountain View, Newark, Newman, North Fork, Oakland, Pacifica, Paicines, Palo Alto, Patterson, Pescadero, Pine Grove, Placerville, Pleasanton, Portola Valley, Redwood City, Ripon, Riverbank, Salinas, San Bruno, San Francisco, San Juan Bautista, San Leandro, San Lorenzo, San Martin, San Mateo, San Miguel, San Ramon, Santa Cruz, Saratoga, Sausalito, Scotts Valley, Seaside, Soledad, Soquel, South San Francisco, Stevinson, Stinson Beach, Stockton, Sunol, Tracy, Travis AFB, Turlock, Union City and Watsonville. Felt in most of central and northern California from Arcata to Bakersfield. Also felt in the Carson City-Reno area, Nevada.
*GCMT **31** 03:04:54.8±0.3,3737N×12178W,h14km±1km,MW5.6/60, Moment Tensor Solution. s56,c94; s60,c138; Duration: 1§5 Moment tensor: Scale 10^17Nm; Mrr-0.03±.04; Mθθ-2.53±.06; Mφφ2.56±.06; Mrθ0.21±.11; Mrφ0.84±.05; Mθφ0.42±.12; Best double couple: M0 2.71800×10^17 NP1:φ324.00000°,δ81.00000°,λ176.00000°. NP2: φ54.00000°,δ86.00000°,λ

	baz=1.3								
CMB	Columbia Colle	1.38	58	ePn	Pn	03 05 17.6	-2.8		
CMB				eSg	Sg	03 05 32.4	-7.0		
V03C	Hunter Liggett	1.38	158	⇑P	Pn	03 05 20.0	-0.5		
	baz=1.5								
V03C				⇑S	Sb	03 05 39.0	+0.2		
	baz=1.5								
MNRC	McLaughlin Nat	1.63	344	⇓P	Pn	03 05 21.0	-2.9		
	baz=1.5								
LAVA	Lava Cap Winer	1.69	31	⇑P	Pn	03 05 21.4	-3.3		
	baz=1.6,SNR=742								
U05C	Westside ANR,	1.71	124	⇑P	Pn	03 05 23.7	-1.2		
	baz=1.7,SNR=220								
PKD	Parkfield	1.73	142	⇓P	Pn	03 05 24.5	-0.7		
	baz=1.8								
T06C	Millerton Lake	1.75	99	⇑P	Pn	03 05 23.2	-2.2		
	baz=1.7								
T06C				⇑S	Sn	03 05 45.8	-2.0		
	baz=1.7								
HOPS	Hopland	1.93	331	⇓P	Pn	03 05 25.3	-2.6		
	baz=1.9								
HOPS	Hopland	1.93	331	ePn	Pn	03 05 25.4	-2.6		
KCC	Kaiser Creek	2.03	89	⇑P	Pn	03 05 27.8	-1.5		
	baz=2.0,SNR=1000								
KCC				⇓S	Sn	03 05 52.4	-2.3		
	baz=2.0								
OHCM	Honcut	2.04	8	ePn	Pn	03 05 25.5	-4.0		
PTRM	Twisselman Ran	2.12	141	ePn	Pn	03 05 30.0	-0.6		
V05C	Boulder Hill,	2.14	132	⇑P	Pn	03 05 30.0	-0.8		
	baz=2.2,SNR=37								
ORV	Oroville	2.26	7	⇓P	Pn	03 05 28.6	-3.9		
	baz=2.1,SNR=192								
R06C	Coleville	2.26	57	⇑P	Pn	03 05 31.6	-0.9		
	baz=2.1								
WAKR	Walker	2.26	57	ePn	Pn	03 05 31.9	-0.7		
RCTC	Rector, Farmer	2.33	115	⇑P	Pn	03 05 31.5	-2.0		
	baz=2.3,SNR=89								
MLAC	Mammoth Lakes	2.43	82	⇑P	Pn	03 05 34.5	-0.3		
	baz=2.3								
GASB	Alder Springs	2.43	344	⇓P	Pn	03 05 32.2	-2.7		
	baz=2.3,SNR=167								
SMMC	Simmler	2.50	142	⇓P	Pn	03 05 35.3	-0.5		
	baz=2.6								
SMMC				⇑S	Sn	03 06 06.1	-0.4		
	baz=2.6								
WCN	Washoe City	2.59	39	⇓P	Pn	03 05 35.6	-1.4		
	baz=2.4,SNR=1000								
MTUM	Tungsten Hills	2.63	88	ePn	Pn	03 05 37.4	-0.2		
VES	Vestal, Richgr	2.68	122	⇑P	Pn	03 05 36.4	-1.9		
	baz=2.7,SNR=652								
KCPM	Cahto Peak	2.73	331	ePn	Pn	03 05 37.0	-1.9		
KCPM				e		03 05 48.5			
O05C	Quincy	2.75	15	⇓P	Pn	03 05 37.4	-1.8		
	baz=2.6								
KIPM	Iron Peak	2.80	334	ePn	Pn	03 05 38.1	-1.8		
BEKR	Beckwourth	2.81	24	⇑P	Pn	03 05 37.8	-2.2		
	baz=2.7								
P06A	Stead Airport,	2.82	33	⇓P	Pn	03 05 38.3	-1.9		
	baz=2.7,SNR=170								
Q07A	Schurz	2.91	55	⇑P	Pn	03 05 40.0	-1.4		
	baz=2.8,SNR=20								
TIN	Tinemaha	2.92	94	⇑P	Pn	03 05 41.4	-0.1		
	baz=2.8								
PKM	Peak Mountain	2.93	145	⇑P	Pn	03 05 41.3	-0.3		
	baz=3.0,SNR=440								
NVAR	Mina Array Bea	3.03	67	Pn	Pn	03 05 41.7	-1.4		
	24nm,0.3s,baz=248,slow=15,SNR=238								
NVAR				Sn	Sn	03 06 24.6	+5.2		
	900nm,0.3s,baz=231,slow=26,SNR=8.8								
O04C	Chester	3.06	11	⇑P	Pn	03 05 42.0	-1.6		
	baz=2.9								
PAHR	Pah Rah Range	3.08	38	ePn	Pn	03 05 41.7	-2.2		
PAHR				ePg	Pg	03 05 48.3	-5.8		
R08A	Mina	3.15	70	⇑P	Pn	03 05 43.1	-1.6		
	baz=3.0								
CWC	Cottonwood Cre	3.16	105	⇑P	Pn	03 05 44.6	-0.3		
	baz=3.1								
ISA	Isabella	3.19	120	⇑P	Pn	03 05 44.3	-1.0		
	baz=3.2,SNR=1000								
ISA	Isabella	3.19	120	ePn	Pn	03 05 44.2	-1.1		
ISA				ePg	Pg	03 05 52.1	-4.1		
ISA				eSg	Sg	03 06 32.4	-5.2		
O01C	Eel River Cons	3.21	332	⇓P	Pn	03 05 43.9	-1.7		
	baz=3.1								
P07A	Fallon	3.23	46	⇑P	Pn	03 05 43.4	-2.4		
	baz=3.1,SNR=9.4								
O06A	Flanigan	3.26	29	⇓P	Pn	03 05 44.1	-2.2		
	baz=3.1,SNR=19								
ARVC	Arvin	3.28	131	⇑P	Pn	03 05 45.0	-1.6		
	baz=3.3,SNR=298								
WDC	Whiskeytown Da	3.31	351	⇓P	Pn	03 05 43.8	-3.1		
	baz=3.2,SNR=140								
WDC	Whiskeytown Da	3.31	351	ePn	Pn	03 05 43.1	-3.8		
SBC	Santa Barbara	3.35	148	⇑P	Pn	03 05 47.3	-0.2		
	baz=3.4,SNR=22								
Q08A	Gabbs	3.47	62	⇓P	Pn	03 05 46.6	-2.5		
	baz=3.3								
GRAC	Grapevine Rang	3.60	94	⇑P	Pn	03 05 50.7	-0.3		
	baz=3.5								
N02C	Big Bar	3.68	343	⇑P	Pn	03 05 50.8	-1.2		
	baz=3.6								
O07A	Toulon	3.68	38	⇑P	Pn	03 05 49.8	-2.2		
	baz=3.5,SNR=90								
S09A	Goldfield	3.71	82	⇓P	Pn	03 05 51.3	-1.2		
	baz=3.6								
MPMC	Manual Prospec	3.73	108	⇑P	Pn	03 05 52.1	-0.7		
	baz=3.7,SNR=812								
TPH	Tonopah	3.76	77	ePn	Pn	03 05 52.5	-0.7		
TPH				ePg	Pg	03 06 01.7	-5.4		
BSC	Santa Cruz Isl	3.78	151	⇑P	Pn	03 05 52.2	-1.2		
	baz=3.9,SNR=82								
N06A	Buffalo Meadow	3.78	24	⇑P	Pn	03 05 50.7	-2.7		
	baz=3.6								
P08A	Dixie Valley	3.80	50	⇓P	Pn	03 05 51.3	-2.4		
	baz=3.7								
LRMC	Laurel Mountai	3.83	117	⇓P	Pn	03 05 53.4	-0.8		
	baz=3.8,SNR=54								
KHMM	Horse Mountain	3.84	338	ePn	Pn	03 05 53.8	-0.5		
JCC	Jacoby Creek	3.88	335	⇑P	Pn	03 05 53.1	-1.7		
	baz=3.8								
R09A	Tonopah	3.91	75	⇓P	Pn	03 05 53.7	-1.4		
	baz=3.8								
BLG	Laguna Peak	3.92	144	⇑P	Pn	03 05 54.3	-1.1		
	baz=4.0,SNR=60								
M03C	McCloud	3.96	357	⇑P	Pn	03 05 54.5	-1.4		
	baz=3.9								
EDW2	Edwards Air Fo	3.97	127	⇓P	Pn	03 05 55.0	-0.9		
	baz=4.0,SNR=186								
Q09A	Carvers	4.00	66	⇑P	Pn	03 05 54.4	-2.0		
	baz=3.9								
FURC	Furnace Creek,	4.10	100	⇓P	Pn	03 05 56.8	-1.0		
	baz=4.0								
N07B	Gerlach	4.13	32	⇓P	Pn	03 05 55.9	-2.3		
	baz=4.0,SNR=9.9								
M02C	Callahan	4.14	350	⇓P	Pn	03 05 57.6	-0.8		
	baz=4.0								
O08A	Rochester Mine	4.15	43	⇑P	Pn	03 05 56.2	-2.3		
	baz=4.0,SNR=27								
DECC	Green Verdugo	4.19	136	⇑P	Pn	03 05 58.9	-0.2		
	baz=4.2								
S10A	Tonopah Range,	4.23	80	⇑P	Pn	03 05 58.8	-0.8		
	baz=4.1								
P09A	Austin	4.33	57	⇑P	Pn	03 05 59.1	-1.9		
	baz=4.2,SNR=19								
PASC	Pasadena Art C	4.33	135	ePn	Pn	03 06 00.4	-0.6		
MWC	Mount Wilson	4.37	134	ePn	Pn	03 06 01.0	-0.5		
MWC				ePg	Pg	03 06 15.0	-3.8		
MWC				eSg	Sg	03 07 07.3	-8.1		
YBH	Yreka Blue Hor	4.46	352	Pn	Pn	03 06 02.7	-0.1		
	11nm,0.3s,baz=158,slow=8.5,SNR=132								
YBH				Sn	Sn	03 06 57.4	+2.6		
	9.9nm,0.3s,baz=222,slow=6.0,SNR=5.2								
YBH	Yreka Blue Hor	4.46	352	⇑P	Pn	03 06 01.7	-1.1		
	baz=4.4								
YBH	Yreka Blue Hor	4.46	352	ePn	Pn	03 06 01.9	-0.9		
SNCC	San Nicolas Is	4.48	154	⇑P	Pn	03 06 02.1	-1.0		
	baz=4.6,SNR=26								
SNCC	San Nicolas Is	4.48	154	⇓/Pn	Pn	03 06 02.0	-1.1		
KRMB	Red Mountain	4.49	340	ePn	Pn	03 06 02.5	-0.7		
TPNV	Topopah Spring	4.50	93	⇓P	Pn	03 06 02.6	-0.7		
	baz=4.4								
TPNV	Topopah Spring	4.50	93	ePn	Pn	03 06 03.1	-0.3		
TPNV				ePg	Pg	03 06 12.1	-9.3		
R10A	Warm Springs	4.51	76	⇓P	Pn	03 06 02.5	-1.0		
	baz=4.4								
N08A	GE Springer Mi	4.52	39	⇑P	Pn	03 06 01.3	-2.2		
	baz=4.4,SNR=26								
U10A	Ash Meadows, A	4.53	100	⇑P	Pn	03 06 02.7	-1.0		
	baz=4.5								
GSC	Goldstone	4.55	115	⇑P	Pn	03 06 03.1	-0.9		
	baz=4.5,SNR=22								
GSC	Goldstone	4.55	115	ePn	Pn	03 06 03.0	-1.0		
GSC				eSg	Sg	03 07 07.3	-14		
Q10A	Clear Creek Ra	4.57	69	⇓P	Pn	03 06 02.9	-1.4		
	baz=4.5								
BFSC	Mount Baldy St	4.59	131	⇑P	Pn	03 06 04.0	-0.6		
	baz=4.6,SNR=52								
FMP	Fort Macarthur	4.62	140	⇓P	Pn	03 06 04.1	-0.9		
	baz=4.7								
RRX	Edison Barstow	4.63	120	⇑P	Pn	03 06 04.5	-0.6		
	baz=4.6,SNR=44								
SHOC	Shoshone	4.71	106	⇓P	Pn	03 06 04.9	-1.2		
	baz=4.7								
MOD	Modoc	4.74	14	⇓P	Pn	03 06 05.1	-1.5		
	baz=4.6								
MOD	Modoc	4.74	14	ePn	Pn	03 06 05.9	-0.7		
MOD				ePg	Pg	03 06 15.7	-10		
BMN	Battle Mountai	4.78	48	ePn	Pn	03 06 05.0	-2.1		
BMN				ePg	Pg	03 06 17.2	-9.4		
BMN				eSg	Sg	03 07 18.6	-10		
CIS	Catalina Islan	4.81	143	⇓P	Pn	03 06 06.0	-1.7		
	baz=4.9,SNR=140								
P10A	Eureka	4.82	60	⇑P	Pn	03 06 05.9	-1.9		
	baz=4.7								
M01C	Crescent City	4.85	340	⇑P	Pn	03 06 08.0	-0.1		
	baz=4.8								
S11A	Rachel	4.88	84	⇑P	Pn	03 06 07.6	-0.9		
	baz=4.8								
N09A	Rock Creek Ran	4.89	42	⇓P	Pn	03 06 06.1	-2.5		
	baz=4.7								
M08A	Happy Creek Ra	4.93	32	⇑P	Pn	03 06 07.1	-2.2		
	baz=4.8,SNR=51								
L02A	Cave Junction	5.02	345	⇓P	Pn	03 06 10.1	-0.4		
	baz=4.9								
BBRC	Big Bear Sol-O	5.04	126	⇑P	Pn	03 06 09.7	-1.1		
	baz=5.1,SNR=36								
R11A	Troy Canyon, C	5.08	76	⇓P	Pn	03 06 10.6	-0.7		
	baz=5.0								
L07A	Adell	5.09	22	⇑P	Pn	03 06 10.1	-1.3		
	baz=5.0,SNR=34								
SCI	San Clemente I	5.11	147	⇓P	Pn	03 06 10.8	-0.9		
	baz=5.2,SNR=8.9								
HEC	Hector,Ludlow	5.12	117	⇑P	Pn	03 06 10.9	-1.0		
	baz=5.1,SNR=170								
Q11A	Duckwater	5.13	71	⇓P	Pn	03 06 10.0	-2.1		
	baz=5.0,SNR=6.1								
O10A	Cortez Mining,	5.14	53	⇓P	Pn	03 06 10.3	-1.8		
	baz=5.0,SNR=20								
TUQ	Turquoise Moun	5.15	110	⇓P	Pn	03 06 11.5	-0.7		
	baz=5.1,SNR=101								
KBO	Bosley Butte	5.22	340	ePn	Pn	03 06 12.8	-0.4		
U11A	Corn Creek	5.27	98	⇑P	Pn	03 06 12.8	-1.2		
	baz=5.2								
P11A	Circle Ranch,	5.29	63	⇑P	Pn	03 06 12.6	-1.6		
	baz=5.2								
T11A	Corn Creek, Al	5.30	89	⇓P	Pn	03 06 13.9	-0.4		
	baz=5.2								
MURC	Murrieta	5.31	133	⇓P	Pn	03 06 14.2	-0.3		
	baz=5.3								
M09A	Marrel Ranch,	5.34	38	⇑P	Pn	03 06 12.6	-2.3		
	baz=5.2								
HUMO	Hull Mountain	5.35	351	⇑P	Pn	03 06 14.1	-0.9		
	baz=5.3								
HUMO	Hull Mountain	5.35	351	ePn	Pn	03 06 15.4	+0.4		
N10A	Dunphy	5.38	49	⇑P	Pn	03 06 13.9	-1.6		
	baz=5.2								
V11A	Goodsprings	5.38	104	⇑P	Pn	03 06 14.7	-0.8		
	baz=5.3								
SHPR	Sheep Range	5.43	97	ePn	Pn	03 06 16.3	+0.2		
K05A	Summer Lake	5.46	8	⇑P	Pn	03 06 15.1	-1.4		
	baz=5.3								
L08A	Fields	5.58	28	⇓P	Pn	03 06 15.8	-2.2		
	baz=5.4,SNR=7.3								
K02A	Glendale	5.59	348	⇑P	Pn	03 06 17.5	-0.8		
	baz=5.5								
S12A	Delamar Landin	5.59	85	⇓P	Pn	03 06 17.6	-0.6		
	baz=5.5								
O11A	Cowboy Ranch,	5.61	58	⇑P	Pn	03 06 16.8	-1.7		
	baz=5.5,SNR=52								
K06A	Valley Falls	5.62	12	⇓P	Pn	03 06 17.9	-0.7		
	baz=5.5,SNR=6.5								
GMRC	Granite Mounta	5.63	115	⇓P	Pn	03 06 17.1	-1.7		
	baz=5.6,SNR=85								
WVOR	Wild Horse Val	5.69	25	ePn	Pn	03 06 18.7	-0.9		
WVOR				pmax	pmax				
	comp=Z,52nm,0.8s								
WVOR	Wild Horse Val	5.69	25	ePn	Pn	03 06 18.7	-0.9		
	comp=Z,52nm,0.8s								
WVOR				ePg	Pg	03 06 27.7	-16		
WVOR				eSg	Sg	03 07 52.5	-5.0		
L09A	Wilkinson Ranc	5.71	33	⇓P	Pn	03 06 18.2	-1.7		
	baz=5.6,SNR=8.0								
K07A	Rock Creek Ran	5.74	20	⇓P	Pn	03 06 19.2	-1.0		
	baz=5.6,SNR=6.6								
T12A	Mopah	5.75	94	⇑P	Pn	03 06 20.2	-0.3		
	baz=5.7								
PFO	Pinyon Flat Ob	5.76	128	⇓P	Pn	03 06 20.1	-0.5		
	baz=5.8								
PFO	Pinyon Flat Ob	5.76	128	ePn	Pn	03 06 19.4	-1.2		
Q12A	Willow Creek R	5.80	71	⇓P	Pn	03 06 21.3	+0.1		
	baz=5.7								
BELC	Belle Mtn.	5.81	123	⇑P	Pn	03 06 20.0	-1.2		
	baz=5.8,SNR=103								
R12A	Pony Springs,	5.83	78	⇑P	Pn	03 06 21.5	-0.1		
	baz=5.7								
K01A	Sixes	5.84	341	⇑P	Pn	03 06 21.0	-0.7		
	baz=5.8								
KEBM	Edson Butte	5.87	342	ePn	Pn	03 06 21.9	-0.2		
KEBM				eSg	Sg	03 07 57.2	-6.2		
M10A	I.L. Ranch, Tu	5.89	43	⇑P	Pn	03 06 20.3	-2.1		
	baz=5.7								
109C	Camp Elliot, M	5.89	137	⇓P	Pn	03 06 22.2	-0.2		
	baz=5.9								
LDFC	Landfair	5.90	110	ePn	Pn	03 06 20.9	-1.7		
LDFC				ePg	Pg	03 06 41.9	-6.2		
LDFC				eSg	Sg	03 07 59.0	-5.5		
N11A	Elko Archery C	5.91	52	⇓P	Pn	03 06 20.4	-2.3		
	baz=5.8								
U12A	Valley of Fire	5.94	96	⇑P	Pn	03 06 23.2	+0.1		
	baz=5.9								
J05A	Fort Rock	5.98	4	⇑P	Pn	03 06 22.7	-1.0		
	baz=5.9								
W12A	Cal Nev Ari	5.99	107	⇑P	Pn	03 06 23.4	-0.5		
	baz=6.0								
K08A	Mann Creek Ran	6.00	25	⇓P	Pn	03 06 22.6	-1.3		
	baz=5.9								
J06A	Christmas Vall	6.07	12	⇑P	Pn	03 06 24.0	-0.9		
	baz=5.9								
J02A	Umpqua	6.18	348	⇓P	Pn	03 06 25.9	-0.5		
	baz=6.1								
ELK	Elko	6.19	54	Pn	Pn	03 06 24.6	-2.0		
	comp=Z,4.4nm,0.3s,baz=246,slow=13,SNR=72								
ELK				Lg		03 08 05.7			
	comp=Z,100nm,0.3s,baz=62,slow=5.4,SNR=18								
ELK	Elko	6.19	54	eP	Pn	03 06 24.4	-2.2		
ELK				pmax	pmax				
	comp=Z,329nm,0.8s								
ELK	Elko	6.19	54	ePn	Pn	03 06 24.4	-2.2		
	comp=Z,329nm,0.8s								
ELK				eSg	Sg	03 08 06.3	-7.6		
K09A	Rome	6.25	29	⇑P	Pn	03 06 27.0	-0.3		
	baz=6.1								
M11A	Holland Ranch,	6.25	47	⇓P	Pn	03 06 26.6	-0.7		
	baz=6.1								
MONP	Monument Peak	6.27	133	⇓P	Pn	03 06 28.0	+0.2		
	baz=6.3								
O12A	Currie	6.29	60	⇓P	Pn	03 06 26.8	-1.1		
	baz=6.2,SNR=9.7								
IRM	Iron Mountain	6.30	118	⇑P	Pn	03 06 26.4	-1.6		
	baz=6.3,SNR=61								
R13A	O'Grain Ranch,	6.32	80	⇑P	Pn	03 06 27.7	-0.5		
	baz=6.2								
L10A	Juniper Basin	6.32	39	⇓P	Pn	03 06 26.4	-1.9		
	baz=6.2								
J07A	Hines	6.36	17	⇓P	Pn	03 06 28.0	-0.9		
	baz=6.2								
T13A	Saint George	6.36	90	⇑P	Pn	03 06 28.3	-0.6		
	baz=6.3								
S13A	Holt Ranch, En	6.37	85	⇑P	Pn	03 06 28.1	-1.0		
	baz=6.3								
BC3	Big Chuckw Mtn	6.38	123	⇑P	Pn	03 06 28.0	-1.1		
	baz=6.4								
N12A	Clover Valley,	6.38	54	⇓P	Pn	03 06 27.4	-1.7		
	baz=6.2,SNR=75								
NEE2	Needles Airpor	6.39	111	⇓P	Pn	03 06 29.1	-0.3		
	baz=6.4								
Q13A	Wheeler Ranch,	6.40	73	⇓P	Pn	03 06 28.6	-0.8		
	baz=6.3								
I04A	Tendick Farm,	6.49	356	⇑P	Pn	03 06 30.3	-0.3		
	baz=6.4								
V13A	Grand Canyon W	6.51	101	⇓P	Pn	03 06 30.7	-0.2		
	baz=6.4								
P13A	Bates Ranch, G	6.53	68	⇑P	Pn	03 06 30.2	-0.9		
	baz=6.4,SNR=10								
J08A	Circle Bar Ran	6.57	22	⇓P	Pn	03 06 30.9	-0.8		
	baz=6.4								
SWSC	Sam W. Stewart	6.61	129	⇑P	Pn	03 06 32.5	+0.1		
	baz=6.6								
DVTC	Desert V Tower	6.63	133	⇓P	Pn	03 06 33.4	+0.9		
	baz=6.7								
K10A	MacKenzie Ranc	6.67	34	⇓P	Pn	03 06 32.3	-0.8		
	baz=6.5								
ARUT	Antelope Range	6.71	83	ePn	Pn	03 06 34.0	+0.3		
ARUT				ePg	Pg	03 06 59.9	-3.7		
ARUT				eSg	Sg	03 08 15.2	-15		
I03A	Eugene	6.74	351	⇑P	Pn	03 06 33.6	-0.5		
	baz=6.6								
I06A	Prineville	6.74	10	⇓P	Pn	03 06 33.8	-0.3		
	baz=6.6								
L11A	Cat Creek Ranc	6.76	42	⇓P	Pn	03 06 32.9	-1.4		
	baz=6.6								
M12A	Wells	6.76	51	⇑P	Pn	03 06 32.1	-2.3		
	baz=6.6,SNR=17								
CCUT	Cedar City	6.77	85	ePn	Pn	03 06 35.8	+1.3		
CCUT				ePg	Pg	03 07 01.5	-3.3		
CCUT				eSg	Sg	03 08 28.3	-4.1		
O13A	Hicks Ranch, I	6.78	63	⇓P	Pn	03 06 33.9	-0.7		
	baz=6.6								
J09A	Fry Pan Ranch,	6.79	26	⇑P	Pn	03 06 34.3	-0.5		
	baz=6.7								
W13A	Hualapai Mount	6.82	107	⇑P	Pn	03 06 35.6	+0.4		
	baz=6.8								
I02A	Mapleton	6.85	348	⇓P	Pn	03 06 35.5	-0.1		
	baz=6.8								
I05A	Bend	6.86	4	⇑P	Pn	03 06 35.3	-0.4		
	baz=6.7								
S14A	Cedar City	6.92	84	⇑P	Pn	03 06 36.9	+0.3		
	baz=6.8								
N13A	Wendover, West	6.93	57	⇓P	Pn	03 06 35.2	-1.4		
	baz=6.8,SNR=11								
PDMC	Parker Dam,Lak	6.96	113	⇑P	Pn	03 06 35.8	-1.3		
	baz=6.9								
Y12C	Blythe	6.96	119	⇓P	Pn	03 06 35.1	-2.0		
	baz=6.9,SNR=53								
Q14A	Sevier Lake (B	6.97	74	⇓P	Pn	03 06 37.3	0.0		
	baz=6.9								
I07A	Izee	7.00	14	⇑P	Pn	03 06 37.9	+0.4		
	baz=6.9								
T14A	Hurricane	7.01	89	⇓P	Pn	03 06 38.1	+0.3		
	baz=6.9								
U14A	Mt Trumbull	7.02	95	⇑P	Pn	03 06 38.1	+0.2		
	baz=6.9								
I08A	Drewsey	7.05	20	⇓P	Pn	03 06 38.4	+0.1		
	baz=6.9								
K11A	Parker Ranch,	7.05	38	⇑P	Pn	03 06 37.5	-0.8		
	baz=6.9								
X13A	Yucca	7.06	110	⇓P	Pn	03 06 37.2	-1.3		
	baz=7.0								
R14A	James Farms, M	7.07	79	⇑P	Pn	03 06 37.7	-0.9		
	baz=7.0								
L12A	House Creek Ra	7.15	45	⇓P	Pn	03 06 38.2	-1.5		
	baz=7.0								
GLA	Glamis	7.16	124	⇑P	Pn	03 06 37.8	-2.1		
	baz=7.2,SNR=53								
GLA	Glamis	7.16	124	ePn	Pn	03 06 37.9	-2.0		
GLA				ePg	Pg	03 07 07.5	-4.7		
J10A	Berg Farm, Mel	7.24	31	⇑P	Pn	03 06 40.5	-0.4		
	baz=7.1								
V14A	Boquillas Ranc	7.25	101	⇓P	Pn	03 06 40.5	-0.6		
	baz=7.2								
P14A	Drum Mountains	7.27	69	⇑P	Pn	03 06 40.7	-0.6		
	baz=7.1								
H05A	Madras	7.34	4	⇑P	Pn	03 06 42.1	-0.2		
	baz=7.2								
I09A	Lost Marbles R	7.35	24	⇑P	Pn	03 06 41.5	-1.0		
	baz=7.2								
H04A	Detroit Lake	7.37	358	⇓P	Pn	03 06 42.9	+0.2		
	baz=7.3								
W14A	Seligman	7.40	104	⇑P	Pn	03 06 44.1	+1.0		
	baz=7.3								
Y13A	Salome	7.42	116	⇑P	Pn	03 06 42.4	-1.1		
	baz=7.4,SNR=104								
H03A	Soap Creek Ran	7.43	352	⇓P	Pn	03 06 43.2	-0.4		
	baz=7.3								
H07A	Lands Inn, Kim	7.48	13	⇓P	Pn	03 06 43.8	-0.4		
	baz=7.3								
H06A	Lindquist Farm	7.50

baz=8.0
S16A Weppner Ranch, 8.17 84 ⇑P Pn 03 06 54.6 +0.9
baz=8.1
H10A Noah's Angus R 8.23 26 ⇓P Pn 03 06 54.7 +0.2
baz=8.1
I12A Atlanta 8.25 36 ⇑P Pn 03 06 54.9 0.0
baz=8.1
G08A Pilot Rock 8.26 14 ⇓P Pn 03 06 55.5 +0.5
baz=8.1
R16A Teasdale 8.28 80 ⇑P Pn 03 06 55.9 +0.8
baz=8.2
T16A Glen Canyon Da 8.28 89 ⇓P Pn 03 06 55.5 +0.3
baz=8.2
BMO Blue Mountains 8.28 23 ePn Pn 03 06 56.2 +1.0
comp=Z,469nm,1.3s
Z14A Wintersburg 8.28 116 ⇓P Pn 03 06 55.0 -0.3
baz=8.3
NOQ North Oquirrh 8.29 63 ePn Pn 03 07 00.1 +4.8
NOQ eLg 03 09 16.6
X15A Humboldt 8.30 107 ⇑P Pn 03 06 56.0 +0.5
baz=8.3
SPUT South Promonto 8.32 58 ePn Pn 03 07 00.5 +4.7
SPUT eLg 03 09 16.6
HVU Hansel Valley 8.32 55 ePn Pn 03 06 58.8 +3.1
HVU eLg 03 09 12.4
P16A Fountain Green 8.33 71 ⇓P Pn 03 06 56.3 +0.4
baz=8.2
M15A Larsen Ranch, 8.38 57 ⇑P Pn 03 06 57.0 +0.4
baz=8.2
HLID Hailey 8.44 40 ⇑P Pn 03 06 56.4 -0.9
baz=8.3
HLID Hailey 8.44 40 ePn Pn 03 06 59.4 +2.0
HLID eLg 03 09 15.7
MPU Maple Canyon 8.45 68 ePn Pn 03 07 01.4 +3.9
MPU eLg 03 09 16.9
J13A Cove Ranch, Pi 8.45 42 ⇑P Pn 03 06 57.2 -0.2
baz=8.3
Y15A Casa Rosa Ranc 8.45 111 ⇑P Pn 03 06 58.6 +1.0
baz=8.4
K14A Jones Ranch, D 8.47 49 ⇑P Pn 03 06 58.4 +0.6
baz=8.3
F06A Goldendale 8.48 5 ⇑P Pn 03 06 59.4 +1.4
baz=8.4
G09A Cove 8.53 20 ⇓P Pn 03 06 59.4 +0.8
baz=8.4
CTU Camp Tracy 8.57 64 ePn Pn 03 07 03.5 +4.4
comp=Z,71nm,0.8s
CTU eLg 03 09 23.9
F05A White Salmon 8.57 2 ⇑P Pn 03 06 59.8 +0.7
baz=8.5
Q16A Castle Valley 8.58 76 ⇓P Pn 03 07 01.0 +1.7
baz=8.5
O16A Springville 8.59 67 ⇓P Pn 03 07 00.7 +1.2
baz=8.5
H11A Donnelly 8.60 29 ⇓P Pn 03 07 00.7 +1.1
baz=8.5
TMUT Trail Mountain 8.61 73 ePn Pn 03 07 00.3 +0.5
F04A Amboy 8.62 357 ⇑P Pn 03 06 59.8 -0.1
baz=8.5
W16A Flagstaff 8.64 102 ⇑P Pn 03 07 02.1 +1.9
baz=8.6
WUAZ Wupatki 8.64 99 ⇓P Pn 03 07 01.2 +1.0
baz=8.6
WUAZ Wupatki 8.64 99 ePn Pn 03 07 02.0 +1.8
L15A Malad City 8.68 54 ⇓P Pn 03 07 00.6 -0.1
baz=8.5
F07A Phinny Hill Vi 8.70 9 ⇑P Pn 03 07 01.9 +1.0
baz=8.6
U16A Tuba City 8.70 94 ⇑P Pn 03 07 02.6 +1.6
baz=8.6
F03A Seaside 8.70 352 ⇑P Pn 03 07 01.9 +0.9
baz=8.6
G10A Bishop Farm, J 8.73 23 ⇑P Pn 03 07 02.6 +1.2
baz=8.6
JLU Jordanelle 8.75 65 ePn Pn 03 07 05.2 +3.5
JLU eLg 03 09 29.2
J14A Carey 8.75 44 ⇑P Pn 03 07 02.0 +0.3
baz=8.6
F08A Pendleton 8.79 14 ⇓P Pn 03 07 02.5 +0.3
baz=8.7
S17A Black Ridge (B 8.80 85 ⇓P Pn 03 07 04.4 +2.0
baz=8.7
DAU Daniels Canyon 8.83 66 ePn Pn 03 07 07.3 +4.5
DAU eLg 03 09 31.6
T17A Navajo Res., N 8.84 89 ⇑P Pn 03 07 04.5 +1.7
baz=8.7
I13A Wildhorse Cree 8.84 39 ⇓P Pn 03 07 03.5 +0.7
baz=8.7
N16A Rees Ranch, Co 8.86 63 ⇑P Pn 03 07 05.1 +2.0
baz=8.7
M16A Huntsville 8.88 60 ⇑P Pn 03 07 04.0 +0.6
baz=8.7
R17A Hanksville Air 8.89 79 ⇓P Pn 03 07 05.1 +1.5
baz=8.8
Z15A Gila River Ind 8.89 114 ⇓P Pn 03 07 03.7 +0.1
baz=8.9
F09A S2 Ranch, Elgi 8.90 18 ⇓P Pn 03 07 05.0 +1.4
baz=8.8
X16A Lo Mia Camp, P 8.94 106 ⇓P Pn 03 07 05.5 +1.2
baz=8.9
K15A Arbon 8.95 50 ⇓P Pn 03 07 05.8 +1.4
baz=8.8
LNOR Lincton Mounta 8.96 16 eP Pn 03 07 08.3 +3.8
H12A Diamond D Ranc 8.96 34 ⇑P Pn 03 07 06.1 +1.6
baz=8.8
U17A Shonto 9.00 91 ⇓P Pn 03 07 06.1 +1.0
baz=8.9
P17A Butcher Ranch, 9.00 73 ⇓P Pn 03 07 05.4 +0.3
baz=8.9
HWUT Hardware Ranch 9.04 59 ePn Pn 03 07 08.0 +2.3
HWUT eLg 03 09 33.4
SRU San Rafael 9.11 75 ⇓P Pn 03 07 08.6 +2.1
baz=9.0,SNR=12
SRU San Rafael 9.11 75 ePn Pn 03 07 10.7 +4.1
G11A Walters Elk Ra 9.11 26 ⇑P Pn 03 07 08.2 +1.7
baz=9.0
Y16A Circle Bar Ran 9.12 109 ⇓P Pn 03 07 09.1 +2.3
baz=9.1
O17A Robinson Place 9.15 68 ⇑P Pn 03 07 08.8 +1.6
baz=9.0
214A Organ Pipe Nat 9.17 123 ⇓P Pn 03 07 08.4 +0.9
baz=9.2
I14A Mackay 9.19 41 ⇓P Pn 03 07 09.3 +1.6
baz=9.0
BMW Boistfort Moun 9.21 354 eP Pn 03 07 11.5 +3.5
RSW Rattlesnake Hi 9.23 10 ePn Pn 03 07 11.0 +2.8
HAWA Hanford 9.24 10 ePn Pn 03 07 10.8 +2.5
comp=Z,84nm,0.8s
E05A Randle 9.24 0 ⇑P Pn 03 07 09.7 +1.3
baz=9.1
E06A Yakima 9.25 4 ⇑P Pn 03 07 10.1 +1.6
baz=9.1
W17A Winslow 9.29 101 ⇑P Pn 03 07 10.5 +1.5
baz=9.2
E04A Onalaska 9.30 356 ⇓P Pn 03 07 10.3 +1.2
baz=9.2
N17A Moffit Pass 9.30 64 ⇑P Pn 03 07 11.2 +1.9
baz=9.2
L16A Fish Haven 9.31 57 ⇓P Pn 03 07 10.9 +1.5
baz=9.2
F10A Beach Ranch, E 9.32 20 ⇓P Pn 03 07 10.7 +1.2
baz=9.2
E07A Sunnyside 9.36 9 ⇓P Pn 03 07 10.8 +0.9
baz=9.2
P18A Preston Nutter 9.40 72 ⇓P Pn 03 07 11.6 +1.0
baz=9.3
Z16A Peralta Trail, 9.40 112 ⇓P Pn 03 07 11.1 +0.4
baz=9.4
E08A Dider Farm, El 9.41 12 ⇑P Pn 03 07 11.4 +0.7
baz=9.3
Q18A Rafter H Ranch 9.41 75 ⇑P Pn 03 07 13.0 +2.3
baz=9.3
J15A Blackfoot 9.42 47 ⇓P Pn 03 07 11.5 +0.7
baz=9.3
S18A Hurst Farm, Bl 9.44 84 ⇑P Pn 03 07 12.3 +1.2
baz=9.3
X17A Forest Lakes 9.46 105 ⇓P Pn 03 07 14.1 +2.7
baz=9.4
R18A Canyonlands Na 9.53 80 ⇓P Pn 03 07 14.1 +1.7
baz=9.4
T18A Mexican Hat 9.57 87 ⇓P Pn 03 07 13.7 +0.8
baz=9.5
F11A Grangeville 9.57 25 ⇓P Pn 03 07 14.6 +1.7
baz=9.4
116A Eloy 9.59 117 ⇑P Pn 03 07 11.9 -1.3
baz=9.6,SNR=11
K16A Soda Springs 9.61 52 ⇑P Pn 03 07 14.3 +0.8
baz=9.5
U18A Rough Rock, Ch 9.65 92 ⇑P Pn 03 07 15.8 +1.7
baz=9.6
G13A Cobalt 9.66 34 ⇑P Pn 03 07 15.0 +0.9
baz=9.5
Y17A Roosevelt 9.68 109 ⇓P Pn 03 07 16.1 +1.6
baz=9.6
O18A Roosevelt 9.71 69 ⇑P Pn 03 07 14.8 -0.1
baz=9.6
H14A Leadore 9.72 39 ⇓P Pn 03 07 16.1 +1.2
baz=9.6
V18A Ganado 9.74 96 ⇑P Pn 03 07 17.6 +2.4
baz=9.7
I15A Monteview 9.76 44 ⇑P Pn 03 07 16.0 +0.5
baz=9.6
F12A Elk City 9.78 28 ⇓P Pn 03 07 17.1 +1.4
baz=9.6
D04A Dobbs Creek Ra 9.82 356 ⇓P Pn 03 07 17.9 +1.7
baz=9.7
E10A Myers Farm, Un 9.82 20 ⇑P Pn 03 07 18.1 +1.7
baz=9.7
J16A Bone 9.83 50 ⇑P Pn 03 07 17.8 +1.3
baz=9.7
D05A Enumclaw 9.87 360 ⇓P Pn 03 07 19.1 +2.1
baz=9.8
AHID Auburn Hatcher 9.88 53 ePn Pn 03 07 21.4 +4.2
comp=Z,368nm,1.5s
AHID eLg 03 10 02.4
D03A Wishkah Elem. 9.90 352 ⇓P Pn 03 07 18.8 +1.5
baz=9.8
D06A Cle Elum 9.90 4 ⇑P Pn 03 07 18.3 +0.9
baz=9.8
E11A Bogner Ranch, 9.97 23 ⇑P Pn 03 07 19.2 +0.9
baz=9.8
D07A Quincy 9.97 7 ⇑P Pn 03 07 19.9 +1.6
baz=9.8
D08A Wollman Farm, 9.98 12 ⇑P Pn 03 07 19.2 +0.7
baz=9.9
R19A Curley Farm, L 10.02 81 ⇑P Pn 03 07 20.5 +1.4
baz=9.9
W18A Petrified Fore 10.04 99 ⇑P Pn 03 07 20.9 +1.5
baz=10.0
RRI2 Red Ridge 10.05 50 ePn Pn 03 07 22.6 +3.1
X18A Snowflake 10.05 102 ⇑P Pn 03 07 21.2 +1.6
baz=10.0
Q19A Hogan Spring (10.06 77 ⇓P Pn 03 07 21.6 +1.9
baz=9.9
216A Three Points, 10.07 119 ⇑P Pn 03 07 21.5 +1.7
baz=10
H15A Lima 10.09 41 ⇑P Pn 03 07 21.3 +1.4
baz=9.9
D09A Jones Farm, Ri 10.09 14 ⇑P Pn 03 07 19.6 -0.4
baz=10.0
S19A Harvey Farm, M 10.12 84 ⇑P Pn 03 07 21.0 +0.6
baz=10.0
MCMT McKenzie Canyo 10.13 39 ePn Pn 03 07 22.8 +2.3
MCMT eLg 03 10 14.5
G14A Jackson 10.13 36 ⇓P Pn 03 07 21.4 +0.8
baz=10.0
Z17A San Carlos Hig 10.13 110 ⇑P Pn 03 07 22.2 +1.6
baz=10
N18A Larsen Ranch, 10.15 65 ⇓P Pn 03 07 21.6 +0.8
baz=10.0
F13A Darby 10.17 31 ⇑P Pn 03 07 21.4 +0.3
baz=10.0
PV10 Paradox Valley 10.20 80 ePn Pn 03 07 24.8 +3.2
E12A Beaver Dam Sad 10.23 25 ⇑P Pn 03 07 22.9 +1.0
baz=10
I16A Newdale 10.25 47 ⇑P Pn 03 07 22.5 +0.3
baz=10
Y18A Canyon Day Jun 10.26 107 ⇑P Pn 03 07 24.8 +2.4
baz=10
GNW Green Mountain 10.27 356 ePn Pn 03 07 24.7 +2.3
DCID1 Drake Creek 10.27 49 ePn Pn 03 07 27.7 +5.2
T19A Beclabito 10.27 89 ⇑P Pn 03 07 23.9 +1.4
baz=10
117A Oracle 10.28 114 ⇓P Pn 03 07 23.0 +0.4
baz=10
D10A Wagner Farm, O 10.31 18 ⇓P Pn 03 07 23.8 +0.8
baz=10
W19A Sanders 10.32 99 ⇑P Pn 03 07 25.3 +2.1
baz=10
OD2 Odessa Site #2 10.34 12 ePn Pn 03 07 25.7 +2.4
ETW Entiat 10.35 6 ePn Pn 03 07 25.3 +1.8
REDW Red Top Meadow 10.35 51 ePn Pn 03 07 26.8 +3.2
TPAW Teton Pass 10.36 50 ePn Pn 03 07 25.7 +2.1
P19A Cripple Cowboy 10.36 73 ⇓P Pn 03 07 24.9 +1.1
baz=10
C05A Tolt Reservoir 10.38 1 ⇑P Pn 03 07 23.5 -0.4
baz=10
O19A Miners Draw (B 10.38 69 ⇓P Pn 03 07 25.5 +1.5
baz=10
TUC Tucson 10.38 115 eP Pn 03 07 22.9 -1.2
TUC pmax pmax
comp=Z,93nm,0.9s
TUC Tucson 10.38 115 ePn Pn 03 07 22.9 -1.2
comp=Z,93nm,0.9s
TUC eLg 03 10 22.2
C04A Brinnon 10.43 356 ⇑P Pn 03 07 25.2 +0.6
baz=10
J17A Brown Place, J 10.44 51 ⇓P Pn 03 07 25.2 +0.5
baz=10
V19A Window Rock 10.44 95 ⇓P Pn 03 07 25.4 +0.5
baz=10
C07A Waterville 10.46 7 ⇑P Pn 03 07 25.9 +0.9
baz=10
SNOW Snow King Moun 10.46 51 ePn Pn 03 07 28.2 +3.1
N19A John Jarvie Ra 10.49 66 ⇓P Pn 03 07 25.8 +0.4
baz=10
G15A Dillon 10.55 39 ⇑P Pn 03 07 27.0 +0.8
baz=10
D11A Klaveano Farm, 10.55 21 ⇑P Pn 03 07 26.7 +0.4
baz=10
Z18A Geronimo 10.55 110 ⇓P Pn 03 07 28.0 +1.6
baz=10
PV01 Paradox Valley 10.56 82 ePn Pn 03 07 29.1 +2.6
PV01 eLg 03 10 31.3
IMW Indian Meadow 10.59 48 ePn Pn 03 07 24.7 -2.1
X19A St. Johns 10.60 102 ⇑P Pn 03 07 28.2 +1.1
baz=10
F14A Wisdom 10.61 34 ⇑P Pn 03 07 26.9 -0.1
baz=10
MOOW Moose Ponds 10.62 49 ePn Pn 03 07 24.7 -2.6
C06A Tall Timber Ra 10.63 4 ⇑P Pn 03 07 27.6 +0.3
baz=10
LOHW Long Hollow 10.63 50 ePn Pn 03 07 28.7 +1.2
comp=Z,123nm,1.3s
DLMT Dillon 10.63 38 ePn Pn 03 07 29.7 +2.2
217A Green Valley 10.65 118 ⇓P Pn 03 07 29.9 +2.1
baz=11
MVCO Mesa Verde 10.65 87 ⇓P Pn 03 07 29.0 +1.2
baz=11
MVCO Mesa Verde 10.65 87 ePn Pn 03 07 29.3 +1.6
comp=Z,233nm,1.0s
C08A Higginbotham F 10.67 10 ⇓P Pn 03 07 28.4 +0.5
baz=10
M19A Rock Springs 10.68 63 ⇑P Pn 03 07 27.4 -0.7
baz=10
L19A Farson 10.75 60 ⇓P Pn 03 07 30.0 +0.9
baz=11
E13A Victor 10.76 30 ⇓P Pn 03 07 29.7 +0.5
baz=11
B04A Port Angeles 10.81 354 ⇓P Pn 03 07 31.0 +1.2
baz=11
118A Homack Ranch, 10.81 112 ⇑P Pn 03 07 30.4 +0.5
baz=11
I17A Pilgram Creek 10.82 49 ⇑P Pn 03 07 31.3 +1.3
baz=11
D12A Red Ives Fores 10.86 24 ⇑P Pn 03 07 31.5 +0.9
baz=11
JCW Jim Creek 10.88 360 ePn Pn 03 07 32.8 +2.1
QLMT Earthquake Lak 10.88 43 ePn Pn 03 07 33.3 +2.6
QLMT eLg 03 10 23.6
BW06 Boulder Array 10.89 56 ⇓P Pn 03 07 32.2 +1.2
baz=11
BW06 Boulder Array 10.89 56 ePn Pn 03 07 33.2 +2.2
comp=Z,280nm,1.5s
BW06 eLg 03 10 32.4
PDAR Pinedale Array 10.89 56 Pn Pn 03 07 33.0 +2.0
comp=Z,0.3nm,0.3s,baz=240,slow=11,SNR=70
PDAR Lg 03 10 32.2
comp=Z,0.7nm,0.3s,baz=229,slow=27,SNR=4.7
PDAR LR LR 03 11 23.8
comp=Z,9μm,19.4s,baz=251,slow=36
H16A Russell Place, 10.89 44 ⇓P Pn 03 07 30.6 -0.4
baz=11
G16A Moss Hill, Enn 10.94 41 ⇑P Pn 03 07 32.5 +0.9
baz=11
B05A Bryant 10.95 359 ⇑P Pn 03 07 32.7 +0.9
baz=11
YFT Old Faithful 10.97 46 ePn Pn 03 07 37.7 +5.7
E14A Clinton 11.02 32 ⇑P Pn 03 07 33.5 +0.7
baz=11
F15A Butte 11.03 37 ⇑P Pn 03 07 33.9 +1.0
baz=11
YMR Madison River 11.03 45 ePn Pn 03 07 37.0 +4.1
comp=Z,823nm,1.0s
LRM Limekiln Ridge 11.04 37 ePn Pn 03 07 34.7 +1.7
Z19A T-Link Ranch, 11.05 108 ⇓P Pn 03 07 35.3 +2.1
baz=11
218A Dragoon 11.09 115 ⇓P Pn 03 07 34.2 +0.4
baz=11
RPW Rockport 11.13 1 ePn Pn 03 07 36.6 +2.4
I18A Diamond G Ranc 11.17 51 ⇑P Pn 03 07 35.7 +1.0
baz=11
MSO Missoula 11.18 29 ePn Pn 03 07 37.2 +2.3
comp=Z,106nm,1.1s
MSO eLg 03 10 46.8
B08A Colville Reser 11.19 9 ⇑P Pn 03 07 35.9 +0.8
baz=11
D13A Huson 11.21 27 ⇓P Pn 03 07 35.8 +0.6
baz=11
B07A Winthrop 11.21 6 ⇑P Pn 03 07 36.4 +1.0
baz=11
YNR Norris Junctio 11.22 45 ePn Pn 03 07 41.2 +5.7
119A Ashpeak Ranch, 11.25 110 ⇑P Pn 03 07 37.9 +2.0
baz=11
LKWY Lake 11.29 47 eP Pn 03 07 42.1 +5.7
LKWY pmax pmax
comp=Z,100nm,1.3s
LKWY Lake 11.29 47 ePn Pn 03 07 42.1 +5.7
comp=Z,100nm,1.3s
LKWY eLg 03 10 57.1
BOZ Bozeman (W) 11.32 39 eP Pn 03 07 39.3 +2.5
BOZ pmax pmax
comp=Z,67nm,1.0s
BOZ Bozeman (W) 11.32 39 ⇑P Pn 03 07 36.9 +0.1
baz=11
BOZ Bozeman (W) 11.32 39 ePn Pn 03 07 39.3 +2.5
comp=Z,67nm,1.0s
BOZ eLg 03 10 45.8
PGC Sidney 11.39 355 ePn Pn 03 07 38.8 +1.0
comp=Z,93nm,0.7s
C12B Naegeli Ranch, 11.40 22 ⇓P Pn 03 07 38.0 +0.1
baz=11
F16A Kennard Place, 11.41 39 ⇓P Pn 03 07 38.9 +0.8
baz=11
A04A Legoe Bay, Lum 11.42 357 ⇑P Pn 03 07 38.6 +0.4
baz=11
318A Bisbee 11.42 117 ⇑P Pn 03 07 39.6 +1.3
baz=11
B09A Rice 11.43 13 ⇑P Pn 03 07 38.9 +0.6
baz=11
NEW Newport 11.48 16 eP Pn 03 07 41.2 +2.2
NEW pmax pmax
comp=Z,41nm,0.8s
NEW Newport 11.48 16 ePn Pn 03 07 41.2 +2.2
comp=Z,41nm,0.8s
NEW eLg 03 11 02.5
CHMT Chamberlain Mo 11.52 31 ePn Pn 03 07 41.2 +1.6
CHMT eLg 03 11 01.6
D14A Greenough 11.55 30 ⇑P Pn 03 07 40.0 0.0
baz=11
G17A Pierce Place, 11.57 43 ⇑P Pn 03 07 41.4 +1.2
baz=11
219A White Tail Can 11.65 113 ⇑P Pn 03 07 43.0 +1.6
baz=12
C13A Hot Springs 11.67 25 ⇓P Pn 03 07 42.7 +1.1
baz=12
A05A Maple Falls 11.68 359 ⇑P Pn 03 07 43.1 +1.4
baz=12
BSMT Bassoo Peak 11.75 24 ePn Pn 03 07 44.8 +2.1
A07A Ashnola River, 11.78 5 ⇑P Pn 03 07 43.4 +0.3
baz=12
A06A Chilliwack 11.78 1 ⇓P Pn 03 07 43.3 +0.2
baz=12
A08A Turner Farm, O 11.79 8 ⇓P Pn 03 07 43.3 +0.1
baz=12
B11A Sandpoint 11.82 18 ⇑P Pn 03 07 43.9 +0.2
baz=12
SMCO Snowmass 11.86 76 ePn Pn 03 07 48.1 +3.9
comp=Z,159nm,1.2s
SMCO eLg 03 11 09.7
A09A Danville 11.90 11 ⇓P Pn 03 07 44.7 -0.1
baz=12
E16A East Helena 11.93 36 ⇓P Pn 03 07 44.7 -0.4
baz=12
D15A Lincoln 11.93 32 ⇓P Pn 03 07 45.3 +0.1
baz=12
319A Douglas 11.96 116 ⇑P Pn 03 07 46.1 +0.4
baz=12
HRY Holter Researc 11.98 35 ePn Pn 03 07 47.4 +1.5
HRY eLg 03 11 12.6
F17A Fitzpatrick Pl 11.99 41 ⇓P Pn 03 07 46.4 +0.4
baz=12
C14A Swan Lake 12.03 27 ⇓P Pn 03 07 46.8 +0.2
baz=12
B12A Libby 12.06 20 ⇓P Pn 03 07 46.9 0.0
baz=12
A10A Northport 12.08 14 ⇓P Pn 03 07 47.2 +0.1
baz=12
RWWY Rawlins 12.13 64 ePn Pn 03 07 52.2 +4.2
comp=Z,106nm,1.0s
RWWY eLg 03 11 18.4
G18A Lazy EL Ranch, 12.21 45 ⇓P Pn 03 07 49.3 +0.3
baz=12
E17A Martinsdale 12.27 38 ⇓P Pn 03 07 49.2 -0.6
baz=12
RLMT Red Lodge 12.27 47 ⇓P Pn 03 07 49.3 -0.5
baz=12
RLMT Red Lodge 12.27 47 ePn Pn 03 07 54.8 +5.0
comp=Z,453nm,1.2s
LAZ Ladron 12.29 99 ePn Pn 03 07 54.2 +4.0
LAZ eLg 03 11 19.2
B13A Whitefish 12.31 24 ⇑P Pn 03 07 50.0 -0.3
baz=12
A11A Hall Mountain, 12.31 17 ⇓P Pn 03 07 51.1 +0.8
baz=12
D16A Dana Ranch, Ca 12.35 35 ⇓P Pn 03 07 50.7 -0.3
baz=12
GCMT Greycliff 12.45 43 ePn Pn 03 07 54.8 +2.6
GCMT eLg 03 11 21.2
A12A Yaak River Ran 12.46 19 ⇓P Pn 03 07 52.7 +0.2
baz=12
C15A Salmond Ranch, 12.47 30 ⇓P Pn 03 07 53.2 +0.6
baz=12
F18A Big Timber 12.49 43 ⇑P Pn 03 07 53.6 +0.7
baz=12
LENM Lemitar 12.50 100 ePn Pn 03 07 57.1 +4.0
LENM eLg 03 11 30.8
Y22D IRIS PASSCAL I 12.57 100 ⇓P Pn 03 07 55.6 +1.6
baz=12
ANMO Albuquerque 12.68 96 Pn Pn 03 07 58.7 +3.3
comp=Z,0.1nm,0.3s,baz=289,slow=12,SNR=20
ANMO Lg 03 11 36.4
comp=Z,0.2nm,0.3s,baz=36,slow=22,SNR=6.2
ANMO LR LR 03 12 54.0
comp=Z,13μm,18.0s,baz=100,slow=38
ANMO Albuquerque 12.68 96*d* ⇓P Pn 03 07 58.5 +3.1
ANMO Albuquerque 12.68 96 ePn Pn 03 07 58.7 +3.2
comp=Z,60nm,1.0s
ANMO eLg 03 11 28.3
B14A Marquette Ranc 12.70 27 ⇓P Pn 03 07 56.0 +0.3
baz=13
LPM Los Pinos Moun 12.72 99 ePn Pn 03 07 59.3 +3.2
LPM eLg 03 11 41.1
BNM Barren Site 12.78 100 ePn Pn 03 07 58.8 +2.0
BNM eLg 03 11 36.4
E18A Harlowton 12.82 40 ⇓P Pn 03 07 56.3 -1.0
baz=13
D17A Six Diamond Ra 12.84 37 ⇑P Pn 03 07 56.9 -0.7
baz=13
C16A Fuhringer Ranc 12.85 32 ⇑P Pn 03 07 57.3 -0.4
baz=13
B15A Bradely Ranch, 12.93 29 ⇑P Pn 03 07 59.0 +0.2
baz=13
ISCO Idaho Springs 12.96 74 eP Pn 03 08 01.6 +2.3
ISCO pmax pmax
comp=Z,127nm,1.3s
ISCO Idaho Springs 12.96 74 ePn Pn 03 08 01.6 +2.2
comp=Z,127nm,1.3s
SDCO Great Sand Dun 13.00 83 ePn Pn 03 08 01.9 +2.0
comp=Z,566nm,0.8s
SDCO eLg 03 11 43.7

WALA Waterton Lakes 13.09 24 *e*Pn **Pn 03 08 03.2 +2.2**
comp=Z,63nm,0.9s
WALA *e*Lg 03 11 41.9
C17A Wharram Farm, 13.16 35 ⇑P **Pn 03 08 01.5 -0.4**
baz=13
A14A Double T Ranch 13.17 25 ⇓P **Pn 03 08 01.7 -0.4**
baz=13
D18A Linhart Farms, 13.30 38 ⇓P **Pn 03 08 02.9 -1.0**
baz=13
PHWY Pilot Hill 13.31 68 *e*Pn **Pn 03 08 05.1 +1.0**
comp=Z,132nm,1.4s
B16A M & M Farms, S 13.35 31 ⇑P **Pn 03 08 03.8 -0.8**
baz=13
A15A Johnson Ranch, 13.42 27 ⇑P **Pn 03 08 04.9 -0.5**
baz=13
A16A West Butte Ran 13.82 29 ⇑P **Pn 03 08 10.4 -0.6**
baz=14
EGMT Eagleton 13.91 36 ⇓P **Pn 03 08 11.0 -1.2**
baz=14
EGMT Eagleton 13.91 36 *e*Pn **Pn 03 08 10.4 -1.8**
comp=Z,142nm,1.2s
EGMT *e*Lg 03 12 09.0
LAO LASA Array 14.91 46 *e*Pn **Pn 03 08 25.8 0.0**
comp=Z,134nm,1.1s
RSSD Black Hills 15.12 58 *e*Pn **Pn 03 08 29.2 +0.6**
RSSD *e*Lg 03 12 44.8
BBB Bella Bella 15.51 345 Pn **Pn 03 08 32.9 -0.9**
comp=Z,0.3nm,0.3s,baz=151,slow=9,9,SNR=3.2
OGNE Ogallala 15.81 71 *e*Pn **Pn 03 08 38.6 +0.9**
comp=Z,377nm,1.3s
LPIG La Paz 16.48 140 Pn **Pn 03 08 50.7 +4.3**
comp=Z,1.5nm,0.3s,baz=359,slow=1.5,SNR=8.5
LPIG LR LR 03 15 33.8
comp=Z,19μm,18.0s,baz=331,slow=38
AMTX Amarillo 16.49 92 *e*Pn **Pn 03 08 48.4 +1.9**
comp=Z,433nm,1.5s
EDM Edmonton 16.98 18 *e*P **Pn 03 08 50.2 -2.3**
DGMT Dagmar 17.04 44 ⇑P **Pn 03 08 52.6 -0.8**
baz=17
DGMT Dagmar 17.04 44 *e*Pn **Pn 03 08 52.8 -0.5**
comp=Z,442nm,1.5s
TXAR Lajitas Array 17.15 112 P **Pn 03 08 57.0 +2.1**
comp=Z,0.6nm,0.3s,baz=288,slow=8.9,SNR=117
TXAR LR LR 03 16 36.8
comp=Z,7μm,20.8s,baz=305,slow=41
CBKS Cedar Bluff 17.49 78 *e*P **Pn 03 08 59.6 +0.6**
CBKS pmax pmax
comp=Z,184nm,1.1s
CBKS Cedar Bluff 17.49 78 *e*Pn **Pn 03 08 59.6 +0.6**
comp=Z,184nm,1.1s
MAIG Mazatlaan 19.35 132 *e*P **Pn 03 09 27.3 +5.4**
JCT Junction City 19.52 104 *e*P **Pn 03 09 22.3 -1.5**
JCT pmax pmax
comp=Z,137nm,1.1s
JCT Junction City 19.52 104 *e*P **Pn 03 09 22.3 -1.6**
comp=Z,137nm,1.1s
KSU1 Kansas State U 19.91 77 *e*P **Pn 03 09 27.3 -1.2**
comp=Z,398nm,1.3s
KSU1 *e*S **Sn 03 13 13.1 +0.8**
ECSD EROS,Sioux Fal 20.20 64 *e*P **P 03 09 27.9 -1.9**
comp=Z,261nm,1.4s
DLBC Dease Lake 21.80 348 P **P 03 09 47.1 0.0**
comp=Z,20nm,1.0s,mb4.5,baz=161,slow=11,SNR=12
DLBC LR LR 03 19 44.6
comp=Z,10μm,18.2s,MS5.2,baz=162,slow=41
DLBC Dease Lake 21.80 348 *e*P **P 03 09 47.2 +0.2**
AGMN Agassiz Refuge 21.91 52 *e*P **P 03 09 46.4 -1.9**
comp=Z,265nm,1.5s,mb5.5
ZAIG Zacatecas 22.05 126 *i*P **P 03 09 52.3 +2.2**
FFC Flin Flon 22.09 32 *e*P **P 03 09 48.4 -1.8**
FFC pmax pmax
comp=Z,74nm,0.8s,mb5.2
FFC Flin Flon 22.09 32 *e*P **P 03 09 48.4 -1.8**
comp=Z,74nm,0.8s,mb5.2
KVTX Kingsville 22.40 109 *e*P **P 03 09 55.3 +1.6**
comp=Z,258nm,1.0s,mb5.6
SCIA State Center 22.49 69 *e*P **P 03 09 53.0 -1.6**
comp=Z,330nm,1.2s,mb5.6
ULM Lac du Bonnet 22.65 47 P **P 03 09 55.4 -0.8**
comp=Z,9.9nm,0.8s,mb4.3,baz=254,slow=11,SNR=5.8
ULM LR LR 03 18 14.4
comp=Z,6μm,18.5s,MS5.0,baz=246,slow=36
ULM Lac du Bonnet 22.65 47 *e*P **P 03 09 53.9 -2.3**
comp=Z,156nm,1.6s,mb5.2
HKT Hockley 22.84 101 *e*P **P 03 09 58.2 -0.2**
HKT pmax pmax
comp=Z,248nm,1.4s,mb5.5
HKT Hockley 22.84 101 *e*P **P 03 09 58.2 -0.2**
comp=Z,248nm,1.4s,mb5.5
MIAR Mount Ida 23.04 88 *e*P **P 03 10 00.7 +0.2**
MIAR pmax pmax
comp=Z,402nm,1.4s,mb5.7
MIAR Mount Ida 23.04 88 *e*P **P 03 10 00.7 +0.3**
comp=Z,402nm,1.4s,mb5.7
NATX Nacogdoches 23.04 96 *e*P **P 03 09 58.8 -1.8**
comp=Z,188nm,1.2s,mb5.4
SKAG Skagway 23.81 343 *e*P **P 03 10 09.1 +1.2**
comp=Z,417nm,2.6s,mb5.4
UALR University of 23.96 87 *e*P **P 03 10 09.6 0.0**
comp=Z,46nm,1.1s,mb4.8
CCM Cathedral Cave 24.20 79 *e*P **P 03 10 11.9 +0.2**
CCM pmax pmax
comp=Z,107nm,1.0s,mb5.2
CCM Cathedral Cave 24.20 79 *e*P **P 03 10 11.9 +0.2**
comp=Z,107nm,1.0s,mb5.2
EYMN Ely 24.59 55 *e*P **P 03 10 13.5 -1.7**
comp=Z,45nm,0.9s,mb5.0
JFWS Jewell Farm 24.73 67 *e*P **P 03 10 15.2 -1.3**
JFWS pmax pmax
comp=Z,86nm,0.8s,mb5.3
JFWS Jewell Farm 24.73 67 *e*P **P 03 10 15.2 -1.3**
comp=Z,86nm,0.8s,mb5.3
FVM French Village 24.84 79 *e*P **P 03 10 17.7 +0.1**
FVM pmax pmax
comp=Z,47nm,1.1s,mb4.9
FVM French Village 24.84 79 *e*P **P 03 10 17.7 +0.1**
comp=Z,47nm,1.1s,mb4.9
SLM Saint Louis 24.91 77 *e*P **P 03 10 18.1 -0.1**
SLM pmax pmax
comp=Z,41nm,0.6s,mb5.1
SLM Saint Louis 24.91 77 *e*P **P 03 10 18.1 -0.1**
comp=Z,41nm,0.6s,mb5.1
HBAR Harrisburg 25.11 85 *e*P **P 03 10 20.6 +0.5**
MOIG Morelia 25.18 129 *i*P **P 03 10 23.7 +2.9**
HDIL Hopedale 25.46 73 *e*P **P 03 10 22.3 -0.9**
comp=Z,54nm,0.8s,mb5.1
GNAR Gosnell 25.53 83 *e*P **P 03 10 20.1 -3.8**
comp=Z,2μm,1.3s,mb6.4
HYT Haines Junctio 25.53 342 *e*P **P 03 10 22.5 -1.1**
PARMO Parma 25.60 82 *e*P **P 03 10 23.7 -0.8**
YKA Yellowknife Ar 25.60 8 P **P 03 10 23.8 -0.5**
comp=Z,6.2nm,0.7s,mb4.2,baz=195,slow=9.6,SNR=23
YKA LR LR 03 21 08.0
comp=Z,4μm,19.8s,MS4.9,baz=185,slow=38
COWI Conover 25.81 60 *e*P **P 03 10 25.7 -0.6**
comp=Z,64nm,0.9s,mb5.2
COWI LR LR
comp=Z,5μm,20.0s,MS5.0
SIUC Southern Illin 25.83 79 *e*P **P 03 10 28.1 +1.5**
comp=Z,91nm,1.0s,mb5.3
GLAT Glass 26.04 82 *e*P **P 03 10 32.2 +3.7**
HALT Halls 26.08 83 *e*P **P 03 10 31.7 +2.9**
VBMS Vicksburg 26.18 92 *e*P **P 03 10 32.9 +3.2**
comp=Z,91nm,1.0s,mb5.3
OXF Oxford 26.37 86 *e*P **P 03 10 31.5 +0.1**
OXF pmax pmax
comp=Z,495nm,1.3s,mb5.9
OXF Oxford 26.37 86 *e*P **P 03 10 31.4 0.0**
comp=Z,495nm,1.3s,mb5.9
ZIIG Zihuatanejo 26.60 132 *i*P **P 03 10 36.8 +3.2**
USIN University of 27.00 78 *e*P **P 03 10 36.2 -1.0**
comp=Z,55nm,0.9s,mb5.1
WVT Waverly 27.22 82 *e*P **P 03 10 38.7 -0.5**
WVT pmax pmax
comp=Z,38nm,1.0s,mb4.9
WVT Waverly 27.22 82 *e*P **P 03 10 38.7 -0.5**
comp=Z,38nm,1.0s,mb4.9
PPM Popocatepetl 27.26 125 *i*P **P 03 10 45.3 +5.7**
BLO Bloomington 27.72 75 *e*P **P 03 10 43.5 0.0**
BLO pmax pmax
comp=Z,54nm,1.1s,mb5.1
BLO Bloomington 27.72 75 *e*P **P 03 10 43.5 -0.1**
comp=Z,54nm,1.1s,mb5.1
CAIG El Cayaco 27.75 131 *i*P **P 03 10 44.3 +0.3**
WCI Wyandotte Cave 28.03 77 *e*P **P 03 10 45.1 -1.3**
WCI pmax pmax
comp=Z,13nm,0.8s,mb4.6

LVIG Laguna Verde 28.27 121 *i*P **P 03 11 08.0 +19**
KDAK Kodiak Island 28.73 325 LR LR 03 20 20.5
comp=Z,1μm,18.8s,MS4.5,baz=129,slow=32
DAWY Dawson 28.79 344 *e*P **P 03 10 53.3 +0.5**
GLMI Grayling 28.87 63 P **P 03 10 51.2 -2.5**
MENT Mentasta 28.93 339 *e*P **P 03 10 57.1 +3.0**
SWET Sewanee 28.94 83 *e*P **P 03 10 54.9 +0.4**
PNIG Pinotepa 29.56 128 *i*P **P 03 11 02.5 +2.3**
PMR Palmer 29.66 334 *e*P **P 03 11 00.6 +0.1**
PMR pmax pmax
comp=Z,49nm,1.2s,mb5.1
PMR Palmer 29.66 334 *e*P **P 03 11 00.6 0.0**
comp=Z,49nm,1.2s,mb5.1
EGAK Eagle 29.80 343 *e*P **P 03 11 03.0 +1.3**
comp=Z,24nm,1.1s,mb4.8
VHO Vista Hermosa 29.94 126 *i*P **P 03 11 07.0 +3.5**
CPCT Cooper Cave 30.00 82 *e*P **P 03 11 05.4 +1.5**
ACSO Alum Creek Sta 30.29 72 *e*P **P 03 11 06.7 +0.3**
comp=Z,93nm,1.2s,mb5.4
TZTN Tazewell 30.50 80 *e*P **P 03 11 07.0 -1.3**
comp=Z,38nm,1.1s,mb5.1
TKL Tuckaleechee C 30.54 81 LR LR 03 24 27.3
comp=Z,3μm,18.2s,MS5.0,baz=284,slow=38
TKL Tuckaleechee C 30.54 81 *e*P **P 03 11 08.6 0.0**
MCK McKinley 31.08 337 *e*P **P 03 11 14.4 +1.3**
MCK pmax pmax
comp=Z,78nm,1.5s,mb5.3
MCK McKinley 31.08 337 *e*P **P 03 11 14.4 +1.3**
comp=Z,78nm,1.5s,mb5.3
GOGA Godfrey 31.41 85 *e*P **P 03 11 16.4 0.0**
GOGA pmax pmax
comp=Z,65nm,1.0s,mb5.4
GOGA Godfrey 31.41 85 *e*P **P 03 11 16.4 +0.1**
comp=Z,65nm,1.0s,mb5.4
COLA College 31.59 339 ⇑*i*P **P 03 11 18.1 +0.5**
COLA College 31.59 339 *e*P **P 03 11 17.1 -0.5**
comp=Z,19nm,1.0s,mb4.9
PPLA Purkeypile 31.59 334 *e*P **P 03 11 19.5 +1.9**
comp=Z,122nm,1.2s,mb5.6
KTH Kantishna Hill 31.60 335 *e*P **P 03 11 18.1 +0.4**
comp=Z,31nm,0.9s,mb5.1
INK Inuvik 31.72 352 *e*P **P 03 11 18.0 -0.7**
comp=Z,1μm,1.1s
BPAW Bear Paw Mtn. 31.99 336 *e*P **P 03 11 21.9 +0.8**
comp=Z,32nm,0.9s,mb5.2
CHUM Lake Minchumin 32.28 335 *e*P **P 03 11 24.3 +0.7**
comp=Z,36nm,1.0s,mb5.2
ELN Prospectdale 32.53 77 *e*P **P 03 11 26.4 +0.2**
SADO Sadowa 32.77 63 LR LR 03 25 46.9
comp=Z,3μm,18.7s,MS5.0,baz=125,slow=38
JSC Jenkinsville 32.90 83 *e*P **P 03 11 29.5 +0.1**
TEIG Tepich 33.78 111 LR LR 03 27 42.1
comp=Z,4μm,18.8s,MS5.2,baz=183,slow=40
TEIG Tepich 33.78 111 *e*P **P 03 11 36.9 -0.3**
comp=Z,72nm,1.0s,mb5.6
COLD Coldfoot 33.99 341 *e*P **P 03 11 37.7 -0.8**
comp=Z,16nm,1.2s,mb4.8
SSPA Standing Stone 34.09 71 *e*P **P 03 11 39.7 0.0**
comp=Z,43nm,1.3s,mb5.2
NHSC New Hope 34.12 84 *e*P **P 03 11 39.6 -0.5**
comp=Z,233nm,1.3s,mb6.0
IMA2 Indian Mountai 34.16 337 *e*P **P 03 11 39.8 -0.3**
CBN Corbin 34.93 75 *e*P **P 03 11 49.3 +2.2**
comp=Z,66nm,1.0s,mb5.5
URVA University of 34.95 76 *e*P **P 03 11 48.0 +0.8**
KIP Kipapa 35.01 253 ⇑*i*P **P 03 11 47.6 -0.3**
BINY Binghamton 35.28 67 *e*P **P 03 11 46.6 -3.3**
comp=Z,90nm,1.5s,mb5.5
BINY LR LR
comp=Z,7μm,20.0s,MS5.4
CNNC Cliffs of the 35.28 80 *e*P **P 03 11 49.9 -0.1**
comp=Z,34nm,0.9s,mb5.3
MVL Millersville 35.35 71 *e*P **P 03 11 50.8 +0.2**
comp=Z,33nm,1.0s,mb5.2
NCB Newcomb 36.34 64 *e*P **P 03 11 58.6 -0.5**
comp=Z,33nm,1.4s,mb5.1
FRNY Flat Rock 36.71 63 *e*P **P 03 12 00.4 -1.8**
comp=Z,12nm,1.0s,mb4.7
ACCN Adirondack Com 36.81 65 *e*P **P 03 12 02.2 -0.9**
comp=Z,59nm,1.3s,mb5.3
PAL Palisades 37.00 69 *e*P **P 03 12 00.5 -4.2**
PAL pmax pmax
comp=Z,31nm,1.3s,mb5.0
PAL Palisades 37.00 69 *e*P **P 03 12 00.5 -4.2**
comp=Z,31nm,1.3s,mb5.0
MDV Middlebury 37.09 64 *e*P **P 03 12 05.0 -0.5**
HNH Hanover 37.77 64 *e*P **P 03 12 08.3 -2.9**
comp=Z,65nm,1.3s,mb5.2
QUA2 Belchertown 37.93 67 *e*P **P 03 12 09.3 -3.3**
comp=Z,42nm,1.0s,mb5.1
LBNH Lisbon 37.96 63 *e*P **P 03 12 09.2 -3.6**
LBNH pmax pmax
comp=Z,67nm,1.6s,mb5.1
LBNH MLR MLR
comp=Z,2μm,19.0s,MS4.9
LBNH Lisbon 37.96 63 *e*P **P 03 12 09.2 -3.6**
comp=Z,67nm,1.6s,mb5.1
LBNH LR LR
comp=Z,2μm,19.0s,MS4.9
FFD Franklin Falls 38.26 65 *e*P **P 03 12 14.7 -0.6**
comp=Z,40nm,1.1s,mb5.1
HRV Adam Dziewonsk 38.47 66 *e*P **P 03 12 13.5 -3.7**
HRV pmax pmax
comp=Z,62nm,1.6s,mb5.1
HRV Adam Dziewonsk 38.47 66 *e*P **P 03 12 13.5 -3.7**
comp=Z,62nm,1.6s,mb5.1
RES Resolute Bay 39.58 11 *e*P **P 03 12 24.8 -1.2**
comp=Z,2μm,0.8s
PKME Peaks-Kenny Pk 39.69 61 *e*P **P 03 12 27.3 0.0**
comp=Z,36nm,1.2s,mb5.0
JTS JuntasAbangare 42.73 119 *e*P **P 03 12 51.1 -1.6**
JTS pmax pmax
comp=Z,16nm,1.1s
JTS JuntasAbangare 42.73 119 *e*P **P 03 12 51.1 -1.6**
comp=Z,16nm,1.1s,mb4.7
BCIP Isla Barro Col 47.13 116 *e*P **P 03 13 27.5 -0.2**
comp=Z,72nm,1.4s,mb5.4
SFJD Kangerlussuaq 49.02 30 *i*P **P 03 13 42.5 +0.8**
SFJD pmax pmax
comp=Z,21nm,0.9s,mb5.2
SFJD Kangerlussuaq 49.02 30 *i*P **P 03 13 42.5 +0.8**
comp=Z,21nm,0.9s,mb5.2
BILL Bilibino 49.26 332 ⇑*e*P **P 03 13 47.3 +3.8**
BILL *e* pP 03 13 51.2 +4.6
BILL pmax pmax
comp=Z,15nm,1.1s,mb4.9
BILL MLR MLR
comp=Z,1μm,15.0s,MS5.1
SJG San Juan 52.15 96 *e*P **P 03 14 04.3 -1.6**
SJG pmax pmax
comp=Z,90nm,1.1s
SJG San Juan 52.15 96 *e*P **P 03 14 04.3 -1.6**
comp=Z,90nm,1.1s,mb5.6
SUMG Summit 52.91 22 *e*P **P 03 14 10.6 -0.2**
comp=Z,20nm,1.1s,mb5.0
ROSC El Rosal 54.05 115 P **P 03 14 23.2 +3.2**
comp=Z,10.0nm,0.9s,mb4.7,baz=88,slow=19,SNR=6.7
ROSC El Rosal 54.05 115 *e*P **P 03 14 18.2 -1.8**
OTAV Otavalo 54.43 122 *e*P **P 03 14 24.6 +1.9**
comp=Z,77nm,1.4s,mb5.4
PET Petropavlovsk 55.33 314 *e*P **P 03 14 26.2 -2.5**
PET *e*S **S 03 22 05.2 -7.4**
SEY Seymchan 55.69 326 ⇓*i*P **P 03 14 32.1 +0.9**
PETK Petropavlovsk- 55.85 314 P **P 03 14 33.2 +0.7**
comp=Z,11nm,0.8s,mb5.0,baz=77,slow=12,SNR=9.5
PPT Papeete 60.51 211 *e*S **S 03 23 24.0 +2.9**
comp=Z,628nm,30.8s
PPT *e*LQ 03 30 23.1
comp=Z,2μm,27.0s
PPT *e*LR LR 03 32 50.6
comp=Z,3μm,28.8s,baz=20
TIXI Tiksi 60.72 340 *e*P **P 03 15 06.9 +0.7**
TIXI pmax pmax
comp=Z,23nm,1.2s,mb5.2
TIXI Tiksi 60.72 340 *e*P **P 03 15 05.9 -0.4**
comp=Z,30nm,1.3s,mb5.3
KBS Kingsbay 60.96 9 ⇑*i*P **P 03 15 07.8 0.0**
RKT Rikitea 61.36 194 *e*S **S 03 23 33.9 +2.1**
comp=Z,567nm,29.2s
RKT *e*LQ 03 30 43.5
comp=Z,2μm,30.2s
RKT *e*LR LR 03 33 16.7
comp=Z,3μm,29.0s,baz=11
NNA Nana 64.73 130 *e*P **P 03 15 34.7 +1.0**
comp=Z,61nm,1.4s,mb5.4
NNA LR LR
comp=Z,1μm,18.5s,MS5.1

YAK Yakutsk 65.59 331 *e*P **P 03 15 40.2 +1.5**
YAK *e* 03 24 17.9
YAK pmax pmax
comp=Z,19nm,1.4s,mb4.9
YAK pmax pmax
comp=E,14nm,1.7s
YAK pmax pmax
comp=N,5.0nm,1.6s
TBI Tubuai 65.70 208 *e*S S 03 24 29.2 +3.4
comp=N,290nm,28.5s
TBI *e*LQ 03 32 20.7
comp=N,1μm,34.5s
TBI *e*LR LR 03 35 22.7
comp=N,2μm,29.5s,baz=23
YSS Yuzh-Sakhalins 67.14 312 *i*P **P 03 15 46.3 -2.6**
YSS pmax pmax
comp=Z,24nm,1.7s,mb5.0
ASAJ Asahikawa 68.70 310 P **P 03 15 57.4 -1.4**
comp=Z,9.7nm,0.9s,mb4.8,baz=194,slow=18,SNR=3.8
CLNS Chul'man 70.65 328 *e*P **P 03 16 16.1 +5.5**
CLNS pmax pmax
comp=Z,11nm,0.8s,mb4.8
CLNS pmax pmax
comp=N,4.0nm,0.7s
ARCES ARCESS Array B 70.80 12 P **P 03 16 11.3 0.0**
comp=N,10nm,1.0s,mb4.7,baz=349,slow=5.7,SNR=11
ARCES ARCESS Array B 70.80 12 P **P 03 16 11.3 0.0**
KEV Kevo 70.84 11 *e*P **P 03 16 14.1 +2.6**
KEV pmax pmax
comp=Z,95nm,1.7s,mb5.5
KEV Kevo 70.84 11 *e*P **P 03 16 14.1 +2.6**
comp=Z,95nm,1.7s,mb5.5
KLR Kul'dur 72.04 319 *e*P **P 03 16 14.0 -5.1**
PDA Ponta Delgada 72.56 56 *e*SKKS SKKSdf 03 42 42.0 -13
CMLA Cha da Macela 72.64 56 *e*S S 03 25 38.7 -9.3
CMLA *e*LQ 03 35 31.4
CMLA *e*LR LR 03 39 28.7
LPAZ La Paz 73.46 126 P **P 03 16 29.8 +1.9**
comp=Z,12nm,0.9s,mb4.8,baz=351,slow=8.9,SNR=6.6
LPAZ La Paz 73.46 126 *e*P **P 03 16 28.7 +0.8**
LPAZ pmax pmax
comp=Z,17nm,1.0s
LPAZ MLR MLR
comp=Z,1μm,18.6s
LPAZ La Paz 73.46 126 *e*P **P 03 16 28.7 +0.8**
comp=Z,17nm,1.0s,mb4.9
LPAZ LR LR
comp=Z,1μm,18.6s,MS5.3
LVZ Lovozero 73.62 9 ⇑*i*P **P 03 16 28.1 -0.1**
LVZ pmax pmax
comp=Z,44nm,1.2s,mb5.3
APA Apatity 73.77 10 ⇑*e*P **P 03 16 21.5 -7.6**
APA pmax pmax
comp=Z,8.0nm,1.0s,mb4.6
BOD Bodaibo 74.31 333 *e*P **P 03 16 32.1 -0.2**
BOD pmax pmax
comp=Z,12nm,1.4s,mb4.6
NB2 NORSAR Subarra 74.80 22 P **P 03 16 36.1 +1.0**
comp=Z,15nm,1.2s,mb4.8,baz=320,slow=5.9
NOA NORSAR Array B 74.80 22 P **P 03 16 34.1 -1.0**
comp=Z,5.5nm,1.0s,mb4.1,baz=322,slow=5.8,SNR=3.0
MJAR Matsushiro Arr 75.69 305 P **P 03 16 40.1 -0.6**
comp=Z,6.2nm,1.1s,mb4.5,baz=43,slow=4.8,SNR=11
MAJO Matsushiro 75.69 305 *e*P **P 03 16 40.4 -0.4**
MAJO pmax pmax
comp=Z,20nm,0.9s,mb5.0
MAJO Matsushiro 75.69 305 *e*P **P 03 16 40.4 -0.4**
comp=Z,20nm,0.9s,mb5.0
MAT Matsushiro 75.69 305 P **P 03 16 40.2 -0.6**
MAT S S 03 26 18.0 -4.3
MDJ Mudanjiang 76.03 316 P **P 03 16 46.8 +4.3**
MDJ S S 03 26 28.3 +2.6
MDJ AMB AMB
comp=Z,11nm,1.3s,mb4.6
MDJ AMB AMB
comp=Z,101nm,3.1s
KAF Kangasniemi 77.63 15 *ep* **P 03 16 51.7 +0.5**
comp=Z,0.7nm,0.4s,mb3.9
KAF Kangasniemi 77.63 15 *e*P **P 03 16 51.7 +0.5**
KAF pmax pmax
comp=Z,1.0nm,0.4s,mb4.1
LVC Limon Verde 77.69 131 *e*P **P 03 16 51.4 -0.6**
comp=Z,44nm,1.3s,mb5.2
JOF Joensuu 77.82 12 *ep* **P 03 16 52.7 +0.4**
comp=Z,0.7nm,0.4s,mb3.9
JOF Joensuu 77.82 12 *e*P **P 03 16 52.7 +0.4**
JOF pmax pmax
comp=Z,1.0nm,0.4s,mb4.1
HIA Hailar 78.01 324 ⇑*i*P **P 03 16 53.7 +0.1**
CN2 Changchun 78.83 317 *e*P **P 03 16 57.8 -0.4**
CN2 *e*XP sP 03 17 04.8 +2.1
CN2 *e*S S 03 26 52.8 -3.4
CN2 AMB AMB
comp=Z,10.0nm,0.6s,mb4.9
CN2 AMB AMB
comp=Z,200nm,4.0s
GRR Gorron 79.85 35 *e*P **P 03 17 03.2 -0.5**
comp=Z,125nm,1.6s,mb5.3
GRR Gorron 79.85 35 *e*P **P 03 17 03.2 -0.5**
GRR pmax pmax
comp=Z,63nm,1.6s,mb5.3
GRR Gorron 79.85 35 *e*P **P 03 17 03.2 -0.5**
comp=Z,62nm,1.6s,mb5.3
LDF La Druitiere 80.04 35 *e*P **P 03 17 04.0 -0.7**
comp=Z,106nm,1.8s,mb5.2
LDF La Druitiere 80.04 35 *e*P **P 03 17 04.0 -0.7**
LDF pmax pmax
comp=Z,53nm,1.8s,mb5.2
LDF La Druitiere 80.04 35 *e*P **P 03 17 04.0 -0.7**
comp=Z,53nm,1.8s,mb5.2
BAIF Baives 80.86 32 *e*P **P 03 17 08.7 -0.4**
comp=Z,20nm,1.0s,mb4.7
BAIF Baives 80.86 32 *e*P **P 03 17 08.7 -0.4**
BAIF pmax pmax
comp=Z,10.0nm,1.0s,mb4.7
BAIF Baives 80.86 32 *e*P **P 03 17 08.7 -0.4**
comp=Z,10nm,1.0s,mb4.7
DOU Dourbes 80.99 32 P **P 03 17 14.2 +4.4**
KLMR Klimovskoe 81.00 9 *e*P **P 03 17 09.3 -0.3**
KLMR pmax pmax
comp=Z,37nm,1.5s,mb5.1
GIVF Givet 81.08 32 *e*P **P 03 17 09.9 -0.4**
comp=Z,64nm,1.3s,mb5.1
GIVF Givet 81.08 32 *e*P **P 03 17 09.9 -0.4**
GIVF pmax pmax
comp=Z,32nm,1.3s,mb5.1
GIVF Givet 81.08 32 *e*P **P 03 17 09.9 -0.4**
comp=Z,32nm,1.3s,mb5.1
MFF Saint Martin d 81.48 36 *e*P **P 03 17 12.0 -0.5**
comp=Z,99nm,1.6s,mb5.2
MFF Saint Martin d 81.48 36 *e*P **P 03 17 12.0 -0.5**
MFF pmax pmax
comp=Z,49nm,1.6s,mb5.2
MFF Saint Martin d 81.48 36 *e*P **P 03 17 12.0 -0.5**
comp=Z,49nm,1.6s,mb5.2
KSRS Korea Array 81.59 311 P **P 03 17 12.4 -0.8**
comp=Z,1.6nm,0.6s,mb4.1,baz=47,slow=4.7,SNR=6.1
TCF Toulx Ste Croi 82.81 35 *e*P **P 03 17 18.6 -0.9**
comp=Z,108nm,1.6s,mb5.3
TCF Toulx Ste Croi 82.81 35 *e*P **P 03 17 18.6 -0.9**
TCF pmax pmax
comp=Z,54nm,1.6s,mb5.3
TCF Toulx Ste Croi 82.81 35 *e*P **P 03 17 18.6 -0.9**
comp=Z,54nm,1.6s,mb5.3
SSF Saint Saulge 82.82 34 *e*P **P 03 17 18.7 -0.8**
comp=Z,51nm,1.5s,mb5.0
SSF Saint Saulge 82.82 34 *e*P **P 03 17 18.7 -0.8**
SSF pmax pmax
comp=Z,26nm,1.5s,mb5.0
SSF Saint Saulge 82.82 34 *e*P **P 03 17 18.7 -0.8**
comp=Z,26nm,1.5s,mb5.0
LOR Lormes 82.82 34 *e*P **P 03 17 19.1 -0.4**
comp=Z,92nm,1.6s,mb5.3
LOR Lormes 82.82 34 *e*P **P 03 17 19.1 -0.4**
LOR pmax pmax
comp=Z,46nm,1.6s,mb5.3
LOR Lormes 82.82 34 *e*P **P 03 17 19.1 -0.4**
comp=Z,46nm,1.6s,mb5.3
TLY Talaya 82.85 333 *e*P **P 03 17 24.4 +4.9**
TLY *e*S S 03 27 32.4 -5.4
TLY *e* 03 28 44.6
TLY pmax pmax
comp=Z,17nm,1.6s,mb4.8
BGF Bois d'Agland 82.90 35 *e*P **P 03 17 19.2 -0.7**
comp=Z,83nm,1.5s,mb5.2
BGF Bois d'Agland 82.90 35 *e*P **P 03 17 19.2 -0.7**

BGF					pmax	pmax				
	comp=Z,42nm,1.5s,mb5.2									
BGF	**Bois d'Agland**	**82.90**	**35**	*e*P	**P**		**03 17 19.2**	**-0.7**		
	comp=Z,42nm,1.5s,mb5.2									
AVF	**Avril sur Loir**	**82.96**	**34**	*e*P	**P**		**03 17 19.3**	**-0.9**		
	comp=Z,137nm,1.9s,mb5.4									
AVF	**Avril sur Loir**	**82.96**	**34**	*e*P	**P**		**03 17 19.3**	**-0.9**		
AVF					pmax	pmax				
	comp=Z,69nm,1.9s,mb5.4									
AVF	**Avril sur Loir**	**82.96**	**34**	*e*P	**P**		**03 17 19.3**	**-0.9**		
	comp=Z,69nm,1.9s,mb5.4									
LFF	**La Frestade**	**83.12**	**37**	*e*P	**P**		**03 17 20.7**	**-0.4**		
	comp=Z,166nm,1.7s,mb5.5									
LFF	**La Frestade**	**83.12**	**37**	*e*P	**P**		**03 17 20.7**	**-0.4**		
LFF					pmax	pmax				
	comp=Z,83nm,1.7s,mb5.5									
LFF	**La Frestade**	**83.12**	**37**	*e*P	**P**		**03 17 20.7**	**-0.4**		
	comp=Z,83nm,1.7s,mb5.5									
SMF	**Signal de Mont**	**83.29**	**34**	*e*P	**P**		**03 17 20.9**	**-1.0**		
	comp=Z,90nm,1.7s,mb5.2									
SMF	**Signal de Mont**	**83.29**	**34**	*e*P	**P**		**03 17 20.9**	**-1.0**		
SMF					pmax	pmax				
	comp=Z,45nm,1.7s,mb5.2									
SMF	**Signal de Mont**	**83.29**	**34**	*e*P	**P**		**03 17 20.9**	**-1.0**		
	comp=Z,45nm,1.7s,mb5.2									
CLL	**Collm**	**83.29**	**27**	*e*P	**P**		**03 17 22.0**	**+0.2**		
CLL				*e*	pP		03 17 27.0	+1.8		
CLL				*e*S	S		03 27 42.0	-0.3		
CLL					pmax	pmax				
	comp=Z,12nm,1.5s,mb4.7									
CLL	**Collm**	**83.29**	**27**	*e*P	**P**		**03 17 22.0**	**+0.2**		
	comp=Z,12nm,1.5s,mb4.7									
CLL				*e*sP	sP		03 17 27.0	+0.7		
	comp=Z,21nm,1.5s									
CLL				*e*x	x		03 17 42.0			
CLL				*e*PP	PP		03 20 30.0	-2.6		
CLL				*e*PPPP			03 23 54.0			
CLL				*e*S	S		03 27 42.0	-0.3		
CLL				*e*PS			03 28 39.0			
CLL				*e*x	x		03 30 14.0			
CLL				*e*SS	SS		03 33 30.0	+24		
CLL				*e*x	x		03 37 24.0			
CLL				*e*SSS			03 39 18.0			
CLL				*e*x	x		03 41 54.0			
CLL	**Collm**	**83.29**	**27**	*e*P	**P**		**03 17 22.0**	**+0.2**		
	comp=Z,12nm,1.5s,mb4.7									
CLL				*e*	pP		03 17 27.0	+1.8		
CLL				*e*S	S		03 27 42.0	-0.3		
MOX	**Moxa**	**83.33**	**28**	*e*P	**P**		**03 17 20.1**	**-1.9**		
	comp=Z,54nm,2.0s,mb5.2									
MOX	**Moxa**	**83.33**	**28**	*e*P	**P**		**03 17 20.1**	**-1.9**		
MOX					pmax	pmax				
	comp=Z,23nm,2.0s,mb4.9									
HAU	**Haudompre**	**83.34**	**32**	*e*P	**P**		**03 17 21.7**	**-0.4**		
	comp=Z,77nm,1.5s,mb5.2									
HAU	**Haudompre**	**83.34**	**32**	*e*P	**P**		**03 17 21.7**	**-0.4**		
HAU					pmax	pmax				
	comp=Z,39nm,1.5s,mb5.2									
HAU	**Haudompre**	**83.34**	**32**	*e*P	**P**		**03 17 21.7**	**-0.4**		
	comp=Z,39nm,1.5s,mb5.2									
CDF	**Champ du Feu**	**83.41**	**31**	*e*P	**P**		**03 17 22.2**	**-0.3**		
	comp=Z,74nm,1.6s,mb5.2									
CDF	**Champ du Feu**	**83.41**	**31**	*e*P	**P**		**03 17 22.2**	**-0.3**		
CDF					pmax	pmax				
	comp=Z,37nm,1.6s,mb5.2									
CDF	**Champ du Feu**	**83.41**	**31**	*e*P	**P**		**03 17 22.2**	**-0.3**		
	comp=Z,37nm,1.6s,mb5.2									
ECH	**Echery**	**83.51**	**32**	*e*P	**P**		**03 17 21.0**	**-2.0**		
HINF	**Hinteralfeld**	**83.70**	**32**	*e*P	**P**		**03 17 23.4**	**-0.6**		
	comp=Z,46nm,1.3s,mb5.2									
HINF	**Hinteralfeld**	**83.70**	**32**	*e*P	**P**		**03 17 23.4**	**-0.6**		
HINF					pmax	pmax				
	comp=Z,23nm,1.3s,mb5.2									
HINF	**Hinteralfeld**	**83.70**	**32**	*e*P	**P**		**03 17 23.4**	**-0.6**		
	comp=Z,23nm,1.3s,mb5.1									
BFO	**Black Forest**	**83.91**	**31**	*e*P	**P**		**03 17 25.6**	**+0.5**		
BFO					pmax	pmax				
	comp=Z,8.0nm,1.4s,mb4.7									
BFO	**Black Forest**	**83.91**	**31**	*e*P	**P**		**03 17 25.6**	**+0.5**		
	comp=Z,7.9nm,1.4s,mb4.7									
GRA1	**Grafenberg Arr**	**83.96**	**28**	*e*P	**P**		**03 17 26.5**	**+1.2**		
	comp=Z,45nm,1.5s,mb5.4									
GRF	**Grafenberg Arr**	**83.96**	**28**	*e*P	**P**		**03 17 26.5**	**+1.2**		
GRF					pmax	pmax				
	comp=Z,45nm,1.5s,mb5.4									
GRF	**Grafenberg Arr**	**83.96**	**28**	*e*P	**P**		**03 17 26.5**	**+1.2**		
GRF					pmax	pmax				
	comp=Z,45nm,1.5s,mb5.4									
GRF	**Grafenberg Arr**	**83.96**	**28**	*e*P	**P**		**03 17 26.5**	**+1.2**		
	comp=Z,45nm,1.5s,mb5.4									
NKC	**Novy Kostel**	**83.97**	**28**	*e*P	**P**		**03 17 26.9**	**+1.5**		
NKC				*e*pP	pP		03 17 30.0	+1.3		
BRG	**Berggiesshubel**	**83.99**	**26**	*e*P	**P**		**03 17 26.3**	**+0.9**		
BRG				*e*			03 17 32.4			
BRG					pmax	pmax				
	comp=Z,8.0nm,1.5s,mb4.6									
BRG	**Berggiesshubel**	**83.99**	**26**	*e*P	**P**		**03 17 26.3**	**+0.9**		
	comp=Z,13nm,1.5s,mb4.8									
BRG				*e*			03 17 32.4			
	comp=Z,55nm,1.8s									
ZAK	**Zakamensk**	**84.05**	**333**	*e*P	**P**		**03 17 26.8**	**+1.1**		
ZAK					pmax	pmax				
	comp=Z,6.0nm,1.3s,mb4.6									
CABF	**La Chapelle**	**84.31**	**33**	*e*P	**P**		**03 17 26.8**	**-0.3**		
	comp=Z,84nm,1.4s,mb5.4									
CABF	**La Chapelle**	**84.31**	**33**	*e*P	**P**		**03 17 26.8**	**-0.3**		
	comp=Z,42nm,1.4s,mb5.4									
PVCC	**Panska Ves**	**84.50**	**26**	*e*P	**P**		**03 17 28.7**	**+0.7**		
PVCC				*e*x	x		03 17 35.7			
ESDC	**Sonseca Array**	**84.50**	**43**	P	**P**		**03 17 28.5**	**+0.2**		
	comp=Z,2.4nm,0.8s,mb4.4,baz=322,slow=4.9,SNR=10									
ULN	**Ulaanbaatar**	**84.64**	**329**⇑	*e*P	**P**		**03 17 29.5**	**+0.7**		
ULN	**Ulaanbaatar**	**84.64**	**329**	*e*P	**P**		**03 17 29.9**	**+1.1**		
	comp=Z,16nm,1.4s,mb5.0									
KSP	**Ksiaz**	**84.83**	**25**	*e*P	**P**		**03 17 29.6**	**-0.1**		
SONM	**Songino Array**	**84.93**	**330**	P	**P**		**03 17 31.6**	**+1.4**		
	comp=Z,2.6nm,0.9s,mb4.3,baz=45,slow=3.0,SNR=12									
PRU	**Pruhonice**	**84.94**	**27**	*e*P	**P**		**03 17 31.6**	**+1.4**		
PRU				*e*S	S		03 27 59.5	+0.7		
UPC	**Upice**	**85.01**	**25**	*e*P	**P**		**03 17 31.5**	**+0.9**		
DPC	**Dobruska-Polom**	**85.25**	**25**	*e*P	**P**		**03 17 32.0**	**+0.2**		
DPC				*e*x	x		03 28 11.8			
KHC	**Kasperske Hory**	**85.30**	**28**	*e*P	**P**		**03 17 32.6**	**+0.5**		
KHC				*e*pP	pP		03 17 36.9	+1.5		
KHC				*e*S	S		03 28 10.1	+7.7		
RETA	**Reutte**	**85.56**	**30**⇑	*i*PcP	PcP		03 17 34.1	-2.3		
	comp=Z,18nm,1.4s									
GEC2	**GERESS Array S**	**85.58**	**28**	*e*P	**P**		**03 17 33.6**	**+0.1**		
GERES	**GERESS Array B**	**85.58**	**28**	P	**P**		**03 17 33.6**	**+0.2**		
	comp=Z,16nm,0.9s,mb4.2,baz=339,slow=3.3,SNR=7.1									
MOS	**Moscow**	**85.67**	**11**	*e*P	**P**		**03 17 32.3**	**-1.5**		
NVS	**Novosibirsk**	**85.72**	**346**	*e*P	**P**		**03 17 34.7**	**+0.7**		
NVS					pmax	pmax				
	comp=Z,42nm,1.2s,mb5.5									
NVS					pmax	pmax				
	comp=N,19nm,1.4s									
NVS					pmax	pmax				
	comp=E,15nm,1.4s									
TREC	**Trest**	**85.85**	**26**	*e*P	**P**		**03 17 35.3**	**+0.5**		
TREC				*e*x	x		03 17 41.7			
OBN	**Obninsk**	**86.10**	**12**	⇑P	**P**		**03 17 37.1**	**+1.2**		
OBN				*e*	pP		03 17 40.5	+1.2		
OBN				*e*			03 17 44.0			
OBN				*e*			03 28 13.0			
OBN				*e*PS			03 29 10.1			
OBN					pmax	pmax				
	comp=Z,30nm,1.7s,mb5.2									
OBN					MLR	MLR				
	comp=Z,10μm,16.0s,MS6.3									
OBN	**Obninsk**	**86.10**	**12**	*e*P	**P**		**03 17 36.0**	**+0.1**		
	comp=Z,66nm,1.4s,mb5.7									
MORC	**Moravsky Berou**	**86.16**	**25**	*e*P	**P**		**03 17 36.6**	**+0.3**		
MORC					pmax	pmax				
	comp=Z,22nm,1.6s,mb5.1									
MORC	**Moravsky Berou**	**86.16**	**25**	*e*P	**P**		**03 17 36.6**	**+0.3**		
	comp=Z,22nm,1.6s,mb5.1									
ZALV	**Zalesovo Beam**	**86.23**	**345**	P	**P**		**03 17 37.5**	**+0.9**		
	comp=Z,10nm,1.0s,mb5.0,baz=13,slow=5.5,SNR=12									
BJI	**Beijing**	**86.40**	**319**	P	**P**		**03 17 37.5**	**-0.2**		
BJI				SS	SS		03 33 52.5	+0.3		
BJI				AMB	AMB					
	comp=Z,10.0nm,0.5s,mb5.3									
BJI				AMB	AMB					
	comp=Z,66nm,4.5s									
ARU	**Arti**	**86.62**	**360***d*	*i*P	**P**		**03 17 38.8**	**+0.3**		
ARU					S	S	03 21 01.9			
ARU					SS	SS	03 28 05.3	-10		
ARU					SS	SS	03 33 54.9	+0.7		
ARU					pmax	pmax				
	comp=Z,17nm,1.5s,mb5.0									
ARU	**Arti**	**86.62**	**360**	*e*P	**P**		**03 17 39.1**	**+0.6**		
	comp=Z,18nm,1.3s,mb5.1									
BDFB	**Brasilia**	**87.02**	**112**	P	**P**		**03 17 43.4**	**+2.5**		
	comp=Z,3.4nm,1.0s,mb4.5,baz=282,slow=9.7,SNR=6.4									
MODS	**Modra-Piesok**	**87.26**	**26**	*e*P	**P**		**03 17 42.9**	**+1.1**		
MODS					pmax	pmax				
	comp=Z,26nm,2.1s,mb5.1									
MODS	**Modra-Piesok**	**87.26**	**26**	*e*P	**P**		**03 17 42.9**	**+1.1**		
	comp=Z,26nm,2.1s,mb5.1									
ZST	**Bratislava**	**87.35**	**26**	*e*P	**P**		**03 17 46.9**	**+4.7**		
ZST					pmax	pmax				
	comp=Z,4.0nm,0.7s,mb4.8									
ZST	**Bratislava**	**87.35**	**26**	*e*P	**P**		**03 17 46.9**	**+4.7**		
	comp=Z,4.3nm,0.7s,mb4.8									
KOLL	**Kolacno**	**87.47**	**25**	*e*P	**P**		**03 17 44.9**	**+2.1**		
STHS	**Stebnicka Huta**	**87.67**	**23**	*e*P	**P**		**03 17 46.4**	**+2.7**		
STHS					pmax	pmax				
	comp=Z,5.0nm,1.1s,mb4.7									
STHS	**Stebnicka Huta**	**87.67**	**23**	*e*P	**P**		**03 17 46.4**	**+2.7**		
	comp=Z,4.8nm,1.1s,mb4.6									
VYHS	**Vyhne**	**87.69**	**25**	*e*P	**P**		**03 17 40.1**	**-3.7**		
HHC	**Hu-ho-hao-te**	**88.12**	**322**	*e*P	**P**		**03 17 43.3**	**-2.7**		
HHC				PP	PP		03 21 11.5	-0.5		
HHC				SKS			03 28 08.3			
HHC				S	S		03 28 23.8	-6.3		
HHC				AMB	AMB					
	comp=Z,10.0nm,1.0s,mb5.0									
HHC				AMB	AMB					
	comp=Z,91nm,5.3s									
AKASG	**Malin Array Be**	**88.74**	**18**	P	**P**		**03 17 48.3**	**-0.4**		
	comp=Z,1.6nm,0.6s,mb4.5,baz=328,slow=3.9,SNR=6.4									
BRVK	**Borovoye**	**89.38**	**353**	*e*P	**P**		**03 17 51.9**	**+0.2**		
BRVK					pmax	pmax				
	comp=Z,28nm,1.0s,mb5.5									
BRVK	**Borovoye**	**89.38**	**353**	*e*P	**P**		**03 17 51.9**	**+0.2**		
	comp=Z,28nm,1.0s,mb5.5									
KURK	**Kurchatov**	**90.51**	**347**⇑	*e*P	**P**		**03 17 58.0**	**+1.0**		
KURK	**Kurchatov**	**90.51**	**347**	*e*P	**P**		**03 17 56.3**	**-0.8**		
	comp=Z,18nm,1.3s,mb5.2									
PLCA	**Paso Flores**	**90.78**	**144**	*e*P	**P**		**03 18 01.1**	**+3.0**		
PLCA					pmax	pmax				
	comp=Z,49nm,2.1s									
PLCA	**Paso Flores**	**90.78**	**144**	*e*P	**P**		**03 18 01.1**	**+3.0**		
	comp=Z,49nm,2.1s,mb5.5									
MK31	**Makanchi Array**	**93.51**	**344**	*e*P	**P**		**03 18 09.1**	**-1.9**		
MKAR	**Makanchi Array**	**93.51**	**344**	P	**P**		**03 18 13.1**	**+2.1**		
	comp=Z,1.5nm,0.9s,mb4.4,baz=15,slow=5.0,SNR=8.8									
XAN	**Xi'an**	**94.72**	**320**	P	**P**		**03 18 16.5**	**-0.3**		
XAN				AP	pP		03 18 24.5	+4.3		
XAN				PP	PP		03 22 03.5	-0.8		
XAN				S	S		03 29 29.8	-0.5		
XAN				SS	SS		03 35 53.0	+0.5		
XAN				AMB	AMB					
	comp=Z,7.0nm,0.8s,mb5.1									
XAN				LR	LR					
	comp=N,521nm,30.3s,MS5.0									
XAN				LR	LR					
	comp=E,493nm,31.1s,MS5.0									
XAN				LR	LR					
	comp=Z,638nm,30.6s,MS4.9									
WMQ	**Urumqi**	**94.91**	**339**	*e*P	**P**		**03 18 16.5**	**-1.0**		
WMQ				AP	pP		03 18 21.5	+0.7		
WMQ				XP	sP		03 18 23.5	+1.5		
ANN	**Anapa**	**96.15**	**15**	*e*P	**P**		**03 18 26.8**	**+3.7**		
ANN					pmax	pmax				
	comp=Z,52nm,1.0s,mb5.9									
CD2	**Chengdu**	**99.83**	**321**	*e*P	Pdif		03 18 37.8	-1.9		
CD2				PP	PP		03 22 44.0	+0.3		
CD2				SKS			03 29 14.5			
CD2				S	S		03 30 06.5	-7.6		
CD2				SS	SS		03 37 01.5	-3.1		
CD2				AMB	AMB					
	comp=Z,20nm,0.9s,mb5.5									
CD2				AMB	AMB					
	comp=Z,60nm,8.2s									
GYA	**Guiyang**	**101.88**	**317**	*i*P	Pdif		03 18 49.3	+0.4		
GYA				PP	PP		03 23 02.5	+3.2		
GYA				PPP			03 25 13.0			
GYA				SKS			03 29 27.0			
GYA				S	Sdif		03 30 26.5	-4.4		
GYA				PS	PS		03 32 03.5	-0.7		
GYA				AMB	AMB					
	comp=Z,140nm,8.9s									
GYA				LR	LR					
	comp=N,280nm,24.6s,MS4.7									
GYA				LR	LR					
	comp=E,130nm,25.8s,MS4.7									
GYA				LR	LR					
	comp=Z,270nm,24.4s,MS4.7									
TORD	**Torodi Ar. Bea**	**107.03**	**58**	PKKPbc	PKKPbc		03 34 55.2	+18		
	comp=Z,0.7nm,0.9s,baz=117,slow=3.0,SNR=3.7									
WRA	**Warramunga Arr**	**112.55**	**262**	PKiKP	PKiKP		03 23 32.9	+0.9		
	comp=Z,1.1nm,0.9s,baz=54,slow=1.8,SNR=5.2									
ASAR	**Alice Springs**	**114.88**	**258**	PKP	PKiKP		03 23 37.5	+1.2		
	comp=Z,1.0nm,0.8s,baz=89,slow=2.6,SNR=8.5									
VNA3	**Neumayer Olymp**	**131.96**	**156**	*e*PKPdf	PKPdf		03 24 08.6	+1.0		
VNA3				*e*			03 24 11.6			
VNA2	**Neumayer--Watz**	**132.74**	**156**	*e*PKPdf	PKPdf		03 24 10.6	+1.6		
	baz=311,slow=5.1									
VNA2				*e*			03 24 13.6			
SNAA	**Sanae**	**134.03**	**157**	*e*PKPdf	PKPdf		03 24 12.5	+1.0		
TSUM	**Tsumeb**	**140.34**	**74**	*e*PKPdf	PKPdf		03 24 23.2	-1.5		
LSZ	**Lusaka**	**145.57**	**58**	*e*PKIKP	PKPdf		03 24 35.1	+1.1		
MAW	**Mawson**	**149.54**	**184**	*e*P	PKPbc		03 24 45.3	+1.7		
	comp=Z,12nm,1.1s									
MAW	**Mawson**	**149.54**	**184**	PKPbc	PKPbc		03 24 44.3	+0.7		
	comp=Z,15nm,1.0s,baz=251,slow=2.8,SNR=9.8									
LBTB	**Lobatse**	**149.73**	**75**	*e*PKPbc	PKPbc		03 24 45.2	-0.2		
LBTB				*e*PKPab	PKPab		03 24 49.7	-1.0		
BOSA	**Boshof**	**151.19**	**82**	PKPbc	PKPbc		03 24 51.2	+2.4		
	comp=Z,7.5nm,0.9s,baz=280,slow=2.9,SNR=9.2									
BOSA	**Boshof**	**151.19**	**82**	*e*PKPbc	PKPbc		03 24 48.5	-0.3		

*ISCJB **31** 03:10:57.0±0.6, 1700S±006×6901W±009, h200km±6km, mb3.7/4, Error ellipse: s-maj=14.5km s-min=9.2km az=153.6*

*NEIC **31** 03:10:58.1±0.8, 1701S×6908W, h187km±9km, mb3.9/2, Error ellipse: s-maj=23.4km s-min=13.2km az=70.0*

*IDC **31** 03:10:59.6±1.0, 1697S×6841W, h198km±6km, mb3.2/1, mb1 3.2/2, mb1mx3.0/16, mbtmp3.0/2, Error ellipse: s-maj=41.4km s-min=24.6km az=121.0*

ISC 31 03:10:58.1±0.6, 1703S±006×6911W±009, h189km±6km, n14, σ0°85/17, mb3.8/4, Peru-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**1.19**	**52**	P	**Pn**	**03 11 28.7**	**+0.6**
	45nm,0.3s,baz=285,slow=4.0,SNR=591						
LPAZ				S	**Sn**	**03 11 51.2**	**-0.1**
	12nm,0.3s,baz=286,slow=24,SNR=12						
LPAZ	**La Paz**	**1.19**	**52**	P	**Pn**	**03 11 28.7**	**+0.6**
LPAZ				S	**Sn**	**03 11 51.2**	**-0.1**
LVC	**Limon Verde**	**5.56**	**178**	*e*Pn	**Pn**	**03 12 19.5**	**0.0**
	30nm,0.3s						
LVC				*e*Sn	**Sn**	**03 13 23.2**	**-0.5**
NNA	**Nana**	**9.01**	**303**	*e*Pn	**Pn**	**03 13 04.7**	**+0.1**
	43nm,0.5s						
NNA				*e*Sn	**Sn**	**03 14 44.9**	**-0.5**
BDFB	**Brasilia**	**20.29**	**89**	P	**P**	**03 15 13.7**	**-5.8**
	0.3nm,0.3s,baz=255,slow=18,SNR=4.6						
PLCA	**Paso Flores**	**23.66**	**183**	P	**P**	**03 15 54.0**	**+1.8**
	1.5nm,0.8s,mb3.5,baz=10,slow=11,SNR=3.0						
VNA3	**Neumayer Olymp**	**64.36**	**162**	*e*Pdiff	**P**	**03 21 13.2**	**-0.1**
VNA3				*e*		03 21 16.7	
VNA2	**Neumayer--Watz**	**64.92**	**161**	*e*Pdiff	**P**	**03 21 16.7**	**-0.2**
	baz=287,slow=7.6						
VNA2				*e*		03 21 20.4	
SNAA	**Sanae**	**66.56**	**162**	*e*Pdiff	**P**	**03 21 26.8**	**-0.5**
SNAA				*e*		03 21 29.7	
SNAA	**Sanae**	**66.56**	**162**	*e*P	**P**	**03 21 26.9**	**-0.4**
	1.2nm,0.6s,mb3.9						
DUG	**Dugway**	**69.96**	**326**	*e*P	**P**	**03 21 49.8**	**+0.9**
	2.7nm,1.1s,mb3.9						
TORD	**Torodi Ar. Bea**	**76.07**	**71**	P	**P**	**03 22 22.2**	**-3.2**
	0.9nm,0.5s,mb3.6,baz=243,slow=5.6,SNR=28						
TORD	**Torodi Ar. Bea**	**76.07**	**71**	P	**P**	**03 22 22.2**	**-3.2**
SONM	**Songino Array**	**149.05**	**6**	PKPbc	PKPbc	03 30 23.8	0.0
	0.5nm,0.5s,baz=335,slow=1.0,SNR=5.5						

*NEIC **31** 03:22:45.0, 3900N×11140W, h2km, ML2.8(SLC), After SLC.*

*ISCJB **31** 03:22:46.3±0.2, 3902N±001×11138W±002, h10km, Error ellipse: s-maj=2.3km s-min=2.1km az=164.8*

*IDC **31** 03:22:50.0±1.0, 3920N×11081W, h0km, mb1 3.4/5, mb1mx3.3/25, mbtmp3.0/5, ML3.0/5, Error ellipse: s-maj=11.2km s-min=9.5km az=89.0*

ISC 31 03:22:46.8±0.2, 3900N±001×11136W±002, h10km, n115, σ1°30/151, 37C-33D, Utah

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
Q16A	**Castle Valley**	**0.17**	**120**	⇑P	**Pg**	**03 22 49.1**	**-1.4**
	baz=0.2,SNR=698						
Q16A				⇓S	**Sg**	**03 22 52.9**	**-0.1**
	baz=0.2						
TMUT	**Trail Mountain**	**0.32**	**22**	*e*Pg	**Pg**	**03 22 52.0**	**-1.1**
TMUT				*e*Sg	**Sg**	**03 22 58.8**	**+1.5**
P16A	**Fountain Green**	**0.65**	**339**	⇑P	**Pg**	**03 22 57.6**	**-1.7**
	baz=0.6,SNR=22						
SRU	**San Rafael**	**0.66**	**80**	⇑P	**Pg**	**03 22 58.3**	**-1.3**
	baz=0.7,SNR=200						
SRU	**San Rafael**	**0.66**	**80**	*e*Pg	**Pg**	**03 22 57.9**	**-1.7**
SRU				*e*Sg	**Sg**	**03 23 06.4**	**-1.8**
P17A	**Butcher Ranch,**	**0.67**	**46**	⇓P	**Pg**	**03 22 58.4**	**-1.4**
	baz=0.7,SNR=24						
P17A				⇑S	**Sg**	**03 23 08.0**	**-0.7**
	baz=0.7						
R16A	**Teasdale**	**0.72**	**187**	⇑P	**Pg**	**03 22 58.8**	**-2.0**
	baz=0.7,SNR=14						
R16A				⇓S	**Sg**	**03 23 09.1**	**-1.1**
	baz=0.7						
R17A	**Hanksville Air**	**0.78**	**139**	⇓P	**Pg**	**03 23 00.1**	**-1.6**
	baz=0.8,SNR=75						
R17A				⇓S	**Sg**	**03 23 11.8**	**0.0**
	baz=0.8						
Q15A	**Fillmore**	**0.79**	**270**	⇑P	**Pg**	**03 22 59.5**	**-2.5**
	baz=0.8						
MSU	**Marysvale**	**0.80**	**233**	*e*Pg	**Pg**	**03 23 00.2**	**-2.0**
Q18A	**Rafter H Ranch**	**0.96**	**84**	⇓P	**Pg**	**03 23 03.9**	**-1.3**
	baz=1.0,SNR=31						
Q18A				⇑S	**Sg**	**03 23 17.9**	**+0.1**
	baz=1.0						
MPU	**Maple Canyon**	**1.03**	**348**	*e*Pg	**Pg**	**03 23 04.0**	**-2.6**
MPU				*e*Pn	**Pn**	**03 23 06.2**	**-1.1**
R15A	**Junction**	**1.07**	**222**	⇑P	**Pg**	**03 23 05.0**	**-2.2**
	baz=1.0,SNR=49						
P18A	**Preston Nutter**	**1.07**	**54**	⇑P	**Pg**	**03 23 05.8**	**-1.5**
	baz=1.1,SNR=83						
NLU	**North Lily Min**	**1.10**	**330**	*e*Pg	**Pg**	**03 23 05.3**	**-2.5**
NLU				*e*Sg	**Sg**	**03 23 18.8**	**-3.4**
NLU				*e*Sn	**Sn**	**03 23 24.3**	**+0.9**
O16A	**Springville**	**1.21**	**355**	⇓P	**Pn**	**03 23 08.1**	**-1.5**
	baz=1.2						
O17A	**Robinson Place**	**1.28**	**22**	⇓P	**Pn**	**03 23 09.7**	**-1.0**
	baz=1.3,SNR=45						
S16A	**Weppner Ranch,**	**1.29**	**188**	⇑P	**Pn**	**03 23 09.4**	**-1.5**
	baz=1.3,SNR=30						
R18A	**Canyonlands Na**	**1.30**	**118**	⇑P	**Pn**	**03 23 09.9**	**-1.1**
	baz=1.3,SNR=87						
DAU	**Daniels Canyon**	**1.41**	**3**	*e*Pn	**Pn**	**03 23 12.1**	**-0.4**
S17A	**Black Ridge (B**	**1.44**	**162**	⇓P	**Pn**	**03 23 12.0**	**-0.8**
	baz=1.4,SNR=52						
P14A	**Drum Mountains**	**1.45**	**294**	⇓P	**Pn**	**03 23 12.1**	**-0.8**
	baz=1.4,SNR=23						
P14A				⇓S	**Sn**	**03 23 32.5**	**+0.5**
	baz=1.4						
R14A	**James Farms, M**	**1.48**	**242**	⇑P	**Pn**	**03 23 12.8**	**-0.6**
	baz=1.4,SNR=13						
Q14A	**Sevier Lake (B**	**1.49**	**270**	⇑P	**Pn**	**03 23 12.8**	**-0.7**
	baz=1.5,SNR=81						
O15A	**The Old Anders**	**1.54**	**327**	⇓P	**Pn**	**03 23 13.4**	**-0.8**
	baz=1.5,SNR=7.2						
S15A	**Panguitch**	**1.54**	**211**	⇓P	**Pn**	**03 23

S12A	**Delamar Landin** baz=3.0	**3.08**	**244**	⇓P		**Pn**	**03 23 35.6**	**+0.3**
L15A	**Malad City** baz=3.1,SNR=10	**3.10**	**346**	P		**Pn**	**03 23 36.1**	**+0.5**
L14A	**Malta** baz=3.3	**3.35**	**335**	⇑P		**Pn**	**03 23 38.9**	**-0.2**
R11A	**Troy Canyon, C** baz=3.3	**3.37**	**260**	⇑P		**Pn**	**03 23 40.1**	**+0.7**
N12A	**Clover Valley,** baz=3.4	**3.38**	**304**	⇓P		**Pn**	**03 23 39.5**	**0.0**
SMCO	**Snowmass**	**3.42**	**86**	*e*Pn		**Pn**	**03 23 42.0**	**+2.0**
SMCO				*e*Sg		**Sg**	**03 24 31.2**	**-5.3**
L19A	**Farson** baz=3.5	**3.45**	**26**	⇓P		**Pn**	**03 23 41.5**	**+0.9**
ELK	**Elko** 0.4nm,0.3s,baz=99,slow=9.4,SNR=7.1	**3.45**	**301**	Pn		**Pg**	**03 23 48.6**	**-4.2**
ELK	0.2nm,0.3s,baz=22,slow=23,SNR=6.6			Sn		**Sg**	**03 24 34.0**	**-3.5**
ELK	**Elko**	**3.45**	**301**	*e*Pn		**Pn**	**03 23 41.4**	**+0.9**
ELK				*e*Pg		**Pg**	**03 23 50.6**	**-2.3**
WUAZ	**Wupatki**	**3.48**	**180**	*e*Pn		**Pn**	**03 23 40.7**	**-0.3**
WUAZ				*e*Pg		**Pg**	**03 23 50.0**	**-3.4**
WUAZ				*e*Sg		**Sg**	**03 24 34.5**	**-4.0**
L13A	**Double Diamond** baz=3.6	**3.66**	**328**	⇓P		**Pn**	**03 23 43.0**	**-0.3**
AHID	**Auburn Hatcher**	**3.76**	**3**	*e*Pn		**Pn**	**03 23 44.0**	**-0.8**
AHID				*e*Pg		**Pg**	**03 23 54.8**	**-4.1**
PDAR	**Pinedale Array** 0.2nm,0.3s,baz=207,slow=12,SNR=9.8	**4.00**	**19**	Pn		**Pn**	**03 23 49.4**	**+1.3**
PDAR	0.5nm,0.3s,baz=202,slow=14,SNR=2.2			Pg		**Pg**	**03 23 57.6**	**-5.7**
PDAR	0.1nm,0.3s,baz=191,slow=9.2,SNR=2.2			Lg			03 24 48.5	
RWWY	**Rawlins**	**4.16**	**48**	*e*Pn		**Pn**	**03 23 52.2**	**+2.0**
RWWY				*e*Pg		**Pg**	**03 24 01.2**	**-5.1**
RWWY				*e*Sg		**Sg**	**03 24 53.9**	**-6.2**
RRI2	**Red Ridge**	**4.34**	**0**	*e*Pn		**Pn**	**03 23 53.8**	**+1.1**
RRI2				*e*Pg		**Pg**	**03 24 06.5**	**-3.3**
REDW	**Red Top Meadow**	**4.37**	**5**	*e*Pn		**Pn**	**03 23 54.2**	**+1.1**
REDW				*e*Pg		**Pg**	**03 24 02.8**	**-7.7**
J15A	**Blackfoot** baz=4.5,SNR=8.2	**4.47**	**350**	⇓P		**Pn**	**03 23 55.7**	**+1.2**
SNOW	**Snow King Moun**	**4.48**	**6**	*e*Pg		**Pg**	**03 24 06.1**	**-6.4**
TPAW	**Teton Pass**	**4.49**	**4**	*e*Pn		**Pn**	**03 23 57.2**	**+2.4**
TPAW				*e*Pg		**Pg**	**03 24 06.0**	**-6.8**
ISCO	**Idaho Springs**	**4.53**	**78**	*e*Pn		**Pn**	**03 23 58.0**	**+2.8**
ISCO				*e*Pg		**Pg**	**03 24 09.7**	**-3.7**
ISCO				*e*Sg		**Sg**	**03 25 03.6**	**-8.4**
DCID1	**Drake Creek**	**4.59**	**2**	*e*Pg		**Pg**	**03 24 13.9**	**-0.8**
LOHW	**Long Hollow**	**4.64**	**7**	*e*Pn		**Pn**	**03 23 56.9**	**0.0**
LOHW				*e*Pg		**Pg**	**03 24 09.1**	**-6.6**
TPH	**Tonopah**	**4.69**	**260**	*e*Pn		**Pn**	**03 23 58.5**	**+1.0**
MOOW	**Moose Ponds**	**4.76**	**5**	*e*Pn		**Pn**	**03 23 59.1**	**+0.6**
SDCO	**Great Sand Dun**	**4.78**	**103**	*e*Pn		**Pn**	**03 24 00.3**	**+1.6**
SDCO				*e*Pg		**Pg**	**03 24 11.5**	**-6.7**
HLID	**Hailey** 4.6nm,0.9s	**5.10**	**334**	*e*Pn		**Pn**	**03 24 04.9**	**+1.7**
NVAR	**Mina Array Bea** 0.2nm,0.3s,baz=85,slow=17,SNR=3.1	**5.46**	**266**	Pn		**Pb**	**03 24 22.0**	**-0.2**
ANMO	**Albuquerque** 0.5nm,0.3s,baz=334,slow=10,SNR=15	**5.64**	**134**	Pn		**Pn**	**03 24 11.7**	**+1.2**
ANMO	0.4nm,0.3s,baz=334,slow=14,SNR=5.6			Pg		**Pg**	**03 24 33.0**	**-1.6**
ANMO	0.2nm,0.3s,baz=89,slow=8.3,SNR=6.1			Lg			03 25 40.5	
ANMO	**Albuquerque** 49nm,1.6s	**5.64**	**134**	*e*Pn		**Pn**	**03 24 10.9**	**+0.4**
ANMO				*e*Pg		**Pg**	**03 24 32.8**	**-1.9**
ANMO				*e*Sg		**Sg**	**03 25 40.1**	**-7.5**
LAZ	**Ladron**	**5.71**	**142**	*e*Pn		**Pn**	**03 24 10.2**	**-1.3**
LAZ				*e*Pg		**Pg**	**03 24 32.0**	**-4.1**
LAZ				*e*Sg		**Sg**	**03 25 48.2**	**-1.9**
QLMT	**Earthquake Lak**	**5.82**	**360**	*e*Pg		**Pg**	**03 24 32.7**	**-5.6**
MCMT	**McKenzie Canyo**	**5.92**	**350**	*e*Pn		**Pn**	**03 24 15.0**	**+0.5**
LENM	**Lemitar**	**5.98**	**142**	*e*Pg		**Pg**	**03 24 39.6**	**-1.7**
LENM				*e*Sg		**Sg**	**03 25 51.6**	**-7.2**
LPM	**Los Pinos Moun**	**6.03**	**139**	*e*Pg		**Pg**	**03 24 38.4**	**-3.9**
BNM	**Barren Site**	**6.16**	**140**	*e*Pg		**Pg**	**03 24 40.4**	**-4.3**
BNM				*e*Sg		**Sg**	**03 25 57.3**	**-7.3**
PAHR	**Pah Rah Range** 6.6nm,1.0s	**6.26**	**279**	*e*Pn		**Pn**	**03 24 18.3**	**-0.7**
WVOR	**Wild Horse Val** 4.9nm,1.1s	**6.50**	**304**	*e*Pg		**Pg**	**03 24 46.8**	**-4.4**
TUC	**Tucson**	**6.70**	**176**	*e*Pg		**Pg**	**03 24 46.7**	**-8.3**
GCMT	**Greycliff**	**6.90**	**10**	*e*Pg		**Pg**	**03 24 55.7**	**-3.0**
TXAR	**Lajitas Array** 0.0nm,0.3s,baz=6.1,slow=9.3,SNR=2.9	**11.55**	**144**	Pn		**Pn**	**03 25 38.4**	**+6.6**
TXAR	0.0nm,0.3s,baz=105,slow=27,SNR=3.3			Pg		Pn	03 26 23.2	+51
TXAR	0.0nm,0.3s,baz=330,slow=22,SNR=3.4			Lg			03 28 53.8	

CSEM ***31*** *03:26:57.4±0.1,3692N×2930E,h2km,MD3.2*
ISK ***31*** *03:26:57.3,3696N×2928E,h5km,MD3.2*
DDA ***31*** *03:26:58.6,3697N×2935E,h24km±1km,Md3.2*
ISCJB ***31*** *03:26:59.1±0.4,3692N±003×2931E±003,h10km, Error ellipse: s-maj=4.1km s-min=3.4km az=173.1*
ISC 31 03:26:59.1±0.6,3694N±003×2931E±003,h4km±5km,n36, σ0§96/47,Turkey

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
GOLH	**Golhisar**	**0.36**	**34**	*i* P		**Pg**	**03 27 05.6**	**-0.4**
GOLH				*i* S		**Sg**	**03 27 12.3**	**+1.5**
ELL	**Elmali**	**0.52**	**111**	*e*PG		**Pg**	**03 27 08.8**	**-0.2**
ELL				*e*SG		**Sg**	**03 27 17.5**	**+1.8**
DALT	**Dalyan (Mudla)**	**0.56**	**253**	*e*PG		**Pg**	**03 27 09.2**	**-0.7**
DALT				*e*SG		**Sg**	**03 27 17.6**	**+0.4**
KSL	**Kastellorizon**	**0.82**	**164**	*e*P		**Pg**	**03 27 15.0**	**+0.3**
KSL	**Kastellorizon**	**0.82**	**164**	*e*P		**Pg**	**03 27 15.0**	**+0.3**
DENT	**Denizli**	**0.84**	**345**	*e*PG		**Pg**	**03 27 13.9**	**-1.4**
ANTB	**Antalya**	**1.08**	**92**	*e*PN		**Pn**	**03 27 19.7**	**-1.2**
BCK	**Bucak**	**1.15**	**63**	*e*PN		**Pn**	**03 27 21.1**	**-0.8**
ARG	**Arkhangelos**	**1.19**	**233**	*e*P		**Pg**	**03 27 21.7**	**-0.3**
ARG	**Arkhangelos**	**1.19**	**233**	*e*P		**Pg**	**03 27 21.7**	**-0.3**
MLSB	**Milas**	**1.27**	**287**	*e*PN		**Pn**	**03 27 21.8**	**-1.8**
AYDN	**Tasoluk**	**1.35**	**303**	*i* P		**Pn**	**03 27 24.1**	**-0.5**
AYDN				*i* S		**Sg**	**03 27 44.3**	**+1.9**
KHL	**Karahalli**	**1.39**	**7**	*e*PN		**Pn**	**03 27 24.9**	**-0.4**
KHAL	**Karahalli**	**1.44**	**6**	*i* P		**Pn**	**03 27 25.0**	**-0.9**
KHAL				*i* S		**Sb**	**03 27 45.1**	**+0.1**
BDRM	**Kayabasi**	**1.50**	**275**	*i* P		**Pn**	**03 27 26.9**	**+0.3**
BDRM				*i* S		**Sn**	**03 27 48.8**	**+2.2**
BODT	**Bodrum**	**1.60**	**275**	*e*PN		**Pn**	**03 27 27.5**	**-0.7**
KULA	**Kula-Manisa**	**1.66**	**342**	*e*PN		**Pn**	**03 27 28.0**	**-0.9**
MANT	**Manisa**	**1.66**	**339**	*i* P		**Pn**	**03 27 28.4**	**-0.5**
MANT				*i* S		**Sn**	**03 27 50.9**	**+0.2**
GCAM	**G?zelcaml?**	**1.82**	**295**	*i* P		**Pn**	**03 27 31.1**	**0.0**
GCAM				*i* S		**Sn**	**03 27 54.9**	**+0.2**
SHUT	**Suhut-Afyon**	**1.89**	**31**	*e*PN		**Pn**	**03 27 31.9**	**-0.2**
SMG	**Samos**	**2.12**	**292**	*e*P		**Pn**	**03 27 35.4**	**+0.2**
SMG	**Samos**	**2.12**	**292**	*e*P		**Pn**	**03 27 35.4**	**+0.2**
GDZ	**Gediz**	**2.15**	**4**	*i* P		**Pn**	**03 27 35.7**	**0.0**
GDZ				*i* S		**Sn**	**03 28 05.3**	**+2.5**
DEMI	**Demirci**	**2.15**	**348**	*i* P		**Pn**	**03 27 35.5**	**-0.2**
DEMI				*i* S		**Sn**	**03 28 03.5**	**+0.7**
IZM	**Izmir**	**2.18**	**313**	*e*PN		**Pn**	**03 27 35.7**	**-0.4**
KDAG	**Bornova**	**2.18**	**313**	*i* P		**Pn**	**03 27 35.3**	**-0.8**
KDAG				*i* S		**Sn**	**03 28 04.5**	**+0.9**
ALT	**Altintas**	**2.21**	**16**	*e*PN		**Pn**	**03 27 36.3**	**-0.1**
KARP	**Karpathos**	**2.22**	**232**	*e*P		**Pn**	**03 27 37.9**	**+1.2**
KARP	**Karpathos**	**2.22**	**232**	*e*P		**Pn**	**03 27 37.9**	**+1.2**
AKS	**Akhisar**	**2.27**	**329**	*e*PN		**Pn**	**03 27 36.6**	**-0.7**
BLCB	**Balcova**	**2.31**	**309**	*e*PN		**Pn**	**03 27 37.5**	**-0.3**
HDMB	**Hadim**	**2.55**	**88**	*e*PN		**Pn**	**03 27 42.3**	**+1.2**
APE	**Apeiranthos**	**3.03**	**274**	*e*P		**Pn**	**03 27 48.6**	**+0.9**
APE	**Apeiranthos**	**3.03**	**274**	*e*P		**Pn**	**03 27 48.6**	**+0.9**
PRK	**Paraskevi**	**3.32**	**315**	*e*P		**Pn**	**03 27 49.9**	**-1.9**
PRK	**Paraskevi**	**3.32**	**315**	*e*P		**Pn**	**03 27 49.9**	**-1.9**

MOS ***31*** *03:30:03.6±3.5,5499N×11145E,h17km,mb4.2/1, Error ellipse: s-maj=26.0km s-min=11.1km az=60.9*
BYKL 31 03:30:02.7±0.2,5502N×11164E,h15km±4km,3C-2D, Lake Baykal region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
YLYR	**Ulyunkhan**	**0.31**	**243**	⇓*i*PG		Pg	03 30 09.1	-0.1
YLYR				*e*			03 30 13.5	
YLYR				pmax	pmax			
	comp=Z,323nm,0.1s							
YLYR				smax				
	comp=N,4μm,0.2s							
YLYR	**Ulyunkhan**	**0.31**	**243**	⇓*i*Pg		Pg	03 30 09.1	-0.1
YLYR				*e*Sg		Sg	03 30 13.9	+0.4
YLYR				Pmax				
	comp=N,321nm,0.1s							
YLYR				Smax				
	comp=N,4μm,0.1s							
KMO	**Kumora**	**0.90**	**344**	⇑*i*Pg		Pg	03 30 19.1	-1.1
KMO				*e*Sg		Sg	03 30 31.3	-0.8
KMO				Pmax				
	comp=N,80nm,0.3s							
KMO				Smax				
	comp=N,239nm,0.4s							
YOA	**Uoyan**	**1.12**	**2**	*e*PG		Pg	03 30 25.1	+0.9
YOA				*i*			03 30 38.9	
YOA				pmax	pmax			
	comp=Z,476nm,0.2s							
YOA				smax				
	comp=N,2μm,0.5s							
YOA	**Uoyan**	**1.12**	**2**	*e*Sg		Sg	03 30 39.1	+0.3
YOA				Smax				
	comp=N,2μm,0.4s							
UKT	**Uakit**	**1.23**	**67**	*e*PG		Pg	03 30 24.6	-1.8
UKT				*e*			03 30 41.2	
UKT				pmax	pmax			
	comp=Z,75nm,0.1s							
UKT				smax				
	comp=N,776nm,0.3s							
UKT	**Uakit**	**1.23**	**67**	⇑*i*Pg		Pg	03 30 24.7	-1.7
UKT				*e*Pb		Pb	03 30 26.6	+1.0
UKT				*e*Sg		Sg	03 30 41.2	-1.2
UKT							03 30 45.2	
UKT				max				
	comp=N,78nm,0.1s							
UKT				Smax				
	comp=N,775nm,0.4s							
NIZ	**Nizh Angarsk**	**1.42**	**303**	*e*PG		Pg	03 30 28.3	-1.6
NIZ				*e*			03 30 47.1	
NIZ				pmax	pmax			
	comp=Z,84nm,0.6s							
NIZ				smax				
	comp=E,315nm,0.3s							
NIZ	**Nizh Angarsk**	**1.42**	**303**	⇑*i*Pg		Pg	03 30 28.3	-1.6
NIZ				*e*Sg		Sg	03 30 47.8	-0.5
NIZ				Pmax				
	comp=E,84nm,0.3s							
NIZ				Smax				
	comp=E,317nm,0.2s							
SVKR	**Severomuysk**	**1.55**	**44**	*e*PN		Pn	03 30 30.8	+1.1
SVKR				*e*			03 30 51.7	
SVKR				pmax	pmax			
	comp=Z,144nm,0.9s							
SVKR				smax				
	comp=E,1μm,0.5s							
SVKR	**Severomuysk**	**1.55**	**44**	*e*Pg		Pg	03 30 31.0	-1.4
SVKR				*e*Sg		Sg	03 30 52.1	-0.4
SVKR				Pmax				
	comp=E,153nm,0.1s							
SVKR				Smax				
	comp=E,1μm,0.5s							
SYVR	**Suvo**	**1.67**	**216**	*e*PN		Pn	03 30 32.7	+1.4
SYVR				*e*			03 30 55.7	
SYVR				pmax	pmax			
	comp=Z,62nm,0.5s							
SYVR				smax				
	comp=E,287nm,0.5s							
SYVR	**Suvo**	**1.67**	**216**	*e*Pn		Pn	03 30 32.1	+0.8
SYVR				*e*Pg		Pg	03 30 32.9	-1.8
SYVR				*e*Sg		Sg	03 30 55.6	-0.8
SYVR				Pmax				
	comp=E,45nm,0.2s							
SYVR				Smax				
	comp=E,272nm,0.2s							
MXMB	**Maximikha**	**2.45**	**225**	*e*Pn		Pn	03 30 42.2	+0.1
MXMB				*e*Pg		Pg	03 30 46.1	-3.5
MXMB				*e*Sg		Sg	03 31 19.5	-1.8
MXMB				Pmax				
	comp=E,20nm,0.2s							
MXMB				Smax				
	comp=E,612nm,0.6s							
NLYR	**Nelyaty**	**2.73**	**56**	*e*PN		Pn	03 30 46.4	+0.5
NLYR				*e*			03 31 26.5	
NLYR				pmax	pmax			
	comp=Z,24nm,0.7s							
NLYR				smax				
	comp=E,187nm,1.0s							
NLYR	**Nelyaty**	**2.73**	**56**	*e*Pn		Pn	03 30 46.6	+0.7
NLYR				*e*Pg		Pg	03 30 51.3	-3.7
NLYR				*e*Sg		Sg	03 31 27.6	-2.7
NLYR				Pmax				
	comp=E,8.0nm,0.1s							
NLYR				Smax				
	comp=E,188nm,1.0s							
OGRR	**Ongureny**	**2.74**	**241**	*e*PN		Pn	03 30 45.8	-0.3
OGRR				*e*			03 30 50.9	
OGRR				*e*			03 31 27.2	
OGRR				pmax	pmax			
	comp=Z,25nm,0.2s							
OGRR				smax				
	comp=N,92nm,0.9s							
OGRR	**Ongureny**	**2.74**	**241**	*e*Pn		Pn	03 30 47.2	+1.1
OGRR				*e*Pg		Pg	03 30 50.9	-4.3
OGRR				*e*Sn		Sn	03 31 19.8	+0.9
OGRR				*e*Sg		Sg	03 31 27.1	-3.6
OGRR				Pmax				
	comp=N,25nm,0.2s							
OGRR				Smax				
	comp=N,88nm,0.3s							
BOD	**Bodaibo**	**3.10**	**24**	*e*Pn		Pn	03 30 51.9	+0.9
BOD				Pg		Pg	03 30 57.6	-4.4
BOD				*e*Sg		Sg	03 31 36.6	-5.5
BOD				Pmax				
	comp=N,7.0nm,0.1s							
BOD				Smax				
	comp=N,65nm,0.5s							
TRG	**Tyrgan**	**3.86**	**236**	*e*Pn		Pn	03 31 02.7	+1.2
TRG				*e*Pg		Pg	03 31 11.8	-4.8
TRG				*e*Sg		Sg	03 32 01.1	-5.6
TRG				Pmax				
	comp=N,6.0nm,0.3s							
TRG				Smax				
	comp=N,43nm,0.3s							
UUDB	**Ulan-Yde**	**3.95**	**219**	*e*Sg		Sg	03 32 06.1	-3.4
UUDB				Smax				
	comp=N,65nm,0.5s							
FFNB	**Fofonovo**	**4.16**	**226**	*e*Pg		Pg	03 31 17.7	-4.7
FFNB				*e*Sg		Sg	03 32 12.3	-3.9
FFNB				Pmax				
	comp=N,13nm,0.1s							
FFNB				Smax				
	comp=N,119nm,0.6s							
CRS	**Chara**	**4.17**	**60**	*e*PN		Pn	03 31 17.4	+12
CRS				*e*			03 32 12.0	
CRS				pmax	pmax			
	comp=Z,17nm,1.0s							
CRS				smax				
	comp=E,159nm,1.3s							
CRS	**Chara**	**4.17**	**60**	*e*Pn		Pn	03 31 06.9	+1.2
CRS				*e*Pg		Pg	03 31 16.7	-5.9
CRS				*e*Sg		Sg	03 32 11.7	-4.9
CRS				Pmax				
	comp=E,18nm,1.1s							
CRS				Smax				
	comp=E,158nm,1.4s							
HRMR	**Khuramsha**	**4.41**	**221**	*e*Pn		Pn	03 31 10.1	+1.1
HRMR				*e*Pg		Pg	03 31 21.5	-5.6
HRMR				*e*Sg		Sg	03 32 20.4	-3.7
HRMR				Pmax				
	comp=E,14nm,0.3s							
HRMR				Smax				
	comp=E,175nm,0.5s							
TUP	**Tupik**	**4.86**	**94**	*e*Pn		Pn	03 31 15.5	+0.4
TUP				*e*Pg		Pg	03 31 29.5	-6.1
TUP				*e*Sg		Sg	03 32 32.8	-5.7
TUP				Pmax				
	comp=E,5.0nm,0.4s							
TUP				Smax				
	comp=E,64nm,0.8s							
LSTR	**Listvyanka**	**5.15**	**235**	*e*Sg		Sg	03 32 41.7	-6.2
LSTR				Smax				
	comp=E,31nm,0.6s							
KPC	**Khapcheranga**	**5.34**	**175**	*e*Pg		Pg	03 31 38.1	-6.9
KPC				*e*Sg		Sg	03 32 47.3	-6.8
KPC				Pmax				
	comp=E,3.0nm,0.1s							
KPC				Smax				
	comp=E,22nm,1.1s							
TLY	**Talaya**	**5.84**	**238**	*e*PN		Pn	03 31 29.5	+0.9
TLY				*e*			03 31 47.3	
TLY				*e*			03 33 02.7	
TLY				pmax	pmax			
	comp=Z,4.0nm,0.3s							
TLY				smax				
	comp=N,34nm,1.0s							
ARS	**Arshan**	**6.32**	**244**	*e*Sg		Sg	03 33 17.1	-8.2
ARS				Smax				
	comp=N,71nm,0.8s							
MOY	**Mondy**	**7.20**	**247**	*e*Sg		Sn	03 33 44.6	+36
MOY				Smax				
	comp=N,29nm,1.3s							

NIED ***31*** *03:30:00,1920N×14550E,h220km,Mw7.3 Best double couple: M0 9.92000×10^19 NP1:φs176.00000°,δ67.00000°, λ112.00000°. NP2:φs312.00000°,δ31.00000°,λ50.00000°.*
BJI ***31*** *03:30:12.9, 1884N×14601E, h223km, mB6.4, mb5.9*
NEIC ***31*** *03:30:16.0±0.1, 1890N×14539E, h207km, mb6.2/247, ME6.7, MW7.2, Error ellipse: s-maj=3.5km s-min=3.3km az=154.0, Moment Tensor Solution. s69 Moment tensor: Scale 10^19Nm; Mrr3.65; Mθθ1.53; Mφφ-5.17; Mrθ-4.35; Mθφ2.89; Mφr-1.74; Best double couple: M0 7.20000×10^19 NP1:φs193.00000°,δ59.00000°,λ141.00000°. NP2: φs306.00000°,δ57.00000°,λ38.00000°. Principal axes: T 7.8400, Plg48.0000°, Azm159.0000°; N -1.5800, Plg41.0000°, Azm340.0000°; P -6.2500, Plg0.0000°, Azm250.0000°; Broadband fault plane solution: P waves. NP1:φs176.00000°,δ48.00000°,λ129.00000°. NP2: φs305.00000°,δ55.00000°,λ55.00000°. Principal axes: T Plg62.0000°, Azm156.0000°; N Plg0.0000°, Azm0.0000°; P Plg4.0000°, Azm59.0000°; Depth from broadband displacement seismograms. Energy computed from BB mechanism.*
NEIC Felt [IV] on Tinian and [III] on Saipan. Felt [II] at Yigo, Guam. Also felt at Hagatna Heights, Santa Rita and Tamuning. Recorded [1 JMA] in the Chichijima-retto and in Nagano, Niigata and Shizuoka Prefectures, Honshu.
ISCJB ***31*** *03:30:16.4±0.1, 1896N±002×14534E±001, h219km, mb6.1/316 Error ellipse: s-maj=2.3km s-min=1.8km az=174.7*
GCMT ***31*** *03:30:17.7±0.1, 1883N×14559E, h211km, MW7.2/126, Moment Tensor Solution. s126,c340; s126,c642; Duration: 10≥2 Moment tensor: Scale 10^20Nm; Mrr0.38±.00; Mθθ0.34±.00; Mφφ-0.72±.00; Mrθ-0.46±.00; Mθφ0.50±.00; Mφr-0.10±.00; Best double couple: M0 0.92900×10^20 NP1:φs196.00000°, δ60.00000°, λ152.00000°. NP2:φs301.00000°,δ66.00000°,λ33.00000°. Principal axes: T 0.9300, Plg40.0000°, Azm160.0000°; N -0.0030, Plg50.0000°, Azm333.0000°; P -0.9270, Plg4.0000°, Azm67.0000°; nsta1 refers to body waves, cutoff=50s. nsta2 refers to surface/mantle waves, cutoff=50s.*
JMA ***31*** *03:30:18.4±0.6, 1922N×14549E, h216km, M7.1*
JMA Felt I J1.
IDC ***31*** *03:30:18.0±0.5, 1895N×14529E, h226km±3km, mb5.7/23, mb1 5.9/26, mb1mx5.9/26, mbtmp5.8/26, Error ellipse: s-maj=10.3km s-min=6.1km az=88.0*
MOS ***31*** *03:30:18.1±1.0, 1886N×14530E, h242km, mb6.2/87, MS6.6/35, Error ellipse: s-maj=7.9km s-min=4.9km az=100.9*
IGIL ***31*** *03:30:20.7, 1885N×14532E, h248km, MS6.8*
DJA ***31*** *03:30:21, 1865N×14558E, h237km, Mw7.2/13*
BGS ***31*** *03:30:31.9±2.0, 2199N×14436E, h223km±999km, mb6.1*
ISC 31 03:30:18.1±0.1,1896N±002×14538E±001,h222km, h222km±9km:pP-P,n1854,σ1§03/1427,mb6.1/314, 317C-264D,Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
GUMO	**Guam** 530nm,0.3s,baz=153,slow=2.8,SNR=151	**5.36**	**185**	P		**Pn**	**03 31 37.2**	**-0.5**
GUMO	5μm,0.3s,baz=173,slow=20,SNR=4.0			S		**S**	**03 32 40.6**	**-0.2**
GUMO	**Guam**	**5.36**	**185**	P		**Pn**	**03 31 37.2**	**-0.5**
GUMO				S		**S**	**03 32 40.6**	**-0.3**
GUMO				pmax	pmax			
	comp=Z,530nm,0.3s							
GUMO	**Guam**	**5.36**	**185**	*e*Pn		**Pn**	**03 31 37.5**	**-0.2**
GUMO				*e*S		**S**	**03 32 41.3**	**+0.4**
JHHJ	**Haha-jima-NKT**	**8.19**	**339**	P		**Pn**	**03 32 11.9**	**-1.8**
JHHJ				S		**S**	**03 33 42.0**	**-4.4**
CBIJ	**Chichi jima** comp=Z,857nm,0.3s,baz=136,slow=6.0,SNR=199	**8.62**	**341**	P		**Pn**	**03 32 17.6**	**-1.7**
CBIJ	comp=Z,4μm,0.3s,baz=281,slow=23,SNR=9.3			S		**S**	**03 33 49.2**	**-7.3**
CBIJ	**Chichi jima**	**8.62**	**341**	P		**Pn**	**03 32 17.4**	**-1.9**
CBIJ				S		**S**	**03 33 49.2**	**-7.4**
CBIJ	**Chichi jima**	**8.62**	**341**	P		**Pn**	**03 32 18.3**	**-1.0**
JMZ	**Minamidaito 2**	**14.76**	**300**	P		**Pn**	**03 33 38.4**	**+1.8**
JHJ2	**Mitsune**	**14.95**	**342**	P		**Pn**	**03 33 37.6**	**-1.2**
JHJ2				S		**S**	**03 36 22.1**	**-2.2**
JHJ	**Mitsune**	**14.95**	**342**	P		**Pn**	**03 33 41.1**	**+2.3**
JHJ	**Hachijo jima 2** comp=Z,23nm,0.3s,baz=152,slow=11,SNR=8.1	**14.97**	**342**	P		**Pn**	**03 33 36.8**	**-2.2**
JHJ	comp=Z,494nm,0.3s,baz=239,slow=23,SNR=6.0			S		**S**	**03 36 26.6**	**+1.9**
BSO1	**Boso 1**	**16.11**	**347**	P		**P**	**03 33 53.7**	**+1.9**
JKO	**Kozu shima**	**16.16**	**341**	P		**P**	**03 33 53.9**	**+1.6**
JKO				*e*S		**S**	**03 36 44.8**	**-5.4**
TK01	**Tokai 1**	**16.30**	**336**	P		**P**	**03 33 57.5**	**+3.6**
JWZ	**Kozaga**	**16.89**	**331**	P		**P**	**03 34 01.2**	**+0.9**
JWZ				S		**S**	**03 36 59.4**	**-5.6**
JOD2	**Odawara 2**	**17.17**	**342**	P		**P**	**03 34 03.8**	**+0.4**
JOD2				S		**S**	**03 37 09.0**	**-1.7**
JIE	**Ise**	**17.20**	**335**	P		**P**	**03 34 04.1**	**+0.4**
JIE				*e*S		**S**	**03 37 11.0**	**-0.3**
JAM	**Amami Oshima**	**17.23**	**306**	P		**P**	**03 34 06.6**	**+2.5**
JOW	**Kunigami** comp=Z,1μm,0.3s,baz=132,slow=11,SNR=506	**17.59**	**300**	P		**P**	**03 34 10.1**	**+2.0**
JOW	comp=Z,2.1nm,0.3s,baz=131,slow=4.1,SNR=3.7			ScP	ScP		03 41 46.7	-3.5
JOW	**Kunigami**	**17.59**	**300**	P		**P**	**03 34 11.0**	**+2.9**
JTO	**Tosashimizu**	**17.86**	**323**	P		**P**	**03 34 11.2**	**+0.3**
JTO				S		**S**	**

BIPH Bislig 21.34 242⇑ *e*P P 03 34 48.8 +0.5
YOJ Yonaguni jima 21.48 289 P P 03 34 51.0 +1.3
OCLP Ormoc 21.53 252 *e*P P 03 34 53.4 +3.1
BUTP Butuan 21.57 245 *e*P P 03 34 54.9 +4.2
MSLP Maasin 21.69 249 *e*P P 03 34 53.9 +2.0
PALP Palanan 21.91 269 *e*P P 03 34 55.6 +1.9
MATI Mati 22.10 240 *e*P P 03 34 57.0 +1.5
SGCP Mt. Cagua 22.13 272 *e*P P 03 34 57.6 +1.9
CVP Callao Caves 22.40 271⇑ *e*P P 03 34 59.6 +1.4
CVP Callao Caves 22.40 271 *e*P P 03 35 10.7 +12
LLP Lapu-Lapu 22.41 250 *e*P P 03 34 59.4 +1.1
CAUP Cauayan 22.50 269 *e*P P 03 35 01.7 +2.6
AUQP San Andres 22.51 259 *e*P P 03 35 03.9 +4.7
GQP Guinayangan 22.55 261 *e*P P 03 35 01.7 +2.0
DAV Davao City (W) 22.59 241 ⇑P P 03 35 01.1 +1.1
SNR=79
DAV Davao City (W) 22.59 241 P P **03 35 00.3 +0.3**
comp=Z,1μm,0.7s,mb6.5,baz=319,slow=0.8,SNR=28
DAV Davao City (W) 22.59 241⇓ *e*P P 03 35 03.1 +3.1
DAV Davao City (W) 22.59 241 *e*P P 03 35 00.1 +0.1
comp=Z,22μm,2.0s,mb7.3
BUKP Musuan 22.59 244 *e*P P 03 35 02.2 +2.1
CGP Cagayan de Oro 22.62 245⇓ *e*P P 03 35 03.5 +3.2
JOT Ohata 22.66 352 P P **03 35 00.7 +0.4**
NACB Ninganchiao 22.71 287 *e*P P 03 35 01.9 +0.9
comp=Z,3μm,1.1s,mb6.7
NACB *e*ScP ScP 03 42 00.3 -2.1
TBP Tagbilaran 22.77 249 *e*P P 03 35 02.8 +1.1
POLP Polilio Island 22.82 263 *e*P P 03 35 04.8 +2.8
TATO Taipei 22.94 289 *e*P P 03 35 05.1 +2.0
comp=Z,5μm,1.7s,mb6.8
TATO *e*ScP ScP 03 41 57.8 -5.2
BALP Baler 22.94 266 *e*P P 03 35 05.0 +1.8
YHNB Yeheng 22.98 289 *e*P P 03 35 04.7 +1.2
comp=Z,2μm,0.6s,mb6.8
RCP Roxas 23.02 255⇓ *e*P P 03 35 05.0 +1.0
KCP Kidapawan 23.03 242⇓ *e*P P 03 35 08.4 +4.3
ERM Erimo 23.06 356⇓ *i*P P 03 35 05.6 +1.6
ERM Erimo 23.06 356 *e*P P 03 35 06.0 +2.0
comp=Z,2μm,0.9s,mb6.6
JKB Kayabe 23.15 352 P P **03 35 05.9 +1.1**
KALP Kalibo 23.36 255⇓ *e*P P 03 35 11.8 +4.8
OTRP Odiongan 23.41 257 *e*P P 03 35 09.2 +1.6
PCPH Palayan 23.43 265 *e*P P 03 35 09.0 +1.4
ABRA Dolores 23.45 271 *e*P P 03 35 08.3 +0.5
GUIM Jordan 23.52 253 *e*P P 03 35 09.8 +1.3
JOSM Okushiri--Mats 23.59 349 P P **03 35 09.0 +0.2**
JCH Churui 23.64 356 P P **03 35 10.3 +1.0**
JCH *e*S S **03 39 02.6 -4.6**
GSPH General Santos 23.66 240 *e*P P 03 35 10.5 +0.8
TGY Tagaytay City 23.91 262⇓ *e*P P 03 35 16.7 +4.6
KSRS Korea Array 23.93 324 P P **03 35 11.4 -0.5**
comp=Z,272nm,0.8s,mb6.0,baz=143,slow=8.9,SNR=259
KSRS pP 03 35 54.0
comp=Z,2μm,0.8s,baz=146,slow=8.7,SNR=6.3
KSRS ScP ScP 03 42 01.9 -3.5
comp=Z,166nm,0.9s,baz=131,slow=3.0,SNR=15
KSRS P3KPbc 04 08 26.1
comp=Z,22nm,1.1s,baz=322,slow=4.0,SNR=22
KSRS P3KP 04 09 23.7
comp=Z,16nm,1.0s,baz=318,slow=4.6,SNR=6.4
KSRS Korea Array 23.93 324 P P **03 35 11.5 -0.5**
KSRS *PP 03 35 54.1
KSRS pmax pmax
comp=Z,272nm,0.8s,mb5.9
KS15 Wonju Array Si 23.94 324 *e*P P 03 35 11.8 -0.3
PAGZ Pagadian 24.05 246 *e*P P 03 35 15.4 +2.2
SWI Sorong 24.09 217 P P **03 35 13.7 0.0**
SJMP San Jose 24.21 258 *e*P P 03 35 16.7 +1.9
NBP Mount Natib 24.25 264⇑ *e*P P 03 35 16.5 +1.4
NEM2 Nemuro 2 24.34 1 P P **03 35 14.3 -1.2**
BOLP Bolinao 24.39 268 *e*P P 03 35 17.2 +0.9
SCZP Santa Cruz 24.50 267 *e*P P 03 35 17.5 +0.1
LUBP Lubang 24.66 262 *e*P P 03 35 20.9 +2.1
INCN Inchon 24.68 322⇓ P P 03 35 21.1 +2.3
SNR=184
INCN Inchon 24.68 322 *e*P P 03 35 19.3 +0.5
comp=Z,12μm,2.1s,mb7.1
INCN *e*pP 03 36 03.5
INCN *e*ScP ScP 03 42 02.8 -4.7
CUYO Cuyo Island 24.86 255 *e*P P 03 35 22.2 +1.5
SSE Sheshan 24.97 304 P P **03 35 22.3 +0.8**
SSE AP 03 36 09.5
SSE S **S 03 39 28.5 0.0**
SSE AMB AMB
comp=Z,880nm,0.9s,mb6.4
SSE LR LR
comp=E,165μm,19.9s
SSE LR LR
comp=Z,166μm,17.0s
SSE Sheshan 24.97 304 P P **03 35 22.3 +0.8**
comp=Z,880nm,0.9s,mb6.4
SSE pP 03 36 09.5
SSE sP sP 03 36 41.1 +10
SSE S **S 03 39 28.4 -0.1**
SSE sS sS 03 40 55.1 +7.8
SSE LR LR
comp=Z,166μm,17.0s
YUK Yuzh-Kuril'sk 25.00 1⇓ *i*P P 03 35 23.2 +1.6
YUK *e*PPP 03 36 43.0
YUK pmax pmax
comp=E,2μm,2.0s
YUK pmax pmax
comp=Z,8μm,2.0s,mb7.0
YUK pmax pmax
comp=N,12μm,3.0s
YUK pmax pmax
comp=N,190nm,0.5s
YUK pmax pmax
comp=E,190nm,0.5s
YUK pmax pmax
comp=Z,580nm,0.5s,mb6.5
ASAJ Asahikawa 25.19 355 P P **03 35 24.6 +1.4**
comp=Z,688nm,0.8s,mb6.3,baz=210,slow=11,SNR=202
ASAJ P3KPbc 04 08 17.4
comp=Z,23nm,0.9s,baz=313,slow=5.3,SNR=4.3
ASAJ Asahikawa 25.19 355 P P **03 35 25.2 +1.9**
BUSP Coron 25.21 258 *e*P P 03 35 23.1 +1.5
ZMPH Zamboanga City 25.62 245⇓ *e*P P 03 35 32.4 +4.9
ENPP El Nido 26.19 257 *e*P P 03 35 35.2 +2.5
PPR Puerto Princes 27.35 254⇑ *i*P P 03 35 45.5 +2.6
MMPI Merauke 27.69 191 P P **03 35 46.2 +0.3**
YSS Yuzh-Sakhalins 28.00 356*α* *i*P P 03 35 49.0 +0.7
YSS *e**SP sP 03 37 04.0 +5.4
YSS *i* S **S 03 40 14.0 -1.9**
YSS *e* 03 46 07.0
YSS pmax pmax
comp=N,2μm,4.0s
YSS pmax pmax
comp=Z,3μm,4.0s
YSS MLR MLR
comp=Z,31μm,15.0s
YSS MLR MLR
comp=N,36μm,14.0s
YSS Yuzh-Sakhalins 28.00 356 *e*P P 03 35 48.7 +0.4
comp=N,2μm,1.0s,mb6.6
YSS *e*pP pP 03 36 33.8 +1.1
YSS *e*ScP ScP 03 42 13.2 -3.8
AAI Ambon 28.15 219 P P **03 35 49.5 -0.5**
PMG Port Moresby 28.24 176 *e*P P 03 35 48.6 -2.1
PMG pmax pmax
comp=Z,1μm,0.6s
PMG MLR MLR
comp=Z,229μm,20.0s
PMG Port Moresby 28.24 176 *e*P P 03 35 48.6 -2.1
comp=Z,1μm,0.6s,mb6.7
PMG LR LR
comp=Z,229μm,20.0s
BATP Bataraza 28.57 253 *e*P P 03 35 56.1 +2.3
DL2 Dalian 28.61 319 P P **03 35 55.0 +1.1**
DL2 AP pP 03 36 35.8 -2.5
DL2 S **S 03 40 27.8 +2.1**
DL2 SCS ScS 03 46 10.8 -2.0
DL2 AMB AMB
comp=Z,330nm,1.1s,mb5.9
DL2 AMB AMB
comp=Z,5μm,12.4s
MDJ Mudanjiang 28.78 336 P P **03 35 56.3 +1.0**
MDJ AP pP 03 36 42.0 +2.2
MDJ S **S 03 40 30.3 +2.1**
MDJ SCP ScP 03 42 16.8 -2.8
MDJ AMB AMB
comp=Z,169nm,0.7s,mb5.8
MDJ AMB AMB
comp=Z,6μm,11.1s
MDJ LR LR
comp=N,105μm,29.1s
MDJ LR LR
comp=E,133μm,28.1s
MDJ LR LR
comp=Z,34μm,25.0s
MDJ Mudanjiang 28.78 336⇑ *i*P P 03 35 56.0 +0.8
comp=Z,9μm,2.0s,mb7.0
MDJ *e*pP pP 03 36 42.1 +2.4
MDJ *e*ScP ScP 03 42 15.5 -4.0
MDJ LR LR
comp=Z,54μm,20.0s
HKC Hong Kong Obse 29.37 282⇓ *i*P P 03 36 04.0 +3.3
MYLDM Lahad Datu 29.57 246⇑ P P 03 36 06.5 +3.9
CN2 Changchun 29.89 330 *e*P P 03 36 05.0 -0.1
CN2 *e*AP pP 03 36 55.5 +5.8
CN2 *e*S **S 03 40 43.0 -2.6**
CN2 AMB AMB
comp=Z,90nm,1.3s,mb5.2
CN2 AMB AMB
comp=Z,1μm,7.0s
CN2 LR LR
comp=N,55μm,16.0s
CN2 LR LR
comp=E,48μm,16.0s
CN2 LR LR
comp=Z,48μm,21.0s
GZH Guangzhou 30.15 283 P P **03 36 08.0 +0.4**
GZH S **S 03 40 51.5 +1.4**
GZH LR LR
comp=N,381μm,21.9s
GZH LR LR
comp=E,134μm,23.4s
GZH LR LR
comp=Z,228μm,20.7s
KDM Kudat 30.23 250⇓ P P 03 36 10.2 +1.8
SDKM Sandakan 30.49 248⇑ P P 03 36 11.9 +1.2
TSM Tawau 30.56 245⇑ P P 03 36 12.6 +1.3
HABR Khabarovsk 30.61 346⇑ *i*P P 03 36 12.2 +0.9
HABR *e*S S **03 40 58.6 +2.0**
HABR pmax pmax
comp=Z,3μm,2.7s,mb6.5
KKM Kota Kinabalu 31.16 249⇑ P P 03 36 18.5 +1.8
KKM Kota Kinabalu 31.16 249 *e*P P 03 36 17.7 +1.1
comp=Z,1μm,0.6s,mb6.7
HNR Honiara 31.66 152⇑ *i*P P 03 36 18.9 -2.0
comp=Z,5μm,1.0s,mb7.0
PCI Palu 31.92 235 P P **03 36 23.5 +0.3**
KLR Kul'dur 32.13 343 *e*P P 03 36 20.0 -4.6
KLR *e* pP 03 37 06.0 -3.5
TARA Tarawa 32.17 120 *e*P P 03 36 24.4 -0.9
comp=Z,884nm,0.8s,mb6.3
BJT Baijiatuan 32.73 316 *e*P P 03 36 30.2 +0.2
BJT pmax pmax
comp=Z,3μm,1.4s
BJT Baijiatuan 32.73 316 *e*P P 03 36 30.2 +0.3
comp=Z,3μm,1.4s,mb6.6
BJI Beijing 32.74 316 P P **03 36 30.5 +0.5**
BJI AP pP 03 37 16.0 +1.0
BJI XP sP 03 37 46.5 +5.8
BJI S **S 03 41 29.3 -0.6**
BJI XS sS 03 42 52.5 +2.2
BJI SS SS 03 43 52.0 -3.4
BJI AMB AMB
comp=Z,279nm,0.8s,mb5.8
BJI AMB AMB
comp=Z,9μm,6.5s
BJI LR LR
comp=N,101μm,18.8s
BJI LR LR
comp=E,114μm,17.0s
BJI LR LR
comp=Z,136μm,15.9s
BJI Beijing 32.74 316 P P **03 36 30.6 +0.6**
comp=Z,279nm,0.8s,mb5.8
BJI pP pP 03 37 16.0 +1.0
BJI sP sP 03 37 46.4 +5.7
BJI S **S 03 41 29.3 -0.6**
BJI sS sS 03 42 52.6 +2.3
BJI SS SS 03 43 52.0 -3.4
BJI LR LR
comp=Z,137μm,15.9s
COEN Coen 32.78 184 *e*P P 03 36 29.4 -1.2
comp=Z,1μm,0.6s,mb6.5
SKR Severo-Kuril's 32.79 13*d* *i*P P 03 36 30.0 -0.3
SKR *i* S **S 03 41 30.0 -0.4**
SKR *e* 03 46 32.0
SKR pmax pmax
comp=N,2μm,1.5s
SKR pmax pmax
comp=Z,3μm,1.5s,mb6.6
SKR pmax pmax
comp=E,220nm,1.0s
SKR pmax pmax
comp=N,6μm,4.0s
SKR pmax pmax
comp=E,7μm,4.0s
SKR pmax pmax
comp=Z,10μm,4.0s
SKR smax
comp=N,51μm,18.0s
SKR smax
comp=E,34μm,12.0s
SKR MLR MLR
comp=N,33μm,12.0s
SKR MLR MLR
comp=E,34μm,12.0s
SKR MLR MLR
comp=Z,50μm,12.0s
QIZ Qiongzhong 33.57 276 P P **03 36 39.3 +1.8**
QIZ AP pP 03 37 24.0 +1.4
QIZ PP PP 03 37 58.0 -0.3
QIZ S **S 03 41 39.3 -3.9**
QIZ XS sS 03 43 06.8 +3.0
QIZ AMB AMB
comp=Z,453nm,1.0s,mb6.0
QIZ AMB AMB
comp=Z,6μm,3.8s
QIZ Qiongzhong 33.57 276 *e*P P 03 36 39.5 +2.1
comp=Z,1μm,1.5s,mb6.2
KAKA Kakadu 33.95 203 *e* P 03 36 36.2 -4.5
TIY Taiyuan 34.25 310⇑ *e*P P 03 36 46.5 +3.4
TIY AP pP 03 37 30.0 +1.6
TIY S **S 03 41 56.5 +3.2**
TIY XS sS 03 43 14.8 +0.8
TIY AMB AMB
comp=Z,5μm,10.7s
TIY LR LR
comp=N,106μm,14.3s
TIY LR LR
comp=E,80μm,14.7s
TIY LR LR
comp=Z,44μm,17.0s
KAPI Kappang 34.71 229 P P **03 36 46.4 -0.9**
comp=Z,12μm,1.5s,mb7.2
KAPI Kappang 34.71 229 ⇑P P 03 36 47.4 +0.1
SNR=294
KAPI Kappang 34.71 229 *e*P P 03 36 46.4 -0.9
comp=Z,6μm,1.1s,mb7.0
KAPI LR LR
comp=Z,663μm,21.0s
MIDW Midway 35.24 68 *e*P P 03 36 52.6 +0.8
comp=Z,952nm,0.8s,mb6.4
BTM Bintulu 35.25 248⇓ P P 03 36 53.6 +1.7
PETK Petropavlovsk- 35.40 13 P P **03 36 53.6 +0.9**
comp=Z,140nm,0.7s,mb5.6,baz=178,slow=5.3,SNR=93
PETK pP pP 03 37 39.0 +0.8
comp=Z,512nm,0.8s,baz=173,slow=5.7,SNR=5.0
PETK ScP ScP 03 42 38.3 -3.7
comp=Z,143nm,0.8s,baz=173,slow=3.6,SNR=5.8
PETK P3KPbc 04 07 33.8
comp=Z,3.4nm,0.7s,baz=66,slow=8.4,SNR=5.3
PETK Petropavlovsk- 35.40 13 P P **03 36 53.6 +0.9**
PETK pP pP 03 37 39.0 +0.8
PETK ScP ScP 03 42 38.3 -3.7
PETK *e* 04 07 33.8
PET Petropavlovsk 35.53 14⇓ *i*P P 03 36 55.1 +1.3
PET *e**PP pP 03 37 40.4 +1.1
PET *e* 03 39 19.0
PET *i* S **S 03 42 15.2 +2.8**
PET *e*SS SS 03 44 51.7 -5.6
PET pmax pmax
comp=Z,9μm,6.7s
PET pmax pmax
comp=Z,997nm,1.2s,mb6.2
PET pmax pmax
comp=Z,7μm,16.1s
PET smax
comp=N,62μm,10.5s
PET smax
comp=N,51μm,14.1s
PET MLR MLR
comp=Z,38μm,15.0s
PET MLR MLR
comp=Z,40μm,15.0s
PET Petropavlovsk 35.53 14 *e*P P 03 36 55.1 +1.3
comp=Z,6μm,1.8s,mb6.8
PET *e*pP pP 03 37 41.6 +2.3
PET *e*ScP ScP 03 42 38.4 -4.0
XAN Xi'an 35.71 302 P P **03 36 56.3 +0.7**
XAN AP pP 03 37 44.3 +3.2
XAN XP sP 03 38 12.0 +5.4
XAN PP PP 03 38 22.0 +0.3
XAN SCP ScP 03 42 40.5 -3.1
XAN SS SS 03 45 02.0 +0.7
XAN LR LR
comp=N,103μm,19.4s
XAN LR LR
comp=E,106μm,19.8s
XAN LR LR
comp=Z,148μm,16.4s
BATI Baumata 36.03 218 S **S 03 42 15.3 -5.6**
comp=Z,245nm,0.9s,baz=24,slow=7.8,SNR=2.9
HHC Hu-ho-hao-te 36.20 314⇑ *i*P P 03 37 01.0 +1.3
HHC PP PP 03 38 33.0 +6.0
HHC PCP PcP 03 39 20.0 0.0
HHC S **S 03 42 22.5 -0.5**
HHC SCP ScP 03 42 41.5 -3.7
HHC PCS PcS 03 43 07.5 -0.4
HHC XS sS 03 43 53.3 +9.1
HHC SS SS 03 45 05.5 -5.7
HHC SCS ScS 03 46 46.5 -5.2
HHC AMB AMB
comp=Z,120nm,1.4s,mb5.2
HHC LR LR
comp=N,81μm,14.1s
HHC LR LR
comp=E,69μm,14.3s
HHC LR LR
comp=Z,66μm,16.7s
SBUM Sibu 36.36 247⇓ P P 03 37 03.4 +2.1
GYA Guiyang 36.38 289⇑ *i*P P 03 37 02.8 +1.4
GYA AP pP 03 37 48.5 +1.4
GYA PP PP 03 38 33.5 +4.3
GYA PPP 03 39 02.0
GYA S **S 03 42 21.5 -4.6**
GYA SCP ScP 03 42 42.0 -4.2
GYA PCS PcS 03 43 08.8 -0.2
GYA XS sS 03 43 54.0 +6.7
GYA SS SS 03 45 07.3 -7.8
GYA AMB AMB
comp=Z,200nm,0.6s,mb5.8
GYA AMB AMB
comp=Z,3μm,6.4s
GYA LR LR
comp=N,99μm,15.6s
GYA LR LR
comp=E,106μm,15.9s
GYA LR LR
comp=Z,80μm,14.7s
HIA Hailar 36.59 332⇑ *i*P P 03 37 02.9 +0.1
BTO Baotou 37.15 313 *e*P P 03 37 09.3 +1.6
KSM Kuching 38.50 247⇑ P P 03 37 19.9 +0.6
KSM Kuching 38.50 247 *e*P P 03 37 19.4 0.0
comp=Z,653nm,0.7s,mb6.3
KSM *e*S S **03 42 54.3 -4.0**
UBT Ubonrachathani 38.70 271⇓ P P 03 37 23.0 +2.1
comp=Z,1μm,1.0s,mb6.5
CTA Charters Tower 38.81 179⇑ *i*P P 03 37 19.9 -1.8
comp=Z,363nm,0.6s,mb6.1
CTA *e* 03 38 22.7
CTA *e*sP PP 03 38 53.5 -2.3
CTA *e*PP PP 03 39 05.0 +9.2
CTA *e*S S **03 43 01.0 -1.6**
CTA *e* 03 44 38.7
CTA *e* 03 46 01.3
CTA Charters Tower 38.81 179⇑ *i*P P 03 37 19.9 -1.8
CTA *e**SP PP 03 38 53.5 -2.3
CTA *e*S S **03 43 01.0 -1.6**
CTA *e* 03 46 01.3
CTA pmax pmax
comp=Z,363nm,0.6s
CTAO Charters Tower 38.81 179 *e*P P 03 37 19.9 -1.8
CTAO pmax pmax
comp=Z,1μm,1.2s,mb6.3
CTAO MLR MLR
comp=Z,102μm,20.0s
CTAO Charters Tower 38.81 179 *e*P P 03 37 19.9 -1.8
comp=Z,1μm,1.2s,mb6.3
CTAO LR LR
comp=Z,102μm,20.0s
CD2 Chengdu 39.36 296 P P **03 37 27.0 +0.7**
CD2 AP pP 03 38 13.5 +1.0
CD2 XP sP 03 38 42.8 +5.0
CD2 PP PP 03 39 06.0 +4.5
CD2 PCP PcP 03 39 32.0 +2.0
CD2 S **S 03 43 10.5 -0.3**
CD2 PCS PcS 03 43 21.0 +0.7
CD2 XS sS 03 44 35.3 +2.5
CD2 SCS ScS 03 47 09.0 -1.2
CD2 AMB AMB
comp=Z,340nm,0.7s,mb6.0
CD2 AMB AMB
comp=Z,10μm,11.8s
CD2 LR LR
comp=N,217μm,19.2s
CD2 LR LR
comp=E,153μm,21.5s
CD2 LR LR
comp=Z,189μm,20.4s
KMI Kunming 39.87 287⇑ P P 03 37 32.8 +2.2
KMI AP pP 03 38 18.3 +1.4
KMI XP sP 03 38 43.0 +0.8
KMI PP PP 03 39 09.0 +1.8
KMI SCP ScP 03 42 58.5 -1.0
KMI S **S 03 43 18.3 -0.3**
KMI PCS PcS 03 43 23.0 +0.6
KMI SSS 03 47 05.5
KMI SCS ScS 03 47 12.5 -0.9
KMI AMB AMB
comp=Z,792nm,2.0s,mb5.8
KMI AMB AMB
comp=Z,37μm,9.1s
KMI LR LR
comp=N,261μm,23.1s
KMI LR LR
comp=E,86μm,17.9s
KMI LR LR
comp=Z,104μm,23.7s
KMI Kunming 39.87 287 Pu 03 37 32.8
comp=Z,792nm,2.0s
KMI pP pP 03 38 18.3 +1.4
KMI sP sP 03 38 43.0 +0.8
KMI PP PP 03 39 09.1 +1.9
KMI PcP PcP 03 39 36.8 +5.0
KMI PPP 03 39 44.7
KMI ScP ScP 03 42 58.6 -0.9
KMI S **S 03 43 18.2 -0.4**
KMI PcS PcS 03 43 22.9 +0.5
KMI sS sS 03 44 38.3 -2.4
KMI SS SS 03 46 15.7 -9.0
KMI SSS 03 47 05.4
KMI ScS ScS 03 47 12.4 -1.0
KMI LR LR
comp=Z,104μm,23.7s
WRAB Tennant Creek 40.13 196*c* *i*P P 03 37 31.7 -0.9
WRAB Tennant Creek 40.13 196 *e*P P 03 37 31.3 -1.3
comp=Z,28μm,1.7s,mb7.4
WRAB LR LR
comp=Z,226μm,21.0s
WB2 Warramunga Arr 40.14 196⇑ *i*P P 03 37 32.0 -0.7
WB2 *e*S **S 03 43 21.0 -1.4**
WB2 *e* 03 46 27.6
WB2 *e* 03 48 45.8
WRA Warramunga Arr 40.15 196 P P **03 37 32.4 -0.3**
comp=Z,1μm,0.9s,mb6.4,baz=37,slow=9.6,SNR=765
WRA S **S 03 43 22.9 +0.5**
comp=Z,104nm,0.9s,baz=13,slow=14,SNR=4.2

WRA P3KPbc 04 07 16.2
comp=Z,2.1nm,0.6s,baz=203,slow=3.8,SNR=8.3
WRA P3KP 04 08 53.5
comp=Z,2.1nm,0.7s,baz=143,slow=2.1,SNR=6.4
WRA PKPPKP 04 09 42.9
comp=Z,9.0nm,0.8s,baz=151,slow=2.0,SNR=7.3
WRA P4KPbc 04 15 41.1
comp=Z,2.5nm,0.5s,baz=22,slow=5.3,SNR=9.4
WRA Warramunga Arr 40.15 196 P **P** **03 37 32.4 -0.3**
WRA S **S** **03 43 22.9 +0.4**
WRA smax
comp=N,104nm,0.9s
WRA Warramunga Arr 40.15 196 P **P** **03 37 32.4 -0.3**
WRA S **S** **03 43 22.9 +0.5**
WRA *e* 04 07 16.2
WRA PKKKP 04 08 53.5
WRA P'P' 04 09 42.9
LZH Lanzhou 40.25 304 ⇑P **P** **03 37 36.0 +2.5**
LZH AP pP 03 38 20.0 0.0
LZH XP sP 03 38 46.0 +0.8
LZH S **S** **03 43 31.0 +7.1**
LZH SS SS 03 46 30.0 -1.8
LZH AMB AMB
comp=Z,490nm,1.0s,mb5.9
LZH AMB AMB
comp=Z,2μm,5.3s
LZH LR LR
comp=N,118μm,14.6s
LZH LR LR
comp=Z,125μm,15.6s
LZH Lanzhou 40.25 304 ⇑P **P** **03 37 36.0 +2.5**
comp=Z,490nm,1.0s,mb5.9
LZH pP pP 03 38 20.0 0.0
LZH sP sP 03 38 46.0 +0.8
LZH PP PcP 03 39 56.2 +23
LZH S **S** **03 43 31.0 +7.1**
LZH sS sS 03 44 44.2 -2.0
LZH SS SS 03 46 30.0 -1.8
LZH ScS ScS 03 47 25.0 +10
LZH LR LR
comp=Z,125μm,15.6s
SMY Shemya 40.44 27 *eP* **P** **03 37 35.6 +0.9**
SMY pmax pmax
comp=Z,5μm,1.6s,mb6.7
SMY MLR MLR
comp=Z,92μm,20.0s
SMY Shemya 40.44 27 *eP* **P** **03 37 35.6 +0.9**
comp=Z,5μm,1.6s,mb6.7
SMY LR LR
comp=Z,92μm,20.0s
KKTK Khon Kaen 40.57 273 ⇓P **P** **03 37 37.5 +1.2**
comp=Z,7μm,0.4s,mb7.5
CLNS Chul'man 40.80 343*c iP* **P** **03 37 37.9 +0.3**
CLNS *e**PP pP 03 38 23.5 -0.7
CLNS *e* 03 39 59.6
CLNS *eS* **S** **03 43 26.9 -4.4**
CLNS pmax pmax
comp=Z,352nm,1.0s,mb5.8
CLNS pmax pmax
comp=E,101nm,0.9s
CLNS pmax pmax
comp=N,226nm,1.0s
CLNS smax
comp=N,10μm,13.3s
CLNS smax
comp=E,9μm,14.2s
CIT Chita 41.34 330 *eP* **P** **03 37 43.0 +0.9**
CIT *e* pP 03 38 28.9 +0.1
CIT *e* 03 39 04.4
CIT pmax pmax
comp=Z,2μm,1.9s,mb6.2
AMKA Amchitka 41.94 32 *eP* **P** **03 37 48.2 +1.2**
comp=Z,1μm,1.6s,mb6.0
AMKA LR LR
comp=Z,200nm,19.0s
NANT Nan 42.19 277 P **P** **03 37 50.0 +0.5**
ULN Ulaanbaatar 42.38 322 ⇓P **P** **03 37 51.9 +1.3**
SNR=276
ULN Ulaanbaatar 42.38 322 *eP* **P** **03 37 50.2 -0.4**
ULN *e**PP pP 03 38 41.6 +4.1
ULN pmax pmax
comp=Z,10μm,3.0s
ULN MLR MLR
comp=Z,56μm,20.0s
ULN Ulaanbaatar 42.38 322 *eP* **P** **03 37 50.2 -0.4**
comp=Z,19μm,3.0s
ULN *ep*P pP 03 38 41.6 +4.1
ULN *eS*cP ScP 03 43 03.7 -5.3
ULN LR LR
comp=Z,56μm,20.0s
SONM Songino Array 42.75 321 P **P** **03 37 53.3 -0.3**
comp=Z,140nm,0.5s,mb5.6,baz=135,slow=10,SNR=149
SONM pP pP 03 38 41.1 +0.6
comp=Z,373nm,0.7s,baz=127,slow=7.0,SNR=1.4
SONM ScP ScP 03 43 07.6 -2.9
comp=Z,263nm,1.2s,baz=137,slow=3.1,SNR=5.4
SONM P3KPbc 04 07 04.8
comp=Z,5.9nm,0.9s,baz=292,slow=4.1,SNR=16
SONM SKKS 04 08 04.4
comp=Z,7.1nm,1.2s,baz=283,slow=2.7,SNR=5.0
SONM PKP2ab 04 10 54.2
comp=Z,5.1nm,1.0s,baz=270,slow=1.5,SNR=3.6
SONM Songino Array 42.75 321 P **P** **03 37 53.3 -0.3**
SONM *PP pP 03 38 41.1 +0.6
SONM pmax pmax
comp=Z,140nm,0.5s
SONM Songino Array 42.75 321 P **P** **03 37 53.3 -0.3**
SONM pP pP 03 38 41.1 +0.6
SONM ScP ScP 03 43 07.6 -2.9
SONM *e* 04 07 04.8
SONM SKKS 04 08 04.4
FUNA Funafuti 43.10 126 *eP* **P** **03 37 56.5 -0.3**
comp=Z,3μm,1.4s,mb6.5
NST Nakhon Sawan 43.23 273 ⇓P **P** **03 37 59.1 +1.2**
comp=Z,1μm,0.6s,mb6.4
KTGM Kuala Trenggan 43.33 257 ⇑P **P** **03 38 01.1 +2.4**
ASAR Alice Springs 43.82 195 P **P** **03 38 01.4 -0.9**
comp=Z,712nm,0.6s,mb6.2,baz=14,slow=5.7,SNR=1422
ASAR PcP PcP 03 39 47.2 +2.5
comp=Z,216nm,0.7s,baz=27,slow=4.9,SNR=4.3
ASAR ScP ScP 03 43 12.3 -2.8
comp=Z,35nm,0.8s,baz=22,slow=37,SNR=5.0
ASAR S **S** **03 44 16.4 +0.2**
comp=Z,135nm,0.9s,baz=18,slow=18,SNR=6.5
ASAR P3KPbc 04 07 01.9
comp=Z,1.6nm,0.6s,baz=183,slow=3.8,SNR=9.3
ASAR tx tx 04 08 04.2
comp=Z,1.2nm,0.9s,baz=192,slow=4.3,SNR=4.3
ASAR P3KP 04 08 49.3
comp=Z,2.8nm,0.9s,baz=140,slow=2.6,SNR=4.5
ASAR PKP2ab 04 10 44.5
comp=Z,3.5nm,0.9s,baz=140,slow=2.5,SNR=4.6
ASAR tx tx 04 11 59.6
comp=Z,9.2nm,0.9s,baz=185,slow=2.4,SNR=4.9
ASAR P4KPbc 04 15 55.0
comp=Z,5.0nm,0.8s,baz=19,slow=4.2,SNR=10
ASAR Alice Springs 43.82 195 P **P** **03 38 01.5 -0.8**
ASAR 03 39 47.2
ASAR S **S** **03 44 16.4 +0.2**
ASAR pmax pmax
comp=Z,712nm,0.6s
ASAR smax
comp=N,135nm,0.9s
ASAR Alice Springs 43.82 195 P **P** **03 38 01.4 -0.9**
ASAR PcP PcP 03 39 47.2 +2.5
ASAR ScP ScP 03 43 12.3 -2.8
ASAR S **S** **03 44 16.4 +0.2**
ASAR *e* 04 07 01.9
ASAR PKKKP 04 08 49.3
ASAR P'P'ab 04 10 44.5
CHG Chiang Mai 43.84 278 ⇑P **P** **03 38 03.4 +0.7**
comp=N,493nm,0.7s,mb6.0
CHTO Chiang Mai 43.84 278 ⇓P **P** **03 38 04.0 +1.4**
SNR=105
CHTO Chiang Mai 43.84 278 *eP* **P** **03 38 03.4 +0.7**
CHTO pmax pmax
comp=Z,571nm,1.2s,mb5.8
CHTO Chiang Mai 43.84 278 *eP* **P** **03 38 03.4 +0.8**
comp=Z,570nm,1.2s,mb5.8
CHTO *e*ScP ScP 03 43 11.7 -3.8
CMAR Chiang Mai Arr 43.89 277 P **P** **03 38 04.0 +0.9**
comp=Z,443nm,0.8s,mb5.8,baz=67,slow=8.5,SNR=207
CMAR pP pP 03 38 51.5 +1.3
comp=Z,64nm,0.7s,baz=70,slow=7.8,SNR=0.7
CMAR ScP ScP 03 43 14.4 -1.3
comp=Z,53nm,1.0s,baz=132,slow=2.0,SNR=4.2
CMAR P3KPbc 04 06 59.6
comp=Z,2.7nm,0.6s,baz=257,slow=5.9,SNR=8.7
CMAR SKKS 04 08 06.0
comp=Z,2.1nm,0.9s,baz=268,slow=6.3,SNR=5.0
CMAR PKP2ab 04 10 58.9
comp=Z,4.4nm,0.9s,baz=266,slow=4.6,SNR=4.3
CMAR P4KPbc 04 15 45.8
comp=Z,1.6nm,0.3s,baz=128,slow=2.3,SNR=4.1
CMAR Chiang Mai Arr 43.89 277 P **P** **03 38 04.0 +0.9**
CMAR *PP pP 03 38 51.6 +1.3
CMAR pmax pmax
comp=Z,443nm,0.8s
CMAR Chiang Mai Arr 43.89 277 P **P** **03 38 04.0 +0.9**
CMAR pP pP 03 38 51.5 +1.3
CMAR ScP ScP 03 43 14.4 -1.3
CMAR *e* 04 06 59.6
CMAR SKKS 04 08 06.0
CMAR P'P'ab 04 10 58.9
BDT Bhumibol Dam 44.02 275 PG **P** **03 38 02.0 -2.1**
BDT SG pP 03 39 00.0 +8.6
MYKOM Kota Tinggi 44.09 252 ⇓P **P** **03 38 06.9 +2.1**
GTA Gaotai 44.15 307 ⇑P **P** **03 38 06.0 +1.1**
GTA AP pP 03 38 53.8 +1.7
GTA XP sP 03 39 18.5 +1.3
GTA PP PP 03 39 51.0 -1.5
GTA SCP ScP 03 43 15.5 -0.9
GTA S **S** **03 44 20.5 -0.3**
GTA SCS ScS 03 47 38.5 -0.8
GTA AMB AMB
comp=Z,7μm,10.2s
GTA LR LR
comp=N,54μm,20.4s
GTA LR LR
comp=E,56μm,20.7s
GTA LR LR
comp=Z,53μm,20.4s
SEY Seymchan 44.20 5*c iP* **P** **03 38 06.5 +1.6**
SEY Seymchan 44.20 5⇑*iP* **P** **03 38 06.6 +1.7**
ADK Adak 44.27 33 *eP* **P** **03 38 06.4 +0.8**
ADK pmax pmax
comp=Z,4μm,1.3s,mb6.6
ADK Adak 44.27 33 *eP* **P** **03 38 06.4 +0.8**
comp=Z,4μm,1.3s,mb6.6
ADK *eS*cP ScP 03 43 13.3 -3.3
NNT Nongplab 44.28 269 P **P** **03 38 08.5 +2.2**
EIDS Eidsvold 44.41 173 *eP* **P** **03 38 05.2 -1.8**
comp=Z,580nm,1.0s,mb5.9
EIDS *eS*cP ScP 03 43 14.3 -3.2
YAK Yakutsk 44.41 349 *eP* **P** **03 38 06.7 +0.2**
YAK *e* 03 39 41.1
YAK *e* 03 39 56.7
YAK *eS* **S** **03 44 19.7 -4.2**
YAK *e* 03 47 38.4
YAK pmax pmax
comp=Z,2μm,0.9s,mb6.5
YAK pmax pmax
comp=N,1μm,1.2s
YAK pmax pmax
comp=E,250nm,1.0s
YAK pmax pmax
comp=Z,526nm,0.7s,mb6.0
YAK smax
comp=E,6μm,3.0s
YAK smax
comp=N,6μm,3.6s
YAK Yakutsk 44.41 349 *eP* **P** **03 38 06.3 -0.2**
comp=N,3μm,0.8s,mb6.7
YAK *ep*P pP 03 38 53.2 -0.6
YAK *eS*cP ScP 03 43 12.2 -4.7
KGM Kluang 44.48 253 ⇑P **P** **03 38 10.3 +2.4**
SNG Songkhla 45.02 261 P **P** **03 38 14.0 +1.9**
comp=N,2μm,1.1s,mb6.4
BOD Bodaibo 45.15 337 *eP* **P** **03 38 12.5 0.0**
BOD *e* pP 03 38 59.3 -0.6
BOD pmax pmax
comp=Z,189nm,1.4s,mb5.2
FRIM Kepong 45.52 255 ⇑P **P** **03 38 18.2 +2.1**
IPM Ipoh 45.59 257 ⇑P **P** **03 38 19.0 +2.4**
DZM Mont Dzumac 45.69 152 *eP* **P** **03 38 15.9 -1.1**
comp=Z,7μm,1.0s,mb7.0
ZAK Zakamensk 45.76 323 *eP* **P** **03 38 16.8 -0.5**
ZAK *e* pP 03 39 06.8 +1.9
ZAK pmax pmax
comp=Z,219nm,1.4s,mb5.3
IRK Irkutsk 46.12 326 *eP* **P** **03 38 21.2 +1.1**
IRK *e* pP 03 39 08.2 +0.4
IRK pmax pmax
comp=Z,756nm,1.3s,mb5.9
TLY Talaya 46.18 325 ⇓P **P** **03 38 22.0 +1.4**
SNR=70
TLY Talaya 46.18 325*c iP* **P** **03 38 21.1 +0.5**
TLY *e* 03 40 12.8
TLY *eS* **S** **03 44 49.9 +0.4**
TLY pmax pmax
comp=Z,316nm,1.1s,mb5.6
TLY MLR MLR
comp=Z,37μm,17.0s
TLY Talaya 46.18 325 *eP* **P** **03 38 20.8 +0.2**
comp=Z,673nm,1.2s,mb5.8
TLY *ep*P pP 03 39 10.3 +2.0
MBWA Marble Bar 47.12 213 ⇓P **P** **03 38 28.2 -0.1**
SNR=273
MBWA Marble Bar 47.12 213 *eP* **P** **03 38 27.7 -0.5**
comp=Z,3μm,0.9s,mb6.6
MBWA LR LR
comp=Z,200μm,22.0s
MOY Mondy 47.63 324 *eP* **P** **03 38 33.2 +1.4**
MOY pmax pmax
comp=Z,539nm,2.0s,mb5.5
IMP Imphal 47.87 287 *eP* **P** **03 38 34.0 -0.1**
IMP *ex* x 03 43 27.0
XMIS Christmas Isla 48.89 237 *eP* **P** **03 38 40.5 -1.4**
comp=Z,2μm,0.9s,mb6.5
XMIS *eS* **S** **03 45 25.5 -3.1**
NIKO Nikolski 48.97 35 *eP* **P** **03 38 42.0 0.0**
comp=Z,4μm,1.4s,mb6.5
NIKO *ep*P pP 03 39 34.0 +3.8
NIKO *eS* **S** **03 45 27.6 -1.1**
ARMA Armidale 49.46 173 *eP* **P** **03 38 44.2 -1.7**
ARMA *eS* **S** **03 45 33.8 -2.1**
SHL Shillong 49.68 288⇑*iP* **P** **03 38 47.5 -0.3**
SHL *i* x x 03 45 37.5
SHL *eS*CS ScS 03 48 16.0 -0.3
LSA Lhasa 50.17 293 P **P** **03 38 53.3 +1.9**
LSA S **S** **03 45 47.0 +0.9**
LSA XS sS 03 47 13.0 +1.7
LSA AMB AMB
comp=Z,480nm,0.8s,mb5.9
LSA AMB AMB
comp=Z,7μm,10.0s
LSA LR LR
comp=N,65μm,19.0s
LSA LR LR
comp=E,88μm,18.0s
LSA LR LR
comp=Z,86μm,22.0s
LSA Lhasa 50.17 293 *eP* **P** **03 38 53.6 +2.2**
LSA pmax pmax
comp=Z,812nm,1.0s,mb6.0
LSA MLR MLR
comp=Z,66μm,19.0s
LSA Lhasa 50.17 293 *eP* **P** **03 38 53.6 +2.1**
comp=Z,812nm,1.0s,mb6.0
LSA LR LR
comp=Z,66μm,19.0s
UNV Unalaska Valle 50.62 35 *eP* **P** **03 38 54.1 -0.2**
comp=Z,1μm,0.8s,mb6.3
UNV *eS* **S** **03 45 51.0 -0.5**
STKA Stephens Creek 50.67 184⇑*iP* **P** **03 38 53.2 -1.8**
comp=Z,902nm,1.1s,mb6.1
STKA *e* pP 03 39 45.1 +1.5
STKA *eS* **S** **03 45 50.4 -2.3**
STKA *e* 03 47 13.3
STKA Stephens Creek 50.67 184 P **P** **03 38 54.0 -1.0**
comp=Z,674nm,0.9s,mb6.1,baz=353,slow=7.7,SNR=298
STKA PcP PcP 03 40 10.5 +1.5
comp=Z,232nm,0.6s,baz=2.5,slow=13,SNR=3.1
STKA P3KP 04 08 29.4
comp=Z,3.5nm,0.8s,baz=111,slow=5.9,SNR=4.1
STKA PKPPKP 04 09 37.9
comp=Z,6.7nm,0.9s,baz=104,slow=5.0,SNR=4.7
STKA P4KPbc 04 16 23.2
comp=Z,10nm,1.0s,baz=346,slow=4.7,SNR=8.3
BILL Bilibino 50.82 10α *iP* **P** **03 38 56.2 +0.6**
BILL *i* 03 40 58.5
BILL *i* S **S** **03 45 55.0 +1.2**
BILL *i* 03 46 01.2
BILL pmax pmax
comp=Z,408nm,0.6s,mb6.0
BILL MLR MLR
comp=Z,34μm,16.0s
BILL Bilibino 50.82 10 *eP* **P** **03 38 56.5 +0.9**
comp=Z,1μm,0.9s,mb6.3
AKUT Akutan 51.13 35 *eP* **P** **03 38 57.4 -0.7**
AKUT LR LR
comp=Z,64μm,20.0s
FORT Forrest 52.18 199 *eP* **P** **03 39 05.4 -0.8**
comp=Z,6μm,1.2s,mb6.9
FORT *e* 03 40 37.5
FORT *eS* **S** **03 46 11.7 -1.6**
GTK Gangtok 52.49 290 *ex* x 03 39 00.0
FALS False Pass 52.68 35 *eP* **P** **03 39 09.4 -0.1**
SLGI Shiliguri 52.71 289 *ex* **P** **03 39 13.7 +3.4**
KIP Kipapa 52.94 77 *eP* **P** **03 39 13.2 +1.1**
KIP pmax pmax
comp=Z,491nm,0.6s,mb6.1
KIP Kipapa 52.94 77 *eP* **P** **03 39 13.2 +1.1**
comp=Z,491nm,0.6s,mb6.1
HON Honolulu 52.97 77 *eP* **P** **03 39 14.0 +1.7**
CAL Calcutta 53.20 284 *eP* **P** **03 39 12.7 -1.3**
CAL *eS* **S** **03 46 30.2 +2.6**
TAPN Taplejung 53.29 290 *eP* **P** **03 39 16.0 +1.5**
comp=Z,2μm,1.1s,mb6.4
GAMB Gambell 53.33 22 *eP* **P** **03 39 15.3 +1.2**
comp=Z,487nm,0.9s,mb5.9
AFI Afiamalu 53.37 125 *eP* **P** **03 39 15.1 0.0**
AFI pmax pmax
comp=Z,2μm,1.4s,mb6.3
AFI Afiamalu 53.37 125 *eP* **P** **03 39 15.1 -0.1**
comp=Z,2μm,1.4s,mb6.3
SHBG Sahibganj 53.51 288 *eP* **P** **03 39 17.0 +0.9**
TIXI Tiksi 53.58 354⇑*eP* **P** **03 39 15.0 -0.9**
TIXI *e* pP 03 40 01.1 -3.9
TIXI *eS* **S** **03 46 28.8 -2.5**
TIXI *e* 03 50 12.5
TIXI pmax pmax
comp=Z,318nm,1.1s,mb5.8
TIXI Tiksi 53.58 354 *eP* **P** **03 39 14.3 -1.5**
comp=Z,196nm,0.7s,mb5.8
TIXI LR LR
comp=Z,28μm,22.0s
ODAN Odare 53.61 290 *eP* **P** **03 39 18.0 +1.1**
comp=Z,712nm,0.7s,mb6.3
KRAR Krasnoyarsk 53.79 326⇓*iP* **P** **03 39 18.2 +0.5**
KRAR pmax pmax
comp=Z,335nm,1.7s,mb5.6
WMQ Urumqi 53.91 311 ⇓P **P** **03 39 20.0 +1.2**
WMQ PCP PcP 03 40 22.0 +0.8
WMQ PP PP 03 41 26.0 +3.6
WMQ PPP 03 42 45.0
WMQ SCP ScP 03 43 53.8 -4.1
WMQ PCS PcS 03 44 20.0 -0.7
WMQ S **S** **03 46 34.0 -2.6**
WMQ SCS ScS 03 48 39.5 -5.6
WMQ SS SS 03 50 20.0 -0.9
WMQ AMB AMB
comp=Z,547nm,1.1s,mb6.0
WMQ LR LR
comp=N,111μm,21.1s
WMQ LR LR
comp=E,45μm,19.2s
WMQ LR LR
comp=Z,50μm,21.0s
ADE Adelaide 54.00 187⇑*iP* **P** **03 39 18.5 -0.9**
ADE Adelaide 54.00 187 *i P* **P** **03 39 18.5 -0.9**
CAN Canberra 54.09 176 *eP* **P** **03 39 18.6 -1.4**
comp=Z,1μm,1.0s,mb6.5
CNB Canberra Magne 54.10 176⇑*iP* **P** **03 39 18.9 -1.2**
CNB *e* 03 40 14.8
CNB *e* 03 40 48.4
CNB *eS* **S** **03 46 38.8 -0.3**
CNB *e* 03 48 07.1
RAMN Ramite 54.31 290 *eP* **P** **03 39 23.4 +1.5**
comp=Z,528nm,0.7s,mb6.2
SDPT Sand Point 54.43 35 *eP* **P** **03 39 22.2 -0.1**
comp=Z,3μm,0.6s,mb7.0
SDPT LR LR
comp=Z,51μm,23.0s
JIRN Jiri 54.61 291 *eP* **P** **03 39 26.0 +1.9**
comp=Z,1μm,0.7s,mb6.6
HKL Haleakala 54.67 78 *eP* **P** **03 39 26.9 +2.3**
GUN Gumba 54.87 291 *eP* **P** **03 39 27.6 +1.7**
comp=Z,2μm,0.9s,mb6.6
KKH Kailua Kona 55.06 79 *eP* **P** **03 39 28.5 +1.1**
BOK Bokaro 55.28 286 *eP* **P** **03 39 29.9 +1.0**
BOK AMb AMB 03 39 35.5
comp=Z,746nm,1.4s,mb6.0
PKI Pulchoki 55.31 291 *eP* **P** **03 39 30.2 +1.1**
PKI Pulchoki 55.31 291 *eP* **P** **03 39 30.4 +1.3**
PKI pmax pmax
comp=Z,370nm,0.6s,mb6.1
PKI Pulchoki 55.31 291 *eP* **P** **03 39 30.4 +1.3**
comp=Z,370nm,0.6s,mb6.1
PKIN Phulchoki 55.32 291 *eP* **P** **03 39 30.4 +1.2**
comp=Z,370nm,0.7s,mb6.1
KKN Kakani 55.41 291 *eP* **P** **03 39 30.6 +0.8**
comp=Z,972nm,0.9s,mb6.3
KKN Kakani 55.41 291 *eP* **P** **03 39 30.6 +0.8**
KKN pmax pmax
comp=Z,972nm,0.9s,mb6.3
POHA Pohakuloa 55.50 79 *eP* **P** **03 39 31.7 +1.2**
comp=Z,957nm,0.9s,mb6.3
KHU Kahuku 55.51 79 *eP* **P** **03 39 32.2 +1.6**
DMN Daman 55.58 291 *eP* **P** **03 39 32.4 +1.4**
TNA Tin City 55.69 22 *eP* **P** **03 39 32.6 +1.5**
comp=Z,434nm,1.0s,mb5.9
CHGN Chignik 55.84 34 *eP* **P** **03 39 32.8 +0.5**
STCH Steam Cracks 55.94 79 *eP* **P** **03 39 35.0 +1.3**
GKN Gorkha 55.96 291 *eP* **P** **03 39 34.8 +1.1**
comp=Z,2μm,1.1s,mb6.6
TOO Toolangi 56.22 180 *eP* **P** **03 39 34.1 -1.1**
TOO *e* 03 41 00.0
TOO *eS* **S** **03 47 07.0 -0.2**
TOO *e* 03 48 35.8
TOO Toolangi 56.22 180 *eP* **P** **03 39 34.1 -1.1**
TOO *eS* **S** **03 47 07.0 -0.2**
DANN Dangsing 56.70 292 *eP* **P** **03 39 40.1 +1.2**
KLBR Kellerberrin 56.82 208 *eP* **P** **03 39 38.1 -1.4**
comp=Z,3μm,1.0s,mb6.8
KLBR *e* pP 03 40 32.6 +3.4
KOLN Koldanda 56.89 291 *eP* **P** **03 39 41.2 +0.9**
comp=Z,643nm,0.8s,mb6.3
COCO West Island 56.98 241 ⇑P **P** **03 39 41.8 +0.8**
SNR=14
COCO West Island 56.98 241 *eP* **P** **03 39 41.8 +0.8**
comp=Z,968nm,1.0s,mb6.4
ZALV Zalesovo Beam 57.63 322 P **P** **03 39 43.6 -1.3**
comp=Z,120nm,0.5s,mb5.8,baz=108,slow=8.9,SNR=80
ZALV pP pP 03 40 34.4 -0.3
comp=Z,221nm,0.6s,baz=100,slow=7.7,SNR=3.3
ZALV PKPPKP 04 09 18.6
comp=Z,13nm,0.9s,baz=304,slow=3.4,SNR=7.2
ZALV PKP2bc 04 09 34.5
comp=Z,28nm,0.9s,baz=298,slow=3.2,SNR=7.3
ZALV Zalesovo Beam 57.63 322 P **P** **03 39 43.6 -1.3**
ZALV *PP pP 03 40 34.4 -0.3
ZALV pmax pmax
comp=Z,120nm,0.5s,mb5.8
ZALV Zalesovo Beam 57.63 322 P **P** **03 39 43.6 -1.3**
ZALV pP pP 03 40 34.4 -0.3
ZALV P'P' 04 09 18.6
ZALV ⇑*e* 04 09 34.5
MUN Mundaring 57.85 209 *eP* **P** **03 39 45.6 -1.1**
MUN *eS* **S** **03 47 28.8 +0.2**
MUN *e* 03 49 00.2
MK31 Makanchi Array 58.07 314 *eP* **P** **03 39 47.8 -0.3**
MKAR Makanchi Array 58.07 314 P **P** **03 39 47.6 -0.5**
comp=Z,173nm,0.7s,mb5.8,baz=89,slow=8.7,SNR=173
MKAR pP pP 03 40 39.5 +1.5
comp=Z,330nm,0.6s,baz=97,slow=7.7,SNR=2.5
MKAR PKPPKP 04 09 26.3
comp=Z,4.7nm,0.9s,baz=252,slow=2.4,SNR=5.5
MKAR tx tx 04 10 34.3
comp=Z,39nm,1.2s,baz=280,slow=2.2,SNR=3.8
MKAR Makanchi Array 58.07 314 P **P** **03 39 47.6 -0.5**
MKAR *PP pP 03 40 39.5 +1.5
MKAR pmax pmax
comp=Z,173nm,0.7s
NWAO Narrogin (SRO) 58.19 208 P **P** **03 39 49.1 0.0**

SNR=122
NWAO Narrogin (SRO) 58.19 208 *e*P **P** **03 39 48.1 -0.9**
NWAO pmax pmax
comp=Z,1μm,1.0s
NWAO Narrogin (SRO) 58.19 208 *e*P **P** **03 39 48.1 -0.9**
comp=Z,1μm,1.0s,mb6.6
XMAS Kiritimati 58.39 100 *e*P **P** **03 39 51.4 +0.5**
comp=Z,1μm,0.7s,mb6.6
VIS Vishakhapatnam 58.63 280 *e*P **P** **03 39 53.3 +0.8**
VIS AMb AMB 03 39 58.8
comp=Z,299nm,0.9s,mb5.9
VIS *i* S **S** **03 47 40.7 +1.2**
NVS Novosibirsk 58.72 323 *e*P **P** **03 39 59.2 +6.7**
NVS *e* 03 40 41.9
NVS pmax pmax
comp=N,295nm,1.5s
NVS pmax pmax
comp=E,969nm,1.5s
NVS pmax pmax
comp=Z,809nm,1.5s,mb6.1
SVW2 Sparrevohn 58.75 29 *e*P **P** **03 39 52.8 +0.3**
OHAK Old Harbor 58.81 34 *e*P **P** **03 39 53.2 +0.2**
OHAK LR LR
comp=Z,63μm,19.0s
KDAK Kodiak Island 59.31 33 *e*P **P** **03 39 56.8 +0.3**
comp=Z,368nm,0.7s,mb6.1
KDAK *e*S **S** **03 47 48.3 +1.5**
RAO Raoul Island 59.59 143 *e*P **P** **03 39 57.9 -0.9**
comp=Z,10μm,1.3s,mb7.3
LGTI Lohaghat 59.66 294 *e*P **P** **03 40 00.7 +1.3**
LGTI *ex* x 03 42 46.0
PTH Pithoragarh 59.68 294 *e*P **P** **03 40 00.8 +1.3**
JBP Jabalpur 60.73 286 *e*P **P** **03 40 08.1 +1.4**
JBP *e*S **S** **03 48 06.7 +0.7**
PPLA Purkeypile 60.81 28 *e*P **P** **03 40 07.1 +0.5**
comp=Z,4μm,0.4s,mb7.4
KURK Kurchatov 60.88 318 ⇓P **P** **03 40 07.9 +0.7**
SNR=477
KURK Kurchatov 60.88 318⇑ *e*P **P** **03 40 06.2 -1.0**
CHUM Lake Minchumin 61.04 27 *e*P **P** **03 40 08.8 +0.7**
comp=Z,561nm,0.7s,mb6.3
SLKM Skilak Lake 61.12 31 *e*P **P** **03 40 08.0 -0.7**
SLKM *e*S **S** **03 48 08.5 -1.3**
IMA2 Indian Mountai 61.16 24 *e*P **P** **03 40 09.6 +0.8**
FIB Fire Island 61.29 30 *e*P **P** **03 40 10.7 +0.9**
FIB pmax pmax
comp=Z,2μm,0.9s,mb6.7
FIB Fire Island 61.29 30 *e*P **P** **03 40 10.7 +0.9**
comp=Z,2μm,0.9s,mb6.7
SEW Seward 61.41 31 *e*P **P** **03 40 10.3 -0.3**
comp=Z,1μm,0.9s,mb6.5
SEW *e*S **S** **03 48 13.9 +0.5**
DDI Dehra Dun 61.46 295 *ex* x 03 40 08.0
DDI *ex* x 03 40 56.8
RC01 Rabbit Creek A 61.48 30 *e*P **P** **03 40 10.3 -0.7**
comp=Z,620nm,0.7s,mb6.3
RC01 *e*S **S** **03 48 14.7 +0.4**
KTH Kantishna Hill 61.54 27 *e*P **P** **03 40 11.2 -0.2**
comp=Z,2μm,1.1s,mb6.6
TAU Tasmania Unive 61.58 178 *e*P **P** **03 40 10.3 -1.6**
TAU pmax pmax
comp=Z,2μm,1.2s,mb6.6
TAU Tasmania Unive 61.58 178 *e*P **P** **03 40 10.2 -1.6**
comp=Z,2μm,1.2s,mb6.6
BPAW Bear Paw Mtn. 61.66 27 *e*P **P** **03 40 12.0 -0.2**
comp=Z,113nm,1.4s,mb5.3
BPAW *e*pP pP 03 41 03.3 +0.6
AAA Alma-Ata 61.66 309 *e*P **P** **03 40 14.5 +1.9**
AAA *e*S **S** **03 48 14.3 -2.9**
AAA pmax pmax
comp=Z,49μm,5.9s
AAA smax
comp=E,44μm,14.3s
AAA Alma-Ata 61.66 309 *i* P **P** **03 40 14.1 +1.5**
JHNI Jhansi 61.67 289 *ex* x 03 40 20.0
JHNI *ex* x 03 41 19.0
TRF Thorofare Moun 61.79 27 *e*P **P** **03 40 12.7 -0.4**
comp=E,722nm,1.3s,mb6.1
TRF *e*pP pP 03 41 03.7 +0.1
PMR Palmer 61.88 30 *e*P **P** **03 40 11.7 -2.0**
PMR pmax pmax
comp=Z,689nm,1.4s,mb6.1
PMR MLR MLR
comp=Z,75μm,20.0s
PMR Palmer 61.88 30 *e*P **P** **03 40 11.7 -2.0**
comp=Z,688nm,1.4s,mb6.1
PMR LR LR
comp=Z,75μm,20.0s
NGP Nagpur 61.93 284⇑ *i*P **P** **03 40 14.4 -0.4**
NGP *ex* x 03 48 16.8
SMLA Simla 62.14 296 *i* P **P** **03 40 16.1 +0.1**
SMLA *ex* x 03 40 19.1
comp=Z,805nm,0.6s
SMLA *i* x x 03 48 21.5
ULHL Ulahol 62.19 308 P **P** **03 40 16.6 +0.5**
SNR=79
SDNR Sundarnagar 62.27 296 *e*P **P** **03 40 16.6 -0.2**
SDNR *ex* x 03 41 17.0
NDI New Delhi 62.39 293 *e*P **P** **03 40 17.0 -0.7**
MCK McKinley 62.45 27 *e*P **P** **03 40 17.2 -0.2**
MCK pmax pmax
comp=Z,663nm,1.0s,mb6.2
MCK McKinley 62.45 27 *e*P **P** **03 40 17.2 -0.3**
comp=Z,663nm,1.0s,mb6.2
KSH Kashi 62.47 305⇑ *i*P **P** **03 40 20.5 +2.4**
KSH *e*AP pP 03 41 09.8 +1.1
KSH *e*PP PP 03 42 41.5 +3.2
KSH *e*PPP 03 44 13.5
KSH *e*SCP ScP 03 44 35.0 -0.9
KSH *e*PCS PcS 03 44 58.0 -0.7
KSH *e*S **S** **03 48 23.3 -4.2**
KSH *e*SCS ScS 03 49 43.8 -4.7
KSH *e*XS sS 03 50 03.8 +7.7
KSH AMB AMB
comp=Z,40nm,0.2s,mb5.7
KSH AMB AMB
comp=Z,29μm,8.7s
KSH LR LR
comp=N,346μm,16.8s
KSH LR LR
comp=E,89μm,13.1s
KSH LR LR
comp=Z,149μm,17.4s
TKM2 Tokmak 2 62.65 309 P **P** **03 40 19.3 +0.1**
SNR=211
TKM2 Tokmak 2 62.65 309 *e*P **P** **03 40 19.0 -0.2**
comp=Z,8μm,1.1s,mb7.3
TKM2 *e*pP pP 03 41 12.4 +2.6
BHK Bhakra 62.74 296 *e*P **P** **03 40 21.8 +1.8**
BHK *ex* x 03 41 14.6
MID Middleton Isla 62.83 32 *e*P **P** **03 40 22.2 +2.1**
MID pmax pmax
comp=Z,2μm,1.1s,mb6.7
MID MLR MLR
comp=Z,48μm,18.0s
MID Middleton Isla 62.83 32 *e*P **P** **03 40 22.2 +2.1**
comp=Z,2μm,1.1s,mb6.7
MID LR LR
comp=Z,48μm,18.0s
COLD Coldfoot 62.84 23 *e*P **P** **03 40 20.4 +0.5**
comp=Z,113nm,0.8s,mb5.5
COLD *e*ScP ScP 03 44 36.5 -0.3
KZA Kyzart 62.93 308 P **P** **03 40 22.1 +1.1**
SNR=283
BHPL Bhopal 63.03 287 *e*P **P** **03 40 22.1 0.0**
BHPL *e*S **S** **03 48 34.1 -0.8**
KBK Karagaybulak 63.14 309 P **P** **03 40 22.4 +0.1**
SNR=101
HYB Hyderabad 63.15 280 *e*P **P** **03 40 23.0 +0.1**
HYB *e*S **S** **03 48 32.0 -4.5**
HYB pmax pmax
comp=Z,270nm,1.0s,mb5.8
HYB Hyderabad 63.15 280 *i* P **P** **03 40 23.0 +0.1**
comp=Z,270nm,1.0s,mb5.8
HYB *e*pP pP 03 41 12.0 -1.6
HYB *e*S **S** **03 48 32.0 -4.5**
HYB LR LR 03 59 28.0
comp=Z,83nm,18.0s
HYB *e*PKPPKP 04 09 12.0
HYB Hyderabad 63.15 280 *e*P **P** **03 40 23.0 +0.1**
comp=Z,270nm,1.0s,mb5.8
HYB *e*pP pP 03 41 12.0 -1.6
HYB *e*S **S** **03 48 32.0 -4.5**
COLA College 63.17 26*c i*P **P** **03 40 22.2 0.0**
COLA College 63.17 26 *e*P **P** **03 40 21.5 -0.7**
comp=Z,366nm,0.8s,mb6.1
THN Thein Dam 63.22 297 *e*P **P** **03 40 20.3 -2.9**
THN *ex* x 03 48 35.4
CHMS Chumysh 63.27 309 P **P** **03 40 23.8 +0.6**
SNR=54
EYAK Cordova Ski Ar 63.30 31 *e*P **P** **03 40 22.8 -0.3**
comp=Z,2μm,1.2s,mb6.6
EYAK *e*S **S** **03 48 37.3 +0.4**
FRU Bishkek 63.38 309 *i* P **P** **03 40 24.0 +0.1**
FRU pmax pmax
comp=Z,440nm,2.0s,mb5.7
FRU pmax pmax
comp=Z,6μm,8.0s
FRU MLR MLR
comp=Z,55μm,16.0s
USP Ospenovka 63.45 310 P **P** **03 40 24.0 -0.4**
SNR=148
UCH Uchtor 63.47 308 P **P** **03 40 28.9 +4.3**
SNR=56
UCH Uchtor 63.47 308 *e*P **P** **03 40 25.4 +0.8**
comp=Z,603nm,1.3s,mb6.1
UCH *e*pP pP 03 41 17.7 +2.3
AAK Ala-Archa 63.47 309 P **P** **03 40 24.6 0.0**
SNR=112
PALK Pallekele 63.76 269 P **P** **03 40 28.3 +1.4**
comp=Z,43nm,1.5s,mb4.9,SNR=8.5
AKL Akola 63.88 284 *e*P **P** **03 40 28.3 +0.7**
AKL *e*S **S** **03 48 44.6 -0.9**
EKS2 Erkin-Say 64.00 309 P **P** **03 40 28.2 +0.1**
SNR=87
EKS2 Erkin-Say 64.00 309 *e*P **P** **03 40 28.2 +0.2**
comp=Z,716nm,1.4s,mb6.1
AML Almayashu 64.08 308 P **P** **03 40 29.0 +0.4**
SNR=196
AML Almayashu 64.08 308 *e*P **P** **03 40 28.6 0.0**
comp=Z,402nm,1.0s,mb6.0
LATR Latur 64.78 282 *e*P **P** **03 40 32.0 -1.5**
AJM Ajmer 64.97 291 *e*P **P** **03 40 34.5 -0.1**
AJM AMb AMB 03 40 38.8
comp=Z,508nm,0.9s,mb6.1
VOSK Vostochnaya 65.72 320 P **P** **03 40 37.3 -1.6**
VOSK pmax pmax
comp=Z,553nm,0.9s,mb6.2
SNZO South Karori 65.84 156 *e*P **P** **03 40 37.1 -2.6**
comp=Z,2μm,1.0s,mb6.7
SNZO *e*S S 03 49 04.0 -4.4
EGAK Eagle 65.97 27 *e*P **P** **03 40 40.4 +0.2**
comp=Z,61nm,0.3s,mb5.7
BVA0 Borovoye Array 66.08 320 *i* P **P** **03 40 39.7 -1.5**
BVA0 pmax pmax
comp=Z,292nm,1.1s,mb5.8
BRVK Borovoye 66.15 320 ⇓P **P** **03 40 42.1 +0.5**
SNR=398
BRVK Borovoye 66.15 320 P **P** **03 40 41.0 -0.6**
BRVK pmax pmax
comp=Z,2μm,1.1s,mb6.6
BRVK Borovoye 66.15 320 *e*P **P** **03 40 40.6 -1.0**
comp=Z,1μm,1.0s,mb6.4
KK31 Karatay Array 66.37 309 *i* P **P** **03 40 42.6 -0.6**
PNL Peninsula 66.38 32 *e*P **P** **03 40 43.3 +0.4**
comp=Z,493nm,0.9s,mb6.1
DAWY Dawson 66.66 28 *e*P **P** **03 40 44.9 +0.2**
RAR Rarotonga 66.90 124 *e*P **P** **03 40 46.0 -0.9**
RAR pmax pmax
comp=Z,2μm,1.3s
RAR Rarotonga 66.90 124 *e*P **P** **03 40 46.0 -0.8**
comp=Z,2μm,1.3s,mb6.6
TRD Trivandrum 66.94 271 *e*P **P** **03 40 47.7 +0.4**
TRD AMb AMB 03 40 52.3
comp=Z,413nm,1.2s,mb5.9
KAD Karad 67.24 281 *e*P **P** **03 40 49.2 +0.1**
POO Poona 67.26 283 *e*P **P** **03 40 48.8 -0.5**
POO *i* x x 03 43 10.0
POO *i* x x 03 49 23.0
HYT Haines Junctio 67.36 31 *e*P **P** **03 40 49.9 +0.8**
MNGI Mangalore 67.73 277 *i* P **P** **03 40 48.5 -3.7**
MNGI *i* S S 03 49 28.3 -3.8
GOA Goa 68.01 279⇓ *i*P **P** **03 40 53.2 -0.8**
GOA *i* x x 03 49 33.2
BHV Bhavnagar 68.11 286 *e*P **P** **03 40 55.0 +0.4**
BOM Bombay 68.14 283 *ex* x 03 40 46.4
BOM *ex* x 03 40 54.3
comp=Z,4μm,4.2s
BOM *ex* x 03 41 38.9
SKAG Skagway 68.44 33 *e*P **P** **03 40 56.1 +0.3**
comp=Z,472nm,0.9s,mb6.1
SKAG LR LR
comp=Z,39μm,20.0s
KBL Kabul 68.48 300 *e*P **P** **03 40 56.2 -0.4**
KBL *e**PP pP 03 41 48.1 -0.1
KBL pmax pmax
comp=Z,683nm,0.9s,mb6.3
KBL Kabul 68.48 300 *e*P **P** **03 40 56.2 -0.4**
comp=Z,683nm,0.9s,mb6.3
KBL *e*pP pP 03 41 48.1 -0.1
INK Inuvik 69.25 23 *e*P **P** **03 41 00.1 -0.6**
comp=Z,4.2nm,1.0s
INK *e*pP pP 03 41 50.6 -1.8
BHJ Bhuj 70.04 289 *e*P **P** **03 41 06.4 +0.1**
BHJ AMb AMB 03 41 12.4
comp=Z,502nm,1.1s,mb6.1
WRAK Wrangell Islan 70.17 36 *e*P **P** **03 41 07.5 +1.0**
comp=Z,286nm,0.9s,mb5.9
DLBC Dease Lake 71.24 34 P **P** **03 41 13.8 +0.9**
comp=Z,207nm,0.7s,mb5.9,baz=283,slow=5.7,SNR=135
DLBC pP pP 03 42 03.8 -1.1
comp=Z,347nm,0.9s,baz=332,slow=5.5,SNR=1.7
DLBC Dease Lake 71.24 34 *e*P **P** **03 41 13.5 +0.6**
DLBC *e*pP pP 03 42 07.0 +2.1
SVE Sverdlovsk 71.49 325⇓ *e*P **P** **03 41 14.2 -0.3**
SVE *e*S S 03 50 15.6 +1.0
SVE pmax pmax
comp=Z,672nm,1.1s,mb6.2
SVE pmax pmax
comp=Z,4μm,10.1s
SVE MLR MLR
comp=Z,44μm,18.0s
ARU Arti 72.68 324*c i*P **P** **03 41 20.1 -1.4**
ARU *e* 03 41 35.3
ARU *e**PP pP 03 42 12.5 -1.2
ARU *e*S S 03 50 27.8 -0.3
ARU *e* 03 51 00.4
ARU pmax pmax
comp=Z,343nm,1.2s,mb5.9
ARU Arti 72.68 324 *e*P **P** **03 41 20.4 -1.1**
comp=Z,453nm,0.7s,mb6.2
BBB Bella Bella 73.14 40 P **P** **03 41 25.3 +1.0**
comp=Z,208nm,0.8s,mb5.8,baz=288,slow=5.6,SNR=30
PPT Papeete 73.50 116 *e*P **P** **03 41 27.6 +0.7**
comp=Z,1μm,1.3s,mb6.3
PPT *e*pP pP 03 42 22.8 +3.6
comp=Z,693nm,1.5s
PPT *e*S S 03 50 32.9 -5.6
comp=Z,79μm,28.2s
PPT *e*SS SS 03 55 13.4 -13
comp=Z,85μm,26.5s
PPT *e*LQ 04 00 31.5
comp=Z,257μm,27.2s
PPT *e*LR LR 04 04 02.7
comp=Z,115μm,23.8s
PPT Papeete 73.50 116 P **P** **03 41 28.6 +1.7**
comp=Z,1μm,1.1s,mb6.4,baz=342,slow=1.6,SNR=44
PAE Paea 73.54 116 *e*P **P** **03 41 27.5 +0.3**
comp=Z,6μm,1.1s,mb7.2
PAE *e*pP pP 03 42 22.8 +3.3
comp=Z,8μm,1.5s
TIAR Tiarei 73.69 115 *e*P **P** **03 41 28.6 +0.5**
comp=Z,12μm,1.1s,mb7.4
TIAR *e*pP pP 03 42 24.0 +3.6
comp=Z,4μm,1.0s
PMOR Pomariorio Ree 73.84 112 *e*P **P** **03 41 29.1 +0.1**
comp=Z,5μm,1.3s,mb7.0
PMOR *e*pP pP 03 42 24.7 +3.4
comp=Z,3μm,1.2s
TVO Taravao 73.87 116 *e*P **P** **03 41 29.9 +0.8**
comp=Z,16μm,1.2s,mb7.5
TVO *e*pP pP 03 42 25.3 +3.9
comp=Z,12μm,1.4s
AKTK Aktyubinsk 73.97 318 *i* P **P** **03 41 27.3 -1.9**
AKTO Aktyubinsk 73.97 318 *i* P **P** **03 41 27.3 -1.9**
MCQ Macquarie Isla 74.08 172 *e*P **P** **03 41 28.1 -1.4**
comp=Z,7μm,1.0s,mb7.3
VAH Vaihoa 74.17 113 *e*P **P** **03 41 30.7 -0.2**
comp=Z,2μm,1.3s,mb6.5
VAH *e*pP pP 03 42 26.4 +3.1
comp=Z,1μm,1.2s
MEH Mehetia 74.92 115 *e*P **P** **03 41 35.5 +0.3**
comp=Z,43μm,1.3s
MEH *e*pP pP 03 42 31.5 +3.8
comp=Z,20μm,1.3s
C03A Quillayute Air 76.20 44 ⇑P **P** **03 41 43.2 +1.2**
baz=76,SNR=22
TBI Tubuai 76.22 121 *e*P **P** **03 41 42.6 +0.2**
comp=Z,1μm,0.8s,mb6.6
TBI *e*S S 03 51 01.2 -7.2
comp=Z,93μm,30.2s
TBI Tubuai 76.22 121 *e*LQ 04 02 09.9
comp=Z,93μm,29.0s
TBI *e*LR LR 04 05 18.6
comp=Z,60μm,25.5s
TBI Tubuai 76.22 121 *e*P **P** **03 41 42.6 +0.2**
comp=Z,1μm,0.8s,mb6.6
TBI *e*S S 03 51 01.2 -7.2
TBI *e*LQ 04 02 09.9
OOW Octopus West 76.50 44 P **P** **03 41 44.6 +1.0**
ABKT Ailbek 76.50 306 P **P** **03 41 44.4 +0.6**
comp=Z,2μm,0.9s,mb6.7,SNR=61
STW Striped Peak 76.74 43 P **P** **03 41 45.8 +0.8**
PGC Sidney 76.77 43 *e*P **P** **03 41 44.6 -0.5**
comp=Z,5.9nm,0.3s,mb4.7
B04A Port Angeles 76.87 44 ⇑P **P** **03 41 46.7 +1.0**
baz=77,SNR=194
D03A Wishkah Elem. 76.92 45 ⇑P **P** **03 41 47.1 +1.1**
baz=77,SNR=67
A04A Legoe Bay, Lum 77.23 43 ⇑P **P** **03 41 48.7 +1.1**
baz=77,SNR=133
HDW Hoodsport 77.27 44 P **P** **03 41 48.8 +0.9**
C04A Brinnon 77.30 44 ⇓P **P** **03 41 49.4 +1.3**
baz=77,SNR=169
F03A Seaside 77.35 46 ⇓P **P** **03 41 49.3 +0.9**
baz=77,SNR=53
H02A Toledo 77.35 47 ⇑P **P** **03 41 49.4 +0.9**
baz=77,SNR=7.0
HEBO Mount Hebo 77.39 46 *e*P **P** **03 41 49.5 +0.8**
comp=Z,597nm,1.0s,mb6.2
GNW Green Mountain 77.44 44 *e*P **P** **03 41 49.3 +0.5**
comp=Z,25nm,0.4s,mb5.2
BMW Boistfort Moun 77.44 45 *e*P **P** **03 41 49.2 +0.3**
K01A Sixes 77.48 49 ⇑P **P** **03 41 50.1 +1.0**
baz=78,SNR=14
KEBM Edson Butte 77.56 49 *e*P **P** **03 41 50.5 +0.9**
comp=Z,535nm,1.0s,mb6.1
A05A Maple Falls 77.56 42 ⇑P **P** **03 41 50.5 +1.0**
baz=78
D04A Dobbs Creek Ra 77.56 44 ⇑P **P** **03 41 50.9 +1.3**
baz=78,SNR=17
I02A Mapleton 77.64 48 ⇓P **P** **03 41 50.9 +0.9**
baz=78,SNR=32
G03A Yamhill 77.69 46 ⇑P **P** **03 41 51.1 +0.8**
baz=78,SNR=52
MBW Mount Baker 77.73 43 P **P** **03 41 50.8 +0.3**
B05A Bryant 77.74 43 ⇓P **P** **03 41 51.4 +0.9**
baz=78,SNR=284
E04A Onalaska 77.75 45 ⇑P **P** **03 41 51.9 +1.3**
baz=78,SNR=52
H03A Soap Creek Ran 77.84 47 ⇓P **P** **03 41 52.2 +1.1**
baz=78,SNR=75
RVW Rose Valley 77.84 45 P **P** **03 41 51.7 +0.5**
COR Corvallis 77.86 47 *e*P **P** **03 41 52.0 +0.8**
COR *e*S S 03 51 29.8 +4.3
COR pmax pmax
comp=Z,509nm,0.8s,mb6.2
COR Corvallis 77.86 47 *e*P **P** **03 41 52.0 +0.8**
comp=Z,509nm,0.8s,mb6.2
COR *e*S S 03 51 29.8 +4.4
JCW Jim Creek 77.86 43 P **P** **03 41 51.5 +0.3**
ALE Alert 77.87 4 P **P** **03 41 50.0 -0.7**
comp=Z,5μm,0.7s,mb7.2
YKA Yellowknife Ar 77.90 28 P **P** **03 41 50.2 -0.9**
comp=Z,241nm,0.6s,mb6.0,baz=290,slow=5.4,SNR=184
YKA pP pP 03 42 41.4 -2.5
comp=Z,232nm,0.8s,baz=289,slow=5.5,SNR=3.4
YKA S S 03 51 17.1 -8.2
comp=Z,17nm,1.0s,baz=287,slow=11,SNR=4.9
YKA PKKPbc PKKPbc 04 00 49.9 -2.2
comp=Z,2.7nm,0.7s,baz=112,slow=2.3,SNR=5.6
YKA PKPPKP 04 08 50.9
comp=Z,6.9nm,1.0s,baz=102,slow=2.2,SNR=3.9
YKA Yellowknife Ar 77.90 28 P **P** **03 41 50.2 -0.9**
YKA pP pP 03 42 41.4 -2.5
YKA S S 03 51 17.1 -8.2
YKA PKKPbc PKKPbc 04 00 49.9 -2.2
YKA P'P' 04 08 50.9
A06A Chilliwack 77.92 42 ⇑P **P** **03 41 52.0 +0.6**
baz=78,SNR=33
M01C Crescent City 77.97 50 ⇑P **P** **03 41 53.0 +1.1**
baz=78,SNR=14
J02A Umpqua 77.97 48 ⇑P **P** **03 41 52.8 +0.9**
baz=78,SNR=52
I03A Eugene 78.03 48 ⇓P **P** **03 41 52.9 +0.7**
baz=78,SNR=48
B06A Marblemount 78.07 43 ⇑P **P** **03 41 52.6 +0.3**
baz=78,SNR=37
RPW Rockport 78.07 43 *e*P **P** **03 41 52.2 -0.1**
comp=Z,110nm,0.6s,mb5.7
D05A Enumclaw 78.08 44 ⇑P **P** **03 41 53.9 +1.5**
baz=78,SNR=120
FL2 Flat Top 2 78.10 45 P **P** **03 41 53.4 +0.9**
F04A Amboy 78.12 45 ⇑P **P** **03 41 53.5 +0.8**
baz=78,SNR=233
C05A Tolt Reservoir 78.15 44 ⇓P **P** **03 41 53.7 +0.9**
baz=78,SNR=88
K02A Glendale 78.19 49 ⇑P **P** **03 41 54.0 +0.9**
baz=78,SNR=56
KRMB Red Mountain 78.20 50 *e*P **P** **03 41 53.9 +0.7**
comp=Z,416nm,1.4s,mb5.9
L02A Cave Junction 78.26 49 ⇓P **P** **03 41 54.4 +0.9**
baz=78,SNR=35
G04A Mulino 78.27 46 ⇓P **P** **03 41 54.5 +1.0**
baz=78,SNR=118
JCC Jacoby Creek 78.30 51 ⇑P **P** **03 41 55.0 +1.3**
baz=78,SNR=12
LON Longmire 78.31 45 *e*P **P** **03 41 53.1 -0.6**
LON pmax pmax
comp=Z,185nm,0.7s,mb5.8
LON Longmire 78.31 45 *e*P **P** **03 41 53.1 -0.6**
comp=Z,185nm,0.7s,mb5.8
SSOR Sweet Springs 78.37 47 P **P** **03 41 54.5 +0.5**
E05A Randle 78.40 45 ⇑P **P** **03 41 54.6 +0.4**
baz=78,SNR=142
TAOE Nuku Hiva Isla 78.41 104 *e*P **P** **03 41 55.3 +0.5**
comp=Z,4μm,1.2s,mb6.9
TAOE *e*S S 03 51 24.3 -8.0
comp=Z,162μm,28.4s
TAOE *e*SS SS 03 56 27.9 -13
comp=Z,270μm,27.0s
TAOE *e*LQ 04 02 37.9
comp=Z,497μm,29.4s
TAOE *e*LR LR 04 05 50.5
comp=Z,209μm,23.0s
TAOE Nuku Hiva Isla 78.41 104 *e*P **P** **03 41 55.1 +0.4**
comp=Z,538nm,1.1s,mb6.1
TAOE *e*P 03 41 55.3
TAOE *e*S S 03 51 24.3 -8.0
TAOE *e*SS SS 03 56 27.9 -13
TAOE *e*LQ 04 02 37.9
H04A Detroit Lake 78.60 47 ⇓P **P** **03 41 56.0 +0.7**
baz=79,SNR=68
C06A Tall Timber Ra 78.60 43 ⇓P **P** **03 41 55.8 +0.5**
baz=79,SNR=42
HUMO Hull Mountain 78.61 49 ⇑P **P** **03 41 56.5 +1.2**
baz=79,SNR=228
HUMO Hull Mountain 78.61 49 *e*P **P** **03 41 55.6 +0.2**
comp=Z,273nm,0.6s,mb6.1
HUMO *e*S S 03 51 32.3 -1.3
O01C Eel River Cons 78.63 51 ⇑P **P** **03 41 56.8 +1.3**
baz=79,SNR=38
A07A Ashnola River, 78.63 42 ⇓P **P** **03 41 56.1 +0.7**
baz=79,SNR=187
I04A Tendick Farm, 78.68 48 ⇑P **P** **03 41 56.2 +0.5**
baz=79,SNR=175
F05A White Salmon 78.78 45 ⇓P **P** **03 41 57.1 +0.9**
baz=79,SNR=131
HOOD Mount Hood Mea 78.80 46 *e*P **P** **03 41 56.7 +0.3**
comp=Z,550nm,1.5s,mb6.0
N02C Big Bar 78.83 51 ⇓P **P** **03 41 57.7 +1.0**
baz=79,SNR=121
D06A Cle Elum 78.83 44 ⇑P **P** **03 41 57.2 +0.7**
baz=79,SNR=365
SPB4 Spitsbergen Ar 78.87 351 *e*P **P** **03 41 56.2 0.0**
E06A Yakima 78.92 45 ⇑P **P** **03 41 58.0 +1.0**
baz=79,SNR=215
KCPM Cahto Peak 78.92 52 *e*P **P** **03 41 57.2 0.0**

KCPM comp=Z,227nm,0.7s,mb5.9 *e*pP pP 03 42 45.8 -4.4
B07A Winthrop 78.96 43 ⇓P **P 03 41 58.0 +0.8**
baz=79,SNR=230
KIPM Iron Peak 78.96 52 *e*P **P 03 41 57.8 +0.4**
comp=Z,688nm,1.1s,mb6.2
KIPM *e*pP pP 03 42 50.2 -0.2
KBS Kingsbay 78.99 352 *e*P **P 03 41 56.2 -0.6**
KBS *e**PP pP 03 42 52.7 +2.9
KBS pmax pmax
comp=Z,361nm,0.7s,mb6.1
KBS Kingsbay 78.99 352 *e*P **P 03 41 56.2 -0.6**
comp=Z,361nm,0.7s,mb6.1
KBS *e*pP pP 03 42 52.7 +2.8
M02C Callahan 79.00 50 ⇑P **P 03 41 58.8 +1.2**
baz=79,SNR=88
YBH Yreka Blue Hor 79.02 50 *e*P **P 03 41 58.2 +0.6**
YBH pmax pmax
comp=Z,184nm,1.2s
YBH Yreka Blue Hor 79.02 50 ⇑P **P 03 41 58.7 +1.1**
baz=79,SNR=174
YBH Yreka Blue Hor 79.02 50 *e*P **P 03 41 58.2 +0.6**
comp=Z,184nm,1.2s,mb5.6
G05A Wamic 79.05 46 ⇓P **P 03 41 58.6 +0.9**
baz=79,SNR=73
ETW Entiat 79.06 43 *e*P **P 03 41 57.4 -0.3**
comp=Z,343nm,0.7s,mb6.1
EBG Ellensburg 79.09 44 P **P 03 41 58.1 +0.2**
C07A Waterville 79.21 43 ⇑P **P 03 41 58.8 +0.3**
baz=79,SNR=347
RES Resolute Bay 79.25 14 *e*P **P 03 41 57.6 -0.6**
RES pmax pmax
comp=Z,34nm,0.9s,mb5.0
RES Resolute Bay 79.25 14 *e*P **P 03 41 57.6 -0.7**
comp=Z,34nm,0.9s,mb5.0
RES *e*pP pP 03 42 50.1 -1.1
F06A Goldendale 79.27 45 ⇑P **P 03 41 59.4 +0.5**
baz=79,SNR=116
H05A Madras 79.27 46 ⇑P **P 03 41 59.5 +0.5**
baz=79,SNR=284
WTV Waterville 79.28 43 P **P 03 41 58.5 -0.4**
A08A Turner Farm, O 79.36 42 ⇑P **P 03 41 59.8 +0.5**
baz=79,SNR=214
I05A Bend 79.38 47 ⇓P **P 03 42 00.0 +0.5**
baz=79,SNR=42
LHEM Herd Peak 79.40 50 P **P 03 41 59.9 +0.2**
D07A Quincy 79.40 44 ⇑P **P 03 42 00.1 +0.5**
baz=79,SNR=144
WDC Whiskeytown Da 79.45 51 *e*P **P 03 42 00.1 +0.1**
WDC pmax pmax
comp=Z,168nm,0.3s,mb6.2
WDC Whiskeytown Da 79.45 51 ⇓P **P 03 42 00.4 +0.4**
baz=79,SNR=92
WDC Whiskeytown Da 79.45 51 *e*P **P 03 42 00.1 0.0**
comp=Z,168nm,0.3s,mb6.2
B08A Colville Reser 79.49 42 ⇓P **P 03 42 00.4 +0.3**
baz=80,SNR=405
HOPS Hopland 79.49 52 ⇓P **P 03 42 00.4 +0.2**
baz=80,SNR=25
HOPS Hopland 79.49 52 *e*P **P 03 42 00.1 -0.1**
comp=Z,309nm,1.0s,mb5.9
G06A Carlson Farm, 79.51 46 ⇓P **P 03 42 00.4 +0.2**
baz=80,SNR=122
M03C McCloud 79.57 50 ⇑P **P 03 42 01.0 +0.4**
baz=80,SNR=177
GASB Alder Springs 79.57 52 ⇓P **P 03 42 01.9 +1.2**
baz=80,SNR=60
J05A Fort Rock 79.64 48 ⇑P **P 03 42 01.7 +0.7**
baz=80,SNR=546
E07A Sunnyside 79.66 44 ⇓P **P 03 42 01.6 +0.5**
baz=80,SNR=164
WBK Wadi Bani Khal 79.73 290 ⇑P **P 03 42 02.0 +0.2**
SNR=29
HSP Hornsund 79.78 350 *e*P **P 03 42 01.6 +0.5**
A09A Danville 79.78 42 ⇓P **P 03 42 02.1 +0.5**
baz=80,SNR=239
F07A Phinny Hill Vi 79.80 45 ⇑P **P 03 42 02.1 +0.3**
baz=80,SNR=77
C08A Higginbotham F 79.84 43 ⇑P **P 03 42 02.0 +0.1**
baz=80,SNR=606
H06A Lindquist Farm 79.86 46 ⇑P **P 03 42 02.0 -0.1**
baz=80,SNR=206
MCCM Marconi Confer 79.87 53 ⇓P **P 03 42 02.2 -0.1**
baz=80,SNR=14
MCCM Marconi Confer 79.87 53 *e*P **P 03 42 01.2 -1.0**
comp=Z,544nm,1.0s,mb6.1
MCCM *e*pP pP 03 42 54.7 -0.8
RSW Rattlesnake Hi 79.88 44 *e*P **P 03 42 02.2 0.0**
comp=Z,7.2nm,0.5s,mb4.6
FARB Farallon Islan 79.90 54 ⇑P **P 03 42 02.2 -0.3**
baz=80,SNR=20
HAWA Hanford 79.92 44 *e*P **P 03 42 02.1 -0.4**
comp=Z,11μm,2.3s,mb7.1
NSHM Saint Helena R 79.97 53 *e*P **P 03 42 02.9 +0.1**
NSHM *e*pP pP 03 42 55.9 -0.1
MNRC McLaughlin Nat 79.99 52 ⇑P **P 03 42 03.8 +0.8**
baz=80,SNR=154
K05A Sumner Lake 80.04 48 ⇑P **P 03 42 03.6 +0.5**
baz=80,SNR=274
LVZ Lovozero 80.09 339⇑ *e*P **P 03 42 02.5 -0.4**
LVZ pmax pmax
comp=Z,384nm,1.2s,mb5.9
CVS Carmenet Viney 80.13 53 ⇑P **P 03 42 03.5 -0.2**
baz=80,SNR=49
D08A Wollman Farm, 80.13 44 ⇓P **P 03 42 03.6 +0.1**
baz=80,SNR=182
G07A Ruggs Ranch, H 80.16 46 ⇓P **P 03 42 03.8 +0.1**
baz=80,SNR=151
I06A Prineville 80.17 47 ⇑P **P 03 42 04.1 +0.3**
baz=80,SNR=219
OD2 Odessa Site #2 80.17 43 *e*P **P 03 42 03.1 -0.6**
comp=Z,1μm,1.0s,mb6.5
E08A Dider Farm, El 80.21 44 ⇑P **P 03 42 04.2 +0.3**
baz=80,SNR=157
B09A Rice 80.22 42 ⇑P **P 03 42 04.4 +0.4**
baz=80,SNR=206
BIDO Bidbid 80.22 292 ⇑P **P 03 42 04.6 +0.1**
SNR=58
C09A Chrisman Ranch 80.33 43 ⇑P **P 03 42 04.9 +0.3**
baz=80,SNR=162
Q03C Winters 80.38 53 ⇑P **P 03 42 06.1 +1.0**
baz=80,SNR=56
J06A Christmas Vall 80.41 48 ⇓P **P 03 42 05.3 +0.2**
baz=80,SNR=173
SMDO Samad 80.42 291 ⇑P **P 03 42 05.9 +0.3**
SNR=38
H07A Lands Inn, Kim 80.42 46 ⇑P **P 03 42 05.2 +0.1**
baz=80,SNR=85
A10A Northport 80.43 42 ⇓P **P 03 42 05.4 +0.4**
baz=80,SNR=242
K06A Valley Falls 80.47 48 ⇓P **P 03 42 05.7 +0.3**
baz=80,SNR=499
ORV Oroville 80.50 52 ⇑P **P 03 42 05.3 -0.4**
baz=80,SNR=289
D09A Jones Farm, Ri 80.53 44 ⇓P **P 03 42 05.8 +0.2**
baz=80,SNR=254
JRSC Jasper Ridge 80.56 54 ⇑P **P 03 42 06.1 +0.1**
baz=80,SNR=19
JMDO Jabal Madar 80.57 290 ⇓P **P 03 42 06.6 +0.3**
SNR=24
OHCM Honcut 80.58 52 *e*P **P 03 42 05.4 -0.7**
O04C Chester 80.59 51 ⇑P **P 03 42 06.5 +0.4**
baz=81,SNR=369
F08A Pendleton 80.60 45 ⇑P **P 03 42 06.5 +0.4**
baz=81,SNR=386
I07A Izee 80.62 47 ⇓P **P 03 42 06.6 +0.4**
baz=81,SNR=95
G08A Pilot Rock 80.63 45 ⇑P **P 03 42 06.2 0.0**
baz=81,SNR=199
APA Apatity 80.66 339⇑ *i*P **P 03 42 04.4 -1.5**
APA *i**PP pP 03 42 57.5 -1.6
APA *i* S S 03 51 51.0 -3.1
APA pmax pmax
comp=Z,210nm,1.0s,mb5.7
APA pmax pmax
comp=Z,10μm,13.0s
APA MLR MLR
comp=Z,25μm,21.0s
BDM Black Diamond 80.69 53 ⇓P **P 03 42 07.2 +0.5**
baz=81,SNR=14
MOD Modoc 80.70 49 ⇑P **P 03 42 07.1 +0.4**
baz=81,SNR=237
MOD Modoc 80.70 49 *e*P **P 03 42 06.3 -0.3**
comp=Z,322nm,0.9s,mb6.0
O05C Quincy 80.82 51 ⇓P **P 03 42 07.4 +0.1**
baz=81,SNR=88
B10A Chitwood Farm, 80.85 42 ⇓P **P 03 42 07.7 +0.4**
baz=81,SNR=25
WENL Wente Vineyard 80.87 53 ⇑P **P 03 42 07.7 +0.1**
baz=81,SNR=15
LNOR Lincton Mounta 80.91 45 *e*P **P 03 42 07.8 +0.1**
comp=Z,226nm,1.1s,mb5.7
LNOR *e*S S 03 51 47.9 -10
HOQ Hoqain 80.92 292 P **P 03 42 08.4 +0.2**
SNR=103
NEW Newport 80.92 42 *e*P **P 03 42 07.1 -0.6**
NEW pmax pmax
comp=Z,2μm,0.7s
NEW Newport 80.92 42 *e*P **P 03 42 07.1 -0.6**
comp=Z,2μm,0.7s,mb6.7
C10A Spilker Farm, 80.95 43 ⇓P **P 03 42 07.8 0.0**
baz=81,SNR=58
J07A Hines 80.96 47 ⇓P **P 03 42 08.0 +0.1**
baz=81,SNR=284
H08A Prairie City 81.06 46 ⇑P **P 03 42 08.7 +0.2**
baz=81,SNR=147
KLMR Klimovskoe 81.09 332⇑ *i*P **P 03 42 06.6 -1.7**
KLMR *e**PP pP 03 43 00.4 -1.2
KLMR *e*S S 03 51 55.4 -3.4
KLMR pmax pmax
comp=Z,445nm,1.0s,mb6.0
BANOM Banah 81.14 294 ⇑P **P 03 42 09.6 +0.4**
SNR=30
A11A Hall Mountain, 81.19 41 ⇑P **P 03 42 10.1 +1.0**
baz=81,SNR=194
D10A Wagner Farm, O 81.20 43 ⇓P **P 03 42 09.1 -0.1**
baz=81,SNR=130
F09A S2 Ranch, Elgi 81.21 45 ⇑P **P 03 42 09.6 +0.3**
baz=81,SNR=93
K07A Rock Creek Ran 81.21 48 ⇑P **P 03 42 09.6 +0.3**
baz=81,SNR=551
BEKR Beckwourth 81.25 51 ⇑P **P 03 42 09.9 +0.2**
baz=81,SNR=638
BSY Bisya 81.26 291 ⇑P **P 03 42 10.1 +0.1**
SNR=55
R04C Big Horse Ranc 81.30 53 ⇑P **P 03 42 09.4 -0.5**
baz=81,SNR=17
LAVA Lava Cap Winer 81.30 52 ⇓P **P 03 42 09.9 0.0**
baz=81,SNR=280
I08A Drewsey 81.31 47 ⇓P **P 03 42 10.0 +0.1**
baz=81,SNR=135
L07A Adell 81.35 49 ⇓P **P 03 42 10.6 +0.6**
baz=81,SNR=421
B11A Sandpoint 81.35 42 ⇓P **P 03 42 10.0 0.0**
baz=81,SNR=80
SAO San Andreas Ge 81.35 54 *e*P **P 03 42 10.3 +0.1**
SAO pmax pmax
comp=Z,169nm,1.0s,mb5.6
SAO San Andreas Ge 81.35 54 *e*P **P 03 42 10.3 +0.1**
comp=Z,169nm,1.0s,mb5.6
N06A Buffalo Meadow 81.38 50 ⇑P **P 03 42 10.4 +0.2**
baz=81,SNR=215
PACP Pacheco Peak 81.40 54 ⇓P **P 03 42 10.5 0.0**
baz=81,SNR=15
G09A Cove 81.43 45 ⇓P **P 03 42 10.5 +0.1**
baz=81,SNR=164
E10A Myers Farm, Un 81.49 44 ⇓P **P 03 42 10.6 -0.2**
baz=82,SNR=220
J08A Circle Bar Ran 81.55 47 ⇓P **P 03 42 11.3 +0.2**
baz=82,SNR=298
O06A Flanigan 81.56 51 ⇓P **P 03 42 11.4 +0.2**
baz=82,SNR=423
EDM Edmton 81.56 37 *e*P **P 03 42 10.2 -0.7**
F10A Beach Ranch, E 81.58 44 ⇓P **P 03 42 11.2 0.0**
baz=82,SNR=139
KEV Kevo 81.59 342 *e*p **P 03 42 09.1 -1.7**
comp=Z,58nm,0.4s,mb5.6
KEV Kevo 81.59 342 *e*P **P 03 42 09.1 -1.7**
KEV pmax pmax
comp=Z,58nm,0.4s,mb5.6
HATD Hatta, Dubai 81.60 293 ⇑P **P 03 42 11.8 0.0**
SNR=77
A12A Yaak River Ran 81.64 41 ⇑P **P 03 42 12.2 +0.7**
baz=82,SNR=182
P06A Stead Airport, 81.65 51 ⇓P **P 03 42 12.0 +0.3**
baz=82,SNR=55
H09A Durkee 81.70 46 ⇑P **P 03 42 11.9 0.0**
baz=82,SNR=20
WVOR Wild Horse Val 81.72 48 *e*P **P 03 42 11.5 -0.5**
WVOR *e*S S 03 52 06.7 +0.7
WVOR pmax pmax
comp=Z,145nm,0.4s,mb6.0
WVOR Wild Horse Val 81.72 48 *e*P **P 03 42 11.5 -0.5**
comp=Z,145nm,0.4s,mb6.0
WVOR *e*S S 03 52 06.7 +0.8
K08A Mann Creek Ran 81.73 48 ⇑P **P 03 42 12.2 +0.1**
baz=82,SNR=313
V03C Hunter Liggett 81.73 55 ⇓P **P 03 42 12.6 +0.4**
baz=82,SNR=56
CMB Columbia Colle 81.78 53 *e*P **P 03 42 12.2 -0.2**
CMB pmax pmax
comp=Z,541nm,0.9s,mb6.2
CMB Columbia Colle 81.78 53 ⇓P **P 03 42 12.3 -0.1**
baz=82,SNR=250
CMB Columbia Colle 81.78 53 *e*P **P 03 42 12.2 -0.2**
comp=Z,541nm,0.9s,mb6.2
D11A Klaveano Farm, 81.82 43 ⇓P **P 03 42 12.2 -0.2**
baz=82,SNR=176
B12A Libby 81.83 42 ⇑P **P 03 42 12.8 +0.3**
baz=82,SNR=19
I09A Lost Marbles R 81.86 46 ⇑P **P 03 42 12.5 -0.2**
baz=82,SNR=132
G10A Bishop Farm, J 81.86 45 ⇓P **P 03 42 13.0 +0.3**
baz=82,SNR=387
WCN Washoe City 81.87 51 ⇑P **P 03 42 13.3 +0.4**
baz=82,SNR=422
BMO Blue Mountains 81.88 45 *e*P **P 03 42 12.3 -0.5**
BMO pmax pmax
comp=Z,468nm,1.2s,mb6.0
BMO Blue Mountains 81.88 45 *e*P **P 03 42 12.3 -0.4**
comp=Z,468nm,1.2s,mb6.0
U04C Hernandez Rese 81.98 54 ⇑P **P 03 42 14.1 +0.6**
baz=82
N07B Gerlach 81.99 50 ⇑P **P 03 42 13.3 -0.1**
baz=82,SNR=318
L08A Fields 82.00 48 ⇑P **P 03 42 13.5 +0.1**
baz=82,SNR=384
PAHR Pah Rah Range 82.02 51 *e*P **P 03 42 13.1 -0.6**
comp=Z,367nm,0.9s,mb6.0
S05C Merced 82.03 53 ⇑P **P 03 42 13.6 -0.1**
baz=82,SNR=81
J09A Fry Pan Ranch, 82.05 47 ⇓P **P 03 42 13.6 -0.1**
baz=82,SNR=267
E11A Bogner Ranch, 82.12 44 ⇑P **P 03 42 13.6 -0.4**
baz=82,SNR=211
C12B Naegeli Ranch, 82.15 42 ⇑P **P 03 42 14.1 0.0**
baz=82,SNR=87
ARCES ARCESS Array B 82.16 342 P **P 03 42 12.2 -1.5**
comp=Z,327nm,0.6s,mb6.2,baz=84,slow=8.8,SNR=95
ARCES pP pP 03 43 06.0 -1.2
comp=Z,226nm,0.7s,baz=46,slow=7.0,SNR=3.9
ARCES S S 03 52 07.5 -2.0
comp=Z,18nm,1.0s,baz=134,slow=11,SNR=4.5
ARCES PKKPbc PKKPbc 04 00 39.0 -4.0
comp=Z,15nm,0.8s,baz=224,slow=3.2,SNR=8.8
ARCES PKPPKP 04 08 47.8
comp=Z,6.1nm,0.9s,baz=305,slow=4.3,SNR=4.1
ARE0 ARCESS Array S 82.16 342 *e*P **P 03 42 12.2 -1.6**
ARE0 *e*pP pP 03 43 06.2 -1.0
ARE0 *e*S S 03 52 06.7 -2.7
M08A Happy Creek Ra 82.21 49 ⇑P **P 03 42 14.9 +0.4**
baz=82,SNR=100
O07A Toulon 82.25 50 ⇓P **P 03 42 14.8 0.0**
baz=82,SNR=180
K09A Rome 82.28 48 ⇑P **P 03 42 15.0 +0.1**
baz=82,SNR=166
PKD Parkfield 82.29 55 ⇑P **P 03 42 15.0 -0.1**
baz=82,SNR=118
F11A Grangeville 82.31 44 ⇓P **P 03 42 14.2 -0.8**
baz=82,SNR=135
R06C Coleville 82.33 52 ⇑P **P 03 42 15.5 +0.3**
baz=82,SNR=445
H10A Noah's Angus R 82.34 46 ⇓P **P 03 42 14.6 -0.6**
baz=82,SNR=207
G11A Walters Elk Ra 82.40 45 ⇑P **P 03 42 14.7 -0.8**
baz=82,SNR=415
P07A Fallon 82.43 51 ⇓P **P 03 42 16.2 +0.4**
baz=82,SNR=29
D12A Red Ives Fores 82.45 43 ⇓P **P 03 42 15.7 +0.1**
baz=82
I10A Payette 82.47 46 ⇑P **P 03 42 15.6 -0.2**
baz=82,SNR=101
U05C Westside ANR, 82.50 54 ⇓P **P 03 42 16.6 +0.5**
baz=82,SNR=29
E12A Beaver Dam Sad 82.52 44 ⇓P **P 03 42 16.1 0.0**
baz=82,SNR=382
L09A Wilkinson Ranc 82.53 48 ⇓P **P 03 42 16.3 +0.1**
baz=82,SNR=358
B13A Whitefish 82.56 41 ⇓P **P 03 42 16.7 +0.5**
baz=82,SNR=205
N08A GE Springer Mi 82.59 50 ⇓P **P 03 42 16.5 0.0**
baz=83,SNR=298
T06C Millerton Lake 82.61 54 ⇑P **P 03 42 16.7 0.0**
baz=83,SNR=243
WALA Waterton Lakes 82.67 41 *e*P **P 03 42 16.9 +0.1**
comp=Z,7.1nm,1.0s
WALA *e*S S 03 52 14.9 -0.5
Q07A Schurz 82.68 51 ⇓P **P 03 42 16.9 -0.1**
baz=83,SNR=12
J10A Berg Farm, Mel 82.70 47 ⇑P **P 03 42 16.8 -0.2**
baz=83,SNR=58
O08A Rochester Mine 82.73 50 ⇓P **P 03 42 17.8 +0.5**
baz=83,SNR=324
C13A Hot Springs 82.73 42 ⇓P **P 03 42 17.3 +0.1**
baz=83,SNR=158
H11A Donnelly 82.80 45 ⇓P **P 03 42 17.2 -0.3**
baz=83,SNR=239
KCC Kaiser Creek 82.81 53 ⇓P **P 03 42 18.1 +0.4**
baz=83,SNR=188
V05C Boulder Hill, 82.81 55 ⇑P **P 03 42 18.0 +0.2**
baz=83,SNR=9.8
K10A MacKenzie Ranc 82.84 47 ⇓P **P 03 42 18.0 +0.1**
baz=83,SNR=386
MAK Makhachkala 82.87 313*c* *i*P **P 03 42 17.3 -0.7**
MAK *e* 03 45 25.5
MAK *i* S S 03 52 15.9 -1.8
MAK pmax pmax
comp=Z,7μm,4.5s
MAK pmax pmax
comp=N,1μm,1.7s
MAK pmax pmax
comp=E,2μm,1.6s
MAK pmax pmax
comp=Z,1μm,0.9s,mb6.5
MAK pmax pmax
comp=N,499nm,1.1s
MAK pmax pmax
comp=E,845nm,1.2s
MAK smax
comp=E,25μm,10.0s
MAK smax
comp=Z,7μm,6.7s
MAK smax
comp=N,11μm,8.7s
MAK MLR MLR
comp=N,47μm,20.0s
MAK MLR MLR
comp=Z,51μm,20.0s
MAK MLR MLR
comp=E,42μm,19.0s
M09A Marrel Ranch, 82.88 49 ⇓P **P 03 42 18.2 +0.2**
baz=83,SNR=142
SMMC Simmler 82.91 55 ⇑P **P 03 42 18.4 +0.1**
baz=83,SNR=37
F12A Elk City 82.95 44 ⇑P **P 03 42 17.8 -0.5**
baz=83,SNR=239
P08A Dixie Valley 82.98 51 ⇓P **P 03 42 19.2 +0.7**
baz=83,SNR=14
A14A Double T Ranch 83.00 41 ⇓P **P 03 42 19.4 +0.9**
baz=83,SNR=181
N09A Rock Creek Ran 83.01 49 ⇓P **P 03 42 19.1 +0.4**
baz=83,SNR=390
D13A Huson 83.01 43 ⇑P **P 03 42 18.4 -0.2**
baz=83,SNR=134
MLAC Mammoth Lakes 83.07 53 ⇑P **P 03 42 19.6 +0.5**
baz=83,SNR=137
I11A Placerville 83.10 46 ⇑P **P 03 42 19.2 +0.1**
baz=83,SNR=139
PKM Peak Mountain 83.18 56 ⇓P **P 03 42 20.1 +0.4**
baz=83,SNR=138
RCTC Rector, Farmer 83.18 54 ⇓P **P 03 42 19.6 -0.1**
baz=83,SNR=36
NVAR Mina Array Bea 83.22 52 P **P 03 42 19.9 +0.1**
comp=E,547nm,0.7s,mb6.4,baz=266,slow=5.6,SNR=350
NVAR pP pP 03 43 14.5 +1.1
comp=E,143nm,0.8s,baz=273,slow=5.3,SNR=1.4
NVAR PKKPbc PKKPbc 04 00 39.4 +0.1
comp=E,2.5nm,0.6s,baz=118,slow=4.1,SNR=6.3
NVAR PKPPKP 04 08 35.1
comp=E,2.6nm,1.0s,baz=102,slow=3.3,SNR=3.8
NVAR Mina Array Bea 83.22 52 P **P 03 42 19.9 +0.1**
NVAR pP pP 03 43 14.5 +1.1
NVAR PKKPbc PKKPbc 04 00 39.4 +0.1
NVAR P'P' 04 08 35.1
C14A Swan Lake 83.23 42 ⇑P **P 03 42 19.9 +0.3**
baz=83
B14A Marquette Ranc 83.31 41 ⇑P **P 03 42 20.1 0.0**
baz=83,SNR=48
L10A Juniper Basin 83.36 48 ⇓P **P 03 42 20.6 +0.2**
baz=83,SNR=332
MFID Camas Ranch 83.36 46 ⇑P **P 03 42 20.5 +0.1**
baz=83,SNR=388
Q08A Gabbs 83.36 51 ⇓P **P 03 42 20.4 -0.1**
baz=83,SNR=333
BMN Battle Mountai 83.36 50 *e*P **P 03 42 20.4 -0.1**
BMN pmax pmax
comp=Z,350nm,1.2s,mb6.0
BMN Battle Mountai 83.36 50 *e*P **P 03 42 20.4 -0.2**
comp=Z,350nm,1.2s,mb6.0
MTUM Tungsten Hills 83.37 53 *e*P **P 03 42 20.5 -0.1**
R08A Mina 83.39 52 ⇑P **P 03 42 20.7 0.0**
baz=83,SNR=77
SBC Santa Barbara 83.40 56 ⇓P **P 03 42 21.1 +0.3**
baz=83,SNR=17
E13A Victor 83.41 43 ⇓P **P 03 42 20.2 -0.4**
baz=83,SNR=186
A15A Johnson Ranch, 83.43 40 ⇓P **P 03 42 21.0 +0.4**
baz=83,SNR=280
K11A Parker Ranch, 83.43 47 ⇓P **P 03 42 21.0 +0.2**
baz=83,SNR=224
MSO Missoula 83.43 43 *e*P **P 03 42 20.2 -0.6**
comp=Z,18μm,1.2s
VES Vestal, Richgr 83.45 54 ⇑P **P 03 42 20.2 -0.9**
baz=83,SNR=174
M10A I.L. Ranch, Tu 83.49 48 ⇓P **P 03 42 21.2 +0.1**
baz=84,SNR=143
F13A Darby 83.55 44 ⇑P **P 03 42 20.6 -0.7**
baz=84,SNR=322
BSC Santa Cruz Isl 83.61 56 ⇓P **P 03 42 21.1 -0.8**
baz=84,SNR=8.8
D14A Greenough 83.62 42 ⇑P **P 03 42 21.0 -0.7**
baz=84,SNR=90
H12A Diamond D Ranc 83.63 45 ⇓P **P 03 42 21.3 -0.4**
baz=84,SNR=164
JOF Joensuu 83.66 335 *e*p **P 03 42 18.8 -2.7**
comp=Z,182nm,0.4s,mb6.2
JOF Joensuu 83.66 335 *e*P **P 03 42 18.8 -2.7**
JOF pmax pmax
comp=Z,182nm,0.4s,mb6.2
JOF Joensuu 83.66 335 *e*P **P 03 42 18.8 -2.7**
JOF *e*P PKKPbc 04 00 34.8 -4.5
I12A Atlanta 83.70 46 ⇓P **P 03 42 21.9 -0.3**
baz=84,SNR=336
P09A Austin 83.71 50 ⇓P **P 03 42 22.1 -0.2**
baz=84,SNR=48
TIN Tinemaha 83.72 53 ⇓P **P 03 42 22.0 -0.4**
baz=84,SNR=48
B15A Bradely Ranch, 83.78 41 ⇓P **P 03 42 22.1 -0.3**
baz=84,SNR=335
N10A Dunphy 83.78 49 ⇓P **P 03 42 22.6 0.0**
baz=84,SNR=33
L11A Cat Creek Ranc 83.83 48 ⇑P **P 03 42 22.7 -0.1**
baz=84,SNR=256
CHMT Chamberlain Mo 83.85 43 *e*P **P 03 42 23.0 +0.2**
comp=Z,209nm,1.0s,mb5.8
G13A Cobalt 83.85 44 ⇓P **P 03 42 21.9 -1.0**
baz=84,SNR=850
E14A Clinton 83.87 43 ⇑P **P 03 42 22.2 -0.7**
baz=84,SNR=124
ARVC Arvin 83.88 55 ⇓P **P 03 42 22.4 -0.9**
baz=84,SNR=66
J12A Stokes Ranch, 83.91 46 ⇓P **P 03 42 22.8 -0.5**
baz=84,SNR=207
Q09A Carvers 83.92 51 ⇓P **P 03 42 23.4 0.0**
baz=84,SNR=16
SNCC San Nicolas Is 83.93 57 ⇑P **P 03 42 23.1 -0.5**
baz=84,SNR=6.5
SNCC San Nicolas Is 83.93 57 *e*P **P 03 42 23.2 -0.3**
comp=Z,855nm,1.1s,mb6.4
SNCC *e*pP pP 03 43 15.8 -1.4
O10A Cortez Mining, 83.93 50 ⇓P **P 03 42 23.2 -0.2**
baz=84
C15A Salmond Ranch, 83.94 42 ⇑P **P 03 42 22.9 -0.4**

baz=84,SNR=211
ISA Isabella 83.98 55 *e*P **P 03 42 22.7 -1.0**
ISA pmax pmax
comp=Z,185nm,1.2s,mb5.7
ISA Isabella 83.98 55 ⇑P **P 03 42 23.3 -0.5**
baz=84,SNR=100
ISA Isabella 83.98 55 *e*P **P 03 42 22.7 -1.0**
comp=Z,185nm,1.2s,mb5.7
DAG Danmarks Havn 83.99 356⇑*i*P **P 03 42 21.2 -1.8**
DAG pmax pmax
comp=Z,480nm,1.0s,mb6.2
DAG MLR MLR
comp=Z,48µm,18.0s
DAG Danmarks Havn 83.99 356⇑*i*P **P 03 42 21.2 -1.8**
comp=Z,481nm,1.0s,mb6.2
DAG
comp=Z,48µm,18.0s
BLG Laguna Peak 84.02 56 ⇑P **P 03 42 23.9 -0.1**
baz=84,SNR=13
CWC Cottonwood Cre 84.03 54 ⇓P **P 03 42 23.9 -0.1**
baz=84,SNR=75
M11A Holland Ranch, 84.05 48 ⇓P **P 03 42 24.1 +0.2**
baz=84,SNR=75
MOS Moscow 84.08 327*c i*P **P 03 42 22.1 -1.7**
MOS *i* S S 03 52 19.0 -10
MOS *i* PS 03 53 22.4
MOS *e**SS sS 03 53 53.1 -10
MOS pmax pmax
comp=Z,6µm,5.4s
MOS pmax pmax
comp=Z,283nm,1.0s,mb6.0
MOS MLR MLR
comp=Z,38µm,19.0s
A16A West Butte Ran 84.13 40 ⇓P **P 03 42 24.0 -0.2**
baz=84,SNR=382
TPH Tonopah 84.14 52 *e*P **P 03 42 24.4 -0.1**
TPH pmax pmax
comp=Z,255nm,0.6s,mb6.1
TPH Tonopah 84.14 52 *e*P **P 03 42 24.4 -0.1**
comp=Z,255nm,0.6s,mb6.1
F14A Wisdom 84.17 44 ⇓P **P 03 42 24.0 -0.5**
baz=84,SNR=110
P10A Eureka 84.18 50 ⇓P **P 03 42 24.5 -0.2**
baz=84,SNR=90
R09A Tonopah 84.20 52 ⇓P **P 03 42 24.7 -0.1**
baz=84,SNR=316
S09A Goldfield 84.25 52 ⇑P **P 03 42 25.1 0.0**
baz=84,SNR=701
K12A Draper Farm, C 84.26 47 ⇑P **P 03 42 24.8 -0.2**
baz=84,SNR=237
D15A Lincoln 84.27 42 ⇓P **P 03 42 24.3 -0.7**
baz=84,SNR=102
B16A M & M Farms, S 84.27 41 ⇑P **P 03 42 24.4 -0.5**
baz=84,SNR=625
HLID Hailey 84.27 46 ⇓P **P 03 42 25.0 -0.1**
baz=84,SNR=313
HLID Hailey 84.27 46 *e*P **P 03 42 24.6 -0.4**
comp=Z,934nm,0.4s,mb6.9
N11A Elko Archery C 84.30 49 ⇑P **P 03 42 25.2 0.0**
baz=84,SNR=52
G14A Jackson 84.31 44 ⇑P **P 03 42 25.0 -0.2**
baz=84,SNR=125
I13A Wildhorse Cree 84.35 46 ⇓P **P 03 42 25.1 -0.3**
baz=84,SNR=241
L12A House Creek Ra 84.35 47 ⇑P **P 03 42 25.4 -0.1**
baz=84,SNR=309
GRAC Grapevine Rang 84.38 53 ⇑P **P 03 42 25.4 -0.4**
baz=84,SNR=250
C16A Fuhringer Ranc 84.47 41 ⇑P **P 03 42 25.5 -0.5**
baz=84
J13A Cove Ranch, Pi 84.49 46 ⇑P **P 03 42 26.2 +0.1**
baz=84,SNR=306
Q10A Clear Creek Ra 84.50 51 ⇑P **P 03 42 26.1 -0.1**
baz=84,SNR=88
DECC Green Verdugo 84.55 56 ⇓P **P 03 42 26.1 -0.5**
baz=84,SNR=15
O11A Cowboy Ranch, 84.59 50 ⇑P **P 03 42 26.2 -0.5**
baz=85,SNR=115
H14A Leadore 84.60 45 ⇑P **P 03 42 26.8 +0.1**
baz=85,SNR=937
MPMC Manual Prospec 84.60 54 ⇑P **P 03 42 26.7 -0.2**
baz=85,SNR=437
EDW2 Edwards Air Fo 84.61 55 ⇓P **P 03 42 26.8 -0.1**
baz=85,SNR=125
LRMC Laurel Mountai 84.64 54 ⇑P **P 03 42 27.1 0.0**
baz=85,SNR=425
S10A Tonopah Range, 84.66 52 ⇓P **P 03 42 26.9 -0.2**
baz=85,SNR=530
M12A Wells 84.67 48 ⇓P **P 03 42 27.0 -0.1**
baz=85,SNR=376
ELK Elko 84.68 49 *e*P **P 03 42 26.9 -0.2**
ELK *e**PP pP 03 43 22.1 +1.2
ELK pmax pmax
comp=Z,69nm,1.5s
ELK Elko 84.68 49 *e*P **P 03 42 26.9 -0.3**
comp=Z,69nm,1.5s,mb5.2
ELK epP pP 03 43 22.1 +1.2
PASC Pasadena Art C 84.69 56 *e*P **P 03 42 26.6 -0.8**
comp=Z,461nm,0.8s,mb6.3
PASC epP pP 03 43 20.7 -0.4
P11A Circle Ranch, 84.72 50 ⇓P **P 03 42 27.2 -0.2**
baz=85
F15A Butte 84.73 43 ⇑P **P 03 42 26.7 -0.5**
baz=85,SNR=482
R10A Warm Springs 84.75 51 ⇓P **P 03 42 27.2 -0.4**
baz=85,SNR=166
FMP Fort Macarthur 84.75 56 ⇓P **P 03 42 27.2 -0.4**
baz=85
CIS Catalina Islan 84.77 57 ⇑P **P 03 42 26.9 -0.8**
baz=85,SNR=50
MWC Mount Wilson 84.77 56 *e*P **P 03 42 27.2 -0.5**
MWC *e**PP pP 03 43 22.9 +1.4
MWC *e*S S 03 52 31.3 -5.6
MWC pmax pmax
comp=Z,714nm,1.5s,mb6.2
MWC Mount Wilson 84.77 56 *e*P **P 03 42 27.2 -0.6**
comp=Z,714nm,1.5s,mb6.2
MWC epP pP 03 43 22.9 +1.4
MWC *e*S S 03 52 31.3 -5.6
N12A Clover Valley, 84.78 49 ⇓P **P 03 42 27.3 -0.4**
baz=85,SNR=407
I14A Mackay 84.79 45 ⇓P **P 03 42 27.3 -0.3**
baz=85,SNR=397
SCI San Clemente I 84.79 57 ⇑P **P 03 42 27.1 -0.8**
baz=85,SNR=8.7
K13A Stover Farm, H 84.82 47 ⇑P **P 03 42 27.6 -0.2**
baz=85,SNR=149
HRY Holter Researc 84.83 42 *e*P **P 03 42 27.2 -0.6**
comp=Z,3µm,1.4s,mb6.8
HRY *e*S S 03 52 36.3 -0.7
DLMT Dillon 84.84 44 *e*P **P 03 42 27.1 -0.8**
comp=Z,235nm,0.5s,mb6.2
DLMT *e*S S 03 52 32.1 -5.0
MCMT McKenzie Canyo 84.87 44 *e*P **P 03 42 27.4 -0.5**
comp=Z,72nm,0.6s,mb5.6
MCMT *e*S S 03 52 34.5 -2.9
D16A Dana Ranch, Ca 84.89 42 ⇓P **P 03 42 27.6 -0.4**
baz=85,SNR=278
OBN Obninsk 84.90 327α*i*P **P 03 42 26.6 -1.3**
OBN *i* 03 52 25.1
OBN *i* 03 52 33.7
OBN *i* 03 54 03.7
OBN *i* SS SS 03 58 17.1 +2.7
OBN pmax pmax
comp=Z,493nm,1.6s,mb6.0
OBN MLR MLR
comp=Z,33µm,19.0s
OBN Obninsk 84.90 327⇑*i*P **P 03 42 25.9 -2.0**
VOR Voronezh 84.90 323 *e*P **P 03 42 27.0 -1.0**
VOR *e*S S 03 52 33.0 -4.5
VOR *e**SS sS 03 54 06.0 -5.6
VOR pmax pmax
comp=Z,5µm,2.5s,mb6.8
FURC Furnace Creek, 84.95 53 ⇓P **P 03 42 27.9 -0.7**
baz=85,SNR=271
J14A Carey 84.97 46 ⇑P **P 03 42 28.5 0.0**
baz=85,SNR=667
G15A Dillon 84.98 44 ⇑P **P 03 42 28.4 -0.1**
baz=85,SNR=278
E16A East Helena 84.99 42 ⇑P **P 03 42 28.7 +0.1**
baz=85
Q11A Duckwater 85.04 51 ⇓P **P 03 42 28.9 -0.1**
baz=85,SNR=177
BFSC Mount Baldy St 85.08 56 ⇓P **P 03 42 28.4 -0.8**
baz=85,SNR=42
H15A Lima 85.08 45 ⇓P **P 03 42 29.1 0.0**
baz=85,SNR=334
L13A Double Diamond 85.12 47 ⇓P **P 03 42 29.7 +0.4**
baz=85,SNR=12
C17A Wharram Farm, 85.15 41 ⇓P **P 03 42 28.7 -0.6**
baz=85,SNR=390
MTA Mtatsminda 85.20 312 P **P 03 42 27.4 -2.3**
O12A Currie 85.20 49 ⇑P **P 03 42 29.8 +0.1**
baz=85,SNR=151
TBLG Delisi 85.22 312 P **P 03 42 28.9 -0.9**
TPNV Topopah Spring 85.25 53 *e*P **P 03 42 29.8 -0.2**
TPNV *e*S S 03 52 35.1 -6.4
TPNV pmax pmax
comp=Z,453nm,0.5s,mb6.5
TPNV Topopah Spring 85.25 53 ⇓P **P 03 42 29.7 -0.3**
baz=85,SNR=579
TPNV Topopah Spring 85.25 53 *e*P **P 03 42 29.8 -0.2**
comp=Z,452nm,0.5s,mb6.5
TPNV *e*S S 03 52 35.1 -6.4
R11A Troy Canyon, C 85.26 51 ⇓P **P 03 42 30.2 +0.2**
baz=85,SNR=403
F16A Kennard Place, 85.31 43 ⇓P **P 03 42 29.9 -0.3**
baz=85,SNR=820
BOZ Bozeman (W) 85.36 43 *e*P **P 03 42 29.9 -0.5**
BOZ *e**PP pP 03 43 25.1 +0.9
BOZ *e*S S 03 52 36.7 -5.5
BOZ pmax pmax
comp=Z,54nm,1.4s,mb5.1
BOZ Bozeman (W) 85.36 43 ⇑P **P 03 42 30.2 -0.2**
baz=85,SNR=579
BOZ Bozeman (W) 85.36 43 *e*P **P 03 42 29.9 -0.5**
comp=Z,54nm,1.4s,mb5.1
BOZ epP pP 03 43 25.1 +0.8
BOZ *e*S S 03 52 36.7 -5.5
U10A Ash Meadows, A 85.37 53 ⇑P **P 03 42 30.5 -0.2**
baz=85,SNR=371
N13A Wendover, West 85.38 48 ⇓P **P 03 42 30.6 0.0**
baz=85,SNR=104
RRX Edison Barstow 85.38 55 ⇓P **P 03 42 30.7 0.0**
baz=85,SNR=8.9
GSC Goldstone 85.38 54 *e*P **P 03 42 30.0 -0.8**
GSC pmax pmax
comp=Z,47nm,2.0s,mb4.9
GSC Goldstone 85.38 54 ⇑P **P 03 42 30.6 -0.2**
baz=85,SNR=154
GSC Goldstone 85.38 54 *e*P **P 03 42 30.0 -0.8**
comp=Z,48nm,2.0s,mb4.9
S11A Rachel 85.38 52 ⇓P **P 03 42 31.1 +0.4**
baz=85,SNR=122
D17A Six Diamond Ra 85.38 42 ⇓P **P 03 42 30.1 -0.4**
baz=85,SNR=458
G16A Moss Hill, Enn 85.40 44 ⇑P **P 03 42 30.5 -0.2**
baz=85,SNR=1000
I15A Monteview 85.42 45 ⇓P **P 03 42 30.9 +0.1**
baz=85,SNR=156
DRV Dumont d'Urvil 85.46 182 P **P 03 42 32.0 +1.8**
DRV Dumont d'Urvil 85.46 182 PP PP 03 45 52.0 -0.2
DRV S S 03 52 40.0 -2.0
DRV SS SS 03 58 31.0 +7.7
DRV L 04 06 00.0
K14A Jones Ranch, D 85.48 47 ⇓P **P 03 42 31.1 0.0**
baz=85,SNR=217
RBK Rabkut 85.53 287 ⇓P **P 03 42 31.8 0.0**
SNR=47
E17A Martinsdale 85.54 42 ⇓P **P 03 42 31.2 -0.1**
baz=86,SNR=287
GOR Gori 85.57 313 P **P 03 42 31.0 -0.5**
Q12A Willow Creek R 85.57 50 ⇓P **P 03 42 31.8 +0.2**
baz=86,SNR=213
SHOC Shoshone 85.58 54 ⇑P **P 03 42 31.4 -0.3**
baz=86,SNR=9.7
EGMT Eagleton 85.62 41 ⇓P **P 03 42 31.0 -0.7**
baz=86,SNR=124
EGMT Eagleton 85.62 41 *e*P **P 03 42 31.1 -0.5**
comp=Z,1µm,0.6s,mb6.8
L14A Malta 85.62 47 ⇓P **P 03 42 31.8 0.0**
baz=86,SNR=130
BBRC Big Bear Sol-O 85.64 55 ⇓P **P 03 42 31.8 -0.3**
baz=86,SNR=32
MURC Murrieta 85.65 56 ⇓P **P 03 42 31.6 -0.5**
baz=86,SNR=62
PUL Pulkovo 85.66 333⇑*i*P **P 03 42 32.4 +0.8**
J15A Blackfoot 85.67 46 ⇓P **P 03 42 32.2 +0.2**
baz=86,SNR=1000
M14A Sheep Mountain 85.75 48 ⇓P **P 03 42 32.6 +0.2**
baz=86,SNR=216
GNI Garni 85.79 311 *e*P **P 03 42 29.7 -2.9**
GNI Garni 85.79 311 ⇓P **P 03 42 32.5 -0.1**
SNR=46
GNI Garni 85.79 311*c i*P **P 03 42 32.2 -0.4**
WHFO Wadi Hawf 85.79 287 ⇑P **P 03 42 32.7 -0.4**
SNR=26
O13A Hicks Ranch, I 85.79 49 ⇓P **P 03 42 32.8 +0.2**
baz=86,SNR=80
QLMT Earthquake Lak 85.80 44 *e*P **P 03 42 32.9 +0.3**
comp=Z,23nm,0.3s,mb5.4
QLMT epP pP 03 43 27.0 +0.5
ONI Oni 85.80 314 P **P 03 42 31.4 -1.3**
KIV Kislovodsk 85.80 315 ⇑P **P 03 42 32.2 -0.4**
SNR=25
KIV Kislovodsk 85.80 315⇑*e*P **P 03 42 30.5 -2.1**
KIV *i **PP pP 03 43 25.9 -0.6
KIV pmax pmax
comp=Z,346nm,1.7s,mb5.8
KIV Kislovodsk 85.80 315⇑*i*P **P 03 42 31.6 -1.0**
KIV Kislovodsk 85.80 315 *e*P **P 03 42 32.0 -0.6**
comp=Z,142nm,0.7s,mb5.8
K15A Arbon 85.87 46 ⇓P **P 03 42 33.0 0.0**
baz=86,SNR=96
F17A Fitzpatrick Pl 85.89 43 ⇑P **P 03 42 33.0 0.0**
baz=86,SNR=217
HEC Hector,Ludlow 85.91 55 ⇓P **P 03 42 33.0 -0.3**
baz=86,SNR=148
T11A Corn Creek, Al 85.92 52 ⇑P **P 03 42 33.2 -0.1**
baz=86,SNR=148
D18A Linhart Farms, 85.92 41 ⇓P **P 03 42 33.0 -0.2**
baz=86,SNR=144
109C Camp Elliot, M 85.97 57 ⇑P **P 03 42 33.5 -0.2**
baz=86,SNR=26
H16A Russell Place, 85.97 44 ⇑P **P 03 42 33.7 +0.2**
baz=86,SNR=594
R12A Pony Springs, 85.99 51 ⇓P **P 03 42 34.1 +0.5**
baz=86,SNR=95
P13A Bates Ranch, G 86.01 50 ⇑P **P 03 42 33.9 +0.1**
baz=86,SNR=384
TUQ Turquoise Moun 86.01 54 ⇓P **P 03 42 33.9 0.0**
baz=86,SNR=180
HVU Hansel Valley 86.04 47 *e*P **P 03 42 33.7 -0.2**
HVU pmax pmax
comp=Z,3µm,2.0s,mb6.7
HVU Hansel Valley 86.04 47 *e*P **P 03 42 33.6 -0.2**
comp=Z,3µm,2.0s,mb6.7
KAF Kangasniemi 86.06 336 *e*p **P 03 42 31.7 -1.8**
comp=Z,72nm,0.4s,mb5.8,baz=55,slow=4.6
KAF Kangasniemi 86.06 336 *e*P **P 03 42 31.7 -1.8**
KAF pmax pmax
comp=Z,72nm,0.4s,mb5.8
KAF Kangasniemi 86.06 336 *e*P **P 03 42 31.7 -1.8**
comp=Z,72nm,0.4s,mb5.8
KAF *e*P 04 00 30.1
G17A Pierce Place, 86.06 43 ⇓P **P 03 42 34.2 +0.3**
baz=86,SNR=176
S12A Delamar Landin 86.06 52 ⇑P **P 03 42 34.3 +0.3**
baz=86,SNR=83
STEI Steigen 86.08 343 *e*P **P 03 42 31.8 -1.7**
STEI epP pP 03 43 27.3 -0.1
U11A Corn Creek 86.08 53 ⇓P **P 03 42 34.5 +0.4**
baz=86,SNR=100
N14A Grayback Hills 86.10 48 ⇓P **P 03 42 34.0 -0.2**
baz=86,SNR=132
E18A Harlowton 86.10 42 ⇓P **P 03 42 34.0 0.0**
baz=86,SNR=390
I16A Newdale 86.13 45 ⇑P **P 03 42 34.4 +0.1**
baz=86,SNR=265
YMR Madison River 86.17 44 *e*P **P 03 42 35.0 +0.6**
comp=Z,151nm,1.2s,mb5.6
BGU Big Grassy Mou 86.18 48 *e*P **P 03 42 34.3 -0.3**
comp=Z,1µm,2.0s,mb6.3
BGU *e*S S 03 52 44.0 -6.4
Q13A Wheeler Ranch, 86.19 50 ⇑P **P 03 42 34.6 0.0**
baz=86,SNR=55
L15A Malad City 86.23 47 ⇑P **P 03 42 34.8 0.0**
baz=86,SNR=208
PFO Pinyon Flat Ob 86.23 56 *e*P **P 03 42 34.1 -0.9**
PFO pmax pmax
comp=Z,229nm,1.0s,mb5.9
PFO Pinyon Flat Ob 86.23 56 ⇓P **P 03 42 34.6 -0.3**
baz=86,SNR=102
PFO Pinyon Flat Ob 86.23 56 *e*P **P 03 42 34.0 -0.9**
comp=Z,229nm,1.0s,mb5.9
V11A Goodsprings 86.25 53 ⇓P **P 03 42 35.1 +0.1**
baz=86,SNR=209
J16A Bone 86.28 45 ⇓P **P 03 42 35.0 0.0**
baz=86,SNR=592
YFT Old Faithful 86.34 44 *e*P **P 03 42 37.1 +1.9**
comp=Z,148nm,1.2s,mb5.6
YNR Norris Junctio 86.34 44 *e*P **P 03 42 37.0 +1.7**
comp=Z,34nm,0.8s,mb5.1
M15A Larsen Ranch, 86.39 47 ⇑P **P 03 42 35.8 +0.2**
baz=86,SNR=85
ABTO Aybut 86.39 287 ⇓P **P 03 42 35.5 -0.6**
SNR=40
LOF Lofoten 86.39 344 *e*P **P 03 42 36.5 +1.4**
LOF AMb AMB 03 42 39.6
LOF comp=Z,252nm,1.6s,mb5.7
LOF *e*pP pP 03 43 29.1 +0.1
DCID1 Drake Creek 86.44 45 *e*P **P 03 42 36.3 +0.6**
comp=Z,736nm,1.1s,mb6.3
GMRC Granite Mounta 86.44 55 ⇓P **P 03 42 35.6 -0.3**
baz=86,SNR=359
RRI2 Red Ridge 86.44 45 *e*P **P 03 42 35.6 -0.2**
comp=Z,80nm,0.3s,mb5.9
RRI2 *e*S S 03 52 43.5 -9.3
SPUT South Promonto 86.44 48 *e*P **P 03 42 36.0 +0.1**
comp=Z,538nm,1.1s,mb6.2
SPUT *e*S S 03 52 44.9 -8.1
BELC Belle Mtn. 86.45 55 ⇑P **P 03 42 35.6 -0.5**
baz=86,SNR=210
K16A Soda Springs 86.46 46 ⇑P **P 03 42 36.1 +0.3**
baz=86
T12A Moapa 86.48 52 ⇑P **P 03 42 36.0 -0.1**
baz=86,SNR=11
IMW Indian Meadow 86.49 45 *e*P **P 03 42 36.0 0.0**
comp=Z,269nm,0.3s,mb6.5
F18A Big Timber 86.49 43 ⇓P **P 03 42 36.2 +0.2**
baz=86,SNR=119
MONP Monument Peak 86.51 57 ⇓P **P 03 42 36.0 -0.3**
baz=86,SNR=105
R13A O'Grain Ranch, 86.51 51 ⇑P **P 03 42 36.3 +0.1**
baz=86,SNR=179
H17A Grant Village 86.53 44 ⇑P **P 03 42 36.5 +0.3**
baz=86
N15A Stansbury Isla 86.55 48 ⇑P **P 03 42 36.6 +0.3**
baz=86,SNR=57
GCMT Greycliff 86.57 43 *e*P **P 03 42 36.5 +0.1**
comp=Z,111nm,0.7s,mb5.7
LKWY Lake 86.58 44 *e*P **P 03 42 38.1 +1.7**
LKWY pmax pmax
comp=Z,2µm,1.2s,mb6.6
LKWY Lake 86.58 44 *e*P **P 03 42 38.0 +1.6**
comp=Z,2µm,1.2s,mb6.7
DUG Dugway 86.60 49 *e*P **P 03 42 35.9 -0.7**
DUG *e**PP pP 03 43 31.2 +0.6
DUG pmax pmax
comp=Z,68nm,0.9s,mb5.4
DUG Dugway 86.60 49 ⇓P **P 03 42 36.9 +0.3**
baz=87,SNR=454
DUG Dugway 86.60 49 *e*P **P 03 42 35.9 -0.7**
comp=Z,68nm,0.9s,mb5.4
DUG epP pP 03 43 31.2 +0.6
TPAW Teton Pass 86.64 45 *e*P **P 03 42 36.9 +0.2**
comp=Z,5.6nm,2.2s
P14A Drum Mountains 86.64 49 ⇓P **P 03 42 37.4 +0.5**
baz=87,SNR=200
MOOW Moose Ponds 86.67 45 *e*P **P 03 42 36.6 -0.3**
comp=Z,395nm,0.5s,mb6.4
U12A Valley of Fire 86.71 53 ⇑P **P 03 42 37.1 -0.2**
baz=87,SNR=139
Q14A Sevier Lake (B 86.72 50 ⇑P **P 03 42 37.1 -0.1**
baz=87,SNR=306
I17A Pilgram Creek 86.72 45 ⇓P **P 03 42 38.2 +1.0**
baz=87,SNR=108
CLDR Caldiran 86.75 310 *e*P **P 03 42 36.4 -1.0**
REDW Red Top Meadow 86.75 45 *e*P **P 03 42 37.2 -0.1**
comp=Z,135nm,0.9s,mb5.7
REDW *e*S S 03 52 46.8 -9.0
DYDN Diyadin 86.76 311 *i*P **P 03 42 37.1 -0.3**
LDFC Landfair 86.76 54 *e*P **P 03 42 37.5 -0.1**
comp=Z,546nm,0.8s,mb6.3
LDFC *e*S S 03 52 45.0 -11
SNOW Snow King Moun 86.78 45 *e*P **P 03 42 37.6 +0.2**
comp=Z,18nm,0.3s,mb5.3
SNOW *e*S S 03 52 45.2 -11
KARS Kars 86.79 312 *e*P **P 03 42 36.3 -1.2**
S13A Holt Ranch, En 86.81 51 ⇓P **P 03 42 38.0 +0.3**
baz=87,SNR=436
O15A The Old Anders 86.81 49 ⇓P **P 03 42 37.5 -0.1**
baz=87,SNR=24
AHID Auburn Hatcher 86.82 46 *e*P **P 03 42 37.5 -0.1**
comp=Z,266nm,0.7s,mb6.1
AHID *e*S S 03 52 42.9 -14
LOHW Long Hollow 86.82 45 *e*P **P 03 42 37.5 -0.1**
comp=Z,62nm,1.5s,mb5.1
G18A Lazy EL Ranch, 86.83 43 ⇓P **P 03 42 37.2 -0.4**
baz=87
DVTC Desert V Tower 86.84 57 ⇑P **P 03 42 37.7 -0.2**
baz=87,SNR=41
J17A Brown Place, J 86.85 45 ⇑P **P 03 42 38.1 +0.4**
baz=87,SNR=119
W12A Cal Nev Ari 86.87 54 ⇑P **P 03 42 37.7 -0.3**
baz=87,SNR=66
L16A Fish Haven 86.88 47 ⇓P **P 03 42 37.7 -0.2**
baz=87,SNR=129
NOQ North Oquirrh 86.92 48 *e*P **P 03 42 38.0 -0.1**
comp=Z,184nm,0.7s,mb5.9
NOQ *e*S S 03 52 42.6 -15
HWUT Hardware Ranch 86.95 47 *e*P **P 03 42 37.6 -0.7**
comp=Z,130nm,1.5s,mb5.4
HWUT *e*S S 03 52 47.0 -11
T13A Saint George 86.97 52 ⇑P **P 03 42 38.7 +0.2**
baz=87,SNR=265
SWSC Sam W. Stewart 86.98 56 ⇑P **P 03 42 38.3 -0.3**
baz=87,SNR=29
BC3 Big Chuckw Mtn 87.00 56 ⇑P **P 03 42 38.6 -0.1**
baz=87,SNR=208
M16A Huntsville 87.01 47 ⇑P **P 03 42 38.5 -0.1**
baz=87,SNR=170
FFC Flin Flon 87.04 32 *e*P **P 03 42 37.4 -1.0**
FFC *e**PP pP 03 43 32.3 -0.1
FFC pmax pmax
comp=Z,557nm,0.9s,mb6.3
FFC Flin Flon 87.04 32 *e*P **P 03 42 37.4 -1.0**
comp=Z,557nm,0.9s,mb6.3
FFC *e*pP pP 03 43 32.3 -0.2
ARUT Antelope Range 87.04 51 *e*P **P 03 42 38.8 0.0**
comp=Z,198nm,1.2s,mb6.0
IRM Iron Mountain 87.06 55 ⇑P **P 03 42 39.0 +0.1**
baz=87,SNR=138
RLMT Red Lodge 87.10 43 ⇑P **P 03 42 39.6 +0.7**
baz=87,SNR=341
RLMT Red Lodge 87.10 43 *e*P **P 03 42 38.9 0.0**
comp=Z,70nm,0.9s,mb5.4
RLMT *e*pP pP 03 43 35.1 +2.2
R14A James Farms, M 87.16 51 ⇓P **P 03 42 39.6 +0.2**
baz=87
CTU Camp Tracy 87.17 48 *e*P **P 03 42 39.0 -0.3**
comp=Z,594nm,1.2s,mb6.2
CTU *e*pP pP 03 43 33.9 +0.5
CTU *e*S S 03 52 46.7 -13
CCUT Cedar City 87.18 51 *e*P **P 03 42 39.4 -0.1**
comp=Z,1µm,1.0s,mb6.5
NLU North Lily Min 87.22 49 *e*P **P 03 42 38.5 -1.1**
comp=Z,53nm,1.2s,mb5.2
NLU *e*pP pP 03 43 32.4 -1.2
NLU *e*S S 03 52 46.3 -14
UMR Umm Al-Rimmam 87.22 300 *e*P **P 03 42 39.4 -0.4**
baz=300
UMR AMb AMB 03 42 43.5
comp=Z,518nm,1.3s,mb6.1,baz=300
AGRB Hanur-Agry 87.25 311 *e*P **P 03 42 38.7 -1.0**
NEE2 Needles Airpor 87.25 54 ⇑P **P 03 42 40.1 +0.3**
baz=87,SNR=48
S14A Cedar City 87.25 51 ⇑P **P 03 42 40.1 +0.3**
baz=87,SNR=100
I18A Diamond G Ranc 87.31 45 ⇓P **P 03 42 40.3 +0.4**
baz=87
N16A Rees Ranch, Co 87.31 48 ⇑P **P 03 42 40.3 +0.2**
baz=87,SNR=90
QRN Al-Qurain 87.33 299 *e*P **P 03 42 40.3 -0.1**
baz=299
QRN AMb AMB 03 42 43.9
comp=Z,511nm,1.2s,mb6.1,baz=299
VANB Van 87.33 310 *e*P **P 03 42 38.4 -1.8**
V13A Grand Canyon W 87.34 53 ⇑P **P 03 42 40.6 +0.3**
baz=87
Q15A Fillmore 87.36 50 ⇓P **P 03 42 40.4 +0.1**

baz=87,SNR=75
ARTV Artvin 87.38 313 *i* P **P** 03 42 38.8 **-1.6**
JLU Jordanele 87.41 48 *e*P **P** 03 42 39.9 **-0.6**
comp=Z,2µm,0.6s,mb7.1
JLU *e*pP pP 03 43 35.5 +0.9
JLU *e*S S 03 52 48.9 -13
DAGI Agillar 87.44 313 *i* P **P** 03 42 39.5 **-1.1**
MIB Mutribah 87.44 301 *e*P **P** 03 42 40.3 **-0.6**
baz=301
MIB AMb AMB 03 42 45.1
comp=Z,678nm,1.0s,mb6.3,baz=301
TUTA Tutak 87.44 311 *i* P **P** 03 42 40.0 **-0.7**
HKR Hakkari 87.45 309 *e*P **P** 03 42 39.8 **-0.9**
HAKT HAKKARI 87.49 309 *i* P **P** 03 42 41.1 **+0.2**
BCA Borcka 87.49 313 *e*P **P** 03 42 39.6 **-1.3**
DBOC Borcka 87.50 313 *i* P **P** 03 42 39.8 **-1.1**
MPU Maple Canyon 87.51 49 *e*P **P** 03 42 41.0 **0.0**
comp=Z,297nm,0.8s,mb6.2
MPU *e*S S 03 52 49.0 -14
O16A Springville 87.53 48 ⇑P **P** 03 42 40.9 **-0.1**
baz=88,SNR=141
MOR8 Moi Rana 87.53 342 *e*P **P** 03 42 37.8 **-2.7**
MOR8 AMb AMB 03 42 46.7
comp=Z,199nm,1.0s,mb5.9
MOR8 *e*pP pP 03 43 31.8 -2.8
RDF Al-Radifah 87.57 300 *e*P **P** 03 42 40.8 **-0.7**
baz=300
RDF AMb AMB 03 42 45.7
comp=Z,437nm,1.2s,mb6.2,baz=300
T14A Hurricane 87.57 52 ⇑P **P** 03 42 41.9 **+0.6**
baz=88,SNR=240
DBAD Bademkaya 87.61 313 *i* P **P** 03 42 40.1 **-1.3**
DDEM Demirkent 87.62 312 *i* P **P** 03 42 40.4 **-1.1**
DAU Daniels Canyon 87.62 48 *e*P **P** 03 42 41.3 **-0.2**
comp=Z,192nm,1.2s,mb5.8
DAU *e*S S 03 52 51.9 -12
P16A Fountain Green 87.65 49 ⇓P **P** 03 42 42.1 **+0.5**
baz=88,SNR=54
KONS Konsvik 87.67 343 *e*P **P** 03 42 40.7 **-0.5**
KONS *e*pP pP 03 43 32.8 -2.5
Y12C Blythe 87.69 55 ⇑P **P** 03 42 42.0 **0.0**
baz=88,SNR=123
W13A Hualapai Mount 87.69 54 ⇓P **P** 03 42 42.2 **+0.3**
baz=88,SNR=395
MSU Marysvale 87.69 50 *e*P **P** 03 42 42.2 **+0.3**
comp=Z,30nm,0.5s,mb5.4
GLA Glamis 87.70 56 *e*P **P** 03 42 41.9 **-0.1**
GLA pmax pmax
comp=Z,276nm,0.7s,mb6.2
GLA Glamis 87.70 56 ⇑P **P** 03 42 42.3 **+0.3**
baz=88,SNR=122
GLA Glamis 87.70 56 *e*P **P** 03 42 41.9 **-0.2**
comp=Z,276nm,0.7s,mb6.2
N17A Moffit Pass 87.71 47 ⇑P **P** 03 42 41.9 **0.0**
baz=88,SNR=94
FLOS Flostrand 87.72 343 *e*P **P** 03 42 41.7 **+0.3**
R15A Junction 87.73 50 ⇑P **P** 03 42 42.8 **+0.7**
baz=88,SNR=55
U14A Mt Trumbull 87.74 52 ⇓P **P** 03 42 42.4 **+0.3**
baz=88,SNR=320
PDMCI Parker Dam,Lak 87.79 55 ⇓P **P** 03 42 42.4 **0.0**
baz=88,SNR=214
STOK Stokkvaagen 87.82 343 *e*P **P** 03 42 40.8 **-1.0**
STOK *e*pP pP 03 43 33.8 -2.2
HOMI Horasan 87.84 312 *i* P **P** 03 42 41.8 **-0.7**
BW06 Boulder Array 87.86 45 ⇑P **P** 03 42 42.8 **+0.2**
baz=88,SNR=157
BW06 Boulder Array 87.86 45 *e*P **P** 03 42 42.4 **-0.1**
comp=Z,35nm,0.3s,mb5.7
PDAR Pinedale Array 87.86 45 P **P** 03 42 41.5 **-1.0**
comp=Z,86nm,0.7s,mb5.7,baz=251,slow=1.0,SNR=114
PDAR pP pP 03 43 37.6 +0.8
comp=Z,68nm,0.9s,baz=257,slow=2.6,SNR=2.3
PDAR PKKPbc PKKPbc 04 00 29.0 +0.4
comp=Z,4.0nm,1.0s,baz=110,slow=3.5,SNR=3.9
PDAR tx tx 04 01 14.9
comp=Z,2.3nm,0.7s,baz=134,slow=4.3,SNR=4.0
PDAR PKPPKP 04 08 35.3
comp=Z,1.2nm,0.8s,baz=122,slow=1.9,SNR=4.6
PDAR Pinedale Array 87.86 45 P **P** 03 42 41.5 **-1.0**
PDAR pP pP 03 43 37.6 +0.9
PDAR PKKPbc PKKPbc 04 00 29.0 +0.4
PDAR P'P' 04 08 35.3
S15A Panguitch 87.87 51 ⇓P **P** 03 42 43.8 **+1.1**
baz=88,SNR=176
X13A Yucca 87.92 54 ⇑P **P** 03 42 42.9 **-0.1**
baz=88
SOC Sochi 87.93 316 *e*P **P** 03 42 40.3 **-2.6**
SOC *e*S SKSac 03 52 45.2 -4.8
SOC *e* 03 53 10.7
SOC *e**SS sS 03 54 31.1 -11
SOC pmax pmax
comp=Z,2µm,9.2s
SOC pmax pmax
comp=Z,122nm,0.7s,mb5.8
SOC MLR MLR
comp=Z,12µm,19.0s
SOC Sochi 87.93 316 *i* P **P** 03 42 40.5 **-2.4**
O17A Robinson Place 88.07 48 ⇑P **P** 03 42 43.8 **+0.2**
baz=88,SNR=234
112A Yuma 88.08 56 ⇓P **P** 03 42 43.7 **-0.1**
baz=88,SNR=50
V14A Boquillas Ranc 88.09 53 ⇓P **P** 03 42 44.4 **+0.7**
baz=88,SNR=1000
TMUT Trail Mountain 88.09 49 *e*P **P** 03 42 44.2 **+0.5**
comp=Z,4µm,1.3s,mb7.1
PZAR Pazar-Rize 88.10 313 *e*P **P** 03 42 41.1 **-2.6**
T15A Red Dirt Ranch 88.11 52 ⇓P **P** 03 42 44.5 **+0.7**
baz=88,SNR=151
Y13A Salome 88.20 55 ⇓P **P** 03 42 44.8 **+0.4**
baz=88,SNR=184
RKT Rikitea 88.25 115 *e*P **P** 03 42 46.5 **+1.8**
comp=Z,256nm,0.9s,mb6.1
RKT *e*pP pP 03 43 43.3 +4.4
comp=Z,1µm,1.3s
RKT *e*S S 03 53 06.7 -3.9
comp=Z,68µm,32.8s
RKT *e*SS SS 03 58 58.4 -7.4
comp=Z,64µm,29.5s
RKT *e*LQ 04 06 29.7
comp=Z,89µm,32.8s
RKT *e*LR LR 04 10 10.3
comp=Z,53µm,25.2s
RKT Rikitea 88.25 115 *e*P **P** 03 42 46.5 **+1.8**
RKT *e**PP pP 03 43 43.3 +4.4
RKT *e*S S 03 53 06.7 -3.9
RKT *e*SS SS 03 58 58.4 -7.4
RKT pmax pmax
comp=Z,256nm,0.9s,mb6.0
RKT Rikitea 88.25 115 *e*P **P** 03 42 46.5 **+1.8**
comp=Z,256nm,0.9s,mb6.0
RKT *e*pP pP 03 43 43.3 +4.4
RKT *e*S S 03 53 06.7 -3.9
RKT *e*SS SS 03 58 58.4 -7.4
RKT *e*LQ 04 06 29.7
W14A Seligman 88.26 53 ⇓P **P** 03 42 45.6 **+1.0**
baz=88,SNR=452
Q16A Castle Valley 88.26 49 ⇓P **P** 03 42 45.5 **+0.9**
baz=88,SNR=170
L19A Farson 88.27 46 ⇑P **P** 03 42 45.1 **+0.6**
baz=88,SNR=114
ERZM Erzurum 88.28 312 *i* P **P** 03 42 44.3 **-0.3**
EZM Erzurum 88.28 312 *e*P **P** 03 42 44.2 **-0.4**
R16A Teasdale 88.28 50 ⇑P **P** 03 42 45.8 **+1.2**
baz=88,SNR=460
P17A Butcher Ranch, 88.35 49 ⇑P **P** 03 42 45.4 **+0.4**
baz=88,SNR=44
LAO LASA Array 88.36 41 *e*P **P** 03 42 44.1 **-0.7**
comp=Z,58nm,2.0s,mb5.1
LAO *e*pP pP 03 43 38.1 -0.9
MSL Mosul 88.37 308 *ex* x 03 42 44.0
MSL *i* x 03 52 48.0
MSL *i* x x 03 53 07.5
U15A North Rim 88.40 52 ⇓P **P** 03 42 46.2 **+0.9**
baz=88,SNR=283
S16A Weppner Ranch, 88.42 51 ⇑P **P** 03 42 46.1 **+0.8**
baz=88,SNR=299
SIRT Sirnak 88.44 309 *e*P **P** 03 42 45.7 **+0.3**
N18A Larsen Ranch, 88.50 47 ⇑P **P** 03 42 45.5 **-0.2**
baz=88,SNR=128
O18A Roosevelt 88.56 48 ⇑P **P** 03 42 46.5 **+0.6**
baz=88,SNR=144
BHD Baghdad 88.57 305 *i* x x 03 42 47.0
BHD *i* x x 03 53 14.0
FCC Fort Churchill 88.57 27 *e*P **P** 03 42 44.8 **-0.7**
FCC *e**PP pP 03 43 38.8 -1.0
FCC pmax pmax
comp=Z,523nm,1.1s,mb6.3
FCC Fort Churchill 88.57 27 *e*P **P** 03 42 44.8 **-0.7**
comp=Z,523nm,1.1s,mb6.3
FCC *e*pP pP 03 43 38.8 -1.0
113A Mohawk Valley, 88.64 56 ⇑P **P** 03 42 46.4 **0.0**
baz=89,SNR=112
P18A Preston Nutter 88.64 48 ⇓P **P** 03 42 47.0 **+0.7**
baz=89,SNR=169
M19A Rock Springs 88.64 46 ⇓P **P** 03 42 46.4 **+0.1**
baz=89,SNR=20
SRU San Rafael 88.65 49 *e*P **P** 03 42 45.8 **-0.6**
SRU *e*S SKSac 03 52 54.3 -0.2
SRU pmax pmax
comp=Z,175nm,0.6s,mb6.1
SRU San Rafael 88.65 49 ⇓P **P** 03 42 46.4 **+0.1**
baz=89,SNR=365
SRU San Rafael 88.65 49 *e*P **P** 03 42 45.8 **-0.6**
comp=Z,257nm,0.6s,mb6.2
SRU *e*S SKSac 03 52 54.3 -0.2
SUMG Summit 88.66 1 *e*P **P** 03 42 45.5 **-0.2**
comp=Z,4µm,2.5s,mb6.8
SUMG *e*pP pP 03 43 42.4 +2.4
X14A Yava 88.69 54 ⇑P **P** 03 42 47.9 **+1.3**
baz=89,SNR=480
V15A Kaibab Nationa 88.72 53 ⇓P **P** 03 42 47.7 **+0.9**
baz=89,SNR=442
T16A Glen Canyon Da 88.77 51 ⇓P **P** 03 42 46.8 **-0.2**
baz=89,SNR=60
DGMT Dagmar 88.78 39 ⇓P **P** 03 42 45.9 **-0.8**
baz=89,SNR=37
DGMT Dagmar 88.78 39 *e*P **P** 03 42 45.8 **-1.0**
comp=Z,34nm,1.3s,mb5.0
DGMT *e*pP pP 03 43 40.2 -0.9
R17A Hanksville Air 88.79 50 ⇓P **P** 03 42 47.0 **-0.1**
baz=89,SNR=407
Y14A Wickenburg 88.80 55 ⇑P **P** 03 42 47.2 **0.0**
baz=89,SNR=728
BNGL BINGOL 88.81 311 *i* P **P** 03 42 46.9 **-0.2**
KOPT Kop Dagi 88.85 312 *i* P **P** 03 42 46.7 **-0.6**
N19A John Jarvie Ra 88.88 47 ⇓P **P** 03 42 46.7 **-0.7**
baz=89,SNR=144
W15A Williams 88.89 53 ⇓P **P** 03 42 48.6 **+1.0**
baz=89,SNR=262
ANN Anapa 88.90 317 ⇑*i* P **P** 03 42 44.4 **-3.0**
ANN *i* pP 03 43 37.4 -4.3
ANN *i* S SKSac 03 52 51.4 -4.4
ANN pmax pmax
comp=Z,39µm,11.0s
ANN pmax pmax
comp=Z,3µm,1.0s,mb7.1
CASY Casey 88.92 193 *e*P **P** 03 42 46.3 **-0.5**
CASY *e*PP PP 03 46 15.9 -4.0
CASY *e*S S 03 53 12.9 -2.1
Q18A Rafter H Ranch 88.93 49 ⇑P **P** 03 42 47.5 **-0.2**
baz=89,SNR=168
KTUT Trabzon 88.96 313 *e*P **P** 03 42 44.2 **-3.6**
MACK Trabzon 88.98 313 *i* P **P** 03 42 46.1 **-1.8**
S17A Black Ridge (B 89.03 50 ⇓P **P** 03 42 48.3 **+0.2**
baz=89,SNR=264
Z14A Wintersburg 89.06 55 ⇓P **P** 03 42 48.6 **+0.2**
baz=89,SNR=231
BEST Besiri 89.14 310 *i* P **P** 03 42 49.1 **+0.4**
O19A Miners Draw (B 89.16 47 ⇑P **P** 03 42 48.4 **-0.3**
baz=89,SNR=172
X15A Humboldt 89.18 54 ⇑P **P** 03 42 49.3 **+0.4**
baz=89,SNR=926
T17A Navajo Res., N 89.28 51 ⇑P **P** 03 42 49.5 **+0.1**
baz=89,SNR=341
Y15A Casa Rosa Ranc 89.31 54 ⇑P **P** 03 42 49.9 **+0.4**
baz=89,SNR=503
U16A Tuba City 89.38 52 ⇑P **P** 03 42 50.6 **+0.8**
baz=89,SNR=143
GUMT Gumushane 89.38 313 *e*P **P** 03 42 47.5 **-2.2**
R18A Canyonlands Na 89.39 49 ⇑P **P** 03 42 50.0 **+0.2**
baz=89,SNR=326
EZC Erzincan 89.43 312 *e*P **P** 03 42 50.8 **+0.8**
WUAZ Wupatki 89.44 53 ⇑P **P** 03 42 51.2 **+1.1**
baz=89,SNR=310
WUAZ Wupatki 89.44 53 *e*P **P** 03 42 50.5 **+0.3**
comp=Z,702nm,1.1s,mb6.4
WUAZ *e*pP pP 03 43 46.5 +2.1
W16A Flagstaff 89.48 53 ⇓P **P** 03 42 51.5 **+1.1**
baz=90,SNR=90
P19A Cripple Cowboy 89.53 48 ⇓P **P** 03 42 51.2 **+0.7**
baz=90,SNR=400
U17A Shonto 89.54 51 ⇓P **P** 03 42 50.5 **-0.1**
baz=90,SNR=204
S18A Hurst Farm, BI 89.60 50 ⇓P **P** 03 42 50.5 **-0.3**
baz=90,SNR=192
MNK Minsk 89.60 329 ⇑*i* P **P** 03 42 47.0 **-3.5**
MNK *e* 03 46 26.0
MNK *e* 03 52 50.0
MNK *e*S S 03 53 16.0 -6.1
MNK *e*PPS 03 55 00.0
MNK pmax pmax
comp=N,260nm,1.0s
MNK pmax pmax
comp=E,320nm,1.0s
MNK pmax pmax
comp=Z,1µm,1.0s,mb6.6
MNK smax
comp=E,24µm,8.0s
MNK smax
comp=N,18µm,9.0s
MNK MLR MLR
comp=Z,84µm,20.0s
Q19A Hogan Spring (89.61 49 ⇓P **P** 03 42 50.3 **-0.6**
baz=90,SNR=235
214A Organ Pipe Nat 89.69 56 ⇑P **P** 03 42 51.7 **+0.3**
baz=90,SNR=252
Z15A Gila River Ind 89.69 55 ⇑P **P** 03 42 51.8 **+0.5**
baz=90,SNR=47
ESPY Espiye-Giresun 89.70 313 *e*P **P** 03 42 47.8 **-3.5**
MARD Mardin 89.73 310 *i* P **P** 03 42 50.2 **-1.2**
X16A Lo Mia Camp, P 89.81 54 ⇑P **P** 03 42 52.5 **+0.6**
baz=90,SNR=234
115A Sonoran Desert 89.86 55 ⇓P **P** 03 42 53.0 **+0.8**
baz=90,SNR=213
R19A Curley Farm, L 89.89 49 ⇑P **P** 03 42 52.3 **+0.1**
baz=90,SNR=84
RWWY Rawlins 89.89 46 *e*P **P** 03 42 51.9 **-0.2**
comp=Z,9µm,1.2s,mb7.5
RWWY *e*S SKSac 03 53 02.8 +1.2
T18A Mexican Hat 89.91 51 ⇓P **P** 03 42 52.4 **+0.1**
baz=90,SNR=178
DIYA Diyarbakir 89.96 310 *i* P **P** 03 42 51.4 **-1.2**
Y16A Circle Bar Ran 89.99 54 ⇓P **P** 03 42 53.8 **+1.1**
baz=90,SNR=248
PV10 Paradox Valley 90.01 49 *e*P **P** 03 42 52.5 **-0.2**
comp=Z,96nm,0.9s,mb5.6
GRSN GIRESUNGRSN 90.02 314 *i* P **P** 03 42 49.6 **-3.1**
PTK Pertek 90.09 311 *e*P **P** 03 42 51.7 **-1.4**
W17A Winslow 90.11 53 ⇑P **P** 03 42 54.2 **+1.0**
baz=90,SNR=44
S19A Harvey Farm, M 90.20 50 ⇓P **P** 03 42 53.9 **+0.3**
baz=90,SNR=202
U18A Rough Rock, Ch 90.20 51 ⇑P **P** 03 42 54.5 **+0.9**
baz=90,SNR=159
Z16A Peralta Trail, 90.24 55 ⇓P **P** 03 42 54.7 **+0.8**
baz=90,SNR=143
116A Eloy 90.33 55 ⇓P **P** 03 42 55.2 **+0.8**
baz=90,SNR=35
X17A Forest Lakes 90.33 53 ⇓P **P** 03 42 55.1 **+0.8**
baz=90
SVRC Sivrice-ELAZID 90.36 311 *e*P **P** 03 42 51.4 **-3.0**
V18A Ganado 90.44 52 ⇑P **P** 03 42 55.5 **+0.7**
baz=90,SNR=231
PV01 Paradox Valley 90.45 49 *e*P **P** 03 42 54.4 **-0.4**
comp=Z,612nm,1.0s,mb6.4
ELZG Elazig 90.54 311 *i* P **P** 03 42 54.2 **-0.9**
Y17A Roosevelt 90.55 54 ⇓P **P** 03 42 56.2 **+0.8**
baz=90,SNR=242
KEMA Kemaliye 90.56 312 *i* P **P** 03 42 54.3 **-1.0**
T19A Beclabito 90.65 51 ⇓P **P** 03 42 56.5 **+0.7**
baz=91,SNR=348
216A Three Points, 90.73 56 ⇑P **P** 03 42 57.2 **+0.9**
baz=91,SNR=206
W18A Petrified Fore 90.82 52 ⇓P **P** 03 42 57.5 **+1.0**
baz=91,SNR=20
MVCO Mesa Verde 90.88 50 ⇑P **P** 03 42 57.3 **+0.5**
baz=91,SNR=68
MVCO Mesa Verde 90.88 50 *e*P **P** 03 42 57.0 **+0.2**
comp=Z,1µm,0.6s,mb7.0
RSSD Black Hills 90.89 42 *e*P **P** 03 42 55.7 **-1.0**
RSSD pmax pmax
comp=Z,91nm,0.6s,mb5.9
RSSD Black Hills 90.89 42 *e*P **P** 03 42 55.7 **-1.0**
comp=Z,91nm,0.6s,mb5.9
X18A Snowflake 90.90 53 ⇑P **P** 03 42 57.6 **+0.7**
baz=91,SNR=134
AKASG Malin Array Be 90.92 325 P **P** 03 42 54.4 **-2.3**
comp=Z,18nm,0.5s,mb5.2,baz=50,slow=4.9,SNR=55
AKASG pP pP 03 43 45.8 -5.2
comp=Z,41nm,0.7s,baz=45,slow=4.9,SNR=1.9
AKASG ScS ScS 03 53 28.4 -8.6
comp=Z,5.2nm,0.9s,baz=52,slow=9.1,SNR=4.4
AKASG PKKPbc PKKPbc 04 00 16.9 -4.5
comp=Z,5.9nm,0.5s,baz=258,slow=2.8,SNR=13
AKASG tx tx 04 01 20.1
comp=Z,3.4nm,0.6s,baz=258,slow=2.8,SNR=4.2
AKASG PKPPKP 04 08 21.7
comp=Z,4.0nm,1.0s,baz=253,slow=2.1,SNR=4.4
AKASG Malin Array Be 90.92 325 P **P** 03 42 54.4 **-2.3**
AKASG 03 53 28.5
AKASG pmax pmax
comp=Z,18nm,0.5s
AKASG Malin Array Be 90.92 325 P **P** 03 42 54.4 **-2.3**
AKASG pP pP 03 43 45.8 -5.2
AKASG ScS ScS 03 53 28.4 -8.6
AKASG PKKPbc PKKPbc 04 00 16.9 -4.5
AKASG P'P' 04 08 21.7
AKBB Malin Array Si 90.92 325 *e*P **P** 03 42 55.6 **-1.1**
AKBB *e**PP pP 03 43 50.0 -1.0
KIEV Kiev 90.93 325 *e*P **P** 03 42 55.7 **-1.0**
KIEV pmax pmax
comp=Z,350nm,1.4s,mb6.1
KIEV Kiev 90.93 325 *e*P **P** 03 42 55.7 **-1.1**
comp=Z,350nm,1.4s,mb6.1
SIM Simferopol' 90.94 319 *c* *i*P **P** 03 42 54.4 **-2.5**
SIM *i* S SKSac 03 53 03.5 -4.0
SIM *i* PS SP 03 54 39.0 -4.4
SIM pmax pmax
comp=Z,100nm,0.9s,mb5.8
Z17A San Carlos Hig 90.99 54 ⇓P **P** 03 42 58.3 **+0.9**
baz=91,SNR=41
117A Oracle 91.07 55 ⇓P **P** 03 42 58.3 **+0.6**
baz=91,SNR=147
W19A Sanders 91.09 52 ⇓P **P** 03 42 58.4 **+0.6**
baz=91,SNR=26
V19A Window Rock 91.10 52 ⇓P **P** 03 42 58.3 **+0.5**
baz=91,SNR=44
URFA Urfa 91.10 310 *e*P **P** 03 42 55.7 **-2.1**
Y18A Canyon Day Jun 91.14 54 ⇑P **P** 03 42 59.2 **+1.2**
baz=91,SNR=298
SMCO Snowmass 91.14 48 *e*P **P** 03 42 58.0 **0.0**
comp=Z,61nm,1.5s,mb5.3
TUC Tucson 91.14 55 *e*P **P** 03 42 58.1 **0.0**
TUC pmax pmax
comp=Z,402nm,1.4s,mb6.2
TUC Tucson 91.14 55 *e*P **P** 03 42 58.1 **0.0**
comp=Z,402nm,1.4s,mb6.2
TUC *e*pP pP 03 43 51.9 -0.5
DARE Darende-Malaty 91.18 312 *e*P **P** 03 42 57.4 **-0.7**
PHWY Pilot Hill 91.25 45 *e*P **P** 03 42 58.3 **-0.1**
comp=Z,90nm,1.1s,mb5.6
PHWY *e*pP pP 03 43 51.4 -1.4
217A Green Valley 91.33 56 ⇓P **P** 03 43 00.0 **+1.0**
baz=91,SNR=326
SVSK Karacayir 91.33 313 *e*P **P** 03 42 57.5 **-1.3**
AKCD Akcadag 91.38 311 *i* P **P** 03 42 58.4 **-0.7**
Z18A Geronimo 91.41 54 ⇑P **P** 03 43 00.2 **+0.8**
baz=91,SNR=40
X19A St. Johns 91.44 53 ⇑P **P** 03 43 00.4 **+0.9**
baz=91,SNR=197
KVT Kavak 91.46 314 *e*P **P** 03 42 55.0 **-4.4**
TOKT Tokat 91.46 314 *e*P **P** 03 42 57.5 **-1.9**
ATAB Bozova 91.47 310 *i* P **P** 03 42 58.2 **-1.3**
118A Homack Ranch, 91.64 55 ⇑P **P** 03 43 01.3 **+0.9**
baz=92,SNR=291
DIKM Dikmen 91.73 315 *e*P **P** 03 42 58.0 **-2.6**
ISCO Idaho Springs 91.81 47 *e*P **P** 03 43 01.4 **+0.4**
ISCO *e*S SKSac 03 53 15.2 +2.5
ISCO pmax pmax
comp=Z,68nm,0.9s,mb5.6
ISCO Idaho Springs 91.81 47 *e*P **P** 03 43 01.4 **+0.3**
comp=Z,68nm,0.9s,mb5.6
ISCO *e*S SKSac 03 53 15.2 +2.6
218A Dragoon 91.85 55 ⇑P **P** 03 43 02.4 **+1.0**
baz=92,SNR=131
Z19A T-Link Ranch, 91.92 54 ⇓P **P** 03 43 02.6 **+0.9**
baz=92,SNR=45
GZT Gaziantep 92.04 311 *i* P **P** 03 43 00.8 **-1.3**
SARI SarD1z-Kayseri 92.08 312 *e*P **P** 03 43 00.7 **-1.6**
119A Ashpeak Ranch, 92.10 54 ⇑P **P** 03 43 03.3 **+0.8**
baz=92,SNR=272
318A Bisbee 92.10 56 ⇑P **P** 03 43 03.6 **+1.0**
baz=92,SNR=281
SUW Suwalki 92.12 330 *e*P **P** 03 43 00.7 **-1.4**
SUW *e*pP pP 03 43 52.4 -4.1
SUW *e*SKS 03 53 10.2
SUW *e*S S 03 53 36.1 -8.8
SUW *e*SP SP 03 54 48.2 -7.7
SUW *e*PS PS 03 55 10.3 -14
SUW LMZ 04 35 58.5
comp=Z,30µm,19.4s
SUW Suwalki 92.12 330 *e*P **P** 03 43 00.7 **-1.4**
SUW *e* 03 53 10.2
SUW *e*S S 03 53 36.1 -8.8
SUW Suwalki 92.12 330 *e*P **P** 03 43 00.7 **-1.4**
SUW *e*pP pP 03 43 52.4 -4.1
SUW *e*SKS 03 53 10.2
SUW *e*S S 03 53 36.1 -8.8
SUW *e*SP SP 03 54 48.2 -7.7
SUW *e*PS PS 03 55 10.3 -14
BYBT Boyabat 92.14 315 *e*P **P** 03 43 01.1 **-1.4**
DOMB Dombas 92.16 341 *e*P **P** 03 43 02.2 **0.0**
DOMB *e*pP pP 03 43 54.7 -1.9
MOL Molde 92.22 342 *e*P **P** 03 43 02.2 **-0.2**
MOL *i* 03 47 33.7
MOL *i* *e*SKS 03 53 10.3
NB2 NORSAR Subarra 92.23 340 P **P** 03 43 02.0 **-0.5**
comp=Z,45nm,0.6s,mb5.6,baz=44,slow=5.1
NOA NORSAR Array B 92.23 340 P **P** 03 43 00.1 **-2.3**
comp=Z,34nm,0.5s,mb5.5,baz=46,slow=4.6,SNR=106
NOA pP pP 03 43 53.6 -3.2
comp=Z,25nm,1.0s,baz=51,slow=4.2,SNR=2.3
NOA PP PP 03 46 49.4 +4.1
comp=Z,52nm,1.0s,baz=36,slow=7.6,SNR=3.3
NOA PKKPbc PKKPbc 04 00 18.2 -0.3
comp=Z,6.3nm,0.7s,baz=90,slow=3.1,SNR=12
NOA PKPPKP 04 08 27.1
comp=Z,1.6nm,0.8s,baz=232,slow=2.1,SNR=4.4
PINB Pinarbasi 92.29 312 *i* P **P** 03 43 02.5 **-0.7**
GAZ Gaziantep 92.38 311 *e*P **P** 03 42 59.2 **-4.5**
BZK Bozkurt 92.42 316 *e*P **P** 03 43 01.5 **-2.3**
219A White Tail Can 92.45 55 ⇑P **P** 03 43 05.1 **+0.9**
baz=92,SNR=211
KMRS Kahramanmaras 92.45 311 *e*P **P** 03 43 00.4 **-3.6**
NAO01 NORSAR Array S 92.48 340 *e*P **P** 03 43 02.3 **-1.4**
comp=Z,18nm,0.3s,mb5.5
CTKT Corum 92.52 315 *i* P **P** 03 43 01.5 **-2.8**
ULM Lac du Bonnet 92.56 34 P **P** 03 43 03.0 **-1.2**
comp=Z,97nm,0.8s,mb5.9,baz=304,slow=5.1,SNR=38
ULM pP pP 03 43 55.7 -3.0
comp=Z,127nm,0.8s,baz=310,slow=7.9,SNR=1.4
ULM Lac du Bonnet 92.56 34 *e*P **P** 03 43 02.9 **-1.4**
comp=Z,129nm,0.8s,mb6.0
ULM *e*pP pP 03 43 58.0 -0.6
BNN Bunyan 92.60 313 *e*P **P** 03 43 02.2 **-2.5**
319A Douglas 92.69 56 ⇓P **P** 03 43 05.9 **+0.6**
baz=93,SNR=80
SDCO Great Sand Dun 92.80 49 *e*P **P** 03 43 05.4 **-0.2**
comp=Z,19nm,2.0s,mb4.8
SDCO *e*pP pP 03 43 59.9 -0.2
ANDN Andirin 92.82 311 *i* P **P** 03 43 04.6 **-1.1**
CORM Corum 92.83 314 *e*P **P** 03 43 01.0 **-4.7**
TOS Tosya 92.84 315 *e*P **P** 03 43 08.6 **+2.8**
BALT Daday 93.03 316 *i* P **P** 03 43 05.3 **-1.3**
ILGA Ilgaz 93.04 315 *i* P **P** 03 43 05.5 **-1.2**
LAZ Ladron 93.06 52 *e*P **P** 03 43 07.3 **+0.4**
comp=Z,42nm,0.8s,mb5.5
LAZ *e*pP pP 03 44 03.2 +1.9
PTCN Pitcairn Islan 93.11 115 *e*P **P** 03 43 10.7 **+3.5**
comp=Z,1µm,0.8s,mb7.0
PTCN *e*pP pP 03 44 01.5 -0.2
KIS Kishinev 93.11 322 ⇑*i*P **P** 03 43 05.0 **-1.9**
KIS *i* 03 53 17.0
KIS pmax pmax
comp=Z,2µm,13.0s
KIS pmax pmax

comp=Z,3µm,18.0s
KIS Kishinev 93.11 322 ⇑*i* P **P** **03 43 05.0 -1.9**
comp=Z,2µm,13.0s
KIS *i* pP pP 03 43 57.0 -4.3
KIS Kishinev 93.11 322 *i* PP PP 03 47 40.0 +47
comp=Z,7µm,20.0s
KIS Kishinev 93.11 322 *i* PS PS 03 55 16.0 -20
KIS LRM 04 35 18.0
comp=Z,13µm,16.0s
CDAG Cicekdag 93.26 314 *i* P **P** **03 43 07.5 -0.2**
LENM Lemitar 93.29 52 *e*P **P** **03 43 08.5 +0.5**
comp=Z,112nm,1.4s,mb5.7
CANT Cankiri 93.31 315 *e*P **P** **03 43 06.4 -1.5**
AVNT Avonos 93.32 313 *i* P **P** **03 43 03.3 -4.7**
ANMO Albuquerque 93.33 51 PKKPbc PKKPbc 04 00 12.4 -2.3
comp=Z,7.5nm,1.0s,baz=149,slow=4.4,SNR=5.4
ANMO Albuquerque 93.33 51⇑*e*P **P** **03 43 08.6 +0.4**
ANMO Albuquerque 93.33 51 *e*P **P** **03 43 08.0 -0.2**
comp=Z,52nm,0.7s,mb5.7
SFJD Kangerlussuaq 93.48 6 *i* P **P** **03 43 08.3 +0.2**
SFJD *i* S SKSac 03 53 16.7 -4.1
SFJD pmax pmax
comp=Z,170nm,0.8s,mb6.1
SFJD MLR MLR
comp=Z,13µm,22.0s
SFJD Kangerlussuaq 93.48 6 *i* P **P** **03 43 08.3 +0.2**
comp=Z,172nm,0.8s,mb6.1
SFJD *i* pP 03 43 57.9 -4.6
SFJD *i* S SKSac 03 53 16.7 -4.1
SFJD
comp=Z,13µm,22.0s
LPM Los Pinos Moun 93.48 52 *e*P **P** **03 43 08.7 -0.2**
comp=Z,118nm,1.3s,mb5.8
CEYT Ceyhan 93.50 311 *e*P **P** **03 43 07.3 -1.5**
ELDT Eldivan 93.50 315 *i* P **P** **03 43 07.4 -1.4**
ELDT *i* P 03 43 07.4
BNM Barren Site 93.56 52 *e*P **P** **03 43 09.4 +0.2**
comp=Z,310nm,0.6s,mb6.5
BNM *e*pP pP 03 44 03.7 +0.1
HTY Hatay 93.61 310 *e*P **P** **03 43 10.7 +1.3**
SAFT Safranbolu 93.63 316 *e*P **P** **03 43 08.2 -1.1**
AGMN Agassiz Refuge 93.65 36 *e*P **P** **03 43 08.2 -1.1**
comp=Z,187nm,1.0s,mb6.1
AGMN *e*pP pP 03 44 03.0 -0.8
OGNE Ogallala 93.70 44 *e*P **P** **03 43 09.4 -0.3**
comp=Z,175nm,1.2s,mb6.0
MIR Mirnyy 93.71 199α *i*P **P** **03 43 09.0 0.0**
MIR *i* 03 46 54.0
MIR *i* PPP 03 48 56.0
MIR *i* S S 03 54 00.0 +2.0
MIR *i* PS PS 03 55 18.0 -24
MIR pmax pmax
comp=Z,1µm,1.8s,mb6.7
MIR pmax pmax
comp=Z,13µm,14.0s
BR131 Keskin Array S 93.72 314 *e*P **P** **03 43 07.0 -2.8**
comp=Z,6.9nm,0.3s,mb5.2
BR131 *e*pP pP 03 44 03.4 -0.8
HYA Hoyanger 93.72 341 *e*P **P** **03 43 10.9 +1.5**
HYA AMb AMB 03 43 18.0
comp=Z,162nm,1.1s,mb6.0
KONO Kongsberg 93.80 339⇑ *i*P **P** **03 43 09.2 -0.6**
NIG Nigde 93.80 312 *e*P **P** **03 43 08.9 -1.3**
KAMT Kaman 93.83 314 *e*P **P** **03 43 08.1 -2.3**
KARA Karaisali 93.88 311 *e*P **P** **03 43 07.7 -3.0**
TLCR 94.07 321⇓ *i*P **P** **03 43 09.5 -1.8**
TLCR 94.07 321 *i* P **P** **03 43 10.0 -1.4**
LVV L'vov 94.18 326 *e*P **P** **03 43 12.5 +0.8**
LVV *e* 03 47 03.1
LVV *e* 03 53 18.7
LVV *e*S S 03 54 00.5 -2.7
LVV MLR MLR
comp=N,16µm,19.0s
LVV MLR MLR
comp=Z,21µm,19.0s
LVV MLR MLR
comp=E,16µm,18.0s
ANTO Ankara 94.22 315 *e*P **P** **03 43 09.1 -3.1**
ANTO Ankara 94.22 315 P **P** **03 43 11.5 -0.6**
SNR=14
ANTO Ankara 94.22 315 P **P** **03 43 11.2 -0.9**
ANTO Ankara 94.22 315⇑ *i*P **P** **03 43 10.5 -1.6**
SUE Sulen 94.23 342 *e*P **P** **03 43 12.7 +1.0**
SUE *e*pP pP 03 44 04.8 -1.3
LOD Lodumlu 94.23 315 *e*P **P** **03 43 04.0 -8.1**
WAR Warsaw 94.23 329 *e*P **P** **03 43 11.6 -0.3**
WAR *e*pP pP 03 44 05.0 -1.3
WAR *e*SKS 03 53 22.1
WAR *e*S S 03 53 57.2 -6.3
WAR LMZ 04 36 07.1
comp=E,34µm,21.1s
WAR Warsaw 94.23 329 *e*P **P** **03 43 11.5 -0.4**
WAR *e* 03 53 22.1
WAR *e*S S 03 53 57.2 -6.3
WAR Warsaw 94.23 329 *e*P **P** **03 43 11.5 -0.4**
WAR *e*pP pP 03 44 05.0 -1.3
WAR *e*SKS 03 53 22.1
WAR *e*S S 03 53 57.2 -6.3
WAR LR LR
comp=Z,34µm,21.1s
KDZE Karadeniz Ereo 94.41 316 *e*P **P** **03 43 06.4 -6.5**
MERS Mersin 94.44 311 *e*P **P** **03 43 08.8 -4.3**
ASK Askoy 94.56 341 *e*P **P** **03 43 13.6 +0.4**
RUND Rundenannen 94.56 341 *e*P **P** **03 43 17.1 +3.9**
RUND AMb AMB 03 43 22.1
comp=Z,107nm,1.3s,mb5.8
RUND *e*pP pP 03 44 07.6 0.0
ODD1 Odda 94.57 341 *e*P **P** **03 43 12.5 -0.8**
ODD1 *e*pP pP 03 44 08.4 +0.7
HWQ Hawqa 94.57 308 *e*P **P** **03 43 12.0 -1.8**
TIRR Tirgusor 94.70 320⇓ *i*P **P** **03 43 11.7 -2.5**
TIRR Tirgusor 94.70 320 ⇓P **P** **03 43 11.7 -2.5**
TIRR ⇑P 04 00 09.5
EGD Espegrend 94.72 341 *e*P **P** **03 43 14.8 +0.8**
LPIG La Paz 94.74 63 P **P** **03 43 15.6 +0.8**
comp=Z,30nm,0.3s,mb5.9,baz=359,slow=2.0,SNR=23
LPIG pP pP 03 44 08.7 -0.5
comp=Z,146nm,1.0s,baz=260,slow=4.5,SNR=1.7
BUR08 Bucovina Ar. S 94.81 324 *e*P **P** **03 43 13.0 -1.6**
BUR08 *e*pP pP 03 44 09.0 -0.1
BUR08 *e*PKKPdf PKKPdf 04 00 09.3 -0.4
BURAR Bucovina Array 94.82 324⇓ *i*P **P** **03 43 13.1 -1.6**
BURAR Bucovina Array 94.82 324 *i* P **P** **03 43 13.3 -1.4**
HARR Harsova 94.87 321⇑ *i*P **P** **03 43 13.3 -1.7**
HARR Harsova 94.87 321 P **P** **03 43 13.6 -1.4**
VRI Vrincioaia 94.94 322⇓ *i*P **P** **03 43 15.9 +0.6**
VRI Vrincioaia 94.94 322 P **P** **03 43 13.9 -1.3**
BHL Bhannes 94.96 308 *e*P **P** **03 43 13.5 -2.1**
KWP Kalwaria 94.98 327 *e*P **P** **03 43 14.2 -1.2**
KWP *e*pP pP 03 44 05.9 -3.9
KWP *e*SKS 03 53 25.9
KWP *e*S S 03 54 04.9 -5.3
KWP *e*SP SP 03 55 23.9 -3.7
KWP LMZ 04 28 52.8
comp=Z,37µm,20.5s
KWP Kalwaria 94.98 327⇑ *i*P **P** **03 43 13.9 -1.5**
KWP Kalwaria 94.98 327 *e*P **P** **03 43 14.2 -1.2**
KWP *e*pP pP 03 44 05.9 -3.9
KWP *e*SKS 03 53 25.9
KWP *e*S S 03 54 04.9 -5.3
KWP *e*SP SP 03 55 23.9 -3.7
PLOR Plostina 94.99 322⇑ *i*P **P** **03 43 16.0 +0.5**
BLS5 Blasjo 95.00 340 *e*P **P** **03 43 17.5 +2.2**
BLS5 *e*pP pP 03 44 08.7 -1.0
PSN Preselentsi 95.25 320 *i* P **P** **03 43 15.3 -1.5**
EREN Erenkoy 95.31 310 *e*P **P** **03 43 13.7 -3.5**
LADK Ladik-KONYA 95.32 313 *e*P **P** **03 43 13.1 -4.1**
KIZT Kizilcal 95.32 314 *e*P **P** **03 43 15.2 -2.0**
IKL Isikli 95.32 311 *e*P **P** **03 43 13.1 -4.2**
GKP Gorka Klasztor 95.33 332 *e*P **P** **03 43 15.6 -1.3**
GKP *e*pP pP 03 44 05.9 -5.4
GKP *e*SKS 03 53 28.0
GKP *e*SP SP 03 55 28.1 -3.1
GKP LMZ 04 30 36.7
comp=Z,39µm,19.5s
GKP Gorka Klasztor 95.33 332 *e*P **P** **03 43 15.6 -1.3**
GKP *e* 03 53 28.0
GKP *e*SP SP 03 55 28.1 -3.1
GKP Gorka Klasztor 95.33 332 *e*P **P** **03 43 15.6 -1.3**
GKP *e*pP pP 03 44 05.9 -5.4
GKP *e*SKS 03 53 28.0
GKP *e*SP SP 03 55 28.1 -3.1
GKP LR LR
comp=Z,39µm,19.5s
KDHN Kadinhani 95.33 314 *i* P **P** **03 43 14.8 -2.4**
KONT Konya--Tatoy 95.44 313 *e*P **P** **03 43 13.1 -4.7**
GULT Gulveren 95.46 316 *e*P **P** **03 43 12.5 -5.3**
ISR Istrita 95.46 321⇑ *i*P **P** **03 43 20.7 +3.0**
KMY Karmoy 95.55 341 *e*P **P** **03 43 20.0 +2.3**
KMY *e*pP pP 03 44 10.2 -2.1
MLR Muntele Rosu 95.60 322⇑ *i*P **P** **03 43 15.4 -2.9**
MLR Muntele Rosu 95.60 322 P **P** **03 43 18.4 +0.1**
SNART Snartemo 95.60 339 *e*P **P** **03 43 17.8 -0.2**
SNART AMb AMB 03 43 21.6
comp=Z,45nm,1.2s,mb5.6
SNART *e*pP pP 03 44 11.6 -0.9
KOLS Kolonicke sedl 95.63 326 *e*P **P** **03 43 18.3 -0.1**
KOLS *e* pP 03 44 12.8 0.0
KOLS *e*S SKSac 03 53 27.4 -5.6
KOLS Kolonicke sedl 95.63 326 *e*P **P** **03 43 18.3 -0.1**
KOLS *e*pP pP 03 44 12.8 0.0
KOLS Kolonicke sedl 95.63 326 *e*P **P** **03 43 18.3 -0.1**
KOLS *e* pP 03 44 12.8 0.0
KOLS *e*S SKSac 03 53 27.4 -5.6
KOLS *e*SP SP 03 55 06.5 -28
KOLS *e* 04 00 11.9
SILT Sile 95.66 317 *e*P **P** **03 43 15.5 -3.2**
COP Copenhagen 95.68 335 *i* P **P** **03 43 18.4 0.0**
COP *i* S SKSac 03 53 31.1 -1.9
COP pmax pmax
comp=Z,53nm,0.9s,mb5.8
COP MLR MLR
comp=Z,11µm,19.0s
COP Copenhagen 95.68 335 *i* P **P** **03 43 18.4 0.0**
comp=Z,53nm,0.9s,mb5.8
COP *i* pP 03 44 08.9 -4.0
COP *e* 03 47 59.0
COP *i* S SKSac 03 53 31.1 -1.9
COP *i* 03 55 06.1
COP
comp=Z,11µm,19.0s
ESKT Eskisehir 95.70 315 *i* P **P** **03 43 16.2 -2.7**
ECSD EROS,Sioux Fal 95.72 40 *e*P **P** **03 43 17.5 -1.4**
comp=Z,11nm,0.4s,mb5.4
ECSD *e*pP pP 03 44 14.0 +0.7
BMR Baia Mare 95.73 325⇑ *i*P **P** **03 43 22.3 +3.5**
BMR Baia Mare 95.73 325 P **P** **03 43 19.3 +0.5**
UZH Uzhgorod 95.81 326⇑ *i*P **P** **03 43 19.3 +0.2**
UZH *e* 03 47 20.0
UZH *i* 03 53 35.0
UZH *e*S S 03 54 16.0 -1.3
UZH *e*SS SS 04 00 47.0 -4.4
UZH MLR MLR
comp=N,17µm,17.0s
UZH MLR MLR
comp=E,26µm,17.0s
UZH MLR MLR
comp=Z,15µm,17.0s
HRT Hereke 95.82 317 *e*P **P** **03 43 18.2 -1.1**
HDMB Hadim 95.83 312 *e*P **P** **03 43 13.7 -5.9**
STHS Stebnicka Huta 95.87 327 *e*P **P** **03 43 20.1 +0.7**
STHS pmax pmax
comp=Z,24nm,1.1s,mb5.3
STHS Stebnicka Huta 95.87 327 PDIF **P** **03 43 20.1 +0.7**
STHS *e*pP pP 03 44 12.4 -1.5
STHS Stebnicka Huta 95.87 327 *e*P **P** **03 43 20.1 +0.7**
comp=Z,24nm,1.1s,mb5.3
STHS *e* pP 03 44 12.4 -1.5
LFK Lefkose 95.88 310 *e*P **P** **03 43 16.1 -3.7**
BORG Borgarnes 95.94 354 *e*P **P** **03 43 19.1 -0.3**
comp=Z,186nm,1.0s,mb6.3
ADVT Abdulvahap 95.97 316 *e*P **P** **03 43 16.1 -4.0**
PRD Provadia 96.00 320 *i* P **P** **03 43 18.5 -1.6**
KLYT Kilyos 96.00 317 *e*P **P** **03 43 15.6 -4.6**
CAVI Cavuskoy 96.02 316 *e*P **P** **03 43 15.8 -4.5**
BOLV Bolvadin 96.03 314 *i* P **P** **03 43 18.5 -1.9**
CRVS Cervenica-Dubn 96.08 327 *e*P **P** **03 43 18.9 -1.5**
CRVS *e*S SKSac 03 53 31.2 -4.1
CRVS Cervenica-Dubn 96.08 327 *e*P **P** **03 43 18.9 -1.5**
CRVS *e*pP pP 03 44 12.1 -2.8
CRVS Cervenica-Dubn 96.08 327 *e*PKP PKiKP 03 47 59.7 +2.0
CRVS Cervenica-Dubn 96.08 327 *e*P **P** **03 43 18.9 -1.5**
CRVS *e* pP 03 44 12.1 -2.8
CRVS *e*PP PKiKP 03 47 59.7 +2.0
CRVS *e*S SKSac 03 53 31.2 -4.1
CRVS *e*SP SP 03 55 09.3 -30
ISK Istanbul-Kandi 96.08 317 *e*P **P** **03 43 15.5 -5.1**
OJC Ojcow 96.10 328 *e*P **P** **03 43 18.0 -2.4**
OJC *e* 03 53 31.4
OJC Ojcow 96.10 328 *e*Pdif **P** **03 43 18.0 -2.4**
OJC P 03 43 21.1
OJC *e*pP pP 03 44 09.6 -5.3
OJC *e*PP PKiKP 03 48 01.5 +3.8
OJC *e*SKSac SKSac 03 53 31.4 -4.0
OJC *e*S SP 03 55 06.4 -33
OJC *e*PS PS 03 56 34.1 +26
OJC LR LR
comp=Z,28µm,19.8s
RGN Rugen 96.14 334 *e*pPP PKiKP 03 48 00.4 +2.8
RGN *e*SKS SKSac 03 53 31.6 -3.8
YLV Yalova 96.14 316 *e*P **P** **03 43 17.1 -3.7**
VOIR 96.15 322⇑ *i*P **P** **03 43 19.9 -0.9**
VOIR 96.15 322 P **P** **03 43 20.8 0.0**
CSS Prodhromos 96.18 310 P **P** **03 43 18.0 -3.1**
BGKT Bogazkoy 96.21 317 *e*P **P** **03 43 18.5 -2.7**
EYMN Ely 96.24 34 *e*P **P** **03 43 20.5 -0.6**
comp=Z,197nm,1.8s,mb6.0
EYMN *e*pP pP 03 44 15.6 0.0
CBKS Cedar Bluff 96.29 45 *e*P **P** **03 43 20.3 -1.3**
CBKS pmax pmax
comp=Z,148nm,1.2s,mb6.1
CBKS Cedar Bluff 96.29 45 *e*P **P** **03 43 20.3 -1.2**
comp=Z,148nm,1.2s,mb6.1
GEMT Gemlik 96.33 316 *e*P **P** **03 43 16.7 -5.0**
NIE Niedzica 96.35 327 *e*Pdiff **P** **03 43 20.2 -1.4**
NIE *e*pP pP 03 44 14.8 -1.3
CTKS Kestanelik-??a 96.35 317 *e*P **P** **03 43 18.5 -3.3**
MUD Monsted U'grnd 96.36 337 *i* P **P** **03 43 19.6 -1.9**
MUD *i* S SKSac 03 53 35.6 -0.9
MUD MLR MLR
comp=Z,29µm,19.0s
MUD Monsted U'grnd 96.36 337 *i* P **P** **03 43 19.6 -1.9**
MUD *i* pP 03 44 11.4 -4.6
MUD *e* 03 48 00.5
MUD *i* S SKSac 03 53 35.6 -0.9
MUD *i* 03 55 11.9
MUD
comp=Z,29µm,19.0s
MUD Monsted U'grnd 96.36 337 *i* P **P** **03 43 19.6 -1.9**
MUD *i* pP 03 44 11.4 -4.6
MUD *e* 03 48 00.5
MUD *i* S SKSac 03 53 35.6 -0.9
MUD *i* 03 55 11.9
CTYL Yal??k??y-??at 96.36 318 *e*P **P** **03 43 18.2 -3.6**
SHUT Suhut-Afyon 96.38 314 *e*P **P** **03 43 18.7 -3.3**
LEF Lefka 96.42 310 *e*P **P** **03 43 17.9 -4.4**
ALT Altintas 96.43 315 *e*P **P** **03 43 19.7 -2.5**
ELBA Catalca 96.45 317 *i* P **P** **03 43 19.7 -2.5**
ULDT Uludag 96.51 316 *i* P **P** **03 43 20.4 -2.2**
SLVT Silivri 96.54 318 *e*P **P** **03 43 20.3 -2.4**
LRW Lerwick 96.64 344 *e*P **P** **03 43 22.0 -0.7**
LRW AMb AMB 03 43 28.0
comp=Z,180nm,1.7s,mb6.0
WAL1 Walls 96.65 344 *e*P **P** **03 43 22.5 -0.3**
DRGR 96.68 324⇑ *i*P **P** **03 43 21.3 -1.9**
DRGR 96.68 324 P **P** **03 43 23.2 +0.1**
TKTP Tekketepe 96.80 314 *i* P **P** **03 43 20.6 -3.3**
GDZ Gediz 96.83 315 *i* P **P** **03 43 21.8 -2.2**
SZH Strazhica 96.85 320 *i* P **P** **03 43 22.0 -2.0**
AMTX Amarillo 96.86 50 *e*P **P** **03 43 23.9 -0.3**
comp=Z,198nm,1.1s,mb6.3
AMTX *e*pP pP 03 44 19.5 +0.7
JMB Yambol 96.90 319 *i* P **P** **03 43 23.0 -1.2**
JMB Yambol 96.90 319 P **P** **03 43 21.5 -2.7**
JMB P 03 43 27.0
BCK Bucak 96.90 313 *e*P **P** **03 43 20.3 -4.1**
RAC Raciborz 96.98 329 *e*P **P** **03 43 23.0 -1.4**
RAC *e* 03 53 38.9
RAC *e*S S 03 54 25.0 -2.3
RAC Raciborz 96.98 329 *e*Pdif **P** **03 43 23.0 -1.4**
RAC *e*pP pP 03 44 15.8 -3.1
RAC *e*SKSac SKSac 03 53 38.9 -1.1
RAC *e*S S 03 54 25.0 -2.3
RAC LR LR
comp=Z,30µm,18.0s
EDRB Edirne 97.14 319 *e*P **P** **03 43 22.7 -2.6**
ANTB Antalya 97.14 313 *e*P **P** **03 43 20.3 -5.2**
OKC Ostrava-Krasne 97.16 329 *i* P **P** **03 43 25.1 -0.2**
OKC *e* 03 53 39.6
OKC MLR MLR
comp=Z,17µm,18.4s
OKC Ostrava-Krasne 97.16 329 *e*P **P** **03 43 25.1 -0.2**
OKC *e*pP pP 03 44 17.7 -2.1
OKC *e*SKS 03 53 39.6
OKC AMS AMS 04 30 30.0
comp=Z,17µm,18.4s
OKC Ostrava-Krasne 97.16 329 *e*Pdif **P** **03 43 25.1 -0.2**
OKC *e*pP pP 03 44 17.7 -2.1
OKC *e*SKS 03 53 39.6
KHAL Karahalli 97.19 315 *i* P **P** **03 43 23.1 -2.6**
BNT Bandirma 97.19 317 *e*P **P** **03 43 24.2 -1.4**
KZIT Kziot 97.25 306 P **P** **03 43 28.0 +1.9**
MRMT Marmara Adasi 97.27 317 *e*P **P** **03 43 21.5 -4.4**
DEMI Demirci 97.36 315 *i* P **P** **03 43 23.9 -2.5**
MFT Murefte 97.37 318 *e*P **P** **03 43 22.1 -4.3**
KSP Ksiaz 97.39 330 *e*P **P** **03 43 24.7 -1.5**
KSP *e*pP pP 03 44 16.7 -4.1
KSP *e*SKS 03 53 40.0
KSP *e*S S 03 54 26.4 -4.4
KSP LMZ 04 31 00.6
comp=Z,50µm,19.2s
KSP Ksiaz 97.39 330⇑ *e*P **P** **03 43 24.8 -1.4**
KSP *e* 03 44 14.0
KSP *e*pP pP 03 44 19.0 -1.8
RUE Ruedersdorf 97.40 333 *e*Pdiff **P** **03 43 25.4 -0.9**
RUE *e*pPdiff pP 03 44 16.2 -4.6
RUE *e*pPP 03 48 11.9
RUE *e*SKS 03 53 35.5
SBA Scott Base 97.41 176 *e*P **P** **03 43 25.2 -0.4**
SBA pmax pmax
comp=Z,11nm,0.4s,mb5.4
SBA Scott Base 97.41 176 *e*P **P** **03 43 25.1 -0.5**
comp=Z,11nm,0.4s,mb5.4
GZR Gura Zlata 97.48 323⇑ *i*P **P** **03 43 27.1 +0.3**
GZR Gura Zlata 97.48 323 P **P** **03 43 27.2 +0.4**
SART Tekirdag 97.49 317 *i* P **P** **03 43 24.6 -2.3**
RKY Sarkoy-Tekirda 97.49 317 *e*P **P** **03 43 24.5 -2.5**
MORC Moravsky Berou 97.50 329 *e*P **P** **03 43 26.1 -0.7**
MORC pmax pmax
comp=Z,56nm,1.3s,mb5.6
MORC Moravsky Berou 97.50 329⇑ *i*P **P** **03 43 24.8 -2.0**
MORC Moravsky Berou 97.50 329 *e*P **P** **03 43 26.1 -0.7**
comp=Z,56nm,1.3s,mb5.6
MORC *e*pP pP 03 44 19.5 -1.8
MORC *e*PKKPbc PKKPbc 04 00 01.8 -2.5
PSZ Piszkesteto 97.51 326 *e*P **P** **03 43 25.5 -1.3**
PSZ pmax pmax
comp=Z,36nm,1.1s,mb5.6
PSZ Piszkesteto 97.51 326⇓ *e*pP pP 03 44 17.0 -4.4
PSZ Piszkesteto 97.51 326⇑ *i*P **P** **03 43 23.1 -3.7**
PSZ Piszkesteto 97.51 326 *e*P **P** **03 43 25.4 -1.4**
comp=Z,36nm,1.1s,mb5.6
PSZ ⇓*e*P pP 03 44 17.0 -4.4
KULA Kula-Manisa 97.68 315 *e*P **P** **03 43 23.9 -3.9**
VYHS Vyhne 97.69 327 *e*P **P** **03 43 26.4 -1.2**
VYHS *e*S SKSac 03 53 39.1 -4.5
VYHS Vyhne 97.69 327 *e*P **P** **03 43 26.4 -1.2**
VYHS *e*pP pP 03 44 20.3 -1.9
VYHS *e* 03 48 17.1
VYHS Vyhne 97.69 327 *e*P **P** **03 43 26.4 -1.2**
VYHS *e* pP 03 44 20.3 -1.9
VYHS *e*PP PKiKP 03 48 17.1 +17
VYHS *e*S SKSac 03 53 39.1 -4.5
VYHS *e*SP SP 03 55 17.8 -39
VYHS *e* 04 00 01.6
DPC Dobruska-Polom 97.71 330 *e*P **P** **03 43 26.7 -1.0**
DPC *e*pP pP 03 44 20.7 -1.5
DPC *ex* x 03 47 41.9
DPC *ex* x 03 48 15.4
DPC *e*SKS 03 53 42.8
DPC *ex* x 03 57 08.9
DPC AMS AMS 04 29 20.0
comp=Z,25µm,20.0s
BALY Balya 97.72 316 *i* P **P** **03 43 25.8 -2.1**
GOLH Golhisar 97.72 314 *i* P **P** **03 43 24.7 -3.4**
ELL Elmali 97.73 313 *e*P **P** **03 43 25.1 -3.0**
UPC Upice 97.75 330 *e*P **P** **03 43 26.8 -1.1**
UPC *e*pP pP 03 44 20.9 -1.5
MANT Manisa 97.76 315 *i* P **P** **03 43 26.0 -2.2**
BSEG Bad Segeberg 97.80 335 *e*Pdiff **P** **03 43 26.6 -1.4**
BSEG *e*pPdiff pP 03 44 17.1 -5.5
BSEG *e*pPP 03 48 12.9
BSEG *e*SKS 03 53 41.1
KOLL Kolacno 97.85 328 PDIF **P** **03 43 28.2 -0.2**
KOLL *e*pP pP 03 44 21.1 -1.8
KOLL Kolacno 97.85 328 *e*P **P** **03 43 28.2 -0.2**
KOLL *e* pP 03 44 21.1 -1.8
KOLL *e* 04 00 00.6
PENC Penc 97.91 327⇑ *e*P pP 03 44 21.9 -1.3
TXAR Lajitas Array 97.94 55 P **P** **03 43 28.8 -0.5**
comp=Z,11nm,0.8s,mb5.2,baz=268,slow=4.2,SNR=62
TXAR pP pP 03 44 22.6 -1.2
comp=Z,5.7nm,0.6s,baz=0.0,slow=2.7,SNR=1.1
TXAR PP PP 03 47 29.7 -0.8
comp=Z,27nm,1.1s,baz=258,slow=5.0,SNR=4.0
TXAR PKKPbc PKKPbc 04 00 03.0 +0.7
comp=Z,22nm,0.9s,baz=136,slow=5.5,SNR=15
TXAR PKPPKP 04 08 31.5
comp=Z,2.2nm,1.1s,baz=180,slow=2.4,SNR=3.5
TXAR Lajitas Array 97.94 55 P **P** **03 43 28.8 -0.4**
TXAR 03 47 29.7
TXAR pmax pmax
comp=Z,11nm,0.8s
BZS Buzias 98.00 324⇑ *i*P **P** **03 43 27.1 -2.0**
BZS Buzias 98.00 324 ⇑P **P** **03 43 27.1 -2.0**
BZS ⇓P 03 59 51.0
JAVC Velka Javorina 98.04 328 P **P** **03 43 30.8 +1.6**
AKHS Akhisar 98.05 316 *i* P **P** **03 43 26.4 -3.0**
KDZ Kurdzhali 98.07 319 *i* P **P** **03 43 27.4 -2.1**
ALN Alexandroupoli 98.10 318 P **P** **03 43 27.0 -2.7**
ENEZ Enez 98.12 318 *e*P **P** **03 43 26.3 -3.4**
KSU1 Kansas State U 98.22 44 *e*P **P** **03 43 29.7 -0.6**
comp=Z,45nm,0.6s,mb6.0
BUD Budapest 98.24 326⇓ *e*pP pP 03 44 20.4 -4.3
PLD Plovdiv 98.26 320 *i* P **P** **03 43 27.1 -3.2**
VRAC Vranov 98.27 329⇑ *i*P **P** **03 43 28.8 -1.4**
VRAC Vranov 98.27 329 P **P** **03 43 31.2 +0.9**
RDO Rodhopi 98.28 319 *e*P **P** **03 43 27.1 -3.3**
RDO Rodhopi 98.28 319 *e*P **P** **03 43 27.1 -3.3**
PGB Panagyurishte 98.33 320 *i* P **P** **03 43 29.3 -1.4**
MAIG Mazatlaan 98.37 62 *i* P pP 03 44 23.3 -2.5
SMOL Smolenice 98.39 328 PDIF **P** **03 43 30.4 -0.4**
SMOL Smolenice 98.39 328 *e*P **P** **03 43 30.5 -0.3**
PVCC Panska Ves 98.41 331 *e*P **P** **03 43 29.9 -0.9**
PVCC *e* 03 53 43.6
PVCC MLR MLR
comp=Z,32µm,17.2s
PVCC Panska Ves 98.41 331 *e*P **P** **03 43 29.9 -0.9**
PVCC *e*pP pP 03 44 23.9 -1.5
PVCC *ex* x 03 48 16.7
PVCC *e*SKS 03 53 43.6
PVCC *ex* x 03 57 15.2
PVCC AMS AMS 04 31 30.0
comp=Z,32µm,17.2s
BRG Berggiesshubel 98.45 331 *i* P **P** **03 43 31.2 +0.2**
BRG *i* 03 47 37.0
BRG 03 53 45.0
BRG pmax pmax
comp=Z,16nm,1.2s,mb5.2
BRG pmax pmax
comp=Z,157nm,1.6s,mb6.1
BRG MLR MLR
comp=N,29µm,19.1s
BRG MLR MLR
comp=E,14µm,19.9s
BRG MLR MLR
comp=Z,16µm,24.5s
BRG Berggiesshubel 98.45 331 *e*Pdiff **P** **03 43 29.8 -1.2**
BRG *e*pPdiff pP 03 44 20.3 -5.3
BRG *e*pPP 03 48 18.3
BRG *e*SKS 03 53 42.6
BRG Berggiesshubel 98.45 331 *i* PDIF **P** **03 43 31.2 +0.2**
comp=Z,26nm,1.2s,mb5.4
BRG pPDIF pP 03 44 23.0 -2.6
BRG *i* PP PP 03 47 37.0 +3.5

BRG *i* 03 48 16.0
BRG SKS 03 53 45.0
BRG *i* 03 55 24.9
comp=Z,137nm,2.0s
BRG *i* 03 59 58.4
comp=Z,34nm,1.1s
BRG
comp=N,48µm,19.1s
BRG
comp=E,23µm,19.9s
BRG
comp=Z,27µm,24.5s
BRG Berggiesshubel 98.45 331 *i* Pdif **P** **03 43 31.2 +0.2**
comp=Z,16nm,1.2s,mb5.2
BRG *i* PP PP 03 47 37.0 +3.5
BRG *i* 03 48 16.0
BRG SKS 03 53 45.0
BRG *i* 03 55 24.9
BRG *i* 03 59 58.4
BRG LR LR
comp=Z,16µm,24.5s
RZN Rozhen 98.49 319 *i* P **P** **03 43 29.7 -1.7**
EZN Ezine 98.51 317 *e*P **P** **03 43 27.3 -4.2**
KRUC Moravsky 98.53 329 P **P** **03 43 32.1 +0.7**
MODS Modra-Piesok 98.55 328 *e*P **P** **03 43 32.6 +1.1**
MODS *e*S SKSac 03 53 43.8 -4.2
MODS pmax pmax
comp=Z,15nm,1.2s,mb5.2
MODS Modra-Piesok 98.55 328 PDIF **P** **03 43 32.6 +1.1**
MODS *e*pP pP 03 44 22.2 -3.9
MODS Modra-Piesok 98.55 328 *e*PKP PKiKP 03 48 19.0 +17
MODS Modra-Piesok 98.55 328 *e*P **P** **03 43 32.6 +1.1**
comp=Z,15nm,1.2s,mb5.2
MODS *e* pP 03 44 22.2 -3.9
MODS *e*PP PKiKP 03 48 19.0 +17
MODS *e*S SKSac 03 53 43.8 -4.2
MODS *e*SP SP 03 55 23.4 -43
MODS *e* 03 59 59.0
MODS *e* 04 00 28.9
HLG Helgoland 98.56 336 *e*pPP PKiKP 03 48 18.3 +16
HLG *e*SKS SKSac 03 53 43.4 -4.4
TURN Turunc 98.57 314 *i* P **P** **03 43 31.1 -0.8**
CLL Collm 98.57 332 *e*P **P** **03 43 30.0 -1.5**
CLL *e**SP sP 03 44 54.0 +4.7
CLL *i* 03 47 36.6
CLL *e* 03 53 47.0
CLL pmax pmax
comp=Z,59nm,1.2s,mb5.8
CLL Collm 98.57 332 *e*Pdiff **P** **03 43 30.1 -1.4**
CLL *e*pDdiff pP 03 44 20.6 -5.5
CLL *e*pPP 03 48 18.0
CLL *e*SKS 03 53 43.7
CLL Collm 98.57 332 *e*Pdif **P** **03 43 30.0 -1.5**
comp=Z,59nm,1.2s,mb5.8
CLL *e*x x 03 43 45.0
CLL ⇑*i*PdDif pP 03 44 23.7 -2.4
comp=Z,372nm,1.8s
CLL *e*x x 03 44 29.0
CLL *e*sPdif 03 44 54.0
CLL *i* PP PP 03 47 36.6 +2.2
CLL *i* pPP 03 48 21.1
CLL *e*x x 03 48 31.0
CLL *e*sPP 03 48 49.0
CLL *e*PPPP 03 51 22.0
CLL *e*SKSac SKSac 03 53 47.0 -1.0
CLL *e*pSKSac 03 55 11.0
CLL *e*pS 03 55 45.0
CLL *e*SP SP 03 56 08.0 +1.6
CLL *e*PPS 03 57 18.0
CLL *e*sPPS 03 58 14.0
CLL *i* PKKPdf PKKPdf 03 59 59.1 -3.9
comp=Z,38nm,1.2s
CLL *e*x x 04 02 06.0
CLL *e*sSS 04 02 48.0
CLL *e*PKPPKPdf 04 08 10.0
CLL *e*(SSSS) 04 08 12.0
CLL LmH 04 25 00.0
comp=N,59µm,21.1s
CLL LmH 04 25 00.0
comp=E,46µm,21.3s
CLL LmV 04 33 00.0
comp=Z,33µm,19.5s
CLL Collm 98.57 332 *e*Pdif **P** **03 43 30.0 -1.5**
comp=Z,59nm,1.2s,mb5.8
CLL *i* PP PP 03 47 36.6 +2.2
CLL *e*SKS 03 53 47.0
CLL *i* PKKP PKKPbc 03 59 59.1 -2.3
CLL *e*P'P' 04 08 10.0
GADA Gvkgeada 98.58 318 *e*P **P** **03 43 26.3 -5.5**
DALT Dalyan (Mudla) 98.60 314 *e*P **P** **03 43 28.1 -3.9**
COWI Conover 98.65 35 *e*P **P** **03 43 31.6 -0.4**
comp=Z,31nm,1.2s,mb5.5
AYDN Tasoluk 98.65 315 *i* P **P** **03 43 30.8 -1.4**
KDAG Bornova 98.66 315 *i* P **P** **03 43 30.1 -2.1**
IZM Izmir 98.67 315 *e*P **P** **03 43 30.6 -1.7**
ZST Bratislava 98.76 328 *e*P **P** **03 43 32.0 -0.4**
ZST *e*S SKSac 03 53 45.2 -3.9
ZST pmax pmax
comp=Z,16nm,1.2s,mb5.2
ZST MLR MLR
comp=Z,7µm,17.8s
ZST Bratislava 98.76 328 PDIF **P** **03 43 32.0 -0.4**
ZST *e*pP pP 03 44 25.5 -1.5
ZST *e* 03 47 24.1
ZST *e* 03 48 24.0
ZST Bratislava 98.76 328 *e*P **P** **03 43 32.0 -0.4**
comp=Z,16nm,1.2s,mb5.2
ZST *e* pP 03 44 25.5 -1.5
ZST *e* 03 47 24.2
ZST *e*PP PKiKP 03 48 24.0 +22
ZST *e*S SKSac 03 53 45.2 -3.9
ZST *e*SP SP 03 55 26.2 -42
ZST *e* 04 00 27.9
ZST LR LR
comp=Z,7µm,17.8s
PRU Pruhonice 98.79 330 *e*P **P** **03 43 31.4 -1.1**
PRU *e* 03 47 37.0
PRU *e* 03 53 46.0
PRU *e* 03 57 22.0
PRU MLR MLR
comp=Z,36µm,23.5s
PRU Pruhonice 98.79 330 *e*P **P** **03 43 31.4 -1.1**
PRU *e*pP pP 03 44 25.1 -2.0
PRU *e*PP PP 03 47 37.0 +0.9
PRU *e*x x 03 48 20.2
PRU *e*SKS 03 53 46.0
PRU *e*x x 03 55 01.1
PRU *e*x x 03 57 22.0
PRU AMS AMS 04 29 40.0
comp=Z,36µm,23.5s
MLA1 Latheron 98.80 344 *e*P **P** **03 43 31.7 -0.6**
SCIA State Center 98.82 40 *e*P **P** **03 43 32.6 -0.3**
comp=Z,418nm,1.0s,mb6.7
SCIA *e*pP pP 03 44 28.7 +1.3
TREC Trest 98.82 329 *e*P **P** **03 43 32.6 -0.1**
TREC *e* 03 47 39.6
TREC *e* 03 53 47.5
TREC MLR MLR
comp=Z,28µm,21.9s
TREC Trest 98.82 329 *e*P **P** **03 43 32.6 -0.1**
TREC *e*pP pP 03 44 25.5 -1.8
TREC *e*PP PP 03 47 39.6 +3.3
TREC *e*x x 03 48 20.7
TREC *e*SKS 03 53 47.5
TREC AMS AMS 04 29 10.0
comp=Z,28µm,21.9s
BLCB Balcova 98.82 316 *e*P **P** **03 43 29.3 -3.6**
PRK Paraskevi 98.86 317 P **P** **03 43 29.7 -3.4**
PRK Paraskevi 98.86 317 *e*P **P** **03 43 30.9 -2.2**
PRK Paraskevi 98.86 317 *e*P **P** **03 43 30.9 -2.2**
VTS Vitosha 98.88 321 *i* P **P** **03 43 32.0 -1.1**
MLSB Milas 98.91 314 *e*P **P** **03 43 29.9 -3.4**
GCAM G?zelcaml? 99.06 315 *i* P Pdif 03 43 31.6 -2.1
URLA Izmir 99.13 316 *i* P Pdif 03 43 32.0 -2.0
MMB Musomiste 99.15 320 *i* P Pdif 03 43 32.5 -1.6
LIA Limnos Island 99.20 318 P Pdif 03 43 31.7 -2.6
LIA Limnos Island 99.20 318 *e*P Pdif 03 43 30.1 -4.3
LIA Limnos Island 99.20 318 *e*P Pdif 03 43 30.1 -4.3
NVR Nevrokopi 99.20 319 *e*P Pdif 03 43 32.6 -1.7
NVR Nevrokopi 99.20 319 *e*P Pdif 03 43 32.6 -1.7
ARG Arkhangelos 99.24 313 *e*P Pdif 03 43 33.1 -1.3
ARG Arkhangelos 99.24 313 *e*P Pdif 03 43 33.1 -1.3
PKSM Moragy 99.25 326 P Pdif 03 43 35.0 +0.5
PKSM Moragy 99.25 326 ⇑*i*P Pdif 03 43 31.8 -2.7
PKSM Moragy 99.25 326 ⇑P Pdif 03 43 31.8 -2.8
PKSM P 03 43 35.0
PKSM ⇓*e*P 03 44 24.0
PKSM ⇑P 03 59 53.5
BDRM Kayabasi 99.26 314 *i* P Pdif 03 43 33.5 -1.0
CLZ Clausthal 99.32 334 *e*Pdiff Pdif 03 43 33.9 -1.0
CLZ *e*pDdiff 03 44 24.6
CLZ *e*pPP 03 48 23.0
CLZ *e*SKS 03 53 47.2
SMG Samos 99.32 315 *e*P Pdif 03 43 31.4 -3.5
SMG Samos 99.32 315 *e*P Pdif 03 43 31.4 -3.5
MVH1 Achvaich 99.34 344 *e*P Pdif 03 43 34.7 -0.2
MVH1 *e* 03 44 25.8
BODT Bodrum 99.35 314 *e*P Pdif 03 43 31.1 -3.9
SOP Sopron 99.37 328⇓*e*pP pP 03 44 26.3 -3.5
KKB Krupnik 99.38 320 *i* P Pdif 03 43 33.2 -1.9
MCD Coleburn Disti 99.39 343 *e*P Pdif 03 43 34.1 -1.0
TANN Tannenbergstha 99.45 332 *e*Pdiff Pdif 03 43 34.7 -0.7
TANN *e*pDdiff 03 44 25.9
TANN *e*pPP 03 48 24.8
TANN *e*SKS 03 53 47.2
CHOS Chios island 99.47 316 P Pdif 03 43 32.7 -2.8
CONA Conrad Observa 99.56 328⇑*i*Pdiff Pdif 03 43 35.2 -0.7
comp=Z,21nm,0.9s,SNR=6.9
CSNA Conrad Observa 99.56 328⇑*i*Pdiff Pdif 03 43 35.2 -0.7
comp=Z,25nm,1.1s
NKC Novy Kostel 99.58 332 *e*P Pdif 03 43 34.9 -1.1
NKC *e* 03 47 39.5
NKC *e* 03 53 49.3
NKC MLR MLR
comp=Z,32µm,17.3s
NKC Novy Kostel 99.58 332 *e*PDIF Pdif 03 43 34.9 -1.1
NKC *e*pP pP 03 44 29.0 -1.7
NKC *e*PP PP 03 47 39.5 -2.6
NKC *e*x x 03 48 25.0
NKC *e*SKS 03 53 49.3
NKC AMS AMS 04 32 40.0
comp=Z,32µm,17.3s
NKC Novy Kostel 99.58 332 *e*Pdif Pdif 03 43 34.9 -1.1
NKC *e*pP pP 03 44 29.0 -1.7
NKC *e*PP PP 03 47 39.5 -2.6
NKC *e* 03 48 25.0
NKC *e*SKS 03 53 49.3
MOX Moxa 99.66 332 *e*PDIFF Pdif 03 43 35.3 -1.1
comp=Z,48nm,1.4s
MOX *e* 03 44 29.2
comp=Z,219nm,1.7s
MOX *e* 03 47 42.5
MOX *e* 03 48 29.7
MOX *e* 03 59 55.8
MOX
comp=Z,19µm,21.0s
MOX Moxa 99.66 332 *e*P Pdif 03 43 35.3 -1.1
MOX *e* 03 47 42.5
MOX pmax pmax
comp=Z,54nm,1.4s,mb5.8
MOX Moxa 99.66 332 *e*Pdiff Pdif 03 43 35.3 -1.1
MOX *e*pDdiff 03 44 25.9
MOX *e*pPP 03 48 25.8
MOX *e*SKS 03 53 47.5
RHK3 Tenkes 99.67 326⇑*e*P pP 03 44 29.0 -2.2
OUR Ouranopolis 99.71 319 P Pdif 03 43 37.2 +0.6
MDO Dochfour 99.81 344 *e*P Pdif 03 43 35.7 -1.4
SOH Sokhos 99.82 319 P Pdif 03 43 34.6 -2.5
KHC Kasperske Hory 99.84 330 *e*P Pdif 03 43 36.0 -1.2
KHC *e*pP pP 03 44 28.5 -3.3
KHC *e*PP PP 03 47 38.6 -5.5
KHC *e*x x 03 48 27.0
KHC *e*x x 03 48 41.5
KHC *e*SKS 03 53 52.2
KHC AMS AMS 04 33 40.0
comp=Z,26µm,17.4s
KHC Kasperske Hory 99.84 330 *e*Pdif Pdif 03 43 36.0 -1.2
KHC *e*pP pP 03 44 28.5 -3.3
KHC *e*P 03 46 29.0
KHC *e* 03 46 38.0
KHC *e*PP PP 03 47 38.6 -5.5
KHC *e* 03 48 27.0
KHC *e* 03 48 41.5
KHC *e*SKS 03 53 52.2
KHC LR LR
comp=Z,26µm,17.4s
KNT Kendrikon 99.91 320 P Pdif 03 43 45.0 +7.5
MANZ Manzenberg 99.91 332 *e*Pdiff Pdif 03 43 36.7 -0.8
MANZ *e*pDdiff 03 44 26.5
MANZ *e*pPP 03 48 27.3
MANZ *e*SKS 03 53 50.0
RRH Rhenigidale 99.97 345 *e*P Pdif 03 43 37.1 -0.6
GEC2 GERESS Array S 99.98 330 *e*Pdiff Pdif 03 43 36.6 -1.2
GEC2 *e*pDdiff 03 44 26.8
GEC2 *e*pPP 03 48 28.7
GEC2 *e*SKS 03 53 50.0
GERES GERESS Array B 99.98 330 P Pdif 03 43 36.2 -1.6
comp=Z,12nm,1.0s,baz=49,slow=4.1,SNR=32
GERES pP pP 03 44 30.0 -2.5
comp=Z,9.9nm,0.9s,baz=58,slow=5.0,SNR=2.6
GERES PP PP 03 47 51.6 +6.4
comp=Z,8.2nm,0.8s,baz=46,slow=11,SNR=4.4
GERES PKKPbc PKKPbc 03 59 52.7 -4.7
comp=Z,16nm,0.7s,baz=205,slow=2.8,SNR=15
GERES PKPPKP 04 08 16.8
comp=Z,1.0nm,0.7s,baz=195,slow=2.6,SNR=3.5
GERES GERESS Array B 99.98 330 P Pdif 03 43 36.2 -1.6
GERES 03 47 51.6
GERES pmax pmax
comp=Z,12nm,1.0s
JFWS Jewell Farm 99.99 38 *e*P Pdif 03 43 37.1 -0.7
JFWS pmax pmax
comp=Z,43nm,0.9s,mb5.9
JFWS Jewell Farm 99.99 38 *e*Pdif Pdif 03 43 37.1 -0.7
comp=Z,43nm,0.9s
KAC Achnashellach 100.00 344 *e*P Pdif 03 43 37.4 -0.5
VAY Valandovo 100.01 320 *i* P Pdif 03 43 36.2 -1.7
VAY *i* 03 44 26.3
ROTZ Rotzenmuhle 100.02 331 *e*Pdiff Pdif 03 43 37.4 -0.6
ROTZ *e*pDdiff 03 44 27.8
ROTZ *e*pPP 03 48 27.3
ROTZ *e*SKS 03 53 49.8
STIP Stip 100.02 320 *i* P Pdif 03 43 35.8 -2.2
STIP *i* 03 43 30.1
PLG Polygyros 100.03 319 P Pdif 03 43 34.9 -3.1
PLG Polygyros 100.03 319 *e*P Pdif 03 43 36.2 -1.8
PLG Polygyros 100.03 319 *e*P Pdif 03 43 36.2 -1.8
HORT Hortiatis 100.11 319 P Pdif 03 43 35.4 -3.0
PAIG Paliouri 100.14 318 P Pdif 03 43 36.5 -2.0
WET Wettzell 100.16 331 *e*pDdiff 03 44 28.4
WET *e*pPP 03 48 26.9
WET *e*SKS 03 53 49.0
THE Thessaloniki 100.17 319 P Pdif 03 43 36.1 -2.6
ARSA Arzberg 100.18 328⇓*i*Pdiff Pdif 03 43 37.3 -1.4
comp=Z,26nm,1.1s
KPL Plockton 100.23 345 *e*P Pdif 03 43 37.8 -1.1
KPL AMb AMB 03 43 46.0
comp=Z,142nm,1.2s
UBBA Unterbreizbach 100.23 333 *e*pDdiff 03 44 28.1
UBBA *e*pPP 03 48 26.6
UBBA *e*SKS 03 53 51.4
KARP Karpathos 100.25 313 *e*P Pdif 03 43 36.9 -2.1
KARP Karpathos 100.25 313 *e*P Pdif 03 43 36.9 -2.1
KSB Sheil Bridge 100.29 344 *e*P Pdif 03 43 38.4 -0.7
SKO Skopje 100.31 321 *i* P Pdif 03 43 38.8 -0.5
SKO *i* 03 44 30.8
GRG Griva 100.33 320 P Pdif 03 43 37.6 -1.7
KOGS Kog 100.35 327 *e*Pdiff Pdif 03 43 37.2 -2.2
KOGS *e*pDdiff 03 44 30.2
KOGS *e* 04 18 16.9
JCT Junction City 100.37 53 *e*P Pdif 03 43 39.7 +0.2
JCT pmax pmax
comp=Z,210nm,1.8s
JCT Junction City 100.37 53 *e*Pdif Pdif 03 43 39.7 +0.2
comp=Z,210nm,1.8s
GRA3 Grafenberg Arr 100.43 332 *e*PKKPbc PKKPbc 03 59 53.4 -2.8
GRA1 Grafenberg Arr 100.52 332 *e*Pdif Pdif 03 43 39.6 -0.6
GRA1 *e*pPP 03 48 31.2
GRA1 *e*SKS 03 53 53.4
GRF Grafenberg Arr 100.52 332 *e*Pdiff Pdif 03 43 39.6 -0.6
GRF *e*pDdiff 03 44 29.6
GRF *e*pPP 03 48 31.2
GRF *e*SKS 03 53 53.4
GRFO Grafenberg 100.52 332 *e*pPP 03 48 31.6
GRFO *e*SKS 03 53 53.4
APE Apeiranthos 100.54 315 P Pdif 03 43 37.8 -2.5
APE Apeiranthos 100.54 315 *e*P Pdif 03 43 39.2 -1.1
APE Apeiranthos 100.54 315 *e*P Pdif 03 43 39.2 -1.1
EBH Black Hill 100.62 343 *e*P Pdif 03 43 40.2 -0.4
EBH *e* 03 44 32.6
KAR1 Arisaig 100.65 344 *e*P Pdif 03 43 40.1 -0.6
ESY Stoneypath 100.66 342 *e*P Pdif 03 43 40.4 -0.5
WTSB Winterswijk 100.69 335 *e*P Pdif 03 43 40.8 -0.2
WTSB Winterswijk 100.69 335 *e*pP 03 44 32.1
comp=Z,160nm,3.0s
LIT Litokhoron 100.78 319 P Pdif 03 43 38.3 -3.0
NEO Neokhori 100.78 318 *e*P Pdif 03 43 38.9 -2.5
NEO Neokhori 100.78 318 *e*P Pdif 03 43 38.9 -2.5
KRUS Krusevo 100.78 321 *i* P Pdif 03 43 40.4 -0.9
KRUS *i* 03 44 34.7
EDI Edinburgh 100.82 343 *e*P Pdif 03 43 41.6 +0.1
EDI AMb AMB 03 43 53.9
comp=Z,198nm,1.8s
SOKA Soboth 100.82 328⇑*i*Pdiff Pdif 03 43 39.1 -2.4
BUG Bochum--Univer 100.90 335 *e*pDdiff 03 44 30.9
BUG *e*pPP 03 48 32.7
BUG *e*SKS 03 53 54.4
EAB Aberfoyle 100.91 343 *e*P Pdif 03 43 40.9 -1.0
EAB *e* 03 44 33.1
EBL Broad Law 100.91 342 *e*P Pdif 03 43 41.2 -0.7
EBL *e* 03 44 32.6
XSO Sourhope Farm 100.92 342 *e*P Pdif 03 43 41.2 -0.7
BIA Bitola 100.95 320 *i* P Pdif 03 43 42.7 +0.6
BIA *i* 03 44 35.5
DOBS Dobrina 100.95 327 *e*Pdiff Pdif 03 43 39.9 -2.2
DOBS *e*pDdiff 03 44 32.9
EAU Auchinoon 100.96 343 *e*P Pdif 03 43 42.5 +0.4
EAU *e* 03 44 34.9
GOLS Golise 100.97 327 *e*Pdiff Pdif 03 43 41.2 -1.0
GOLS *e*pDdiff 03 44 33.4
GOLS *e*SP SP 03 56 28.5 -3.7
GOLS *e* 03 57 48.5
THR6 Thira Island, 101.02 315 P Pdif 03 43 40.7 -1.7
FNA Florina 101.06 320 P Pdif 03 43 40.1 -2.5
KZN Kozani 101.10 320 *e*P Pdif 03 43 40.7 -2.1
KZN Kozani 101.10 320 *e*P Pdif 03 43 40.7 -2.1
ZKR Zakros 101.14 313 P Pdif 03 43 37.7 -5.2
RJOB Jochberg 101.19 330 *e*Pdiff Pdif 03 43 43.0 -0.2
RJOB *e*pDdiff 03 44 33.1
RJOB *e*pPP 03 48 38.4
RJOB *e*SKS 03 53 50.3
OHR Ohrid 101.21 321 *i* P Pdif 03 43 41.4 -1.8
OHR *i* 03 44 33.6
ATH Athens Observa 101.23 317 *e*P Pdif 03 43 41.8 -1.6
ATH Athens Observa 101.23 317 *e*P Pdif 03 43 41.8 -1.6
PGBU Glenifferbraes 101.27 343 *e*P Pdif 03 43 43.9 +0.3
PGBU AMb AMB 03 43 51.4
comp=Z,162nm,1.3s
LKR Lokris 101.30 318 P Pdif 03 43 40.9 -2.8
LKR Lokris 101.30 318 *e*P Pdif 03 43 41.1 -2.6
LKR Lokris 101.30 318 *e*P Pdif 03 43 41.1 -2.6
PCA1 Carrot 101.31 343 *e*P Pdif 03 43 42.4 -1.3
TNS Taunus Mts 101.34 333 *e*Pdiff Pdif 03 43 43.1 -0.7
TNS *e*pDdiff 03 44 33.7
TNS *e*pPP 03 48 35.9
TNS *e*SKS 03 53 58.2
ESK Eskdalemuir 101.35 342 *e*P Pdif 03 43 43.1 -0.8
ESK AMb AMB 03 43 44.2
comp=Z,147nm,1.8s
ESK Eskdalemuir 101.35 342 *e*Pdif Pdif 03 43 44.5 +0.7
THL Klokotos Trika 101.39 319 P Pdif 03 43 41.4 -2.7
THL Klokotos Trika 101.39 319 *e*P Pdif 03 43 41.6 -2.5
THL Klokotos Trika 101.39 319 *e*P Pdif 03 43 41.6 -2.5
ECK Cauldkaine Hil 101.44 342 *e*P Pdif 03 43 43.8 -0.5
ECK *e* 03 44 34.3
XAL Allendale 101.45 342 *e*P Pdif 03 43 44.0 -0.3
NPS Neapolis 101.47 314 *e*P Pdif 03 43 42.7 -1.7
NPS Neapolis 101.47 314 *e*P Pdif 03 43 42.7 -1.7
BOJS Bojanci 101.50 327 *e*Pdiff Pdif 03 43 44.2 -0.4
BOJS *e*pDdiff 03 44 36.0
BOJS *e* 03 51 34.6
BOJS *e*SKSac SKSac 03 53 58.0 -4.5
BOJS *e* 03 55 35.1
NAIG Nisos Aigina 101.50 317 *e*P Pdif 03 43 41.5 -3.1
NAIG Nisos Aigina 101.50 317 *e*P Pdif 03 43 41.5 -3.1
LJU Ljubljana 101.51 327 *e*P Pdif 03 43 43.5 -1.1
LJU *e* 03 47 59.1
LJU *e* 03 53 57.4
LJU Ljubljana 101.51 327 *e*Pdiff Pdif 03 43 43.5 -1.1
LJU *e*pDdiff 03 44 35.7
LJU *e*PP PP 03 47 59.1 +2.4
LJU *e*pPP 03 48 45.4
LJU *e* 03 51 26.8
LJU *e*SKSac SKSac 03 53 57.4 -5.1
LJU *e* 03 55 35.1
LJU *e*SP SP 03 56 28.5 -9.4
LJU *e* 03 57 36.6
LJU *e* 04 10 01.9
LJU *e* 04 18 49.2
LJU Ljubljana 101.51 327 *e*Pdif Pdif 03 43 43.5 -1.1
LJU *e*PP PP 03 47 59.1 +2.4
LJU *e*pPP 03 48 45.4
LJU *e* 03 51 26.8
LJU *e*SKSac SKSac 03 53 57.4 -5.1
LJU *e* 03 55 35.1
LJU *e*SP SP 03 56 28.5 -9.4
LJU *e* 03 57 36.6
LJU *e* 04 13 01.9
AGG Agios Georgios 101.51 318 P Pdif 03 43 41.0 -3.6
FUR Furstenfeldbru 101.60 331 *e*Pdiff Pdif 03 43 44.4 -0.6
FUR *e*pDdiff 03 44 34.3
FUR *e*pPP 03 48 42.0
FUR *e*SKS 03 53 57.4
LAST Lasithi 101.62 314 P Pdif 03 43 43.8 -1.3
TOD Tromm 101.65 333 *e*P 03 44 38.4
LTK Loutraki 101.69 317 P Pdif 03 43 42.2 -3.1
ZAIG Zacatecas 101.75 61 *i* P Pdif 03 43 46.2 +0.5
DID Didima 101.81 317 P Pdif 03 43 41.7 -4.2
JAVS Javornik 101.85 328 *e*Pdiff Pdif 03 43 44.5 -1.6
JAVS *e*pDdiff 03 44 37.0
JAVS *e*PP PP 03 48 01.7 +2.4
JAVS *e*pPP 03 48 47.5
JAVS *e*SKSac SKSac 03 53 58.3 -5.9
JAVS *e*SP SP 03 56 34.9 -6.7
STON Ston 101.91 324 P Pdif 03 43 42.6 -3.7
HGN Heimansgroeve 101.96 335 *e*P Pdif 03 43 47.0 +0.4
comp=Z,36nm,1.2s
HGN Heimansgroeve 101.96 335 *e*pP 03 44 37.6
comp=Z,129nm,2.9s
HGN Heimansgroeve 101.96 335 *e*PP PP 03 47 47.3 -13
HGN Heimansgroeve 101.96 335 *e*Sdif Sdif 03 55 06.0 -3.1
ABH Alteburg 101.98 334 *e*P 03 44 39.5
HDIL Hopedale 102.00 39 *e*Pdif Pdif 03 43 46.6 -0.1
comp=Z,31nm,0.6s
HDIL *e*PP PP 03 47 58.9 -1.7
BEBN Eben Emael 102.04 335 E 03 44 37.4
HPK Haverah Park 102.04 341 *e*P Pdif 03 43 46.9 0.0
HPK AMb AMB 03 43 49.6
comp=Z,136nm,1.4s
MEM Membach 102.05 335 P Pdif 03 43 47.8 +0.8
comp=Z,18nm,1.5s
MEM E 03 44 39.3
STU Stuttgart 102.10 332 *e*P Pdif 03 43 46.4 -0.8
STU pmax pmax
comp=Z,38nm,1.1s
STU Stuttgart 102.10 332 *e*Pdiff Pdif 03 43 46.4 -0.8
STU *e*pDdiff 03 44 36.5
STU *e*pPP 03 48 44.5
STU *e*SKS 03 54 00.3
STU Stuttgart 102.10 332 *e*Pdif Pdif 03 43 46.4 -0.8
comp=Z,38nm,1.1s
STU *e*PKKPbc PKKPbc 03 59 49.0 -2.4
SIVA Sivas 102.16 314 P Pdif 03 43 44.8 -2.7
GAL1 Galloway 102.17 343 *e*P Pdif 03 43 47.0 -0.5
GAL1 AMb AMB 03 43 52.4
comp=Z,60nm,1.6s
KTD Kalmit 102.18 333 *e*P 03 44 40.4
CCM Cathedral Cave 102.29 42 *e*P Pdif 03 43 47.4 -0.6
CCM *e* 03 48 07.0
RUP Ruppelstein 102.32 334 *e*P 03 44 41.5
NVLJ Novalja 102.34 326 P Pdif 03 44 00.5 +12
LHO Holmfirth 102.46 341 P Pdif 03 43 48.6 -0.2
LHO Holmfirth 102.46 341 P 03 44 39.3

LHO	Holmfirth	102.46	341		eP		Pdif	03 43 48.2	-0.7
BCLA	Clavier	102.48	335		P		Pdif	03 43 50.0	+1.1
	comp=Z,22nm,1.5s								
BCLA					E			03 44 41.0	
LANF	Langenberg	102.55	333		eP			03 44 41.9	
UCC	Uccle	102.55	336		E			03 44 41.0	
KBI1	Birley Grange	102.61	340		eP		Pdif	03 43 49.1	-0.3
KYTH	Kithira	102.64	316		eP		Pdif	03 43 44.5	-5.1
KYTH	Kithira	102.64	316		eP		Pdif	03 43 44.5	-5.1
FETA	Feichten	102.68	330	‖	i Pdiff		Pdif	03 43 47.9	-1.9
	comp=Z,19nm,1.3s,SNR=7.1								
WLF	Walferdange	102.72	334		P		Pdif	03 43 49.8	-0.2
	comp=Z,38nm,1.7s								
WLF					E			03 44 43.5	
WLF	Walferdange	102.72	334		eP		Pdif	03 43 50.3	+0.3
WLF					pmax		pmax		
	comp=Z,207nm,1.4s								
WLF	Walferdange	102.72	334		ePdif		Pdif	03 43 50.3	+0.3
	comp=Z,208nm,1.4s								
MIAR	Mount Ida	102.75	46		eP		Pdif	03 43 50.4	+0.3
MIAR					e			03 48 07.1	
MIAR					pmax		pmax		
	comp=Z,2µm,1.4s								
MIAR	Mount Ida	102.75	46		ePdif		Pdif	03 43 50.4	+0.3
	comp=Z,2µm,1.4s								
MIAR					e			03 48 07.0	
SPAK	Spaichingen-Ko	102.78	332		eP			03 44 43.4	
SNF	Seneffe	102.81	336		P		Pdif	03 43 50.0	-0.3
	comp=Z,18nm,1.3s								
SNF					E			03 44 43.1	
BFO	Black Forest	102.81	332		ePdiff		Pdif	03 43 49.5	-0.9
BFO					epPdiff			03 44 39.7	
BFO					epPP			03 48 49.9	
BFO					eSKS			03 54 00.5	
FVM	French Village	102.85	42		eP		Pdif	03 43 50.8	+0.3
FVM					pmax		pmax		
	comp=Z,9.0nm,0.6s								
FVM	French Village	102.85	42		ePdif		Pdif	03 43 50.8	+0.3
	comp=Z,12nm,0.6s								
STR	Strasbourg	102.87	333		eP			03 44 44.1	
DAVA	Damuels	102.89	331	‖	i Pdiff		Pdif	03 43 49.2	-1.5
	comp=Z,28nm,0.9s								
KWE	Weaver Farm	102.91	340		eP		Pdif	03 43 50.5	-0.3
GIVF	Givet	102.92	335		eP		Pdif	03 43 50.7	-0.2
GIVF					epP			03 44 43.0	
STNC	Stoke	102.96	341		eP		Pdif	03 43 49.2	-1.8
STNC					AMb		AMB	03 43 59.3	
	comp=Z,80nm,1.6s								
CWF	Charnwood Fore	102.98	340		eP		Pdif	03 43 50.9	-0.2
DOU	Dourbes	103.02	335		P		Pdif	03 43 50.9	-0.4
	comp=Z,11nm,1.7s								
DOU					E			03 44 44.2	
GMM	Mts of Mourne	103.06	343		eP		Pdif	03 43 50.9	-0.6
VLS	Valsamata	103.11	318		eP		Pdif	03 43 49.7	-2.0
VLS	Valsamata	103.11	318		eP		Pdif	03 43 49.7	-2.0
PYL	PYLOS	103.14	317		P		Pdif	03 43 49.4	-2.4
BAIF	Baives	103.20	335		eP		Pdif	03 43 52.1	0.0
	comp=Z,57nm,1.2s								
BAIF	Baives	103.20	335		eP		Pdif	03 43 52.1	0.0
BAIF					pmax		pmax		
	comp=Z,28nm,1.2s								
BAIF	Baives	103.20	335		eP		Pdif	03 43 52.1	0.0
	comp=Z,28nm,1.2s								
CDF	Champ du Feu	103.21	333		eP		Pdif	03 43 52.3	+0.1
	comp=Z,128nm,1.5s								
CDF					epP			03 44 44.5	
CDF	Champ du Feu	103.21	333		eP		Pdif	03 43 52.3	+0.1
CDF					pmax		pmax		
	comp=Z,64nm,1.5s								
CDF	Champ du Feu	103.21	333		eP		Pdif	03 43 52.3	+0.1
	comp=Z,64nm,1.5s								
CDF					epP			03 44 44.5	
BRMO	Bormio	103.25	330		P			03 44 42.5	
LIBD	Limburg	103.27	332		eP			03 44 44.9	
FELD	Feldberg im Sc	103.30	332		eP			03 44 45.4	
ABPO	Ambohimpanom	103.39	254		ePdif		Pdif	03 43 51.9	-1.1
	comp=Z,29nm,0.8s								
ABPO					e			03 48 12.6	
ECH	Echery	103.41	333		ePdif		Pdif	03 43 52.2	-0.9
	comp=Z,36nm,1.4s								
ECH					eP			03 44 45.8	
ECH					ePKKPbc		PKKPbc	03 59 45.7	-1.8
SBD1	Bryn Du	103.45	341		eP		Pdif	03 43 54.0	+0.8
TFO1	Folkestone	103.50	338		eP		Pdif	03 43 53.0	-0.5
TFO1					AMb		AMB	03 43 55.1	
	comp=Z,202nm,1.6s								
MENF	Mencas	103.58	337		eP			03 44 45.7	
HKT	Hockley	103.60	51		eP		Pdif	03 43 54.8	+0.9
HKT					e			03 48 12.3	
HKT					pmax		pmax		
	comp=Z,23nm,1.4s								
HKT	Hockley	103.60	51		ePdif		Pdif	03 43 54.8	+0.9
	comp=Z,23nm,1.4s								
HKT					e			03 48 12.3	
DMUB	Kingscourt	103.62	344		eP			03 44 44.8	
DMUB	Kingscourt	103.62	344		eP			03 44 50.7	
DMUB	Kingscourt	103.62	344		eP		PKiKP	03 48 11.7	+0.6
DMUB	Kingscourt	103.62	344		eP			03 48 53.4	
MOF	Molkenrain	103.70	333		eP			03 44 47.1	
TUE	Stuetta	103.73	330		ePdif		Pdif	03 43 54.5	0.0
	comp=Z,97nm,1.8s								
TUE					e			03 48 12.7	
TUE					ePKKPbc		PKKPbc	03 59 43.8	-2.7
BBS	Basel-Blauen	103.83	332		eP			03 44 47.3	
OLIL	Olney	103.84	40		ePdif		Pdif	03 43 55.2	+0.2
	comp=Z,13nm,0.6s								
OLIL					e			03 48 11.3	
HINF	Hinteralfeld	103.85	333		eP		Pdif	03 43 54.6	-0.4
THEF	They Montfort	103.91	333		eP			03 44 48.0	
HAU	Haudompre	103.92	333		eP		Pdif	03 43 55.2	-0.1
	comp=Z,15nm,0.7s								
HAU	Haudompre	103.92	333		eP		Pdif	03 43 55.2	-0.1
HAU					pmax		pmax		
	comp=Z,8.0nm,0.7s								
HAU	Haudompre	103.92	333		eP		Pdif	03 43 55.2	-0.1
	comp=Z,7.5nm,0.7s								
DLF	Lyons Farm	104.06	343		eP			03 44 46.7	
DLF	Lyons Farm	104.06	343		eP			03 44 52.3	
DLF	Lyons Farm	104.06	343		eP		PKiKP	03 48 15.1	+3.2
DLF	Lyons Farm	104.06	343		eP			03 48 56.7	
MEZF	Maizieres J'vi	104.08	334		eP		Pdif	03 43 56.4	+0.4
MCH1	Michaelchurch	104.15	340		eP		Pdif	03 43 56.1	-0.2
MCH1					AMb		AMB	03 43 58.8	
	comp=Z,84nm,1.5s								
WOL	Wolverton	104.15	339		eP		Pdif	03 43 56.0	-0.3
HTR	Trewern Hill	104.17	341		eP		Pdif	03 43 54.4	-2.0
SWN1	Swindon	104.18	340		eP		Pdif	03 43 55.4	-1.0
SWN1					AMb		AMB	03 43 57.1	
	comp=Z,142nm,1.6s								
LOMF	Lomont	104.22	332		eP			03 44 49.3	
PTRP	Pietrapertosa	104.37	322		P			03 44 50.4	
HGH	Gray Hill	104.40	340		eP		Pdif	03 43 56.6	-0.9
ASS	Assisi	104.53	326		P			03 44 57.1	
MAW	Mawson	104.54	203		eP		Pdif	03 43 58.2	+0.2
	comp=Z,49nm,1.3s								
MAW					ePP		PP	03 48 10.2	-9.4
MAW					eS		SKSac	03 54 13.9	-1.4
MAW	Mawson	104.54	203		Pdiff		Pdif	03 43 57.0	-1.0
	comp=Z,51nm,1.0s,baz=73,slow=5.4,SNR=41								
MAW					PKiKP		PKiKP	03 48 07.7	-4.5
	comp=Z,25nm,0.8s,baz=40,slow=8.3,SNR=4.3								
MAW					PKKPbc		PKKPbc	03 59 43.9	-1.1
	comp=Z,7.8nm,0.6s,baz=241,slow=3.6,SNR=13								
MAW	Mawson	104.54	203		eP		Pdif	03 43 58.2	+0.2
MAW					eS		SKSac	03 54 13.9	-1.4
MAW					pmax		pmax		
	comp=Z,49nm,1.3s								
RNI2	Rionero Sannit	104.66	324		P			03 44 50.3	
SADO	Sadowa	104.72	31		PKiKP		PKiKP	03 48 12.6	-0.8
	comp=Z,14nm,0.8s,baz=338,slow=2.5,SNR=4.1								
SGO	Sicignano	104.78	323		P			03 44 57.4	
TIP	Timpagrande	104.83	321		ePdif		Pdif	03 43 59.7	+0.3
	comp=Z,139nm,1.8s								
TIP					ePKKPbc		PKKPbc	03 59 39.4	-3.6
ZIIG	Zihuatanejo	104.94	65		i P		Pdif	03 43 58.2	-1.7
CABF	La Chapelle	105.11	332		eP		Pdif	03 44 00.5	-0.1
	comp=Z,46nm,1.2s								
CABF	La Chapelle	105.11	332		eP		Pdif	03 44 00.5	-0.1
CABF					pmax		pmax		
	comp=Z,23nm,1.2s								
CABF	La Chapelle	105.11	332		eP		Pdif	03 44 00.5	-0.1
	comp=Z,23nm,1.2s								
GRI	Girifalco	105.26	321		P			03 44 56.0	
WCI	Wyandotte Cave	105.26	40		eP		Pdif	03 44 00.8	-0.5
WCI					e			03 48 24.0	
WCI					pmax		pmax		
	comp=Z,10.0nm,0.8s								
WCI	Wyandotte Cave	105.26	40		ePdif		Pdif	03 44 00.8	-0.5
	comp=Z,10nm,0.8s								
WCI					ePKP		PKiKP	03 48 14.3	-0.3
WCI					ePP		PP	03 48 24.0	-0.9
WCI					ePKKPbc		PKKPbc	03 59 40.2	-1.5
WCI					ePKKPab		PKKPab	03 59 58.2	-3.2
HTL	Hartland	105.49	341		P		Pdif	03 44 01.7	-0.5
HTL					AMb		AMB	03 44 08.8	
	comp=Z,36nm,1.6s								
HTL	Hartland	105.49	341		eP		Pdif	03 44 01.7	-0.5
HTL					AMb		AMB	03 44 08.8	
	comp=Z,36nm,1.6s								
LOR	Lormes	105.55	334		eP		Pdif	03 44 02.5	-0.1
	comp=Z,43nm,1.3s								
LOR					epP			03 44 54.8	
LOR	Lormes	105.55	334		eP		Pdif	03 44 02.5	-0.1
LOR					pmax		pmax		
	comp=Z,22nm,1.3s								
LOR	Lormes	105.55	334		eP		Pdif	03 44 02.5	-0.1
	comp=Z,22nm,1.3s								
LOR					epP			03 44 54.8	
OXF	Oxford	105.58	44		ePKP		PKiKP	03 48 14.4	-0.9
OXF					ePP		PP	03 48 27.3	-0.1
WVT	Waverly	105.62	42		eP		Pdif	03 44 02.1	-0.8
WVT					e			03 48 26.8	
WVT					pmax		pmax		
	comp=Z,10.0nm,0.8s								
WVT	Waverly	105.62	42		ePdif		Pdif	03 44 02.1	-0.8
	comp=Z,9.6nm,0.8s								
WVT					ePKP		PKiKP	03 48 14.7	-0.6
WVT					ePP		PP	03 48 26.8	-0.8
LPL	La Plagne	105.66	331		eP		Pdif	03 44 03.4	+0.4
	comp=Z,22nm,0.8s								
LPL	La Plagne	105.66	331		eP		Pdif	03 44 03.4	+0.4
LPL					pmax		pmax		
	comp=Z,11nm,0.8s								
LPL	La Plagne	105.66	331		eP		Pdif	03 44 03.4	+0.4
	comp=Z,11nm,0.8s								
LPG	La Plagne	105.66	331		eP		Pdif	03 44 03.7	+0.6
	comp=Z,32nm,0.9s								
LPG	La Plagne	105.66	331		eP		Pdif	03 44 03.7	+0.6
LPG					pmax		pmax		
	comp=Z,16nm,0.9s								
LPG	La Plagne	105.66	331		eP		Pdif	03 44 03.7	+0.6
	comp=Z,16nm,0.9s								
DYA	Yadsworthy	105.80	340		eP		Pdif	03 44 02.6	-1.1
DYA					AMb		AMB	03 44 05.7	
	comp=Z,74nm,1.6s								
SSF	Saint Saulge	105.86	334		eP		Pdif	03 44 03.8	-0.1
	comp=Z,12nm,0.7s								
SSF	Saint Saulge	105.86	334		eP		Pdif	03 44 03.8	-0.1
SSF					pmax		pmax		
	comp=Z,6.0nm,0.7s								
SSF	Saint Saulge	105.86	334		eP		Pdif	03 44 03.8	-0.1
	comp=Z,6.3nm,0.7s								
ACSO	Alum Creek Sta	105.88	37		ePKP		PKiKP	03 48 14.1	-1.5
SOI	Samo	105.97	321		P			03 44 58.4	
FLN	La Foliniere	106.03	337		eP		Pdif	03 44 04.7	0.0
BNI	Bardonecchia	106.04	331		ePKP		PKiKP	03 48 15.7	-0.1
BNI					ePP		PP	03 48 29.4	-0.8
BNI					ePKKPbc		PKKPbc	03 59 37.7	-1.8
LDF	La Druitiere	106.04	337		eP		Pdif	03 44 04.7	0.0
LDF					epP			03 44 56.8	
HYF	Humbligny	106.05	335		eP		Pdif	03 44 05.5	+0.7
SMF	Signal de Mont	106.05	334		eP		Pdif	03 44 04.7	-0.1
	comp=Z,44nm,1.3s								
SMF	Signal de Mont	106.05	334		eP		Pdif	03 44 04.7	-0.1
SMF					pmax		pmax		
	comp=Z,22nm,1.3s								
SMF	Signal de Mont	106.05	334		eP		Pdif	03 44 04.7	-0.1
	comp=Z,22nm,1.3s								
AVF	Avril sur Loir	106.14	334		eP		Pdif	03 44 05.2	0.0
	comp=Z,59nm,1.2s								
AVF					epP			03 44 57.5	
AVF	Avril sur Loir	106.14	334		eP		Pdif	03 44 05.2	0.0
AVF					pmax		pmax		
	comp=Z,29nm,1.2s								
AVF	Avril sur Loir	106.14	334		eP		Pdif	03 44 05.2	0.0
	comp=Z,30nm,1.2s								
AVF					epP			03 44 57.5	
ERPA	Erie	106.20	33		ePKP		PKiKP	03 48 16.9	+0.7
ERPA					ePP		PP	03 48 29.9	-1.6
JLP	Les Platons	106.21	338		eP		Pdif	03 44 04.8	-0.7
CAIG	El Cayaco	106.22	65		i P		Pdif	03 44 02.9	-2.6
JQE	Queens East	106.22	338		eP		Pdif	03 44 04.8	-0.7
JSA	Saint Aubin	106.28	338		eP		Pdif	03 44 04.0	-1.8
JSA					AMb		AMB	03 44 05.7	
	comp=Z,34nm,1.5s								
GRR	Gorron	106.48	337		eP		Pdif	03 44 06.9	+0.2
ORIF	Oris-en-Rattie	106.50	331		eP		Pdif	03 44 07.0	+0.2
	comp=Z,23nm,1.0s								
ORIF	Oris-en-Rattie	106.50	331		eP		Pdif	03 44 07.0	+0.2
ORIF					pmax		pmax		
	comp=Z,12nm,1.0s								
ORIF	Oris-en-Rattie	106.50	331		eP		Pdif	03 44 07.0	+0.2
	comp=Z,12nm,1.0s								
BGF	Bois d'Agland	106.54	334		eP		Pdif	03 44 07.0	+0.1
	comp=Z,34nm,1.2s								
BGF					epP			03 44 59.5	
BGF	Bois d'Agland	106.54	334		eP		Pdif	03 44 07.0	+0.1
BGF					pmax		pmax		
	comp=Z,17nm,1.2s								
BGF	Bois d'Agland	106.54	334		eP		Pdif	03 44 07.0	+0.1
	comp=Z,17nm,1.2s								
BGF					epP			03 44 59.5	
SBF	Sospel	106.58	330		eP		Pdif	03 44 07.3	+0.2
PLDF	La Plantade	106.68	333		eP			03 45 00.7	
AGO	Saint Agoulin	106.82	334		eP			03 45 01.4	
SSB	Saint Sauveur	106.82	332		ePKP		PKiKP	03 48 17.1	-0.2
SSB					ePP		PP	03 48 34.6	-1.3
SSB					ePKKPbc		PKKPbc	03 59 35.8	-1.4
LONY	Lake Ozonia	106.98	29		ePKP		PKiKP	03 48 14.4	-3.2
TCF	Toulx Ste Croi	107.02	334		eP		Pdif	03 44 09.4	+0.3
	comp=Z,32nm,1.2s								
TCF	Toulx Ste Croi	107.02	334		eP		Pdif	03 44 09.4	+0.3
TCF					pmax		pmax		
	comp=Z,16nm,1.2s								
TCF	Toulx Ste Croi	107.02	334		eP		Pdif	03 44 09.4	+0.3
	comp=Z,16nm,1.2s								
PYM	Petit Puy Mans	107.11	333		eP			03 45 03.0	
HVZN	Vizzini	107.36	321		P			03 45 03.3	
ROSF	Rostrenen	107.39	339		eP		Pdif	03 44 11.2	+0.5
SWET	Sewanee	107.40	42		ePKP		PKiKP	03 48 18.2	-0.2
SWET					ePP		PP	03 48 39.4	-1.2
LBL	Lubilhac	107.42	333		eP			03 45 04.4	
KMBO	Kilima Mbogo	107.50	275		Pdiff		Pdif	03 44 10.7	-0.5
	comp=Z,2.4nm,0.9s,baz=46,slow=7.0,SNR=7.3								
KMBO					PKiKP		PKiKP	03 48 18.4	-1.0
	comp=Z,5.0nm,0.9s,baz=38,slow=9.2,SNR=4.0								
KMBO	Kilima Mbogo	107.50	275		ePdif		Pdif	03 44 10.3	-0.9
	comp=Z,12nm,1.4s								
KMBO					PKPdf		PKiKP	03 48 18.4	-1.0
NCB	Newcomb	107.64	29		ePKP		PKiKP	03 48 18.7	-0.1
NCB					ePP		PP	03 48 42.1	+0.2
MFF	Saint Martin d	107.70	336		eP		Pdif	03 44 12.7	+0.6
QUIF	Quistinic	107.71	338		eP		Pdif	03 44 12.5	+0.4
TZTN	Tazewell	108.02	40		ePKP		PKiKP	03 48 18.9	-0.8
TZTN					ePP		PP	03 48 43.4	-1.6
MDV	Middlebury	108.09	28		ePKP		PKiKP	03 48 17.8	-1.9
RJF	Les Rejaudoux	108.10	334		eP		Pdif	03 44 14.7	+0.8
	comp=Z,30nm,1.1s								
RJF					epP			03 45 06.8	
RJF	Les Rejaudoux	108.10	334		eP		Pdif	03 44 14.7	+0.8
RJF					pmax		pmax		
	comp=Z,15nm,1.1s								
RJF	Les Rejaudoux	108.10	334		eP		Pdif	03 44 14.7	+0.8
	comp=Z,15nm,1.1s								
RJF					epP			03 45 06.8	
CPCT	Cooper Cave	108.14	41		ePKP		PKiKP	03 48 18.9	-1.1
CPCT					ePP		PP	03 48 44.0	-1.9
BINY	Binghamton	108.16	31		ePKP		PKiKP	03 48 18.5	-1.3
BINY					ePP		PP	03 48 43.9	-1.9
LVIG	Laguna Verde	108.24	61		i P		Pdif	03 44 13.0	-1.5
ACCN	Adirondack Com	108.35	29		ePdif		Pdif	03 44 16.0	+1.0
TKL	Tuckaleechee C	108.46	41		Pdiff		Pdif	03 44 15.9	+0.5
	comp=Z,5.5nm,0.7s,baz=88,slow=5.0,SNR=6.3								
TKL					PKiKP		PKiKP	03 48 19.2	-1.3
	comp=Z,54nm,0.7s,baz=152,slow=2.9,SNR=20								
TKL	Tuckaleechee C	108.46	41		Pdif		Pdif	03 44 15.9	+0.5
TKL					ePKP		PKiKP	03 48 19.3	-1.3
LFF	La Frestale	108.72	334		eP		Pdif	03 44 17.4	+0.8
HNH	Hanover	108.72	28		ePKP		PKiKP	03 48 20.2	-0.6
PKME	Peaks-Kenny Pk	108.73	25		ePKP		PKiKP	03 48 19.2	-1.6
VSL	Villasalto	108.80	325		ePKP		PKiKP	03 48 20.9	-0.2
ELN	Prospectdale	109.21	38		ePKP		PKiKP	03 48 21.1	-0.9
ELN					ePP		PP	03 48 52.9	-0.7
BRAL	Brewton	109.26	46		ePKP		PKiKP	03 48 21.6	-0.7
BLA	Blacksburg	109.41	37		ePKP		PKiKP	03 48 20.8	-1.5
MVL	Millersville	109.62	33		ePKP		PKiKP	03 48 21.3	-1.4
GOGA	Godfrey	110.12	42		ePKIKP		PKiKP	03 48 23.0	-0.8
CBN	Corbin	110.40	35		ePKP		PKiKP	03 48 23.4	-0.8
EPF	Esparros	110.44	333		eP		Pdif	03 44 25.7	+1.4
CMIG	Matias Romero	110.77	63		PKiKP		PKiKP	03 48 24.5	-0.9
	comp=Z,15nm,0.7s,baz=351,slow=1.2,SNR=13								
URVA	University of	110.77	35		ePKP		PKiKP	03 48 23.7	-1.2
URVA					ePP		PP	03 49 00.9	-3.8
JSC	Jenkinsville	110.92	40		ePKIKP		PKiKP	03 48 25.7	+0.4
EPOB	Poblet	111.47	332		PKP		PKiKP	03 48 26.0	-0.1
KEST	Kesra	111.50	323		Pdiff		Pdif	03 44 30.5	+1.5
	comp=Z,2.3nm,0.8s,baz=239,slow=10,SNR=4.6								
KEST					PKiKP		PKiKP	03 48 26.9	+0.6
	comp=Z,6.7nm,0.8s,baz=344,slow=6.1,SNR=21								
KEST					PKKPbc		PKKPbc	03 59 22.1	+0.1
	comp=Z,8.7nm,0.7s,baz=70,slow=2.3,SNR=12								
EARI	Arriondas	112.41	337		PKP		PKiKP	03 48 27.8	0.0
CKFL	Kef-Lekhel	112.49	325		P		PKiKP	03 48 32.0	+3.8
CASM	Ain Smara	112.72	325		P		PKiKP	03 48 30.0	+1.4
DFRA	Djebel Bou Aff	112.84	325		P		PKiKP	03 48 25.0	-3.9
CTEI	Djebel Teioual	112.91	325		P		PKiKP	03 48 29.0	0.0
EPON	Pontenova	113.08	339		PKP		PKiKP	03 48 29.1	0.0
SYO	Syowa Base	113.20	202	‖	eP		Pdif	03 44 44.2	+7.6
ETOR	Torete	113.27	334		PKIKP		PKiKP	03 48 29.4	-0.2
SET	Setif	113.35	325		P		PKiKP	03 48 30.0	+0.2
CKHR	Kef el Ahmar	113.43	325		P		PKiKP	03 48 31.0	+1.0
ECHE	Chera	113.81	332		PKIKP		PKiKP	03 48 32.8	+2.2
STS	Santiago	113.95	339		PKIKP		PKiKP	03 48 32.5	+1.7
EMAZ	Mazarícos	114.03	340		PKP		PKiKP	03 48 32.4	+1.4
ECAL	Calabor	114.15	338		PKP		PKiKP	03 48 30.9	-0.3
PBRG	Braganca	114.27	337		ePKPdf		PKiKP	03 48 32.7	+1.3
GUD	Guadarrama	114.28	335		PKIKP		PKiKP	03 48 30.5	-1.0
ADJB	Djebel Djouab	114.42	327		P		PKiKP	03 48 32.9	+1.0
TEIG	Tepich	114.57	56		PKP		PKiKP	03 48 31.1	-1.5
	comp=Z,19nm,0.9s,baz=359,slow=7.4,SNR=7.8								
TEIG					PKKPbc		PKKPbc	03 59 10.2	-1.1
	comp=Z,23nm,0.8s,baz=176,slow=1.2,SNR=6.8								
EMHD	Djebel Mahouad	114.64	327		P		PKiKP	03 48 35.0	+2.7
ELOB	Lobios	114.68	338		PKP		PKiKP	03 48 31.0	-1.2
PCAB	Cabril	114.81	338		ePKPdf		PKiKP	03 48 32.3	-0.2
MVO	Moncorvo	114.93	337		ePKPdf		PKiKP	03 48 33.2	+0.5
ESDC	Sonseca Array	115.03	334		Pdiff		Pdif	03 44 57.2	+13
	comp=Z,1.0nm,0.7s,baz=34,slow=5.9,SNR=4.5								
ESDC					PKP		PKPdf	03 48 32.2	-0.8
	comp=Z,4.5nm,0.5s,baz=2.6,slow=2.8,SNR=8.9								
ESDC					pPKP			03 49 25.8	
	comp=Z,9.5nm,0.9s,baz=35,slow=7.8,SNR=2.0								
ESDC					PKKPbc		PKKPbc	03 59 01.3	-9.2
	comp=Z,1.9nm,0.7s,baz=233,slow=2.0,SNR=4.1								
PVRL	Vila Real	115.08	338		ePKPdf		PKPdf	03 48 32.9	-0.1
EVIA	Vianos	115.28	333		PKIKP		PKPdf	03 48 34.1	+0.6
PAB	San Pablo	115.29	334		ePKIKP		PKPdf	03 48 33.6	+0.1
PAB					e			03 49 36.9	
PAB	San Pablo	115.29	334		ePKPdf		PKPdf	03 48 33.6	+0.2
PAB					ePP		PP	03 49 36.9	+0.5
PAB					ePKKPbc		PKKPbc	03 59 07.4	-2.1
PTO	Porto	115.52	338		ePKPdf		PKPdf	03 48 34.2	+0.3
PVIS	Viseu	115.64	338		ePKPdf		PKPdf	03 48 34.5	+0.4
MTE	Manteigas	115.79	337		ePKPdf		PKPdf	03 48 34.2	-0.2
MTE					ePP		PP	03 49 39.5	-0.4
EHUE	Huescar	116.00	332		PKIKP		PKPdf	03 48 34.8	-0.1
EBAN	Banos Encina	116.22	333		PKIKP		PKPdf	03 48 35.8	+0.5
PCBR	Castelo Branco	116.26	337		ePKPdf		PKPdf	03 48 35.1	-0.2
ENIJ	Nijar	116.52	331		PKIKP		PKPdf	03 48 35

BOSA	**Boshof**	**124.85**	**248**	PKP	PKPdf	03 48 50.0	-2.1		
	comp=Z,9.8nm,0.8s,baz=311,slow=2.4,SNR=5.7								
BOSA	**Boshof**	**124.85**	**248**	*e*PKPpre		03 48 45.6			
BOSA				PKP	PKPdf	03 48 50.0	-2.1		
BOSA				*e*PKPdf	PKPdf	03 48 51.0	-1.1		
VNA2	**Neumayer--Watz**	**125.57**	**191**	*e*Pdiff	Pdif	03 45 27.5	-4.0		
VNA2				*e*		03 45 40.0			
VNA2				*e*		03 45 59.8			
VNA2				*e*		03 46 08.2			
VNA2				*e*		03 46 21.5			
VNA2				*e*		03 46 26.6			
VNA2				*e*		03 48 34.2			
VNA2				*e*		03 48 39.0			
VNA2				*e*		03 48 51.1			
VNA2				*e*		03 48 56.6			
VNA2				*e*		03 50 45.5			
VNA2				*e*		03 53 33.9			
VNA2				*e*		03 53 56.0			
VNA3	**Neumayer Olymp**	**125.67**	**190**	*e*Pdiff	Pdif	03 45 29.6	-2.4		
VNA3				*e*		03 45 41.8			
VNA3				*e*		03 46 09.5			
VNA3				*e*		03 46 22.1			
VNA3				*e*		03 46 26.6			
VNA3				*e*		03 48 34.1			
VNA3				*e*		03 48 39.4			
VNA3				*e*		03 48 51.0			
VNA3				*e*		03 48 56.4			
VNA3				*e*		03 50 44.4			
VNA3				*e*		03 53 33.4			
VNA3				*e*		03 53 53.9			
VNA1	**Neumayer--Stat**	**125.95**	**191**	*e*Pdiff	Pdif	03 45 31.9	-1.4		
VNA1				*e*		03 48 36.8			
VNA1				*e*		03 48 41.4			
VNA1				*e*		03 48 52.6			
VNA1				*e*		03 48 57.8			
VNA1				*e*		03 50 47.1			
VNA1				*e*		03 53 37.8			
VNA1				*e*		03 54 00.1			
BCIP	**Isla Barro Col**	**127.39**	**62**	*e*PKPdf	PKPdf	03 48 55.2	-2.1		
BCIP				*ep*PKPdf	pPKPdf	03 49 54.2	-0.2		
SUR	**Sutherland**	**128.79**	**243**	*e*PKPdf	PKPdf	03 48 57.7	-1.8		
CFTV	**Fuerteventura**	**128.89**	**337**	PKP	PKPdf	03 49 00.4	+0.6		
EOSO	**Osorio**	**129.74**	**338**	PKP	PKPdf	03 49 01.6	+0.1		
CCAN	**Las Canadas**	**129.97**	**339**	PKP	PKPdf	03 49 02.1	+0.2		
PMSA	**Palmer Station**	**130.17**	**164**	SKPbc	SKPbc	03 52 00.6	-2.5		
	comp=Z,70nm,0.9s,baz=170,slow=6.7,SNR=6.0								
PMSA	**Palmer Station**	**130.17**	**164**	*e*PKPdf	PKPdf	03 49 02.5	+1.4		
PMSA				*e*SKPbc	SKPbc	03 52 01.0	-2.0		
TSUM	**Tsumeb**	**130.82**	**261**	SKPbc	SKPbc	03 52 04.3	-2.7		
	comp=Z,362nm,1.0s,baz=87,slow=4.6,SNR=9.0								
TSUM				SKKPbc		04 01 46.8			
	comp=Z,7.0nm,0.9s,baz=254,slow=8.7,SNR=3.7								
TSUM	**Tsumeb**	**130.82**	**261**	*e*PKPpre		03 48 49.4			
TSUM				*e*PKPdf	PKPdf	03 49 03.4	-0.3		
TSUM				*e*SKPbc	SKPbc	03 52 03.9	-3.0		
AGPR	**Aguadilla, PR**	**131.00**	**42**	*e*PKPdf	PKPdf	03 49 03.2	-0.9		
AGPR				*e*SKPbc	SKPbc	03 52 06.0	-1.7		
SJG	**San Juan**	**131.87**	**42**	*e*PKPpre		03 48 56.0			
SJG				*e*PKPdf	PKPdf	03 49 04.8	-1.0		
SJG				*e*SKPbc	SKPbc	03 52 08.3	-2.5		
SJG				*e*SKPdf	SKPdf	03 52 19.4	-1.4		
TOA0	**Torodi Ar. Sit**	**132.06**	**309**	*e*PKPpre		03 48 52.2			
TOA0				*e*PKPdf	PKPdf	03 49 04.5	-1.7		
TOA0				*e*SKPbc	SKPbc	03 52 07.4	-4.1		
TORD	**Torodi Ar. Bea**	**132.06**	**309**	PKHKP		03 48 51.3			
	comp=Z,3.1nm,0.6s,baz=43,slow=2.7,SNR=11								
TORD				PKP	PKPdf	03 49 04.5	-1.6		
	comp=Z,22nm,0.6s,baz=34,slow=1.6,SNR=29								
TORD				SKPbc	SKPbc	03 52 07.0	-4.6		
	comp=Z,174nm,0.8s,baz=29,slow=3.1,SNR=13								
TORD				SKKPbc		04 01 16.2			
	comp=Z,24nm,1.1s,baz=253,slow=5.4,SNR=4.3								
TORD				tx	tx	04 05 18.8			
	comp=Z,10nm,1.2s,baz=232,slow=2.3,SNR=4.3								
TORD	**Torodi Ar. Bea**	**132.06**	**309**	PKP		03 48 51.3			
TORD				PKP	PKPdf	03 49 04.5	-1.6		
TORD				SKPbc	SKPbc	03 52 07.0	-4.6		
TORD				SKKPbc		04 01 16.2			
OTAV	**Otavalo**	**132.95**	**71**	*e*PKPpre		03 48 56.0			
OTAV				*e*PKPdf	PKPdf	03 49 08.5	+0.6		
ROSC	**El Rosal**	**134.29**	**63**	PKHKP		03 48 57.3			
	comp=Z,14nm,0.6s,baz=234,slow=4.4,SNR=13								
ROSC				PKP	PKPdf	03 49 10.9	+0.5		
	comp=Z,66nm,0.7s,baz=139,slow=7.1,SNR=16								
ROSC	**El Rosal**	**134.29**	**63**	*e*PKPpre		03 48 57.2			
ROSC				*e*PKPdf	PKPdf	03 49 10.0	-0.5		
ROSC				PKP	PKPdf	03 49 10.9	+0.5		
ROSC				*e*SKPbc	SKPbc	03 52 18.3	-0.8		
ATAH	**Atahualpa**	**135.84**	**80**	PKHKP		03 49 03.8			
	comp=Z,36nm,0.7s,baz=148,slow=1.6,SNR=4.6								
ATAH				PKP	PKPdf	03 49 13.5	+0.2		
	comp=Z,82nm,1.0s,baz=278,slow=2.5,SNR=21								
ATAH				SKPbc	SKPbc	03 52 24.0	0.0		
	comp=Z,176nm,1.0s,baz=181,slow=1.7,SNR=6.1								
USHA	**Ushuaia**	**135.92**	**152**	PKHKP		03 49 02.7			
	comp=Z,12nm,0.6s,baz=178,slow=5.2,SNR=8.5								
USHA				PKP	PKPdf	03 49 11.9	-0.2		
	comp=Z,144nm,0.9s,baz=219,slow=4.8,SNR=16								
USHA				SKPbc	SKPbc	03 52 20.9	-2.0		
	comp=Z,101nm,1.0s,baz=190,slow=3.1,SNR=7.4								
USHA				SKKPbc		04 01 19.8			
	comp=Z,24nm,1.1s,baz=207,slow=4.1,SNR=3.6								
FDF	**Fort de France**	**137.53**	**40**	*e*PKHKP		03 49 08.2			
FDF				*e*		03 49 16.1			
FDF	**Fort de France**	**137.53**	**40**	*e*P		03 49 08.4			
FDF	**Fort de France**	**137.53**	**40**	*e*PKPpre		03 49 08.2			
FDF				*e*PKPdf	PKPdf	03 49 16.1	-0.3		
FDF				*e*SKPbc	SKPbc	03 52 26.7	-2.3		
MVM	**Montagne Vaucl**	**137.83**	**40**	*e*P		03 49 05.4			
NNA	**Nana**	**138.80**	**87**	PKHKP		03 49 09.7			
	comp=Z,11nm,0.3s,baz=343,slow=2.8,SNR=9.7								
NNA				PKP	PKPdf	03 49 18.3	-0.4		
	comp=Z,109nm,0.9s,baz=284,slow=4.6,SNR=19								
NNA				SKPbc	SKPbc	03 52 31.3	-1.3		
	comp=Z,55nm,1.0s,baz=345,slow=2.6,SNR=4.3								
NNA	**Nana**	**138.80**	**87**	*e*PKPpre		03 49 10.6			
NNA				*e*PKPdf	PKPdf	03 49 18.4	-0.3		
NNA				SKPbc	SKPbc	03 52 31.3	-1.3		
NNA				*e*SKPdf	SKPdf	03 52 31.6	-0.9		
GRW	**Mount Saint Ca**	**139.18**	**43**	*e*P	PKPdf	03 49 16.1	-3.4		
BBGH	**Gun Hill**	**139.73**	**39**	*e*PKPdf	PKPdf	03 49 19.8	-0.6		
DBIC	**Dimbokro**	**141.15**	**308**	PKHKP		03 49 15.5			
	comp=Z,23nm,0.6s,baz=24,slow=3.4,SNR=58								
DBIC				SKP		03 52 35.0			
	comp=Z,927nm,1.4s,baz=8.0,slow=4.0,SNR=3.6								
DBIC				SKKPbc		04 00 54.4			
	comp=Z,26nm,1.1s,baz=208,slow=8.7,SNR=3.5								
DBIC	**Dimbokro**	**141.15**	**308**	*i* PKHKP		03 49 15.5			
DBIC						03 52 35.0			
DBIC				pmax	pmax				
	comp=Z,23nm,0.6s								
DBIC				pmax	pmax				
	comp=N,927nm,1.4s								
DBIC	**Dimbokro**	**141.15**	**308**	*e*PKPpre		03 49 15.7			
DBIC				*e*PKPdf	PKPdf	03 49 20.9	-2.2		
KIC	**Kosan Boka**	**141.27**	**308**	*e*P	PKPdf	03 49 15.6	-7.7		
	comp=N,894nm,1.2s								
TIC	**Toumodi**	**141.29**	**308**	*e*P	PKPdf	03 49 16.3	-7.0		
	comp=N,253nm,0.6s								
LIC	**Lamto**	**141.57**	**308**	*e*PKIKP	PKPdf	03 49 17.2	-6.6		
	comp=N,175nm,0.6s								
LIC	**Lamto**	**141.57**	**308**	*e*P	PKPdf	03 49 17.3	-6.5		
	comp=N,297nm,0.6s								
BBTS	**Babate**	**142.14**	**331**	PKP	PKPdf	03 49 22.7	-2.1		
	comp=N,61nm,0.5s,baz=229,slow=0.9								
BBTS	**Babate**	**142.14**	**331**	PKP	PKPdf	03 49 22.7	-2.1		
PLCA	**Paso Flores**	**142.40**	**133**	*e*PKHKP		03 49 18.7			
PLCA				*e*		03 49 21.3			
EFI	**East Falkland**	**142.50**	**156**	*e*PKIKP	PKPdf	03 49 20.2	-4.1		
CCHI	**Chillan**	**142.78**	**126**	*i*P	PKPdf	03 49 18.8	-6.4		
LNV	**Longovilo**	**144.05**	**122**	*i*P	PKPdf	03 49 24.9	-2.6		
IHA	**Instituto Hidr**	**144.09**	**120**	*i*P	PKPdf	03 49 25.1	-2.6		
SFDO	**San Fernando**	**144.19**	**123**	*i*P	PKPdf	03 49 25.0	-2.8		
CHNG	**Los Chungos**	**144.47**	**119**	*e*P	PKPdf	03 49 26.2	-2.2		
TACH	**Talagante**	**144.51**	**122**	*e*P	PKPdf	03 49 25.9	-2.5		
CACH	**El Canelo**	**144.66**	**123**	*i*P	PKPdf	03 49 27.4	-1.2		
RCDM	**Rinconada Maip**	**144.66**	**121**	*i*P	PKPdf	03 49 27.4	-1.3		
CHCH	**Chadas Angostu**	**144.66**	**122**	*i*P	PKPdf	03 49 27.0	-1.6		
CICH	**Cipreses**	**144.74**	**123**	*i*P	PKPdf	03 49 27.6	-1.2		
ANTU	**Antumapu**	**144.78**	**122**	*e*P	PKPdf	03 49 27.3	-1.5		
PCH	**Pirque**	**144.86**	**122**	*e*P	PKPdf	03 49 27.3	-1.7		
CLCH	**Cerro Calan**	**144.90**	**121**	*i*P	PKPdf	03 49 27.5	-1.5		
JACH	**Jahuel**	**145.03**	**120**	*e*P	PKPbc	03 49 27.8	-1.4		
LMEL	**Las Melosas**	**145.05**	**122**	*i*P	PKPbc	03 49 27.9	-1.4		
FCH	**Farellones**	**145.12**	**121**	*i*P	PKPdf	03 49 28.6	-0.8		
TLL	**Tololo Astrono**	**145.39**	**116**	*i*P	PKPdf	03 49 29.4	-0.6		
LCO	**Las Campanas**	**145.67**	**114**	*i*P	PKPdf	03 49 29.9	-0.6		
LCO	**Las Campanas**	**145.67**	**114**	*e*PKPbc	PKPbc	03 49 30.3	-1.0		
CPN1	**Cerro Paranal**	**146.36**	**106**	*i* P	PKPdf	03 49 32.4	+0.6		
ANCH	**Antofagasta**	**146.39**	**104**	*i*P	PKPab	03 49 34.1	-0.8		
CEN1	**Los Morros**	**146.58**	**104**	*i*P	PKPdf	03 49 31.2	-1.1		
CFAA	**Coronel Fontan**	**147.23**	**119**	PKPbc	PKPbc	03 49 32.6	-3.0		
	comp=N,100nm,0.9s,baz=254,slow=2.8,SNR=191								
LVC	**Limon Verde**	**147.78**	**102**	*e*PKPdf	PKPdf	03 49 34.2	0.0		
LVC				*e*PKPbc	PKPbc	03 49 36.6	-0.8		
LPAZ	**La Paz**	**147.98**	**91**	PKP	PKPdf	03 49 33.4	-1.3		
	comp=N,59nm,0.8s,baz=314,slow=1.3,SNR=88								
LPAZ				PKPbc	PKPbc	03 49 38.9	+0.8		
	comp=N,413nm,0.9s,baz=324,slow=3.3,SNR=70								
LPAZ	**La Paz**	**147.98**	**91**	*e*PKPdf	PKPdf	03 49 34.4	-0.3		
LPAZ				*e*PKPbc	PKPbc	03 49 37.1	-1.0		
LPAZ				*e*PKPab	PKPab	03 49 40.9	-0.5		
SHEL	**Horse Pasture**	**152.31**	**272**	*e*PKPdf	PKPdf	03 49 40.7	-0.8		
SHEL				*e*PKPbc	PKPbc	03 49 47.9	-0.5		
TRIS	**Tristan da Cun**	**153.40**	**223**	*e*PKPdf	PKPdf	03 49 42.4	-0.1		
TRIS				*e*PKPbc	PKPbc	03 49 51.1	+0.8		
LPA	**La Plata**	**153.94**	**132**	*ce*PKP	PKPdf	03 49 42.0	-1.3		
LPA				PKIKP	PKPbc	03 49 51.3	-0.2		
LPA	**La Plata**	**153.94**	**132**	*e*PKP	PKPab	03 50 04.0	-1.7		
LPA				*ep*PKP	pPKPdf	03 50 45.0	+4.4		
LPA				*ep*PKP	pPKPab	03 51 05.0	+4.4		
LPA				*e*PP	PP	03 53 40.0	-1.0		
LPA									
	comp=Z,26μm,21.0s								
SIV	**San Ignacio**	**154.61**	**87**	PKP	PKPdf	03 49 43.0	-1.8		
	comp=Z,39nm,0.7s,baz=237,slow=1.8,SNR=19								
SIV				PKPab	PKPab	03 50 08.9	-0.2		
	comp=Z,68nm,0.7s,baz=273,slow=6.2,SNR=11								
BDFB	**Brasilia**	**166.79**	**78**	PKP	PKPdf	03 49 56.9	-1.0		
	comp=Z,18nm,0.9s,baz=209,slow=2.6,SNR=34								
BDFB	**Brasilia**	**166.79**	**78**	PKIKP	PKPdf	03 49 56.9	-1.0		
BDFB				pmax	pmax				
	comp=Z,18nm,0.9s								
RCBR	**Riachuelo**	**166.89**	**6**	*e*PKPdf	PKPdf	03 49 56.8	-1.2		
RCBR				*e*PKPab	PKPab	03 51 02.8	+0.4		
VAO	**Valinhos**	**167.79**	**111**	*i*P	PKPdf	03 49 59.2	+0.8		
VAO				*i*		03 50 50.5			
VAO				*i*		03 51 05.9			
VAO				*i*		03 52 01.4			
VAO				*i*		03 54 53.5			

KRSC 31 03:44:44.9±1.3, 5357N×16312E, h40km±39km, ML3.6, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKZ	**Mys Kozlova**	**1.28**	**321**	*e*P	Pn	03 45 07.7	+1.4
MKZ				*i* S	Sn	03 45 24.4	+2.2
SPN	**Mys Shipunski**	**1.92**	**257**	*e*P	Pn	03 45 16.6	+1.6
SPN				*i* S	Sn	03 45 39.6	+1.8
KII	**Karymskiy**	**2.23**	**284**	*e*P	Pn	03 45 21.9	+2.7
KII				*i* S	Sn	03 45 49.0	+3.5
NLC	**Nalytchevo**	**2.30**	**261**	*e*P	Pn	03 45 22.0	+2.0
NLC				*i* S	Sn	03 45 49.4	+2.2
TUMR	**Tumrok**	**2.44**	**316**	P	Pn	03 45 25.5	+3.3
AVH	**Avacha**	**2.64**	**265**	P	Pn	03 45 27.6	+2.7
KBTR	**Krutoberegovo**	**2.65**	**356**	P	Pn	03 45 24.7	-0.3
KBTR				*i* S	Sn	03 45 53.9	-2.0
KMNR	**Kamenistaya**	**2.76**	**324**	P	Pn	03 45 28.9	+2.4
BZGR	**Bezymyannyi-Gr**	**2.76**	**330**	P	Pn	03 45 29.2	+2.7
BZGR				*i* S	Sn	03 46 01.2	+2.6
RUS	**Russkaya**	**3.01**	**250**	P	Pn	03 45 31.4	+1.4
RUS				*i* S	Sn	03 46 04.8	+0.1
GNL	**Ganaly**	**3.09**	**274**	P	Pn	03 45 34.8	+3.8

*NEIC **31** 04:02:19.0, 3822N×2883E, h8km, MD3.7(ATH), ML3.5(ISK), After ISK.*
*ISK **31** 04:02:20.4, 3823N×2881E, h12km, MD3.6*
*ISCJB **31** 04:02:20.4±0.5, 3823N±002×2884E±002, h5km±4km, Error ellipse: s-maj=3.4km s-min=3.1km az=27.1*
*CSEM **31** 04:02:20.1±0.0, 3823N×2884E, h8km, MD3.6, Error ellipse: s-maj=1.1km s-min=1.0km az=25.0*
*DDA **31** 04:02:21.3, 3824N×2884E, h12km, Md3.5*
*ATH **31** 04:02:22.7, 3821N×2855E, h16km±5km, MD3.7/8*

ISC 31 04:02:21.0±0.4, 3822N±002×2884E±002, h7km±3km, n74, σ0.83/98, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULA	**Kula-Manisa**	**0.32**	**334**	*e*PG	**Pg**	**04 02 27.2**	**-0.2**
KULA				*e*SG	**Sg**	**04 02 31.4**	**-0.2**
MANT	**Manisa**	**0.35**	**321**	*i* P	**Pg**	**04 02 27.9**	**+0.2**
MANT				*i* S	**Sg**	**04 02 32.6**	**+0.2**
DENT	**Denizli**	**0.49**	**162**	*e*PG	**Pg**	**04 02 30.6**	**+0.1**
KHAL	**Karahalli**	**0.54**	**74**	*i* P	**Pg**	**04 02 31.4**	**+0.1**
KHAL				*i* S	**Sg**	**04 02 37.9**	**-0.5**
DEMI	**Demirci**	**0.82**	**353**	*i* P	**Pg**	**04 02 36.5**	**-0.4**
DEMI				*i* S	**Sg**	**04 02 46.9**	**-0.7**
DEMI	**Demirci**	**0.82**	**353**	*i* P	**Pg**	**04 02 36.5**	**-0.4**
DEMI				*i* S	**Sg**	**04 02 46.8**	**-0.8**
AYDN	**Tasoluk**	**0.94**	**234**	*i* P	**Pg**	**04 02 38.9**	**-0.2**
AYDN				*i* S	**Sg**	**04 02 53.5**	**+2.1**
GDZ	**Gediz**	**1.00**	**30**	*i* P	**Pg**	**04 02 39.7**	**-0.6**
GDZ				*i* S	**Sg**	**04 02 54.3**	**+1.1**
AKHS	**Akhisar**	**1.04**	**310**	*i* P	**Pg**	**04 02 40.5**	**-0.4**
AKHS				*i* S	**Sg**	**04 02 56.0**	**+1.7**
AKHS	**Akhisar**	**1.04**	**310**	*i* P	**Pg**	**04 02 40.5**	**-0.4**
AKHS				*i* S	**Sg**	**04 02 56.0**	**+1.6**
AKS	**Akhisar**	**1.04**	**310**	*e*PG	**Pg**	**04 02 40.9**	**0.0**
GOLH	**Golhisar**	**1.14**	**150**	*i* P	**Pg**	**04 02 42.8**	**-0.1**
GOLH				*i* S	**Sg**	**04 03 01.0**	**+3.4**
KDAG	**Bornova**	**1.25**	**279**	*i* P	**Pn**	**04 02 44.4**	**-0.5**
KDAG				*i* S	**Sg**	**04 03 00.3**	**-0.9**
MLSB	**Milas**	**1.25**	**223**	*e*PN	**Pn**	**04 02 44.6**	**-0.3**
IZM	**Izmir**	**1.25**	**279**	*e*PN	**Pn**	**04 02 44.0**	**-0.9**
IZM				*e*SN	**Sn**	**04 03 00.5**	**-1.5**
ALT	**Altintas**	**1.30**	**50**	*e*PN	**Pn**	**04 02 44.5**	**-1.0**
TURN	**Turunc**	**1.36**	**188**	*i* P	**Pn**	**04 02 48.5**	**+2.2**
TURN				*i* S	**Sb**	**04 03 12.5**	**+8.1**
TURN	**Turunc**	**1.36**	**188**	*i* P	**Pn**	**04 02 48.5**	**+2.1**
GCAM	**G?zelcaml?**	**1.37**	**248**	*i* P	**Pn**	**04 02 45.8**	**-0.8**
GCAM				*i* S	**Sb**	**04 03 04.1**	**-0.2**
GCAM	**G?zelcaml?**	**1.37**	**248**	*i* P	**Pn**	**04 02 45.8**	**-0.8**
GCAM				*i* S	**Sb**	**04 03 04.4**	**-0.3**
SHUT	**Suhut-Afyon**	**1.39**	**76**	*e*PN	**Pn**	**04 02 46.0**	**-0.8**
DST	**Dursunbey**	**1.39**	**353**	*e*PN	**Pn**	**04 02 46.0**	**-0.8**
DURS	**Dursunbey**	**1.41**	**348**	*i* P	**Pn**	**04 02 46.3**	**-0.7**
DURS				*i* S	**Sb**	**04 03 07.5**	**+1.8**
DURS	**Dursunbey**	**1.41**	**348**	*i* P	**Pn**	**04 02 46.3**	**-0.7**
DURS				*i* S	**Sb**	**04 03 07.4**	**+1.7**
BLCB	**Balcova**	**1.42**	**277**	*e*PN	**Pn**	**04 02 46.8**	**-0.4**
BLCB				*e*SN	**Sn**	**04 03 05.2**	**-1.0**
DALT	**Dalyan (Mudla)**	**1.46**	**186**	*e*PN	**Pn**	**04 02 46.8**	**-1.0**
BCK	**Bucak**	**1.58**	**118**	*e*PN	**Pn**	**04 02 49.2**	**-0.2**
BDRM	**Kayabasi**	**1.60**	**224**	*i* P	**Pn**	**04 02 49.2**	**-0.5**
BDRM				*i* S	**Sn**	**04 03 14.8**	**+4.2**
SMG	**Samos**	**1.66**	**253**	*e*Pn	**Pn**	**04 02 49.9**	**-0.7**
SMG	**Samos**	**1.66**	**253**	*e*PN	**Pn**	**04 02 49.9**	**-0.7**
BODT	**Bodrum**	**1.68**	**227**	*e*PN	**Pn**	**04 02 50.4**	**-0.4**
ELL	**Elmali**	**1.70**	**150**	*e*PN	**Pn**	**04 02 50.8**	**-0.3**
BOLV	**Bolvadin**	**1.73**	**73**	*i* P	**Pn**	**04 02 51.3**	**-0.1**
BOLV				*i* S	**Sn**	**04 03 20.6**	**+6.8**
URLA	**Izmir**	**1.77**	**275**	*i* P	**Pn**	**04 02 51.7**	**-0.3**
URLA				*i* S	**Sn**	**04 03 19.3**	**+4.5**
BALY	**Balya**	**1.79**	**328**	*i* P	**Pn**	**04 02 51.8**	**-0.5**
BALY				*i* S	**Sn**	**04 03 15.1**	**-0.1**
ULDT	**Uludag**	**1.93**	**7**	*i* P	**Pn**	**04 02 55.1**	**+0.9**
ULDT				*i* S	**Sn**	**04 03 22.9**	**+4.2**
ANTB	**Antalya**	**1.96**	**132**	*e*PN	**Pn**	**04 02 54.5**	**-0.1**
KCT	**Karacabey**	**2.07**	**350**	*e*PN	**Pn**	**04 02 56.3**	**+0.1**
ARG	**Arkhangelos**	**2.08**	**196**	*e*Pb	**Pb**	**04 02 57.9**	**-1.2**
ARG	**Arkhangelos**	**2.08**	**196**	*e*PB	**Pb**	**04 02 57.9**	**-1.2**
CAVI	**Cavuskoy**	**2.12**	**21**	*e*PN	**Pn**	**04 02 57.8**	**+0.8**
KSL	**Kastellorizon**	**2.15**	**164**	*e*Pn	**Pn**	**04 03 01.5**	**+4.2**
KSL	**Kastellorizon**	**2.15**	**164**	*e*PN	**Pn**	**04 03 01.5**	**+4.2**
GEMT	**Gemlik**	**2.23**	**7**	*e*PN	**Pn**	**04 02 58.5**	**+0.2**
BNT	**Bandirma**	**2.25**	**342**	*e*PN	**Pn**	**04 02 58.7**	**+0.1**
EDC	**Edincik**	**2.25**	**341**	*e*PN	**Pn**	**04 02 58.7**	**+0.1**
PRK	**Paraskevi**	**2.25**	**298**	*e*Pn	**Pn**	**04 02 58.8**	**+0.1**
PRK	**Paraskevi**	**2.25**	**298**	*e*PN	**Pn**	**04 02 58.8**	**+0.1**
GPA	**Golpazari**	**2.36**	**29**	*e*PN	**Pn**	**04 03 00.6**	**+0.4**
GPA	**Golpazari**	**2.36**	**29**	*e*Pn	**Pn**	**04 03 00.4**	**+0.3**
YLV	**Yalova**	**2.38**	**10**	*e*PN	**Pn**	**04 03 00.7**	**+0.3**
KIZT	**Kizilcal**	**2.47**	**74**	*e*PN	**Pn**	**04 03 01.8**	**+0.1**
EZN	**Ezine**	**2.53**	**310**	*e*PN	**Pn**	**04 03 02.1**	**-0.4**
MRMT	**Marmara Adasi**	**2.56**	**338**	*e*PN	**Pn**	**04 03 03.1**	**+0.2**
LADK	**Ladik-KONYA**	**2.78**	**89**	*e*PN	**Pn**	**04 03 06.5**	**+0.6**
KONT	**Konya--Tatoy**	**2.79**	**95**	*e*PN	**Pn**	**04 03 06.7**	**+0.6**
APE	**Apeiranthos**	**2.87**	**247**	*e*Pb	**Pb**	**04 03 07.8**	**-4.7**
APE	**Apeiranthos**	**2.87**	**247**	*e*PB	**Pb**	**04 03 07.8**	**-4.7**
KARP	**Karpathos**	**2.99**	**207**	*e*Pn	**Pn**	**04 03 10.0**	**+1.2**
KARP	**Karpathos**	**2.99**	**207**	*e*PN	**Pn**	**04 03 10.0**	**+1.2**
GADA	**Gvkgeada**	**3.01**	**312**	*e*PN	**Pn**	**04 03 08.9**	**-0.3**
HDMB	**Hadim**	**3.16**	**112**	*e*PN	**Pn**	**04 03 11.8**	**+0.7**
LIA	**Limnos Island**	**3.30**	**302**	*e*Pn	**Pn**	**04 03 13.5**	**+0.4**
LIA	**Limnos Island**	**3.30**	**302**	*e*PN	**Pn**	**04 03 13.5**	**+0.4**
ANTO	**Ankara**	**3.49**	**61**	*e*Pg	**Pg**	**04 03 27.0**	**-0.9**
ANTO	**Ankara**	**3.49**	**61**	*e*Pg	**Pg**	**04 03 27.0**	**-0.9**
RDO	**Rodhopi**	**3.87**	**320**	P	**Pn**	**04 03 22.4**	**+1.4**
NPS	**Neapolis**	**3.93**	**222**	*e*Pn	**Pn**	**04 03 23.2**	**+1.5**
NPS	**Neapolis**	**3.93**	**222**	*e*PN	**Pn**	**04 03 23.2**	**+1.5**
BR131	**Keskin Array S**	**4.03**	**67**	*e*Pn	**Pn**	**04 03 23.1**	**0.0**
BR131	**Keskin Array S**	**4.03**	**67**	*e*Pg	**Pg**	**04 03 36.7**	**-1.5**
BR131	**Keskin Array S**	**4.03**	**67**	*e*Pn	**Pn**	**04 03 23.1**	**0.0**
BR131				*e*Pg	**Pg**	**04 03 36.7**	**-1.5**
PLG	**Polygyros**	**4.70**	**299**	P	**Pn**	**04 03 33.9**	**+1.6**
NVR	**Nevrokopi**	**4.94**	**311**	P	**Pn**	**04 03 36.5**	**+0.8**

*BJI **31** 04:05:55.2, 1900N×14550E, h232km, mB4.7, mb4.8*
*ISCJB **31** 04:05:57.2±1.0, 1899N±005×14543E±005, h223km±10km, mb4.5/68, Error ellipse: s-maj=7.9km s-min=7.3km az=40.4*
*MOS **31** 04:05:57.2±0.9, 1903N×14539E, h226km, mb4.7/22, Error ellipse: s-maj=12.4km s-min=7.0km az=98.7*
*NEIC **31** 04:05:59.2±1.0, 1896N×14545E, h232km±9km, mb4.6/40, Error ellipse: s-maj=5.8km s-min=5.4km az=198.0*
*IDC **31** 04:06:02.1±1.9, 1898N×14539E, h259km±18km, mb4.1/23, mb1 4.2/25, mb1mx4.2/30, mbtmp4.2/25, Error ellipse: s-maj=13.7km s-min=9.1km az=96.0*

**ISC 31 04:05:58.2±1.0, 1896N±005×14548E±005, h219km±10km,

SEY	**Seymchan**	**44.19**	**5**	⇑*iP*	**P**	**04 13 44.7**	**-0.4**
GTA	**Gaotai**	**44.22**	**307**	*eP*	**P**	**04 13 45.0**	**-0.8**
GTA				AP	pP	04 14 31.8	-0.7
GTA				XP	sP	04 14 57.5	+0.3
GTA				AMB	AMB		
	comp=Z,9μm,12.9s						
GTA				LR	LR		
	comp=N,4μm,19.5s						
GTA				LR	LR		
	comp=E,5μm,18.6s						
GTA				LR	LR		
	comp=Z,7μm,13.8s						
YAK	**Yakutsk**	**44.43**	**349**	*eP*	**P**	**04 13 45.2**	**-1.8**
YAK				pmax	pmax		
	comp=Z,71nm,0.9s,mb5.0						
YAK				pmax	pmax		
	comp=N,12nm,0.9s						
YAK				pmax	pmax		
	comp=E,9.0nm,1.0s						
YAK	**Yakutsk**	**44.43**	**349**	*eP*	**P**	**04 13 46.1**	**-0.9**
	comp=E,137nm,0.6s,mb5.5						
DZM	**Mont Dzumac**	**45.64**	**152**	*eP*	**P**	**04 13 56.6**	**-0.5**
LSA	**Lhasa**	**50.25**	**293**	*eP*	**P**	**04 14 34.3**	**+1.9**
LSA				pmax	pmax		
	comp=Z,18nm,0.4s,mb4.8						
LSA	**Lhasa**	**50.25**	**293**	*eP*	**P**	**04 14 34.3**	**+1.9**
	comp=Z,18nm,0.4s,mb4.8						
BILL	**Bilibino**	**50.80**	**10**α	*iP*	**P**	**04 14 36.6**	**+0.8**
BILL				*PP	pP	04 15 27.0	+3.1
BILL						04 15 45.0	
BILL				pmax	pmax		
	comp=Z,33nm,1.0s,mb4.7						
BILL	**Bilibino**	**50.80**	**10**	*eP*	**P**	**04 14 36.3**	**+0.5**
	comp=Z,12nm,0.6s,mb4.5						
TAPN	**Taplejung**	**53.38**	**290**	*eP*	**P**	**04 14 56.7**	**+1.2**
	comp=Z,26nm,0.6s,mb4.8						
TIXI	**Tiksi**	**53.59**	**354**⇑	*iP*	**P**	**04 14 54.8**	**-1.5**
TIXI				pmax	pmax		
	comp=Z,8.0nm,0.8s,mb4.3						
TIXI	**Tiksi**	**53.59**	**354**	*eP*	**P**	**04 14 55.0**	**-1.3**
	comp=Z,7.1nm,0.8s,mb4.2						
ODAN	**Odare**	**53.70**	**290**	*eP*	**P**	**04 14 58.9**	**+1.1**
	comp=Z,36nm,0.5s,mb5.2						
RAMN	**Ramite**	**54.39**	**290**	*eP*	**P**	**04 15 03.2**	**+0.4**
	comp=Z,30nm,0.7s,mb4.9						
JIRN	**Jiri**	**54.70**	**291**	*eP*	**P**	**04 15 06.4**	**+1.4**
	comp=Z,61nm,0.7s,mb5.3						
GUN	**Gumba**	**54.95**	**291**	*eP*	**P**	**04 15 08.2**	**+1.3**
PKI	**Pulchoki**	**55.40**	**291**	*eP*	**P**	**04 15 10.7**	**+0.7**
KKN	**Kakani**	**55.49**	**291**	*eP*	**P**	**04 15 11.4**	**+0.7**
DMN	**Daman**	**55.66**	**291**	*eP*	**P**	**04 15 12.7**	**+0.8**
GKN	**Gorkha**	**56.04**	**291**	*eP*	**P**	**04 15 14.9**	**+0.3**
DANN	**Dangsing**	**56.78**	**292**	*eP*	**P**	**04 15 20.8**	**+1.0**
	comp=Z,116nm,0.6s						
KOLN	**Koldanda**	**56.98**	**291**	*eP*	**P**	**04 15 21.7**	**+0.5**
	comp=Z,20nm,0.7s,mb4.8						
ZALV	**Zalesovo Beam**	**57.68**	**322**	P	**P**	**04 15 24.5**	**-1.2**
	comp=Z,8.2nm,0.6s,mb4.5,baz=107,slow=7.6,SNR=14						
ZALV				PcP	PcP	04 16 15.0	-1.0
	comp=Z,1.4nm,0.5s,baz=136,slow=5.3,SNR=2.9						
MK31	**Makanchi Array**	**58.13**	**314**	*eP*	**P**	**04 15 28.2**	**-0.7**
MKAR	**Makanchi Array**	**58.13**	**314**	P	**P**	**04 15 28.6**	**-0.3**
	comp=Z,9.2nm,0.6s,mb4.6,baz=88,slow=8.6,SNR=48						
MKAR				PcP	PcP	04 16 17.0	-1.0
	comp=Z,1.9nm,0.6s,baz=121,slow=1.9,SNR=3.3						
KDAK	**Kodiak Island**	**59.26**	**33**	P	**P**	**04 15 37.0**	**+0.6**
	comp=Z,8.5nm,0.6s,mb4.6,baz=107,slow=14,SNR=8.0						
KURK	**Kurchatov**	**60.94**	**318**	*eP*	**P**	**04 15 46.9**	**-1.1**
KURK				pmax	pmax		
	comp=Z,18nm,0.8s,mb4.8						
KURK	**Kurchatov**	**60.94**	**318**	*eP*	**P**	**04 15 46.9**	**-1.1**
	comp=Z,18nm,0.8s,mb4.8						
SLKM	**Skilak Lake**	**61.07**	**31**	*eP*	**P**	**04 15 48.6**	**-0.1**
BPAW	**Bear Paw Mtn.**	**61.62**	**27**	*eP*	**P**	**04 15 52.7**	**+0.4**
	comp=Z,15nm,0.8s,mb4.7						
MCK	**McKinley**	**62.40**	**27**	*eP*	**P**	**04 15 57.3**	**-0.2**
MCK				pmax	pmax		
	comp=Z,11nm,1.0s,mb4.4						
MCK	**McKinley**	**62.40**	**27**	*eP*	**P**	**04 15 57.3**	**-0.1**
	comp=Z,12nm,1.0s,mb4.5						
TKM2	**Tokmak 2**	**62.73**	**309**	*eP*	**P**	**04 16 00.2**	**+0.2**
TKM2				pmax	pmax		
	comp=Z,8.0nm,0.6s,mb4.5						
TKM2	**Tokmak 2**	**62.73**	**309**	*eP*	**P**	**04 16 00.2**	**+0.2**
	comp=Z,8.0nm,0.6s,mb4.5						
COLA	**College**	**63.12**	**26**	*eP*	**P**	**04 16 02.3**	**+0.1**
COLA				pmax	pmax		
	comp=Z,46nm,1.7s,mb4.8						
COLA	**College**	**63.12**	**26**	*eP*	**P**	**04 16 02.3**	**+0.1**
	comp=Z,46nm,1.7s,mb4.8						
UCH	**Uchtor**	**63.54**	**308**	*eP*	**P**	**04 16 04.7**	**-0.7**
	comp=Z,4.2nm,0.5s,mb4.3						
AML	**Almayashu**	**64.16**	**308**	*eP*	**P**	**04 16 10.0**	**+0.6**
	comp=Z,8.3nm,0.5s,mb4.6						
BVAR	**Borovoye Array**	**66.14**	**320**	P	**P**	**04 16 21.3**	**-0.7**
	comp=Z,27nm,0.6s,mb5.0,baz=96,slow=7.7,SNR=14						
BRVK	**Borovoye**	**66.20**	**320**	*eP*	**P**	**04 16 21.2**	**-1.1**
BRVK				pmax	pmax		
	comp=Z,24nm,0.6s,mb5.0						
BRVK	**Borovoye**	**66.20**	**320**	*eP*	**P**	**04 16 21.2**	**-1.1**
	comp=Z,24nm,0.6s,mb5.0						
HYT	**Haines Junctio**	**67.31**	**31**	*eP*	**P**	**04 16 30.1**	**+1.0**
KBL	**Kabul**	**68.56**	**300**	*eP*	**P**	**04 16 37.6**	**+0.1**
KBL				pmax	pmax		
	comp=Z,8.0nm,0.8s,mb4.4						
KBL	**Kabul**	**68.56**	**300**	*eP*	**P**	**04 16 37.5**	**+0.1**
	comp=Z,8.4nm,0.8s,mb4.4						
INK	**Inuvik**	**69.22**	**23**	*eP*	**P**	**04 16 40.4**	**-0.5**
	comp=Z,254nm,0.8s						
ARU	**Arti**	**72.73**	**324**	*diP*	**P**	**04 17 00.3**	**-1.9**
ARU						04 19 42.4	
ARU				*eS*	S	04 26 11.1	+1.8
ARU				*eSS*	SS	04 30 54.9	+1.7
ARU				pmax	pmax		
	comp=Z,113nm,5.0s						
ARU	**Arti**	**72.73**	**324**	*eP*	**P**	**04 17 01.1**	**-1.0**
	comp=Z,11nm,0.6s,mb4.7						
AKTK	**Aktyubinsk**	**74.03**	**318**	P	**P**	**04 17 09.1**	**-0.8**
AKTO	**Aktyubinsk**	**74.03**	**318**	P	**P**	**04 17 09.1**	**-0.8**
	comp=Z,8.7nm,0.6s,mb4.6,baz=91,slow=7.7,SNR=37						
GNW	**Green Mountain**	**77.37**	**44**	*eP*	**P**	**04 17 29.7**	**+0.9**
	comp=Z,5.2nm,0.8s,mb4.2						
YKA	**Yellowknife Ar**	**77.86**	**28**	P	**P**	**04 17 30.9**	**-0.3**
	comp=Z,4.7nm,0.5s,mb4.3,baz=287,slow=5.6,SNR=16						
SPITS	**Spitsbergen Ar**	**78.88**	**351**	P	**P**	**04 17 35.6**	**-1.0**
	comp=Z,3.2nm,0.6s,mb4.1,baz=7.6,slow=7.6,SNR=6.8						
ETW	**Entiat**	**78.99**	**43**	*eP*	**P**	**04 17 37.9**	**+0.2**
RES	**Resolute Bay**	**79.22**	**14**	*eP*	**P**	**04 17 38.1**	**-0.3**
	comp=Z,218nm,0.7s						
RSW	**Rattlesnake Hi**	**79.82**	**44**	*eP*	**P**	**04 17 42.9**	**+0.7**
NEW	**Newport**	**80.86**	**42**	*eP*	**P**	**04 17 48.0**	**+0.3**
NEW				pmax	pmax		
	comp=Z,47nm,2.3s						
NEW	**Newport**	**80.86**	**42**	*eP*	**P**	**04 17 48.0**	**+0.3**
	comp=Z,47nm,2.3s,mb4.7						
KEV	**Kevo**	**81.62**	**342**	*eP*	**P**	**04 17 50.1**	**-1.2**
KEV				pmax	pmax		
	comp=Z,11nm,0.9s,mb4.5						
KEV	**Kevo**	**81.62**	**342**	*eP*	**P**	**04 17 50.0**	**-1.3**
	comp=Z,11nm,0.9s,mb4.5						
WVOR	**Wild Horse Val**	**81.65**	**48**	*eP*	**P**	**04 17 52.5**	**+0.5**
WVOR				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.0						
WVOR	**Wild Horse Val**	**81.65**	**48**	*eP*	**P**	**04 17 52.5**	**+0.5**
	comp=Z,2.9nm,0.8s,mb4.0						
BMO	**Blue Mountains**	**81.81**	**45**	*eP*	**P**	**04 17 53.5**	**+0.7**
BMO				pmax	pmax		
	comp=Z,78nm,3.0s						
BMO	**Blue Mountains**	**81.81**	**45**	*eP*	**P**	**04 17 53.5**	**+0.7**
	comp=Z,78nm,3.0s						
ARCES	**ARCESS Array B**	**82.18**	**342**	P	**P**	**04 17 53.4**	**-0.9**
	comp=Z,6.7nm,0.7s,mb4.4,baz=82,slow=8.4,SNR=25						
NVAR	**Mina Array Bea**	**83.14**	**52**	P	**P**	**04 18 00.7**	**+0.8**
	comp=Z,5.0nm,0.7s,mb4.4,baz=265,slow=5.7,SNR=40						
NVAR				pP	pP	04 18 58.4	+5.7
	comp=Z,2.3nm,0.7s,baz=262,slow=5.7,SNR=4.8						
JOF	**Joensuu**	**83.69**	**335**	*ep*	**P**	**04 17 59.7**	**-2.4**
	comp=Z,21nm,0.5s,mb5.1						
HLID	**Hailey**	**84.20**	**46**	*eP*	**P**	**04 18 05.5**	**+0.4**
	comp=Z,1.5nm,0.6s,mb3.9						
ELK	**Elko**	**84.61**	**49**	*eP*	**P**	**04 18 07.5**	**+0.3**
ELK				pmax	pmax		
	comp=Z,2.0nm,0.7s						
ELK	**Elko**	**84.61**	**49**	*eP*	**P**	**04 18 07.5**	**+0.4**
	comp=Z,2.3nm,0.7s,mb4.0						
LRM	**Limekiln Ridge**	**84.69**	**43**	*eP*	**P**	**04 18 07.7**	**+0.2**
HRY	**Holter Researc**	**84.76**	**42**	*eP*	**P**	**04 18 08.2**	**+0.4**
MCMT	**McKenzie Canyo**	**84.80**	**44**	*eP*	**P**	**04 18 08.4**	**+0.4**
BOZ	**Bozeman (W)**	**85.30**	**43**	*eP*	**P**	**04 18 10.7**	**+0.2**
BOZ				pmax	pmax		
	comp=Z,2.0nm,0.7s,mb4.0						
BOZ	**Bozeman (W)**	**85.30**	**43**	*eP*	**P**	**04 18 10.7**	**+0.2**
	comp=Z,2.1nm,0.7s,mb4.0						
QLMT	**Earthquake Lak**	**85.73**	**44**	*eP*	**P**	**04 18 13.5**	**+0.8**
KAF	**Kangasniemi**	**86.09**	**336**	*ep*	**P**	**04 18 11.9**	**-2.1**
	comp=Z,5.3nm,0.5s,mb4.5						
KAF	**Kangasniemi**	**86.09**	**336**	*eP*	**P**	**04 18 11.9**	**-2.1**
KAF				pmax	pmax		
	comp=Z,5.0nm,0.5s,mb4.5						
DUG	**Dugway**	**86.53**	**49**	*eP*	**P**	**04 18 16.6**	**-0.1**
DUG				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.0						
DUG	**Dugway**	**86.53**	**49**	*eP*	**P**	**04 18 16.6**	**-0.1**
	comp=Z,2.4nm,0.6s,mb4.1						
TPAW	**Teton Pass**	**86.57**	**45**	*eP*	**P**	**04 18 17.2**	**+0.5**
	comp=Z,1.7nm,0.6s,mb4.0						
MOOW	**Moose Ponds**	**86.61**	**45**	*eP*	**P**	**04 18 17.5**	**+0.5**
	comp=Z,0.9nm,0.6s,mb3.7						
HWUT	**Hardware Ranch**	**86.88**	**47**	*eP*	**P**	**04 18 18.6**	**+0.3**
	comp=Z,3.1nm,0.8s,mb4.1						
FFC	**Flin Flon**	**86.99**	**32**	*eP*	**P**	**04 18 18.3**	**-0.2**
FFC				pmax	pmax		
	comp=Z,7.0nm,0.8s,mb4.4						
FFC	**Flin Flon**	**86.99**	**32**	*eP*	**P**	**04 18 18.3**	**-0.2**
	comp=Z,7.2nm,0.8s,mb4.5						
PDAR	**Pinedale Array**	**87.79**	**45**	P	**P**	**04 18 22.4**	**-0.2**
	comp=Z,0.5nm,0.5s,mb3.6,baz=231,slow=0.8,SNR=6.5						
WUAZ	**Wupatki**	**89.36**	**53**	*eP*	**P**	**04 18 30.0**	**-0.2**
ISCO	**Idaho Springs**	**91.74**	**47**	*eP*	**P**	**04 18 41.8**	**+0.7**
ISCO				pmax	pmax		
	comp=Z,1.0nm,0.7s,mb3.9						
ISCO	**Idaho Springs**	**91.74**	**47**	*eP*	**P**	**04 18 41.8**	**+0.7**
	comp=Z,1.5nm,0.7s,mb4.0						
HFS	**Hagfors**	**92.06**	**338**	P	**P**	**04 18 39.4**	**-2.7**
	comp=Z,2.6nm,0.4s,mb4.5,baz=90,slow=4.4,SNR=34						
NB2	**NORSAR Subarra**	**92.26**	**340**	P	**P**	**04 18 41.4**	**-1.6**
	comp=Z,1.4nm,0.6s,mb4.1,baz=42,slow=4.6						
NOA	**NORSAR Array B**	**92.26**	**340**	P	**P**	**04 18 41.4**	**-1.6**
	comp=Z,0.7nm,0.4s,mb3.9,baz=38,slow=5.1,SNR=6.1						
TXAR	**Lajitas Array**	**97.86**	**55**	P	**P**	**04 19 08.7**	**-0.6**
	comp=Z,0.1nm,0.7s,baz=291,slow=4.6,SNR=2.9						
TORD	**Torodi Ar. Bea**	**132.13**	**309**	PKP	PKPdf	04 24 45.5	-1.3
	comp=Z,0.9nm,0.6s,baz=34,slow=1.6,SNR=20						
TORD				pPKP	pPKPdf	04 25 53.2	+10
	comp=Z,2.3nm,1.1s,baz=39,slow=3.0,SNR=6.3						
TORD				SKPbc	SKPbc	04 27 47.2	-5.3
	comp=Z,1.5nm,0.7s,baz=26,slow=3.5,SNR=8.4						
TORD	**Torodi Ar. Bea**	**132.13**	**309**	PKP	PKPdf	04 24 45.5	-1.3
TORD				pPKP	pPKPdf	04 25 53.2	+10
TORD				SKPbc	SKPbc	04 27 47.2	-5.3
LVC	**Limon Verde**	**147.69**	**102**	*e*PKPbc	PKPbc	04 25 17.6	0.0
LPAZ	**La Paz**	**147.89**	**91**	PKPbc	PKPbc	04 25 19.2	+1.0
	comp=Z,2.0nm,0.6s,baz=307,slow=1.8,SNR=8.1						
LPAZ	**La Paz**	**147.89**	**91**	*e*PKPbc	PKPbc	04 25 18.6	+0.4
BDFB	**Brasilia**	**166.70**	**78**	PKP	PKPdf	04 25 35.4	-2.8
	comp=Z,2.0nm,0.8s,baz=158,slow=3.6,SNR=6.1						

IDC 31 04:26:02.9±4.2, 2016N×14375E, h0km, mb3.6/3, mb1 4.0/3, mb1mx3.5/19, mbtmp3.6/3, Error ellipse: s-maj=271.6km s-min=33.9km az=118.0, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**40.91**	**194**	P	P	04 33 47.2	+0.1
	0.5nm,0.3s,baz=15,slow=8.8,SNR=25						
ASAR	**Alice Springs**	**44.61**	**193**	P	P	04 34 16.8	-0.3
	0.4nm,0.6s,baz=16,slow=7.4,SNR=6.1						
NVAR	**Mina Array Bea**	**83.68**	**52**	P	P	04 38 34.1	+0.4
	0.6nm,0.7s,baz=272,slow=6.3,SNR=4.3						

IDC 31 04:27:54.8±4.2, 1799N×14742E, h0km, mb3.8/3, mb1 4.2/3, mb1mx3.6/19, mbtmp3.8/3, Error ellipse: s-maj=303.1km s-min=32.1km az=122.0, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**39.82**	**199**	P	P	04 35 30.1	+0.2
	2.2nm,0.6s,baz=22,slow=8.9,SNR=26						
ASAR	**Alice Springs**	**43.45**	**198**	P	P	04 35 59.4	-0.4
	0.3nm,0.5s,baz=15,slow=8.6,SNR=5.2						
NVAR	**Mina Array Bea**	**82.29**	**52**	P	P	04 40 18.9	+0.4
	0.6nm,0.8s,baz=266,slow=5.8,SNR=4.9						

IDC 31 04:32:02.7±1.3, 1763N×14804E, h0km, mb3.7/4, mb1 4.1/4, mb1mx3.7/19, mbtmp3.7/4, Error ellipse: s-maj=49.4km s-min=27.1km az=98.0, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**39.69**	**200**	P	P	04 39 36.7	-0.1
	1.9nm,0.5s,baz=23,slow=8.8,SNR=38						
ASAR	**Alice Springs**	**43.31**	**199**	P	P	04 40 06.4	-0.1
	0.5nm,0.5s,baz=15,slow=7.9,SNR=7.9						
MKAR	**Makanchi Array**	**60.80**	**314**	P	P	04 42 16.9	+0.2
	0.2nm,0.5s,baz=90,slow=6.9,SNR=2.5						
NVAR	**Mina Array Bea**	**82.03**	**52**	P	P	04 44 25.2	+0.2
	0.7nm,0.7s,baz=262,slow=5.2,SNR=4.5						

NEIC 31 04:51:36.5, 4990N×17759W, h19km, ML3.8(AEIC), After AEIC., South of Aleutian Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ADK	**Adak**	**2.06**	**16**	P	Pn	04 52 08.2	-1.8
ADK				S	Sn	04 52 33.2	-2.0
SMY	**Shemya**	**5.93**	**302**	P	Pn	04 53 02.5	-0.7
NIKO	**Nikolski**	**6.27**	**57**	P	Pn	04 53 07.0	-0.8
FX1	**Attu Island--F**	**6.51**	**301**	P	Pn	04 53 09.0	-2.1
UNV	**Unalaska Valle**	**7.92**	**56**	P	Pn	04 53 30.0	-0.4

*NEIC **31** 04:58:25.7±0.5, 1904N×145.41E, h200km, mb3.7/1, Error ellipse: s-maj=18.2km s-min=10.4km az=97.0*
*ISCJB **31** 04:58:33.8±5.6, 1896N±010×1453E±02, h295km±56km, mb3.6/12, Error ellipse: s-maj=31.0km s-min=15.8km az=1.2*
*IDC **31** 04:58:36.8±5.0, 1898N×14532E, h310km±51km, mb3.4/11, mb1 3.5/12, mb1mx3.3/24, mbtmp3.3/12, Error ellipse: s-maj=24.1km s-min=14.5km az=91.0*

ISC 31 04:58:36.0±4.7, 1896N±010×1453E±02, h302km±48km, n15, σ0°43/15, mb3.6/12, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MJAR	**Matsushiro Arr**	**18.61**	**342**	P	**P**	**05 02 32.0**	**+0.1**
	0.4nm,0.3s,baz=166,slow=10,SNR=2.9						
WRAB	**Tennant Creek**	**40.12**	**196**	*eP*	**P**	**05 05 42.5**	**-0.7**
	1.5nm,0.6s,mb3.5						
WRA	**Warramunga Arr**	**40.13**	**196**	P	**P**	**05 05 43.3**	**0.0**
	0.5nm,0.4s,mb3.2,baz=17,slow=9.6,SNR=12						
SONM	**Songino Array**	**42.72**	**321**	P	**P**	**05 06 03.7**	**-0.2**
	0.4nm,0.5s,mb3.0,baz=143,slow=8.7,SNR=3.9						
ASAR	**Alice Springs**	**43.80**	**195**	P	**P**	**05 06 13.2**	**+0.6**
	0.2nm,0.4s,mb2.7,baz=9.6,slow=7.8,SNR=4.1						
MKAR	**Makanchi Array**	**58.03**	**314**	P	**P**	**05 07 57.6**	**-0.2**
	0.5nm,0.5s,mb3.2,baz=88,slow=9.5,SNR=5.6						
KDAK	**Kodiak Island**	**59.34**	**33**	P	**P**	**05 08 06.5**	**0.0**
	8.2nm,0.8s,mb4.2,baz=291,slow=8.6,SNR=3.8						
KURK	**Kurchatov**	**60.85**	**318**	P	**P**	**05 08 17.1**	**+0.3**
	0.8nm,0.4s,mb3.6,baz=92,slow=7.6,SNR=3.6						
BVAR	**Borovoye Array**	**66.05**	**320**	P	**P**	**05 08 51.0**	**+0.4**
	2.0nm,0.5s,mb4.1,baz=91,slow=7.7,SNR=8.1						
INK	**Inuvik**	**69.28**	**23**	*eP*	**P**	**05 09 09.8**	**-0.6**
YKA	**Yellowknife Ar**	**77.93**	**28**	P	**P**	**05 09 59.9**	**-0.6**
	0.8nm,0.5s,mb3.7,baz=283,slow=5.5,SNR=3.8						
YKA	**Yellowknife Ar**	**77.93**	**28**	P	**P**	**05 09 59.9**	**-0.6**
ARCES	**ARCESS Array B**	**82.14**	**342**	P	**P**	**05 10 22.9**	**0.0**
	3.5nm,1.0s,mb4.0,baz=80,slow=7.8,SNR=5.1						
NVAR	**Mina Array Bea**	**83.26**	**52**	P	**P**	**05 10 30.1**	**+0.9**
	1.7nm,0.7s,mb4.0,baz=270,slow=5.7,SNR=13						
HFS	**Hagfors**	**92.02**	**338**	P	**P**	**05 11 10.5**	**-0.1**
	0.6nm,0.4s,mb3.9,baz=184,slow=40,SNR=4.6						

*BJI **31** 05:01:11.6, 099S×124.42E, h123km, mB4.1, mb4.6*
*IDC **31** 05:01:17.3±1.3, 008S×123.74E, h89km±11km, mb4.1/16, mb1 4.3/18, mb1mx4.2/22, mbtmp4.2/18, Error ellipse: s-maj=17.8km s-min=8.5km az=76.0*
*ISCJB **31** 05:01:19.3±1.2, 0.17S±005×123.65E±009, h132km±13km, mb4.3/23, Error ellipse: s-maj=14.1km s-min=8.2km az=177.9*
*MOS **31** 05:01:20.6±0.7, 006S×123.80E, h141km, mb5.0/4, Error ellipse: s-maj=30.9km s-min=11.1km az=108.0*
*NEIC **31** 05:01:20.5±1.1, 0.18S×123.69E, h124km±11km, mb4.5/5, Error ellipse: s-maj=14.9km s-min=7.4km az=77.0*
*DJA **31** 05:01:24, 0.15S×123.87E, h103km, MLv5.1/8*

ISC 31 05:01:20.2±1.0, 020S±005×123.71E±008, h123km±11km, n54, σ0°95/51, mb4.5/23, 5C-1D, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KAPI	**Kappang**	**6.20**	**219**	P	**Pn**	**05 02 49.5**	**0.0**
	24nm,0.3s,baz=27,slow=3.4,SNR=50						
KAPI				S	**Sn**	**05 03 59.0**	**-0.2**
	30nm,0.3s,baz=53,slow=20,SNR=9.9						
DAV	**Davao City (W)**	**7.46**	**14**	P	**Pn**	**05 03 07.7**	**+1.2**
	52nm,0.3s,baz=223,slow=18,SNR=12						
DAV				S	**Sn**	**05 04 34.6**	**+5.1**
	62nm,0.3s,baz=281,slow=17,SNR=2.0						
BATI	**Baumata**	**9.95**	**180**	P	**Pn**	**05 03 37.9**	**-2.1**
	5.7nm,0.3s,baz=311,slow=11,SNR=3.0						
WRAB	**Tennant Creek**	**22.21**	**153**⇑	*iP*	**P**	**05 06 07.7**	**+0.8**
WRAB	**Tennant Creek**	**22.21**	**153**	*eP*	**P**	**05 06 07.3**	**+0.5**
	10nm,0.8s,mb4.2						
WRA	**Warramunga Arr**	**22.22**	**153**	P	**P**	**05 06 06.1**	**-0.8**
	3.8nm,0.5s,mb4.0,baz=335,slow=9.7,SNR=40						
WRA				S	**S**	**05 10 02.9**	**0.0**
	3.2nm,1.1s,baz=335,slow=16,SNR=5.8						
WRA				ScP	ScP	05 13 27.7	+2.5
	1.5nm,0.9s,baz=345,slow=2.8,SNR=6.8						
WRA	**Warramunga Arr**	**22.22**	**153**	P	**P**	**05 06 06.1**	**-0.8**
WRA				S	**S**	**05 10 02.9**	**0.0**
WB2	**Warramunga Arr**	**22.22**	**153**	*eP*	**P**	**05 06 06.2**	**-0.7**
ASAR	**Alice Springs**	**25.34**	**158**	P	**P**	**05 06 37.2**	**+1.4**
	3.2nm,0.4s,mb4.1,baz=340,slow=8.3,SNR=53						
ASAR				PcP	PcP	05 10 07.0	+1.5
	1.6nm,0.7s,baz=340,slow=2.4,SNR=7.2						
ASAR				S	**S**	**05 10 58.6**	**+5.5**
	1.2nm,1.1s,baz=347,slow=20,SNR=4.7						
ASAR				ScP	ScP	05 13 37.9	+4.3
	2.1nm,0.9s,baz=349,slow=2.9,SNR=12						
ASAR	**Alice Springs**	**25.34**	**158**	P	**P**	**05 06 37.2**	**+1.4**
ASAR						05 10 07.1	
ASAR				S	**S**	**05 10 58.6**	**+5.5**
CMAR	**Chiang Mai Arr**	**30.59**	**309**	P	**P**	**05 07 24.5**	**+1.9**
	1.6nm,0.4s,mb4.1,baz=143,slow=7.7,SNR=16						
CMAR				PcP	PcP	05 10 21.4	+2.9
	1.4nm,0.5s,baz=147,slow=1.4,SNR=4.2						
CMAR				ScP	ScP	05 13 54.6	+4.8
	0.9nm,0.3s,baz=158,slow=2.8,SNR=8.0						
CMAR	**Chiang Mai Arr**	**30.59**	**309**	P	**P**	**05 07 24.5**	**+1.9**
CMAR						05 10 21.4	
FORT	**Forrest**	**30.70**	**173**	*eP*	**P**	**05 07 24.6**	**+1.2**
	15nm,1.5s,mb4.5						
STKA	**Stephens Creek**	**35.77**	**153**	*eP*	**P**	**05 08 08.9**	**+1.5**
	5.8nm,1.4s,mb4.3						
STKA	**Stephens Creek**	**35.77**	**153**	P	**P**	**05 08 08.6**	**+1.1**
	5.0nm,0.6s,mb4.6,baz=319,slow=8.7,SNR=14						
KSRS	**Korea Array**	**37.66**	**5**	P	**P**	**05 08 23.1**	**-0.3**
	3.7nm,0.9s,mb4.2,baz=178,slow=10.0,SNR=9.5						
KSRS				ScP	ScP	05 14 19.1	+4.6
	0.6nm,0.3s,baz=176,slow=3.5,SNR=4.2						
MAJO	**Matsushiro**	**38.95**	**19**	*eP*	**P**	**05 08 33.5**	**-0.8**
MAJO				pmax	pmax		
	comp=Z,15nm,0.8s,mb4.9						
MAJO	**Matsushiro**	**38.95**	**19**	*eP*	**P**	**05 08 33.5**	**-0.8**
	comp=Z,15nm,0.8s,mb4.9						
MAT	**Matsushiro**	**38.95**	**19**	P	**P**	**05 08 32.7**	**-1.6**
MJAR	**Matsushiro Arr**	**38.95**	**19**	P	**P**	**05 08 33.1**	**-1.2**
	comp=Z,11nm,0.8s,mb4.7,baz=196,slow=9.1,SNR=24						
GTA	**Gaotai**	**45.08**	**334**	*eP*	**

IDC 31 05:09:19.2±1.2, 1897N×14559E, h0km, mb3.8/5, mb1 4.0/5, mb1mx3.7/19, mbtmp3.8/5, MS4.7/1, Ms1 4.7/1, ms1mx3.8/31, Error ellipse: s-maj=44.5km s-min=24.6km az=87.0, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**5.39**	**187**	LR	LR	05 12 10.0	
	comp=Z,8µm,20.6s,baz=151,slow=32						
WRA	**Warramunga Arr**	**40.21**	**197**	P	P	05 16 58.1	+0.5
	1.0nm,0.4s,baz=22,slow=11,SNR=24						
ASAR	**Alice Springs**	**43.88**	**196**	P	P	05 17 26.7	-0.8
	0.3nm,0.4s,baz=24,slow=6.8,SNR=4.3						
MKAR	**Makanchi Array**	**58.20**	**314**	P	P	05 19 15.3	+0.2
	0.6nm,0.5s,baz=92,slow=8.2,SNR=2.6						
KURK	**Kurchatov**	**61.00**	**318**	P	P	05 19 34.3	-0.1
	1.6nm,0.8s,baz=97,slow=7.3,SNR=5.4						
NVAR	**Mina Array Bea**	**83.06**	**52**	P	P	05 21 47.4	+0.6
	0.6nm,0.7s,baz=270,slow=5.1,SNR=6.3						

*ISCJB **31** 05:23:17.8±1.4, 19.13N±0.006×1453E±0.02, h230km±13km, mb3.6/10, Error ellipse: s-maj=26.2km s-min=9.0km az=174.4*
*NEIC **31** 05:23:19.0±3.9, 1905N×14553E, h233km±39km, Error ellipse: s-maj=24.8km s-min=10.2km az=90.0*
*IDC **31** 05:23:19.7±3.1, 1905N×14547E, h238km±28km, mb3.4/10, mb1 3.6/11, mb1mx3.4/23, mbtmp3.4/11, Error ellipse: s-maj=21.0km s-min=12.9km az=97.0*

ISC 31 05:23:19.0±1.8, 1907N±0.009×1454E±.02, h229km±18km, n15, σ0§40/14, mb3.6/10, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**5.48**	**186**	S	**S**	**05 25 45.0**	**+0.2**
	22nm,0.3s,baz=107,slow=19,SNR=3.3						
CBIJ	**Chichi jima**	**8.53**	**340**	S	**S**	**05 26 50.4**	**-5.2**
	12nm,0.3s,baz=180,slow=19,SNR=4.1						
MJAR	**Matsushiro Arr**	**18.53**	**341**	P	**P**	**05 27 18.8**	**+0.2**
	0.7nm,0.3s,baz=171,slow=11,SNR=5.1						
KAPI	**Kappang**	**34.83**	**229**	P	**P**	**05 29 48.0**	**-0.5**
	2.6nm,0.4s,mb4.2,baz=68,slow=5.9,SNR=5.5						
WB2	**Warramunga Arr**	**40.27**	**196**	*e*P	**P**	**05 30 33.8**	**-0.2**
WRA	**Warramunga Arr**	**40.27**	**196**	P	**P**	**05 30 33.8**	**-0.2**
	1.2nm,0.3s,mb3.8,baz=19,slow=8.7,SNR=45						
WRA				ScP	ScP	05 35 58.7	-1.6
	0.4nm,0.8s,baz=17,slow=4.1,SNR=4.5						
CMAR	**Chiang Mai Arr**	**43.93**	**277**	P	**P**	**05 31 04.5**	**+0.9**
	0.7nm,0.3s,mb3.4,baz=54,slow=7.9,SNR=4.4						
ASAR	**Alice Springs**	**43.94**	**195**	P	**P**	**05 31 03.3**	**-0.2**
	1.2nm,0.5s,mb3.5,baz=20,slow=7.2,SNR=18						
MKAR	**Makanchi Array**	**58.03**	**314**	P	**P**	**05 32 48.4**	**+0.4**
	0.3nm,0.6s,mb3.1,baz=96,slow=8.6,SNR=2.8						
KURK	**Kurchatov**	**60.83**	**318**	P	**P**	**05 33 06.9**	**-0.2**
	1.5nm,0.4s,mb4.0,baz=93,slow=6.5,SNR=6.0						
BVAR	**Borovoye Array**	**66.04**	**320**	P	**P**	**05 33 40.8**	**-0.2**
	0.5nm,0.3s,mb3.5,baz=82,slow=11,SNR=3.5						
YKA	**Yellowknife Ar**	**77.78**	**28**	P	**P**	**05 34 50.0**	**-0.5**
	0.5nm,0.5s,mb3.4,baz=293,slow=5.4,SNR=2.9						
NVAR	**Mina Array Bea**	**83.10**	**52**	P	**P**	**05 35 19.9**	**+0.6**
	1.8nm,0.7s,mb3.9,baz=267,slow=6.0,SNR=12						
PDAR	**Pinedale Array**	**87.74**	**45**	P	**P**	**05 35 42.1**	**0.0**
	0.2nm,0.5s,mb3.2,baz=297,slow=5.9,SNR=3.1						
LPAZ	**La Paz**	**147.92**	**90**	PKPbc	PKPbc	05 42 37.7	-0.2
	1.0nm,0.9s,baz=315,slow=4.3,SNR=2.9						

*ISCJB **31** 05:23:23.0±0.2, 43295N±0.010×110.17W±0.02, h10km, Error ellipse: s-maj=1.9km s-min=1.3km az=158.3*
*BJI **31** 05:23:22.3, 4330N×11020W, h10km, mB5.3, mb5.4*
*NEIC **31** 05:23:23.3±0.2, 4329N×11022W, h5km, ML4.0, Error ellipse: s-maj=3.4km s-min=2.5km az=66.0*
NEIC Felt [IV] at Cora; [III] at Boundurant and Dubois; [II] at Jackson. Also felt at Moran and Wilson.
*IDC **31** 05:23:23.4±1.0, 4324N×11020W, h0km, mb1 4.0/4, mb1mx3.6/23, mbtmp3.7/4, ML3.1/4, Error ellipse: s-maj=9.3km s-min=5.1km az=15.0*

ISC 31 05:23:23.9±0.2, 43307N±0009×11021W±002, h10km, n155, σ1§06/234, 52C-58D, Wyoming

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
J17A	**Brown Place, J**	**0.37**	**279**	⇑P	**Pg**	**05 23 30.8**	**-0.4**
	baz=0.4,SNR=66						
J17A				⇑S	**Sg**	**05 23 36.6**	**+0.5**
	baz=0.4						
LOHW	**Long Hollow**	**0.42**	**317**	*e*Pg	**Pg**	**05 23 31.5**	**-0.6**
LOHW				*e*Sg	**Sg**	**05 23 37.5**	**-0.2**
SNOW	**Snow King Moun**	**0.42**	**292**	*e*Pg	**Pg**	**05 23 32.1**	**-0.1**
SNOW				*e*Sg	**Sg**	**05 23 37.2**	**-0.7**
REDW	**Red Top Meadow**	**0.47**	**277**	*e*Pg	**Pg**	**05 23 32.5**	**-0.6**
REDW				*e*Sg	**Sg**	**05 23 38.2**	**-1.1**
I18A	**Diamond G Ranc**	**0.49**	**36**	⇓P	**Pg**	**05 23 32.6**	**-0.9**
	baz=0.5						
I18A				⇑S	**Sg**	**05 23 39.5**	**-0.4**
	baz=0.5						
TPAW	**Teton Pass**	**0.57**	**289**	*e*Pg	**Pg**	**05 23 34.5**	**-0.4**
TPAW				*e*Sg	**Sg**	**05 23 39.8**	**-2.7**
MOOW	**Moose Ponds**	**0.59**	**319**	*e*Pg	**Pg**	**05 23 34.5**	**-0.8**
MOOW				*e*Sg	**Sg**	**05 23 42.1**	**-0.9**
I17A	**Pilgram Creek**	**0.67**	**337**	⇑P	**Pg**	**05 23 36.5**	**-0.4**
	baz=0.7,SNR=1000						
I17A				⇑S	**Sg**	**05 23 45.9**	**+0.4**
	baz=0.7						
BW06	**Boulder Array**	**0.72**	**138**	⇓P	**Pg**	**05 23 36.1**	**-1.8**
	baz=0.7,SNR=1000						
BW06				⇓S	**Sg**	**05 23 45.8**	**-1.6**
	baz=0.7						
BW06	**Boulder Array**	**0.72**	**138**	*e*Pg	**Pg**	**05 23 36.1**	**-1.8**
BW06				*e*Sg	**Sg**	**05 23 46.2**	**-1.2**
PDAR	**Pinedale Array**	**0.72**	**138**	Pg	**Pg**	**05 23 36.1**	**-1.7**
	85nm,0.3s,baz=316,slow=15,SNR=1533						
PDAR				Lg		05 23 45.4	
	385nm,0.3s,baz=316,slow=29,SNR=120						
DCID1	**Drake Creek**	**0.76**	**292**	*e*Pg	**Pg**	**05 23 38.1**	**-0.5**
DCID1				*e*Sg	**Sg**	**05 23 47.3**	**-1.4**
IMW	**Indian Meadow**	**0.79**	**318**	*e*Pg	**Pg**	**05 23 38.2**	**-1.0**
IMW				*e*Sg	**Sg**	**05 23 48.7**	**-0.8**
RRI2	**Red Ridge**	**0.81**	**273**	*e*Pg	**Pg**	**05 23 38.5**	**-1.0**
RRI2				*e*Sg	**Sg**	**05 23 49.3**	**-0.8**
AHID	**Auburn Hatcher**	**0.85**	**230**	*e*Pg	**Pg**	**05 23 38.5**	**-1.8**
J16A	**Bone**	**1.02**	**269**	⇓P	**Pg**	**05 23 42.5**	**-1.1**
	baz=1.0,SNR=1000						
J16A				⇓S	**Sg**	**05 23 56.3**	**-0.5**
	baz=1.0						
I16A	**Newdale**	**1.08**	**302**	⇓P	**Pb**	**05 23 44.0**	**-0.8**
	baz=1.1,SNR=876						
I16A				⇓S	**Sg**	**05 23 58.5**	**-0.4**
	baz=1.1						
K16A	**Soda Springs**	**1.11**	**245**	P	**Pb**	**05 23 43.9**	**-1.3**
	baz=1.1,SNR=708						
H17A	**Grant Village**	**1.12**	**347**	P	**Pb**	**05 23 44.3**	**-1.1**
	baz=1.1,SNR=751						
H17A				⇑S	**Sb**	**05 23 58.9**	**-1.1**
	baz=1.1						
YFT	**Old Faithful**	**1.23**	**339**	*e*Pn	**Pn**	**05 23 46.9**	**-0.2**
LKWY	**Lake**	**1.27**	**354**	*e*Pn	**Pn**	**05 23 47.1**	**-0.6**
LKWY				*e*Sg	**Sg**	**05 24 03.7**	**-1.0**
L19A	**Farson**	**1.36**	**152**	P	**Pn**	**05 23 48.0**	**-1.0**
	baz=1.4,SNR=1000						
L19A				⇓S	**Sb**	**05 24 06.7**	**-0.2**
	baz=1.4						
YNR	**Norris Junctio**	**1.45**	**347**	*e*Pg	**Pg**	**05 23 50.6**	**-1.1**
YMR	**Madison River**	**1.47**	**339**	*e*Pn	**Pn**	**05 23 50.4**	**-0.1**
YMR				*e*Sg	**Sg**	**05 24 09.8**	**-1.2**
L16A	**Fish Haven**	**1.57**	**215**	⇓P	**Pn**	**05 23 51.1**	**-0.8**
	baz=1.6,SNR=710						
L16A				⇑S	**Sn**	**05 24 12.9**	**+0.6**
	baz=1.6						
H16A	**Russell Place,**	**1.58**	**332**	P	**Pn**	**05 23 51.9**	**-0.1**
	baz=1.6,SNR=982						
H16A				⇑S	**Sn**	**05 24 13.8**	**+1.3**
	baz=1.6						
J15A	**Blackfoot**	**1.62**	**274**	⇑P	**Pn**	**05 23 51.8**	**-0.7**
	baz=1.6,SNR=1000						
J15A				⇓S	**Sn**	**05 24 14.5**	**+1.0**
	baz=1.6						
QLMT	**Earthquake Lak**	**1.76**	**330**	*e*Pn	**Pn**	**05 23 55.0**	**+0.5**
QLMT				*e*Sg	**Sg**	**05 24 18.3**	**-2.1**
I15A	**Monteview**	**1.79**	**294**	⇓P	**Pn**	**05 23 54.8**	**0.0**
	baz=1.8,SNR=16						
I15A				⇑Sb	**Sb**	**05 24 21.1**	**+1.9**
	baz=1.8						
K15A	**Arbon**	**1.81**	**251**	⇓P	**Pn**	**05 23 54.5**	**-0.7**
	baz=1.8,SNR=296						
K15A				⇑Sb	**Sb**	**05 24 20.9**	**+1.1**
	baz=1.8						
RLMT	**Red Lodge**	**1.94**	**20**	⇑P	**Pn**	**05 23 57.1**	**+0.2**
	baz=2.0,SNR=356						
RLMT				⇓S	**Sn**	**05 24 22.6**	**+1.4**
	baz=2.0						
RLMT	**Red Lodge**	**1.94**	**20**	*e*Pn	**Pn**	**05 23 57.1**	**+0.2**
RLMT				*e*Sn	**Sn**	**05 24 22.2**	**+0.9**
M19A	**Rock Springs**	**1.96**	**156**	⇓P	**Pn**	**05 23 56.4**	**-0.8**
	baz=2.0,SNR=206						
HWUT	**Hardware Ranch**	**1.97**	**211**	*e*Pn	**Pn**	**05 23 57.5**	**+0.1**
HWUT				*e*Sn	**Sn**	**05 24 24.7**	**+2.6**
G17A	**Pierce Place,**	**2.05**	**350**	⇓P	**Pn**	**05 23 58.6**	**+0.2**
	baz=2.1,SNR=494						
G17A				⇑Sb	**Sb**	**05 24 28.6**	**+1.9**
	baz=2.1						
G18A	**Lazy EL Ranch,**	**2.06**	**13**	⇑P	**Pn**	**05 23 59.1**	**+0.5**
	baz=2.1						
G18A				⇑S	**Sn**	**05 24 26.6**	**+2.2**
	baz=2.1						
L15A	**Malad City**	**2.06**	**232**	⇑P	**Pn**	**05 23 57.8**	**-0.8**
	baz=2.0,SNR=216						
L15A				⇑Sb	**Sb**	**05 24 28.5**	**+1.3**
	baz=2.0						
H15A	**Lima**	**2.19**	**308**	⇓Sb	**Sb**	**05 24 32.1**	**+1.4**
	baz=2.2						
G16A	**Moss Hill, Enn**	**2.23**	**330**	⇑P	**Pn**	**05 24 01.9**	**+0.9**
	baz=2.2,SNR=199						
G16A				⇑Sb	**Sb**	**05 24 33.6**	**+1.5**
	baz=2.2						
M16A	**Huntsville**	**2.25**	**208**	P	**Pn**	**05 24 00.9**	**-0.3**
	baz=2.2,SNR=96						
M16A				⇓Sb	**Sb**	**05 24 33.0**	**+0.4**
	baz=2.2						
K14A	**Jones Ranch, D**	**2.31**	**252**	⇑P	**Pn**	**05 24 01.3**	**-0.6**
	baz=2.3,SNR=86						
K14A				⇑Sb	**Sb**	**05 24 35.4**	**+1.3**
	baz=2.3						
N18A	**Larsen Ranch,**	**2.36**	**170**	⇑P	**Pn**	**05 24 02.1**	**-0.6**
	baz=2.4,SNR=219						
N18A				⇑Sb	**Sb**	**05 24 35.8**	**+0.1**
	baz=2.4						
N17A	**Moffit Pass**	**2.41**	**191**	⇑P	**Pn**	**05 24 02.7**	**-0.6**
	baz=2.4,SNR=85						
N17A				⇑Sb	**Sb**	**05 24 37.1**	**+0.1**
	baz=2.4						
J14A	**Carey**	**2.41**	**272**	⇓P	**Pn**	**05 24 02.9**	**-0.5**
	baz=2.4						
J14A				⇑Sb	**Sb**	**05 24 38.1**	**+0.9**
	baz=2.4						
HVU	**Hansel Valley**	**2.43**	**232**	*e*Pn	**Pn**	**05 24 03.3**	**-0.3**
HVU				*e*Sn	**Sn**	**05 24 38.4**	**+5.0**
I14A	**Mackay**	**2.43**	**286**	⇓P	**Pn**	**05 24 03.8**	**+0.1**
	baz=2.4,SNR=178						
I14A				⇑Sb	**Sb**	**05 24 38.6**	**+0.9**
	baz=2.4						
MCMT	**McKenzie Canyo**	**2.43**	**310**	*e*Pn	**Pn**	**05 24 06.5**	**+2.8**
MCMT				*e*Sg	**Sg**	**05 24 39.9**	**-2.2**
G15A	**Dillon**	**2.48**	**319**	⇓Sb	**Sb**	**05 24 40.3**	**+1.3**
	baz=2.5						
M15A	**Larsen Ranch,**	**2.48**	**223**	⇓P	**Pn**	**05 24 03.7**	**-0.6**
	baz=2.5,SNR=66						
GCMT	**Greycliff**	**2.51**	**9**	*e*Pn	**Pn**	**05 24 05.7**	**+0.9**
GCMT				*e*Sg	**Sg**	**05 24 41.9**	**-2.8**
N19A	**John Jarvie Ra**	**2.53**	**162**	⇓P	**Pn**	**05 24 04.0**	**-1.1**
	baz=2.5,SNR=259						
N19A				⇑Sb	**Sb**	**05 24 41.0**	**+0.4**
	baz=2.5						
BOZ	**Bozeman (W)**	**2.55**	**337**	⇓P	**Pn**	**05 24 06.1**	**+0.8**
	baz=2.6,SNR=252						
BOZ	**Bozeman (W)**	**2.55**	**337**	*e*Pn	**Pn**	**05 24 07.2**	**+1.9**
BOZ				*e*Sg	**Sg**	**05 24 40.4**	**-5.4**
L14A	**Malta**	**2.57**	**241**	⇑P	**Pn**	**05 24 04.8**	**-0.8**
	baz=2.6						
N16A	**Rees Ranch, Co**	**2.58**	**201**	⇑P	**Pn**	**05 24 05.3**	**-0.5**
	baz=2.6,SNR=60						
N16A				⇑S	**Sn**	**05 24 37.7**	**+0.4**
	baz=2.6						
SPUT	**South Promonto**	**2.60**	**220**	*e*Pn	**Pn**	**05 24 06.1**	**+0.1**
SPUT				*e*Sg	**Sg**	**05 24 44.5**	**-2.7**
F17A	**Fitzpatrick Pl**	**2.62**	**353**	⇑P	**Pn**	**05 24 07.0**	**+0.7**
	baz=2.6,SNR=74						
F18A	**Big Timber**	**2.62**	**8**	⇓P	**Pn**	**05 24 06.6**	**+0.3**
	baz=2.6,SNR=29						
F18A				⇓Sb	**Sb**	**05 24 44.4**	**+1.2**
	baz=2.6						
H14A	**Leadore**	**2.63**	**301**	⇓P	**Pn**	**05 24 06.3**	**0.0**
	baz=2.6,SNR=41						
DLMT	**Dillon**	**2.67**	**321**	*e*Pn	**Pn**	**05 24 10.7**	**+3.7**
DLMT				*e*Sg	**Sg**	**05 24 48.3**	**-1.5**
F16A	**Kennard Place,**	**2.67**	**338**	⇓Sb	**Sb**	**05 24 46.5**	**+1.8**
	baz=2.7						
RWWY	**Rawlins**	**2.75**	**125**	*e*Pn	**Pn**	**05 24 08.4**	**+0.4**
RWWY				*e*Sg	**Sg**	**05 24 47.6**	**-4.6**
CTU	**Camp Tracy**	**2.85**	**204**	*e*Pn	**Pn**	**05 24 09.2**	**-0.2**
CTU				*e*Sg	**Sg**	**05 24 50.1**	**-5.5**
JLU	**Jordanelle**	**2.86**	**199**	*e*Pn	**Pn**	**05 24 09.2**	**-0.3**
JLU				*e*Sg	**Sg**	**05 24 49.8**	**-5.9**
J13A	**Cove Ranch, Pi**	**2.89**	**273**	⇑P	**Pn**	**05 24 09.9**	**-0.1**
	baz=2.9,SNR=195						
J13A				⇓Sb	**Sb**	**05 24 52.1**	**+1.2**
	baz=2.9						
I13A	**Wildhorse Cree**	**2.90**	**283**	⇓Sb	**Sb**	**05 24 51.6**	**+0.4**
	baz=2.9						
M14A	**Sheep Mountain**	**2.94**	**233**	⇑P	**Pn**	**05 24 10.1**	**-0.6**
	baz=2.9,SNR=57						
N15A	**Stansbury Isla**	**2.96**	**216**	⇑P	**Pn**	**05 24 10.6**	**-0.4**
	baz=2.9,SNR=58						
N15A				⇓Sb	**Sb**	**05 24 54.8**	**+1.8**
	baz=2.9						
LRM	**Limekiln Ridge**	**2.98**	**328**	*e*Pb	**Pb**	**05 24 14.9**	**-2.1**
DAU	**Daniels Canyon**	**3.00**	**195**	*e*Pn	**Pn**	**05 24 11.5**	**0.0**
DAU				*e*Sn	**Sn**	**05 24 48.9**	**+1.6**
L13A	**Double Diamond**	**3.01**	**247**	⇑P	**Pn**	**05 24 11.3**	**-0.3**
	baz=3.0						
NOQ	**North Oquirrh**	**3.01**	**209**	*e*Pn	**Pn**	**05 24 13.9**	**+2.3**
NOQ				*e*Sg	**Sg**	**05 24 55.7**	**-4.9**
F15A	**Butte**	**3.01**	**328**	⇓Sb	**Sb**	**05 24 56.6**	**+2.2**
	baz=3.0						
G14A	**Jackson**	**3.03**	**311**	⇓Sb	**Sb**	**05 24 57.2**	**+2.2**
	baz=3.0						
O18A	**Roosevelt**	**3.04**	**177**	⇓Sb	**Sb**	**05 24 56.4**	**+1.0**
	baz=3.0						
HLID	**Hailey**	**3.07**	**276**	⇑P	**Pn**	**05 24 12.4**	**0.0**
	baz=3.1						
HLID				⇓Sb	**Sb**	**05 24 57.2**	**+1.1**
	baz=3.1						
HLID	**Hailey**	**3.07**	**276**	*e*Pn	**Pn**	**05 24 15.0**	**+2.5**
HLID				*e*Sg	**Sg**	**05 24 56.5**	**-6.0**
O19A	**Miners Draw (B**	**3.12**	**164**	⇑P	**Pn**	**05 24 12.6**	**-0.5**
	baz=3.1						
O19A				⇑Sb	**Sb**	**05 24 57.7**	**+0.3**
	baz=3.1						
O17A	**Robinson Place**	**3.13**	**187**	⇓P	**Pn**	**05 24 13.4**	**0.0**
	baz=3.1,SNR=29						
O17A				⇑Sb	**Sb**	**05 24 59.1**	**+1.2**
	baz=3.1						
BGU	**Big Grassy Mou**	**3.17**	**222**	*e*Pn	**Pn**	**05 24 13.7**	**-0.1**
BGU				*e*Sg	**Sg**	**05 25 03.1**	**-2.6**
E17A	**Martinsdale**	**3.19**	**352**	⇑P	**Pn**	**05 24 14.8**	**+0.7**
	baz=3.2,SNR=39						
O16A	**Springville**	**3.25**	**198**	⇓P	**Pn**	**05 24 14.6**	**-0.3**
	baz=3.2						
E18A	**Harlowton**	**3.27**	**4**	⇓P	**Pn**	**05 24 15.9**	**+0.7**
	baz=3.3,SNR=52						
N14A	**Grayback Hills**	**3.30**	**223**	⇓P	**Pn**	**05 24 15.1**	**-0.5**
	baz=3.3,SNR=21						
MPU	**Maple Canyon**	**3.46**	**198**	*e*Pn	**Pn**	**05 24 17.4**	**-0.4**
MPU				*e*Sn	**Sn**	**05 24 59.6**	**+0.8**
O15A	**The Old Anders**	**3.46**	**210**	⇑P	**Pn**	**05 24 17.4**	**-0.5**
	baz=3.4						
O15A				⇓Sb	**Sb**	**05 25 09.9**	**+2.5**
	baz=3.4						
HRY	**Holter Researc**	**3.59**	**342**	*e*Pn	**Pn**	**05 24 20.7**	**+1.1**
HRY				*e*Sg	**Sg**	**05 25 16.4**	**-2.9**
NLU	**North Lily Min**	**3.63**	**203**	*e*Pn	**Pn**	**05 24 18.6**	**-1.5**
NLU				*e*Sn	**Sn**	**05 25 03.1**	**+0.1**
DUG	**Dugway**	**3.67**	**213**	⇑P	**Pn**	**05 24 20.5**	**-0.2**
	baz=3.7,SNR=36						
DUG	**Dugway**	**3.67**	**213**	*e*Pn	**Pn**	**05 24 21.3**	**+0.6**
DUG				*e*Sg	**Sg**	**05 25 21.0**	**-0.7**
P18A	**Preston Nutter**	**3.68**	**180**	⇓P	**Pn**	**05 24 21.2**	**+0.4**
	baz=3.7						
L12A	**House Creek Ra**	**3.72**	**253**	⇓P	**Pn**	**05 24 21.8**	**+0.3**
	baz=3.7						
P19A	**Cripple Cowboy**	**3.79**	**165**	⇓P	**Pn**	**05 24 22.5**	**+0.2**
	baz=3.8						
D16A	**Dana Ranch, Ca**	**3.84**	**346**	⇑P	**Pn**	**05 24 23.8**	**+0.8**
	baz=3.9,SNR=16						
N13A	**Wendover, West**	**3.85**	**232**	⇓P	**Pn**	**05 24 23.7**	**+0.5**
	baz=3.8						
P17A	**Butcher Ranch,**	**3.85**	**186**	⇑P	**Pn**	**05 24 23.4**	**+0.2**
	baz=3.8,SNR=7.9						
D17A	**Six Diamond Ra**	**3.86**	**355**	⇓P	**Pn**	**05 24 24.1**	**+0.8**
	baz=3.9,SNR=48						
M12A	**Wells**	**3.96**	**243**	⇓P	**Pn**	**05 24 25.4**	**+0.6**
	baz=3.9						
PHWY	**Pilot Hill**	**4.06**	**118**	*e*Pn	**Pn**	**05 24 26.7**	**+0.7**
PHWY				*e*Sn	**Sn**	**05 25 15.5**	**+1.9**
TMUT	**Trail Mountain**	**4.08**	**191**	*e*Pn	**Pn**	**05 24 28.6**	**+2.3**
TMUT				*e*Sg	**Sg**	**05 25 31.9**	**-3.0**
CHMT	**Chamberlain Mo**	**4.20**	**330**	*e*Sg	**Sg**	**05 25 32.2**	**-6.5**
SRU	**San Rafael**	**4.20**	**183**	⇓P	**Pn**	**05 24 28.1**	**+0.1**
	baz=4.2,SNR=32						
SRU	**San Rafael**	**4.20**	**183**	*e*Pn	**Pn**	**05 24 28.3**	**+0.3**
SRU				*e*Sn	**Sn**	**05 25 30.9**	**+14**
Q18A	**Rafter H Ranch**	**4.20**	**179**	⇑P	**Pn**	**05 24 27.8**	**-0.2**
	baz=4.2,SNR=22						
C17A	**Wharram Farm,**	**4.34**	**355**	⇑P	**Pn**	**05 24 30.1**	**+0.1**
	baz=4.4,SNR=8.8						
N12A	**Clover Valley,**	**4.35**	**237**	⇑P	**Pn**	**05 24 29.8**	**-0.2**
	baz=4.3						
MSO	**Missoula**	**4.40**	**324**	*e*Pn	**Pn**	**05 24 34.8**	**+4.0**
MSO				*e*Sg	**Sg**	**05 25 41.4**	**-3.8**
Q19A	**Hogan Spring (**	**4.41**	**170**	⇓P	**Pn**	**05 24 30.7**	**-0.1**
	baz=4.4,SNR=17						
LAO	**LASA Array**	**4.41**	**39**	*e*Pn	**Pn**	**05 24 31.4**	**+0.5**
LAO				*e*Sg	**Sg**	**05 25 38.8**	**-6.6**
D14A	**Greenough**	**4.43**	**329**	⇑P	**Pn**	**05 24 31.7**	**+0.5**
	baz=4.4						
Q16A	**Castle Valley**	**4.45**	**190**	⇓P	**Pn**	**05 24 31.1**	**-0.3**
	baz=4.4						
ELK	**Elko**	**4.54**	**237**	Pn	**Pn**	**05 24 33.9**	**+1.3**
	0.5nm,0.3s,baz=50,slow=11,SNR=14						
ELK				Pg	**Pg**	**05 24 42.5**	**-8.3**
	1.6nm,0.3s,baz=43,slow=13,SNR=17						
ELK				Lg		05 25 46.5	
	1.7nm,0.3s,baz=351,slow=19,SNR=5.6						
ELK	**Elko**	**4.54**	**237**	*e*Pn	**Pn**	**05 24 33.7**	**+1.1**
O12A	**Currie**	**4.55**	**230**	⇑P	**Pn**	**05 24 32.1**	**-0.6**
	baz=4.5						
RSSD	**Black Hills**	**4.55**	**78**	*e*Pn	**Pn**	**05 24 32.9**	**+0.1**
RSSD				*e*Sn	**Sn**	**05 25 37.8**	**+12**
Q15A	**Fillmore**	**4.60**	**202**	⇓P	**Pn**	**05 24 33.3**	**-0.3**
	baz=4.6						
C16A	**Fuhringer Ranc**	**4.62**	**347**	⇓P	**Pn**	**05 24 34.3**	**+0.5**
	baz=4.6						
EGMT	**Eagleton**	**4.73**	**4**	*e*Pn	**Pn**	**05 24 42.8**	**+7.6**
L10A	**Juniper Basin**	**4.77**	**257**	⇓P	**Pn**	**05 24 35.9**	**+0.1**
	baz=4.8						
SMCO	**Snowmass**	**4.79**	**148**	*e*Pn	**Pn**	**05 24 37.1**	**+0.9**
SMCO				*e*Sg	**Sg**	**05 25 49.9**	**-8.0**
P13A	**Bates Ranch, G**	**4.79**	**218**	⇓P	**Pn**	**05 24 35.9**	**-0.3**
	baz=4.8						
R17A	**Hanksville Air**	**4.90**	**185**	⇑P	**Pn**	**05 24 37.3**	**-0.3**
	baz=4.9,SNR=47						
ISCO	**Idaho Springs**	**4.92**	**134**	*e*Pn	**Pn**	**05 24 38.0**	**+0.1**
ISCO				*e*Sg	**Sg**	**05 25 58.7**	**-3.1**
R18A	**Canyonlands Na**	**4.92**	**177**	⇓P	**Pn**	**05 24 37.0**	**-0.9**
	baz=4.9,SNR=30						
PV10	**Paradox Valley**	**5.01**	**169**	*e*Pn	**Pn**	**05 24 40.4**	**+1.3**
PV10				*e*Sg	**Sg**	**05 25 59.7**	**-4.9**
MSU	**Marysvale**	**5.02**	**198**	*e*Pn	**Pn**	**05 24 39.4**	**+0.2**
R19A	**Curley Farm, L**	**5.06**	**171**	⇓P	**Pn**	**05 24 39.3**	**-0.6**
	baz=5.1						
O11A	**Cowboy Ranch,**	**5.16**	**234**	⇓P	**Pn**	**05 24 40.9**	**-0.3**
	baz=5.1,SNR=14						
PV01	**Paradox Valley**	**5.32**	**166**	*e*Pn	**Pn**	**05 24 43.6**	**+0.2**
PV01				*e*Sg	**Sg**	**05 26 05.5**	**-9.1**
BMO	**Blue Mountains**	**5.34**	**289**	*e*Pn	**Pn**	**05 24 48.6**	**+5.0**
BSMT	**Bassoo Peak**	**5.56**	**326**	*e*Pb	**Pb**	**05 24 53.2**	**-7.9**
S18A	**Hurst Farm, Bl**	**5.61**	**178**

CHNG	**Los Chungos**	**0.38**	**35**	⇓*i*P	Pg	05 34 46.7	+0.5
CHNG				*i* S	Sg	05 34 53.0	+1.6
JACH	**Jahuel**	**1.09**	**116**	⇑*i*P	Pb	05 34 58.5	-1.1
JACH				*i* S	Sb	05 35 13.7	-0.2
PEL	**Peldehue**	**1.30**	**137**	⇓*i*P	Pn	05 35 01.6	-1.2
PEL				*i* S	Sb	05 35 19.8	-0.2
PEL				AML	AML	05 35 21.5	
	comp=E,704nm,0.2s						
RCDM	**Rinconada Maip**	**1.51**	**148**	⇑*i*P	Pn	05 35 04.8	-0.9
RCDM				*i* S	Sn	05 35 25.1	-0.3
RCDM				AML	AML	05 35 27.1	
	comp=E,437nm,0.1s						
RCDM	**Rinconada Maip**	**1.51**	**148**	⇑*i*P	Pn	05 35 04.8	-0.9
RCDM				*i* S	Sn	05 35 25.1	-0.3
CLCH	**Cerro Calan**	**1.57**	**140**	⇑*i*P	Pn	05 35 05.9	-0.6
CLCH				*i* S	Sn	05 35 26.8	-0.2
CLCH				AML	AML	05 35 34.4	
	comp=N,337nm,0.5s						
TACH	**Talagante**	**1.60**	**155**	⇑*i*P	Pn	05 35 06.6	-0.4
TACH				*i* S	Sn	05 35 27.5	-0.2
ANTU	**Antumapu**	**1.66**	**146**	⇑*i*P	Pn	05 35 07.1	-0.6
ANTU				*i* S	Sn	05 35 29.7	+0.6
ANTU				AML	AML	05 35 35.1	
	comp=E,270nm,0.3s						
ANTU	**Antumapu**	**1.66**	**146**	⇑*i*P	Pn	05 35 07.1	-0.6
ANTU				*i* S	Sn	05 35 29.7	+0.6
PCH	**Pirque**	**1.76**	**144**	⇑*i*P	Pn	05 35 09.2	+0.1
PCH				*i* S	Sn	05 35 32.1	+0.5
LNV	**Longovilo**	**1.78**	**171**	*i*P	Pn	05 35 09.5	+0.2
LNV				*i* S	Sn	05 35 32.7	+0.8
CHCH	**Chadas Angostu**	**1.96**	**152**	*i*P	Pn	05 35 12.4	+0.5
CHCH				*i* S	Sn	05 35 37.4	+0.9
LMEL	**Las Melosas**	**2.10**	**142**	*i*P	Pn	05 35 14.2	+0.5
LMEL				*i* S	Sn	05 35 41.9	+2.0
LMEL				AML	AML	05 35 53.8	
	comp=N,136nm,0.2s						
LMEL	**Las Melosas**	**2.10**	**142**	*i*P	Pn	05 35 14.2	+0.5
LMEL				*i* S	Sn	05 35 41.9	+2.0
CACH	**El Canelo**	**2.14**	**153**	*i*P	Pn	05 35 16.3	+1.9
CACH				*i* S	Sn	05 35 44.4	+3.4
TLL	**Tololo Astrono**	**2.18**	**22**	*i*P	Pn	05 35 16.0	+1.1
TLL				*i* S	Sn	05 35 44.7	+2.8
TLL				AML	AML	05 35 48.9	
	comp=E,184nm,0.6s						
TLL	**Tololo Astrono**	**2.18**	**22**	*i*P	Pn	05 35 16.0	+1.1
TLL				*i* S	Sn	05 35 44.7	+2.8
SFDO	**San Fernando**	**2.49**	**166**	*i*P	Pn	05 35 20.0	+0.9
SFDO				*i* S	Sn	05 35 51.8	+2.3

*ISCJB **31** 05:44:38.0±3.1, 189N±0.1×1454E±0.3, h245km±32km, mb3.6/5, Error ellipse: s-maj=40.3km s-min=18.5km az=0.8*
*IDC **31** 05:44:40.1±4.1, 1895N×1454.3E, h254km±42km, mb3.3/4, mb1 3.6/7, mb1mx3.3/21, mbtmp3.5/7, Error ellipse: s-maj=36.2km s-min=15.8km az=91.0*
*NEIC **31** 05:44:45.1±5.8, 1900N×1454.6E, h318km±66km, mb3.8/1, Error ellipse: s-maj=49.8km s-min=17.0km az=84.0*

ISC 31 05:44:38.3±3.2,**189N**±01×**1455E**±03,**h234**km±34km,**n10,** σ0§**64**/10,**mb3.6**/5,**Mariana Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CBIJ	**Chichi jima**	**8.71**	**340**	P	**Pn**	**05 46 40.1**	**-0.4**
	5.7nm,0.3s,baz=270,slow=20,SNR=3.4						
JOW	**Kunigami**	**17.73**	**300**	P	**P**	**05 48 29.9**	**+0.9**
	1.6nm,0.3s,baz=138,slow=16,SNR=3.1						
MJAR	**Matsushiro Arr**	**18.71**	**341**	P	**P**	**05 48 40.1**	**+0.7**
	0.8nm,0.3s,baz=170,slow=9.2,SNR=8.7						
WRAB	**Tennant Creek**	**40.13**	**196**	*e*P	**P**	**05 51 51.6**	**0.0**
	4.3nm,0.8s,mb3.9						
WB2	**Warramunga Arr**	**40.14**	**196**	*e*P	**P**	**05 51 51.6**	**-0.1**
WRA	**Warramunga Arr**	**40.14**	**196**	P	**P**	**05 51 52.1**	**+0.4**
	2.4nm,0.6s,mb3.8,baz=7.5,slow=8.9,SNR=47						
WRA	**Warramunga Arr**	**40.14**	**196**	P	**P**	**05 51 52.1**	**+0.4**
SONM	**Songino Array**	**42.87**	**321**	P	**P**	**05 52 12.2**	**-1.4**
	0.4nm,0.5s,mb3.1,baz=130,slow=6.3,SNR=2.6						
ASAR	**Alice Springs**	**43.81**	**195**	P	**P**	**05 52 20.9**	**-0.4**
	1.0nm,0.5s,mb3.4,baz=15,slow=7.3,SNR=19						
NVAR	**Mina Array Bea**	**83.14**	**52**	P	**P**	**05 56 38.6**	**+0.4**
	1.0nm,0.7s,mb3.6,baz=270,slow=5.3,SNR=8.3						

*ISK **31** 05:53:27.7, 3660N×2686E, h30km, MD2.7*
*CSEM **31** 05:53:27.7±0.3, 3650N×2719E, h2km, MD2.8, Error ellipse: s-maj=5.4km s-min=2.6km az=66.0*
*DDA **31** 05:53:29.3, 3654N×2767E, h7km±7km, Md2.8*

ISC 31 05:53:26.7±2.5,**365N**±01×**270E**±02,**h10**km±11km,**n8,** σ0§**46**/16,**Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BODT	**Bodrum**	**0.65**	**24**	*e*PG	**Pg**	**05 53 39.8**	**+0.5**
BODT				*e*SG	**Sg**	**05 53 48.4**	**+0.5**
BDRM	**Kayabasi**	**0.70**	**32**	*i* P	**Pg**	**05 53 39.2**	**-1.1**
BDRM				*i* S	**Sg**	**05 53 49.2**	**-0.4**
MLSB	**Milas**	**1.04**	**37**	*e*PG	**Pg**	**05 53 47.0**	**+0.2**
MLSB				*e*SG	**Sg**	**05 54 00.6**	**+0.2**
MLSB	**Milas**	**1.04**	**37**	*e*Pg	**Pg**	**05 53 47.0**	**+0.2**
MLSB				*e*Sg	**Sg**	**05 54 00.5**	**+0.1**
TURN	**Turunc**	**1.37**	**72**	*i* P	**Pn**	**05 53 45.0**	**-6.9**
TURN				*i* S	**Sb**	**05 54 00.4**	**-10**
DALT	**Dalyan (Mudla)**	**1.37**	**77**	*e*PN	**Pn**	**05 53 52.3**	**+0.4**
DALT				*e*SN	**Sn**	**05 54 10.0**	**-0.1**
AYDN	**Tasoluk**	**1.39**	**31**	*i* P	**Pn**	**05 53 52.0**	**-0.2**
AYDN				*i* S	**Sb**	**05 54 10.7**	**0.0**
AYDN	**Tasoluk**	**1.39**	**31**	*i* P	**Pn**	**05 53 52.0**	**-0.2**
AYDN				*i* S	**Sb**	**05 54 10.6**	**-0.1**

IDC 31 05:54:16.1±1.1,**1720N**×**1454.1E**,**h0**km,**mb3.7/4, mb1 3.8/4**,**mb1mx3.6**/19,**mbtmp3.7**/4,**Error ellipse: s-maj=53.9km s-min=22.9km az=94.0**,**Mariana Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PETK	**Petropavlovsk-**	**37.10**	**12**	P	P	06 01 28.9	+0.8
	7.4nm,1.1s,baz=217,slow=11,SNR=3.9						
WRA	**Warramunga Arr**	**38.48**	**197**	P	P	06 01 40.7	+0.7
	0.4nm,0.3s,baz=23,slow=8.6,SNR=12						
ASAR	**Alice Springs**	**42.15**	**196**	P	P	06 02 09.8	-0.6
	0.3nm,0.6s,baz=11,slow=7.4,SNR=4.8						
SONM	**Songino Array**	**44.15**	**322**	P	P	06 02 26.0	-0.4
	0.7nm,0.9s,baz=134,slow=6.2,SNR=3.4						
LPAZ	**La Paz**	**147.89**	**93**	PKPbc	PKPbc	06 14 03.8	-0.3
	0.5nm,0.3s,baz=299,slow=5.1,SNR=7.9						

*ATH **31** 06:02:14.4, 3824N×2699E, h29km±1km, MD2.9/3*
*CSEM **31** 06:02:15.7±0.1, 3825N×2670E, h5km, MD2.5, Error ellipse: s-maj=3.8km s-min=2.6km az=78.0*
*DDA **31** 06:02:15.6, 3819N×2666E, h7km±1km, Md2.5*
*ISCJB **31** 06:02:16.1±0.8, 3822N±004×2665E±006, h9km±6km, Error ellipse: s-maj=8.4km s-min=5.9km az=144.0*

ISC 31 06:02:16.3±0.7,**3822N**±003×**2664E**±006,**h10**km±4km,**n11,** σ0§**67**/20,**1C**,**Aegean Sea**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
URLA	**Izmir**	**0.15**	**346**	⇑*i*P	**Pg**	**06 02 19.4**	**-0.2**
URLA				*i* S	**Sg**	**06 02 22.5**	**+0.7**
KDAG	**Bornova**	**0.53**	**69**	*i* P	**Pg**	**06 02 26.0**	**-0.5**
KDAG				*i* S	**Sg**	**06 02 33.7**	**+0.3**
SMG	**Samos**	**0.53**	**163**	*e*Pn	**Pg**	**06 02 25.8**	**-0.8**
SMG				*e*Sn	**Sg**	**06 02 34.0**	**+0.4**
SMG	**Samos**	**0.53**	**163**	*e*PN	**Pg**	**06 02 25.8**	**-0.8**
SMG				*e*SN	**Sg**	**06 02 34.0**	**+0.4**
GCAM	**G?zelcaml?**	**0.70**	**138**	*i* P	**Pg**	**06 02 29.1**	**-0.6**
GCAM				*i* S	**Sg**	**06 02 38.9**	**0.0**
PRK	**Paraskevi**	**1.07**	**344**	*e*Pn	**Pn**	**06 02 36.1**	**-1.2**
PRK				*e*Sn	**Sn**	**06 02 52.1**	**0.0**
PRK	**Paraskevi**	**1.07**	**344**	*e*PN	**Pn**	**06 02 36.1**	**-1.2**
PRK				*e*SN	**Sn**	**06 02 52.1**	**0.0**
BDRM	**Kayabasi**	**1.32**	**151**	*e*P	**Pn**	**06 02 39.9**	**-0.8**
BDRM				*i* S	**Sb**	**06 02 58.4**	**+0.4**
APE	**Apeiranthos**	**1.45**	**218**	*e*Pn	**Pn**	**06 02 43.5**	**+1.0**
APE	**Apeiranthos**	**1.45**	**218**	*e*PN	**Pn**	**06 02 43.5**	**+1.0**
MANT	**Manisa**	**1.53**	**79**	*i* P	**Pn**	**06 02 44.9**	**+1.2**
MANT				*i* S	**Sn**	**06 03 03.7**	**0.0**

*BJI **31** 06:34:05.1, 198S×8908E, h20km, mb4.4*
*ISCJB **31** 06:34:09.2±0.5, 139S±008×8943E±009, h10km, mb4.2/18, Error ellipse: s-maj=14.6km s-min=9.7km az=152.4*
*IDC **31** 06:34:09.5±0.7, 134S×8942E, h0km, mb4.1/11, mb1 4.3/11, mb1mx4.0/24, mbtmp4.1/11, Error ellipse: s-maj=22.4km s-min=17.2km az=63.0*
*NEIC **31** 06:34:10.8±0.5, 140S×8938E, h10km, mb4.6/5, Error ellipse: s-maj=14.0km s-min=9.4km az=63.0*

ISC 31 06:34:11.0±0.5,**140S**±007×**8942E**±009,**h10**km,**n30,** σ0§**73**/27,**mb4.2**/18,**South Indian Ocean**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HYB	**Hyderabad**	**21.54**	**331**	*i* P	**P**	**06 39 01.0**	**+0.3**
HYB	**Hyderabad**	**21.54**	**331**	*e*P	**P**	**06 39 01.0**	**+0.3**
CMAR	**Chiang Mai Arr**	**21.84**	**25**	P	**P**	**06 39 04.3**	**+0.4**
	3.7nm,0.9s,mb3.8,baz=217,slow=11,SNR=12						
CHTO	**Chiang Mai**	**22.16**	**25**	*e*P	**P**	**06 39 10.0**	**+2.7**
	18nm,1.0s,mb4.5						
NANT	**Nan**	**22.93**	**28**	P	**P**	**06 39 16.0**	**+0.5**
POO	**Poona**	**25.03**	**323**	*ex*	**P**	**06 39 36.0**	**+0.5**
SHL	**Shillong**	**26.91**	**5**	*ex*	**P**	**06 39 52.5**	**0.0**
BHPL	**Bhopal**	**27.13**	**335**	AMb	AMB	06 40 06.1	
	comp=Z,7.6nm,1.0s,mb4.2						
LSA	**Lhasa**	**30.97**	**3**	*e*P	**P**	**06 40 28.8**	**+0.3**
NWAO	**Narrogin (SRO)**	**40.82**	**143**	P	**P**	**06 41 52.9**	**-0.1**
	comp=Z,4.0nm,0.7s,mb4.1,baz=328,slow=6.6,SNR=3.4						
GTA	**Gaotai**	**41.72**	**12**	*e*P	**P**	**06 42 00.5**	**+0.3**
GTA				AP	pP	06 42 04.5	+1.2
GTA				XP	sP	06 42 08.3	+3.8
GTA				AMB	AMB		
	comp=Z,3.0nm,1.2s,mb3.8						
KAKA	**Kakadu**	**44.07**	**107**	*e*P	**P**	**06 42 11.8**	**-7.9**
	comp=Z,6.8nm,0.6s,mb4.5						
OPO	**Ambohidratompo**	**44.77**	**245**	P	**P**	**06 42 25.8**	**+0.5**
	comp=Z,1.4nm,0.7s,mb3.9,baz=80,slow=6.1,SNR=3.2						
WRA	**Warramunga Arr**	**47.61**	**116**	P	**P**	**06 42 47.9**	**+0.2**
	comp=Z,3.7nm,0.8s,mb4.4,baz=290,slow=8.7,SNR=15						
WRAB	**Tennant Creek**	**47.62**	**116**	*e*P	**P**	**06 42 47.2**	**-0.5**
	comp=Z,5.4nm,0.7s,mb4.7						
WB2	**Warramunga Arr**	**47.62**	**116**	*e*P	**P**	**06 42 47.7**	**0.0**
MK31	**Makanchi Array**	**48.40**	**353**	*e*P	**P**	**06 42 52.1**	**-1.1**
MKAR	**Makanchi Array**	**48.40**	**353**	P	**P**	**06 42 52.6**	**-0.5**
	comp=Z,2.4nm,0.8s,mb4.3,baz=169,slow=9.3,SNR=21						
ASAR	**Alice Springs**	**48.43**	**121**	P	**P**	**06 42 53.5**	**-0.4**
	comp=Z,1.1nm,0.8s,mb4.0,baz=294,slow=7.2,SNR=12						
SONM	**Songino Array**	**51.22**	**15**	P	**P**	**06 43 14.8**	**+0.1**
	comp=Z,2.8nm,0.7s,mb4.3,baz=193,slow=8.5,SNR=14						
KURK	**Kurchatov**	**52.73**	**351**	*e*P	**P**	**06 43 25.1**	**-0.8**
	comp=Z,6.4nm,0.9s,mb4.5						
ZALV	**Zalesovo Beam**	**55.28**	**357**	P	**P**	**06 43 42.9**	**-1.6**
	comp=Z,1.5nm,0.6s,mb4.2,baz=176,slow=5.9,SNR=6.6						
STKA	**Stephens Creek**	**57.71**	**127**	*e*P	**P**	**06 44 02.8**	**+0.6**
	comp=Z,7.2nm,1.5s,mb4.5						
STKA	**Stephens Creek**	**57.71**	**127**	P	**P**	**06 44 02.4**	**+0.2**
	comp=Z,3.1nm,0.7s,mb4.5,baz=308,slow=7.6,SNR=7.2						
MATP	**Matopo**	**62.34**	**248**	P	**P**	**06 44 34.9**	**+0.6**
	comp=Z,1.3nm,0.6s,mb4.2,baz=96,slow=6.0,SNR=7.0						
TIXI	**Tiksi**	**77.20**	**12**	*e*P	**P**	**06 46 03.7**	**-1.1**
	comp=Z,5.2nm,0.9s,mb4.5						
GERES	**GERESS Array B**	**81.67**	**320**	P	**P**	**06 46 29.1**	**-0.5**
	comp=Z,0.4nm,0.2s,mb3.9,baz=119,slow=4.7,SNR=4.2						
CLL	**Collm**	**82.61**	**322**	*e*P	**P**	**06 46 35.0**	**+0.5**
TXAR	**Lajitas Array**	**149.55**	**23**	PKPbc	PKPbc	06 54 01.7	+0.2
	comp=Z,0.3nm,0.9s,baz=132,slow=1.3,SNR=3.0						
LPAZ	**La Paz**	**151.71**	**231**	PKP	PKPdf	06 54 02.2	+1.6
	comp=Z,0.5nm,0.4s,baz=56,slow=3.6,SNR=5.3						

*ISCJB **31** 07:04:16.9±0.6, 3642N±003×2709E±004, h10km, Error ellipse: s-maj=4.9km s-min=3.9km az=166.2*
*NEIC **31** 07:04:16.4, 3648N×2711E, h11km±7km, MD3.5(ATH), After ATH.*
*ATH **31** 07:04:16.4, 3648N×2711E, h11km±7km, MD3.5/5*
*CSEM **31** 07:04:17.0±0.3, 3648N×2717E, h5km, MD3.5, Error ellipse: s-maj=7.0km s-min=4.7km az=72.0*
*DDA **31** 07:04:27.5, 3688N×2785E, h7km±7km, Md2.7*

ISC 31 07:04:16.9±0.8,**3641N**±003×**2705E**±005,**h10**km±5km,**n19,** σ1§**44**/36,**Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
NISR	**Nisiros**	**0.21**	**18**	*e*Pg	**Pg**	**07 04 19.5**	**-1.8**
NISR	**Nisiros**	**0.21**	**18**	*e*PG	**Pg**	**07 04 19.5**	**-1.8**
BDRM	**Kayabasi**	**0.73**	**26**	*i* P	**Pg**	**07 04 29.3**	**-1.7**
BDRM				*i* S	**Sg**	**07 04 41.3**	**+0.8**
KARP	**Karpathos**	**0.87**	**174**	*e*Pg	**Pg**	**07 04 33.6**	**0.0**
KARP				*e*Sb	**Sb**	**07 04 47.1**	**+1.4**
KARP	**Karpathos**	**0.87**	**174**	*e*PG	**Pg**	**07 04 33.6**	**0.0**
KARP				*e*SB	**Sb**	**07 04 47.1**	**+1.4**
ARG	**Arkhangelos**	**0.89**	**102**	*e*Pg	**Pg**	**07 04 32.6**	**-1.5**
ARG				*e*Sb	**Sb**	**07 04 45.7**	**-0.8**
ARG	**Arkhangelos**	**0.89**	**102**	*e*PG	**Pg**	**07 04 32.6**	**-1.5**
ARG				*e*SB	**Sb**	**07 04 45.7**	**-0.8**
GCAM	**G?zelcaml?**	**1.30**	**7**	*i* P	**Pn**	**07 04 40.6**	**-0.6**
GCAM				*i* S	**Sb**	**07 04 59.3**	**+1.1**
SMG	**Samos**	**1.31**	**353**	*e*Pn	**Pn**	**07 04 39.3**	**-2.0**
SMG				*e*Sb	**Sb**	**07 04 56.7**	**-1.8**
SMG	**Samos**	**1.31**	**353**	*e*PN	**Pn**	**07 04 39.3**	**-2.0**
SMG				*e*SB	**Sb**	**07 04 56.7**	**-1.8**
TURN	**Turunc**	**1.33**	**69**	*i* P	**Pn**	**07 04 34.9**	**-6.8**
TURN				*i* S	**Sb**	**07 04 50.4**	**-8.8**
APE	**Apeiranthos**	**1.39**	**299**	*e*Pb	**Pb**	**07 04 43.3**	**+0.3**
APE				*e*Sb	**Sb**	**07 05 02.3**	**+1.6**
APE	**Apeiranthos**	**1.39**	**299**	*e*PB	**Pb**	**07 04 43.3**	**+0.3**
APE				*e*SB	**Sb**	**07 05 02.3**	**+1.6**
AYDN	**Tasoluk**	**1.42**	**28**	*i* P	**Pn**	**07 04 42.2**	**-0.6**
AYDN				*i* S	**Sn**	**07 05 01.7**	**+0.2**
URLA	**Izmir**	**1.98**	**350**	*i* P	**Pn**	**07 04 48.3**	**-2.3**
URLA				*i* S	**Sn**	**07 05 17.2**	**+1.7**
KDAG	**Bornova**	**2.00**	**5**	*i* P	**Pn**	**07 04 54.2**	**+3.4**
KDAG				*i* S	**Sn**	**07 05 13.7**	**-2.1**
GOLH	**Golhisar**	**2.18**	**67**	*i* P	**Pn**	**07 04 54.7**	**+1.4**
GOLH				*i* S	**Sg**	**07 05 28.6**	**+1.7**
MANT	**Manisa**	**2.40**	**30**	*e*P	**Pg**	**07 05 03.0**	**+0.1**
MANT				*e*S	**Sg**	**07 05 36.4**	**+2.4**
BALY	**Balya**	**3.35**	**8**	*e*P	**Pg**	**07 05 22.7**	**+1.5**
BALY				*i* S	**Sg**	**07 06 09.5**	**+4.8**

IDC 31 07:24:10.1±1.4,**2066N**×**14274E**,**h0**km,**mb3.5**/4, **mb1 3.8**/4,**mb1mx3.5**/19,**mbtmp3.5**/4,**MS3.5**/1,**Ms1 3.5**/1, **ms1mx2.4**/21,**Error ellipse: s-maj=54.1km s-min=29.1km az=90.0**,**Mariana Islands region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**41.19**	**192**	P	P	07 31 57.2	+0.7
	0.5nm,0.6s,baz=8.6,slow=9.2,SNR=5.4						
WRA				LR	LR	07 46 55.4	
	comp=Z,74nm,21.7s,baz=50,slow=33						
ASAR	**Alice Springs**	**44.89**	**192**	P	P	07 32 25.9	-0.6
	0.3nm,0.7s,baz=14,slow=7.4,SNR=3.9						
MKAR	**Makanchi Array**	**55.09**	**313**	P	P	07 33 44.1	+0.3
	0.7nm,0.6s,baz=100,slow=7.8,SNR=4.9						
NVAR	**Mina Array Bea**	**84.11**	**51**	P	P	07 36 43.2	0.0
	0.5nm,0.8s,baz=264,slow=4.4,SNR=3.7						

*ISCJB **31** 08:14:41.9±1.1, 36S±02×1009E±02, h27km, mb4.0/12, Error ellipse: s-maj=34.2km s-min=11.8km az=139.7*
*IDC **31** 08:14:44.0±1.3, 366S×10075E, h28km±4km, mb3.8/11, mb1 3.9/12, mb1mx3.8/22, mbtmp3.8/12, ML3.9/1, Error ellipse: s-maj=46.8km s-min=14.9km az=53.0*
*NEIC **31** 08:14:44.2±0.9, 355S×10092E, mb4.2/1, Error ellipse: s-maj=31.9km s-min=9.8km az=51.0*

ISC 31 08:14:44.5±1.1,**36S**±02×**1009E**±02,**h29**km, **h29**km±.2km:**pP-P**,**n15,** σ0§**83**/14,**mb4.0**/12,**Southern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KAPI	**Kappang**	**18.82**	**95**	P	**Pn**	**08 19 02.0**	**-0.8**
	0.4nm,0.3s,baz=248,slow=16,SNR=2.7						
CMAR	**Chiang Mai Arr**	**21.97**	**355**	P	**P**	**08 19 34.9**	**-1.4**
	1.0nm,0.4s,mb3.6,baz=185,slow=8.1,SNR=3.4						
WRA	**Warramunga Arr**	**36.41**	**119**	P	**P**	**08 21 46.5**	**-0.4**
	0.6nm,0.4s,mb3.9,baz=304,slow=9.1,SNR=12						
ASAR	**Alice Springs**	**37.59**	**125**	P	**P**	**08 21 56.7**	**-0.1**
	0.4nm,0.7s,mb3.2,baz=300,slow=8.3,SNR=6.3						
STKA	**Stephens Creek**	**47.42**	**131**	P	**P**	**08 23 17.2**	**+0.6**
	1.1nm,0.7s,mb3.9,baz=331,slow=10,SNR=2.8						
KSRS	**Korea Array**	**47.90**	**29**	P	**P**	**08 23 21.4**	**+1.2**
	2.7nm,0.8s,mb4.3,baz=216,slow=8.0,SNR=7.2						
SONM	**Songino Array**	**51.41**	**5**	P	**P**	**08 23 48.2**	**+1.5**
	2.3nm,0.7s,mb4.2,baz=184,slow=8.5,SNR=11						
SONM				pP	pP	08 23 56.5	+1.0
	3.8nm,0.8s,baz=183,slow=8.4,SNR=11						
TKM2	**Tokmak 2**	**51.63**	**336**	*e*P	**P**	**08 23 49.4**	**+0.9**
	3.1nm,0.9s,mb4.2						
TKM2				*e*pP	pP	08 23 57.4	+0.1
MKAR	**Makanchi Array**	**52.78**	**344**	P	**P**	**08 23 56.8**	**-0.1**
	1.5nm,0.7s,mb4.1,baz=145,slow=7.4,SNR=9.7						
MKAR				pP	pP	08 24 05.2	-0.5
	1.0nm,0.5s,baz=149,slow=8.5,SNR=5.4						
MJAR	**Matsushiro Arr**	**52.92**	**38**	P	**P**	**08 23 58.5**	**+0.3**
	0.6nm,0.3s,mb4.0,baz=212,slow=6.7,SNR=3.4						
KURK	**Kurchatov**	**57.36**	**343**	P	**P**	**08 24 29.1**	**-0.8**
	1.8nm,0.8s,mb4.1,baz=168,slow=6.9,SNR=6.1						
ZALV	**Zalesovo Beam**	**58.87**	**349**	P	**P**	**08 24 40.5**	**0.0**
	2.4nm,0.7s,mb4.3,baz=163,slow=5.4,SNR=12						
ZALV				pP	pP	08 24 49.0	-0.4
	1.6nm,0.6s,baz=156,slow=4.4,SNR=3.9						
ZALV	**Zalesovo Beam**	**58.87**	**349**	P	**P**	**08 24 40.5**	**0.0**
ZALV				pP	pP	08 24 49.0	-0.4
BVAR	**Borovoye Array**	**61.96**	**340**	P	**P**	**08 25 00.7**	**-0.9**
	1.5nm,0.6s,mb4.3,baz=139,slow=9.6,SNR=6.3						
BVAR				pP	pP	08 25 09.1	-1.4
	1.3nm,0.6s,baz=144,slow=9.3,SNR=5.0						
TXAR	**Lajitas Array**	**145.34**	**40**	PKPbc	PKPbc	08 34 21.2	+1.0
	2.6nm,0.8s,baz=268,slow=1.1,SNR=31						
TXAR				pPKPbc	pPKPbc	08 34 29.9	+0.3
	1.7nm,0.7s,baz=214,slow=0.9,SNR=13						

IDC 31 08:22:17.5±4.4,**1817N**×**14718E**,**h0**km,**mb3.6**/3, **mb1 4.0**/3,**mb1mx3.6**/18,**mbtmp3.6**/3,**Error ellipse: s-maj=319.0km s-min=32.8km az=122.0**,**Mariana Islands region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**39.92**	**199**	P	P	08 29 53.6	+0.1
	1.6nm,0.5s,baz=21,slow=9.0,SNR=32						
ASAR	**Alice Springs**	**43.55**	**198**	P	P	08 30 22.9	-0.3
	0.1nm,0.4s,baz=23,slow=6.5,SNR=4.4						
NVAR	**Mina Array Bea**	**82.35**	**52**	P	P	08 34 41.9	+0.4
	0.4nm,0.5s,baz=271,slow=6.2,SNR=4.4						

*IDC **31** 08:36:24.7±0.9, 2322N×1258.9E, h0km, mb4.1/9, mb1 4.2/11, mb1mx4.1/23, mbtmp4.1/11, ML3.9/2, Error ellipse: s-maj=29.6km s-min=17.0km az=72.0*
*ISCJB **31** 08:36:27.2±0.6, 2332N±005×1258.7E±003, h33km, mb4.1/10, Error ellipse: s-maj=6.6km s-min=4.3km az=163.7*
*NEIC **31** 08:36:28.5, 2324N×1256.5E, h44km, mb4.3/2, After JMA.*
*JMA **31** 08:36:28.5±0.2, 2324N×1256.5E, h44km, M4.1*

ISC 31 08:36:29.2±0.6,**2335N**±005×**1258.0E**±004,**h35**km,**n37,** σ1§**24**/48,**mb4.1**/10,**1C**,**Southwestern Ryukyu Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JOGS	**Gusukube**	**1.45**	**346**	P	**Pn**	**08 36 54.1**	**+1.2**
JOGS				*e*S	**Sn**	**08 37 13.2**	**+2.5**
JMJ	**Miyako jima 2**	**1.53**	**343**	P	**Pn**	**08 36 55.1**	**+1.1**
JMJ				*e*S	**Sn**	**08 37 14.5**	**+1.8**
JTJ	**Tarama**	**1.63**	**322**	P	**Pn**	**08 36 55.7**	**+0.3**
JTJ				*e*S	**Sn**	**08 37 15.7**	**+0.5**
JIJ	**Ishigaki jima**	**1.82**	**304**	P	**Pn**	**08 36 57.6**	**-0.4**
JIJ				*e*S	**Sn**	**08 37 18.1**	**-1.8**
JKRS	**Kuro-shima**	**1.86**	**299**	P	**Pn**	**08 36 58.3**	**-0.3**
JKRS				*e*S	**Sn**	**08 37 19.8**	**-1.1**
HATJ	**Hateruma jima**	**1.96**	**292**	P	**Pn**	**08 36 58.8**	**-1.1**
HATJ				*e*S	**Sn**	**08 37 21.6**	**-1.6**
IRIF	**Iriomote-Funau**	**2.13**	**298**	P	**Pn**	**08 37 01.8**	**-0.5**
YOJ	**Yonaguni jima**	**2.78**	**294**	P	**Pn**	**08 37 11.1**	**-0.1**
JKE	**Kume jima 2**	**3.10**	**17**	P	**Pn**	**08 37 15.5**	**-0.1**
JJT2	**Tamagusuku 2**	**3.30**	**32**	P	**Pn**	**08 37 18.

LKR	**Lokris**	**1.02**	**73**	P	**Pg**	**08 48 30.7**	**-1.2**
LKR				S	**Sg**	**08 48 46.1**	**+1.0**
LKR	**Lokris**	**1.02**	**73**	*e*Pb	**Pb**	**08 48 30.8**	**-1.7**
LKR				*e*Sn	**Sn**	**08 48 46.2**	**-1.9**
LKR	**Lokris**	**1.02**	**73**	*e*PB	**Pb**	**08 48 30.8**	**-1.7**
LKR				*e*SN	**Sn**	**08 48 46.2**	**-1.9**
VLX	**Vlachokerasia**	**1.11**	**153**	P	**Pg**	**08 48 33.3**	**-0.3**
ITM	**Ithomi**	**1.19**	**173**	*e*Pn	**Pn**	**08 48 34.6**	**-1.1**
ITM				*e*Sn	**Sn**	**08 48 50.7**	**-1.6**
ITM	**Ithomi**	**1.19**	**173**	*e*PN	**Pn**	**08 48 34.6**	**-1.1**
ITM				*e*SN	**Sn**	**08 48 50.7**	**-1.6**
THL	**Klokotos Trika**	**1.22**	**9**	P	**Pg**	**08 48 34.8**	**-0.9**
THL				S	**Sg**	**08 48 51.9**	**+0.4**
THL	**Klokotos Trika**	**1.22**	**9**	*e*Pn	**Pn**	**08 48 34.9**	**-1.3**
THL				*e*Sn	**Sn**	**08 48 51.3**	**-1.8**
THL	**Klokotos Trika**	**1.22**	**9**	*e*PN	**Pn**	**08 48 34.9**	**-1.3**
THL				*e*SN	**Sn**	**08 48 51.3**	**-1.8**
DID	**Didima**	**1.45**	**126**	P	**Pn**	**08 48 39.3**	**0.0**
DID				S	**Sb**	**08 48 59.5**	**+0.8**
PYL	**PYLOS**	**1.46**	**180**	P	**Pn**	**08 48 39.6**	**+0.1**
PYL				S	**Sb**	**08 49 00.3**	**+1.2**
JAN	**Janina**	**1.47**	**332**	*e*Pn	**Pn**	**08 48 40.2**	**+0.5**
JAN	**Janina**	**1.47**	**332**	*e*PN	**Pn**	**08 48 40.2**	**+0.5**
NEO	**Neokhori**	**1.48**	**50**	*e*Pn	**Pn**	**08 48 39.0**	**-0.8**
NEO	**Neokhori**	**1.48**	**50**	*e*PN	**Pn**	**08 48 39.0**	**-0.8**
NAIG	**Nisos Aigina**	**1.50**	**113**	*e*Pn	**Pn**	**08 48 40.0**	**+0.1**
NAIG	**Nisos Aigina**	**1.50**	**113**	*e*PN	**Pn**	**08 48 40.0**	**+0.1**
ATH	**Athens Observa**	**1.59**	**104**	*e*Pn	**Pn**	**08 48 41.0**	**-0.3**
ATH	**Athens Observa**	**1.59**	**104**	*e*PN	**Pn**	**08 48 41.0**	**-0.3**
KVR	**Kavouri**	**1.68**	**108**	*e*Pn	**Pn**	**08 48 42.3**	**-0.1**
KVR	**Kavouri**	**1.68**	**108**	*e*PN	**Pn**	**08 48 42.3**	**-0.1**
PTL	**Penteli**	**1.69**	**100**	*e*Pn	**Pn**	**08 48 43.0**	**+0.4**
PTL	**Penteli**	**1.69**	**100**	*e*PN	**Pn**	**08 48 43.0**	**+0.4**
LIT	**Litokhoron**	**1.83**	**18**	P	**Pn**	**08 48 44.4**	**-0.1**
LIT				S	**Sn**	**08 49 08.5**	**+0.4**
VLI	**Veliai**	**1.89**	**150**	*e*Pn	**Pn**	**08 48 46.5**	**+1.1**
VLI	**Veliai**	**1.89**	**150**	*e*PN	**Pn**	**08 48 46.5**	**+1.1**
KZN	**Kozani**	**1.94**	**0**	*e*Pn	**Pn**	**08 48 46.5**	**+0.4**
KZN	**Kozani**	**1.94**	**0**	*e*PN	**Pn**	**08 48 46.5**	**+0.4**
KEK	**Kerkira**	**2.04**	**312**	*e*Pn	**Pn**	**08 48 48.0**	**+0.6**
KEK	**Kerkira**	**2.04**	**312**	*e*PN	**Pn**	**08 48 48.0**	**+0.6**
PAIG	**Paliouri**	**2.16**	**43**	P	**Pn**	**08 48 47.9**	**-1.3**
PLG	**Polygyros**	**2.40**	**33**	*e*Pn	**Pn**	**08 48 52.0**	**-0.4**
PLG				S	**Sn**	**08 49 22.5**	**+0.3**
PLG	**Polygyros**	**2.40**	**33**	*e*PN	**Pn**	**08 48 52.0**	**-0.4**
HORT	**Hortiatis**	**2.46**	**25**	P	**Pn**	**08 48 52.4**	**-0.9**
BIA	**Bitola**	**2.67**	**353**	*e*Pn	**Pn**	**08 48 58.2**	**+2.0**
SOH	**Sokhos**	**2.75**	**26**	P	**Pn**	**08 48 57.3**	**+0.1**
SOH				S	**Sn**	**08 49 31.3**	**+0.4**
OHR	**Ohrid**	**2.84**	**345**	*e*Pn	**Pb**	**08 49 04.1**	**+0.5**
KNT	**Kendrikon**	**2.93**	**17**	P	**Pn**	**08 48 59.8**	**+0.1**
VAY	**Valandovo**	**3.02**	**12**	*e*Pn	**Pn**	**08 49 00.5**	**-0.5**
VAY				*e*Sn	**Sn**	**08 49 39.6**	**+2.0**
VAY	**Valandovo**	**3.02**	**12**	*e*PN	**Pn**	**08 49 00.4**	**-0.5**
VAY				*e*Sn	**Sn**	**08 49 39.5**	**+1.9**
KRUS	**Krusevo**	**3.03**	**353**	*e*Pn	**Pn**	**08 49 03.4**	**+2.4**
CHOS	**Chios island**	**3.38**	**88**	P	**Pn**	**08 49 06.1**	**+0.2**
TIP	**Timpagrande**	**3.99**	**283**	P	**Pn**	**08 49 17.3**	**+3.1**
SMG	**Samos**	**4.07**	**98**	P	**Pn**	**08 49 17.2**	**+1.9**

CSEM ***31*** *08:50:24.2, 39.11N, 2756E, h7km, MD2.7, After ERD*
DDA 31 08:50:24.2, 3911N±2756E, h7km±2km, Md2.7, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AKHS	**Akhisar**	**0.30**	**139**	*i* P	Pg	08 50 30.3	+0.2
AKHS				*i* S	Sg	08 50 35.4	+1.2
BALY	**Balya**	**0.63**	**4**	*i* P	Pg	08 50 36.8	+0.3

NNC ***31*** *09:05:37.4±4.9, 4975N, 9682E, h0km, mb4.8, Error ellipse: s-maj=46.7km s-min=38.7km az=156.0*
LDG ***31*** *09:06:19.0±0.1, 4996N, 9166E, h10km, Mb5.3/35, Ms3.9/1, Error ellipse: s-maj=7.9km s-min=3.9km az=70.0*
IDC ***31*** *09:06:19.6±0.4, 4982N, 9181E, h0km, mb4.6/30, mb1 4.7/35, mb1mx4.7/39, mbtmp4.6/35, ML4.5/5, MS4.1/12, Ms1 4.1/12, ms1mx3.7/36, Error ellipse: s-maj=12.9km s-min=7.8km az=12.0*
ISCJB ***31*** *09:06:21.0±0.1, 4987N±002, 9160E±002, h14km, mb5.0/172, MS4.2/26, Error ellipse: s-maj=2.8km s-min=2.2km az=175.4*
BJI ***31*** *09:06:22.3, 4984N, 9161E, h27km, mB5.0, mb4.7, ML5.2, Ms4.8, Ms24.7*
MOS ***31*** *09:06:22.0±1.2, 4981N, 9163E, h24km, mb5.3/76, MS4.3/23, Error ellipse: s-maj=6.2km s-min=3.9km az=127.1*
NEIC ***31*** *09:06:24.5±1.2, 4985N, 9168E, h29km±9km, mb5.1/98, Error ellipse: s-maj=4.0km s-min=3.2km az=212.0*
ASRS ***31*** *09:06:25.0±1.0, 5011N, 9171E, h15km, Ms4.6*
SZGRF ***31*** *09:06:31.5, 5049N, 9035E, h15km, mb5.4, Tuva-Buryatia-Mongolia border region*
ISC 31 09:06:22.6±0.1, 4989N±002, 9171E±002, h15km, h15km±.5km: pP-P, n688, σ076/716, mb5.0/172, MS4.2/26, 142C-136D, Mongolia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HVS	**Khovu-Aksy**	**1.78**	**45**	⇓*e*PN	**Pn**	**09 06 52.8**	**-0.1**
HVS				*e*		09 07 15.5	
HVS						09 07 20.7	
KZLR	**Kyzyl**	**2.52**	**43**	*i* Pg	**Pg**	**09 07 06.7**	**-4.2**
KZLR				*e*Sg	**Sg**	**09 07 39.6**	**-3.9**
AKAR	**Aktash**	**2.67**	**281**	*e*Pn	**Pn**	**09 07 07.2**	**+2.2**
AKAR				*e*Pg	**Pg**	**09 07 14.4**	**+0.7**
AKAR				*e*Sg	**Sg**	**09 07 46.6**	**-1.6**
CERR	**Cheremushki**	**2.97**	**357**	*e*Pn	**Pn**	**09 07 31.8**	**+1.6**
CERR				*e*Pg	**Pg**	**09 07 15.2**	**-4.4**
CERR				*i* Sg	**Sg**	**09 07 52.6**	**-5.5**
ARTR	**Artybash**	**3.39**	**306**	*e*Pn	**Pn**	**09 07 17.5**	**+2.5**
ARTR				*e*Pg	**Pg**	**09 07 25.8**	**-1.8**
ARTR				*e*Sn	**Sn**	**09 08 00.6**	**+5.6**
TASR	**Tashtagol**	**3.74**	**322**	*e*Pn	**Pn**	**09 07 22.2**	**+2.4**
TASR				*e*Pg	**Pg**	**09 07 30.4**	**-3.9**
TASR				*e*Sg	**Sg**	**09 08 16.5**	**-6.2**
UKR	**Ust'-Kan**	**4.55**	**286**	*e*PN	**Pn**	**09 07 32.8**	**+1.8**
UKR				*e*		09 07 46.1	
UKR				*e*		09 08 29.4	
UKR	**Ust'-Kan**	**4.55**	**286**	*e*Pn	**Pn**	**09 07 32.8**	**+1.8**
UKR				*e*Pg	**Pg**	**09 07 46.1**	**-3.7**
UKR				*e*Sn	**Sn**	**09 08 29.4**	**+5.8**
UKR				*e*Sg	**Sg**	**09 08 47.3**	**-1.5**
ELT	**Yel'tsovka**	**4.80**	**317**	*e*Pn	**Pn**	**09 07 36.3**	**+2.0**
ELT				*e*Pg	**Pg**	**09 07 48.7**	**-5.7**
ELT				*e*Sg	**Sg**	**09 08 48.3**	**-8.2**
ZAA0	**Zalesovo Array**	**5.89**	**316**	*e*Pn	**Pn**	**09 07 49.7**	**+0.5**
ZAA0				*e*Sg	**Sg**	**09 09 25.0**	**-6.4**
ZALV	**Zalesovo Beam**	**5.89**	**316**	Pn	**Pn**	**09 07 49.9**	**+0.7**
	5.5nm,0.3s,baz=134,slow=13,SNR=28						
ZALV				Pg	**Pg**	**09 08 07.5**	**-7.7**
	12nm,0.3s,baz=138,slow=15,SNR=18						
ZALV				Lg		09 09 23.2	
	39nm,0.3s,baz=130,slow=28,SNR=11						
ZALV				LR	LR	09 10 21.6	
	comp=Z,1μm,19.1s,baz=134,slow=40						
MOY	**Mondy**	**6.15**	**70**	*e*PN	**Pb**	**09 08 08.2**	**-1.2**
MOY				*e*S	**Sg**	**09 09 29.4**	**-11**
MOY				pmax	pmax		
	comp=Z,633nm,1.2s						
MOY				smax			
	comp=N,9μm,1.9s						
KRAR	**Krasnoyarsk**	**6.17**	**6**	*e*PN	**Pn**	**09 07 56.8**	**+3.6**
MK31	**Makanchi Array**	**7.00**	**247**	⇓Pn	**Pn**	**09 08 05.3**	**+0.8**
	comp=N,62nm,0.6s,baz=73,slow=12,SNR=415						
MK31				⇑Sn	Sn	09 10 01.1	+37
	comp=N,193nm,0.5s,baz=73,slow=30,SNR=3.8						
MK31	**Makanchi Array**	**7.00**	**247**	*i* PN	**Pn**	**09 08 05.5**	**+1.0**
MK31				*i*		09 08 31.3	
MK31				pmax	pmax		
	comp=Z,38nm,0.2s						
MK31				pmax	pmax		
	comp=Z,167nm,0.4s						
MK31	**Makanchi Array**	**7.00**	**247**	*e*Pn	**Pn**	**09 08 05.2**	**+0.7**
MK31				*e*Sg	Sn	09 10 02.1	+38
MKAR	**Makanchi Array**	**7.00**	**247**	Pn	**Pn**	**09 08 05.7**	**+1.1**
	comp=Z,13nm,0.3s,baz=58,slow=13,SNR=218						
MKAR				Pg	Pn	09 08 30.5	+26
	comp=Z,18nm,0.3s,baz=74,slow=19,SNR=8.3						
MKAR				Lg		09 10 00.8	
	comp=Z,22nm,0.3s,baz=70,slow=29,SNR=4.2						
MKAR	**Makanchi Array**	**7.00**	**247**	PN	**Pn**	**09 08 05.7**	**+1.2**
MKAR						09 08 30.5	
MKAR				pmax	pmax		
	comp=Z,13nm,0.3s						
MKAR				pmax	pmax		
	comp=Z,18nm,0.3s						
NVS	**Novosibirsk**	**7.17**	**317**	*e*Pn	**Pn**	**09 08 07.0**	**+0.1**
NVS				*e*Pg	Pn	09 08 30.1	+23
NVS				*e*Sg	Sn	09 09 59.6	+32
ZAK	**Zakamensk**	**7.46**	**82**	*e*P	**Pn**	**09 08 10.6**	**-0.2**
ZAK				pmax	pmax		
	comp=Z,722nm,1.3s						
TLY	**Talaya**	**7.78**	**72**	*e*P	**Pn**	**09 08 18.5**	**+3.3**
TLY	**Talaya**	**7.78**	**72**	Pn	**Pn**	**09 08 20.4**	**+5.2**
	comp=Z,96nm,0.6s						
TLY				*e*Sg	Sn	09 10 20.1	+37
KURK	**Kurchatov**	**8.42**	**281**	Pn	**Pn**	**09 08 23.7**	**-0.3**
	comp=Z,1μm,0.9s						
KURK	**Kurchatov**	**8.42**	**281**	Pn	**Pn**	**09 08 23.3**	**-0.7**
	comp=Z,6.2nm,0.3s,baz=92,slow=14,SNR=276						
KURK				Lg		09 10 47.3	
	comp=Z,2.8nm,0.3s,baz=96,slow=25,SNR=5.2						
KURK				LR	LR	09 11 49.2	
	comp=Z,1μm,18.0s,baz=90,slow=38						
KURK	**Kurchatov**	**8.42**	**281**	P	**Pn**	**09 08 23.3**	**-0.7**
KURK				pmax	pmax		
	comp=Z,6.0nm,0.3s						
KURK				pmax	pmax		
	comp=N,5.0nm,0.3s						
KURK				MLR	MLR		
	comp=Z,1μm,18.0s						
KURK	**Kurchatov**	**8.42**	**281**	*e*Pn	**Pn**	**09 08 23.2**	**-0.8**
KURK				*e*Sg	Sn	09 10 48.0	+49
KURBB	**Kurchatov Arra**	**8.48**	**280**	⇑Pn	**Pn**	**09 08 24.2**	**-0.5**
	comp=Z,23nm,0.5s,baz=92,slow=14						
KURBB				⇓Sn	Sn	09 10 37.8	+38
	comp=Z,185nm,0.7s,baz=90,slow=30						
SONM	**Songino Array**	**9.90**	**96**	Pn	**Pn**	**09 08 43.8**	**-0.5**
	comp=Z,2.0nm,0.3s,baz=284,slow=15,SNR=19						
SONM				Pg	Pn	09 09 21.4	+37
	comp=Z,4.8nm,0.3s,baz=288,slow=17,SNR=7.3						
SONM				Lg		09 11 28.9	
	comp=Z,19nm,0.3s,baz=284,slow=30,SNR=6.8						
SONM				LR	LR	09 12 48.7	
	comp=Z,1μm,20.8s,baz=49,slow=40						
ULN	**Ulaanbaatar**	**10.31**	**95**	*e*P	**Pn**	**09 08 52.3**	**+2.4**
GTA	**Gaotai**	**11.95**	**148**	P	**Pn**	**09 09 12.8**	**+0.4**
GTA				AP		09 09 22.3	
GTA				XP		09 09 26.0	
GTA				S	**Sn**	**09 11 33.0**	**+7.5**
GTA				XS		09 11 42.0	
GTA				AMB	AMB		
	comp=Z,10.0nm,1.0s						
GTA				AMB	AMB		
	comp=Z,246nm,7.2s						
GTA				LR	LR		
	comp=N,3μm,9.9s						
GTA				LR	LR		
	comp=E,3μm,10.2s						
GTA				LR	LR		
	comp=Z,3μm,11.1s						
TKM2	**Tokmak 2**	**13.11**	**244**	*e*P	**Pn**	**09 09 26.5**	**-1.6**
TKM2				pmax	pmax		
	comp=Z,127nm,1.4s						
TKM2	**Tokmak 2**	**13.11**	**244**	P	**Pn**	**09 09 26.8**	**-1.3**
	SNR=18						
TKM2	**Tokmak 2**	**13.11**	**244**	*e*Pn	**Pn**	**09 09 26.5**	**-1.7**
	comp=Z,126nm,1.4s						
ULHL	**Ulahol**	**13.16**	**240**	P	**Pn**	**09 09 30.1**	**+1.1**
	SNR=12						
VOSK	**Vostochnaya**	**13.27**	**290**	⇑Pn	**Pn**	**09 09 27.3**	**-2.9**
	comp=Z,7.7nm,0.8s						
VOSK	**Vostochnaya**	**13.27**	**290**	P	**Pn**	**09 09 27.0**	**-3.3**
VOSK				pmax	pmax		
	comp=Z,8.0nm,0.4s						
USP	**Ospenovka**	**13.55**	**247**	P	**Pn**	**09 09 34.6**	**+0.5**
	SNR=7.6						
KBK	**Karagaybulak**	**13.64**	**244**	P	**Pn**	**09 09 35.5**	**0.0**
	SNR=14						
BVA0	**Borovoye Array**	**13.65**	**291**	Pn	**Pn**	**09 09 33.5**	**-2.0**
	comp=Z,8.5nm,1.4s,baz=90,slow=13,SNR=80						
BVA0				⇑Sn	Sn	09 12 41.1	+34
	comp=Z,32nm,1.6s,baz=108,slow=22						
BVA0	**Borovoye Array**	**13.65**	**291**	*e*P	**Pn**	**09 09 33.4**	**-2.0**
BVA0				pmax	pmax		
	comp=Z,9.0nm,1.4s						
BVAR	**Borovoye Array**	**13.65**	**291**	Pn	**Pn**	**09 09 33.5**	**-1.9**
	comp=Z,1.8nm,0.3s,baz=92,slow=13,SNR=19						
BVAR				Sn	**Sn**	**09 12 02.7**	**-4.0**
	comp=Z,1.1nm,0.3s,baz=81,slow=19,SNR=3.4						
BVAR				LR	LR	09 15 02.4	
	comp=Z,1μm,19.8s,baz=95,slow=38						
BVAR	**Borovoye Array**	**13.65**	**291**	P	**Pn**	**09 09 33.5**	**-1.9**
BVAR						09 12 02.7	
BVAR				pmax	pmax		
	comp=Z,2.0nm,0.3s						
BVAR				smax			
	comp=N,1.0nm,0.3s						
BVAR				MLR	MLR		
	comp=Z,1μm,19.8s						
BRVK	**Borovoye**	**13.71**	**292**	*e*P	**Pn**	**09 09 35.0**	**-1.4**
FRU	**Bishkek**	**13.73**	**246**	*e*P	**Pn**	**09 09 40.0**	**+3.3**
FRU				pmax	pmax		
	comp=Z,100nm,1.6s						
FRU				MLR	MLR		
	comp=Z,4μm,10.0s						
KZA	**Kyzart**	**13.83**	**242**	P	**Pn**	**09 09 39.4**	**+1.4**
	SNR=12						
AAK	**Ala-Archa**	**13.93**	**245**	Pn	**Pn**	**09 09 39.6**	**+0.3**
	comp=Z,200nm,0.8s,SNR=6.2						
AAK	**Ala-Archa**	**13.93**	**245**	P	**Pn**	**09 09 39.0**	**-0.3**
	SNR=6.6						
UCH	**Uchtor**	**14.16**	**244**	*e*Pn	**Pn**	**09 09 44.0**	**+1.5**
	comp=Z,24nm,0.9s						
EKS2	**Erkin-Say**	**14.33**	**247**	P	**Pn**	**09 09 45.6**	**+0.8**
	SNR=9.8						
EKS2	**Erkin-Say**	**14.33**	**247**	*e*Pn	**Pn**	**09 09 45.5**	**+0.7**
	comp=Z,167nm,0.8s						
EKS2				*e*P		09 09 52.8	
AML	**Almayashu**	**14.70**	**245**	P	**Pn**	**09 09 51.2**	**+1.3**
	SNR=38						
AML	**Almayashu**	**14.70**	**245**	*e*Pn	**Pn**	**09 09 50.8**	**+0.9**
	comp=Z,52nm,0.9s						
KK31	**Karatay Array**	**16.07**	**253**	Pn	**Pn**	**09 10 05.0**	**-2.8**
	comp=Z,16nm,0.6s,baz=54,slow=14,SNR=154						
KK31				⇑Sn	Sn	09 13 42.1	+37
	comp=Z,274nm,1.5s,baz=50,slow=26,SNR=4.2						
KK31	**Karatay Array**	**16.07**	**253**	*i* P	**Pn**	**09 10 05.0**	**-2.8**
KK31				pmax	pmax		
	comp=Z,16nm,0.6s						
LZH	**Lanzhou**	**16.38**	**143**	⇓P	**Pn**	**09 10 12.0**	**+0.1**
LZH				AP	pP	09 10 19.0	+0.3
LZH				XP	sP	09 10 23.0	+2.3
LZH				PP		09 10 26.5	
LZH				*e*S	**Sn**	**09 13 12.3**	**-0.9**
LZH				XS	sS	09 13 25.8	-6.2
LZH				SS		09 13 31.0	
LZH				AMB	AMB		
	comp=Z,122nm,1.0s						
LZH				LR	LR		
	comp=N,3μm,10.7s						
LZH				LR	LR		
	comp=Z,3μm,11.8s						
HHC	**Hu-ho-hao-te**	**16.59**	**115**	⇓P	**Pn**	**09 10 17.8**	**+3.3**
HHC				AP	pP	09 10 25.0	+3.9
HHC				XP	sP	09 10 30.0	+7.0
HHC				PP		09 10 32.0	
HHC				S	**Sn**	**09 13 20.3**	**+2.0**
HHC				XS	sS	09 13 32.5	-3.7
HHC				SS		09 13 40.5	
HHC				PCP	PcP	09 15 08.5	+4.1
HHC				AMB	AMB		
	comp=Z,52nm,1.2s						
HHC				AMB	AMB		
	comp=Z,246nm,6.4s						
HHC				LR	LR		
	comp=N,1μm,7.5s						
HHC				LR	LR		
	comp=E,2μm,8.2s						
HHC				LR	LR		
	comp=Z,2μm,9.6s						
HIA	**Hailar**	**18.16**	**81**	*e*P	**Pn**	**09 10 35.1**	**+1.1**
HIA				pmax	pmax		
	comp=Z,26nm,1.0s						
HIA	**Hailar**	**18.16**	**81**	*e*P	**Pn**	**09 10 35.1**	**+1.1**
	comp=Z,26nm,1.0s						
TIY	**Taiyuan**	**19.21**	**121**	*e*P	**Pn**	**09 10 51.5**	**+4.6**
TIY				LR	LR		
	comp=N,671nm,6.1s						
TIY				LR	LR		
	comp=E,807nm,6.3s						
TIY				LR	LR		
	comp=Z,1μm,7.6s						
SVE	**Sverdlovsk**	**19.67**	**303**	⇓*e*P	**Pn**	**09 10 51.5**	**-0.7**
SVE				*e*S	**Sn**	**09 14 35.7**	**+3.1**
SVE				pmax	pmax		
	comp=Z,76nm,1.1s						
SVE				MLR	MLR		
	comp=Z,2μm,14.0s						
BJI	**Beijing**	**19.84**	**110**	P	**Pn**	**09 10 54.0**	**-0.3**
BJI				S	**Sn**	**09 14 37.0**	**+0.1**
BJI				AMB	AMB		
	comp=Z,166nm,0.9s						
BJI				AMB	AMB		
	comp=Z,234nm,3.1s						
BJI				LR	LR		
	comp=N,2μm,18.9s						
BJI				LR	LR		
	comp=E,3μm,10.1s						
BJI				LR	LR		
	comp=Z,1μm,15.8s						
BJT	**Baijiatuan**	**19.85**	**110**	*e*P	**Pn**	**09 10 54.1**	**-0.4**
BJT				pmax	pmax		
	comp=Z,133nm,0.9s						
BJT	**Baijiatuan**	**19.85**	**110**	*e*P	**Pn**	**09 10 54.1**	**-0.4**
	comp=Z,133nm,0.9s						
LSA	**Lhasa**	**20.17**	**181**	P	**P**	**09 10 55.5**	**-0.9**
LSA				AMB	AMB		
	comp=Z,20nm,0.9s						
LSA	**Lhasa**	**20.17**	**181**	*e*P	**P**	**09 10 58.8**	**+2.4**
LSA				pmax	pmax		
	comp=Z,36nm,0.8s						
LSA	**Lhasa**	**20.17**	**181**	*e*P	**P**	**09 10 58.8**	**+2.4**
	comp=Z,36nm,0.8s						
XAN	**Xi'an**	**20.29**	**135**	P	**P**	**09 10 57.0**	**-0.7**
XAN				AP		09 11 03.3	
XAN				S	**S**	**09 14 36.5**	**-8.1**
XAN				LG1		09 16 59.0	
XAN				LG2		09 17 33.3	
XAN				AMB	AMB		
	comp=Z,21nm,1.3s						
XAN				AMB	AMB		
	comp=Z,160nm,6.3s						
XAN				LR	LR		
	comp=E,996nm,16.6s						
XAN				LR	LR		
	comp=Z,1μm,15.9s,MS4.4						
ARU	**Arti**	**20.77**	**301**	*d* iP	**P**	**09 11 02.9**	**+0.2**
ARU				*e*		09 11 19.7	
ARU				*e*S	**S**	**09 14 54.4**	**+0.5**
ARU				*e*SS		09 15 18.2	
ARU				pmax	pmax		
	comp=Z,27nm,1.0s						
ARU				MLR	MLR		
	comp=Z,942nm,17.0s,MS4.2						
ARU	**Arti**	**20.77**	**301**	*e*P	**P**	**09 11 03.0**	**+0.2**
	comp=Z,107nm,1.4s						
CLNS	**Chul'man**	**20.83**	**58**	*e*P	**P**	**09 11 04.0**	**+0.6**
CLNS				*e*PP		09 11 11.2	
CLNS				*e*S	**S**	**09 14 48.5**	**-6.6**
CLNS				*e*SS		09 15 29.0	
CLNS				pmax	pmax		
	comp=Z,34nm,1.0s						
CLNS				pmax	pmax		
	comp=N,15nm,0.9s						
CLNS				pmax	pmax		
	comp=E,25nm,1.2s						
CLNS				smax			
	comp=E,260nm,12.8s						
CLNS				smax			
	comp=N,131nm,13.4s						
CLNS				MLR	MLR		
	comp=N,306nm,14.0s,MS4.3						
CLNS				MLR	MLR		
	comp=Z,1μm,11.0s,MS4.6						
CLNS				MLR	MLR		
	comp=E,860nm,12.0s,MS4.3						
CD2	**Chengdu**	**21.01**	**150**	P	**P**	**09 11 07.8**	**+2.2**
CD2				AP		09 11 17.0	
CD2				XP	sP	09 11 21.0	+9.4
CD2				PP		09 11 31.0	
CD2				S	**S**	**09 14 55.8**	**-3.3**
CD2				XS	sS	09 15 10.3	+4.6
CD2				SS		09 15 29.8	
CD2				AMB	AMB		
	comp=Z,50nm,1.0s,mb4.8						
CD2				AMB	AMB		
	comp=Z,210nm,4.9s						
CD2				LR	LR		
	comp=N,2μm,10.5s						
CD2				LR	LR		
	comp=E,770nm,9.6s						
CD2				LR	LR		
	comp=Z,2μm,10.2s,MS4.7						
THN	**Thein Dam**	**21.11**	**220**	*e*P	**P**	**09 11 06.0**	**-0.6**
JOSI	**Joshimath**	**21.37**	**210**	*e*P	**P**	**09 11 09.6**	**+0.2**
AKTK	**Aktyubinsk**	**21.49**	**284**	P	**P**	**09 11 10.0**	**-0.6**
AKTK				LR	LR	09 19 45.0	
AKTO	**Aktyubinsk**	**21.49**	**284**	P	**P**	**09 11 10.0**	**-0.6**
	comp=Z,24nm,0.9s,mb4.5,baz=89,slow=10,SNR=61						
AKTO				LR	LR	09 19 45.0	
	comp=Z,449nm,19.4s,MS3.9,baz=69,slow=37						
AKTO	**Aktyubinsk**	**21.49**	**284**	P	**P**	**09 11 10.0**	**-0.5**
AKTO				pmax	pmax		
	comp=Z,24nm,0.9s,mb4.5						
AKTO				MLR	MLR		
	comp=Z,449nm,19.5s,MS3.9						
DDI	**Dehra Dun**	**22.09**	**213**	*ex*	**P**	**09 11 12.8**	**-4.3**
PTH	**Pithoragarh**	**22.10**	**207**	*e*P	**P**	**09 11 17.2**	**-0.1**
LGTI	**Lohaghat**	**22.19**	**207**	*e*P	**P**	**09 11 19.0**	**+0.8**
DANN	**Dangsing**	**22.35**	**199**	*e*P	**P**	**09 11 20.1**	**+0.2**
	comp=Z,197nm,1.0s,mb5.5						
GUN	**Gumba**	**22.40**	**194**	*e*P	**P**	**09 11 20.4**	**0.0**
	comp=Z,182nm,0.9s,mb5.5						
GKN	**Gorkha**	**22.52**	**197**	*e*P	**P**	**09 11 21.8**	**+0.1**
JIRN	**Jiri**	**22.60**	**193**	*e*P	**P**	**09 11 22.7**	**+0.2**
	comp=Z,128nm,0.7s,mb5.5						
KALG	**Kalgarh**	**22.60**	**211**	*ex*	x	09 11 17.0	
KALG				AMb	AMB	09 11 19.1	
	comp=Z,122nm,0.8s,mb5.4						
KBL	**Kabul**	**22.61**	**236**	*e*P	**P**	**09 11 21.5**	**-1.1**

comp=N,170nm,11.0s
YAK MLR MLR
comp=Z,517nm,11.0s,MS4.3
YAK MLR MLR
comp=E,257nm,8.0s
YAK Yakutsk 24.08 45 *e*P **P** **09 11 40.1 +3.0**
comp=E,104nm,1.3s,mb5.1
SHL Shillong 24.28 180 *e*P **P** **09 11 39.0 -0.2**
SONA Sohna 24.32 213 *e*P **P** **09 11 40.2 +0.6**
SONA *e*P 09 11 40.2
KUDL Kundal 24.63 214 *e*P **P** **09 11 43.7 +1.3**
KUDL *e*P 09 11 43.7
KUDL AMb AMB 09 11 50.9
comp=Z,89nm,1.0s,mb5.2
KUDL AMb AMB 09 11 50.9
comp=Z,89nm,1.0s,mb5.2
KHET Khetri 24.95 215 *e*P **P** **09 11 44.9 -0.4**
KHET AMb AMB 09 11 54.8
comp=Z,154nm,1.4s,mb5.3
WHN Wuhan 25.76 130 *e*P **P** **09 11 51.5 -1.1**
WHN S **S** **09 16 23.5 +2.4**
WHN LR LR
comp=N,2μm,10.0s
WHN LR LR
comp=E,1μm,15.2s
WHN LR LR
comp=Z,2μm,13.1s,MS4.8
KLR Kul'dur 25.77 76 *e*P **P** **09 11 48.2 -4.4**
MDJ Mudanjiang 26.05 87 P **P** **09 11 56.5 +1.3**
MDJ AP pP 09 12 05.5 +5.9
MDJ XP sP 09 12 08.8 +7.4
MDJ S **S** **09 16 19.5 -6.0**
MDJ AMB AMB
comp=Z,15nm,1.1s,mb4.4
MDJ AMB AMB
comp=Z,105nm,5.5s
MDJ LR LR
comp=N,1μm,8.4s
MDJ LR LR
comp=E,1μm,9.9s
MDJ LR LR
comp=Z,2μm,8.4s
GYA Guiyang 26.09 148⇑ *i*P **P** **09 11 55.3 -0.3**
GYA AP pP 09 12 09.5 +9.5
GYA PP 09 12 41.5
GYA PCP PcP 09 15 26.3 +3.3
GYA S **S** **09 16 21.0 -5.3**
GYA XS sS 09 16 42.3 +8.7
GYA SS 09 17 33.8
GYA SCP ScP 09 19 00.0 -1.9
GYA AMB AMB
comp=Z,30nm,0.8s,mb4.9
GYA AMB AMB
comp=Z,130nm,4.2s
GYA LR LR
comp=N,680nm,16.6s,MS4.3
GYA LR LR
comp=E,530nm,17.8s,MS4.3
GYA LR LR
comp=Z,670nm,16.4s,MS4.3
KMI Kunming 26.17 157 P **P** **09 11 55.8 -0.6**
KMI XP sP 09 12 09.0 +6.4
KMI PP 09 12 37.8
KMI S **S** **09 16 22.3 -5.3**
KMI XS sS 09 16 38.3 +3.3
KMI SSS 09 17 46.0
KMI AMB AMB
comp=Z,18nm,1.0s,mb4.6
KMI LR LR
comp=N,628nm,11.1s,MS4.6
KMI LR LR
comp=E,745nm,13.1s,MS4.6
KMI LR LR
comp=Z,497nm,12.7s,MS4.2
BOK Bokaro 26.44 192 *e*P **P** **09 11 58.0 -0.8**
BOK AMb AMB 09 12 08.7
comp=Z,120nm,1.3s,mb5.3
AJM Ajmer 26.82 216 *e*P **P** **09 12 02.1 -0.1**
AJM AMb AMB 09 12 03.4
comp=Z,20nm,1.2s,mb4.5
TIXI Tiksi 27.54 24 *e*P **P** **09 12 07.8 -0.5**
TIXI pmax pmax
comp=Z,76nm,1.6s,mb5.1
TIXI MLR MLR
comp=Z,1μm,10.0s,MS4.7
TIXI Tiksi 27.54 24 *e*P **P** **09 12 08.2 -0.2**
comp=Z,87nm,1.3s,mb5.2
KSRS Korea Array 28.71 102 P **P** **09 12 19.1 +0.1**
comp=Z,10.0nm,0.8s,mb4.6,baz=301,slow=6.4,SNR=28
KSRS Korea Array 28.71 102 P **P** **09 12 19.2 +0.2**
KSRS pmax pmax
comp=Z,10.0nm,0.8s,mb4.6
KLMR Klimovskoe 30.78 311 *e*P **P** **09 12 36.3 -0.8**
KLMR pmax pmax
comp=Z,72nm,1.4s,mb5.3
MAK Makhachkala 30.88 274 P **P** **09 12 35.7 -2.5**
MAK *e* 09 13 36.6
MAK *e*S **S** **09 17 38.4 -3.1**
MAK pmax pmax
comp=Z,121nm,1.2s,mb5.6
MAK MLR MLR
comp=Z,375nm,10.0s,MS4.3
VRHR Novokhopersk 31.39 292 *e*P **P** **09 12 42.2 -0.4**
VRHR *e**PP pP 09 12 46.5 -0.6
VRHR pmax pmax
comp=N,20nm,0.8s
VRHR pmax pmax
comp=Z,30nm,0.8s,mb5.2
VRHR pmax pmax
comp=E,60nm,0.9s
CHTO Chiang Mai 31.54 167 *e*P **P** **09 12 44.4 +0.2**
CHTO pmax pmax
comp=Z,8.0nm,1.0s,mb4.5
CHTO Chiang Mai 31.54 167 *e*P **P** **09 12 44.4 +0.1**
comp=Z,7.5nm,1.0s,mb4.5
CM31 Chiang Mai Arr 31.89 167 *e*P **P** **09 12 47.6 +0.3**
comp=Z,5.9nm,0.8s,mb4.5
CMAR Chiang Mai Arr 31.89 167 P **P** **09 12 46.8 -0.5**
comp=Z,2.2nm,0.4s,mb4.3,baz=356,slow=9.5,SNR=16
CMAR LR LR 09 26 19.3
comp=Z,382nm,18.2s,MS4.1,baz=345,slow=38
CMAR Chiang Mai Arr 31.89 167 *i* P **P** **09 12 47.5 +0.2**
CMAR pmax pmax
comp=Z,2.0nm,0.4s
MOS Moscow 32.48 301 *e*P **P** **09 12 50.5 -1.7**
MOS pmax pmax
comp=Z,71nm,0.9s,mb5.5
OBN Obninsk 33.21 301⇓ *i*P **P** **09 12 58.4 -0.2**
OBN *i* pP 09 13 02.5 -0.6
OBN 09 14 10.0
OBN pmax pmax
comp=Z,93nm,1.7s,mb5.4
OBN MLR MLR
comp=Z,300nm,19.0s,MS4.0
KIV Kislovodsk 33.50 279 *e*P **P** **09 13 01.4 +0.2**
KIV pmax pmax
comp=Z,25nm,1.3s,mb5.0
KIV MLR MLR
comp=Z,200nm,24.0s,MS3.8
HYB Hyderabad 34.09 203 *i* P **P** **09 13 06.0 -0.5**
HYB Hyderabad 34.09 203 *e*P **P** **09 13 06.0 -0.5**
GNI Garni 34.09 272 P **P** **09 13 06.9 +0.5**
comp=Z,12nm,0.7s,mb4.9,baz=346,slow=13,SNR=7.1
GNI Garni 34.09 272 *e*P **P** **09 13 08.9 +2.5**
GNI pmax pmax
comp=Z,21nm,0.9s
GNI Garni 34.09 272 *e*P **P** **09 13 08.9 +2.5**
comp=Z,21nm,0.9s,mb5.1
JOF Joensuu 34.48 315 *ep* **P** **09 13 09.5 0.0**
comp=Z,4.2nm,0.9s,mb4.4
JOF Joensuu 34.48 315 *e*P **P** **09 13 09.5 0.0**
JOF pmax pmax
comp=Z,4.0nm,0.9s,mb4.3
KEV Kevo 35.79 327 *ep* **P** **09 13 20.6 -0.1**
comp=Z,6.7nm,0.8s,mb4.6
KEV Kevo 35.79 327 *e*P **P** **09 13 20.6 -0.1**
KEV pmax pmax
comp=Z,7.0nm,0.8s,mb4.6
MJAR Matsushiro Arr 35.84 94 P **P** **09 13 19.7 -1.8**
comp=Z,0.9nm,0.8s,mb3.8,baz=340,slow=11,SNR=4.4
MJAR PcP PcP 09 15 47.0 -1.6
comp=Z,2.7nm,1.0s,baz=289,slow=3.8,SNR=4.3
MJAR LR LR 09 28 42.9
comp=Z,341nm,19.1s,MS4.1,baz=240,slow=38
MJAR Matsushiro Arr 35.84 94 P **P** **09 13 19.7 -1.8**
MJAR 09 15 47.0
MJAR pmax pmax
comp=Z,1.0nm,0.8s
MJAR MLR MLR
comp=Z,341nm,19.1s
ARCES ARCESS Array B 36.32 327 P **P** **09 13 25.3 +0.1**
comp=Z,9.3nm,0.9s,mb4.7,baz=77,slow=8.4,SNR=12
ARCES PcP PcP
ARCES PcP 09 15 48.0 -1.5
comp=Z,5.8nm,0.9s,baz=74,slow=9.5,SNR=3.9
ARCES LR LR 09 28 17.1
comp=Z,99nm,21.7s,MS3.5,baz=275,slow=36
ARCES ARCESS Array B 36.32 327 P **P** **09 13 25.3 +0.1**
ARCES 09 15 48.0
ARCES pmax pmax
comp=Z,9.0nm,0.9s
ARCES pmax pmax
comp=Z,6.0nm,0.9s
ARCES MLR MLR
comp=Z,99nm,21.7s
ANN Anapa 36.44 283 *e*P **P** **09 13 23.6 -3.0**
ANN *e*S **S** **09 19 03.7 -3.9**
ANN pmax pmax
comp=Z,44nm,1.0s,mb5.3
ANN MLR MLR
comp=Z,267nm,12.0s,MS4.2
KAF Kangasniemi 36.90 315 *ep* **P** **09 13 29.9 -0.3**
comp=Z,5.9nm,0.8s,mb4.5
KAF Kangasniemi 36.90 315 *e*P **P** **09 13 29.9 -0.3**
KAF pmax pmax
comp=Z,6.0nm,0.8s,mb4.5
SPITS Spitsbergen Ar 38.74 341 P **P** **09 13 46.5 +0.8**
comp=Z,6.7nm,0.7s,mb4.5,baz=133,slow=8.5,SNR=4.1
SPITS Spitsbergen Ar 38.74 341 P **P** **09 13 46.5 +0.9**
SPITS pmax pmax
comp=Z,7.0nm,0.7s
UMR Umm Al-Rimmam 38.77 255 *e*P **P** **09 13 46.6 +0.2**
baz=255
UMR AMb AMB 09 13 47.7
comp=Z,57nm,1.0s,mb5.3,baz=255
MIB Mutribah 38.83 256 *e*P **P** **09 13 47.2 +0.3**
baz=256
MIB AMb AMB 09 13 48.1
comp=Z,46nm,1.1s,mb5.1,baz=256
AKASG Malin Array Be 38.86 296 P **P** **09 13 46.3 -0.7**
comp=Z,4.3nm,0.4s,mb4.6,baz=55,slow=8.5,SNR=24
AKASG LR LR 09 30 26.1
comp=Z,467nm,19.3s,MS4.3,baz=85,slow=37
AKBB Malin Array Si 38.87 296 *e*P **P** **09 13 46.7 -0.3**
KIEV Kiev 38.88 296 *e*P **P** **09 13 45.6 -1.5**
KIEV pmax pmax
comp=Z,51nm,1.3s,mb5.1
KIEV Kiev 38.88 296 *e*P **P** **09 13 45.6 -1.4**
comp=Z,51nm,1.3s,mb5.1
NAY Al-Naaiem 39.27 255 *e*P **P** **09 13 50.7 +0.1**
baz=255
NAY AMb AMB 09 13 51.7
comp=Z,28nm,1.3s,mb4.8,baz=255
RDF Al-Radifah 39.31 255 *e*P **P** **09 13 50.9 0.0**
baz=255
RDF AMb AMB 09 13 54.4
comp=Z,49nm,1.2s,mb5.1,baz=255
BILL Bilibino 39.52 35⇓ *e*P **P** **09 13 58.3 +6.0**
BILL *e* 09 15 32.7
BILL pmax pmax
comp=Z,22nm,1.7s,mb4.6
BILL MLR MLR
comp=Z,200nm,13.0s,MS4.1
PETK Petropavlovsk- 39.91 59 P **P** **09 13 56.1 +0.5**
comp=Z,38nm,1.3s,mb5.0,baz=220,slow=20,SNR=5.8
KIS Kishinev 40.73 291 *e*P **P** **09 14 02.0 -0.6**
KIS *i* pP 09 14 07.0 -0.1
KIS *i* 09 14 13.0
KIS *e*S **S** **09 20 09.0 -3.2**
KIS MLR MLR
comp=N,500nm,14.0s
KIS MLR MLR
comp=Z,500nm,14.0s,MS4.5
KIS MLR MLR
comp=Z,500nm,14.0s
KIS Kishinev 40.73 291 *e*P **P** **09 14 02.0 -0.6**
KIS *e*S **S** **09 20 09.0 -3.2**
KIS *e*LQ 09 28 36.0
KIS LRM 09 31 14.0
comp=Z,500nm,14.0s
ANTO Ankara 41.93 279⇑ *i*P **P** **09 14 13.4 +0.9**
TIRR Tirgusor 42.23 288⇓ *i*P **P** **09 14 14.8 0.0**
LVV L'vov 42.25 297 *e*P **P** **09 14 15.1 +0.1**
VRI Vrincioaia 42.55 291⇓ *i*P **P** **09 14 21.8 +4.4**
BUR08 Bucovina Ar. S 42.59 294 *e*P **P** **09 14 18.4 +0.6**
BURAR Bucovina Array 42.59 294⇑ *i*P **P** **09 14 18.1 +0.3**
KWP Kalwaria 43.10 297 *e*P **P** **09 14 22.1 +0.3**
KWP Kalwaria 43.10 297⇑ *i*P **P** **09 14 22.5 +0.6**
KWP Kalwaria 43.10 297 *e*P **P** **09 14 22.2 +0.3**
MLR Muntele Rosu 43.21 290 P **P** **09 14 23.5 +0.7**
comp=Z,3.6nm,0.7s,mb4.2,baz=62,slow=16,SNR=3.1
MLR Muntele Rosu 43.21 290 P **P** **09 14 23.5 +0.7**
MLR pmax pmax
comp=Z,4.0nm,0.7s
MLR Muntele Rosu 43.21 290⇑ *i*P **P** **09 14 28.1 +5.3**
HFS Hagfors 43.32 314 P **P** **09 14 23.3 -0.2**
comp=Z,33nm,0.9s,mb5.1,baz=79,slow=8.0,SNR=21
HFS Hagfors 43.32 314 P **P** **09 14 23.3 -0.2**
HFS pmax pmax
comp=Z,33nm,0.9s
KOLS Kolonicke sedl 43.68 297 *e*P **P** **09 14 26.7 +0.1**
KOLS *e*pP pP 09 14 38.1 +7.0
VOIR 43.78 291⇓ *i*P **P** **09 14 28.2 +0.8**
UZH Uzhgorod 43.82 296 *e*P **P** **09 14 32.0 +4.3**
UZH *e* pP 09 14 36.0 +3.8
UZH *i* 09 14 45.0
ASF Jabal al Asfar 43.92 268 P **P** **09 14 29.0 +0.3**
comp=Z,13nm,0.9s,mb4.7,baz=301,slow=3.4,SNR=17
ASF Jabal al Asfar 43.92 268 P **P** **09 14 29.0 +0.3**
ASF pmax pmax
comp=Z,13nm,0.9s
STHS Stebnicka Huta 44.04 298 *e*P **P** **09 14 30.9 +1.4**
STHS *e* pP 09 14 35.0 +1.0
STHS pmax pmax
comp=Z,10.0nm,1.0s,mb4.5
STHS Stebnicka Huta 44.04 298 *e*P **P** **09 14 30.9 +1.4**
comp=Z,10.0nm,1.0s,mb4.5
STHS *e* pP 09 14 35.0 +1.0
NB2 NORSAR Subarra 44.09 316 P **P** **09 14 29.1 -0.6**
comp=Z,6.6nm,0.8s,mb4.4,baz=62,slow=7.9
NOA NORSAR Array B 44.09 316 P **P** **09 14 29.4 -0.3**
comp=Z,12nm,0.8s,mb4.6,baz=63,slow=7.6,SNR=19
NOA LR LR 09 33 57.9
comp=Z,152nm,21.2s,MS3.9,baz=60,slow=38
NOA NORSAR Array B 44.09 316 P **P** **09 14 29.4 -0.3**
NOA pmax pmax
comp=Z,12nm,0.9s
NOA MLR MLR
comp=Z,152nm,21.2s
NOA NORSAR Array B 44.09 316 P **P** **09 14 29.4 -0.3**
NOA LR LR 09 33 57.9
CRVS Cervenica-Dubn 44.17 297 *e*P **P** **09 14 30.1 -0.4**
NAO01 NORSAR Array S 44.32 316 *e*P **P** **09 14 30.9 -0.6**
comp=Z,4.7nm,0.6s,mb4.4
MMAI Mount Meron Ar 44.35 270 P **P** **09 14 33.1 +1.0**
comp=Z,2.7nm,0.5s,mb4.3,baz=62,slow=10,SNR=5.7
OJC Ojcow 44.48 299 *e*P **P** **09 14 30.9 -2.0**
OJC *e*S **S** **09 21 01.6 -5.7**
OJC L 09 33 55.6
comp=Z,0.5nm,18.3s
DRGR 44.49 294⇓ *i*P **P** **09 14 34.1 +1.1**
NIE Niedzica 44.57 298 *e*P **P** **09 14 35.2 +1.5**
NIE *e* pP 09 14 39.2 +0.9
NIE Niedzica 44.57 298 *e*P **P** **09 14 35.2 +1.5**
NIE *e* pP 09 14 39.2 +0.9
PSZ Piszkesteto 45.56 296 *e*P **P** **09 14 43.7 +2.1**
PSZ pmax pmax
comp=Z,36nm,1.5s,mb5.1
PSZ Piszkesteto 45.56 296⇑ *i*P **P** **09 14 41.9 +0.3**
PSZ Piszkesteto 45.56 296 *e*P **P** **09 14 43.7 +2.1**
comp=Z,36nm,1.5s,mb5.1
OKC Ostrava-Krasne 45.59 300 *e*P **P** **09 14 42.2 +0.4**
OKC *e*pP pP 09 14 46.9 +0.5
OKC AMS AMS 09 35 30.0
comp=Z,500nm,14.6s
OKC Ostrava-Krasne 45.59 300 *e*P **P** **09 14 42.2 +0.4**
OKC *e* pP 09 14 46.9 +0.5
BZS Buzias 45.74 293⇑ *i*P **P** **09 14 44.0 +0.9**
VYHS Vyhne 45.88 298 *e*P **P** **09 14 44.7 +0.6**
MORC Moravsky Berou 45.96 300 *e*P **P** **09 14 45.1 +0.4**
MORC pmax pmax
comp=Z,27nm,1.1s,mb5.1
MORC Moravsky Berou 45.96 300⇑ *i*P **P** **09 14 45.9 +1.2**
MORC Moravsky Berou 45.96 300 *e*P **P** **09 14 45.1 +0.3**
comp=Z,27nm,1.1s,mb5.1
KOLL Kolacno 46.08 298 *e*P **P** **09 14 47.2 +1.5**
KSP Ksiaz 46.13 302 *e*P **P** **09 14 46.8 +0.8**
KSP Ksiaz 46.13 302 *e*P **P** **09 14 46.3 +0.3**
KSP *e*pP pP 09 14 50.2 -0.4
DAG Danmarks Havn 46.34 343⇑ *i*P **P** **09 14 47.1 -0.3**
DAG pmax pmax
comp=Z,4.0nm,0.3s,mb4.8
DAG Danmarks Havn 46.34 343⇑ *i*P **P** **09 14 47.1 -0.3**
comp=Z,3.9nm,0.3s,mb4.8
DPC Dobruska-Polom 46.36 301 *e*P **P** **09 14 48.7 +0.9**
DPC *e*pP pP 09 14 52.6 +0.2
DPC AMS AMS 09 35 50.0
comp=Z,500nm,16.0s
UPC Upice 46.45 301 *e*P **P** **09 14 49.2 +0.7**
UPC *e*pP pP 09 14 53.4 +0.3
RUE Ruedersdorf 46.67 305 *e*P **P** **09 14 50.7 +0.4**
comp=Z,85nm,0.9s,mb5.7
VRAC Vranov 46.73 300 P **P** **09 14 51.7 +0.9**
comp=Z,5.9nm,0.3s,mb5.0,baz=82,slow=8.6,SNR=4.3
VRAC Vranov 46.73 300 P **P** **09 14 51.7 +0.9**
VRAC pmax pmax
comp=Z,6.0nm,0.3s
EIL Elat 46.83 266 P **P** **09 14 53.2 +1.4**
comp=Z,1.7nm,0.4s,mb4.4,baz=110,slow=13,SNR=4.9
MODS Modra-Piesok 46.83 298 *e*P **P** **09 14 50.0 -1.6**
MODS *e* 09 14 56.9
MODS pmax pmax
comp=Z,14nm,1.5s,mb4.7
MODS Modra-Piesok 46.83 298 *e*P **P** **09 14 50.0 -1.6**
comp=Z,14nm,1.5s,mb4.7
MODS *e* 09 14 56.9
ZST Bratislava 47.02 298 *e*P **P** **09 14 54.1 +1.0**
comp=Z,11nm,0.9s,mb4.8
ZST LR LR
comp=Z,100nm,16.8s,MS3.9
PKSM Moragy 47.19 295⇑ *i*P **P** **09 14 54.4 0.0**
PVCC Panska Ves 47.23 302 *e*P **P** **09 14 55.2 +0.5**
PVCC *e*pP pP 09 14 59.2 -0.1
TREC Trest 47.36 300 *e*P **P** **09 14 56.6 +0.9**
TREC *e*pP pP 09 15 00.3 0.0
TREC AMS AMS 09 36 30.0
comp=Z,600nm,15.3s
BRG Berggiesshubel 47.40 303 *e*P **P** **09 14 55.9 0.0**
BRG *i* pP 09 15 00.3 -0.2
BRG *e* 09 16 49.0
BRG pmax pmax
comp=Z,5.0nm,1.2s,mb4.3
BRG pmax pmax
comp=Z,19nm,1.8s,mb4.7
BRG Berggiesshubel 47.40 303 *e*P **P** **09 14 55.9 0.0**
comp=Z,7.8nm,1.2s,mb4.5
BRG *i* pP 09 15 00.3 -0.3
comp=Z,29nm,1.3s
BRG *e* 09 16 49.0
comp=Z,31nm,1.8s
PRU Pruhonice 47.53 301 *e*P **P** **09 14 57.0 0.0**
PRU *e*pP pP 09 15 01.7 +0.2
PRU AMS AMS 09 36 20.0
comp=Z,400nm,16.9s
CLL Collm 47.68 304⇓ *i*P **P** **09 14 58.6 +0.4**
CLL *i* *PP pP 09 15 02.0 -0.8
CLL pmax pmax
comp=Z,29nm,1.3s,mb5.2
CLL MLR MLR
comp=Z,700nm,15.3s,MS4.8
CLL Collm 47.68 304 *e*P **P** **09 14 58.1 -0.1**
comp=Z,45nm,0.9s,mb5.5
CLL *e*pP pP 09 15 02.0 -0.8
CLL Collm 47.68 304⇓ *i*P **P** **09 14 58.6 +0.4**
comp=Z,29nm,1.3s,mb5.2
CLL *i* pP pP 09 15 02.0 -0.8
comp=Z,45nm,1.0s
CLL *e*PP PP 09 16 54.0 +4.5
CLL Collm 47.68 304⇓ *i*P **P** **09 14 58.6 +0.4**
comp=Z,29nm,1.3s,mb5.2
CLL *i* pP pP 09 15 02.0 -0.8
CLL LR LR
comp=Z,700nm,15.3s,MS4.8
FBE Freiberg 47.69 303 *e*P **P** **09 14 58.4 +0.2**
comp=Z,44nm,1.1s,mb5.4
FBE *e*pP pP 09 15 02.7 -0.1
BSEG Bad Segeberg 47.75 308 *e*P **P** **09 14 59.6 +0.9**
BSEG pmax pmax
comp=Z,48nm,1.0s,mb5.5
BSEG Bad Segeberg 47.75 308 *e*P **P** **09 14 59.6 +0.9**
comp=Z,48nm,1.0s,mb5.5
CONA Conrad Observa 47.87 298⇑ *i*P **P** **09 15 00.6 +1.0**
comp=Z,21nm,1.2s,mb5.0
CSNA Conrad Observa 47.87 298⇑ *i*P **P** **09 15 00.6 +0.9**
comp=Z,20nm,1.1s,mb5.1
APE Apeiranthos 48.19 281 *e*P **P** **09 15 01.9 -0.3**
APE Apeiranthos 48.19 281⇑ *i*P **P** **09 15 01.9 -0.3**
TANN Tannenbergstha 48.44 303 *e*P **P** **09 15 04.4 +0.4**
comp=Z,29nm,1.1s,mb5.2
TANN *e*pP pP 09 15 08.6 0.0
WERD Werda 48.51 303 *e*P **P** **09 15 04.8 +0.3**
comp=Z,26nm,1.1s,mb5.2
WERD *e*pP pP 09 15 09.0 -0.1
KHC Kasperske Hory 48.51 301 *e*P **P** **09 15 04.9 +0.3**
KHC *e*pP pP 09 15 09.1 -0.1
KHC AMS AMS 09 37 10.0
comp=Z,400nm,11.2s
GUNZ Gunzen 48.54 303 *e*P **P** **09 15 05.1 +0.3**
comp=Z,35nm,1.0s,mb5.3
GUNZ *e*pP pP 09 15 09.0 -0.4
NKC Novy Kostel 48.55 303 *e*P **P** **09 15 05.4 +0.6**
NKC *e*pP pP 09 15 09.5 +0.1
NKC AMS AMS 09 37 10.0
comp=Z,500nm,14.2s
NKC Novy Kostel 48.55 303 *e*P **P** **09 15 05.4 +0.6**
NKC *e* pP 09 15 09.5 +0.1
WERN Wernitzgruen 48.56 303 *e*P **P** **09 15 05.3 +0.4**
comp=Z,37nm,1.0s,mb5.4
WERN *e*pP pP 09 15 09.2 -0.3
GEC2 GERESS Array S 48.60 301 *e*P **P** **09 15 05.6 +0.4**
GEC2 *e**PP pP 09 15 09.6 -0.2
GEC2 pmax pmax
comp=Z,19nm,1.2s,mb5.0
GEC2 GERESS Array S 48.60 301 *e*P **P** **09 15 05.6 +0.4**
comp=Z,19nm,1.2s,mb5.0
GEC2 *e*pP pP 09 15 09.6 -0.2
GERES GERESS Array B 48.60 301 P **P** **09 15 05.4 +0.2**
comp=Z,9.3nm,1.0s,mb4.8,baz=56,slow=7.1,SNR=11
GERES PcP PcP 09 16 30.1 -0.6
comp=Z,1.8nm,0.7s,baz=47,slow=4.3,SNR=4.6
GERES LR LR 09 37 37.7
comp=Z,248nm,19.3s,MS4.2,baz=134,slow=39
GERES GERESS Array B 48.60 301 P **P** **09 15 05.4 +0.2**
GERES 09 16 30.1
GERES pmax pmax
comp=Z,9.0nm,1.0s
GERES MLR MLR
comp=Z,248nm,19.3s
MOX Moxa 48.78 304 *e*P **P** **09 15 06.9 +0.3**
comp=Z,40nm,1.2s,mb5.3
MOX Moxa 48.78 304 *e*P **P** **09 15 06.9 +0.3**
MOX pmax pmax
comp=Z,19nm,1.2s,mb5.0
MOX Moxa 48.78 304 *e*P **P** **09 15 07.0 +0.4**
comp=Z,40nm,1.1s,mb5.4
CLZ Clausthal 48.81 305 *e*P **P** **09 15 07.6 +0.8**
CLZ *e**PP pP 09 15 11.5 +0.1
CLZ pmax pmax
comp=Z,33nm,1.1s,mb5.3
CLZ Clausthal 48.81 305 *e*P **P** **09 15 07.6 +0.8**
comp=Z,33nm,1.1s,mb5.3
CLZ *e*pP pP 09 15 11.5 +0.1
MANZ Manzenberg 48.86 303 *e*P **P** **09 15 07.6 +0.3**
comp=Z,23nm,1.3s,mb5.0
WET Wettzell 48.89 301 *e*P **P** **09 15 07.9 +0.4**
WET *e**PP pP 09 15 12.2 +0.1
WET pmax pmax
comp=Z,28nm,1.1s,mb5.2
WET Wettzell 48.89 301 *e*P **P** **09 15 07.9 +0.4**
comp=Z,28nm,1.1s,mb5.2
WET *e*pP pP 09 15 12.2 +0.1
ROTZ Rotzenmuhle 48.93 302 *e*P **P** **09 15 08.4 +0.6**
comp=Z,27nm,1.0s,mb5.2
ROTZ *e*pP pP 09 15 12.7 +0.3
GRA1 Grafenberg Arr 49.50 303 *e*P **P** **09 15 12.8 +0.6**
comp=Z,77nm,1.2s,mb5.6
GRA1 *e*pP pP 09 15 17.0 +0.2

GRF	Grafenberg Arr	49.50	303	*e*P	P	09 15 12.8	+0.6		
GRF				e*PP	pP	09 15 17.0	+0.2		
GRF				pmax	pmax				
	comp=Z,77nm,1.2s,mb5.6								
GRF	Grafenberg Arr	49.50	303	*e*P	P	09 15 12.8	+0.6		
GRF				e*PP	pP	09 15 17.0	+0.2		
GRF				pmax	pmax				
	comp=Z,77nm,1.2s,mb5.6								
GRF	Grafenberg Arr	49.50	303	*e*P	P	09 15 12.8	+0.6		
	comp=Z,77nm,1.2s,mb5.6								
GRF				e*pP	pP	09 15 17.0	+0.2		
UBBA	Unterbreizbach	49.55	304	*e*P	P	09 15 12.6	+0.1		
	comp=Z,24nm,1.3s,mb5.1								
IDI	Anoyia	49.69	280	P	P	09 15 14.1	+0.3		
	comp=Z,7.1nm,0.5s,mb4.9,baz=21,slow=6.3,SNR=7.5								
RJOB	Jochberg	49.71	300	*e*P	P	09 15 14.5	+0.7		
	comp=Z,21nm,1.0s,mb5.1								
KBA	Koelnbreinsper	49.77	299	⇓*i*P	P	09 15 15.3	+1.1		
	comp=Z,55nm,1.1s,mb5.5								
FUR	Furstenfeldbru	50.32	301	*e*P	P	09 15 19.1	+0.7		
FUR				pmax	pmax				
	comp=Z,77nm,1.3s,mb5.6								
FUR	Furstenfeldbru	50.32	301	*e*P	P	09 15 19.1	+0.7		
	comp=Z,77nm,1.3s,mb5.6								
ABTA	Abfaltersbach	50.42	299	⇑*i*P	P	09 15 19.2	0.0		
	comp=Z,18nm,1.1s,mb5.0								
WTSB	Winterswijk	50.60	307	*e*P	P	09 15 25.2	+4.7		
	comp=Z,29nm,0.9s,mb5.2								
BUG	Bochum–Univer	50.65	306	*e*P	P	09 15 21.1	+0.3		
	comp=Z,56nm,1.0s,mb5.5								
TNS	Taunus Mts	50.71	304	*e*P	P	09 15 21.7	+0.4		
TNS				pmax	pmax				
	comp=Z,25nm,1.1s,mb5.1								
TNS	Taunus Mts	50.71	304	*e*P	P	09 15 21.7	+0.4		
	comp=Z,25nm,1.1s,mb5.1								
FETA	Feichten	51.27	300	⇑*i*P	P	09 15 26.1	+0.5		
	comp=Z,43nm,1.0s,mb5.3,SNR=22								
DAVA	Damuels	51.59	301	⇑*i*P	P	09 15 28.6	+0.6		
	comp=Z,62nm,1.0s,mb4.8								
HGN	Heimansgroeve	51.73	306	*e*P	P	09 15 33.2	+4.2		
	comp=Z,24nm,1.2s,mb5.0								
MEM	Membach	51.78	306	P	P	09 15 30.4	+1.0		
MEM				E	pP	09 15 34.0	+0.1		
	comp=Z,23nm,1.1s								
BFO	Black Forest	51.84	303	*e*P	P	09 15 31.5	+1.6		
BFO				pmax	pmax				
	comp=Z,14nm,1.1s,mb4.8								
BFO	Black Forest	51.84	303	*e*P	P	09 15 31.5	+1.7		
	comp=Z,14nm,1.1s,mb4.8								
DAVOX	Davos/Dischmat	51.89	300	P	P	09 15 30.4	+0.2		
	comp=Z,23nm,0.9s,mb5.1,baz=231,slow=8.2,SNR=3.2								
DAVOS	Davos	51.90	300	P	P	09 15 30.4	+0.1		
WLF	Walferdange	52.24	305	E	pP	09 15 38.4	+1.0		
BCLA	Clavier	52.25	306	E	pP	09 15 37.6	+0.1		
CDF	Champ du Feu	52.37	303	*e*P	P	09 15 33.1	-0.7		
	comp=Z,54nm,1.3s,mb5.0								
CDF	Champ du Feu	52.37	303	*e*P	P	09 15 33.1	-0.7		
CDF				pmax	pmax				
	comp=Z,27nm,1.3s,mb5.0								
CDF	Champ du Feu	52.37	303	*e*P	P	09 15 33.1	-0.7		
	comp=Z,27nm,1.3s,mb5.0								
UCC	Uccle	52.52	307	E	pP	09 15 39.4	-0.1		
ECH	Echery	52.55	303	*e*P	P	09 15 34.8	-0.3		
GIVF	Givet	52.69	306	*e*P	P	09 15 36.1	0.0		
	comp=Z,62nm,1.0s,mb5.2								
GIVF	Givet	52.69	306	*e*P	P	09 15 36.1	0.0		
GIVF				pmax	pmax				
	comp=Z,31nm,1.0s,mb5.2								
GIVF	Givet	52.69	306	*e*P	P	09 15 36.1	0.0		
	comp=Z,31nm,1.0s,mb5.2								
DOU	Dourbes	52.81	306	P	P	09 15 37.2	+0.2		
DOU				E	pP	09 15 40.6	-1.1		
HINF	Hinteralfeld	52.95	303	*e*P	P	09 15 37.2	-0.9		
	comp=Z,30nm,1.0s,mb4.9								
HINF	Hinteralfeld	52.95	303	*e*P	P	09 15 37.2	-0.9		
HINF				pmax	pmax				
	comp=Z,15nm,1.0s,mb4.9								
HINF	Hinteralfeld	52.95	303	*e*P	P	09 15 37.2	-0.9		
	comp=Z,15nm,1.0s,mb4.9								
SUMG	Summit	53.02	343	*e*P	P	09 15 38.8	+0.6		
	comp=Z,3.6nm,0.7s,mb4.4								
BAIF	Baives	53.04	306	*e*P	P	09 15 38.7	0.0		
	comp=Z,87nm,1.0s,mb5.3								
BAIF	Baives	53.04	306	*e*P	P	09 15 38.7	0.0		
BAIF				pmax	pmax				
	comp=Z,44nm,1.0s,mb5.3								
BAIF	Baives	53.04	306	*e*P	P	09 15 38.7	0.0		
	comp=Z,44nm,1.0s,mb5.3								
HAU	Haudompre	53.11	303	*e*P	P	09 15 38.8	-0.4		
	comp=Z,77nm,1.2s,mb5.2								
HAU	Haudompre	53.11	303	*e*P	P	09 15 38.8	-0.4		
HAU				pmax	pmax				
	comp=Z,38nm,1.2s,mb5.2								
HAU	Haudompre	53.11	303	*e*P	P	09 15 38.8	-0.4		
	comp=Z,38nm,1.2s,mb5.2								
MEZF	Maizieres J'vi	53.51	304	*e*P	P	09 15 42.4	+0.2		
	comp=Z,177nm,1.2s,mb5.6								
MEZF	Maizieres J'vi	53.51	304	*e*P	P	09 15 42.4	+0.2		
	comp=Z,177nm,1.2s,mb5.9								
EKA	Eskdalemuir Ar	53.52	315	P	P	09 15 41.9	-0.2		
	comp=Z,111nm,0.9s,mb4.8,baz=63,slow=7.6,SNR=9.8								
CABF	La Chapelle	54.09	302	*e*P	P	09 15 45.8	-0.6		
	comp=Z,37nm,1.1s,mb4.9								
CABF	La Chapelle	54.09	302	*e*P	P	09 15 45.8	-0.6		
CABF				pmax	pmax				
	comp=Z,19nm,1.1s,mb4.9								
CABF	La Chapelle	54.09	302	*e*P	P	09 15 45.8	-0.6		
	comp=Z,19nm,1.1s,mb4.9								
IMA2	Indian Mountai	54.09	27	*e*P	P	09 15 52.0	+5.8		
COLD	Coldfoot	54.27	25	*e*P	P	09 15 47.7	+0.2		
	comp=Z,15nm,1.0s,mb4.9								
LPL	La Plagne	54.40	301	*e*P	P	09 15 49.0	+0.3		
LPG	La Plagne	54.40	300	*e*P	P	09 15 49.1	+0.4		
	comp=Z,142nm,1.3s,mb5.4								
LPG	La Plagne	54.40	300	*e*P	P	09 15 49.1	+0.4		
LPG				pmax	pmax				
	comp=Z,71nm,1.3s,mb5.4								
LPG	La Plagne	54.40	300	*e*P	P	09 15 49.1	+0.4		
	comp=Z,71nm,1.3s,mb5.4								
BNI	Bardonecchia	54.71	300	*e*P	P	09 15 53.6	+2.6		
BNI				pmax	pmax				
	comp=Z,55nm,1.3s,mb5.4								
BNI	Bardonecchia	54.71	300	*e*P	P	09 15 53.6	+2.6		
	comp=Z,54nm,1.3s,mb5.4								
MBDF	Montbardon	54.86	300	*e*P	P	09 15 53.8	+1.7		
	comp=Z,103nm,1.1s,mb5.5								
MBDF	Montbardon	54.86	300	*e*P	P	09 15 53.8	+1.7		
MBDF				pmax	pmax				
	comp=Z,51nm,1.1s,mb5.5								
MBDF	Montbardon	54.86	300	*e*P	P	09 15 53.8	+1.7		
	comp=Z,52nm,1.1s,mb5.5								
LOR	Lormes	54.90	304	*e*P	P	09 15 51.1	-1.2		
	comp=Z,50nm,1.1s,mb5.2								
LOR	Lormes	54.90	304	*e*P	P	09 15 51.1	-1.2		
LOR				pmax	pmax				
	comp=Z,25nm,1.1s,mb5.2								
LOR	Lormes	54.90	304	*e*P	P	09 15 51.1	-1.2		
	comp=Z,25nm,1.1s,mb5.2								
PGF	Pioggiola	54.93	296	*e*P	P	09 15 51.7	-0.9		
SBF	Sospel	55.02	299	*e*P	P	09 15 51.8	-1.4		
	comp=Z,55nm,0.8s,mb5.3								
SBF	Sospel	55.02	299	*e*P	P	09 15 51.8	-1.4		
SBF				pmax	pmax				
	comp=Z,28nm,0.8s,mb5.3								
SBF	Sospel	55.02	299	*e*P	P	09 15 51.8	-1.4		
	comp=Z,28nm,0.8s,mb5.3								
SSF	Saint Saulge	55.22	304	*e*P	P	09 15 53.6	-1.0		
	comp=Z,56nm,1.1s,mb5.2								
SSF	Saint Saulge	55.22	304	*e*P	P	09 15 53.6	-1.0		
SSF				pmax	pmax				
	comp=Z,28nm,1.1s,mb5.2								
SSF	Saint Saulge	55.22	304	*e*P	P	09 15 53.6	-1.0		
	comp=Z,28nm,1.1s,mb5.2								
ORIF	Oris-en-Rattie	55.24	300	*e*P	P	09 15 54.5	-0.3		
	comp=Z,98nm,1.2s,mb5.4								
ORIF	Oris-en-Rattie	55.24	300	*e*P	P	09 15 54.5	-0.3		
ORIF				pmax	pmax				
	comp=Z,49nm,1.2s,mb5.4								
ORIF	Oris-en-Rattie	55.24	300	*e*P	P	09 15 54.5	-0.3		
	comp=Z,49nm,1.2s,mb5.4								
SMF	Signal de Mont	55.29	303	*e*P	P	09 15 54.1	-1.1		
	comp=Z,39nm,1.0s,mb5.1								
SMF	Signal de Mont	55.29	303	*e*P	P	09 15 54.1	-1.1		
SMF				pmax	pmax				
	comp=Z,19nm,1.0s,mb5.1								
SMF	Signal de Mont	55.29	303	*e*P	P	09 15 54.1	-1.1		
	comp=Z,19nm,1.0s,mb5.1								
AVF	Avril sur Loir	55.47	304	*e*P	P	09 15 55.5	-0.9		
	comp=Z,30nm,0.9s,mb5.0								
AVF	Avril sur Loir	55.47	304	*e*P	P	09 15 55.5	-0.9		
AVF				pmax	pmax				
	comp=Z,15nm,0.9s,mb5.0								
AVF	Avril sur Loir	55.47	304	*e*P	P	09 15 55.5	-0.9		
	comp=Z,15nm,0.9s,mb5.0								
FRF	La Foret Royal	55.65	299	*e*P	P	09 15 56.8	-1.0		
	comp=Z,182nm,1.6s,mb5.6								
FRF	La Foret Royal	55.65	299	*e*P	P	09 15 56.8	-1.0		
FRF				pmax	pmax				
	comp=Z,91nm,1.6s,mb5.5								
FRF	La Foret Royal	55.65	299	*e*P	P	09 15 56.8	-1.0		
	comp=Z,91nm,1.6s,mb5.5								
BGF	Bois d'Agland	55.88	304	*e*P	P	09 15 58.9	-0.5		
VIVF	Saint-Julien-l	55.95	301	*e*P	P	09 15 59.2	-0.7		
	comp=Z,124nm,1.5s,mb5.4								
VIVF	Saint-Julien-l	55.95	301	*e*P	P	09 15 59.2	-0.7		
VIVF				pmax	pmax				
	comp=Z,62nm,1.5s,mb5.4								
VIVF	Saint-Julien-l	55.95	301	*e*P	P	09 15 59.2	-0.7		
	comp=Z,62nm,1.5s,mb5.4								
DMUB	Kingscourt	56.12	315	⇑*i*P	P	09 16 05.3	+4.3		
LDF	La Druitiere	56.18	307	*e*P	P	09 16 00.5	-1.0		
	comp=Z,63nm,0.9s,mb5.3								
LDF	La Druitiere	56.18	307	*e*P	P	09 16 00.5	-1.0		
LDF				pmax	pmax				
	comp=Z,31nm,0.9s,mb5.3								
LDF	La Druitiere	56.18	307	*e*P	P	09 16 00.5	-1.0		
	comp=Z,31nm,0.9s,mb5.3								
FLN	La Foliniere	56.26	307	*e*P	P	09 16 01.0	-1.0		
	comp=Z,84nm,0.9s,mb5.5								
FLN	La Foliniere	56.26	307	*e*P	P	09 16 01.0	-1.0		
FLN				pmax	pmax				
	comp=Z,42nm,0.9s,mb5.5								
FLN	La Foliniere	56.26	307	*e*P	P	09 16 01.0	-1.0		
	comp=Z,42nm,0.9s,mb5.5								
BPAW	Bear Paw Mtn.	56.30	28	*e*P	P	09 16 02.6	+0.5		
	comp=Z,24nm,1.4s,mb5.0								
DLF	Lyons Farm	56.33	314	⇑*i*P	P	09 16 06.6	+4.1		
TCF	Toulx Ste Croi	56.40	304	*e*P	P	09 16 02.4	-0.7		
	comp=Z,58nm,1.1s,mb5.2								
TCF	Toulx Ste Croi	56.40	304	*e*P	P	09 16 02.4	-0.7		
TCF				pmax	pmax				
	comp=Z,29nm,1.1s,mb5.2								
TCF	Toulx Ste Croi	56.40	304	*e*P	P	09 16 02.4	-0.7		
	comp=Z,29nm,1.1s,mb5.2								
COLA	College	56.65	26	*e*P	P	09 16 03.6	-1.0		
GRR	Gorron	56.69	307	*e*P	P	09 16 04.0	-1.1		
	comp=Z,52nm,0.9s,mb5.3								
GRR	Gorron	56.69	307	*e*P	P	09 16 04.0	-1.1		
GRR				pmax	pmax				
	comp=Z,26nm,0.9s,mb5.3								
GRR	Gorron	56.69	307	*e*P	P	09 16 04.0	-1.1		
	comp=Z,26nm,0.9s,mb5.3								
KTH	Kantishna Hill	56.72	28	*e*P	P	09 16 05.1	0.0		
	comp=Z,82nm,1.5s,mb5.5								
LASF	Ste Croix	56.90	301	*e*P	P	09 16 06.3	-0.4		
	comp=Z,138nm,1.5s,mb5.5								
CAF	Calviac	57.34	302	*e*P	P	09 16 09.9	+0.1		
	comp=Z,20nm,1.0s,mb4.8								
CAF	Calviac	57.34	302	*e*P	P	09 16 09.9	+0.1		
CAF				pmax	pmax				
	comp=Z,10.0nm,1.0s,mb4.8								
CAF	Calviac	57.34	302	*e*P	P	09 16 09.9	+0.1		
	comp=Z,9.9nm,1.0s,mb4.8								
RJF	Les Rejaudoux	57.40	303	*e*P	P	09 16 09.7	-0.5		
	comp=Z,71nm,1.2s,mb5.3								
RJF	Les Rejaudoux	57.40	303	*e*P	P	09 16 09.7	-0.5		
RJF				pmax	pmax				
	comp=Z,35nm,1.2s,mb5.3								
RJF	Les Rejaudoux	57.40	303	*e*P	P	09 16 09.7	-0.5		
	comp=Z,35nm,1.2s,mb5.3								
INK	Inuvik	57.41	18	*e*P	P	09 16 09.7	-0.2		
	comp=Z,755nm,1.2s								
MFF	Saint Martin d	57.45	305	*e*P	P	09 16 10.1	-0.5		
	comp=Z,75nm,1.0s,mb5.4								
MFF	Saint Martin d	57.45	305	*e*P	P	09 16 10.1	-0.5		
MFF				pmax	pmax				
	comp=Z,38nm,1.0s,mb5.4								
MFF	Saint Martin d	57.45	305	*e*P	P	09 16 10.1	-0.5		
	comp=Z,38nm,1.0s,mb5.4								
SGMF	Saint Gilles	57.64	308	*e*P	P	09 16 11.2	-0.7		
	comp=Z,50nm,1.0s,mb5.2								
SGMF	Saint Gilles	57.64	308	*e*P	P	09 16 11.2	-0.7		
SGMF				pmax	pmax				
	comp=Z,25nm,1.0s,mb5.2								
SGMF	Saint Gilles	57.64	308	*e*P	P	09 16 11.2	-0.7		
	comp=Z,25nm,1.0s,mb5.2								
ROSF	Rostrenen	57.95	308	*e*P	P	09 16 13.2	-0.9		
	comp=Z,44nm,1.1s,mb5.1								
ROSF	Rostrenen	57.95	308	*e*P	P	09 16 13.2	-0.9		
ROSF				pmax	pmax				
	comp=Z,22nm,1.1s,mb5.1								
ROSF	Rostrenen	57.95	308	*e*P	P	09 16 13.2	-0.9		
	comp=Z,22nm,1.1s,mb5.1								
LFF	La Frestale	58.05	303	*e*P	P	09 16 14.7	-0.1		
	comp=Z,104nm,1.1s,mb5.5								
LFF	La Frestale	58.05	303	*e*P	P	09 16 14.7	-0.1		
LFF				pmax	pmax				
	comp=Z,52nm,1.1s,mb5.5								
LFF	La Frestale	58.05	303	*e*P	P	09 16 14.7	-0.1		
	comp=Z,52nm,1.1s,mb5.5								
QUIF	Quistinic	58.17	308	*e*P	P	09 16 14.9	-0.7		
	comp=Z,73nm,1.0s,mb5.3								
QUIF	Quistinic	58.17	308	*e*P	P	09 16 14.9	-0.7		
QUIF				pmax	pmax				
	comp=Z,37nm,1.0s,mb5.4								
QUIF	Quistinic	58.17	308	*e*P	P	09 16 14.9	-0.7		
	comp=Z,36nm,1.0s,mb5.4								
MTLF	Montolieu	58.28	301	*e*P	P	09 16 17.1	+0.7		
	comp=Z,94nm,1.6s,mb5.3								
MTLF	Montolieu	58.28	301	*e*P	P	09 16 17.1	+0.7		
MTLF				pmax	pmax				
	comp=Z,47nm,1.6s,mb5.3								
MTLF	Montolieu	58.28	301	*e*P	P	09 16 17.1	+0.7		
	comp=Z,47nm,1.6s,mb5.3								
EPF	Esparros	59.52	302	*e*P	P	09 16 23.9	-1.1		
KAPI	Kappang	59.84	147	P	P	09 16 24.8	-2.7		
	comp=Z,8.8nm,1.0s,mb4.8,baz=14,slow=24,SNR=4.4								
SFJD	Kangerlussuaq	59.99	344	*i* P	P	09 16 25.5	-2.4		
SFJD				pmax	pmax				
	comp=Z,17nm,0.9s,mb5.1								
SFJD	Kangerlussuaq	59.99	344	*i* P	P	09 16 25.5	-2.4		
	comp=Z,17nm,0.9s,mb5.1								
KDAK	Kodiak Island	60.42	34	P	P	09 16 30.9	-0.1		
	comp=Z,11nm,0.8s,mb4.9,baz=0.0,slow=5.1,SNR=2.9								
HYT	Haines Junctio	62.76	25	*e*P	P	09 16 45.5	-1.1		
ESDC	Sonseca Array	64.17	301	P	P	09 16 55.9	-0.5		
	comp=Z,6.7nm,0.8s,mb4.7,baz=40,slow=7.3,SNR=6.7								
ESDC					LR	LR		09 50 41.3	
	comp=Z,114nm,18.9s,MS4.1,baz=5.0,slow=41								
PBRG	Braganca	64.19	305	*e*P	P	09 17 01.2	+4.7		
	comp=Z,23nm,1.5s,mb5.0								
MVO	Moncorvo	64.79	304	*e*P	P	09 17 05.3	+4.9		
	comp=Z,25nm,1.2s,mb5.1								
PCAB	Cabril	64.93	305	*e*P	P	09 17 06.6	+5.3		
	comp=Z,59nm,1.6s,mb5.4								
YKA	Yellowknife Ar	66.03	13	P	P	09 17 07.0	-1.1		
	comp=Z,1.9nm,0.8s,mb4.2,baz=343,slow=8.4,SNR=2.8								
PMRV	Marv??o	66.22	303	*e*P	P	09 17 13.4	+3.7		
	comp=Z,28nm,2.1s,mb4.9								
PESTR	Estremoz	66.73	303	*e*P	P	09 17 17.6	+4.6		
	comp=Z,33nm,1.8s,mb5.1								
EVO	Evora	67.20	303	*e*P	P	09 17 15.3	-0.7		
	comp=Z,41nm,1.2s,mb5.0								
EVO	Evora	67.20	303	*e*P	P	09 17 20.8	+4.8		
	comp=Z,40nm,1.7s,mb5.2								
PBEJ	Beja	67.49	303	*e*P	P	09 17 22.8	+5.0		
	comp=Z,50nm,1.9s,mb5.2								
KMBO	Kilima Mbogo	68.83	241	P	P	09 17 26.5	0.0		
	comp=Z,8.6nm,1.0s,mb4.6,baz=37,slow=9.4,SNR=14								
KAKA	Kakadu	71.85	138	*e*P	P	09 17 36.3	-8.5		
	comp=Z,12nm,0.8s,mb4.9								
EDM	Edmonton	75.11	15	*e*P	P	09 18 03.2	-0.4		
FFC	Flin Flon	75.13	8	*e*P	P	09 18 02.5	-1.2		
FFC				pmax	pmax				
	comp=Z,10.0nm,0.8s,mb4.8								
FFC	Flin Flon	75.13	8	*e*P	P	09 18 02.5	-1.1		
	comp=Z,9.6nm,0.8s,mb4.8								
A07A	Ashnola River,	77.66	21	⇑P	P	09 18 18.1	0.0		
	baz=77								
B05A	Bryant	77.98	22	⇓P	P	09 18 20.0	+0.1		
	baz=78								
A08A	Turner Farm, O	78.00	20	⇑P	P	09 18 19.9	-0.1		
	baz=78								
JCW	Jim Creek	78.08	22	*e*P	P	09 18 20.6	+0.1		
A09A	Danville	78.13	20	⇑P	P	09 18 20.9	+0.1		
	baz=78								
B07A	Winthrop	78.27	21	⇓P	P	09 18 21.5	0.0		
	baz=78								
A10A	Northport	78.35	19	⇓P	P	09 18 22.0	0.0		
	baz=78								
B08A	Colville Reser	78.54	21	⇓P	P	09 18 23.0	-0.1		
	baz=78								
C05A	Tolt Reservoir	78.61	22	⇓P	P	09 18 23.5	+0.1		
	baz=78								
A11A	Hall Mountain,	78.62	18	⇓P	P	09 18 23.5	+0.1		
	baz=78								
B09A	Rice	78.75	20	⇑P	P	09 18 24.2	0.0		
	baz=78								
A12A	Yaak River Ran	78.78	18	⇓P	P	09 18 24.3	-0.1		
	baz=78								
C07A	Waterville	79.00	21	⇓P	P	09 18 25.5	-0.1		
	baz=79								
ETW	Entiat	79.02	21	*e*P	P	09 18 26.2	+0.5		
WRAB	Tennant Creek	79.10	140	P	P	09 18 25.9	-0.4		
	comp=Z,163nm,0.8s,mb6.0,SNR=9.5								
WRAB	Tennant Creek	79.10	140	*c i*P	P	09 18 25.2	-1.1		
WRAB	Tennant Creek	79.10	140	*e*P	P	09 18 25.0	-1.3		
	comp=Z,21nm,0.8s,mb5.1								
WRA	Warramunga Arr	79.10	140	P	P	09 18 25.2	-1.1		
	comp=Z,14nm,0.8s,mb4.9,baz=340,slow=5.8,SNR=86								
WB2	Warramunga Arr	79.11	140	*e*P	P	09 18 25.5	-0.8		
C08A	Higginbotham F	79.15	21	⇑P	P	09 18 26.3	-0.1		
	baz=79								
A14A	Double T Ranch	79.17	17	⇓P	P	09 18 26.1	-0.4		
	baz=79								
A15A	Johnson Ranch,	79.30	16	⇑P	P	09 18 26.7	-0.4		
	baz=79								
C09A	Chrisman Ranch	79.31	20	⇑P	P	09 18 27.3	0.0		
	baz=79								
E04A	Onalaska	79.38	23	⇓P	P	09 18 27.5	-0.2		
	baz=79								
D07A	Quincy	79.49	21	⇑P	P	09 18 28.1	-0.2		
	baz=79								
A16A	West Butte Ran	79.52	15	⇓P	P	09 18 28.2	-0.2		
	baz=79								
B13A	Whitefish	79.55	17	⇑P	P	09 18 28.5	-0.1		
	baz=79								
E05A	Randle	79.65	23	⇑P	P	09 18 29.1	-0.1		
	baz=79								
B14A	Marquette Ranc	79.79	17	⇓P	P	09 18 29.8	-0.1		
	baz=80								
E06A	Yakima	79.86	22	⇑P	P	09 18 30.1	-0.2		
	baz=80								
D08A	Wollman Farm,	79.86	21	⇓P	P	09 18 30.0	-0.2		
	baz=80								
B15A	Bradely Ranch,	79.97	16	⇑P	P	09 18 30.4	-0.4		
	baz=80,SNR=7.0								
C12B	Naegeli Ranch,	79.99	18	⇓P	P	09 18 30.7	-0.2		
	baz=80								
F04A	Amboy	80.07	23	⇓P	P	09 18 32.0	+0.6		
	baz=80								
TOA0	Torodi Ar. Sit	80.08	279	*e*P	P	09 18 30.3	-1.7		
TORD	Torodi Ar. Bea	80.08	279	P	P	09 18 30.3	-1.6		
	comp=Z,166nm,0.3s,mb6.4,baz=34,slow=5.4,SNR=1.8								
C13A	Hot Springs	80.20	18	⇑P	P	09 18 32.7	+0.7		
	baz=80								
D10A	Wagner Farm, O	80.23	20	⇓P	P	09 18 32.7	+0.4		
	baz=80								
C14A	Swan Lake	80.27	17	⇑P	P	09 18 32.9	+0.4		
	baz=80								
F05A	White Salmon	80.36	23	⇑P	P	09 18 33.2	+0.2		
	baz=80								
E08A	Dider Farm, El	80.36	21	⇓P	P	09 18 33.2	+0.2		
	baz=80								
G03A	Yamhill	80.41	24	⇑P	P	09 18 32.4	-0.9		
	baz=80								
D11A	Klaveano Farm,	80.44	19	⇓P	P	09 18 33.5	+0.1		
	baz=80								
C15A	Salmond Ranch,	80.48	16	⇓P	P	09 18 33.2	-0.3		
	baz=80								
F06A	Goldendale	80.63	22	⇑P	P	09 18 34.3	-0.2		
	baz=80								
D12A	Red Ives Fores	80.64	18

	baz=82								
F17A	Fitzpatrick Pl	82.63	16	⇑P		P	09 18 44.6	-0.4	
	baz=82								
H10A	Noah's Angus R	82.69	20	⇓P		P	09 18 45.0	-0.3	
	baz=82								
BOZ	Bozeman (W)	82.71	16	*e*P		P	09 18 45.4	0.0	
BOZ					pmax	pmax			
	comp=Z,2.0nm,0.8s,mb4.2								
BOZ	Bozeman (W)	82.71	16	⇑P		P	09 18 45.0	-0.4	
	baz=82								
BOZ	Bozeman (W)	82.71	16	*e*P		P	09 18 45.4	0.0	
	comp=Z,2.0nm,0.8s,mb4.2								
K02A	Glendale	82.72	25	⇓P		P	09 18 45.1	-0.4	
	baz=82								
G13A	Cobalt	82.74	18	⇑P		P	09 18 44.8	-0.8	
	baz=82,SNR=11								
H11A	Donnelly	82.74	20	⇑P		P	09 18 45.3	-0.3	
	baz=82,SNR=20								
G14A	Jackson	82.75	18	⇑P		P	09 18 45.0	-0.6	
	baz=82								
F18A	Big Timber	82.79	15	⇓P		P	09 18 45.5	-0.4	
	baz=82								
DLMT	Dillon	82.80	17	*e*P		P	09 18 46.2	+0.3	
	comp=Z,7.9nm,1.1s,mb4.7								
J05A	Fort Rock	82.84	24	⇑P		P	09 18 46.6	+0.5	
	baz=82,SNR=9.5								
I08A	Drewsey	82.91	22	⇓P		P	09 18 45.8	-0.7	
	baz=83								
G15A	Dillon	83.01	17	⇓P		P	09 18 46.6	-0.4	
	baz=83								
HUMO	Hull Mountain	83.01	25	⇓P		P	09 18 47.3	+0.2	
	baz=83								
I09A	Lost Marbles R	83.05	21	⇑P		P	09 18 46.9	-0.3	
	baz=83								
G16A	Moss Hill, Enn	83.08	16	⇓P		P	09 18 47.1	-0.2	
	baz=83,SNR=12								
H12A	Diamond D Ranc	83.14	19	⇓P		P	09 18 47.2	-0.5	
	baz=83								
J06A	Christmas Vall	83.15	23	⇑P		P	09 18 47.8	+0.1	
	baz=83,SNR=15								
I10A	Payette	83.16	20	⇑P		P	09 18 47.4	-0.3	
	baz=83								
G17A	Pierce Place,	83.18	16	⇓P		P	09 18 47.7	-0.1	
	baz=83								
J07A	Hines	83.24	22	⇓P		P	09 18 48.2	-0.1	
	baz=83								
MCMT	McKenzie Canyo	83.27	17	*e*P		P	09 18 48.7	+0.4	
H14A	Leadore	83.37	18	⇑P		P	09 18 48.6	-0.2	
	baz=83,SNR=8.2								
K05A	Summer Lake	83.45	24	⇑P		P	09 18 50.1	+0.8	
	baz=83,SNR=9.9								
J08A	Circle Bar Ran	83.46	22	⇓P		P	09 18 49.6	+0.3	
	baz=83,SNR=10								
I11A	Placerville	83.51	20	⇓P		P	09 18 48.9	-0.7	
	baz=83								
H15A	Lima	83.51	17	⇑P		P	09 18 49.5	-0.1	
	baz=83,SNR=6.8								
QLMT	Earthquake Lak	83.53	16	*e*P		P	09 18 50.2	+0.5	
K06A	Valley Falls	83.55	23	⇑P		P	09 18 49.6	-0.2	
	baz=83								
RLMT	Red Lodge	83.62	15	⇓P		P	09 18 49.7	-0.5	
	baz=83								
J09A	Fry Pan Ranch,	83.64	21	⇓P		P	09 18 50.2	-0.1	
	baz=83,SNR=14								
H16A	Russell Place,	83.69	16	⇑P		P	09 18 49.8	-0.7	
	baz=83								
I12A	Atlanta	83.80	19	⇓P		P	09 18 51.1	0.0	
	baz=84,SNR=10								
YBH	Yreka Blue Hor	83.89	25	⇑P		P	09 18 51.3	-0.3	
	baz=84								
I13A	Wildhorse Cree	83.89	18	⇓P		P	09 18 51.1	-0.5	
	baz=84								
K07A	Rock Creek Ran	83.90	22	⇑P		P	09 18 52.0	+0.4	
	baz=84,SNR=8.0								
MFID	Camas Ranch	84.01	20	⇓P		P	09 18 51.7	-0.5	
	baz=84								
I14A	Mackay	84.02	18	⇓P		P	09 18 51.5	-0.7	
	baz=84								
K08A	Mann Creek Ran	84.05	22	⇓P		P	09 18 52.2	-0.2	
	baz=84,SNR=10								
H17A	Grant Village	84.11	16	⇑P		P	09 18 52.6	0.0	
	baz=84								
M02C	Callahan	84.17	25	⇑P		P	09 18 53.0	0.0	
	baz=84								
HLID	Hailey	84.17	19	⇓P		P	09 18 52.5	-0.5	
	baz=84								
K09A	Rome	84.26	21	⇑P		P	09 18 53.0	-0.4	
	baz=84								
WVOR	Wild Horse Val	84.29	22	*e*P		P	09 18 54.2	+0.6	
WVOR					pmax	pmax			
	comp=Z,10.0nm,0.9s,mb5.0								
WVOR	Wild Horse Val	84.29	22	*e*P		P	09 18 54.2	+0.6	
	comp=Z,10nm,0.9s,mb5.0								
J12A	Stokes Ranch,	84.33	19	⇓P		P	09 18 53.7	-0.1	
	baz=84,SNR=18								
MOD	Modoc	84.38	23	⇓P		P	09 18 54.2	+0.2	
	baz=84,SNR=12								
MOD	Modoc	84.38	23	*e*P		P	09 18 54.9	+0.9	
	comp=Z,15nm,1.0s,mb5.1								
J13A	Cove Ranch, Pi	84.38	19	⇑P		P	09 18 53.8	-0.2	
	baz=84								
K10A	MacKenzie Ranc	84.38	21	⇓P		P	09 18 53.7	-0.3	
	baz=84								
I16A	Newdale	84.45	17	⇓P		P	09 18 54.4	0.0	
	baz=84,SNR=9.3								
M03C	McCloud	84.48	25	⇓P		P	09 18 54.8	+0.2	
	baz=84								
L07A	Adell	84.51	23	⇓P		P	09 18 55.0	+0.3	
	baz=84,SNR=12								
IMW	Indian Meadow	84.53	16	*e*P		P	09 18 54.9	+0.1	
	comp=Z,5.7nm,0.9s,mb4.7								
I17A	Pilgram Creek	84.57	16	⇓P		P	09 18 55.0	0.0	
	baz=84								
N02C	Big Bar	84.57	26	⇓P		P	09 18 55.5	+0.5	
	baz=84								
K11A	Parker Ranch,	84.58	20	⇑P		P	09 18 55.7	+0.6	
	baz=84								
J14A	Carey	84.58	18	⇑P		P	09 18 55.6	+0.5	
	baz=84								
L08A	Fields	84.59	22	⇑P		P	09 18 55.3	+0.2	
	baz=84,SNR=7.3								
J15A	Blackfoot	84.72	17	⇑P		P	09 18 56.4	+0.6	
	baz=84								
I18A	Diamond G Ranc	84.91	15	⇑P		P	09 18 57.3	+0.6	
	baz=85								
L09A	Wilkinson Ranc	84.92	22	⇓P		P	09 18 57.7	+0.9	
	baz=85								
K12A	Draper Farm, C	84.95	19	⇑P		P	09 18 57.2	+0.3	
	baz=85								
J16A	Bone	85.00	17	⇑P		P	09 18 57.6	+0.4	
	baz=85								
WDC	Whiskeytown Da	85.01	25	*e*P		P	09 18 57.0	-0.3	
WDC					pmax	pmax			
	comp=Z,8.0nm,1.1s,mb4.8								
WDC	Whiskeytown Da	85.01	25	⇓P		P	09 18 57.6	+0.3	
	baz=85								
WDC	Whiskeytown Da	85.01	25	*e*P		P	09 18 57.0	-0.3	
	comp=Z,7.5nm,1.1s,mb4.7								
K13A	Stover Farm, H	85.11	19	⇑P		P	09 18 58.4	+0.6	
	baz=85								
L10A	Juniper Basin	85.14	21	⇓P		P	09 18 57.9	0.0	
	baz=85,SNR=7.6								
LBNH	Lisbon	85.17	348	*e*P		P	09 18 58.6	+0.6	
LBNH					pmax	pmax			
	comp=Z,10.0nm,0.8s,mb5.0								
LBNH	Lisbon	85.17	348	*e*P		P	09 18 58.5	+0.5	
	comp=Z,10nm,0.8s,mb5.0								
L11A	Cat Creek Ranc	85.22	20	⇓P		P	09 18 58.2	-0.1	
	baz=85								
M08A	Happy Creek Ra	85.29	22	⇑P		P	09 18 59.1	+0.4	
	baz=85								
RSSD	Black Hills	85.37	11	*e*P		P	09 18 58.7	-0.3	
RSSD					pmax	pmax			
	comp=Z,8.0nm,1.0s,mb4.8								
RSSD	Black Hills	85.37	11	*e*P		P	09 18 58.7	-0.3	
	comp=Z,7.8nm,1.0s,mb4.8								
K15A	Arbon	85.39	18	⇓P		P	09 18 59.4	+0.2	
	baz=85								
L12A	House Creek Ra	85.40	20	⇑P		P	09 18 59.8	+0.6	
	baz=85								
K14A	Jones Ranch, D	85.40	18	⇓P		P	09 18 59.6	+0.4	
	baz=85								
K16A	Soda Springs	85.44	17	⇓P		P	09 18 59.3	0.0	
	baz=85								
M09A	Marrel Ranch,	85.53	22	⇓P		P	09 19 00.2	+0.3	
	baz=85								
N06A	Buffalo Meadow	85.58	23	⇑P		P	09 18 59.9	-0.2	
	baz=85								
M10A	I.L. Ranch, Tu	85.65	21	⇑P		P	09 19 00.4	-0.1	
	baz=85								
L13A	Double Diamond	85.68	19	⇓P		P	09 19 00.5	-0.1	
	baz=85								
GASB	Alder Springs	85.82	26	⇓P		P	09 19 01.7	+0.3	
	baz=86								
PDAR	Pinedale Array	85.87	16	P		P	09 19 01.0	-0.5	
	comp=Z,0.7nm,0.9s,mb3.9,baz=0.0,slow=3.6,SNR=2.7								
L14A	Malta	85.88	18	⇓P		P	09 19 01.6	0.0	
	baz=86								
M11A	Holland Ranch,	85.91	20	⇓P		P	09 19 01.9	+0.2	
	baz=86								
N08A	GE Springer Mi	85.98	22	⇓P		P	09 19 02.0	-0.1	
	baz=86								
N09A	Rock Creek Ran	86.06	22	⇓P		P	09 19 02.8	+0.3	
	baz=86								
M12A	Wells	86.12	20	⇑P		P	09 19 03.0	+0.3	
	baz=86								
ORV	Oroville	86.25	25	⇑P		P	09 19 03.1	-0.4	
	baz=86								
BEKR	Beckwourth	86.27	24	⇓P		P	09 19 03.5	-0.1	
	baz=86								
M14A	Sheep Mountain	86.37	19	⇓P		P	09 19 03.9	-0.1	
	baz=86								
O07A	Toulon	86.38	23	⇑P		P	09 19 04.1	+0.1	
	baz=86								
O08A	Rochester Mine	86.44	22	⇓P		P	09 19 04.5	+0.2	
	baz=86								
OHCM	Honcut	86.46	25	*e*P		P	09 19 05.1	+0.6	
L19A	Farson	86.55	16	⇑P		P	09 19 04.6	-0.3	
	baz=86								
MNRC	McLaughlin Nat	86.62	26	⇓P		P	09 19 05.3	0.0	
	baz=86								
HWUT	Hardware Ranch	86.62	17	*e*P		P	09 19 05.3	0.0	
	comp=Z,7.0nm,1.0s,mb4.8								
N12A	Clover Valley,	86.63	20	⇓P		P	09 19 05.6	+0.3	
	baz=86								
ELK	Elko	86.69	20	*e*P		P	09 19 06.5	+0.9	
ELK					pmax	pmax			
	comp=Z,8.0nm,1.3s								
ELK	Elko	86.69	20	*e*P		P	09 19 06.5	+0.9	
	comp=Z,8.5nm,1.3s,mb4.8								
N13A	Wendover, West	86.81	19	⇑P		P	09 19 05.9	-0.2	
	baz=86								
LAVA	Lava Cap Winer	87.21	25	⇓P		P	09 19 08.0	-0.2	
	baz=87								
O12A	Currie	87.25	20	⇑P		P	09 19 08.5	+0.1	
	baz=87								
JFWS	Jewell Farm	87.56	1	*e*P		P	09 19 08.8	-1.0	
JFWS					pmax	pmax			
	comp=Z,26nm,0.9s,mb5.5								
JFWS	Jewell Farm	87.56	1	*e*P		P	09 19 08.8	-1.0	
	comp=Z,26nm,0.9s,mb5.5								
DUG	Dugway	87.74	19	*e*P		P	09 19 10.9	+0.2	
DUG					pmax	pmax			
	comp=Z,9.0nm,1.0s,mb5.0								
DUG	Dugway	87.74	19	⇑P		P	09 19 10.8	+0.1	
	baz=87								
DUG	Dugway	87.74	19	*e*P		P	09 19 10.9	+0.2	
	comp=Z,8.8nm,1.0s,mb4.9								
R06C	Coleville	87.77	24	⇑P		P	09 19 10.7	-0.2	
	baz=88								
Q08A	Gabbs	87.84	23	⇑P		P	09 19 11.0	-0.2	
	baz=88								
PHWY	Pilot Hill	87.95	13	*e*P		P	09 19 12.3	+0.7	
	comp=Z,15nm,1.2s,mb5.1								
CMB	Columbia Colle	87.98	25	⇓P		P	09 19 12.0	+0.1	
	baz=88								
O17A	Robinson Place	88.15	17	⇑P		P	09 19 12.7	+0.1	
	baz=88								
NVAR	Mina Array Bea	88.16	23	P		P	09 19 13.7	+1.0	
	comp=Z,2.3nm,0.9s,mb4.4,baz=311,slow=2.8,SNR=10								
P13A	Bates Ranch, G	88.19	20	⇑P		P	09 19 12.9	0.0	
	baz=88								
P14A	Drum Mountains	88.26	19	⇑P		P	09 19 13.2	0.0	
	baz=88								
O19A	Miners Draw (B	88.34	16	⇑P		P	09 19 13.5	0.0	
	baz=88								
Q11A	Duckwater	88.41	21	⇓P		P	09 19 14.0	+0.1	
	baz=88								
Q12A	Willow Creek R	88.41	20	⇑P		P	09 19 13.9	0.0	
	baz=88								
S05C	Merced	88.64	25	⇓P		P	09 19 14.7	-0.3	
	baz=88								
R09A	Tonopah	88.64	22	⇑P		P	09 19 14.8	-0.2	
	baz=88								
Q13A	Wheeler Ranch,	88.67	20	⇓P		P	09 19 15.3	+0.1	
	baz=88								
PACP	Pacheco Peak	88.69	26	⇑P		P	09 19 15.5	+0.2	
	baz=88								
R10A	Warm Springs	88.78	22	⇓P		P	09 19 15.8	+0.1	
	baz=88								
Q14A	Ser Lake (B	88.80	19	⇓P		P	09 19 15.7	0.0	
	baz=88								
R11A	Troy Canyon, C	88.90	21	⇑P		P	09 19 16.3	+0.1	
	baz=89								
KCC	Kaiser Creek	88.94	24	⇑P		P	09 19 16.8	+0.4	
	baz=89								
Q15A	Fillmore	88.98	19	⇓P		P	09 19 16.7	+0.1	
	baz=89								
P19A	Cripple Cowboy	89.01	16	⇓P		P	09 19 16.9	+0.2	
	baz=89								
S10A	Tonopah Range,	89.06	22	⇓P		P	09 19 16.9	-0.1	
	baz=89								
S09A	Goldfield	89.09	23	⇑P		P	09 19 17.2	0.0	
	baz=89								
T06C	Millerton Lake	89.13	25	⇑P		P	09 19 17.1	-0.2	
	baz=89								
R12A	Pony Springs,	89.14	20	⇓P		P	09 19 16.6	-0.7	
	baz=89								
Q16A	Castle Valley	89.30	18	⇓P		P	09 19 17.9	-0.1	
	baz=89								
Q18A	Rafter H Ranch	89.32	17	⇑P		P	09 19 18.0	-0.2	
	baz=89								
ISCO	Idaho Springs	89.40	13	*e*P		P	09 19 19.1	+0.6	
ISCO					pmax	pmax			
	comp=Z,6.0nm,1.2s,mb4.8								
ISCO	Idaho Springs	89.40	13	*e*P		P	09 19 19.1	+0.6	
	comp=Z,6.3nm,1.2s,mb4.8								
MSU	Marysvale	89.49	19	*e*P		P	09 19 20.1	+1.1	
S11A	Rachel	89.53	21	⇓P		P	09 19 18.8	-0.4	
	baz=89								
Q19A	Hogan Spring (	89.62	16	⇑P		P	09 19 19.2	-0.4	
	baz=89								
GRAC	Grapevine Rang	89.75	23	⇓P		P	09 19 20.5	+0.3	
	baz=90								
R15A	Junction	89.76	19	⇓P		P	09 19 20.6	+0.4	
	baz=90								
SMCO	Snowmass	89.80	14	*e*P		P	09 19 21.2	+0.8	
	comp=Z,6.5nm,1.2s,mb4.8								
R16A	Tenabe	89.85	18	⇑P		P	09 19 20.3	-0.4	
	baz=90								
R17A	Hanksville Air	89.87	17	⇑P		P	09 19 20.4	-0.4	
	baz=90								
RCTC	Rector, Farmer	89.91	25	⇑P		P	09 19 21.1	+0.1	
	baz=90								
S14A	Cedar City	90.00	19	⇑P		P	09 19 21.5	+0.1	
	baz=90								
S13A	Holt Ranch, En	90.02	20	⇓P		P	09 19 21.5	0.0	
	baz=90								
T11A	Corn Creek, Al	90.04	21	⇑P		P	09 19 21.8	+0.3	
	baz=90								
R18A	Canyonlands Na	90.06	17	⇓P		P	09 19 21.6	0.0	
	baz=90								
TPNV	Topopah Spring	90.07	22	⇓P		P	09 19 21.9	+0.1	
	baz=90								
CCUT	Cedar City	90.16	20	*e*P		P	09 19 22.7	+0.6	
S15A	Panguitch	90.25	19	⇓P		P	09 19 22.7	+0.1	
	baz=90								
R19A	Curley Farm, L	90.27	16	⇓P		P	09 19 22.6	0.0	
	baz=90								
S16A	Weppner Ranch,	90.37	18	⇓P		P	09 19 23.1	0.0	
	baz=90								
FURC	Furnace Creek,	90.38	23	⇑P		P	09 19 23.3	+0.2	
	baz=90								
PV01	Paradox Valley	90.54	16	*e*P		P	09 19 24.6	+0.7	
T13A	Saint George	90.55	20	⇑P		P	09 19 23.8	-0.1	
	baz=90								
MPMC	Manual Prospec	90.61	23	⇑P		P	09 19 24.3	0.0	
	baz=90								
S17A	Black Ridge (B	90.61	18	⇓P		P	09 19 24.1	-0.2	
	baz=90								
SMMC	Simmler	90.64	25	⇑P		P	09 19 24.5	0.0	
	baz=90								
T14A	Hurricane	90.69	20	⇓P		P	09 19 24.7	+0.1	
	baz=90								
S18A	Hurst Farm, Bl	90.71	17	⇑P		P	09 19 25.0	+0.3	
	baz=90								
S19A	Harvey Farm, M	90.82	16	⇑P		P	09 19 25.4	+0.2	
	baz=90								
T15A	Red Dirt Ranch	90.88	19	⇓P		P	09 19 25.7	+0.2	
	baz=91								
T18A	Mexican Hat	91.27	17	⇓P		P	09 19 27.3	-0.1	
	baz=91								
U14A	Mt Trumbull	91.29	20	⇓P		P	09 19 27.6	+0.2	
	baz=91								
SDCO	Great Sand Dun	91.43	14	*e*P		P	09 19 28.4	+0.4	
	comp=Z,4.4nm,1.3s,mb4.6								
V13A	Grand Canyon W	91.65	21	⇑P		P	09 19 28.6	-0.5	
	baz=91								
U18A	Rough Rock, Ch	91.97	17	⇓P		P	09 19 30.6	+0.1	
	baz=92								
V14A	Boquillas Ranc	92.06	20	⇓P		P	09 19 30.3	-0.6	
	baz=92								
V15A	Kaibab Nationa	92.08	19	⇑P		P	09 19 30.7	-0.4	
	baz=92								
W13A	Hualapai Mount	92.39	21	⇓P		P	09 19 32.3	-0.3	
	baz=92								
W14A	Seligman	92.47	20	⇑P		P	09 19 32.7	-0.2	
	baz=92								
WUAZ	Wupatki	92.54	19	⇓P		P	09 19 33.4	+0.2	
	baz=92								
WUAZ	Wupatki	92.54	19	*e*P		P	09 19 34.0	+0.8	
	comp=Z,4.7nm,0.9s,mb4.9								
STKA	Stephens Creek	92.65	139	P		P	09 19 31.1	-2.4	
	comp=Z,3.9nm,0.9s,mb4.8,baz=321,slow=2.5,SNR=7.2								
STKA	Stephens Creek	92.65	139	*e*P		P	09 19 31.9	-1.5	
	comp=Z,6.7nm,0.9s,mb5.1								
X13A	Yucca	92.89	21	⇑P		P	09 19 35.1	+0.2	
	baz=93								
IRM	Iron Mountain	92.99	22	⇓P		P	09 19 35.3	0.0	
	baz=93								
X15A	Humboldt	93.35	20	⇑P		P	09 19 37.5	+0.6	
	baz=93								
BC3	Big Chuckw Mtn	93.40	22	⇑P		P	09 19 37.8	+0.6	
	baz=93								
Y12C	Blythe	93.54	22	⇑P		P	09 19 38.2	+0.3	
	baz=93								
X16A	Lo Mia Camp, P	93.59	19	⇑P		P	09 19 38.7	+0.7	
	baz=93								
Y14A	Wickenburg	93.71	20	⇑P		P	09 19 39.1	+0.4	
	baz=93								
X18A	Snowflake	93.78	18	⇓P		P	09 19 38.7	-0.2	
	baz=94								
X17A	Forest Lakes	93.80	19	⇑P		P	09 19 39.3	+0.3	
	baz=94								
Y15A	Casa Rosa Ranc	93.84	20	⇑P		P	09 19 40.0	+0.8	
	baz=94								
MONP	Monument Peak	93.89	23	⇓P		P	09 19 40.2	+0.7	
	baz=94								
Y16A	Circle Bar Ran	94.10	19	⇑P		P	09 19 41.1	+0.7	
	baz=94								
GLA	Glamis	94.13	22	⇑P		P	09 19 40.8	+0.2	
	baz=94								
OTAV	Otavalo	129.35	347	*e*PKPdf		PKPdf	09 25 31.4	+0.6	
LPAZ	La Paz	142.72	327	PKP		PKPdf	09 25 56.0	+0.7	
	comp=Z,0.8nm,0.3s,baz=54,slow=1.2,SNR=2.9								
LVC	Limon Verde	148.80	324	*e*PKPbc		PKPbc	09 26 09.4	0.0	
LVC				*e*PKPab		PKPab	09 26 13.6	+0.4	
PLCA	Paso Flores	164.55	300	PKP		PKPdf	09 26 23.9	-1.2	
	comp=Z,4.4nm,1.1s,baz=18,slow=3.2,SNR=2.8								
PLCA				PKPab		PKPab	09 27 18.9	-1.4	
	comp=Z,5.4nm,1.1s,baz=23,slow=6.9,SNR=3.9								
PLCA	Paso Flores	164.55	300	PKP		PKPdf	09 26 23.9	-1.2	
PLCA				PKPab		PKPab	09 27 18.9	-1.4	

JMA 31 09:39:18.8±0.3, 4338N×14720E, h25km, M3.6, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
NEM2	Nemuro 2	1.06	270	P		P	Pn	09 39 38.0	-0.1
NEM2				*e*S			Sb	09 39 52.1	+0.1
JRA	Rausu	1.61	291	P		P	Pn	09 39 46.1	+0.5
JNK	Nakash	1.82	277	P		P	Pn	09 39 49.1	+0.7
JNK				*e*S			Sn	09 40 10.8	+0.1
JTKR	Abashiri--Toko	2.46	285	P		P	Pn	09 39 58.8	+1.5
JAR	Ashorobuto	2.50	269	P		P	Pn	09 39 59.2	+1.3
JOB	Onbets	2.51	260	P		P	Pn	09 39 59.5	+1.6

CSEM ***31*** *09:44:24.2±0.1, 2306N×37.18E, h5km, ML3.8, Error ellipse: s-maj=4.7km s-min=2.2km az=48.0*

IDC ***31*** *09:44:24.6±1.6, 2302N×37.15E, h0km, mb4.0/10, mb1 4.0/12, mb1mx3.9/25, mbtmp3.9/12, ML3.5/2, MS3.1/3, Ms1 3.1/3, ms1mx2.6/30, Error ellipse: s-maj=34.6km s-min=24.6km az=168.0*

ISCJB ***31*** *09:44:25.4±0.6, 2324N±007×37.33E±009, h10km, mb3.9/11, Error ellipse: s-maj=13.9km s-min=5.2km az=142.6*

NEIC ***31*** *09:44:26.3±0.9, 2308N×37.11E, h10km, mb4.3/1, Error ellipse: s-maj=18.9km s-min=13.7km az=189.0*

SGS ***31*** *09:44:28.5, 2334N×3734E, h29km*

SSN ***31*** *09:44:52.7±6.5, 2240N×3778E, h1km*

ISC 31 09:44:26.9±0.6, 2313N±007×3727E±009, h10km, n37, σ1§19/37, mb3.9/11, 3C-2D, Red Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
YOBS		1.82	48	P		P	Pn	09 44 54.0	-4.3
UMJS	Umm Lajj	2.10	1	P		P	Pn	09 44 57.0	-5.1
SHMS		2.80	126	P		P	Pn	09 45 10.9	-0.7
SHMS		2.80	126	P		P	Pn	09 45 10.9	-0.8
SHBS		3.08	133	P		P	Pn	09 45 14.8	-0.7
FDAS		3.14	114	P		P	Pn	09 45 15.8	-0.6
KBRS	Khaybar	3.21	34	P		P	Pn	09 45 14.8	-2.7
FRAS	Faraa	3.65	124	P		P	Pn	09 45 23.5	+0.1
WJHS		3.68	348	S		S	Sn	09 45 58.1	-9.1
WJHS		3.68	348	P		P	Pn	09 45 19.5	-4.2
BIDS	Bi'r al Bayda'	3.73	356	P		P	Pn	09 45 20.0	-4.6
LTHS	Al Lith	4.07	134	P		P	Pn	09 45 29.0	-0.3
BLJS	Baljurashi

NEIC 31 09:44:47.1,3657S×17718E,h5km,ML4.0(WEL),After WEL.,Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WIZ	**White Island**	**0.96**	**180**	P	Pg	09 45 03.7	-1.8
KUZ	**Kuaotunu**	**1.19**	**261**	P	Pg	09 45 08.9	-1.0
KUZ				S	Sg	09 45 24.9	-0.4
MXZ	**Matakaoa Point**	**1.34**	**138**	P	Pn	09 45 10.1	-2.4
MXZ				S	Sb	09 45 26.3	-3.9
URZ	**Urewera**	**1.69**	**182**	P	Pn	09 45 15.2	-2.0
MKAZ	**Moumakai**	**1.70**	**251**	P	Pn	09 45 16.6	-0.8
PUZ	**Puketiti**	**1.73**	**151**	P	Pn	09 45 18.1	+0.3
MWZ	**Matawai**	**1.78**	**171**	P	Pn	09 45 16.2	-2.4
OTAZ	**Otara**	**1.85**	**257**	P	Pn	09 45 19.9	+0.4

*ISCJB **31** 10:06:02.8±3.1, 1646N±007×1478E±02, h49km±26km, mb4.0/14, Error ellipse: s-maj=28.5km s-min=11.0km az=179.6*
*IDC **31** 10:06:03.8±0.8, 1647N×14781E, h40km±5km, mb3.8/12, mb1 3.9/13, mb1mx3.9/21, mbtmp3.8/13, ML3.9/1, Error ellipse: s-maj=20.1km s-min=10.6km az=97.0*
*NEIC **31** 10:06:03.2±0.5, 1648N×14797E, mb4.3/3, Error ellipse: s-maj=14.8km s-min=7.5km az=89.0*

ISC 31 10:06:03.4±2.9,1646N±006×1479E±02,h39km±24km,h41km±1.1km:pP-P,n23,σ0s84/21,mb4.0/14,Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**4.06**	**226**	P	**Pn**	**10 07 04.3**	**+1.2**
	7.2nm,0.3s,baz=170,slow=16,SNR=4.2						
GUMO				S	**Sn**	**10 07 48.0**	**-1.5**
	21nm,0.3s,baz=339,slow=18,SNR=4.3						
JOW	**Kunigami**	**20.90**	**303**	P	**P**	**10 10 42.5**	**0.0**
	40nm,1.1s,baz=134,slow=18,SNR=2.3						
MJAR	**Matsushiro Arr**	**21.76**	**339**	P	**P**	**10 10 50.9**	**-0.7**
	2.4nm,0.7s,mb3.7,baz=172,slow=11,SNR=6.8						
MJAR				pP		10 11 02.9	
	5.2nm,0.9s,baz=188,slow=13,SNR=7.0						
MAJO	**Matsushiro**	**21.76**	**339**	*e*P	**P**	**10 10 53.2**	**+1.6**
	10nm,0.7s,mb4.4						
MAJO				*e*		10 11 04.1	
MAT	**Matsushiro**	**21.76**	**339**	P	**P**	**10 10 50.8**	**-0.8**
KSRS	**Korea Array**	**27.33**	**324**	P	**P**	**10 11 43.6**	**-0.9**
	0.5nm,0.3s,mb3.5,baz=144,slow=8.8,SNR=3.4						
KSRS				pP	pP	10 11 54.8	-0.7
	2.7nm,0.9s,baz=148,slow=9.7,SNR=4.1						
WRAB	**Tennant Creek**	**38.53**	**201**	*e*P	**P**	**10 13 22.9**	**+0.7**
	3.2nm,0.6s,mb4.2						
WRAB				*e*pP	pP	10 13 34.2	+0.9
WB2	**Warramunga Arr**	**38.53**	**201**	*e*P	**P**	**10 13 22.6**	**+0.3**
WRA	**Warramunga Arr**	**38.54**	**201**	P	**P**	**10 13 22.8**	**+0.5**
	4.6nm,0.7s,mb4.3,baz=24,slow=9.3,SNR=47						
WRA				pP	pP	10 13 34.3	+0.9
	2.8nm,0.7s,baz=24,slow=9.3,SNR=8.5						
WRA				PcP	PcP	10 15 35.3	+0.7
	0.5nm,0.6s,baz=18,slow=3.7,SNR=4.9						
ASAR	**Alice Springs**	**42.15**	**199**	P	**P**	**10 13 52.5**	**+0.4**
	0.7nm,0.7s,mb3.4,baz=19,slow=9.6,SNR=9.5						
ASAR				pP	pP	10 14 04.0	+0.7
	0.6nm,0.7s,baz=22,slow=6.6,SNR=3.5						
ASAR				PcP	PcP	10 15 46.7	+0.5
	0.4nm,0.8s,baz=12,slow=5.0,SNR=3.9						
SONM	**Songino Array**	**46.17**	**322**	P	**P**	**10 14 24.0**	**-0.2**
	1.4nm,0.7s,mb4.0,baz=128,slow=6.7,SNR=7.0						
SONM				pP	pP	10 14 35.0	-0.4
	2.6nm,0.6s,baz=135,slow=7.6,SNR=10						
CMAR	**Chiang Mai Arr**	**46.60**	**280**	P	**P**	**10 14 28.6**	**+0.7**
	1.3nm,0.7s,mb4.0,baz=67,slow=6.7,SNR=6.7						
CMAR				pP	pP	10 14 40.3	+1.0
	3.2nm,0.7s,baz=72,slow=6.5,SNR=4.7						
STKA	**Stephens Creek**	**48.44**	**187**	P	**P**	**10 14 40.7**	**-1.2**
	0.9nm,0.6s,mb4.0,baz=354,slow=10,SNR=2.3						
ZALV	**Zalesovo Beam**	**61.04**	**323**	P	**P**	**10 16 13.5**	**+0.6**
	0.7nm,0.3s,mb4.2,baz=114,slow=7.2,SNR=3.6						
ZALV				pP	pP	10 16 23.9	-0.7
	1.0nm,0.5s,baz=107,slow=9.5,SNR=2.6						
ZALV	**Zalesovo Beam**	**61.04**	**323**	P	**P**	**10 16 13.5**	**+0.6**
ZALV				pP	pP	10 16 23.9	-0.7
MKAR	**Makanchi Array**	**61.49**	**315**	P	**P**	**10 16 16.8**	**+0.6**
	0.6nm,0.5s,mb4.0,baz=86,slow=7.4,SNR=3.8						
MKAR				pP	pP	10 16 28.2	+0.3
	1.0nm,0.5s,baz=91,slow=8.7,SNR=5.5						
MKAR	**Makanchi Array**	**61.49**	**315**	P	**P**	**10 16 16.8**	**+0.7**
MKAR				pP	pP	10 16 28.2	+0.3
KURK	**Kurchatov**	**64.31**	**319**	*e*P	**P**	**10 16 35.2**	**+0.4**
	2.0nm,0.6s,mb4.3						
KURK				*e*pP	pP	10 16 45.9	-0.7
NVAR	**Mina Array Bea**	**82.88**	**52**	P	**P**	**10 18 23.4**	**-0.7**
	0.4nm,0.5s,mb3.7,baz=254,slow=6.1,SNR=4.0						
ARCES	**ARCESS Array B**	**85.24**	**343**	P	**P**	**10 18 34.5**	**-1.0**
	2.2nm,0.9s,mb4.3,baz=59,slow=7.5,SNR=4.0						
LBTB	**Lobatse**	**125.67**	**251**	*e*PKPdf	PKPdf	10 25 01.7	+0.4
LPAZ	**La Paz**	**145.50**	**95**	PKPbc	PKPbc	10 25 39.6	+1.3
	0.6nm,0.7s,baz=213,slow=4.0,SNR=5.5						
LPAZ	**La Paz**	**145.50**	**95**	*e*PKPdf	PKPdf	10 25 39.5	+1.3
LPAZ				PKPbc	PKPbc	10 25 39.6	+1.3

IDC 31 10:18:07.2±2.9,2849S×13748E,h0km,mb1 3.0/3, mb1mx3.0/14,mbtmp2.8/3,ML2.7/3,Error ellipse: s-maj=87.3km s-min=18.0km az=52.0,South Australia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**4.90**	**134**	Pn	Pn	10 19 22.5	+0.3
	0.2nm,0.3s,baz=312,slow=15,SNR=3.9						
STKA				Sn	Sn	10 20 18.8	-0.8
	0.2nm,0.3s,baz=314,slow=19,SNR=2.8						
STKA				Lg		10 20 43.2	
	0.6nm,0.3s,baz=221,slow=18,SNR=4.7						
ASAR	**Alice Springs**	**5.78**	**325**	Pn	Pn	10 19 34.1	-0.1
	0.1nm,0.3s,baz=151,slow=14,SNR=11						
ASAR				Sn	Sn	10 20 38.2	-3.1
	0.2nm,0.3s,baz=150,slow=23,SNR=7.1						
WRA	**Warramunga Arr**	**8.98**	**341**	Pn	Pn	10 20 19.1	+1.0
	0.1nm,0.3s,baz=162,slow=12,SNR=18						
WRA				Sn	Sn	10 21 58.8	-1.3
	0.1nm,0.3s,baz=161,slow=24,SNR=4.2						

NNC 31 10:35:24.6±5.4,5407N×8738E,h0km,mb3.5,mpv3.0, 4C-6D,Error ellipse: s-maj=38.3km s-min=29.6km az=68.0,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KURK	**Kurchatov**	**6.33**	**242**	↑Pn	Pn	10 36 59.8	+0.8
	1.9nm,0.7s						
KURK				↑Sn	Sn	10 38 13.0	+1.1
	1.8nm,0.8s						
KURK				↓Lg		10 38 44.7	
	9.6nm,1.1s						
KURBB	**Kurchatov Arra**	**6.43**	**241**	↑Pn	Pn	10 37 01.5	+1.1
	0.3nm,0.5s,baz=163,slow=25						
KURBB				↓Sn	Sn	10 38 14.5	+0.1
	0.9nm,0.7s,baz=56,slow=25						
KURBB				↓Lg		10 38 47.5	
	2.5nm,1.1s						
MK31	**Makanchi Array**	**7.97**	**206**	↓Sn	Sn	10 38 55.8	+3.4
	0.5nm,0.5s,baz=27,slow=28						
MK31				↓Lg		10 39 38.0	
	3.9nm,0.9s,baz=163,slow=25						
VOSK	**Vostochnaya**	**9.89**	**269**	↑Pn	Pn	10 37 47.1	-0.8
	1.5nm,0.6s						
VOSK				↓Sn	Sn	10 39 39.6	+0.1
	3.4nm,1.0s						

JMA 31 10:42:57.1±0.1,4254N×13907E,h28km±2km,M3.5,1C-4D, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JOSM	**Okushiri--Mats**	**0.55**	**147**	↓P	Pb	10 43 07.8	-0.4
JOSM				*e*S	Sb	10 43 15.4	-0.3
JSH	**Shimam**	**0.73**	**82**	↓P	Pb	10 43 10.5	-0.7
JSH				*e*S	Sb	10 43 19.5	-1.3
JYM2	**Yakumo 2**	**1.05**	**113**	↓P	Pn	10 43 16.1	+0.1
JSK	**Shakotan**	**1.31**	**51**	↑P	Pn	10 43 19.3	-0.2
JSK				*e*S	Sn	10 43 34.2	-1.9
JSR	**Shiriuchi**	**1.42**	**135**	P	Pn	10 43 21.5	+0.4
JNB	**Noboribetsu**	**1.46**	**92**	↓P	Pn	10 43 21.5	0.0
JKB	**Kayabe**	**1.60**	**113**	P	Pn	10 43 23.8	+0.4
JEW	**Eniwo**	**1.78**	**79**	*e*S	Sn	10 43 49.7	+2.1

*MOS **31** 11:19:24.6±0.9, 1378N×12088E, h128km, mb4.9/18, Error ellipse: s-maj=14.4km s-min=6.6km az=121.2*
*BJI **31** 11:19:25.7, 1364N×12086E, h144km, mB4.8, mb4.8*
*ISCJB **31** 11:19:27.4±0.2, 1377N±002×12071E±004, h146km±2km, mb4.9/71, Error ellipse: s-maj=5.9km s-min=3.8km az=174.1*
*IDC **31** 11:19:27.5±0.7, 1369N×12088E, h140km±6km, mb4.2/20, mb1 4.2/21, mb1mx4.1/27, mbtmp4.2/21, MS3.6/1, Ms1 3.6/1, ms1mx2.5/35, Error ellipse: s-maj=20.9km s-min=7.9km az=68.0*
*MAN **31** 11:19:27, 1376N×12053E, h120km, mb5.5, ML4.5, MS4.8*
*NEIC **31** 11:19:28.4±1.4, 1374N×12082E, h146km±13km, mb5.3/27, Error ellipse: s-maj=10.2km s-min=4.4km az=58.0*
*DJA **31** 11:21:10, 598N×11784E, h167km, ML4.4/5*

ISC 31 11:19:28.4±0.2,1376N±002×12071E±004,h140km±2km, h132km±3.5km:pP-P,n174,σ1s09/183,mb4.9/71,17C-9D, Mindoro

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TGY	**Tagaytay City**	**0.40**	**33**	↓*e*P	**Pn**	**11 19 47.2**	**-0.9**
LUBP	**Lubang**	**0.45**	**267**	*e*P	**Pn**	**11 19 46.0**	**-2.4**
NBP	**Mount Natib**	**1.02**	**344**	*e*P	**Pn**	**11 19 50.2**	**-2.2**
NBP				*e*S	**Sn**	**11 19 54.0**	**-17**
NZB	**Bigte**	**1.16**	**19**	*e*P	**Pn**	**11 19 52.2**	**-1.5**
SJMP	**San Jose**	**1.35**	**163**	*e*P	**Pn**	**11 19 54.5**	**-1.2**
POLP	**Polillo Island**	**1.53**	**51**	*e*P	**Pn**	**11 19 58.2**	**+0.6**
GQP	**Guinayangan**	**1.69**	**85**	*e*P	**Pn**	**11 20 10.5**	**+11**
BUSP	**Coron**	**1.82**	**196**	*e*P	**Pn**	**11 19 59.0**	**-1.9**
PCPH	**Palayan**	**1.83**	**12**	*e*P	**Pn**	**11 19 59.5**	**-1.4**
OTRP	**Odiongan**	**1.89**	**137**	*e*P	**Pn**	**11 20 01.1**	**-0.6**
AUQP	**San Andres**	**1.96**	**103**	*e*P	**Pn**	**11 20 04.8**	**+2.3**
BALP	**Baler**	**2.14**	**23**	*e*P	**Pn**	**11 20 04.7**	**+0.1**
BALP				*e*S	**Sn**	**11 20 33.0**	**+0.5**
SCZP	**Santa Cruz**	**2.15**	**339**	*e*P	**Pn**	**11 20 02.4**	**-2.4**
SCZP				*e*S	**Sn**	**11 20 35.0**	**+2.4**
KALP	**Kalibo**	**2.61**	**142**	↓*i*P	**Pn**	**11 20 11.0**	**+0.5**
BOLP	**Bolinao**	**2.72**	**344**	*e*P	**Pn**	**11 20 10.5**	**-1.3**
ENPP	**El Nido**	**2.83**	**206**	*e*P	**Pn**	**11 20 12.3**	**-1.0**
CUYO	**Cuyo Island**	**2.91**	**174**	*e*P	**Pn**	**11 20 13.2**	**-1.1**
RCP	**Roxas**	**2.96**	**138**	↓*i*P	**Pn**	**11 20 15.5**	**+0.7**
CAUP	**Cauayan**	**3.34**	**19**	*e*P	**Pn**	**11 20 19.9**	**+0.1**
PVCP	**Virac**	**3.35**	**92**	↓*e*P	**Pn**	**11 20 22.2**	**+2.3**
PALP	**Palanan**	**3.68**	**27**	↑*e*P	**Pn**	**11 20 24.6**	**+0.4**
ABRA	**Dolores**	**3.87**	**0**	*e*P	**Pn**	**11 20 26.3**	**-0.3**
ABRA				*e*S	**Sn**	**11 21 15.0**	**+3.1**
CNP	**Catarman**	**4.05**	**107**	*e*P	**Pn**	**11 20 29.2**	**+0.2**
CVP	**Callao Caves**	**4.06**	**15**	↑*e*P	**Pn**	**11 20 29.1**	**-0.2**
PPR	**Puerto Princes**	**4.41**	**206**	↑*i*P	**Pn**	**11 20 32.5**	**-1.4**
LLP	**Lapu-Lapu**	**4.67**	**137**	*e*P	**Pn**	**11 20 38.0**	**+0.6**
PLP	**Palo**	**4.90**	**121**	↑*e*P	**Pn**	**11 20 42.0**	**+1.6**
TBP	**Tagbilaran**	**5.09**	**142**	*e*P	**Pn**	**11 20 44.5**	**+1.6**
MSLP	**Maasin**	**5.43**	**131**	*e*P	**Pn**	**11 20 49.3**	**+1.9**
BATP	**Bataraza**	**5.70**	**210**	*e*P	**Pn**	**11 20 50.2**	**-0.9**
BUKP	**Musuan**	**7.24**	**143**	*e*P	**Pn**	**11 21 14.2**	**+2.5**
KDM	**Kudat**	**7.80**	**210**	↑P	**Pn**	**11 21 20.7**	**+1.5**
SDKM	**Sandakan**	**8.78**	**204**	↓P	**Pn**	**11 21 32.6**	**+0.2**
MYLDM	**Lahad Datu**	**8.80**	**195**	↑P	**Pn**	**11 21 36.4**	**+3.7**
KKM	**Kota Kinabalu**	**8.85**	**210**	↑P	**Pn**	**11 21 33.9**	**+0.5**
KKM	**Kota Kinabalu**	**8.85**	**210**	*e*Pn	**Pn**	**11 21 33.4**	**0.0**
TSM	**Tawau**	**9.81**	**197**	↓P	**Pn**	**11 21 48.5**	**+2.2**
SBUM	**Sibu**	**14.03**	**217**	↓P	**Pn**	**11 22 42.5**	**+1.3**
JOW	**Kunigami**	**14.81**	**27**	LR	LR	11 27 16.4	
	comp=Z,239nm,20.9s,baz=276,slow=32						
KSM	**Kuching**	**15.97**	**221**	*e*Pn	**Pn**	**11 23 06.8**	**+1.5**
WHN	**Wuhan**	**17.70**	**342**	↑P	**Pn**	**11 23 23.0**	**-3.2**
GYA	**Guiyang**	**18.24**	**316**	↑*i*P	**P**	**11 23 32.5**	**+1.4**
GYA				AP		11 23 42.0	
GYA				AMB	AMB		
	comp=Z,30nm,1.0s						
GYA				AMB	AMB		
	comp=Z,150nm,4.5s						
GYA				LR	LR		
	comp=N,580nm,14.6s						
GYA				LR	LR		
	comp=E,630nm,15.8s						
GYA				LR	LR		
	comp=Z,570nm,15.4s						
KAPI	**Kappang**	**18.68**	**183**	Pn	**Pn**	**11 23 37.9**	**0.0**
	comp=Z,86nm,0.5s,SNR=5.3						
KAPI	**Kappang**	**18.68**	**183**	P	**P**	**11 23 35.8**	**-0.1**
	comp=Z,1.1nm,0.3s,baz=46,slow=5.3,SNR=7.1						
KAPI	**Kappang**	**18.68**	**183**	P	**P**	**11 23 35.8**	**-0.2**
NANT	**Nan**	**19.84**	**287**	↑P	**P**	**11 23 49.2**	**+0.6**
	comp=Z,861nm,0.9s						
NST	**Nakhon Sawan**	**19.99**	**278**	P	**P**	**11 23 51.0**	**+0.8**
KMI	**Kunming**	**20.34**	**306**	P	**P**	**11 23 55.8**	**+2.0**
KMI				AP		11 24 21.8	
KMI				PPP		11 24 32.0	
KMI				XP	sP	11 24 38.5	+2.1
KMI				S	**S**	**11 27 33.8**	**-0.4**
KMI				AMB	AMB		
	comp=Z,23nm,0.8s						
CHRT	**Chiangrai**	**20.92**	**290**	↑P	**P**	**11 24 01.5**	**+1.4**
	comp=Z,316nm,1.0s						
BDT	**Bhumibol Dam**	**21.20**	**282**	P	**P**	**11 24 03.0**	**-0.1**
	comp=Z,22nm,0.7s,mb4.6						
CM31	**Chiang Mai Arr**	**21.42**	**285**	*e*P	**P**	**11 24 06.2**	**+0.8**
	comp=Z,74nm,0.8s,mb5.1						
CMAR	**Chiang Mai Arr**	**21.42**	**285**	P	**P**	**11 24 06.4**	**+1.0**
	comp=Z,58nm,0.8s,mb5.0,baz=96,slow=7.9,SNR=210						
CMAR				ScP	ScP	11 31 28.0	+0.4
	comp=Z,1.5nm,0.9s,baz=87,slow=1.0,SNR=8.0						
CHTO	**Chiang Mai**	**21.48**	**286**	*e*P	**P**	**11 24 06.1**	**0.0**
CHTO				pmax	pmax		
	comp=Z,31nm,0.7s,mb4.8						
CHTO	**Chiang Mai**	**21.48**	**286**	*e*P	**P**	**11 24 06.1**	**0.0**
	comp=Z,31nm,0.7s,mb4.7						
XAN	**Xi'an**	**22.85**	**334**	P	**P**	**11 24 18.8**	**-0.8**
XAN				AP		11 24 44.0	
XAN				PP		11 24 55.0	
XAN				PCP	PcP	11 28 06.5	+0.4
XAN				S	**S**	**11 28 22.3**	**+3.9**
XAN				AMB	AMB		
	comp=Z,66nm,0.7s,mb5.2						
XAN				LR	LR		
	comp=E,28nm,21.7s						
XAN				LR	LR		
	comp=Z,48nm,21.7s						
CD2	**Chengdu**	**23.12**	**320**	P	**P**	**11 24 22.0**	**-0.2**
CD2				AP		11 24 47.8	
CD2				PP		11 24 59.0	
CD2				PCP	PcP	11 28 08.3	+1.6
CD2				S	**S**	**11 28 21.0**	**-1.9**
CD2				SS		11 29 17.8	
CD2				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb4.2						
CD2				AMB	AMB		
	comp=Z,40nm,4.2s						
BATI	**Baumata**	**23.99**	**173**	P	**P**	**11 24 30.3**	**+0.1**
	comp=Z,31nm,0.5s,mb5.1,baz=218,slow=2.8,SNR=6.6						
KSRS	**Korea Array**	**24.46**	**14**	P	**P**	**11 24 34.0**	**-0.3**
	comp=Z,1.7nm,0.9s,baz=201,slow=11,SNR=5.9						
BJI	**Beijing**	**26.48**	**352**	P	**P**	**11 24 53.3**	**+0.8**
BJI				AMB	AMB		
	comp=Z,11nm,0.5s,mb4.7						
BJI				AMB	AMB		
	comp=Z,65nm,3.5s						
BJI				LR	LR		
	comp=N,123nm,26.5s						
BJI				LR	LR		
	comp=E,126nm,25.4s						
BJI				LR	LR		
	comp=Z,89nm,24.9s						
LZH	**Lanzhou**	**26.90**	**329**	↓P	**P**	**11 24 56.0**	**-0.3**
LZH				AP	pP	11 25 23.0	-2.9
LZH				PP	PP	11 25 49.5	-10
LZH				*e*S	**S**	**11 29 22.0**	**-0.8**
LZH				SS	SS	11 30 48.0	-34
LZH				AMB	AMB		
	comp=Z,88nm,1.0s,mb5.3						
LZH				AMB	AMB		
	comp=Z,310nm,4.0s						
HHC	**Hu-ho-hao-te**	**28.15**	**345**	*e*P	**P**	**11 25 09.0**	**+1.6**
HHC				AP	pP	11 25 35.8	-1.3
HHC				XP	sP	11 25 50.5	-2.9
HHC				PP	PP	11 26 04.8	-8.9
HHC				PCP	PcP	11 28 19.0	+1.0
HHC				S	**S**	**11 29 44.5**	**+2.2**
HHC				XS	sS	11 30 31.5	-3.2
HHC				SS	SS	11 31 17.0	-30
HHC				AMB	AMB		
	comp=Z,19nm,1.0s,mb4.8						
HHC				AMB	AMB		
	comp=Z,72nm,6.2s						
HHC				LR	LR		
	comp=N,135nm,12.2s						
HHC				LR	LR		
	comp=E,165nm,9.4s						
HHC				LR	LR		
	comp=Z,142nm,13.6s						
SHL	**Shillong**	**29.50**	**298**	↑*i*P	**P**	**11 25 19.5**	**-0.1**
CN2	**Changchun**	**30.21**	**7**	*e*P	**P**	**11 25 27.8**	**+2.2**
GTA	**Gaotai**	**31.49**	**328**	↑P	**P**	**11 25 37.8**	**+0.8**
GTA				AP	pP	11 26 05.0	-2.0
GTA				PP	PP	11 26 48.8	-2.1
GTA				S	**S**	**11 30 35.8**	**+1.0**
GTA				SCP	ScP	11 31 57.8	+0.9
GTA				SS	SS	11 32 34.5	-21
GTA				AMB	AMB		
	comp=Z,50nm,0.9s,mb5.2						
GTA				AMB	AMB		
	comp=Z,116nm,6.9s						
GTA				LR	LR		
	comp=N,125nm,17.4s						
GTA				LR	LR		
	comp=E,220nm,18.0s						
GTA				LR	LR		
	comp=Z,131nm,15.0s						
LSA	**Lhasa**	**31.58**	**305**	P	**P**	**11 25 40.0**	**+2.1**
LSA				AMB	AMB		
	comp=Z,40nm,1.1s,mb5.1						
LSA	**Lhasa**	**31.58**	**305**	*e*P	**P**	**11 25 39.4**	**+1.5**
LSA				pmax	pmax		
	comp=Z,39nm,1.0s,mb5.1						
LSA	**Lhasa**	**31.58**	**305**	*e*P	**P**	**11 25 39.4**	**+1.5**
	comp=Z,39nm,1.0s,mb5.1						
TAPN	**Taplejung**	**33.61**	**299**	*e*P	**P**	**11 25 56.0**	**+0.4**
	comp=Z,52nm,0.6s,mb5.4						
ODAN	**Odare**	**33.74**	**298**	*e*P	**P**	**11 25 57.1**	**+0.4**
	comp=Z,150nm,0.8s,mb5.8						
RAMN	**Ramite**	**34.45**	**298**	*e*P	**P**	**11 26 03.3**	**+0.5**
	comp=Z,93nm,0.7s,mb5.7						
JIRN	**Jiri**	**34.99**	**299**	*e*P	**P**	**11 26 08.1**	**+0.6**
	comp=Z,141nm,0.5s,mb5.9						
GUN	**Gumba**	**35.32**	**299**	*e*P	**P**	**11 26 10.8**	**+0.5**
	comp=Z,106nm,0.4s,mb5.8						
ASAJ	**Asahikawa**	**35.57**	**27**	P	**P**	**11 26 12.3**	**+0.1**
	comp=Z,5.2nm,0.7s,mb4.3,baz=269,slow=21,SNR=3.7						
PKI	**Pulchoki**	**35.63**	**298**	*e*P	**P**	**11 26 12.8**	**-0.2**
	comp=Z,63nm,0.5s,mb5.5						
PKI	**Pulchoki**	**35.63**	**298**	*e*P	**P**	**11 26 12.8**	**-0.2**
PKI				pmax	pmax		
	comp=Z,63nm,0.5s,mb5.5						
PKIN	**Phulchoki**	**35.64**	**298**	*e*P	**P**	**11 26 12.7**	**-0.4**
	comp=Z,50nm,0.5s,mb5.4						
KKN	**Kakani**	**35.80**	**299**	*e*P	**P**	**11 26 14.3**	**-0.1**
	comp=Z,56nm,0.6s,mb5.4						
KKN	**Kakani**	**35.80**	**299**	*e*P	**P**	**11 26 14.3**	**-0.1**
KKN				pmax	pmax		
	comp=Z,56nm,0.6s,mb5.4						
ULN	**Ulaanbaatar**	**35.85**	**344**	*c i*P	**P**	**11 26 14.7**	**+0.2**
ULN	**Ulaanbaatar**	**35.85**	**344**	*e*P	**P**	**11 26 14.8**	**+0.3**
	comp=Z,15nm,1.2s,mb4.5						
DMN	**Daman**	**35.90**	**298**	*e*P	**P**	**11 26 15.3**	**0.0**
	comp=Z,29nm,0.4s,mb5.2						
SONM	**Songino Array**	**36.00**	**344**	P	**P**	**11 26 15.8**	**0.0**
	comp=Z,9.6nm,0.7s,mb4.5,baz=161,slow=10.0,SNR=65						
SONM				ScP	ScP	11 32 11.1	-1.5
	comp=Z,0.6nm,0.7s,baz=147,slow=3.5,SNR=4.7						
WRAB	**Tennant Creek**	**36.07**	**158**	*e*P	**P**	**11 26 15.7**	**-1.1**
	comp=Z,1.8nm,0.6s,mb3.9						
WRA	**Warramunga Arr**	**36.08**	**158**	P	**P**	**11 26 15.0**	**-1.7**
	comp=Z,1.8nm,0.6s,mb3.9,baz=336,slow=9.5,SNR=28						
WRA				pP	pP	11 26 43.8	-3.4
	comp=Z,4.0nm,0.8s,baz=336,slow=9.5,SNR=7.4						
WRA				S	**S**	**11 31 38.9**	**-6.9**
	comp=Z,0.4nm,0.6s,baz=336,slow=16,SNR=3.7						
WRA				ScP	ScP	11 32 12.0	-1.4
	comp=Z,1.5nm,0.9s,baz=345,slow=4.1,SNR=7.3						
WRA	**Warramunga Arr**	**36.08**	**158**	P	**P**	**11 26 15.0**	**-1.8**
WRA				*PP	pP	11 26 43.8	-3.4
WRA				S	**S**	**11 31 38.9**	**-6.9**
WB2	**Warramunga Arr**	**36.08**	**158**	*e*P	**P**	**11 26 15.1**	**-1.7**
GKN	**Gorkha**	**36.41**	**299**	*e*P	**P**	**11 26 19.1**	**-0.5**
	comp=Z,37nm,0.5s,mb5.2						
HABR	**Khabarovsk**	**36.59**	**16**	*e*P	**P**	**11 26 17.6**	**-3.2**
HABR				*e*S	**S**	**11 31 52.1**	**-1.0**
KOLN	**Koldanda**	**37.23**	**298**	*e*P	**P**	**11 26 26.4**	**-0.2**
	comp=Z,45nm,0.9s,mb5.1						
DANN	**Dangsing**	**37.24**	**299**	*e*P	**P**	**11 26 26.5**	**-0.2**
	comp=Z,90nm,0.6s,mb5.6						
ZAK	**Zakamensk**	**39.19**	**342**	*e*P	**P**	**11 26 41.8**	**-0.8**
ZAK				pmax	pmax		
	comp=Z,4.0nm,1.3s,mb3.9						
ASAR	**Alice Springs**	**39.37**	**161**	P	**P**	**11 26 43.1**	**-1.3**
	comp=Z,1.2nm,0.6s,baz=335,slow=7.9,SNR=21						
ASAR				pP	pP	11 27 13.6	-1.7
	comp=Z,2.8nm,0.6s,baz=332,slow=7.2,SNR=7.7						
ASAR				ScP	ScP	11 32 25.6	-0.2
	comp=Z,0.9nm,0.9s,baz=337,slow=3.6,SNR=6.6						
TLY	**Talaya**	**40.24**

comp=Z,1μm,0.6s,SNR=86

KURK	**Kurchatov**	**50.14**	**326**	*e*P	**P**	**11 28 09.8**	**+0.4**
KURK				pmax	pmax			

comp=Z,131nm,0.6s,mb5.7

KURK	**Kurchatov**	**50.14**	**326**	*e*P	**P**	**11 28 09.8**	**+0.4**

comp=Z,131nm,0.6s,mb5.7

NVS	**Novosibirsk**	**50.29**	**333**	*i* P	**P**	**11 28 09.7**	**-0.7**
NVS				pmax	pmax			

comp=Z,25nm,1.0s,mb4.8

NVS				pmax	pmax			

comp=N,16nm,1.3s

NVS				pmax	pmax			

comp=E,18nm,1.1s

KBL	**Kabul**	**50.88**	**303**	*e*P	**P**	**11 28 15.4**	**+0.1**
KBL				pmax	pmax			

comp=Z,27nm,0.8s,mb4.9

KBL	**Kabul**	**50.88**	**303**	*e*P	**P**	**11 28 15.4**	**+0.1**

comp=Z,27nm,0.8s,mb4.9

KK31	**Karatay Array**	**51.94**	**314**	*i* P	**P**	**11 28 22.5**	**-0.5**
KK31				pmax	pmax			

comp=Z,11nm,0.5s,mb4.7

SEY	**Seymchan**	**53.95**	**17**	*e*P	**P**	**11 28 36.7**	**-0.6**
VOSK	**Vostochnaya**	**55.27**	**326**	P	**P**	**11 28 46.3**	**-0.8**
VOSK				pmax	pmax			

comp=Z,14nm,0.6s,mb4.9

BVA0	**Borovoye Array**	**55.73**	**326**	*i* P	**P**	**11 28 50.1**	**-0.2**
BVA0				pmax	pmax			

comp=Z,4.0nm,0.9s,mb4.2

BVAR	**Borovoye Array**	**55.73**	**326**	P	**P**	**11 28 50.3**	**0.0**

comp=Z,10nm,0.7s,mb4.8,baz=121,slow=9.3,SNR=41

BRVK	**Borovoye**	**55.80**	**326**	P	**P**	**11 28 51.5**	**+0.7**

comp=Z,172nm,1.0s,mb5.8,SNR=8.1

BRVK	**Borovoye**	**55.80**	**326**	*e*P	**P**	**11 28 51.0**	**+0.2**
BRVK				pmax	pmax			

comp=Z,52nm,1.0s,mb5.3

BRVK	**Borovoye**	**55.80**	**326**	*e*P	**P**	**11 28 51.0**	**+0.2**

comp=Z,52nm,1.0s,mb5.3

TIXI	**Tiksi**	**58.07**	**3**	*e*P	**P**	**11 29 05.0**	**-1.5**
TIXI				pmax	pmax			

comp=Z,16nm,0.8s,mb4.9

TIXI	**Tiksi**	**58.07**	**3**	*e*P	**P**	**11 29 05.3**	**-1.2**

comp=Z,14nm,0.8s,mb4.9

BILL	**Bilibino**	**61.65**	**18**	*e*P	**P**	**11 29 31.2**	**+0.2**
BILL				*e*		11 29 57.6		
BILL					pP	11 30 08.0	+3.6	
BILL				pmax	pmax			

comp=Z,16nm,1.0s,mb4.8

AKTK	**Aktyubinsk**	**62.17**	**320**	P	**P**	**11 29 34.4**	**-0.4**
AKTO	**Aktyubinsk**	**62.17**	**320**	P	**P**	**11 29 34.4**	**-0.4**

comp=Z,13nm,0.6s,mb5.0,baz=97,slow=9.1,SNR=41

SVE	**Sverdlovsk**	**62.36**	**327**	*e*P	**P**	**11 29 35.9**	**0.0**
SVE				pmax	pmax			

comp=Z,32nm,0.8s,mb5.2

ARU	**Arti**	**63.34**	**327**	*c i*P	**P**	**11 29 41.5**	**-0.9**
ARU				*e*		11 31 58.6		
ARU				*e*S	**S**	**11 38 05.5**	**+2.0**
ARU				*e*SS	SS	11 42 12.6	+0.2	
ARU				pmax	pmax			

comp=Z,15nm,0.6s,mb5.0

ARU	**Arti**	**63.34**	**327**	*e*P	**P**	**11 29 41.1**	**-1.3**

comp=Z,19nm,0.7s,mb5.0

RDF	**Al-Radifah**	**68.87**	**296**	*e*P	**P**	**11 30 17.1**	**-1.2**
RDF	baz=296			AMb	AMB	11 30 18.1		

comp=Z,88nm,0.7s,mb5.6,baz=296

MIB	**Mutribah**	**68.99**	**297**	*e*P	**P**	**11 30 17.8**	**-1.2**
MIB	baz=297			AMb	AMB	11 30 18.7		

comp=Z,73nm,0.6s,mb5.6,baz=297

NAY	**Al-Naaiem**	**69.11**	**296**	*e*P	**P**	**11 30 18.4**	**-1.4**
NAY	baz=296			AMb	AMB	11 30 19.4		

comp=Z,30nm,0.7s,mb5.1,baz=296

GNI	**Garni**	**70.59**	**308**	P	**P**	**11 30 30.2**	**+1.6**

comp=Z,5.2nm,0.3s,mb4.7,baz=212,slow=16,SNR=3.7

KIV	**Kislovodsk**	**72.00**	**312**	*i* P	**P**	**11 30 36.7**	**-0.3**
KIV				*i* *PP	pP	11 31 06.6	-4.7	
KIV				pmax	pmax			

comp=Z,24nm,0.7s,mb5.0

KIV	**Kislovodsk**	**72.00**	**312**	*e*P	**P**	**11 30 37.2**	**+0.3**

comp=Z,30nm,0.6s,mb5.2

OBN	**Obninsk**	**75.50**	**324**	*e*P	**P**	**11 30 56.6**	**-0.5**
OBN						11 31 08.0		
OBN				pmax	pmax			

comp=Z,9.0nm,0.7s,mb4.5

JOF	**Joensuu**	**77.59**	**332**	*e*p	**P**	**11 31 07.5**	**-1.3**

comp=Z,5.3nm,0.4s,mb4.5

MCK	**McKinley**	**77.94**	**27**	*e*P	**P**	**11 31 10.5**	**-0.2**
MCK				pmax	pmax			

comp=Z,7.0nm,0.6s,mb4.5

MCK	**McKinley**	**77.94**	**27**	*e*P	**P**	**11 31 10.5**	**-0.2**

comp=Z,6.7nm,0.6s,mb4.5

SIM	**Simferopol'**	**78.03**	**314**	*e*P	**P**	**11 31 11.0**	**-0.6**
SIM				pmax	pmax			

comp=Z,19nm,0.8s,mb4.8

KEV	**Kevo**	**78.48**	**339**	*e*p	**P**	**11 31 12.4**	**-1.2**

comp=Z,1.3nm,0.4s,mb3.9

KEV	**Kevo**	**78.48**	**339**	*e*P	**P**	**11 31 12.4**	**-1.2**
KEV				pmax	pmax			

comp=Z,1.0nm,0.4s,mb3.8

ARCES	**ARCESS Array B**	**79.03**	**339**	P	**P**	**11 31 15.9**	**-0.7**

comp=Z,4.1nm,0.5s,mb4.3,baz=74,slow=7.0,SNR=29

EIL	**Elat**	**79.69**	**298**	P	**P**	**11 31 20.8**	**-0.2**

comp=Z,9.3nm,0.6s,mb4.6,baz=350,slow=6.4,SNR=7.9

EIL	**Elat**	**79.69**	**298**	P	**P**	**11 31 20.8**	**-0.2**
CSS	**Prodhromos**	**80.14**	**304**	*e*P	**P**	**11 31 23.5**	**+0.3**

comp=Z,7.7nm,0.6s,mb4.5

AKASG	**Malin Array Be**	**80.42**	**320**	P	**P**	**11 31 23.4**	**-1.1**

comp=Z,0.8nm,0.4s,baz=65,slow=5.3,SNR=4.6

INK	**Inuvik**	**83.04**	**21**	*e*P	**P**	**11 31 37.6**	**-0.2**

comp=Z,136nm,0.9s,mb5.7

BUR08	**Bucovina Ar. S**	**83.62**	**317**	*e*P	**P**	**11 31 40.7**	**-0.6**
KMBO	**Kilima Mbogo**	**83.91**	**267**	P	**P**	**11 31 44.7**	**+1.3**

comp=Z,4.1nm,0.7s,mb4.3,baz=60,slow=8.5,SNR=11

KMBO	**Kilima Mbogo**	**83.91**	**267**	P	**P**	**11 31 44.7**	**+1.3**
CRVS	**Cervenica-Dubo**	**85.72**	**319**	*e*P	**P**	**11 31 51.6**	**-0.1**
OJC	**Ojcow**	**86.39**	**321**	*e*P	**P**	**11 31 54.3**	**-0.7**
NB2	**NORSAR Subarra**	**87.21**	**333**	P	**P**	**11 31 56.7**	**-2.0**

comp=Z,4.3nm,0.7s,mb4.4,baz=68,slow=4.6

NOA	**NORSAR Array B**	**87.21**	**333**	P	**P**	**11 31 57.0**	**-1.7**

comp=Z,3.3nm,0.7s,mb4.3,baz=68,slow=4.5,SNR=8.1

RES	**Resolute Bay**	**88.97**	**9**	*e*P	**P**	**11 32 06.6**	**-0.3**

comp=Z,79nm,0.7s,mb5.4

GERES	**GERESS Array B**	**90.59**	**321**	P	**P**	**11 32 14.4**	**-0.5**

comp=Z,0.7nm,0.6s,mb3.9,baz=64,slow=3.1,SNR=4.3

VNA2	**Neumayer--Watz**	**114.86**	**197**	*e*PKPdf	PKiKP	11 37 51.2	-0.7	

baz=67,slow=0.9

VNA3	**Neumayer Olymp**	**115.30**	**196**	*e*PKPdf	PKPdf	11 37 52.9	+0.2	
TXAR	**Lajitas Array**	**119.42**	**45**	PKP	PKPdf	11 38 01.7	-0.3	

comp=Z,0.5nm,0.6s,baz=237,slow=0.7,SNR=7.8

PLCA	**Paso Flores**	**151.38**	**162**	PKPbc	PKPbc	11 39 05.3	-0.6	

comp=Z,2.9nm,0.8s,baz=235,slow=2.2,SNR=8.6

IDC 31 11:48:04.7±36.0, 887N×5820E, h0km, mb3.7/3, mb1 3.7/3, mb1mx3.4/21, mbtmp3.7/3, MS3.5/5, Ms1 3.5/5, ms1mx3.1/21, Error ellipse: s-maj=745.2km s-min=208.4km az=46.0, Carlsberg Ridge

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KMBO	**Kilima Mbogo**	**23.11**	**246**	LR	LR	12 01 35.0	

comp=Z,62nm,20.2s,baz=265,slow=35

MATP	**Matopo**	**41.24**	**225**	LR	LR	12 09 51.2	

comp=Z,32nm,20.4s,baz=344,slow=32

MKAR	**Makanchi Array**	**43.02**	**24**	P	P	11 56 06.0	0.0	

0.3nm,0.4s,baz=217,slow=9.1,SNR=4.2

LBTB	**Lobatse**	**46.30**	**223**	LR	LR	12 14 27.0	

comp=Z,62nm,18.9s,baz=257,slow=34

BOSA	**Boshof**	**48.99**	**219**	LR	LR	12 15 45.2	

comp=Z,37nm,21.0s,baz=241,slow=34

ZALV	**Zalesovo Beam**	**49.78**	**20**	P	P	11 56 58.9	-0.1	

1.4nm,0.5s,baz=220,slow=8.3,SNR=8.0

SONM	**Songino Array**	**56.16**	**37**	P	P	11 57 46.3	+0.1	

1.2nm,1.1s,baz=248,slow=7.6,SNR=4.1

STKA	**Stephens Creek**	**89.07**	**122**	LR	LR	12 34 21.8	

comp=Z,85nm,18.6s,baz=26,slow=31

JMA 31 11:50:47.1±0.4, 2672N×12521E, h180km, M3.8, Northeast of Taiwan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JKE	**Kume jima 2**	**1.47**	**105**	P	Pn	11 51 19.4	+0.7
JAGN	**Aguni-jima**	**1.82**	**94**	P	Pn	11 51 22.4	+0.1
JAGN				*e*S	Sn	11 51 48.5	-0.9
JMJ	**Miyako jima 2**	**1.90**	**178**	*e*S	Sn	11 51 50.1	-0.9
JOGS	**Gusukube**	**1.96**	**175**	P	Pn	11 51 24.6	+0.8
JOGS				*e*S	Sn	11 51 51.8	-0.3
JTJ	**Tarama**	**2.12**	**193**	P	Pn	11 51 26.0	+0.5
JTJ				S	Sn	11 51 54.0	-1.3
NAH1	**Naha**	**2.28**	**102**	P	Pn	11 51 27.4	+0.1
JJT2	**Tamagusuku 2**	**2.35**	**104**	P	Pn	11 51 28.5	+0.5
JIH	**Iheya**	**2.48**	**82**	P	Pn	11 51 29.3	-0.3
JIH				S	Sn	11 52 01.1	-1.4
JIJ	**Ishigaki jima**	**2.54**	**203**	P	Pn	11 51 29.9	-0.4
JIJ				S	Sn	11 52 01.1	-2.6
JKRS	**Kuro-shima**	**2.70**	**204**	P	Pn	11 51 31.9	-0.3
JKRS				*e*S	Sn	11 52 05.3	-1.9
IRIF	**Iriomote-Funau**	**2.73**	**210**	P	Pn	11 51 32.1	-0.4
IRIF				*e*S	Sn	11 52 07.3	-0.4
JOW	**Kunigami**	**2.74**	**87**	P	Pn	11 51 32.2	-0.4
JOW				*e*S	Sn	11 52 04.2	-3.8
HATJ	**Hateruma jima**	**2.94**	**206**	P	Pn	11 51 34.7	-0.4
HATJ				*e*S	Sn	11 52 10.8	-1.5
YOJ	**Yonaguni jima**	**3.00**	**222**	P	Pn	11 51 36.4	+0.6
JTK	**Tokunoshima**	**3.50**	**71**	P	Pn	11 51 40.6	-1.2
JAM	**Amami Oshima**	**4.25**	**66**	*e*S	Sn	11 52 37.4	-4.2
JMZ	**Minamidaito 2**	**5.47**	**98**	P	Pn	11 52 05.7	-1.5

DJA 31 12:03:36, 1029S×10830E, h30km, MLv4.3/3

IDC 31 12:03:36.7±3.9, 981S×10879E, h0km, mb3.6/6, mb1 3.8/6, mb1mx3.7/16, mbtmp3.6/6, Error ellipse: s-maj=176.4km s-min=21.1km az=50.0, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**26.63**	**115**	P	P	12 09 16.8	-0.4

0.5nm,0.8s,baz=288,slow=11,SNR=4.6

ASAR	**Alice Springs**	**27.65**	**123**	P	P	12 09 27.0	+0.6

0.3nm,0.6s,baz=294,slow=9.2,SNR=8.2

CMAR	**Chiang Mai Arr**	**29.72**	**341**	P	P	12 09 44.6	-0.2

0.8nm,0.6s,baz=181,slow=8.5,SNR=7.1

SONM	**Songino Array**	**57.43**	**358**	P	P	12 13 27.3	+0.2

0.7nm,0.5s,baz=177,slow=8.1,SNR=7.4

MKAR	**Makanchi Array**	**61.12**	**340**	P	P	12 13 52.2	-0.4

0.3nm,0.4s,baz=144,slow=8.7,SNR=3.0

ZALV	**Zalesovo Beam**	**66.68**	**345**	P	P	12 14 30.1	+0.9

0.5nm,0.3s,baz=149,slow=5.9,SNR=4.1

TXAR	**Lajitas Array**	**143.97**	**53**	PKP	PKPdf	12 23 13.2	-1.7	

0.5nm,0.8s,baz=260,slow=2.3,SNR=6.1

CSEM 31 12:03:44.6, 3015N×3633E, h7km, ML2.7, After SNSN
SGS 31 12:03:44.6, 3015N×3633E, h7km
GII 31 12:03:46.9±0.0, 2995N×3627E, h0km, EXPLOSION

ISC 31 12:03:44.9±1.6, 2988N±006×3637E±010, h0km, n10, σ0s75/13, Western Arabian Peninsula

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AQBJ	**Aqaba**	**1.16**	**263**	Pg	**Pg**	**12 04 07.5**	**+0.4**
HRFI	**Mount Harif**	**1.17**	**278**	Pg	**Pg**	**12 04 08.9**	**+1.7**
EIL	**Elat**	**1.25**	**261**	Pg	**Pg**	**12 04 09.5**	**+0.6**
PRNI	**Paran**	**1.27**	**292**	Pg	**Pg**	**12 04 08.5**	**-0.8**
PRNI				Sg	**Sg**	**12 04 25.8**	**0.0**
HQLS		**1.27**	**243**	P	**Pg**	**12 04 08.5**	**-0.9**
HQLS		**1.27**	**243**	P	**Pg**	**12 04 08.5**	**-0.8**
HQLS				S	**Sg**	**12 04 26.3**	**+0.4**
JLOS		**1.37**	**214**	P	**Pg**	**12 04 11.2**	**0.0**
KRMI	**Paran Flat**	**1.45**	**280**	Pn	**Pn**	**12 04 11.7**	**-0.6**
KRMI				Sn	**Sn**	**12 04 30.9**	**-1.1**
MZDA	**Masada**	**1.67**	**329**	Pn	**Pn**	**12 04 16.0**	**+0.6**
BDAS	**Al Bad'**	**1.82**	**218**	P	**Pn**	**12 04 17.2**	**-0.2**

JMA 31 12:26:17.9±0.4, 2324N×12247E, h55km

TAP 31 12:26:18.3, 2339N×12240E, h16km±1km, ML3.0, C, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ESL	**Shilin**	**0.99**	**296**	*e*P	Pb	12 26 35.7	-1.3

baz=295

ESL				S	Sb	12 26 48.7	-1.1	

baz=295

CHKT	**Chengkung**	**1.00**	**254**	*e*P	Pb	12 26 35.9	-1.3	

baz=253

CHKT				*e*S	Sb	12 26 48.0	-2.0	

baz=253

EHY	**Hungye**	**1.00**	**277**	P	Pb	12 26 36.5	-0.8	

baz=277

EHY				*e*S	Sb	12 26 49.8	-0.4	

baz=277

TWD	**Chiawan**	**1.01**	**313**	P	Pb	12 26 36.5	-1.0	

baz=313

TWF1	**Yuli**	**1.02**	**268**	P	Pb	12 26 36.5	-1.1	

baz=255

TWF1				*e*S	Sb	12 26 50.5	-0.2	

baz=255

ENA	**Nanau**	**1.20**	**330**	*e*P	Pn	12 26 40.0	-0.4	

baz=315

ENA				*e*S	Sb	12 26 56.0	0.0	

baz=315

WHF	**Hehuan Shan**	**1.29**	**306**	P	Pn	12 26 41.2	-0.4	

baz=306

WHF				S	Sb	12 26 58.1	-0.4	

baz=306

TWC	**Suao**	**1.32**	**338**	*e*P	Pn	12 26 41.4	-0.7	

baz=337

TWC				S	Sn	12 26 59.1	-0.2	

baz=337

YUS	**Yu-Shan**	**1.34**	**275**	P	Pn	12 26 42.3	0.0	

baz=274

YUS				S	Sn	12 26 59.2	-0.5	

baz=274

TWG	**Pinlang**	**1.35**	**246**	P	Pn	12 26 41.3	-1.2	

baz=245

TWG				S	Sn	12 26 58.3	-1.7	

baz=245

NNS	**Nan Shan**	**1.41**	**318**	*e*P	Pn	12 26 43.1	-0.2	

baz=318

NNS				*e*S	Sn	12 27 01.2	-0.4	

baz=318

HATJ	**Hateruma jima**	**1.45**	**62**	P	Pn	12 26 42.5	-1.3	
HATJ				*e*S	Sn	12 27 00.7	-1.8	
SMLT	**Sun Moon Lake**	**1.47**	**290**	*e*P	Pn	12 26 44.3	+0.2	

baz=290

ALS	**Alishan**	**1.47**	**275**	P	Pn	12 26 44.7	+0.6	

baz=275

ALS				*e*S	Sn	12 27 03.7	+0.6	

baz=275

TWE	**Neicheng**	**1.49**	**333**	*e*P	Pn	12 26 44.1	-0.3	

baz=333

TYC	**Yuchr**	**1.51**	**290**	*e*P	Pn	12 26 46.0	+1.3	

baz=290

STYT	**Tauyuan**	**1.53**	**262**	*e*P	Pn	12 26 44.6	-0.4	

baz=261

STYT				*e*S	Sn	12 27 03.0	-1.5	

baz=261

IRIF	**Iriomote-Funau**	**1.54**	**52**	P	Pn	12 26 44.2	-0.9	
ECL	**Taimali**	**1.55**	**240**	*e*P	Pn	12 26 43.9	-1.4	

baz=255

ECL				*e*S	Sn	12 27 02.2	-2.8	

baz=255

LAY	**Lan-yu**	**1.56**	**211**	*e*P	Pn	12 26 42.5	-2.8	

baz=210

CHN5	**Tsauling**	**1.60**	**278**	P	Pn	12 26 47.1	+1.2	

baz=278

CHN5				*e*S	Sn	12 27 08.1	+1.9	

baz=278

NSK	**Sanguang**	**1.60**	**324**	*e*P	Pn	12 26 46.0	0.0	

baz=323

CHN4	**Tsaushan**	**1.66**	**269**	*e*P	Pn	12 26 48.7	+1.9	

baz=259

CHN4				*e*S	Sn	12 27 10.6	+2.8	

baz=259

JKRS	**Kuro-shima**	**1.70**	**60**	P	Pn	12 26 46.3	-1.0	
JKRS				*e*S	Sn	12 27 07.7	-1.0	
SGST	**Jiashian**	**1.70**	**260**	*e*P	Pn	12 26 47.8	+0.5	

baz=260

SGST				*e*S	Sn	12 27 11.4	+2.6	

baz=260

CHN1	**Nanshi**	**1.74**	**264**	*e*P	Pn	12 26 49.0	+1.2	

baz=264

CHN1				*e*S	Sn	12 27 11.5	+1.9	

baz=264

EAST	**Anshuo**	**1.75**	**235**	*e*P	Pn	12 26 46.5	-1.4	

baz=248

SSD	**Sandimen**	**1.75**	**249**	*e*P	Pn	12 26 48.6	+0.6	

baz=248

TWK	**Hsinying**	**1.76**	**267**	*e*P	Pn	12 26 50.1	+2.0	

baz=266

TWK				*e*S	Sn	12 27 12.2	+1.8	

baz=266

TWQ1	**Liyutan**	**1.77**	**303**	*e*P	Pn	12 26 50.1	+1.7	

baz=303

TWQ1				*e*S	Sn	12 27 13.4	+2.9	

baz=303

NSTT	**Nanjuang**	**1.78**	**314**	*e*P	Pn	12 26 50.1	+1.6	

baz=314

NSTT				*e*S	Sn	12 27 11.9	+1.1	

baz=314

JIJ	**Ishigaki jima**	**1.87**	**58**	P	Pn	12 26 48.5	-1.1	
JIJ				*e*S	Sn	12 27 10.5	-2.3	
JTJ	**Tarama**	**2.44**	**59**	*e*S	Sn	12 27 25.9	-1.2	

HLW 31 12:28:00.6, 3000N×3731E, h15km, Mb3.0
CSEM 31 12:28:08.6±0.7, 3002N×3629E, h10km, ML2.8, Error ellipse: s-maj=19.5km s-min=15.7km az=150.0
SGS 31 12:28:09.3, 3031N×3628E, h27km
ISCJB 31 12:28:10.4±1.1, 2988N±005×3622E±007, h0km, Error ellipse: s-maj=9.3km s-min=5.1km az=147.9
GII 31 12:28:11.6±1.4, 2984N×3614E, h0km, ML1.8/1, EXPLOSION

ISC 31 12:28:10.5±1.0, 2988N±005×3627E±006, h0km, n19, σ0s90/24, Western Arabian Peninsula

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AQBJ	**Aqaba**	**1.07**	**262**	Pg	**Pg**	**12 28 31.3**	**+0.3**
EIL	**Elat**	**1.16**	**260**	Pg	**Pg**	**12 28 32.3**	**-0.5**
PRNI	**Paran**	**1.19**	**294**	Pg	**Pg**	**12 28 33.1**	**-0.3**
PRNI				Sg	**Sg**	**12 28 51.0**	**+2.2**
HQLS		**1.20**	**241**	P	**Pg**	**12 28 32.6**	**-0.9**
HQLS		**1.20**	**241**	P	**Pg**	**12 28 32.6**	**-0.9**
HQLS				S	**Sg**	**12 28 49.7**	**+0.7**
JLOS		**1.32**	**211**	P	**Pg**	**12 28 35.2**	**-0.7**
KRMI	**Paran Flat**	**1.36**	**280**	Pg	**Pg**	**12 28 36.1**	**-0.5**
KRMI				Sg	**Sg**	**12 28 53.7**	**-0.5**
RMNI	**Mount Ramon**	**1.48**	**299**	Pn	**Pn**	**12 28 38.5**	**0.0**
HBST	**Basata**	**1.49**	**244**	P	**Pn**	**12 28 38.4**	**-0.2**
MZDA	**Masada**	**1.62**	**332**	Pn	**Pn**	**12 28 41.5**	**+1.0**
TBKS	**Tabuk**	**1.67**	**172**	S	**Sn**	**12 29 05.1**	**+2.0**
TBKS	**Tabuk**	**1.67**	**172**	P	**Pn**	**12 28 41.2**	**+0.2**
BDAS	**Al Bad'**	**1.77**	**216**	S	**Sn**	**12 29 06.2**	**+0.6**
BDAS	**Al Bad'**	**1.77**	**216**	P	**Pn**	**12 28 41.8**	**-0.6**
RSHS		**2.03**	**220**	P	**Pn**	**12 28 45.0**

Principal axes: T 1.3480, Plg65.0000°, Azm291.0000°; N 0.0210, Plg17.0000°, Azm63.0000°; P -1.3710, Plg17.0000°, Azm159.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.

*ISCJB **31** 13:44:19.4±0.1, 5143N±002×17837W±002, h35km, mb5.8/430, MS5.7/275 Error ellipse: s-maj=3.3km s-min=1.3km az=4.8*

*IDC **31** 13:44:20.4±1.5, 5148N×17833W, h34km±10km, mb5.1/27, mb1 5.2/29, mb1mx5.2/31, mbtmp5.1/29, ML3.8/1, MS5.6/29, Ms1 5.6/29, ms1mx5.4/38, Error ellipse: s-maj=15.4km s-min=9.0km az=159.0*

*BGS **31** 13:44:21.4±1.5, 5156N×17880W, h33km, mb5.7*

*DJA **31** 13:44:42, 5136N×179.17W, h190km, Mw5.9/31*

ISC 31 13:44:21.5±0.1, 5150N±002×17840W±002, h37km, h37km±2.3km:pP-P, n1640, σ0§78/1563, mb5.8/430, MS5.7/275, 429C-228D, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
							h m s	ISC
ADK	**Adak**	**1.14**	**69**	P		**Pn**	**13 44 40.2**	**-0.6**
ADK				S		**Sn**	**13 44 57.9**	**+2.8**
ADK	**Adak**	**1.14**	**69**	P		**Pn**	**13 44 40.3**	**-0.5**
ADK				S		**Sn**	**13 44 58.0**	**+2.9**
AMKA	**Amchitka**	**1.45**	**266**	P		**Pn**	**13 44 45.1**	**+0.1**
AMKA				S		**Sn**	**13 45 05.1**	**+2.3**
ATKA	**Atka Island**	**2.70**	**73**	P		**Pn**	**13 45 01.5**	**-0.8**
ATKA				S		**Sn**	**13 45 36.9**	**+3.2**
SMY	**Shemya**	**4.79**	**288**	P		**Pn**	**13 45 33.8**	**+2.8**
SMY				S		**Sn**	**13 46 32.0**	**+6.9**
FX1	**Attu Island--F**	**5.37**	**288**	P		**Pn**	**13 45 41.9**	**+2.9**
FX1				S		**Sn**	**13 46 46.3**	**+6.7**
NIKO	**Nikolski**	**6.05**	**72**	P		**Pn**	**13 45 49.6**	**+1.4**
NIKO				S		**Sn**	**13 46 58.0**	**+1.8**
OKCE	**Okmok Cone E**	**6.55**	**69**	P		**Pn**	**13 45 57.0**	**+1.9**
OKCD	**Okmok Cone D**	**6.58**	**69**	P		**Pn**	**13 45 58.2**	**+2.6**
SPIA	**Saint Paul Isl**	**7.42**	**37**	P		**Pn**	**13 46 12.4**	**+5.4**
UNV	**Unalaska Valle**	**7.61**	**67**	P		**Pn**	**13 46 11.6**	**+2.0**
AKGG	**Akutan Green G**	**7.98**	**65**	P		**Pn**	**13 46 17.8**	**+2.9**
AKUT	**Akutan**	**8.09**	**66**	P		**Pn**	**13 46 18.9**	**+2.6**
FALS	**False Pass**	**9.60**	**64**	P		**Pn**	**13 46 39.9**	**+2.9**
SDPT	**Sand Point** 352nm,0.5s	**11.36**	**63**	*e*Pn		**Pn**	**13 47 01.9**	**+0.9**
GAMB	**Gambell** 580nm,1.0s	**12.82**	**14**	*e*Pn		**Pn**	**13 47 24.0**	**+3.2**
PET	**Petropavlovsk**	**14.13**	**285**	⇑*i*P		**Pn**	**13 47 39.4**	**+0.6**
PET				*i* S		**Sn**	**13 50 20.2**	**+6.1**
PET	comp=Z,214nm,1.1s			pmax	pmax			
PET	comp=Z,5μm,17.1s			pmax	pmax			
PET	comp=N,3μm,12.2s			smax				
PET	comp=Z,30μm,19.0s			MLR	MLR			
PET	**Petropavlovsk**	**14.13**	**285**	⇓*i*P		**Pn**	**13 47 40.4**	**+1.6**
PEA0B	**Petropavlovsk-**	**14.70**	**286**	*e*P		**Pn**	**13 47 47.1**	**+0.6**
PETK	**Petropavlovsk-** comp=Z,0.4nm,0.3s,baz=87,slow=16,SNR=8.0	**14.70**	**286**	Pn		**Pn**	**13 47 46.7**	**+0.1**
PETK	baz=309,slow=25,SNR=3.2			Sn		**Sn**	**13 50 31.2**	**+3.3**
PETK	comp=Z,0.1nm,0.3s,baz=116,slow=16,SNR=2.5			ScP	ScP		13 56 27.5	0.0
TNA	**Tin City** comp=Z,354nm,1.2s	**15.09**	**17**	*e*P		**Pn**	**13 47 55.0**	**+3.4**
OHAK	**Old Harbor** comp=Z,24nm,0.3s	**15.67**	**59**	*e*P		**Pn**	**13 47 57.7**	**-1.5**
SVW2	**Sparrevohn**	**15.81**	**44**	*e*P		**Pn**	**13 48 04.4**	**+3.4**
SVW2				*e*ScP		ScP	13 56 28.8	-0.6
SKR	**Severo-Kuril's**	**16.01**	**277**	*e*P		**Pn**	**13 48 03.0**	**-0.7**
SKR				*e*S		**S**	**13 51 01.2**	**-11**
SKR	comp=N,2μm,4.0s			pmax	pmax			
SKR	comp=E,5μm,4.0s			pmax	pmax			
SKR	comp=Z,6μm,4.0s			pmax	pmax			
SKR	comp=N,220nm,1.0s			pmax	pmax			
SKR	comp=Z,310nm,1.0s			pmax	pmax			
SKR	comp=N,490nm,1.0s			smax				
SKR	comp=E,250nm,0.8s			smax				
SKR	comp=N,10μm,6.0s			smax				
SKR	comp=E,9μm,6.0s			smax				
SKR	comp=N,8μm,20.0s			MLR	MLR			
SKR	comp=E,15μm,20.0s			MLR	MLR			
SKR	comp=Z,19μm,20.0s			MLR	MLR			
SKR	comp=E,5μm,18.0s			MLR	MLR			
SKR	comp=Z,3μm,18.0s			MLR	MLR			
SKR	comp=N,11μm,16.0s			MLR	MLR			
KDAK	**Kodiak Island** comp=N,2μm,0.5s,SNR=18	**16.15**	**57**	Pn		**Pn**	**13 48 05.5**	**+0.1**
KDAK	**Kodiak Island** comp=N,12nm,0.3s,baz=264,slow=5.8,SNR=50	**16.15**	**57**	Pn		**Pn**	**13 48 02.0**	**-3.4**
KDAK	comp=N,2.9nm,0.3s,baz=175,slow=23,SNR=6.8			Sn		**Sn**	**13 51 02.9**	**-0.2**
KDAK	**Kodiak Island** comp=N,130nm,0.5s	**16.15**	**57**	*e*P		**Pn**	**13 48 03.3**	**-2.1**
SLKM	**Skilak Lake**	**18.02**	**49**	*e*P		**Pn**	**13 48 29.1**	**+0.4**
PPLA	**Purkeypile** comp=N,557nm,1.0s	**18.06**	**41**	*e*P		**Pn**	**13 48 32.1**	**+3.0**
BILL	**Bilibino**	**18.20**	**341**	*c i*P		**Pn**	**13 48 34.3**	**+3.5**
BILL	comp=Z,592nm,1.3s			pmax	pmax			
BILL	comp=Z,37μm,20.0s			MLR	MLR			
BILL	**Bilibino** comp=Z,652nm,1.1s	**18.20**	**341**	*e*P		**Pn**	**13 48 34.1**	**+3.2**
SEW	**Seward**	**18.28**	**51**	*e*P		**Pn**	**13 48 30.8**	**-1.0**
RC01	**Rabbit Creek A** comp=Z,190nm,0.9s	**18.43**	**48**	*e*P		**Pn**	**13 48 34.5**	**+0.8**
CHUM	**Lake Minchumin** comp=Z,164nm,0.7s	**18.48**	**38**	*e*P		**Pn**	**13 48 35.8**	**+1.5**
PMR	**Palmer**	**18.87**	**46**	*e*P		**Pn**	**13 48 37.5**	**-1.4**
PMR	comp=Z,255nm,1.9s			pmax	pmax			
PMR	**Palmer** comp=Z,255nm,1.9s	**18.87**	**46**	*e*P		**Pn**	**13 48 37.5**	**-1.4**
KTH	**Kantishna Hill** comp=Z,603nm,0.8s	**18.87**	**40**	*e*P		**Pn**	**13 48 39.6**	**+0.6**
TRF	**Thorofare Moun** comp=Z,106nm,1.0s	**19.08**	**40**	*e*P		**Pn**	**13 48 41.0**	**-0.5**
BPAW	**Bear Paw Mtn.** comp=Z,14nm,0.6s	**19.10**	**38**	*e*P		**Pn**	**13 48 42.1**	**+0.4**
IMA2	**Indian Mountai**	**19.22**	**31**	*e*P		**Pn**	**13 48 43.8**	**+0.7**
IMA2				*e*ScP		ScP	13 56 35.6	-0.8
SEY	**Seymchan**	**19.33**	**318**	⇑*i*P		**Pn**	**13 48 45.8**	**+1.4**
MCK	**McKinley**	**19.75**	**40**	*e*P		**Pn**	**13 48 47.8**	**-1.6**
MCK	comp=Z,282nm,0.9s			pmax	pmax			
MCK	**McKinley** comp=Z,282nm,0.9s	**19.75**	**40**	*e*P		**Pn**	**13 48 47.8**	**-1.7**
EYAK	**Cordova Ski Ar** comp=Z,494nm,0.9s	**20.17**	**51**	*e*P		**P**	**13 48 54.6**	**+2.3**
COLA	**College**	**20.66**	**38**	*i* P		**P**	**13 48 59.2**	**+1.5**
COLA	**College** comp=Z,305nm,0.8s	**20.66**	**38**	*e*P		**P**	**13 48 58.7**	**+1.0**
COLA				*e*ScP		ScP	13 56 38.2	-1.6
COLA	comp=Z,10μm,19.0s,MS5.2			LR	LR			
COLD	**Coldfoot** comp=Z,251nm,0.7s,mb5.7	**21.02**	**31**	*e*P		**P**	**13 49 02.9**	**+1.3**
MIDW	**Midway**	**23.26**	**178**	PFAKE			13 49 30.0	+4.3
MIDW	comp=Z,18μm,19.0s,MS5.5			LR	LR			
EGAK	**Eagle** comp=Z,335nm,0.9s,mb5.8	**23.30**	**41**	*e*P		**P**	**13 49 24.6**	**-1.1**
EGAK	comp=Z,25μm,20.0s,MS5.7			LR	LR			
DAWY	**Dawson**	**23.85**	**43**	*e*P		**P**	**13 49 30.0**	**-0.8**
HYT	**Haines Junctio**	**24.23**	**51**	*e*P		**P**	**13 49 34.4**	**+0.1**
YUK	**Yuzh-Kuril'sk**	**24.96**	**267**	⇑*i*P		**P**	**13 49 40.0**	**-1.2**
YUK				*e*PPP			13 50 35.7	
YUK				S		**S**	**13 54 04.0**	**+1.8**
YUK	comp=N,2μm,1.0s			pmax	pmax			
YUK	comp=E,6μm,1.0s			pmax	pmax			
YUK	comp=Z,10μm,1.0s			pmax	pmax			
YUK	comp=N,8μm,3.0s			smax				
YUK	comp=E,8μm,4.0s			smax				
YUK	comp=E,9μm,17.0s			MLR	MLR			
YUK	comp=Z,10μm,17.0s,MS5.4			MLR	MLR			
SIT	**Sitka**	**25.41**	**60**	PFAKE			13 50 00.0	+15
SIT	comp=Z,12μm,21.0s,MS5.4			LR	LR			
YSS	**Yuzh-Sakhalins**	**25.56**	**275**	*α i*P		**P**	**13 49 47.0**	**+0.4**
YSS				*e**SP		sP	13 49 58.0	-3.3
YSS				*e*			13 53 15.0	
YSS				*i* S		**S**	**13 54 12.0**	**+0.4**
YSS				*e*			13 54 32.0	
YSS				*e*SS			13 55 28.0	
YSS	comp=Z,880nm,1.1s,mb6.2			pmax	pmax			
YSS	comp=N,1μm,1.2s			pmax	pmax			
YSS	comp=E,540nm,1.2s			pmax	pmax			
YSS	comp=Z,6μm,8.0s			pmax	pmax			
YSS	comp=N,2μm,8.0s			smax				
YSS	comp=E,4μm,8.0s			smax				
YSS	comp=N,4μm,17.0s,MS5.2			MLR	MLR			
YSS	comp=Z,6μm,17.0s,MS5.2			MLR	MLR			
YSS	comp=E,5μm,18.0s,MS5.2			MLR	MLR			
YSS	**Yuzh-Sakhalins**	**25.56**	**275**	⇑*i*P		**P**	**13 49 48.1**	**+1.5**
JMP	**Maruseppu**	**26.54**	**269**	P		**P**	**13 49 56.6**	**+1.2**
ASAJ	**Asahikawa** comp=E,367nm,1.0s,mb5.9,baz=45,slow=5.0,SNR=52	**26.96**	**270**	P		**P**	**13 49 59.7**	**+0.5**
ASAJ	comp=E,8μm,19.5s,MS5.3,baz=81,slow=34			LR	LR		13 59 40.8	
ASAJ	**Asahikawa**	**26.96**	**270**	P		**P**	**13 50 00.1**	**+0.9**
ASAJ	**Asahikawa**	**26.96**	**270**	P		**P**	**13 49 59.7**	**+0.5**
ASAJ	comp=Z,367nm,1.0s			pmax	pmax			
ASAJ	comp=Z,8μm,19.5s			MLR	MLR			
WRAK	**Wrangell Islan**	**27.13**	**61**	PFAKE			13 50 10.0	+9.4
WRAK	comp=Z,12μm,22.0s,MS5.4			LR	LR			
INK	**Inuvik**	**27.22**	**35**	*e*P		**P**	**13 50 00.4**	**-1.0**
INK				*e*			13 53 20.0	
INK	**Inuvik** comp=Z,8μm,1.4s,mb7.0	**27.22**	**35**	*e*P		**P**	**13 50 00.4**	**-0.9**
INK				*e*PcP		PcP	13 53 20.0	-0.3
INK				*e*ScP		ScP	13 56 56.4	-1.2
JEM	**Erimo**	**27.71**	**265**	P		**P**	**13 50 06.4**	**+0.4**
ERM	**Erimo** comp=Z,648nm,1.2s,mb6.1,SNR=15	**27.71**	**265**	P		**P**	**13 50 07.9**	**+1.9**
ERM	**Erimo**	**27.71**	**265**	*i* P		**P**	**13 50 06.7**	**+0.7**
DLBC	**Dease Lake** comp=Z,6.7nm,1.0s,baz=266,slow=4.0,SNR=2.7	**28.09**	**57**	P		**P**	**13 50 10.0**	**+0.8**
JEW	**Eniwo**	**28.33**	**268**	P		**P**	**13 50 11.5**	**0.0**
JSH	**Shimam**	**29.31**	**269**	P		**P**	**13 50 21.0**	**+0.8**
JSH				*e*S		PcP	13 53 26.9	+0.9
JOT	**Ohata**	**29.37**	**266**	P		**P**	**13 50 20.8**	**0.0**
JOT				*e*S		PcP	13 53 27.6	+1.5
YAK	**Yakutsk**	**29.53**	**311**	*c i*P		**P**	**13 50 20.3**	**-1.7**
YAK				*e**PP		pP	13 50 29.5	-2.8
YAK				*e*PPP			13 51 23.5	
YAK				*e*			13 53 25.2	
YAK				*e*S		**S**	**13 55 08.2**	**-5.7**
YAK				*e*SSS			13 56 45.6	
YAK	comp=Z,22nm,1.4s,mb4.7			pmax	pmax			
YAK	comp=E,16nm,1.1s			pmax	pmax			
YAK	comp=N,602nm,15.4s			smax				
YAK	comp=E,4μm,13.8s			smax				
YAK	comp=Z,27μm,18.0s,MS5.9			MLR	MLR			
YAK	comp=E,19μm,19.0s,MS5.8			MLR	MLR			
YAK	comp=N,6μm,18.0s,MS5.8			MLR	MLR			
YAK	**Yakutsk**	**29.53**	**311**	⇑*i*P		**P**	**13 50 20.8**	**-1.2**
HABR	**Khabarovsk**	**29.69**	**283**	⇑*i*P		**P**	**13 50 24.7**	**+1.1**
HABR				*e*S		**S**	**13 55 19.8**	**+3.1**
HABR	comp=Z,575nm,1.7s,mb6.0			pmax	pmax			
HABR	comp=Z,14μm,19.0s,MS5.6			MLR	MLR			
JTM	**Tenmabayashi**	**29.70**	**265**	P		**P**	**13 50 23.8**	**+0.1**
JOM	**Ohasama**	**30.33**	**263**	P		**P**	**13 50 29.6**	**+0.4**
TIXI	**Tiksi**	**30.66**	**330**	*c i*P		**P**	**13 50 32.0**	**+0.1**
TIXI				*i*			13 53 27.9	
TIXI				*e*S		**S**	**13 55 28.8**	**-2.6**
TIXI	comp=Z,70nm,1.7s,mb5.2			pmax	pmax			
TIXI	comp=Z,27μm,15.0s,MS6.0			MLR	MLR			
TIXI	comp=E,13μm,13.0s,MS5.8			MLR	MLR			
TIXI	comp=N,8μm,13.0s,MS5.8			MLR	MLR			
TIXI	**Tiksi**	**30.66**	**330**	⇑*i*P		**P**	**13 50 32.3**	**+0.4**
KLR	**Kul'dur**	**31.39**	**286**	⇓*i*P		**P**	**13 50 35.3**	**-3.2**
KLR				*e*S		**S**	**13 55 38.0**	**-5.3**
KLR	comp=N,140nm,1.8s			pmax	pmax			
KLR	comp=E,780nm,1.8s			pmax	pmax			
KLR	comp=Z,2μm,1.8s,mb6.7			pmax	pmax			
KLR	comp=E,2μm,9.0s			pmax	pmax			
KLR	comp=Z,4μm,9.0s			MLR	MLR			
KLR	comp=Z,12μm,13.5s,MS5.8			MLR	MLR			
JMM	**Marumori**	**31.62**	**261**	P		**P**	**13 50 40.7**	**+0.1**
JYA	**Atsumi**	**31.84**	**263**	P		**P**	**13 50 42.9**	**+0.3**
JYA				*e*S		PcP	13 53 35.8	+3.1
CLNS	**Chul'man**	**32.79**	**302**	*c i*P		**P**	**13 50 49.8**	**-0.9**
CLNS				*e**PP		pP	13 50 59.5	-1.6
CLNS				*e*			13 51 59.1	
CLNS				*e*PPP			13 52 18.4	
CLNS	comp=Z,58nm,1.5s,mb5.3			pmax	pmax			
CLNS	comp=E,37nm,1.4s			pmax	pmax			
CLNS	comp=N,16nm,1.4s			pmax	pmax			
CLNS	comp=Z,58nm,1.4s,mb5.3			pmax	pmax			
CLNS	comp=N,39nm,1.5s			pmax	pmax			
CLNS	comp=E,36nm,1.6s			MLR	MLR			
CLNS	comp=Z,12μm,19.0s,MS5.6			MLR	MLR			
CLNS	comp=E,7μm,17.0s,MS5.7			MLR	MLR			
CLNS	comp=N,12μm,19.0s,MS5.7			MLR	MLR			
JYT	**Yasato**	**33.03**	**259**	P		**P**	**13 50 53.3**	**+0.2**
JSD	**Sado**	**33.08**	**263**	P		**P**	**13 50 53.8**	**+0.3**
JSD				*e*S		PcP	13 53 36.8	+0.7
KIP	**Kipapa**	**33.96**	**144**	*e*P		**P**	**13 51 00.9**	**-0.3**
KIP	comp=Z,104nm,0.8s,mb5.8			pmax	pmax			
KIP	comp=Z,17μm,21.0s,MS5.7			MLR	MLR			
KIP	**Kipapa** comp=Z,104nm,0.8s,mb5.8	**33.96**	**144**	*e*P		**P**	**13 51 00.9**	**-0.3**
KIP				LR	LR			
	comp=Z,17μm,21.0s,MS5.7							
JRY	**Ryogami san**	**33.96**	**260**	P		**P**	**13 51 02.0**	**+0.8**
JRY				*e*S		PcP	13 53 39.5	+0.9
MJAR	**Matsushiro Arr** comp=Z,55nm,0.8s,mb5.6,baz=51,slow=7.4,SNR=130	**34.05**	**261**	P		**P**	**13 51 02.5**	**+0.6**
MJAR	comp=Z,14nm,0.8s,baz=78,slow=1.7,SNR=9.0			PcP	PcP		13 53 38.1	-0.8
MJAR	comp=Z,0.9nm,1.0s,baz=133,slow=5.3,SNR=3.6			S		**S**	**13 56 25.7**	**+0.8**
MJAR	comp=Z,6.5nm,1.2s,baz=357,slow=2.1,SNR=6.3			ScP	ScP		13 57 20.1	-0.5
MJAR	comp=Z,13μm,21.8s,MS5.6,baz=65,slow=33			LR	LR		14 03 00.8	
MJAR	**Matsushiro Arr**	**34.05**	**261**	P		**P**	**13 51 02.5**	**+0.6**
MJAR							13 53 38.1	
MJAR				S		**S**	**13 56 25.7**	**+0.8**
MAJO	**Matsushiro**	**34.05**	**261**	*e*P		**P**	**13 51 02.2**	**+0.3**
MAJO	comp=Z,635nm,1.5s,mb6.3			pmax	pmax			
MAJO	comp=Z,16μm,22.0s,MS5.7			MLR	MLR			
MAJO	**Matsushiro** comp=Z,635nm,1.5s,mb6.3	**34.05**	**261**	*e*P		**P**	**13 51 02.2**	**+0.3**
MAJO				*e*ScP		ScP	13 57 19.8	-0.9
MAJO	comp=Z,16μm,22.0s,MS5.7			LR	LR			
MAT	**Matsushiro**	**34.05**	**261**	P		**P**	**13 51 02.0**	**+0.1**
MAT				S		**S**	**13 56 27.0**	**+2.1**
MAT	**Matsushiro**	**34.05**	**261**	P		**P**	**13 51 02.4**	**+0.5**
MAT				*e*S		PcP	13 53 39.2	+0.3
C03A	**Quillayute Air** baz=34	**34.33**	**74**	⇓P		**P**	**13 51 05.8**	**+1.6**
JOD2	**Odawara 2**	**34.34**	**259**	P		**P**	**13 51 04.7**	**+0.2**
JOD2				*e*S		PcP	13 53 39.3	-0.4
PGC	**Sidney** comp=Z,152nm,1.1s,mb5.8	**34.69**	**73**	*e*P		**P**	**13 51 07.3**	**0.0**
MDJ	**Mudanjiang**	**34.80**	**280**	P		**P**	**13 51 08.0**	**-0.3**
MDJ				PP	PP		13 52 30.5	+3.1
MDJ				S		**S**	**13 56 35.0**	**-1.3**
MDJ				XS		sS	13 56 52.5	-1.0
MDJ				SCP	ScP		13 57 24.3	+1.1
MDJ				PCS	PcS		13 57 28.0	+0.6
MDJ	comp=Z,116nm,0.9s,mb5.8			AMB	AMB			
MDJ	comp=Z,2μm,8.5s			AMB	AMB			
MDJ	comp=N,5μm,17.7s,MS5.5			LR	LR			
MDJ	comp=E,7μm,20.0s,MS5.5			LR	LR			
MDJ	comp=Z,10μm,17.7s,MS5.6			LR	LR			
MDJ	**Mudanjiang** comp=Z,113nm,0.9s,mb5.8	**34.80**	**280**	*e*P		**P**	**13 51 07.6**	**-0.7**
MDJ	comp=Z,10μm,20.0s,MS5.6			LR	LR			
B04A	**Port Angeles** baz=35,SNR=21	**34.92**	**74**	⇓P		**P**	**13 51 10.4**	**+1.1**
YKA	**Yellowknife Ar** comp=Z,14nm,0.6s,mb5.1,baz=271,slow=9.1,SNR=32	**34.97**	**47**	P		**P**	**13 51 08.6**	**-1.0**
YKA	comp=Z,29nm,0.8s,baz=288,slow=2.8,SNR=11			PcP	PcP		13 53 40.3	-0.7
YKA	comp=Z,3.6nm,0.9s,baz=145,slow=39,SNR=2.4			ScP	ScP		13 57 22.0	-1.4
YKA	comp=Z,2μm,19.2s,MS4.8,baz=180,slow=40			LR	LR		14 07 26.8	
YKA	**Yellowknife Ar**	**34.97**	**47**	*i* P		**P**	**13 51 10.1**	**+0.5**
YKA	comp=Z,14nm,0.6s			pmax	pmax			
A04A	**Legoe Bay, Lum** baz=35,SNR=20	**35.10**	**72**	⇑P		**P**	**13 51 11.5**	**+0.7**
D03A	**Wiskaah Elem.** baz=35	**35.19**	**75**	⇓P		**P**	**13 51 13.0**	**+1.4**
JGF	**Kuroka**	**35.19**	**261**	P		**P**	**13 51 12.5**	**+0.8**
A05A	**Maple Falls** baz=35,SNR=35	**35.34**	**71**	⇑P		**P**	**13 51 13.5**	**+0.6**
C04A	**Brinnon** baz=35,SNR=45	**35.39**	**74**	⇑P		**P**	**13 51 14.7**	**+1.3**
A06A	**Chilliwack** baz=36,SNR=17	**35.66**	**71**	⇑P		**P**	**13 51 16.2**	**+0.6**
B05A	**Bryant** baz=36,SNR=55	**35.66**	**72**	⇑P		**P**	**13 51 16.5**	**+0.8**
D04A	**Dobbs Creek Ra** baz=36	**35.77**	**75**	⇓P		**P**	**13 51 18.3**	**+1.7**
JCW	**Jim Creek**	**35.80**	**72**	*e*P		**P**	**13 51 17.5**	**+0.7**
BMW	**Boistfort Moun**	**35.82**	**76**	*e*P		**P**	**13 51 17.9**	**+0.9**
F03A	**Seaside** baz=36	**35.88**	**77**	⇑P		**P**	**13 51 18.5**	**+0.9**
B06A	**Marblemount** baz=36,SNR=16	**35.91**	**72**	⇓P		**P**	**13 51 18.2**	**+0.3**
RPW	**Rockport**	**35.93**	**72**	*e*P		**P**	**13 51 18.1**	**+0.1**
E04A	**Onalaska** baz=36,SNR=16	**36.07**	**75**	⇓P		**P**	**13 51 20.5**	**+1.3**
HEBO	**Mount Hebo** comp=Z,284nm,1.4s,mb6.0	**36.12**	**78**	*e*P		**P**	**13 51 20.1**	**+0.5**
C05A	**Tolt Reservoir** baz=36,SNR=29	**36.17**	**73**	⇑P		**P**	**13 51 20.7**	**+0.7**
D05A	**Enumclaw** baz=36,SNR=43	**36.23**	**74**	⇑P		**P**	**13 51 21.7**	**+1.2**
H02A	**Toledo** baz=36	**36.24**	**79**	⇑P		**P**	**13 51 22.1**	**+1.4**
A07A	**Ashnola River,** baz=36,SNR=138	**36.33**	**70**	⇑P		**P**	**13 51 21.9**	**+0.6**
G03A	**Yamhill** baz=36,SNR=15	**36.36**	**78**	⇑P		**P**	**13 51 22.7**	**+1.0**
JIE	**Ise**	**36.38**	**260**	P		**P**	**13 51 23.2**	**+1.2**
POHA	**Pohakuloa** comp=Z,134nm,0.8s,mb5.9	**36.41**	**142**	*e*P		**P**	**13 51 20.0**	**-2.3**
POHA	comp=Z,16μm,20.0s,MS5.8			LR	LR			
C06A	**Tall Timber Ra** baz=36,SNR=17	**36.54**	**72**	⇑P		**P**	**13 51 24.0**	**+0.8**
F04A	**Amboy** baz=36,SNR=33	**36.57**	**76**	⇓P		**P**	**13 51 24.2**	**+0.7**
JWT	**Wachi**	**36.60**	**262**	P		**P**	**13 51 24.4**	**+0.5**
E05A	**Randle** baz=37,SNR=28	**36.66**	**75**	⇑P		**P**	**13 51 24.9**	**+0.7**
H03A	**Soap Creek Ran** baz=37,SNR=14	**36.67**	**78**	⇑P		**P**	**13 51 25.4**	**+1.0**
I02A	**Mapleton** baz=37,SNR=7.3	**36.69**	**80**	⇓P		**P**	**13 51 25.0**	**+0.5**
COR	**Corvallis**	**36.71**	**79**	*e*P		**P**	**13 51 25.2**	**+0.5**
COR	comp=Z,107nm,0.8s,mb5.7			pmax	pmax			
COR	comp=Z,13μm,22.0s,MS5.7			MLR	MLR			
COR	**Corvallis** comp=Z,108nm,0.8s,mb5.7	**36.71**	**79**	*e*P		**P**	**13 51 25.2**	**+0.5**
COR	comp=Z,13μm,22.0s,MS5.7			LR	LR			
B07A	**Winthrop** baz=37,SNR=76	**36.75**	**71**	⇓P		**P**	**13 51 25.5**	**+0.6**
G04A	**Mulino** baz=37,SNR=18	**36.90**	**77**	⇓P		**P**	**13 51 26.9**	**+0.7**
D06A	**Cle Elum** baz=37,SNR=33	**36.91**	**73**	⇑P		**P**	**13 51 26.9**	**+0.5**
K01A	**Sixes** baz=37	**36.93**	**82**	⇓P		**P**	**13 51 28.7**	**+2.1**
KEBM	**Edson Butte**	**36.98**	**82**	*e*P		**P**	**13 51 27.7**	**+0.7**
ETW	**Entiat**	**37.02**	**73**	*e*P		**P**	**13 51 27.6**	**+0.4**
A08A	**Turner Farm, O** baz=37,SNR=63	**37.02**	**70**	⇓P		**P**	**13 51 28.0**	**+0.7**
I03A	**Eugene** baz=37,SNR=22	**37.05**	**79**	⇓P		**P**	**13 51 28.4**	**+0.9**
C07A	**Waterville** baz=37,SNR=54	**37.14**	**72**	⇓P		**P**	**13 51 28.6**	**+0.3**
E06A	**Yakima** baz=37,SNR=64	**37.14**	**74**	⇑P		**P**	**13 51 29.4**	**+1.0**
F05A	**White Salmon** baz=37,SNR=17	**37.18**	**76**	⇓P		**P**	**13 51 29.3**	**+0.7**
J02A	**Umpqua** baz=37,SNR=28	**37.19**	**80**	⇑P		**P**	**13 51 29.5**	**+0.8**
B08A	**Colville Reser** baz=37,SNR=81	**37.26**	**71**	⇓P		**P**	**13 51 29.6**	**+0.3**
HOOD	**Mount Hood Mea** comp=Z,507nm,1.3s,mb6.2	**37.34**	**77**	*e*P		**P**	**13 51 29.9**	**-0.1**
H04A	**Detroit Lake** baz=37,SNR=25	**37.35**	**78**	⇓P		**P**	**13 51 30.7**	**+0.6**
KBO	**Bosley Butte**	**37.41**	**83**	*e*P		**P**	**13 51 32.5**	**+1.9**
A09A	**Danville** baz=37,SNR=76	**37.42**	**70**	⇑P		**P**	**13 51 31.2**	**+0.6**
D07A	**Quincy** baz=37,SNR=20	**37.43**	**73**	⇓P		**P**	**13 51 30.9**	**+0.2**
K02A	**Glendale** baz=37,SNR=17	**37.56**	**81**	⇓P		**P**	**13 51 33.3**	**+1.4**
JWZ	**Kozaga**	**37.57**	**260**	P		**P**	**13 51 32.8**	**+0.7**
G05A	**Wamic**	**37.59**	**76**	⇑P		**P**	**13 51 33.4**	**+1.3**

baz=38,SNR=42
JAD **Aida** 37.59 263 P P 13 51 32.7 +0.5
F06A **Goldendale** 37.65 75 ⇑P P 13 51 33.3 +0.6
baz=38,SNR=30
I04A **Tendick Farm,** 37.67 79 ⇓P P 13 51 33.6 +0.8
baz=38,SNR=100
M01C **Crescent City** 37.67 83 ⇓P P 13 51 33.6 +0.7
baz=38
C08A **Higginbotham F** 37.70 72 ⇓P P 13 51 33.3 +0.3
baz=38,SNR=30
CN2 **Changchun** 37.77 281 eP P 13 51 33.5 -0.2
CN2 eXP sP 13 51 47.3 -1.3
CN2 PP PP 13 53 02.5 +2.3
CN2 eS S 13 57 20.5 -1.2
CN2 AMB AMB
comp=Z,150nm,1.3s,mb5.6
CN2 AMB AMB
comp=Z,2µm,10.0s
CN2 LR LR
comp=Z,8µm,26.0s,MS5.4
E07A **Sunnyside** 37.81 74 ⇓P P 13 51 34.6 +0.6
baz=38,SNR=28
L02A **Cave Junction** 37.83 82 ⇑P P 13 51 35.0 +0.9
baz=38,SNR=14
B09A **Rice** 37.93 70 ⇓P P 13 51 35.0 0.0
baz=38,SNR=65
H05A **Madras** 37.95 77 ⇑P P 13 51 35.8 +0.6
baz=38,SNR=21
HUMO **Hull Mountain** 37.98 81 ⇓P P 13 51 36.3 +0.9
baz=38,SNR=38
HUMO **Hull Mountain** 37.98 81 eP P 13 51 36.0 +0.6
comp=Z,83nm,1.1s,mb5.4
HUMO LR LR
comp=Z,14µm,21.0s,MS5.7
KRMB **Red Mountain** 37.99 83 eP P 13 51 35.7 +0.2
G06A **Carlson Farm,** 38.01 76 ⇓P P 13 51 35.9 +0.3
baz=38,SNR=30
A10A **Northport** 38.01 69 ⇓P P 13 51 36.1 +0.4
baz=38,SNR=48
RSW **Rattlesnake Hi** 38.05 74 eP P 13 51 36.3 +0.3
HAWA **Hanford** 38.09 74 eP P 13 51 36.6 +0.3
comp=Z,212nm,0.9s,mb5.9
HAWA LR LR
comp=Z,9µm,22.0s,MS5.5
OD2 **Odessa Site #2** 38.09 72 eP P 13 51 35.8 -0.5
F07A **Phinny Hill Vi** 38.10 75 ⇑P P 13 51 37.1 +0.6
baz=38,SNR=14
BOD **Bodaibo** 38.11 307 eP P 13 51 34.9 -1.5
BOD e 13 57 24.8
BOD pmax pmax
comp=Z,70nm,1.7s,mb5.1
D08A **Wollman Farm,** 38.13 73 ⇑P P 13 51 36.6 0.0
baz=38,SNR=33
C09A **Chrisman Ranch** 38.15 71 ⇓P P 13 51 36.9 0.0
baz=38,SNR=37
I05A **Bend** 38.18 78 ⇑P P 13 51 37.9 +0.7
baz=38,SNR=18
JHS **Saijyo** 38.20 264 P P 13 51 38.2 +0.8
JHS eS PcP 13 53 52.6 +1.3
JCC **Jacoby Creek** 38.31 84 ⇓P P 13 51 39.1 +0.8
baz=38
E08A **Dider Farm, El** 38.32 73 ⇑P P 13 51 38.6 +0.3
baz=38,SNR=34
H06A **Lindquist Farm** 38.45 77 ⇑P P 13 51 39.7 +0.4
baz=38,SNR=38
HIA **Hailar** 38.48 292 eP P 13 51 39.3 -0.3
HIA e 13 53 52.5
HIA pmax pmax
comp=Z,979nm,1.6s
HIA MLR MLR
comp=Z,23µm,20.0s
HIA **Hailar** 38.48 292 eP P 13 51 39.3 -0.3
comp=Z,979nm,1.6s,mb6.3
HIA ePcP PcP 13 53 52.5 +0.6
HIA LR LR
comp=Z,23µm,20.0s,MS6.0
D09A **Jones Farm, Ri** 38.49 72 ⇑P P 13 51 39.6 -0.1
baz=38,SNR=23
B10A **Chitwood Farm,** 38.53 70 ⇓P P 13 51 40.0 0.0
baz=38,SNR=10
EDM **Edmonton** 38.54 61 eP P 13 51 38.7 -1.3
JMN **Monobe** 38.57 262 P P 13 51 41.4 +0.9
G07A **Ruggs Ranch, H** 38.58 75 ⇑P P 13 51 40.9 +0.5
baz=38,SNR=29
NEW **Newport** 38.61 70 eP P 13 51 40.4 -0.3
NEW pmax pmax
comp=Z,134nm,0.8s
NEW MLR MLR
comp=Z,8µm,22.0s
NEW **Newport** 38.61 70 eP P 13 51 40.4 -0.3
comp=Z,134nm,0.8s,mb5.7
NEW LR LR
comp=Z,8µm,22.0s,MS5.5
YBH **Yreka Blue Hor** 38.62 82 eP P 13 51 41.9 +1.1
YBH pmax pmax
comp=Z,72nm,0.8s
YBH MLR MLR
comp=Z,10µm,22.0s
YBH **Yreka Blue Hor** 38.62 82 ⇑P P 13 51 41.9 +1.1
baz=38,SNR=35
YBH **Yreka Blue Hor** 38.62 82 eP P 13 51 41.9 +1.1
comp=Z,72nm,0.8s,mb5.5
YBH LR LR
comp=Z,10µm,22.0s,MS5.6
J05A **Fort Rock** 38.67 79 ⇓P P 13 51 42.2 +1.0
baz=39,SNR=86
C10A **Spilker Farm,** 38.71 71 ⇑P P 13 51 41.2 -0.4
baz=39,SNR=14
M02C **Callahan** 38.72 83 ⇓P P 13 51 42.6 +1.0
baz=39,SNR=19
A11A **Hall Mountain,** 38.72 69 ⇑P P 13 51 42.1 +0.5
baz=39,SNR=86
N02C **Big Bar** 38.76 84 ⇑P P 13 51 43.0 +1.0
baz=39,SNR=26
O01C **Eel River Cons** 38.84 85 ⇑P P 13 51 43.2 +0.5
baz=39
F08A **Pendleton** 38.84 74 ⇓P P 13 51 43.0 +0.4
baz=39,SNR=32
I06A **Prineville** 38.94 78 ⇓P P 13 51 44.1 +0.6
baz=39,SNR=29
B11A **Sandpoint** 38.97 69 ⇑P P 13 51 43.8 +0.1
baz=39,SNR=39
H07A **Lands Inn, Kim** 38.99 76 ⇑P P 13 51 44.3 +0.4
baz=39,SNR=32
G08A **Pilot Rock** 38.99 75 ⇓P P 13 51 43.8 -0.1
baz=39,SNR=44
LNOR **Lincton Mounta** 39.10 74 eP P 13 51 44.4 -0.4
D10A **Wagner Farm, O** 39.11 72 ⇑P P 13 51 44.6 -0.2
baz=39,SNR=85
A12A **Yaak River Ran** 39.15 68 ⇑P P 13 51 45.3 +0.1
baz=39,SNR=23
K05A **Summer Lake** 39.18 80 ⇓P P 13 51 46.9 +1.4
baz=39,SNR=85
M03C **McCloud** 39.24 82 ⇓P P 13 51 46.4 +0.4
baz=39,SNR=13
KIPM **Iron Peak** 39.24 85 eP P 13 51 47.5 +1.4
KCPM **Cahto Peak** 39.25 85 eP P 13 51 46.6 +0.5
I07A **Izee** 39.30 77 ⇑P P 13 51 47.1 +0.6
baz=39,SNR=110
J06A **Christmas Vall** 39.35 78 ⇑P P 13 51 47.9 +1.0
baz=39,SNR=66
WDC **Whiskeytown Da** 39.38 84 eP P 13 51 47.0 -0.2
WDC pmax pmax
comp=Z,86nm,1.1s,mb5.4
WDC MLR MLR
comp=Z,4µm,19.0s,MS5.3
WDC **Whiskeytown Da** 39.38 84 ⇓P P 13 51 47.8 +0.6
baz=39,SNR=28
WDC **Whiskeytown Da** 39.38 84 eP P 13 51 47.0 -0.1
comp=Z,86nm,1.1s,mb5.4
WDC LR LR
comp=Z,4µm,19.0s,MS5.3
B12A **Libby** 39.41 69 ⇑P P 13 51 47.8 +0.5
baz=39,SNR=18
F09A **S2 Ranch, Elgi** 39.41 74 ⇑P P 13 51 47.8 +0.4
baz=39,SNR=37
E10A **Myers Farm, Un** 39.49 72 ⇑P P 13 51 47.9 -0.1
baz=39,SNR=57
RES **Resolute Bay** 39.53 25 eP P 13 51 47.7 -0.4
comp=Z,3µm,1.4s,mb6.8
K06A **Valley Falls** 39.54 79 ⇓P P 13 51 49.2 +0.7
baz=39,SNR=74
H08A **Prairie City** 39.57 76 ⇓P P 13 51 49.1 +0.4
baz=40,SNR=28
D11A **Klaveano Farm,** 39.67 71 ⇑P P 13 51 48.9 -0.6
baz=40,SNR=28
F10A **Beach Ranch, E** 39.68 73 ⇑P P 13 51 49.9 +0.2
baz=40,SNR=47
G09A **Cove** 39.71 74 ⇑P P 13 51 49.9 0.0
baz=40,SNR=35
J07A **Hines** 39.80 78 ⇓P P 13 51 51.3 +0.6
baz=40,SNR=15
GASB **Alder Springs** 39.81 85 ⇓P P 13 51 51.8 +1.0
baz=40,SNR=9.5
C12B **Nagegli Ranch,** 39.84 70 ⇓P P 13 51 51.0 0.0
baz=40,SNR=48
KSRS **Korea Array** 39.89 271 P P 13 51 51.9 +0.4
comp=Z,53nm,0.8s,mb5.3,baz=59,slow=7.9,SNR=103
KSRS ScP ScP 13 57 42.7 +0.3
comp=Z,1.0nm,0.7s,baz=63,slow=4.5,SNR=2.5
KSRS LR LR 14 07 30.9
comp=Z,4µm,20.4s,MS5.2,baz=56,slow=35
I08A **Drewsey** 39.96 77 ⇓P P 13 51 52.0 0.0
baz=40,SNR=60
HOPS **Hopland** 39.98 86 ⇑P P 13 51 52.4 +0.2
baz=40,SNR=5.5
HOPS **Hopland** 39.98 86 eP P 13 51 54.0 +1.8
comp=Z,164nm,1.2s,mb5.6
HOPS LR LR
comp=Z,12µm,22.0s,MS5.7
MOD **Modoc** 40.01 80 ⇑P P 13 51 52.0 -0.4
baz=40,SNR=68
MOD **Modoc** 40.01 80 eP P 13 51 52.9 +0.5
comp=Z,77nm,0.8s,mb5.5
MOD LR LR
comp=Z,12µm,21.0s,MS5.7
SNY **Shenyang** 40.01 280 ⇑P P 13 51 53.3 +0.9
SNY PP PP 13 53 25.5 +0.9
SNY AMB AMB
comp=Z,502nm,1.5s,mb6.0
SNY LR LR
comp=N,7µm,22.2s,MS5.5
SNY LR LR
comp=E,5µm,21.6s,MS5.5
SNY LR LR
comp=Z,10µm,21.6s,MS5.6
E11A **Bogner Ranch,** 40.09 72 ⇑P P 13 51 52.5 -0.6
baz=40,SNR=37
WALA **Waterton Lakes** 40.09 67 eP P 13 51 52.8 -0.3
comp=Z,210nm,1.4s,mb5.7
G10A **Bishop Farm, J** 40.10 74 ⇑P P 13 51 53.2 +0.1
baz=40,SNR=88
H09A **Durkee** 40.10 75 ⇑P P 13 51 53.3 +0.1
baz=40,SNR=32
B13A **Whitefish** 40.10 68 ⇓P P 13 51 52.9 -0.2
baz=40,SNR=40
K07A **Rock Creek Ran** 40.21 79 ⇑P P 13 51 54.7 +0.6
baz=40,SNR=95
BMO **Blue Mountains** 40.22 75 eP P 13 51 54.0 -0.1
comp=Z,60nm,1.0s,mb5.3
BMO LR LR
comp=Z,12µm,22.0s,MS5.7
D12A **Red Ives Fores** 40.24 71 ⇑P P 13 51 53.6 -0.7
baz=40
J08A **Circle Bar Ran** 40.32 77 ⇑P P 13 51 55.4 +0.5
baz=40,SNR=58
F11A **Grangeville** 40.37 73 ⇓P P 13 51 54.9 -0.4
baz=40,SNR=15
C13A **Hot Springs** 40.39 69 ⇓P P 13 51 55.9 +0.4
baz=40,SNR=69
A14A **Doe T Ranch** 40.42 67 ⇑P P 13 51 55.3 -0.4
baz=40,SNR=72
I09A **Lost Marbles R** 40.43 76 ⇑P P 13 51 55.9 0.0
baz=40,SNR=16
O04C **Chester** 40.43 83 ⇓P P 13 51 56.3 +0.3
baz=40,SNR=22
MNRC **McLaughlin Nat** 40.44 86 ⇑P P 13 51 56.4 +0.4
baz=40
E12A **Beaver Dam Sad** 40.44 72 ⇓P P 13 51 55.6 -0.4
baz=40,SNR=113
L07A **Adell** 40.53 80 ⇑P P 13 51 57.2 +0.5
baz=40,SNR=57
G11A **Walters Elk Ra** 40.55 73 ⇑P P 13 51 56.9 0.0
baz=40,SNR=50
MCCM **Marconi Confer** 40.61 87 ⇓P P 13 51 57.3 -0.1
baz=40
MCCM **Marconi Confer** 40.61 87 eP P 13 51 58.1 +0.6
comp=Z,158nm,1.4s,mb5.5
MCCM LR LR
comp=Z,6µm,21.0s,MS5.4
ORV **Oroville** 40.62 84 ⇓P P 13 51 56.8 -0.8
baz=40,SNR=34
K08A **Mann Creek Ran** 40.66 78 ⇑P P 13 51 58.4 +0.6
baz=40,SNR=64
INCN **Inchon** 40.68 272 eP P 13 51 58.8 +0.8
comp=Z,538nm,1.4s,mb6.0
INCN LR LR
comp=Z,3µm,20.0s,MS5.2
H10A **Noah's Angus R** 40.70 75 ⇑P P 13 51 58.1 0.0
baz=41,SNR=72
CIT **Chita** 40.71 299 eP P 13 51 58.4 +0.3
CIT e pP 13 52 07.5 -1.2
CIT e 13 53 36.6
CIT e 13 54 01.3
CIT pmax pmax
comp=Z,543nm,2.0s,mb5.8
WVOR **Wild Horse Val** 40.73 79 eP P 13 51 58.6 +0.2
WVOR pmax pmax
comp=Z,98nm,0.8s,mb5.5
WVOR MLR MLR
comp=Z,11µm,22.0s,MS5.7
WVOR **Wild Horse Val** 40.73 79 eP P 13 51 58.6 +0.2
comp=Z,98nm,0.8s,mb5.5
WVOR LR LR
comp=Z,11µm,22.0s,MS5.7
O05C **Quincy** 40.74 83 ⇓P P 13 51 58.8 +0.2
baz=41,SNR=15
D13A **Huson** 40.75 70 ⇑P P 13 51 58.0 -0.5
baz=41,SNR=38
CVS **Carmenet Viney** 40.75 86 ⇓P P 13 51 58.0 -0.6
baz=41,SNR=5.6
J09A **Fry Pan Ranch,** 40.76 77 ⇑P P 13 51 59.2 +0.6
baz=41,SNR=47
OHCM **Honcut** 40.76 84 eP P 13 51 57.9 -0.8
B14A **Marquette Ranc** 40.80 68 ⇓P P 13 51 58.8 -0.1
baz=41,SNR=34
FARB **Farallon Islan** 40.81 87 ⇑P P 13 51 59.2 +0.1
baz=41
A15A **Joson Ranch,** 40.81 67 ⇑P P 13 51 58.0 -1.0
baz=41,SNR=33
C14A **Swan Lake** 40.83 69 ⇓P P 13 51 59.1 0.0
baz=41
JTU **Tsushima** 40.83 266 P P 13 51 59.4 +0.1
JTU eS PcP 13 53 59.8 +0.2
Q03C **Winters** 40.85 86 ⇑P P 13 52 00.2 +0.7
baz=41
I10A **Payette** 40.94 75 ⇓P P 13 52 00.9 +0.8
baz=41,SNR=12
N06A **Buffalo Meadow** 40.96 81 ⇓P P 13 52 00.9 +0.6
baz=41,SNR=67
F12A **Elk City** 40.97 72 ⇓P P 13 52 00.4 +0.1
baz=41,SNR=119
L08A **Fields** 41.05 79 ⇑P P 13 52 01.3 +0.3
baz=41,SNR=95
H11A **Donnelly** 41.08 74 ⇑P P 13 52 00.9 -0.3
baz=41,SNR=25
K09A **Rome** 41.14 78 ⇓P P 13 52 01.8 +0.1
baz=41,SNR=30
BEKR **Beckwourth** 41.15 83 ⇑P P 13 52 02.1 +0.2
baz=41,SNR=24
MSO **Missoula** 41.19 70 eP P 13 52 01.7 -0.5
comp=Z,75nm,0.9s,mb5.3
MSO LR LR
comp=Z,3µm,19.0s,MS5.2
B15A **Bradely Ranch,** 41.24 68 ⇓P P 13 52 02.0 -0.5
baz=41,SNR=63
E13A **Victor** 41.24 71 ⇓P P 13 52 02.3 -0.3
baz=41,SNR=41
O06A **Flanigan** 41.30 82 ⇑P P 13 52 03.4 +0.3
baz=41,SNR=33
D14A **Greenough** 41.31 70 ⇑P P 13 52 02.6 -0.5
baz=41,SNR=136
J10A **Berg Farm, Mel** 41.32 76 ⇓P P 13 52 03.3 +0.1
baz=41
BDM **Black Diamond** 41.36 86 ⇓P P 13 52 04.0 +0.4
baz=41
M08A **Happy Creek Ra** 41.45 80 ⇑P P 13 52 05.1 +0.8
baz=41,SNR=47
JRSC **Jasper Ridge** 41.47 87 ⇑P P 13 52 04.7 +0.2
baz=41
N07B **Gerlach** 41.47 81 ⇓P P 13 52 05.2 +0.7
baz=41,SNR=58
A16A **West Butte Ran** 41.48 66 ⇓P P 13 52 03.4 -1.0
baz=41,SNR=17
C15A **Salmond Ranch,** 41.48 68 ⇑P P 13 52 04.7 +0.2
baz=41,SNR=118
F13A **Darby** 41.50 72 ⇓P P 13 52 04.9 +0.2
baz=41,SNR=59
I11A **Placerville** 41.54 75 ⇑P P 13 52 04.9 -0.2
baz=41,SNR=39
P06A **Stead Airport,** 41.55 83 ⇑P P 13 52 05.2 +0.1
baz=41,SNR=12
CHMT **Chamberlain Mo** 41.55 70 eP P 13 52 04.4 -0.6
L09A **Wilkinson Ranc** 41.56 78 ⇓P P 13 52 05.3 +0.1
baz=41,SNR=28
LAVA **Lava Cap Winer** 41.58 85 ⇓P P 13 52 05.2 -0.2
baz=42,SNR=26
K10A **MacKenzie Ranc** 41.62 77 ⇑P P 13 52 05.9 +0.2
baz=42,SNR=72
WENL **Wente Vineyard** 41.63 87 ⇑P P 13 52 06.0 +0.1
baz=42
E14A **Clinton** 41.67 70 ⇑P P 13 52 06.0 0.0
baz=42,SNR=37
B16A **M & M Farms, S** 41.68 67 ⇑P P 13 52 05.2 -0.9
baz=42,SNR=9.7
R04C **Big Horse Ranc** 41.76 85 ⇑P P 13 52 06.2 -0.6
baz=42
PAHR **Pah Rah Range** 41.85 82 eP P 13 52 07.6 0.0
comp=Z,104nm,1.0s,mb5.4
H12A **Diamond D Ranc** 41.86 74 ⇓P P 13 52 07.4 -0.2
baz=42,SNR=34
WCN **Washoe City** 41.86 83 ⇑P P 13 52 07.9 +0.2
baz=42,SNR=30
MFID **Camas Ranch** 41.90 76 ⇓P P 13 52 08.1 +0.2
baz=42,SNR=31
D15A **Lincoln** 41.91 69 ⇓P P 13 52 07.4 -0.7
baz=42,SNR=71
G13A **Cobalt** 41.93 73 ⇑P P 13 52 08.4 +0.2
baz=42,SNR=117
N08A **GE Springer Mi** 41.99 80 ⇑P P 13 52 08.8 +0.1
baz=42,SNR=38
M09A **Marrel Ranch,** 42.03 79 ⇑P P 13 52 09.7 +0.6
baz=42,SNR=24
F14A **Wisdom** 42.06 71 ⇑P P 13 52 09.3 +0.1
baz=42,SNR=55
I12A **Atlanta** 42.10 75 ⇑P P 13 52 09.8 +0.2
baz=42,SNR=90
K11A **Parker Ranch,** 42.13 77 ⇑P P 13 52 10.4 +0.6
baz=42,SNR=62
CMB **Columbia Colle** 42.23 85 eP P 13 52 10.6 -0.2
CMB pmax pmax
comp=Z,71nm,1.1s,mb5.2
CMB MLR MLR
comp=Z,11µm,22.0s,MS5.7
CMB **Columbia Colle** 42.23 85 ⇑P P 13 52 11.0 +0.2
baz=42,SNR=28
CMB **Columbia Colle** 42.23 85 eP P 13 52 10.6 -0.1
comp=Z,71nm,1.1s,mb5.2
CMB LR LR
comp=Z,11µm,22.0s,MS5.7
P07A **Fallon** 42.25 82 ⇑P P 13 52 11.0 +0.1
baz=42
L10A **Juniper Basin** 42.26 78 ⇓P P 13 52 10.9 0.0
baz=42,SNR=60
O08A **Rochester Mine** 42.26 81 ⇓P P 13 52 11.4 +0.5
baz=42,SNR=58
PACP **Pacheco Peak** 42.31 87 ⇓P P 13 52 11.6 +0.2
baz=42,SNR=5.4
G14A **Jackson** 42.31 72 ⇓P P 13 52 11.3 0.0
baz=42,SNR=45
N09A **Rock Creek Ran** 42.32 80 ⇓P P 13 52 11.5 +0.1
baz=42,SNR=44
SAO **San Andreas Ge** 42.36 87 P P 13 52 13.7 +1.9
SAO pmax pmax
comp=Z,53nm,1.0s,mb5.1
SAO MLR MLR
comp=Z,4µm,19.0s,MS5.3
SAO **San Andreas Ge** 42.36 87 P P 13 52 13.7 +1.9
comp=Z,53nm,1.0s,mb5.1
SAO LR LR
comp=Z,4µm,19.0s,MS5.3
J12A **Stokes Ranch,** 42.43 75 ⇓P P 13 52 12.9 +0.6
baz=42,SNR=66
ALE **Alert** 42.47 10 P P 13 52 12.6 +0.4
comp=Z,220nm,1.0s,mb5.7,SNR=9.6
D16A **Dana Ranch, Ca** 42.48 69 ⇑P P 13 52 12.4 -0.3
baz=42,SNR=26
HRY **Holter Researc** 42.49 69 eP P 13 52 12.3 -0.4
R06C **Coleville** 42.52 84 ⇑P P 13 52 13.3 +0.2
baz=42,SNR=28
M10A **I.L. Ranch, Tu** 42.53 78 ⇑P P 13 52 13.9 +0.7
baz=42,SNR=46
F15A **Butte** 42.56 71 ⇑P P 13 52 12.8 -0.5
baz=42,SNR=30
C17A **Wharram Farm,** 42.63 67 ⇓P P 13 52 13.2 -0.7
baz=42,SNR=54
L11A **Cat Creek Ranc** 42.64 77 ⇓P P 13 52 14.2 +0.2
baz=42,SNR=82
I13A **Wildhorse Cree** 42.65 74 ⇑P P 13 52 14.5 +0.4
baz=42,SNR=72
P08A **Dixie Valley** 42.66 82 ⇓P P 13 52 14.8 +0.6
baz=42
Q07A **Schurz** 42.66 83 ⇓P P 13 52 14.2 0.0
baz=42
HLID **Hailey** 42.67 75 ⇑P P 13 52 14.4 +0.2
baz=42,SNR=58
HLID **Hailey** 42.67 75 eP P 13 52 14.3 +0.1
comp=Z,241nm,1.4s,mb5.7
HLID LR LR
comp=Z,11µm,22.0s,MS5.7
E16A **East Helena** 42.67 69 ⇓P P 13 52 14.1 -0.2
baz=42,SNR=71
S05C **Merced** 42.70 86 ⇓P P 13 52 13.7 -0.8
baz=43,SNR=11
H14A **Leadore** 42.71 73 ⇓P P 13 52 14.5 0.0
baz=43,SNR=24
BMN **Battle Mountai** 42.75 80 eP P 13 52 15.2 +0.2
BMN pmax pmax
comp=Z,60nm,0.8s,mb5.4
BMN MLR MLR
comp=Z,9µm,22.0s,MS5.6
BMN **Battle Mountai** 42.75 80 eP P 13 52 15.2 +0.3
comp=Z,60nm,0.8s,mb5.4
BMN LR LR
comp=Z,9µm,22.0s,MS5.6
DLMT **Dillon** 42.76 71 eP P 13 52 14.3 -0.7
comp=Z,75nm,1.2s,mb5.3
K12A **Draper Farm, C** 42.89 76 ⇓P P 13 52 16.1 +0.1
baz=43,SNR=76
J13A **Cove Ranch, Pi** 42.90 75 ⇓P P 13 52 16.4 +0.3
baz=43,SNR=70
MCMT **McKenzie Canyo** 42.90 72 eP P 13 52 15.7 -0.4
D17A **Six Diamond Ra** 42.92 68 ⇓P P 13 52 15.8 -0.4
baz=43,SNR=39
DL2 **Dalian** 42.92 277 P P 13 52 16.5 +0.1
DL2 PP PP 13 53 55.3 -0.9
DL2 S S 13 58 36.3 -2.3
DL2 AMB AMB
comp=Z,130nm,1.5s,mb5.4
DL2 AMB AMB
comp=Z,1µm,4.4s
DL2 LR LR
comp=N,2µm,25.5s
DL2 LR LR
comp=E,1µm,20.1s
DL2 LR LR
comp=Z,3µm,20.4s
G15A **Dillon** 42.93 71 ⇑P P 13 52 15.8 -0.5
baz=43,SNR=42
V03C **Hunter Liggett** 42.96 88 ⇓P P 13 52 16.8 +0.1
baz=43,SNR=5.2
EGMT **Eagleton** 43.00 66 ⇑P P 13 52 16.3 -0.5
baz=43,SNR=28
EGMT **Eagleton** 43.00 66 eP P 13 52 15.7 -1.1
comp=Z,116nm,0.9s,mb5.6
EGMT LR LR
comp=Z,5µm,22.0s,MS5.4
N10A **Dunphy** 43.02 79 ⇑P P 13 52 17.7 +0.6
baz=43,SNR=11
U04C **Hernandez Rese** 43.03 87 ⇑P P 13 52 17.5 +0.2
baz=43,SNR=6.4
I14A **Mackay** 43.04 74 ⇑P P 13 52 18.0 +0.8
baz=43,SNR=56
M11A **Holland Ranch,** 43.05 78 ⇑P P 13 52 17.8 +0.4
baz=43,SNR=35
F16A **Kennard Place,** 43.10 70 ⇓P P 13 52 17.6 -0.2
baz=43,SNR=31
L12A **House Creek Ra** 43.10 77 ⇓P P 13 52 17.7 -0.1
baz=43,SNR=49
H15A **Lima** 43.14 72 ⇑P P 13 52 18.0 -0.1
baz=43,SNR=54
BOZ **Bozeman (W)** 43.18 70 eP P 13 52 18.2 -0.1
BOZ pmax pmax

comp=Z,102nnm,0.9s,mb5.5
BOZ MLR MLR
comp=Z,3µm,19.0s,MS5.2
BOZ Bozeman (W) 43.18 70 ⇑P P 13 52 18.4 +0.1
baz=43,SNR=161
BOZ Bozeman (W) 43.18 70 eP P 13 52 18.2 -0.1
comp=Z,102nnm,0.9s,mb5.5
BOZ LR LR
comp=Z,3µm,19.0s,MS5.2
E17A Martinsdale 43.19 69 ⇓P P 13 52 18.6 +0.2
baz=43,SNR=58
Q08A Gabbs 43.26 82 ⇓P P 13 52 19.0 0.0
baz=43,SNR=20
O10A Cortez Mining, 43.28 80 ⇑P P 13 52 19.5 +0.3
baz=43,SNR=42
NVAR Mina Array Bea 43.29 83 P P 13 52 19.6 +0.3
comp=Z,12nm,0.8s,mb4.7,baz=292,slow=6.3,SNR=69
NVAR ScP ScP 13 57 56.0 +0.1
comp=Z,1.0nm,0.7s,baz=270,slow=1.8,SNR=2.5
NVAR Mina Array Bea 43.29 83 P P 13 52 19.6 +0.3
NVAR ScP ScP 13 57 56.0 +0.1
T06C Millerton Lake 43.29 86 ⇑P P 13 52 19.1 -0.3
baz=43,SNR=33
G16A Moss Hill, Enn 43.30 71 ⇓P P 13 52 19.2 -0.2
baz=43,SNR=109
P09A Austin 43.33 81 ⇑P P 13 52 20.1 +0.5
baz=43,SNR=17
KCC Kaiser Creek 43.34 85 ⇓P P 13 52 19.8 +0.1
baz=43,SNR=67
J14A Carey 43.34 74 ⇑P P 13 52 20.2 +0.6
baz=43,SNR=62
K13A Stover Farm, H 43.38 75 ⇑P P 13 52 20.3 +0.3
baz=43,SNR=14
D18A Linhart Farms, 43.41 68 ⇓P P 13 52 19.8 -0.4
baz=43,SNR=68
N11A Elko Archery C 43.44 79 ⇓P P 13 52 20.8 +0.3
baz=43,SNR=10
PKD Parkfield 43.44 88 ⇑P P 13 52 21.1 +0.5
baz=43,SNR=18
MLAC Mammoth Lakes 43.45 84 ⇑P P 13 52 21.3 +0.7
baz=43
R08A Mina 43.46 83 ⇑P P 13 52 20.9 +0.2
baz=43,SNR=11
U05C Westside ANR, 43.46 87 ⇓P P 13 52 20.7 0.0
baz=43
I15A Monteview 43.58 73 ⇓P P 13 52 22.1 +0.6
baz=44,SNR=18
M12A Wells 43.59 77 ⇓P P 13 52 22.0 +0.3
baz=44,SNR=50
F17A Fitzpatrick Pl 43.61 70 ⇓P P 13 52 21.3 -0.4
baz=44,SNR=62
E18A Harlowton 43.68 68 ⇓P P 13 52 22.7 +0.3
baz=44,SNR=76
P10A Eureka 43.70 81 ⇓P P 13 52 23.0 +0.3
baz=44,SNR=28
Q09A Carvers 43.74 82 ⇑P P 13 52 23.7 +0.8
baz=44,SNR=12
QLMT Earthquake Lak 43.74 71 eP P 13 52 22.6 -0.3
ELK Elko 43.79 78 eP P 13 52 23.5 +0.2
ELK pmax pmax
comp=Z,61nm,0.7s
ELK MLR MLR
comp=Z,9µm,21.0s
ELK Elko 43.79 78 eP P 13 52 23.5 +0.2
comp=Z,61nm,0.7s,mb5.4
ELK LR LR
comp=Z,9µm,21.0s,MS5.7
L13A Double Diamond 43.79 76 ⇓P P 13 52 23.9 +0.6
baz=44,SNR=55
MTUM Tungsten Hills 43.79 85 eP P 13 52 23.9 +0.5
PTRM Twissleman Ran 43.84 88 eP P 13 52 23.9 +0.2
N12A Clover Valley, 43.85 78 ⇑P P 13 52 24.1 +0.3
baz=44,SNR=62
FFC Flin Flon 43.87 54 eP P 13 52 23.4 -0.4
FFC pmax pmax
comp=Z,12nm,0.8s,mb4.7
FFC MLR MLR
comp=Z,6µm,19.0s,MS5.5
FFC Flin Flon 43.87 54 eP P 13 52 23.4 -0.4
comp=Z,12nm,0.8s,mb4.7
FFC LR LR
comp=Z,6µm,19.0s,MS5.5
G17A Pierce Place, 43.88 70 ⇓P P 13 52 24.2 +0.2
baz=44,SNR=33
V05C Boulder Hill, 43.89 87 ⇑P P 13 52 24.6 +0.4
baz=44
O11A Cowboy Ranch, 43.89 79 ⇓P P 13 52 24.5 +0.3
baz=44,SNR=50
H16A Russell Place, 43.92 71 ⇑P P 13 52 24.1 -0.2
baz=44,SNR=80
J15A Blackfoot 43.95 74 ⇓P P 13 52 25.5 +0.9
baz=44,SNR=63
K14A Jones Ranch, D 43.99 75 ⇓P P 13 52 25.3 +0.4
baz=44,SNR=16
RCTC Rector, Farmer 44.02 86 ⇓P P 13 52 24.7 -0.5
baz=44
YMR Madison River 44.11 71 eP P 13 52 26.0 +0.2
comp=Z,172nm,1.1s,mb5.7
YMR LR LR
comp=Z,4µm,20.0s,MS5.4
F18A Big Timber 44.16 69 ⇑P P 13 52 26.4 +0.2
baz=44,SNR=45
R09A Tonopah 44.17 83 ⇓P P 13 52 26.2 -0.2
baz=44,SNR=78
TPH Tonopah 44.18 83 eP P 13 52 26.4 0.0
TPH pmax pmax
comp=Z,74nm,0.8s,mb5.5
TPH MLR MLR
comp=Z,5µm,21.0s,MS5.4
TPH Tonopah 44.18 83 eP P 13 52 26.4 -0.1
comp=Z,74nm,0.8s,mb5.5
TPH LR LR
comp=Z,5µm,21.0s,MS5.4
P11A Circle Ranch, 44.18 80 ⇓P P 13 52 26.8 +0.3
baz=44
TIN Tinemaha 44.19 85 ⇑P P 13 52 26.9 +0.3
baz=44,SNR=5.2
SMMC Simmler 44.19 88 ⇑P P 13 52 26.7 +0.1
baz=44
Q10A Clear Creek Ra 44.23 81 ⇑P P 13 52 26.9 +0.1
baz=44,SNR=93
I16A Newdale 44.24 72 ⇑P P 13 52 27.2 +0.3
baz=44
L14A Malta 44.25 76 ⇓P P 13 52 27.5 +0.6
baz=44,SNR=56
GCMT Greycliff 44.25 69 eP P 13 52 26.8 -0.1
YNR Norris Junctio 44.25 71 eP P 13 52 27.4 +0.4
K15A Arbon 44.30 74 ⇓P P 13 52 28.1 +0.7
baz=44,SNR=61
YFT Old Faithful 44.31 71 eP P 13 52 27.9 +0.5
N13A Wendover, West 44.35 78 ⇓P P 13 52 28.0 +0.2
baz=44,SNR=19
O12A Currie 44.37 79 ⇓P P 13 52 28.3 +0.3
baz=44,SNR=66
S09A Goldfield 44.39 83 ⇑P P 13 52 28.0 -0.2
baz=44,SNR=30
VES Vestal, Richgr 44.42 87 ⇑P P 13 52 27.7 -0.8
baz=44,SNR=22
H17A Grant Village 44.49 71 ⇓P P 13 52 30.3 +1.4
baz=44,SNR=87
M14A Sheep Mountain 44.49 76 ⇓P P 13 52 29.2 +0.3
baz=44,SNR=42
LKWY Lake 44.50 71 eP P 13 52 30.3 +1.3
LKWY pmax pmax
comp=Z,99nm,0.9s,mb5.6
LKWY MLR MLR
comp=Z,4µm,19.0s,MS5.3
LKWY Lake 44.50 71 eP P 13 52 30.3 +1.3
comp=Z,99nm,0.9s,mb5.6
LKWY LR LR
comp=Z,4µm,19.0s,MS5.3
J16A Bone 44.51 73 ⇑P P 13 52 29.9 +0.8
baz=44,SNR=58
IMW Indian Meadow 44.56 72 eP P 13 52 29.6 +0.2
comp=Z,126nm,1.2s,mb5.6
PKM Peak Mountain 44.57 88 ⇑P P 13 52 29.8 +0.2
baz=44
G18A Lazy EL Ranch, 44.57 70 ⇑P P 13 52 29.2 -0.3
baz=44
DCID1 Drake Creek 44.59 73 eP P 13 52 30.3 +0.7
comp=Z,54nm,0.9s,mb5.4
R10A Warm Springs 44.62 82 ⇓P P 13 52 29.8 -0.2
baz=44,SNR=38
RRI2 Red Ridge 44.65 73 eP P 13 52 30.2 0.0
comp=Z,89nm,0.9s,mb5.6
S10A Tonopah Range, 44.66 83 ⇓P P 13 52 30.3 0.0
baz=44,SNR=69
CWC Cottonwood Cre 44.67 85 ⇑P P 13 52 30.7 +0.3
baz=44,SNR=29
Q11A Duckwater 44.67 81 ⇑P P 13 52 30.5 +0.1
baz=44,SNR=51
HVU Hansel Valley 44.68 76 eP P 13 52 30.6 +0.2
HVU pmax pmax
comp=Z,94nm,0.7s,mb5.7
HVU Hansel Valley 44.68 76 eP P 13 52 30.6 +0.2
comp=Z,94nm,0.7s,mb5.7
GRAC Grapevine Rang 44.75 84 ⇑P P 13 52 31.3 +0.3
baz=45,SNR=22
MOOW Moose Ponds 44.76 72 eP P 13 52 31.1 +0.1
comp=Z,67nm,1.4s,mb5.3
MOOW eScP ScP 13 58 01.5 -0.3
I17A Pilgram Creek 44.76 72 ⇓P P 13 52 31.7 +0.7
baz=45,SNR=22
K16A Soda Springs 44.78 74 ⇓P P 13 52 32.1 +0.9
baz=45,SNR=42
L15A Malad City 44.78 75 ⇓P P 13 52 31.4 +0.2
baz=45,SNR=31
TPAW Teton Pass 44.78 73 eP P 13 52 31.3 +0.1
comp=Z,235nm,1.7s,mb5.7
RLMT Red Lodge 44.85 70 ⇓P P 13 52 32.1 +0.3
baz=45,SNR=118
RLMT Red Lodge 44.85 70 eP P 13 52 31.9 +0.2
comp=Z,183nm,1.0s,mb5.9
RLMT LR LR
comp=Z,4µm,20.0s,MS5.3
JAM Amami Oshima 44.89 260 P P 13 52 32.4 +0.2
ISA Isabella 44.92 86 eP P 13 52 30.9 -1.5
ISA pmax pmax
comp=Z,71nm,1.1s,mb5.4
ISA MLR MLR
comp=Z,4µm,22.0s,MS5.3
ISA Isabella 44.92 86 ⇑P P 13 52 31.5 -0.9
baz=45,SNR=31
ISA Isabella 44.92 86 eP P 13 52 30.9 -1.4
comp=Z,71nm,1.1s,mb5.4
ISA LR LR
comp=Z,4µm,22.0s,MS5.3
REDW Red Top Meadow 44.92 73 eP P 13 52 32.5 +0.2
comp=Z,110nm,1.3s,mb5.5
SNOW Snow King Moun 44.92 72 eP P 13 52 33.0 +0.8
comp=Z,160nm,1.4s,mb5.7
LOHW Long Hollow 44.92 72 eP P 13 52 32.5 +0.2
comp=Z,25nm,0.7s,mb5.2
O13A Hicks Ranch, I 44.92 78 ⇓P P 13 52 32.4 +0.1
baz=45,SNR=20
SBC Santa Barbara 44.93 89 ⇓P P 13 52 32.9 +0.4
baz=45
N14A Grayback Hills 44.98 77 ⇓P P 13 52 33.1 +0.3
baz=45,SNR=31
J17A Brown Place, J 45.00 73 ⇓P P 13 52 33.6 +0.7
baz=45,SNR=13
R11A Troy Canyon, C 45.02 81 ⇑P P 13 52 33.0 -0.2
baz=45,SNR=56
BGU Big Grassy Mou 45.03 77 eP P 13 52 33.3 +0.1
ARVC Arvin 45.04 87 ⇓P P 13 52 32.8 -0.5
baz=45
M15A Larsen Ranch, 45.06 76 ⇑P P 13 52 33.8 +0.3
baz=45,SNR=13
Q12A Willow Creek R 45.06 80 ⇓P P 13 52 33.7 +0.2
baz=45,SNR=27
DAC Darwin (Calif) 45.07 85 PFAKE 13 52 50.0 +16
DAC LR LR
comp=Z,6µm,22.0s,MS5.5
AHID Auburn Hatcher 45.11 74 eP P 13 52 33.9 0.0
comp=Z,82nm,1.0s,mb5.5
AHID LR LR
comp=Z,10µm,22.0s,MS5.7
SPUT South Promonto 45.15 76 eP P 13 52 35.2 +1.0
BSC Santa Cruz Isl 45.27 89 ⇓P P 13 52 34.9 -0.4
baz=45
MPMC Manual Prospec 45.27 85 ⇓P P 13 52 35.1 -0.1
baz=45,SNR=76
P13A Bates Ranch, G 45.31 79 ⇓P P 13 52 35.5 +0.1
baz=45,SNR=62
I18A Diamond G Ranc 45.34 72 ⇓P P 13 52 36.4 +0.8
baz=45
L16A Fish Haven 45.35 75 ⇓P P 13 52 35.9 +0.2
baz=45,SNR=67
S11A Rachel 45.36 82 ⇓P P 13 52 35.7 -0.2
baz=45,SNR=24
N15A Stansbury Isla 45.36 77 ⇑P P 13 52 35.9 +0.1
baz=45,SNR=13
FURC Furnace Creek, 45.41 84 ⇑P P 13 52 36.1 -0.2
baz=45,SNR=20
TPNV Topopah Spring 45.48 83 eP P 13 52 36.6 -0.3
TPNV pmax pmax
comp=Z,169nm,0.8s,mb5.9
TPNV MLR MLR
comp=Z,9µm,22.0s,MS5.7
TPNV Topopah Spring 45.48 83 ⇓P P 13 52 36.8 0.0
baz=45,SNR=138
TPNV Topopah Spring 45.48 83 eP P 13 52 36.6 -0.3
comp=Z,169nm,0.8s,mb5.9
TPNV LR LR
comp=Z,9µm,22.0s,MS5.7
HWUT Hardware Ranch 45.51 75 eP P 13 52 37.0 0.0
comp=Z,59nm,0.8s,mb5.6
HWUT LR LR
comp=Z,6µm,22.0s,MS5.5
LRMC Laurel Mountai 45.52 86 ⇑P P 13 52 37.2 0.0
baz=45
BLG Launa Peak 45.55 89 ⇓P P 13 52 37.1 -0.4
baz=45
IRK Irkutsk 45.59 303 ⇑iP P 13 52 38.9 +1.4
IRK e 13 54 17.0
IRK pmax pmax
comp=Z,138nm,3.4s
BJI Beijing 45.60 282 P P 13 52 38.0 +0.3
BJI AMB AMB
comp=Z,192nm,1.4s,mb5.8
BJI AMB AMB
comp=Z,5µm,4.2s
BJI LR LR
comp=N,16µm,29.0s
BJI LR LR
comp=E,17µm,19.8s
BJI LR LR
comp=Z,12µm,25.3s,MS5.7
DUG Dugway 45.60 77 eP P 13 52 37.8 +0.1
DUG pmax pmax
comp=Z,199nm,1.1s,mb6.0
DUG MLR MLR
comp=Z,8µm,22.0s,MS5.6
DUG Dugway 45.60 77 ⇓P P 13 52 37.8 +0.1
baz=46,SNR=90
DUG Dugway 45.60 77 eP P 13 52 37.8 +0.1
comp=Z,199nm,1.1s,mb6.0
DUG LR LR
comp=Z,8µm,22.0s,MS5.6
Q13A Wheeler Ranch, 45.61 80 ⇓P P 13 52 37.7 -0.2
baz=46,SNR=79
BJT Baijiatuau 45.61 282 eP P 13 52 38.1 +0.2
BJT pmax pmax
comp=Z,120nm,0.8s
BJT MLR MLR
comp=Z,6µm,22.0s
BJT Baijiatuau 45.61 282 eP P 13 52 38.1 +0.3
comp=Z,120nm,0.8s,mb5.9
BJT LR LR
comp=Z,6µm,22.0s,MS5.5
R12A Pony Springs, 45.64 81 ⇑P P 13 52 37.6 -0.4
baz=46,SNR=48
M16A Huntsville 45.65 75 ⇑P P 13 52 38.3 +0.2
baz=46,SNR=76
FCC Fort Churchill 45.70 46 eP P 13 52 39.0 +0.7
FCC pmax pmax
comp=Z,36nm,0.7s,mb5.4
FCC Fort Churchill 45.70 46 eP P 13 52 39.0 +0.8
comp=Z,36nm,0.7s,mb5.4
EDW2 Edwds Air Fo 45.72 87 ⇑P P 13 52 38.0 -0.8
baz=46,SNR=22
LAO LASA Array 45.74 66 eP P 13 52 38.7 -0.1
comp=Z,185nm,1.0s,mb6.0
LAO LR LR
comp=Z,5µm,21.0s,MS5.5
NOQ North Oquirrh 45.74 77 eP P 13 52 38.9 0.0
comp=Z,295nm,1.2s,mb6.1
O15A The Old Anders 45.76 77 ⇑P P 13 52 39.0 +0.1
baz=46,SNR=19
U10A Ash Meadows, A 45.77 84 ⇓P P 13 52 39.1 0.0
baz=46
P14A Drum Mountains 45.81 78 ⇑P P 13 52 39.6 +0.2
baz=46,SNR=109
SNCC San Nicolas Is 45.84 90 ⇓P P 13 52 39.1 -0.6
baz=46
SNCC San Nicolas Is 45.84 90 PFAKE 13 52 50.0 +10
SNCC LR LR
comp=Z,4µm,22.0s,MS5.4
DGMT Dagmar 45.91 63 ⇑P P 13 52 39.0 -1.1
baz=46,SNR=13
DGMT Dagmar 45.91 63 eP P 13 52 38.8 -1.3
comp=Z,478nm,1.8s,mb6.1
DGMT LR LR
comp=Z,7µm,19.0s,MS5.6
DECC Green Verdugo 45.92 88 ⇑P P 13 52 39.6 -0.8
baz=46
S12A Delamar Landin 45.94 82 ⇓P P 13 52 40.6 +0.2
baz=46,SNR=52
T11A Corn Creek, Al 45.94 82 ⇓P P 13 52 40.6 +0.2
baz=46,SNR=69
CTU Camp Tracy 45.95 76 eP P 13 52 40.9 +0.5
comp=Z,144nm,1.1s,mb5.8
N16A Rees Ranch, Co 46.02 76 ⇓P P 13 52 41.3 +0.3
baz=46,SNR=16
BW06 Boulder Array 46.03 73 ⇓P P 13 52 41.4 +0.3
baz=46,SNR=111
BW06 Boulder Array 46.03 73 eP P 13 52 40.9 -0.2
comp=Z,125nm,0.8s,mb5.9
BW06 LR LR
comp=Z,8µm,21.0s,MS5.7
PDAR Pinedale Array 46.03 73 P P 13 52 41.0 -0.1
comp=Z,32nm,0.6s,mb5.5,baz=303,slow=3.3,SNR=152
PDAR ScP ScP 13 58 06.7 -0.4
comp=Z,0.7nm,0.7s,baz=315,slow=0.6,SNR=2.1
PDAR LR LR 14 09 28.7
comp=Z,7µm,20.9s,MS5.6,baz=309,slow=33
Q14A Sevier Lake (B 46.05 79 ⇑P P 13 52 41.5 +0.2
baz=46,SNR=172
PASC Pasadena Art C 46.06 88 eP P 13 52 42.2 +0.7
comp=Z,499nm,1.5s,mb6.2
MWC Mount Wilson 46.11 88 eP P 13 52 41.4 -0.4
MWC pmax pmax
comp=Z,149nm,1.3s,mb5.8
MWC MLR MLR
comp=Z,4µm,22.0s,MS5.3
MWC Mount Wilson 46.11 88 eP P 13 52 41.4 -0.4
comp=Z,150nm,1.3s,mb5.8
MWC LR LR
comp=Z,4µm,22.0s,MS5.3
R13A O'Grain Ranch, 46.12 80 ⇑P P 13 52 42.0 +0.1
baz=46,SNR=41
SHOC Shoshone 46.13 85 ⇓P P 13 52 41.1 -0.9
baz=46,SNR=5.7
JLU Jordanelle 46.18 76 eP P 13 52 42.1 -0.3
GSC Goldstone 46.19 86 eP P 13 52 41.8 -0.6
GSC pmax pmax
comp=Z,140nm,1.0s,mb5.8
GSC MLR MLR
comp=Z,3µm,21.0s,MS5.2
GSC Goldstone 46.19 86 ⇓P P 13 52 41.9 -0.5
baz=46,SNR=81
GSC Goldstone 46.19 86 eP P 13 52 41.8 -0.6
comp=Z,140nm,1.0s,mb5.8
GSC LR LR
comp=Z,3µm,21.0s,MS5.2
NLU North Lily Min 46.19 77 eP P 13 52 40.9 -1.6
TLY Talaya 46.22 302 P P 13 52 44.1 +1.7
comp=Z,148nm,0.9s,mb5.9,SNR=14
TLY Talaya 46.22 302 *c iP* **P 13 52 42.5 +0.1**
TLY *e* 13 54 18.3
TLY *e* 13 54 34.5
TLY *eS* **S 13 59 24.4 -1.6**
TLY *e* 14 02 32.4
TLY *e* 14 02 50.3
TLY pmax pmax
comp=Z,98nm,1.7s,mb5.5
TLY MLR MLR
comp=Z,7µm,19.0s,MS5.6
TLY Talaya 46.22 302 ⇑iP P 13 52 42.9 +0.5
TLY LR LR
comp=Z,7µm,20.0s,MS5.6
FMP Fort Macarthur 46.30 88 ⇑P P 13 52 43.2 -0.2
baz=46
RRX Edison Barstow 46.34 86 ⇓P P 13 52 43.7 0.0
baz=46
BFSC Mount Baldy St 46.35 87 ⇑P P 13 52 43.6 -0.1
baz=46,SNR=36
N17A Moffit Pass 46.35 75 ⇓P P 13 52 43.2 -0.4
baz=46,SNR=44
U11A Corn Creek 46.35 83 ⇑P P 13 52 43.7 0.0
baz=46
O16A Springville 46.39 77 ⇑P P 13 52 43.8 -0.2
baz=46,SNR=32
DAU Daniels Canyon 46.41 76 eP P 13 52 44.7 +0.6
MPU Maple Canyon 46.43 77 eP P 13 52 44.3 0.0
comp=Z,45nm,0.6s,mb5.6
MPU LR LR
comp=Z,9µm,20.0s,MS5.7
CIS Catalina Islan 46.43 89 ⇑P P 13 52 44.0 -0.4
baz=46,SNR=5.3
ULN Ulaanbaatar 46.44 296 *i P* **P 13 52 45.3 +1.1**
L19A Farson 46.55 73 ⇑P P 13 52 45.3 +0.2
baz=46
S13A Holt Ranch, En 46.56 81 ⇑P P 13 52 45.3 0.0
baz=46,SNR=52
T12A Moapa 46.58 83 ⇑P P 13 52 45.6 +0.1
baz=46
Q15A Fillmore 46.59 79 ⇓P P 13 52 45.4 -0.2
baz=46,SNR=18
SCI San Clemente I 46.62 89 ⇓P P 13 52 45.7 -0.2
baz=46
R14A James Farms, M 46.63 80 ⇑P P 13 52 46.1 +0.2
baz=46
TUQ Turquoise Moun 46.65 85 ⇓P P 13 52 46.0 0.0
baz=46,SNR=8.5
P16A Fountain Green 46.66 77 ⇑P P 13 52 46.6 +0.6
baz=46
ARUT Antelope Range 46.69 81 eP P 13 52 45.9 -0.5
V11A Goodsprings 46.70 84 ⇓P P 13 52 46.5 +0.1
baz=47,SNR=28
HEC Hector,Ludlow 46.79 86 ⇑P P 13 52 46.8 -0.4
baz=47,SNR=5.2
BBRC Big Bear Sol-O 46.79 87 ⇑P P 13 52 47.2 0.0
baz=47
SONM Songino Array 46.82 297 P P 13 52 47.9 +0.6
comp=Z,94nm,1.1s,mb5.6,baz=52,slow=7.0,SNR=246
SONM PcP PcP 13 54 18.9 -0.9
comp=Z,25nm,0.8s,baz=100,slow=1.9,SNR=8.4
SONM ScP ScP 13 58 09.6 -0.7
comp=Z,22nm,0.8s,baz=48,slow=2.7,SNR=13
SONM LR LR 14 13 27.2
comp=Z,25µm,20.0s,MS6.2,baz=61,slow=37
SONM Songino Array 46.82 297 P P 13 52 47.9 +0.7
SONM 13 54 18.9
JOW Kunigami 46.84 259 P P 13 52 47.0 -0.6
comp=Z,90nm,0.9s,mb5.7,baz=54,slow=3.6,SNR=8.6
JOW LR LR 14 09 47.1
comp=Z,3µm,22.0s,MS5.3,baz=230,slow=33
JOW Kunigami 46.84 259 P P 13 52 47.5 -0.1
O17A Robinson Place 46.86 76 ⇑P P 13 52 47.8 +0.2
baz=47,SNR=19
U12A Valley of Fire 46.87 83 ⇓P P 13 52 47.7 0.0
baz=47,SNR=16
S14A Cedar City 46.88 80 ⇓P P 13 52 48.0 +0.2
baz=47
T13A Saint George 46.89 82 ⇑P P 13 52 47.9 0.0
baz=47,SNR=32
CCUT Cedar City 46.89 81 eP P 13 52 47.9 0.0
MVU Marysvale 47.00 79 PFAKE 13 53 00.0 +11
MVU LR LR
comp=Z,9µm,21.0s,MS5.7
MSU Marysvale 47.02 79 eP P 13 52 49.2 +0.3
M19A Rock Springs 47.02 74 ⇓P P 13 52 48.3 -0.6
baz=47,SNR=20
N18A Larsen Ranch, 47.03 75 ⇓P P 13 52 48.5 -0.4
baz=47,SNR=40
MURC Murrieta 47.05 88 ⇓P P 13 52 48.9 -0.3
baz=47
ZAK Zakamensk 47.11 301 eP P 13 52 50.0 +0.5
ZAK *e* 13 53 04.6
ZAK pmax pmax
comp=Z,66nm,1.5s,mb5.3
TMUT Trail Mountain 47.13 77 eP P 13 52 50.0 +0.2
R15A Junction 47.15 79 ⇑P P 13 52 50.5 +0.6
baz=47,SNR=21
GMRC Granite Mounta 47.24 85 ⇑P P 13 52 50.4 -0.3
baz=47,SNR=61
O18A Roosevelt 47.26 76 ⇑P P 13 52 50.9 +0.2
baz=47,SNR=22
P17A Butcher Ranch, 47.30 77 ⇑P P 13 52 51.2 +0.1
baz=47,SNR=36
T14A Hurricane 47.37 81 ⇓P P 13 52 51.6 0.0
baz=47,SNR=30

N19A	**John Jarvie Ra**	**47.38**	**74**	⇓P		**P**	**13 52 51.2**	**-0.4**
	baz=47,SNR=19								
Q16A	**Castle Valley**	**47.38**	**78**	⇓P		**P**	**13 52 51.8**	**+0.1**
	baz=47,SNR=51								
LDFC	**Landfair**	**47.39**	**85**	*e*P		**P**	**13 52 51.7**	**-0.1**
	comp=Z,236nm,1.1s,mb6.0								
W12A	**Cal Nev Ari**	**47.39**	**84**	⇓P		**P**	**13 52 51.6**	**-0.3**
	baz=47								
S15A	**Panguitch**	**47.43**	**80**	⇑P		**P**	**13 52 52.5**	**+0.4**
	baz=47,SNR=34								
P18A	**Preston Nutter**	**47.51**	**76**	⇑P		**P**	**13 52 53.0**	**+0.3**
	baz=47,SNR=40								
PFO	**Pinyon Flat Ob**	**47.51**	**87**	P		**P**	**13 52 52.9**	**+0.1**
	comp=Z,237nm,1.2s,mb6.1,SNR=6.9								
PFO	**Pinyon Flat Ob**	**47.51**	**87**	*e*P		**P**	**13 52 52.7**	**-0.1**
PFO					pmax	pmax			
	comp=Z,83nm,1.4s,mb5.6								
PFO					MLR	MLR			
	comp=Z,6µm,22.0s,MS5.5								
PFO	**Pinyon Flat Ob**	**47.51**	**87**	⇑P		**P**	**13 52 52.5**	**-0.3**
	baz=47								
PFO	**Pinyon Flat Ob**	**47.51**	**87**	*e*P		**P**	**13 52 52.6**	**-0.2**
	comp=Z,83nm,1.4s,mb5.6								
PFO					LR	LR			
	comp=Z,6µm,22.0s,MS5.5								
BELC	**Belle Mtn.**	**47.54**	**86**	⇑P		**P**	**13 52 52.6**	**-0.4**
	baz=47,SNR=9.4								
109C	**Camp Elliot, M**	**47.59**	**88**	⇓P		**P**	**13 52 52.9**	**-0.5**
	baz=48								
R16A	**Teasdale**	**47.59**	**79**	⇑P		**P**	**13 52 53.5**	**+0.2**
	baz=48,SNR=85								
V13A	**Grand Canyon W**	**47.59**	**83**	⇓P		**P**	**13 52 53.7**	**+0.3**
	baz=48								
MOY	**Mondy**	**47.61**	**304**	*e*P		**P**	**13 52 53.2**	**-0.1**
MOY					pmax	pmax			
	comp=Z,259nm,4.1s								
SRU	**San Rafael**	**47.66**	**77**	*e*P		**P**	**13 52 54.0**	**+0.1**
SRU					pmax	pmax			
	comp=Z,78nm,0.8s,mb5.8								
SRU	**San Rafael**	**47.66**	**77**	⇑P		**P**	**13 52 54.1**	**+0.2**
	baz=48,SNR=108								
SRU	**San Rafael**	**47.66**	**77**	*e*P		**P**	**13 52 54.0**	**+0.1**
	comp=Z,78nm,0.8s,mb5.8								
U14A	**Mt Trumbull**	**47.72**	**82**	⇑P		**P**	**13 52 54.5**	**+0.1**
	baz=48,SNR=31								
O19A	**Miners Draw (B**	**47.77**	**75**	⇓P		**P**	**13 52 54.8**	**+0.1**
	baz=48,SNR=144								
T15A	**Red Dirt Ranch**	**47.83**	**81**	⇓P		**P**	**13 52 55.5**	**+0.2**
	baz=48,SNR=45								
S16A	**Weppner Ranch,**	**47.87**	**79**	⇓P		**P**	**13 52 55.7**	**+0.2**
	baz=48,SNR=36								
NEE2	**Needles Airpor**	**47.90**	**85**	⇑P		**P**	**13 52 55.3**	**-0.5**
	baz=48								
HHC	**Hu-ho-hao-te**	**47.90**	**286**	⇑*i*P		**P**	**13 52 57.3**	**+1.6**
HHC				AP		pP	13 53 09.0	+2.5
HHC				PCP		PcP	13 54 26.0	+2.3
HHC				PP		PP	13 54 48.8	+1.2
HHC				SCP		ScP	13 58 15.0	0.0
HHC				PCS		PcS	13 58 20.5	+1.2
HHC				S		**S**	**13 59 49.5**	**-0.8**
HHC				XS		sS	14 00 10.5	+2.5
HHC				SCS		ScS	14 02 44.5	-1.2
HHC				SS		SS	14 03 14.3	-4.5
HHC				AMB		AMB		
	comp=Z,463nm,1.5s,mb6.3								
HHC				AMB		AMB			
	comp=Z,5µm,6.4s								
HHC				LR		LR			
	comp=N,9µm,19.1s,MS6.0								
HHC				LR		LR			
	comp=E,12µm,18.1s,MS6.0								
HHC				LR		LR			
	comp=Z,14µm,19.0s,MS6.0								
Q18A	**Rafter H Ranch**	**47.90**	**77**	⇓P		**P**	**13 52 55.2**	**-0.6**
	baz=48,SNR=101								
IRM	**Iron Mountain**	**47.97**	**86**	⇓P		**P**	**13 52 56.1**	**-0.2**
	baz=48,SNR=22								
R17A	**Hanksville Air**	**47.98**	**78**	⇑P		**P**	**13 52 56.3**	**-0.1**
	baz=48,SNR=95								
GUMO	**Guam**	**47.98**	**232**	P		**P**	**13 52 52.5**	**-4.1**
	comp=Z,60nm,0.5s,mb5.9,baz=174,slow=20,SNR=5.0								
GUMO	**Guam**	**47.98**	**232**	P		**P**	**13 52 52.5**	**-4.1**
GUMO					pmax	pmax			
	comp=Z,60nm,0.5s,mb5.9								
GUMO	**Guam**	**47.98**	**232**	*e*P		**P**	**13 52 52.0**	**-4.6**
	comp=Z,124nm,0.8s,mb6.0								
GUMO					LR	LR			
	comp=Z,3µm,21.0s,MS5.3								
MONP	**Monument Peak**	**48.01**	**88**	⇑P		**P**	**13 52 56.3**	**-0.4**
	baz=48,SNR=18								
RWWY	**Rawlins**	**48.08**	**72**	*e*P		**P**	**13 52 56.0**	**-1.0**
	comp=Z,224nm,1.3s,mb6.0								
BC3	**Big Chuckw Mtn**	**48.11**	**86**	⇓P		**P**	**13 52 56.6**	**-0.9**
	baz=48,SNR=7.3								
W13A	**Hualapai Mount**	**48.14**	**84**	⇓P		**P**	**13 52 57.2**	**-0.4**
	baz=48,SNR=48								
SSE	**Sheshan**	**48.25**	**269**	P		**P**	**13 52 57.5**	**-1.0**
SSE				PP		PP	13 54 50.0	-1.0
SSE				S		**S**	**13 59 54.0**	**-1.5**
SSE				XS		sS	14 00 14.3	+1.1
SSE				AMB		AMB		
	comp=Z,225nm,1.2s,mb6.1								
SSE				AMB		AMB			
	comp=Z,2µm,7.5s								
SSE				LR		LR			
	comp=N,2µm,30.5s,MS5.1								
SSE				LR		LR			
	comp=E,3µm,30.5s,MS5.1								
SSE				LR		LR			
	comp=Z,4µm,29.0s,MS5.2								
U15A	**North Rim**	**48.27**	**81**	⇓P		**P**	**13 52 58.4**	**-0.2**
	baz=48,SNR=88								
P19A	**Cripple Cowboy**	**48.27**	**76**	⇓P		**P**	**13 52 58.2**	**-0.4**
	baz=48,SNR=123								
V14A	**Boquillas Ranc**	**48.27**	**83**	⇓P		**P**	**13 52 58.5**	**-0.2**
	baz=48,SNR=33								
DVTC	**Desert V Tower**	**48.37**	**88**	⇑P		**P**	**13 52 59.0**	**-0.5**
	baz=48								
SWSC	**Sam W. Stewart**	**48.37**	**87**	⇓P		**P**	**13 52 58.6**	**-0.9**
	baz=48								
T16A	**Glen Canyon Da**	**48.40**	**80**	⇓P		**P**	**13 52 58.9**	**-0.7**
	baz=48								
S17A	**Black Ridge (B**	**48.41**	**79**	⇑P		**P**	**13 52 59.5**	**-0.2**
	baz=48,SNR=151								
RSSD	**Black Hills**	**48.48**	**68**	*e*P		**P**	**13 52 59.3**	**-0.9**
RSSD					pmax	pmax			
	comp=Z,99nm,1.2s,mb5.7								
RSSD					MLR	MLR			
	comp=Z,5µm,22.0s,MS5.4								
RSSD	**Black Hills**	**48.48**	**68**	*e*P		**P**	**13 52 59.3**	**-0.8**
	comp=Z,99nm,1.2s,mb5.7								
RSSD					LR	LR			
	comp=Z,5µm,22.0s,MS5.4								
R18A	**Canyonlands Na**	**48.49**	**78**	⇑P		**P**	**13 52 59.6**	**-0.7**
	baz=48,SNR=48								
PDMCI	**Parker Dam,Lak**	**48.50**	**85**	⇑P		**P**	**13 52 59.8**	**-0.7**
	baz=48,SNR=25								
X13A	**Yucca**	**48.50**	**84**	⇓P		**P**	**13 52 59.7**	**-0.8**
	baz=48,SNR=24								
Q19A	**Hogan Spring (**	**48.52**	**77**	⇑P		**P**	**13 53 00.2**	**-0.3**
	baz=48,SNR=106								
W14A	**Seligman**	**48.56**	**83**	⇑P		**P**	**13 53 00.7**	**-0.1**
	baz=48,SNR=23								
Y12C	**Blythe**	**48.63**	**85**	⇑P		**P**	**13 53 00.7**	**-0.7**
	baz=48,SNR=28								
V15A	**Kaibab Nationa**	**48.73**	**82**	⇑P		**P**	**13 53 02.5**	**+0.3**
	baz=49,SNR=53								
T17A	**Navajo Res., N**	**48.82**	**80**	⇓P		**P**	**13 53 02.1**	**-0.8**
	baz=49,SNR=18								
S18A	**Hurst Farm, BI**	**48.87**	**78**	⇓P		**P**	**13 53 02.6**	**-0.7**
	baz=49,SNR=146								
GLA	**Glamis**	**48.90**	**86**	*e*P		**P**	**13 53 03.6**	**+0.1**
GLA					pmax	pmax			
	comp=Z,79nm,0.9s,mb5.7								
GLA					MLR	MLR			
	comp=Z,5µm,22.0s,MS5.5								
GLA	**Glamis**	**48.90**	**86**	⇑P		**P**	**13 53 03.0**	**-0.5**
	baz=49,SNR=6.7								
GLA	**Glamis**	**48.90**	**86**	*e*P		**P**	**13 53 03.6**	**0.0**
	comp=Z,79nm,0.9s,mb5.7								
GLA					LR	LR			
	comp=Z,5µm,22.0s,MS5.5								
R19A	**Curley Farm, L**	**48.94**	**77**	⇑P		**P**	**13 53 03.3**	**-0.4**
	baz=49,SNR=18								
BTO	**Baotou**	**48.98**	**287**	*i*P		**P**	**13 53 06.0**	**+2.0**
Y13A	**Salome**	**49.02**	**85**	⇓P		**P**	**13 53 03.9**	**-0.5**
	baz=49,SNR=7.2								
PV10	**Paradox Valley**	**49.02**	**77**	*e*P		**P**	**13 53 04.3**	**-0.1**
W15A	**Williams**	**49.09**	**82**	⇑P		**P**	**13 53 04.8**	**-0.1**
	baz=49,SNR=13								
U17A	**Shonto**	**49.16**	**80**	⇑P		**P**	**13 53 04.9**	**-0.5**
	baz=49,SNR=22								
U16A	**Tuba City**	**49.17**	**81**	⇓P		**P**	**13 53 05.1**	**-0.4**
	baz=49,SNR=26								
X14A	**Yava**	**49.17**	**84**	⇑P		**P**	**13 53 05.8**	**+0.2**
	baz=49,SNR=34								
KRAR	**Krasnoyarsk**	**49.19**	**312**	⇓*i*P		**P**	**13 53 06.2**	**+0.8**
KRAR					pmax	pmax			
	comp=Z,124nm,1.6s,mb5.7								
KRAR					MLR	MLR			
	comp=Z,12µm,16.0s,MS6.0								
T18A	**Mexican Hat**	**49.30**	**79**	⇓P		**P**	**13 53 05.4**	**-1.2**
	baz=49,SNR=112								
TIY	**Taiyuan**	**49.33**	**282**	⇑*i*P		**P**	**13 53 12.0**	**+5.3**
TIY					PP	PP	13 55 06.5	+5.9
TIY					S	**S**	**14 00 18.0**	**+7.5**
TIY					AMB	AMB		
	comp=Z,3µm,4.4s								
TIY					LR	LR			
	comp=N,6µm,15.9s,MS5.8								
TIY					LR	LR			
	comp=E,2µm,13.3s,MS5.8								
TIY					LR	LR			
	comp=Z,4µm,20.0s								
PHWY	**Pilot Hill**	**49.35**	**72**	*e*P		**P**	**13 53 05.9**	**-1.0**
	comp=Z,16nm,0.6s,mb5.2								
S19A	**Harvey Farm, M**	**49.36**	**78**	⇓P		**P**	**13 53 06.6**	**-0.4**
	baz=49,SNR=101								
112A	**Yuma**	**49.40**	**87**	⇑P		**P**	**13 53 07.0**	**-0.4**
	baz=49								
ULM	**Lac du Bonnet**	**49.41**	**57**	P		**P**	**13 53 04.9**	**-2.3**
	comp=Z,7.5nm,0.4s,mb5.0,baz=308,slow=9.6,SNR=6.9								
ULM					LR	LR	14 13 51.3		
	comp=Z,7µm,21.9s,MS5.6,baz=78,slow=36								
ULM	**Lac du Bonnet**	**49.41**	**57**	*e*P		**P**	**13 53 06.2**	**-1.0**
	comp=Z,21nm,0.9s,mb5.2								
ULM					LR	LR			
	comp=Z,9µm,22.0s,MS5.7								
WUAZ	**Wupatki**	**49.42**	**81**	⇓P		**P**	**13 53 07.5**	**0.0**
	baz=49,SNR=39								
WUAZ	**Wupatki**	**49.42**	**81**	*e*P		**P**	**13 53 07.3**	**-0.1**
	comp=Z,81nm,0.8s,mb5.8								
WUAZ					LR	LR			
	comp=Z,8µm,22.0s,MS5.7								
Y14A	**Wickenburg**	**49.45**	**84**	⇓P		**P**	**13 53 07.2**	**-0.5**
	baz=49								
PV01	**Paradox Valley**	**49.46**	**77**	*e*P		**P**	**13 53 07.1**	**-0.6**
X15A	**Humboldt**	**49.56**	**83**	⇑P		**P**	**13 53 09.0**	**+0.5**
	baz=49,SNR=31								
W16A	**Flagstaff**	**49.60**	**82**	⇑P		**P**	**13 53 09.1**	**+0.2**
	baz=50,SNR=21								
KBS	**Kingsbay**	**49.69**	**357**	*e*P		**P**	**13 53 08.3**	**-0.7**
KBS				*e*PP		PP	13 55 04.7	+1.4
KBS				*e*S		**S**	**14 00 15.1**	**+0.4**
KBS				AMS		AMS	14 15 33.2	
	comp=Z,6µm,18.1s,MS5.6								
KBS	**Kingsbay**	**49.69**	**357**	⇑*e*P		**P**	**13 53 10.6**	**+1.6**
U18A	**Rough Rock, Ch**	**49.76**	**80**	⇓P		**P**	**13 53 09.7**	**-0.4**
	baz=50,SNR=14								
SMCO	**Snowmass**	**49.77**	**75**	*e*P		**P**	**13 53 09.6**	**-0.5**
	comp=Z,40nm,0.6s,mb5.6								
Y15A	**Casa Rosa Ranc**	**49.85**	**84**	⇑P		**P**	**13 53 10.5**	**-0.3**
	baz=50,SNR=29								
Z14A	**Wintersburg**	**49.87**	**85**	⇓P		**P**	**13 53 10.1**	**-0.7**
	baz=50								
T19A	**Bellabito**	**50.02**	**79**	⇓P		**P**	**13 53 11.5**	**-0.5**
	baz=50,SNR=81								
MVCO	**Mesa Verde**	**50.09**	**78**	⇑P		**P**	**13 53 12.2**	**-0.4**
	baz=50,SNR=29								
MVCO	**Mesa Verde**	**50.09**	**78**	*e*P		**P**	**13 53 12.1**	**-0.5**
	comp=Z,58nm,0.7s,mb5.7								
MVCO					LR	LR			
	comp=Z,10µm,22.0s,MS5.8								
X16A	**Lo Mia Camp, P**	**50.10**	**83**	⇑P		**P**	**13 53 12.4**	**-0.3**
	baz=50,SNR=31								
W17A	**Winslow**	**50.12**	**81**	⇓P		**P**	**13 53 13.0**	**+0.2**
	baz=50								
V18A	**Ganado**	**50.19**	**80**	⇓P		**P**	**13 53 13.5**	**+0.2**
	baz=50								
ISCO	**Idaho Springs**	**50.20**	**73**	*e*P		**P**	**13 53 13.4**	**+0.1**
ISCO					pmax	pmax			
	comp=Z,71nm,1.0s,mb5.7								
ISCO					MLR	MLR			
	comp=Z,10µm,22.0s,MS5.8								
ISCO	**Idaho Springs**	**50.20**	**73**	*e*P		**P**	**13 53 13.3**	**0.0**
	comp=Z,71nm,1.0s,mb5.7								
ISCO					LR	LR			
	comp=Z,10µm,22.0s,MS5.8								
SPB4	**Spitsbergen Ar**	**50.28**	**356**	*e*P		**P**	**13 53 13.5**	**0.0**
Z15A	**Gila River Ind**	**50.41**	**84**	⇓P		**P**	**13 53 14.5**	**-0.5**
	baz=50								
Y16A	**Circle Bar Ran**	**50.43**	**83**	⇑P		**P**	**13 53 15.2**	**0.0**
	baz=50,SNR=33								
X17A	**Forest Lakes**	**50.55**	**82**	⇓P		**P**	**13 53 16.1**	**+0.1**
	baz=50,SNR=20								
AGMN	**Agassiz Refuge**	**50.56**	**59**	*e*P		**P**	**13 53 15.1**	**-0.9**
	comp=Z,180nm,1.6s,mb5.8								
AGMN					LR	LR			
	comp=Z,6µm,19.0s,MS5.6								
W18A	**Petrified Fore**	**50.70**	**81**	⇑P		**P**	**13 53 17.2**	**+0.1**
	baz=51,SNR=22								
V19A	**Window Rock**	**50.73**	**80**	⇓P		**P**	**13 53 17.4**	**0.0**
	baz=51,SNR=9.2								
115A	**Sonoran Desert**	**50.76**	**85**	⇑P		**P**	**13 53 17.3**	**-0.4**
	baz=51,SNR=23								
Z16A	**Peralta Trail,**	**50.83**	**84**	⇑P		**P**	**13 53 17.8**	**-0.4**
	baz=51,SNR=8.0								
214A	**Organ Pipe Nat**	**50.90**	**86**	⇑P		**P**	**13 53 17.8**	**-0.8**
	baz=51,SNR=19								
W19A	**Sanders**	**50.91**	**80**	⇓P		**P**	**13 53 18.8**	**0.0**
	baz=51,SNR=16								
X18A	**Snowflake**	**50.95**	**81**	⇑P		**P**	**13 53 19.4**	**+0.4**
	baz=51,SNR=24								
Y17A	**Roosevelt**	**50.95**	**83**	⇑P		**P**	**13 53 18.8**	**-0.2**
	baz=51,SNR=39								
116A	**Eloy**	**51.18**	**85**	⇓P		**P**	**13 53 20.5**	**-0.2**
	baz=51								
DAG	**Danmarks Havn**	**51.36**	**6**	⇓*i*P		**P**	**13 53 21.0**	**-0.6**
DAG					pmax	pmax			
	comp=Z,30nm,1.1s,mb5.1								
DAG					MLR	MLR			
	comp=Z,19µm,22.0s,MS6.1								
DAG	**Danmarks Havn**	**51.36**	**6**	⇓*i*P		**P**	**13 53 21.0**	**-0.6**
	comp=Z,30nm,1.1s,mb5.1								
DAG				*i*			13 58 28.8		
DAG									
	comp=Z,19µm,22.0s								
Y18A	**Canyon Day Jun**	**51.40**	**82**	⇑P		**P**	**13 53 22.5**	**+0.1**
	baz=51,SNR=19								
X19A	**St. Johns**	**51.42**	**81**	⇓P		**P**	**13 53 22.9**	**+0.2**
	baz=51,SNR=30								
Z17A	**San Carlos Hig**	**51.45**	**83**	⇑P		**P**	**13 53 23.1**	**+0.3**
	baz=51								
SDCO	**Great Sand Dun**	**51.57**	**75**	*e*P		**P**	**13 53 23.6**	**-0.1**
	comp=Z,159nm,1.4s,mb5.8								
SDCO					LR	LR			
	comp=Z,5µm,22.0s,MS5.5								
OGNE	**Ogallala**	**51.60**	**70**	*e*P		**P**	**13 53 23.6**	**-0.2**
	comp=Z,1µm,1.8s,mb6.5								
OGNE					LR	LR			
	comp=Z,3µm,19.0s,MS5.4								
216A	**Three Points,**	**51.71**	**85**	⇑P		**P**	**13 53 24.4**	**-0.3**
	baz=52								
117A	**Oracle**	**51.77**	**84**	⇑P		**P**	**13 53 25.2**	**0.0**
	baz=52,SNR=41								
Z18A	**Geronimo**	**51.86**	**83**	⇓P		**P**	**13 53 26.1**	**+0.3**
	baz=52								
TUC	**Tucson**	**51.92**	**84**	*e*P		**P**	**13 53 25.5**	**-0.8**
TUC					pmax	pmax			
	comp=Z,58nm,0.9s,mb5.5								
TUC					MLR	MLR			
	comp=Z,2µm,19.0s,MS5.2								
TUC	**Tucson**	**51.92**	**84**	*e*P		**P**	**13 53 25.5**	**-0.8**
	comp=Z,58nm,0.9s,mb5.5								
TUC					LR	LR			
	comp=Z,2µm,19.0s,MS5.2								
Z19A	**T-Link Ranch,**	**52.20**	**82**	⇑P		**P**	**13 53 28.3**	**-0.1**
	baz=52								
118A	**Homack Ranch,**	**52.20**	**83**	⇑P		**P**	**13 53 28.1**	**-0.4**
	baz=52,SNR=60								
217A	**Green Valley**	**52.26**	**85**	⇓P		**P**	**13 53 28.4**	**-0.5**
	baz=52,SNR=23								
XMAS	**Kiritimati**	**52.33**	**153**	PFAKE			13 53 40.0	+10
XMAS					LR	LR			
	comp=Z,10µm,20.0s,MS5.9								
TATO	**Taipei**	**52.38**	**263**	PFAKE			13 53 40.0	+10
TATO					LR	LR			
	comp=Z,10µm,21.0s,MS5.8								
119A	**Ashpeak Ranch,**	**52.53**	**83**	⇑P		**P**	**13 53 30.8**	**-0.1**
	baz=52,SNR=22								
218A	**Dragoon**	**52.60**	**84**	⇓P		**P**	**13 53 31.5**	**0.0**
	baz=52,SNR=36								
YHNB	**Yeheng**	**52.67**	**263**	*e*P		**P**	**13 53 31.7**	**-0.3**
	comp=Z,35nm,0.7s,mb5.4								
YHNB					LR	LR			
	comp=Z,8µm,22.0s,MS5.7								
LAZ	**Ladron**	**52.77**	**80**	*e*P		**P**	**13 53 32.4**	**-0.2**
ANMO	**Albuquerque**	**52.82**	**79**	*c i*P		**P**	**13 53 33.1**	**+0.1**
ANMO	**Albuquerque**	**52.82**	**79**	*e*P		**P**	**13 53 32.4**	**-0.6**
	comp=Z,42nm,1.0s,mb5.3								
ANMO					LR	LR			
	comp=Z,6µm,21.0s,MS5.6								
NACB	**Ninganchiao**	**52.90**	**263**	*e*P		**P**	**13 53 33.0**	**-0.7**
	comp=Z,359nm,0.9s,mb6.3								
WHN	**Wuhan**	**52.90**	**274**	⇑*i*P		**P**	**13 53 33.5**	**-0.1**
WHN					S	**S**	**14 01 02.0**	**+2.0**
WHN					LR	LR			
	comp=N,7µm,17.0s,MS5.9								
WHN					LR	LR			
	comp=E,8µm,18.2s,MS5.9								
WHN					LR	LR			
	comp=Z,11µm,19.6s,MS5.9								
ECSD	**EROS,Sioux Fal**	**52.96**	**64**	*e*P		**P**	**13 53 31.0**	**-2.9**
	comp=Z,47nm,1.0s,mb5.4								
ECSD					LR	LR			
	comp=Z,5µm,22.0s,MS5.6								
318A	**Bisbee**	**53.00**	**84**	⇑P		**P**	**13 53 34.3**	**-0.1**
	baz=53,SNR=31								
LENM	**Lemitar**	**53.03**	**80**	*e*P		**P**	**13 53 34.4**	**-0.1**
219A	**White Tail Can**	**53.08**	**83**	⇓P		**P**	**13 53 34.7**	**-0.2**
	baz=53,SNR=33								
EYMN	**Ely**	**53.09**	**57**	*e*P		**P**	**13 53 34.2**	**-0.6**
	comp=Z,48nm,0.8s,mb5.5								
EYMN					LR	LR			
	comp=Z,6µm,22.0s,MS5.6								
Y22D	**IRIS PASSCAL I**	**53.12**	**80**	⇑P		**P**	**13 53 35.5**	**+0.3**
	baz=53								
SUMG	**Summit**	**53.12**	**14**	*e*P		**P**	**13 53 34.6**	**-0.1**
	comp=Z,32nm,1.1s,mb5.2								
LPM	**Los Pinos Moun**	**53.14**	**79**	*e*P		**P**	**13 53 35.1**	**-0.2**
BNM	**Barren Site**	**53.25**	**79**	*e*P		**P**	**13 53 36.1**	**-0.1**
319A	**Douglas**	**53.49**	**84**	⇑P		**P**	**13 53 37.6**	**-0.3**
	baz=53,SNR=24								
XAN	**Xi'an**	**53.88**	**281**	P		**P**	**13 53 41.0**	**+0.2**
XAN				AP		pP	13 53 49.0	-2.7
XAN				XP		sP	13 53 52.0	-4.0
XAN				PP		PP	13 55 41.0	-1.0
XAN				PPP			13 56 52.0	
XAN				S		**S**	**14 01 09.8**	**-3.5**
XAN				SCS		ScS	14 03 24.8	-2.3
XAN				SS		SS	14 04 54.5	+0.2
XAN				AMB		AMB		
	comp=Z,211nm,1.5s,mb5.8								
XAN				AMB		AMB			
	comp=Z,2µm,7.8s								
XAN				LR		LR			
	comp=N,2µm,25.2s,MS5.4								
XAN				LR		LR			
	comp=E,4µm,23.2s,MS5.4								
XAN				LR		LR			
	comp=Z,7µm,23.2s,MS5.7								
ZAA0	**Zalesovo Array**	**54.13**	**314**	*e*P		**P**	**13 53 41.1**	**-1.2**
ZALV	**Zalesovo Beam**	**54.13**	**314**	P		**P**	**13 53 41.1**	**-1.2**
	comp=Z,5.0nm,0.5s,mb4.7,baz=57,slow=5.5,SNR=14								
ZALV					PcP	PcP	13 54 45.9	-0.7	
	comp=Z,32nm,0.6s,baz=46,slow=4.3,SNR=20								
ZALV					ScP	ScP	13 58 39.0	-2.6	
	comp=Z,12nm,1.1s,baz=38,slow=7.5,SNR=3.6								
ZALV					LR	LR	14 18 11.0		
	comp=Z,6µm,20.2s,MS5.7,baz=55,slow=38								
ZALV	**Zalesovo Beam**	**54.13**	**314**	P		**P**	**13 53 41.2**	**-1.1**
ZALV							13 54 45.9		
QZH	**Quanzhou**	**54.20**	**266**	⇑*i*P		**P**	**13 53 43.8**	**+0.5**
QZH					PP	PP	13 55 45.8	+0.8
QZH					S	**S**	**14 01 20.0**	**+2.2**
QZH					AMB	AMB		
	comp=Z,5µm,3.1s								
QZH					LR	LR			
	comp=N,5µm,18.4s,MS5.7								
QZH					LR	LR			
	comp=E,3µm,16.2s,MS5.7								
QZH					LR	LR			
	comp=Z,7µm,22.2s								
NVS	**Novosibirsk**	**54.27**	**315**	⇑*i*P		**P**	**13 53 41.8**	**-1.5**
NVS				*i*			13 54 46.3		
NVS				*e*PPP			13 57 01.8		
NVS				*e*S		**S**	**14 01 14.0**	**-3.9**
NVS				*i*			14 03 27.7		
NVS					pmax	pmax			
	comp=Z,155nm,2.1s,mb5.6								
NVS					pmax	pmax			
	comp=N,82nm,2.0s								
NVS					pmax	pmax			
	comp=E,104nm,2.0s								
NVS					smax				
	comp=N,108nm,2.7s								
NVS					smax				
	comp=E,68nm,3.0s								
CBKS	**Cedar Bluff**	**54.32**	**71**	*e*P		**P**

comp=Z,16µm,19.5s,MS6.1
AMTX Amarillo 55.77 75 *e*P **P 13 53 53.6 -0.9**
comp=Z,49nm,0.7s,mb5.7
AMTX LR LR
comp=Z,7µm,22.0s,MS5.7
KSU1 Kansas State U 55.96 68 *e*P **P 13 53 54.5 -1.3**
comp=Z,188nm,0.8s,mb6.2
KSU1 LR LR
comp=Z,3µm,19.0s,MS5.4
SCIA State Center 56.04 64 *e*P **P 13 53 55.4 -0.9**
comp=Z,80nm,0.8s,mb5.8
SCIA LR LR
comp=Z,6µm,22.0s,MS5.6
JFWS Jewell Farm 57.02 61 *e*P **P 13 54 00.7 -2.5**
JFWS pmax pmax
comp=Z,37nm,0.6s,mb5.6
JFWS MLR MLR
comp=Z,9µm,19.0s,MS5.9
JFWS Jewell Farm 57.02 61 *e*P **P 13 54 00.7 -2.5**
comp=Z,37nm,0.6s,mb5.6
JFWS LR LR
comp=Z,9µm,19.0s,MS5.9
JMIC Jan Mayen 57.61 4 *e*P **P 13 54 07.5 +0.5**
JMIC *i* 13 57 47.9
JMIC *e*S **S 14 02 04.9 +3.0**
JMIC *e*S **S 14 02 05.3 +3.4**
JMIC AMS AMS 14 18 10.7
comp=Z,3µm,20.7s,MS5.4
KEV Kevo 57.65 350 PFAKE 13 54 20.0 +13
KEV LR LR
comp=Z,6µm,22.0s,MS5.7
ARCES ARCESS Array B 58.02 350 P **P 13 54 09.3 -0.5**
comp=Z,19nm,0.6s,mb5.3,baz=27,slow=8.2,SNR=81
ARCES PcP PcP 13 55 00.5 -1.0
comp=Z,48nm,0.7s,baz=15,slow=5.1,SNR=10
ARCES ScP ScP 13 58 56.9 -1.5
comp=Z,6.0nm,1.0s,baz=5.3,slow=3.9,SNR=4.2
ARCES LR LR 14 21 55.9
comp=Z,4µm,20.4s,MS5.6,baz=14,slow=39
ARCES ARCESS Array B 58.02 350 P **P 13 54 09.4 -0.5**
ARCES 13 55 00.5
ARE0 ARCESS Array S 58.02 350 *e*P **P 13 54 09.1 -0.8**
TXAR Lajitas Array 58.39 82 P **P 13 54 11.6 -1.5**
comp=Z,18nm,0.7s,mb5.2,baz=300,slow=5.6,SNR=80
TXAR LR LR 14 20 08.6
comp=Z,3µm,18.2s,MS5.4,baz=335,slow=37
TXAR PKPPKP 14 23 48.1
comp=Z,0.5nm,0.8s,baz=172,slow=10.0,SNR=3.8
LVZ Lovozero 58.39 346⇑ *e*P **P 13 54 12.6 +0.1**
LVZ MLR MLR
comp=Z,9µm,21.0s,MS5.9
TRO Tromso 58.52 353 *e*P **P 13 54 13.8 +0.5**
TRO *e*PP PP 13 56 19.8 -2.7
TRO *e*S **S 14 02 16.4 +2.5**
TRO *e*SS SS 14 06 10.9 +5.2
TRO AMS AMS 14 26 10.3
comp=Z,3µm,19.8s,MS5.5
TRO Tromso 58.52 353 *e*P **P 13 54 15.0 +1.6**
GLMI Grayling 58.73 56 *e*P **P 13 54 15.6 +0.4**
comp=Z,162nm,0.9s,mb6.1
GLMI LR LR
comp=Z,8µm,21.0s,MS5.8
GZH Guangzhou 58.83 268 P **P 13 54 12.5 -3.7**
GZH S **S 14 02 13.0 -6.1**
GZH LR LR
comp=N,3µm,22.5s,MS5.4
GZH LR LR
comp=E,2µm,18.2s,MS5.4
GZH LR LR
comp=Z,3µm,21.0s,MS5.4
APA Apatity 58.88 346⇓ *i*P **P 13 54 15.0 -0.9**
APA *i* 13 55 04.2
APA *i* S **S 14 02 14.0 -4.5**
APA *i* PS 14 02 36.0
APA *e* 14 04 00.0
APA *e*SS SS 14 06 14.0 +2.7
APA pmax pmax
comp=Z,310nm,2.0s,mb6.0
APA pmax pmax
comp=Z,2µm,6.0s
APA MLR MLR
comp=Z,8µm,23.0s,MS5.8
KURK Kurchatov 59.12 314 P **P 13 54 17.3 -0.5**
comp=Z,252nm,0.7s,mb6.4,SNR=19
KURK Kurchatov 59.12 314⇑ *e*P **P 13 54 16.9 -0.9**
KURK pmax pmax
comp=Z,135nm,1.7s,mb5.7
KURK MLR MLR
comp=Z,17µm,19.0s,MS6.2
KURK Kurchatov 59.12 314⇑ *e*P **P 13 54 16.0 -1.8**
HDIL Hopedale 59.14 63 *e*P **P 13 54 17.2 -0.9**
comp=Z,273nm,1.0s,mb6.2
HDIL LR LR
comp=Z,6µm,22.0s,MS5.7
CD2 Chengdu 59.20 282 P **P 13 54 19.0 +0.4**
CD2 PCP PcP 13 55 07.5 +0.7
CD2 PP PP 13 56 32.5 +3.1
CD2 PCS PcS 13 59 07.8 -1.0
CD2 S **S 14 02 20.3 -3.4**
CD2 XS sS 14 02 44.5 +2.7
CD2 SCS ScS 14 04 00.3 -5.4
CD2 SS SS 14 06 16.3 -1.6
CD2 AMB AMB
comp=Z,300nm,1.4s,mb6.1
CD2 AMB AMB
comp=Z,3µm,6.4s
CD2 LR LR
comp=N,5µm,19.2s,MS5.9
CD2 LR LR
comp=E,5µm,15.2s,MS5.9
CD2 LR LR
comp=Z,6µm,19.2s,MS5.7
WMQ Urumqi 59.49 303 ⇑P **P 13 54 20.8 +0.3**
WMQ AP pP 13 54 34.8 +3.3
WMQ PCP PcP 13 55 07.8 +0.1
WMQ PP PP 13 56 34.3 +2.7
WMQ PPP 13 58 00.3
WMQ SCP ScP 13 59 03.3 -2.1
WMQ PCS PcS 13 59 08.5 -1.2
WMQ S **S 14 02 25.8 -1.3**
WMQ XS sS 14 02 45.8 +0.6
WMQ SCS ScS 14 04 03.3 -4.1
WMQ SS SS 14 06 23.3 +1.4
WMQ AMB AMB
comp=Z,95nm,0.9s,mb5.8
WMQ AMB AMB
comp=Z,2µm,5.5s
WMQ LR LR
comp=N,9µm,21.7s,MS6.0
WMQ LR LR
comp=E,9µm,22.7s,MS6.0
WMQ LR LR
comp=Z,12µm,21.7s,MS6.0
CCM Cathedral Cave 59.76 66 *e*P **P 13 54 20.5 -1.9**
CCM pmax pmax
comp=Z,185nm,1.4s,mb5.9
CCM MLR MLR
comp=Z,3µm,22.0s,MS5.4
CCM Cathedral Cave 59.76 66 *e*P **P 13 54 20.5 -2.0**
comp=Z,186nm,1.4s,mb5.9
CCM LR LR
comp=Z,3µm,22.0s,MS5.4
FUNA Funafuti 59.81 183 PFAKE 13 54 30.0 +7.1
FUNA LR LR
comp=Z,12µm,19.0s,MS6.0
SLM Saint Louis 59.93 65 *e*P **P 13 54 22.1 -1.5**
SLM pmax pmax
comp=Z,69nm,0.6s,mb5.9
SLM Saint Louis 59.93 65 *e*P **P 13 54 22.1 -1.5**
comp=Z,69nm,0.6s,mb5.9
JCT Junction City 59.96 78 *e*P **P 13 54 21.5 -2.4**
JCT pmax pmax
comp=Z,71nm,0.9s,mb5.7
JCT MLR MLR
comp=Z,9µm,21.0s,MS5.9
JCT Junction City 59.96 78 *e*P **P 13 54 21.4 -2.4**
comp=Z,71nm,0.9s,mb5.7
JCT LR LR
comp=Z,9µm,21.0s,MS5.9
MK31 Makanchi Array 60.16 309 *i*P **P 13 54 24.9 -0.1**
MKAR Makanchi Array 60.16 309 P **P 13 54 23.5 -1.5**
comp=Z,10nm,0.6s,mb5.1,baz=39,slow=6.9,SNR=50
MKAR PcP PcP 13 55 10.4 0.0
comp=Z,16nm,0.8s,baz=60,slow=2.7,SNR=4.1
MKAR LR LR 14 20 10.6
comp=Z,5µm,21.6s,MS5.6,baz=38,slow=36
MKAR PKPPKP 14 23 48.0
comp=Z,1.6nm,1.1s,baz=108,slow=0.4,SNR=4.2
MKAR Makanchi Array 60.16 309 P **P 13 54 23.5 -1.5**
MKAR 13 55 10.4
FVM French Village 60.28 65 *e*P **P 13 54 24.3 -1.7**
FVM pmax pmax
comp=Z,94nm,0.9s,mb5.8
FVM French Village 60.28 65 *e*P **P 13 54 24.3 -1.7**
comp=Z,94nm,0.9s,mb5.8
GYA Guiyang 60.56 276⇑ *i*P **P 13 54 28.0 -0.1**
GYA AP pP 13 54 38.3 -0.8
GYA XP sP 13 54 42.5 -0.8
GYA PP PP 13 56 43.3 +1.8
GYA PPP 13 58 11.0
GYA SCP ScP 13 59 09.8 -0.6
GYA S **S 14 02 38.5 -2.8**
GYA XS sS 14 02 55.8 -3.7
GYA SS SS 14 06 38.0 -1.5
GYA AMB AMB
comp=Z,30nm,1.0s,mb5.4
GYA AMB AMB
comp=Z,2µm,7.2s
GYA LR LR
comp=N,3µm,23.2s,MS5.6
GYA LR LR
comp=E,4µm,21.4s,MS5.6
GYA LR LR
comp=Z,2µm,23.3s,MS5.3
MIAR Mount Ida 60.85 70 *e*P **P 13 54 29.1 -0.8**
MIAR pmax pmax
comp=Z,143nm,0.9s,mb6.1
MIAR MLR MLR
comp=Z,4µm,21.0s,MS5.6
MIAR Mount Ida 60.85 70 *e*P **P 13 54 29.1 -0.8**
comp=Z,143nm,0.9s,mb6.1
MIAR LR LR
comp=Z,4µm,21.0s,MS5.6
VOSK Vostochnaya 60.95 319 P **P 13 54 29.3 -1.0**
VOSK pmax pmax
comp=Z,67nm,1.8s,mb5.5
BVA0 Borovoye Array 60.96 320 P **P 13 54 30.8 +0.4**
BVA0 pmax pmax
comp=Z,4.0nm,0.4s,mb4.9
BRVK Borovoye 60.98 320 P **P 13 54 30.1 -0.4**
comp=Z,299nm,0.5s,mb6.7,SNR=31
BRVK Borovoye 60.98 320 *i*P **P 13 54 30.9 +0.4**
AAM Ann Arbor 60.98 58 *e*P **P 13 54 30.2 -0.5**
AAM pmax pmax
comp=Z,66nm,0.6s,mb5.9
AAM MLR MLR
comp=Z,5µm,20.0s,MS5.6
AAM Ann Arbor 60.98 58 *e*P **P 13 54 30.2 -0.5**
comp=Z,66nm,0.6s,mb5.9
AAM LR LR
comp=Z,5µm,20.0s,MS5.6
OLIL Olney 61.06 63 *e*P **P 13 54 30.2 -1.2**
comp=Z,329nm,0.8s,mb6.5
SIUC Southern Illin 61.15 65 *e*P **P 13 54 31.0 -0.9**
comp=Z,138nm,0.9s,mb6.1
UALR University of 61.41 69 *e*P **P 13 54 32.1 -1.6**
comp=Z,74nm,1.0s,mb5.8
PARMO Parma 61.58 66 *e*P **P 13 54 34.1 -0.7**
SVE Sverdlovsk 61.63 328⇓ *e*P **P 13 54 35.4 +0.6**
SVE *e* 13 55 15.8
SVE *e*PPP 13 58 16.9
SVE *e*S **S 14 02 55.9 +1.8**
SVE pmax pmax
comp=Z,186nm,1.8s,mb5.9
SVE MLR MLR
comp=Z,22µm,22.0s,MS6.3
BLO Bloomington 61.63 62 *e*P **P 13 54 34.1 -1.1**
BLO pmax pmax
comp=Z,238nm,0.9s,mb6.3
BLO Bloomington 61.63 62 *e*P **P 13 54 34.1 -1.0**
comp=Z,238nm,0.9s,mb6.3
HBAR Harrisburg 61.84 68 P **P 13 54 36.3 -0.3**
USIN University of 61.85 64 *e*P **P 13 54 35.6 -1.0**
comp=Z,384nm,0.8s,mb6.6
GLAT Glass 62.12 66 *e*P **P 13 54 38.3 -0.2**
HALT Halls 62.35 66 *e*P **P 13 54 40.4 +0.4**
WCI Wyandotte Cave 62.43 63 *e*P **P 13 54 39.4 -1.1**
WCI pmax pmax
comp=Z,194nm,0.8s,mb6.3
WCI MLR MLR
comp=Z,6µm,19.0s,MS5.7
WCI Wyandotte Cave 62.43 63 *e*P **P 13 54 39.4 -1.1**
comp=Z,194nm,0.8s,mb6.3
WCI LR LR
comp=Z,6µm,19.0s,MS5.7
ARU Arti 62.64 328 P **P 13 54 41.4 -0.2**
comp=Z,497nm,1.1s,mb6.5,SNR=23
ARU Arti 62.64 328 *e*P **P 13 54 41.8 +0.2**
ARU *e* 13 55 19.0
ARU *e* 13 56 57.2
ARU *e*PPP 13 58 33.1
ARU *e*S **S 14 03 09.9 +3.1**
ARU *e* 14 04 28.1
ARU *e*SS SS 14 07 19.1 +8.6
ARU pmax pmax
comp=Z,212nm,1.7s,mb6.0
ARU MLR MLR
comp=Z,9µm,20.0s,MS6.0
ARU Arti 62.64 328⇑ *i*P **P 13 54 42.1 +0.5**
HKT Hockley 62.75 75 *e*P **P 13 54 42.0 -0.7**
HKT pmax pmax
comp=Z,128nm,1.4s,mb5.9
HKT MLR MLR
comp=Z,3µm,19.0s,MS5.5
HKT Hockley 62.75 75 *e*P **P 13 54 42.0 -0.8**
comp=Z,128nm,1.4s,mb5.9
HKT LR LR
comp=Z,3µm,19.0s,MS5.5
ACSO Alum Creek Sta 62.81 59 *e*P **P 13 54 41.5 -1.5**
comp=Z,126nm,1.0s,mb6.0
ACSO LR LR
comp=Z,6µm,22.0s,MS5.7
ERPA Erie 63.03 56 *e*P **P 13 54 44.7 +0.3**
comp=Z,56nm,0.8s,mb5.8
ERPA LR LR
comp=Z,6µm,19.0s,MS5.8
WVT Waverly 63.05 65 *e*P **P 13 54 43.7 -1.0**
WVT pmax pmax
comp=Z,117nm,0.9s,mb6.0
WVT MLR MLR
comp=Z,4µm,22.0s,MS5.6
WVT Waverly 63.05 65 *e*P **P 13 54 43.7 -0.9**
comp=Z,117nm,0.9s,mb6.0
WVT LR LR
comp=Z,4µm,22.0s,MS5.6
KVTX Kingsville 63.22 79 PFAKE 13 55 00.0 +14
KVTX LR LR
comp=Z,4µm,22.0s,MS5.5
ALLY Alegheny Colle 63.29 56 *e*P **P 13 54 46.2 +0.1**
comp=Z,137nm,0.8s,mb6.1
OXF Oxford 63.30 68 *e*P **P 13 54 45.4 -1.0**
OXF pmax pmax
comp=Z,411nm,1.0s,mb6.5
OXF MLR MLR
comp=Z,3µm,19.0s,MS5.5
OXF Oxford 63.30 68 *e*P **P 13 54 45.4 -1.0**
comp=Z,411nm,1.0s,mb6.5
OXF LR LR
comp=Z,3µm,19.0s,MS5.5
HNR Honiara 63.50 204 LR LR 14 16 09.0
comp=Z,4µm,22.0s,MS5.5,baz=18,slow=30
HNR Honiara 63.50 204 PFAKE 13 55 00.0 +12
HNR LR LR
comp=Z,4µm,21.0s,MS5.5
JOF Joensuu 63.55 345 *e*p **P 13 54 46.8 -0.7**
comp=Z,49nm,0.7s,mb5.6
DAV Davao City (W) 63.76 247 P **P 13 54 49.3 -0.3**
comp=Z,68nm,0.3s,mb6.1,baz=306,slow=4.8,SNR=4.2
DAV LR LR 14 18 01.2
comp=Z,6µm,22.0s,MS5.7,baz=233,slow=32
DAV Davao City (W) 63.76 247⇑ *i*P **P 13 54 46.8 -2.8**
LONY Lake Ozonia 63.91 51 *e*P **P 13 54 48.8 -1.4**
comp=Z,136nm,1.8s,mb5.7
LONY LR LR
comp=Z,6µm,20.0s,MS5.8
KLMR Klimovskoe 63.95 340 *i*P **P 13 54 49.9 -0.3**
KLMR pmax pmax
comp=Z,130nm,1.9s,mb5.6
KMI Kunming 63.96 278⇑ P **P 13 54 51.0 +0.2**
KMI AP pP 13 55 01.5 -0.4
KMI XP sP 13 55 05.8 -0.4
KMI PP PP 13 57 10.0 -1.5
KMI PPP 13 58 44.0
KMI SCP 13 59 24.8
KMI PCS 13 59 28.3
KMI S **S 14 03 22.5 -1.6**
KMI XS sS 14 03 40.3 -2.1
KMI PS 14 03 46.0
KMI SKS 14 04 38.0
KMI SS SS 14 07 33.0 +0.4
KMI SSS 14 10 21.0
KMI AMB AMB
comp=Z,128nm,1.7s,mb5.7
KMI AMB AMB
comp=Z,3µm,6.3s
KMI LR LR
comp=N,3µm,24.1s,MS5.5
KMI LR LR
comp=E,3µm,26.1s,MS5.5
KMI LR LR
comp=Z,5µm,32.4s
QIZ Qiongzhong 64.02 268 P **P 13 54 52.5 +1.2**
QIZ XP sP 13 55 04.5 -2.1
QIZ PP PP 13 57 11.3 -0.8
QIZ S **S 14 03 27.5 +2.5**
QIZ XS sS 14 03 42.5 -0.8
QIZ SS SS 14 07 36.5 +2.7
QIZ AMB AMB
comp=Z,78nm,1.6s,mb5.5
QIZ AMB AMB
comp=Z,2µm,8.2s
QIZ LR LR
comp=N,3µm,21.6s
QIZ LR LR
comp=Z,3µm,21.8s,MS5.5
QIZ Qiongzhong 64.02 268 *e*P **P 13 54 52.1 +0.8**
comp=Z,196nm,2.0s,mb5.8
QIZ LR LR
comp=Z,4µm,22.0s,MS5.5
NSS Namsos 64.03 355 AMS AMS 14 21 38.2
comp=Z,5µm,20.9s,MS5.7
FRNY Flat Rock 64.23 50 *e*P **P 13 54 50.8 -1.5**
comp=Z,4.6nm,0.5s,mb4.8
VBMS Vicksburg 64.30 70 *e*P **P 13 54 53.1 +0.2**
comp=Z,340nm,1.1s,mb6.3
VBMS LR LR
comp=Z,6µm,19.0s,MS5.8
NCB Newcomb 64.57 51 *e*P **P 13 54 50.5 -4.0**
comp=Z,43nm,1.0s,mb5.4
NCB LR LR
comp=Z,7µm,22.0s,MS5.8
SWET Sewanee 64.78 65 *e*P **P 13 54 54.8 -1.3**
MCWV Mont Chateau 64.89 57 *e*P **P 13 54 55.5 -1.2**
comp=Z,30nm,0.8s,mb5.4
MCWV LR LR
comp=Z,8µm,20.0s,MS5.9
BINY Binghamton 65.01 53 *e*P **P 13 54 56.3 -1.1**
comp=Z,216nm,1.4s,mb6.0
BINY LR LR
comp=Z,5µm,20.0s,MS5.7
KAF Kangasniemi 65.05 347 *e*p **P 13 54 56.5 -0.9**
comp=Z,38nm,0.8s,mb5.5,baz=13,slow=5.9
KAF Kangasniemi 65.05 347 *e*P **P 13 54 56.5 -0.9**
KAF pmax pmax
comp=Z,38nm,0.8s,mb5.5
TZTN Tazewell 65.16 62 *e*P **P 13 54 58.0 -0.5**
comp=Z,275nm,1.0s,mb6.2
TZTN LR LR
comp=Z,6µm,19.0s,MS5.8
SSPA Standing Stone 65.19 56 *e*P **P 13 54 58.1 -0.6**
comp=Z,52nm,0.9s,mb5.6
SSPA LR LR
comp=Z,4µm,19.0s,MS5.7
ACCN Adirondack Com 65.27 51 *e*P **P 13 54 58.1 -1.0**
comp=Z,111nm,1.5s,mb5.7
AFI Afiamalu 65.38 173 LR LR 14 16 31.3
comp=Z,3µm,21.2s,MS5.5,baz=331,slow=30
AFI Afiamalu 65.38 173 PFAKE 13 55 10.0 +10
AFI LR LR
comp=Z,4µm,21.0s,MS5.6
CPCT Cooper Cave 65.41 64 *e*P **P 13 54 58.8 -1.3**
LBNH Lisbon 65.47 49 *e*P **P 13 54 59.6 -0.8**
LBNH pmax pmax
comp=Z,17nm,0.8s,mb5.1
LBNH MLR MLR
comp=Z,9µm,20.0s,MS6.0
LBNH Lisbon 65.47 49 *e*P **P 13 54 59.6 -0.7**
comp=Z,17nm,0.8s,mb5.1
LBNH LR LR
comp=Z,9µm,20.0s,MS6.0
TKL Tuckaleechee C 65.67 63 *e*P **P 13 55 01.0 -0.8**
PKME Peaks-Kenny Pk 65.92 47 P **P 13 55 01.0 -2.3**
comp=Z,87nm,1.4s,mb5.6
PKME LR LR
comp=Z,8µm,19.0s,MS5.9
ELN Prospectdale 66.19 60 *e*P **P 13 55 04.1 -1.0**
TKM2 Tokmak 2 66.24 310 *e*P **P 13 55 05.0 -0.3**
TKM2 pmax pmax
comp=Z,97nm,1.2s,mb5.7
TKM2 MLR MLR
comp=Z,4µm,20.0s,MS5.6
TKM2 Tokmak 2 66.24 310 P **P 13 55 05.3 -0.1**
SNR=72
TKM2 Tokmak 2 66.24 310 *e*P **P 13 55 05.0 -0.4**
comp=Z,97nm,1.2s,mb5.7
TKM2 LR LR
comp=Z,4µm,20.0s,MS5.6
BLA Blacksburg 66.38 60 *e*P **P 13 55 05.5 -0.8**
BLA pmax pmax
comp=Z,452nm,1.7s,mb6.2
BLA MLR MLR
comp=Z,5µm,20.0s,MS5.7
BLA Blacksburg 66.38 60 *e*P **P 13 55 05.5 -0.8**
comp=Z,452nm,1.7s,mb6.2
BLA LR LR
comp=Z,5µm,20.0s,MS5.7
ULHL Ulahol 66.43 309 P **P 13 55 07.4 +0.8**
SNR=36
MVL Millersville 66.45 55 *e*P **P 13 55 05.4 -1.4**
comp=Z,19nm,0.8s,mb5.2
USP Ospenovka 66.50 310 P **P 13 55 07.1 0.0**
SNR=65
CHMS Chumysh 66.58 310 P **P 13 55 08.3 +0.8**
SNR=14
SDMD Soldier's Deli 66.64 56 *e*P **P 13 55 07.5 -0.4**
comp=Z,14nm,0.6s,mb5.2
QUA2 Belchertown 66.74 51 *e*P **P 13 55 06.6 -2.0**
comp=Z,20nm,1.0s,mb5.1
KBK Karagaybulak 66.75 310 P **P 13 55 08.8 +0.2**
SNR=57
FRU Bishkek 66.77 310⇑ *e*P **P 13 55 09.0 +0.2**
FRU *e* 14 04 02.0
FRU pmax pmax
comp=Z,160nm,2.0s,mb5.7
FRU MLR MLR
comp=Z,6µm,18.0s,MS5.9
BRNJ Basking Ridge 66.85 53 *e*P **P 13 55 08.9 -0.4**
comp=Z,50nm,0.8s,mb5.6
PAL Palisades 66.94 53 *e*P **P 13 55 09.4 -0.4**
PAL pmax pmax
comp=Z,46nm,0.8s,mb5.6
PAL Palisades 66.94 53 *e*P **P 13 55 09.4 -0.4**
comp=Z,46nm,0.8s,mb5.5
HRV Adam Dziewonsk 66.95 50 *e*P **P 13 55 09.2 -0.7**
HRV pmax pmax
comp=Z,19nm,0.9s,mb5.1
HRV MLR MLR
comp=Z,6µm,21.0s,MS5.8
HRV Adam Dziewonsk 66.95 50 *e*P **P 13 55 09.2 -0.7**
comp=Z,19nm,0.9s,mb5.1
HRV LR LR
comp=Z,6µm,21.0s,MS5.8
AAK Ala-Archa 66.98 310 P **P 13 55 10.2 +0.1**
comp=Z,380nm,1.4s,mb6.2,SNR=35
AAK Ala-Archa 66.98 310 P **P 13 55 10.3 +0.2**
SNR=59
KZA Kyzart 67.04 309 P **P 13 55 11.2 +0.7**
SNR=36
CPNY Central Park 67.07 53 *e*P **P 13 55 10.6 -0.1**
comp=Z,45nm,0.7s,mb5.6
WES Weston 67.16 50 *e*P **P 13 55 10.4 -0.8**
WES pmax pmax
comp=Z,53nm,0.9s,mb5.6
WES MLR MLR
comp=Z,5µm,21.0s,MS5.7
WES Weston 67.16 50 *e*P **P 13 55 10.3 -0.9**
comp=Z,53nm,0.9s,mb5.6
WES LR LR
comp=Z,5µm,21.0s,MS5.7

BRAL Brewton 67.20 69 *e*P **P** 13 55 11.9 +0.3
comp=Z,408nm,1.0s,mb6.4
BRAL LR LR
comp=Z,3μm,20.0s,MS5.5
CBN Corbin 67.26 57 PFAKE 13 55 20.0 +8.1
CBN LR LR
comp=Z,10μm,20.0s,MS6.0
UCH Uchtor 67.28 310 P **P** 13 55 16.3 +4.2
SNR=6.0
UCH Uchtor 67.28 310 *e*P **P** 13 55 13.8 +1.8
comp=Z,33nm,1.3s,mb5.2
UCH LR LR
comp=Z,2μm,20.0s,MS5.4
EKS2 Erkin-Say 67.31 310 P **P** 13 55 12.5 +0.3
SNR=56
EKS2 Erkin-Say 67.31 310 *e*P **P** 13 55 12.1 0.0
comp=Z,203nm,1.5s,mb5.9
EKS2 LR LR
comp=Z,8μm,19.0s,MS5.9
BRYW Bryant College 67.41 51 *e*P **P** 13 55 11.1 -1.8
comp=Z,27nm,0.7s,mb5.4
GOGA Godfrey 67.49 64 *e*P **P** 13 55 11.9 -1.6
GOGA pmax pmax
comp=Z,210nm,0.8s,mb6.2
GOGA MLR MLR
comp=Z,5μm,20.0s,MS5.7
GOGA Godfrey 67.49 64 *e*P **P** 13 55 11.9 -1.6
comp=Z,210nm,0.8s,mb6.2
GOGA LR LR
comp=Z,5μm,20.0s,MS5.7
PMG Port Moresby 67.54 217 PFAKE 13 55 30.0 +16
PMG LR LR
comp=Z,4μm,20.0s,MS5.6
NB2 NORSAR Subarra 67.55 355 P **P** 13 55 13.2 -0.2
comp=Z,1μm,3.3s,baz=6.5,slow=6.5
NOA NORSAR Array B 67.55 355 P **P** 13 55 12.1 -1.4
comp=Z,9.2nm,0.6s,mb5.0,baz=339,slow=4.7,SNR=33
NOA LR LR 14 23 54.4
comp=Z,3μm,20.5s,MS5.5,baz=5.0,slow=35
LSA Lhasa 67.64 290 P **P** 13 55 16.5 +2.0
LSA AMB AMB
comp=Z,710nm,1.0s,mb6.7
LSA AMB AMB
comp=Z,3μm,4.0s
LSA LR LR
comp=N,3μm,17.0s,MS5.8
LSA LR LR
comp=E,6μm,21.0s,MS5.8
LSA LR LR
comp=Z,7μm,20.0s,MS5.9
LSA Lhasa 67.64 290 *e*P **P** 13 55 16.9 +2.4
LSA pmax pmax
comp=Z,1μm,1.3s,mb6.8
LSA MLR MLR
comp=Z,7μm,19.0s,MS5.9
LSA Lhasa 67.64 290 *e*P **P** 13 55 16.9 +2.4
comp=Z,1μm,1.3s,mb6.8
LSA LR LR
comp=Z,7μm,19.0s,MS5.9
URVA University of 67.65 58 *e*P **P** 13 55 13.3 -1.1
AKTK Aktyubinsk 67.74 325 *i*P **P** 13 55 14.1 -0.6
AKTO Aktyubinsk 67.74 325 *i*P **P** 13 55 14.1 -0.6
AML Almayashu 67.75 310 P **P** 13 55 15.9 +1.0
SNR=48
AML Almayashu 67.75 310 *e*P **P** 13 55 15.8 +0.9
comp=Z,226nm,1.5s,mb6.0
AML LR LR
comp=Z,7μm,20.0s,MS5.9
NAO01 NORSAR Array S 67.77 355 PFAKE 13 55 30.0 +15
NAO01 LR LR
comp=Z,7μm,22.0s,MS5.8
JSC Jenkinsville 68.08 62 *e*P **P** 13 55 17.1 -0.1
BER Bergen 68.44 358 *e*P **P** 13 55 16.9 -2.1
BER *e*PP PP 13 57 46.9 -2.6
BER *e*S S 14 04 18.1 +0.6
BER AMS AMS 14 19 33.8
comp=Z,3μm,27.9s,MS5.3
KK31 Karatay Array 68.49 313 *i*P **P** 13 55 18.8 -0.8
KSH Kashi 68.63 307 *e*P **P** 13 55 20.5 0.0
KSH *e*AP pP 13 55 30.5 -1.2
KSH *e*XP sP 13 55 34.5 -1.5
KSH *e*PCP PcP 13 55 46.3 +1.0
KSH *e*PP PP 13 57 52.3 +0.5
KSH *e*PPP 13 59 29.5
KSH *e*SCP 13 59 46.8
KSH *e*PCS 13 59 50.5
KSH *e*S S 14 04 16.3 -4.2
KSH *e*PS 14 04 44.5
KSH *e*SCS ScS 14 05 13.5 -4.0
KSH AMB AMB
comp=Z,60nm,0.8s,mb5.6
KSH LR LR
comp=N,3μm,7.8s
KSH LR LR
comp=E,8μm,12.0s
KSH LR LR
comp=Z,4μm,11.6s,MS5.9
KONO Kongsberg 69.02 356 *e*P **P** 13 55 20.3 -2.4
KONO *e*PP PP 13 57 54.5 -0.1
KONO *e*S S 14 04 24.6 +0.2
KONO *e*SS SS 14 08 55.5 +6.1
KONO AMS AMS 14 29 55.4
comp=Z,4μm,19.9s,MS5.6
KONO Kongsberg 69.02 356⇑*e*P **P** 13 55 22.8 +0.2
MOS Moscow 69.04 339 *e*P **P** 13 55 19.8 -3.0
MOS *e* pP 13 55 33.4 -0.6
MOS *e*PPP 13 59 32.1
MOS pmax pmax
comp=Z,2μm,3.0s
MOS pmax pmax
comp=Z,477nm,1.8s,mb6.1
MOS MLR MLR
comp=Z,9μm,17.0s,MS6.1
COW Cow Castle Cre 69.06 63 *e*P **P** 13 55 24.0 +0.7
CNNC Cliffs of the 69.21 59 *e*P **P** 13 55 22.9 -1.2
CNNC LR LR
comp=Z,5μm,20.0s,MS5.8
MYLDM Lahad Datu 69.41 252⇑P **P** 13 55 27.1 +1.4
NHSC New Hope 69.56 62 *e*P **P** 13 55 25.3 -1.1
comp=Z,612nm,0.9s,mb6.5
NHSC LR LR
comp=Z,7μm,22.0s,MS5.8
CHRT Chiangrai 69.67 277⇑P **P** 13 55 27.5 +0.3
comp=Z,329nm,1.6s,mb6.0
SDKM Sandakan 69.82 253⇑P **P** 13 55 28.1 -0.1
OBN Obninsk 69.85 339 P **P** 13 55 27.0 -0.8
comp=Z,931nm,1.0s,mb6.7,SNR=9.8
OBN Obninsk 69.85 339*α i*P **P** 13 55 27.8 0.0
OBN *e* 13 55 45.1
OBN *e* 13 55 48.8
OBN *e* 13 58 10.1
OBN *e*S S 14 04 33.7 -0.6
OBN *e* 14 05 26.0
OBN pmax pmax
comp=Z,448nm,1.8s,mb6.1
OBN MLR MLR
comp=Z,8μm,17.0s,MS6.0
NANT Nan 69.90 275⇑P **P** 13 55 28.0 -0.7
comp=Z,428nm,1.2s,mb6.2
KKM Kota Kinabalu 70.09 254 *e*P **P** 13 55 29.4 -0.5
KKM LR LR
comp=Z,3μm,22.0s,MS5.5
SHL Shillong 70.26 286⇑*i*P **P** 13 55 31.5 +0.7
SHL *i*S S 14 04 40.4 +0.4
KKTK Khon Kaen 70.43 272⇑P **P** 13 55 31.5 -0.4
comp=Z,1μm,0.4s,mb7.1
GTK Gangtok 70.88 290 *ex* x 13 55 22.0
CHG Chiang Mai 70.98 276⇑P **P** 13 55 35.2 -0.1
comp=Z,64nm,1.3s,mb5.4
CHTO Chiang Mai 70.98 276 *e*P **P** 13 55 34.5 -0.8
CHTO pmax pmax
comp=Z,159nm,1.6s,mb5.7
CHTO MLR MLR
comp=Z,2μm,19.0s,MS5.4
CHTO Chiang Mai 70.98 276 *e*P **P** 13 55 34.5 -0.7
comp=Z,159nm,1.6s,mb5.7
CHTO LR LR
comp=Z,2μm,19.0s,MS5.4
CM31 Chiang Mai Arr 71.25 276 PFAKE 13 55 50.0 +13
CM31 LR LR
comp=Z,4μm,19.0s,MS5.6
CMAR Chiang Mai Arr 71.25 276 P **P** 13 55 37.0 +0.1
comp=Z,31nm,0.7s,mb5.3,baz=27,slow=6.7,SNR=158
CMAR LR LR 14 30 38.3
comp=Z,4μm,19.3s,MS5.7,baz=51,slow=39
CMAR Chiang Mai Arr 71.25 276 *i*P **P** 13 55 37.0 +0.1

MDO Dochfour 71.32 3 *e*P **P** 13 55 36.0 -0.8
PMOR Pomariorio Ree 71.35 149 *e*P **P** 13 55 36.8 -0.5
comp=Z,72nm,1.0s,mb5.5
TAPN Taplejung 71.40 291 *e*P **P** 13 55 39.2 +1.5
comp=Z,5μm,1.4s
KSB Sheil Bridge 71.51 4 *e*P **P** 13 55 37.8 0.0
VAH Vaihoa 71.66 149 *e*P **P** 13 55 39.5 +0.3
comp=Z,96nm,1.0s,mb5.7
ODAN Odare 71.96 290 *e*P **P** 13 55 42.3 +1.2
comp=Z,4μm,1.7s,mb7.1
GUN Gumba 72.05 292 *e*P **P** 13 55 43.2 +1.6
comp=Z,726nm,0.4s,mb7.0
JIRN Jiri 72.06 292 *e*P **P** 13 55 43.4 +1.8
comp=Z,1μm,0.7s,mb7.0
BDT Bhumibol Dam 72.13 275⇓P **P** 13 55 42.2 0.0
comp=Z,31nm,0.8s,mb5.3
MNK Minsk 72.13 344⇑*e*P **P** 13 55 40.0 -1.6
MNK *e* 13 58 20.0
MNK *e*PPP 14 00 07.0
MNK *e*S S 14 04 58.0 -2.8
MNK *e*PS 14 05 42.0
MNK pmax pmax
comp=Z,460nm,1.8s,mb6.1
MNK pmax pmax
comp=N,360nm,2.0s
MNK MLR MLR
comp=Z,17μm,22.0s,MS6.3
MNK MLR MLR
comp=N,8μm,20.0s,MS6.3
MNK MLR MLR
comp=E,14μm,22.0s,MS6.3
MUD Monsted U'grnd 72.23 356 *i*P **P** 13 55 41.3 -0.9
comp=E,18nm,1.0s,mb5.0
MUD *e*S S 14 05 05.6 +3.7
MUD
comp=Z,4μm,21.0s
MUD Monsted U'grnd 72.23 356 *i*P **P** 13 55 41.3 -0.9
comp=Z,18nm,1.0s,mb5.0
MUD *e*S S 14 05 05.6 +3.7
VRHR Novokhopersk 72.31 335 *de*P **P** 13 55 42.7 -0.1
VRHR *e*S S 14 05 00.4 -2.5
VRHR pmax pmax
comp=Z,230nm,1.5s,mb5.9
VRHR pmax pmax
comp=N,260nm,1.9s
VRHR pmax pmax
comp=E,140nm,1.8s
VRHR smax
comp=N,1μm,5.1s
VRHR smax
comp=E,800nm,4.7s
VRHR smax
comp=Z,350nm,4.7s
VRHR MLR MLR
comp=Z,6μm,19.0s,MS5.9
VRHR MLR MLR
comp=N,6μm,20.0s,MS6.0
VRHR MLR MLR
comp=E,5μm,20.0s,MS6.0
RAMN Ramite 72.35 291 *e*P **P** 13 55 44.7 +1.3
comp=E,978nm,0.5s,mb7.0
KKN Kakani 72.48 293 *e*P **P** 13 55 45.5 +1.3
comp=E,1μm,0.8s,mb6.9
EBH Black Hill 72.54 3 *e*P **P** 13 55 43.8 -0.3
EAB Aberfoyle 72.57 3 *e*P **P** 13 55 44.2 0.0
PKI Pulchoki 72.58 292 *e*P **P** 13 55 46.0 +1.3
PKIN Phulchoki 72.58 292 *e*P **P** 13 55 46.0 +1.2
comp=E,510nm,0.6s,mb6.6
DWPF Disney 72.61 67 PFAKE 13 56 00.0 +15
DWPF LR LR
comp=Z,3μm,20.0s,MS5.6
NST Nakhon Sawan 72.61 273 P **P** 13 55 45.0 -0.1
GKN Gorkha 72.69 293 *e*P **P** 13 55 46.3 +0.9
DMN Daman 72.72 293 *e*P **P** 13 55 47.0 +1.4
comp=Z,3μm,1.4s,mb7.0
COP Copenhagen 72.81 354⇑*i*P **P** 13 55 45.4 -0.3
COP *i* 13 58 27.2
COP *e*S S 14 05 11.3 +2.8
COP pmax pmax
comp=Z,31nm,0.9s,mb5.2
COP MLR MLR
comp=Z,2μm,18.0s,MS5.3
COP Copenhagen 72.81 354⇑*i*P **P** 13 55 45.4 -0.3
comp=Z,31nm,0.9s,mb5.2
COP *i* 13 58 27.2
COP *e*S S 14 05 11.3 +2.8
COP
comp=Z,2μm,18.0s
EDI Edinburgh 72.88 3 *e*P **P** 13 55 45.7 -0.4
ESY Stoneypath 72.90 2 *e*P **P** 13 55 46.5 +0.3
DANN Dangsing 72.93 294 *e*P **P** 13 55 48.1 +1.2
PGBU Glenifferbraes 72.94 4 *e*P **P** 13 55 46.8 +0.3
PGBU AMb AMB 13 55 50.0
comp=Z,217nm,1.8s,mb5.8
EAU Auchinoon 72.95 3 *e*P **P** 13 55 46.8 +0.3
EBL Broad Law 73.03 3 *e*P **P** 13 55 46.4 -0.5
COEN Coen 73.24 219 *e*P **P** 13 55 47.0 -1.7
comp=Z,33nm,1.2s,mb5.1
PPT Papeete 73.24 151 *e*S S 14 05 14.6 +0.5
comp=Z,15μm,29.2s
PPT *e*SS SS 14 09 53.6 -3.2
comp=Z,3μm,26.2s
PPT *e*LR LR 14 18 03.6
comp=Z,14μm,28.2s,baz=346
PPT Papeete 73.24 151 LR LR 14 20 33.5
comp=Z,3μm,21.5s,MS5.6,baz=298,slow=30
SUW Suwalki 73.32 347 *e*P **P** 13 55 48.0 -0.8
SUW LMZ 14 28 09.9
comp=Z,6μm,23.5s
SUW Suwalki 73.32 347 *e*P **P** 13 55 47.9 -0.8
XSO Sourhope Farm 73.33 2 *e*P **P** 13 55 48.7 -0.1
KOLN Koldanda 73.46 294 *e*P **P** 13 55 50.9 +0.9
comp=Z,588nm,1.0s,mb6.5
ESK Eskdalemuir 73.48 3 *e*P **P** 13 55 49.1 -0.5
ESK AMb AMB 13 55 52.5
comp=Z,118nm,1.9s,mb5.5
ESK Eskdalemuir 73.48 3 *e*P **P** 13 55 48.0 -1.6
ESK pmax pmax
comp=Z,216nm,1.9s,mb5.8
ESK MLR MLR
comp=Z,3μm,22.0s,MS5.6
ESK Eskdalemuir 73.48 3 *e*P **P** 13 55 48.0 -1.6
comp=Z,216nm,1.9s,mb5.8
ESK LR LR
comp=Z,3μm,22.0s,MS5.6
ECK Cauldkaine Hil 73.62 3 *e*P **P** 13 55 50.4 -0.1
RGN Rugen 73.88 353 *e*P **P** 13 55 52.5 +0.5
comp=Z,808nm,1.8s,mb6.3
GAL1 Galloway 73.88 4 *e*P **P** 13 55 51.6 -0.4
GAL1 AMb AMB 13 55 54.5
comp=Z,167nm,1.8s,mb5.7
PTH Pithoragarh 74.01 297 *e*P **P** 13 55 53.7 +0.5
PTH *ex* x 13 58 41.8
LGTI Lohaghat 74.07 297 *e*P **P** 13 55 55.8 +2.3
RAR Rarotonga 74.22 162 LR LR 14 21 28.3
comp=Z,7μm,20.6s,MS6.0,baz=265,slow=30
RAR Rarotonga 74.22 162 PFAKE 13 56 10.0 +16
RAR LR LR
comp=Z,8μm,20.0s,MS6.0
GMM Mts of Mourne 74.45 5 *e*P **P** 13 55 55.4 +0.1
GIM North Isle of 74.46 4 *e*P **P** 13 55 55.7 +0.3
SMLA Simla 74.46 300 *i*P **P** 13 55 56.0 +0.2
SMLA *i*S S 14 05 30.4 +2.4
TEIG Tepich 74.51 77 *e*P **P** 13 55 57.1 +0.9
comp=Z,85nm,1.1s,mb5.6
TEIG LR LR
comp=Z,2μm,20.0s,MS5.3
DDI Dehra Dun 74.61 299 *ex* x 13 55 52.2
CAL Calcutta 74.67 287⇑*i*P **P** 13 55 57.0 -0.1
CAL *ex* x 14 05 36.5
BSEG Bad Segeberg 74.69 355 *e*P **P** 13 55 57.2 +0.5
comp=Z,530nm,1.9s,mb6.2
DMUB Kingscourt 74.74 5⇑*i*P **P** 13 55 57.3 +0.3
GKP Gorka Klasztor 74.79 350 *e*P **P** 13 55 57.9 +0.6
GKP LMZ 14 30 10.0
comp=Z,9μm,21.2s
NNT Nongplab 75.20 272 P **P** 13 56 02.0 +1.7
LHO Holmfirth 75.29 2 *e*P **P** 13 55 59.5 -0.6
DLF Lyons Farm 75.36 5 *e*P **P** 13 55 58.9 -1.7
DSB Dublin 75.42 5 *e*P **P** 13 56 00.8 -0.1
comp=Z,183nm,1.4s,mb5.8
AKASG Malin Array Be 75.52 342 P **P** 13 56 00.5 -1.0
comp=Z,26nm,0.4s,mb5.5,baz=17,slow=5.6,SNR=136
AKASG LR LR 14 34 35.7
comp=Z,5μm,18.1s,MS5.9,baz=10.0,slow=40

AKASG Malin Array Be 75.52 342 P **P** 13 56 00.5 -1.1
AKASG LR LR 14 34 35.7
AKBB Malin Array Si 75.52 342 *e*P **P** 13 56 00.9 -0.6
KIEV Kiev 75.53 342 *e*P **P** 13 56 00.8 -0.8
KIEV pmax pmax
comp=Z,265nm,1.4s,mb6.0
KIEV MLR MLR
comp=Z,7μm,22.0s,MS5.9
KIEV Kiev 75.53 342 *e*P **P** 13 56 00.8 -0.8
comp=Z,265nm,1.4s,mb6.0
KIEV LR LR
comp=Z,7μm,22.0s,MS5.9
RUE Ruedersdorf 75.89 352 *e*P **P** 13 56 03.5 -0.1
comp=Z,404nm,1.8s,mb6.0
RUE Ruedersdorf 75.89 352 *e*P **P** 13 56 03.4 -0.2
comp=Z,294nm,1.5s,mb6.0
SBD1 Bryn Du 75.89 3 *e*P **P** 13 56 04.3 +0.7
KBL Kabul 75.96 308 *e*P **P** 13 56 03.3 -1.1
KBL pmax pmax
comp=Z,80nm,1.0s,mb5.6
KBL Kabul 75.96 308 *e*P **P** 13 56 03.3 -1.0
comp=Z,80nm,1.0s,mb5.6
CWF Charnwood Fore 76.11 2 *e*P **P** 13 56 04.5 -0.4
CWF AMb AMB 13 56 07.6
comp=Z,156nm,1.7s,mb5.7
HLM1 Long Mynd 76.29 3 *e*P **P** 13 56 05.9 0.0
NDI New Delhi 76.34 299 *e*P **P** 13 56 04.5 -2.1
NDI *ex* x 14 05 44.0
ALBI Allahabad 76.38 293 *ex* x 13 56 04.5
IBBN Ibbenburen 76.44 356 *e*P **P** 13 56 07.1 +0.3
comp=Z,907nm,1.8s,mb6.4
IBBN *e*S S 14 05 49.4 +0.2
HTR Trewern Hill 76.72 3 *e*P **P** 13 56 08.3 0.0
CLZ Clausthal 76.77 354 *e*P **P** 13 56 09.1 +0.5
CLZ *e*S S 14 05 52.0 -0.8
CLZ pmax pmax
comp=Z,510nm,1.8s,mb6.2
CLZ Clausthal 76.77 354 *e*P **P** 13 56 09.1 +0.5
comp=Z,510nm,1.8s,mb6.2
CLZ *e*S S 14 05 52.0 -0.8
HAE Alders End 76.78 3 *e*P **P** 13 56 08.4 -0.3
KAKA Kakadu 76.81 229 *e*P **P** 13 56 00.1 -9.1
comp=Z,50nm,0.7s,mb5.5
MCH1 Michaelchurch 76.81 3 *e*P **P** 13 56 08.5 -0.4
MCH1 AMb AMB 13 56 11.5
comp=Z,149nm,1.8s,mb5.6
WTSB Winterswijk 76.82 357⇑*e*P **P** 13 56 08.6 -0.3
comp=Z,179nm,2.2s,mb5.6
KAPI Kappang 76.94 244 P **P** 13 56 08.6 -1.5
comp=Z,322nm,1.5s,mb6.0,SNR=30
KAPI Kappang 76.94 244 P **P** 13 56 08.7 -1.3
comp=Z,8.9nm,0.5s,mb5.0,baz=51,slow=4.2,SNR=21
KAPI Kappang 76.94 244 *e*P **P** 13 56 07.8 -2.3
comp=Z,460nm,2.1s,mb6.0
KAPI LR LR
comp=Z,1μm,22.0s,MS5.2
CLL Collm 77.12 353⇑*i*P **P** 13 56 10.0 -0.6
CLL *i* pP 13 56 21.7 -0.2
CLL *e*S S 14 05 54.0 -2.6
CLL pmax pmax
comp=Z,103nm,1.2s,mb5.6
CLL MLR MLR
comp=Z,5μm,21.4s,MS5.8
CLL Collm 77.12 353 *e*P **P** 13 56 10.1 -0.5
comp=Z,103nm,1.2s,mb5.6
CLL Collm 77.12 353⇑*i*P **P** 13 56 10.0 -0.6
comp=Z,103nm,1.2s,mb5.6
CLL *i* PcP PcP 13 56 21.7 +0.4
CLL *e*PP PP 13 59 06.0 +2.4
CLL *e*PPP 14 00 59.0
CLL *ex* x 14 02 40.0
CLL *e*S S 14 05 54.0 -2.6
CLL *e*PS 14 06 37.0
CLL *e*SS SS 14 10 48.0 -4.9
CLL *e*SSS 14 14 36.0
CLL Collm 77.12 353⇑*i*P **P** 13 56 10.0 -0.6
comp=Z,103nm,1.2s,mb5.6
CLL *i* pP 13 56 21.7 -0.2
CLL *e*S S 14 05 54.0 -2.6
CLL LR LR
comp=Z,5μm,21.4s,MS5.8
HGH Gray Hill 77.18 3 *e*P **P** 13 56 10.8 -0.1
KSM Kuching 77.27 256 *e*P **P** 13 56 11.5 -0.5
LVV L'vov 77.27 345 *e*P **P** 13 56 11.5 0.0
LVV *e* pP 13 56 21.8 -1.0
LVV *e* 13 59 08.1
LVV *e* 14 00 51.7
LVV *e*S S 14 05 55.3 -3.0
LVV *e* 14 06 23.9
LVV *e* 14 10 58.9
LVV MLR MLR
comp=Z,4μm,19.0s,MS5.8
LVV MLR MLR
comp=N,1μm,18.0s,MS5.7
LVV MLR MLR
comp=E,3μm,18.0s,MS5.7
KSP Ksiaz 77.28 351 *e*P **P** 13 56 11.3 -0.2
KSP LMZ 14 32 24.0
comp=E,10μm,23.3s
KSP Ksiaz 77.28 351⇑*e*P **P** 13 56 11.1 -0.4
KSP *e*PPP 14 00 58.0
KSP *e*S S 14 05 57.0 -1.3
KSP LR LR
comp=Z,11μm,23.3s,MS6.1
SWN1 Swindon 77.33 2 P **P** 13 56 11.2 -0.5
SWN1 AMb AMB 13 56 15.6
comp=Z,450nm,1.6s,mb6.1
SWN1 Swindon 77.33 2 *e*P **P** 13 56 11.2 -0.5
SWN1 AMb AMB 13 56 15.6
comp=Z,450nm,1.6s,mb6.1
BUG Bochum--Univer 77.33 356 *e*P **P** 13 56 11.6 -0.2
comp=Z,308nm,1.7s,mb6.0
BUG *e*S S 14 05 58.6 -0.3
GOF Gofitskoye 77.39 331⇑*i*P **P** 13 56 23.5 +0.9
GOF *e*S S 14 06 11.7 +12
GOF pmax pmax
comp=Z,510nm,1.2s,mb6.3
GOF smax
comp=N,60nm,1.2s
GOF smax
comp=E,80nm,1.2s
BRG Berggiesshubel 77.47 352 *e*P **P** 13 56 12.2 -0.4
comp=Z,167nm,1.6s,mb5.7
BRG *e*S S 14 05 59.3 -1.1
BRG Berggiesshubel 77.47 352⇓*i*P **P** 13 56 12.2 -0.4
comp=Z,166nm,1.6s,mb5.7
BRG *i* 13 56 34.5
comp=Z,29nm,1.2s
BRG S SKSac 14 06 18.0 -4.6
BRG SS SS 14 10 53.0 -5.3
BRG
comp=N,3μm,20.9s
BRG
comp=E,2μm,21.8s
BRG
comp=Z,5μm,20.7s
BRG Berggiesshubel 77.47 352⇓*i*P **P** 13 56 12.2 -0.4
comp=Z,100nm,1.6s,mb5.5
BRG *i* 13 56 34.5
BRG S SKSac 14 06 18.0 -4.6
BRG SS SS 14 10 53.0 -5.3
BRG LR LR
comp=Z,3μm,20.7s,MS5.6
FBE Freiberg 77.47 352 *e*P **P** 13 56 12.5 -0.1
comp=Z,378nm,1.7s,mb6.0
OJC Ojcow 77.49 348 *e*P **P** 13 56 12.5 -0.2
OJC *e*pP pP 13 56 28.7 +4.7
OJC *e*sP sP 13 56 34.8 +6.6
OJC *e*S S 14 05 57.8 -2.8
OJC L 14 33 48.4
comp=Z,4.8nm,21.9s
OJC Ojcow 77.49 348 *e*P **P** 13 56 12.5 -0.2
OJC *e**PP pP 13 56 28.7 +4.7
OJC *e*S S 14 05 57.8 -2.8
OJC MLR MLR
comp=Z,5μm,21.9s,MS5.8
WOL Wolverton 77.54 2 *e*P **P** 13 56 12.8 -0.1
WOL AMb AMB 13 56 17.6
comp=Z,278nm,1.8s,mb5.9
UPC Upice 77.64 351 *e*P **P** 13 56 13.6 +0.1
KWP Kalwaria 77.66 346 *e*P **P** 13 56 15.0 +1.3
KWP LMZ 14 31 50.0
comp=Z,8μm,23.9s
KWP Kalwaria 77.66 346⇑*i*P **P** 13 56 14.0 +0.3
KWP Kalwaria 77.66 346 *e*P **P** 13 56 15.0 +1.4

CTA	**Charters Tower**	**77.72**	**214**	*e*P		**P**	**13 56 12.9**	**-1.3**	
	comp=Z,35nm,1.5s,mb5.1								
CTA				*e*S		S	14 06 03.0	-0.6	
CTA	**Charters Tower**	**77.72**	**214**	P		**P**	**13 56 12.5**	**-1.7**	
	comp=Z,27nm,1.0s,mb5.1,baz=26,slow=6.5,SNR=14								
CTA				LR		LR	14 26 52.8		
	comp=Z,3µm,21.1s,MS5.6,baz=20,slow=33								
CTA	**Charters Tower**	**77.72**	**214**	*e*P		**P**	**13 56 12.9**	**-1.3**	
CTA				*e*S		S	14 06 03.0	-0.6	
CTA				pmax		pmax			
	comp=Z,35nm,1.5s								
CTAO	**Charters Tower**	**77.72**	**214**	*e*P		**P**	**13 56 12.4**	**-1.8**	
CTAO				pmax		pmax			
	comp=Z,90nm,1.4s,mb5.5								
CTAO				MLR		MLR			
	comp=Z,3µm,20.0s,MS5.6								
CTAO	**Charters Tower**	**77.72**	**214**	*e*P		**P**	**13 56 12.4**	**-1.8**	
	comp=Z,90nm,1.4s,mb5.5								
CTAO				LR		LR			
	comp=Z,3µm,20.0s,MS5.6								
PVCC	**Panska Ves**	**77.76**	**352**	*e*P		**P**	**13 56 14.7**	**+0.5**	
PVCC				AMS		AMS	14 32 50.0		
	comp=Z,4µm,20.6s								
DPC	**Dobruska-Polom**	**77.76**	**350**	*e*P		**P**	**13 56 14.4**	**+0.2**	
DPC				*e*S		S	14 05 59.5	-4.1	
DPC				*e*SKS			14 06 17.8		
DPC				AMS		AMS	14 37 20.0		
	comp=Z,5µm,16.7s								
TFO1	**Folkestone**	**77.77**	**0**	*e*P		**P**	**13 56 14.2**	**0.0**	
TFO1				AMb		AMB	13 56 17.0		
	comp=Z,329nm,1.7s,mb6.0								
UBBA	**Unterbreizbach**	**77.81**	**355**	*e*P		**P**	**13 56 14.4**	**-0.1**	
	comp=Z,282nm,1.8s,mb5.9								
UBBA				*e*S		S	14 06 02.6	-1.5	
RAC	**Raciborz**	**77.82**	**349**	*e*P		**P**	**13 56 15.0**	**+0.5**	
RAC				MLR		MLR			
	comp=Z,6µm,18.0s,MS6.0								
MAK	**Makhachkala**	**77.84**	**327**	*c i*P		**P**	**13 56 15.2**	**+0.4**	
MAK				*i*			13 56 22.2		
MAK				*i*			13 59 08.8		
MAK				*e*PPP			14 00 58.6		
MAK				*e*S		S	14 06 05.2	+0.5	
MAK				*e*			14 06 43.4		
MAK				pmax		pmax			
	comp=Z,1µm,1.8s,mb6.5								
MAK				pmax		pmax			
	comp=N,316nm,1.5s								
MAK				pmax		pmax			
	comp=E,455nm,2.3s								
MAK				pmax		pmax			
	comp=Z,608nm,1.6s,mb6.3								
MAK				pmax		pmax			
	comp=N,353nm,1.7s								
MAK				pmax		pmax			
	comp=E,374nm,2.2s								
MAK				smax					
	comp=N,2µm,7.7s								
MAK				smax					
	comp=E,2µm,7.4s								
MOX	**Moxa**	**77.88**	**353**	*e*P		**P**	**13 56 14.8**	**-0.1**	
	comp=E,281nm,1.8s,mb5.9								
MOX									
	comp=Z,3µm,22.0s								
MOX	**Moxa**	**77.88**	**353**	*e*P		**P**	**13 56 14.8**	**-0.1**	
MOX				pmax		pmax			
	comp=Z,281nm,1.8s,mb5.9								
MOX				MLR		MLR			
	comp=Z,3µm,22.0s,MS5.6								
BWNR	**Bhubaneshwar**	**77.89**	**287**	*e*P		**P**	**13 56 16.9**	**+1.5**	
BWNR				*e*S		S	14 06 06.2	+0.4	
BEBN	**Eben Emael**	**78.03**	**357**	P		**P**	**13 56 15.7**	**+0.1**	
WERD	**Werda**	**78.03**	**353**	*e*P		**P**	**13 56 15.7**	**0.0**	
	comp=Z,187nm,1.6s,mb5.8								
TANN	**Tannenbergstha**	**78.05**	**353**	*e*P		**P**	**13 56 15.9**	**+0.1**	
	comp=Z,174nm,1.6s,mb5.7								
HGN	**Heimansgroeve**	**78.05**	**357⇑**	*e*P		**P**	**13 56 15.7**	**-0.1**	
	comp=Z,186nm,1.7s,mb5.7								
HGN	**Heimansgroeve**	**78.05**	**357**	*e*PP		PP	13 59 23.9	+12	
HGN	**Heimansgroeve**	**78.05**	**357**	*e*S		S	14 06 08.2	+1.5	
HGN	**Heimansgroeve**	**78.05**	**357**	*e*SS		SS	14 11 17.4	+10	
UCC	**Uccle**	**78.06**	**358**	P		**P**	**13 56 15.5**	**-0.3**	
OKC	**Ostrava-Krasne**	**78.07**	**349**	*e*P		**P**	**13 56 15.8**	**-0.1**	
OKC				*e*S		S	14 06 04.9	-2.0	
OKC				AMS		AMS	14 33 50.0		
	comp=Z,4µm,17.8s								
OKC	**Ostrava-Krasne**	**78.07**	**349**	*e*P		**P**	**13 56 15.8**	**-0.1**	
OKC				*e*S		S	14 06 04.9	-2.0	
STHS	**Stebnicka Huta**	**78.08**	**347**	*i* P		**P**	**13 56 16.8**	**+0.8**	
STHS				pmax		pmax			
	comp=Z,116nm,1.5s,mb5.6								
STHS	**Stebnicka Huta**	**78.08**	**347**	*i* P		**P**	**13 56 16.8**	**+0.8**	
	comp=Z,116nm,1.5s,mb5.6								
GUNZ	**Gunzen**	**78.11**	**353**	*e*P		**P**	**13 56 16.2**	**+0.1**	
	comp=Z,188nm,1.5s,mb5.8								
ABKT	**Ailbek**	**78.17**	**318**	P		**P**	**13 56 16.5**	**-0.2**	
	comp=Z,270nm,1.1s,mb6.1,SNR=19								
WERN	**Wernitzgruen**	**78.18**	**353**	*e*P		**P**	**13 56 16.6**	**+0.1**	
	comp=Z,280nm,1.6s,mb5.9								
MORC	**Moravsky Berou**	**78.20**	**350⇑**	*i*P		**P**	**13 56 16.6**	**0.0**	
MORC	**Moravsky Berou**	**78.20**	**350**	*e*P		**P**	**13 56 15.6**	**-1.0**	
	comp=Z,246nm,2.0s,mb5.8								
MEM	**Membach**	**78.20**	**357**	P		**P**	**13 56 17.0**	**+0.3**	
NIE	**Niedzica**	**78.21**	**348**	*e*P		**P**	**13 56 17.1**	**+0.4**	
NKC	**Novy Kostel**	**78.23**	**353**	*e*P		**P**	**13 56 16.5**	**-0.3**	
NKC				*e*S		S	14 06 06.5	-2.1	
NKC				AMS		AMS	14 38 20.0		
	comp=Z,5µm,18.7s								
NKC	**Novy Kostel**	**78.23**	**353**	*e*P		**P**	**13 56 16.5**	**-0.3**	
NKC				*e*S		S	14 06 06.5	-2.1	
BBSR	**BB Station**	**78.27**	**52**	*e*P		**P**	**13 56 16.8**	**-0.5**	
	comp=Z,76nm,0.8s,mb5.7								
BBSR				LR		LR			
	comp=Z,3µm,22.0s,MS5.6								
PRU	**Pruhonice**	**78.30**	**352**	*e*P		**P**	**13 56 16.6**	**-0.6**	
PRU				*ex*		x	13 58 54.5		
PRU				*e*S		S	14 06 04.9	-4.4	
PRU				*e*SKS			14 06 23.1		
PRU				AMS		AMS	14 33 10.0		
	comp=Z,4µm,21.4s								
DYA	**Yadsworthy**	**78.34**	**4**	P		**P**	**13 56 17.3**	**-0.1**	
DYA				AMb		AMB	13 56 19.9		
	comp=Z,214nm,1.8s,mb5.8								
DYA	**Yadsworthy**	**78.34**	**4**	*e*P		**P**	**13 56 17.3**	**-0.1**	
DYA				AMb		AMB	13 56 19.9		
	comp=Z,214nm,1.8s,mb5.8								
SNF	**Seneffe**	**78.35**	**358**	P		**P**	**13 56 16.7**	**-0.8**	
	comp=Z,96nm,2.2s,mb5.3								
KOLS	**Kolonicke sedl**	**78.40**	**346**	*e*P		**P**	**13 56 18.2**	**+0.4**	
BCLA	**Clavier**	**78.42**	**358**	P		**P**	**13 56 17.7**	**-0.1**	
KIV	**Kislovodsk**	**78.49**	**331**	P		**P**	**13 56 19.4**	**+1.0**	
	comp=Z,672nm,1.5s,mb6.3,SNR=14								
KIV	**Kislovodsk**	**78.49**	**331**	*c i*P		**P**	**13 56 19.0**	**+0.6**	
KIV				pmax		pmax			
	comp=Z,247nm,1.5s,mb5.9								
KIV				MLR		MLR			
	comp=Z,8µm,18.0s,MS6.1								
KIV	**Kislovodsk**	**78.49**	**331⇑**	*i*P		**P**	**13 56 19.1**	**+0.7**	
TNS	**Taunus Mts**	**78.49**	**356**	*e*P		**P**	**13 56 18.3**	**0.0**	
TNS				pmax		pmax			
	comp=Z,250nm,1.7s,mb5.9								
TNS	**Taunus Mts**	**78.49**	**356**	*e*P		**P**	**13 56 18.3**	**0.0**	
	comp=Z,250nm,1.7s,mb5.9								
MANZ	**Manzenberg**	**78.50**	**353**	*e*P		**P**	**13 56 18.2**	**-0.1**	
	comp=Z,82nm,1.4s,mb5.5								
CCA1	**Carnmenellis**	**78.53**	**4**	*e*P		**P**	**13 56 17.5**	**-1.0**	
CRVS	**Cervenica-Dubn**	**78.55**	**347**	*e*P		**P**	**13 56 19.0**	**+0.4**	
CRVS				*e*S		SKSac	14 06 20.2	-10	
CMA1	**Manaccan**	**78.64**	**4**	*e*P		**P**	**13 56 19.1**	**0.0**	
UZH	**Uzhgorod**	**78.69**	**346⇓**	*i*P		**P**	**13 56 19.0**	**-0.4**	
UZH				*i*			13 56 23.0		
UZH				*e*			13 59 17.0		
UZH				*e*PPP			14 01 07.0		
UZH				*e*S		S	14 06 08.0	-5.7	
UZH				*e*PS			14 07 16.0		
UZH				*i* SS		SS	14 11 25.0	+8.3	
UZH				MLR		MLR			
	comp=N,4µm,20.0s,MS5.9								
UZH				MLR		MLR			
	comp=E,3µm,20.0s,MS5.9								
UZH				MLR		MLR			
	comp=Z,3µm,20.0s,MS5.6								
ROTZ	**Rotzenmuhle**	**78.71**	**353**	*e*P		**P**	**13 56 19.8**	**+0.3**	
	comp=Z,161nm,1.5s,mb5.7								
TBI	**Tubuai**	**78.74**	**153**	*e*S		S	14 06 11.5	-3.0	
	comp=Z,6µm,33.5s								
TBI				*e*SS		SS	14 11 16.7	-3.4	
	comp=Z,2µm,26.5s								
TBI				*e*LQ			14 17 23.4		
	comp=Z,1µm,26.8s								
TBI				*e*LR		LR	14 20 39.5		
	comp=Z,11µm,30.2s,baz=340								
GIVF	**Givet**	**78.74**	**358⇑**	*i*P		**P**	**13 56 19.6**	**-0.1**	
	comp=Z,714nm,1.7s,mb6.0								
GIVF	**Givet**	**78.74**	**358⇑**	*i*P		**P**	**13 56 19.6**	**-0.1**	
GIVF				pmax		pmax			
	comp=Z,357nm,1.7s,mb6.0								
GIVF	**Givet**	**78.74**	**358⇑**	*i*P		**P**	**13 56 19.6**	**-0.1**	
	comp=Z,357nm,1.7s,mb6.0								
DOU	**Dourbes**	**78.76**	**358**	P		**P**	**13 56 19.5**	**-0.2**	
VRAC	**Vranov**	**78.76**	**350⇑**	*i*P		**P**	**13 56 20.1**	**+0.3**	
VRAC	**Vranov**	**78.76**	**350⇑**	P		**P**	**13 56 20.1**	**+0.4**	
BAIF	**Baives**	**78.80**	**358⇑**	*i*P		**P**	**13 56 20.2**	**+0.2**	
	comp=Z,604nm,1.4s,mb6.0								
BAIF	**Baives**	**78.80**	**358⇑**	*i*P		**P**	**13 56 20.2**	**+0.2**	
BAIF				pmax		pmax			
	comp=Z,302nm,1.4s,mb6.0								
BAIF	**Baives**	**78.80**	**358⇑**	*i*P		**P**	**13 56 20.2**	**+0.2**	
	comp=Z,302nm,1.4s,mb6.0								
GRA1	**Grafenberg Arr**	**78.86**	**354**	*e*P		**P**	**13 56 20.6**	**+0.3**	
	comp=Z,440nm,1.6s,mb6.1								
GRA1				*e*S		S	14 06 14.3	-1.1	
GRA1				LR		LR			
	comp=Z,5µm,21.3s,MS5.8								
GRF	**Grafenberg Arr**	**78.86**	**354**	*e*P		**P**	**13 56 20.6**	**+0.3**	
GRF				*e*S		S	14 06 14.3	-1.1	
GRF				pmax		pmax			
	comp=Z,440nm,1.6s,mb6.1								
GRF				MLR		MLR			
	comp=Z,5µm,21.3s,MS5.8								
GRF	**Grafenberg Arr**	**78.86**	**354**	*e*P		**P**	**13 56 20.6**	**+0.3**	
GRF				*e*S		S	14 06 14.3	-1.1	
GRF				pmax		pmax			
	comp=Z,440nm,1.6s,mb6.1								
GRF				MLR		MLR			
	comp=Z,5µm,21.3s,MS5.8								
GRF	**Grafenberg Arr**	**78.86**	**354**	*e*P		**P**	**13 56 20.6**	**+0.3**	
	comp=Z,440nm,1.6s,mb6.1								
GRF				*e*S		S	14 06 14.3	-1.1	
GRF				*e*L			14 35 23.7		
	comp=Z,5µm,21.3s								
GRFO	**Grafenberg**	**78.86**	**354**	*e*S		S	14 06 14.4	-1.0	
ABH	**Alteburg**	**78.88**	**356**	*e*P		**P**	**13 56 19.8**	**-0.6**	
TREC	**Trest**	**78.89**	**351**	*e*P		**P**	**13 56 21.0**	**+0.5**	
TREC				AMS		AMS	14 31 10.0		
	comp=Z,6µm,22.4s								
RUP	**Ruppelstein**	**79.08**	**356**	*e*P		**P**	**13 56 21.5**	**0.0**	
BATI	**Baumata**	**79.09**	**238**	P		**P**	**13 56 21.1**	**-0.9**	
	comp=Z,72nm,0.7s,mb5.7,baz=16,slow=0.7,SNR=20								
BATI				LR		LR	14 25 08.9		
	comp=Z,2µm,21.8s,MS5.4,baz=40,slow=31								
TOD	**Tromm**	**79.09**	**355**	*e*P		**P**	**13 56 21.5**	**-0.1**	
KIS	**Kishinev**	**79.14**	**341**	*a i*P		**P**	**13 56 22.0**	**+0.1**	
KIS				*i*			13 56 28.0		
KIS				*e*			13 59 22.0		
KIS				*e*PPP			14 01 20.0		
KIS				*i* S		S	14 06 16.0	-2.4	
KIS				*i*			14 06 32.0		
KIS				*e*PS			14 07 04.0		
KIS				*e*SS		SS	14 11 27.0	+3.6	
KIS				pmax		pmax			
	comp=Z,1µm,1.7s,mb6.5								
KIS				pmax		pmax			
	comp=N,540nm,1.8s								
KIS	**Kishinev**	**79.14**	**341**	*i* P		**P**	**13 56 22.0**	**+0.1**	
	comp=N,1µm,1.7s,mb6.5								
KIS	**Kishinev**	**79.14**	**341**	*e*PP		PP	13 59 22.0	+1.4	
WLF	**Walferdange**	**79.14**	**357**	P		**P**	**13 56 22.4**	**+0.5**	
WLF	**Walferdange**	**79.14**	**357**	*e*P		**P**	**13 56 21.9**	**0.0**	
WLF				pmax		pmax			
	comp=Z,513nm,1.9s,mb6.1								
WLF				MLR		MLR			
	comp=Z,5µm,20.0s,MS5.9								
WLF	**Walferdange**	**79.14**	**357**	*e*P		**P**	**13 56 22.3**	**+0.4**	
	comp=Z,234nm,1.6s,mb5.9								
WLF				*e*S		S	14 06 19.0	+0.6	
WLF	**Walferdange**	**79.14**	**357**	*e*P		**P**	**13 56 21.9**	**0.0**	
	comp=Z,513nm,1.9s,mb6.1								
WLF				LR		LR			
	comp=Z,5µm,20.0s,MS5.9								
BUR08	**Bucovina Ar. S**	**79.19**	**344**	*e*P		**P**	**13 56 22.2**	**+0.1**	
ANN	**Anapa**	**79.21**	**335**	*e*P		**P**	**13 56 21.5**	**-0.8**	
ANN				*e*			13 59 20.4		
ANN				*e*S		S	14 06 20.2	+1.0	
ANN				*e*			14 07 18.3		
ANN				pmax		pmax			
	comp=Z,189nm,1.6s,mb5.8								
ANN	**Anapa**	**79.21**	**335**	*e*P		**P**	**13 56 21.6**	**-0.7**	
BURAR	**Bucovina Array**	**79.21**	**344⇑**	*i*P		**P**	**13 56 22.6**	**+0.3**	
BURAR	**Bucovina Array**	**79.21**	**344⇑**	P		**P**	**13 56 22.6**	**+0.3**	
KHC	**Kasperske Hory**	**79.23**	**352**	*e*P		**P**	**13 56 22.5**	**+0.2**	
KHC				*ex*		x	13 56 43.5		
KHC				*e*S		S	14 06 17.5	-1.9	
KHC				*e*SKS			14 06 34.1		
KHC				AMS		AMS	14 35 20.0		
	comp=Z,5µm,19.8s								
KHC	**Kasperske Hory**	**79.23**	**352⇑**	*e*P		**P**	**13 56 22.7**	**+0.4**	
KHC				*e*			13 56 43.5		
KHC				*e*S		S	14 06 17.5	-1.9	
KHC				*e*SKS			14 06 34.1		
KHC				LR		LR			
	comp=Z,5µm,19.8s,MS5.8								
KOLL	**Kolacno**	**79.28**	**349**	*e*P		**P**	**13 56 23.0**	**+0.4**	
WET	**Wettzell**	**79.28**	**352**	*e*P		**P**	**13 56 22.7**	**+0.1**	
WET				*e*S		S	14 06 17.4	-2.5	
WET				pmax		pmax			
	comp=Z,131nm,1.5s,mb5.6								
WET	**Wettzell**	**79.28**	**352**	*e*P		**P**	**13 56 22.7**	**+0.1**	
	comp=Z,131nm,1.5s,mb5.6								
WET				*e*S		S	14 06 17.4	-2.5	
VYHS	**Vyhne**	**79.31**	**348**	*e*P		**P**	**13 56 22.8**	**+0.1**	
VYHS				*e*S		S	14 06 24.0	+3.9	
KTD	**Kalmit**	**79.41**	**356**	*e*P		**P**	**13 56 23.2**	**-0.1**	
SMOL	**Smolenice**	**79.45**	**349**	*e*P		**P**	**13 56 25.0**	**+1.4**	
AJM	**Ajmer**	**79.47**	**299**	*e*P		**P**	**13 56 24.3**	**+0.3**	
AJM				AMb		AMB	13 56 27.5		
	comp=Z,223nm,1.3s,mb5.9								
ONI	**Oni**	**79.50**	**330**	P		**P**	**13 56 24.7**	**+0.8**	
GEC2	**GERESS Array S**	**79.51**	**352**	*e*P		**P**	**13 56 23.8**	**0.0**	
GEC2				pmax		pmax			
	comp=Z,74nm,1.0s,mb5.6								
GEC2	**GERESS Array S**	**79.51**	**352**	*e*P		**P**	**13 56 23.8**	**0.0**	
	comp=Z,74nm,1.0s,mb5.6								
GERES	**GERESS Array B**	**79.51**	**352**	P		**P**	**13 56 23.1**	**-0.8**	
	comp=Z,17nm,0.6s,mb5.2,baz=24,slow=5.0,SNR=93								
GERES				PKPPKP			14 23 14.4		
	comp=Z,0.4nm,0.2s,baz=284,slow=1.1,SNR=4.0								
GERES				LR		LR	14 36 05.4		
	comp=Z,4µm,21.1s,MS5.7,baz=10,slow=39								
JLP	**Les Platons**	**79.59**	**2**	*e*P		**P**	**13 56 23.9**	**-0.3**	
MODS	**Modra-Piesok**	**79.61**	**349**	*i* P		**P**	**13 56 25.0**	**+0.6**	
MODS				*e*S		S	14 06 27.3	+3.9	
MODS				pmax		pmax			
	comp=Z,83nm,1.5s,mb5.4								
MODS	**Modra-Piesok**	**79.61**	**349**	*i* P		**P**	**13 56 25.0**	**+0.6**	
MODS				*e*S		S	14 06 27.3	+3.9	
MODS	**Modra-Piesok**	**79.61**	**349**	*i* P		**P**	**13 56 25.0**	**+0.6**	
	comp=Z,83nm,1.5s,mb5.5								
MODS				*e*S		S	14 06 27.3	+3.9	
JVM	**Valle D.L. Mar**	**79.61**	**3**	*e*P		**P**	**13 56 24.1**	**-0.3**	
JRS	**Jersey**	**79.64**	**2**	*e*P		**P**	**13 56 24.5**	**0.0**	
JSA	**Saint Aubin**	**79.64**	**3**	*e*P		**P**	**13 56 24.7**	**+0.1**	
JSA				AMb		AMB	13 56 27.1		
	comp=Z,246nm,1.9s,mb5.8								
SOC	**Sochi**	**79.70**	**333**	*e*P		**P**	**13 56 25.1**	**+0.1**	
SOC				*e**PP		pP	13 56 33.2	-3.2	
SOC				*e*PPP			14 01 13.5		
SOC				*e*S		S	14 06 18.9	-5.6	
SOC				*e**SS		sS	14 06 40.2	-3.1	
SOC				*e*			14 07 05.7		
SOC				pmax		pmax			
	comp=Z,159nm,1.5s,mb5.7								
SOC				pmax		pmax			
	comp=Z,729nm,6.1s								
SOC				MLR		MLR			
	comp=Z,9µm,18.0s,MS6.2								
PSZ	**Piszkesteto**	**79.73**	**348⇑**	*e*P		**P**	**13 56 25.7**	**+0.6**	
PSZ	**Piszkesteto**	**79.73**	**348⇑**	*i*P		**P**	**13 56 25.8**	**+0.7**	
LANF	**Langenberg**	**79.76**	**356**	*e*P		**P**	**13 56 25.2**	**0.0**	
ZST	**Bratislava**	**79.81**	**350**	*e*P		**P**	**13 56 27.0**	**+1.5**	
ZST				*e*			13 59 27.6		
ZST				*e*S		SKSac	14 06 34.7	-4.6	
ZST				pmax		pmax			
	comp=Z,44nm,0.8s,mb5.4								
ZST				MLR		MLR			
	comp=Z,2µm,18.0s,MS5.4								
ZST	**Bratislava**	**79.81**	**350**	*e*P		**P**	**13 56 27.0**	**+1.5**	
ZST				*e*PP		PP	13 59 27.6	+1.5	
ZST				*e*S		SKSac	14 06 34.7	-4.6	
ZST	**Bratislava**	**79.81**	**350**	*e*P		**P**	**13 56 27.0**	**+1.5**	
	comp=Z,44nm,0.8s,mb5.4								
ZST				*e*PP		PP	13 59 27.6	+1.5	
ZST				*e*S		SKSac	14 06 34.7	-4.6	
ZST				LR		LR			
	comp=Z,2µm,18.0s,MS5.4								
GOR	**Gori**	**79.83**	**329**	P		**P**	**13 56 26.7**	**+0.9**	
TGUH	**Tegucigalpa,Un**	**79.84**	**80**	*e*P		**P**	**13 56 27.2**	**+1.1**	
	comp=Z,233nm,1.1s,mb6.0								
TGUH				LR		LR			
	comp=Z,2µm,21.0s,MS5.4								
TBLG	**Delisi**	**79.86**	**329**	P		**P**	**13 56 26.7**	**+0.8**	
MTA	**Mtatsminda**	**79.87**	**329**	P		**P**	**13 56 26.7**	**+0.8**	
DGRG	**David-gareji**	**79.90**	**328**	P		**P**	**13 56 26.9**	**+0.8**	
STU	**Stuttgart**	**79.90**	**355**	*e*P		**P**	**13 56 26.4**	**+0.4**	
STU				pmax		pmax			
	comp=Z,31nm,0.6s,mb5.4								
STU	**Stuttgart**	**79.90**	**355**	*e*P		**P**	**13 56 25.8**	**-0.2**	
	comp=Z,123nm,1.3s,mb5.7								
STU	**Stuttgart**	**79.90**	**355**	*e*P		**P**	**13 56 26.4**	**+0.5**	
	comp=Z,31nm,0.6s,mb5.4								
SIM	**Simferopol'**	**79.91**	**337**	*c i*P		**P**	**13 56 26.3**	**+0.2**	
SIM				*e*			13 59 27.0		
SIM				*i* S		S	14 06 31.4	+4.7	
SIM				*e*PS			14 07 30.0		
SIM				pmax		pmax			
	comp=Z,53nm,1.3s,mb5.3								
SIM				pmax		pmax			
	comp=Z,240nm,9.9s								
SIM				MLR		MLR			
	comp=Z,18µm,19.2s,MS6.4								
FLN	**La Foliniere**	**80.11**	**1⇑**	*i*P		**P**	**13 56 26.7**	**-0.4**	
	comp=Z,660nm,1.6s,mb6.0								
FLN				*e*MLR		MLR			
	comp=Z,4µm,21.5s,MS5.5								
FLN	**La Foliniere**	**80.11**	**1⇑**	*i*P		**P**	**13 56 26.7**	**-0.4**	
FLN				pmax		pmax			
	comp=Z,330nm,1.6s,mb6.0								
FLN				MLR		MLR			
	comp=Z,4µm,21.5s,MS5.8								
FLN	**La Foliniere**	**80.11**	**1⇑**	*i*P		**P**	**13 56 26.7**	**-0.4**	
	comp=Z,330nm,1.6s,mb6.0								
FLN				LR		LR			
	comp=Z,4µm,21.5s,MS5.8								
STR	**Strasbourg**	**80.16**	**356**	*e*P		**P**	**13 56 27.8**	**+0.4**	
CONA	**Conrad Observa**	**80.20**	**350⇓**	*i*P		**P**	**13 56 28.0**	**+0.4**	
	comp=Z,162nm,1.9s,mb5.6,SNR=24								
CSNA	**Conrad Observa**	**80.21**	**350⇑**	*i*P		**P**	**13 56 28.1**	**+0.5**	
	comp=Z,142nm,1.8s,mb5.6								
KULM	**Kulim**	**80.25**	**266⇓**	*i*P		**P**	**13 56 28.4**	**0.0**	
BUD	**Budapest**	**80.27**	**348⇑**	*e*P		**P**	**13 56 28.9**	**+0.9**	
LDF	**La Druitiere**	**80.28**	**1⇑**	*i*P		**P**	**13 56 27.6**	**-0.4**	
	comp=Z,149nm,0.7s,mb5.7								
LDF	**La Druitiere**	**80.28**	**1⇑**	*i*P		**P**	**13 56 27.6**	**-0.4**	
LDF				pmax		pmax			
	comp=Z,74nm,0.7s,mb5.7								
LDF	**La Druitiere**	**80.28**	**1⇑**	*i*P		**P**	**13 56 27.6**	**-0.4**	
	comp=Z,74nm,0.7s,mb5.7								
MEZF	**Maizieres J'vi**	**80.34**	**358⇑**	*i*P		**P**	**13 56 28.5**	**+0.1**	
	comp=Z,694nm,1.6s,mb6.0								
MEZF	**Maizieres J'vi**	**80.34**	**358⇑**	*i*P		**P**	**13 56 28.5**	**+0.1**	
	comp=Z,694nm,1.6s,mb6.3								
CDF	**Champ du Feu**	**80.36**	**356⇑**	*i*P		**P**	**13 56 28.4**	**0.0**	
	comp=Z,281nm,1.5s,mb5.7								
CDF	**Champ du Feu**	**80.36**	**356⇑**	*i*P		**P**	**13 56 28.4**	**0.0**	
CDF				pmax		pmax			
	comp=Z,141nm,1.5s,mb5.7								
CDF	**Champ du Feu**	**80.36**	**356⇑**	*i*P		**P**	**13 56 28.4**	**0.0**	
	comp=Z,141nm,1.5s,mb5.7								
SOP	**Sopron**	**80.37**	**350⇑**	*e*P		**P**	**13 56 29.5**	**+1.0**	
FUR	**Furstenfeldbru**	**80.37**	**353**	*e*P		**P**	**13 56 28.5**	**0.0**	
FUR				pmax		pmax			
	comp=Z,189nm,1.4s,mb5.8								
FUR	**Furstenfeldbru**	**80.37**	**353**	*e*P		**P**	**13 56 28.5**	**0.0**	
	comp=Z,189nm,1.4s,mb5.8								
BFO	**Black Forest**	**80.39**	**355**	P		**P

EIDS Eidsvold 81.10 208 *eP* **P 13 56 30.9 -1.7**
comp=Z,63nm,0.9s,mb5.5
KGM Kluang 81.13 262 ⇓*P* **P 13 56 33.4 +0.3**
MLR Muntele Rosu 81.14 343 ⇑*iP* **P 13 56 33.5 +0.8**
MLR Muntele Rosu 81.14 343 ⇑*P* **P 13 56 33.5 +0.8**
WATA Walderalm 81.18 353 ⇓*iP* **P 13 56 33.2 +0.4**
comp=Z,42nm,0.7s,mb5.5,SNR=8.5
NGP Nagpur 81.19 293 ⇑*iP* **P 13 56 32.0 -1.4**
NGP *eK* x 14 06 39.5
MOTA Moosalm 81.20 353 ⇑*iP* **P 13 56 33.1 +0.1**
comp=Z,77nm,1.1s,mb5.6,SNR=19
FRIM Kepong 81.23 264 ⇓*P* **P 13 56 33.3 -0.3**
WTTA Wattenberg 81.25 353 *iP* **P 13 56 33.7 +0.5**
comp=Z,299nm,1.7s,mb6.0,SNR=29
GNI Garni 81.28 328 ⇑*iP* **P 13 56 35.0 +1.5**
KBA Koelnbreinsper 81.29 352 ⇑*iP* **P 13 56 34.1 +0.6**
comp=Z,350nm,1.2s,mb6.2,SNR=44
BBS Basel-Blauen 81.29 356 *eP* **P 13 56 33.2 -0.3**
DAVA Damuels 81.34 354 ⇑*iP* **P 13 56 33.9 +0.2**
comp=Z,77nm,1.4s,mb5.4,SNR=12
DAGI Agillar 81.34 330 *iP* **P 13 56 34.6 +0.8**
VOIR 81.35 344 ⇓*iP* **P 13 56 34.9 +1.1**
VOIR 81.35 344 ⇓*P* **P 13 56 34.9 +1.1**
VIS Vishakhapatnam 81.35 287 *eP* **P 13 56 35.1 +0.9**
VIS *iS* S 14 06 43.6 +1.1
ISR Istrita 81.38 342 ⇓*iP* **P 13 56 35.2 +1.2**
ISR Istrita 81.38 342 ⇓*P* **P 13 56 35.2 +1.2**
LOMF Lomont 81.43 356 *eP* **P 13 56 34.5 +0.3**
DBAD Bademkaya 81.47 330 *iP* **P 13 56 34.8 +0.3**
HARR Harsova 81.53 341 ⇓*iP* **P 13 56 35.0 +0.3**
HARR Harsova 81.53 341 ⇓*P* **P 13 56 35.0 +0.2**
SOKA Soboth 81.53 351 ⇑*iP* **P 13 56 35.1 +0.4**
comp=Z,300nm,1.4s,mb6.0
FETA Feichten 81.55 354 ⇑*iP* **P 13 56 35.1 +0.2**
comp=Z,99nm,1.3s,mb5.6,SNR=30
PERS Pernice 81.56 351 *eP* **P 13 56 35.3 +0.4**
PKSM Moragy 81.57 348 ⇑*iP* **P 13 56 34.6 -0.4**
PKSM Moragy 81.57 348 ⇑*eP* **P 13 56 34.7 -0.3**
LOR Lormes 81.60 358 ⇑*iP* **P 13 56 35.0 -0.1**
comp=Z,431nm,1.5s,mb5.9
LOR *eMLR* MLR
comp=Z,6µm,21.2s,MS5.6
LOR Lormes 81.60 358 ⇑*iP* **P 13 56 35.0 -0.1**
LOR pmax pmax
comp=Z,216nm,1.5s,mb5.9
LOR MLR MLR
comp=Z,6µm,21.3s,MS5.9
LOR Lormes 81.60 358 ⇑*iP* **P 13 56 35.0 -0.1**
comp=Z,216nm,1.5s,mb5.9
LOR LR LR
comp=Z,6µm,21.3s,MS5.9
HYF Humbligny 81.61 359 ⇑*iP* **P 13 56 35.4 +0.2**
KOGS Kog 81.63 350 *eP* **P 13 56 35.4 +0.1**
TIRR Tirgusor 81.65 341 ⇓*iP* **P 13 56 35.8 +0.4**
TIRR Tirgusor 81.65 341 *eP* **P 13 56 35.1 -0.3**
comp=Z,317nm,1.5s,mb6.0
ABTA Abfaltersbach 81.69 352 ⇑*iP* **P 13 56 34.6 -1.0**
comp=Z,114nm,1.2s,mb5.7,SNR=24
GROS Grobnik 81.69 350 *eP* **P 13 56 35.6 0.0**
MYKA Terra Mystica 81.71 352 ⇑*iP* **P 13 56 35.5 -0.2**
comp=Z,314nm,1.6s,mb6.0
BZS Buzias 81.74 346 ⇑*iP* **P 13 56 35.9 0.0**
BZS Buzias 81.74 346 ⇑*P* **P 13 56 35.9 +0.1**
OBKA Obir 81.74 351 *iP* **P 13 56 36.0 +0.1**
comp=Z,204nm,1.7s,mb5.8,SNR=30
GZR Gura Zlata 81.78 345 ⇓*iP* **P 13 56 37.0 +0.9**
GZR Gura Zlata 81.78 345 ⇓*P* **P 13 56 37.0 +0.9**
SSF Saint Saulge 81.81 359 ⇑*iP* **P 13 56 36.1 -0.1**
comp=Z,253nm,1.3s,mb5.7
SSF Saint Saulge 81.81 359 ⇑*iP* **P 13 56 36.1 -0.1**
SSF pmax pmax
comp=Z,127nm,1.3s,mb5.7
SSF Saint Saulge 81.81 359 ⇑*iP* **P 13 56 36.1 -0.1**
comp=Z,127nm,1.3s,mb5.7
PTCC Patocco-Chiusa 81.96 352 P **P 13 56 36.9 -0.1**
comp=Z,43nm,0.6s,mb5.6
AVF Avril sur Loir 82.08 359 ⇑*iP* **P 13 56 37.5 -0.1**
comp=Z,122nm,1.0s,mb5.5
AVF Avril sur Loir 82.08 359 ⇑*iP* **P 13 56 37.5 -0.1**
AVF pmax pmax
comp=Z,61nm,1.0s,mb5.5
AVF Avril sur Loir 82.08 359 ⇑*iP* **P 13 56 37.5 -0.1**
comp=Z,61nm,1.0s,mb5.5
CADS Cadrg 82.10 352 *eP* **P 13 56 37.2 -0.5**
BRMO Bormio 82.12 354 P **P 13 56 38.5 +0.7**
TUE Stuetta 82.19 355 *eP* **P 13 56 38.6 +0.4**
comp=Z,191nm,1.4s,mb5.8
TUE LR LR
comp=Z,4µm,22.0s,MS5.8
CABF La Chapelle 82.20 357 ⇑*iP* **P 13 56 38.5 +0.2**
comp=Z,414nm,1.5s,mb5.8
CABF La Chapelle 82.20 357 ⇑*iP* **P 13 56 38.5 +0.2**
CABF pmax pmax
comp=Z,207nm,1.5s,mb5.8
CABF La Chapelle 82.20 357 ⇑*iP* **P 13 56 38.5 +0.2**
comp=Z,207nm,1.5s,mb5.8
LJU Ljubljana 82.20 351 *eP* **P 13 56 38.3 0.0**
SMF Signal de Mont 82.22 358 ⇑*iP* **P 13 56 38.2 -0.2**
comp=Z,193nm,0.9s,mb5.7
SMF Signal de Mont 82.22 358 ⇑*iP* **P 13 56 38.2 -0.2**
SMF pmax pmax
comp=Z,96nm,0.9s,mb5.7
SMF Signal de Mont 82.22 358 ⇑*iP* **P 13 56 38.2 -0.2**
comp=Z,96nm,0.9s,mb5.7
WRAB Tennant Creek 82.26 224 P **P 13 56 37.0 -1.7**
comp=Z,199nm,1.3s,mb5.9,SNR=7.4
WRAB Tennant Creek 82.26 224*c iP* **P 13 56 37.3 -1.4**
WRAB Tennant Creek 82.26 224 *eP* **P 13 56 36.8 -2.0**
comp=Z,170nm,1.8s,mb5.7
WRAB LR LR
comp=Z,2µm,20.0s,MS5.5
WB2 Warramunga Arr 82.27 224 *eP* **P 13 56 36.6 -2.2**
WB2 *eS* S 14 06 45.3 -6.2
WRA Warramunga Arr 82.27 224 P **P 13 56 37.0 -1.8**
comp=Z,9.6nm,0.6s,mb4.9,baz=32,slow=5.7,SNR=64
WRA PKKPbc PKKPbc 14 15 05.9 +0.8
comp=Z,1.0nm,0.7s,baz=227,slow=2.3,SNR=11
WRA PKPPKP 14 23 09.6
comp=Z,1.0nm,1.1s,baz=211,slow=3.8,SNR=4.6
WRA LR LR 14 31 08.3
comp=Z,2µm,20.2s,MS5.4,baz=40,slow=34
MFF Saint Martin d 82.27 1 ⇑*iP* **P 13 56 38.6 0.0**
comp=Z,292nm,1.3s,mb5.8
MFF Saint Martin d 82.27 1 ⇑*iP* **P 13 56 38.6 0.0**
MFF pmax pmax
comp=Z,146nm,1.3s,mb5.8
MFF Saint Martin d 82.27 1 ⇑*iP* **P 13 56 38.6 0.0**
comp=Z,146nm,1.3s,mb5.8
VOY Vojsko 82.28 351 *eP* **P 13 56 37.8 -0.9**
VOY *e* pP 13 56 46.7 -3.4
HOMI Horasan 82.29 330 *iP* **P 13 56 40.4 +1.5**
BGF Bois d'Agland 82.32 359 ⇑*iP* **P 13 56 38.8 -0.1**
comp=Z,219nm,1.3s,mb5.6
BGF Bois d'Agland 82.32 359 ⇑*iP* **P 13 56 38.8 -0.1**
BGF pmax pmax
comp=Z,110nm,1.3s,mb5.6
BGF Bois d'Agland 82.32 359 ⇑*iP* **P 13 56 38.8 -0.1**
comp=Z,110nm,1.3s,mb5.6
PSN Preselentsi 82.44 341 *iP* **P 13 56 39.9 +0.3**
CTI Castel Tesino 82.45 353 P **P 13 56 38.7 -0.9**
MABI Malga Bissina 82.53 354 P **P 13 56 40.1 +0.1**
GRSN GIRESUNGRSN 82.57 333 *iP* **P 13 56 40.4 +0.1**
SISC Sisak 82.58 350 P **P 13 56 40.7 +0.4**
ERZM Erzurum 82.58 330 *iP* **P 13 56 42.2 +1.8**
TUTA Tutak 82.59 329 *iP* **P 13 56 37.7 -2.7**
TUTA Tutak 82.59 329 *iP* **P 13 56 41.5 +1.1**
TCF Toulx Ste Croi 82.60 360 ⇑*iP* **P 13 56 40.1 -0.2**
comp=Z,103nm,1.1s,mb5.5
TCF Toulx Ste Croi 82.60 360 ⇑*iP* **P 13 56 40.1 -0.2**
TCF pmax pmax
comp=Z,52nm,1.1s,mb5.5
TCF Toulx Ste Croi 82.60 360 ⇑*iP* **P 13 56 40.1 -0.2**
comp=Z,52nm,1.1s,mb5.5
BOJS Bojanci 82.67 350 *eP* **P 13 56 40.6 -0.2**
AKL Akola 82.71 294 *eP* **P 13 56 41.5 +0.2**
AGO Saint Agoulin 82.83 359 *eP* **P 13 56 42.2 +0.7**
PLDF La Plantade 82.90 359 *eP* **P 13 56 42.4 +0.5**
PRD Provadia 83.06 341 *iP* **P 13 56 43.1 +0.3**
ORO Oropa 83.10 355 P **P 13 56 43.4 +0.4**
ORO pmax pmax
comp=Z,82nm,1.3s,mb5.6
ORO Oropa 83.10 355 P **P 13 56 43.4 +0.4**
comp=Z,82nm,1.3s,mb5.6
PYM Petit Puy Mans 83.13 359 *eP* **P 13 56 43.5 +0.4**
VERF Verneugheol 83.13 359 *eP* **P 13 56 43.1 0.0**

LPL La Plagne 83.27 356 ⇑*iP* **P 13 56 45.0 +1.2**
SZH Strazhica 83.28 342 *iP* **P 13 56 43.6 -0.4**
LPG La Plagne 83.29 356 ⇑*iP* **P 13 56 45.2 +1.3**
comp=Z,464nm,1.7s,mb5.9
LPG La Plagne 83.29 356 ⇑*iP* **P 13 56 45.2 +1.3**
LPG pmax pmax
comp=Z,232nm,1.7s,mb5.9
LPG La Plagne 83.29 356 ⇑*iP* **P 13 56 45.2 +1.3**
comp=Z,232nm,1.7s,mb5.9
BALT Dadap 83.30 337 *iP* **P 13 56 44.9 +0.8**
RKT Rikitea 83.50 140 *eS* S 14 06 59.7 -4.2
comp=Z,1µm,26.8s
RKT *eSS* SS 14 12 28.2 -2.8
comp=Z,2µm,28.5s
RKT *eLQ* 14 19 06.8
comp=Z,2µm,33.5s
RKT *eLR* LR 14 22 51.2
comp=Z,12µm,29.8s,baz=330
FRNF Fournols 83.50 359 *eP* **P 13 56 45.5 +0.5**
SSB Saint Sauveur 83.57 358 *eP* **P 13 56 45.6 +0.2**
SSB Saint Sauveur 83.57 358 *eP* **P 13 56 45.4 0.0**
GRN Grenoble 83.58 357 *eP* **P 13 56 46.2 +0.8**
RJF Les Rejaudoux 83.58 0 ⇑*iP* **P 13 56 45.3 -0.1**
comp=Z,658nm,1.6s,mb6.2
RJF *eMLR* MLR
comp=Z,6µm,21.0s,MS5.7
RJF Les Rejaudoux 83.58 0 ⇑*iP* **P 13 56 45.3 -0.1**
RJF pmax pmax
comp=Z,329nm,1.6s,mb6.2
RJF MLR MLR
comp=Z,6µm,21.0s,MS6.0
RJF Les Rejaudoux 83.58 0 ⇑*iP* **P 13 56 45.3 -0.1**
comp=Z,329nm,1.6s,mb6.2
RJF LR LR
comp=Z,6µm,21.0s,MS6.0
GDM Grand'Maison 83.60 357 *eP* **P 13 56 46.6 +1.0**
NVLJ Novalja 83.64 350 P **P 13 56 44.0 -1.7**
LBL Lubilhac 83.64 359 *eP* **P 13 56 46.3 +0.5**
ILGA Ilgaz 83.68 336 *iP* **P 13 56 47.5 +1.5**
BNI Bardonecchia 83.73 356 *eP* **P 13 56 46.5 +0.3**
BNI pmax pmax
comp=Z,247nm,1.4s,mb6.2
BNI MLR MLR
comp=Z,3µm,19.0s,MS5.7
BNI Bardonecchia 83.73 356 *eP* **P 13 56 46.5 +0.2**
comp=Z,247nm,1.4s,mb6.2
BNI LR LR
comp=Z,3µm,19.0s,MS5.7
BOB Bobbio (Coli) 83.88 354 P **P 13 56 47.7 +0.7**
ORIF Oris-en-Rattie 83.90 357 ⇑*iP* **P 13 56 47.8 +0.7**
comp=Z,394nm,1.4s,mb6.0
ORIF *eMLR* MLR
comp=Z,4µm,20.0s,MS5.5
ORIF Oris-en-Rattie 83.90 357 ⇑*iP* **P 13 56 47.8 +0.7**
ORIF pmax pmax
comp=Z,197nm,1.4s,mb6.0
ORIF Oris-en-Rattie 83.90 357 ⇑*iP* **P 13 56 47.8 +0.7**
comp=Z,197nm,1.4s,mb6.0
JMB Yambol 83.93 342 *iP* **P 13 56 47.7 +0.4**
LFF La Frestale 83.94 1 ⇑*iP* **P 13 56 47.3 0.0**
comp=Z,2µm,1.6s,mb6.6
LFF La Frestale 83.94 1 ⇑*iP* **P 13 56 47.3 0.0**
LFF pmax pmax
comp=Z,831nm,1.6s,mb6.6
LFF La Frestale 83.94 1 ⇑*iP* **P 13 56 47.3 0.0**
comp=Z,831nm,1.6s,mb6.6
CAF Calviac 83.96 360 ⇑*iP* **P 13 56 47.6 +0.2**
comp=Z,1µm,1.6s,mb6.4
CAF Calviac 83.96 360 ⇑*iP* **P 13 56 47.6 +0.2**
CAF pmax pmax
comp=Z,507nm,1.6s,mb6.4
CAF Calviac 83.96 360 ⇑*iP* **P 13 56 47.6 +0.2**
comp=Z,507nm,1.6s,mb6.4
HAKT HAKKARI 83.97 328 *iP* **P 13 56 49.3 +1.7**
VIVF Saint-Julien-l 83.99 358 ⇑*iP* **P 13 56 47.9 +0.3**
comp=Z,344nm,1.4s,mb6.0
VIVF Saint-Julien-l 83.99 358 ⇑*iP* **P 13 56 47.9 +0.3**
VIVF pmax pmax
comp=Z,172nm,1.4s,mb6.0
VIVF Saint-Julien-l 83.99 358 ⇑*iP* **P 13 56 47.9 +0.3**
comp=Z,172nm,1.4s,mb6.0
KEMA Kemaliye 84.01 332 *iP* **P 13 56 48.7 +0.8**
MBDF Montbardon 84.06 356 ⇑*iP* **P 13 56 48.6 +0.7**
comp=Z,117nm,0.9s,mb5.7
MBDF Montbardon 84.06 356 ⇑*iP* **P 13 56 48.6 +0.7**
MBDF pmax pmax
comp=Z,58nm,0.9s,mb5.7
MBDF Montbardon 84.06 356 ⇑*iP* **P 13 56 48.6 +0.7**
comp=Z,58nm,0.9s,mb5.7
JTS JuntasAbangare 84.17 81 PFAKE 13 57 00.0 +11
JTS LR LR
comp=Z,749nm,20.0s,MS5.1
SURF Saint Ours 84.30 356 *eP* **P 13 56 50.2 +1.1**
PLE Pljevlja 84.30 347 ⇑*iP* **P 13 56 49.3 +0.1**
PGB Panagyurishte 84.30 343 *iP* **P 13 56 48.8 -0.4**
FNVD Fontana Vidola 84.36 353 P **P 13 56 50.8 +1.4**
HYB Hyderabad 84.41 291 *eP* **P 13 56 50.0 -0.1**
HYB *eS* S 14 07 12.0 -1.6
HYB pmax pmax
comp=Z,390nm,1.0s,mb6.5
HYB Hyderabad 84.41 291 *iP* **P 13 56 50.0 -0.1**
comp=Z,390nm,1.0s,mb6.5
HYB *eS* S 14 07 12.0 -1.6
HYB *eScS* ScS 14 07 24.0 -1.3
HYB LR LR 14 37 54.0
comp=Z,6.0nm,16.0s
HYB Hyderabad 84.41 291 *eP* **P 13 56 50.0 -0.1**
comp=Z,390nm,1.0s,mb6.5
HYB *eS* S 14 07 12.0 -1.6
VLC Villacollemand 84.42 354 *eP* **P 13 56 50.5 +0.7**
comp=Z,31nm,0.5s,mb5.7
VLC LR LR
comp=Z,5µm,20.0s,MS5.9
UPM Unac-Piva 84.49 347 ⇑*iP* **P 13 56 50.0 -0.1**
BDI Bagni Di Lucca 84.50 353 P **P 13 56 50.1 -0.1**
SGKT Sivrigoynuk 84.54 337 *iP* **P 13 56 50.5 +0.1**
HENT Hendek 84.58 338 *iP* **P 13 56 50.4 -0.2**
ELZG Elazig 84.60 331 *iP* **P 13 56 51.9 +1.1**
PLD Plovdiv 84.64 343 P **P 13 56 50.9 0.0**
PLD Plovdiv 84.64 343 *iP* **P 13 56 51.0 +0.1**
IVA Berane 84.68 347 ⇑*iP* **P 13 56 50.5 -0.6**
TOUF Mont Tournerai 84.75 356 *eP* **P 13 56 51.9 +0.5**
BHJ Bhuj 84.75 301 *eP* **P 13 56 52.5 +0.7**
BHJ AMb AMB 13 56 55.2
comp=Z,264nm,1.6s,mb6.1
AUTN L'Aution 84.76 356 *eP* **P 13 56 51.7 +0.3**
SAOF Saorge 84.76 356 *eP* **P 13 56 51.4 -0.1**
LASF Ste Croix 84.79 358 ⇑*iP* **P 13 56 52.1 +0.5**
comp=Z,104nm,1.1s,mb5.6
STOF St-Etienne Org 84.81 357 *eP* **P 13 56 52.4 +0.7**
IMI Imperia 84.82 355 P **P 13 56 51.6 -0.2**
BRY Brotogost 84.84 348 ⇑*iP* **P 13 56 51.0 -0.9**
SMRF Simiane la Rot 84.85 357 ⇑*iP* **P 13 56 52.7 +0.8**
comp=Z,832nm,1.5s,mb6.3
SMRF Simiane la Rot 84.85 357 ⇑*iP* **P 13 56 52.7 +0.8**
comp=Z,832nm,1.5s,mb6.6
PII Pisa 84.85 354 P **P 13 56 51.3 -0.6**
PII pmax pmax
comp=Z,147nm,0.9s,mb6.1
PII Pisa 84.85 354 P **P 13 56 51.3 -0.6**
comp=Z,147nm,0.9s,mb6.1
CDAG Cicekdag 84.85 335 *iP* **P 13 56 53.6 +1.7**
LUCF Luceram 84.86 356 *eP* **P 13 56 51.9 -0.1**
NKY Niksic 84.86 347 ⇓*iP* **P 13 56 51.2 -0.8**
MVIF Mont Vial 84.87 356 *eP* **P 13 56 51.9 -0.1**
SBF Sospel 84.89 356 ⇑*iP* **P 13 56 51.8 -0.3**
comp=Z,349nm,0.9s,mb6.2
SBF Sospel 84.89 356 ⇑*iP* **P 13 56 51.8 -0.3**
SBF pmax pmax
comp=Z,175nm,0.9s,mb6.2
SBF Sospel 84.89 356 ⇑*iP* **P 13 56 51.8 -0.3**
comp=Z,174nm,0.9s,mb6.2
PVY Plav 84.94 346 ⇓*iP* **P 13 56 51.8 -0.6**
KDZ Kurdzhali 84.94 342 *iP* **P 13 56 52.2 -0.2**
BR131 Keskin Array S 84.94 336 *eP* **P 13 56 52.1 -0.3**
comp=Z,46nm,0.8s,mb5.7
BR131 LR LR
comp=Z,3µm,19.0s,MS5.6
VILF Villemus 84.97 357 *eP* **P 13 56 53.6 +1.1**
STON Ston 84.98 348 P **P 13 56 51.3 -1.2**
REVF Revere 85.02 356 *eP* **P 13 56 52.7 0.0**
CALN Calern 85.02 356 *eP* **P 13 56 54.3 +1.5**
ANTO Ankara 85.02 336 *eP* **P 13 56 53.2 +0.3**
ANTO pmax pmax
comp=Z,318nm,1.4s,mb6.3

ANTO MLR MLR
comp=Z,6µm,21.0s,MS6.0
ANTO Ankara 85.02 336 ⇑*iP* **P 13 56 53.5 +0.6**
ANTO Ankara 85.02 336 *eP* **P 13 56 53.2 +0.3**
comp=Z,318nm,1.4s,mb6.3
ANTO LR LR
comp=Z,6µm,21.0s,MS6.0
PRAF Pradon 85.03 357 *eP* **P 13 56 54.0 +1.2**
RZN Rozhen 85.04 343 *iP* **P 13 56 52.6 -0.3**
SNTG Esanatoglia 85.12 352 P **P 13 56 54.0 +0.7**
comp=Z,110nm,0.6s,mb6.2
MARD Mardin 85.14 330 *iP* **P 13 56 54.5 +1.0**
KKB Krupnik 85.16 344 *iP* **P 13 56 53.3 -0.2**
TAVF Tavernes 85.19 357 *eP* **P 13 56 54.3 +0.7**
TTG Podgorica 85.20 347 ⇑*iP* **P 13 56 53.1 -0.6**
FRF La Foret Royal 85.22 356 ⇑*iP* **P 13 56 53.5 -0.3**
comp=Z,438nm,1.3s,mb6.1
FRF La Foret Royal 85.22 356 ⇑*iP* **P 13 56 53.5 -0.3**
FRF pmax pmax
comp=Z,219nm,1.3s,mb6.1
FRF La Foret Royal 85.22 356 ⇑*iP* **P 13 56 53.5 -0.3**
comp=Z,219nm,1.3s,mb6.1
EPON Pontenova 85.25 6 P **P 13 56 52.7 -1.2**
comp=Z,636nm,1.9s,mb6.4
PUYF Puyloubier 85.29 357 *eP* **P 13 56 55.0 +0.9**
HCY Herceg Novi 85.29 348 ⇑*iP* **P 13 56 53.6 -0.5**
MMB Musomiste 85.31 344 *iP* **P 13 56 54.0 -0.3**
ASS Assisi 85.33 352 P **P 13 56 54.6 +0.2**
ASS pmax pmax
comp=Z,114nm,0.6s,mb6.2
ASS Assisi 85.33 352 P **P 13 56 54.6 +0.2**
comp=Z,114nm,0.6s,mb6.2
BUM Brajici-Budva 85.38 347 ⇑*iP* **P 13 56 54.0 -0.6**
GRFL Gerfalco 85.39 353 P **P 13 56 54.8 +0.2**
EARI Arriondas 85.40 5 P **P 13 56 55.3 +0.6**
comp=Z,372nm,1.9s,mb6.2
GELF Grande-Etoile 85.44 357 *eP* **P 13 56 55.7 +0.8**
LMR La Mourre 85.46 356 ⇑*iP* **P 13 56 54.8 -0.2**
comp=Z,614nm,1.5s,mb6.2
LMR La Mourre 85.46 356 ⇑*iP* **P 13 56 54.8 -0.2**
LMR pmax pmax
comp=Z,307nm,1.5s,mb6.2
LMR La Mourre 85.46 356 ⇑*iP* **P 13 56 54.8 -0.2**
comp=Z,307nm,1.5s,mb6.2
STIP Stip 85.47 345 *iP* **P 13 56 54.4 -0.6**
EMAZ Mazaricos 85.49 8 P **P 13 56 55.4 +0.2**
comp=Z,46nm,1.0s,mb5.6
AVNT Avonos 85.51 335 *iP* **P 13 56 53.1 -2.2**
SART Tekirdag 85.52 341 *iP* **P 13 56 55.6 +0.2**
MTLF Montolieu 85.54 360 ⇑*iP* **P 13 56 55.4 0.0**
comp=Z,293nm,1.3s,mb6.0
MTLF Montolieu 85.54 360 ⇑*iP* **P 13 56 55.4 0.0**
MTLF pmax pmax
comp=Z,147nm,1.3s,mb6.0
MTLF Montolieu 85.54 360 ⇑*iP* **P 13 56 55.4 0.0**
comp=Z,147nm,1.3s,mb6.0
ALN Alexandroupoli 85.55 342 P **P 13 56 54.8 -0.7**
ELAN Lanestosa 85.55 4 P **P 13 56 54.5 -1.0**
comp=Z,116nm,0.7s,mb6.2
BORA Eskisehir 85.58 338 *iP* **P 13 56 56.0 +0.3**
STS Santiago 85.59 7 P **P 13 56 54.7 -0.9**
STS pmax pmax
comp=Z,21nm,0.7s,mb5.5
STS Santiago 85.59 7 P **P 13 56 54.7 -1.0**
comp=Z,21nm,0.7s,mb5.5
EALK Alkuruntz 85.63 2 P **P 13 56 55.5 -0.3**
comp=Z,383nm,1.7s,mb6.3
ULDT Uludag 85.63 339 *iP* **P 13 56 57.1 +1.2**
ULC Ulcinj 85.66 347 ⇑*iP* **P 13 56 55.5 -0.5**
ELIZ Elizondo 85.68 2 P **P 13 56 56.5 +0.4**
ELIZ pmax pmax
comp=Z,53nm,1.1s,mb5.7
ELIZ Elizondo 85.68 2 P **P 13 56 56.5 +0.4**
comp=Z,53nm,1.1s,mb5.7
ARMA Armidale 85.72 206 *eP* **P 13 56 56.4 +0.2**
SJPF Ste Jean 85.74 2 *eP* **P 13 56 56.0 -0.4**
comp=Z,27nm,0.7s,mb5.6
SJPF Ste Jean 85.74 2 *eP* **P 13 56 56.0 -0.4**
SJPF pmax pmax
comp=Z,28nm,0.7s,mb5.6
SJPF Ste Jean 85.74 2 *eP* **P 13 56 56.0 -0.4**
comp=Z,28nm,0.7s,mb5.6
ASAR Alice Springs 85.74 223 P **P 13 56 54.9 -1.6**
comp=Z,17nm,0.8s,mb5.3,baz=29,slow=4.6,SNR=84
ASAR PKKPbc PKKPbc 14 14 55.8 -1.3
comp=Z,0.3nm,0.5s,baz=205,slow=2.3,SNR=5.5
ASAR PKPPKP 14 23 04.5
comp=Z,0.8nm,1.0s,baz=192,slow=1.7,SNR=5.9
VAY Valandovo 85.77 344 P **P 13 56 56.0 -0.6**
VAY Valandovo 85.77 344 ⇑*iP* **P 13 56 56.1 -0.4**
LARF Larrau 85.82 2 *eP* **P 13 56 56.9 +0.1**
ESKT Eskisehir 85.83 338 *iP* **P 13 56 57.4 +0.5**
EPF Esparros 85.85 1 ⇑*iP* **P 13 56 56.1 -0.8**
comp=Z,225nm,1.4s,mb5.9
EPF Esparros 85.85 1 ⇑*iP* **P 13 56 56.1 -0.8**
EPF pmax pmax
comp=Z,112nm,1.4s,mb5.9
EPF Esparros 85.85 1 ⇑*iP* **P 13 56 56.1 -0.8**
comp=Z,112nm,1.4s,mb5.9
KNT Kendrikon 85.87 344 P **P 13 56 57.0 -0.1**
KRUS Krusevo 85.94 345 ⇑*iP* **P 13 56 57.3 -0.1**
ETSF Etsaut 85.97 2 ⇑*iP* **P 13 56 57.7 +0.2**
comp=Z,105nm,0.8s,mb5.8
ETSF Etsaut 85.97 2 ⇑*iP* **P 13 56 57.7 +0.2**
ETSF pmax pmax
comp=Z,52nm,0.8s,mb5.8
ETSF Etsaut 85.97 2 ⇑*iP* **P 13 56 57.7 +0.2**
comp=Z,52nm,0.8s,mb5.8
AQU L'Aquila 85.97 351 P **P 13 56 58.2 +0.7**
AQU pmax pmax
comp=Z,250nm,1.1s,mb6.4
AQU L'Aquila 85.97 351 P **P 13 56 58.2 +0.7**
comp=Z,250nm,1.1s,mb6.4
VIEF Viey 85.99 1 *eP* **P 13 56 57.8 +0.2**
MNS Montasola 86.01 352 P **P 13 56 57.3 -0.4**
RESF Ens 86.07 1 *eP* **P 13 56 58.2 +0.2**
GZT Gaziantep 86.08 332 *iP* **P 13 56 59.2 +1.1**
PGF Pioggiola 86.12 355 ⇑*iP* **P 13 56 57.9 -0.3**
comp=Z,440nm,1.0s,mb6.4
PGF Pioggiola 86.12 355 ⇑*iP* **P 13 56 57.9 -0.3**
PGF pmax pmax
comp=Z,220nm,1.0s,mb6.3
PGF Pioggiola 86.12 355 ⇑*iP* **P 13 56 57.9 -0.3**
comp=Z,220nm,1.0s,mb6.3
SOH Sokhos 86.12 344 P **P 13 56 57.8 -0.5**
GRG Griva 86.16 344 P **P 13 56 58.0 -0.5**
TIR Tirane 86.18 346 P **P 13 56 58.1 -0.5**
TIR Tirane 86.18 346 PFAKE 13 57 10.0 +11
TIR LR LR
comp=Z,5µm,19.0s,MS5.9
ERUA La Rua 86.18 6 P **P 13 56 58.3 -0.3**
ERUA pmax pmax
comp=Z,7.0nm,0.4s,mb5.2
ERUA La Rua 86.18 6 P **P 13 56 58.3 -0.3**
comp=Z,7.4nm,0.4s,mb5.3
EBIE Bielsa 86.19 1 P **P 13 56 59.7 +1.1**
comp=Z,121nm,1.2s,mb6.0
ECRI Cripan 86.21 3 P **P 13 56 59.4 +0.7**
ECRI pmax pmax
comp=Z,28nm,0.8s,mb5.5
ECRI Cripan 86.21 3 P **P 13 56 59.4 +0.7**
comp=Z,28nm,0.8s,mb5.5
ANDN Andirin 86.22 333 *iP* **P 13 57 00.6 +1.7**
POO Poona 86.23 295 *eP* **P 13 56 59.3 +0.1**
OHR Ohrid 86.27 346 ⇑*iP* **P 13 56 58.2 -0.8**
BIA Bitola 86.27 345 *iP* **P 13 56 58.7 -0.3**
PTQR Pietraguaria 86.30 351 P **P 13 56 59.6 +0.4**
comp=Z,966nm,1.2s,mb6.9
EZAM Zamans 86.31 8 P **P 13 56 59.2 0.0**
EZAM pmax pmax
comp=Z,6.0nm,0.6s,mb5.0
EZAM Zamans 86.31 8 P **P 13 56 59.2 0.0**
comp=Z,5.8nm,0.6s,mb5.0
FGMS Monte Sant'Ang 86.34 349 P **P 13 56 59.4 0.0**
comp=Z,408nm,1.0s,mb6.6
BALY Balya 86.34 340 *iP* **P 13 56 58.5 -1.0**
CORF Corte 86.36 354 *eP* **P 13 56 58.7 -0.7**
THE Thessaloniki 86.38 344 P **P 13 56 58.3 -1.3**
HORT Hortiatis 86.39 344 P **P 13 56 58.7 -0.9**
OUR Ouranopolis 86.48 343 P **P 13 56 59.8 -0.3**
FNA Florina 86.50 345 P **P 13 56 58.7 -1.4**
PLG Polygyros 86.54 343 P **P 13 56 59.5 -0.9**
MIDA Miranda 86.59 351 P **P 13 57 01.1 +0.5**
ELOB Lobios 86.64 7 P **P 13 56 59.6 -1.2**
comp=Z,123nm,1.4s,mb5.9

ECAL	**Calabor**	**86.66**	**6**	P		**P**	**13 56 59.8**	**-1.1**	
	comp=Z,589nm,3.0s								
LIA	**Limnos Island**	**86.68**	**342**	P		**P**	**13 57 00.3**	**-0.8**	
PCAB	**Cabril**	**86.80**	**7**	*e*P		**P**	**13 57 01.2**	**-0.4**	
	comp=Z,82nm,1.9s,mb5.6								
MDRS	**Chennai**	**86.83**	**287**	⇑ *i* x		x	13 56 25.2		
FG5	**Orsara di Pugl**	**86.84**	**350**	P		**P**	**13 57 02.0**	**+0.2**	
FG5				pmax		pmax			
	comp=Z,397nm,1.8s,mb6.3								
FG5	**Orsara di Pugl**	**86.84**	**350**	P		**P**	**13 57 02.0**	**+0.2**	
	comp=Z,397nm,1.8s,mb6.3								
PAIG	**Paliouri**	**86.94**	**343**	P		**P**	**13 57 00.8**	**-1.5**	
RFI	**Roccamonfina**	**86.96**	**351**	P		**P**	**13 57 03.2**	**+0.8**	
	comp=Z,145nm,1.8s,mb5.9								
LIT	**Litokhoron**	**86.98**	**344**	P		**P**	**13 57 01.4**	**-1.1**	
OSPF	**L'Ospedale**	**86.99**	**354**	*e*P		**P**	**13 57 02.5**	**0.0**	
KAD	**Karad**	**87.02**	**294**	*e*P		**P**	**13 57 02.8**	**-0.2**	
PRK	**Paraskevi**	**87.10**	**341**	P		**P**	**13 57 02.1**	**-1.0**	
ESAC	**San Caprasio**	**87.15**	**2**	P		**P**	**13 57 04.1**	**+0.8**	
	comp=Z,125nm,0.8s,mb6.2								
PTCN	**Pitcairn Islan**	**87.24**	**137**	PFAKE			13 57 10.0	+6.3	
PTCN				LR		LR			
	comp=Z,10µm,19.0s,MS6.2								
COBT	**Iskenderun**	**87.24**	**333**	*i* P		**P**	**13 57 03.9**	**+0.1**	
KHAL	**Karahalli**	**87.24**	**338**	*i* P		**P**	**13 57 02.6**	**-1.2**	
PVRL	**Vila Real**	**87.25**	**7**	*e*P		**P**	**13 57 03.4**	**-0.4**	
	comp=Z,94nm,1.4s,mb5.8								
LTRZ	**Laterza**	**87.32**	**348**	P		**P**	**13 57 04.2**	**0.0**	
MANT	**Manisa**	**87.34**	**339**	*i* P		**P**	**13 57 03.9**	**-0.4**	
MVO	**Moncorvo**	**87.41**	**7**	*e*P		**P**	**13 57 04.2**	**-0.4**	
	comp=Z,83nm,1.3s,mb5.8								
MVO	**Moncorvo**	**87.41**	**7**	*e*PP		PP	14 00 21.3	-7.1	
MVO				*e*S		S	14 07 44.9	+2.5	
MVO				*e*LR		LR	14 26 12.0		
	comp=Z,2µm,20.0s								
EPOB	**Poblet**	**87.53**	**0**	P		**P**	**13 57 05.5**	**+0.3**	
	comp=Z,207nm,1.7s,mb6.1								
THL	**Klokotos Trika**	**87.58**	**344**	P		**P**	**13 57 05.5**	**+0.1**	
PVIS	**Viseu**	**87.80**	**7**	*e*P		**P**	**13 57 05.9**	**-0.5**	
	comp=Z,104nm,1.4s,mb5.9								
MGR	**Morigerati**	**87.94**	**349**	P		**P**	**13 57 06.1**	**-1.0**	
CHOS	**Chios island**	**87.97**	**341**	P		**P**	**13 57 06.0**	**-1.3**	
PDA	**Ponta Delgada**	**87.98**	**21**	*e*LQ			14 21 19.0		
PDA				*e*LR		LR	14 25 26.0		
CMLA	**Cha da Macela**	**87.99**	**21**	*e*S		SKSac	14 07 23.3	-10	
CMLA				*e*SS		SS	14 12 48.9	-46	
CMLA				*e*LQ			14 20 05.2		
CMLA				*e*LR		LR	14 26 19.6		
CMLA	**Cha da Macela**	**87.99**	**21**	PFAKE			13 57 20.0	+13	
CMLA				LR		LR			
	comp=Z,3µm,22.0s,MS5.7								
ETOR	**Torete**	**88.01**	**3**	P		**P**	**13 57 07.3**	**-0.2**	
ETOR				pmax		pmax			
	comp=Z,36nm,0.8s,mb5.7								
ETOR	**Torete**	**88.01**	**3**	P		**P**	**13 57 07.3**	**-0.1**	
	comp=Z,36nm,0.8s,mb5.7								
AGG	**Agios Georgios**	**88.05**	**344**	P		**P**	**13 57 06.7**	**-1.0**	
MTE	**Manteigas**	**88.14**	**7**	*e*P		**P**	**13 57 08.1**	**0.0**	
	comp=Z,104nm,1.7s,mb5.8								
MTE				*i* P			13 57 28.4		
MTE	**Manteigas**	**88.14**	**7**	*e*PP		PP	14 00 43.1	+8.9	
MTE				*e*S		S	14 07 43.6	-5.7	
MTE				*e*LR		LR	14 30 15.0		
	comp=Z,2µm,22.0s								
MTE	**Manteigas**	**88.14**	**7**	*e*P		**P**	**13 57 07.0**	**-1.1**	
	comp=Z,44nm,0.8s,mb5.7								
MTE				LR		LR			
	comp=Z,2µm,20.0s,MS5.6								
BCIP	**Isla Barro Col**	**88.19**	**78**	P		**P**	**13 57 07.9**	**-0.8**	
BCIP				LR		LR			
	comp=Z,2µm,21.0s,MS5.4								
LKR	**Lokris**	**88.30**	**343**	P		**P**	**13 57 06.8**	**-2.1**	
EPLA	**Plasencia**	**88.57**	**6**	P		**P**	**13 57 08.8**	**-1.3**	
EPLA				pmax		pmax			
	comp=Z,199nm,0.7s,mb6.5								
EPLA	**Plasencia**	**88.57**	**6**	P		**P**	**13 57 08.8**	**-1.4**	
	comp=Z,198nm,0.7s,mb6.5								
PCBR	**Castelo Branco**	**88.70**	**7**	*e*P		**P**	**13 57 09.9**	**-0.8**	
	comp=Z,65nm,1.5s,mb5.7								
TIP	**Timpagrande**	**88.74**	**348**	*e*P		**P**	**13 57 10.3**	**-0.6**	
	comp=Z,190nm,1.3s,mb6.3								
TIP				LR		LR			
	comp=Z,4µm,20.0s,MS5.9								
LTK	**Loutraki**	**88.91**	**343**	P		**P**	**13 57 09.4**	**-2.4**	
ESDC	**Sonseca Array**	**89.08**	**4**	P		**P**	**13 57 11.8**	**-0.7**	
	comp=Z,19nm,0.6s,mb5.6,baz=355,slow=4.5,SNR=58								
ESDC				LR		LR	14 39 13.2		
	comp=Z,2µm,19.5s,MS5.6,baz=10.0,slow=37								
ESDC	**Sonseca Array**	**89.08**	**4**	P		**P**	**13 57 11.8**	**-0.7**	
	comp=Z,30nm,0.6s,mb5.8								
ESLA	**Sonseca Array**	**89.08**	**4**	*e*P		**P**	**13 57 11.4**	**-1.1**	
	comp=Z,31nm,1.2s,mb5.5								
ESLA				LR		LR			
	comp=Z,16µm,19.0s,MS6.5								
SJG	**San Juan**	**89.08**	**62**	*e*P		**P**	**13 57 13.2**	**+0.4**	
SJG				pmax		pmax			
	comp=Z,145nm,0.9s								
SJG				MLR		MLR			
	comp=Z,7µm,21.0s								
SJG	**San Juan**	**89.08**	**62**	*e*P		**P**	**13 57 13.2**	**+0.3**	
	comp=Z,145nm,0.9s,mb6.3								
SJG				LR		LR			
	comp=Z,7µm,21.0s,MS6.1								
PMRV	**Marv??o**	**89.11**	**7**	*e*P		**P**	**13 57 11.5**	**-1.2**	
	comp=Z,74nm,2.1s,mb5.6								
PMRV	**Marv??o**	**89.11**	**7**	*e*PP		PP	14 00 48.3	+6.3	
PMRV				*e*S		S	14 07 58.0	-0.6	
PMRV				*e*LR		LR	14 27 28.3		
	comp=Z,2µm,18.0s								
GRI	**Girifalco**	**89.13**	**348**	P		**P**	**13 57 12.6**	**-0.2**	
VSL	**Villasalto**	**89.13**	**354**	PFAKE			13 57 20.0	+7.2	
VSL				LR		LR			
	comp=Z,4µm,20.0s,MS5.9								
PAB	**San Pablo**	**89.19**	**5**	*e*P		**P**	**13 57 12.1**	**-0.9**	
PAB				pmax		pmax			
	comp=Z,69nm,1.3s,mb5.8								
PAB				MLR		MLR			
	comp=Z,3µm,21.0s,MS5.7								
PAB	**San Pablo**	**89.19**	**5**	*e*P		**P**	**13 57 12.1**	**-1.0**	
	comp=Z,69nm,1.3s,mb5.8								
PAB				LR		LR			
	comp=Z,3µm,21.0s,MS5.7								
ECHE	**Chera**	**89.27**	**2**	P		**P**	**13 57 13.4**	**0.0**	
ECHE				pmax		pmax			
	comp=Z,30nm,0.9s,mb5.6								
ECHE	**Chera**	**89.27**	**2**	P		**P**	**13 57 13.4**	**0.0**	
	comp=Z,30nm,0.9s,mb5.6								
PAYG	**Puerto Ayora**	**89.34**	**92**	PFAKE			13 57 20.0	+5.9	
PAYG				LR		LR			
	comp=Z,2µm,22.0s,MS5.5								
DID	**Didima**	**89.37**	**343**	P		**P**	**13 57 10.3**	**-3.6**	
MTP	**Monte Pirata**	**89.42**	**61**	*e*P		**P**	**13 57 10.0**	**-4.5**	
PMAFR	**Mafra**	**89.42**	**8**	*e*P		**P**	**13 57 12.3**	**-1.9**	
	comp=Z,132nm,1.6s,mb6.0								
PMAFR				*i* P			13 57 27.6		
PMAFR	**Mafra**	**89.42**	**8**	*e*PP		PP	14 00 50.2	+5.7	
PMAFR				*e*S		S	14 08 02.5	+1.0	
PMAFR				*e*LR		LR	14 26 44.0		
	comp=Z,3µm,22.0s								
CSS	**Prodhromos**	**89.51**	**334**	*e*P		**P**	**13 57 13.8**	**-0.9**	
	comp=Z,130nm,1.3s,mb6.1								
MIB	**Mutribah**	**89.62**	**322**	*e*P		**P**	**13 57 14.3**	**-0.9**	
	baz=322								
MIB				AMb		AMB	13 57 16.0		
	comp=Z,220nm,1.0s,mb6.4,baz=322								
PESTR	**Estremoz**	**89.66**	**7**	*e*P		**P**	**13 57 14.1**	**-1.1**	
	comp=Z,93nm,1.9s,mb5.8								
PESTR	**Estremoz**	**89.66**	**7**	*e*PP		PP	14 00 47.5	+1.2	
PESTR				*e*S		S	14 08 07.5	+3.9	
PESTR				*e*LR		LR	14 27 31.2		
	comp=Z,3µm,18.0s								
LIS	**Lisbon**	**89.67**	**8**	*e*P		**P**	**13 57 15.1**	**-0.2**	
LIS				*e*S		SKSac	14 07 43.6	+0.8	
LIS				*e*S		SKSac	14 07 43.6	+0.8	
LIS				AMS		AMS	14 34 19.3		
	comp=Z,4µm,24.0s,MS5.7								
UMR	**Umm Al-Rimmam**	**89.69**	**321**	*e*P		**P**	**13 57 15.2**	**-0.4**	
	baz=321								
UMR				AMb		AMB	13 57 16.2		
	comp=Z,146nm,1.1s,mb6.2,baz=321								
CEL	**Celeste**	**89.75**	**349**	PFAKE			13 57 30.0	+14	
CEL				LR		LR			
	comp=Z,31µm,19.0s,MS6.8								
EBAD	**Badajoz**	**89.81**	**7**	P		**P**	**13 57 14.8**	**-1.1**	
	comp=Z,81nm,1.0s,mb6.0								
EVO	**Evora**	**89.95**	**8**	*e*P		**P**	**13 57 15.0**	**-1.6**	
	comp=Z,99nm,1.3s,mb5.7								
EVO				*e*MLR		MLR			
	comp=Z,4µm,23.0s,MS5.5								
EVO	**Evora**	**89.95**	**8**	*e*P		**P**	**13 57 16.1**	**-0.5**	
	comp=Z,65nm,1.5s,mb5.7								
NAY	**Al-Naaiem**	**90.15**	**321**	*e*P		**P**	**13 57 16.3**	**-1.4**	
	baz=321								
NAY				AMb		AMB	13 57 18.3		
	comp=Z,73nm,1.0s,mb6.0,baz=321								
STKA	**Stephens Creek**	**90.16**	**213**	*e*P		**P**	**13 57 16.7**	**-0.7**	
	comp=Z,36nm,0.9s,mb5.7								
STKA	**Stephens Creek**	**90.16**	**213**	P		**P**	**13 57 16.9**	**-0.4**	
	comp=Z,36nm,0.8s,mb5.7,baz=6.6,slow=5.1,SNR=48								
STKA				LR		LR	14 34 17.8		
	comp=Z,6µm,20.9s,MS6.0,baz=12,slow=33								
EBEN	**Beniarda**	**90.16**	**1**	P		**P**	**13 57 16.9**	**-0.7**	
	comp=Z,279nm,1.8s,mb6.3								
EVIA	**Vianos**	**90.17**	**3**	P		**P**	**13 57 16.8**	**-0.9**	
EVIA				pmax		pmax			
	comp=Z,30nm,0.8s,mb5.7								
EVIA	**Vianos**	**90.17**	**3**	P		**P**	**13 57 16.8**	**-0.9**	
	comp=Z,30nm,0.8s,mb5.7								
ETOB	**Tobarra**	**90.19**	**2**	P		**P**	**13 57 17.3**	**-0.5**	
	comp=Z,106nm,1.0s,mb6.1								
MBWA	**Marble Bar**	**90.28**	**235**	*e*P		**P**	**13 57 16.8**	**-1.4**	
	comp=Z,27nm,0.8s,mb5.6								
MBWA				LR		LR			
	comp=Z,2µm,20.0s,MS5.5								
RDF	**Al-Radifah**	**90.31**	**321**	*e*P		**P**	**13 57 17.6**	**-0.9**	
	baz=321								
RDF				AMb		AMB	13 57 19.3		
	comp=Z,191nm,1.1s,mb6.3,baz=321								
PBAR	**Barrancos**	**90.39**	**7**	*e*P		**P**	**13 57 17.8**	**-0.9**	
	comp=Z,143nm,1.8s,mb6.0								
PBAR	**Barrancos**	**90.39**	**7**	*e*PP		PP	14 00 45.3	-6.8	
PBAR				*e*S		S	14 08 01.3	-9.1	
PBAR				*e*LR		LR	14 27 36.3		
	comp=Z,2µm,18.0s								
PBEJ	**Beja**	**90.47**	**7**	*e*P		**P**	**13 57 19.7**	**+0.7**	
	comp=Z,66nm,1.9s,mb5.6								
EADA	**Adamuz**	**90.55**	**5**	P		**P**	**13 57 18.0**	**-1.4**	
	comp=Z,328nm,1.6s,mb6.4								
EBAN	**Banos Encina**	**90.59**	**4**	P		**P**	**13 57 19.0**	**-0.6**	
EBAN				pmax		pmax			
	comp=Z,35nm,0.9s,mb5.7								
EBAN	**Banos Encina**	**90.59**	**4**	P		**P**	**13 57 19.0**	**-0.6**	
	comp=Z,35nm,0.9s,mb5.7								
ECAB	**El Cabril**	**90.59**	**6**	P		**P**	**13 57 18.2**	**-1.4**	
	comp=Z,133nm,1.0s,mb6.2								
EMIN	**Mina Concepcio**	**90.82**	**7**	P		**P**	**13 57 18.9**	**-1.8**	
	comp=Z,94nm,1.0s,mb6.1								
PTEO	**Sao Teotonio**	**90.87**	**8**	*e*P		**P**	**13 57 20.3**	**-0.6**	
	comp=Z,137nm,2.0s,mb5.9								
CNB	**Canberra Magne**	**90.96**	**206**	*e*P		**P**	**13 57 22.4**	**+1.4**	
CNB				*e*S		SKSac	14 07 49.9	+0.4	
EQES	**Quesada**	**90.98**	**4**	P		**P**	**13 57 20.1**	**-1.3**	
	comp=Z,295nm,1.9s,mb6.3								
EGRO	**El Granado**	**90.99**	**7**	P		**P**	**13 57 20.4**	**-1.1**	
	comp=Z,154nm,1.2s,mb6.2								
EHUE	**Huescar**	**90.99**	**3**	P		**P**	**13 57 21.0**	**-0.5**	
EHUE				pmax		pmax			
	comp=Z,38nm,0.9s,mb5.7								
EHUE	**Huescar**	**90.99**	**3**	P		**P**	**13 57 21.0**	**-0.5**	
	comp=Z,38nm,0.9s,mb5.7								
EMUR	**La Murta**	**91.00**	**2**	P		**P**	**13 57 21.7**	**+0.1**	
	comp=Z,20nm,0.7s,mb5.5								
ASF	**Jabal al Asfar**	**91.10**	**331**	LR		LR	14 45 17.1		
	comp=Z,6µm,18.9s,MS6.0,baz=255,slow=40								
PVAQ	**Vaqueiros**	**91.10**	**7**	*e*P		**P**	**13 57 21.3**	**-0.7**	
	comp=Z,92nm,1.7s,mb5.8								
PVAQ	**Vaqueiros**	**91.10**	**7**	*e*PP		PP	14 00 56.9	-0.9	
PVAQ				*e*S		S	14 08 14.2	-2.8	
PVAQ				*e*LR		LR	14 28 28.3		
	comp=Z,2µm,18.0s								
MORF	**Marmelete**	**91.12**	**8**	*e*P		**P**	**13 57 20.9**	**-1.2**	
	comp=Z,104nm,1.8s,mb5.9								
MORF	**Marmelete**	**91.12**	**8**	*e*PP		PP	14 01 05.0	+7.1	
MORF				*e*S		SKSac	14 07 49.4	-1.8	
MORF				*e*LR		LR	14 29 11.7		
	comp=Z,4µm,22.0s								
ELUQ	**Luque**	**91.17**	**5**	P		**P**	**13 57 22.5**	**+0.2**	
ELUQ				pmax		pmax			
	comp=Z,48nm,1.4s,mb5.6								
ELUQ	**Luque**	**91.17**	**5**	P		**P**	**13 57 22.5**	**+0.2**	
	comp=Z,48nm,1.4s,mb5.6								
PBDV	**Barranco-do-Ve**	**91.24**	**8**	*e*P		**P**	**13 57 22.1**	**-0.6**	
	comp=Z,83nm,1.6s,mb5.8								
PBDV	**Barranco-do-Ve**	**91.24**	**8**	*e*PP		PP	14 01 03.5	+4.6	
PBDV				*e*S		S	14 08 20.7	+2.4	
PBDV				*e*LR		LR	14 28 10.5		
	comp=Z,3µm,22.0s								
PFVI	**Vila Bisbo**	**91.27**	**8**	*e*P		**P**	**13 57 22.2**	**-0.6**	
PFVI	**Vila Bisbo**	**91.27**	**8**	*e*PP		PP	14 01 02.8	+3.6	
PFVI				*e*S		SKSac	14 07 54.5	+2.4	
PFVI				*e*LR		LR	14 28 33.3		
	comp=Z,4µm,24.0s								
ECOG	**Cogollos-Vega**	**91.49**	**4**	P		**P**	**13 57 23.0**	**-0.8**	
ECOG				pmax		pmax			
	comp=Z,33nm,0.9s,mb5.7								
ECOG	**Cogollos-Vega**	**91.49**	**4**	P		**P**	**13 57 23.0**	**-0.8**	
	comp=Z,33nm,0.9s,mb5.7								
ELOJ	**Sierra Loja**	**91.59**	**5**	P		**P**	**13 57 24.2**	**-0.1**	
ELOJ				pmax		pmax			
	comp=Z,90nm,1.1s,mb6.0								
ELOJ	**Sierra Loja**	**91.59**	**5**	P		**P**	**13 57 24.2**	**0.0**	
	comp=Z,90nm,1.1s,mb6.0								
ERON	**Agron**	**91.73**	**4**	P		**P**	**13 57 24.3**	**-0.6**	
	comp=Z,12nm,0.7s,mb5.3								
ESPR	**Espera**	**91.77**	**6**	P		**P**	**13 57 23.7**	**-1.4**	
	comp=Z,120nm,1.0s,mb6.2								
ANWB	**Willy Bob**	**91.81**	**59**	P		**P**	**13 57 25.5**	**-0.1**	
ENIJ	**Nijar**	**91.84**	**3**	P		**P**	**13 57 23.6**	**-1.8**	
ENIJ				pmax		pmax			
	comp=Z,5.0nm,0.4s,mb5.2								
ENIJ	**Nijar**	**91.84**	**3**	P		**P**	**13 57 23.6**	**-1.8**	
	comp=Z,5.4nm,0.4s,mb5.2								
EGUA	**Guajares**	**91.93**	**4**	P		**P**	**13 57 24.7**	**-1.1**	
EGUA				pmax		pmax			
	comp=Z,262nm,1.1s,mb6.5								
EGUA	**Guajares**	**91.93**	**4**	P		**P**	**13 57 24.7**	**-1.1**	
	comp=Z,262nm,1.1s,mb6.5								
EMIJ	**Mijas**	**92.14**	**5**	P		**P**	**13 57 24.6**	**-2.2**	
	comp=Z,151nm,1.2s,mb6.2								
SFS	**San Fernando**	**92.14**	**6**	PFAKE			13 57 40.0	+13	
SFS				LR		LR			
	comp=Z,5µm,20.0s,MS5.9								
EJIF	**Jimena Fronter**	**92.21**	**6**	P		**P**	**13 57 26.8**	**-0.3**	
EJIF				pmax		pmax			
	comp=Z,186nm,1.4s,mb6.2								
EJIF	**Jimena Fronter**	**92.21**	**6**	P		**P**	**13 57 26.8**	**-0.4**	
	comp=Z,186nm,1.4s,mb6.2								
WDD	**Wield Dalam**	**92.27**	**350**	PFAKE			13 57 40.0	+13	
WDD				LR		LR			
	comp=Z,3µm,22.0s,MS5.7								
TRD	**Trivandrum**	**92.39**	**287**	*e*P		**P**	**13 57 27.1**	**-1.2**	
TRD				AMb		AMB	13 57 30.4		
	comp=Z,92nm,1.2s,mb6.0								
SNZO	**South Karori**	**92.62**	**185**	PFAKE			13 57 40.0	+11	
SNZO				LR		LR			
	comp=Z,6µm,22.0s,MS6.0								
KEST	**Kesra**	**92.88**	**354**	P		**P**	**13 57 29.2**	**-1.0**	
	comp=Z,11nm,0.9s,mb5.3,baz=223,slow=1.5,SNR=15								
EIL	**Elat**	**94.02**	**331**	LR		LR	14 47 54.8		
	comp=Z,5µm,18.2s,MS6.0,baz=14,slow=41								
TOO	**Toolangi**	**94.16**	**208**	*e*P		**P**	**13 57 33.3**	**-2.4**	
TOO				*e*S		SKSac	14 08 06.7	-0.6	
FORT	**Forrest**	**94.46**	**224**	*e*P		**P**	**13 57 37.3**	**0.0**	
	comp=Z,18nm,0.7s,mb5.6								
OTAV	**Otavalo**	**96.01**	**82**	P		**P**	**13 57 44.9**	**0.0**	
	comp=Z,6.2nm,0.9s,mb5.0								
OTAV				LR		LR			
	comp=Z,751nm,20.0s,MS5.2								
COCO	**West Island**	**96.20**	**258**	PFAKE			13 58 00.0	+14	
COCO				LR		LR			
	comp=Z,640nm,22.0s,MS5.1								
GRGR	**Grenville**	**96.44**	**62**	PFAKE			13 58 00.0	+13	
GRGR				LR		LR			
	comp=Z,3µm,20.0s,MS5.8								
BBGH	**Gun Hill**	**96.74**	**59**	PFAKE			13 58 00.0	+12	
BBGH				LR		LR			
	comp=Z,7µm,21.0s,MS6.1								
TAU	**Tasmania Unive**	**98.62**	**205**	PFAKE			13 58 10.0	+14	
TAU				LR		LR			
	comp=Z,2µm,21.0s,MS5.6								
RPN	**Rapa Nui**	**98.91**	**123**	PFAKE			13 58 10.0	+12	
RPN				LR		LR			
	comp=Z,3µm,21.0s,MS5.7								
NWAO	**Narrogin (SRO)**	**101.23**	**231**	PFAKE			13 58 20.0	+12	
NWAO				LR		LR			
	comp=Z,958nm,19.0s,MS5.3								
NNA	**Nana**	**106.47**	**89**	PFAKE			14 02 50.0	+7.7	
NNA				LR		LR			
	comp=Z,1µm,21.0s,MS5.4								
LPAZ	**La Paz**	**115.18**	**85**	PFAKE			14 03 10.0	+11	
LPAZ				LR		LR			
	comp=Z,1µm,22.0s,MS5.4								
MSEY	**Mahe Island**	**115.50**	**297**	PFAKE			14 03 10.0	+10	
MSEY				LR		LR			
	comp=Z,3µm,22.0s,MS5.8								
TOA0	**Torodi Ar. Sit**	**115.63**	**360**	*e*PKPdf		PKPdf	14 02 58.3	-1.5	
TORD	**Torodi Ar. Bea**	**115.63**	**360**	PKP		PKPdf	14 02 58.7	-1.1	
	comp=Z,191nm,0.5s,baz=339,slow=2.3,SNR=1.7								
TORD				PKKPbc		PKKPbc	14 13 28.4	-1.9	
	comp=Z,145nm,0.3s,baz=225,slow=1.9,SNR=1.5								
TORD	**Torodi Ar. Bea**	**115.63**	**360**	PKP		PKPdf	14 02 58.7	-1.1	
TORD				PKKPbc		PKKPbc	14 13 28.4	-1.9	
LVC	**Limon Verde**	**119.41**	**90**	PFAKE			14 03 20.0	+13	
LVC				LR		LR			
	comp=Z,1µm,19.0s,MS5.6								
KMBO	**Kilima Mbogo**	**121.54**	**317**	PKP		PKPdf	14 03 10.5	-0.7	
	comp=Z,7.3nm,0.8s,baz=357,slow=2.7,SNR=15								
KMBO	**Kilima Mbogo**	**121.54**	**317**	PKIKP		PKPdf	14 03 10.5	-0.7	
KMBO				pmax		pmax			
	comp=Z,7.0nm,0.8s								
KMBO	**Kilima Mbogo**	**121.54**	**317**	*e*PKPdf		PKPdf	14 03 09.9	-1.2	
KMBO				LR		LR			
	comp=Z,4µm,21.0s,MS6.1								
DBIC	**Dimbokro**	**121.80**	**8**	PKP		PKPdf	14 03 10.6	-1.1	
	comp=Z,19nm,0.4s,baz=14,slow=1.9,SNR=97								
DBIC	**Dimbokro**	**121.80**	**8**	PKIKP		PKPdf	14 03 10.6	-1.1	
DBIC				pmax		pmax			
	comp=Z,19nm,0.4s								
DBIC	**Dimbokro**	**121.80**	**8**	*e*PKPdf		PKPdf	14 03 10.3	-1.4	
DBIC				LR		LR			
	comp=Z,3µm,21.0s,MS6.0								
TIC	**Toumodi**	**121.81**	**8**	*e*PKIKP		PKPdf	14 03 10.5	-1.2	
	comp=Z,97nm,0.4s								
KIC	**Kosan Boka**	**122.12**	**7**	*e*PKIKP		PKPdf	14 03 11.0	-1.3	
	comp=Z,141nm,0.7s								
LIC	**Lamto**	**122.23**	**8**	*e*PKIKP		PKPdf	14 03 11.5	-1.0	
	comp=Z,51nm,0.5s								
LIC				*e*MLR		MLR			
	comp=Z,5µm,20.8s,MS5.8								
LIC	**Lamto**	**122.23**	**8**	*e*PKIKP		PKPdf	14 03 11.3	-1.2	
	comp=Z,122nm,0.7s								
LIC	**Lamto**	**122.23**	**8**	*e*PKPdf		PKPdf	14 03 11.5	-1.0	
LIC				LR		LR			
	comp=Z,2µm,20.8s,MS5.8								
LCO	**Las Campanas**	**122.89**	**96**	PFAKE			14 03 20.0	+6.8	
LCO				LR		LR			
	comp=Z,2µm,20.0s,MS5.8								
MBAR	**Mbarara**	**123.65**	**324**	PFAKE			14 03 30.0	+15	
MBAR				LR		LR			
	comp=Z,410nm,22.0s,MS5.0								
RCBR	**Riachuelo**	**124.90**	**48**	PFAKE			14 03 30.0	+12	
RCBR				LR		LR			
	comp=Z,2µm,20.0s,MS5.9								
BDFB	**Brasilia**	**126.82**	**66**	PKP		PKPdf	14 03 21.0	-0.1	
	comp=Z,3.8nm,0.8s,baz=271,slow=9.5,SNR=6.8								
BDFB	**Brasilia**	**126.82**	**66**	PKP		PKPdf	14 03 21.0	-0.1	
BDFB				LR		LR			
	comp=Z,2µm,22.0s,MS5.7								
CASY	**Casey**	**129.18**	**210**	*e*P		PKPdf	14 03 23.5	-0.5	
CASY				*e*			14 06 42.4		
SBA	**Scott Base**	**129.40**	**184**	*e*PKIKP		PKPdf	14 03 23.3	-0.9	
SBA				MLR		MLR			
	comp=Z,2µm,20.0s,MS5.8								
PLCA	**Paso Flores**	**130.76**	**107**	PK

VNA1			*e*			14 04 15.4
VNA1			*e*			14 04 57.2
VNA1			*e*			14 05 05.5
VNA1			*e*			14 05 18.0
TRIS	**Tristan da Cun**	**162.51**	**40**	PFAKE		14 04 30.0 +11
TRIS				LR	LR	
	comp=Z,2µm,20.0s					

IDC ***31*** *14:20:55.1±0.8,3672N×14190E,h0km,mb3.6/9, mb1 3.9/12,mb1mx3.8/24,mbtmp3.7/12,ML3.6/3,MS3.4/1, Ms1 3.4/1,ms1mx2.0/46,Error ellipse: s-maj=20.6km s-min=18.6km az=70.0*

ISCJB ***31*** *14:20:56.3±1.2,3685N±003×14183E±006,h16km±8km, mb3.7/7,Error ellipse: s-maj=7.7km s-min=5.5km az=8.5*

JMA ***31*** *14:21:00.0±0.2,3691N×14159E,h53km±3km,M3.9*

NEIC ***31*** *14:21:00.3±0.7,3676N×14188E,h35km,mb4.3/1,Error ellipse: s-maj=15.9km s-min=12.3km az=154.0*

ISC 31 14:20:57.4±1.1,3689N±003×14175E±005,h12km±6km, n28,σ1§24/42,mb3.7/7,4C-1D,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
ONAJ	**Iwakimizuishiy**	**0.79**	**286**	⇑P		**Pg**	**14 21 13.4**	**+0.6**
ONAJ				*e*S		**Sg**	**14 21 22.8**	**-0.4**
JFK	**Kawauchi**	**0.85**	**305**	⇑P		**Pg**	**14 21 14.1**	**+0.2**
JFK				*e*S		**Sg**	**14 21 24.5**	**-0.5**
JHO	**Hitachi**	**0.99**	**254**	P		**Pb**	**14 21 16.0**	**-0.5**
JHO				S		**Sg**	**14 21 28.3**	**-1.1**
JMM	**Marumori**	**1.24**	**322**	⇑P		**Pn**	**14 21 20.0**	**-0.5**
JMM				*e*S		**Sb**	**14 21 34.7**	**-2.0**
JFT	**Otama**	**1.29**	**300**	⇑P		**Pn**	**14 21 21.6**	**+0.3**
JFT				*e*S		**Sb**	**14 21 35.0**	**-3.2**
JIO	**Ouri**	**1.60**	**349**	⇓P		**Pn**	**14 21 25.3**	**-0.1**
JIO				*e*S		**Sn**	**14 21 43.9**	**-2.0**
JOU	**Okura**	**1.71**	**330**	P		**Pn**	**14 21 27.7**	**+0.7**
JOU				*e*S		**Sn**	**14 21 48.6**	**-0.1**
JYS	**Shirataka**	**1.89**	**315**	P		**Pn**	**14 21 30.4**	**+0.9**
JYS				*e*S		**Sn**	**14 21 53.3**	**+0.1**
JAG	**Ashikaga**	**1.91**	**257**	P		**Pn**	**14 21 29.6**	**-0.1**
MJAR	**Matsushiro Arr**	**2.87**	**264**	Pn		**Pn**	**14 21 44.2**	**+1.3**
	8.8nm,0.3s,baz=90,slow=14,SNR=47							
MJAR				Sn		**Sn**	**14 22 19.6**	**+2.3**
	14nm,0.3s,baz=84,slow=15,SNR=6.6							
MJAR				LR		LR	14 22 32.5	
	comp=Z,641nm,19.3s,baz=85,slow=33							
MJAR	**Matsushiro Arr**	**2.87**	**264**	Pn		**Pn**	**14 21 44.2**	**+1.3**
MJAR				Sn		**Sn**	**14 22 19.6**	**+2.3**
MAJO	**Matsushiro**	**2.87**	**264**	*e*P		**Pn**	**14 21 44.5**	**+1.6**
MAT	**Matsushiro**	**2.87**	**264**	P		**Pn**	**14 21 44.6**	**+1.7**
MAT				S		**Sn**	**14 22 17.0**	**-0.4**
JHJ	**Hachijo jima 2**	**4.09**	**204**	Pn		**Pn**	**14 22 00.2**	**+0.5**
	29nm,0.3s,baz=52,slow=12,SNR=10							
JHJ				Sn		**Sn**	**14 22 45.4**	**-2.1**
	42nm,0.3s,baz=238,slow=22,SNR=6.5							
ERM	**Erimo**	**5.24**	**12**	*e*P		**Pn**	**14 22 15.7**	**+0.3**
ASAJ	**Asahikawa**	**7.25**	**5**	Pn		**Pn**	**14 22 45.0**	**+1.9**
	0.5nm,0.3s,baz=190,slow=17,SNR=5.3							
ASAJ				Sn		**Sn**	**14 24 03.0**	**-2.3**
	0.3nm,0.3s,baz=143,slow=20,SNR=2.7							
CBIJ	**Chichi jima**	**9.77**	**178**	Pn		**Pn**	**14 23 15.8**	**-1.9**
	5.0nm,0.3s,baz=258,slow=21,SNR=3.6							
CBIJ				Sn		**Sn**	**14 24 55.5**	**-12**
	2.8nm,0.3s,baz=248,slow=23,SNR=3.2							
KSRS	**Korea Array**	**11.05**	**277**	Pn		**Pn**	**14 23 41.5**	**+6.2**
	0.1nm,0.3s,baz=95,slow=14,SNR=4.0							
SONM	**Songino Array**	**28.09**	**304**	P		**P**	**14 26 49.1**	**+0.4**
	0.4nm,0.5s,baz=106,slow=8.8,SNR=3.4							
MKAR	**Makanchi Array**	**44.43**	**302**	P		**P**	**14 29 10.5**	**+2.6**
	0.4nm,0.7s,baz=72,slow=7.8,SNR=4.3							
KURK	**Kurchatov**	**46.24**	**308**	*e*P		**P**	**14 29 22.5**	**+0.3**
	0.5nm,0.5s,mb3.7,baz=81,slow=7.2,SNR=4.7							
KURK	**Kurchatov**	**46.24**	**308**	*e*P		**P**	**14 29 24.8**	**+2.6**
	2.2nm,0.6s,mb4.3							
BVAR	**Borovoye Array**	**50.87**	**312**	P		**P**	**14 29 59.2**	**+1.3**
	0.2nm,0.3s,mb3.5,baz=74,slow=6.6,SNR=2.7							
WRA	**Warramunga Arr**	**56.95**	**188**	P		**P**	**14 30 41.2**	**-1.3**
	0.8nm,0.5s,mb4.0,baz=5.3,slow=7.1,SNR=30							
ASAR	**Alice Springs**	**60.68**	**188**	P		**P**	**14 31 06.6**	**-1.8**
	0.4nm,0.7s,mb3.6,baz=11,slow=11,SNR=7.7							
NVAR	**Mina Array Bea**	**74.86**	**53**	P		**P**	**14 32 37.6**	**-0.2**
	0.6nm,0.7s,mb3.6,baz=274,slow=6.0,SNR=5.2							
PDAR	**Pinedale Array**	**77.58**	**46**	P		**P**	**14 32 54.0**	**+0.8**
	0.2nm,0.5s,mb3.3,baz=303,slow=8.5,SNR=4.0							
TXAR	**Lajitas Array**	**90.00**	**53**	P		**P**	**14 33 56.9**	**-0.1**
	0.3nm,0.6s,mb3.8,baz=303,slow=5.5,SNR=4.1							

IDC ***31*** *14:53:35.1±0.8,5118N×17839W,h0km,mb3.9/9, mb1 4.2/10,mb1mx3.9/24,mbtmp4.0/10,ML4.4/1,Error ellipse: s-maj=29.3km s-min=19.5km az=157.0*

ISCJB ***31*** *14:53:41.0±1.0,512N±0.1×17829W±007,h55km±8km, mb4.0/9,Error ellipse: s-maj=21.3km s-min=5.8km az=166.7*

NEIC ***31*** *14:53:41.8±1.2,5120N×17822W,h47km±11km,mb4.1/2, ML3.9(AEIC),Error ellipse: s-maj=22.6km s-min=8.3km az=169.0*

ISC 31 14:53:42.3±1.0,513N±01×17828W±007,h51km±9km,n22, σ1§24/26,mb4.0/9,Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
ADK	**Adak**	**1.18**	**57**	P		**Pn**	**14 54 00.6**	**-1.8**
ADK				S		**Sn**	**14 54 17.8**	**+0.4**
AMKA	**Amchitka**	**1.52**	**276**	P		**Pn**	**14 54 04.9**	**-2.1**
AMKA				S		**Sn**	**14 54 25.6**	**-0.1**
ATKA	**Atka Island**	**2.71**	**68**	P		**Pn**	**14 54 22.6**	**-0.7**
ATKA				S		**Sn**	**14 54 57.4**	**+2.5**
SMY	**Shemya**	**4.94**	**290**	P		**Pn**	**14 54 55.7**	**+1.9**
FX1	**Attu Island--F**	**5.53**	**291**	P		**Pn**	**14 55 03.5**	**+1.7**
UNV	**Unalaska Valle**	**7.64**	**66**	*e*P		**Pn**	**14 55 32.0**	**+1.2**
KDAK	**Kodiak Island**	**16.22**	**56**	Pn		**Pn**	**14 57 23.5**	**-2.9**
	1.3nm,0.3s,baz=251,slow=6.7,SNR=13							
KDAK				Sn		**Sn**	**15 00 24.9**	**-0.3**
	0.1nm,0.3s,baz=226,slow=16,SNR=3.1							
KDAK	**Kodiak Island**	**16.22**	**56**	Pn		**Pn**	**14 57 23.5**	**-3.0**
KDAK				Sn		**Sn**	**15 00 24.9**	**-0.3**
SEW	**Seward**	**18.38**	**50**	*e*P		**Pn**	**14 57 51.2**	**-1.8**
KTH	**Kantishna Hill**	**19.02**	**39**	*e*P		**Pn**	**14 58 00.2**	**-0.5**
	11nm,0.7s							
TRF	**Thorofare Moun**	**19.22**	**40**	*e*P		**Pn**	**14 58 03.1**	**-0.1**
	8.8nm,0.9s							
MCMT	**McKenzie Canyo**	**42.91**	**72**	*e*P		**P**	**15 01 36.4**	**+0.8**
NVAR	**Mina Array Bea**	**43.24**	**83**	P		**P**	**15 01 39.3**	**+0.9**
	0.4nm,0.6s,mb3.3,baz=308,slow=7.3,SNR=4.2							
PDAR	**Pinedale Array**	**46.04**	**72**	P		**P**	**15 02 01.1**	**+0.6**
	1.7nm,0.6s,mb4.2,baz=315,slow=3.7,SNR=13							
SONM	**Songino Array**	**47.00**	**297**	P		**P**	**15 02 08.2**	**+0.1**
	0.3nm,0.6s,mb3.4,baz=69,slow=10,SNR=3.2							
SPITS	**Spitsbergen Ar**	**50.53**	**356**	P		**P**	**15 02 36.2**	**+1.5**
	27nm,1.1s,mb5.1,baz=40,slow=6.6,SNR=5.3							
ARCES	**ARCESS Array B**	**58.27**	**350**	P		**P**	**15 03 29.5**	**-1.5**
	4.0nm,0.9s,mb4.5,baz=3.8,slow=7.3,SNR=3.5							
TXAR	**Lajitas Array**	**58.35**	**81**	P		**P**	**15 03 32.4**	**+0.2**
	0.6nm,0.3s,mb4.1,baz=280,slow=5.9,SNR=5.7							
WRA	**Warramunga Arr**	**82.15**	**224**	P		**P**	**15 05 56.2**	**-1.2**
	0.3nm,0.5s,mb3.5,baz=32,slow=5.7,SNR=6.4							
ASAR	**Alice Springs**	**85.61**	**223**	P		**P**	**15 06 14.7**	**-0.4**
	0.7nm,0.6s,mb4.0,baz=26,slow=5.5,SNR=8.3							
STKA	**Stephens Creek**	**90.00**	**213**	P		**P**	**15 06 36.5**	**+0.7**
	1.0nm,0.6s,mb4.3,baz=18,slow=3.2,SNR=4.1							
BOSA	**Boshof**	**151.30**	**313**	PKPbc		PKPbc	15 13 29.9	0.0
	1.3nm,0.6s,baz=89,slow=1.2,SNR=3.6							

ISCJB ***31*** *14:57:41.9±0.9,3653N±004×705E±0.1,h174km±17km, Error ellipse: s-maj=19.7km s-min=6.8km az=2.5*

NEIC ***31*** *14:57:41.3±1.0,3660N×7023E,h200km,mb4.5/10,Error ellipse: s-maj=17.6km s-min=8.2km az=82.0*

ISC 31 14:57:43.0±0.8,3653N±004×706E±01,h167km±15km,n23, σ1§05/25,Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
KBL	**Kabul**	**2.33**	**212**	*e*P		**Pn**	**14 58 23.2**	**+0.1**
KBL				*e*S		**Sn**	**14 58 53.7**	**-0.2**
THN	**Thein Dam**	**5.90**	**132**	*e*P		**Pn**	**14 59 15.5**	**+6.9**
THN				*e*S		**Sn**	**15 00 15.4**	**-0.3**
AML	**Almayashu**	**6.10**	**23**	P		**Pn**	**14 59 11.4**	**+0.3**
	SNR=61							
AML	**Almayashu**	**6.10**	**23**	*e*P		**Pn**	**14 59 09.0**	**-2.1**
	79nm,0.4s							
UCH	**Uchtor**	**6.46**	**27**	P		**Sn**	**15 00 28.7**	**-0.2**
	SNR=11							
UCH	**Uchtor**	**6.46**	**27**	*e*P		**Pn**	**14 59 16.8**	**+0.9**
	6.5nm,0.6s							
EKS2	**Erkin-Say**	**6.61**	**21**	P		**Pn**	**14 59 18.3**	**+0.5**
	SNR=5.7							
EKS2	**Erkin-Say**	**6.61**	**21**	*e*P		**Pn**	**14 59 17.4**	**-0.4**
	4.3nm,0.5s							
KZA	**Kyzart**	**6.63**	**32**	P		**Pn**	**14 59 18.2**	**+0.2**
	SNR=8.1							
AAK	**Ala-Archa**	**6.81**	**25**	P		**Pn**	**14 59 20.5**	**0.0**
	SNR=9.4							
TKM2	**Tokmak 2**	**7.47**	**30**	P		**Pn**	**14 59 29.3**	**+0.1**
	SNR=17							
TKM2	**Tokmak 2**	**7.47**	**30**	*e*P		**Pn**	**14 59 29.1**	**-0.1**
	13nm,0.6s							
DANN	**Dangsing**	**13.80**	**122**	*e*P		**Pn**	**15 00 53.7**	**+1.9**
KOLN	**Koldanda**	**14.07**	**125**	*e*P		**Pn**	**15 00 56.0**	**+0.9**
GKN	**Gorkha**	**14.62**	**122**	*e*P		**Pn**	**15 01 02.7**	**+0.7**
DMN	**Daman**	**15.19**	**122**	*e*P		**Pn**	**15 01 10.1**	**+1.1**
	7.6nm,0.4s							
KKN	**Kakani**	**15.20**	**121**	*e*P		**Pn**	**15 01 10.2**	**+1.1**
	11nm,0.5s							
PKI	**Pulchoki**	**15.42**	**121**	*e*P		**Pn**	**15 01 12.4**	**+0.5**
	18nm,0.6s							
GUN	**Gumba**	**15.54**	**119**	*e*P		**Pn**	**15 01 12.8**	**-0.5**
	9.5nm,0.6s							
JIRN	**Jiri**	**15.91**	**119**	*e*P		**Pn**	**15 01 16.7**	**-1.2**
	26nm,0.6s							
RAMN	**Ramite**	**16.64**	**120**	*e*P		**Pn**	**15 01 24.5**	**-2.1**
	9.1nm,0.5s							
TAPN	**Taplejung**	**17.18**	**117**	*e*P		**Pn**	**15 01 30.7**	**-2.4**
ODAN	**Odare**	**17.25**	**119**	*e*P		**Pn**	**15 01 30.3**	**-3.6**

KRSC 31 15:10:13.8±1.6,5315N×15756E,h301km±50km,ML3.8, Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
GNL	**Ganaly**	**0.59**	**23**	P		Pn	15 10 53.6	+1.0
PET	**Petropavlovsk**	**0.67**	**100**	P		Pn	15 10 54.3	+1.4
AVH	**Avacha**	**0.72**	**80**	P		Pn	15 10 55.4	+2.3
RUS	**Russkaya**	**0.92**	**141**	*e*P		Pn	15 10 54.9	+1.0
RUS				*i* S		S	15 11 25.0	-0.9
MIPR	**Malaya Ipel'ka**	**1.00**	**209**	P		Pn	15 10 55.2	+0.9
NLC	**Nalytchevo**	**1.07**	**88**	P		Pn	15 10 56.3	+1.8
NLC				*i* S		S	15 11 27.4	+0.4
SPN	**Mys Shipunski**	**1.48**	**91**	*e*P		Pn	15 10 58.2	+1.3
SPN				*i* S		S	15 11 30.4	-0.8
MKZ	**Mys Kozlova**	**2.84**	**59**	P		Pn	15 11 09.0	+1.1
MKZ				*i* S		S	15 11 48.7	-2.5
KBTR	**Krutoberegovo**	**4.32**	**43**	P		Pn	15 11 24.6	+1.1

NEIC ***31*** *15:16:12.9,3635N×7175W,h91km,MD3.6(GUC),After GUC.*

GUC 31 15:16:12.9±0.6,3636N×7174W,h90km±3km,MD3.2, ML3.7,10C-5D,Central Chile

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
CCHI	**Chillan**	**0.36**	**228**	*e*P		Pn	15 16 27.0	+0.3
CCHI				*i* S		Sn	15 16 37.0	0.0
CCHI				*i* S		Sn	15 16 37.3	+0.3
CCHI				AML		AML	15 16 37.8	
	comp=N,3µm,0.3s							
CCHI	**Chillan**	**0.36**	**228**	*e*P		Pn	15 16 27.0	+0.3
CCHI				*i* S		Sn	15 16 37.0	0.0
LNCH	**Linares**	**0.52**	**13**	⇑*i* P		Pn	15 16 28.1	+0.2
LNCH				*i* S		Sn	15 16 39.5	+0.6
LNCH				AML		AML	15 16 40.3	
	comp=E,3µm,0.3s							
LNCH	**Linares**	**0.52**	**13**	⇑*i* P		Pn	15 16 28.1	+0.2
LNCH				*i* S		Sn	15 16 39.5	+0.6
COCH	**Cobquecura**	**0.88**	**285**	⇑*i* P		Pn	15 16 31.7	+0.5
COCH				*i* S		Sn	15 16 45.2	+0.2
COCH				AML		AML	15 16 46.6	
	comp=E,483nm,0.5s							
COCH	**Cobquecura**	**0.88**	**285**	⇑*i* P		Pn	15 16 31.7	+0.5
COCH				*i* S		Sn	15 16 45.2	+0.2
SFDO	**San Fernando**	**1.84**	**19**	⇓*i* P		Pn	15 16 43.5	+0.5
SFDO				*i* S		Sn	15 17 06.8	+1.0
LNV	**Longovilo**	**2.41**	**7**	⇑*i* P		Pn	15 16 51.1	+0.6
LNV				*i* S		Sn	15 17 19.9	+0.5
CACH	**El Canelo**	**2.42**	**23**	*i* P		Pn	15 16 51.6	+0.9
CACH				*i* S		Sn	15 17 20.8	+1.2
CHCH	**Chadas Angostu**	**2.58**	**21**	⇑*i* P		Pn	15 16 53.4	+0.6
CHCH				*i* S		Sn	15 17 24.0	+0.7
TACH	**Talagante**	**2.78**	**14**	⇑*i* P		Pn	15 16 55.6	+0.2
TACH				*i* S		Sn	15 17 28.5	+0.4
PCH	**Pirque**	**2.91**	**21**	⇑*i* P		Pn	15 16 57.9	+0.7
PCH				*i* S		Sn	15 17 32.2	+0.9
ANTU	**Antumapu**	**2.93**	**18**	⇑*i* P		Pn	15 16 58.1	+0.7
ANTU				*i* S		Sn	15 17 32.2	+0.5
ANTU				AML		AML	15 17 34.2	
	comp=E,227nm,0.2s							
ANTU	**Antumapu**	**2.93**	**18**	⇑*i* P		Pn	15 16 58.1	+0.7
ANTU				*i* S		Sn	15 17 32.2	+0.5
RCDM	**Rinconada Maip**	**2.96**	**15**	⇓*i* P		Pn	15 16 58.1	+0.2
RCDM				*i* S		Sn	15 17 33.0	+0.4
RCDM				AML		AML	15 17 35.6	
	comp=N,461nm,0.1s							
RCDM	**Rinconada Maip**	**2.96**	**15**	⇓*i* P		Pn	15 16 58.1	+0.2
RCDM				*i* S		Sn	15 17 33.0	+0.4
CLCH	**Cerro Calan**	**3.12**	**19**	⇓*i* P		Pn	15 17 00.6	+0.6
CLCH				*i* S		Sn	15 17 37.0	+0.7
CLCH				AML		AML	15 17 40.5	
	comp=E,172nm,0.3s							
FCH	**Farellones**	**3.25**	**22**	⇓*i* P		Pn	15 17 02.9	+1.1
FCH				*i* S		Sn	15 17 40.9	+1.4
FCH				AML		AML	15 17 43.0	
	comp=N,200nm,0.2s							
PEL	**Peldehue**	**3.32**	**15**	*i* P		Pn	15 17 03.3	+0.6
PEL				*i* S		Sn	15 17 41.6	+0.4
PEL				AML		AML	15 17 46.1	
	comp=N,292nm,0.2s							

IDC ***31*** *15:19:22.8±1.0,2632N×6592E,h0km,mb3.9/15, mb1 4.0/15,mb1mx3.9/25,mbtmp3.9/15,MS3.8/1, Ms1 3.8/1,ms1mx2.6/48,Error ellipse: s-maj=24.0km s-min=17.3km az=26.0*

ISCJB ***31*** *15:19:24.4±2.8,2647N±006×6615E±007,h16km±19km, mb3.9/18,Error ellipse: s-maj=13.2km s-min=6.7km az=44.0*

MOS ***31*** *15:19:26.5±1.1,2639N×6610E,h33km,mb4.5/3,Error ellipse: s-maj=13.6km s-min=9.5km az=74.9*

NEIC ***31*** *15:19:26.5±0.7,2633N×6609E,h25km,mb4.4/7,Error ellipse: s-maj=14.2km s-min=7.7km az=198.0*

BJI ***31*** *15:19:32.5,2693N×6652E,h20km,mb4.2,Ms4.2*

ISC 31 15:19:28.9±1.1,2648N±005×6615E±006,h36km±10km, n67,σ1§26/73,mb3.9/18,1C,Pakistan

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
JASL	**Jaisalmer**	**4.28**	**83**	*e*P		**Pn**	**15 20 33.1**	**+1.6**
BHJ	**Bhuj**	**4.52**	**135**	*e*P		**Pn**	**15 20 36.3**	**+1.5**
BHJ				*e*S		**Sn**	**15 21 27.4**	**+1.1**
BHJ				AML		AML	15 21 34.8	
	comp=N,116nm,0.5s							
BHJ				AML		AML	15 21 38.9	
	comp=E,94nm,0.5s							
AJM	**Ajmer**	**7.61**	**88**	*e*P		**Pn**	**15 21 19.0**	**+1.7**
AJM				*e*S		**Sn**	**15 22 41.6**	**-0.7**
THW	**Thamme Wali**	**7.95**	**36**	P		**Pn**	**15 21 21.5**	**-0.5**
KBL	**Kabul**	**8.41**	**17**	*e*P		**Pn**	**15 21 29.3**	**+1.0**
KBL				pmax	pmax			
	comp=Z,8.0nm,0.6s							
KBL	**Kabul**	**8.41**	**17**	*e*P		**Pn**	**15 21 29.2**	**+1.0**
	comp=Z,8.5nm,0.6s							
KHET	**Khetri**	**8.74**	**77**	*e*P		**Pn**	**15 21 33.5**	**+0.8**
CEP	**Cherat**	**8.85**	**33**	P		**Pn**	**15 21 34.7**	**+0.4**
CEP				S		**Sn**	**15 23 10.0**	**-2.8**
CHCP	**Chirah Chowk**	**9.44**	**39**	P		**Pn**	**15 21 43.8**	**+1.5**
RTK	**Rohtak**	**9.44**	**72**	*e*P		**Pn**	**15 21 42.2**	**-0.2**
SONA	**Sohna**	**9.88**	**77**	*e*P		**Pn**	**15 21 47.0**	**-1.4**
AYAN	**Aya Nagar**	**9.95**	**76**	*e*P		**Pn**	**15 21 50.8**	**+1.4**
NDI	**New Delhi**	**10.06**	**75**	*e*P		**Pn**	**15 21 49.5**	**-1.4**
NDI				*e*S		**Sn**	**15 23 36.0**	**-6.5**
THN	**Thein Dam**	**10.23**	**52**	*e*P		**Pn**	**15 21 51.9**	**-1.3**
THN				*e*x		x	15 23 46.2	
AGRA	**Agra**	**10.56**	**83**	*e*S		**Sn**	**15 23 52.1**	**-2.7**
AGRA				AML		AML	15 24 04.5	
	comp=N,88nm,0.4s							
AGRA				AML		AML	15 24 08.3	
	comp=E,77nm,0.3s							
SDNR	**Sundarnagar**	**10.71**	**60**	*e*P		**Pn**	**15 22 01.0**	**+1.2**
SDNR				*e*x		x	15 23 56.6	
SMLA	**Simla**	**10.71**	**62**	*e*P		**Pn**	**15 22 00.8**	**+1.0**
SMLA				*e*S		**Sn**	**15 23 52.5**	**-6.0**
SMLA				*e*x		x	15 24 03.2	
	comp=E,493nm,0.5s							
SMLA				*e*x		x	15 24 03.3	
	comp=N,489nm,0.4s							
DDI	**Dehra Dun**	**11.16**	**67**	*e*P		**Pn**	**15 22 04.5**	**-1.4**
DDI				*e*S		**Sn**	**15 24 05.0**	**-4.4**
KALG	**Kalgarh**	**11.54**	**72**	*e*P		**Pn**	**15 22 05.5**	**-5.6**
KALG				*e*S		**Sn**	**15 24 09.4**	**-9.3**
KALG				AML		AML	15 24 18.0	
	comp=E,60nm,0.4s							
JOSI	**Joshimath**	**12.47**	**68**	*e*P		**Pn**	**15 22 24.2**	**+0.3**
JOSI				AML		AML	15 24 49.2	
	comp=N,174nm,0.6s							
JOSI				AML		AML	15 24 56.4	
	comp=E,172nm,0.8s							
LGTI	**Lohaghat**	**12.81**	**73**	*ex*		x	15 22 14.0	
KOLN	**Koldanda**	**15.59**	**81**	*e*P		**Pn**	**15 23 04.4**	**-1.6**
DANN	**Dangsing**	**15.75**	**79**	*e*P		**Pn**	**15 23 06.8**	**-1.3**
QRN	**Al-Qurain**	**16.32**	**282**	*e*P		**Pn**	**15 23 09.2**	**-6.1**
	baz=308							
QRN				AMb		AMB	15 23 10.7	
	comp=Z,30nm,0.4s,baz=308							
GKN	**Gorkha**	**16.51**	**81**	*e*P		**Pn**	**15 23 15.7**	**-2.1**
RDF	**Al-Radifah**	**16.65**	**283**	*e*P		**Pn**	**15 23 13.7**	**-5.8**
	baz=308							
RDF				AMb		AMB	15 23 20.4	
	comp=Z,43nm,0.7s,baz=308							
DMN	**Daman**	**16.93**	**82**	*e*P		**Pn**	**15 23 21.1**	**-1.9**
	comp=Z,50nm,0.9s							
NAY	**Al-Naaiem**	**16.95**	**284**	*e*P		**Pn**	**15 23 18.3**	**-4.9**
	baz=309							
NAY				AMb		AMB	15 23 38.7	
	comp=Z,21nm,1.0s,baz=309							
KKN	**Kakani**	**17.08**	**81**	*e*P		**Pn**	**15 23 23.7**	**-1.2**
	comp=Z,23nm,0.9s							
KKN	**Kakani**	**17.08**	**81**	*e*P		**Pn**	**15 23 23.7**	**-1.2**
KKN				pmax	pmax			
	comp=Z,23nm,0.9s							
PKI	**Pulchoki**	**17.20**	**82**	*e*P		**Pn**	**15 23 25.1**	**-1.3**
GUN	**Gumba**	**17.61**	**81**	*e*P		**Pn**	**15 23 31.4**	**-0.1**
JIRN	**Jiri**	**17.89**	**82**	*e*P		**Pn**	**15 23 34.3**	**-0.6**
	comp=Z,28nm,0.5s							
TKM2	**Tokmak 2**	**18.13**	**23**	*e*P		**Pn**	**15 23 38.0**	**+0.3**
TKM2				pmax	pmax			
	comp=Z,7.0nm,0.9s							
TKM2	**Tokmak 2**	**18.13**	**23**	*e*P		**Pn**	**15 23 38.0**	**+0.3**
	comp=Z,6.5nm,0.9s							
RAMN	**Ramite**	**18.28**	**84**	*e*P		**Pn**	**15 23 39.1**	**-0.6**
	comp=Z,30nm,0.6s							
ODAN	**Odare**	**18.99**	**84**	*e*P		**Pn**	**15 23 49.0**	**+0.7**
TAPN	**Taplejung**	**19.25**	**83**	*e*P		**Pn**	**15 23 52.4**	**+1.0**
LSA	**Lhasa**	**22.28**	**76**	P		**P**	**15 24 28.0**	**+5.1**
LSA				AMB		AMB		
	comp=Z,30nm,0.9s,mb4.7							
LSA	**Lhasa**	**22.28**	**76**	*e*P		**P**	**15 24 26.3**	**+3.4**
LSA				pmax	pmax			
	comp=Z,9.0nm,0.8s,mb4.2							
LSA	**Lhasa**	**22.28**	**76**	*e*P		**P**	**15 24 26.3**	**+3.3**
	comp=Z,9.3nm,0.8s,mb4.3							
GNI	**Garni**	**22.42**	**313**	P		**P**	**15 24 24.0**	**-0.3**
	comp=Z,3.0nm,0.5s,mb4.0,baz=229,slow=20,SNR=3.0							
SHL	**Shillong**	**23.14**	**87**	*ex*		**P**	**15 24 36.2**	**+4.1**
MK31	**Makanchi Array**	**23.97**	**28**	*e*P		**P**	**15 24 41.3**	**+1.5**
MKAR	**Makanchi Array**	**23.97**	**28**	P		**P**	**15 24 40.8**	**+1.0**
	comp=Z,3.8nm,0.8s,mb3.9,baz=211,slow=9.5,SNR=20							
MKAR				LR		LR	15 36 02.3	
	comp=Z,212nm,20.2s,baz=121,slow=41							
WMQ	**Urumqi**	**24.57**	**40**	⇑P		**P**	**15 24 48.0**	**+2.6**
AKTK	**Aktyubinsk**	**24.72**	**348**	P		**P**	**15 24 46.9**	**+0.2**
AKTO	**Aktyubinsk**	**24.72**	**348**	P		**P**	**15 24 46.9**	**+0.2**
	comp=Z,2.0nm,0.8s,mb3.7,baz=157,slow=9.3,SNR=8.9							
KURK	**Kurchatov**	**26.02**	**18**	P		**P**	**15 24 58.8**	**+0.5**
	comp=Z,0.9n

0.0nm,0.3s,baz=97,slow=8.1,SNR=2.0
CMAR Chiang Mai Arr 47.47 43 P P 15 53 52.4 +1.2
0.6nm,0.4s,baz=219,slow=7.0,SNR=5.5
ASAR Alice Springs 62.79 108 P P 15 55 42.0 0.0
1.3nm,0.9s,baz=254,slow=6.6,SNR=11
WRA Warramunga Arr 63.76 104 P P 15 55 48.4 -0.1
2.6nm,0.9s,baz=266,slow=6.2,SNR=19
WB2 Warramunga Arr 63.77 104 P P 15 55 48.7 +0.2
WRAB Tennant Creek 63.77 104 *eP* P 15 55 48.5 0.0
5.0nm,1.0s
ZALV Zalesovo Beam 72.46 11 P P 15 56 40.6 -1.8
0.6nm,0.6s,baz=184,slow=5.5,SNR=3.6
SONM Songino Array 73.75 27 P P 15 56 51.1 +1.0
0.3nm,0.8s,baz=224,slow=5.8,SNR=2.5

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*NEIC **31** 15:49:40.0±1.5, 1892N×14545E, h236km±14km, Error ellipse: s-maj=30.9km s-min=11.3km az=85.0*
*ISCJB **31** 15:49:40.1±1.8, 190N±0.1×1453E±03, h250km±18km, mb3.4/7, Error ellipse: s-maj=45.2km s-min=16.6km az=175.7*
*IDC **31** 15:49:40.7±2.3, 1893N×14543E, h244km±22km, mb3.2/7, mb1 3.4/9, mb1mx3.2/22, mbtmp3.2/9, Error ellipse: s-maj=39.4km s-min=14.7km az=85.0*
ISC 31 15:49:40.6±1.7, 189N±01×1454E±03, h242km±17km, n12, σ0§65/13, mb3.4/7, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
GUMO	**Guam**	**5.35**	**186**	P		**Pn**	**15 50 59.1**	**-1.4**
	5.8nm,0.3s,baz=31,slow=22,SNR=2.7							
GUMO				S		**S**	**15 52 05.0**	**+0.8**
	8.2nm,0.3s,baz=22,slow=17,SNR=3.6							
MJAR	**Matsushiro Arr**	**18.65**	**342**	P		**P**	**15 53 41.8**	**+1.0**
	0.5nm,0.3s,baz=170,slow=9.4,SNR=8.0							
WB2	**Warramunga Arr**	**40.14**	**196**	*eP*		**P**	**15 56 53.9**	**+0.5**
WRA	**Warramunga Arr**	**40.14**	**196**	P		**P**	**15 56 53.4**	**0.0**
	0.2nm,0.4s,mb2.9,baz=18,slow=8.2,SNR=11							
ASAR	**Alice Springs**	**43.81**	**195**	P		**P**	**15 57 23.0**	**0.0**
	0.1nm,0.4s,mb2.5,baz=15,slow=6.4,SNR=8.1							
MKAR	**Makanchi Array**	**58.12**	**314**	P		**P**	**15 59 09.2**	**+0.2**
	0.4nm,0.6s,mb3.2,baz=81,slow=8.9,SNR=3.8							
MKAR	**Makanchi Array**	**58.12**	**314**	P		**P**	**15 59 09.2**	**+0.2**
KURK	**Kurchatov**	**60.93**	**318**	P		**P**	**15 59 27.6**	**-0.4**
	0.6nm,0.3s,mb3.6,baz=96,slow=7.2,SNR=3.0							
BVAR	**Borovoye Array**	**66.13**	**320**	P		**P**	**16 00 01.4**	**-0.6**
	0.7nm,0.4s,mb3.6,baz=88,slow=7.1,SNR=7.3							
ARCES	**ARCESS Array B**	**82.19**	**342**	P		**P**	**16 01 33.9**	**-0.3**
	4.0nm,0.9s,mb4.0,baz=38,slow=6.2,SNR=4.5							
ARCES	**ARCESS Array B**	**82.19**	**342**	P		**P**	**16 01 33.9**	**-0.3**
NVAR	**Mina Array Bea**	**83.19**	**52**	P		**P**	**16 01 40.2**	**+0.2**
	0.9nm,0.6s,mb3.7,baz=262,slow=5.8,SNR=6.6							

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*SZGRF **31** 15:54:34.0, 458S×102.59E, h50km, mb5.6, MS4.5, Southern Sumatera, Indonesia*
*MOS **31** 15:54:39.7±1.0, 285S×101.39E, h33km, mb5.7/52, MS4.7/10, Error ellipse: s-maj=9.2km s-min=4.3km az=118.1*
*BJI **31** 15:54:40.5, 297S×101.13E, h47km, mB5.3, mb5.4, Ms5.0, Msz4.8*
*ISCJB **31** 15:54:41.2±0.2, 299S±003×10131E±003, h49km, mb5.5/165, MS4.7/53, Error ellipse: s-maj=4.8km s-min=3.7km az=142.3*
*IDC **31** 15:54:42.6±0.3, 295S×101.46E, h50km±2km, mb4.9/38, mb1 4.9/39, mb1mx4.9/39, mbtmp4.9/39, MS4.6/23, Ms1 4.6/23, ms1mx4.4/30, Error ellipse: s-maj=10.3km s-min=6.3km az=42.0*
*NEIC **31** 15:54:42.7±0.1, 299S×10128E, mb5.4/64, MS4.6/9, Error ellipse: s-maj=5.6km s-min=3.4km az=225.0*
NEIC Felt [III] at Lais. Also felt at Padang.
*GCMT **31** 15:54:42.7±0.2, 331S×101.11E, h51km±1km, MW5.4/78, Moment Tensor Solution. s70,c106; s78,c145; Duration: 1s2 Moment tensor: Scale 10^17 Nm; Mrr 1.08±.04; Mθθ -0.67±.03; Mφφ -0.41±.03; Mrθ 0.53±.02; Mθφ 0.72±.02; Mφr -0.34±.03; Best double couple: M0 1.33500×10^17 NP1 φs315.00000°, δ31.00000°, λ98.00000°. NP2 φs126.00000°, δ59.00000°, λ85.00000°. Principal axes: T 1.2430, Plg75.0000°, Azm23.0000°; N 0.1850, Plg4.0000°, Azm128.0000°; P -1.4280, Plg14.0000°, Azm219.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*DJA **31** 15:54:43, 310S×10105E, h20km, Mw5.6/29*
ISC 31 15:54:43.1±0.2, 301S±003×10128E±003, h50km, h50km±9km: pP-P, n521, σ0§95/472, mb5.5/165, MS4.7/53, 67C-28D, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
MYKOM	**Kota Tinggi**	**5.42**	**28**	⇓P		**Pn**	**15 56 05.7**	**+4.3**
FRIM	**Kepong**	**6.22**	**3**	⇑P		**Pn**	**15 56 15.6**	**+3.2**
IPM	**Ipoh**	**7.45**	**358**	⇑P		**Pn**	**15 56 34.1**	**+4.9**
KULM	**Kulim**	**8.27**	**356**	⇓P		**Pn**	**15 56 44.5**	**+3.9**
KTGM	**Kuala Trenggan**	**8.49**	**13**	⇓P		**Pn**	**15 56 47.6**	**+4.0**
KSM	**Kuching**	**10.07**	**64**	*e*Pn		**Pn**	**15 57 07.5**	**+2.4**
COCO	**West Island**	**10.12**	**206**	Pn		**Pn**	**15 57 01.8**	**-4.1**
	5μm,0.9s,SNR=12							
COCO	**West Island**	**10.12**	**206**	P		**Pn**	**15 57 02.0**	**-3.9**
	SNR=5.5							
COCO	**West Island**	**10.12**	**206**	*e*Pn		**Pn**	**15 57 01.0**	**-4.9**
	355nm,0.8s							
COCO				*e*Sn		**Sn**	**15 58 40.1**	**-18**
SNG	**Songkhla**	**10.14**	**356**	P		**Pn**	**15 57 07.0**	**+0.8**
	700nm,1.0s							
SBUM	**Sibu**	**12.21**	**64**	⇑P		**Pn**	**15 57 41.2**	**+6.7**
BTM	**Bintulu**	**13.32**	**62**	⇑P		**Pn**	**15 57 56.8**	**+7.2**
KKM	**Kota Kinabalu**	**17.42**	**59**	⇑P		**Pn**	**15 58 46.4**	**+3.7**
KKM	**Kota Kinabalu**	**17.42**	**59**	*e*Pn		**Pn**	**15 58 45.5**	**+2.8**
SDKM	**Sandakan**	**18.07**	**62**	⇓P		**Pn**	**15 58 53.9**	**+3.1**
TSM	**Tawau**	**18.10**	**66**	⇑P		**Pn**	**15 58 54.0**	**+2.9**
KDM	**Kudat**	**18.39**	**58**	⇓P		**Pn**	**15 58 58.2**	**+3.6**
UBT	**Ubonrachathani**	**18.52**	**11**	P		**Pn**	**15 58 56.0**	**-0.1**
KAPI	**Kappang**	**18.53**	**97**	Pn		**Pn**	**15 58 56.8**	**+0.4**
	1μm,1.1s,SNR=15							
KAPI	**Kappang**	**18.53**	**97**	P		**Pn**	**15 58 55.3**	**-1.0**
	SNR=45							
KAPI	**Kappang**	**18.53**	**97**	P		**Pn**	**15 58 53.3**	**-3.0**
	6.4nm,0.3s,baz=274,slow=7.4,SNR=34							
KAPI				LR		LR	16 07 56.6	
	comp=Z,2μm,18.9s,baz=284,slow=43							
KAPI	**Kappang**	**18.53**	**97**	*e*Pn		**Pn**	**15 58 55.5**	**-0.9**
	237nm,1.1s							
NST	**Nakhon Sawan**	**18.60**	**357**	P		**Pn**	**15 58 55.0**	**-2.1**
MYLDM	**Lahad Datu**	**19.03**	**65**	⇓P		**Pn**	**15 59 05.4**	**+3.0**
KKTK	**Khon Kaen**	**19.29**	**4**	P		**Pn**	**15 59 03.5**	**-1.8**
	556nm,0.8s							
BDT	**Bhumibol Dam**	**20.25**	**354**	P		**P**	**15 59 12.0**	**-2.4**
	22nm,0.8s							
CMAR	**Chiang Mai Arr**	**21.46**	**354**	P		**P**	**15 59 24.8**	**-2.7**
	44nm,0.7s,mb4.9,baz=184,slow=10,SNR=71							
CMAR				PcP		PcP	16 03 29.0	-0.2
	5.8nm,0.7s,baz=213,slow=2.9,SNR=9.6							
CMAR				ScP		ScP	16 07 02.0	-0.3
	2.9nm,0.9s,baz=214,slow=3.2,SNR=8.7							
CMAR				LR		LR	16 08 37.3	
	comp=Z,2μm,18.2s,MS4.5,baz=178,slow=39							
CMAR	**Chiang Mai Arr**	**21.46**	**354**	*i* P		**P**	**15 59 24.8**	**-2.6**
NANT	**Nan**	**21.68**	**359**	P		**P**	**15 59 29.2**	**-0.6**
	244nm,1.0s,mb5.6							
CHG	**Chiang Mai**	**21.81**	**354**	P		**P**	**15 59 30.9**	**-0.3**
	32nm,0.8s,mb4.8							
CHTO	**Chiang Mai**	**21.81**	**354**	*e*P		**P**	**15 59 28.0**	**-3.2**
CHTO				*e*			16 03 29.4	
CHTO				pmax		pmax		
	comp=Z,21nm,0.7s,mb4.7							
CHTO	**Chiang Mai**	**21.81**	**354**	*e*P		**P**	**15 59 27.9**	**-3.2**
	comp=Z,21nm,0.7s,mb4.7							
CHTO				*e*			16 03 29.4	
CHRT	**Chiangrai**	**22.79**	**356**	⇑P		**P**	**15 59 40.0**	**-1.5**
	comp=Z,500nm,0.9s,mb5.9							
BATI	**Baumata**	**23.34**	**109**	P		**P**	**15 59 44.5**	**-2.8**
	comp=Z,28nm,0.4s,mb5.0,baz=0.0,slow=0.0							
BATI				S		**S**	**16 03 53.0**	**-3.4**
	comp=Z,29nm,0.6s,baz=301,slow=23,SNR=5.8							
QIZ	**Qiongzhong**	**23.47**	**21**	P		**P**	**15 59 47.5**	**-0.9**
QIZ				XP		sP	16 00 06.0	-0.9
QIZ				S		**S**	**16 04 02.3**	**+4.0**
QIZ				AMB		AMB		
	comp=Z,87nm,1.5s,mb5.0							
QIZ				AMB		AMB		
	comp=Z,587nm,5.3s							
QIZ				LR		LR		
	comp=N,2μm,21.9s							
QIZ				LR		LR		
	comp=Z,2μm,23.4s,MS4.6							
QIZ	**Qiongzhong**	**23.47**	**21**	*e*P		**P**	**15 59 49.0**	**+0.6**
	comp=Z,32nm,0.8s,mb4.8							
MBWA	**Marble Bar**	**25.45**	**137**	*e*P		**P**	**16 00 05.9**	**-0.6**
	comp=Z,82nm,1.1s,mb5.2							
MBWA				LR		LR		
	comp=Z,1μm,22.0s,MS4.4							
DAV	**Davao City (W)**	**26.24**	**67**	LR		LR	16 11 38.2	
	comp=Z,1μm,21.1s,MS4.4,baz=271,slow=39							
TRD	**Trivandrum**	**26.82**	**295**	*e*P		**P**	**16 00 18.9**	**0.0**
TRD				AMb		AMB	16 00 21.6	
	comp=Z,41nm,0.9s,mb5.0							
KOD	**Kodaikanal**	**27.12**	**299**	*ex*		x	16 00 38.7	
VIS	**Vishakhapatnam**	**27.16**	**320**	*e*P		**P**	**16 00 21.6**	**-0.4**
VIS				AMb		AMB	16 00 25.0	
	comp=Z,82nm,1.0s,mb5.2							
BWNR	**Bhubaneshwar**	**27.70**	**327**	*e*P		**P**	**16 00 27.4**	**+0.7**
BWNR				*e*S		**S**	**16 05 07.0**	**+1.4**
KMI	**Kunming**	**28.00**	**3**	P		**P**	**16 00 30.0**	**+0.6**
KMI				AP		pP	16 00 42.8	+0.4
KMI				XP		sP	16 00 47.3	-1.1
KMI				S		**S**	**16 05 08.8**	**-1.5**
KMI				XS		sS	16 05 31.0	-1.3
KMI				SS			16 06 32.5	
KMI				SSS			16 06 52.0	
KMI				AMB		AMB		
	comp=Z,24nm,0.7s,mb4.9							
KMI				LR		LR		
	comp=N,2μm,20.9s,MS4.8							
KMI				LR		LR		
	comp=E,1μm,18.6s,MS4.8							
KMI				LR		LR		
	comp=Z,2μm,18.6s,MS4.8							
GYA	**Guiyang**	**29.76**	**10**	⇓*i* P		**P**	**16 00 45.3**	**+0.3**
GYA				PP		PP	16 01 40.3	-13
GYA				PCP		PcP	16 03 48.5	+0.6
GYA				S		**S**	**16 05 40.0**	**+2.1**
GYA				AMB		AMB		
	comp=Z,50nm,0.8s,mb5.3							
GYA				AMB		AMB		
	comp=Z,140nm,4.6s							
GYA				LR		LR		
	comp=N,2μm,18.2s,MS4.8							
GYA				LR		LR		
	comp=E,1μm,17.8s,MS4.8							
GYA				LR		LR		
	comp=Z,1μm,20.4s,MS4.6							
SHL	**Shillong**	**29.84**	**343**	*e*P		**P**	**16 00 45.2**	**-0.5**
HYB	**Hyderabad**	**30.25**	**313**	*i* P		**P**	**16 00 50.0**	**+0.6**
HYB	**Hyderabad**	**30.25**	**313**	*e*P		**P**	**16 00 50.0**	**+0.6**
BOK	**Bokaro**	**30.57**	**331**	*e*P		**P**	**16 00 53.0**	**+0.8**
BOK				AMb		AMB	16 00 56.9	
	comp=Z,252nm,1.1s,mb5.9							
KLBR	**Kellerberrin**	**32.39**	**153**	*e*P		**P**	**16 01 08.7**	**+0.6**
	comp=Z,68nm,1.4s,mb5.3							
NGP	**Nagpur**	**32.42**	**319**	*e*P		**P**	**16 01 07.7**	**-0.8**
QZH	**Quanzhou**	**32.48**	**30**	⇑*i* P		**P**	**16 01 09.5**	**+0.5**
QZH				S		**S**	**16 06 23.0**	**+2.5**
QZH				LR		LR		
	comp=N,1μm,11.7s,MS5.0							
QZH				LR		LR		
	comp=E,1μm,12.2s,MS5.0							
QZH				LR		LR		
	comp=Z,1μm,17.0s,MS4.8							
ODAN	**Odare**	**32.59**	**337**	*e*P		**P**	**16 01 10.5**	**+0.6**
	comp=Z,538nm,0.8s,mb6.5							
TAPN	**Taplejung**	**32.90**	**337**	*e*P		**P**	**16 01 13.6**	**+1.0**
	comp=Z,800nm,0.9s,mb6.7							
RAMN	**Ramite**	**32.99**	**335**	*e*P		**P**	**16 01 14.4**	**+1.0**
	comp=Z,343nm,0.9s,mb6.3							
NWAO	**Narrogin (SRO)**	**33.30**	**155**	P		**P**	**16 01 16.6**	**+0.5**
	comp=Z,9.6nm,0.8s,mb4.8,baz=312,slow=10,SNR=6.1							
NWAO				pP		pP	16 01 29.2	0.0
	comp=Z,30nm,0.8s,baz=328,slow=9.1,SNR=8.3							
NWAO				LR		LR	16 13 16.5	
	comp=Z,2μm,21.2s,MS4.8,baz=317,slow=34							
NWAO	**Narrogin (SRO)**	**33.30**	**155**	P		**P**	**16 01 16.6**	**+0.5**
NWAO				*PP		pP	16 01 29.2	0.0
KAD	**Karad**	**33.50**	**308**	*e*P		**P**	**16 01 18.1**	**0.0**
KAD				AMb		AMB	16 01 20.1	
	comp=Z,41nm,0.8s,mb5.4							
YHNB	**Yeheng**	**33.74**	**34**	*e*P		**P**	**16 01 20.3**	**+0.3**
	comp=Z,26nm,0.6s,mb5.3							
JIRN	**Jiri**	**33.78**	**335**	*e*P		**P**	**16 01 21.4**	**+1.1**
	comp=Z,758nm,0.8s,mb6.7							
CD2	**Chengdu**	**33.82**	**4**	P		**P**	**16 01 20.0**	**-0.6**
CD2				AP		pP	16 01 31.5	-2.2
CD2				XP		sP	16 01 37.5	-2.1
CD2				PP		PP	16 02 34.5	-3.4
CD2				PCP		PcP	16 03 57.3	-1.5
CD2				S		**S**	**16 06 40.8**	**-0.3**
CD2				XS		sS	16 07 01.3	-1.9
CD2				PCS		PcS	16 07 42.3	-2.6
CD2				SS		SS	16 08 50.3	-19
CD2				SCS		ScS	16 11 37.8	-3.5
CD2				AMB		AMB		
	comp=Z,60nm,0.7s,mb5.6							
CD2				AMB		AMB		
	comp=Z,250nm,6.0s							
CD2				LR		LR		
	comp=N,3μm,18.6s,MS5.1							
CD2				LR		LR		
	comp=E,2μm,16.8s,MS5.1							
CD2				LR		LR		
	comp=Z,3μm,19.2s,MS5.0							
LSA	**Lhasa**	**33.94**	**344**	P		**P**	**16 01 21.8**	**+0.1**
LSA				AP		pP	16 01 30.0	-4.8
LSA				AMB		AMB		
	comp=Z,20nm,1.0s,mb5.0							
LSA				LR		LR		
	comp=N,480nm,24.0s,MS4.4							
LSA				LR		LR		
	comp=E,640nm,24.0s,MS4.4							
LSA				LR		LR		
	comp=Z,980nm,30.0s							
LSA	**Lhasa**	**33.94**	**344**	*e*P		**P**	**16 01 21.8**	**+0.1**
LSA				pmax		pmax		
	comp=Z,60nm,1.1s,mb5.4							
LSA	**Lhasa**	**33.94**	**344**	*e*P		**P**	**16 01 21.8**	**+0.1**
	comp=Z,60nm,1.1s,mb5.4							
PKI	**Pulchoki**	**34.04**	**334**	*e*P		**P**	**16 01 23.5**	**+1.0**
	comp=Z,556nm,1.5s,mb6.3							
PKI	**Pulchoki**	**34.04**	**334**	*e*P		**P**	**16 01 23.7**	**+1.2**
PKIN	**Phulchoki**	**34.05**	**334**	*e*P		**P**	**16 01 23.7**	**+1.1**
GUN	**Gumba**	**34.13**	**335**	*e*P		**P**	**16 01 24.4**	**+1.0**
	comp=Z,906nm,0.7s,mb6.8							
DMN	**Daman**	**34.20**	**334**	*e*P		**P**	**16 01 24.5**	**+0.5**
	comp=Z,296nm,1.1s,mb6.2							
KKN	**Kakani**	**34.28**	**334**	*e*P		**P**	**16 01 25.2**	**+0.5**
	comp=Z,452nm,0.9s,mb6.4							
POO	**Poona**	**34.46**	**309**	*e*P		**P**	**16 01 27.3**	**+0.9**
GKN	**Gorkha**	**34.75**	**334**	*e*P		**P**	**16 01 29.2**	**+0.5**
BHPL	**Bhopal**	**34.95**	**320**	*e*P		**P**	**16 01 31.3**	**+0.8**
BHPL				AMb		AMB	16 01 36.6	
	comp=Z,40nm,1.1s,mb5.3							
KOLN	**Koldanda**	**35.02**	**332**	*e*P		**P**	**16 01 31.9**	**+0.8**
	comp=Z,500nm,0.7s,mb6.6							
DANN	**Dangsing**	**35.44**	**333**	*e*P		**P**	**16 01 35.4**	**+0.7**
	comp=Z,428nm,0.5s,mb6.6							
WHN	**Wuhan**	**35.63**	**20**	P		**P**	**16 01 36.5**	**+0.3**
WHN				AP		pP	16 01 50.0	+0.6
WHN				LR		LR		
	comp=N,1μm,10.6s							
WHN				LR		LR		
	comp=E,1μm,18.6s							
WHN				LR		LR		
	comp=Z,3μm,13.0s,MS5.2							
WRA	**Warramunga Arr**	**36.38**	**120**	P		**P**	**16 01 41.9**	**-0.9**
	comp=Z,36nm,0.4s,mb5.7,baz=304,slow=8.9,SNR=695							
WRA				PcP		PcP	16 04 06.3	-0.3
	comp=Z,4.6nm,0.6s,baz=296,slow=2.3,SNR=4.3							
WRA				S		**S**	**16 07 15.0**	**-5.9**
	comp=Z,3.6nm,0.9s,baz=294,slow=16,SNR=5.3							
WRA				LR		LR	16 19 07.2	
	comp=Z,690nm,19.8s,MS4.4,baz=185,slow=40							
WRA	**Warramunga Arr**	**36.38**	**120**	P		**P**	**16 01 41.9**	**-0.9**
WRA							16 04 06.3	
WRA				S		**S**	**16 07 15.0**	**-5.9**
WRAB	**Tennant Creek**	**36.39**	**120**	P		**P**	**16 01 42.0**	**-0.9**
	comp=Z,622nm,0.8s,mb6.6,SNR=48							
WRAB	**Tennant Creek**	**36.39**	**120**	*c i* P		**P**	**16 01 41.8**	**-1.1**
WRAB	**Tennant Creek**	**36.39**	**120**	*e*P		**P**	**16 01 41.5**	**-1.4**
	comp=Z,74nm,0.8s,mb5.7							
WRAB				LR		LR		
	comp=Z,1μm,20.0s,MS4.6							
WB2	**Warramunga Arr**	**36.39**	**120**	⇑*i* P		**P**	**16 01 41.6**	**-1.3**
WB2				*e*S		**S**	**16 07 16.0**	**-5.1**
FORT	**Forrest**	**37.45**	**140**	*e*P		**P**	**16 01 53.4**	**+1.6**
	comp=Z,5.1nm,0.8s,mb4.4							
XAN	**Xi'an**	**37.55**	**10**	P		**P**	**16 01 51.5**	**-1.1**
XAN				PP		PP	16 03 24.0	+4.9
XAN				S		**S**	**16 07 31.5**	**-6.8**
XAN				SCP		ScP	16 07 54.3	+1.2
XAN				AMB		AMB		
	comp=Z,166nm,0.9s,mb5.8							
XAN				AMB		AMB		
	comp=Z,209nm,6.5s							
XAN				LR		LR		
	comp=E,1μm,21.3s							
XAN				LR		LR		
	comp=Z,2μm,17.4s,MS5.0							
ASAR	**Alice Springs**	**37.63**	**126**	P		**P**	**16 01 52.7**	**-0.7**
	comp=Z,19nm,0.6s,mb5.0,baz=302,slow=8.5,SNR=485							
ASAR				PcP		PcP	16 04 10.6	+0.3
	comp=Z,8.4nm,0.9s,baz=298,slow=1.9,SNR=5.9							
ASAR				S		**S**	**16 07 35.7**	**-4.1**
	comp=Z,13nm,1.2s,baz=300,slow=15,SNR=15							
LGTI	**Lohaghat**	**38.05**	**329**	*e*P		**P**	**16 01 58.0**	**+1.1**
LGTI				*e*P			16 01 59.0	
PTH	**Pithoragarh**	**38.15**	**330**	*e*P		**P**	**16 01 58.8**	**+1.1**
PTH				*ex*		x	16 04 32.8	
NJ2	**Nanjing**	**38.66**	**24**	*e*P		**P**	**16 02 04.0**	**+2.1**
NJ2				S		**S**	**16 07 50.0**	**-5.2**
NJ2				AMB		AMB		
	comp=Z,10.0nm,0.9s,mb4.5							
NJ2				LR		LR		
	comp=N,820nm,32.1s							
NJ2				LR		LR		
	comp=E,1μm,22.5s							
NJ2				LR		LR		
	comp=Z,1μm,22.2s							
SSE	**Sheshan**	**38.87**	**28**	P		**P**	**16 02 04.8**	**+1.1**
SSE				AP		pP	16 02 16.0	-0.9
SSE				S		**S**	**16 08 01.3**	**+3.1**
SSE				XS		sS	16 08 20.8	+0.2
SSE				AMB		AMB		
	comp=Z,51nm,0.7s,mb5.4							
SSE				AMB		AMB		
	comp=Z,192nm,4.1s							
SSE				LR		LR		
	comp=N,644nm,24.5s,MS4.5							
SSE				LR		LR		
	comp=E,543nm,24.5s,MS4.5							
SSE				LR		LR		
	comp=Z,911nm,27.8s,MS4.5							
LZH	**Lanzhou**	**38.97**	**3**	P		**P**	**16 02 04.0**	**-0.5**
LZH				AP		pP	16 02 15.3	-2.4
LZH				XP		sP	16 02 18.3	-5.4
LZH				PP		PP	16 03 39.3	+4.7
LZH				S		**S**	**16 08 00.5**	**+0.8**
LZH				XS		sS	16 08 20.0	-2.0
LZH				AMB		AMB		
	comp=Z,84nm,1.0s,mb5.4							
LZH				AMB		AMB		
	comp=Z,282nm,4.1s							
LZH				LR		LR		
	comp=N,3μm,16.4s							
LZH				LR		LR		
	comp=Z,3μm,17.8s,MS5.2							
AJM	**Ajmer**	**39.02**	**320**	*e*P		**P**	**16 02 05.3**	**+0.2**
AJM				AMb		AMB	16 02 27.4	
	comp=Z,121nm,1.6s,mb5.4							
NDI	**New Delhi**	**39.08**	**325**	*e*P		**P**	**16 02 03.5**	**-2.0**
JOW	**Kunigami**	**39.50**	**40**	P		**P**	**16 02 10.8**	**+1.7**
	comp=Z,25nm,0.7s,mb5.1,baz=278,slow=18,SNR=7.1							
DDI	**Dehra Dun**	**39.89**	**328**	*ex*		**P**	**16 02 08.0**	**-4.2**
SMLA	**Simla**	**40.99**	**328**	*i* P		**P**	**16 02 21.3**	**0.0**
SMLA				*ex*		x	16 02 22.5	
	comp=Z,395nm,0.6s							
SMLA				*i* S		**S**	**16 08 30.7**	**+0.6**
SMLA				*i* S		**S**	**16 08 33.6**	**+3.5**
GTA	**Gaotai**	**42.24**	**358**	P		**P**	**16 02 30.5**	**-0.9**
GTA				AP		pP	16 02 42.8	-2.0
GTA				XP		sP	16 02 48.3	-2.4
GTA				PP		PP	16 04 10.3	+0.3
GTA				PCP		PcP	16 04 24.5	-0.2
GTA				SCP		ScP	16 08 11.0	-0.2
GTA				S		**S**	**16 08 43.8**	**-4.4**
GTA				SCS		ScS	16 12 26.0	-3.1
GTA				AMB		AMB		
	comp=Z,11nm,1.3s,mb4.3							
GTA				AMB		AMB		
	comp=Z,282nm,9.9s							
GTA				LR		LR		
	comp=N,1μm,18.9s,MS4.9							
GTA				LR		LR		
	comp=E,701nm,19.8s,MS4.9							
GTA				LR		LR		
	comp=Z,2μm,19.8s,MS5.0							
THN	**Thein Dam**	**42.78**	**328**	*e*P		**P**	**16 02 34.2**	**-1.7**
HHC	**Hu-ho-hao-te**	**44.65**	**11**	⇑P		**P**	**16 02 52.0**	**+1.2**
HHC				AP		pP	16 03 04.5	+0.2
HHC				XP		sP	16 03 09.8	-0.4
HHC				PP		PP	16 04 38.8	+2.9
HHC				SCP		ScP	16 08 21.3	+0.3
HHC				PCS		PcS	16 08 25.5	-0.7
HHC				S		**S**	**16 09 25.5**	**+2.0**
HHC				XS		sS	16 09 47.3	+1.1
HHC				SS		SS	16 12 40.5	-4.8
HHC				AMB		AMB		
	comp=Z,34nm,1.2s,mb5.0							
HHC				AMB		AMB		
	comp=Z,263nm,6.3s							
HHC				LR		LR		
	comp=N,956nm,18.0s,MS5.0							
HHC				LR		LR		
	comp=E,1μm,17.1s,MS5.0							
HHC				LR		LR		
	comp=Z,1μm,18.6s,MS4.8							
BJT	**Baijiatuau**	**44.95**	**16**	*e*P		**P**	**16 02 53.2**	**0.0**
BJT				pmax		pmax		
	comp=Z,67nm,0.6s							
BJT	**Baijiatuau**	**44.95**	**16**	*e*P		**P**	**16 02 53.2**	**0.0**
	comp=Z,67nm,

STKA Stephens Creek 47.53 132 P P 16 03 14.0 +0.4
comp=Z,15nm,0.5s,mb5.2,baz=304,slow=7.0,SNR=57
STKA pP pP 16 03 27.3 +0.1
comp=Z,26nm,0.6s,baz=309,slow=7.8,SNR=11
STKA S **S** **16 10 02.4 -2.7**
comp=Z,5.2nm,1.1s,baz=201,slow=18,SNR=3.9
STKA LR LR 16 22 22.2
comp=Z,946nm,21.7s,MS4.7,baz=287,slow=35
KBL Kabul 48.10 324 *e*P **P 16 03 17.3 -0.7**
KBL pmax pmax
comp=Z,32nm,0.7s,mb5.5
KBL Kabul 48.10 324 *e*P **P 16 03 17.3 -0.7**
comp=Z,32nm,0.7s,mb5.5
WMQ Urumqi 48.20 347 ⇑P **P 16 03 19.3 +0.8**
WMQ AP pP 16 03 33.8 +1.6
WMQ XP sP 16 03 38.8 +0.8
WMQ PCP PcP 16 04 45.5 +0.3
WMQ PP PP 16 05 11.3 -0.1
WMQ PPP 16 06 03.3
WMQ SCP ScP 16 08 35.8 0.0
WMQ PCS PcS 16 08 40.8 -0.1
WMQ S **S** **16 10 14.3 +0.1**
WMQ XS sS 16 10 36.3 -0.7
WMQ SCS ScS 16 13 05.3 -1.8
WMQ SS SS 16 13 40.5 -3.7
WMQ AMB AMB
comp=Z,50nm,5.9s
WMQ LR LR
comp=N,327nm,22.6s,MS4.4
WMQ LR LR
comp=E,341nm,22.6s,MS4.4
WMQ LR LR
comp=Z,450nm,22.6s,MS4.4
KSH Kashi 48.30 334 *e*P **P 16 03 20.0 +0.6**
KSH *e*AP pP 16 03 32.8 -0.2
KSH *e*XP sP 16 03 37.8 -1.1
KSH *e*PCP PcP 16 04 48.0 +2.3
KSH *e*PP PP 16 05 12.0 -0.4
KSH *e*PPP 16 06 02.0
KSH *e*SCP ScP 16 08 37.5 +1.2
KSH *e*S **S** **16 10 14.0 -1.8**
KSH *e*XS sS 16 10 34.5 -4.1
KSH *e*SCS ScS 16 13 06.3 -1.7
KSH *e*SS SS 16 13 40.0 -6.0
KSH AMB AMB
comp=Z,206nm,0.9s,mb6.2
KSH AMB AMB
comp=Z,3μm,3.4s
KSH LR LR
comp=N,1μm,4.8s
KSH LR LR
comp=E,1μm,4.9s
KSH LR LR
comp=Z,2μm,12.0s,MS5.2
BIDO Bidbid 49.61 304 ⇑P **P 16 03 30.1 +0.3**
SNR=6.1
SONM Songino Array 50.84 4 P **P 16 03 39.0 +0.5**
comp=Z,36nm,0.5s,mb5.5,baz=189,slow=8.7,SNR=227
SONM pP pP 16 03 51.1 -1.2
comp=Z,22nm,0.6s,baz=183,slow=9.0,SNR=8.9
SONM PcP PcP 16 04 54.2 -0.5
comp=Z,13nm,0.6s,baz=186,slow=3.3,SNR=7.3
SONM ScP ScP 16 08 45.9 -1.1
comp=Z,1.9nm,0.9s,baz=198,slow=2.7,SNR=5.6
SONM LR LR 16 27 50.3
comp=Z,873nm,18.4s,MS4.8,baz=186,slow=39
SONM Songino Array 50.84 4 P **P 16 03 39.0 +0.4**
SONM *PP pP 16 03 51.1 -1.2
SONM 16 04 54.2
ULN Ulaanbaatar 50.92 5 P **P 16 03 40.0 +0.8**
SNR=17
ULN Ulaanbaatar 50.92 5⇑*i*P **P 16 03 38.5 -0.7**
UCH Uchtor 51.15 335 P **P 16 03 42.0 +0.9**
SNR=9.2
UCH Uchtor 51.15 335 *e*P **P 16 03 41.7 +0.6**
comp=Z,14nm,0.8s,mb5.0
TKM2 Tokmak 2 51.27 336 *e*P **P 16 03 41.8 -0.1**
TKM2 *e* pP 16 03 55.4 -0.3
TKM2 pmax pmax
comp=Z,133nm,0.8s,mb5.9
TKM2 MLR MLR
comp=Z,411nm,20.0s,MS4.5
TKM2 Tokmak 2 51.27 336 P **P 16 03 42.2 +0.3**
SNR=235
TKM2 Tokmak 2 51.27 336 *e*P **P 16 03 41.8 -0.2**
comp=Z,133nm,0.8s,mb5.9
TKM2 *e* pP 16 03 55.4 -0.3
TKM2 LR LR
comp=Z,411nm,20.0s,MS4.5
KBK Karagaybulak 51.32 335 P **P 16 03 43.1 +0.8**
SNR=88
CN2 Changchun 51.42 22 *e*P **P 16 03 42.5 -0.5**
CN2 *e*AP pP 16 03 55.0 -1.8
CN2 *e*S **S** **16 10 58.8 -0.3**
CN2 AMB AMB
comp=Z,50nm,1.0s,mb5.4
CN2 AMB AMB
comp=Z,200nm,3.0s
CN2 LR LR
comp=N,770nm,17.0s,MS4.9
CN2 LR LR
comp=E,440nm,17.0s,MS4.9
CN2 LR LR
comp=Z,890nm,17.0s,MS4.9
AML Almayashu 51.43 334 P **P 16 03 43.8 +0.7**
SNR=139
AML Almayashu 51.43 334 *e*P **P 16 03 43.5 +0.3**
AAK Aia-Archa 51.49 335 P **P 16 03 44.4 +0.8**
comp=Z,258nm,0.7s,mb6.3,SNR=31
AAK Ala-Archa 51.49 335 P **P 16 03 43.7 +0.1**
SNR=45
FRU Bishkek 51.60 335 *e*P **P 16 03 44.0 -0.4**
FRU *e* pP 16 03 56.0 -2.2
FRU *e* 16 11 22.0
FRU pmax pmax
comp=Z,120nm,1.2s,mb5.7
CHMS Chumysh 51.68 335 P **P 16 03 44.9 -0.1**
SNR=34
HATD Hatta, Dubai 51.81 305 ⇑P **P 16 03 46.5 +0.1**
SNR=6.6
EKS2 Erkin-Say 51.82 334 P **P 16 03 46.7 +0.6**
SNR=268
EKS2 Erkin-Say 51.82 334 *e*P **P 16 03 46.4 +0.3**
comp=Z,146nm,0.7s,mb6.0
USP Ospenovka 52.01 335 P **P 16 03 47.4 0.0**
SNR=75
MAJO Matsushiro 52.27 38 *e*P **P 16 03 48.3 -1.2**
MAJO *e* pP 16 04 00.9 -2.4
MAJO pmax pmax
comp=Z,30nm,1.1s,mb5.1
MAJO MLR MLR
comp=Z,498nm,22.0s,MS4.5
MAJO Matsushiro 52.27 38 *e*P **P 16 03 48.3 -1.2**
comp=Z,30nm,1.1s,mb5.1
MAJO *e* pP 16 04 00.9 -2.4
MAJO LR LR
comp=Z,498nm,22.0s,MS4.5
MAT Matsushiro 52.27 38 P **P 16 03 48.7 -0.8**
MAT S **S** **16 11 11.6 +0.4**
MJAR Matsushiro Arr 52.27 38 P **P 16 03 48.8 -0.7**
comp=Z,8.8nm,0.6s,mb4.8,baz=222,slow=7.8,SNR=33
MJAR pP pP 16 04 01.2 -2.1
comp=Z,11nm,0.9s,baz=219,slow=7.1,SNR=11
MJAR ScP ScP 16 08 52.2 -1.2
comp=Z,2.4nm,0.8s,baz=214,slow=4.4,SNR=5.9
MJAR LR LR 16 26 32.1
comp=Z,252nm,19.1s,MS4.3,baz=220,slow=37
MJAR Matsushiro Arr 52.27 38 P **P 16 03 48.8 -0.7**
MJAR *PP pP 16 04 01.2 -2.1
MK31 Makanchi Array 52.35 344 *i*P **P 16 03 49.5 -0.4**
MKAR Makanchi Array 52.35 344 P **P 16 03 49.5 -0.4**
comp=Z,105nm,0.8s,mb5.8,baz=150,slow=7.8,SNR=296
MKAR LR LR 16 30 50.6
comp=Z,444nm,21.2s,MS4.5,baz=162,slow=41
MKAR Makanchi Array 52.35 344 P **P 16 03 49.5 -0.4**
MKAR LR LR 16 30 50.6
EIDS Eidsvold 52.75 120 *e*P **P 16 03 52.5 -0.8**
comp=Z,250nm,1.1s,mb6.1
TOO Toolangi 53.10 136 *e*P **P 16 03 57.3 +1.6**
ZAK Zakamensk 53.21 2 *e*P **P 16 03 56.2 0.0**
ZAK *e* 16 05 03.3
ZAK pmax pmax
comp=Z,26nm,1.0s,mb5.1
KK31 Karatay Array 53.64 332 *i*P **P 16 03 58.3 -1.2**
MDJ Mudanjiang 53.75 25 P **P 16 04 01.0 +0.7**
MDJ AP pP 16 04 12.5 -1.6
MDJ XP sP 16 04 17.5 -2.4
MDJ PP PP 16 06 07.5 +5.8
MDJ SCP ScP 16 08 59.0 -0.7
MDJ PCS PcS 16 09 05.0 +0.2
MDJ S **S** **16 11 31.5 +0.5**
MDJ AMB AMB
comp=Z,18nm,1.1s,mb4.9
MDJ AMB AMB
comp=Z,190nm,5.0s
MDJ LR LR
comp=E,921nm,18.2s
MDJ LR LR
comp=Z,1μm,19.2s,MS4.9
MOY Mondy 54.47 360 *e*P **P 16 04 05.5 +0.1**
MOY pmax pmax
comp=Z,87nm,2.1s,mb5.3
HIA Hailar 54.48 15 *e*P **P 16 04 05.0 -0.5**
HIA pmax pmax
comp=Z,7.0nm,0.4s
HIA Hailar 54.48 15 *e*P **P 16 04 05.0 -0.5**
comp=Z,6.7nm,0.4s,mb4.9
TLY Talaya 54.52 2 P **P 16 04 06.2 +0.4**
comp=Z,382nm,0.9s,mb6.4,SNR=12
TLY Talaya 54.52 2 ⇑P **P 16 04 06.8 +1.1**
SNR=12
TLY Talaya 54.52 2 *e*P **P 16 04 06.6 +0.8**
TLY *e* 16 13 47.3
TLY pmax pmax
comp=Z,65nm,0.9s,mb5.7
TLY MLR MLR
comp=Z,1μm,18.0s,MS5.1
TLY Talaya 54.52 2⇑*i*P **P 16 04 05.4 -0.4**
CAN Canberra 54.59 132 *e*P **P 16 04 06.9 +0.3**
ARMA Armidale 54.78 125 *e*P **P 16 04 09.9 +1.8**
CNB Canberra Magne 54.85 132 *e*P **P 16 04 09.5 +1.0**
OPO Ambohidratompo 55.10 250 P **P 16 04 11.4 +0.8**
comp=Z,2.8nm,0.8s,mb4.3,baz=26,slow=3.7,SNR=5.1
IRK Irkutsk 55.11 2⇓*i*P **P 16 04 10.8 +0.8**
IRK pmax pmax
comp=Z,111nm,2.2s,mb5.5
CIT Chita 55.81 9 *e*P **P 16 04 15.4 +0.4**
CIT *e* pP 16 04 28.3 -0.6
KURK Kurchatov 56.94 343 P **P 16 04 22.4 -0.7**
comp=Z,888nm,0.6s
KURK Kurchatov 56.94 343 ⇑P **P 16 04 22.6 -0.5**
SNR=38
KURK Kurchatov 56.94 343 P **P 16 04 22.0 -1.1**
comp=Z,57nm,0.6s,mb5.8,baz=162,slow=6.8,SNR=190
KURK pP pP 16 04 34.6 -2.4
comp=Z,57nm,0.8s,baz=166,slow=6.9,SNR=12
KURK Kurchatov 56.94 343 *i*P **P 16 04 22.1 -1.0**
ABKT Ailbek 57.04 320 P **P 16 04 24.6 +0.5**
comp=Z,216nm,1.0s,mb6.1,SNR=13
KLR Kul'dur 58.35 23 *e*P **P 16 04 29.0 -4.0**
KLR pmax pmax
comp=Z,64nm,1.8s,mb5.3
ZAA0 Zalesovo Array 58.40 349 *e*P **P 16 04 32.4 -0.9**
ZALV Zalesovo Beam 58.40 349 P **P 16 04 32.5 -0.7**
comp=Z,395nm,0.8s,mb6.5,baz=176,slow=6.0,SNR=684
ZALV pP pP 16 04 44.9 -2.3
comp=Z,68nm,0.7s,baz=178,slow=4.3,SNR=5.4
ZALV S **S** **16 12 30.1 -2.3**
comp=Z,2.4nm,0.9s,baz=156,slow=11,SNR=7.8
ZALV LR LR 16 33 36.0
comp=Z,434nm,19.0s,MS4.6,baz=177,slow=40
ZALV PKPPKP 16 34 12.4
comp=Z,0.3nm,0.3s,baz=316,slow=4.1,SNR=3.7
ZALV PKP2ab 16 34 36.8
comp=Z,0.4nm,0.3s,baz=343,slow=4.6,SNR=3.5
ZALV Zalesovo Beam 58.40 349 P **P 16 04 32.6 -0.7**
ZALV *PP pP 16 04 44.9 -2.4
ZALV S **S** **16 12 30.1 -2.3**
ZALV Zalesovo Beam 58.40 349 P **P 16 04 32.5 -0.7**
ZALV pP pP 16 04 44.9 -2.3
ZALV S **S** **16 12 30.1 -2.3**
ZALV LR LR 16 33 36.0
ZALV P'P' 16 34 12.4
ZALV P'P'ab 16 34 36.8
HNR Honiara 58.61 99 P **P 16 04 33.7 -1.9**
comp=Z,46nm,0.8s,mb5.6,baz=182,slow=4.9,SNR=6.4
HNR Honiara 58.61 99 *e*P **P 16 04 34.0 -1.5**
HNR pmax pmax
comp=Z,54nm,1.1s,mb5.5
HNR Honiara 58.61 99 *e*P **P 16 04 34.0 -1.5**
comp=Z,54nm,1.1s,mb5.5
HABR Khabarovsk 59.11 26 *e*P **P 16 04 36.7 -1.6**
HABR *e*S **S** **16 12 41.5 -0.3**
KRAR Krasnoyarsk 59.23 355*c i*P **P 16 04 38.7 -0.3**
KRAR pmax pmax
comp=Z,181nm,0.7s,mb6.2
NVS Novosibirsk 59.56 348⇑*i*P **P 16 04 40.0 -1.3**
NVS *e**PP pP 16 04 52.5 -2.8
NVS *e*S **S** **16 12 39.0 -8.4**
NVS *i* PS 16 13 04.0
NVS *i* 16 13 13.4
NVS *e*SS SS 16 16 43.0 -0.6
NVS pmax pmax
comp=Z,128nm,1.0s,mb5.9
NVS pmax pmax
comp=N,106nm,1.4s
NVS pmax pmax
comp=E,73nm,1.4s
NVS smax
comp=N,17nm,2.0s
NVS smax
comp=E,35nm,1.6s
ASAJ Asahikawa 59.74 33 P **P 16 04 43.2 +0.4**
comp=E,34nm,0.8s,mb5.5,baz=258,slow=12,SNR=24
QRN Al-Qurain 60.11 306 *e*P **P 16 04 44.8 -0.8**
baz=306
QRN AMb AMB 16 05 08.9
comp=Z,130nm,1.6s,mb5.7,baz=306
RDF Al-Radifah 60.48 306 *e*P **P 16 04 47.3 -0.9**
baz=306
RDF AMb AMB 16 04 49.3
comp=Z,136nm,1.1s,mb5.9,baz=306
UMR Umm Al-Rimmam 60.58 306 *e*P **P 16 04 48.0 -0.8**
baz=306
UMR AMb AMB 16 04 50.2
comp=Z,148nm,1.1s,mb6.0,baz=306
NAY Al-Naaiem 60.85 306 *e*P **P 16 04 49.7 -1.0**
baz=306
NAY AMb AMB 16 04 51.7
comp=Z,53nm,1.0s,mb5.6,baz=306
MIB Mutribah 60.98 307 *e*P **P 16 04 50.9 -0.6**
baz=306
MIB AMb AMB 16 04 52.9
comp=Z,158nm,1.0s,mb6.1,baz=306
VOSK Vostochnaya 61.12 339 P **P 16 04 50.9 -1.1**
VOSK pmax pmax
comp=Z,97nm,1.0s,mb5.9
BOD Bodaibo 61.50 8 *e*P **P 16 04 53.9 -0.6**
BOD pmax pmax
comp=Z,65nm,1.0s,mb5.7
BVA0 Borovoye Array 61.57 339 *i* P **P 16 04 53.5 -1.6**
BVA0 pmax pmax
comp=Z,14nm,0.9s,mb5.1
BVAR Borovoye Array 61.57 339 P **P 16 04 53.8 -1.3**
comp=Z,42nm,0.7s,mb5.7,baz=144,slow=8.6,SNR=227
BVAR pP pP 16 05 07.6 -1.5
comp=Z,31nm,0.6s,baz=143,slow=8.9,SNR=14
BRVK Borovoye 61.64 339 P **P 16 04 54.4 -1.1**
comp=Z,316nm,0.9s,mb6.4,SNR=30
BRVK Borovoye 61.64 339 ⇓P **P 16 04 54.3 -1.2**
SNR=18
BRVK Borovoye 61.64 339 *i* P **P 16 04 54.1 -1.4**
YSS Yuzh-Sakhalins 61.67 31⇑*i*P **P 16 04 56.0 +0.1**
YSS *e* pP 16 05 09.0 -1.0
YSS pmax pmax
comp=Z,170nm,0.9s,mb6.2
YSS Yuzh-Sakhalins 61.67 31⇑*i*P **P 16 04 55.1 -0.8**
CLNS Chul'man 62.66 14 *e*P **P 16 05 02.1 -0.2**
CLNS pmax pmax
comp=Z,28nm,1.2s,mb5.3
CLNS pmax pmax
comp=N,10.0nm,1.2s
CLNS pmax pmax
comp=E,16nm,1.0s
KMBO Kilima Mbogo 64.00 270 P **P 16 05 13.2 +1.1**
comp=E,3.9nm,0.8s,mb4.5,baz=63,slow=10.0,SNR=9.2
KMBO LR LR 16 28 35.8
comp=E,381nm,19.4s,MS4.6,baz=111,slow=32
KMBO Kilima Mbogo 64.00 270 *e*P **P 16 05 13.3 +1.2**
AKTK Aktyubinsk 64.86 331 *i* P **P 16 05 15.5 -1.4**
AKTO Aktyubinsk 64.86 331 P **P 16 05 15.6 -1.3**
comp=E,28nm,0.8s,mb5.4,baz=116,slow=8.5,SNR=53
AKTO pP pP 16 05 30.0 -1.1
comp=E,11nm,0.6s,baz=111,slow=13,SNR=5.0
AKTO Aktyubinsk 64.86 331 *i* P **P 16 05 15.5 -1.4**
MAK Makhachkala 66.56 320 *e*P **P 16 05 24.9 -3.1**
HAKT HAKKARI 66.80 313 *i* P **P 16 05 31.0 +1.3**
GNI Garni 67.14 316 P **P 16 05 32.4 +0.7**
comp=E,7.3nm,0.7s,mb4.8,baz=30,slow=8.6,SNR=9.3
GNI Garni 67.14 316⇑*i*P **P 16 05 31.5 -0.3**
DGRG David-gareji 67.27 318 P **P 16 05 33.4 +0.8**
MTA Mtatsminda 67.77 318 P **P 16 05 36.0 +0.2**
TBLG Delisi 67.82 318 P **P 16 05 36.0 -0.1**
SVE Sverdlovsk 68.10 337⇑*e*P **P 16 05 37.3 -0.2**
SVE *e* pP 16 05 49.0 -2.7
SVE *e*PPP 16 09 41.8
SVE *e*S S 16 14 36.3 +2.9
SVE *e*SS SS 16 19 00.7 +3.9
SVE pmax pmax
comp=Z,116nm,1.1s,mb5.8
SVE MLR MLR
comp=Z,406nm,20.0s,MS4.7
TUTA Tutak 68.18 315 *i* P **P 16 05 39.0 +0.7**
GOR Gori 68.36 318 P **P 16 05 40.6 +1.2**
YAK Yakutsk 68.40 14 *e*P **P 16 05 37.7 -1.6**
YAK pmax pmax
comp=Z,170nm,0.8s,mb6.1
YAK pmax pmax
comp=E,38nm,1.1s
YAK pmax pmax
comp=N,58nm,1.0s
YAK MLR MLR
comp=Z,997nm,18.0s,MS5.1
YAK MLR MLR
comp=N,348nm,18.0s,MS4.8
YAK MLR MLR
comp=E,371nm,17.0s,MS4.8
YAK Yakutsk 68.40 14⇑*i*P **P 16 05 37.7 -1.6**
ARU Arti 68.64 336 P **P 16 05 39.1 -1.8**
comp=E,332nm,0.9s,mb6.3,SNR=19
ARU Arti 68.64 336*c i*P **P 16 05 39.7 -1.2**
ARU *e* 16 06 04.9
ARU *e*S S 16 14 39.7 -0.1
ARU *e*SS SS 16 18 59.2 -6.0
ARU pmax pmax
comp=Z,83nm,1.2s,mb5.5
ARU Arti 68.64 336⇑*i*P **P 16 05 39.8 -1.1**
MARD Mardin 68.87 312 *i* P **P 16 05 42.7 0.0**
ONI Oni 69.05 318 P **P 16 05 44.1 +0.3**
DAGI Agillar 69.48 316 *i* P **P 16 05 46.7 +0.3**
DBAD Bademkaya 69.61 316 *i* P **P 16 05 47.5 +0.3**
MAW Mawson 69.63 195 P **P 16 05 47.1 +0.3**
comp=Z,2.0nm,0.6s,mb4.2,baz=7.1,slow=8.1,SNR=3.3
MAW LR LR 16 29 47.8
comp=Z,911nm,21.9s,MS5.0,baz=49,slow=30
MAW Mawson 69.63 195 P **P 16 05 47.6 +0.8**
MAW pmax pmax
comp=Z,28nm,1.2s
MAW Mawson 69.63 195 P **P 16 05 47.6 +0.8**
comp=Z,28nm,1.2s,mb5.1
KIV Kislovodsk 70.14 319 *i* P **P 16 05 51.2 +0.8**
SNR=7.7
KIV Kislovodsk 70.14 319⇑*i*P **P 16 05 50.1 -0.3**
KIV Kislovodsk 70.14 319⇑*i*P **P 16 05 50.4 0.0**
ASF Jabal al Asfar 70.21 306 P **P 16 05 51.6 +0.5**
comp=Z,21nm,0.9s,mb5.1,baz=351,slow=3.4,SNR=25
SKR Severo-Kuril's 71.00 33 *e*P **P 16 05 55.0 -0.5**
SKR *e* 16 06 01.5
SKR *e* pP 16 06 12.0 +2.2
SKR *e* pP 16 06 13.5 +3.7
SKR pmax pmax
comp=N,180nm,1.0s
SKR pmax pmax
comp=E,180nm,1.0s
SKR pmax pmax
comp=Z,220nm,1.0s,mb6.0
EIL Elat 71.14 303 P **P 16 05 57.2 +0.4**
comp=Z,34nm,0.8s,mb5.3,baz=87,slow=3.6,SNR=28
EIL Elat 71.14 303 P **P 16 05 57.2 +0.4**
GZT Gaziantep 71.29 311 *i* P **P 16 05 58.4 +0.8**
AKCD Akcadag 71.33 312 *i* P **P 16 05 58.4 +0.6**
MMAI Mount Meron Ar 71.66 306 P **P 16 06 00.9 +1.1**
comp=Z,17nm,0.6s,mb5.2,baz=91,slow=8.3,SNR=29
MMAI pP pP 16 06 12.9 -1.3
comp=Z,16nm,0.6s,baz=96,slow=7.6,SNR=11
SOC Sochi 71.96 318*c i*P **P 16 06 00.7 -0.7**
SOC *e* pP 16 06 17.8 +2.0
SOC *e*S S 16 15 19.2 +0.2
SOC *e* 16 16 01.9
SOC *e*SS SS 16 19 57.4 +0.7
SOC pmax pmax
comp=Z,49nm,0.6s,mb5.6
SOC Sochi 71.96 318 *i* P **P 16 06 01.8 +0.4**
ANDN Andirin 72.28 311 *i* P **P 16 06 03.8 +0.3**
LSZ Lusaka 72.90 255 P **P 16 06 08.1 +0.5**
comp=Z,1.3nm,0.5s,mb4.1,baz=95,slow=9.0,SNR=5.6
LSZ Lusaka 72.90 255 *e*P **P 16 06 07.6 0.0**
LSZ pmax pmax
comp=Z,21nm,1.3s,mb4.9
LSZ Lusaka 72.90 255 *e*P **P 16 06 07.6 0.0**
comp=Z,21nm,1.3s,mb4.9
PEA0B Petropavlovsk- 73.06 32 *e*P **P 16 06 07.1 -0.6**
PETK Petropavlovsk- 73.06 32 P **P 16 06 07.3 -0.4**
comp=Z,30nm,0.6s,mb5.4,baz=345,slow=0.8,SNR=86
PETK LR LR 16 43 12.6
comp=Z,293nm,19.0s,MS4.6,baz=251,slow=40
RPZ Rata Peaks 73.36 135 P **P 16 06 09.7 -0.1**
comp=Z,8.1nm,0.5s,mb4.9,baz=266,slow=4.4,SNR=8.3
RPZ LR LR 16 36 49.7
comp=Z,466nm,19.4s,MS4.8,baz=244,slow=34
PET Petropavlovsk 73.52 32 *e*P **P 16 06 10.4 -0.1**
PET *e* pP 16 06 26.3 +1.4
PET *e* 16 08 57.3
PET *e*S S 16 15 35.5 -1.0
PET *e*SS SS 16 20 24.3 +4.1
PET pmax pmax
comp=Z,116nm,0.6s,mb6.0
PET pmax pmax
comp=Z,100nm,15.4s
PET Petropavlovsk 73.52 32⇑*i*P **P 16 06 09.9 -0.6**
CSS Prodhromos 73.85 308 *e*P **P 16 06 12.6 -0.2**
comp=Z,92nm,1.4s,mb5.5
VRHR Novokhopersk 73.88 325 *e*P **P 16 06 11.6 -1.0**
VRHR *e**SP sP 16 06 25.9 -6.8
VRHR pmax pmax
comp=Z,180nm,0.6s,mb6.2
VRHR pmax pmax
comp=N,60nm,0.7s
VRHR pmax pmax
comp=E,90nm,0.6s
ANN Anapa 73.94 318 *e*P **P 16 06 08.9 -4.2**
BR131 Keskin Array S 74.94 312 *e*P **P 16 06 17.5 -1.5**
comp=E,16nm,0.6s,mb5.1
ANTO Ankara 75.61 312 P **P 16 06 23.3 +0.4**
SNR=8.3
ANTO Ankara 75.61 312 *e*P **P 16 06 22.6 -0.3**
ANTO pmax pmax
comp=Z,29nm,1.3s,mb5.0
ANTO Ankara 75.61 312⇑*i*P **P 16 06 22.4 -0.5**
ANTO Ankara 75.61 312 *e*P **P 16 06 22.6 -0.3**
comp=Z,29nm,1.3s,mb5.0
LBTB Lobatse 75.76 245 P **P 16 06 24.6 +0.5**
comp=Z,3.0nm,0.8s,mb4.3,baz=145,slow=5.9,SNR=4.4
SEY Seymchan 76.09 22 *e*P **P 16 06 25.0 -0.1**
SEY Seymchan 76.09 22 *e*P **P 16 06 25.1 0.0**
SIM Simferopol' 76.20 318*c i*P **P 16 06 26.1 -0.1**
SIM *e* pP 16 06 39.0 -1.6
SIM pmax pmax
comp=Z,40nm,0.8s,mb5.4
BOSA Boshof 76.29 241 P **P 16 06 27.6 +0.5**
comp=Z,4.7nm,0.8s,mb4.5,baz=285,slow=2.8,SNR=5.6
BOSA LR LR 16 33 44.3
comp=Z,402nm,19.7s,MS4.7,baz=82,slow=31
BOSA Boshof 76.29 241 *e*P **P 16 06 27.1 0.0**
BOSA pmax pmax
comp=Z,15nm,1.0s,mb4.9
BOSA Boshof 76.29 241 *e*P **P 16 06 27.1 0.0**
comp=Z,15nm,1.0s,mb4.9
TIXI Tiksi 76.66 9*c i*P **P 16 06 26.2 -2.0**
TIXI pmax pmax
comp=Z,74nm,1.0s,mb5.6
TIXI MLR MLR
comp=Z,1μm,19.0s,MS5.2
TIXI Tiksi 76.66 9⇑*i*P **P 16 06 26.4 -1.8**
URZ Urewera 77.02 128 LR LR 16 39 44.1
comp=Z,669nm,20.9s,MS4.9,baz=301,slow=35

SYO	**Syowa Base**	**77.33 199**	⇑	*e*P		**P**		**16 06 31.2**	**-0.8**
SYO	**Syowa Base**	**77.33 199**	⇑	*e*PcP		PcP		16 06 45.0	+2.6
MOS	**Moscow**	**78.02 329**		*e*P		**P**		**16 06 34.4**	**-1.7**
MOS				*e*		pP		16 06 46.6	-4.0
MOS				*e*				16 09 34.7	
MOS					pmax	pmax			
	comp=Z,148nm,0.8s,mb6.0								
OBN	**Obninsk**	**78.33 328**		*ce*P		**P**		**16 06 36.8**	**-1.0**
OBN				*e*				16 06 43.1	
OBN						pP		16 06 47.0	-5.3
OBN				*i*		pP		16 06 51.1	-1.2
OBN				*e*				16 09 36.3	
OBN					pmax	pmax			
	comp=Z,160nm,1.2s,mb5.8								
OBN					MLR	MLR			
	comp=Z,300nm,21.0s,MS4.6								
OBN	**Obninsk**	**78.33 328**	⇑	*i*P		**P**		**16 06 36.7**	**-1.1**
KLMR	**Klimovskoe**	**79.29 334**		*e*P		**P**		**16 06 41.7**	**-1.3**
KLMR					pmax	pmax			
	comp=Z,88nm,1.2s,mb5.6								
TLCR		**79.87 317**	⇑	*i*P		**P**		**16 06 47.2**	**+0.7**
TLCR		**79.87 317**	⇑	P		**P**		**16 06 47.1**	**+0.6**
TIRR	**Tirgusor**	**79.97 316**	⇑	*i*P		**P**		**16 06 46.7**	**-0.3**
TIRR	**Tirgusor**	**79.97 316**		*e*P		**P**		**16 06 46.2**	**-0.8**
	comp=Z,30nm,0.8s,mb5.3								
KIS	**Kishinev**	**80.33 319**	⇓	*i*P		**P**		**16 06 49.0**	**0.0**
KIS	**Kishinev**	**80.33 319**	⇓	*i*UNK		**P**		**16 06 49.0**	**0.0**
HARR	**Harsova**	**80.36 316**	⇓	*i*P		**P**		**16 06 49.3**	**+0.2**
HARR	**Harsova**	**80.36 316**	⇓	P		**P**		**16 06 49.4**	**+0.2**
IDI	**Anoyia**	**80.66 306**		P		**P**		**16 06 50.7**	**-0.4**
	comp=Z,21nm,0.7s,mb5.2,baz=86,slow=8.2,SNR=18								
AKASG	**Malin Array Be**	**81.06 322**		P		**P**		**16 06 52.0**	**-0.8**
	comp=Z,17nm,0.8s,mb5.1,baz=88,slow=4.9,SNR=54								
AKASG					pP	pP		16 07 06.8	-0.6
	comp=Z,7.2nm,0.7s,baz=91,slow=4.8,SNR=4.9								
AKASG					PP	PP		16 09 57.4	-0.9
	comp=Z,2.9nm,0.7s,baz=86,slow=6.7,SNR=4.9								
AKASG					LR	LR		16 52 42.2	
	comp=Z,165nm,18.2s,MS4.4,baz=120,slow=43								
AKASG	**Malin Array Be**	**81.06 322**		P		**P**		**16 06 52.0**	**-0.8**
AKASG				*PP		pP		16 07 06.8	-0.6
AKASG								16 09 57.4	
AKBB	**Malin Array Si**	**81.06 322**		*e*P		**P**		**16 06 50.9**	**-1.9**
AKBB				*e*		pP		16 07 06.8	-0.6
KIEV	**Kiev**	**81.07 322**		*e*P		**P**		**16 06 50.9**	**-1.9**
KIEV					pmax	pmax			
	comp=Z,24nm,0.8s,mb5.2								
KIEV	**Kiev**	**81.07 322**		*e*P		**P**		**16 06 50.9**	**-2.0**
	comp=Z,24nm,0.8s,mb5.2								
VRI	**Vrincioaia**	**81.46 317**	⇑	*i*P		**P**		**16 06 55.7**	**+0.7**
VRI	**Vrincioaia**	**81.46 317**	⇑	P		**P**		**16 06 55.7**	**+0.8**
PLOR	**Plostina**	**81.51 317**	⇑	*i*P		**P**		**16 06 56.3**	**+1.0**
MLR	**Muntele Rosu**	**81.91 317**	⇓	*i*P		**P**		**16 06 57.6**	**+0.2**
MLR	**Muntele Rosu**	**81.91 317**	⇓	P		**P**		**16 06 57.6**	**+0.2**
SBA	**Scott Base**	**82.02 169**		*e*P		**P**		**16 06 58.4**	**+1.0**
SBA					pmax	pmax			
	comp=Z,45nm,1.5s,mb5.2								
SBA	**Scott Base**	**82.02 169**		*e*P		**P**		**16 06 58.4**	**+1.0**
	comp=Z,45nm,1.5s,mb5.2								
VOIR		**82.51 316**	⇑	*i*P		**P**		**16 07 00.2**	**-0.3**
VOIR		**82.51 316**	⇑	P		**P**		**16 07 00.2**	**-0.4**
BURAR	**Bucovina Array**	**82.86 319**	⇑	*i*P		**P**		**16 07 03.1**	**+0.8**
BURAR	**Bucovina Array**	**82.86 319**	⇑	P		**P**		**16 07 03.1**	**+0.8**
BUR08	**Bucovina Ar. S**	**82.88 319**		*e*P		**P**		**16 07 02.3**	**0.0**
MNK	**Minsk**	**82.90 326**		*e*P		**P**		**16 07 01.0**	**-1.3**
MNK					pmax	pmax			
	comp=Z,280nm,1.0s,mb6.2								
TSUM	**Tsumeb**	**83.07 251**		P		**P**		**16 07 04.0**	**0.0**
	comp=Z,3.4nm,0.9s,mb4.4,baz=68,slow=3.8,SNR=6.6								
TSUM					pP	pP		16 07 18.7	+0.1
	comp=Z,12nm,1.0s,baz=90,slow=3.4,SNR=10								
TSUM	**Tsumeb**	**83.07 251**		*e*P		**P**		**16 07 03.3**	**-0.7**
	comp=Z,15nm,1.1s,mb4.9								
PUL	**Pulkovo**	**83.12 331**		*e*P		**P**		**16 07 03.6**	**+0.3**
BILL	**Bilibino**	**83.66 20**		*ce*P		**P**		**16 07 05.0**	**-1.0**
BILL				*e*		pP		16 07 19.0	-1.6
BILL				*e*				16 26 16.5	
BILL					pmax	pmax			
	comp=Z,10.0nm,1.0s,mb4.9								
BILL	**Bilibino**	**83.66 20**		*e*P		**P**		**16 07 05.3**	**-0.7**
	comp=Z,24nm,1.2s,mb5.2								
JOF	**Joensuu**	**83.68 334**		*e*p		**P**		**16 07 05.9**	**-0.2**
	comp=Z,13nm,0.6s,mb5.2								
GZR	**Gura Zlata**	**84.08 316**	⇑	*i*P		**P**		**16 07 09.1**	**+0.5**
GZR	**Gura Zlata**	**84.08 316**	⇑	P		**P**		**16 07 09.1**	**+0.5**
LVV	**L'vov**	**84.09 321**	⇑	*i*P		**P**		**16 07 09.1**	**+0.6**
LVZ	**Lovozero**	**84.17 340**		*e*P		**P**		**16 07 08.5**	**-0.1**
DRGR		**84.37 317**	⇓	*i*P		**P**		**16 07 11.0**	**+0.9**
DRGR		**84.37 317**	⇓	P		**P**		**16 07 11.0**	**+0.9**
APA	**Apatity**	**84.48 339**	⇓	*i*P		**P**		**16 07 11.0**	**+0.8**
APA				*i*				16 07 16.2	
APA					pmax	pmax			
	comp=Z,26nm,1.0s,mb5.3								
KWP	**Kalwaria**	**84.89 320**		*e*P		**P**		**16 07 13.1**	**+0.4**
KWP	**Kalwaria**	**84.89 320**	⇓	*i*P		**P**		**16 07 13.1**	**+0.5**
KWP	**Kalwaria**	**84.89 320**		*e*P		**P**		**16 07 13.1**	**+0.5**
BZS	**Buzias**	**84.92 316**	⇓	*i*P		**P**		**16 07 12.8**	**0.0**
BZS	**Buzias**	**84.92 316**	⇓	P		**P**		**16 07 12.8**	**0.0**
UZH	**Uzhgorod**	**84.98 319**		*e*P		**P**		**16 07 12.7**	**-0.4**
UZH				*e*				16 07 19.3	
KOLS	**Kolonicke sedl**	**85.05 319**		*e*P		**P**		**16 07 14.0**	**+0.6**
SUW	**Suwalki**	**85.45 325**		*e*P		**P**		**16 07 14.9**	**-0.4**
SUW	**Suwalki**	**85.45 325**		*e*P		**P**		**16 07 14.9**	**-0.4**
CRVS	**Cervenica-Dubn**	**85.57 319**		*e*P		**P**		**16 07 15.9**	**-0.1**
KAF	**Kangasniemi**	**85.66 333**		*e*p		**P**		**16 07 16.0**	**-0.2**
	comp=Z,16nm,0.6s,mb5.4,baz=99,slow=4.5								
KAF	**Kangasniemi**	**85.66 333**		*e*P		**P**		**16 07 16.0**	**-0.2**
KAF					pmax	pmax			
	comp=Z,16nm,0.6s,mb5.4								
STHS	**Stebnicka Huta**	**85.80 320**		*e*P		**P**		**16 07 17.9**	**+0.8**
STHS					pmax	pmax			
	comp=Z,28nm,0.7s,mb5.6								
STHS	**Stebnicka Huta**	**85.80 320**		*e*P		**P**		**16 07 17.9**	**+0.8**
	comp=Z,28nm,0.7s,mb5.6								
AFI	**Afiamalu**	**86.32 104**		P		**P**		**16 07 20.6**	**+0.1**
	comp=Z,71nm,1.1s,mb5.8,baz=291,slow=22,SNR=3.5								
NIE	**Niedzica**	**86.40 320**		*e*P		**P**		**16 07 21.3**	**+1.2**
PSZ	**Piszkesteto**	**86.45 318**	⇓	*e*P		**P**		**16 07 21.1**	**+0.7**
PSZ	**Piszkesteto**	**86.45 318**	⇓	*i*P		**P**		**16 07 20.4**	**0.0**
PENC	**Penc**	**86.84 318**	⇓	*e*P		**P**		**16 07 23.3**	**+1.0**
OJC	**Ojcow**	**86.85 320**		*e*P		**P**		**16 07 21.3**	**-1.0**
OJC				*e*	PcP	PcP		16 07 23.0	-1.5
OJC				*e*	S	S		16 17 53.7	-2.7
OJC				L				16 55 03.3	
	comp=Z,0.3nm,23.0s								
BUD	**Budapest**	**86.97 318**	⇑	*e*P		**P**		**16 07 23.2**	**+0.3**
BUD	**Budapest**	**86.97 318**	⇑	*e*P		**P**		**16 07 23.3**	**+0.4**
MAIT	**Maitri**	**87.02 199**		*e*P		**P**		**16 07 32.1**	**+9.4**
PKSM	**Moragy**	**87.06 316**	⇑	*i*P		**P**		**16 07 23.3**	**-0.1**
PKSM	**Moragy**	**87.06 316**	⇓	*e*P		**P**		**16 07 24.0**	**+0.6**
VYHS	**Vyhne**	**87.23 319**		*e*P		**P**		**16 07 23.8**	**-0.4**
RHK3	**Tenkes**	**87.29 316**	⇓	*e*P		**P**		**16 07 24.8**	**+0.3**
KEV	**Kevo**	**87.41 340**		*e*p		**P**		**16 07 24.1**	**-0.5**
	comp=Z,8.6nm,0.8s,mb5.0								
KEV	**Kevo**	**87.41 340**		*e*P		**P**		**16 07 24.1**	**-0.5**
KEV					pmax	pmax			
	comp=Z,9.0nm,0.8s,mb5.0								
KOLL	**Kolacno**	**87.52 319**		*e*P		**P**		**16 07 25.8**	**+0.2**
OKC	**Ostrava-Krasne**	**87.85 320**		*e*P		**P**		**16 07 28.3**	**+1.2**
OKC					epP	pP		16 07 41.6	-0.3
ARCES	**ARCESS Array B**	**87.86 340**		P		**P**		**16 07 26.2**	**-0.5**
	comp=Z,17nm,0.8s,mb5.3,baz=101,slow=6.3,SNR=24								
ARCES					pP	pP		16 07 41.0	-0.4
	comp=Z,8.2nm,0.7s,baz=115,slow=5.5,SNR=5.1								
ARCES					LR	LR		16 50 37.8	
	comp=Z,325nm,21.8s,MS4.7,baz=225,slow=38								
ARCES	**ARCESS Array B**	**87.86 340**		P		**P**		**16 07 26.2**	**-0.5**
ARCES				*PP		pP		16 07 41.0	-0.5
ARCES	**ARCESS Array B**	**87.86 340**		P		**P**		**16 07 26.2**	**-0.6**
ARCES					pP	pP		16 07 41.0	-0.4
ARCES					LR	LR		16 50 37.8	
MORC	**Moravsky Berou**	**88.23 320**	⇓	*i*P		**P**		**16 07 29.5**	**+0.6**
MORC	**Moravsky Berou**	**88.23 320**		*e*P		**P**		**16 07 28.4**	**-0.5**
	comp=Z,30nm,0.8s,mb5.6								
MODS	**Modra-Piesok**	**88.24 318**		*e*P		**P**		**16 07 29.1**	**+0.1**
MODS				*e*		pP		16 07 43.5	-0.3
MODS					pmax	pmax			
	comp=Z,20nm,1.2s,mb5.2								
MODS	**Modra-Piesok**	**88.24 318**		*e*P		**P**		**16 07 29.1**	**+0.1**
	comp=Z,20nm,1.2s,mb5.2								
MODS				*e*		pP		16 07 43.5	-0.3
ZST	**Bratislava**	**88.34 318**		*e*P		**P**		**16 07 30.1**	**+0.6**
ZST				*e*		pP		16 07 44.5	+0.3
ZST					pmax	pmax			
	comp=Z,25nm,0.7s,mb5.5								
ZST	**Bratislava**	**88.34 318**		*e*P		**P**		**16 07 30.1**	**+0.6**
	comp=Z,25nm,0.7s,mb5.5								
ZST				*e*		pP		16 07 44.5	+0.3
CUC	**Castrocucco**	**88.44 310**		*e*P		**P**		**16 07 29.9**	**-0.2**
	comp=Z,55nm,1.4s,mb5.6								
SOP	**Sopron**	**88.65 318**	⇑	*e*P		**P**		**16 07 31.4**	**+0.5**
KOGS	**Kog**	**88.73 316**		*e*P		**P**		**16 07 31.6**	**+0.2**
KOGS				*e*		pP		16 07 47.5	+1.4
GKP	**Gorka Klasztor**	**88.83 323**		*e*P		**P**		**16 07 32.5**	**+0.8**
GKP	**Gorka Klasztor**	**88.83 323**		*e*P		**P**		**16 07 32.5**	**+0.9**
DPC	**Dobruska-Polom**	**89.08 320**		*e*P		**P**		**16 07 33.7**	**+0.8**
DPC					epP	pP		16 07 47.0	-0.7
DPC					AMS	AMS		16 56 30.0	
	comp=Z,200nm,18.3s								
GCIS	**Gornji Cirnik**	**89.11 316**		*e*P		**P**		**16 07 33.7**	**+0.5**
GOLS	**Golise**	**89.12 316**		*e*P		**P**		**16 07 33.5**	**+0.3**
CONA	**Conrad Observa**	**89.14 318**	⇑	*i*P		**P**		**16 07 33.5**	**+0.3**
	comp=Z,14nm,1.1s,mb5.2,SNR=7.7								
CSNA	**Conrad Observa**	**89.14 318**	⇑	*i*PcP		PcP		16 07 33.7	-1.0
	comp=Z,12nm,1.0s								
KSP	**Ksiaz**	**89.14 321**		*e*P		**P**		**16 07 34.5**	**+1.3**
KSP	**Ksiaz**	**89.14 321**		*e*P		**P**		**16 07 33.4**	**+0.2**
KSP				*e*pP		pP		16 07 47.7	-0.3
UPC	**Upice**	**89.29 320**		*e*P		**P**		**16 07 35.0**	**+1.1**
UPC				*e*pP		pP		16 07 50.0	+1.3
ARSA	**Arzberg**	**89.31 317**	⇑	*i*PcP		PcP		16 07 34.9	-0.6
	comp=Z,36nm,1.1s,SNR=11								
BOJS	**Bojanci**	**89.34 315**		*e*P		**P**		**16 07 34.9**	**+0.7**
TREC	**Trest**	**89.51 319**		*e*P		**P**		**16 07 35.2**	**+0.2**
TREC				*e*pP		pP		16 07 50.2	+0.5
PERS	**Pernice**	**89.53 317**		*e*P		**P**		**16 07 35.8**	**+0.6**
SOKA	**Soboth**	**89.59 317**	⇑	*i*PcP		PcP		16 07 35.8	-0.9
	comp=Z,51nm,1.0s								
LJU	**Ljubljana**	**89.89 316**		*e*P		**P**		**16 07 37.6**	**+0.8**
LJU				*e*		pP		16 07 53.3	+1.7
PRU	**Pruhonice**	**90.18 320**		*e*P		**P**		**16 07 38.7**	**+0.6**
PRU				*e*pP		pP		16 07 52.4	-0.5
MOA	**Molln**	**90.20 318**	⇑	*i*P		**P**		**16 07 38.0**	**-0.2**
	comp=Z,14nm,0.8s,mb5.3								
PVCC	**Panska Ves**	**90.21 320**		*e*P		**P**		**16 07 39.0**	**+0.8**
MYKA	**Terra Mystica**	**90.54 316**	⇓	*i*PcP		PcP		16 07 40.1	-0.8
	comp=Z,33nm,1.2s								
BRG	**Berggiesshubel**	**90.63 321**		*e*P		**P**		**16 07 40.9**	**+0.8**
BRG				*i*		pP		16 07 55.2	+0.3
BRG					pmax	pmax			
	comp=Z,21nm,1.0s,mb5.4								
BRG					MLR	MLR			
	comp=Z,220nm,17.9s,MS4.6								
BRG	**Berggiesshubel**	**90.63 321**		*e*P		**P**		**16 07 41.0**	**+0.9**
	comp=Z,35nm,1.0s,mb5.6								
BRG	**Berggiesshubel**	**90.63 321**		*e*P		**P**		**16 07 40.9**	**+0.8**
	comp=Z,35nm,1.0s,mb5.7								
BRG				*i*		pP		16 07 55.2	+0.3
	comp=Z,30nm,1.3s								
BRG									
	comp=N,469nm,28.7s								
BRG									
	comp=E,251nm,16.8s								
BRG									
	comp=Z,371nm,17.9s								
BRG	**Berggiesshubel**	**90.63 321**		*e*P		**P**		**16 07 40.9**	**+0.8**
	comp=Z,21nm,1.0s,mb5.4								
BRG				*i*		pP		16 07 55.2	+0.3
BRG					LR	LR			
	comp=Z,220nm,17.9s,MS4.6								
GEC2	**GERESS Array S**	**90.65 319**		*e*P		**P**		**16 07 41.0**	**+0.7**
GEC2					pmax	pmax			
	comp=Z,70nm,1.4s,mb5.8								
GEC2	**GERESS Array S**	**90.65 319**		*e*P		**P**		**16 07 41.0**	**+0.7**
	comp=Z,70nm,1.4s,mb5.8								
GERES	**GERESS Array B**	**90.65 319**		P		**P**		**16 07 40.7**	**+0.4**
	comp=Z,13nm,0.7s,mb5.3,baz=90,slow=4.5,SNR=65								
GERES					pP	pP		16 07 55.2	+0.2
	comp=Z,6.0nm,1.0s,baz=100,slow=5.5,SNR=5.1								
KHC	**Kasperske Hory**	**90.75 319**		*e*P		**P**		**16 07 40.7**	**0.0**
KHC				*e*pP		pP		16 07 56.5	+1.0
KHC					AMS	AMS		16 57 30.0	
	comp=Z,400nm,18.9s								
KHC	**Kasperske Hory**	**90.75 319**	⇑	*i*P		**P**		**16 07 41.2**	**+0.5**
KHC				*e*pP		pP		16 07 56.5	+1.0
KHC					LR	LR			
	comp=Z,400nm,18.9s,MS4.9								
RUE	**Ruedersdorf**	**90.84 322**		*e*P		**P**		**16 07 42.0**	**+0.9**
	comp=Z,95nm,1.1s,mb6.0								
RUE	**Ruedersdorf**	**90.84 322**		*e*P		**P**		**16 07 42.2**	**+1.1**
	comp=Z,54nm,1.0s,mb5.8								
FBE	**Freiberg**	**91.00 321**		*e*P		**P**		**16 07 42.7**	**+0.8**
	comp=Z,34nm,1.0s,mb5.6								
FBE				*e*pP		pP		16 07 56.6	-0.1
RJOB	**Jochberg**	**91.19 318**		*e*P		**P**		**16 07 42.7**	**-0.1**
	comp=Z,22nm,1.1s,mb5.4								
RJOB				*e*pP		pP		16 07 58.2	+0.6
WET	**Wettzell**	**91.21 319**		*e*P		**P**		**16 07 43.7**	**+0.8**
WET					pmax	pmax			
	comp=Z,47nm,1.2s,mb5.7								
WET	**Wettzell**	**91.21 319**		*e*P		**P**		**16 07 43.7**	**+0.8**
	comp=Z,47nm,1.2s,mb5.7								
CLL	**Collm**	**91.25 321**		*i* P		**P**		**16 07 43.3**	**+0.3**
CLL				*i* *PP		pP		16 07 57.3	-0.5
CLL					pmax	pmax			
	comp=Z,25nm,1.2s,mb5.4								
CLL					MLR	MLR			
	comp=Z,200nm,22.5s,MS4.5								
CLL	**Collm**	**91.25 321**		*e*P		**P**		**16 07 43.2**	**+0.2**
	comp=Z,25nm,1.2s,mb5.4								
CLL	**Collm**	**91.25 321**		*i* P		**P**		**16 07 43.3**	**+0.3**
	comp=Z,25nm,1.2s,mb5.4								
CLL				*i* pP		pP		16 07 57.3	-0.5
CLL				*i* sP		sP		16 08 02.3	-1.1
CLL	**Collm**	**91.25 321**		*i* P		**P**		**16 07 43.3**	**+0.3**
	comp=Z,25nm,1.2s,mb5.4								
CLL				*i* pP		pP		16 07 57.3	-0.5
CLL				*i*		pP		16 08 02.3	+4.5
CLL					LR	LR			
	comp=Z,200nm,22.5s,MS4.5								
ABTA	**Abfaltersbach**	**91.33 317**	⇑	*i*P		**P**		**16 07 43.4**	**-0.1**
	comp=Z,14nm,1.0s,mb5.3								
HFS	**Hagfors**	**91.38 330**		P		**P**		**16 07 43.5**	**0.0**
	comp=Z,22nm,0.7s,mb5.6,baz=112,slow=4.0,SNR=24								
HFS					pP	pP		16 07 58.4	+0.2
	comp=Z,21nm,1.1s,baz=165,slow=6.2,SNR=4.4								
NKC	**Novy Kostel**	**91.54 320**		*e*P		**P**		**16 07 45.2**	**+0.8**
NKC				*e*pP		pP		16 07 59.8	+0.6
SNAA	**Sanae**	**91.58 198**		*e*P		**P**		**16 07 45.3**	**+1.2**
SNAA				*e*		pP		16 08 00.7	+1.8
SNAA				*e*		pP		16 08 03.9	+5.0
SNAA	**Sanae**	**91.58 198**		*e*P		**P**		**16 07 45.9**	**+1.8**
SNAA					pmax	pmax			
	comp=Z,8.0nm,1.8s								
SNAA	**Sanae**	**91.58 198**		*e*P		**P**		**16 07 42.7**	**-1.4**
	comp=Z,9.3nm,1.2s,mb5.0								
GUNZ	**Gunzen**	**91.62 320**		*e*P		**P**		**16 07 45.5**	**+0.7**
	comp=Z,27nm,1.1s,mb5.5								
MANZ	**Manzenberg**	**91.75 320**		*e*P		**P**		**16 07 46.3**	**+0.9**
	comp=Z,52nm,1.3s,mb5.7								
MANZ				*e*pP		pP		16 08 00.3	+0.1
MOX	**Moxa**	**92.09 320**		*e*P		**P**		**16 07 47.4**	**+0.5**
	comp=Z,27nm,1.3s,mb5.4								
MOX				*e*		pP		16 08 02.8	+1.1
MOX	**Moxa**	**92.09 320**		*e*P		**P**		**16 07 47.4**	**+0.5**
MOX				*e*		pP		16 08 02.8	+1.1
MOX					pmax	pmax			
	comp=Z,27nm,1.3s,mb5.4								
MOX	**Moxa**	**92.09 320**		*e*P		**P**		**16 07 47.5**	**+0.6**
	comp=Z,27nm,1.4s,mb5.4								
GRA1	**Grafenberg Arr**	**92.31 319**		*e*P		**P**		**16 07 48.8**	**+0.8**
	comp=Z,35nm,1.1s,mb5.6								
GRA1					LR	LR			
	comp=Z,200nm,21.0s,MS4.5								
GRF	**Grafenberg Arr**	**92.31 319**		*e*P		**P**		**16 07 48.8**	**+0.8**
GRF					pmax	pmax			
	comp=Z,35nm,1.1s,mb5.6								
GRF					MLR	MLR			
	comp=Z,200nm,21.0s,MS4.5								
GRF	**Grafenberg Arr**	**92.31 319**		*e*P		**P**		**16 07 48.8**	**+0.8**
	comp=Z,35nm,1.1s,mb5.6								
GRF				*e*L				16 54 35.6	
	comp=Z,163nm,21.0s								
MOTA	**Moosalm**	**92.31 317**	⇑	*i*P		**P**		**16 07 47.4**	**-0.7**
	comp=Z,27nm,1.0s,mb5.5,SNR=9.4								
RETA	**Reutte**	**92.55 317**	⇑	*i*P		**P**		**16 07 48.9**	**-0.3**
	comp=Z,22nm,0.7s,mb5.7								
FETA	**Feichten**	**92.56 317**		*i* PcP		PcP		16 07 49.6	-0.2
	comp=Z,18nm,0.9s,SNR=13								
NB2	**NORSAR Subarra**	**92.65 331**		P		**P**		**16 07 48.3**	**-0.9**
	comp=Z,14nm,0.9s,mb5.4,baz=93,slow=4.6								
NOA	**NORSAR Array B**	**92.65 331**		P		**P**		**16 07 48.6**	**-0.6**
	comp=Z,7.5nm,0.8s,mb5.2,baz=93,slow=4.7,SNR=17								
NOA					pP	pP		16 08 03.1	-0.9
	comp=Z,5.1nm,0.8s,baz=93,slow=4.7,SNR=4.1								
NOA					PP	PP		16 11 32.4	+1.0
	comp=Z,3.6nm,0.8s,baz=92,slow=7.7,SNR=5.6								
NOA					LR	LR		16 53 29.5	
	comp=Z,264nm,20.7s,MS4.7,baz=100,slow=38								
NOA	**NORSAR Array B**	**92.65 331**		P		**P**		**16 07 48.6**	**-0.6**
NOA				*PP		pP		16 08 03.1	-0.9
NOA								16 11 32.4	
CLZ	**Clausthal**	**92.91 322**		*e*P		**P**		**16 07 51.2**	**+0.5**
CLZ					pmax	pmax			
	comp=Z,21nm,1.1s,mb5.5								
CLZ	**Clausthal**	**92.91 322**		*e*P		**P**		**16 07 51.2**	**+0.5**
	comp=Z,21nm,1.1s,mb5.5								
BSEG	**Bad Segeberg**	**92.98 324**		*e*P		**P**		**16 07 51.2**	**+0.2**
	comp=Z,17nm,1.0s,mb5.4								
VNA2	**Neumayer--Watz**	**93.20 198**		*e*P		**P**		**16 07 51.3**	**-0.3**
VNA2				*e*		pP		16 08 08.6	+2.2
VNA2				*e*				16 08 11.4	
KEST	**Kesra**	**93.31 305**		P		**P**		**16 07 52.9**	**-0.1**
	comp=Z,4.8nm,0.9s,mb4.9,baz=304,slow=4.9,SNR=7.4								
KEST					pP	pP		16 08 08.8	+1.1
	comp=Z,4.0nm,0.9s,baz=185,slow=2.1,SNR=3.9								
KEST					LR	LR		16 50 22.9	
	comp=Z,90nm,19.0s,MS4.2,baz=332,slow=36								
VNA1	**Neumayer--Stat**	**93.56 198**		*e*P		**P**		**16 08 10.1**	**+2.0**
VNA1				*e*				16 08 13.0	
PGF	**Pioggiola**	**93.70 312**		*e*P		**P**		**16 07 53.3**	**-1.2**
	comp=Z,40nm,0.9s,mb5.5								
PGF	**Pioggiola**	**93.70 312**		*e*P		**P**		**16 07 53.3**	**-1.2**
PGF					pmax	pmax			
	comp=Z,20nm,0.9s,mb5.5								
PGF	**Pioggiola**	**93.70 312**		*e*P		**P**		**16 07 53.3**	**-1.2**
	comp=Z,20nm,0.9s,mb5.5								
VNA3	**Neumayer Olymp**	**93.79 198**		*e*P		**P**		**16 07 54.5**	**+0.1**
VNA3				*e*		pP		16 08 11.6	+2.4
VNA3				*e*				16 08 14.5	
TNS	**Taunus Mts**	**94.11 320**		*e*P		**P**		**16 07 56.9**	**+0.6**
TNS					pmax	pmax			
	comp=Z,33nm,1.0s,mb5.7								
TNS	**Taunus Mts**	**94.11 320**		*e*P		**P**		**16 07 56.9**	**+0.6**
	comp=Z,33nm,1.0s,mb5.7								
CDF	**Champ du Feu**	**94.90 318**		*e*P		**P**		**16 07 58.3**	**-1.6**
	comp=Z,13nm,0.9s,mb5.0								
CDF	**Champ du Feu**	**94.90 318**		*e*P		**P**		**16 07 58

ECSD	**EROS,Sioux Fal**	**136.46**	**19**	*e*PKPdf	PKPdf	16 13 58.6	-1.1
ANMO	**Albuquerque**	**139.10**	**36**	*e*PKIKP	PKPdf	16 14 05.5	+0.7
LPM	**Los Pinos Moun**	**139.44**	**37**	*e*PKPdf	PKPdf	16 14 05.6	+0.1
BNM	**Barren Site**	**139.56**	**37**	*e*PKPdf	PKPdf	16 14 05.2	-0.5
CCM	**Cathedral Cave**	**143.29**	**17**	*e*PKHKP		16 14 07.6	
WCI	**Wyandotte Cave**	**144.27**	**10**	*e*PKIKP	PKPdf	16 14 10.8	-3.2
BDFB	**Brasilia**	**144.41**	**238**	PKP	PKPdf	16 14 13.5	-1.3
	comp=Z,3.4nm,0.5s,baz=104,slow=5.1,SNR=4.6						
BDFB				pPKP	pPKPdf	16 14 29.9	-0.2
	comp=Z,9.1nm,0.7s,baz=130,slow=11,SNR=6.0						
BDFB	**Brasilia**	**144.41**	**238**	*e*PKPdf	PKPdf	16 14 13.9	-0.9
TXAR	**Lajitas Array**	**144.70**	**40**	PKP	PKPdf	16 14 13.8	-1.2
	comp=Z,43nm,0.6s,baz=282,slow=1.1,SNR=429						
TXAR				pPKP	pPKPdf	16 14 28.7	-1.6
	comp=Z,31nm,0.7s,baz=280,slow=1.2,SNR=16						
TXAR				SKPbc	SKPbc	16 17 49.9	-0.3
	comp=Z,1.8nm,0.8s,baz=318,slow=1.2,SNR=4.1						
TXAR	**Lajitas Array**	**144.70**	**40**	PKIKP	PKPdf	16 14 13.8	-1.2
TXAR						16 14 28.7	
GLAT	**Glass**	**145.50**	**15**	*e*PKPdf	PKPdf	16 14 15.4	-0.8
UTMT	**University of**	**145.54**	**15**	*e*PKPdf	PKPdf	16 14 16.0	-0.3
GNAR	**Gosnell**	**145.59**	**16**	*e*PKPdf	PKPdf	16 14 15.9	-0.4
URVA	**University of**	**145.59**	**358**	*e*P	PKPdf	16 14 15.2	-1.1
MIAR	**Mount Ida**	**145.72**	**22**	*e*PKP2	PKPab	16 14 15.9	-1.4
ELN	**Prospectdale**	**145.90**	**3**	*e*PKP	PKPdf	16 14 15.7	-1.1
UALR	**University of**	**145.96**	**20**	*e*PKPdf	PKPdf	16 14 16.5	-0.5
WVT	**Waverly**	**145.99**	**13**	*e*PKP2	PKPab	16 14 16.3	-2.0
JCT	**Junction City**	**146.18**	**34**	*e*PKP2	PKPab	16 14 17.7	-1.5
TZTN	**Tazewell**	**146.34**	**7**	*e*PKPdf	PKPdf	16 14 16.7	-0.9
OXF	**Oxford**	**147.12**	**16**	*e*PKP2	PKPab	16 14 19.9	-2.8
TKL	**Tuckaleechee C**	**147.18**	**8**	*e*PKIKP	PKPdf	16 14 18.2	-0.8
TKL				*e*		16 14 20.0	
SWET	**Sewanee**	**147.27**	**11**	*e*PKPdf	PKPdf	16 14 17.9	-1.3
SWET				*e*PKPbc	PKPbc	16 14 19.9	-1.6
CPCT	**Cooper Cave**	**147.28**	**9**	*e*PKPdf	PKPdf	16 14 18.9	-0.3
CPCT				*e*PKPbc	PKPbc	16 14 20.3	-1.2
CNNC	**Cliffs of the**	**147.93**	**359**	*e*PKPbc	PKPbc	16 14 23.0	-0.3
HKT	**Hockley**	**148.68**	**29**	*e*PKIKP	PKPdf	16 14 22.0	+0.3
HKT				*e*		16 14 25.7	
JSC	**Jenkinsville**	**148.80**	**4**	*e*PKP2	PKPbc	16 14 24.5	-1.1
GOGA	**Godfrey**	**149.44**	**8**	*e*PKP2	PKPbc	16 14 26.1	-1.1
COW	**Cow Castle Cre**	**149.73**	**3**	*e*PKPbc	PKPbc	16 14 27.0	-1.0
BRAL	**Brewton**	**151.06**	**15**	*e*PKPbc	PKPbc	16 14 30.2	-1.0
LVC	**Limon Verde**	**152.79**	**200**	*e*PKPbc	PKPbc	16 14 36.8	+1.4
LPAZ	**La Paz**	**158.15**	**208**	PKP	PKPdf	16 14 36.2	+0.7
	comp=Z,3.4nm,1.0s,baz=56,slow=5.5,SNR=9.5						
LPAZ				pPKP	pPKPdf	16 14 51.7	+0.8
	comp=Z,4.4nm,1.1s,baz=136,slow=5.3,SNR=4.9						
LPAZ	**La Paz**	**158.15**	**208**	*e*PKPdf	PKPdf	16 14 35.8	+0.2
ROSC	**El Rosal**	**175.25**	**293**	PKP	PKPdf	16 14 48.3	-0.3
	comp=Z,6.5nm,0.4s,baz=120,slow=19,SNR=3.6						
OTAV	**Otavalo**	**177.23**	**186**	*e*PKPdf	PKPdf	16 14 49.3	+0.2

MEX 31 16:13:19.9±0.4, 2369N×10361W, h5km, MD4.0, Central Mexico

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ZAIG	**Zacatecas**	**1.32**	**134**	*i*	S	Sg	16 13 59.3	-3.1
SFJM	**Santa Fe**	**3.23**	**171**	*i*	P	Pn	16 14 08.7	-2.6
SFJM					S	Sn	16 14 46.6	-3.5
HPIG		**3.73**	**330**	*i*	P	Pn	16 14 14.8	-3.3
HPIG					S	Sn	16 15 00.6	-1.9
LNIG	**Linares**	**3.96**	**71**	*i*	P	Pn	16 14 18.6	-2.8
LNIG					S	Sn	16 15 04.3	-3.9
MMIG	**Aquila**	**5.38**	**177**	*i*	P	Pn	16 14 37.8	-3.0
MMIG					S	Sn	16 15 39.6	-3.6
CGIG		**7.71**	**331**	*i*	P	Pn	16 15 13.0	+0.2

*ISCJB **31** 17:24:49.5±0.3, 4709N×001×1375E×002, h10km, Error ellipse: s-maj=2.1km s-min=1.9km az=163.4*
*VIE **31** 17:24:50.2±0.1, 4706N×1374E, h9km±1km, mb1.6/4, ML2.4/9, Error ellipse: s-maj=1.0km s-min=0.7km az=6.0*
9 km SSE of Mauterndorf
*CSEM **31** 17:24:50.5±0.1, 4704N×1372E, h20km, ML2.8/14, Error ellipse: s-maj=1.6km s-min=1.4km az=51.0*
*PRU **31** 17:24:50.6, 4704N×1370E, h0km*
*ROM **31** 17:24:52.3±0.5, 4692N×1360E, h34km±3km, Md2.3/3, Ml2.1/2, Error ellipse: s-maj=4.8km s-min=3.5km az=144.0*
*BGR **31** 17:24:55.9±0.8, 4718N×1360E, h10km, ML2.2/3, Error ellipse: s-maj=7.8km s-min=5.6km az=136.0*

ISC 31 17:24:50.9±0.2, 4706N±001×1375E±002, h10km, n43, σ0s81/84, 15C-11D, Austria

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KBA	**Koelnbreinsper**	**0.28**	**274**	↑*e*P	**Pg**	**17 24 56.5**	**+0.1**
	18nm,0.1s,SNR=56						
KBA				↑*i*Sg	**Sg**	**17 24 59.7**	**-0.4**
	76nm,0.1s						
MYKA	**Terra Mystica**	**0.44**	**190**	↓*i*Pg	**Pg**	**17 24 59.2**	**-0.1**
	13nm,0.1s						
MYKA				↓*i*Sg	**Sg**	**17 25 04.8**	**-0.3**
	54nm,0.1s						
LSR	**Lussari**	**0.60**	**194**	↓*i*Pg	**Pg**	**17 25 02.6**	**0.0**
LSR				*i* Sg	**Sg**	**17 25 10.8**	**+0.3**
PLRO	**Paularo**	**0.66**	**219**	↑*i*Pg	**Pg**	**17 25 03.4**	**-0.1**
PTCC	**Patocco-Chiusa**	**0.71**	**203**	Pg	**Pg**	**17 25 04.3**	**-0.2**
PTCC				Sg	**Sg**	**17 25 14.1**	**+0.3**
	9.0nm,0.2s						
ZOU	**Zoufplan**	**0.73**	**227**	↓*i*Pg	**Pg**	**17 25 05.0**	**0.0**
ZOU				*i* Sg	**Sg**	**17 25 14.6**	**+0.1**
GORS	**Gorjuse**	**0.76**	**167**	*i* Pg	**Pg**	**17 25 05.6**	**0.0**
GORS				*i* Sg	**Sg**	**17 25 15.2**	**-0.3**
GORS							
	comp=Z,17nm,0.1s						
GORS	**Gorjuse**	**0.76**	**167**	Pg	**Pg**	**17 25 05.6**	**0.0**
GORS				*i* Sg	**Sg**	**17 25 15.2**	**-0.3**
	comp=Z,17nm,0.1s						
OBKA	**Obir**	**0.78**	**135**	↓*i*Pg	**Pg**	**17 25 06.0**	**+0.1**
	comp=Z,1.6nm,0.1s						
OBKA				↑*i*Sg	**Sg**	**17 25 16.1**	**+0.1**
	comp=Z,9.0nm,0.1s						
FVI	**Forni Avoltri**	**0.81**	**235**	Pg	**Pg**	**17 25 06.6**	**+0.2**
FVI				Sg	**Sg**	**17 25 16.9**	**-0.1**
	comp=Z,96nm,0.3s						
ROBS	**Robic**	**0.83**	**191**	*i* Pg	**Pg**	**17 25 06.6**	**-0.3**
CADS	**Cadrg**	**0.83**	**180**	*i* Pg	**Pg**	**17 25 06.8**	**-0.1**
CADS				*i* Sg	**Sg**	**17 25 18.1**	**+0.4**
CADS							
	comp=Z,14nm,0.2s						
CADS	**Cadrg**	**0.83**	**180**	*i* Pg	**Pg**	**17 25 06.8**	**-0.1**
CADS				*i* Sg	**Sg**	**17 25 18.1**	**+0.4**
	comp=Z,14nm,0.2s						
MOA	**Molln**	**0.87**	**24**	↑*i*Pg	**Pg**	**17 25 07.3**	**-0.2**
	comp=Z,1.7nm,0.1s						
MOA				↓*i*Sg	**Sg**	**17 25 19.4**	**+0.6**
	comp=Z,8.4nm,0.2s						
ABTA	**Abfaltersbach**	**0.90**	**250**	↑*e*Pg	**Pg**	**17 25 07.4**	**-0.8**
	comp=Z,2.6nm,0.1s,SNR=6.3						
ABTA				↓*i*Sg	**Sg**	**17 25 19.9**	**0.0**
	comp=Z,10nm,0.1s						
MOZS	**Mozjanca**	**0.90**	**148**	*i* Pg	**Pg**	**17 25 08.4**	**+0.1**
CSMI	**Casera Mimoias**	**0.93**	**234**	↑*i*Pg	**Pg**	**17 25 08.5**	**-0.3**
CSMI				*i* Sg	**Sg**	**17 25 20.6**	**-0.3**
CSMI	**Casera Mimoias**	**0.93**	**234**	*i* Pg	**Pg**	**17 25 08.5**	**-0.2**
CSMI				*i* Sg	**Sg**	**17 25 20.5**	**-0.3**
MPRI	**Monte Prat**	**0.97**	**213**	↑*i*Pg	**Pg**	**17 25 09.3**	**-0.2**
MPRI				*i* Sg	**Sg**	**17 25 22.2**	**+0.1**
PERS	**Pernice**	**1.03**	**114**	*i* Pg	**Pg**	**17 25 10.0**	**-0.7**
PERS				*i* Sg	**Sg**	**17 25 23.9**	**-0.2**
PERS							
	comp=Z,9.0nm,0.1s						
PERS	**Pernice**	**1.03**	**114**	*i* Pg	**Pg**	**17 25 10.0**	**-0.7**
PERS				*i* Sg	**Sg**	**17 25 23.9**	**-0.2**
	comp=Z,9.0nm,0.1s						
ZAVS	**Zavodnje**	**1.08**	**125**	*i* Pg	**Pg**	**17 25 11.1**	**-0.5**
ZAVS				*i* Sg	**Sg**	**17 25 25.1**	**-0.5**
SEST	**Monte Rota**	**1.09**	**254**	Pg	**Pg**	**17 25 11.2**	**-0.7**
SEST				Sg	**Sg**	**17 25 26.0**	**-0.1**
	comp=Z,68µm,39.0s						
VNDS	**Vrh nad Dolski**	**1.16**	**145**	*i* Pg	**Pg**	**17 25 13.4**	**+0.2**
ARSA	**Arzberg**	**1.23**	**80**	↓*i*Pg	**Pg**	**17 25 13.9**	**-0.6**
	comp=Z,0.9nm,0.1s						
ARSA				↑*i*Sg	**Sg**	**17 25 30.7**	**+0.3**
	comp=Z,1.4nm,0.1s						
WTTA	**Wattenberg**	**1.45**	**279**	↑*e*Pn	**Pn**	**17 25 16.6**	**-0.6**
	SNR=14						
WTTA				↓*i*Pg	**Pg**	**17 25 17.8**	**-1.0**
	comp=Z,4.1nm,0.1s						
WTTA				↑*i*Sn	**Sn**	**17 25 37.0**	**+0.7**
WTTA				↓*i*Sg	**Sg**	**17 25 38.6**	**+0.9**
	comp=Z,9.1nm,0.4s						
WTTA	**Wattenberg**	**1.45**	**279**	Pg	**Pg**	**17 25 17.8**	**-1.0**
	comp=Z,4.1nm,0.1s						
WTTA				Sn	**Sn**	**17 25 37.0**	**+0.7**
WTTA				Sg	**Sg**	**17 25 38.6**	**+1.0**
	comp=Z,9.1nm,0.4s						
VISS	**Visnje**	**1.47**	**149**	*i* Pg	**Pg**	**17 25 19.5**	**+0.5**
VISS				*i* Sg	**Sg**	**17 25 37.8**	**-0.2**
WATA	**Walderalm**	**1.50**	**281**	↓*i*Pn	**Pg**	**17 25 17.5**	**-0.4**
WATA				↑*i*Pg	**Pg**	**17 25 18.8**	**-0.9**
	comp=Z,3.8nm,0.1s						
WATA				↑*i*Sg	**Sg**	**17 25 39.9**	**+0.7**
	comp=Z,6.5nm,0.2s						
GEC2	**GERESS Array S**	**1.79**	**359**	*e*Pn	**Pn**	**17 25 24.3**	**+2.5**
	SNR=10						
GEC2				*e*Sg	**Sg**	**17 25 48.7**	**+0.4**
MOTA	**Moosalm**	**1.82**	**280**	↑*i*Pg	**Pg**	**17 25 25.2**	**-0.6**
	comp=Z,2.1nm,0.2s						
MOTA				↑*i*Sg	**Sg**	**17 25 50.4**	**+0.9**
	comp=Z,3.0nm,0.1s						
FUR	**Furstenfeldbru**	**2.00**	**304**	*e*Sg	**Sg**	**17 25 55.7**	**+0.4**
KHC	**Kasperske Hory**	**2.08**	**357**	*e*PN	**Pn**	**17 25 27.8**	**+2.1**
KHC				*e*PG	**Pg**	**17 25 30.1**	**-0.6**
KHC				*e*SG	**Sg**	**17 25 57.4**	**-0.2**
	comp=Z,3.3nm,0.3s						
WET	**Wettzell**	**2.17**	**345**	*e*Pn	**Pn**	**17 25 28.8**	**+1.8**
	SNR=2.6						
WET				*e*Sg	**Sg**	**17 25 59.4**	**-1.0**
WET	**Wettzell**	**2.17**	**345**	Pn	**Pn**	**17 25 28.8**	**+1.8**
	SNR=2.6						
WET				Sg	**Sg**	**17 25 59.4**	**-1.0**
PRU	**Pruhonice**	**2.98**	**10**	*e*SG	**Sg**	**17 26 27.2**	**+0.7**
	comp=Z,4.1nm,0.5s						
NKC	**Novy Kostel**	**3.29**	**345**	*e*SG	**Sg**	**17 26 34.7**	**-1.8**
TANN	**Tannenbergstha**	**3.46**	**346**	*e*Pn	**Pn**	**17 25 47.5**	**+2.7**
	SNR=1.2						
TANN				*e*Pg	**Pg**	**17 25 57.7**	**+0.5**
	SNR=1.2						
TANN				*e*Sg	**Sg**	**17 26 41.9**	**-0.2**
WERD	**Werda**	**3.52**	**345**	*e*SG	**Sg**	**17 26 43.0**	**-0.9**
DPC	**Dobruska-Polom**	**3.71**	**26**	*e*SG	**Sg**	**17 26 48.6**	**-1.3**
	comp=Z,4.3nm,0.5s						
MOX	**Moxa**	**3.85**	**339**	*e*Pn	**Pn**	**17 25 52.1**	**+2.0**
	SNR=2.4						
MOX				*e*Sg	**Sg**	**17 26 53.3**	**-1.3**
BFO	**Black Forest**	**3.87**	**291**	*e*Pn	**Pn**	**17 25 53.0**	**+2.6**
	SNR=1.5						
BFO				*e*Pg	**Pg**	**17 26 04.7**	**-0.3**
	SNR=1.2						
BFO				*e*Sg	**Sg**	**17 26 54.0**	**-1.2**
BFO	**Black Forest**	**3.87**	**291**	Pg	**Pg**	**17 26 04.7**	**-0.3**
	SNR=1.2						
BFO				Sg	**Sg**	**17 26 54.0**	**-1.2**

FUNV 31 17:55:04.4, 1056N×6315W, h5km, MW3.5, 1C-1D, Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CRUV	**Carupano**	**0.14**	**323**	↑*i*P	Pg	17 55 05.7	-1.6
CRUV				*e*S	Sg	17 55 07.4	-1.8
GUNV	**Guanoco**	**0.45**	**153**	↓*i*P	Pg	17 55 12.8	-0.2
GUNV				*e*S	Sg	17 55 20.2	+1.4
ITEV	**Isla Los Testi**	**0.79**	**1**	*e*P	Pg	17 55 19.1	-0.5
ITEV				*e*S	Sg	17 55 30.1	+0.2
GUIV	**Guiria**	**0.92**	**84**	*e*P	Pg	17 55 21.4	-0.6
GUIV				*e*S	Sg	17 55 35.3	+1.5
ORIV	**Oritupano**	**1.50**	**190**	*e*P	Pn	17 55 31.1	-0.9
ORIV				*e*S	Sn	17 55 51.6	-0.4
PCRV	**Puerto La Cruz**	**1.51**	**256**	*e*P	Pn	17 55 31.0	-1.1
PCRV				*e*S	Sn	17 55 50.2	-2.1
PRGV	**PARIAGUAN**	**2.32**	**220**	*e*P	Pn	17 55 43.4	+0.1
PRGV				*e*S	Sn	17 56 10.8	-1.4
CUPV	**Cœpira**	**2.64**	**259**	*e*P	Pn	17 55 47.4	-0.4
BIRV	**Birongo**	**3.07**	**269**	*e*P	Pn	17 55 53.4	-0.2
CAOV	**Caicara del Or**	**4.49**	**225**	*e*P	Pn	17 56 11.9	-1.2
LUEV	**Luepa**	**4.98**	**160**	*e*P	Pn	17 56 18.0	-1.9
BAUV	**El Baul**	**5.08**	**252**	*e*P	Pn	17 56 20.2	-1.2

*BJI **31** 17:57:58.0, 3700N×2930E, h5km, mb4.5*
*ISCJB **31** 17:58:00.7±0.1, 3687N±001×2937E±001, h10km, mb4.4/29, MS3.9/16, Error ellipse: s-maj=1.9km s-min=1.4km az=36.1*
*NEIC **31** 17:58:00.0, 3699N×2927E, h5km, mb4.3/16, ML3.9(BUC), ML4.3(ATH), ML4.5(NIC), ML4.5(ISK), ML4.8(THE), After ISK.*
*ISK **31** 17:58:00.7, 3698N×2928E, h5km, ML4.5*
*MOS **31** 17:58:01.1±1.0, 3690N×2939E, h14km, mb4.5/8, Error ellipse: s-maj=5.5km s-min=3.0km az=110.3*
*DDA **31** 17:58:01.4, 3695N×2932E, h22km±2km, Md4.1*
*CSEM **31** 17:58:01.3±0.1, 3687N×2940E, h20km, mb4.7/9, Mw4.0, Error ellipse: s-maj=1.5km s-min=1.1km az=27.0*
*IDC **31** 17:58:05.3±2.9, 3697N×2939E, h33km±24km, mb4.0/16, mb1 4.1/24, mb1mx4.0/33, mbtmp4.0/24, ML4.2/8, MS3.8/22, Ms1 3.8/22, ms1mx3.7/37, Error ellipse: s-maj=13.7km s-min=12.1km az=4.0*
*THE **31** 17:58:06.5, 3705N×2923E, h7km±4km, ML4.8/6, Error ellipse: s-maj=5.9km s-min=1.3km az=108.0*
*HLW **31** 17:58:06.9, 3634N×2908E, h7km, Mb4.7*
*NIC **31** 17:58:24.5±0.3, 3659N×2932E, h25km, mb4.7, ML4.5, MW4.0, ML 4.5 reported by EMSC; Earthquake Western Turkey, 20 km. SW Altinyayla*

ISC 31 17:58:03.3±0.3, 3689N±001×2934E±001, h15km±2km, n399, σ1s24/465, mb4.4/29, MS3.9/16, 36C-20D, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GOLH	**Golhisar**	**0.39**	**27**	↑*i*P	**Pg**	**17 58 08.6**	**-2.5**
GOLH				*i* S	**Sg**	**17 58 15.1**	**-1.3**
ELL	**Elmali**	**0.48**	**107**	*e*PG	**Pg**	**17 58 11.9**	**-0.9**
ELL				*e*SG	**Sg**	**17 58 21.0**	**+1.9**
ELL	**Elmali**	**0.48**	**107**	Pg	**Pg**	**17 58 11.8**	**-0.9**
DALT	**Dalyan (Mudla)**	**0.58**	**258**	*e*PG	**Pg**	**17 58 12.2**	**-2.4**
DALT				*e*SG	**Sg**	**17 58 21.4**	**-0.9**
TURN	**Turunc**	**0.59**	**268**	↑*i*P	**Pg**	**17 58 17.3**	**+2.5**
TURN				*i* S	**Sg**	**17 58 30.3**	**+7.6**
KSL	**Kastellorizon**	**0.77**	**165**	PB	**Pb**	**17 58 17.6**	**-0.7**
KSL	**Kastellorizon**	**0.77**	**165**	PB	**Pb**	**17 58 17.6**	**-0.7**
DENT	**Denizli**	**0.90**	**344**	*e*PG	**Pg**	**17 58 16.8**	**-3.9**
ANTB	**Antalya**	**1.05**	**89**	*e*PN	**Pn**	**17 58 23.1**	**-0.4**
BCK	**Bucak**	**1.15**	**60**	*e*PN	**Pn**	**17 58 24.0**	**-0.8**
BCK	**Bucak**	**1.15**	**60**	Pn	**Pn**	**17 58 23.9**	**-0.9**
ARG	**Arkhangelos**	**1.19**	**236**	↑PG	**Pg**	**17 58 23.6**	**-2.5**
ARG				SB	**Sb**	**17 58 40.4**	**-0.3**
ARG	**Arkhangelos**	**1.19**	**236**	P	**Pn**	**17 58 24.4**	**-1.0**
ARG	**Arkhangelos**	**1.19**	**236**	↑PG	**Pg**	**17 58 23.6**	**-2.5**
ARG				SB	**Sb**	**17 58 40.4**	**-0.3**
MLSB	**Milas**	**1.31**	**288**	*e*PN	**Pn**	**17 58 26.1**	**-1.0**
MLSB	**Milas**	**1.31**	**288**	Pn	**Pn**	**17 58 26.0**	**-1.1**
TKTP	**Tekketepe**	**1.39**	**34**	↑*i*P	**Pn**	**17 58 26.4**	**-1.7**
TKTP				*i* S	**Sn**	**17 58 47.7**	**+1.5**
AYDN	**Tasoluk**	**1.40**	**304**	↑*i*P	**Pn**	**17 58 26.5**	**-1.7**
AYDN				*i* S	**Sn**	**17 58 46.8**	**+0.4**
KHL	**Karahalli**	**1.44**	**6**	*e*PN	**Pn**	**17 58 28.0**	**-0.8**
KHL	**Karahalli**	**1.44**	**6**	Pn	**Pn**	**17 58 27.9**	**-0.9**
KHAL	**Karahalli**	**1.48**	**5**	↑*i*P	**Pn**	**17 58 27.4**	**-1.9**
KHAL				*i* S	**Sn**	**17 58 48.7**	**+0.2**
BDRM	**Kayabasi**	**1.53**	**277**	↓*i*P	**Pn**	**17 58 29.5**	**-0.5**
BDRM				*i* S	**Sn**	**17 58 52.0**	**+2.3**
BODT	**Bodrum**	**1.64**	**277**	*e*PN	**Pn**	**17 58 31.1**	**-0.4**
BODT	**Bodrum**	**1.64**	**277**	Pn	**Pn**	**17 58 31.0**	**-0.5**
KULA	**Kula-Manisa**	**1.71**	**342**	*e*PN	**Pn**	**17 58 31.3**	**-1.2**
MANT	**Manisa**	**1.71**	**339**	↑*i*P	**Pn**	**17 58 31.2**	**-1.4**
MANT				*i* S	**Sn**	**17 58 53.1**	**-1.1**
NISR	**Nisiros**	**1.80**	**262**	PN	**Pn**	**17 58 35.0**	**+1.2**
NISR	**Nisiros**	**1.80**	**262**	PN	**Pn**	**17 58 35.0**	**+1.2**
GCAM	**G?zelcaml?**	**1.86**	**296**	↓*i*P	**Pn**	**17 58 34.1**	**-0.6**
GCAM				*i* S	**Sn**	**17 58 58.0**	**0.0**
SHUT	**Suhut-Afyon**	**1.92**	**30**	*e*PN	**Pn**	**17 58 35.4**	**0.0**
SMG	**Samos**	**2.16**	**293**	↑PN	**Pn**	**17 58 37.9**	**-0.8**
SMG	**Samos**	**2.16**	**293**	P	**Pn**	**17 58 38.1**	**-0.6**
SMG	**Samos**	**2.16**	**293**	↑PN	**Pn**	**17 58 37.9**	**-0.8**
GDZ	**Gediz**	**2.20**	**3**	↑*i*P	**Pn**	**17 58 38.2**	**-1.1**
GDZ				*i* S	**Sn**	**17 59 07.0**	**+0.8**
DEMI	**Demirci**	**2.20**	**347**	↑*i*P	**Pn**	**17 58 38.1**	**-1.3**
DEMI				*i* S	**Sn**	**17 59 06.9**	**+0.6**
KARP	**Karpathos**	**2.21**	**233**	↑PN	**Pn**	**17 58 40.7**	**+1.2**
KARP	**Karpathos**	**2.21**	**233**	P	**Pn**	**17 58 41.3**	**+1.8**
KARP	**Karpathos**	**2.21**	**233**	↑PN	**Pn**	**17 58 40.7**	**+1.2**
BOLV	**Bolvadin**	**2.23**	**34**	↑*i*P	**Pn**	**17 58 40.2**	**+0.6**
BOLV				*i* S	**Sn**	**17 59 08.8**	**+2.0**
IZM	**Izmir**	**2.23**	**313**	*e*PN	**Pn**	**17 58 38.8**	**-0.9**
KDAG	**Bornova**	**2.23**	**313**	↓*i*P	**Pn**	**17 58 39.1**	**-0.7**
KDAG				*i* S	**Sn**	**17 59 04.2**	**-2.9**
ALT	**Altintas**	**2.24**	**15**	*e*PN	**Pn**	**17 58 39.1**	**-0.7**
ALT	**Altintas**	**2.24**	**15**	Pn	**Pn**	**17 58 39.1**	**-0.8**
AKHS	**Akhisar**	**2.32**	**329**	↑*i*P	**Pn**	**17 58 39.3**	**-1.7**
AKHS				*i* S	**Sn**	**17 59 07.2**	**-2.1**
AKS	**Akhisar**	**2.32**	**329**	*e*PN	**Pn**	**17 58 40.0**	**-1.0**
BLCB	**Balcova**	**2.36**	**310**	*e*PN	**Pn**	**17 58 41.0**	**-0.4**
HDMB	**Hadim**	**2.52**	**87**	*e*PN	**Pn**	**17 58 45.7**	**+2.0**
KONT	**Konya--Tatoy**	**2.62**	**65**	*e*PN	**Pn**	**17 58 46.5**	**+1.4**
URLA	**Izmir**	**2.63**	**305**	*i* P	**Pn**	**17 58 44.9**	**-0.2**
URLA				*i* S	**Sg**	**17 59 25.1**	**-2.5**
LADK	**Ladik-KONYA**	**2.73**	**61**	*e*PN	**Pn**	**17 58 47.5**	**+0.8**
LADK	**Ladik-KONYA**	**2.73**	**61**	Pn	**Pn**	**17 58 47.4**	**+0.8**
KDHN	**Kadinhani**	**2.74**	**53**	*i* P	**Pn**	**17 58 47.3**	**+0.7**
KDHN				*i* S	**Sg**	**17 59 33.4**	**+2.2**
DST	**Dursunbey**	**2.77**	**349**	*e*PN	**Pn**	**17 58 46.4**	**-0.7**
DST	**Dursunbey**	**2.77**	**349**	Pn	**Pn**	**17 58 46.3**	**-0.8**
KIZT	**Kizilcal**	**2.82**	**45**	*e*PN	**Pn**	**17 58 48.3**	**+0.4**
ERMK	**Ermenek**	**2.88**	**94**	*i* P	**Pn**	**17 58 52.7**	**+4.1**
ERMK				*i* S	**Sg**	**17 59 34.2**	**-1.6**
CHOS	**Chios island**	**3.00**	**301**	P	**Pn**	**17 58 50.1**	**-0.2**
CHOS				S	**Sn**	**17 59 25.4**	**-0.7**
AKMC	**Akamas**	**3.06**	**127**	P	**Pg**	**17 59 07.6**	**+5.8**
	15nm,0.9s						
AKMC				S	**Sg**	**17 59 41.8**	**+0.4**
APE	**Apeiranthos**	**3.06**	**274**	P	**Pn**	**17 58 51.8**	**+0.8**
APE				S	**Sn**	**17 59 28.3**	**+0.9**
APE	**Apeiranthos**	**3.06**	**274**	↑PB	**Pb**	**17 58 51.5**	**-5.8**
APE	**Apeiranthos**	**3.06**	**274**	↓*i*P	**Pn**	**17 58 51.6**	**+0.6**
APE	**Apeiranthos**	**3.06**	**274**	↑PB	**Pb**	**17 58 51.5**	**-5.8**
ZKR	**Zakros**	**3.09**	**236**	P	**Pn**	**17 58 53.6**	**+2.1**
ZKR				S	**Sn**	**17 59 32.0**	**+3.8**
BALY	**Balya**	**3.15**	**335**	↑*i*P	**Pn**	**17 58 51.3**	**-1.0**
BALY				*i* S	**Sn**	**17 59 28.5**	**-1.2**
PPCY	**Paphos**	**3.16**	**128**	P	**Pg**	**17 59 09.2**	**+5.5**
	22nm,0.9s						
PPCY				S	**Sg**	**17 59 44.2**	**-0.4**
ALFC	**Alevga**	**3.16**	**122**	P	**Pg**	**17 59 09.2**	**+5.4**
	16nm,0.6s						
ALFC				S	**Sg**	**17 59 44.5**	**-0.2**
THR1	**Thera Island**	**3.17**	**262**	P	**Pn**	**17 58 54.7**	**+2.2**
AYVA	**Ayvalik**	**3.19**	**320**	↓*i*P	**Pn**	**17 58 52.2**	**-0.7**
AYVA				*i* S	**Sg**	**17 59 46.4**	**+0.6**
THR3	**Thira Island,**	**3.21**	**263**	P	**Pn**	**17 58 54.8**	**+1.7**
THR6	**Thira Island,**	**3.22**	**262**	P	**Pn**	**17 58 55.5**	**+2.2**
CAVI	**Cavuskoy**	**3.33**	**7**	*e*PN	**Pn**	**17 58 55.4**	**+0.6**
PRK	**Paraskevi**	**3.38**	**315**	P	**Pn**	**17 58 55.4**	**0.0**
PRK				S	**Sn**	**17 59 33.9**	**

PYL	PYLOS	6.09	272	P		Pn		17 59 35.6	+2.9	
SOH	Sokhos	6.10	312	P		Pn		17 59 33.8	+0.9	
HORT	Hortiatis	6.12	309	P		Pn		17 59 34.1	+0.9	
NVR	Nevrokopi	6.16	318	⇓PN		Pn		17 59 34.2	+0.5	
NVR	Nevrokopi	6.16	318	P		Pn		17 59 34.5	+0.8	
NVR	Nevrokopi	6.16	318	⇓PN		Pn		17 59 34.2	+0.5	
THE	Thessaloniki	6.23	309	P		Pn		17 59 36.3	+1.7	
LIT	Litokhoron	6.26	303	P		Pn		17 59 36.5	+1.5	
EVR	Evrytania	6.29	291	PN		Pn		17 59 38.0	+2.5	
EVR	Evrytania	6.29	291	P		Pn		17 59 39.9	+4.4	
EVR	Evrytania	6.29	291	PN		Pn		17 59 38.0	+2.5	
RCY	Rachaya	6.30	121	*e*Pn		Pn		17 59 36.1	+0.5	
MMAI	Mount Meron Ar	6.30	126	Pn		Pn		17 59 36.3	+0.6	
	25nm,0.3s,baz=313,slow=11,SNR=14									
MMAI				Sn		Sn		18 00 48.8	+1.4	
	30nm,0.3s,baz=315,slow=26,SNR=9.8									
PLD	Plovdiv	6.32	327	P		Pn		17 59 36.0	+0.1	
FKH	Fakeheh	6.33	113	*e*Pn		Pn		17 59 37.8	+1.6	
THL	Klokotos Trika	6.36	297	P		Pn		17 59 37.9	+1.5	
THL				S		Sn		18 00 49.1	+0.4	
THL	Klokotos Trika	6.36	297	PN		Pn		17 59 38.0	+1.6	
THL	Klokotos Trika	6.36	297	PN		Pn		17 59 38.0	+1.6	
KSDI	Kefar Szold	6.36	124	P		Pn		17 59 38.8	+2.3	
SLUM		6.38	214	P		Pn		17 59 33.3	-3.5	
SLUM				S		Sn		18 00 36.3	-13	
HRSH	Kfar Ka'horesh	6.43	129	P		Pn		17 59 44.6	+7.1	
KNT	Kendrikon	6.58	312	P		Pn		17 59 40.6	+1.1	
MMLI	Mount Malkishu	6.70	130	P		Pn		17 59 41.8	+0.7	
GRG	Griva	6.76	309	P		Pn		17 59 43.7	+1.7	
VAY	Valandovo	6.88	312	*i* Pn		Pn		17 59 44.7	+1.2	
VAY	Valandovo	6.88	312	P		Pn		17 59 45.4	+1.9	
VAY	Valandovo	6.88	312	P		Pn		17 59 45.4	+1.9	
RSH		6.95	147	P		Pn		17 59 44.6	+0.1	
AMAG	Maghara	7.01	152	P		Pn		17 59 45.2	-0.2	
SQR		7.16	167	P		Pn		17 59 45.7	-1.8	
KOT	Kottamia	7.25	163	P		Pn		17 59 47.4	-1.3	
KOT				S		Sn		18 01 00.3	-11	
KOT	Kottamia	7.25	163	P		Pn		17 59 47.3	-1.4	
KZIT	Kziot	7.30	143	P		Pn		17 59 49.6	+0.2	
GLL	Jalalah	7.56	164	P		Pn		17 59 51.4	-1.5	
TIRR	Tirgusor	7.59	355	⇑*i*P		Pn		17 59 53.1	-0.2	
TIRR	Tirgusor	7.59	355	⇑P		Pn		17 59 53.1	-0.2	
KRUS	Krusevo	7.71	308	*i* Pn		Pn		17 59 57.8	+2.8	
KRUS	Krusevo	7.71	308	*i* Pn		Pn		17 59 57.7	+2.7	
ASF	Jabal al Asfar	7.81	125	Pn		Pn		17 59 57.0	+0.7	
	1.5nm,0.3s,baz=173,slow=7.4,SNR=9.4									
ASF				Sn		Sn		18 01 30.2	+5.7	
	1.6nm,0.3s,baz=30,slow=20,SNR=2.4									
ASF				LR		LR		18 03 26.1		
	comp=Z,738nm,20.4s,baz=302,slow=41									
ASF	Jabal al Asfar	7.81	125	P		Pn		17 59 57.0	+0.6	
ASF								18 01 30.2		
HARR	Harsova	7.86	353	⇑*i*P		Pn		17 59 57.8	+0.7	
HARR	Harsova	7.86	353	⇑P		Pn		17 59 57.8	+0.8	
TLCR		8.30	357	⇓*i*P		Pn		18 00 02.8	-0.2	
TLCR		8.30	357	⇓P		Pn		18 00 02.8	-0.2	
SEV	Sevastopol'	8.32	22	⇑*e*P		Pn		18 00 02.9	-0.4	
SEV				*e*S		Sn		18 01 33.8	-3.2	
HRFI	Mount Harif	8.33	144	P		Pn		18 00 03.7	+0.2	
EIL	Elat	8.60	145	Pn		Pn		18 00 07.0	-0.1	
	6.0nm,0.3s,baz=334,slow=10,SNR=44									
EIL				Sn		Sn		18 01 39.8	-4.1	
	6.5nm,0.3s,baz=97,slow=16,SNR=8.6									
EIL				LR		LR		18 04 49.9		
	comp=Z,297nm,19.3s,baz=106,slow=47									
ALU	Alushta	8.68	25	*e*P		Pn		18 00 09.2	+1.0	
SIM	Simferopol'	8.82	23	*d*iP		Pn		18 00 12.2	+2.0	
SIM				S		Sn		18 01 50.5	+1.2	
SIM				pmax		pmax				
	comp=Z,41nm,0.9s									
SIM				MLR		MLR				
	comp=Z,450nm,16.7s									
SIM	Simferopol'	8.82	23	*i* P		Pn		18 00 12.2	+2.0	
	comp=Z,41nm,0.9s									
SIM				S		Sn		18 01 50.5	+1.2	
	comp=Z,450nm,16.7s									
HQLS		8.96	146	S		Sn		18 01 44.3	-8.5	
HQLS		8.96	146	P		Pn		18 00 11.1	-1.1	
MLR	Muntele Rosu	8.96	344	Pn		Pn		18 00 12.5	+0.4	
	comp=Z,1.0nm,0.3s,baz=176,slow=4.7,SNR=22									
MLR	Muntele Rosu	8.96	344	P		Pn		18 00 12.5	+0.4	
MLR				pmax		pmax				
	comp=Z,1.0nm,0.3s									
MLR	Muntele Rosu	8.96	344	⇑*i*P		Pn		18 00 13.0	+0.9	
MLR	Muntele Rosu	8.96	344	⇑P		Pn		18 00 13.0	+0.9	
SUDU	Sudak	9.06	26	*e*P		Pn		18 00 16.9	+3.4	
SUDU				*e*S		Sn		18 01 58.4	+3.1	
VOIR		9.13	341	⇑*i*P		Pn		18 00 14.5	+0.1	
VOIR		9.13	341	⇑P		Pn		18 00 14.5	+0.1	
PLOR	Plostina	9.18	348	⇑*i*P		Pn		18 00 15.7	+0.6	
VRI	Vrincioaia	9.18	348	⇓*i*P		Pn		18 00 16.7	+1.6	
VRI	Vrincioaia	9.18	348	⇓P		Pn		18 00 16.7	+1.6	
HKAT	Jabal Katrina	9.22	154	P		Pn		18 00 15.3	-0.4	
HKAT	Jabal Katrina	9.22	154	P		Pn		18 00 15.2	-0.5	
TR2		9.25	155	P		Pn		18 00 15.3	-0.9	
JLOS		9.64	146	S		Sn		18 02 02.4	-7.1	
JLOS		9.64	146	P		Pn		18 00 20.4	-1.0	
TR1		9.68	155	P		Pn		18 00 21.2	-0.8	
RSHS		9.72	150	P		Pn		18 00 21.1	-1.5	
BDAS	Al Bad'	9.73	148	P		Pn		18 00 21.0	-1.7	
GZR	Gura Zlata	9.83	332	⇓*i*P		Pn		18 00 24.0	0.0	
SHRM		9.84	154	P		Pn		18 00 24.1	-0.2	
SHRM		9.84	154	P		Pn		18 00 24.0	-0.3	
ANN	Anapa	9.99	35	*e*P		Pn		18 00 26.8	+0.5	
ANN				*e*S		Sn		18 02 22.2	+4.1	
ANN				pmax		pmax				
	comp=Z,35nm,1.1s									
ANN				MLR		MLR				
	comp=Z,459nm,12.0s									
ANN	Anapa	9.99	35	*e*P		Pn		18 00 26.8	+0.5	
	comp=Z,35nm,1.1s									
KIS	Kishinev	10.11	358	*e*P		Pn		18 00 32.0	+4.2	
KIS				*e*S		Sn		18 02 29.0	+8.2	
KIS				MLR		MLR				
	comp=Z,500nm,10.0s									
KIS				MLR		MLR				
	comp=Z,500nm,10.0s									
KIS	Kishinev	10.11	358	*e*P		Pn		18 00 32.0	+4.2	
KIS				*e*S		Sn		18 02 29.0	+8.2	
KIS				*e*L				18 03 13.0		
KIS				*e*Lg				18 03 43.0		
KIS				*e*Rg				18 04 24.0		
KIS				LRM				18 05 44.0		
	comp=Z,500nm,10.0s									
TIP	Timpagrande	10.19	287	*e*P		Pn		18 00 29.8	+0.9	
	comp=Z,68nm,1.3s									
TIP	Timpagrande	10.19	287	*e*P		Pn		18 00 29.8	+0.9	
	comp=Z,68nm,1.3s									
HHRG	Al Ghardaqah	10.29	158	P		Pn		18 00 29.7	-0.6	
HHRG				S		Sn		18 02 14.3	-11	
BZS	Buzias	10.47	329	⇑*i*P		Pn		18 00 31.6	-1.2	
BZS	Buzias	10.47	329	⇑P		Pn		18 00 31.6	-1.2	
CUC	Castrocucco	11.05	290	*e*P		Pn		18 00 42.1	+1.4	
	comp=Z,46nm,0.8s									
CUC	Castrocucco	11.05	290	*e*P		Pn		18 00 42.1	+1.4	
	comp=Z,46nm,0.8s									
DRGR		11.05	336	⇑*i*P		Pn		18 00 42.8	+2.0	
DRGR		11.05	336	⇑P		Pn		18 00 42.8	+2.1	
BURAR	Bucovina Array	11.14	345	⇑*i*P		Pn		18 00 42.7	+0.8	
BUR08	Bucovina Ar. S	11.17	345	*e*P		Pn		18 00 42.6	+0.2	
BUR08	Bucovina Ar. S	11.17	345	*e*P		Pn		18 00 42.6	+0.2	
HDK1	Dakhla	11.31	180	P		Pn		18 00 42.7	-1.7	
GTR	Jabal at Tayr	11.39	174	P		Pn		18 00 43.3	-2.2	
AKRG	Al Kharijah	11.40	175	P		Pn		18 00 43.3	-2.3	
BIDS	Bi'r al Bayda'	11.90	145	P		Pn		18 00 53.9	+1.4	
HQSR		11.91	157	P		Pn		18 00 51.8	-0.7	
HEDF	Idfu	12.21	163	P		Pn		18 00 55.7	-1.0	
KIV	Kislovodsk	12.37	51	*e*P		Pn		18 00 56.0	-2.7	
KIV				*e*S		Sn		18 03 16.9	+0.6	
KIV				pmax		pmax				
	comp=Z,9.0nm,1.1s									
KIV				MLR		MLR				
	comp=Z,179nm,11.0s									
GNI	Garni	12.49	70	Pn		Pn		18 01 05.8	+5.3	
	comp=Z,0.2nm,0.3s,baz=357,slow=4.5,SNR=7.5									
GNI				LR		LR		18 07 03.8		
	comp=Z,191nm,20.9s,baz=80,slow=43									
GNI	Garni	12.49	70	*i* P		Pn		18 00 55.9	-4.6	
GNI				pmax		pmax				
	comp=Z,12nm,1.8s									
GNI				MLR		MLR				
	comp=Z,400nm,15.0s									
GNI	Garni	12.49	70	*e*P		Pn		18 01 06.0	+5.6	
	comp=Z,35nm,1.4s									
UZH	Uzhgorod	12.82	338	*e*P		Pn		18 01 02.0	-2.8	
UZH				*e*S		Sn		18 03 23.0	-4.2	
UZH				MLR		MLR				
	comp=N,1μm,12.0s									
UZH				MLR		MLR				
	comp=E,1μm,12.0s									
UZH				MLR		MLR				
	comp=Z,1μm,12.0s									
PSZ	Piszkesteto	13.03	331	⇑*i*P		Pn		18 01 09.2	+1.4	
KOLS	Kolonicke sedl	13.09	339	*e*PN		Pn		18 01 04.7	-3.9	
CRVS	Cervenica-Dubn	13.31	337	*e*PN		Pn		18 01 13.5	+1.9	
HAGS	Hagol	13.38	157	P		Pn		18 01 13.0	+0.4	
AKASG	Malin Array Be	13.81	360	Pn		Pn		18 01 17.0	-1.3	
	comp=Z,0.8nm,0.3s,baz=184,slow=12,SNR=11									
VYHS	Vyhne	13.92	330	*e*PN		Pn		18 01 19.9	+0.1	
MODS	Modra-Piesok	14.49	326	*e*P		Pn		18 01 32.6	+5.0	
OJC	Ojcow	14.99	336	*e*P		Pn		18 01 40.7	+6.2	
OKC	Ostrava-Krasne	15.26	331	*e*P		Pn		18 01 43.8	+5.7	
OKC				*e*S		Sn		18 04 46.9	+20	
OKC				AMS		AMS		18 08 50.0		
	comp=Z,600nm,10.3s									
OKC	Ostrava-Krasne	15.26	331	*e*P		Pn		18 01 43.8	+5.7	
OKC				*e*S		Sn		18 04 46.9	+20	
VRAC	Vranov	15.49	327	Pn		Pn		18 01 42.5	+1.5	
	comp=Z,0.7nm,0.3s,baz=159,slow=5.1,SNR=6.1									
VRAC				LR		LR		18 07 47.7		
	comp=Z,264nm,19.4s,baz=145,slow=38									
TREC	Trest	15.97	325	*e*P		Pn		18 01 53.9	+6.6	
TREC				*e*S		Sn		18 05 04.8	+21	
TREC				AMS		AMS		18 08 40.0		
	comp=Z,700nm,9.6s									
DPC	Dobruska-Polom	16.39	329	*e*P		Pn		18 01 56.7	+4.0	
DPC				*e*S		Sn		18 05 11.3	+17	
DPC				AMS		AMS		18 09 40.0		
	comp=Z,600nm,11.7s									
DPC	Dobruska-Polom	16.39	329	*e*P		Pn		18 01 56.7	+4.0	
DPC				*e*S		Sn		18 05 11.3	+17	
GEC2	GERESS Array S	16.52	321	*e*P		Pn		18 01 58.0	+3.7	
GERES	GERESS Array B	16.52	321	Pn		Pn		18 01 55.7	+1.4	
	comp=Z,0.1nm,0.3s,baz=129,slow=10,SNR=16									
GERES				LR		LR		18 08 16.5		
	comp=Z,302nm,19.2s,baz=130,slow=37									
MIB	Mutribah	16.60	110	*e*P		Pn		18 01 58.1	+2.5	
	baz=110									
MIB				AMb		AMB		18 02 00.1		
	comp=Z,70nm,1.5s,baz=110									
PGF	Pioggiola	16.62	296	*e*P		Pn		18 01 56.5	+0.8	
UPC	Upice	16.64	329	*e*P		Pn		18 01 59.8	+4.0	
KHC	Kasperske Hory	16.77	322	*e*P		Pn		18 02 00.4	+3.0	
KHC				*ex*		x		18 02 27.5		
KHC				*e*S		Sn		18 05 18.3	+15	
KHC				AMS		AMS		18 09 00.0		
	comp=Z,1μm,10.2s									
KHC	Kasperske Hory	16.77	322	*e*P		Pn		18 02 00.4	+3.0	
KHC				*e*				18 02 27.5		
KHC				*e*S		Sn		18 05 18.3	+15	
KSP	Ksiaz	16.79	330	*e*P		Pn		18 02 01.1	+3.4	
KSP				*e*S		Sn		18 05 14.5	+11	
NAY	Al-Naaiem	16.81	112	*e*P		Pn		18 02 00.5	+2.3	
	baz=112									
NAY				AMb		AMB		18 02 05.3		
	comp=Z,26nm,1.5s,baz=112									
PRU	Pruhonice	16.89	325	*e*P		Pn		18 02 03.9	+4.9	
PRU				*e*S		Sn		18 05 19.4	+13	
PRU				AMS		AMS		18 09 10.0		
	comp=Z,600nm,10.2s									
PRU	Pruhonice	16.89	325	*e*P		Pn		18 02 03.9	+4.9	
PRU				*e*S		Sn		18 05 19.4	+13	
UMR	Umm Al-Rimmam	17.01	110	*e*P		Pn		18 02 02.9	+2.2	
	baz=110									
UMR				AMb		AMB		18 02 04.8		
	comp=Z,93nm,1.5s,baz=110									
RDF	Al-Radifah	17.21	112	*e*P		Pn		18 02 05.0	+1.8	
	baz=112									
RDF				AMb		AMB		18 02 06.4		
	comp=Z,53nm,1.4s,baz=112									
PVCC	Panska Ves	17.27	327	*e*P		Pn		18 02 07.1	+3.4	
PVCC				*e*S		Sn		18 05 29.8	+14	
PVCC				AMS		AMS		18 10 00.0		
	comp=Z,600nm,12.6s									
PVCC	Panska Ves	17.27	327	*e*P		Pn		18 02 07.1	+3.4	
PVCC				*e*S		Sn		18 05 29.8	+14	
DAVOX	Davos/Dischmat	17.51	310	LR		LR		18 08 47.8		
	comp=Z,464nm,20.3s,baz=112,slow=37									
SUW	Suwalki	17.65	348	*e*P		Pn		18 02 09.7	+1.4	
BRG	Berggiesshubel	17.80	327	*e*P		Pn		18 02 11.7	+1.5	
	comp=Z,16nm,1.3s									
BRG				S		Sn		18 05 38.0	+10	
BRG										
	comp=N,979nm,13.7s									
BRG										
	comp=E,892nm,20.0s									
BRG										
	comp=Z,332nm,16.9s									
NKC	Novy Kostel	18.05	323	*e*P		Pn		18 02 15.5	+2.2	
NKC				*e*S		Sn		18 05 43.3	+9.0	
NKC				AMS		AMS		18 09 50.0		
	comp=Z,400nm,17.3s									
NKC	Novy Kostel	18.05	323	*e*P		Pn		18 02 15.5	+2.2	
NKC				*e*S		Sn		18 05 43.3	+9.0	
GRA1	Grafenberg Arr	18.31	320	*e*P		Pn		18 02 16.6	0.0	
	comp=Z,19nm,1.5s									
GRF	Grafenberg Arr	18.31	320	*e*P		Pn		18 02 16.6	0.0	
GRF				pmax		pmax				
	comp=Z,19nm,1.5s									
GRF	Grafenberg Arr	18.31	320	*e*P		Pn		18 02 16.6	0.0	
GRF				pmax		pmax				
	comp=Z,19nm,1.5s									
GRF	Grafenberg Arr	18.31	320	*e*P		Pn		18 02 16.6	0.0	
	comp=Z,19nm,1.5s									
CLL	Collm	18.52	326	*e*(P)		Pn		18 02 19.0	-0.1	
CLL				*e*S		Sn		18 05 47.0	+1.2	
FRF	La Foret Royal	18.54	298	⇑*i*P		Pn		18 02 18.1	-1.3	
	comp=Z,146nm,1.5s									
FRF	La Foret Royal	18.54	298	⇑*i*P		Pn		18 02 18.1	-1.3	
FRF				pmax		pmax				
	comp=Z,73nm,1.5s									
FRF	La Foret Royal	18.54	298	⇑*i*P		Pn		18 02 18.1	-1.3	
	comp=Z,73nm,1.5s									
MOX	Moxa	18.72	323	*e*P		Pn		18 02 23.0	+1.5	
	comp=Z,58nm,1.8s									
MOX										
	comp=Z,200nm,23.0s									
MBDF	Montbardon	18.75	302	*e*P		Pn		18 02 20.7	-1.3	
	comp=Z,54nm,1.2s									
MBDF	Montbardon	18.75	302	*e*P		Pn		18 02 20.7	-1.3	
MBDF				pmax		pmax				
	comp=Z,27nm,1.2s									
MBDF	Montbardon	18.75	302	*e*P		Pn		18 02 20.7	-1.3	
	comp=Z,27nm,1.2s									
OBN	Obninsk	18.89	13	⇑*e*P		Pn		18 02 24.2	+0.7	
OBN				*e*S		Sn		18 05 58.0	+3.5	
OBN				pmax		pmax				
	comp=Z,37nm,1.4s									
OBN				MLR		MLR				
	comp=Z,200nm,19.0s									
OBN	Obninsk	18.89	13	*e*P		Pn		18 02 24.2	+0.7	
	comp=Z,37nm,1.4s									
LPG	La Plagne	19.00	304	*e*P		Pn		18 02 25.5	+0.5	
	comp=Z,48nm,1.2s									
LPG	La Plagne	19.00	304	*e*P		Pn		18 02 25.5	+0.5	
LPG				pmax		pmax				
	comp=Z,24nm,1.2s									
LPG	La Plagne	19.00	304	*e*P		Pn		18 02 25.5	+0.5	
	comp=Z,24nm,1.2s									
LPL	La Plagne	19.02	304	*e*P		Pn		18 02 25.5	+0.2	
	comp=Z,19nm,0.8s									
LPL	La Plagne	19.02	304	*e*P		Pn		18 02 25.5	+0.2	
LPL				pmax		pmax				
	comp=Z,10.0nm,0.8s									
LPL	La Plagne	19.02	304	*e*P		Pn		18 02 25.5	+0.2	
	comp=Z,9.7nm,0.8s									
BFO	Black Forest	19.16	313	*e*P		Pn		18 02 26.4	-0.5	
BFO				pmax		pmax				
	comp=Z,15nm,1.2s									
BFO	Black Forest	19.16	313	*e*P		Pn		18 02 26.4	-0.5	
	comp=Z,15nm,1.2s									
BFO	Black Forest	19.16	313	*e*P		Pn		18 02 26.4	-0.5	
	comp=Z,15nm,1.2s									
SMRF	Simiane la Rot	19.39	299	*e*P		Pn		18 02 29.4	-0.3	
	comp=Z,208nm,1.6s									
SMRF	Simiane la Rot	19.39	299	*e*P		Pn		18 02 29.4	-0.3	
	comp=Z,208nm,1.6s									
ORIF	Oris-en-Rattie	19.41	302	*e*P		Pn		18 02 29.2	-0.8	
	comp=Z,54nm,1.1s									
ORIF	Oris-en-Rattie	19.41	302	*e*P		Pn		18 02 29.2	-0.8	
ORIF				pmax		pmax				
	comp=Z,27nm,1.1s									
ORIF	Oris-en-Rattie	19.41	302	*e*P		Pn		18 02 29.2	-0.8	
	comp=Z,27nm,1.1s									
MOS	Moscow	19.67	14	*e*P		Pn		18 02 29.8	-3.2	
ECH	Echery	19.80	312	*e*P		Pn		18 02 32.5	-2.1	
CDF	Champ du Feu	19.82	312	*e*P		Pn		18 02 34.3	-0.5	
HAU	Haudompre	20.20	311	*e*P		P		18 02 37.7	+0.4	
VIVF	Saint-Julien-l	20.23	301	⇑*i*P		P		18 02 37.1	-0.6	
	comp=Z,58nm,1.1s									
VIVF	Saint-Julien-l	20.23	301	⇑*i*P		P		18 02 37.1	-0.6	
VIVF				pmax		pmax				
	comp=Z,29nm,1.1s									
VIVF	Saint-Julien-l	20.23	301	⇑*i*P		P		18 02 37.1	-0.6	
	comp=Z,29nm,1.1s									
SMF	Signal de Mont	21.29	305	*e*P		P		18 02 47.4	-1.7	
	comp=Z,19nm,0.9s,mb4.2									
SMF	Signal de Mont	21.29	305	*e*P		P		18 02 47.4	-1.7	
SMF				pmax		pmax				
	comp=Z,10.0nm,0.9s,mb4.2									
SMF	Signal de Mont	21.29	305	*e*P		P		18 02 47.4	-1.7	
	comp=Z,9.6nm,0.9s,mb4.1									
LOR	Lormes	21.48	307	*e*P		P		18 02 50.7	-0.5	
SSF	Saint Saulge	21.64	306	*e*P		P		18 02 52.4	-0.5	
	comp=Z,18nm,1.0s,mb4.2									
SSF	Saint Saulge	21.64	306	*e*P		P		18 02 52.4	-0.5	
SSF				pmax		pmax				
	comp=Z,9.0nm,1.0s,mb4.2									
SSF	Saint Saulge	21.64	306	*e*P		P		18 02 52.4	-0.5	
	comp=Z,9.0nm,1.0s,mb4.2									
AVF	Avril sur Loir	21.65	305	*e*P		P		18 02 51.4	-1.7	
GIVF	Givet	22.03	315	*e*P		P		18 02 56.4	-0.6	
MFF	Saint Martin d	23.92	303	*e*P		P		18 03 15.2	-1.3	
AKTK	Aktyubinsk	24.59	48	P		P		18 03 21.6	-1.0	
AKTK	Aktyubinsk	24.59	48	P		P		18 03 21.6	-1.0	
AKTK				LR		LR		18 17 19.0		
AKTO	Aktyubinsk	24.59	48	P		P		18 03 21.6	-1.0	
	comp=Z,3.3nm,0.6s,mb4.0,baz=249,slow=9.8,SNR=13									
AKTO				LR		LR		18 17 19.0		
	comp=Z,183nm,18.6s,MS3.6,baz=42,slow=47									
KLMR	Klimovskoe	24.84	12	*e*P		P		18 03 25.7	+1.0	
KLMR				pmax		pmax				
	comp=Z,29nm,1.3s,mb4.7									
KLMR	Klimovskoe	24.84	12	*e*P		P		18 03 25.7	+1.0	
	comp=Z,29nm,1.3s,mb4.7									
GRR	Gorron	24.85	307	*e*P		P		18 03 23.7	-1.3	
TAM	Tamanrasset	24.90	242	*e*P		P		18 03 26.8	+1.2	
TAM	Tamanrasset	24.90	242	*e*P		P		18 03 26.8	+1.2	
HFS	Hagfors	25.33	342	P		P		18 03 28.4	-0.8	
	comp=Z,14nm,1.0s,mb4.5,baz=134,slow=8.5,SNR=6.5									
HFS				LR		LR		18 14 26.6		
	comp=Z,427nm,18.6s,MS4.0,baz=260,slow=39									
ESDC	Sonseca Array	26.21	286	P		P		18 03 36.1	-1.3	
	comp=Z,2.6nm,0.7s,mb3.9,baz=82,slow=10.0,SNR=7.4									
NOA	NORSAR Array B	26.75	340	P		P		18 03 41.2	-0.8	
	comp=Z,2.2nm,0.8s,mb3.7,baz=149,slow=12,SNR=4.2									
NOA				LR		LR		18 15 49.1		
	comp=Z,224nm,18.3s,MS3.8,baz=140,slow=40									
ARU	Arti	27.66	36	*c* iP		P		18 03 49.1	-1.2	
ARU				*e*PPP				18 04 42.0		
ARU				*e*S		S		18 08 33.7	+2.1	
ARU				*e*SS				18 09 47.0		
ARU				pmax		pmax				
	comp=Z,12nm,1.9s,mb4.2									
ARU	Arti	27.66	36	*i* P		P		18 03 49.1	-1.2	
	comp=Z,12nm,1.9s,mb4.2									
EKA	Eskdalemuir Ar	28.73	320	P		P		18

comp=Z,0.3nm,0.6s,mb4.0,baz=86,slow=3.0,SNR=4.2
TXAR Lajitas Array 100.73 319 P Pdif 18 11 51.5 +0.5
comp=Z,0.1nm,0.4s,baz=26,slow=5.0,SNR=2.6

IDC 31 18:13:54.1±8.9, 2318S×6617W, h188km±77km, mb3.4/1, mb1 3.3/2, mb1mx3.1/14, mbtmp3.2/2, Error ellipse: s-maj=78.7km s-min=50.1km az=157.0, Jujuy Province

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LPAZ	**La Paz**	**7.11**	**345**	P		Pn	18 15 37.6	+1.9
	0.5nm,0.3s,baz=164,slow=7.5,SNR=12						
LPAZ				S		Sn	18 16 55.8	-0.4
	0.2nm,0.3s,baz=47,slow=15,SNR=3.9						
TORD	**Torodi Ar. Bea**	**75.56**	**69**	P		P	18 25 18.1	-0.3
	0.6nm,0.5s,baz=254,slow=5.6,SNR=12						
ASAR	**Alice Springs**	**129.51**	**204**	PKP		PKPdf	18 32 40.2	-0.9
	0.6nm,1.1s,baz=134,slow=2.7,SNR=3.5						
WRA	**Warramunga Arr**	**132.70**	**207**	PKP		PKPdf	18 32 46.4	-0.8
	0.5nm,1.0s,baz=162,slow=1.6,SNR=4.1						
MKAR	**Makanchi Array**	**145.41**	**39**	PKPbc		PKPbc	18 33 10.0	+0.2
	0.7nm,0.4s,baz=302,slow=3.1,SNR=14						

MAN 31 18:38:30, 924N×12556E, h5km, mb4.1, ML2.9, MS2.6, 2C, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BUTP	**Butuan**	**0.28**	**168**	*e*P		Pg	18 38 36.4	+1.0
BUTP				*e*S		Sg	18 38 44.3	+5.3
SCPH	**Surigao**	**0.54**	**352**	*e*P		Pg	18 38 41.2	+0.7
MSLP	**Maasin**	**1.13**	**322**	*e*P		Pg	18 38 51.1	-0.5
MSLP				*e*S		Sg	18 38 58.5	-7.8
CGP	**Cagayan de Oro**	**1.16**	**228**	⇑*i*P		Pg	18 38 51.9	-0.4
CGP				*i* S		Sg	18 39 08.7	+1.4
BUKP	**Musuan**	**1.44**	**200**	*e*P		Pn	18 38 56.8	0.0
BUKP				*e*S		Sb	18 39 16.6	+0.6
PLP	**Palo**	**2.00**	**343**	⇑*e*P		Pn	18 39 05.7	+1.3
PLP				*i* S		Sn	18 39 35.7	+5.9

*ISCJB **31** 18:40:13.7±2.5, 242S±0.1×180.0E±0.1, h492km±29km, mb4.3/15, Error ellipse: s-maj=17.1km s-min=16.4km az=145.9*
*IDC **31** 18:40:14.2±1.6, 2431S×17993W, h490km±16km, mb3.7/12, mb1 3.9/13, mb1mx3.7/18, mbtmp3.7/13, Error ellipse: s-maj=18.0km s-min=14.6km az=163.0*
*NEIC **31** 18:40:15.4±2.5, 2431S×17995W, h508km±28km, mb5.0/7, Error ellipse: s-maj=21.0km s-min=14.5km az=189.0*
ISC 31 18:40:14.9±2.4, 243S±01×1800W±01, h497km±28km, n32, σ0s85/30, mb4.3/15, 2D, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera**	**14.11**	**190**	P	**P**	**18 43 15.0**	**-0.6**
	0.9nm,0.3s,baz=111,slow=14,SNR=5.3						
URZ				S	**S**	**18 45 44.4**	**-0.2**
	2.8nm,0.3s,baz=62,slow=22,SNR=22						
RPZ	**Rata Peaks**	**20.70**	**199**	P	**P**	**18 44 19.5**	**-0.4**
	13nm,0.5s,baz=255,slow=1.4,SNR=14						
RPZ	**Rata Peaks**	**20.70**	**199**	P	**P**	**18 44 19.4**	**-0.4**
ARMA	**Armidale**	**25.91**	**250**	*e*P	**P**	**18 45 08.5**	**+1.8**
EIDS	**Eidsvold**	**26.28**	**262**	*e*P	**P**	**18 45 10.9**	**+0.9**
	16nm,0.5s,mb4.7						
CNB	**Canberra Magne**	**28.67**	**240**	*e*P	**P**	**18 45 32.4**	**+1.5**
CTA	**Charters Tower**	**31.52**	**271**	*e*P	**P**	**18 45 56.5**	**+0.8**
	36nm,0.4s,mb5.2						
CTA	**Charters Tower**	**31.52**	**271**	P	**P**	**18 45 56.5**	**+0.9**
	43nm,0.4s,mb5.2,baz=92,slow=10,SNR=112						
CTAO	**Charters Tower**	**31.52**	**271**	*e*P	**P**	**18 45 55.4**	**-0.3**
	41nm,0.4s,mb5.2						
TOO	**Toolangi**	**32.25**	**238**	*e*P	**P**	**18 46 02.5**	**+0.8**
STKA	**Stephens Creek**	**34.60**	**249**	⇓*i*P	**P**	**18 46 22.3**	**+0.6**
	12nm,0.6s,mb4.5						
STKA	**Stephens Creek**	**34.60**	**249**	P	**P**	**18 46 22.3**	**+0.6**
	10nm,0.5s,mb4.5,baz=96,slow=10,SNR=78						
ASAR	**Alice Springs**	**42.01**	**261**	P	**P**	**18 47 22.1**	**-0.1**
	5.1nm,0.5s,mb4.2,baz=97,slow=7.2,SNR=197						
ASAR				ScP	ScP	18 52 10.2	+1.3
	0.8nm,0.6s,baz=107,slow=4.4,SNR=7.3						
WB2	**Warramunga Arr**	**42.41**	**267**	⇓*i*P	**P**	**18 47 24.7**	**-0.7**
WRAB	**Tennant Creek**	**42.41**	**267**	*e*P	**P**	**18 47 23.7**	**-1.7**
	13nm,0.4s,mb4.7						
WRA	**Warramunga Arr**	**42.42**	**267**	P	**P**	**18 47 24.9**	**-0.6**
	14nm,0.4s,mb4.8,baz=98,slow=8.3,SNR=424						
WRA				ScP	ScP	18 52 12.7	+2.1
	1.5nm,0.5s,baz=100,slow=3.8,SNR=15						
WRA				S	**S**	**18 53 11.1**	**+0.4**
	1.3nm,1.1s,baz=98,slow=14,SNR=3.4						
FORT	**Forrest**	**46.20**	**250**	*e*P	**P**	**18 47 53.7**	**-0.9**
	43nm,0.5s,mb5.1						
KAKA	**Kakadu**	**46.39**	**276**	*e*P	**P**	**18 47 47.6**	**-8.7**
	12nm,0.3s,mb4.8						
KLBR	**Kellerberrin**	**54.86**	**247**	*e*P	**P**	**18 48 57.3**	**-0.7**
	10nm,0.6s,mb4.3						
NWAO	**Narrogin (SRO)**	**55.09**	**246**	P	**P**	**18 48 59.0**	**-0.6**
	2.1nm,0.4s,mb3.8,baz=116,slow=11,SNR=6.9						
NWAO	**Narrogin (SRO)**	**55.09**	**246**	P	**P**	**18 48 59.0**	**-0.6**
MUN	**Mundaring**	**56.10**	**247**	*e*P	**P**	**18 49 06.2**	**-0.4**
MAW	**Mawson**	**77.36**	**200**	P	**P**	**18 51 18.4**	**+0.9**
	1.6nm,0.4s,mb3.9,baz=139,slow=8.7,SNR=6.5						
KSRS	**Korea Array**	**78.60**	**320**	P	**P**	**18 51 25.2**	**+0.6**
	1.0nm,0.7s,mb3.5,baz=122,slow=4.6,SNR=2.9						
PETK	**Petropavlovsk-**	**79.53**	**347**	P	**P**	**18 51 28.2**	**-1.0**
	4.3nm,0.9s,mb4.0,baz=132,slow=4.4,SNR=4.0						
NVAR	**Mina Array Bea**	**85.03**	**44**	P	**P**	**18 51 58.0**	**+0.5**
	0.4nm,0.6s,baz=232,slow=5.4,SNR=3.8						
CMAR	**Chiang Mai Arr**	**89.71**	**290**	P	**P**	**18 52 19.2**	**-0.9**
	0.7nm,0.3s,mb3.9,baz=116,slow=2.4,SNR=5.1						
TXAR	**Lajitas Array**	**90.62**	**58**	P	**P**	**18 52 24.7**	**+0.7**
	0.8nm,0.7s,mb3.8,baz=220,slow=6.3,SNR=8.4						
MKAR	**Makanchi Array**	**112.47**	**313**	PKiKP	PKiKP	18 57 52.4	-1.6
	0.2nm,0.4s,baz=72,slow=2.3,SNR=5.5						
ARCES	**ARCESS Array B**	**132.31**	**348**	PKP	PKPdf	18 58 31.0	-0.3
	5.9nm,1.1s,baz=358,slow=2.2,SNR=3.8						
ARCES				SKPbc	SKPbc	19 01 10.2	-1.0
	5.0nm,1.0s,baz=8.1,slow=1.9,SNR=6.2						
AKASG	**Malin Array Be**	**145.35**	**327**	PKPbc	PKPbc	18 58 55.1	-1.4
	1.2nm,0.3s,baz=45,slow=4.3,SNR=5.4						
TORD	**Torodi Ar. Bea**	**168.77**	**188**	PKPab	PKPab	19 00 37.2	-1.5
	0.3nm,0.7s,baz=166,slow=5.0,SNR=3.9						

*ISCJB **31** 19:00:45.6±0.3, 2356N±001×12158E±002, h27km±2km, Error ellipse: s-maj=3.2km s-min=2.0km az=34.6*
*JMA **31** 19:00:45.7±0.3, 2348N×12159E, h49km, M2.6*
*TAP **31** 19:00:45.8, 2358N×12150E, h29km, ML3.3, C*
ISC 31 19:00:45.9±0.3, 2356N±001×12156E±002, h25km±2km, n54, σ0s75/104, 17C-1D, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TEGC	**Jichi Village**	**0.15**	**351**	P	**Pb**	**19 00 51.8**	**+0.8**
	baz=17						
TEGC				S	**Sb**	**19 00 56.8**	**+2.5**
	baz=17						
EHY	**Hungye**	**0.23**	**255**	⇑*i*P	**Pb**	**19 00 51.7**	**-0.2**
	baz=252						
EHY				*e*S	**Sb**	**19 00 55.5**	**-0.5**
	baz=252						
ESL	**Shilin**	**0.28**	**334**	⇑*i*P	**Pb**	**19 00 52.2**	**-0.3**
	baz=340						
ESL				*i* S	**Sb**	**19 00 56.8**	**-0.4**
	baz=340						
ESF	**Shoufeng Towns**	**0.31**	**350**	*e*P	**Pb**	**19 00 53.2**	**+0.2**
	baz=356						
ESF				*e*S	**Sb**	**19 00 58.3**	**+0.4**
	baz=356						
TWF1	**Yuli**	**0.32**	**229**	⇑*i*P	**Pb**	**19 00 53.1**	**-0.2**
	baz=231						
TWF1				S	**Sb**	**19 00 58.1**	**-0.2**
	baz=231						
HWA	**Hwalien**	**0.41**	**5**	P	**Pb**	**19 00 55.0**	**+0.3**
	baz=5.0						
HWA				*e*S	**Sb**	**19 01 01.4**	**+0.8**
	baz=5.0						
CHKT	**Chengkung**	**0.50**	**202**	*i* P	**Pb**	**19 00 56.2**	**+0.2**
	baz=196						
CHKT				S	**Sb**	**19 01 04.2**	**+1.3**
	baz=196						
TWD	**Chiawan**	**0.51**	**3**	*i* P	**Pb**	**19 00 55.9**	**-0.5**
	baz=356						
TWD				*e*S	**Sb**	**19 01 04.7**	**+1.2**
	baz=356						
YUS	**Yu-Shan**	**0.57**	**263**	⇑P	**Pb**	**19 00 57.1**	**-0.1**
	baz=260						
YUS				S	**Sb**	**19 01 04.5**	**-0.4**
	baz=260						
ELDTW	**Lidau**	**0.63**	**233**	⇑*i*P	**Pb**	**19 00 57.0**	**-1.2**
	baz=228						
ELDTW				*e*S	**Sb**	**19 01 05.5**	**-1.1**
	baz=228						
WHF	**Hehuan Shan**	**0.64**	**335**	⇑*i*P	**Pb**	**19 00 57.6**	**-0.8**
	baz=337						
WHF				*e*S	**Sb**	**19 01 06.5**	**-0.5**
	baz=337						
SMLT	**Sun Moon Lake**	**0.69**	**298**	⇑*i*P	**Pb**	**19 00 58.5**	**-0.7**
	baz=303						
SMLT				S	**Sb**	**19 01 08.1**	**-0.2**
	baz=303						
ALS	**Alishan**	**0.70**	**266**	⇑*i*P	**Pb**	**19 00 59.3**	**-0.1**
	baz=271						
ALS				S	**Sb**	**19 01 08.1**	**-0.6**
	baz=271						
TYC	**Yuchr**	**0.73**	**298**	⇑*i*P	**Pb**	**19 00 59.2**	**-0.8**
	baz=298						
TYC				S	**Sb**	**19 01 09.6**	**0.0**
	baz=298						
CHN5	**Tsauling**	**0.81**	**272**	⇑*i*P	**Pb**	**19 01 01.2**	**-0.2**
	baz=272						
CHN5				*e*S	**Sb**	**19 01 12.0**	**0.0**
	baz=272						
STYT	**Tauyuan**	**0.84**	**242**	⇑*i*P	**Pb**	**19 01 01.0**	**-0.8**
	baz=235						
STYT				*e*S	**Sb**	**19 01 12.1**	**-0.6**
	baz=235						
WNT	**Mingjian**	**0.86**	**291**	⇑P	**Pb**	**19 01 02.2**	**0.0**
	baz=291						
WNT				*e*S	**Sb**	**19 01 13.9**	**+0.5**
	baz=291						
TWG	**Pinlang**	**0.87**	**212**	*e*P	**Pb**	**19 01 00.7**	**-1.6**
	baz=200						
ENA	**Nanau**	**0.88**	**11**	*e*P	**Pb**	**19 01 01.2**	**-1.2**
	baz=1.0						
ENA				*e*S	**Sb**	**19 01 14.7**	**+0.9**
	baz=1.0						
NNS	**Nan Shan**	**0.89**	**349**	*e*P	**Pb**	**19 01 01.6**	**-1.1**
	baz=356						
NNS				*e*S	**Sb**	**19 01 12.1**	**-2.0**
	baz=356						
TTN	**Taitung**	**0.89**	**206**	*e*P	**Pb**	**19 01 03.0**	**+0.3**
	baz=205						
TTN				*e*S	**Sb**	**19 01 15.9**	**+1.7**
	baz=205						
CHN4	**Tsaushan**	**0.92**	**257**	⇑P	**Pb**	**19 01 02.9**	**-0.2**
	baz=256						
CHN4				*e*S	**Sb**	**19 01 15.5**	**+0.6**
	baz=256						
WGK	**Gukeng**	**0.93**	**278**	⇑*i*P	**Pb**	**19 01 03.0**	**-0.3**
	baz=277						
WGK				S	**Sb**	**19 01 15.6**	**+0.4**
	baz=277						
WTP	**Ta-pu**	**0.93**	**250**	⇑*i*P	**Pn**	**19 01 03.0**	**-0.3**
	baz=249						
WTP				*e*S	**Sb**	**19 01 15.7**	**+0.5**
	baz=249						
TCU	**Taichung**	**1.00**	**306**	*e*P	**Pn**	**19 01 04.5**	**+0.3**
	baz=306						
TCU				*e*S	**Sb**	**19 01 17.6**	**+0.4**
	baz=306						
CHN2	**Minshiung**	**1.00**	**268**	*e*P	**Pn**	**19 01 04.3**	**0.0**
	baz=276						
CHN2				*e*S	**Sb**	**19 01 17.6**	**+0.3**
	baz=276						
SGST	**Jiashian**	**1.02**	**242**	*e*P	**Pn**	**19 01 04.5**	**-0.1**
	baz=236						
SGST				*e*S	**Sb**	**19 01 18.1**	**+0.2**
	baz=236						
CHN1	**Nanshi**	**1.02**	**249**	⇑P	**Pn**	**19 01 04.7**	**+0.1**
	baz=248						
CHN1				S	**Sb**	**19 01 18.5**	**+0.5**
	baz=248						
TWK	**Hsinying**	**1.03**	**254**	*e*P	**Pn**	**19 01 04.2**	**-0.5**
	baz=253						
TWK				*e*S	**Sb**	**19 01 18.4**	**+0.2**
	baz=253						
TWQ1	**Liyutan**	**1.06**	**317**	⇑*i*P	**Pn**	**19 01 05.7**	**+0.5**
	baz=318						
TWQ1				*e*S	**Sb**	**19 01 19.4**	**+0.2**
	baz=318						
TWC	**Suao**	**1.07**	**14**	*e*P	**Pn**	**19 01 05.2**	**-0.1**
	baz=1.0						
TWC				*e*S	**Sn**	**19 01 20.4**	**+1.0**
	baz=1.0						
ECL	**Taimali**	**1.11**	**210**	*e*P	**Pn**	**19 01 03.8**	**-2.1**
	baz=201						
ECL				*e*S	**Sn**	**19 01 20.0**	**-0.4**
	baz=201						
NSY	**Sanyi**	**1.12**	**319**	⇓*i*P	**Pn**	**19 01 06.4**	**+0.4**
	baz=319						
NSY				*e*S	**Sn**	**19 01 21.4**	**+0.8**
	baz=319						
NSK	**Sanguang**	**1.12**	**350**	P	**Pn**	**19 01 05.4**	**-0.6**
	baz=1.0						
NSK				*e*S	**Sn**	**19 01 19.0**	**-1.6**
	baz=1.0						
TWE	**Neicheng**	**1.16**	**5**	*e*P	**Pn**	**19 01 06.1**	**-0.3**
	baz=4.0						
TWE				*e*S	**Sn**	**19 01 22.0**	**+0.6**
	baz=4.0						
NSTT	**Nanjuang**	**1.18**	**334**	P	**Pn**	**19 01 07.0**	**+0.3**
	baz=334						
NSTT				*e*S	**Sn**	**19 01 22.3**	**+0.2**
	baz=334						
SSD	**Sandimen**	**1.18**	**227**	*e*P	**Pn**	**19 01 06.4**	**-0.4**
	baz=228						
SSD				*e*S	**Sn**	**19 01 22.4**	**+0.3**
	baz=228						
WTCT	**Ta-ch'eng**	**1.21**	**284**	*e*P	**Pn**	**19 01 07.4**	**+0.2**
	baz=284						
WTCT				*e*S	**Sn**	**19 01 23.2**	**+0.4**
	baz=284						
WSF	**Szhu**	**1.23**	**274**	*e*P	**Pn**	**19 01 07.9**	**+0.4**
	baz=273						
WSF				*e*S	**Sn**	**19 01 23.3**	**0.0**
	baz=273						
TWM1	**Shoushan**	**1.28**	**235**	*e*P	**Pn**	**19 01 09.3**	**+1.1**
	baz=236						
EAST	**Anshuo**	**1.35**	**209**	*e*P	**Pn**	**19 01 08.8**	**-0.3**
	baz=205						
EAST				*e*S	**Sn**	**19 01 26.9**	**+0.8**
	baz=205						
TWA	**Mucha**	**1.41**	**1**	*e*P	**Pn**	**19 01 10.1**	**+0.2**
	baz=359						
TWA				*e*S	**Sn**	**19 01 28.5**	**+0.7**
	baz=359						
SCZT	**Fangliau**	**1.47**	**216**	*e*P	**Pn**	**19 01 11.7**	**+1.0**
	baz=206						
SCZT				*e*S	**Sn**	**19 01 30.1**	**+0.9**
	baz=206						
NWF	**Wu-fen Shan**	**1.51**	**7**	*e*P	**Pn**	**19 01 12.0**	**+0.6**
	baz=5.0						
NWF				*e*S	**Sn**	**19 01 31.2**	**+0.9**
	baz=5.0						
LAY	**Lan-yu**	**1.52**	**180**	*e*P	**Pn**	**19 01 09.0**	**-2.4**
	baz=175						
TWS1	**Kuangyinshan**	**1.54**	**355**	*e*P	**Pn**	**19 01 11.2**	**-0.5**
	baz=9.0						
YOJ	**Yonaguni jima**	**1.60**	**56**	P	**Pn**	**19 01 12.6**	**+0.1**
YOJ				*e*S	**Sn**	**19 01 32.3**	**0.0**
HEN	**Hengchun**	**1.73**	**206**	*e*P	**Pn**	**19 01 15.8**	**+1.5**
	baz=202						
HEN				*e*S	**Sn**	**19 01 36.9**	**+1.3**
	baz=202						
TWK1	**Hengchun**	**1.76**	**204**	*e*P	**Pn**	**19 01 15.5**	**+0.8**
	baz=201						
TWK1				*e*S	**Sn**	**19 01 36.2**	**-0.1**
	baz=201						
PNG	**Penghu**	**1.84**	**270**	*e*P	**Pn**	**19 01 15.3**	**-0.6**
	baz=270						
PNG				*e*S	**Sn**	**19 01 36.9**	**-1.5**
	baz=270						
HATJ	**Hateruma jima**	**2.11**	**76**	P	**Pn**	**19 01 19.4**	**-0.2**
HATJ				*e*S	**Sn**	**19 01 44.5**	**-0.5**
IRIF	**Iriomote-Funau**	**2.12**	**68**	P	**Pn**	**19 01 20.0**	**+0.2**
IRIF				*e*S	**Sn**	**19 01 45.3**	**-0.1**
JKRS	**Kuro-shima**	**2.34**	**73**	P	**Pn**	**19 01 22.9**	**+0.2**
JKRS				*e*S	**Sn**	**19 01 50.6**	**0.0**
JIJ	**Ishigaki jima**	**2.49**	**71**	P	**Pn**	**19 01 24.5**	**-0.3**
JIJ				*e*S	**Sn**	**19 01 53.4**	**-1.0**

TRN 31 19:24:42.1, 1732N×6198W, h3km, MD3.7, M3.1(FDF), 2C, Leeward Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SKI	**Saint Kitts**	**0.73**	**271**	⇑*e*P		Pg	19 25 00.0	+3.9
SKI				*e*S		Sg	19 25 12.1	+6.5
BSK	**Brimstone Hill**	**0.82**	**272**	⇑*i*P		Pg	19 25 02.4	+4.5
BSK				*e*S		Sg	19 25 17.0	+8.3
LZG	**Guadaloupe-1**	**1.19**	**171**	*e*P		Pg	19 25 07.3	+2.4
LZG				*e*S		Sg	19 25 27.3	+7.0

*ISK **31** 19:35:53.5, 3584N×3153E, h3km, MD3.4*
*CSEM **31** 19:35:55.6±0.1, 3585N×3150E, h58km±2km, Mw3.2, Error ellipse: s-maj=2.3km s-min=1.6km az=31.0*
*ISCJB **31** 19:35:56.4±0.5, 3581N±003×3153E±006, h77km±11km, Error ellipse: s-maj=8.0km s-min=4.9km az=164.4*
*HLW **31** 19:35:58.0, 3577N×3150E, h33km, Mb3.6*
*NEIC **31** 19:35:58.6, 3596N×3180E, h40km, MD3.5(ISK), After NIC.*
*NIC **31** 19:35:58.6±0.3, 3596N×3180E, h40km, ML3.1, MW3.2*
ISC 31 19:35:57.8±0.5, 3583N±003×3154E±006, h59km±19km, n31, σ0s81/36, 3D, Cyprus region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AKMC	**Akamas**	**1.02**	**141**	⇓P	**Pn**	**19 36 16.3**	**+0.2**
	12nm,0.2s						
AKMC				S	**Sn**	**19 36 30.6**	**+0.9**
ALFC	**Alevga**	**1.09**	**127**	⇓P	**Pn**	**19 36 16.2**	**-0.8**
	21nm,0.2s						
ALFC				S	**Sn**	**19 36 30.3**	**-0.9**
PPCY	**Paphos**	**1.15**	**145**	⇓P	**Pn**	**19 36 18.7**	**+1.0**
	5.4nm,0.3s						
PPCY				S	**Sn**	**19 36 33.8**	**+1.3**
ANTB	**Antalya**	**1.29**	**327**	*e*PN	**Pn**	**19 36 18.7**	**-1.0**
LEF	**Lefka**	**1.31**	**122**	*e*PN	**Pn**	**19 36 19.0**	**-0.9**
HDMB	**Hadim**	**1.37**	**34**	*e*PN	**Pn**	**19 36 19.1**	**-1.6**
HDMB				*e*SN	**Sn**	**19 36 39.6**	**+1.8**
ELL	**Elmali**	**1.61**	**305**	*e*PN	**Pn**	**19 36 23.6**	**-0.4**
CSS	**Prodhromos**	**1.70**	**120**	*e*P	**Pn**	**19 36 23.4**	**-1.7**
LFK	**Lefkose**	**1.71**	**108**	*e*PN	**Pn**	**19 36 25.2**	**-0.1**
IKL	**Isikli**	**1.79**	**76**	*e*PN	**Pn**	**19 36 26.3**	**-0.1**
BCK	**Bucak**	**1.80**	**335**	*e*PN	**Pn**	**19 36 26.1**	**-0.5**
EREN	**Erenkoy**	**2.16**	**97**	*e*PN	**Pn**	**19 36 31.6**	**+0.2**
PHNC	**Paralimni**	**2.19**	**111**	P	**Pn**	**19 36 31.2**	**-0.7**
PHNC				S	**Sn**	**19 36 56.0**	**-1.9**
KONT	**Konya--Tatoy**	**2.22**	**17**	*e*PN	**Pn**	**19 36 32.1**	**-0.1**
LADK	**Ladik-KONYA**	**2.46**	**15**	*e*PN	**Pn**	**19 36 35.5**	**-0.1**
DALT	**Dalyan (Mudla)**	**2.53**	**293**	*e*PN	**Pn**	**19 36 36.3**	**-0.1**
MERS	**Mersin**	**2.62**	**66**	*e*PN	**Pn**	**19 36 38.1**	**+0.4**
SHUT	**Suhut-Afyon**	**2.84**	**344**	*e*PN	**Pn**	**19 36 41.0**	**+0.3**
KIZT	**Kizilcal**	**3.06**	**5**	*e*PN	**Pn**	**19 36 43.8**	**+0.1**
KARA	**Karaisali**	**3.17**	**62**	*e*PN	**Pn**	**19 36 45.9**	**+0.7**
HTY	**Hatay**	**3.74**	**84**	*e*PN	**Pn**	**19 36 54.2**	**+1.2**
BR131	**Keskin Array S**	**4.23**	**22**	*e*P	**Pn**	**19 37 00.7**	**+0.9**
BR131	**Keskin Array S**	**4.23**	**22**	*e*P	**Pn**	**19 37 00.7**	**+1.0**
AMAG	**Maghara**	**5.35**	**164**	P	**Pn**	**19 37 15.5**	**+0.4**
HHAG	**Hagoal**	**5.87**	**175**	P	**Pn**	**19 37 22.8**	**+0.5**
KOT	**Kottamia**	**5.89**	**178**	P	**Pn**	**19 37 22.4**	**-0.1**
HSAF	**As Saff**	**6.19**	**180**	P	**Pn**	**19 37 27.0**	**+0.4**
GLL	**Jalalah**	**6.23**	**179**	P	**Pn**	**19 37 27.6**	**+0.4**
GLL	**Jalalah**	**6.23**	**179**	P	**Pn**	**19 37 27.5**	**+0.3**
TR2		**7.64**	**165**	P	**Pn**	**19 37 46.6**	**+0.1**
AWBH		**7.81**	**197**	P	**Pn**	**19 37 48.6**	**-0.1**

*IPEC **31** 19:52:50.9±0.1, 5026N×1909E, h0km±1km, ML2.3/4, Error ellipse: s-maj=2.5km s-min=0.8km az=169.0*
*PRU **31** 19:52:52.2, 50.17N×1905E, h0km*
*CSEM **31** 19:52:54.2±0.4, 5014N×1897E, h1km±2km, ML3.0/7, Error ellipse: s-maj=4.3km s-min=3.0km az=29.0*
WAR 31 19:52:52.0, 5011N×1921E, ML2.6, Mining Induced, Poland

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OJC	**Ojcow**	**0.40**	**73**	*e*Pg	Pg	19 52 59.8	+0.2
OJC				*e*Sg	Sg	19 53 06.2	+1.4
OJC	**Ojcow**	**0.40**	**73**	*e*Pg	Pg	19 52 59.7	+0.1
OJC				*e*Sg	Sg	19 53 05.2	+0.4
OKC	**Ostrava-Krasne**	**0.73**	**249**	Pg	Pg	19 53 04.8	-1.3
OKC				*e*Sg	Sg	19 53 13.9	-1.7
OKC	**Ostrava-Krasne**	**0.73**	**249**	*e*PG	Pg	19 53 04.8	-1.3
OKC				*e*SG	Sg	19 53 15.3	-0.3
	24nm,0.4s						
NIE	**Niedzica**	**0.99**	**133**	*e*Pg	Pg	19 53 11.2	+0.2
NIE				*e*Sg	Sg	19 53 26.2	+2.3
MORC	**Moravsky Berou**	**1.12**	**254**	*e*Pg	Pg	19 53 12.0	-1.5
MORC				*e*Sg	Sg	19 53 25.9	-2.2
	72nm,0.5s						
STHS	**Stebnicka Huta**	**1.49**	**117**	*e*PN	Pn	19 53 21.2	+1.2
STHS				*e*SN	Sn	19 53 42.9	+2.8
JAVC	**Velka Javorina**	**1.60**	**219**	*e*Pn	Pn	19 53 21.2	-0.3
JAVC				*e*Sg	Sg	19 53 42.2	-1.2
	12nm,0.5s						
KOLL	**Kolacno**	**1.62**	**199**	*e*PN	Pn	19 53 21.9	+0.2
KOLL				*e*SN	Sn	19 53 41.5	-1.7
VYHS	**Vyhne**	**1.63**	**189**	*e*PN	Pn	19 53 20.7	-1.2
VYHS				*e*SN	Sn	19 53 42.2	-1.4
DPC	**Dobruska-Polom**	**1.87**	**279**	*e*Pn	Pn	19 53 23.0	-2.2
DPC	**Dobruska-Polom**	**1.87**	**279**	Pg	Pg	19 53 23.5	-4.3
DPC				Sg	Sg	19 53 48.2	-3.8
	13nm,0.4s						
DPC	**Dobruska-Polom**	**1.87**	**279**	*e*PG	Pg	19 53 23.5	-4.3
DPC				*e*SG	Sg	19 53 48.2	-3.8
	13nm,0.4s						
VRAC	**Vranov**	**1.88**	**246**	*e*Pn	Pn	19 53 24.3	-1.0
VRAC				*e*Sg	Sg	19 53 49.6	-2.6
	18nm,0.5s						
CRVS	**Cervenica-Dubn**	**1.90**	**128**	*e*PN	Pn	19

WHY				⇑Sg	Sg	20 12 57.3	-1.9
WHY	**Whitehorse**	**1.74**	**40**	P	Pn	20 12 33.6	-1.0
WHY				S	Sn	20 12 57.5	+0.1
SIT	**Sitka**	**2.49**	**156**	P	Pn	20 12 44.5	-0.4
DLBC	**Dease Lake**	**3.80**	**101**	Pn	Pn	20 13 01.7	-1.2
DLBC				⇑Sg	Sg	20 14 00.5	-4.9
DLBC	**Dease Lake**	**3.80**	**101**	P	Pn	20 13 01.5	-1.4
WRAK	**Wrangell Islan**	**3.89**	**137**	P	Pn	20 13 03.3	-0.9
BCA3	**Beaver Creek A**	**4.36**	**331**	P	Pn	20 13 10.3	-0.2
DAWY	**Dawson**	**4.86**	**348**	⇓Pn	Pn	20 13 17.1	-0.3
DAWY				⇑Sn	Sn	20 14 11.0	-3.2
DAWY				⇓Sg	Sg	20 14 33.9	-5.2
DAWY	**Dawson**	**4.86**	**348**	P	Pn	20 13 17.1	-0.3
EGAK	**Eagle**	**5.77**	**343**	P	Pn	20 13 30.0	+0.1

*ISCJB **31** 20:17:18.4±1.1, 3995N±006×3274E±009, h8km±6km, Error ellipse: s-maj=13.2km s-min=9.3km az=37.0*
*ISK **31** 20:17:18.1, 3991N×3271E, h10km, MD2.8*
*CSEM **31** 20:17:18.2±0.2, 3990N×3278E, h10km, MD2.8, Error ellipse: s-maj=6.1km s-min=5.1km az=71.0*
*DDA **31** 20:17:20.0, 3997N×3280E, h16km, Md2.9*

ISC 31 20:17:18.6±1.1, **3994N**±006×**3273E**±010, **h8**km±5km, **n10, σ0§69/12, Turkey**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
ANTO	**Ankara**	**0.09**	**146**	*e*PG		**Pg**	**20 17 20.7**	**-0.1**
ANTO				*e*SG		**Sg**	**20 17 22.7**	**+0.4**
ELDT	**Eldivan**	**0.77**	**44**	*i* P		**Pg**	**20 17 32.5**	**-0.8**
CANT	**Cankiri**	**0.95**	**46**	*e*PG		**Pg**	**20 17 37.1**	**+0.3**
KIZT	**Kizilcal**	**1.25**	**212**	*e*PN		**Pn**	**20 17 41.4**	**-0.8**
SAFT	**Safranbolu**	**1.30**	**359**	*e*PN		**Pn**	**20 17 43.7**	**+0.7**
CDAG	**Cicekdag**	**1.31**	**104**	*i* P		**Pn**	**20 17 41.7**	**-1.3**
CORM	**Corum**	**1.48**	**80**	*e*PN		**Pn**	**20 17 44.9**	**-0.6**
CORM				*e*SN		**Sn**	**20 18 05.7**	**+0.8**
KDHN	**Kadinhani**	**1.50**	**199**	*i* P		**Pn**	**20 17 46.6**	**+0.9**
CTKT	**Corum**	**1.72**	**66**	*i* P		**Pn**	**20 17 48.8**	**+0.1**
YOZ	**Yozgat**	**2.02**	**98**	*e*PN		**Pn**	**20 17 53.1**	**+0.3**

NEIC 31 20:18:52.3, 3668S×17713E, h5km, ML3.8(WEL), **After WEL., Off east coast of North Island**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
KUZ	**Kuaotunu**	**1.14**	**266**	P		Pg	20 19 12.9	-1.2
MXZ	**Matakaoa Point**	**1.29**	**134**	P		Pn	20 19 14.2	-2.8
MXZ				S		Sg	20 19 29.7	-4.0
MKAZ	**Moumakai**	**1.63**	**254**	P		Pn	20 19 20.5	-1.2
PUZ	**Puketiti**	**1.66**	**147**	P		Pn	20 19 22.1	+0.1
MWZ	**Matawai**	**1.68**	**169**	P		Pn	20 19 20.3	-2.1
WCZ	**Waipu Caves**	**2.37**	**287**	P		Pn	20 19 32.0	+0.2

*ISCJB **31** 20:38:01.2±1.2, 1905N±006×1454E±02, h219km±10km, mb3.5/12, Error ellipse: s-maj=35.1km s-min=7.7km az=171.9*
*IDC **31** 20:38:01.8±1.9, 1903N×14554E, h213km±17km, mb3.4/11, mb1 3.5/14, mb1mx3.5/25, mbtmp3.4/14, Error ellipse: s-maj=31.9km s-min=10.5km az=81.0*
*NEIC **31** 20:38:04.0±1.7, 1900N×14560E, h237km±16km, mb4.2/1, Error ellipse: s-maj=26.4km s-min=10.3km az=77.0*

ISC 31 20:38:02.3±1.3, **1901N**±007×**1454E**±02, **h214**km±11km, **n19, σ0§96/21, mb3.5/12, Mariana Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
GUMO	**Guam**	**5.41**	**186**	P		**Pn**	**20 39 24.1**	**+1.7**
	17nm,0.3s,baz=176,slow=20,SNR=5.2							
GUMO				S		**S**	**20 40 24.4**	**-1.4**
	9.8nm,0.3s,baz=176,slow=22,SNR=2.0							
CBIJ	**Chichi jima**	**8.58**	**340**	P		**Pn**	**20 40 02.5**	**-0.6**
	7.4nm,0.3s,baz=352,slow=16,SNR=6.4							
CBIJ				S		**S**	**20 41 35.0**	**-4.9**
	11nm,0.3s,baz=271,slow=23,SNR=5.9							
JOW	**Kunigami**	**17.59**	**299**	P		**P**	**20 41 56.9**	**+4.1**
	3.4nm,0.3s,baz=120,slow=17,SNR=10							
MJAR	**Matsushiro Arr**	**18.58**	**342**	P		**P**	**20 42 04.6**	**+1.2**
	0.6nm,0.3s,baz=164,slow=10.0,SNR=6.2							
WRAB	**Tennant Creek**	**40.19**	**196**	*e*P		**P**	**20 45 18.3**	**+0.3**
	6.1nm,0.7s,mb4.1							
WB2	**Warramunga Arr**	**40.20**	**196**	*e*P		**P**	**20 45 18.3**	**+0.2**
WRA	**Warramunga Arr**	**40.20**	**196**	P		**P**	**20 45 18.4**	**+0.3**
	2.9nm,0.5s,mb4.0,baz=18,slow=8.6,SNR=80							
SONM	**Songino Array**	**42.74**	**321**	P		**P**	**20 45 38.7**	**+0.4**
	0.3nm,0.4s,mb3.0,baz=139,slow=14,SNR=4.6							
ASAR	**Alice Springs**	**43.87**	**195**	P		**P**	**20 45 48.1**	**+0.4**
	1.4nm,0.6s,mb3.5,baz=16,slow=7.9,SNR=32							
CMAR	**Chiang Mai Arr**	**43.91**	**277**	P		**P**	**20 45 50.1**	**+1.9**
	0.9nm,0.7s,mb3.2,baz=68,slow=7.1,SNR=9.6							
STKA	**Stephens Creek**	**50.72**	**184**	P		**P**	**20 46 39.3**	**-1.0**
	0.5nm,0.3s,mb3.4,baz=346,slow=15,SNR=4.0							
ZALV	**Zalesovo Beam**	**57.61**	**322**	P		**P**	**20 47 28.4**	**-1.4**
	0.4nm,0.3s,mb3.5,baz=86,slow=9.0,SNR=2.8							
MKAR	**Makanchi Array**	**58.06**	**314**	P		**P**	**20 47 33.1**	**+0.1**
	0.9nm,0.7s,mb3.5,baz=88,slow=8.6,SNR=6.4							
KURK	**Kurchatov**	**60.86**	**318**	P		**P**	**20 47 51.7**	**-0.4**
	1.0nm,0.6s,mb3.7,baz=94,slow=7.3,SNR=5.4							
KURK				pP		pP	20 48 42.1	+1.1
	0.5nm,0.6s,baz=92,slow=7.9,SNR=1.9							
KURK	**Kurchatov**	**60.86**	**318**	P		**P**	**20 47 51.7**	**-0.4**
KURK				pP		pP	20 48 42.1	+1.1
BVAR	**Borovoye Array**	**66.07**	**320**	P		**P**	**20 48 25.7**	**-0.4**
	1.7nm,0.6s,mb3.9,baz=93,slow=7.8,SNR=12							
AKTK	**Aktyubinsk**	**73.96**	**318**	P		**P**	**20 49 13.2**	**-1.0**
AKTO	**Aktyubinsk**	**73.96**	**318**	P		**P**	**20 49 13.2**	**-1.0**
	0.7nm,0.5s,mb3.6,baz=72,slow=6.2,SNR=3.5							
NVAR	**Mina Array Bea**	**83.16**	**52**	P		**P**	**20 50 05.4**	**+0.8**
	0.2nm,0.3s,mb3.3,baz=242,slow=3.9,SNR=3.9							

JSN 31 20:55:05.7±0.8, **1974N×7680W, h25**km±338km, **MD3.5, 1C-3D, Cuba region**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
STH	**Stony Hill**	**1.65**	**180**	⇓*i*P		Pn	20 55 32.2	-1.0
STH				*e*S		Sn	20 55 51.5	-2.1
CVJ	**Coleyville**	**1.66**	**205**	⇓*e*P		Pn	20 55 31.7	-1.4
GWJ	**Greenwich**	**1.66**	**178**	⇓*i*P		Pn	20 55 32.2	-1.0
MCJ	**Malvern**	**1.99**	**205**	*e*P		Pn	20 55 37.4	-0.3
MCJ				*e*S		Sn	20 56 00.2	-1.6
PCJ	**Portland Cotta**	**2.02**	**190**	⇑*e*P		Pn	20 55 37.1	-1.0
PCJ				*e*S		Sn	20 56 01.4	-1.1

*ISCJB **31** 21:01:10.4±0.4, 192S±006×6898E±006, h10km, mb4.5/29, MS3.6/4, Error ellipse: s-maj=10.2km s-min=7.5km az=43.5*
*IDC **31** 21:01:10.4±0.9, 189S×6901E, h0km, mb3.8/9, mb1 4.0/9, mb1mx3.8/23, mbtmp3.8/9, MS3.7/4, Ms1 3.7/4, ms1mx3.1/27, Error ellipse: s-maj=24.9km s-min=22.5km az=45.0*
*NEIC **31** 21:01:12.0±0.3, 193S×6898E, h10km, mb4.7/22, Error ellipse: s-maj=7.8km s-min=5.7km az=140.0*

ISC 31 21:01:12.4±0.3, **193S**±006×**6898E**±006, **h10**km, **n55, σ0§93/50, mb4.5/29, MS3.6/4, Carlsberg Ridge**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
MSEY	**Mahe Island**	**13.75**	**258**	Pn		**Pn**	**21 04 26.5**	**-1.0**
POO	**Poona**	**20.89**	**13**	*e*P		**P**	**21 05 58.0**	**+3.0**
KMBO	**Kilima Mbogo**	**31.73**	**271**	LR		LR	21 18 52.3	
	comp=Z,89nm,18.9s,MS3.5,baz=236,slow=33							
KMBO	**Kilima Mbogo**	**31.73**	**271**	*e*P		**P**	**21 07 38.1**	**+1.3**
	15nm,1.9s,mb4.5							
KOLN	**Koldanda**	**32.71**	**24**	*e*P		**P**	**21 07 45.5**	**+0.3**
	24nm,1.4s,mb4.9							
DMN	**Daman**	**33.22**	**27**	*e*P		**P**	**21 07 50.5**	**+0.8**
	22nm,0.9s,mb5.1							
DANN	**Dangsing**	**33.29**	**24**	*e*P		**P**	**21 07 50.8**	**+0.5**
	19nm,0.9s,mb5.0							
GKN	**Gorkha**	**33.35**	**26**	*e*P		**P**	**21 07 51.5**	**+0.6**
	39nm,1.1s,mb5.2							
RAMN	**Ramite**	**33.37**	**29**	*e*P		**P**	**21 07 52.5**	**+1.5**
KKN	**Kakani**	**33.46**	**27**	*e*P		**P**	**21 07 52.5**	**+0.8**
	17nm,0.9s,mb5.0							
ODAN	**Odare**	**33.69**	**31**	*e*P		**P**	**21 07 55.0**	**+1.2**
	66nm,1.7s,mb5.3							
JIRN	**Jiri**	**33.77**	**28**	*e*P		**P**	**21 07 54.6**	**+0.2**
GUN	**Gumba**	**33.83**	**28**	*e*P		**P**	**21 07 56.1**	**+1.1**
	44nm,1.1s,mb5.3							
TAPN	**Taplejung**	**34.25**	**30**	*e*P		**P**	**21 07 59.6**	**+0.9**
	23nm,1.2s,mb5.0							
CMAR	**Chiang Mai Arr**	**35.77**	**54**	P		**P**	**21 08 11.2**	**-0.8**
	1.8nm,1.0s,mb4.0,baz=245,slow=10,SNR=10							
CMAR				LR		LR	21 23 26.3	
	comp=Z,47nm,18.1s,MS3.3,baz=200,slow=37							
CHTO	**Chiang Mai**	**35.96**	**54**	*e*P		**P**	**21 08 13.0**	**-0.6**
	6.9nm,1.2s,mb4.5							
KBL	**Kabul**	**36.28**	**0**	*e*P		**P**	**21 08 15.8**	**-0.2**
	5.7nm,1.1s,mb4.4							
LSA	**Lhasa**	**37.93**	**32**	*e*P		**P**	**21 08 30.8**	**+0.6**
	20nm,1.7s,mb4.6							
LSZ	**Lusaka**	**42.35**	**249**	P		**P**	**21 09 07.2**	**+0.1**
	4.8nm,0.9s,mb4.1,baz=67,slow=13,SNR=6.7							
LSZ	**Lusaka**	**42.35**	**249**	*e*P		**P**	**21 09 08.3**	**+1.2**
	2.4nm,0.5s,mb4.1							
UCH	**Uchtor**	**44.24**	**6**	P		**P**	**21 09 20.9**	**-1.1**
EKS2	**Erkin-Say**	**44.60**	**5**	*e*P		**P**	**21 09 25.3**	**+0.5**
	3.9nm,1.3s,mb4.1							
TKM2	**Tokmak 2**	**45.05**	**7**	*e*P		**P**	**21 09 28.1**	**-0.2**
	4.1nm,0.8s,mb4.3							
GNI	**Garni**	**47.39**	**335**	P		**P**	**21 09 46.5**	**-0.3**
	6.6nm,0.8s,mb4.6							
LBTB	**Lobatse**	**47.69**	**237**	P		**P**	**21 09 49.0**	**-0.5**
BOSA	**Boshof**	**49.38**	**233**	LR		LR	21 27 00.5	
	comp=Z,66nm,20.2s,MS3.6,baz=257,slow=31							
BOSA	**Boshof**	**49.38**	**233**	P		**P**	**21 10 01.9**	**-0.5**
MK31	**Makanchi Array**	**49.92**	**12**	*e*P		**P**	**21 10 05.6**	**-0.6**
MKAR	**Makanchi Array**	**49.92**	**12**	P		**P**	**21 10 05.1**	**-1.1**
	0.5nm,0.8s,mb3.6,baz=216,slow=3.9,SNR=3.6							
BR131	**Keskin Array S**	**52.60**	**326**	*e*P		**P**	**21 10 26.2**	**-0.2**
	1.4nm,0.9s,mb3.9							
MBWA	**Marble Bar**	**52.97**	**115**	P		**P**	**21 10 29.1**	**-0.4**
KURK	**Kurchatov**	**53.09**	**8**	P		**P**	**21 10 28.2**	**-1.7**
	2.8nm,1.2s,mb4.1,baz=202,slow=8.0,SNR=6.5							
KURK	**Kurchatov**	**53.09**	**8**	*e*P		**P**	**21 10 29.4**	**-0.5**
	5.4nm,0.8s,mb4.5							
ZAA0	**Zalesovo Array**	**57.23**	**11**	*e*P		**P**	**21 10 57.4**	**-2.3**
ZALV	**Zalesovo Beam**	**57.23**	**11**	P		**P**	**21 10 58.3**	**-1.4**
	0.7nm,0.6s,mb3.9,baz=218,slow=9.4,SNR=6.6							
ARU	**Arti**	**58.79**	**353**	*e*P		**P**	**21 11 09.7**	**-0.9**
	8.6nm,1.1s,mb4.7							
SONM	**Songino Array**	**59.33**	**28**	P		**P**	**21 11 15.0**	**+0.4**
	2.8nm,1.1s,mb4.2,baz=214,slow=7.7,SNR=14							
BJT	**Baijiatuau**	**59.99**	**41**	P		**P**	**21 11 18.9**	**-0.4**
AKASG	**Malin Array Be**	**62.44**	**333**	P		**P**	**21 11 34.5**	**-1.1**
	0.4nm,0.4s,mb3.9,baz=114,slow=6.0,SNR=3.6							
WRA	**Warramunga Arr**	**66.21**	**111**	P		**P**	**21 12 00.4**	**-0.6**
	1.3nm,0.8s,mb4.0,baz=289,slow=5.9,SNR=20							
WRAB	**Tennant Creek**	**66.22**	**111**	*e*P		**P**	**21 12 00.8**	**-0.3**
	5.2nm,1.1s,mb4.5							
WB2	**Warramunga Arr**	**66.22**	**111**	*e*P		**P**	**21 12 00.3**	**-0.8**
ASAR	**Alice Springs**	**66.31**	**115**	P		**P**	**21 12 01.1**	**-0.5**
	0.7nm,0.6s,mb3.9,baz=281,slow=6.1,SNR=9.3							
TOA0	**Torodi Ar. Sit**	**68.39**	**285**	P		**P**	**21 12 14.3**	**-0.5**
CLL	**Collm**	**71.04**	**327**	*e*P		**P**	**21 12 32.0**	**+1.5**
STU	**Stuttgart**	**72.08**	**323**	P		**P**	**21 12 36.3**	**-0.5**
DBIC	**Dimbokro**	**74.19**	**277**	P		**P**	**21 12 50.7**	**+0.7**
STKA	**Stephens Creek**	**74.24**	**122**	*e*P		**P**	**21 12 49.5**	**-0.5**
ESDC	**Sonseca Array**	**78.17**	**311**	LR		LR	21 49 13.3	
	comp=Z,105nm,18.5s,MS4.2,baz=240,slow=37							
SNAA	**Sanae**	**82.50**	**198**	*e*P		**P**	**21 13 35.8**	**+0.9**
	1.7nm,1.0s,mb4.0							
TIXI	**Tiksi**	**82.70**	**16**	*e*P		**P**	**21 13 34.9**	**-1.0**
	1.1nm,0.2s,mb4.5							
TIXI				*e*PcP		PcP	21 13 41.0	+0.2
VNA2	**Neumayer--Watz**	**83.74**	**199**	*e*		**P**	**21 13 42.9**	**+1.6**
	baz=61,slow=4.6							
VNA2				*e*			21 13 50.5	
VNA3	**Neumayer Olymp**	**84.53**	**199**	*e*		**P**	**21 13 46.8**	**+1.5**
VNA3				*e*			21 13 54.0	
MCK	**McKinley**	**112.39**	**17**	PKiKP		PKiKP	21 19 47.0	-1.3
TXAR	**Lajitas Array**	**151.87**	**346**	PKPbc		PKPbc	21 21 08.8	+0.5
	1.3nm,1.0s,baz=67,slow=3.3,SNR=8.2							

*ISCJB **31** 21:15:53.7±0.1, 359N±003×48.11W±002, h10km, mb5.0/162, MS4.1/21, Error ellipse: s-maj=4.6km s-min=2.8km az=3.0*
*IDC **31** 21:15:53.4±0.4, 354N×4808W, h0km, mb4.8/19, mb1 4.9/20, mb1mx4.9/21, mbtmp4.8/20, ML4.3/1, MS3.9/13, Ms1 3.9/13, ms1mx3.8/20, Error ellipse: s-maj=13.7km s-min=12.3km az=147.0*
*MOS **31** 21:15:53.8±0.8, 361N×48.12W, h10km, mb5.2/75, MS4.2/4, Error ellipse: s-maj=6.4km s-min=4.6km az=56.9*
*BJI **31** 21:15:55.2, 350N×48.10W, h10km, mB5.3, Ms5.3, Msz4.9*
*GCMT **31** 21:15:55.2±0.4, 379N×4803W, h14km±1km, MW4.8/59, Moment Tensor Solution. s19,c23; s59,c78; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}2.40±.18; $M_{\theta\theta}$-1.80±.13; $M_{\phi\phi}$-0.60±.12; $M_{r\theta}$0.11±.24; $M_{r\phi}$-0.64±.09; $M_{\theta\phi}$0.42±.30; Best double couple: $M_0$2.27500×10^{16} NP1:ϕ_s253.00000°, δ42.00000°, λ101.00000°. NP2: ϕ_s59.00000°, δ49.00000°, λ81.00000°. Principal axes: T 2.4590, Plg82.0000°, Azm272.0000°; N -0.3690, Plg7.0000°, Azm66.0000°; P -2.0910, Plg3.0000°, Azm156.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **31** 21:15:55.2±0.1, 350N×48.12W, h10km, mb5.1/127 Error ellipse: s-maj=3.6km s-min=2.4km az=179.0*
*SZGRF **31** 21:17:08.3, 438N×4642W, h33km, mb5.1, North Atlantic Ocean*
*DJA **31** 21:17:09, 149N×4643W, h601km, mb4.5/4*

ISC 31 21:15:55.6±0.1, **356N**±003×**4811W**±002, **h10**km, **(h8**km±1.4km**:pP-P), n804, σ0§64/765, mb5.0/162, MS4.1/21, 270C-157D, North Atlantic Ocean**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
RCBR	**Riachuelo**	**15.35**	**127**	*e*Pn		**Pn**	**21 19 31.5**	**-0.9**
	11nm,0.8s							
RCBR				*e*Sn		**Sn**	**21 22 25.0**	**+2.4**
PCRV	**Puerto La Cruz**	**17.67**	**293**	P		**Pn**	**21 19 58.0**	**-4.1**
	2.7nm,0.3s,baz=153,slow=3.1,SNR=6.7							
PCRV				S		Sn	21 22 57.2	-22
	0.5nm,0.3s,baz=352,slow=22,SNR=2.1							
PCRV				LR		LR	21 28 22.4	
	comp=Z,207nm,20.0s,baz=251,slow=42							
PCRV	**Puerto La Cruz**	**17.67**	**293**	P		**Pn**	**21 19 58.0**	**-4.1**
PCRV				S		Sn	21 22 57.2	-22
PCRV				LR		LR	21 28 22.4	
BDFB	**Brasilia**	**19.07**	**180**	P		**Pn**	**21 20 16.2**	**-3.0**
	0.5nm,0.3s,baz=352,slow=20,SNR=12							
BDFB				S		**Sn**	**21 23 36.5**	**-17**
	0.4nm,0.3s,baz=349,slow=26,SNR=2.6							
BDFB				LR		LR	21 28 25.4	
	comp=Z,278nm,20.2s,baz=345,slow=40							
BDFB	**Brasilia**	**19.07**	**180**	*e*P		**Pn**	**21 20 16.2**	**-3.0**
BDFB				pmax		pmax		
	comp=Z,14nm,0.8s							
BDFB	**Brasilia**	**19.07**	**180**	*e*P		**Pn**	**21 20 16.2**	**-3.0**
	comp=Z,14nm,0.8s							
HUMP	**Col San Antoni**	**22.63**	**311**	*e*P		**P**	**21 20 56.8**	**-0.1**
	comp=Z,34nm,1.0s,mb4.7							
SJG	**San Juan**	**22.84**	**311**	P		**P**	**21 20 58.9**	**-0.2**
SIV	**San Ignacio**	**23.28**	**213**	P		**P**	**21 21 03.3**	**-0.4**
	comp=Z,9.5nm,0.9s,mb4.2,baz=55,slow=9.3,SNR=34							
SIV				S		**S**	**21 25 09.0**	**-7.0**
	comp=Z,2.8nm,0.8s,baz=359,slow=21,SNR=2.0							
CAM3	**Guarapari**	**25.26**	**163**	*e*P		**P**	**21 21 24.3**	**+2.1**
CAM3				(S)		**S**	**21 25 44.2**	**-3.7**
ROSC	**El Rosal**	**26.18**	**274**	P		**P**	**21 21 31.0**	**+0.3**
	comp=Z,13nm,0.4s,mb4.8,baz=296,slow=23,SNR=8.1							
ROSC	**El Rosal**	**26.18**	**274**	*e*P		**P**	**21 21 30.7**	**0.0**
CAM4	**Nova Friburgo**	**26.32**	**168**	(P)		**P**	**21 21 28.9**	**-2.8**
CAM4				(S)		**S**	**21 25 55.9**	**-8.8**
LPAZ	**La Paz**	**27.94**	**225**	P		**P**	**21 21 47.6**	**+1.2**
	comp=Z,4.7nm,0.5s,mb4.4,baz=38,slow=7.9,SNR=20							
LPAZ				S		S	21 27 08.3	+38
	comp=Z,0.7nm,0.5s,baz=89,slow=16,SNR=1.9							
LPAZ				LR		LR	21 34 02.1	
	comp=Z,312nm,19.2s,MS3.9,baz=75,slow=39							
LPAZ	**La Paz**	**27.94**	**225**	*e*P		**P**	**21 21 46.4**	**0.0**
LPAZ				*e*S		**S**	**21 26 31.6**	**+1.1**
LPAZ				pmax		pmax		
	comp=Z,11nm,1.0s							
LPAZ	**La Paz**	**27.94**	**225**	*e*P		**P**	**21 21 46.4**	**-0.1**
	comp=Z,11nm,1.0s,mb4.4							
LPAZ				*e*S		**S**	**21 26 31.6**	**+1.1**
OTAV	**Otavalo**	**30.50**	**264**	*e*P		**P**	**21 22 10.1**	**+0.8**
	comp=Z,14nm,1.3s,mb4.6							
NNA	**Nana**	**32.48**	**241**	*e*P		**P**	**21 22 26.0**	**-0.6**
	comp=Z,24nm,1.3s,mb4.9							
BBSR	**BB Station**	**32.62**	**333**	P		**P**	**21 22 27.2**	**-0.4**
LVC	**Limon Verde**	**33.01**	**217**	*e*P		**P**	**21 22 30.0**	**-1.2**
JTS	**JuntasAbangare**	**37.16**	**282**	*e*P		**P**	**21 23 06.8**	**-0.3**
JTS				pmax		pmax		
	comp=Z,3.0nm,0.4s							
JTS	**JuntasAbangare**	**37.16**	**282**	*e*P		**P**	**21 23 06.8**	**-0.3**
	comp=Z,3.2nm,0.4s,mb4.5							
LCO	**Las Campanas**	**38.98**	**212**	P		**P**	**21 23 23.2**	**+1.0**
CNGN	**Cerro Negro**	**39.18**	**285**	P		**P**	**21 23 25.2**	**+1.0**
CFAA	**Coronel Fontan**	**39.87**	**207**	P		**P**	**21 23 28.4**	**-1.2**
	comp=Z,0.3nm,0.5s,baz=21,slow=10,SNR=7.9							
CFAA				PcP		PcP	21 25 35.8	+0.3
	comp=Z,0.2nm,0.4s,baz=4.1,slow=3.8,SNR=3.8							
DWPF	**Disney**	**40.04**	**311**	P		**P**	**21 23 29.6**	**-1.6**
DWPF				*e*PP		PP	21 25 03.6	+0.3
PAYG	**Puerto Ayora**	**42.37**	**265**	*e*P		**P**	**21 23 50.2**	**-0.3**
	comp=Z,25nm,0.8s,mb4.9							
TEIG	**Tepich**	**42.49**	**296**	P		**P**	**21 23 51.2**	**-0.3**
	comp=Z,32nm,0.8s,mb5.0,baz=178,slow=1.6,SNR=11							
TEIG	**Tepich**	**42.49**	**296**	*e*P		**P**	**21 23 51.2**	**-0.2**
	comp=Z,41nm,0.9s,mb5.1							
LIC	**Lamto**	**42.99**	**85**	⇑*i*P		**P**	**21 23 54.7**	**-0.9**
	comp=Z,55nm,1.0s,mb5.0							
LIC				*e*MLR		MLR		
	comp=Z,343nm,17.8s,MS4.0							
LIC	**Lamto**	**42.99**	**85**	*e*P		**P**	**21 23 54.6**	**-1.0**
	comp=Z,77nm,1.0s,mb5.4							
LIC	**Lamto**	**42.99**	**85**	⇑*i*P		**P**	**21 23 54.7**	**-0.9**
	comp=Z,27nm,1.0s,mb4.9							
LIC				LR		LR		
	comp=Z,170nm,17.8s,MS4.0							
TIC	**Toumodi**	**43.01**	**84**	*e*P		**P**	**21 23 54.5**	**-1.3**
	comp=Z,28nm,0.7s,mb5.1							
TIC	**Toumodi**	**43.01**	**84**	*e*P		**P**	**21 23 54.5**	**-1.3**
TIC				pmax		pmax		
	comp=Z,28nm,0.7s,mb5.1							
DBIC	**Dimbokro**	**43.18**	**84**	P		**P**	**21 23 56.2**	**-0.9**
	comp=Z,13nm,0.5s,mb4.9,baz=251,slow=8.7,SNR=36							
DBIC				LR		LR	21 39 11.8	
	comp=Z,159nm,18.7s,MS3.9,baz=144,slow=32							
DBIC	**Dimbokro**	**43.18**	**84**	P		**P**	**21 23 56.2**	**-0.9**
DBIC				LR		LR	21 39 11.8	
KIC	**Kosan Boka**	**43.28**	**85**	*e*P		**P**	**21 23 56.9**	**-1.1**
	comp=Z,45nm,0.7s,mb5.3							
BRNJ	**Basking Ridge**	**43.98**	**331**	*e*P		**P**	**21 24 03.2**	**0.0**
	comp=Z,20nm,0.5s,mb5.1							
MVL	**Millersville**	**44.37**	**329**	*e*P		**P**	**21 24 06.8**	**+0.6**
	comp=Z,20nm,1.1s,mb4.8							
LBNH	**Lisbon**	**45.64**	**336**	*e*P		**P**	**21 24 16.7**	**+0.4**
LBNH				pmax		pmax		
	comp=Z,24nm,0.8s,mb5.2							
LBNH	**Lisbon**	**45.64**	**336**	*e*P		**P**	**21 24 16.7**	**+0.4**
	comp=Z,24nm,0.8s,mb5.2							
BINY	**Binghamton**	**45.83**	**331**	*e*P		**P**	**21 24 18.4**	**+0.5**
	comp=Z,40nm,1.4s,mb5.2							
TKL	**Tuckaleechee C**	**45.88**	**319**	P		**P**	**21 24 18.7**	**+0.3**
	comp=Z,16nm,0.8s,mb5.0,baz=138,slow=8.4,SNR=6.6							
TKL	**Tuckaleechee C**	**45.88**	**319**	P		**P**	**21 24 18.7**	**+0.2**
CPCT	**Cooper Cave**	**46.26**	**318**	*e*P		**P**	**21 24 22.0**	**+0.6**
CPCT				*e*ScP		ScP	21 29 58.3	+7.7
LRAL	**Lakeview Retre**	**46.69**	**314**	*e*P		**P**	**21 24 25.1**	**+0.3**
FRNY	**Flat Rock**	**46.81**	**335**	*e*P		**P**	**21 24 26.2**	**+0.6**
	comp=Z,30nm,0.9s,mb5.2							
SWET	**Sewanee**	**47.09**	**317**	*e*P		**P**	**21 24 28.6**	**+0.7**
ACSO	**Alum Creek Sta**	**48.20**	**324**	*e*P		**P**	**21 24 36.3**	**-0.1**
	comp=Z,29nm,0.8s,mb5.4							
PLCA	**Paso Flores**	**48.63**	**203**	*e*P

ESLA Sonseca Array 53.70 42 *eP* **P 21 25 18.1 +0.2**
comp=Z,6.5nm,1.2s,mb4.4

GUD Guadarrama 54.07 41 P **P 21 25 20.7 +0.1**
GUD pmax pmax
comp=Z,11nm,0.7s,mb4.9

GUD Guadarrama 54.07 41 P **P 21 25 20.7 +0.2**
comp=Z,10nm,0.7s,mb4.9

EVIA Vianos 54.18 44 P **P 21 25 21.9 +0.5**
EVIA pmax pmax
comp=Z,15nm,0.8s,mb5.0

EVIA Vianos 54.18 44 P **P 21 25 21.9 +0.5**
comp=Z,15nm,0.8s,mb5.0

EMUR La Murta 54.70 45 P **P 21 25 21.6 -3.5**
comp=Z,118nm,2.4s,mb5.5

ETOB Tobarra 54.85 44 P **P 21 25 26.4 +0.1**
comp=Z,162nm,2.7s,mb5.6

TAM Tamanrasset 55.25 65 *eP* **P 21 25 30.1 +0.6**
JCT Junction City 55.59 305 *eP* **P 21 25 31.2 -0.5**
JCT pmax pmax
comp=Z,24nm,1.0s,mb5.2

JCT Junction City 55.59 305 *eP* **P 21 25 31.2 -0.6**
comp=Z,24nm,1.0s,mb5.2

JCT *eScP* ScP 21 30 38.0 +7.2
EFI East Falkland 55.67 187 P **P 21 25 32.0 +0.1**
ELAN Lanestosa 55.88 38 P **P 21 25 33.6 0.0**
comp=Z,239nm,3.0s

KSU1 Kansas State U 56.41 316 *eP* **P 21 25 36.0 -1.4**
comp=Z,44nm,0.9s,mb5.5

ESAC San Caprasio 57.02 41 P **P 21 25 42.1 +0.4**
comp=Z,239nm,1.8s,mb5.9

SJPF Ste Jean 57.21 39 *eP* **P 21 25 43.8 +0.7**
comp=Z,82nm,1.4s,mb5.3

SJPF Ste Jean 57.21 39 *eP* **P 21 25 43.8 +0.7**
SJPF pmax pmax
comp=Z,41nm,1.4s,mb5.3

SJPF Ste Jean 57.21 39 *eP* **P 21 25 43.8 +0.7**
comp=Z,41nm,1.4s,mb5.3

ETSF Etsaut 57.53 40⇑*iP* **P 21 25 46.3 +1.0**
comp=Z,20nm,0.9s,mb4.8

ETSF Etsaut 57.53 40⇑*iP* **P 21 25 46.3 +1.0**
ETSF pmax pmax
comp=Z,10.0nm,0.9s,mb4.8

ETSF Etsaut 57.53 40⇑*iP* **P 21 25 46.3 +1.0**
comp=Z,10nm,0.9s,mb4.8

EPF Esparros 58.17 40⇑*iP* **P 21 25 50.8 +0.9**
comp=Z,96nm,1.6s,mb5.3

EPF Esparros 58.17 40⇑*iP* **P 21 25 50.8 +0.9**
EPF pmax pmax
comp=Z,48nm,1.6s,mb5.3

EPF Esparros 58.17 40⇑*iP* **P 21 25 50.8 +0.9**
comp=Z,48nm,1.6s,mb5.3

TXAR Lajitas Array 58.47 302 P **P 21 25 52.6 +0.4**
comp=Z,27nm,0.8s,mb5.3,baz=127,slow=8.0,SNR=218

TXAR PcP PcP 21 26 42.8 0.0
comp=Z,3.6nm,1.0s,baz=117,slow=7.4,SNR=2.0

CBKS Cedar Bluff 58.50 314 *eP* **P 21 25 51.6 -0.7**
CBKS pmax pmax
comp=Z,40nm,0.9s,mb5.5

CBKS Cedar Bluff 58.50 314 *eP* **P 21 25 51.6 -0.7**
comp=Z,40nm,0.9s,mb5.5

ECSD EROS,Sioux Fal 58.55 320 *eP* **P 21 25 51.2 -1.3**
comp=Z,15nm,0.8s,mb5.1

QUIF Quistinic 58.61 34⇑*iP* **P 21 25 52.7 -0.1**
comp=Z,24nm,0.8s,mb5.0

QUIF Quistinic 58.61 34⇑*iP* **P 21 25 52.7 -0.1**
QUIF pmax pmax
comp=Z,12nm,0.8s,mb5.0

QUIF Quistinic 58.61 34⇑*iP* **P 21 25 52.7 -0.1**
comp=Z,12nm,0.8s,mb5.0

ROSF Rostrenen 58.79 33 *eP* **P 21 25 54.1 0.0**
comp=Z,88nm,1.3s,mb5.3

ROSF Rostrenen 58.79 33 *eP* **P 21 25 54.1 0.0**
ROSF pmax pmax
comp=Z,44nm,1.3s,mb5.3

ROSF Rostrenen 58.79 33 *eP* **P 21 25 54.1 0.0**
comp=Z,44nm,1.3s,mb5.3

SGMF Saint Gilles 59.14 34 *eP* **P 21 25 56.5 0.0**
comp=Z,166nm,1.4s,mb5.6

SGMF Saint Gilles 59.14 34 *eP* **P 21 25 56.5 0.0**
SGMF pmax pmax
comp=Z,83nm,1.4s,mb5.6

SGMF Saint Gilles 59.14 34 *eP* **P 21 25 56.5 0.0**
comp=Z,83nm,1.4s,mb5.6

LFF La Frestale 59.34 38⇑*iP* **P 21 25 58.0 0.0**
comp=Z,14nm,0.7s,mb4.8

LFF La Frestale 59.34 38⇑*iP* **P 21 25 58.0 0.0**
LFF pmax pmax
comp=Z,7.0nm,0.7s,mb4.8

LFF La Frestale 59.34 38⇑*iP* **P 21 25 58.0 0.0**
comp=Z,6.8nm,0.7s,mb4.8

MTLF Montolieu 59.53 41 *eP* **P 21 25 58.9 -0.4**
comp=Z,46nm,1.5s,mb5.0

MTLF Montolieu 59.53 41 *eP* **P 21 25 58.9 -0.4**
MTLF pmax pmax
comp=Z,23nm,1.5s,mb5.0

MTLF Montolieu 59.53 41 *eP* **P 21 25 58.9 -0.4**
comp=Z,23nm,1.5s,mb5.0

MFF Saint Martin d 59.64 36⇑*iP* **P 21 26 00.0 0.0**
comp=Z,43nm,1.1s,mb5.1

MFF Saint Martin d 59.64 36⇑*iP* **P 21 26 00.0 0.0**
MFF pmax pmax
comp=Z,21nm,1.1s,mb5.1

MFF Saint Martin d 59.64 36⇑*iP* **P 21 26 00.0 0.0**
comp=Z,21nm,1.1s,mb5.1

GDL2 Guadalupe Moun 59.82 305 *eP* **P 21 26 01.8 +0.2**
GRR Gorron 60.16 34⇑*iP* **P 21 26 03.2 -0.3**
comp=Z,30nm,1.1s,mb4.9

GRR Gorron 60.16 34⇑*iP* **P 21 26 03.2 -0.3**
GRR pmax pmax
comp=Z,15nm,1.1s,mb4.9

GRR Gorron 60.16 34⇑*iP* **P 21 26 03.2 -0.3**
comp=Z,15nm,1.1s,mb4.9

CAF Calviac 60.16 39 *eP* **P 21 26 03.6 0.0**
comp=Z,64nm,1.4s,mb5.2

CAF Calviac 60.16 39 *eP* **P 21 26 03.6 0.0**
CAF pmax pmax
comp=Z,32nm,1.4s,mb5.2

CAF Calviac 60.16 39 *eP* **P 21 26 03.6 0.0**
comp=Z,32nm,1.4s,mb5.2

AGMN Agassiz Refuge 60.40 325 *eP* **P 21 26 03.6 -1.5**
comp=Z,19nm,0.8s,mb5.2

FLN La Foliniere 60.57 34⇑*iP* **P 21 26 06.0 -0.3**
comp=Z,32nm,1.0s,mb5.1

FLN *eMLR* MLR
comp=Z,89nm,19.0s,MS3.6

FLN La Foliniere 60.57 34⇑*iP* **P 21 26 06.0 -0.3**
FLN pmax pmax
comp=Z,16nm,1.0s,mb5.1

FLN MLR MLR
comp=Z,90nm,19.0s,MS3.9

FLN La Foliniere 60.57 34⇑*iP* **P 21 26 06.0 -0.3**
comp=Z,16nm,1.0s,mb5.1

FLN LR LR
comp=Z,90nm,19.0s,MS3.9

LDF La Druitiere 60.68 34⇑*iP* **P 21 26 06.7 -0.4**
comp=Z,56nm,1.0s,mb5.3

LDF La Druitiere 60.68 34⇑*iP* **P 21 26 06.7 -0.4**
LDF pmax pmax
comp=Z,28nm,1.0s,mb5.3

LDF La Druitiere 60.68 34⇑*iP* **P 21 26 06.7 -0.4**
comp=Z,28nm,1.0s,mb5.3

TCF Toulx Ste Croi 60.90 38⇑*iP* **P 21 26 08.4 -0.2**
LASF Ste Croix 60.92 41⇑*iP* **P 21 26 09.3 +0.5**
comp=Z,63nm,1.3s,mb5.3

OGNE Ogallala 60.96 316 *eP* **P 21 26 08.9 -0.2**
comp=Z,21nm,0.8s,mb5.3

BGF Bois d'Agland 61.41 38⇑*iP* **P 21 26 12.0 -0.1**
comp=Z,46nm,1.1s,mb5.2

BGF Bois d'Agland 61.41 38⇑*iP* **P 21 26 12.0 -0.1**
BGF pmax pmax
comp=Z,20nm,1.1s,mb5.2

BGF Bois d'Agland 61.41 38⇑*iP* **P 21 26 12.0 -0.1**
comp=Z,20nm,1.1s,mb5.2

ULM Lac du Bonnet 61.45 327 P **P 21 26 10.2 -2.1**
comp=Z,21nm,0.8s,mb5.3,baz=124,slow=6.2,SNR=12

ULM LR LR 21 50 46.8
comp=Z,207nm,20.4s,MS4.3,baz=73,slow=34

HYF Humbligny 61.62 37 *eP* **P 21 26 13.6 +0.1**
VIVF Saint-Julien-l 61.79 40⇑*iP* **P 21 26 15.3 +0.6**
comp=Z,40nm,1.2s,mb5.1

VIVF Saint-Julien-l 61.79 40⇑*iP* **P 21 26 15.3 +0.6**
VIVF pmax pmax
comp=Z,20nm,1.2s,mb5.1

VIVF Saint-Julien-l 61.79 40⇑*iP* **P 21 26 15.3 +0.6**
comp=Z,20nm,1.2s,mb5.1

KEST Kesra 61.79 51 P **P 21 26 15.0 +0.1**
comp=Z,2.5nm,0.8s,mb4.4,baz=345,slow=2.5,SNR=6.4

KEST LR LR 21 54 56.3
comp=Z,51nm,18.3s,MS3.7,baz=226,slow=38

AVF Avril sur Loir 61.83 38⇑*iP* **P 21 26 14.7 -0.2**
comp=Z,28nm,1.1s,mb5.0

AVF Avril sur Loir 61.83 38⇑*iP* **P 21 26 14.7 -0.2**
AVF pmax pmax
comp=Z,14nm,1.1s,mb5.0

AVF Avril sur Loir 61.83 38⇑*iP* **P 21 26 14.7 -0.2**
comp=Z,14nm,1.1s,mb5.0

SSF Saint Saulge 62.05 37⇑*iP* **P 21 26 16.0 -0.4**
comp=Z,25nm,1.0s,mb5.0

SSF Saint Saulge 62.05 37⇑*iP* **P 21 26 16.0 -0.4**
SSF pmax pmax
comp=Z,13nm,1.0s,mb5.0

SSF Saint Saulge 62.05 37⇑*iP* **P 21 26 16.0 -0.4**
comp=Z,13nm,1.0s,mb5.0

SMF Signal de Mont 62.06 38⇑*iP* **P 21 26 16.4 -0.1**
comp=Z,31nm,1.2s,mb5.0

SMF Signal de Mont 62.06 38⇑*iP* **P 21 26 16.4 -0.1**
SMF pmax pmax
comp=Z,15nm,1.2s,mb5.0

SMF Signal de Mont 62.06 38⇑*iP* **P 21 26 16.4 -0.1**
comp=Z,15nm,1.2s,mb5.0

BNM Barren Site 62.18 307 *eP* **P 21 26 17.5 0.0**
LPM Los Pinos Moun 62.23 307 *eP* **P 21 26 18.0 +0.1**
ANMO Albuquerque 62.27 308 *eP* **P 21 26 18.5 +0.4**
ANMO pmax pmax
comp=Z,13nm,1.1s

ANMO Albuquerque 62.27 308 *eP* **P 21 26 18.5 +0.4**
comp=Z,12nm,1.1s,mb5.0

LOR Lormes 62.36 37 *eP* **P 21 26 18.3 -0.1**
comp=Z,16nm,0.8s,mb4.9

LOR *eMLR* MLR
comp=Z,164nm,17.0s,MS4.0

LOR Lormes 62.36 37 *eP* **P 21 26 18.3 -0.1**
LOR pmax pmax
comp=Z,8.0nm,0.8s,mb4.9

LOR MLR MLR
comp=Z,160nm,17.0s,MS4.2

LOR Lormes 62.36 37 *eP* **P 21 26 18.3 -0.1**
comp=Z,8.1nm,0.8s,mb4.9

LOR LR LR
comp=Z,160nm,17.0s,MS4.2

SDCO Great Sand Dun 62.36 311 *eP* **P 21 26 19.3 +0.7**
comp=Z,17nm,1.0s,mb5.1

LENM Lemitar 62.46 307 *eP* **P 21 26 19.9 +0.5**
LAZ Ladron 62.66 307 *eP* **P 21 26 21.3 +0.5**
ESK Eskdalemuir 62.95 27 *eP* **P 21 26 22.2 -0.1**
MBDF Montbardon 63.09 41 *eP* **P 21 26 23.5 +0.1**
comp=Z,28nm,1.2s,mb5.0

MBDF Montbardon 63.09 41 *eP* **P 21 26 23.5 +0.1**
MBDF pmax pmax
comp=Z,14nm,1.2s,mb5.0

MBDF Montbardon 63.09 41 *eP* **P 21 26 23.5 +0.1**
comp=Z,14nm,1.2s,mb5.0

ISCO Idaho Springs 63.10 313 *eP* **P 21 26 24.1 +0.5**
ISCO pmax pmax
comp=Z,15nm,1.0s,mb5.1

ISCO Idaho Springs 63.10 313 *eP* **P 21 26 24.1 +0.5**
comp=Z,15nm,1.0s,mb5.1

SFJD Kangerlussuaq 63.35 359⇑*iP* **P 21 26 23.7 -1.0**
SFJD pmax pmax
comp=Z,23nm,1.0s,mb5.3

SFJD Kangerlussuaq 63.35 359⇑*iP* **P 21 26 23.7 -1.0**
comp=Z,23nm,1.0s,mb5.3

LPL La Plagne 63.39 40⇑*iP* **P 21 26 26.1 +0.8**
comp=Z,27nm,1.2s,mb5.0

LPL La Plagne 63.39 40⇑*iP* **P 21 26 26.1 +0.8**
LPL pmax pmax
comp=Z,14nm,1.2s,mb5.0

LPL La Plagne 63.39 40⇑*iP* **P 21 26 26.1 +0.8**
comp=Z,14nm,1.2s,mb5.0

LPG La Plagne 63.39 40 *eP* **P 21 26 26.5 +1.1**
comp=Z,9.2nm,0.9s,mb4.6

LPG La Plagne 63.39 40 *eP* **P 21 26 26.5 +1.1**
LPG pmax pmax
comp=Z,5.0nm,0.9s,mb4.6

LPG La Plagne 63.39 40 *eP* **P 21 26 26.5 +1.1**
comp=Z,4.6nm,0.9s,mb4.6

CABF La Chapelle 63.44 39 *eP* **P 21 26 25.8 +0.2**
comp=Z,21nm,1.1s,mb4.9

CABF La Chapelle 63.44 39 *eP* **P 21 26 25.8 +0.2**
CABF pmax pmax
comp=Z,11nm,1.1s,mb4.9

CABF La Chapelle 63.44 39 *eP* **P 21 26 25.8 +0.2**
comp=Z,11nm,1.1s,mb4.9

PHWY Pilot Hill 63.50 315 *eP* **P 21 26 26.5 +0.3**
RSSD Black Hills 63.55 318 *eP* **P 21 26 26.1 -0.3**
RSSD pmax pmax
comp=Z,6.0nm,0.9s,mb4.6

RSSD Black Hills 63.55 318 *eP* **P 21 26 26.1 -0.4**
comp=Z,5.7nm,0.9s,mb4.6

MEZF Maizieres J'vi 63.64 36⇑*iP* **P 21 26 26.5 -0.4**
comp=Z,21nm,0.8s,mb4.9

MEZF Maizieres J'vi 63.64 36⇑*iP* **P 21 26 26.5 -0.4**
comp=Z,21nm,0.8s,mb5.2

319A Douglas 63.67 303 ⇓P **P 21 26 27.9 +0.4**
baz=64,SNR=10.0

PGF Pioggiola 63.76 44 *eP* **P 21 26 27.7 -0.2**
comp=Z,107nm,1.4s,mb5.4

PGF Pioggiola 63.76 44 *eP* **P 21 26 27.7 -0.2**
PGF pmax pmax
comp=Z,54nm,1.4s,mb5.4

PGF Pioggiola 63.76 44 *eP* **P 21 26 27.7 -0.2**
comp=Z,54nm,1.4s,mb5.4

219A White Tail Can 63.79 304 ⇓P **P 21 26 28.7 +0.4**
baz=64,SNR=14

BAIF Baives 63.87 35⇑*iP* **P 21 26 27.8 -0.6**
comp=Z,22nm,1.2s,mb4.8

BAIF Baives 63.87 35⇑*iP* **P 21 26 27.8 -0.6**
BAIF pmax pmax
comp=Z,11nm,1.2s,mb4.8

BAIF Baives 63.87 35⇑*iP* **P 21 26 27.8 -0.6**
comp=Z,11nm,1.2s,mb4.8

SMCO Snowmass 63.90 312 *eP* **P 21 26 29.3 +0.4**
comp=Z,16nm,1.1s,mb5.0

119A Ashpeak Ranch, 64.00 305 ⇓P **P 21 26 30.3 +0.6**
baz=64

BORG Bogarnes 64.03 12 *eP* **P 21 26 29.6 +0.4**
Z19A T-Link Ranch, 64.09 305 ⇑P **P 21 26 30.8 +0.5**
baz=64

HAU Haudompre 64.19 37⇑*iP* **P 21 26 30.1 -0.5**
comp=Z,23nm,1.1s,mb4.8

HAU *eMLR* MLR
comp=Z,173nm,17.0s,MS4.0

HAU Haudompre 64.19 37⇑*iP* **P 21 26 30.1 -0.5**
HAU pmax pmax
comp=Z,11nm,1.1s,mb4.8

HAU MLR MLR
comp=Z,170nm,17.0s,MS4.3

HAU Haudompre 64.19 37⇑*iP* **P 21 26 30.1 -0.5**
comp=Z,11nm,1.1s,mb4.8

HAU LR LR
comp=Z,170nm,17.0s,MS4.3

GIVF Givet 64.24 35 *eP* **P 21 26 30.1 -0.8**
Y19A Nutrioso 64.24 306 ⇑P **P 21 26 32.4 +1.2**
baz=64,SNR=58

318A Bisbee 64.28 303 ⇑P **P 21 26 31.7 +0.2**
baz=64,SNR=9.0

X19A St. Johns 64.38 307 ⇑P **P 21 26 33.2 +1.1**
baz=64

HINF Hinteralfeld 64.42 38⇑*iP* **P 21 26 31.6 -0.5**
comp=Z,18nm,1.0s,mb4.7

HINF Hinteralfeld 64.42 38⇑*iP* **P 21 26 31.6 -0.5**
HINF pmax pmax
comp=Z,9.0nm,1.0s,mb4.8

HINF Hinteralfeld 64.42 38⇑*iP* **P 21 26 31.6 -0.5**
comp=Z,8.9nm,1.0s,mb4.8

218A Dron 64.44 304 ⇓P **P 21 26 33.0 +0.5**
baz=64,SNR=13

MVCO Mesa Verde 64.48 310 ⇑P **P 21 26 32.7 0.0**
baz=64

V19A Window Rock 64.51 308 ⇑P **P 21 26 33.2 +0.3**
baz=64

118A Homack Ranch, 64.52 304 ⇑P **P 21 26 33.8 +0.7**
baz=64,SNR=17

W19A Sanders 64.63 307 ⇓P **P 21 26 34.0 +0.3**
baz=65,SNR=14

Z18A Geronimo 64.67 305 ⇑P **P 21 26 35.0 +0.9**
baz=65

T19A Beclabito 64.78 309 ⇑P **P 21 26 34.9 +0.2**
baz=65

PV01 Paradox Valley 64.79 311 *eP* **P 21 26 35.4 +0.6**
Y18A Canyon Day Jun 64.83 306 ⇑P **P 21 26 35.9 +0.8**
baz=65

W18A Petrified Fore 64.91 307 ⇑P **P 21 26 35.5 -0.1**
baz=65

CDF Champ du Feu 64.93 37⇑*iP* **P 21 26 35.0 -0.4**
comp=Z,15nm,1.0s,mb4.7

CDF Champ du Feu 64.93 37⇑*iP* **P 21 26 35.0 -0.4**
CDF pmax pmax
comp=Z,8.0nm,1.0s,mb4.7

CDF Champ du Feu 64.93 37⇑*iP* **P 21 26 35.0 -0.4**
comp=Z,7.6nm,1.0s,mb4.7

X18A Snowflake 64.94 307 ⇑P **P 21 26 36.7 +0.9**
baz=65,SNR=13

217A Green Valley 65.04 303 ⇑P **P 21 26 36.4 -0.1**
baz=65,SNR=19

Z17A San Carlos Hig 65.08 305 ⇓P **P 21 26 37.5 +0.8**
baz=65

S19A Harvey Farm, M 65.11 310 ⇓P **P 21 26 36.7 -0.2**
baz=65,SNR=5.7

TUC Tucson 65.12 304 *eP* **P 21 26 35.6 -1.4**
TUC pmax pmax
comp=Z,16nm,0.9s,mb5.0

TUC Tucson 65.12 304 *eP* **P 21 26 35.6 -1.4**
comp=Z,16nm,0.9s,mb5.0

117A Oracle 65.14 304 ⇓P **P 21 26 37.3 +0.2**
baz=65,SNR=11

V18A Ganado 65.21 308 ⇓P **P 21 26 37.3 -0.2**
baz=65

PV10 Paradox Valley 65.21 311 *eP* **P 21 26 37.8 +0.3**
U18A Rough Rock, Ch 65.33 309 ⇑P **P 21 26 38.4 +0.1**
baz=65

R19A Curley Farm, L 65.36 311 ⇑P **P 21 26 38.7 +0.3**
baz=65,SNR=6.8

DGMT Dagmar 65.38 323 ⇑P **P 21 26 37.7 -0.7**
baz=65

DGMT Dagmar 65.38 323 *eP* **P 21 26 38.3 0.0**
comp=Z,48nm,0.8s,mb5.6

Y17A Roosevelt 65.47 305 ⇑P **P 21 26 39.8 +0.6**
baz=66,SNR=14

T18A Mexican Hat 65.52 309 ⇑P **P 21 26 39.3 -0.2**
baz=66,SNR=15

P19A Cripple Cowboy 65.52 312 ⇑P **P 21 26 39.2 -0.3**
baz=66,SNR=8.7

BFO Black Forest 65.53 38 P **P 21 26 39.3 0.0**
comp=Z,116nm,1.2s,mb5.8,SNR=5.4

BFO Black Forest 65.53 38 *eP* **P 21 26 39.2 -0.1**
BFO pmax pmax
comp=Z,24nm,1.1s,mb5.1

BFO Black Forest 65.53 38 *eP* **P 21 26 39.2 -0.1**
comp=Z,24nm,1.1s,mb5.1

FCC Fort Churchill 65.54 336 *eP* **P 21 26 38.0 -1.2**
Q19A Hogan Spring (65.54 311 ⇓P **P 21 26 39.6 0.0**
baz=66,SNR=8.3

X17A Forest Lakes 65.58 306 ⇑P **P 21 26 40.3 +0.4**
baz=66,SNR=14

216A Three Points, 65.62 304 ⇓P **P 21 26 40.8 +0.6**
baz=66

W17A Winslow 65.68 307 ⇓P **P 21 26 41.0 +0.4**
baz=66

S18A Hurst Farm, Bl 65.76 310 ⇓P **P 21 26 40.9 -0.1**
baz=66,SNR=16

L20A Wamsutter 65.77 315 ⇓P **P 21 26 40.9 -0.1**
baz=66

O19A Miners Draw (B 65.82 313 ⇓P **P 21 26 41.0 -0.3**
baz=66,SNR=5.6

R18A Canyonlands Na 65.86 311 ⇑P **P 21 26 41.5 -0.1**
baz=66,SNR=9.5

Z16A Peralta Trail, 65.87 305 ⇓P **P 21 26 42.8 +1.0**
baz=66

LAO LASA Array 65.94 320 *eP* **P 21 26 42.1 +0.1**
comp=Z,22nm,0.6s,mb5.4

U17A Shonto 66.00 309 ⇑P **P 21 26 42.9 +0.3**
baz=66

Y16A Circle Bar Ran 66.02 306 ⇑P **P 21 26 43.6 +0.8**
baz=66,SNR=15

N19A John Jarvie Ra 66.03 313 ⇑P **P 21 26 42.1 -0.6**
baz=66

DAVA Damuels 66.09 39⇑*iP* **P 21 26 44.1 +1.1**
comp=Z,21nm,1.3s,mb5.0

DAVA Damuels 66.09 39 P **P 21 26 44.6 +1.7**
X16A Lo Mia Camp, P 66.11 306 ⇑P **P 21 26 44.3 +0.9**
baz=66,SNR=20

M19A Rock Springs 66.20 314 ⇑P **P 21 26 43.1 -0.6**
baz=66

T17A Navajo Res., N 66.21 309 ⇑P **P 21 26 44.7 +0.8**
baz=66,SNR=7.7

Q18A Rafter H Ranch 66.23 311 ⇓P **P 21 26 44.0 -0.1**
baz=66,SNR=13

STU Stuttgart 66.24 37 *eP* **P 21 26 43.7 -0.2**
U16A Tuba City 66.25 308 ⇑P **P 21 26 44.8 +0.6**
baz=66

WUAZ Wupatki 66.30 307 ⇑P **P 21 26 45.5 +0.9**
baz=66,SNR=6.4

W16A Flagstaff 66.33 307 ⇑P **P 21 26 45.9 +1.1**
baz=66,SNR=8.6

S17A Black Ridge (B 66.36 310 ⇑P **P 21 26 45.3 +0.4**
baz=66,SNR=6.7

115A Sonoran Desert 66.39 304 ⇓P **P 21 26 45.8 +0.5**
baz=66,SNR=11

N18A Larsen Ranch, 66.42 313 ⇑P **P 21 26 44.6 -0.6**
baz=66,SNR=5.8

O18A Roosevelt 66.46 313 ⇓P **P 21 26 45.3 -0.1**
baz=66

P18A Preston Nutter 66.46 312 ⇓P **P 21 26 45.5 0.0**
baz=66,SNR=12

R17A Hanksville Air 66.49 310 ⇑P **P 21 26 45.6 -0.1**
baz=66,SNR=7.5

L19A Farson 66.52 315 ⇑P **P 21 26 45.7 -0.1**
baz=67,SNR=12

FETA Feichten 66.53 40⇑*iP* **P 21 26 45.7 -0.1**
comp=Z,14nm,1.1s,mb4.9

SRU San Rafael 66.53 311 *eP* **P 21 26 46.5 +0.5**
SRU pmax pmax
comp=Z,18nm,0.9s,mb5.1

SRU San Rafael 66.53 311 ⇓P **P 21 26 45.8 -0.1**
baz=67,SNR=21

SRU San Rafael 66.53 311 *eP* **P 21 26 46.5 +0.5**
comp=Z,18nm,0.9s,mb5.1

RETA Reutte 66.72 39⇑*iP* **P 21 26 47.0 0.0**
comp=Z,18nm,1.3s,mb5.0

Y15A Casa Rosa Ranc 66.73 305 ⇑P **P 21 26 48.1 +0.7**
baz=67,SNR=12

214A Organ Pipe Nat 66.74 303 ⇑P **P 21 26 47.8 +0.4**
baz=67,SNR=7.3

T16A Glen Canyon Da 66.75 309 ⇑P **P 21 26 47.9 +0.5**
baz=67

X15A Humboldt 66.77 306 ⇑P **P 21 26 48.2 +0.6**
baz=67,SNR=13

P17A Butcher Ranch, 66.79 312 ⇑P **P 21 26 47.6 0.0**
baz=67

M18A Lyman 66.83 314 ⇓P **P 21 26 47.5 -0.4**
baz=67

BW06 Boulder Array 66.86 315 ⇓P **P 21 26 47.6 -0.4**
baz=67

BW06 Boulder Array 66.86 315 *eP* **P 21 26 47.4 -0.6**
comp=Z,13nm,0.9s,mb5.0

PDAR Pinedale Array 66.86 315 P **P 21 26 47.3 -0.7**
comp=Z,8.4nm,0.7s,mb4.9,baz=119,slow=8.4,SNR=56

PDAR PcP PcP 21 27 16.6 -0.1
comp=Z,2.5nm,0.7s,baz=104,slow=4.5,SNR=4.5

PDAR LR LR 21 55 54.8
comp=Z,89nm,20.1s,MS4.0,baz=291,slow=36

MOTA Moosalm 66.88 39⇑*iP* **P 21 26 47.6 -0.4**
comp=Z,23nm,1.3s,mb5.0

W15A Williams 66.94 307 ⇓P **P 21 26 49.6 +0.9**
baz=67

FFC Flin Flon 66.95 329 *eP* **P 21 26 47.3 -1.0**
FFC pmax pmax
comp=Z,32nm,1.2s,mb5.2

FFC Flin Flon 66.95 329 *eP* **P 21 26 47.3 -0.9**
comp=Z,32nm,1.2s,mb5.2

O17A Robinson Place 66.98 312 ⇑P **P 21 26 49.0 +0.2**
baz=67,SNR=12

S16A Weppner Ranch, 66.99 310 ⇑P **P 21 26 48.9 -0.1**
baz=67,SNR=6.4

V15A Kaibab Nationa 67.00 307 ⇓P **P 21 26 50.0 +1.0**
baz=67,SNR=9.6

R16A Teasdale 67.04 310 ⇑P **P 21 26 49.5 +0.3**
baz=67,SNR=7.4

TMUT Trail Mountain 67.09 311 *eP* **P 21 26 50.2 +0.6**
Z14A Wintersburg 67.12 305 ⇓P **P 21 26 49.9 +0.1**
baz=67

WTTA Wattenberg 67.19 40 P **P 21 26 50.5 +0.5**
U15A North Rim 67.23 308 ⇑P **P 21 26 51.4 +0.9**
baz=67,SNR=18

N17A Moffit Pass 67.25 313 ⇑P **P 21 26 50.7 +0.1**
baz=67

M17A Scullys Gap (B 67.28 314 ⇑P **P 21 26 49.8 -0.9**
baz=67

Y14A Wickenburg 67.28 305 ⇓P **P 21 26 51.2 +0.4**
baz=67

X14A Yava 67.29 306 ⇑P **P 21 26 51.7 +0.8**

I18A **Diamond G Ranc** 67.33 316 ⇓P P 21 26 50.5 -0.4
baz=67
RLMT **Red Lodge** 67.39 318 ⇓P P 21 26 50.8 -0.5
baz=67,SNR=15
RLMT **Red Lodge** 67.39 318 *eP* P 21 26 51.1 -0.2
comp=Z,14nm,0.7s,mb5.1
DAU **Daniels Canyon** 67.42 312 *eP* P 21 26 51.4 -0.2
T15A **Red Dirt Ranch** 67.44 309 ⇑P P 21 26 52.0 +0.2
baz=68
P16A **Fountain Green** 67.51 312 ⇑P P 21 26 52.6 +0.4
baz=68
O16A **Springville** 67.55 312 ⇑P P 21 26 52.4 0.0
baz=68
ABTA **Abfaltersbach** 67.57 40⇑*i*P P 21 26 52.3 -0.1
comp=Z,20nm,1.0s,mb5.1
S15A **Panguitch** 67.57 309 ⇑P P 21 26 53.5 +0.9
baz=68
W14A **Seligman** 67.60 307 ⇑P P 21 26 53.7 +0.9
baz=68,SNR=15
JLU **Jordanelle** 67.61 313 *eP* P 21 26 53.5 +0.7
MSU **Marysvale** 67.63 310 *eP* P 21 26 53.6 +0.6
R15A **Junction** 67.63 310 ⇑P P 21 26 53.4 +0.5
baz=68
G18A **Lazy EL Ranch,** 67.66 318 ⇑P P 21 26 52.0 -1.0
baz=68
N16A **Rees Ranch, Co** 67.68 313 ⇑P P 21 26 53.2 0.0
baz=68
113A **Mohawk Valley,** 67.68 304 ⇓P P 21 26 53.2 -0.2
baz=68
V14A **Boquillas Ranc** 67.70 307 ⇑P P 21 26 54.1 +0.6
baz=68,SNR=8.0
GRA1 **Grafenberg Arr** 67.82 37 *eP* P 21 26 53.2 -0.7
comp=Z,14nm,1.1s,mb4.9
GRF **Grafenberg Arr** 67.82 37 *eP* P 21 26 53.2 -0.7
GRF pmax pmax
comp=Z,14nm,1.1s,mb4.9
GRF **Grafenberg Arr** 67.82 37 *eP* P 21 26 53.2 -0.7
GRF pmax pmax
comp=Z,14nm,1.1s,mb4.9
GRF **Grafenberg Arr** 67.82 37 *eP* P 21 26 53.2 -0.7
comp=Z,14nm,1.1s,mb4.9
J17A **Brown Place, J** 67.85 316 ⇑P P 21 26 54.2 -0.1
baz=68
Q15A **Fillmore** 67.90 311 ⇓P P 21 26 54.9 +0.3
baz=68
SNOW **Snow King Moun** 67.91 316 *eP* P 21 26 55.0 +0.4
comp=Z,27nm,0.8s,mb5.3
NLU **North Lily Min** 67.91 312 *eP* P 21 26 52.7 -2.0
I17A **Pilgram Creek** 67.92 316 ⇓P P 21 26 54.4 -0.2
baz=68
Y13A **Salome** 67.93 305 ⇓P P 21 26 55.1 +0.1
baz=68,SNR=8.8
M16A **Huntsville** 67.93 313 ⇓P P 21 26 54.2 -0.5
baz=68,SNR=10
U14A **Mt Trumbull** 67.93 308 ⇓P P 21 26 55.6 +0.7
baz=68,SNR=28
REDW **Red Top Meadow** 67.94 316 *eP* P 21 26 54.8 -0.1
comp=Z,19nm,0.8s,mb5.2
F18A **Big Timber** 67.94 318 ⇓P P 21 26 54.2 -0.6
baz=68,SNR=10
AHID **Auburn Hatcher** 67.95 315 *eP* P 21 26 55.0 +0.1
comp=Z,49nm,1.4s,mb5.3
HWUT **Hardware Ranch** 67.96 314 *eP* P 21 26 54.5 -0.4
comp=Z,14nm,0.8s,mb5.0
L16A **Fish Haven** 67.98 314 ⇓P P 21 26 54.7 -0.3
baz=68,SNR=13
MOOW **Moose Ponds** 67.98 316 *eP* P 21 26 54.6 -0.5
comp=Z,30nm,2.1s,mb5.0
T14A **Hurricane** 68.00 309 ⇑P P 21 26 55.4 +0.2
baz=68
TPAW **Teton Pass** 68.05 316 *eP* P 21 26 55.6 +0.1
comp=Z,22nm,0.7s,mb5.3
X13A **Yucca** 68.08 306 ⇓P P 21 26 56.1 +0.3
baz=68,SNR=13
IMW **Indian Meadow** 68.16 316 *eP* P 21 26 56.2 +0.1
comp=Z,17nm,0.8s,mb5.1
W13A **Hualapai Mount** 68.22 306 ⇑P P 21 26 57.2 +0.5
baz=68,SNR=8.9
YNR **Norris Junctio** 68.22 317 *eP* P 21 26 57.5 +0.9
YFT **Old Faithful** 68.25 317 *eP* P 21 26 58.5 +1.7
RRI2 **Red Ridge** 68.27 315 *eP* P 21 26 56.8 -0.1
comp=Z,54nm,1.5s,mb5.3
PDMCI **Parker Dam,Lak** 68.27 305 ⇓P P 21 26 57.3 +0.2
baz=68,SNR=5.1
E18A **Harlowton** 68.29 319 ⇑P P 21 26 56.3 -0.6
baz=68,SNR=17
K16A **Soda Springs** 68.31 315 ⇑P P 21 26 56.9 -0.2
baz=68,SNR=10
CCUT **Cedar City** 68.32 309 *eP* P 21 26 57.8 +0.5
TSUM **Tsumeb** 68.40 112 *eP* P 21 26 57.8 -0.3
comp=Z,6.3nm,0.9s,mb4.7
YMR **Madison River** 68.40 317 *eP* P 21 26 58.3 +0.6
comp=Z,36nm,0.9s,mb5.4
MOX **Moxa** 68.41 36 P P 21 26 59.1 +1.5
D18A **Linhart Farms,** 68.42 320 ⇑P P 21 26 57.2 -0.6
baz=68,SNR=8.0
ARUT **Antelope Range** 68.43 309 *eP* P 21 26 58.9 +0.9
G17A **Pierce Place,** 68.45 318 ⇓P P 21 26 57.6 -0.3
baz=68
J16A **Bone** 68.45 315 ⇓P P 21 26 57.4 -0.6
baz=68,SNR=9.0
V13A **Grand Canyon W** 68.45 307 ⇑P P 21 26 58.7 +0.5
baz=68,SNR=11
N15A **Stansbury Isla** 68.47 313 ⇓P P 21 26 57.9 -0.3
baz=68
Y12C **Blythe** 68.48 305 ⇓P P 21 26 58.9 +0.5
baz=68
DUG **Dugway** 68.51 312 *eP* P 21 26 59.0 +0.5
DUG pmax pmax
comp=Z,15nm,1.0s,mb4.9
DUG **Dugway** 68.51 312 ⇓P P 21 26 58.2 -0.3
baz=68,SNR=6.4
DUG **Dugway** 68.51 312 *eP* P 21 26 59.0 +0.5
comp=Z,15nm,1.0s,mb4.9
SPUT **South Promonto** 68.53 313 *eP* P 21 26 58.5 0.0
I16A **Newdale** 68.53 316 ⇑P P 21 26 58.3 -0.2
baz=69,SNR=6.0
P14A **Drum Mountains** 68.56 311 ⇑P P 21 26 58.8 +0.1
baz=69,SNR=10
M15A **Larsen Ranch,** 68.56 313 ⇑P P 21 26 58.3 -0.5
baz=69,SNR=30
F17A **Fitzpatrick Pl** 68.57 318 ⇓P P 21 26 58.5 -0.2
baz=69,SNR=10
Q14A **Sevier Lake (B** 68.58 311 ⇑P P 21 26 59.4 +0.5
baz=69,SNR=14
H16A **Russell Place,** 68.61 317 ⇑P P 21 26 59.2 +0.2
baz=69,SNR=13
GLA **Glamis** 68.61 304 *eP* P 21 27 00.1 +0.9
GLA pmax pmax
comp=Z,22nm,1.0s,mb5.0
GLA **Glamis** 68.61 304 ⇑P P 21 26 59.7 +0.5
baz=69,SNR=5.4
GLA **Glamis** 68.61 304 *eP* P 21 27 00.1 +0.9
comp=Z,22nm,1.0s,mb5.0
T13A **Saint George** 68.63 308 ⇑P P 21 27 00.1 +0.9
baz=69,SNR=7.4
L15A **Malad City** 68.66 314 ⇑P P 21 26 59.0 -0.4
baz=69,SNR=5.4
EGMT **Eagleton** 68.66 321 ⇑P P 21 26 58.6 -0.6
baz=69,SNR=8.1
EGMT **Eagleton** 68.66 321 *eP* P 21 26 58.6 -0.6
comp=Z,26nm,1.0s,mb5.1
S13A **Holt Ranch, En** 68.71 309 ⇓P P 21 27 00.7 +0.9
baz=69,SNR=7.6
NKC **Novy Kostel** 68.75 37 *eP* P 21 27 00.2 +0.4
NKC AMS AMS 21 58 50.0
QLMT **Earthquake Lak** 68.77 317 *eP* P 21 27 00.9 +0.9
BGU **Big Grassy Mou** 68.85 313 *eP* P 21 27 00.5 -0.1
E17A **Martinsdale** 68.87 319 ⇑P P 21 26 60.0 -0.6
baz=69,SNR=6.0
HVU **Hansel Valley** 68.88 314 *eP* P 21 27 00.6 -0.1
HVU pmax pmax
comp=Z,21nm,1.0s,mb5.0
HVU **Hansel Valley** 68.88 314 *eP* P 21 27 00.6 -0.1
comp=Z,21nm,1.0s,mb5.0
R13A **O'Grain Ranch,** 68.92 310 ⇑P P 21 27 01.5 +0.4
baz=69,SNR=5.5
K15A **Arbon** 68.94 315 ⇑P P 21 27 00.6 -0.5
baz=69,SNR=9.3
N14A **Grayback Hills** 68.95 313 ⇑P P 21 27 00.9 -0.3
baz=69,SNR=6.1
BSEG **Bad Segeberg** 68.98 33 P P 21 27 01.7 +0.6
D17A **Six Diamond Ra** 68.98 320 ⇓P P 21 27 00.6 -0.6
baz=69,SNR=10
U12A **Valley of Fire** 69.01 308 ⇑P P 21 27 02.0 +0.4
baz=69

GERES **GERESS Array B** 69.04 39 P P 21 27 01.1 -0.5
comp=Z,2.6nm,0.8s,mb4.2,baz=246,slow=6.2,SNR=20
GERES PcP PcP 21 27 25.5 -0.1
comp=Z,1.1nm,0.9s,baz=258,slow=6.5,SNR=5.0
GERES LR LR 21 56 35.0
comp=Z,56nm,18.6s,MS3.8,baz=163,slow=35
GERES **GERESS Array B** 69.04 39 P P 21 27 01.1 -0.4
GERES 21 27 25.5
W12A **Cal Nev Ari** 69.05 306 ⇑P P 21 27 02.7 +0.8
baz=69
KHC **Kasperske Hory** 69.06 38⇑*eP* P 21 27 01.7 0.0
KHC **Kasperske Hory** 69.06 38 *eP* P 21 27 01.6 -0.1
J15A **Blackfoot** 69.06 315 ⇓P P 21 27 01.5 -0.3
baz=69,SNR=11
MOA **Molln** 69.06 40⇓*i*P P 21 27 01.5 -0.2
comp=Z,20nm,1.1s,mb5.0
MOA **Molln** 69.06 40 P P 21 27 01.8 +0.1
IRM **Iron Mountain** 69.07 305 ⇑P P 21 27 02.5 +0.5
baz=69,SNR=12
Q13A **Wheeler Ranch,** 69.13 310 ⇑P P 21 27 02.9 +0.6
baz=69
G16A **Moss Hill, Enn** 69.14 317 ⇑P P 21 27 01.9 -0.3
baz=69,SNR=5.9
BOZ **Bozeman (W)** 69.14 318 *eP* P 21 27 02.0 -0.3
BOZ pmax pmax
comp=Z,17nm,1.2s,mb4.8
BOZ **Bozeman (W)** 69.14 318 ⇑P P 21 27 01.8 -0.5
baz=69,SNR=10
BOZ **Bozeman (W)** 69.14 318 *eP* P 21 27 02.0 -0.2
comp=Z,17nm,1.2s,mb4.8
PMSA **Palmer Station** 69.17 187 *eP* P 21 27 01.5 -0.5
C17A **Wharram Farm,** 69.18 320 ⇓P P 21 27 01.7 -0.7
baz=69
F16A **Kennard Place,** 69.18 318 ⇓P P 21 27 02.2 -0.3
baz=69,SNR=5.8
SUMG **Summit** 69.19 3 *eP* P 21 27 01.8 -0.2
T12A **Moapa** 69.20 308 ⇑P P 21 27 03.3 +0.5
baz=69
M14A **Sheep Mountain** 69.23 313 ⇓P P 21 27 02.1 -0.8
baz=69,SNR=11
BC3 **Big Chuckw Mtn** 69.23 305 ⇑P P 21 27 03.3 +0.2
baz=69,SNR=8.1
P13A **Bates Ranch, G** 69.24 311 ⇓P P 21 27 03.1 0.0
baz=69,SNR=11
I15A **Monteview** 69.26 316 ⇑P P 21 27 03.0 0.0
baz=69
L14A **Malta** 69.28 314 ⇓P P 21 27 02.7 -0.6
baz=69,SNR=16
K14A **Jones Ranch, D** 69.36 314 ⇑P P 21 27 03.1 -0.6
baz=69
O13A **Hicks Ranch, I** 69.37 312 ⇑P P 21 27 04.0 +0.2
baz=69
SWSC **Sam W. Stewart** 69.39 304 ⇑P P 21 27 04.7 +0.6
baz=69
E16A **East Helena** 69.43 319 ⇓P P 21 27 03.4 -0.7
baz=70,SNR=8.5
R12A **Pony Springs,** 69.45 310 ⇑P P 21 27 04.8 +0.4
baz=70,SNR=12
MUD **Monsted U'grnd** 69.46 30 *i* P P 21 27 04.3 +0.3
MUD **Monsted U'grnd** 69.46 30 *eP* P 21 27 04.3 +0.3
CLL **Collm** 69.47 36⇑*i*P P 21 27 04.0 -0.2
CLL pmax pmax
comp=Z,10.0nm,0.9s,mb4.8
CLL **Collm** 69.47 36⇑*i*P P 21 27 04.0 -0.2
comp=Z,10.0nm,0.9s,mb4.8
D16A **Dana Ranch, Ca** 69.50 319 ⇑P P 21 27 04.0 -0.4
baz=70
H15A **Lima** 69.54 317 ⇓P P 21 27 04.7 0.0
baz=70
G15A **Dillon** 69.58 317 ⇓P P 21 27 04.6 -0.4
baz=70,SNR=5.1
HRY **Holter Researc** 69.59 319 *eP* P 21 27 04.8 -0.3
GMRC **Granite Mounta** 69.59 306 ⇑P P 21 27 05.6 +0.3
baz=70,SNR=7.2
DVTC **Desert V Tower** 69.60 303 ⇑P P 21 27 05.8 +0.4
baz=70
V11A **Goodsprings** 69.60 307 ⇑P P 21 27 06.3 +1.0
baz=70
ARSA **Arzberg** 69.69 41⇑*i*P P 21 27 05.1 -0.5
comp=Z,13nm,1.1s,mb4.8
ARSA **Arzberg** 69.69 41 P P 21 27 05.8 +0.2
N13A **Wendover, West** 69.70 312 ⇑P P 21 27 05.9 +0.1
baz=70
T11A **Corn Creek, Al** 69.70 308 ⇑P P 21 27 06.5 +0.6
baz=70,SNR=9.0
DLMT **Dillon** 69.71 317 *eP* P 21 27 06.3 +0.5
comp=Z,30nm,1.4s,mb5.0
BELC **Belle Mtn.** 69.73 305 ⇓P P 21 27 06.9 +0.7
baz=70,SNR=7.1
MCMT **McKenzie Canyo** 69.74 317 *eP* P 21 27 06.2 +0.2
LRM **Limekiln Ridge** 69.74 318 *eP* P 21 27 06.3 +0.3
Q12A **Willow Creek R** 69.77 310 ⇓P P 21 27 06.9 +0.6
baz=70
F15A **Butte** 69.78 318 ⇓P P 21 27 06.3 +0.1
baz=70,SNR=11
L13A **Double Diamond** 69.80 314 ⇓P P 21 27 06.0 -0.5
baz=70,SNR=5.6
J14A **Carey** 69.81 315 ⇓P P 21 27 06.4 -0.1
baz=70,SNR=16
C16A **Fuhringer Ranc** 69.86 320 ⇓P P 21 27 06.3 -0.4
baz=70,SNR=12
BRG **Berggiesshubel** 69.87 37 *eP* P 21 27 06.5 -0.2
BRG pmax pmax
comp=Z,9.0nm,1.3s,mb4.5
BRG **Berggiesshubel** 69.87 37 *eP* P 21 27 06.5 -0.1
comp=Z,15nm,1.2s,mb4.8
MONP **Monument Peak** 69.90 304 ⇓P P 21 27 07.9 +0.7
baz=70,SNR=13
I14A **Mackay** 69.91 316 ⇑P P 21 27 06.8 -0.3
baz=70,SNR=5.1
TUQ **Turquoise Moun** 69.92 306 ⇓P P 21 27 07.8 +0.5
baz=70
O12A **Currie** 69.97 312 ⇓P P 21 27 07.6 0.0
baz=70,SNR=6.0
B16A **M & M Farms, S** 70.02 321 ⇑P P 21 27 07.0 -0.6
baz=70
H14A **Leadore** 70.03 316 ⇑P P 21 27 07.7 -0.1
baz=70
K13A **Stover Farm, H** 70.04 314 ⇑P P 21 27 07.6 -0.2
baz=70
E15A **Deer Lodge** 70.04 318 ⇑P P 21 27 07.3 -0.5
baz=70
PFO **Pinyon Flat Ob** 70.05 304 *eP* P 21 27 09.0 +0.9
PFO pmax pmax
comp=Z,11nm,1.1s,mb4.7
PFO **Pinyon Flat Ob** 70.05 304 ⇑P P 21 27 08.6 +0.5
baz=70,SNR=5.4
PFO **Pinyon Flat Ob** 70.05 304 *eP* P 21 27 09.0 +0.9
comp=Z,11nm,1.1s,mb4.7
CONA **Conrad Observa** 70.11 40⇑*i*P P 21 27 08.1 -0.1
comp=Z,19nm,1.4s,mb4.8
A16A **West Butte Ran** 70.12 321 ⇓P P 21 27 07.6 -0.6
baz=70,SNR=12
PVCC **Panska Ves** 70.13 37 AMS AMS 22 00 30.0
D15A **Lincoln** 70.14 319 ⇑P P 21 27 07.9 -0.5
baz=70,SNR=9.2
HEC **Hector,Ludlow** 70.14 306 ⇑P P 21 27 09.5 +0.8
baz=70,SNR=11
S11A **Rachel** 70.19 309 ⇑P P 21 27 09.7 +0.7
baz=70
R11A **Troy Canyon, C** 70.20 309 ⇓P P 21 27 09.5 +0.5
baz=70,SNR=19
G14A **Jackson** 70.27 317 ⇑P P 21 27 08.9 -0.3
baz=70
J13A **Cove Ranch, Pi** 70.29 315 ⇑P P 21 27 09.0 -0.4
baz=70,SNR=7.4
SHOC **Shoshone** 70.29 307 ⇑P P 21 27 10.6 +1.1
baz=70
TREC **Trest** 70.29 39 *eP* P 21 27 09.3 0.0
TREC AMS AMS 21 59 10.0
N12A **Clover Valley,** 70.32 312 ⇑P P 21 27 09.8 +0.2
baz=70,SNR=8.6
M12A **Wells** 70.35 313 ⇓P P 21 27 09.7 -0.1
baz=70,SNR=9.8
F14A **Wisdom** 70.36 318 ⇑P P 21 27 09.6 -0.2
baz=70
Q11A **Duckwater** 70.36 310 ⇑P P 21 27 10.0 +0.1
baz=70,SNR=11
I13A **Wildhorse Cree** 70.38 315 ⇓P P 21 27 09.8 -0.1
baz=70,SNR=27
C15A **Salmond Ranch,** 70.41 320 ⇑P P 21 27 09.3 -0.7
baz=70,SNR=14
ELK **Elko** 70.44 312 *eP* P 21 27 10.4 0.0
TPNV **Topopah Spring** 70.45 308 *eP* P 21 27 11.9 +1.4
TPNV pmax pmax
comp=Z,19nm,1.0s,mb5.0
TPNV **Topopah Spring** 70.45 308 ⇓P P 21 27 11.2 +0.6
baz=70,SNR=18
TPNV **Topopah Spring** 70.45 308 *eP* P 21 27 11.9 +1.4
comp=Z,19nm,1.0s,mb5.0
HLID **Hailey** 70.50 315 ⇑P P 21 27 10.5 -0.1
baz=70,SNR=19
HLID **Hailey** 70.50 315 *eP* P 21 27 10.9 +0.2
comp=Z,19nm,1.1s,mb4.9
B15A **Bradely Ranch,** 70.54 320 ⇑P P 21 27 09.9 -0.9
baz=71,SNR=13
CHMT **Chamberlain Mo** 70.58 319 *eP* P 21 27 11.2 +0.1
L12A **House Creek Ra** 70.59 314 ⇓P P 21 27 11.3 0.0
baz=71,SNR=8.4
GSC **Goldstone** 70.61 306 *eP* P 21 27 12.5 +1.0
GSC pmax pmax
comp=Z,13nm,1.0s,mb4.8
GSC **Goldstone** 70.61 306 ⇑P P 21 27 12.1 +0.6
baz=71,SNR=7.4
GSC **Goldstone** 70.61 306 *eP* P 21 27 12.5 +0.9
comp=Z,13nm,1.0s,mb4.8
K12A **Draper Farm, C** 70.62 314 ⇓P P 21 27 11.0 -0.4
baz=71
O11A **Cowboy Ranch,** 70.62 311 ⇑P P 21 27 11.8 +0.3
baz=71,SNR=13
MURC **Murrieta** 70.66 304 ⇓P P 21 27 12.9 +1.0
baz=71
R10A **Warm Springs** 70.75 309 ⇓P P 21 27 13.0 +0.7
baz=71,SNR=5.1
G13A **Cobalt** 70.75 317 ⇓P P 21 27 12.3 +0.1
baz=71,SNR=16
KRUC **Moravsky** 70.79 39 P P 21 27 12.3 0.0
D14A **Greenough** 70.80 319 ⇓P P 21 27 12.0 -0.4
baz=71,SNR=8.1
A15A **Johnson Ranch,** 70.84 321 ⇑P P 21 27 12.0 -0.6
baz=71,SNR=6.9
FURC **Furnace Creek,** 70.85 307 ⇓P P 21 27 14.0 +1.0
baz=71
J12A **Stokes Ranch,** 70.91 315 ⇓P P 21 27 13.0 -0.2
baz=71,SNR=16
Q10A **Clear Creek Ra** 70.92 310 ⇑P P 21 27 13.6 +0.2
baz=71,SNR=6.1
ZST **Bratislava** 70.98 40 *eP* P 21 27 13.8 +0.3
ZST pmax pmax
comp=Z,7.0nm,1.1s,mb4.5
ZST **Bratislava** 70.98 40 *eP* P 21 27 13.8 +0.3
comp=Z,7.4nm,1.1s,mb4.5
VRAC **Vranov** 70.99 39⇑*i*P P 21 27 13.9 +0.4
VRAC **Vranov** 70.99 39 ⇑P P 21 27 13.9 +0.4
UPC **Upice** 71.00 37 *eP* P 21 27 14.2 +0.7
M11A **Holland Ranch,** 71.00 313 ⇓P P 21 27 14.1 +0.3
baz=71,SNR=7.8
F13A **Darby** 71.00 317 ⇓P P 21 27 13.2 -0.5
baz=71,SNR=7.3
H12A **Diamond D Ranc** 71.05 316 ⇓P P 21 27 13.5 -0.5
baz=71,SNR=16
I12A **Atlanta** 71.06 315 ⇑P P 21 27 13.8 -0.3
baz=71,SNR=8.1
E13A **Victor** 71.07 318 ⇓P P 21 27 13.6 -0.5
baz=71,SNR=12
P10A **Eureka** 71.13 311 ⇑P P 21 27 14.7 +0.1
baz=71
L11A **Cat Creek Ranc** 71.13 313 ⇑P P 21 27 14.2 -0.3
baz=71,SNR=8.6
BFSC **Mount Baldy St** 71.13 305 ⇑P P 21 27 15.3 +0.6
baz=71,SNR=6.3
DPC **Dobruska-Polom** 71.14 38 *eP* P 21 27 14.8 +0.4
C14A **Swan Lake** 71.14 320 ⇓P P 21 27 14.1 -0.4
baz=71
MODS **Modra-Piesok** 71.15 40 *eP* P 21 27 14.0 -0.5
MODS pmax pmax
comp=Z,8.0nm,1.4s,mb4.5
MODS **Modra-Piesok** 71.15 40 *eP* P 21 27 14.0 -0.5
comp=Z,7.8nm,1.4s,mb4.5
KSP **Ksiaz** 71.27 37 *eP* P 21 27 26.2 +11
A14A **Double T Ranch** 71.28 321 ⇓P P 21 27 14.2 -1.1
baz=71,SNR=5.5
MPMC **Manual Prospec** 71.28 307 ⇑P P 21 27 15.7 +0.1
baz=71,SNR=9.3
O10A **Cortez Mining,** 71.29 311 ⇑P P 21 27 15.5 0.0
baz=71
R09A **Tonopah** 71.33 309 ⇑P P 21 27 15.8 -0.1
baz=71,SNR=17
GRAC **Grapevine Rang** 71.35 308 ⇑P P 21 27 16.5 +0.6
baz=71,SNR=9.8
LRMC **Laurel Mountai** 71.35 306 ⇑P P 21 27 16.2 +0.2
baz=71,SNR=6.6
S09A **Goldfield** 71.36 309 ⇓P P 21 27 16.3 +0.2
baz=71,SNR=5.3
TPH **Tonopah** 71.42 309 *eP* P 21 27 17.4 +1.0
TPH pmax pmax
comp=Z,12nm,1.0s,mb4.8
TPH **Tonopah** 71.42 309 *eP* P 21 27 17.4 +1.0
comp=Z,12nm,1.0s,mb4.8
D13A **Huson** 71.42 319 ⇑P P 21 27 15.4 -0.8
baz=72,SNR=7.5
PKSM **Moragy** 71.46 42⇑*i*P P 21 27 16.8 +0.3
PKSM **Moragy** 71.46 42 ⇑P P 21 27 16.8 +0.3
MFID **Camas Ranch** 71.46 315 ⇓P P 21 27 16.3 -0.2
baz=72,SNR=8.3
K11A **Parker Ranch,** 71.46 314 ⇓P P 21 27 16.2 -0.3
baz=72,SNR=15
EDW2 **Edwards Air Fo** 71.50 306 ⇓P P 21 27 17.0 +0.1
baz=72,SNR=8.0
G12A **Big Creek, Yel** 71.51 317 ⇑P P 21 27 16.8 0.0
baz=72
M10A **I.L. Ranch, Tu** 71.57 313 ⇓P P 21 27 17.2 0.0
baz=72
WALA **Waterton Lakes** 71.61 321 P P 21 27 13.1 -4.2
comp=Z,15nm,0.9s,mb4.9
F12A **Elk City** 71.62 317 ⇓P P 21 27 16.9 -0.6
baz=72,SNR=7.8
L10A **Juniper Basin** 71.63 313 ⇓P P 21 27 17.2 -0.4
baz=72,SNR=22
C13A **Hot Springs** 71.66 319 ⇓P P 21 27 17.0 -0.6
baz=72,SNR=8.5
I11A **Placerville** 71.67 315 ⇑P P 21 27 17.1 -0.6
baz=72
MORC **Moravsky Berou** 71.72 38⇑*i*P P 21 27 18.5 +0.6
MORC **Moravsky Berou** 71.72 38 *eP* P 21 27 18.1 +0.2
comp=Z,15nm,1.0s,mb4.9
B13A **Whitefish** 71.77 320 ⇓P P 21 27 17.6 -0.7
baz=72,SNR=6.5
CWC **Cottonwood Cre** 71.82 307 ⇑P P 21 27 19.1 +0.2
baz=72,SNR=5.3
BSMT **Bassoo Peak** 71.84 319 *eP* P 21 27 18.7 0.0
BMN **Battle Mountai** 71.86 311 *eP* P 21 27 19.6 +0.6
BMN pmax pmax
comp=Z,17nm,1.0s,mb4.9
BMN **Battle Mountai** 71.86 311 *eP* P 21 27 19.6 +0.6
comp=Z,17nm,1.0s,mb4.9
H11A **Donnelly** 71.89 316 ⇑P P 21 27 18.6 -0.5
baz=72
A13A **Flathead Natio** 71.89 321 ⇓P P 21 27 18.6 -0.3
baz=72
KOLL **Kolacno** 71.92 40 *eP* P 21 27 19.2 0.0
E12A **Beaver Dam Sad** 71.99 318 ⇓P P 21 27 18.9 -0.8
baz=72,SNR=7.4
D12A **Red Ives Fores** 72.00 318 ⇑P P 21 27 18.7 -1.0
baz=72
ISA **Isabella** 72.01 306 *eP* P 21 27 20.6 +0.6
ISA pmax pmax
comp=Z,22nm,1.3s,mb4.9
ISA **Isabella** 72.01 306 ⇓P P 21 27 20.6 +0.6
baz=72,SNR=8.5
ISA **Isabella** 72.01 306 *eP* P 21 27 20.6 +0.6
comp=Z,22nm,1.3s,mb4.9
K10A **MacKenzie Ranc** 72.07 314 ⇑P P 21 27 19.7 -0.5
baz=72,SNR=5.2
Q08A **Gabbs** 72.11 310 ⇓P P 21 27 20.9 +0.3
baz=72
OKC **Ostrava-Krasne** 72.11 39 *eP* P 21 27 21.2 +0.9
OKC AMS AMS 21 59 20.0
R08A **Mina** 72.15 309 ⇑P P 21 27 21.2 +0.4
baz=72,SNR=5.4
VYHS **Vyhne** 72.18 40 *eP* P 21 27 20.6 -0.1
M09A **Marrel Ranch,** 72.22 312 ⇓P P 21 27 21.0 -0.1
baz=72,SNR=6.0
G11A **Walters Elk Ra** 72.22 317 ⇓P P 21 27 20.3 -0.7
baz=72
F11A **Grangeville** 72.26 317 ⇓P P 21 27 20.8 -0.5
baz=72
NVAR **Mina Array Bea** 72.32 309 P P 21 27 22.4 +0.6
comp=Z,14nm,0.9s,mb4.9,baz=105,slow=6.3,SNR=27
H10A **Noah's Angus R** 72.37 316 ⇓P P 21 27 20.9 -1.0
baz=72,SNR=7.3
E11A **Bogner Ranch,** 72.41 318 ⇓P P 21 27 21.0 -1.1
baz=72,SNR=19
NB2 **NORSAR Subarra** 72.44 26 P P 21 27 21.8 -0.2

comp=Z,9.8nm,0.9s,mb4.7,baz=245,slow=6.2
NB2 **NORSAR Subarra** 72.44 26 P P 21 27 22.0 0.0
NOA **NORSAR Array B** 72.44 26 P P 21 27 22.4 +0.4
comp=Z,5.4nm,0.8s,mb4.5,baz=245,slow=6.2,SNR=7.5
NOA LR LR 21 52 05.7
comp=Z,42nm,21.0s,MS3.7,baz=295,slow=30
L09A **Wilkinson Ranc** 72.49 313 ⇑P P 21 27 22.6 -0.1
baz=72,SNR=7.4
N08A **GE Springer Mi** 72.60 312 ⇓P P 21 27 23.4 0.0
baz=73,SNR=16
D11A **Klaveano Farm,** 72.66 318 ⇑P P 21 27 22.7 -0.9
baz=73,SNR=5.6
K09A **Rome** 72.67 314 ⇑P P 21 27 23.7 0.0
baz=73,SNR=7.9
A12A **Yaak River Ran** 72.68 320 ⇑P P 21 27 23.4 -0.3
baz=73,SNR=6.4
PSZ **Piszkesteto** 72.72 41 ⇑*j*P P 21 27 24.9 +1.0
PSZ **Piszkesteto** 72.72 41 ⇑P P 21 27 24.9 +0.9
G10A **Bishop Farm, J** 72.78 316 ⇓P P 21 27 23.9 -0.5
baz=73
BMO **Blue Mountains** 72.82 316 *e*P P 21 27 24.1 -0.5
BMO pmax pmax
comp=Z,27nm,1.4s,mb5.0
BMO **Blue Mountains** 72.82 316 *e*P P 21 27 24.1 -0.6
comp=Z,27nm,1.4s,mb5.0
J09A **Fry Pan Ranch,** 72.82 314 ⇓P P 21 27 24.9 +0.2
baz=73,SNR=9.3
M08A **Happy Creek Ra** 72.91 312 ⇓P P 21 27 25.2 0.0
baz=73,SNR=7.9
KCC **Kaiser Creek** 72.94 308 ⇑P P 21 27 25.6 +0.1
baz=73
I09A **Lost Marbles R** 72.94 315 ⇓P P 21 27 25.3 -0.1
baz=73
PKM **Peak Mountain** 72.99 305 ⇓P P 21 27 27.1 +1.2
baz=73
F10A **Beach Ranch, E** 73.01 317 ⇑P P 21 27 25.2 -0.5
baz=73
B11A **Sandpoint** 73.01 320 ⇓P P 21 27 25.3 -0.4
baz=73,SNR=12
L08A **Fields** 73.02 313 ⇑P P 21 27 25.7 -0.2
baz=73
H09A **Durkee** 73.03 316 ⇑P P 21 27 25.8 -0.1
baz=73,SNR=9.1
O07A **Toulon** 73.05 311 ⇓P P 21 27 26.2 +0.1
baz=73
A11A **Hall Mountain,** 73.14 320 ⇓P P 21 27 26.0 -0.4
baz=73,SNR=10
HFA0 **Hagfors New Ar** 73.17 27 P P 21 27 25.0 -1.4
SMMC **Simmler** 73.19 306 ⇑P P 21 27 27.6 +0.6
baz=73,SNR=6.0
T06C **Millerton Lake** 73.20 307 ⇑P P 21 27 26.9 -0.2
baz=73
WAKR **Walker** 73.21 309 *e*P P 21 27 28.1 +1.0
R06C **Coleville** 73.22 309 ⇓P P 21 27 27.6 +0.4
baz=73
K08A **Mann Creek Ran** 73.22 314 ⇑P P 21 27 27.0 -0.1
baz=73
G09A **Cove** 73.24 316 ⇓P P 21 27 27.0 -0.1
baz=73,SNR=18
OJC **Ojcow** 73.24 38 *e*P P 21 27 23.6 -3.4
OJC **Ojcow** 73.24 38 P P 21 27 28.2 +1.2
WVOR **Wild Horse Val** 73.28 313 *e*P P 21 27 25.9 -1.5
D10A **Wagner Farm, O** 73.28 318 ⇓P P 21 27 26.3 -1.0
baz=73,SNR=6.4
J08A **Circle Bar Ran** 73.34 314 ⇓P P 21 27 27.5 -0.2
baz=73,SNR=14
BZS **Buzias** 73.34 43 ⇓*j*P P 21 27 28.4 +0.7
BZS **Buzias** 73.34 43 ⇓P P 21 27 28.4 +0.7
NIE **Niedzica** 73.36 39 *e*P P 21 27 29.2 +1.5
F09A **S2 Ranch, Elgi** 73.42 317 ⇓P P 21 27 27.7 -0.5
baz=73,SNR=6.8
NEW **Newport** 73.46 319 *e*P P 21 27 27.7 -0.7
NEW pmax pmax
comp=Z,15nm,0.8s
NEW **Newport** 73.46 319 *e*P P 21 27 27.7 -0.7
comp=Z,15nm,0.8s,mb5.0
I08A **Drewsey** 73.51 315 ⇓P P 21 27 28.8 0.0
baz=74
WCN **Washoe City** 73.58 310 ⇑P P 21 27 29.7 +0.5
baz=74
H08A **Prairie City** 73.70 315 ⇑P P 21 27 29.7 -0.1
baz=74,SNR=12
LNOR **Lincton Mounta** 73.71 317 *e*P P 21 27 29.3 -0.6
S05C **Merced** 73.73 308 ⇑P P 21 27 30.9 +0.7
baz=74
K07A **Rock Creek Ran** 73.77 313 ⇑P P 21 27 30.2 -0.1
baz=74,SNR=8.2
O06A **Flanigan** 73.77 311 ⇑P P 21 27 31.0 +0.7
baz=74
N06A **Buffalo Meadow** 73.87 311 ⇑P P 21 27 30.7 -0.2
baz=74
CMB **Columbia Colle** 73.88 308 *e*P P 21 27 31.6 +0.6
CMB pmax pmax
comp=Z,5.0nm,0.7s,mb4.5
CMB **Columbia Colle** 73.88 308 ⇑P P 21 27 31.2 +0.2
baz=74
CMB **Columbia Colle** 73.88 308 *e*P P 21 27 31.6 +0.5
comp=Z,4.8nm,0.7s,mb4.5
A10A **Northport** 73.91 320 ⇓P P 21 27 30.3 -0.7
baz=74,SNR=5.1
J07A **Hines** 73.94 314 ⇑P P 21 27 31.4 +0.1
baz=74
STHS **Stebnicka Huta** 73.94 39 *e*P P 21 27 30.4 -0.8
STHS pmax pmax
comp=Z,2.0nm,0.8s,mb4.1
STHS **Stebnicka Huta** 73.94 39 *e*P P 21 27 30.4 -0.8
comp=Z,1.6nm,0.8s,mb4.0
U04C **Hernandez Rese** 73.96 307 ⇓P P 21 27 32.0 +0.4
baz=74,SNR=6.4
CRVS **Cervenica-Dubn** 73.96 40 *e*P P 21 27 32.1 +0.8
F08A **Pendleton** 74.03 317 ⇑P P 21 27 31.6 -0.1
baz=74
G08A **Pilot Rock** 74.05 316 ⇑P P 21 27 31.1 -0.8
baz=74,SNR=12
GZR **Gura Zlata** 74.09 44 ⇑*j*P P 21 27 33.1 +1.0
GZR **Gura Zlata** 74.09 44 ⇑P P 21 27 33.1 +1.0
C09A **Chrisman Ranch** 74.11 319 ⇓P P 21 27 31.5 -0.6
baz=74
BEKR **Beckwourth** 74.13 310 ⇑P P 21 27 32.6 +0.1
baz=74,SNR=11
B09A **Rice** 74.16 319 ⇓P P 21 27 31.5 -1.0
baz=74,SNR=8.3
I07A **Izee** 74.21 315 ⇓P P 21 27 32.7 -0.2
baz=74
LAVA **Lava Cap Winer** 74.25 309 ⇓P P 21 27 33.5 +0.3
baz=74
SUR **Sutherland** 74.28 125 P P 21 27 33.4 -0.1
V03C **Hunter Liggett** 74.28 306 ⇑P P 21 27 34.3 +0.9
baz=74
OD2 **Odessa Site #2** 74.31 318 *e*P P 21 27 32.6 -0.7
DRGR 74.33 42 ⇑*j*P P 21 27 34.1 +0.6
DRGR 74.33 42 ⇑P P 21 27 34.1 +0.6
H07A **Lands Inn, Kim** 74.34 315 ⇓P P 21 27 33.3 -0.3
baz=74
E08A **Dider Farm, El** 74.36 317 ⇓P P 21 27 33.1 -0.6
baz=74
D08A **Wollman Farm,** 74.38 318 ⇓P P 21 27 33.4 -0.3
baz=74,SNR=5.3
MOD **Modoc** 74.41 312 ⇓P P 21 27 34.0 0.0
baz=74,SNR=5.6
MOD **Modoc** 74.41 312 *e*P P 21 27 34.4 +0.4
comp=Z,9.3nm,0.8s,mb4.8
PACP **Pacheco Peak** 74.45 307 ⇓P P 21 27 34.5 +0.1
baz=74
KOLS **Kolonicke sedl** 74.49 40 *e*P P 21 27 34.9 +0.5
K06A **Valley Falls** 74.52 313 ⇑P P 21 27 34.7 +0.1
baz=74,SNR=6.1
J06A **Christmas Vall** 74.52 314 ⇑P P 21 27 34.6 -0.1
baz=74,SNR=10.0
G07A **Ruggs Ranch, H** 74.54 316 ⇓P P 21 27 34.5 -0.3
baz=75
C08A **Higginbotham F** 74.61 319 ⇑P P 21 27 34.3 -0.8
baz=75,SNR=28
I06A **Prineville** 74.68 315 ⇓P P 21 27 35.8 +0.2
baz=75
RSW **Rattlesnake Hi** 74.70 317 *e*P P 21 27 35.2 -0.5
RSW *e*PcP PcP 21 27 50.8 +1.0
O04C **Chester** 74.75 311 ⇓P P 21 27 36.2 +0.2
baz=75
WENL **Wente Vineyard** 74.90 308 ⇓P P 21 27 37.8 +0.9
baz=75
H06A **Lindquist Farm** 74.91 315 ⇓P P 21 27 36.9 0.0
baz=75,SNR=13
OHCM **Honcut** 74.91 310 *e*P P 21 27 37.1 +0.1
B08A **Colville Reser** 74.92 319 ⇓P P 21 27 36.1 -0.8
baz=75
KWP **Kalwaria** 74.92 39 *e*P P 21 27 38.1 +1.3
KWP **Kalwaria** 74.92 39 *e*P P 21 27 38.1 +1.2
ORV **Oroville** 74.95 310 ⇑P P 21 27 37.2 -0.1
baz=75,SNR=6.0
K05A **Summer Lake** 74.97 313 ⇑P P 21 27 37.4 +0.2
baz=75,SNR=7.3
A08A **Turner Farm, O** 75.00 320 ⇓P P 21 27 36.6 -0.8
baz=75
D07A **Quincy** 75.11 318 ⇓P P 21 27 37.4 -0.6
baz=75
G06A **Carlson Farm,** 75.21 316 ⇓P P 21 27 39.0 +0.4
baz=75,SNR=10
C07A **Waterville** 75.27 318 ⇓P P 21 27 37.9 -1.0
baz=75,SNR=9.3
J05A **Fort Rock** 75.31 314 ⇑P P 21 27 39.3 0.0
baz=75,SNR=5.7
F06A **Goldendale** 75.40 316 ⇓P P 21 27 39.8 +0.1
baz=75
ETW **Entiat** 75.43 318 *e*P P 21 27 39.2 -0.6
B07A **Winthrop** 75.45 319 ⇑P P 21 27 39.2 -0.7
baz=76
H05A **Madras** 75.52 315 ⇓P P 21 27 40.7 +0.2
baz=76
E06A **Yakima** 75.67 317 ⇑P P 21 27 41.2 0.0
baz=76
VOIR 75.68 44 ⇑*j*P P 21 27 43.3 +2.0
VOIR 75.68 44 ⇑P P 21 27 43.3 +2.0
G05A **Wamic** 75.68 316 ⇑P P 21 27 41.1 -0.2
baz=76
A07A **Ashnola River,** 75.74 320 ⇑P P 21 27 41.2 -0.4
baz=76,SNR=8.2
LVV **L'vov** 75.80 39 *e*P P 21 27 42.1 +0.2
F05A **White Salmon** 75.89 316 ⇓P P 21 27 42.4 -0.1
baz=76
RES **Resolute Bay** 76.05 348 *e*P P 21 27 42.3 -0.6
YKA **Yellowknife Ar** 76.15 334 P P 21 27 41.5 -2.1
comp=Z,7.6nm,0.9s,mb4.7,baz=107,slow=6.2,SNR=7.6
YKA LR LR 21 56 09.6
comp=Z,58nm,20.7s,MS3.9,baz=50,slow=32
YKA **Yellowknife Ar** 76.15 334 P P 21 27 41.5 -2.1
YKA LR LR 21 56 09.6
BUR08 **Bucovina Ar. S** 76.16 42 *e*P P 21 27 44.8 +0.9
BURAR **Bucovina Array** 76.16 42 ⇓*j*P P 21 27 45.0 +1.0
BURAR **Bucovina Array** 76.16 42 ⇓P P 21 27 45.0 +1.0
SUW **Suwalki** 76.19 35 *e*P P 21 27 44.1 +0.1
SUW **Suwalki** 76.19 35 *e*P P 21 27 44.2 +0.2
E05A **Randle** 76.21 317 ⇓P P 21 27 44.0 -0.3
baz=76
I04A **Tendick Farm,** 76.23 314 ⇑P P 21 27 43.9 -0.6
baz=76
MLR **Muntele Rosu** 76.31 44 ⇑*j*P P 21 27 45.5 +0.6
B05A **Bryant** 76.72 319 ⇓P P 21 27 45.4 -1.8
baz=77
LBTB **Lobatse** 76.81 117 *e*P P 21 27 47.3 -0.8
LBTB pmax pmax
comp=Z,10.0nm,0.8s,mb4.8
LBTB **Lobatse** 76.81 117 *e*P P 21 27 47.3 -0.8
comp=Z,9.7nm,0.8s,mb4.8
KHMM **Horse Mountain** 76.82 311 *e*P P 21 27 48.9 +1.0
A05A **Maple Falls** 76.83 319 ⇓P P 21 27 46.3 -1.5
baz=77
PLOR **Plostina** 76.85 44 ⇓*j*P P 21 27 48.9 +0.9
K02A **Glendale** 76.87 313 ⇑P P 21 27 47.6 -0.6
baz=77
L02A **Cave Junction** 76.87 312 ⇓P P 21 27 47.8 -0.4
baz=77
VRI **Vrincioaia** 76.91 44 ⇓*j*P P 21 27 48.8 +0.5
VRI **Vrincioaia** 76.91 44 ⇓P P 21 27 48.8 +0.5
JCC **Jacoby Creek** 77.03 311 ⇓P P 21 27 49.7 +0.6
baz=77
G03A **Yamhill** 77.06 316 ⇑P P 21 27 49.5 +0.3
baz=77
BOSA **Boshof** 77.18 120 P P 21 27 49.2 -1.0
comp=Z,8.4nm,1.0s,mb4.6,baz=188,slow=19,SNR=11
BOSA LR LR 21 58 31.8
comp=Z,105nm,18.3s,MS4.2,baz=63,slow=33
A04A **Legoe Bay, Lum** 77.19 319 ⇑P P 21 27 49.5 -0.3
baz=77
C04A **Brinnon** 77.21 318 ⇑P P 21 27 49.3 -0.6
baz=77
HARR **Harsova** 77.58 45 ⇓*j*P P 21 27 52.5 +0.4
HARR **Harsova** 77.58 45 ⇓P P 21 27 52.5 +0.4
B04A **Port Angeles** 77.61 318 ⇑P P 21 27 52.5 +0.3
baz=78
LSZ **Lusaka** 77.75 106 *e*P P 21 27 53.5 -0.1
LSZ pmax pmax
comp=Z,11nm,0.8s,mb4.8
LSZ **Lusaka** 77.75 106 *e*P P 21 27 53.5 -0.1
comp=Z,11nm,0.8s,mb4.8
TIRR **Tirgusor** 77.90 45 ⇑*j*P P 21 27 54.2 +0.3
TIRR **Tirgusor** 77.90 45 ⇑P P 21 27 54.1 +0.3
KIS **Kishinev** 78.49 43 *e*P P 21 27 52.0 -5.1
KIS *e* 21 28 05.0
KIS **Kishinev** 78.49 43 *e*UNK P 21 27 52.0 -5.1
VNA1 **Neumayer--Stat** 78.62 167 *e*P P 21 27 57.8 +0.5
VNA1 *e* pP 21 27 59.7 -0.9
VNA1 *e* 21 28 08.3
VNA3 **Neumayer Olymp** 78.78 168 *e*P P 21 27 58.4 +0.3
VNA3 *e* pP 21 28 00.3 -1.1
VNA3 *e* 21 28 09.1
VNA2 **Neumayer--Watz** 79.02 167 *e*P P 21 27 59.7 +0.3
baz=334,slow=5.3
VNA2 *e* pP 21 28 01.7 -1.1
VNA2 *e* 21 28 10.6
AKASG **Malin Array Be** 79.23 39 P P 21 28 00.6 -0.5
comp=Z,2.6nm,0.6s,mb4.3,baz=269,slow=4.4,SNR=14
FINES **FINESS Array B** 79.35 28 P P 21 28 00.0 -1.5
KAF **Kangasniemi** 79.60 27 *e*p P 21 28 02.1 -0.7
comp=Z,2.5nm,0.4s,mb4.5
KAF **Kangasniemi** 79.60 27 *e*P P 21 28 02.1 -0.7
KAF pmax pmax
comp=Z,3.0nm,0.4s,mb4.6
SNAA **Sanae** 80.57 167 *e*P P 21 28 07.4 -0.5
SNAA *e* pP 21 28 09.0 -2.2
SNAA *e* 21 28 18.3
SNAA **Sanae** 80.57 167 *e*P P 21 28 07.5 -0.4
ARCES **ARCESS Array B** 80.98 20 P P 21 28 09.3 -0.8
comp=Z,14nm,1.0s,mb4.8,baz=268,slow=3.6,SNR=14
ARCES LR LR 21 56 34.6
comp=Z,85nm,19.4s,MS4.1,baz=199,slow=30
BR131 **Keskin Array S** 81.39 51 *e*P P 21 28 13.7 +0.8
KEV **Kevo** 81.54 20 *e*p P 21 28 12.7 -0.4
comp=Z,0.9nm,0.4s,mb4.0
KEV **Kevo** 81.54 20 *e*P P 21 28 12.7 -0.4
KEV pmax pmax
comp=Z,1.0nm,0.4s,mb4.1
KZIT **Kziot** 81.75 59 P P 21 28 16.1 +1.0
JOF **Joensuu** 82.03 27 *e*p P 21 28 14.9 -0.9
comp=Z,2.9nm,0.4s,mb4.6
DLBC **Dease Lake** 82.75 328 P P 21 28 20.0 +0.3
comp=Z,5.2nm,0.6s,mb4.7,baz=75,slow=5.2,SNR=5.8
DLBC **Dease Lake** 82.75 328 *e*P P 21 28 19.9 +0.3
APA **Apatity** 83.48 22 ⇑*j*P P 21 28 24.2 +0.9
APA pmax pmax
comp=Z,29nm,1.0s,mb5.3
LVZ **Lovozero** 83.99 22 ⇑*e*P P 21 28 24.8 -1.1
OBN **Obninsk** 84.05 35 ⇓*e*P P 21 28 26.8 +0.4
OBN *e* pP 21 28 30.9 +1.1
OBN pmax pmax
comp=Z,50nm,1.8s,mb5.3
OBN MLR MLR
comp=Z,100nm,14.0s,MS4.3
OBN **Obninsk** 84.05 35 *i*P P 21 28 26.5 +0.1
ANN **Anapa** 84.34 46 *e*P P 21 28 20.4 -7.8
ANN pmax pmax
comp=Z,62nm,1.2s,mb5.6
INK **Inuvik** 85.02 338 *e*P P 21 28 30.4 -0.6
comp=Z,776nm,1.0s
KMBO **Kilima Mbogo** 85.44 91 *e*P P 21 28 37.0 +2.7
KMBO pmax pmax
comp=Z,15nm,1.5s
KMBO **Kilima Mbogo** 85.44 91 *e*P P 21 28 37.0 +2.6
comp=Z,15nm,1.5s,mb4.9
HYT **Haines Junctio** 86.62 331 *e*P P 21 28 40.3 +1.1
DAWY **Dawson** 87.39 334 *e*P P 21 28 42.5 -0.4
EGAK **Eagle** 88.11 335 *e*P P 21 28 45.9 -0.4
comp=Z,8.6nm,0.9s,mb5.0
KIV **Kislovodsk** 88.13 46 P P 21 28 47.6 +0.8
comp=Z,97nm,1.2s,mb5.9,SNR=5.1
KIV **Kislovodsk** 88.13 46 ⇑*j*P P 21 28 47.1 +0.3
KIV pmax pmax
comp=Z,25nm,1.1s,mb5.4
KIV **Kislovodsk** 88.13 46 ⇑*j*P P 21 28 48.0 +1.2
KIV **Kislovodsk** 88.13 46 ⇑P P 21 28 47.2 +0.4
GNI **Garni** 89.91 50 ⇑*j*P P 21 28 55.7 +0.4
COLA **College** 90.94 335 *e*P P 21 28 58.8 -0.7
COLA pmax pmax
comp=Z,10.0nm,0.8s,mb5.2
COLA **College** 90.94 335 *e*P P 21 28 58.8 -0.7
comp=Z,10nm,0.8s,mb5.2
MCK **McKinley** 91.62 334 *e*P P 21 29 02.0 -0.7
SYO **Syowa Base** 92.47 159 ⇑*j*P P 21 29 05.0 -1.5
SYO **Syowa Base** 92.47 159 ⇑*e*sP sP 21 29 12.0 +1.0
IMA2 **Indian Mountai** 93.04 337 *e*P P 21 29 09.5 +0.3
QSPA **South Pole Qui** 93.61 180 *e*P P 21 29 11.2 -0.3
MKAR **Makanchi Array** 113.56 35 PKKPbc PKKPbc 21 45 17.9 -1.8
comp=Z,0.8nm,0.8s,baz=163,slow=1.3,SNR=5.6
MKAR PKKPab PKKPab 21 45 24.9 -1.4
comp=Z,0.8nm,0.7s,baz=116,slow=5.5,SNR=5.7
MKAR PKKP PKKPbc 21 45 35.9 +16
comp=Z,1.0nm,1.0s,baz=224,slow=31,SNR=4.9
WMQ **Urumqi** 118.39 35 PKP PKPdf 21 34 39.3 -4.5
WMQ XPKP 21 34 46.8
WMQ PP PP 21 36 00.8 +1.4
WMQ PP PP
comp=Z,48nm,4.5s
DANN **Dangsing** 123.92 52 *e*P PKPdf 21 34 54.6 -0.3
comp=Z,25nm,0.8s
KOLN **Koldanda** 124.05 53 *e*P PKPdf 21 34 53.7 -1.4
comp=Z,5.8nm,0.9s
SONM **Songino Array** 124.15 21 PKP PKPdf 21 34 54.2 -0.5
comp=Z,1.4nm,0.6s,baz=309,slow=1.7,SNR=7.6
GKN **Gorkha** 124.76 52 *e*P PKPdf 21 34 55.5 -1.0
DMN **Daman** 125.31 52 *e*P PKPdf 21 34 56.6 -0.9
KKN **Kakani** 125.37 52 *e*P PKPdf 21 34 56.9 -0.7
comp=Z,14nm,0.6s
PKI **Pulchoki** 125.57 52 *e*P PKPdf 21 34 56.4 -1.6
GUN **Gumba** 125.78 52 *e*P PKPdf 21 34 58.1 -0.3
comp=Z,22nm,0.8s
JIRN **Jiri** 126.14 52 *e*P PKPdf 21 34 58.3 -0.8
RAMN **Ramite** 126.80 52 *e*P PKPdf 21 34 59.9 -0.5
comp=Z,40nm,0.7s
ODAN **Odare** 127.46 52 *e*P PKPdf 21 35 01.1 -0.6
comp=Z,19nm,0.8s
TAPN **Taplejung** 127.48 51 *e*P PKPdf 21 35 01.4 -0.3
comp=Z,20nm,0.9s
GTA **Gaotai** 128.04 31 PKP PKPdf 21 35 02.3 -0.1
GTA PP PP 21 37 06.0 +1.5
GTA PKS 21 38 37.0
GTA SKS SKSdf 21 42 12.8 -1.7
GTA SKKS SKKSac 21 43 57.0 -6.1
GTA SS SS 21 54 23.3 +5.5
GTA PP PP
comp=Z,80nm,7.8s
GTA LR LR
comp=N,67nm,13.5s,MS4.7
GTA LR LR
comp=E,101nm,14.4s,MS4.7
GTA LR LR
comp=Z,89nm,14.1s,MS4.6
LSA **Lhasa** 128.87 47 *e*PKIKP PKPdf 21 35 04.6 +0.3
HHC **Hu-ho-hao-te** 132.06 21 *e*PKP PKPdf 21 35 10.8 +0.8
HHC PP PP 21 37 36.3 +6.1
HHC PKS 21 38 45.3
HHC SKS SKSdf 21 42 20.5 -1.2
HHC SKKS SKKSac 21 44 26.8 -1.1
HHC SS SS 21 55 14.0 +7.4
HHC PP PP
comp=Z,64nm,6.7s
HHC LR LR
comp=N,222nm,22.5s,MS5.1
HHC LR LR
comp=E,341nm,22.5s,MS5.1
HHC LR LR
comp=Z,200nm,22.7s,MS4.8
CN2 **Changchun** 132.50 6 *e*PKP PKPdf 21 35 11.5 +0.7
LZH **Lanzhou** 132.64 31 *e*PKP PKPdf 21 35 06.5 -4.8
LZH XPKP 21 35 14.5
LZH PP PP
comp=Z,64nm,5.0s
BJI **Beijing** 134.28 17 PKP PKPdf 21 35 12.3 -1.9
BJI SS SS 21 55 32.0 -1.3
BJI LR LR
comp=N,110nm,25.0s,MS4.7
BJI LR LR
comp=E,158nm,24.8s,MS4.7
BJI LR LR
comp=Z,46nm,20.4s,MS4.2
CD2 **Chengdu** 136.47 36 *e*PKP PKPdf 21 35 16.8 -1.8
CD2 PP PP 21 38 00.8 +2.0
CD2 PKS 21 38 51.8
CD2 SKS SKSdf 21 42 22.3 -7.6
CD2 PP PP
comp=Z,190nm,10.2s
CD2 LR LR
comp=N,190nm,21.2s
CD2 LR LR
comp=Z,210nm,18.4s,MS4.9
MJAR **Matsushiro Arr** 139.68 352 PKP PKPdf 21 35 23.7 -0.6
comp=Z,0.5nm,0.4s,baz=356,slow=1.5,SNR=3.5
KMI **Kunming** 139.83 43 PKP PKPdf 21 35 23.8 -1.1
CMAR **Chiang Mai Arr** 140.86 55 PKHKP 21 35 18.2
comp=Z,1.9nm,0.8s,baz=286,slow=4.5,SNR=9.6
CMAR PKP PKPdf 21 35 26.6 -0.3
comp=Z,5.0nm,0.8s,baz=290,slow=3.6,SNR=15
NJ2 **Nanjing** 142.48 18 *e*PKP PKPdf 21 35 27.5 -2.0
NWAO **Narrogin (SRO)** 147.72 157 PKPbc PKPbc 21 35 39.9 -1.3
comp=Z,13nm,0.8s,baz=219,slow=6.5,SNR=9.2
NWAO **Narrogin (SRO)** 147.72 157 PKPbc PKPbc 21 35 39.9 -1.3
MUN **Mundaring** 148.12 154 *e*PKP PKPdf 21 35 40.9 +1.7
MUN *ep*PKP PKPab 21 35 51.7 +6.6
KLBR **Kellerberrin** 149.10 156 *e*PKP PKPdf 21 35 43.1 +2.3
comp=Z,12nm,0.5s
KLBR *ep*PKP PKPab 21 35 54.0 +5.0
STKA **Stephens Creek** 150.39 197 *e*PKP PKPbc 21 35 47.7 -0.3
comp=Z,24nm,0.9s
STKA *ep*PKP PKPab 21 35 59.1 +4.9
STKA **Stephens Creek** 150.39 197 PKP PKPdf 21 35 42.7 -0.1
comp=Z,28nm,0.9s,baz=82,slow=2.7,SNR=19
STKA PKPbc PKPbc 21 35 47.9 -0.2
comp=Z,28nm,0.9s,baz=150,slow=2.4,SNR=25
EIDS **Eidsvold** 151.53 219 *e*PKPdf PKPbc 21 35 50.9 0.0
FORT **Forrest** 152.68 173 *e*PKP PKPbc 21 35 52.2 -1.1
comp=Z,21nm,0.6s
FORT *ep*PKP PKPab 21 36 03.2 -0.6
CTAO **Charters Tower** 158.41 219 *e*PKIKP PKPdf 21 35 53.8 -0.5
ASAR **Alice Springs** 159.91 185 PKP PKPdf 21 35 55.2 -0.8
comp=Z,1.6nm,0.9s,baz=165,slow=1.4,SNR=9.6
ASAR PKPab PKPab 21 36 33.4 -1.6
comp=Z,0.7nm,0.4s,baz=163,slow=4.4,SNR=8.8
WB2 **Warramunga Arr** 163.54 188 *e*PKP PKPab 21 36 49.1 -1.7
WRA **Warramunga Arr** 163.54 188 PKP PKPdf 21 35 58.2 -1.6
comp=Z,2.2nm,1.0s,baz=250,slow=0.9,SNR=11
WRA PKPab PKPab 21 36 48.8 -2.1
comp=Z,3.4nm,1.0s,baz=177,slow=4.2,SNR=8.9
KAPI **Kappang** 167.81 97 PKP PKPdf 21 36 01.5 -2.0
comp=Z,3.1nm,0.4s,baz=322,slow=22,SNR=6.8

IDC ***31*** *21:23:43.1±0.9, 196N×9661E, h0km, mb4.4/16, mb1 4.5/17, mb1mx4.3/24, mbtmp4.4/17, ML4.4/1, MS3.7/5, Ms1 3.7/5, ms1mx3.3/30, Error ellipse: s-maj=33.5km s-min=13.3km az=52.0*

DJA ***31*** *21:23:44, 184N×9633E, h11km, MLv4.5/5*

MOS ***31*** *21:23:46.4±0.7, 206N×9670E, h33km, mb4.8/16, Error ellipse: s-maj=13.1km s-min=6.8km az=104.1*

BJI ***31*** *21:23:47.2, 225N×9675E, h23km, mB4.9, mb4.7, Ms4.5, Msz4.3*

ISCJB ***31*** *21:23:47.9±1.4, 205N±005×9673E±006, h45km±13km, mb4.6/46, MS3.9/5, Error ellipse: s-maj=11.6km s-min=6.3km az=149.9*

NEIC ***31*** *21:23:49.1±0.9, 203N×9672E, h40km±8km, mb4.7/26, Error ellipse: s-maj=7.0km s-min=3.8km az=61.0*

ISC 31 21:23:49.9±1.1, 204N±005×9674E±006, h45km±10km, h29km±1.5km: pP-P, n100, σ0.8 77/97, mb4.6/46, MS3.9/5, 3C-4D, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KULM	**Kulim**	5.06	50	⇓P	Pn	21 25 03.4	+0.1
MYKOM	**Kota Tinggi**	7.11	92	⇓P	Pn	21 25 32.4	+1.0
KTGM	**Kuala Trenggan**	7.17	63	⇓P	Pn	21 25 32.5	+0.3
KSM	**Kuching**	13.58	92	*e*Pn	Pn	21 26 59.5	-0.4
COCO	**West Island**	14.14	180	*e*P	Pn	21 27 07.0	-0.6
SBUM	**Sibu**	15.47	88	⇓P	Pn	21 27 26.5	+1.3
CM31	**Chiang Mai Arr**	16.46	7	*e*P	Pn	21 27 37.6	-0.1
CMAR	**Chiang Mai Arr**	16.46	7	Pn	Pn	21 27 36.1	-1.5
	0.5nm,0.3s,baz=198,slow=12,SNR=68						

CMAR LR LR 21 34 00.0
comp=Z,96nm,19.9s,baz=195,slow=37
CHTO Chiang Mai 16.81 7 *e*P **Pn 21 27 40.7 -1.4**
CHTO pmax pmax
comp=Z,8.0nm,1.0s
CHTO Chiang Mai 16.81 7 *e*Pn **Pn 21 27 40.7 -1.3**
comp=Z,7.8nm,1.0s
KKM Kota Kinabalu 19.83 78 ⇑P **Pn 21 28 18.1 -0.8**
KKM Kota Kinabalu 19.83 78 *e*P **Pn 21 28 17.2 -1.7**
KMI Kunming 23.66 14 P **P 21 28 58.5 +1.1**
KMI AMB AMB
comp=Z,10.0nm,1.1s,mb4.2
SHL Shillong 23.85 349 *e*P **P 21 28 57.5 -1.6**
KAPI Kappang 24.04 107 P **P 21 29 00.1 -0.8**
comp=Z,10nm,0.6s,mb4.4,baz=284,slow=16,SNR=9.2
ODAN Odare 26.26 341 *e*P **P 21 29 21.6 +0.7**
comp=Z,24nm,0.8s,mb4.8
RAMN Ramite 26.61 339 *e*P **P 21 29 25.2 +1.1**
comp=Z,15nm,0.6s,mb4.7
TAPN Taplejung 26.61 342 *e*P **P 21 29 25.2 +1.1**
comp=Z,36nm,0.9s,mb4.9
JIRN Jiri 27.40 339 *e*P **P 21 29 32.3 +1.1**
comp=Z,26nm,0.8s,mb4.8
GUN Gumba 27.74 339 *e*P **P 21 29 35.5 +1.3**
comp=Z,28nm,0.7s,mb5.0
DMN Daman 27.75 337 *e*P **P 21 29 34.8 +0.4**
KKN Kakani 27.85 338 *e*P **P 21 29 35.9 +0.7**
KKN pmax pmax
comp=Z,26nm,0.9s,mb4.9
KKN Kakani 27.85 338 *e*P **P 21 29 35.9 +0.7**
comp=Z,26nm,0.9s,mb4.9
LSA Lhasa 28.01 350 *e*P **P 21 29 37.2 +0.5**
LSA pmax pmax
comp=Z,10.0nm,0.8s,mb4.5
LSA Lhasa 28.01 350 *e*P **P 21 29 37.2 +0.5**
comp=Z,10nm,0.8s,mb4.5
GKN Gorkha 28.29 337 *e*P **P 21 29 38.9 -0.2**
comp=Z,19nm,0.8s,mb4.8
KOLN Koldanda 28.50 335 *e*P **P 21 29 41.9 +0.8**
comp=Z,20nm,0.7s,mb4.9
DANN Dangsing 28.95 336 *e*P **P 21 29 45.3 +0.3**
comp=Z,17nm,0.8s,mb4.9
MBWA Marble Bar 32.22 137 P **P 21 30 14.3 +0.3**
YHNB Yeheng 32.74 45 *e*P **P 21 30 18.3 -0.2**
comp=Z,34nm,1.0s,mb5.2
XAN Xi'an 33.81 18 P **P 21 30 26.5 -1.2**
XAN AP pP 21 30 34.5 -5.3
XAN AMB AMB
comp=Z,5.0nm,0.9s,mb4.4
XAN AMB AMB
comp=Z,46nm,8.0s
XAN LR LR
comp=E,138nm,18.6s
XAN LR LR
comp=Z,126nm,14.6s,MS3.8
GTA Gaotai 37.30 4 P **P 21 30 58.0 +0.4**
GTA AP pP 21 31 06.5 -3.3
GTA XP sP 21 31 11.5 -3.7
GTA AMB AMB
comp=Z,18nm,0.9s,mb4.9
KAKA Kakadu 38.35 113 *e*P **P 21 30 57.8 -9.1**
comp=Z,9.9nm,0.7s,mb4.7
NWAO Narrogin (SRO) 39.81 153 *e*P **P 21 31 18.8 0.0**
KBL Kabul 41.37 325 P **P 21 31 31.1 -0.5**
KBL pmax pmax
comp=Z,2.0nm,0.4s,mb4.1
KBL Kabul 41.37 325 P **P 21 31 31.1 -0.6**
comp=Z,1.5nm,0.4s,mb4.0
WRA Warramunga Arr 42.87 122 P **P 21 31 43.7 -0.4**
comp=Z,9.5nm,0.6s,mb4.7,baz=300,slow=9.2,SNR=104
WRAB Tennant Creek 42.88 122 *e*P **P 21 31 43.8 -0.3**
WRAB pmax pmax
comp=Z,10.0nm,0.6s,mb4.7
WRAB Tennant Creek 42.88 122 *e*P **P 21 31 43.8 -0.3**
comp=Z,9.5nm,0.6s,mb4.7
WB2 Warramunga Arr 42.88 122 *e*P **P 21 31 43.9 -0.3**
ASAR Alice Springs 44.27 127 P **P 21 31 55.2 0.0**
comp=Z,4.2nm,0.8s,mb4.2,baz=302,slow=8.2,SNR=48
ASAR PcP PcP 21 33 39.2 0.0
comp=Z,0.3nm,0.6s,baz=312,slow=4.0,SNR=4.9
TKM2 Tokmak 2 44.87 338 *e*P **P 21 31 58.6 -1.2**
EKS2 Erkin-Say 45.36 336 *e*P **P 21 32 04.3 +0.7**
comp=Z,3.0nm,0.7s,mb4.2
KSRS Korea Array 45.43 35 P **P 21 32 04.2 -0.1**
comp=Z,5.3nm,0.8s,mb4.4,baz=226,slow=9.7,SNR=11
KSRS LR LR 21 52 13.8
comp=Z,59nm,19.6s,MS3.5,baz=190,slow=38
MK31 Makanchi Array 46.32 346 *e*P **P 21 32 11.3 +0.2**
MKAR Makanchi Array 46.32 346 P **P 21 32 11.3 +0.2**
comp=Z,7.4nm,0.7s,mb4.8,baz=162,slow=7.4,SNR=61
MKAR LR LR 21 55 27.7
comp=Z,47nm,18.2s,MS3.5,baz=172,slow=41
MKAR Makanchi Array 46.32 346 P **P 21 32 11.3 +0.2**
MKAR LR LR 21 55 27.7
SONM Songino Array 46.37 9 P **P 21 32 11.9 +0.3**
comp=Z,5.1nm,0.8s,mb4.5,baz=189,slow=8.4,SNR=35
SONM PcP PcP 21 33 46.8 +0.8
comp=Z,1.1nm,0.6s,baz=194,slow=3.0,SNR=3.8
ULN Ulaanbaatar 46.51 10 *e*P **P 21 32 13.6 +1.0**
ULN pmax pmax
comp=Z,3.0nm,0.9s,mb4.2
ULN Ulaanbaatar 46.51 10 *e*P **P 21 32 13.6 +1.0**
comp=Z,3.5nm,0.9s,mb4.3
ZAK Zakamensk 48.48 6 *e*P **P 21 32 26.7 -1.2**
ZAK pmax pmax
comp=Z,3.0nm,1.0s,mb4.3
KURK Kurchatov 50.86 345 P **P 21 32 46.0 0.0**
comp=Z,3.5nm,0.6s,mb4.5,baz=167,slow=7.0,SNR=9.0
KURK Kurchatov 50.86 345*c i*P **P 21 32 46.7 +0.7**
KURK pmax pmax
comp=Z,9.0nm,1.1s,mb4.6
KURK Kurchatov 50.86 345 *e*P **P 21 32 46.5 +0.5**
comp=Z,6.5nm,0.9s,mb4.6
HIA Hailar 51.00 19 *e*P **P 21 32 47.4 +0.3**
HIA pmax pmax
comp=Z,10.0nm,0.9s
HIA Hailar 51.00 19 *e*P **P 21 32 47.4 +0.3**
comp=Z,10.0nm,0.9s,mb4.8
MDJ Mudanjiang 51.37 30 P **P 21 32 49.7 -0.2**
MJAR Matsushiro Arr 51.39 43 P **P 21 32 51.3 +1.1**
comp=Z,1.9nm,0.7s,mb4.1,baz=209,slow=7.0,SNR=6.9
PMG Port Moresby 51.50 104 *e*P **P 21 32 51.7 +0.3**
PMG pmax pmax
comp=Z,25nm,0.6s
PMG Port Moresby 51.50 104 *e*P **P 21 32 51.7 +0.2**
comp=Z,25nm,0.6s,mb5.3
ZAA0 Zalesovo Array 52.66 351 *e*P **P 21 32 59.5 +0.2**
ZALV Zalesovo Beam 52.66 351 P **P 21 32 59.6 +0.3**
comp=Z,15nm,0.8s,mb5.0,baz=180,slow=5.9,SNR=70
CTA Charters Tower 53.29 117 *e*P **P 21 33 05.6 +1.0**
comp=Z,5.6nm,0.8s,mb4.5
CTA Charters Tower 53.29 117 P **P 21 33 05.5 +0.9**
comp=Z,6.6nm,1.0s,mb4.5,baz=265,slow=8.2,SNR=5.0
CTA Charters Tower 53.29 117 *e*P **P 21 33 05.6 +1.0**
CTA pmax pmax
comp=Z,6.0nm,0.8s
CTAO Charters Tower 53.29 117 *e*P **P 21 33 05.5 +0.9**
CTAO pmax pmax
comp=Z,6.0nm,0.7s,mb4.6
CTAO Charters Tower 53.29 117 *e*P **P 21 33 05.5 +0.9**
comp=Z,6.2nm,0.7s,mb4.7
NVS Novosibirsk 53.77 350 *e*P **P 21 33 06.9 -0.6**
NVS pmax pmax
comp=N,6.0nm,0.8s
NVS pmax pmax
comp=Z,7.0nm,0.8s,mb4.6
NVS pmax pmax
comp=E,6.0nm,1.0s
STKA Stephens Creek 54.26 132 *e*P **P 21 33 12.3 +0.8**
comp=E,4.1nm,1.0s,mb4.3
STKA Stephens Creek 54.26 132 P **P 21 33 12.2 +0.7**
comp=E,1.7nm,0.7s,mb4.1,baz=316,slow=8.6,SNR=5.4
STKA LR LR 21 57 56.8
comp=E,77nm,18.0s,MS3.8,baz=333,slow=38
BVAR Borovoye Array 55.31 341 P **P 21 33 18.6 -0.1**
comp=E,3.4nm,0.7s,mb4.5,baz=141,slow=8.9,SNR=28
BRVK Borovoye 55.37 341 *e*P **P 21 33 19.1 -0.1**
BRVK pmax pmax
comp=Z,7.0nm,0.9s,mb4.7
BRVK Borovoye 55.37 341 *e*P **P 21 33 19.1 0.0**
comp=Z,7.0nm,0.9s,mb4.7
KLR Kul'dur 55.72 27 *e*P **P 21 33 18.0 -3.7**
BOD Bodaibo 57.27 11⇑*i*P **P 21 33 32.4 -0.2**
BOD *e* pP 21 33 41.7 -3.8
BOD pmax pmax
comp=Z,5.0nm,1.0s,mb4.5

KMBO Kilima Mbogo 59.56 268 P **P 21 33 49.5 +0.1**
GNI Garni 60.37 316 P **P 21 33 53.6 -0.9**
SVE Sverdlovsk 61.74 338 *e*P **P 21 34 03.3 -0.1**
SVE pmax pmax
comp=Z,11nm,1.0s,mb4.9
ARU Arti 62.23 337 *e*P **P 21 34 06.2 -0.6**
ARU Arti 62.23 337 *e*P **P 21 34 06.2 -0.6**
KIV Kislovodsk 63.37 319 *e*P **P 21 34 14.5 -0.1**
KIV pmax pmax
comp=Z,3.0nm,0.6s,mb4.6
KIV Kislovodsk 63.37 319 *e*P **P 21 34 14.5 -0.1**
comp=Z,3.4nm,0.6s,mb4.7
YAK Yakutsk 64.75 16 *e*P **P 21 34 22.0 -1.2**
YAK pmax pmax
comp=Z,26nm,1.0s,mb5.2
YAK pmax pmax
comp=N,6.0nm,1.1s
BR131 Keskin Array S 68.21 312 *e*P **P 21 34 53.5 +7.6**
TIXI Tiksi 72.44 10 *e*P **P 21 35 09.2 -1.9**
TIXI pmax pmax
comp=Z,4.0nm,1.1s,mb4.3
TIXI Tiksi 72.44 10 *e*P **P 21 35 10.4 -0.7**
comp=Z,3.0nm,0.8s,mb4.3
MAW Mawson 73.42 193 P **P 21 35 15.2 -1.7**
LBTB Lobatse 73.85 243 P **P 21 35 20.9 +0.6**
AKASG Malin Array Be 74.31 322 P **P 21 35 21.5 -1.0**
comp=Z,1.1nm,0.6s,mb4.0,baz=94,slow=4.9,SNR=4.4
TSUM Tsumeb 80.44 250 *e*P **P 21 35 57.3 -0.1**
BILL Bilibino 80.55 21 P **P 21 36 05.0 +8.0**
BILL pmax pmax
comp=Z,12nm,1.1s,mb4.7
ARCES ARCESS Array B 81.59 340 P **P 21 36 03.1 +0.6**
comp=Z,1.3nm,0.7s,mb4.0,baz=79,slow=6.3,SNR=9.5
ARE0 ARCESS Array S 81.59 340 *e*P **P 21 35 57.4 -5.1**
GERES GERESS Array B 83.88 319 P **P 21 36 14.8 -0.1**
comp=Z,1.3nm,0.9s,mb4.1,baz=104,slow=4.3,SNR=9.8
NOA NORSAR Array B 86.05 331 P **P 21 36 25.4 -0.1**
comp=Z,1.5nm,0.8s,mb4.3,baz=96,slow=4.8,SNR=3.6
RAO Raoul Island 86.92 119 P **P 21 36 30.5 0.0**
QSPA South Pole Qui 91.98 180 *e*P **P 21 36 54.4 +1.3**
BORG Borgarnes 99.77 337 LR LR 22 24 18.1
comp=Z,233nm,19.0s,MS4.7,baz=310,slow=36
DBIC Dimbokro 101.27 277 *e*P Pdif 21 37 36.9 +1.2
TXAR Lajitas Array 143.19 31 PKP PKPdf 21 43 17.4 -2.4
comp=Z,0.3nm,0.6s,baz=292,slow=6.6,SNR=4.4

ISCJB ***31*** *21:53:49.8±0.9, 2422S±008×17970W±009, h456km±10km, mb4.0/6, Error ellipse: s-maj=13.2km s-min=12.3km az=151.0*
NEIC ***31*** *21:53:50.2±0.7, 2423S×17961W, h450km±9km, mb3.9/3, Error ellipse: s-maj=10.4km s-min=8.1km az=185.0*
IDC ***31*** *21:53:50.4±1.9, 2421S×17963W, h448km±20km, mb3.7/4, mb1 3.9/6, mb1mx3.5/16, mbtmp3.9/6, Error ellipse: s-maj=31.7km s-min=23.8km az=34.0*
ISC 31 21:53:50.4±0.8, 2423S±008×17964W±009, h452km±10km, n28, σ0≡51/31, mb4.0/6, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**5.24**	**163**	P	**P**	**21 55 18.2**	**+1.2**
	95nm,0.3s,baz=284,slow=23,SNR=5.4						
RAO				S	**S**	**21 56 27.6**	**-0.1**
	89nm,0.3s,baz=92,slow=23,SNR=3.5						
RAO	**Raoul Island**	**5.24**	**163**	*e*P	**P**	**21 55 16.4**	**-0.7**
RAO				S	**S**	**21 56 27.6**	**-0.1**
AFI	**Afiamalu**	**12.67**	**37**	P	**P**	**21 56 36.9**	**+0.3**
	5.4nm,0.3s,baz=91,slow=1.7,SNR=4.8						
AFI				S	**S**	**21 58 47.3**	**-6.4**
	3.0nm,0.3s,baz=210,slow=16,SNR=3.6						
AFI	**Afiamalu**	**12.67**	**37**	*e*P	**P**	**21 56 36.5**	**-0.1**
AFI				S	**S**	**21 58 47.3**	**-6.4**
AFI				*e*S	**S**	**21 58 53.8**	**+0.1**
RAR	**Rarotonga**	**18.57**	**85**	*e*P	**P**	**21 57 38.3**	**-0.4**
	201nm,1.8s						
HNR	**Honiara**	**24.41**	**304**	*e*P	**P**	**21 58 31.4**	**-0.3**
CTA	**Charters Tower**	**31.81**	**271**	P	**P**	**21 59 37.9**	**+1.4**
	14nm,0.5s,mb4.7,baz=97,slow=10,SNR=20						
CTAO	**Charters Tower**	**31.81**	**271**	*e*P	**P**	**21 59 37.8**	**+1.3**
TAU	**Tasmania Unive**	**32.95**	**227**	P	**P**	**21 59 45.3**	**-0.7**
STKA	**Stephens Creek**	**34.91**	**249**	P	**P**	**22 00 02.9**	**+0.2**
	2.2nm,0.4s,mb3.9,baz=104,slow=14,SNR=12						
STKA	**Stephens Creek**	**34.91**	**249**	*e*P	**P**	**22 00 02.8**	**0.0**
	2.2nm,0.4s,mb3.9						
ASAR	**Alice Springs**	**42.31**	**261**	P	**P**	**22 01 03.2**	**0.0**
	1.3nm,0.3s,mb3.8,baz=91,slow=6.5,SNR=41						
WB2	**Warramunga Arr**	**42.70**	**266**	*e*P	**P**	**22 01 06.0**	**-0.5**
WRAB	**Tennant Creek**	**42.71**	**266**	*e*P	**P**	**22 01 06.0**	**-0.4**
	3.6nm,0.3s,mb4.3						
WRA	**Warramunga Arr**	**42.72**	**266**	P	**P**	**22 01 06.2**	**-0.3**
	3.3nm,0.4s,mb4.2,baz=98,slow=8.3,SNR=112						
WRA				ScP	ScP	22 05 57.0	+1.2
	0.8nm,0.7s,baz=99,slow=3.6,SNR=7.7						
SBA	**Scott Base**	**54.07**	**184**	*e*P	**P**	**22 02 30.9**	**+0.2**
NWAO	**Narrogin (SRO)**	**55.40**	**246**	*e*P	**P**	**22 02 41.5**	**+0.6**
CASY	**Casey**	**59.96**	**206**	*e*P	**P**	**22 03 11.1**	**-0.3**
CASY				*e*PP	PP	22 05 30.4	+0.3
QSPA	**South Pole Qui**	**65.86**	**180**	P	**P**	**22 03 50.1**	**+0.7**
MAW	**Mawson**	**77.56**	**200**	*e*P	**P**	**22 04 58.2**	**0.0**
PMSA	**Palmer Station**	**78.48**	**157**	P	**P**	**22 05 03.7**	**+0.5**
SNAA	**Sanae**	**84.34**	**179**	*e*	**P**	**22 05 32.4**	**-0.9**
SNAA	**Sanae**	**84.34**	**179**	*e*P	**P**	**22 05 32.8**	**-0.6**
	0.2nm,0.5s,mb2.9						
VNA3	**Neumayer Olymp**	**84.53**	**177**	*e*	**P**	**22 05 34.0**	**-0.3**
VNA2	**Neumayer--Watz**	**84.95**	**177**	*e*	**P**	**22 05 36.2**	**-0.2**
PLCA	**Paso Flores**	**87.80**	**134**	P	**P**	**22 05 51.0**	**+0.4**
GOGA	**Godfrey**	**107.80**	**61**	PKiKP	PKiKP	22 11 24.6	-1.1
TORD	**Torodi Ar. Bea**	**168.91**	**187**	PKPab	PKPab	22 14 18.8	-0.4
	0.4nm,0.8s,baz=176,slow=3.0,SNR=4.9						

BJI ***31*** *22:06:44.4, 3306S×17733W, h53km, mB5.5, mb5.5, Ms5.1, Msz4.6*
MOS ***31*** *22:06:44.0±1.2, 3300S×17830W, h33km, mb5.4/21, MS5.0/8, Error ellipse: s-maj=12.6km s-min=10.7km az=154.3*
DJA ***31*** *22:06:44, 3342S×17787W, h50km, mb5.4/5*
ISCJB ***31*** *22:06:45.9±0.2, 3317S±005×17833W±004, h53km, mb5.1/48, MS4.7/37, Error ellipse: s-maj=7.6km s-min=4.1km az=150.0*
GCMT ***31*** *22:06:47.9±0.2, 3305S×17787W, h12km, MW5.2/94, Moment Tensor Solution. s57,c88; s94,c161; Duration: 1♯0 Moment tensor: Scale 10^17 Nm; Mrr-0.78±.01; Mθθ-0.02±.01; Mφφ 0.79±.01; Mrθ 0.21±.04; Mrφ 0.20±.01; Mθφ 0.01±.04; Best double couple: M0 0.84100×10^17 NP1 φ358.00000°, δ45.00000°, λ-111.00000°. NP2: φ207.00000°, δ49.00000°, λ-70.00000°. Principal axes: T 0.8450, Plg2.0000°, Azm283.0000°; N -0.0090, Plg15.0000°, Azm14.0000°; P -0.8360, Plg75.0000°, Azm185.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
NEIC ***31*** *22:06:47.9±1.9, 3305S×17822W, h60km±16km, mb5.3/28 Error ellipse: s-maj=10.0km s-min=6.3km az=156.0*
IDC ***31*** *22:06:47.7±0.6, 3312S×17832W, h56km±4km, mb4.8/17, mb1 4.9/17, mb1mx4.9/19, mbtmp4.8/17, MS4.7/26, Ms1 4.7/26, ms1mx4.4/41, Error ellipse: s-maj=15.7km s-min=11.1km az=13.0*
ISC 31 22:06:47.7±0.2, 3314S±005×17829W±004, h55km, h55km±2.2km: pP-P, n434, σ0≡67/276, mb5.1/48, MS4.7/37, 101C-75D, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**3.88**	**5**	P	**Pn**	**22 07 35.8**	**-9.1**
	233nm,0.3s,baz=234,slow=14,SNR=6.3						
RAO				S	**Sn**	**22 08 22.4**	**-6.9**
	274nm,0.3s,baz=277,slow=23,SNR=2.9						
RAO	**Raoul Island**	**3.88**	**5**	*e*Pn	**Pn**	**22 07 30.8**	**-14**
URZ	**Urewera**	**6.34**	**215**	P	**Pn**	**22 08 13.3**	**-5.2**
	14nm,0.3s,baz=33,slow=7.0,SNR=47						
URZ				S	**Sn**	**22 09 28.1**	**-1.4**
	62nm,0.3s,baz=178,slow=16,SNR=9.8						
URZ				LR	LR	22 10 58.3	
	comp=Z,4μm,19.3s,baz=150,slow=40						
SNZO	**South Karori**	**9.88**	**212**	*e*Pn	**Pn**	**22 09 00.4**	**-6.6**
SNZO				*e*Sn	**Sn**	**22 10 36.4**	**-20**
RPZ	**Rata Peaks**	**13.46**	**215**	P	**Pn**	**22 09 49.7**	**-6.0**
	9.7nm,0.3s,baz=232,slow=0.4,SNR=6.7						
DZM	**Mont Dzumac**	**17.43**	**305**	*e*Pn	**Pn**	**22 10 49.5**	**+2.4**
AFI	**Afiamalu**	**20.04**	**19**	P	**P**	**22 11 08.6**	**-7.6**
	18nm,0.6s,baz=48,slow=19,SNR=1.9						
AFI	**Afiamalu**	**20.04**	**19**	*e*P	**P**	**22 11 08.3**	**-7.9**
AFI				pmax	pmax		
	comp=Z,158nm,1.0s						
AFI	**Afiamalu**	**20.04**	**19**	*e*P	**P**	**22 11 08.3**	**-7.9**
	comp=Z,158nm,1.0s						
RAR	**Rarotonga**	**20.27**	**59**	P	**P**	**22 11 15.2**	**-3.5**
	comp=Z,48nm,1.0s,baz=327,slow=3.8,SNR=3.8						
RAR				LR	LR	22 17 42.7	
	comp=Z,2μm,20.3s,MS4.5,baz=273,slow=32						
ARMA	**Armidale**	**25.68**	**268**	*e*P	**P**	**22 12 18.0**	**+5.5**
ARMA				*e*		22 13 23.1	
CNB	**Canberra Magne**	**26.78**	**256**	*e*P	**P**	**22 12 24.7**	**+2.3**
CNB				*e*PCP	PcP	22 15 45.8	+1.6
CAN	**Canberra**	**27.07**	**256**	*e*P	**P**	**22 12 24.6**	**-0.5**
TBI	**Tubuai**	**27.13**	**76**	*e*LR	LR	22 18 58.9	
	comp=Z,3μm,28.5s,baz=245						
EIDS	**Eidsvold**	**27.75**	**278**	*e*P	**P**	**22 12 32.3**	**+1.1**
	comp=Z,110nm,0.7s,mb5.6						
TAU	**Tasmania Unive**	**28.63**	**240**	*e*P	**P**	**22 12 39.8**	**+1.0**
TAU				pmax	pmax		
	comp=Z,21nm,0.9s,mb4.9						
TAU	**Tasmania Unive**	**28.63**	**240**	*e*P	**P**	**22 12 39.8**	**+1.0**
	comp=Z,21nm,0.9s,mb4.9						
TOO	**Toolangi**	**29.75**	**251**	*e*P	**P**	**22 12 50.6**	**+1.7**
TOO				*e*PCP	PcP	22 15 53.2	+1.7
PPT	**Papeete**	**30.09**	**66**	*e*S	**S**	**22 17 49.6**	**+2.7**
	comp=Z,300nm,24.5s						
PPT				*e*LR	LR	22 20 15.6	
	comp=Z,2μm,20.2s,baz=234						
PPT	**Papeete**	**30.09**	**66**	LR	LR	22 22 46.6	
	comp=Z,2μm,19.0s,MS4.8,baz=246,slow=32						
HNR	**Honiara**	**30.97**	**315**	P	**P**	**22 12 59.7**	**-0.2**
	comp=Z,36nm,0.4s,mb5.6,baz=176,slow=6.6,SNR=6.8						
HNR	**Honiara**	**30.97**	**315**	*e*P	**P**	**22 12 55.6**	**-4.2**
HNR				pmax	pmax		
	comp=Z,118nm,0.9s,mb5.7						
HNR	**Honiara**	**30.97**	**315**	*e*P	**P**	**22 12 55.6**	**-4.3**
	comp=Z,118nm,0.9s,mb5.7						
STKA	**Stephens Creek**	**33.72**	**261**	*e*P	**P**	**22 13 24.6**	**+0.8**
	comp=Z,4.0nm,0.6s,mb4.5						
STKA				*e*PCP	PcP	22 16 16.9	+15
STKA				*e*S	**S**	**22 18 48.9**	**+5.7**
STKA	**Stephens Creek**	**33.72**	**261**	P	**P**	**22 13 24.7**	**+0.9**
	comp=Z,6.0nm,0.8s,mb4.6,baz=86,slow=12,SNR=11						
STKA				LR	LR	22 27 01.8	
	comp=Z,3μm,18.2s,MS5.1,baz=93,slow=36						
CTA	**Charters Tower**	**34.09**	**283**	*e*P	**P**	**22 13 28.5**	**+1.4**
	comp=Z,43nm,0.4s,mb5.7						
CTA				*e*	pP	22 13 44.6	+3.4
CTA				*e*S	**S**	**22 18 55.1**	**+5.9**
CTA	**Charters Tower**	**34.09**	**283**	P	**P**	**22 13 28.5**	**+1.3**
	comp=Z,53nm,0.5s,mb5.7,baz=112,slow=9.6,SNR=70						
CTA				pP	pP	22 13 41.2	+0.1
	comp=Z,35nm,0.6s,baz=123,slow=9.7,SNR=5.5						
CTA				LR	LR	22 26 10.3	
	comp=Z,588nm,18.9s,MS4.3,baz=58,slow=34						
CTA	**Charters Tower**	**34.09**	**283**	*e*P	**P**	**22 13 28.5**	**+1.4**
CTA				*e*	pP	22 13 44.6	+3.4
CTA				*e*S	**S**	**22 18 55.1**	**+5.9**
CTA				pmax	pmax		
	comp=Z,43nm,0.4s						
CTAO	**Charters Tower**	**34.09**	**283**	*e*P	**P**	**22 13 28.2**	**+1.1**
CTAO				pmax	pmax		
	comp=Z,56nm,0.5s,mb5.8						
CTAO	**Charters Tower**	**34.09**	**283**	*e*P	**P**	**22 13 28.2**	**+1.1**
	comp=Z,56nm,0.5s,mb5.8						
ADE	**Adelaide**	**35.48**	**255**	*e*P	**P**	**22 13 39.9**	**+0.9**
RKT	**Rikitea**	**39.24**	**87**	*e*S	**S**	**22 20 05.1**	**-2.6**
	comp=Z,446nm,26.2s						
RKT				*e*LR	LR	22 24 37.7	
	comp=Z,3μm,27.8s,baz=247						
PMG	**Port Moresby**	**39.63**	**299**⇑	*e*P	**P**	**22 14 14.1**	**-0.1**
PMG				pmax	pmax		
	comp=Z,45nm,1.4s						
COEN	**Coen**	**39.86**	**289**	*e*P	**P**	**22 14 16.8**	**+0.6**
	comp=Z,36nm,1.3s,mb4.9						
ASAR	**Alice Springs**	**42.79**	**270**	P	**P**	**22 14 39.5**	**-0.6**
	comp=Z,34nm,0.7s,mb5.2,baz=111,slow=7.3,SNR=265						
ASAR				pP	pP	22 14 54.4	-0.1
	comp=Z,33nm,0.8s,baz=110,slow=7.5,SNR=8.7						
ASAR				S	**S**	**22 20 58.9**	**-1.5**
	comp=Z,4.9nm,0.9s,baz=113,slow=16,SNR=12						
WB2	**Warramunga Arr**	**44.02**	**275**	*e*P	**P**	**22 14 49.1**	**-0.9**
WB2				*e*	pP	22 15 03.5	-0.9
WB2				*e*S	**S**	**22 21 21.0**	**+2.7**
WRAB	**Tennant Creek**	**44.02**	**275**	P	**P**	**22 14 49.0**	**-1.1**
	comp=Z,606nm,0.7s,SNR=58						
WRAB	**Tennant Creek**	**44.02**	**275**	⇓*i*P	**P**	**22 14 49.0**	**-1.1**
WRAB	**Tennant Creek**	**44.02**	**275**	*e*P	**P**	**22 14 48.9**	**-1.1**
	comp=Z,74nm,0.8s,mb5.5						
WRA	**Warramunga Arr**	**44.03**	**275**	P	**P**	**22 14 49.2**	**-0.9**
	comp=Z,68nm,0.7s,mb5.5,baz=116,slow=7.6,SNR=337						
WRA				pP	pP	22 15 04.6	+0.1
	comp=Z,56nm,0.8s,baz=116,slow=7.7,SNR=9.6						
WRA				PcS	PcS	22 20 28.9	+0.7
	comp=Z,1.7nm,0.9s,baz=113,slow=4.1,SNR=6.8						
WRA				S	**S**	**22 21 17.7**	**-0.8**
	comp=Z,2.7nm,1.1s,baz=114,slow=14,SNR=2.4						
WRA				LR	LR	22 32 35.9	
	comp=Z,689nm,18.9s,MS4.6,baz=115,slow=35						
WRA	**Warramunga Arr**	**44.03**	**275**	P	**P**	**22 14 49.2**	**-0.9**
WRA				*PP	pP	22 15 04.6	+0.1
WRA				S	**S**	**22 21 17.7**	**-0.8**
FORT	**Forrest**	**45.17**	**258**	*e*P	**P**	**22 14 58.1**	**-1.0**
	comp=Z,47nm,0.6s,mb5.5						
SBA	**Scott Base**	**45.30**	**184**	*e*P	**P**	**22 15 02.1**	**+2.6**
SBA				pmax	pmax		
	comp=Z,83nm,1.4s,mb5.4						
SBA	**Scott Base**	**45.30**	**184**	*e*P	**P**	**22 15 02.1**	**+2.6**
	comp=Z,83nm,1.4s,mb5.4						
KAKA	**Kakadu**	**49.22**	**282**	*e*P	**P**	**22 15 21.8**	**-9.0**
	comp=Z,19nm,0.6s,mb5.3						
CASY	**Casey**	**52.62**	**209**	*e*P	**P**	**22 15 56.2**	**+0.6**
CASY				*e*S	**S**	**22 23 26.1**	**+7.5**
NWAO	**Narrogin (SRO)**	**53.25**	**251**	P	**P**	**22 15 59.6**	**-1.2**
	comp=Z,6.0nm,0.6s,mb4.7,baz=101,slow=6.9,SNR=7.8						
NWAO				LR	LR	22 39 05.9	
	comp=Z,725nm,18.3s,MS4.8,baz=105,slow=36						
KLBR	**Kellerberrin**	**53.28**	**253**	*e*P	**P**	**22 15 59.7**	**-1.3**
	comp=Z,52nm,1.2s,mb5.3						
MUN	**Mundaring**	**54.38**	**252**	*e*P	**P**	**22 16 08.6**	**-0.5**
MBWA	**Marble Bar**	**55.73**	**266**	*e*P	**P**	**22 16 18.4**	**-0.6**
QSPA	**South Pole Qui**	**65.98**	**180**	P	**P**	**22 16 28.5**	**+1.5**
	comp=Z,33nm,1.1s,mb5.3,baz=37,slow=2.6,SNR=33						
QSPA				pP	pP	22 16 41.1	-0.7
	comp=Z,37nm,0.8s,baz=80,slow=2.2,SNR=16						
QSPA	**South Pole Qui**	**56.98**	**180**	*e*P	**P**	**22 16 28.5**	**+1.5**
	comp=Z,80nm,1.1s,mb5.7						
BATI	**Baumata**	**57.80**	**279**	LR	LR	22 41 46.5	
	comp=Z,895nm,18.7s,MS4.9,baz=152,slow=36						
GUMO	**Guam**	**58.27**	**317**	LR	LR	22 39 27.2	
	comp=Z,228nm,18.0s,MS4.3,baz=134,slow=34						
MIR	**Mirnyy**	**59.59**	**208**⇓*i*P		**P**	**22 16 46.0**	**+0.7**
MIR				pmax	pmax		
	comp=Z,200nm,1.4s,mb6.0						
KAPI	**Kappang**	**63.89**	**282**	P	**P**	**22 17 13.5**	**-1.5**
	comp=Z,5.3n

SNAA ePcP PcP 22 18 37.9 -0.2
VNA3 Neumayer Olymp 75.60 176 eP P 22 18 25.6 -0.6
VNA3 e pP 22 18 39.2 -2.4
VNA3 e pP 22 18 41.5 -0.1
VNA3 e 22 18 53.4
VNA2 Neumayer--Watz 76.03 177 eP P 22 18 28.5 -0.1
baz=174,slow=5.6
VNA2 e pP 22 18 41.9 -2.2
VNA2 e pP 22 18 44.3 +0.2
VNA2 e 22 18 56.1
MAIT Maitri 76.14 183 eP P 22 18 29.1 -0.1
NVL N'lazarevskaya 76.14 183 P P 22 18 29.7 +0.5
NVL e pP 22 18 41.5 -3.2
NVL pmax pmax
comp=Z,19nm,1.4s,mb4.8
NVL MLR MLR
comp=N,706nm,21.0s,MS5.0
NVL MLR MLR
comp=E,452nm,21.0s,MS5.0
NVL MLR MLR
comp=Z,2μm,21.0s,MS5.3
VNA1 Neumayer--Stat 76.26 177 eP P 22 18 30.5 +0.6
VNA1 e pP 22 18 44.3 -1.1
VNA1 e pP 22 18 46.5 +1.1
VNA1 e 22 18 57.7
JHJ Hachijo jima 2 76.82 325 LR LR 22 51 59.3
comp=Z,121nm,18.0s,MS4.3,baz=113,slow=35
MJAR Matsushiro Arr 80.35 326 P P 22 18 52.4 -0.5
comp=Z,6.0nm,0.9s,mb4.5,baz=160,slow=5.1,SNR=13
MAJO Matsushiro 80.35 326 eP P 22 18 50.1 -2.8
MAJO pmax pmax
comp=Z,19nm,1.0s,mb5.0
MAJO Matsushiro 80.35 326 eP P 22 18 50.1 -2.7
comp=Z,19nm,1.0s,mb5.0
MAT Matsushiro 80.35 326 P P 22 18 52.9 0.0
MAT S S 22 29 03.0 +8.7
EFI East Falkland 80.64 147 eP P 22 18 54.0 -0.4
PLCA Paso Flores 80.83 133 P P 22 18 55.4 -0.3
comp=Z,24nm,1.1s,mb5.0,baz=231,slow=4.4,SNR=16
PLCA LR LR 22 48 39.5
comp=Z,1μm,18.4s,MS5.2,baz=218,slow=31
QIZ Qiongzhong 85.95 296 P P 22 19 23.0 +0.9
QIZ S S 22 29 53.0 +1.3
QIZ LR LR
comp=E,230nm,40.4s
QIZ LR LR
comp=Z,264nm,35.4s,MS4.4
KSRS Korea Array 86.27 320 P P 22 19 23.6 +0.3
comp=Z,9.4nm,0.8s,mb5.1,baz=142,slow=5.4,SNR=19
KSRS pP pP 22 19 39.3 +0.2
comp=Z,3.4nm,0.8s,baz=124,slow=8.9,SNR=3.7
KSRS LR LR 22 57 27.4
comp=Z,189nm,18.5s,MS4.5,baz=313,slow=35
YSS Yuzh-Sakhalins 87.10 334 eP P 22 19 26.0 -1.1
YSS e 22 29 51.0
YSS eS S 22 30 00.0 -1.7
YSS MLR MLR
comp=Z,500nm,18.0s,MS5.0
PKD Parkfield 87.40 43 ⇓P P 22 19 29.1 +0.3
baz=88
PACP Pacheco Peak 87.72 42 ⇓P P 22 19 30.5 +0.2
baz=88
MURC Murrieta 87.77 47 ⇑P P 22 19 30.6 0.0
baz=88
MONP Monument Peak 87.77 48 ⇓P P 22 19 30.5 -0.2
baz=88
CFAA Coronel Fontan 87.81 127 LR LR 22 53 07.8
comp=Z,96nm,18.2s,MS4.2,baz=302,slow=32
BFSC Mount Baldy St 87.92 46 ⇓P P 22 19 31.6 +0.2
baz=88
PET Petropavlovsk 88.12 346 eP P 22 19 31.7 -0.1
PET eS S 22 30 14.0 +2.8
PET eSP 22 31 14.7
PET pmax pmax
comp=Z,31nm,1.8s,mb5.2
EDW2 Edwards Air Fo 88.16 46 ⇑P P 22 19 32.6 +0.1
baz=88,SNR=10.0
VES Vestal, Richgr 88.17 44 ⇑P P 22 19 32.6 +0.1
baz=88
SWSC Sam W. Stewart 88.20 48 ⇑P P 22 19 32.9 +0.2
baz=88
PFO Pinyon Flat Ob 88.23 47 eP P 22 19 32.1 -0.8
PFO pmax pmax
comp=Z,18nm,1.3s,mb5.1
PFO Pinyon Flat Ob 88.23 47 ⇑P P 22 19 32.8 -0.1
baz=88
PFO Pinyon Flat Ob 88.23 47 eP P 22 19 32.1 -0.8
comp=Z,18nm,1.3s,mb5.1
PEA0B Petropavlovsk- 88.39 346 eP P 22 19 33.1 0.0
PEA0B e pP 22 19 48.6 -0.3
PETK Petropavlovsk- 88.39 346 P P 22 19 33.4 +0.3
comp=Z,25nm,0.9s,mb5.4,baz=111,slow=7.9,SNR=18
PETK LR LR 22 56 41.4
comp=Z,272nm,19.7s,MS4.7,baz=158,slow=34
ISA Isabella 88.41 45 ⇑P P 22 19 33.8 +0.1
baz=88,SNR=12
ISA Isabella 88.41 45 eP P 22 19 34.0 +0.4
MNRC McLaughlin Nat 88.42 40 ⇓P P 22 19 33.9 +0.3
baz=88
S05C Merced 88.50 43 ⇑P P 22 19 33.8 -0.2
baz=89
T06C Millerton Lake 88.62 43 ⇑P P 22 19 34.1 -0.5
baz=89,SNR=9.8
LRMC Laurel Mountai 88.75 45 ⇑P P 22 19 35.1 -0.1
baz=89,SNR=12
BELC Belle Mtn. 88.78 47 ⇑P P 22 19 35.5 +0.1
baz=89,SNR=8.0
GASB Alder Springs 88.83 40 ⇑P P 22 19 36.0 +0.5
baz=89
BC3 Big Chuckw Mtn 88.89 48 ⇓P P 22 19 36.1 +0.2
baz=89,SNR=10
CMB Columbia Colle 88.95 42 eP P 22 19 34.8 -1.3
CMB e pP 22 19 52.7 +0.7
CMB pmax pmax
comp=Z,18nm,1.1s,mb5.3
CMB Columbia Colle 88.95 42 ⇓P P 22 19 36.3 +0.2
baz=89
CMB Columbia Colle 88.95 42 eP P 22 19 34.8 -1.3
comp=Z,18nm,1.1s,mb5.3
CMB e pP 22 19 52.6 +0.7
KCC Kaiser Creek 89.06 43 ⇑P P 22 19 36.7 0.0
baz=89,SNR=5.4
HEC Hector,Ludlow 89.13 47 ⇓P P 22 19 36.8 -0.3
baz=89
GSC Goldstone 89.16 46 ⇓P P 22 19 37.0 -0.1
baz=89
GSC Goldstone 89.16 46 eP P 22 19 37.5 +0.3
CWC Cottonwood Cre 89.17 44 ⇓P P 22 19 37.5 +0.3
baz=89
MPMC Manual Prospec 89.26 45 ⇑P P 22 19 37.5 -0.1
baz=89,SNR=12
LAVA Lava Cap Winer 89.26 41 ⇑P P 22 19 37.5 -0.1
baz=89
OHCM Honcut 89.27 40 eP P 22 19 37.3 -0.3
N02C Big Bar 89.36 38 ⇓P P 22 19 38.1 +0.1
baz=90
IRM Iron Mountain 89.41 48 ⇓P P 22 19 38.3 -0.1
baz=90,SNR=20
ORV Oroville 89.41 40 ⇑P P 22 19 38.1 -0.2
baz=90
214A Organ Pipe Nat 89.45 51 ⇓P P 22 19 38.5 -0.1
baz=90
GMRC Granite Mounta 89.50 47 ⇓P P 22 19 39.2 +0.3
baz=90,SNR=7.4
WDC Whiskeytown Da 89.59 39 eP P 22 19 38.9 -0.1
WDC e pP 22 19 54.7 -0.2
WDC pmax pmax
comp=Z,13nm,1.1s,mb5.2
WDC Whiskeytown Da 89.59 39 ⇑P P 22 19 39.4 +0.4
baz=90
WDC Whiskeytown Da 89.59 39 eP P 22 19 38.9 -0.2
comp=Z,13nm,1.1s,mb5.2
WDC e pP 22 19 54.6 -0.3
WAKR Walker 89.81 42 eP P 22 19 40.0 -0.2
GRAC Grapevine Rang 89.97 44 ⇑P P 22 19 41.4 +0.5
baz=90
Y13A Salome 90.01 49 ⇑P P 22 19 41.4 +0.2
baz=90
M02C Callahan 90.01 38 ⇓P P 22 19 41.4 +0.4
baz=90
O05C Quincy 90.02 40 ⇓P P 22 19 41.3 +0.2
baz=90
LDFC Landfair 90.04 47 eP P 22 19 41.8 +0.5
comp=Z,56nm,1.1s,mb5.8
LDFC e pP 22 19 58.1 +0.9
PDMCI Parker Dam,Lak 90.13 48 ⇓P P 22 19 41.9 +0.2
baz=90
WCN Washoe City 90.19 41 ⇑P P 22 19 41.9 0.0
baz=90
U10A Ash Meadows, A 90.19 45 ⇑P P 22 19 42.5 +0.5
baz=90
BEKR Beckwourth 90.25 41 ⇓P P 22 19 42.5 +0.3
baz=90
115A Sonoran Desert 90.31 50 ⇓P P 22 19 42.9 +0.3
baz=90
YBH Yreka Blue Hor 90.33 38 ⇓P P 22 19 42.9 +0.4
baz=90
NVAR Mina Array Bea 90.41 43 P P 22 19 42.9 -0.1
comp=Z,6.9nm,0.9s,mb5.0,baz=216,slow=7.6,SNR=21
X13A Yucca 90.52 48 ⇓P P 22 19 43.6 +0.1
baz=91,SNR=10
S09A Goldfield 90.55 44 ⇓P P 22 19 43.5 -0.1
baz=91
116A Eloy 90.56 51 ⇑P P 22 19 43.7 -0.1
baz=91
TPNV Topopah Spring 90.60 45 eP P 22 19 43.8 -0.1
TPNV pmax pmax
comp=Z,11nm,1.0s,mb5.1
TPNV Topopah Spring 90.60 45 ⇑P P 22 19 43.9 0.0
baz=91,SNR=11
TPNV Topopah Spring 90.60 45 eP P 22 19 43.8 -0.1
comp=Z,11nm,1.0s,mb5.2
Y14A Wickenburg 90.61 49 ⇑P P 22 19 44.0 0.0
baz=91,SNR=8.1
217A Green Valley 90.64 52 ⇓P P 22 19 44.4 +0.2
baz=91
K02A Glendale 90.68 37 ⇑P P 22 19 44.5 +0.4
baz=91
O06A Flanigan 90.75 41 ⇑P P 22 19 44.7 +0.2
baz=91
TPH Tonopah 90.78 44 eP P 22 19 44.3 -0.4
TPH pmax pmax
comp=Z,17nm,1.0s,mb5.3
TPH Tonopah 90.78 44 eP P 22 19 44.3 -0.4
comp=Z,17nm,1.0s,mb5.3
W13A Hualapai Mount 90.81 48 ⇑P P 22 19 45.2 +0.3
baz=91,SNR=8.8
HUMO Hull Mountain 90.83 37 ⇑P P 22 19 45.7 +0.9
baz=91
318A Bisbee 90.98 53 ⇓P P 22 19 46.1 +0.3
baz=91,SNR=8.3
R09A Tonopah 90.98 44 ⇑P P 22 19 45.9 +0.3
baz=91
TUC Tucson 91.00 51 eP P 22 19 45.4 -0.5
TUC e pP 22 20 02.4 +0.7
TUC pmax pmax
comp=Z,13nm,1.2s,mb5.1
TUC Tucson 91.00 51 eP P 22 19 45.4 -0.5
comp=Z,13nm,1.2s,mb5.1
TUC e pP 22 20 02.4 +0.6
X14A Yava 91.02 49 ⇓P P 22 19 46.5 +0.5
baz=91,SNR=11
Y15A Casa Rosa Ranc 91.05 49 ⇑P P 22 19 46.3 +0.3
baz=91,SNR=12
S10A Tonopah Range, 91.05 44 ⇑P P 22 19 46.3 +0.4
baz=91
J02A Umpqua 91.07 37 ⇑P P 22 19 45.8 -0.1
baz=91
N06A Buffalo Meadow 91.16 40 ⇑P P 22 19 46.2 -0.1
baz=91
117A Oracle 91.20 51 ⇓P P 22 19 46.9 +0.1
baz=91
V13A Grand Canyon W 91.24 47 ⇑P P 22 19 47.1 +0.2
baz=91,SNR=7.0
U12A Valley of Fire 91.28 46 ⇓P P 22 19 47.5 +0.5
baz=91,SNR=6.6
W14A Seligman 91.38 48 ⇑P P 22 19 48.1 +0.6
baz=92,SNR=12
T11A Corn Creek, Al 91.41 45 ⇓P P 22 19 48.0 +0.4
baz=92,SNR=11
319A Douglas 91.42 53 ⇑P P 22 19 48.4 +0.6
baz=92
X15A Humboldt 91.45 49 ⇓P P 22 19 48.7 +0.8
baz=92
Y16A Circle Bar Ran 91.55 50 ⇓P P 22 19 48.9 +0.5
baz=92,SNR=18
V14A Boquillas Ranc 91.64 48 ⇓P P 22 19 49.3 +0.6
baz=92,SNR=11
I03A Eugene 91.66 36 ⇓P P 22 19 49.0 +0.4
baz=92
MOD Modoc 91.71 39 ⇑P P 22 19 49.2 +0.2
baz=92
118A Homack Ranch, 91.75 52 ⇓P P 22 19 49.8 +0.5
baz=92,SNR=9.6
Q10A Clear Creek Ra 91.77 44 ⇓P P 22 19 49.4 +0.2
baz=92
219A White Tail Can 91.82 53 ⇑P P 22 19 50.0 +0.3
baz=92
H02A Todo 91.82 35 ⇓P P 22 19 50.0 +0.7
baz=92
Y17A Roosevelt 91.84 50 ⇑P P 22 19 50.0 +0.3
baz=92,SNR=9.0
S12A Delamar Landin 91.87 45 ⇑P P 22 19 50.1 +0.4
baz=92
X16A Lo Mia Camp, P 91.91 50 ⇑P P 22 19 50.7 +0.7
baz=92
R11A Troy Canyon, C 91.92 44 ⇓P P 22 19 50.0 0.0
baz=92
I04A Tendick Farm, 91.97 37 ⇑P P 22 19 49.7 -0.3
baz=92
K05A Summer Lake 91.98 38 ⇑P P 22 19 50.3 +0.1
baz=92
U14A Mt Trumbull 92.10 47 ⇑P P 22 19 51.1 +0.2
baz=92,SNR=9.5
N08A GE Springer Mi 92.11 41 ⇓P P 22 19 50.5 -0.3
baz=92
H03A Soap Creek Ran 92.17 36 ⇓P P 22 19 51.2 +0.3
baz=92
CN2 Changchun 92.17 323 eP P 22 19 51.0 0.0
CN2 eS S 22 30 48.5 -0.5
CN2 AMB AMB
comp=Z,20nm,1.3s,mb5.3
CN2 AMB AMB
comp=Z,200nm,4.0s
J05A Fort Rock 92.20 38 ⇓P P 22 19 50.9 -0.2
baz=92
Q11A Duckwater 92.21 44 ⇑P P 22 19 51.1 -0.2
baz=92
X17A Forest Lakes 92.27 50 ⇓P P 22 19 52.4 +0.8
baz=92
W16A Flagstaff 92.28 49 ⇓P P 22 19 52.3 +0.5
baz=92
L07A Adell 92.31 40 ⇑P P 22 19 51.9 +0.2
baz=92
V15A Kaibab Nationa 92.34 48 ⇑P P 22 19 52.2 +0.2
baz=92
K06A Valley Falls 92.37 39 ⇑P P 22 19 51.8 -0.1
baz=92
S13A Holt Ranch, En 92.44 46 ⇑P P 22 19 52.4 0.0
baz=92
R12A Pony Springs, 92.49 45 ⇑P P 22 19 52.6 0.0
baz=93
U15A North Rim 92.66 48 ⇑P P 22 19 54.1 +0.7
baz=93,SNR=8.1
H04A Detroit Lake 92.72 36 ⇑P P 22 19 53.1 -0.3
baz=93
J06A Christmas Vall 92.74 38 ⇑P P 22 19 53.1 -0.5
baz=93
R13A O'Grain Ranch, 92.77 45 ⇑P P 22 19 54.0 +0.1
baz=93
LVC Limon Verde 92.82 119 eP P 22 19 55.3 +0.6
comp=Z,25nm,1.3s,mb5.5
Q12A Willow Creek R 92.82 44 ⇑P P 22 19 53.9 -0.2
baz=93
K07A Rock Creek Ran 92.83 39 ⇑P P 22 19 53.9 -0.1
baz=93
NNA Nana 92.90 106 LR LR 22 55 16.9
comp=Z,1μm,18.1s,MS5.4,baz=323,slow=31
M09A Marrel Ranch, 92.93 41 ⇓P P 22 19 54.6 +0.1
baz=93
WVOR Wild Horse Val 92.97 40 eP P 22 19 52.6 -2.1
WVOR pmax pmax
comp=Z,6.0nm,1.0s,mb5.0
WVOR Wild Horse Val 92.97 40 eP P 22 19 52.6 -2.2
comp=Z,6.1nm,1.0s,mb5.0
Y19A Nutrioso 93.03 51 ⇑P P 22 19 55.2 0.0
baz=93
O11A Cowboy Ranch, 93.07 43 ⇓P P 22 19 55.1 -0.1
baz=93
I06A Prineville 93.19 38 ⇑P P 22 19 55.6 -0.1
baz=93
K08A Mann Creek Ran 93.26 40 ⇑P P 22 19 56.2 +0.2
baz=93
J07A Hines 93.27 39 ⇑P P 22 19 56.2 +0.1
baz=93
KLR Kul'dur 93.27 330 eP P 22 19 52.0 -3.9
M10A I.L. Ranch, Tu 93.50 42 ⇑P P 22 19 57.5 +0.3
baz=94
G05A Wamic 93.55 36 ⇑P P 22 19 57.5 +0.2
baz=94
P13A Bates Ranch, G 93.57 44 ⇑P P 22 19 57.1 -0.5
baz=94
K09A Rome 93.65 40 ⇑P P 22 19 57.4 -0.4
baz=94
I07A Izee 93.66 38 ⇓P P 22 19 57.7 -0.1
baz=94
V18A Ganado 93.68 49 ⇑P P 22 19 57.5 -0.7
baz=94
H06A Lindquist Farm 93.69 37 ⇑P P 22 19 57.6 -0.4
baz=94
J08A Circle Bar Ran 93.69 39 ⇓P P 22 19 57.6 -0.4
baz=94
Q14A Sevier Lake (B 93.71 45 ⇓P P 22 19 58.1 -0.1
baz=94
ELK Elko 93.71 43 LR LR 22 59 55.6
comp=Z,751nm,18.2s,MS5.2,baz=166,slow=34
ELK Elko 93.71 43 eP P 22 19 55.7 -2.5
ELK pmax pmax
comp=Z,4.0nm,1.0s
ELK Elko 93.71 43 eP P 22 19 55.7 -2.4
comp=Z,3.8nm,1.0s,mb4.8
G06A Carlson Farm, 93.89 37 ⇓P P 22 19 58.5 -0.3
baz=94
L10A Juniper Basin 93.91 41 ⇑P P 22 19 58.7 -0.3
baz=94
H07A Lands Inn, Kim 93.98 38 ⇑P P 22 19 58.7 -0.6
baz=94
I08A Drewsey 94.02 39 ⇑P P 22 19 59.3 -0.3
baz=94
TXAR Lajitas Array 94.06 58 P P 22 19 59.8 -0.3
comp=Z,2.4nm,1.1s,mb4.6,baz=209,slow=8.3,SNR=12
TXAR pP pP 22 20 16.2 +0.2
comp=Z,0.9nm,1.0s,baz=193,slow=4.9,SNR=3.5
TXAR LR LR 22 55 48.0
comp=Z,550nm,18.4s,MS5.0,baz=0.0,slow=31
TXAR Lajitas Array 94.06 58 P P 22 19 59.8 -0.3
TXAR *PP pP 22 20 16.2 +0.2
J09A Fry Pan Ranch, 94.07 40 ⇓P P 22 19 59.5 -0.3
baz=94
F06A Goldendale 94.19 36 ⇓P P 22 20 00.2 0.0
baz=94
G07A Ruggs Ranch, H 94.39 37 ⇑P P 22 20 00.9 -0.2
baz=94
T18A Mexican Hat 94.61 48 ⇓P P 22 20 02.5 +0.2
baz=95
K11A Parker Ranch, 94.61 41 ⇓P P 22 20 02.2 -0.1
baz=95
E06A Yakima 94.64 36 ⇓P P 22 20 02.3 0.0
baz=95
BJI Beijing 94.70 315 P P 22 20 02.8 +0.1
BJI AMB AMB
comp=Z,10.0nm,0.6s,mb5.4
BJI AMB AMB
comp=Z,118nm,5.8s
BJI LR LR
comp=N,207nm,19.4s,MS4.7
BJI LR LR
comp=E,131nm,20.3s,MS4.7
BJI LR LR
comp=Z,271nm,29.3s
L12A House Creek Ra 94.76 42 ⇓P P 22 20 02.9 -0.1
baz=95
G08A Pilot Rock 94.77 38 ⇓P P 22 20 02.8 -0.1
baz=95
KMI Kunming 94.83 297 P P 22 20 07.0 +3.3
KMI SKS 22 30 34.0
KMI S S 22 31 14.0 +0.7
KMI SS SS 22 37 41.3 +1.9
KMI SSS 22 42 22.8
KMI AMB AMB
comp=Z,11nm,1.6s,mb5.0
KMI LR LR
comp=Z,306nm,32.5s,MS4.6
MFID Camas Ranch 95.16 40 ⇑P P 22 20 04.5 -0.2
baz=95
F08A Pendleton 95.21 37 ⇑P P 22 20 04.9 0.0
baz=95
M14A Sheep Mountain 95.29 43 ⇓P P 22 20 05.3 -0.1
baz=95
BMO Blue Mountains 95.33 39 eP P 22 20 04.6 -0.9
BMO pmax pmax
comp=Z,3.0nm,1.1s,mb4.6
BMO Blue Mountains 95.33 39 eP P 22 20 04.6 -0.9
comp=Z,2.9nm,1.1s,mb4.6
G09A Cove 95.37 38 ⇓P P 22 20 05.5 -0.2
baz=96
R18A Canyonlands Na 95.37 47 ⇓P P 22 20 05.9 0.0
baz=96
I11A Placerville 95.42 40 ⇑P P 22 20 05.8 -0.1
baz=96
SRU San Rafael 95.44 46 ⇓P P 22 20 06.1 -0.1
baz=96
J12A Stokes Ranch, 95.44 41 ⇑P P 22 20 05.7 -0.3
baz=96
H10A Noah's Angus R 95.45 39 ⇓P P 22 20 06.1 +0.1
baz=96
ANMO Albuquerque 95.47 52 LR LR 22 56 18.8
comp=Z,587nm,18.9s,MS5.1,baz=295,slow=31
ANMO Albuquerque 95.47 52 eP P 22 20 07.4 +1.0
ANMO Albuquerque 95.47 52 eP P 22 20 05.7 -0.7
comp=Z,3.2nm,1.1s,mb4.7
XAN Xi'an 95.57 307 P P 22 20 07.8 +1.0
XAN PP PP 22 23 59.3 +0.3
XAN SS SS 22 37 53.0 +3.5
XAN AMB AMB
comp=Z,1.0nm,0.6s,mb4.4
XAN LR LR
comp=N,36nm,27.7s
XAN LR LR
comp=E,45nm,22.2s
XAN LR LR
comp=Z,154nm,29.9s,MS4.3
M15A Larsen Ranch, 95.78 44 ⇑P P 22 20 07.5 -0.1
baz=96
I12A Atlanta 95.78 40 ⇑P P 22 20 07.3 -0.3
baz=96
PV10 Paradox Valley 95.89 48 P P 22 20 08.8 +0.5
H11A Donnelly 95.91 39 ⇑P P 22 20 07.8 -0.3
baz=96
O17A Ronson Place 95.99 45 ⇑P P 22 20 08.4 -0.2
baz=96
N16A Rees Ranch, Co 96.01 45 ⇓P P 22 20 08.0 -0.7
baz=96
D08A Wollman Farm, 96.01 36 ⇓P P 22 20 08.4 -0.1
baz=96
HLID Hailey 96.03 41 ⇑P P 22 20 08.3 -0.3
baz=96
HLID Hailey 96.03 41 eP P 22 20 08.5 -0.2
comp=Z,4.6nm,1.1s,mb4.8
PV01 Paradox Valley 96.04 48 eP P 22 20 08.0 -0.9
J13A Cove Ranch, Pi 96.05 41 ⇓P P 22 20 08.6 -0.2
baz=96
F10A Beach Ranch, E 96.13 38 ⇑P P 22 20 08.9 -0.2
baz=96
G11A Walters Elk Ra 96.24 39 ⇑P P 22 20 08.9 -0.7
baz=96
J14A Carey 96.37 42 ⇓P P 22 20 09.9 -0.4
baz=96
HWUT Hardware Ranch 96.39 44 eP P 22 20 09.7 -0.7
H12A Diamond D Ranc 96.43 40 ⇓P P 22 20 10.2 -0.3
baz=96
F12A Elk City 97.01 39 ⇓P P 22 20 12.6 -0.5
baz=97
LPAZ La Paz 97.24 115 P P 22 20 14.5 -0.5
comp=Z,1.8nm,0.8s,mb4.6,baz=223,slow=4.5,SNR=11
LPAZ LR LR 22 56 04.2
comp=Z,131nm,18.2s,MS4.5,baz=164,slow=30
CD2 Chengdu 97.33 302 eP P 22 20 15.5 +0.6
CD2 PP PP 22 24 14.8 +2.1
CD2 SKS 22 30 49.0
CD2 S S 22 31 33.3 -1.3
CD2 AMB AMB
comp=Z,10.0nm,0.8s,mb5.3
CD2 AMB AMB
comp=Z,180nm,8.2s
CD2 LR LR
comp=N,220nm,10.8s,MS5.0
CD2 LR LR
comp=E,260nm,13.8s,MS5.0
CD2 LR LR
comp=Z,120nm,15.6s,MS4.5

SDCO **Great Sand Dun** 97.75 50 *e*P P **22 20 16.9 +0.3**
HHC Hu-ho-hao-te 97.95 314 *e*P P **22 20 19.0 +1.5**
HHC AP pP 22 20 31.0 -2.4
HHC XP sP 22 20 34.3 -5.1
HHC PP PP 22 24 21.0 +3.8
HHC SKS 22 30 53.3
HHC S S 22 31 40.3 +0.9
HHC AMB AMB
comp=Z,17nm,1.1s,mb5.5
HHC AMB AMB
comp=Z,86nm,8.4s
HHC LR LR
comp=N,209nm,17.1s,MS4.8
HHC LR LR
comp=E,203nm,17.0s,MS4.8
HHC LR LR
comp=Z,194nm,17.8s,MS4.6
PDAR Pinedale Array 98.27 44 P **P** **22 20 18.1 -0.8**
comp=Z,1.0nm,0.9s,mb4.3,baz=188,slow=5.5,SNR=4.9
PDAR LR LR 23 01 59.3
comp=Z,347nm,18.2s,MS4.9,baz=252,slow=34
LZH Lanzhou 100.15 306 *e*P Pdif 22 20 29.5 +2.0
LZH AP 22 20 40.3
LZH PP PP 22 24 36.5 +2.4
LZH SKS 22 31 06.0
LZH *e*S Sdif 22 31 58.0 -0.3
LZH AMB AMB
comp=Z,16nm,1.6s
LZH AMB AMB
comp=Z,69nm,5.0s
LZH LR LR
comp=N,274nm,18.2s
LZH LR LR
comp=Z,381nm,20.1s,MS4.9
BILL Bilibino 101.53 354 P Pdif 22 20 30.0 -3.6
BILL pmax pmax
comp=Z,6.0nm,0.9s
BILL MLR MLR
comp=Z,200nm,18.0s,MS4.7
SONM Songino Array 105.00 318 Pdiff Pdif 22 20 48.4 -0.7
comp=Z,0.4nm,0.8s,baz=153,slow=4.8,SNR=3.1
WMQ Urumqi 114.70 307 PKP PKiKP 22 25 21.3 -0.3
WMQ PP PP 22 26 23.3 +2.8
WMQ PP PP
comp=Z,144nm,5.4s
WMQ LR LR
comp=N,72nm,24.0s
WMQ LR LR
comp=E,80nm,31.5s
WMQ LR LR
comp=Z,92nm,24.0s,MS4.3
MK31 Makanchi Array 119.32 309 *e*PKIKP PKPdf 22 25 29.5 -0.9
MKAR Makanchi Array 119.32 309 PKP PKPdf 22 25 29.1 -1.2
comp=Z,5.3nm,0.8s,baz=89,slow=1.3,SNR=34
ZAA0 Zalesovo Array 119.89 317 *e*P PKPdf 22 25 30.0 -1.2
ZALV Zalesovo Beam 119.89 317 PKPdf 22 25 30.2 -1.0
comp=Z,4.0nm,0.7s,baz=169,slow=2.9,SNR=20
RES Resolute Bay 119.92 18 *e*PKIKP PKPdf 22 25 29.9 -0.8
NVS Novosibirsk 121.02 318 *e*PKIKP PKPdf 22 25 32.4 -1.0
NVS pmax pmax
comp=Z,14nm,1.5s
NVS pmax pmax
comp=N,6.0nm,1.4s
NVS pmax pmax
comp=E,7.0nm,1.4s
TKM2 Tokmak 2 122.70 303 P PKPdf 22 25 36.4 -0.6
SNR=5.1
TKM2 Tokmak 2 122.70 303 *e*PKPdf PKPdf 22 25 36.5 -0.5
KZA Kyzart 122.70 302 P PKPdf 22 25 37.9 +0.8
SNR=9.6
KURK Kurchatov 122.74 313 *e*PKIKP PKPdf 22 25 35.9 -0.9
KBK Karagaybulak 123.08 303 P PKPdf 22 25 38.0 +0.2
SNR=8.6
CHMS Chumysh 123.32 303 P PKPdf 22 25 38.1 -0.1
SNR=6.3
AAK Ala-Archa 123.40 302 P PKPdf 22 25 39.0 +0.7
SNR=9.9
USP Ospenovka 123.57 303 P PKPdf 22 25 38.6 -0.1
SNR=13
AML Almayashu 123.83 302 P PKPdf 22 25 39.7 +0.5
SNR=22
AML Almayashu 123.83 302 *e*P PKPdf 22 25 39.6 +0.4
EKS2 Erkin-Say 123.91 302 P PKPdf 22 25 39.8 +0.5
SNR=11
EKS2 Erkin-Say 123.91 302 *e*P PKPdf 22 25 39.6 +0.3
KBL Kabul 125.03 292 *e*PKIKP PKPdf 22 25 41.9 +0.1
LSZ Lusaka 125.62 212 *e*PKIKP PKPdf 22 25 43.8 +0.3
KK31 Karatay Array 126.35 302 *i* PKIKP PKPdf 22 25 43.2 -0.8
KK31 pmax pmax
comp=Z,8.0nm,0.8s
VOSK Vostochnaya 127.77 314 PKIKP PKPdf 22 25 45.0 -1.4
VOSK pmax pmax
comp=Z,35nm,1.4s
BVA0 Borovoye Array 128.16 314 *i* PKIKP PKPdf 22 25 45.9 -1.2
BVA0 pmax pmax
comp=Z,6.0nm,1.3s
BRVK Borovoye 128.23 314 PKIKP PKPdf 22 25 46.1 -1.1
BRVK pmax pmax
comp=Z,24nm,1.0s
BRVK Borovoye 128.23 314 *e*PKIKP PKPdf 22 25 46.7 -0.5
BRVK Borovoye 128.23 314 *e*P PKPdf 22 25 46.7 -0.5
SVE Sverdlovsk 133.83 319 *e*PKIKP PKPdf 22 25 55.6 -2.1
SVE pmax pmax
comp=Z,11nm,0.9s
ARU Arti 135.01 319⇑ *i* PKIKP PKPdf 22 25 59.0 -1.0
ARU Arti 135.01 319 *e*P PKPdf 22 25 59.2 -0.8
AKTO Aktyubinsk 135.72 310 PKIKP PKPdf 22 26 00.3 -1.2
AKTO pmax pmax
comp=Z,2.0nm,1.0s
APA Apatity 140.93 341⇓ *e*PKIKP PKPdf 22 26 15.4 +4.9
APA pmax pmax
comp=Z,9.0nm,1.0s
ARCES ARCESS Array B 141.20 347 PKhKP 22 26 04.8
comp=Z,3.6nm,0.7s,baz=74,slow=3.6,SNR=9.8
ARCES PKP PKPdf 22 26 09.3 -1.7
comp=Z,3.7nm,0.7s,baz=46,slow=2.5,SNR=3.6
KLMR Klimovskoe 143.03 330 *e*PKHKP 22 26 08.6
DGRG David-gareji 144.60 296 P PKPdf 22 26 17.4 -0.4
JOF Joensuu 144.85 337 *e*pkp PKPdf 22 26 15.4 -2.2
comp=Z,31nm,0.6s
JOF Joensuu 144.85 337 *e*PKIKP PKPdf 22 26 15.4 -2.2
JOF pmax pmax
comp=Z,31nm,0.6s
JOF Joensuu 144.85 337 *e*PKP PKPdf 22 26 15.0 -2.6
MTA Mtatsminda 145.03 297 P PKPbc 22 26 18.0 -0.1
GNI Garni 145.04 294 *e*PKIKP PKPdf 22 26 18.0 -0.7
TBLG Delisi 145.07 297 P PKPbc 22 26 18.1 -0.1
GOR Gori 145.54 297 P PKPdf 22 26 20.3 +0.9
HAKT HAKKARI 145.67 289 *i* P PKPdf 22 26 20.5 +0.6
DYDN Diyadin 145.82 293 *i* P PKPdf 22 26 21.2 +1.2
TVAN Van 145.99 291 *i* P PKPdf 22 26 21.9 +1.6
ONI Oni 146.02 298 P PKPdf 22 26 21.7 +1.5
MOR8 Moi Rana 146.06 351 *e*P PKPdf 22 26 20.0 +0.5
MOS Moscow 146.41 323 *e*PKP2 PKPab 22 26 20.3 -2.6
MOS pmax pmax
comp=Z,220nm,1.2s
KIV Kislovodsk 146.49 301 *i* PKP2 PKPab 22 26 21.4 -2.2
KIV pmax pmax
comp=Z,28nm,1.1s
KIV Kislovodsk 146.49 301⇑ *i* P PKPbc 22 26 24.0 +1.5
KIV Kislovodsk 146.49 301⇑⇑ P PKPbc 22 26 24.0 +1.5
TUTA Tutak 146.50 293 *i* P PKPbc 22 26 23.1 +0.4
KAF Kangasniemi 147.02 339 *e*pkp PKPdf 22 26 21.3 0.0
comp=Z,29nm,0.7s,baz=36,slow=2.7
VOR Voronezh 147.15 316 *e*PKP2 PKPbc 22 26 24.0 -0.1
VOR pmax pmax
comp=Z,120nm,1.5s
ARTV Artvin 147.19 296 *i* P PKPbc 22 26 24.7 +0.1
DAGI Agillar 147.20 296 *i* P PKPdf 22 26 24.0 +1.7
OBN Obninsk 147.23 323⇓ *i* PKP2 PKPbc 22 26 23.8 -0.4
OBN pmax pmax
comp=Z,28nm,0.6s
OBN MLR MLR
comp=Z,100nm,21.0s,MS4.6
OBN Obninsk 147.23 323 *e*PKPdf PKPdf 22 26 21.8 -0.1
DDEM Demirkent 147.33 295 *i* P PKPbc 22 26 25.1 +0.1
DBAD Bademkaya 147.37 296 *i* P PKPbc 22 26 25.3 +0.2
DBOC Borcka 147.39 296 *i* P PKPbc 22 26 25.4 +0.2
ERZM Erzurum 147.62 294 *i* P PKPbc 22 26 27.0 +1.2
MARD Mardin 147.97 289 *i* P PKPbc 22 26 26.4 -0.4
KOPT Kop Dagi 148.29 294 *i* P PKPbc 22 26 28.3 +0.7
SOC Sochi 148.67 301 *i* PKP2 PKPab 22 26 30.9 -1.4
SOC *e* 22 29 55.0
SOC *e*PPP 22 33 22.0

MACK Trabzon 148.83 296 *i* P PKPdf 22 26 27.4 +2.4
KEMA Kemaliye 149.84 292 *i* P PKPbc 22 26 32.2 +0.7
ATAB Bozova 149.96 289 *i* P PKPbc 22 26 32.4 +0.6
ANN Anapa 150.12 303 *i* PKIKP PKPbc 22 26 31.9 -0.1
ANN pmax pmax
comp=Z,136nm,1.6s
GZT Gaziantep 150.53 288 *i* P PKPbc 22 26 34.1 +0.9
NB2 NORSAR Subarra151.41 350 PKP PKPbc 22 26 33.9 -0.6
comp=Z,53nm,1.2s,baz=17,slow=2.6
NB2 NORSAR Subarra151.41 350 PKP PKPbc 22 26 33.9 -0.6
baz=17,slow=2.6
NOA NORSAR Array B151.41 350 PKPbc PKPbc 22 26 33.9 -0.6
comp=Z,16nm,1.0s,baz=14,slow=4.1,SNR=20
ANDN Andirin 151.51 289 *i* P PKPbc 22 26 35.9 +0.4
NAO01 NORSAR Array S 151.64 351 *e*PKPdf PKPdf 22 26 29.3 +0.5
NAO01 *e*PKPbc PKPbc 22 26 36.2 +1.2
NAO01 *e*PKPab PKPab 22 26 44.4 +0.5
MNK Minsk 151.81 327 *e*PKIKP PKPbc 22 26 34.0 -1.6
MNK pmax pmax
comp=Z,270nm,1.0s
LIC Lamto 152.50 165 *e*PKIKP PKPbc 22 26 37.6 -0.9
comp=Z,63nm,1.0s
LIC Lamto 152.50 165⇑ *i* PKPdf PKPdf 22 26 32.0 +0.5
CTKT Corum 152.62 295 *i* P PKPbc 22 26 38.4 +0.5
AVNT Avonos 152.68 291 *i* P PKPbc 22 26 35.1 -3.0
KIC Kosan Boka 152.69 166 *e*PKIKP PKPbc 22 26 38.0 -0.9
comp=Z,138nm,1.2s
TIC Toumodi 152.91 165 *e*PKIKP PKPbc 22 26 38.2 -1.2
comp=Z,64nm,0.8s
DBIC Dimbokro 152.97 166 PKPbc PKPbc 22 26 38.9 -0.6
comp=Z,10nm,1.0s,baz=175,slow=1.9,SNR=9.7
CDAG Cicekdag 153.02 293 *i* P PKPbc 22 26 39.7 +0.9
AKASG Malin Array Be 153.27 319 PKP PKPdf 22 26 31.6 +0.1
comp=Z,0.5nm,0.4s,baz=37,slow=1.6,SNR=7.2
AKASG PKPbc PKPbc 22 26 38.8 -0.2
comp=Z,17nm,0.8s,baz=81,slow=2.1,SNR=33
AKBB Malin Array Si 153.27 319 *e*PKIKP PKPdf 22 26 32.5 +1.1
AKBB *e* 22 26 38.3
KIEV Kiev 153.28 319 *e*PKIKP PKPdf 22 26 32.6 +1.1
KIEV *e* 22 26 38.6
ILGA Ilgaz 153.39 297 *i* P PKPbc 22 26 39.7 +0.1
BALT Daday 153.57 298 *i* P PKPbc 22 26 38.6 -1.3
BR131 Keskin Array S 153.58 294 *e*PKPdf PKPdf 22 26 34.1 +1.9
BR131 *e*PKPbc PKPbc 22 26 40.1 +0.1
SUW Suwalki 154.16 330 *e*PKP PKPbc 22 26 40.8 0.0
SUW Suwalki 154.16 330 *e*PKP PKPbc 22 26 40.8 0.0
VRI Vrincioaia 157.00 311⇑ *i* P PKPab 22 27 08.8 +1.6
VRI Vrincioaia 157.00 311⇑⇑ P PKPab 22 27 08.8 +1.6
GKP Gorka Klasztor 157.01 336 *e*PKP PKPab 22 27 06.1 -0.8
PLOR Plostina 157.05 311⇓ *i* P PKPab 22 27 04.3 -3.1
BUR08 Bucovina Ar. S 157.10 316 *e*PKPdf PKPdf 22 26 38.1 +1.4
BUR08 *e*PKPab PKPab 22 27 07.5 0.0
BURAR Bucovina Array 157.10 316⇑ *i* P PKPdf 22 26 46.3 +10
BURAR Bucovina Array 157.10 316⇑⇑ P PKPdf 22 26 46.3 +10
KWP Kalwaria 157.32 323 *e*PKP pPKPdf 22 26 48.4 -5.1
KWP Kalwaria 157.32 323 *e*PKP pPKPdf 22 26 48.4 -5.1
MLR Muntele Rosu 157.65 311⇓ *i* P PKPab 22 27 06.7 -3.3
MLR Muntele Rosu 157.65 311⇓⇓ P PKPab 22 27 06.7 -3.3
KOLS Kolonicke sedl 157.98 322 *e*PKP PKPdf 22 26 37.5 -0.3
KOLS *e* 22 27 01.4
STHS Stebnicka Huta 158.19 324 *e*PKP PKPdf 22 26 38.5 +0.4
STHS *e* 22 27 11.9
OJC Ojcow 158.33 327 *e*PKPab PKPab 22 27 11.4 -1.3
CRVS Cervenica-Dubn 158.42 323 *e*PKP PKPdf 22 26 38.9 +0.6
CRVS *e* 22 27 12.3
NIE Niedzica 158.65 325 *e*PKP PKPdf 22 26 38.8 +0.2
DRGR 158.99 317⇓ *i* P PKPab 22 27 15.7 -0.1
DRGR 158.99 317⇓⇓ P PKPab 22 27 15.7 -0.1
KSP Ksiaz 159.32 333 *e*PKP PKPab 22 27 16.7 -0.3
KSP Ksiaz 159.32 333 *e*PKP2 PKPab 22 27 16.3 -0.7
OKC Ostrava-Krasne 159.34 329 *e*PKP2 PKPab 22 27 09.1 -8.0
OKC Ostrava-Krasne 159.34 329 *e*PKPAB PKPab 22 27 18.6 +1.5
OKC AMS AMS 23 45 20.0
UPC Upice 159.69 333 *e*PKPAB PKPab 22 27 18.6 -0.1
DPC Dobruska-Polom 159.70 332 *e*PKPAB PKPab 22 27 18.4 -0.3
DPC *e*pPKP pPKPab 22 27 39.3 +4.7
DPC AMS AMS 23 44 20.0
comp=Z,300nm,15.9s
VYHS Vyhne 159.99 325 *e*PKP PKPdf 22 26 40.1 -0.1
VYHS *e* 22 27 18.9
CLL Collm 160.05 339⇑ *i* PKP2 PKPab 22 27 19.7 -0.5
CLL pmax pmax
comp=Z,22nm,0.8s
CLL MLR MLR
comp=Z,300nm,16.7s
CLL Collm 160.05 339⇑ *i* PKPab PKPab 22 27 19.7 -0.5
comp=Z,22nm,0.8s
CLL *i* x x 22 27 21.6
comp=Z,52nm,1.0s
CLL *e*PPS 22 44 24.0
CLL *e*SS SS 22 50 54.0 -13
CLL *e*PSPS 22 52 42.0
CLL *e*SSS 22 57 36.0
CLL *ex* x 23 02 48.0
TOA0 Torodi Ar. Sit 160.10 180 *e*PKPdf PKPdf 22 26 41.0 -0.3
TORD Torodi Ar. Bea 160.10 180 PKP PKPdf 22 26 41.1 -0.2
comp=Z,3.1nm,1.0s,baz=286,slow=1.0,SNR=9.5
TORD PKPab PKPab 22 27 20.6 -0.6
comp=Z,11nm,1.1s,baz=178,slow=2.8,SNR=12
BRG Berggiesshubel 160.13 337 *e*PKP PKPab 22 27 20.3 -0.2
comp=Z,14nm,0.9s
BRG *i* 22 27 22.0
comp=Z,22nm,1.0s
PVCC Panska Ves 160.21 335 *e*PKPAB PKPab 22 27 20.7 -0.2
PVCC AMS AMS 23 44 30.0
comp=Z,300nm,18.2s
BZS Buzias 160.26 315⇑ *i* P PKPdf 22 26 39.6 -1.0
BZS Buzias 160.26 315⇑⇑ P PKPdf 22 26 39.6 -1.0
VRAC Vranov 160.40 330⇑ *i* P PKPab 22 27 22.1 +0.3
MODS Modra-Piesok 160.80 327 *e*PKP PKPdf 22 26 40.0 -1.1
MODS *e* 22 27 21.1
TREC Trest 160.87 332 *e*PKPAB PKPab 22 27 17.6 -6.2
TREC AMS AMS 23 49 10.0
comp=Z,400nm,16.6s
MOX Moxa 161.05 340 *e*PKP PKPab 22 27 24.1 -0.4
comp=Z,37nm,1.3s
MOX
comp=Z,400nm,19.0s
NKC Novy Kostel 161.16 338 *e*PKPAB PKPab 22 27 25.3 +0.3
NKC AMS AMS 23 47 30.0
PKSM Moragy 161.60 320⇑ *i* P PKPdf 22 26 41.2 -0.8
PKSM Moragy 161.60 320⇑⇑ P PKPdf 22 26 41.1 -0.9
KHC Kasperske Hory 161.73 334 *e*PKPDF PKPdf 22 26 38.0 -4.0
KHC *e*PKPAB PKPab 22 27 27.6 0.0
KHC AMS AMS 23 43 30.0
comp=Z,400nm,17.2s
GERES GERESS Array B 161.92 334 PKP PKPdf 22 26 42.9 +0.7
comp=Z,1.3nm,0.9s,baz=42,slow=2.2,SNR=7.2
GERES PKPab PKPab 22 27 28.1 -0.3
comp=Z,4.8nm,0.9s,baz=35,slow=4.9,SNR=14
GRF Grafenberg Arr 162.01 340 *e*PKP PKPab 22 27 28.8 0.0
comp=Z,34nm,1.0s
GRF *e*L 23 45 54.7
comp=Z,373nm,18.5s
BCLA Clavier 162.53 352 PKPbc PKPab 22 27 29.7 -1.3
WLF Walferdange 163.16 350 PKPbc PKPab 22 27 35.0 +1.2
RETA Reutte 164.11 337⇑ *i* PKPab PKPab 22 27 37.9 -0.1
comp=Z,31nm,1.4s
FLN La Foliniere 164.30 5 *e*PKIKP PKPdf 22 26 44.4 -0.1
comp=Z,20nm,1.0s
FETA Feichten 164.53 336⇑ *i* PKPab PKPab 22 27 39.7 -0.2
comp=Z,27nm,1.6s
DAVA Damuels 164.56 339⇑ *i* PKPab PKPab 22 27 39.9 -0.2
comp=Z,26nm,0.9s
QUIF Quistinic 164.78 13 *e*PKIKP PKPdf 22 26 45.6 +0.6
comp=Z,17nm,1.0s
TCF Toulx Ste Croi 166.86 358 *e*PKIKP PKPdf 22 26 46.8 +0.1
MBDF Montbardon 167.78 343 *e*PKIKP PKPdf 22 26 47.2 -0.2
comp=Z,12nm,0.9s
TAM Tamanrasset 169.16 199 *e*PKIKP PKPdf 22 26 49.9 +0.9
TAM 22 28 02.2
PCBR Castelo Branco 170.03 45 *e*PKPdf PKPdf 22 26 49.7 +0.7
EVO Evora 170.44 53 *e*PKIKP PKPdf 22 26 46.2 -3.1
comp=Z,34nm,1.2s
EVO Evora 170.44 53 *e*PKPdf PKPdf 22 26 50.6 +1.3
PBEJ Beja 170.80 55 *e*PKPdf PKPdf 22 26 51.2 +1.7
PBDV Barranco-do-Ve 171.11 60 *e*PKPdf PKPdf 22 26 51.7 +2.0
PBAR Barrancos 171.28 52 *e*PKPdf PKPdf 22 26 50.5 +0.7
ESDC Sonseca Array 172.03 33 PKP PKPdf 22 26 51.1 +1.0
comp=Z,1.1nm,0.8s,baz=346,slow=2.1,SNR=5.6

IDC ***31*** *22:06:47.1±2.3, 46.43N×152.77E, h0km, mb3.7/3,*

mb1 3.8/4, mb1mx3.5/21, mbtmp3.6/4, ML3.2/1, MS2.9/1,
Ms1 2.9/1, ms1mx2.3/40, Error ellipse: s-maj=68.5km
s-min=35.7km az=1.0
ISCJB ***31*** *22:06:50.2±2.0, 465N×03.4×1528E±0.3, h33km, mb3.6/3,*
Error ellipse: s-maj=44.6km s-min=20.9km az=143.8
MOS ***31*** *22:06:50.4±2.0, 46.47N×152.67E, h37km, mb4.0/2, Error*
ellipse: s-maj=81.1km s-min=29.2km az=74.6

ISC 31 22:06:51.8±2.0, 464N±03×1528E±03, h35km, n8, σ0=81/7, mb3.6/3, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**4.85**	**26**	*e*PN	**Pn**	**22 08 03.5**	**+1.3**
SKR				*e*		22 09 02.0	
PETK	**Petropavlovsk-**	**7.46**	**23**	Pn	**Pn**	**22 08 36.7**	**-1.3**
	0.4nm,0.3s,baz=170,slow=12,SNR=5.9						
ASAJ	**Asahikawa**	**7.55**	**256**	LR	LR	22 11 20.4	
	comp=Z,84nm,19.5s,baz=116,slow=36						
MKAR	**Makanchi Array**	**46.93**	**298**	P	**P**	**22 15 18.6**	**-0.1**
	0.4nm,0.7s,mb3.5,baz=38,slow=7.3,SNR=2.9						
AKASG	**Malin Array Be**	**71.75**	**326**	P	**P**	**22 18 10.3**	**+0.2**
	0.7nm,0.5s,mb3.9,baz=31,slow=5.7,SNR=4.3						
AKASG	**Malin Array Be**	**71.75**	**326**	P	**P**	**22 18 10.3**	**+0.2**
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.5s						
TXAR	**Lajitas Array**	**77.87**	**60**	P	**P**	**22 18 45.8**	**-0.1**
	comp=Z,0.3nm,0.5s,mb3.5,baz=320,slow=3.3,SNR=5.3						
TXAR				PcP	PcP	22 18 58.0	+2.3
	comp=Z,0.4nm,0.6s,baz=286,slow=4.2,SNR=3.9						
TXAR	**Lajitas Array**	**77.87**	**60**	*e*P	**P**	**22 18 45.7**	**-0.1**

ISCJB ***31*** *22:10:12.0±0.5, 1058N±003×6323W±003, h10km, Error*
ellipse: s-maj=5.2km s-min=4.0km az=39.1
FUNV ***31*** *22:10:11.6, 1058N×63.15W, h2km, MW3.4*

ISC 31 22:10:12.6±0.4, 1057N±003×6322W±003, h10km, n18, σ1=19/25, 1D, Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GUNV	**Guanoco**	**0.49**	**147**	⇓ *i*P	**Pg**	**22 10 20.6**	**-1.6**
GUNV				*e*S	**Sg**	**22 10 28.0**	**-0.6**
ITEV	**Isla Los Testi**	**0.78**	**6**	*e*P	**Pg**	**22 10 26.9**	**-0.9**
ITEV				*e*S	**Sg**	**22 10 37.3**	**-0.7**
GUIV	**Guiria**	**0.98**	**86**	*e*P	**Pg**	**22 10 29.4**	**-2.1**
GUIV				*e*S	**Sg**	**22 10 42.1**	**-2.1**
TCE	**Chacachacare**	**1.44**	**85**	*e*P	**Pn**	**22 10 40.0**	**+1.2**
PCRV	**Puerto La Cruz**	**1.45**	**254**	*e*P	**Pn**	**22 10 38.2**	**-0.8**
PCRV				*e*S	**Sn**	**22 10 59.7**	**+1.6**
ORIV	**Oritupano**	**1.50**	**187**	*e*P	**Pn**	**22 10 40.0**	**+0.3**
ORIV				*e*S	**Sn**	**22 10 59.8**	**+0.4**
TPP	**Pointe-a-Pierr**	**1.75**	**98**	*e*P	**Pn**	**22 10 48.4**	**+5.3**
TRN	**Trinidad (W)**	**1.78**	**87**	*e*P	**Pn**	**22 10 44.5**	**+0.9**
TRN				*e*S	**Sn**	**22 11 09.4**	**+3.2**
TBH	**Brigand Hill**	**2.11**	**92**	*e*P	**Pn**	**22 10 53.2**	**+5.1**
PRGV	**PARIAGUAN**	**2.29**	**218**	*e*P	**Pn**	**22 10 50.9**	**+0.4**
PRGV				*e*S	**Sn**	**22 11 18.6**	**-0.1**
GRSS	**Sisters**	**2.33**	**42**	*e*	**Pn**	**22 10 52.3**	**+1.3**
TPR	**Prospect**	**2.47**	**75**	*e*P	**Pn**	**22 10 54.0**	**+1.0**
BOT	**Bacolet**	**2.52**	**76**	*e*P	**Pn**	**22 10 57.4**	**+3.7**
CUPV	**Cœpira**	**2.58**	**259**	*e*P	**Pn**	**22 10 54.5**	**0.0**
CAOV	**Caicara del Or**	**4.45**	**224**	*e*P	**Pn**	**22 11 19.7**	**-0.6**
MVM	**Montagne Vaucl**	**4.56**	**30**	*e*P	**Pn**	**22 11 22.7**	**+1.0**
FDF	**Fort de France**	**4.60**	**26**	*e*P	**Pn**	**22 11 21.0**	**-1.3**
BAUV	**El Baul**	**5.03**	**252**	*e*P	**Pn**	**22 11 26.7**	**-1.4**

ISCJB ***31*** *22:15:22.1±0.8, 2749N±006×5741E±007, h10km, Error*
ellipse: s-maj=9.1km s-min=8.1km az=146.5
KISR ***31*** *22:15:23.7, 2954N×57.19E, h2km, ML3.8*
THR ***31*** *22:15:26.1±0.3, 2763N×5766E, h35km±3km, ML3.3*
CSEM ***31*** *22:15:27.1±0.4, 2943N×5723E, h10km, ML3.8, Error*
ellipse: s-maj=55.9km s-min=7.6km az=177.0

ISC 31 22:15:24.0±0.7, 2746N±006×5747E±006, h10km, n18, σ1=32/24, 1C, Southern Iran

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BNDS	**Bandar-Abbas**	**1.15**	**268**	*e*Pg	**Pg**	**22 15 50.7**	**+4.6**
BANOM	**Banah**	**1.85**	**215**	⇑P	**Pg**	**22 16 00.1**	**+0.6**
	SNR=56						
KRBR	**Kerman**	**2.59**	**346**	*e*Pn	**Pn**	**22 16 06.4**	**+0.4**
KRBR				*e*Sg	**Sg**	**22 16 42.4**	**-4.9**
KRBR				AML	AML	22 16 56.1	
	comp=N,118nm,0.6s						
ZHSF	**Zahedan**	**3.62**	**53**	*e*Pn	**Pn**	**22 16 18.7**	**-1.3**
BIDO	**Bidbid**	**3.96**	**171**	P	**Pn**	**22 16 24.2**	**-0.7**
	SNR=6.5						
GHIR	**Ghir-Karzin**	**4.05**	**283**	*e*Pn	**Pn**	**22 16 29.7**	**+3.6**
GHIR				AML	AML	22 17 23.6	
	comp=N,40nm,0.4s						
WBK	**Wadi Bani Khal**	**5.01**	**164**	P	**Pn**	**22 16 39.1**	**-0.2**
	SNR=5.8						
SLWS		**6.68**	**248**	P	**Pn**	**22 17 04.5**	**+2.2**
SLWS		**6.68**	**248**	P	**Pn**	**22 17 04.4**	**+2.2**
NASN	**Na'in**	**6.68**	**324**	*e*Pn	**Pn**	**22 17 04.1**	**+1.9**
BTHS		**6.87**	**242**	P	**Pn**	**22 17 06.4**	**+1.6**
UMR	**Umm Al-Rimmam**	**8.83**	**286**	*e*P	**Pn**	**22 17 30.4**	**-1.3**
	baz=272						
UMR				AML	AML	22 19 10.1	
	comp=Z,7.0nm,0.4s,baz=272						
RDF	**Al-Radifah**	**8.87**	**282**	*e*P	**Pn**	**22 17 33.0**	**+0.7**
RDF				*e*S	**Sn**	**22 19 10.6**	**-1.8**
RDF	**Al-Radifah**	**8.87**	**282**	*e*P	**Pn**	**22 17 33.0**	**+0.7**
	baz=268						
RDF				*e*S	**Sn**	**22 19 10.6**	**-1.7**
	baz=268						
RDF				AML	AML	22 19 11.8	
	comp=Z,10.0nm,0.4s,baz=268						
NAY	**Al-Naaiem**	**9.19**	**284**	*e*P	**Pn**	**22 17 36.4**	**-0.2**
NAY				*e*S	**Sn**	**22 19 15.6**	**-4.4**
NAY	**Al-Naaiem**	**9.19**	**284**	*e*P	**Pn**	**22 17 36.4**	**-0.2**
	baz=271						
NAY				*e*S	**Sn**	**22 19 15.6**	**-4.4**
	baz=271						
NAY				AML	AML	22 19 18.9	
	comp=Z,3.0nm,0.4s,baz=271						
LYLS		**10.74**	**242**	P	**Pn**	**22 17 57.8**	**-0.1**
LYLS		**10.74**	**242**	P	**Pn**	**22 17 57.8**	**-0.1**
LYLS				S	**Sn**	**22 19 55.9**	**-2.3**

ISCJB ***31*** *22:15:50.9±0.3, 2397N±002×12176E±002, h28km±2km,*
Error ellipse: s-maj=3.4km s-min=2.2km az=138.4
TAP ***31*** *22:15:51.0, 2399N×12167E, h36km, ML3.7, B*
JMA ***31*** *22:15:51.9±0.3, 2410N×12177E, h61km, M3.0*

ISC 31 22:15:51.1±0.3, 2398N±002×12175E±002, h26km±2km, n58, σ0=87/101, 12C-2D, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HWA	**Hwalien**	**0.13**	**270**	⇓ *i*P	**Pb**	**22 15 57.3**	**+1.2**
	baz=253						
HWA				*e*S	**Sb**	**22 16 02.5**	**+3.0**
	baz=253						
TWD	**Chiawan**	**0.17**	**307**	⇓ *i*P	**Pb**	**22 15 57.4**	**+0.8**
	baz=322						
TWD				S	**Sb**	**22 16 01.9**	**+1.7**
	baz=322						
ESF	**Shoufeng Towns**	**0.24**	**244**	P	**Pb**	**22 15 57.9**	**+0.5**
	baz=240						
ESF				S	**Sb**	**22 16 03.3**	**+1.7**
	baz=240						
TEGC	**Jichi Village**	**0.33**	**215**	*e*P	**Pb**	**22 15 59.5**	**+0.9**
	baz=194						
ESL	**Shilin**	**0.33**	**241**⇑	*i*P	**Pb**	**22 15 58.8**	**+0.2**
	baz=239						
ESL				S	**Sb**	**22 16 04.2**	**+0.5**
	baz=239						
ENA	**Nanau**	**0.45**	**359**	*e*P	**Pb**	**22 16 00.5**	**0.0**
	baz=16						
ENA				*e*S	**Sb**	**22 16 08.3**	**+1.4**
	baz=16						
WHF	**Hehuan Shan**	**0.47**	**291**⇑	*i*P	**Pb**	**22 16 00.7**	**-0.2**
	baz=285						
WHF				S	**Sb**	**22 16 07.1**	**-0.4**
	baz=285						
NNS	**Nan Shan**	**0.57**	**324**⇑	*i*P	**Pb**	**22 16 02.2**	**-0.4**
	baz=323						
NNS				*e*S	**Sb**	**22 16 09.8**	**-0.6**
	baz=323						
EHY	**Hungye**	**0.61**	**220**⇑	*i*P	**Pb**	**22 16 02.1**	**-1.1**
	baz=213						

TWC	**Suao**	**0.64**	**8**	*e*P		**Pb**	**22 16 04.0**	**+0.3**
	baz=14								
TWE	**Neicheng**	**0.74**	**354**	P		**Pb**	**22 16 05.0**	**-0.5**
TWE	baz=353			*e*S		**Sb**	**22 16 15.2**	**-0.1**
TWF1	**Yuli**	**0.75**	**214**	⇑*i*P		**Pb**	**22 16 04.1**	**-1.4**
	baz=217								
TWF1				*e*S		**Sb**	**22 16 13.3**	**-2.0**
	baz=217								
SMLT	**Sun Moon Lake**	**0.78**	**263**	*i* P		**Pb**	**22 16 05.3**	**-0.7**
	baz=256								
SMLT				*i* S		**Sb**	**22 16 15.2**	**-1.1**
	baz=256								
NSK	**Sanguang**	**0.78**	**333**	⇑*i*P		**Pb**	**22 16 05.5**	**-0.6**
	baz=338								
NSK				S		**Sb**	**22 16 15.3**	**-1.0**
	baz=338								
TYC	**Yuchr**	**0.82**	**265**	⇑*i*P		**Pb**	**22 16 05.7**	**-1.0**
	baz=262								
TYC				S		**Sb**	**22 16 16.0**	**-1.3**
	baz=262								
YUS	**Yu-Shan**	**0.88**	**236**	⇑*i*P		**Pb**	**22 16 07.4**	**-0.3**
	baz=223								
YUS				*e*S		**Sb**	**22 16 18.0**	**-1.0**
	baz=223								
CHKT	**Chengkung**	**0.94**	**202**	*e*P		**Pn**	**22 16 07.6**	**-1.1**
	baz=185								
NSTT	**Nanjuang**	**0.94**	**314**	⇑*i*P		**Pn**	**22 16 08.6**	**-0.1**
	baz=316								
NSTT				S		**Sb**	**22 16 20.1**	**-0.8**
	baz=316								
TWQ1	**Liyutan**	**0.96**	**293**	⇑*i*P		**Pn**	**22 16 08.9**	**-0.1**
	baz=293								
TWQ1				*e*S		**Sb**	**22 16 19.7**	**-1.8**
	baz=293								
WNT	**Mingjian**	**0.98**	**264**	P		**Pn**	**22 16 09.1**	**-0.1**
	baz=262								
WNT				*e*S		**Sb**	**22 16 22.2**	**+0.3**
	baz=262								
ALS	**Alishan**	**0.98**	**242**	⇑P		**Pn**	**22 16 09.0**	**-0.3**
	baz=230								
ALS				*e*S		**Sb**	**22 16 21.1**	**-0.8**
	baz=230								
TCU	**Taichung**	**0.99**	**280**	*e*P		**Pn**	**22 16 09.5**	**+0.1**
	baz=279								
TCU				*e*S		**Sb**	**22 16 23.1**	**+0.7**
	baz=279								
NSY	**Sanyi**	**1.00**	**296**	P		**Pn**	**22 16 09.4**	**-0.1**
	baz=296								
NSY				S		**Sb**	**22 16 23.0**	**+0.4**
	baz=296								
TWA	**Mucha**	**1.01**	**352**	*e*P		**Pn**	**22 16 09.3**	**-0.4**
	baz=346								
TWA				*e*S		**Sb**	**22 16 22.1**	**-0.8**
	baz=346								
ELDTW	**Lidau**	**1.03**	**221**	*e*P		**Pn**	**22 16 08.5**	**-1.4**
	baz=209								
CHN5	**Tsauling**	**1.05**	**249**	⇑*i*P		**Pn**	**22 16 10.1**	**-0.1**
	baz=235								
CHN5				S		**Sn**	**22 16 23.7**	**-0.3**
	baz=235								
TWB1	**Santiao Chiao**	**1.05**	**12**	*e*P		**Pn**	**22 16 10.6**	**+0.4**
	baz=29								
TWB1				*e*S		**Sn**	**22 16 25.3**	**+1.3**
	baz=29								
HSN	**Hsinchu**	**1.08**	**319**	*e*P		**Pn**	**22 16 10.9**	**+0.3**
	baz=324								
NWF	**Wu-fen Shan**	**1.09**	**2**	*e*P		**Pn**	**22 16 10.9**	**+0.1**
	baz=354								
NWF				*e*S		**Sn**	**22 16 26.8**	**+1.8**
	baz=354								
NCU	**National Centr**	**1.11**	**333**	P		**Pn**	**22 16 11.1**	**0.0**
	baz=336								
NCU				*e*S		**Sn**	**22 16 25.7**	**+0.1**
	baz=336								
WGK	**Gukeng**	**1.12**	**255**	*e*P		**Pn**	**22 16 11.2**	**+0.1**
	baz=252								
WGK				*e*S		**Sn**	**22 16 26.7**	**+0.9**
	baz=252								
TWS1	**Kuangyinshan**	**1.16**	**345**	*e*P		**Pn**	**22 16 11.2**	**-0.6**
	baz=360								
TWS1				*e*S		**Sn**	**22 16 26.7**	**0.0**
	baz=360								
STYT	**Tauyuan**	**1.22**	**228**	*e*P		**Pn**	**22 16 12.1**	**-0.4**
	baz=220								
STYT				*e*S		**Sn**	**22 16 28.3**	**+0.2**
	baz=220								
CHN4	**Tsaushan**	**1.23**	**240**	*e*P		**Pn**	**22 16 13.1**	**+0.5**
	baz=226								
CHN4				*e*S		**Sn**	**22 16 29.2**	**+0.8**
	baz=226								
CHN2	**Minshiung**	**1.25**	**249**	*e*P		**Pn**	**22 16 13.2**	**+0.3**
	baz=246								
CHN2				*e*S		**Sn**	**22 16 30.0**	**+1.1**
	baz=246								
YOJ	**Yonaguni jima**	**1.25**	**67**	P		**Pn**	**22 16 12.9**	**-0.1**
YOJ				*e*S		**Sn**	**22 16 27.9**	**-1.1**
YOJ	**Yonaguni jima**	**1.25**	**67**	P		**Pn**	**22 16 12.7**	**-0.3**
	baz=70								
WTP	**Ta-pu**	**1.27**	**235**	P		**Pn**	**22 16 13.4**	**+0.2**
	baz=232								
WTP				*e*S		**Sn**	**22 16 29.8**	**+0.4**
	baz=232								
TWY	**Chenhua**	**1.30**	**354**	*e*P		**Pn**	**22 16 12.2**	**-1.5**
	baz=345								
TWG	**Pinlang**	**1.31**	**208**	*e*P		**Pn**	**22 16 11.4**	**-2.4**
	baz=193								
WTCT	**Ta-ch'eng**	**1.34**	**266**	P		**Pn**	**22 16 14.2**	**-0.1**
	baz=274								
WTCT				*e*S		**Sn**	**22 16 31.9**	**+0.6**
	baz=274								
TWK	**Hsinying**	**1.35**	**239**	*e*P		**Pn**	**22 16 14.6**	**+0.2**
	baz=226								
TWK				*e*S		**Sn**	**22 16 32.2**	**+0.7**
	baz=226								
CHN1	**Nanshi**	**1.37**	**235**	*e*P		**Pn**	**22 16 14.8**	**+0.2**
	baz=232								
CHN1				*e*S		**Sn**	**22 16 32.3**	**+0.5**
	baz=232								
SGST	**Jiashian**	**1.39**	**230**	*e*P		**Pn**	**22 16 15.4**	**+0.5**
	baz=227								
SGST				*e*S		**Sn**	**22 16 33.7**	**+1.3**
	baz=227								
WSF	**Szhu**	**1.44**	**257**	*e*P		**Pn**	**22 16 15.6**	**+0.1**
	baz=254								
WSF				*e*S		**Sn**	**22 16 35.2**	**+1.7**
	baz=254								
CHN8	**Yiju**	**1.54**	**246**	*e*P		**Pn**	**22 16 17.0**	**0.0**
	baz=232								
CHN8				*e*S		**Sn**	**22 16 36.8**	**+0.6**
	baz=232								
ECL	**Taimali**	**1.56**	**208**	*e*P		**Pn**	**22 16 15.1**	**-2.0**
	baz=197								
SSD	**Sandimen**	**1.60**	**220**	*e*P		**Pn**	**22 16 18.3**	**+0.6**
	baz=218								
SSD				*e*S		**Sn**	**22 16 38.9**	**+1.4**
	baz=218								
EAST	**Anshuo**	**1.79**	**208**	*e*P		**Pn**	**22 16 20.7**	**+0.3**
	baz=198								
IRIF	**Iriomote-Funau**	**1.85**	**78**	P		**Pn**	**22 16 21.4**	**+0.2**
IRIF				S		**Sn**	**22 16 43.4**	**-0.3**
HATJ	**Hateruma jima**	**1.88**	**87**	P		**Pn**	**22 16 21.9**	**+0.2**
HATJ				S		**Sn**	**22 16 45.0**	**+0.4**
SCZT	**Fangliau**	**1.90**	**213**	*e*P		**Pn**	**22 16 22.8**	**+0.8**
	baz=211								
WDGT	**Dungji**	**2.04**	**250**	*e*P		**Pn**	**22 16 23.4**	**-0.5**
	baz=247								
PNG	**Penghu**	**2.05**	**259**	*e*P		**Pn**	**22 16 21.3**	**-2.7**
	baz=256								
JKRS	**Kuro-shima**	**2.08**	**82**	P		**Pn**	**22 16 25.1**	**+0.7**
JKRS				*e*S		**Sn**	**22 16 50.6**	**+1.0**
JIJ	**Ishigaki jima**	**2.22**	**80**	P		**Pn**	**22 16 26.1**	**-0.2**
JIJ				S		**Sn**	**22 16 51.8**	**-1.2**
JTJ	**Tarama**	**2.78**	**76**	P		**Pn**	**22 16 34.2**	**+0.2**
JTJ				*e*S		**Sn**	**22 17 07.3**	**+0.6**
KNM	**Kinmen**	**3.06**	**279**	*e*P		**Pn**	**22 16 37.5**	**-0.4**
	baz=277								

*ISCJB **31** 22:28:35.2±4.0, 308S±007×1309E±0.1, h16km±28km, mb4.3/23, Error ellipse: s-maj=19.2km s-min=8.7km az=149.5*
*IDC **31** 22:28:41.5±3.7, 3.13S×13085E, h47km±31km, mb3.8/13, mb1 3.9/15, mb1mx3.9/20, mbtmp3.9/15, ML4.4/2, MS3.3/1, Ms1 3.3/1, ms1mx2.6/28, Error ellipse: s-maj=37.6km s-min=10.8km az=78.0*
*NEIC **31** 22:28:41.0±1.4, 3.14S×13081E, h46km±12km, mb4.6/13, Error ellipse: s-maj=12.4km s-min=5.2km az=59.0*
*DJA **31** 22:28:44, 2.79S×13040E, h35km, MLv4.1/6*

ISC 31 22:28:40.7±1.8, 313S±007×1308E±01, h42km±16km, n50, σ0ᵗ74/51, mb4.3/23, Seram

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**9.65**	**171**	*e*Pn		**Pn**	**22 30 48.8**	**-8.2**
	23nm,0.5s							
KAKA				*e*Sn		**Sn**	**22 32 32.0**	**-12**
BATI	**Baumata**	**10.01**	**225**	P		**Pn**	**22 31 02.7**	**+0.7**
	3.7nm,0.3s,baz=159,slow=2.7,SNR=7.2							
KAPI	**Kappang**	**11.22**	**260**	P		**Pn**	**22 31 20.0**	**+1.4**
	2.1nm,0.3s,baz=91,slow=4.5,SNR=6.4							
DAV	**Davao City (W)**	**11.42**	**333**	LR		LR	22 35 21.1	
	comp=Z,132nm,19.6s,baz=46,slow=35							
FITZ	**Fitzroy Crossi**	**15.73**	**199**	Pn		**Pn**	**22 32 18.5**	**-0.8**
WRAB	**Tennant Creek**	**17.05**	**169**	*e*Pn		**Pn**	**22 32 35.1**	**-0.9**
	22nm,1.0s							
WRAB				*e*Sn		**Sn**	**22 35 36.4**	**-8.2**
WRA	**Warramunga Arr**	**17.05**	**169**	P		**Pn**	**22 32 32.5**	**-3.6**
	0.8nm,0.3s,baz=350,slow=13,SNR=32							
WB2	**Warramunga Arr**	**17.05**	**169**	*e*Pn		**Pn**	**22 32 35.6**	**-0.6**
WB2				*e*Sn		**Sn**	**22 35 32.7**	**-12**
ASAR	**Alice Springs**	**20.63**	**172**	P		**P**	**22 33 18.0**	**+1.4**
	31nm,0.5s,baz=350,slow=10,SNR=314							
ASAR				S		**S**	**22 37 05.4**	**+0.4**
	2.7nm,0.8s,baz=353,slow=22,SNR=7.5							
KSM	**Kuching**	**21.03**	**282**	*e*P		**P**	**22 33 20.0**	**-1.1**
CTA	**Charters Tower**	**22.59**	**139**	sP		sP	22 33 58.4	+4.9
	9.5nm,0.9s,baz=303,slow=14,SNR=4.0							
CTAO	**Charters Tower**	**22.59**	**139**	P		**P**	**22 33 38.2**	**+0.6**
NACB	**Ninganchiao**	**28.59**	**342**	P		**P**	**22 34 33.6**	**+0.7**
STKA	**Stephens Creek**	**30.33**	**162**	P		**P**	**22 34 48.1**	**-0.2**
	1.0nm,0.4s,mb3.9,baz=330,slow=13,SNR=2.9							
STKA	**Stephens Creek**	**30.33**	**162**	*e*P		**P**	**22 34 47.9**	**-0.4**
	22nm,2.0s,mb4.5							
NWAO	**Narrogin (SRO)**	**32.27**	**202**	P		**P**	**22 35 05.0**	**-0.4**
	2.1nm,0.5s,mb4.3,baz=80,slow=6.1,SNR=5.3							
CMAR	**Chiang Mai Arr**	**38.04**	**306**	P		**P**	**22 35 55.0**	**-0.3**
	0.8nm,0.6s,mb3.6,baz=132,slow=6.6,SNR=6.5							
CMAR				pP		pP	22 36 10.0	+3.1
	0.8nm,0.5s,baz=125,slow=7.3,SNR=3.0							
CHTO	**Chiang Mai**	**38.23**	**306**	*e*P		**P**	**22 35 56.6**	**-0.2**
TAPN	**Taplejung**	**51.44**	**309**	*e*P		**P**	**22 37 42.4**	**+0.5**
ODAN	**Odare**	**51.45**	**308**	*e*P		**P**	**22 37 41.4**	**-0.6**
	8.0nm,0.8s,mb4.7							
RAMN	**Ramite**	**52.12**	**308**	*e*P		**P**	**22 37 46.7**	**-0.3**
	13nm,0.6s,mb5.0							
JIRN	**Jiri**	**52.77**	**308**	*e*P		**P**	**22 37 51.5**	**-0.3**
GUN	**Gumba**	**53.13**	**309**	*e*P		**P**	**22 37 54.2**	**-0.3**
	8.2nm,0.5s,mb4.9							
DMN	**Daman**	**53.60**	**308**	*e*P		**P**	**22 37 57.3**	**-0.6**
GKN	**Gorkha**	**54.15**	**308**	*e*P		**P**	**22 38 01.2**	**-0.7**
	7.8nm,0.7s,mb4.8							
KOLN	**Koldanda**	**54.86**	**307**	*e*P		**P**	**22 38 06.8**	**-0.3**
	12nm,0.7s,mb5.0							
DANN	**Dangsing**	**55.00**	**308**	*e*P		**P**	**22 38 07.3**	**-0.8**
SONM	**Songino Array**	**55.09**	**340**	P		**P**	**22 38 09.3**	**+1.0**
	0.5nm,0.7s,mb3.7,baz=155,slow=8.4,SNR=3.7							
PETK	**Petropavlovsk-**	**60.41**	**18**	P		**P**	**22 38 45.2**	**-0.4**
	0.8nm,0.5s,mb4.0,baz=3.3,slow=7.7,SNR=2.6							
PETK				pP		pP	22 39 01.2	+3.4
	3.7nm,0.9s,baz=107,slow=9.6,SNR=2.8							
CASY	**Casey**	**64.63**	**189**	*e*P		**P**	**22 39 12.7**	**-0.9**
	9.6nm,1.0s,mb4.8							
YAK	**Yakutsk**	**64.99**	**359**	P		**P**	**22 39 15.6**	**-0.3**
MK31	**Makanchi Array**	**65.50**	**326**	*e*P		**P**	**22 39 20.0**	**+0.4**
MKAR	**Makanchi Array**	**65.50**	**326**	P		**P**	**22 39 20.0**	**+0.4**
	2.2nm,0.5s,mb4.4,baz=123,slow=8.1,SNR=41							
MKAR				PcP		PcP	22 39 49.5	-1.6
	0.8nm,0.7s,baz=135,slow=7.6,SNR=3.7							
TKM2	**Tokmak 2**	**67.59**	**319**	*e*P		**P**	**22 39 33.6**	**+0.6**
	1.8nm,0.6s,mb4.3							
ZALV	**Zalesovo Beam**	**68.53**	**333**	P		**P**	**22 39 38.9**	**+0.2**
	0.3nm,0.3s,mb3.7,baz=76,slow=6.1,SNR=3.7							
EKS2	**Erkin-Say**	**68.67**	**318**	*e*P		**P**	**22 39 40.1**	**+0.4**
	1.2nm,0.6s,mb4.0							
KBL	**Kabul**	**68.97**	**309**	P		**P**	**22 39 41.6**	**-0.2**
	2.7nm,0.8s,mb4.2							
KURK	**Kurchatov**	**69.70**	**328**	P		**P**	**22 39 46.6**	**+0.7**
	1.6nm,0.6s,mb4.2,baz=127,slow=5.5,SNR=6.8							
KURK	**Kurchatov**	**69.70**	**328**	*e*P		**P**	**22 39 46.1**	**+0.1**
	2.7nm,0.8s,mb4.2							
BVAR	**Borovoye Array**	**75.28**	**327**	P		**P**	**22 40 19.5**	**+0.3**
	2.2nm,0.8s,mb4.1,baz=131,slow=9.4,SNR=8.8							
BRVK	**Borovoye**	**75.35**	**327**	*e*P		**P**	**22 40 18.6**	**-1.0**
	4.9nm,0.8s,mb4.5							
SBA	**Scott Base**	**77.03**	**173**	*e*P		**P**	**22 40 28.7**	**0.0**
MAW	**Mawson**	**78.83**	**201**	P		**P**	**22 40 40.5**	**+1.6**
	0.9nm,0.4s,mb4.0,baz=286,slow=5.3,SNR=2.6							
MAW	**Mawson**	**78.83**	**201**	*e*P		**P**	**22 40 39.2**	**+0.3**
AKTK	**Aktyubinsk**	**81.56**	**322**	P		**P**	**22 40 54.4**	**+0.5**
AKTO	**Aktyubinsk**	**81.56**	**322**	P		**P**	**22 40 54.4**	**+0.5**
	0.7nm,0.6s,mb3.7,baz=119,slow=13,SNR=3.6							
ARU	**Arti**	**82.89**	**328**	P		**P**	**22 40 60.0**	**-0.8**
QSPA	**South Pole Qui**	**86.82**	**180**	P		**P**	**22 41 22.1**	**+2.0**
	0.9nm,0.4s,mb4.4,baz=116,slow=1.0,SNR=5.6							
KMBO	**Kilima Mbogo**	**93.53**	**269**	P		**P**	**22 41 53.4**	**+0.4**
	1.8nm,0.8s,mb4.5,baz=101,slow=5.2,SNR=3.5							
TORD	**Torodi Ar. Bea**	**128.78**	**284**	PKP		PKPdf	22 47 45.4	+0.8
	0.8nm,0.9s,baz=20,slow=1.6,SNR=4.7							

*ISCJB **31** 22:33:23.7±3.0, 3320S±006×17833W±008, h24km±21km, mb4.7/17, Error ellipse: s-maj=11.9km s-min=9.6km az=35.2*
*MOS **31** 22:33:25.4±1.4, 3312S×17832W, h33km, mb4.9/6, Error ellipse: s-maj=21.9km s-min=16.7km az=167.6*
*NEIC **31** 22:33:27.5±0.4, 3317S×17828W, mb5.0/12, Error ellipse: s-maj=11.1km s-min=9.8km az=160.0*
*IDC **31** 22:33:28.0±0.8, 3306S×17830W, h45km±5km, mb4.3/8, mb1 4.5/8, mb1mx4.2/17, mbtmp4.3/8, Error ellipse: s-maj=22.6km s-min=15.0km az=17.0*

ISC 31 22:33:27.3±1.6, 3317S±007×17831W±008, h38km±14km, h46km±1.1km:pP-P, n63, σ1ᵍ03/46, mb4.7/17, 1C-1D, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
URZ	**Urewera**	**6.30**	**215**	P		**Pn**	**22 34 55.1**	**-2.5**
	2.5nm,0.3s,baz=31,slow=8.3,SNR=20							
URZ				S		**Sn**	**22 36 08.6**	**+0.3**
	18nm,0.3s,baz=163,slow=18,SNR=17							
RPZ	**Rata Peaks**	**13.42**	**215**	P		**Pn**	**22 36 31.0**	**-4.0**
	2.0nm,0.3s,baz=41,slow=4.0,SNR=6.3							
RPZ				S		**Sn**	**22 38 52.8**	**-10**
	0.7nm,0.3s,baz=225,slow=7.8,SNR=5.0							
DZM	**Mont Dzumac**	**17.43**	**305**	Pn		**Pn**	**22 37 29.7**	**+2.1**
RAR	**Rarotonga**	**20.30**	**59**	P		**P**	**22 37 59.5**	**-0.4**
FUNA	**Funafuti**	**24.63**	**354**	*e*P		**P**	**22 38 43.5**	**-0.8**
EIDS	**Eidsvold**	**27.74**	**278**	*e*P		**P**	**22 39 13.4**	**+1.1**
	30nm,0.8s,mb5.0							
TAU	**Tasmania Unive**	**28.59**	**240**	*e*P		**P**	**22 39 18.9**	**-0.9**
TAU				pmax		pmax		
	comp=Z,6.0nm,0.6s,mb4.5							
TAU	**Tasmania Unive**	**28.59**	**240**	*e*P		**P**	**22 39 18.9**	**-0.9**
	comp=Z,6.3nm,0.6s,mb4.5							
STKA	**Stephens Creek**	**33.69**	**261**	*e*P		**P**	**22 40 06.2**	**+1.4**
	comp=Z,2.7nm,0.9s,mb4.2							
STKA	**Stephens Creek**	**33.69**	**261**	P		**P**	**22 40 06.1**	**+1.3**
	comp=Z,3.1nm,0.8s,mb4.3,baz=122,slow=9.7,SNR=5.3							
STKA				pP		pP	22 40 17.7	+2.4
	comp=Z,3.1nm,0.9s,baz=97,slow=2.3,SNR=2.6							
CTA	**Charters Tower**	**34.08**	**283**	*e*P		**P**	**22 40 09.8**	**+1.5**
	comp=Z,15nm,0.5s,mb5.2							
CTA	**Charters Tower**	**34.08**	**283**	P		**P**	**22 40 09.8**	**+1.5**
	comp=Z,18nm,0.5s,mb5.2,baz=115,slow=10,SNR=36							
CTA				pP		pP	22 40 20.9	+2.0
	comp=Z,7.4nm,0.6s,baz=114,slow=7.8,SNR=3.4							
CTA	**Charters Tower**	**34.08**	**283**	*e*P		**P**	**22 40 09.8**	**+1.5**
CTA				pmax		pmax		
	comp=Z,15nm,0.5s							
CTAO	**Charters Tower**	**34.08**	**283**	*e*P		**P**	**22 40 09.5**	**+1.2**
CTAO				pmax		pmax		
	comp=Z,17nm,0.5s,mb5.2							
CTAO	**Charters Tower**	**34.08**	**283**	*e*P		**P**	**22 40 09.5**	**+1.2**
	comp=Z,17nm,0.5s,mb5.2							
ASAR	**Alice Springs**	**42.77**	**270**	P		**P**	**22 41 21.1**	**-0.1**
	comp=Z,13nm,0.8s,mb4.7,baz=110,slow=7.5,SNR=79							
ASAR				pP		pP	22 41 33.3	+1.3
	comp=Z,9.5nm,0.8s,baz=109,slow=7.6,SNR=8.9							
ASAR				S		**S**	**22 47 41.1**	**-1.6**
	comp=Z,1.4nm,1.1s,baz=121,slow=15,SNR=6.9							
WB2	**Warramunga Arr**	**44.00**	**275**	*e*P		**P**	**22 41 30.9**	**-0.3**
WRAB	**Tennant Creek**	**44.01**	**275**	*e*P		**P**	**22 41 30.8**	**-0.4**
WRAB				*e**PP		pP	22 41 42.8	+0.7
WRAB				pmax		pmax		
	comp=Z,19nm,0.7s,mb4.9							
WRAB	**Tennant Creek**	**44.01**	**275**	*e*P		**P**	**22 41 30.8**	**-0.4**
	comp=Z,19nm,0.7s,mb4.9							
WRAB				*e*pP		pP	22 41 42.8	+0.8
WRA	**Warramunga Arr**	**44.01**	**275**	P		**P**	**22 41 31.0**	**-0.3**
	comp=Z,20nm,0.7s,mb5.0,baz=116,slow=7.5,SNR=114							
WRA				pP		pP	22 41 42.8	+0.6
	comp=Z,11nm,0.8s,baz=116,slow=7.7,SNR=10.0							
FORT	**Forrest**	**45.15**	**258**	*e*P		**P**	**22 41 39.8**	**-0.4**
	comp=Z,19nm,0.7s,mb5.0							
SBA	**Scott Base**	**45.27**	**184**	*e*P		**P**	**22 41 42.8**	**+2.2**
SBA				*e**PP		pP	22 41 53.7	+2.3
SBA				pmax		pmax		
	comp=Z,4.0nm,0.9s,mb4.2							
SBA	**Scott Base**	**45.27**	**184**	*e*P		**P**	**22 41 42.8**	**+2.2**
	comp=Z,4.0nm,0.9s,mb4.2							
SBA				*e*pP		pP	22 41 53.7	+2.3
KAKA	**Kakadu**	**49.21**	**282**	*e*P		**P**	**22 42 03.3**	**-8.8**
	comp=Z,8.8nm,0.6s,mb5.0							
CASY	**Casey**	**52.59**	**209**	*e*P		**P**	**22 42 36.8**	**+0.1**
	comp=Z,36nm,0.5s,mb5.6							
CASY				*e*pP		pP	22 42 49.3	+1.5
KLBR	**Kellerberrin**	**53.25**	**253**	*e*P		**P**	**22 42 41.3**	**-0.9**
	comp=Z,56nm,1.8s,mb5.2							
QSPA	**South Pole Qui**	**56.95**	**180**	P		**P**	**22 43 08.9**	**+0.8**
	comp=Z,1.6nm,0.4s,mb4.4,baz=73,slow=3.8,SNR=6.9							
QSPA				pP		pP	22 43 22.3	+3.0
	comp=Z,12nm,0.7s,baz=36,slow=2.6,SNR=13							
QSPA	**South Pole Qui**	**56.95**	**180**	*e*P		**P**	**22 43 10.0**	**+1.8**
	comp=Z,11nm,0.6s,mb5.0							
QSPA				*e*pP		pP	22 43 21.9	+2.6
MAW	**Mawson**	**69.64**	**201**	P		**P**	**22 44 33.5**	**+1.2**
	comp=Z,3.4nm,0.7s,mb4.4,baz=135,slow=6.4,SNR=5.1							
SYO	**Syowa Base**	**74.37**	**193**	*e*P		**P**	**22 45 00.2**	**-0.4**
KSM	**Kuching**	**75.30**	**282**	P		**P**	**22 45 06.2**	**-0.7**
SNAA	**Sanae**	**75.41**	**179**	*e*		**P**	**22 45 06.0**	**-0.6**
SNAA				*e*		pP	22 45 19.6	+1.6
SNAA				*e*			22 45 29.0	
SNAA				*e*			22 45 33.9	
SNAA	**Sanae**	**75.41**	**179**	*e*P		**P**	**22 45 06.4**	**-0.2**
SNAA				*e*		pP	22 45 19.3	+1.3
SNAA				pmax		pmax		
	comp=Z,3.0nm,0.8s							
SNAA	**Sanae**	**75.41**	**179**	*e*P		**P**	**22 45 06.4**	**-0.2**
	comp=Z,3.0nm,0.8s,mb4.3							
SNAA				*e*PcP		PcP	22 45 19.3	-0.3
VNA3	**Neumayer Olymp**	**75.57**	**176**	*e*		**P**	**22 45 07.1**	**-0.4**
VNA3				*e*		pP	22 45 20.8	+1.8
VNA3				*e*			22 45 32.6	
VNA2	**Neumayer--Watz**	**76.00**	**177**	*e*		**P**	**22 45 10.0**	**0.0**
	baz=174,slow=5.2							
VNA2				*e*		pP	22 45 23.8	+2.3
VNA2				*e*			22 45 35.3	
VNA2				*e*			22 45 40.0	
VNA1	**Neumayer--Stat**	**76.23**	**177**	*e*		**P**	**22 45 11.8**	**+0.5**
VNA1				*e*		pP	22 45 25.5	+2.7
VNA1				*e*			22 45 36.9	
VNA1				*e*			22 45 42.1	
PLCA	**Paso Flores**	**80.82**	**133**	*e*P		**P**	**22 45 37.1**	**0.0**
CFAA	**Coronel Fontan**	**87.80**	**127**	P		**P**	**22 46 11.8**	**-0.9**
	comp=Z,0.5nm,0.7s,mb3.8,baz=266,slow=5.1,SNR=7.2							
NVAR	**Mina Array Bea**	**90.44**	**43**	P		**P**	**22 46 24.5**	**-0.2**
	comp=Z,1.0nm,0.8s,mb4.2,baz=220,slow=8.0,SNR=7.4							
NVAR	**Mina Array Bea**	**90.44**	**43**	P		**P**	**22 46 24.5**	**-0.2**
MDJ	**Mudanjiang**	**90.75**	**326**	P		**P**	**22 46 24.2**	**-1.8**
MSU	**Marysvale**	**94.09**	**46**	*e*P		**P**	**22 46 42.8**	**+1.2**
BILL	**Bilibino**	**101.56**	**354**	P		Pdif	22 47 21.0	+5.7
BILL				pmax		pmax		
	comp=Z,8.0nm,1.2s							
MKAR	**Makanchi Array**	**119.32**	**309**	PKP		PKPdf	22 52 11.1	-1.0
	comp=Z,1.5nm,0.7s,baz=98,slow=2.5,SNR=9.5							
MKAR				pPKP		pPKPdf	22 52 24.1	-0.1
	comp=Z,0.9nm,0.8s,baz=191,slow=1.2,SNR=3.7							
ZALV	**Zalesovo Beam**	**119.90**	**317**	PKP		PKPdf	22 52 11.9	-1.0
	comp=Z,0.4nm,0.4s,baz=68,slow=0.8,SNR=4.8							
KURK	**Kurchatov**	**122.74**	**313**	*e*PKIKP		PKPdf	22

baz=0.5,SNR=355
PACP Pacheco Peak 0.57 135 ⇑P **Pg 22 54 35.7 +0.4**
baz=0.6,SNR=596
SAO San Andreas Ge 0.70 157 *e*Pg **Pg 22 54 38.7 +0.9**
FARB Farallon Islan 1.00 287 ⇓P **Pg 22 54 42.6 -0.9**
baz=1.0,SNR=49
FARB ⇓S **Sg 22 54 56.1 -0.4**
baz=1.0
CVS Carmenet Viney 1.07 331 ⇓P **Pg 22 54 43.6 -1.1**
baz=1.1,SNR=328
R04C Big Horse Ranc 1.08 39 ⇑P **Pb 22 54 43.6 -1.3**
baz=1.1,SNR=172
R04C ⇓S **Sg 22 54 58.3 -0.6**
baz=1.1
MCCM Marconi Confer 1.13 311 P **Pb 22 54 44.6 -1.1**
baz=1.1,SNR=463
MCCM ⇑S **Sb 22 55 00.3 -0.1**
baz=1.1
MCCM Marconi Confer 1.13 311 *e*Pb **Pb 22 54 44.6 -1.1**
MCCM *e*Sn **Sn 22 55 01.0 -0.5**
S05C Merced 1.17 93 P **Pb 22 54 45.4 -1.0**
baz=1.2,SNR=196
S05C ⇑S **Sb 22 55 01.2 -0.2**
baz=1.2
Q03C Winters 1.23 352 ⇓P **Pn 22 54 46.2 -1.1**
baz=1.2
CMB Columbia Colle 1.27 61 ⇑P **Pn 22 54 47.2 -0.7**
baz=1.3,SNR=281
CMB ⇓S **Sb 22 55 04.5 -0.1**
baz=1.3
CMB Columbia Colle 1.27 61 *e*Pg **Pg 22 54 47.4 -1.2**
CMB *e*Sn **Sn 22 55 02.0 -3.0**
NSHM Saint Helena R 1.28 330 *e*Pn **Pn 22 54 46.6 -1.4**
NSHM *e*S **Sb 22 55 05.5 +0.8**
U04C Hernandez Rese 1.32 142 P **Pn 22 54 47.7 -0.9**
baz=1.3,SNR=408
V03C Hunter Liggett 1.46 162 ⇓P **Pn 22 54 49.7 -0.8**
baz=1.5,SNR=71
MNRC McLaughlin Nat 1.55 341 ⇑P **Pn 22 54 50.7 -1.0**
baz=1.5
LAVA Lava Cap Winer 1.57 31 ⇓P **Pn 22 54 51.4 -0.6**
baz=1.6,SNR=61
T06C Millerton Lake 1.71 103 P **Pn 22 54 53.1 -0.8**
baz=1.7,SNR=195
PKD Parkfield 1.78 145 ⇑P **Pn 22 54 54.1 -0.7**
baz=1.8,SNR=88
PKD ⇓S **Sn 22 55 17.5 +0.1**
baz=1.8
HOPS Hopland 1.87 328 ⇑P **Pn 22 54 54.9 -1.2**
baz=1.9,SNR=17
HOPS Hopland 1.87 328 *e*Pn **Pn 22 54 55.1 -1.0**
OHCM Honcut 1.93 7 *e*Pn **Pn 22 54 55.6 -1.4**
KCC Kaiser Creek 1.97 92 ⇑P **Pn 22 54 57.5 0.0**
baz=2.0,SNR=227
ORV Oroville 2.15 6 ⇓P **Pn 22 54 58.9 -1.1**
baz=2.1
WAKR Walker 2.15 59 *e*Pn **Pn 22 55 01.6 +1.6**
SMMC Simmler 2.55 145 ⇓P **Pn 22 55 04.8 -0.6**
baz=2.6,SNR=6.2
MTUM Tungsten Hills 2.57 90 *e*Pn **Pn 22 55 07.4 +1.6**
KCPM Cahto Peak 2.67 329 *e*Pn **Pn 22 55 07.1 +0.1**
KCPM *e*Pg **Pg 22 55 17.9 +2.6**
VES Vestal, Richgr 2.69 125 P **Pn 22 55 06.7 -0.6**
baz=2.7,SNR=29
KIPM Iron Peak 2.73 332 *e*Pn **Pn 22 55 08.4 +0.5**
KIPM *e*Pg **Pg 22 55 17.9 +1.3**
KIPM Sn **Sn 22 55 41.3 +0.3**
NVAR Mina Array Bea 2.94 69 Pn **Pn 22 55 11.5 +0.7**
2.1nm,0.3s,baz=247,slow=15,SNR=27
NVAR Pg **Pg 22 55 16.4 -4.1**
12nm,0.3s,baz=252,slow=21,SNR=74
NVAR Lg 22 55 56.6
20nm,0.3s,baz=243,slow=26,SNR=5.2
PAHR Pah Rah Range 2.97 39 *e*Pn **Pn 22 55 12.5 +1.4**
PKM Peak Mountain 2.98 147 ⇓P **Pn 22 55 10.8 -0.5**
baz=3.0,SNR=104
ISA Isabella 3.19 122 ⇑P **Pn 22 55 14.4 +0.1**
baz=3.2,SNR=42
ISA Isabella 3.19 122 *e*Pn **Pn 22 55 13.3 -1.0**
WDC Whiskeytown Da 3.21 350 *e*Pn **Pn 22 55 13.3 -1.3**
TPH Tonopah 3.68 78 *e*Pb **Pb 22 55 30.0 +0.8**
PASC Pasadena Art C 4.37 137 *e*Pn **Pn 22 55 31.3 +0.9**
PASC *e*Pg **Pg 22 55 46.8 -0.9**
PASC Sn **Sn 22 56 21.4 +0.1**
YBH Yreka Blue Hor 4.37 351 Pn **Pn 22 55 33.3 +2.8**
1.0nm,0.3s,baz=190,slow=7.6,SNR=9.5
YBH Sn **Sn 22 56 22.9 +1.6**
0.5nm,0.3s,baz=172,slow=9.5,SNR=4.1
YBH Yreka Blue Hor 4.37 351 *e*Pn **Pn 22 55 34.5 +4.1**
MWC Mount Wilson 4.40 135 *e*Pn **Pn 22 55 34.0 +3.1**
KRMB Red Mountain 4.42 339 *e*Pn **Pn 22 55 33.2 +2.1**
KRMB *e*Sn **Sn 22 56 23.9 +1.4**
TPNV Topopah Spring 4.45 94 *e*Pn **Pn 22 55 33.8 +2.2**
GSC Goldstone 4.54 116 *e*Pn **Pn 22 55 33.2 +0.4**
SNCC San Nicolas Is 4.55 155 *e*Pn **Pn 22 55 31.9 -1.0**
MOD Modoc 4.63 14 *e*Pn **Pn 22 55 33.1 -0.9**
BMN Battle Mountai 4.67 48 *e*Pn **Pn 22 55 34.5 0.0**
HUMO Hull Mountain 5.26 351 *e*Pn **Pn 22 55 41.6 -1.1**
SHPR Sheep Range 5.39 98 *e*Pn **Pn 22 55 46.5 +2.0**
PFO Pinyon Flat Ob 5.78 130 *e*Pn **Pn 22 55 52.7 +2.9**
BELC Belle Mtn. 5.81 124 ⇑P **Pn 22 55 49.7 -0.6**
baz=5.8,SNR=16
ELK Elko 6.08 55 Pn **Pn 22 55 55.7 +1.7**
0.3nm,0.3s,baz=246,slow=18,SNR=4.6
ELK Lg 22 57 36.5
1.7nm,0.3s,baz=106,slow=2.3,SNR=15
ELK Elko 6.08 55 *e*Pn **Pn 22 55 53.2 -0.9**
6.1nm,0.7s
ELK *e*Pg **Pg 22 56 14.1 -6.6**
ELK *e*Sn **Sn 22 57 08.8 +5.1**
ELK *e*Sg **Sg 22 57 35.4 -4.1**
ELK Lg 22 57 36.5
WUAZ Wupatki 8.60 100 *e*Pn **Pn 22 56 30.1 +1.5**
PDAR Pinedale Array 10.79 56 Pn **Pn 22 57 03.8 +5.3**
0.2nm,0.3s,baz=220,slow=14,SNR=5.7
TXAR Lajitas Array 17.13 113 Pn **Pn 22 58 26.9 +3.3**
0.0nm,0.3s,baz=287,slow=7.2,SNR=5.4

*CSEM **31** 23:09:37.4, 3689N×2781E, h7km, MD3.1, After ERD*
*DDA **31** 23:09:37.4, 3689N×2781E, h7km±5km, Md3.1*
*ISCJB **31** 23:09:39.8±0.7, 3685N±004×2752E±004, h13km±4km, Error ellipse: s-maj=6.7km s-min=4.6km az=40.2*
*ATH **31** 23:09:39.7, 3685N×2752E, h28km±4km, MD3.5/5*
*ISK **31** 23:09:40.1, 3689N×2755E, h13km, MD3.4*
ISC 31 23:09:40.2±0.7, 3684N±004×2750E±004, h13km±4km, n25, σ0°80/33, 2C, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BDRM	**Kayabasi**	**0.23**	**349**	⇑*i* P	**Pg**	**23 09 45.0**	**-0.2**
BDRM				*i* S	**Sg**	**23 09 49.3**	**+0.7**
BODT	**Bodrum**	**0.27**	**326**	PG	**Pg**	**23 09 45.8**	**-0.1**
BODT				*e*SG	**Sg**	**23 09 50.8**	**+1.1**
MLSB	**Milas**	**0.51**	**26**	*e*PG	**Pg**	**23 09 49.0**	**-1.2**
MLSB				*e*SG	**Sg**	**23 09 56.2**	**-0.7**
ARG	**Arkhangelos**	**0.80**	**141**	*e*PN	**Pn**	**23 09 55.2**	**-1.9**
ARG				*e*SN	**Sn**	**23 10 07.4**	**-1.5**
TURN	**Turunc**	**0.89**	**88**	⇑*i* P	**Pg**	**23 09 50.3**	**-7.0**
TURN				*i* S	**Sg**	**23 09 58.8**	**-10**
DALT	**Dalyan (Mudla)**	**0.92**	**94**	*e*PG	**Pg**	**23 09 57.2**	**-0.7**
DALT				*e*SG	**Sg**	**23 10 10.3**	**+0.4**
SMG	**Samos**	**1.01**	**329**	*e*PN	**Pn**	**23 09 59.3**	**-0.8**
SMG				*e*SN	**Sn**	**23 10 14.2**	**0.0**
KARP	**Karpathos**	**1.32**	**192**	*e*PN	**Pn**	**23 10 04.2**	**-0.1**
KARP				*e*SN	**Sn**	**23 10 22.5**	**+0.8**
DENT	**Denizli**	**1.52**	**53**	*e*PN	**Pn**	**23 10 07.2**	**+0.1**
IZM	**Izmir**	**1.57**	**353**	*e*PN	**Pn**	**23 10 07.0**	**-0.7**
KDAG	**Bornova**	**1.57**	**353**	*i* P	**Pn**	**23 10 07.0**	**-0.7**
BLCB	**Balcova**	**1.58**	**347**	*e*PN	**Pn**	**23 10 07.4**	**-0.6**
APE	**Apeiranthos**	**1.59**	**279**	*e*PN	**Pn**	**23 10 08.3**	**+0.3**
URLA	**Izmir**	**1.68**	**335**	*i* P	**Pg**	**23 10 12.0**	**-0.4**
MANT	**Manisa**	**1.85**	**27**	*i* P	**Pg**	**23 10 15.2**	**-0.5**
KULA	**Kula-Manisa**	**1.91**	**29**	*e*PN	**Pn**	**23 10 12.1**	**-0.3**
ELL	**Elmali**	**1.94**	**92**	*e*PN	**Pn**	**23 10 13.6**	**+0.9**
AKS	**Akhisar**	**2.05**	**7**	*e*PN	**Pn**	**23 10 14.4**	**+0.1**
KHL	**Karahalli**	**2.19**	**47**	*e*PN	**Pn**	**23 10 16.6**	**+0.4**
ANTB	**Antalya**	**2.53**	**88**	*e*PN	**Pn**	**23 10 22.0**	**+1.1**
BCK	**Bucak**	**2.54**	**75**	*e*PN	**Pn**	**23 10 22.1**	**+1.0**
PRK	**Paraskevi**	**2.59**	**338**	*e*PN	**Pn**	**23 10 22.0**	**+0.3**
DST	**Dursunbey**	**2.90**	**17**	*e*PN	**Pn**	**23 10 26.4**	**+0.4**
SHUT	**Suhut-Afyon**	**2.96**	**54**	*e*PN	**Pn**	**23 10 27.7**	**+0.8**
HDMB	**Hadim**	**4.00**	**87**	*e*PN	**Pn**	**23 10 42.8**	**+1.7**

*ISCJB **31** 23:15:53.6±1.3, 505S×004×10099E±005, h7km±8km, mb4.8/60, MS4.0/13, Error ellipse: s-maj=8.5km s-min=6.2km az=157.3*
*BJI **31** 23:15:56.0, 540S×10086E, h44km, mB5.0, mb4.9, Ms4.6, Ms2.4*
*DJA **31** 23:15:56, 503S×10081E, h10km, Mw5.3/10*
*MOS **31** 23:15:57.2±1.1, 502S×10101E, h33km, mb5.0/20, Error ellipse: s-maj=13.2km s-min=7.5km az=106.8*
*NEIC **31** 23:15:59.3±0.2, 503S×10103E, h35km, mb4.9/29, Error ellipse: s-maj=8.1km s-min=4.6km az=52.0*
*IDC **31** 23:16:00.0±0.7, 501S×10103E, h40km±5km, mb4.4/16, mb1 4.5/17, mb1mx4.3/22, mbtmp4.4/17, MS3.7/5, Ms1 3.7/5, ms1mx3.3/23, Error ellipse: s-maj=19.1km s-min=12.0km az=53.0*
ISC 31 23:15:56.6±1.4, 509S±004×10096E±005, h16km±8km, h38km±1.4km: pP-P, n133, σ1°02/133, mb4.8/60, MS4.0/13, 16C-9D, Southwest of Sumatera

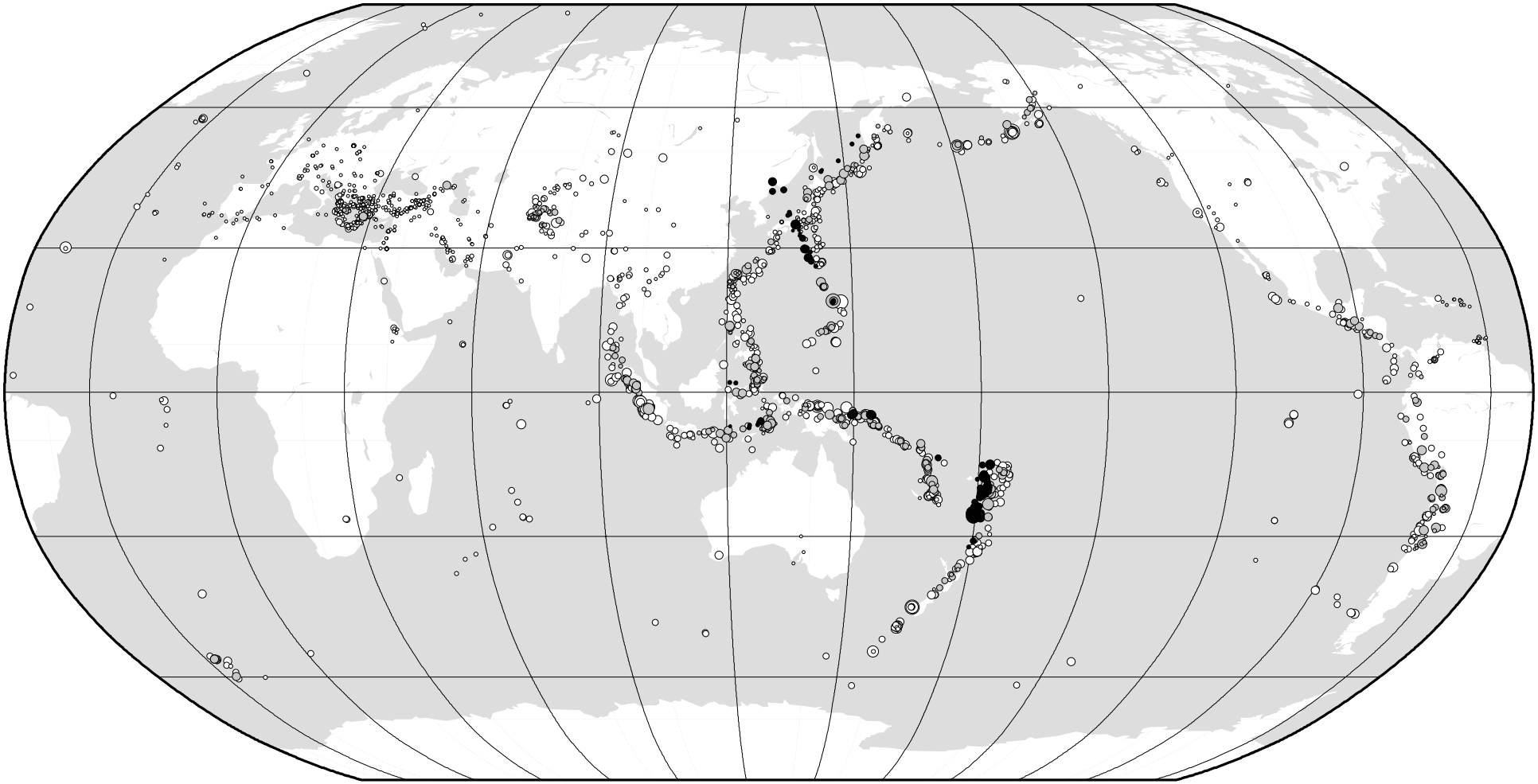
Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MYKOM	**Kota Tinggi**	**7.42**	**23**	⇑P	**Pn**	**23 17 44.3**	**0.0**
COCO	**West Island**	**8.15**	**210**	*e*Pn	**Pn**	**23 17 51.7**	**-2.7**
FRIM	**Kepong**	**8.30**	**5**	⇓P	**Pn**	**23 17 55.2**	**-1.2**
IPM	**Ipoh**	**9.51**	**0**	⇑P	**Pn**	**23 18 13.3**	**+0.3**
KULM	**Kulim**	**10.31**	**358**	⇑P	**Pn**	**23 18 22.9**	**-1.2**
KTGM	**Kuala Trenggan**	**10.57**	**12**	⇓P	**Pn**	**23 18 29.1**	**+1.5**
SBUM	**Sibu**	**13.51**	**57**	⇑P	**Pn**	**23 19 11.6**	**+3.8**
KAPI	**Kappang**	**18.71**	**91**	P	**Pn**	**23 20 12.9**	**-2.3**
	0.4nm,0.3s,baz=244,slow=13,SNR=3.6						
KKM	**Kota Kinabalu**	**18.82**	**54**	⇑P	**Pn**	**23 20 17.1**	**+0.7**
KKM	**Kota Kinabalu**	**18.82**	**54**	*e*P	**Pn**	**23 20 15.9**	**-0.5**
TSM	**Tawau**	**19.29**	**61**	⇓P	**Pn**	**23 20 24.9**	**+2.8**
SDKM	**Sandakan**	**19.40**	**57**	⇑P	**Pn**	**23 20 24.1**	**+0.7**
MYLDM	**Lahad Datu**	**20.27**	**60**	⇓P	**P**	**23 20 33.9**	**+2.2**
KKTK	**Khon Kaen**	**21.37**	**5**	P	**P**	**23 20 42.0**	**-1.5**
BDT	**Bhumibol Dam**	**22.28**	**355**	P	**P**	**23 20 51.0**	**-2.3**
BATI	**Baumata**	**23.06**	**104**	P	**P**	**23 21 00.9**	**-0.8**
	42nm,0.6s,mb5.1,baz=301,slow=1.5,SNR=18						
CM31	**Chiang Mai Arr**	**23.48**	**355**	*e*P	**P**	**23 21 05.5**	**-0.5**
CMAR	**Chiang Mai Arr**	**23.48**	**355**	P	**P**	**23 21 05.0**	**-1.1**
	10nm,0.8s,mb4.3,baz=188,slow=8.8,SNR=56						
CMAR				LR	LR	23 31 34.1	
	comp=Z,133nm,20.1s,MS3.4,baz=174,slow=40						
CHG	**Chiang Mai**	**23.84**	**355**	⇑P	**P**	**23 21 08.8**	**-0.5**
	14nm,0.7s,mb4.5						
CHTO	**Chiang Mai**	**23.84**	**355**	*e*P	**P**	**23 21 08.4**	**-0.9**
CHTO				pmax	pmax		
	comp=Z,11nm,0.9s,mb4.3						
CHTO	**Chiang Mai**	**23.84**	**355**	*e*P	**P**	**23 21 08.4**	**-0.9**
	comp=Z,11nm,0.9s,mb4.3						
MBWA	**Marble Bar**	**24.22**	**133**	*e*P	**P**	**23 21 13.5**	**+0.6**
QIZ	**Qiongzhong**	**25.51**	**20**	P	**P**	**23 21 26.3**	**+1.7**
QIZ				S	**S**	**23 25 52.8**	**+1.2**
QIZ				XS	sS	23 26 10.0	+11
QIZ				AMB	AMB		
	comp=Z,47nm,2.3s,mb4.6						
QIZ				AMB	AMB		
	comp=Z,228nm,3.1s						
QIZ				LR	LR		
	comp=E,621nm,12.1s						
QIZ				LR	LR		
	comp=Z,490nm,11.6s,MS4.3						
DAV	**Davao City (W)**	**27.38**	**64**	LR	LR	23 33 25.3	
	comp=Z,67nm,19.4s,MS3.2,baz=232,slow=38						
KMI	**Kunming**	**30.08**	**3**	P	**P**	**23 22 06.8**	**+1.4**
KMI				AMB	AMB		
	comp=Z,17nm,0.8s,mb4.8						
KMI				LR	LR		
	comp=Z,205nm,19.2s,MS3.8						
HYB	**Hyderabad**	**31.46**	**316**	*e*P	**P**	**23 22 18.5**	**+0.7**
NWAO	**Narrogin (SRO)**	**31.58**	**153**	P	**P**	**23 22 18.8**	**+0.1**
	comp=Z,8.6nm,0.8s,mb4.6,baz=335,slow=5.7,SNR=3.8						
NWAO	**Narrogin (SRO)**	**31.58**	**153**	*e*P	**P**	**23 22 19.4**	**+0.8**
SHL	**Shillong**	**31.72**	**344**	*e*P	**P**	**23 22 21.5**	**+1.6**
KAKA	**Kakadu**	**31.98**	**106**	*e*P	**P**	**23 22 12.8**	**-10**
	comp=Z,7.4nm,0.6s,mb4.7						
ODAN	**Odare**	**34.37**	**338**	*e*P	**P**	**23 22 44.2**	**+1.1**
TAPN	**Taplejung**	**34.70**	**339**	*e*P	**P**	**23 22 47.0**	**+1.1**
	comp=Z,38nm,0.9s,mb5.3						
RAMN	**Ramite**	**34.75**	**337**	*e*P	**P**	**23 22 47.6**	**+1.2**
	comp=Z,17nm,0.6s,mb5.1						
JIRN	**Jiri**	**35.55**	**337**	*e*P	**P**	**23 22 54.2**	**+1.0**
	comp=Z,34nm,0.7s,mb5.4						
WRA	**Warramunga Arr**	**35.66**	**117**	P	**P**	**23 22 54.0**	**-0.4**
	comp=Z,2.9nm,0.9s,mb4.2,baz=291,slow=9.9,SNR=11						
WRA				pP	pP	23 23 06.6	+7.4
	comp=Z,2.2nm,0.5s,baz=303,slow=9.0,SNR=6.6						
WRAB	**Tennant Creek**	**35.67**	**117**	*e*P	**P**	**23 22 54.0**	**-0.4**
WRAB				pmax	pmax		
	comp=Z,6.0nm,0.7s,mb4.6						
WRAB	**Tennant Creek**	**35.67**	**117**	*e*P	**P**	**23 22 54.0**	**-0.4**
	comp=Z,6.3nm,0.7s,mb4.7						
WB2	**Warramunga Arr**	**35.67**	**117**	*e*P	**P**	**23 22 54.0**	**-0.5**
LSA	**Lhasa**	**35.85**	**345**	P	**P**	**23 22 56.8**	**+1.0**
LSA				AMB	AMB		
	comp=Z,30nm,1.0s,mb5.2						
LSA	**Lhasa**	**35.85**	**345**	*e*P	**P**	**23 22 56.6**	**+0.8**
LSA				*e*		23 23 06.9	
LSA				pmax	pmax		
	comp=Z,16nm,1.1s,mb4.9						
LSA	**Lhasa**	**35.85**	**345**	*e*P	**P**	**23 22 56.6**	**+0.8**
	comp=Z,16nm,1.1s,mb4.9						
LSA				*e*		23 23 06.9	
GUN	**Gumba**	**35.89**	**337**	*e*P	**P**	**23 22 57.1**	**+0.9**
	comp=Z,21nm,0.5s,mb5.3						
CD2	**Chengdu**	**35.90**	**4**	P	**P**	**23 22 56.0**	**-0.2**
CD2				AP	pP	23 23 05.5	+4.6
CD2				XP	sP	23 23 09.8	+6.9
CD2				PP	PP	23 24 19.0	+1.1
CD2				S	**S**	**23 28 33.0**	**-0.7**
CD2				XS	sS	23 28 49.3	+7.7
CD2				SS	SS	23 30 57.8	-13
CD2				AMB	AMB		
	comp=Z,40nm,0.8s,mb5.4						
CD2				AMB	AMB		
	comp=Z,180nm,6.0s						
CD2				LR	LR		
	comp=N,490nm,14.4s,MS4.7						
CD2				LR	LR		
	comp=E,740nm,14.4s,MS4.7						
CD2				LR	LR		
	comp=Z,590nm,16.8s,MS4.4						
DMN	**Daman**	**35.93**	**336**	*e*P	**P**	**23 22 57.0**	**+0.5**
KKN	**Kakani**	**36.02**	**336**	*e*P	**P**	**23 22 57.7**	**+0.4**
	comp=Z,13nm,0.6s,mb5.0						
KKN	**Kakani**	**36.02**	**336**	*e*P	**P**	**23 22 57.7**	**+0.4**
KKN				pmax	pmax		
	comp=Z,13nm,0.6s,mb5.0						
GKN	**Gorkha**	**36.48**	**335**	*e*P	**P**	**23 23 01.3**	**+0.1**
	comp=Z,11nm,0.6s,mb5.0						
ASAR	**Alice Springs**	**36.71**	**123**	P	**P**	**23 23 03.1**	**-0.2**
	comp=Z,2.5nm,0.5s,mb4.3,baz=300,slow=7.9,SNR=40						
ASAR				PcP	PcP	23 25 25.9	0.0
	comp=Z,1.1nm,0.7s,baz=314,slow=2.8,SNR=4.8						
KOLN	**Koldanda**	**36.72**	**334**	*e*P	**P**	**23 23 03.9**	**+0.7**
	comp=Z,18nm,0.7s,mb5.0						
DANN	**Dangsing**	**37.15**	**334**	*e*P	**P**	**23 23 07.5**	**+0.6**
	comp=Z,24nm,0.8s,mb5.1						
WHN	**Wuhan**	**37.68**	**19**	P	**P**	**23 23 11.5**	**+0.2**
XAN	**Xi'an**	**39.64**	**10**	P	**P**	**23 23 27.0**	**-0.8**
XAN				AP	pP	23 23 36.5	+3.9
XAN				PP	PP	23 24 59.3	+0.3
XAN				S	**S**	**23 29 31.8**	**+1.4**
XAN				AMB	AMB		
	comp=Z,35nm,0.9s,mb5.1						
LZH	**Lanzhou**	**41.05**	**4**	*e*P	**P**	**23 23 40.5**	**+1.1**
LZH				AP	pP	23 23 52.0	+7.8
LZH				XP	sP	23 23 56.0	+10
LZH				PP	PP	23 25 19.0	+4.7
LZH				S	**S**	**23 29 50.0**	**-1.4**
LZH				XS	sS	23 30 08.0	+8.6
LZH				SS	SS	23 32 53.0	-1.1
LZH				AMB	AMB		
	comp=Z,32nm,1.0s,mb4.9						
LZH				AMB	AMB		
	comp=Z,120nm,4.3s						
LZH				LR	LR		
	comp=E,600nm,14.9s						
LZH				LR	LR		
	comp=Z,697nm,16.0s,MS4.6						
GTA	**Gaotai**	**44.29**	**359**	*e*P	**P**	**23 24 05.5**	**-0.2**
GTA				AP	pP	23 24 14.8	+4.2
GTA				XP	sP	23 24 19.3	+6.8
GTA				PCP	PcP	23 25 50.5	+0.6
GTA				PP	PP	23 25 53.0	+3.8
GTA				S	**S**	**23 30 40.0**	**+0.9**
GTA				XS	sS	23 30 57.0	+10
GTA				SS	SS	23 33 53.0	-4.8
GTA				AMB	AMB		
	comp=Z,6.0nm,1.4s,mb4.1						
GTA				AMB	AMB		
	comp=Z,128nm,9.6s						
GTA				LR	LR		
	comp=N,250nm,15.6s,MS4.4						
GTA				LR	LR		
	comp=E,222nm,14.1s,MS4.4						
GTA				LR	LR		
	comp=Z,313nm,15.3s,MS4.3						
STKA	**Stephens Creek**	**46.41**	**130**	*e*P	**P**	**23 24 23.2**	**+0.5**
	comp=Z,12nm,0.9s,mb4.8						
STKA	**Stephens Creek**	**46.41**	**130**	P	**P**	**23 24 23.3**	**+0.5**
	comp=Z,15nm,0.8s,mb5.0,baz=298,slow=8.0,SNR=24						
STKA				LR	LR	23 43 21.7	
	comp=Z,131nm,18.2s,MS3.9,baz=24,slow=35						
CTA	**Charters Tower**	**46.47**	**113**	*e*P	**P**	**23 24 21.2**	**-2.2**
	comp=Z,6.4nm,1.0s,mb4.5						
CTA	**Charters Tower**	**46.47**	**113**	*e*P	**P**	**23 24 21.2**	**-2.2**
CTA				pmax	pmax		
	comp=Z,6.0nm,1.0s						
CTAO	**Charters Tower**	**46.47**	**113**	*e*P	**P**	**23 24 23.9**	**+0.5**
CTAO				pmax	pmax		
	comp=Z,8.0nm,0.8s,mb4.7						
CTAO	**Charters Tower**	**46.47**	**113**	*e*P	**P**	**23 24 23.9**	**+0.5**
	comp=Z,7.5nm,0.8s,mb4.7						
HHC	**Hu-ho-hao-te**	**46.74**	**11**	⇑P	**P**	**23 24 26.0**	**+0.9**
HHC				AP	pP	23 24 37.8	+7.9
HHC				XP	sP	23 24 39.8	+7.9
HHC				PCP	PcP	23 25 57.0	-1.4
HHC				PP	PP	23 26 17.0	+1.9
HHC				SCP	ScP	23 29 47.0	-4.7
HHC				PCS	PcS	23 29 53.0	-0.1
HHC				S	**S**	**23 31 15.8**	**+1.4**
HHC				XS	sS	23 31 32.3	+10
HHC				SCS	ScS	23 34 14.0	-5.5
HHC				SS	SS	23 34 38.5	-2.6
HHC				AMB	AMB		
	comp=Z,20nm,1.1s,mb5.0						
HHC				AMB	AMB		
	comp=Z,97nm,5.6s						
HHC				LR	LR		
	comp=N,339nm,14.0s,MS4.6						
HHC				LR	LR		
	comp=E,321nm,13.4s,MS4.6						
HHC				LR	LR		
	comp=Z,350nm,13.7s,MS4.5						
BJT	**Baijiatuau**	**47.02**	**16**	*e*P	**P**	**23 24 27.3**	**0.0**
BJT				pmax	pmax		
	comp=Z,20nm,0.6s						
BJT	**Baijiatuau**	**47.02**	**16**	*e*P	**P**	**23 24 27.3**	**0.0**
	comp=Z,20nm,0.6s,mb5.2						
KSRS	**Korea Array**	**49.22**	**28**	P	**P**	**23 24 43.6**	**-0.7**
	comp=Z,4.5nm,0.8s,mb4.5,baz=215,slow=8.3,SNR=8.3						
KSRS				pP	pP	23 24 55.5	+6.2
	comp=Z,4.2nm,1.0s,baz=213,slow=7.9,SNR=5.3						
KSRS				sP	sP	23 25 01.1	+10
	comp=Z,5.5nm,0.8s,baz=212,slow=7.7,SNR=5.5						
KSRS				LR	LR	23 46 04.4	
	comp=Z,34nm,18.7s,MS3.4,baz=229,slow=37						
KBL	**Kabul**	**49.59**	**325**	*e*P	**P**	**23 24 45.5**	**-1.8**
KBL				*e*		23 24 58.2	
KBL				pmax	pmax		
	comp=Z,3.0nm,1.0s,mb4.3						
KBL	**Kabul**	**49.59**	**325**	*e*P	**P**	**23 24 45.5**	**-1.8**
	comp=Z,3.4nm,1.0s,mb4.3						
KBL				*e*		23 24 58.2	
WMQ	**Urumqi**	**50.14**	**348**	⇑P	**P**	**23 24 51.8**	**+0.6**
WMQ				AP	pP	23 25 01.8	+5.7
WMQ				XP	sP	23 25 06.3	+8.3
WMQ				PCP	PcP	23 26 11.8	+1.2
WMQ				PP	PP	23 26 47.8	+1.2
WMQ				PPP		23 27 44.8	
WMQ				SCP	ScP	23 30 02.8	-3.2
WMQ				PCS	PcS	23 30 06.3	-1.1
WMQ				S	**S**	**23 32 00.3**	**-2.0**
WMQ				XS	sS	23 32 16.8	+6.4
WMQ				SCS	ScS	23 34 37.3	-4.8
WMQ				AMB	AMB		
	comp=Z,43nm,0.7s,mb5.6						
WMQ				LR	LR		
	comp=N,52nm,17.8s,MS3.8						
WMQ				LR	LR		
	comp=E,66nm,19.0s,MS3.8						
WMQ				LR	LR		
	comp=Z,48nm,16.6s,MS3.6						
EIDS	**Eidsvold**	**52.02**	**118**	*e*P	**P**	**23 25 06.8**	**+1.0**
	comp=Z,66nm,1.4s,mb5.4						
SONM	**Songino Array**	**52.91**	**5**	P	**P**	**23 25 12.5**	**+0.6**
	comp=Z,21nm,1.0s,mb5.0,baz=184,slow=8.7,SNR=114						
SONM				PcP	PcP	23 26 21.1	+0.2
	comp=Z,3.5nm,0.7s,baz=185,slow=4.4,SNR=7.3						
ULN	**Ulaanbaatar**	**53.00**	**5**	*e*P	**P**	**23 25 13.3**	**+0.7**
ULN				pmax	pmax		
	comp=Z,13nm,0.9s,mb4.9						
ULN	**Ulaanbaatar**	**53.00**	**5**	*e*P	**P**	**23 25 13.3**	**+0.7**
	comp=Z,13nm,0.9s,mb4.9						
TKM2	**Tokmak 2**	**53.03**	**337**	*e*P	**P**	**23 25 12.3**	**-0.6**
TKM2				pmax	pmax		
	comp=Z,6.0nm,0.8s,mb4.6						
TKM2	**Tokmak 2**	**53.03**	**337**	*e*P	**P**	**23 25 12.3**	**-0.6**
	comp=Z,6.2nm,0.8s,mb4.6						
AML	**Almayashu**	**53.15**	**335**	*e*P	**P**	**23 25 13.7**	**-0.1**
	comp=Z,3.2nm,0.7s,mb4.4						
AML				*e*		23 25 24.7	
CN2	**Changchun**	**53.44**	**22**	*e*P	**P**	**23 25 15.0**	**-0.9**
CN2				*e*AP	pP	23 25 25.0	+4.1
CN2				*e*S	**S**	**23 32 45.8**	**-2.0**
CN2				AMB	AMB		
	comp=Z,20nm,1.1s,mb5.0						
CN2				AMB	AMB		
	comp=Z,200nm,5.0s						
CN2				LR	LR		
	comp=N,310nm,15.0s,MS4.5						
CN2				LR	LR		
	comp=E,190nm,15.0s,MS4.5						
CN2				LR	LR		
	comp=Z,280nm,15.0s,MS4.4						
EKS2	**Erkin-Say**	**53.55**	**335**	*e*P	**P**	**23 25 16.7**	**0.0**
	comp=Z,12nm,0.8s,mb4.9						
MAT	**Matsushiro**	**54.10**	**37**	P	**P**	**23 25 19.1**	**-1.8**
MJAR	**Matsushiro Arr**	**54.10**	**37**	P	**P**	**23 25 19.2**

	comp=E,4.0nm,1.2s							
BRVK	**Borovoye**	**63.46**	**340**		*e*P	**P**	**23 26 24.5**	**-1.2**
BRVK					pmax	pmax		
	comp=Z,22nm,1.5s,mb5.1							
BRVK	**Borovoye**	**63.46**	**340**		*e*P	**P**	**23 26 24.5**	**-1.1**
	comp=Z,22nm,1.5s,mb5.1							
BOD	**Bodaibo**	**63.58**	**8**		*e*P	**P**	**23 26 25.8**	**-0.6**
BOD					pmax	pmax		
	comp=Z,11nm,0.9s,mb4.9							
YSS	**Yuzh-Sakhalins**	**63.60**	**31**		*e*P	**P**	**23 26 27.2**	**+0.4**
YSS					pmax	pmax		
	comp=Z,15nm,0.3s,mb5.5							
YSS	**Yuzh-Sakhalins**	**63.60**	**31**		*e*P	**P**	**23 26 27.2**	**+0.4**
	comp=Z,15nm,0.3s,mb5.5							
MAW	**Mawson**	**67.55**	**195**		LR	LR	23 52 08.1	
	comp=Z,146nm,18.2s,MS4.2,baz=60,slow=32							
SVE	**Sverdlovsk**	**69.89**	**338**	↑	*e*P	**P**	**23 27 06.7**	**+0.1**
SVE					pmax	pmax		
	comp=Z,15nm,0.9s,mb4.9							
ARU	**Arti**	**70.41**	**337**		*d i*P	**P**	**23 27 09.3**	**-0.5**
ARU					*e*S	S	23 36 19.3	-2.5
ARU					*e*SS	SS	23 40 43.4	-10
ARU					pmax	pmax		
	comp=Z,17nm,1.7s,mb4.7							
ARU	**Arti**	**70.41**	**337**		*e*P	**P**	**23 27 07.8**	**-2.0**
	comp=Z,17nm,1.3s,mb4.8							
YAK	**Yakutsk**	**70.48**	**14**		*e*P	**P**	**23 27 07.1**	**-3.1**
YAK					pmax	pmax		
	comp=Z,31nm,0.9s,mb5.2							
YAK					pmax	pmax		
	comp=N,10.0nm,1.1s							
MATP	**Matopo**	**71.82**	**250**		P	**P**	**23 27 20.0**	**+0.8**
	comp=N,4.0nm,0.9s,mb4.3,baz=83,slow=8.8,SNR=7.8							
LSZ	**Lusaka**	**72.08**	**256**		*e*P	**P**	**23 27 21.6**	**+0.8**
LSZ					pmax	pmax		
	comp=Z,2.0nm,0.9s,mb4.0							
LSZ	**Lusaka**	**72.08**	**256**		*e*P	**P**	**23 27 21.6**	**+0.8**
	comp=Z,2.1nm,0.9s,mb4.1							
LBTB	**Lobatse**	**74.61**	**246**		*e*P	**P**	**23 27 35.0**	**-0.6**
BOSA	**Boshof**	**75.04**	**242**		P	**P**	**23 27 38.5**	**+0.5**
	comp=Z,4.8nm,1.1s,mb4.4,baz=152,slow=2.6,SNR=3.9							
BOSA	**Boshof**	**75.04**	**242**		*e*P	**P**	**23 27 38.2**	**+0.2**
BOSA					pmax	pmax		
	comp=Z,10.0nm,1.2s,mb4.6							
BOSA	**Boshof**	**75.04**	**242**		*e*P	**P**	**23 27 38.2**	**+0.2**
	comp=Z,9.7nm,1.2s,mb4.6							
SEY	**Seymchan**	**78.12**	**21**	↑	*e*P	**P**	**23 27 55.5**	**+0.8**
TIXI	**Tiksi**	**78.74**	**9**		*e*P	**P**	**23 27 56.4**	**-1.5**
TIXI					pmax	pmax		
	comp=Z,11nm,1.0s,mb4.7							
TIXI	**Tiksi**	**78.74**	**9**		*e*P	**P**	**23 27 56.6**	**-1.4**
	comp=Z,21nm,1.4s,mb4.9							
SUR	**Sutherland**	**78.98**	**238**		*e*P	**P**	**23 28 02.1**	**+2.0**
OBN	**Obninsk**	**79.91**	**328**	↓	*e*P	**P**	**23 28 04.6**	**0.0**
OBN					pmax	pmax		
	comp=Z,11nm,0.9s,mb4.8							
AKASG	**Malin Array Be**	**82.50**	**322**		P	**P**	**23 28 17.4**	**-1.1**
	comp=Z,1.7nm,0.7s,mb4.2,baz=107,slow=3.8,SNR=6.4							
AKASG					pP	pP	23 28 29.7	+6.0
	comp=Z,1.3nm,0.6s,baz=91,slow=4.9,SNR=2.8							
AKASG	**Malin Array Be**	**82.50**	**322**		*i* P	**P**	**23 28 18.2**	**-0.3**
AKASG					pmax	pmax		
	comp=Z,2.0nm,0.7s							
VRI	**Vrincioaia**	**82.76**	**317**	↑	*i*P	**P**	**23 28 20.4**	**+0.4**
MLR	**Muntele Rosu**	**83.19**	**317**	↓	*i*P	**P**	**23 28 22.7**	**+0.4**
BURAR	**Bucovina Array**	**84.20**	**319**	↑	*i*P	**P**	**23 28 28.4**	**+1.0**
BUR08	**Bucovina Ar. S**	**84.22**	**319**		*e*P	**P**	**23 28 28.0**	**+0.5**
BUR08					*e*		23 28 37.3	
QSPA	**South Pole Qui**	**84.89**	**180**		*e*P	**P**	**23 28 30.6**	**+0.3**
BILL	**Bilibino**	**85.71**	**20**		P	**P**	**23 28 35.0**	**+0.5**
BILL					*e*		23 28 52.3	
BZS	**Buzias**	**86.19**	**316**	↑	*i*P	**P**	**23 28 37.2**	**-0.2**
SNAA	**Sanae**	**89.52**	**198**		*e*P	**P**	**23 28 52.6**	**-0.2**
SNAA					pmax	pmax		
	comp=Z,1.0nm,0.9s							
SNAA	**Sanae**	**89.52**	**198**		*e*P	**P**	**23 28 52.6**	**-0.2**
	comp=Z,1.5nm,0.9s,mb4.3							
MORC	**Moravsky Berou**	**89.61**	**320**	↓	*i*P	**P**	**23 28 53.6**	**0.0**
ARCES	**ARCESS Array B**	**89.69**	**340**		P	**P**	**23 28 52.8**	**-0.8**
	comp=Z,4.5nm,0.8s,mb4.9,baz=79,slow=4.7,SNR=9.2							
GERES	**GERESS Array B**	**91.99**	**319**		P	**P**	**23 29 04.1**	**-0.6**
	comp=Z,0.8nm,0.8s,mb4.1,baz=121,slow=3.8,SNR=7.2							
NVAR	**Mina Array Bea**	**131.32**	**41**		PKP	PKPdf	23 35 10.2	+1.5
	comp=Z,0.8nm,0.8s,baz=217,slow=2.8,SNR=4.7							
NVAR					sPKP		23 35 26.0	
	comp=Z,0.6nm,0.8s,baz=78,slow=3.0,SNR=3.2							
TXAR	**Lajitas Array**	**146.47**	**41**		PKPbc	PKPbc	23 35 38.5	+0.7
	comp=Z,10nm,0.8s,baz=270,slow=0.9,SNR=75							
PARMO	**Parma**	**147.07**	**16**		*e*PKPdf	PKPdf	23 35 36.0	-1.3
MIAR	**Mount Ida**	**147.74**	**23**		*e*PKPdf	PKPdf	23 35 38.6	+0.1
MIAR					*e*PKPbc	PKPbc	23 35 41.0	-0.3
JCT	**Junction City**	**148.06**	**35**		*e*PKIKP	PKPdf	23 35 39.4	+0.3
JCT					*e*		23 35 42.4	
OXF	**Oxford**	**149.19**	**17**		*e*PKP2	PKPbc	23 35 44.2	-0.8

MEX 31 23:35:42.1±0.7, 1631N×9852W, h4km±8km, MD3.9, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.38**	**77**		*i* P	Pg	23 35 48.9	-0.6
PNIG					*i* S	Sg	23 35 54.8	+0.3
ACX	**Acapulco**	**1.45**	**293**		*e*P	Pn	23 36 05.8	-3.3
ACX					*i* S	Sb	23 36 23.0	-5.5
UTMO	**Huajuapan**	**1.66**	**24**		*i* P	Pn	23 36 09.0	-2.9
UTMO					*i* S	Sn	23 36 29.4	-4.3
CAIG	**El Cayaco**	**1.83**	**294**		*e*P	Pn	23 36 11.5	-2.8
CAIG					*i* S	Sn	23 36 32.2	-5.8
VHO	**Vista Hermosa**	**1.87**	**66**		*e*P	Pn	23 36 11.8	-3.1
VHO					*i* S	Sn	23 36 34.4	-4.5
OXX	**Oaxaca**	**1.88**	**66**		*e*P	Pn	23 36 12.1	-2.9
OXX					*i* S	Sn	23 36 34.8	-4.4
PLIG	**Platanillo**	**2.28**	**336**		*e*P	Pn	23 36 17.5	-3.0
PLIG					*i* S	Sn	23 36 43.9	-5.0
TPIG	**Tehuac#an**	**2.37**	**28**		*i* P	Pn	23 36 20.5	-1.2
TPIG					*i* S	Sn	23 36 47.5	-3.7
PPM	**Popocatepetl**	**2.75**	**358**		*e*P	Pn	23 36 24.9	-1.9
PPM					*i* S	Sn	23 36 57.6	-2.9
MZVM		**2.94**	**347**		*e*P	Pn	23 36 25.5	-4.1
MZVM					*i* S	Sn	23 37 01.9	-3.5
IIO	**Organos**	**3.27**	**357**		*e*P	Pn	23 36 32.9	-1.2
IIO					*i* S	Sn	23 37 11.6	-1.9
CMIG	**Matias Romero**	**3.57**	**77**		*e*P	Pn	23 36 37.0	-1.2
CMIG					*i* S	Sn	23 37 18.5	-2.2

ISC Computed Locations for October 2007



Depth (km)	0-70	70-300	>300
M=8	○	○	●
M=6.5	○	○	●
M=4	○	○	●

Robinson Projection, centred on 0˚N,130˚E

2242 Events